Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

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July 10, 2026

Mr. Matt Alberts
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VIA ELECTRONIC MAIL

Re: Draft Final SWMU 54 Monitored Natural Attenuation Sampling Year Thirteen Report - Response to Comments
Radford Army Ammunitions Plant
Route 114, Radford, Virginia 24141
EPA ID#: VA1210020730

Dear Mr. Alberts:

This letter acknowledges the receipt and review of the Draft Final SWMU 54 Monitored Natural Attenuation Sampling Year Thirteen Report (Report) - Response to Comments submitted to the Virginia Department of Environmental Quality (DEQ), Office of Remediation Programs by Radford Army Ammunitions Plant (RFAAP) on July 8, 2026.

DEQ concludes that the revised Report satisfies DEQ's comments and accepts the revised Report as final. If you have any questions regarding this correspondence, you may contact me at the email address or phone number listed below.

Sincerely,

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FINAL

Year Thirteen Report

SWMU 54 Monitored Natural Attenuation

Radford Army Ammunition Plant, Radford, Virginia

Contract Number: W912DR-19-D-0004
Task Order Number: W912DR-24-F-0222

Prepared for:

U.S. Army Corps of Engineers Baltimore District
Baltimore, MD

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June 2026

Table of Contents

Acronyms and Abbreviations iv
1.0 Introduction 1-1
1.1 Purpose and Scope 1-1
1.2 Site Description and Background 1-2
2.0 Physical Characteristics 2-1
2.1 Topography and Surface Water 2-1
2.2 Geology 2-1
2.2.1 Regional Geology 2-1
2.2.2 Site-Specific Geology 2-1
2.3 Hydrogeology 2-2
2.3.1 Regional Hydrogeology 2-2
2.3.2 Site-Specific Hydrogeology 2-2
3.0 Previous Investigations 3-1
4.0 Field Activities 4-1
4.1 May 2025 Groundwater Monitoring 4-2
4.1.1 Water Level Measurements 4-2
4.1.2 WQPs and Groundwater Sampling 4-2
4.1.3 Quality Control Samples 4-3
4.2 October 2025 Groundwater Monitoring 4-3
4.2.1 Water Level Measurements 4-3
4.2.2 WQPs and Groundwater Sampling 4-3
4.2.3 Quality Control Samples 4-4
5.0 Chemical Analytical Results 5-1
5.1 Explosives 5-1
5.2 Perchlorate 5-1
5.3 MNA Indicator Parameters 5-1
6.0 Laboratory Analysis, Data Validation, and Reporting 6-1
6.1 Preservation, Temperature, and Hold Time 6-1
6.2 Precision 6-1
6.2.1 Field Duplicates 6-1
6.2.2 Laboratory Duplicates 6-1
6.2.3 MS/MSD RPD 6-1
6.2.4 RPD Between Two Columns 6-2
6.3 Representativeness 6-2
6.4 Comparability 6-2
6.5 Completeness 6-2
6.6 Accuracy 6-2
6.6.1 LCS and MS/MSD Recovery 6-2
6.6.2 Surrogates 6-3
6.6.3 Internal Standards 6-3
6.6.4 Calibration Verification 6-3
6.7 Sensitivity 6-3
6.7.1 Blanks (Calibration [Instrument], Method, and Trip) 6-3

6.7.2 LOQs 6-3
6.8 Data Usability Summary 6-3
7.0 MNA Evaluation of SWMU 54 7-1
7.1 First-Order Indicators: Presence of Contaminants Through Time 7-1
7.1.1 Visual Inspections of Concentration vs. Time 7-1
7.1.2 RG Exceedances of the DNT Mixture 7-2
7.1.3 RDX Degradation Products 7-2
7.1.4 Perchlorate Degradation Products 7-2
7.1.5 Statistical Trends for COCs 7-3
7.2 Second-Order Indicators 7-3
7.2.1 Dissolved Oxygen 7-3
7.2.2 Oxidation-Reduction Potential 7-4
7.2.3 pH 7-4
7.2.4 Nitrate 7-4
7.2.5 Ferrous Iron 7-4
7.2.6 Manganese 7-4
7.2.7 Sulfate 7-5
7.2.8 TOC and TIC 7-5
7.2.9 Specific Conductivity 7-5
8.0 Summary and Conclusions 8-1
9.0 References 9-1

List of Tables

Table 1: SWMU 54 Groundwater Remedial Goals
Table 2: 2002 Area A Direct-Push – Analytical Results for COCs in Groundwater
Table 3: 2003-2004 Area A – Analytical Results for COCs in Groundwater
Table 4: 2006-2007 Area A Quarterly – Analytical Results for COCs in Groundwater
Table 5: 2003 Area B – Analytical Results for Groundwater Samples
Table 6: 2006-2007 Area B Quarterly – Analytical Results for Groundwater Samples
Table 7: 2006 Analytical Results for New River Surface Water and Sediment Pore Water Samples
Table 8: 2025 Monitoring Frequencies and Analytical Suite
Table 9: 2025 May Groundwater Elevations
Table 10: 2025 May Water Quality Parameters
Table 11: 2025 October Groundwater Elevations
Table 12: 2025 October Water Quality Parameters
Table 13: 2025 Analytical Results
Table 14: 2025 Summary of Detections
Table 15: Summary of Samples and Analyses
Table 16: Analytical Methods
Table 17: Data Qualifiers
Table 18: Holding Time Exceedances
Table 19: Field Duplicate Precision Exceedances
Table 20: Laboratory Duplicate Precision Exceedances
Table 21: MS/MSD RPD Exceedances

Table 22: RPD Between Two Columns Exceedances
Table 23: LCS/LCSD Recovery Exceedances
Table 24: MS/MSD Recovery Exceedances
Table 25: Calibration Exceedances
Table 26: Blank Flags
Table 27: Analytical Results for Groundwater Performance Monitoring at SWMU 54
Table 28: Water Quality Parameters for Groundwater for Performance Monitoring at SWMU 54

List of Figures

Figure 1: SWMU 54 Site Location Map
Figure 2: SWMU 54 Cross-Section
Figure 3: Cross-Section A-A'
Figure 4: Cross-Section B-B'
Figure 5: May 2025 Groundwater Contour Map
Figure 6: October 2025 Groundwater Contour Map
Figure 7: May 2025 Groundwater Sample Results Exceeding RGs
Figure 8: October 2025 Groundwater Sample Results Exceeding RGs
Figure 9: COC Concentrations vs. Time at 54MW1
Figure 10: COC Concentrations vs. Time at 54MW10
Figure 11: COC Concentrations vs. Time at 54MW12
Figure 12: COC Concentrations vs. Time at 54MW13
Figure 13: DO, ORP, and TOC Concentrations vs. Time at 54MW10
Figure 14: DO, ORP, and TOC Concentrations vs. Time at 54MW12
Figure 15: DO, ORP, and TOC Concentrations vs. Time at 54MW13
Figure 16: Fe2+, Mn, Nitrate, and Sulfate Concentrations vs. Time at 54MW10
Figure 17: Fe2+, Mn, Nitrate, and Sulfate Concentrations vs. Time at 54MW12
Figure 18: Fe2+, Mn, Nitrate, and Sulfate Concentrations vs. Time at 54MW13
Figure 19: Sitewide Specific Conductivity

List of Appendices

Appendix A: Field Documentation
Appendix B: Laboratory Analytical Reports
Appendix C: Data Validation Reports
Appendix D: Mann-Kendall Analyses

Acronyms and Abbreviations

°C ..... degrees Celsius
µg/L ..... micrograms per liter
amsl ..... above mean sea level
bgs ..... below ground surface
C/N ..... carcinogenic/noncarcinogenic
CAPE ..... Cape Environmental Management Inc
CAS ..... Chemical Abstracts Service
CB&I ..... CB&I Environmental & Infrastructure, Inc.
CCV ..... continuing calibration verification
CMO ..... corrective measures objective
CMS ..... Corrective Measures Study
COC ..... contaminant of concern
COI ..... chemical of interest
COPC ..... chemical of potential concern
DL ..... detection limit
DO ..... dissolved oxygen
DoD ..... U.S. Department of Defense
DTW ..... depth-to-water
FD ..... field duplicate
ft ..... feet
GC ..... gas chromatography
GW ..... groundwater
HHRA ..... Human Health Risk Assessment
HPLC ..... high-performance liquid chromatography
ICV ..... initial calibration verification
IDW ..... investigation-derived waste
IM ..... Interim Measure
IMWP ..... Interim Measures Work Plan
IT ..... IT Corporation
LCS ..... laboratory control sample
LCSD ..... laboratory control sample duplicate
LOD ..... limit of detection
LOQ ..... limit of quantitation
LQ ..... laboratory qualifier
LTM ..... long-term monitoring
MCL ..... maximum contaminant level
MDL ..... method detection limit
MEE ..... methane, ethane, and ethene
mg/L ..... milligrams per liter
MK ..... Mann-Kendall
mL/min ..... milliliters per minute
MNA ..... monitored natural attenuation
MS ..... matrix spike

mS/cm ..... millisiemens per centimeter
MSD ..... matrix spike duplicate
mV ..... millivolts
MWP ..... Master Work Plan
NG ..... nitroglycerin
NTU ..... nephelometric turbidity unit
ORP ..... oxidation-reduction potential
Parsons ..... Parsons Engineering Science, Inc.
PID ..... photoionization detector
ppm ..... parts per million
QC ..... quality control
RBC ..... Risk-Based Concentration
RCRA ..... Resource Conservation and Recovery Act
RFAAP ..... Radford Army Ammunition Plant
RFI ..... RCRA Facility Investigation
RG ..... remedial goal
RL ..... reporting limit
RPD ..... relative percent difference
RSL ..... regional screening level
Shaw ..... Shaw Environmental, Inc.
SOP ..... standard operating procedure
SU ..... standard unit
SWMU ..... Solid Waste Management Unit
TIC ..... total inorganic carbon
TOC ..... total organic carbon
U.S. ..... United States
UFP-QAPP ..... Uniform Federal Policy – Quality Assurance Project Plan
URS ..... URS Corporation
USEPA ..... U.S. Environmental Protection Agency
VDEQ ..... Virginia Department of Environmental Quality
VQ ..... validation qualifier
Weston ..... Weston Solutions, Inc.
WQP ..... water quality parameter

1.0 Introduction

Cape Environmental Management Inc (CAPE) with subcontractor Weston Solutions, Inc. (Weston) has been contracted by the United States (U.S.) Army Corps of Engineers, Baltimore District, to perform long-term monitoring (LTM) and monitored natural attenuation (MNA) of groundwater at Solid Waste Management Unit (SWMU) 54 (RAAP-014), Propellant Burning Ash Disposal Area, at Radford Army Ammunition Plant (RFAAP), Radford, VA. This report describes the 2025 (Year 13) semiannual sampling events conducted in May and October, presents analytical results, and includes an MNA evaluation.

This work was performed under Contract Number (No.) W912DR-19-D-0004, Delivery Order No. W912DR-24-F-0222, in accordance with the *Final Master Work Plan, Quality Assurance Plan, Health and Safety Plan* (RFAAP Final MWP) (URS Corporation, 2003) and with Part II (D)(11-21) Interim Measure (IM) of the RFAAP Resource Conservation and Recovery Act (RCRA) Corrective Action Permit (U.S. Environmental Protection Agency [USEPA], 2000). The Year 13 monitoring program was developed and conducted in accordance with USEPA- and Virginia Department of Environmental Quality (VDEQ)-approved *Solid Waste Management Unit 54 RCRA Facility Investigation* [RFI]*/Corrective Measures Study Report* (hereafter referred to as "the RFI Report") (URS, 2008) and the Final *SWMU 54 Monitored Natural Attenuation Interim Measures Work Plan* (IMWP) (Shaw Environmental, Inc. [Shaw], 2011a).

In October 2021, VDEQ concurred with RFAAP's Class 1 Modification request to the RCRA permit, which removed references to the SWMU 54 monitoring well sampling frequency. Based on the consistency of 9 full years of quarterly results (2013 to 2021), groundwater monitoring at SWMU 54 was reduced to a semiannual basis starting in 2022.

1.1 Purpose and Scope

The purpose of this report is to provide LTM groundwater sampling results and document current progress toward achieving the corrective measures objectives (CMOs) and remedial goals (RGs) presented in the RFI Report (URS, 2008). The RFI Report concluded that the explosives 2,4,6-Trinitrotoluene (2,4,6-TNT), dinitrotoluene (DNT) mixture, and cyclotrimethylenetrinitramine (RDX) and perchlorate in groundwater are a potential risk to future industrial and residential receptors at SWMU 54 due to potential leaching from soil to groundwater. The RFI Report identified these compounds as contaminants of concern (COCs), as well as CMOs and RGs for remediation. DNT mixture is defined as the sum of analytical results from the compounds 2,4-dinitrotoluene (2,4-DNT) and 2,6-dinitrotoluene (2,6-DNT).

The site-specific CMOs for SWMU 54 Area A are to mitigate further leaching of explosives constituents from soil to groundwater at levels that would potentially increase observed concentrations and adversely impact future beneficial use of groundwater and, to the extent practicable, restore site groundwater to the most beneficial use. The site-specific CMOs for SWMU 54 Area B are to mitigate the potential hypothetical future risks that have been identified for exposure to soil under a future construction worker scenario and to prevent leaching of contaminants of concern from soil to groundwater at levels that would potentially adversely impact future beneficial use of groundwater. The site-specific CMOs for Area A and Area B were partially

met (i.e., met for soil) through the excavation and off-site disposal of contaminated soil, which was completed in 2010.

The IMWP established that the objective of the monitoring program is to measure and track the reduction of the COCs in groundwater to levels below the RGs, as defined in Table 1.

1.2 Site Description and Background

RFAAP is a government-owned/contractor-operated facility operated by BAE Systems. The primary mission of RFAAP has been the manufacturing of propellants since 1941 and the manufacturing of trinitrotoluene (TNT) on an intermittent basis since 1968. There are approximately 2,500 buildings within a 2-mile radius, including RFAAP manufacturing and residential buildings. Land usage surrounding RFAAP is primarily agricultural with some residential and industrial use. Land usage in and near RFAAP is not projected to change (URS Corporation, 2003).

Environmental restoration activities are being performed at RFAAP under RCRA, the Comprehensive Environmental Restoration, Compensation and Liability Act as amended by the Superfund Amendments and Reauthorization Act, and the National Oil and Hazardous Substances Contingency Plan requirements with regulatory coordination with VDEQ and USEPA Region 3. RFAAP was issued and operates under the Hazardous Waste Management Permit for Corrective Action approved on 1 April 2016 and effective on 1 May 2016. SWMU 54 is listed in the permit as a Corrective Action Unit and is subject to the requirements of RCRA.

SWMU 54 is located in the easternmost portion of the RFAAP Horseshoe Area (Figure 1). The Horseshoe Area is defined by an eastern meander of the New River that also separates it from the Main Manufacturing Area to the south; the two areas are connected by a bridge. SWMU 54 consists of two non-contiguous disposal areas, Area A and Area B. Area A covers approximately 0.58 acres, whereas Area B to the northwest covers approximately 1.09 acres. Both areas are undeveloped open fields covered with grass and are bordered to the east and north by the RFAAP installation security fence. The groundwater well monitoring network extends beyond the Area A and Area B boundaries and is hereafter referred to as the SWMU 54 monitoring area or the monitoring area. SWMU 54 was reportedly used as an ash disposal area in the late 1970s that received propellant ash from the Waste Propellant Burning Grounds. The current land use is industrial for the areas surrounding SWMU 54 and this is not likely to change in the near future.

2.0 Physical Characteristics

2.1 Topography and Surface Water

SWMU 54 is situated on a gently sloping terrace approximately 150 feet (ft) west of the New River. Elevations range from a high of approximately 1,716 (ft) above mean sea level (amsl) in the western section of the SWMU to approximately 1,696 ft amsl in the eastern section. East and outside the SWMU boundary, the slope steepens precipitously as it reaches the New River (at approximately 1,676 ft amsl). A small stream is present on the southern boundary of the SWMU and surface water runoff from the SWMU flows east and possibly south to the New River and the unnamed stream. SWMU 54 is positioned within the current New River 100-year floodplain. The site's topography and surface water characteristics are illustrated in Figure 2 (orthoimagery and plan view of geologic cross-section lines), Figure 3 (Cross-Section A-A' with topographic profile), and Figure 4 (Cross-Section B-B' with topographic profile).

2.2 Geology

2.2.1 Regional Geology

SWMU 54 is located in the New River Valley, which crosses the Valley and Ridge Province, approximately perpendicular to the regional strike of bedrock, which is often Cambrian and Ordovician limestone or dolostone. Deep clay-rich residuum is prevalent in areas underlain by carbonate bedrock. The valley is covered by river floodplain and terrace deposits; karst topography is dominant throughout the area. A more detailed description of the regional geology is presented in the RFAAP Final MWP (URS, 2003).

2.2.2 Site-Specific Geology

The subsurface geology at the site includes alluvial and residual deposits overlying bedrock, sometimes with a saprolitic (weathered bedrock) layer up to 2.5 ft thick in between. The alluvial/residual deposits consist primarily of silty sand atop channel deposits of fine- to coarse-grained sand and gravel (river jack). Bedrock consists of highly fractured interbedded siltstone, limestone, and dolostone of the Elbrook Formation. Top of bedrock elevations range from approximately 1,716 to 1,670 ft amsl, with surfaces sloping to the east. Highly weathered exposures of the Elbrook Formation outcrop along the slope leading to the New River. Some areas of the SWMU may contain fill material to depths of 9 to 10 ft below ground surface (bgs). A more detailed discussion of the geology and soil at RFAAP is presented in Sections 3.4 through 3.7 of the RFAAP MWP (URS, 2003) and in the *Facility-Wide Background Study* (IT Corporation [IT], 2001).

Subsurface lithologic data at SWMU 54 was collected from historical investigative borings and during monitoring well installation. The cross-sectional traces that are shown in Figure 2 correspond to the geologic cross-sections in Figures 3 and 4. These cross sections were originally presented in the RFI Report (URS, 2008) and are excerpted for use herein. The depth to bedrock encountered during monitoring well installation ranged from approximately 17 to 24 ft bgs.

2.3 Hydrogeology

2.3.1 Regional Hydrogeology

The regional hydrogeology is primarily controlled by bedrock consisting of indurated sedimentary rocks of Paleozoic age and topography composed of linear, approximately north-south oriented ridges and valleys with karst features where limestone is present (Virginia Department of Mines, Minerals, and Energy, Division of Mineral Resources, 2009). RFAAP is located west of the Eastern Continental Divide and is part of the Mississippi River Basin. Surface water from RFAAP drains into the New River.

Groundwater supplies in the Valley and Ridge Province are generally good quality compared to surface water supplies (Parsons Engineering Science, Inc. [Parsons], 1996). Because of extended contact with minerals, many groundwater supplies contain higher levels of dissolved solids than the streams into which they discharge. Because of sinkholes and underground caverns in karst aquifers, there is a high potential for groundwater to be impacted by direct infiltration of contaminated surface water.

2.3.2 Site-Specific Hydrogeology

The SWMU 54 monitoring area is underlain by an unconfined aquifer that intersects surface water at the New River. SWMU 54 monitoring wells were screened in both the surficial unconsolidated deposits and the underlying bedrock. Water table elevations can be greater than 40 ft bgs moving away from the New River (Figures 3 and 4). Both historical and recent depth-to-water measurements indicate that the horizontal groundwater flow direction is primarily east toward the New River. The historical measurements date back to June 2007 and are reported in the RFI Report (URS, 2008). SWMU 54 monitoring well locations are presented in Figure 5 along with water level measurements collected during the May 2025 sampling event. These data suggest that the flow direction does not change seasonally or from year to year. Year Thirteen groundwater elevation measurements and contour maps are discussed further in Sections 4.1.1 and 4.2.1.

3.0 Previous Investigations

Multiple historical investigations have been conducted at SWMU 54. In 1992, the Environmental Photographic Interpretation Center provided aerial photographic analysis of SWMU 54 under the direction of USEPA. In 1992, Dames and Moore conducted an RCRA Verification Investigation to identify the propellant ash disposal at Area A under authority of the 1984 Hazardous and Solid Waste Amendments (Dames and Moore, 1992). Parsons completed an RFI in 1996 to "define the extent of ash and the limits of soil contamination." In 1998, a Supplemental RFI/Corrective Measures Study (CMS) investigated a flat grassy area ringed by mature pine trees northwest of Area A to further refine contamination delineation. This area was identified as Area B. In 1999, Parallax, Inc. excavated selected "hot spot" areas of lead and explosives in soil at Area A and Area B, completing the soil IM.

In 2008, USEPA and VDEQ approved the RFI Report (URS, 2008) that determined the nature and extent of contamination (evaluating the effectiveness of the IM), included a Human Health Risk Assessment (HHRA) that identified COCs, and developed and finalized CMOs and RGs (URS, 2008). The RFI/CMS's soil and groundwater nature and extent assessment indicated that the primary concern at SWMU 54 is the fill material and grossly contaminated soil directly below the material. The assessment evaluated Area A and Area B separately due to the 200-ft separation between the areas, their topographic cross-gradient position, the observed distribution of chemicals, and the chemicals' lack of mobility in soil. The assessment also evaluated potential impacts to the New River by analyzing surface water samples and sediment pore water samples at the groundwater/surface water interface; these results did not indicate detectable impacts from chemicals of potential concern (COPCs).

The HHRA identified 8 chemicals of interest (COIs) in soil at Area A (2,4,6-TNT, DNT mixture, RDX, perchlorate, amino-DNTs, nitroglycerin [NG], heptachlor epoxide, and 2,3,7,8-tetrachlorodibenzodioxin [2,3,7,8-TCDD]) and 10 COIs at Area B (2,4,6-TNT, DNT mixture, RDX, amino-DNTs, NG, lead, Aroclor 1254, heptachlor epoxide, dieldrin, and 2,3,7,8-TCDD) under industrial and residential future land use scenarios for total soil at SWMU 54. Amino-DNTs include 2-amino-4,6-dinitrotoluene (2ADNT) and 4-amino-2,6-dinitrotoluene (4ADNT). The HHRA determined that unacceptable risks to potential future residential and industrial receptors were associated with COIs and identified the following potentially exposed populations: industrial workers, maintenance workers, construction workers, and child/adult residents. The HHRA concluded that COIs could potentially leach from soil to groundwater at levels of concern; COPCs and COIs were refined to form COCs.

The COCs in Area A soil are lead, 2,4,6-TNT, DNT mixture, RDX, amino-DNTs, NG, heptachlor epoxide, and dioxins/furans. The COCs in Area A groundwater are 2,4,6-TNT, DNT mixture, RDX, and perchlorate. The COCs in Area B soils are 2,4,6-TNT, DNT mixture, RDX, amino-DNTs, NG, lead, Aroclor 1254, heptachlor epoxide, dieldrin, and 2,3,7,8-TCDD. No COIs were identified for Area B groundwater. Historical analytical results from 2002 to 2007 used to identify groundwater COCs and evaluate the nature and extent of contamination are presented in Tables 2 through 7.

The CMS identified different site-specific CMOs for Area A and Area B. The CMO for Area A is to mitigate further leaching of explosives constituents from soil to groundwater at levels that would potentially increase observed concentrations and adversely impact future beneficial use of groundwater and, to the extent practicable, to restore site groundwater to the most beneficial use.

The CMO for Area B is to mitigate the potential hypothetical future risks that have been identified for exposure to soil under a future construction worker scenario and to prevent leaching of contaminants of concern from soil to groundwater at levels that would potentially adversely impact future beneficial use of groundwater.

The CMS evaluated three alternatives to achieve the CMOs. "Alternative Two: Excavation of Soil at Area A and Area B, Off-Site Disposal, and MNA of Groundwater" was selected using the criteria of effectiveness, implementability, and cost. The soil CMOs for Area A and Area B have been met through the excavation and off-site disposal of soil completed in 2010 and documented in the approved Final *SWMU 54 Interim Measures Completion Report* (Shaw, 2011b). The groundwater RGs (presented in Table 1 of this report) are used to compare results from groundwater samples to assess MNA progress.

LTM and MNA at SWMU 54 has been ongoing since July 2011 and includes 44 total sampling events. Sampling event frequencies have fluctuated from quarterly (2013 to 2016, 2016 to 2021), to annually (2015, 2022), to semiannually (2014, 2023 to 2025). Samples collected during the first two years of monitoring were analyzed for explosives, perchlorate, and MNA indicators. The Year Two MNA Report (CB&I Environmental and Infrastructure, Inc. [CB&I], 2013) recommended elimination of the wells with no COI exceedances for the first 2 years, based on criteria established in the MNA Work Plan. The ninth quarter of monitoring occurred prior to regulatory approval of the Year Two MNA Report, and the original parameters were included in that monitoring event. After approval of the Year Two MNA Report, the sampling plan was modified to include RDX MNA indicators in the analytical suite and to reduce the monitoring program from 14 monitoring wells to three wells with COI exceedances (54MW10, 54MW12, and 54MW13, which monitor Area A), and an upgradient well (54MW1) to monitor background conditions. There have been no further modifications to the sampling plan.

4.0 Field Activities

Field activities during Year Thirteen of LTM were conducted by Weston and CAPE in accordance with the Final SWMU 54 MNA IMWP (Shaw, 2011a) and the *Uniform Federal Policy – Quality Assurance Project Plan, Environmental Services at Radford Army Ammunition Plant, Radford, Virginia* (UFP-QAPP) (CAPE, 2024).

Year Thirteen MNA consisted of the 43rd and 44th sampling events conducted in May and October 2025, respectively. Consistent with previous events, monitoring wells 54MW1, 54MW10, 54MW12, and 54MW13, which are used to evaluate Area A, were included in the monitoring program. The locations of the monitoring wells are presented in Figures 5 through 8.

The sampling events consisted of a synoptic water level measurement and sampling for laboratory analysis of explosives and explosives degradation products (including RDX degradation products hexahydro-1,3-dinitroso-5-nitro-1,3,5-triazine [DNX], hexahydro-1-nitroso-3,5-dinitro-1,3,5-triazine [MNX], and hexahydro-1,3,5-trinitroso-1,3,5-triazine [TNX]) by Method 8330B and perchlorate by Method 6850. The following MNA indicator parameters were also sampled for laboratory analysis: total organic carbon (TOC) and total inorganic carbon (TIC) by Method 9060A; the anions chlorate and chloride by Method 300.0; the anions chlorite, nitrate, and sulfate by Method 9056; and dissolved gases by Method RSK-175. Dissolved ferrous iron (Fe2+) and dissolved manganese are also considered MNA indicator parameters and were measured in the field. Water quality parameters (WQPs) measured during sampling included pH, temperature, specific conductivity, dissolved oxygen (DO), oxidation-reduction potential (ORP), and turbidity. A summary of the analytical program, including the list of monitoring wells, sampling frequencies, and analytical suites is presented in Table 8.

Groundwater samples were collected using a low-flow peristaltic pump to obtain representative groundwater samples and minimize investigation-derived waste (IDW) purge water. The procedure was implemented as follows:

1. Upon removing the well cap, a photoionization detector (PID) was used to measure the presence of potentially hazardous levels of volatile gases. Additional measurements were taken during water elevation sweeps. All PID readings were within acceptable levels.
2. Depth-to-water (DTW) and approximate total (well) depth were measured to determine the amount of water in the well casing and sand pack. The approximate total depths were consistent with data from previous reports.
3. Peristaltic pumps were connected to a Geocontrol PRO control unit, sample collection tubing, and discharge tubing. The sample collection tubing was lowered to a depth within the screened interval with ample hydraulic head being maintained above it to ensure a sufficient water supply. The discharge tubing was also connected to a pre-calibrated (every morning of sampling) Yellow Springs Instrument (YSI®) 556 water quality meter and flow cell. The flow cell was disconnected prior to sampling.
4. Monitoring wells were pumped at a rate of approximately 200 milliliters per minute (mL/min). The pumping rate was determined by gauging the time it took to fill a 200-mL vial. WQPs including temperature, pH, DO, ORP, turbidity, and specific conductivity were recorded continuously until stabilization. Turbidity was measured using a HACH 2100Q turbidity meter, whereas concentrations of dissolved Fe2+ and manganese were measured using a HACH DR900

test kit by Methods 8146 and 8149, respectively. The pumping rate was maintained during sample collection.

5. Samples were collected, labeled, and packed on ice until shipment to SGS North America in Orlando, FL (perchlorate and explosives) or CT Laboratories (all other samples) in Baraboo, WI. SGS North America and CT Laboratories are U.S. Department of Defense (DoD) Environmental Laboratory Accreditation Program accredited laboratories. Chain-of-custody forms were filled out and shipped with the samples. CT Laboratories repacked the chlorate/chlorite samples as necessary and shipped them to Eurofins Eaton Analytical in South Bend, IN (subcontracted), for analysis.
6. Waste purge water was taken to the ACD area for storage and deposited in a 55-gallon drum. The drum was marked with the SWMU number using a wax crayon and labeled with a non-hazardous waste sticker "pending analysis." RFAAP provided subsequent disposal.

All field documentation is included in Appendix A, which is composed of the Fieldwork Completion Report: SWMU 49 & 54 Environmental Services at Radford Army Ammunition Plant, Radford, Virginia (the Fieldwork Completion Report), which is provided in Appendix A). The Fieldwork Completion Report includes copies of chain-of-custody forms, WQP and sampling forms, PID reading and synoptic water level measurement forms, field inspection reports, waste inventory summary forms, site control logs, tailgate safety meeting records, sample shipping receipts, and field notes that include equipment calibration logs for both semiannual events organized by date.

4.1 May 2025 Groundwater Monitoring

The 43rd event of groundwater monitoring was conducted on May 19 to 22, 2025.

4.1.1 Water Level Measurements

Table 9 presents DTW measurements (from the top of the casing) and groundwater elevations amsl collected during the May 2025 event. Figure 5 presents a groundwater elevation contour map generated from these data. The May 2025 groundwater elevations are similar to the baseline measurements collected in June 2007 and the flow direction remains east toward the New River.

4.1.2 WQPs and Groundwater Sampling

A total of 5 samples was collected in May 2025 from 4 wells (including one field duplicate [FD]). Table 10 presents a summary of the final (stabilized) WQPs for each well from the May 2025 event.

DO concentrations at SWMU 54 monitoring wells ranged from 0.53 milligrams per liter (mg/L; 54MW1) to 6.11 mg/L (54MW12), with an average of 3.23 mg/L. Three of the four monitoring wells had DO concentrations greater than 1 mg/L (or 1 part per million [ppm]), indicating aerobic conditions. ORP measurements ranged from 55.7 millivolts (mV; 54MW1) to 114.1 mV (54MW13). Measurements of pH ranged from 6.88 standard units (SUs; 54MW12) to 7.47 SU (54MW1) which is within the range conducive to microbial activity (i.e., below 8.0 SU). Measurements of specific conductivity ranged from 423.2 microsiemens per centimeter (µS/cm; 54MW13) to 731.0 µS/cm (54MW10).

Groundwater sampling field documentation is provided in Appendix A.

4.1.3 Quality Control Samples

One FD (54TW12) and one matrix spike/matrix spike duplicate (MS/MSD) were collected from monitoring well 54MW12, in addition to the primary sample. The FD and MS/MSD were analyzed for the same suite of compounds as the primary sample. In previous years, one equipment rinse blank was collected during each monitoring event. However, because only disposable equipment was utilized during the monitoring, no equipment rinse blanks were warranted.

One IDW purge water sample (54IDW) was collected as a waste characterization sample and analyzed for pH, chemical oxygen demand, and total metals for disposal in accordance with the Final SWMU 54 MNA IMWP (Shaw, 2011a).

The analytical laboratory reports are provided in Appendix B.

4.2 October 2025 Groundwater Monitoring

The 44th groundwater sampling event was conducted on October 20 to 24, 2025.

4.2.1 Water Level Measurements

Table 11 presents DTW measurements (from the top of the casing) and groundwater elevations amsl collected during the October 2025 event. Figure 6 presents a groundwater elevation contour map generated from these data, where water level elevations are similar to the baseline measurements collected in June 2007, and flow remains directed toward. the New River.

4.2.2 WQPs and Groundwater Sampling

A total of 5 samples was collected in May 2025 from four wells (including one FD).Table 12 presents a summary of the final (stabilized) WQPs for each well from the October 2025 event.

DO concentrations at SWMU 54 monitoring wells ranged from 0.11 mg/L (54MW10) to 5.79 mg/L (54MW12), with an average of 2.44 mg/L. Three of the six DO measurements yielded concentrations greater than 1 mg/L, indicating both aerobic and anaerobic conditions. ORP measurements ranged from -3.2 mV (54MW10) to 199.8 mV (54MW13). Measurements of pH ranged from 6.42 SU (54MW12) to 7.08 SU (54MW10), within the range conducive to microbial activity. Measurements of specific conductivity ranged from 377.6 µS/cm (54MW12) to 779.0 µS/cm (54MW10).

During the sampling event, it was identified that methane, ethane, and ethene (MEE) should be sampled from all four SWMU 54 monitoring program wells and analyzed via method RSK-175 semi-annually per the UFP-QAPP (CAPE, 2024). After initially excluding sampling for these analytes on October 20, field staff returned to the wells on October 21 and 22 to complete the sampling requirement. Because 54MW1 and 54MW10 were resampled for MEE within 24 hours of initial stabilization, WQPs were not remeasured. WQPs were remeasured for 54MW10 and 54MW13 because MEE samples were collected more than 24 hours after initial stabilization. More groundwater sampling details are provided in Appendix A.

4.2.3 Quality Control Samples

One FD (54TW10) and one MS/MSD were collected from monitoring wells 54MW10 and 54MW13, respectively, in addition to the primary sample. The FD and MS/MSD were analyzed for the same suite of compounds as the primary sample. In previous years, one equipment rinse blank was collected during each monitoring event. However, because only disposable equipment was utilized during the monitoring, no equipment rinse blanks were warranted.

One IDW purge water sample (54IDW) was collected as a waste characterization sample and analyzed for pH, chemical oxygen demand, and total metals for disposal in accordance with the Final SWMU 54 MNA IMWP (Shaw, 2011a).

The analytical data reports are provided in Appendix B.

5.0 Chemical Analytical Results

Table 13 presents chemical analytical results for all samples collected in May and October 2025. Table 14 summarizes the total number of detected analytes and RG exceedances from both events, as well as the minimum and maximum concentration of each detected analyte and the location of the maximum concentration across the two events.

5.1 Explosives

May 2025 Event

The May 2025 event yielded 31 total explosives detections from four samples. The explosives include 1,3,5-Trinitrobenzene, 1,3-Dinitrobenzene, 2,4,6-TNT, 2ADNT, 3,5-Dinitroaniline, 4ADNT, HMX, MNX, and RDX. The samples include three primary samples and one FD that is identified by "TW" rather than "MW" in the sample name: 54MW10, 54MW12, 54MW13, and 54TW13.

In four samples, 2,4,6-TNT was detected and exceeded the RG of 7.82 ug/L in each of them: 54MW10 (15.8 ug/L; maximum 2,4,6-TNT concentration in 2025), 54MW12 (9.2 ug/L), 54MW13 (7.9 ug/L), and 54TW13 (8.7 ug/L). RDX was detected in four samples and exceeded the RG of 6.1 ug/L in each of them: 54MW10 (estimated 11.2 ug/L), 54MW12 (estimated 13.7 ug/L), 54MW13 (estimated 43.8 ug/L; maximum RDX concentration in 2025), and 54TW13 (28.8 ug/L).

The approximate extents of the 2,4,6-TNT and RDX plumes with concentrations exceeding RGs for the May 2025 event are presented in Figure 7. The 2,4,6-TNT and RDX exceedance plume footprints are both less than 1 acre.

October 2025 Event

The October 2025 event yielded 19 total explosives detections from 11 samples. The explosives include: 1,3,5-Trinitrobenzene, 2,4,6-TNT, 2ADNT, 3,5-Dinitroaniline, 4ADNT, HMX, and RDX. The samples include three primary samples and one FD: 54MW10, 54TW10, 54MW12, and 54MW13. There were no RG exceedances, although 2,4,6-TNT was detected in 54MW12 and 54MW13, and RDX was detected in 54MW10, 54MW12, and 54MW13 (Figure 8).

5.2 Perchlorate

Perchlorate was detected in four samples during the May event (54MW10, 54MW12, 54MW13, and 54TW13) and in two samples during the October event (54MW12 and 54MW13). The maximum detected concentration of perchlorate was 0.94 ug/L in 54MW10 in May. All detections were well below the RG of 10.9 micrograms per liter (µg/L).

5.3 MNA Indicator Parameters

The following MNA indicator parameters were detected across the two 2025 sampling events:

- Chlorate was detected in one sample in May and in no samples in October, with a maximum concentration of 28 ug/L at 54MW12 in May.

- Chloride was detected in all five samples in May and in all five samples in October, with a maximum concentration of 7.8 mg/L at 54MW13 in October.
- Nitrate was detected in four samples in May and in two samples in October, with a maximum concentration of 1.30 mg/L at 54MW10 in May.
- Sulfate was detected in all five samples in May and in all five samples in October, with a maximum estimated concentration of 190 mg/L at 54TW10 in October.
- TIC was detected in all five samples in May and in all five samples in October, with a maximum concentration of 110 mg/L at 54MW13 in October.

Chlorite, TOC, methane, ethane, and ethene were not detected in either event.

6.0 Laboratory Analysis, Data Validation, and Reporting

The analytical data and methods were reviewed for consistency with the UFP-QAPP (CAPE, 2024) to ensure that project data quality objectives and usability requirements were met. Validation was performed by Neptune and Company following the National Functional Guidelines for Inorganic Superfund Data Review (USEPA, 2014a), the National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2014b), the UFP-QAPP, and professional judgment.

The analytical data packages generated for each 2025 event, matrix, and analysis group are presented in Table 15. Specific analytes and methods are presented in Table 16. Flag codes that were used to indicate quality control (QC) anomalies to usability requirements for precision, representativeness, comparability, completeness, accuracy, and sensitivity are presented in Table 17. Data validation reports are included as Appendix C.

6.1 Preservation, Temperature, and Hold Time

All sample preservation requirements were met. All sample analyses were within holding time. Refer to Table 18 for holding time exceedances.

6.2 Precision

Precision was measured from the relative percent difference (RPD) between the primary sample/FD, laboratory duplicates, laboratory control sample (LCS), MS/MSD pairs, and two columns. MS/MSD sample collection and analysis were performed at a frequency of at least 5 percent of field samples (specifically, 1 MS/MSD pair for 4 total samples in May and in October).

6.2.1 Field Duplicates

FDs were collected at a frequency of at least 10 percent of field samples (specifically, 1 FD for 4 total samples in May and in October). As summarized in Table 19, except for RDX in one sample (54MW12 and its FD 54TW12) in the 41st monitoring event, RPDs were within control limits.

6.2.2 Laboratory Duplicates

Laboratory duplicate analysis was performed at a frequency of 10 percent of laboratory samples for inorganic analyses. RPDs were within control limits. Table 20 lists laboratory duplicate exceedances.

6.2.3 MS/MSD RPD

MS/MSD samples were analyzed at a frequency of 5 percent per preparatory batch or per lab standard operating procedure (SOP). Results were within control limits. Table 21 lists MS/MSD RPD exceedances.

6.2.4 RPD Between Two Columns

The RPD between two columns exceeds the 40-percent limit for several analytes in both May and October. Table 22 lists RPD between two columns exceedances. Associated data was flagged as estimated (J).

6.3 Representativeness

The samples were collected from required monitoring locations. Representativeness of the data is considered acceptable.

6.4 Comparability

Comparability was acceptable. Standard analytical methods were used. Standard preparatory and analytical methods were applied to the samples across monitoring events. In all cases, the detection limits (DLs) and limits of detection (LODs) attained were below the specified limits of quantitation LOQs. All target compounds detected below the LOQs, flagged (J) by the laboratory, are considered estimated concentrations.

6.5 Completeness

The UFP-QAPP completeness goal for field samples is greater than or equal to 90 percent collection and analysis. The dataset was 95.2-percent complete with 15 analyses missing (MEE analyses for the May event; Table 13) from 310 total expected analyses, fulfilling the UFP-QAPP completeness goal.

6.6 Accuracy

Accuracy was measured from laboratory QC sample percent recoveries, including LCS, MS, MSD, post-digestion spike, and surrogates. Accuracy was also evaluated by determining whether any deviations from method or laboratory requirements for internal standard, initial calibration verification (ICV), and continuing calibration verification (CCV) recoveries were noted in the case narrative(s).

6.6.1 LCS and MS/MSD Recovery

LCS/LCSD/MS/MSD samples were analyzed in accordance with laboratory SOP requirements. Table 23 presents the LCS/LCSD data. Most analyte recoveries were within established control limits. However, DNX, MNX, and TNX exhibited low LCSD recoveries in samples 54MW13, 54MW10, 54TW10, 54MW12, and 54MW1. Due to the low LCSD recoveries, the associated data for these analytes in the affected samples were rejected.

MS/MSD analysis was performed at a frequency of at least 5 percent of field samples. Most recoveries were within control limits. Table 24 presents MS/MSD recoveries outside control limits. The data for the primary sample were flagged as indicated in the table. Only primary samples were qualified.

6.6.2 Surrogates

All surrogate recoveries were within control limits. There were no surrogates that exceeded acceptance criteria.

6.6.3 Internal Standards

There were no internal standards outside control limits.

6.6.4 Calibration Verification

No calibration results were outside control limits. Table 25 summarizes calibration control limit exceedances.

6.7 Sensitivity

Sensitivity was measured by evaluating whether the LOQ was less than the RGs. All LOQs were below the RGs. Additionally, sensitivity was evaluated by determining whether method blank and trip blanks were less than the LOQ. Some analytes were detected in some blanks, leading to qualification of sample results.

6.7.1 Blanks (Calibration [Instrument], Method, and Trip)

Calibration blanks were analyzed throughout analytical runs. One method blank was analyzed with every batch of 20 samples or fewer for each matrix. Table 26 presents samples flagged for blank results. Sample results greater than two times the blank concentration were not qualified. Data quality and usability were not affected.

6.7.2 LOQs

LOQs, before adjustments for dilutions, were below the regulatory criteria noted in the UFP QAPP.

6.8 Data Usability Summary

Usability was measured as the number of not rejected results versus the total number of results. The dataset was 90.3-percent usable with 15 out of 295 total analyses rejected. The rejected results included results for DNX, MNX, and TNX from the October event, as shown in Tables 13 and 23. All other data were considered usable with the qualifications discussed above. The completeness goals for the project were met, and all sample data are usable as qualified for making project decisions and assessments. The data were considered of good quality for the project goals. The biases do not affect the overall conclusions.

7.0 MNA Evaluation of SWMU 54

MNA is a remedial approach in which physical, chemical, and biological processes occur under favorable conditions without human interferences to reduce the mass, toxicity, volume, concentration, and mobility of contaminants in soil and groundwater. The physical, chemical, and biological processes include biodegradation, dispersion, dilution, sorption, volatilization, and chemical or biological stabilization (USEPA, 1998). Analytical results from historical and 2025 groundwater monitoring events at SWMU 54 were evaluated for indications of natural attenuation. First-order indicators include a decrease in the presence of COCs through time and may include corresponding increases in their degradation products. Second order MNA indicators include laboratory-measured compounds and field-measured WQPs that represent groundwater geochemical conditions.

7.1 First-Order Indicators: Presence of Contaminants Through Time

The SWMU 54 COCs are 2,4,6-TNT, RDX, DNT mixture, and perchlorate. To aid in visualization of MNA processes, contaminant and degradation product concentrations vs. time (sampling event) graphs are presented in Figures 9 through 12. The four figures present 2,4,6-TNT, RDX, perchlorate, 2ADNT, and 4ADNT results for individual wells 54MW1, 54MW10, 54MW12, and 54MW13, respectively. Historical to 2025 2,4,6-TNT, RDX, and perchlorate results are presented in Table 28.

Sections 7.1.1 and 7.1.2 can be summarized as indicating that the concentrations of COCs and their degradation products measured in 2025 are consistent with historical ranges.

7.1.1 Visual Inspections of Concentration vs. Time

RDX, 2,4,6-TNT, and perchlorate, were not detected above RGs at 54MW1 for the entire monitoring period (Q1 in July 2011 to S44 in October 2025) (Figure 9). Neither 2ADNT nor 4ADNT were detected at 54MW1 in 2025, consistent with historical results.

At 54MW10, concentrations of 2,4,6-TNT and RDX have fluctuated above and below their respective RGs of 7.82 ug/L and 6.1 ug/L through time (Figure 10). RG exceedances have occurred in Q5, Q10-Q12, Q16, and S43 for both contaminants, and in Q21, Q28, Q30-Q31, and Q33-Q36 for 2,4,6-DNT only. Similar peak and valley patterns in Figure 10 indicate that 2,4,6-TNT and RDX covary at 54MW10 through time. Perchlorate concentrations at 54MW10 have not exceeded the RG of 10.9 ug/L for the entire monitoring period. Both 2ADNT and 4ADNT are often detected at 54MW10, and their concentrations generally covary with 2,4,6-TNT concentrations, suggesting a common plume source rather than natural attenuation via degradation.

At 54MW12, concentrations of 2,4,6-TNT and RDX have fluctuated above and below their respective RGs of 7.82 ug/L and 6.1 ug/L through time (Figure 11). RG exceedances have occurred in Q1-Q4, Q8-Q9, Q11, Q14, Q19, Q21-Q24, Q26, and S43 for both contaminants; in Q5, Q10, Q12-Q13, Q15, Q17-Q18, Q20, Q28-31, and Q34-S37 for 2,4,6-DNT only; and in Q6 and S41 for RDX only. Similar peak and valley patterns in Figure 11 indicate that 2,4,6-TNT and RDX covary at 54MW12 through time. Perchlorate concentrations at 54MW12 exceeded the RG of 10.9 ug/L twice during the monitoring period, in Q4 and in Q8. Both 2ADNT and 4ADNT are often detected at 54MW12, and

their concentrations generally covary with 2,4,6-TNT concentrations, suggesting a common plume source rather than natural attenuation via degradation.

At 54MW13, concentrations of 2,4,6-TNT have fluctuated above and below the RG of 7.82 ug/L through time, with exceedances occurring in Q5, Q10, Q16, Q20, Q24, Q28-Q29, Q32-S37, S40, and S42-S43 (Figure 12). A potential increasing trend in 2,4,6-TNT concentrations may be observed from Q15 to S44 but only confirmed by statistical analysis. RDX remained below the RG of 6.1 ug/L until S43 (May 2025), where the concentration increased dramatically to 43.8 ug/L. During S44 (October 2025), the RDX concentration decreased, returning below the RG to 0.88 ug/L. Similar peak and valley patterns between 2,4,6-TNT and RDX are visually evident in Q1-Q18 at 54MW13, indicating their covariance during this time. From Q15 to S44, covariance is more difficult to observe and may not be present. Perchlorate concentrations at 54MW13 have remained below the RG of 10.9 ug/L for the entire monitoring period. Both 2ADNT and 4ADNT are often detected at 54MW13, and their concentrations generally covary with 2,4,6-TNT concentrations, suggesting a common plume source rather than natural attenuation via degradation.

7.1.2 RG Exceedances of the DNT Mixture

DNT mixture results are obtained by summing the results of 2,4-DNT and 2,6-DNT. The RG for the DNT mixture is 0.932 µg/L. Historical to 2025 DNT mixture results are presented in Table 27, where most results since Q1 (July 2011) have been non-detections. The DNT mixture RG has been exceeded only twice during SWMU 54 MNA, at 54MW12 (3.7 ug/L) and 54MW13 (1.01 ug/L) in Q26 (January 2019).

7.1.3 RDX Degradation Products

Many of the intermediate and end products of RDX degradation are relatively short-lived in the environment, resulting in limited accumulation. Studies on the fate and transport of explosives contaminants state that the nitroso intermediates of RDX (DNX, MNX, and TNX) are not often observed in the field (Brannon and Pennington, 2002) or are observed only transiently (only persisting several hours to several days) due to their susceptibility to rapid mineralization. Final end-products such as hydrazines, dimethylhydrazines, and methanol are also not likely to accumulate in the environment at significant concentrations due to being produced at low concentrations and rapid degradation. Therefore, the observation of intermediate and end-products of RDX biodegradation (DNX, MNX, and TNX), even at low concentrations, is considered strong presumptive evidence of active and ongoing degradation processes. In 2025, DNX, MNX, and TNX results were rejected (Table 13), so RDX degradation could not be evaluated.

7.1.4 Perchlorate Degradation Products

Site-wide perchlorate concentrations have consistently remained below the RG of 10.9 µg/L except for the concentrations detected at 54MW12 during Q4 and Q8. These spikes were reported as correlating with peaks in 2,4,6-TNT concentration.

Chlorate, chlorite, and chloride are the (stepwise, in order) degradation products of perchlorate degradation. Historically at SWMU 54, including at 54MW1, analytical results for these analytes have fluctuated above and below detection limits. From 2019 to 2022, and in 2024, chlorate, chlorite, and

chloride were not detected. In 2023, chlorite and chloride were detected in multiple wells and during both sampling events. Chlorate was detected at 54MW12 in May 2025, and chloride was detected in all four monitored wells during both 2025 sampling events.

7.1.5 Statistical Trends for COCs

Mann-Kendall (MK) statistical trend analyses were performed on analytical results from 54MW10, 54MW12, and 54MW13 to assess the stability of the 2,4,6-TNT, perchlorate, and RDX groundwater plumes. The MK analyses were performed using ProUCL version 5.2 software. All available results (historical to 2025) were included in the MK analyses, with non-detects for recent results represented as one-half the reporting limit (limit of detection). The MK results were evaluated at the 95-percent confidence interval. MK trends are summarized as "No Trend," "Increasing," or "Decreasing" for well-COC pairs and are presented in Appendix D, along with time-concentration graphs and data inputs and outputs.

Concentrations of 2,4,6-TNT were found to have "No Trend" at 54MW10, to be decreasing at 54MW12, and to be increasing at 54MW13. Perchlorate concentrations were found to be increasing at 54MW10, decreasing at 54MW12, and were found to have "No Trend" at 54MW13. RDX concentrations were found to be decreasing at 54MW10 and 54MW12 and were found to have "No Trend" at 54MW13. The inter-well variability for COC trends indicates a dynamic MNA environment.

7.2 Second-Order Indicators

The second-order MNA indicators evaluated include the laboratory-measured compounds nitrate, Fe2+, manganese, sulfate, TOC, and TIC, and the field-measured WQPs DO, ORP, pH, and specific conductivity. The second order MNA indicators are discussed in order of importance for indicating potential biodegradation. For example, microorganisms preferentially utilize respiratory substrates according to the amount of energy each yields during metabolism. As a result, these substrates are consumed in the following order of decreasing energy efficiency:

$$O_2 > NO_3^- > Fe^{3+} > ClO_4^- > SO_4^{2-} > CO_2$$

The microbial degradation of nitro-aromatic compounds such as 2,4,6-TNT primarily occurs under nitrate-reducing conditions, whereas perchlorate requires sulfate-reducing groundwater conditions. Concentrations of second-order MNA indicators vs. time (sampling event) graphs are presented in Figures 13 through 19.

7.2.1 Dissolved Oxygen

DO is measured to determine whether aerobic or anaerobic conditions are present in groundwater. The preferred terminal electron acceptor during aerobic microbial respiration is oxygen, and average DO values less than 1 mg/L support anaerobic microbial activity. DO values greater than 8 mg/L are considered biased high given their relative magnitude to oxygen solubility at field temperatures and are not considered. Figures 13, 14, and 15 show that DO levels typically range from 1 mg/L to 10 mg/L at 54MW10, 54MMW12, and 54MW13, respectively, indicating that aerobic conditions are persistent at these wells. Degradation of 2,4,6-TNT can occur under aerobic and anaerobic conditions. However, degradation of 2,4,6-TNT breakdown products, including 2ADNT

and 4ADNT, and reduction of RDX and perchlorate are more favorable under anaerobic conditions (Spain, 1995).

7.2.2 Oxidation-Reduction Potential

ORP values indicate groundwater's reductive potential and are used to confirm DO measurements. ORP values less than +50 mV typically correspond to mildly reducing anaerobic conditions, whereas ORP values less than -200 mV correspond to highly reducing anaerobic conditions. Figure 13 shows that ORP levels at 54MW10 fluctuate above and below +50 mV, and Figures 14 and 15 show that ORP levels are typically greater than +50 mV at 54MW12 and 54MW13. These data suggest that at SWMU 54, aerobic oxidizing conditions are more persistent than anaerobic reducing conditions.

7.2.3 pH

The pH for optimum microbial activity ranges from 6.06 SU to 7.59 SU (USEPA, 1998). Microbial activity may decrease at lower pH values. The first 6 years of pH data are within this optimal pH range (Table 29) and continued in 2025. In general, the pH environment at SWMU 54 is suitable for microbial activity.

7.2.4 Nitrate

Following oxygen, microorganisms preferentially use nitrate as a terminal electron acceptor. Diminished nitrate concentrations below or equal to 1 mg/L may indicate nitrate-reducing conditions which promote the degradation of nitro-aromatics (including 2,4,6-TNT) and the formation of degradation products. Conversely, elevated nitrate concentrations (greater than 1 mg/L) inhibit perchlorate reduction, and nitrate is typically preferentially degraded to nitrite before 2,4,6-TNT and RDX can be degraded (Interstate Technology and Regulatory Council [Perchlorate Team], 2008). Figures 17, 18, and 19 show that nitrate concentrations are typically less than 2 mg/L at 54MW10, typically less than 5 mg/L at 54MW12, and typically less than 1 mg/L at 54MW13. These results indicate variably favorable conditions in groundwater for contaminant degradation.

7.2.5 Ferrous Iron

Ferric iron is reduced to soluble Fe2+ (ferrous iron) by iron-reducing bacteria in groundwater. Therefore, increases in Fe2+ concentrations over time can indicate increased biologically mediated iron-reduction. Fe2+ concentrations above the typical range of 0.5 to 10 mg/L can also indicate favorable groundwater conditions for biological reduction of 2,4,6-TNT. Average Fe2+ concentrations (not including non-detects) are 0.15 mg/L at 54MW10, 0.07 mg/L at 54MW12, and 0.08 mg/L at 54MW13 (Figures 16 to 18). When non-detects are considered, these data indicate persistent unfavorable conditions for iron reduction at these wells.

7.2.6 Manganese

Manganese-reducing bacteria can use manganese oxides as a terminal electron receptor for respiration. They can also couple manganese reduction to the oxidation of organic and inorganic electron donors. Biological reduction of 2,4,6-TNT is favored in manganese-reducing conditions; therefore, elevated levels of manganese above the typical range of 0.05 to 5.6 mg/L are an indicator

of favorable groundwater conditions. Average manganese concentrations (not including non-detects) are 1.2 mg/L at 54MW10, 0.5 mg/L at 54MW12, and 4.2 mg/L at 54MW13 (Figures 16 to 18). If non-detects were considered, averages would decrease further. These data indicate persistent unfavorable conditions for manganese reduction.

7.2.7 Sulfate

After DO and nitrate have been depleted in a microbiological treatment zone, sulfate may be used as a terminal electron acceptor for anaerobic biodegradation. This process is termed "sulfate reduction" and results in the production of sulfide. At higher concentrations, sulfate (and nitrate) may compete with the reductive pathway. Biological degradation of 2,4,6-TNT breakdown products (2ADNT and 4ADNT), RDX, and perchlorate actively occurs under sulfate-reducing conditions. Average sulfate concentrations are 92 mg/L at 54MW10, 34 mg/L at 54MW12, and 34 mg/L at 54MW13 (Figures 16 to 18). These data indicate persistent unfavorable conditions for sulfate reduction and biological degradation of 2ADNT, 4ADNT, RDX, and perchlorate.

7.2.8 TOC and TIC

Organic carbon is a required source of reduced carbon and energy needed to sustain microbial degradation of nitroaromatics and perchlorate. TOC concentrations greater than 20 mg/L are considered adequate to support microbial activity. Figures 13, 14, and 15 show that TOC concentrations at 54MW10, 54MW12, and 54MW13 have typically remained below 20 mg/L, indicating a persistent unfavorable environment for microbial activity.

Inorganic carbon species include carbon dioxide, carbonic acid, and carbonate. The presence of TIC is a useful source of carbon needed to sustain microbial degradation. The oxidation of organic matter should lead to an increase of TIC in groundwater. TIC concentrations in 2025 ranged from 66 mg/L to 110 mg/L with slight variations at each well between the May and October events (Table 29). TIC results are available since 2019 and have shown little variation from this time to present.

7.2.9 Specific Conductivity

Specific conductivity is an indirect measure of the presence of dissolved solids, such as chloride, nitrate, sulfate, iron, and degradation products in groundwater. Therefore, biogradation of 2,4,6-TNT, RDX, perchlorate, and more dissolved inorganic ions (such as chlorides, nitrates, sulfates, and iron) could presumably contribute to increased specific conductivity values at SWMU 54 wells over time. Figure 19 provides a time series plot of specific conductivity results at 54MW1, 54MW10, 54MW12, and 54MW13. Specific conductivity values covary between the wells with limited exceptions, indicating that dissolved solids concentrations are consistent throughout SWMU 54 at any given time.

8.0 Summary and Conclusions

Four groundwater monitoring wells were sampled on a semi-annual basis during the Year Thirteen monitoring at SWMU 54 (May and October 2025 events). Consistent with historical results, 2,4,6-TNT and RDX concentrations did not exceed RGs at the upgradient monitoring well 54MW1. Historically, 2,4,6-TNT and RDX concentrations have fluctuated above and below their respective RGs at 54MW10, 54MW12, and 54MW13. In 2025, the RGs were exceeded at each of these three wells. Consistent with historical results, perchlorate concentrations at SWMU 54 wells remained below the RG.

Historical and recent 2ADNT and 4ADNT concentrations covary with 2,4,6-TNT concentrations at monitoring wells 54MW10, 54MW12, and 54MW13, indicating a common plume source rather than natural attenuation via degradation. RDX degradation products DNX, MNX, and TNX are short lived, so their presence is indicative of natural attenuation via degradation, although DNX, MNX, and TNX results were rejected in 2025, limiting interpretations. Intermittent detections of chlorate, chlorite, and chloride may indicate the possibility of perchlorate degradation, or of a common plume source; more detailed analysis is required.

MK analyses provide a robust evaluation of COC presence through time. The inter-well variability for COC trends indicates a dynamic MNA environment and warrants continued monitoring. Standard interpretations of second-order MNA indicators are as follows:

- Historic and current DO and ORP concentrations indicate that aerobic conditions persist at SWMU 54.
- Historic and current nitrate concentrations indicate that favorable nitrate-reducing conditions are present at only some wells at SWMU 54.
- Historic and current Fe2+, manganese, and sulfate concentrations indicate that unfavorable conditions for iron reduction, manganese reduction, and sulfate reduction persist at SWMU 54.
- Historic and current TOC concentrations indicate that unfavorable conditions for microbial activity persist at SWMU 54, although the pH values indicate a suitable environment.
- Specific conductivity should be compared with other first- or second-order MNA indicators to evaluate its usefulness.

Although geochemical conditions are generally unfavorable for anaerobic degradation of explosives COCs (2,4,6-TNT and RDX) and perchlorate, other MNA processes including sorption, dilution, dispersion, and chemical stabilization may be occurring in groundwater at SWMU 54.

These processes are expected to continue because COC distribution is localized to within a subset of wells within SWMU 54 and because groundwater flow patterns are consistent through time. Due to groundwater flow consistency and 2,4,6-TNT and RDX plume stability, the current monitoring well network and sampling frequency appear adequate to continue future MNA at SWMU 54. An active groundwater remedy does not appear necessary at this time. It is recommended that sampling continue on a semiannual basis at the four monitoring well locations.

9.0 References

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Tables

Table 1: SWMU 54 Groundwater Remedial Goals

Contaminant of Concern	Groundwater RG* (µg/L)
2,4,6-TNT	7.82
DNT Mixture	0.932
RDX	6.1
Perchlorate	10.9

Notes:
*RGs were calculated using target risk 1E-5 for the lifetime resident and a target hazard of 1 for the adult and child resident (URS, 2008).

Definitions:
2,4,6-TNT = 2,4,6-trinitrotoluene
DNT = dinitrotoluene

Table 2: 2002 Area A Direct-Push – Analytical Results for COCs in Groundwater

Sample ID Sample Date	CAS	C/N	RG	Units	54DPW1 12/11/2002		DL	RL	54DPW2 12/11/2002		MDL	RL	54DPW3 12/11/2002		MDL	RL	54GP77 10/13/2004		MDL	RL	54GP78 10/11/2004		MDL	RL	54GP78-DUP(DUP-1) 10/11/2004		MDL	RL	54GP79 10/11/2004		MDL	RL
					Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r		
Explosives																																
2,4,6-TNT	118-96-7	N	7.82	µg/L	<7.2	U,R,l	0.73	7.2	1.5	JB,B,z	0.33	3.3	<2.1	U,R,l	0.21	2.1	NT				NT				NT				NT			
DNT Mixture [a]			0.932		ND				ND				ND				ND				ND				ND				ND			
RDX	121-82-4	C	6.1	µg/L	<7.2	U,R,l	1	7.2	<3.3	U,R,l	0.48	3.3	<2.1	U,R,l	0.31	2.1	NT				NT				NT				NT			
Perchlorate																																
Perchlorate	14797-73-0	N	10.9	µg/L	5.5		0.54	1	27.7		0.54	1	2		0.54	1	3.5		0.1	1	<1	U	0.1	1	<1	U	0.1	1	<1	U	0.1	1

Sample ID Sample Date	CAS	C/N	RG	Units	54GP80 10/13/2004		MDL	RL	54GP81 10/11/2004		MDL	RL	54GP82 10/11/2004		MDL	RL	54GP83 10/11/2004		MDL	RL	54GP84 10/13/2004		MDL	RL	54GP85 10/14/2004		MDL	RL	54GP86 10/13/2004		MDL	RL
					Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r		
Explosives																																
2,4,6-TNT	118-96-7	N	7.82	µg/L	NT				NT				NT				NT				NT				NT				NT			
DNT Mixture [a]			0.932		ND				ND				ND				ND				ND				ND				ND			
RDX	121-82-4	C	6.1	µg/L	NT				NT				NT				NT				NT				NT				NT			
Perchlorate																																
Perchlorate	14797-73-0	N	10.9	µg/L	<1	U	0.1	1	1		0.1	1	<1	U	0.1	1	<1	U	0.1	1	<1	U	0.1	1	<1	U	0.1	1	<1	U	0.1	1

Sample ID Sample Date	CAS	C/N	RG	Units	54GP87 10/14/2004		MDL	RL	54GW56 8/18/2004		MDL	RL	54GW57 8/17/2004		MDL	RL	54GW58 8/24/2004		MDL	RL	54GW59 8/18/2004		MDL	RL	54GW59-DUP(DUP-3) 8/18/2004		MDL	RL	54GW60 8/24/2004		MDL	RL
					Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r		
Explosives																																
2,4,6-TNT	118-96-7	N	7.82	µg/L	NT				160		0.15	1.3	1.7	J,g	0.0749	0.65	15		0.0749	0.65	4.2	L	0.0749	0.65	11	J,g	0.0749	0.65	9.3		0.0749	0.65
DNT Mixture [a]			0.932		ND				ND				ND	U			ND				ND				ND				ND			
RDX	121-82-4	C	6.1	µg/L	NT				35	J,g	0.164	0.65	0.69		0.164	0.65	3.7		0.164	0.65	1		0.164	0.65	1.7		0.164	0.65	0.8		0.164	0.65
Perchlorate																																
Perchlorate	14797-73-0	N	10.9	µg/L	<1	U	0.1	1	13.5		0.1	1	2		0.1	1	25.8		0.1	1	4		0.1	1	3.6		0.1	1	1.7		0.1	1

Sample ID Sample Date	CAS	C/N	RG	Units	54GW61 8/24/2004		MDL	RL	54GW62 8/23/2004		MDL	RL	54GW63 8/23/2004		MDL	RL	54GW64 8/23/2004		MDL	RL	54GW64-DUP(DUP-9) 8/23/2004		MDL	RL	54GW65 8/20/2004		MDL	RL	54GW66 8/20/2004		MDL	RL
					Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r		
Explosives																																
2,4,6-TNT	118-96-7	N	7.82	µg/L	74		0.0749	0.65	9		0.0749	0.65	<0.65	U	0.0749	0.65	0.82	J,g	0.0749	0.65	0.76	J,g	0.0749	0.65	3		0.0749	0.65	NT			
DNT Mixture [a]			0.932		ND				ND				ND				ND				ND				ND				ND			
RDX	121-82-4	C	6.1	µg/L	<0.65	U	0.164	0.65	1.6		0.164	0.65	<0.65	U	0.164	0.65	0.75	J,g	0.164	0.65	0.73	J,g	0.164	0.65	0.7		0.164	0.65	NT			
Perchlorate																																
Perchlorate	14797-73-0	N	10.9	µg/L	3		0.1	1	5.3		0.1	1	<1	U	0.1	1	1.1		0.1	1	0.97	B	0.1	1	1.7		0.1	1	0.94	B,J,m	0.1	1

Sample ID Sample Date	CAS	C/N	RG	Units	54GW66 8/23/2004		MDL	RL	54GW67 8/20/2004		MDL	RL	54GW67 8/23/2004		MDL	RL	54GW68 8/20/2004		MDL	RL	54GW69 8/20/2004		MDL	RL	54GW69 8/23/2004		MDL	RL	54GW70 8/20/2004		MDL	RL
					Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r		
Explosives																																
2,4,6-TNT	118-96-7	N	7.82	µg/L	<0.65	U	0.0749	0.65	NT				<0.65	U	0.0749	0.65	2.6	J,g	0.0749	0.65	NT				1.4		0.0749	0.65	<0.65	U	0.0749	0.65
DNT Mixture [a]			0.932		ND				ND				ND				ND				ND				ND				ND			
RDX	121-82-4	C	6.1	µg/L	<0.65	U	0.164	0.65	NT				<0.65	U	0.164	0.65	<0.65	U	0.164	0.65	NT				0.51	J	0.164	0.65	<0.65	U	0.164	0.65
Perchlorate																																
Perchlorate	14797-73-0	N	10.9	µg/L	NT				0.59	B,J,m	0.1	1	NT				<1	U	0.1	1	0.65	B,J,m	0.1	1	NT				0.76	B	0.1	1

Notes:
The CMOs and RGs were developed and presented in the Final SWMU 54 RFI/CMS Report (URS, 2008). RBC values are from the October 11, 2007, RBC Table and November 2020 Alternate RBC Table.
Yellow highlighted values exceed their respective RG.
[a] DNT mixture is the combined results of 2,4-DNT and 2,6-DNT.

Definitions:
2,4,6-TNT = 2,4,6-trinitrotoluene
B = Not detected substantially above the level reported in laboratory or field blanks.
c = Calibration failure
C = Carcinogenic per USEPA RBC Table (October 2007)
CAS = Chemical Abstracts Service
d = Matrix spike/matrix spike duplicate (MS/MSD) or laboratory control sample/laboratory control sample duplicate (LCS/LCSD) RPD imprecision
DNT = dinitrotoluene
E = Concentration exceeded the upper level of the calibration range of the instrument for that specific analysis.
g = Dual column confirmation imprecision
J = Analyte present; reported value may not be accurate or precise.
L = Analyte present; reported value may be biased low; actual value is expected to be higher.
l = LCS recovery failure
LQ = Laboratory qualifier
m = MS/MSD recovery failure
MDL = Method detection limit
N = Noncarcinogenic per USEPA RBC Table (October 2007)
ND = Not detected
NT = Not tested
o = Calibration blank contamination
p = Preparation blank contamination
P = Greater than 40% difference between the two GC or HPLC columns.
r = Reason code
R = The sample results were rejected due to gross non-conformances discovered during data validation; data are not usable.
RBC = Risk-Based Concentration
RL = Reporting limit
s = Serial dilution failure
U = Not detected; associated number indicates the approximate sample concentration necessary to be detected.
UJ = Not detected; quantitation limit may be inaccurate or imprecise.
UL = Not detected; quantitation limit is probably higher.
VQ = Validation qualifier
w = Field and/or equipment blank contamination
z = Method blank and/or storage blank contamination

Table 3: 2003-2004 Area A – Analytical Results for COCs in Groundwater

Sample ID Sample Date	CAS	C/N	RG	Units	54MW2 3/4/2003		MDL	RL	54MW3 3/4/2003		MDL	RL	54MW5 3/4/2003		MDL	RL	54MW-8 12/21/2004		MDL	RL	54MW-9 12/21/2004		MDL	RL	54MW-10 12/21/2004		MDL	RL	54MW10-DUP(DUP-1) 12/21/2004		MDL	RL
					Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r		
Explosives																																
2,4,6-TNT	118-96-7	N	7.82	µg/L	<3.6	U	0.365	3.6	38		0.365	3.6	<4.2	U	0.43	4.2	<0.65	U	0.0749	0.65	<0.65	U	0.0749	0.65	62		0.15	1.3	65		0.15	1.3
DNT Mixture*			0.932	µg/L	ND				ND				ND				ND				ND				ND				ND			
RDX	121-82-4	C	6.1	µg/L	<3.6	U	0.526	3.6	32		0.526	3.6	<4.2	U	0.61	4.2	0.2	J,J,g	0.164	0.65	1.1	J,g	0.164	0.65	28		0.164	0.65	29		0.164	0.65
Perchlorate																																
Perchlorate	14797-73-0	N	10.90	µg/L	12		0.54	1	59.2		0.54	1	1.6		0.54	1	0.22	B	0.1	1	0.21	B	0.1	1	9.8		0.1	1	9.1		0.1	1
Field Parameters																																
DO	--	--	--	mg/L	6.97				5.18				2.88				0.25				2.56				1.25				1.25			
ORP	--	--	--	mV	159.5				119.0				95.1				215				234				208				208			
pH	--	--	--	SU	6.37				6.65				7.00				7.20				7.53				7.06				7.06			
Specific Conductivity	--	--	--	mS	0.191				0.341				0.310				0.627				0.706				0.760				0.760			
Temperature	--	--	--	°C	16.24				15.97				12.91				13.6				13.2				13.8				13.8			
Turbidity	--	--	--	NTU	0.80				1.93				12.0				4.17				4.13				3.52				3.52			

Notes:

*DNT mixture is the combined results of 2,4-DNT and 2,6-DNT Yellow highlighted values exceed their respective RG.

The CMOs and RGs were developed and presented in the Final SWMU 54 RFI/CMS Report (URS, 2008). RBC values are from the October 11, 2007, RBC Table and November 2020 Alternate RBC Table.

-- = not sampled

< = less than

°C = degrees Celsius

2,4,6-TNT = 2,4,6-trinitrotoluene

B = Not detected substantially above the level reported in laboratory or field blanks.

C = Carcinogenic per USEPA RBC Table (October 2007)

c = Calibration failure.

DNT = dinitrotoluene

d = Matrix spike/matrix spike duplicate (MS/MSD) or laboratory control sample/laboratory control sample duplicate (LCS/LCSD) RPD imprecision.

DO = dissolved oxygen

E = Concentration exceeded the upper level of the calibration range of the instrument for that specific analysis.

g = Dual column confirmation imprecision.

ID = identifier

J = Analyte present; reported value may not be accurate or precise.

L = Analyte present; reported value may be biased low; actual value is expected to be higher.

l = LCS recovery failure.

MCL = maximum contaminant level

m = MS/MSD recovery failure.

mS = millisiemens

N = Noncarcinogenic per USEPA RBC Table (October 2007)

NTU = nephelometric turbidity unit

o = Calibration blank contamination.

p = Preparation blank contamination.

P = Greater than 40% difference for detected concentrations between GC or HPLC columns.

r = reason code

R = The sample results were rejected due to gross non-conformances discovered during data validation; data are not usable.

s = Serial dilution failure.

U = Not detected; associated number indicates the approximate sample concentration necessary to be detected.

UJ = Not detected; quantitation limit may be inaccurate or imprecise.

URS = URS Corporation

VQ = Validation Qualifier

w = Field and/or equipment blank contamination.

z = Method blank and/or storage blank contamination.

Table 4: 2006-2007 Area A Quarterly – Analytical Results for COCs in Groundwater

First Quarter – November/December 2006																															
Sample ID Sample Date	CAS	C/N	RG	54MW1 11/29/2006		MDL	RL	54MW2 11/29/2006		MDL	RL	54MW3 12/5/2006		MDL	RL	54MW5 11/29/2006		MDL	RL	54MW8 12/1/2006		MDL	RL	54MW9 12/1/2006		MDL	RL	54MW10 12/1/2006		MDL	RL
				Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r		
Explosives (µg/L)																															
2,4,6-TNT	118-96-7	N	7.82	<5	U	0.075	5	5.6		0.075	5	0.85	J	0.075	5	0.29	J	0.075	5	<5	U	0.075	5	<5	U	0.075	5	2.1	J	0.075	5
DNT Mixture*	--	C	0.932	<5				<5				<5				<5				<5				<5				<5			
RDX	121-82-4	C	6.100	<5	U	0.16	5	<5	U	0.16	5	<5	U	0.16	5	<5	U	0.16	5	<5	U	0.16	5	<5	U	0.16	5	3.3	J	0.16	5
Perchlorate (µg/L)																															
Perchlorate	14797-73-0	N	10.90	<10	U	1.84	10	<10	U	1.84	10	<10	U	1.84	10	<10	U	1.84	10	<10	U	1.84	10	<10	U	1.84	10	<10	U	1.84	10
Field Parameters																															
Dissolved Oxygen (mg/L)	--	--	--	11.95				10.29				11.94				10.1				8.94				8.51				8.13			
Oxidation Reduction Potential (mV)	--	--	--	153				159				171				231				32				53				36			
pH (SU)	--	--	--	7.86				7.15				7.26				7.2				7.53				7.65				7.39			
Specific Conductivity (mS)	--	--	--	0.44				0.533				0.580				0.557				0.605				0.790				0.733			
Temperature (°C)	--	--	--	18.6				17.7				18.3				18.5				17.1				19.1				16.3			
Turbidity (NTU)	--	--	--	4.47				1.16				0.07				16.6				11.83				23.5				10.31			

Second Quarter – March 2007																															
Sample ID Sample Date	CAS	C/N	RG	54MW-1 3/28/2007		MDL	RL	54MW-2 3/28/2007		MDL	RL	54MW-3 3/28/2007		MDL	RL	54MW-5 3/28/2007		MDL	RL	54MW-8 3/27/2007		MDL	RL	54MW-9 3/27/2007		MDL	RL	54MW10 DUP AVG 3/27/2007		MDL	RL
				Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r		
Explosives (µg/L)																															
2,4,6-TNT	118-96-7	N	7.82	<5	U	0.1	5	0.25	J,J,d	0.1	5	<5	U	0.1	5	0.84	J,J,g	0.1	5	14		0.1	5	<5	U	0.1	5	6.018		0.1	5
DNT Mixture*	--	C	0.932	<5				1.146				<5				<5				<5				<5				0.898			
RDX	121-82-4	C	6.100	<5	U	0.092	5	<5	U	0.092	5	<5	U	0.092	5	<5	U	0.092	5	8.1		0.092	5	<5	U	0.092	5	3.87		0.092	5
Perchlorate (µg/L)																															
Perchlorate	14797-73-0	N	10.90	<0.2	U	0.036	0.2	3.6		0.036	0.2	<0.2	U	0.036	0.2	0.52		0.036	0.2	0.26		0.036	0.2	0.24		0.036	0.2	2.9		0.036	0.2
Field Parameters																															
DO (mg/L)	--	--	--	8.06				7.75				6.12				8.38				6.68				6.51				8			
ORP (mV)	--	--	--	-5				44				-11				53				-17				-10				11			
pH (SU)	--	--	--	7.63				6.45				6.94				6.51				7.05				7.18				6.88			
Specific Conductivity (mS)	--	--	--	0.199				0.183				0.311				0.167				0.267				0.960				0.334			
Temperature (°C)	--	--	--	13.44				15.8				15.22				12.73				13.92				14.43				15.95			
Turbidity (NTU)	--	--	--	1.82				0.37				2.13				1.22				13.96				7.71				3.64			

Fourth Quarter – September 2007																															
Sample ID Sample Date	CAS	C/N	RG	54MW-1 6/5/2007		MDL	RL	54MW-2 6/5/2007		MDL	RL	54MW-3 6/5/2007		MDL	RL	54MW-5 6/5/2007		MDL	RL	54MW-8 6/5/2007		MDL	RL	54MW-9 6/5/2007		MDL	RL	54MW-10 6/5/2007		MDL	RL
				Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r		
Explosives (µg/L)																															
2,4,6-TNT	118-96-7	N	7.82	<5	U	0.1	5	3.9	J	0.1	5	1	J	0.1	5	0.49	J	0.1	5	<5	U	0.1	5	<5	U	0.1	5	2.4	J	0.1	5
DNT Mixture*	--	C	0.932	ND				ND				ND				ND				ND				0.466				ND			
RDX	121-82-4	C	6.100	<5	U	0.092	5	<5	U	0.092	5	<5	U	0.092	5	<5	U	0.092	5	6.3		0.092	5	<5	U	0.092	5	1.6	J	0.092	5
Perchlorate (µg/L)																															
Perchlorate	14797-73-0	N	10.90	<0.2	U	0.08	0.2	2		0.08	0.2	0.88		0.08	0.2	0.58		0.08	0.2	0.7		0.08	0.2	0.23		0.08	0.2	0.37		0.08	0.2
Field Parameters																															
DO (mg/L)	--	--	--	7.57				8.46				5.06				8.44				8.82				5.21				7.35			
ORP (mV)	--	--	--	297				268				109				236				285				94				187			
pH (SU)	--	--	--	7.33				6.78				6.2				6.24				6.9				6.25				6.87			
Specific Conductivity (mS)	--	--	--	0.192				0.225				0.003				0.163				0.245				0.003				0.353			
Temperature (°C)	--	--	--	13.58				13.48				15.66				21.68				13.4				15.44				14.51			

Turbidity (NTU)	--	--	--	0.48				0.29				0.36				0.67				0.06				1.67				9.37			

Fourth Quarter – September 2007																													
Sample ID Sample Date	**CAS**	**C/N**	**RG**	**54MW-1 9/19/2007**		**MDL**	**RL**	**54MW-2 9/19/2007**		**MDL**	**RL**	**54MW-3 9/19/2007**		**MDL**	**RL**	**54MW-5 9/19/2007**		**MDL**	**RL**	**54MW-8 9/18/2007**		**MDL**	**RL**	**54MW-9 9/18/2007**		**MDL**	**RL**	**54MW-10 9/18/2007**		**MDL**	**RL**
				Result	**LQ, VQ, r**			**Result**	**LQ, VQ, r**			**Result**	**LQ, VQ, r**			**Result**	**LQ, VQ, r**			**Result**	**LQ, VQ, r**			**Result**	**LQ, VQ, r**			**Result**	**LQ, VQ, r**		
Explosives (µg/L)																													
2,4,6-TNT	118-96-7	N	7.82	<5	U	0.1	5	0.78	J	0.1	5	1.2	J	0.1	5	0.38	J,J,g	0.1	5	<5	U	0.1	5	<5	U	0.1	5	17		0.1	5
DNT Mixture*	--	C	0.932	ND				ND				ND				ND				ND				ND				0.696			
RDX	121-82-4	C	6.100	<5	U	0.092	5	<5	U	0.092	5	<5	U	0.092	5	<5	U	0.092	5	<5	U	0.092	5	<5	U	0.092	5	8		0.092	5
Perchlorate (µg/L)																													
Perchlorate	14797-73-0	N	10.90	<0.2	U	0.08	0.2	0.57		0.08	0.2	0.31		0.08	0.2	0.34		0.08	0.2	0.37		0.08	0.2	<0.2	U	0.08	0.2	2.9		0.08	0.2
Field Parameters																													
DO (mg/L)	--	--	--	4.03				2.37				6.34				5.53				4.06				3.78				3.89			
ORP (mV)	--	--	--	233				172				205				228				288				237				239			
pH (SU)	--	--	--	8.2				7.01				5.67				6.89				6.82				7.11				6.76			
Specific Conductivity (mS)	--	--	--	0.487				0.637				0.57				0.647				0.711				0.833				0.844			
Temperature (°C)	--	--	--	19.79				15.91				15.6				17.36				14.41				18.05				17.27			
Turbidity (NTU)	--	--	--	0.79				2.19				2.02				1.62				0.43				2.19				7.19			

Notes:

*DNT mixture is the combined results of 2,4-DNT and 2,6-DNT 44 = Exceeds RG

The CMOs and RGs were developed and presented in the Final SWMU 54 RFI/CMS Report (URS, 2008). RBC values are from the October 11, 2007, RBC Table and November 2020 Alternate RBC Table.

Definitions:

< = less than

2,4,6-TNT = 2,4,6-trinitrotoluene

B = Not detected substantially above the level reported in laboratory or field blanks

C = Carcinogenic per USEPA RBC Table (October 2007)

c = Calibration failure.

d = Matrix spike/matrix spike duplicate (MS/MSD) or laboratory control sample/laboratory control sample duplicate (LCS/LCSD) RPD imprecision

DNT = dinitrotoluene

E = Concentration exceeded the upper level of the calibration range of the instrument for that specific analysis

g = Dual column confirmation imprecision

J = Analyte present; reported value may not be accurate or precise

L = Analyte present; reported value may be biased low; actual value is expected to be higher

l = LCS recovery failure

m = MS/MSD recovery failure

N = Noncarcinogenic per USEPA RBC Table (October 2007)

o = Calibration blank contamination

p = Preparation blank contamination

P = Greater than 40% difference for detected concentrations between the two gas chromatography (GC) or high-performance liquid chromatography (HPLC) columns

pH = potential of hydrogen

r = reason code

R = The sample results were rejected due to gross non-conformances discovered during data validation; data are not usable

s = Serial dilution failure.

U = Not detected; associated number indicates the approximate sample concentration necessary to be detected

UJ = Not detected; quantitation limit may be inaccurate or imprecise

VQ = Validation Qualifier

w = Field and/or equipment blank contamination

z = Method blank and/or storage blank contamination

Table 5: 2003 Area B – Analytical Results for Groundwater Samples

Sample ID Sample Date	RG	Units	54MW4 3/4/2003		MDL	RL	54MW6 3/3/2003		MDL	RL	54MW7 3/4/2003		MDL	RL	54MW7-DUP (GW-DUP-1) 3/4/2003		MDL	RL
			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r		
Explosives																		
2,4,6-TNT	7.82	µg/L	<5.4	U	0.55	5.4	<4.2	U	0.43	4.2	<3.6	U	0.365	3.6	<4.8	U	0.487	4.8
DNT Mixture*	0.932	µg/L	ND				ND				ND				ND			
RDX	6.1	µg/L	<5.4	U	0.79	5.4	<4.2	U	0.61	4.2	<3.6	U	0.526	3.6	<4.8	U	0.701	4.8
Perchlorate																		
Perchlorate	10.9	µg/L	<1	U	0.54	1	<1	U	0.54	1	<1	U	0.54	1	<1	U	0.54	1

Notes:
*DNT mixture is the combined results of 2,4-DNT and 2,6-DNT Yellow highlighted values exceed their respective RG.
The CMOs and RGs were developed and presented in the Final SWMU 54 RFI/CMS Report (URS, 2008). RBC values are from the October 11, 2007, RBC Table and November 2020 Alternate RBC Table.

Definitions:
2,4,6-TNT = 2,4,6-trinitrotoluene
B = Not detected substantially above the level reported in laboratory or field blanks
C = Carcinogenic per USEPA RBC Table (October 2007)
c = Calibration failure
CMS = corrective measures study
d = Matrix spike/matrix spike duplicate (MS/MSD) or laboratory control sample/laboratory control sample duplicate (LCS/LCSD) RPD imprecision
DNT = dinitrotoluene
E = Concentration exceeded the upper level of the calibration range of the instrument for that specific analysis
g = Dual column confirmation imprecision
ID = identifier
J = Analyte present; reported value may not be accurate or precise
L = Analyte present; reported value may be biased low; actual value is expected to be higher
l = LCS recovery failure
m = MS/MSD recovery failure
N = Sample spike recovery is outside of control limits
o = Calibration blank contamination
p = Preparation blank contamination
P = Greater than 40% difference for detected concentrations between the two GC or HPLC columns
r = reason code
R = The sample results were rejected due to gross non-conformances discovered during data validation; data are not usable
s = Serial dilution failure
U = Not detected; the associated number indicates the approximate sample concentration necessary to be detected
UJ = Not detected; quantitation limit may be inaccurate or imprecise
w = Field and/or equipment blank contamination
z = Method blank and/or storage blank contamination

Table 6: 2006-2007 Area B Quarterly – Analytical Results for Groundwater Samples

First Quarter – November/December 2006															
Sample ID Sample Date	CAS	C/N	Adjusted Tap Water RBC	54MW4 11/30/2006		MDL	RL	54MW6 11/29/2006		MDL	RL	54MW7 12/5/2006		MDL	RL
				Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r		
Explosives (µg/L)															
2,4,6-TNT	118-96-7	N	7.82	<5	U	0.075	5	<5	U	0.075	5	<5	U	0.075	5
DNT Mixture*	--	C	0.932	<5				<5				<5			
RDX	121-82-4	C	6.100	<5	U	0.16	5	<5	U	0.16	5	<5	U	0.16	5
Perchlorate (µg/L)															
Perchlorate	14797-73-0	N	10.90	<10	U	1.84	10	<10	U	1.84	10	<10	U	1.84	10
Field Parameters															
DO (mg/L)	--	--	--	9.9				11.63				10.46			
ORP (mV)	--	--	--	-92				181				170			
pH (SU)	--	--	--	7.77				8				7.56			
Specific Conductivity (mS)	--	--	--	1.13				0.297				0.729			
Temperature(°C)	--	--	--	15				16.6				15.9			
Turbidity (NTU)	--	--	--	2.66				4.87				5.91			

Second Quarter – March 2007															
Sample ID Sample Date	CAS	C/N	RG	54MW-4 3/27/2007		MDL	RL	54MW-6 3/27/2007		MDL	RL	54MW-7 3/27/2007		MDL	RL
				Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r		
Explosives (µg/L)															
2,4,6-TNT	118-96-7	N	7.82	<5	U	0.1	5	<5	U	0.1	5	<5	U	0.1	5
DNT Mixture*	--	C	0.932	<5				<5				<5			
RDX	121-82-4	C	6.100	<5	U	0.092	5	<5	U	0.092	5	<5	U	0.092	5
Perchlorate (µg/L)															
Perchlorate	14797-73-0	N	10.90	<0.2	U	0.036	0.2	<0.2	U	0.036	0.2	<0.2	U	0.036	0.2
Field Parameters															
DO (mg/L)	--	--	--	5.97				8.8				6			
ORP (mV)	--	--	--	-95				135				-44			
pH (SU)	--	--	--	7.16				8.21				7			
Specific Conductivity (mS)	--	--	--	1.11				0.314				0.323			
Temperature(°C)	--	--	--	15.68				17.77				14.25			
Turbidity (NTU)	--	--	--	1.54				31.1				6.59			

Third Quarter – June 2007															
Sample ID Sample Date	CAS	C/N	RG	54MW4 DUP AVG 6/5/2007		MDL	RL	54MW-6 6/5/2007		MDL	RL	54MW-7 6/5/2007		MDL	RL
				Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r		
Explosives (µg/L)															
2,4,6-TNT	118-96-7	N	7.82	<5	U	0.1	5	<5	U	0.1	5	<5	U	0.1	5
DNT Mixture*	--	C	0.932	<5				<5				<5			
RDX	121-82-4	C	6.100	<5	U	0.092	5	<5	U	0.092	5	<5	U	0.092	5
Perchlorate (µg/L)															
Perchlorate	14797-73-0	N	10.90	<0.2	U	0.08	0.2	<0.2	U	0.08	0.2	<0.2	U	0.08	0.2
Field Parameters															
DO (mg/L)	--	--	--	5.15				4.5				7.72			
ORP (mV)	--	--	--	91				76				225			
pH (SU)	--	--	--	6.39				6.03				6.97			
Specific Conductivity(mS)	--	--	--	0.003				0.003				0.302			
Temperature(°C)	--	--	--	14.54				19.28				3.03			
Turbidity (NTU)	--	--	--	0.67				9.96				0.71			

Fourth Quarter – September 2007															
Sample ID Sample Date	CAS	C/N	RG	54MW4 9/19/2007		MDL	RL	54MW6 9/19/2007		MDL	RL	54MW7 DUP AVG 9/19/2007		MDL	RL
				Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r		
Explosives (µg/L)															
2,4,6-TNT	118-96-7	N	7.82	<5	U	0.1	5	<5	U	0.1	5	<5	U	0.1	5
DNT Mixture*	--	C	0.932	ND				ND				ND			
RDX	121-82-4	C	6.100	<5	U	0.092	5	<5	U	0.092	5	<5	U	0.092	5
Perchlorate (µg/L)															

Perchlorate	14797-73-0	N	10.90	<0.2	U	0.08	0.2	0.1	J	0.08	0.2	<0.2	U	0.08	0.2
Field Parameters																
DO (mg/L)	--	--	--	4.03				7.47				4.56			
ORP (mV)	--	--	--	-1				236				266			
pH (SU)	--	--	--	7.91				8.13				6.97			
Specific Conductivity(mS)	--	--	--	1.1				0.267				0.766			
Temperature(°C)	--	--	--	16.08				16.69				16.83			
Turbidity (NTU)	--	--	--	0.43				4.37				0.39			

Notes:
*DNT mixture is the combined results of 2,4-DNT and 2,6-DNT Yellow highlighted values exceed their respective RG.
The CMOs and RGs were developed and presented in the Final SWMU 54 RFI/CMS Report (URS, 2008). RBC values are from the October 11, 2007, RBC Table and November 2020 Alternate RBC Table.

Definitions:
< = less than
2,4,6-TNT = 2,4,6-trinitrotoluene
B = Not detected substantially above the level reported in laboratory or field blanks
C = Carcinogenic per USEPA RBC Table (October 2007)
c = Calibration failure
C/N = carcinogenic/noncarcinogenic
DNT = dinitrotoluene
d = Matrix spike/matrix spike duplicate (MS/MSD) or laboratory control sample/laboratory control sample duplicate (LCS/LCSD) RPD imprecision
DO = dissolved oxygen
E = Concentration exceeded the upper level of the calibration range of the instrument for that specific analysis
g = Dual column confirmation imprecision
ID = identifier
J = Analyte present; reported value may not be accurate or precise
L = Analyte present; reported value may be biased low; actual value is expected to be higher
l = LCS recovery failure
m = MS/MSD recovery failure
mS = millisiemens
mV = millivolts
N = Noncarcinogenic per USEPA RBC Table (October 2007)
o = Calibration blank contamination
p = Preparation blank contamination
P = Greater than 40% difference for detected concentrations between the two gas chromatography (GC) or high-performance liquid chromatography (HPLC) columns
r = reason code
R = The sample results were rejected due to gross non-conformances discovered during data validation; data are not usable
s = Serial dilution failure
U = Not detected; the associated number indicates the approximate sample concentration necessary to be detected
UJ = Not detected; quantitation limit may be inaccurate or imprecise
VQ = Validation Qualifier
w = Field and/or equipment blank contamination
z = Method blank and/or storage blank contamination

Table 7: 2006 Analytical Results for New River Surface Water and Sediment Pore Water Samples

Surface Water																									
Sample ID Sample Date	CAS	C/N	RG	NR-SW-1 11/30/2006		MDL	RL	NR-SW-2 11/30/2006		MDL	RL	NR-SW-3 11/30/2006		MDL	RL	NR-SW-4 11/30/2006		MDL	RL	NR-SW-5 11/30/2006		MDL	RL	NR-SW-6 11/30/2006		MDL	RL
				Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r		
Explosives (µg/L)																									
2,4,6-TNT	118-96-7	C	7.82	<5	U	0.075	5	<5	U	0.075	5	<5	U	0.075	5	<5	U	0.075	5	<5	U	0.075	5	<5	U	0.075	5
2,4-DNT	121-14-2	N		<5	U	0.12	5	<5	U	0.12	5	<5	U	0.12	5	<5	U	0.12	5	<5	U	0.12	5	<5	U	0.12	5
2,6-DNT	606-20-2	N		<5	U	0.27	5	<5	U	0.27	5	<5	U	0.27	5	<5	U	0.27	5	<5	U	0.27	5	<5	U	0.27	5
DNT Mixture*			0.932	<5				<5				<5				<5				<5				<5			
RDX	121-82-4	C	6.100	<5	U	0.16	5	<5	U	0.16	5	<5	U	0.16	5	<5	U	0.16	5	<5	U	0.16	5	<5	U	0.16	5
Perchlorate (µg/L)																									
Perchlorate	14797-73-0	--	10.900	<10	U	1.84	10	<10	U	1.84	10	<10	U	1.84	10	<10	U	1.84	10	<10	U	1.84	10	<10	U	1.84	10
Field Parameters																									
DO (mg/L)	--	--	--	17.05				15.83				14.64				12.93				14.83				15.11			
ORP (mV)	--	--	--	219				118				47				53				32				35			
pH (SU)	--	--	--	8.9				8.1				7.96				7.81				7.67				8.3			
Specific Conductivity (mS)	--	--	--	0.116				0.113				0.118				0.174				0.117				0.155			
Temperature (°C)	--	--	--	10.1				9.9				10.1				10.3				10.2				10.4			
Turbidity (NTU)	--	--	--	71.3				13.7				17.48				9.94				7.66				6.21			

Pore Water																									
Sample ID Sample Date	CAS	C/N	RG	NR-PW-1 11/30/2006		MDL	RL	NR-PW-2 11/30/2006		MDL	RL	NR-PW-3 11/30/2006		MDL	RL	NR-PW-4 11/30/2006		MDL	RL	NR-PW-5 11/30/2006		MDL	RL	NR-PW-6 11/30/2006		MDL	RL
				Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r		
Explosives (µg/L)																									
2,4,6-TNT	118-96-7	C	7.82	<5	U	0.075	5	<5	U	0.075	5	<5	U	0.075	5	<5	U	0.075	5	<5	U	0.075	5	<5	U	0.075	5
2,4-DNT	121-14-2	N		<5	U	0.12	5	<5	U	0.12	5	<5	U	0.12	5	<5	U	0.12	5	<5	U	0.12	5	<5	U	0.12	5
2,6-DNT	606-20-2	N		<5	U	0.27	5	<5	U	0.27	5	<5	U	0.27	5	<5	U	0.27	5	<5	U	0.27	5	<5	U	0.27	5
DNT Mixture*			0.932	<5				<5				<5				<5				<5				<5			
RDX	121-82-4	C	6.100	<5	U	0.16	5	<5	U	0.16	5	<5	U	0.16	5	<5	U	0.16	5	<5	U	0.16	5	<5	U	0.16	5
Perchlorate (µg/L)																									
Perchlorate	14797-73-0	--	10.900	<10	U	1.84	10	<10	U	1.84	10	<10	U	1.84	10	<10	U	1.84	10	<10	U	1.84	10	<10	U	1.84	10
Field Parameters																									
DO (mg/L)	--	--	--	10.38				10.46				12.2				9.35				10.82				11.34			
ORP (mV)	--	--	--	-109				-174				20				-182				-44				-58			
pH (SU)	--	--	--	7.33				7.21				7.47				7.57				7.44				7.2			
Specific Conductivity (mS)	--	--	--	0.307				0.344				0.248				0.38				0.553				0.353			
Temperature (°C)	--	--	--	12.8				10.7				10.8				10.6				13.2				11.9			
Turbidity (NTU)	--	--	--	16.35				37.9				22.7				4.86				3.63				11.85			

Surface Water																							
Sample ID Sample Date	CAS	C/N	RG	NR-SW-7 12/1/2006		MDL	RL	NR-SW-8 12/1/2006		MDL	RL	NR-SW-8-DUP(DUP-4) 12/1/2006		MDL	RL	NR-SW-9 12/1/2006		MDL	RL	NR-SW-10 12/1/2006		MDL	RL
				Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r		
Explosives (µg/L)																							
2,4,6-TNT	118-96-7	C	7.82	<5	U	0.075	5	<5	U	0.075	5	<5	U	0.075	5	<5	U	0.075	5	<5	U	0.075	5
2,4-DNT	121-14-2	N		<5	U	0.12	5	<5	U	0.12	5	<5	U	0.12	5	<5	U	0.12	5	<5	U	0.12	5
2,6-DNT	606-20-2	N		<5	U	0.27	5	<5	U	0.27	5	<5	U	0.27	5	<5	U	0.27	5	<5	U	0.27	5
DNT Mixture*			0.932	<5				<5				<5				<5				<5			
RDX	121-82-4	C	6.100	<5	U	0.16	5	<5	U	0.16	5	<5	U	0.16	5	<5	U	0.16	5	<5	U	0.16	5
Perchlorate (µg/L)																							
Perchlorate	14797-73-0	--	10.900	<10	U	1.84	10	<10	U	1.84	10	<10	U	1.84	10	<10	U	1.84	10	<10	U	1.84	10
Field Parameters																							
DO (mg/L)	--	--	--	13.13				13.27				13.27				13.76				14.69			
ORP (mV)	--	--	--	10				41				41				51				52			
pH (SU)	--	--	--	8.11				7.8				7.8				7.62				7.83			
Specific Conductivity (mS)	--	--	--	0.140				0.124				0.124				0.131				0.114			
Temperature (°C)	--	--	--	11.7				12.5				12.5				11.8				11			
Turbidity (NTU)	--	--	--	148				13.8				13.8				20.5				11.46			

Pore Water																						
Sample ID Sample Date	CAS	C/N	RG	NR-PW-6-DUP(DUP-3) 11/30/2006		MDL	RL	NR-PW-7 12/1/2006		MDL	RL	NR-PW-8 12/1/2006		MDL	RL	NR-PW-9 12/1/2006		MDL	RL	NR-PW-10 12/1/2006		MDL	RL
				Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r			Result	LQ, VQ, r		
Explosives (µg/L)																							
2,4,6-TNT	118-96-7	C	7.82	<5	U	0.075	5	<5	U	0.075	5	<5	U	0.075	5	<5	U	0.075	5	<5	U	0.075	5
2,4-DNT	121-14-2	N		<5	U	0.12	5	<5	U	0.12	5	<5	U	0.12	5	<5	U	0.12	5	<5	U	0.12	5
2,6-DNT	606-20-2	N		<5	U	0.27	5	<5	U	0.27	5	<5	U	0.27	5	<5	U	0.27	5	<5	U	0.27	5
DNT Mixture*			0.932	<5				<5				<5				<5				<5			
RDX	121-82-4	C	6.100	<5	U	0.16	5	<5	U	0.16	5	<5	U	0.16	5	<5	U	0.16	5	<5	U	0.16	5
Perchlorate (µg/L)																							
Perchlorate	14797-73-0	--	10.900	<10	U	1.84	10	<10	U	1.84	10	<10	U	1.84	10	<10	U	1.84	10	<10	U	1.84	10
Field Parameters																							
DO (mg/L)	--	--	--	11.34				9.25				9.74				10.55				10.18			
ORP (mV)	--	--	--	-58				-194				-173				-173				-157			
pH (SU)	--	--	--	7.2				7.54				7.36				7.23				7.47			
Specific Conductivity (mS)	--	--	--	0.353				0.517				0.660				0.533				0.479			
Temperature (°C)	--	--	--	11.9				13				12.9				13.2				13.1			
Turbidity (NTU)	--	--	--	11.85				3.72				5.6				15.87				1.66			

Notes:

*DNT mixture is the combined results of 2,4-DNT and 2,6-DNT Yellow highlighted values exceed their respective RG.

The CMOs and RGs were developed and presented in the Final SWMU 54 RFI/CMS Report (URS, 2008). RBC values are from the October 11, 2007, RBC Table and November 2020 Alternate RBC Table.

Water – BTAG Freshwater Screening Values (USEPA, 2006).

Definitions:

2,4,6-TNT = 2,4,6-trinitrotoluene

B = Not detected substantially above the level reported in laboratory or field blanks

BTAG = Biological Technical Assistance Group

C = Carcinogenic per USEPA RBC Table (October 2007)

c = Calibration failure

d = Matrix spike/matrix spike duplicate (MS/MSD) or laboratory control sample/laboratory control sample duplicate (LCS/LCSD) RPD imprecision

DNT = dinitrotoluene

DO = dissolved oxygen

E = Concentration exceeded the upper level of the calibration range of the instrument for that specific analysis; for TICs, compound not present in calibration standard, calculated using total peak areas ion chromatographs and response factor of 1

g = Dual column confirmation imprecision

J = Analyte present; reported value may not be accurate or precise

L = Analyte present; reported value may be biased low; actual value is expected to be higher

l = LCS recovery failure

m = MS/MSD recovery failure

N = Noncarcinogenic per USEPA RBC Table (October 2007)

o = Calibration blank contamination

p = Preparation blank contamination

P = Greater than 40% difference for detected concentrations between the two gas chromatography (GC) or high-performance liquid chromatography (HPLC) columns

r = reason code

R = The sample results were rejected due to gross non-conformances discovered during data validation; data are not usable

s = Serial dilution failure

U = Not detected; the associated number indicates the approximate sample concentration necessary to be detected

UJ = Not detected; quantitation limit may be inaccurate or imprecise

VQ = Validation Qualifier

w = Field and/or equipment blank contamination

z = Method blank and/or storage blank contamination

Table 8: 2025 Monitoring Frequencies and Analytical Suite

Well ID	Frequency	Explosives	Perchlorate	Dissolved Gases (MEE) [a]	RDX MNA Parameters	MNA Indicator Parameters	Water Quality Parameters
54MW1	Semiannual	X	X	X	X	X	X
54MW10	Semiannual	X	X	X	X	X	X
54MW12	Semiannual	X	X	X	X	X	X
54MW13	Semiannual	X	X	X	X	X	X

Notes:

[a] Monitoring began in 2025 October, see main text Section 4.0 for details.

Definitions:

X = analyzed

Table 9: 2025 May Groundwater Elevations

Well ID	Screen Interval (ft bgs)	Screen Length (ft)	Total Depth (ft)	Water Level (ft btoc)	Top of Casing (ft amsl)	Water Level (ft amsl)	PID Reading (ppm)
54MW1	34.8 - 54.8	20	57.40	18.88	1707.78	1688.90	0.0
54MW10	12 - 27	15	30.01	14.29	1691.10	1676.81	0.2
54MW12	20 - 30	10	32.92	23.34	1702.42	1679.08	0.0
54MW13	12 – 25	10	25.34	19.76	1698.90	1679.14	0.0

Notes:
Elevation data collected on the date of sampling.

Definitions:
btoc = below top of casing

Table 10: 2025 May Water Quality Parameters

Well ID	Temperature (°C)	Specific Conductivity (µS/cm)	DO (mg/L)	pH	ORP (mV)	Turbidity (NTU)
54MW1	13.9	447.3	0.53	7.47	55.7	0.01
54MW10	13.5	511.7	2.85	6.99	76.0	0.30
54MW12	13.8	433.1	6.11	6.88	70.6	0.65
54MW13	12.1	423.2	3.44	6.97	114.1	0.10

Table 11: 2025 October Groundwater Elevations

Well ID	Screen Interval (ft bgs)	Screen Length (ft)	Total Depth (ft)	Water Level (ft btoc)	Top of Casing (ft amsl)	Water Level (ft amsl)	PID Reading (ppm)
54MW1	34.8 - 54.8	20	57.39	20.95	1707.78	1686.83	0.0
54MW10	12 - 27	15	30.83	17.43	1691.10	1673.67	0.0
54MW12	20 - 30	10	32.98	26.85	1702.42	1675.57	0.0
54MW13	12 - 25	10	25.32	23.43	1698.90	1675.47	0.0

Notes:
Elevation data collected on the date of sampling.

Definitions:
btoc = below top of casing

Table 12: 2025 October Water Quality Parameters

Well ID	Temperature (°C)	Specific Conductivity (µS/cm)	DO (mg/L)	pH	ORP (mV)	Turbidity (NTU)
54MW1	14.2	435.5	0.26	7.18	63.7	0.42
54MW10	14.5	779.0	0.11	6.91	-3.2	1.26
54MW12	14.2	377.6	5.79	6.42	138.8	0.75
54MW13	13.5	607.0	4.03	6.70	199.8	0.70
54MW10 [a]	14.0	761.0	0.16	7.08	4.2	3.58
54MW13 [a]	13.9	592.0	4.27	6.90	188.5	0.55

Notes:

[a] Additional WQP measurements taken during MEE sample collection on 10/22/25.

Table 13: SWMU 54 Groundwater Analytical Results
2025 (Year 13)
Radford Army Ammunition Plant, Radford, VA

	Lab Report #	Remedial Goal[1] (ug/L)	195081	199203	195081	199296	199296	195081	199203	195081	199203	195081
	Lab Identification		1585230 FC24818-5	1642055, 1645326 FC28746-5	1585228 FC24818-3	1642052, 1643253 FC28746-2	1642053, 1643254 FC28746-3	1585229 FC24818-4	1642054, 1645325 FC28746-4	1585226 FC24818-1	1642051, 1643252 FC28746-1	1585227 FC24818-2
	Sample		54MW1	54MW1	54MW10	54MW10	54TW10	54MW12	54MW12	54MW13	54MW13	54TW13
	Collection date		5/19/2025	10/20/2025, 10/21/2025	5/19/2025	10/20/2025, 10/22/2025	10/20/2025, 10/22/2025	5/19/2025	10/20/2025, 10/21/2025	5/19/2025	10/20/2025, 10/22/2025	5/19/2025
Anions 300.0	**CAS #**		**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Chlorate	14866-68-3	--	10 U	10 U	20 U	10 U	10 U	**28**	10 U	10 U	10 UJ	10 U
Chlorite	14998-27-7	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Anions 9056			**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**
Chloride	16887-00-6	--	**3**	**3.1**	**5.4**	**4.5**	**4.5**	**6.1**	**3.5**	**6.2**	**7.8**	**6.3**
Nitrate Nitrogen	14797-55-8	--	0.20 U	0.20 U	**1.30**	0.20 U	0.20 U	**0.70**	**0.85**	**0.53**	**0.59**	**0.52**
Sulfate	14808-79-8	--	**29**	**29**	**45**	**180**	**190**	**21** J-	**22**	**24**	**35**	**24**
Organic and Inorganic Carbon 9060A			**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**
Total Inorganic Carbon	--	--	**63**	**64**	**75**	**83**	**82**	**76**	**67**	**69**	**110**	**66**
Total Organic Carbon	7732-18-5	--	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
MEE (RSK-175)			**--**	**ug/L**	**--**	**ug/L**	**ug/L**	**--**	**ug/L**	**--**	**ug/L**	**--**
Methane	74-82-8	--	NR	0.90 U	NR	0.90 U	0.90 U	NR	0.90 U	NR	0.90 U	NR
Ethane	74-84-0	--	NR	0.80 U	NR	0.80 U	0.80 U	NR	0.80 U	NR	0.80 U	NR
Ethene	74-85-1	--	NR	1.20 U	NR	1.20 U	1.20 U	NR	1.20 U	NR	1.20 U	NR
Perchlorate 6850			**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Perchlorate	14797-73-0	10.9	0.10 U	0.10 U	**0.94**	0.10 U	0.10 U	**0.78**	**0.50**	**0.49**	**0.30**	**0.51**
Explosives 8330B			**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
1,3,5-Trinitrobenzene	99-35-4	--	0.11 U	0.11 U	**2.7** J	0.11 U	0.11 U	**6.4**	**5.8**	**9.7**	**18.2** J-	**8.8** J
1,3-Dinitrobenzene	99-65-0	--	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	**0.24**	0.11 U	**0.23**	0.10 U	0.11 U
2,4,6-Trinitrotoluene	118-96-7	7.82	0.11 U	0.11 U	**15.8**	0.11 U	0.11 U	**9.2**	**5.0**	**7.9**	**6.4** J+	**8.7**
2,4-Dinitrotoluene	121-14-2	0.932 (DNT Mixture)	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.10 U	0.11 U	0.11 U	0.10 U	0.11 U
2,6-Dinitrotoluene	606-20-2		0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.10 U	0.11 U	0.11 U	0.10 U	0.11 U
2-amino-4,6-Dinitrotoluene	35572-78-2	--	0.11 U	0.11 U	**2.7**	**0.14** J	**0.14** J	**4.4** J-	**3.4**	**1.4**	**1.6** J-	**1.2** J
3,5-Dinitroaniline	618-87-1	--	0.11 U	0.11 U	**0.59** J	0.11 U	0.11 U	**0.20**	0.11 U	**0.48** J	**0.55** J	**0.45**
4-amino-2,6-Dinitrotoluene	19406-51-0	--	0.11 U	0.11 U	**2.7**	**0.15** J	0.11 U	**3.5**	**0.68** J	**1.2**	**0.84** J+	**1.0** J
DNX	5755-27-1	--	0.11 U	0.11 R	0.11 U	0.11 R	0.11 R	0.10 U	0.11 R	0.11 U	0.10 R	0.11 U
HMX	2691-41-0	--	0.11 U	0.11 U	**11.6** J	**0.16** J	**0.14** J	**19.3** J+	**5.2**	**5.4**	**3.1**	**6.4** J
m-Nitrotoluene	99-08-1	--	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.10 U	0.11 U	0.11 U	0.10 U	0.11 U
MNX	5755-27-1	--	0.11 U	0.11 R	0.11 U	0.11 R	0.11 R	0.10 U	0.11 R	**0.85** J	0.10 R	0.11 U
Nitrobenzene	98-95-3	--	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.10 U	0.11 U	0.11 U	0.10 U	0.11 U
Nitroglycerine	55-63-0	--	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.0 UJ	1.1 U	1.1 U	1.0 U	1.1 U
o-Nitrotoluene	88-72-2	--	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.10 U	0.11 U	0.11 U	0.10 U	0.11 U
PETN	78-11-5	--	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.0 U	1.1 U	1.1 U	1.0 U	1.1 U
p-Nitrotoluene	99-99-0	--	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.10 U	0.11 U	0.11 U	0.10 U	0.11 U
RDX	121-82-4	6.1	0.11 U	0.11 U	**11.2** J	**0.16** J	0.11 U	**13.7** J+	**1.3**	**43.8** J	**0.88**	**28.8**
Tetryl	479-45-8	--	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.10 U	0.11 U	0.11 U	0.10 UJ	0.11 U
TNX	13980-04-6	--	0.11 U	0.11 R	0.11 U	0.11 R	0.11 R	0.10 U	0.11 R	0.11 U	0.10 R	0.11 U
Field-measured MNA metals			**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**
Dissolved Iron	7439-89-6	--	0.12	0.15	0.11	0.23	--	0.12	0.16	0.14	0.14	--
Dissolved Manganese	7439-96-5	--	0.3	0.2	0.5	0.3	--	0.9	0.2	0.2	0.0	--

Notes

[1] Remedial Goals presented in the SWMU 54 Interim Measures Work Plan (Shaw, 2010).

Bold values indicate compound was detected.

Yellow highlighting indicates concentration exceeds the Remedial Goal.

Red highlighting on R code indicates the data was rejected by the project team after data validation recommended exclusion. See R definition for more details.

Definitions

CAS = Chemical Abstracts Service.
DNX = hexahydro-1,3-dinitroso-5-nitro-1,3,5-triazine.
HMX = octogen.
J = The reported result was an estimated value with an unknown bias.
J+ = The result was an estimated quantity, but the result may be biased high.
J- = The result was an estimated quantity, but the result may be biased low.
mg/L = milligrams per liter.
MNX = hexahydro-1-nitroso-3,5-dinitro-1,3,5-triazine.
NR = Not Reported
PETN = pentaerythritol tetranitrate.
R = The sample results were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided.
RDX = cyclotrimethylenetrinitramine.
TNX = hexahydro-1,3,5-trinitroso-1,3,5-triazine.
U = The analyte was not detected and was reported as less than the LOD. The LOD is presented in this table has been adjusted for any dilution or concentration of the sample.
ug/L = micrograms per liter.
-- = not established (Remedial Goal) or not applicable.

Table 14 - SWMU 54 Analytical Results Summary

Analyte	CAS #	Units	Remedial Goal[1]	May Event			October Event			2025 MNA Total					
				Count Samples	Count Detects	Count Exceedances	Count Samples	Count Detects	Count Exceedances	Count Samples	Count Detects	Count Exceedances	Minimum Concentration	Maximum Concentration	Maximum Location
Anions 300.0															
Chlorate	14866-68-3	ug/L	--	5	1	--	5	--	--	10	1	--	ND	28	54MW12
Anions 9056															
Chloride	16887-00-6	mg/L	--	5	5	--	5	5	--	10	10	--	3	7.8	54MW13
Nitrate Nitrogen	14797-55-8	mg/L	--	5	4	--	5	2	--	10	6	--	ND	1.3	54MW10
Sulfate	14808-79-8	mg/L	--	5	5	--	5	5	--	10	10	--	21	190	54TW10
Organic and Inorganic Carbon 9060A															
Total Inorganic Carbon	--	mg/L	--	5	5	--	5	5	--	10	10	--	63	110	54MW13
Perchlorate 6850															
Perchlorate	14797-73-0	ug/L	10.9	5	4	--	5	2	--	10	6	--	ND	0.94	54MW10
Explosives 8330B															
1,3,5-Trinitrobenzene	99-35-4	ug/L	--	5	4	--	5	2	--	10	6	--	ND	18.2	54MW13
1,3-Dinitrobenzene	99-65-0	ug/L	--	5	2	--	5	--	--	10	2	--	ND	0.24	54MW12
2,4,6-Trinitrotoluene	118-96-7	ug/L	7.82	5	4	4	5	2	--	10	6	4	ND	15.8	54MW10
2-amino-4,6-Dinitrotoluene	35572-78-2	ug/L	--	5	4	--	5	4	--	10	8	--	ND	4.4	54MW12
3,5-Dinitroaniline	618-87-1	ug/L	--	5	4	--	5	1	--	10	5	--	ND	0.59	54MW10
4-amino-2,6-Dinitrotoluene	19406-51-0	ug/L	--	5	4	--	5	3	--	10	7	--	ND	3.5	54MW12
HMX	2691-41-0	ug/L	--	5	4	--	5	4	--	10	8	--	ND	19.3	54MW12
MNX	5755-27-1	ug/L	--	5	1	--	5	--	--	10	1	--	ND	0.85	54MW13
RDX	121-82-4	ug/L	6.1	5	4	4	5	3	--	10	7	4	ND	43.8	54MW13

Notes

[1] Remedial Goals presented in the SWMU 54 Interim Measures Work Plan (Shaw, 2010).

Definitions

CAS = Chemical Abstracts Service.
HMX = octogen.
mg/L = milligrams per liter.
MNX = hexahydro-1-nitroso-3,5-dinitro-1,3,5-triazine.
ND = Non-Detect
RDX = cyclotrimethylenetrinitramine.
ug/L = micrograms per liter.
-- = not established (Remedial Goal) or no data (Count Exceedances).

Table 15: Summary of Samples and Analyses

Monitoring Event ID	Data Packages	Matrix	Anions	Explosives	TOC/TIC	Perchlorate	Chlorate/ Chlorite	Dissolved Gases
May 2025	SGS North America – FC24818	GW		X		X		-
	CT Laboratories - 195081	GW	X		X		X	-
August 2025	SGS North America – FC28746	GW		X		X		
	CT Laboratories – 199203	GW	X		X		X	X

Notes:
Samples were not collected for methane, ethane, and ethene in May 2025.
Chlorate and chlorite were analyzed by Eurofins Eaton Analytical (subcontracted by CT Laboratories).

Definitions:
GW = groundwater

Table 16: Analytical Methods

Analysis	Analytes	Method
Anions	Chloride Nitrate Sulfate	USEPA SW-846 Method 9056A
Explosives	Numerous	USEPA SW-846 Method 8330B
TOC/TIC	TOC, TIC	USEPA SW-846 Method 9060A
Chlorate/Chlorite	Chlorate, Chlorite	USEPA Method 300.0
Perchlorate	Perchlorate	USEPA SW-846 Method 6850
Dissolved Gases	Methane, Ethane, Ethene	RSK-175

Table 17: Data Qualifiers

Qualifier	Description
U	The analyte was not detected and was reported as less than the LOD. The LOD has been adjusted for any dilution or concentration of the sample.
J	The reported result was an estimated value with an unknown bias.
J+	The result was an estimated quantity, but the result may be biased high.
J-	The result was an estimated quantity, but the result may be biased low.
R [a]	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Exclusion of the data is recommended.

Notes:

The data qualifiers listed are a subset of those provided by Neptune and Company in the data validation report for analytical results for samples collected during the October 2025 event (Appendix D) and which are applied to all analytical results (May 2025 and October 2025) in Table 13. The qualifiers have been modified from the work plan to reflect the current data validation qualifier practices discussed in DoD General Data Validation Guidelines, Revision 1, November 2019.

[a] Used in place of "X" in Table 13 to indicate data was recommended for exclusion.

Table 18: Holding Time Exceedances

Sampling Event	Analysis [a]	Analytes	Result	Samples	Qualifiers
May 2025	No holding time exceedances				
October 2025	No holding time exceedances				

Notes:

[a] The holding time for pH analysis is only minutes; therefore, this is expected and exceedances are not presented in the table. The data are still usable for their intended purpose.

Table 19: Field Duplicate Precision Exceedances

Sampling Event	Sample ID	Analyte	Flag	RPD
May 2025	No Exceedances			
October 2025	No Exceedances			

Notes:
% = percent

Table 20: Laboratory Duplicate Precision Exceedances

Sampling Event	Analyte	Flag	RPD
May 2025	No Exceedances		
October 2025	No Exceedances		

Table 21: MS/MSD RPD Exceedances

Sampling Event	Sample ID	Analyte	Flag	RPD
May 2025	No Exceedances			
October 2025	No Exceedances			

Definitions:
TNX = hexahydro-1,3,5-trinitroso-1,3,5-triazine

Table 22: RPD Between Two Columns Exceedances

Sampling Event	Sample ID	Analyte	Flag	RPD Difference
May 2025	54MW10	HMX RDX 3,5-dinitroaniline 1,3,5-trinitrobenzene	J	>40%
	54MW13	RDX MNX 3,5-dinitroaniline	J	>40%
	54TW13	HMX 2ADNT 4ADNT 1,3,5-trinitrobenzene	J	>40%
October 2025	54MW12, 54MW13	4ADNT	J	>40%
	54MW13	3,5-Dinitroaniline	J	>40%
	54MW10	4ADNT	J	>40%
	54TW10	HMX	J	>40%

Definitions:
J = Estimated value
RPD = Relative Percent Difference

Table 23: **LCS/LCSD Recovery Exceedances**

Sampling Event	Sample ID	Analyte	Recovery	Parent Flag
May 2025	No exceedance			
October 2025	54MW13 54MW10 54TW10 54MW12 54MW1	DNX MNX TNX	Low	R

Table 24: MS/MSD Recovery Exceedances

Sampling Event	Sample ID	Analyte	Recovery	Parent Flag
May 2025	54MW12	HMX	High	J+
		RDX	High	J+
		2-amino-4,6-dinitroaniline	High	J-
		nitroglycerin	High	UJ
		sulfate	Low	J-
October 2025	54MW13	chlorate	Low	J-
		1,3,5-Trinitrobenzene	Low	J+
		2,4,6-TNT	High	J+
		4ADNT	High	J-
		2ADNT	High	UJ
		Tetryl	Low	
	54MW10 54TW10 54MW12 54MW1	DNX MNX TNX	Low	J

Definitions:
DNX = hexahydro-1,3-dinitroso-5-nitro-1,3,5-triazine
J = Estimated value
MNX = hexahydro-1-nitroso-3,5-dinitro-1,3,5-triazine
TNX = hexahydro-1,3,5-trinitroso-1,3,5-triazine
UJ = Not detected estimated

Table 25: Calibration Exceedances

Sampling Event	Analyte	Result	Qualifiers
May 2025	No exceedance		
October 2025	No exceedance		

Definitions:
DNX = hexahydro-1,3-dinitroso-5-nitro-1,3,5-triazine
J+ = Estimated value due to MS/MSD recovery outside control limits
MNX = hexahydro-1-nitroso-3,5-dinitro-1,3,5-triazine
TNX = hexahydro-1,3,5-trinitroso-1,3,5-triazine

Table 26: Blank Flags

Sampling Event	Type of Blank	Parameter Group	Analyte	Sample Qualified	Flag
May 2025	No blank flags				
October 2025	No blank flags				

Table 27: Analytical Results for Groundwater Performance Monitoring at SWMU 54

Parameter	RG	July 2011 (Q1)	Oct 2011 (Q2)	Jan 2012 (Q3)	Apr 2012 (Q4)	Aug 2012 (Q5)	Nov 2012 (Q6)	Feb 2013 (Q7)	May 2013 (Q8)	Aug 2013 (Q9)	Nov 2013 (Q10)	Feb 2014 (Q11)	May 2014 (Q12)	Sept 2015 (Q13)	Jan 2016 (Q14)	Apr 2016 (Q15)	July 2016 (Q16)	Oct 2016 (Q17)	Jan 2017 (Q18)	Apr 2017 (Q19)	July 2017 (Q20)	Oct 2017 (Q21)	Jan 2018 (Q22)	Apr 2018 (Q23)	July 2018 (Q24)	Oct 2018 (Q25)	Jan 2019 (Q26)	Apr 2019 (Q27)	July 2019 (Q28)	Oct 2019 (Q29)	Jan 2020 (Q30)	Apr 2020 (Q31)	July 2020 (Q32)	Oct 2020 (Q33)	Jan 2021 (Q34)	Apr 2021 (Q35)	July 2021 (Q36)	Oct 2021 (S37)	Apr 2022 (S38)	Jan 2023 (S39)	July 2023 (S40)	Aug 2024 (S41)	Dec 2024 (S42)	May 2025 (S43)	Oct 2025 (S44)
54MW1																																													
2,4,6-TNT	7.82	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND
RDX	6.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND
DNT Mixture	0.932	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND
Perchlorate	10.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND
54MW2																																													
2,4,6-TNT	7.82	2.1	0.9	2.08	--	--	--	--	0.749	0.974	0.46	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RDX	6.1	0.572	ND	ND	--	--	--	--	ND	ND	0.075	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DNT Mixture	0.932	ND	ND	ND	--	--	--	--	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Perchlorate	10.9	3.07	0.547	1.91	--	--	--	--	1.82	1	0.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
54MW3																																													
2,4,6-TNT	7.82	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RDX	6.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DNT Mixture	0.932	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Perchlorate	10.9	0.53	0.18	ND	ND	0.405	0.303	0.309	0.59	0.446	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
54MW4																																													
2,4,6-TNT	**7.82**	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RDX	6.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DNT Mixture	0.932	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Perchlorate	10.9	ND	ND	ND	ND	ND	0.141	ND	ND	ND	-	-	-	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
54MW5																																													
2,4,6-TNT	7.82	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RDX	6.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DNT Mixture	0.932	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Perchlorate	10.9	0.311	0.393	0.313	0.301	0.42	0.28	0.255	0.309	0.389	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
54MW6																																													
2,4,6-TNT	7.82	ND	ND	ND	ND	ND	Dry	ND	ND	Dry	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RDX	6.1	ND	ND	ND	ND	ND	Dry	ND	ND	Dry	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DNT Mixture	0.932	ND	ND	ND	ND	ND	Dry	ND	ND	Dry	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Perchlorate	10.9	ND	0.127	0.159	ND	0.175	Dry	0.16	0.171	Dry	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
54MW7																																													
2,4,6-TNT	7.82	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RDX	6.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DNT Mixture	0.932	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Perchlorate	10.9	0.321	ND	ND	0.365	ND	0.103	0.162	0.103	0.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
54MW8																																													
2,4,6-TNT	7.82	0.928	0.433	ND	0.301	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RDX	6.1	0.761	0.567	0.493	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DNT Mixture	0.932	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Perchlorate	10.9	ND	0.408	0.355	0.388	0.392	0.286	0.484	0.118	0.334	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
54MW9																																													
2,4,6-TNT	7.82	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RDX	6.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DNT Mixture	0.932	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Perchlorate	10.9	ND	0.229	0.26	0.21	ND	ND	1.07	0.923	0.327	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
54MW10																																													
2,4,6-TNT	7.82	0.305	5.84	4.05	ND	**9.17**	1.59	1.88	0.637	ND	**50**	**13**	**11**	6.6	4.1	2.7	**24.2**	1.6	4.2	1	0.44	**11.2**	ND	0.67	3.5	1	0.88	0.74	**18.6**	4	**8.4**	**20.5**	ND	**11.4**	**39.4**	**30.3**	**13**	5.4	3	ND	0.56	ND	ND	**15.8**	ND
RDX	6.1	ND	3.24	2.95	ND	**7.84**	1.35	2.36	1.29	2.23	**21**	5.3	**8.7**	2.1	3.1	1.8	**6.6**	0.4	1.1	ND	0.76	1.8	0.1	ND	4.4	1.4	0.88	0.32	3.9	2.1	1.9	5.1	ND	1.8	5.8	3.8	0.48	1.4	1.8	0.35	0.34	ND	ND	**11.2**	0.16
DNT Mixture	0.932	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2	0.068	0.13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	10.9	ND	0.325	0.258	ND	3.74	0.344	0.832	0.835	0.365	2.3	0.42	0.44	ND	0.326	0.082	.84	0.12	0.1	0.24	0.2	0.23	ND	0.5	0.22	0.65	0.34	0.35	0.45	ND	0.25	0.61	ND	6.2	0.62	0.38	0.19	0.072	0.12	ND	ND	ND	ND	0.94	ND

Parameter	RG	July 2011 (Q1)	Oct 2011 (Q2)	Jan 2012 (Q3)	Apr 2012 (Q4)	Aug 2012 (Q5)	Nov 2012 (Q6)	Feb 2013 (Q7)	May 2013 (Q8)	Aug 2013 (Q9)	Nov 2013 (Q10)	Feb 2014 (Q11)	May 2014 (Q12)	Sept 2015 (Q13)	Jan 2016 (Q14)	Apr 2016 (Q15)	July 2016 (Q16)	Oct 2016 (Q17)	Jan 2017 (Q18)	Apr 2017 (Q19)	July 2017 (Q20)	Oct 2017 (Q21)	Jan 2018 (Q22)	Apr 2018 (Q23)	July 2018 (Q24)	Oct 2018 (Q25)	Jan 2019 (Q26)	Apr 2019 (Q27)	July 2019 (Q28)	Oct 2019 (Q29)	Jan 2020 (Q30)	Apr 2020 (Q31)	July 2020 (Q32)	Oct 2020 (Q33)	Jan 2021 (Q34)	Apr 2021 (Q35)	July 2021 (Q36)	Oct 2021 (S37)	Apr 2022 (S38)	Jan 2023 (S39)	July 2023 (S40)	Aug 2024 (S41)	Dec 2024 (S42)	May 2025 (S43)	Oct 2025 (S44)
54MW11																																													
2,4,6-TNT	7.82	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RDX	6.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DNT Mixture	0.932	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Perchlorate	10.9	ND	ND	0.239	ND	ND	ND	0.263	0.43	0.132	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
54MW12																																												
2,4,6-TNT	7.82	**15.9**	**16.1**	**19.4**	**48**	**10.1**	7.62	6.29	**108**	**65.9**	**17**	**29**	**10**	**11**	**110**	**11**	7.4	**10.6**	**28.1**	**78.6**	**8.7**	**39**	**22.3**	**52.3**	**29.7**	**13.3**	**164**	**39.5**	**13.6**	**10.1**	**10.2**	**8.3**	4.1	7.8	**8.6**	**51.4**	**10**	**9.3**	**--**	4.5	4	4.8	2.7	**9.2**	5.0
RDX	6.1	ND	**9.77**	**13.2**	**18.4**	1.95	**6.59**	3.79	**25**	**14.6**	0.54	**8.7**	2	3.9	**30**	0.62	.37	6	4.8	**51.4**	ND	**14**	**13.4**	**33.3**	**8.2**	3.6	**13.5**	4.8	ND	ND	0.56	0.17	ND	ND	ND	ND	ND	ND	ND	--	ND	0.27	11	0.34	**13.7**	1.3
DNT Mixture	0.932	ND	ND	ND	0.381	ND	ND	ND	ND	ND	0.2	0.31	0.93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**3.7**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	0.75	ND	ND	ND	ND	ND
Perchlorate	10.9	ND	0.726	10.5	**22.8**	2	5.31	2.98	**22.7**	9.88	1.1	4	1.7	0.737	8.85	1.2	.56	1.6	2.9	4.3	1.1	1.4	1.9	2.8	1.7	1.4	3.7	2	0.61	0.53	0.49	0.73	0.75	8.2	0.46	1.5	0.30	0.30	--	0.72	0.61	0.78	0.77	0.78	0.50
54MW13																																												
2,4,6-TNT	7.82	ND	4.09	0.699	0.979	**9.4**	0.843	0.318	4.91	3.81	**9.8**	2.5	5.8	5.4	1.4	0.79	**13.9**	**8**	5.9	1.8	**8.2**	3	4.4	2	**10.9**	1.6	2.3	5.1	**15.5**	**12.5**	4.1	**5.5**	**8.3**	**12.7**	**11.1**	**19.2**	**17.7**	**11.8**	5.8	5	9.1	7	26.8	**7.9**	6.4
RDX	6.1	ND	2.59	0.614	1.14	4.77	0.855	0.642	3.2	1.46	4	0.88	2.5	2.6	0.54	0.17	.86	0.7	ND	1	ND	0.48	ND	ND	ND	0.38	0.46	0.32	1.3	ND	0.55	1.5	0.43	0.58	0.83	0.57	0.43	0.58	2	0.94	0.91	1.2	1.2	**43.8**	0.88
DNT Mixture	0.932	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.11	ND	0.099	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.01**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	10.9	ND	0.244	0.206	0.243	0.627	0.308	0.313	0.64	0.477	0.43	0.32	0.37	0.270	0.216	0.18	.33	0.21	0.29	0.23	0.45	0.2	0.25	0.33	0.45	0.25	0.29	0.47	0.4	0.55	0.26	0.34	0.30	7.9	0.29	0.34	0.41	0.14	0.26	0.25	0.33	0.37	0.63	0.49	0.30
54MW14																																												
2,4,6-TNT	7.82	0.928	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RDX	6.1	0.761	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DNT Mixture	0.932	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Perchlorate	10.9	ND	ND	0.215	0.181	0.214	0.24	ND	ND	0.195	0.456	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
All units are µg/L.
Bolded data indicate exceedances of RGs.

Definitions:
-- = not sampled
2,4,6-TNT = 2,4,6-trinitrotoluene
DNT = dinitrotoluene

Table 28: Water Quality Parameters for Groundwater for Performance Monitoring at SWMU 54

Well ID	54MW1	2	3	4	5	6	7	8	9	10	11	12	13	14
SWMU 54 First Quarter (July 2011) Water Quality Parameters														
pH	7.7	6.36	6.86	7.19	6.36	7.33	6.6	6.98	6.29	7.13	7.14	6.67	6.75	7.23
Specific Conductivity (mS/cm)	0.357	0.526	0.491	0.949	0.371	0.449	0.419	0.544	0.535	1.68	0.651	0.568	0.676	0.582
Turbidity (NTU)	5.6	0	1.5	1.9	3	0.2	0	4.6	6	89.8	62.6	100	94	16.9
DO (mg/L)	4.86	2.35	4.71	0	4.87	0.68	3.91	3.53	1.23	0.51	0	3.52	0.9	1.06
ORP (mV)	130	178	121	-18	178	110	170	134	198	67	96	152	29	73
Temperature (°C)	14.12	17.07	19.82	15.52	19.88	19.32	18.87	17.86	14.3	25.19	14.94	18.38	20.09	23.76
Dissolved Manganese	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	<0.05	0.2	<0.05	0.05	<0.05	0.65	<0.05
Dissolved Ferrous Iron (mg/L)	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Nitrate (mg/L)	25.2	1.09	0.967	0	0.613	0	0.119	0.639	0.233	0	0	2.79	0.439	0.242
Sulfate (mg/L)	27.1	39.8	23.6	329	15.1	27.4	61.5	40	62.2	167	93.6	38.1	38.8	33.6
TOC (mg/L)	3.9	3.51	7.26	2.51	6.14	1.95	3.17	6.05	5.1	1.61	5.97	2.64	2.55	6.73
SWMU 54 Second Quarter (October 2011) Water Quality Parameters														
pH	7.49	7.02	7.05	7.27	6.78	7.49	7.3	7.09	7.2	6.83	7.31	6.7	7.05	7.16
Specific Conductivity (mS/cm)	0.432	0.56	0.674	0.912	0.502	0.305	0.734	0.541	0.562	0.677	0.654	0.523	0.831	0.568
Turbidity (NTU)	164	167	160	81.1	231	107	155	104	79.9	236	685	69	--	157
DO (mg/L)	0	0	0	2.44	2.68	3.8	0.1	0.05	0.06	0	0	1.72	0.37	0
ORP (mV)	102	117	107	-15	143	122	66	151	146	82	-13	144	126	73
Temperature (°C)	18.04	14.77	14.16	14.32	15.48	13.18	18.01	14.94	14.75	14.75	13.73	14.81	14.63	14.93
Dissolved Manganese (mg/L)	<0.05	<0.05	0.1	0.05	0.1	0.05	0.4	0.05	0.2	0.15	0.3	<0.05	0.35	0.05
Dissolved Ferrous Iron (mg/L)	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Nitrate (mg/L)	0	0.394	0.357	0	0.568	0.167	0	0.514	0.184	0.388	0	2	0.21	0.202
Sulfate (mg/L)	27.1	27	44.4	210	17.4	7.06	216	39.9	46.9	96.7	119	31.8	90.2	34.1
TOC (mg/L)	3.9	3.2	3.22	1.38	1.88	2.68	1.31	7.47	6.78	6.98	3.22	4.71	3.31	4.64
SWMU 54 Third Quarter (January 2011) Water Quality Parameters														
pH	7.59	7.48	7.4	7.36	7.15	7.53	7.43	7.08	7.4	7.46	7.59	6.09	7.45	7.48
Specific Conductivity (mS/cm)	0.498	0.662	0.762	1.11	0.628	0.305	0.905	0.492	0.674	0.707	0.763	0.595	0.687	0.651
Turbidity (NTU)	8.9	15.3	19.2	55.6	32.1	72.4	26.8	66.7	36.8	1.1	6.8	---	226	0
DO (mg/L)	0	0	0	0	7.81	12.01	0	16.65	8.48	6.06	5.09	4.02	7.63	1.66
ORP (mV)	100	33	24	5	121	191	3	104	111	118	101	186	25	61
Temperature (°C)	13.2	13.91	13.26	13.04	13.58	11.93	12.73	9.72	9.65	11.16	11.4	12.86	11.53	12.91
Dissolved Manganese (mg/L)	<0.05	<0.05	0.1	0.05	0.1	0.05	0.4	0.05	0.2	0.15	0.3	<0.05	0.35	0.05
Dissolved Ferrous Iron (mg/L)	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Nitrate (mg/L)	0	0.609	0	0	0.578	0.158	0	0.401	0.174	0.572	0.158	1.94	0.237	0.241
Sulfate (mg/L)	26.3	28.2	73.7	480	20.3	4.55	249	41.5	62.5	72.7	93	37.6	53.9	32.2
TOC (mg/L)	2.1	1.8	2.39	1.16	1.42	1.94	2.38	1.66	2.78	1.66	6.71	5.09	6.63	1.68

Well ID	54MW1	2	3	4	5	6	7	8	9	10	11	12	13	14
SWMU 54 Fourth Quarter (April 2012) Water Quality Parameters														
pH	5.42	5.19	5.38	5.33	4.99	5.76	5.57	5.38	5.46	5.48	5.59	5.05	5.32	5.5
Specific Conductivity (mS/cm)	0.958	1.12	1.46	0.001	0.891	0.73	1.58	1.21	1.26	1.73	1.4	1.35	0.981	1.2
Turbidity (NTU)	2.5	4.4	2.4	125	70.1	318	38	3.4	65.3	30.8	94.7	37	312	36
DO (mg/L)	7.36	7.18	2.24	23.45	10.47	6.49	2.01	7.43	11.29	2.83	5.8	9.44	7.1	5.55
ORP (mV)	-30	236	225	180	168	132	162	134	145	61	36	267	116	149
Temperature (°C)	13.37	12.44	12.02	11.56	20.98	19.09	12.57	14.69	14.21	15.5	14.11	12.67	15.52	12.69
Dissolved Manganese (mg/L)	<0.05	<0.05	0.1	0.5	<0.05	0.05	0.4	0.05	0.2	0.1	0.3	<0.05	0.35	<0.05
Dissolved Ferrous Iron (mg/L)	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Nitrate (mg/L)	0	1.33	0	0	0.677	0.129	0.231	0.483	0.139	0	0	2.65	0.294	0.386
Sulfate (mg/L)	34.9	34.9	80	432	14	14.9	69.4	40.1	56	221	104	37.9	35.4	29.3
TOC (mg/L)	1.8	1.57	1.18	1.82	2.33	5.46	0.99	2.36	3.01	2.4	2.68	2.34	3.51	1.09
SWMU 54 Fifth Quarter (August 2012) Water Quality Parameters														
pH	7.08	6.94	6.71	7.05	6.71	7.47	7.03	6.87	6.84	6.71	7.06	6.61	6.97	7.05
Specific Conductivity (mS/cm)	0.395	0.722	0.644	0.968	0.58	0.363	0.817	0.599	0.752	0.693	0.715	0.665	0.697	0.625
Turbidity (NTU)	4.1	43	19	14	23	0	7.4	19	5.2	0.8	10.8	48	95	9.2
DO (mg/L)	5.34	0	0	0.23	3.96	4.84	0	2.78	0.56	0.4	0	0.33	1.75	0
ORP (mV)	212	65	209	-33	200	134	128	125	-10	47	-22	226	135	-13
Temperature (°C)	13.89	13.49	12.93	15.06	13.44	16.52	13.66	13.7	14.09	13.93	13.64	13.71	16.12	14.08
Dissolved Manganese (mg/L)	<0.05	<0.05	0.05	0.05	<0.05	0.05	0.05	0.05	0.2	0.05	0.05	<0.05	0.3	<0.05
Dissolved Ferrous Iron (mg/L)	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Nitrate (mg/L)	0.600	0.190	0.613	3.00	0.728	0.120	3.00	0.581	1.80	0.594	1.80	1.06	0.681	0.214
Sulfate (mg/L)	26.1	95.5	23.8	378	18.0	15.7	186	41.8	87.2	102	97.6	27.0	38.2	31.8
TOC (mg/L)	0.721	2.00	2.00	1.10	2.00	1.00	1.02	2.00	2.00	1.37	2.00	2.00	1.05	2.04
SWMU 54 Sixth Quarter (November 2012) Water Quality Parameters														
pH	7.63	7.21	6.97	7.03	6.99	Dry	7.31	7.23	7.23	7.29	7.28	7.6	5.72	7.3
Specific Conductivity (mS/cm)	0.443	0.62	0.561	1.01	0.612	Dry	0.826	0.628	0.784	0.779	0.698	0.635	0.918	0.6
Turbidity (NTU)	2.9	11.4	0.2	17	5.5	Dry	46	3.9	27.7	4.7	2.5	2.4	35	43
DO (mg/L)	1.44	0.86	4.09	1	1.01	Dry	0.56	2.71	1.14	0.38	1.1	0.26	0.95	0.45
ORP (mV)	148	141	145	72	167	Dry	59	101	-28	43	117	135	209	100
Temperature (°C)	10.03	13.43	12.22	11.27	11.21	Dry	10.83	11.98	11.35	13.61	12.95	13.99	12.26	10.61
Dissolved Manganese (mg/L)	0.05	0.05	0.05	0.05	0.05	Dry	0.05	0.05	0.2	0.05	0.05	0.1	0.3	0.05
Dissolved Ferrous Iron (mg/L)	<0.2	<0.2	<0.2	<0.2	<0.2	Dry	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Nitrate (mg/L)	0.600	0.327	0.656	3.00	0.944	Dry	1.80	0.403	1.80	0.381	0.600	2.86	0.369	0.600
Sulfate (mg/L)	31.3	35.4	22.9	403	21.5	Dry	179	60.3	199	151	99.1	49.8	76.7	39.0
TOC (mg/L)	1.96	2.68	3.29	2.93	4.31	Dry	3.72	4.90	6.73	5.55	5.88	3.41	2.00	2.12

Well ID	54MW1	2	3	4	5	6	7	8	9	10	11	12	13	14
SWMU 54 Seventh Quarter (February 2013) Water Quality Parameters														
pH	7.85	6.89	6.76	7.52	6.56	7.08	7.4	7.03	7.04	6.69	7.09	6.36	6.96	7.45
Specific Conductivity (mS/cm)	0.465	0.682	0.504	1.01	0.417	0.293	0.474	0.498	0.487	0.542	0.687	0.464	0.37	0.619
Turbidity (NTU)	0	20	9	16	0	44.3	16	9.2	10.9	13.2	2	14.2	6.8	1.2
DO (mg/L)	0.71	1.43	6.97	0.53	9.19	9.28	2.83	5.36	8.28	2.97	0.58	1.27	8.39	0.47
ORP (mV)	-5	156	171	-56	168	72	12	168	194	125	169	168	158	56
Temperature (°C)	12.17	8.28	11.98	12.09	11.18	13.15	11.48	9.89	9.74	11.22	10.14	10.31	7.98	12.26
Dissolved Manganese (mg/L)	0.05	<0.05	0.1	0.05	<0.05	0.05	0.1	0.05	0.2	0.1	0.25	<0.05	0.2	<0.05
Dissolved Ferrous Iron (mg/L)	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Nitrate (mg/L)	0.600	0.315	0.423	3.00	0.636	0.209	0.205	0.336	0.510	0.477	0.346	1.95	0.501	0.600
Sulfate (mg/L)	27.1	36.8	25.3	340	15.5	4.29	34.2	44.6	117	70.1	120	35.8	23.1	41.1
TOC (mg/L)	1.19	0.916	1.07	1.35	1.00	1.50	0.791	1.00	2.09	1.14	1.88	1.21	0.683	1.46
SWMU 54 Eighth Quarter (May 2013) Water Quality Parameters														
pH	7.38	6.52	7.06	7.51	6.83	7.33	7.41	7.47	7.95	6.94	7.59	6.78	6.97	7.31
Specific Conductivity (mS/cm)	0.398	0.315	0.499	1.021	0.4	0.494	0.674	0.596	0.521	0.537	0.592	0.665	0.44	0.608
Turbidity (NTU)	1.2	0.2	1.4	6.2	8.9	7.1	0.5	1.6	5.2	1.4	0.3	3.8	0.2	6.4
DO (mg/L)	4.13	2.74	3.55	1.05	3.28	1.29	3.24	0.4	7.58	2.43	1.17	2.54	1.4	4.13
ORP (mV)	122	254.3	273.6	257.1	283.1	128.4	282.7	255.1	244.2	287.8	255.8	292.4	284	296.5
Temperature (°C)	13.43	12.22	13.31	11.73	12.2	13.48	12.74	13.32	11.12	12.89	12.42	13.28	12.84	13.42
Dissolved Manganese (mg/L)	<0.05	0.05	0.05	0.05	<0.05	<0.05	0.05	0.05	0.1	0.05	0.05	<0.05	0.15	0.05
Dissolved Ferrous Iron (mg/L)	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Nitrate (mg/L)	0.368	0.988	0.911	3.00	1.60	0.600	1.10	0.600	0.637	0.740	0.647	4.03	1.05	0.543
Sulfate (mg/L)	26.1	24.1	29.0	329	15.7	14.0	137	41.1	96.7	48.8	89.4	47.6	29.2	37.0
TOC (mg/L)	0.949	1.68	1.36	0.619	1.06	2.41	0.793	1.00	1.38	1.00	0.635	1.36	0.817	0.583
SWMU 54 Ninth Quarter (August 2013) Water Quality Parameters														
pH	7.82	6.91	6.75	6.96	6.28	Dry	6.71	6.95	7.12	6.48	7.04	6.36	6.57	6.84
Specific Conductivity (mS/cm)	0.452	0.592	0.617	0.937	0.333	Dry	0.478	0.559	0.419	0.496	0.637	0.491	0.351	0.554
Turbidity (NTU)	3	0	0	0	0	Dry	7.2	0	6.1	0	0	7.0	0	0
DO (mg/L)	0.136	0.8	1.69	0.39	6.28	Dry	2.4	0.67	2.36	0.86	4.65	2.85	6.57	0.52
ORP (mV)	223.2	84	96	-18	129	Dry	86	42	-13	35	68	91	146	50
Temperature (°C)	14.51	15.25	15.08	13.22	15.49	Dry	13.05	13.4	13.25	14.51	13.46	15.7	13.89	13.21
Dissolved Manganese (mg/L)	0.05	NM	<0.05	0.05	0.05	Dry	<0.05	<0.05	0.05	<0.05	0.05	0.05	0.15	0.05
Dissolved Ferrous Iron (mg/L)	<0.2	NM	<0.2	<0.2	<0.2	Dry	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Nitrate (mg/L)	<0.600	0.326	0.521	<0.600	0.849	Dry	<0.600	0.273	0.194	0.206	0.12	4.8	0.591	0.29
Sulfate (mg/L)	26.7	30.8	26.1	322	15.0	Dry	27.3	38.0	39.2	44.3	91.8	39.6	23.3	28.2
TOC (mg/L)	3.32	1.5	1.11	2.7	0.91	Dry	0.822	2.30	4.17	4.28	3.11	3.27	2.35	3.64

Well ID	54MW1	2	3	4	5	6	7	8	9	10	11	12	13	14
SWMU 54 Tenth Quarter (November 2013) Water Quality Parameters														
pH	--	7.45	--	--	--	--	--	--	--	6.89	--	NM	7.29	--
Specific Conductivity (mS/cm)	--	0.635	--	--	--	--	--	--	--	0.615	--	0.469	0.643	--
Turbidity (NTU)	--	0	--	--	--	--	--	--	--	0	--	4.6	0.4	--
DO (mg/L)	--	2.7	--	--	--	--	--	--	--	2.45	--	1.17	1.32	--
ORP (mV)	--	51	--	--	--	--	--	--	--	18	--	108	25	--
Temperature (°C)	--	14.09	--	--	--	--	--	--	--	15.25	--	14.96	15.96	--
Dissolved Manganese (mg/L)	--	<0.05	--	--	--	--	--	--	--	<0.05	--	0.05	0.05	--
Dissolved Ferrous Iron (mg/L)	--	<0.2	--	--	--	--	--	--	--	<0.2	--	<0.2	<0.2	--
Nitrate (mg/L)	--	0.25	--	--	--	--	--	--	--	0.670	--	1.1	0.45	--
Sulfate (mg/L)	--	29.0	--	--	--	--	--	--	--	57.0	--	26.0	39.0	--
TOC (mg/L)	--	2.5	--	--	--	--	--	--	--	0.68	--	0.5	<0.50	--
SWMU 54 Eleventh Quarter (February 2014) Water Quality Parameters														
pH	8.1	--	--	--	--	--	--	--	--	6.89	--	7.21	7.21	--
Specific Conductivity (mS/cm)	0.41	--	--	--	--	--	--	--	--	0.587	--	0.643	0.481	--
Turbidity (NTU)	0	--	--	--	--	--	--	--	--	0	--	3.8	14	--
DO (mg/L)	1.32	--	--	--	--	--	--	--	--	1.43	--	0.7	2.09	--
ORP (mV)	127	--	--	--	--	--	--	--	--	153	--	150	142	--
Temperature (°C)	12.34	--	--	--	--	--	--	--	--	13.2	--	14.11	12.04	--
Dissolved Manganese (mg/L)	<0.05	--	--	--	--	--	--	--	--	<0.05	--	<0.05	0.05	--
Dissolved Ferrous Iron (mg/L)	<0.2	--	--	--	--	--	--	--	--	0.2	--	0.2	<0.2	--
Nitrate (mg/L)	<0.025	--	--	--	--	--	--	--	--	0.470	--	3.1	0.44	--
Sulfate (mg/L)	30.00	--	--	--	--	--	--	--	--	89.0	--	36.0	31.0	--
TOC (mg/L)	1.00	--	--	--	--	--	--	--	--	0.53	--	1.00	<0.50	--
SWMU 54 Twelfth Quarter (May 2014) Water Quality Parameters														
pH	7.79	--	--	--	--	--	--	--	--	6.93	--	NM	NM	--
Specific Conductivity (mS/cm)	0.469	--	--	--	--	--	--	--	--	0.582	--	0.453	0.47	--
Turbidity (NTU)	3	--	--	--	--	--	--	--	--	3.8	--	10	9	--
DO (mg/L)	1.65	--	--	--	--	--	--	--	--	1.56	--	2.25	1.14	--
ORP (mV)	222.3	--	--	--	--	--	--	--	--	127.4	--	272.1	71.3	--
Temperature (°C)	16.61	--	--	--	--	--	--	--	--	12.81	--	14.61	16.57	--
Dissolved Manganese (mg/L)	0.05	--	--	--	--	--	--	--	--	0.1	--	0.1	0.05	--
Dissolved Ferrous Iron (mg/L)	0.2	--	--	--	--	--	--	--	--	<0.2	--	0.2	0.2	--
Nitrate (mg/L)	0.031	--	--	--	--	--	--	--	--	0.330	--	1.6	0.41	--
Sulfate (mg/L)	29.0	--	--	--	--	--	--	--	--	58.0	--	31.0	27.0	--
TOC (mg/L)	51.0	--	--	--	--	--	--	--	--	62.0	--	<0.50	<0.50	--

Well ID	54MW1	2	3	4	5	6	7	8	9	10	11	12	13	14
SWMU 54 Thirteenth Quarter (September 2015) Water Quality Parameters														
pH	6.7	--	--	--	--	--	--	--	--	6.8	--	5.4	6.69	--
Specific Conductivity (mS/cm)	0.471	--	--	--	--	--	--	--	--	329	--	0.557	0.529	--
Turbidity (NTU)	0.65	--	--	--	--	--	--	--	--	30.7	--	2.66	1.00	--
DO (mg/L)	0.75	--	--	--	--	--	--	--	--	8.2	--	6.0	6.53	--
ORP (mV)	180	--	--	--	--	--	--	--	--	71	--	264	198.0	--
Temperature (°C)	14.14	--	--	--	--	--	--	--	--	15.8	--	14.8	14.83	--
Dissolved Manganese (mg/L)	0.087	--	--	--	--	--	--	--	--	0.081	--	0.066	0.081	--
Dissolved Ferrous Iron (mg/L)	0	--	--	--	--	--	--	--	--	0.11	--	0.07	0.11	--
Nitrate (mg/L)	0.14	--	--	--	--	--	--	--	--	0.25	--	0.92	0.5	--
Sulfate (mg/L)	25	--	--	--	--	--	--	--	--	23	--	24	26	--
TOC (mg/L)	4.1	--	--	--	--	--	--	--	--	8.1	--	8.3	13	--
SWMU 54 Fourteenth Quarter (January 2016) Water Quality Parameters														
pH	7.60	--	--	--	--	--	--	--	--	6.16	--	6.79	7.01	--
Specific Conductivity (mS/cm)	2.8	--	--	--	--	--	--	--	--	0.54	--	589.5	324.0	--
Turbidity (NTU)	0.78	--	--	--	--	--	--	--	--	0.88	--	5.8	7.99	--
DO (mg/L)	9.89	--	--	--	--	--	--	--	--	6.70	--	8.6	8.74	--
ORP (mV)	76.2	--	--	--	--	--	--	--	--	89.3	--	92.4	73.2	--
Temperature (°C)	9.6	--	--	--	--	--	--	--	--	12.7	--	12.4	11.6	--
Dissolved Manganese (mg/L)	0.063	--	--	--	--	--	--	--	--	0.054	--	0.030	0.063	--
Dissolved Ferrous Iron (mg/L)	0	--	--	--	--	--	--	--	--	0.0	--	0.10	0.05	--
Nitrate (mg/L)	0.15	--	--	--	--	--	--	--	--	0.45	--	2.5	0.46	--
Sulfate (mg/L)	26	--	--	--	--	--	--	--	--	76	--	45	20	--
TOC (mg/L)	1.5	--	--	--	--	--	--	--	--	0.97	--	1.8	1.8	--
SWMU 54 Fifteenth Quarter (April 2016) Water Quality Parameters														
pH	7.61	--	--	--	--	--	--	--	--	6.71	--	6.44	6.77	--
Specific Conductivity (mS/cm)	440	--	--	--	--	--	--	--	--	602	--	353	229	--
Turbidity (NTU)	0.3	--	--	--	--	--	--	--	--	3.74	--	5.7	1.16	--
DO (mg/L)	4	--	--	--	--	--	--	--	--	0.61	--	5.8	6.86	--
ORP (mV)	51	--	--	--	--	--	--	--	--	73.5	--	93.4	76.8	--
Temperature (°C)	12.01	--	--	--	--	--	--	--	--	13.4	--	14.32	13.52	--
Dissolved Manganese (mg/L)	0.021	--	--	--	--	--	--	--	--	0.057	--	0.020	0.025	--
Dissolved Ferrous Iron (mg/L)	0.02	--	--	--	--	--	--	--	--	0.03	--	0.04	0.02	--
Nitrate (mg/L)	0.14	--	--	--	--	--	--	--	--	0.18	--	1.3	0.43	--
Sulfate (mg/L)	29	--	--	--	--	--	--	--	--	83	--	27	19	--
TOC (mg/L)	4.2	--	--	--	--	--	--	--	--	8.9	--	6.8	0.68	--

Well ID	54MW1	2	3	4	5	6	7	8	9	10	11	12	13	14
SWMU 54 Sixteenth Quarter (July 2016) Water Quality Parameters														
pH	6.82	--	--	--	--	--	--	--	--	7.39	--	6.32	7.27	--
Specific Conductivity (mS/cm)	619	--	--	--	--	--	--	--	--	775	--	499	473.0	--
Turbidity (NTU)	4.62	--	--	--	--	--	--	--	--	5.36	--	6.50	0.72	--
DO (mg/L)	3.14	--	--	--	--	--	--	--	--	0.37	--	4.60	2.09	--
ORP (mV)	-10.1	--	--	--	--	--	--	--	--	109	--	8.2	12.0	--
Temperature (°C)	16.56	--	--	--	--	--	--	--	--	13.79	--	14.33	15.2	--
Dissolved Manganese (mg/L)	0.062	--	--	--	--	--	--	--	--	0.048	--	0.033	0.031	--
Dissolved Ferrous Iron (mg/L)	0.14	--	--	--	--	--	--	--	--	0.02	--	0.02	0.00	--
Nitrate (mg/L)	0.15	--	--	--	--	--	--	--	--	0.47	--	0.81	0.60	--
Sulfate (mg/L)	29	--	--	--	--	--	--	--	--	93	--	25	36	--
TOC (mg/L)	0.92	--	--	--	--	--	--	--	--	0.58	--	1.2	0.78	--
SWMU 54 Seventeenth Quarter (October 2016) Water Quality Parameters														
pH	7.28	--	--	--	--	--	--	--	--	5.91	--	6.34	6.92	--
Specific Conductivity (mS/cm)	474	--	--	--	--	--	--	--	--	839	--	579	673	--
Turbidity (NTU)	0.14	--	--	--	--	--	--	--	--	3.22	--	3.02	9.98	--
DO (mg/L)	2.60	--	--	--	--	--	--	--	--	0.54	--	5.05	3.40	--
ORP (mV)	138.2	--	--	--	--	--	--	--	--	69.1	--	30.4	44.8	--
Temperature (°C)	14.48	--	--	--	--	--	--	--	--	14.63	--	15.55	13.10	--
Dissolved Manganese (mg/L)	0.049	--	--	--	--	--	--	--	--	0.003	--	0.038	0.061	--
Dissolved Ferrous Iron (mg/L)	0.05	--	--	--	--	--	--	--	--	0.52	--	0.00	0.08	--
Nitrate (mg/L)	0.15	--	--	--	--	--	--	--	--	0.26	--	1.2	0.49	--
Sulfate (mg/L)	30	--	--	--	--	--	--	--	--	150	--	41	38	--
TOC (mg/L)	1.5	--	--	--	--	--	--	--	--	0.55	--	0.99	1.5	--
SWMU 54 Eighteenth Quarter (January 2017) Water Quality Parameters														
pH	7.43	--	--	--	--	--	--	--	--	7.19	--	6.70	7.04	--
Specific Conductivity (mS/cm)	486.2	--	--	--	--	--	--	--	--	854	--	647.5	740	--
Turbidity (NTU)	0.28	--	--	--	--	--	--	--	--	1.39	--	1.04	8.20	--
DO (mg/L)	2.21	--	--	--	--	--	--	--	--	1.40	--	5.40	3.29	--
ORP (mV)	74.8	--	--	--	--	--	--	--	--	49	--	75	71	--
Temperature (°C)	12.8	--	--	--	--	--	--	--	--	12.5	--	11.8	11.7	--
Dissolved Manganese (mg/L)	0.036	--	--	--	--	--	--	--	--	0.069	--	0.040	0.060	--
Dissolved Ferrous Iron (mg/L)	0.00	--	--	--	--	--	--	--	--	0.04	--	0.00	0.03	--
Nitrate (mg/L)	0.15	--	--	--	--	--	--	--	--	0.38	--	0.94	0.48	--
Sulfate (mg/L)	31	--	--	--	--	--	--	--	--	110	--	38	42	--
TOC (mg/L)	0.56	--	--	--	--	--	--	--	--	1.5	--	1.4	1.5	--

Well ID	54MW1	2	3	4	5	6	7	8	9	10	11	12	13	14
SWMU 54 Nineteenth Quarter (April 2017) Water Quality Parameters														
pH	7.65	--	--	--	--	--	--	--	--	6.88	--	6.70	6.97	--
Specific Conductivity (mS/cm)	0.443	--	--	--	--	--	--	--	--	0.614	--	0.627	0.474	--
Turbidity (NTU)	0.25	--	--	--	--	--	--	--	--	0.71	--	1.92	14.2	--
DO (mg/L)	8.38	--	--	--	--	--	--	--	--	3.2	--	5.39	4.74	--
ORP (mV)	91.0	--	--	--	--	--	--	--	--	57.3	--	93.4	77.5	--
Temperature (°C)	13.1	--	--	--	--	--	--	--	--	13.80	--	13.1	14	--
Dissolved Manganese (mg/L)	0.049	--	--	--	--	--	--	--	--	0.039	--	0.036	0.067	--
Dissolved Ferrous Iron (mg/L)	0.00	--	--	--	--	--	--	--	--	0.04	--	0.02	0.14	--
Nitrate (mg/L)	0.15	--	--	--	--	--	--	--	--	0.3	--	1	0.44	--
Sulfate (mg/L)	33	--	--	--	--	--	--	--	--	65	--	47	30	--
TOC (mg/L)	3.3	--	--	--	--	--	--	--	--	6.9	--	6.7	4.4	--
SWMU 54 Twentieth Quarter (July 2017) Water Quality Parameters														
pH	7.43	--	--	--	--	--	--	--	--	7.00	--	6.63	7.00	--
Specific Conductivity (mS/cm)	468	--	--	--	--	--	--	--	--	740	--	505	600	--
Turbidity (NTU)	0.52	--	--	--	--	--	--	--	--	0.52	--	0.71	1.36	--
DO (mg/L)	0.69	--	--	--	--	--	--	--	--	0.83	--	0.11	0.01	--
ORP (mV)	116.5	--	--	--	--	--	--	--	--	24.1	--	85.5	15.5	--
Temperature (°C)	14.8	--	--	--	--	--	--	--	--	14.9	--	13.7	14.8	--
Dissolved Manganese (mg/L)	0.031	--	--	--	--	--	--	--	--	0.060	--	0.073	0.084	--
Dissolved Ferrous Iron (mg/L)	0.00	--	--	--	--	--	--	--	--	0.05	--	0.07	0.08	--
Nitrate (mg/L)	0.15	--	--	--	--	--	--	--	--	0.10	--	0.75	0.56	--
Sulfate (mg/L)	28	--	--	--	--	--	--	--	--	110	--	32	32	--
TOC (mg/L)	0.71	--	--	--	--	--	--	--	--	2.6	--	1.5	1.9	--
SWMU 54 Twenty-First Quarter (October 2017) Water Quality Parameters														
pH	7.23	--	--	--	--	--	--	--	--	6.71	--	6.49	6.68	--
Specific Conductivity (mS/cm)	468.6	--	--	--	--	--	--	--	--	462.3	--	577.5	537.5	--
Turbidity (NTU)	0.17	--	--	--	--	--	--	--	--	0.8	--	8.75	0.74	--
DO (mg/L)	7.98	--	--	--	--	--	--	--	--	8.60	--	6.43	5.71	--
ORP (mV)	63.6	--	--	--	--	--	--	--	--	45.6	--	97.4	88.3	--
Temperature (°C)	14.2	--	--	--	--	--	--	--	--	14.9	--	12.7	14.6	--
Dissolved Manganese (mg/L)	0.21	--	--	--	--	--	--	--	--	0.044	--	0.051	0.032	--
Dissolved Ferrous Iron (mg/L)	0.00	--	--	--	--	--	--	--	--	0.00	--	0.07	0.00	--
Nitrate (mg/L)	0.15	--	--	--	--	--	--	--	--	0.34	--	0.86	0.45	--
Sulfate (mg/L)	31	--	--	--	--	--	--	--	--	38	--	37	29	--
TOC (mg/L)	2.6	--	--	--	--	--	--	--	--	2.6	--	1.2	2.2	--

Well ID	54MW1	2	3	4	5	6	7	8	9	10	11	12	13	14
SWMU 54 Twenty-Second Quarter (January 2018) Water Quality Parameters														
pH	7.46	--	--	--	--	--	--	--	--	7.14	--	6.57	7.00	--
Specific Conductivity (mS/cm)	438.4	--	--	--	--	--	--	--	--	734	--	531.7	640.2	--
Turbidity (NTU)	0.32	--	--	--	--	--	--	--	--	0.92	--	2.17	7.34	--
DO (mg/L)	0.53	--	--	--	--	--	--	--	--	0.95	--	8.45	4.51	--
ORP (mV)	69	--	--	--	--	--	--	--	--	45.9	--	83.2	75.3	--
Temperature (°C)	13	--	--	--	--	--	--	--	--	12.5	--	10.4	12	--
Dissolved Manganese (mg/L)	0.038	--	--	--	--	--	--	--	--	0.000	--	0.000	0.064	--
Dissolved Ferrous Iron (mg/L)	0.02	--	--	--	--	--	--	--	--	0.00	--	0.00	0.26	--
Nitrate (mg/L)	0.15	--	--	--	--	--	--	--	--	0.15	--	1.4	0.33	--
Sulfate (mg/L)	25	--	--	--	--	--	--	--	--	98	--	46	34	--
TOC (mg/L)	6.5	--	--	--	--	--	--	--	--	3.7	--	13	10	--
SWMU 54 Twenty-Third Quarter (April 2018) Water Quality Parameters														
pH	7.59	--	--	--	--	--	--	--	--	6.87	--	6.68	6.76	--
Specific Conductivity (mS/cm)	441.6	--	--	--	--	--	--	--	--	553.7	--	584	520	--
Turbidity (NTU)	0.59	--	--	--	--	--	--	--	--	0.78	--	10.4	3.15	--
DO (mg/L)	5.28	--	--	--	--	--	--	--	--	4.37	--	6.5	6.18	--
ORP (mV)	63.8	--	--	--	--	--	--	--	--	50	--	204.7	73.5	--
Temperature (°C)	13.6	--	--	--	--	--	--	--	--	13.1	--	12.4	13.4	--
Dissolved Manganese (mg/L)	0.024	--	--	--	--	--	--	--	--	0.11	--	0.046	0.032	--
Dissolved Ferrous Iron (mg/L)	0.00	--	--	--	--	--	--	--	--	0.00	--	0.06	0.00	--
Nitrate (mg/L)	0.2	--	--	--	--	--	--	--	--	0.68	--	1.2	0.62	--
Sulfate (mg/L)	28	--	--	--	--	--	--	--	--	47	--	41	30	--
TOC (mg/L)	1.5	--	--	--	--	--	--	--	--	1.5	--	0.72	1.5	--
SWMU 54 Twenty-Fourth Quarter (July 2018) Water Quality Parameters														
pH	6.87	--	--	--	--	--	--	--	--	6.56	--	6.06	6.55	--
Specific Conductivity (mS/cm)	390.9	--	--	--	--	--	--	--	--	629	--	375.6	549	--
Turbidity (NTU)	0.3	--	--	--	--	--	--	--	--	0.89	--	39.5	2.03	--
DO (mg/L)	6.96	--	--	--	--	--	--	--	--	0.78	--	9.17	3.42	--
ORP (mV)	0.5	--	--	--	--	--	--	--	--	-19.9	--	2.9	0.7	--
Temperature (°C)	14	--	--	--	--	--	--	--	--	14.7	--	15.6	16	--
Dissolved Manganese (mg/L)	0.041	--	--	--	--	--	--	--	--	0.121	--	0.039	0.143	--
Dissolved Ferrous Iron (mg/L)	0.00	--	--	--	--	--	--	--	--	0.03	--	0.04	0.00	--
Nitrate (mg/L)	0.2	--	--	--	--	--	--	--	--	0.19	--	1.6	0.43	--
Sulfate (mg/L)	26	--	--	--	--	--	--	--	--	100	--	40	32	--
TOC (mg/L)	1.5	--	--	--	--	--	--	--	--	1.5	--	1.5	1.5	--

Well ID	54MW1	2	3	4	5	6	7	8	9	10	11	12	13	14
SWMU 54 Twenty-Fifth Quarter (October 2018) Water Quality Parameters														
pH	7.39	--	--	--	--	--	--	--	--	6.89	--	6.41	6.63	--
Specific Conductivity (mS/cm)	374.1	--	--	--	--	--	--	--	--	707	--	372.6	220	--
Turbidity (NTU)	0.34	--	--	--	--	--	--	--	--	0.56	--	28.90	10.90	--
DO (mg/L)	8.05	--	--	--	--	--	--	--	--	2.68	--	5.84	5.5	--
ORP (mV)	-34.5	--	--	--	--	--	--	--	--	71.7	--	118.5	110.4	--
Temperature (°C)	13.3	--	--	--	--	--	--	--	--	15.4	--	14.7	14.8	--
Dissolved Manganese (mg/L)	0.22	--	--	--	--	--	--	--	--	0.024	--	0.045	0.024	--
Dissolved Ferrous Iron (mg/L)	0.00	--	--	--	--	--	--	--	--	0.00	--	0.16	0.00	--
Nitrate (mg/L)	0.2	--	--	--	--	--	--	--	--	0.62	--	2	0.41	--
Sulfate (mg/L)	28	--	--	--	--	--	--	--	--	61	--	32	16	--
TOC (mg/L)	1.5	--	--	--	--	--	--	--	--	0.81	--	1	1.5	--
SWMU 54 Twenty-Sixth Quarter (February 2019) Water Quality Parameters														
pH	7.14	--	--	--	--	--	--	--	--	6.57	--	6.46	6.28	--
Specific Conductivity (mS/cm)	471.5	--	--	--	--	--	--	--	--	566.6	--	532.6	267.6	--
Turbidity (NTU)	0.32	--	--	--	--	--	--	--	--	0.26	--	6.2	8.99	--
DO (mg/L)	3.02	--	--	--	--	--	--	--	--	0.11	--	1.39	8.02	--
ORP (mV)	10.3	--	--	--	--	--	--	--	--	45.7	--	102.1	79.3	--
Temperature (°C)	13.7	--	--	--	--	--	--	--	--	13.5	--	13.2	13.1	--
Dissolved Manganese (mg/L)	0.029	--	--	--	--	--	--	--	--	0.04	--	0.046	0.045	--
Dissolved Ferrous Iron (mg/L)	0.02	--	--	--	--	--	--	--	--	0.05	--	0.06	0.14	--
Nitrate (mg/L)	0.2	--	--	--	--	--	--	--	--	1.1	--	2	0.48	--
Sulfate (mg/L)	25	--	--	--	--	--	--	--	--	31	--	43	15	--
TOC (mg/L)	1.5	--	--	--	--	--	--	--	--	0.72	--	2.3	1.5	--
SWMU 54 Twenty-Seventh Quarter (April 2019) Water Quality Parameters														
pH	7.33	--	--	--	--	--	--	--	--	6.52	--	5.8	6.34	--
Specific Conductivity (mS/cm)	372.8	--	--	--	--	--	--	--	--	402.4	--	324.6	270.4	--
Turbidity (NTU)	0.28	--	--	--	--	--	--	--	--	1.19	--	46.7	10.17	--
DO (mg/L)	8.4	--	--	--	--	--	--	--	--	4.32	--	6.77	5.9	--
ORP (mV)	62.1	--	--	--	--	--	--	--	--	89.7	--	118.3	116.6	--
Temperature (°C)	13.2	--	--	--	--	--	--	--	--	12.2	--	14.2	14.3	--
Dissolved Manganese (mg/L)	0.023	--	--	--	--	--	--	--	--	0.00	--	0.085	0.04	--
Dissolved Ferrous Iron (mg/L)	0.00	--	--	--	--	--	--	--	--	0.00	--	0.21	0.02	--
Nitrate (mg/L)	0.2	--	--	--	--	--	--	--	--	2	--	2.5	0.58	--
Sulfate (mg/L)	27	--	--	--	--	--	--	--	--	30	--	56	41	--
TOC (mg/L)	1.4	--	--	--	--	--	--	--	--	1.5	--	0.84	1.5	--

Well ID	54MW1	2	3	4	5	6	7	8	9	10	11	12	13	14
SWMU 54 Twenty-Eighth Quarter (July 2019) Water Quality Parameters														
pH	7.49	--	--	--	--	--	--	--	--	6.9	--	6.54	7.01	--
Specific Conductivity (mS/cm)	479.5	--	--	--	--	--	--	--	--	570.1	--	470.5	577	--
Turbidity (NTU)	0.21	--	--	--	--	--	--	--	--	1.71	--	2.58	1.82	--
DO (mg/L)	3.54	--	--	--	--	--	--	--	--	5.33	--	4.29	6.24	--
ORP (mV)	212.5	--	--	--	--	--	--	--	--	79	--	238.7	225.1	--
Temperature (°C)	14.7	--	--	--	--	--	--	--	--	15.3	--	15.2	18.1	--
Dissolved Manganese (mg/L)	0.035	--	--	--	--	--	--	--	--	0.026	--	0.04	0.038	--
Dissolved Ferrous Iron (mg/L)	0.07	--	--	--	--	--	--	--	--	1.71	--	2.58	1.82	--
Nitrate (mg/L)	0.2	--	--	--	--	--	--	--	--	0.46	--	0.84	0.5	--
Sulfate (mg/L)	26	--	--	--	--	--	--	--	--	65	--	23	31	--
TOC (mg/L)	1.5	--	--	--	--	--	--	--	--	1.5	--	1.5	1.5	--
SWMU 54 Twenty-Ninth Quarter (October 2019) Water Quality Parameters														
pH	7.33	--	--	--	--	--	--	--	--	6.99	--	7	7.01	--
Specific Conductivity (mS/cm)	431	--	--	--	--	--	--	--	--	728	--	601	519	--
Turbidity (NTU)	0.22	--	--	--	--	--	--	--	--	2.52	--	3.06	1.97	--
DO (mg/L)	14.8	--	--	--	--	--	--	--	--	18.3	--	48.6	77	--
ORP (mV)	41.3	--	--	--	--	--	--	--	--	32	--	80.6	44.3	--
Temperature (°C)	14.97	--	--	--	--	--	--	--	--	15.16	--	14.95	16.38	--
Dissolved Manganese (mg/L)	0.02	--	--	--	--	--	--	--	--	0.014	--	0.042	0.04	--
Dissolved Ferrous Iron (mg/L)	0.24	--	--	--	--	--	--	--	--	0	--	0.12	0.16	--
Nitrate (mg/L)	ND	--	--	--	--	--	--	--	--	0.18	--	0.58	0.52	--
Sulfate (mg/L)	28	--	--	--	--	--	--	--	--	140	--	32	33	--
TOC (mg/L)	ND	--	--	--	--	--	--	--	--	0.62	--	0.69	0.53	--
TIC (mg/L)	61	--	--	--	--	--	--	--	--	85	--	86	97	--

Well ID	54MW1	2	3	4	5	6	7	8	9	10	11	12	13	14
SWMU 54 Thirtieth Quarter (January 2020) Water Quality Parameters														
pH	7.5	--	--	--	--	--	--	--	--	6.87	--	6.51	6.93	--
Specific Conductivity (mS/cm)	462	--	--	--	--	--	--	--	--	508	--	540	600	--
Turbidity (NTU)	0.34	--	--	--	--	--	--	--	--	0.43	--	1.13	1.86	--
DO (mg/L)	2.4	--	--	--	--	--	--	--	--	0.43	--	7.2	6.54	--
ORP (mV)	95.3	--	--	--	--	--	--	--	--	126.8	--	116.8	108.7	--
Temperature (°C)	13.33	--	--	--	--	--	--	--	--	12.6	--	12.72	12.48	--
Dissolved Manganese (mg/L)	0.01	--	--	--	--	--	--	--	--	0.05	--	0.33	0.1	--
Dissolved Ferrous Iron (mg/L)	0.04	--	--	--	--	--	--	--	--	0.06	--	0.07	0.1	--
Nitrate (mg/L)	ND	--	--	--	--	--	--	--	--	0.58	--	0.76	0.63	--
Sulfate (mg/L)	29	--	--	--	--	--	--	--	--	59	--	29	27	--
TOC (mg/L)	ND	--	--	--	--	--	--	--	--	ND	--	ND	ND	--
TIC (mg/L)	56	--	--	--	--	--	--	--	--	59	--	84	70	--
SWMU 54 Thirty-First Quarter (April 2020) Water Quality Parameters														
pH	7.65	--	--	--	--	--	--	--	--	6.83	--	6.62	6.68	--
Specific Conductivity (mS/cm)	339.6	--	--	--	--	--	--	--	--	364.9	--	357.2	241.6	--
Turbidity (NTU)	1.86	--	--	--	--	--	--	--	--	35.68	--	77.81	50.12	--
DO (mg/L)	4.46	--	--	--	--	--	--	--	--	5.28	--	7.34	8.21	--
ORP (mV)	111	--	--	--	--	--	--	--	--	112.6	--	127.8	96	--
Temperature (°C)	13.4	--	--	--	--	--	--	--	--	11.9	--	13.5	12	--
Dissolved Manganese (mg/L)	0.021	--	--	--	--	--	--	--	--	0.07	--	0.08	0.05	--
Dissolved Ferrous Iron (mg/L)	0	--	--	--	--	--	--	--	--	0.02	--	0.1	0.02	--
Nitrate (mg/L)	ND	--	--	--	--	--	--	--	--	1.1	--	1	5.6	--
Sulfate (mg/L)	28	--	--	--	--	--	--	--	--	52	--	28	0.97	--
TOC (mg/L)	ND	--	--	--	--	--	--	--	--	0.99	--	ND	0.46	--
TIC (mg/L)	56	--	--	--	--	--	--	--	--	63	--	85	21	--

Well ID	54MW1	2	3	4	5	6	7	8	9	10	11	12	13	14
SWMU 54 Thirty-Second Quarter (July 2020) Water Quality Parameters														
pH	7.5	--	--	--	--	--	--	--	--	6.87	--	6.51	6.93	--
Specific Conductivity (mS/cm)	462	--	--	--	--	--	--	--	--	508	--	540	600	--
Turbidity (NTU)	0.34	--	--	--	--	--	--	--	--	0.43	--	1.13	1.86	--
DO (mg/L)	2.4	--	--	--	--	--	--	--	--	0.43	--	7.2	6.54	--
ORP (mV)	95.3	--	--	--	--	--	--	--	--	126.8	--	116.8	108.7	--
Temperature (°C)	13.33	--	--	--	--	--	--	--	--	12.6	--	12.72	12.48	--
Dissolved Manganese (mg/L)	0.04	--	--	--	--	--	--	--	--	0.31	--	0.1	0.037	--
Dissolved Ferrous Iron (mg/L)	0.09	--	--	--	--	--	--	--	--	0.07	--	0.017	0.07	--
Nitrate (mg/L)	0.12	--	--	--	--	--	--	--	--	ND	--	1	1	--
Sulfate (mg/L)	28	--	--	--	--	--	--	--	--	15	--	22	20	--
TOC (mg/L)	ND	--	--	--	--	--	--	--	--	ND	--	ND	ND	--
TIC (mg/L)	63	--	--	--	--	--	--	--	--	63	--	65	48	--
SWMU 54 Thirty-Third Quarter (October 2020) Water Quality Parameters														
pH	7.5	--	--	--	--	--	--	--	--	7.33	--	6.9	7.08	--
Specific Conductivity (mS/cm)	486	--	--	--	--	--	--	--	--	831	--	516	453	--
Turbidity (NTU)	10.3	--	--	--	--	--	--	--	--	28.3	--	15.9	35.8	--
DO (mg/L)	1.81	--	--	--	--	--	--	--	--	1.37	--	5.27	5.19	--
ORP (mV)	123.9	--	--	--	--	--	--	--	--	19.8	--	153.1	106.1	--
Temperature (°C)	15.46	--	--	--	--	--	--	--	--	14.4	--	14.25	14.19	--
Dissolved Manganese (mg/L)	0.00	--	--	--	--	--	--	--	--	0.00	--	0.0	0.0	--
Dissolved Ferrous Iron (mg/L)	0.03	--	--	--	--	--	--	--	--	0.00	--	0.0	0.0	--
Nitrate (mg/L)	0.17	--	--	--	--	--	--	--	--	0.25	--	0.46	0.48	--
Sulfate (mg/L)	31	--	--	--	--	--	--	--	--	95	--	32	30	--
TOC (mg/L)	ND	--	--	--	--	--	--	--	--	1.2	--	1.5	1.2	--
TIC (mg/L)	55	--	--	--	--	--	--	--	--	66	--	69	58	--

Well ID	54MW1	2	3	4	5	6	7	8	9	10	11	12	13	14
SWMU 54 Thirty-Fourth Quarter (January 2021) Water Quality Parameters														
pH	7.49	--	--	--	--	--	--	--	--	6.77	--	6.6	6.69	--
Specific Conductivity (mS/cm)	471	--	--	--	--	--	--	--	--	629	--	542	400	--
Turbidity (NTU)	11	--	--	--	--	--	--	--	--	8.72	--	2.23	6.53	--
DO (mg/L)	5.06	--	--	--	--	--	--	--	--	5.37	--	6.92	7.63	--
ORP (mV)	99.9	--	--	--	--	--	--	--	--	93.3	--	123.7	167.7	--
Temperature (°C)	13.5	--	--	--	--	--	--	--	--	12.9	--	12.5	12.7	--
Dissolved Manganese (mg/L)	0.0	--	--	--	--	--	--	--	--	0.0	--	0.02	0.02	--
Dissolved Ferrous Iron (mg/L)	0.02	--	--	--	--	--	--	--	--	0.0	--	0.0	0.0	--
Nitrate (mg/L)	0.2	--	--	--	--	--	--	--	--	0.66	--	0.73	0.8	--
Sulfate (mg/L)	28	--	--	--	--	--	--	--	--	75	--	33	24	--
TOC (mg/L)	ND	--	--	--	--	--	--	--	--	1.3	--	1.2	1.5	--
TIC (mg/L)	56	--	--	--	--	--	--	--	--	67	--	66	49	--
SWMU 54 Thirty-Fifth Quarter (April 2021) Water Quality Parameters														
pH	7.58	--	--	--	--	--	--	--	--	6.72	--	6.48	6.68	--
Specific Conductivity (mS/cm)	424	--	--	--	--	--	--	--	--	520	--	502	459	--
Turbidity (NTU)	29.8	--	--	--	--	--	--	--	--	31.72	--	68.62	13.2	--
DO (mg/L)	4.29	--	--	--	--	--	--	--	--	3.98	--	3.96	4.67	--
ORP (mV)	128	--	--	--	--	--	--	--	--	145.7	--	171.3	158.3	--
Temperature (°C)	13.9	--	--	--	--	--	--	--	--	13.1	--	14.5	12.8	--
Dissolved Manganese (mg/L)	0.0	--	--	--	--	--	--	--	--	0.3	--	0.0	0.0	--
Dissolved Ferrous Iron (mg/L)	0.03	--	--	--	--	--	--	--	--	0.01	--	0.02	0.02	--
Nitrate (mg/L)	0.13	--	--	--	--	--	--	--	--	0.71	--	1.1	0.64	--
Sulfate (mg/L)	28	--	--	--	--	--	--	--	--	58	--	34	34	--
TOC (mg/L)	ND	--	--	--	--	--	--	--	--	ND	--	0.84	2.4	--
TIC (mg/L)	57	--	--	--	--	--	--	--	--	71	--	80	63	--

Well ID	54MW1	2	3	4	5	6	7	8	9	10	11	12	13	14
SWMU 54 Thirty-Sixth Quarter (July 2021) Water Quality Parameters														
pH	7.25	--	--	--	--	--	--	--	--	7.12	--	6.87	7.44	--
Specific Conductivity (mS/cm)	482.9	--	--	--	--	--	--	--	--	661	--	570	614	--
Turbidity (NTU)	1.24	--	--	--	--	--	--	--	--	0.65	--	3.38	0.44	--
DO (mg/L)	5.41	--	--	--	--	--	--	--	--	4.59	--	6.04	6.77	--
ORP (mV)	137.7	--	--	--	--	--	--	--	--	131.7	--	195.9	189.6	--
Temperature (°C)	18.5	--	--	--	--	--	--	--	--	14.6	--	18.2	19.8	--
Dissolved Manganese (mg/L)	0.09	--	--	--	--	--	--	--	--	0.2	--	0.5	0.6	--
Dissolved Ferrous Iron (mg/L)	0.01	--	--	--	--	--	--	--	--	0.1	--	0.06	0.02	--
Nitrate (mg/L)	ND	--	--	--	--	--	--	--	--	0.42	--	0.61	0.54	--
Sulfate (mg/L)	28	--	--	--	--	--	--	--	--	96	--	30	34	--
TOC (mg/L)	ND	--	--	--	--	--	--	--	--	ND	--	0.50	1.8	--
TIC (mg/L)	56	--	--	--	--	--	--	--	--	68	--	73	74	--
SWMU 54 Thirty-Seventh Event (October 2021) Water Quality Parameters														
pH	7.59	--	--	--	--	--	--	--	--	7.28	--	6.82	7.14	--
Specific Conductivity (mS/cm)	420	--	--	--	--	--	--	--	--	705	--	470.4	598	--
Turbidity (NTU)	39.72	--	--	--	--	--	--	--	--	7.3	--	24.22	8.56	--
DO (mg/L)	0.42	--	--	--	--	--	--	--	--	0.46	--	6.84	4.39	--
ORP (mV)	165.8	--	--	--	--	--	--	--	--	123.7	--	193.4	164.8	--
Temperature (°C)	13.9	--	--	--	--	--	--	--	--	13.4	--	13.2	13.3	--
Dissolved Manganese (mg/L)	0.40	--	--	--	--	--	--	--	--	1.1	--	0.40	0	--
Dissolved Ferrous Iron (mg/L)	0.03	--	--	--	--	--	--	--	--	0.10	--	0.01	0.07	--
Nitrate (mg/L)	ND	--	--	--	--	--	--	--	--	0.25	--	0.66	0.49	--
Sulfate (mg/L)	28	--	--	--	--	--	--	--	--	120	--	28	37	--
TOC (mg/L)	ND	--	--	--	--	--	--	--	--	ND	--	ND	ND	--
TIC (mg/L)	60	--	--	--	--	--	--	--	--	77	--	76	91	--
SWMU 54 Thirty-Eighth Event (April 2022) Water Quality Parameters														
pH	7.44	--	--	--	--	--	--	--	--	6.75	--	6.68	6.95	--
Specific Conductivity (mS/cm)	428	--	--	--	--	--	--	--	--	521.7	--	479.9	514.4	--
Turbidity (NTU)	0.74	--	--	--	--	--	--	--	--	0.28	--	0.67	1.25	--
DO (mg/L)	2.04	--	--	--	--	--	--	--	--	1.81	--	6.19	4.58	--
ORP (mV)	52.7	--	--	--	--	--	--	--	--	126.6	--	184.3	154.3	--
Temperature (°C)	13.3	--	--	--	--	--	--	--	--	13.8	--	13.4	14.0	--
Dissolved Manganese (mg/L)	0.50	--	--	--	--	--	--	--	--	0	--	2.3	3.0	--
Dissolved Ferrous Iron (mg/L)	0.93	--	--	--	--	--	--	--	--	2.01	--	0.01	0.50	--
Nitrate (mg/L)	0.13	--	--	--	--	--	--	--	--	0.30	--	0.73	0.64	--
Sulfate (mg/L)	31	--	--	--	--	--	--	--	--	72	--	33	33	--
TOC (mg/L)	ND	--	--	--	--	--	--	--	--	ND	--	ND	ND	--
TIC (mg/L)	60	--	--	--	--	--	--	--	--	78	--	82	83	--

Well ID	54MW1	2	3	4	5	6	7	8	9	10	11	12	13	14
SWMU 54 Thirty-Ninth Event (January 2023) Water Quality Parameters														
pH	7.53	--	--	--	--	--	--	--	--	7.57	--	6.93	7.60	--
Specific Conductivity (mS/cm)	446	--	--	--	--	--	--	--	--	819	--	503.4	10.9	--
Turbidity (NTU)	0.00	--	--	--	--	--	--	--	--	3.59	--	0.00	0.71	--
DO (mg/L)	0.29	--	--	--	--	--	--	--	--	0.31	--	10.02	10.00	--
ORP (mV)	32.3	--	--	--	--	--	--	--	--	52.9	--	159.6	52.3	--
Temperature (°C)	12.7	--	--	--	--	--	--	--	--	12.3	--	11.6	8.3	--
Dissolved Manganese (mg/L)	0.80	--	--	--	--	--	--	--	--	0.50	--	0.50	0.26	--
Dissolved Ferrous Iron (mg/L)	0.01	--	--	--	--	--	--	--	--	0.20	--	0.0	0.04	--
Nitrate (mg/L)	ND	--	--	--	--	--	--	--	--	ND	--	0.68	0.57	--
Sulfate (mg/L)	30	--	--	--	--	--	--	--	--	190	--	30	37	--
TOC (mg/L)	ND	--	--	--	--	--	--	--	--	ND	--	ND	ND	--
TIC (mg/L)	62	--	--	--	--	--	--	--	--	78	--	72	88	--
SWMU 54 Fortieth Event (July 2023) Water Quality Parameters														
pH	7.69	--	--	--	--	--	--	--	--	7.33	--	6.93	7.11	--
Specific Conductivity (mS/cm)	456.3	--	--	--	--	--	--	--	--	802	--	606	559	--
Turbidity (NTU)	1.14	--	--	--	--	--	--	--	--	5.89	--	1.73	5.61	--
DO (mg/L)	2.45	--	--	--	--	--	--	--	--	0.22	--	7.32	4.9	--
ORP (mV)	144.7	--	--	--	--	--	--	--	--	86.1	--	147.2	85	--
Temperature (°C)	14.9	--	--	--	--	--	--	--	--	15.1	--	15.4	15.8	--
Dissolved Manganese (mg/L)	0.90	--	--	--	--	--	--	--	--	0.2	--	1.8	0.3	--
Dissolved Ferrous Iron (mg/L)	0.2	--	--	--	--	--	--	--	--	0.8	--	0.1	0.1	--
Nitrate (mg/L)	ND	--	--	--	--	--	--	--	--	ND	--	0.71	0.57	--
Sulfate (mg/L)	29	--	--	--	--	--	--	--	--	170	--	25	31	--
TOC (mg/L)	ND	--	--	--	--	--	--	--	--	ND	--	ND	ND	--
TIC (mg/L)	66	--	--	--	--	--	--	--	--	84	--	86	85	--

Well ID	54MW1	2	3	4	5	6	7	8	9	10	11	12	13	14
SWMU 54 Forty-First Event (August 2024) Water Quality Parameters														
pH	7.67	--	--	--	--	--	--	--	--	7.28	--	6.85	7.08	--
Specific Conductivity (mS/cm)	406.1	--	--	--	--	--	--	--	--	731	--	404.4	570.7	--
Turbidity (NTU)	0.00	--	--	--	--	--	--	--	--	0.00	--	0.00	0.00	--
DO (mg/L)	1.2	--	--	--	--	--	--	--	--	0.11	--	5.96	4.27	--
ORP (mV)	51.3	--	--	--	--	--	--	--	--	-9.7	--	140.9	126.4	--
Temperature (°C)	13.6	--	--	--	--	--	--	--	--	12.6	--	13.7	12.9	--
Dissolved Manganese (mg/L)	0.70	--	--	--	--	--	--	--	--	1.2	--	0.3	0.4	--
Dissolved Ferrous Iron (mg/L)	0.09	--	--	--	--	--	--	--	--	011	--	0.08	0.07	--
Nitrate (mg/L)	ND	--	--	--	--	--	--	--	--	ND	--	1	0.47	--
Sulfate (mg/L)	28	--	--	--	--	--	--	--	--	180	--	30	34	--
TOC (mg/L)	ND	--	--	--	--	--	--	--	--	ND	--	ND	ND	--
TIC (mg/L)	62	--	--	--	--	--	--	--	--	78	--	70	97	--
SWMU 54 Forty-Second Event (December 2024) Water Quality Parameters														
pH	7.36	--	--	--	--	--	--	--	--	7.18	--	6.64	7.00	--
Specific Conductivity (mS/cm)	458.0	--	--	--	--	--	--	--	--	827	--	399.6	610.1	--
Turbidity (NTU)	0.00	--	--	--	--	--	--	--	--	0.00	--	0.00	0.00	--
DO (mg/L)	0.47	--	--	--	--	--	--	--	--	0.52	--	6.86	4.84	--
ORP (mV)	-31.6	--	--	--	--	--	--	--	--	-12.6	--	96.8	70.3	--
Temperature (°C)	13.9	--	--	--	--	--	--	--	--	14.1	--	13.7	13.3	--
Dissolved Manganese (mg/L)	0.3	--	--	--	--	--	--	--	--	0.0	--	0.2	0.1	--
Dissolved Ferrous Iron (mg/L)	0.12	--	--	--	--	--	--	--	--	0.9	--	0.1	0.11	--
Nitrate (mg/L)	ND	--	--	--	--	--	--	--	--	ND	--	0.74	0.62	--
Sulfate (mg/L)	31	--	--	--	--	--	--	--	--	200	--	18	40	--
TOC (mg/L)	ND	--	--	--	--	--	--	--	--	ND	--	ND	ND	--
TIC (mg/L)	64	--	--	--	--	--	--	--	--	81	--	68	89	--

Well ID	54MW1	2	3	4	5	6	7	8	9	10	11	12	13	14
SWMU 54 Forty-Third Event (May 2025) Water Quality Parameters														
pH	7.47	--	--	--	--	--	--	--	--	6.99	--	6.88	6.97	--
Specific Conductivity (mS/cm)	447.3	--	--	--	--	--	--	--	--	511.7	--	433.1	423.2	--
Turbidity (NTU)	0.01	--	--	--	--	--	--	--	--	0.30	--	0.65	0.10	--
DO (mg/L)	0.53	--	--	--	--	--	--	--	--	2.85	--	6.11	3.44	--
ORP (mV)	55.7	--	--	--	--	--	--	--	--	76.0	--	70.6	114.1	--
Temperature (°C)	13.9	--	--	--	--	--	--	--	--	13.5	--	13.8	12.1	--
Dissolved Manganese (mg/L)	0.3	--	--	--	--	--	--	--	--	0.5	--	0.9	0.2	--
Dissolved Ferrous Iron (mg/L)	0.12	--	--	--	--	--	--	--	--	011	--	0.12	0.14	--
Nitrate (mg/L)	ND	--	--	--	--	--	--	--	--	1.30	--	0.70	0.53	--
Sulfate (mg/L)	29	--	--	--	--	--	--	--	--	45	--	21	24	--
TOC (mg/L)	63	--	--	--	--	--	--	--	--	75	--	76	69	--
TIC (mg/L)	ND	--	--	--	--	--	--	--	--	ND	--	ND	ND	--
SWMU 54 Forty-Fourt Event (October 2025) Water Quality Parameters														
pH	7.18	--	--	--	--	--	--	--	--	6.91	--	6.42	6.70	--
Specific Conductivity (mS/cm)	435.5	--	--	--	--	--	--	--	--	779.0	--	377.6	607.0	--
Turbidity (NTU)	0.42	--	--	--	--	--	--	--	--	1.26	--	0.75	0.70	--
DO (mg/L)	0.26	--	--	--	--	--	--	--	--	0.11	--	5,79	4.03	--
ORP (mV)	63.7	--	--	--	--	--	--	--	--	-3.2	--	138.8	199.8	--
Temperature (°C)	14.2	--	--	--	--	--	--	--	--	14.5	--	14.2	13.5	--
Dissolved Manganese (mg/L)	0.2	--	--	--	--	--	--	--	--	0.3	--	0.2	0.0	--
Dissolved Ferrous Iron (mg/L)	0.15	--	--	--	--	--	--	--	--	0.23	--	0.16	0.14	--
Nitrate (mg/L)	ND	--	--	--	--	--	--	--	--	ND	--	0.85	0.59	--
Sulfate (mg/L)	29	--	--	--	--	--	--	--	--	180	--	22	35	--
TOC (mg/L)	64	--	--	--	--	--	--	--	--	83	--	67	110	--
TIC (mg/L)	ND	--	--	--	--	--	--	--	--	ND	--	ND	ND	--

Definitions

-- = Wells eliminated from monitoring program

< = less than

DO = dissolved oxygen

mS/cm = millisiemens per centimeter

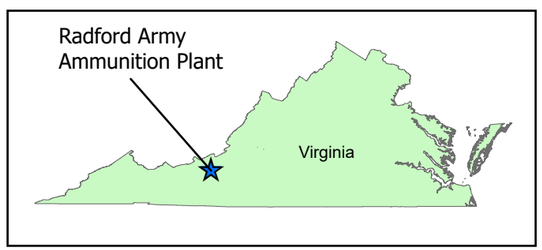
NM = not measured

Figures



Legend

SWMU 54 Boundary



N

0 375 750 Feet

U.S. Army Corps of Engineers
Baltimore District

CAPE

PROJECT NAME

Radford Army Ammunition Plant

DOCUMENT TITLE

2025 Annual MNA Report

SHEET TITLE

SWMU Site 54 Site Location Map

CONTRACT NO:
W912DR-19-D-0004

TASK ORDER:
W912DR-24-F-0222

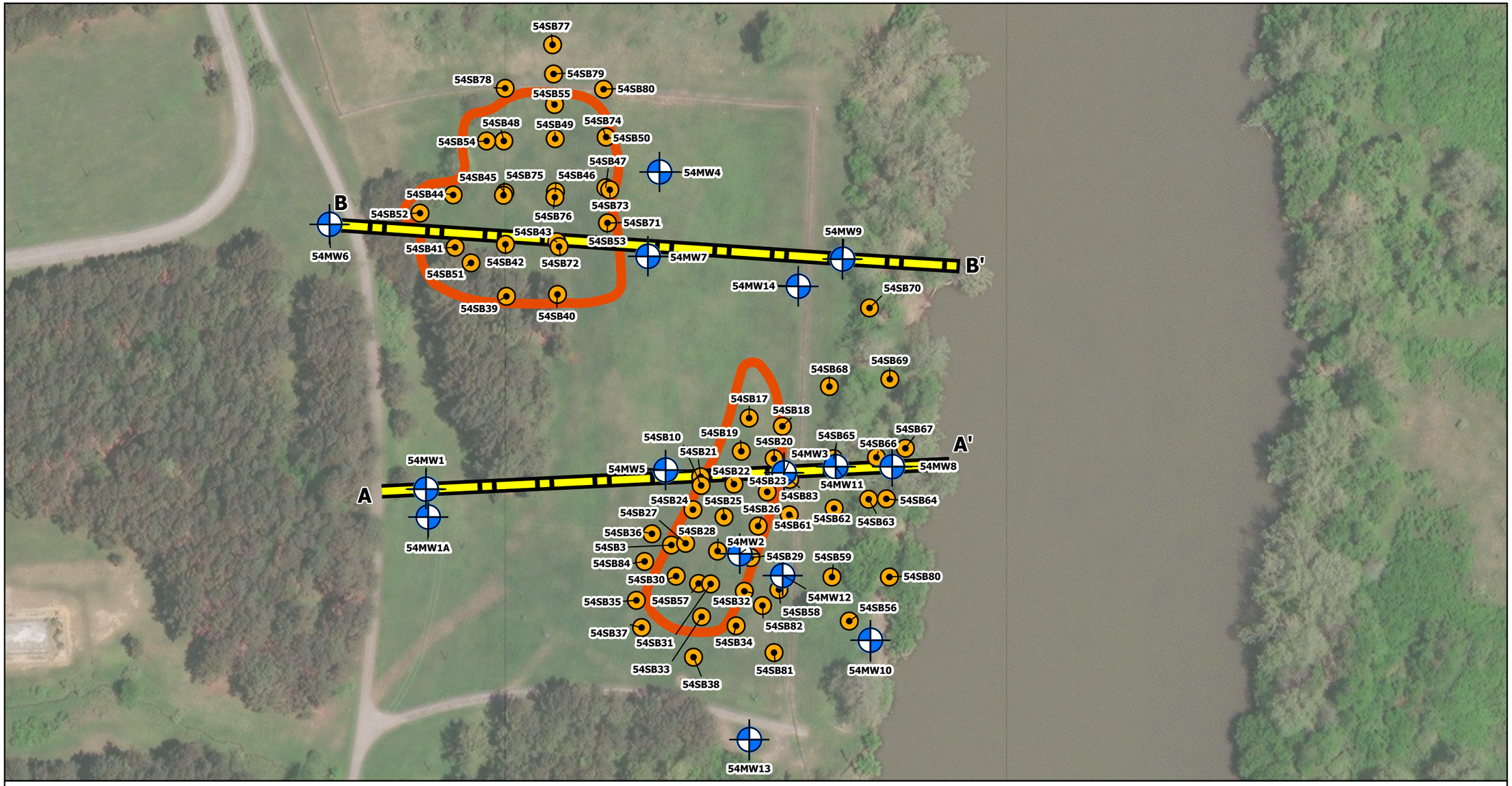
PREPARED BY:
Elisa Morgan

REVIEWED BY:
Scott Miller

DATE:
March 2026

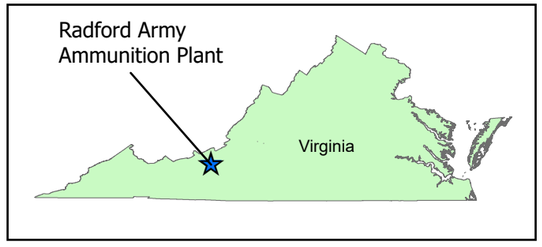
FIGURE: 1

M:\ M:\ArcGIS\10409-0222_Radford\Projects\2025 Annual Report\SWMU 54\Radford_SWMU_54\Radford_SWMU_54.aprx 3/4/2026 (Author: ElisaMorgan) 11:45 AM



Legend

- Soil Sample Location
- Monitoring Well Location
- Cross Section
- SWMU 54 Boundary



N

0 60 120 Feet

U.S. Army Corps of Engineers
Baltimore District

CAPE

PROJECT NAME

Radford Army Ammunition Plant

DOCUMENT TITLE

2025 Annual MNA Report

SHEET TITLE

SWMU Site 54 Cross Section

CONTRACT NO:
W912DR-19-D-0004

TASK ORDER:
W912DR-24-F-0222

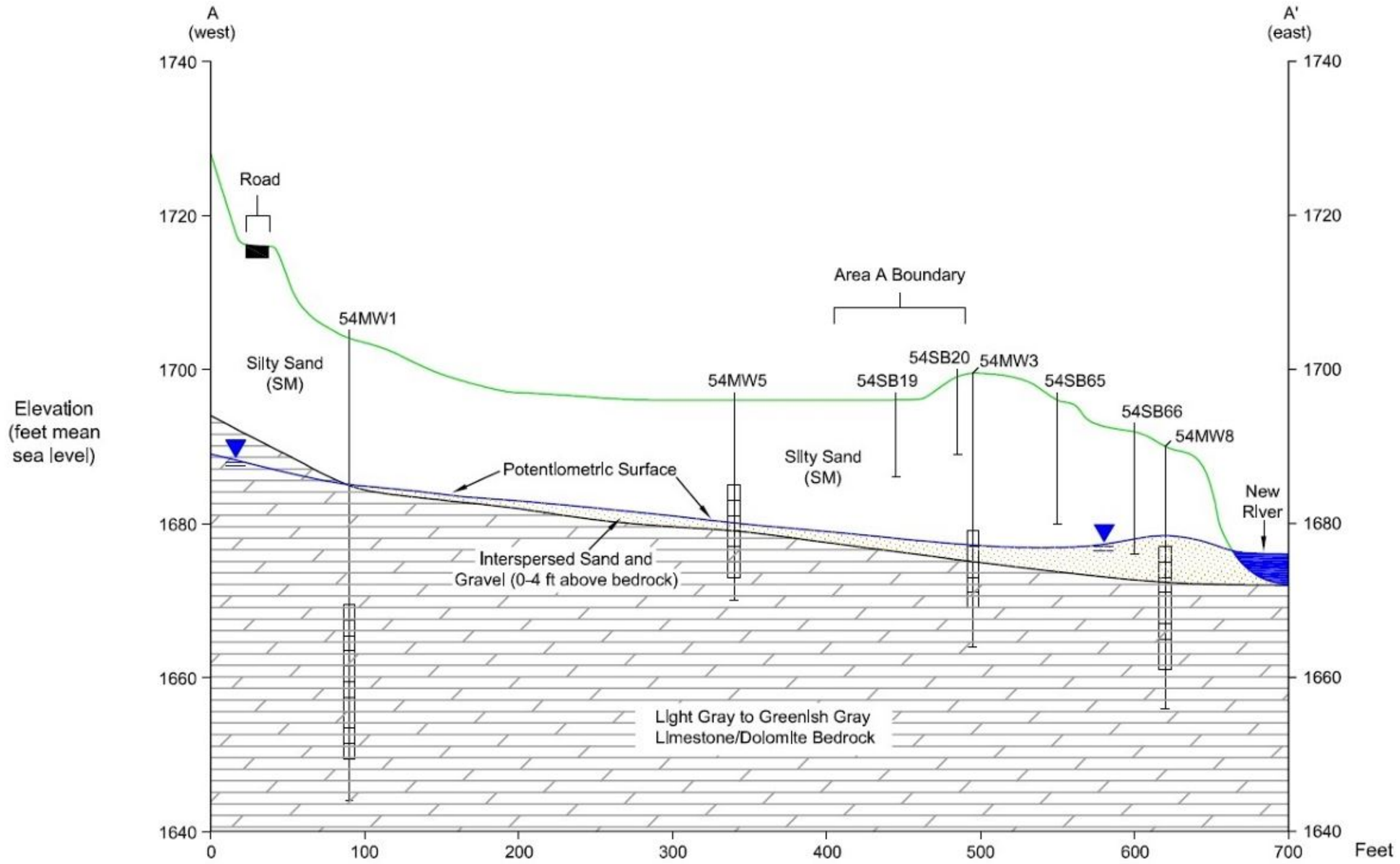
PREPARED BY:
Elisa Morgan

REVIEWED BY:
Scott Miller

DATE:
March 2026

FIGURE: 2

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Note:
Excerpted from the Final SWMU 54 RFI/CMS Report (URS, 2008) for use by CAPE.

U.S. Army Corps
of Engineers
Baltimore District

CAPE

PROJECT NAME

Radford Army
Ammunition Plant

DOCUMENT TITLE

2025 Annual
MNA Report

SHEET TITLE

SWMU Site 54
Cross Section
A - A'

CONTRACT NO:
W912DR-19-D-0004

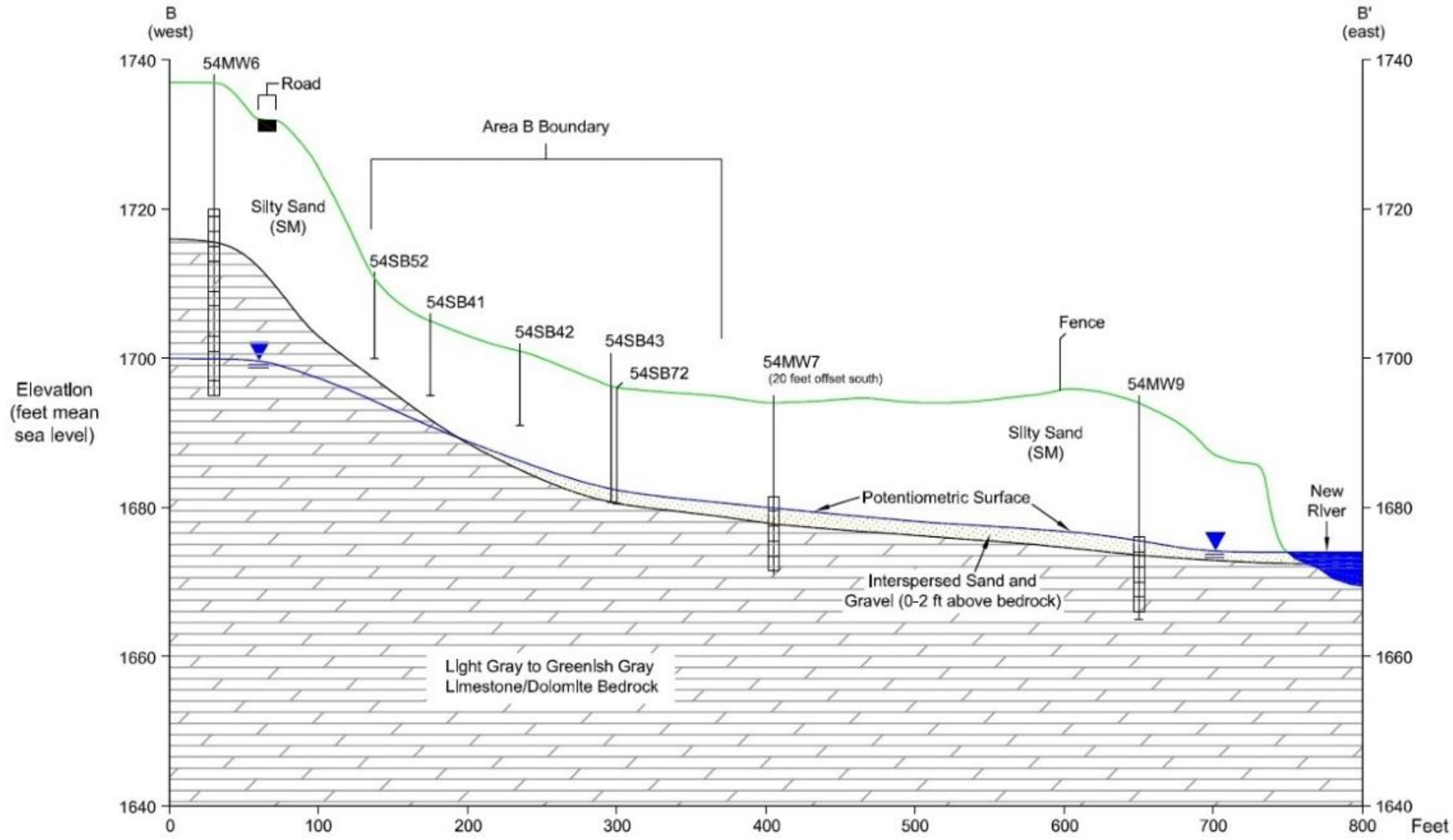
TASK ORDER:
W912DR-24-F-0222

PREPARED BY:
Elisa Morgan

REVIEWED BY:
Scott Miller

DATE:
March 2026

FIGURE: 3



Note:
Excerpted from the Final SWMU 54 RFI/CMS Report (URS, 2008) for use by CAPE.

U.S. Army Corps
of Engineers
Baltimore District

CAPE

PROJECT NAME

Radford Army
Ammunition Plant

DOCUMENT TITLE

2025 Annual
MNA Report

SHEET TITLE

SWMU Site 54
Cross Section
B - B'

CONTRACT NO:
W912DR-19-D-0004

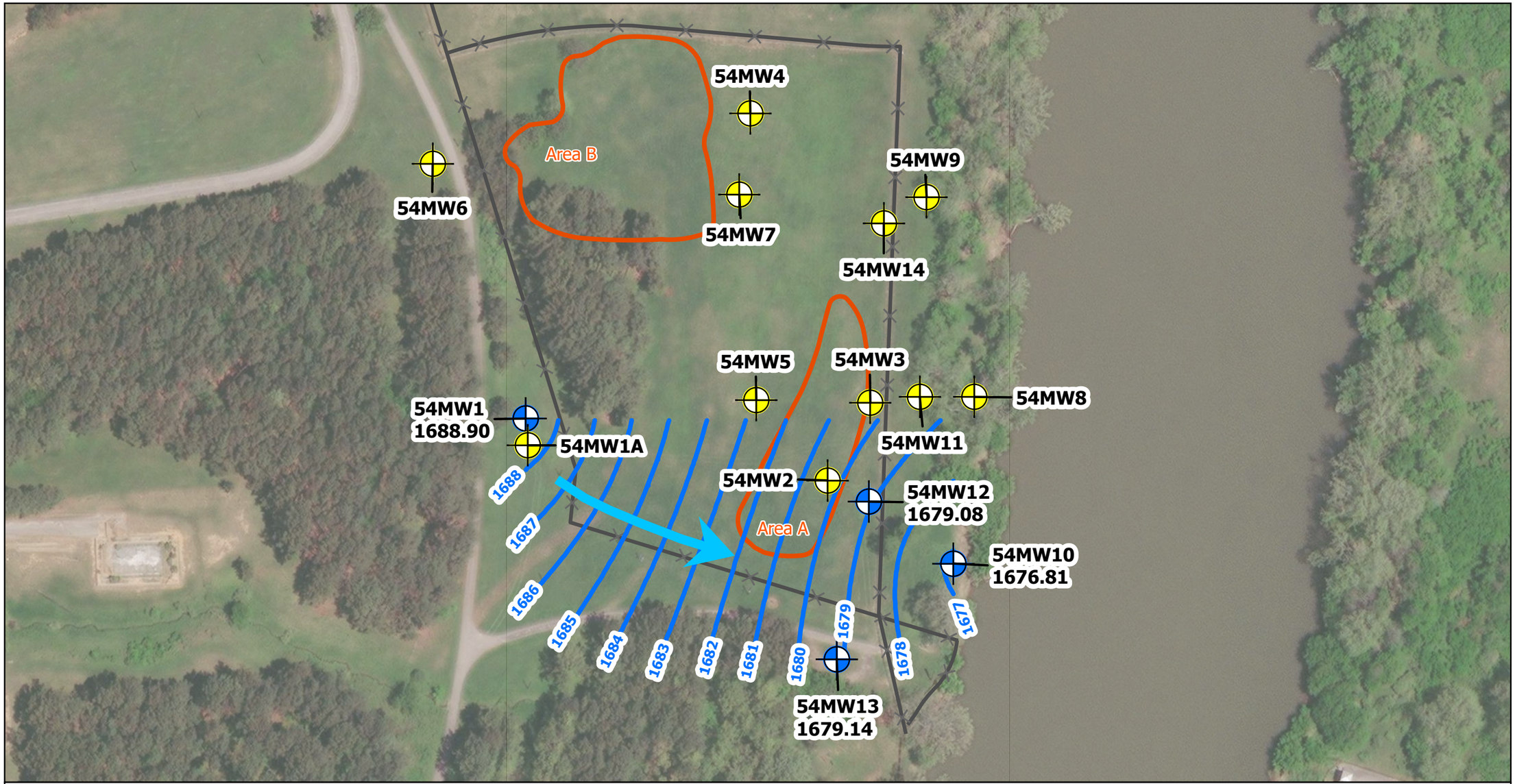
TASK ORDER:
W912DR-24-F-0222

PREPARED BY:
Elisa Morgan

REVIEWED BY:
Scott Miller

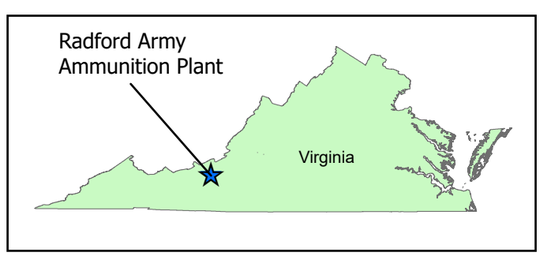
DATE:
March 2026

FIGURE: 4



Legend

- Well (Current MNA Network)
- Well (Removed from Network After 9th Quarter)
- Groundwater Contour
- Fence
- Groundwater Flow Direction
- SWMU 54 Boundary



N

0 62.5 125 Feet

U.S. Army Corps of Engineers
Baltimore District

CAPE

PROJECT NAME

Radford Army Ammunition Plant

DOCUMENT TITLE

2025 Annual MNA Report

SHEET TITLE

SWMU Site 54
May 2025
Groundwater Contour Map

CONTRACT NO:
W912DR-19-D-0004

TASK ORDER:
W912DR-24-F-0222

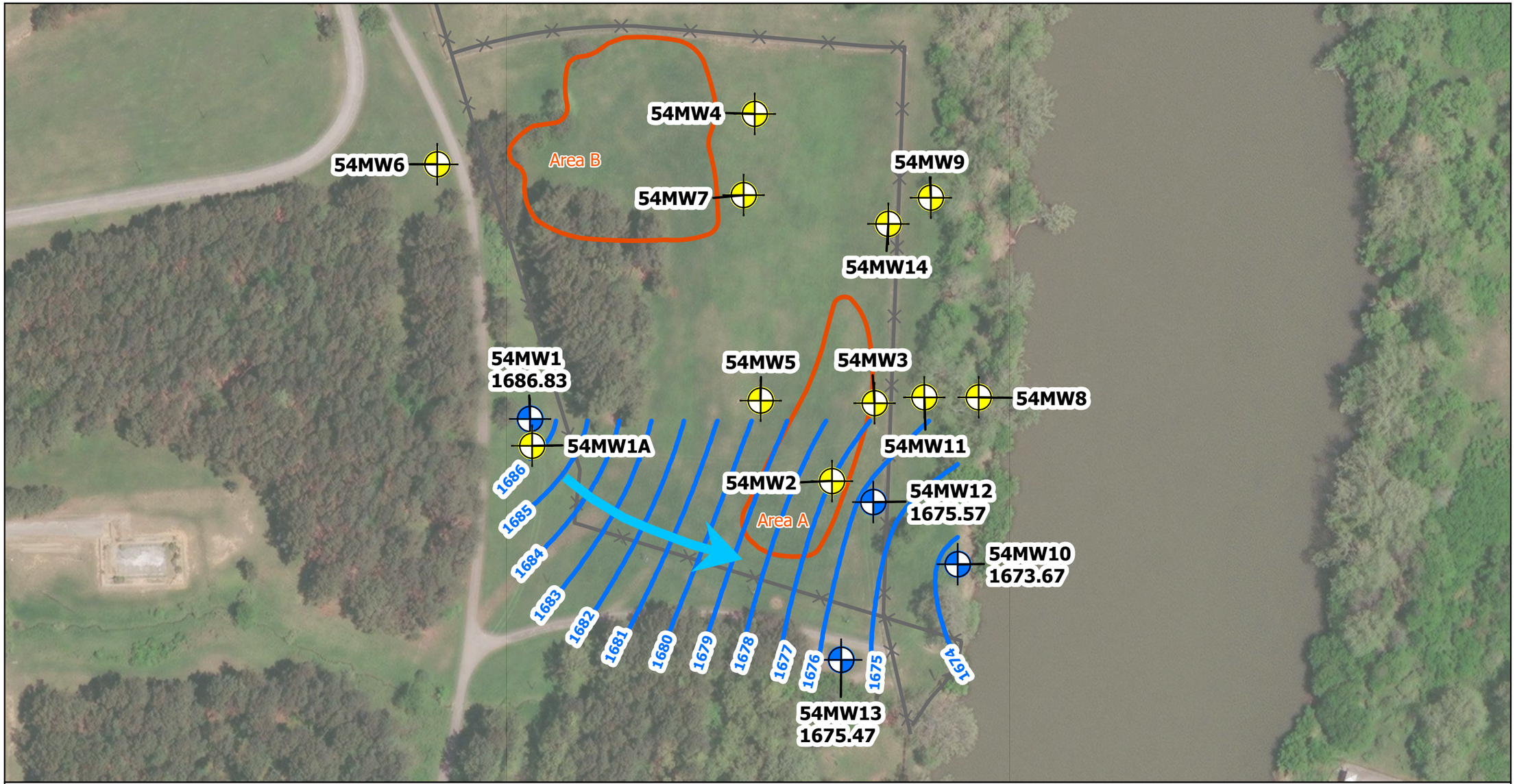
PREPARED BY:
Elisa Morgan

REVIEWED BY:
Scott Miller

DATE:
March 2026

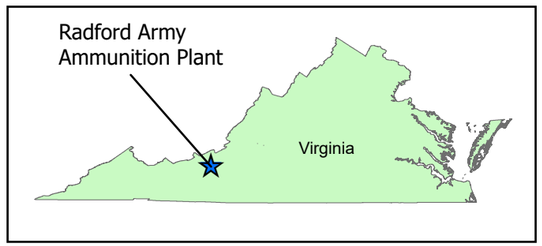
FIGURE: 5

M:\ M:\ArcGIS\10409-0222_Radford\Projects\2025 Annual Report\SWMU 54\Radford_SWMU_54\Radford_SWMU_54.aprx 3/19/2026 (Author: ElisaMorgan) 11:06 AM



Legend

- Well (Current MNA Network)
- Well (Removed from Network After 9th Quarter)
- Groundwater Contours
- Fence
- Groundwater Flow Direction
- SWMU 54 Boundary



N

0 62.5 125 Feet

U.S. Army Corps of Engineers
Baltimore District

CAPE

PROJECT NAME

Radford Army Ammunition Plant

DOCUMENT TITLE

2025 Annual MNA Report

SHEET TITLE

SWMU Site 54
October 2025
Groundwater
Contour Map

CONTRACT NO:
W912DR-19-D-0004

TASK ORDER:
W912DR-24-F-0222

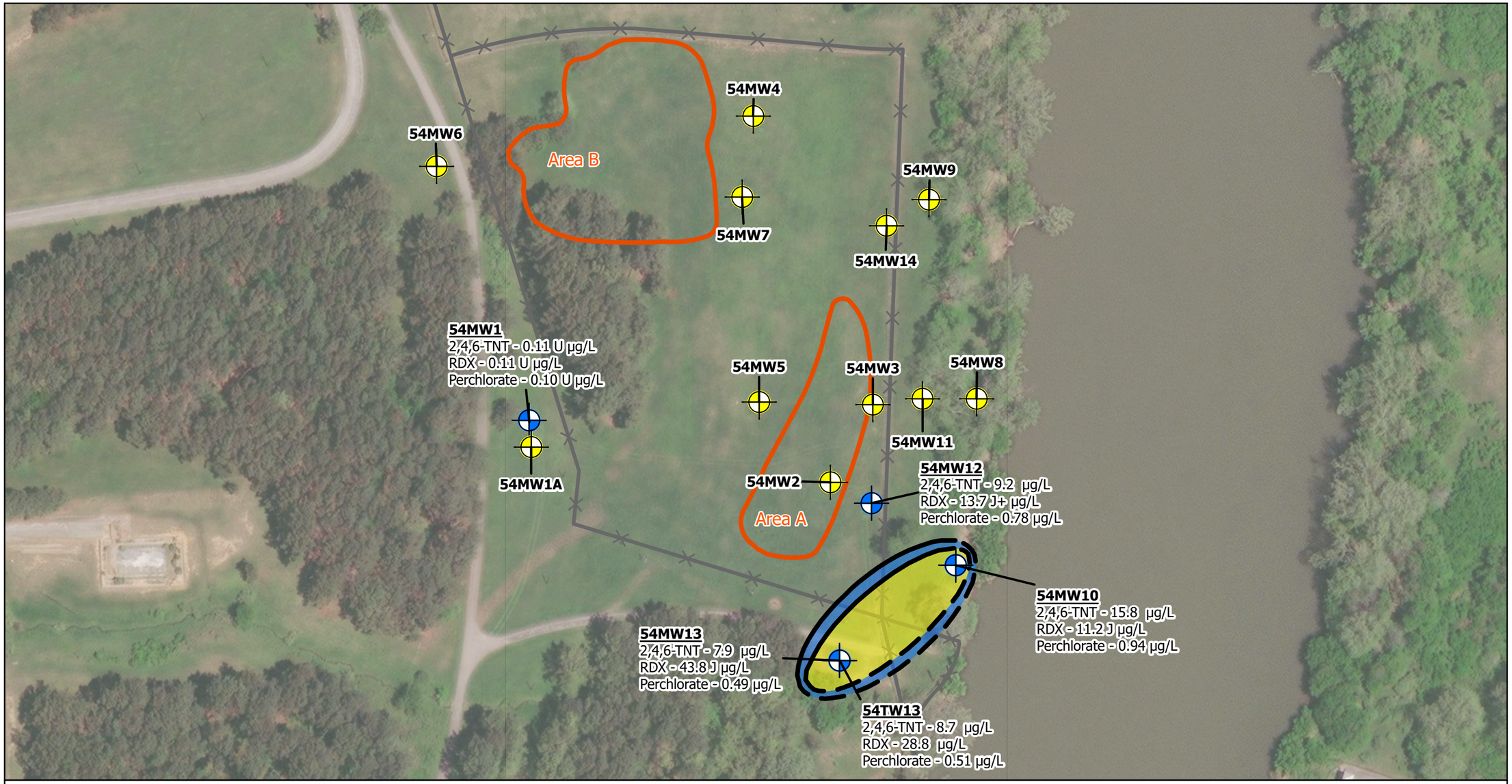
PREPARED BY:
Elisa Morgan

REVIEWED BY:
Scott Miller

DATE:
March 2026

FIGURE: 6

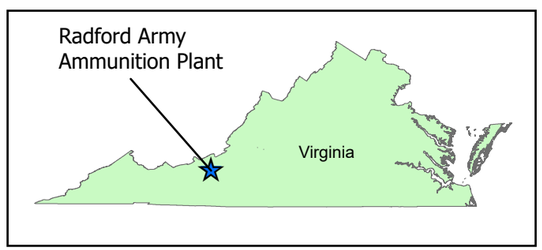
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Legend

- Well (Current MNA Network)
- Well (Removed from Network After 9th Quarter)
- SWMU 54 Boundary
- 2,4.6 - TNT Isopleths
- RDX Isopleths
- Fence

Notes:
1. 2,4,6-TNT = 2,4,6-Trinitrotoluene
2. RDX = cyclotrimethylenetrinitramine
3. Remedial Goal for 2,4,6-TNT = 7.82 µg/L
4. Remedial Goal for RDX = 6.1 µg/L
5. Remedial Goal for Perchlorate = 10.9 µg/L
6. Isopleth boundary line inferred where dashed.



N

0 62.5 125 Feet

U.S. Army Corps of Engineers
Baltimore District

CAPE

PROJECT NAME
Radford Army Ammunition Plant

DOCUMENT TITLE
2025 Annual MNA Report

SHEET TITLE
SWMU Site 54
May 2025 RG
Exceedance
Isopleths

CONTRACT NO:
W912DR-19-D-0004

TASK ORDER:
W912DR-24-F-0222

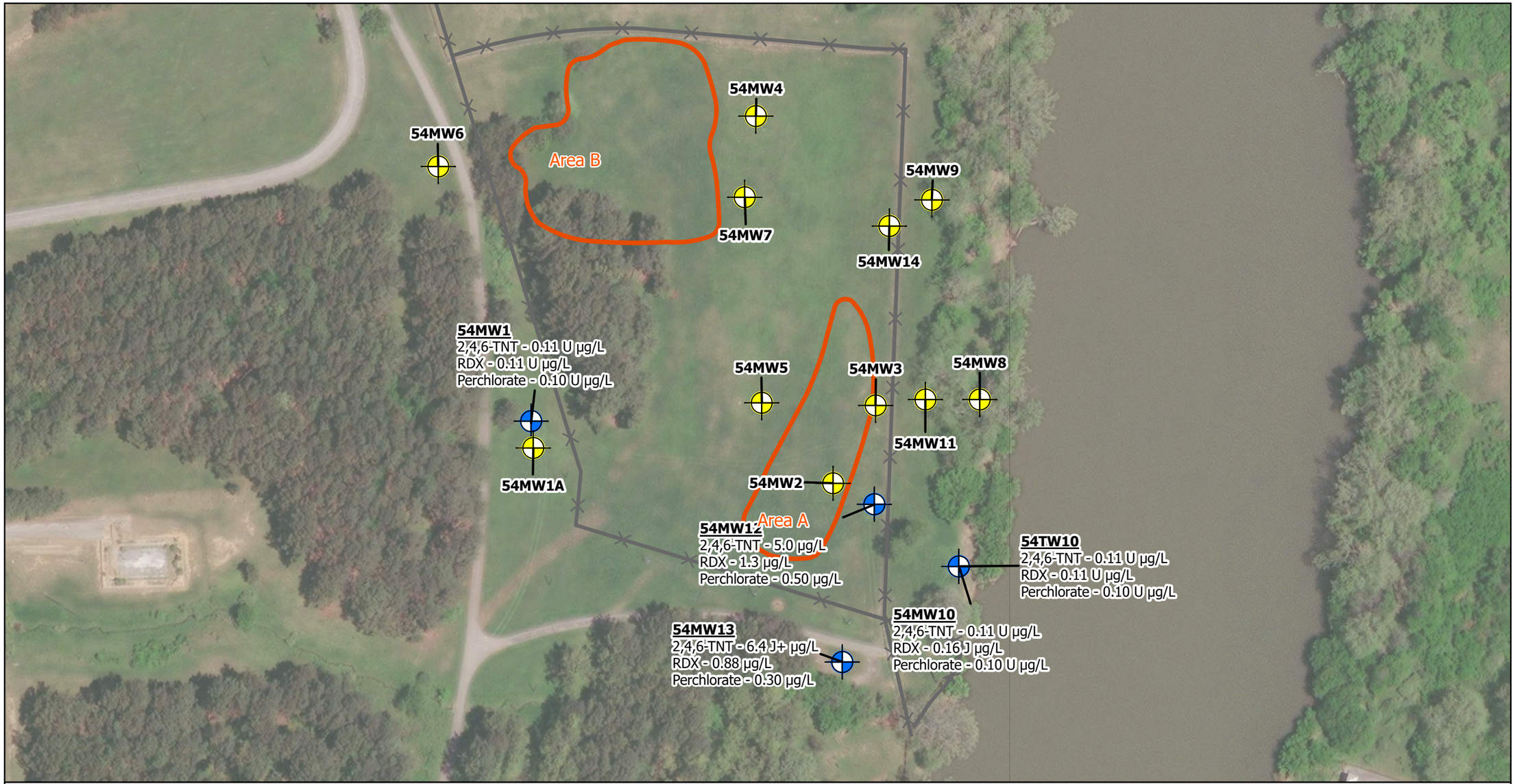
PREPARED BY:
Elisa Morgan

REVIEWED BY:
Scott Miller

DATE:
March 2026

FIGURE: 7

M:\ M:\ArcGIS\10409-0222_Radford\Projects\2025 Annual Report\SWMU 54\Radford_SWMU_54\Radford_SWMU_54.aprx 3/19/2026 (Author: ElisaMorgan) 11:06 AM

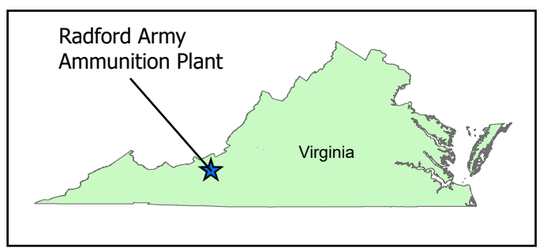


Legend

- Well (Current MNA Network)
- Well (Removed from Network After 9th Quarter)
- Fence
- SWMU 54 Boundary

Notes:
1. 2,4,6-TNT = 2,4,6-Trinitrotoluene
2. RDX = cyclotrimethylenetrinitramine
3. Remedial Goal for 2,4,6-TNT = 7.82 µg/L
4. Remedial Goal for RDX = 6.1 µg/L
5. Remedial Goal for Perchlorate = 10.9 µg/L

No COC RGs were exceeded in October 2025.



N

0 62.5 125 Feet

U.S. Army Corps of Engineers
Baltimore District

CAPE

PROJECT NAME
Radford Army Ammunition Plant

DOCUMENT TITLE
2025 Annual MNA Report

SHEET TITLE
SWMU Site 54 October 2025 RG Exceedance Isopleths

CONTRACT NO:
W912DR-19-D-0004

TASK ORDER:
W912DR-24-F-0222

PREPARED BY:
Elisa Morgan

REVIEWED BY:
Scott Miller

DATE:
March 2026

FIGURE: 8

M:\ M:\ArcGIS\10409-0222_Radford\Projects\2025 Annual Report\SWMU 54\Radford_SWMU_54\Radford_SWMU_54.aprx 3/19/2026 (Author: ElisaMorgan) 11:06 AM

Figure 9: COC Concentrations vs. Time at 54MW1

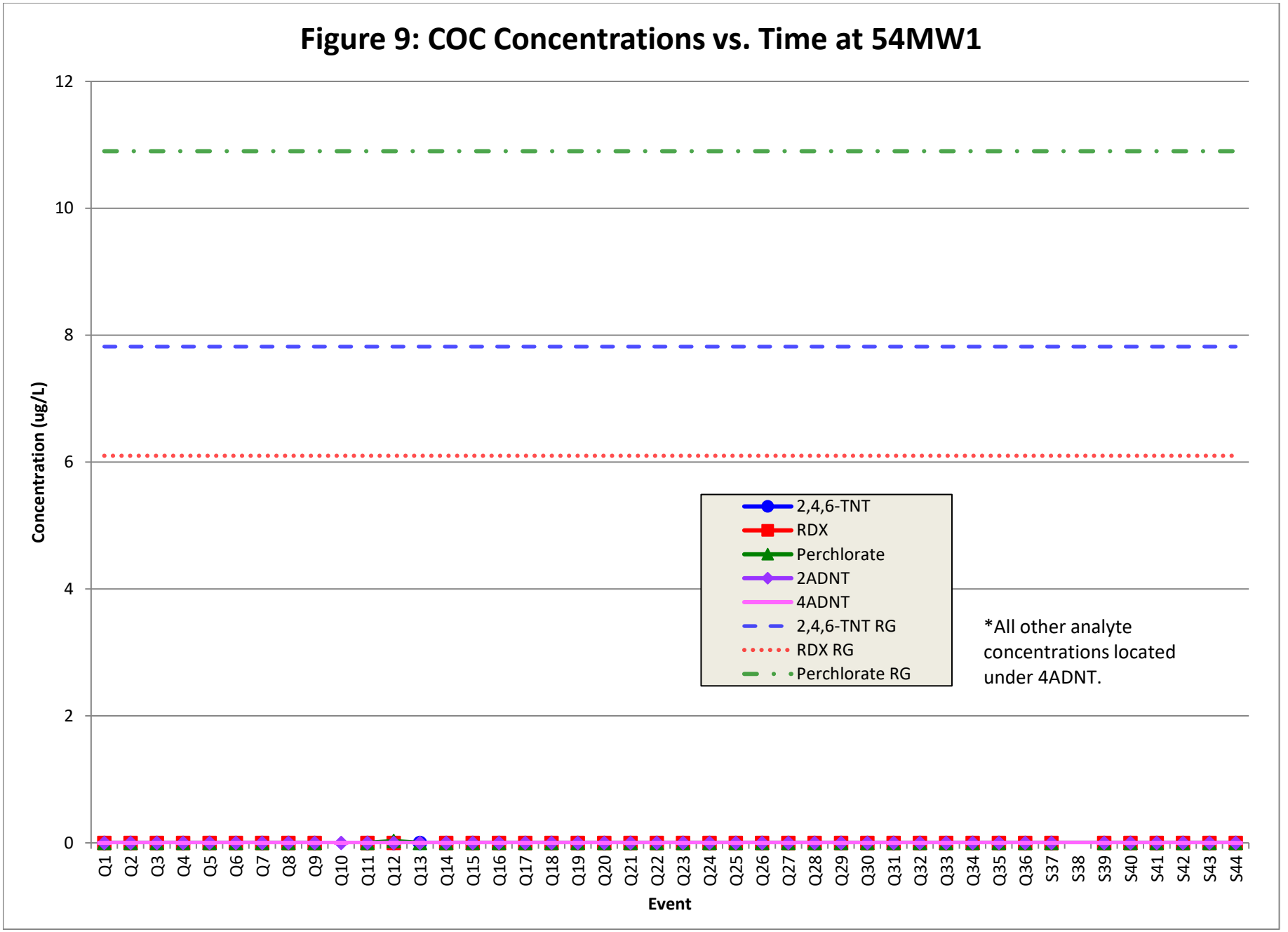


Figure 10: COC Concentrations vs. Time at 54MW10

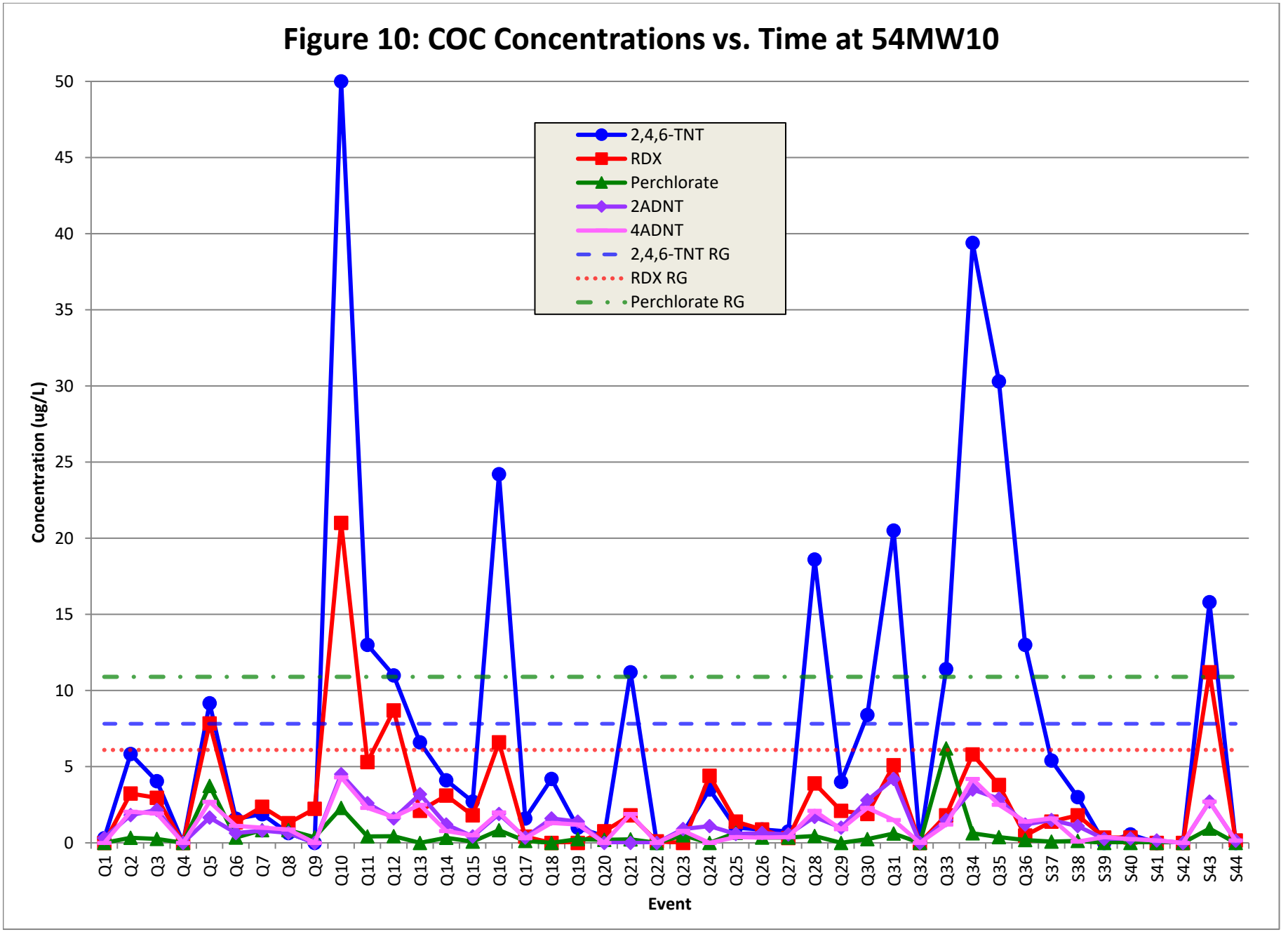


Figure 11: COC Concentrations vs. Time at 54MW12

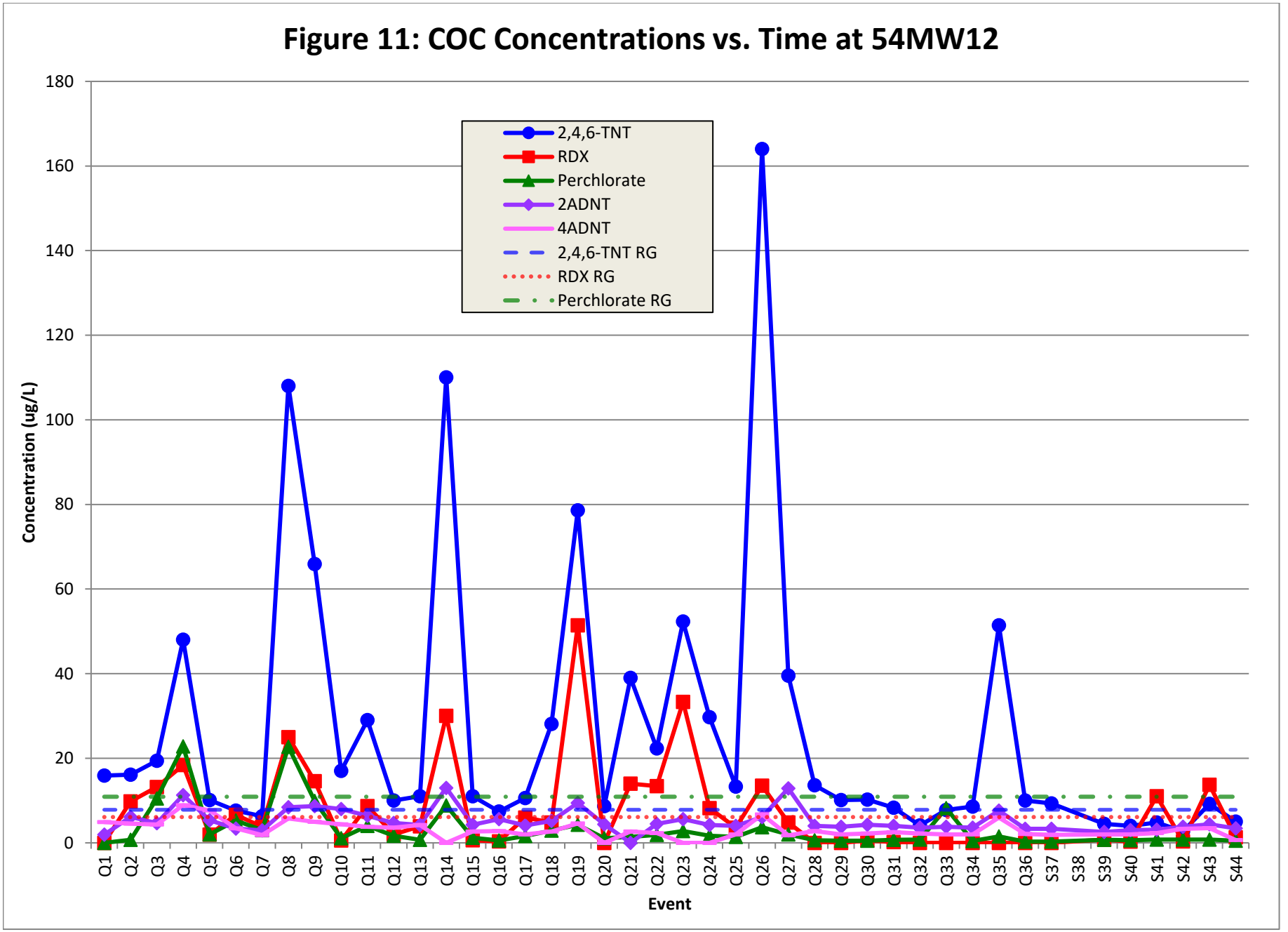


Figure 12: COC Concentrations vs. Time at 54MW13

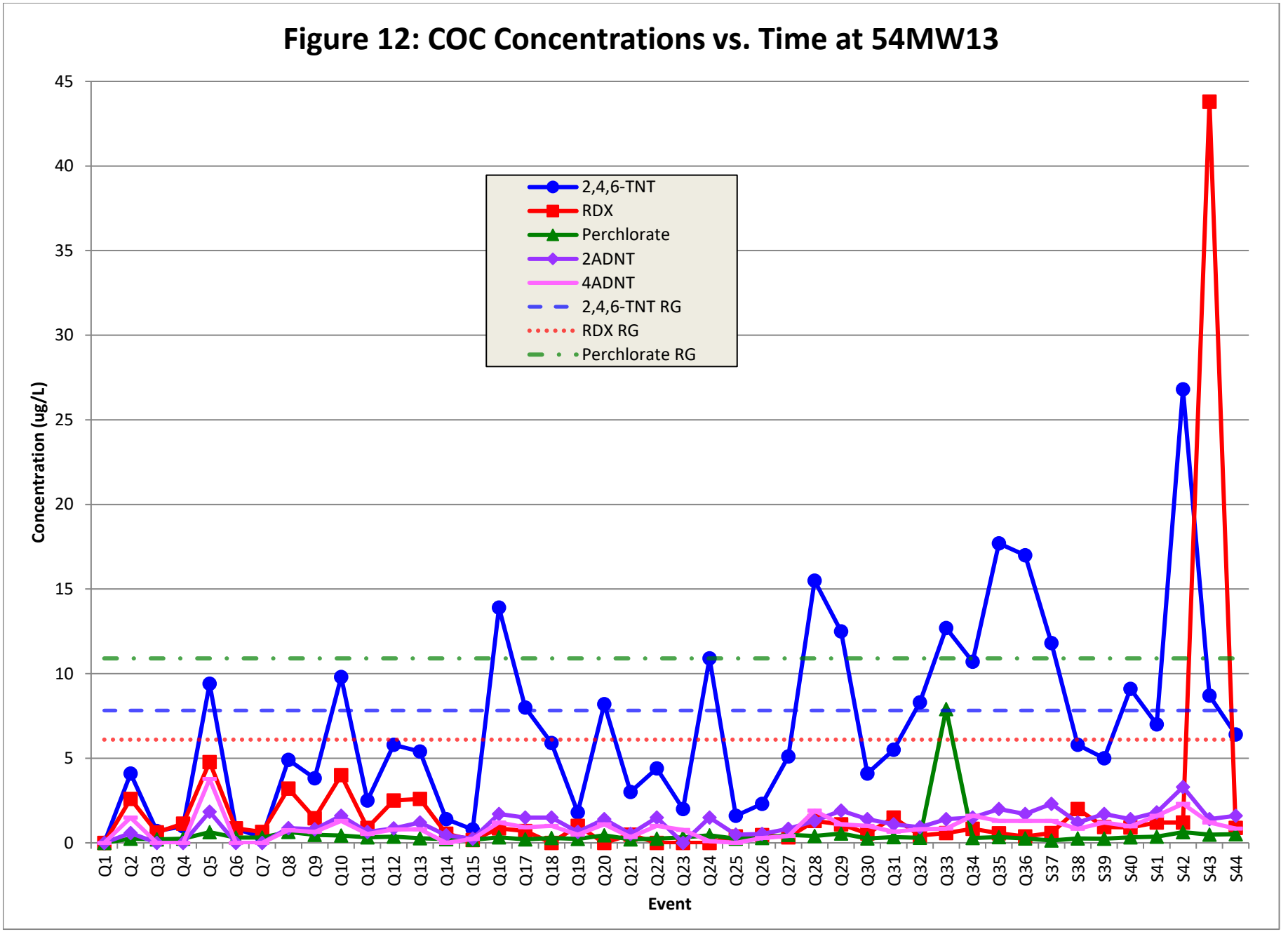


Figure 13: DO, ORP, and TOC Concentrations vs. Time at 54MW10

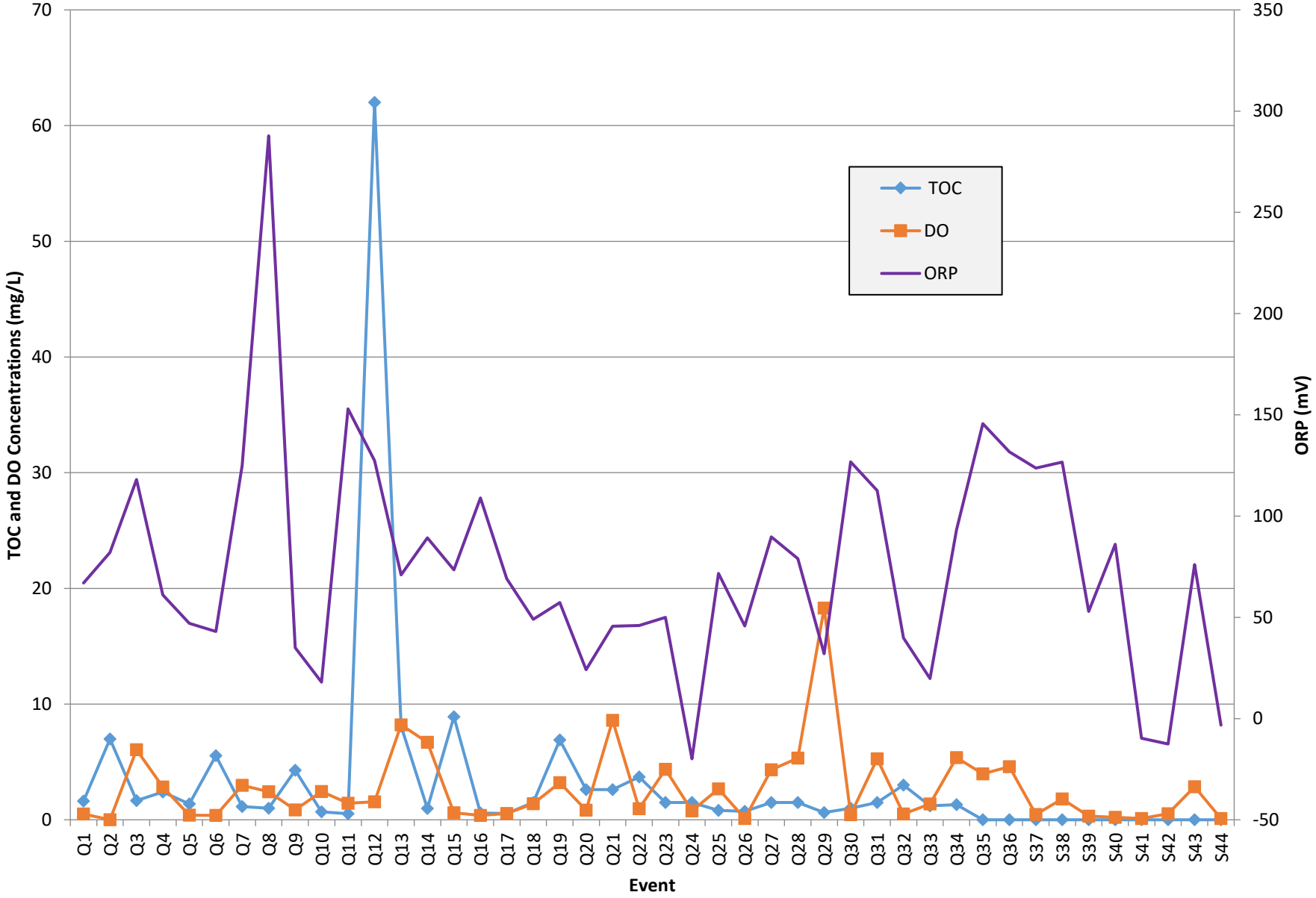


Figure 14: DO, ORP, and TOC Concentrations vs. Time at 54MW12

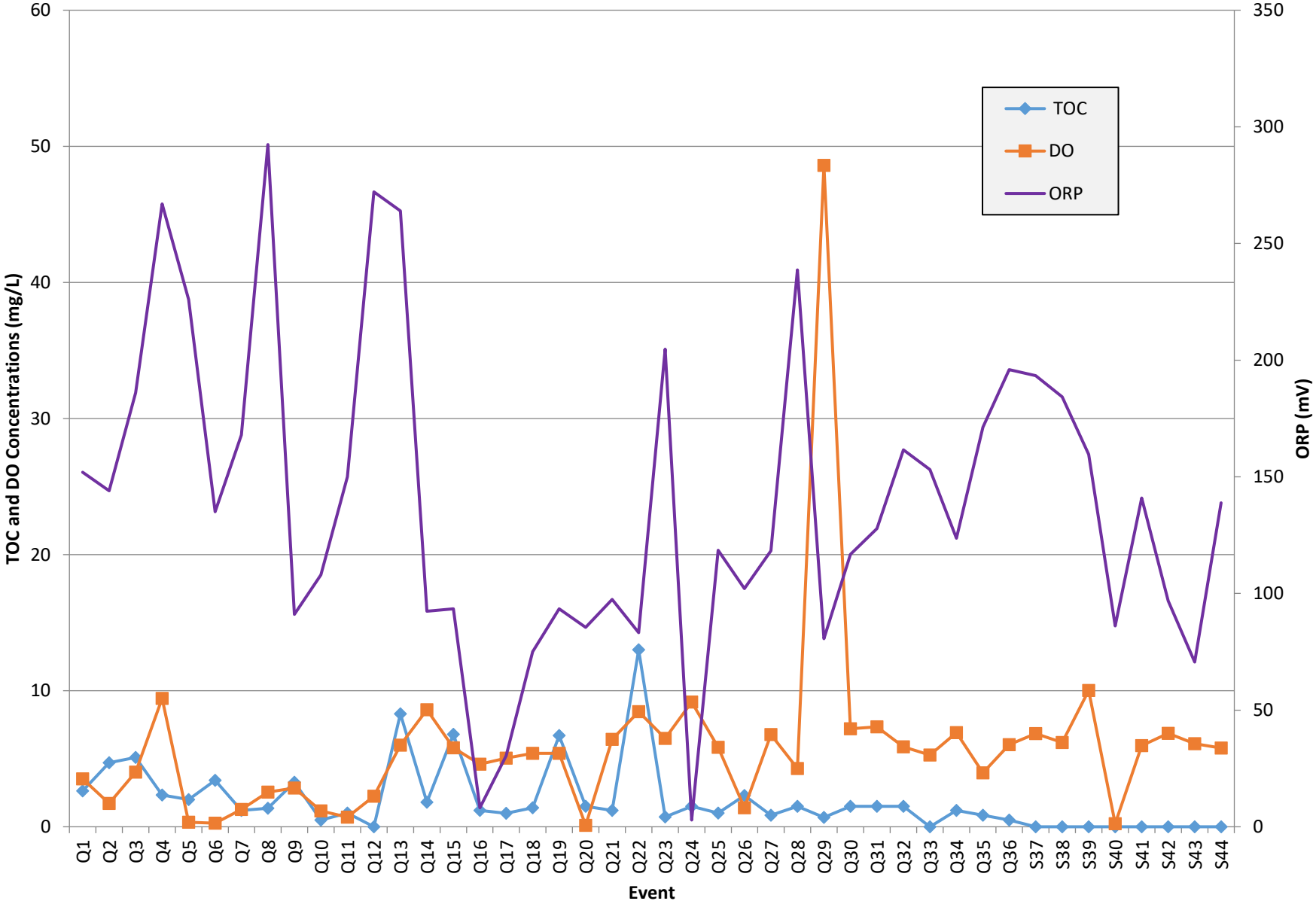


Figure 15: DO, ORP, and TOC Concentrations vs. Time at 54MW13

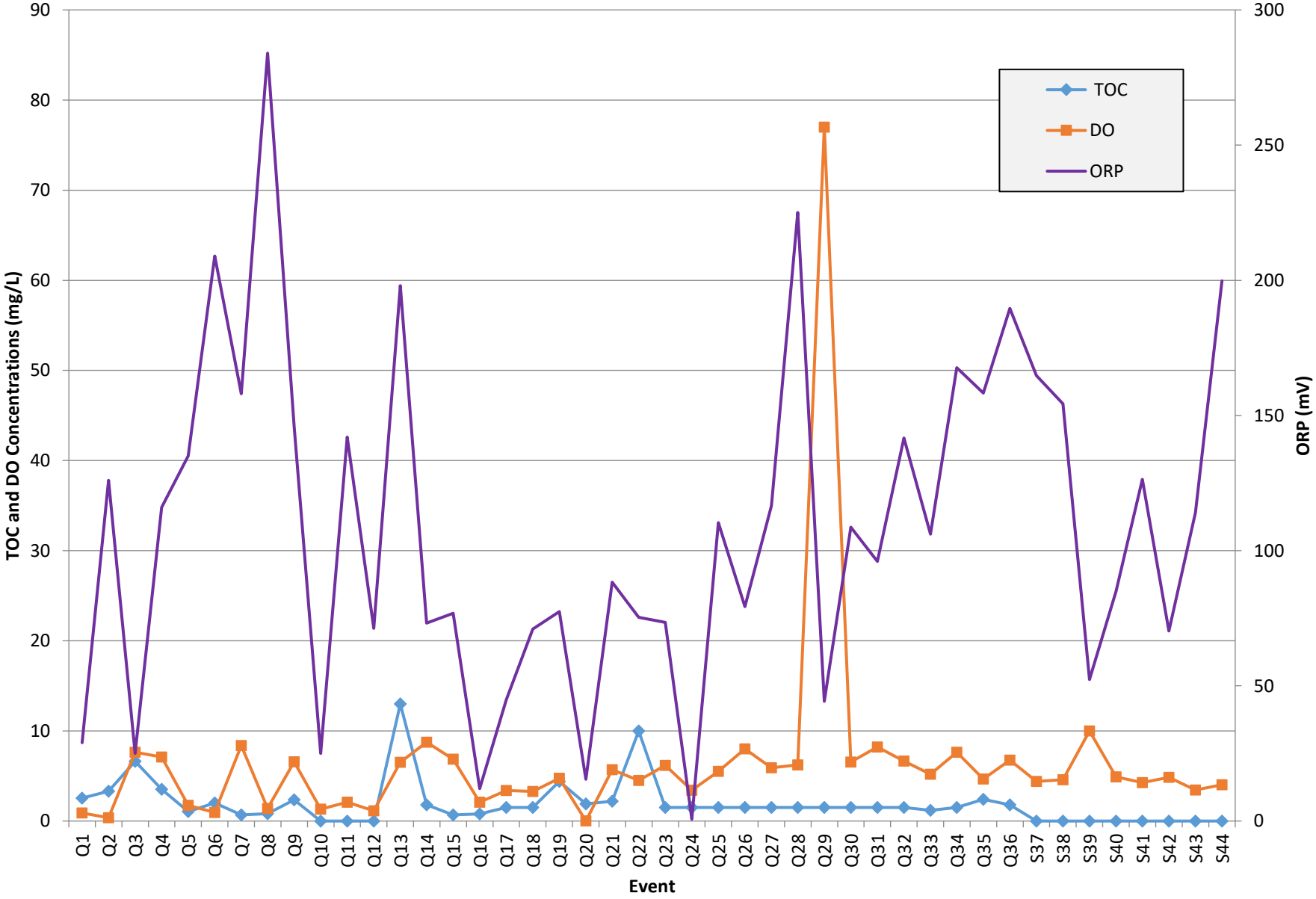


Figure 16: Fe2+, Mn, Nitrate, and Sulfate Concentrations vs. Time at 54MW10

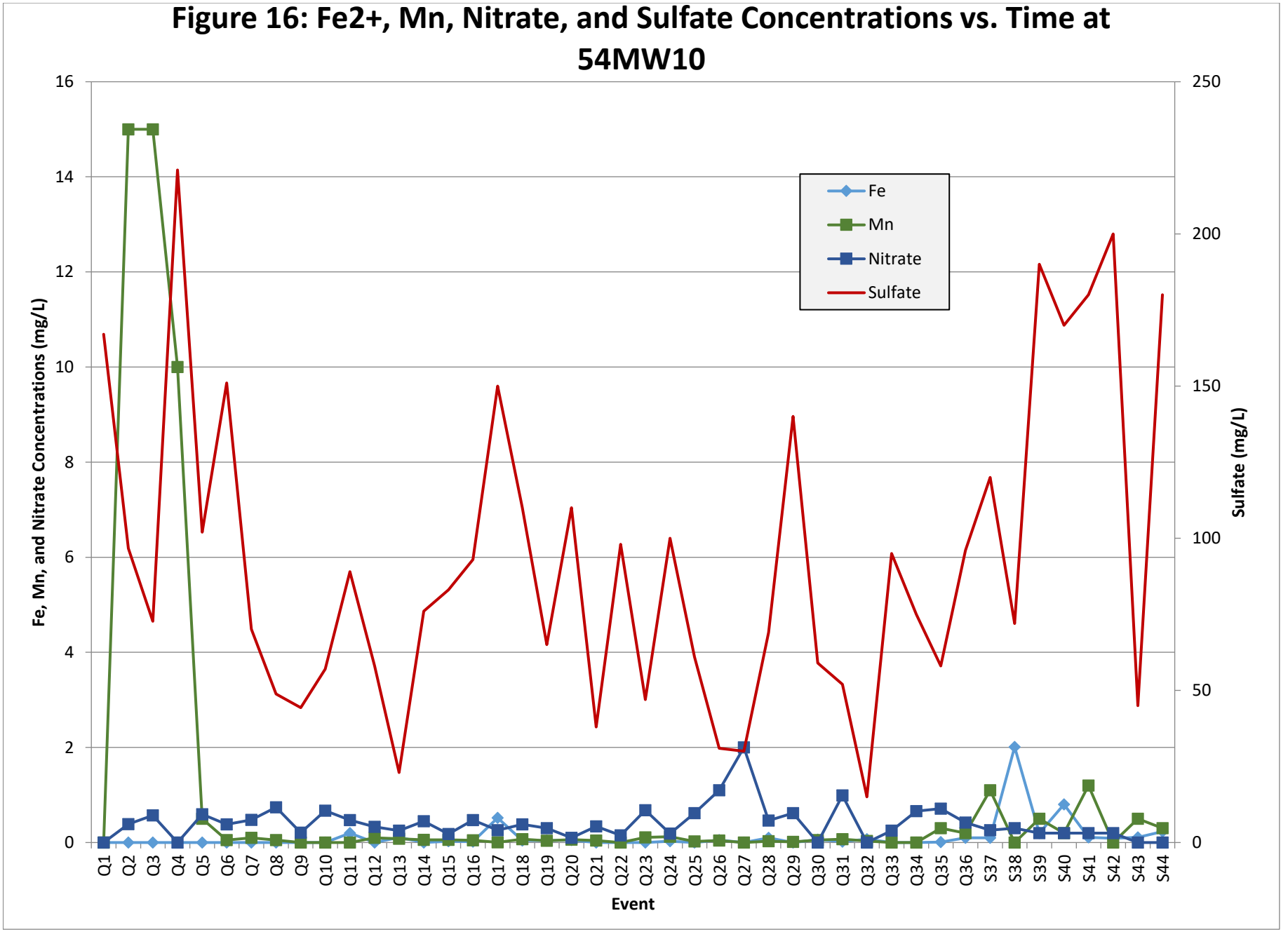


Figure 17: Fe2+, Mn, Nitrate, and Sulfate Concentrations vs. Time at 54MW12

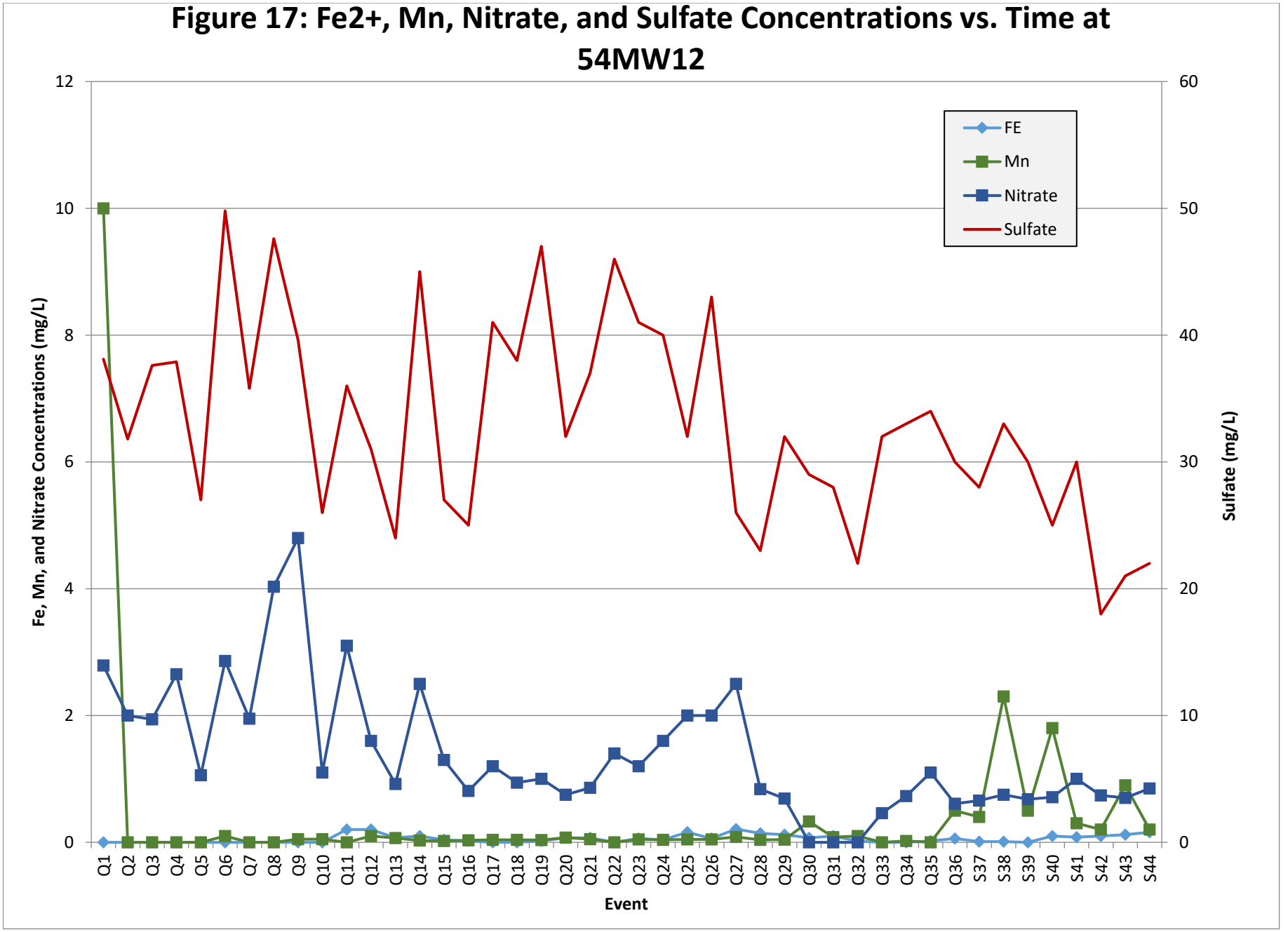


Figure 18: Fe2+, Mn, Nitrate, and Sulfate Concentrations vs. Time at 54MW13

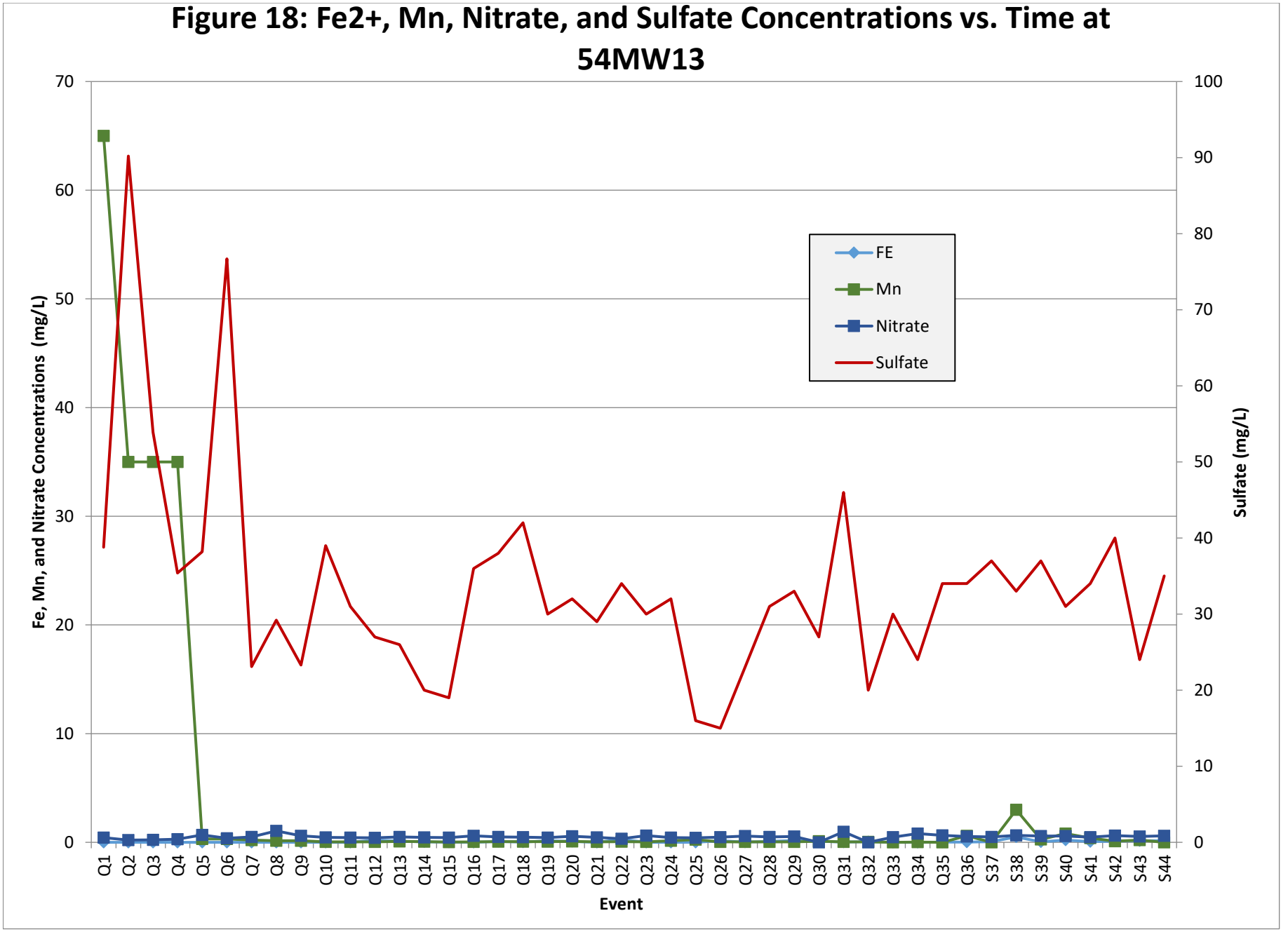
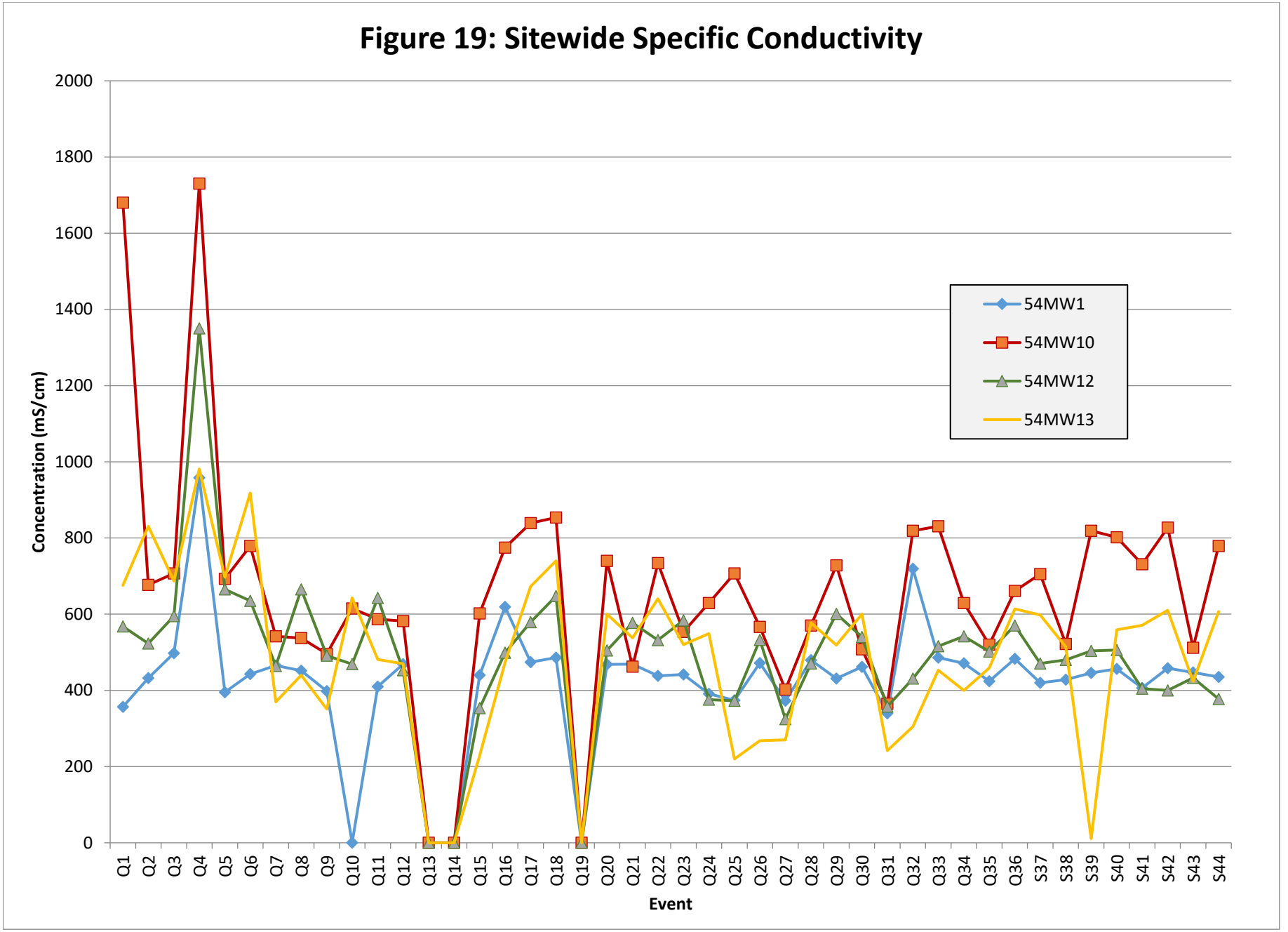


Figure 19: Sitewide Specific Conductivity



Appendices

Appendix A: Field Documentation

Fieldwork Completion Report: SMWU 49 & 54

Environmental Services at Radford Army Ammunition Plant

Radford, Virginia

Contract Number: W912DR19D0004
Task Order Number: W912DR24F0222

Prepared for:

U.S. Army Corps of Engineers, Baltimore District
2 Hopkins Plaza
Baltimore, MD 21201

Prepared by:

Cape Environmental Management Inc
500 Pinnacle Court, Suite 100
Norcross, GA 30071

November 2025

14 November 2025

Ms. Sal Van Wert
Contracting Officer's Representative/Project Manager
USACE Baltimore District
Sallie.L.VanWert@usace.army.mil

Subject: Fieldwork Completion Report at SWMU 49 & 54
Environmental Services at Radford Army Ammunition Plant
Radford, VA

Ms. Van Wert:

Cape Environmental Management Inc (CAPE) has prepared this Field Work Completion Report summary for the United States Army Corps of Engineers (USACE), Baltimore District (CENAB) under Contract Number W912DR19D0004, Task Order W912DR24F0222.

The attached files are the field documents populated during the sampling events conducted in May 2025 and October 2025 at SWMU 49 and SWMU 54. These documents include comprehensive data and observations collected during the field activities. The information captured within these files is crucial for our ongoing analysis and assessment of the sites.

If you have any questions regarding the attached data, please contact Matthew Feits at mfeits@cape-inc.com.

Sincerely,

Matthew Feits

Matthew Feits
Project Manager, CAPE

Daily Field Documentation

19 May 2025

SGS North America Inc - Orlando
Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL. 407-425-6700 FAX: 407-425-0707
www.sgs.com

SGS - ORLANDO JOB # : PAGE 1 OF 1

SGS - ORLANDO Quote # | SKIFF #

Client / Reporting Information

Company Name: CAPE Environmental
Address: 500 Pinnacle Court #100
City: Norcross State: GA Zip: 30071
Project Contact: Matt Feits Email: mfeits@cape-inc.com & chemistrySVCS@cape-inc.com
Phone #: (724) 622-3625
Sampler(s) Name(s) (Printed) Sampler 1: Y. Miyake Sampler 2: P. Taylor

Project Information

Project Name: Radford AAP SWMU 54
Street
City Radford State VA
Project #
Fax #
Client Purchase Order #

Analytical Information

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE 2025	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	CONTAINER INFORMATION: OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NAOH+ZNA	DI WATER	MEOH	LLC6850 Perchlorate	LC8330B XLC3NX	Matrix Codes	LAB USE ONLY
	54MW13	5/19	1010	YM/PT	GW	3		X								1	2		
	54TW13	5/19	1010	YM/PT	GW	3		X								1	2		
	54MW10	5/19	1200	YM/PT	GW	3		X								1	2		
	54MW12	5/19	1338	YM/PT	GW	9		X								3	6		MS/MSD
	54MW1	5/19	1526	YM/PT	GW	3		X								1	2		

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid

Turnaround Time (Business days)

- 10 Day (Business) — Approved By: / Date:
- 7 Day
- 5 Day
- 3 Day *RUSH*
- 2 Day *RUSH*
- 1 Day *RUSH*
- Other

Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- ☐ COMMERCIAL "A" (RESULTS ONLY)
- ☐ COMMERCIAL "B" (RESULTS PLUS QC)
- ☐ REDT1 (EPA LEVEL 3)
- ☐ FULLT1 (EPA LEVEL 4)
- ☐ EDD'S

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
1 YM/PT	5/19/2025 1800	2 Fedex	3		4
5		6	7		8

Lab Use Only : Cooler Temperature (s) Celsius (corrected):

http://www.sgs.com/en/terms-and-conditions

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: CAPE Environmental
Project Contact: Matt Feits
Telephone: (724) 622-3625
Project Name: Radford AAP
Project #: SWMU 54
Location: Radford, VA
Sampled By: Y. Miyakawa, P. Taylor

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: Chemistrysvcs@Cape-inc.com
Company: mfeits@cape-inc.com
Address: CAPE Environmental Mgmt.
500 Pinnacle Ct. #100
Norcross, GA 30071

Invoice To:*
EMAIL:
Company: Same
Address:

**Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions*

Client Special Instructions

IDW Sample

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

2025 Collection Date	Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: pH 9045	COD 410.4	Total Metals 6010C/7470A	Total # Containers	Designated MS/MSD
5/19	1625	GW	G		54IDW	N	1	1	1	3	

Fill in Spaces with Bottles per Test

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

CT Lab ID #
Lab use only

Relinquished By:	Date/Time	Received By:	Date/Time
	5/19/2025 1800	Fedex	5/19/2025 1800
Received by:	Date/Time	Received for Laboratory by:	Date/Time

Lab Use Only
Ice Present Yes No
Temp _____ IR Gun _____
Cooler # _____

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: CAPE Enviromental
Project Contact: Matt Feits
Telephone: (724) 622-3625
Project Name: Radford AAP SWMU 54
Project #:
Location: Radford, VA
Sampled By: Y. Miyakawa, P. Taylor

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To: Chemistry SVCS@cape-inc.com
EMAIL: mfeits@cape-inc.com
Company: CAPE Environmental Mgmt.
Address: 500 Pinnacle Ct. #100
Norcross, GA 30071

Invoice To:* Same
EMAIL:
Company:
Address:

**Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions*

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
(Normal) RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

2025 Collection Date	Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: TOC 9060A	Anions 9056A	TIC 9060A	Chlorate	Chlorite	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test							
5/19	1010	GW	G		54MW13	N	1	1	3	1		6		
5/19	1010	GW	G		54TW13	N	1	1	3	1		6		
5/19	1200	GW	G		54MW10	N	1	1	3	1		6		
5/19	1338	GW	G		54MW12	N	3	3	9	3		18	X	
5/19	1526	GW	G		54MW1	N	1	1	3	1		6		

Relinquished By:	Date/Time	Received By:	Date/Time	Lab Use Only
[signature]	5/19/2025 1800	Fedex	5/19/2025 1800	Ice Present Yes No
Received by:	Date/Time	Received for Laboratory by:	Date/Time	Temp _____ IR Gun _____
				Cooler # _____

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date 5/19/25
Well ID 54MW13	Weather 59° Mostly Sunny
Sampling Team P. Taylor, Y. Miyakawa	Sampler's Signature

WELL INSPECTION

Protective Casing (Intact) Damaged	Well ID Tag Condition no label; sharpied on casing
Locked (YES) / NO	Measuring Point Marked YES (NO)
Concrete Base (Intact) Damaged	Comments
Casing Diameter ½ in., ¾ in., 1 in., 1 ¼ in., (2 in.), 3 in., 4 in., 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC) 25.34	Well Evacuation Method (peristaltic, bladder pump, other)
Depth to Water (ft. BTOC) 19.76	Screen Interval (ft. BGS) 20 - 25
Begin Well Evacuation (Time) 0925	Evacuation Rate (Lpm) 0.25
Stop Evacuation (Time/Reason)	Restart Time
	Headspace (ppm) 0.0

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
0930	~~0.~~ 1.25	19.97	12.2	542.1	2.98	7.26	135.3	2.92
0935	2.5	19.93	12.1	504.2	3.55	7.18	126.6	5.22
0940	3.75	19.93	12.1	498.0	3.65	7.14	121.4	4.52
0945	5.0	19.93	12.1	485.0	3.43	7.12	120.4	4.89
0950	6.25	19.93	12.2	464.6	2.93	7.04	119.8	2.~~8~~39
0955	7.5	19.93	12.2	440.0	3.04	7.00	118.7	0.87
1000	8.75	19.93	12.3	428.5	3.09	6.97	117.1	0.37
1005	10.0	19.93	12.2	422.1	4.08	6.97	115.1	0.01
1010	11.25	19.93	12.1	423.2	3.44	6.97	114.1	0.10

Red font indicates stabilization criteria to be achieved over three consecutive readings.

Final Depth to Water (ft. BTOC) 19.93	Drawdown Observed (ft) 0.17
Odor YES / (NO)	Well Pumped Dry YES / (NO)
End Well Evacuation (Time) 1042	Total Volume Purged (L) 11.25

SAMPLE COLLECTION INFORMATION

Sample ID 54MW13	PARAMETERS (Circle all applicable)
Sample Date & Time 5/19/25 1010	SWMU 49: VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID: 54TW13	SWMU 54: Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L) 0.2	Sample Collection Method: (Low Flow) Other
Ferrous Iron (mg/L) 0.14	Sample Collection Depth (ft. BTOC) 24.84

COMMENTS

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 5/19/25
Well ID: 54MW10	Weather: Partly cloudy, 69°F
Sampling Team: P. Taylor, Y. Miyakawa	Sampler's Signature:

WELL INSPECTION

Protective Casing: (Intact) / Damaged	Well ID Tag Condition: no label; sharpied on casing
Locked: (YES) / NO	Measuring Point Marked: (YES) / NO
Concrete Base: (Intact) / Damaged	Comments: covered w/ vegetation
Casing Diameter: ½ in., ¾ in., 1 in., 1 ½, 2 in., 3 in., (4 in.) 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC): 30.01	Well Evacuation Method: (peristaltic) bladder pump, other):
Depth to Water (ft. BTOC): 14.29	Screen Interval (ft. BGS): 25-30
Begin Well Evacuation (Time): 1125	Evacuation Rate (Lpm): 0.25
Stop Evacuation (Time/Reason):	Restart Time:
	Headspace (ppm): 0.2

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1130	1.25	14.39	13.1	517.5	5.58	7.01	94.9	0.38
1135	2.5	14.41	13.1	515.6	3.73	6.98	88.1	0.28
1140	3.75	14.44	13.2	513.8	3.34	6.97	84.7	0.00
1145	5.0	14.44	13.0	513.1	3.09	6.98	82.5	0.46
1150	6.25	14.44	13.1	513.5	2.90	6.98	80.8	0.00
1155	7.5	14.44	13.2	513.6	2.77	6.98	78.7	0.16
1200	8.75	14.44	13.5	511.7	2.85	6.99	76.0	0.30

Red font indicates stabilization criteria to be achieved over three consecutive readings.

Final Depth to Water (ft. BTOC): 14.44	Drawdown Observed (ft): 0.15
Odor: YES / (NO)	Well Pumped Dry: YES / (NO)
End Well Evacuation (Time): 1215	Total Volume Purged (L): 8.75

SAMPLE COLLECTION INFORMATION

Sample ID: 54MW10	PARAMETERS (Circle all applicable):
Sample Date & Time: 5/19/25 1200	SWMU 49: VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID: —	SWMU 54: Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L): 0.5	Sample Collection Method: (Low Flow) Other:
Ferrous Iron (mg/L): 0.11	Sample Collection Depth (ft. BTOC): 29.51

COMMENTS

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date 5/19/25
Well ID 54MW12	Weather 73° Partly Cloudy
Sampling Team P. Taylor, Y. Miyakawa	Sampler's Signature

WELL INSPECTION

Protective Casing (Intact) Damaged	Well ID Tag Condition no label; sharpied on casing
Locked (YES) / NO	Measuring Point Marked YES (NO)
Concrete Base (Intact) Damaged	Comments
Casing Diameter ½ in, ¾ in, 1 in, 1 ½ (2 in), 3 in, 4 in, 6 in, 8 in	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft BTOC) 32.92	Well Evacuation Method (peristaltic) bladder pump, other)
Depth to Water (ft. BTOC) 23.34	Screen Interval (ft. BGS) 25-30
Begin Well Evacuation (Time) 1248	Evacuation Rate (Lpm) 0.3
Stop Evacuation (Time/Reason)	Restart Time
	Headspace (ppm) 0.0

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1253	1.5	23.37	13.3	610.8	1.96	7.18	75.1	2.20
1258	3.0	23.37	13.2	438.3	3.86	6.94	77.4	5.47
1303	4.5	23.37	13.3	432.9	4.87	7.00	76.7	2.07
1308	6.0	23.37	13.2	433.0	5.05	6.94	53.4	1.73
1313	7.5	23.37	13.5	433.2	5.49	6.95	45.9	1.16
1318	9.0	23.37	13.3	431.4	6.15	6.98	39.9	0.34
1323	10.5	23.37	13.3	434.0	6.12	6.99	33.0	0.00
1328	12.0	23.37	13.5	433.3	6.13	6.95	63.3	0.38
1333	13.5	23.37	13.9	434.5	6.09	6.91	69.0	0.28
1338	15.0	23.37	13.8	433.1	6.11	6.88	70.6	0.65

Red font indicates stabilization criteria to be achieved over three consecutive readings

Final Depth to Water (ft BTOC) 23.37	Drawdown Observed (ft) 0.03
Odor YES (NO)	Well Pumped Dry YES (NO)
End Well Evacuation (Time) ≈ 1433	Total Volume Purged (L) 15.0

SAMPLE COLLECTION INFORMATION

Sample ID 54MW12	PARAMETERS (Circle all applicable)
Sample Date & Time 5/19/25 1338	SWMU 49 VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID —	(SWMU 54) Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC TOC, Ferrous Fe, & Mn
Manganese (mg/L) 0.9	Sample Collection Method (Low Flow) Other
Ferrous Iron (mg/L) 0.12	Sample Collection Depth (ft BTOC) 32.42

COMMENTS

MS/MSDs taken here

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 5/19/25
Well ID: 54MW1	Weather: Mostly Sunny, 75°F
Sampling Team: D. Taylor, Y. Miyakawa	Sampler's Signature:

WELL INSPECTION

Protective Casing: (Intact)/Damaged	Well ID Tag Condition: no label; sharpied on bottom of lid
Locked: (YES) / NO	Measuring Point Marked: YES / (NO)
Concrete Base: (Intact)/Damaged	Comments:
Casing Diameter: ½ in., ¾ in., 1 in., 1 ½ (2 in.) 3 in., 4 in., 6 in., 8 in	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC): 57.40	Well Evacuation Method: (peristaltic) bladder pump, other):
Depth to Water (ft. BTOC): 18.88	Screen Interval (ft. BGS): 50-55
Begin Well Evacuation (Time): 1506	Evacuation Rate (Lpm): 0.25
Stop Evacuation (Time/Reason):	Restart Time:
	Headspace (ppm): 0.0

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1511	1.25	19.47	14.1	447.1	0.57	7.55	57.4	0.71
1516	2.5	19.86	14.2	446.3	0.42	7.54	61.0	0.29
1521	3.75	20.20	14.2	447.3	0.35	7.52	62.4	0.52
1526	5.0	20.54	13.9	447.3	0.53	7.47	55.7	0.01

Red font indicates stabilization criteria to be achieved over three consecutive readings

Final Depth to Water (ft. BTOC): 20.54	Drawdown Observed (ft): 1.66
Odor: (YES) NO Slight Sulfur Smell	Well Pumped Dry: YES (NO)
End Well Evacuation (Time): 1546	Total Volume Purged (L): 5.0

SAMPLE COLLECTION INFORMATION

Sample ID: 54MW1	PARAMETERS (Circle all applicable)
Sample Date & Time: 5/19/25 1526	SWMU 49: VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID: —	SWMU 54: Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L): 0.3	Sample Collection Method: (Low Flow) Other:
Ferrous Iron (mg/L): 0.12	Sample Collection Depth (ft. BTOC): 56.90

COMMENTS

Synoptic Water Level Measurements

Radford Army Ammunition Plant SWMUs 49 & 54

Radford AAP, Virginia

Cont

Well Identification	Date	Time	Headspace Reading (ppm)	Depth to Water (ft BTOC)	Total Well Depth (ft BTOC)	Notes/Field Observations
SWMU 49						
13MW2						
13MW3						
13MW4						
13MW5						
49MW04						
49MW05						
48MW1						
48MW2						
48MW3						
8MW6						
48MW7						
49MW01						
49MW02						
49MW03						
50MW2						
SWMU 54						
54MW1	5/19/25	1503	0.0	18.88	57.40	hard bottom
54MW10	5/19/25	1116	0.2	14.29	30.01	hard bottom
54MW12	5/19/25	1237	0.0	23.34	32.92	hard bottom
54MW13	5/19/25	0842	0.0	19.76	25.34	hard bottom

Key: ppm = parts per million ft = feet TOC = top of casing BTOC = below top of casing

320-10 FIELD INSPECTION REPORT

Contract Number:	W912DR19D0004	**Task Order No:**	W912DR24F0222	
CAPE Project No.:	10409-0222	**Date:**	19-May-25	
Project Location:	Radford Army Ammunition Plant, Radford, VA			
DFW:	SWMU 49 & SWMU 54 LTM Sampling	**Spec Sect.**		
Inspection Performed by:	Yoko Miyakawa			

1. DESCRIPTION OF WORK INSPECTED:

SWMU-54: Gauged and sampled wells 54MW13 (including field duplicate "54TW13"), 54MW10, 54MW12 (including MS/MSD), and 54MW1.
Dumped approximately 11 gallons of IDW water into SWMU-54 designated, labeled, 55-gal drum at ACD/BAE storage facility.
Sample "54IDW" taken for waste characterization analysis at 1625.

2. TYPE OF INSPECTION:

☑ Visual ☐ Dimensional
☐ Non-Destructive Examination (NDE) ☐ Other _____

☐ In Progress ☐ Final

3. REFERENCED DRAWINGS / STANDARDS:

See below aerial view

4. FINDINGS:

Wells inspected/sampled today did not have an ID on the exterior (54MW13, 54MW10, 54MW12, 54MW1).
Well 54MW10 concrete pad is covered in vegetation.

5. SKETCH, IF APPLICABLE:



Inspector: _____

Quality Control Representative: _____

CAPE

320-16 WASTE INVENTORY SUMMARY

Contract Number	W912DR19D0004	DO/TO No:	W912DR24F0222	CAPE Project #	10409-0222-002-003	Project Location	RAAP, Radford, VA

Process Generating Waste	Groundwater produced through purging and sampling the monitoring wells. IDW water from SWMU 48/49 is captured and maintained separately from SWMU 54 IDW water throughout the handling process.

Load Number	Date	Description	Quantity (TNS or GAL)	Waste Classification	Receiving Disposal Facility	Method of Disposal	Date of Disposal or Destruction
1	8/19/24	IDW waste from SWMU 49	7 gal	Pending Analysis	—		
2	8/20/24	IDW + decon water from SWMU 54	8 gal	Pending Analysis	—		
3	8/21/24	IDW + decon water from SWMU 49	4 gal	Pending Analysis	—		
4	8/22/24	IDW + decon water from SWMU 49	6 gal	Pending Analysis	—		
5							
6	12/9/24	IDW from SWMU 49	15 gal	Pending Analysis	—		
7	12/10/24	IDW + decon water SWMU 54	10 gal	Pending Analysis	—		
8	12/11/24	IDW + decon water SWMU 49	5 gal	Pending Analysis	—		
9	12/12/24	IDW + decon water SWMU 49	6 gal	Pending Analysis	—		
10	12/13/24	IDW + decon water SWMU 49	4 gal	Pending Analysis	—		
11							
12	IDW drum	SWMU 49 has ~455 gallons total			(as of 12/13/24)		
13	IDW drum	SWMU 54 has ~20 gallons total			(as of 12/13/24)		
14							
15	5/19/25	IDW + decon water SWMU 54	11 gal	Pending Analysis	—		
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							

TOTAL QUANTITY:

0.00

CAPE

SITE CONTROL LOG

Date / Day: Monday, May 19, 2025
Project Name/Number: RADFORD ARMY AMMUNITION PLANT-SWMU 49 & SWMU 54 SAMPLING / CONTRACT W912DR19D0004, TASK ORDER W912DR24F0222
Project Location: RADFORD ARMY AMMUNITION PLANT, RADFORD, VA

Time		Name (Print)	Signature	DO YOU HAVE AN INJURY TO REPORT? Y/N	Organization
In	Out				
0700	1640	Yoko Miyakawa		N	CAPE
0700	1640	Paul I. Taylor		N	Weston

CAPE[SM] TAILGATE SAFETY MEETING RECORD

DATE/TIME:	Monday, May 19, 2025
PROJECT NAME:	Radford Army Ammunition Plant-SWMU 49 & SWMU 54 Sampling
PROJECT LOCATION:	Radford Army Ammunition Plant, Radford, VA
CAPE PROJECT NUMBER:	CO: W912DR19D0004, TO: W912DR24F0222
PROJECT MANAGER:	Matthew Feits
SITE SUPERINTENDENT:	
SITE HEALTH & SAFETY:	Yoko Miyakawa

SAFETY TOPICS PRESENTED	
biological hazards.	
Protective Clothing/Equipment:	
Modified Level D PPE	Gloves as required
High visibility vests/outerwear as required	
Safety Toe Boots and Safety Glasses required	
Chemical Hazards:	
Potential for contact with the ground water and preservatives	
Physical Hazards:	
Slip, trip, and falls	Inclement weather
Heat stress	Drum handling
Biological hazards	
Emergency Procedures:	
Provide first aid to your level of training. Contact 911 for Emergency if required. Notify your supervisor and the SSHO.	
Emergency Hospital:	Carilion New River Valley Medical Center, 2900 Lamb Cir, Christiansburg, VA 24073
Hospital Telephone Number:	(540) 731-2000
Hospital Direction:	Map in APP
Special Equipment:	
By signing this form, I confirm that I have not been previously injured on this job without informing my supervisor, and that I will immediately report all incidents/injuries to my supervisors in the future.	

SAFETY MEETING ATTENDEES

#	Printed Name	Initial	#	Printed Name	Initial
1.	Yoko Miyakawa	YM	16.		
2.	Paul J. Taylor		17.		
3.			18.		
4.			19.		
5.			20.		
6.			21.		
7.			22.		
8.			23.		
9.			24.		
10.			25.		
11.			26.		
12.			27.		
13.			28.		
14.			29.		
15.			30.		

Meeting Conducted By:

Signature _____

FedEx

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May 19, 2025 5:52:29 PM

Radford Army Ammunition Plant 5/19/25
Radford, Virginia

Personnel: Y. Miyakawa (CAPE), P. Taylor (Weston)

Weather: Cloudy, 53°F

Objective: Groundwater Sampling @ SWMU 49+54

0700 P. Taylor + Y. Miyakawa onsite to check-in + get visitor pass; issues w/ vehicle pass.

0750 Met w/ Matt Alberts @ burning grounds to sign permits; M. Alberts to retrieve eq. tote.

0808 arrive to SWMU 54, getting setup at 54MW13

Calibrating equipment

Turbidity meter #WSH10115

1000 NTU → 994.1

10.0 NTU → 9.88

0.02 NTU → ~~1.86~~ 0.01

YSI pro plus #RFW23869

SpC 1413 µS/cm → 1413

pH 4 → 3.97

pH 7 → 6.99

pH 10 → 10.04

ORP 240 mV → 240.1

MiniRae # RFW23813

Isobutylene 100ppm → 100.3ppm

zero gas → 0.0 ppm

Rite in the Rain

5/19/25

0910 M. Alberts arrived to bring us equipment tote + key to access next well in SWMU 54 (54MW10)

0925 Started taking water quality readings at # 54MW13

1010 Sampled 54MW13 + FD taken (54TW13) - see sample form

1110 heading to 54MW10 + starting setup

1200 Sampled 54MW10 - see sample form

1226 heading to 54MW12

1245 setup at 54MW12

1338 Sample 54MW12 taken with MS/MSDS - see sample form

1451 setting up at 54MW1

1526 Sample 54MW1 taken - see sample form

1607 Heading to BAE laydown/storage yard to drop off IDW purge water

1621 dumping ~10 gal IDW purge/decon water into labeled, 55gal drum

1625 IDW sample taken (54IDW)

1640 P. Taylor + Y. Miyakawa offsite

Samples will be shipped to SGS in Orlando, FL and CT Labs in Baraboo, WI

5/19/25

20 May 2025

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: Cape Environmental
Project Contact: Matt Feits
Telephone: (724) 622-3625
Project Name: Radford AAP
Project #: SWMU 48/49
Location: Radford, VA
Sampled By: Y. Miyakawa, P. Taylor

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: Chemistry SVCS@cape-inc.com
Company: mfeits@cape-inc.com
Address: CAPE Environmental Mgt.
500 Pinnacle Court #100
Norcross, GA 30071

Invoice To:*
EMAIL:
Company: Same
Address:

**Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions*

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

2025 Collection Date	Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: VOC 8260C	MEE RSK-175	TOC 9060A	Anions 9056A	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test						
5/20	0000	GW	G		TB-1	N	2				2		
5/20	0931	GW	G		49MW01	N	3	2	1	1	7		
5/20	1008	GW	G		49MW01-EQB	N	3	2	1	1	7		
5/20	1146	GW	G		48MW6	N	3	2	1	1	7		
5/20	1146	GW	G		48TW6	N	3	2	1	1	7		
5/20	1333	GW	G		13MW4	N	9	6	3	3	21	X	
5/20	1450	GW	G		13MW3	N	3	2	1	1	7		

Trip Blank

Relinquished By:	Date/Time	Received By:	Date/Time
	5/20/2025 1800	FedEx	5/20/2025 1800
Received by:	Date/Time	Received for Laboratory by:	Date/Time

Lab Use Only
Ice Present Yes No
Temp _____ IR Gun _____
Cooler # _____

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date 5/20/25
Well ID 49MW01	Weather 55°F, Mostly Sunny
Sampling Team P. Taylor, Y. Miyakawa	Sampler's Signature

WELL INSPECTION

Protective Casing (Intact) / Damaged	Well ID Tag Condition no label on exterior; label on cap
Locked (YES) / NO	Measuring Point Marked (YES) / NO
Concrete Base (Intact) / Damaged	Comments
Casing Diameter ½ in., ¾ in., 1 in., 1 ¼, (2 in.), 3 in., 4 in., 6 in., 8 in	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft BTOC) 125.14	Well Evacuation Method (peristaltic, (bladder pump), other)
Depth to Water (ft BTOC) 115.95	Screen Interval (ft BGS) 120 – 125
Begin Well Evacuation (Time) 0911	Evacuation Rate (Lpm) 0.08
Stop Evacuation (Time/Reason)	Restart Time
	Headspace (ppm) 0.3

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
0916	0.4	116.03	12.4	419.3	6.39	7.80	107.9	> 1100
0921	0.8	116.10	12.4	412.9	6.28	7.90	101.4	> 1100
0926	1.2	116.10	12.3	413.0	6.37	7.92	98.4	> 1100
0931	1.6	116.13	12.3	415.1	6.44	7.93	95.6	> 1100

Red font indicates stabilization criteria to be achieved over three consecutive readings

Final Depth to Water (ft BTOC) 116.13	Drawdown Observed (ft) 0.18
Odor (YES) NO mild sweet smell	Well Pumped Dry YES / (NO)
End Well Evacuation (Time) 0945	Total Volume Purged (L) 1.6

SAMPLE COLLECTION INFORMATION

Sample ID 49MW01	PARAMETERS (Circle all applicable)
Sample Date & Time 5/20/25 0931	(SWMU 49) VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID —	SWMU 54 Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L) 5.6	Sample Collection Method (Low Flow) Other
Ferrous Iron (mg/L) 0.81	Sample Collection Depth (ft BTOC) 123.14

COMMENTS

49MW01 – EQB taken at 1008

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date 5/20/25
Well ID 48MW6	Weather Partly Cloudy 61° F
Sampling Team P. Taylor, Y. Miyakawa	Sampler's Signature

WELL INSPECTION

Protective Casing (Intact) / Damaged	Well ID Tag Condition No ID on exterior; label on cap
Locked (YES) / NO	Measuring Point Marked (YES) / NO
Concrete Base (Intact) / Damaged	Comments
Casing Diameter ⅓ in, ¾ in, 1 in, 1 ½ in, (2 in), 3 in, 4 in, 6 in, 8 in	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft BTOC) 80.42	Well Evacuation Method (peristaltic, (bladder pump) other)
Depth to Water (ft BTOC) 66.63	Screen Interval (ft BGS) 75-80
Begin Well Evacuation (Time) 1046	Evacuation Rate (Lpm) 0.1
Stop Evacuation (Time/Reason)	Restart Time
	Headspace (ppm) 0.0

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1051	0.5	66.74	14.9	628	4.63	7.38	67.4	1039
1056	1.0	66.80	14.8	618.9	3.76	7.39	64.5	679.6
1101	1.5	66.82	14.6	622.4	3.53	7.38	61.4	369.8
1106	2.0	66.82	14.7	672	3.44	7.34	57.8	181.4
1111	2.5	66.80	14.4	725	3.48	7.31	52.5	107.4
1116	3.0	66.82	14.4	770	3.35	7.30	46.7	109.4
1121	3.5	66.82	14.7	770	3.10	7.30	40.3	78.93
1126	4.0	66.82	14.9	787	3.12	7.30	35.2	69.50
1131	4.5	66.82	15.0	790	2.88	7.31	31.7	61.77
1136	5.0	66.82	14.5	790	2.73	7.31	30.3	49.16
1141	5.5	66.82	14.7	816	2.61	7.29	29.7	50.93
1146	6.0	66.82	14.7	827	2.56	7.30	30.6	39.28

Red font indicates stabilization criteria to be achieved over three consecutive readings

Final Depth to Water (ft BTOC) 66.82	Drawdown Observed (ft) 0.19
Odor YES / (NO)	Well Pumped Dry YES (NO)
End Well Evacuation (Time) 1206	Total Volume Purged (L) 6.0

SAMPLE COLLECTION INFORMATION

Sample ID 48MW6	PARAMETERS (Circle all applicable)
Sample Date & Time 5/20/25 1146	(SWMU 49) VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID 48TW6	SWMU 54 Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L) 0.7	Sample Collection Method (Low Flow) Other
Ferrous Iron (mg/L) 0.11	Sample Collection Depth (ft BTOC) 78.42

COMMENTS

Specific Conductivity + Turbidity not Stabilizing — taking Sample

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date 5/20/25
Well ID 13MW4	Weather Mostly Cloudy, 71°F
Sampling Team Y. Miyazawa, P. Taylor	Sampler's Signature

WELL INSPECTION

Protective Casing (Intact) Damaged	Well ID Tag Condition good, on lid + posted
Locked (YES) NO	Measuring Point Marked (YES) / NO
Concrete Base (Intact) Damaged	Comments
Casing Diameter ½ in, ¾ in, 1 in, 1 ½, 2 in, 3 in (4 in) 6 in, 8 in	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft BTOC) 25.35	Well Evacuation Method (peristaltic) bladder pump other)
Depth to Water (ft BTOC) 15.80	Screen Interval (ft BGS) 20-25
Begin Well Evacuation (Time) 1313	Evacuation Rate (Lpm) 0.25
Stop Evacuation (Time/Reason)	Restart Time
	Headspace (ppm) 0.0

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1318	1.25	15.82	14.9	377.0	4.82	7.26	88.9	2.41
1323	2.5	15.83	15.0	377.9	4.40	7.23	86.0	0.74
1328	3.75	15.83	15.0	377.7	4.17	7.22	84.8	1.45
1333	5.0	15.83	14.8	377.6	4.02	7.23	82.6	1.39

Red font indicates stabilization criteria to be achieved over three consecutive readings

Final Depth to Water (ft BTOC) 15.83	Drawdown Observed (ft) 0.03
Odor YES (NO)	Well Pumped Dry YES / (NO)
End Well Evacuation (Time) 1359	Total Volume Purged (L) 5.0

SAMPLE COLLECTION INFORMATION

Sample ID 13MW4	PARAMETERS (Circle all applicable)
Sample Date & Time 5/20/24 1333	(SWMU 49) VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID —	SWMU 54 Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L) 0.6	Sample Collection Method (Low Flow) Other
Ferrous Iron (mg/L) 0.13	Sample Collection Depth (ft BTOC) 24.85

COMMENTS

MS/MSDs collected here

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date 5/20/25
Well ID 13MW3	Weather Partly cloudy 74°F
Sampling Team P. Taylor, Y. Miyakawa	Sampler's Signature

WELL INSPECTION

Protective Casing (Intact)/Damaged	Well ID Tag Condition Good
Locked (YES) / NO	Measuring Point Marked (YES) / NO
Concrete Base (Intact)/Damaged	Comments
Casing Diameter ½ in, ¾ in, 1 in, 1 ½, 2 in, 3 in, (4 in), 6 in, 8 in	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft BTOC) 16.10	Well Evacuation Method (peristaltic, bladder pump, other)
Depth to Water (ft BTOC) 14.57	Screen Interval (ft BGS) 15-20
Begin Well Evacuation (Time) 1425	Evacuation Rate (Lpm) 0.25
Stop Evacuation (Time/Reason)	Restart Time
	Headspace (ppm) 0.1

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1430	1.25	14.58	13.8	562.3	4.66	7.28	84.3	21.23
1435	2.5	14.60	14.1	562.2	3.93	7.25	81.1	13.79
1440	3.75	14.60	14.1	558.3	3.68	7.23	80.6	9.40
1445	5.0	14.60	14.0	557.5	3.54	7.23	78.8	6.51
1450	6.25	14.60	14.0	556.2	3.53	7.25	75.6	1.95

Red font indicates stabilization criteria to be achieved over three consecutive readings

Final Depth to Water (ft BTOC) 14.60	Drawdown Observed (ft) 0.03
Odor YES (NO)	Well Pumped Dry YES (NO)
End Well Evacuation (Time) 1505	Total Volume Purged (L) 6.25

SAMPLE COLLECTION INFORMATION

Sample ID 13MW3	PARAMETERS (Circle all applicable)
Sample Date & Time 5/20/25 1450	(SWMU 49) VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID —	SWMU 54 Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L) 0.7	Sample Collection Method (Low Flow) Other
Ferrous Iron (mg/L) 0.13	Sample Collection Depth (ft BTOC) 15.60

COMMENTS

roots came up with tubing

Synoptic Water Level Measurements

Radford Army Ammunition Plant SWMUs 49 & 54

Radford AAP, Virginia

Well Identification	Date	Time	Headspace Reading (ppm)	Depth to Water (ft BTOC)	Total Well Depth (ft BTOC)	Notes/Field Observations
SWMU 49						
13MW2	5/20/25	1526	0.0	20.12		
13MW3	5/20/25	1408	0.1	14.57	16.10	roots/vegetation inside well, came up w/ tubing. Soft bottom
13MW4	5/20/25	1300	0.0	15.80	25.35	hard bottom
13MW5	5/20/25	1250	0.0	15.54	25.40	soft bottom
49MW04	5/20/25	1522	0.3	20.27		
49MW05	5/20/25	1531	0.0	18.99	39.50	soft bottom
48MW1	5/20/25	1030	0.0	66.63	80.42	Soft bottom
48MW2						
48MW3	-					
3MW6	5/~~20~~/25					
48MW7	5/20/25	0813	0.0	49.07	83.60	soft bottom
49MW01	5/20/25	0835	0.3	115.95	125.14	Soft bottom
49MW02						
49MW03	5/20/25	0824	0.0	105.26	119.73	soft bottom
50MW2	5/~~20~~/25					
SWMU 54						
54MW1	5/19/25	1503	0.0	18.88	57.40	hard bottom
54MW10	5/19/25	1116	0.2	14.29	30.01	hard bottom
54MW12	5/19/25	1237	0.0	23.34	32.92	hard bottom
54MW13	5/19/25	0842	0.0	19.76	25.34	hard bottom

Key: ppm = parts per million ft = feet TOC = top of casing BTOC = below top of casing

320-10 FIELD INSPECTION REPORT

Contract Number:	W912DR19D0004	**Task Order No:**	W912DR24F0222	
CAPE Project No.:	10409-0222	**Date:**	20-May-25	
Project Location:	Radford Army Ammunition Plant, Radford, VA			
DFW:	SWMU 49 & SWMU 54 LTM Sampling	**Spec Sect.**		
Inspection Performed by:	Yoko Miyakawa			

1. DESCRIPTION OF WORK INSPECTED:

SWMU-49: Gauged wells 49MW03, 48MW7, 13MW5, 49MW04, 13MW2, and 49MW05. Gauged and sampled wells 49MW01, 48MW6 (including field duplicate "48TW6"), 13MW4 (including MS/MSDs), and 13MW3. Equipment blank taken at well 49MW01 at 1008 on deconned bladder pump; sample "49MW01-EQB." Dumped approximately 9 gallons of IDW water into SWMU-49 designated, labeled, 55-gal drum at ACD/BAE storage facility.

2. TYPE OF INSPECTION:

☑ Visual ☐ Dimensional

☐ Non-Destructive Examination (NDE) ☐ Other _____

☐ In Progress ☐ Final

3. REFERENCED DRAWINGS / STANDARDS:

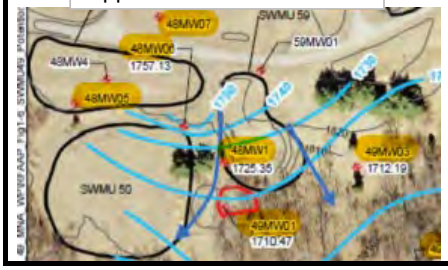
See below aerial view

4. FINDINGS:

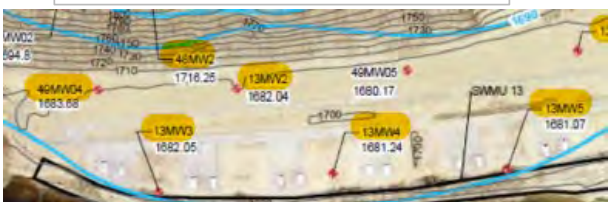
Spectrophotometer was not powering on, but was operational after replacing the batteries.
Wells 49MW01 and 48MW6 were not labeled on the exterior, but were labeled on the cap.
Burning grounds wells accessible to sample in the afternoons after incineration.
Roots/vegetation were observed inside well 13MW3 and came up with the tubing.

5. SKETCH, IF APPLICABLE:

Upper SWMU 49



Lower SWMU 49; Burning Grounds



Inspector: _____

Quality Control Representative: _____

CAPE

320-16 WASTE INVENTORY SUMMARY

Contract Number	W912DR19D0004	DO/TO No:	W912DR24F0222	CAPE Project #	10409-0222-002-003	Project Location	RAAP, Radford VA

Process Generating Waste	Groundwater produced through purging and sampling the monitoring wells. IDW water from SWMU 48/49 is captured and maintained separately from SWMU 54 IDW water throughout the handling process.

Load Number	Date	Description	Quantity (TNS or GAL)	Waste Classification	Receiving Disposal Facility	Method of Disposal	Date of Disposal or Destruction
1	8/19/24	IDW waste from SWMU 49	7 gal	Pending Analysis	—		
2	8/20/24	IDW + decon water from SWMU 54	8 gal	Pending Analysis	—		
3	8/21/24	IDW + decon water from SWMU 49	4 gal	Pending Analysis	—		
4	8/22/24	IDW + decon water from SWMU 49	6 gal	Pending Analysis	—		
5							
6	12/9/24	IDW from SWMU 49	15 gal	Pending Analysis	—		
7	12/10/24	IDW + decon water SWMU 54	10 gal	Pending Analysis	—		
8	12/11/24	IDW + decon water SWMU 49	5 gal	Pending Analysis	—		
9	12/12/24	IDW + decon water SWMU 49	6 gal	Pending Analysis	—		
10	12/13/24	IDW + decon water SWMU 49	4 gal	Pending Analysis	—		
11							
12	IDW drum	~~SWMU 49~~ has ~45 gallons total			(as of 12/13/24)		
13	IDW drum	SWMU 54 has ~20 gallons total			(as of 12/13/24)		
14							
15	5/19/25	IDW + decon water SWMU 54	11 gal	Pending Analysis	—		
16	5/20/25	IDW + decon water SWMU 49	9 gal	Pending Analysis	—		
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							

CAPE

SITE CONTROL LOG

Date / Day: Tuesday, May 20, 2025
Project Name/Number: RADFORD ARMY AMMUNITION PLANT-SWMU 49 & SWMU 54 SAMPLING / CONTRACT W912DR19D0004, TASK ORDER W912DR24F0222
Project Location: RADFORD ARMY AMMUNITION PLANT, RADFORD, VA

Time		Name (Print)	Signature	DO YOU HAVE AN INJURY TO REPORT? Y/N	Organization
In	Out				
0710	1615	Yoko Miyakawa		N	CAPE
0710	1615	Paul I. Taylor		N	Weston

TAILGATE SAFETY MEETING RECORD

DATE/TIME:	Tuesday, May 20, 2025
PROJECT NAME:	Radford Army Ammunition Plant-SWMU 49 & SWMU 54 Sampling
PROJECT LOCATION:	Radford Army Ammunition Plant, Radford, VA
CAPE PROJECT NUMBER:	CO: W912DR19D0004, TO: W912DR24F0222
PROJECT MANAGER:	Matthew Feits
SITE SUPERINTENDENT:	
SITE HEALTH & SAFETY:	Yoko Miyakawa

SAFETY TOPICS PRESENTED	
Heat Stress - dehydration, ~~fatigue~~, cramping, etc.	
Protective Clothing/Equipment:	
Modified Level D PPE	Gloves as required
High visibility vests/outerwear as required	
Safety Toe Boots and Safety Glasses required	
Chemical Hazards:	
Potential for contact with the ground water and preservatives	
Physical Hazards:	
Slip, trip, and falls	Inclement weather
Heat stress	Drum handling
Biological hazards	
Emergency Procedures:	
Provide first aid to your level of training. Contact 911 for Emergency if required. Notify your supervisor and the SSHO.	
Emergency Hospital:	Carilion New River Valley Medical Center, 2900 Lamb Cir, Christiansburg, VA 24073
Hospital Telephone Number:	(540) 731-2000
Hospital Direction:	Map in APP
Special Equipment:	
By signing this form, I confirm that I have not been previously injured on this job without informing my supervisor, and that I will immediately report all incidents/injuries to my supervisors in the future.	

SAFETY MEETING ATTENDEES

#	Printed Name	Initial	#	Printed Name	Initial
1.	Yoko Miyakawa	YM	16.		
2.	Paul E Taylor	PET	17.		
3.			18.		
4.			19.		
5.			20.		
6.			21.		
7.			22.		
8.			23.		
9.			24.		
10.			25.		
11.			26.		
12.			27.		
13.			28.		
14.			29.		
15.			30.		

Meeting Conducted By:

Signature _____



Address: 305 ROANOKE STREET
CHRISTIANSBURG
VA 24073

Location: WALA
Device ID: -BTC01

FedEx Express Package(s) - Dropped Off

Tracking Number:
881316285501 50.00 lb (M)

Total Pieces: 1

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May 20, 2025 5:08:51 PM

Radford Army Ammunition Plant 5/20/25 81
Radford, Virginia

Personnel: Y. Miyakawa (CAPE), P. Taylor (Weston)

Weather: Mostly Cloudy, 52°F

Objective: GW sampling at SWMU 49

0710 P. Taylor + Y. Miyakawa onsite checking in at gaurd stands

0728 Heading to trash collection site - was not open yet, need to return later

0736 arrived to upper SWMU 49 area to calibrate + have safety meeting.

Micro Turbidity Meter
- 1000 NTU → 994.4
- 10.6 NTU → 12.86
- 0.02 NTU → 1.09 0.00

YSI pro plus
- Sp C 1413 → 1414
- pH 4 → 3.98
- pH 7 → 6.97
- pH 10 → 10.04
- ORP 240mV → 239.9

MiniRae
100 ppm Isobutylene → 99.4

0813 gauged 48MW7
0824 gauged 49MW03
0835 getting setup + gauged at 49MW01 bladder pump set in well + pump set at 1 cycle per minute
0931 sample taken 49MW01 - see sheet
1008 49MW01 - EQB - equipment blank taken on deconned bladder pump
1030 setup + gauged at well 48MW1
1146 sample taken 48MW6 + field dupe 48TW6 - see sample sheet
1228 coordinated w/ operator at burning grounds - will sample burning ground wells in the afternoon today + tomorrow
1231 Heading to trash location
1239 Dropped off trash
Hrs are 8am - 3pm
Heading back to burning grounds
1249 Arrived to burning grounds.
Setting up to gauge P3MW5
1300 Setting up to gauge/sample 13MW4 dedicated pump pulled for sampling.
1333 Sample taken 13MW4 - see sample sheet
1408 setting up to gauge/sample 13MW3 dedicated pump pulled for sampling

1450 Sample taken 13MW3 - see sample sheet
1520 Heading to gauge 49MW04
1522 Gauged 49MW04; TD will be taken after sampling tomorrow (5/21/25)
1526 Gauged 13MW2; TD will be taken after sampling tomorrow (5/21/25)
1531 Gauged 49MW05
1545 Leaving burning grounds area to AGS/BAE storage to dump IDW water
1606 dumping 9 gal IDW in SWMU49 designated, labeled drum
Touched up drum labels.
Drum SWMU49 is full.
1615 P. Taylor + Y. Miyakawa offsite

Samples will be shipped to CT labs in Baraboo, WI.

5/20/25

21 May 2025

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: Cape Environmental
Project Contact: Matt Feits
Telephone: (724) 622-3625
Project Name: Radford AAP SWMU 48/49
Project #:
Location: Radford, VA
Sampled By: Y. Miyakawa, P. Taylor

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To: chemistrySVCS@cape-inc.com
EMAIL: mfeits@cape-inc.com
Company: Cape Environmental Mgt.
Address: 500 Pinnacle Court #100 Norcross, GA 30071

Invoice To:* Same
EMAIL:
Company:
Address:

**Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions*

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: VOC 8260C	MEE RSK-175	TOC 9060A	Anions 9056A	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test						
5/21	0000	GW	G		TB-2	N	2				2		
5/21	0931	GW	G		48MW1	N	3	2	1	1	7		
5/21	1001	GW	G		48MW1-EQB	N	3	2	1	1	7		
5/21	1135	GW	G		50MW2	N	3	2	1	1	7		
5/21	1251	GW	G		49MW04	N	3	2	1	1	7		
5/21	1251	GW	G		49TW04	N	3	2	1	1	7		
5/21	1359	GW	G		13MW2	N	3	2	1	1	7		

Trip Blank

Relinquished By:	Date/Time 5/21/2025 1600	Received By: FedEx	Date/Time 5/21/2025 1600
Received by:	Date/Time	Received for Laboratory by:	Date/Time

Lab Use Only
Ice Present Yes No
Temp _____ IR Gun _____
Cooler # _____

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date 5/21/25
Well ID 48MW1	Weather 62°F, Cloudy.
Sampling Team P. Taylor, Y. Miyakawa	Sampler's Signature

WELL INSPECTION

Protective Casing (Intact)/Damaged	Well ID Tag Condition no label on exterior, labeled on cap
Locked YES / NO	Measuring Point Marked (YES) / NO
Concrete Base (Intact)/Damaged	Comments
Casing Diameter ½ in, ¾ in, 1 in, 1 ½, 2 in, 3 in, (4 in), 6 in, 8 in	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft BTOC) 147.32	Well Evacuation Method (peristaltic, (bladder pump), other)
Depth to Water (ft BTOC) 106.81	Screen Interval (ft BGS) 135 - 145
Begin Well Evacuation (Time) 0831	Evacuation Rate (Lpm) ~~0.05~~ 0.05
Stop Evacuation (Time/Reason)	Restart Time
	Headspace (ppm) 0.1

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
0836	0.25	106.94	13.3	581.9	3.97	7.52	111.4	90.29
0841	0.5	106.96	13.1	609.4	3.44	7.51	105.0	76.53
0846	0.75	107.14	13.0	610.6	3.03	7.51	100.5	55.64
0851	1.0	107.19	13.0	610.5	2.94	7.51	97.7	46.57
0856	1.25	107.25	13.0	611.1	2.90	7.51	94.8	35.08
0901	1.5	107.31	12.8	612.2	2.82	7.51	93.1	21.08
0906	1.75	107.40	12.8	612.3	2.82	7.51	91.5	15.79
0911	2.0	107.~~84~~48	12.8	614.4	2.72	7.51	89.5	13.43
0916	2.25	107.55	12.8	614.8	2.74	7.53	87.6	11.16
0921	2.5	107.60	12.9	613.4	2.66	7.53	86.7	10.05
0926	2.75	107.64	13.0	613.2	2.70	7.53	85.8	9.32
0931	3.0	107.67	12.9	613.6	2.65	7.54	84.6	7.43

Red font indicates stabilization criteria to be achieved over three consecutive readings

Final Depth to Water (ft BTOC) 107.67	Drawdown Observed (ft) 0.86
Odor YES (NO)	Well Pumped Dry YES (NO)
End Well Evacuation (Time) 0945	Total Volume Purged (L) 3.0

SAMPLE COLLECTION INFORMATION

Sample ID 48MW1	PARAMETERS (Circle all applicable)
Sample Date & Time 5/21/25 0931	(SWMU 49) VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID —	SWMU 54 Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L) 0.8	Sample Collection Method (Low Flow) Other
Ferrous Iron (mg/L) 0.14	Sample Collection Depth (ft BTOC) 145.32

COMMENTS

Turbidity not stabilized — taking sample.
Taking equipment blank here: 48MW1-EQB @ 1001

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 5/21/25
Well ID: 50MW2	Weather: Cloudy, 65°F
Sampling Team: P. Taylor, Y. Miyakawa	Sampler's Signature:

WELL INSPECTION

Protective Casing: (Intact)/ Damaged	Well ID Tag Condition: no label on exterior; label on casing
Locked: (YES) / NO	Measuring Point Marked: (YES) / NO
Concrete Base: (Intact)/ Damaged	Comments:
Casing Diameter: ½ in., ¾ in., 1 in., 1 ½ in., (2 in.), 3 in., 4 in., 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC): 120.80	Well Evacuation Method (peristaltic, (bladder pump), other)
Depth to Water (ft. BTOC): 115.62	Screen Interval (ft. BGS): 115-120
Begin Well Evacuation (Time): 1035	Evacuation Rate (Lpm): 0.1
Stop Evacuation (Time/Reason):	Restart Time:
	Headspace (ppm): 0.1

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1040	0.5	115.62	13.2	702	6.49	7.15	88.9	295.2
1045	1.0	115.62	12.9	695	5.55	7.14	86.8	118.6
1050	1.5	115.62	12.8	697	6.01	7.15	85.9	96.79
1055	2.0	115.62	12.7	698	5.04	7.16	85.5	61.19
1100	2.5	115.62	12.6	699	3.79	7.17	84.7	44.70
1105	3.0	115.62	12.7	698	3.59	7.17	84.4	34.34
1110	3.5	115.62	12.7	699	3.47	7.17	83.6	23.86
1115	4.0	115.62	12.7	697	3.98	7.18	83.5	19.88
1120	4.5	115.62	12.7	698	3.83	7.18	85.3	16.04
1125	5.0	115.62	12.6	697	3.80	7.19	82.9	11.81
1130	5.5	115.62	12.6	695	4.10	7.18	82.9	10.86
1135	6.0	115.62	12.6	695	4.58	7.18	83.0	9.51

Red font indicates stabilization criteria to be achieved over three consecutive readings

Final Depth to Water (ft. BTOC): 115.62	Drawdown Observed (ft): 0.0
Odor: YES / (NO)	Well Pumped Dry: YES (NO)
End Well Evacuation (Time): 1149	Total Volume Purged (L): 6.0

SAMPLE COLLECTION INFORMATION

Sample ID: 50MW2	PARAMETERS (Circle all applicable)
Sample Date & Time: 5/21/25 1135	(SWMU 49): VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID: —	SWMU 54: Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L): 0.3	Sample Collection Method: (Low Flow) Other:
Ferrous Iron (mg/L): -0.05 *under range*	Sample Collection Depth (ft. BTOC): 113.62

COMMENTS

Turbidity not stabilizing; ~~taking sample~~.
D.O. also just got out of range; taking sample

Spectrophotometer read "under range" for Ferrous Iron HACH

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 5/21/25
Well ID: 49 MW04	Weather: 71°F, Partly Sunny
Sampling Team: P. Taylor, Y. Miyakawa	Sampler's Signature:

WELL INSPECTION

Protective Casing: (Intact) Damaged	Well ID Tag Condition: no label on exterior; label on casing
Locked: (YES) NO	Measuring Point Marked: (YES) NO
Concrete Base: (Intact) Damaged: covered in vegetation/dirt	Comments:
Casing Diameter: ½ in., ¾ in., 1 in., 1 ½ in., (2 in.), 3 in., 4 in., 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC): 72.88	Well Evacuation Method: (peristaltic) bladder pump, other:
Depth to Water (ft. BTOC): 20.41	Screen Interval (ft. BGS): 65-70
Begin Well Evacuation (Time): 1231	Evacuation Rate (Lpm): 0.2
Stop Evacuation (Time/Reason): ~~1315~~	Restart Time:
	Headspace (ppm): 0.3

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1236	1.0	21.72	15.2	664	0.64	7.53	70.9	17.27
1241	2.0	22.54	15.2	657	0.53	7.54	74.3	5.70
1246	3.0	23.39	15.2	659	0.52	7.55	75.1	5.83
1251	4.0	23.91	15.5	653	0.48	7.55	75.7	4.48

Red font indicates stabilization criteria to be achieved over three consecutive readings.

Final Depth to Water (ft. BTOC): 23.91	Drawdown Observed (ft): 3.50
Odor: YES / (NO)	Well Pumped Dry: YES / (NO)
End Well Evacuation (Time): 1315	Total Volume Purged (L): 4.0

SAMPLE COLLECTION INFORMATION

Sample ID: 49MW04	PARAMETERS (Circle all applicable)
Sample Date & Time: 5/21/24 1251	(SWMU 49) VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID: 49 TW 04	SWMU 54: Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L): 0.4	Sample Collection Method: (Low Flow) Other:
Ferrous Iron (mg/L): 0.15	Sample Collection Depth (ft. BTOC): 72.38

COMMENTS

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date 5/21/25
Well ID 13MW2	Weather 73°F, Partly Cloudy
Sampling Team P. Taylor, Y. Miyakawa	Sampler's Signature

WELL INSPECTION

Protective Casing (Intact)/Damaged	Well ID Tag Condition Good
Locked (YES) / NO	Measuring Point Marked (YES) NO
Concrete Base (Intact)/Damaged	Comments
Casing Diameter ½ in , ¾ in , 1 in , 1 ½, 2 in , 3 in , (4 in), 6 in , 8 in	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft BTOC) 30.60	Well Evacuation Method (peristaltic, bladder pump, other)
Depth to Water (ft BTOC) 20.24	Screen Interval (ft BGS) 25-30
Begin Well Evacuation (Time) 1339	Evacuation Rate (Lpm) 0.25
Stop Evacuation (Time/Reason)	Restart Time
	Headspace (ppm) 0.0

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1344	1.25	20.63	15.0	654	7.36	7.54	90.2	1.89
1349	2.5	20.76	14.9	654	8.23	7.55	89.1	0.99
1354	3.75	20.88	15.1	654	8.33	7.53	85.7	0.27
1359	5.0	20.96	15.2	655	8.12	7.52	83.7	0.74

Red font indicates stabilization criteria to be achieved over three consecutive readings

Final Depth to Water (ft BTOC) 20.96	Drawdown Observed (ft) 0.72
Odor YES / (NO)	Well Pumped Dry YES / (NO)
End Well Evacuation (Time) 1409	Total Volume Purged (L) 5.0

SAMPLE COLLECTION INFORMATION

Sample ID 13MW2	PARAMETERS (Circle all applicable)
Sample Date & Time 5/21/25 1359	(SWMU 49) VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID —	SWMU 54 Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L) 0.4	Sample Collection Method (Low Flow) Other
Ferrous Iron (mg/L) 0.09	Sample Collection Depth (ft BTOC) 30.10

COMMENTS

Synoptic Water Level Measurements

Radford Army Ammunition Plant SWMUs 49 & 54

Radford AAP, Virginia

Well Identification	Date	Time	Headspace Reading (ppm)	Depth to Water (ft BTOC)	Total Well Depth (ft BTOC)	Notes/Field Observations
SWMU 49						
13MW2	5/20/25	1526	0.0	20.12	30.60*	Soft bottom
13MW3	5/20/25	1408	0.1	14.57	16.10	roots/vegetation inside well, came up w/ tubing. Soft bottom
13MW4	5/20/25	1300	0.0	15.80	25.35	hard bottom
13MW5	5/20/25	1250	0.0	15.54	25.40	soft bottom
49MW04	5/20/25	1522	0.3	20.27	72.88*	Soft bottom
49MW05	5/20/25	1531	0.0	18.99	39.50	soft bottom
48MW6	5/20/25	1030	0.0	66.63	80.42	Soft bottom
48MW2						
48MW3	-					
48MW1	5/~~20~~21/25	0800	0.1	106.81	147.32	Soft bottom
48MW7	5/20/25	0813	0.0	49.07	83.60	soft bottom
49MW01	5/20/25	0835	0.3	115.95	125.14	Soft bottom
49MW02						
49MW03	5/20/25	0824	0.0	105.26	119.73	soft bottom
50MW2	5/~~20~~21/25	1015	0.1	115.62	120.80	Soft bottom
SWMU 54						
54MW1	5/19/25	1503	0.0	18.88	57.40	hard bottom
54MW10	5/19/25	1116	0.2	14.29	30.01	hard bottom
54MW12	5/19/25	1237	0.0	23.34	32.92	hard bottom
54MW13	5/19/25	0842	0.0	19.76	25.34	hard bottom

Key: ppm = parts per million ft = feet TOC = top of casing BTOC = below top of casing

*TD measured on 5/21/25 after sampling

320-10 FIELD INSPECTION REPORT

Contract Number:	W912DR19D0004	**Task Order No:**	W912DR24F0222	
CAPE Project No.:	10409-0222	**Date:**	21-May-25	
Project Location:	Radford Army Ammunition Plant, Radford, VA			
DFW:	SWMU 49 & SWMU 54 LTM Sampling	**Spec Sect.**		
Inspection Performed by:	Yoko Miyakawa			

1. DESCRIPTION OF WORK INSPECTED:

SWMU-48/49: Gauged and sampled wells 48MW1, 50MW2, 49MW04 (field duplicate also taken "49TW04"), and 13MW2.
Equipment blank taken at well 48MW1 at 1001 on deconned bladder pump; sample "48MW1-EQB."
Dumped approximately 7 gallons of IDW water into a new, second, SWMU-48/49 designated, labeled, 55-gal drum at ACD/BAE storage facility.

2. TYPE OF INSPECTION:

☑ Visual ☐ Dimensional
☐ Non-Destructive Examination (NDE) ☐ Other _____

☐ In Progress ☐ Final

3. REFERENCED DRAWINGS / STANDARDS:

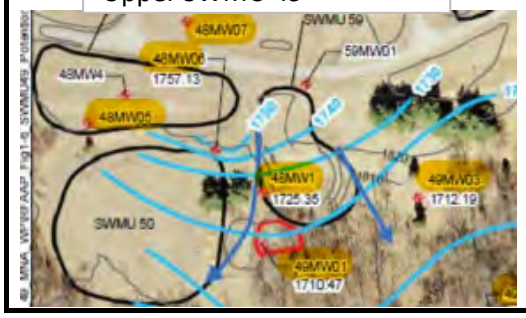
See below aerial view

4. FINDINGS:

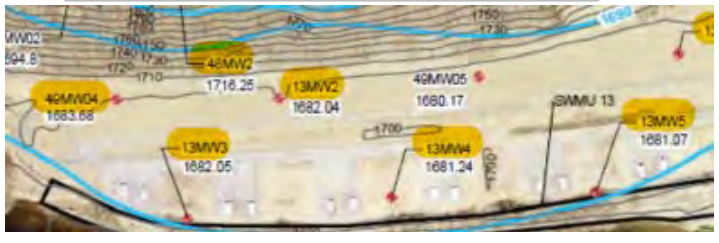
Wells 48MW1, 50MW2, and 49MW04 were not labeled on the exterior, but were labeled on the cap or on the casing.
Well 49MW04 had a concrete pad that was covered in vegetation and dirt.

5. SKETCH, IF APPLICABLE:

Upper SWMU 49



Lower SWMU 49; Burning Grounds



Inspector:

Quality Control Representative:

CAPE

320-16 WASTE INVENTORY SUMMARY

Contract Number	W912DR19D0004	DO/TO No:	W912DR24F0222	CAPE Project #	10409-0222-002-003	Project Location	RAAP, Radford, VA

Process Generating Waste	Groundwater produced through purging and sampling the monitoring wells. IDW water from SWMU 48/49 is captured and maintained separately from SWMU 54 IDW water throughout the handling process.

Load Number	Date	Description	Quantity (TNS or GAL)	Waste Classification	Receiving Disposal Facility	Method of Disposal	Date of Disposal or Destruction
1	8/19/24	IDW waste from SWMU 49	7 gal	Pending Analysis	—		
2	8/20/24	IDW + decon water from SWMU 54	8 gal	Pending Analysis	—		
3	8/21/24	IDW + decon waters from SWMU 49	4 gal	Pending Analysis	—		
4	8/22/24	IDW + decon water from SWMU 49	6 gal	Pending Analysis	—		
5							
6	12/9/24	IDW from SWMU 49	15 gal	Pending Analysis	—		
7	12/10/24	IDW + decon water SWMU 54	10 gal	Pending Analysis	—		
8	12/11/24	IDW + decon water SWMU 49	5 gal	Pending Analysis	—		
9	12/12/24	IDW + decon water SWMU 49	6 gal	Pending Analysis	—		
10	12/13/24	IDW + decon water SWMU 49	4 gal	Pending Analysis	—		
11							
12	IDW drum	SWMU 49 has ~45 gallons total			(as of 12/13/24)		
13	IDW drum	SWMU 54 has ~20 gallons total			(as of 12/13/24)		
14							
15	5/19/25	IDW + decon water SWMU 54	11 gal	Pending Analysis	—		
16	5/20/25	IDW + decon water SWMU 49	9 gal	Pending Analysis	—		
17	5/21/25	IDW + decon water SWMU 49 (Drum #2)	7 gal	Pending Analysis	—		
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							

TOTAL QUANTITY:

0.00

CAPE

SITE CONTROL LOG

Date / Day: Wednesday, May 21, 2025

Project Name/Number: RADFORD ARMY AMMUNITION PLANT-SWMU 49 & SWMU 54 SAMPLING / CONTRACT W912DR19D0004, TASK ORDER W912DR24F0222

Project Location: RADFORD ARMY AMMUNITION PLANT, RADFORD, VA

Time		Name (Print)	Signature	DO YOU HAVE AN INJURY TO REPORT? Y/N	Organization
In	Out				
0715	1456	Yoko Miyakawa		N	CAPE
0715	1456	Paul I. Taylor		N	Weston

TAILGATE SAFETY MEETING RECORD

DATE/TIME:	Wednesday, May 21, 2025
PROJECT NAME:	Radford Army Ammunition Plant-SWMU 49 & SWMU 54 Sampling
PROJECT LOCATION:	Radford Army Ammunition Plant, Radford, VA
CAPE PROJECT NUMBER:	CO: W912DR19D0004, TO: W912DR24F0222
PROJECT MANAGER:	Matthew Feits
SITE SUPERINTENDENT:	
SITE HEALTH & SAFETY:	Yoko Miyakawa

SAFETY TOPICS PRESENTED	
Musculoskeletal hazards ; slips, trips, falls .	
Protective Clothing/Equipment:	
Modified Level D PPE	Gloves as required
High visibility vests/outerwear as required	
Safety Toe Boots and Safety Glasses required	
Chemical Hazards:	
Potential for contact with the ground water and preservatives	
Physical Hazards:	
Slip, trip, and falls	Inclement weather
Heat stress	Drum handling
Biological hazards	
Emergency Procedures:	
Provide first aid to your level of training. Contact 911 for Emergency if required. Notify your supervisor and the SSHO.	
Emergency Hospital:	Carilion New River Valley Medical Center, 2900 Lamb Cir, Christiansburg, VA 24073
Hospital Telephone Number:	(540) 731-2000
Hospital Direction:	Map in APP
Special Equipment:	
By signing this form, I confirm that I have not been previously injured on this job without informing my supervisor, and that I will immediately report all incidents/injuries to my supervisors in the future.	

SAFETY MEETING ATTENDEES

#	Printed Name	Initial	#	Printed Name	Initial
1.	Yoko Miyakawa	YM	16.		
2.	Paul I. Taylor	PT	17.		
3.			18.		
4.			19.		
5.			20.		
6.			21.		
7.			22.		
8.			23.		
9.			24.		
10.			25.		
11.			26.		
12.			27.		
13.			28.		
14.			29.		
15.			30.		

Meeting Conducted By:

Signature _____

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May 21, 2025 3:41:56 PM

Radford Army Ammunition Plant 5/21/25
Radford, Virginia

Personnel: Y. Miyakawa (CAPE), P. Taylor (Weston)

Weather: Cloudy, 60°F

Objective: GW Sampling at SWMU 49

0715 Y. Miyakawa + P. Taylor onsite checking in at guard stands
0727 pulling over at truck pullout to calibrate

Micro Turbidity Meter
- 1000 NTU ⟶ 1016
- 10.0 NTU ⟶ 10.05
- 0.02 NTU ⟶ 0.24

YSI Pro Plus
- SpC 1413 µS/cm ⟶ 1413
- pH 4 ⟶ 3.96
- pH 7 ⟶ 6.98
- pH 10 ⟶ 10.03
- ORP 240 ⟶ 240.1

Mini Rae
- 1S butylene 100 ppm ⟶ 99.9

0800 Setup + gauged well 48MW1
Noticed the gauging sheets + notes from yesterday had 48MW6 + 48MW1 switched, but sample sheets, labels, COC, daily inspection was correct.

0810 Pump set at one cycle per minute
This well is deeper + has some drawback of water returning into the well, but producing water okay. Maybe check valve in bladder pump not working as well?
0931 Sample 48MW1 taken - see sample sheet
1001 48MW1-EQB → equipment blank taken on decanned bladder pump
1015 Setup + gauged well 50MW2
pump set at one cycle per minute
1135 Sample 50MW2 taken - see sample sheet
1210 Heading to burning grounds
1219 Setting up at 49MW04
1251 Sample 49MW04 + field duplicate taken "49TW04" - See sample sheet
1328 Setting up at 13MW2; DTW taken.
dedicated pump pulled for sampling
1359 Sample 13MW2 taken - see sample sheet
1420 Leaving burning grounds to drop off trash and then IDW water
1435 Dropped off trash @ MWF trash location
1443 Dumping ~7 gal IDW into a new, second SMWU 49, designated, labeled, 55-gal bucket.

Kitty in the Rain

1449 New drum reads:

" Non-Hazardous Waste
Pending analysis
SHIPPER: M. FEITS 724-622-3625
Address: RFAAP
CITY, STATE, ZIP: Radford, VA
Contents: Purge Water SWMU49
5/21/25 "

1456 P. Taylor + Y. Miyakawa offsite

Samples will be shipped to
CT Labs in Baraboo, WI.

5/22/25

22 May 2025

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: Cape Enviromental
Project Contact: Matt Feits
Telephone: (724) 622-3625
Project Name: Radford AAP
Project #: SWMU 48/49
Location: Radford, VA
Sampled By: Y. Miyakawa, P. Taylor

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: ChemistrySVCS@cape-inc.com
Company: mfeits@cape-inc.com
Address: Cape Environmental Mgt.
500 Pinnacle Court #100
Norcross, GA 30071

Invoice To:*
EMAIL:
Company: Same
Address:

**Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions*

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

2025 Collection Date	Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	VOC 8260C	MEE RSK-175	TOC 9060A	Anions 9056A	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test						
5/22	0000	GW	G		TB-3	N	2				2		
5/22	0920	GW	G		48MW2	N	3	2	1	1	7		
5/22	0954	GW	G		48MW2-EQB	N	3	2	1	1	7		
5/22	1123	GW	G		48MW3	N	3	2	1	1	7		
5/22	1327	GW	G		49MW02	N	3	2	1	1	7		

Trip Blank

Relinquished By:	Date/Time	Received By:	Date/Time
	5/22/2025 1700	FedEx	5/22/2025 1700
Received by:	Date/Time	Received for Laboratory by:	Date/Time

Lab Use Only
Ice Present Yes No
Temp _____ IR Gun _____
Cooler # _____

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: Cape Environmental
Project Contact: Matt Feits
Telephone: (724) 622-3625
Project Name: Radford AAP SWMU 48/49
Project #:
Location: Radford, VA
Sampled By: Y. Miyakawa, P. Taylor

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To: Chemistry SVCS@cape-inc.com
EMAIL: mfeits@cape-inc.com
Company: Cape Environmental Mgt.
Address: 500 Pinnacle Court #100
Norcross, GA 30071

Invoice To:* Same
EMAIL:
Company:
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

ANALYSES REQUESTED

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

2025 Collection Date	Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	pH 9040	COD 410.4	Total Metals 6010C 7470A	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test					
5/22	1428	GW	~~G~~C		49IDW	N	1	1	1	3		

Relinquished By: _____ Date/Time 5/22/2025 1700
Received By: Fed Ex Date/Time 5/22/2025 1700

Received by: _____ Date/Time _____
Received for Laboratory by: _____ Date/Time _____

Lab Use Only
Ice Present Yes No
Temp _____ IR Gun _____
Cooler # _____

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date 5/22/25
Well ID 48MW2	Weather 56°F, Mostly Sunny + Windy
Sampling Team P. Taylor, Y. Miyakawa	Sampler's Signature

WELL INSPECTION

Protective Casing: Intact/Damaged	Well ID Tag Condition: no label on exterior; label on cap
Locked: YES / NO	Measuring Point Marked: YES / NO
Concrete Base: Intact/Damaged	Comments
Casing Diameter: ½ in., ¾ in., 1 in., 1 ½ in., 2 in., 3 in., 4 in., 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft BTOC) 136.70	Well Evacuation Method (peristaltic, bladder pump, other)
Depth to Water (ft BTOC) 124.55	Screen Interval (ft BGS) 125-135
Begin Well Evacuation (Time) 0820	Evacuation Rate (Lpm) 0.08
Stop Evacuation (Time/Reason)	Restart Time
	Headspace (ppm) 0.1

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
0825	0.4	124.86	12.8	502.9	5.33	7.51	102.9	506.4
0830	0.8	124.90	12.6	503.0	5.10	7.52	99.7	>1100
0835	1.2	124.94	12.6	500.7	5.10	7.52	97.8	473.6
0840	1.6	124.96	12.6	498.5	5.06	7.52	96.3	264.1
0845	2.0	125.03	12.5	497.9	5.16	7.52	94.9	198.6
0850	2.4	125.12	12.5	497.8	5.17	7.52	93.5	147.9
0855	2.8	125.12	12.5	497.2	5.18	7.52	92.3	135.3
0900	3.2	125.15	12.6	497.0	5.28	7.52	90.9	109.6
0905	3.6	125.14	12.6	496.3	5.20	7.52	89.8	92.69
0910	4.0	125.14	12.6	495.1	5.21	7.53	88.6	75.09
0915	4.4	125.16	12.5	495.0	5.17	7.54	87.7	64.49
0920	4.8	125.17	12.5	495.1	5.20	7.53	87.0	64.16

Red font indicates stabilization criteria to be achieved over three consecutive readings

Final Depth to Water (ft BTOC) 125.17	Drawdown Observed (ft) 0.62
Odor: YES / NO	Well Pumped Dry: YES / NO
End Well Evacuation (Time) 0938	Total Volume Purged (L) 4.8

SAMPLE COLLECTION INFORMATION

Sample ID 48MW2	PARAMETERS (Circle all applicable)
Sample Date & Time 5/22/25 0920	SWMU 49: VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID ———	SWMU 54: Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L) -6.5 *under range*	Sample Collection Method: Low Flow / Other
Ferrous Iron (mg/L) 0.16	Sample Collection Depth (ft BTOC): ~~136.20~~ 134.70

COMMENTS

Turbidity not stabilizing; taking sample.
Spectrophotometer was dead again; replaced batteries + was operational
Spectrophotometer reading *under range* for Manganese HACH test
Equipment Blank taken on decanned bladder pump → 48MW2-EQB @ 0954

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date 5/22/25
Well ID 48MW3	Weather 60°F, Windy + Mostly Cloudy
Sampling Team P. Taylor, Y Miyakawa	Sampler's Signature

WELL INSPECTION

Protective Casing (Intact) / Damaged	Well ID Tag Condition No label on exterior; label on cap
Locked (YES) / NO	Measuring Point Marked (YES) / NO
Concrete Base (Intact) / Damaged	Comments
Casing Diameter ½ in, ¾ in, 1 in, 1 ½, 2 in, 3 in, (4 in), 6 in, 8 in	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft BTOC) ~~112.15~~ *	Well Evacuation Method (peristaltic, (bladder pump), other)
Depth to Water (ft BTOC) 98.78	Screen Interval (ft BGS) 115 – 125
Begin Well Evacuation (Time) 1048	Evacuation Rate (Lpm) 0.09
Stop Evacuation (Time/Reason)	Restart Time
	Headspace (ppm) 0.0

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1053	0.45	98.93	12.5	708	6.67	7.38	84.3	10.58
1058	0.9	99.08	12.2	707	4.96	7.34	84.2	6.21
1103	1.35	99.13	12.2	706	4.50	7.32	84.5	2.66
1108	1.8	99.23	12.1	707	4.06	7.31	84.3	0.43
1113	2.25	99.36	12.1	705	3.70	7.31	83.7	0.00
1118	2.7	99.41	12.2	705	3.59	7.31	83.4	0.91
1123	3.15	99.49	12.2	705	3.77	7.32	83.1	0.00

Red font indicates stabilization criteria to be achieved over three consecutive readings.

Final Depth to Water (ft BTOC) 99.49	Drawdown Observed (ft) ~~0.01~~ 0.71
Odor YES (NO)	Well Pumped Dry YES (NO)
End Well Evacuation (Time) 1134	Total Volume Purged (L) 3.15

SAMPLE COLLECTION INFORMATION

Sample ID 48MW3	PARAMETERS (Circle all applicable)
Sample Date & Time 5/22/25 1123	(SWMU 49) VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID ———	SWMU 54: Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L) 0.5	Sample Collection Method (Low Flow) Other
Ferrous Iron (mg/L) 0.12	Sample Collection Depth (ft BTOC) ~~110.15~~ * 2 feet above bottom

COMMENTS

* ~~Feels like obstruction in well, TD measured at 112.15, pushing down to 114.~~ Sounder tip fell off & did not come up w/ the tape; unable to take TD

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date 5/22/25
Well ID 49MW02	Weather 60°F, Windy + Mostly Sunny
Sampling Team P. Taylor, Y. Miyakawa	Sampler's Signature

WELL INSPECTION

Protective Casing (Intact)/Damaged	Well ID Tag Condition No label on exterior; label on casing
Locked (YES) / NO	Measuring Point Marked (YES) / NO
Concrete Base (Intact)/Damaged	Comments
Casing Diameter ½ in, ¾ in, 1 in, 1 ½, (2 in), 3 in, 4 in, 6 in, 8 in	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft BTOC) *see note	Well Evacuation Method (peristaltic, (bladder pump), other)
Depth to Water (ft BTOC) *see note	Screen Interval (ft BGS) 125-135
Begin Well Evacuation (Time) 1227	Evacuation Rate (Lpm) 0.1
Stop Evacuation (Time/Reason)	Restart Time
	Headspace (ppm) ~~0.0~~ 0.1

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1232	0.5	*see note	15.1	556.9	5.27	7.56	62.7	647.8
1237	1.0		13.9	556.7	5.12	7.58	63.3	559.2
1242	1.5		14.6	555.1	5.10	7.56	63.6	458.2
1247	2.0		14.0	557.1	5.27	7.56	64.6	389.0
1252	2.5		14.0	555.1	5.22	7.55	65.8	285.4
1257	3.0		13.8	554.0	5.18	7.55	66.8	262.2
1302	3.5		13.7	554.3	5.29	7.55	68.0	225.8
1307	4.0		13.7	553.5	5.45	7.55	69.6	200.1
1312	4.5		13.6	553.6	5.48	7.55	70.8	188.9
1317	5.0		13.5	553.7	5.52	7.55	71.4	174.7
1322	5.5		13.5	553.7	5.42	7.54	71.9	166.0
1327	6.0	↓	13.4	553.8	5.31	7.54	72.4	161.8

Red font indicates stabilization criteria to be achieved over three consecutive readings

Final Depth to Water (ft BTOC) *	Drawdown Observed (ft) *
Odor YES (NO)	Well Pumped Dry YES (NO)
End Well Evacuation (Time) 1340	Total Volume Purged (L) 6.0

SAMPLE COLLECTION INFORMATION

Sample ID 49MW02	PARAMETERS (Circle all applicable)
Sample Date & Time 5/22/25 1327	(SWMU 49) VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID ———	SWMU 54 Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L) 2.1	Sample Collection Method ~~Low Flow~~ Other
Ferrous Iron (mg/L) 0.30	Sample Collection Depth (ft BTOC) * 2 feet above bottom

COMMENTS

* Sounder probe fell off + into well 48MW3 after sampling, unable to take readings

Synoptic Water Level Measurements

Radford Army Ammunition Plant SWMUs 49 & 54

Radford AAP, Virginia

Well Identification	Date	Time	Headspace Reading (ppm)	Depth to Water (ft BTOC)	Total Well Depth (ft BTOC)	Notes/Field Observations
SWMU 49						
13MW2	5/20/25	1526	0.0	20.12	30.60*	Soft bottom
13MW3	5/20/25	1408	0.1	14.57	16.10	roots/vegetation inside well, came up w/ tubing - Soft bottom
13MW4	5/20/25	1300	0.0	15.80	25.35	hard bottom
13MW5	5/20/25	1250	0.0	15.54	25.40	soft bottom
49MW04	5/20/25	1522	0.3	20.27	72.88*	Soft bottom
49MW05	5/20/25	1531	0.0	18.99	39.50	soft bottom
48MW6	5/20/25	1030	0.0	66.63	80.42	Soft bottom
48MW2	5/22/25	0752	0.1	124.55	136.70	Soft bottom
48MW3	5/22/25	1006	0.0	98.78 ~~112.15~~		~~Sounder tip broke off, unable to get TD getting stuck on obstruction,~~ Soft bottom
8MW1	5/~~20~~21/25	0800	0.1	106.81	147.32	Soft bottom
48MW7	5/20/25	0813	0.0	49.07	83.60	soft bottom
49MW01	5/20/25	0835	0.3	115.95	125.14	Soft bottom
49MW02	5/22/25	1054	0.1			Sounder tip broke off, unable to get DTW + TD
49MW03	5/20/25	0824	0.0	105.26	119.73	soft bottom
50MW2	5/~~20~~21/25	1015	0.1	115.62	120.80	Soft bottom
SWMU 54						
54MW1	5/19/25	1503	0.0	18.88	57.40	hard bottom
54MW10	5/19/25	1116	0.2	14.29	30.01	hard bottom
54MW12	5/19/25	1237	0.0	23.34	32.92	hard bottom
54MW13	5/19/25	0842	0.0	19.76	25.34	hard bottom

Key: ppm = parts per million ft = feet TOC = top of casing BTOC = below top of casing

*TD measured on 5/21/25 after sampling

320-10 FIELD INSPECTION REPORT

Contract Number:	W912DR19D0004	**Task Order No:**	W912DR24F0222	
CAPE Project No.:	10409-0222	**Date:**	22-May-25	
Project Location:	Radford Army Ammunition Plant, Radford, VA			
DFW:	SWMU 49 & SWMU 54 LTM Sampling	**Spec Sect.**		
Inspection Performed by:	Yoko Miyakawa			

1. DESCRIPTION OF WORK INSPECTED:

SWMU-48/49: Gauged and sampled wells 48MW2, 48MW3, and 49MW02.
Equipment blank taken at well 48MW2 at 0954 on deconned bladder pump; sample "48MW2-EQB."
Dumped approximately 5 gallons of IDW water into the second, SWMU-48/49 designated, labeled, 55-gal drum at ACD/BAE storage facility.
Sample "49IDW" taken, composited from both SWMU-48/49 drums, for waste characterization analysis at 1428.

2. TYPE OF INSPECTION:

☑ Visual ☐ Dimensional
☐ Non-Destructive Examination (NDE) ☐ Other _____

☐ In Progress ☐ Final

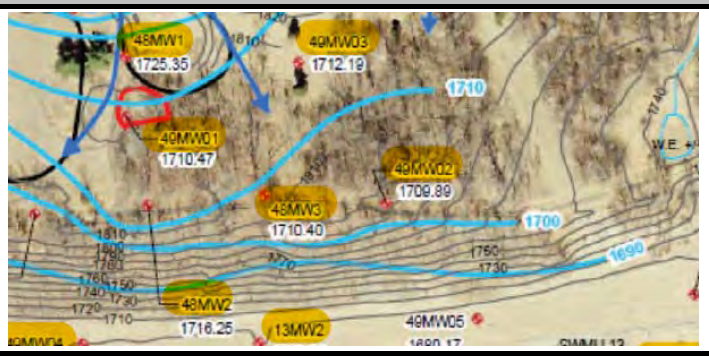
3. REFERENCED DRAWINGS / STANDARDS:

See below aerial view

4. FINDINGS:

Wells 48MW2, 48MW3, and 49MW02 were not labeled on the exterior, but were labeled on the cap or on the casing.
The spectrophotometer was not powering on this morning; it became operational after replacing the batteries.
The probe tip to the sounder/water level meter fell off and into well 48MW3 when the bladder pump was being pulled up after sampling completed; we were unable to take the total depth of the well. We were also unable to take water level readings, depth to water, and total depth at the next and final well (49MW02).

5. SKETCH, IF APPLICABLE:



Inspector: _____

Quality Control Representative: _____

CAPE

320-16 WASTE INVENTORY SUMMARY

Contract Number	W912DR19D0004	DO/TO No:	W912DR24F0222	CAPE Project #	10409-0222-002-003	Project Location	RAAP, Radford, VA

Process Generating Waste	*Groundwater produced through purging and sampling the monitoring wells. IDW water from SWMU 48/49 is captured and maintained separately from SWMU 54 IDW water throughout the handling process.*

Load Number	Date	Description	Quantity (TNS or GAL)	Waste Classification	Receiving Disposal Facility	Method of Disposal	Date of Disposal or Destruction
1	8/19/24	IDW waste from SWMU 49	7 gal	Pending Analysis	—		
2	8/20/24	IDW + decon water from SWMU 54	8 gal	Pending Analysis	—		
3	8/21/24	IDW + decon water from SWMU 49	4 gal	Pending Analysis	—		
4	8/22/24	IDW + decon water from SWMU 49	6 gal	Pending Analysis	—		
5							
6	12/9/24	IDW from SWMU 49	15 gal	Pending Analysis	—		
7	12/10/24	IDW + decon water SWMU 54	10 gal	Pending Analysis	—		
8	12/11/24	IDW + decon water SWMU 49	5 gal	Pending Analysis	—		
9	12/12/24	IDW + decon water SWMU 49	6 gal	Pending Analysis	—		
10	12/13/24	IDW + decon water SWMU 49	4 gal	Pending Analysis	—		
11							
12	IDW drum	SWMU 49 has ~45 gallons total			(as of 12/13/24)		
13	IDW drum	SWMU 54 has ~20 gallons total			(as of 12/13/24)		
14							
15	5/19/25	IDW + decon water SWMU 54	11 gal	Pending Analysis	—		
16	5/20/25	IDW + decon water SWMU 49	9 gal	Pending Analysis	—		
17	5/21/25	IDW + decon water SWMU 49 (Drum #2)	7 gal	Pending Analysis	—		
18	5/22/25	IDW + decon ~~water~~ SWMU 49 (Drum 2)	5 gal	Pending Analysis	—		
19							
20	IDW Drum #1	SWMU 48/49 has ~54 gallons total as of 5/22/25 (FULL)					
21	IDW Drum #2	SWMU 48/49 has ~12 gallons total as of 5/22/25					
22	IDW Drum	SWMU 54 has ~31 gallons total as of 5/22/25					
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							

CAPE

SITE CONTROL LOG

Date / Day: Thursday, May 22, 2025

Project Name/Number: RADFORD ARMY AMMUNITION PLANT-SWMU 49 & SWMU 54 SAMPLING / CONTRACT W912DR19D0004, TASK ORDER W912DR24F0222

Project Location: RADFORD ARMY AMMUNITION PLANT, RADFORD, VA

Time		Name (Print)	Signature	DO YOU HAVE AN INJURY TO REPORT? Y/N	Organization
In	Out				
0715	1516	Yoko Miyakawa		N	CAPE
0715	1516	Paul I. Taylor		N	Weston

TAILGATE SAFETY MEETING RECORD

DATE/TIME:	Thursday, May 22, 2025
PROJECT NAME:	Radford Army Ammunition Plant-SWMU 49 & SWMU 54 Sampling
PROJECT LOCATION:	Radford Army Ammunition Plant, Radford, VA
CAPE PROJECT NUMBER:	CO: W912DR19D0004, TO: W912DR24F0222
PROJECT MANAGER:	Matthew Feits
SITE SUPERINTENDENT:	
SITE HEALTH & SAFETY:	Yoko Miyakawa

SAFETY TOPICS PRESENTED	
Housekeeping hazards; Driving safety – distracted driving, changing conditions, etc.	
Protective Clothing/Equipment:	
Modified Level D PPE	Gloves as required
High visibility vests/outerwear as required	
Safety Toe Boots and Safety Glasses required	
Chemical Hazards:	
Potential for contact with the ground water and preservatives	
Physical Hazards:	
Slip, trip, and falls	Inclement weather
Heat stress	Drum handling
Biological hazards	
Emergency Procedures:	
Provide first aid to your level of training. Contact 911 for Emergency if required. Notify your supervisor and the SSHO.	
Emergency Hospital:	Carilion New River Valley Medical Center, 2900 Lamb Cir, Christiansburg, VA 24073
Hospital Telephone Number:	(540) 731-2000
Hospital Direction:	Map in APP
Special Equipment:	
By signing this form, I confirm that I have not been previously injured on this job without informing my supervisor, and that I will immediately report all incidents/injuries to my supervisors in the future.	

SAFETY MEETING ATTENDEES

#	Printed Name	Initial	#	Printed Name	Initial
1.	Yoko Miyakawa		16.		
2.	Paul I. Taylor		17.		
3.			18.		
4.			19.		
5.			20.		
6.			21.		
7.			22.		
8.			23.		
9.			24.		
10.			25.		
11.			26.		
12.			27.		
13.			28.		
14.			29.		
15.			30.		

Meeting Conducted By:

Signature _____

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May 22, 2025 4:17:59 PM

Radford Army Ammunition Plant
Radford, Virginia

5/22/25

Personnel: Y. Miyakawa (CAPE), P. Taylor (Weston)

Weather: 56°F Sunny, slight wind

Objective: GW sampling at SWMU 48/49

0715 P. Taylor + Y. Miyakawa onsite + checking in at guard stands
0733 Pulled over at truck pull off area to calibrate instruments:

YSI Pro Plus
- SpC 1413 µS/cm → ~~1006~~ 1413
- pH 4 → ~~10.02~~ 3.98
- pH 7 → 7.00
- pH 10 → 10.05
- ORP 240mV → 239.7

Micro Turbidity Meter
- 1000 NTU → 1006
- 10.0 NTU → 10.02
- 0.02 NTU → ~~1.41~~ 0.00

MiniRae
- 100 ppm Isobutylene → 100.1

0751 Setting up at well 48MW2
0814 pump is set at one cycle per minute

Rain on the Rain

0920 Sample 48MW2 was taken - see sample sheet
0938 Spectrophotometer was dead - likely from leaving in vehicle overnight. replaced batteries + was operational
0954 Equipment blank taken here on decon'ed bladder pump → "48MW2-EQ13"
1003 Heading to 48MW3 to setup + gauge.
1020 Setting pump to one cycle per minute
1034 Pump was pulled, was not producing water; ~~contd~~ going to replace tubing
1040 re set pump - pump must have been set too high, right above water column
1042 Starting pump
1123 48MW3 Sample taken - see sample sheet
1158 water level meter tip Fell off + into well 48MW3 after pulling up the bladder pump after sampling; was unable to take TD of well. Will be unable to take water level readings at next well 49MW02. Was directed by M. Feits to proceed.
1211 Setting up at well 49MW02
1220 pump set to one cycle per minute

1327 Sample taken 49MW02 - see sample sheet
1357 Heading to bathroom and then trash/ ACD to drop off IDW water.
1419 dropping off approx ~5 gal into SWMU 48/49 designated, labeled drum (Second drum)
1428 Taking composite sample for both SWMU 48/49 drums: "49IDW" for waste characterization
1440 dropping off trash + taking inventory see next page for inventory list. Going to visitor parking across from 220 to take inventory + meet w/ Matt Alberts to hand off equipment storage tote.
1510 Met w/ M. Alberts to drop off eq. Tote.
1516 P. Taylor + Y. Miyakawa offsite.

Samples will be shipped to CT Labs in Baraboo, WI.

5/22/25

Inventory List

1 and ½ bottles of liquinox
Isobutylene can
1 and ½ boxes of XL gloves
1 box of L gloves
⅓ box of M gloves
1 threaded rod
Spectrophotometer reagent packs (2b each)
1 broomhandle w/ string
1 Fire extinguisher
3/4 full box Kim-wipes
3 buckets w/ lids
2 Rubbermaid tubs - 1.5 & 2.5 Gal
2 Empty spray bottles
4 bladders
~200 ft banded bladder pump tubing
4 eyewash saline bottles EXP 5/27
1 full roll packing tape
Bladder Pump Maintenance Kit
First aid kit
1 full Nylon Rope
Ultra fine sharpies
Ball point pens
Sharpies
25-ft Silicone Tubing
8 Trip Blanks
2 Locks
~15 contractor bags

Lg ziploc bags
YSI calibration fluid (SpC, pH 4, 7, 10, ORP)
4 voa sponge holders
Spare H_2SO_4 preserved poly (9)
HNO_3 preserved poly (1)
~~2~~ Lg Ambers (4)
~~HCl~~ NP voas (8)
3/4 roll paper towel roll
Sm drink cooler

20 October 2025

SGS North America Inc - Orlando

Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL. 407-425-6700 FAX: 407-425-0707
www.sgs.com

SGS - ORLANDO JOB # : PAGE 1 OF 1

SGS - ORLANDO Quote # | SKIFF #

Client / Reporting Information

Company Name: Cape Environmental
Address: 500 Pinnacle Court #100
City: Norcross State: GA Zip: 30071
Project Contact: Matt Feits Email: mfeits@cape-inc.com & chemistry5VCS@cape-inc.com
Phone #: (724) 622-3625
Sampler(s) Name(s) (Printed)
Sampler 1: Y. Miyakawa Sampler 2: P. Taylor

Project Information

Project Name: Radford AAP SWMU 54
Street
City Radford State VA
Project #
Fax #
Client Purchase Order #

Analytical Information

Perchlorate LLC 6850
1,4 Dioxane LC 8330B XLC 3NX

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE 2025	TIME	SAMPLED BY	MATRIX	CONTAINER INFORMATION TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NACH+ZNA	DI WATER	MEOH	Perchlorate LLC 6850	1,4 Dioxane LC 8330B XLC 3NX	LAB USE ONLY
	54MW13	10/20	0940	YM/PT	GW	9		X								3	6	MS/MSD
	54MW10	10/20	1220	YM/PT	GW	3		X								1	2	
	54TW10	10/20	1220	YM/PT	GW	3		X								1	2	
	54MW12	10/20	1413	YM/PT	GW	3		X								1	2	
	54MW1	10/20	1520	YM/PT	GW	3		X								1	2	

Turnaround Time (Business days)

10 Day (Business) Approved By: / Date:
7 Day
5 Day
3 Day *RUSH*
2 Day *RUSH*
1 Day *RUSH*
Other
Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- [ ] COMMERCIAL "A" (RESULTS ONLY)
- [ ] COMMERCIAL "B" (RESULTS PLUS QC)
- [ ] REDT1 (EPA LEVEL 3)
- [ ] FULLT1 (EPA LEVEL 4)
- [ ] EDD'S

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
1	10/20/2025 1800	2 FedEx	3		4
Relinquished by/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
5		6	7		8

Lab Use Only : Cooler Temperature (s) Celsius (corrected):

http://www.sgs.com/en/terms-and-conditions

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: CAPE Environmental
Project Contact: Matt Feits
Telephone: (724) 622-3625
Project Name: Radford AAP SWMU 54
Project #:
Location: Radford, VA
Sampled By: Y. Miyakawa, P. Taylor

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To: ChemistryNCS@cape-inc.com
EMAIL: mfeits@cape-inc.com
Company: Cape Environmental Mgmt.
Address: 500 Pinnacle Ct. #100 Norcross, GA 30071

Invoice To:*
EMAIL:
Company: Same
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

IDW Sample

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	pH 9040	COD 410.4	Total Metals 6010C/7470A	Total # Containers	Designated MS/MSD
10/20/25	1625	GW	G		54 IDW	N	X	X	X	3	

ANALYSES REQUESTED
Fill in Spaces with Bottles per Test

Turnaround Time
(Normal) RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

CT Lab ID #
Lab use only

Relinquished By:	Date/Time	Received By:	Date/Time
	10/20/2025 1800	FedEx	10/20/2025 1800
Received by:	Date/Time	Received for Laboratory by:	Date/Time

Lab Use Only
Ice Present Yes No
Temp _____ IR Gun _____
Cooler # _____

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: Cape Environmental
Project Contact: Matt Feits
Telephone: (724) 622-3625
Project Name: Radford, VA SWMU 54
Project #:
Location: Radford, VA
Sampled By: Y. Miyakawa, P. Taylor

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: ChemistrySVCS@Cape-inc.com
Company: mfeits@cape-inc.com
Address: CAPE Environmental Mgmt. 500 Pinnacle Ct. #100

Invoice To:* Norcross, GA 30071
EMAIL:
Company: Same
Address:

**Client Special Instructions*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions*

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
(Normal) RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: TOC 9060A	Anions 9056A	IIC 9060A	Chlorate/Chlorite	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
						Fill in Spaces with Bottles per Test							
10/20	0940	GW	G		54MW13	N	3	3	9	3	18	X	
10/20	1220	GW	G		54MW10	N	1	1	3	1	6	X MS	
10/20	1220	GW	G		54TW10	N	1	1	3	1	6		
10/20	1413	GW	G		54MW12	N	1	1	3	1	6		
10/20	1520	GW	G		54MW1	N	1	1	3	1	6		

Relinquished By:	Date/Time	Received By:	Date/Time
	10/20/2025 1800	FedEx	10/20/2025 1800
Received by:	Date/Time	Received for Laboratory by:	Date/Time

Lab Use Only
Ice Present Yes No
Temp _____ IR Gun _____
Cooler # _____

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 10/20/25
Well ID: 54MW13	Weather: 44°, Sunny
Sampling Team: P. Taylor, Y. Miyakawa	Sampler's Signature:

WELL INSPECTION

Protective Casing: (Intact)/Damaged	Well ID Tag Condition: labeled on casing
Locked: (YES)/NO	Measuring Point Marked: (YES)/NO
Concrete Base: (Intact)/Damaged Covered in vegetation	Comments: recently mowed
Casing Diameter: ½ in., ¾ in., 1 in., 1 ¼ (2 in.), 3 in., 4 in., 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC): 25.32	Well Evacuation Method (peristaltic), bladder pump, other):
Depth to Water (ft. BTOC): 23.43	Screen Interval (ft. BGS): 20-25
Begin Well Evacuation (Time): 0910	Evacuation Rate (Lpm) 0.125
Stop Evacuation (Time/Reason):	Restart Time:
	Headspace (ppm): 0.0

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
0915	0.625	23.77	13.6	651	3.08	6.60	220.1	5.09
0920	1.25	23.75	13.5	637	2.74	6.67	214.3	2.81
0925	1.875	23.75	13.4	620	3.26	6.69	209.2	0.75
0930	2.5	23.76	13.4	611	3.71	6.71	204.3	0.53
0935	3.125	23.75	13.5	608	3.95	6.70	201.6	0.45
0940	3.75	23.75	13.5	607	4.03	6.70	199.8	0.70

Red font indicates stabilization criteria to be achieved over three consecutive readings.

Final Depth to Water (ft. BTOC): 23.75	Drawdown Observed (ft): 0.32
Odor: YES /(NO)	Well Pumped Dry: YES /(NO)
End Well Evacuation (Time): 11:14	Total Volume Purged (L): 3.75

SAMPLE COLLECTION INFORMATION

Sample ID: 54MW13	PARAMETERS (Circle all applicable):
Sample Date & Time: 10/20/25 0940	SWMU 49: VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID: —	SWMU 54: Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L): 0.0	Sample Collection Method: (Low Flow) Other:
Ferrous Iron (mg/L): 0.14	Sample Collection Depth (ft. BTOC): 24.82

COMMENTS

MS/MSDs collected here

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 10/20/25
Well ID: 54 MW10	Weather: 54°, Sunny
Sampling Team: P. Taylor, Y. Miyakawa	Sampler's Signature:

WELL INSPECTION

Protective Casing: (Intact)/Damaged	Well ID Tag Condition: ID written on casing
Locked: (YES) / NO	Measuring Point Marked: (YES) / NO
Concrete Base: Intact/Damaged covered w/ vegetation	Comments:
Casing Diameter: ½ in., ¾ in., 1 in., 1 ½, 2 in., 3 in. (4 in.), 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC): 30.33	Well Evacuation Method (peristaltic, bladder pump, other):
Depth to Water (ft. BTOC): 17.43	Screen Interval (ft. BGS): 25-30
Begin Well Evacuation (Time): 1140	Evacuation Rate (Lpm): 0.2
Stop Evacuation (Time/Reason):	Restart Time:
	Headspace (ppm): 0.0

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1145	1L	17.57	14.5	822	0.41	6.84	76.1	5.34
1150	2L	17.59	14.5	799	0.26	6.88	46.7	2.59
1155	3L	17.59	14.4	790	0.20	6.90	35.0	1.59
1200	4L	17.61	14.3	787	0.16	6.90	25.1	2.55
1205	5L	17.62	14.3	782	0.15	6.91	14.4	0.71
1210	6L	17.62	14.4	780	0.13	6.91	6.8	0.62
1215	7L	17.62	14.5	779	0.12	6.91	1.1	0.64
1220	8L	17.62	14.5	779	0.11	6.91	-3.2	1.26

Red font indicates stabilization criteria to be achieved over three consecutive readings.

Final Depth to Water (ft. BTOC): 17.62	Drawdown Observed (ft): 0.19
Odor: (YES) / NO sulfur smell	Well Pumped Dry: YES (NO)
End Well Evacuation (Time): 1251	Total Volume Purged (L): 8L

SAMPLE COLLECTION INFORMATION

Sample ID: 54MW10	PARAMETERS (Circle all applicable):
Sample Date & Time: 10/20/25 1220	SWMU 49: VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID: 54TW10	SWMU 54: Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L): 0.3	Sample Collection Method: (Low Flow) Other:
Ferrous Iron (mg/L): 0.23	Sample Collection Depth (ft. BTOC): 16.93

COMMENTS

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 10/20/25
Well ID: 54MW12	Weather: 58° Sunny
Sampling Team: C. Taylor, Y. Miyakawa	Sampler's Signature:

WELL INSPECTION

Protective Casing: (Intact)/Damaged	Well ID Tag Condition: ID on casing
Locked: (YES) / NO	Measuring Point Marked: (YES) / NO
Concrete Base: (Intact)/Damaged	Comments:
Casing Diameter: ½ in., ¾ in., 1 in., 1 ½, (2 in.), 3 in., 4 in., 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC): 32.98	Well Evacuation Method (peristaltic, bladder pump, other):
Depth to Water (ft. BTOC): 26.85	Screen Interval (ft. BGS): 25-30
Begin Well Evacuation (Time): 1333	Evacuation Rate (Lpm): 0.25
Stop Evacuation (Time/Reason):	Restart Time:
	Headspace (ppm): 0.0

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1338	1.25	26.87	14.1	605	0.77	6.91	122.2	76.1
1343	2.5	26.87	14.1	547	2.05	6.75	120.9	73.8
1348	3.75	26.87	14.2	445.3	4.52	6.54	127.0	30.5
1353	5.0	26.87	14.2	417.5	5.22	6.48	130.7	9.64
1358	6.25	26.87	14.2	398.5	5.39	6.48	133.7	2.89
1403	7.5	26.87	14.2	382.3	5.66	6.42	135.7	1.71
1408	8.75	26.87	14.2	378.9	5.64	6.41	137.7	1.03
1413	10.00	26.87	14.2	377.6	5.79	6.42	138.8	0.75

Red font indicates stabilization criteria to be achieved over three consecutive readings.

Final Depth to Water (ft. BTOC): 26.87	Drawdown Observed (ft): 0.02
Odor: YES / (NO)	Well Pumped Dry: YES / (NO)
End Well Evacuation (Time): 1436	Total Volume Purged (L): 10 L

SAMPLE COLLECTION INFORMATION

Sample ID: 54MW12	PARAMETERS (Circle all applicable):
Sample Date & Time: 10/20/25 1413	SWMU 49: VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID: ———	(SWMU 54): Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L): 0.2	Sample Collection Method: (Low Flow) Other:
Ferrous Iron (mg/L): 0.16	Sample Collection Depth (ft. BTOC): 32.48

COMMENTS

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 10/20/25
Well ID: 54MW1	Weather: 60°, Sunny
Sampling Team: P. Taylor, Y. Miyakawa	Sampler's Signature:

WELL INSPECTION

Protective Casing: (Intact)/Damaged	Well ID Tag Condition: ID written on casing cap; Tag on lid
Locked: (YES) / NO	Measuring Point Marked: (YES) / NO
Concrete Base: (Intact)/Damaged	Comments:
Casing Diameter: ½ in., ¾ in., 1 in., 1 ½, (2 in.), 3 in., 4 in., 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC): 57.39	Well Evacuation Method: (peristaltic), bladder pump, other):
Depth to Water (ft. BTOC): 20.95	Screen Interval (ft. BGS): 50-55
Begin Well Evacuation (Time): 1500	Evacuation Rate (Lpm): 0.25
Stop Evacuation (Time/Reason):	Restart Time:
	Headspace (ppm): 0.0

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1505	1.25	21.64	14.5	435.6	0.50	7.13	70.9	1.52
1510	2.5	21.97	14.4	435.4	0.35	7.16	65.2	1.31
1515	3.75	22.41	14.3	435.6	0.28	7.16	64.1	0.77
1520	5.0	22.66	14.2	435.5	0.26	7.18	63.7	0.42
(YM) ~~1525~~	~~6.25~~							

Red font indicates stabilization criteria to be achieved over three consecutive readings.

Final Depth to Water (ft. BTOC): 22.66	Drawdown Observed (ft): 1.71
Odor: (YES) / NO little sulfur smell	Well Pumped Dry: YES / (NO)
End Well Evacuation (Time): 1551	Total Volume Purged (L): 5 L

SAMPLE COLLECTION INFORMATION

Sample ID: 54MW1	PARAMETERS (Circle all applicable):
Sample Date & Time: 10/20/25 1520	SWMU 49: VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID: —	SWMU 54: Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L): 0.2	Sample Collection Method: (Low Flow) Other:
Ferrous Iron (mg/L): 0.15	Sample Collection Depth (ft. BTOC): 56.89

COMMENTS

Synoptic Water Level Measurements

Radford Army Ammunition Plant SWMUs 49 & 54

Radford AAP, Virginia

Well Identification	Date	Time	Headspace Reading (ppm)	Depth to Water (ft BTOC)	Total Well Depth (ft BTOC)	Notes/Field Observations
SWMU 49						
13MW2	10/17/25	1122	0.0	22.05	30.49	Hard bottom
13MW3	10/17/25	1146	0.0	15.36	22.07	Soft bottom; vegetation in well
13MW4	10/17/25	1159	0.0	17.67	25.36	Hard bottom
13MW5	10/17/25	1211	0.0	18.21	25.35	Soft bottom
49MW04	10/17/25	1108	0.3	21.65	72.84	Hard bottom
49MW05	10/17/25	1137	0.0	20.40	39.40	Soft bottom
48MW1	10/17/25	1317	0.0	109.66	142.18	Soft bottom; muddy bottom
48MW2	10/17/25	1357	0.0	125.55	136.51	Soft bottom; muddy
48MW3	10/17/25	1411	0.0	99.03	122.31	Hard bottom
8MW6	10/17/25	1247	0.7	66.66	79.63	Soft bottom; muddy
48MW7	10/17/25	1235	0.6	50.52	83.72	Soft bottom
49MW01	10/17/25	1333	0.0	115.95	124.28	Soft bottom; muddy
49MW02	10/17/25	1424	0.0	95.85	134.66	Soft bottom
49MW03	10/17/25	1304	0.0	105.53	119.81	Soft bottom; muddy
50MW2	10/17/25	1346	0.0	117.07	120.43	Soft bottom; muddy
SWMU 54						
54MW1	10/20/25	1448	0.0	20.95	57.39	hard bottom
54MW10	10/20/25	1125	0.0	17.43	30.33	soft bottom
54MW12	10/20/25	1318	0.0	26.85	32.98	hard bottom
54MW13	10/20/25	0850	0.0	23.43	25.32	hard bottom

Key: ppm = parts per million ft = feet TOC = top of casing BTOC = below top of casing

320-10 FIELD INSPECTION REPORT

Contract Number:	W912DR19D0004	**Task Order No:**	W912DR24F0222	
CAPE Project No.:	10409-0222	**Date:**	20-Oct-25	
Project Location:	Radford Army Ammunition Plant, Radford, VA			
DFW:	SWMU 49 & SWMU 54 LTM Sampling	**Spec Sect.**		
Inspection Performed by:	Yoko Miyakawa			

1. DESCRIPTION OF WORK INSPECTED:

SWMU-54: Gauged and sampled wells 54MW13 (including MS/MSD), 54MW10 (including field duplicate "54TW10"), 54MW12, and 54MW1.
Dumped approximately 10 gallons of IDW water into SWMU-54 designated, labeled, 55-gal drum at ACD/BAE storage facility.
Sample "54IDW" taken for waste characterization analysis at 1625.

2. TYPE OF INSPECTION:

☑ Visual ☐ Dimensional
☐ Non-Destructive Examination (NDE) ☐ Other _____
☐ In Progress ☐ Final

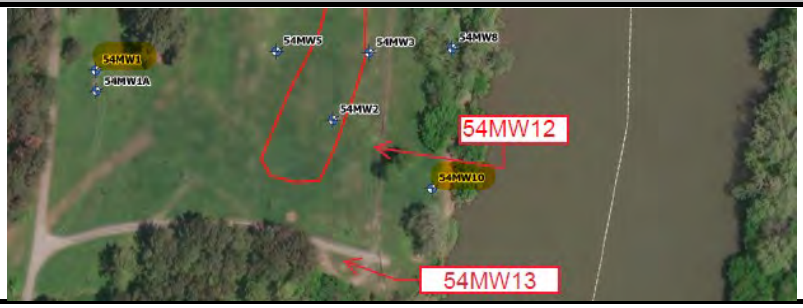
3. REFERENCED DRAWINGS / STANDARDS:

See below aerial view

4. FINDINGS:

Spectrophotometer was dead and required new batteries, likely due to the cold temperatures.
Wells inspected/sampled today did not have an ID on the exterior (54MW13, 54MW10, 54MW12, 54MW1).
Well 54MW10 concrete pad is covered in vegetation.

5. SKETCH, IF APPLICABLE:



Inspector: _____

Quality Control Representative: _____

CAPE

320-16 WASTE INVENTORY SUMMARY

Contract Number	W912DR19D0004	DO/TO No:	W912DR24F0222	CAPE Project #	10409-0222-002-003	Project Location	RAAP, Radford, VA

Process Generating Waste	Groundwater produced through purging and sampling the monitoring wells. IDW water from SWMU 48/49 is captured and maintained separately from SWMU 54 IDW water throughout the handling process.

Load Number	Date	Description	Quantity (TNS or GAL)	Waste Classification	Receiving Disposal Facility	Method of Disposal	Date of Disposal or Destruction
1	8/19/24	IDW waste from SWMU 49	7 gal	Pending Analysis	—		
2	8/20/24	IDW + decon water from SWMU 54	8 gal	Pending Analysis	—		
3	8/21/24	IDW + decon water from SWMU 49	4 gal	Pending Analysis	—		
4	8/22/24	IDW + decon water from SWMU 49	6 gal	Pending Analysis	—		
5							
6	12/9/24	IDW from SWMU 49	15 gal	Pending Analysis	—		
7	12/10/24	IDW + decon water SWMU 54	10 gal	Pending Analysis	—		
8	12/11/24	IDW + decon water SWMU 49	5 gal	Pending Analysis	—		
9	12/12/24	IDW + decon water SWMU 49	6 gal	Pending Analysis	—		
10	12/13/24	IDW + decon water SWMU 49	4 gal	Pending Analysis	—		
11							
12	IDW drum	SWMU 49 has ~45 gallons total		(as of 12/13/24)			
13	IDW drum	SWMU 54 has ~20 gallons total		(as of 12/13/24)			
14							
15	5/19/25	IDW + decon water SWMU 54	11 gal	Pending Analysis	—		
16	5/20/25	IDW + decon water SWMU 49	9 gal	Pending Analysis	—		
17	5/21/25	IDW + decon water SWMU 49 (Drum #2)	7 gal	Pending Analysis	—		
18	5/22/25	IDW + decon water SWMU 49 (Drum 2)	5 gal	Pending Analysis	—		
19							
20	IDW Drum #1	SWMU 48/49 has ~54 gallons total as of 5/22/25 (FULL)					
21	IDW Drum #2	SWMU 48/49 has ~12 gallons total as of 5/22/25					
22	IDW Drum	SWMU 54 has ~31 gallons total as of 5/22/25					
23							
24	10/20/25	IDW + decon water SWMU 54	10 gal	Pending Analysis	—		
25							
26							
27							
28							
29							
30							
31							
32							

TOTAL QUANTITY:

0.00

CAPE

SITE CONTROL LOG

Date / Day: Monday, October 20, 2025

Project Name/Number: RADFORD ARMY AMMUNITION PLANT-SWMU 49 & SWMU 54 SAMPLING / CONTRACT W912DR19D0004, TASK ORDER W912DR24F0222

Project Location: RADFORD ARMY AMMUNITION PLANT, RADFORD, VA

Time		Name (Print)	Signature	DO YOU HAVE AN INJURY TO REPORT? Y/N	Organization
In	Out				
0734	1642	YokoMiyakawa		N	CAPE
0734	1642	Paul I. Taylor		N	Weston

TAILGATE SAFETY MEETING RECORD

DATE/TIME:	Monday, October 20, 2025
PROJECT NAME:	Radford Army Ammunition Plant-SWMU 49 & SWMU 54 Sampling
PROJECT LOCATION:	Radford Army Ammunition Plant, Radford, VA
CAPE PROJECT NUMBER:	CO: W912DR19D0004, TO: W912DR24F0222
PROJECT MANAGER:	Matthew Feits
SITE SUPERINTENDENT:	
SITE HEALTH & SAFETY:	Yoko Miyakawa

SAFETY TOPICS PRESENTED	
Slips, trips, falls; Distractions	
Protective Clothing/Equipment:	
Modified Level D PPE	Gloves as required
High visibility vests/outerwear as required	
Safety Toe Boots and Safety Glasses required	
Chemical Hazards:	
Potential for contact with the ground water and preservatives	
Physical Hazards:	
Slip, trip, and falls	Inclement weather
Heat stress	Drum handling
Biological hazards	
Emergency Procedures:	
Provide first aid to your level of training. Contact 911 for Emergency if required. Notify your supervisor and the SSHO.	
Emergency Hospital:	Carilion New River Valley Medical Center, 2900 Lamb Cir, Christiansburg, VA 24073
Hospital Telephone Number:	(540) 731-2000
Hospital Direction:	Map in APP
Special Equipment:	
By signing this form, I confirm that I have not been previously injured on this job without informing my supervisor, and that I will immediately report all incidents/injuries to my supervisors in the future.	

SAFETY MEETING ATTENDEES

#	Printed Name	Initial	#	Printed Name	Initial
1.	Yoko Miyakawa	YM	16.		
2.	Paul I. Taylor	PIT	17.		
3.			18.		
4.			19.		
5.			20.		
6.			21.		
7.			22.		
8.			23.		
9.			24.		
10.			25.		
11.			26.		
12.			27.		
13.			28.		
14.			29.		
15.			30.		

Meeting Conducted By:

Signature _____

FedEx®

Address: 305 ROANOKE STREET
CHRISTIANSBURG
VA 24073
Location: WALA
Device ID: -BTC01

FedEx Express Package(s) - Dropped Off
Tracking Number:
461950128328 50.00 lb (M)

FedEx Express Package(s) - Dropped Off
Tracking Number:
461950128340 58.4 lb (M)

FedEx Express Package(s) - Dropped Off
Tracking Number:
885277209879 69.8 lb (M)

Total Pieces: 3

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Oct 20, 2025 5:55:29 PM

Radford Army Ammunition Plant
Radford, VA

10/20/25 125

Personnel: Y. Miyakawa (ARS), P. Taylor (Weston)

Weather: 42°F, Clear

Objective: GW Sampling @ SWMU 49+54

0734 P. Taylor + Y. Miyakawa arrive to visitor center to get badging

0748 meeting Laura Dickerson (US Army) for site keys at building 220 - M. Alberts is off today

0758 heading to MW-1 trash site to drop off cardboard

0816 at burning grounds to coordinate w/ SUPS - he says we need to sample after they burn in AM.

0823 arrive @ 54MW13; setting up + completing safety meeting + paperwork

0838 performing calibrations:

YSI Pro DSS: #650730

pH 4 ⟶ 4.00 pH

pH 7 ⟶ 7.06 pH

pH 10 ⟶ 10.16 pH

ORP 240 mV → 241.0

1.413 mS/cm cond → 1.410

PID: RFW2377

100 ppm isobutylene ⟶ 100.1 ppm

Turbidity meter: HACH 2100Q Lot# 232967

10 NTU → 9.89

20 NTU → 20.1

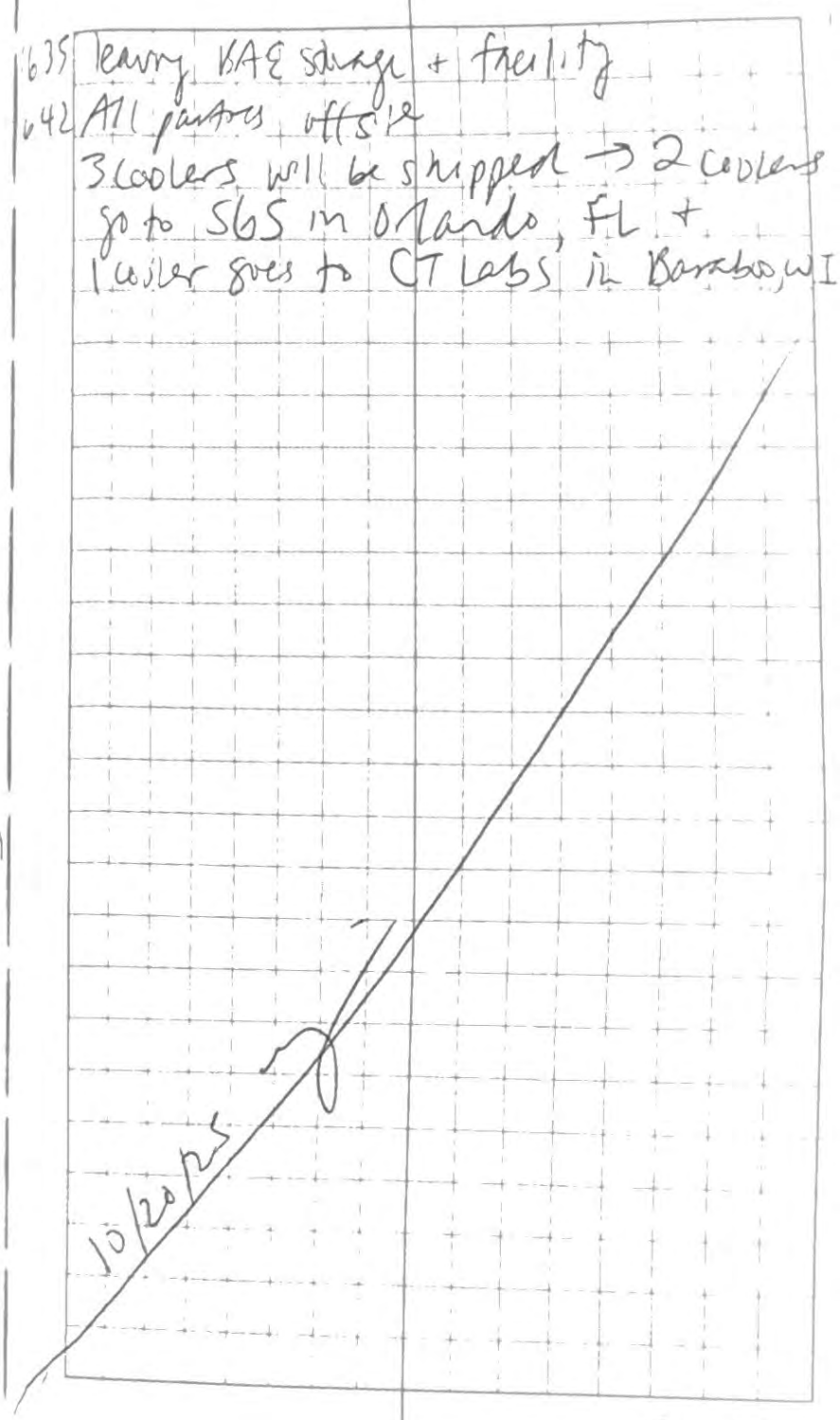
100 NTU → 99.8

800 NTU → 789

Rite in the Rain.

0550 taking headspace reading. + DTW @ 54MW13
DTW: 23.43'
0907 starting purge @ 54MW13
0950 HACH Spectrophotometer (DR12010) was dead + needed new batteries → cold temp related
* P. Taylor was onsite 10/15/25 for vehicle test + to get vendor passes. He also took Synoptic water level readings @ all wells @ SWMU 49 on 10/17/25 + received permits prior to mobilization on 10/20/25
1120 finished sampling; moving to 54MW10
1125 setting up @ 54MW10 + taking readings
1140 purging well 54MW10; finished samples + going to restrooms
1318 setting up at 54MW12
1445 finished sampling + moving to SWMU54 (last well)
1450 setting up @ 54MW1 + taking readings
1600 finished sampling; cleaning up to head to AUD / BAE storage to dump IDW + sample
1623 dumping approx. 10 gal IDW into SWMU54 labeled, 55-gal drum (purge decon water) Drum in good condition - 2/3's full.
1625 taking IDW sample "54IDW"
Drum #1 SWMU 49 is good
Drum # 2 SWMU 49 requires label; added new label

1635 leaving BAE storage + facility
1642 All parties offsite
3 coolers will be shipped → 2 coolers go to S&S in Orlando, FL + 1 cooler goes to CT Labs in Barstow, WI



Rite in the Rain

21 October 2025

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: CAPE Environmental
Project Contact: Matt Feits
Telephone: (724) 622-3625
Project Name: Radford AAP
Project #: SWMU 48/49
Location: Radford, VA
Sampled By: Y. Miyakawa, P. Taylor

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To: Chemistry SVCS@capeinc.com
EMAIL: mfeits@cape-inc.com
Company: CAPE Environmental Mgmt.
Address: 500 Pinnacle Ct. #100
Norcross, GA 30071

Invoice To:* Same
EMAIL:
Company:
Address:

**Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions*

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

2025 Collection Date	Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	VOC 8260C	MEE RSK-175	TOC 9060A	Anions 9056A	Total # Containers	Designated MS/MSD
							Fill in Spaces with Bottles per Test					
10/21	0000	GW	G		TB-1	N	2				2	
10/21	0935	GW	G		48MW7	N	3	2	1	1	7	
10/21	1005	GW	G		48MW7-EQB	N	3	2	1	1	7	
10/21	1137	GW	G		13MW5	N	9	6	3	3	21	X
10/21	1325	GW	G		13MW4	N	3	2	1	1	7	
10/21	1458	GW	G		13MW3	N	3	2	1	1	7	

Trip Blank

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

CT Lab ID #
Lab use only

Relinquished By:	Date/Time	Received By:	Date/Time
	10/21/2025 1800	FedEx	10/21/2025 1800
Received by:	Date/Time	Received for Laboratory by:	Date/Time

Lab Use Only
Ice Present Yes No
Temp _____ IR Gun _____
Cooler # _____

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: Cape Environmental
Project Contact: Matt Feits
Telephone: (724) 622-3625
Project Name: Radford AAP SWMU 54
Project #:
Location: Radford, VA
Sampled By: Y. Miyakawa, P. Taylor

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To: Chemistry SVCS@cape-inc.com
EMAIL: mfeits@cape-inc.com
Company: CAPE Environmental Mgmt.
Address: 500 Pinnacle Court #100
Norcross, GA 30071
Invoice To:* EMAIL:
Company: same
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

2025 Collection Date	Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: MEE RSK-175	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test			
10/21	1230	GW	G		54MW12	N	2	2		
10/21	1245	GW	G		54MW1	N	2	2		

Relinquished By:	Date/Time	Received By:	Date/Time	Lab Use Only
	10/21/2025 1808	FedEx	10/21/2025 1800	Ice Present Yes No
Received by:	Date/Time	Received for Laboratory by:	Date/Time	Temp _____ IR Gun _____
				Cooler # _____

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 10/21/25
Well ID: 54MW12	Weather:
Sampling Team: V Taylor, Y. Miyakawa	Sampler's Signature:

WELL INSPECTION

Protective Casing: Intact/Damaged	Well ID Tag Condition:
Locked: YES / NO	Measuring Point Marked: YES / NO
Concrete Base: Intact/Damaged	Comments:
Casing Diameter: ½ in., ¾ in., 1 in., 1 ½, 2 in., 3 in., 4 in., 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC):	Well Evacuation Method (peristaltic, bladder pump, other):
Depth to Water (ft. BTOC):	Screen Interval (ft. BGS):
Begin Well Evacuation (Time):	Evacuation Rate (Lpm):
Stop Evacuation (Time/Reason):	Restart Time:
	Headspace (ppm):

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
Did not need to stabilize, per M. Greenwald (CABE) - within 24 hrs of collecting sample on 10/20/25								

Red font indicates stabilization criteria to be achieved over three consecutive readings.

Final Depth to Water (ft. BTOC):	Drawdown Observed (ft):
Odor: YES / NO	Well Pumped Dry: YES / NO
End Well Evacuation (Time):	Total Volume Purged (L):

SAMPLE COLLECTION INFORMATION

Sample ID: 54MW12	PARAMETERS (Circle all applicable):
Sample Date & Time: 10/21/25 1230	SWMU 49: VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID: —	SWMU 54: ~~Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn~~ MEE only
Manganese (mg/L): see 10/20/25 sheet	Sample Collection Method: (Low Flow) Other:
Ferrous Iron (mg/L): see 10/20/25 sheet	Sample Collection Depth (ft. BTOC):

COMMENTS

resample due to missing MEE analysis

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 10/21/25
Well ID: 54MW1	Weather:
Sampling Team: P. Taylor, M. McGraw	Sampler's Signature:

WELL INSPECTION

Protective Casing: Intact/Damaged	Well ID Tag Condition:
Locked: YES / NO	Measuring Point Marked: YES / NO
Concrete Base: Intact/Damaged	Comments:
Casing Diameter: ½ in., ¾ in., 1 in., 1 ½, 2 in., 3 in., 4 in., 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC):	Well Evacuation Method (peristaltic, bladder pump, other):
Depth to Water (ft. BTOC):	Screen Interval (ft. BGS):
Begin Well Evacuation (Time):	Evacuation Rate (Lpm) :
Stop Evacuation (Time/Reason):	Restart Time:
	Headspace (ppm):

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
Did not need to restabilize, per M. Greenwald – within 24 hrs of collecting sample on 10/20/25								

Red font indicates stabilization criteria to be achieved over three consecutive readings.

Final Depth to Water (ft. BTOC):	Drawdown Observed (ft):
Odor: YES / NO	Well Pumped Dry: YES / NO
End Well Evacuation (Time):	Total Volume Purged (L):

SAMPLE COLLECTION INFORMATION

Sample ID: 54MW1	PARAMETERS (Circle all applicable):
Sample Date & Time: 10/21/25 1230 (PM) 1245	SWMU 49: VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID: —	SWMU 54: ~~Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn~~ MEE only
Manganese (mg/L): See 10/20/25 sample sheet	Sample Collection Method: (Low Flow) Other:
Ferrous Iron (mg/L): See 10/20/25 sheet	Sample Collection Depth (ft. BTOC):

COMMENTS

Resample due to missing MEE analysis

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 10/21/25
Well ID: 48MW07	Weather: 41° Foggy
Sampling Team: P. Taylor, Y. Miyakawa	Sampler's Signature:

WELL INSPECTION

Protective Casing: (Intact)/Damaged	Well ID Tag Condition: Labeled on casing
Locked: (YES) / NO	Measuring Point Marked: (YES) / NO
Concrete Base: (Intact)/Damaged	Comments: muddy during purging
Casing Diameter: ½ in., ¾ in., 1 in., 1 ¼, (2 in.), 3 in., 4 in., 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC): 53.12	Well Evacuation Method (peristaltic, (bladder pump), other):
Depth to Water (ft. BTOC): 50.59	Screen Interval (ft. BGS):
Begin Well Evacuation (Time): 0900	Evacuation Rate (Lpm): 0.1
Stop Evacuation (Time/Reason):	Restart Time:
	Headspace (ppm): 0.0

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
0905	0.5	51.30	12.8	203.3	7.85	7.53	200.1	overrange
0910	1.0	51.88	13.0	202.9	7.76	7.88	195.2	overrange
0915	1.5	52.16	13.1	202.7	7.72	7.92	187.4	overrange
0920	2.0	52.46	13.0	202.6	7.70	8.00	127.2	overrange
0925	2.5	52.70	13.0	202.8	7.67	8.00	136.5	886
0930	3.0	52.88	13.1	202.7	7.63	8.03	139.7	823
0935	3.5	53.04	13.0	203.0	7.59	8.05	140.4	703

Red font indicates stabilization criteria to be achieved over three consecutive readings.

Final Depth to Water (ft. BTOC): 53.04	Drawdown Observed (ft): 2.45
Odor: YES / (NO)	Well Pumped Dry: YES / (NO)
End Well Evacuation (Time): 0953	Total Volume Purged (L): 3.5

SAMPLE COLLECTION INFORMATION

Sample ID: 48MW7	PARAMETERS (Circle all applicable):
Sample Date & Time: 10/21/25 0935	(SWMU 49) VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID: —	SWMU 54: Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L): 0.9	Sample Collection Method: (Low Flow) Other:
Ferrous Iron (mg/L): 0.58	Sample Collection Depth (ft. BTOC): 51.72

COMMENTS

all parameters stable except Turbidity — taking sample

Equipment Blank Taken here: 48MW7-EQB @ 1005

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 10/21/25
Well ID: 13MW5	Weather: 58°F, Sunny
Sampling Team: P Taylor, Y. McKenna	Sampler's Signature:

WELL INSPECTION

Protective Casing: (Intact)/Damaged	Well ID Tag Condition: Good
Locked: (YES) / NO	Measuring Point Marked: (YES) / NO
Concrete Base: (Intact)/Damaged	Comments:
Casing Diameter: ½ in., ¾ in., 1 in., 1 ½, 2 in., 3 in., (4 in.), 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC): 25.35	Well Evacuation Method: (peristaltic) / bladder pump, other):
Depth to Water (ft. BTOC): 18.01	Screen Interval (ft. BGS):
Begin Well Evacuation (Time): 1107	Evacuation Rate (Lpm): 0.2
Stop Evacuation (Time/Reason):	Restart Time:
	Headspace (ppm): 0.6

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1112	1.0	18.04	15.4	789	2.27	6.93	143.1	209
1117	2.0	18.04	15.4	789	2.05	6.97	141.4	71.3
1122	3.0	18.04	15.4	789	2.01	7.00	140.0	48.9
1127	4.0	18.04	15.4	788	2.07	7.01	138.9	21.3
1132	5.0	18.04	15.4	788	2.16	7.01	138.7	12.0
1137	6.0	18.04	15.5	787	2.21	7.00	138.7	7.64
(YM) ~~1142~~	~~7.0~~							
~~1147~~	~~8.0~~							

Red font indicates stabilization criteria to be achieved over three consecutive readings.

Final Depth to Water (ft. BTOC): 18.04	Drawdown Observed (ft): 0.03
Odor: YES / (NO)	Well Pumped Dry: YES / (NO)
End Well Evacuation (Time): 1210	Total Volume Purged (L): 6.0

SAMPLE COLLECTION INFORMATION

Sample ID: 13MW5	PARAMETERS (Circle all applicable):
Sample Date & Time: 10/21/25 1137	(SWMU 49:) VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID: —	SWMU 54: Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L): 0.2	Sample Collection Method: (Low Flow) Other:
Ferrous Iron (mg/L): 0.14	Sample Collection Depth (ft. BTOC): 20.05

COMMENTS

MS/MSDs taken here

Everything stabilized except Turbidity, but below 10 NTUs — taking sample

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 10/21/25
Well ID: 13MW4	Weather: 67°, Sunny
Sampling Team: P. Taylor, A. McKeever	Sampler's Signature:

WELL INSPECTION

Protective Casing: Intact/Damaged	Well ID Tag Condition: well sign bent
Locked: YES / NO	Measuring Point Marked: YES / NO
Concrete Base: Intact/Damaged	Comments:
Casing Diameter: ½ in., ¾ in., 1 in., 1 ½, 2 in., 3 in., 4 in., 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC): 25.36	Well Evacuation Method (peristaltic, bladder pump, other):
Depth to Water (ft. BTOC): 17.80	Screen Interval (ft. BGS): 20-25
Begin Well Evacuation (Time): 1310	Evacuation Rate (Lpm): 0.25
Stop Evacuation (Time/Reason):	Restart Time:
	Headspace (ppm): 0.0

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1315	1.25	18.09	16.4	545	0.46	7.02	140.2	8.43
1320	2.5	18.25	16.4	544	0.32	7.06	136.6	7.11
1325	3.75	18.43	16.5	545	0.27	7.08	133.9	6.13

Red font indicates stabilization criteria to be achieved over three consecutive readings.

Final Depth to Water (ft. BTOC): 18.43	Drawdown Observed (ft): 0.63
Odor: YES (NO)	Well Pumped Dry: YES (NO)
End Well Evacuation (Time): 1336	Total Volume Purged (L): 3.75

SAMPLE COLLECTION INFORMATION

Sample ID: 13MW4	PARAMETERS (Circle all applicable):
Sample Date & Time: 10/21/25 ~~0~~ 1325	~~SWMU 49:~~ VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID: ———	SWMU 54: Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L): 0.3	Sample Collection Method: ~~Low Flow~~ Other:
Ferrous Iron (mg/L): 0.14	Sample Collection Depth (ft. BTOC): 24.86

COMMENTS

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 10/21/25
Well ID: 13MW3	Weather: 69°, Sunny, Windy
Sampling Team: P. Taylor, Y. Miyakawa	Sampler's Signature:

WELL INSPECTION

Protective Casing: (Intact)/Damaged	Well ID Tag Condition: Good
Locked: (YES) / NO	Measuring Point Marked: (YES) / NO
Concrete Base: (Intact)/Damaged	Comments:
Casing Diameter: ½ in., ¾ in., 1 in., 1 ½, 2 in., 3 in., (4 in.), 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC): 22.07	Well Evacuation Method (peristaltic, bladder pump, other):
Depth to Water (ft. BTOC): 15.84	Screen Interval (ft. BGS): 15-20
Begin Well Evacuation (Time): 1358	Evacuation Rate (Lpm): 0.250
Stop Evacuation (Time/Reason):	Restart Time:
	Headspace (ppm): 0.0

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1403	1.25	15.84	17.4	685	0.47	6.68	-63.5	10.0
1408	2.5	15.84	17.3	668	0.53	6.76	-49.8	6.49
1413	3.75	15.84	17.4	640	0.00	6.82	-19.4	5.76
1418	5.0	15.84	17.4	621	1.59	6.83	+13.2	5.17
1423	6.25	15.84	17.4	610	1.81	6.84	34.1	5.70
1428	7.5	15.84	17.5	592	2.46	6.84	49.7	3.70
1433	8.75	15.84	17.5	577	2.90	6.83	61.0	3.37
1438	10.0	15.84	17.5	569	3.01	6.83	69.6	2.58
1443	11.25	15.84	17.5	565	3.25	6.82	76.4	2.31
1448	12.5	15.84	17.5	561	3.37	6.83	81.1	1.62
1453	13.75	15.84	17.4	560	3.65	6.82	84.7	1.30
1458	15.0	15.84	17.5	558	3.57	6.82	87.9	1.20

Red font indicates stabilization criteria to be achieved over three consecutive readings.

Final Depth to Water (ft. BTOC): 15.84	Drawdown Observed (ft): 0.0
Odor: (YES) / NO Sulfur	Well Pumped Dry: YES / (NO)
End Well Evacuation (Time):	Total Volume Purged (L): 15

SAMPLE COLLECTION INFORMATION

Sample ID: 13MW3	PARAMETERS (Circle all applicable):
Sample Date & Time: 10/21/25 1458	(SWMU 49): VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID: ———	SWMU 54: Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L): 0.0	Sample Collection Method: (Low Flow) Other:
Ferrous Iron (mg/L): 0.14	Sample Collection Depth (ft. BTOC): 21.57

COMMENTS

320-10 FIELD INSPECTION REPORT

Contract Number:	W912DR19D0004	**Task Order No:**	W912DR24F0222	
CAPE Project No.:	10409-0222	**Date:**	21-Oct-25	
Project Location:	Radford Army Ammunition Plant, Radford, VA			
DFW:	SWMU 49 & SWMU 54 LTM Sampling	**Spec Sect.**		
Inspection Performed by:	Yoko Miyakawa			

1. DESCRIPTION OF WORK INSPECTED:

SWMU-49: Gauged and sampled wells, 48MW7, 13MW5, 13MW4, and 13MW3.
Equipment blank taken at well 48MW7 at 1005 on deconned bladder pump; sample "48MW7-EQB."
SWMU-54: Sampled for dissolved gases at wells 54MW1 and 54MW12.
Dumped approximately 10 gallons of IDW water into SWMU-49 designated, labeled, 55-gal drum and 250mL of IDW water into SWMU-55 designated, labeled, 55-gal drum at ACD/BAE storage facility.

2. TYPE OF INSPECTION:

☑ Visual ☐ Dimensional
☐ Non-Destructive Examination (NDE) ☐ Other _____
☐ In Progress ☐ Final

3. REFERENCED DRAWINGS / STANDARDS:

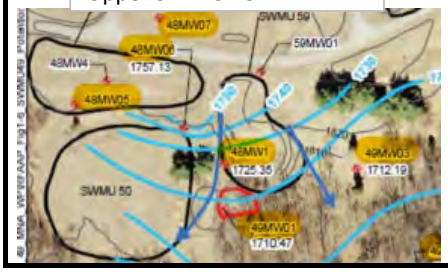
See below aerial view

4. FINDINGS:

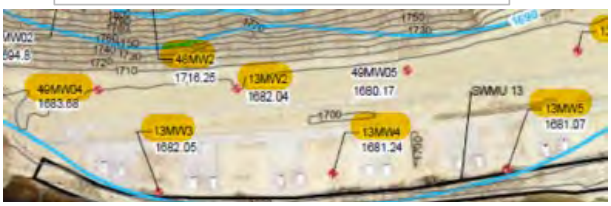
Burning grounds wells accessible to sample in the afternoons after incineration.
Samples for dissolved gases analysis were inadvertently missed for SWMU 54 samples yesterday; by direction of Margaret Greenwald (CAPE) to collect the samples within 24 hours without needing to restabilize the wells, samples were collected at 54MW1 and 54MW12. The remaining wells will be restabilized and sampled for dissolved gases this week.

5. SKETCH, IF APPLICABLE:

Upper SWMU 49



Lower SWMU 49; Burning Grounds



Inspector: _____

Quality Control Representative: _____

CAPE

320-16 WASTE INVENTORY SUMMARY

Contract Number	W912DR19D0004	DO/TO No:	W912DR24F0222	CAPE Project #	10409-0222-002-003	Project Location	RAAP, Radford, VA

Process Generating Waste	Groundwater produced through purging and sampling the monitoring wells. IDW water from SWMU 48/49 is captured and maintained separately from SWMU 54 IDW water throughout the handling process.

Load Number	Date	Description	Quantity (TNS or GAL)	Waste Classification	Receiving Disposal Facility	Method of Disposal	Date of Disposal or Destruction
1	8/19/24	IDW waste from SWMU 49	7 gal	Pending Analysis	—		
2	8/20/24	IDW + decon water from SWMU 54	8 gal	Pending Analysis	—		
3	8/21/24	IDW + decon water from SWMU 49	4 gal	Pending Analysis	—		
4	8/22/24	IDW + decon water from SWMU 49	6 gal	Pending Analysis	—		
5							
6	12/9/24	IDW from SWMU 49	15 gal	Pending Analysis	—		
7	12/10/24	IDW + decon water SWMU 54	10 gal	Pending Analysis	—		
8	12/11/24	IDW + decon water SWMU 49	5 gal	Pending Analysis	—		
9	12/12/24	IDW + decon water SWMU 49	6 gal	Pending Analysis	—		
10	12/13/24	IDW + decon water SWMU 49	4 gal	Pending Analysis	—		
11							
12	IDW drum	SWMU 49 has ~45 gallons total			(as of 12/13/24)		
13	IDW drum	SWMU 54 has ~20 gallons total			(as of 12/13/24)		
14							
15	5/19/25	IDW + decon water SWMU 54	11 gal	Pending Analysis	—		
16	5/20/25	IDW + decon water SWMU 49	9 gal	Pending Analysis	—		
17	5/21/25	IDW + decon water SWMU 49 (Drum #2)	7 gal	Pending Analysis	—		
18	5/22/25	IDW + decon water SWMU 49 (Drum 2)	5 gal	Pending Analysis	—		
19							
20	IDW Drum #1	SWMU 48/49 has ~54 gallons total as of 5/22/25 (FULL)					
21	IDW Drum #2	SWMU 48/49 has ~12 gallons total as of 5/22/25					
22	IDW Drum	SWMU 54 has ~31 gallons total as of 5/22/25					
23							
24	10/20/25	IDW + decon water SWMU 54	10 gal	Pending Analysis	—		
25	10/21/25	IDW + decon water SWMU 49 (drum 2)	10 gal	Pending Analysis	—		
26	10/21/25	IDW + decon SWMU 54	200mL	Pending Analysis	—		
27							
28							
29							
30							
31							
32							

TOTAL QUANTITY:

0.00

CAPE

SITE CONTROL LOG

Date / Day: Tuesday, October 21, 2025

Project Name/Number: RADFORD ARMY AMMUNITION PLANT-SWMU 49 & SWMU 54 SAMPLING / CONTRACT W912DR19D0004, TASK ORDER W912DR24F0222

Project Location: RADFORD ARMY AMMUNITION PLANT, RADFORD, VA

Time		Name (Print)	Signature	DO YOU HAVE AN INJURY TO REPORT? Y/N	Organization
In	Out				
0746	1547	Paul I Taylor		N	Weston
0740	1547	YOKO MIYAKAWA		N	CAPE

TAILGATE SAFETY MEETING RECORD

DATE/TIME:	Tuesday, October 21, 2025
PROJECT NAME:	Radford Army Ammunition Plant-SWMU 49 & SWMU 54 Sampling
PROJECT LOCATION:	Radford Army Ammunition Plant, Radford, VA
CAPE PROJECT NUMBER:	CO: W912DR19D0004, TO: W912DR24F0222
PROJECT MANAGER:	Matthew Feits
SITE SUPERINTENDENT:	
SITE HEALTH & SAFETY:	Yoko Miyakawa

SAFETY TOPICS PRESENTED	
biological hazards	
Protective Clothing/Equipment:	
Modified Level D PPE	Gloves as required
High visibility vests/outerwear as required	
Safety Toe Boots and Safety Glasses required	
Chemical Hazards:	
Potential for contact with the ground water and preservatives	
Physical Hazards:	
Slip, trip, and falls	Inclement weather
Heat stress	Drum handling
Biological hazards	
Emergency Procedures:	
Provide first aid to your level of training. Contact 911 for Emergency if required. Notify your supervisor and the SSHO.	
Emergency Hospital:	Carilion New River Valley Medical Center, 2900 Lamb Cir, Christiansburg, VA 24073
Hospital Telephone Number:	(540) 731-2000
Hospital Direction:	Map in APP
Special Equipment:	
By signing this form, I confirm that I have not been previously injured on this job without informing my supervisor, and that I will immediately report all incidents/injuries to my supervisors in the future.	

SAFETY MEETING ATTENDEES

#	Printed Name	Initial	#	Printed Name	Initial
1.	Paul I Taylor		16.		
2.	Yoko Miyakawa		17.		
3.			18.		
4.			19.		
5.			20.		
6.			21.		
7.			22.		
8.			23.		
9.			24.		
10.			25.		
11.			26.		
12.			27.		
13.			28.		
14.			29.		
15.			30.		

Meeting Conducted By:

Signature _____

FedEx

Address: 305 ROANOKE STREET
CHRISTIANSBURG
VA 24073
Location: WALA
Device ID: -BTC01

FedEx Express Package(s) - Dropped Off
Tracking Number:
885327024275 51.4 lb (M)

Total Pieces: 1

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1.800.463.3339

Oct 21, 2025 4:50:42 PM

Radford Army Ammunition Plant
Radford, VA

10/21/25

Personnel: Y. Miyakawa (CAPE), P. Taylor (Wood)

Weather: 38°F, Hazy/Foggy

Objective: GW sampling at SWMU49

0740 P. Taylor + Y. Miyakawa onsite & checked through guard stands at burning grounds to coordinate with SUPS; he is not here currently

Cal. bracketing equipment
YSI Pro DSS:
pH 4 – 4.00 pH
pH 7 – 7.06 pH
pH 10 – 10.09 pH
ORP 240 mV – 239.9 mV
SpC 1.413 mS/cm – 1407 µS/cm
Turbidity meter
10 NTU – 9.90
20 NTU – 20.6
100 NTU – 100.0
800 NTU – 782.

SUPS returned – finish burning by 10am, we will start @ upper level & return @ 10am

0830 Setting up @ 48MW7
0900 purging well 48MW7; bladder pump set to 20-40 cycle & ~100 ft depth throttle.
1005 Equipment Blank collected: "48MW7-EQB"
1100 Setting up @ 13MW5
1137 purging & collecting sample including MS/MSD; spoke w/ S. Miller (CAPE) about missing analyses from SWMU54 samples yesterday. J. Russell & M. Greenwald (CAPE) instructed us to collect samples before 24 hr that will require restabilization
1221 setting up @ 54MW12 for dissolved gases sampling
1250 collecting samples for diss. gases for sample 54MW12
1236 heading to 54MW1
1245 sample collected for diss. gases for sample 54MW1
1259 setting up at 13MW4
1343 done sampling & heading to 13MW3
1517 finished sampling at 13MW3; cleaning up to head to BAE shop & T/TH trash
1548 dumped 10gal IDW into SWMU49 drum & 200mL IDW into SWMU54 drum
1557 All parties off site

samples will ship to CT Labs in Baraboo, WI

10/21/25

22 October 2025

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: CAPE Environmental
Project Contact: Matt Feits
Telephone: (724) 622-3625
Project Name: Radford AAP SWMU 54
Project #:
Location: Radford, VA
Sampled By: Y. Miyakawa, P. Taylor

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To: Chemistry SVCS@cape-inc.com
EMAIL: mfeits@cape-inc.com
Company: CAPE Environmental Mgmt.
Address: 500 Pinnacle Ct. #100
Invoice To:* Norcross, GA 30071
EMAIL:
Company: Same
Address:

**Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions*

Client Special Instructions

Matrix:
GW – groundwater **SW** - surface water **WW** - wastewater **DW** - drinking water
S - soil/sediment **SL** - sludge **A** - air **M** - misc/waste

2025 Collection Date	Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	MEE RSK-175	Total # Containers	Designated MS/MSD
10/22	0902	GW	G		54MW13		6	6	X
10/22	0950	GW	G		54MW10		2	2	
10/22	0950	GW	G		54TW10		2	2	

ANALYSES REQUESTED — Fill in Spaces with Bottles per Test

Turnaround Time
~~Normal~~ RUSH*
~~Date Needed:~~ _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

CT Lab ID #
Lab use only

Relinquished By:	Date/Time	Received By:	Date/Time
	10/22/2025 1700	FedEx	10/22/2025 1700
Received by:	Date/Time	Received for Laboratory by:	Date/Time

Lab Use Only
Ice Present Yes No
Temp _____ IR Gun _____
Cooler # _____

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: CAPE Environmental
Project Contact: Matt Feits
Telephone: (724) 622-3625
Project Name: Radford AAP
Project #: SWMU 48/49
Location: Radford, VA
Sampled By: Y. Miyakawa, P. Taylor

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To: Chemistry SVCS@Cape-inc.com
EMAIL: mfeits@cape-inc.com
Company: CAPE Environmental Mgmt.
Address: 500 Pinnacle Ct - #100
Norcross, GA 30071

Invoice To:* Same
EMAIL:
Company:
Address:

**Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions*

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
(Normal) RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

2025 Collection Date	Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	VOC 8260C	TOC 9060A	Anions 9056A	MEE RSK-175	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test						
10/22	0000	GW	G		TB-2	N	2				2		
10/22	1135	GW	G		48MW6	N	3	1	1	2	7		
10/22	1205	GW	G		48MW6-EQB	N	3	1	1	2	7		
10/22	1303	GW	G		49MW04	N	3	1	1	2	7		
10/22	1303	GW	G		49TW04	N	3	1	1	2	7		
10/22	1405	GW	G		13MW2	N	3	1	1	2	7		
10/22	1503	GW	G		49MW05	N	3	1	1	2	7		

Trip Blank

Relinquished By:	Date/Time	Received By:	Date/Time	Lab Use Only
	10/22/2025 1700	FedEx	10/22/2025 1700	Ice Present Yes No
Received by:	Date/Time	Received for Laboratory by:	Date/Time	Temp _____ IR Gun _____
				Cooler # _____

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 10/22/25
Well ID: 54MW13	Weather: 45° Sunny
Sampling Team: P. Taylor / Y. McKenzie	Sampler's Signature:

WELL INSPECTION

Protective Casing: Intact/Damaged	Well ID Tag Condition: written on casing
Locked: YES / NO	Measuring Point Marked: YES / NO
Concrete Base: Intact/Damaged	Comments:
Casing Diameter: ½ in., ¾ in., 1 in., 1 ½ in., 2 in., 3 in., 4 in., 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC): 25.32	Well Evacuation Method: (peristaltic, bladder pump, other)
Depth to Water (ft. BTOC): 23.37	Screen Interval (ft. BGS): 20-25
Begin Well Evacuation (Time): 0837	Evacuation Rate (Lpm): 0.15
Stop Evacuation (Time/Reason):	Restart Time:
	Headspace (ppm): 0.0

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
0842	0.75	23.89	13.6	608	4.06	6.80	206.2	8.26
0847	1.5	23.89	13.7	603	3.78	6.87	199.3	4.63
0852	2.25	23.84	13.8	596	4.04	6.88	194.9	1.61
0857	3.0	23.80	13.8	~~595~~	4.15	6.90	191.6	0.71
~~0902~~	3.75	23.88	13.9	592	4.27	6.90	188.5	0.55

Red font indicates stabilization criteria to be achieved over three consecutive readings

Final Depth to Water (ft. BTOC): 23.88	Drawdown Observed (ft): 0.51
Odor: YES / NO slight sulfur	Well Pumped Dry: YES / NO
End Well Evacuation (Time): 0910	Total Volume Purged (L): 3.75

SAMPLE COLLECTION INFORMATION

Sample ID: 54MW13	PARAMETERS (Circle all applicable)
Sample Date & Time: 10/22/25 0902	SWMU 49: VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID: —	SWMU 54: ~~Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn~~ MEE only
Manganese (mg/L): see 10/20/25 sheet	Sample Collection Method: Low Flow / Other
Ferrous Iron (mg/L): see 10/20/25 sheet	Sample Collection Depth (ft. BTOC): 24.62

COMMENTS

MS/MSD taken here

resample due to missing MEE analysis

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 10/22/25
Well ID: 54MW10	Weather: 47°F Sunny
Sampling Team: P. Taylor, Y. Nightower	Sampler's Signature:

WELL INSPECTION

Protective Casing: (Intact)/Damaged	Well ID Tag Condition: written on casing
Locked: (YES) / NO	Measuring Point Marked: (YES) / NO
Concrete Base: Intact/Damaged covered w/ vegetation	Comments:
Casing Diameter: ½ in., ¾ in., 1 in., 1 ½, 2 in., 3 in (4 in) 6 in., 8 in	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC): 30.01	Well Evacuation Method: (peristaltic), bladder pump, other):
Depth to Water (ft. BTOC): 17.73	Screen Interval (ft. BGS): 25-30
Begin Well Evacuation (Time): 0935	Evacuation Rate (Lpm): 0.25
Stop Evacuation (Time/Reason):	Restart Time:
	Headspace (ppm): 0.2

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
0935	1.25	17.86	13.9	780	0.36	7.07	38.0	5.10
0940	2.5	17.87	13.9	770	0.25	7.07	11.3	5.17
0945	3.75	17.87	14.0	763	0.19	7.08	3.8	3.52
0950	5.0	17.88	14.0	761	0.16	7.08	4.2	3.58
(YM) 0955	6.25							

Red font indicates stabilization criteria to be achieved over three consecutive readings.

Final Depth to Water (ft. BTOC): 17.88	Drawdown Observed (ft): 0.15
Odor: (YES) / NO Sulfur	Well Pumped Dry: YES / (NO)
End Well Evacuation (Time): 0958	Total Volume Purged (L): 5.0

SAMPLE COLLECTION INFORMATION

Sample ID: 54MW10	PARAMETERS (Circle all applicable):
Sample Date & Time: 10/22/25 0950	SWMU 49: VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID: 54TW10	SWMU 54: ~~Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn~~ MEE only
Manganese (mg/L): see 10/20/25 sheet	Sample Collection Method: (Low Flow) Other:
Ferrous Iron (mg/L): see 10/20/25 sheet	Sample Collection Depth (ft. BTOC): 29.51

COMMENTS

resample due to missing MEE analysis

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 10/22/25
Well ID: 48MW6	Weather: 51°, Sunny
Sampling Team: P. Taylor, Y. Miyakawa	Sampler's Signature:

WELL INSPECTION

Protective Casing: (Intact)/Damaged	Well ID Tag Condition: Written on cap
Locked: (YES) / NO	Measuring Point Marked: (YES) / NO
Concrete Base: (Intact)/Damaged	Comments:
Casing Diameter: ½ in., ¾ in., 1 in., 1 ½, (2 in.), 3 in., 4 in., 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC): 79.63	Well Evacuation Method: (peristaltic, bladder pump, other):
Depth to Water (ft. BTOC): 66.68	Screen Interval (ft. BGS): 75-80
Begin Well Evacuation (Time): 1035	Evacuation Rate (Lpm): 0.1
Stop Evacuation (Time/Reason):	Restart Time:
	Headspace (ppm): 0.7

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1040	0.5	66.75	~~18.9~~ 13.7	600	1.93	7.02	104.3	over range
1045	1.0	66.73	13.7	636	1.65	6.99	105.2	678
1050	1.5	66.73	13.5	658	1.40	6.98	104.9	428
1055	2.0	66.73	13.6	674	1.36	6.97	105.3	344
1100	2.5	66.73	13.6	689	1.19	6.97	105.5	294
1105	3.0	66.73	13.6	703	1.11	6.96	105.4	192
1110	3.5	66.73	13.6	717	1.04	6.95	105.3	155
1115	4.0	66.73	13.7	729	1.02	6.95	105.0	137
1120	4.5	66.73	13.8	739	0.88	6.96	104.2	124
1125	5.0	66.73	13.8	742	0.84	6.95	104.3	115
1130	5.5	66.73	13.8	751	0.78	6.95	103.9	109
1135	6.0	66.73	13.9	773	0.73	6.94	103.4	89.8

Red font indicates stabilization criteria to be achieved over three consecutive readings.

Final Depth to Water (ft. BTOC): 66.73	Drawdown Observed (ft): 0.05
Odor: YES (NO)	Well Pumped Dry: YES (NO)
End Well Evacuation (Time): 1151	Total Volume Purged (L): 6.0

SAMPLE COLLECTION INFORMATION

Sample ID: ~~48MW6~~ 48MW6 (YM)	PARAMETERS (Circle all applicable):
Sample Date & Time: 10/22/25 1135	SWMU 49: VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID: ———	SWMU 54: Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L): (YM) ~~1.3 wrong range~~ 0.6	Sample Collection Method: (Low Flow) Other:
Ferrous Iron (mg/L): 0.19	Sample Collection Depth (ft. BTOC): (YM) ~~79.1~~ 72.63

COMMENTS

Equipment Blank taken of 4L's and bladder pump "48MW6-EQB" @1205

Turbidity & Spec Conductivity not stabilizing → taking sample

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 10/22/25
Well ID: 49MW04	Weather: 57°, Sunny, Windy
Sampling Team: P. Taylor, Y. Miyakawa	Sampler's Signature

WELL INSPECTION

Protective Casing: (Intact)/Damaged	Well ID Tag Condition: written on casing
Locked: (YES) / NO	Measuring Point Marked: (YES) / NO
Concrete Base: Intact/Damaged covered in vegetation	Comments:
Casing Diameter: ½ in., ¾ in., 1 in., 1 ½ (2 in.), 3 in., 4 in., 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC): 72.84	Well Evacuation Method (peristaltic, bladder pump, other):
Depth to Water (ft. BTOC): 21.56	Screen Interval (ft. BGS): 65 - 70
Begin Well Evacuation (Time): 1238	Evacuation Rate (Lpm): 0.25 ; changed to 0.15 @ 1253
Stop Evacuation (Time/Reason):	Restart Time:
	Headspace (ppm): 0.3

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1243	1.25	23.57	15.1	605	0.69	7.09	64.7	21.4
1248	2.5	24.78	15.1	604	0.49	7.11	69.6	17.9
1253	3.75	25.71	15.1	602	0.40	7.12	72.2	14.9
1258	4.95	26.05	15.4	604	0.38	7.13	74.0	12.8
1303	4.95	26.40	15.5	602	0.42	7.14	75.2	9.78
1308	5.55							

Red font indicates stabilization criteria to be achieved over three consecutive readings.

Final Depth to Water (ft. BTOC): 26.40	Drawdown Observed (ft): 4.89
Odor: YES (NO)	Well Pumped Dry: YES / (NO)
End Well Evacuation (Time): 1325	Total Volume Purged (L): 4.95

SAMPLE COLLECTION INFORMATION

Sample ID: 49MW04	PARAMETERS (Circle all applicable):
Sample Date & Time: 10/22/25 1303	(SWMU 49: VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn)
Duplicate Sample ID: 49TW04	SWMU 54: Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L): 0.4	Sample Collection Method: (Low Flow) Other:
Ferrous Iron (mg/L): 0.14	Sample Collection Depth (ft. BTOC): 72.34

COMMENTS

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 10/22/25
Well ID: 13MW2	Weather: 59°, Sunny + Windy
Sampling Team: P. Taylor, M. Minnaker	Sampler's Signature:

WELL INSPECTION

Protective Casing: (Intact) Damaged	Well ID Tag Condition: (Good)
Locked: (YES) / NO	Measuring Point Marked: (YES) / NO
Concrete Base: (Intact) Damaged	Comments:
Casing Diameter: ½ in., ¾ in., 1 in., 1 ½, 2 in., 3 in., (4 in.), 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC): 30.49	Well Evacuation Method: (peristaltic) bladder pump, other):
Depth to Water (ft. BTOC): 22.27	Screen Interval (ft. BGS): 25-30
Begin Well Evacuation (Time): 1350	Evacuation Rate (Lpm): 0.25
Stop Evacuation (Time/Reason):	Restart Time:
	Headspace (ppm): 0.0

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1355	1.25	22.60	15.8	651	4.72	6.88	121.8	3.08
1400	2.5	22.81	15.8	651	4.59	6.93	120.9	0.88
1405	3.75	23.04	15.9	651	4.62	6.94	120.9	1.07

Red font indicates stabilization criteria to be achieved over three consecutive readings.

Final Depth to Water (ft. BTOC): 23.04	Drawdown Observed (ft): 0.77
Odor: YES / (NO)	Well Pumped Dry: YES / (NO)
End Well Evacuation (Time):	Total Volume Purged (L): 3.75

SAMPLE COLLECTION INFORMATION

Sample ID: 13MW2	PARAMETERS (Circle all applicable):
Sample Date & Time: 10/22/25 1405	(SWMU 49: VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID:	SWMU 54: Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L): 1.4	Sample Collection Method: (Low Flow) Other:
Ferrous Iron (mg/L): 0.15	Sample Collection Depth (ft. BTOC): 29.99

COMMENTS

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 10/22/25
Well ID: 49MW05	Weather: 60° / Sunny + Windy
Sampling Team: P. Taylor, Y. Mikkanen	Sampler's Signature:

WELL INSPECTION

Protective Casing: (Intact)/Damaged	Well ID Tag Condition: Written on casing
Locked: (YES) / NO	Measuring Point Marked: (YES) / NO
Concrete Base: (Intact)/Damaged Covered w/ vegetation	Comments:
Casing Diameter: ½ in., ¾ in., 1 in., 1 ½ (2 in.), 3 in., 4 in., 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC): 39.40	Well Evacuation Method (peristaltic, bladder pump, other):
Depth to Water (ft. BTOC): 20.37	Screen Interval (ft. BGS):
Begin Well Evacuation (Time): 1448	Evacuation Rate (Lpm): 0.25
Stop Evacuation (Time/Reason):	Restart Time:
	Headspace (ppm): 0 0

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1453	1.25	21.36	15.6	567	2.00	7.01	124.4	20.7
1458	2.5	21.60	15.5	567	1.98	7.03	123.3	18.9
1503	3.75	21.78	15.4	568	1.96	7.04	122.3	8.88

Red font indicates stabilization criteria to be achieved over three consecutive readings.

Final Depth to Water (ft. BTOC): 21.78	Drawdown Observed (ft): 1.41
Odor: YES (NO)	Well Pumped Dry: YES / (NO)
End Well Evacuation (Time): 1515	Total Volume Purged (L): 3.75

SAMPLE COLLECTION INFORMATION

Sample ID: 49MW05	PARAMETERS (Circle all applicable):
Sample Date & Time: 10/22/25 1503	(SWMU 49: VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID: ———	SWMU 54: Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L): 0.4	Sample Collection Method: (Low Flow) Other:
Ferrous Iron (mg/L): 0.16	Sample Collection Depth (ft. BTOC): 38.90

COMMENTS

320-10 FIELD INSPECTION REPORT

Contract Number:	W912DR19D0004	**Task Order No:**	W912DR24F0222	
CAPE Project No.:	10409-0222	**Date:**	22-Oct-25	
Project Location:	Radford Army Ammunition Plant, Radford, VA			
DFW:	SWMU 49 & SWMU 54 LTM Sampling	**Spec Sect.**		
Inspection Performed by:	Yoko Miyakawa			

1. DESCRIPTION OF WORK INSPECTED:

SWMU-54: Sampled for dissolved gases at wells 54MW13 (including MS/MSDs) and 54MW10 (including field duplicate "54TW10").
SWMU-49: Gauged and sampled wells 48MW6, 49MW04 (including field duplicate "49TW04"), 13MW2, and 49MW05.
Equipment blank taken at well 48MW6 at 1205 on deconned bladder pump; sample "48MW6-EQB."
Dumped approximately 7.5 gallons of IDW water into SWMU-49 designated, labeled, 55-gal drum and 3 gallons of IDW water into SWMU-54 designated, labeled, 55-gal drum at ACD/BAE storage facility.

2. TYPE OF INSPECTION:

☑ Visual ☐ Dimensional
☐ Non-Destructive Examination (NDE) ☐ Other _____
☐ In Progress ☐ Final

3. REFERENCED DRAWINGS / STANDARDS:

See below aerial view

4. FINDINGS:

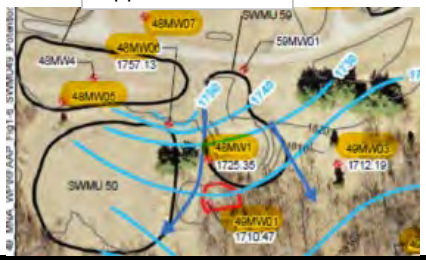
Burning grounds wells accessible to sample in the afternoons after incineration.

5. SKETCH, IF APPLICABLE:

SWMU 54



Upper SWMU 49



Lower SWMU 49; Burning Grounds



Inspector: _____

Quality Control Representative: _____

CAPE

320-16 WASTE INVENTORY SUMMARY

Contract Number	W912DR19D0004	DO/TO No:	W912DR24F0222	CAPE Project #	10409-0222-002-003	Project Location	RAAP, Radford, VA

Process Generating Waste	Groundwater produced through purging and sampling the monitoring wells. IDW water from SWMU 48/49 is captured and maintained separately from SWMU 54 IDW water throughout the handling process.

Load Number	Date	Description	Quantity (TNS or GAL)	Waste Classification	Receiving Disposal Facility	Method of Disposal	Date of Disposal or Destruction
1	8/19/24	IDW waste from SWMU 49	7 gal	Pending Analysis	—		
2	8/20/24	IDW + decon water from SWMU 54	8 gal	Pending Analysis	—		
3	8/21/24	IDW + decon water from SWMU 49	4 gal	Pending Analysis	—		
4	8/22/24	IDW + decon water from SWMU 49	6 gal	Pending Analysis	—		
5							
6	12/9/24	IDW from SWMU 49	15 gal	Pending Analysis	—		
7	12/10/24	IDW + decon water SWMU 54	10 gal	Pending Analysis	—		
8	12/11/24	IDW + decon water SWMU 49	5 gal	Pending Analysis	—		
9	12/12/24	IDW + decon water SWMU 49	6 gal	Pending Analysis	—		
10	12/13/24	IDW + decon water SWMU 49	4 gal	Pending Analysis	—		
11							
12	IDW drum	SWMU 49 has ~45 gallons total		(as of 12/13/24)			
13	IDW drum	SWMU 54 has ~20 gallons total		(as of 12/13/24)			
14							
15	5/19/25	IDW + decon water SWMU 54	11 gal	Pending Analysis	—		
16	5/20/25	IDW + decon water SWMU 49	9 gal	Pending Analysis	—		
17	5/21/25	IDW + decon water SWMU 49 (Drum #2)	7 gal	Pending Analysis	—		
18	5/22/25	IDW + decon water SWMU 49 (Drum 2)	5 gal	Pending Analysis	—		
19							
20	IDW Drum #1	SWMU 48/49 has ~54 gallons total as of 5/22/25 (FULL)					
21	IDW Drum #2	SWMU 48/49 has ~12 gallons total as of 5/22/25					
22	IDW Drum	SWMU 54 has ~31 gallons total as of 5/22/25					
23							
24	10/20/25	IDW + decon water SWMU 54	10 gal	Pending Analysis	—		
25	10/21/25	IDW + decon water SWMU 49 (drm2)	10 gal	Pending Analysis	—		
26	10/21/25	IDW + decon SWMU 54	200 mL	Pending Analysis	—		
27	10/22/25	IDW + decon SWMU 54	3 gal	Pending Analysis	—		
28	10/22/25	IDW + decon SWMU 49 (drm2)	7.5	Pending Analysis	—		
29							
30							
31							
32							

TOTAL QUANTITY:

0.00

CAPE

SITE CONTROL LOG

Date / Day: Wednesday, October 22, 2025
Project Name/Number: RADFORD ARMY AMMUNITION PLANT-SWMU 49 & SWMU 54 SAMPLING / CONTRACT W912DR19D0004, TASK ORDER W912DR24F0222
Project Location: RADFORD ARMY AMMUNITION PLANT, RADFORD, VA

Time		Name (Print)	Signature	DO YOU HAVE AN INJURY TO REPORT? Y/N	Organization
In	Out				
0740	1603	Yuko Miyakawa		N	CAPE
0740	1603	Paul I. Taylor		N	Weston

TAILGATE SAFETY MEETING RECORD

DATE/TIME:	Wednesday, October 22, 2025
PROJECT NAME:	Radford Army Ammunition Plant-SWMU 49 & SWMU 54 Sampling
PROJECT LOCATION:	Radford Army Ammunition Plant, Radford, VA
CAPE PROJECT NUMBER:	CO: W912DR19D0004, TO: W912DR24F0222
PROJECT MANAGER:	Matthew Feits
SITE SUPERINTENDENT:	
SITE HEALTH & SAFETY:	Yoko Miyakawa

SAFETY TOPICS PRESENTED

Complacency ; fatigue + Hydration.

Protective Clothing/Equipment:	
Modified Level D PPE	Gloves as required
High visibility vests/outerwear as required	
Safety Toe Boots and Safety Glasses required	
Chemical Hazards:	
Potential for contact with the ground water and preservatives	
Physical Hazards:	
Slip, trip, and falls	Inclement weather
Heat stress	Drum handling
Biological hazards	
Emergency Procedures:	
Provide first aid to your level of training. Contact 911 for Emergency if required. Notify your supervisor and the SSHO.	
Emergency Hospital:	Carilion New River Valley Medical Center, 2900 Lamb Cir, Christiansburg, VA 24073
Hospital Telephone Number:	(540) 731-2000
Hospital Direction:	Map in APP
Special Equipment:	
By signing this form, I confirm that I have not been previously injured on this job without informing my supervisor, and that I will immediately report all incidents/injuries to my supervisors in the future.	

SAFETY MEETING ATTENDEES

#	Printed Name	Initial	#	Printed Name	Initial
1.	Yoko Miyakawa	YM	16.		
2.	Paul I. Taylor	PIT	17.		
3.			18.		
4.			19.		
5.			20.		
6.			21.		
7.			22.		
8.			23.		
9.			24.		
10.			25.		
11.			26.		
12.			27.		
13.			28.		
14.			29.		
15.			30.		

Meeting Conducted By:

Signature _____

FedEx

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CHRISTIANSBURG
VA 24073
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Oct 22, 2025 5:06:41 PM

Radford Army Ammunition Plant 10/22/25
Radford, VA

Personnel: Y. Miyakawa (CAPE), P. Taylor (Weston)

Weather: 42°, clear

Objective: GW Sampling at SWMU 49 + 54

0740 P. Taylor + Y. Miyakawa onsite + checked in through guard stands heading to burning grounds to coordinate w/ skips

0755 operator @ burning grounds informed us they will cease burning at 1pm - we will return to sample

0805 setting up at 54MW13 for diss gases sample; calibrating equipment

YSI
pH 4 → 4.00 pH
pH 7 → 7.05 pH
pH 10 → 10.06 pH
240 mV ORP → 239.2
1.413 mS/cm → 1409 µS/cm

Turbidity Meter
20 NTU → 20.2
100 NTU → 99.9
800 NTU → 798
10 NTU → 9.75

0913 finished sampling @ 54MW13, moving onto 54MW10

0927 Setting up @ 54MW10 (FD will be "54TMW10")

0959 finished sampling @ 54MW10

1010 setting up @ 48MW6; bladder pump water table set at 20:40 + 110 depth throttle

1205 equipment blank taken "48MW6-EQB"

1215 @ burning grounds to check w/ skips - operators say there is only a little smoke coming from one facility + wind is blowing away from it right now + if we're okay w/ it we can sample

1226 setting up @ 49MW04

1330 finished sampling 49MW04 (pair FD "49TMW04")

1333 setting up @ BMW2

1340 M. Alberts (US Army) stopped by to check in w/ us + confirm a time for Friday, he will be busy ~10am - 130pm

1430 finished @ BMW2, setting up @ 49MW05

1525 leaving burning grounds to drop off IDW

1550 dumped ~3gal of IDW in SWMU54 drum + ~7.5 gal IDW in SWMU 49 drum #2

1603 All parties offsite

Samples will be shipped to CT Labs in Baraboo, WI.

10/22/25

23 October 2025

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: CAPE Environmental
Project Contact: Matt Feits
Telephone: (724) 622-3625
Project Name: Radford AAP
Project #: SWMU 48/49
Location: Radford, VA
Sampled By: Y. Miyakawa, P. Taylor

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To: Chemistry SVCS @ capeinc.com
EMAIL: mfeits@capeinc.com
Company:
Address: CAPE Environmental Mgmt. 500 Pinnacle Ct. #100
Invoice To:* Norcross, GA 30071
EMAIL:
Company:
Address: Same

**Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions*

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

2025 Collection Date	Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: VOC 8260C	MEE RSK-175	TOC 9060A	Anions 9056A	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test						
10/23	0800	GW	G		TB-3	N	2				2		
10/23	1011	GW	G		49MW03	N	3	2	1	1	7		
10/23	1035	GW	G		49MW03-EQB	N	3	2	1	1	7		
10/23	1148	GW	G		48MW1	N	3	2	1	1	7		
10/23	1148	GW	G		48TW1	N	3	2	1	1	7		
10/23	1400	GW	G		49MW01	N	3	2	1	1	7		
10/23	1515	GW	G		50MW2	N	3	2	1	1	7		

Trip Blank

Relinquished By:	Date/Time	Received By:	Date/Time
	10/23/2025 1800	FedEx	10/23/2025 1800
Received by:	Date/Time	Received for Laboratory by:	Date/Time

Lab Use Only
Ice Present Yes No
Temp _____ IR Gun _____
Cooler # _____

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 10/23/25
Well ID: 49MW03	Weather: 44°, Sunny
Sampling Team: S. Taylor, Y. Miyakawa	Sampler's Signature:

WELL INSPECTION

Protective Casing: (Intact)/Damaged	Well ID Tag Condition: Faded on casing
Locked: (YES)/NO	Measuring Point Marked: (YES)/NO
Concrete Base: Intact/Damaged (Cleared vegetation	Comments:
Casing Diameter: ½ in., ¾ in., 1 in., 1 ½ (2 in.), 3 in., 4 in., 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC): 119.87	Well Evacuation Method (peristaltic, (bladder pump), other):
Depth to Water (ft. BTOC): 105.55	Screen Interval (ft. BGS):
Begin Well Evacuation (Time): 0911	Evacuation Rate (Lpm): 0.1
Stop Evacuation (Time/Reason):	Restart Time:
	Headspace (ppm): 0.0

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
0916	0.5	105.61	12.4	357.9	9.19	7.33	198.9	395
0921	1.0	105.61	12.5	363.3	8.97	7.34	194.0	155
0926	1.5	105.61	12.6	362.9	8.94	7.37	189.7	83.3
0931	2.0	105.61	12.7	363.0	8.94	7.42	113.0	60.0
0936	2.5	105.61	12.8	363.1	8.89	7.39	140.6	44.5
0941	3.0	105.61	12.8	363.0	8.89	7.39	147.9	39.1
0946	3.5	105.61	12.9	362.7	8.87	7.40	150.8	32.8
0951	4.0	105.61	12.9	362.3	8.89	7.39	152.6	28.4
0956	4.5	105.61	13.0	362.3	8.87	7.40	153.1	24.2
~~1001~~ (EV)	5.0	105.61	13.0	362.5	8.85	7.40	153.5	22.1
1006	5.5	105.61	13.0	362.9	8.85	7.40	153.4	19.1
1011	6.0	105.61	13.1	362.8	8.86	7.39	153.9	16.8

Red font indicates stabilization criteria to be achieved over three consecutive readings.

Final Depth to Water (ft. BTOC): 105.61	Drawdown Observed (ft): 0.06
Odor: YES/(NO)	Well Pumped Dry: YES/(NO)
End Well Evacuation (Time): 1024	Total Volume Purged (L): 6.0

SAMPLE COLLECTION INFORMATION

Sample ID: 49MW03	PARAMETERS (Circle all applicable):
Sample Date & Time: 10/23/25 1011	(SWMU 49: VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID: —	SWMU 54: Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L): 0.4	Sample Collection Method: (Low Flow) Other:
Ferrous Iron (mg/L): 0.11	Sample Collection Depth (ft. BTOC): 116.87

COMMENTS

All parameters stable except for Turbidity → taking sample
Equipment Blank taken Here — "49MW03-EQB" @ 1035

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 10/23/25
Well ID: 48MW1	Weather: 52, Sunny + Windy
Sampling Team: P. Taylor, Y. Miyakawa	Sampler's Signature:

WELL INSPECTION

Protective Casing: ~~Intact~~/Damaged	Well ID Tag Condition: Written on cap
Locked: ~~YES~~ / NO	Measuring Point Marked: (YES) / NO
Concrete Base: (Intact)/Damaged Covered w/ vegetation	Comments:
Casing Diameter: ½ in., ¾ in., 1 in., 1 ½, 2 in., 3 in., (4 in.), 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC): 142.18	Well Evacuation Method (peristaltic, (bladder pump), other):
Depth to Water (ft. BTOC): 109.92	Screen Interval (ft. BGS): 135-145
Begin Well Evacuation (Time): 1113	Evacuation Rate (Lpm): 0.09
Stop Evacuation (Time/Reason):	Restart Time:
	Headspace (ppm): 0.0

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1118	0.45	110.11	13.5	524	4.43	7.18	161.5	23.9
1123	0.9	110.22	13.5	535	3.89	7.21	158.1	19.1
1128	1.35	110.31	13.5	537	3.67	7.23	155.2	15.4
1133	1.8	110.40	13.6	537	3.60	7.25	152.4	12.2
1138	2.25	110.46	13.6	537	3.54	7.26	150.8	12.4
1143	2.7	110.55	13.7	537	3.47	7.26	149.4	10.7
1148	3.15	110.59	13.7	536	3.42	7.27	147.6	9.80

Red font indicates stabilization criteria to be achieved over three consecutive readings.

Final Depth to Water (ft. BTOC): 110.59	Drawdown Observed (ft): 0.67
Odor: YES/(NO)	Well Pumped Dry: YES /(NO)
End Well Evacuation (Time): 1222	Total Volume Purged (L): 3.15

SAMPLE COLLECTION INFORMATION

Sample ID: 48MW1	PARAMETERS (Circle all applicable):
Sample Date & Time: 10/23/25 1148	(SWMU 49: VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID: 48TW1	SWMU 54: Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L): 0.4	Sample Collection Method: (Low Flow) Other:
Ferrous Iron (mg/L): 0.16	Sample Collection Depth (ft. BTOC): 139.18

COMMENTS

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 10/23/25
Well ID: 49MW01	Weather: 57°, Sunny + Windy
Sampling Team: P. Taylor, A. Migorkala	Sampler's Signature:

WELL INSPECTION

Protective Casing: (Intact)/Damaged	Well ID Tag Condition: Written on cap
Locked: (YES) / NO	Measuring Point Marked: (YES) / NO
Concrete Base: (Intact)/Damaged	Comments:
Casing Diameter: ½ in., ¾ in., 1 in., 1 ½ (2 in.), 3 in., 4 in., 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC): 124.28	Well Evacuation Method (peristaltic, (bladder pump), other):
Depth to Water (ft. BTOC): 115.97	Screen Interval (ft. BGS): 120–125
Begin Well Evacuation (Time): 1300	Evacuation Rate (Lpm): 0.1
Stop Evacuation (Time/Reason):	Restart Time:
	Headspace (ppm): 0.0

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1305	0.5	116.20	13.9	388.3	7.13	7.43	145.6	over range
1310	1.0	116.25	13.8	388.8	7.04	7.46	143.6	877
1315	1.5	116.27	13.7	385.4	7.19	7.49	142.0	590
1320	2.0	116.27	13.7	389.6	7.39	7.52	140.7	460
1325	2.5	116.29	13.8	389.5	7.55	7.53	140.0	418
1330	3.0	116.30	13.7	389.5	7.64	7.54	139.5	345
1335	3.5	116.32	13.6	389.4	7.69	7.55	138.9	277
1340	4.0	116.33	13.5	389.0	7.71	7.55	138.4	220
1345	4.5	116.33	13.5	388.9	7.70	7.56	137.6	178
1350	5.0	116.33	13.6	388.7	7.69	7.56	136.9	144
1355	5.5	116.33	13.6	388.5	7.66	7.57	105.7	121
1400	6.0	116.33	13.5	388.5	7.64	7.58	113.5	102

Red font indicates stabilization criteria to be achieved over three consecutive readings.

Final Depth to Water (ft. BTOC): 116.33	Drawdown Observed (ft): 0.36
Odor: YES (NO)	Well Pumped Dry: YES / (NO)
End Well Evacuation (Time): 1414	Total Volume Purged (L): 6.0

SAMPLE COLLECTION INFORMATION

Sample ID: 49MW01	PARAMETERS (Circle all applicable):
Sample Date & Time: 10/23/25 1400	(SWMU 49: VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID: —	SWMU 54: Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L): 0.2	Sample Collection Method: (Low Flow) Other:
Ferrous Iron (mg/L): 0.16	Sample Collection Depth (ft. BTOC): 121.28

COMMENTS

Turbidity + ORP not stabilized, but all other parameters are good - taking sample

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 10/23/25
Well ID: 50MW2	Weather: 58° Cloudy + Windy
Sampling Team: P. Taylor, Y. Miyakawa	Sampler's Signature:

WELL INSPECTION

Protective Casing: (Intact)/Damaged	Well ID Tag Condition: written on casing
Locked: (YES) / NO	Measuring Point Marked: (YES) / NO
Concrete Base: (Intact)/Damaged	Comments:
Casing Diameter: ½ in., ¾ in., 1 in., 1 ½, (2 in.), 3 in., 4 in., 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC): 120.43	Well Evacuation Method (peristaltic, (bladder pump), other):
Depth to Water (ft. BTOC): 117.17	Screen Interval (ft. BGS): 115 - 120
Begin Well Evacuation (Time): 1500	Evacuation Rate (Lpm): 0.075
Stop Evacuation (Time/Reason):	Restart Time:
	Headspace (ppm): 0.0

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1505	0.375	117.18	13.7	723	4.42	6.76	149.7	overrange
1510	0.75	117.17	13.6	722	4.24	6.76	151.2	overrange
1515	1.125	117.17	13.6	718	4.07	6.74	152.8	overrange
~~1520~~ (YM)	~~1.5~~							
~~1525~~	~~1.875~~							
~~1530~~	~~2.25~~							

Red font indicates stabilization criteria to be achieved over three consecutive readings.

Final Depth to Water (ft. BTOC): ~~(YM) 15~~ 117.17	Drawdown Observed (ft): 0
Odor: YES (NO)	Well Pumped Dry: YES / (NO)
End Well Evacuation (Time): 1530	Total Volume Purged (L): 1.125

SAMPLE COLLECTION INFORMATION

Sample ID: 50MW2	PARAMETERS (Circle all applicable):
Sample Date & Time: 10/23/25 1515	(SWMU 49:) VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID: ———	SWMU 54: Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L): (YM) ~~0.43~~ 1.7	Sample Collection Method: (Low Flow) Other:
Ferrous Iron (mg/L): 0.43	Sample Collection Depth (ft. BTOC): 119.93

COMMENTS

320-10 FIELD INSPECTION REPORT

Contract Number:	W912DR19D0004	**Task Order No:**	W912DR24F0222	
CAPE Project No.:	10409-0222	**Date:**	23-Oct-25	
Project Location:	Radford Army Ammunition Plant, Radford, VA			
DFW:	SWMU 49 & SWMU 54 LTM Sampling	**Spec Sect.**		
Inspection Performed by:	Yoko Miyakawa			

1. DESCRIPTION OF WORK INSPECTED:

SWMU-49: Gauged and sampled wells 49MW03, 48MW1 (including field duplicate "48TW1"), 49MW01, and 50MW2.
Equipment blank taken at well 49MW03 at 1035 on deconned bladder pump; sample "49MW03-EQB."
Dumped approximately 7 gallons of IDW water into SWMU-49 designated, labeled, 55-gal drum at ACD/BAE storage facility.

2. TYPE OF INSPECTION:

☑ Visual ☐ Dimensional
☐ Non-Destructive Examination (NDE) ☐ Other _____

☐ In Progress ☐ Final

3. REFERENCED DRAWINGS / STANDARDS:

See below aerial view

4. FINDINGS:

FedEx reached out about the support claim/case for the delayed/missing cooler from 10/21/2025 sample shipment; in an email FedEx requested information about the shipment appearance, content, and destination, and stated they would reach out within 2 business days. Kim Jameson (CAPE) is supporting the RFAAP team and will follow up with FedEx.

5. SKETCH, IF APPLICABLE:

Upper SWMU 49



Inspector: _____

Quality Control Representative: _____

CAPE

320-16 WASTE INVENTORY SUMMARY

Contract Number	W912DR19D0004	DO/TO No:	W912DR24F0222	CAPE Project #	10409-0222-002-003	Project Location	RAAP, Radford, VA

Process Generating Waste	Groundwater produced through purging and sampling the monitoring wells. IDW water from SWMU 48/49 is captured and maintained separately from SWMU 54 IDW water throughout the handling process.

Load Number	Date	Description	Quantity (TNS or GAL)	Waste Classification	Receiving Disposal Facility	Method of Disposal	Date of Disposal or Destruction
1	8/19/24	IDW waste from SWMU 49	7 gal	Pending Analysis	—		
2	8/20/24	IDW + decon water from SWMU 54	8 gal	Pending Analysis	—		
3	8/21/24	IDW + decon water from SWMU 49	4 gal	Pending Analysis	—		
4	8/22/24	IDW + decon water from SWMU 49	6 gal	Pending Analysis	—		
5							
6	12/9/24	IDW from SWMU 49	15 gal	Pending Analysis	—		
7	12/10/24	IDW + decon water SWMU 54	10 gal	Pending Analysis	—		
8	12/11/24	IDW + decon water SWMU 49	5 gal	Pending Analysis	—		
9	12/12/24	IDW + decon water SWMU 49	6 gal	Pending Analysis	—		
10	12/13/24	IDW + decon water SWMU 49	4 gal	Pending Analysis	—		
11							
12	IDW drum	SWMU 49 has ~45 gallons total		(as of	12/13/24)		
13	IDW drum	SWMU 54 has ~20 gallons total		(as of	12/13/24)		
14							
15	5/19/25	IDW + decon water SWMU 54	11 gal	Pending Analysis	—		
16	5/20/25	IDW + decon water SWMU 49	9 gal	Pending Analysis	—		
17	5/21/25	IDW + decon water SWMU 49 (Drum #2)	7 gal	Pending Analysis	—		
18	5/22/25	IDW + decon water SWMU 49 (Drum 2)	5 gal	Pending Analysis	—		
19							
20	IDW Drum #1	SWMU 48/49 has ~54 gallons total		as of	5/22/25 (FULL)		
21	IDW Drum #2	SWMU 48/49 has ~12 gallons total		as of	5/22/25		
22	IDW Drum	SWMU 54 has ~31 gallons total		as of	5/22/25		
23							
24	10/20/25	IDW + decon water SWMU 54	10 gal	Pending Analysis	—		
25	10/21/25	IDW + decon water SWMU 49 (drum 2)	10 gal	Pending Analysis	—		
26	10/21/25	IDW + decon SWMU 54	200 mL	Pending Analysis	—		
27	10/22/25	IDW + decon SWMU 54	3 gal	Pending Analysis	—		
28	10/22/25	IDW + decon SWMU 49 (drum 2)	7.5	Pending Analysis	—		
29	10/23/25	IDW + decon SWMU 49 (drum 2)	7	Pending Analysis	—		
30							
31							
32							

TOTAL QUANTITY:

0.00

CAPE

SITE CONTROL LOG

Date / Day: Thursday, October 23, 2025
Project Name/Number: RADFORD ARMY AMMUNITION PLANT-SWMU 49 & SWMU 54 SAMPLING / CONTRACT W912DR19D0004, TASK ORDER W912DR24F0222
Project Location: RADFORD ARMY AMMUNITION PLANT, RADFORD, VA

Time		Name (Print)	Signature	DO YOU HAVE AN INJURY TO REPORT? Y/N	Organization
In	Out				
0752	1618	YOKO MIYAKAWA		N	CAPE
0752	1618	Paul I Taylor		N	Weston

TAILGATE SAFETY MEETING RECORD

DATE/TIME:	Thursday, October 23, 2025
PROJECT NAME:	Radford Army Ammunition Plant-SWMU 49 & SWMU 54 Sampling
PROJECT LOCATION:	Radford Army Ammunition Plant, Radford, VA
CAPE PROJECT NUMBER:	CO: W912DR19D0004, TO: W912DR24F0222
PROJECT MANAGER:	Matthew Feits
SITE SUPERINTENDENT:	
SITE HEALTH & SAFETY:	Yoko Miyakawa

SAFETY TOPICS PRESENTED

Musculoskeletal injuries, fatigue, + Hydration

Protective Clothing/Equipment:	
Modified Level D PPE	Gloves as required
High visibility vests/outerwear as required	
Safety Toe Boots and Safety Glasses required	
Chemical Hazards:	
Potential for contact with the ground water and preservatives	
Physical Hazards:	
Slip, trip, and falls	Inclement weather
Heat stress	Drum handling
Biological hazards	
Emergency Procedures:	
Provide first aid to your level of training. Contact 911 for Emergency if required. Notify your supervisor and the SSHO.	
Emergency Hospital:	Carilion New River Valley Medical Center, 2900 Lamb Cir, Christiansburg, VA 24073
Hospital Telephone Number:	(540) 731-2000
Hospital Direction:	Map in APP
Special Equipment:	
By signing this form, I confirm that I have not been previously injured on this job without informing my supervisor, and that I will immediately report all incidents/injuries to my supervisors in the future.	

SAFETY MEETING ATTENDEES

#	Printed Name	Initial	#	Printed Name	Initial
1.	Yoko Miyakawa	YM	16.		
2.	Paul I. Taylor	PIT	17.		
3.			18.		
4.			19.		
5.			20.		
6.			21.		
7.			22.		
8.			23.		
9.			24.		
10.			25.		
11.			26.		
12.			27.		
13.			28.		
14.			29.		
15.			30.		

Meeting Conducted By:

Signature _____

FedEx

Address: 305 ROANOKE STREET
CHRISTIANSBURG
VA 24073
Location: WALA
Device ID: -BTC01

FedEx Express Package(s) - Dropped Off
Tracking Number:
885327840538 50.00 lb (M)

Total Pieces: 1

Subject to terns and conditions, including terns that
linit FedEx's liebility. The estinated shipping charge
nay be different than the actual charges for your
shipnent. Differences nay occur based on actual weight,
dinensions and other factors. Shipnent-related terns
and conditions and details on how shipping charges
are calculated are available upon request or at
fedex.com/serviceguide.

All nerchandise sales are final.

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Tell us how we're doing!
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Or call 1.800.GoFedEx
1.800.463.3339

Oct 23, 2025 5:11:32 PM

Radford Army Ammunition Plant 10/23/25
Radford, VA

Personnel: Y. Miyakawa (CAPE), P. Taylor (WESTON)

Weather: 43°, Clear

Objective: GW sampling at SWMU 49

0752 P. Taylor + Y. Miyakawa onsite + checked into Guard stands; spoke w/ M. Alberts on the phone; heading to T/Th trash site

0815 pulled into trailer storage parking lot for calibrations in upper SWMU 49 area

YSI:
pH 4 → 4.00 pH
pH 7 → 7.06 pH
pH 10 → 10.09 pH
ORP 240 mV → 239.5 mV
SpC 1.413 mS/cm → 1415 µS/cm

Turbidity meter:
10 NTU → 10.1
20 NTU → 19.9
100 NTU → 100.
800 NTU → 798

0840 setting up @ well 49MW03; bladder pump interface set to 20:40 cycle + 1 l/min throttle

0906 water is coming up slowly, but muddy + goes back down into the well; likely from silty water preventing ball valve to properly seal. Will keep watching it

1035 Equipment Blank taken on decon'ed bladder pump – "49MW03-EQB"

1049 setting up @ 48MW1, took field duplicate "48TW1"

1250 setting up @ 49MW01

1422 setting up @ 50MW2; ran out of string – connected more string w/ a knot. Ran out of tubing – pulled pump + replaced w/ new tubing.

1542 finished sampling 50MW2, ready to drop off IDW water

1603 Dumped ~7 gal IDW into SWMU 49 drum #2 @ ACD/BAE storage

1618 All parties offsite

Samples will be shipped to CT Labs in Baraboo, WI

10/23/25

24 October 2025

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: CAPE Environmental
Project Contact: Matt Feits
Telephone: (724) 622-3625
Project Name: Radford AAP SWMU 49
Project #:
Location: Radford, VA
Sampled By: Y. Miyakawa, P. Taylor

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To: ChemistrySUCS@capeinc.com
EMAIL: mfeits@capeinc.com
Company: CAPE Environmental Mgt
Address: 500 Pinnacle Ct. #100
Invoice To:* Norcross, GA 30071
EMAIL:
Company: Same
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

2025 Collection Date	Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	VOC 8260C	MEE RSK-175	ToC 9060A	Anions 9056A												Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
						Fill in Spaces with Bottles per Test																		
10/24	0000	GW	G		TB-4	N	2						Trip Blank									2		
10/24	0929	GW	G		48MW2	N	3	2	1	1												7		
10/24	0957	GW	G		48MW2-EQB	N	3	2	1	1												7		
~~10/24~~	~~1050~~	~~GW~~	~~G~~		~~48MW3~~	~~N~~	~~3~~	~~2~~	~~1~~	~~1~~												~~7~~		
10/24	1050	GW	G		48MW3	N	9	6	3	3												21	X	
10/24	1252	GW	G		49MW02	N	3	2	1	1												7		
10/24	1410	GW	G		48MW7	N	3	2	1	1												7		

Relinquished By:	Date/Time	Received By:	Date/Time
	10/24/2025 1700		10/24/2025 1700
Received by:	Date/Time	Received for Laboratory by:	Date/Time

Lab Use Only
Ice Present Yes No
Temp _____ IR Gun _____
Cooler # _____

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: CAPE Environmental
Project Contact: Matt Feits
Telephone: (724) 622-3625
Project Name: Radford AAP
Project #: SWMU 49
Location: Radford, VA
Sampled By: Y. Miyakawa, P. Taylor

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To: Chemistry SVCS@capeinc.com
EMAIL: mfeits@capeinc.com
Company: Cape Environmental Mgmt.
Address: 500 Pinnacle Ct. #100
Norcross, GA 30071

Invoice To:* Same
EMAIL:
Company:
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

2025 Collection Date	Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: pH 9040	COD 410.4	Total Metals 6010C/7470A	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test					
10/24	1530	GW	G		49IDW	N	1	1	1	3		

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By:	Date/Time	Received By:	Date/Time
	10/24/2025 1700	FedEx	10/24/2025 1700
Received by:	Date/Time	Received for Laboratory by:	Date/Time

Lab Use Only
Ice Present Yes No
Temp _____ IR Gun _____
Cooler # _____

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 10/24/25
Well ID: 48MW2	Weather: 33°, Foggy
Sampling Team: P Taylor, Y Miyakawa	Sampler's Signature:

WELL INSPECTION

Protective Casing: (Intact)/Damaged	Well ID Tag Condition: written on cap
Locked: (YES) / NO	Measuring Point Marked: (YES) / NO
Concrete Base: (Intact)/Damaged	Comments:
Casing Diameter: ½ in., ¾ in., 1 in., 1 ¼, (2 in.), 3 in., 4 in., 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC): 136.51	Well Evacuation Method (peristaltic, (bladder pump), other):
Depth to Water (ft. BTOC): 125.64	Screen Interval (ft. BGS): 125 - 135
Begin Well Evacuation (Time): 0829	Evacuation Rate (Lpm): 0.25
Stop Evacuation (Time/Reason):	Restart Time:
	Headspace (ppm): 0.0

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
0834	0.4	125.94	11.9	454.7	7.46	7.13	210.2	over range
0839	0.8	126.09	12.0	455.2	7.19	7.20	202.3	over range
0844	1.2	126.14	12.1	454.2	7.21	7.24	197.4	over range
0849	1.6	126.20	12.2	455.7	7.27	7.25	193.8	over range
0854	2.0	126.27	12.2	454.4	7.32	7.25	191.7	760
0859	2.4	126.27	12.3	455.6	7.36	7.31	108.2	591
0904	2.8	126.14	12.3	454.3	7.40	7.25	144.7	471
0909	3.2	126.26	12.4	453.2	7.41	7.24	150.6	403
0914	3.6	126.28	12.4	452.6	7.43	7.26	153.2	355
0919	4.0	126.30	12.4	453.3	7.46	7.24	154.6	328
0924	4.4	126.32	12.4	452.7	7.46	7.26	155.7	285
0929	4.8	126.33	12.5	452.7	7.46	7.27	155.8	240

Red font indicates stabilization criteria to be achieved over three consecutive readings.

Final Depth to Water (ft. BTOC): 126.33	Drawdown Observed (ft): 0.69
Odor: YES / (NO)	Well Pumped Dry: YES / (NO)
End Well Evacuation (Time): 0943	Total Volume Purged (L): 4.8

SAMPLE COLLECTION INFORMATION

Sample ID: 48MW2	PARAMETERS (Circle all applicable):
Sample Date & Time: 10/24/25 0929	(SWMU 49: VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn)
Duplicate Sample ID: ———	SWMU 54: Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L): -0.2 out of range	Sample Collection Method: (Low Flow) Other:
Ferrous Iron (mg/L): 0.19	Sample Collection Depth (ft. BTOC): 134.51

COMMENTS

All parameters stable except Turbidity — taking sample
equipment blank taken here — "48MW2-EQB" @ 0957

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date 10/24/25
Well ID 48MW3	Weather 49° Sunny
Sampling Team P. Taylor, Y. Miyakawa	Sampler's Signature

WELL INSPECTION

Protective Casing Intact/Damaged	Well ID Tag Condition Written on c-p
Locked YES / NO	Measuring Point Marked YES / NO
Concrete Base Intact/Damaged Covered in vegetation	Comments
Casing Diameter ½ in, ¾ in, 1 in, 1 ½, 2 in, 3 in, 4 in, 6 in, 8 in	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft BTOC) 122.31	Well Evacuation Method (peristaltic, bladder pump, other)
Depth to Water (ft BTOC) 99.03	Screen Interval (ft BGS) 115-125
Begin Well Evacuation (Time) 1025	Evacuation Rate (l pm) 0.1
Stop Evacuation (Time/Reason)	Restart Time
	Headspace (ppm) 0.0

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1030	0.5	99.26	12.1	636	3.36	6.94	194.2	11.1
1035	1.0	99.27	12.2	637	2.61	6.99	190.9	10.3
1040	1.5	99.32	12.4	638	2.38	7.01	188.4	8.57
1045	2.0	99.48	12.5	638	2.25	7.02	185.6	7.80
1050	2.5	99.54	12.6	638	2.19	7.02	183.6	6.19

Red font indicates stabilization criteria to be achieved over three consecutive readings

Final Depth to Water (ft BTOC) 99.54	Drawdown Observed (ft) 0.51
Odor YES / NO	Well Pumped Dry YES / NO
End Well Evacuation (Time) 1126	Total Volume Purged (L) 2.5

SAMPLE COLLECTION INFORMATION

Sample ID 48MW3	PARAMETERS (Circle all applicable)
Sample Date & Time 10/24/25 1050	SWMU 49 VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe. & Mn
Duplicate Sample ID —	SWMU 54 Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe. & Mn
Manganese (mg/L) 0.0	Sample Collection Method Low Flow Other
Ferrous Iron (mg/L) 0.12	Sample Collection Depth (ft BTOC) 120.31

COMMENTS

MS/MSDs taken here

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date 10/24/25
Well ID 49MW02	Weather 50° Sunny
Sampling Team P. Taylor, Y. Miyakawa	Sampler's Signature

WELL INSPECTION

Protective Casing Intact/Damaged	Well ID Tag Condition Written on casing
Locked YES/NO	Measuring Point Marked YES/NO
Concrete Base Intact/Damaged	Comments
Casing Diameter ½ in, ¾ in, 1 in, 1½ (2 in), 3 in, 4 in, 6 in, 8 in	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft BTOC) 134.66	Well Evacuation Method (peristaltic bladder pump other)
Depth to Water (ft BTOC) 96.04	Screen Interval (ft BGS) 125-135
Begin Well Evacuation (Time) 1202	Evacuation Rate (Lpm) ~~0.4~~ 0.09
Stop Evacuation (Time/Reason)	Restart Time
	Headspace (ppm) 0.0

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1207	0.45	96.43	13.7	507	2.67	7.13	116.5	540
1212	0.9	96.66	13.7	510	2.69	7.17	84.3	478
1217	1.35	97.10	13.6	510	2.88	7.20	64.8	382
1222	1.8	97.55	13.6	510	3.35	7.20	53.0	256
1227	2.25	97.89	13.5	510	3.82	7.22	48.3	301
1232	2.7	98.44	13.6	510	4.29	7.22	44.4	232
1237	3.15	98.86	13.5	510	4.55	7.22	45.0	211
1242	3.6	99.18	13.5	510	4.78	7.22	46.2	189
1247	4.05	99.61	13.4	510	4.90	7.23	47.8	179
1252	4.5	100.03	13.4	509	4.77	7.23	48.1	174
~~1257~~	~~4.95~~							
~~1302~~	~~5.4~~							

Red font indicates stabilization criteria to be achieved over three consecutive readings

Final Depth to Water (ft BTOC) 100.03	Drawdown Observed (ft) 3.99
Odor YES (NO)	Well Pumped Dry YES (NO)
End Well Evacuation (Time) 1308	Total Volume Purged (L) 4.5

SAMPLE COLLECTION INFORMATION

Sample ID 49MW02	PARAMETERS (Circle all applicable)
Sample Date & Time 10/24/25 1252	(SWMU 49) VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID	~~SWMU 54~~ Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L) 0.8	Sample Collection Method (Low Flow) Other
Ferrous Iron (mg/L) 0.37	Sample Collection Depth (ft BTOC) 132.66

COMMENTS

WELL EVACUATION/SAMPLING FORM

GENERAL INFORMATION

Radford Army Ammunition Plant SWMUs 49 & 54	Date: 10/24/25
Well ID: 48MW7	Weather: 55°, Sunny
Sampling Team: P. Taylor, Y. Miyakawa	Sampler's Signature:

WELL INSPECTION

Protective Casing: (Intact) Damaged	Well ID Tag Condition: (absent on casing
Locked: (YES) NO	Measuring Point Marked: (YES) NO
Concrete Base: (Intact) Damaged	Comments:
Casing Diameter: ½ in., ¾ in., 1 in., 1 ½ in., (2 in.), 3 in., 4 in., 6 in., 8 in.	

WELL EVACUATION INFORMATION

Total Depth (feet Below Top of Casing = ft. BTOC): 83.72	Well Evacuation Method (peristaltic, (bladder pump), other):
Depth to Water (ft. BTOC): 50.69	Screen Interval (ft. BGS):
Begin Well Evacuation (Time): 1350	Evacuation Rate (Lpm): 0.08
Stop Evacuation (Time/Reason)	Restart Time: ~~6~~
	Headspace (ppm): 0.6

INDICATOR PARAMETERS

Time: (5-minute intervals)	Volume Purged (L):	Depth to Water (ft. BTOC):	Temperature (°C): (3%)	Specific Conductivity (µS/cm): (3%)	D.O. (mg/L): (10%)	pH: (±0.1)	ORP (mV): (±10 mV)	Turbidity (NTU): (10%)
1355	0.4	~~15~~ 51.26	15.6	198.3	6.99	7.89	103.4	over range
1400	0.8	51.72	15.6	196.0	6.84	7.97	101.6	over range
1405	1.2	52.02	15.7	195.1	6.89	8.02	100.2	over range
1410	1.6	52.18	15.5	194.4	6.86	8.05	99.2	over range

Red font indicates stabilization criteria to be achieved over three consecutive readings.

Final Depth to Water (ft. BTOC): 52.18	Drawdown Observed (ft): 1.49
Odor: YES (NO)	Well Pumped Dry: YES (NO)
End Well Evacuation (Time): 1427	Total Volume Purged (L): 1.6

SAMPLE COLLECTION INFORMATION

Sample ID: 48MW7	PARAMETERS (Circle all applicable):
Sample Date & Time: 10/24/25 1410	(SWMU 49) VOCs, MEE, Chloride/Nitrate/Sulfate, TOC, Ferrous Fe, & Mn
Duplicate Sample ID: ≠	SWMU 54: Explosives, Perchlorate, Chlorate/Chlorite, Chloride/Nitrate/Sulfate, TIC, TOC, Ferrous Fe, & Mn
Manganese (mg/L): 0.9	Sample Collection Method: (Low Flow) Other:
Ferrous Iron (mg/L): 0.58	Sample Collection Depth (ft. BTOC): 81.22

COMMENTS

Resample due to missing shipment from 10/21/25 sampling

320-10 FIELD INSPECTION REPORT

Contract Number:	W912DR19D0004		**Task Order No:**	W912DR24F0222	
CAPE Project No.:	10409-0222		**Date:**	24-Oct-25	
Project Location:	Radford Army Ammunition Plant, Radford, VA				
DFW:	SWMU 49 & SWMU 54 LTM Sampling		**Spec Sect.**		
Inspection Performed by:	Yoko Miyakawa				

1. DESCRIPTION OF WORK INSPECTED:

SWMU-49: Gauged and sampled wells 48MW2, 48MW3 (including MS/MSDs), 49MW02, and 48MW7.
Equipment blank taken at well 48MW2 at 0957 on deconned bladder pump; sample "48MW2-EQB."
Dumped approximately 8 gallons of IDW water into SWMU-49 designated, labeled, 55-gal drum at ACD/BAE storage facility.
Sample "49IDW" taken for waste characterization analysis at 1530.

2. TYPE OF INSPECTION:

☑ Visual ☐ Dimensional
☐ Non-Destructive Examination (NDE) ☐ Other _____

☐ In Progress ☐ Final

3. REFERENCED DRAWINGS / STANDARDS:

See below aerial view

4. FINDINGS:

48MW7 was resampled. The missing cooler from the shipment on 10/21/25 has not been located.

5. SKETCH, IF APPLICABLE:

Upper SWMU 49



Inspector: _____

Quality Control Representative: _____

CAPE

320-16 WASTE INVENTORY SUMMARY

Contract Number	W912DR19D0004	DO/TO No:	W912DR24F0222	CAPE Project #	10409-0222-002-003	Project Location	RAAP, Radford, VA

Process Generating Waste	Groundwater produced through purging and sampling the monitoring wells. IDW water from SWMU 48/49 is captured and maintained separately from SWMU 54 IDW water throughout the handling process.

Load Number	Date	Description	Quantity (TNS or GAL)	Waste Classification	Receiving Disposal Facility	Method of Disposal	Date of Disposal or Destruction
1	8/19/24	IDW waste from SWMU 49	7 gal	Pending Analysis	—		
2	8/20/24	IDW + decon water from SWMU 54	8 gal	Pending Analysis	—		
3	8/21/24	IDW + decon water from SWMU 49	9 gal	Pending Analysis	—		
4	8/22/24	IDW + decon water from SWMU 49	6 gal	Pending Analysis	—		
5							
6	12/9/24	IDW from SWMU 49	15 gal	Pending Analysis	—		
7	12/10/24	IDW + decon water SWMU 54	10 gal	Pending Analysis	—		
8	12/11/24	IDW + decon water SWMU 49	5 gal	Pending Analysis	—		
9	12/12/24	IDW + decon water SWMU 49	6 gal	Pending Analysis	—		
10	12/13/24	IDW + decon water SWMU 49	4 gal	Pending Analysis	—		
11							
12	IDW drum	SWMU 49 has ~45 gallons total		(as of 12/13/24)			
13	IDW drum	SWMU 54 has ~20 gallons total		(as of 12/13/24)			
14							
15	5/19/25	IDW + decon water SWMU 54	11 gal	Pending Analysis	—		
16	5/20/25	IDW + decon water SWMU 49	9 gal	Pending Analysis	—		
17	5/21/25	IDW + decon water SWMU 49 (Drum #2)	7 gal	Pending Analysis	—		
18	5/22/25	IDW + decon water SWMU 49 (Drum 2)	5 gal	Pending Analysis	—		
19							
20	IDW Drum #1	SWMU 48/49 has ~54 gallons total as of 5/22/25 (FULL)					
21	IDW Drum #2	SWMU 48/49 has ~12 gallons total as of 5/22/25					
22	IDW Drum	SWMU 54 has ~31 gallons total as of 5/22/25					
23							
24	10/20/25	IDW + decon water SWMU 54	10 gal	Pending Analysis	—		
25	10/21/25	IDW + decon water SWMU 49 (drm2)	10 gal	Pending Analysis	—		
26	10/21/25	IDW + decon SWMU 54	200mL	Pending Analysis	—		
27	10/22/25	IDW + decon SWMU 54	3 gal	Pending Analysis	—		
28	10/22/25	IDW + decon SWMU 49 (drm2)	7.5	Pending Analysis	—		
29	10/23/25	IDW + decon SWMU 49 (drm2)	7	Pending Analysis	—		
30	10/24/25	IDW + decon SWMU 49 (drm2)	8	Pending Analysis	—		
31	IDW Drum #1	SWMU 49 Full as of 5/22/25					
32	IDW Drum #2	SWMU 49 has ~44 gallons total as of 10/24/25					
	IDW Drum	SWMU 54 has ~44 gallons total as of 10/24/25					

CAPE Form 320-16, Revised May 2022	TOTAL QUANTITY:	Page 1 of 1	0.00				

CAPE

SITE CONTROL LOG

Date / Day: Friday, October 24, 2025
Project Name/Number: RADFORD ARMY AMMUNITION PLANT-SWMU 49 & SWMU 54 SAMPLING / CONTRACT W912DR19D0004, TASK ORDER W912DR24F0222
Project Location: RADFORD ARMY AMMUNITION PLANT, RADFORD, VA

Time		Name (Print)	Signature	DO YOU HAVE AN INJURY TO REPORT? Y/N	Organization
In	Out				
0732	1550	Yoko Miyakawa		N	CAPE
0732	1550	Paul I. Taylor		N	Weston

TAILGATE SAFETY MEETING RECORD

DATE/TIME:	Friday, October 24, 2025
PROJECT NAME:	Radford Army Ammunition Plant-SWMU 49 & SWMU 54 Sampling
PROJECT LOCATION:	Radford Army Ammunition Plant, Radford, VA
CAPE PROJECT NUMBER:	CO: W912DR19D0004, TO: W912DR24F0222
PROJECT MANAGER:	Matthew Feits
SITE SUPERINTENDENT:	
SITE HEALTH & SAFETY:	Yoko Miyakawa

SAFETY TOPICS PRESENTED

Cold stress ; driving safety ; dehydration

Protective Clothing/Equipment:	
Modified Level D PPE	Gloves as required
High visibility vests/outerwear as required	
Safety Toe Boots and Safety Glasses required	
Chemical Hazards:	
Potential for contact with the ground water and preservatives	
Physical Hazards:	
Slip, trip, and falls	Inclement weather
Heat stress	Drum handling
Biological hazards	
Emergency Procedures:	
Provide first aid to your level of training. Contact 911 for Emergency if required. Notify your supervisor and the SSHO.	
Emergency Hospital:	Carilion New River Valley Medical Center, 2900 Lamb Cir, Christiansburg, VA 24073
Hospital Telephone Number:	(540) 731-2000
Hospital Direction:	Map in APP
Special Equipment:	
By signing this form, I confirm that I have not been previously injured on this job without informing my supervisor, and that I will immediately report all incidents/injuries to my supervisors in the future.	

SAFETY MEETING ATTENDEES

#	Printed Name	Initial	#	Printed Name	Initial
1.	Yoko Miyakawa	YM	16.		
2.	Paul E Taylor	PT	17.		
3.			18.		
4.			19.		
5.			20.		
6.			21.		
7.			22.		
8.			23.		
9.			24.		
10.			25.		
11.			26.		
12.			27.		
13.			28.		
14.			29.		
15.			30.		

Meeting Conducted By:

Signature _____

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Oct 24, 2025 4:47:37 PM

Radford Army Ammunition Plant 10/24/25
Radford, VA
+
Personnel: Y. Miyakawa (CAPE), P. Taylor (Weston)

Weather: 32°, Foggy

Objective: GW sampling at SWMU 49

0732 P. Taylor + Y. Miyakawa onsite + Checked through guard stands
0744 Pulled over to trailer parking to calibrate equipment
YSI:
pH 4 → 4.00 pH
pH 7 → 7.01
pH 10 → 10.09
ORP 240mV → 239.4
SpC 1413 µS/cm → 1413 µS/cm
Turb. Hach meter
10 NTU → 9.90
20 NTU → 20.3
100 NTU → 101
800 NTU → 811
0809 Setting up @ 48MW2; bladder pump, interface set to 20:40 cycle + 170' depth to bottle

0918 Rinse sample 48MW2
Laundry detergent blank in decanted bladder pump = "48MW2-EQB"
0957 Equipment Blank taken
1016 setting up @ 48MW3; MS/MSD stated
1037 setting up @ 49MW02
1330 setting up @ 48MW7 - Resampling due to missing cooler from 10/23/25 shipment
1438 done sampling + taking inventory. See next page
1508 Heading to AED/BAE Storage Site
Talked to M. Alberts about dropping off our tote → "620" on bumper of Gray F-150 @ Building 220 parking lot. M. Alberts requested email about lost cooler + wants a COC plus reminder about drug screening time limit that's needed for next time he's back out here
1523 dumped approx 8 gal IDW into SWMU 49 drum #2
1530 Collected Waste Characterization Sample "49 IDW"
1547 Dropped off tote, buckets, eq, trash, etc.
1550 All parties offsite
Samples will be shipped to CT Labs in Baraboo, WI

10/24/25

Oct 2025 Inventory

*reorder

- 7 Reagent Packets (Ferrous Iron, Buffer Extract, + Sodium Periodate *
- 4 - 4oz. eyewash bottles
- 1/2 cup liquinox *
- 100 ppm isobutylene
- trash bags
- packing tape
- fire extinguisher
- First Aid / BBP kits
- 500 ft of rope
- extra sample bottles
- 5 TB's (10 vials total)
- 300 ft peristaltic tubing
- 20 ft flex tubing
- 80% box XL gloves + M gloves *
- 200 - Zip loc bags
- 4 - bladders
- 350 ft bonded tubing
- drink cooler
- Spray bottles
- Kim wipes
- paper towels
- Anchor Rods for peri tubing
- WD-40 per
- Rubbermaid tubs
- broom stick
- YSI calibration fluid (pH4/7/10, SpC 1413 MS/cm)

- extra labels + custody seals + COCs
- buckets

Appendix B: Laboratory Analytical Reports

(Provided on CD)

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ANALYTICAL SUMMARY REPORT

This report at a minimum contains the following information:

Analytical Report of Test Results
Description of QC Qualifiers
Chain of Custody (copy)
Quality Control Summary (if applicable)
Case Narrative (if applicable)
Correspondence with Client (if applicable)

This report has been specifically prepared to satisfy project or program requirements. These results are in compliance with NELAC requirements for parameters where accreditation is required or available, unless otherwise noted in the case narrative.

Unless specifically stated to the contrary, soil/sediment/sludge sample results reported on a Dry Weight Basis

ANALYTICAL SAMPLE DATA

CAPE ENVIRONMENTAL MANAGEMENT
MATT FEITS
500 PINNACLE COURT
SUITE 100
NORCROSS, GA 30071

Project Name: RADFORD AAP SWMU 54
Project Phase: RADFORD, VA
Project #: 10409-0222
Folder #: 195081
Purchase Order #: SC013781
Contract #: 3648

Arrival Temperature: 3.6
Report Date: 6/6/2025
Date Received: 5/20/2025
Reprint Date: 6/6/2025

Copy: chemistrysvcs@cape-inc.com

CT LAB#: 1585226 Sample Description: 54MW13 Client Sample #: Sampled: 5/19/2025 10:10

Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method	
Inorganic Results														
Total Inorganic Carbon	***69***	mg/L	0.4	1.5	3.0	3.0	1.00				5/22/25 10:42	TMG	EPA 9060A	^
Chloride	***6.2***	mg/L	1.0	1.5	3.0	3.0	1.00				5/20/25 18:15	TMG	EPA 9056A	
Nitrate Nitrogen	***0.53***	mg/L	0.12	0.20	0.40	0.40	1.00				5/20/25 18:15	TMG	EPA 9056A	
Sulfate	***24***	mg/L	0.80	1.5	3.0	3.0	1.00				5/20/25 18:15	TMG	EPA 9056A	
Total Organic Carbon	<1.5	mg/L	0.4	1.5	3.0	3.0	1.00	U			5/23/25 12:32	TMG	EPA 9060A	
Sub Lab Results														
Chlorate	***ATTACHED***						1.00				6/2/25 00:00	SUB	300.1	
Chlorite	***ATTACHED***						1.00				6/2/25 00:00	SUB	300.1	

CT LAB#: 1585227 Sample Description: 54TW13 Client Sample #: Sampled: 5/19/2025 10:10

Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method	
Inorganic Results														
Total Inorganic Carbon	***66***	mg/L	0.4	1.5	3.0	3.0	1.00				5/22/25 10:57	TMG	EPA 9060A	^

Unless specifically stated to the contrary, soil/sediment/sludge sample results reported on a Dry Weight Basis

CT LAB#: 1585227 Sample Description: 54TW13 Client Sample #: Sampled: 5/19/2025 10:10

Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method
Chloride	***6.3***	mg/L	1.0	1.5	3.0	3.0	1.00				5/20/25 18:40	TMG	EPA 9056A
Nitrate Nitrogen	***0.52***	mg/L	0.12	0.20	0.40	0.40	1.00				5/20/25 18:40	TMG	EPA 9056A
Sulfate	***24***	mg/L	0.80	1.5	3.0	3.0	1.00				5/20/25 18:40	TMG	EPA 9056A
Total Organic Carbon	<1.5	mg/L	0.4	1.5	3.0	3.0	1.00	U			5/23/25 12:54	TMG	EPA 9060A
Sub Lab Results													
Chlorate	***ATTACHED***						1.00				6/2/25 00:00	SUB	300.1
Chlorite	***ATTACHED***						1.00				6/2/25 00:00	SUB	300.1

CT LAB#: 1585228 Sample Description: 54MW10 Client Sample #: Sampled: 5/19/2025 12:00

Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method	
Inorganic Results														
Total Inorganic Carbon	***75***	mg/L	0.4	1.5	3.0	3.0	1.00				5/22/25 11:12	TMG	EPA 9060A	^
Chloride	***5.4***	mg/L	1.0	1.5	3.0	3.0	1.00				5/20/25 19:06	TMG	EPA 9056A	
Nitrate Nitrogen	***1.3***	mg/L	0.12	0.20	0.40	0.40	1.00				5/20/25 19:06	TMG	EPA 9056A	
Sulfate	***45***	mg/L	0.80	1.5	3.0	3.0	1.00				5/20/25 19:06	TMG	EPA 9056A	
Total Organic Carbon	<1.5	mg/L	0.4	1.5	3.0	3.0	1.00	U			5/23/25 13:14	TMG	EPA 9060A	
Sub Lab Results														
Chlorate	***ATTACHED***						1.00				6/2/25 00:00	SUB	300.1	
Chlorite	***ATTACHED***						1.00				6/2/25 00:00	SUB	300.1	

CT LAB#: 1585229 Sample Description: 54MW12 Client Sample #: Sampled: 5/19/2025 13:38

Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method

Unless specifically stated to the contrary, soil/sediment/sludge sample results reported on a Dry Weight Basis

CT LAB#: 1585229 Sample Description: 54MW12 Client Sample #: Sampled: 5/19/2025 13:38

Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method	
Inorganic Results														
Total Inorganic Carbon	***76***	mg/L	0.4	1.5	3.0	3.0	1.00				5/22/25 11:28	TMG	EPA 9060A	^
Chloride	***6.1***	mg/L	1.0	1.5	3.0	3.0	1.00				5/20/25 19:57	TMG	EPA 9056A	
Nitrate Nitrogen	***0.70***	mg/L	0.12	0.20	0.40	0.40	1.00				5/20/25 19:57	TMG	EPA 9056A	
Sulfate	***21***	mg/L	0.80	1.5	3.0	3.0	1.00	M			5/20/25 19:57	TMG	EPA 9056A	
Total Organic Carbon	<1.5	mg/L	0.4	1.5	3.0	3.0	1.00	U			5/23/25 13:32	TMG	EPA 9060A	
Sub Lab Results														
Chlorate	***ATTACHED***						1.00				6/2/25 00:00	SUB	300.1	
Chlorite	***ATTACHED***						1.00				6/2/25 00:00	SUB	300.1	

CT LAB#: 1585230 Sample Description: 54MW1 Client Sample #: Sampled: 5/19/2025 15:26

Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method	
Inorganic Results														
Total Inorganic Carbon	***63***	mg/L	0.4	1.5	3.0	3.0	1.00				5/22/25 11:43	TMG	EPA 9060A	^
Chloride	***3.0***	mg/L	1.0	1.5	3.0	3.0	1.00				5/20/25 21:39	TMG	EPA 9056A	
Nitrate Nitrogen	<0.20	mg/L	0.12	0.20	0.40	0.40	1.00	U			5/20/25 21:39	TMG	EPA 9056A	
Sulfate	***29***	mg/L	0.80	1.5	3.0	3.0	1.00				5/20/25 21:39	TMG	EPA 9056A	
Total Organic Carbon	<1.5	mg/L	0.4	1.5	3.0	3.0	1.00	U			5/23/25 15:02	TMG	EPA 9060A	
Sub Lab Results														
Chlorate	***ATTACHED***						1.00				6/2/25 00:00	SUB	300.1	
Chlorite	***ATTACHED***						1.00				6/2/25 00:00	SUB	300.1	

Unless specifically stated to the contrary, soil/sediment/sludge sample results reported on a Dry Weight Basis

Notes:

^ Indicates the laboratory is NELAP accredited for this analyte by the indicated matrix and method . DL (detection limit), LOD (limit of detection), loq (limit of quantitation) as defined by most recent DOD QSM version.

All samples were received intact and properly preserved unless otherwise noted . The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without written approval of this laboratory. The Chain of Custody is attached.

This report has been specifically prepared to satisfy project or program requirements. These results are in compliance with NELAC requirements for the parameters where accreditation is required or available, unless noted in the case narrative.

Submitted by: Brett M. Szymanski
Project Manager
608-356-2760

QC Qualifiers

Code	Description
A	Result cannot be used for compliance due to QC issue
B	Analyte detected in the associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
I	Incubator temperature was outside acceptance limits during test period.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
U	Analyte concentration was below detection limit.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Specified calibration criteria was not met.

Current CT Laboratories Certifications

Wisconsin (WDNR) Chemistry ID# 157066030
Wisconsin (DATCP) Bacteriology ID# 289
Louisiana NELAP (primary) ID# 115843
Illinois NELAP Lab ID# 200073
Kansas NELAP Lab ID# E-10368
Virginia NELAP Lab ID# 460203
Florida NELAP Lab ID# E871111

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QC Summary Report

CAPE ENVIRONMENTAL MANAGEMENT **Project Name: RADFORD AAP SWMU 54**

SDG #: 0 **Folder #: 195081** **Project #: 10409-0222**

Duplicate

Analytical Run #:	291786	Analysis Date:	5/20/2025	Prep Batch #:		Matrix:	GROUND WATER
CTLab #:	1586270	Analysis Time:	20:22	Prep Date/Time:		Method:	SW9056A
Parent Sample #:	1585229	Analyst:	TMG	Prep Analyst:			

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Chloride	6.11	mg/L	6.1				3.0	0	10
Nitrate Nitrogen	0.690	mg/L	0.70				0.40	1	10
Sulfate	21.1	mg/L	21				3.0	0	10

Lab Control Spike Water

Analytical Run #:	291786	Analysis Date:	5/20/2025	Prep Batch #:		Matrix:	LIQUID
CTLab #:	1586258	Analysis Time:	12:18	Prep Date/Time:		Method:	SW9056A
Parent Sample #:		Analyst:	TMG	Prep Analyst:			

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits			RPD	RPD Limit
Chloride	14.80	mg/L			15.00	99	87	---	111		
Nitrate Nitrogen	3.279	mg/L			3.500	94	88	---	111		
Sulfate	25.29	mg/L			25.00	101	87	---	112		

Method Blank Water

Analytical Run #:	291786	Analysis Date:	5/20/2025	Prep Batch #:		Matrix:	LIQUID
CTLab #:	1586260	Analysis Time:	12:44	Prep Date/Time:		Method:	SW9056A
Parent Sample #:		Analyst:	TMG	Prep Analyst:			

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Chloride	1.0	mg/L		U	0		1.5		
Nitrate Nitrogen	0.12	mg/L		U	0		0.20		
Sulfate	0.8	mg/L		U	0		1.5		

Matrix Spike Duplicate Water

Analytical Run #:	291786	Analysis Date:	5/20/2025	Prep Batch #:		Matrix:	GROUND WATER
CTLab #:	1586272	Analysis Time:	21:13	Prep Date/Time:		Method:	SW9056A
Parent Sample #:	1586271	Analyst:	TMG	Prep Analyst:			

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Chloride	13.6	mg/L	6.1		8.00	94	87 --- 111	0	15
Nitrate Nitrogen	2.64	mg/L	0.70		2.00	97	88 --- 111	1	15
Sulfate	28.0	mg/L	21		8.00	88	87 --- 112	1	15

Matrix Spike Water

Analytical Run #:	291786	Analysis Date:	5/20/2025	Prep Batch #:		Matrix:	GROUND WATER
CTLab #:	1586271	Analysis Time:	20:48	Prep Date/Time:		Method:	SW9056A
Parent Sample #:	1585229	Analyst:	TMG	Prep Analyst:			

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Chloride	13.6	mg/L	6.1		8.00	94	87 --- 111		15
Nitrate Nitrogen	2.62	mg/L	0.70		2.00	96	88 --- 111		15
Sulfate	27.8	mg/L	21		8.00	85	87 --- 112		15

Lab Control Spike Water

Analytical Run #:	291859	Analysis Date:	5/22/2025	Prep Batch #:		Matrix:	LIQUID
CTLab #:	1587409	Analysis Time:	10:08	Prep Date/Time:		Method:	SW9060
Parent Sample #:		Analyst:	TMG	Prep Analyst:			

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Inorganic Carbon	49.48	mg/L			50.0	99	85 --- 111		

Method Blank Water

Analytical Run #:	291859	Analysis Date:	5/22/2025	Prep Batch #:		Matrix:	LIQUID
CTLab #:	1587410	Analysis Time:	10:24	Prep Date/Time:		Method:	SW9060
Parent Sample #:		Analyst:	TMG	Prep Analyst:			

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Inorganic Carbon	0.5	mg/L		U	0		1.5		

Duplicate

Analytical Run #:	291895	Analysis Date:	5/23/2025	Prep Batch #:		Matrix:	GROUND WATER
CTLab #:	1587364	Analysis Time:	14:21	Prep Date/Time:		Method:	SW9060
Parent Sample #:	1585229	Analyst:	TMG	Prep Analyst:			

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Organic Carbon	0.4	mg/L	<DL	U			1.5	0	20

Lab Control Spike Water

Analytical Run #:	291895	Analysis Date:	5/23/2025	Prep Batch #:		Matrix:	LIQUID
CTLab #:	1587360	Analysis Time:	10:09	Prep Date/Time:		Method:	SW9060
Parent Sample #:		Analyst:	TMG	Prep Analyst:			

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Organic Carbon	49.19	mg/L			50.0	98	85 --- 111		20

Method Blank Water

Analytical Run #:	291895	Analysis Date:	5/23/2025	Prep Batch #:		Matrix:	LIQUID
CTLab #:	1587361	Analysis Time:	10:45	Prep Date/Time:		Method:	SW9060
Parent Sample #:		Analyst:	TMG	Prep Analyst:			

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Organic Carbon	0.40	mg/L		U	0		1.5		

Matrix Spike Duplicate Water

Analytical Run #:	291895	Analysis Date:	5/23/2025	Prep Batch #:		Matrix:	GROUND WATER
CTLab #:	1587366	Analysis Time:	14:49	Prep Date/Time:		Method:	SW9060
Parent Sample #:	1587365	Analyst:	TMG	Prep Analyst:			

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Organic Carbon	51.6	mg/L	<DL		50.0	103	85 --- 111	1	20

Matrix Spike Water

Analytical Run #:	291895	Analysis Date:	5/23/2025	Prep Batch #:		Matrix:	GROUND WATER
CTLab #:	1587365	Analysis Time:	14:35	Prep Date/Time:		Method:	SW9060
Parent Sample #:	1585229	Analyst:	TMG	Prep Analyst:			

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Organic Carbon	52.2	mg/L	<DL		50.0	104	85 --- 111		20

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 195081
Print Date / Time: 05/20/2025 09:45
Client: CAPE ENVIRONMENTAL MANAGEMENT
Received Date / Time / By: 05/20/2025 10:11 erc
Project Name: RADFORD AAP SWMU 54
Log-In Date / Time / By: 05/20/2025 10:17 erc
Project Phase: RADFORD, VA
Project #: 10409-0222 PM: BMS
Coolers: 6029
Temperature: 3.6 C On Ice: **Y**
Custody Seals Present : **Y**
COC Present:? **Y** Complete? **Y**
Seal Intact? **Y**
Numbers: DATED AND SIGNED
Ship Method: FEDEX EXPRESS
Tracking Number: 881316244063
Adequate Packaging: **Y**
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

TWO (2) CUSTODY SEALS WERE PRESENT AND INTACT ON THE COOLER UPON RECEIPT (BOTH WERE DATED 5/19/2025 AND SIGNED).

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
1585226 54MW13				
	VOA	1	/	
	VOA	1	/	
	VOA	1	/	
	Total # of Containers of Type (*VOA*) = 3			
1585226 54MW13				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			
1585226 54MW13				
	MISC	1	/	CHLORATE/CHLORITE
	Total # of Containers of Type (*MISC*) = 1			
1585226 54MW13				
	H2SO4 PL	1	Y / N	TOC
	Total # of Containers of Type (*H2SO4 PL*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
1585227 54TW13				
	VOA	1	/	
	VOA	1	/	
	VOA	1	/	
	Total # of Containers of Type (*VOA*) = 3			
1585227 54TW13				
	UNPRES PL	1	/	Anions

		Total # of Containers of Type	**(*UNPRES PL*) = 1**				
1585227	54TW13						
		MISC	1		/		CHLORATE/CHLORITE
		Total # of Containers of Type	**(*MISC*) = 1**				
1585227	54TW13						
		H2SO4 PL	1	Y	/	N	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) = 1**				

Sample ID /	Description	Container Type	Cond. Code	pH OK?/Filtered?			Tests
1585228	54MW10						
		VOA	1		/		
		VOA	1		/		
		VOA	1		/		
		Total # of Containers of Type	**(*VOA*) = 3**				
1585228	54MW10						
		UNPRES PL	1		/		Anions
		Total # of Containers of Type	**(*UNPRES PL*) = 1**				
1585228	54MW10						
		MISC	1		/		CHLORATE/CHLORITE
		Total # of Containers of Type	**(*MISC*) = 1**				
1585228	54MW10						
		H2SO4 PL	1	Y	/	N	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) = 1**				

Sample ID /	Description	Container Type	Cond. Code	pH OK?/Filtered?			Tests
1585229	54MW12						
		VOA	1		/		
		VOA	1		/		
		VOA	1		/		
		VOA	1	N	/	N	
		VOA	1	N	/	N	
		VOA	1	N	/	N	
		VOA	1	N	/	N	
		VOA	1	N	/	N	
		VOA	1	N	/	N	
		Total # of Containers of Type	**(*VOA*) = 9**				
1585229	54MW12						
		UNPRES PL	1	N	/	N	ANIONS
		UNPRES PL	1	N	/	N	ANIONS
		UNPRES PL	1		/		Anions
		Total # of Containers of Type	**(*UNPRES PL*) = 3**				
1585229	54MW12						
		MISC	1		/		CHLORATE/CHLORITE
		Total # of Containers of Type	**(*MISC*) = 1**				

1585229	54MW12						
		MISC	1	N	/	N	SUB
		MISC	1	N	/	N	SUB
		Total # of Containers of Type	(***MISC***) = **2**				
1585229	54MW12						
		H2SO4 PL	1	Y	/	N	TOC
		H2SO4 PL	1	Y	/	N	TOC
		H2SO4 PL	1	Y	/	N	TOC
		Total # of Containers of Type	(***H2SO4 PL***) = **3**				

Sample ID /	**Description**	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
1585230	54MW1				
		VOA	1	/	
		VOA	1	/	
		VOA	1	/	
		Total # of Containers of Type	(***VOA***) = **3**		
1585230	54MW1				
		UNPRES PL	1	/	Anions
		Total # of Containers of Type	(***UNPRES PL***) = **1**		
1585230	54MW1				
		MISC	1	/	CHLORATE/CHLORITE
		Total # of Containers of Type	(***MISC***) = **1**		
1585230	54MW1				
		H2SO4 PL	1	Y / N	TOC
		Total # of Containers of Type	(***H2SO4 PL***) = **1**		

Condition Code *Condition Description*

1 Sample Received OK

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: CAPE Enviromental
Project Contact: Matt Feits
Telephone: (724) 622-3625
Project Name: Radford AAP SWMU 54
Project #:
Location: Radford, VA
Sampled By: Y. Miyakawa, P. Taylor

CT LOGIN
Log #: 195081
Company: CAPE ENVIRONMENTAL MAN
Project: RADFORD AAP SWMU 54
Logged By: ere PM: BMS

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____
PO #

Report To: ChemistrySVCS@cape-inc.com
EMAIL: mfeits@cape-inc.com
Company: CAPE Environmental Mgmt.
Address: 500 Pinnacle Ct. #100 Norcross, GA 30071
Invoice To:* Same
EMAIL:
Company:
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

2025 Collection Date	Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	TOC 9060A	Anions 9056A	TIC 9060A	Chlorate/Chlorite	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test						
5/19	1010	GW	G		54MW13	N	1	1	3	1	6		1585226
5/19	1010	GW	G		54TW13	N	1	1	3	1	6		27
5/19	1200	GW	G		54MW10	N	1	1	3	1	6		28
5/19	1338	GW	G		54MW12	N	3	3	9	3	18	X	29
5/19	1526	GW	G		54MW1	N	1	1	3	1	6		30

Turnaround Time
(Normal) RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By:	Date/Time	Received By:	Date/Time
	5/19/2025 1800	Fedex	5/19/2025 1800
Received by:	Date/Time	Received for Laboratory by:	Date/Time
			5/20/25 1011

Lab Use Only
Ice Present (Yes) No
Temp 3.6 IR Gun 77
Cooler # 6024

ORIGIN ID:LIYA (724) 622-3625
MATTHEW FEITS
CAPE ENVIRONMENTAL MANAGEMENT, INC
500 PINNACLE COURT
SUITE 100
NORCROSS, GA 30071
UNITED STATES US

SHIP DATE: 19MAY25
ACTWGT: 45.00 LB
CAD: 100980732/INET4535

BILL SENDER

TO **SAMPLE RECEIVING**
CT LABS
1230 LANGE COURT

BARABOO WI 53913
(608) 356-2760
INV:
PO:
REF: 10409-0222-002-003
DEPT:

58GJ4/EA36/59F2

J252925040801uv

FedEx Express

1 of 3

TRK# 0201 8813 1624 4063
MASTER

XS LNRA

TUE - 20 MAY 10:30A
PRIORITY OVERNIGHT

53913
WI-US MSN

CUSTODY SEAL
DATE 5/19/2025
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • www.qecusa.com

After printing
CONSIGNEE
1. Fold the p
2. Place labe

CUSTODY SEAL
DATE 5/19/2025
SIGNATURE

QEC
Quality Environmental Containers
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Ice Present Yes No
Temperature 3.6 °C
Initials
Date 5/20/25 Time 1011
Cooler # 6029

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Brett Szymanski
CT Laboratories
Environmental & Analytical Services
1230 Lange Court
Baraboo, Wisconsin 53913

Generated 6/2/2025 10:06:33 AM

JOB DESCRIPTION

1585226-30 / 195081 EEA-IN / Chlorite, Chlorate

JOB NUMBER

810-149697-1

Eurofins Eaton Analytical South Bend
110 S Hill Street
South Bend IN 46617

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Eaton Analytical, LLC Project Manager.

Authorization



Generated
6/2/2025 10:06:33 AM

Authorized for release by
Traci Chlebowski, Senior Project Manager
Traci.Chlebowski@et.eurofinsus.com
(574)233-4777

Table of Contents

Cover Page 1
Table of Contents 3
Definitions/Glossary 4
Case Narrative 5
Detection Summary 6
Client Sample Results 7
Action Limit Summary 8
QC Sample Results 9
QC Association Summary 11
Lab Chronicle 12
Certification Summary 13
Method Summary 14
Sample Summary 15
Chain of Custody 16
Receipt Checklists 18

Definitions/Glossary

Client: CT Laboratories
Job ID: 810-149697-1
Project/Site: 1585226-30 / 195081 EEA-IN / Chlorite, Chlorate

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 810-149697-1 — Eurofins Eaton Analytical South Bend

Job Narrative
810-149697-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 5/22/2025 8:15 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.2°C.

HPLC/IC
Method 300_OF_14D_B: Sample: 810-149697-3
Batch: 145737

Sample was analyzed with a dilution due to first analysis having matrix interference with the elution of chlorate. The dilution was done in order to reduce the effect on the interference and to better determine if there is chlorate. This resulted in a no detection of chlorate.

1585228 (810-149697-3)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: CT Laboratories
Job ID: 810-149697-1
Project/Site: 1585226-30 / 195081 EEA-IN / Chlorite, Chlorate

Client Sample ID: 1585226 — Lab Sample ID: 810-149697-1

No Detections.

Client Sample ID: 1585227 — Lab Sample ID: 810-149697-2

No Detections.

Client Sample ID: 1585228 — Lab Sample ID: 810-149697-3

No Detections.

Client Sample ID: 1585229 — Lab Sample ID: 810-149697-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chlorate	28		10		ug/L	1		300.0	Total/NA

Client Sample ID: 1585230 — Lab Sample ID: 810-149697-5

No Detections.

This Detection Summary does not include radiochemical test results.

Client: CT Laboratories
Job ID: 810-149697-1
Project/Site: 1585226-30 / 195081 EEA-IN / Chlorite, Chlorate

Client Sample ID: 1585226
Lab Sample ID: 810-149697-1
Date Collected: 05/19/25 10:10
Matrix: Drinking Water
Date Received: 05/22/25 08:15

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chlorite	<10		10		ug/L			05/22/25 19:57	1
Chlorate	<10		10		ug/L			05/22/25 19:57	1

Client Sample ID: 1585227
Lab Sample ID: 810-149697-2
Date Collected: 05/19/25 10:10
Matrix: Drinking Water
Date Received: 05/22/25 08:15

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chlorite	<10		10		ug/L			05/22/25 20:25	1
Chlorate	<10		10		ug/L			05/22/25 20:25	1

Client Sample ID: 1585228
Lab Sample ID: 810-149697-3
Date Collected: 05/19/25 12:00
Matrix: Drinking Water
Date Received: 05/22/25 08:15

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chlorite	<10		10		ug/L			05/22/25 20:53	1

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chlorate	<20		20		ug/L			05/27/25 19:16	2

Client Sample ID: 1585229
Lab Sample ID: 810-149697-4
Date Collected: 05/19/25 13:38
Matrix: Drinking Water
Date Received: 05/22/25 08:15

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chlorite	<10		10		ug/L			05/22/25 18:33	1
Chlorate	**28**		10		ug/L			05/22/25 18:33	1

Client Sample ID: 1585230
Lab Sample ID: 810-149697-5
Date Collected: 05/19/25 15:26
Matrix: Drinking Water
Date Received: 05/22/25 08:15

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chlorite	<10		10		ug/L			05/22/25 21:21	1
Chlorate	<10		10		ug/L			05/22/25 21:21	1

Action Limit Summary

Client: CT Laboratories
Job ID: 810-149697-1
Project/Site: 1585226-30 / 195081 EEA-IN / Chlorite, Chlorate

Client Sample ID: 1585226 — Lab Sample ID: 810-149697-1

Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits have been highlighted for your convenience.

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Chlorite	<10		ug/L	1000	10	300.0	Total/NA

Client Sample ID: 1585227 — Lab Sample ID: 810-149697-2

Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits have been highlighted for your convenience.

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Chlorite	<10		ug/L	1000	10	300.0	Total/NA

Client Sample ID: 1585228 — Lab Sample ID: 810-149697-3

Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits have been highlighted for your convenience.

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Chlorite	<10		ug/L	1000	10	300.0	Total/NA

Client Sample ID: 1585229 — Lab Sample ID: 810-149697-4

Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits have been highlighted for your convenience.

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Chlorite	<10		ug/L	1000	10	300.0	Total/NA

Client Sample ID: 1585230 — Lab Sample ID: 810-149697-5

Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits have been highlighted for your convenience.

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Chlorite	<10		ug/L	1000	10	300.0	Total/NA

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 810-145338/4
Matrix: Drinking Water
Analysis Batch: 145338

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chlorite	<10		10		ug/L			05/22/25 17:37	1
Chlorate	<10		10		ug/L			05/22/25 17:37	1

Lab Sample ID: LCS 810-145338/5
Matrix: Drinking Water
Analysis Batch: 145338

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chlorite			250	255		ug/L		102	90 - 110		
Chlorate			250	249		ug/L		99	90 - 110		

Lab Sample ID: LLCS 810-145338/1
Matrix: Drinking Water
Analysis Batch: 145338

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chlorite			10.0	10.3		ug/L		103	50 - 150		
Chlorate			10.0	9.83	J	ug/L		98	50 - 150		

Lab Sample ID: 810-149697-4 MS
Matrix: Drinking Water
Analysis Batch: 145338

Client Sample ID: 1585229 MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chlorite	<10		250	231		ug/L		93	90 - 110		
Chlorate	28		250	255		ug/L		91	90 - 110		

Lab Sample ID: 810-149697-4 MSD
Matrix: Drinking Water
Analysis Batch: 145338

Client Sample ID: 1585229 MSD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chlorite	<10		250	225		ug/L		90	90 - 110	3	20
Chlorate	28		250	263		ug/L		94	90 - 110	3	20

Lab Sample ID: MB 810-145737/4
Matrix: Drinking Water
Analysis Batch: 145737

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chlorite	<10		10		ug/L			05/27/25 12:58	1
Chlorate	<10		10		ug/L			05/27/25 12:58	1

Lab Sample ID: LCS 810-145737/5
Matrix: Drinking Water
Analysis Batch: 145737

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chlorite			250	246		ug/L		99	90 - 110		
Chlorate			250	251		ug/L		101	90 - 110		

QC Sample Results

Client: CT Laboratories
Job ID: 810-149697-1
Project/Site: 1585226-30 / 195081 EEA-IN / Chlorite, Chlorate

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LLCS 810-145737/1
Client Sample ID: Lab Control Sample
Matrix: Drinking Water
Prep Type: Total/NA
Analysis Batch: 145737

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chlorite			10.0	10.7		ug/L		107	50 - 150		
Chlorate			10.0	6.29	J	ug/L		63	50 - 150		

Lab Sample ID: 810-149771-B-1 MS
Client Sample ID: Matrix Spike
Matrix: Drinking Water
Prep Type: Total/NA
Analysis Batch: 145737

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chlorite	<10	F1	250	192	F1	ug/L		77	90 - 110		
Chlorate	29		250	279		ug/L		100	90 - 110		

Lab Sample ID: 810-149771-B-1 MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Drinking Water
Prep Type: Total/NA
Analysis Batch: 145737

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chlorite	<10	F1	250	192	F1	ug/L		77	90 - 110	0	20
Chlorate	29		250	272		ug/L		97	90 - 110	3	20

QC Association Summary

Client: CT Laboratories
Job ID: 810-149697-1
Project/Site: 1585226-30 / 195081 EEA-IN / Chlorite, Chlorate

HPLC/IC

Analysis Batch: 145338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-149697-1	1585226	Total/NA	Drinking Water	300.0	
810-149697-2	1585227	Total/NA	Drinking Water	300.0	
810-149697-3	1585228	Total/NA	Drinking Water	300.0	
810-149697-4	1585229	Total/NA	Drinking Water	300.0	
810-149697-5	1585230	Total/NA	Drinking Water	300.0	
MB 810-145338/4	Method Blank	Total/NA	Drinking Water	300.0	
LCS 810-145338/5	Lab Control Sample	Total/NA	Drinking Water	300.0	
LLCS 810-145338/1	Lab Control Sample	Total/NA	Drinking Water	300.0	
810-149697-4 MS	1585229 MS	Total/NA	Drinking Water	300.0	
810-149697-4 MSD	1585229 MSD	Total/NA	Drinking Water	300.0	

Analysis Batch: 145737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-149697-3 - DL	1585228	Total/NA	Drinking Water	300.0	
MB 810-145737/4	Method Blank	Total/NA	Drinking Water	300.0	
LCS 810-145737/5	Lab Control Sample	Total/NA	Drinking Water	300.0	
LLCS 810-145737/1	Lab Control Sample	Total/NA	Drinking Water	300.0	
810-149771-B-1 MS	Matrix Spike	Total/NA	Drinking Water	300.0	
810-149771-B-1 MSD	Matrix Spike Duplicate	Total/NA	Drinking Water	300.0	

Lab Chronicle

Client: CT Laboratories
Job ID: 810-149697-1
Project/Site: 1585226-30 / 195081 EEA-IN / Chlorite, Chlorate

Client Sample ID: 1585226
Lab Sample ID: 810-149697-1
Date Collected: 05/19/25 10:10
Matrix: Drinking Water
Date Received: 05/22/25 08:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	145338	NR	EA SB	05/22/25 19:57

Client Sample ID: 1585227
Lab Sample ID: 810-149697-2
Date Collected: 05/19/25 10:10
Matrix: Drinking Water
Date Received: 05/22/25 08:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	145338	NR	EA SB	05/22/25 20:25

Client Sample ID: 1585228
Lab Sample ID: 810-149697-3
Date Collected: 05/19/25 12:00
Matrix: Drinking Water
Date Received: 05/22/25 08:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0	DL	2	145737	NR	EA SB	05/27/25 19:16
Total/NA	Analysis	300.0		1	145338	NR	EA SB	05/22/25 20:53

Client Sample ID: 1585229
Lab Sample ID: 810-149697-4
Date Collected: 05/19/25 13:38
Matrix: Drinking Water
Date Received: 05/22/25 08:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	145338	NR	EA SB	05/22/25 18:33

Client Sample ID: 1585230
Lab Sample ID: 810-149697-5
Date Collected: 05/19/25 15:26
Matrix: Drinking Water
Date Received: 05/22/25 08:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	145338	NR	EA SB	05/22/25 21:21

Laboratory References:

EA SB = Eurofins Eaton Analytical South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777

Accreditation/Certification Summary

Client: CT Laboratories
Job ID: 810-149697-1
Project/Site: 1585226-30 / 195081 EEA-IN / Chlorite, Chlorate

Laboratory: Eurofins Eaton Analytical South Bend

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Virginia	NELAP	460275	03-14-26

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0		Drinking Water	Chlorate

Method Summary

Client: CT Laboratories
Job ID: 810-149697-1
Project/Site: 1585226-30 / 195081 EEA-IN / Chlorite, Chlorate

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EA SB

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EA SB = Eurofins Eaton Analytical South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777

Sample Summary

Client: CT Laboratories
Job ID: 810-149697-1
Project/Site: 1585226-30 / 195081 EEA-IN / Chlorite, Chlorate

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
810-149697-1	1585226	Drinking Water	05/19/25 10:10	05/22/25 08:15
810-149697-2	1585227	Drinking Water	05/19/25 10:10	05/22/25 08:15
810-149697-3	1585228	Drinking Water	05/19/25 12:00	05/22/25 08:15
810-149697-4	1585229	Drinking Water	05/19/25 13:38	05/22/25 08:15
810-149697-5	1585230	Drinking Water	05/19/25 15:26	05/22/25 08:15

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Bar

6/2/2025

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

810-149697 Chain of Custody

PURCHASE ORDER #: 195081 EEA-IN

The PO# must appear on all invoice and reports.

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: **Eurofins Eaton Analytical - IN**
110 South Hill Street
South Bend, IN 46617

Return Invoice and Results to: **bszymanski@ctlaboratories.com**

CTLaboratories
Brett M Szymanski
1230 Lange Court
Baraboo WI 53913

Government UPS Shipping Acct ? Y (N)

Ship by: Speedee ☐ UPS Grnd ☐ UPS 2nd ☐ UPS NDA ☒

Date Due: Standard TAT ***RUSH TURNAROUND NEEDED?*** ***Y or (N) (Circle One)***

Project Name: RADFORD AAP SWMU 54 **Project State:** VA

Initial Temp: 1.0
Corrected Temp: 0.2
IR Gun # 18

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM) NELAP (Circle one) OTHER _____

Report results as EDD? N (Y) (Circle one and indicate type: Basic Excel) Data Deliverable Package LEVEL: IV

CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method		Cost
1585226	5/19/2025 10:10	GROUND WATER	54MW13	CHLORATE/CHLORITE	300.1	
1585227	5/19/2025 10:10	GROUND WATER	54TW13	CHLORATE/CHLORITE	300.1	
1585228	5/19/2025 12:00	GROUND WATER	54MW10	CHLORATE/CHLORITE	300.1	
1585229	5/19/2025 13:38	GROUND WATER	54MW12 (Designated MS/MSD)	CHLORATE/CHLORITE	300.1	
1585230	5/19/2025 15:26	GROUND WATER	54MW1	CHLORATE/CHLORITE	300.1	

Relinquished by: Brett Szymanski Date/Time: 05/20/2025 10:35

Received by: _____ Date/Time: 05-22-2025 0815 Receipt Temperature (C) _____

COMMENTS: **PLEASE LOG THE SAMPLES USING THE SAMPLE DESCRIPTIONS. 54MW12 IS A DESIGNATED MS/MSD SAMPLE.**

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

Form #: FPM1-01
Effective Date: 02/15/14

CT Laboratories Terms and Conditions

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy) - not applicable

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorneyâ€™s fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT - not applicable

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability Insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate).Â Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.

Login Sample Receipt Checklist

Client: CT Laboratories

Job Number: 810-149697-1

Login Number: 149697

List Source: Eurofins Eaton Analytical South Bend

List Number: 1

Creator: DePriest, Kellie

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Samples do not require splitting or compositing.	True	
Were samples preserved to correct pH upon receipt, if applicable?	True	
Container provided by EEA	True	

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Cape Environmental

Radford Army Ammunition Plant SMWU 54; VA

SGS Job Number: FC24818

Sampling Date: 05/19/25



Report to:

Cape Environmental
Jacksonville, FL
ajohnson@cape-inc.com; chemistrysvcs@cape-inc.com; nsaikaly@cape-inc.com

ATTN: Alexis Johnson

Total number of pages in report: 597

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable unless noted in the narrative, comments or footnotes.

Norm Farmer
Technical Director

Client Service contact: Jean Dent-Smith 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AL, AK, AR, CT, IA, KY, MA, MI. MS, ND, NH, NV, OK, OR, IL, UT, VT, WA, WI, WV

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EHS.US.CustomerCare@sgs.com

Table of Contents

Section 1: Sample Summary **4**
Section 2: Case Narrative/Conformance Summary **5**
Section 3: Summary of Hits **6**
Section 4: Sample Results **8**
4.1: FC24818-1: 54MW13 9
4.2: FC24818-2: 54TW13 11
4.3: FC24818-3: 54MW10 13
4.4: FC24818-4: 54MW12 15
4.5: FC24818-5: 54MW1 17
Section 5: Misc. Forms **19**
5.1: Chain of Custody 20
5.2: QC Evaluation: DOD QSM5.x Limits 22
Section 6: MS Semi-volatiles - QC Data Summaries **24**
6.1: Method Blank Summary 25
6.2: Blank Spike Summary 28
6.3: Matrix Spike/Matrix Spike Duplicate Summary 29
6.4: Internal Standard Area Summaries 30
6.5: Initial and Continuing Calibration Summaries 32
6.6: Run Sequence Reports 40
Section 7: MS Semi-volatiles - Raw Data **44**
7.1: Samples 45
7.2: Method Blanks 55
7.3: Blank Spikes 61
7.4: Matrix Spike/Matrix Spike Duplicates 64
7.5: Initial and Continuing Calibrations 68
7.6: Instrument Run Logs 99
7.7: Sample Prep Logs 104
Section 8: GC/LC Semi-volatiles - QC Data Summaries **105**
8.1: Method Blank Summary 106
8.2: Blank Spike Summary 108
8.3: Matrix Spike/Matrix Spike Duplicate Summary 109
8.4: GC Identification Summaries (Explosives) 110
8.5: Surrogate Recovery Summaries 114
8.6: GC Surrogate Retention Time Summaries 115
8.7: Initial and Continuing Calibration Summaries 117
8.8: Run Sequence Reports 138
Section 9: GC/LC Semi-volatiles - Raw Data **142**
9.1: Samples 143
9.2: Method Blanks 235
9.3: Blank Spikes 240
9.4: Matrix Spike/Matrix Spike Duplicates 245
9.5: Initial and Continuing Calibrations 264

Table of Contents

9.6: Instrument Run Logs 592
9.7: Sample Prep Logs 597

SGS North America Inc.

Sample Summary

Cape Environmental

Job No: FC24818

Radford Army Ammunition Plant SMWU 54; VA

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FC24818-1	05/19/25	10:10	YMPT	05/20/25	AQ	Ground Water	54MW13
FC24818-2	05/19/25	10:10	YMPT	05/20/25	AQ	Ground Water	54TW13
FC24818-3	05/19/25	12:00	YMPT	05/20/25	AQ	Ground Water	54MW10
FC24818-4	05/19/25	13:38	YMPT	05/20/25	AQ	Ground Water	54MW12
FC24818-4D	05/19/25	13:38	YMPT	05/20/25	AQ	Water Dup/MSD	54MW12
FC24818-4S	05/19/25	13:38	YMPT	05/20/25	AQ	Water Matrix Spike	54MW12
FC24818-5	05/19/25	15:26	YMPT	05/20/25	AQ	Ground Water	54MW1

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Cape Environmental **Job No:** FC24818

Site: Radford Army Ammunition Plant SMWU 54; VA **Report Date** 6/3/2025 1:20:07 PM

On 05/20/2025, 5 Sample(s), 0 Trip Blank(s), 0 Equip. Blank(s) and 0 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 3.8 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC24818 was assigned to the project.

Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

MS Semi-volatiles By Method SW846 6850

Matrix: AQ **Batch ID:** OP9584

Sample(s) FC24818-4MSD, FC24818-4MS were used as the QC samples indicated.

Matrix Spike/Matrix Spike Duplicate Recovery(s) for Perchlorate are outside control limits. Outside control limits due to high level in sample relative to spike amount.

GC/LC Semi-volatiles By Method SW846 8330B

Matrix: AQ **Batch ID:** OP9525

Sample(s) FC24818-4MS, FC24818-4MSD were used as the QC samples indicated.

Matrix Spike Recovery(s) for HMX, Nitroglycerine, RDX are outside control limits. Probable cause is due to matrix interference.

Matrix Spike Duplicate Recovery(s) for 2-amino-4,6-Dinitrotoluene, RDX are outside control limits. Probable cause is due to matrix interference.

RPD(s) for MSD for DNX, HMX, TNX are outside control limits for sample OP9525-MSD. Probable cause is due to sample non-homogeneity.

FC24818-1 for 3,5-Dinitroaniline: Primary and confirmation results differ by more than 40%.

FC24818-1: All hits confirmed by reanalysis on a dissimilar column.

FC24818-1: Confirmation run.

FC24818-2 for 1,3,5-Trinitrobenzene: Primary and confirmation results differ by more than 40%.

FC24818-2: All hits confirmed by reanalysis on a dissimilar column.

FC24818-2: Confirmation run.

FC24818-3 for 1,3,5-Trinitrobenzene: Primary and confirmation results differ by more than 40%.

FC24818-3: All hits confirmed by reanalysis on a dissimilar column.

FC24818-3: Confirmation run.

FC24818-4 for 1,3,5-Trinitrobenzene: Primary and confirmation results differ by more than 40%.

FC24818-4: All hits confirmed by reanalysis on a dissimilar column.

FC24818-4: Confirmation run.

FC24818-5: Confirmation run.

SGS North America Inc. - Orlando certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc.- Orlando is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

Narrative prepared by:

_____

Kim Benham, Report Generation (signature on file)

Summary of Hits

Job Number: FC24818
Account: Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA
Collected: 05/19/25

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FC24818-1	**54MW13**					
Perchlorate		0.49	0.20	0.10	ug/l	SW846 6850
HMX [a]		5.4	0.22	0.11	ug/l	SW846 8330B
RDX [b]		43.8	0.22	0.11	ug/l	SW846 8330B
MNX [b]		0.85	0.22	0.11	ug/l	SW846 8330B
3,5-Dinitroaniline [b]		0.48	0.22	0.11	ug/l	SW846 8330B
1,3-Dinitrobenzene [a]		0.23	0.22	0.11	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [a]		1.4	0.22	0.11	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [a]		1.2	0.22	0.11	ug/l	SW846 8330B
1,3,5-Trinitrobenzene [a]		9.7	0.22	0.11	ug/l	SW846 8330B
2,4,6-Trinitrotoluene [a]		7.9	0.22	0.11	ug/l	SW846 8330B
FC24818-2	**54TW13**					
Perchlorate		0.51	0.20	0.10	ug/l	SW846 6850
HMX [b]		6.4	0.21	0.11	ug/l	SW846 8330B
RDX [a]		28.8	0.21	0.11	ug/l	SW846 8330B
3,5-Dinitroaniline [b]		0.45	0.21	0.11	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [b]		1.2	0.21	0.11	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [b]		1.0	0.21	0.11	ug/l	SW846 8330B
1,3,5-Trinitrobenzene [b]		8.8	0.21	0.11	ug/l	SW846 8330B
2,4,6-Trinitrotoluene [a]		8.7	0.21	0.11	ug/l	SW846 8330B
FC24818-3	**54MW10**					
Perchlorate		0.94	0.20	0.10	ug/l	SW846 6850
HMX [b]		11.6	0.21	0.11	ug/l	SW846 8330B
RDX [b]		11.2	0.21	0.11	ug/l	SW846 8330B
3,5-Dinitroaniline [b]		0.59	0.21	0.11	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [a]		2.7	0.21	0.11	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [a]		2.7	0.21	0.11	ug/l	SW846 8330B
1,3,5-Trinitrobenzene [b]		2.7	0.21	0.11	ug/l	SW846 8330B
2,4,6-Trinitrotoluene [a]		15.8	0.21	0.11	ug/l	SW846 8330B
FC24818-4	**54MW12**					
Perchlorate		0.78	0.20	0.10	ug/l	SW846 6850
HMX [a]		19.3	0.20	0.10	ug/l	SW846 8330B
RDX [a]		13.7	0.20	0.10	ug/l	SW846 8330B
3,5-Dinitroaniline [b]		0.20	0.20	0.10	ug/l	SW846 8330B
1,3-Dinitrobenzene [a]		0.24	0.20	0.10	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [a]		4.4	0.20	0.10	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [a]		3.5	0.20	0.10	ug/l	SW846 8330B
1,3,5-Trinitrobenzene [b]		6.4	0.20	0.10	ug/l	SW846 8330B

Summary of Hits

Job Number: FC24818
Account: Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA
Collected: 05/19/25

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
2,4,6-Trinitrotoluene [a]		9.2	0.20	0.10	ug/l	SW846 8330B

FC24818-5 **54MW1**

No hits reported in this sample.

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) All hits confirmed by reanalysis on a dissimilar column. Primary and confirmation results differ by more than 40%.

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID: 54MW13
Lab Sample ID: FC24818-1
Matrix: AQ - Ground Water
Method: SW846 6850 IN HOUSE
Project: Radford Army Ammunition Plant SMWU 54; VA

Date Sampled: 05/19/25
Date Received: 05/20/25
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q119624.D	1	05/29/25 01:09	AL	05/22/25 19:00	OP9584	SQ2457
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.49	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 54MW13
Lab Sample ID: FC24818-1 **Date Sampled:** 05/19/25
Matrix: AQ - Ground Water **Date Received:** 05/20/25
Method: SW846 8330B SW846 3535A **Percent Solids:** n/a
Project: Radford Army Ammunition Plant SMWU 54; VA

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB088326.D	1	05/27/25 11:26	FS	05/21/25 07:30	OP9525	GBB2710
Run #2 [b]	GG632199.D	1	05/29/25 13:26	FS	05/21/25 07:30	OP9525	GGG3585

	Initial Volume	Final Volume
Run #1	930 ml	10.0 ml
Run #2	930 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	5.4	0.22	0.11	0.086	ug/l	
121-82-4	RDX [c]	43.8	0.22	0.11	0.086	ug/l	
	DNX	0.11 U	0.22	0.11	0.086	ug/l	
	MNX [c]	0.85	0.22	0.11	0.086	ug/l	
	TNX	0.11 U	0.22	0.11	0.086	ug/l	
618-87-1	3,5-Dinitroaniline [c]	0.48	0.22	0.11	0.086	ug/l	
99-65-0	1,3-Dinitrobenzene	0.23	0.22	0.11	0.086	ug/l	
606-20-2	2,6-Dinitrotoluene	0.11 U	0.22	0.11	0.086	ug/l	
121-14-2	2,4-Dinitrotoluene	0.11 U	0.22	0.11	0.086	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	1.4	0.22	0.11	0.086	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	1.2	0.22	0.11	0.086	ug/l	
98-95-3	Nitrobenzene	0.11 U	0.22	0.11	0.10	ug/l	
88-72-2	o-Nitrotoluene	0.11 U	0.22	0.11	0.086	ug/l	
99-08-1	m-Nitrotoluene	0.11 U	0.22	0.11	0.086	ug/l	
99-99-0	p-Nitrotoluene	0.11 U	0.22	0.11	0.086	ug/l	
479-45-8	Tetryl	0.11 U	0.22	0.11	0.086	ug/l	
99-35-4	1,3,5-Trinitrobenzene	9.7	0.22	0.11	0.11	ug/l	
118-96-7	2,4,6-Trinitrotoluene	7.9	0.22	0.11	0.086	ug/l	
55-63-0	Nitroglycerine	1.1 U	2.2	1.1	0.54	ug/l	
78-11-5	PETN	1.1 U	2.2	1.1	0.54	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	86%	102%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Primary and confirmation results differ by more than 40%.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 54TW13
Lab Sample ID: FC24818-2
Matrix: AQ - Ground Water
Method: SW846 6850 IN HOUSE
Project: Radford Army Ammunition Plant SMWU 54; VA

Date Sampled: 05/19/25
Date Received: 05/20/25
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q119625.D	1	05/29/25 01:15	AL	05/22/25 19:00	OP9584	SQ2457
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.51	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	54TW13		
Lab Sample ID:	FC24818-2	**Date Sampled:**	05/19/25
Matrix:	AQ - Ground Water	**Date Received:**	05/20/25
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford Army Ammunition Plant SMWU 54; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB088327.D	1	05/27/25 11:53	FS	05/21/25 07:30	OP9525	GBB2710
Run #2 [b]	GG632200.D	1	05/29/25 13:53	FS	05/21/25 07:30	OP9525	GGG3585

	Initial Volume	Final Volume
Run #1	940 ml	10.0 ml
Run #2	940 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX [c]	6.4	0.21	0.11	0.085	ug/l	
121-82-4	RDX	28.8	0.21	0.11	0.085	ug/l	
	DNX	0.11 U	0.21	0.11	0.085	ug/l	
	MNX	0.11 U	0.21	0.11	0.085	ug/l	
	TNX	0.11 U	0.21	0.11	0.085	ug/l	
618-87-1	3,5-Dinitroaniline [c]	0.45	0.21	0.11	0.085	ug/l	
99-65-0	1,3-Dinitrobenzene	0.11 U	0.21	0.11	0.085	ug/l	
606-20-2	2,6-Dinitrotoluene	0.11 U	0.21	0.11	0.085	ug/l	
121-14-2	2,4-Dinitrotoluene	0.11 U	0.21	0.11	0.085	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene [c]	1.2	0.21	0.11	0.085	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene [c]	1.0	0.21	0.11	0.085	ug/l	
98-95-3	Nitrobenzene	0.11 U	0.21	0.11	0.10	ug/l	
88-72-2	o-Nitrotoluene	0.11 U	0.21	0.11	0.085	ug/l	
99-08-1	m-Nitrotoluene	0.11 U	0.21	0.11	0.085	ug/l	
99-99-0	p-Nitrotoluene	0.11 U	0.21	0.11	0.085	ug/l	
479-45-8	Tetryl	0.11 U	0.21	0.11	0.085	ug/l	
99-35-4	1,3,5-Trinitrobenzene [c]	8.8	0.21	0.11	0.11	ug/l	
118-96-7	2,4,6-Trinitrotoluene	8.7	0.21	0.11	0.085	ug/l	
55-63-0	Nitroglycerine	1.1 U	2.1	1.1	0.53	ug/l	
78-11-5	PETN	1.1 U	2.1	1.1	0.53	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	81%	103%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Primary and confirmation results differ by more than 40%.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 54MW10
Lab Sample ID: FC24818-3
Matrix: AQ - Ground Water
Method: SW846 6850 IN HOUSE
Project: Radford Army Ammunition Plant SMWU 54; VA

Date Sampled: 05/19/25
Date Received: 05/20/25
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q119626.D	1	05/29/25 01:22	AL	05/22/25 19:00	OP9584	SQ2457
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.94	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	54MW10		
Lab Sample ID:	FC24818-3	**Date Sampled:**	05/19/25
Matrix:	AQ - Ground Water	**Date Received:**	05/20/25
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford Army Ammunition Plant SMWU 54; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB088328.D	1	05/27/25 12:21	FS	05/21/25 07:30	OP9525	GBB2710
Run #2 [b]	GG632201.D	1	05/29/25 14:23	FS	05/21/25 07:30	OP9525	GGG3585

	Initial Volume	Final Volume
Run #1	950 ml	10.0 ml
Run #2	950 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX [c]	11.6	0.21	0.11	0.084	ug/l	
121-82-4	RDX [c]	11.2	0.21	0.11	0.084	ug/l	
	DNX	0.11 U	0.21	0.11	0.084	ug/l	
	MNX	0.11 U	0.21	0.11	0.084	ug/l	
	TNX	0.11 U	0.21	0.11	0.084	ug/l	
618-87-1	3,5-Dinitroaniline [c]	0.59	0.21	0.11	0.084	ug/l	
99-65-0	1,3-Dinitrobenzene	0.11 U	0.21	0.11	0.084	ug/l	
606-20-2	2,6-Dinitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
121-14-2	2,4-Dinitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	2.7	0.21	0.11	0.084	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	2.7	0.21	0.11	0.084	ug/l	
98-95-3	Nitrobenzene	0.11 U	0.21	0.11	0.10	ug/l	
88-72-2	o-Nitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
99-08-1	m-Nitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
99-99-0	p-Nitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
479-45-8	Tetryl	0.11 U	0.21	0.11	0.084	ug/l	
99-35-4	1,3,5-Trinitrobenzene [c]	2.7	0.21	0.11	0.10	ug/l	
118-96-7	2,4,6-Trinitrotoluene	15.8	0.21	0.11	0.084	ug/l	
55-63-0	Nitroglycerine	1.1 U	2.1	1.1	0.53	ug/l	
78-11-5	PETN	1.1 U	2.1	1.1	0.53	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	83%	99%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Primary and confirmation results differ by more than 40%.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	54MW12		
Lab Sample ID:	FC24818-4	**Date Sampled:**	05/19/25
Matrix:	AQ - Ground Water	**Date Received:**	05/20/25
Method:	SW846 6850 IN HOUSE	**Percent Solids:**	n/a
Project:	Radford Army Ammunition Plant SMWU 54; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q119627.D	1	05/29/25 01:29	AL	05/22/25 19:00	OP9584	SQ2457
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.78	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	54MW12		
Lab Sample ID:	FC24818-4	**Date Sampled:**	05/19/25
Matrix:	AQ - Ground Water	**Date Received:**	05/20/25
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford Army Ammunition Plant SMWU 54; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB088329.D	1	05/27/25 12:48	FS	05/21/25 07:30	OP9525	GBB2710
Run #2 [b]	GG632202.D	1	05/29/25 14:50	FS	05/21/25 07:30	OP9525	GGG3585

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2	1000 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	19.3	0.20	0.10	0.080	ug/l	
121-82-4	RDX	13.7	0.20	0.10	0.080	ug/l	
	DNX	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline [c]	0.20	0.20	0.10	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	0.24	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	4.4	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	3.5	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene [c]	6.4	0.20	0.10	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	9.2	0.20	0.10	0.080	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	89%	91%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Primary and confirmation results differ by more than 40%.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	54MW1		
Lab Sample ID:	FC24818-5	**Date Sampled:**	05/19/25
Matrix:	AQ - Ground Water	**Date Received:**	05/20/25
Method:	SW846 6850 IN HOUSE	**Percent Solids:**	n/a
Project:	Radford Army Ammunition Plant SMWU 54; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q119633.D	1	05/29/25 02:10	AL	05/22/25 19:00	OP9584	SQ2457
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 54MW1
Lab Sample ID: FC24818-5 **Date Sampled:** 05/19/25
Matrix: AQ - Ground Water **Date Received:** 05/20/25
Method: SW846 8330B SW846 3535A **Percent Solids:** n/a
Project: Radford Army Ammunition Plant SMWU 54; VA

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB088332.D	1	05/27/25 14:11	FS	05/21/25 07:30	OP9525	GBB2710
Run #2 [a]	GG632203.D	1	05/29/25 15:16	FS	05/21/25 07:30	OP9525	GGG3585

	Initial Volume	Final Volume
Run #1	950 ml	10.0 ml
Run #2	950 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	0.11 U	0.21	0.11	0.084	ug/l	
121-82-4	RDX	0.11 U	0.21	0.11	0.084	ug/l	
	DNX	0.11 U	0.21	0.11	0.084	ug/l	
	MNX	0.11 U	0.21	0.11	0.084	ug/l	
	TNX	0.11 U	0.21	0.11	0.084	ug/l	
618-87-1	3,5-Dinitroaniline	0.11 U	0.21	0.11	0.084	ug/l	
99-65-0	1,3-Dinitrobenzene	0.11 U	0.21	0.11	0.084	ug/l	
606-20-2	2,6-Dinitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
121-14-2	2,4-Dinitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
98-95-3	Nitrobenzene	0.11 U	0.21	0.11	0.10	ug/l	
88-72-2	o-Nitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
99-08-1	m-Nitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
99-99-0	p-Nitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
479-45-8	Tetryl	0.11 U	0.21	0.11	0.084	ug/l	
99-35-4	1,3,5-Trinitrobenzene	0.11 U	0.21	0.11	0.10	ug/l	
118-96-7	2,4,6-Trinitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
55-63-0	Nitroglycerine	1.1 U	2.1	1.1	0.53	ug/l	
78-11-5	PETN	1.1 U	2.1	1.1	0.53	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	79%	92%	70-136%

(a) Confirmation run.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

SGS North America Inc - Orlando

Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL. 407-425-6700 FAX: 407-425-0707
www.sgs.com

SGS - ORLANDO JOB # : FC24818 PAGE 1 OF 1

SGS - ORLANDO Quote # STR #

Client / Reporting Information

Company Name: CAPE Environmental
Address: 500 Pinnacle Court #100
City: Norcross State: GA Zip: 30071
Project Contact: Matt Feits Email: mfeits@capeinc.com & chemistrySVCS@capeinc.com
Phone #: (724) 622-3625
Sampler(s) Name(s) (Printed) Sampler 1: Y. Miyake Sampler 2: P. Taylor

Project Information

Project Name: Radford AAP SWMU 54
Street
City Radford State VA
Project # 54
Fax #
Client Purchase Order #

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE (2025)	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	CONTAINER INFORMATION: OTHER	NONE	HCl	NaOH	HNO3	H2SO4	MeOH+ZnAc	DI WATER	MEOH	Analytical Information: LLC6850 Perchlorate	LC8330B XLC3NX	Matrix Codes	LAB USE ONLY
1	54MW13	5/19	1010	YM/PT	GW	3		X								1	2		
2	54TW13	5/19	1010	YM/PT	GW	3		X								1	2		
3	54MW10	5/19	1200	YM/PT	GW	3		X								1	2		
4	54MW12	5/19	1338	YM/PT	GW	9		X								3	6		MS/MSD
5	54MW1	5/19	1526	YM/PT	GW	3		X								1	2		

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid

Turnaround Time (Business days)

10 Day (Business) Approved By: / Date:
7 Day
5 Day
3 Day *RUSH*
2 Day *RUSH*
1 Day *RUSH*
Other
Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- [ ] COMMERCIAL "A" (RESULTS ONLY)
- [ ] COMMERCIAL "B" (RESULTS PLUS QC)
- [ ] REDT1 (EPA LEVEL 3)
- [ ] FULLT1 (EPA LEVEL 4)
- [ ] EDD'S

Comments / Remarks

INITIAL ASSESSMENT ZB
LABEL VERIFICATION

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
1	YM/CP	5/19/2025 1800	2 Fedex	3		4 1015 05/20/25
5	Relinquished by/Affiliation	Date Time:	6 Received By/Affiliation	7 Relinquished By/Affiliation	Date Time:	8 Received By/Affiliation

Lab Use Only : Cooler Temperature (s) Celsius (corrected): 2.2 IR#1 3.6

http://www.sgs.com/en/terms-and-conditions

ORLD-SMT-0001-03-FORM-COC (4).xls Rev 031318

FC24818: Chain of Custody
Page 1 of 2

SGS - Orlando Sample Receipt Summary

Job Number: fc24818 **Client:** CAPE ENVIRONMENTAL **Project:** RADFORD AAP SWMU 54

Date / Time Received: 5/20/2025 10:15:00 AM **Delivery Method:** FED EX **Airbill #'s:** 4504 1830 5329

Cooler Temps (Raw Measured) °C: Cooler 1: (2.2); Cooler 2: (3.8);

Cooler Temps (Corrected) °C: Cooler 1: (2.2); Cooler 2: (3.8);

Cooler Information	Y	or	N
1. Custody Seals Present:	☑		☐
2. Custody Seals Intact:	☑		☐
3. Temp criteria achieved:	☑		☐
4. Cooler temp verification:	IR Gun		
5. Cooler media:	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑

	W	or	S	N/A
3. Type of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles:	☑		☐	
2. Samples presented properly	☑		☐	
3. Sufficient volume/containers recv'd for analysis	☑		☐	
4. Condition of sample:	Intact			
5. Sample recv'd within HT	☑		☐	
6. Dates/Times/IDs on COC match sample label	☑		☐	
7. VOCs have headspace	☐		☐	☑
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar Received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc Information

Number of Encores: 25 Gram 5 Gram

Number of Lab Filtered Metals:

Test Strip Lot #s: pH 0-3: 226422 pH 10-12: Other: (Specify) 0-14 210224

Residual Chlorine Test Strip Lot #

Comments

Sample Receipt Summary 112723 EK Technician: SHAYLAP Date: 5/20/2025 12:26:04 PM Reviewer: Date:

QC Evaluation: DOD QSM5.x Limits

Job Number: FC24818
Account: Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA
Collected: 05/19/25

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP9584	SW846 6850						
OP9584-BS	14797-73-0	Perchlorate	BSP	REC	100	%	84-119
OP9584-MS	14797-73-0	Perchlorate	MS	REC	65 [a]	%	84-119
OP9584-MSD	14797-73-0	Perchlorate	MSD	REC	55 [a]	%	84-119
OP9584-MSD	14797-73-0	Perchlorate	MSD	RPD	2	%	15
OP9525	SW846 8330B						
OP9525-BS	2691-41-0	HMX	BSP	REC	96	%	65-135
OP9525-BS	121-82-4	RDX	BSP	REC	92	%	68-130
OP9525-BS		DNX	BSP	REC	88	%	66-119
OP9525-BS		MNX	BSP	REC	81	%	57-132
OP9525-BS	618-87-1	3,5-Dinitroaniline	BSP	REC	84	%	71-117
OP9525-BS	99-65-0	1,3-Dinitrobenzene	BSP	REC	94	%	78-120
OP9525-BS	606-20-2	2,6-Dinitrotoluene	BSP	REC	100	%	77-127
OP9525-BS	121-14-2	2,4-Dinitrotoluene	BSP	REC	92	%	78-120
OP9525-BS	35572-78-2	2-amino-4,6-Dinitrotoluene	BSP	REC	86	%	79-120
OP9525-BS	19406-51-0	4-amino-2,6-Dinitrotoluene	BSP	REC	92	%	76-125
OP9525-BS	98-95-3	Nitrobenzene	BSP	REC	92	%	65-134
OP9525-BS	88-72-2	o-Nitrotoluene	BSP	REC	90	%	70-127
OP9525-BS	99-08-1	m-Nitrotoluene	BSP	REC	92	%	73-125
OP9525-BS	99-99-0	p-Nitrotoluene	BSP	REC	88	%	71-127
OP9525-BS	479-45-8	Tetryl	BSP	REC	86	%	64-128
OP9525-BS	99-35-4	1,3,5-Trinitrobenzene	BSP	REC	92	%	73-125
OP9525-BS	118-96-7	2,4,6-Trinitrotoluene	BSP	REC	96	%	71-123
OP9525-BS	55-63-0	Nitroglycerine	BSP	REC	82	%	74-127
OP9525-BS	78-11-5	PETN	BSP	REC	114	%	73-127
OP9525-MS	2691-41-0	HMX	MS	REC	184	%	65-135
OP9525-MS	121-82-4	RDX	MS	REC	163	%	68-130
OP9525-MS		DNX	MS	REC	110	%	66-119
OP9525-MS		MNX	MS	REC	103	%	57-132
OP9525-MS	618-87-1	3,5-Dinitroaniline	MS	REC	79	%	71-117
OP9525-MS	99-65-0	1,3-Dinitrobenzene	MS	REC	91	%	78-120
OP9525-MS	606-20-2	2,6-Dinitrotoluene	MS	REC	119	%	77-127
OP9525-MS	121-14-2	2,4-Dinitrotoluene	MS	REC	87	%	78-120
OP9525-MS	35572-78-2	2-amino-4,6-Dinitrotoluene	MS	REC	84	%	79-120
OP9525-MS	19406-51-0	4-amino-2,6-Dinitrotoluene	MS	REC	92	%	76-125
OP9525-MS	98-95-3	Nitrobenzene	MS	REC	88	%	65-134
OP9525-MS	88-72-2	o-Nitrotoluene	MS	REC	88	%	70-127
OP9525-MS	99-08-1	m-Nitrotoluene	MS	REC	90	%	73-125
OP9525-MS	99-99-0	p-Nitrotoluene	MS	REC	84	%	71-127
OP9525-MS	479-45-8	Tetryl	MS	REC	78	%	64-128
OP9525-MS	99-35-4	1,3,5-Trinitrobenzene	MS	REC	95	%	73-125

* Sample used for QC is not from job FC24818

QC Evaluation: DOD QSM5.x Limits

Job Number: FC24818
Account: Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA
Collected: 05/19/25

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP9525-MS	118-96-7	2,4,6-Trinitrotoluene	MS	REC	99	%	71-123
OP9525-MS	55-63-0	Nitroglycerine	MS	REC	66	%	74-127
OP9525-MS	78-11-5	PETN	MS	REC	110	%	73-127
OP9525-MSD	2691-41-0	HMX	MSD	REC	93	%	65-135
OP9525-MSD	2691-41-0	HMX	MSD	RPD	28	%	20
OP9525-MSD	121-82-4	RDX	MSD	REC	138	%	68-130
OP9525-MSD	121-82-4	RDX	MSD	RPD	9	%	20
OP9525-MSD		DNX	MSD	REC	84	%	66-119
OP9525-MSD		DNX	MSD	RPD	28	%	20
OP9525-MSD		MNX	MSD	REC	91	%	57-132
OP9525-MSD		MNX	MSD	RPD	12	%	20
OP9525-MSD	618-87-1	3,5-Dinitroaniline	MSD	REC	78	%	71-117
OP9525-MSD	618-87-1	3,5-Dinitroaniline	MSD	RPD	1	%	20
OP9525-MSD	99-65-0	1,3-Dinitrobenzene	MSD	REC	90	%	78-120
OP9525-MSD	99-65-0	1,3-Dinitrobenzene	MSD	RPD	1	%	20
OP9525-MSD	606-20-2	2,6-Dinitrotoluene	MSD	REC	117	%	77-127
OP9525-MSD	606-20-2	2,6-Dinitrotoluene	MSD	RPD	2	%	20
OP9525-MSD	121-14-2	2,4-Dinitrotoluene	MSD	REC	87	%	78-120
OP9525-MSD	121-14-2	2,4-Dinitrotoluene	MSD	RPD	0	%	20
OP9525-MSD	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	REC	80	%	79-120
OP9525-MSD	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	RPD	4	%	20
OP9525-MSD	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	REC	89	%	76-125
OP9525-MSD	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	RPD	2	%	20
OP9525-MSD	98-95-3	Nitrobenzene	MSD	REC	86	%	65-134
OP9525-MSD	98-95-3	Nitrobenzene	MSD	RPD	2	%	20
OP9525-MSD	88-72-2	o-Nitrotoluene	MSD	REC	84	%	70-127
OP9525-MSD	88-72-2	o-Nitrotoluene	MSD	RPD	6	%	20
OP9525-MSD	99-08-1	m-Nitrotoluene	MSD	REC	87	%	73-125
OP9525-MSD	99-08-1	m-Nitrotoluene	MSD	RPD	3	%	20
OP9525-MSD	99-99-0	p-Nitrotoluene	MSD	REC	83	%	71-127
OP9525-MSD	99-99-0	p-Nitrotoluene	MSD	RPD	2	%	20
OP9525-MSD	479-45-8	Tetryl	MSD	REC	76	%	64-128
OP9525-MSD	479-45-8	Tetryl	MSD	RPD	2	%	20
OP9525-MSD	99-35-4	1,3,5-Trinitrobenzene	MSD	REC	84	%	73-125
OP9525-MSD	99-35-4	1,3,5-Trinitrobenzene	MSD	RPD	7	%	20
OP9525-MSD	118-96-7	2,4,6-Trinitrotoluene	MSD	REC	86	%	71-123
OP9525-MSD	118-96-7	2,4,6-Trinitrotoluene	MSD	RPD	7	%	20
OP9525-MSD	55-63-0	Nitroglycerine	MSD	REC	79	%	74-127
OP9525-MSD	55-63-0	Nitroglycerine	MSD	RPD	17	%	20
OP9525-MSD	78-11-5	PETN	MSD	REC	125	%	73-127
OP9525-MSD	78-11-5	PETN	MSD	RPD	12	%	20

(a) Outside control limits due to high level in sample relative to spike amount.

* Sample used for QC is not from job FC24818

MS Semi-volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Instrument Blank

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
SQ2456-IBLK	Q119500.D	1	05/27/25	AL	n/a	n/a	SQ2456

The QC reported here applies to the following samples: **Method:** SW846 6850

FC24818-1, FC24818-2, FC24818-3, FC24818-4, FC24818-5

CAS No.	Compound	Result	RL	MDL	Units	Q
14797-73-0	Perchlorate	ND	0.20	0.050	ug/l	

Instrument Blank

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
SQ2457-IBLK	Q119636.D	1	05/29/25	AL	n/a	n/a	SQ2457

The QC reported here applies to the following samples: **Method:** SW846 6850

FC24818-1, FC24818-2, FC24818-3, FC24818-4, FC24818-5

CAS No.	Compound	Result	RL	MDL	Units	Q
14797-73-0	Perchlorate	ND	0.20	0.050	ug/l	

Method Blank Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9584-MB	Q119621.D	1	05/29/25	AL	05/22/25	OP9584	SQ2457

The QC reported here applies to the following samples: **Method:** SW846 6850

FC24818-1, FC24818-2, FC24818-3, FC24818-4, FC24818-5

CAS No.	Compound	Result	RL	MDL	Units	Q
14797-73-0	Perchlorate	ND	0.20	0.050	ug/l	

Blank Spike Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9584-BS	Q119620.D	1	05/29/25	AL	05/22/25	OP9584	SQ2457

The QC reported here applies to the following samples: **Method:** SW846 6850

FC24818-1, FC24818-2, FC24818-3, FC24818-4, FC24818-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
14797-73-0	Perchlorate	0.2	0.20	100	80-120

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9584-MS	Q119628.D	1	05/29/25	AL	05/22/25	OP9584	SQ2457
OP9584-MSD	Q119629.D	1	05/29/25	AL	05/22/25	OP9584	SQ2457
FC24818-4	Q119627.D	1	05/29/25	AL	05/22/25	OP9584	SQ2457

The QC reported here applies to the following samples: **Method:** SW846 6850

FC24818-1, FC24818-2, FC24818-3, FC24818-4, FC24818-5

CAS No.	Compound	FC24818-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
14797-73-0	Perchlorate	0.78		0.2	0.91	65* [a]	0.2	0.89	55* [a]	2	80-120/15

(a) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

Internal Standard Area Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Check Std:	SQ2457-CC2456	**Injection Date:**	05/29/25
Lab File ID:	Q119617.D	**Injection Time:**	00:21
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	37801	4.58
Check Std [b]	35114	4.56
Upper Limit [c]	56702	6.56
Lower Limit [d]	18901	2.56

Lab Sample ID	IS 1 AREA	RT
OP9584-BS	34632	4.56
OP9584-MB	32844	4.56
ZZZZZZ	44731	4.38
ZZZZZZ	44187	4.32
FC24818-1	45394	4.35
FC24818-2	45288	4.35
FC24818-3	44412	4.32
FC24818-4	45905	4.35
OP9584-MS	48293	4.35
OP9584-MSD	49189	4.35

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ2456-ICC2456 Q119443.D 05/27/25 14:06. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Internal Standard Area Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Check Std:	SQ2457-CC2456	**Injection Date:**	05/29/25
Lab File ID:	Q119630.D	**Injection Time:**	01:50
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	37801	4.58
Check Std [b]	41456	4.55
Upper Limit [c]	56702	6.55
Lower Limit [d]	18901	2.55

Lab Sample ID	IS 1 AREA	RT
FC24818-5	43244	4.34

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ2456-ICC2456 Q119443.D 05/27/25 14:06. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Initial Calibration Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: SQ2456-ICC2456
Lab FileID: Q119443.D

Initial Calibration Report

Method Path	D:\MassHunter\Methods
Method File	6850_052725_SQ2456.quantmethod.xml
Batch Name	D:\MassHunter\Data\052725_6850_SQ2456\QuantResults\SQ2456.batch.bin
Last Calib Update	5/28/2025 9:17:17 AM

Level Name	Calibration Files	Acq. Date-Time	Level Last Update Time
1	D:\MassHunter\Data\052725_6850_SQ2456\Q119440.d	5/27/2025 1:45:55 PM	5/28/2025 9:17:17 AM
2	D:\MassHunter\Data\052725_6850_SQ2456\Q119441.d	5/27/2025 1:52:44 PM	5/28/2025 9:17:17 AM
3	D:\MassHunter\Data\052725_6850_SQ2456\Q119442.d	5/27/2025 1:59:34 PM	5/28/2025 9:17:17 AM
4	D:\MassHunter\Data\052725_6850_SQ2456\Q119443.d	5/27/2025 2:06:24 PM	5/28/2025 9:17:17 AM
5	D:\MassHunter\Data\052725_6850_SQ2456\Q119444.d	5/27/2025 2:13:15 PM	5/28/2025 9:17:17 AM
6	D:\MassHunter\Data\052725_6850_SQ2456\Q119445.d	5/27/2025 2:20:06 PM	5/28/2025 9:17:17 AM
7	D:\MassHunter\Data\052725_6850_SQ2456\Q119446.d	5/27/2025 2:26:57 PM	5/28/2025 9:17:17 AM
8	D:\MassHunter\Data\052725_6850_SQ2456\Q119447.d	5/27/2025 2:33:47 PM	5/28/2025 9:17:17 AM

Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
I Cl18O4		---------- ISTD ----------									
T Perchlorate	Quadratic	1.3870	1.2704	1.3258	1.4960	1.4906	1.5313	1.6805	1.7069	1.4861	10.510

(RedFont and #) = Outlier Flag; (I) = Internal Standard; (T) = Target; (S) = Surrogate; (M) = Matrix Spike

Generated at 9:20 AM on 5/28/2025

Initial Calibration Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: SQ2456-ICC2456
Lab FileID: Q119443.D

Initial Calibration Report

Compounds with Curve fitting not using Avg Response Factor:

Compound	Curve Fit	Curve Fit Formula	Curve Fit R2
T Perchlorate	Quadratic	y = 0.037326 * x ^ 2 + 1.398621 * x	0.996118

(RedFont and #) = Outlier Flag; (I) = Internal Standard; (T) = Target; (S) = Surrogate; (M) = Matrix Spike

Initial Calibration Verification

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: SQ2456-ICV2456
Lab FileID: Q119448.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\052725_6850_SQ2456\SQ2456.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\052725_6850_SQ2456\Q119440.d
2:D:\MassHunter\Data\052725_6850_SQ2456\Q119441.d
3:D:\MassHunter\Data\052725_6850_SQ2456\Q119442.d
4:D:\MassHunter\Data\052725_6850_SQ2456\Q119443.d
5:D:\MassHunter\Data\052725_6850_SQ2456\Q119444.d
6:D:\MassHunter\Data\052725_6850_SQ2456\Q119445.d
7:D:\MassHunter\Data\052725_6850_SQ2456\Q119446.d
8:D:\MassHunter\Data\052725_6850_SQ2456\Q119447.d

Data File: Q119448
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.837	-8.2	91.8

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: SQ2457-CC2456
Lab FileID: Q119617.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\052825_6850_SQ2457\SQ2457.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\052725_6850_SQ2456\Q119440.d
2:D:\MassHunter\Data\052725_6850_SQ2456\Q119441.d
3:D:\MassHunter\Data\052725_6850_SQ2456\Q119442.d
4:D:\MassHunter\Data\052725_6850_SQ2456\Q119443.d
5:D:\MassHunter\Data\052725_6850_SQ2456\Q119444.d
6:D:\MassHunter\Data\052725_6850_SQ2456\Q119445.d
7:D:\MassHunter\Data\052725_6850_SQ2456\Q119446.d
8:D:\MassHunter\Data\052725_6850_SQ2456\Q119447.d

Data File: Q119617
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	2.136	6.8	106.8

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: SQ2457-CC2456
Lab FileID: Q119618.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\052825_6850_SQ2457\SQ2457.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\052725_6850_SQ2456\Q119440.d
2:D:\MassHunter\Data\052725_6850_SQ2456\Q119441.d
3:D:\MassHunter\Data\052725_6850_SQ2456\Q119442.d
4:D:\MassHunter\Data\052725_6850_SQ2456\Q119443.d
5:D:\MassHunter\Data\052725_6850_SQ2456\Q119444.d
6:D:\MassHunter\Data\052725_6850_SQ2456\Q119445.d
7:D:\MassHunter\Data\052725_6850_SQ2456\Q119446.d
8:D:\MassHunter\Data\052725_6850_SQ2456\Q119447.d

Data File: Q119618
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.192	-4.2	95.8

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: SQ2457-CC2456
Lab FileID: Q119630.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\052825_6850_SQ2457\SQ2457.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\052725_6850_SQ2456\Q119440.d
2:D:\MassHunter\Data\052725_6850_SQ2456\Q119441.d
3:D:\MassHunter\Data\052725_6850_SQ2456\Q119442.d
4:D:\MassHunter\Data\052725_6850_SQ2456\Q119443.d
5:D:\MassHunter\Data\052725_6850_SQ2456\Q119444.d
6:D:\MassHunter\Data\052725_6850_SQ2456\Q119445.d
7:D:\MassHunter\Data\052725_6850_SQ2456\Q119446.d
8:D:\MassHunter\Data\052725_6850_SQ2456\Q119447.d

Data File: Q119630
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	2.118	5.9	105.9

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: SQ2457-CC2456
Lab FileID: Q119631.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\052825_6850_SQ2457\SQ2457.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\052725_6850_SQ2456\Q119440.d
2:D:\MassHunter\Data\052725_6850_SQ2456\Q119441.d
3:D:\MassHunter\Data\052725_6850_SQ2456\Q119442.d
4:D:\MassHunter\Data\052725_6850_SQ2456\Q119443.d
5:D:\MassHunter\Data\052725_6850_SQ2456\Q119444.d
6:D:\MassHunter\Data\052725_6850_SQ2456\Q119445.d
7:D:\MassHunter\Data\052725_6850_SQ2456\Q119446.d
8:D:\MassHunter\Data\052725_6850_SQ2456\Q119447.d

Data File: Q119631
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.188	-6.1	93.9

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: SQ2457-CC2456
Lab FileID: Q119634.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\052825_6850_SQ2457\SQ2457.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\052725_6850_SQ2456\Q119440.d
2:D:\MassHunter\Data\052725_6850_SQ2456\Q119441.d
3:D:\MassHunter\Data\052725_6850_SQ2456\Q119442.d
4:D:\MassHunter\Data\052725_6850_SQ2456\Q119443.d
5:D:\MassHunter\Data\052725_6850_SQ2456\Q119444.d
6:D:\MassHunter\Data\052725_6850_SQ2456\Q119445.d
7:D:\MassHunter\Data\052725_6850_SQ2456\Q119446.d
8:D:\MassHunter\Data\052725_6850_SQ2456\Q119447.d

Data File: Q119634
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	2.130	6.5	106.5

CC Criteria: +/- 15%

Run Sequence Report

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Run ID: SQ2456 **Method:** SW846 6850 **Instrument ID:** GCMSQ

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
SQ2456-IC2456	Q119439.D	05/27/25 13:39	n/a	Mass Calibration Verification
SQ2456-IC2456	Q119440.D	05/27/25 13:45	n/a	Initial cal 0.2
SQ2456-IC2456	Q119441.D	05/27/25 13:52	n/a	Initial cal 0.5
SQ2456-IC2456	Q119442.D	05/27/25 13:59	n/a	Initial cal 1.0
SQ2456-ICC2456	Q119443.D	05/27/25 14:06	n/a	Initial cal 2
SQ2456-IC2456	Q119444.D	05/27/25 14:13	n/a	Initial cal 5
SQ2456-IC2456	Q119445.D	05/27/25 14:20	n/a	Initial cal 10
SQ2456-IC2456	Q119446.D	05/27/25 14:26	n/a	Initial cal 25
SQ2456-IC2456	Q119447.D	05/27/25 14:33	n/a	Initial cal 50
SQ2456-ICV2456	Q119448.D	05/27/25 14:40	n/a	Initial cal verification 2
SQ2456-CC2456	Q119450.D	05/27/25 14:54	n/a	Continuing cal 2
SQ2456-CC2456	Q119451.D	05/27/25 15:01	n/a	Continuing cal 0.2
ZZZZZZ	Q119452.D	05/27/25 15:08	OP9426	(unrelated sample)
ZZZZZZ	Q119453.D	05/27/25 15:14	OP9426	(unrelated sample)
ZZZZZZ	Q119454.D	05/27/25 15:21	OP9426	(unrelated sample)
ZZZZZZ	Q119455.D	05/27/25 15:28	OP9426	(unrelated sample)
ZZZZZZ	Q119457.D	05/27/25 15:42	OP9426	(unrelated sample)
ZZZZZZ	Q119458.D	05/27/25 15:49	OP9426	(unrelated sample)
ZZZZZZ	Q119460.D	05/27/25 16:02	OP9426	(unrelated sample)
SQ2456-CC2456	Q119462.D	05/27/25 16:16	n/a	Continuing cal 2
SQ2456-CC2456	Q119463.D	05/27/25 16:23	n/a	Continuing cal 0.2
ZZZZZZ	Q119465.D	05/27/25 16:36	OP9426	(unrelated sample)
ZZZZZZ	Q119467.D	05/27/25 16:50	OP9426	(unrelated sample)
FC24526-15	Q119468.D	05/27/25 16:57	OP9426	(used for QC only; not part of job FC24818)
OP9426-MS	Q119469.D	05/27/25 17:04	OP9426	Matrix Spike
OP9426-MSD	Q119470.D	05/27/25 17:11	OP9426	Matrix Spike Duplicate
SQ2456-CC2456	Q119471.D	05/27/25 17:18	n/a	Continuing cal 2
SQ2456-CC2456	Q119472.D	05/27/25 17:24	n/a	Continuing cal 0.2
ZZZZZZ	Q119474.D	05/27/25 17:38	OP9426	(unrelated sample)
ZZZZZZ	Q119475.D	05/27/25 17:45	OP9426	(unrelated sample)
SQ2456-CC2456	Q119480.D	05/27/25 18:19	n/a	Continuing cal 2
SQ2456-CC2456	Q119481.D	05/27/25 18:26	n/a	Continuing cal 0.2
OP9427-BS	Q119483.D	05/27/25 18:40	OP9427	Blank Spike
OP9427-MB	Q119484.D	05/27/25 18:46	OP9427	Method Blank
ZZZZZZ	Q119485.D	05/27/25 18:53	OP9427	(unrelated sample)
FC24527-2	Q119486.D	05/27/25 19:00	OP9427	(used for QC only; not part of job FC24818)
OP9427-MS	Q119487.D	05/27/25 19:07	OP9427	Matrix Spike
OP9427-MSD	Q119488.D	05/27/25 19:14	OP9427	Matrix Spike Duplicate
ZZZZZZ	Q119489.D	05/27/25 19:21	OP9427	(unrelated sample)
ZZZZZZ	Q119490.D	05/27/25 19:28	OP9427	(unrelated sample)
ZZZZZZ	Q119491.D	05/27/25 19:34	OP9427	(unrelated sample)
SQ2456-CC2456	Q119492.D	05/27/25 19:41	n/a	Continuing cal 2
SQ2456-CC2456	Q119493.D	05/27/25 19:48	n/a	Continuing cal 0.2
ZZZZZZ	Q119495.D	05/27/25 20:02	OP9427	(unrelated sample)
ZZZZZZ	Q119496.D	05/27/25 20:09	OP9427	(unrelated sample)
ZZZZZZ	Q119497.D	05/27/25 20:16	OP9427	(unrelated sample)

Run Sequence Report

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Run ID: SQ2456	**Method:** SW846 6850	**Instrument ID:** GCMSQ

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
SQ2456-CC2456	Q119498.D	05/27/25 20:22	n/a	Continuing cal 2
SQ2456-ECC2456	Q119499.D	05/27/25 20:29	n/a	Ending cal 0.2
SQ2456-IBLK	Q119500.D	05/27/25 20:36	n/a	Instrument Blank

Run Sequence Report

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Run ID: SQ2457 **Method:** SW846 6850 **Instrument ID:** GCMSQ

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
SQ2457-CC2456	Q119530.D	05/28/25 14:21	n/a	Continuing cal 2
SQ2457-CC2456	Q119531.D	05/28/25 14:28	n/a	Continuing cal 0.2
SQ2457-CC2456	Q119535.D	05/28/25 14:55	n/a	Continuing cal 2
SQ2457-CC2456	Q119536.D	05/28/25 15:02	n/a	Continuing cal 0.2
OP9581-BS	Q119538.D	05/28/25 15:16	OP9581	Blank Spike
OP9581-MB	Q119539.D	05/28/25 15:23	OP9581	Method Blank
ZZZZZZ	Q119541.D	05/28/25 15:36	OP9581	(unrelated sample)
ZZZZZZ	Q119542.D	05/28/25 15:43	OP9581	(unrelated sample)
ZZZZZZ	Q119543.D	05/28/25 15:50	OP9581	(unrelated sample)
ZZZZZZ	Q119544.D	05/28/25 15:57	OP9581	(unrelated sample)
ZZZZZZ	Q119546.D	05/28/25 16:11	OP9581	(unrelated sample)
ZZZZZZ	Q119547.D	05/28/25 16:22	OP9581	(unrelated sample)
SQ2457-CC2456	Q119548.D	05/28/25 16:29	n/a	Continuing cal 2
SQ2457-CC2456	Q119549.D	05/28/25 16:36	n/a	Continuing cal 0.2
ZZZZZZ	Q119551.D	05/28/25 16:49	OP9581	(unrelated sample)
ZZZZZZ	Q119552.D	05/28/25 16:56	OP9581	(unrelated sample)
FC24782-3	Q119553.D	05/28/25 17:03	OP9581	(used for QC only; not part of job FC24818)
OP9581-MS	Q119554.D	05/28/25 17:10	OP9581	Matrix Spike
OP9581-MSD	Q119555.D	05/28/25 17:17	OP9581	Matrix Spike Duplicate
ZZZZZZ	Q119556.D	05/28/25 17:24	OP9581	(unrelated sample)
ZZZZZZ	Q119557.D	05/28/25 17:30	OP9581	(unrelated sample)
ZZZZZZ	Q119558.D	05/28/25 17:37	OP9581	(unrelated sample)
ZZZZZZ	Q119559.D	05/28/25 17:44	OP9581	(unrelated sample)
ZZZZZZ	Q119560.D	05/28/25 17:51	OP9581	(unrelated sample)
SQ2457-CC2456	Q119561.D	05/28/25 17:58	n/a	Continuing cal 2
SQ2457-CC2456	Q119562.D	05/28/25 18:05	n/a	Continuing cal 0.2
ZZZZZZ	Q119564.D	05/28/25 18:18	OP9581	(unrelated sample)
OP9582-BS	Q119565.D	05/28/25 18:25	OP9582	Blank Spike
OP9582-MB	Q119566.D	05/28/25 18:32	OP9582	Method Blank
ZZZZZZ	Q119567.D	05/28/25 18:39	OP9582	(unrelated sample)
FC24803-2	Q119568.D	05/28/25 18:46	OP9582	(used for QC only; not part of job FC24818)
OP9582-MS	Q119569.D	05/28/25 18:52	OP9582	Matrix Spike
OP9582-MSD	Q119570.D	05/28/25 18:59	OP9582	Matrix Spike Duplicate
ZZZZZZ	Q119571.D	05/28/25 19:06	OP9582	(unrelated sample)
ZZZZZZ	Q119572.D	05/28/25 19:13	OP9582	(unrelated sample)
ZZZZZZ	Q119573.D	05/28/25 19:20	OP9582	(unrelated sample)
SQ2457-CC2456	Q119574.D	05/28/25 19:27	n/a	Continuing cal 2
SQ2457-CC2456	Q119575.D	05/28/25 19:34	n/a	Continuing cal 0.2
ZZZZZZ	Q119577.D	05/28/25 19:47	OP9582	(unrelated sample)
ZZZZZZ	Q119578.D	05/28/25 19:54	OP9582	(unrelated sample)
ZZZZZZ	Q119579.D	05/28/25 20:01	OP9582	(unrelated sample)
ZZZZZZ	Q119580.D	05/28/25 20:08	OP9582	(unrelated sample)
ZZZZZZ	Q119581.D	05/28/25 20:15	OP9582	(unrelated sample)
ZZZZZZ	Q119582.D	05/28/25 20:21	OP9582	(unrelated sample)
ZZZZZZ	Q119583.D	05/28/25 20:28	OP9582	(unrelated sample)
ZZZZZZ	Q119584.D	05/28/25 20:35	OP9582	(unrelated sample)

Run Sequence Report

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Run ID: SQ2457 **Method:** SW846 6850 **Instrument ID:** GCMSQ

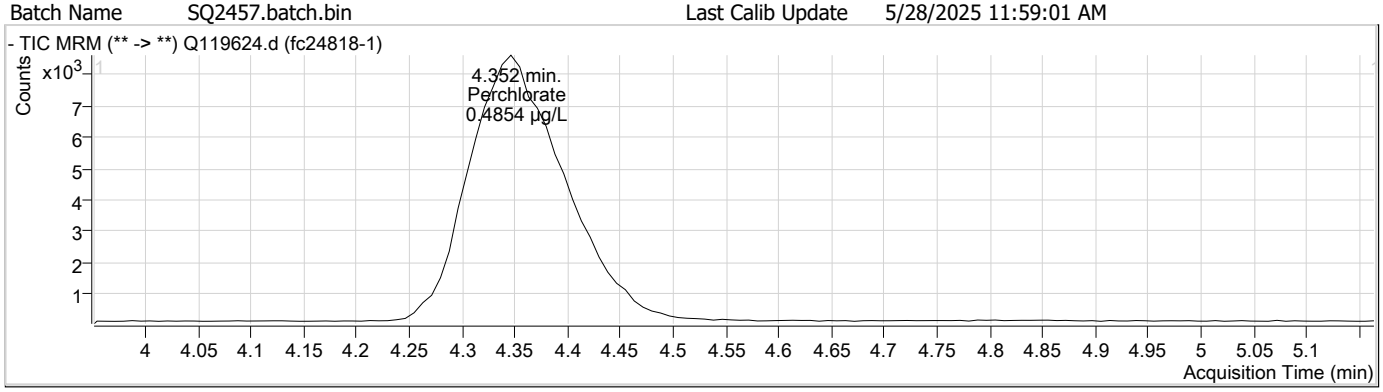
Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
ZZZZZZ	Q119585.D	05/28/25 20:42	OP9582	(unrelated sample)
ZZZZZZ	Q119586.D	05/28/25 20:49	OP9582	(unrelated sample)
SQ2457-CC2456	Q119587.D	05/28/25 20:56	n/a	Continuing cal 2
SQ2457-CC2456	Q119588.D	05/28/25 21:02	n/a	Continuing cal 0.2
OP9583-BS	Q119591.D	05/28/25 21:23	OP9583	Blank Spike
OP9583-MB	Q119592.D	05/28/25 21:30	OP9583	Method Blank
ZZZZZZ	Q119594.D	05/28/25 21:43	OP9583	(unrelated sample)
ZZZZZZ	Q119595.D	05/28/25 21:50	OP9583	(unrelated sample)
ZZZZZZ	Q119596.D	05/28/25 21:57	OP9583	(unrelated sample)
FC24824-4F	Q119597.D	05/28/25 22:04	OP9583	(used for QC only; not part of job FC24818)
OP9583-MS	Q119598.D	05/28/25 22:11	OP9583	Matrix Spike
OP9583-MSD	Q119599.D	05/28/25 22:18	OP9583	Matrix Spike Duplicate
SQ2457-CC2456	Q119600.D	05/28/25 22:24	n/a	Continuing cal 2
SQ2457-CC2456	Q119601.D	05/28/25 22:31	n/a	Continuing cal 0.2
ZZZZZZ	Q119603.D	05/28/25 22:45	OP9583	(unrelated sample)
ZZZZZZ	Q119604.D	05/28/25 22:52	OP9583	(unrelated sample)
ZZZZZZ	Q119605.D	05/28/25 22:59	OP9583	(unrelated sample)
FC24829-3F	Q119606.D	05/28/25 23:05	OP9583	(used for QC only; not part of job FC24818)
OP9583-MS2	Q119607.D	05/28/25 23:12	OP9583	Matrix Spike
OP9583-MSD2	Q119608.D	05/28/25 23:19	OP9583	Matrix Spike Duplicate
SQ2457-CC2456	Q119609.D	05/28/25 23:26	n/a	Continuing cal 2
SQ2457-CC2456	Q119610.D	05/28/25 23:33	n/a	Continuing cal 0.2
ZZZZZZ	Q119612.D	05/28/25 23:47	OP9426	(unrelated sample)
ZZZZZZ	Q119613.D	05/28/25 23:53	OP9583	(unrelated sample)
ZZZZZZ	Q119614.D	05/29/25 00:00	OP9583	(unrelated sample)
ZZZZZZ	Q119615.D	05/29/25 00:07	OP9583	(unrelated sample)
ZZZZZZ	Q119616.D	05/29/25 00:14	OP9583	(unrelated sample)
SQ2457-CC2456	Q119617.D	05/29/25 00:21	n/a	Continuing cal 2
SQ2457-CC2456	Q119618.D	05/29/25 00:28	n/a	Continuing cal 0.2
OP9584-BS	Q119620.D	05/29/25 00:41	OP9584	Blank Spike
OP9584-MB	Q119621.D	05/29/25 00:48	OP9584	Method Blank
ZZZZZZ	Q119622.D	05/29/25 00:55	OP9584	(unrelated sample)
ZZZZZZ	Q119623.D	05/29/25 01:02	OP9584	(unrelated sample)
FC24818-1	Q119624.D	05/29/25 01:09	OP9584	54MW13
FC24818-2	Q119625.D	05/29/25 01:15	OP9584	54TW13
FC24818-3	Q119626.D	05/29/25 01:22	OP9584	54MW10
FC24818-4	Q119627.D	05/29/25 01:29	OP9584	54MW12
OP9584-MS	Q119628.D	05/29/25 01:36	OP9584	Matrix Spike
OP9584-MSD	Q119629.D	05/29/25 01:43	OP9584	Matrix Spike Duplicate
SQ2457-CC2456	Q119630.D	05/29/25 01:50	n/a	Continuing cal 2
SQ2457-CC2456	Q119631.D	05/29/25 01:57	n/a	Continuing cal 0.2
FC24818-5	Q119633.D	05/29/25 02:10	OP9584	54MW1
SQ2457-CC2456	Q119634.D	05/29/25 02:17	n/a	Continuing cal 2
SQ2457-ECC2456	Q119635.D	05/29/25 02:24	n/a	Ending cal 0.2
SQ2457-IBLK	Q119636.D	05/29/25 02:31	n/a	Instrument Blank
SQ2457-IBLK	Q119636.D	05/29/25 02:31	n/a	Instrument Blank

MS Semi-volatiles

Raw Data

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q119624.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	5/29/2025 1:09:08 AM
Sample Name	fc24818-1	Instrument	Instrument 1
Vial	P2-B1	Sample Information	OP9584,SQ2457,10,,,10,1,water
DA Method File	6850_052725_SQ2456.quantmethod.xml	Comment	
Batch Name	SQ2457.batch.bin	Last Calib Update	5/28/2025 11:59:01 AM

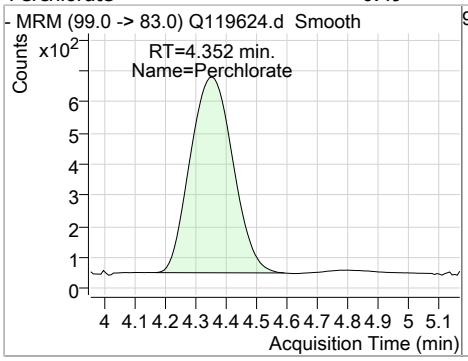


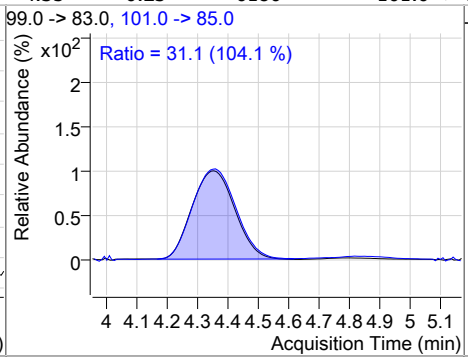
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.346	107.0 -> 89.0	45394	NoQ	5.00	µg/L	-0.225
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	4.352	99.0 -> 83.0	6180	3.2	0.49	µg/L	98

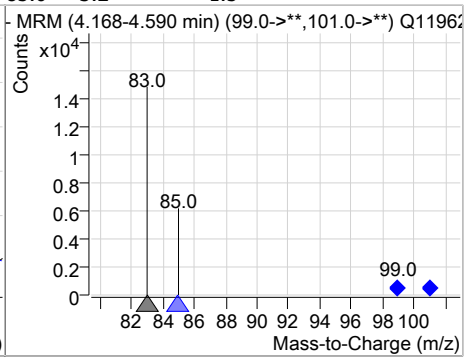
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.49	4.35	-0.23	6180	101.0 -> 85.0	3.2	1.5	

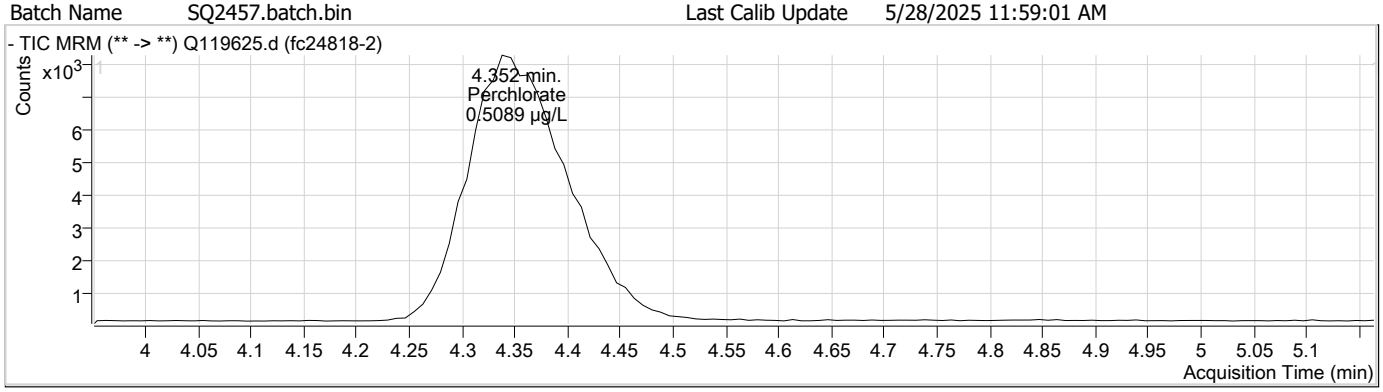






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q119625.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	5/29/2025 1:15:58 AM
Sample Name	fc24818-2	Instrument	Instrument 1
Vial	P2-B2	Sample Information	OP9584,SQ2457,10,,,10,1,water
DA Method File	6850_052725_SQ2456.quantmethod.xml	Comment	
Batch Name	SQ2457.batch.bin	Last Calib Update	5/28/2025 11:59:01 AM

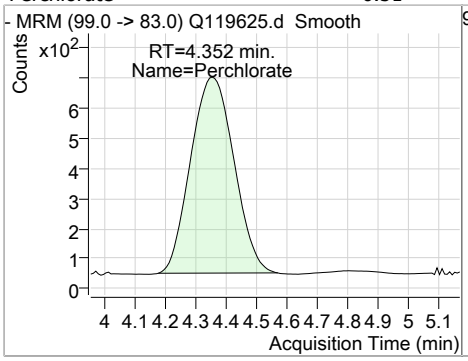


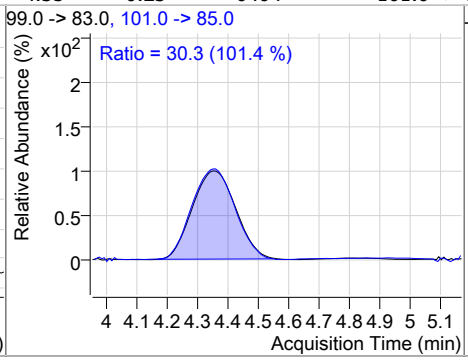
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.346	107.0 -> 89.0	45288	NoQ	5.00	µg/L	-0.225
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	4.352	99.0 -> 83.0	6464	3.3	0.51	µg/L	99

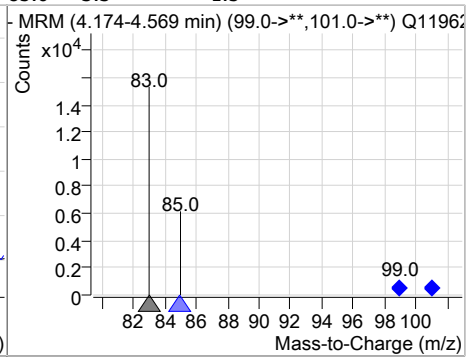
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.51	4.35	-0.23	6464	101.0 -> 85.0	3.3	1.5	

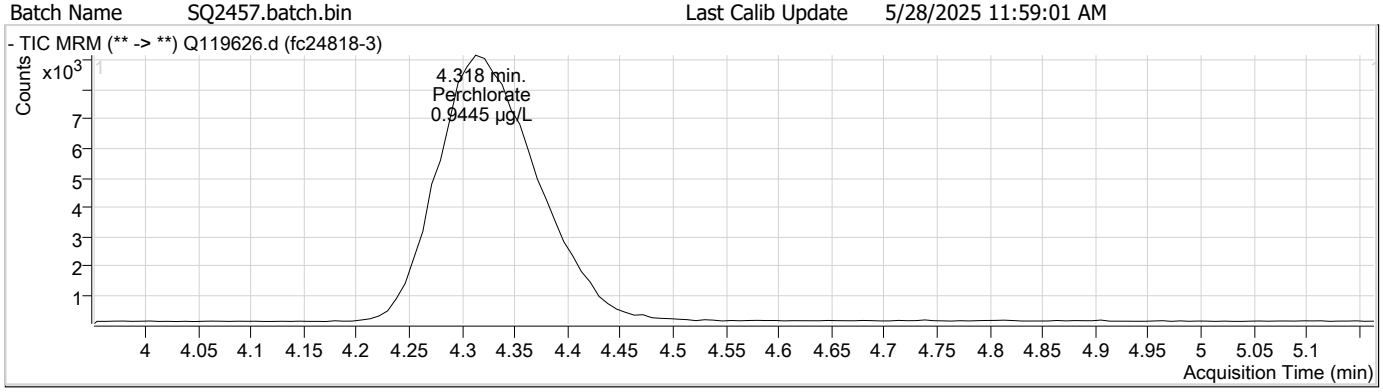






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q119626.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	5/29/2025 1:22:50 AM
Sample Name	fc24818-3	Instrument	Instrument 1
Vial	P2-B3	Sample Information	OP9584,SQ2457,10,,,10,1,water
DA Method File	6850_052725_SQ2456.quantmethod.xml	Comment	
Batch Name	SQ2457.batch.bin	Last Calib Update	5/28/2025 11:59:01 AM

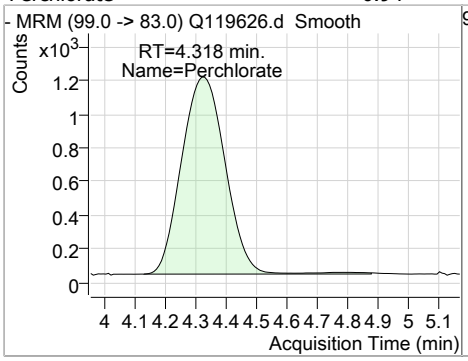


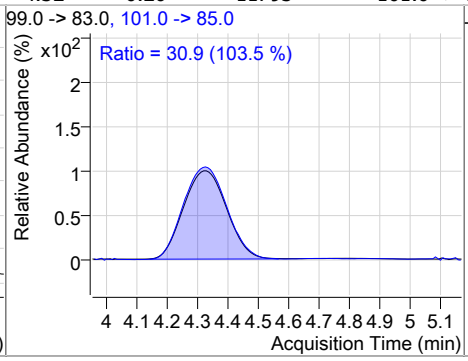
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.321	107.0 -> 89.0	44412	NoQ	5.00 µg/L	-0.250
System Monitoring Compounds						
Target Compounds						QValue
Perchlorate	4.318	99.0 -> 83.0	11793	3.2	0.94 µg/L	98

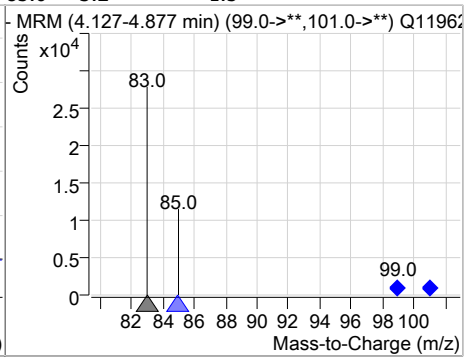
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.94	4.32	-0.26	11793	101.0 -> 85.0	3.2	1.5	

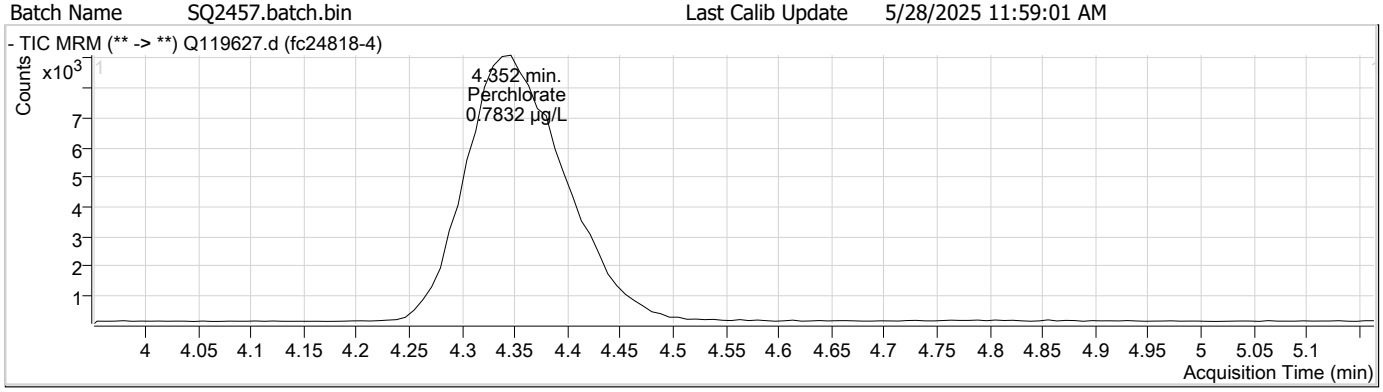






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q119627.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	5/29/2025 1:29:41 AM
Sample Name	fc24818-4	Instrument	Instrument 1
Vial	P2-B4	Sample Information	OP9584,SQ2457,10,,,10,1,water
DA Method File	6850_052725_SQ2456.quantmethod.xml	Comment	
Batch Name	SQ2457.batch.bin	Last Calib Update	5/28/2025 11:59:01 AM

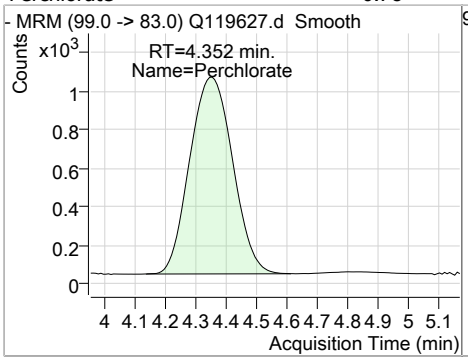


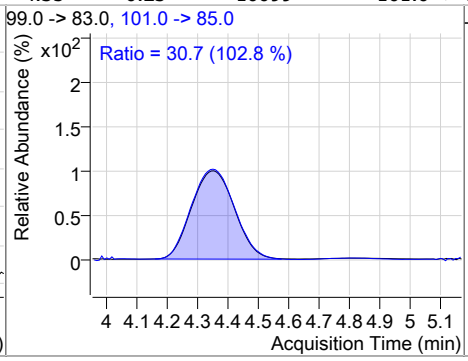
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.346	107.0 -> 89.0	45905	NoQ	5.00	µg/L	-0.225
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	4.352	99.0 -> 83.0	10099	3.3	0.78	µg/L	99

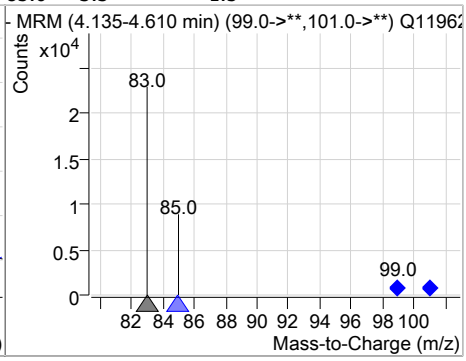
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.78	4.35	-0.23	10099	101.0 -> 85.0	3.3	1.5	

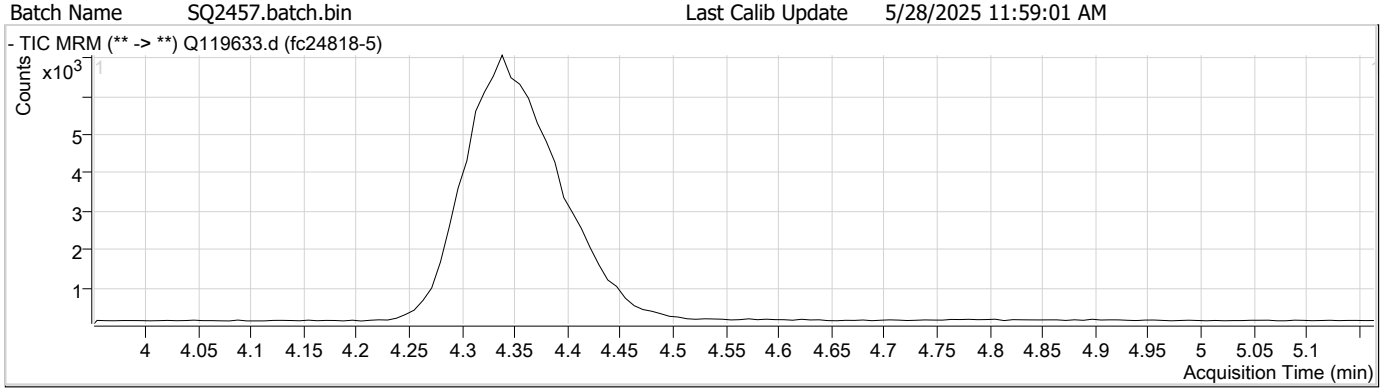






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q119633.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	5/29/2025 2:10:45 AM
Sample Name	fc24818-5	Instrument	Instrument 1
Vial	P2-B7	Sample Information	OP9584,SQ2457,10,,,10,1,water
DA Method File	6850_052725_SQ2456.quantmethod.xml	Comment	
Batch Name	SQ2457.batch.bin	Last Calib Update	5/28/2025 11:59:01 AM

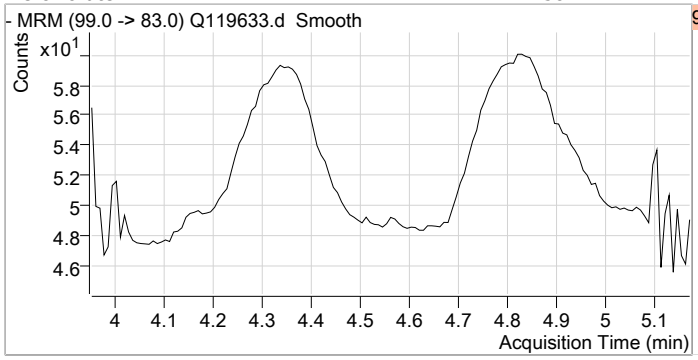


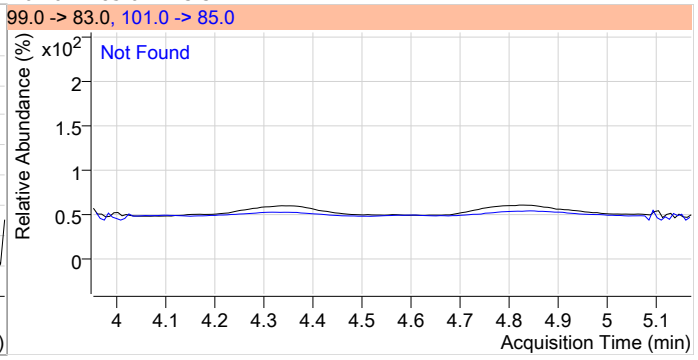
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.338	107.0 -> 89.0	43244	NoQ	5.00	µg/L	-0.234
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	-	99.0 -> 83.0		-	N.D.		

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	Exp RT	QIon	Exp Ratio
Perchlorate	N.D.	4.58	101.0 -> 85.0	3.3



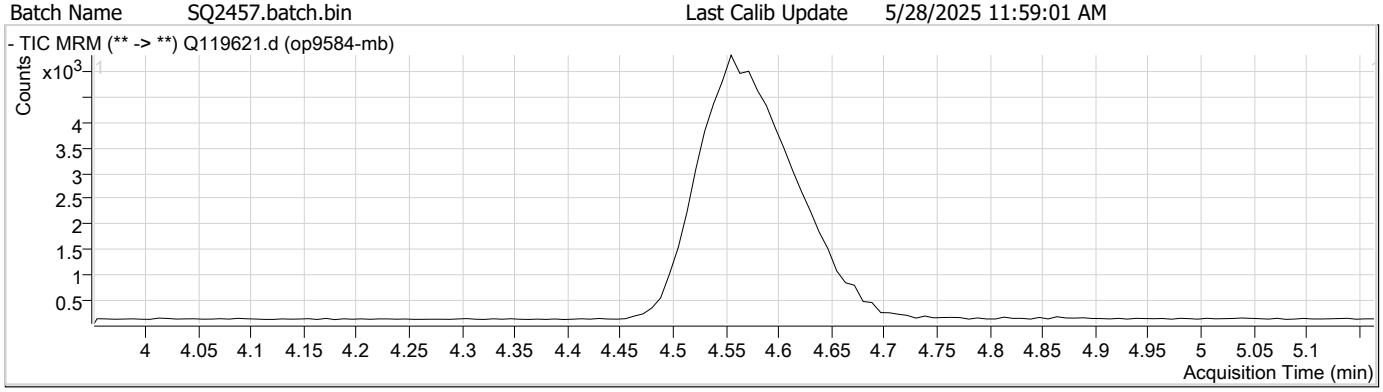


7.1.5

7

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q119621.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	5/29/2025 12:48:38 AM
Sample Name	op9584-mb	Instrument	Instrument 1
Vial	P2-A7	Sample Information	OP9584,SQ2457,10,,,10,1,water
DA Method File	6850_052725_SQ2456.quantmethod.xml	Comment	
Batch Name	SQ2457.batch.bin	Last Calib Update	5/28/2025 11:59:01 AM

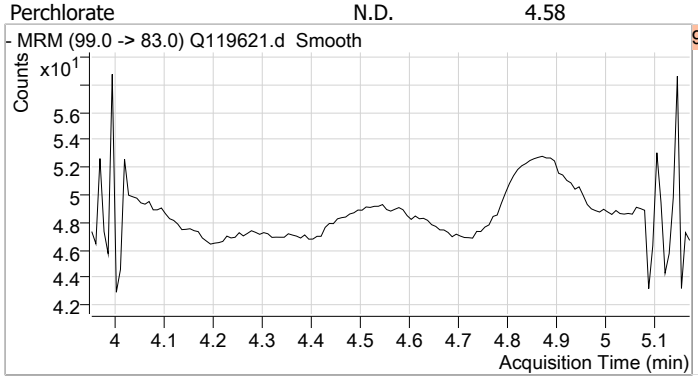


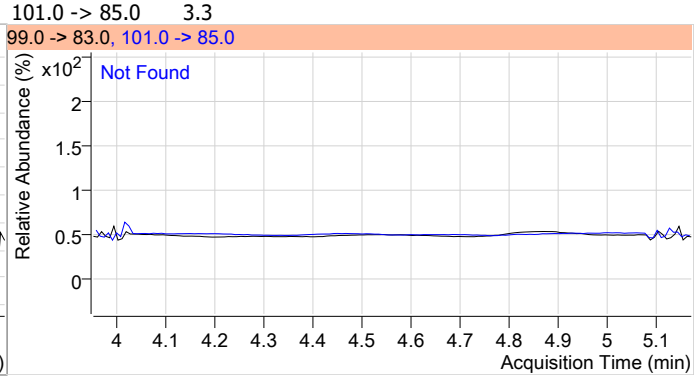
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.563	107.0 -> 89.0	32844	NoQ	5.00	µg/L	-0.008
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	-	99.0 -> 83.0		-	N.D.		

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

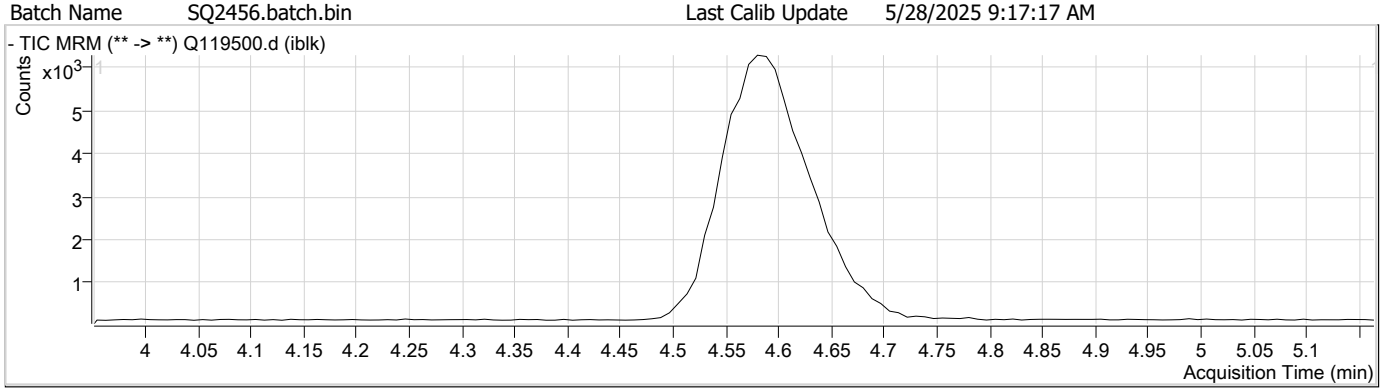
Compound	Conc.	Exp RT	QIon	Exp Ratio
Perchlorate	N.D.	4.58	101.0 -> 85.0	3.3





Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q119500.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	5/27/2025 8:36:30 PM
Sample Name	iblk	Instrument	Instrument 1
Vial	Vial 1	Sample Information	OP9158,SQ2456,10,,,10,1,water
DA Method File	6850_052725_SQ2456.quantmethod.xml	Comment	
Batch Name	SQ2456.batch.bin	Last Calib Update	5/28/2025 9:17:17 AM

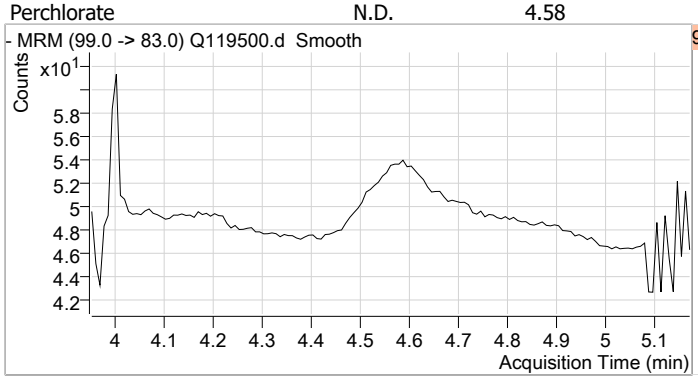


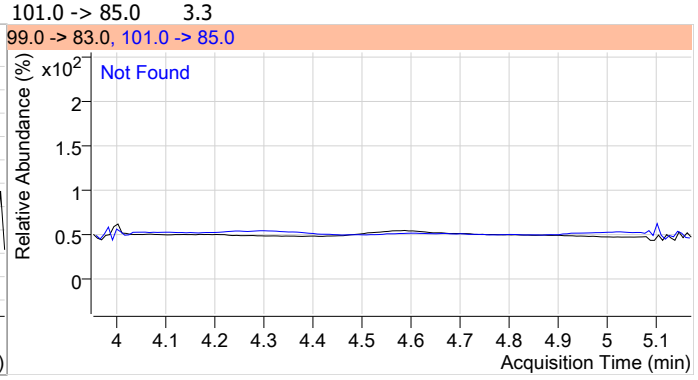
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.580	107.0 -> 89.0	36047	NoQ	5.00	µg/L	0.000
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	-	99.0 -> 83.0		-	N.D.		

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

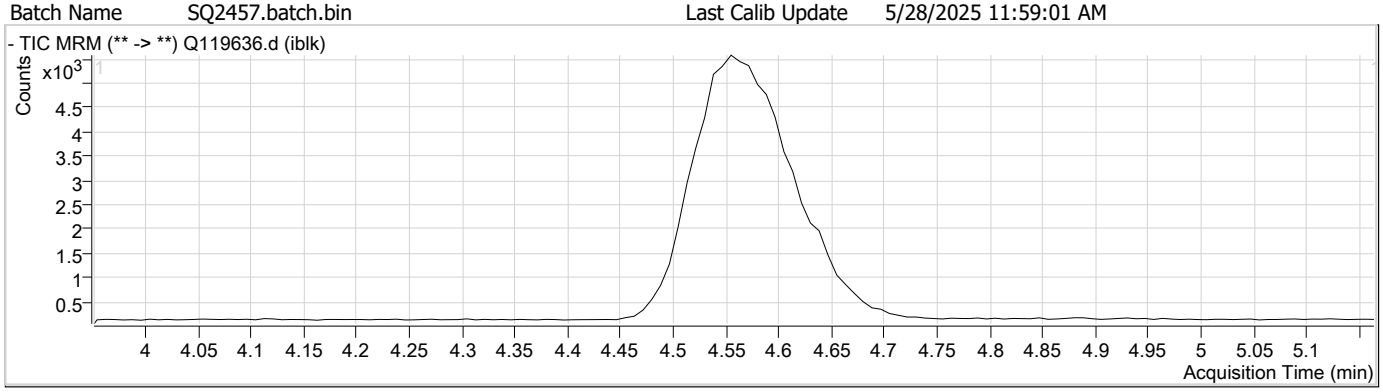
Compound	Conc.	Exp RT	QIon	Exp Ratio
Perchlorate	N.D.	4.58	101.0 -> 85.0	3.3





Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q119636.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	5/29/2025 2:31:14 AM
Sample Name	iblk	Instrument	Instrument 1
Vial	Vial 1	Sample Information	OP9158,SQ2457,10,,,10,1,water
DA Method File	6850_052725_SQ2456.quantmethod.xml	Comment	
Batch Name	SQ2457.batch.bin	Last Calib Update	5/28/2025 11:59:01 AM

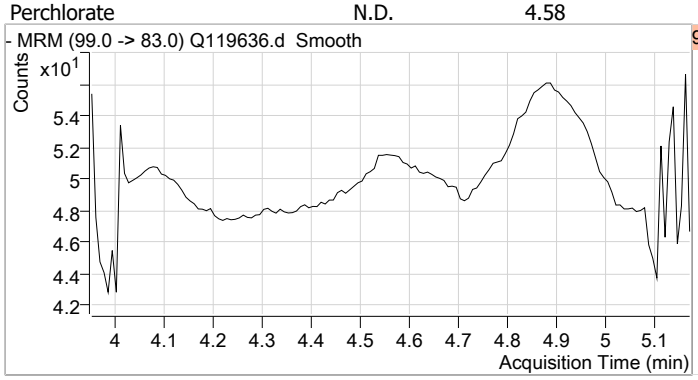


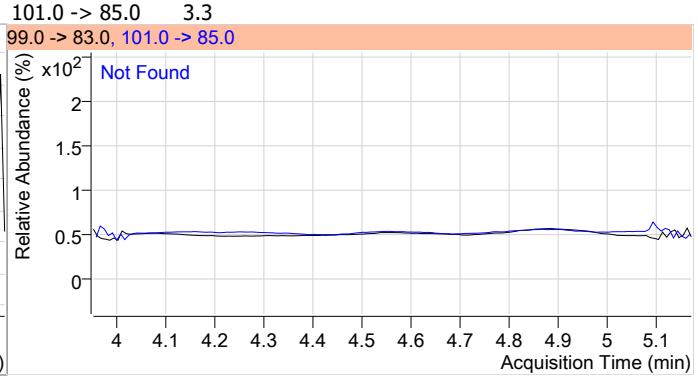
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.563	107.0 -> 89.0	36179	NoQ	5.00 µg/L	-0.008
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	-	99.0 -> 83.0		-	N.D.	

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	Exp RT	QIon	Exp Ratio
Perchlorate	N.D.	4.58	101.0 -> 85.0	3.3

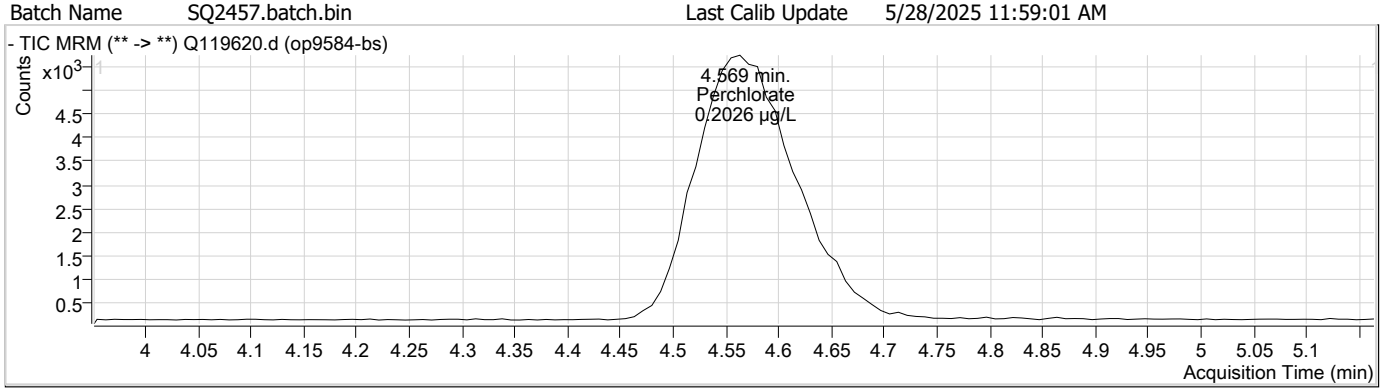




Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie
05/29/25 13:32

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q119620.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	5/29/2025 12:41:49 AM
Sample Name	op9584-bs	Instrument	Instrument 1
Vial	P2-A6	Sample Information	OP9584,SQ2457,10,,,10,1,water
DA Method File	6850_052725_SQ2456.quantmethod.xml	Comment	
Batch Name	SQ2457.batch.bin	Last Calib Update	5/28/2025 11:59:01 AM



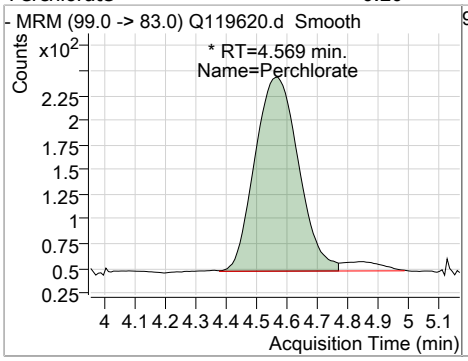
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units		Dev(Min)
Internal Standards								
Cl18O4	4.563	107.0 -> 89.0	34632	NoQ	5.00	µg/L		-0.008
System Monitoring Compounds								
Target Compounds								QValue
Perchlorate	4.569	99.0 -> 83.0	1965	3.3	0.20	µg/L	m	99

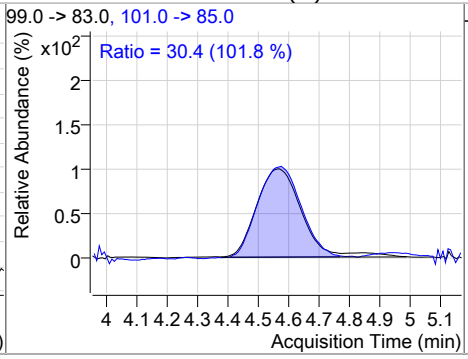
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

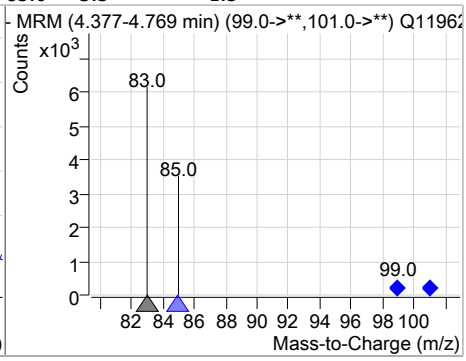
7.3.1
7

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.20	4.57	-0.01	1965 (m)	101.0 -> 85.0	3.3	1.5	







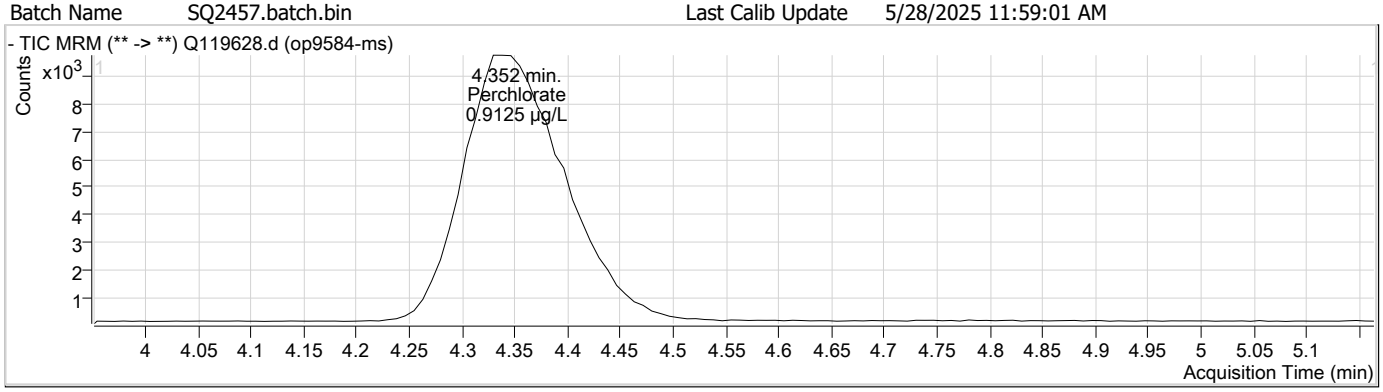
Manual Integration Approval Summary

Sample Number:	OP9584-BS	**Method:**	SW846 6850
Lab FileID:	Q119620.D	**Analyst approved:**	05/29/25 10:11 Anna Ludwig
Injection Time:	05/29/25 00:41	**Supervisor approved:**	05/29/25 13:32 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perchlorate	14797-73-0		4.57	Poor instrument integration

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q119628.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	5/29/2025 1:36:32 AM
Sample Name	op9584-ms	Instrument	Instrument 1
Vial	P2-B5	Sample Information	OP9584,SQ2457,10,,,10,1,water
DA Method File	6850_052725_SQ2456.quantmethod.xml	Comment	
Batch Name	SQ2457.batch.bin	Last Calib Update	5/28/2025 11:59:01 AM

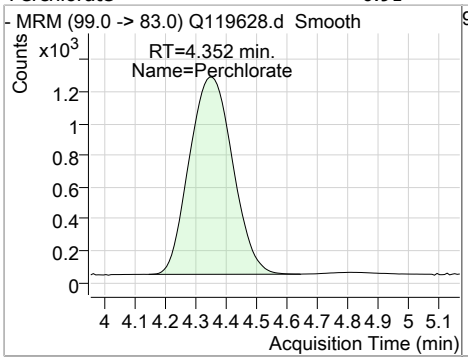


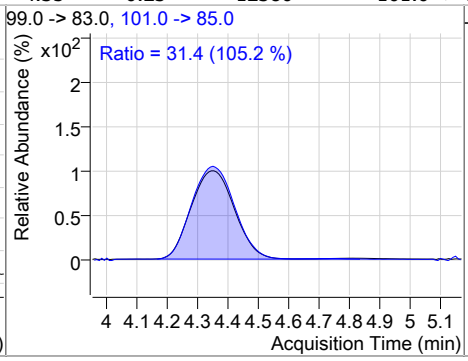
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.346	107.0 -> 89.0	48293	NoQ	5.00	µg/L	-0.225
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	4.352	99.0 -> 83.0	12386	3.2	0.91	µg/L	97

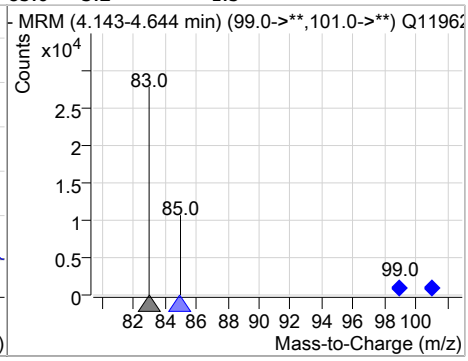
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.91	4.35	-0.23	12386	101.0 -> 85.0	3.2	1.5	

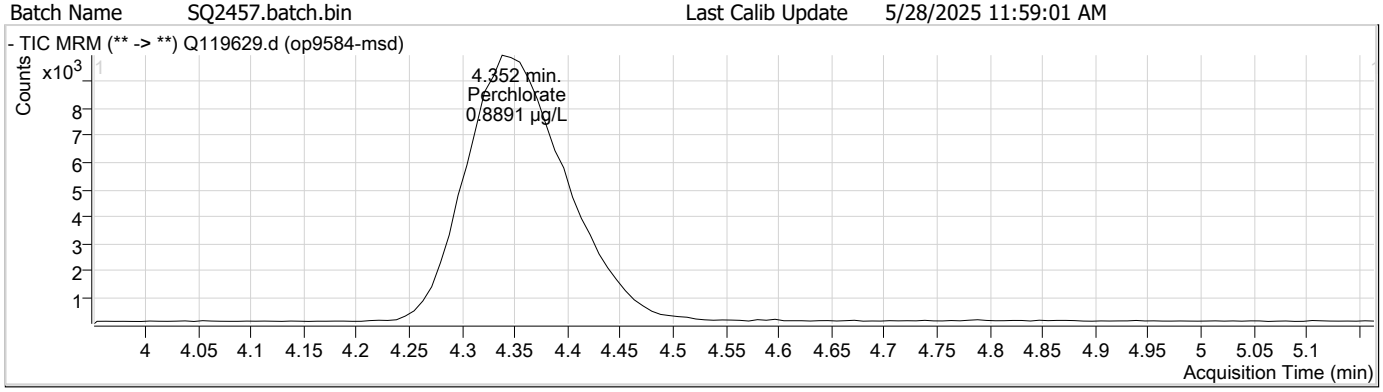






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q119629.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	5/29/2025 1:43:23 AM
Sample Name	op9584-msd	Instrument	Instrument 1
Vial	P2-B6	Sample Information	OP9584,SQ2457,10,,,10,1,water
DA Method File	6850_052725_SQ2456.quantmethod.xml	Comment	
Batch Name	SQ2457.batch.bin	Last Calib Update	5/28/2025 11:59:01 AM

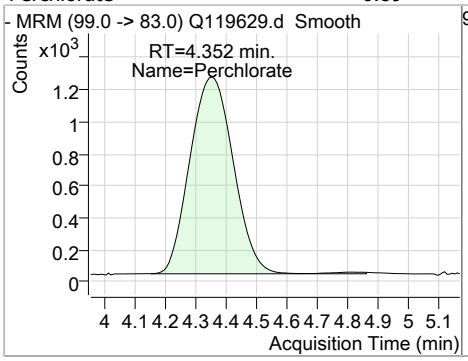


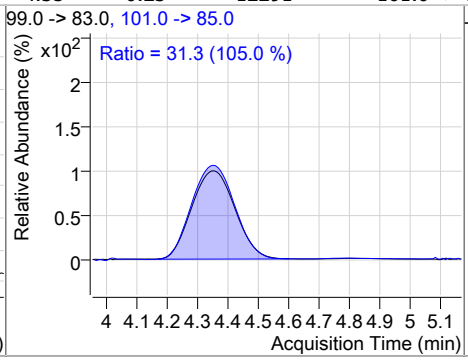
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.346	107.0 -> 89.0	49189	NoQ	5.00	µg/L	-0.225
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	4.352	99.0 -> 83.0	12291	3.2	0.89	µg/L	97

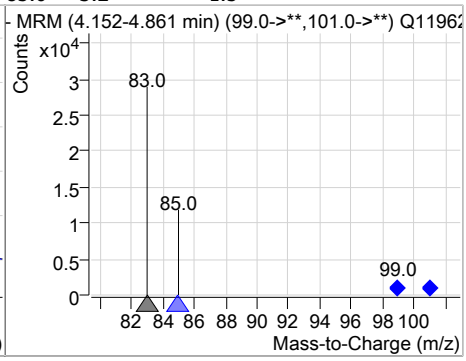
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.89	4.35	-0.23	12291	101.0 -> 85.0	3.2	1.5	







QQQ Check Tune Report

Agilent Technologies

Instrument Name	Instrument 1
MS Model	G6460A
MS Instrument Serial	SG10447001
Software_Firmware Version	B.08.02.B8260.0, FW: A.00.08.62
Tune Date & Time	21 May 2025 10:12:53
Data Path	D:\MassHunter\Tune\QQQ\G6460A\atunes.TUNE.XML
Ion Source	AJS ESI
Ionization Mode	AJS ESI
Tuned Resolution	All
Vacuum Pressure	1.59E+0[R]; 1.74E-5[H]

Source Parameters

Parameter	Value
Gas Temp	300
Gas Flow	10
Nebulizer	15
Capillary	3000
Nozzle Voltage	1500
Sheath Gas Temp	250
Sheath Gas Flow	7

QQQ Check Tune Report

Agilent Technologies

Negative Results

Analyzer: MS1 Polarity: Negative Width: Unit

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	113.04	0.05	Pass	0.70	0.64	-0.06	Pass	64348
302.00	302.06	0.06	Pass	0.70	0.66	-0.04	Pass	53325
601.98	602.06	0.08	Pass	0.70	0.64	-0.06	Pass	99037
1033.99	1034.07	0.08	Pass	0.70	0.65	-0.05	Pass	190874
1633.95	1634.03	0.08	Pass	0.70	0.71	0.01	Pass	348049
2233.91	2233.99	0.08	Pass	0.70	0.69	-0.01	Pass	27823

Analyzer: MS2 Polarity: Negative Width: Unit

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	69.06	0.06	Pass	0.70	0.66	-0.04	Pass	22798
112.99	113.00	0.01	Pass	0.70	0.70	0.00	Pass	141170
302.00	302.00	0.00	Pass	0.70	0.71	0.01	Pass	83134
601.98	602.00	0.02	Pass	0.70	0.70	0.00	Pass	185856
1033.99	1033.96	-0.03	Pass	0.70	0.68	-0.02	Pass	355165
1633.95	1633.92	-0.03	Pass	0.70	0.67	-0.03	Pass	534850
2233.91	2233.90	-0.01	Pass	0.70	0.72	0.02	Pass	213221

Analyzer: MS1 Polarity: Negative Width: Wide

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	113.06	0.07	Pass	1.20	1.10	-0.10	Pass	84462
302.00	302.10	0.10	Pass	1.20	1.19	-0.01	Pass	72046
601.98	602.09	0.11	Pass	1.20	1.22	0.02	Pass	153022
1033.99	1034.13	0.14	Pass	1.20	1.26	0.06	Pass	351025
1633.95	1633.98	0.03	Pass	1.20	1.18	-0.02	Pass	732629
2233.91	2234.02	0.11	Pass	1.20	1.11	-0.09	Pass	255986

Analyzer: MS2 Polarity: Negative Width: Wide

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	69.05	0.05	Pass	1.20	1.14	-0.06	Pass	29987
112.99	112.96	-0.03	Pass	1.20	1.20	0.00	Pass	167851
302.00	301.96	-0.04	Pass	1.20	1.32	0.12	Pass	127030
601.98	601.96	-0.02	Pass	1.20	1.21	0.01	Pass	292493
1033.99	1033.94	-0.05	Pass	1.20	1.02	-0.18	Pass	603245
1633.95	1633.91	-0.04	Pass	1.20	0.97	-0.23	Pass	1397845
2233.91	2233.77	-0.14	Pass	1.20	1.14	-0.06	Pass	644452

Analyzer: MS1 Polarity: Negative Width: Widest

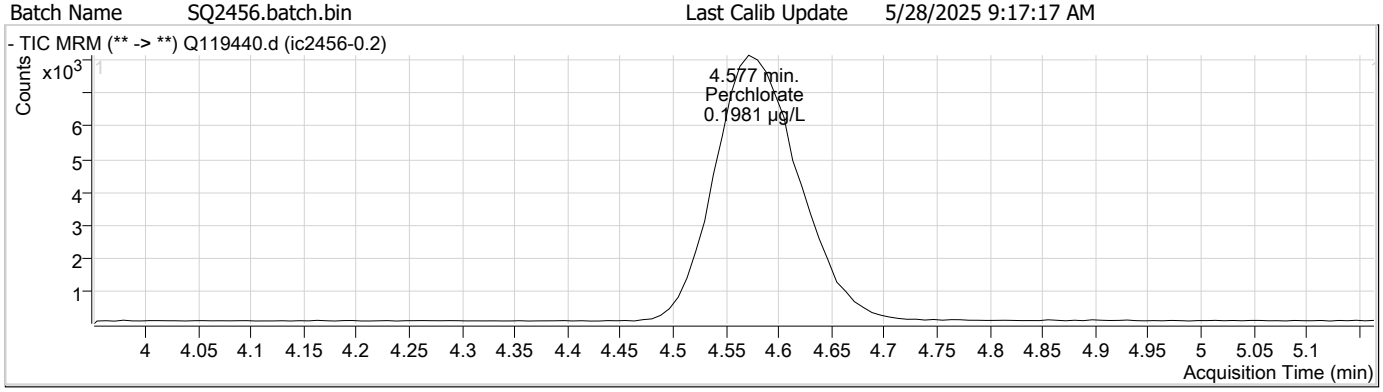
m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.91	-0.08	Pass	2.50	2.61	0.11	Pass	117883
302.00	302.16	0.16	Pass	2.50	2.70	0.20	Pass	93803
601.98	602.21	0.23	Pass	2.50	2.64	0.14	Pass	226854
1033.99	1034.13	0.14	Pass	2.50	2.58	0.08	Pass	590738
1633.95	1634.11	0.16	Pass	2.50	2.41	-0.09	Pass	1344776
2233.91	2234.07	0.16	Pass	2.50	2.30	-0.20	Pass	511894

Analyzer: MS2 Polarity: Negative Width: Widest

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	69.05	0.05	Pass	2.50	2.43	-0.07	Pass	35255
112.99	112.98	-0.01	Pass	2.50	2.53	0.03	Pass	189450
302.00	301.94	-0.06	Pass	2.50	2.66	0.16	Pass	152308
601.98	602.04	0.06	Pass	2.50	2.65	0.15	Pass	400186
1033.99	1034.01	0.02	Pass	2.50	2.44	-0.06	Pass	1227794
1633.95	1633.93	-0.02	Pass	2.50	2.53	0.03	Pass	3943221
2233.91	2233.88	-0.03	Pass	2.50	2.77	0.27	Pass	2135633

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q119440.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	5/27/2025 1:45:55 PM
Sample Name	ic2456-0.2	Instrument	Instrument 1
Vial	Vial 2	Sample Information	OP9158,SQ2456,10,,,10,1,water
DA Method File	6850_052725_SQ2456.quantmethod.xml	Comment	
Batch Name	SQ2456.batch.bin	Last Calib Update	5/28/2025 9:17:17 AM

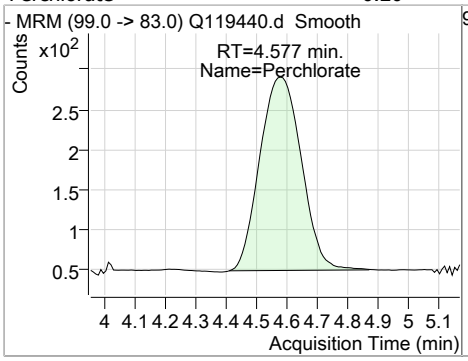


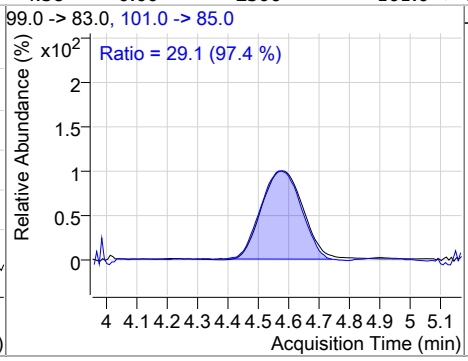
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.580	107.0 -> 89.0	41560	NoQ	5.00	µg/L	0.000
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	4.577	99.0 -> 83.0	2306	3.4	0.20	µg/L	98

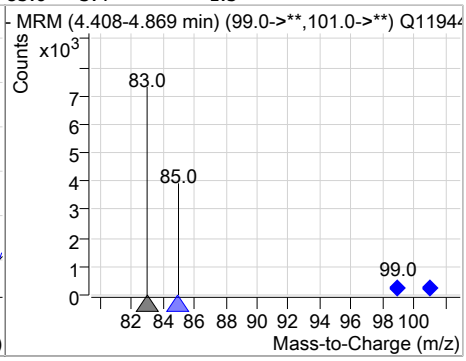
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.20	4.58	0.00	2306	101.0 -> 85.0	3.4	1.5	

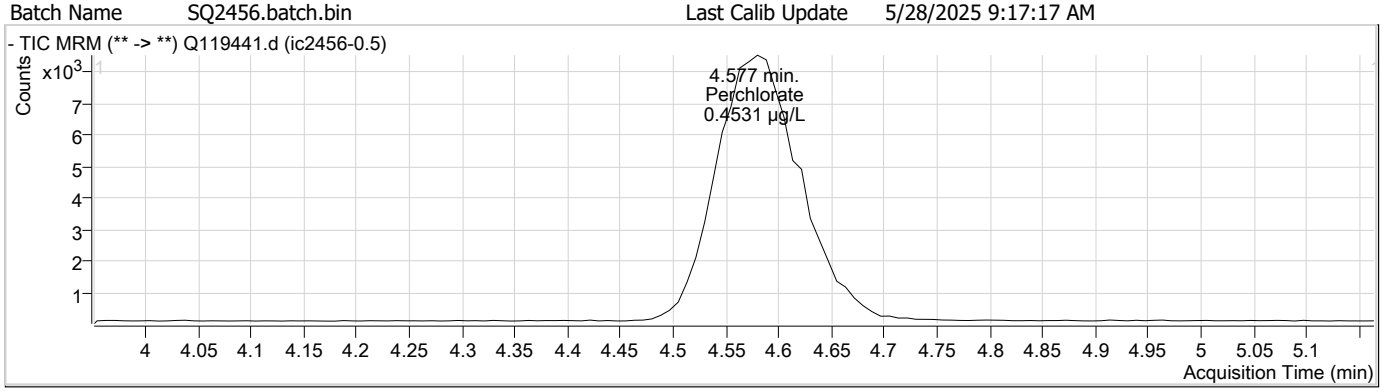






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q119441.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	5/27/2025 1:52:44 PM
Sample Name	ic2456-0.5	Instrument	Instrument 1
Vial	Vial 3	Sample Information	OP9158,SQ2456,10,,,10,1,water
DA Method File	6850_052725_SQ2456.quantmethod.xml	Comment	
Batch Name	SQ2456.batch.bin	Last Calib Update	5/28/2025 9:17:17 AM

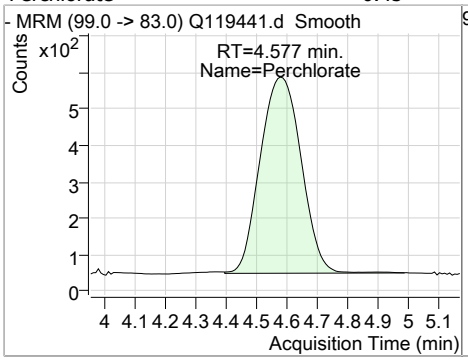


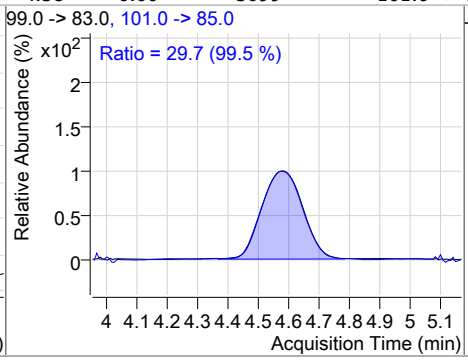
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.580	107.0 -> 89.0	40140	NoQ	5.00 µg/L	0.000
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.577	99.0 -> 83.0	5099	3.4	0.45 µg/L	100

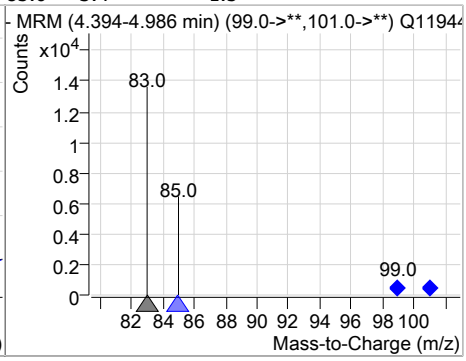
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.45	4.58	0.00	5099	101.0 -> 85.0	3.4	1.5	

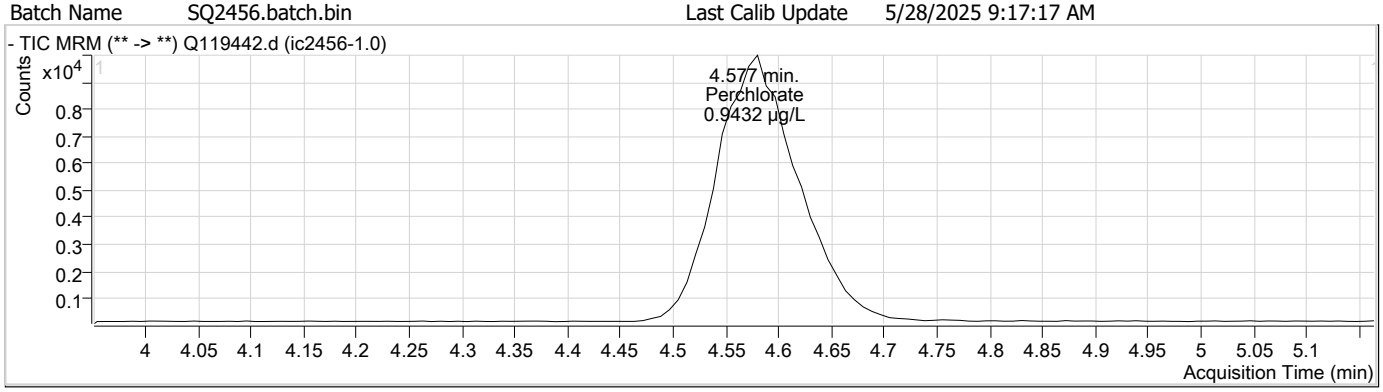






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q119442.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	5/27/2025 1:59:34 PM
Sample Name	ic2456-1.0	Instrument	Instrument 1
Vial	Vial 4	Sample Information	OP9158,SQ2456,10,,,10,1,water
DA Method File	6850_052725_SQ2456.quantmethod.xml	Comment	
Batch Name	SQ2456.batch.bin	Last Calib Update	5/28/2025 9:17:17 AM

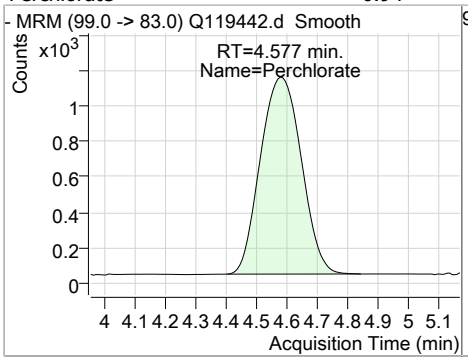


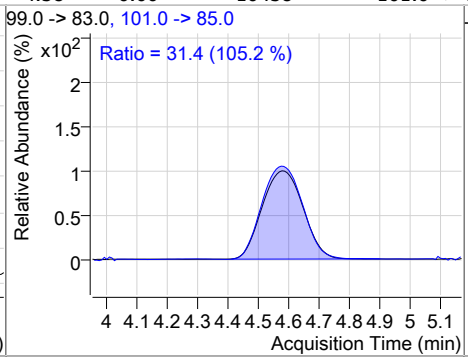
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.580	107.0 -> 89.0	39440	NoQ	5.00 µg/L	0.000
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.577	99.0 -> 83.0	10458	3.2	0.94 µg/L	97

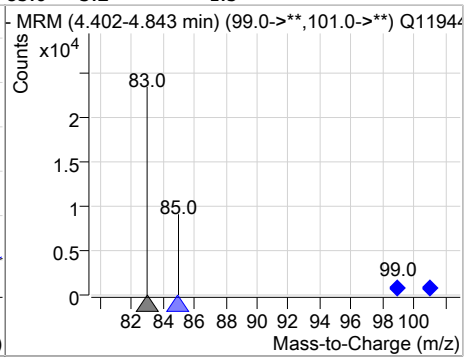
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.94	4.58	0.00	10458	101.0 -> 85.0	3.2	1.5	

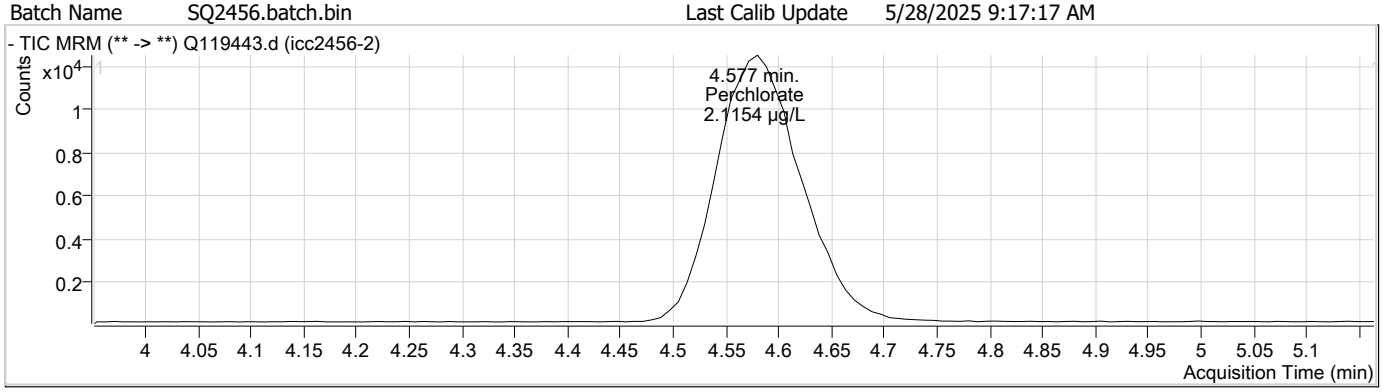






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q119443.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	5/27/2025 2:06:24 PM
Sample Name	icc2456-2	Instrument	Instrument 1
Vial	Vial 5	Sample Information	OP9158,SQ2456,10,,,10,1,water
DA Method File	6850_052725_SQ2456.quantmethod.xml	Comment	
Batch Name	SQ2456.batch.bin	Last Calib Update	5/28/2025 9:17:17 AM

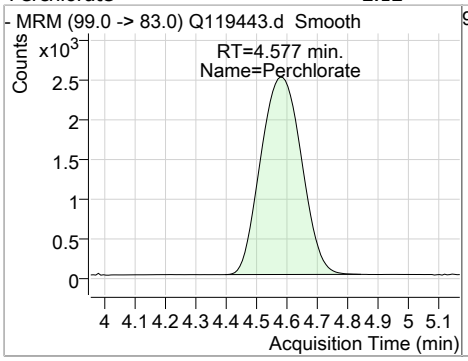


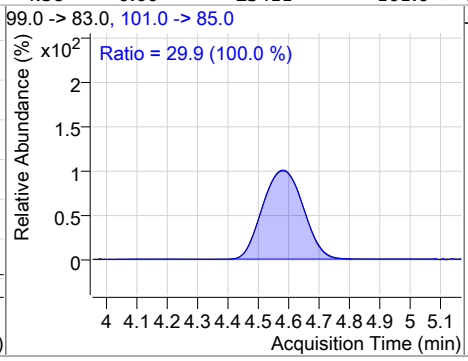
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.580	107.0 -> 89.0	39123	NoQ	5.00 µg/L	0.000
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.577	99.0 -> 83.0	23411	3.3	2.12 µg/L	100

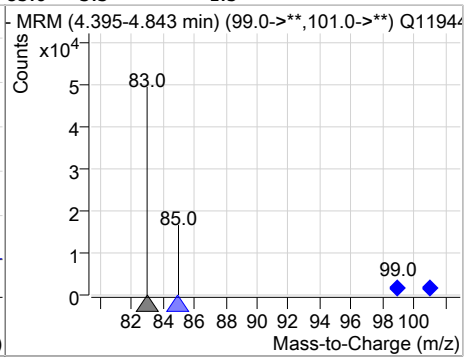
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	2.12	4.58	0.00	23411	101.0 -> 85.0	3.3	1.5	

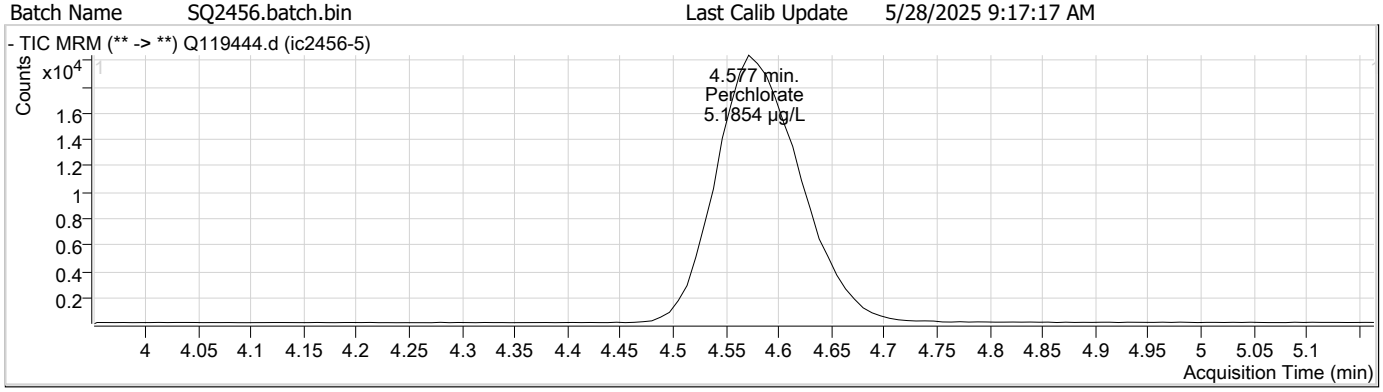






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q119444.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	5/27/2025 2:13:15 PM
Sample Name	ic2456-5	Instrument	Instrument 1
Vial	Vial 6	Sample Information	OP9158,SQ2456,10,,,10,1,water
DA Method File	6850_052725_SQ2456.quantmethod.xml	Comment	
Batch Name	SQ2456.batch.bin	Last Calib Update	5/28/2025 9:17:17 AM

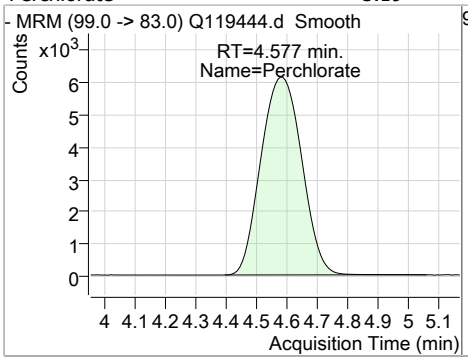


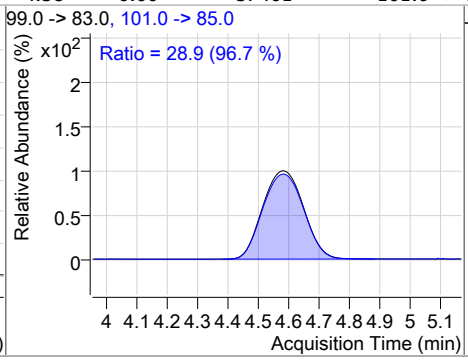
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.580	107.0 -> 89.0	38549	NoQ	5.00 µg/L	0.000
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.577	99.0 -> 83.0	57461	3.5	5.19 µg/L	98

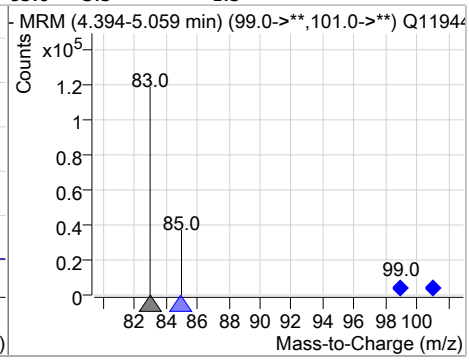
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	5.19	4.58	0.00	57461	101.0 -> 85.0	3.5	1.5	

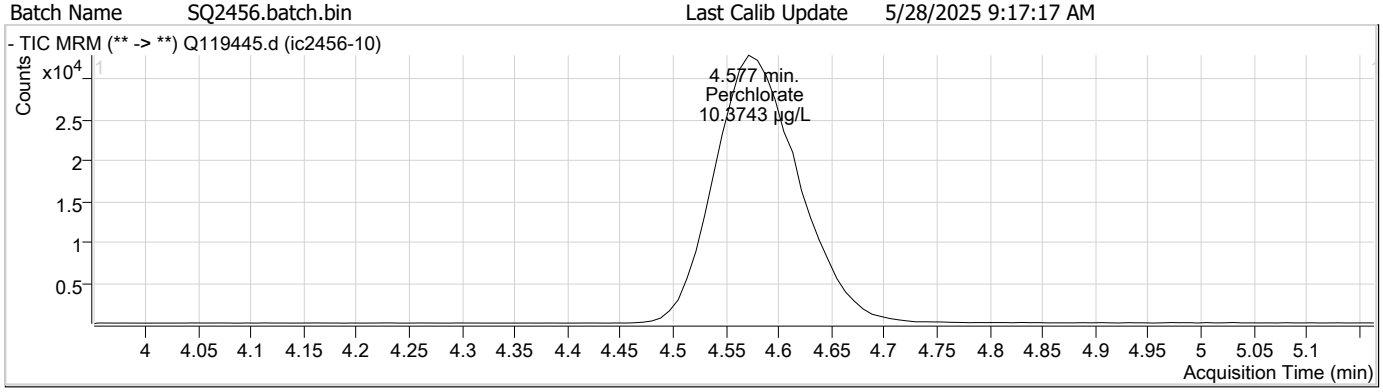






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q119445.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	5/27/2025 2:20:06 PM
Sample Name	ic2456-10	Instrument	Instrument 1
Vial	Vial 7	Sample Information	OP9158,SQ2456,10,,,10,1,water
DA Method File	6850_052725_SQ2456.quantmethod.xml	Comment	
Batch Name	SQ2456.batch.bin	Last Calib Update	5/28/2025 9:17:17 AM

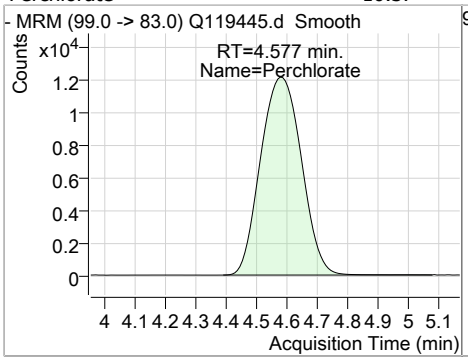


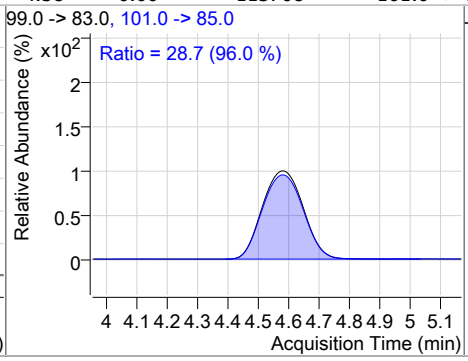
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.580	107.0 -> 89.0	37128	NoQ	5.00	µg/L	0.000
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	4.577	99.0 -> 83.0	113708	3.5	10.37	µg/L	98

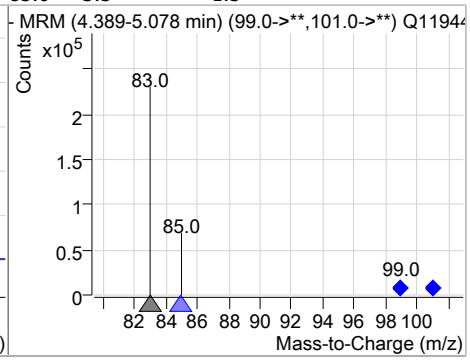
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	10.37	4.58	0.00	113708	101.0 -> 85.0	3.5	1.5	

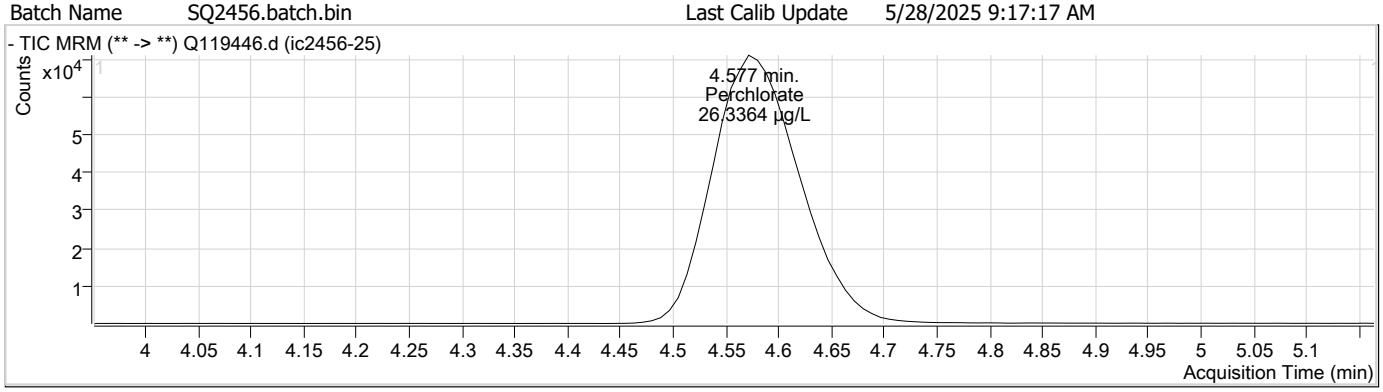






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q119446.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	5/27/2025 2:26:57 PM
Sample Name	ic2456-25	Instrument	Instrument 1
Vial	Vial 8	Sample Information	OP9158,SQ2456,10,,,10,1,water
DA Method File	6850_052725_SQ2456.quantmethod.xml	Comment	
Batch Name	SQ2456.batch.bin	Last Calib Update	5/28/2025 9:17:17 AM

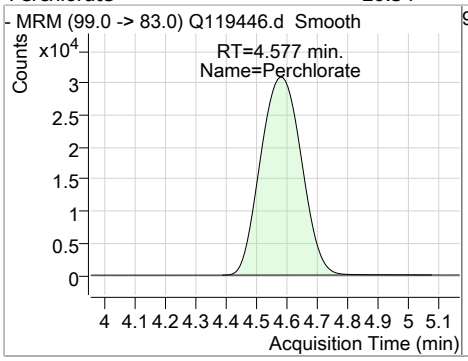


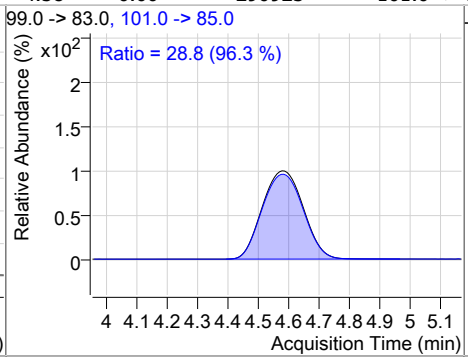
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.580	107.0 -> 89.0	34623	NoQ	5.00	µg/L	0.000
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	4.577	99.0 -> 83.0	290923	3.5	26.34	µg/L	98

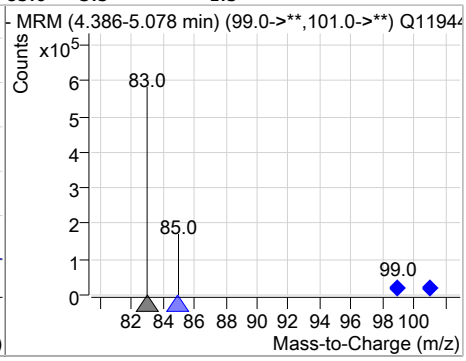
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	26.34	4.58	0.00	290923	101.0 -> 85.0	3.5	1.5	

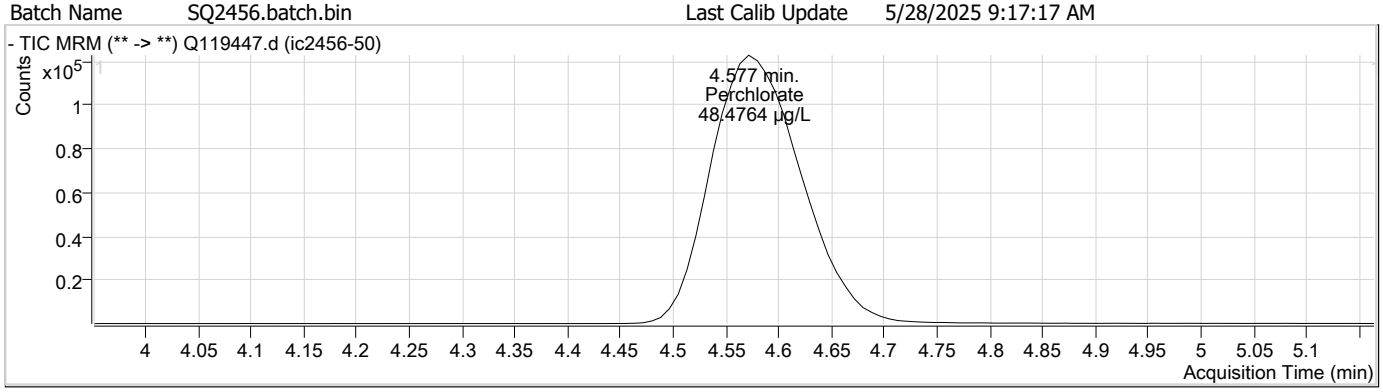






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q119447.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	5/27/2025 2:33:47 PM
Sample Name	ic2456-50	Instrument	Instrument 1
Vial	Vial 9	Sample Information	OP9158,SQ2456,10,,,10,1,water
DA Method File	6850_052725_SQ2456.quantmethod.xml	Comment	
Batch Name	SQ2456.batch.bin	Last Calib Update	5/28/2025 9:17:17 AM

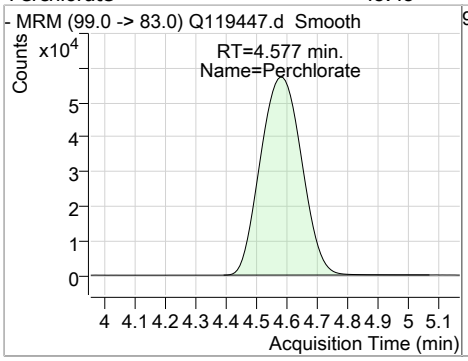


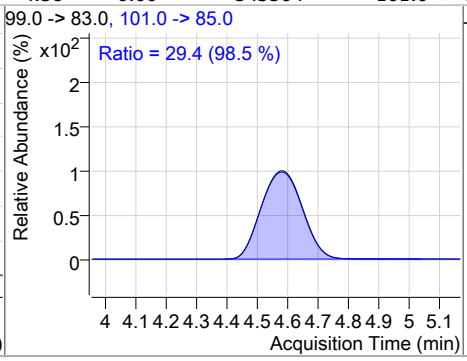
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.580	107.0 -> 89.0	31846	NoQ	5.00	µg/L	0.000
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	4.577	99.0 -> 83.0	543564	3.4	48.48	µg/L	99

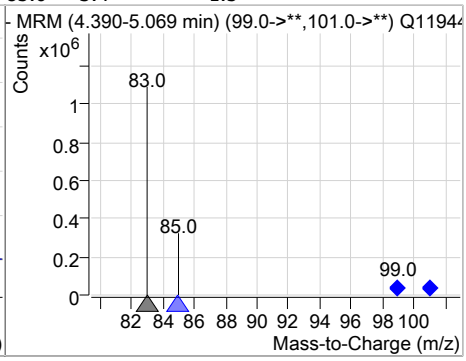
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	48.48	4.58	0.00	543564	101.0 -> 85.0	3.4	1.5	

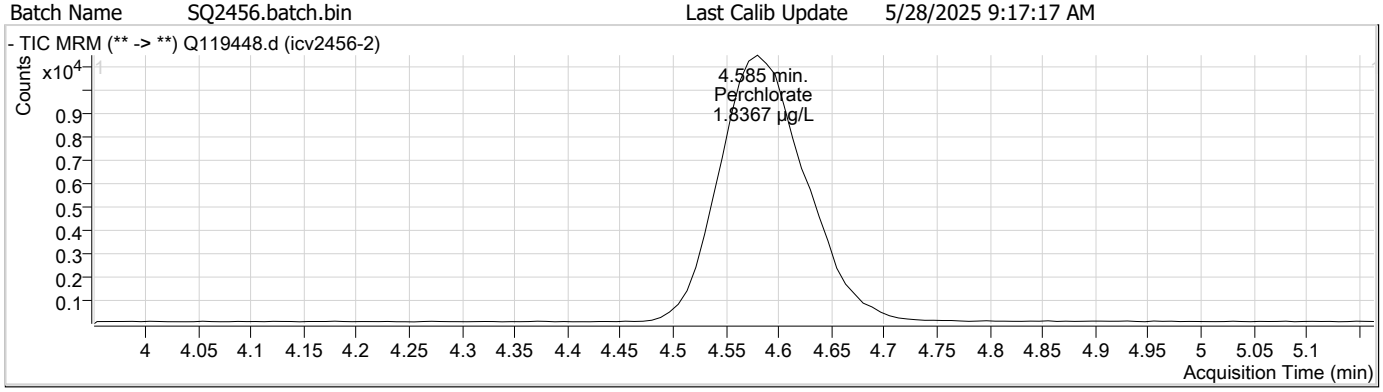






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q119448.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	5/27/2025 2:40:37 PM
Sample Name	icv2456-2	Instrument	Instrument 1
Vial	Vial 10	Sample Information	OP9158,SQ2456,10,,,10,1,water
DA Method File	6850_052725_SQ2456.quantmethod.xml	Comment	
Batch Name	SQ2456.batch.bin	Last Calib Update	5/28/2025 9:17:17 AM

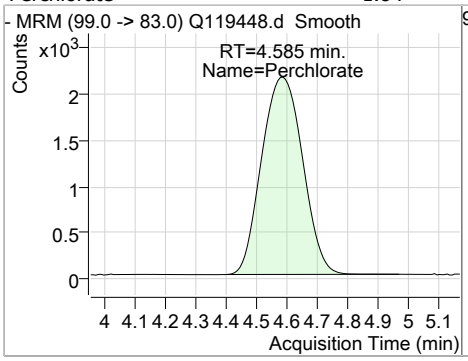


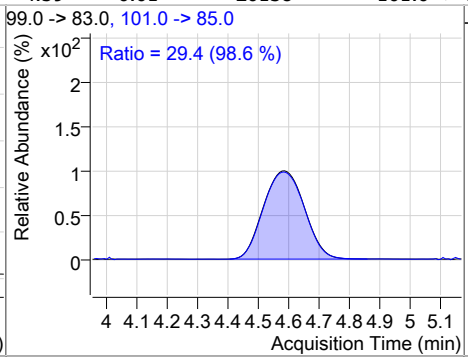
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.580	107.0 -> 89.0	38816	NoQ	5.00	µg/L	0.000
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	4.585	99.0 -> 83.0	20138	3.4	1.84	µg/L	99

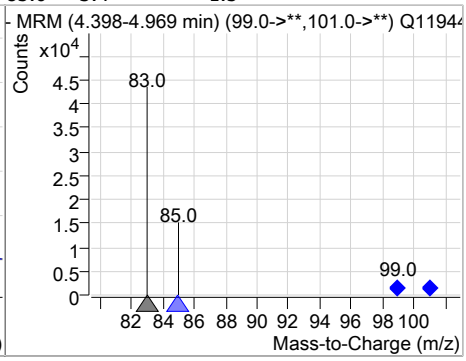
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	1.84	4.59	0.01	20138	101.0 -> 85.0	3.4	1.5	

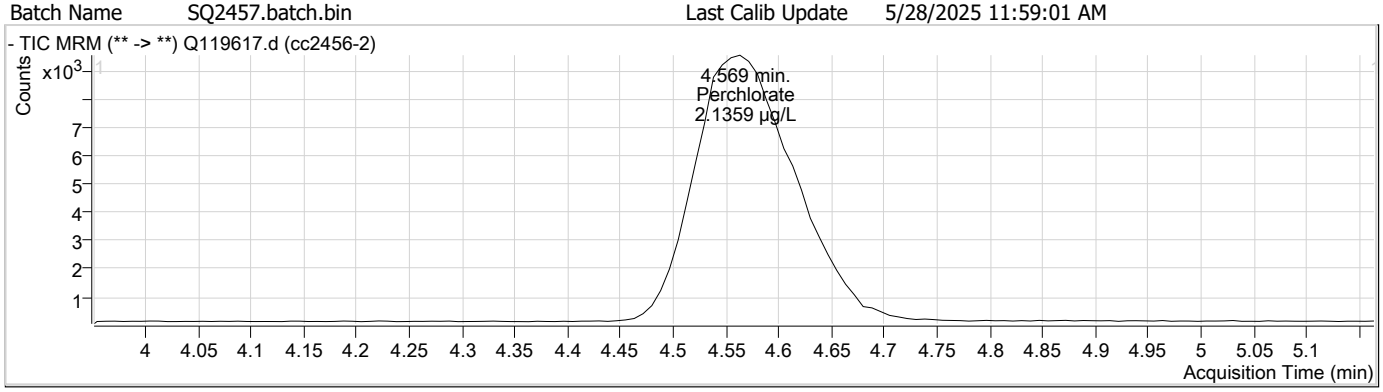






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q119617.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	5/29/2025 12:21:17 AM
Sample Name	cc2456-2	Instrument	Instrument 1
Vial	Vial 5	Sample Information	OP9158,SQ2457,10,,,10,1,water
DA Method File	6850_052725_SQ2456.quantmethod.xml	Comment	
Batch Name	SQ2457.batch.bin	Last Calib Update	5/28/2025 11:59:01 AM

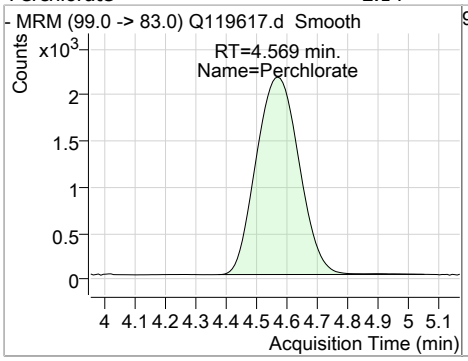


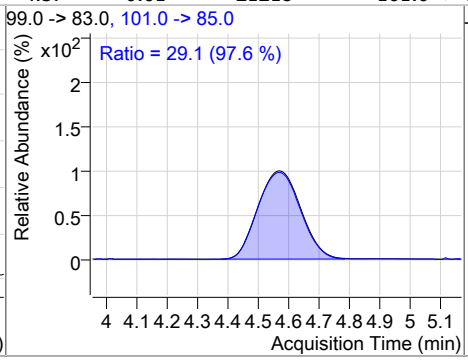
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.563	107.0 -> 89.0	35114	NoQ	5.00 µg/L	-0.008
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.569	99.0 -> 83.0	21218	3.4	2.14 µg/L	99

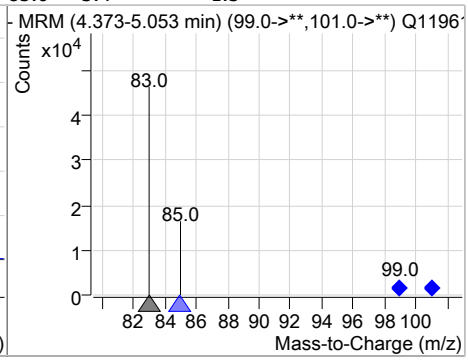
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	2.14	4.57	-0.01	21218	101.0 -> 85.0	3.4	1.5	



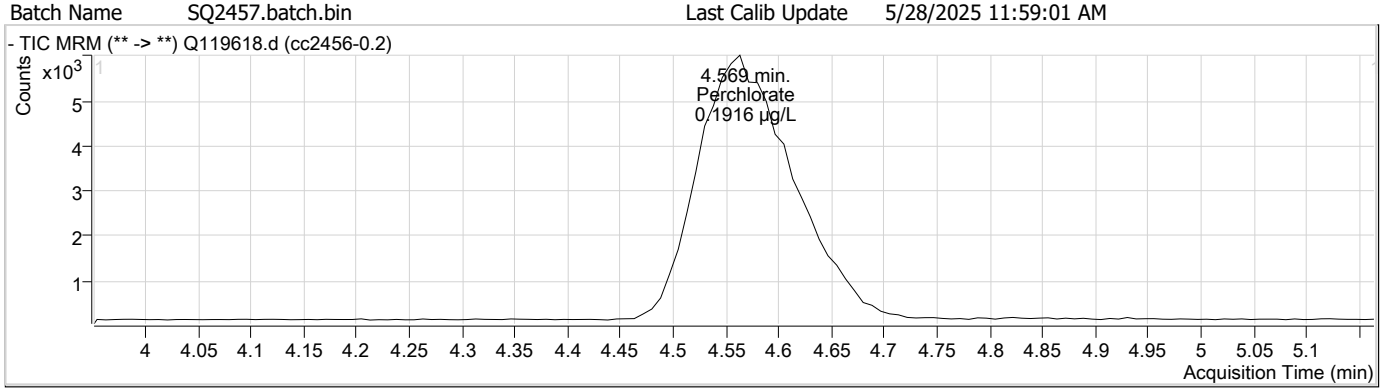




Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 05/29/25 13:29

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q119618.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	5/29/2025 12:28:07 AM
Sample Name	cc2456-0.2	Instrument	Instrument 1
Vial	Vial 2	Sample Information	OP9158,SQ2457,10,,,10,1,water
DA Method File	6850_052725_SQ2456.quantmethod.xml	Comment	
Batch Name	SQ2457.batch.bin	Last Calib Update	5/28/2025 11:59:01 AM

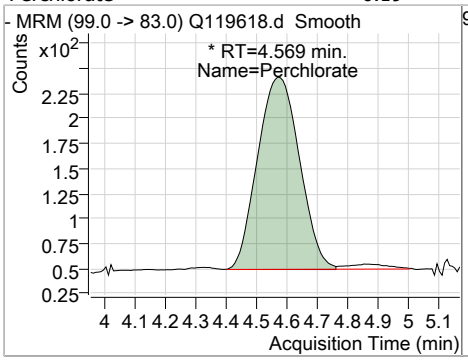


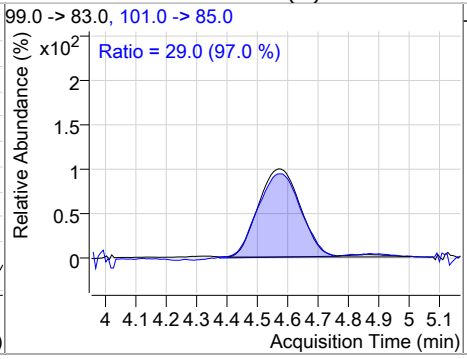
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units		Dev(Min)
Internal Standards								
Cl18O4	4.563	107.0 -> 89.0	34622	NoQ	5.00	µg/L		-0.008
System Monitoring Compounds								
Target Compounds								QValue
Perchlorate	4.569	99.0 -> 83.0	1858	3.5	0.19	µg/L	m	98

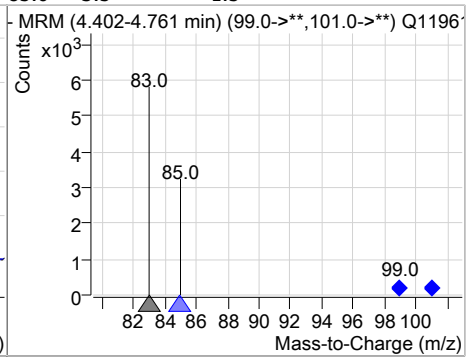
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.19	4.57	-0.01	1858 (m)	101.0 -> 85.0	3.5	1.5	







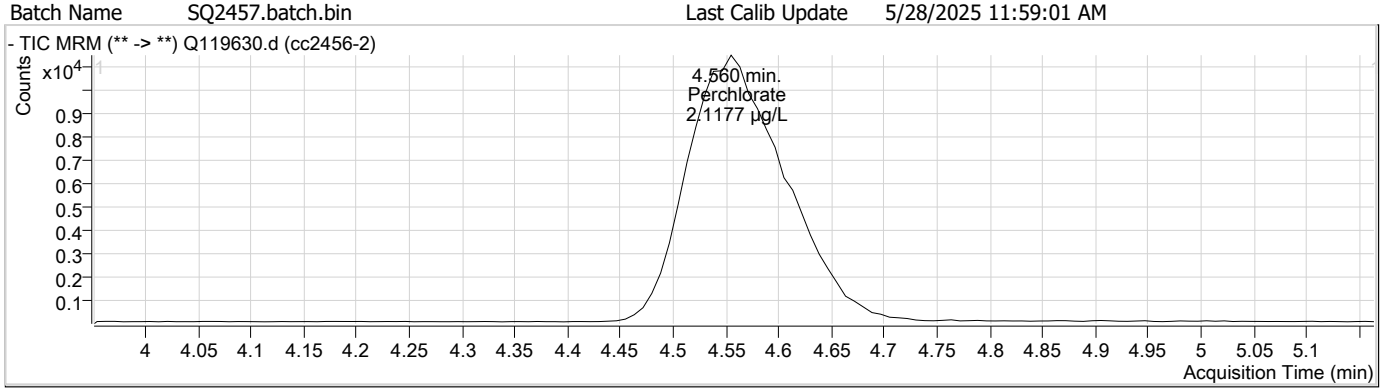
Manual Integration Approval Summary

Sample Number:	SQ2457-CC2456	**Method:**	SW846 6850
Lab FileID:	Q119618.D	**Analyst approved:**	05/29/25 10:11 Anna Ludwig
Injection Time:	05/29/25 00:28	**Supervisor approved:**	05/29/25 13:29 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perchlorate	14797-73-0		4.57	Poor instrument integration

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q119630.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	5/29/2025 1:50:13 AM
Sample Name	cc2456-2	Instrument	Instrument 1
Vial	Vial 5	Sample Information	OP9158,SQ2457,10,,,10,1,water
DA Method File	6850_052725_SQ2456.quantmethod.xml	Comment	
Batch Name	SQ2457.batch.bin	Last Calib Update	5/28/2025 11:59:01 AM

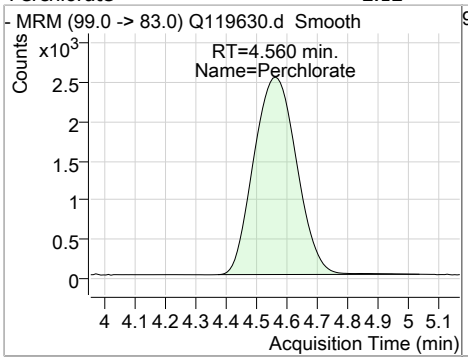


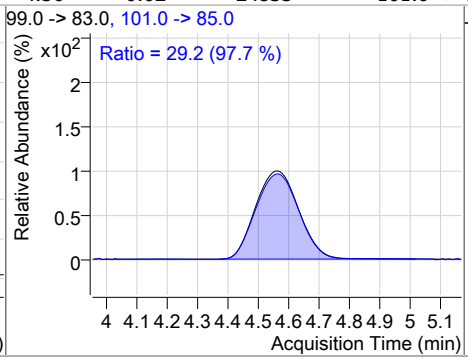
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.555	107.0 -> 89.0	41456	NoQ	5.00 µg/L	-0.017
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.560	99.0 -> 83.0	24835	3.4	2.12 µg/L	99

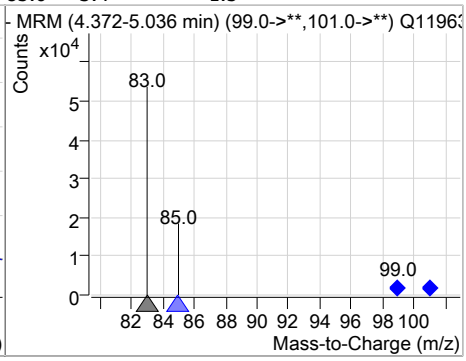
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	2.12	4.56	-0.02	24835	101.0 -> 85.0	3.4	1.5	

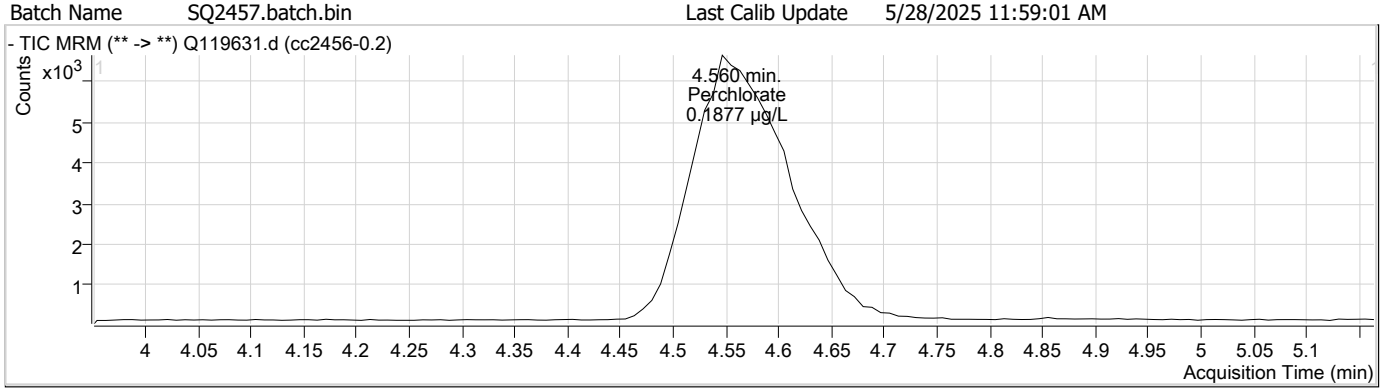






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q119631.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	5/29/2025 1:57:02 AM
Sample Name	cc2456-0.2	Instrument	Instrument 1
Vial	Vial 2	Sample Information	OP9158,SQ2457,10,,,10,1,water
DA Method File	6850_052725_SQ2456.quantmethod.xml	Comment	
Batch Name	SQ2457.batch.bin	Last Calib Update	5/28/2025 11:59:01 AM

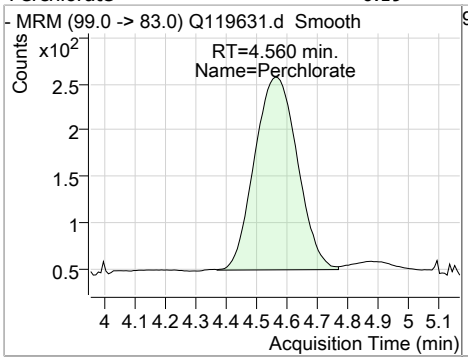


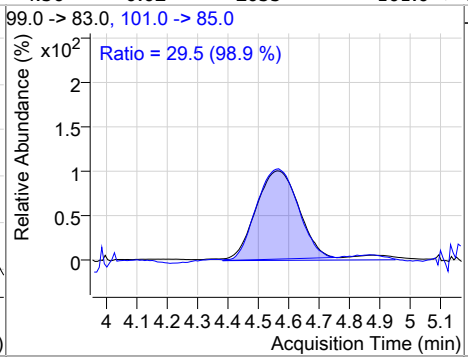
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.555	107.0 -> 89.0	39101	NoQ	5.00 µg/L	-0.017
System Monitoring Compounds						
Target Compounds						QValue
Perchlorate	4.560	99.0 -> 83.0	2055	3.4	0.19 µg/L	99

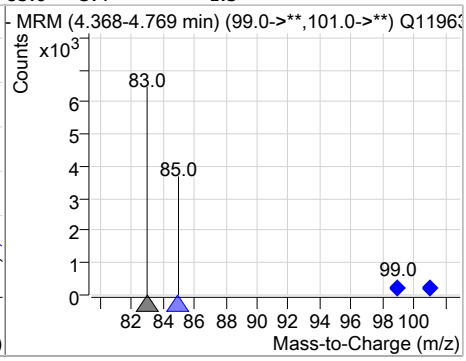
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.19	4.56	-0.02	2055	101.0 -> 85.0	3.4	1.5	

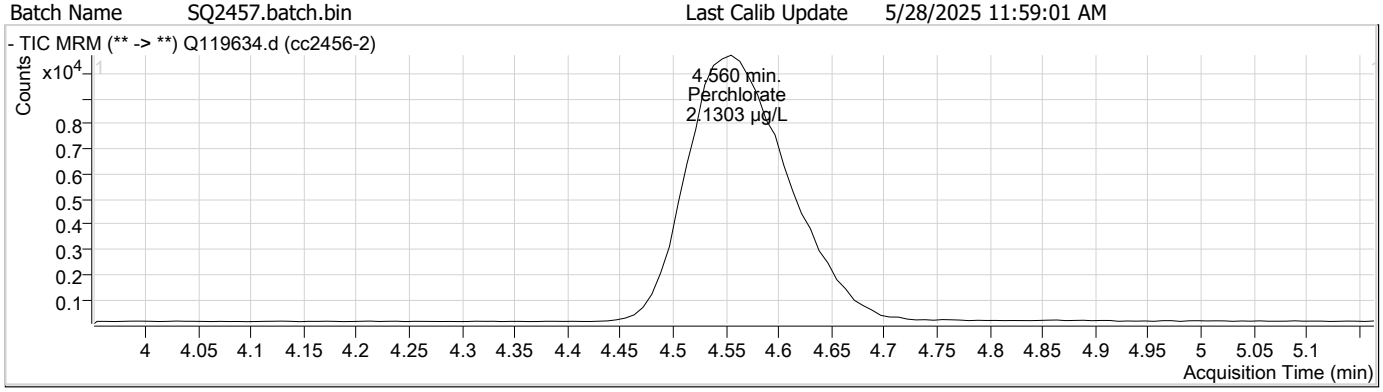






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q119634.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	5/29/2025 2:17:34 AM
Sample Name	cc2456-2	Instrument	Instrument 1
Vial	Vial 5	Sample Information	OP9158,SQ2457,10,,,10,1,water
DA Method File	6850_052725_SQ2456.quantmethod.xml	Comment	
Batch Name	SQ2457.batch.bin	Last Calib Update	5/28/2025 11:59:01 AM

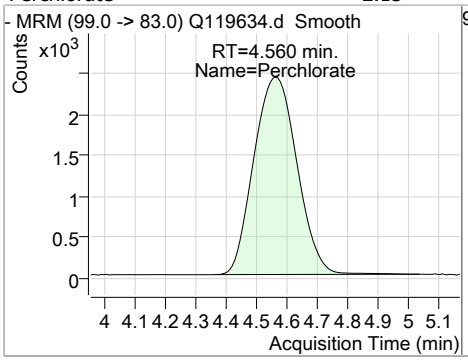


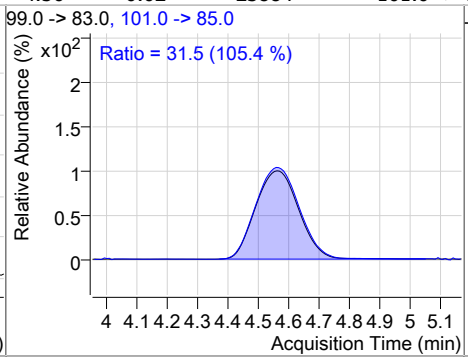
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.555	107.0 -> 89.0	39630	NoQ	5.00 µg/L	-0.017
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.560	99.0 -> 83.0	23884	3.2	2.13 µg/L	97

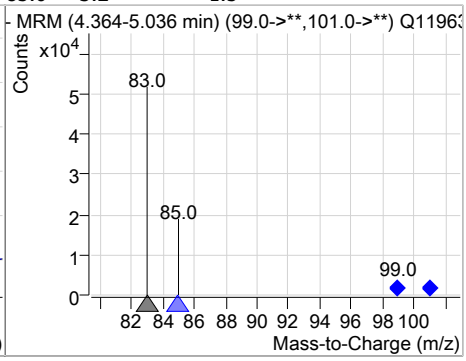
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	2.13	4.56	-0.02	23884	101.0 -> 85.0	3.2	1.5	







SGS ORLANDO

LCMS1-Q ANALYSIS LOG

DATE:	05/27/25
COLUMN TYPE:	K-Prime
AMOUNT INJ:	5 ul
INSTRUMENT:	LCMS1-Q

METHODS:	6850
PROC. METH:	6850_052725_SQ2456
CAL DATE:	05/27/25
ANALYST:	AS
RUN BATCH:	SQ2456

ELUENT A LOT #:	244388 W/0.1% AA 224297
ELUENT B LOT #:	245419 W/0.1% AA 224297
IC/CC STD LOT #:	LCMS 2496
ICV STD LOT #:	LCMS 2438
ISTD/ID STD LOT #:	LCMS 2509

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
1	Q119432.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2456,10,,,10,1,water	ok
2	Q119433.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2456,10,,,10,1,water	ok
3	Q119434.d	Vial 7	conditioning std	Perchlorate_5.m	Sample		OP9158,SQ2456,10,,,10,1,water	ok
4	Q119435.d	Vial 7	conditioning std	Perchlorate_5.m	Sample		OP9158,SQ2456,10,,,10,1,water	ok
5	Q119436.d	Vial 7	conditioning std	Perchlorate_5.m	Sample		OP9158,SQ2456,10,,,10,1,water	ok
6	Q119437.d	P2-F9	test spike	Perchlorate_5.m	Sample		OP9158,SQ2456,10,,,10,1,water	ok
7	Q119438.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2456,10,,,10,1,water	ok
8	Q119439.d	Vial 1	ic2456-0	Perchlorate_5.m	Sample		OP9158,SQ2456,10,,,10,1,water	check tune file
9	Q119440.d	Vial 2	ic2456-0.2	Perchlorate_5.m	Calibration	500x	OP9158,SQ2456,10,,,10,1,water	pass
10	Q119441.d	Vial 3	ic2456-0.5	Perchlorate_5.m	Calibration	200x	OP9158,SQ2456,10,,,10,1,water	pass
11	Q119442.d	Vial 4	ic2456-1.0	Perchlorate_5.m	Calibration	100x	OP9158,SQ2456,10,,,10,1,water	pass
12	Q119443.d	Vial 5	icc2456-2	Perchlorate_5.m	Calibration	50x	OP9158,SQ2456,10,,,10,1,water	pass +/-30% (2.31-4.29)
13	Q119444.d	Vial 6	ic2456-5	Perchlorate_5.m	Calibration	20x	OP9158,SQ2456,10,,,10,1,water	pass
14	Q119445.d	Vial 7	ic2456-10	Perchlorate_5.m	Calibration	10x	OP9158,SQ2456,10,,,10,1,water	pass
15	Q119446.d	Vial 8	ic2456-25	Perchlorate_5.m	Calibration	4x	OP9158,SQ2456,10,,,10,1,water	pass
16	Q119447.d	Vial 9	ic2456-50	Perchlorate_5.m	Calibration	2x	OP9158,SQ2456,10,,,10,1,water	pass
17	Q119448.d	Vial 10	icv2456-2	Perchlorate_5.m	QC	50x	OP9158,SQ2456,10,,,10,1,water	pass
18	Q119449.d	P1-A1	ics	Perchlorate_5.m	Sample	500x	OP9158,SQ2456,10,,,10,1,water	pass
19	Q119450.d	Vial 5	cc2456-2	Perchlorate_5.m	QC	50x	OP9158,SQ2456,10,,,10,1,water	pass
20	Q119451.d	Vial 2	cc2456-0.2	Perchlorate_5.m	QC	500x	OP9158,SQ2456,10,,,10,1,water	pass
21	Q119452.d	P1-E4	fc24526-8	Perchlorate_5.m	Sample		OP9426,SQ2456,10,,,10,1,water	✓
22	Q119453.d	P1-E7	fc24526-10	Perchlorate_5.m	Sample		OP9426,SQ2456,10,,,10,1,water	✓
23	Q119454.d	P1-E9	fc24526-12	Perchlorate_5.m	Sample		OP9426,SQ2456,10,,,10,1,water	✓
24	Q119455.d	P1-F8	fc24526-17	Perchlorate_5.m	Sample		OP9426,SQ2456,10,,,10,1,water	✓
25	Q119456.d	P1-F9	fc24526-17	Perchlorate_5.m	Sample	2/10ml	OP9426,SQ2456,10,,,10,5,water	✓
26	Q119457.d	P1-D8	fc24526-5	Perchlorate_5.m	Sample	5/10ml	OP9426,SQ2456,10,,,10,2,water	✓
27	Q119458.d	P1-D9	fc24526-6	Perchlorate_5.m	Sample	0.1/10ml	OP9426,SQ2456,10,,,10,100,water	✓
28	Q119459.d	P1-E1	fc24526-6	Perchlorate_5.m	Sample	50ul/10	OP9426,SQ2456,10,,,10,200,water	✓
29	Q119460.d	P1-E2	fc24526-7	Perchlorate_5.m	Sample	0.5/10ml	OP9426,SQ2456,10,,,10,20,water	✓
30	Q119461.d	P1-E3	fc24526-7	Perchlorate_5.m	Sample	0.2/10ml	OP9426,SQ2456,10,,,10,50,water	✓
31	Q119462.d	Vial 5	cc2456-2	Perchlorate_5.m	QC	50x	OP9158,SQ2456,10,,,10,1,water	pass
32	Q119463.d	Vial 2	cc2456-0.2	Perchlorate_5.m	QC	500x	OP9158,SQ2456,10,,,10,1,water	pass
33	Q119464.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2456,10,,,10,1,water	nd
34	Q119465.d	P1-E5	fc24526-9	Perchlorate_5.m	Sample	0.5/10ml	OP9426,SQ2456,10,,,10,20,water	✓
35	Q119466.d	P1-E6	fc24526-9	Perchlorate_5.m	Sample	0.2/10ml	OP9426,SQ2456,10,,,10,50,water	✓

SGS ORLANDO LCMS1-Q ANALYSIS LOG

36	Q119467.d	P1-E8	fc24526-11	Perchlorate_5.m	Sample	2/10ml	OP9426,SQ2456,10,,,10,5,water	✓
37	Q119468.d	P1-F4	fc24526-15	Perchlorate_5.m	Sample	1/10ml	OP9426,SQ2456,10,,,10,10,water	✓
38	Q119469.d	P1-F5	op9426-ms	Perchlorate_5.m	Sample	1/10ml	OP9426,SQ2456,10,,,10,10,water	✓
39	Q119470.d	P1-F6	op9426-msd	Perchlorate_5.m	Sample	1/10ml	OP9426,SQ2456,10,,,10,10,water	✓
40	Q119471.d	Vial 5	cc2456-2	Perchlorate_5.m	QC	50x	OP9158,SQ2456,10,,,10,1,water	pass
41	Q119472.d	Vial 2	cc2456-0.2	Perchlorate_5.m	QC	500x	OP9158,SQ2456,10,,,10,1,water	pass
42	Q119473.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2456,10,,,10,1,water	nd
43	Q119474.d	P1-F7	fc24526-16	Perchlorate_5.m	Sample	1/10ml	OP9426,SQ2456,10,,,10,10,water	✓
44	Q119475.d	P1-F1	fc24526-13	Perchlorate_5.m	Sample	50ul/10	OP9426,SQ2456,10,,,10,200,water	✓
45	Q119476.d	P1-F2	fc24526-13	Perchlorate_5.m	Sample	20ul/10	OP9426,SQ2456,10,,,10,500,water	✓
46	Q119477.d	P1-F3	fc24526-14	Perchlorate_5.m	Sample	10ul/10	OP9426,SQ2456,10,,,10,1000,water	rr 200x, 500x
47	Q119478.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2456,10,,,10,1,water	ok
48	Q119479.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2456,10,,,10,1,water	ok
49	Q119480.d	Vial 5	cc2456-2	Perchlorate_5.m	QC	50x	OP9158,SQ2456,10,,,10,1,water	pass
50	Q119481.d	Vial 2	cc2456-0.2	Perchlorate_5.m	QC	500x	OP9158,SQ2456,10,,,10,1,water	pass
51	Q119482.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2456,10,,,10,1,water	nd
52	Q119483.d	P1-C5	op9427-bs	Perchlorate_5.m	Sample		OP9427,SQ2456,10,,,10,1,water	✓
53	Q119484.d	P1-C6	op9427-mb	Perchlorate_5.m	Sample		OP9427,SQ2456,10,,,10,1,water	✓
54	Q119485.d	P1-C7	fc24527-1	Perchlorate_5.m	Sample		OP9427,SQ2456,10,,,10,1,water	✓
55	Q119486.d	P1-C8	fc24527-2	Perchlorate_5.m	Sample		OP9427,SQ2456,10,,,10,1,water	✓
56	Q119487.d	P1-C9	op9427-ms	Perchlorate_5.m	Sample		OP9427,SQ2456,10,,,10,1,water	✓
57	Q119488.d	P1-D1	op9427-msd	Perchlorate_5.m	Sample		OP9427,SQ2456,10,,,10,1,water	✓
58	Q119489.d	P1-D2	fc24527-3	Perchlorate_5.m	Sample		OP9427,SQ2456,10,,,10,1,water	✓
59	Q119490.d	P1-D3	fc24527-4	Perchlorate_5.m	Sample		OP9427,SQ2456,10,,,10,1,water	✓
60	Q119491.d	P1-D4	fc24527-5	Perchlorate_5.m	Sample		OP9427,SQ2456,10,,,10,1,water	✓
61	Q119492.d	Vial 5	cc2456-2	Perchlorate_5.m	QC	50x	OP9158,SQ2456,10,,,10,1,water	pass
62	Q119493.d	Vial 2	cc2456-0.2	Perchlorate_5.m	QC	500x	OP9158,SQ2456,10,,,10,1,water	pass
63	Q119494.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2456,10,,,10,1,water	nd
64	Q119495.d	P1-D5	fc24527-6	Perchlorate_5.m	Sample		OP9427,SQ2456,10,,,10,1,water	✓
65	Q119496.d	P1-D6	fc24527-7	Perchlorate_5.m	Sample		OP9427,SQ2456,10,,,10,1,water	✓
66	Q119497.d	P1-D7	fc24527-8	Perchlorate_5.m	Sample		OP9427,SQ2456,10,,,10,1,water	✓
67	Q119498.d	Vial 5	cc2456-2	Perchlorate_5.m	QC	50x	OP9158,SQ2456,10,,,10,1,water	pass
68	Q119499.d	Vial 2	ecc2456-0.2	Perchlorate_5.m	QC	500x	OP9158,SQ2456,10,,,10,1,water	pass
69	Q119500.d	Vial 1	iblk	Perchlorate_5.m	Sample		OP9158,SQ2456,10,,,10,1,water	nd

SGS ORLANDO

LCMS1-Q ANALYSIS LOG

DATE:	05/28/25
COLUMN TYPE:	K-Prime
AMOUNT INJ:	5 ul
INSTRUMENT:	LCMS1-Q

METHODS:	6850
PROC. METH:	6850_052725_SQ2456
CAL DATE:	05/27/25
ANALYST:	AS
RUN BATCH:	SQ2457

ELUENT A LOT #:	244388 W/0.1% AA 224297
ELUENT B LOT #:	245419 W/0.1% AA 224297
IC/CC STD LOT #:	LCMS 2496
ICV STD LOT #:	LCMS 2438
ISTD/ID STD LOT #:	LCMS 2509

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
8	Q119517.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2457,10,,,10,1,water	ok
9	Q119518.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2457,10,,,10,1,water	ok
10	Q119519.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2457,10,,,10,1,water	ok
11	Q119520.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2457,10,,,10,1,water	ok
12	Q119521.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2457,10,,,10,1,water	ok
13	Q119522.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2457,10,,,10,1,water	ok
14	Q119523.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2457,10,,,10,1,water	ok
15	Q119524.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2457,10,,,10,1,water	ok
16	Q119525.d	Vial 7	conditioning std	Perchlorate_5.m	Sample		OP9158,SQ2457,10,,,10,1,water	ok
17	Q119526.d	Vial 7	conditioning std	Perchlorate_5.m	Sample		OP9158,SQ2457,10,,,10,1,water	ok
18	Q119527.d	Vial 7	conditioning std	Perchlorate_5.m	Sample		OP9158,SQ2457,10,,,10,1,water	ok
19	Q119528.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2457,10,,,10,1,water	ok
20	Q119529.d	P1-A1	ics	Perchlorate_5.m	Sample		OP9158,SQ2457,10,,,10,1,water	pass
21	Q119530.d	Vial 5	cc2456-2	Perchlorate_5.m	QC	50x	OP9158,SQ2457,10,,,10,1,water	pass +/-30% (2.31-4.29)
22	Q119531.d	Vial 2	cc2456-0.2	Perchlorate_5.m	QC	500x	OP9158,SQ2457,10,,,10,1,water	pass
23	Q119532.d	P2-B8	fc24526-14	Perchlorate_5.m	Sample	50ul/10	OP9426,SQ2457,10,,,10,200,water	✓
24	Q119533.d	P2-B9	fc24526-14	Perchlorate_5.m	Sample	20ul/10	OP9426,SQ2457,10,,,10,500,water	✓
25	Q119534.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2457,10,,,10,1,water	✓
26	Q119535.d	Vial 5	cc2456-2	Perchlorate_5.m	QC	50x	OP9158,SQ2457,10,,,10,1,water	pass
27	Q119536.d	Vial 2	cc2456-0.2	Perchlorate_5.m	QC	500x	OP9158,SQ2457,10,,,10,1,water	pass
28	Q119537.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2457,10,,,10,1,water	nd
29	Q119538.d	P1-A2	op9581-bs	Perchlorate_5.m	Sample		OP9581,SQ2457,10,,,10,1,water	✓
30	Q119539.d	P1-A3	op9581-mb	Perchlorate_5.m	Sample		OP9581,SQ2457,10,,,10,1,water	✓
31	Q119540.d	P1-A4	fc24805-1	Perchlorate_5.m	Sample		OP9581,SQ2457,10,,,10,1,water	rr 5x
32	Q119541.d	P1-A5	fc24805-2	Perchlorate_5.m	Sample		OP9581,SQ2457,10,,,10,1,water	✓
33	Q119542.d	P1-A6	fc24805-3	Perchlorate_5.m	Sample		OP9581,SQ2457,10,,,10,1,water	✓
34	Q119543.d	P1-A7	fc24805-4	Perchlorate_5.m	Sample		OP9581,SQ2457,10,,,10,1,water	✓
35	Q119544.d	P1-A8	fc24805-5	Perchlorate_5.m	Sample		OP9581,SQ2457,10,,,10,1,water	✓
36	Q119545.d	P1-A9	fc24805-6	Perchlorate_5.m	Sample		OP9581,SQ2457,10,,,10,1,water	rr 2x, 10x
37	Q119546.d	P1-B1	fc24799-1	Perchlorate_5.m	Sample		OP9581,SQ2457,10,,,10,1,water	✓
38	Q119547.d	P1-B2	fc24799-2	Perchlorate_5.m	Sample		OP9581,SQ2457,10,,,10,1,water	✓
39	Q119548.d	Vial 5	cc2456-2	Perchlorate_5.m	QC	50x	OP9158,SQ2457,10,,,10,1,water	pass
40	Q119549.d	Vial 2	cc2456-0.2	Perchlorate_5.m	QC	500x	OP9158,SQ2457,10,,,10,1,water	pass
41	Q119550.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2457,10,,,10,1,water	nd
42	Q119551.d	P1-B3	fc24799-3	Perchlorate_5.m	Sample		OP9581,SQ2457,10,,,10,1,water	✓

SGS ORLANDO LCMS1-Q ANALYSIS LOG

43	Q119552.d	P1-B4	fc24782-1	Perchlorate_5.m	Sample		OP9581,SQ2457,10,,,10,1,water	✓
44	Q119553.d	P1-B5	fc24782-3	Perchlorate_5.m	Sample		OP9581,SQ2457,10,,,10,1,water	✓
45	Q119554.d	P1-B6	op9581-ms	Perchlorate_5.m	Sample		OP9581,SQ2457,10,,,10,1,water	✓
46	Q119555.d	P1-B7	op9581-msd	Perchlorate_5.m	Sample		OP9581,SQ2457,10,,,10,1,water	✓
47	Q119556.d	P1-B8	fc24782-4	Perchlorate_5.m	Sample		OP9581,SQ2457,10,,,10,1,water	✓
48	Q119557.d	P1-B9	fc24782-5	Perchlorate_5.m	Sample		OP9581,SQ2457,10,,,10,1,water	✓
49	Q119558.d	P1-C1	fc24782-6	Perchlorate_5.m	Sample		OP9581,SQ2457,10,,,10,1,water	✓
50	Q119559.d	P1-C2	fc24825-1	Perchlorate_5.m	Sample		OP9581,SQ2457,10,,,10,1,water	✓
51	Q119560.d	P1-C3	fc24711-15	Perchlorate_5.m	Sample		OP9581,SQ2457,10,,,10,1,water	✓
52	Q119561.d	Vial 5	cc2456-2	Perchlorate_5.m	QC	50x	OP9158,SQ2457,10,,,10,1,water	pass
53	Q119562.d	Vial 2	cc2456-0.2	Perchlorate_5.m	QC	500x	OP9158,SQ2457,10,,,10,1,water	pass
54	Q119563.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2457,10,,,10,1,water	nd
55	Q119564.d	P1-C4	fc24671-1	Perchlorate_5.m	Sample		OP9581,SQ2457,10,,,10,1,water	✓
56	Q119565.d	P1-C5	op9582-bs	Perchlorate_5.m	Sample		OP9582,SQ2457,1.00,,,10,1,soil	✓
57	Q119566.d	P1-C6	op9582-mb	Perchlorate_5.m	Sample		OP9582,SQ2457,1.00,,,10,1,soil	✓
58	Q119567.d	P1-C7	fc24803-1	Perchlorate_5.m	Sample		OP9582,SQ2457,1.00,,,10,1,soil	✓
59	Q119568.d	P1-C8	fc24803-2	Perchlorate_5.m	Sample		OP9582,SQ2457,0.99,,,10,1,soil	✓
60	Q119569.d	P1-C9	op9582-ms	Perchlorate_5.m	Sample		OP9582,SQ2457,0.99,,,10,1,soil	✓
61	Q119570.d	P1-D1	op9582-msd	Perchlorate_5.m	Sample		OP9582,SQ2457,1.01,,,10,1,soil	✓
62	Q119571.d	P1-D2	fc24803-3	Perchlorate_5.m	Sample		OP9582,SQ2457,1.01,,,10,1,soil	✓
63	Q119572.d	P1-D3	fc24803-4	Perchlorate_5.m	Sample		OP9582,SQ2457,0.99,,,10,1,soil	✓
64	Q119573.d	P1-D4	fc24803-5	Perchlorate_5.m	Sample		OP9582,SQ2457,1.00,,,10,1,soil	✓
65	Q119574.d	Vial 5	cc2456-2	Perchlorate_5.m	QC	50x	OP9158,SQ2457,10,,,10,1,water	pass
66	Q119575.d	Vial 2	cc2456-0.2	Perchlorate_5.m	QC	500x	OP9158,SQ2457,10,,,10,1,water	pass
67	Q119576.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2457,10,,,10,1,water	nd
68	Q119577.d	P1-D5	fc24803-6	Perchlorate_5.m	Sample		OP9582,SQ2457,1.00,,,10,1,soil	✓
69	Q119578.d	P1-D6	fc24803-7	Perchlorate_5.m	Sample		OP9582,SQ2457,0.99,,,10,1,soil	✓
70	Q119579.d	P1-D7	fc24803-8	Perchlorate_5.m	Sample		OP9582,SQ2457,1.04,,,10,1,soil	✓
71	Q119580.d	P1-D8	fc24803-9	Perchlorate_5.m	Sample		OP9582,SQ2457,1.01,,,10,1,soil	✓
72	Q119581.d	P1-D9	fc24803-10	Perchlorate_5.m	Sample		OP9582,SQ2457,1.00,,,10,1,soil	✓
73	Q119582.d	P1-E1	fc24803-11	Perchlorate_5.m	Sample		OP9582,SQ2457,1.00,,,10,1,soil	✓
74	Q119583.d	P1-E2	fc24803-12	Perchlorate_5.m	Sample		OP9582,SQ2457,0.99,,,10,1,soil	✓
75	Q119584.d	P1-E3	fc24803-13	Perchlorate_5.m	Sample		OP9582,SQ2457,1.00,,,10,1,soil	✓
76	Q119585.d	P1-E4	fc24803-14	Perchlorate_5.m	Sample		OP9582,SQ2457,0.99,,,10,1,soil	✓
77	Q119586.d	P1-E5	fc24803-15	Perchlorate_5.m	Sample		OP9582,SQ2457,1.00,,,10,1,soil	✓
78	Q119587.d	Vial 5	cc2456-2	Perchlorate_5.m	QC	50x	OP9158,SQ2457,10,,,10,1,water	pass
79	Q119588.d	Vial 2	cc2456-0.2	Perchlorate_5.m	QC	500x	OP9158,SQ2457,10,,,10,1,water	pass
80	Q119589.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2457,10,,,10,1,water	nd
81	Q119590.d	P1-E6	fc24803-16	Perchlorate_5.m	Sample		OP9582,SQ2457,1.04,,,10,1,soil	rr 1x, 5x
82	Q119591.d	P1-E7	op9583-bs	Perchlorate_5.m	Sample		OP9583,SQ2457,10,,,10,1,water	✓
83	Q119592.d	P1-E8	op9583-mb	Perchlorate_5.m	Sample		OP9583,SQ2457,10,,,10,1,water	✓
84	Q119593.d	P1-E9	fc24824-5	Perchlorate_5.m	Sample		OP9583,SQ2457,10,,,10,5,water	rr 1x
85	Q119594.d	P1-F1	fc24824-1f	Perchlorate_5.m	Sample		OP9583,SQ2457,10,,,10,5,water	✓

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86	Q119595.d	P1-F2	fc24824-2f	Perchlorate_5.m	Sample		OP9583,SQ2457,10,,,10,5,water	✓
87	Q119596.d	P1-F3	fc24824-3f	Perchlorate_5.m	Sample		OP9583,SQ2457,10,,,10,5,water	✓
88	Q119597.d	P1-F4	fc24824-4f	Perchlorate_5.m	Sample		OP9583,SQ2457,10,,,10,5,water	✓
89	Q119598.d	P1-F5	op9583-ms	Perchlorate_5.m	Sample		OP9583,SQ2457,10,,,10,5,water	✓
90	Q119599.d	P1-F6	op9583-msd	Perchlorate_5.m	Sample		OP9583,SQ2457,10,,,10,5,water	✓
91	Q119600.d	Vial 5	cc2456-2	Perchlorate_5.m	QC	50x	OP9158,SQ2457,10,,,10,1,water	pass
92	Q119601.d	Vial 2	cc2456-0.2	Perchlorate_5.m	QC	500x	OP9158,SQ2457,10,,,10,1,water	pass
93	Q119602.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2457,10,,,10,1,water	nd
94	Q119603.d	P1-F7	fc24824-6f	Perchlorate_5.m	Sample		OP9583,SQ2457,10,,,10,5,water	✓
95	Q119604.d	P1-F8	fc24829-1f	Perchlorate_5.m	Sample		OP9583,SQ2457,10,,,10,1,water	✓
96	Q119605.d	P1-F9	fc24829-2f	Perchlorate_5.m	Sample		OP9583,SQ2457,10,,,10,1,water	✓
97	Q119606.d	P2-A1	fc24829-3f	Perchlorate_5.m	Sample		OP9583,SQ2457,10,,,10,1,water	✓
98	Q119607.d	P2-C1	op9583-ms2	Perchlorate_5.m	Sample		OP9583,SQ2457,10,,,10,1,water	✓
99	Q119608.d	P2-C2	op9583-msd2	Perchlorate_5.m	Sample		OP9583,SQ2457,10,,,10,1,water	✓
100	Q119609.d	Vial 5	cc2456-2	Perchlorate_5.m	QC	50x	OP9158,SQ2457,10,,,10,1,water	pass
101	Q119610.d	Vial 2	cc2456-0.2	Perchlorate_5.m	QC	500x	OP9158,SQ2457,10,,,10,1,water	pass
102	Q119611.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2457,10,,,10,1,water	nd
103	Q119612.d	P2-C3	fc24526-14	Perchlorate_5.m	Sample	50/500	OP9426,SQ2457,10,,,10,10,water	✓
104	Q119613.d	P2-A2	fc24829-4f	Perchlorate_5.m	Sample		OP9583,SQ2457,10,,,10,1,water	✓
105	Q119614.d	P2-A3	fc24829-5f	Perchlorate_5.m	Sample		OP9583,SQ2457,10,,,10,1,water	✓
106	Q119615.d	P2-A4	fc24829-6f	Perchlorate_5.m	Sample		OP9583,SQ2457,10,,,10,1,water	✓
107	Q119616.d	P2-A5	fc24829-7f	Perchlorate_5.m	Sample		OP9583,SQ2457,10,,,10,1,water	✓
108	Q119617.d	Vial 5	cc2456-2	Perchlorate_5.m	QC	50x	OP9158,SQ2457,10,,,10,1,water	pass
109	Q119618.d	Vial 2	cc2456-0.2	Perchlorate_5.m	QC	500x	OP9158,SQ2457,10,,,10,1,water	pass
110	Q119619.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2457,10,,,10,1,water	nd
111	Q119620.d	P2-A6	op9584-bs	Perchlorate_5.m	Sample		OP9584,SQ2457,10,,,10,1,water	✓
112	Q119621.d	P2-A7	op9584-mb	Perchlorate_5.m	Sample		OP9584,SQ2457,10,,,10,1,water	✓
113	Q119622.d	P2-A8	fc24799-4	Perchlorate_5.m	Sample		OP9584,SQ2457,10,,,10,1,water	✓
114	Q119623.d	P2-A9	fc24799-5	Perchlorate_5.m	Sample		OP9584,SQ2457,10,,,10,1,water	✓
115	Q119624.d	P2-B1	fc24818-1	Perchlorate_5.m	Sample		OP9584,SQ2457,10,,,10,1,water	✓
116	Q119625.d	P2-B2	fc24818-2	Perchlorate_5.m	Sample		OP9584,SQ2457,10,,,10,1,water	✓
117	Q119626.d	P2-B3	fc24818-3	Perchlorate_5.m	Sample		OP9584,SQ2457,10,,,10,1,water	✓
118	Q119627.d	P2-B4	fc24818-4	Perchlorate_5.m	Sample		OP9584,SQ2457,10,,,10,1,water	✓
119	Q119628.d	P2-B5	op9584-ms	Perchlorate_5.m	Sample		OP9584,SQ2457,10,,,10,1,water	✓
120	Q119629.d	P2-B6	op9584-msd	Perchlorate_5.m	Sample		OP9584,SQ2457,10,,,10,1,water	✓
121	Q119630.d	Vial 5	cc2456-2	Perchlorate_5.m	QC	50x	OP9158,SQ2457,10,,,10,1,water	pass
122	Q119631.d	Vial 2	cc2456-0.2	Perchlorate_5.m	QC	500x	OP9158,SQ2457,10,,,10,1,water	pass
123	Q119632.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP9158,SQ2457,10,,,10,1,water	nd
124	Q119633.d	P2-B7	fc24818-5	Perchlorate_5.m	Sample		OP9584,SQ2457,10,,,10,1,water	✓
125	Q119634.d	Vial 5	cc2456-2	Perchlorate_5.m	QC	50x	OP9158,SQ2457,10,,,10,1,water	pass
126	Q119635.d	Vial 2	ecc2456-0.2	Perchlorate_5.m	QC	500x	OP9158,SQ2457,10,,,10,1,water	pass
127	Q119636.d	Vial 1	iblk	Perchlorate_5.m	Sample		OP9158,SQ2457,10,,,10,1,water	nd

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PERCHLORATE PREP REPORT

Date/Time: 5/22/25 19:00 Started {mm/dd/yy 24:00}

Prep Method: **6850**

Date/Time: 05/24/25 1100 Finished {mm/dd/yy 24:00}

Analytical Method: **6850**

Batch#: OP9584 Ext. By: — Conc. By: — Vialed By: AS

Sample ID	Bottle Number	Amount extracted ml / g (circle one)	Initial pH	Adjusted pH	~~Surrogate~~ ISTD Amount	Spike Amount	Final Volume (ml)	Comments
OP 9584 MB		10.0			50µl		10.0	
OP 9584 BS		↓			↓	20µl	↓	
FC24799-4	1							
↓ -5	1							
FC24818-1	3							
-2	2							
-3	3							
-4	7							
↓ -5	3	✓			↓		↓	
FC24781B-4 MS	7	10.0			50µl	20µl		
FC24781B-4 MSD	7	↓			↓	↓		
DUP								

Comments:

~~Surr~~. ISTD ID: LCMS2509 Conc: 1 ppm Exp. Date: 10/15/25 Inj. By: AS Ver. By MB

Spk. ID: LCMS 2438 Conc: 100 ppb Exp. Date: 06/03/25 Inj. By: AS Ver. By MB

Pipette ID LC30 Pipette ID LC32 Pipette ID —

Acetonitrile Lot # — Sonicator ID — Time In: — Time Out: —
{mm/dd/yy 24:00} {mm/dd/yy 24:00}

Syringe Filter Lot# 2413929 pH Paper # — HPLC Water # 250132

Relinquished By: Ann Sullo Date: 05/24/25

Accepted By: Ann Sullo Date: 05/24/25

Perchlorate Prep Report 091823 SI.xls

GC/LC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- GC Identification Summaries (Explosives)
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9525-MB	BB088324.D	1	05/27/25	FS	05/21/25	OP9525	GBB2710

The QC reported here applies to the following samples: **Method:** SW846 8330B

FC24818-1, FC24818-2, FC24818-3, FC24818-4, FC24818-5

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	0.20	0.080	ug/l	
121-82-4	RDX	ND	0.20	0.080	ug/l	
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	ND	0.20	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	0.20	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.20	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
98-95-3	Nitrobenzene	ND	0.20	0.097	ug/l	
88-72-2	o-Nitrotoluene	ND	0.20	0.080	ug/l	
99-08-1	m-Nitrotoluene	ND	0.20	0.080	ug/l	
99-99-0	p-Nitrotoluene	ND	0.20	0.080	ug/l	
479-45-8	Tetryl	ND	0.20	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	ND	0.20	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	ND	0.20	0.080	ug/l	
55-63-0	Nitroglycerine	ND	2.0	0.50	ug/l	
78-11-5	PETN	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	74%	70-136%

Method Blank Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9525-MB	GG632198.D	1	05/29/25	FS	05/21/25	OP9525	GGG3585

The QC reported here applies to the following samples: **Method:** SW846 8330B

FC24818-1, FC24818-2, FC24818-3, FC24818-4, FC24818-5

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	0.20	0.080	ug/l	
121-82-4	RDX	ND	0.20	0.080	ug/l	
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	ND	0.20	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	0.20	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.20	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
98-95-3	Nitrobenzene	ND	0.20	0.097	ug/l	
88-72-2	o-Nitrotoluene	ND	0.20	0.080	ug/l	
99-08-1	m-Nitrotoluene	ND	0.20	0.080	ug/l	
99-99-0	p-Nitrotoluene	ND	0.20	0.080	ug/l	
479-45-8	Tetryl	ND	0.20	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	ND	0.20	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	ND	0.20	0.080	ug/l	
55-63-0	Nitroglycerine	ND	2.0	0.50	ug/l	
78-11-5	PETN	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	89%	70-136%

Blank Spike Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9525-BS	BB088325.D	1	05/27/25	FS	05/21/25	OP9525	GBB2710

The QC reported here applies to the following samples: **Method:** SW846 8330B

FC24818-1, FC24818-2, FC24818-3, FC24818-4, FC24818-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
2691-41-0	HMX	5	4.8	96	77-144
121-82-4	RDX	5	4.6	92	77-125
	DNX	5	4.4	88	66-127
	MNX	5.8	4.7	81	71-137
	TNX	2.35	1.8	77	60-126
618-87-1	3,5-Dinitroaniline	5	4.2	84	77-115
99-65-0	1,3-Dinitrobenzene	5	4.7	94	79-122
606-20-2	2,6-Dinitrotoluene	5	5.0	100	81-131
121-14-2	2,4-Dinitrotoluene	5	4.6	92	80-123
35572-78-2	2-amino-4,6-Dinitrotoluene	5	4.3	86	81-120
19406-51-0	4-amino-2,6-Dinitrotoluene	5	4.6	92	79-119
98-95-3	Nitrobenzene	5	4.6	92	78-130
88-72-2	o-Nitrotoluene	5	4.5	90	76-131
99-08-1	m-Nitrotoluene	5	4.6	92	78-122
99-99-0	p-Nitrotoluene	5	4.4	88	79-124
479-45-8	Tetryl	5	4.3	86	65-124
99-35-4	1,3,5-Trinitrobenzene	5	4.6	92	79-128
118-96-7	2,4,6-Trinitrotoluene	5	4.8	96	72-112
55-63-0	Nitroglycerine	5	4.1	82	69-123
78-11-5	PETN	5	5.7	114	73-145

CAS No.	Surrogate Recoveries	BSP	Limits
610-39-9	3,4-Dinitrotoluene	84%	70-136%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9525-MS	BB088330.D	1	05/27/25	FS	05/21/25	OP9525	GBB2710
OP9525-MSD	BB088331.D	1	05/27/25	FS	05/21/25	OP9525	GBB2710
FC24818-4 [a]	BB088329.D	1	05/27/25	FS	05/21/25	OP9525	GBB2710
FC24818-4 [b]	GG632202.D	1	05/29/25	FS	05/21/25	OP9525	GGG3585

The QC reported here applies to the following samples: **Method:** SW846 8330B

FC24818-1, FC24818-2, FC24818-3, FC24818-4, FC24818-5

CAS No.	Compound	FC24818-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
2691-41-0	HMX	19.3		10.4	38.5	184*	10.4	29.0	93	28*	77-144/21
121-82-4	RDX	13.7		10.4	30.7	163*	10.4	28.1	138*	9	77-125/19
	DNX	0.20	U	10.4	11.5	110	10.4	8.7	84	28*	66-127/25
	MNX	0.20	U	12.1	12.4	103	12.1	11.0	91	12	71-137/20
	TNX	0.20	U	4.9	4.8	98	4.9	3.8	78	23*	60-126/18
618-87-1	3,5-Dinitroaniline	0.20		10.4	8.4	79	10.4	8.3	78	1	77-115/19
99-65-0	1,3-Dinitrobenzene	0.24		10.4	9.7	91	10.4	9.6	90	1	79-122/17
606-20-2	2,6-Dinitrotoluene	0.20	U	10.4	12.4	119	10.4	12.2	117	2	81-131/17
121-14-2	2,4-Dinitrotoluene	0.20	U	10.4	9.1	87	10.4	9.1	87	0	80-123/19
35572-78-2	2-amino-4,6-Dinitrotoluene	4.4		10.4	13.2	84	10.4	12.7	80*	4	81-120/19
19406-51-0	4-amino-2,6-Dinitrotoluene	3.5		10.4	13.1	92	10.4	12.8	89	2	79-119/20
98-95-3	Nitrobenzene	0.20	U	10.4	9.2	88	10.4	9.0	86	2	78-130/19
88-72-2	o-Nitrotoluene	0.20	U	10.4	9.2	88	10.4	8.7	84	6	76-131/20
99-08-1	m-Nitrotoluene	0.20	U	10.4	9.4	90	10.4	9.1	87	3	78-122/18
99-99-0	p-Nitrotoluene	0.20	U	10.4	8.8	84	10.4	8.6	83	2	79-124/18
479-45-8	Tetryl	0.20	U	10.4	8.1	78	10.4	7.9	76	2	65-124/20
99-35-4	1,3,5-Trinitrobenzene	6.4		10.4	16.3	95	10.4	15.2	84	7	79-128/16
118-96-7	2,4,6-Trinitrotoluene	9.2		10.4	19.5	99	10.4	18.2	86	7	72-112/16
55-63-0	Nitroglycerine	2.0	U	10.4	6.9	66*	10.4	8.2	79	17	69-123/18
78-11-5	PETN	2.0	U	10.4	11.5	110	10.4	13.0	125	12	73-145/18

CAS No.	Surrogate Recoveries	MS	MSD	FC24818-4	FC24818-4	Limits
610-39-9	3,4-Dinitrotoluene	87%	86%	89%	91%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.

* = Outside of Control Limits.

GC Identification Summary (Explosives)

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample ID:	FC24818-1	**Method:**	SW846 8330B
Client ID:	54MW13		

Injection Type	Lab File ID	Dilution	Prep Batch	Inst Batch	Injection Time	Inst ID
Reportable	BB088326.D	1	OP9525	GBB2710	05/27/25 11:26	GCBB
Confirmation	GG632199.D	1	OP9525	GGG3585	05/29/25 13:26	GCGG

Compound	Lab File ID	Dilution	Sig#	Conc	Q	Units	RPD Conc
HMX	BB088326.D	1	1	5.4		ug/l	20.4
HMX	GG632199.D	1	1	4.4		ug/l	
RDX [a]	BB088326.D	1	1	43.8		ug/l	65.9
RDX	GG632199.D	1	1	22.1		ug/l	
MNX [a]	BB088326.D	1	1	.85		ug/l	41.9
MNX	GG632199.D	1	1	1.3		ug/l	
3,5-Dinitroaniline [a]	BB088326.D	1	1	.48		ug/l	111.9
3,5-Dinitroaniline	GG632199.D	1	1	1.7		ug/l	
1,3-Dinitrobenzene	BB088326.D	1	1	.23		ug/l	29.6
1,3-Dinitrobenzene	GG632199.D	1	1	.31		ug/l	
2-amino-4,6-Dinitrotoluene	BB088326.D	1	1	1.4		ug/l	13.3
2-amino-4,6-Dinitrotoluene	GG632199.D	1	1	1.6		ug/l	
4-amino-2,6-Dinitrotoluene	BB088326.D	1	1	1.2		ug/l	22.2
4-amino-2,6-Dinitrotoluene	GG632199.D	1	1	1.5		ug/l	
1,3,5-Trinitrobenzene	BB088326.D	1	1	9.7		ug/l	7.9
1,3,5-Trinitrobenzene	GG632199.D	1	1	10.5		ug/l	
2,4,6-Trinitrotoluene	BB088326.D	1	1	7.9		ug/l	3.7
2,4,6-Trinitrotoluene	GG632199.D	1	1	8.2		ug/l	

(a) Primary and confirmation results differ by more than 40%.

GC Identification Summary (Explosives)

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample ID:	FC24818-2	**Method:**	SW846 8330B
Client ID:	54TW13		

Injection Type	Lab File ID	Dilution	Prep Batch	Inst Batch	Injection Time	Inst ID
Reportable	BB088327.D	1	OP9525	GBB2710	05/27/25 11:53	GCBB
Confirmation	GG632200.D	1	OP9525	GGG3585	05/29/25 13:53	GCGG

Compound	Lab File ID	Dilution	Sig#	Conc	Q	Units	RPD Conc
HMX [a]	BB088327.D	1	1	6.4		ug/l	87.6
HMX	GG632200.D	1	1	2.5		ug/l	
RDX	BB088327.D	1	1	28.8		ug/l	37.0
RDX	GG632200.D	1	1	19.8		ug/l	
3,5-Dinitroaniline [a]	BB088327.D	1	1	.45		ug/l	102.7
3,5-Dinitroaniline	GG632200.D	1	1	1.4		ug/l	
2-amino-4,6-Dinitrotoluene [a]	BB088327.D	1	1	1.2		ug/l	50.0
2-amino-4,6-Dinitrotoluene	GG632200.D	1	1	2		ug/l	
4-amino-2,6-Dinitrotoluene [a]	BB088327.D	1	1	1		ug/l	123.1
4-amino-2,6-Dinitrotoluene	GG632200.D	1	1	4.2		ug/l	
1,3,5-Trinitrobenzene [a]	BB088327.D	1	1	8.8		ug/l	148.5
1,3,5-Trinitrobenzene	GG632200.D	1	1	1.3		ug/l	
2,4,6-Trinitrotoluene	BB088327.D	1	1	8.7		ug/l	11.9
2,4,6-Trinitrotoluene	GG632200.D	1	1	9.8		ug/l	

(a) Primary and confirmation results differ by more than 40%.

GC Identification Summary (Explosives)

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample ID:	FC24818-3	**Method:**	SW846 8330B
Client ID:	54MW10		

Injection Type	Lab File ID	Dilution	Prep Batch	Inst Batch	Injection Time	Inst ID
Reportable	BB088328.D	1	OP9525	GBB2710	05/27/25 12:21	GCBB
Confirmation	GG632201.D	1	OP9525	GGG3585	05/29/25 14:23	GCGG

Compound	Lab File ID	Dilution	Sig#	Conc	Q	Units	RPD Conc
HMX [a]	BB088328.D	1	1	11.6		ug/l	76.2
HMX	GG632201.D	1	1	5.2		ug/l	
RDX [a]	BB088328.D	1	1	11.2		ug/l	59.0
RDX	GG632201.D	1	1	6.1		ug/l	
3,5-Dinitroaniline [a]	BB088328.D	1	1	.59		ug/l	81.4
3,5-Dinitroaniline	GG632201.D	1	1	1.4		ug/l	
2-amino-4,6-Dinitrotoluene	BB088328.D	1	1	2.7		ug/l	7.1
2-amino-4,6-Dinitrotoluene	GG632201.D	1	1	2.9		ug/l	
4-amino-2,6-Dinitrotoluene	BB088328.D	1	1	2.7		ug/l	23.0
4-amino-2,6-Dinitrotoluene	GG632201.D	1	1	3.4		ug/l	
1,3,5-Trinitrobenzene [a]	BB088328.D	1	1	2.7		ug/l	148.4
1,3,5-Trinitrobenzene	GG632201.D	1	1	.4		ug/l	
2,4,6-Trinitrotoluene	BB088328.D	1	1	15.8		ug/l	7.3
2,4,6-Trinitrotoluene	GG632201.D	1	1	17		ug/l	

(a) Primary and confirmation results differ by more than 40%.

GC Identification Summary (Explosives)

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample ID:	FC24818-4	**Method:**	SW846 8330B
Client ID:	54MW12		

Injection Type	Lab File ID	Dilution	Prep Batch	Inst Batch	Injection Time	Inst ID
Reportable	BB088329.D	1	OP9525	GBB2710	05/27/25 12:48	GCBB
Confirmation	GG632202.D	1	OP9525	GGG3585	05/29/25 14:50	GCGG

Compound	Lab File ID	Dilution	Sig#	Conc	Q	Units	RPD Conc
HMX	BB088329.D	1	1	19.3		ug/l	16.2
HMX	GG632202.D	1	1	16.4		ug/l	
RDX	BB088329.D	1	1	13.7		ug/l	0.7
RDX	GG632202.D	1	1	13.8		ug/l	
3,5-Dinitroaniline [a]	BB088329.D	1	1	.2		ug/l	155.6
3,5-Dinitroaniline	GG632202.D	1	1	1.6		ug/l	
1,3-Dinitrobenzene	BB088329.D	1	1	.24		ug/l	40.0
1,3-Dinitrobenzene	GG632202.D	1	1	.16	J	ug/l	
2-amino-4,6-Dinitrotoluene	BB088329.D	1	1	4.4		ug/l	2.2
2-amino-4,6-Dinitrotoluene	GG632202.D	1	1	4.5		ug/l	
4-amino-2,6-Dinitrotoluene	BB088329.D	1	1	3.5		ug/l	8.2
4-amino-2,6-Dinitrotoluene	GG632202.D	1	1	3.8		ug/l	
1,3,5-Trinitrobenzene [a]	BB088329.D	1	1	6.4		ug/l	160.6
1,3,5-Trinitrobenzene	GG632202.D	1	1	.7		ug/l	
2,4,6-Trinitrotoluene	BB088329.D	1	1	9.2		ug/l	1.1
2,4,6-Trinitrotoluene	GG632202.D	1	1	9.3		ug/l	

(a) Primary and confirmation results differ by more than 40%.

Surrogate Recovery Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Method: SW846 8330B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
FC24818-1	GG632199.D	102
FC24818-1	BB088326.D	86
FC24818-2	GG632200.D	103
FC24818-2	BB088327.D	81
FC24818-3	GG632201.D	99
FC24818-3	BB088328.D	83
FC24818-4	GG632202.D	91
FC24818-4	BB088329.D	89
FC24818-5	GG632203.D	92
FC24818-5	BB088332.D	79
OP9525-BS	BB088325.D	84
OP9525-MB	BB088324.D	74
OP9525-MB	GG632198.D	89
OP9525-MS	BB088330.D	87
OP9525-MSD	BB088331.D	86

Surrogate Compounds	Recovery Limits
S1 = 3,4-Dinitrotoluene	70-136%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Check Std:	GGG3585-CC3527	**Injection Date:**	05/29/25
Lab File ID:	GG632197.D	**Injection Time:**	12:16
Instrument ID:	GCGG	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	12.54

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
OP9525-MB	GG632198.D	05/29/25	13:00	13.61
FC24818-1	GG632199.D	05/29/25	13:26	13.64
FC24818-2	GG632200.D	05/29/25	13:53	13.02
FC24818-3	GG632201.D	05/29/25	14:23	13.68
FC24818-4	GG632202.D	05/29/25	14:50	13.38
FC24818-5	GG632203.D	05/29/25	15:16	13.76
OP9596-MB	GG632204.D	05/29/25	15:43	13.65
ZZZZZZ	GG632205.D	05/29/25	16:09	13.70
FC24938-1	GG632206.D	05/29/25	16:36	13.80
FC24938-1	GG632207.D	05/29/25	17:02	13.82

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Check Std:	GBB2710-CC2700	**Injection Date:**	05/27/25
Lab File ID:	BB088323.D	**Injection Time:**	09:04
Instrument ID:	GCBB	**Method:**	SW846 8330B

	S1 [a] RT	S1 [b] RT
Check Std	11.29	11.29

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
OP9525-MB	BB088324.D	05/27/25	09:51		11.28
OP9525-BS	BB088325.D	05/27/25	10:57		11.33
FC24818-1	BB088326.D	05/27/25	11:26		11.35
FC24818-2	BB088327.D	05/27/25	11:53		11.33
FC24818-3	BB088328.D	05/27/25	12:21		11.32
FC24818-4	BB088329.D	05/27/25	12:48		11.34
OP9525-MS	BB088330.D	05/27/25	13:16		11.34
OP9525-MSD	BB088331.D	05/27/25	13:43		11.33
FC24818-5	BB088332.D	05/27/25	14:11		11.34
GBB2710-ECC2700	BB088333.D	05/27/25	14:38	11.35	11.35

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

Initial Calibration Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GBB2700-ICC2700
Lab FileID: BB088067.D

Response Factor Report G1315B

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 07 08:35:20 2025
Response via : Initial Calibration

Calibration Files
20 =BB088062.D 50 =BB088063.D 100 =BB088064.D 200 =BB088065.D
500 =BB088066.D 1000=BB088067.D 2500=BB088068.D 5000=BB088069.D

Compound	20	50	100	200	500	1000	2500	5000	Avg	%RSD
1) TNX	1.169	1.020	0.931	0.836	0.818	0.808	0.799	0.801	0.898 E4	14.98
2) HMX	3.615	2.076	1.902	1.515	1.552	1.516	1.493	1.485	1.894 E3	38.52
---- Linear regr., Force(0,0) ---- Coefficient = 1.0000										
Response Ratio = 0.00000 + 1487.94891 *A										
3) DNX	1.068	0.833	0.761	0.664	0.663	0.650	0.643	0.640	0.740 E4	20.14
---- Linear regr., Force(0,0) ---- Coefficient = 1.0000										
Response Ratio = 0.00000 + 6413.24020 *A										
4) MNX	7.150	7.591	7.138	6.162	6.099	6.002	5.940	5.928	6.501 E3	10.37
5) RDX	3.976	3.197	2.538	1.901	1.903	1.824	1.801	1.777	2.364 E3	34.66
---- Linear regr., Force(0,0) ---- Coefficient = 1.0000										
Response Ratio = 0.00000 + 1784.20081 *A										
6) 1,3,5-Trinit	6.900	4.995	5.417	4.425	4.058	4.045	3.999	3.969	4.726 E3	21.72
---- Linear regr., Force(0,0) ---- Coefficient = 1.0000										
Response Ratio = 0.00000 + 3978.51075 *A										
7) 1,3-Dinitrob	8.669	7.136	6.598	5.391	5.136	5.095	5.053	5.045	6.015 E3	22.23
---- Linear regr., Force(0,0) ---- Coefficient = 1.0000										
Response Ratio = 0.00000 + 5050.31191 *A										
8) 3,5-Dinitroa	5.172	4.522	4.680	4.357	3.818	3.893	3.836	3.799	4.259 E3	11.94
9) Nitrobenzene	4.660	4.375	4.468	3.365	3.001	2.949	2.894	2.869	3.573 E3	22.05
---- Linear regr., Force(0,0) ---- Coefficient = 0.9999										
Response Ratio = 0.00000 + 2878.87455 *A										
10) Nitroglyceri									0.000	-1.00
11) Tetryl	3.342	3.632	4.192	3.056	2.927	2.843	2.796	2.795	3.198 E3	15.59
---- Linear regr., Force(0,0) ---- Coefficient = 0.9999										
Response Ratio = 0.00000 + 2798.58329 *A										
12) 2,4,6-Trinit	6.080	5.042	5.063	3.752	3.648	3.581	3.511	3.513	4.274 E3	23.02
---- Linear regr., Force(0,0) ---- Coefficient = 1.0000										
Response Ratio = 0.00000 + 3516.64004 *A										
13) 2-Amino-4,6-	3.430	4.085	2.906	3.675	3.287	3.165	3.140	3.118	3.351 E3	11.19
14) 4-Amino-2,6-	3.285	2.216	2.058	2.293	2.398	2.401	2.323	2.309	2.410 E3	15.35
---- Linear regr., Force(0,0) ---- Coefficient = 0.9999										
Response Ratio = 0.00000 + 2314.99058 *A										
15) 3,4-Dinitrot	2.744	1.953	2.694	2.333	2.371	2.283	2.232	2.204	2.352 E3	11.03
16) 2,4-Dinitrot	9.406	5.784	5.582	4.836	4.590	4.450	4.431	4.425	5.438 E3	31.07
---- Linear regr., Force(0,0) ---- Coefficient = 1.0000										
Response Ratio = 0.00000 + 4429.43815 *A										
17) 2,6-Dinitrot	4.540	3.215	3.822	2.962	2.726	2.694	2.591	2.556	3.138 E3	22.45

Initial Calibration Summary

Job Number: FC24818 **Sample:** GBB2700-ICC2700
Account: CAPEFLJ Cape Environmental **Lab FileID:** BB088067.D
Project: Radford Army Ammunition Plant SMWU 54; VA

```
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 2569.14016 *A

 18) o-Nitrotolue 2.716 3.332 2.589 2.166 2.127 2.055 2.017 2.018 2.377 E3  19.75
             ---- Linear regr., Force(0,0) ----  Coefficient =  1.0000
               Response Ratio = 0.00000 + 2019.92852 *A

 19) p-Nitrotolue 3.202 4.258 3.398 3.224 3.193 3.132 3.079 3.082 3.321 E3  11.80
 20) m-Nitrotolue 4.432 4.530 3.333 2.952 3.169 2.985 2.927 2.958 3.411 E3  19.79
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 2954.92936 *A

 21) PETN                                                        0.000  -1.00

Signal #2

  1) TNX          1.644 1.649 1.455 1.305 1.270 1.238 1.230 1.230 1.378 E4  13.17
  2) HMX          5.803 4.640 5.065 4.653 4.386 4.201 4.157 4.108 4.627 E3  12.40
  3) DNX          1.422 1.285 1.269 1.070 1.050 1.022 1.014 1.005 1.142 E4  13.98
  4) MNX          1.071 1.207 1.097 0.957 0.946 0.923 0.922 0.916 1.005 E4  10.69
  5) RDX          7.057 4.148 4.199 3.186 2.996 2.869 2.904 2.850 3.776 E3  38.09
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 2862.99435 *A

  6) 1,3,5-Trinit 1.130 0.747 0.854 0.716 0.638 0.625 0.620 0.616 0.743 E4  23.80
             ---- Linear regr., Force(0,0) ----  Coefficient =  1.0000
               Response Ratio = 0.00000 + 6171.27768 *A

  7) 1,3-Dinitrob 6.039 5.000 6.032 3.935 4.017 3.651 3.470 3.408 4.444 E3  24.75
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9997
               Response Ratio = 0.00000 + 3434.01901 *A

  8) 3,5-Dinitroa 1.143 0.909 0.888 0.770 0.679 0.641 0.634 0.626 0.786 E4  23.25
             ---- Linear regr., Force(0,0) ----  Coefficient =  1.0000
               Response Ratio = 0.00000 + 6288.06721 *A

  9) Nitrobenzene 4.833 4.408 4.454 3.539 3.174 2.876 2.816 2.783 3.610 E3  23.16
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 2797.17513 *A

 10) Nitroglyceri 1.961 1.204 1.296 1.640 1.309 1.256 1.218 1.217 1.388 E3  19.56
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
               Response Ratio = 0.00000 + 1219.88728 *A

 11) Tetryl       5.201 6.445 4.980 4.624 4.434 4.296 4.315 4.383 4.835 E3  15.07
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 4368.49448 *A

 12) 2,4,6-Trinit 6.806 4.547 4.578 4.708 4.303 4.103 4.192 4.228 4.683 E3  18.86
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 4218.68406 *A

 13) 2-Amino-4,6- 3.979 6.292 3.957 5.070 4.679 4.483 4.629 4.689 4.722 E3  15.59
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 4671.51867 *A

 14) 4-Amino-2,6- 5.156 4.783 4.418 4.402 4.458 4.401 4.571 4.638 4.603 E3   5.67
 15) 3,4-Dinitrot 6.054 4.651 3.729 4.402 3.933 3.697 3.886 3.925 4.285 E3  18.39
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
               Response Ratio = 0.00000 + 3911.44403 *A
```

Initial Calibration Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GBB2700-ICC2700
Lab FileID: BB088067.D

```
16) 2,4-Dinitrot 3.709 5.168 3.701 3.156 2.864 2.747 2.894 2.938 3.397 E3  23.74
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9997
              Response Ratio = 0.00000 + 2923.47400 *A

17) 2,6-Dinitrot 6.300 5.597 4.165 3.440 3.697 3.235 3.354 3.304 4.136 E3  28.32
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
              Response Ratio = 0.00000 + 3315.43926 *A

18) o-Nitrotolue 3.069 4.890 4.167 2.951 2.909 2.764 2.799 2.824 3.297 E3  23.98
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9998
              Response Ratio = 0.00000 + 2818.80199 *A

19) p-Nitrotolue 4.371 3.714 2.281 2.319 2.393 2.386 2.520 2.581 2.821 E3  27.67
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9996
              Response Ratio = 0.00000 + 2561.31108 *A

20) m-Nitrotolue 7.721 6.000 4.122 3.854 3.729 3.532 3.524 3.504 4.498 E3  34.29
            ---- Linear regr., Force(0,0) ----  Coefficient =  1.0000
              Response Ratio = 0.00000 + 3511.54413 *A

21) PETN         1.047 0.968 1.317 1.172 1.141 0.969 0.970 0.966 1.069 E3  12.15
------------------------------------------------------------------------------
(#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          BBB2700_050625.M        Thu May 08 11:33:41 2025
```

8.7.1

8

Initial Calibration Verification

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GBB2700-ICV2700
Lab FileID: BB088070.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088070.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088070.D\dad1A.ch
Acq On : 06-May-2025, 13:49:33 Operator: fouads
Sample : icv2700-1000 Inst : G1315B
Misc : op9214,GBB2700,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 07 08:35:20 2025
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX		----------NA----------				
		Amount	Calc.	%Drift			
2	HMX	1000.000	1052.139	-5.2	103	-0.02	1.19- 1.79
3	DNX		----------NA----------				
		Amount	Calc.	%Drift			
4	MNX		----------NA----------				
		Amount	Calc.	%Drift			
5	RDX	1000.000	1030.960	-3.1	101	-0.04	2.60- 3.40
6	1,3,5-Trinitrobenzene	1000.000	923.644	7.6	91	-0.06	4.37- 5.17
7	1,3-Dinitrobenzene	1000.000	972.849	2.7	96	-0.06	5.61- 6.41
		Amount	Calc.	%Drift			
8	3,5-Dinitroaniline	1000.000	1015.260	-1.5	111	-0.08	6.00- 6.80
		Amount	Calc.	%Drift			
9	Nitrobenzene	1000.000	1018.421	-1.8	99	-0.06	7.21- 8.01
		Amount	Calc.	%Drift			
10	Nitroglycerin		----------NA----------				
		Amount	Calc.	%Drift			
11	Tetryl	1000.000	998.190	0.2	98	-0.15	9.15- 9.95
12	2,4,6-Trinitrotoluene	1000.000	1035.617	-3.6	102	-0.13	9.57-10.37
		Amount	Calc.	%Drift			
13	2-Amino-4,6-Dinitrotol	1000.000	917.523	8.2	97	-0.15	10.07-10.87
		Amount	Calc.	%Drift			
14	4-Amino-2,6-Dinitrotol	1000.000	1044.466	-4.4	101	-0.16	10.54-11.34
		Amount	Calc.	%Drift			
15 S	3,4-Dinitrotoluene		----------NA----------				
		Amount	Calc.	%Drift			
16	2,4-Dinitrotoluene	1000.000	1013.489	-1.3	101	-0.13	11.63-12.43
17	2,6-Dinitrotoluene	1000.000	1034.269	-3.4	99	-0.14	12.06-12.86
18	o-Nitrotoluene	1000.000	1017.622	-1.8	100	-0.05	15.11-15.98

Initial Calibration Verification

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GBB2700-ICV2700
Lab FileID: BB088070.D

		Amount	Calc.	%Drift			
19	p-Nitrotoluene	1000.000	935.384	6.5	99	-0.04	15.57-16.57
20	m-Nitrotoluene	1000.000	1032.875	-3.3	102	-0.02	16.37-17.37
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX		----------NA----------				
2	HMX	1000.000	958.571	4.1	106	-0.02	1.19- 1.79
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	RDX	1000.000	998.863	0.1	100	-0.04	2.60- 3.40
6	1,3,5-Trinitrobenzene	1000.000	912.858	8.7	90	-0.06	4.37- 5.17
7	1,3-Dinitrobenzene	1000.000	1017.023	-1.7	96	-0.06	5.61- 6.41
8	3,5-Dinitroaniline	1000.000	1142.898	-14.3	112	-0.08	6.00- 6.80
9	Nitrobenzene	1000.000	1002.256	-0.2	97	-0.06	7.21- 8.01
10	Nitroglycerin	1000.000	1043.666	-4.4	101	-0.14	8.60- 9.60
11	Tetryl	1000.000	983.160	1.7	100	-0.15	9.15- 9.95
12	2,4,6-Trinitrotoluene	1000.000	1027.201	-2.7	106	-0.14	9.57-10.37
13	2-Amino-4,6-Dinitrotol	1000.000	971.988	2.8	101	-0.15	10.08-10.88
14	4-Amino-2,6-Dinitrotol	1000.000	996.752	0.3	104	-0.16	10.54-11.34
15 S	3,4-Dinitrotoluene		----------NA----------				
16	2,4-Dinitrotoluene	1000.000	974.150	2.6	104	-0.13	11.63-12.43
17	2,6-Dinitrotoluene	1000.000	1040.544	-4.1	107	-0.14	12.07-12.87
18	o-Nitrotoluene	1000.000	990.295	1.0	101	-0.07	15.01-16.01
19	p-Nitrotoluene	1000.000	945.305	5.5	101	-0.05	15.57-16.57
20	m-Nitrotoluene	1000.000	1026.449	-2.6	102	-0.01	16.37-17.37
21	PETN	1000.000	1194.604	-19.5#	132	-0.02	17.90-19.10

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB088067.D BBB2700_050625.M Thu May 08 11:34:02 2025

Initial Calibration Verification

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GBB2700-ICV2700
Lab FileID: BB088071.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088071.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088071.D\dad1A.ch
Acq On : 06-May-2025, 15:49:08 Operator: fouads
Sample : icv2-2700-1000 Inst : G1315B
Misc : op9214,GBB2700,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 07 08:35:20 2025
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	472.000	401.319	15.0	94	0.00	1.07- 1.67
	Amount	Calc.	%Drift				
2	HMX		----------NA----------				
3	DNX	1000.000	980.085	2.0	97	0.00	1.46- 2.06
	Amount	Calc.	%Drift				
4	MNX	1166.000	1064.016	8.7	99	0.00	2.07- 2.67
	Amount	Calc.	%Drift				
5	RDX		----------NA----------				
6	1,3,5-Trinitrobenzene		----------NA----------				
7	1,3-Dinitrobenzene		----------NA----------				
	Amount	Calc.	%Drift				
8	3,5-Dinitroaniline		----------NA----------				
	Amount	Calc.	%Drift				
9	Nitrobenzene		----------NA----------				
	Amount	Calc.	%Drift				
10	Nitroglycerin		----------NA----------				
	Amount	Calc.	%Drift				
11	Tetryl		----------NA----------				
12	2,4,6-Trinitrotoluene		----------NA----------				
	Amount	Calc.	%Drift				
13	2-Amino-4,6-Dinitrotoluen		----------NA----------				
	Amount	Calc.	%Drift				
14	4-Amino-2,6-Dinitrotoluen		----------NA----------				
	Amount	Calc.	%Drift				
15 S	3,4-Dinitrotoluene		----------NA----------				
	Amount	Calc.	%Drift				
16	2,4-Dinitrotoluene		----------NA----------				
17	2,6-Dinitrotoluene		----------NA----------				
18	o-Nitrotoluene		----------NA----------				

Initial Calibration Verification

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GBB2700-ICV2700
Lab FileID: BB088071.D

		Amount	Calc.	%Drift	
19	p-Nitrotoluene		----------NA----------		
		Amount	Calc.	%Drift	
20	m-Nitrotoluene		----------NA----------		
		Amount	Calc.	%Drift	
21	PETN		----------NA----------		

***** Signal #2 *****

1	TNX	472.000	404.699	14.3	95	0.00	1.07- 1.67
2	HMX		----------NA----------				
3	DNX	1000.000	858.663	14.1	96	0.00	1.46- 2.06
4	MNX	1166.000	1055.921	9.4	99	0.00	2.07- 2.67

		Amount	Calc.	%Drift	
5	RDX		----------NA----------		
6	1,3,5-Trinitrobenzene		----------NA----------		
7	1,3-Dinitrobenzene		----------NA----------		
8	3,5-Dinitroaniline		----------NA----------		
9	Nitrobenzene		----------NA----------		
10	Nitroglycerin		----------NA----------		
11	Tetryl		----------NA----------		
12	2,4,6-Trinitrotoluene		----------NA----------		
13	2-Amino-4,6-Dinitrotoluen		----------NA----------		
		Amount	Calc.	%Drift	
14	4-Amino-2,6-Dinitrotoluen		----------NA----------		
		Amount	Calc.	%Drift	
15 S	3,4-Dinitrotoluene		----------NA----------		
16	2,4-Dinitrotoluene		----------NA----------		
17	2,6-Dinitrotoluene		----------NA----------		
18	o-Nitrotoluene		----------NA----------		
19	p-Nitrotoluene		----------NA----------		
20	m-Nitrotoluene		----------NA----------		
		Amount	Calc.	%Drift	
21	PETN		----------NA----------		

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB088067.D BBB2700_050625.M Thu May 08 11:34:03 2025

8.7.3

8

Continuing Calibration Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GBB2710-CC2700
Lab FileID: BB088323.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088323.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088323.D\dad1A.ch
Acq On : 27-May-2025, 09:04:27 Operator: fouads
Sample : cc2700-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	472.000	446.373	5.4	105	0.00	1.14- 1.74
	---------- Amount Calc. %Drift ----------						
2	HMX	1000.000	1064.709	-6.5	105	0.00	1.28- 1.88
3	DNX	1000.000	1047.215	-4.7	103	0.00	1.54- 2.14
	---------- Amount Calc. %Drift ----------						
4	MNX	1166.000	1111.024	4.7	103	0.00	2.14- 2.74
	---------- Amount Calc. %Drift ----------						
5	RDX	1000.000	1037.400	-3.7	101	0.00	2.66- 3.46
6	1,3,5-Trinitrobenzene	1000.000	1037.920	-3.8	102	0.00	4.40- 5.20
7	1,3-Dinitrobenzene	1000.000	1041.953	-4.2	103	0.00	5.62- 6.42
	---------- Amount Calc. %Drift ----------						
8	3,5-Dinitroaniline	1000.000	924.905	7.5	101	0.00	6.00- 6.80
	---------- Amount Calc. %Drift ----------						
9	Nitrobenzene	1000.000	1060.026	-6.0	103	0.00	7.17- 7.97
	---------- Amount Calc. %Drift ----------						
10	Nitroglycerin	----------NA----------					
	---------- Amount Calc. %Drift ----------						
11	Tetryl	1000.000	996.170	0.4	98	0.00	9.10- 9.90
12	2,4,6-Trinitrotoluene	1000.000	1073.264	-7.3	105	0.00	9.51-10.31
	---------- Amount Calc. %Drift ----------						
13	2-Amino-4,6-Dinitrotol	1000.000	950.490	5.0	101	0.00	10.01-10.81
	---------- Amount Calc. %Drift ----------						
14	4-Amino-2,6-Dinitrotol	1000.000	1021.521	-2.2	98	0.00	10.46-11.26
	---------- Amount Calc. %Drift ----------						
15 S	3,4-Dinitrotoluene	1000.000	911.273	8.9	94	0.00	10.89-11.69
	---------- Amount Calc. %Drift ----------						
16	2,4-Dinitrotoluene	1000.000	1027.206	-2.7	102	0.00	11.53-12.33
17	2,6-Dinitrotoluene	1000.000	1063.995	-6.4	101	0.00	11.92-12.72
18	o-Nitrotoluene	1000.000	1064.608	-6.5	105	0.00	14.97-15.84

Continuing Calibration Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GBB2710-CC2700
Lab FileID: BB088323.D

		Amount	Calc.	%Drift			
19	p-Nitrotoluene	1000.000	1004.476	-0.4	107	0.00	15.43-16.43
20	m-Nitrotoluene	1000.000	1068.244	-6.8	106	0.00	16.25-17.25
21	PETN	----------NA----------					

***** Signal #2 *****

1	TNX	472.000	444.461	5.8	105	0.00	1.14- 1.74
2	HMX	1000.000	950.488	5.0	105	0.00	1.28- 1.88
3	DNX	1000.000	918.872	8.1	103	0.00	1.54- 2.14
4	MNX	1166.000	1102.737	5.4	103	0.00	2.14- 2.74
5	RDX	1000.000	1021.875	-2.2	102	0.00	2.66- 3.46
6	1,3,5-Trinitrobenzene	1000.000	1065.298	-6.5	105	0.00	4.40- 5.20
7	1,3-Dinitrobenzene	1000.000	1147.444	-14.7	108	0.00	5.62- 6.42
8	3,5-Dinitroaniline	1000.000	1070.445	-7.0	105	0.00	6.00- 6.80
9	Nitrobenzene	1000.000	1082.169	-8.2	105	0.00	7.17- 7.97
10	Nitroglycerin	1000.000	989.451	1.1	96	0.00	8.52- 9.52
11	Tetryl	1000.000	1026.161	-2.6	104	0.00	9.10- 9.90
12	2,4,6-Trinitrotoluene	1000.000	1052.391	-5.2	108	0.00	9.51-10.31
13	2-Amino-4,6-Dinitrotol	1000.000	979.040	2.1	102	0.00	10.01-10.81
14	4-Amino-2,6-Dinitrotol	1000.000	994.973	0.5	104	0.00	10.46-11.26
15 S	3,4-Dinitrotoluene	1000.000	933.059	6.7	99	0.00	10.89-11.69
16	2,4-Dinitrotoluene	1000.000	926.376	7.4	99	0.00	11.53-12.33
17	2,6-Dinitrotoluene	1000.000	1099.268	-9.9	113	0.00	11.94-12.74
18	o-Nitrotoluene	1000.000	968.721	3.1	99	0.00	14.85-15.85
19	p-Nitrotoluene	1000.000	1004.462	-0.4	108	0.10	15.34-16.34
20	m-Nitrotoluene	1000.000	1068.077	-6.8	106	0.00	16.25-17.25
21	PETN	1000.000	1325.316	-32.5#	146	0.00	17.81-19.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB088067.D BBB2700_050625.M Mon Jun 02 09:48:08 2025

Continuing Calibration Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GBB2710-ECC2700
Lab FileID: BB088333.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088333.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088333.D\dad1A.ch
Acq On : 27-May-2025, 14:38:40 Operator: fouads
Sample : ecc2700-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	472.000	442.789	6.2	104	0.00	1.14- 1.74
	----------	Amount	Calc.	%Drift			
2	HMX	1000.000	1057.465	-5.7	104	0.00	1.28- 1.88
3	DNX	1000.000	1040.891	-4.1	103	0.00	1.54- 2.14
	----------	Amount	Calc.	%Drift			
4	MNX	1166.000	1105.255	5.2	103	0.01	2.14- 2.74
	----------	Amount	Calc.	%Drift			
5	RDX	1000.000	1032.064	-3.2	101	0.01	2.66- 3.46
6	1,3,5-Trinitrobenzene	1000.000	1024.753	-2.5	101	0.02	4.40- 5.20
7	1,3-Dinitrobenzene	1000.000	1031.165	-3.1	102	0.02	5.62- 6.42
	----------	Amount	Calc.	%Drift			
8	3,5-Dinitroaniline	1000.000	911.005	8.9	100	0.02	6.00- 6.80
	----------	Amount	Calc.	%Drift			
9	Nitrobenzene	1000.000	1052.005	-5.2	103	0.03	7.17- 7.97
	----------	Amount	Calc.	%Drift			
10	Nitroglycerin	----------NA----------					
	----------	Amount	Calc.	%Drift			
11	Tetryl	1000.000	987.089	1.3	97	0.05	9.10- 9.90
12	2,4,6-Trinitrotoluene	1000.000	1061.262	-6.1	104	0.05	9.51-10.31
	----------	Amount	Calc.	%Drift			
13	2-Amino-4,6-Dinitrotol	1000.000	952.431	4.8	101	0.04	10.01-10.81
	----------	Amount	Calc.	%Drift			
14	4-Amino-2,6-Dinitrotol	1000.000	1028.395	-2.8	99	0.05	10.46-11.26
	----------	Amount	Calc.	%Drift			
15 S	3,4-Dinitrotoluene	1000.000	913.249	8.7	94	0.06	10.89-11.69
	----------	Amount	Calc.	%Drift			
16	2,4-Dinitrotoluene	1000.000	1013.902	-1.4	101	0.06	11.53-12.33
17	2,6-Dinitrotoluene	1000.000	1114.786	-11.5	106	0.06	11.92-12.72
18	o-Nitrotoluene	1000.000	1056.763	-5.7	104	0.06	14.97-15.84

Continuing Calibration Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GBB2710-ECC2700
Lab FileID: BB088333.D

		Amount	Calc.	%Drift			
19	p-Nitrotoluene	1000.000	1008.014	-0.8	107	0.05	15.43-16.43
20	m-Nitrotoluene	1000.000	1069.497	-6.9	106	0.05	16.25-17.25
21	PETN	----------NA----------					

***** Signal #2 *****

		Amount	Calc.	%Drift			
1	TNX	472.000	439.964	6.8	104	0.00	1.14- 1.74
2	HMX	1000.000	939.318	6.1	103	0.00	1.28- 1.88
3	DNX	1000.000	910.724	8.9	102	0.00	1.54- 2.14
4	MNX	1166.000	1093.461	6.2	102	0.01	2.14- 2.74
5	RDX	1000.000	1015.614	-1.6	101	0.01	2.66- 3.46
6	1,3,5-Trinitrobenzene	1000.000	1040.161	-4.0	103	0.02	4.40- 5.20
7	1,3-Dinitrobenzene	1000.000	1125.991	-12.6	106	0.02	5.62- 6.42
8	3,5-Dinitroaniline	1000.000	1047.627	-4.8	103	0.02	6.00- 6.80
9	Nitrobenzene	1000.000	1074.683	-7.5	105	0.03	7.17- 7.97
10	Nitroglycerin	1000.000	917.316	8.3	89	0.05	8.52- 9.52
11	Tetryl	1000.000	1002.202	-0.2	102	0.05	9.10- 9.90
12	2,4,6-Trinitrotoluene	1000.000	1027.166	-2.7	106	0.05	9.51-10.31
13	2-Amino-4,6-Dinitrotol	1000.000	962.275	3.8	100	0.04	10.01-10.81
14	4-Amino-2,6-Dinitrotol	1000.000	975.735	2.4	102	0.05	10.46-11.26
15 S	3,4-Dinitrotoluene	1000.000	913.138	8.7	97	0.06	10.89-11.69
16	2,4-Dinitrotoluene	1000.000	912.875	8.7	97	0.05	11.53-12.33
17	2,6-Dinitrotoluene	1000.000	1093.476	-9.3	112	0.06	11.94-12.74
18	o-Nitrotoluene	1000.000	923.017	7.7	94	0.06	14.85-15.85
19	p-Nitrotoluene	1000.000	980.523	1.9	105	0.15	15.34-16.34
20	m-Nitrotoluene	1000.000	1058.474	-5.8	105	0.05	16.25-17.25
21	PETN	1000.000	1296.302	-29.6#	143	0.04	17.81-19.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB088067.D BBB2700_050625.M Mon Jun 02 09:49:21 2025

8.7.5

Initial Calibration Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GGG3527-ICC3527
Lab FileID: GG631119.D

Response Factor Report G1315B

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jan 15 06:45:37 2025
Response via : Initial Calibration

Calibration Files
20 =GG631114.D 50 =GG631122.D 100 =GG631123.D 200 =GG631124.D
500 =GG631118.D 1000=GG631119.D 2500=GG631120.D 5000=GG631121.D

Compound	20	50	100	200	500	1000	2500	5000	Avg		%RSD
1) TNX	1.487	1.160	1.039	0.979	0.951	0.943	0.934	0.994	1.061	E4	17.64
---- Linear regr., Force(0,0) ---- Coefficient = 0.9991											
Response Ratio = 0.00000 + 9802.33145 *A											
2) HMX	2.807	3.435	2.826	2.769	2.789	2.835	2.882	2.834	2.897	E3	7.59
3) DNX	1.059	0.937	0.831	0.819	0.784	0.797	0.785	0.836	0.856	E4	11.17
4) MNX	1.143	0.846	0.753	0.720	0.694	0.705	0.695	0.735	0.787	E4	19.37
---- Linear regr., Force(0,0) ---- Coefficient = 0.9993											
Response Ratio = 0.00000 + 7258.22862 *A											
5) 1,3,5-Trinit	1.069	0.972	0.724	0.745	0.829	0.841	0.834	0.851	0.858	E4	13.24
6) RDX	4.022	4.253	3.896	4.299	3.917	4.054	4.073	4.215	4.091	E3	3.69
7) 1,3-Dinitrob	1.641	1.332	1.137	1.173	1.111	1.155	1.140	1.154	1.230	E4	14.57
8) Nitrobenzene	1.203	0.877	0.749	0.764	0.734	0.784	0.766	0.772	0.831	E4	18.79
---- Linear regr., Force(0,0) ---- Coefficient = 0.9999											
Response Ratio = 0.00000 + 7706.93234 *A											
9) 2,4,6-Trinit	1.212	0.955	0.804	0.830	0.773	0.798	0.789	0.824	0.873	E4	16.95
---- Linear regr., Force(0,0) ---- Coefficient = 0.9995											
Response Ratio = 0.00000 + 8159.27036 *A											
10) Nitroglyceri			1.659						1.659	E3	0.00
11) Tetryl	8.119	7.005	5.741	6.183	5.902	6.150	6.082	6.256	6.430	E3	12.09
12) 3,4-Dinitrot	3.682	5.470	4.754	4.730	4.876	4.906	4.962	5.027	4.801	E3	10.57
13) 2,6-Dinitrot	4.814	6.106	5.004		5.352	5.444	5.508	5.510	5.391	E3	7.67
14) 2,4-Dinitrot	1.390	1.175	1.053	1.067	1.034	1.068	1.073	1.073	1.117	E4	10.59
15) 3,5-Dinitroa	0.727	1.088	0.939	1.003	0.866	0.879	0.901	0.900	0.913	E4	11.56
16) o-Nitrotolue	8.287	5.592	5.409	3.753	4.406	5.002	4.352	4.569	5.171	E3	26.96
---- Linear regr., Force(0,0) ---- Coefficient = 0.9989											
Response Ratio = 0.00000 + 4538.44465 *A											
17) p-Nitrotolue	6.087	5.052	4.870	4.480	4.662	4.745	4.814	4.807	4.940	E3	9.96
18) 4-Amino-2,6-	5.765	5.011	4.793	4.373	4.662	4.745	4.814	4.807	4.871	E3	8.28
19) m-Nitrotolue	4.868	6.357	5.494	5.019	5.032	5.182	5.189	5.194	5.292	E3	8.83
20) 2-Amino-4,6-	9.473	8.148	7.653	7.984	7.655	7.822	7.901	7.901	8.067	E3	7.33
21) PETN							1.580		1.580	E4	0.00

Signal #2

1) TNX	1.564	1.110	1.039	0.979	0.951	0.943	0.934	0.994	1.064	E4	19.74
---- Linear regr., Force(0,0) ---- Coefficient = 0.9991											
Response Ratio = 0.00000 + 9802.30111 *A											
2) HMX	2.587	3.542	2.948	2.769	2.789	2.835	2.882	2.834	2.898	E3	9.69
3) DNX	9.685	9.212	8.308	8.191	7.841	7.966	7.850	8.365	8.427	E3	7.97
4) MNX	1.191	0.843	0.753	0.720	0.694	0.705	0.695	0.735	0.792	E4	21.23
---- Linear regr., Force(0,0) ---- Coefficient = 0.9993											

8.7.6

8

Initial Calibration Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GGG3527-ICC3527
Lab FileID: GG631119.D

```
              Response Ratio = 0.00000 + 7258.23155 *A

 5) 1,3,5-Trinit 9.811 9.240 7.235 7.449 8.288 8.409 8.344 8.507 8.410 E3  10.03
 6) RDX          4.092 4.099 4.077 3.903 3.917 4.054 4.073 4.215 4.054 E3   2.50
 7) 1,3-Dinitrob 2.664 1.111 0.903 0.928 0.801 1.078 0.850 0.880 1.152 E4  53.86
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9973
              Response Ratio = 0.00000 + 8799.27445 *A

 8) Nitrobenzene 1.497 1.008 0.680 0.729 0.653 0.987 0.724 0.731 0.876 E4  32.55
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9947
              Response Ratio = 0.00000 + 7371.31181 *A

 9) 2,4,6-Trinit 1.232 1.265 1.028 1.136 1.036 1.241 1.064 1.090 1.136 E4   8.54
10) Nitroglyceri 3.389 5.877 4.917 3.539 2.505 3.425 2.615 2.975 3.655 E3  31.92
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9945
              Response Ratio = 0.00000 + 2917.42855 *A

11) Tetryl       0.786 1.185 0.990 1.368 0.997 1.258 1.087 1.102 1.097 E4  16.37
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9989
              Response Ratio = 0.00000 + 11033.14687 *A

12) 3,4-Dinitrot 0.690 1.193 1.091 1.025 0.948 1.024 0.996 0.978 0.993 E4  14.52
13) 2,6-Dinitrot 0.942 1.481 0.871 0.865 0.779 0.830 0.848 0.827 0.930 E4  24.42
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9997
              Response Ratio = 0.00000 + 8307.18624 *A

14) 2,4-Dinitrot 1.493 1.111 0.594 1.037 0.713 0.777 0.801 0.778 0.913 E4  31.58
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9995
              Response Ratio = 0.00000 + 7824.10414 *A

15) 3,5-Dinitroa 1.762 2.129 1.674 1.652 1.588 1.563 1.524 1.491 1.673 E4  12.19
16) o-Nitrotolue 1.006 0.451 0.730 0.845 0.740 0.734 0.686 0.691 0.735 E4  21.20
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9997
              Response Ratio = 0.00000 + 6923.24282 *A

17) p-Nitrotolue 1.282 1.802 0.869 0.698 0.835 0.871 0.892 0.880 1.016 E4  35.28
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9997
              Response Ratio = 0.00000 + 8815.08891 *A

18) 4-Amino-2,6- 1.314 2.013 0.872 0.698 0.835 0.871 0.892 0.880 1.047 E4  40.91
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9996
              Response Ratio = 0.00000 + 8815.26268 *A

19) m-Nitrotolue 0.574 1.608 0.951 0.831 0.898 0.907 0.890 0.872 0.941 E4  31.15
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9958
              Response Ratio = 0.00000 + 8855.30664 *A

20) 2-Amino-4,6- 0.896 0.533 1.079 1.086 1.117 1.159 1.171 1.130 1.021 E4  21.06
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9996
              Response Ratio = 0.00000 + 11386.21768 *A

21) PETN         2.035 2.109 2.642 3.111 3.102 3.011 3.005 2.983 2.750 E3  16.12
           ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
              Response Ratio = 0.00000 + 2988.73431 *A

--------------------------------------------------------------------------------
(#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          GGG3527_011325.M        Wed Jan 15 06:50:13 2025
```

8.7.6

8

Initial Calibration Verification

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GGG3527-ICV3527
Lab FileID: GG631125.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631125.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631125.D\dad1A.ch
Acq On : 13-Jan-2025, 17:13:42 Operator: fouads
Sample : icv3527-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jan 15 06:45:37 2025
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	472.000	455.622	3.5	100	0.00	3.87- 5.31
2	HMX	1000.000	974.735	2.5	100	0.00	4.72- 5.72
3	DNX	1000.000	932.257	6.8	100	0.00	4.90- 5.90
4	MNX	1166.000	1134.497	2.7	100	0.00	6.05- 7.05
5	1,3,5-Trinitrobenzene	1000.000	858.000	14.2	88	0.00	7.02- 8.02
6	RDX	1000.000	939.277	6.1	95	0.00	7.40- 8.40
7	1,3-Dinitrobenzene	1000.000	862.709	13.7	92	0.00	9.39-10.39
8	Nitrobenzene	1000.000	885.591	11.4	87	0.00	10.33-11.33
9	2,4,6-Trinitrotoluene	1000.000	912.509	8.7	93	0.00	11.15-12.15
10	Nitroglycerin	----------	NA ----------				
11	Tetryl	1000.000	857.655	14.2	90	0.00	12.45-13.45
12 S	3,4-Dinitrotoluene	----------	NA ----------				
13	2,6-Dinitrotoluene	1000.000	926.467	7.4	92	0.00	13.98-14.98
14	2,4-Dinitrotoluene	1000.000	874.037	12.6	91	0.00	14.65-15.65
15	3,5-Dinitroaniline	1000.000	960.421	4.0	100	0.00	15.93-16.93
16	o-Nitrotoluene	1000.000	944.298	5.6	86	0.01	16.11-17.11
17	p-Nitrotoluene	2000.000	1749.520	12.5	91	0.00	17.55-18.55
18	4-Amino-2,6-Dinitrotol	2000.000	1774.047	11.3	91	0.00	17.55-18.55
19	m-Nitrotoluene	1000.000	876.809	12.3	90	0.00	18.56-19.56
20	2-Amino-4,6-Dinitrotol	1000.000	876.323	12.4	90	0.00	19.58-20.58
21	PETN	----------	NA ----------				

***** Signal #2 *****

Initial Calibration Verification

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GGG3527-ICV3527
Lab FileID: GG631125.D

			Amount	Calc.	%Drift			
1	TNX		472.000	455.623	3.5	100	0.00	4.30- 5.31
			Amount	Calc.	%Drift			
2	HMX		1000.000	974.337	2.6	100	0.00	4.72- 5.72
3	DNX		1000.000	946.987	5.3	100	0.00	4.90- 5.90
			Amount	Calc.	%Drift			
4	MNX		1166.000	1134.497	2.7	100	0.00	6.05- 7.05
			Amount	Calc.	%Drift			
5	1,3,5-Trinitrobenzene		1000.000	860.499	14.0	86	0.00	7.02- 8.02
6	RDX		1000.000	947.957	5.2	95	0.00	7.40- 8.40
			Amount	Calc.	%Drift			
7	1,3-Dinitrobenzene		1000.000	966.202	3.4	79	0.00	9.39-10.39
8	Nitrobenzene		1000.000	891.920	10.8	67	0.00	10.33-11.33
			Amount	Calc.	%Drift			
9	2,4,6-Trinitrotoluene		1000.000	922.456	7.8	84	0.00	11.15-12.15
			Amount	Calc.	%Drift			
10	Nitroglycerin			----------NA----------				
11	Tetryl		1000.000	880.929	11.9	77	0.00	12.45-13.45
			Amount	Calc.	%Drift			
12	S 3,4-Dinitrotoluene			----------NA----------				
			Amount	Calc.	%Drift			
13	2,6-Dinitrotoluene		1000.000	895.673	10.4	90	0.00	13.98-14.98
14	2,4-Dinitrotoluene		1000.000	894.197	10.6	90	0.00	14.65-15.65
			Amount	Calc.	%Drift			
15	3,5-Dinitroaniline		1000.000	892.415	10.8	96	0.00	15.92-16.92
			Amount	Calc.	%Drift			
16	o-Nitrotoluene		1000.000	894.281	10.6	84	-0.03	16.17-17.17
17	p-Nitrotoluene		2000.000	1749.310	12.5	89	0.00	17.56-18.56
18	4-Amino-2,6-Dinitrotol		2000.000	1749.276	12.5	89	0.00	17.56-18.56
19	m-Nitrotoluene		1000.000	872.168	12.8	85	0.00	18.56-19.56
20	2-Amino-4,6-Dinitrotol		1000.000	892.614	10.7	88	0.00	19.58-20.58
21	PETN		1000.000	1015.167	-1.5	101	0.00	20.84-21.84

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG631119.D GGG3527_011325.M Wed Jan 15 06:49:56 2025

8.7.7

8

Initial Calibration Verification

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GGG3527-ICV3527
Lab FileID: GG631126.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631126.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631126.D\dad1A.ch
Acq On : 13-Jan-2025, 18:26:26 Operator: fouads
Sample : icv3527-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jan 15 06:45:37 2025
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Drift	Area% Dev(min)	RT Window
1		TNX			NA		
2		HMX			NA		
3		DNX			NA		
4		MNX			NA		
5		1,3,5-Trinitrobenzene			NA		
6		RDX			NA		
7		1,3-Dinitrobenzene			NA		
8		Nitrobenzene			NA		
9		2,4,6-Trinitrotoluene			NA		
10		Nitroglycerin			NA		
11		Tetryl			NA		
12	S	3,4-Dinitrotoluene			NA		
13		2,6-Dinitrotoluene			NA		
14		2,4-Dinitrotoluene			NA		
15		3,5-Dinitroaniline			NA		
16		o-Nitrotoluene			NA		
17		p-Nitrotoluene			NA		
18		4-Amino-2,6-Dinitrotoluen			NA		
19		m-Nitrotoluene			NA		
20		2-Amino-4,6-Dinitrotoluen			NA		
21		PETN			NA		

***** Signal #2 *****

8.7.8

8

Initial Calibration Verification

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GGG3527-ICV3527
Lab FileID: GG631126.D

			Amount	Calc.	%Drift			
1	TNX			----------NA----------				
2	HMX			----------NA----------				
3	DNX			----------NA----------				
4	MNX			----------NA----------				
5	1,3,5-Trinitrobenzene			----------NA----------				
6	RDX			----------NA----------				
7	1,3-Dinitrobenzene			----------NA----------				
8	Nitrobenzene			----------NA----------				
9	2,4,6-Trinitrotoluene			----------NA----------				
10	Nitroglycerin		1000.000	895.095	10.5	76	-0.06	11.89-12.89
11	Tetryl			----------NA----------				
12	S	3,4-Dinitrotoluene		----------NA----------				
13		2,6-Dinitrotoluene		----------NA----------				
14		2,4-Dinitrotoluene		----------NA----------				
15		3,5-Dinitroaniline		----------NA----------				
16		o-Nitrotoluene		----------NA----------				
17		p-Nitrotoluene		----------NA----------				
18		4-Amino-2,6-Dinitrotoluen		----------NA----------				
19		m-Nitrotoluene		----------NA----------				
20		2-Amino-4,6-Dinitrotoluen		----------NA----------				
21		PETN		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0

GG631119.D GGG3527_011325.M Wed Jan 15 06:49:57 2025

8.7.8

8

Continuing Calibration Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GGG3585-CC3527
Lab FileID: GG632197.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632197.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632197.D\dad1A.ch
Acq On : 29-May-2025, 12:16:58 Operator: fouads
Sample : cc3527-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 10:56:58 2025
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	472.000	483.379	-2.4	106	0.00	3.89- 5.33
2	HMX	1000.000	970.913	2.9	99	0.00	4.64- 5.64
3	DNX	1000.000	988.272	1.2	106	0.00	4.85- 5.85
4	MNX	1166.000	1161.705	0.4	103	0.00	5.63- 6.63
5	1,3,5-Trinitrobenzene	1000.000	1043.744	-4.4	107	0.00	6.38- 7.38
6	RDX	1000.000	1155.381	-15.5	117	0.00	6.76- 7.76
7	1,3-Dinitrobenzene	1000.000	1018.787	-1.9	109	0.00	8.65- 9.65
8	Nitrobenzene	1000.000	906.784	9.3	89	0.00	9.49-10.49
9	2,4,6-Trinitrotoluene	1000.000	1081.487	-8.1	111	0.00	9.93-10.93
10	Nitroglycerin	5000.000	4275.042	14.5	0	0.22	10.52-11.52
11	Tetryl	1000.000	1103.197	-10.3	115	0.00	10.74-11.74
12 S	3,4-Dinitrotoluene	1000.000	788.494	21.2#	77	0.00	12.03-13.03
13	2,6-Dinitrotoluene	1000.000	1241.807	-24.2#	123	0.00	12.37-13.37
14	2,4-Dinitrotoluene	1000.000	1052.115	-5.2	110	0.00	13.01-14.01
15	3,5-Dinitroaniline	1000.000	918.956	8.1	95	0.00	13.83-14.83
16	o-Nitrotoluene	1000.000	1060.986	-6.1	96	0.00	16.50-17.50
17	p-Nitrotoluene	2000.000	2052.850	-2.6	107	0.00	15.34-16.34
18	4-Amino-2,6-Dinitrotol	2000.000	2081.629	-4.1	107	0.00	15.34-16.34
19	m-Nitrotoluene	1000.000	909.945	9.0	93	0.00	16.50-17.50
20	2-Amino-4,6-Dinitrotol	1000.000	1060.219	-6.0	109	0.00	17.33-18.33
21	PETN	----------NA----------					

***** Signal #2 *****

Continuing Calibration Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GGG3585-CC3527
Lab FileID: GG632197.D

			Amount	Calc.	%Drift			
1	TNX		472.000	483.380	-2.4	106	0.00	4.32- 5.33
			Amount	Calc.	%Drift			
2	HMX		1000.000	970.516	2.9	99	0.00	4.64- 5.64
3	DNX		1000.000	1003.887	-0.4	106	0.00	4.85- 5.85
			Amount	Calc.	%Drift			
4	MNX		1166.000	1161.704	0.4	103	0.00	5.63- 6.63
			Amount	Calc.	%Drift			
5	1,3,5-Trinitrobenzene		1000.000	1064.913	-6.5	107	0.00	6.38- 7.38
6	RDX		1000.000	1166.057	-16.6	117	0.00	6.76- 7.76
			Amount	Calc.	%Drift			
7	1,3-Dinitrobenzene		1000.000	1190.807	-19.1	97	0.00	8.65- 9.65
8	Nitrobenzene		1000.000	1028.808	-2.9	77	0.00	9.49-10.49
			Amount	Calc.	%Drift			
9	2,4,6-Trinitrotoluene		1000.000	1187.738	-18.8	109	0.00	9.94-10.94
			Amount	Calc.	%Drift			
10	Nitroglycerin		1000.000	1054.637	-5.5	90	-0.03	10.57-11.57
11	Tetryl		1000.000	1384.245	-38.4#	121	0.00	10.73-11.73
			Amount	Calc.	%Drift			
12	S 3,4-Dinitrotoluene		1000.000	914.859	8.5	89	0.00	12.03-13.03
			Amount	Calc.	%Drift			
13	2,6-Dinitrotoluene		1000.000	1327.727	-32.8#	133	0.00	12.36-13.36
14	2,4-Dinitrotoluene		1000.000	1256.787	-25.7#	127	0.00	13.01-14.01
			Amount	Calc.	%Drift			
15	3,5-Dinitroaniline		1000.000	869.541	13.0	93	0.00	13.83-14.83
			Amount	Calc.	%Drift			
16	o-Nitrotoluene		1000.000	1000.361	-0.0	94	0.00	16.50-17.50
17	p-Nitrotoluene		2000.000	2024.520	-1.2	102	0.00	15.35-16.35
18	4-Amino-2,6-Dinitrotol		2000.000	2024.480	-1.2	102	0.00	15.35-16.35
19	m-Nitrotoluene		1000.000	782.101	21.8#	76	0.00	16.50-17.50
20	2-Amino-4,6-Dinitrotol		1000.000	918.443	8.2	90	0.00	17.33-18.33
21	PETN		1000.000	658.299	34.2#	65	0.00	18.21-19.21

(#) = Out of Range SPCC's out = 0 CCC's out = 0

GG631119.D GGG3527_011325.M Fri May 30 10:57:16 2025

8.7.9

8

Continuing Calibration Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GGG3585-CC3527
Lab FileID: GG632209.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632209.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632209.D\dad1A.ch
Acq On : 29-May-2025, 17:55:44 Operator: fouads
Sample : cc3527-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 11:01:17 2025
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	472.000	469.613	0.5	103	0.03	3.89- 5.33
2	HMX	1000.000	892.869	10.7	91	0.00	4.75- 5.75
3	DNX	1000.000	973.942	2.6	105	0.00	4.96- 5.96
4	MNX	1166.000	1120.968	3.9	99	0.00	6.03- 7.03
5	1,3,5-Trinitrobenzene	1000.000	1052.885	-5.3	107	0.00	6.71- 7.71
6	RDX	1000.000	994.309	0.6	100	0.00	7.28- 8.28
7	1,3-Dinitrobenzene	1000.000	980.724	1.9	104	0.00	9.12-10.12
8	Nitrobenzene	1000.000	892.755	10.7	88	0.00	10.08-11.08
9	2,4,6-Trinitrotoluene	1000.000	1110.489	-11.0	114	0.00	10.60-11.60
10	Nitroglycerin	----------	NA	----------			
11	Tetryl	1000.000	1000.158	-0.0	105	0.00	11.85-12.85
12 S	3,4-Dinitrotoluene	1000.000	924.024	7.6	90	-0.03	13.54-14.54
13	2,6-Dinitrotoluene	1000.000	981.953	1.8	97	0.00	13.54-14.54
14	2,4-Dinitrotoluene	1000.000	1032.838	-3.3	108	0.00	14.17-15.17
15	3,5-Dinitroaniline	1000.000	991.765	0.8	103	0.00	14.94-15.94
16	o-Nitrotoluene	1000.000	1094.649	-9.5	99	0.00	15.68-16.68
17	p-Nitrotoluene	2000.000	1961.322	1.9	102	0.00	16.77-17.77
18	4-Amino-2,6-Dinitrotol	2000.000	1988.818	0.6	102	0.00	16.77-17.77
19	m-Nitrotoluene	1000.000	906.244	9.4	93	0.00	17.86-18.86
20	2-Amino-4,6-Dinitrotol	1000.000	1023.684	-2.4	106	0.00	18.68-19.68
21	PETN	----------	NA	----------			

***** Signal #2 *****

Continuing Calibration Summary

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GGG3585-CC3527
Lab FileID: GG632209.D

			Amount	Calc.	%Drift			
1	TNX		472.000	469.615	0.5	103	0.03	4.32- 5.33
			Amount	Calc.	%Drift			
2	HMX		1000.000	892.504	10.7	91	0.00	4.75- 5.75
3	DNX		1000.000	989.330	1.1	105	0.00	4.96- 5.96
			Amount	Calc.	%Drift			
4	MNX		1166.000	1120.968	3.9	99	0.00	6.03- 7.03
			Amount	Calc.	%Drift			
5	1,3,5-Trinitrobenzene		1000.000	1074.239	-7.4	107	0.00	6.71- 7.71
6	RDX		1000.000	1003.497	-0.3	100	0.00	7.28- 8.28
			Amount	Calc.	%Drift			
7	1,3-Dinitrobenzene		1000.000	1106.779	-10.7	90	0.00	9.12-10.12
8	Nitrobenzene		1000.000	924.673	7.5	69	0.00	10.09-11.09
			Amount	Calc.	%Drift			
9	2,4,6-Trinitrotoluene		1000.000	1103.754	-10.4	101	0.00	10.60-11.60
			Amount	Calc.	%Drift			
10	Nitroglycerin		1000.000	893.566	10.6	76	0.00	11.39-12.39
11	Tetryl		1000.000	1132.110	-13.2	99	0.00	11.84-12.84
			Amount	Calc.	%Drift			
12	S 3,4-Dinitrotoluene		1000.000	860.202	14.0	83	0.00	13.52-14.52
			Amount	Calc.	%Drift			
13	2,6-Dinitrotoluene		1000.000	1115.494	-11.5	112	0.00	13.52-14.52
14	2,4-Dinitrotoluene		1000.000	1086.805	-8.7	109	0.00	14.17-15.17
			Amount	Calc.	%Drift			
15	3,5-Dinitroaniline		1000.000	899.166	10.1	96	0.00	14.94-15.94
			Amount	Calc.	%Drift			
16	o-Nitrotoluene		1000.000	941.920	5.8	89	0.00	15.68-16.68
17	p-Nitrotoluene		2000.000	1869.494	6.5	95	0.00	16.78-17.78
18	4-Amino-2,6-Dinitrotol		2000.000	1869.457	6.5	95	0.00	16.78-17.78
19	m-Nitrotoluene		1000.000	896.179	10.4	87	0.00	17.86-18.86
20	2-Amino-4,6-Dinitrotol		1000.000	931.220	6.9	92	0.00	18.69-19.69
21	PETN		1000.000	830.044	17.0	82	0.00	19.74-20.74

(#) = Out of Range SPCC's out = 0 CCC's out = 0

GG631119.D GGG3527_011325.M Fri May 30 11:13:42 2025

8.7.10

8

Run Sequence Report

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Run ID: GBB2700	**Method:** SW846 8330A	**Instrument ID:** GCBB

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GBB2700-IC2700	BB088062.D	05/06/25 10:09	n/a	Initial cal 20
GBB2700-IC2700	BB088063.D	05/06/25 10:37	n/a	Initial cal 50
GBB2700-IC2700	BB088064.D	05/06/25 11:04	n/a	Initial cal 100
GBB2700-IC2700	BB088065.D	05/06/25 11:32	n/a	Initial cal 200
GBB2700-IC2700	BB088066.D	05/06/25 11:59	n/a	Initial cal 500
GBB2700-ICC2700	BB088067.D	05/06/25 12:27	n/a	Initial cal 1000
GBB2700-IC2700	BB088068.D	05/06/25 12:54	n/a	Initial cal 2500
GBB2700-IC2700	BB088069.D	05/06/25 13:22	n/a	Initial cal 5000
GBB2700-ICV2700	BB088070.D	05/06/25 13:49	n/a	Initial cal verification 1000
GBB2700-ICV2700	BB088071.D	05/06/25 15:49	n/a	Initial cal verification 1000
OP9248-MB	BB088072.D	05/06/25 16:16	OP9248	Method Blank
OP9248-BS	BB088073.D	05/06/25 16:44	OP9248	Blank Spike
ZZZZZZ	BB088074.D	05/06/25 17:11	OP9248	(unrelated sample)
ZZZZZZ	BB088075.D	05/06/25 17:38	OP9248	(unrelated sample)
ZZZZZZ	BB088076.D	05/06/25 18:06	OP9248	(unrelated sample)
ZZZZZZ	BB088077.D	05/06/25 18:33	OP9248	(unrelated sample)
ZZZZZZ	BB088078.D	05/06/25 19:01	OP9248	(unrelated sample)
ZZZZZZ	BB088079.D	05/06/25 19:28	OP9248	(unrelated sample)
ZZZZZZ	BB088080.D	05/06/25 19:56	OP9248	(unrelated sample)
FC24321-1	BB088081.D	05/06/25 20:23	OP9248	(used for QC only; not part of job FC24818)
GBB2700-CC2700	BB088083.D	05/06/25 21:18	n/a	Continuing cal 1000
OP9248-MS	BB088084.D	05/06/25 21:46	OP9248	Matrix Spike
OP9248-MSD	BB088085.D	05/06/25 22:13	OP9248	Matrix Spike Duplicate
ZZZZZZ	BB088086.D	05/06/25 22:41	OP9248	(unrelated sample)
ZZZZZZ	BB088087.D	05/06/25 23:08	OP9248	(unrelated sample)
ZZZZZZ	BB088089.D	05/07/25 00:03	OP9248	(unrelated sample)
ZZZZZZ	BB088090.D	05/07/25 00:30	OP9248	(unrelated sample)
ZZZZZZ	BB088091.D	05/07/25 00:58	OP9248	(unrelated sample)
ZZZZZZ	BB088092.D	05/07/25 01:25	OP9248	(unrelated sample)
ZZZZZZ	BB088093.D	05/07/25 01:53	OP9248	(unrelated sample)
GBB2700-ECC2700	BB088095.D	05/07/25 07:30	n/a	Ending cal 1000

Run Sequence Report

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Run ID: GBB2710 **Method:** SW846 8330B **Instrument ID:** GCBB

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GBB2710-CC2700	BB088323.D	05/27/25 09:04	n/a	Continuing cal 1000
OP9525-MB	BB088324.D	05/27/25 09:51	OP9525	Method Blank
OP9525-BS	BB088325.D	05/27/25 10:57	OP9525	Blank Spike
FC24818-1	BB088326.D	05/27/25 11:26	OP9525	54MW13
FC24818-2	BB088327.D	05/27/25 11:53	OP9525	54TW13
FC24818-3	BB088328.D	05/27/25 12:21	OP9525	54MW10
FC24818-4	BB088329.D	05/27/25 12:48	OP9525	54MW12
OP9525-MS	BB088330.D	05/27/25 13:16	OP9525	Matrix Spike
OP9525-MSD	BB088331.D	05/27/25 13:43	OP9525	Matrix Spike Duplicate
FC24818-5	BB088332.D	05/27/25 14:11	OP9525	54MW1
GBB2710-ECC2700	BB088333.D	05/27/25 14:38	n/a	Ending cal 1000

Run Sequence Report

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Run ID: GGG3527 **Method:** SW846 8330A **Instrument ID:** GCGG

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GGG3527-IC3527	GG631114.D	01/13/25 10:39	n/a	Initial cal 20
GGG3527-IC3527	GG631118.D	01/13/25 12:39	n/a	Initial cal 500
GGG3527-ICC3527	GG631119.D	01/13/25 13:08	n/a	Initial cal 1000
GGG3527-IC3527	GG631120.D	01/13/25 13:37	n/a	Initial cal 2500
GGG3527-IC3527	GG631121.D	01/13/25 14:07	n/a	Initial cal 5000
GGG3527-IC3527	GG631122.D	01/13/25 14:45	n/a	Initial cal 50
GGG3527-IC3527	GG631123.D	01/13/25 15:15	n/a	Initial cal 100
GGG3527-IC3527	GG631124.D	01/13/25 15:44	n/a	Initial cal 200
GGG3527-ICV3527	GG631125.D	01/13/25 17:13	n/a	Initial cal verification 1000
GGG3527-ICV3527	GG631126.D	01/13/25 18:26	n/a	Initial cal verification 1000
OP7251-MB	GG631127.D	01/13/25 18:55	OP7251	Method Blank
ZZZZZZ	GG631128.D	01/13/25 19:25	OP7251	(unrelated sample)
ZZZZZZ	GG631129.D	01/13/25 19:54	OP7251	(unrelated sample)
ZZZZZZ	GG631130.D	01/13/25 20:24	OP7251	(unrelated sample)
ZZZZZZ	GG631131.D	01/13/25 20:53	OP7251	(unrelated sample)
ZZZZZZ	GG631132.D	01/13/25 21:23	OP7251	(unrelated sample)
GGG3527-CC3527	GG631134.D	01/13/25 22:22	n/a	Continuing cal 1000
OP7285-MB	GG631135.D	01/13/25 22:51	OP7285	Method Blank
ZZZZZZ	GG631136.D	01/13/25 23:21	OP7285	(unrelated sample)
ZZZZZZ	GG631137.D	01/13/25 23:50	OP7285	(unrelated sample)
ZZZZZZ	GG631138.D	01/14/25 00:19	OP7285	(unrelated sample)
ZZZZZZ	GG631139.D	01/14/25 00:49	OP7285	(unrelated sample)
GGG3527-CC3527	GG631141.D	01/14/25 01:48	n/a	Continuing cal 1000
ZZZZZZ	GG631142.D	01/14/25 09:05	OP7285	(unrelated sample)
GGG3527-ECC3527	GG631144.D	01/14/25 10:04	n/a	Ending cal 1000

Run Sequence Report

Job Number: FC24818
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Run ID: GGG3585	**Method:** SW846 8330B	**Instrument ID:** GCGG

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GGG3585-CC3527	GG632197.D	05/29/25 12:16	n/a	Continuing cal 1000
OP9525-MB	GG632198.D	05/29/25 13:00	OP9525	Method Blank
FC24818-1	GG632199.D	05/29/25 13:26	OP9525	54MW13
FC24818-2	GG632200.D	05/29/25 13:53	OP9525	54TW13
FC24818-3	GG632201.D	05/29/25 14:23	OP9525	54MW10
FC24818-4	GG632202.D	05/29/25 14:50	OP9525	54MW12
FC24818-5	GG632203.D	05/29/25 15:16	OP9525	54MW1
OP9596-MB	GG632204.D	05/29/25 15:43	OP9596	Method Blank
ZZZZZZ	GG632205.D	05/29/25 16:09	OP9596	(unrelated sample)
FC24938-1	GG632206.D	05/29/25 16:36	OP9596	(used for QC only; not part of job FC24818)
FC24938-1	GG632207.D	05/29/25 17:02	OP9596	(used for QC only; not part of job FC24818)
GGG3585-CC3527	GG632209.D	05/29/25 17:55	n/a	Continuing cal 1000
ZZZZZZ	GG632210.D	05/29/25 18:22	OP9596	(unrelated sample)
ZZZZZZ	GG632211.D	05/29/25 18:48	OP9596	(unrelated sample)
GGG3585-ECC3527	GG632213.D	05/29/25 19:41	n/a	Ending cal 1000

GC/LC Semi-volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 06/03/25 11:32

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088326.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088326.D\dad1A.ch
Acq On : 27-May-2025, 11:26:20 Operator: fouads
Sample : fc24818-1 Inst : G1315B
Misc : op9525,GBB2710,930,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 09:16:18 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.35	11.35	1010775	1694439	429.797	433.200
	Spiked Amount 500.000	Range 70 - 136		Recovery =		85.96%	86.64%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.54	1.57	745401	1300475	500.958m	281.077m#
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	2.47	2.47	514983	860344	79.211m	85.620m
5)	RDX	2.91	2.91	7273330	9624863	4076.520m	3361.817
6)	1,3,5-Trinitrobe	4.81	4.82	3588071	5751832	901.863m	932.033
7)	1,3-Dinitrobenze	5.85	5.89	108069	145721	21.398m	42.435m#
8)	3,5-Dinitroanili	6.42	6.42	189100	305293	44.396m	48.551m
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	9.96	9.96	2585869	3348023	735.324	793.618
13)	2-Amino-4,6-Dini	10.45	10.45	445899	635653	133.069	136.070
14)	4-Amino-2,6-Dini	10.90	10.90	249599	391377	107.819	85.018
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	17.52	0.00	5686501	0	NoCal	N.D.

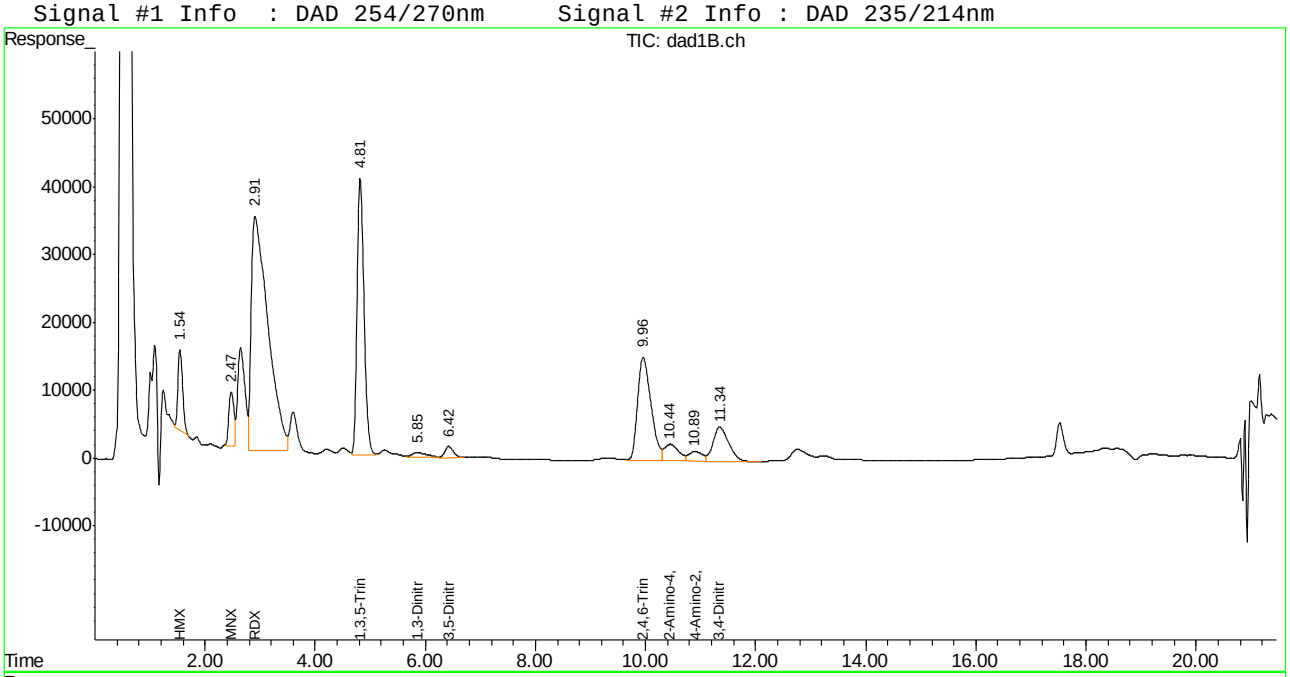
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088326.D BBB2700_050625.M Mon Jun 02 11:21:01 2025 Page 1

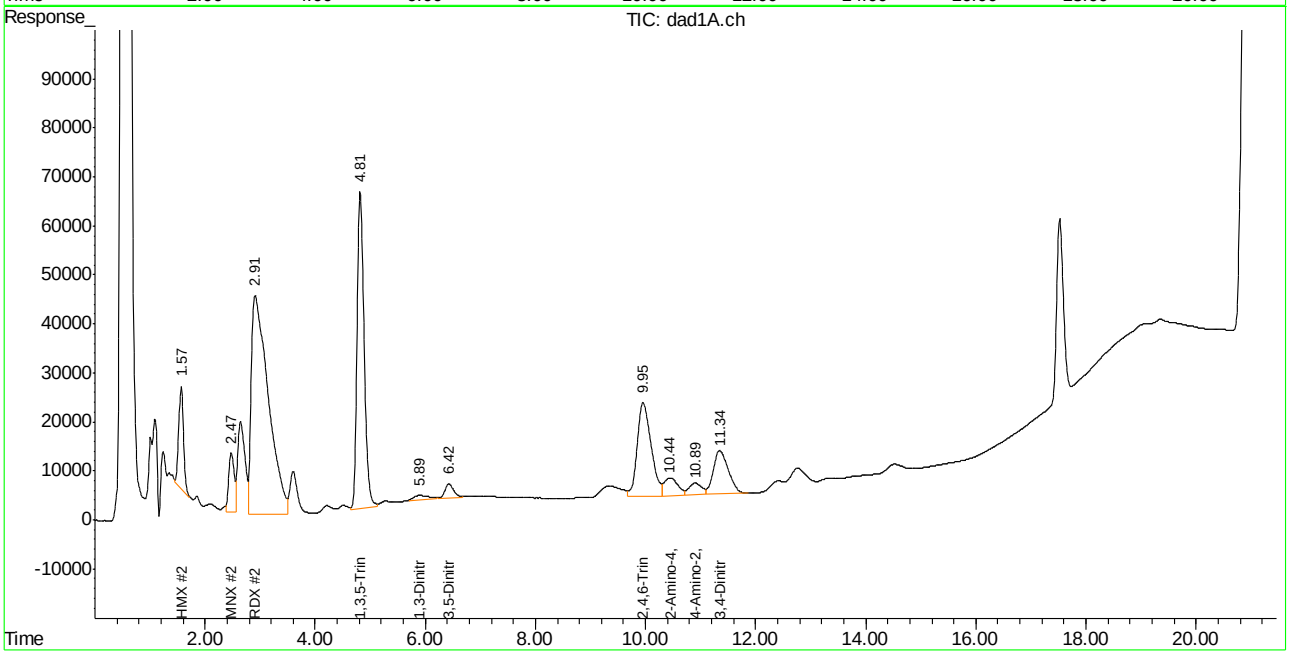
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088326.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088326.D\dad1A.ch
Acq On : 27-May-2025, 11:26:20 Operator: fouads
Sample : fc24818-1 Inst : G1315B
Misc : op9525,GBB2710,930,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jun 2 11:20 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

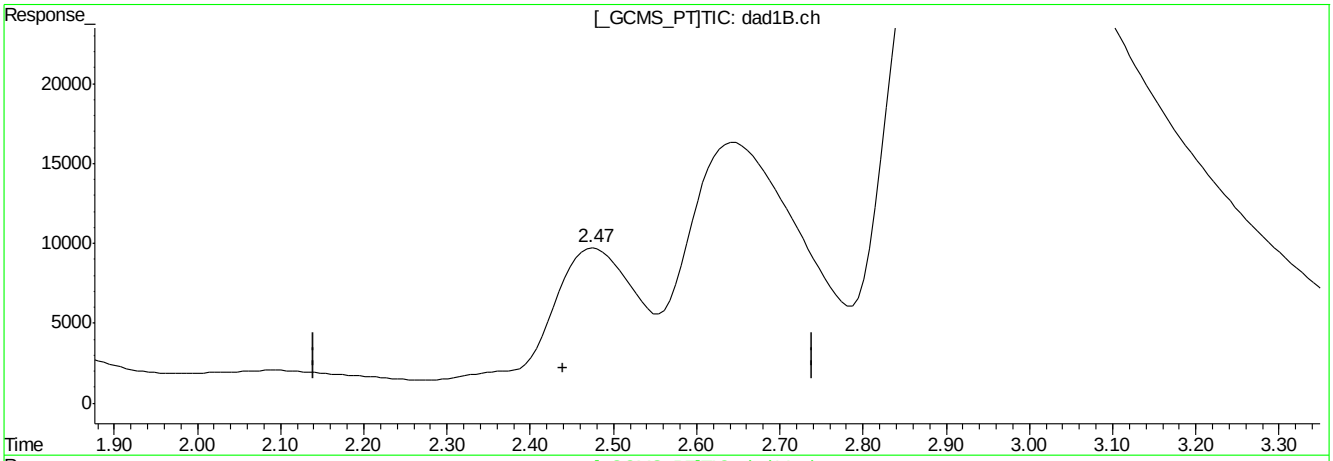
Sample Number: FC24818-1
Lab FileID: BB088326.D
Injection Time: 05/27/25 11:26
Method: SW846 8330B
Analyst approved: 06/02/25 10:11 Fouad Sekkar
Supervisor approved: 06/03/25 11:32 William Hustedde

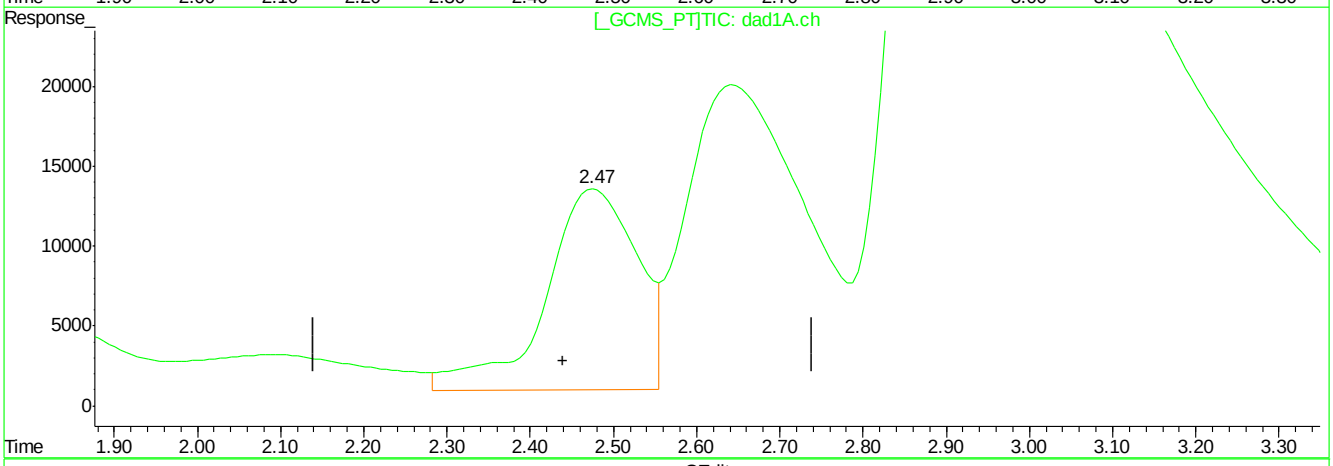
Parameter	CAS	Sig#	R.T. (min.)	Reason
2,6-Dinitrotoluene	606-20-2	1	0.00	Poor instrument integration
HMX	2691-41-0	1	1.54	Poorly defined baseline
HMX	2691-41-0	2	1.57	Poorly defined baseline
MNX		1	2.47	Poorly defined baseline
MNX		2	2.47	Poorly defined baseline
RDX	121-82-4	1	2.91	Poorly defined baseline
1,3,5-Trinitrobenzene	99-35-4	1	4.81	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	1	5.85	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	5.89	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	6.42	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	6.42	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088326.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088326.D\dad1A.ch
Acq On : 27-May-2025, 11:26:20 Operator: fouads
Sample : fc24818-1 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(4) MNX

2.48min 201.196ppb

response 1308054

(4) MNX #2

2.48min 96.124ppb

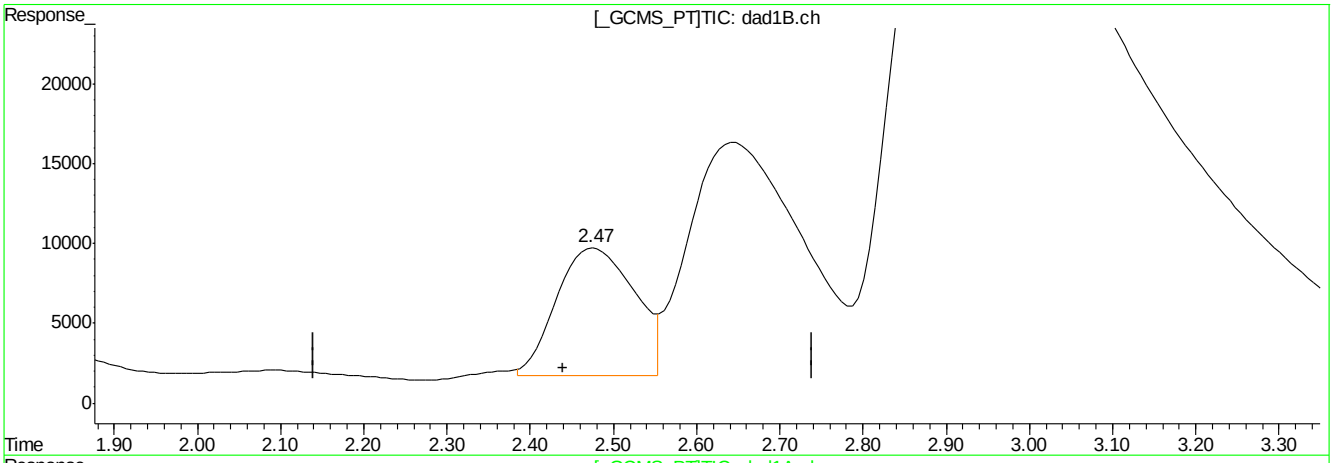
response 965890

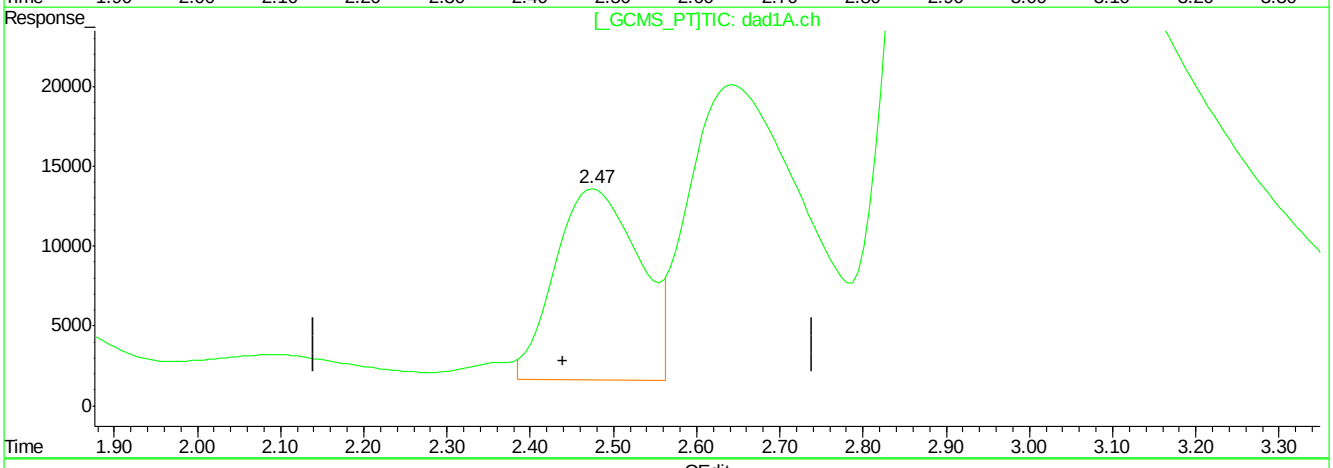
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BB088326.D BBB2700_050625.M Wed May 28 10:52:08 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088326.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088326.D\dad1A.ch
Acq On : 27-May-2025, 11:26:20 Operator: fouads
Sample : fc24818-1 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(4) MNX

2.47min 79.211ppb m

response 514983

(4) MNX #2

2.47min 85.620ppb m

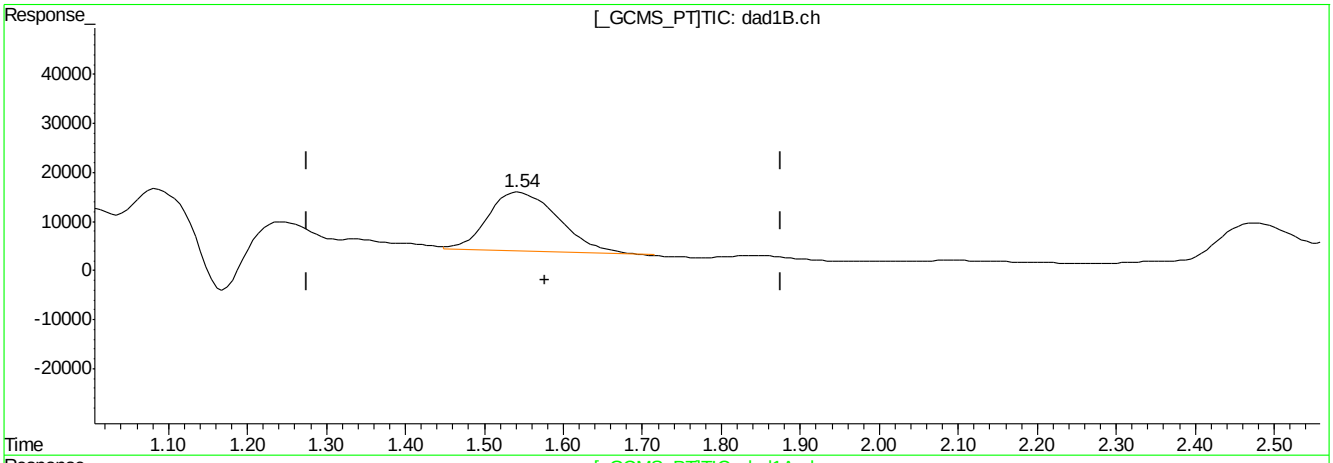
response 860344

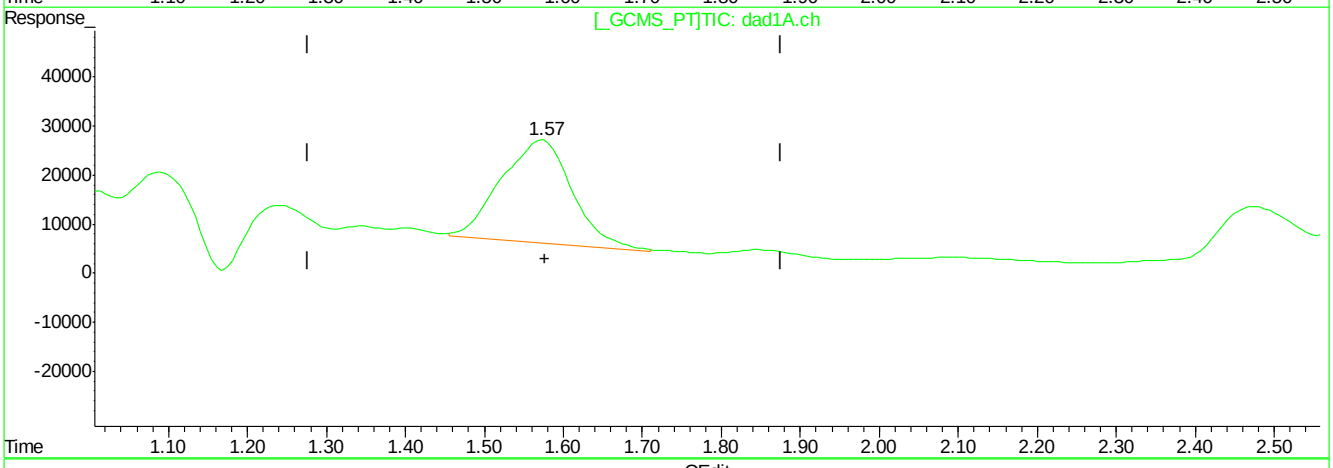
(+) = Expected Retention Time
BB088326.D BBB2700_050625.M Wed May 28 10:52:18 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088326.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088326.D\dad1A.ch
Acq On : 27-May-2025, 11:26:20 Operator: fouads
Sample : fc24818-1 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

1.54min 500.958ppb m

response 745401

(2) HMX #2

1.57min 281.077ppb m

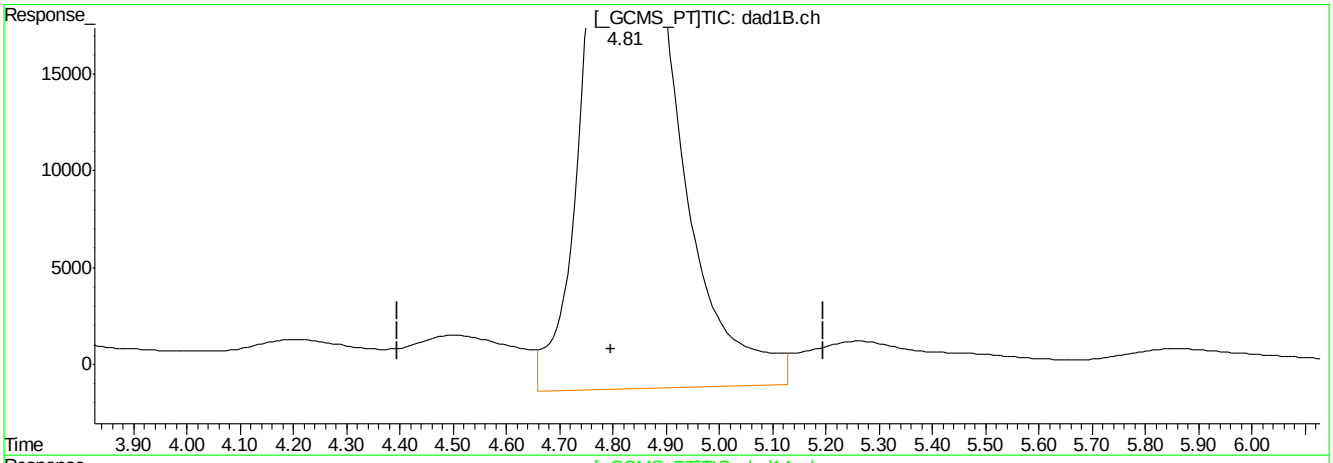
response 1300475

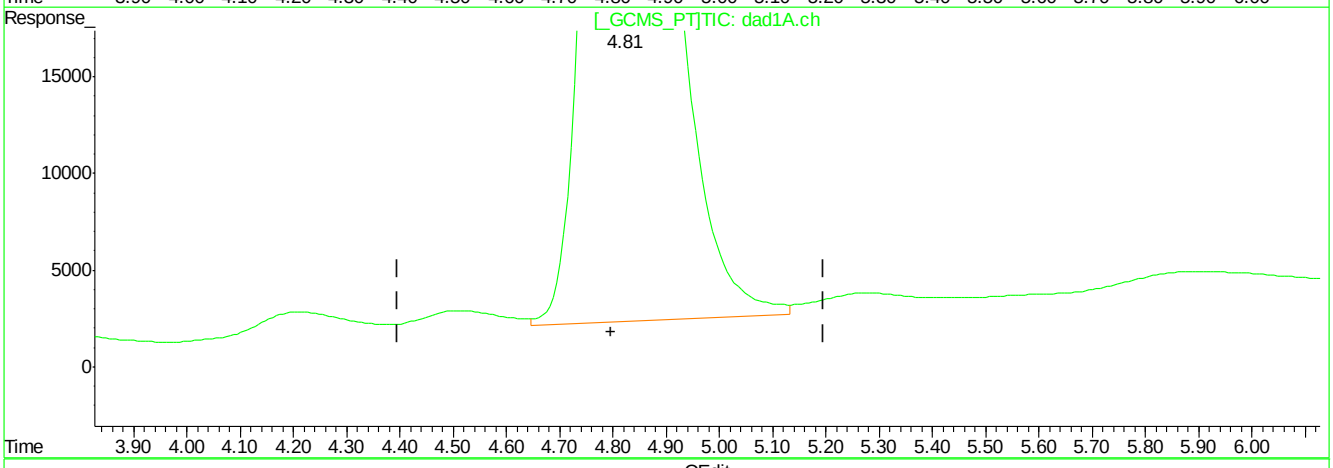
(+) = Expected Retention Time
BB088326.D BBB2700_050625.M Wed May 28 10:52:37 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088326.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088326.D\dad1A.ch
Acq On : 27-May-2025, 11:26:20 Operator: fouads
Sample : fc24818-1 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(6) 1,3,5-Trinitrobenzene

4.82min 1024.965ppb

response 4077836

(6) 1,3,5-Trinitrobenzene #2

4.82min 932.033ppb

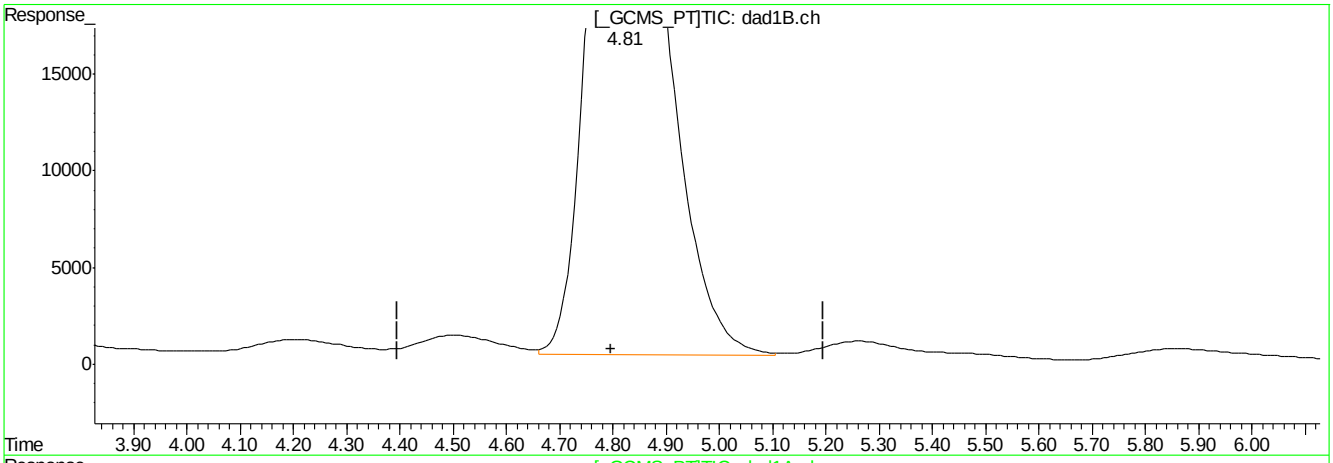
response 5751832

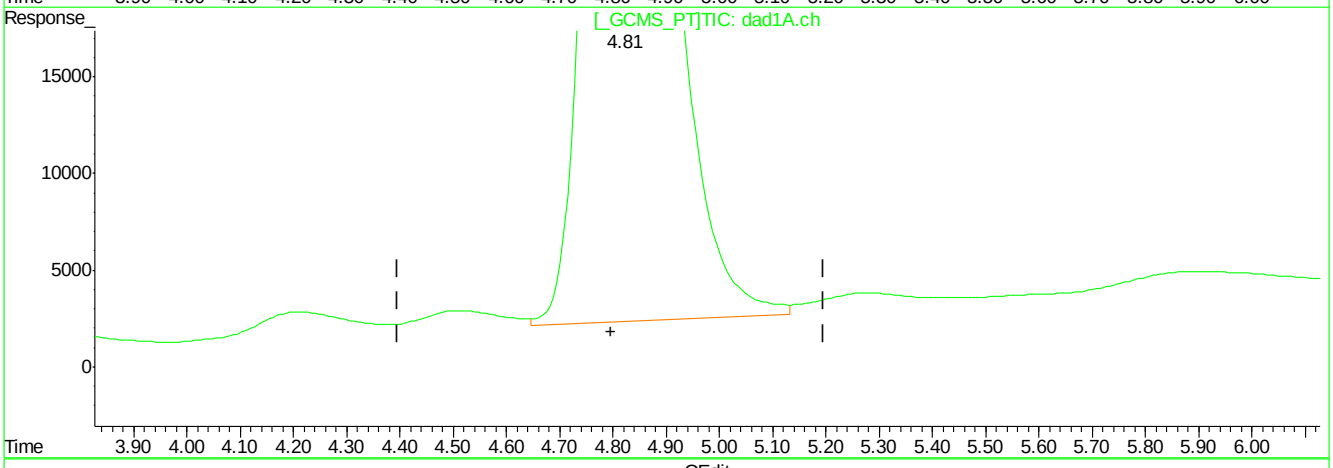
(+) = Expected Retention Time
BB088326.D BBB2700_050625.M Wed May 28 10:52:53 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088326.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088326.D\dad1A.ch
Acq On : 27-May-2025, 11:26:20 Operator: fouads
Sample : fc24818-1 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(6) 1,3,5-Trinitrobenzene

4.81min 901.863ppb m

response 3588071

(6) 1,3,5-Trinitrobenzene #2

4.82min 932.033ppb

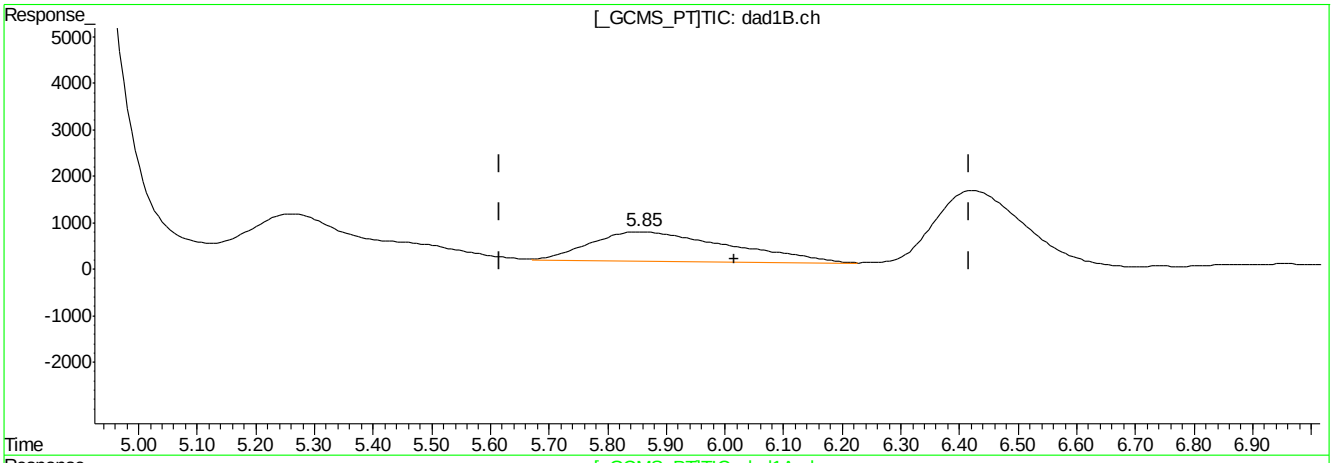
response 5751832

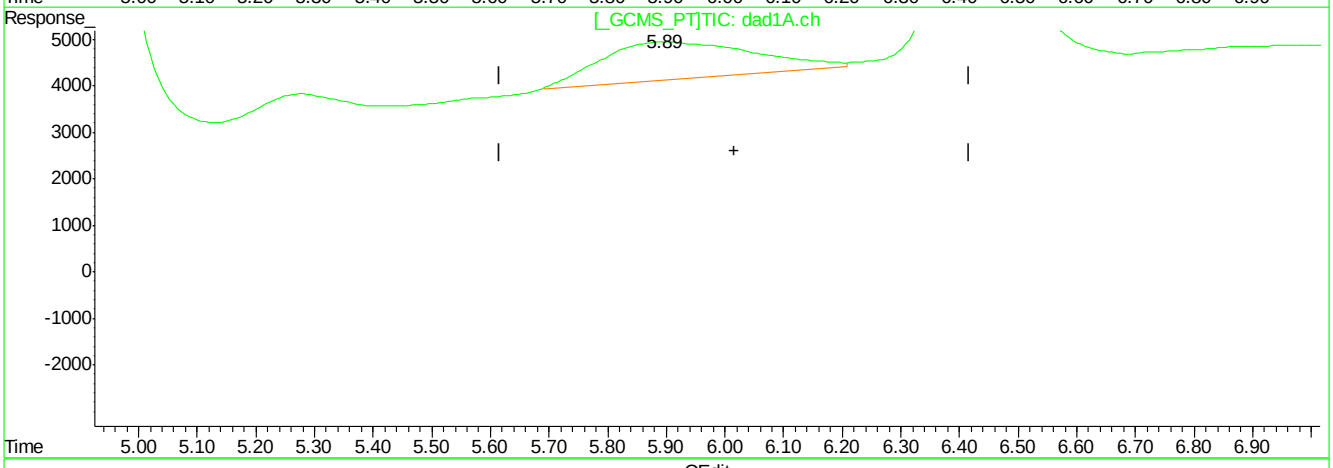
(+) = Expected Retention Time
BB088326.D BBB2700_050625.M Wed May 28 10:52:58 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088326.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088326.D\dad1A.ch
Acq On : 27-May-2025, 11:26:20 Operator: fouads
Sample : fc24818-1 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

5.85min 21.398ppb m

response 108069

(7) 1,3-Dinitrobenzene #2

5.89min 42.435ppb m

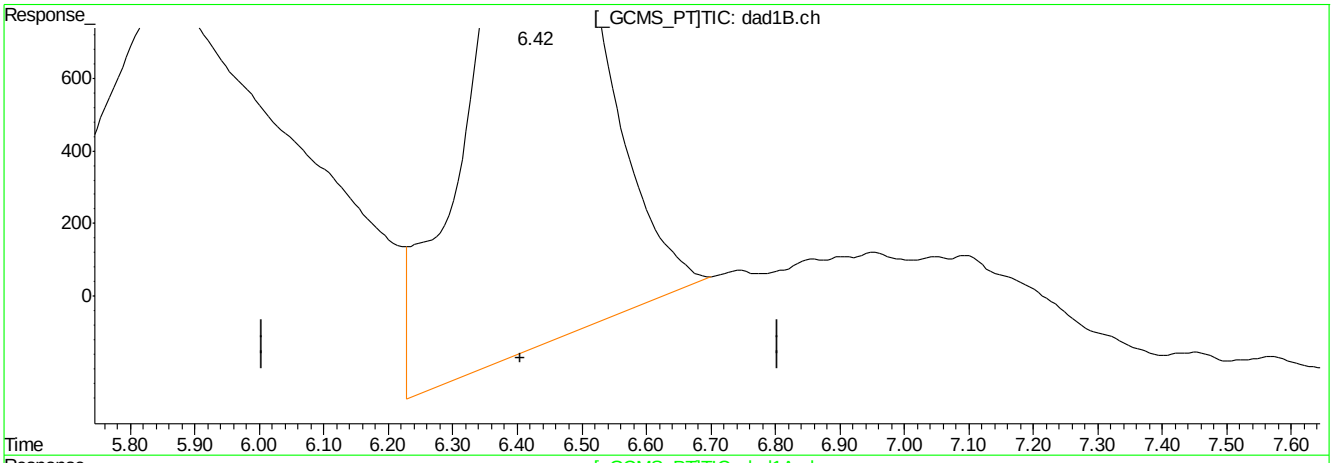
response 145721

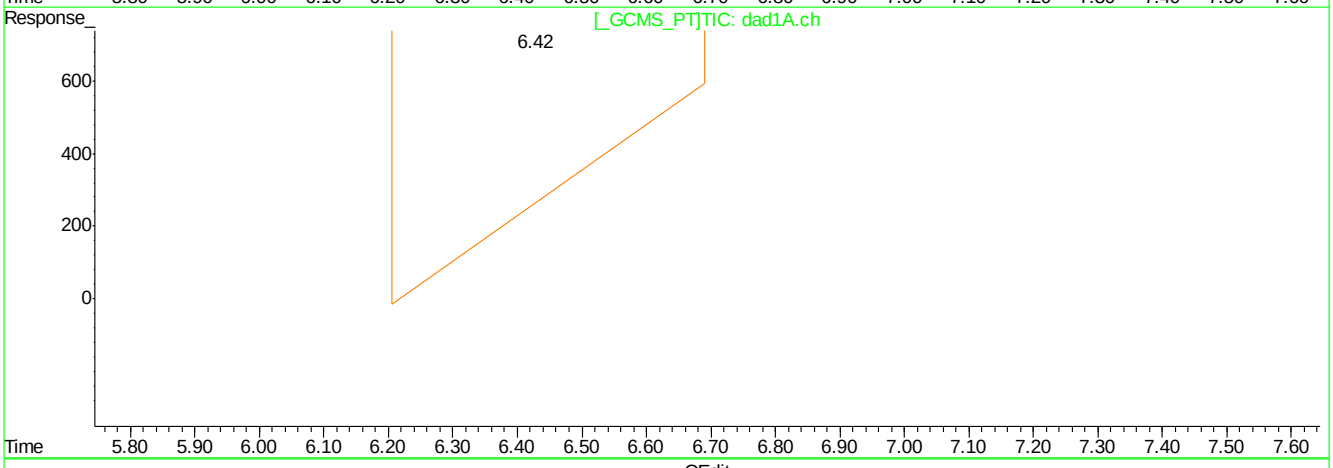
(+) = Expected Retention Time
BB088326.D BBB2700_050625.M Wed May 28 10:53:12 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088326.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088326.D\dad1A.ch
Acq On : 27-May-2025, 11:26:20 Operator: fouads
Sample : fc24818-1 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.42min 53.220ppb

response 226687

(8) 3,5-Dinitroaniline #2

6.43min 55.184ppb

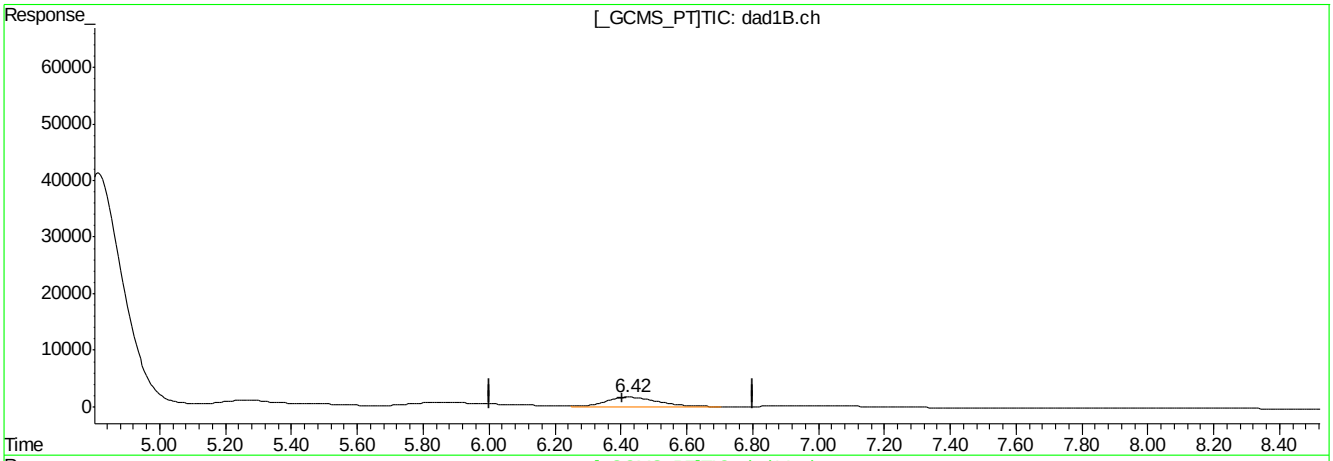
response 347001

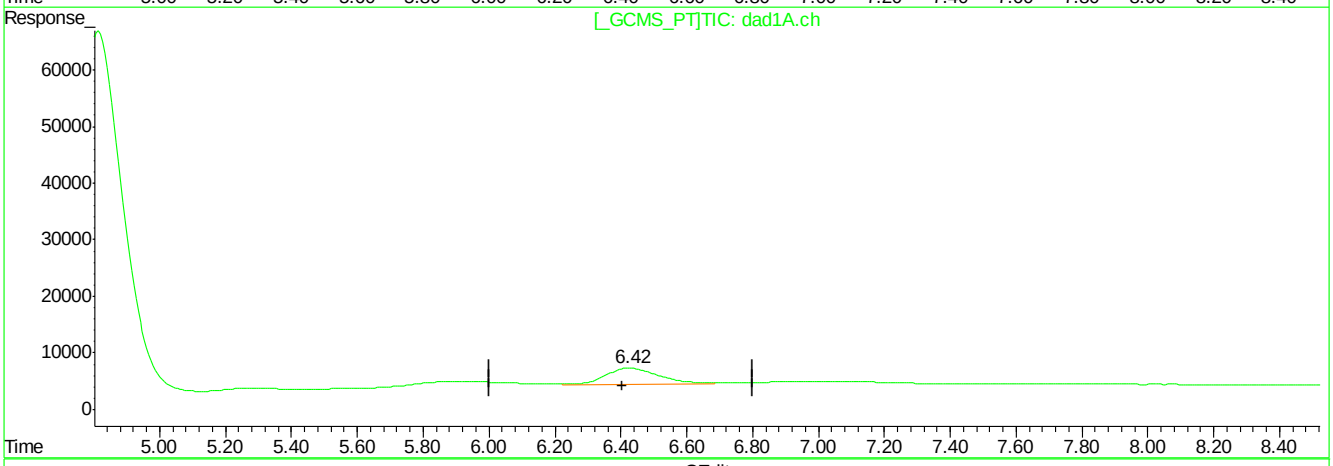
(+) = Expected Retention Time
BB088326.D BBB2700_050625.M Wed May 28 10:53:19 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088326.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088326.D\dad1A.ch
Acq On : 27-May-2025, 11:26:20 Operator: fouads
Sample : fc24818-1 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.42min 44.396ppb m

response 189100

(8) 3,5-Dinitroaniline #2

6.42min 48.551ppb m

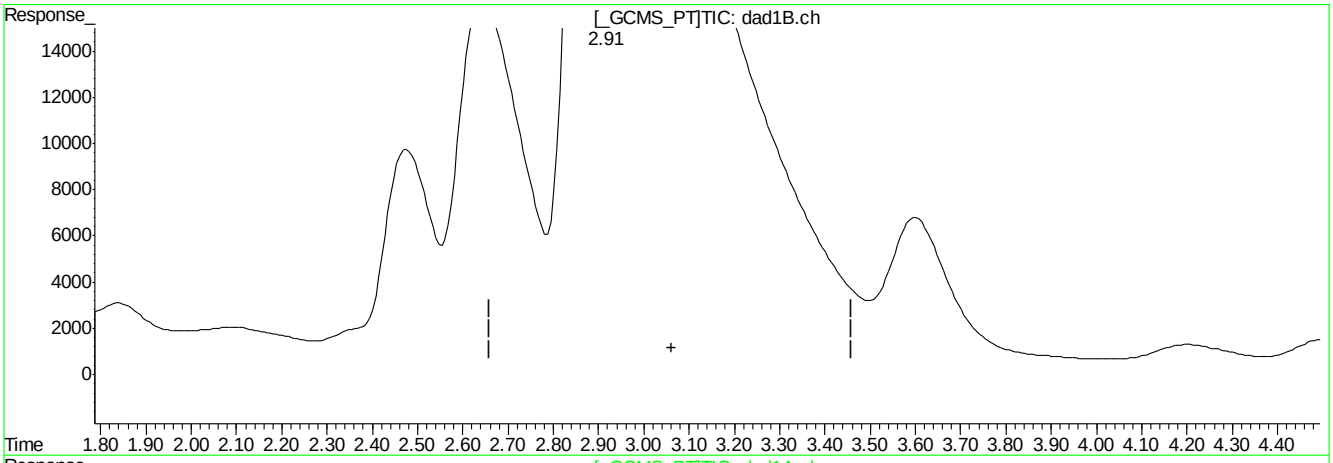
response 305293

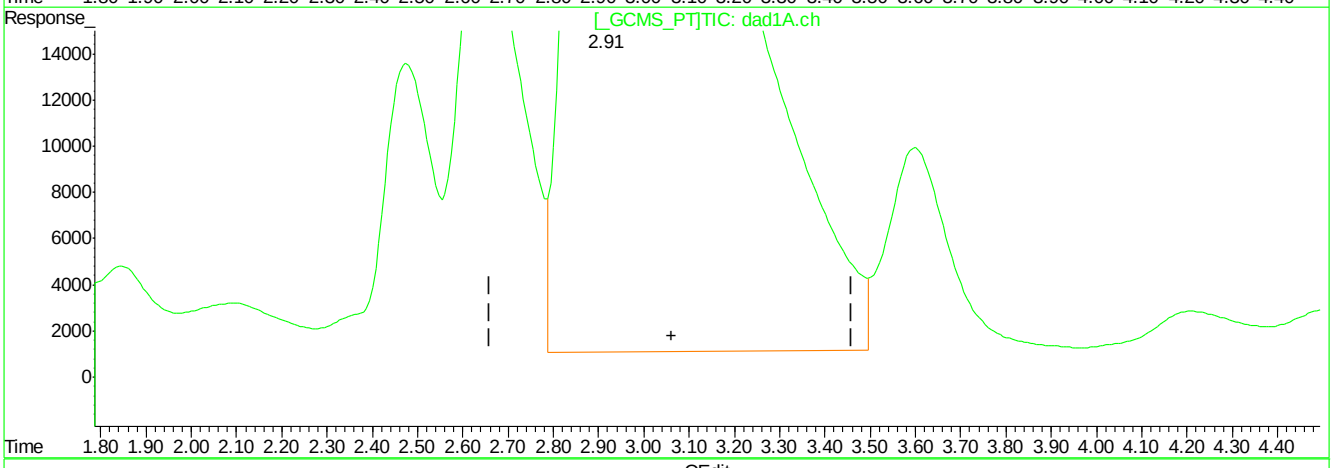
(+) = Expected Retention Time
BB088326.D BBB2700_050625.M Wed May 28 10:53:37 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088326.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088326.D\dad1A.ch
Acq On : 27-May-2025, 11:26:20 Operator: fouads
Sample : fc24818-1 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 10:54 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(5) RDX

2.91min 4951.033ppb

response 8833637

(5) RDX #2

2.91min 3361.817ppb

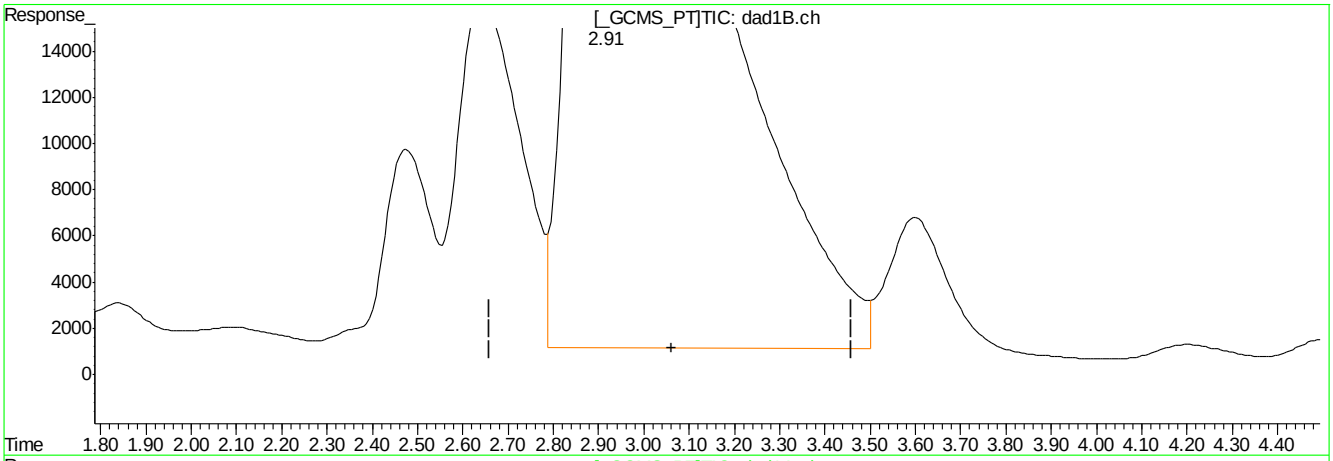
response 9624863

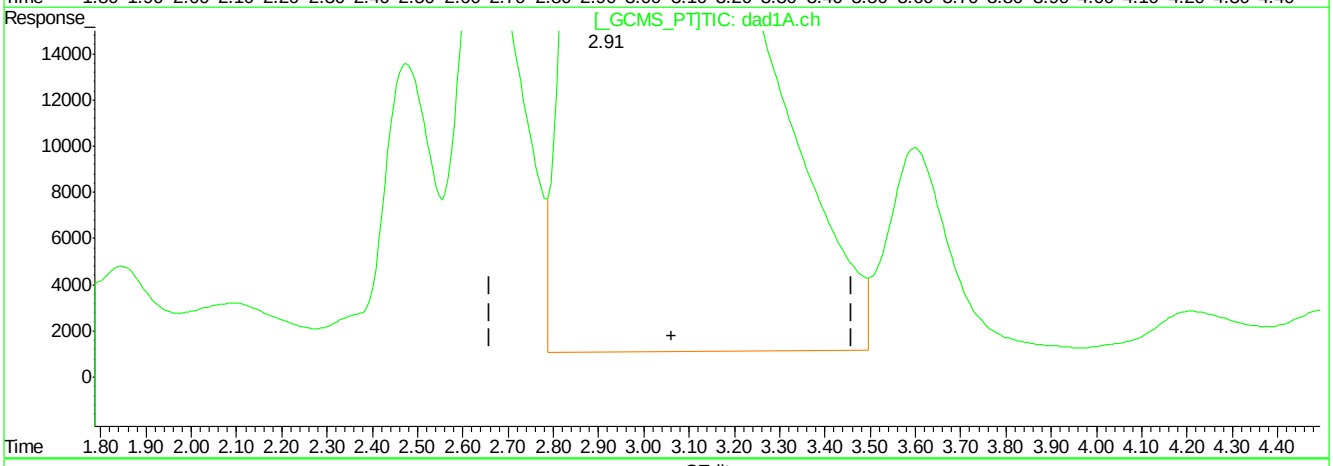
(+) = Expected Retention Time
BB088326.D BBB2700_050625.M Wed May 28 10:54:49 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088326.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088326.D\dad1A.ch
Acq On : 27-May-2025, 11:26:20 Operator: fouads
Sample : fc24818-1 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 10:54 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(5) RDX

2.91min 4076.520ppb m

response 7273330

(5) RDX #2

2.91min 3361.817ppb

response 9624863

(+) = Expected Retention Time
BB088326.D BBB2700_050625.M Wed May 28 10:55:04 2025

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 06/03/25 11:32

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632199.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632199.D\dad1A.ch
Acq On : 29-May-2025, 13:26:51 Operator: fouads
Sample : fc24818-1cf Inst : G1315B
Misc : op9525,GGG3585,930,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 11:42:23 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 11:41:25 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	13.64	13.64	2459399	4796070	512.290	482.930
	Spiked Amount 500.000	Range 70 - 136		Recovery =		102.46%	96.59%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	5.23	5.23	1172221	1115259	404.622m	384.802m
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	6.20	6.20	864790	864790	119.146	119.146
5)	1,3,5-Trinitrobe	7.21	7.21	8398748	8398748	978.761	998.612
6)	RDX	7.21	7.21	8398748	8398748	2052.884	2071.854
7)	1,3-Dinitrobenze	9.69	9.78	349097	5753391	28.374m	653.848 #
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	10.93	10.93	6244727	10432437	765.354	918.054
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	3,5-Dinitroanili	15.43	15.44	1483575	2294020	162.499m	137.119
16)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	17.06	17.05	685077	1214689	140.632m	137.794m
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	19.01	19.02	1234602	1443808	153.042m	126.803m
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

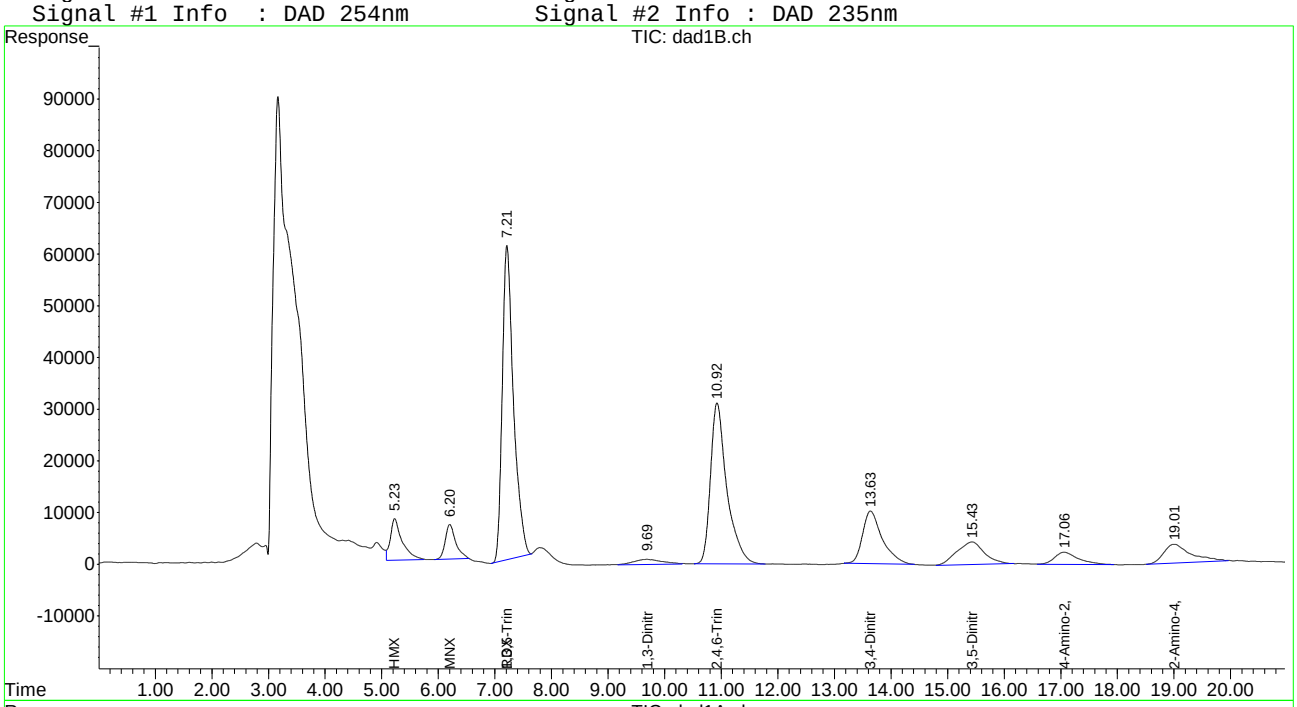
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG632199.D GGG3527_011325.M Mon Jun 02 10:16:15 2025

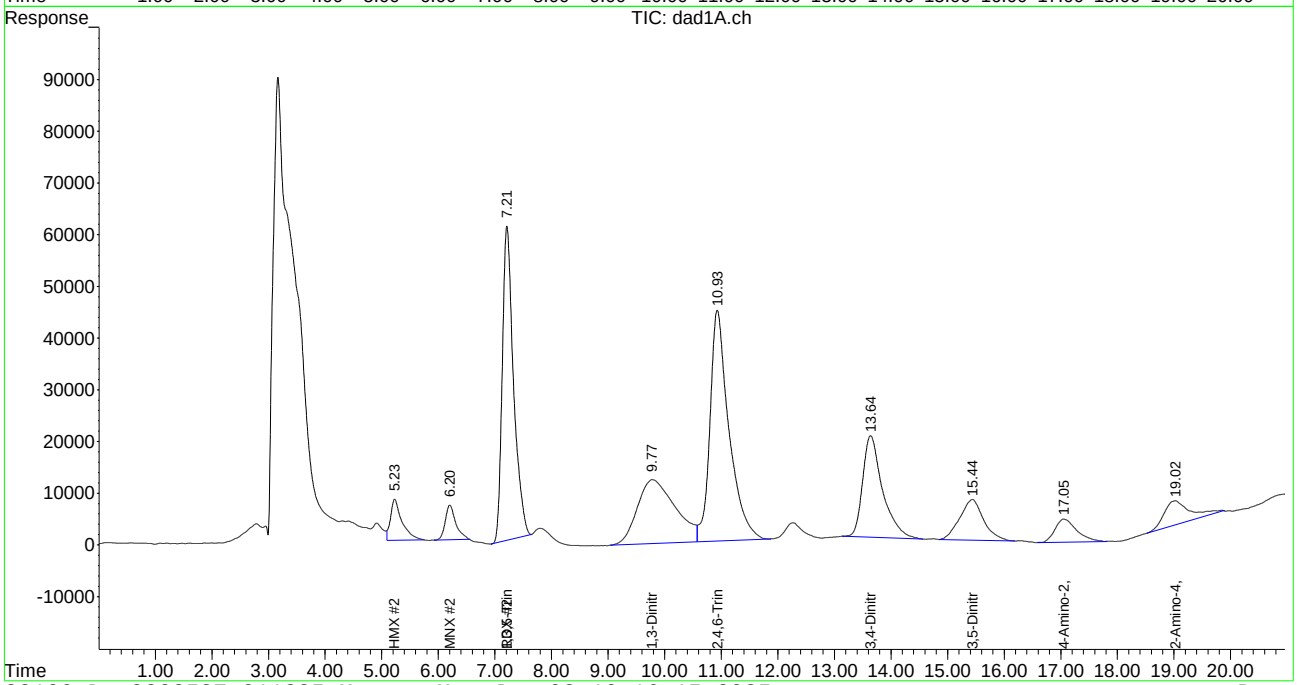
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632199.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632199.D\dad1A.ch
Acq On : 29-May-2025, 13:26:51 Operator: fouads
Sample : fc24818-1cf Inst : G1315B
Misc : op9525,GGG3585,930,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 11:48 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 11:41:25 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

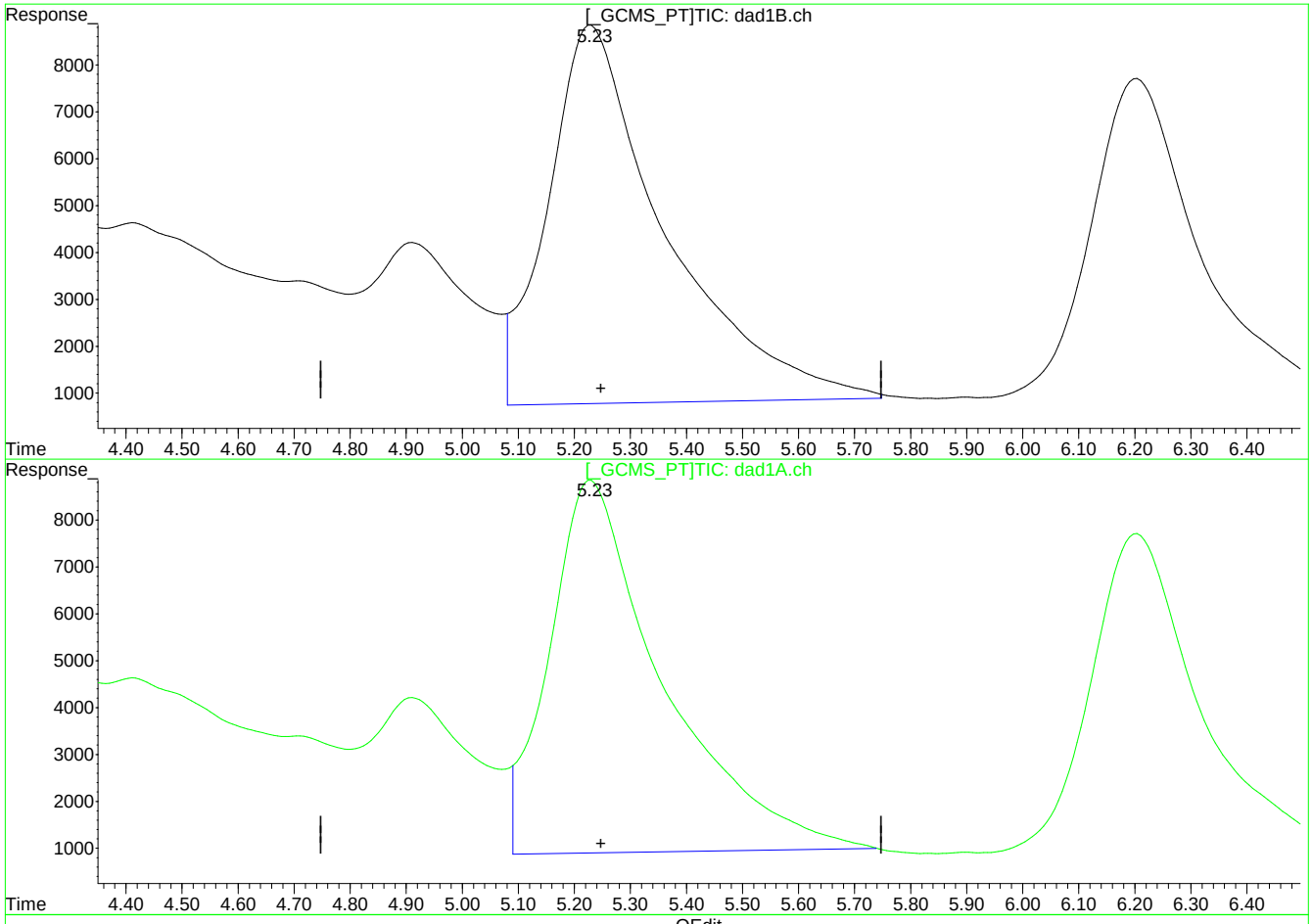
Sample Number: FC24818-1
Lab FileID: GG632199.D
Injection Time: 05/29/25 13:26
Method: SW846 8330B
Analyst approved: 06/02/25 11:16 Fouad Sekkar
Supervisor approved: 06/03/25 11:32 William Hustedde

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	5.23	Poorly defined baseline
HMX	2691-41-0	2	5.23	Poorly defined baseline
1,3-Dinitrobenzene	99-65-0	1	9.69	Missed peak
3,5-Dinitroaniline	618-87-1	1	15.43	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	2	17.05	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	1	17.06	Missed peak
2-amino-4,6-Dinitrotoluene	35572-78-2	1	19.01	Missed peak
2-amino-4,6-Dinitrotoluene	35572-78-2	2	19.02	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632199.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632199.D\dad1A.ch
Acq On : 29-May-2025, 13:26:51 Operator: fouads
Sample : fc24818-1cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 11:42 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 11:43:41 2025
Response via : Multiple Level Calibration



(2) HMX

5.23min 404.622ppb m

response 1172221

(2) HMX #2

5.23min 384.802ppb m

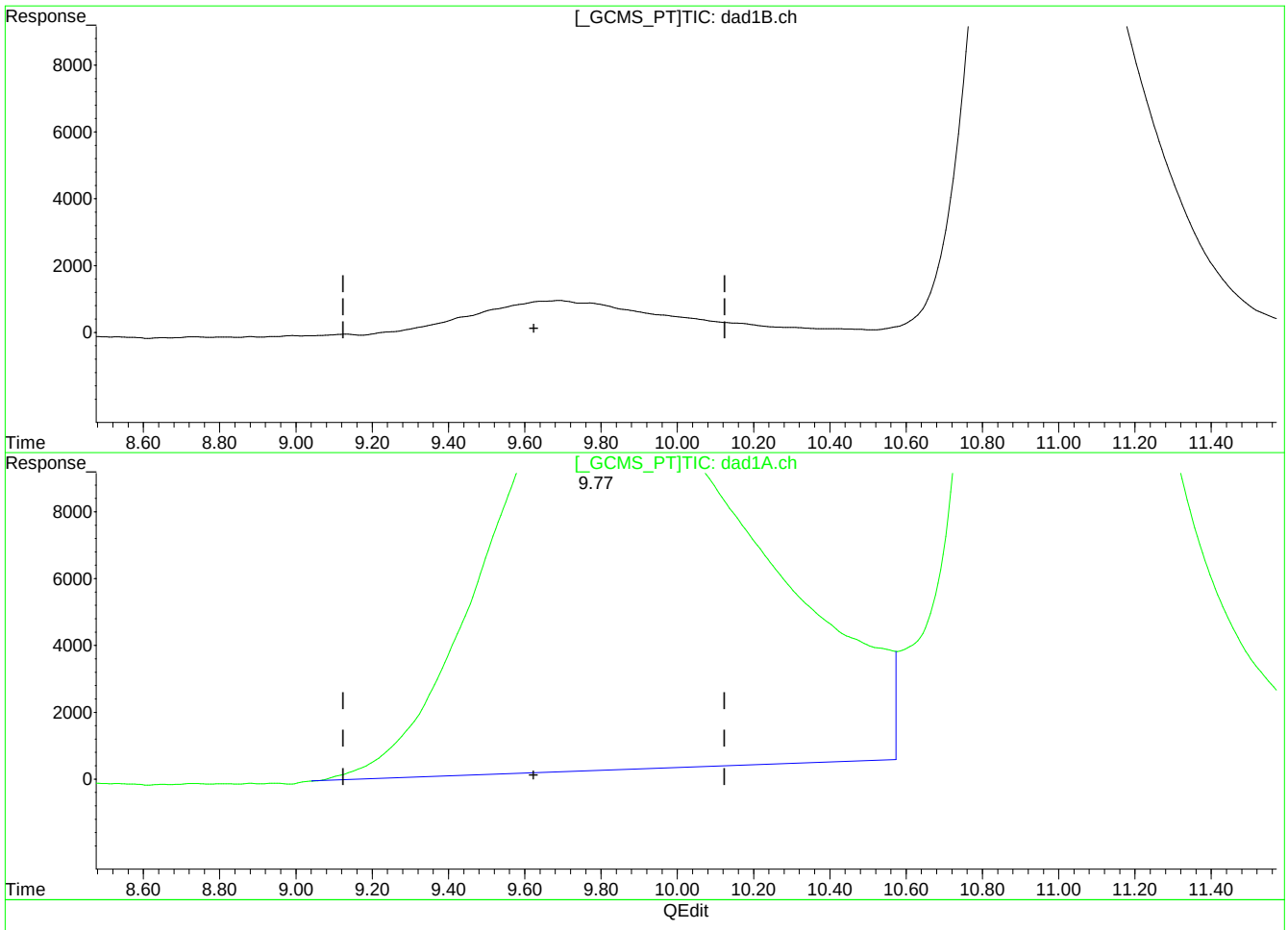
response 1115259

(+) = Expected Retention Time
GG632199.D GGG3527_011325.M Fri May 30 11:47:20 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632199.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632199.D\dad1A.ch
Acq On : 29-May-2025, 13:26:51 Operator: fouads
Sample : fc24818-1cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 11:42 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 11:43:41 2025
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

0.00min 0.000ppb

response 0

(7) 1,3-Dinitrobenzene #2

9.78min 653.848ppb

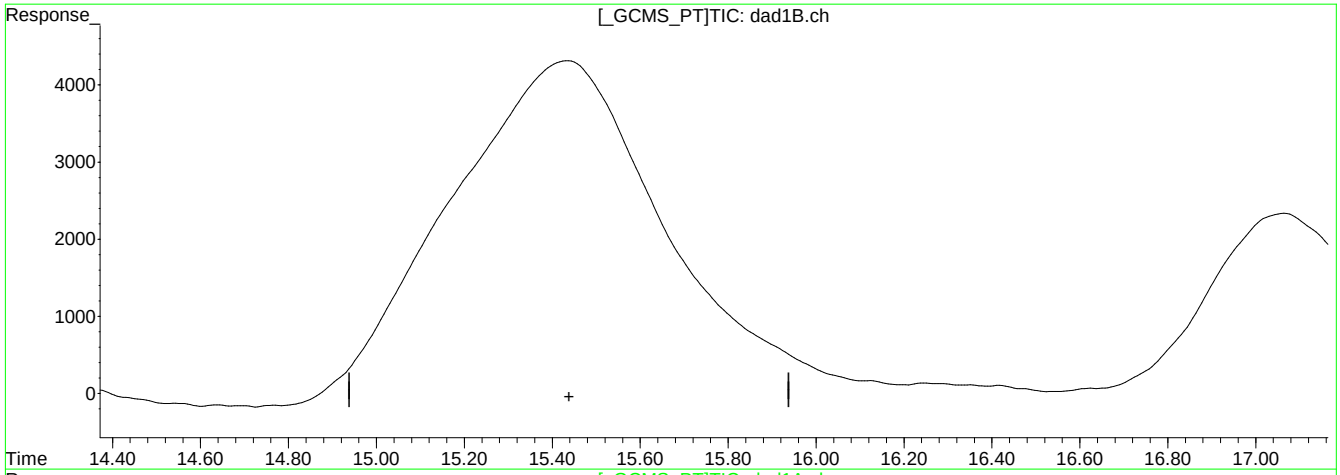
response 5753391

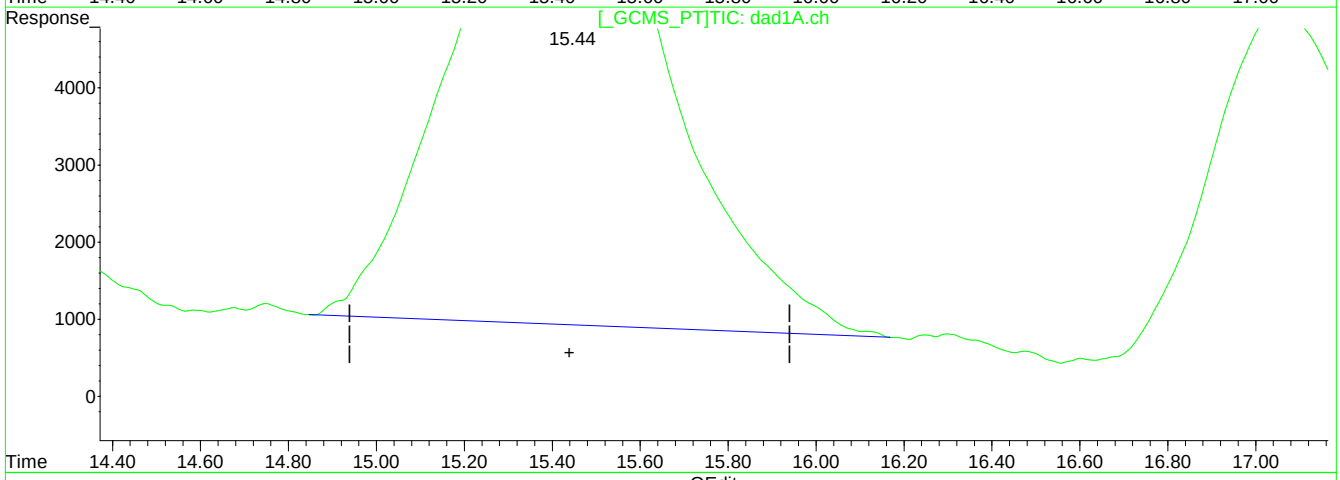
(+) = Expected Retention Time
GG632199.D GGG3527_011325.M Fri May 30 11:47:35 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632199.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632199.D\dad1A.ch
Acq On : 29-May-2025, 13:26:51 Operator: fouads
Sample : fc24818-1cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 11:42 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 11:43:41 2025
Response via : Multiple Level Calibration





QEdit

(15) 3,5-Dinitroaniline

0.00min 0.000ppb

response 0

(15) 3,5-Dinitroaniline #2

15.44min 137.119ppb

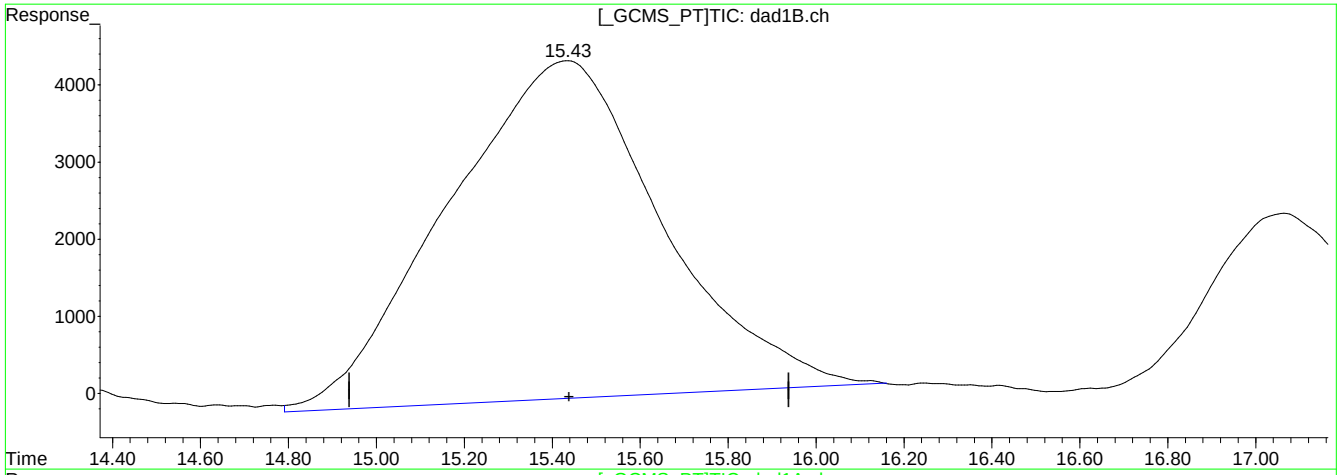
response 2294020

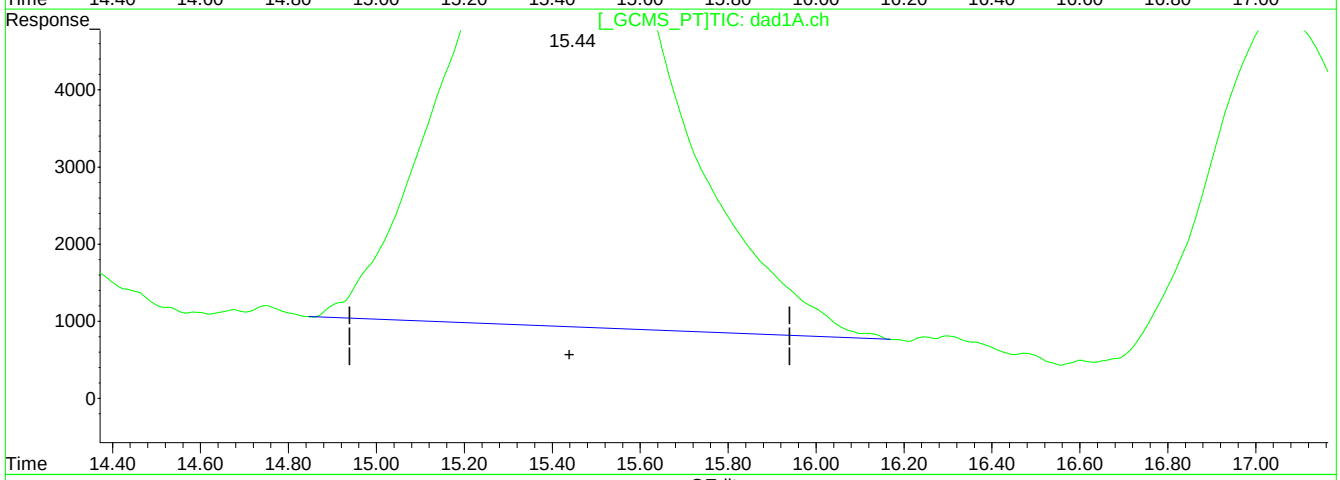
(+) = Expected Retention Time
GG632199.D GGG3527_011325.M Fri May 30 11:48:08 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632199.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632199.D\dad1A.ch
Acq On : 29-May-2025, 13:26:51 Operator: fouads
Sample : fc24818-1cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 11:42 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 11:43:41 2025
Response via : Multiple Level Calibration





QEdit

(15) 3,5-Dinitroaniline

15.43min 162.499ppb m

response 1483575

(15) 3,5-Dinitroaniline #2

15.44min 137.119ppb

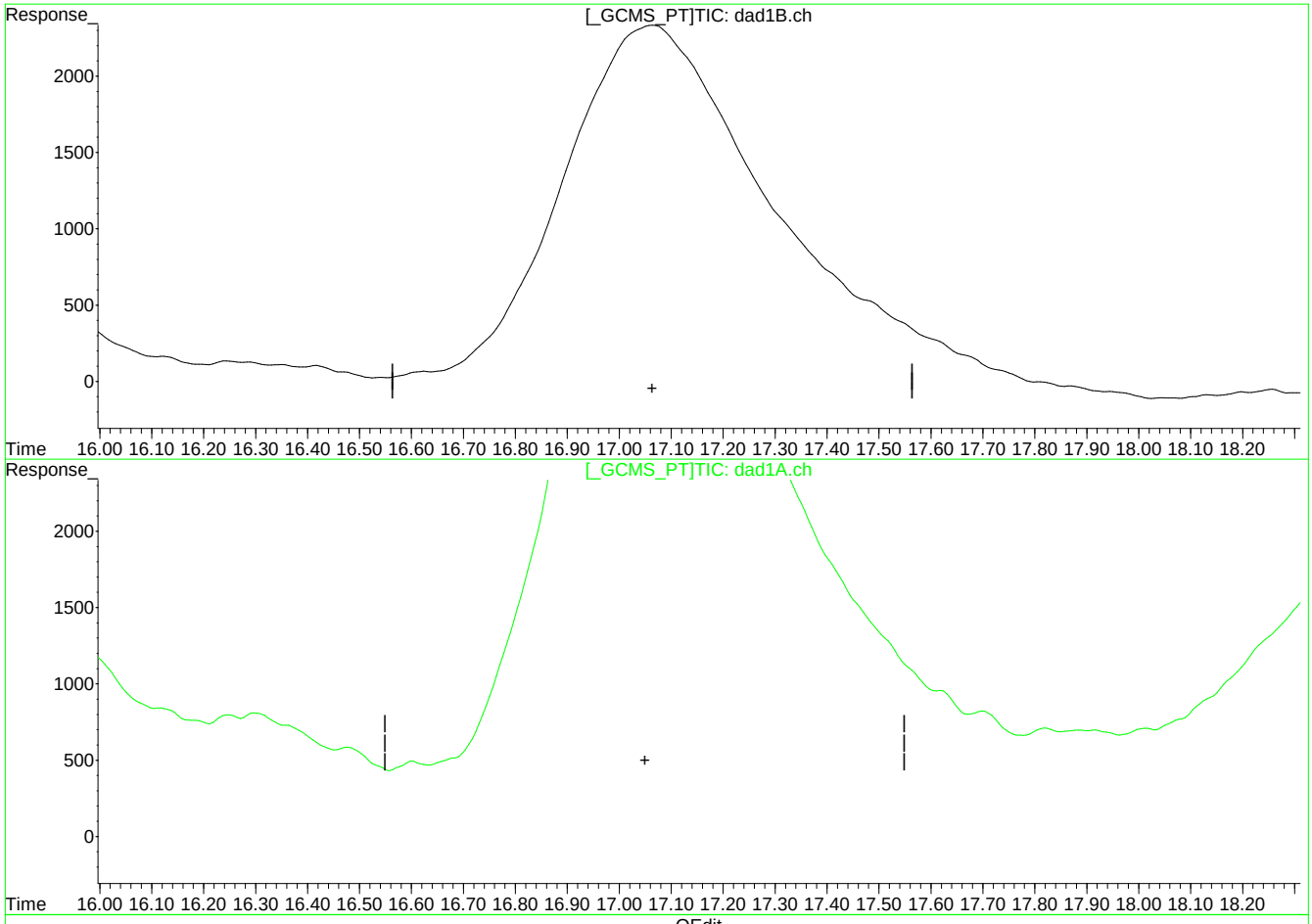
response 2294020

(+) = Expected Retention Time
GG632199.D GGG3527_011325.M Fri May 30 11:48:13 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632199.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632199.D\dad1A.ch
Acq On : 29-May-2025, 13:26:51 Operator: fouads
Sample : fc24818-1cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 11:42 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 11:43:41 2025
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

0.00min 0.000ppb

response 0

(18) 4-Amino-2,6-Dinitrotoluene #2

0.00min 0.000ppb

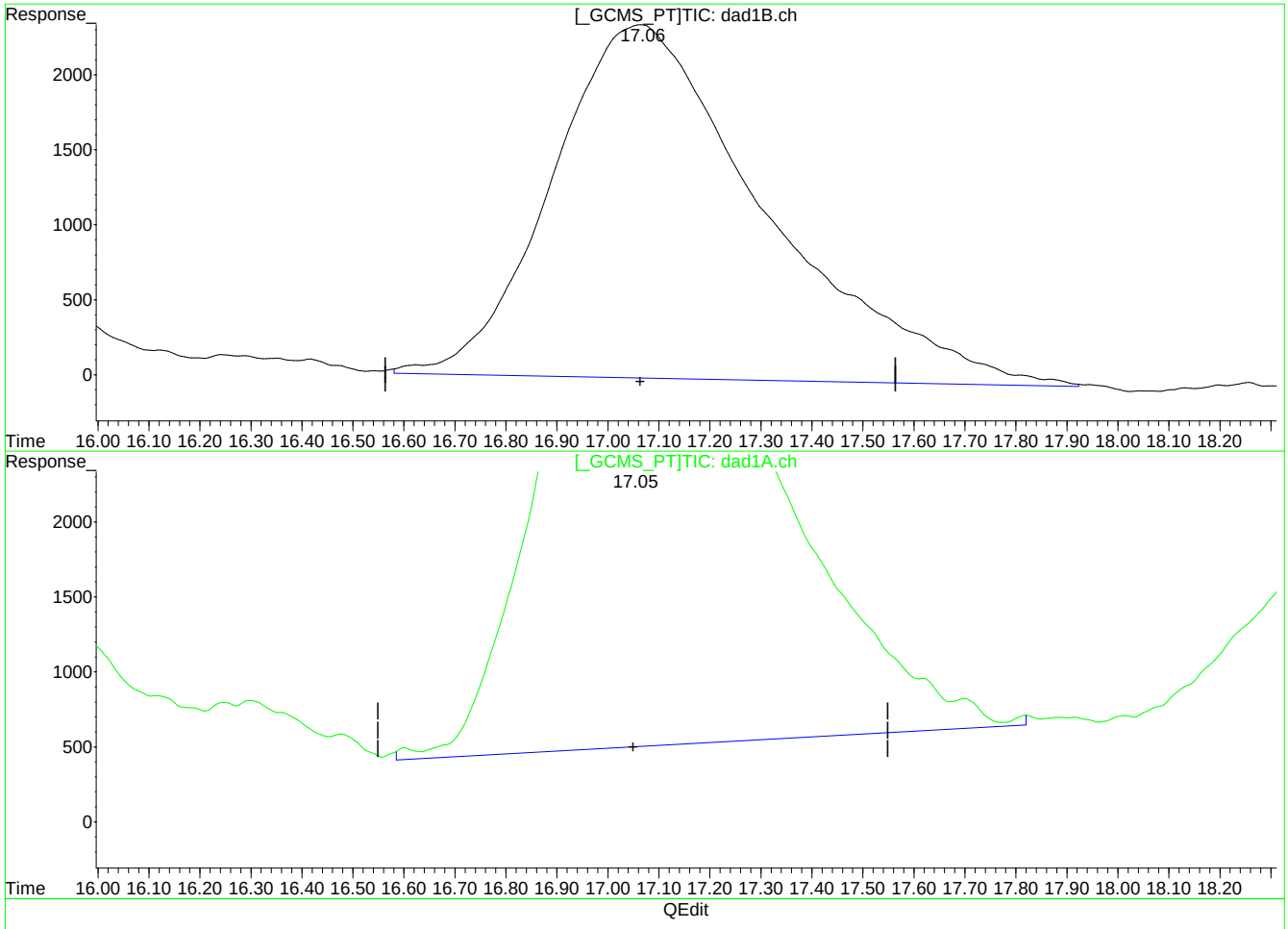
response 0

(+) = Expected Retention Time
GG632199.D GGG3527_011325.M Fri May 30 11:48:17 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632199.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632199.D\dad1A.ch
Acq On : 29-May-2025, 13:26:51 Operator: fouads
Sample : fc24818-1cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 11:42 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 11:43:41 2025
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

17.06min 140.632ppb m

response 685077

(18) 4-Amino-2,6-Dinitrotoluene #2

17.05min 137.794ppb m

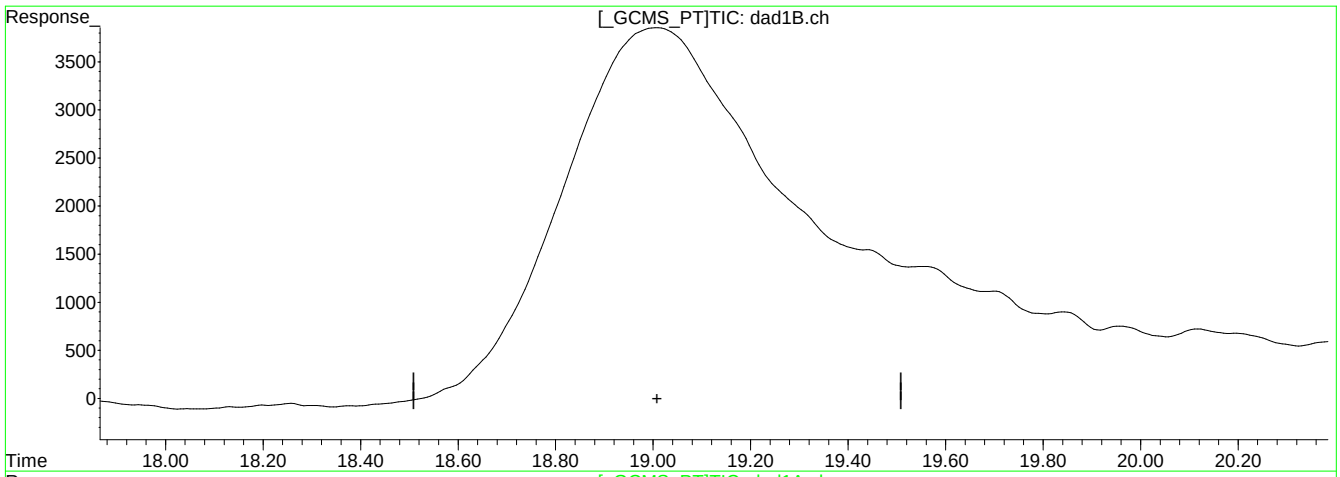
response 1214689

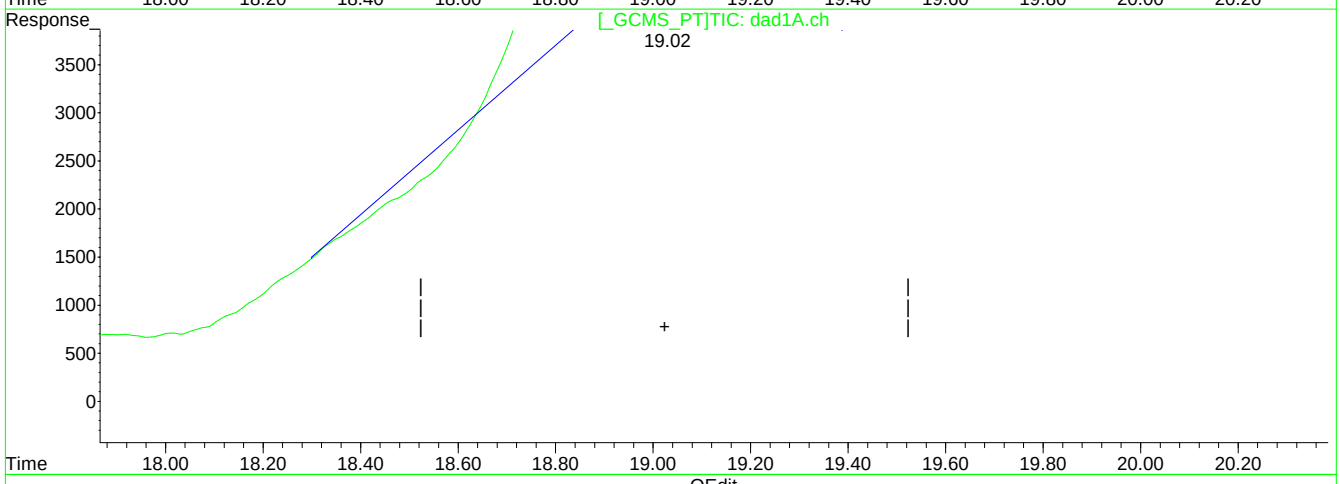
(+) = Expected Retention Time
GG632199.D GGG3527_011325.M Fri May 30 11:48:24 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632199.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632199.D\dad1A.ch
Acq On : 29-May-2025, 13:26:51 Operator: fouads
Sample : fc24818-1cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 11:42 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 11:43:41 2025
Response via : Multiple Level Calibration





QEdit

(20) 2-Amino-4,6-Dinitrotoluene

0.00min 0.000ppb

response 0

(20) 2-Amino-4,6-Dinitrotoluene #2

19.02min 74.806ppb

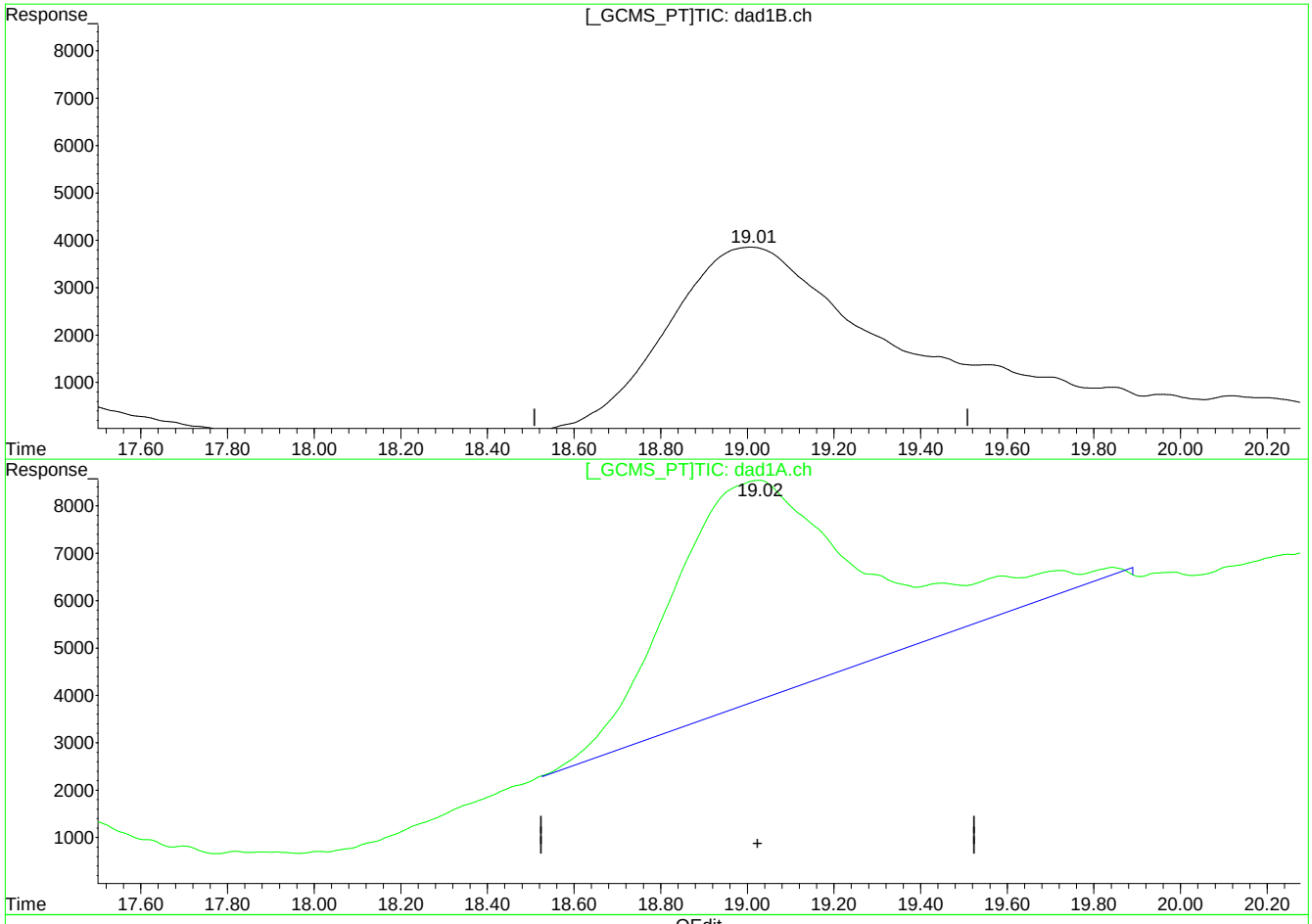
response 851756

(+) = Expected Retention Time
GG632199.D GGG3527_011325.M Fri May 30 11:48:29 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632199.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632199.D\dad1A.ch
Acq On : 29-May-2025, 13:26:51 Operator: fouads
Sample : fc24818-1cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 11:42 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 11:43:41 2025
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

19.01min 153.042ppb m

response 1234602

(20) 2-Amino-4,6-Dinitrotoluene #2

19.02min 126.803ppb m

response 1443808

(+) = Expected Retention Time
GG632199.D GGG3527_011325.M Fri May 30 11:48:41 2025

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 06/03/25 11:32

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088327.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088327.D\dad1A.ch
Acq On : 27-May-2025, 11:53:50 Operator: fouads
Sample : fc24818-2 Inst : G1315B
Misc : op9525,GBB2710,940,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 09:16:19 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.33	11.33	955510	1633479	406.298	417.615
	Spiked Amount 500.000	Range 70 - 136		Recovery =		81.26%	83.52%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.58	1.58	895301	1641926	601.701m	354.877m#
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	3.23	3.23	4826887	5850011	2705.350	2043.319
6)	1,3,5-Trinitrobe	4.80	4.80	3291927	5134000	827.427m	831.918m
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	6.41	6.41	179537	276839	42.151m	44.026m
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	9.94	9.94	2874518	3429333	817.405	812.892
13)	2-Amino-4,6-Dini	10.41	10.42	392088	525235	117.010	112.434
14)	4-Amino-2,6-Dini	10.88	10.88	221053	345187	95.488	74.984
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

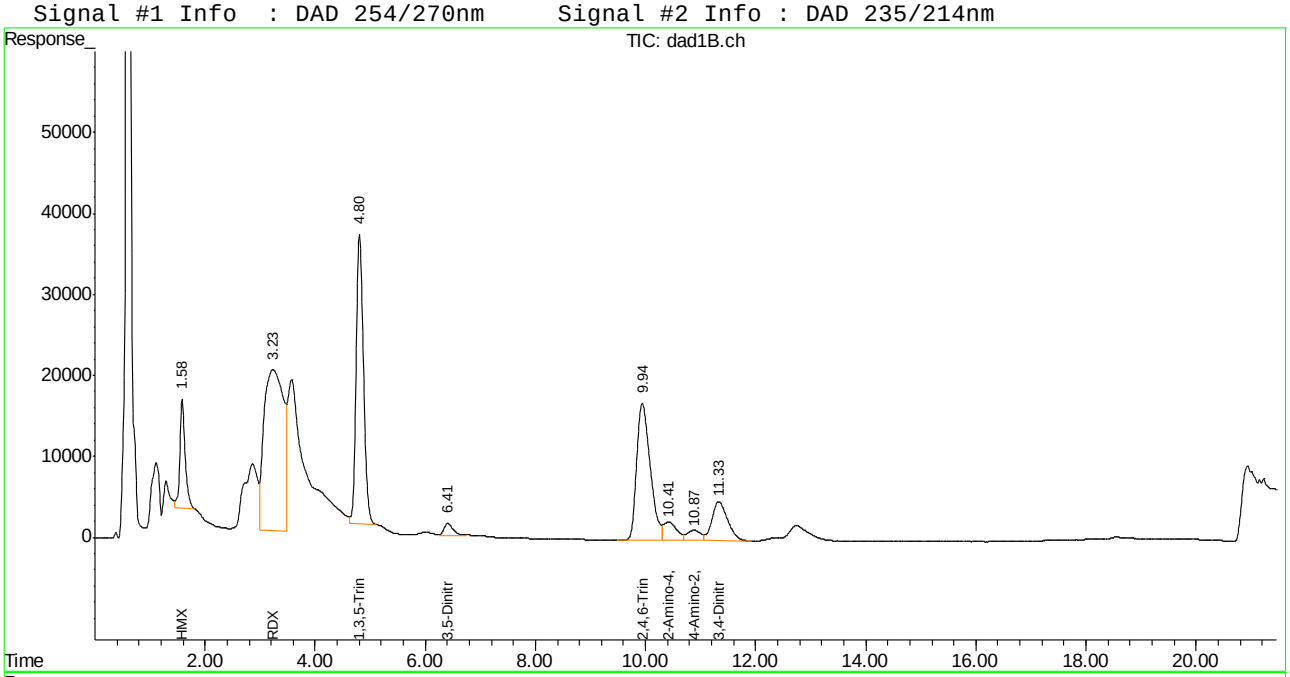
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088327.D BBB2700_050625.M Mon Jun 02 11:22:04 2025 Page 1

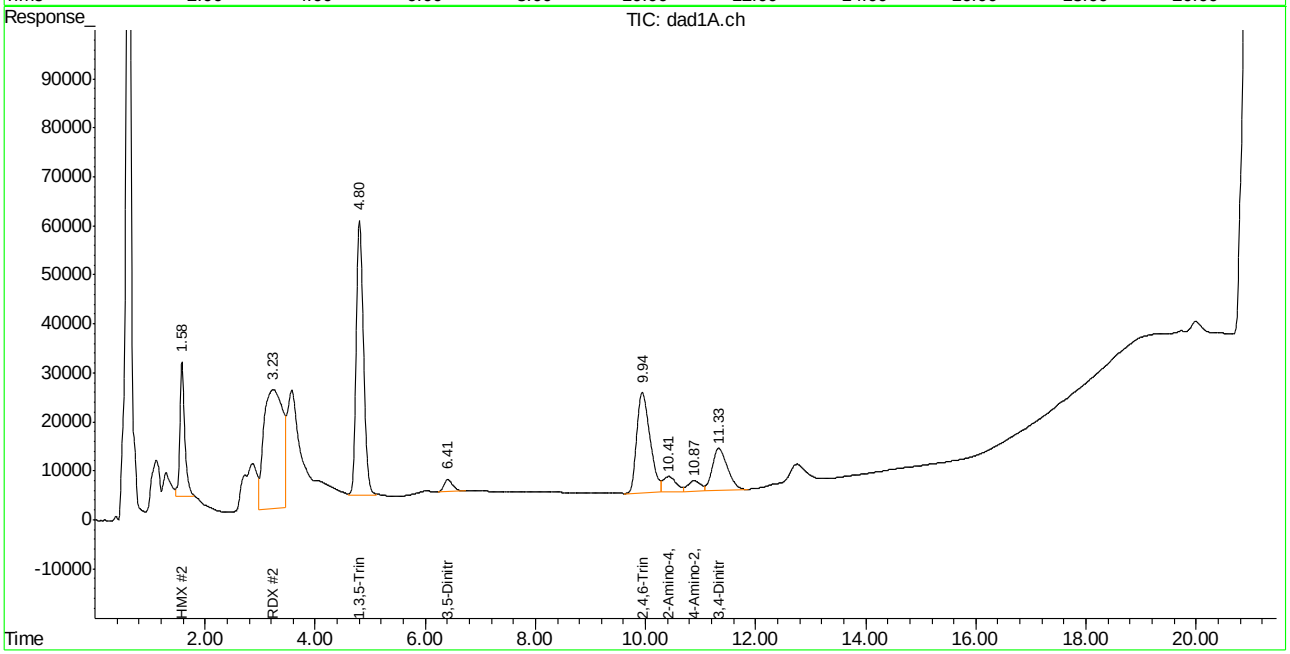
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088327.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088327.D\dad1A.ch
Acq On : 27-May-2025, 11:53:50 Operator: fouads
Sample : fc24818-2 Inst : G1315B
Misc : op9525,GBB2710,940,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jun 2 11:21 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

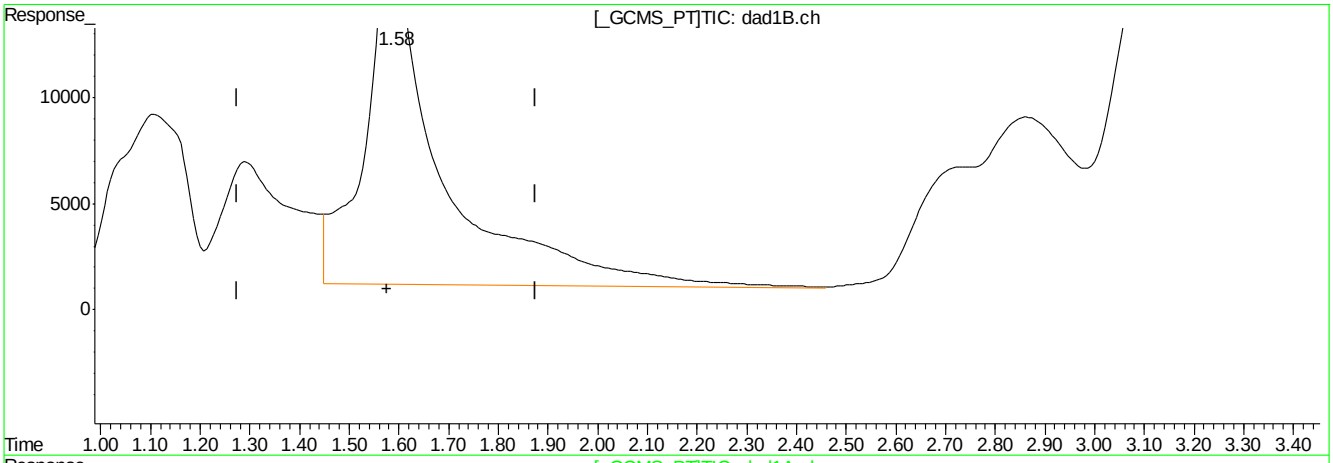
Sample Number: FC24818-2
Lab FileID: BB088327.D
Injection Time: 05/27/25 11:53
Method: SW846 8330B
Analyst approved: 06/02/25 10:11 Fouad Sekkar
Supervisor approved: 06/03/25 11:32 William Hustedde

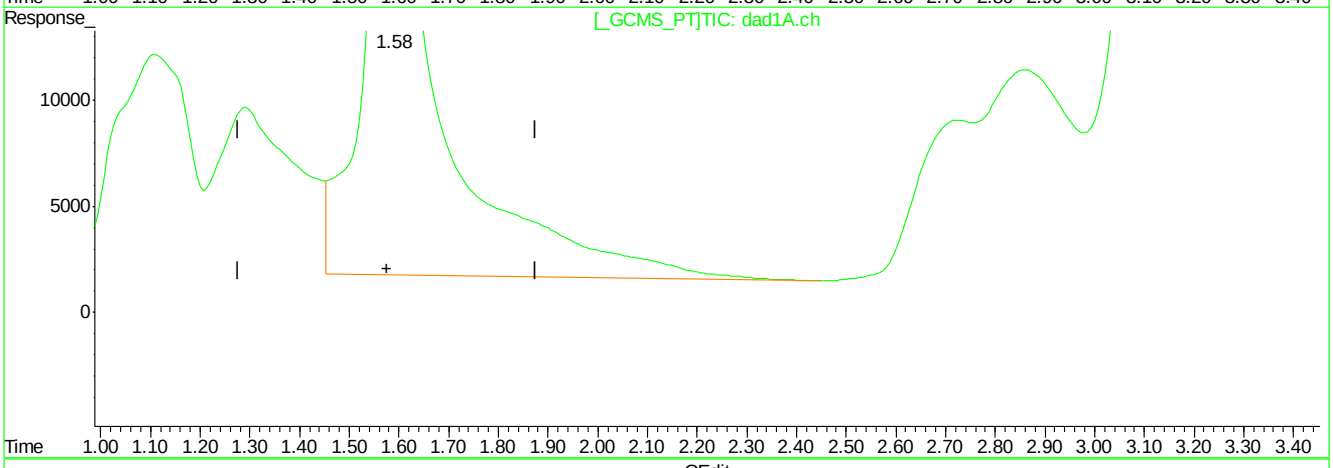
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	1	0.00	Poorly defined baseline
1,3-Dinitrobenzene	99-65-0	2	0.00	Poorly defined baseline
HMX	2691-41-0	1	1.58	Poorly defined baseline
HMX	2691-41-0	2	1.58	Poorly defined baseline
1,3,5-Trinitrobenzene	99-35-4	1	4.80	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	4.80	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	6.41	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	6.41	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088327.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088327.D\dad1A.ch
Acq On : 27-May-2025, 11:53:50 Operator: fouads
Sample : fc24818-2 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

1.59min 1145.955ppb

response 1705123

(2) HMX #2

1.58min 579.894ppb

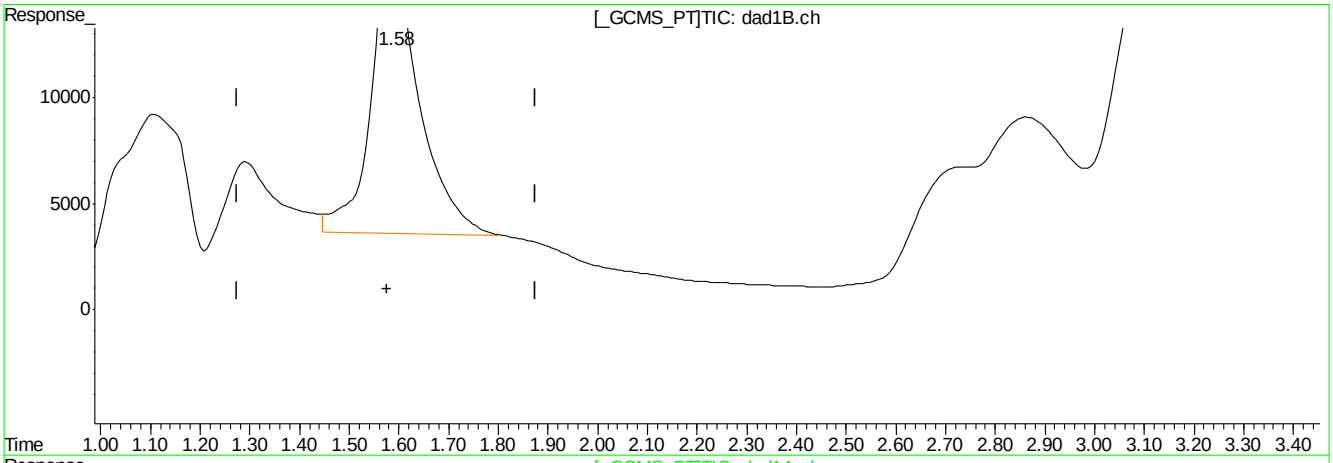
response 2683024

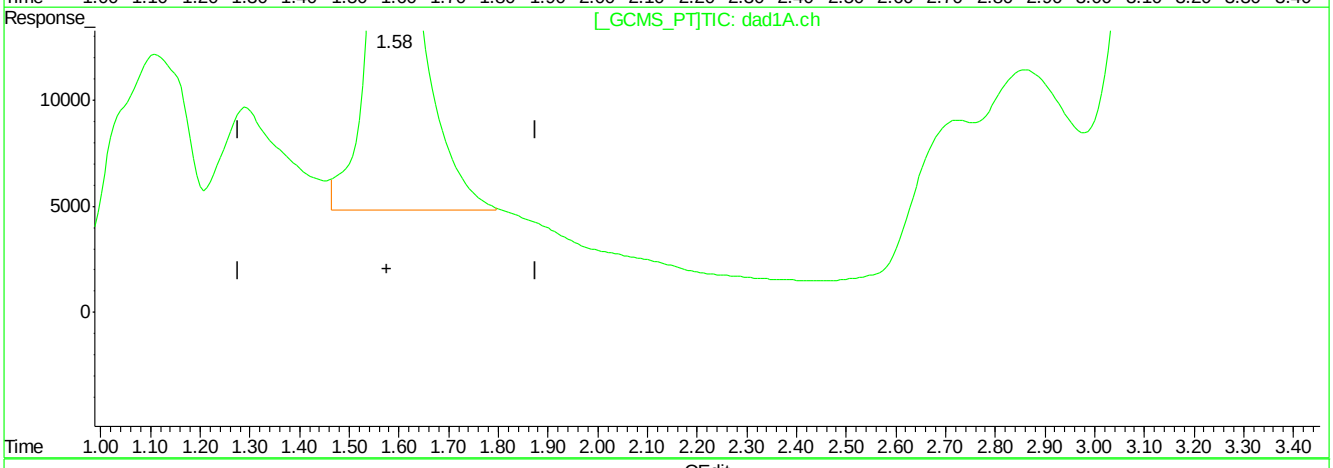
(+) = Expected Retention Time
BB088327.D BBB2700_050625.M Wed May 28 10:55:31 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088327.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088327.D\dad1A.ch
Acq On : 27-May-2025, 11:53:50 Operator: fouads
Sample : fc24818-2 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

1.58min 601.701ppb m

response 895301

(2) HMX #2

1.58min 354.877ppb m

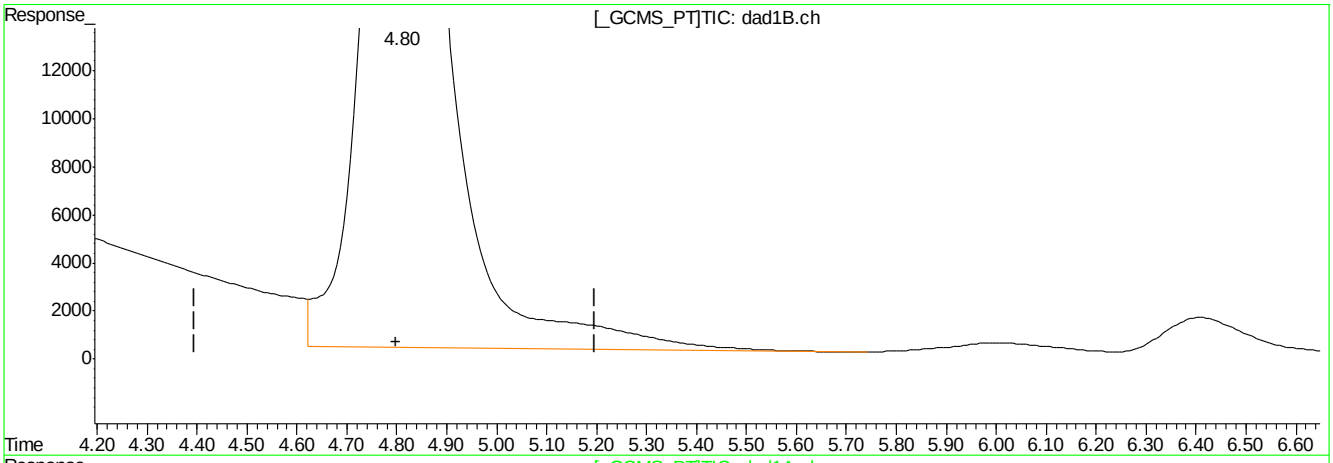
response 1641926

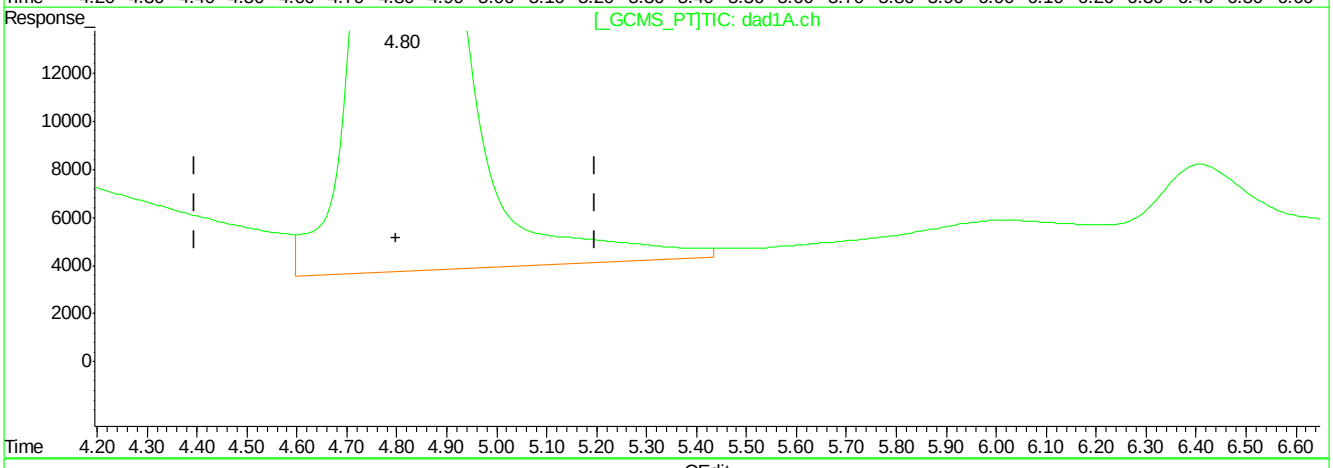
(+) = Expected Retention Time
BB088327.D BBB2700_050625.M Wed May 28 10:55:39 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088327.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088327.D\dad1A.ch
Acq On : 27-May-2025, 11:53:50 Operator: fouads
Sample : fc24818-2 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(6) 1,3,5-Trinitrobenzene

4.80min 951.760ppb

response 3786588

(6) 1,3,5-Trinitrobenzene #2

4.80min 921.078ppb

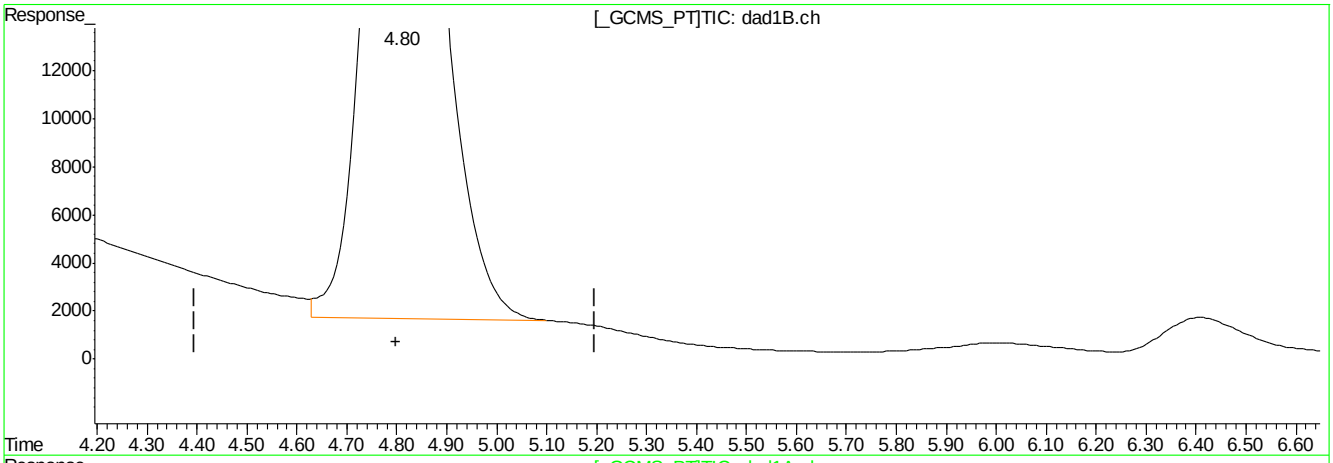
response 5684230

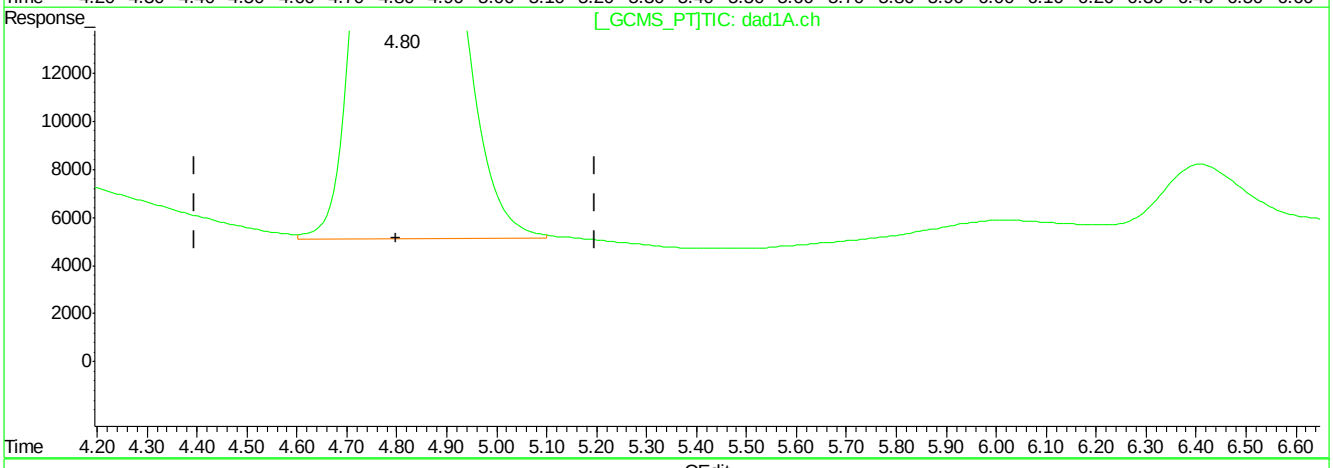
(+) = Expected Retention Time
BB088327.D BBB2700_050625.M Wed May 28 10:56:26 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088327.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088327.D\dad1A.ch
Acq On : 27-May-2025, 11:53:50 Operator: fouads
Sample : fc24818-2 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(6) 1,3,5-Trinitrobenzene

4.80min 827.427ppb m

response 3291927

(6) 1,3,5-Trinitrobenzene #2

4.80min 831.918ppb m

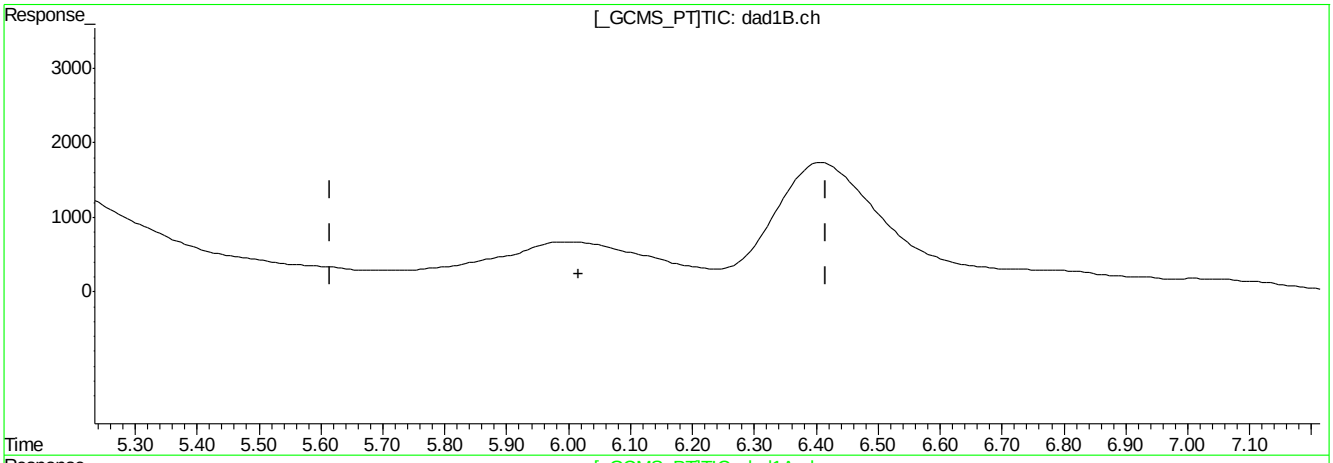
response 5134000

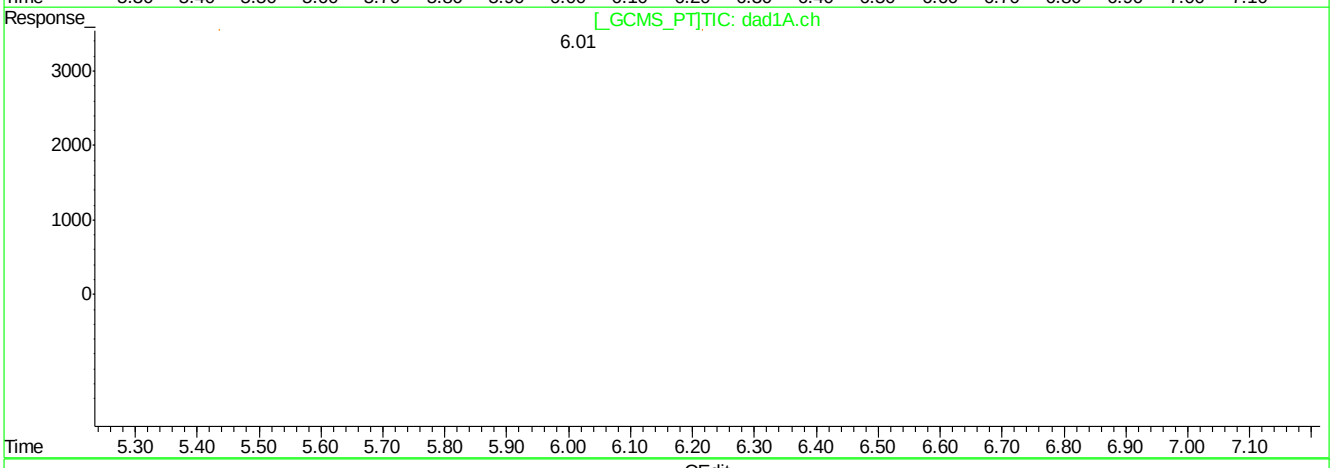
(+) = Expected Retention Time
BB088327.D BBB2700_050625.M Wed May 28 10:56:33 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088327.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088327.D\dad1A.ch
Acq On : 27-May-2025, 11:53:50 Operator: fouads
Sample : fc24818-2 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

0.00min 0.000ppb

response 0

(7) 1,3-Dinitrobenzene #2

6.01min 83.635ppb

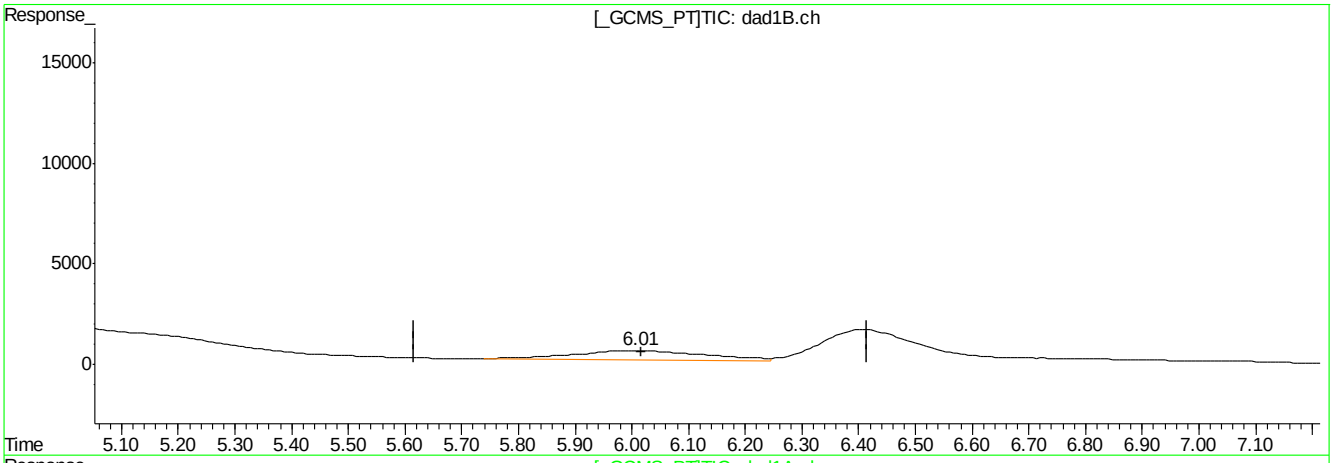
response 287206

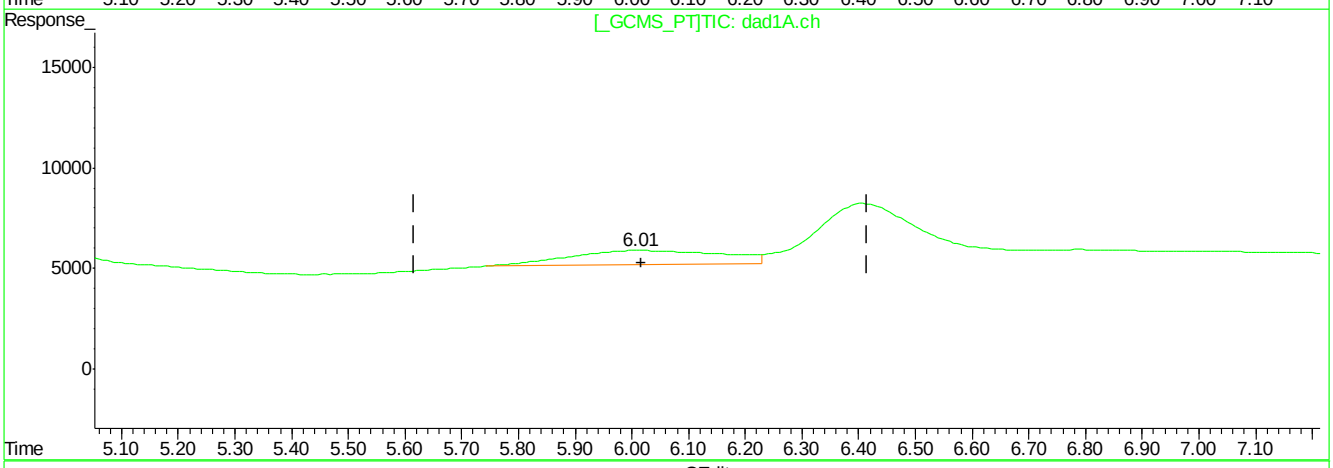
(+) = Expected Retention Time
BB088327.D BBB2700_050625.M Wed May 28 10:56:42 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088327.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088327.D\dad1A.ch
Acq On : 27-May-2025, 11:53:50 Operator: fouads
Sample : fc24818-2 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

6.01min 15.443ppb m

response 77991

(7) 1,3-Dinitrobenzene #2

6.01min 39.158ppb m

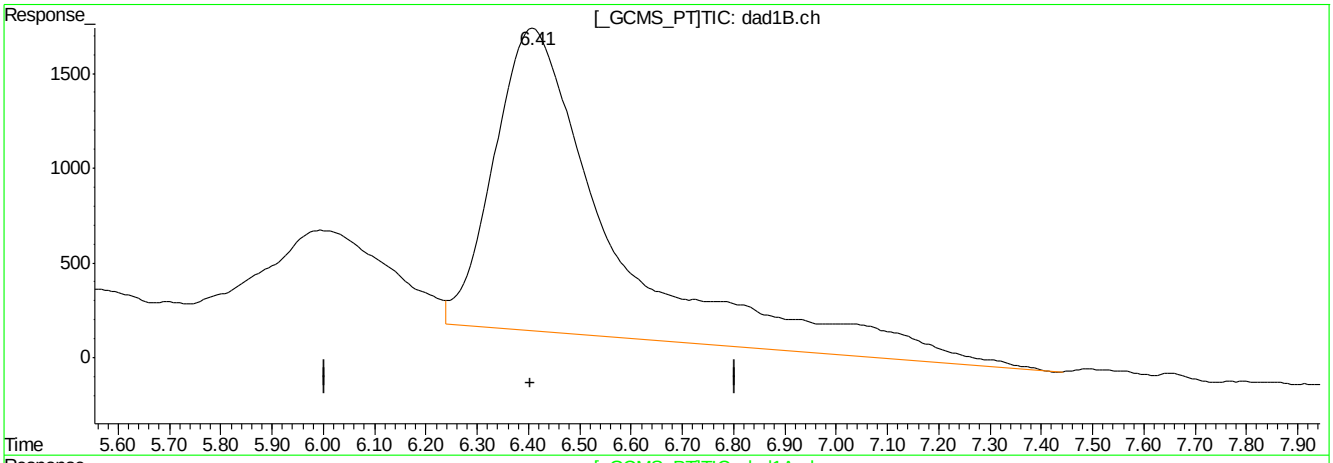
response 134469

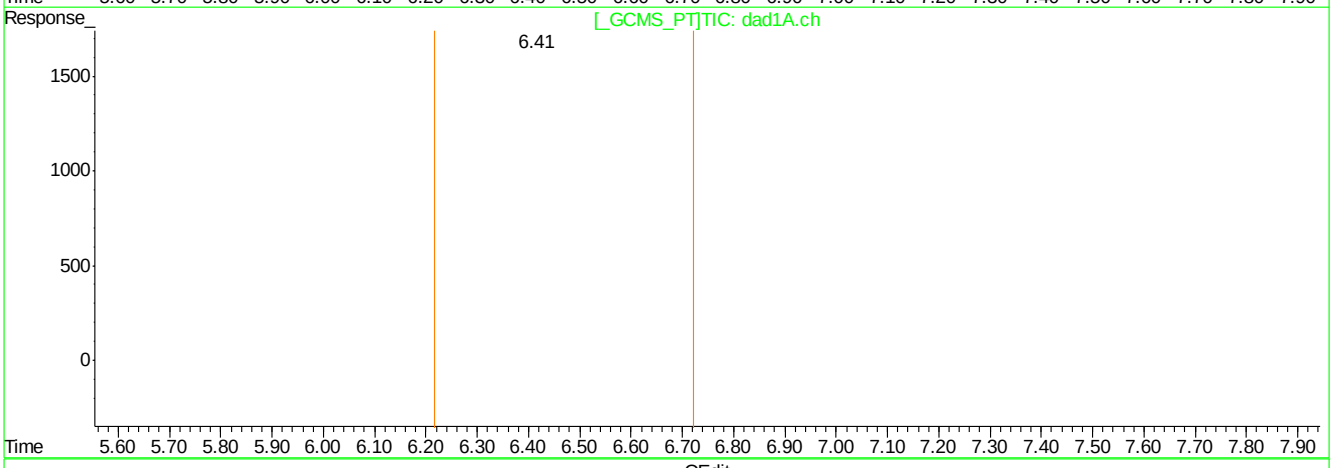
(+) = Expected Retention Time
BB088327.D BBB2700_050625.M Wed May 28 10:57:01 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088327.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088327.D\dad1A.ch
Acq On : 27-May-2025, 11:53:50 Operator: fouads
Sample : fc24818-2 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.41min 61.290ppb

response 261057

(8) 3,5-Dinitroaniline #2

6.41min 65.892ppb

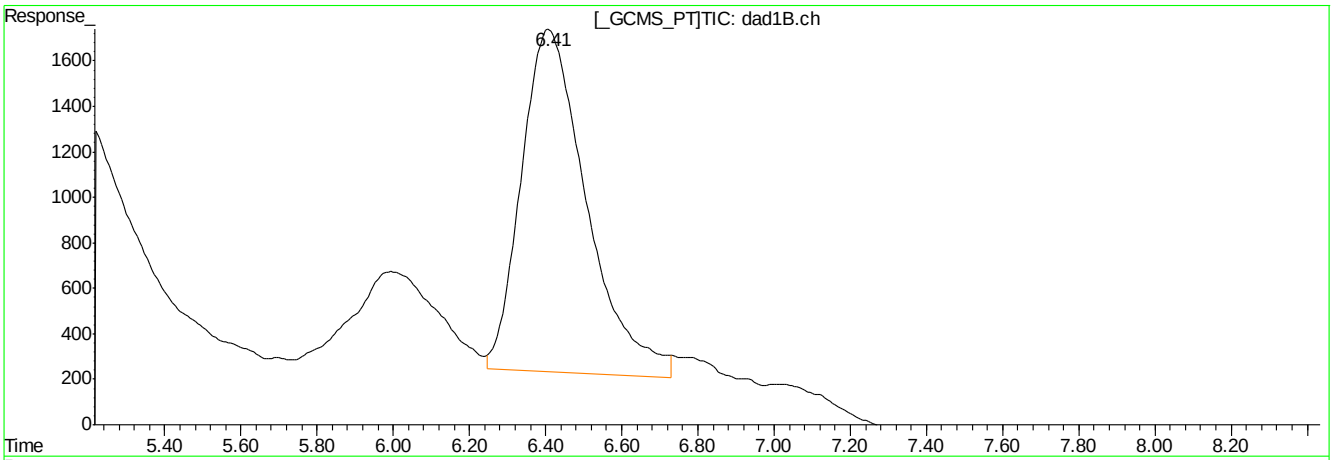
response 414336

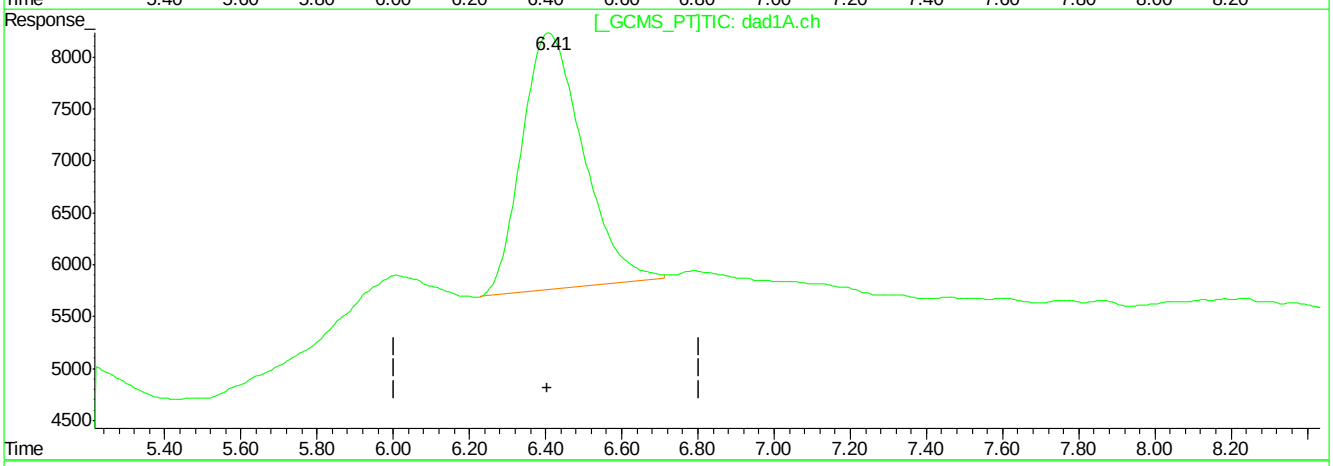
(+) = Expected Retention Time
BB088327.D BBB2700_050625.M Wed May 28 10:57:07 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088327.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088327.D\dad1A.ch
Acq On : 27-May-2025, 11:53:50 Operator: fouads
Sample : fc24818-2 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.41min 42.151ppb m

response 179537

(8) 3,5-Dinitroaniline #2

6.41min 44.026ppb m

response 276839

(+) = Expected Retention Time
BB088327.D BBB2700_050625.M Wed May 28 10:57:19 2025

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 06/03/25 11:32

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632200.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632200.D\dad1A.ch
Acq On : 29-May-2025, 13:53:16 Operator: fouads
Sample : fc24818-2cf Inst : G1315B
Misc : op9525,GGG3585,940,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:02:10 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:01:59 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	13.02	13.03	2471604	4928405	514.832	496.255
	Spiked Amount 500.000	Range 70 - 136		Recovery =		102.97%	99.25%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	5.10	5.10	688807	688807	237.759	237.662
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	5.89	5.89	1064568	1064568	124.061	126.577
6)	RDX	6.72	6.72	7615728	7615728	1861.493	1878.694
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	10.28	10.28	7481220	9924868	916.898	873.388m
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
15)	3,5-Dinitroanili	14.74	14.81	1182877	1171142	129.563	70.002m#
16)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	15.74	15.79	1922501	35033497	394.651	3974.186m#
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	16.81	16.84	1550131	11730425	192.155m	1030.230 #
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

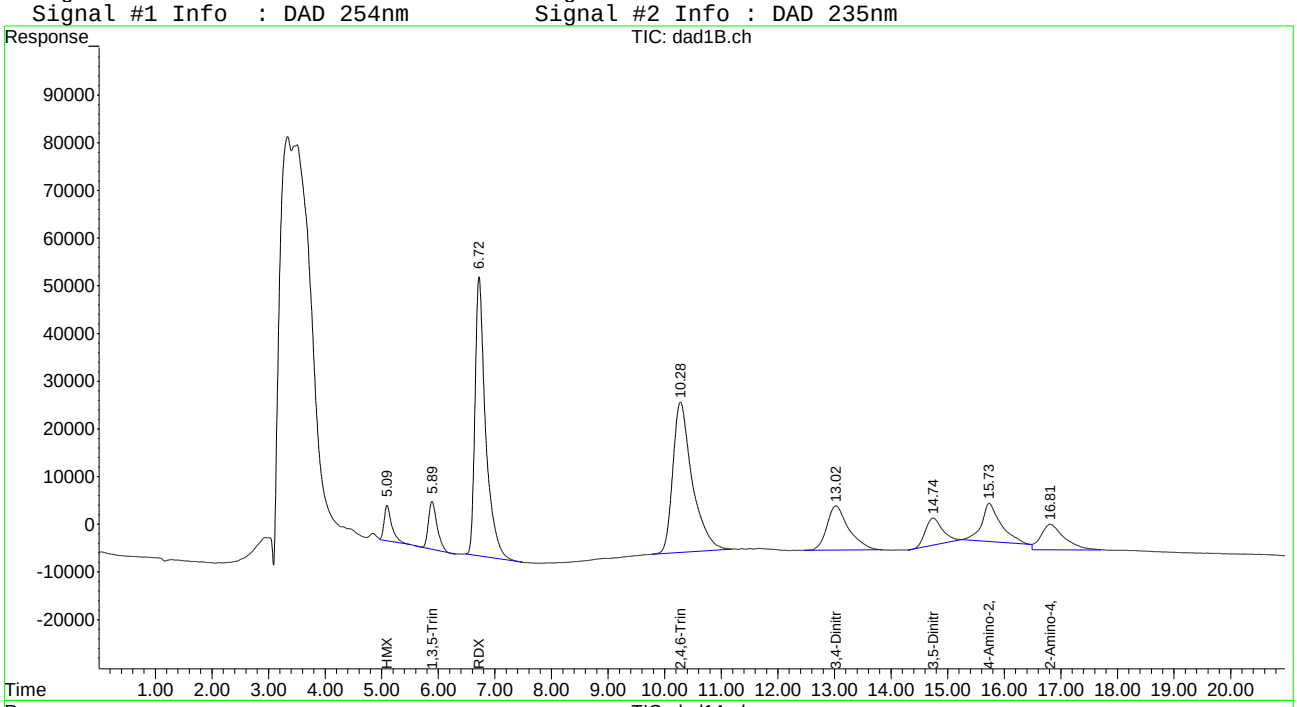
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG632200.D GGG3527_011325.M Mon Jun 02 10:16:16 2025

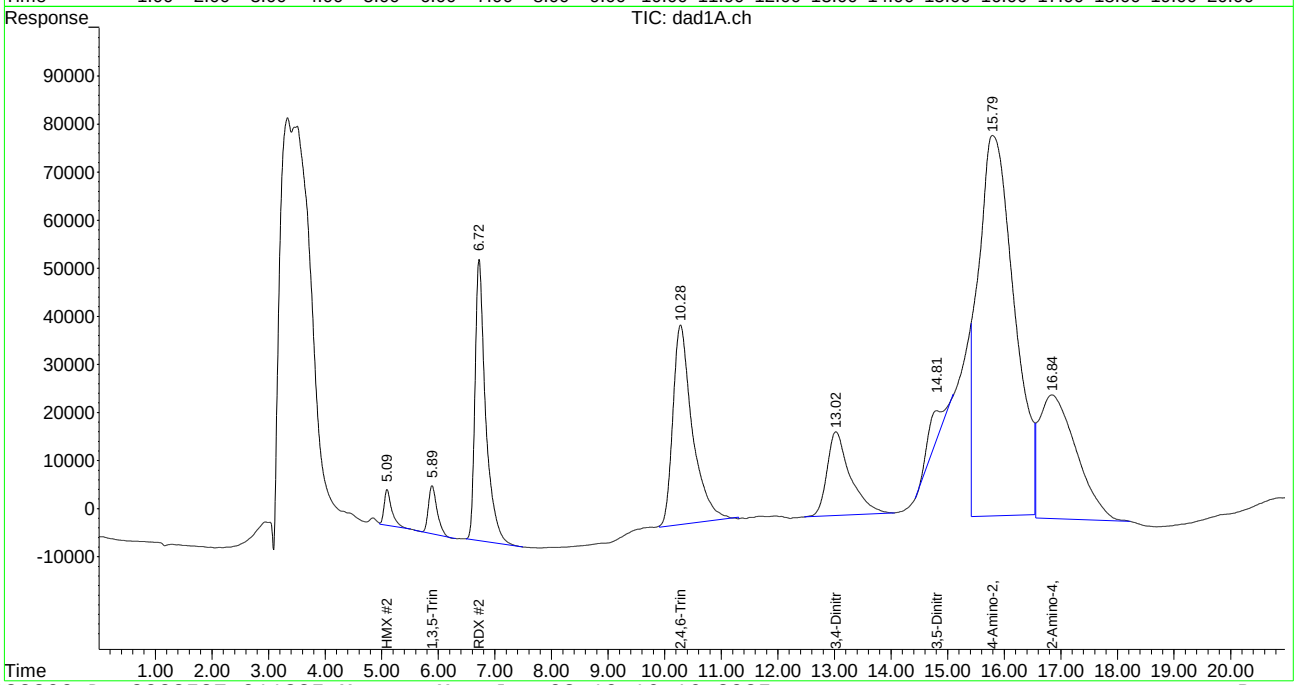
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632200.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632200.D\dad1A.ch
Acq On : 29-May-2025, 13:53:16 Operator: fouads
Sample : fc24818-2cf Inst : G1315B
Misc : op9525,GGG3585,940,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:04 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:01:59 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: FC24818-2
Lab FileID: GG632200.D
Injection Time: 05/29/25 13:53

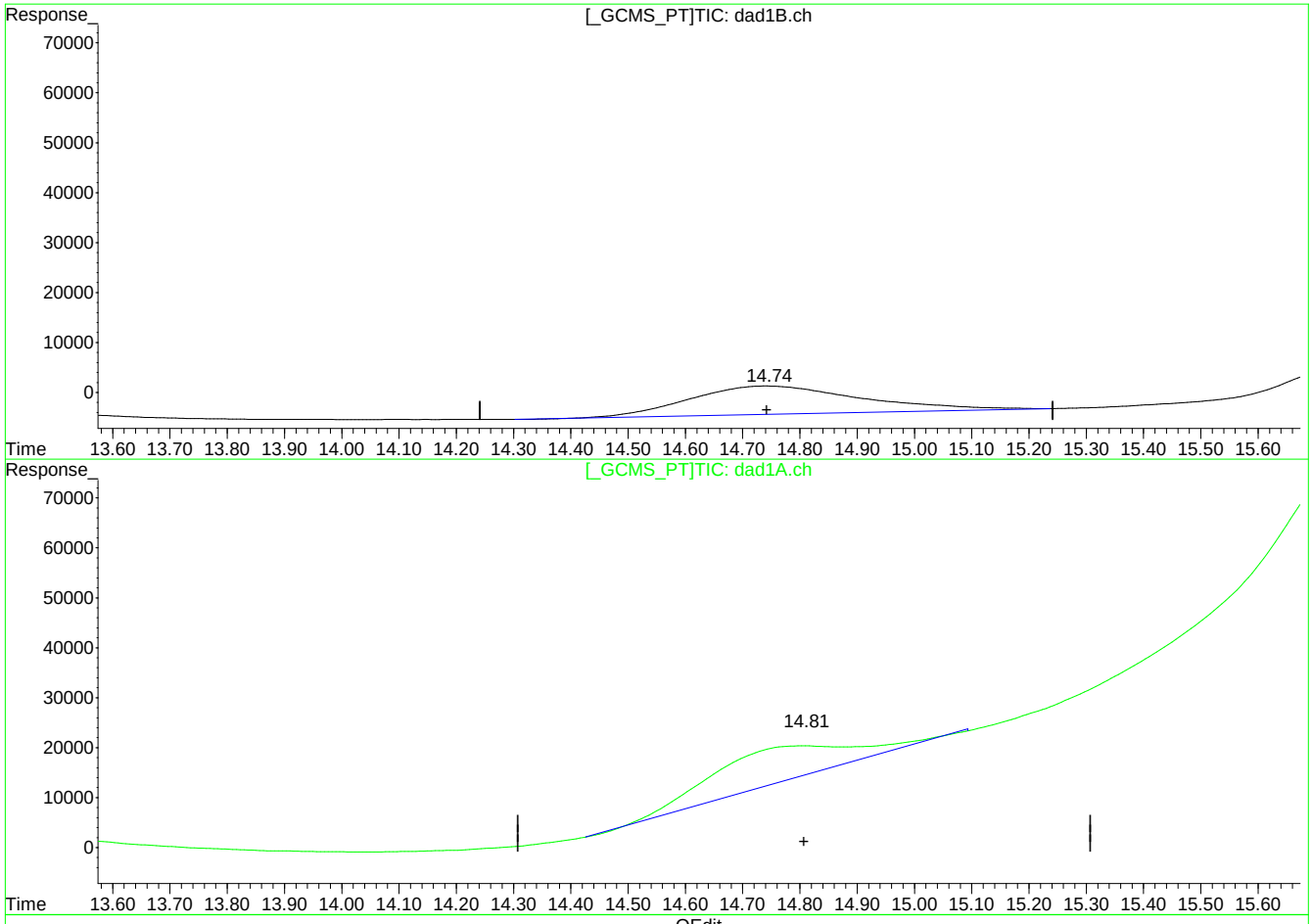
Method: SW846 8330B
Analyst approved: 06/02/25 11:16 Fouad Sekkar
Supervisor approved: 06/03/25 11:32 William Hustedde

Parameter	CAS	Sig#	R.T. (min.)	Reason
2,4,6-Trinitrotoluene	118-96-7	2	10.28	Missed peak
3,5-Dinitroaniline	618-87-1	2	14.81	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	2	15.79	Missed peak
2-amino-4,6-Dinitrotoluene	35572-78-2	1	16.81	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632200.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632200.D\dad1A.ch
Acq On : 29-May-2025, 13:53:16 Operator: fouads
Sample : fc24818-2cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:02 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:01:59 2025
Response via : Multiple Level Calibration



(15) 3,5-Dinitroaniline

14.74min 129.563ppb

response 1182877

(15) 3,5-Dinitroaniline #2

14.81min 70.002ppb m

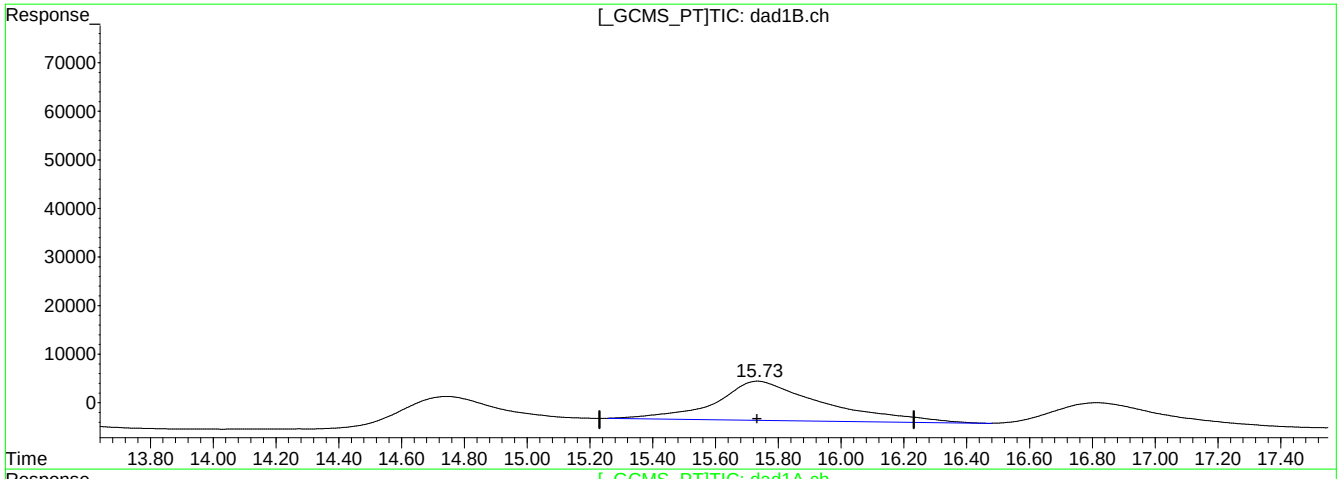
response 1171142

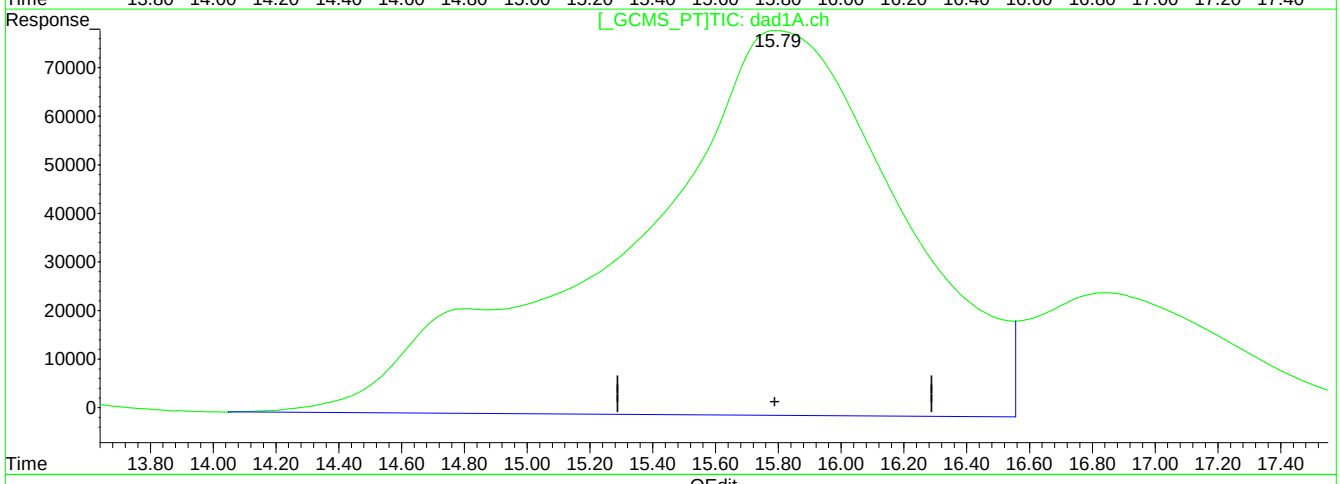
(+) = Expected Retention Time
GG632200.D GGG3527_011325.M Fri May 30 12:03:33 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632200.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632200.D\dad1A.ch
Acq On : 29-May-2025, 13:53:16 Operator: fouads
Sample : fc24818-2cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:02 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:01:59 2025
Response via : Multiple Level Calibration





QEdit

(18) 4-Amino-2,6-Dinitrotoluene

15.74min 394.651ppb

response 1922501

(18) 4-Amino-2,6-Dinitrotoluene #2

15.80min 5473.723ppb

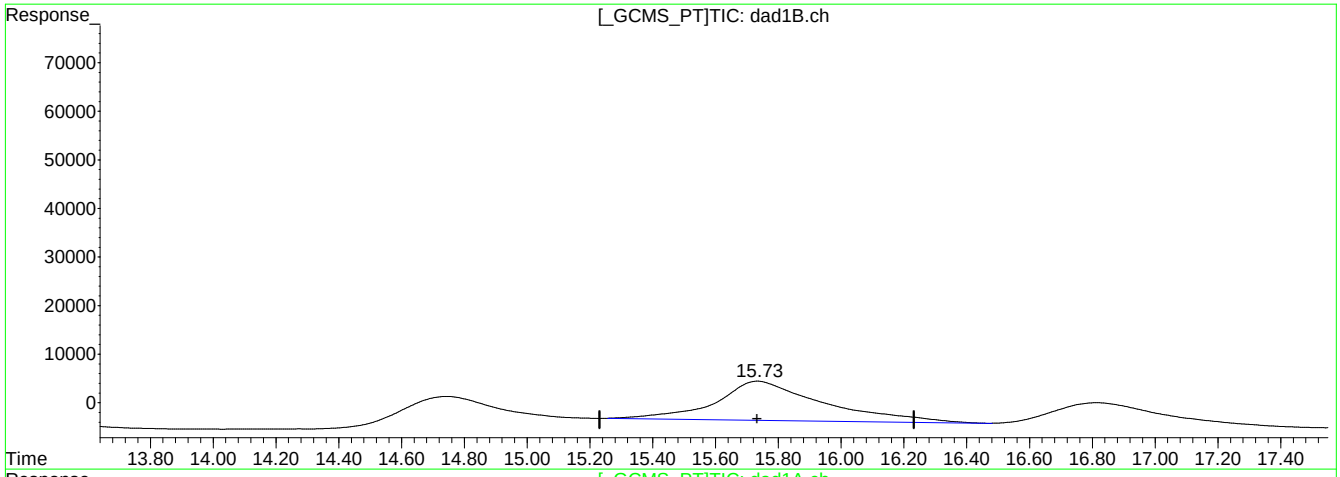
response 48252307

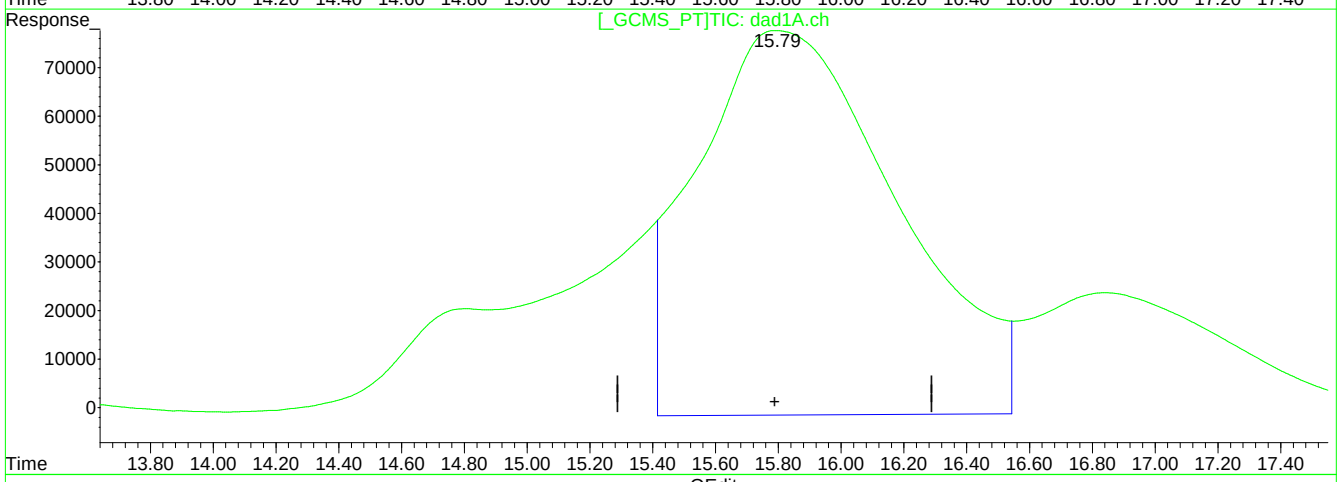
(+) = Expected Retention Time
GG632200.D GGG3527_011325.M Fri May 30 12:03:42 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632200.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632200.D\dad1A.ch
Acq On : 29-May-2025, 13:53:16 Operator: fouads
Sample : fc24818-2cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:02 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:01:59 2025
Response via : Multiple Level Calibration





QEdit

(18) 4-Amino-2,6-Dinitrotoluene

15.74min 394.651ppb

response 1922501

(18) 4-Amino-2,6-Dinitrotoluene #2

15.79min 3974.186ppb m

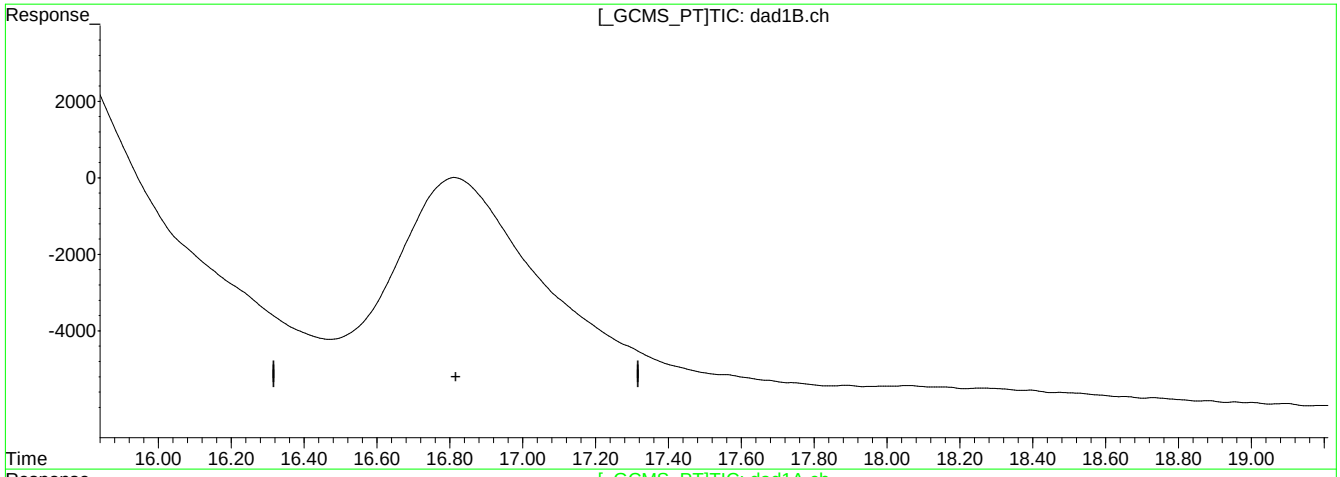
response 35033497

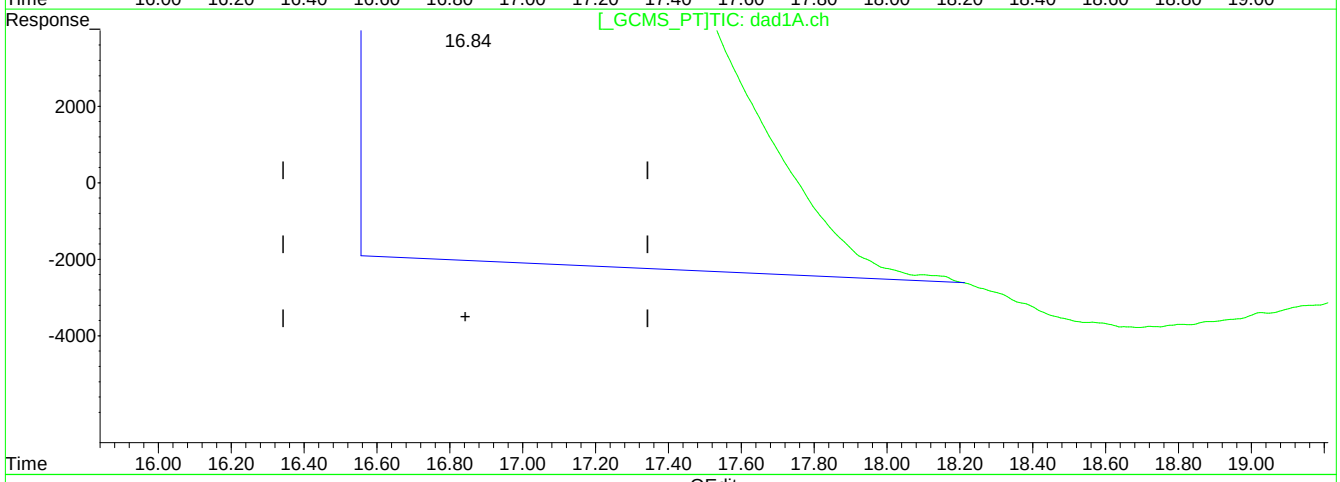
(+) = Expected Retention Time
GG632200.D GGG3527_011325.M Fri May 30 12:03:51 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632200.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632200.D\dad1A.ch
Acq On : 29-May-2025, 13:53:16 Operator: fouads
Sample : fc24818-2cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:02 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:01:59 2025
Response via : Multiple Level Calibration





(20) 2-Amino-4,6-Dinitrotoluene

0.00min 0.000ppb

response 0

(20) 2-Amino-4,6-Dinitrotoluene #2

16.84min 1030.230ppb

response 11730425

(+) = Expected Retention Time
GG632200.D GGG3527_011325.M Fri May 30 12:03:58 2025

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 06/03/25 11:33

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088328.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088328.D\dad1A.ch
Acq On : 27-May-2025, 12:21:18 Operator: fouads
Sample : fc24818-3 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 09:16:20 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.32	11.33	975251	1694173	414.692	433.132
	Spiked Amount 500.000	Range 70 - 136		Recovery =		82.94%	86.63%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.58	1.58	1639005	3131290	1101.519m	676.779m
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	3.06	3.06	1893350	2518244	1061.176m	879.584m
6)	1,3,5-Trinitrobe	4.81	4.81	1038262	1723812	260.968	279.328
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	3,5-Dinitroanili	6.41	6.41	238593	422496	56.016	67.190m
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	9.94	9.94	5268364	6341511	1498.124	1503.196
13)	2-Amino-4,6-Dini	10.41	10.42	865512	1252480	258.294	268.110
14)	4-Amino-2,6-Dini	10.88	10.88	596264	1100367	257.567	239.029
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

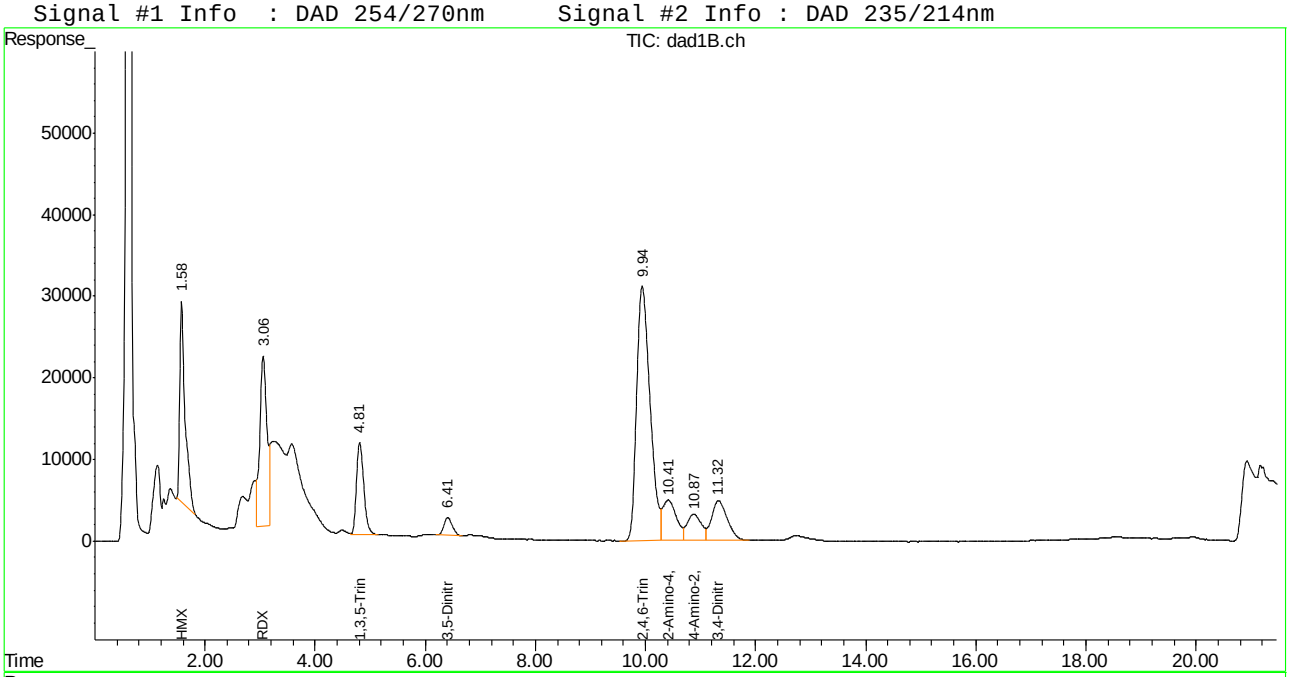
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088328.D BBB2700_050625.M Mon Jun 02 09:49:45 2025 Page 1

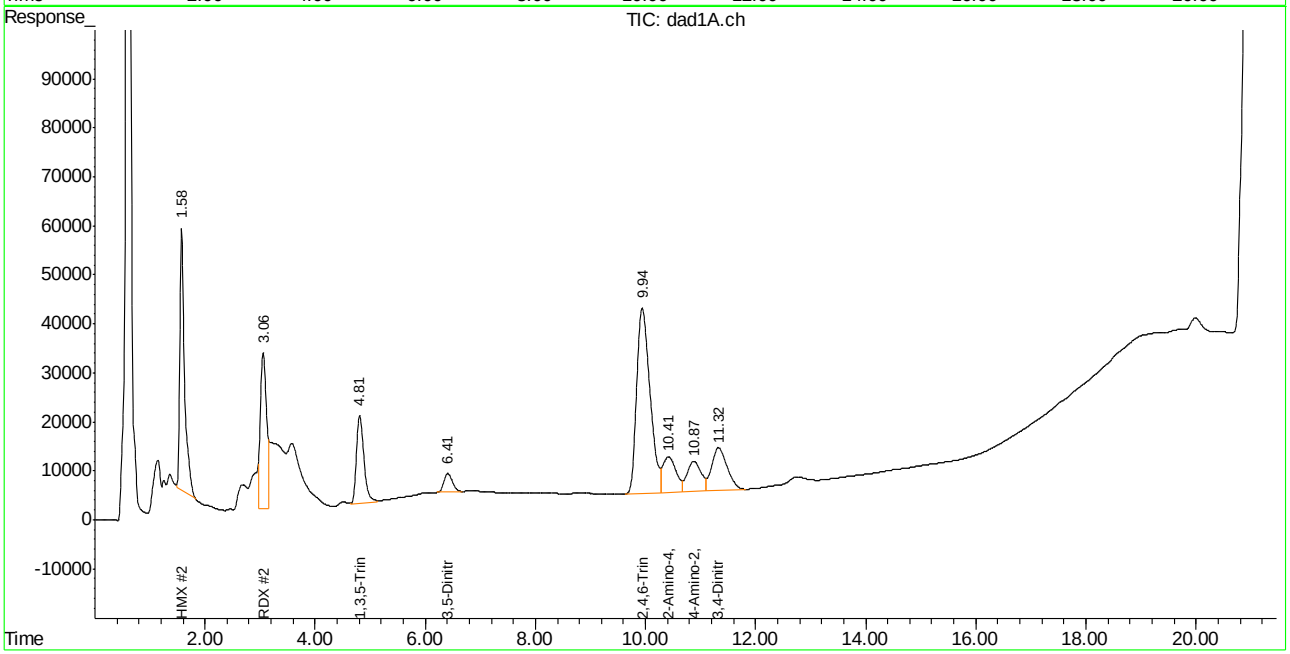
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088328.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088328.D\dad1A.ch
Acq On : 27-May-2025, 12:21:18 Operator: fouads
Sample : fc24818-3 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 11:00 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

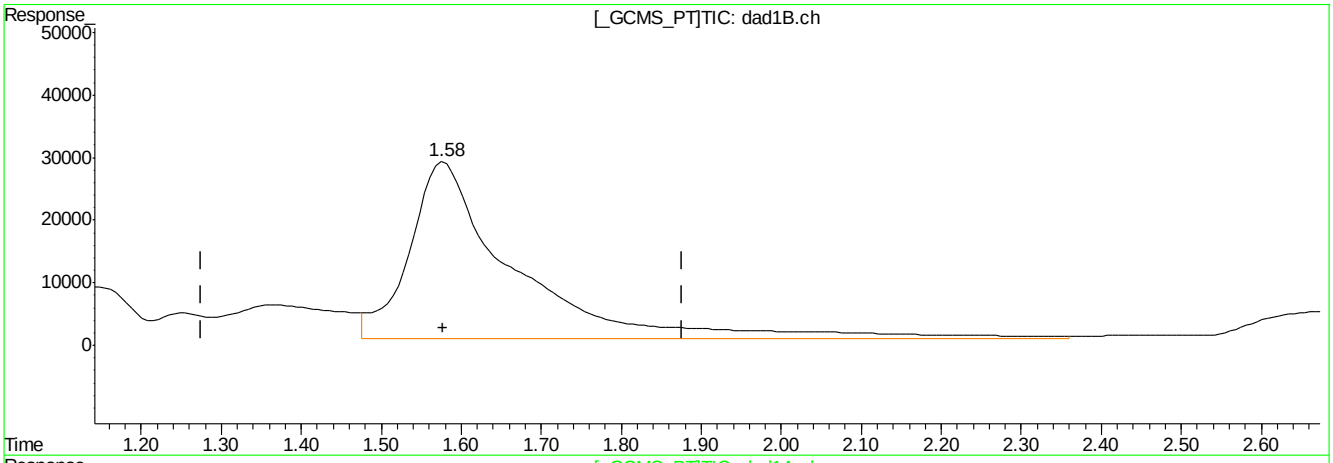
Sample Number: FC24818-3
Lab FileID: BB088328.D
Injection Time: 05/27/25 12:21
Method: SW846 8330B
Analyst approved: 06/02/25 10:11 Fouad Sekkar
Supervisor approved: 06/03/25 11:33 William Hustedde

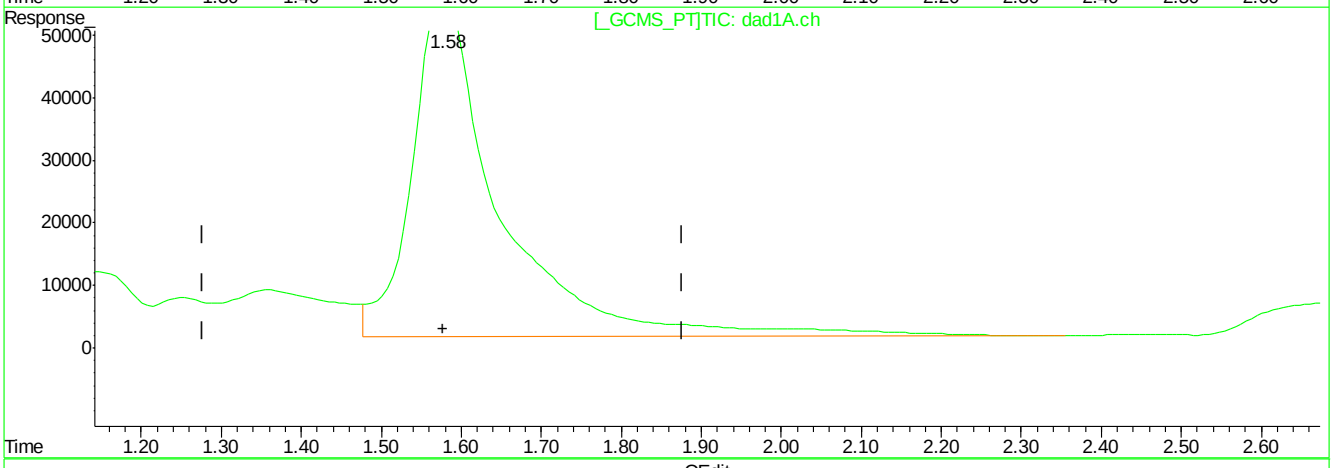
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.58	Poorly defined baseline
HMX	2691-41-0	2	1.58	Poorly defined baseline
RDX	121-82-4	1	3.06	Missed peak
RDX	121-82-4	2	3.06	Missed peak
3,5-Dinitroaniline	618-87-1	2	6.41	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088328.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088328.D\dad1A.ch
Acq On : 27-May-2025, 12:21:18 Operator: fouads
Sample : fc24818-3 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

1.58min 1763.499ppb

response 2623996

(2) HMX #2

1.58min 909.117ppb

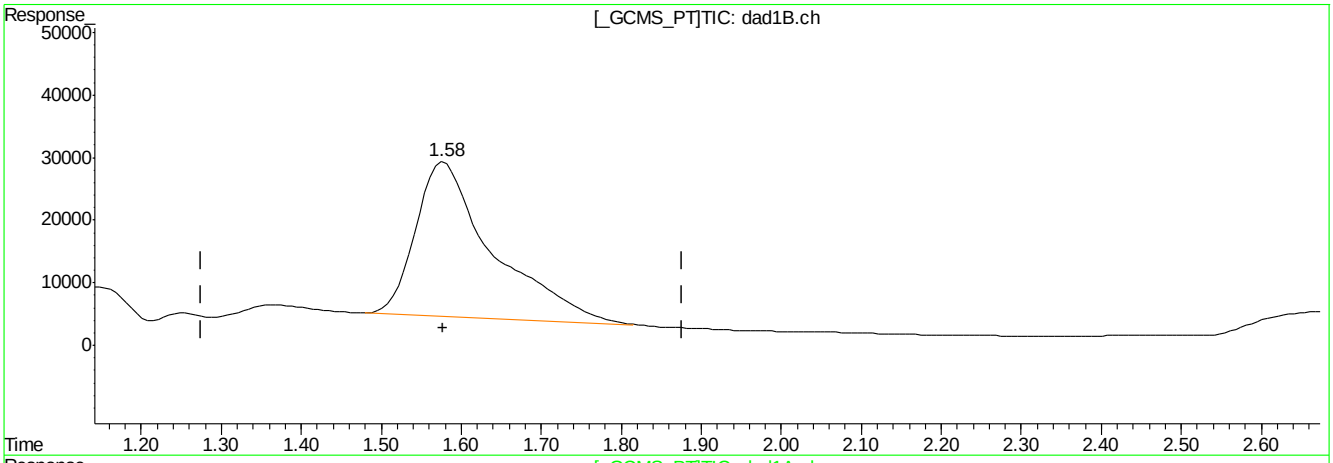
response 4206259

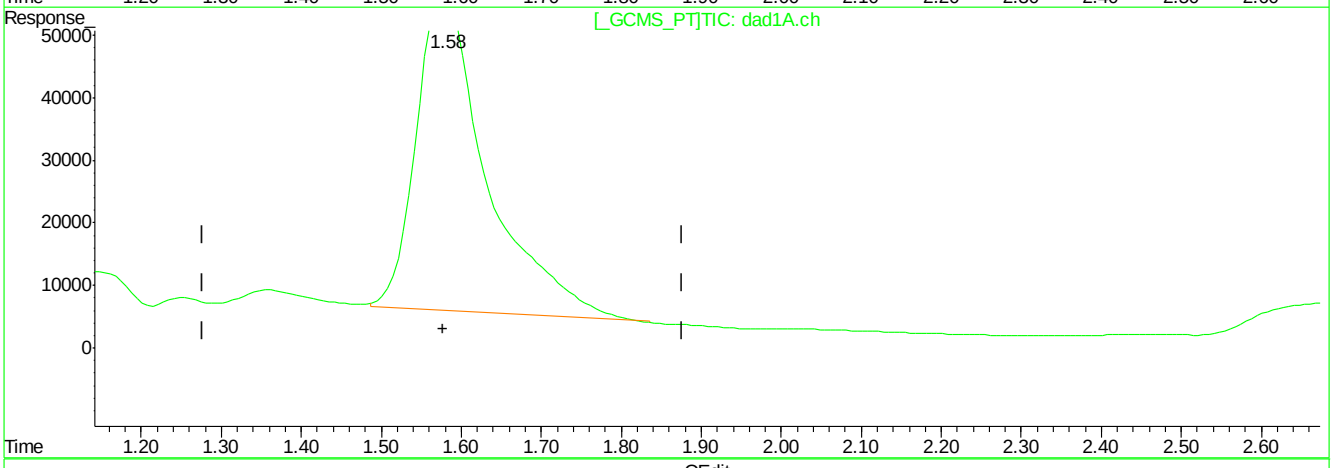
(+) = Expected Retention Time
BB088328.D BBB2700_050625.M Wed May 28 10:58:12 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088328.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088328.D\dad1A.ch
Acq On : 27-May-2025, 12:21:18 Operator: fouads
Sample : fc24818-3 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

1.58min 1101.519ppb m

response 1639005

(2) HMX #2

1.58min 676.779ppb m

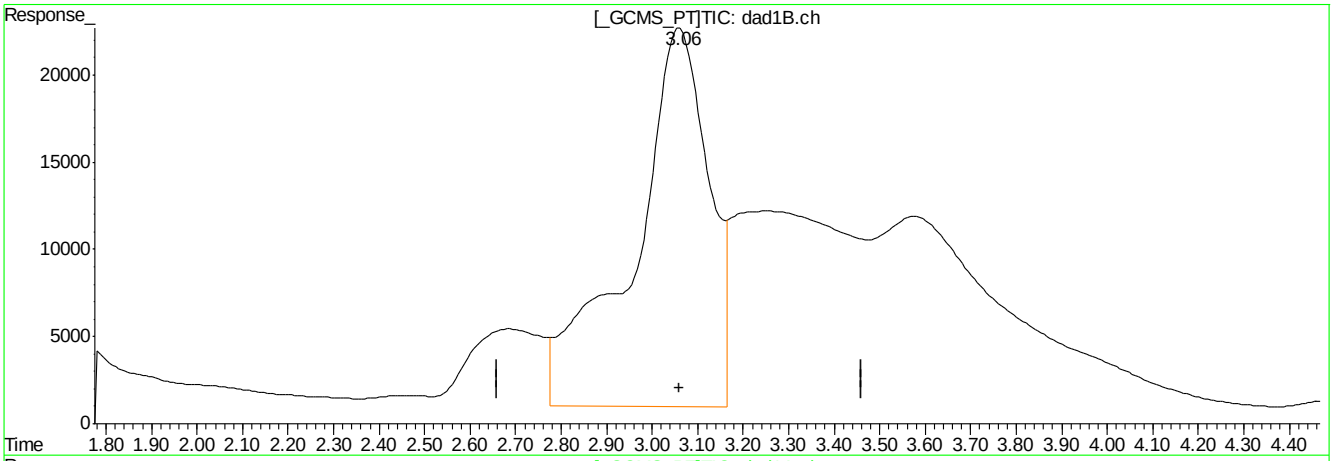
response 3131290

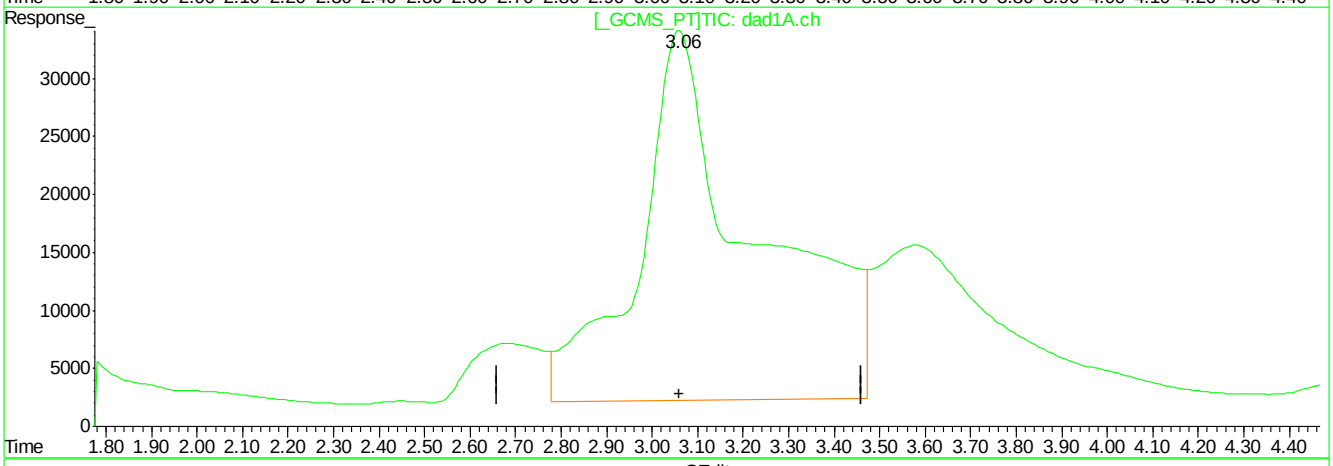
(+) = Expected Retention Time
BB088328.D BBB2700_050625.M Wed May 28 10:58:20 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088328.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088328.D\dad1A.ch
Acq On : 27-May-2025, 12:21:18 Operator: fouads
Sample : fc24818-3 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(5) RDX

3.06min 1399.480ppb

response 2496954

(5) RDX #2

3.06min 1988.347ppb

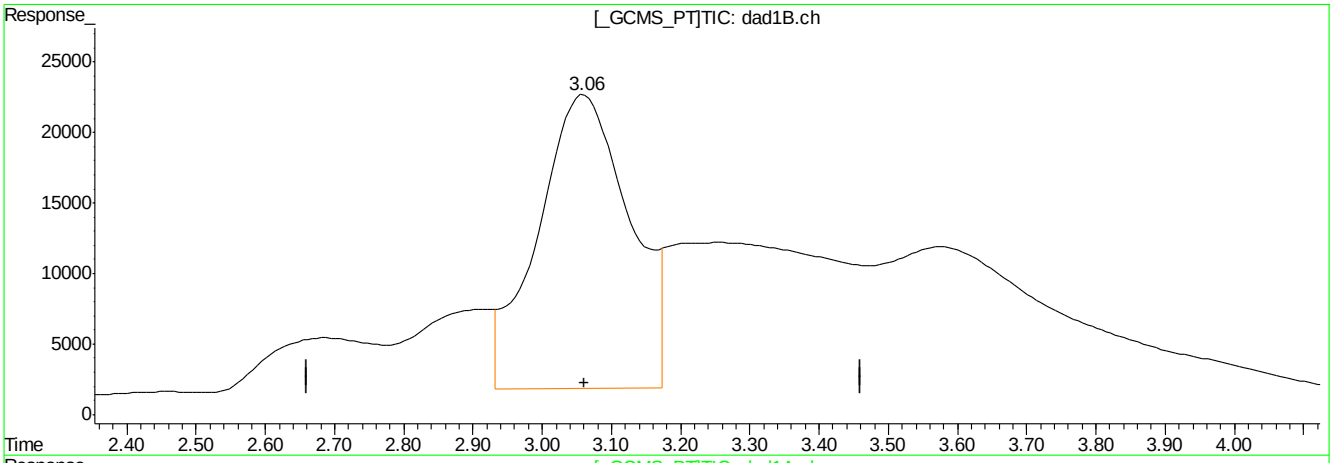
response 5692627

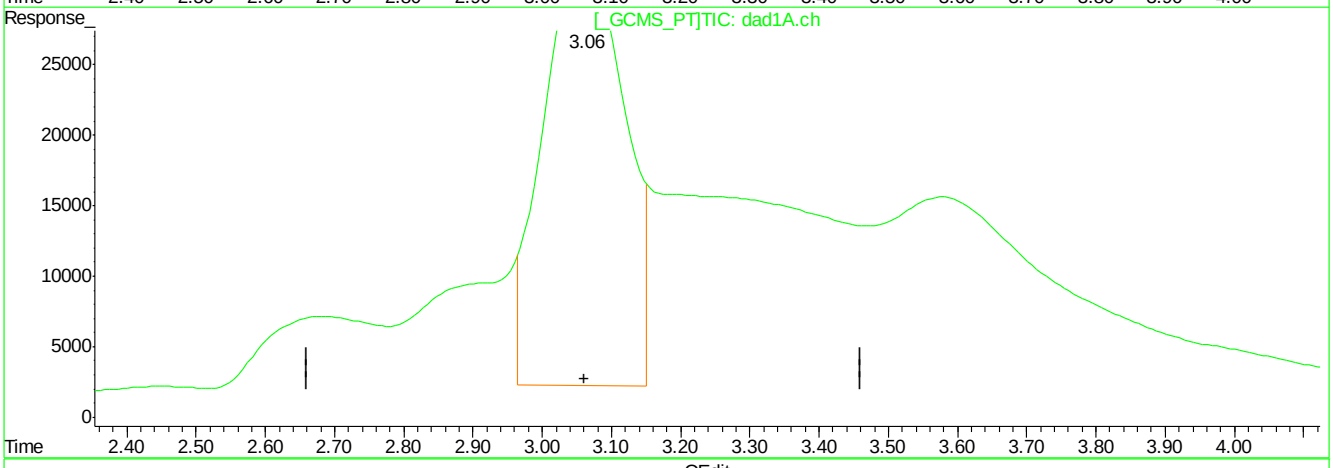
(+) = Expected Retention Time
BB088328.D BBB2700_050625.M Wed May 28 10:58:51 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088328.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088328.D\dad1A.ch
Acq On : 27-May-2025, 12:21:18 Operator: fouads
Sample : fc24818-3 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(5) RDX

3.06min 1061.176ppb m

response 1893350

(5) RDX #2

3.06min 879.584ppb m

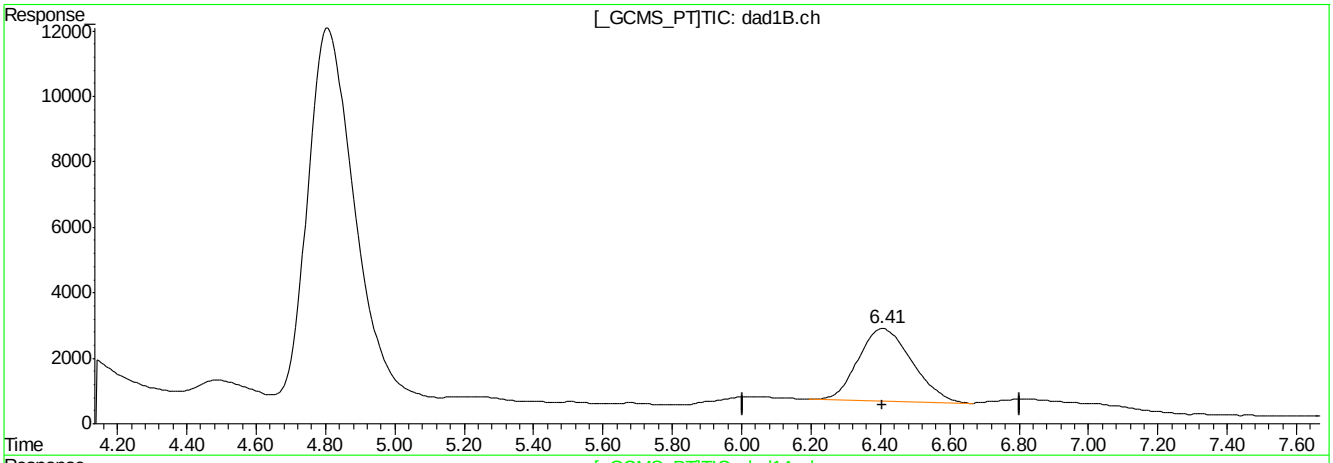
response 2518244

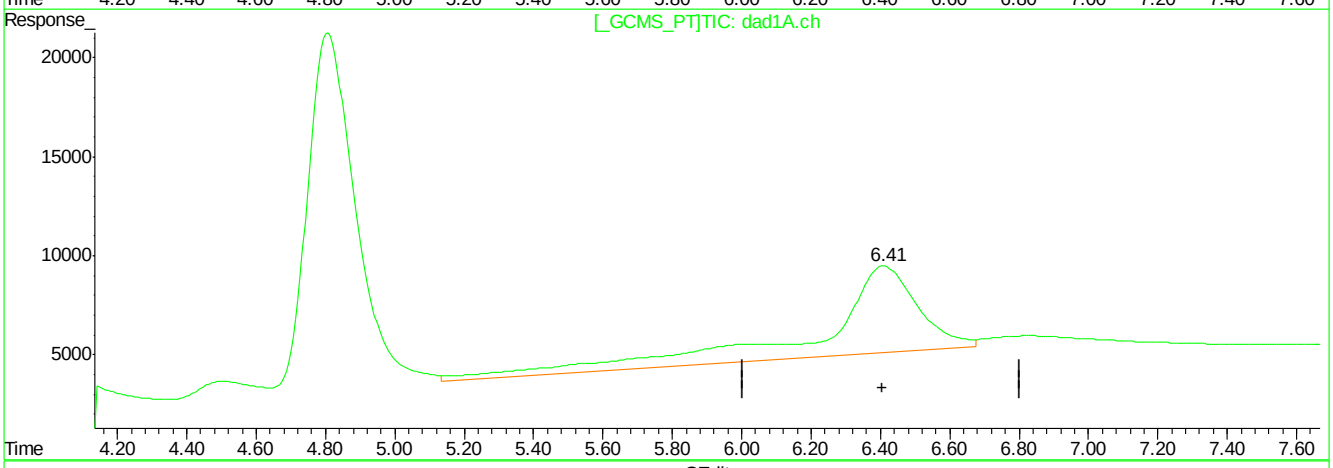
(+) = Expected Retention Time
BB088328.D BBB2700_050625.M Wed May 28 10:59:22 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088328.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088328.D\dad1A.ch
Acq On : 27-May-2025, 12:21:18 Operator: fouads
Sample : fc24818-3 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.41min 56.016ppb

response 238593

(8) 3,5-Dinitroaniline #2

6.41min 144.016ppb

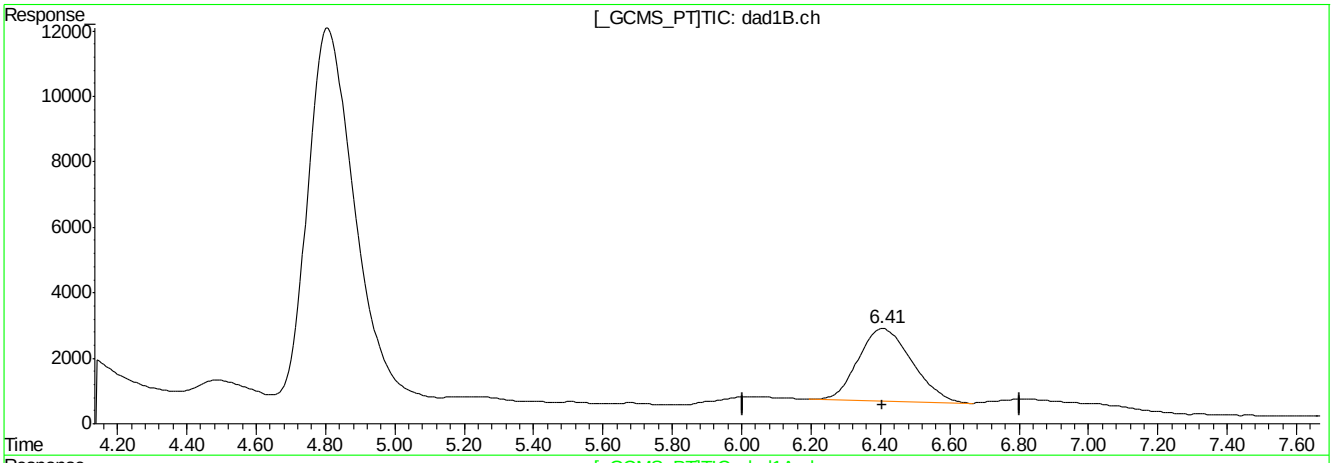
response 905580

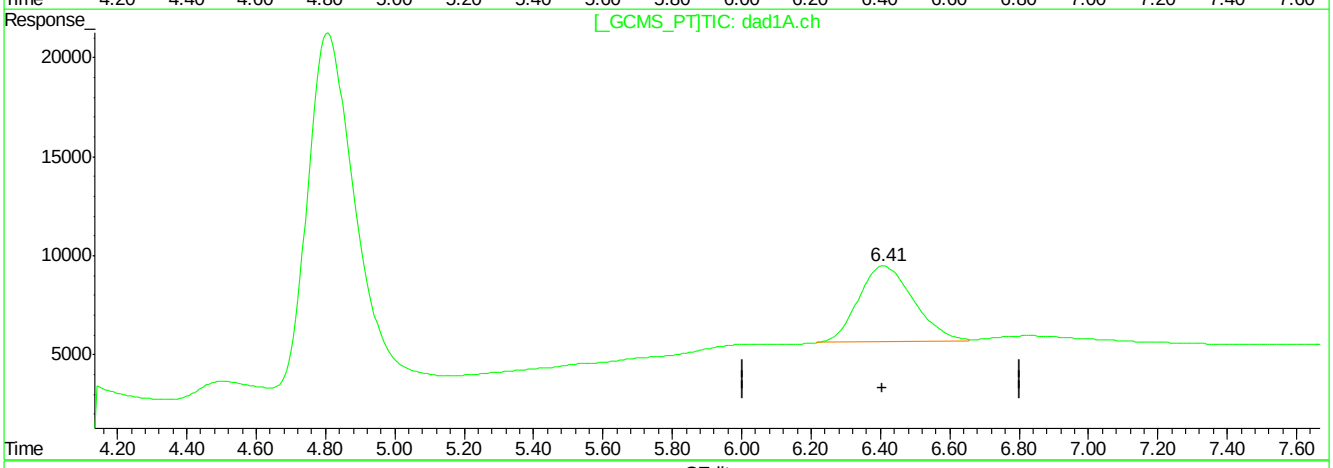
(+) = Expected Retention Time
BB088328.D BBB2700_050625.M Wed May 28 11:00:12 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088328.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088328.D\dad1A.ch
Acq On : 27-May-2025, 12:21:18 Operator: fouads
Sample : fc24818-3 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.41min 56.016ppb

response 238593

(8) 3,5-Dinitroaniline #2

6.41min 67.190ppb m

response 422496

(+) = Expected Retention Time
BB088328.D BBB2700_050625.M Wed May 28 11:00:28 2025

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 06/03/25 11:33

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632201.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632201.D\dad1A.ch
Acq On : 29-May-2025, 14:23:55 Operator: fouads
Sample : fc24818-3cf Inst : G1315B
Misc : op9525,GGG3585,950,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:12:29 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:12:20 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	13.68	13.69	2370036	6526408	493.675	657.162
	Spiked Amount 500.000	Range 70 - 136		Recovery =		98.73%	131.43%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	5.21	5.21	1431487	1431487	494.114	493.912
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	6.14	6.14	322788	335672	37.617m	39.911m
6)	RDX	7.18	7.18	2355257	2355257	575.689	581.009
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	11.14	11.14	13147808	19911980	1611.395	1752.253
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	3,5-Dinitroanili	15.17	15.21	1221881	4725499	133.835m	282.454m#
16)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	16.72	16.71	1595282	3415155	327.479m	387.414
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	18.67	18.68	2199007	2778553	272.590	244.028
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

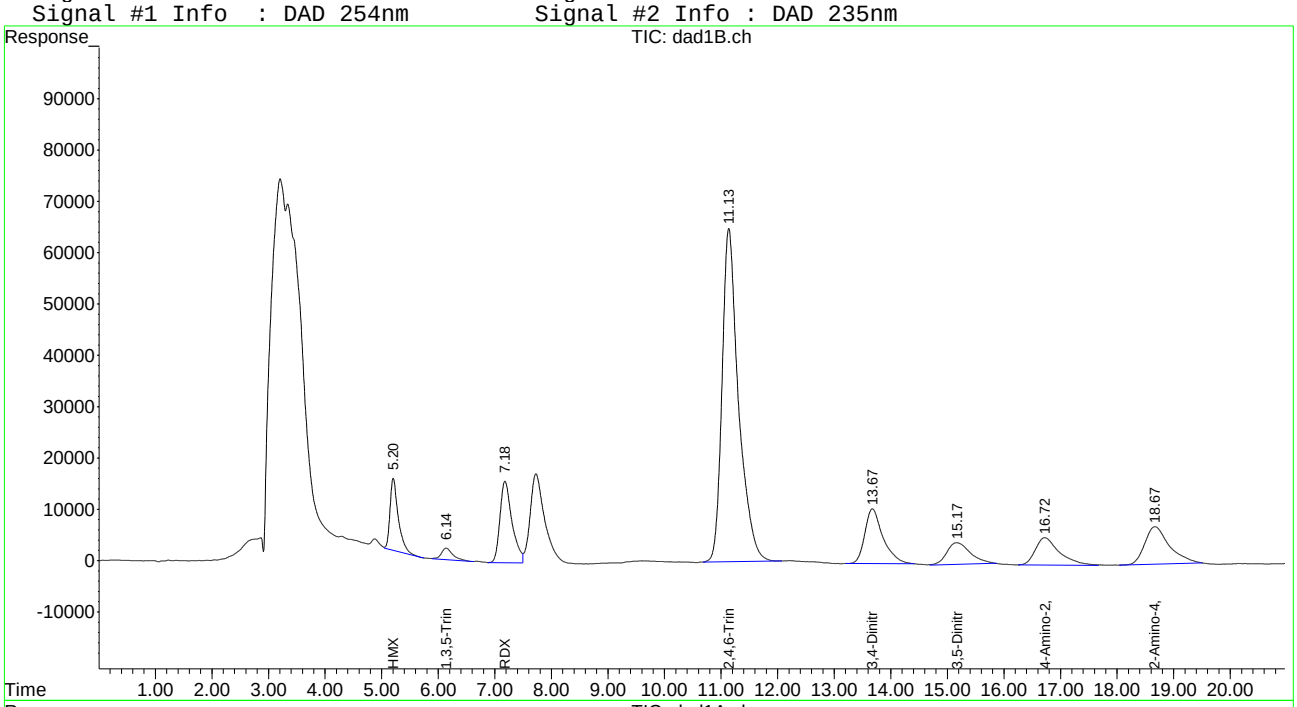
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG632201.D GGG3527_011325.M Mon Jun 02 10:16:17 2025

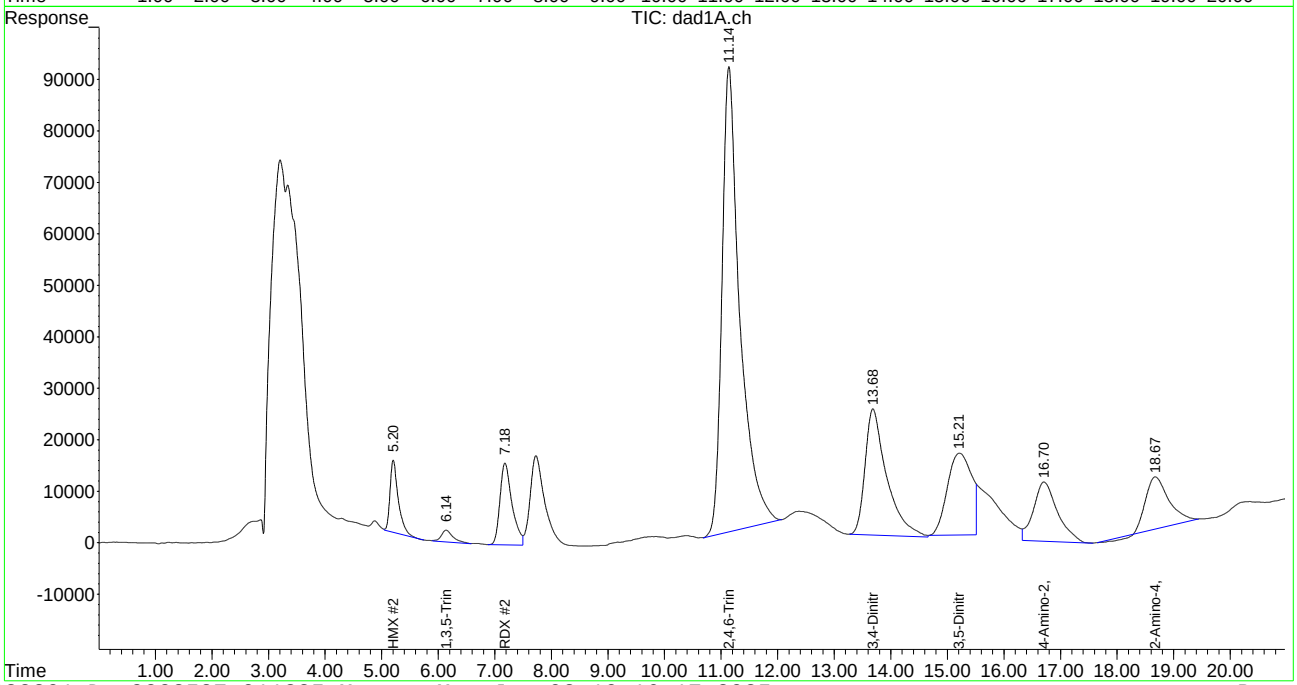
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632201.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632201.D\dad1A.ch
Acq On : 29-May-2025, 14:23:55 Operator: fouads
Sample : fc24818-3cf Inst : G1315B
Misc : op9525,GGG3585,950,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:13 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:12:20 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: FC24818-3
Lab FileID: GG632201.D
Injection Time: 05/29/25 14:23

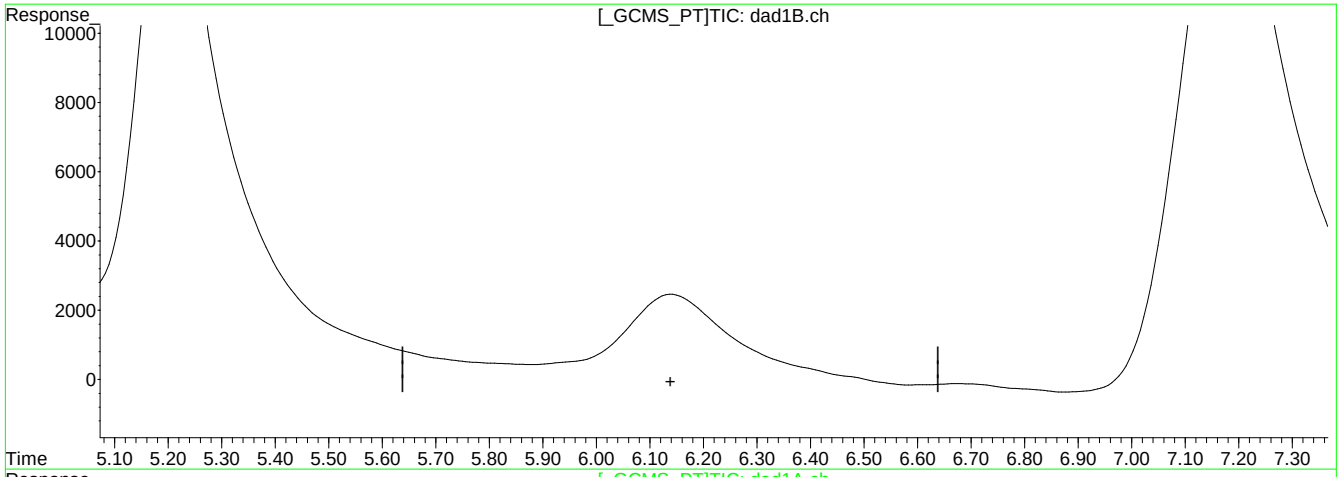
Method: SW846 8330B
Analyst approved: 06/02/25 11:16 Fouad Sekkar
Supervisor approved: 06/03/25 11:33 William Hustedde

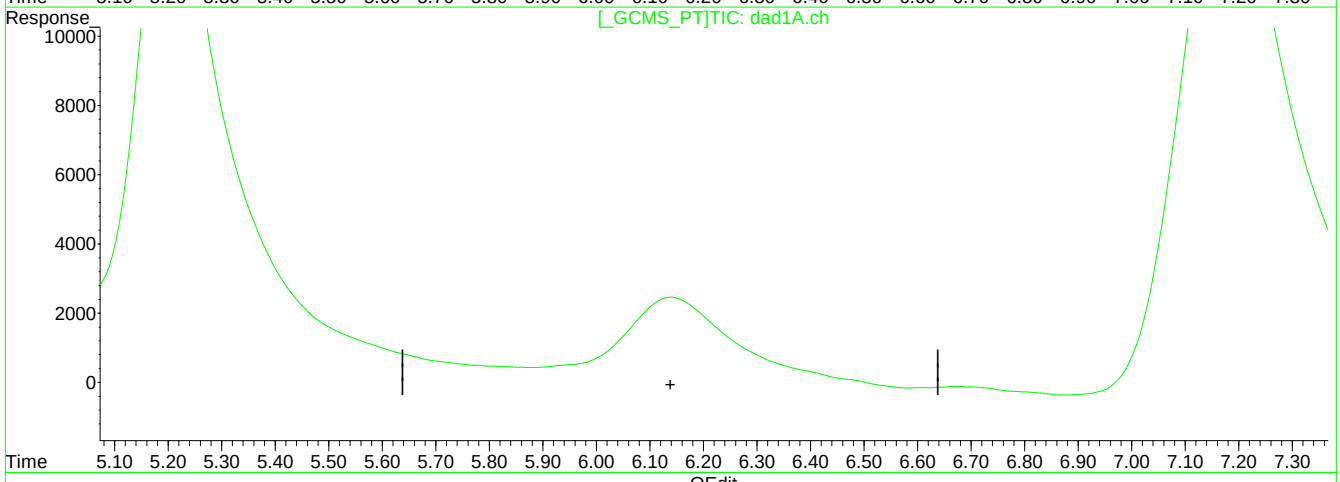
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3,5-Trinitrobenzene	99-35-4	1	6.14	Missed peak
1,3,5-Trinitrobenzene	99-35-4	2	6.14	Missed peak
3,5-Dinitroaniline	618-87-1	1	15.17	Missed peak
3,5-Dinitroaniline	618-87-1	2	15.21	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	1	16.72	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632201.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632201.D\dad1A.ch
Acq On : 29-May-2025, 14:23:55 Operator: fouads
Sample : fc24818-3cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:07 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:07:34 2025
Response via : Multiple Level Calibration





QEdit

(5) 1,3,5-Trinitrobenzene

0.00min 0.000ppb

response 0

(5) 1,3,5-Trinitrobenzene #2

0.00min 0.000ppb

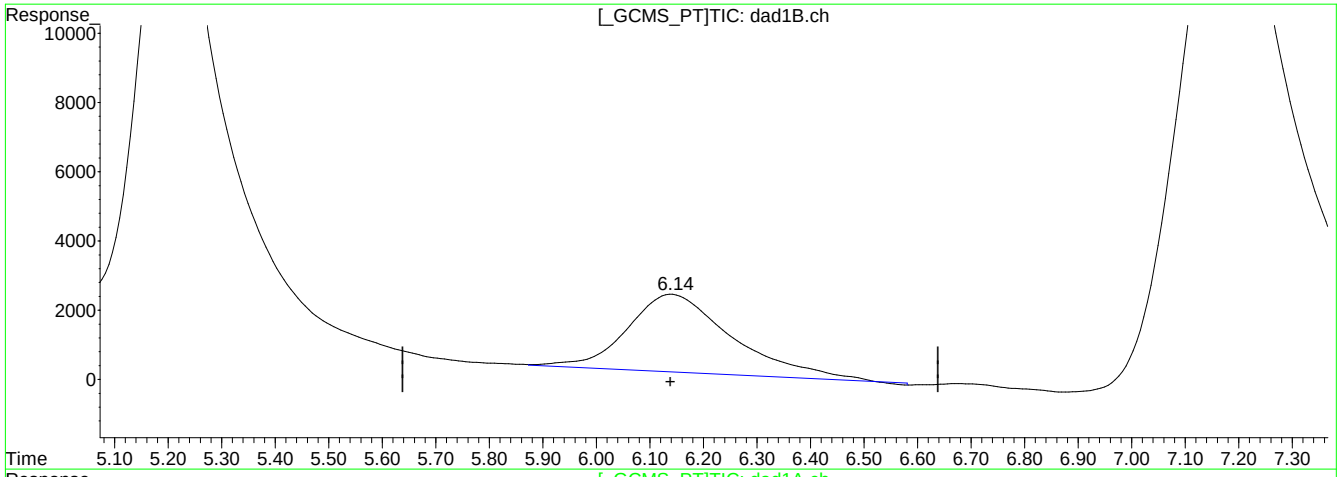
response 0

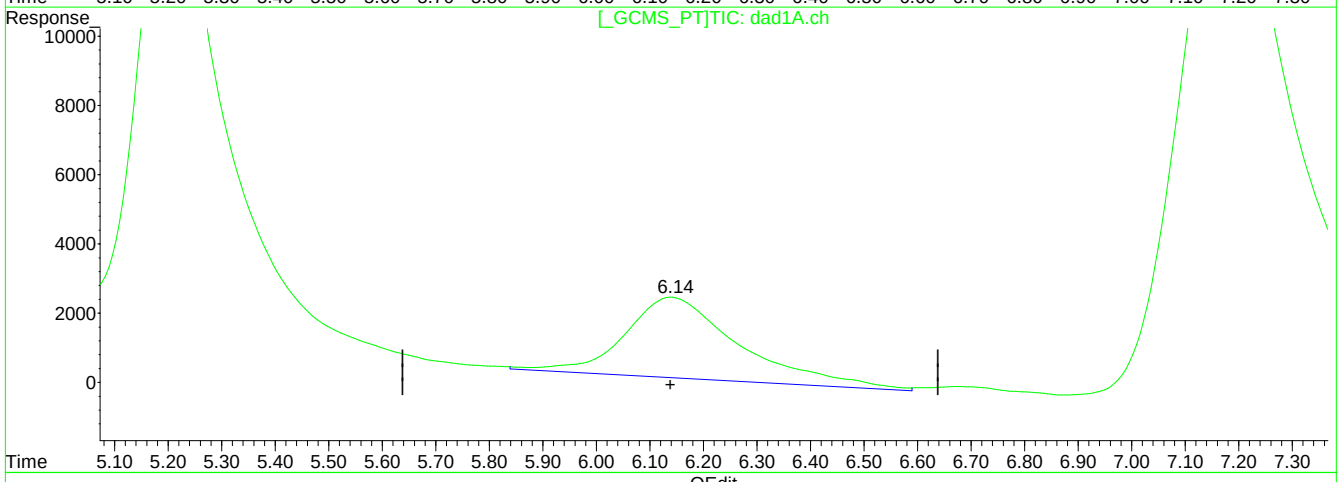
(+) = Expected Retention Time
GG632201.D GGG3527_011325.M Fri May 30 12:08:02 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632201.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632201.D\dad1A.ch
Acq On : 29-May-2025, 14:23:55 Operator: fouads
Sample : fc24818-3cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:07 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:07:34 2025
Response via : Multiple Level Calibration





QEdit

(5) 1,3,5-Trinitrobenzene

6.14min 35.721ppb m

response 306520

(5) 1,3,5-Trinitrobenzene #2

6.14min 41.409ppb m

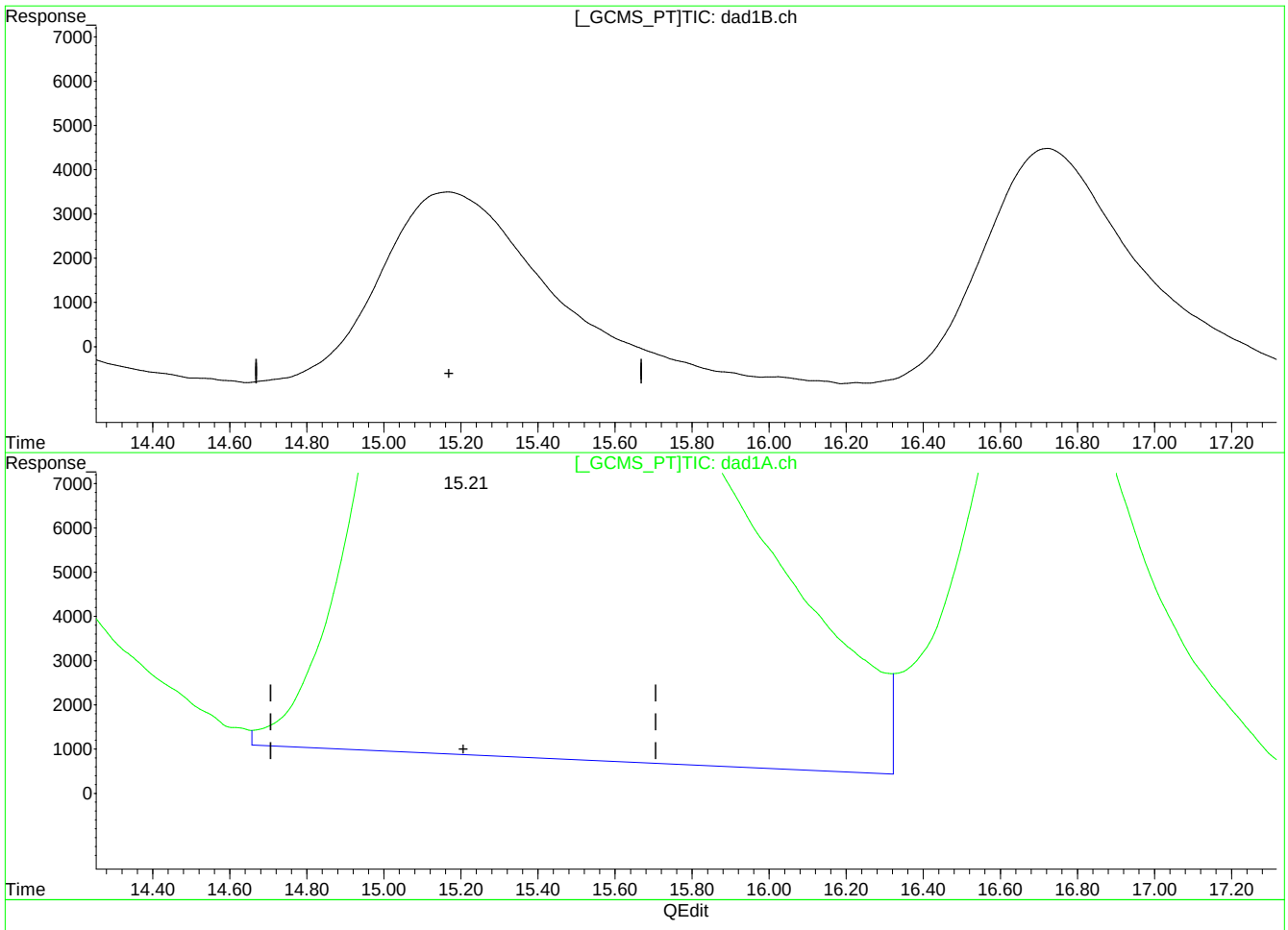
response 348269

(+) = Expected Retention Time
GG632201.D GGG3527_011325.M Fri May 30 12:08:10 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632201.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632201.D\dad1A.ch
Acq On : 29-May-2025, 14:23:55 Operator: fouads
Sample : fc24818-3cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:07 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:07:34 2025
Response via : Multiple Level Calibration



(15) 3,5-Dinitroaniline

0.00min 0.000ppb

response 0

(15) 3,5-Dinitroaniline #2

15.22min 477.632ppb

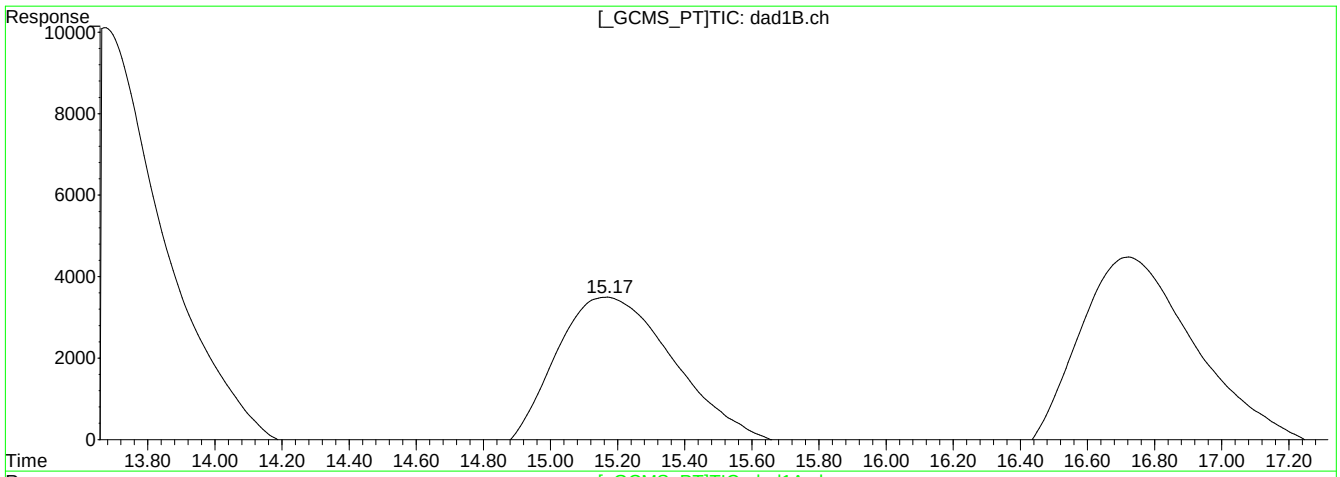
response 7990845

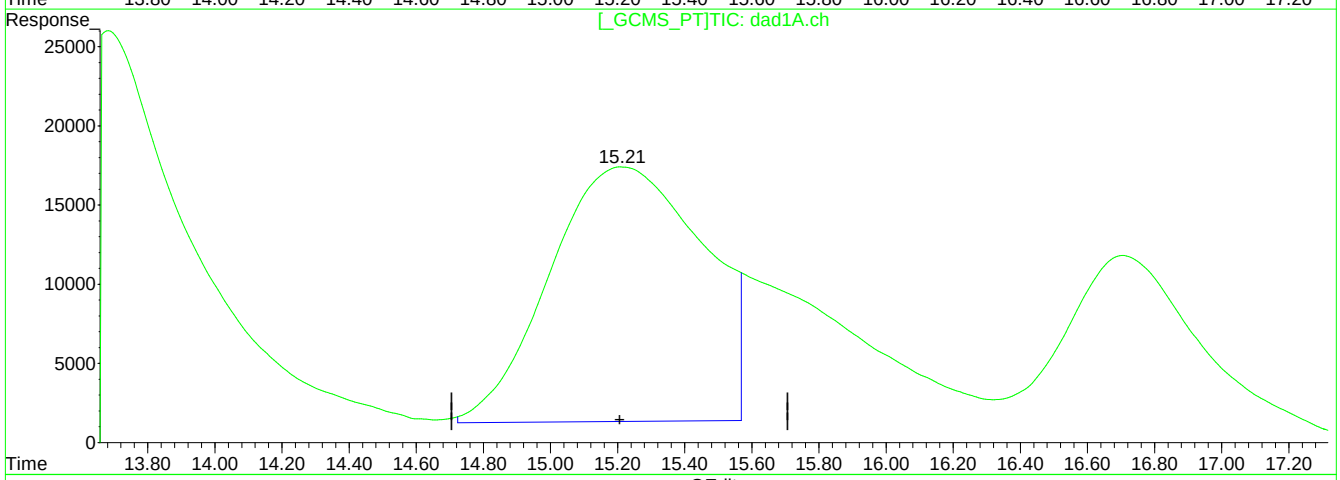
(+) = Expected Retention Time
GG632201.D GGG3527_011325.M Fri May 30 12:08:35 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632201.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632201.D\dad1A.ch
Acq On : 29-May-2025, 14:23:55 Operator: fouads
Sample : fc24818-3cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:07 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:07:34 2025
Response via : Multiple Level Calibration





QEdit

(15) 3,5-Dinitroaniline

15.17min 145.037ppb m

response 1324146

(15) 3,5-Dinitroaniline #2

15.21min 304.562ppb m

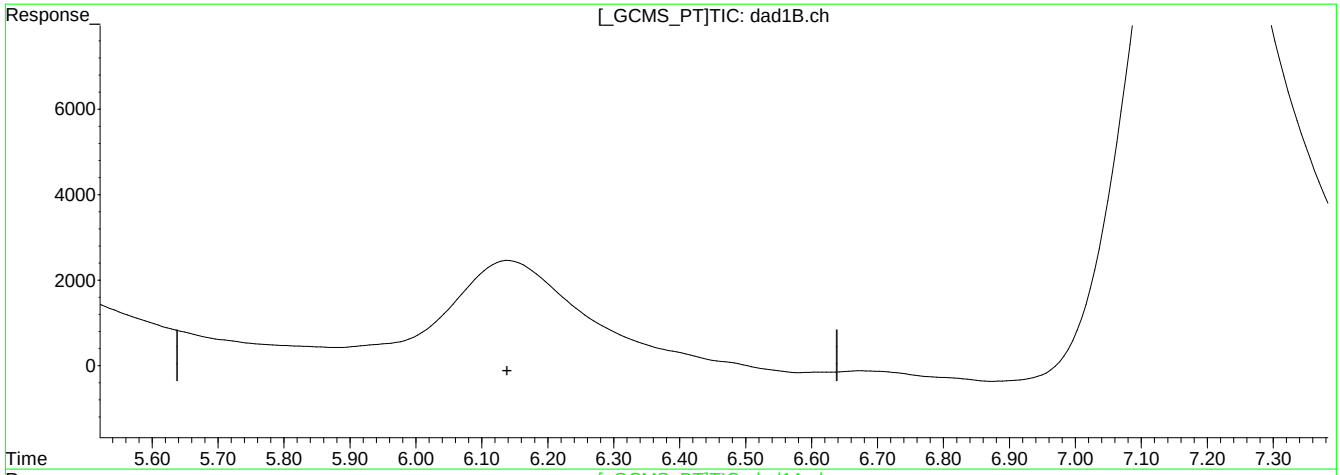
response 5095364

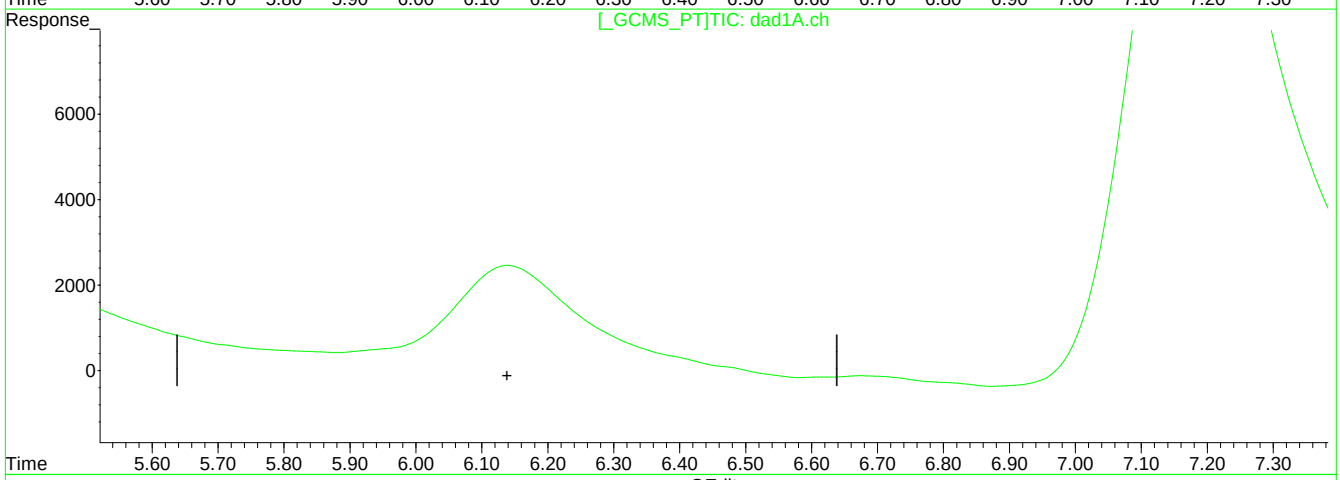
(+) = Expected Retention Time
GG632201.D GGG3527_011325.M Fri May 30 12:08:57 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632201.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632201.D\dad1A.ch
Acq On : 29-May-2025, 14:23:55 Operator: fouads
Sample : fc24818-3cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:12 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:12:20 2025
Response via : Multiple Level Calibration





(5) 1,3,5-Trinitrobenzene

0.00min 0.000ppb

response 0

(5) 1,3,5-Trinitrobenzene #2

0.00min 0.000ppb

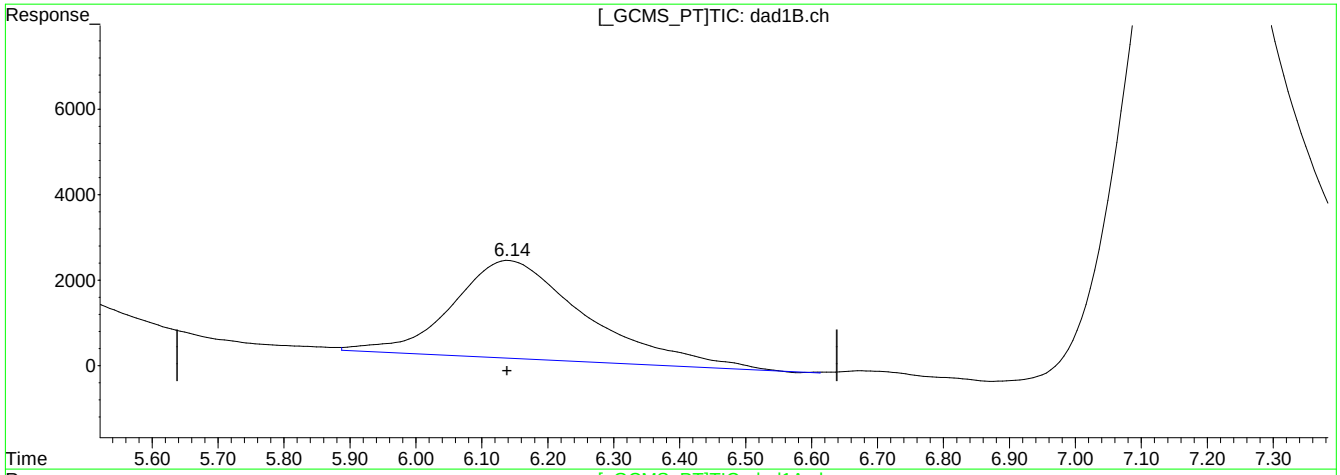
response 0

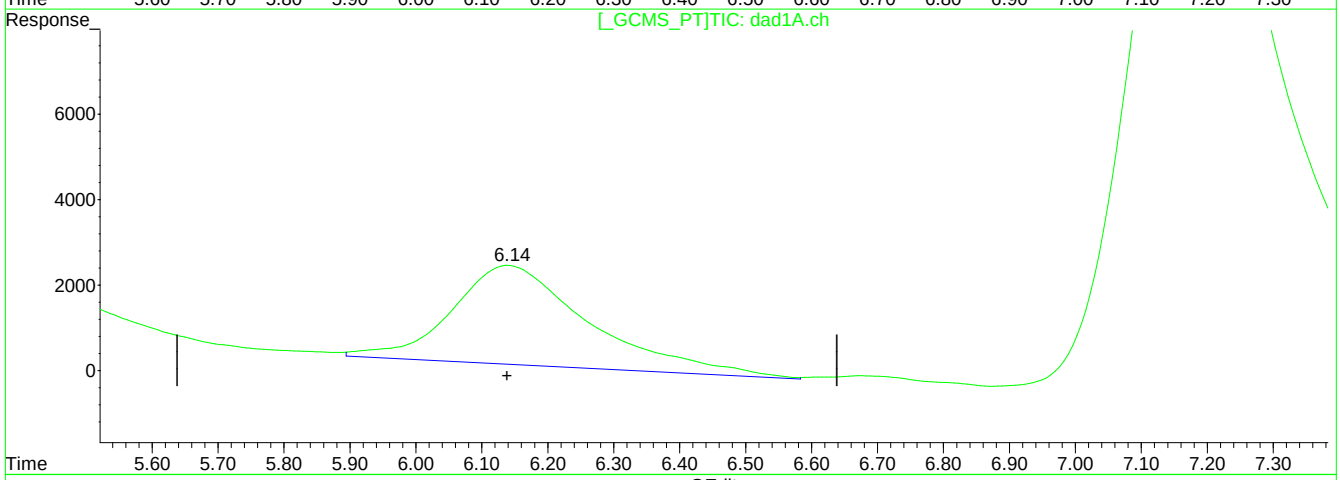
(+) = Expected Retention Time
GG632201.D GGG3527_011325.M Fri May 30 12:12:42 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632201.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632201.D\dad1A.ch
Acq On : 29-May-2025, 14:23:55 Operator: fouads
Sample : fc24818-3cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:12 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:12:20 2025
Response via : Multiple Level Calibration





(5) 1,3,5-Trinitrobenzene

6.14min 37.617ppb m

response 322788

(5) 1,3,5-Trinitrobenzene #2

6.14min 39.911ppb m

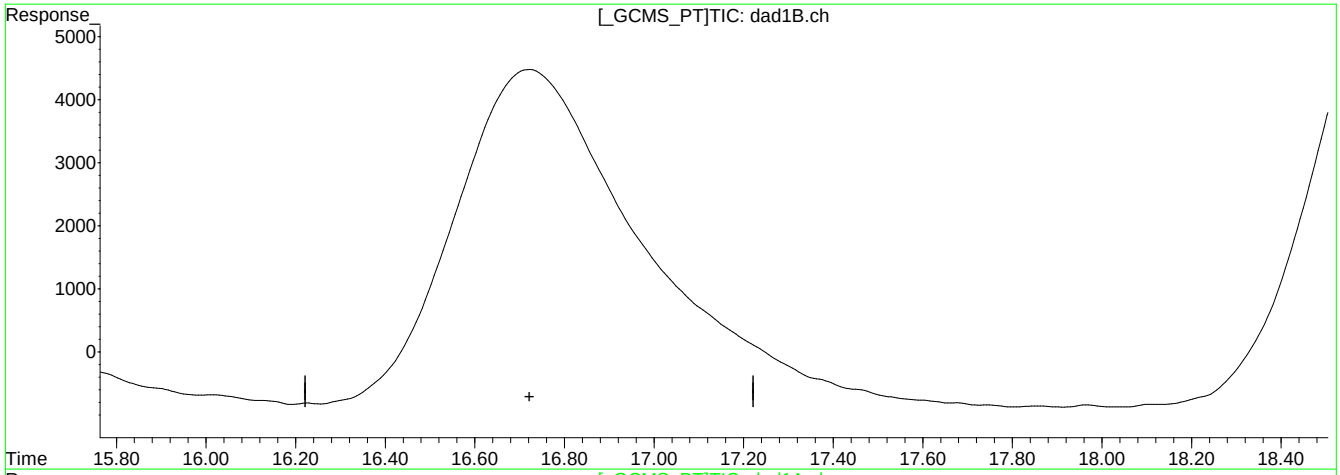
response 335672

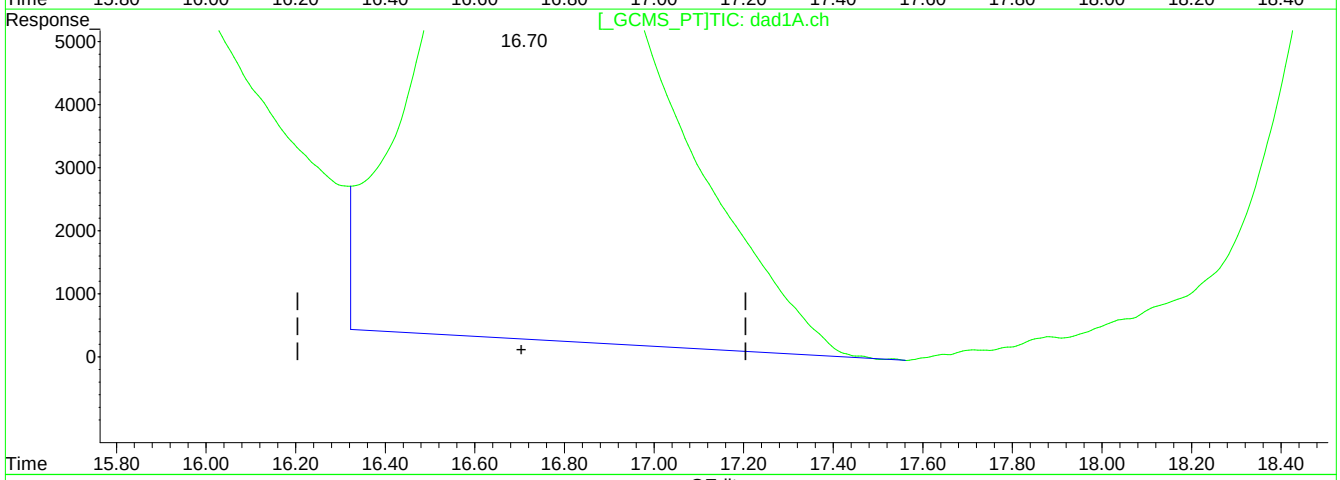
(+) = Expected Retention Time
GG632201.D GGG3527_011325.M Fri May 30 12:12:51 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632201.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632201.D\dad1A.ch
Acq On : 29-May-2025, 14:23:55 Operator: fouads
Sample : fc24818-3cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:12 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:12:20 2025
Response via : Multiple Level Calibration





QEdit

(18) 4-Amino-2,6-Dinitrotoluene

0.00min 0.000ppb

response 0

(18) 4-Amino-2,6-Dinitrotoluene #2

16.71min 387.414ppb

response 3415155

(+) = Expected Retention Time
GG632201.D GGG3527_011325.M Fri May 30 12:13:26 2025

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 06/03/25 11:33

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088329.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088329.D\dad1A.ch
Acq On : 27-May-2025, 12:48:45 Operator: fouads
Sample : fc24818-4 Inst : G1315B
Misc : op9525,GBB2710,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 09:16:21 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.34	11.35	1046470	1690266	444.976	432.133
	Spiked Amount 500.000	Range 70 - 136		Recovery =		89.00%	86.43%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.58	1.58	2866911	6809999	1926.754m	1471.875m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	3.22	3.22	2445664	3460098	1370.733m	1208.559
6)	1,3,5-Trinitrobe	4.81	4.82	2542692	4044352	639.106m	655.351
7)	1,3-Dinitrobenze	6.02	6.02	122297	136145	24.216m	39.646m#
8)	3,5-Dinitroanili	6.41	6.42	84906	116224	19.934m	18.483m
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	9.96	9.96	3221879	3854999	916.181	913.792
13)	2-Amino-4,6-Dini	10.44	10.44	1460049	2106357	435.720	450.893
14)	4-Amino-2,6-Dini	10.90	10.90	801800	1474278	346.351	320.253
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

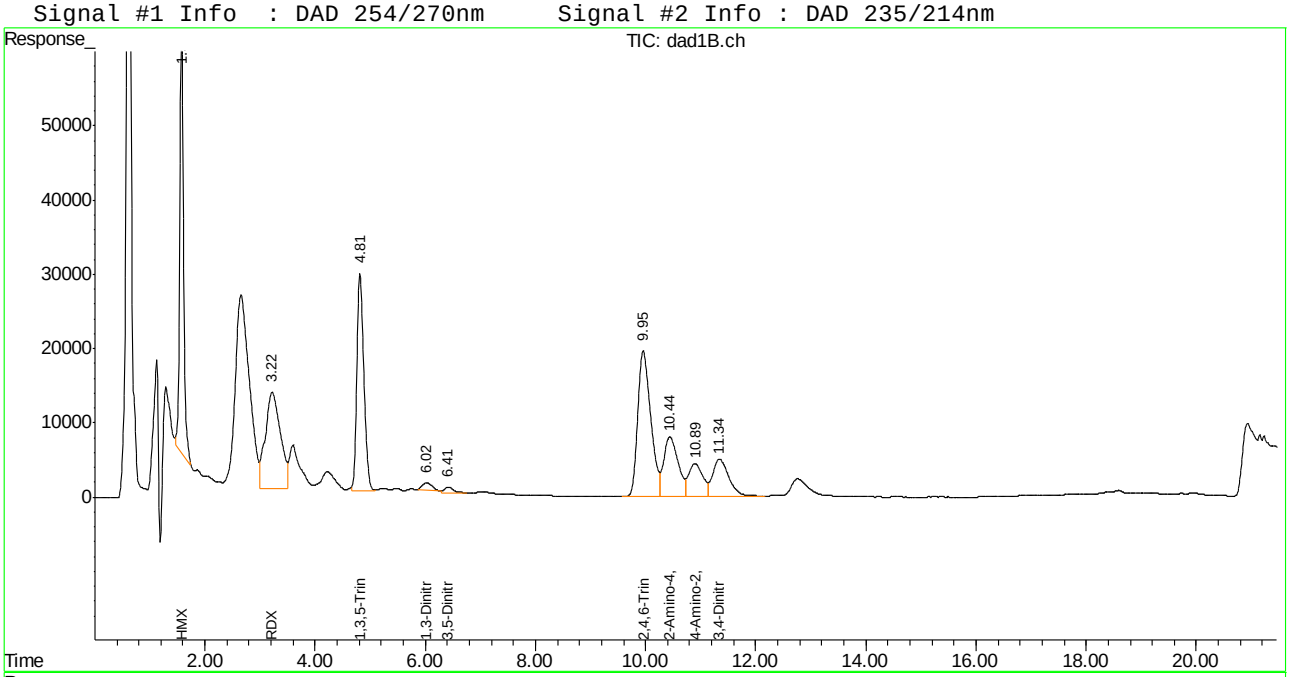
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088329.D BBB2700_050625.M Mon Jun 02 11:29:46 2025 Page 1

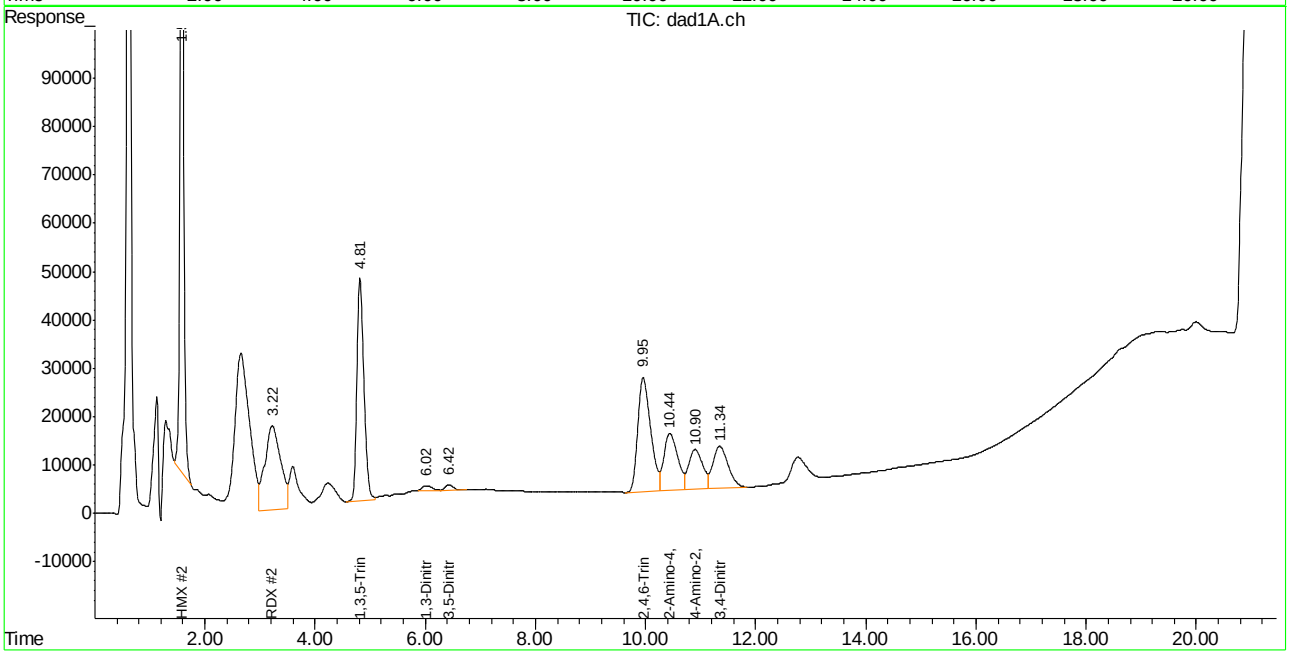
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088329.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088329.D\dad1A.ch
Acq On : 27-May-2025, 12:48:45 Operator: fouads
Sample : fc24818-4 Inst : G1315B
Misc : op9525,GBB2710,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jun 2 11:29 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

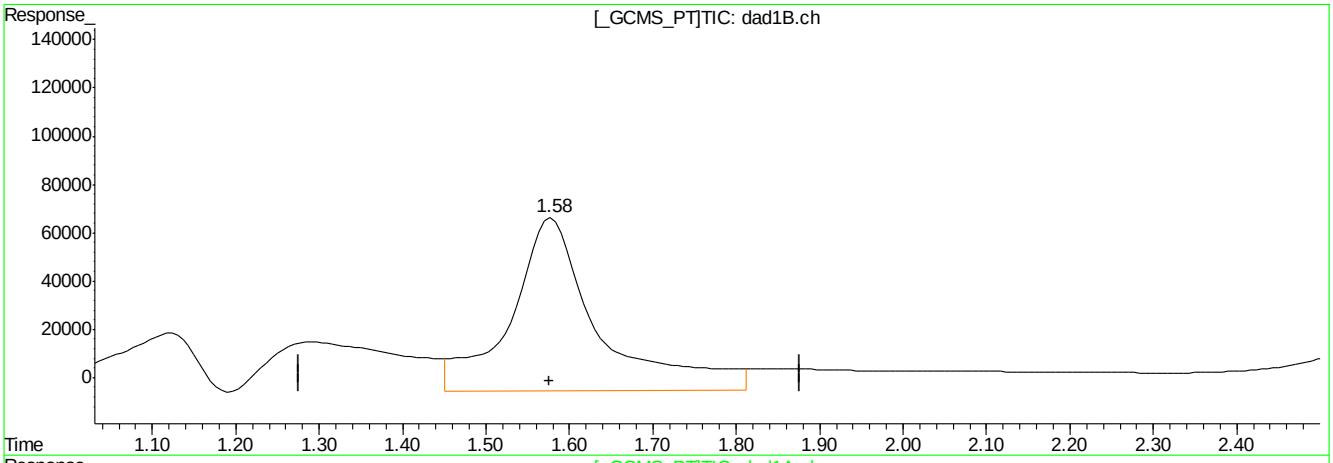
Sample Number: FC24818-4
Lab FileID: BB088329.D
Injection Time: 05/27/25 12:48
Method: SW846 8330B
Analyst approved: 06/02/25 11:36 Fouad Sekkar
Supervisor approved: 06/03/25 11:33 William Hustedde

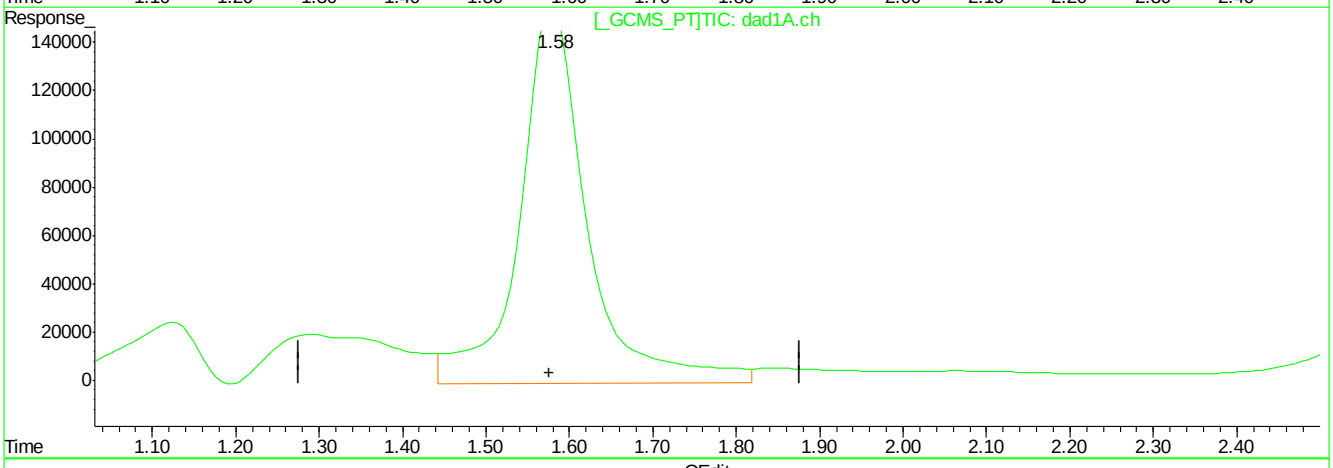
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.58	Missed peak
HMX	2691-41-0	2	1.58	Missed peak
RDX	121-82-4	1	3.22	Poorly defined baseline
1,3,5-Trinitrobenzene	99-35-4	1	4.81	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	1	6.02	Poorly defined baseline
1,3-Dinitrobenzene	99-65-0	2	6.02	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	1	6.41	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.42	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088329.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088329.D\dad1A.ch
Acq On : 27-May-2025, 12:48:45 Operator: fouads
Sample : fc24818-4 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

1.58min 3495.211ppb

response 5200695

(2) HMX #2

1.58min 1901.659ppb

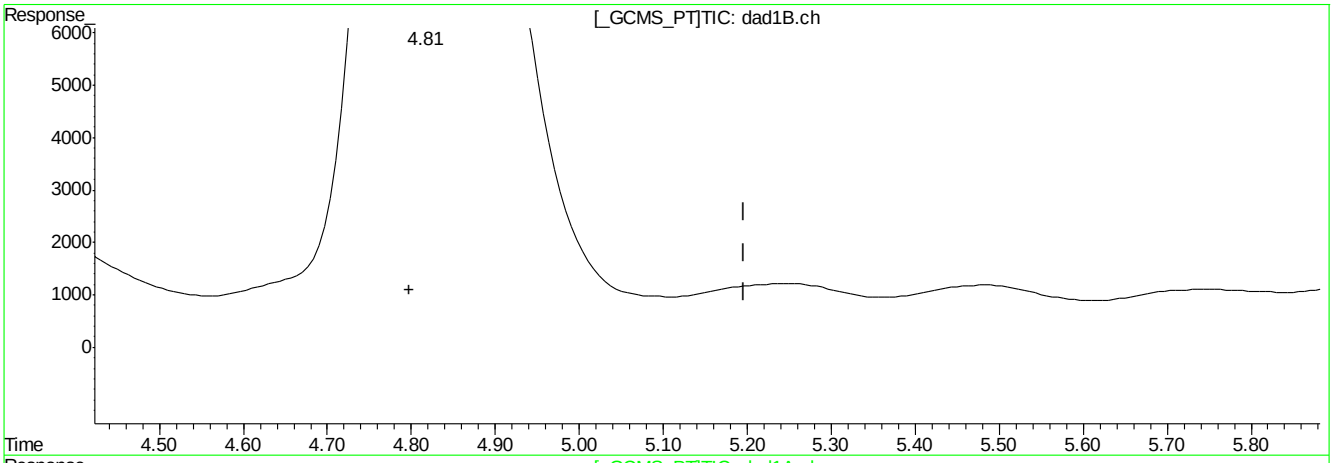
response 8798504

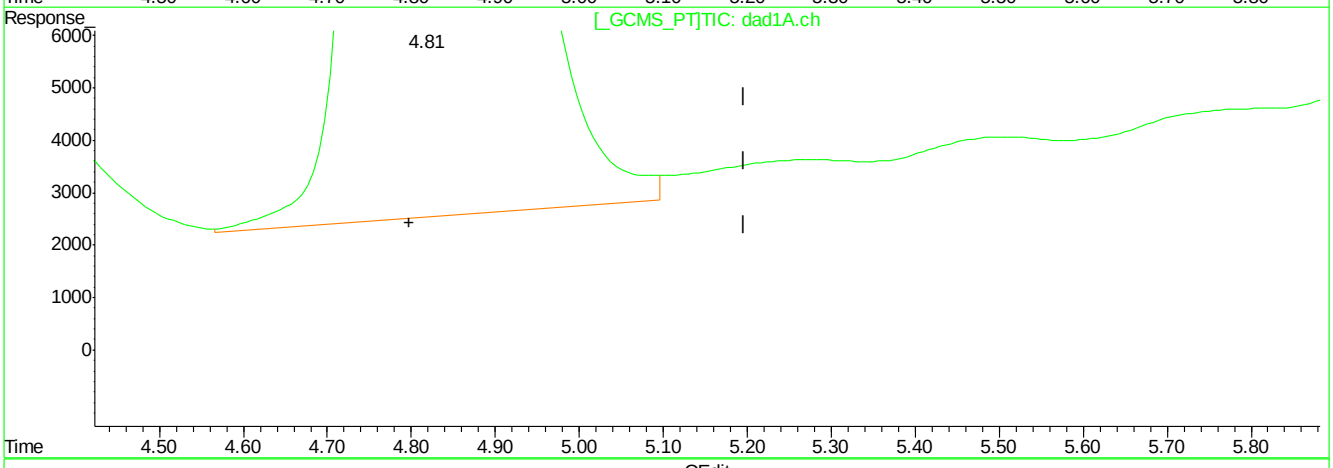
(+) = Expected Retention Time
BB088329.D BBB2700_050625.M Wed May 28 11:02:17 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088329.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088329.D\dad1A.ch
Acq On : 27-May-2025, 12:48:45 Operator: fouads
Sample : fc24818-4 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(6) 1,3,5-Trinitrobenzene

4.81min 853.829ppb

response 3396967

(6) 1,3,5-Trinitrobenzene #2

4.82min 655.351ppb

response 4044352

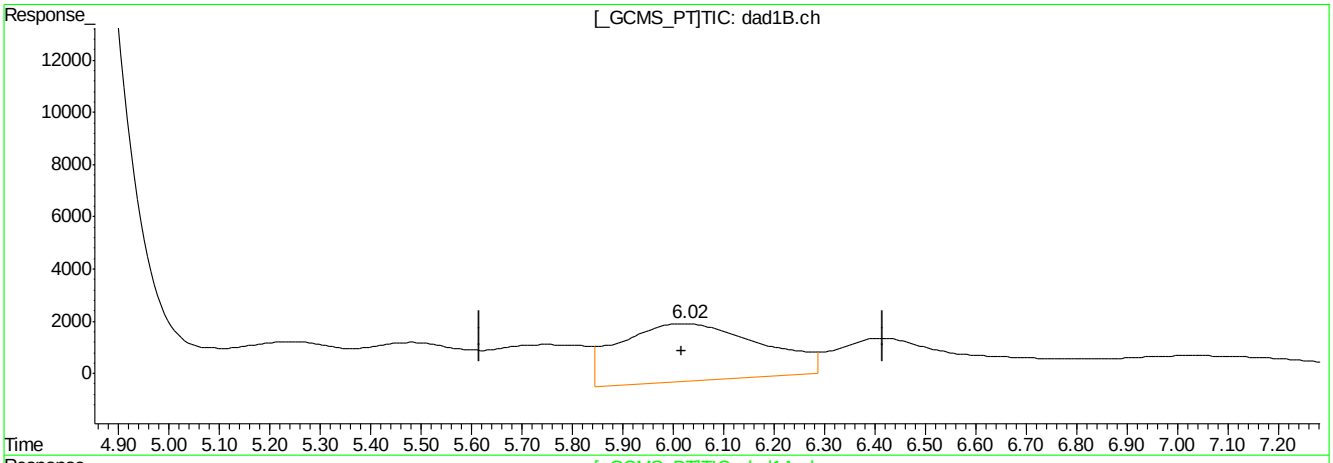
(+) = Expected Retention Time
BB088329.D BBB2700_050625.M Wed May 28 11:04:47 2025

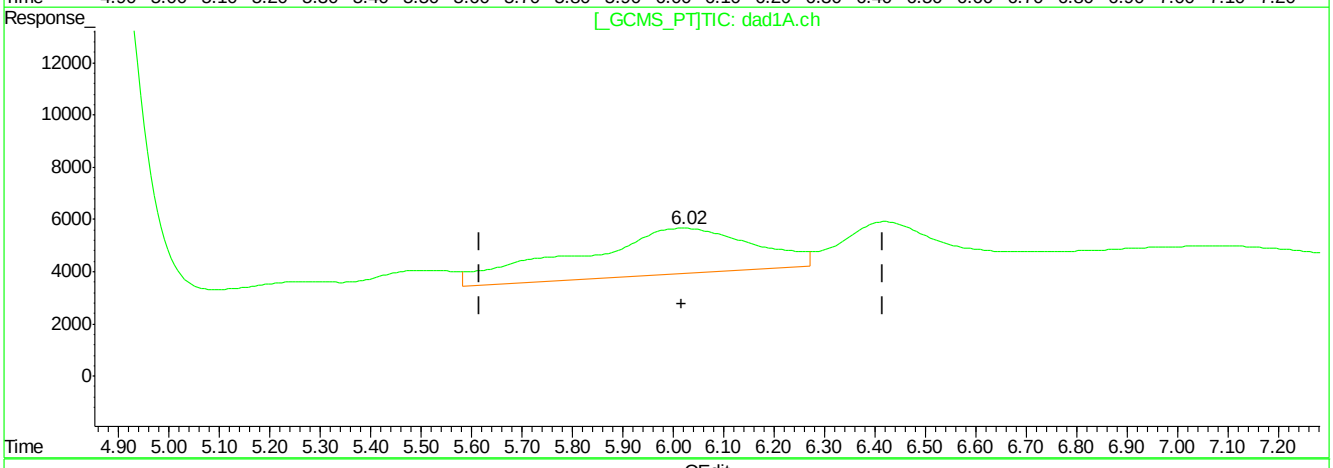
BB088329.D edits: 1,3,5-Trinitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088329.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088329.D\dad1A.ch
Acq On : 27-May-2025, 12:48:45 Operator: fouads
Sample : fc24818-4 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

6.03min 86.287ppb

response 435778

(7) 1,3-Dinitrobenzene #2

6.02min 125.552ppb

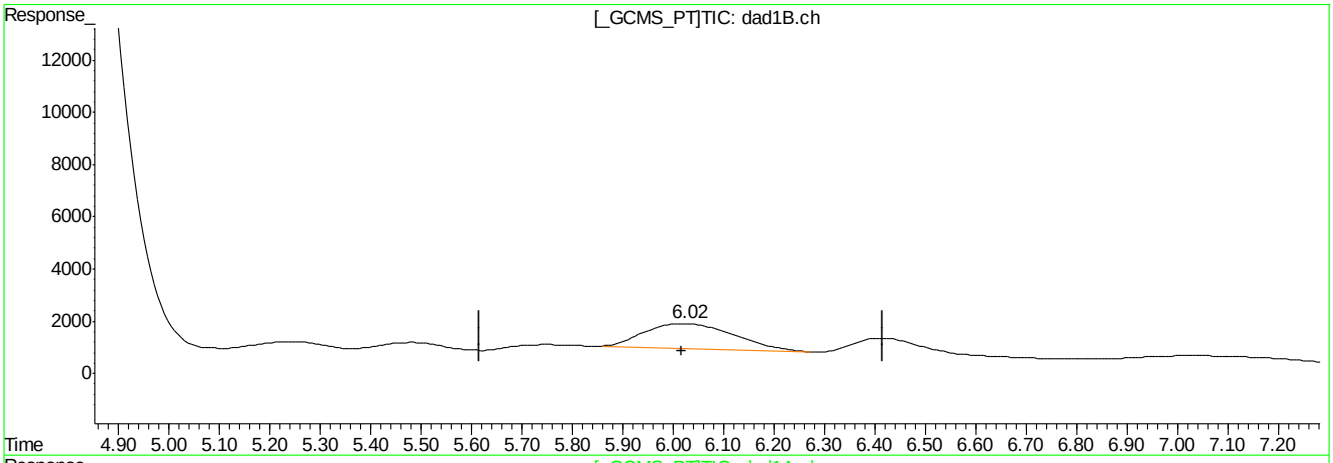
response 431147

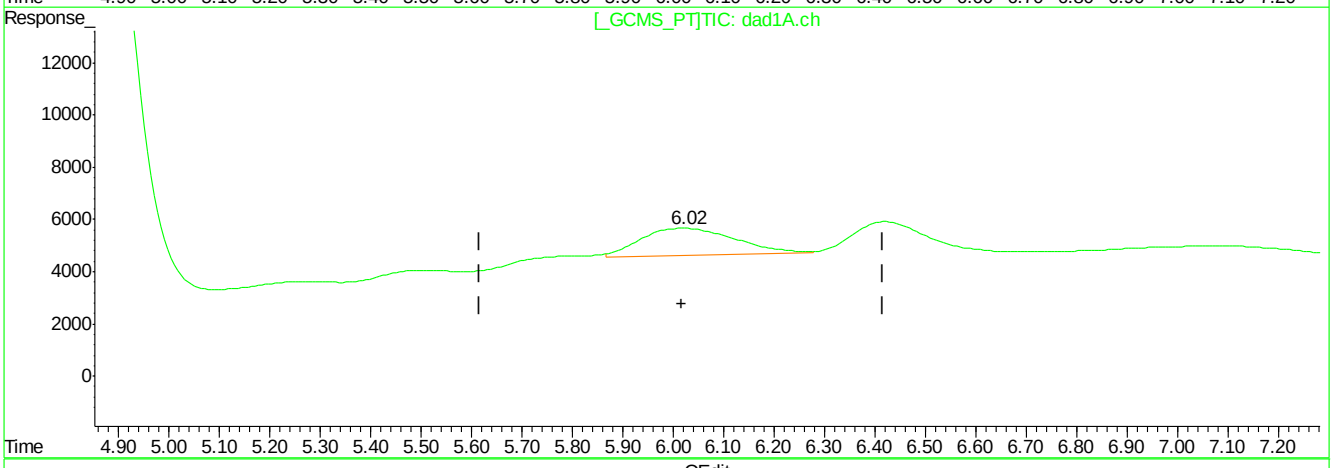
(+) = Expected Retention Time
BB088329.D BBB2700_050625.M Wed May 28 11:06:05 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088329.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088329.D\dad1A.ch
Acq On : 27-May-2025, 12:48:45 Operator: fouads
Sample : fc24818-4 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

6.02min 24.216ppb m

response 122297

(7) 1,3-Dinitrobenzene #2

6.02min 39.646ppb m

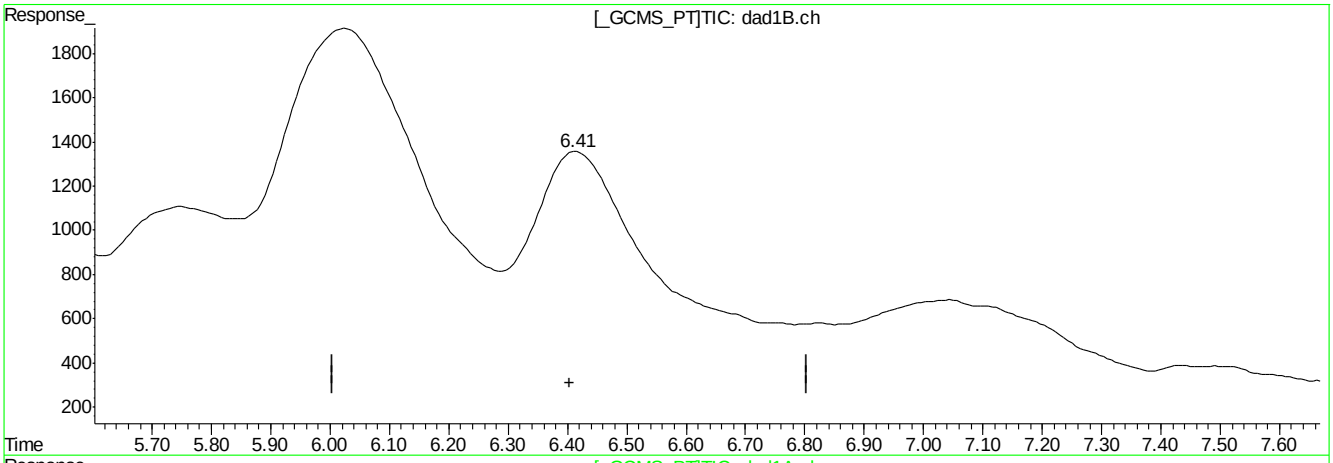
response 136145

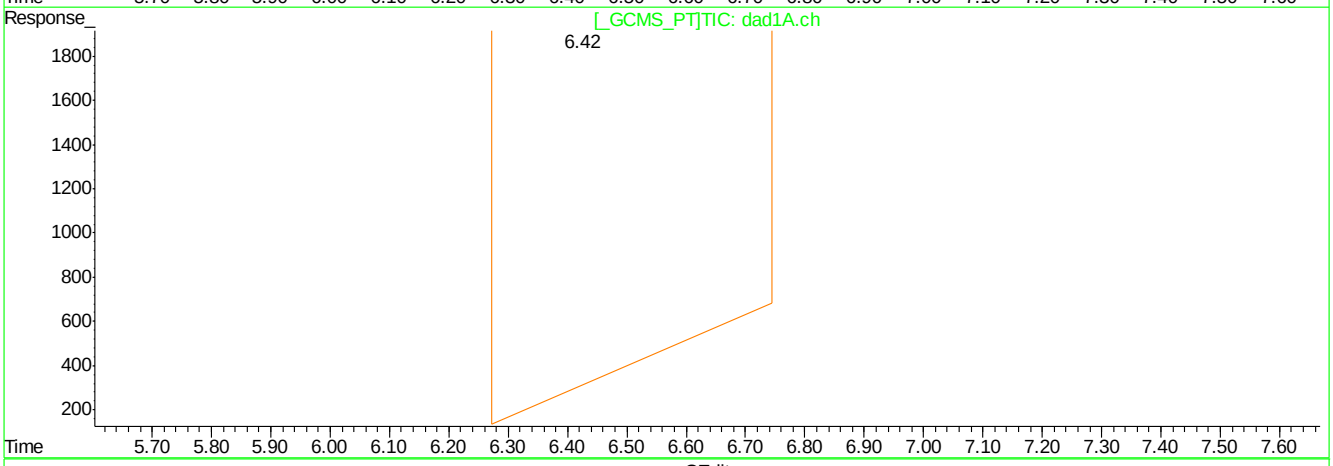
(+) = Expected Retention Time
BB088329.D BBB2700_050625.M Wed May 28 11:06:14 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088329.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088329.D\dad1A.ch
Acq On : 27-May-2025, 12:48:45 Operator: fouads
Sample : fc24818-4 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.42min 41.747ppb

response 177816

(8) 3,5-Dinitroaniline #2

6.42min 29.704ppb

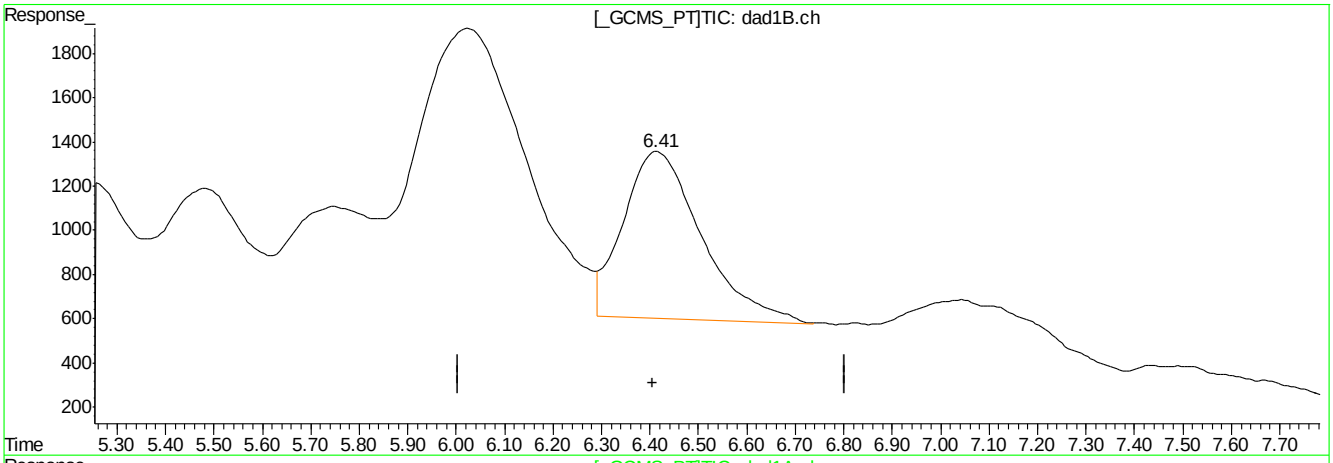
response 186781

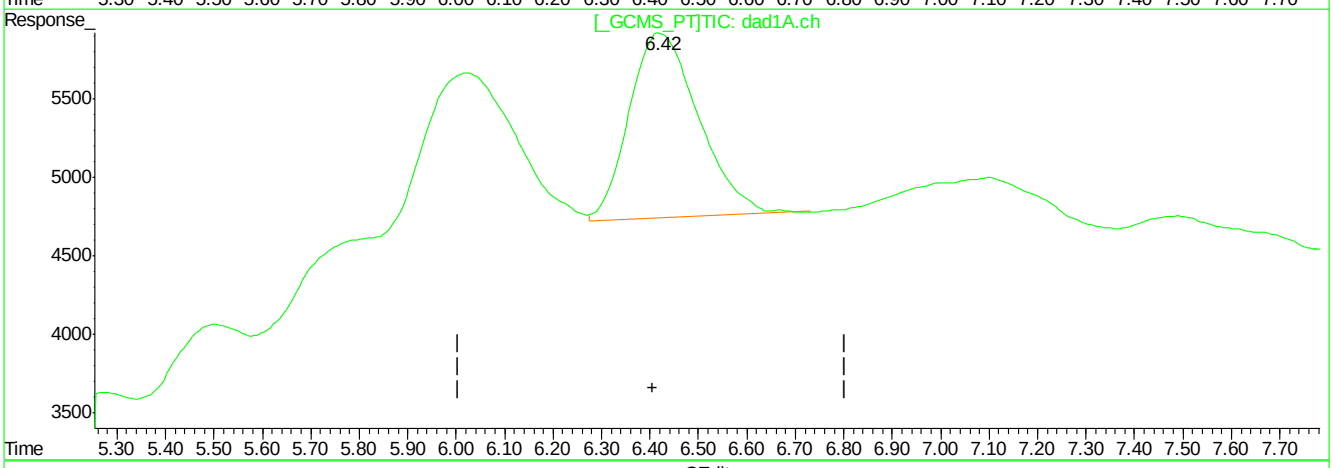
(+) = Expected Retention Time
BB088329.D BBB2700_050625.M Wed May 28 11:06:21 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088329.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088329.D\dad1A.ch
Acq On : 27-May-2025, 12:48:45 Operator: fouads
Sample : fc24818-4 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.41min 19.934ppb m

response 84906

(8) 3,5-Dinitroaniline #2

6.42min 18.483ppb m

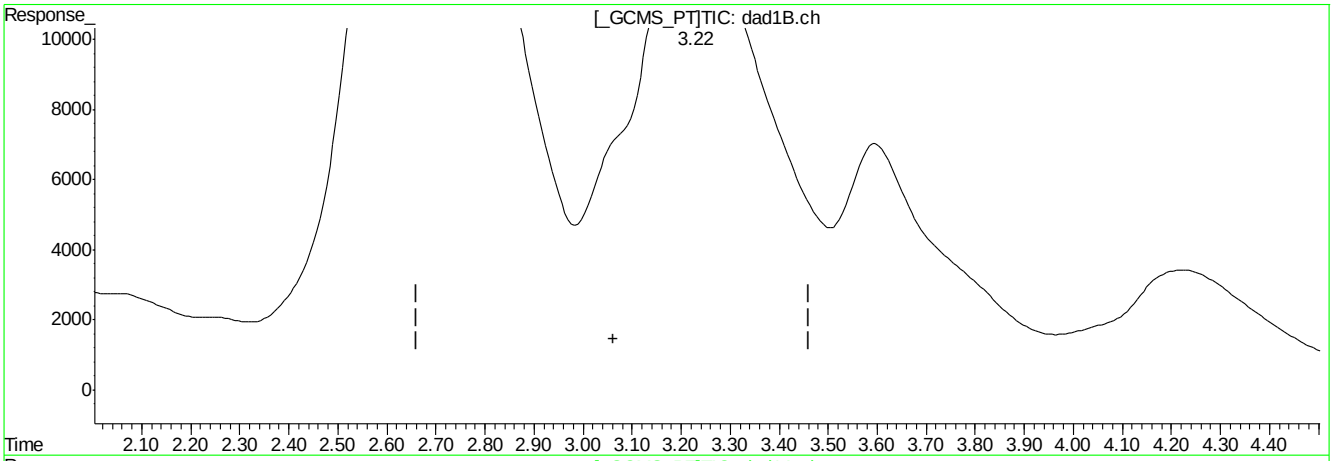
response 116224

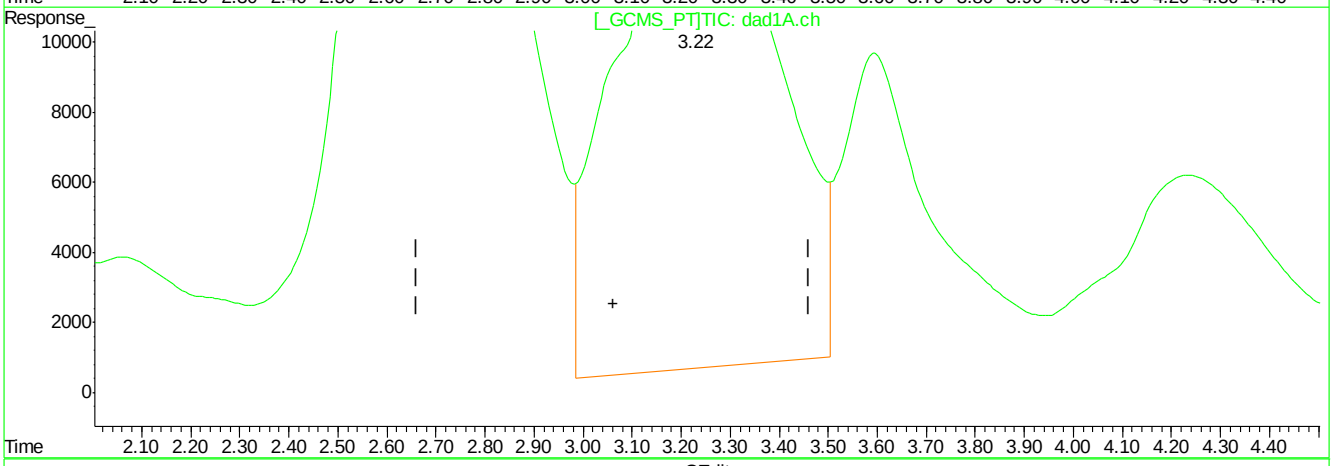
(+) = Expected Retention Time
BB088329.D BBB2700_050625.M Wed May 28 11:06:57 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088329.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088329.D\dad1A.ch
Acq On : 27-May-2025, 12:48:45 Operator: fouads
Sample : fc24818-4 Inst : G1315B
Misc : op9525,GBB2710,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 11:06 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(5) RDX

3.22min 2204.736ppb

response 3933692

(5) RDX #2

3.22min 1208.559ppb

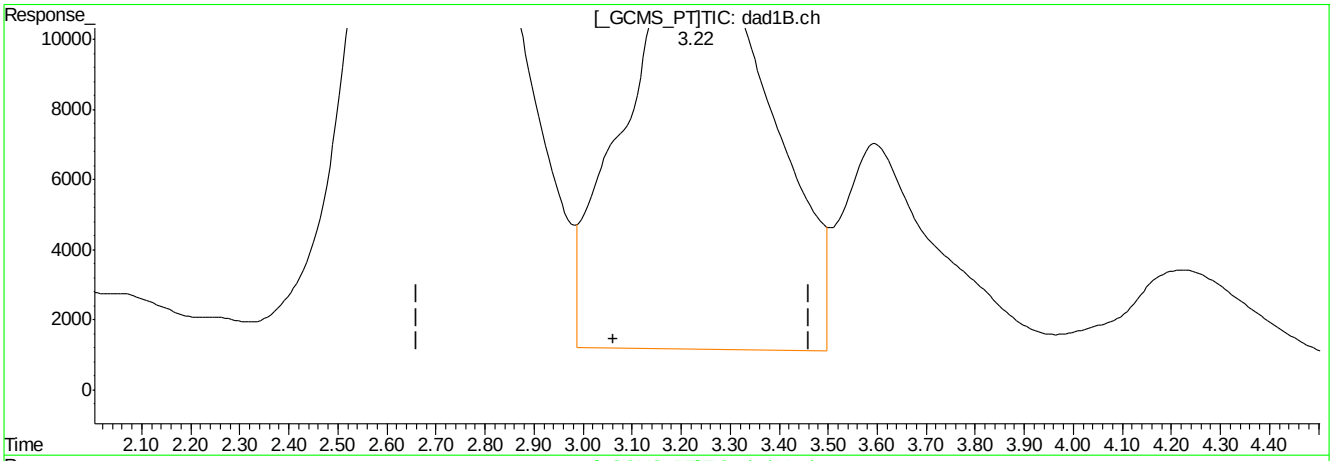
response 3460098

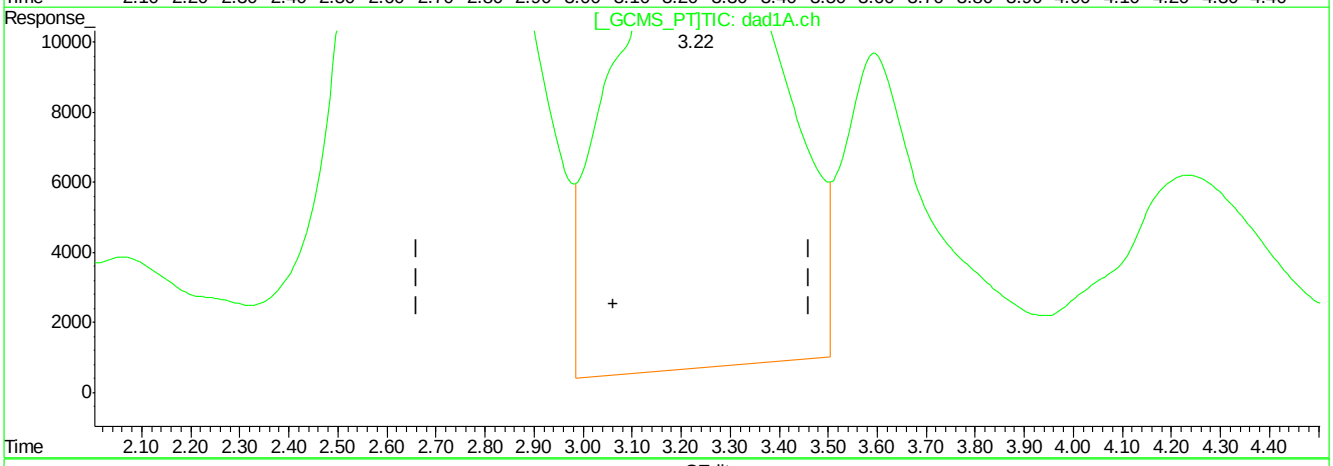
(+) = Expected Retention Time
BB088329.D BBB2700_050625.M Mon Jun 02 11:29:25 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088329.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088329.D\dad1A.ch
Acq On : 27-May-2025, 12:48:45 Operator: fouads
Sample : fc24818-4 Inst : G1315B
Misc : op9525,GBB2710,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 11:06 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(5) RDX

3.22min 1370.733ppb m

response 2445664

(5) RDX #2

3.22min 1208.559ppb

response 3460098

(+) = Expected Retention Time
BB088329.D BBB2700_050625.M Mon Jun 02 11:29:38 2025

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 06/03/25 11:33

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1A.ch
Acq On : 29-May-2025, 14:50:23 Operator: fouads
Sample : fc24818-4cf Inst : G1315B
Misc : op9525,GGG3585,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:17:57 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:17:48 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	13.38	13.39	2186107	4214405	455.363	424.360
	Spiked Amount 500.000	Range 70 - 136		Recovery =		91.07%	84.87%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	5.18	5.18	4739135	4739135	1635.833	1635.164
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	6.11	6.11	603833	570357	70.369m	67.815m
6)	RDX	7.13	7.13	5635094	5635094	1377.371	1390.099
7)	1,3-Dinitrobenze	7.55	7.55	195906	217016	15.923m	24.663m#
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	10.81	10.81	7609323	9918555	932.599	872.832
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	3,5-Dinitroanili	15.19	15.20	1439271	2964152	157.647m	177.174
16)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	16.82	16.82	1862965	4052905	382.429	459.760
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	18.76	18.76	3608249	5292290	447.281	464.798
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

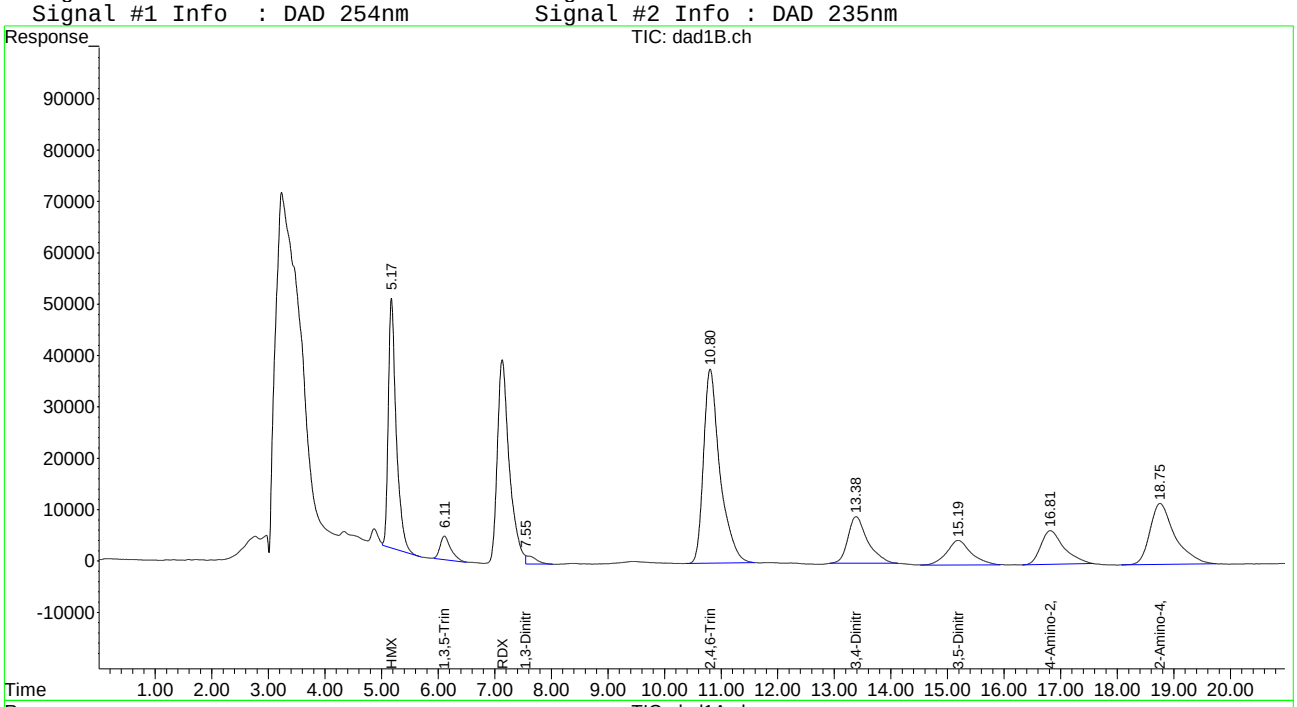
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG632202.D GGG3527_011325.M Mon Jun 02 10:16:18 2025

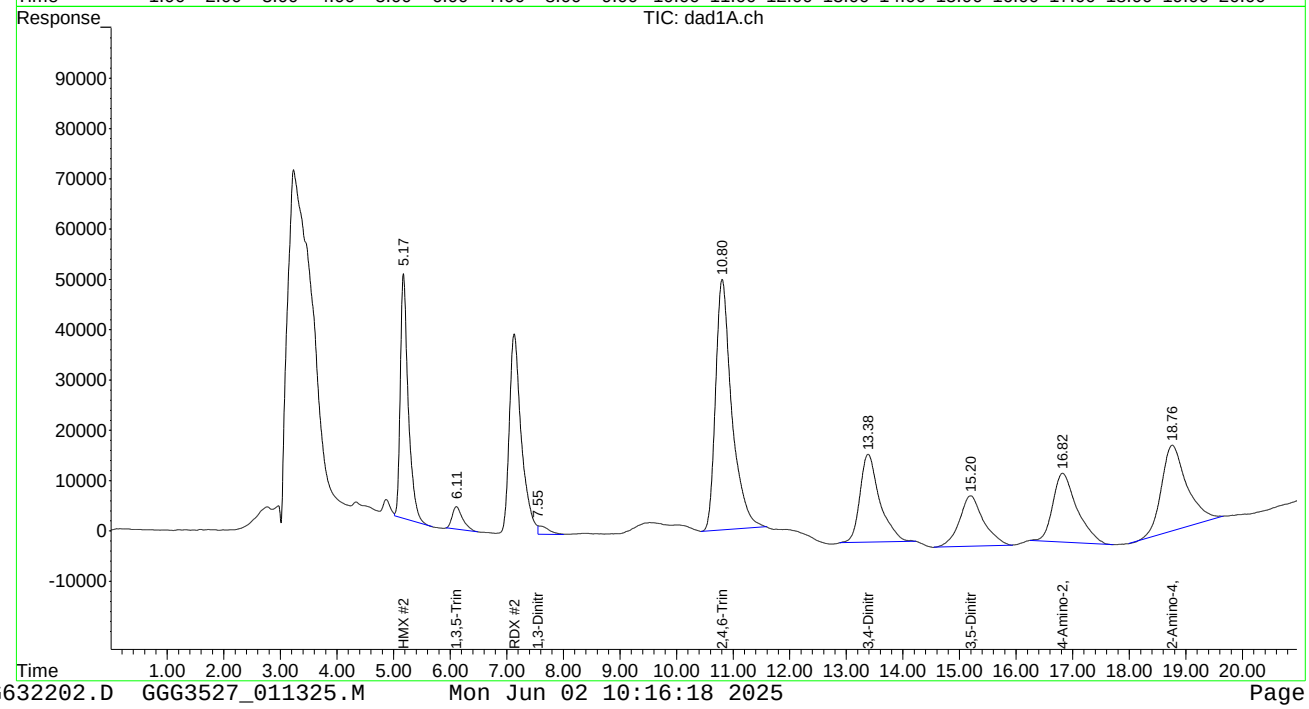
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1A.ch
Acq On : 29-May-2025, 14:50:23 Operator: fouads
Sample : fc24818-4cf Inst : G1315B
Misc : op9525,GGG3585,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:18 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:17:48 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: FC24818-4
Lab FileID: GG632202.D
Injection Time: 05/29/25 14:50

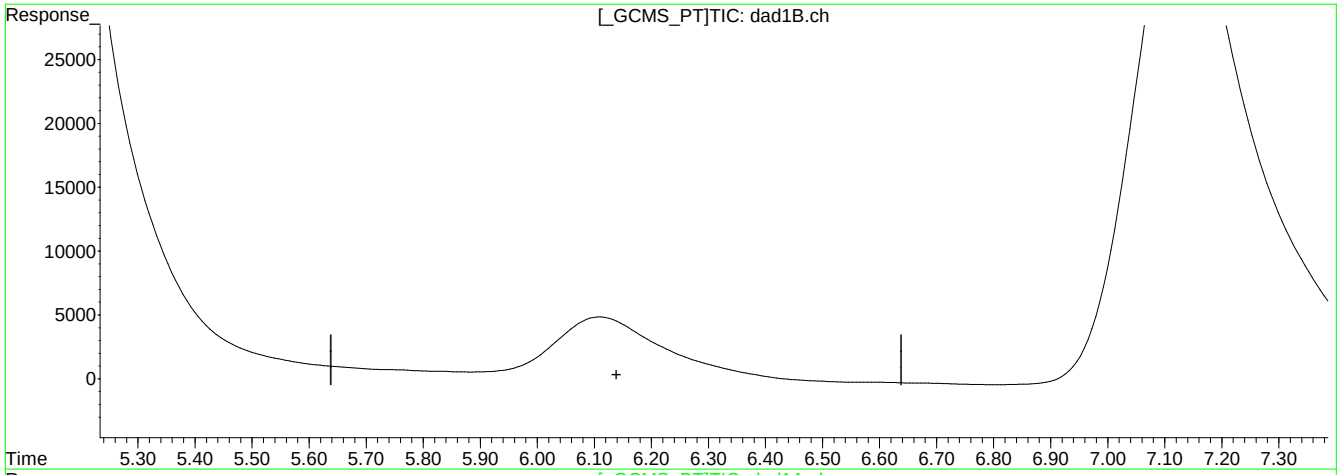
Method: SW846 8330B
Analyst approved: 06/02/25 11:16 Fouad Sekkar
Supervisor approved: 06/03/25 11:33 William Hustedde

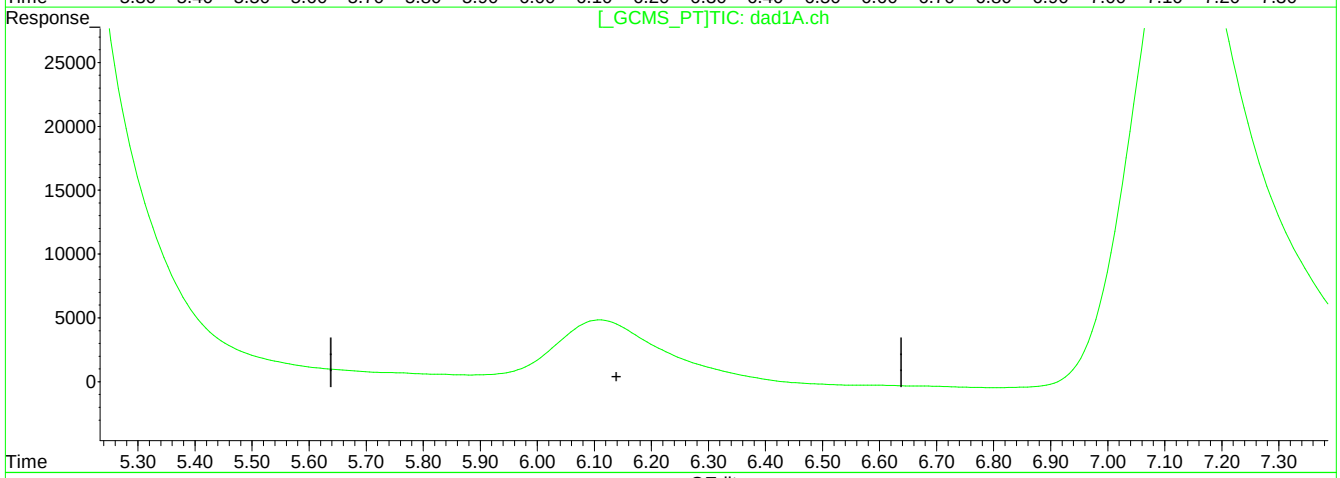
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3,5-Trinitrobenzene	99-35-4	1	6.11	Missed peak
1,3,5-Trinitrobenzene	99-35-4	2	6.11	Missed peak
1,3-Dinitrobenzene	99-65-0	1	7.55	Missed peak
1,3-Dinitrobenzene	99-65-0	2	7.55	Missed peak
3,5-Dinitroaniline	618-87-1	1	15.19	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1A.ch
Acq On : 29-May-2025, 14:50:23 Operator: fouads
Sample : fc24818-4cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:12:20 2025
Response via : Multiple Level Calibration





QEdit

(5) 1,3,5-Trinitrobenzene

0.00min 0.000ppb

response 0

(5) 1,3,5-Trinitrobenzene #2

0.00min 0.000ppb

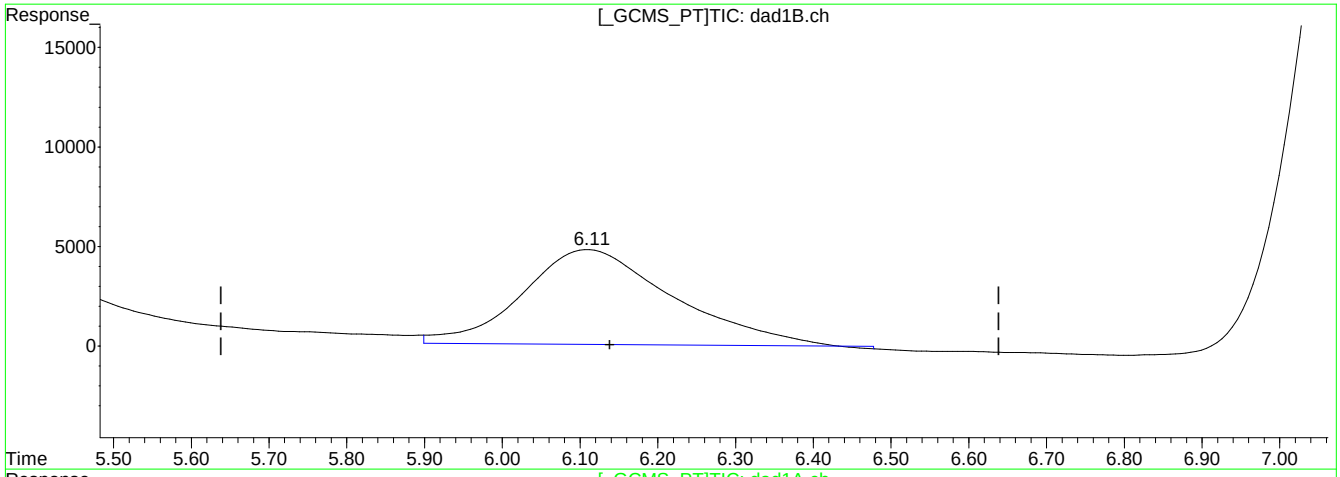
response 0

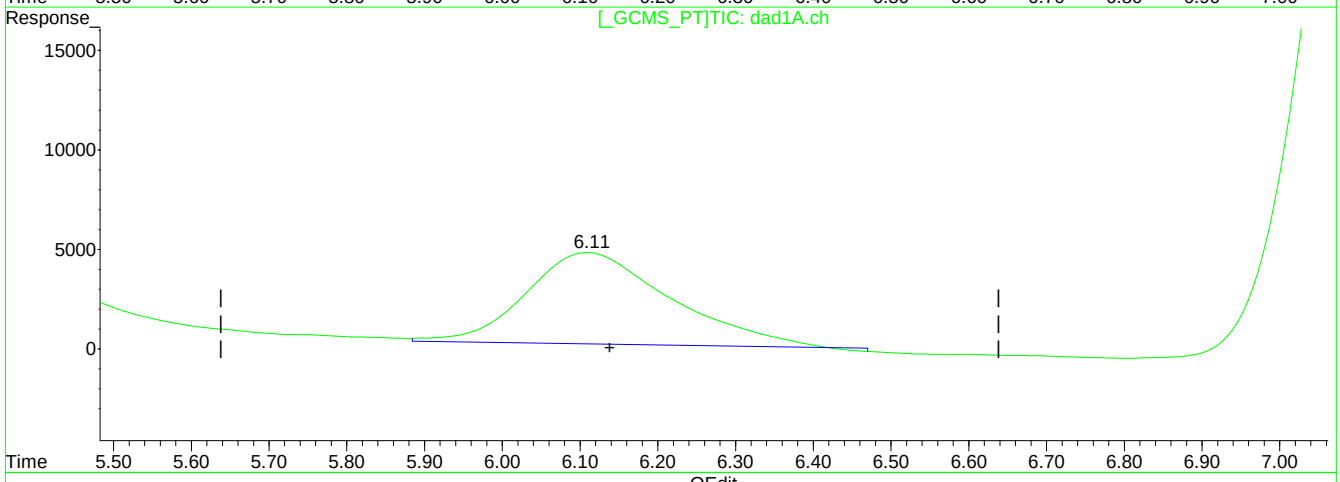
(+) = Expected Retention Time
GG632202.D GGG3527_011325.M Fri May 30 12:14:31 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1A.ch
Acq On : 29-May-2025, 14:50:23 Operator: fouads
Sample : fc24818-4cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:12:20 2025
Response via : Multiple Level Calibration





QEdit

(5) 1,3,5-Trinitrobenzene

6.11min 74.649ppb m

response 640560

(5) 1,3,5-Trinitrobenzene #2

6.11min 70.690ppb m

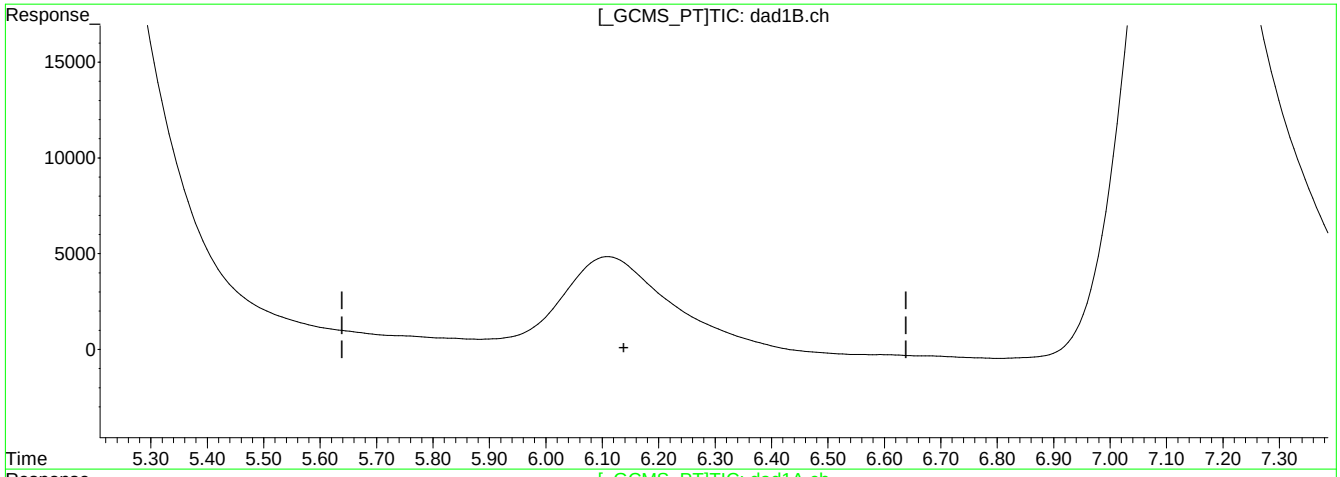
response 594531

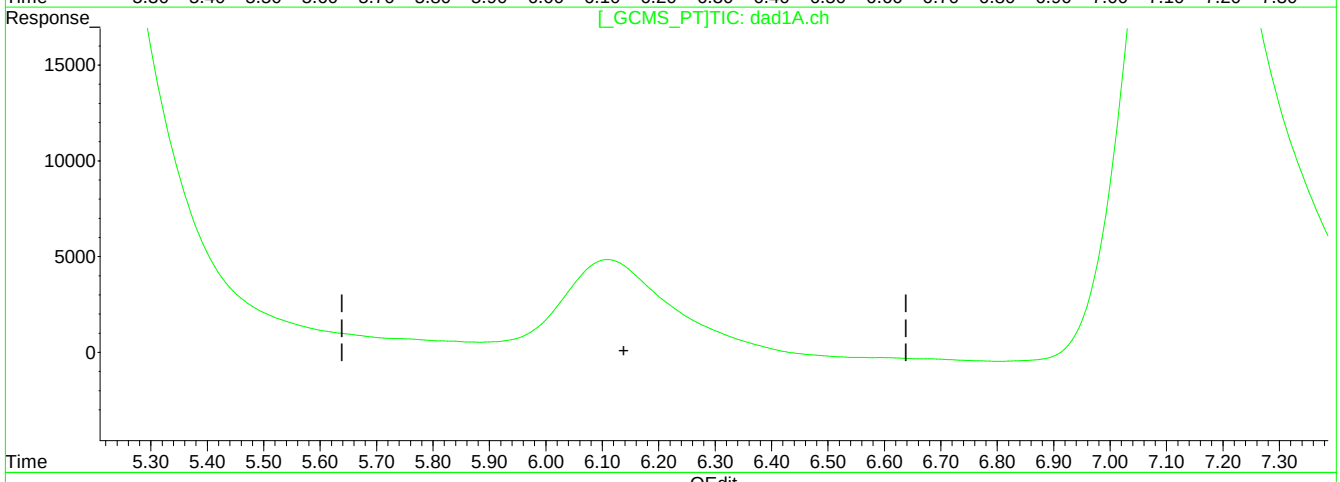
(+) = Expected Retention Time
GG632202.D GGG3527_011325.M Fri May 30 12:14:41 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1A.ch
Acq On : 29-May-2025, 14:50:23 Operator: fouads
Sample : fc24818-4cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:16 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:15:59 2025
Response via : Multiple Level Calibration





QEdit

(5) 1,3,5-Trinitrobenzene

0.00min 0.000ppb

response 0

(5) 1,3,5-Trinitrobenzene #2

0.00min 0.000ppb

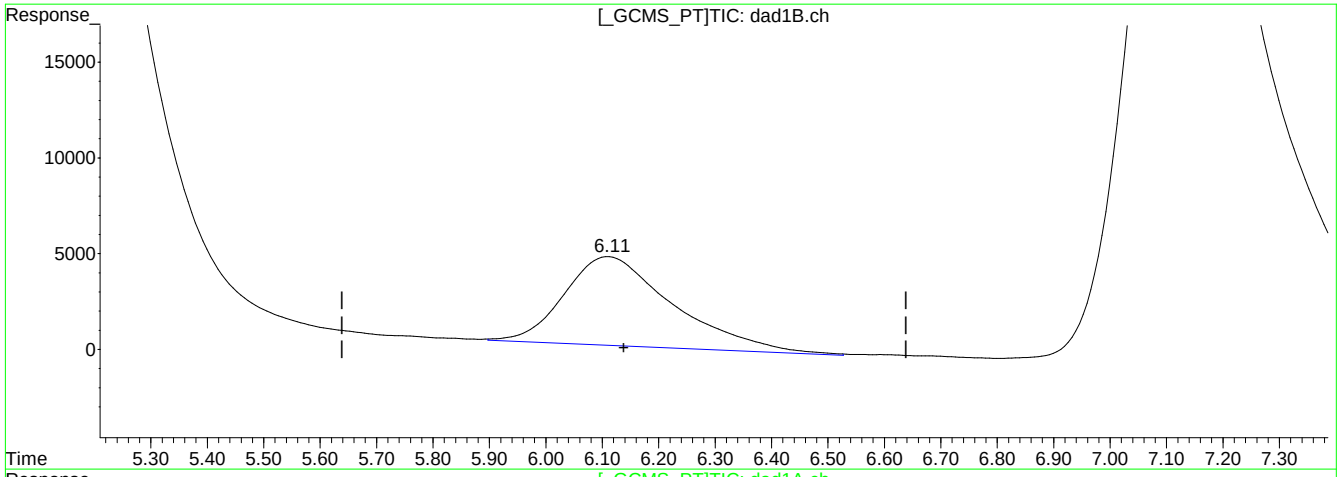
response 0

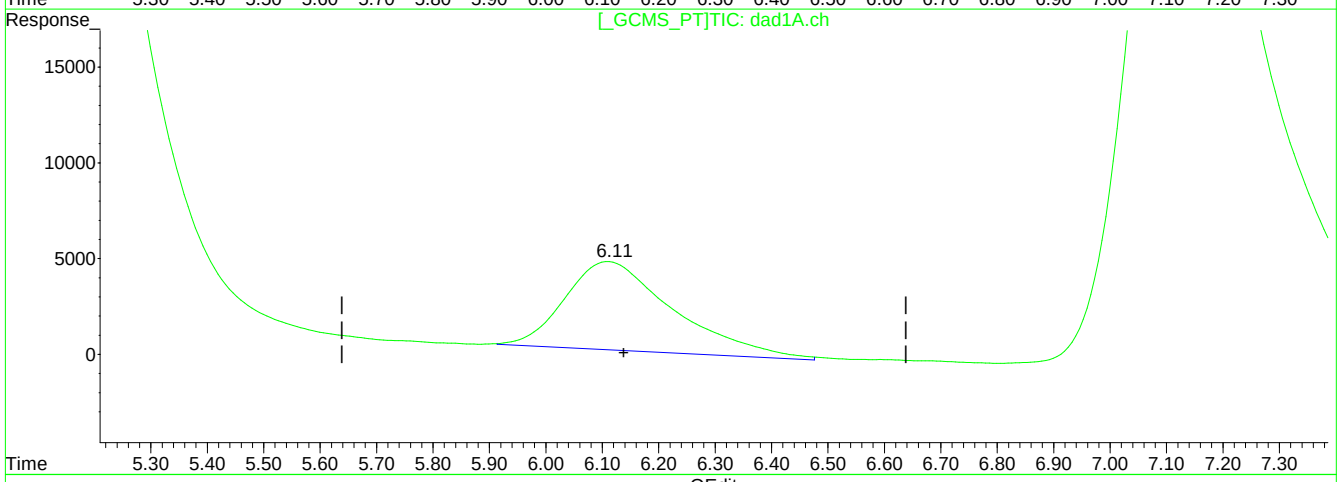
(+) = Expected Retention Time
GG632202.D GGG3527_011325.M Fri May 30 12:16:21 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1A.ch
Acq On : 29-May-2025, 14:50:23 Operator: fouads
Sample : fc24818-4cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:16 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:15:59 2025
Response via : Multiple Level Calibration





QEdit

(5) 1,3,5-Trinitrobenzene

6.11min 72.451ppb m

response 621704

(5) 1,3,5-Trinitrobenzene #2

6.11min 73.333ppb m

response 616759

(+) = Expected Retention Time
GG632202.D GGG3527_011325.M Fri May 30 12:16:28 2025

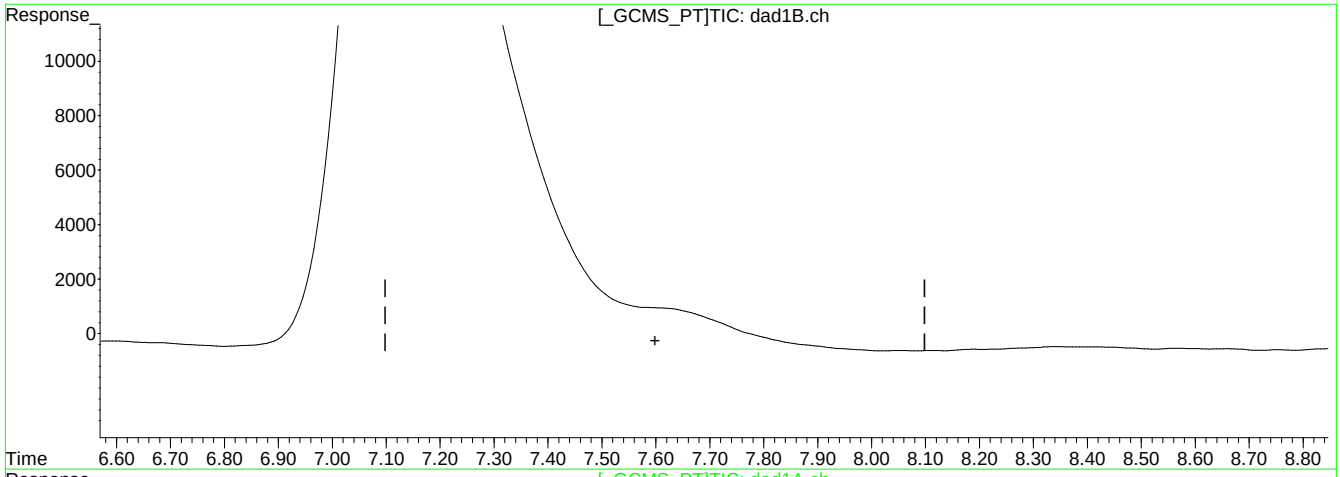
9.1.8.5

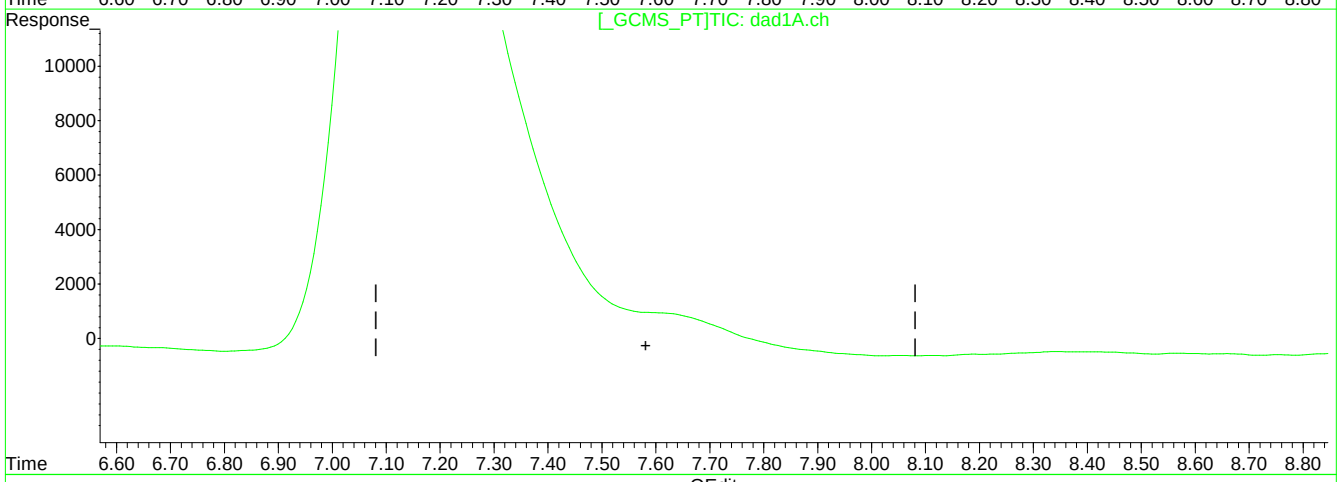
9

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1A.ch
Acq On : 29-May-2025, 14:50:23 Operator: fouads
Sample : fc24818-4cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:16 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:15:59 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

0.00min 0.000ppb

response 0

(7) 1,3-Dinitrobenzene #2

0.00min 0.000ppb

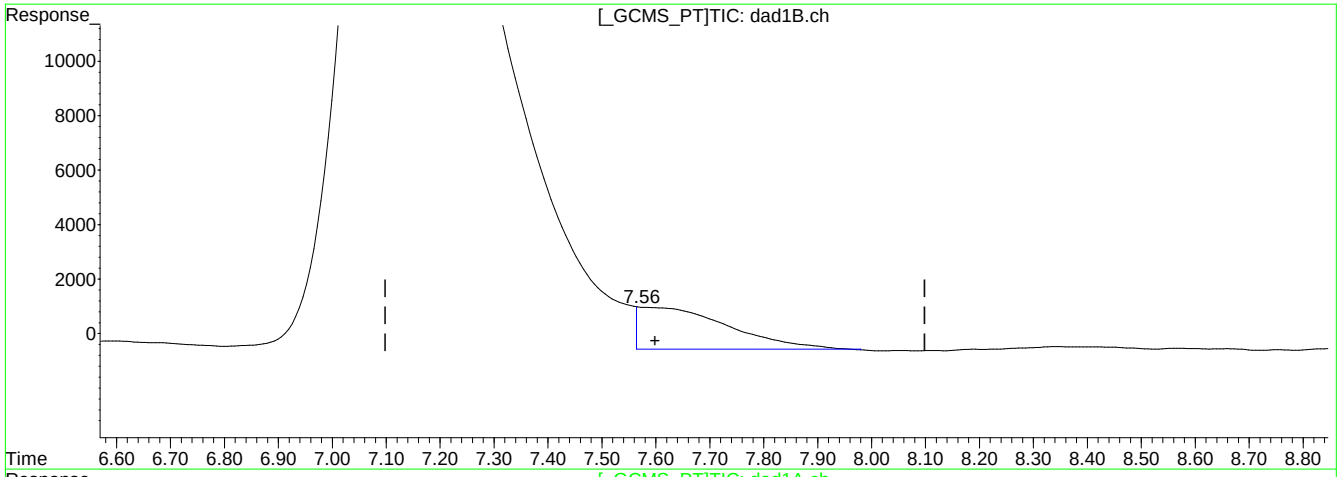
response 0

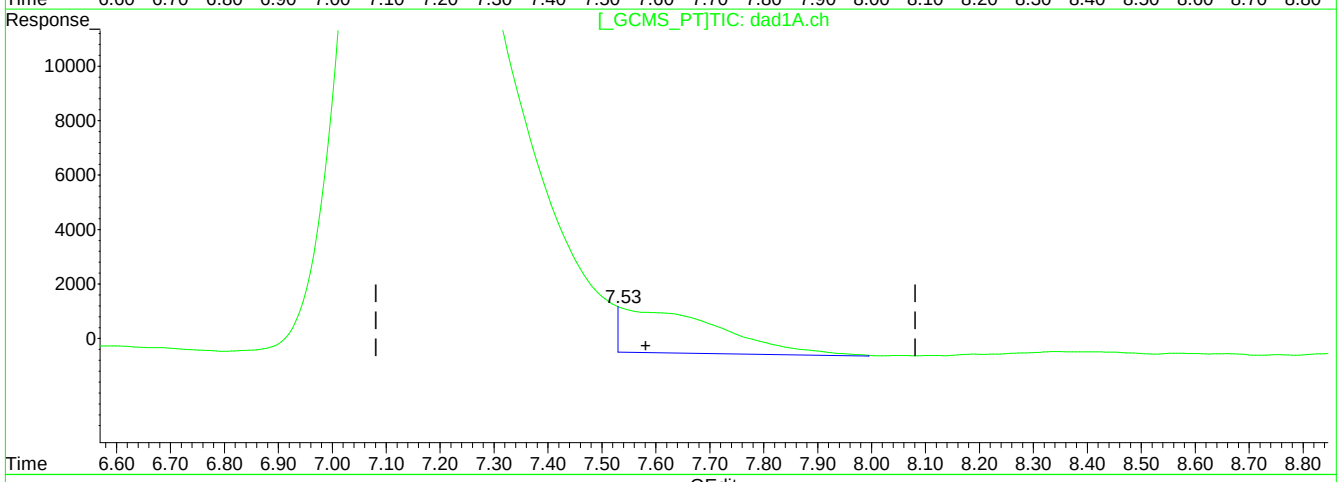
(+) = Expected Retention Time
GG632202.D GGG3527_011325.M Fri May 30 12:16:36 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1A.ch
Acq On : 29-May-2025, 14:50:23 Operator: fouads
Sample : fc24818-4cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:16 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:15:59 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

7.56min 14.424ppb m

response 177458

(7) 1,3-Dinitrobenzene #2

7.53min 23.935ppb m

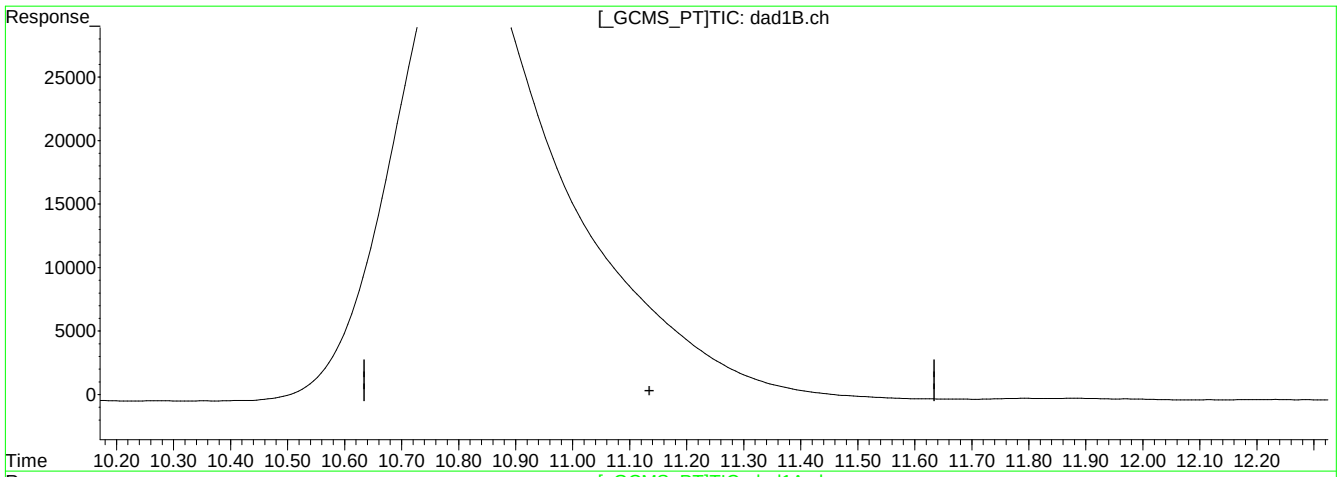
response 210613

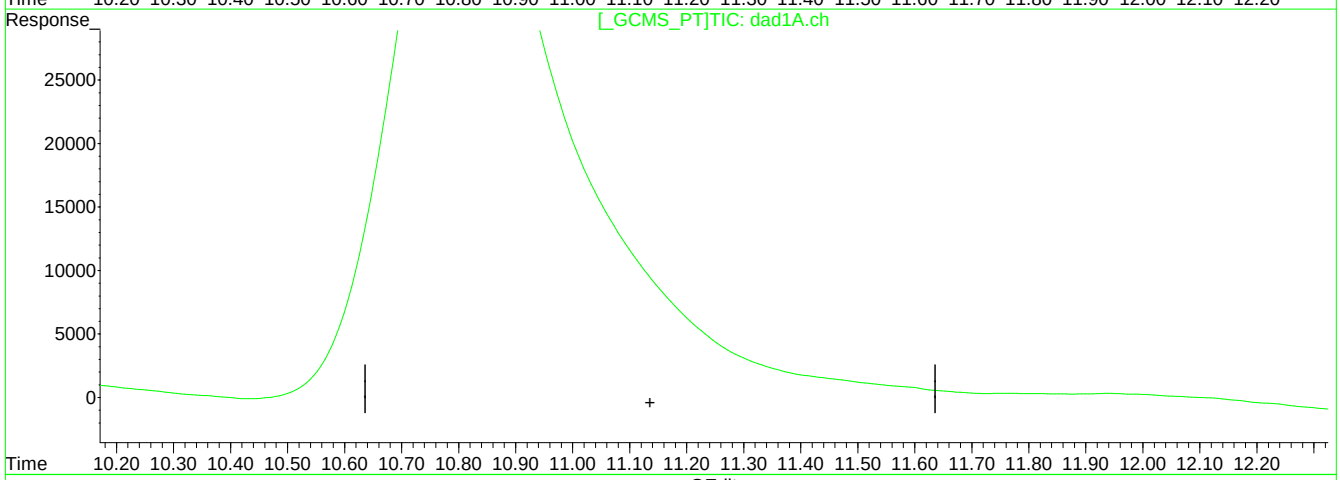
(+) = Expected Retention Time
GG632202.D GGG3527_011325.M Fri May 30 12:16:43 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1A.ch
Acq On : 29-May-2025, 14:50:23 Operator: fouads
Sample : fc24818-4cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:16 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:15:59 2025
Response via : Multiple Level Calibration





QEdit

(9) 2,4,6-Trinitrotoluene

0.00min 0.000ppb

response 0

(9) 2,4,6-Trinitrotoluene #2

0.00min 0.000ppb

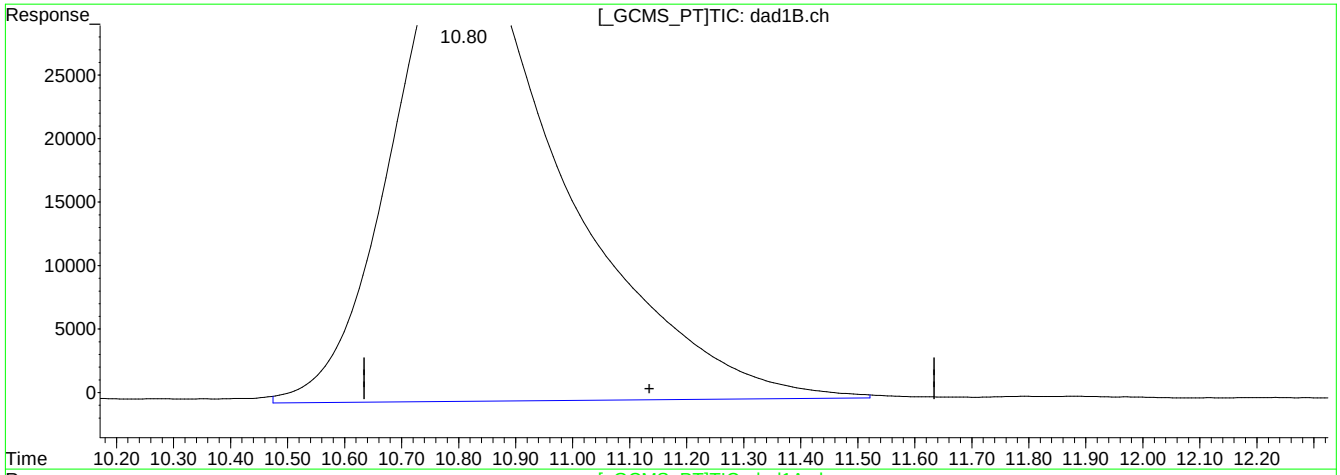
response 0

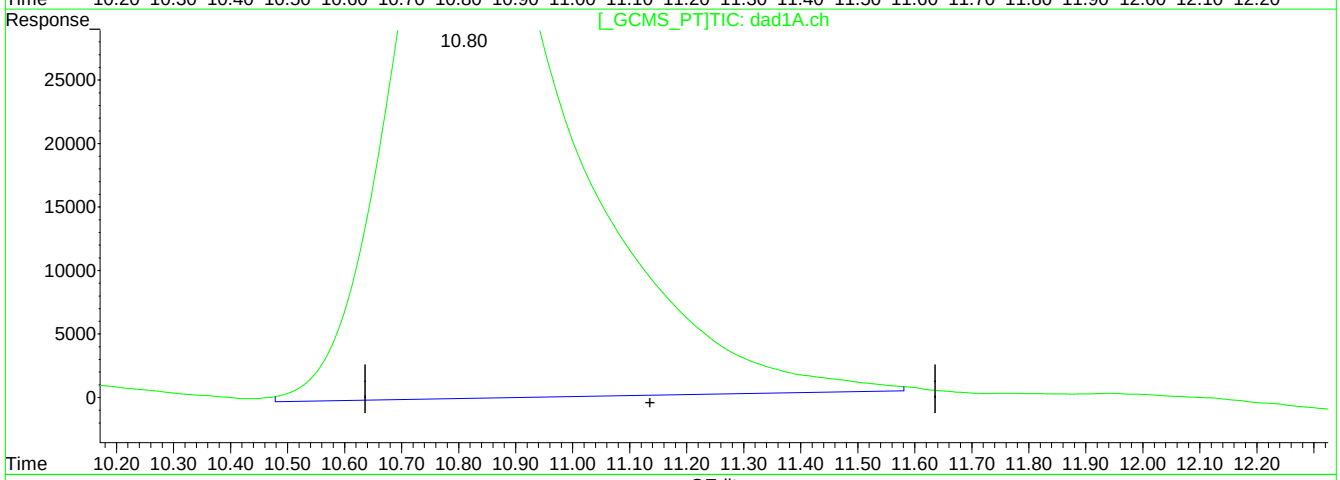
(+) = Expected Retention Time
GG632202.D GGG3527_011325.M Fri May 30 12:16:51 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1A.ch
Acq On : 29-May-2025, 14:50:23 Operator: fouads
Sample : fc24818-4cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:16 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:15:59 2025
Response via : Multiple Level Calibration





(9) 2,4,6-Trinitrotoluene

10.80min 949.446ppb m

response 7746785

(9) 2,4,6-Trinitrotoluene #2

10.80min 890.964ppb m

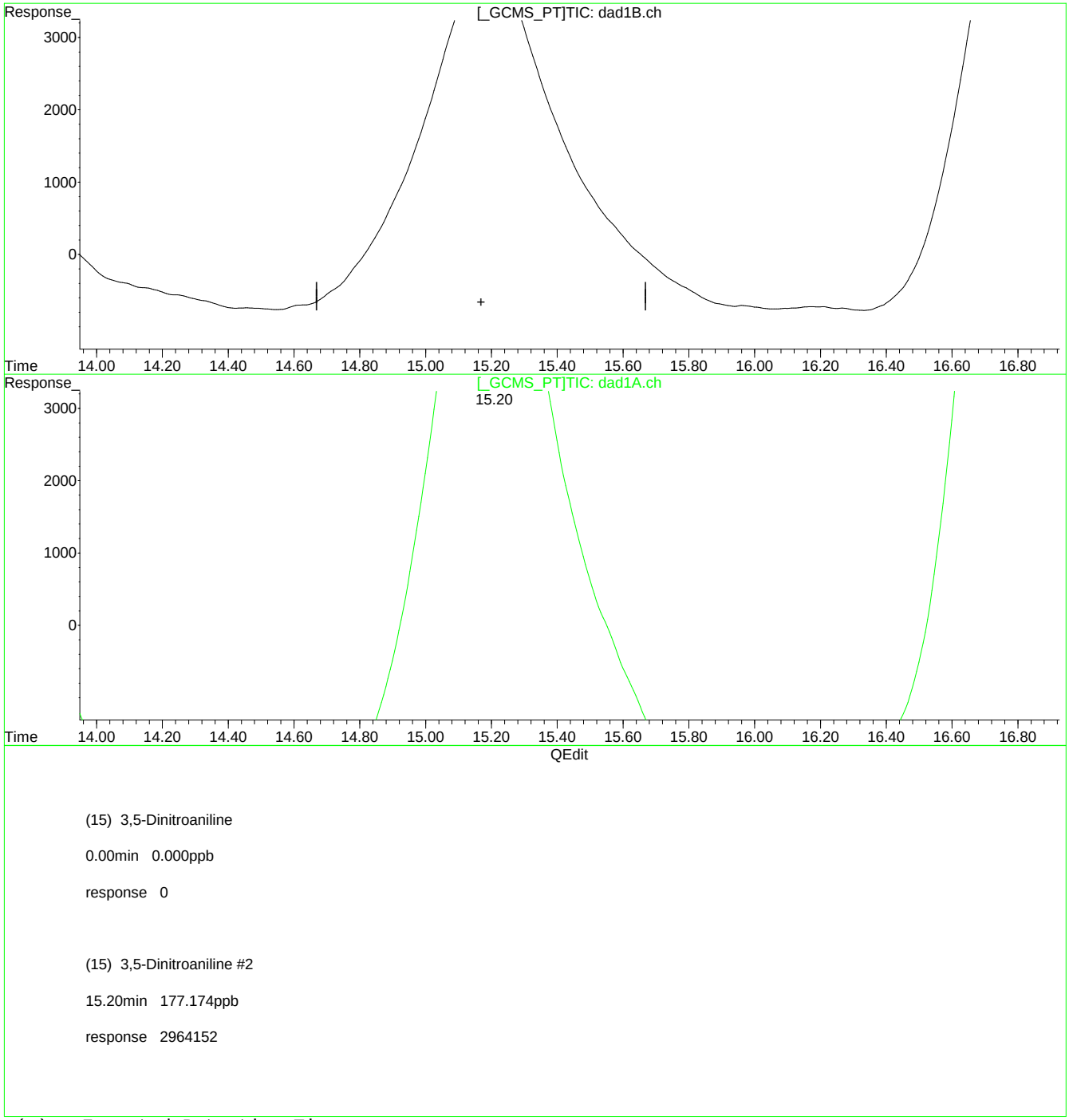
response 10124602

(+) = Expected Retention Time
GG632202.D GGG3527_011325.M Fri May 30 12:16:58 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1A.ch
Acq On : 29-May-2025, 14:50:23 Operator: fouads
Sample : fc24818-4cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:16 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:15:59 2025
Response via : Multiple Level Calibration



(15) 3,5-Dinitroaniline

0.00min 0.000ppb

response 0

(15) 3,5-Dinitroaniline #2

15.20min 177.174ppb

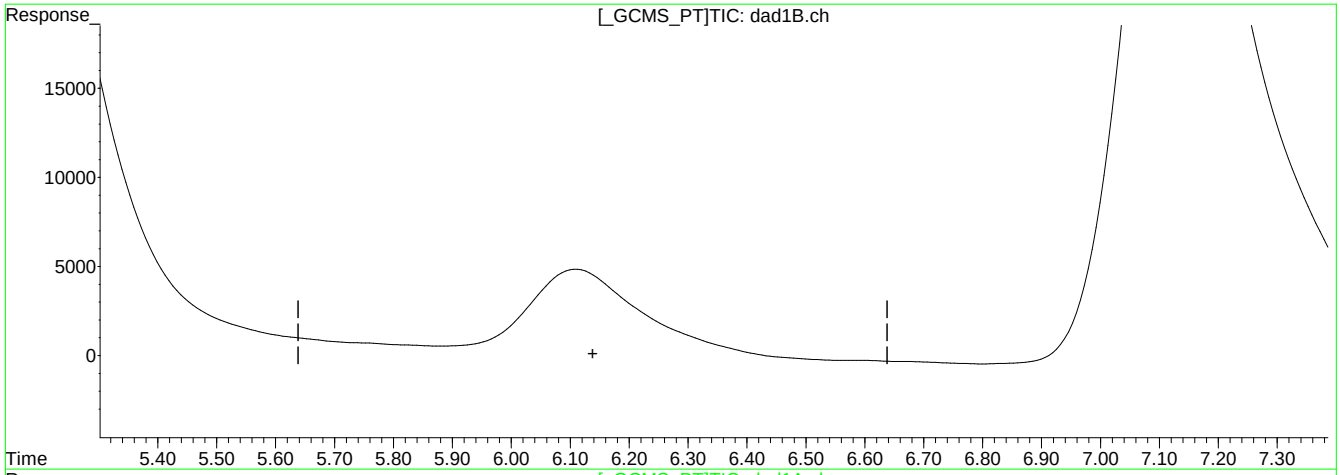
response 2964152

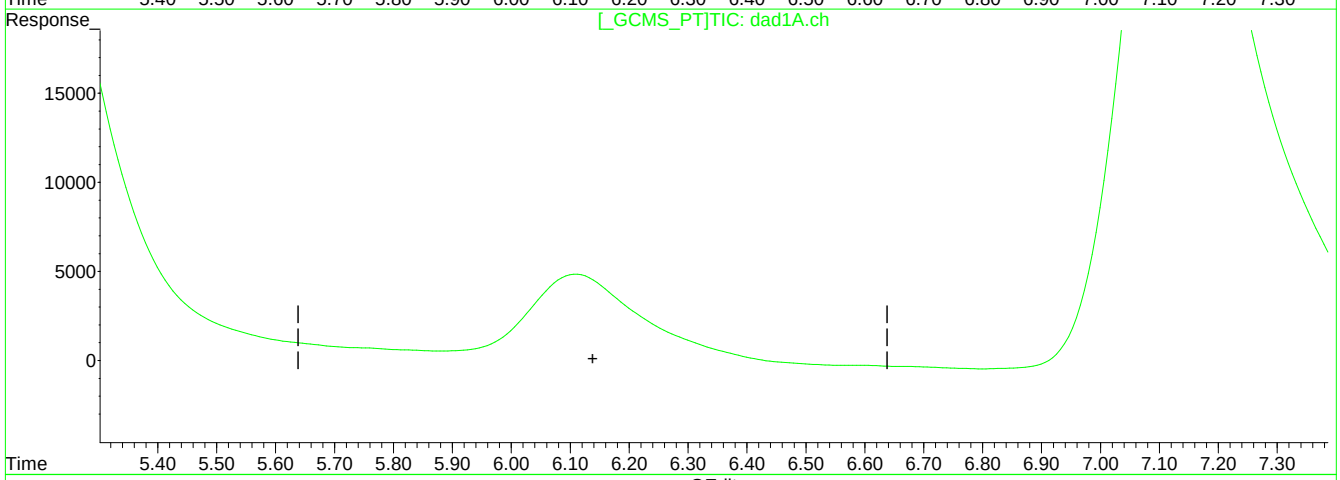
(+) = Expected Retention Time
GG632202.D GGG3527_011325.M Fri May 30 12:17:09 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1A.ch
Acq On : 29-May-2025, 14:50:23 Operator: fouads
Sample : fc24818-4cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:17 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:17:48 2025
Response via : Multiple Level Calibration





QEdit

(5) 1,3,5-Trinitrobenzene

0.00min 0.000ppb

response 0

(5) 1,3,5-Trinitrobenzene #2

0.00min 0.000ppb

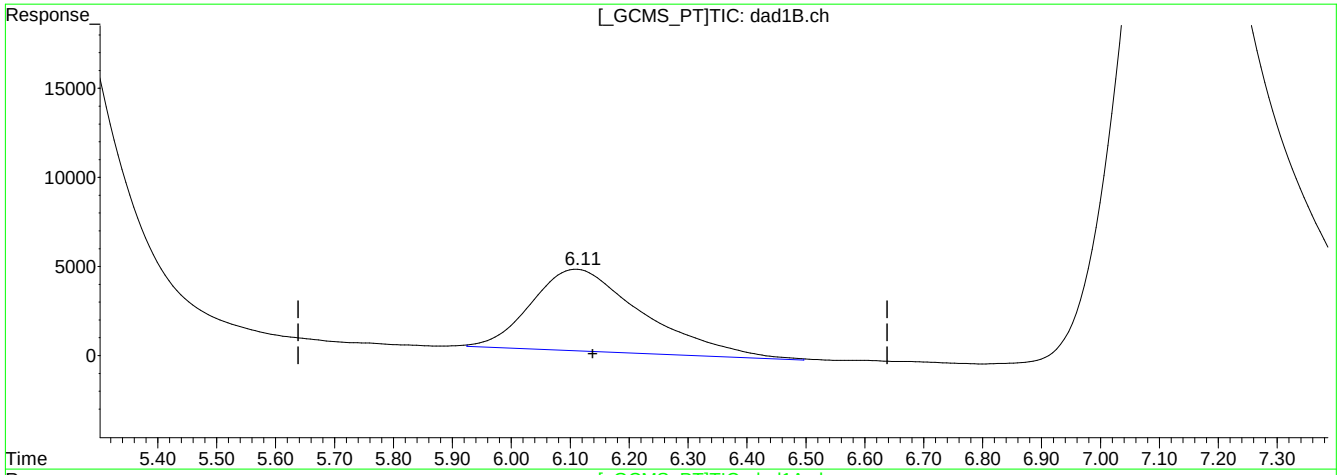
response 0

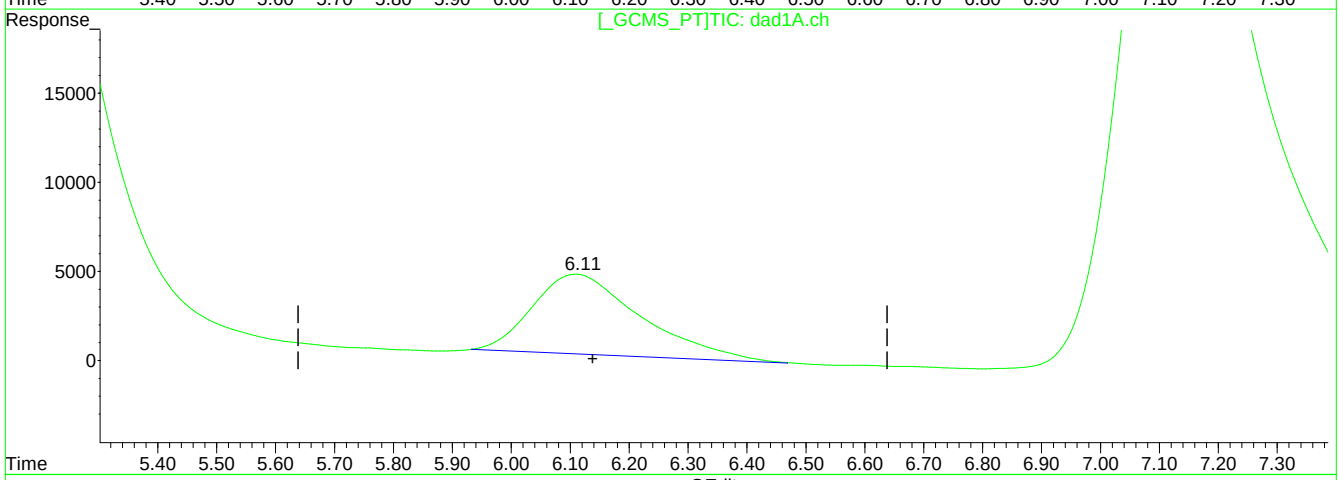
(+) = Expected Retention Time
GG632202.D GGG3527_011325.M Fri May 30 12:18:11 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632202.D\dad1A.ch
Acq On : 29-May-2025, 14:50:23 Operator: fouads
Sample : fc24818-4cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:17 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:17:48 2025
Response via : Multiple Level Calibration





(5) 1,3,5-Trinitrobenzene

6.11min 70.369ppb m

response 603833

(5) 1,3,5-Trinitrobenzene #2

6.11min 67.815ppb m

response 570357

(+) = Expected Retention Time
GG632202.D GGG3527_011325.M Fri May 30 12:18:19 2025

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088332.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088332.D\dad1A.ch
Acq On : 27-May-2025, 14:11:13 Operator: fouads
Sample : fc24818-5 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 09:16:24 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.34	11.34	930300	1622477	395.579	414.803
	Spiked Amount 500.000	Range 70 - 136		Recovery =		79.12%	82.96%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	0.00	0.00	0	0	N.D.	N.D.
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D.
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D.	N.D.
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D.	N.D.
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

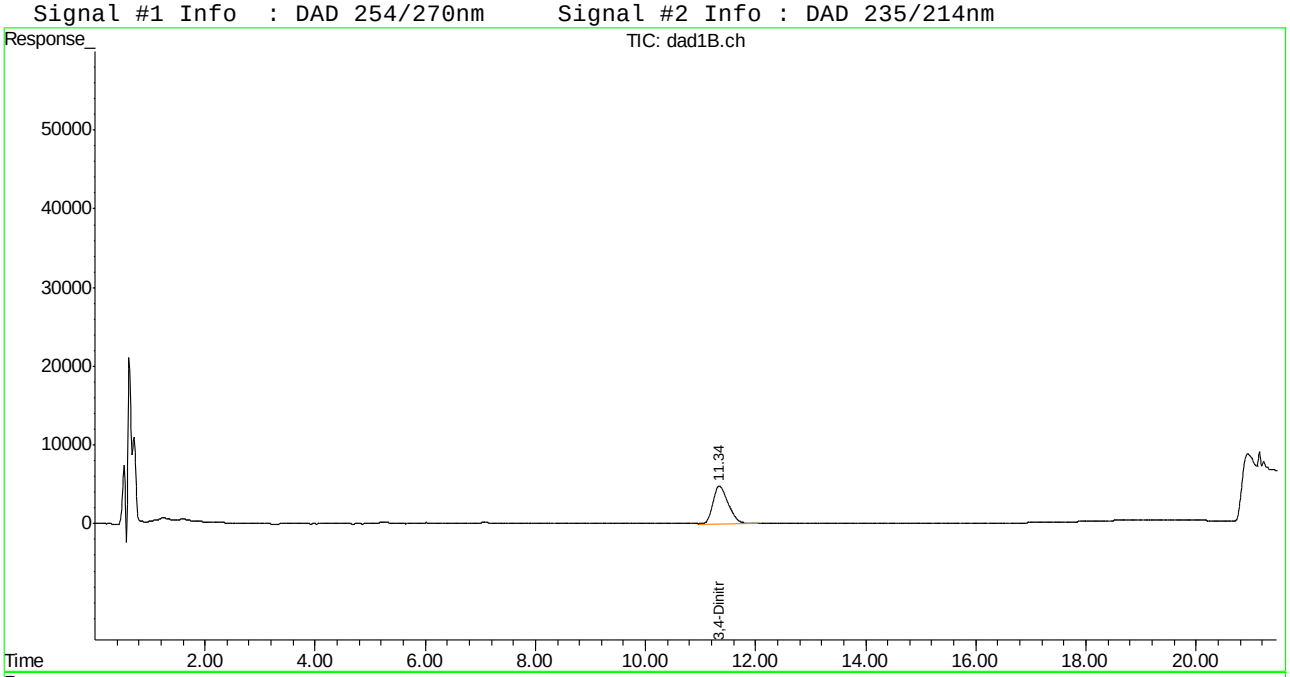
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088332.D BBB2700_050625.M Mon Jun 02 09:49:49 2025 Page 1

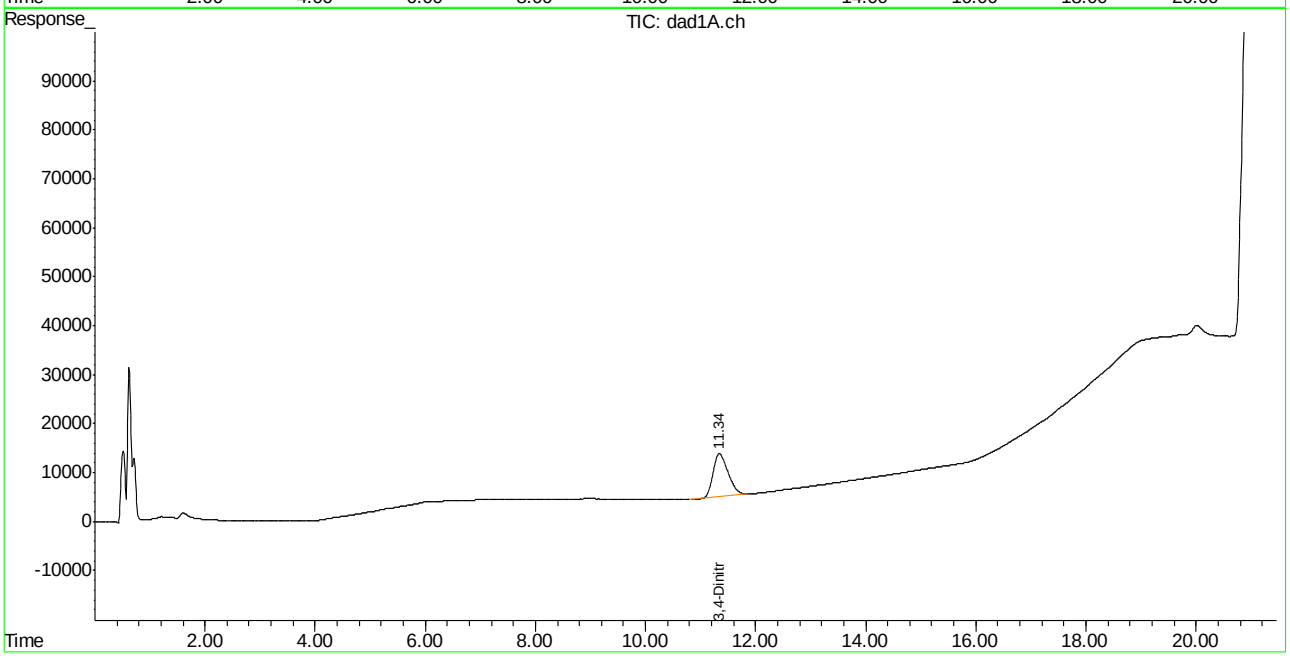
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088332.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088332.D\dad1A.ch
Acq On : 27-May-2025, 14:11:13 Operator: fouads
Sample : fc24818-5 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 30 12:21 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm



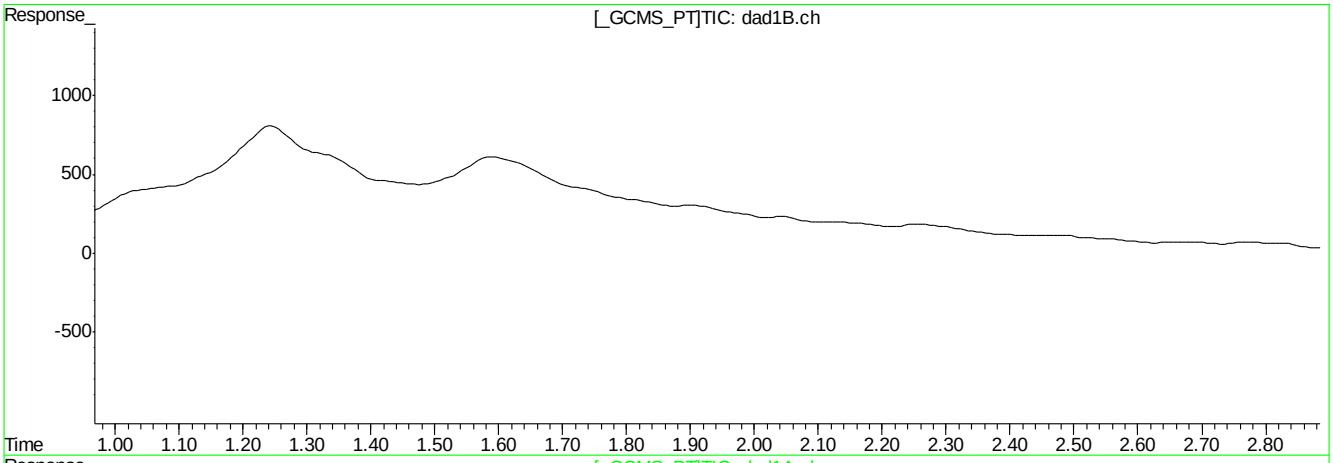


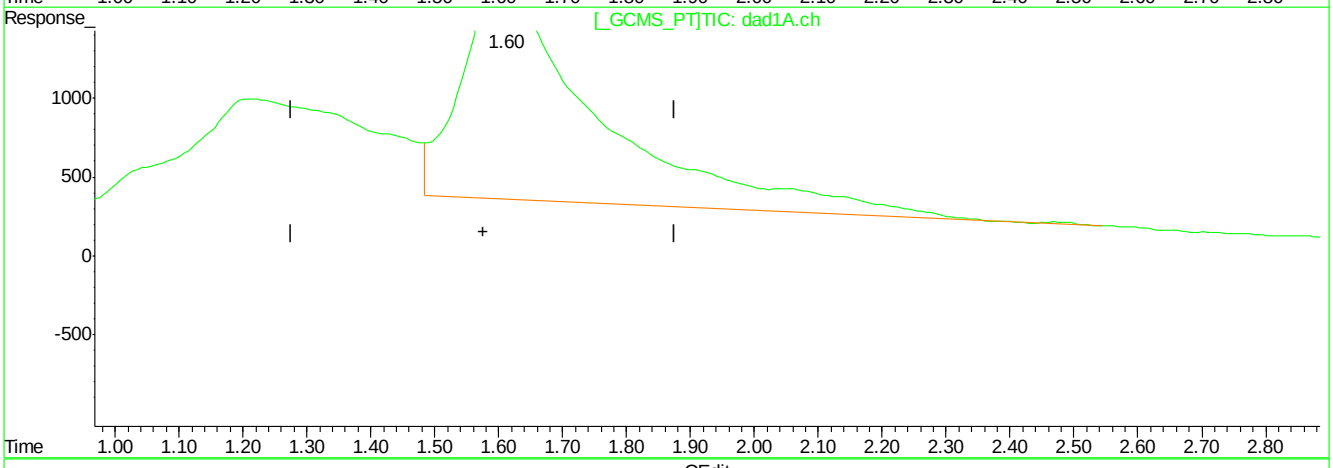
BB088332.D BBB2700_050625.M Mon Jun 02 09:49:49 2025 Page 2

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088332.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088332.D\dad1A.ch
Acq On : 27-May-2025, 14:11:13 Operator: fouads
Sample : fc24818-5 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

0.00min 0.000ppb

response 0

(2) HMX #2

1.61min 44.394ppb

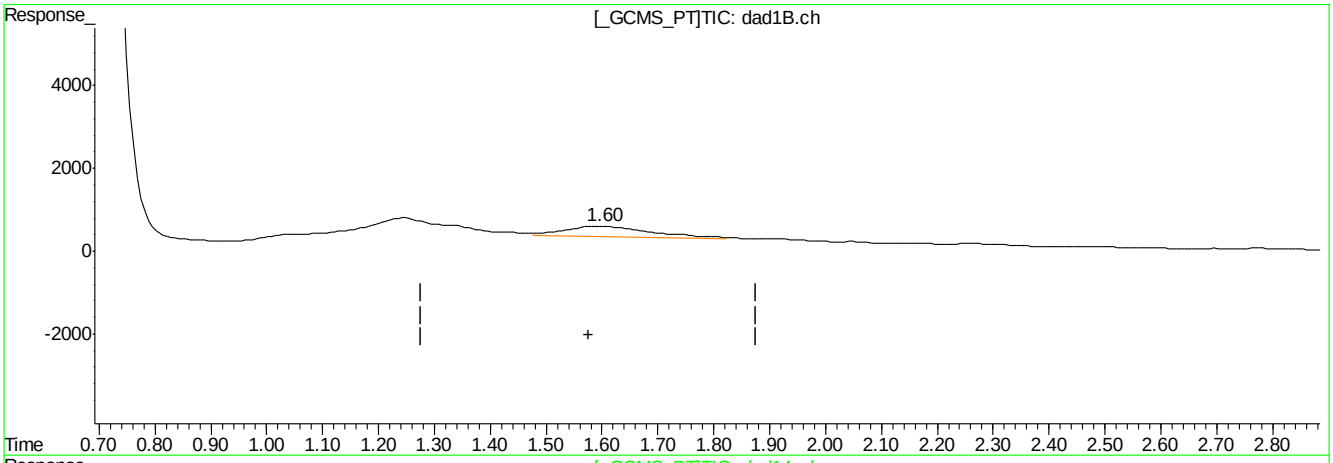
response 205402

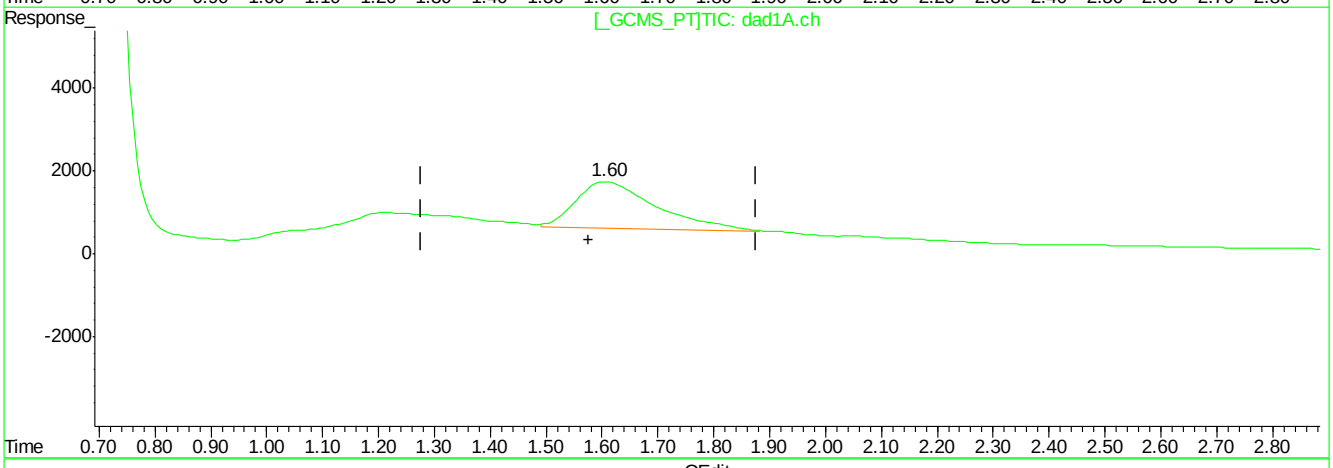
(+) = Expected Retention Time
BB088332.D BBB2700_050625.M Fri May 30 12:20:27 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088332.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088332.D\dad1A.ch
Acq On : 27-May-2025, 14:11:13 Operator: fouads
Sample : fc24818-5 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

1.60min 19.413ppb m

response 28886

(2) HMX #2

1.60min 24.299ppb m

response 112423

(+) = Expected Retention Time
BB088332.D BBB2700_050625.M Fri May 30 12:20:37 2025

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632203.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632203.D\dad1A.ch
Acq On : 29-May-2025, 15:16:50 Operator: fouads
Sample : fc24818-5cf Inst : G1315B
Misc : op9525,GGG3585,950,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:21:09 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:21:04 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	13.76	13.76	2214931	4496724	461.367	452.788
	Spiked Amount 500.000	Range 70 - 136		Recovery =		92.27%	90.56%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	0.00	0.00	0	0	N.D.	N.D.
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
6)	RDX	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D.
16)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D.	N.D.
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

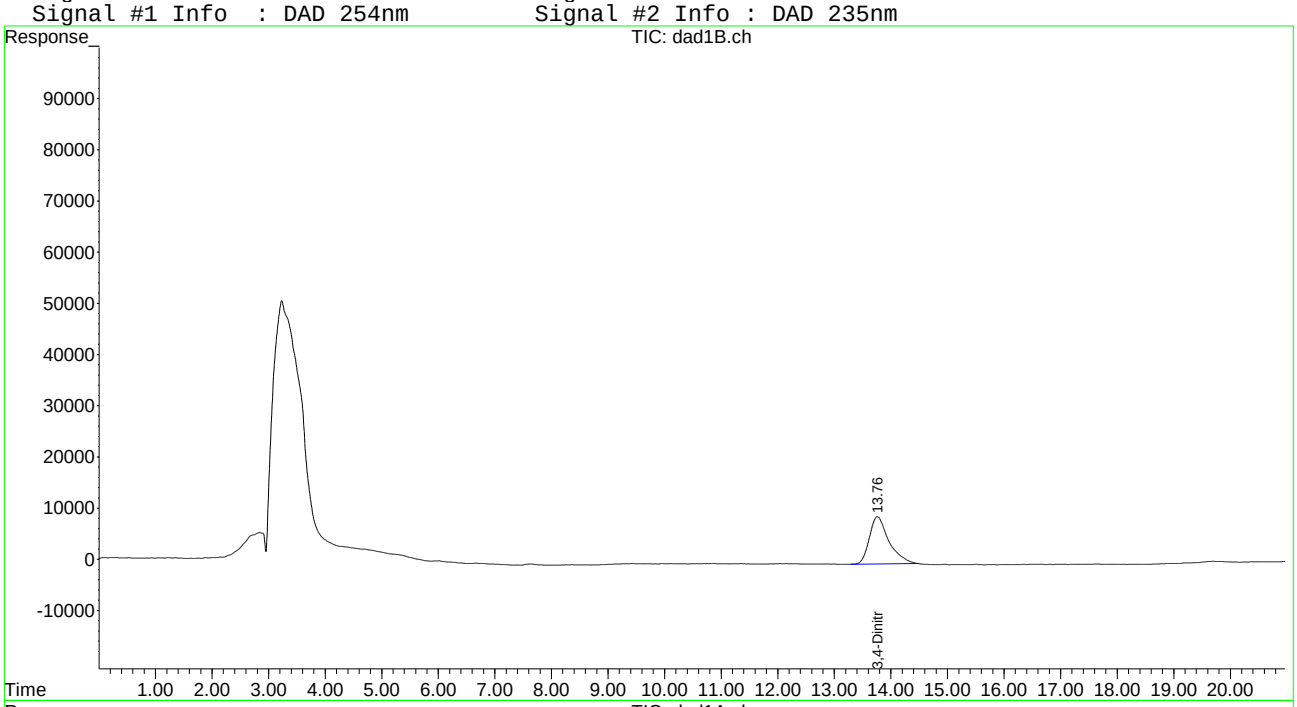
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG632203.D GGG3527_011325.M Mon Jun 02 10:16:19 2025

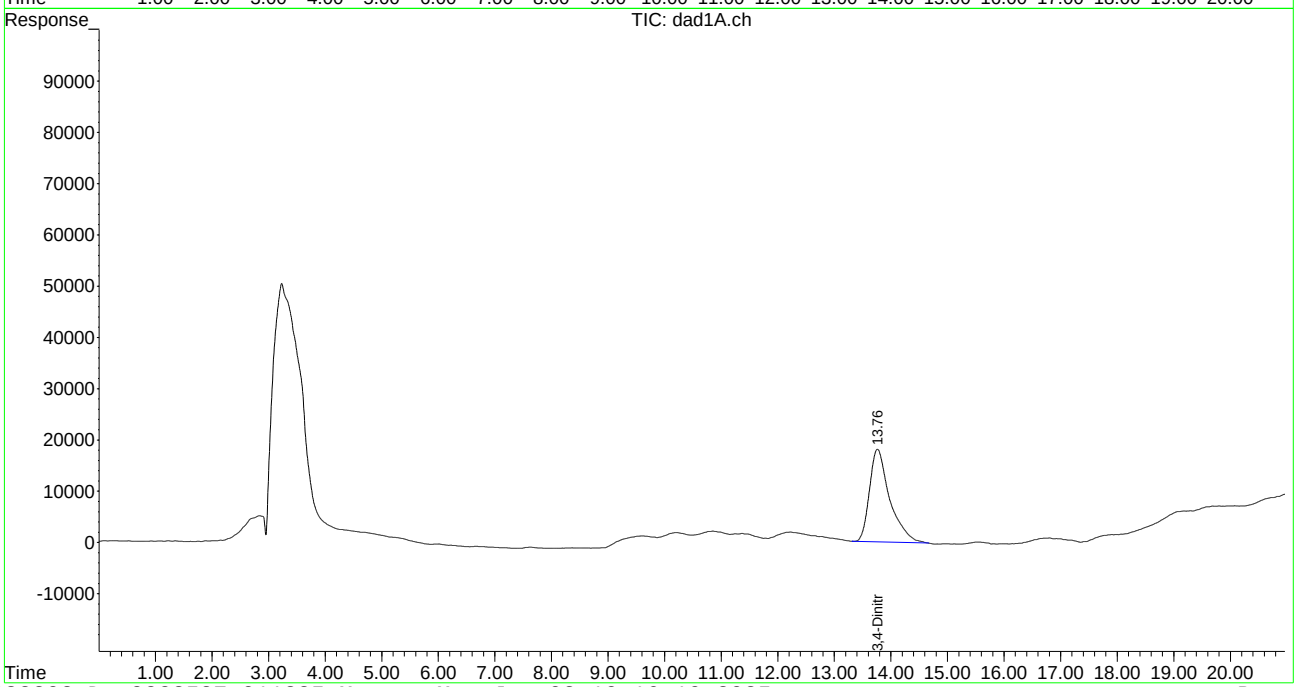
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632203.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632203.D\dad1A.ch
Acq On : 29-May-2025, 15:16:50 Operator: fouads
Sample : fc24818-5cf Inst : G1315B
Misc : op9525,GGG3585,950,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 12:21 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 12:21:04 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





GG632203.D GGG3527_011325.M Mon Jun 02 10:16:19 2025 Page 2

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088324.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088324.D\dad1A.ch
Acq On : 27-May-2025, 09:51:36 Operator: fouads
Sample : op9525-mb Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 27 10:50:19 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 23 08:58:35 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.28	11.28	866908	1541802	368.623	394.177
	Spiked Amount 500.000	Range 70 - 136		Recovery =		73.72%	78.84%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	0.00	0.00	0	0	N.D.	N.D. d
3)	DNX	0.00	0.00	0	0	N.D.	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	0.00	0.00	0	0	N.D.	N.D.
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D.
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D.	N.D.
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D.	N.D.
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

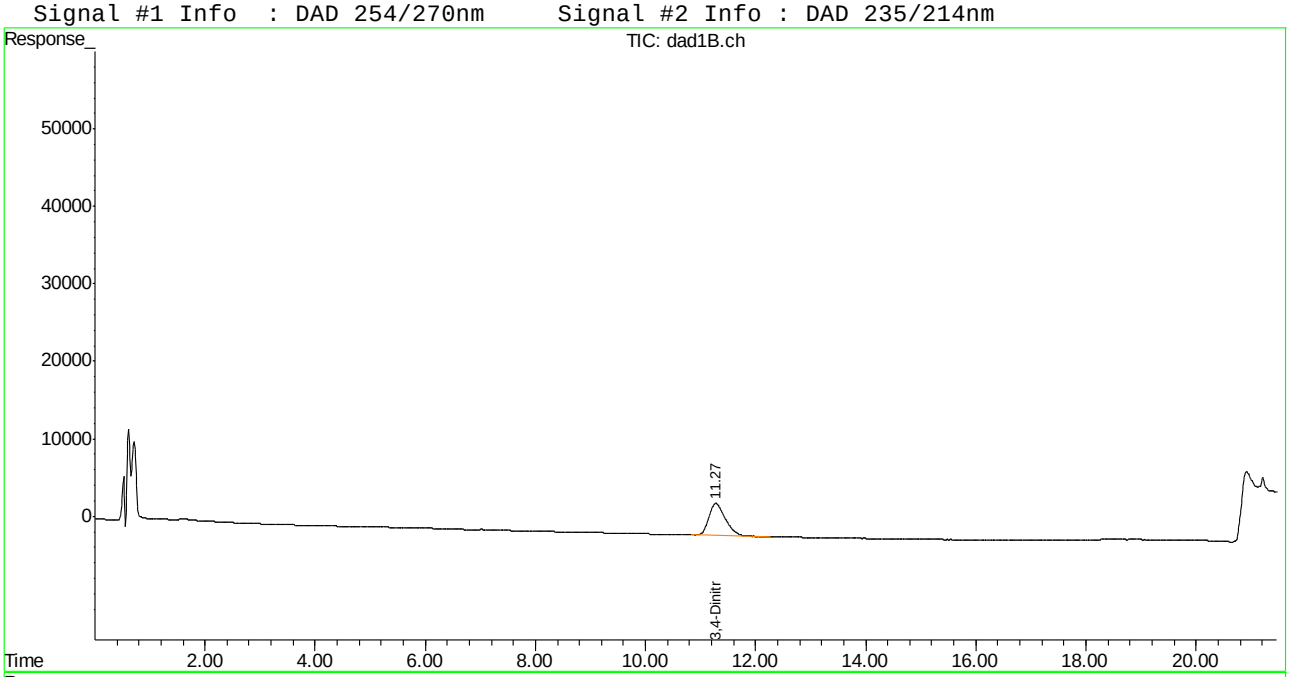
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088324.D BBB2700_050625.M Mon Jun 02 09:49:41 2025 Page 1

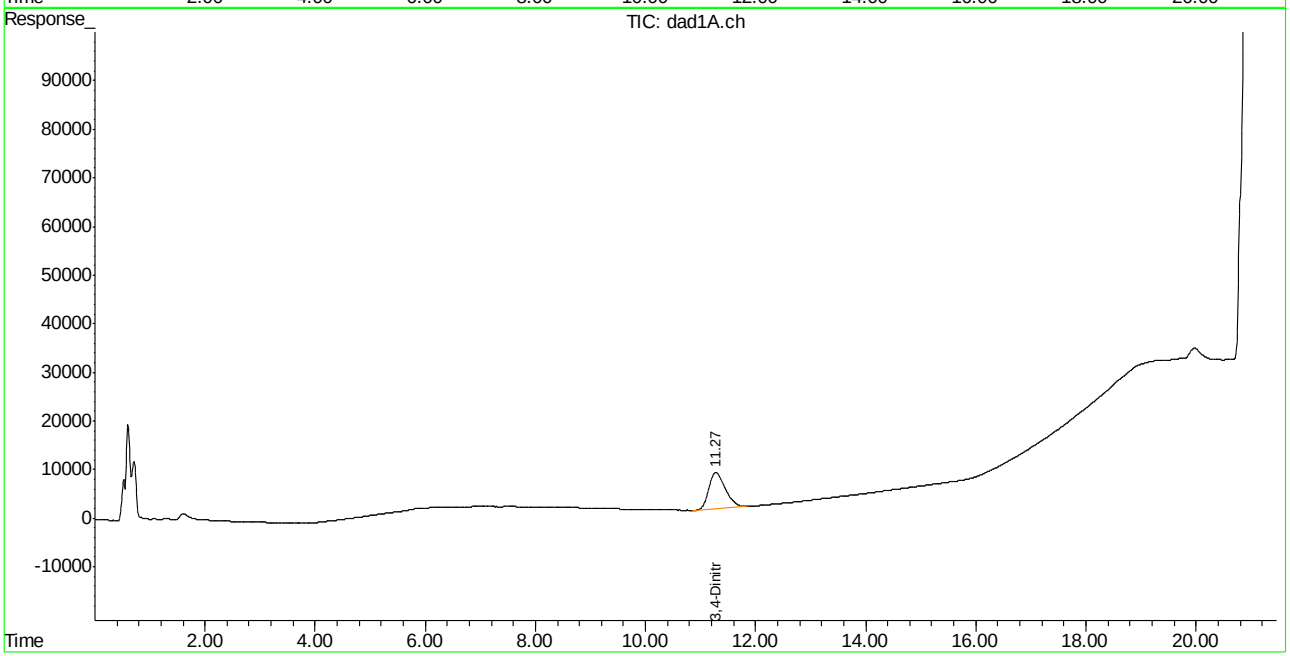
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088324.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088324.D\dad1A.ch
Acq On : 27-May-2025, 09:51:36 Operator: fouads
Sample : op9525-mb Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:13 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 23 08:58:35 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 06/03/25 11:30

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632198.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632198.D\dad1A.ch
Acq On : 29-May-2025, 13:00:20 Operator: fouads
Sample : op9525-mb Inst : G1315B
Misc : op9525,GGG3585,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 11:38:39 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 11:38:30 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	13.61	13.61	2127402	4000084	443.135m	402.780
	Spiked Amount 500.000	Range 70 - 136		Recovery =		88.63%	80.56%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	0.00	0.00	0	0	N.D.	N.D.
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
6)	RDX	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D.
16)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D.	N.D.
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

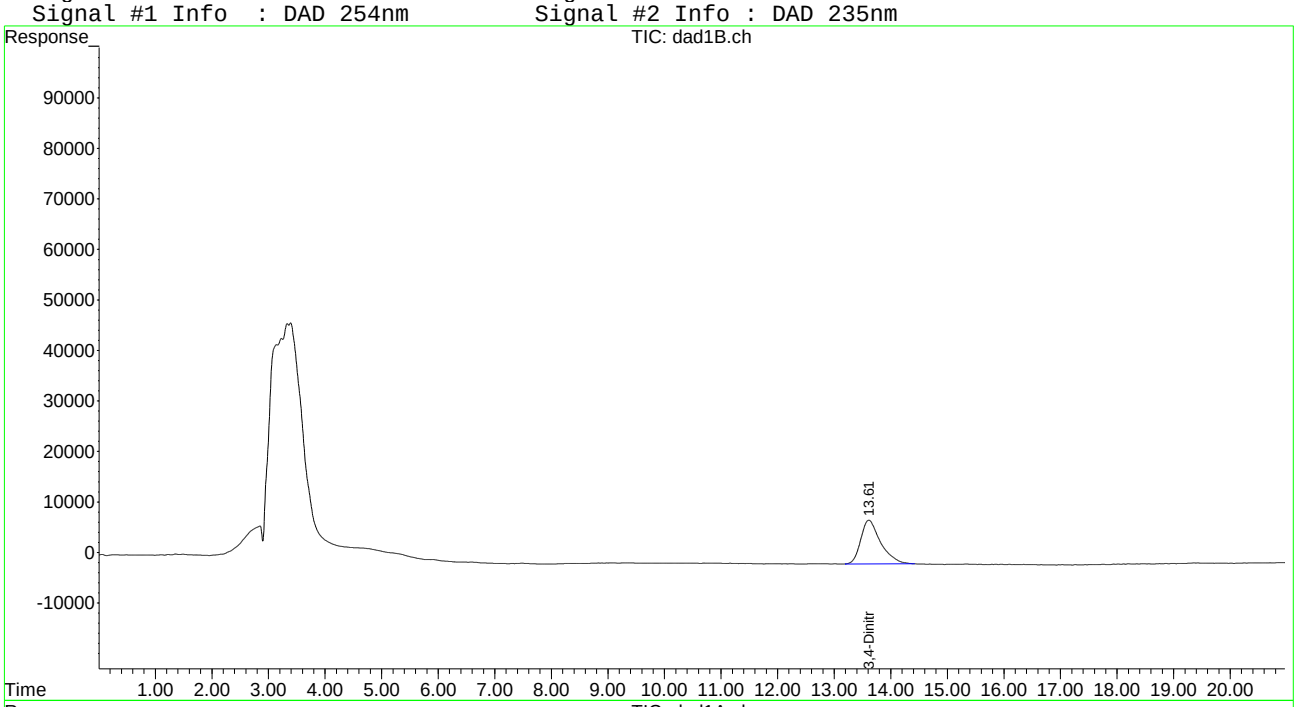
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG632198.D GGG3527_011325.M Mon Jun 02 10:16:14 2025

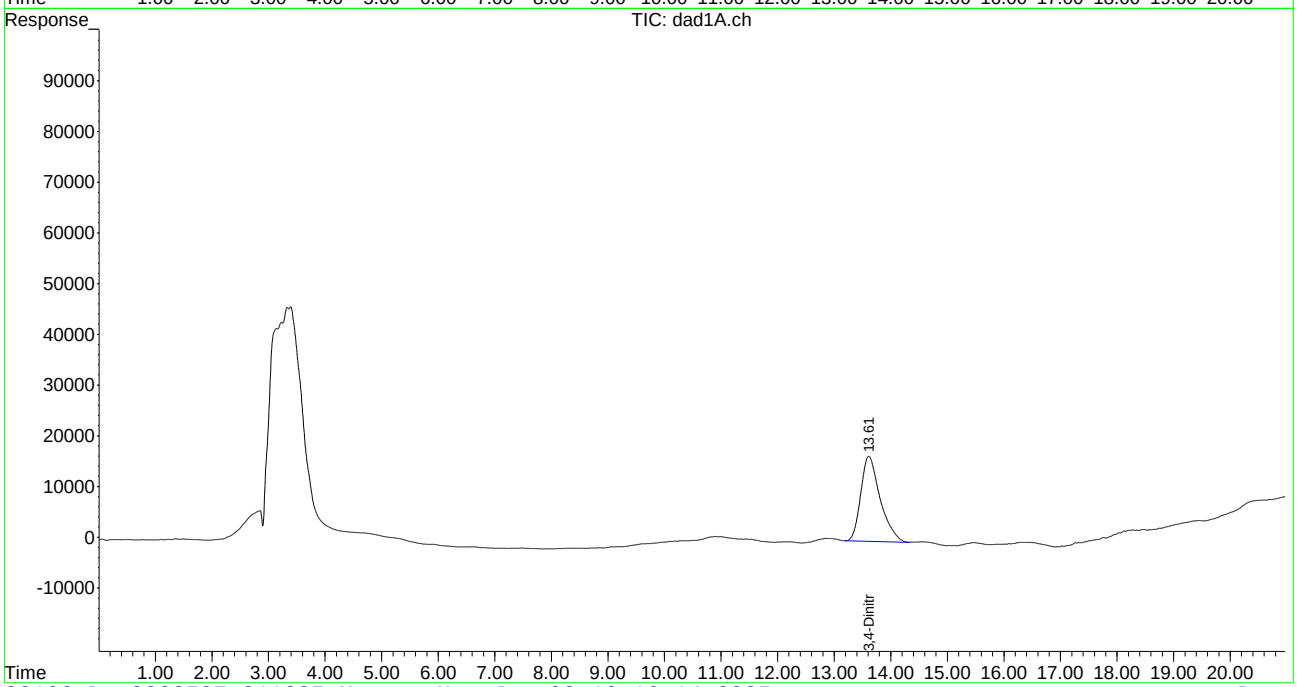
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632198.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632198.D\dad1A.ch
Acq On : 29-May-2025, 13:00:20 Operator: fouads
Sample : op9525-mb Inst : G1315B
Misc : op9525,GGG3585,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 11:38 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 11:38:30 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number:	OP9525-MB	**Method:**	SW846 8330B
Lab FileID:	GG632198.D	**Analyst approved:**	06/02/25 11:16 Fouad Sekkar
Injection Time:	05/29/25 13:00	**Supervisor approved:**	06/03/25 11:30 William Hustedde

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,4-Dinitrotoluene	610-39-9	1	13.61	Missed peak

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 06/02/25 16:49

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088325.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088325.D\dad1A.ch
Acq On : 27-May-2025, 10:57:12 Operator: fouads
Sample : op9525-bs Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 09:13:55 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.33	11.33	992587	1504136	422.064	384.548
	Spiked Amount 500.000	Range 70 - 136		Recovery =		84.41%	76.91%
	Target Compounds						
1)	TNX	1.44	1.44	1619972	2475773	180.450	179.722
2)	HMX	1.58	1.59	720135	2023023	483.978	437.245
3)	DNX	1.84	1.84	2813595	4416198	438.717	386.653
4)	MNX	2.45	2.45	3082111	4726985	474.070	470.422
5)	RDX	3.07	3.07	824406	1307664	462.059	456.747
6)	1,3,5-Trinitrobe	4.81	4.81	1817867	2907654	456.922	471.159
7)	1,3-Dinitrobenze	6.03	6.03	2382014	1999862	471.657	582.368
8)	3,5-Dinitroanili	6.42	6.42	1790827	3117030	420.441	495.706
9)	Nitrobenzene	7.59	7.59	1318296	1325908	457.921	474.017
10)	Nitroglycerin	0.00	9.06	0	498169	N.D.	408.373 #
11)	Tetryl	9.53	9.53	1190860	1834479	425.523	419.934
12)	2,4,6-Trinitroto	9.95	9.95	1689628	1878040	480.467	445.172
13)	2-Amino-4,6-Dini	10.43	10.43	1438840	1906090	429.391	408.024
14)	4-Amino-2,6-Dini	10.89	10.89	1071380	1883173	462.801	409.076
16)	2,4-Dinitrotolue	11.97	11.97	2035395	1099176	459.515	375.983
17)	2,6-Dinitrotolue	12.36	12.38	1286804	1573303	500.870	474.538
18)	o-Nitrotoluene	15.38	15.39	905414	910223	448.241	322.911
19)	p-Nitrotoluene	15.97	15.98	1446848	923160	435.648	360.425
20)	m-Nitrotoluene	16.78	16.79	1352745	1461444	457.793	416.183
21)	PETN	0.00	18.44	0	612272	N.D.	572.844m#

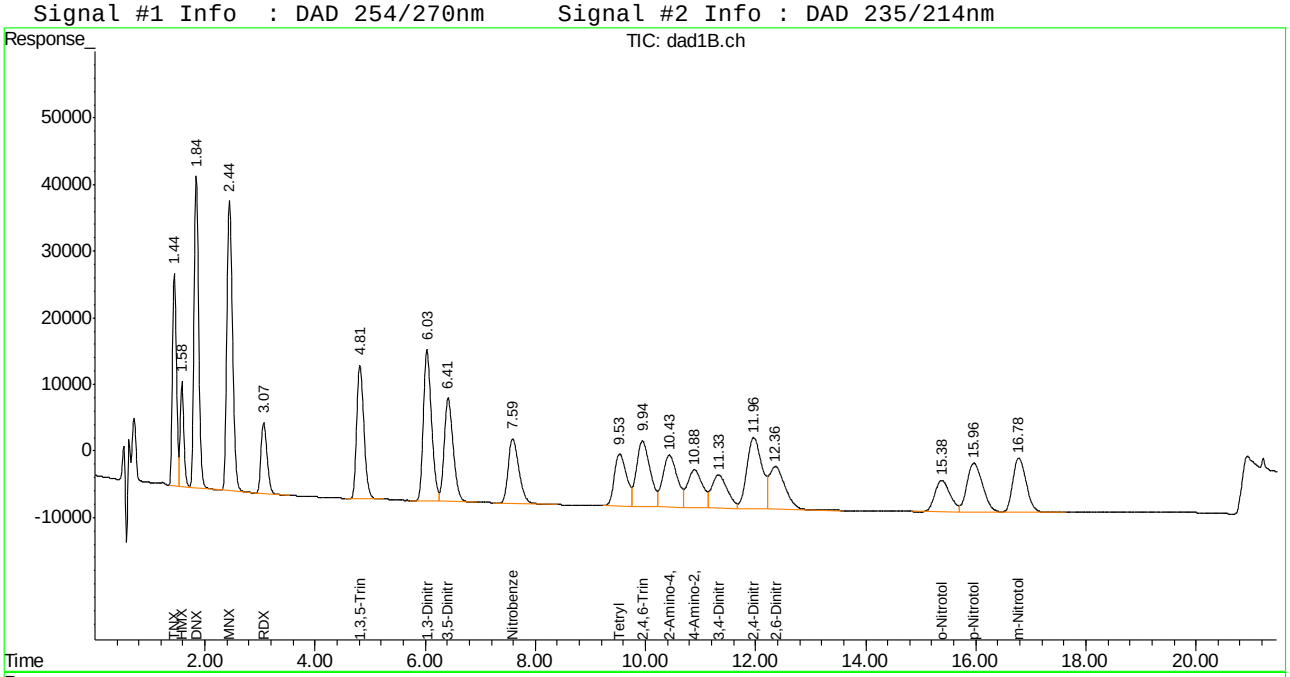
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BB088325.D BBB2700_050625.M Mon Jun 02 09:49:42 2025 Page 1

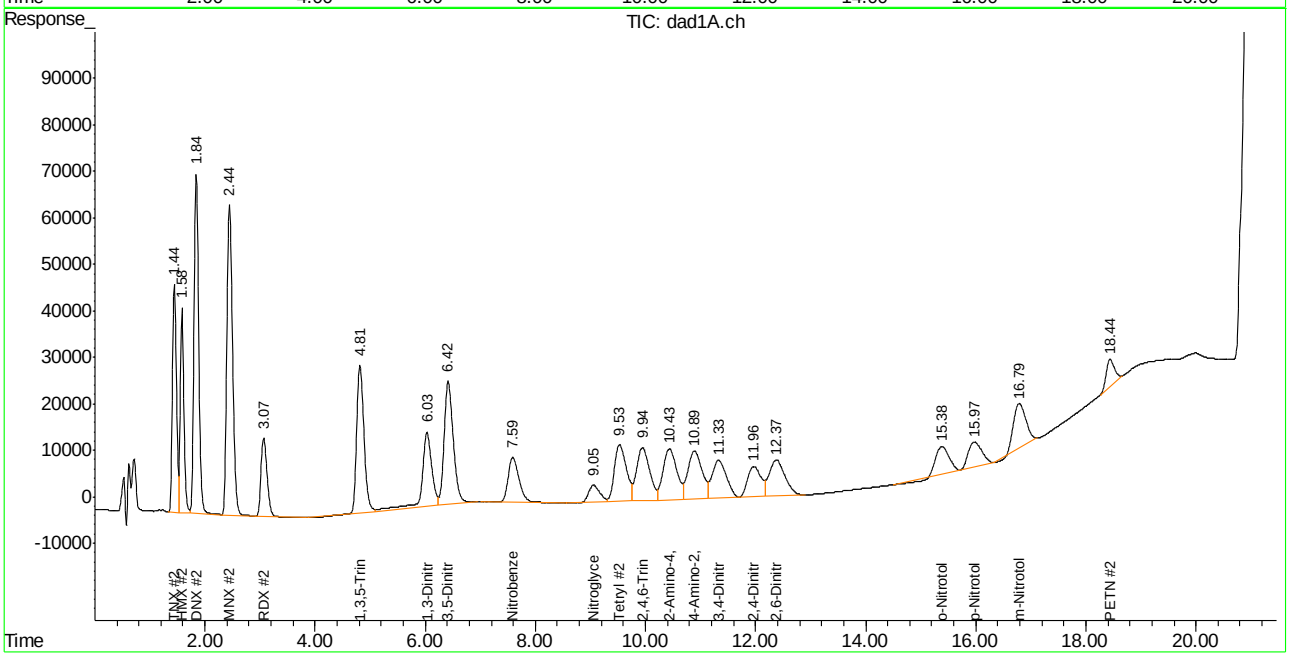
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088325.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088325.D\dad1A.ch
Acq On : 27-May-2025, 10:57:12 Operator: fouads
Sample : op9525-bs Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:14 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

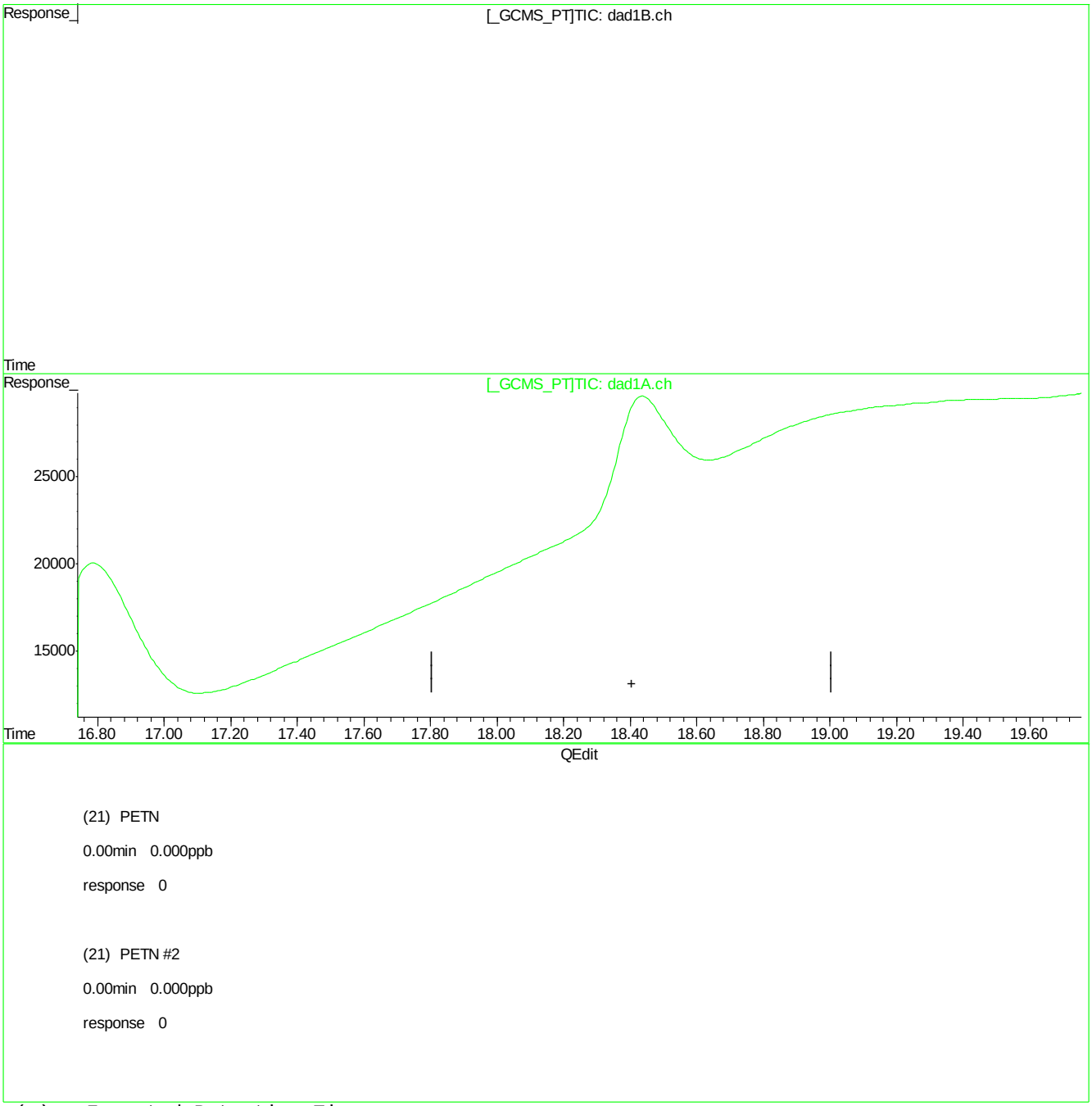
Sample Number: OP9525-BS
Lab FileID: BB088325.D
Injection Time: 05/27/25 10:57
Method: SW846 8330B
Analyst approved: 06/02/25 10:11 Fouad Sekkar
Supervisor approved: 06/02/25 16:49 William Hustedde

Parameter	CAS	Sig#	R.T. (min.)	Reason
PETN	78-11-5	2	18.44	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088325.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088325.D\dad1A.ch
Acq On : 27-May-2025, 10:57:12 Operator: fouads
Sample : op9525-bs Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:13 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration

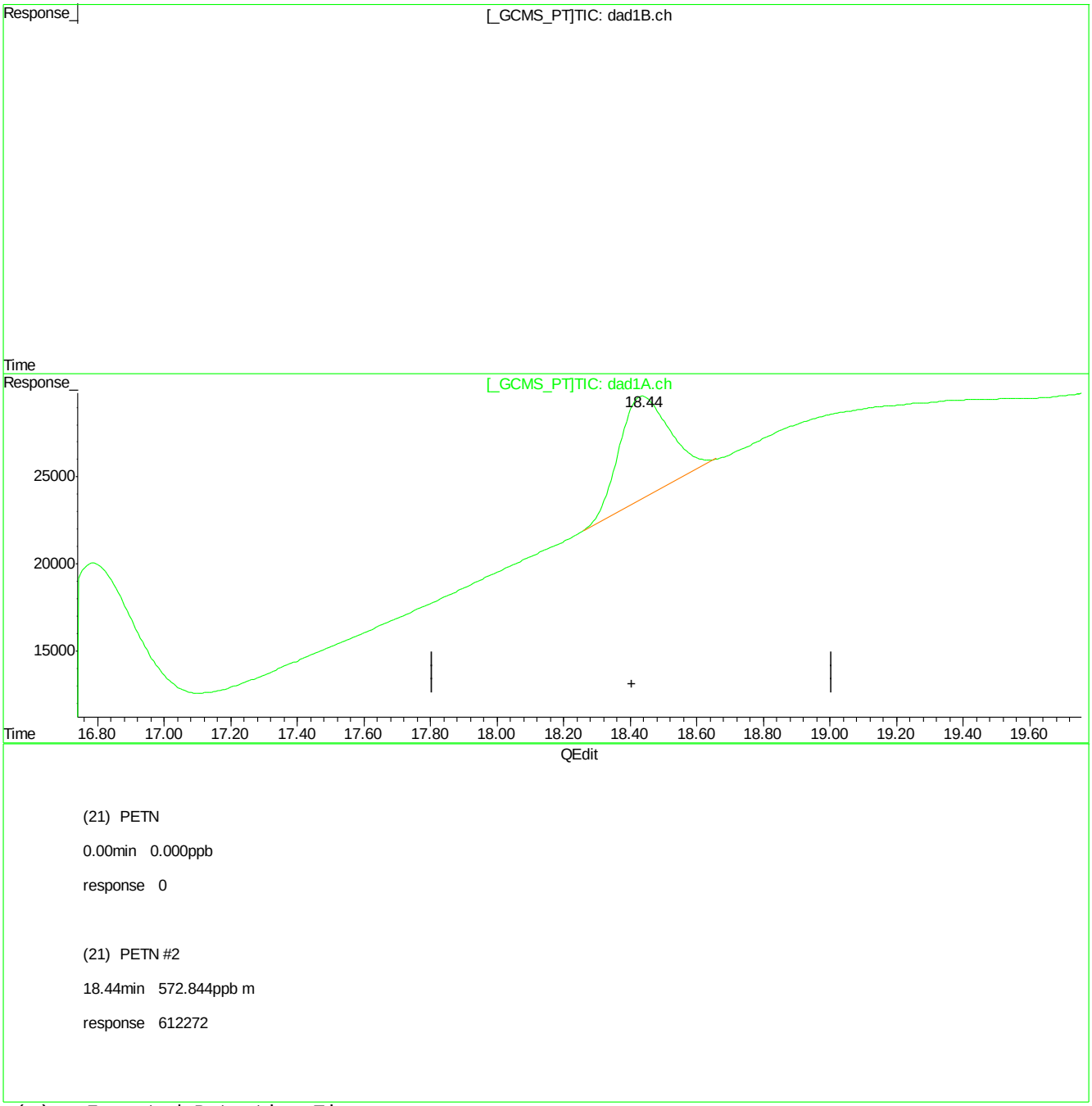


(+) = Expected Retention Time
BB088325.D BBB2700_050625.M Wed May 28 09:14:28 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088325.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088325.D\dad1A.ch
Acq On : 27-May-2025, 10:57:12 Operator: fouads
Sample : op9525-bs Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:13 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

18.44min 572.844ppb m

response 612272

(+) = Expected Retention Time
BB088325.D BBB2700_050625.M Wed May 28 09:14:45 2025

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 06/03/25 11:43

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088330.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088330.D\dad1A.ch
Acq On : 27-May-2025, 13:16:12 Operator: fouads
Sample : op9525-ms Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 09:16:22 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.34	11.34	1025887	1498969	436.223	383.226
	Spiked Amount 500.000	Range 70 - 136		Recovery =		87.24%	76.65%
	Target Compounds						
1)	TNX	1.44	1.44	2047421	2747479	228.063	199.446
2)	HMX	1.58	1.58	2750873	5917744	1848.769	1279.028
3)	DNX	1.84	1.84	3553570	4478217	554.099	392.083
4)	MNX	2.45	2.45	3859332	5206257	593.617	518.119
5)	RDX	3.08	3.08	2631840	3076723	1475.081	1074.652
6)	1,3,5-Trinitrobe	4.81	4.81	3111341	4876592	782.037	790.208
7)	1,3-Dinitrobenze	6.03	6.03	2363276	2063467	467.946	600.890
8)	3,5-Dinitroanili	6.42	6.42	1711970	2965743	401.928	471.646
9)	Nitrobenzene	7.60	7.60	1273092	1275903	442.219	456.140
10)	Nitroglycerin	0.00	9.06	0	402847	N.D.	330.233 #
11)	Tetryl	9.54	9.54	1091267	1621849	389.936	371.260
12)	2,4,6-Trinitroto	9.96	9.95	3294725	3776560	936.896	895.199
13)	2-Amino-4,6-Dini	10.44	10.44	2122728	2900881	633.483	620.972
14)	4-Amino-2,6-Dini	10.89	10.89	1460324	2606825	630.812	566.273
16)	2,4-Dinitrotolue	11.97	11.98	1939123	997432	437.781	341.180
17)	2,6-Dinitrotolue	12.37	12.39	1526918	1871121	594.330	564.366
18)	o-Nitrotoluene	15.39	15.39	891696	1175613	441.449	417.061m
19)	p-Nitrotoluene	15.98	15.99	1400896	891773	421.812	348.171
20)	m-Nitrotoluene	16.79	16.80	1331760	1426638	450.691	406.271
21)	PETN	0.00	18.45	0	589654	N.D.	551.683m#

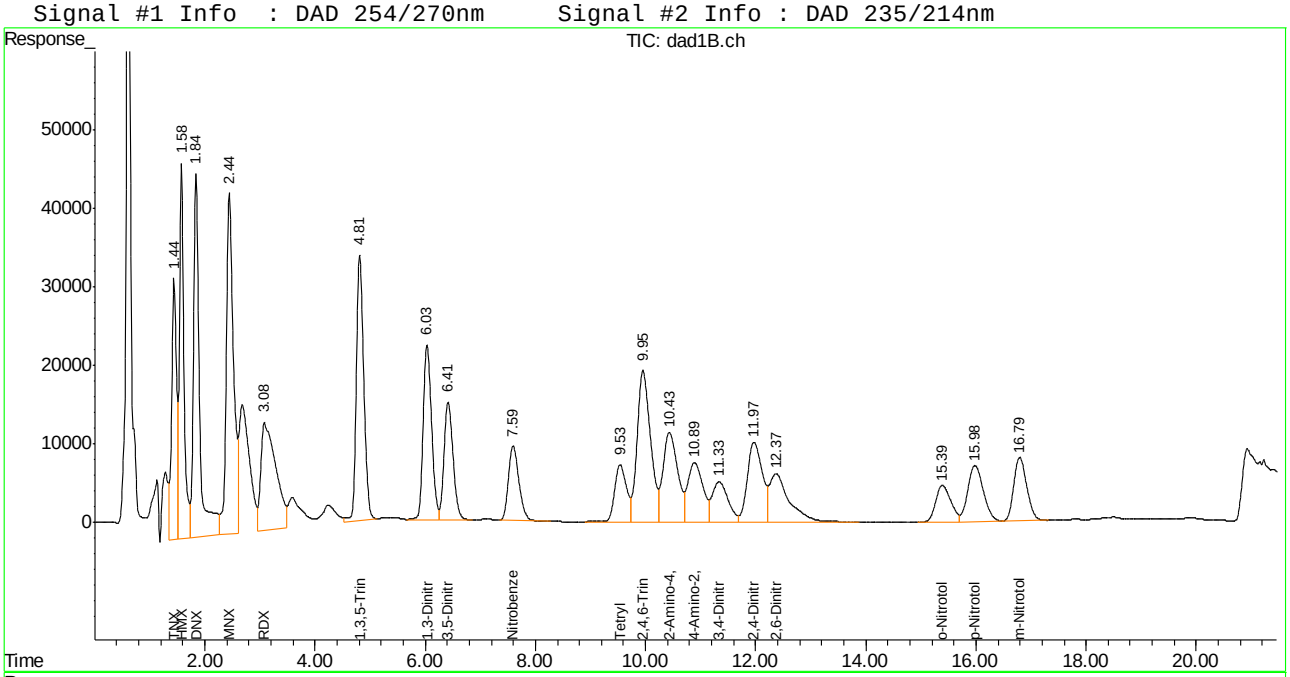
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088330.D BBB2700_050625.M Mon Jun 02 09:54:41 2025 Page 1

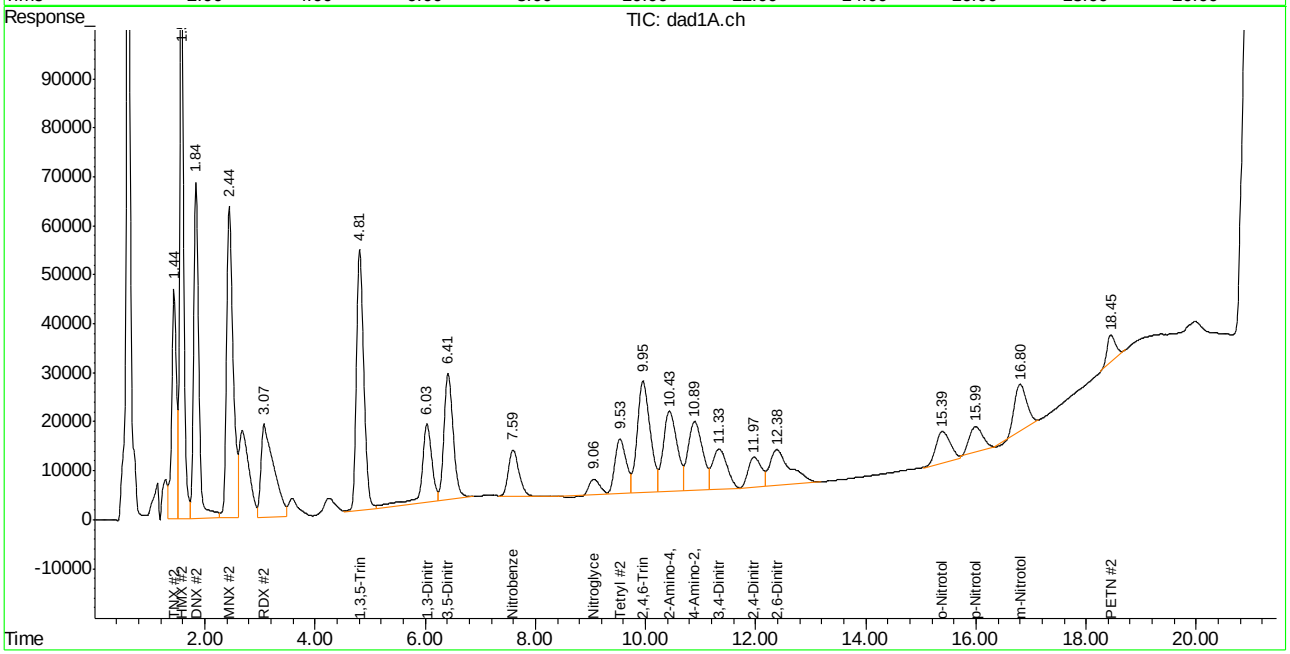
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088330.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088330.D\dad1A.ch
Acq On : 27-May-2025, 13:16:12 Operator: fouads
Sample : op9525-ms Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 11:13 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

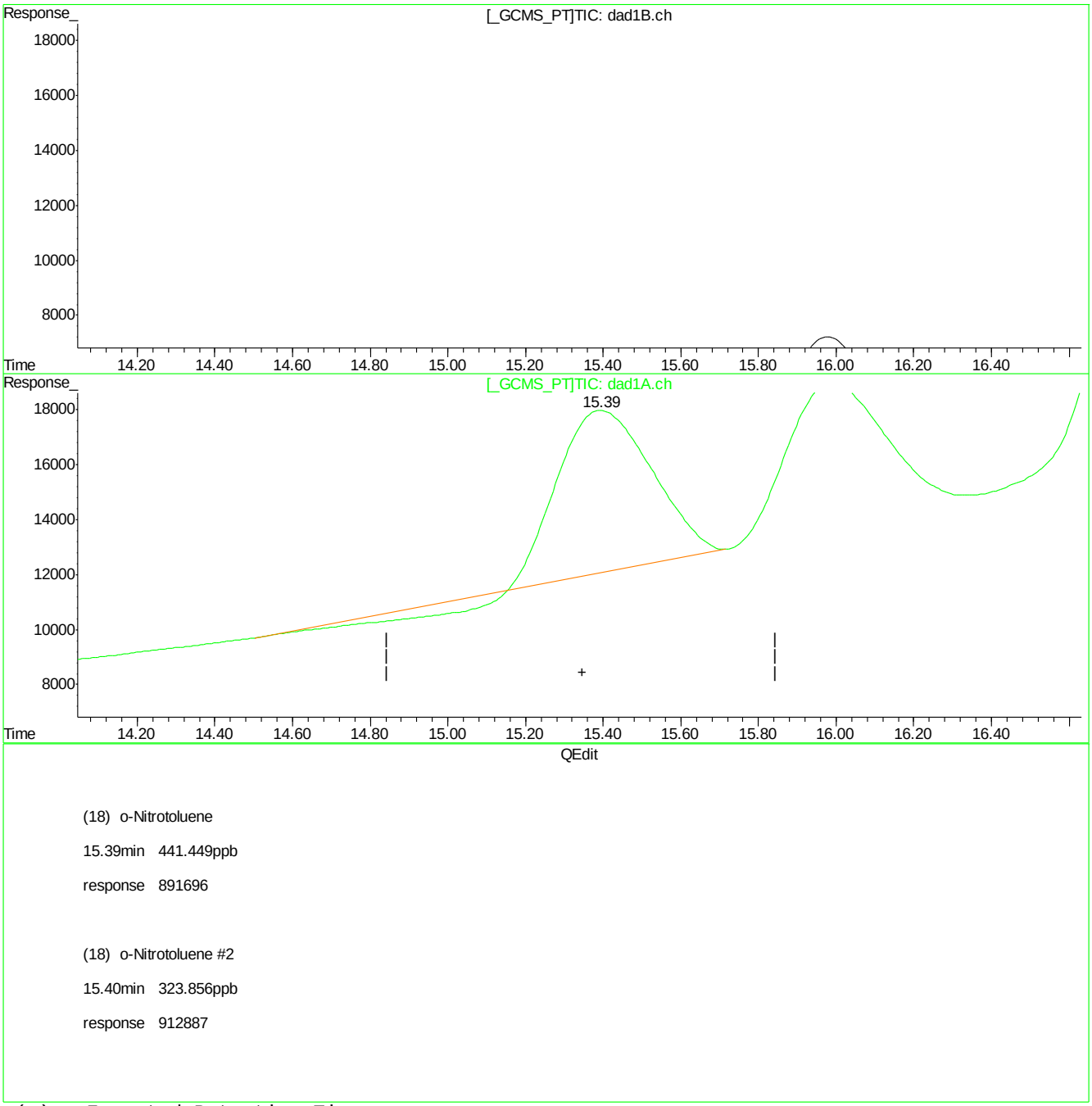
Sample Number: OP9525-MS
Lab FileID: BB088330.D
Injection Time: 05/27/25 13:16
Method: SW846 8330B
Analyst approved: 06/02/25 11:36 Fouad Sekkar
Supervisor approved: 06/03/25 11:43 William Hustedde

Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Nitrotoluene	88-72-2	2	15.39	Poor instrument integration
PETN	78-11-5	2	18.45	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088330.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088330.D\dad1A.ch
Acq On : 27-May-2025, 13:16:12 Operator: fouads
Sample : op9525-ms Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

15.39min 441.449ppb

response 891696

(18) o-Nitrotoluene #2

15.40min 323.856ppb

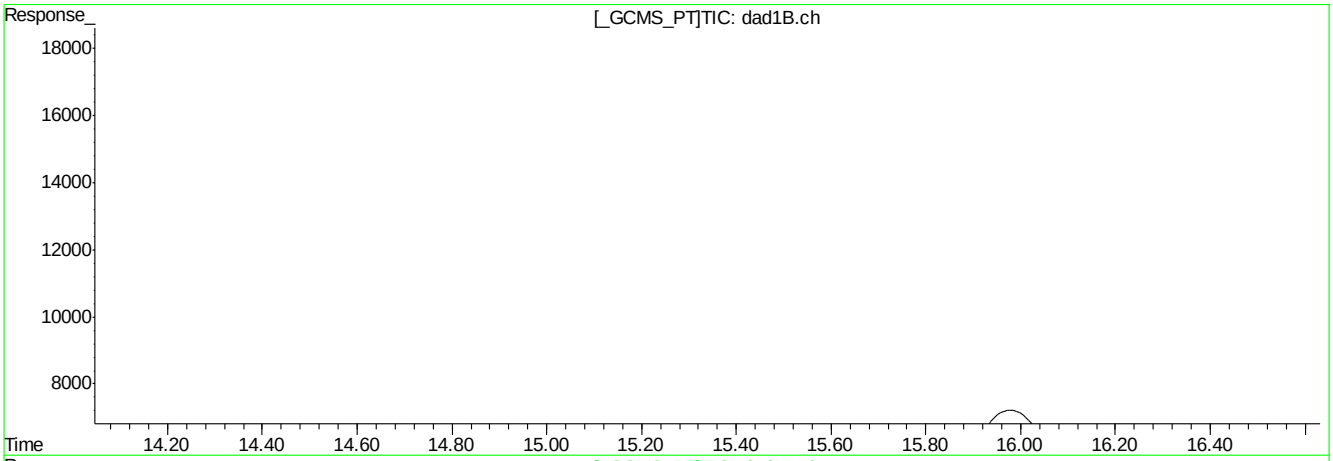
response 912887

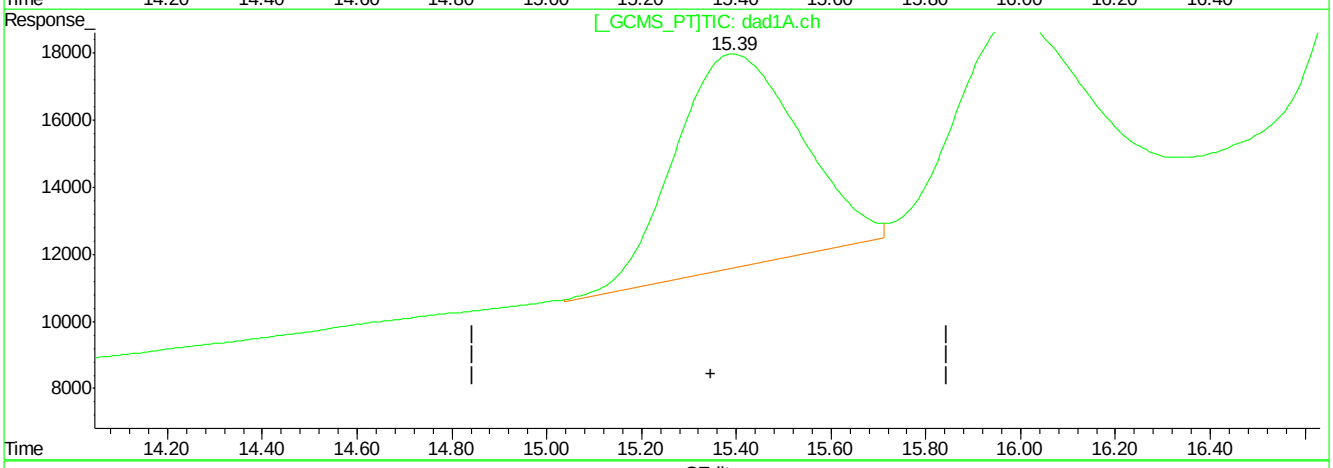
(+) = Expected Retention Time
BB088330.D BBB2700_050625.M Wed May 28 11:12:33 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088330.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088330.D\dad1A.ch
Acq On : 27-May-2025, 13:16:12 Operator: fouads
Sample : op9525-ms Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(18) o-Nitrotoluene

15.39min 441.449ppb

response 891696

(18) o-Nitrotoluene #2

15.39min 417.061ppb m

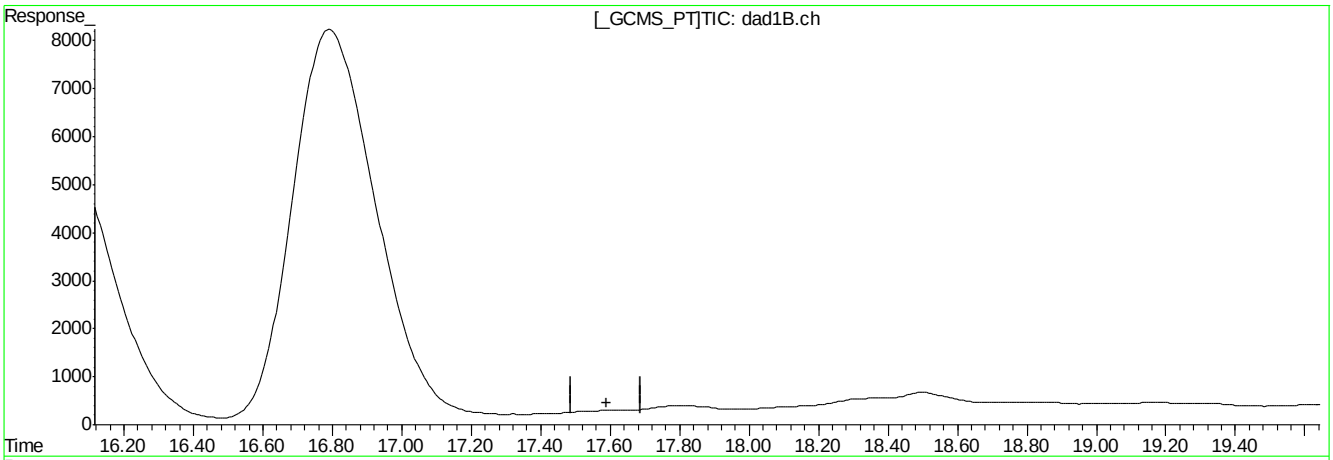
response 1175613

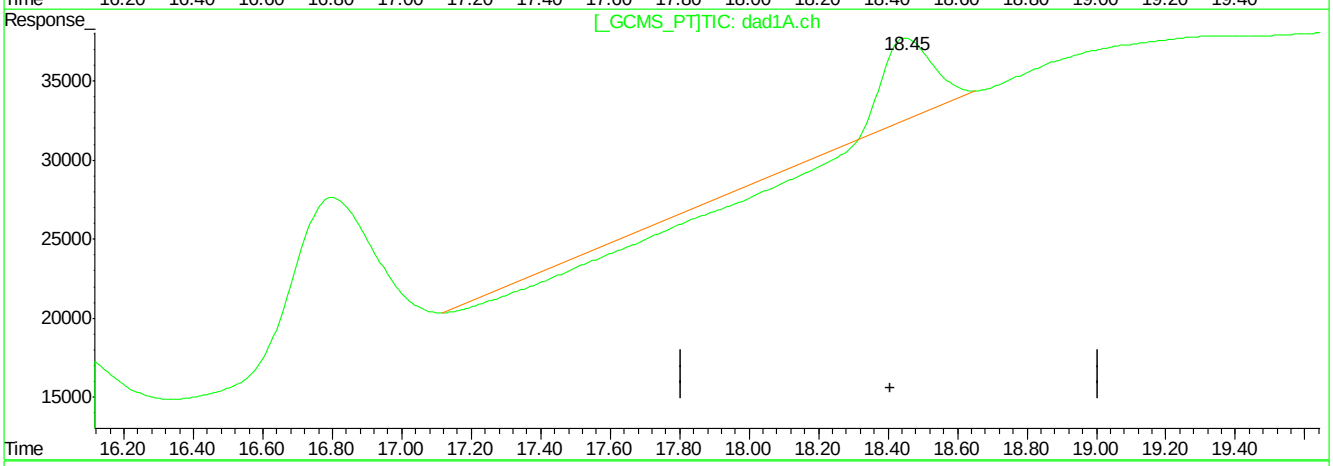
(+) = Expected Retention Time
BB088330.D BBB2700_050625.M Wed May 28 11:12:42 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088330.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088330.D\dad1A.ch
Acq On : 27-May-2025, 13:16:12 Operator: fouads
Sample : op9525-ms Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

18.45min 30.686ppb

response 32798

(+) = Expected Retention Time
BB088330.D BBB2700_050625.M Wed May 28 11:13:10 2025

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 06/03/25 11:43

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088331.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088331.D\dad1A.ch
Acq On : 27-May-2025, 13:43:43 Operator: fouads
Sample : op9525-msd Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 09:16:23 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.33	11.33	1010184	1501843	429.546	383.961
	Spiked Amount 500.000	Range 70 - 136		Recovery =		85.91%	76.79%
	Target Compounds						
1)	TNX	1.44	1.44	1636832	2425573	182.328m	176.078m
2)	HMX	1.58	1.58	2073534	5131869	1393.552m	1109.173m
3)	DNX	1.83	1.83	2668975	4071763	416.166m	356.496m
4)	MNX	2.44	2.44	3422710	4936544	526.459m	491.277m
5)	RDX	3.07	3.07	2409494	2864832	1350.461	1000.642
6)	1,3,5-Trinitrobe	4.81	4.81	2911993	4594789	731.931	744.544
7)	1,3-Dinitrobenze	6.03	6.03	2334953	2028074	462.338	590.583
8)	3,5-Dinitroanili	6.41	6.41	1701085	2945013	399.372	468.349
9)	Nitrobenzene	7.59	7.59	1237899	1242803	429.994	444.306
10)	Nitroglycerin	0.00	9.06	0	481259	N.D.	394.511 #
11)	Tetryl	9.53	9.53	1056711	1622186	377.588	371.338
12)	2,4,6-Trinitroto	9.95	9.95	3080459	3560475	875.967	843.978
13)	2-Amino-4,6-Dini	10.43	10.43	2046564	2828301	610.753	605.435
14)	4-Amino-2,6-Dini	10.88	10.89	1418639	2559786	612.805	556.055
16)	2,4-Dinitrotolue	11.97	11.97	1945039	1017434	439.116	348.022
17)	2,6-Dinitrotolue	12.36	12.38	1501019	1822347	584.250	549.655
18)	o-Nitrotoluene	15.39	15.39	844548	1197858	418.108	424.953m
19)	p-Nitrotoluene	15.98	15.99	1368374	870443	412.020	339.843
20)	m-Nitrotoluene	16.79	16.80	1293551	1409135	437.760	401.287
21)	PETN	0.00	18.44	0	666705	N.D.	623.771m#

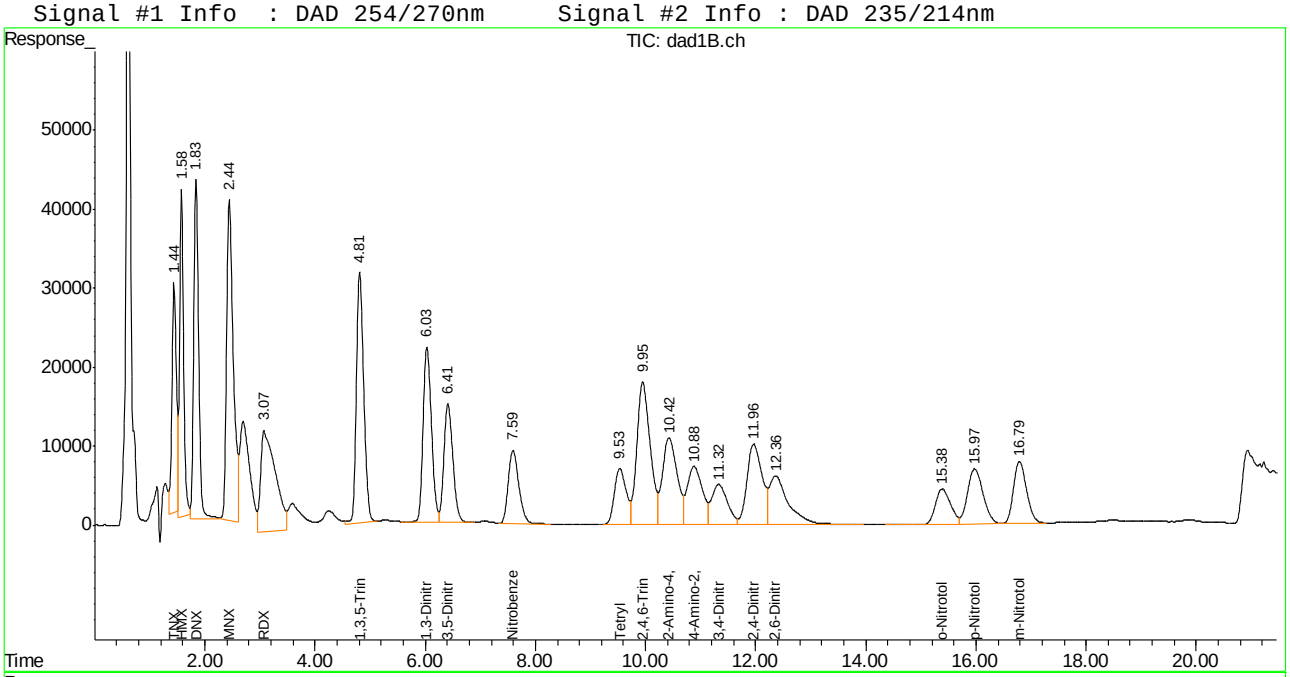
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088331.D BBB2700_050625.M Mon Jun 02 09:54:42 2025 Page 1

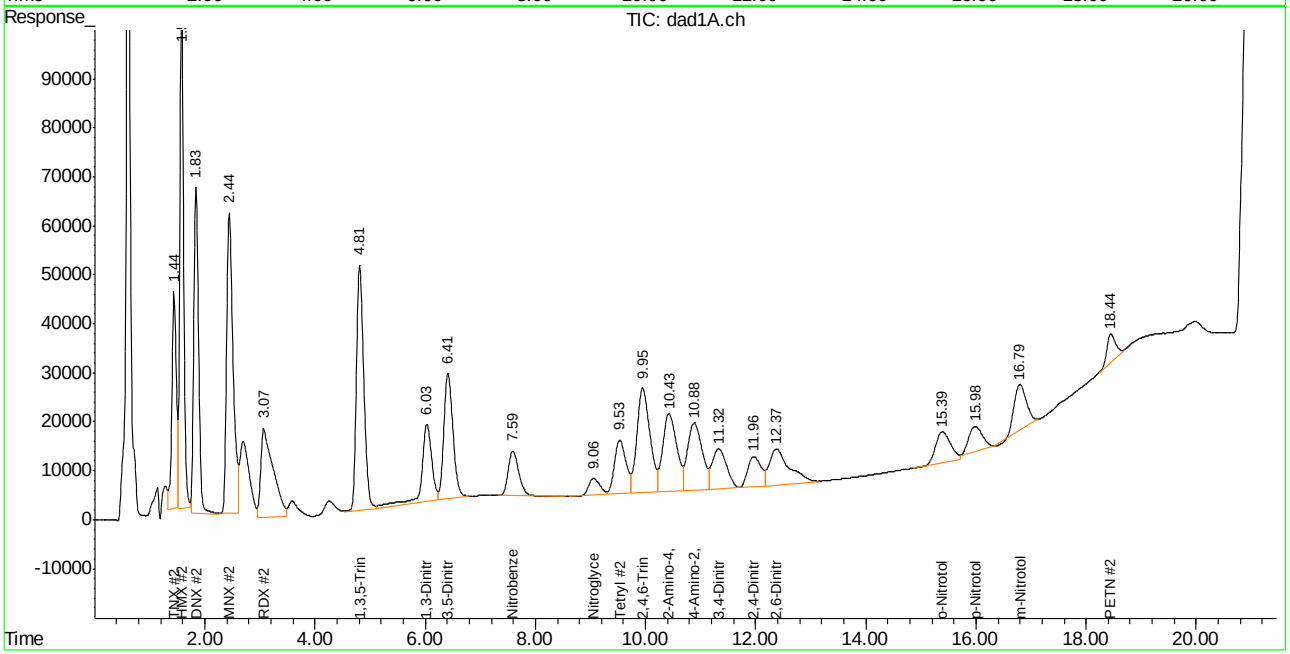
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088331.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088331.D\dad1A.ch
Acq On : 27-May-2025, 13:43:43 Operator: fouads
Sample : op9525-msd Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jun 2 9:54 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

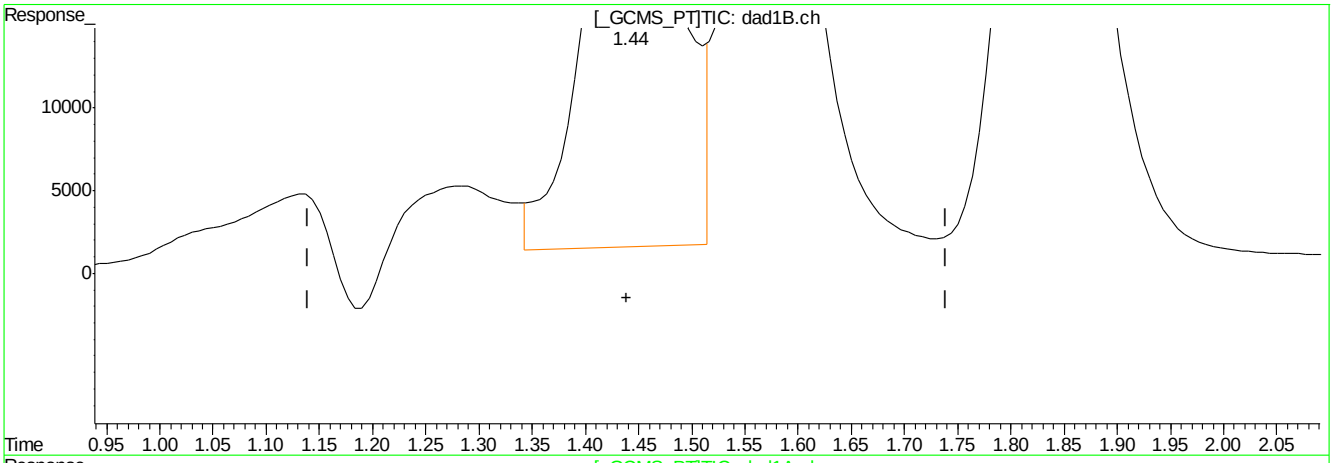
Sample Number: OP9525-MSD
Lab FileID: BB088331.D
Injection Time: 05/27/25 13:43
Method: SW846 8330B
Analyst approved: 06/02/25 11:36 Fouad Sekkar
Supervisor approved: 06/03/25 11:43 William Hustedde

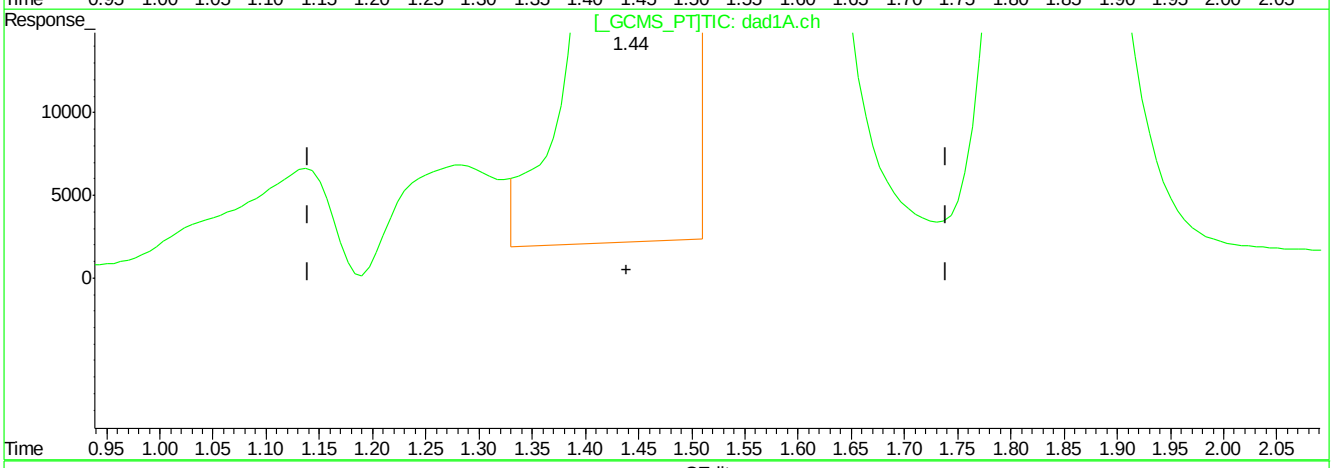
Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.44	Missed peak
TNX		2	1.44	Poor instrument integration
HMX	2691-41-0	1	1.58	Poorly defined baseline
HMX	2691-41-0	2	1.58	Poorly defined baseline
DNX		1	1.83	Missed peak
DNX		2	1.83	Missed peak
MNX		1	2.44	Poorly defined baseline
MNX		2	2.44	Missed peak
o-Nitrotoluene	88-72-2	2	15.39	Poor instrument integration
PETN	78-11-5	2	18.44	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088331.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088331.D\dad1A.ch
Acq On : 27-May-2025, 13:43:43 Operator: fouads
Sample : op9525-msd Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(1) TNX

1.44min 182.328ppb m

response 1636832

(1) TNX #2

1.44min 176.078ppb m

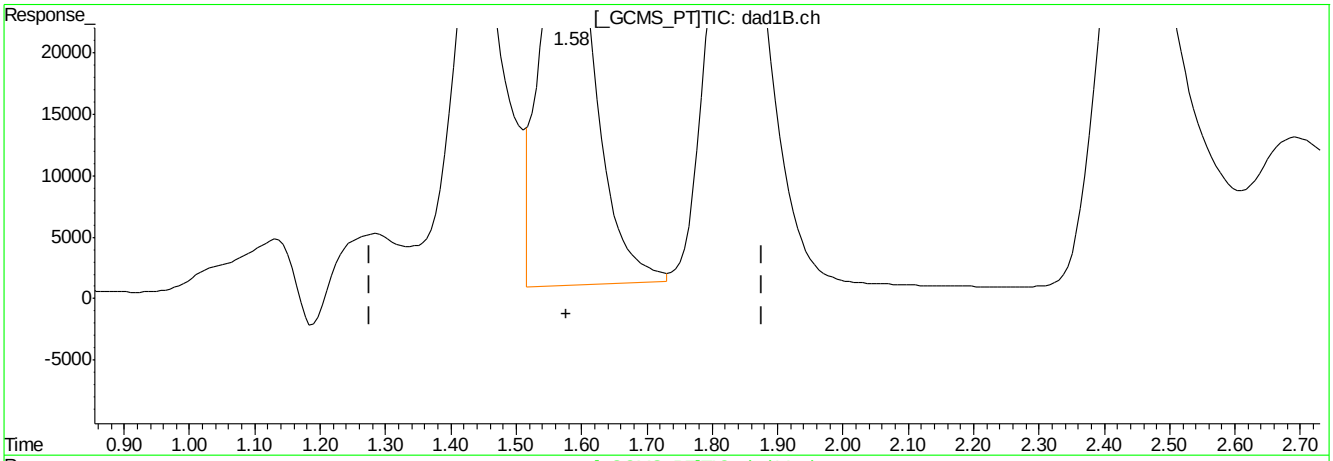
response 2425573

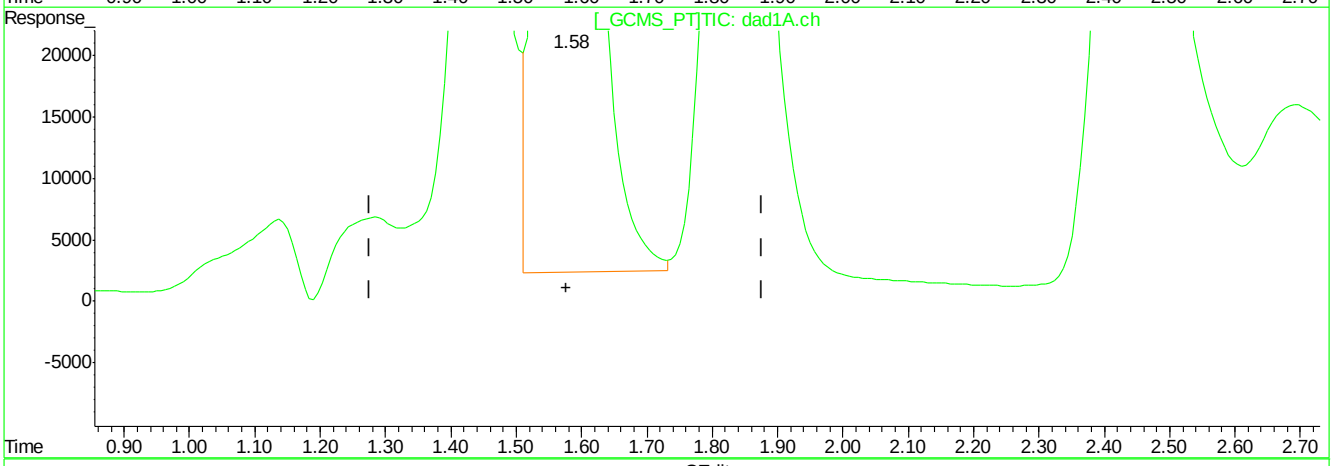
(+) = Expected Retention Time
BB088331.D BBB2700_050625.M Mon Jun 02 09:52:49 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088331.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088331.D\dad1A.ch
Acq On : 27-May-2025, 13:43:43 Operator: fouads
Sample : op9525-msd Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

1.58min 1393.552ppb m

response 2073534

(2) HMX #2

1.58min 1109.173ppb m

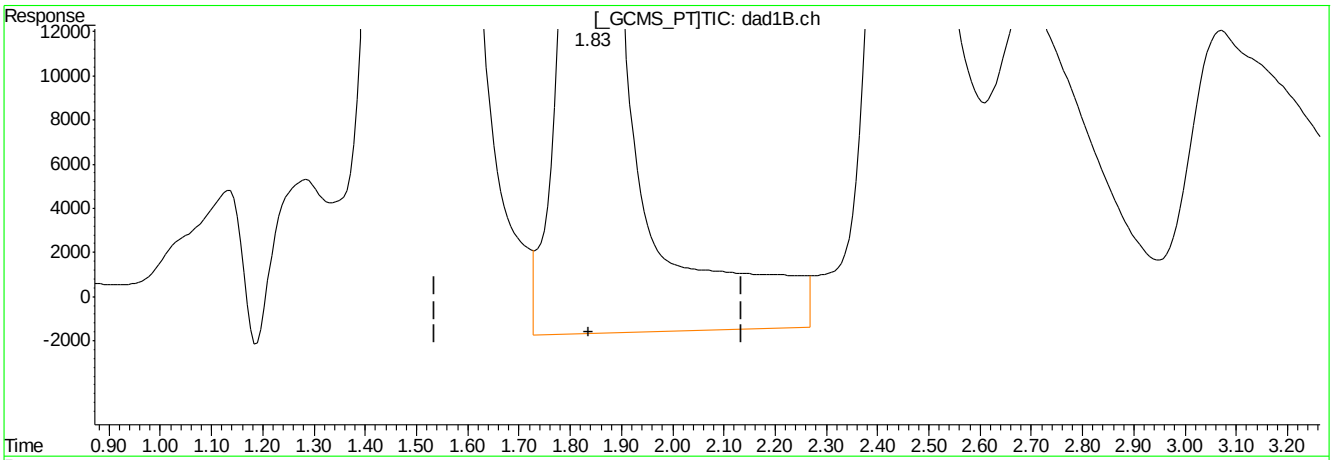
response 5131869

(+) = Expected Retention Time
BB088331.D BBB2700_050625.M Mon Jun 02 09:53:03 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088331.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088331.D\dad1A.ch
Acq On : 27-May-2025, 13:43:43 Operator: fouads
Sample : op9525-msd Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration



QEdit

(3) DNX

1.84min 533.586ppb

response 3422017

(3) DNX #2

1.84min 382.168ppb

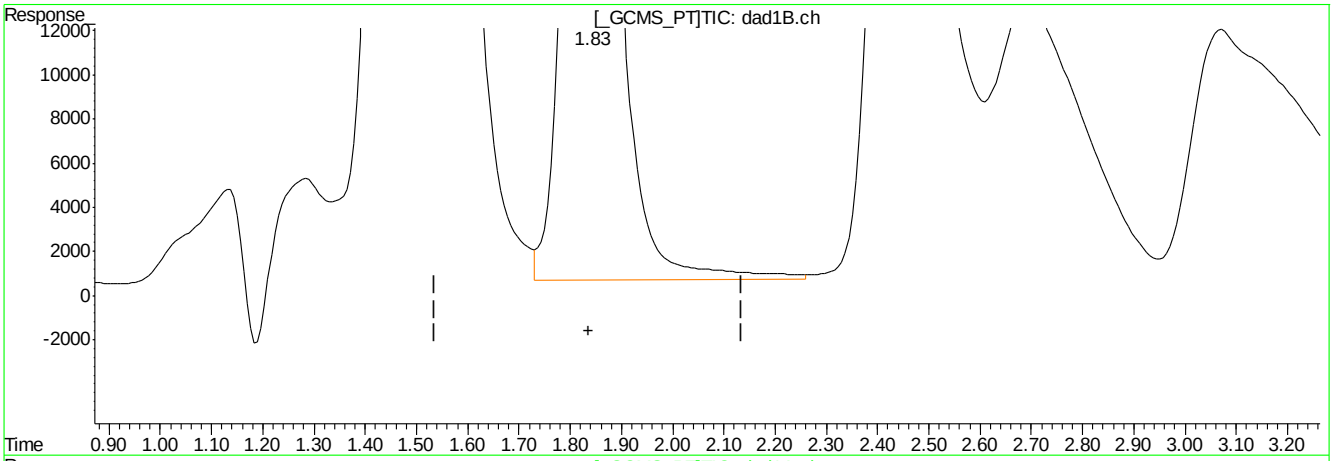
response 4364980

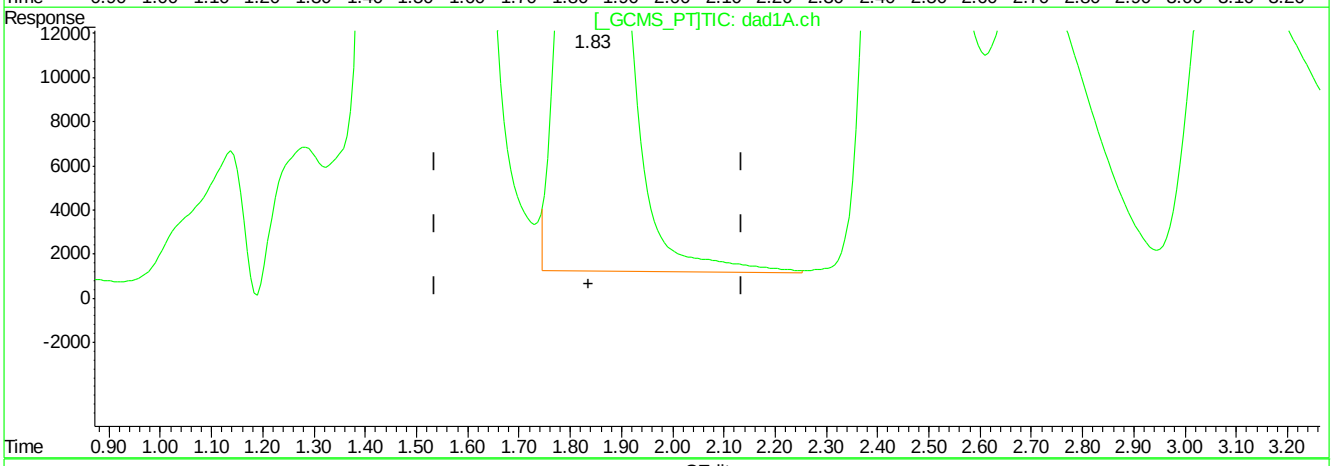
(+) = Expected Retention Time
BB088331.D BBB2700_050625.M Mon Jun 02 09:53:09 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088331.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088331.D\dad1A.ch
Acq On : 27-May-2025, 13:43:43 Operator: fouads
Sample : op9525-msd Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(3) DNX

1.83min 416.166ppb m

response 2668975

(3) DNX #2

1.83min 356.496ppb m

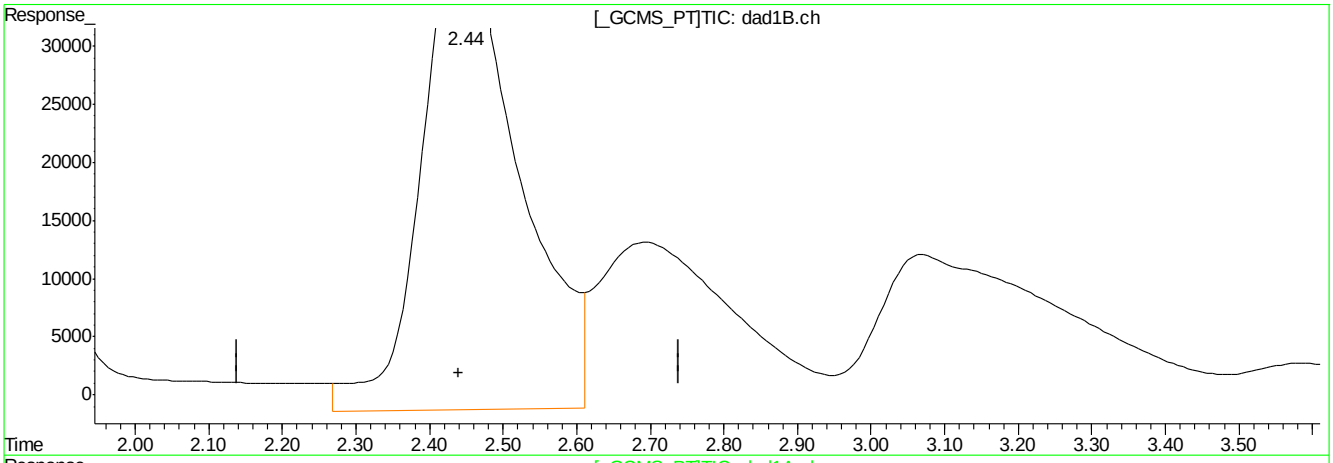
response 4071763

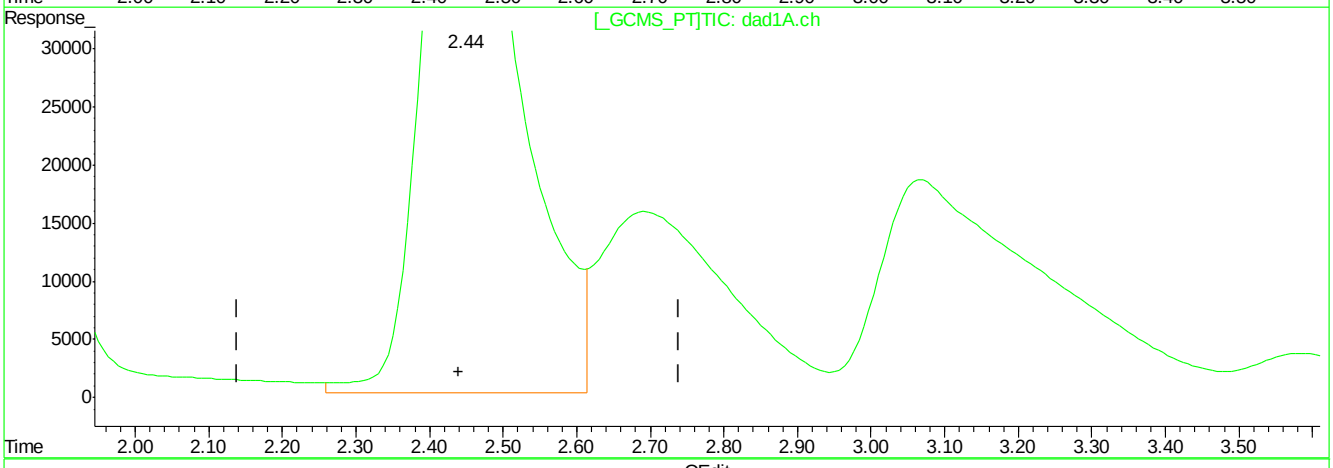
(+) = Expected Retention Time
BB088331.D BBB2700_050625.M Mon Jun 02 09:53:17 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088331.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088331.D\dad1A.ch
Acq On : 27-May-2025, 13:43:43 Operator: fouads
Sample : op9525-msd Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(4) MNX

2.45min 580.045ppb

response 3771096

(4) MNX #2

2.45min 509.766ppb

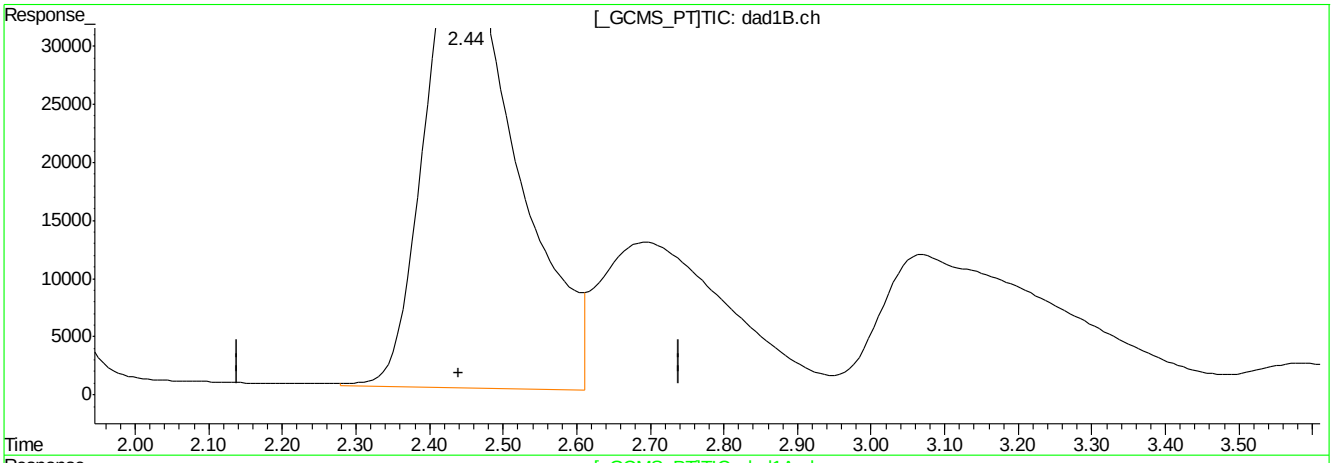
response 5122327

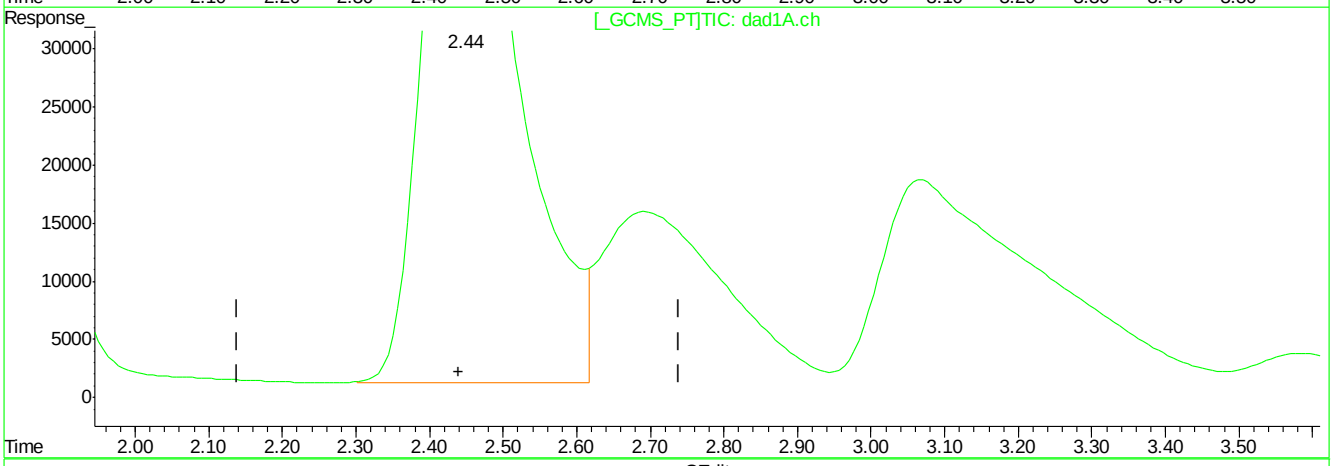
(+) = Expected Retention Time
BB088331.D BBB2700_050625.M Mon Jun 02 09:53:25 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088331.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088331.D\dad1A.ch
Acq On : 27-May-2025, 13:43:43 Operator: fouads
Sample : op9525-msd Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(4) MNX

2.44min 526.459ppb m

response 3422710

(4) MNX #2

2.44min 491.277ppb m

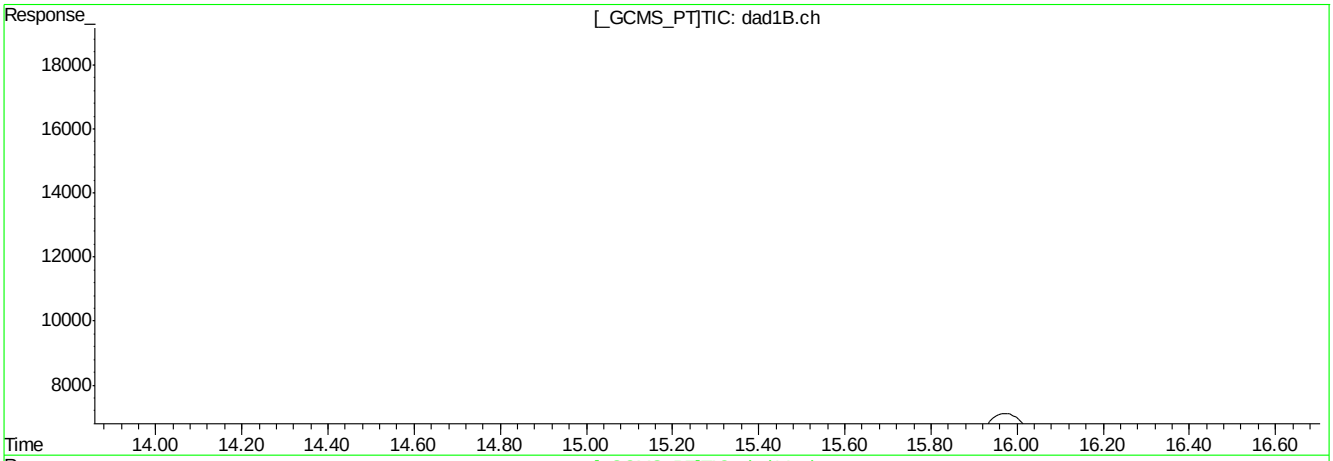
response 4936544

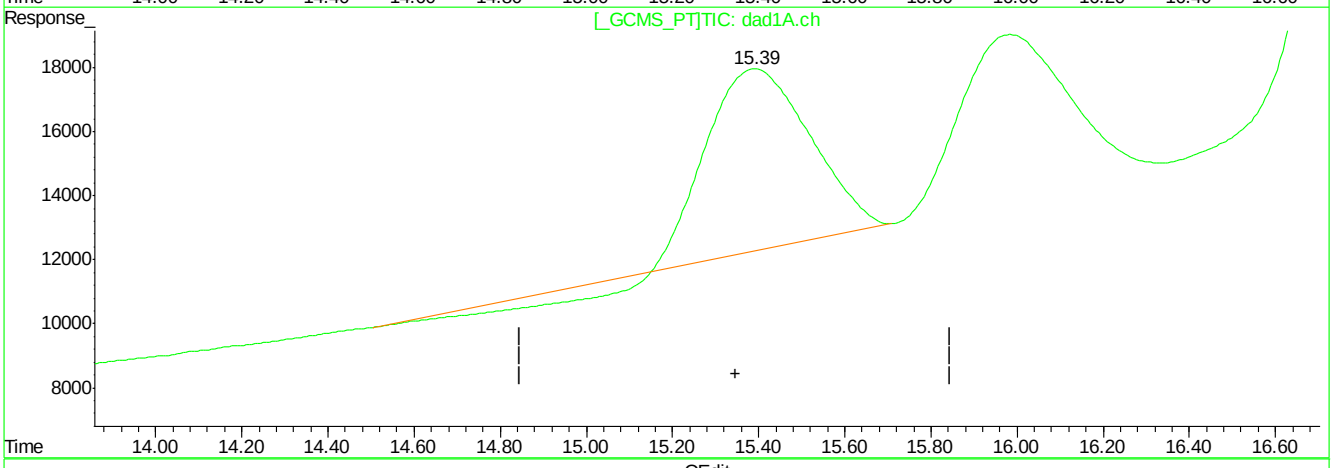
(+) = Expected Retention Time
BB088331.D BBB2700_050625.M Mon Jun 02 09:53:34 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088331.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088331.D\dad1A.ch
Acq On : 27-May-2025, 13:43:43 Operator: fouads
Sample : op9525-msd Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(18) o-Nitrotoluene

15.39min 418.108ppb

response 844548

(18) o-Nitrotoluene #2

15.39min 306.441ppb

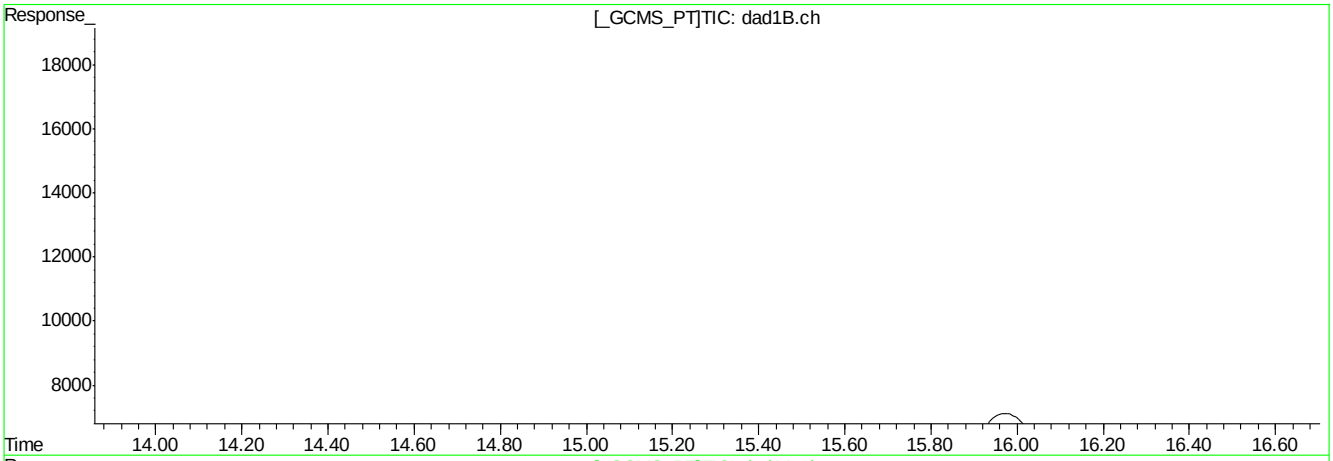
response 863798

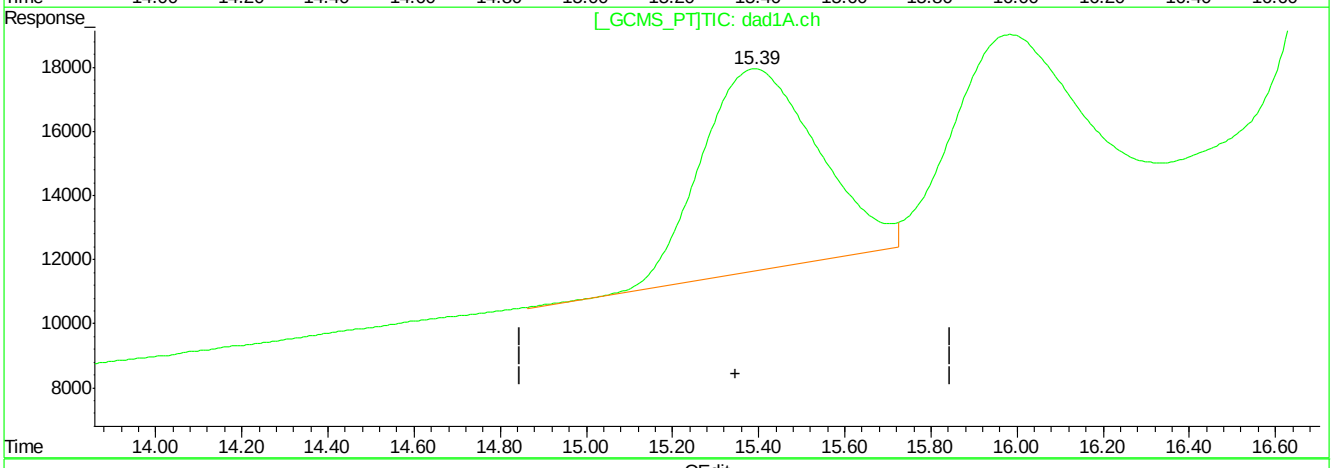
(+) = Expected Retention Time
BB088331.D BBB2700_050625.M Mon Jun 02 09:53:58 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088331.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088331.D\dad1A.ch
Acq On : 27-May-2025, 13:43:43 Operator: fouads
Sample : op9525-msd Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(18) o-Nitrotoluene

15.39min 418.108ppb

response 844548

(18) o-Nitrotoluene #2

15.39min 424.953ppb m

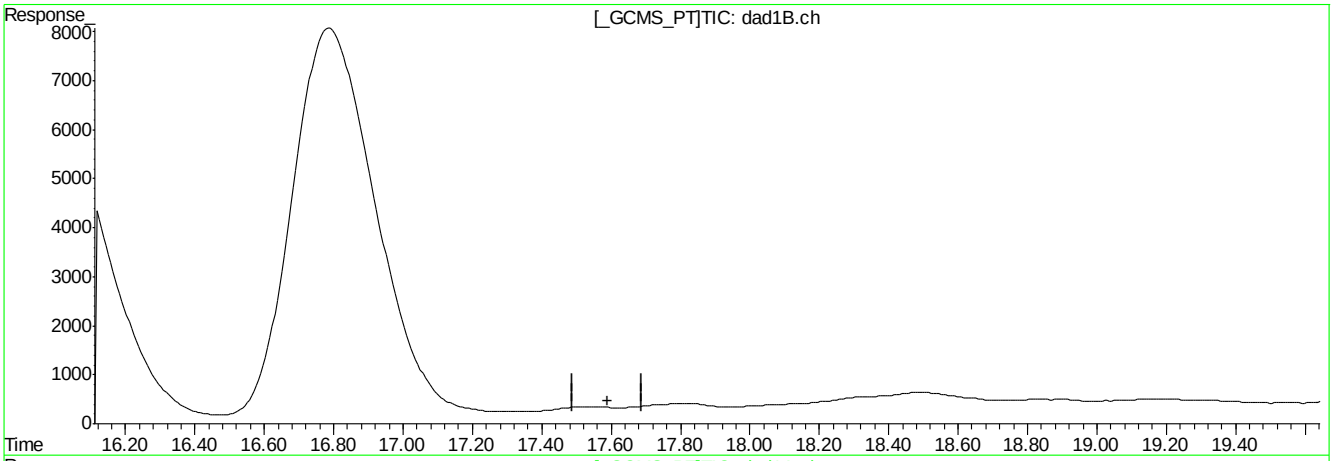
response 1197858

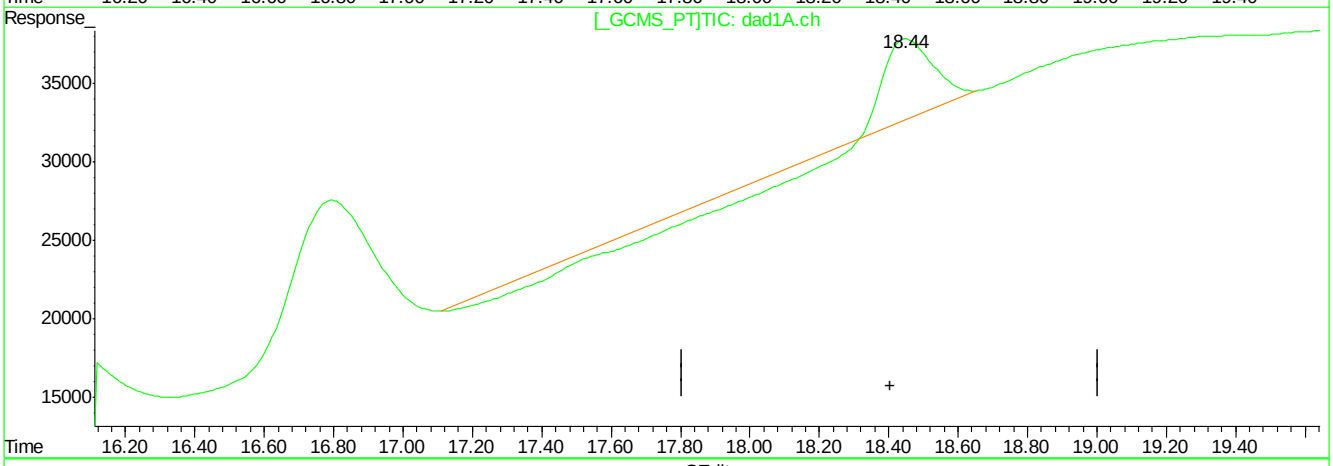
(+) = Expected Retention Time
BB088331.D BBB2700_050625.M Mon Jun 02 09:54:03 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088331.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088331.D\dad1A.ch
Acq On : 27-May-2025, 13:43:43 Operator: fouads
Sample : op9525-msd Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

18.45min 17.850ppb

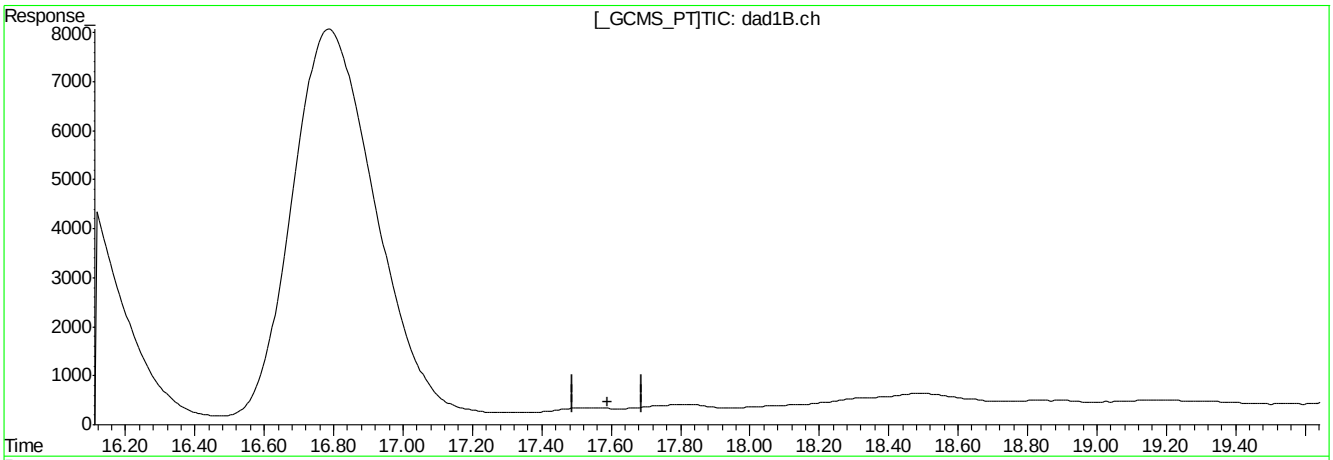
response 19078

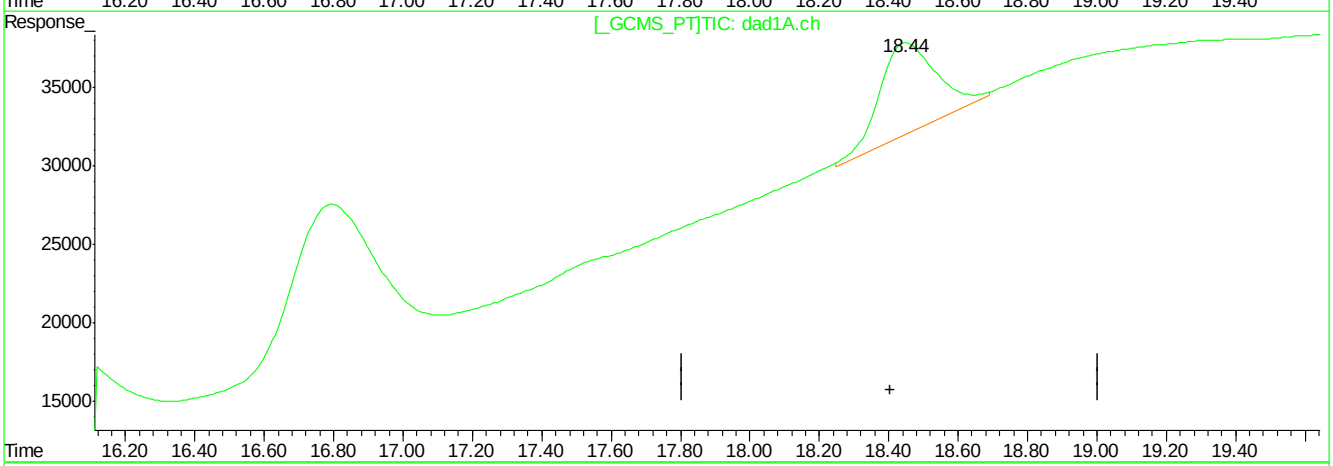
(+) = Expected Retention Time
BB088331.D BBB2700_050625.M Mon Jun 02 09:54:12 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088331.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088331.D\dad1A.ch
Acq On : 27-May-2025, 13:43:43 Operator: fouads
Sample : op9525-msd Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

18.44min 623.771ppb m

response 666705

(+) = Expected Retention Time
BB088331.D BBB2700_050625.M Mon Jun 02 09:54:20 2025

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 05/08/25 17:12

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1A.ch
Acq On : 06-May-2025, 10:09:55 Operator: fouads
Sample : ic2700-20 Inst : G1315B
Misc : op9214,GBB2700,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 06 12:13:29 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.13	11.10	54882	121085	26.202m	32.289m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		5.24%#	6.46%#
	Target Compounds						
1)	TNX	1.35	1.35	111019	156135	18.352	16.813
2)	HMX	1.47	1.47	72302	116067	47.991	27.800 #
3)	DNX	1.74	1.73	213562	284460	43.428	36.854
4)	MNX	2.32	2.32	164458	246285	35.847m	34.791m
5)	RDX	2.92	2.94	79513	141140	42.978m	47.746
6)	1,3,5-Trinitrobe	4.68	4.68	137996	226023	35.488	33.593
7)	1,3-Dinitrobenze	5.91	5.92	173381	120773	34.519	34.998m
8)	3,5-Dinitroanili	6.31	6.24	103437	228524	26.721	35.133m
9)	Nitrobenzene	7.57	7.47	93210	96657	31.977	33.961m
10)	Nitroglycerin	0.00	8.88	0	39217	N.D. d	32.209
11)	Tetryl	9.32	9.35	66840	104016	25.224m	24.485
12)	2,4,6-Trinitroto	9.82	9.80	121602	136112	35.793m	33.122
13)	2-Amino-4,6-Dini	10.22	10.26	68607	79579	21.745	16.805m
14)	4-Amino-2,6-Dini	10.69	10.72	65703	103116	29.018	22.650m
16)	2,4-Dinitrotolue	11.85	11.78	188116	74171	42.411m	25.106 #
17)	2,6-Dinitrotolue	12.22	12.21	90797	125991	36.821m	38.941m
18)	o-Nitrotoluene	15.31	15.32	54319	61390	27.377	21.889
19)	p-Nitrotoluene	16.01	15.97	64040	87419	21.615m	34.643m#
20)	m-Nitrotoluene	16.76	16.94	88636	154416	31.556	45.423m#
21)	PETN	0.00	18.33	0	20945	N.D. d	19.906m

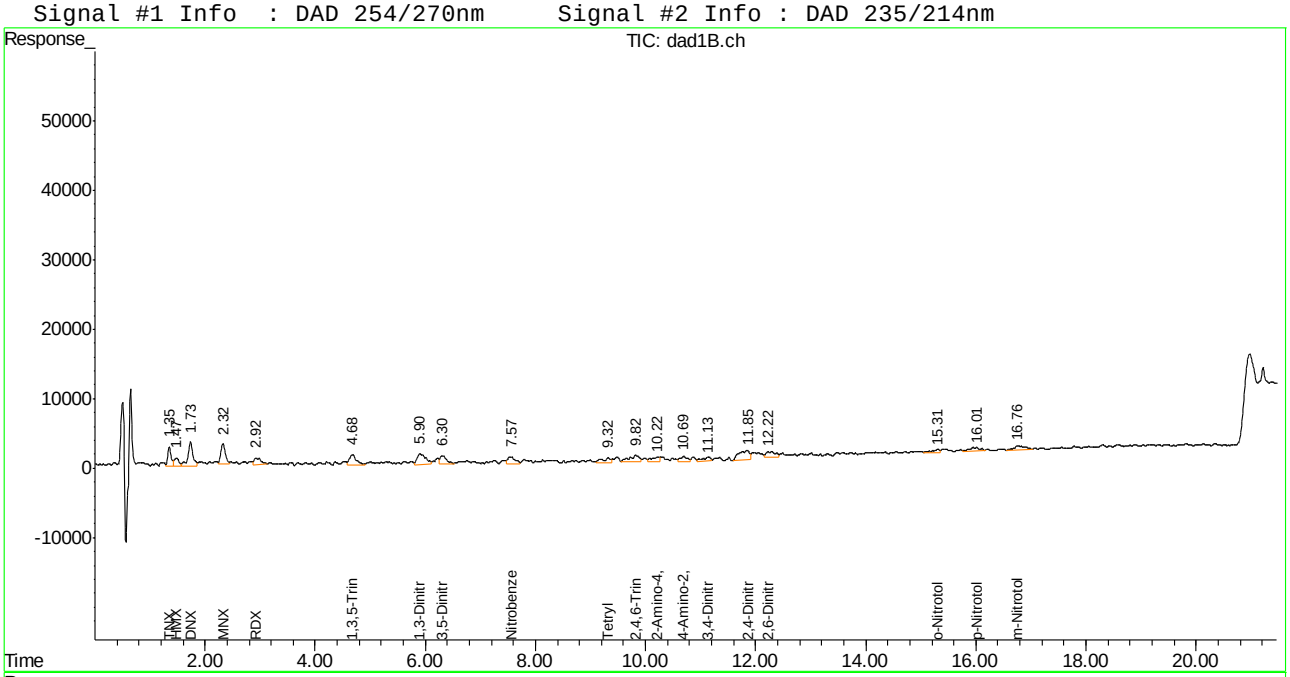
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

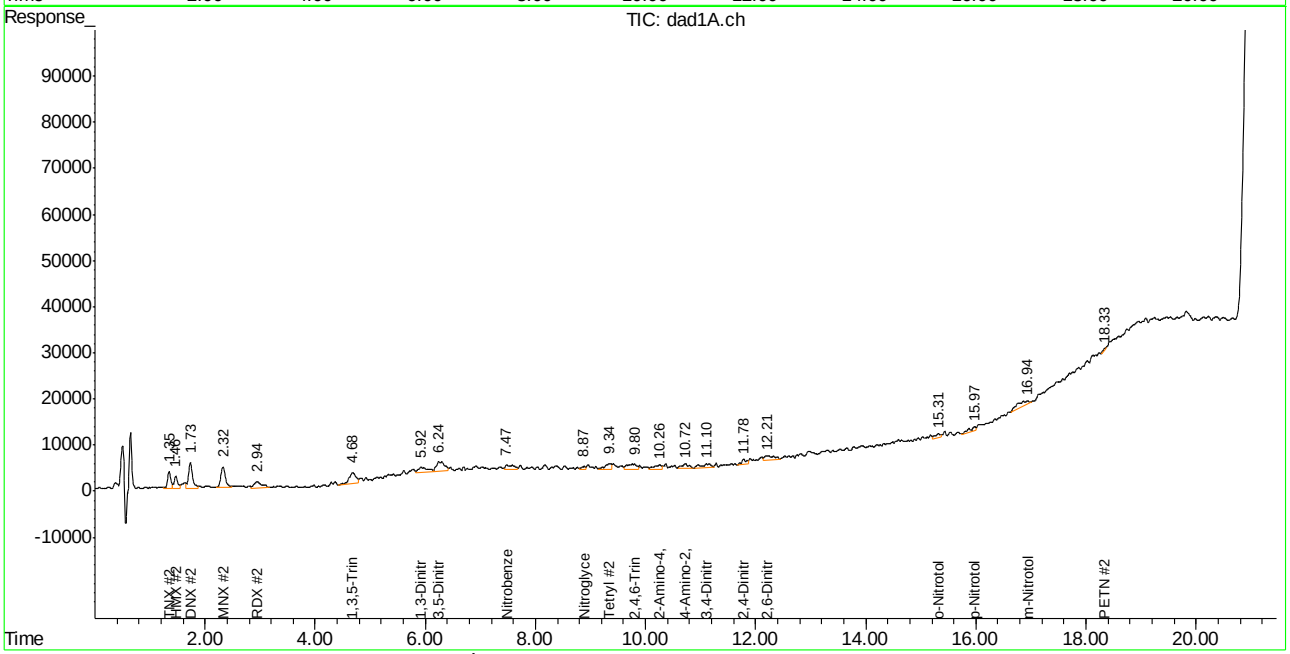
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1A.ch
Acq On : 06-May-2025, 10:09:55 Operator: fouads
Sample : ic2700-20 Inst : G1315B
Misc : op9214,GBB2700,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:19 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

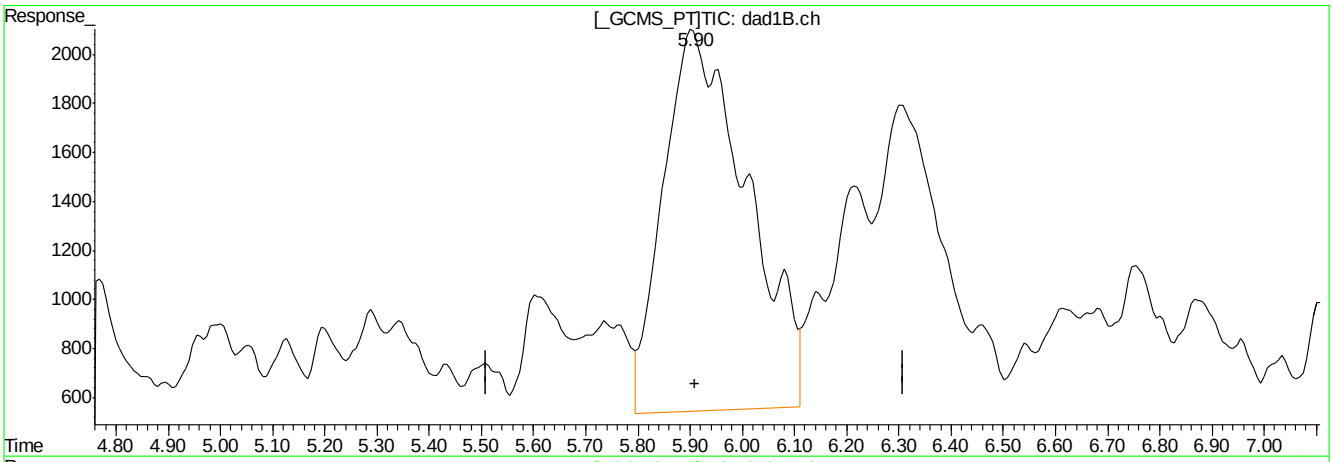
Sample Number: GBB2700-IC2700
Lab FileID: BB088062.D
Injection Time: 05/06/25 10:09
Method: SW846 8330A
Analyst approved: 05/08/25 12:00 Fouad Sekkar
Supervisor approved: 05/08/25 17:12 William Hustedde

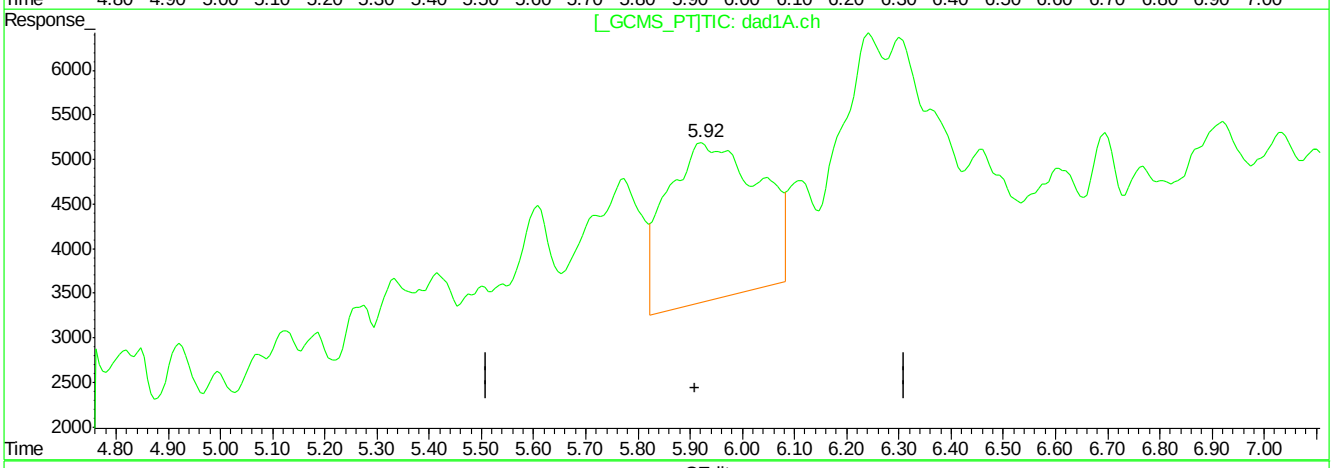
Parameter	CAS	Sig#	R.T. (min.)	Reason
MNX		1	2.32	Missed peak
MNX		2	2.32	Missed peak
RDX	121-82-4	1	2.92	Missed peak
1,3-Dinitrobenzene	99-65-0	2	5.92	Missed peak
3,5-Dinitroaniline	618-87-1	2	6.24	Missed peak
Nitrobenzene	98-95-3	2	7.47	Missed peak
Tetryl	479-45-8	1	9.32	Missed peak
2,4,6-Trinitrotoluene	118-96-7	1	9.82	Missed peak
2-amino-4,6-Dinitrotoluene	35572-78-2	2	10.26	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	2	10.72	Missed peak
3,4-Dinitrotoluene	610-39-9	2	11.10	Missed peak
3,4-Dinitrotoluene	610-39-9	1	11.13	Missed peak
2,4-Dinitrotoluene	121-14-2	1	11.85	Missed peak
2,6-Dinitrotoluene	606-20-2	2	12.21	Missed peak
2,6-Dinitrotoluene	606-20-2	1	12.22	Missed peak
p-Nitrotoluene	99-99-0	2	15.97	Missed peak
p-Nitrotoluene	99-99-0	1	16.01	Missed peak
m-Nitrotoluene	99-08-1	2	16.94	Missed peak
PETN	78-11-5	2	18.33	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1A.ch
Acq On : 06-May-2025, 10:09:55 Operator: fouads
Sample : ic2700-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

5.91min 34.519ppb

response 173381

(7) 1,3-Dinitrobenzene #2

5.92min 62.765ppb

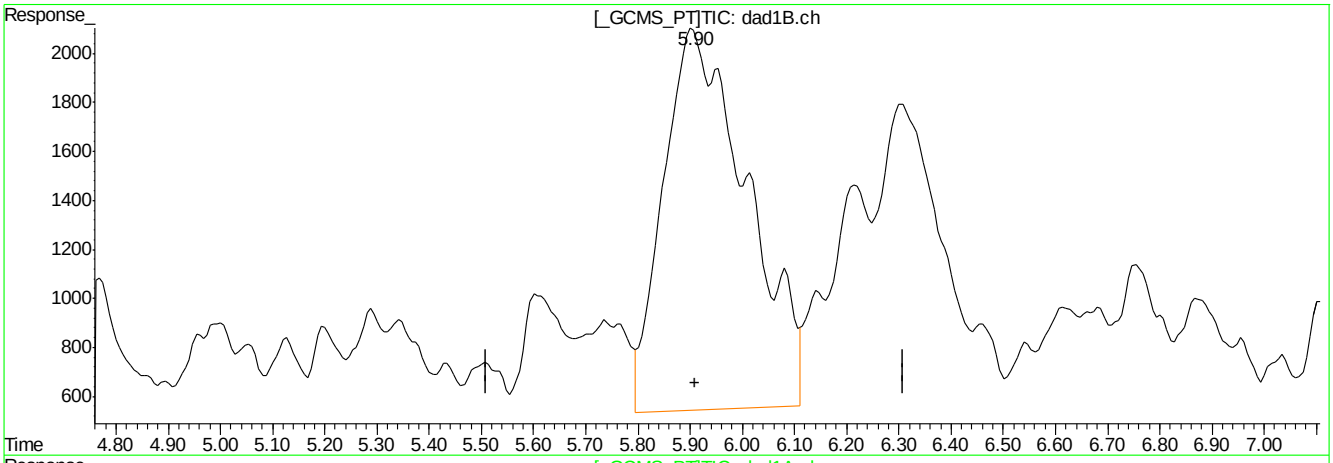
response 216593

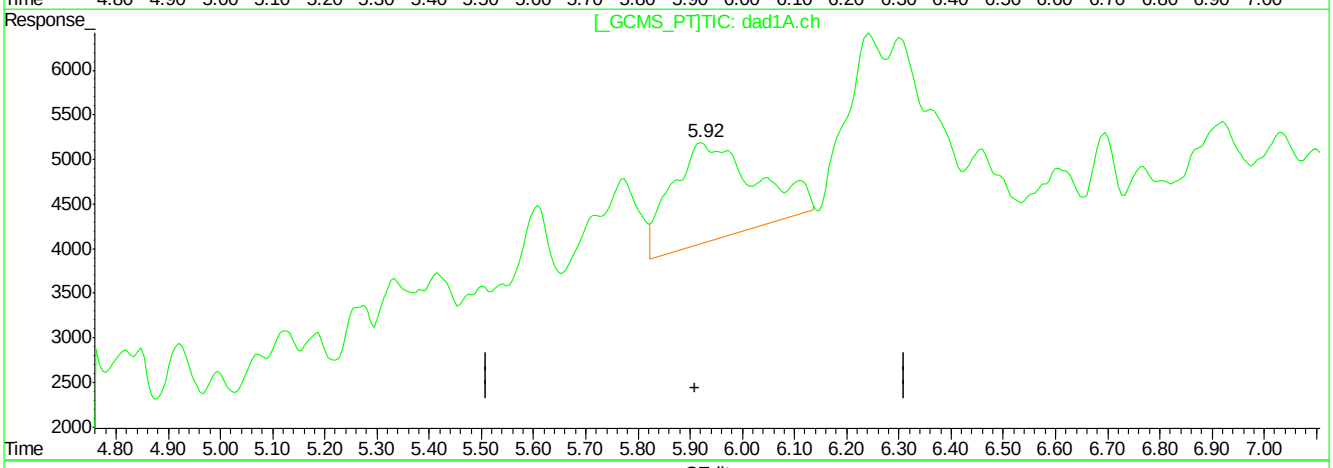
(+) = Expected Retention Time
BB088062.D BBB2700_050625.M Tue May 06 12:05:35 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1A.ch
Acq On : 06-May-2025, 10:09:55 Operator: fouads
Sample : ic2700-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

5.91min 34.519ppb

response 173381

(7) 1,3-Dinitrobenzene #2

5.92min 35.350ppb m

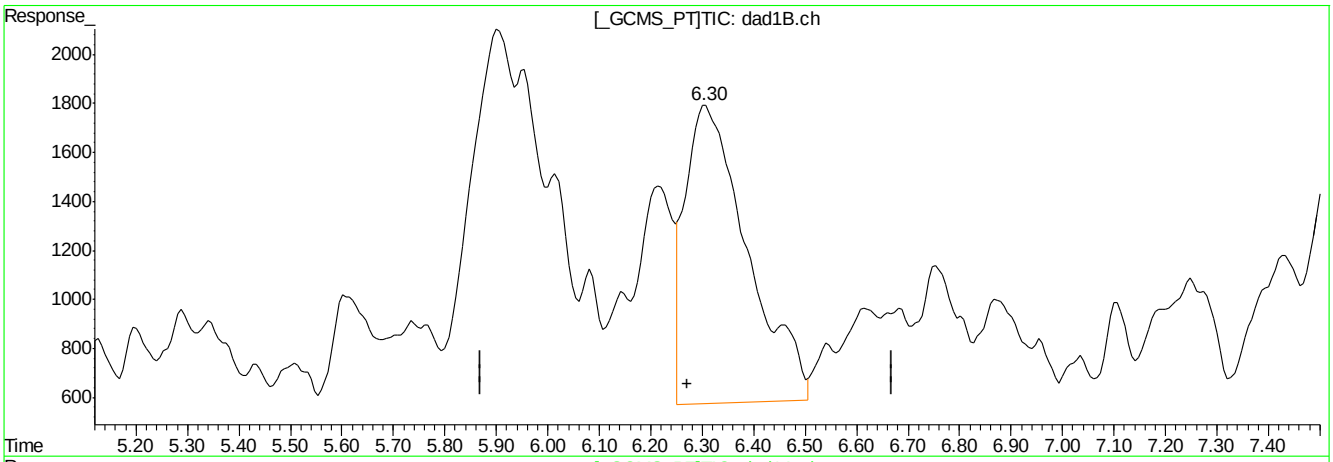
response 121988

(+) = Expected Retention Time
BB088062.D BBB2700_050625.M Tue May 06 12:05:46 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1A.ch
Acq On : 06-May-2025, 10:09:55 Operator: fouads
Sample : ic2700-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.31min 26.721ppb

response 103437

(8) 3,5-Dinitroaniline #2

6.25min 44.420ppb

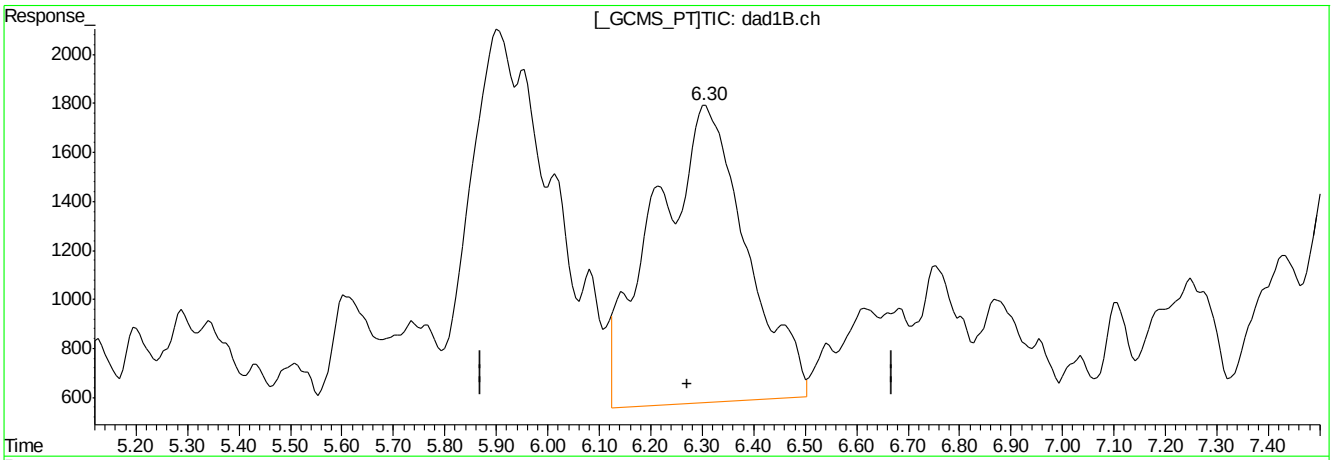
response 288929

(+) = Expected Retention Time
BB088062.D BBB2700_050625.M Tue May 06 12:05:54 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1A.ch
Acq On : 06-May-2025, 10:09:55 Operator: fouads
Sample : ic2700-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.30min 38.888ppb m

response 150535

(8) 3,5-Dinitroaniline #2

6.25min 44.420ppb

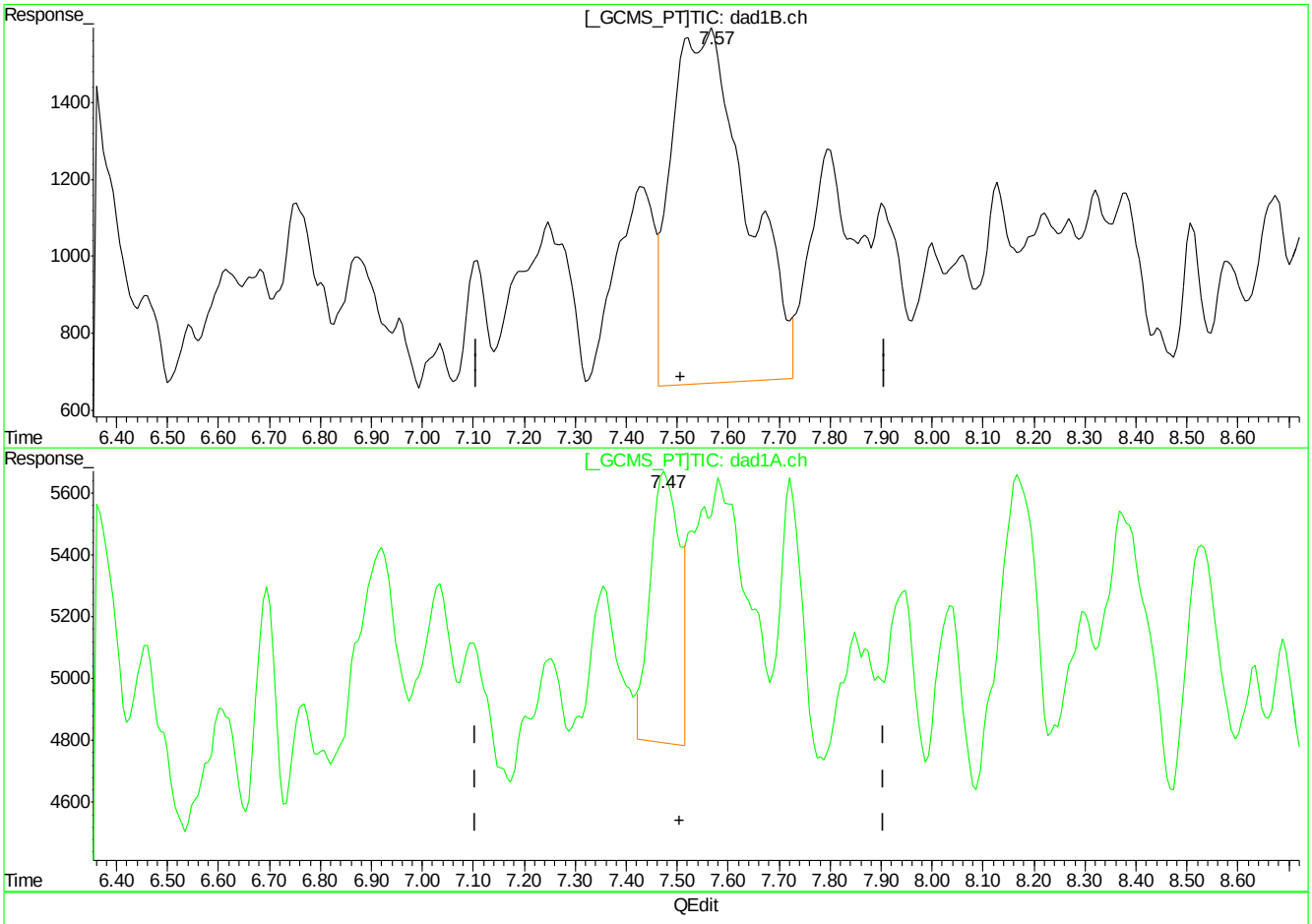
response 288929

(+) = Expected Retention Time
BB088062.D BBB2700_050625.M Tue May 06 12:06:01 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1A.ch
Acq On : 06-May-2025, 10:09:55 Operator: fouads
Sample : ic2700-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.57min 31.977ppb

response 93210

(9) Nitrobenzene #2

7.48min 12.061ppb

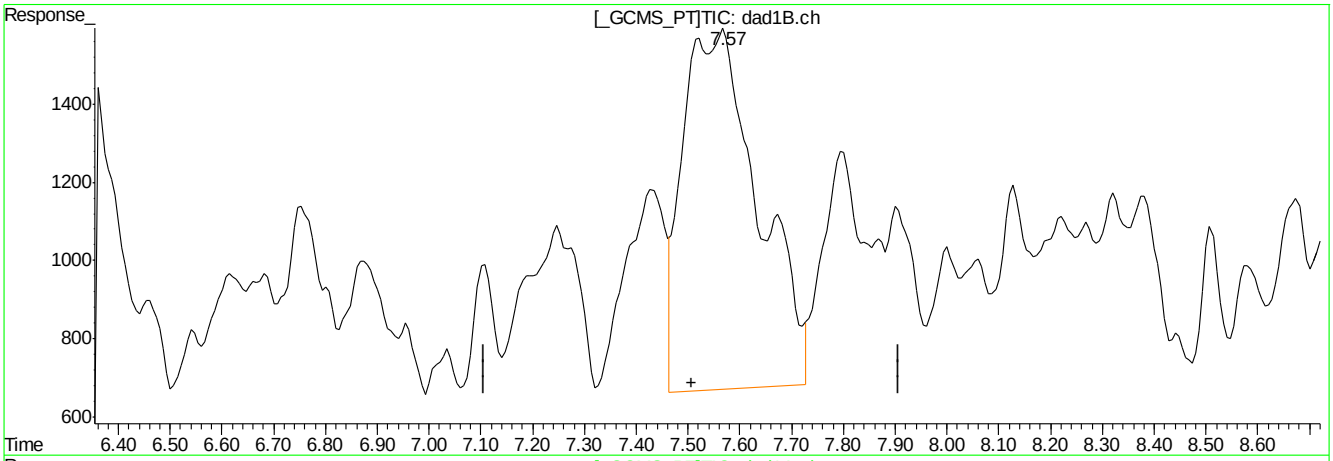
response 34327

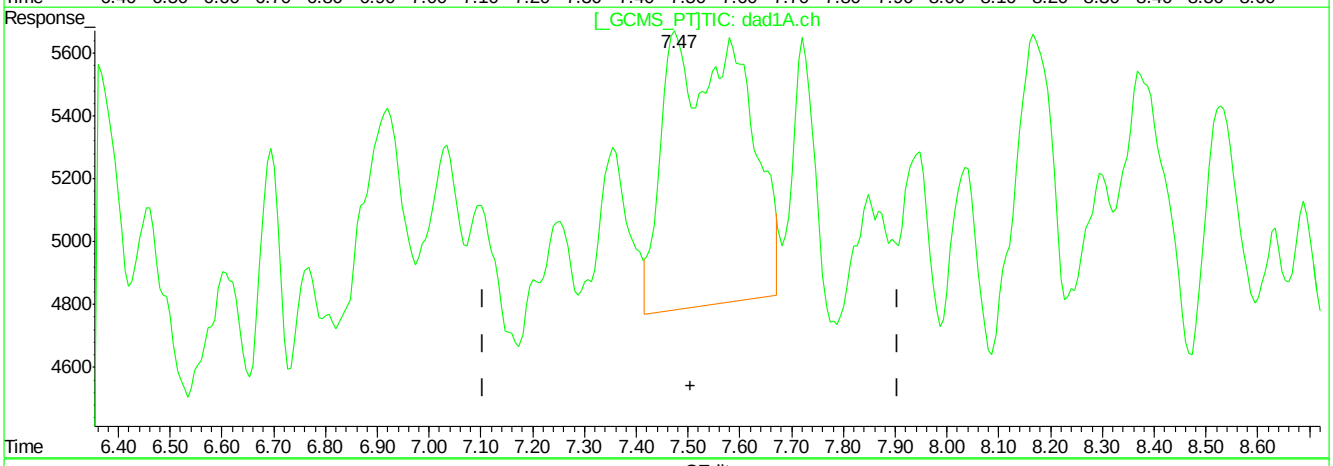
(+) = Expected Retention Time
BB088062.D BBB2700_050625.M Tue May 06 12:06:07 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1A.ch
Acq On : 06-May-2025, 10:09:55 Operator: fouads
Sample : ic2700-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration





QEdit

(9) Nitrobenzene

7.57min 31.977ppb

response 93210

(9) Nitrobenzene #2

7.47min 33.342ppb m

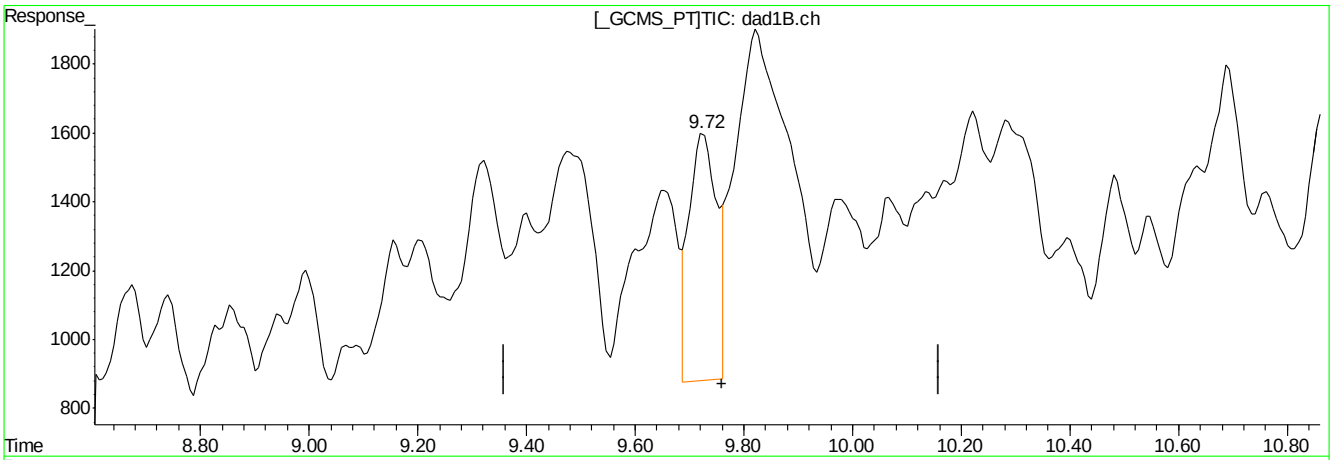
response 94894

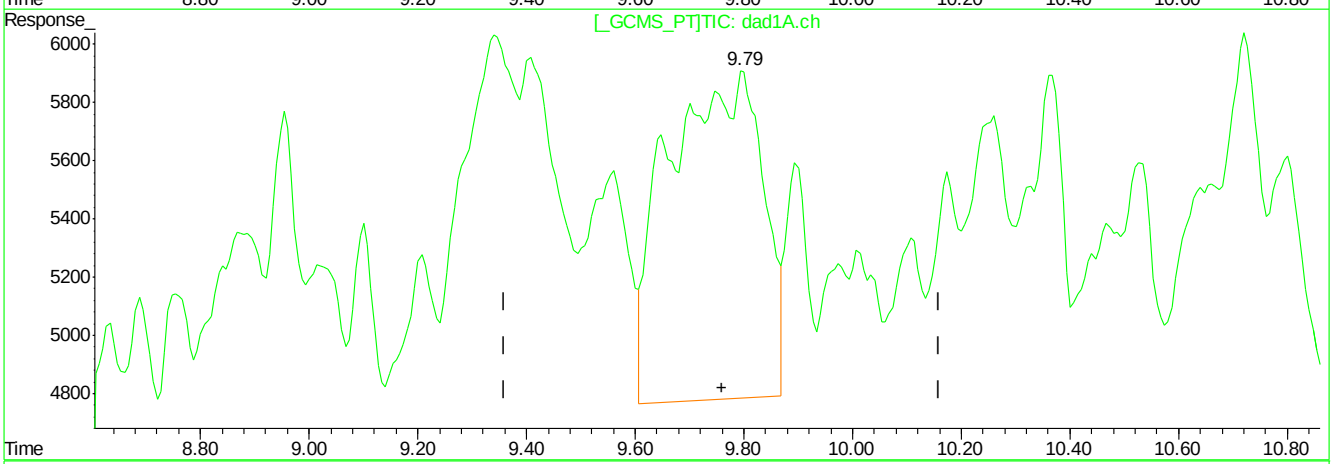
(+) = Expected Retention Time
BB088062.D BBB2700_050625.M Tue May 06 12:06:15 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1A.ch
Acq On : 06-May-2025, 10:09:55 Operator: fouads
Sample : ic2700-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration





QEdit

(12) 2,4,6-Trinitrotoluene

9.73min 7.453ppb

response 25320

(12) 2,4,6-Trinitrotoluene #2

9.80min 33.122ppb

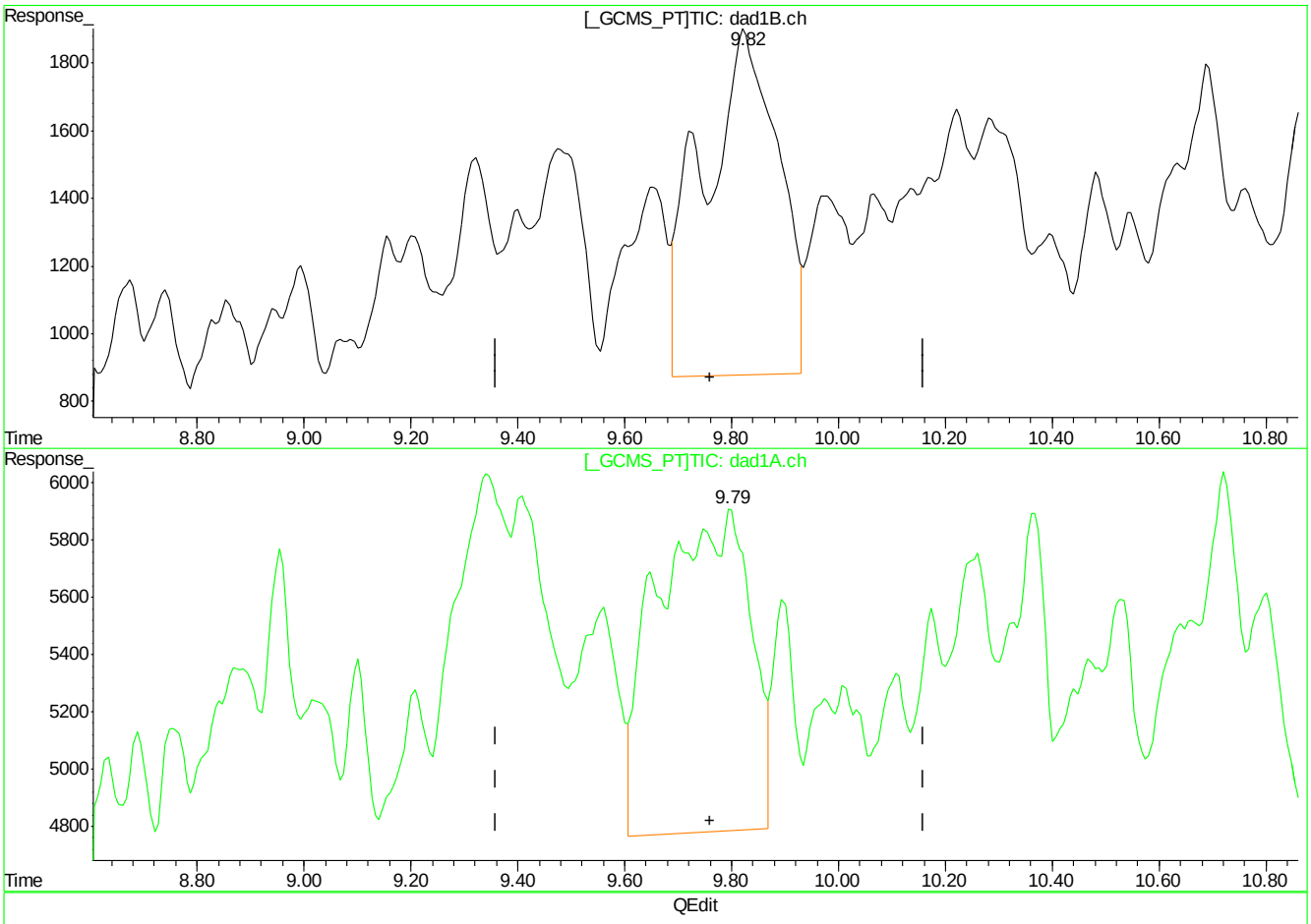
response 136112

(+) = Expected Retention Time
BB088062.D BBB2700_050625.M Tue May 06 12:06:32 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1A.ch
Acq On : 06-May-2025, 10:09:55 Operator: fouads
Sample : ic2700-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.82min 29.079ppb m

response 98791

(12) 2,4,6-Trinitrotoluene #2

9.80min 33.122ppb

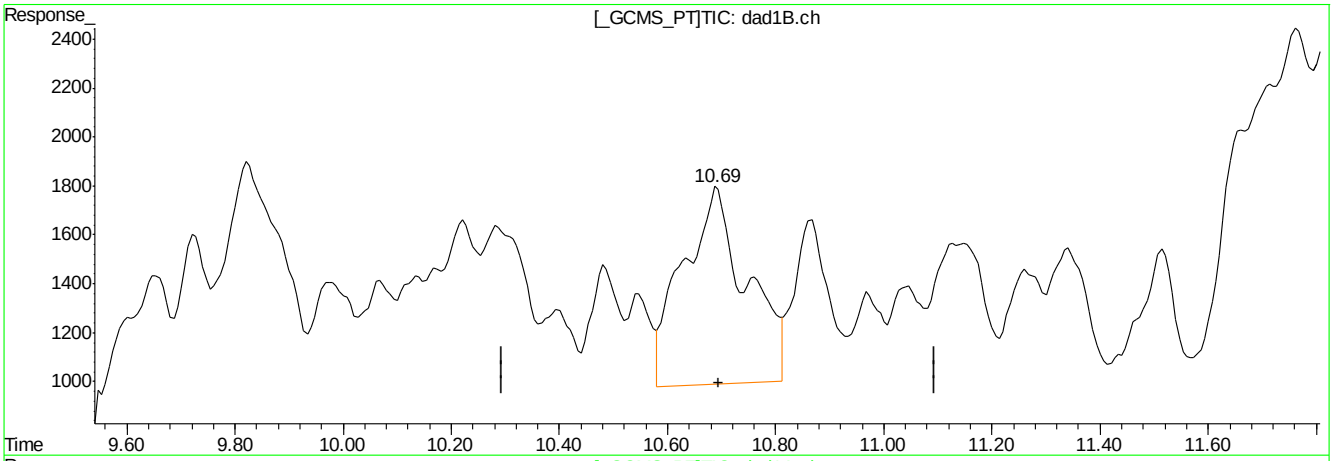
response 136112

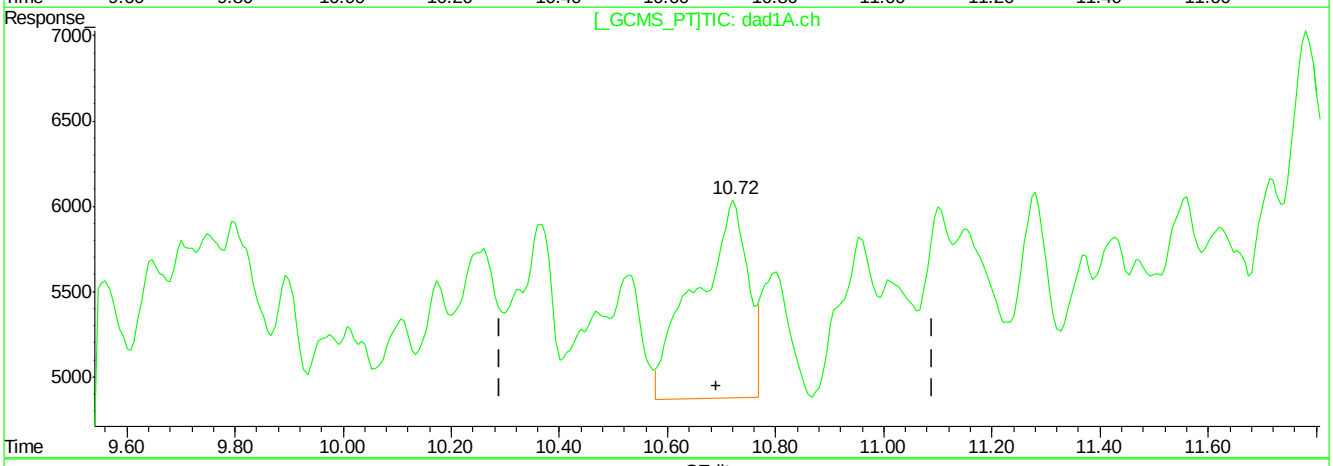
(+) = Expected Retention Time
BB088062.D BBB2700_050625.M Tue May 06 12:06:38 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1A.ch
Acq On : 06-May-2025, 10:09:55 Operator: fouads
Sample : ic2700-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration





QEdit

(14) 4-Amino-2,6-Dinitrotoluene

10.69min 29.018ppb

response 65703

(14) 4-Amino-2,6-Dinitrotoluene #2

10.72min 16.685ppb

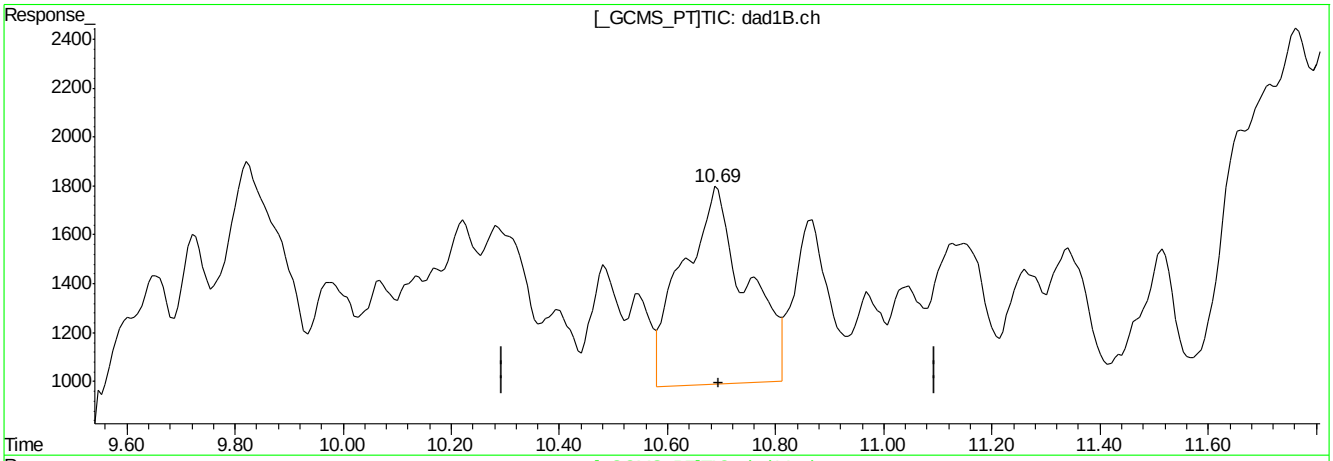
response 75960

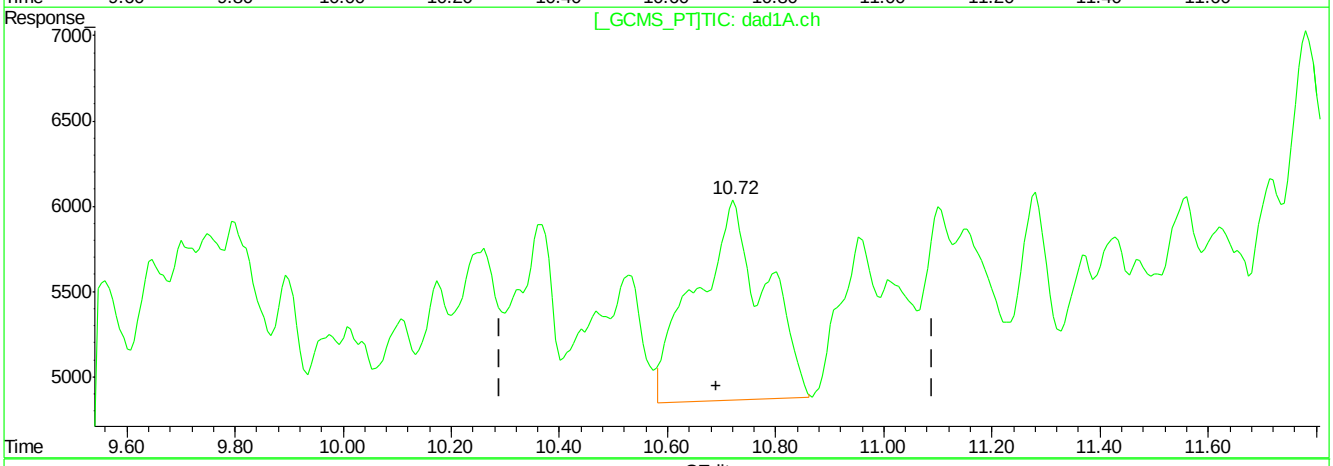
(+) = Expected Retention Time
BB088062.D BBB2700_050625.M Tue May 06 12:06:55 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1A.ch
Acq On : 06-May-2025, 10:09:55 Operator: fouads
Sample : ic2700-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration





QEdit

(14) 4-Amino-2,6-Dinitrotoluene

10.69min 29.018ppb

response 65703

(14) 4-Amino-2,6-Dinitrotoluene #2

10.72min 22.922ppb m

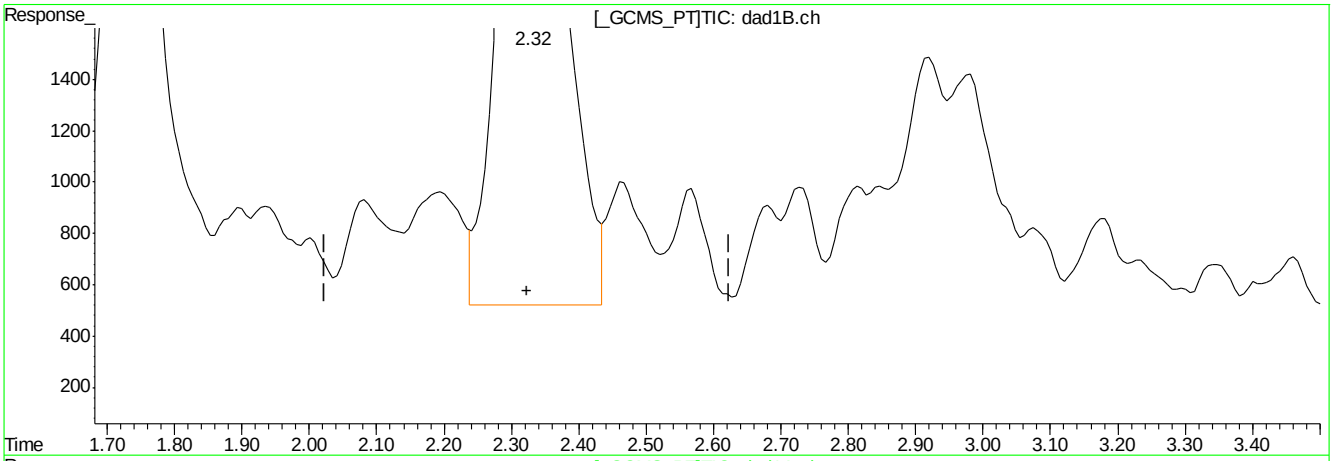
response 104355

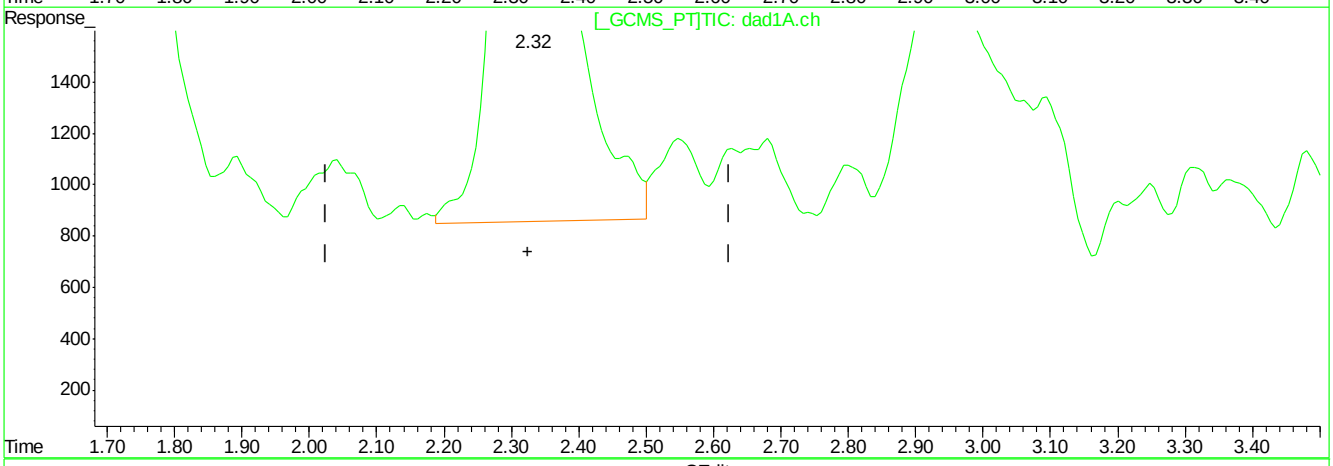
(+) = Expected Retention Time
BB088062.D BBB2700_050625.M Tue May 06 12:07:01 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1A.ch
Acq On : 06-May-2025, 10:09:55 Operator: fouads
Sample : ic2700-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:07 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration





QEdit

(4) MNX

2.32min 38.521ppb m

response 176725

(4) MNX #2

2.32min 36.443ppb m

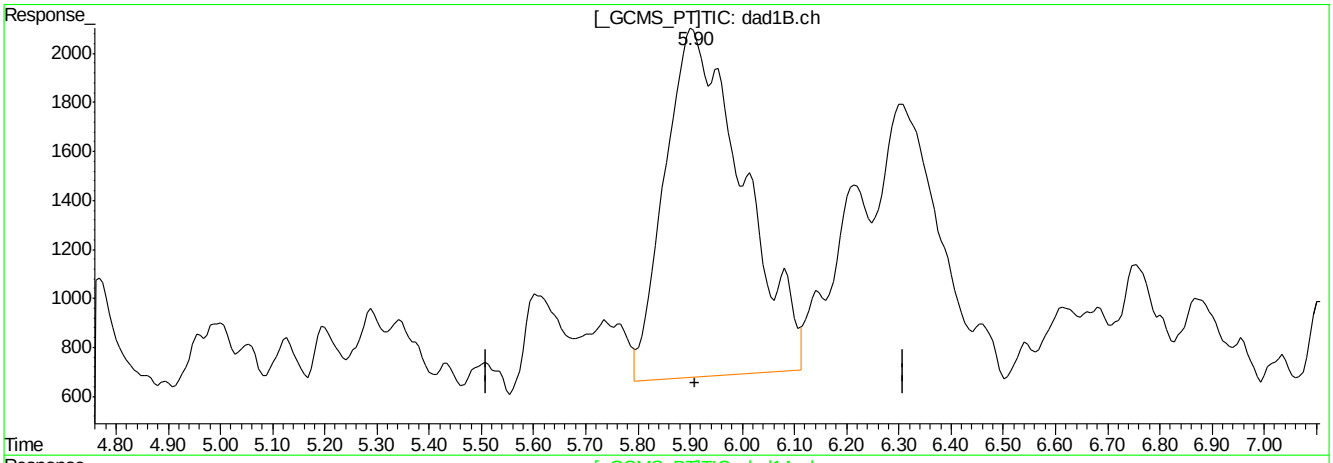
response 257980

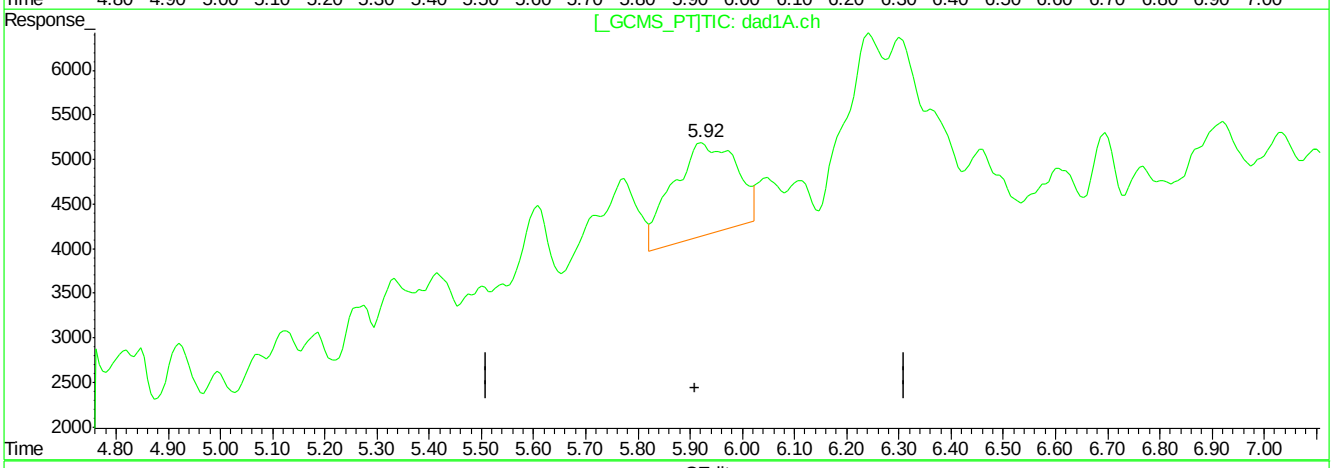
(+) = Expected Retention Time
BB088062.D BBB2700_050625.M Tue May 06 12:07:50 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1A.ch
Acq On : 06-May-2025, 10:09:55 Operator: fouads
Sample : ic2700-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:07 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

5.90min 29.389ppb m

response 147614

(7) 1,3-Dinitrobenzene #2

5.92min 25.424ppb m

response 87733

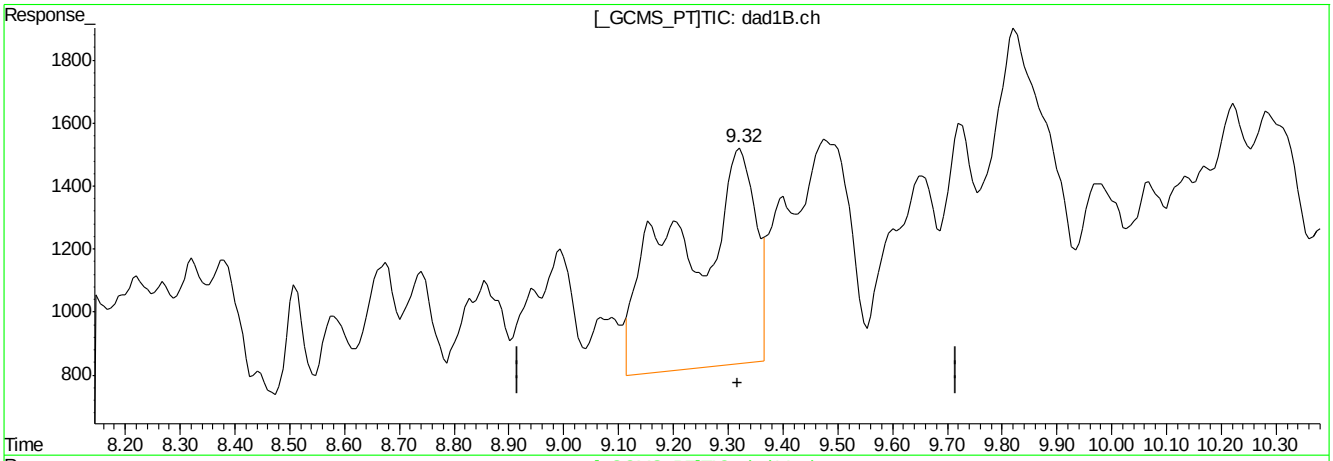
(+) = Expected Retention Time
BB088062.D BBB2700_050625.M Tue May 06 12:08:24 2025

BB088062.D edits: 1,3-Dinitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1A.ch
Acq On : 06-May-2025, 10:09:55 Operator: fouads
Sample : ic2700-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:07 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration



(11) Tetryl

9.32min 24.057ppb m

response 63747

(11) Tetryl #2

9.35min 24.485ppb

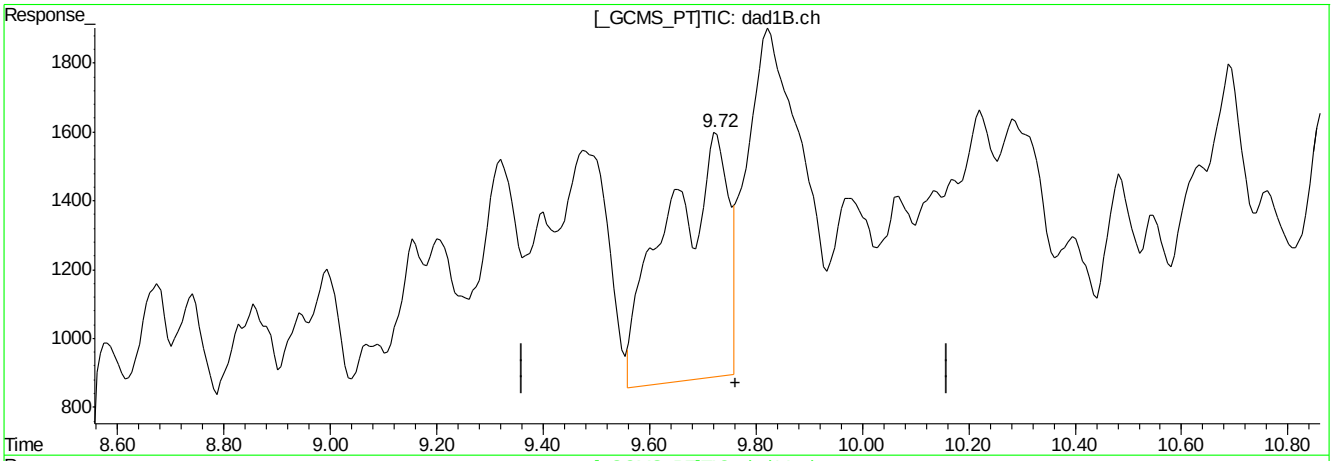
response 104016

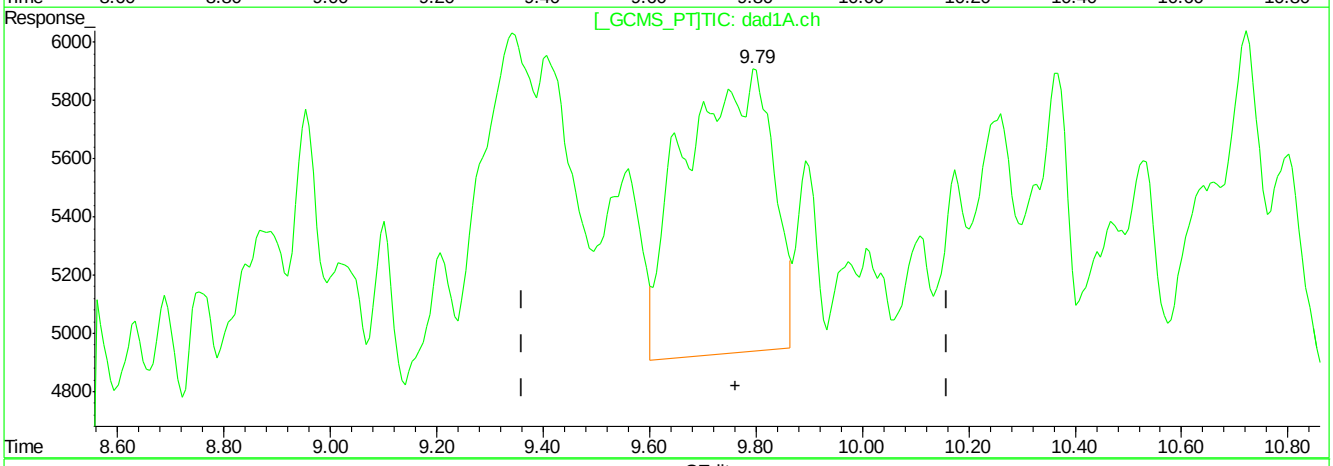
(+) = Expected Retention Time
BB088062.D BBB2700_050625.M Tue May 06 12:08:57 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1A.ch
Acq On : 06-May-2025, 10:09:55 Operator: fouads
Sample : ic2700-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:07 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration





QEdit

(12) 2,4,6-Trinitrotoluene

9.72min 16.296ppb m

response 55363

(12) 2,4,6-Trinitrotoluene #2

9.79min 27.308ppb m

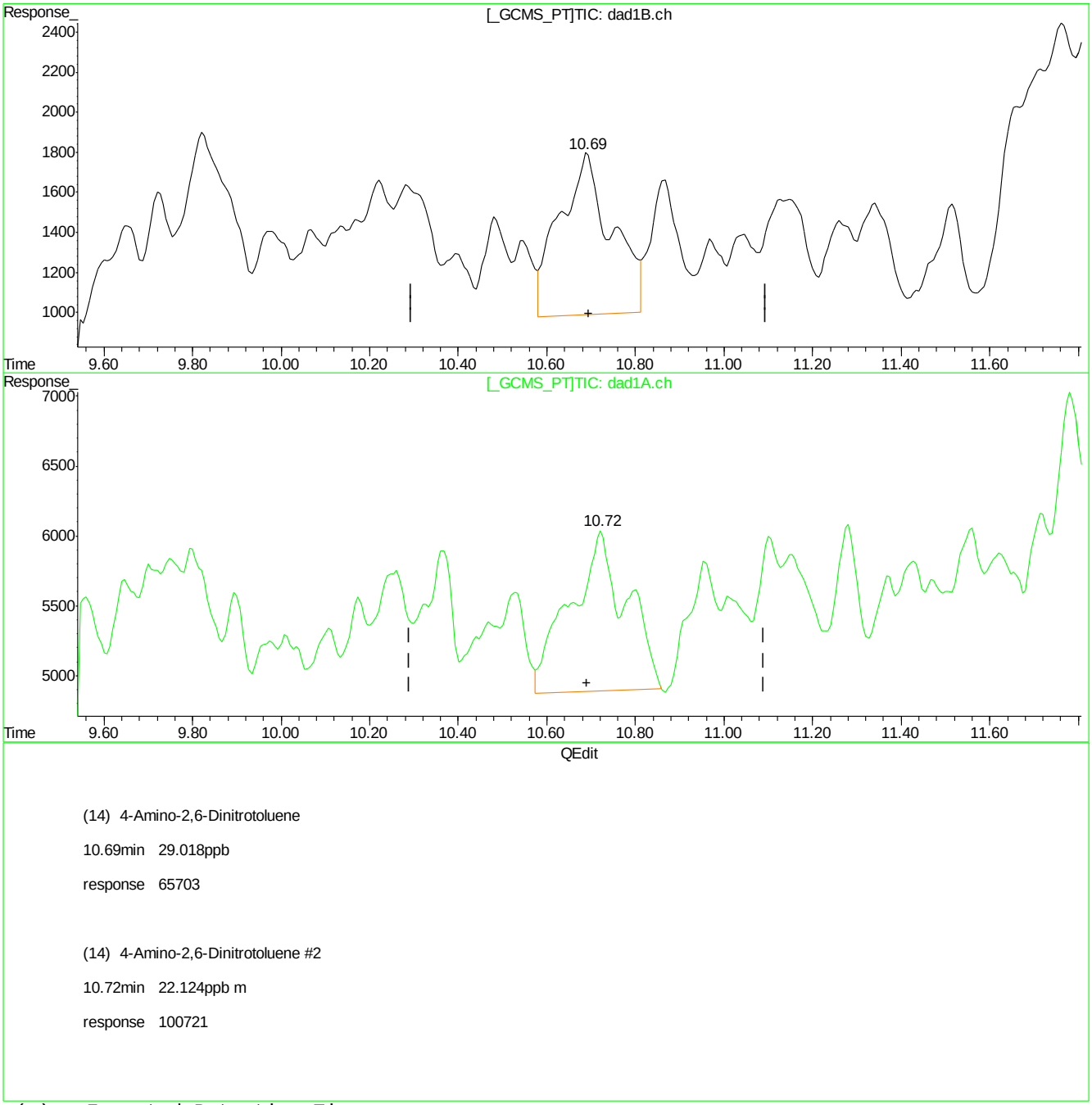
response 112220

(+) = Expected Retention Time
BB088062.D BBB2700_050625.M Tue May 06 12:09:27 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1A.ch
Acq On : 06-May-2025, 10:09:55 Operator: fouads
Sample : ic2700-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:07 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

10.69min 29.018ppb

response 65703

(14) 4-Amino-2,6-Dinitrotoluene #2

10.72min 22.124ppb m

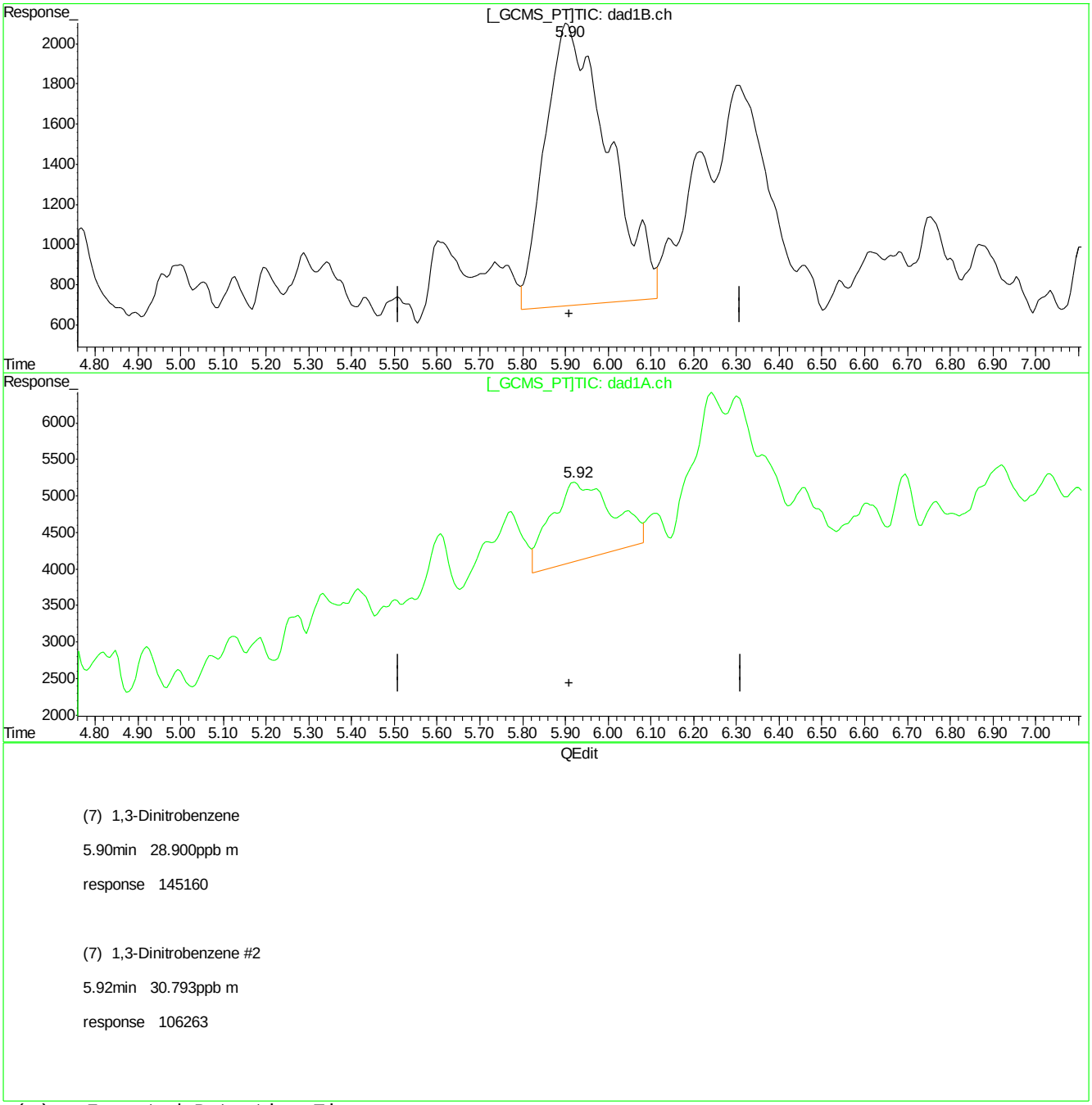
response 100721

(+) = Expected Retention Time
BB088062.D BBB2700_050625.M Tue May 06 12:09:51 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1A.ch
Acq On : 06-May-2025, 10:09:55 Operator: fouads
Sample : ic2700-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:07 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.90min 28.900ppb m

response 145160

(7) 1,3-Dinitrobenzene #2

5.92min 30.793ppb m

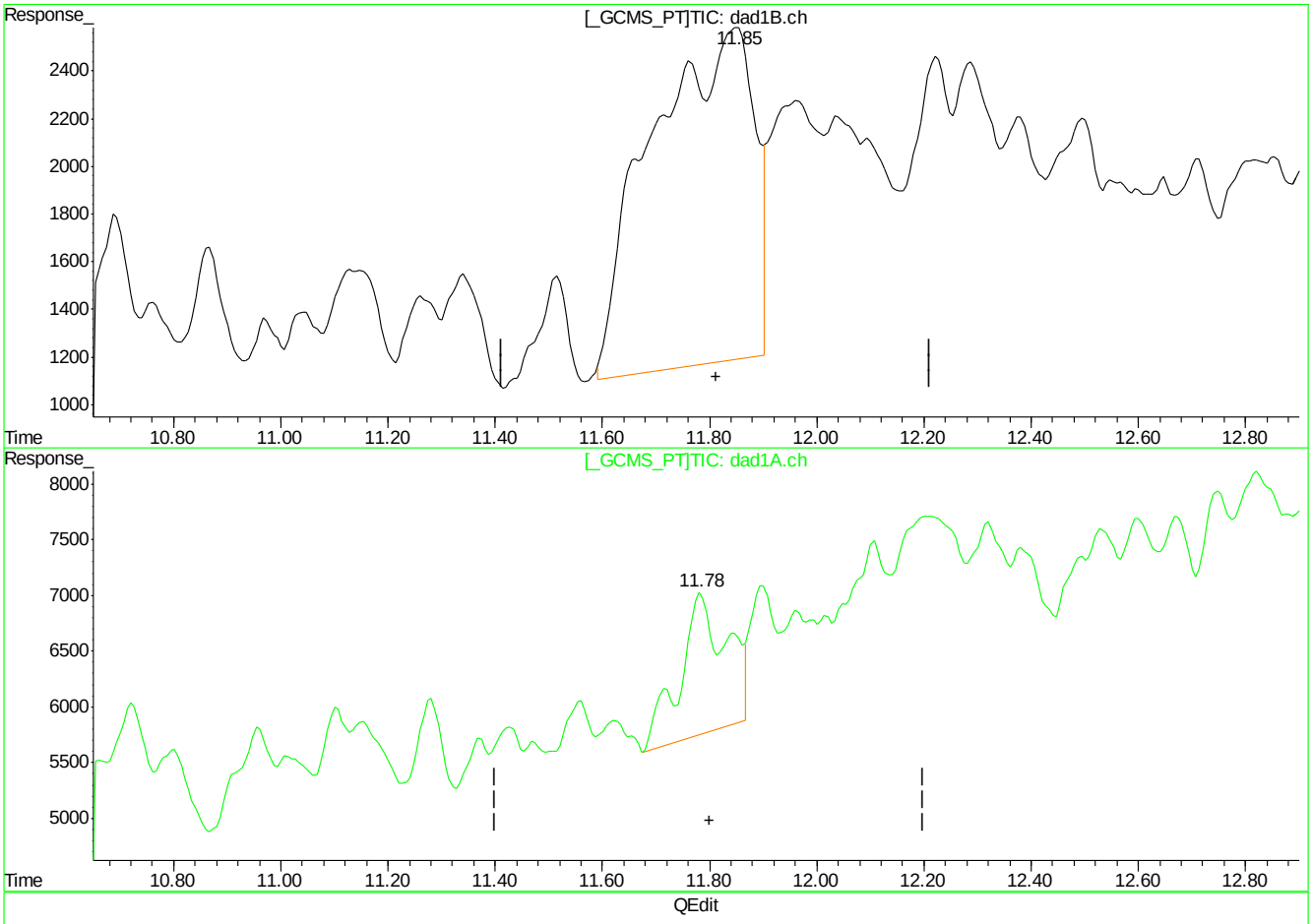
response 106263

(+) = Expected Retention Time
BB088062.D BBB2700_050625.M Tue May 06 12:12:01 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1A.ch
Acq On : 06-May-2025, 10:09:55 Operator: fouads
Sample : ic2700-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:13 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration



(16) 2,4-Dinitrotoluene

11.85min 42.411ppb m

response 188116

(16) 2,4-Dinitrotoluene #2

11.78min 25.106ppb

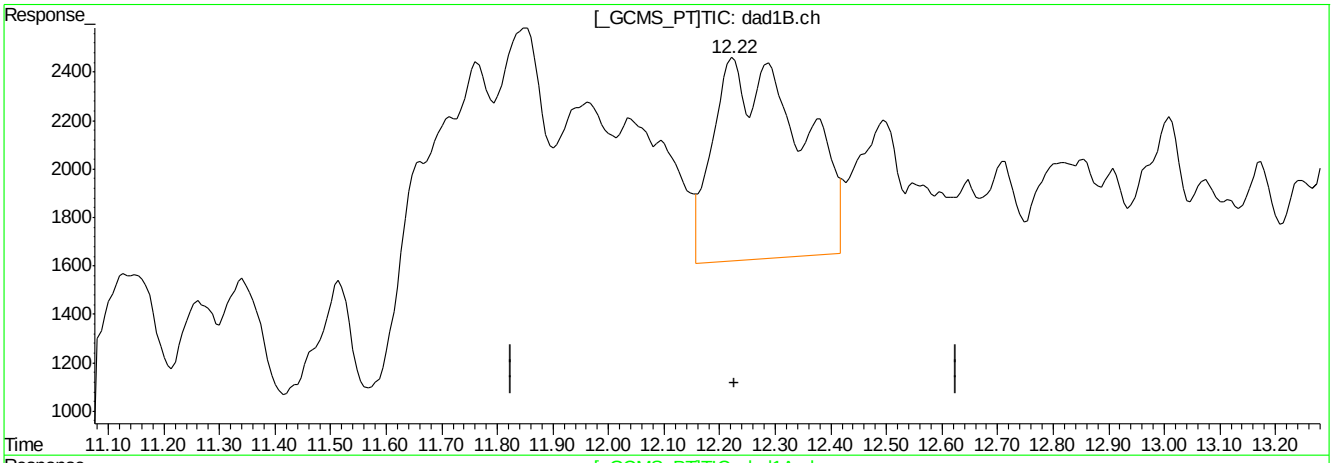
response 74171

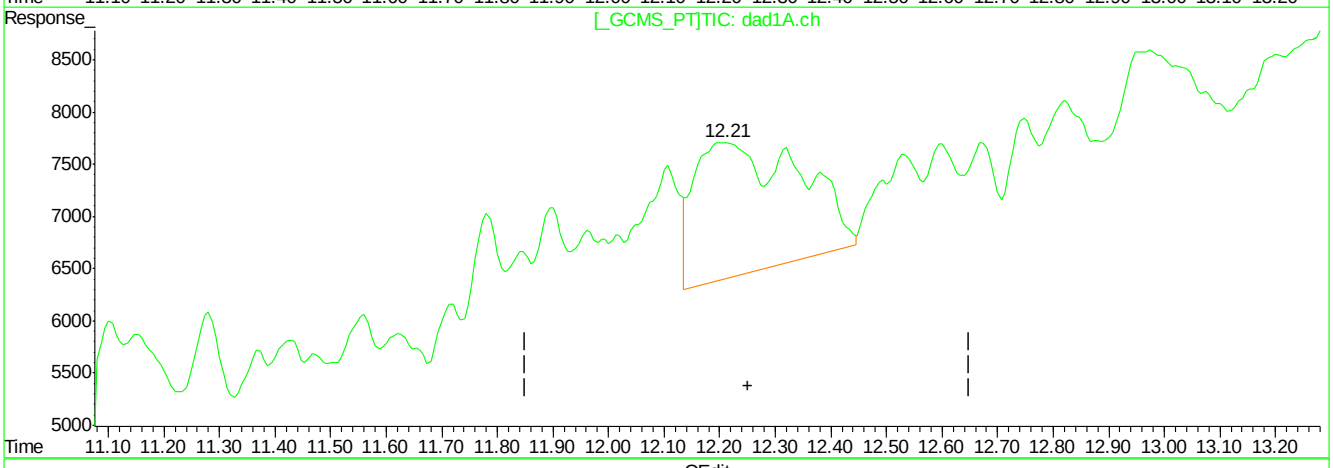
(+) = Expected Retention Time
BB088062.D BBB2700_050625.M Tue May 06 12:16:24 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1A.ch
Acq On : 06-May-2025, 10:09:55 Operator: fouads
Sample : ic2700-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:13 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration





QEdit

(17) 2,6-Dinitrotoluene

12.22min 36.821ppb m

response 90797

(17) 2,6-Dinitrotoluene #2

12.21min 51.932ppb m

response 168022

(+) = Expected Retention Time
BB088062.D BBB2700_050625.M Tue May 06 12:16:51 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1A.ch
Acq On : 06-May-2025, 10:09:55 Operator: fouads
Sample : ic2700-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:13 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration

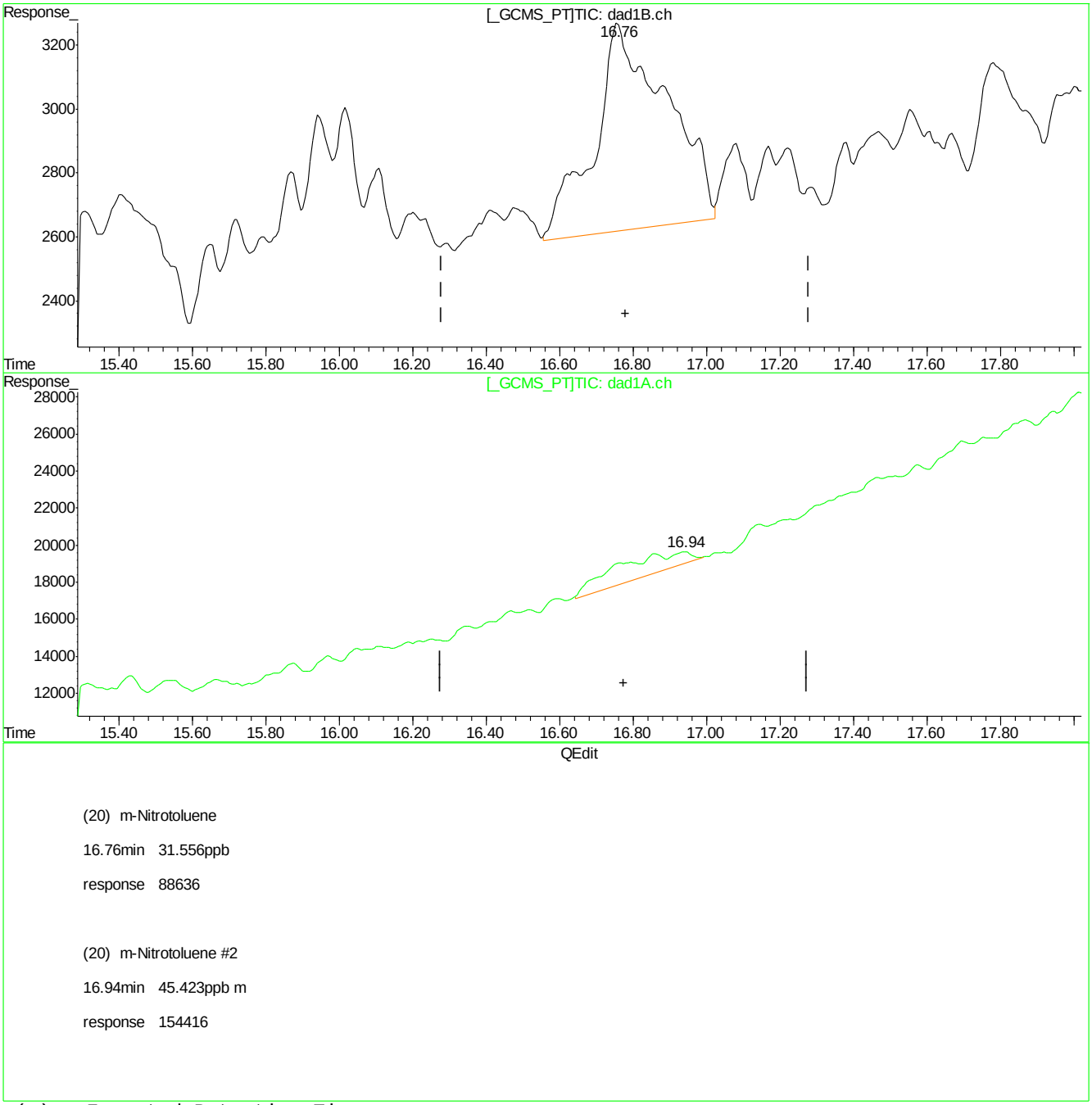


(+) = Expected Retention Time
BB088062.D BBB2700_050625.M Tue May 06 12:17:20 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1A.ch
Acq On : 06-May-2025, 10:09:55 Operator: fouads
Sample : ic2700-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:13 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.76min 31.556ppb

response 88636

(20) m-Nitrotoluene #2

16.94min 45.423ppb m

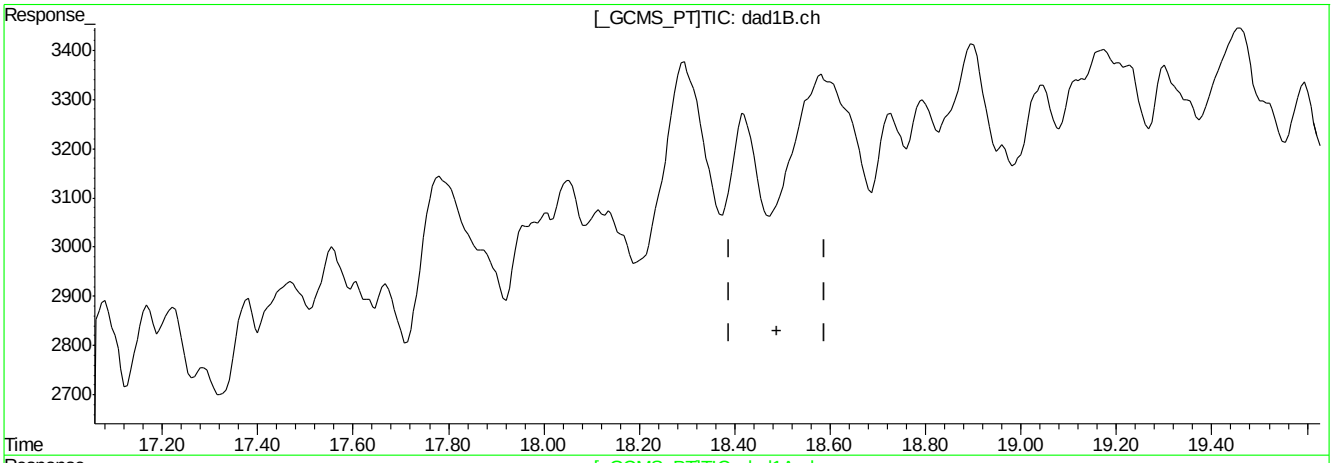
response 154416

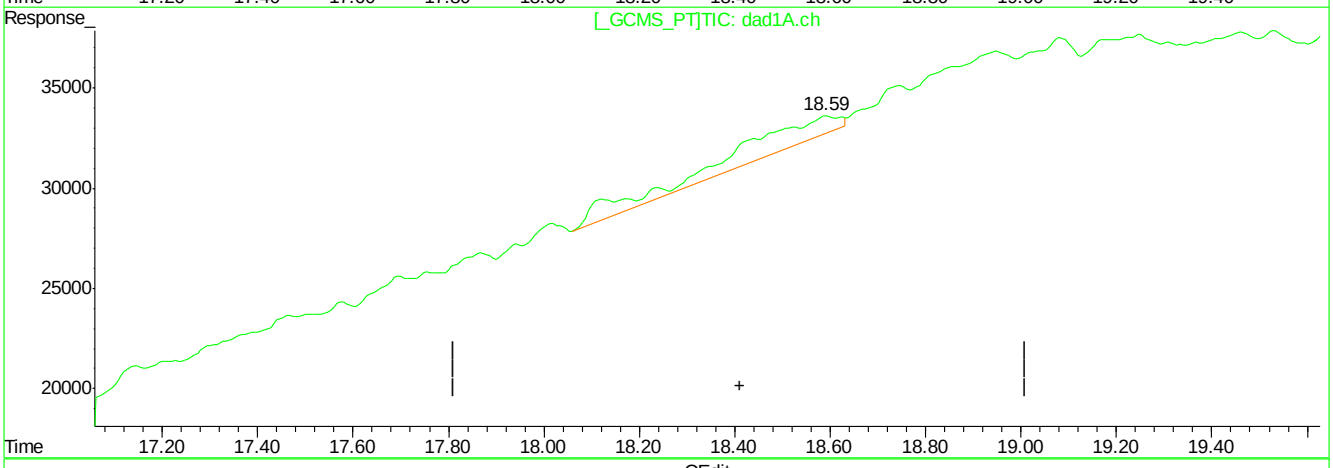
(+) = Expected Retention Time
BB088062.D BBB2700_050625.M Tue May 06 12:17:36 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1A.ch
Acq On : 06-May-2025, 10:09:55 Operator: fouads
Sample : ic2700-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:13 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.59min 213.251ppb

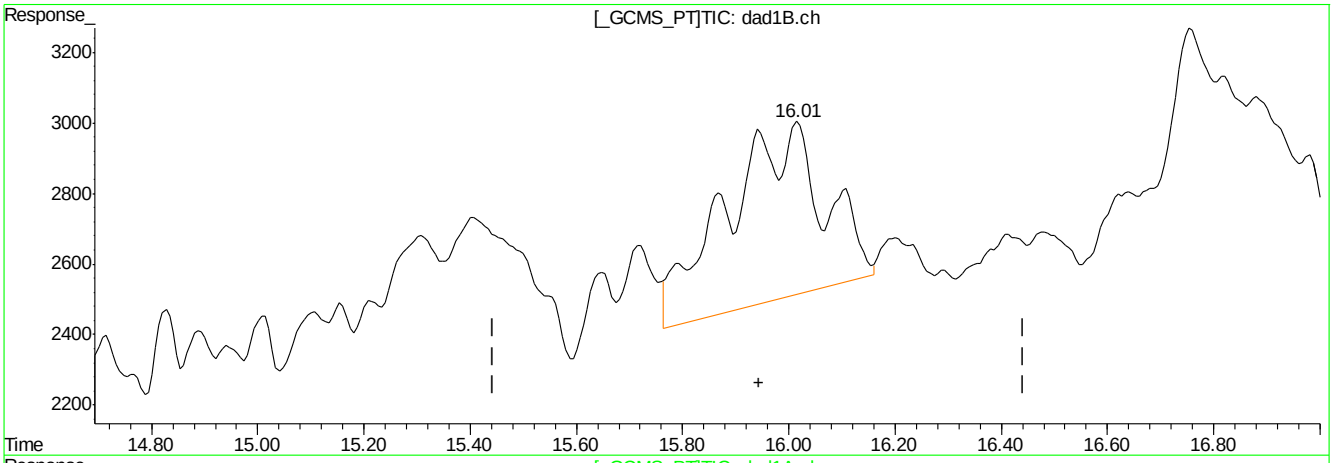
response 224374

(+) = Expected Retention Time
BB088062.D BBB2700_050625.M Tue May 06 12:17:43 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088062.D\dad1A.ch
Acq On : 06-May-2025, 10:09:55 Operator: fouads
Sample : ic2700-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:17 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration



(19) p-Nitrotoluene

16.01min 21.615ppb m

response 64040

(19) p-Nitrotoluene #2

15.97min 34.643ppb m

response 87419

(+) = Expected Retention Time
BB088062.D BBB2700_050625.M Tue May 06 12:19:53 2025

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 05/08/25 17:12

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1A.ch
Acq On : 06-May-2025, 10:37:24 Operator: fouads
Sample : ic2700-50 Inst : G1315B
Misc : op9214,GBB2700,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 06 11:47:26 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.78	10.78	97674	232552	46.632m	62.014m
Spiked Amount	500.000	Range	70 - 136	Recovery	=	9.33%#	12.40%#
	Target Compounds						
1)	TNX	1.35	1.35	244697	395867	40.450	42.629
2)	HMX	1.47	1.46	103788	232019	68.889	55.572m
3)	DNX	1.73	1.73	416615	642539	84.720m	83.246m
4)	MNX	2.32	2.33	440300	699894	95.972m	98.870
5)	RDX	2.95	2.94	159845	207416	86.400	70.166
6)	1,3,5-Trinitrobe	4.69	4.68	249739	373698	64.225	55.542m
7)	1,3-Dinitrobenze	5.92	5.95	356810	249988	71.038	72.442m
8)	3,5-Dinitroanili	6.29	6.29	226114	454651	58.413m	69.897m
9)	Nitrobenzene	7.53	7.54	218753	220419	75.046	77.446m
10)	Nitroglycerin	0.00	8.90	0	60196	N.D. d	49.439
11)	Tetryl	9.30	9.40	181615	322236	68.537m	75.853m
12)	2,4,6-Trinitroto	9.82	9.76	252075	227344	74.198	55.323
13)	2-Amino-4,6-Dini	10.23	10.23	204237	314621	64.732m	66.441m
14)	4-Amino-2,6-Dini	10.78	10.78	110790	239148	48.931m	52.530m
16)	2,4-Dinitrotolue	11.93	11.87	289214	258387	65.204m	87.460m
17)	2,6-Dinitrotolue	12.25	12.33	160765	279832	65.196m	86.491m
18)	o-Nitrotoluene	15.41	15.39	166610	244511	83.972	87.182m
19)	p-Nitrotoluene	15.97	16.01	212906	185705	71.861	73.592m
20)	m-Nitrotoluene	16.81	16.83	226503	299997	80.638	88.248
21)	PETN	0.00	18.43	0	48415	N.D. d	46.015m

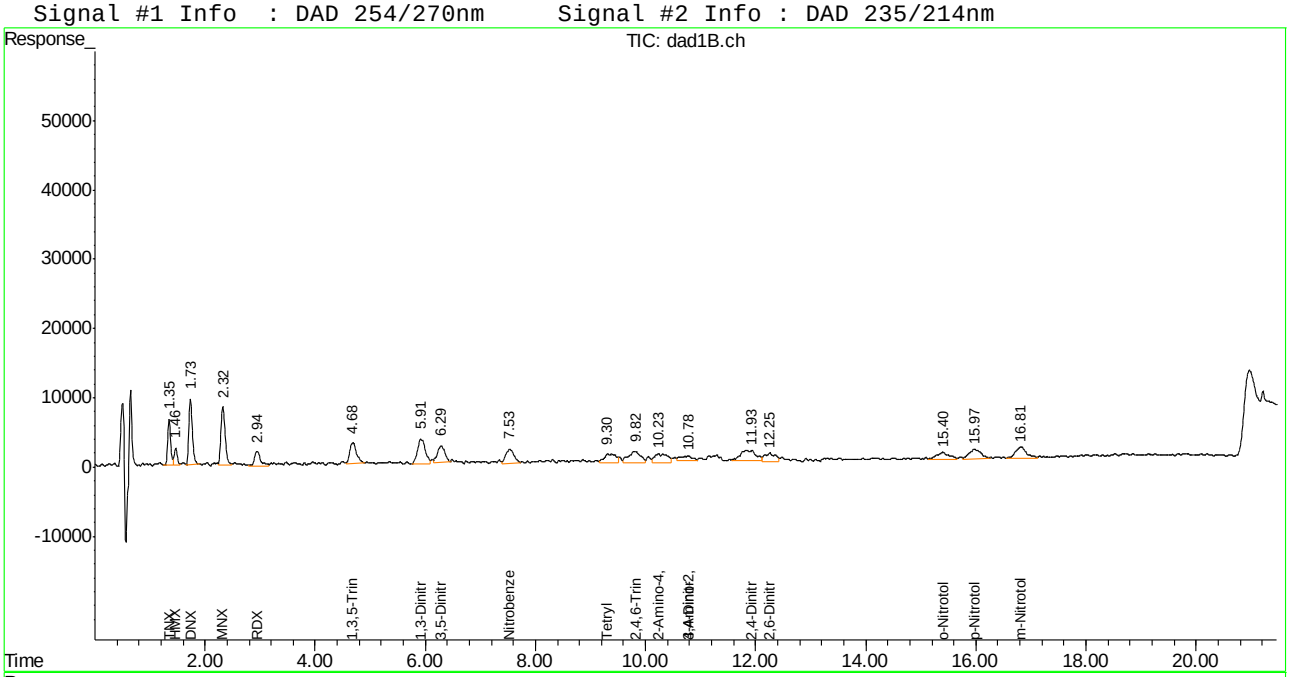
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088063.D BBB2700_050625.M Thu May 08 11:31:01 2025 Page 1

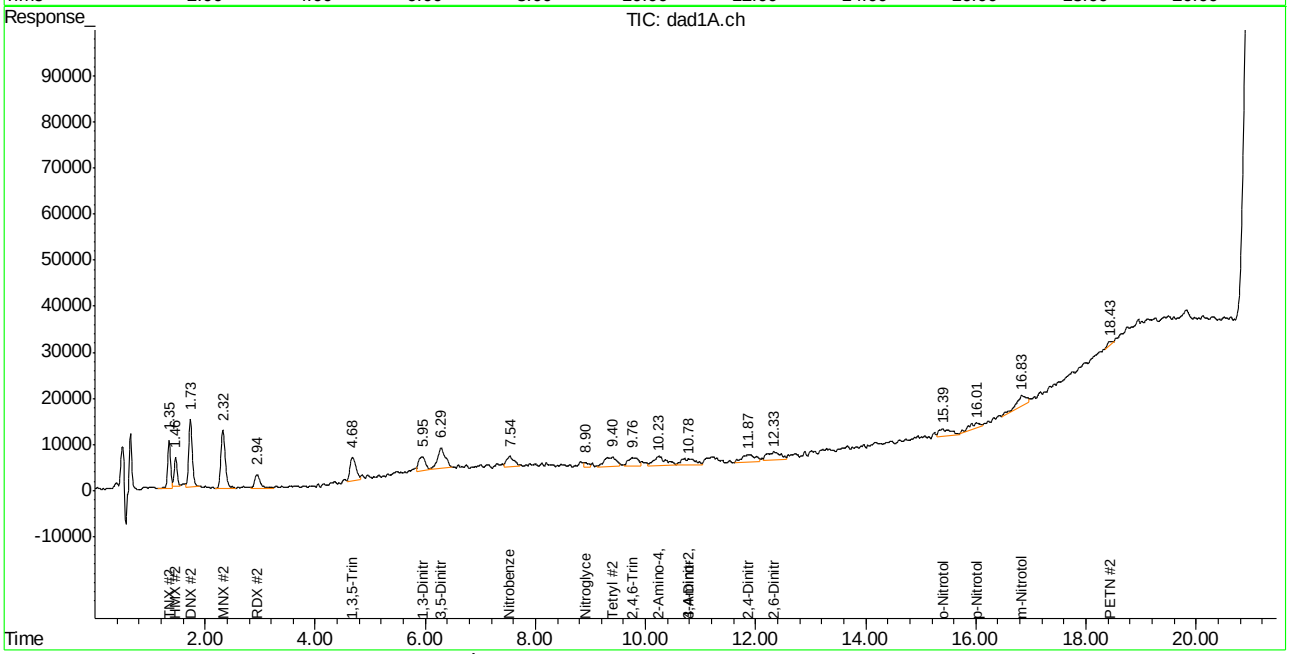
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1A.ch
Acq On : 06-May-2025, 10:37:24 Operator: fouads
Sample : ic2700-50 Inst : G1315B
Misc : op9214,GBB2700,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 13:36 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

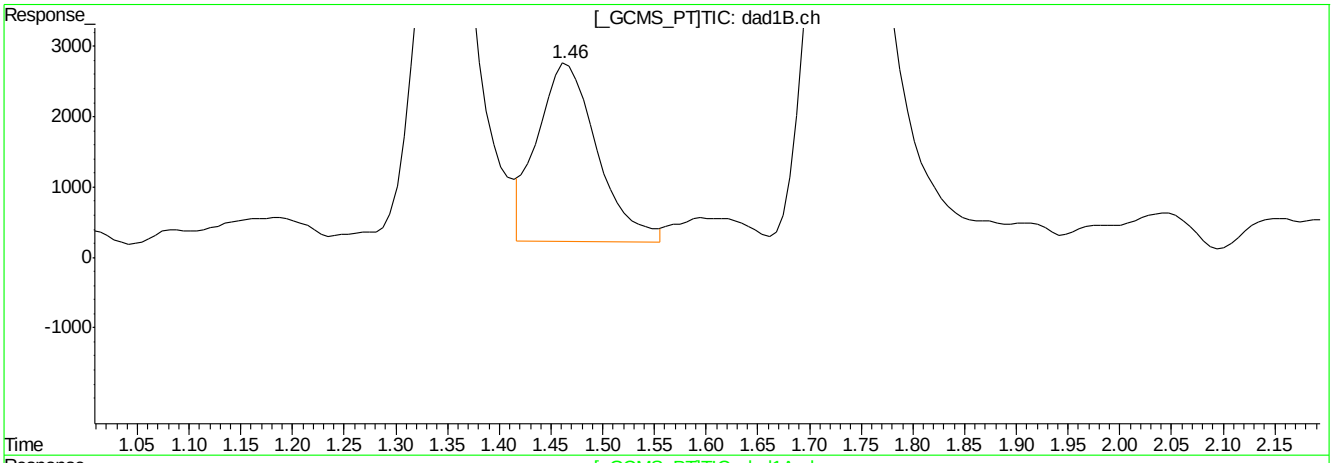
Sample Number: GBB2700-IC2700
Lab FileID: BB088063.D
Injection Time: 05/06/25 10:37
Method: SW846 8330A
Analyst approved: 05/08/25 12:00 Fouad Sekkar
Supervisor approved: 05/08/25 17:12 William Hustedde

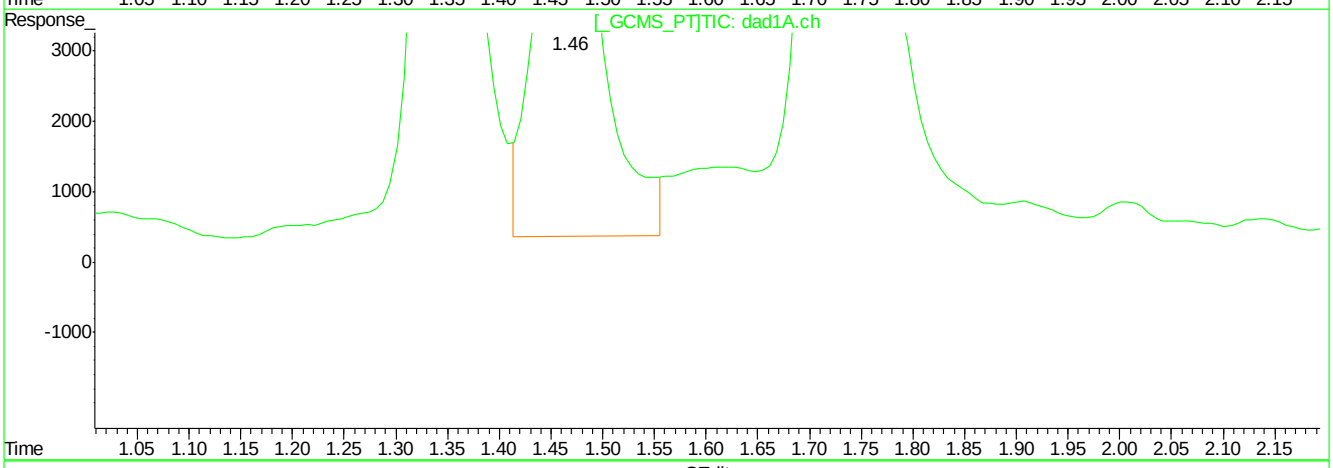
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	2	1.46	Missed peak
DNX		1	1.73	Missed peak
DNX		2	1.73	Missed peak
MNX		1	2.32	Missed peak
1,3,5-Trinitrobenzene	99-35-4	2	4.68	Missed peak
1,3-Dinitrobenzene	99-65-0	2	5.95	Missed peak
3,5-Dinitroaniline	618-87-1	1	6.29	Missed peak
3,5-Dinitroaniline	618-87-1	2	6.29	Missed peak
Nitrobenzene	98-95-3	2	7.54	Missed peak
Tetryl	479-45-8	1	9.30	Missed peak
Tetryl	479-45-8	2	9.40	Missed peak
2-amino-4,6-Dinitrotoluene	35572-78-2	1	10.23	Missed peak
2-amino-4,6-Dinitrotoluene	35572-78-2	2	10.23	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	1	10.78	Missed peak
3,4-Dinitrotoluene	610-39-9	1	10.78	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	2	10.78	Missed peak
3,4-Dinitrotoluene	610-39-9	2	10.78	Missed peak
2,4-Dinitrotoluene	121-14-2	2	11.87	Missed peak
2,4-Dinitrotoluene	121-14-2	1	11.93	Missed peak
2,6-Dinitrotoluene	606-20-2	1	12.25	Missed peak
2,6-Dinitrotoluene	606-20-2	2	12.33	Missed peak
o-Nitrotoluene	88-72-2	2	15.39	Missed peak
p-Nitrotoluene	99-99-0	2	16.01	Missed peak
PETN	78-11-5	2	18.43	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1A.ch
Acq On : 06-May-2025, 10:37:24 Operator: fouads
Sample : ic2700-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

1.47min 68.889ppb

response 103788

(2) HMX #2

1.47min 65.914ppb

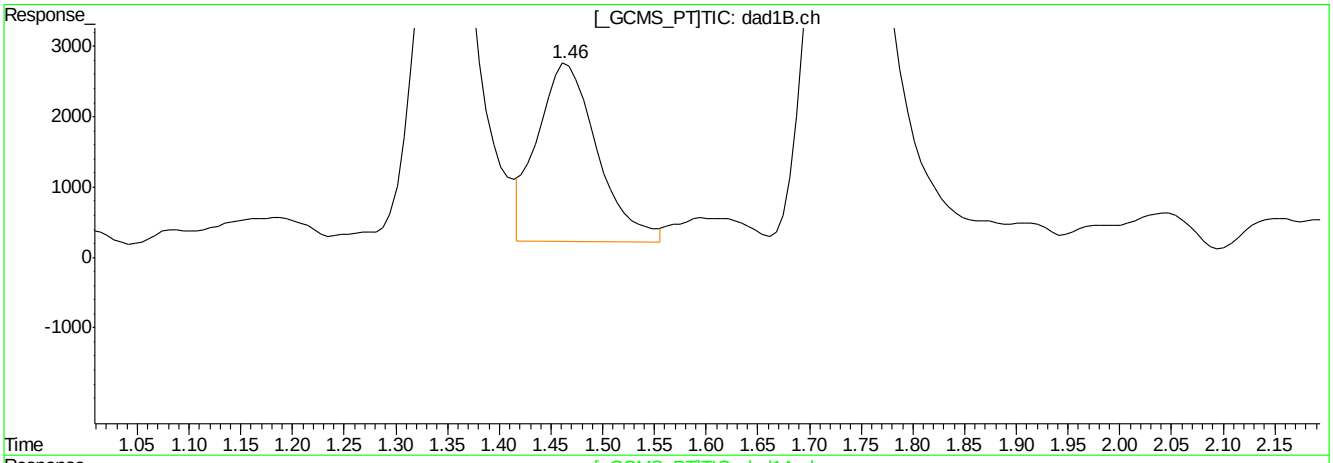
response 275199

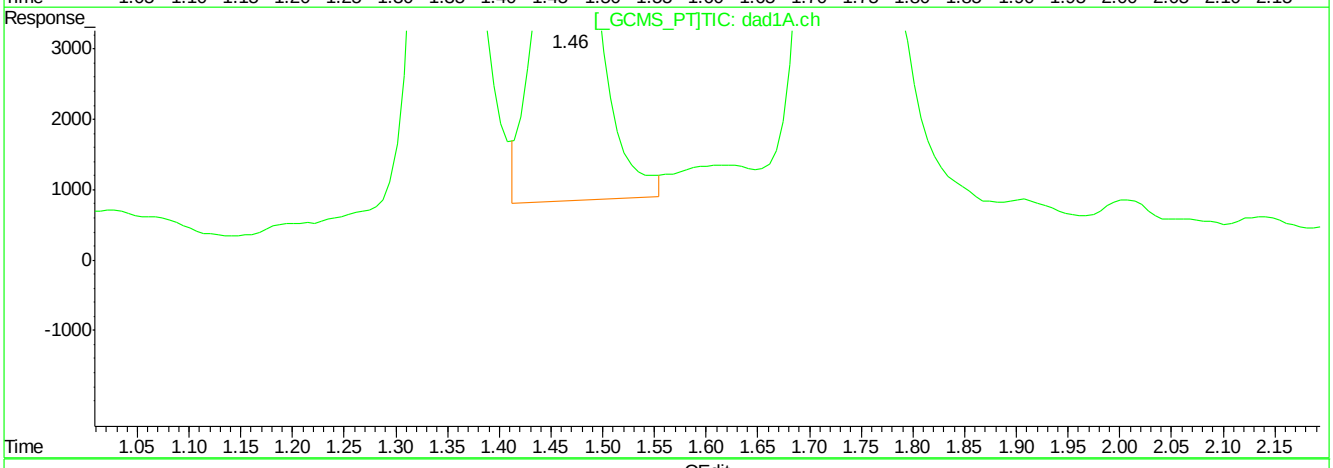
(+) = Expected Retention Time
BB088063.D BBB2700_050625.M Tue May 06 12:20:33 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1A.ch
Acq On : 06-May-2025, 10:37:24 Operator: fouads
Sample : ic2700-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

1.47min 68.889ppb

response 103788

(2) HMX #2

1.46min 55.572ppb m

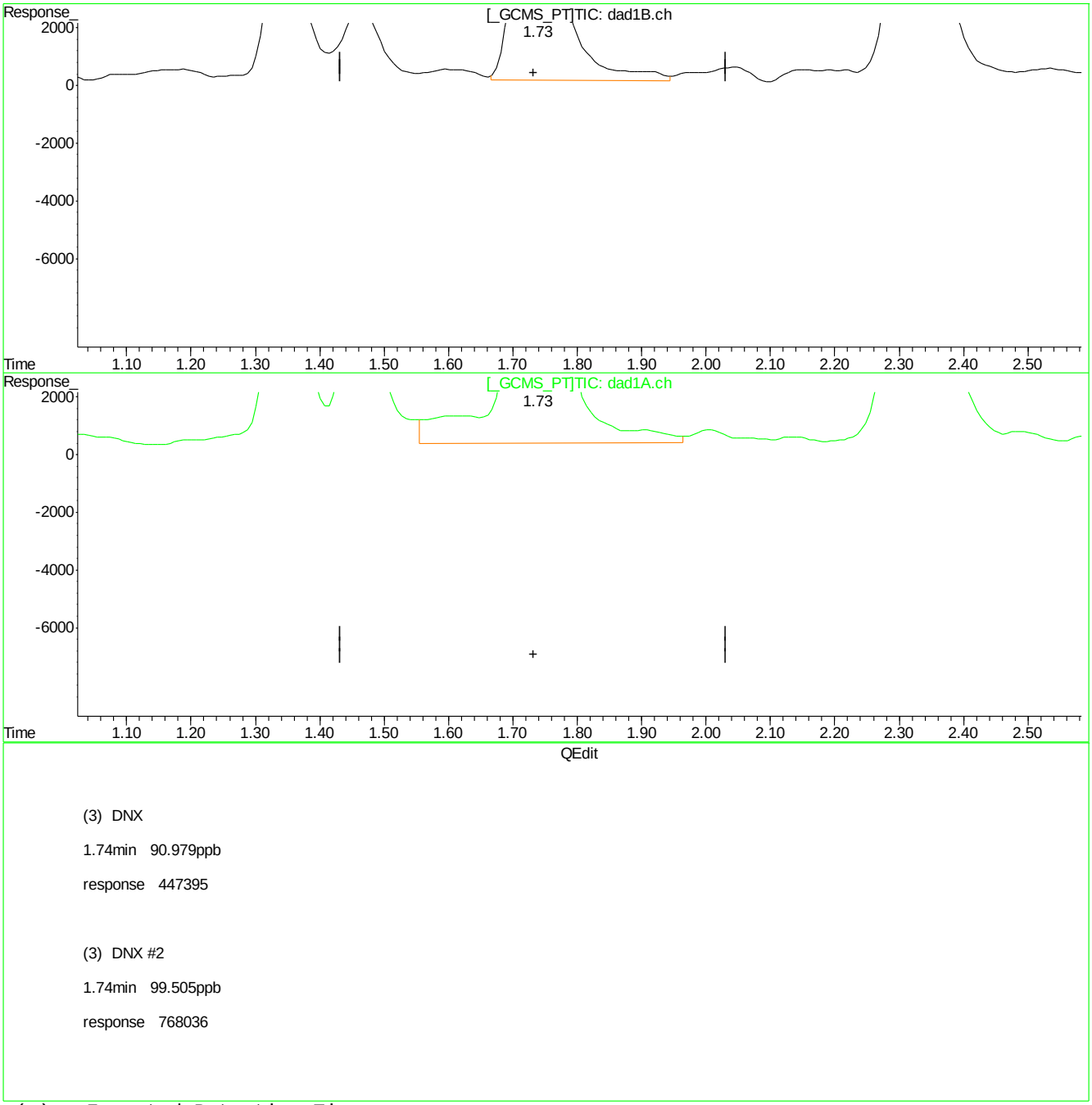
response 232019

(+) = Expected Retention Time
BB088063.D BBB2700_050625.M Tue May 06 12:20:39 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1A.ch
Acq On : 06-May-2025, 10:37:24 Operator: fouads
Sample : ic2700-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration



(3) DNX

1.74min 90.979ppb

response 447395

(3) DNX #2

1.74min 99.505ppb

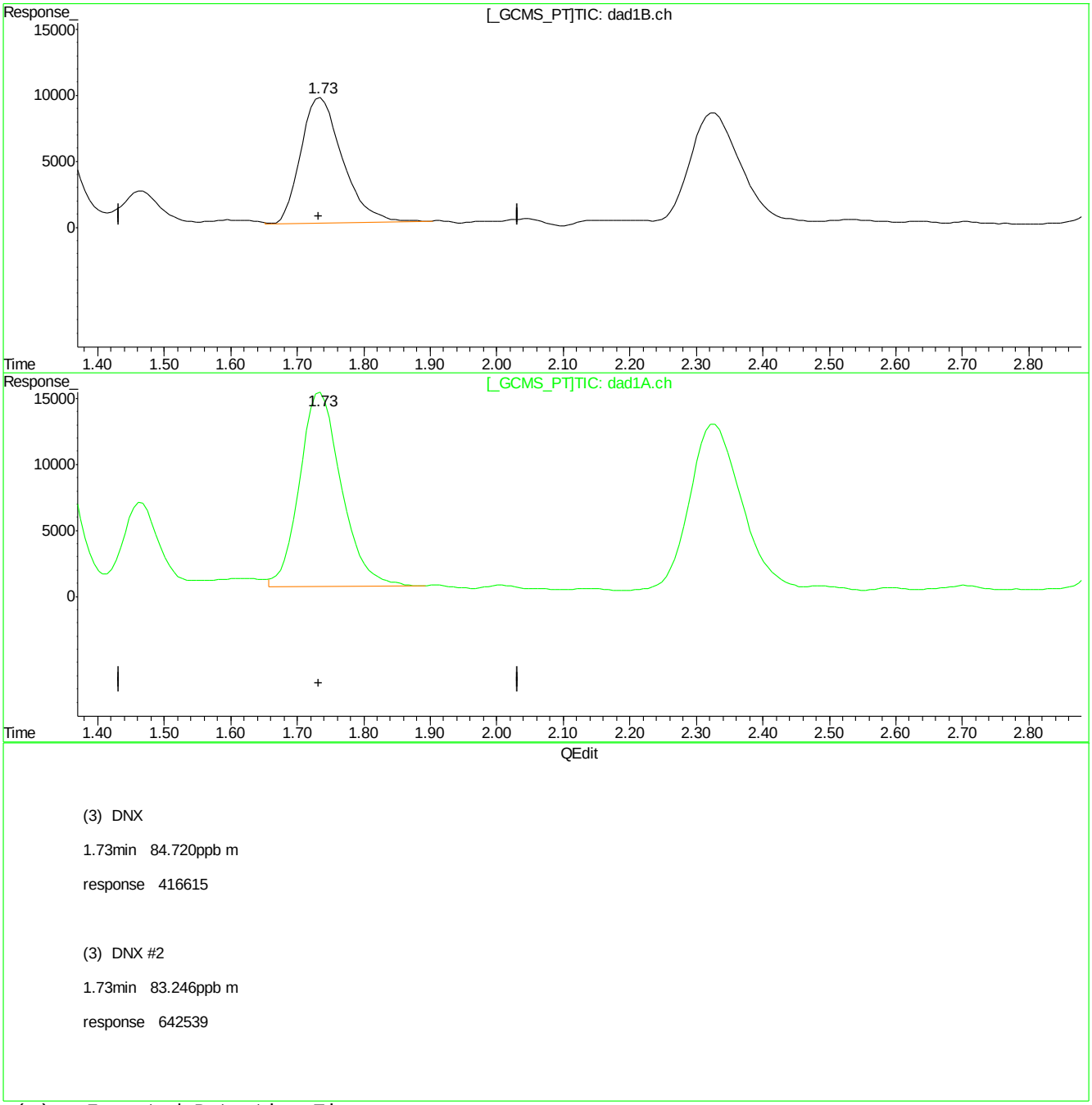
response 768036

(+) = Expected Retention Time
BB088063.D BBB2700_050625.M Tue May 06 12:20:50 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1A.ch
Acq On : 06-May-2025, 10:37:24 Operator: fouads
Sample : ic2700-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration



(3) DNX

1.73min 84.720ppb m

response 416615

(3) DNX #2

1.73min 83.246ppb m

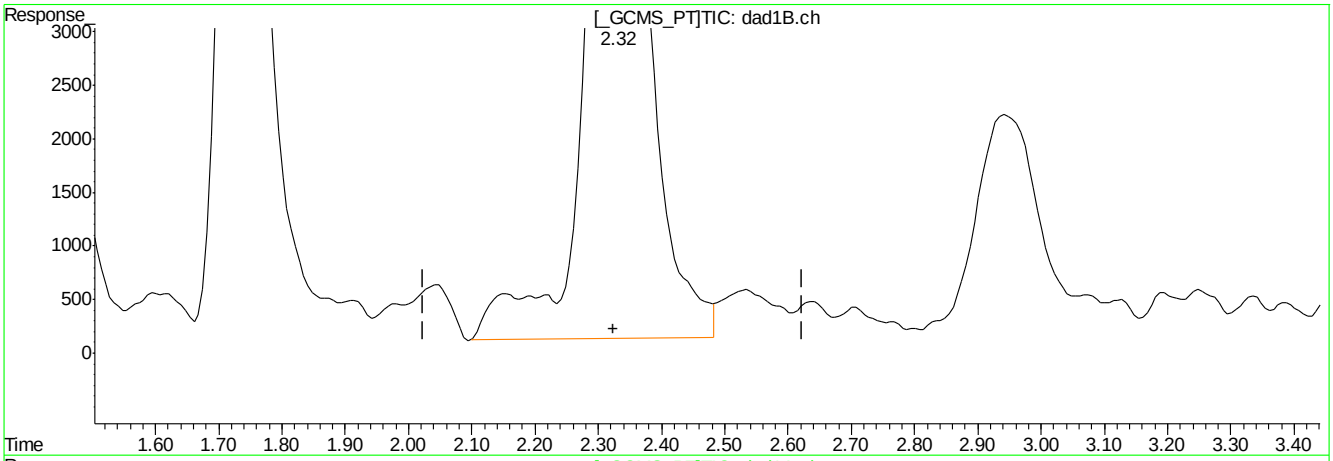
response 642539

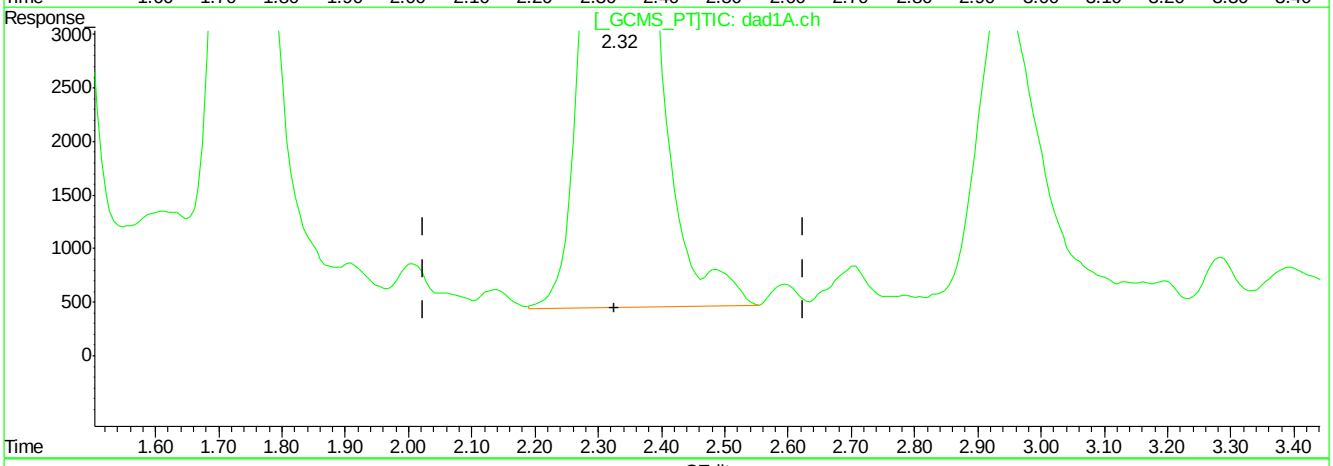
(+) = Expected Retention Time
BB088063.D BBB2700_050625.M Tue May 06 12:21:12 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1A.ch
Acq On : 06-May-2025, 10:37:24 Operator: fouads
Sample : ic2700-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration





QEdit

(4) MNX

2.33min 108.657ppb

response 498494

(4) MNX #2

2.33min 98.870ppb

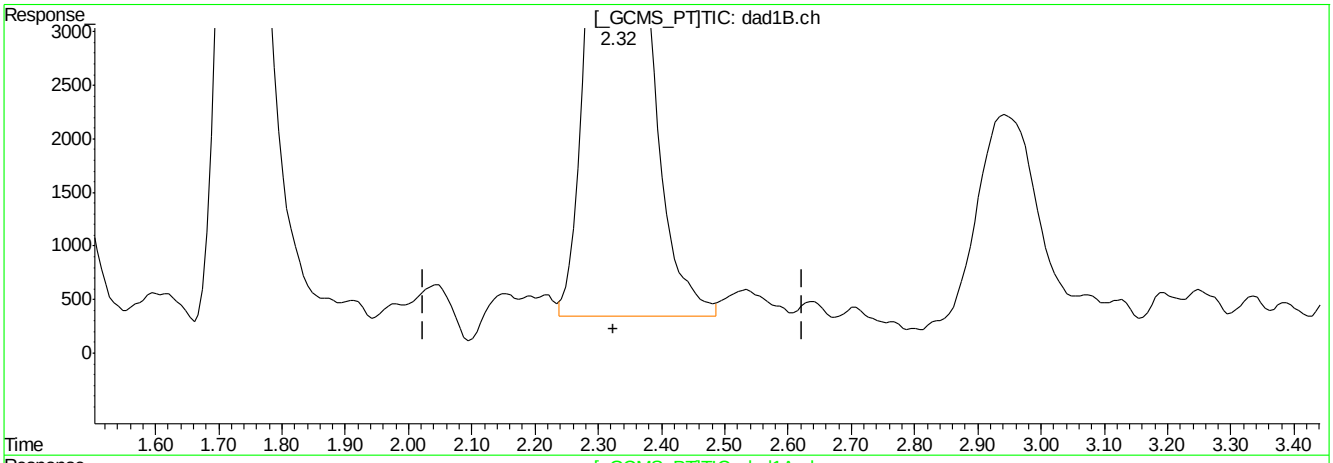
response 699894

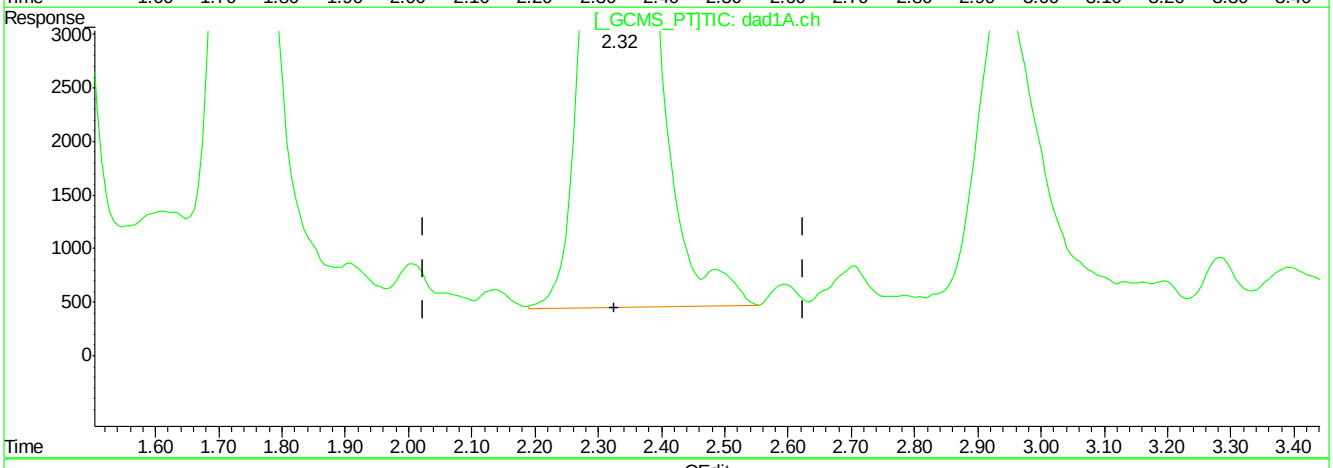
(+) = Expected Retention Time
BB088063.D BBB2700_050625.M Tue May 06 12:21:19 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1A.ch
Acq On : 06-May-2025, 10:37:24 Operator: fouads
Sample : ic2700-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration





QEdit

(4) MNX

2.32min 95.972ppb m

response 440300

(4) MNX #2

2.33min 98.870ppb

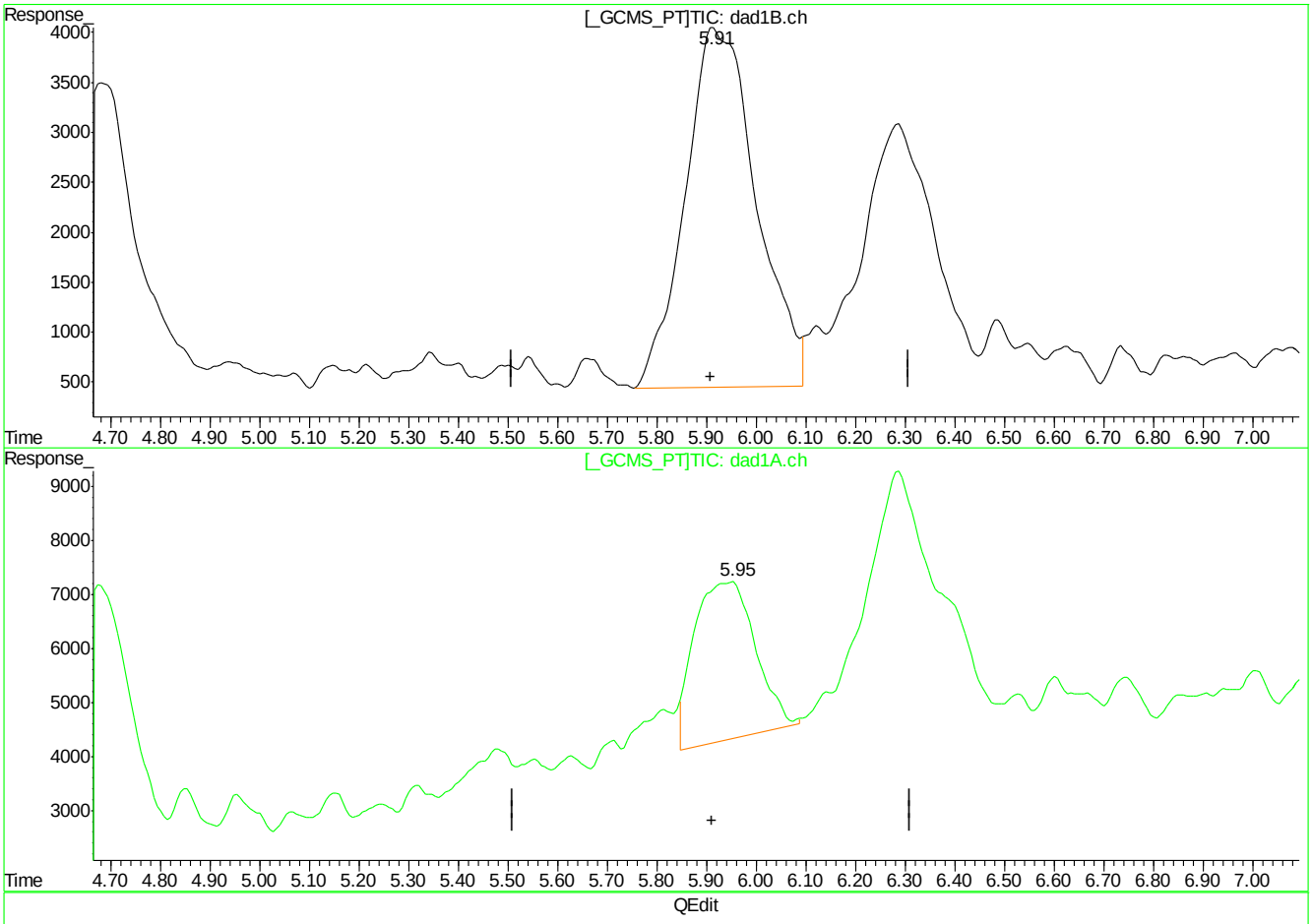
response 699894

(+) = Expected Retention Time
BB088063.D BBB2700_050625.M Tue May 06 12:21:24 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1A.ch
Acq On : 06-May-2025, 10:37:24 Operator: fouads
Sample : ic2700-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

5.92min 71.038ppb

response 356810

(7) 1,3-Dinitrobenzene #2

5.95min 72.442ppb m

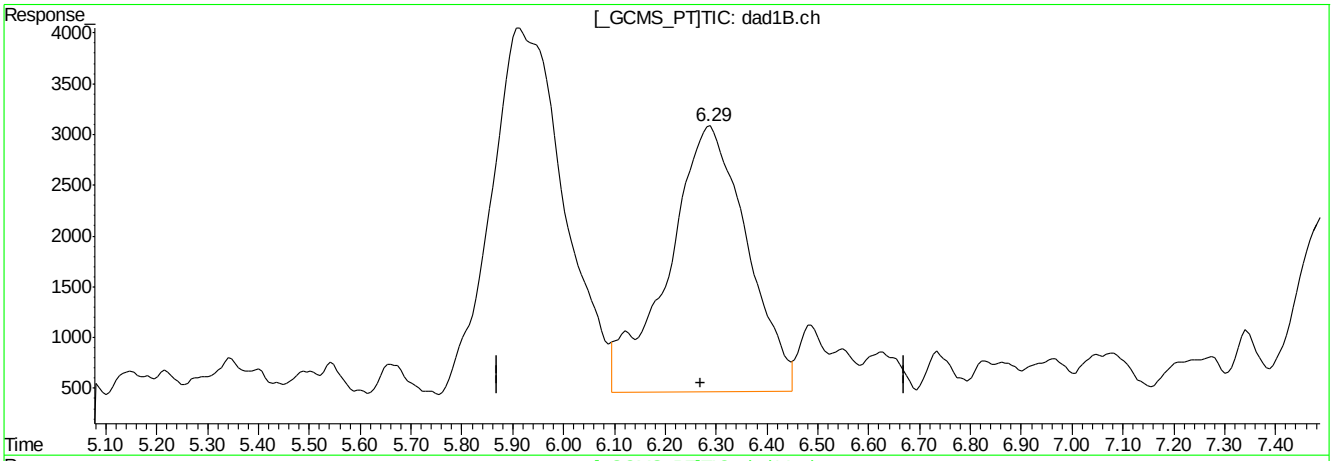
response 249988

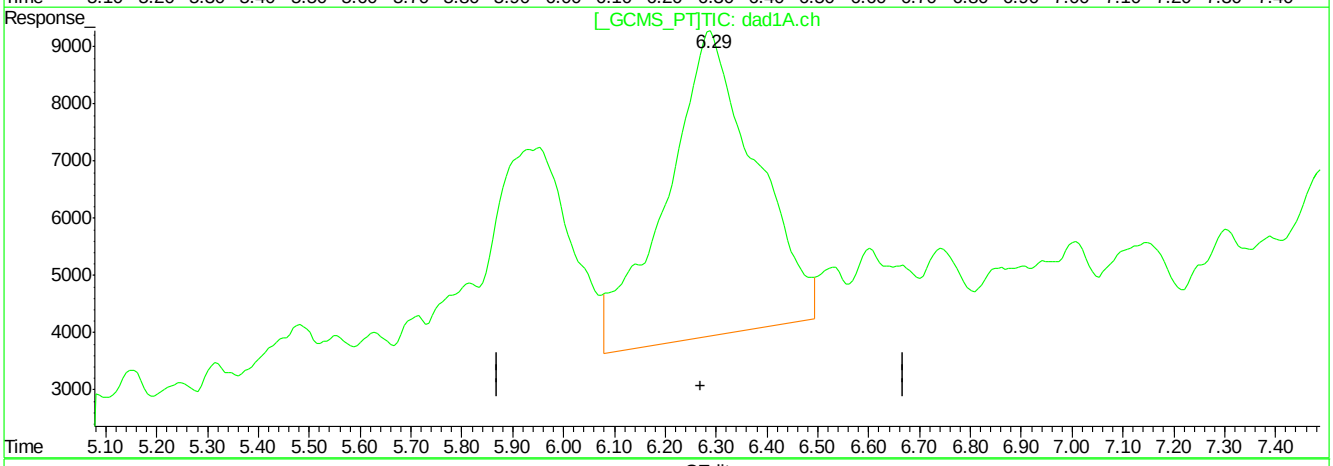
(+) = Expected Retention Time
BB088063.D BBB2700_050625.M Tue May 06 12:22:07 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1A.ch
Acq On : 06-May-2025, 10:37:24 Operator: fouads
Sample : ic2700-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.29min 72.328ppb

response 279979

(8) 3,5-Dinitroaniline #2

6.29min 99.750ppb

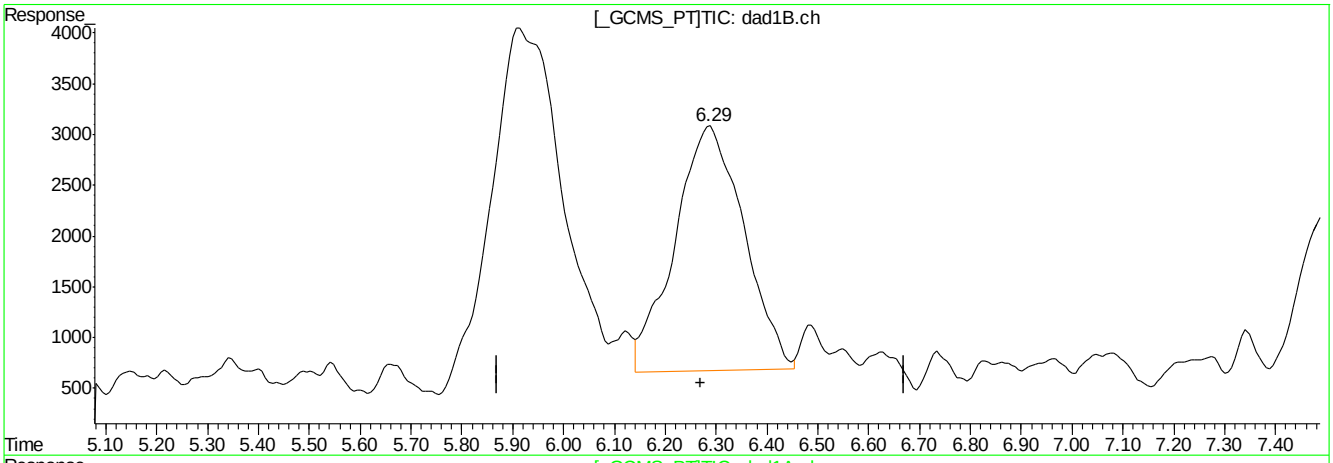
response 648828

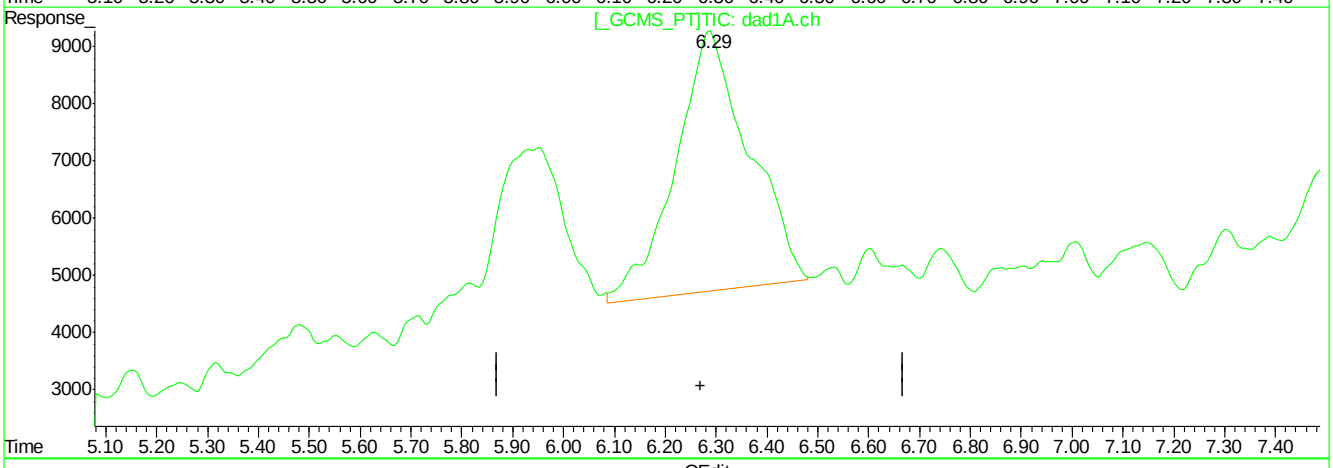
(+) = Expected Retention Time
BB088063.D BBB2700_050625.M Tue May 06 12:22:13 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1A.ch
Acq On : 06-May-2025, 10:37:24 Operator: fouads
Sample : ic2700-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.29min 58.413ppb m

response 226114

(8) 3,5-Dinitroaniline #2

6.29min 69.897ppb m

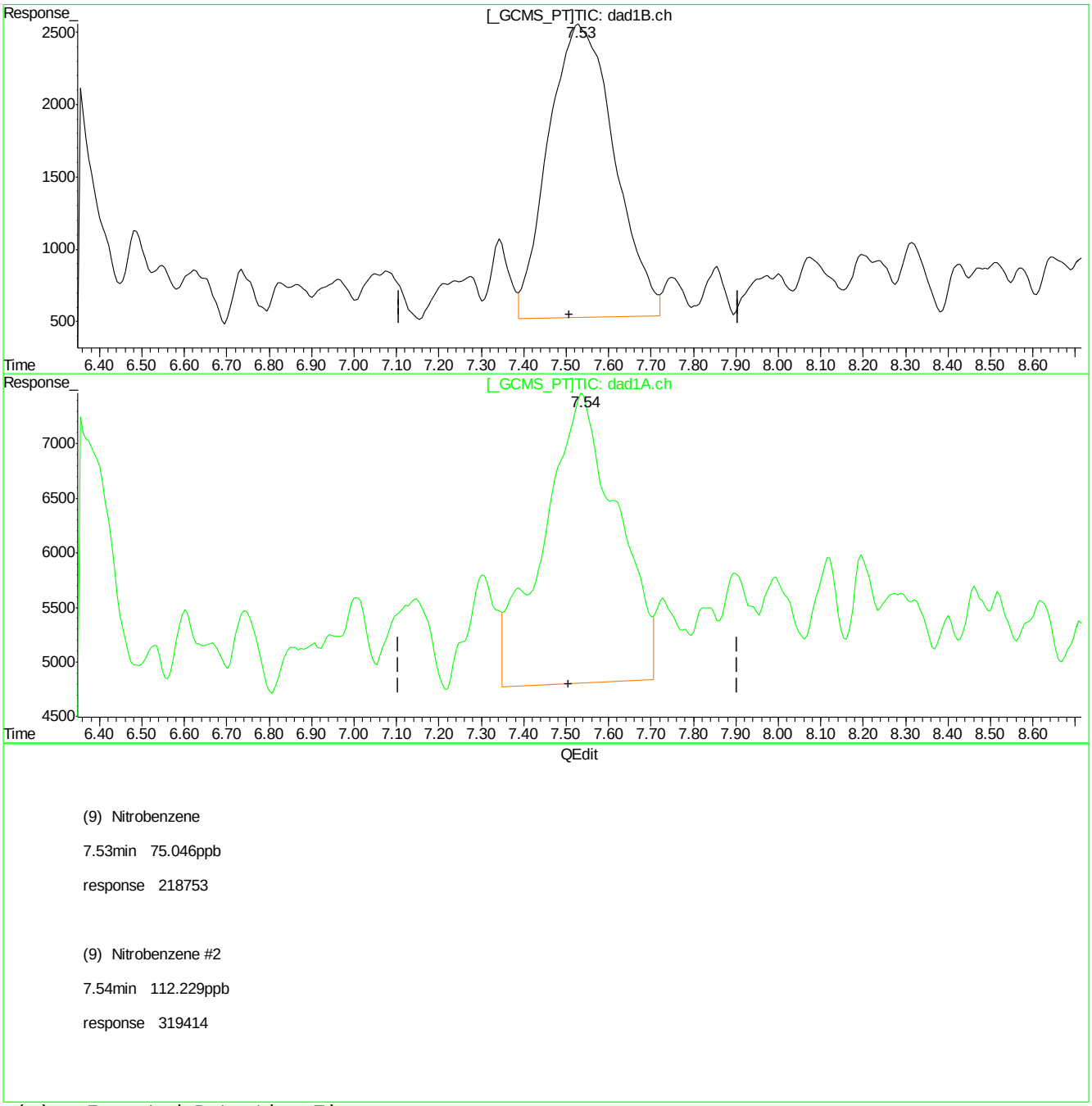
response 454651

(+) = Expected Retention Time
BB088063.D BBB2700_050625.M Tue May 06 12:22:23 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1A.ch
Acq On : 06-May-2025, 10:37:24 Operator: fouads
Sample : ic2700-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.53min 75.046ppb

response 218753

(9) Nitrobenzene #2

7.54min 112.229ppb

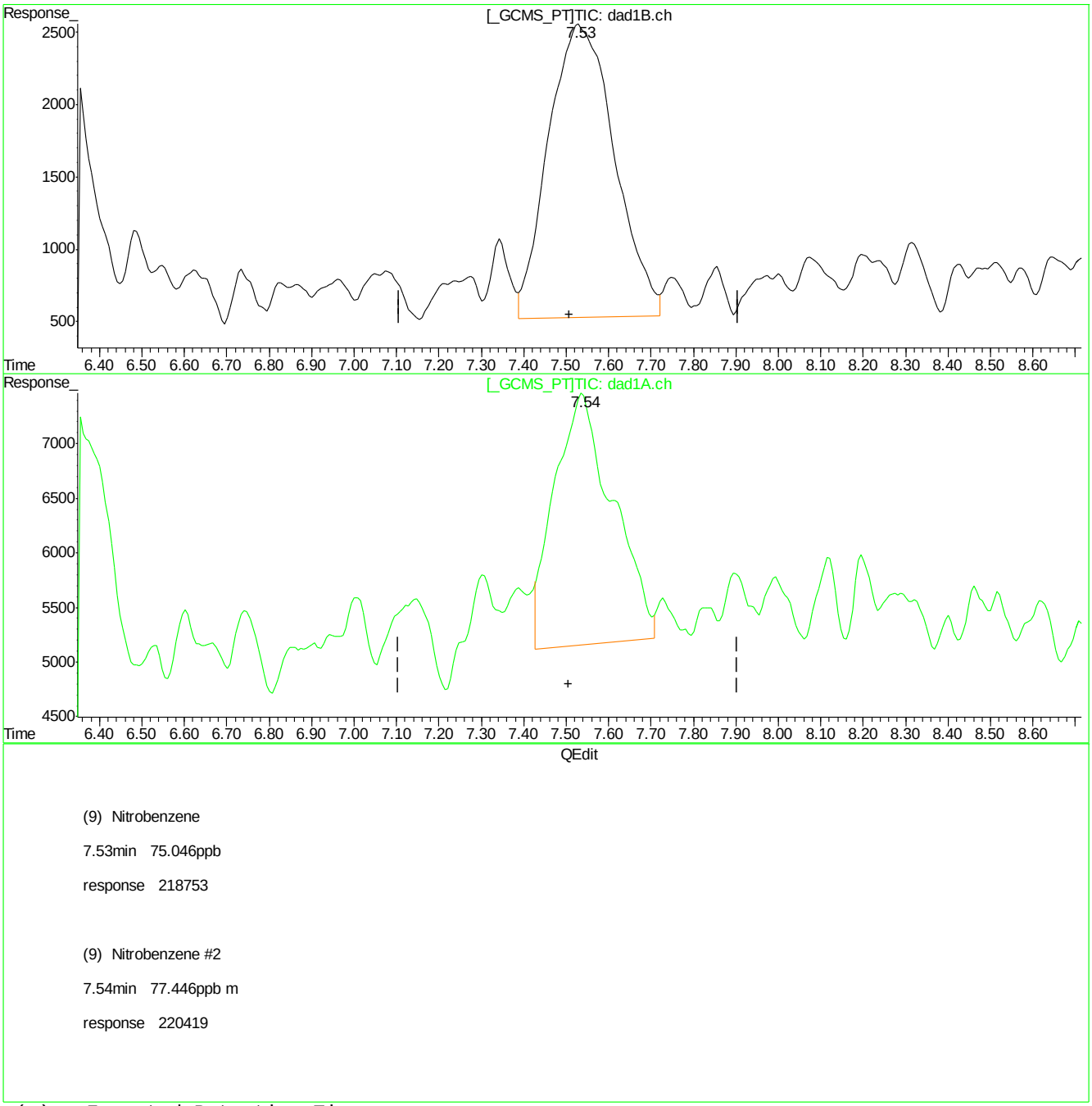
response 319414

(+) = Expected Retention Time
BB088063.D BBB2700_050625.M Tue May 06 12:22:29 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1A.ch
Acq On : 06-May-2025, 10:37:24 Operator: fouads
Sample : ic2700-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration



(9) Nitrobenzene

7.53min 75.046ppb

response 218753

(9) Nitrobenzene #2

7.54min 77.446ppb m

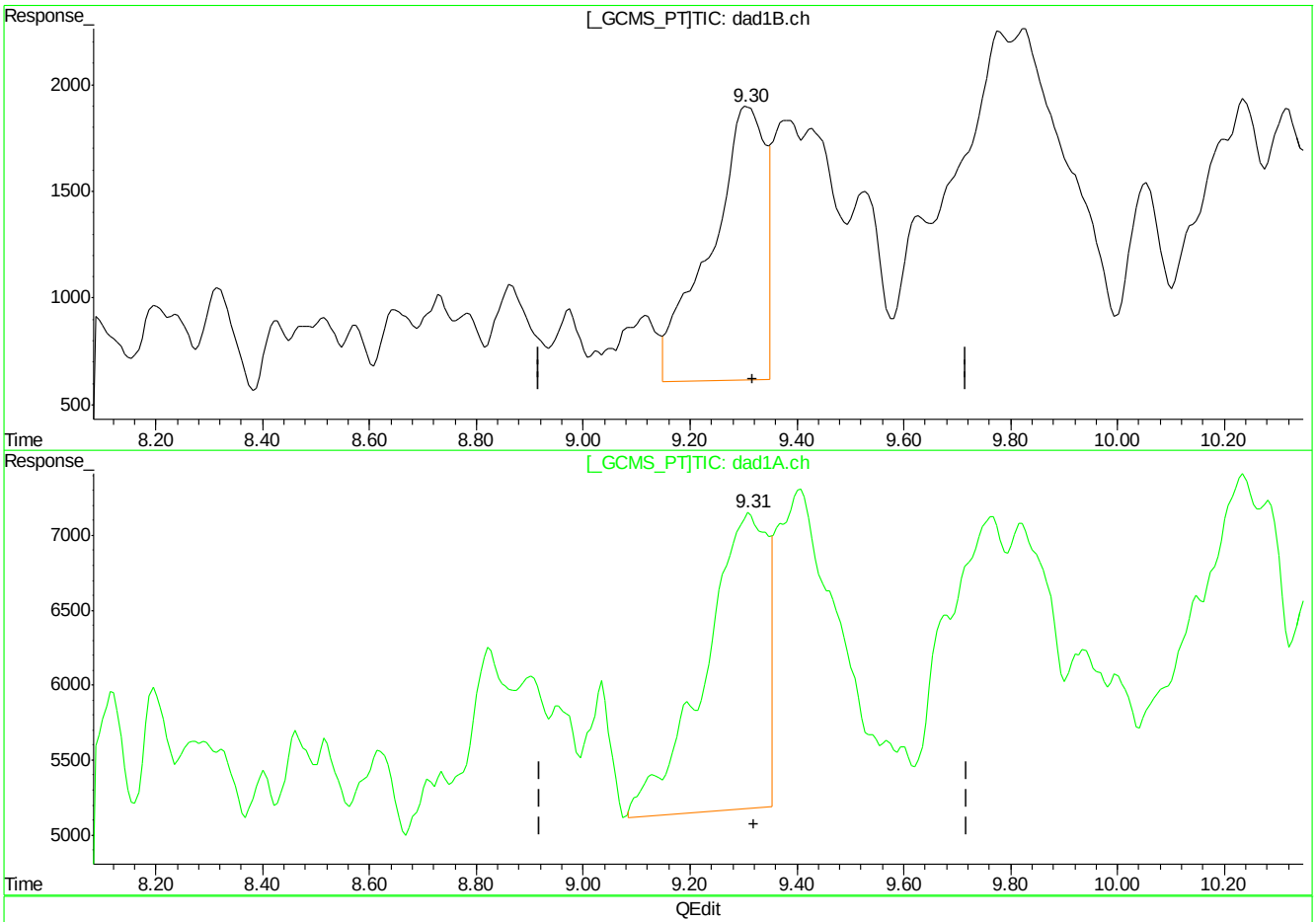
response 220419

(+) = Expected Retention Time
BB088063.D BBB2700_050625.M Tue May 06 12:22:36 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1A.ch
Acq On : 06-May-2025, 10:37:24 Operator: fouads
Sample : ic2700-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration



QEdit

(11) Tetryl

9.31min 33.694ppb

response 89284

(11) Tetryl #2

9.31min 37.173ppb

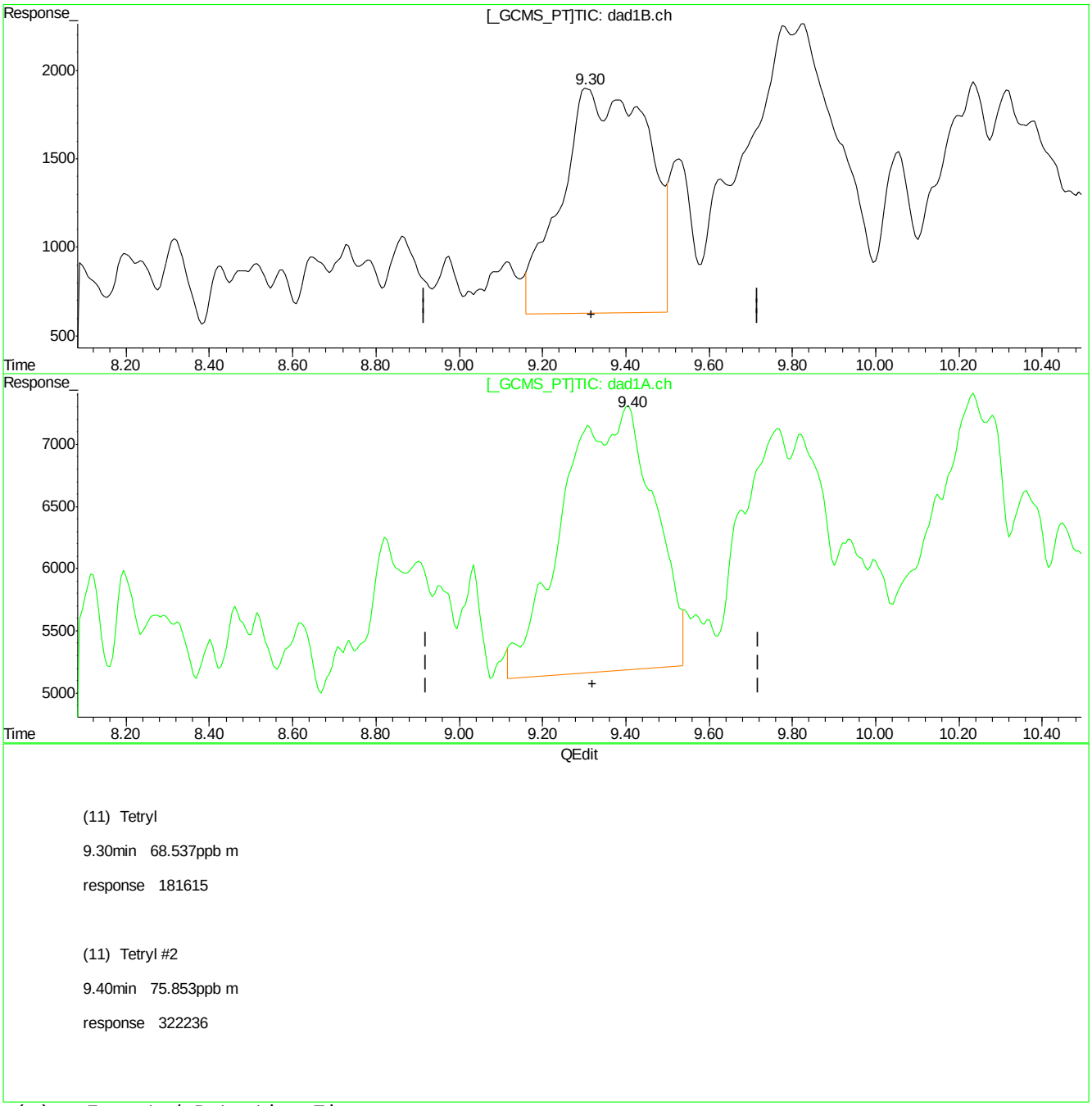
response 157916

(+) = Expected Retention Time
BB088063.D BBB2700_050625.M Tue May 06 12:23:01 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1A.ch
Acq On : 06-May-2025, 10:37:24 Operator: fouads
Sample : ic2700-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration



(11) Tetryl

9.30min 68.537ppb m

response 181615

(11) Tetryl #2

9.40min 75.853ppb m

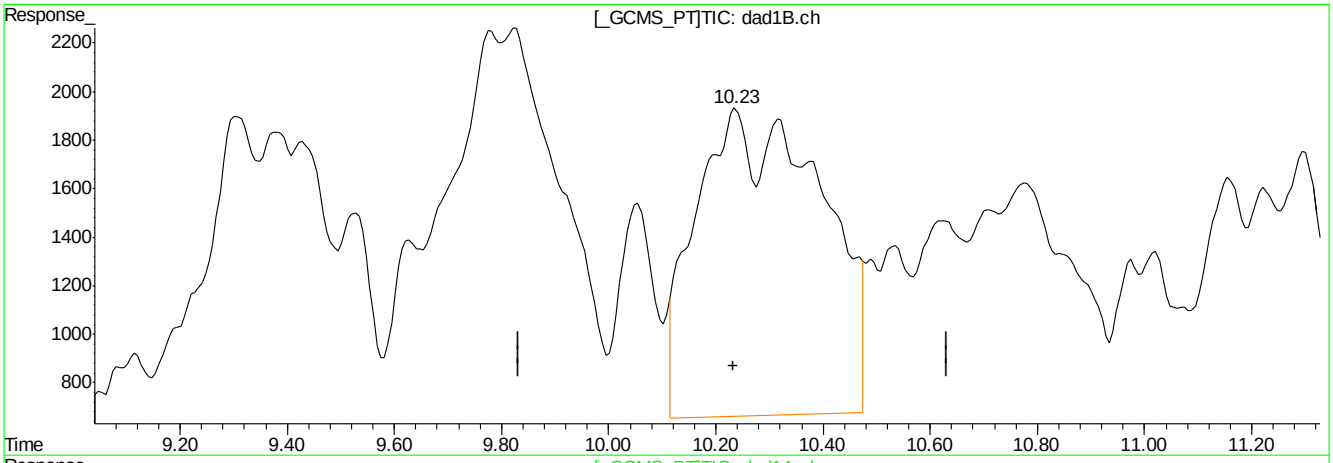
response 322236

(+) = Expected Retention Time
BB088063.D BBB2700_050625.M Tue May 06 12:23:22 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1A.ch
Acq On : 06-May-2025, 10:37:24 Operator: fouads
Sample : ic2700-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

10.23min 64.732ppb m

response 204237

(13) 2-Amino-4,6-Dinitrotoluene #2

10.23min 66.441ppb m

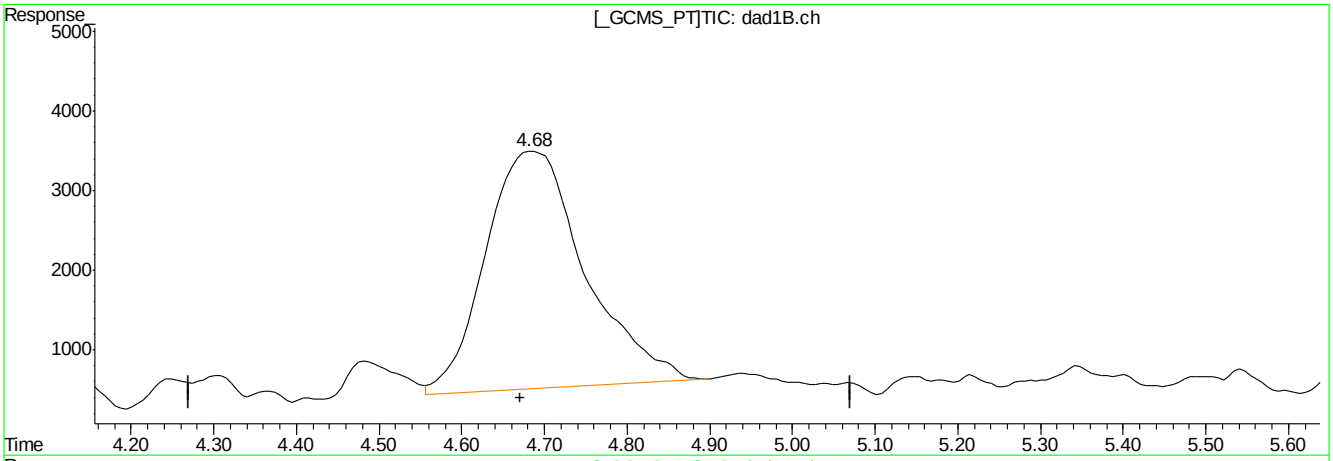
response 314621

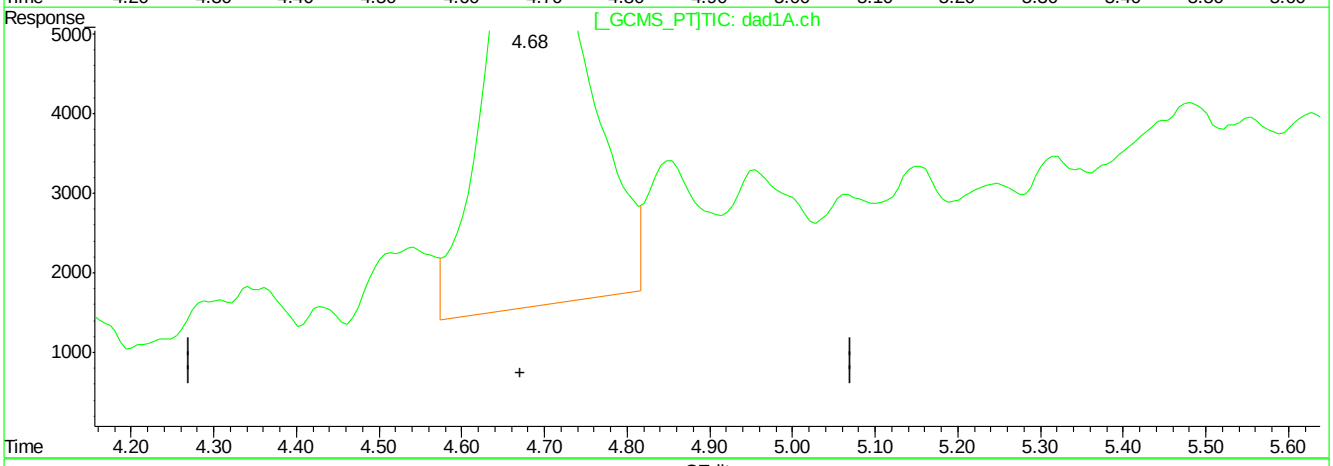
(+) = Expected Retention Time
BB088063.D BBB2700_050625.M Tue May 06 12:23:47 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1A.ch
Acq On : 06-May-2025, 10:37:24 Operator: fouads
Sample : ic2700-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration





QEdit

(6) 1,3,5-Trinitrobenzene

4.69min 64.225ppb

response 249739

(6) 1,3,5-Trinitrobenzene #2

4.68min 67.811ppb

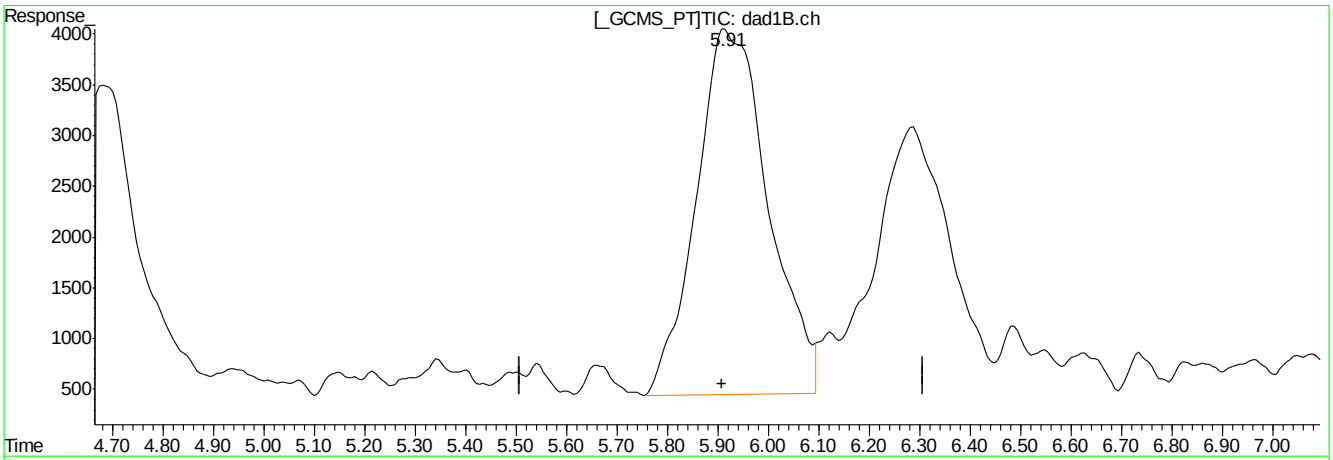
response 456251

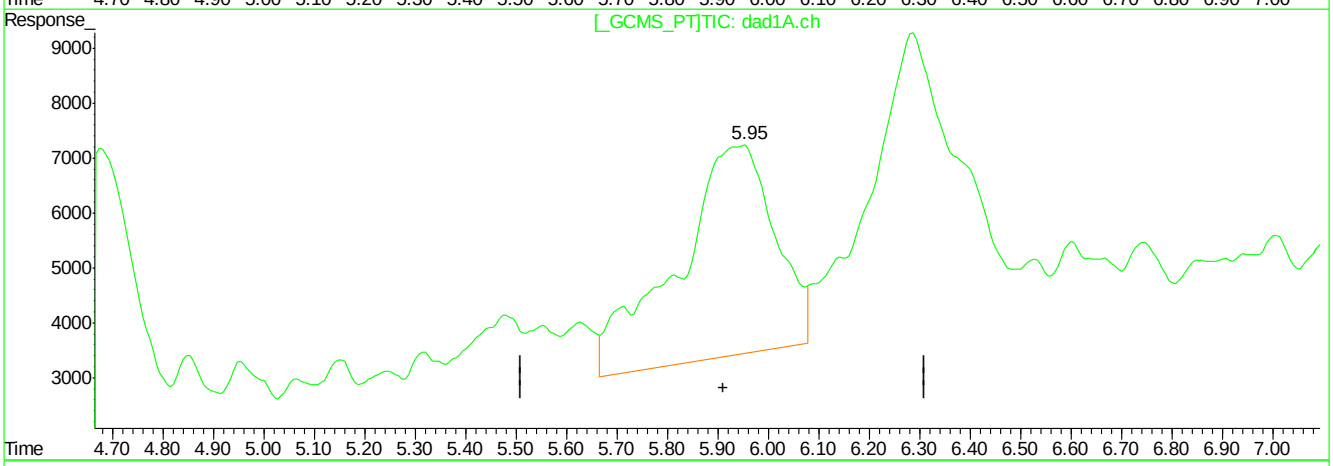
(+) = Expected Retention Time
BB088063.D BBB2700_050625.M Tue May 06 12:21:41 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1A.ch
Acq On : 06-May-2025, 10:37:24 Operator: fouads
Sample : ic2700-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

5.92min 71.038ppb

response 356810

(7) 1,3-Dinitrobenzene #2

5.95min 148.862ppb

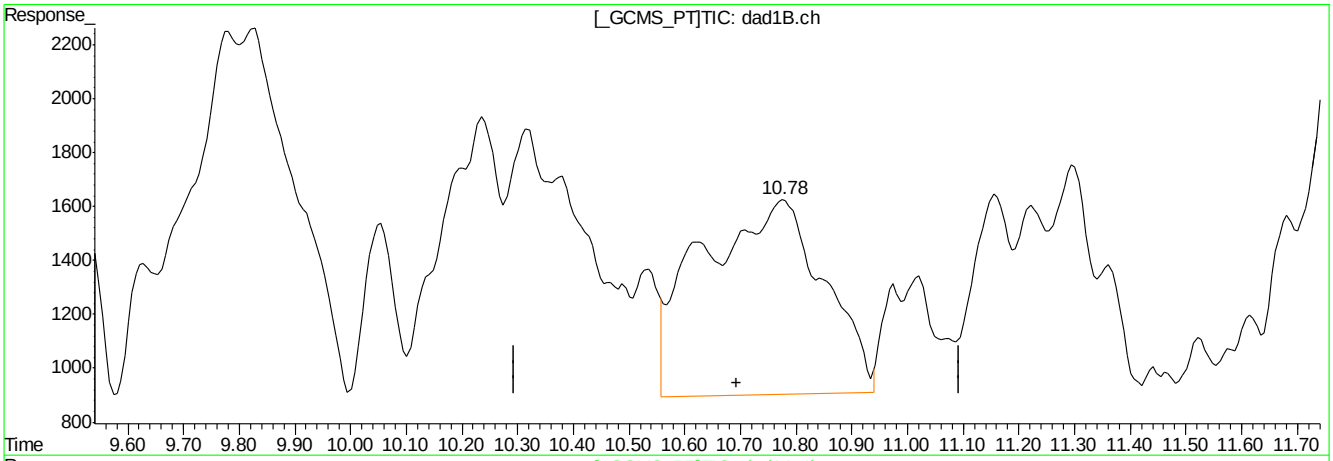
response 513701

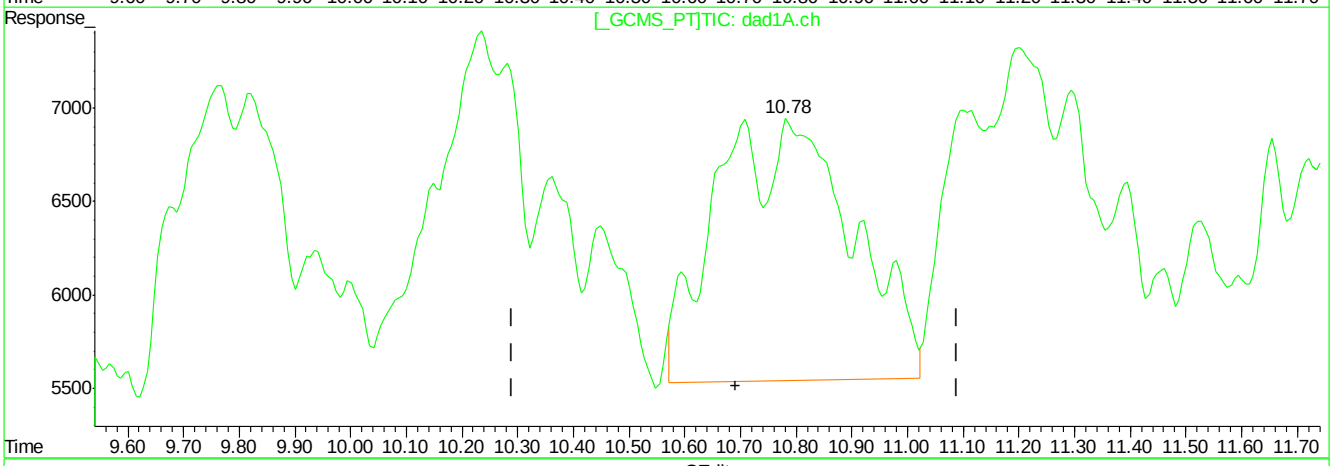
(+) = Expected Retention Time
BB088063.D BBB2700_050625.M Tue May 06 12:22:01 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1A.ch
Acq On : 06-May-2025, 10:37:24 Operator: fouads
Sample : ic2700-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration





QEdit

(14) 4-Amino-2,6-Dinitrotoluene

10.78min 48.931ppb m

response 110790

(14) 4-Amino-2,6-Dinitrotoluene #2

10.78min 52.530ppb m

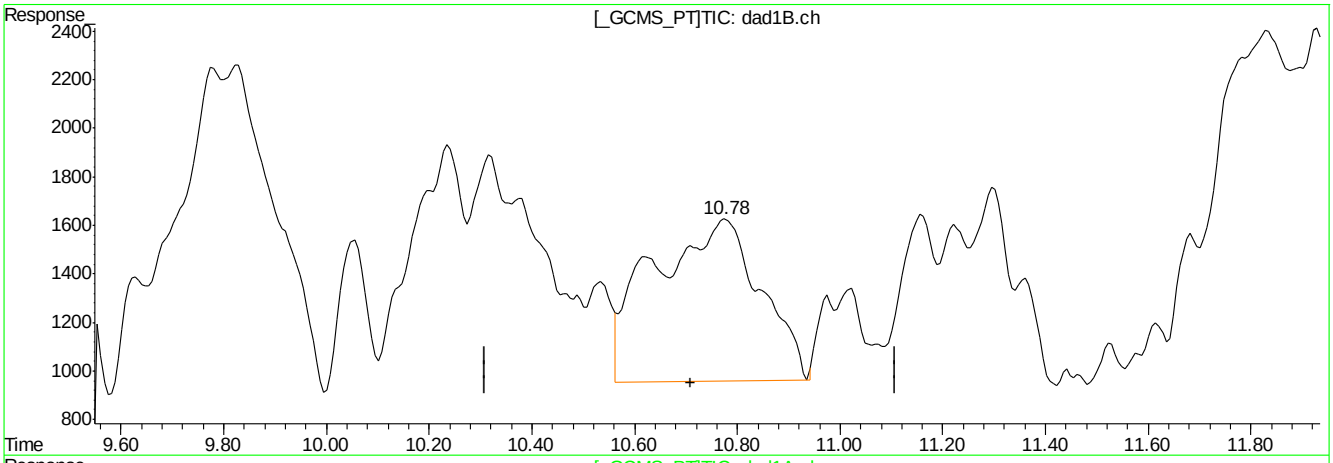
response 239148

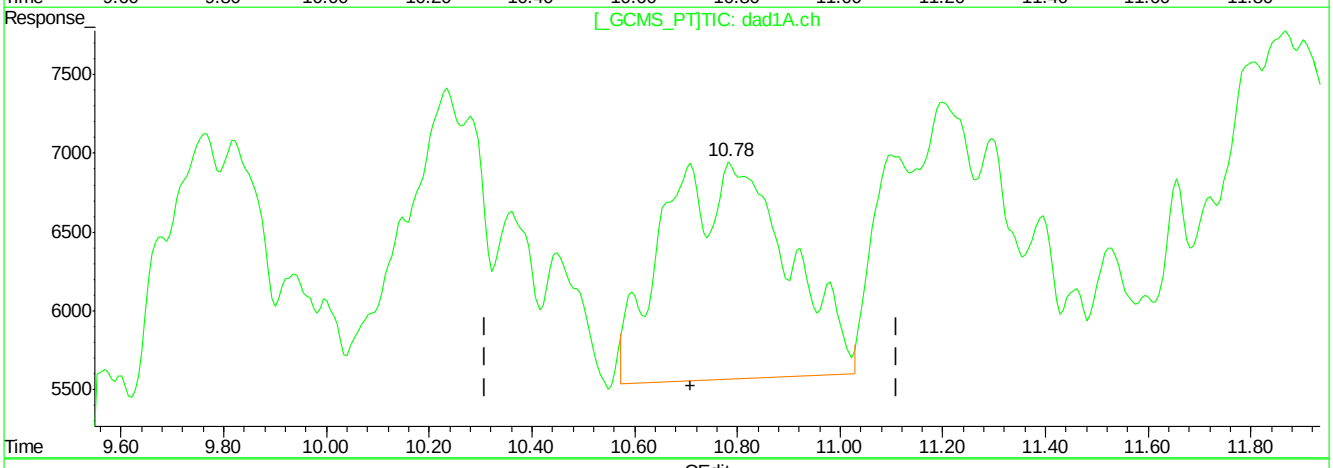
(+) = Expected Retention Time
BB088063.D BBB2700_050625.M Tue May 06 12:24:12 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1A.ch
Acq On : 06-May-2025, 10:37:24 Operator: fouads
Sample : ic2700-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration





QEdit

(15) 3,4-Dinitrotoluene (S)

10.78min 46.632ppb m

response 97674

(15) 3,4-Dinitrotoluene #2 (S)

10.78min 62.014ppb m

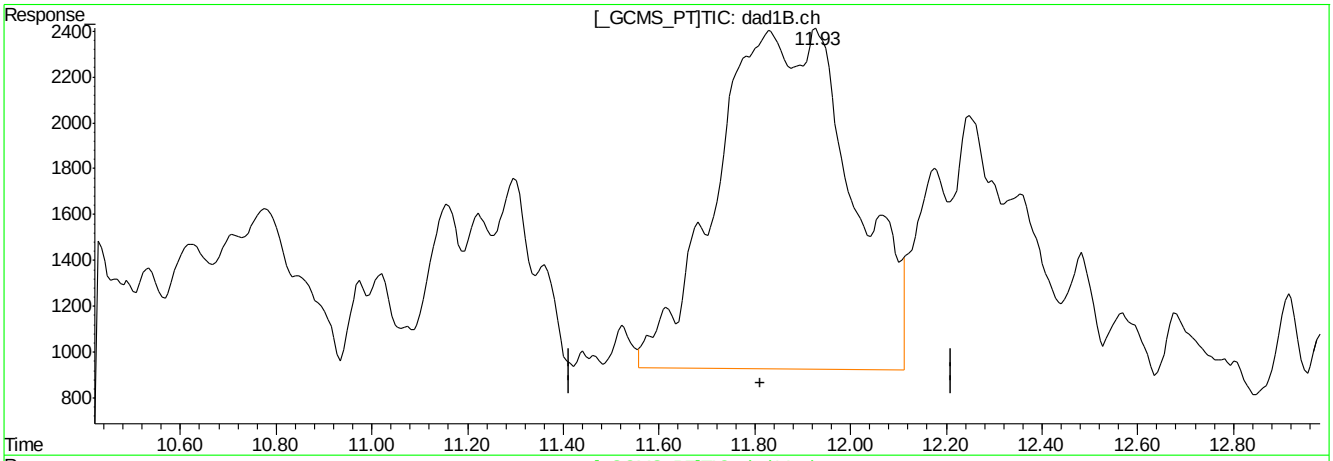
response 232552

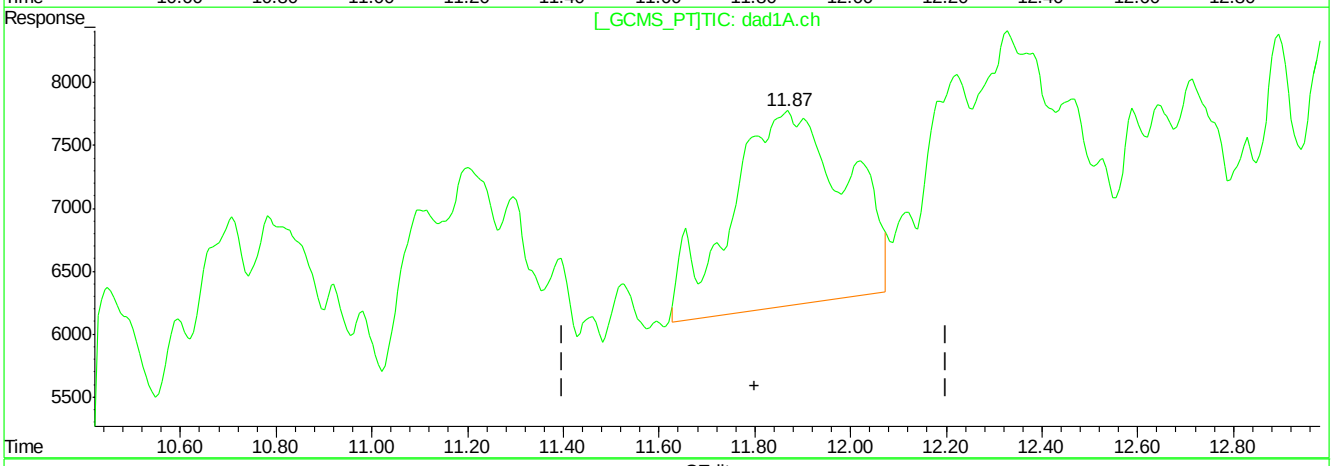
(+) = Expected Retention Time
BB088063.D BBB2700_050625.M Tue May 06 12:24:41 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1A.ch
Acq On : 06-May-2025, 10:37:24 Operator: fouads
Sample : ic2700-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration





QEdit

(16) 2,4-Dinitrotoluene

11.93min 65.204ppb m

response 289214

(16) 2,4-Dinitrotoluene #2

11.87min 87.460ppb m

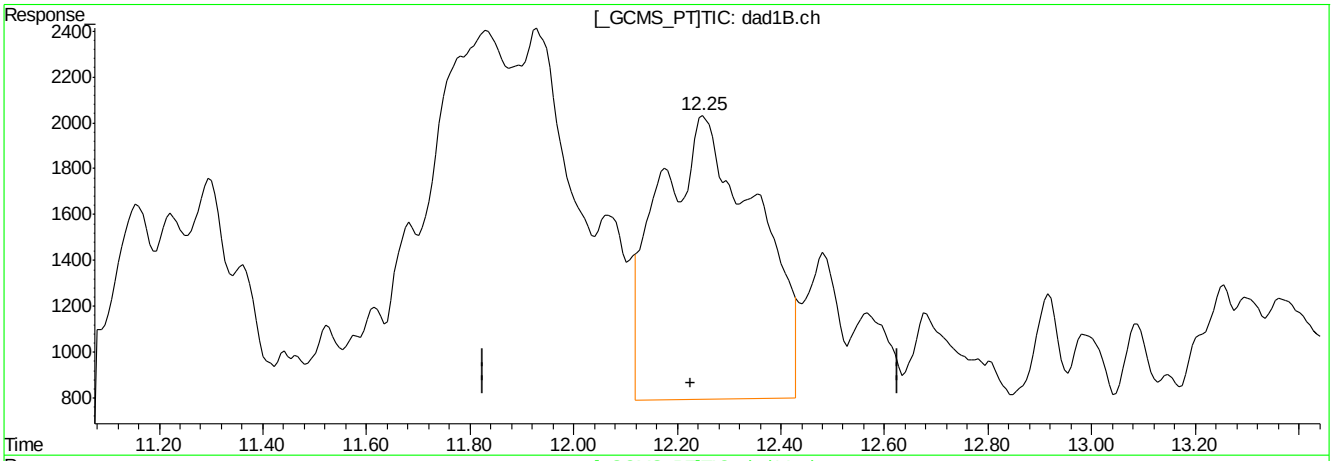
response 258387

(+) = Expected Retention Time
BB088063.D BBB2700_050625.M Tue May 06 12:25:12 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1A.ch
Acq On : 06-May-2025, 10:37:24 Operator: fouads
Sample : ic2700-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration



(17) 2,6-Dinitrotoluene

12.25min 65.196ppb m

response 160765

(17) 2,6-Dinitrotoluene #2

12.33min 86.491ppb m

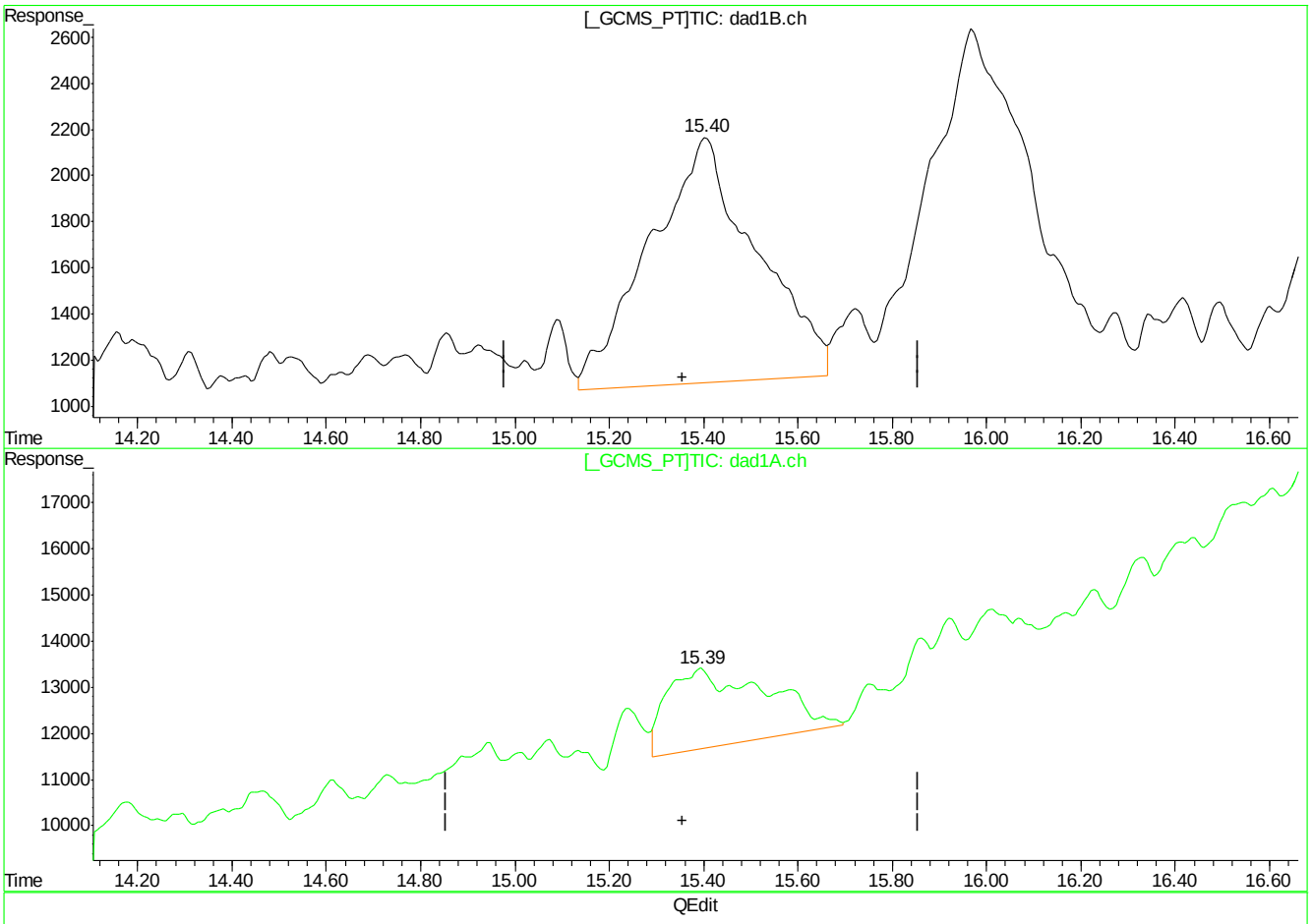
response 279832

(+) = Expected Retention Time
BB088063.D BBB2700_050625.M Tue May 06 12:25:30 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1A.ch
Acq On : 06-May-2025, 10:37:24 Operator: fouads
Sample : ic2700-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

15.41min 83.972ppb

response 166610

(18) o-Nitrotoluene #2

15.39min 87.182ppb m

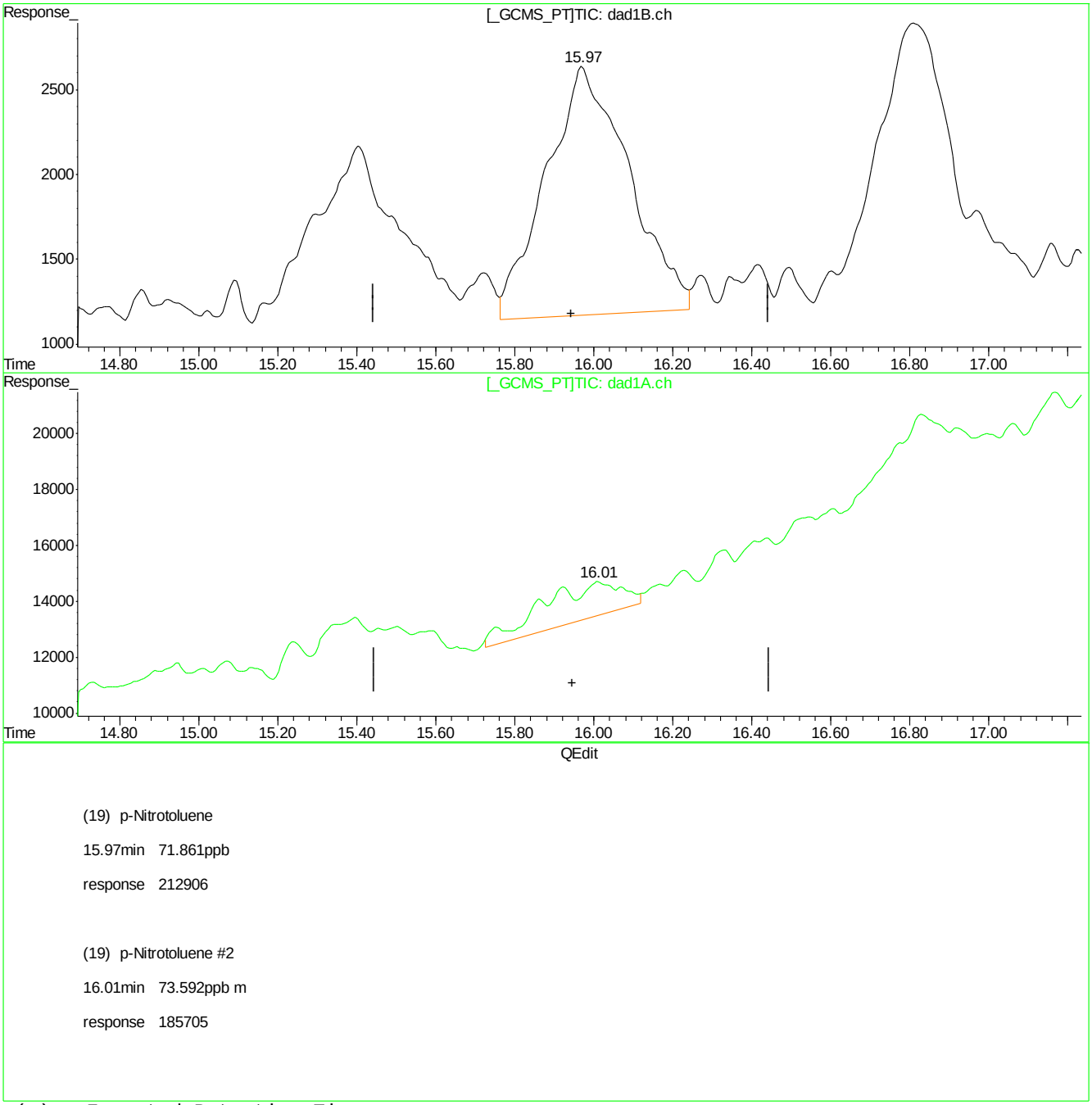
response 244511

(+) = Expected Retention Time
BB088063.D BBB2700_050625.M Tue May 06 12:25:48 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1A.ch
Acq On : 06-May-2025, 10:37:24 Operator: fouads
Sample : ic2700-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration



(19) p-Nitrotoluene

15.97min 71.861ppb

response 212906

(19) p-Nitrotoluene #2

16.01min 73.592ppb m

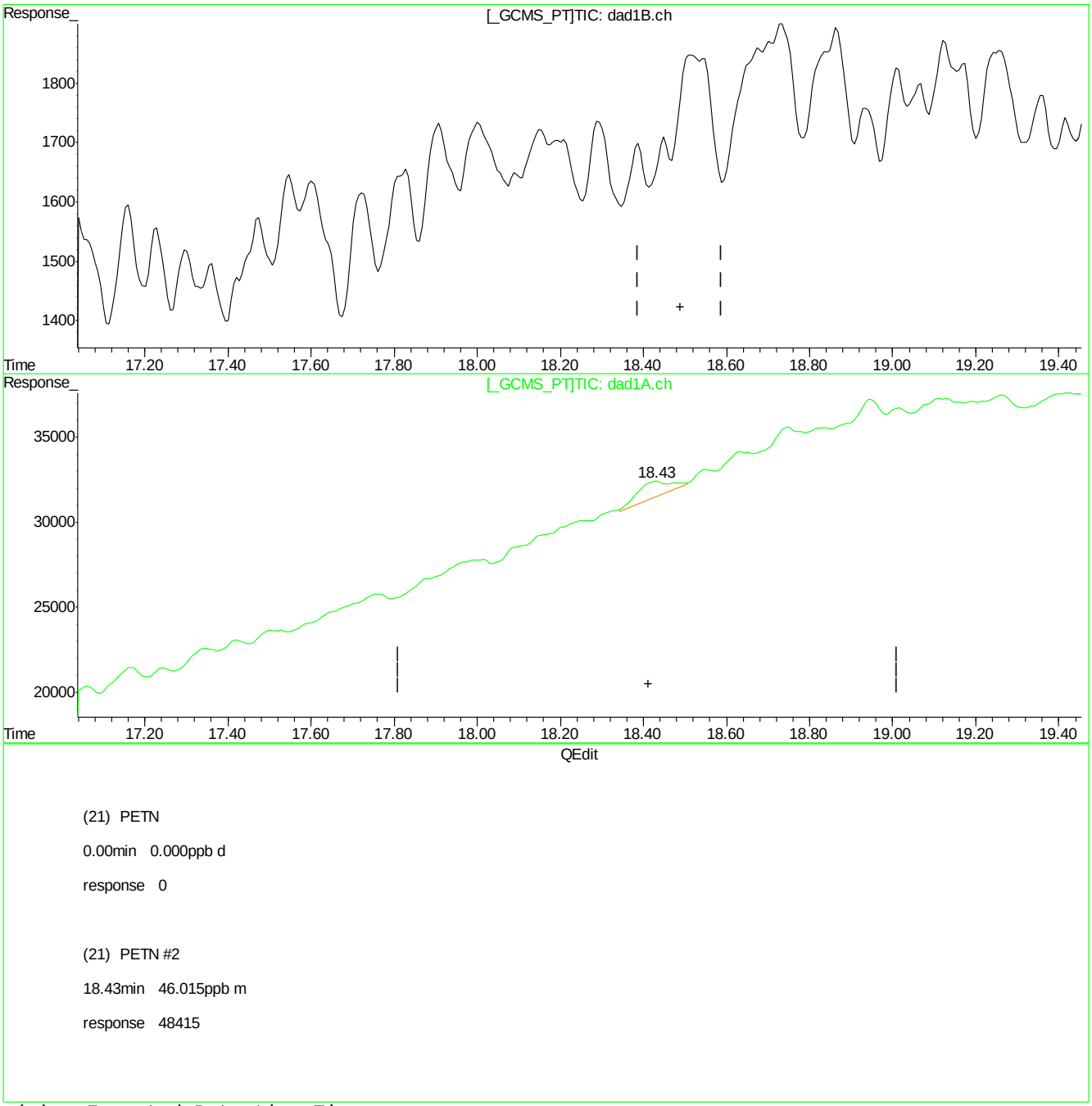
response 185705

(+) = Expected Retention Time
BB088063.D BBB2700_050625.M Tue May 06 12:25:58 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088063.D\dad1A.ch
Acq On : 06-May-2025, 10:37:24 Operator: fouads
Sample : ic2700-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB088063.D BBB2700_050625.M Tue May 06 12:26:32 2025

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 05/08/25 17:12

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1A.ch
Acq On : 06-May-2025, 11:04:53 Operator: fouads
Sample : ic2700-100 Inst : G1315B
Misc : op9214,GBB2700,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 06 12:31:51 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:31:41 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.21	11.21	269396	372906	128.618m	99.441
	Spiked Amount 500.000	Range 70 - 136		Recovery =		25.72%#	19.89%#
	Target Compounds						
1)	TNX	1.35	1.35	437581	683676	72.334	73.622
2)	HMX	1.47	1.47	190220	506450	126.259	121.303
3)	DNX	1.74	1.74	761350	1269070	154.822	164.418
4)	MNX	2.33	2.33	835149	1283423	182.037	181.301
5)	RDX	2.95	2.95	253786	419854	137.177	142.032
6)	1,3,5-Trinitrobe	4.69	4.69	541685	853604	139.305	126.869
7)	1,3-Dinitrobenze	5.93	5.92	659789	603245	131.360	174.811
8)	3,5-Dinitroanili	6.29	6.30	467950	887521	120.887	136.446
9)	Nitrobenzene	7.54	7.54	446791	445392	153.278	156.492
10)	Nitroglycerin	0.00	8.89	0	129631	N.D. d	106.466
11)	Tetryl	9.36	9.41	419197	498009	158.195	117.229
12)	2,4,6-Trinitroto	9.79	9.80	506317	457802	149.033	111.403m
13)	2-Amino-4,6-Dini	10.32	10.30	290641	395713	92.117m	83.565
14)	4-Amino-2,6-Dini	10.75	10.76	205846	441837	90.912	97.052
16)	2,4-Dinitrotolue	11.87	11.92	558221	370074	125.852	125.265m
17)	2,6-Dinitrotolue	12.26	12.24	382207	416512	154.997	128.736m
18)	o-Nitrotoluene	15.39	15.43	258943	416669	130.508	148.567
19)	p-Nitrotoluene	16.00	16.07	339847	228147	114.706	90.412m
20)	m-Nitrotoluene	16.82	16.83	333313	412238	118.664	121.265
21)	PETN	0.00	18.46	0	131663	N.D.	125.136m#

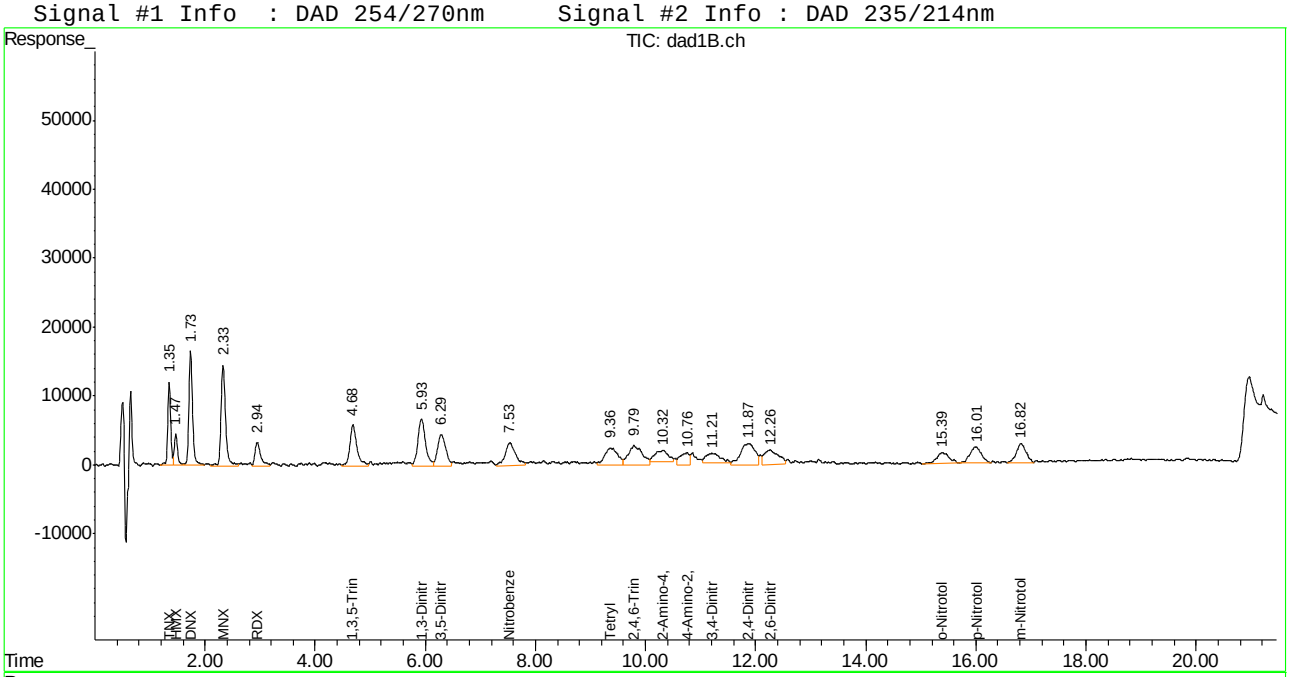
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088064.D BBB2700_050625.M Thu May 08 11:31:02 2025 Page 1

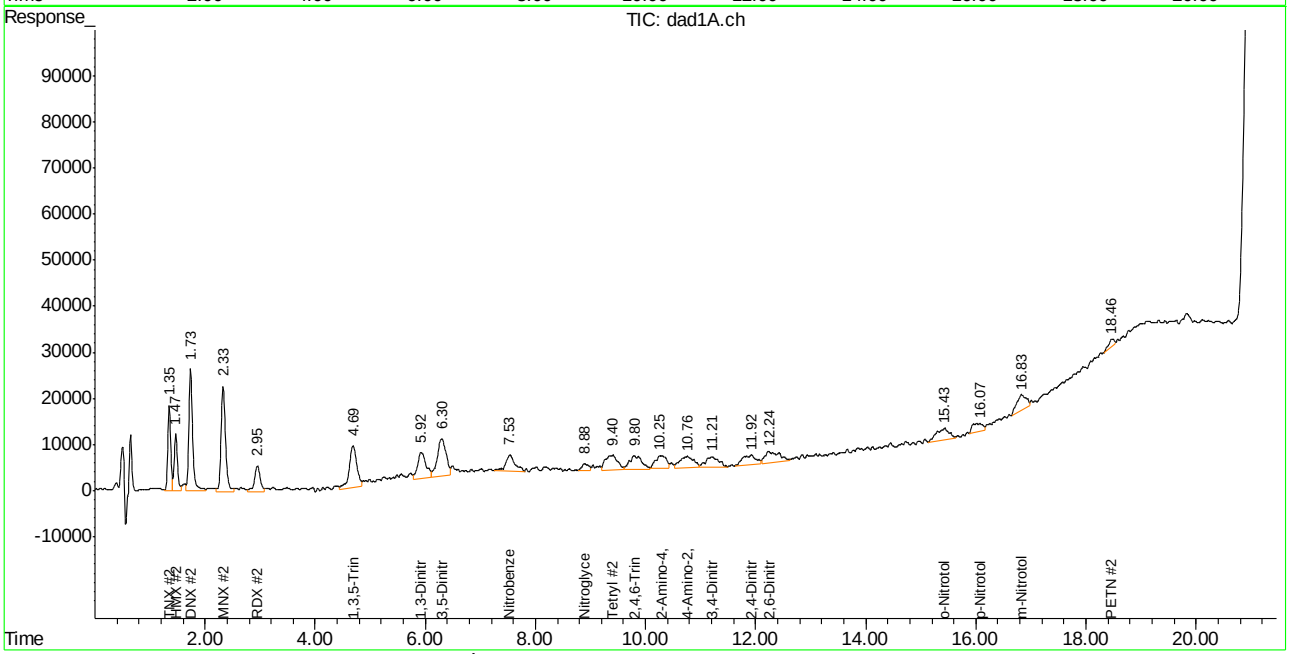
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1A.ch
Acq On : 06-May-2025, 11:04:53 Operator: fouads
Sample : ic2700-100 Inst : G1315B
Misc : op9214,GBB2700,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:33 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:31:41 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

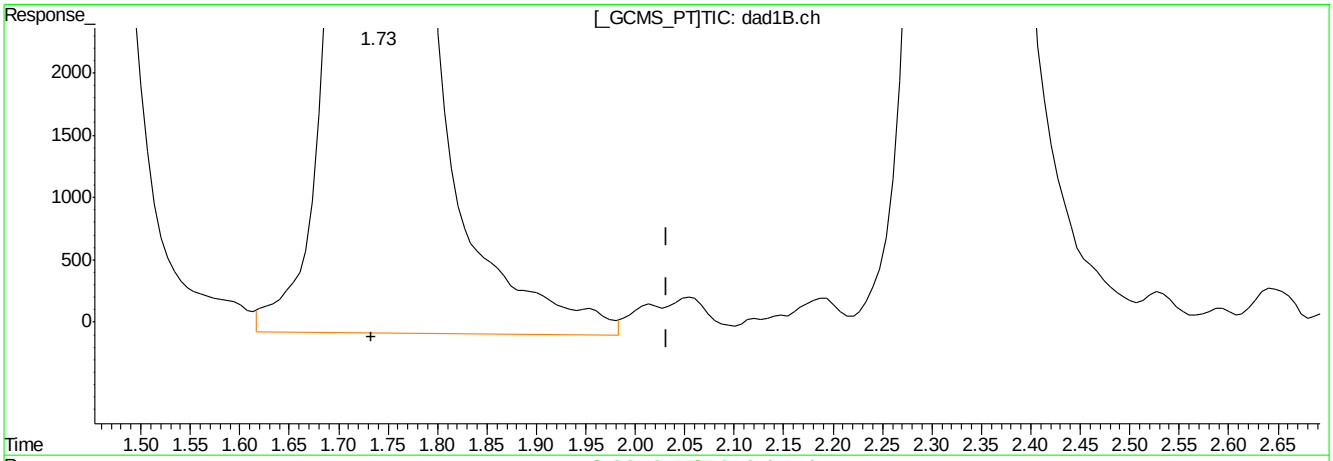
Sample Number: GBB2700-IC2700
Lab FileID: BB088064.D
Injection Time: 05/06/25 11:04
Method: SW846 8330A
Analyst approved: 05/08/25 12:00 Fouad Sekkar
Supervisor approved: 05/08/25 17:12 William Hustedde

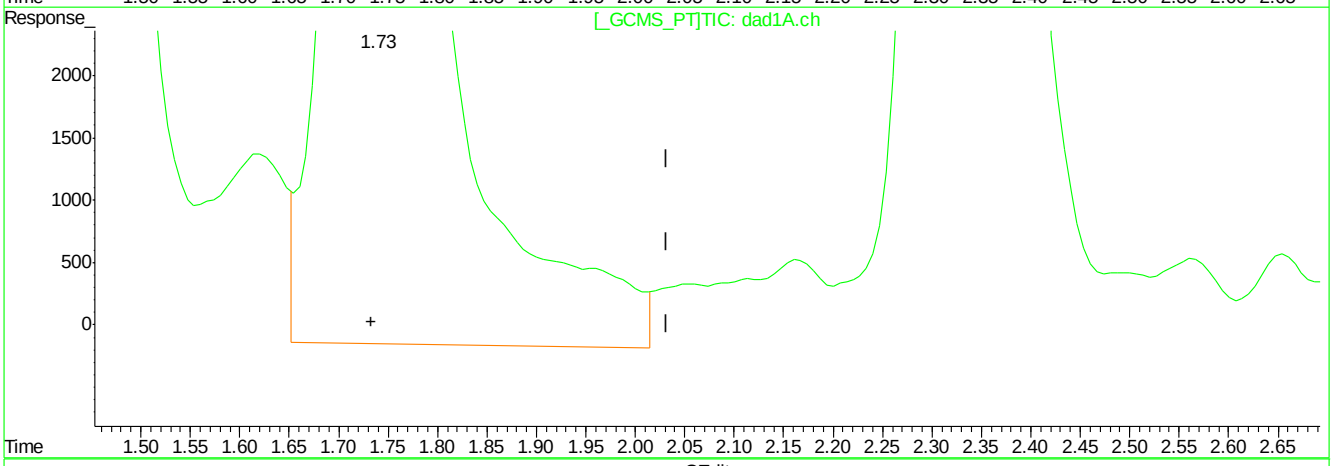
Parameter	CAS	Sig#	R.T. (min.)	Reason
2,4,6-Trinitrotoluene	118-96-7	2	9.80	Missed peak
2-amino-4,6-Dinitrotoluene	35572-78-2	1	10.32	Missed peak
3,4-Dinitrotoluene	610-39-9	1	11.21	Missed peak
2,4-Dinitrotoluene	121-14-2	2	11.92	Missed peak
2,6-Dinitrotoluene	606-20-2	2	12.24	Missed peak
p-Nitrotoluene	99-99-0	2	16.07	Missed peak
PETN	78-11-5	2	18.46	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1A.ch
Acq On : 06-May-2025, 11:04:53 Operator: fouads
Sample : ic2700-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration





QEdit

(3) DNX

1.74min 154.822ppb

response 761350

(3) DNX #2

1.74min 164.418ppb

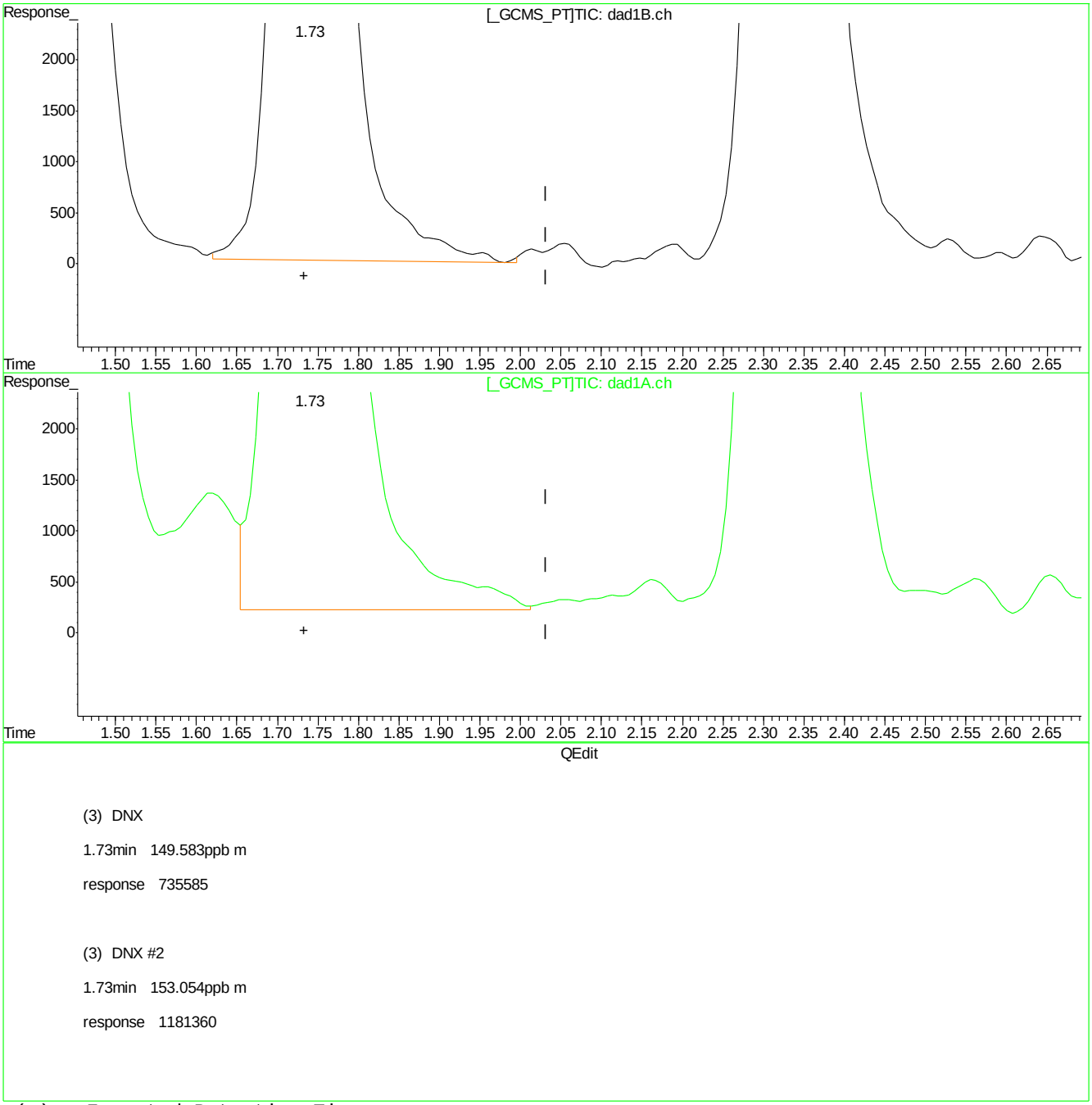
response 1269070

(+) = Expected Retention Time
BB088064.D BBB2700_050625.M Tue May 06 12:27:47 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1A.ch
Acq On : 06-May-2025, 11:04:53 Operator: fouads
Sample : ic2700-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration

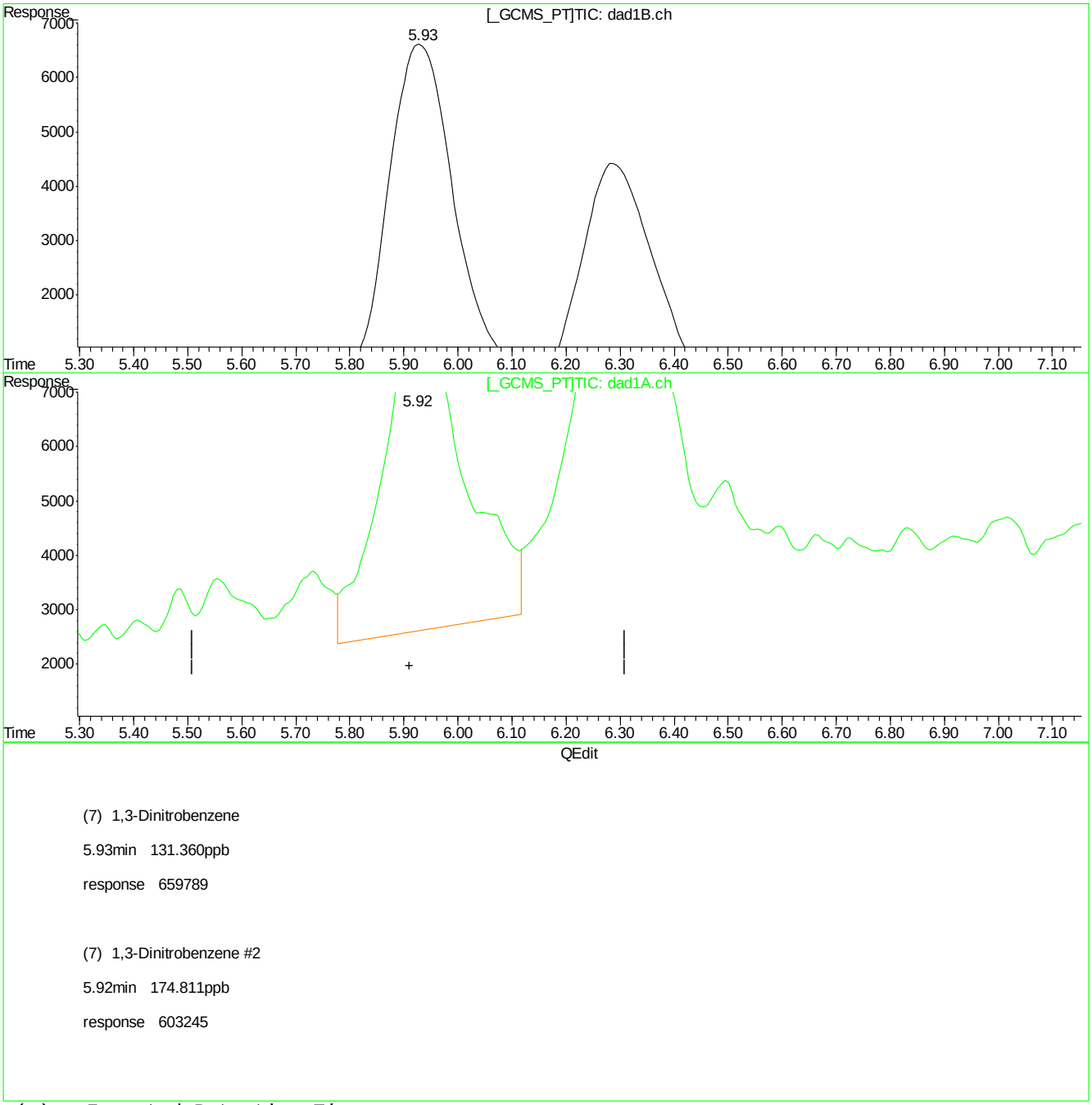


(+) = Expected Retention Time
BB088064.D BBB2700_050625.M Tue May 06 12:27:55 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1A.ch
Acq On : 06-May-2025, 11:04:53 Operator: fouads
Sample : ic2700-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration

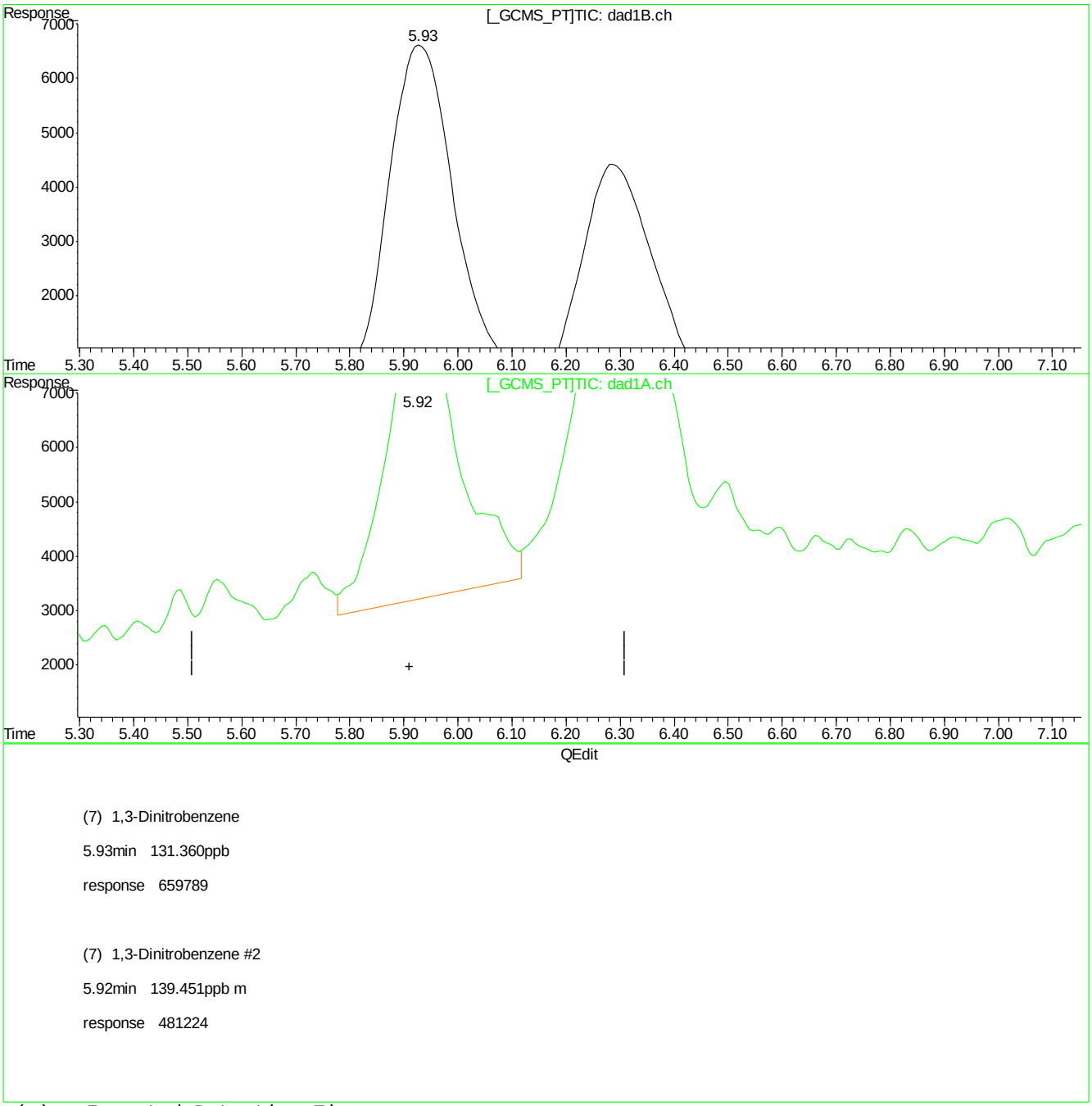


(+) = Expected Retention Time
BB088064.D BBB2700_050625.M Tue May 06 12:28:17 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1A.ch
Acq On : 06-May-2025, 11:04:53 Operator: fouads
Sample : ic2700-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration

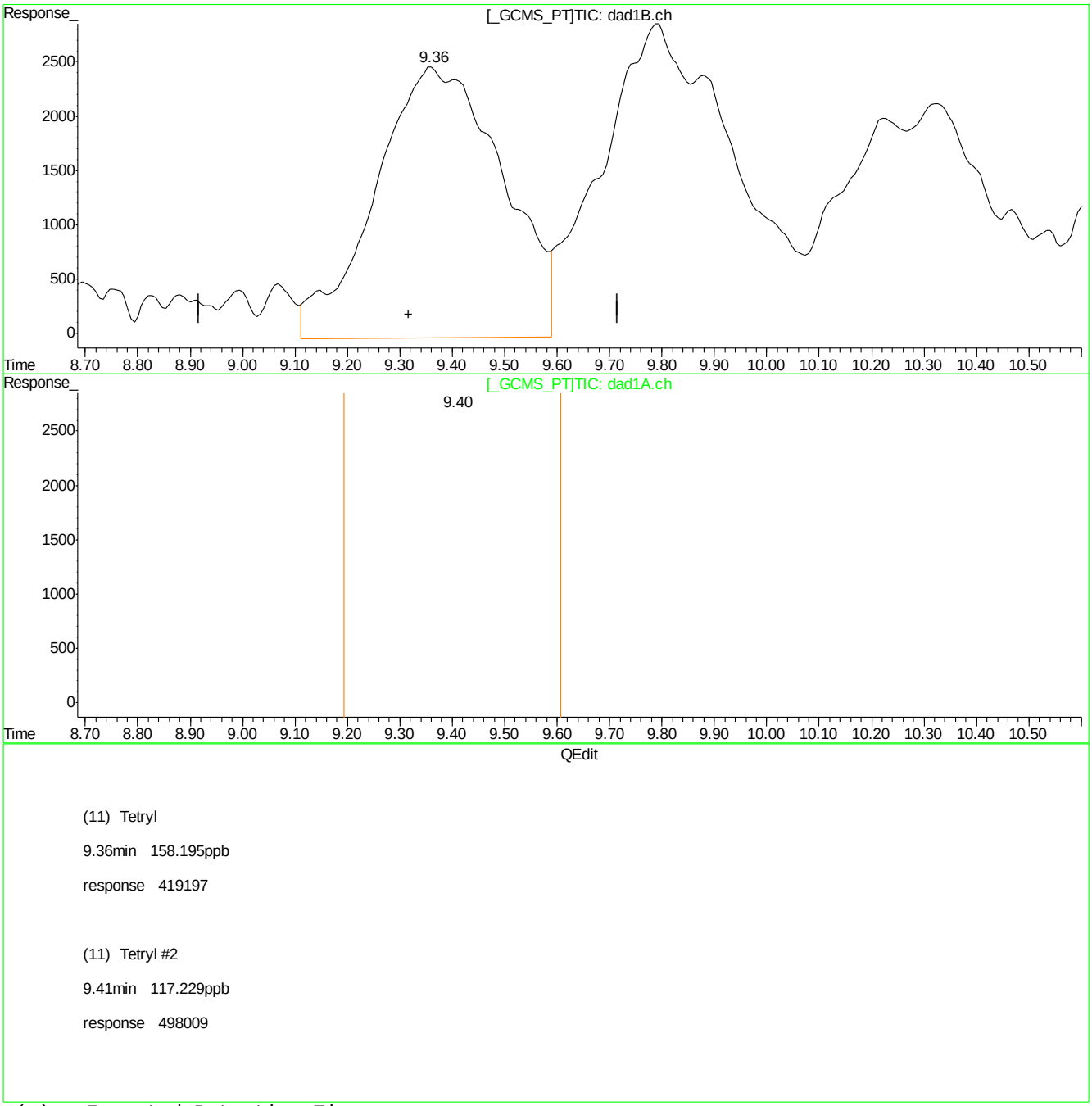


(+) = Expected Retention Time
BB088064.D BBB2700_050625.M Tue May 06 12:28:22 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1A.ch
Acq On : 06-May-2025, 11:04:53 Operator: fouads
Sample : ic2700-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration

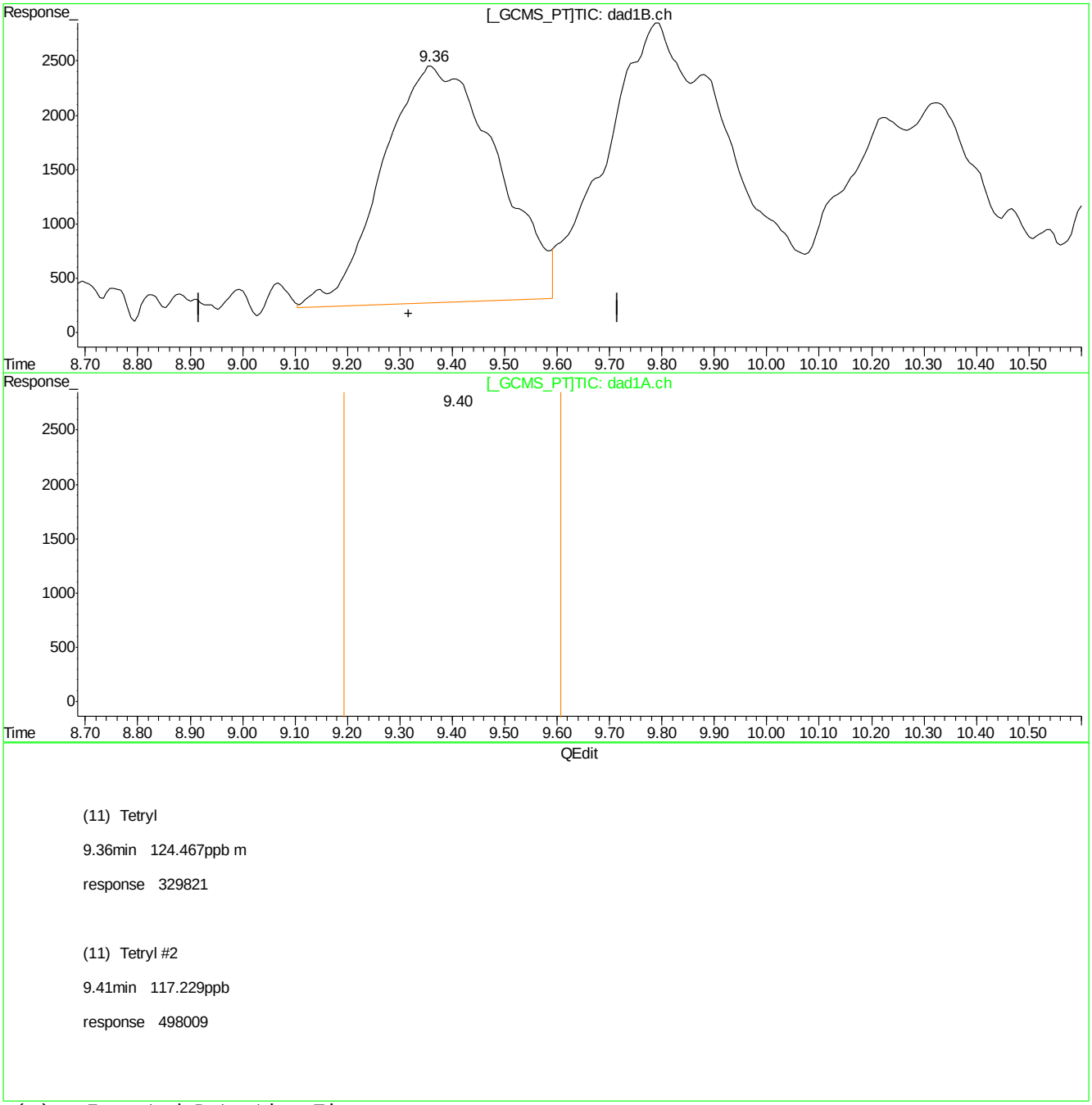


(+) = Expected Retention Time
BB088064.D BBB2700_050625.M Tue May 06 12:28:46 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1A.ch
Acq On : 06-May-2025, 11:04:53 Operator: fouads
Sample : ic2700-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration

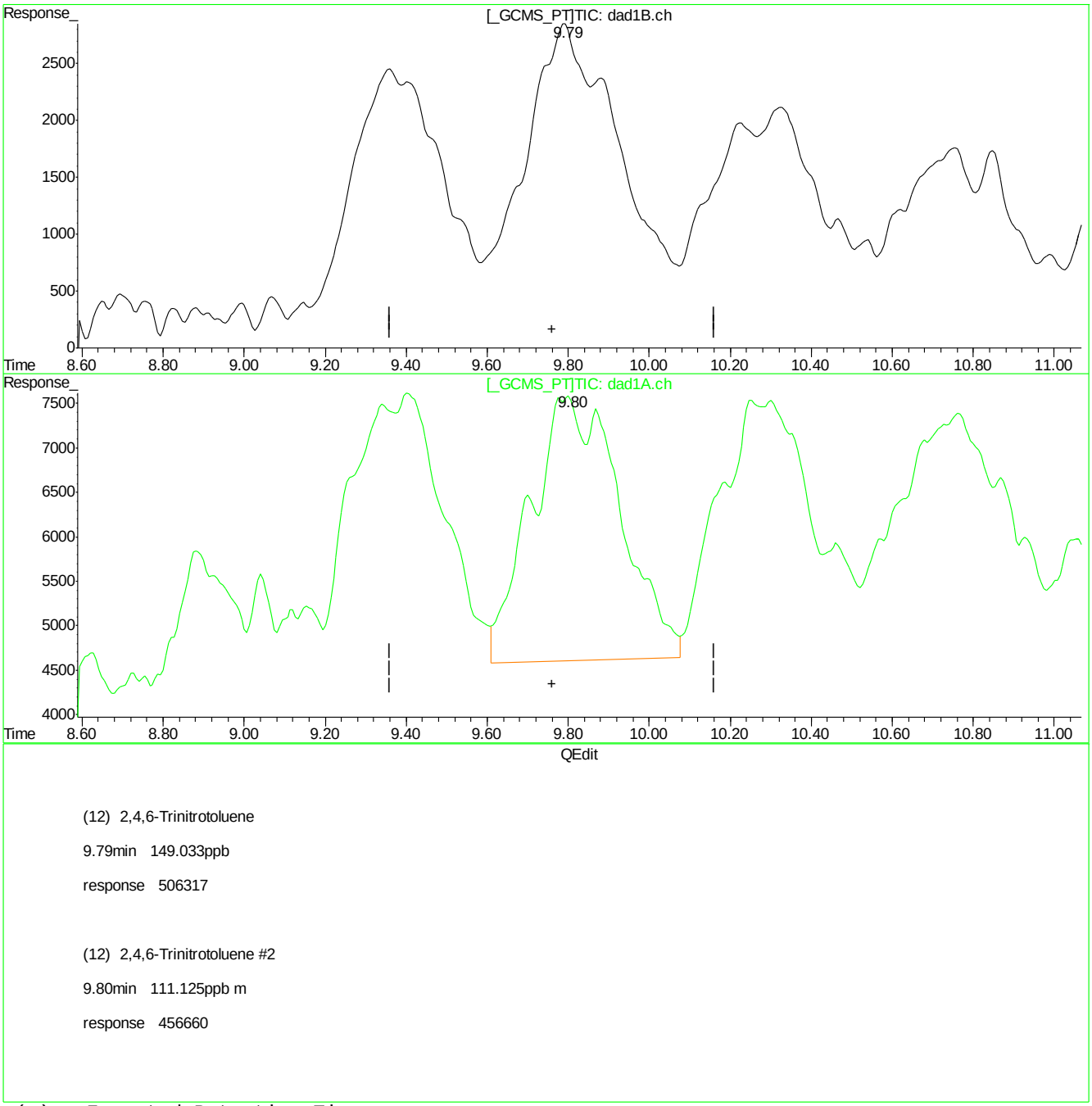


(+) = Expected Retention Time
BB088064.D BBB2700_050625.M Tue May 06 12:28:51 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1A.ch
Acq On : 06-May-2025, 11:04:53 Operator: fouads
Sample : ic2700-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration



(12) 2,4,6-Trinitrotoluene

9.79min 149.033ppb

response 506317

(12) 2,4,6-Trinitrotoluene #2

9.80min 111.125ppb m

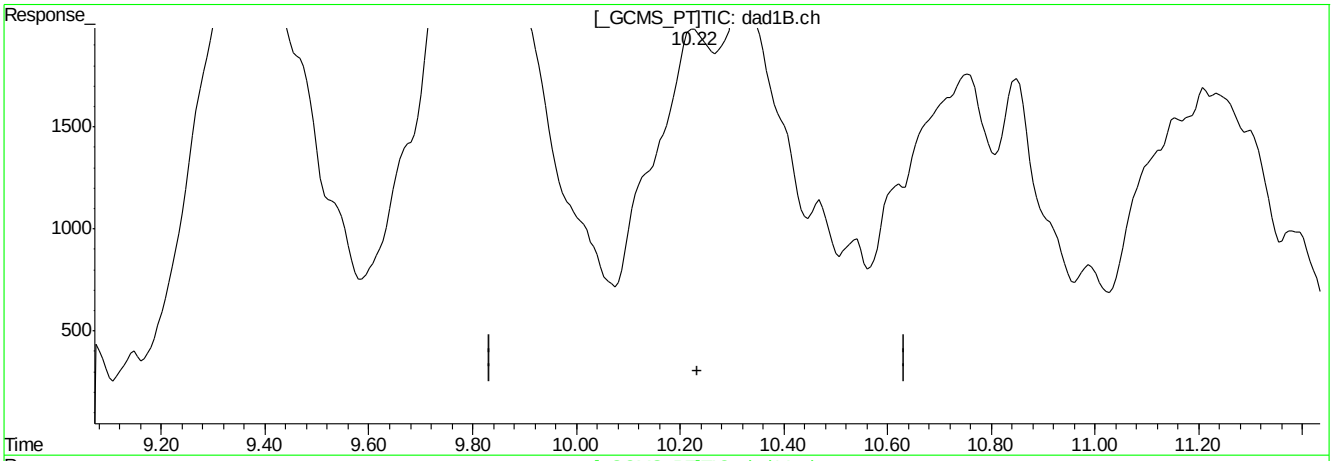
response 456660

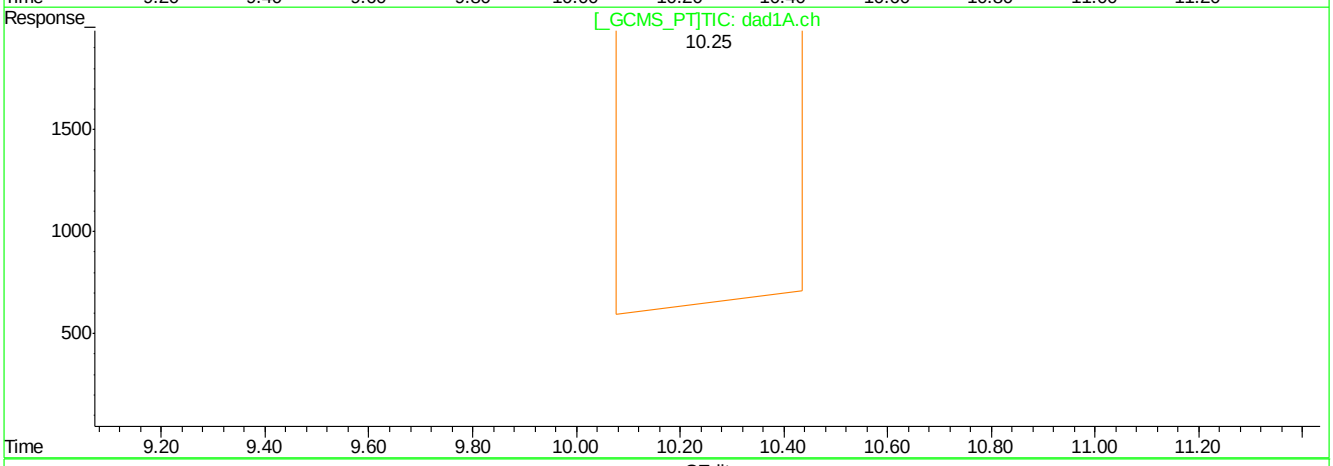
(+) = Expected Retention Time
BB088064.D BBB2700_050625.M Tue May 06 12:29:09 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1A.ch
Acq On : 06-May-2025, 11:04:53 Operator: fouads
Sample : ic2700-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration





QEdit

(13) 2-Amino-4,6-Dinitrotoluene

10.23min 55.676ppb

response 175665

(13) 2-Amino-4,6-Dinitrotoluene #2

10.30min 83.565ppb

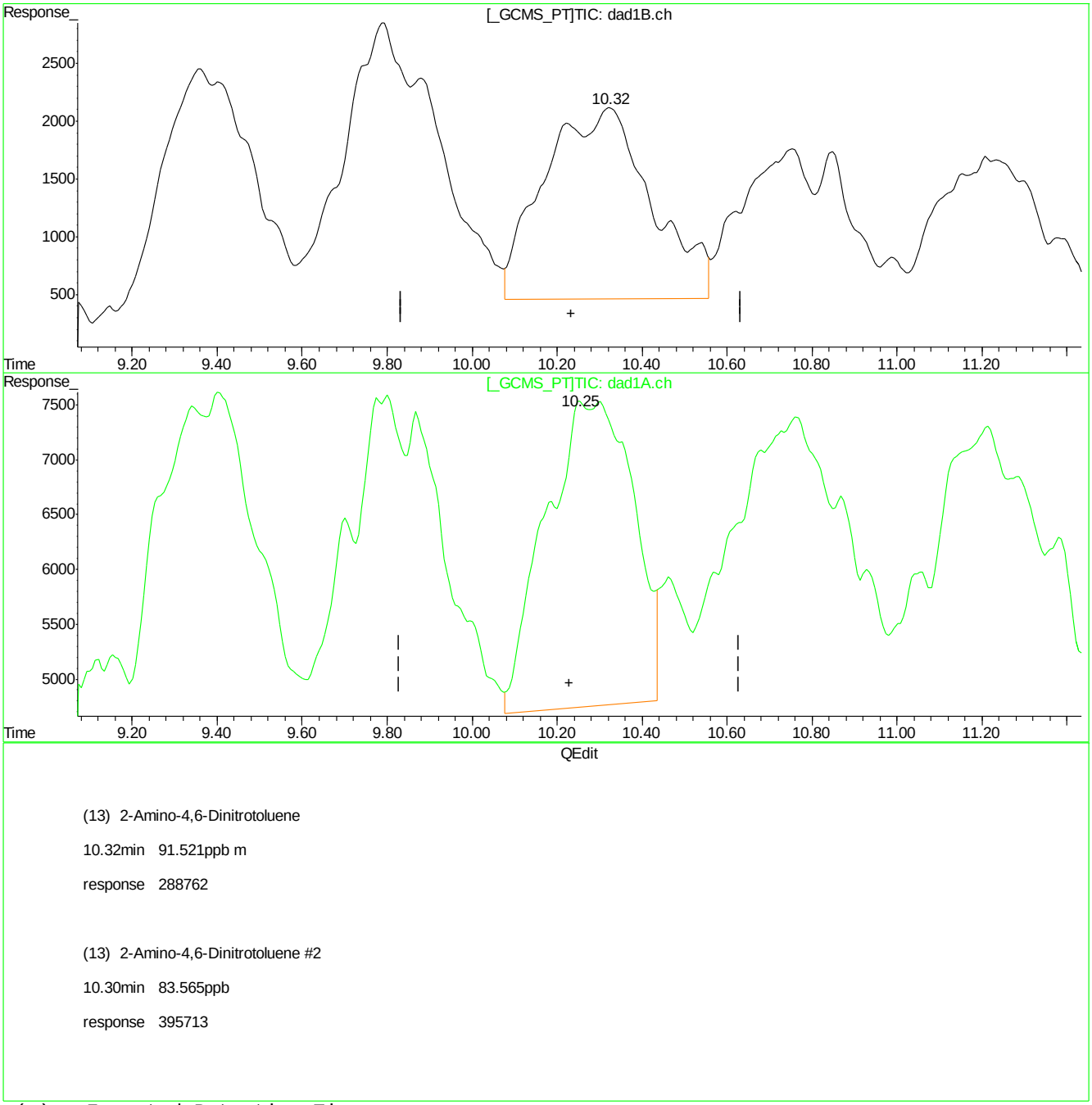
response 395713

(+) = Expected Retention Time
BB088064.D BBB2700_050625.M Tue May 06 12:29:22 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1A.ch
Acq On : 06-May-2025, 11:04:53 Operator: fouads
Sample : ic2700-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 11:47 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration



(13) 2-Amino-4,6-Dinitrotoluene

10.32min 91.521ppb m

response 288762

(13) 2-Amino-4,6-Dinitrotoluene #2

10.30min 83.565ppb

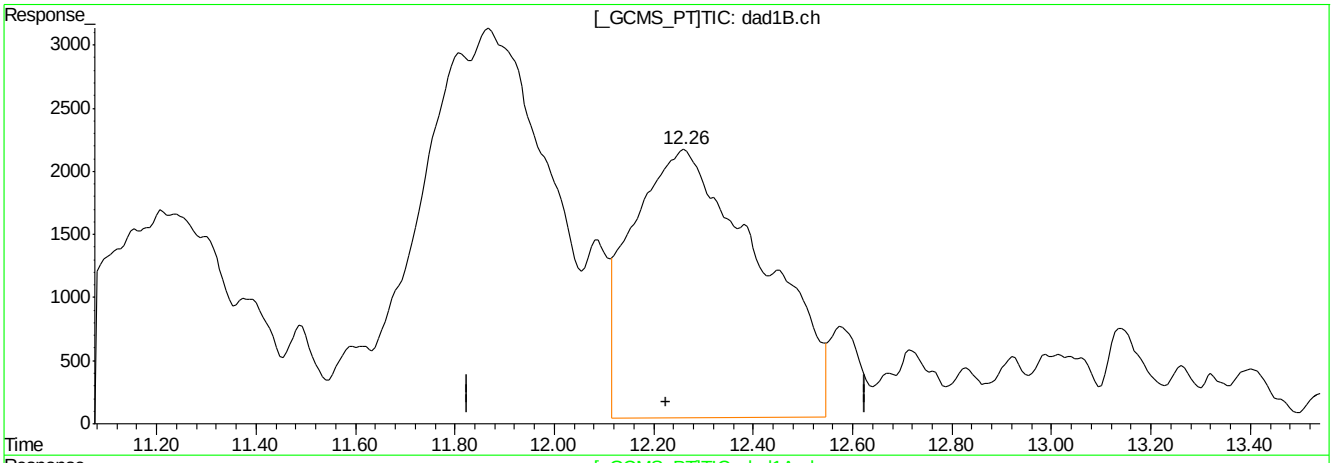
response 395713

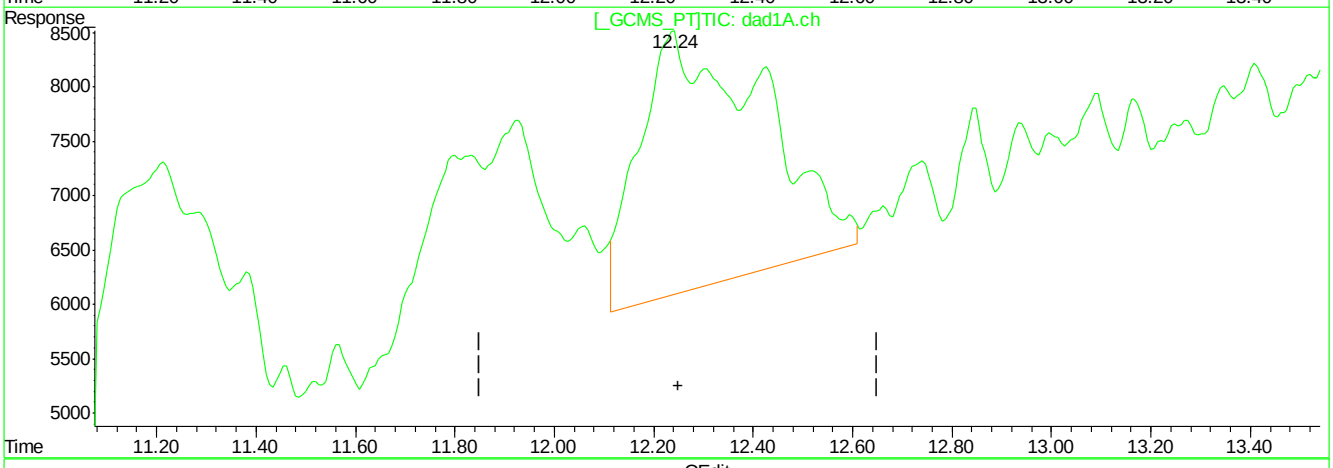
(+) = Expected Retention Time
BB088064.D BBB2700_050625.M Tue May 06 12:29:34 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1A.ch
Acq On : 06-May-2025, 11:04:53 Operator: fouads
Sample : ic2700-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:29 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration





QEdit

(17) 2,6-Dinitrotoluene

12.26min 154.997ppb

response 382207

(17) 2,6-Dinitrotoluene #2

12.24min 126.374ppb m

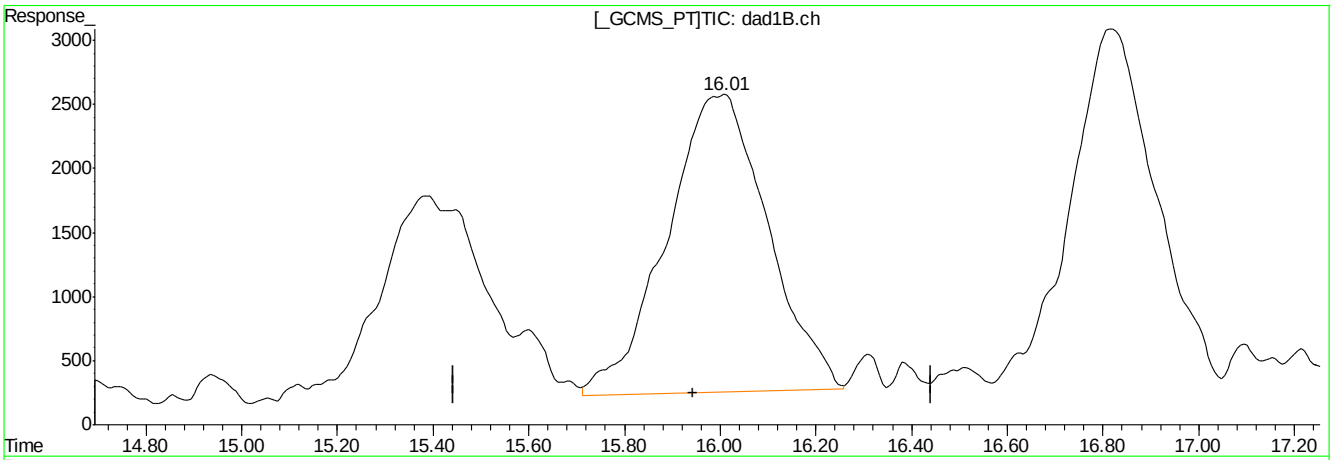
response 408871

(+) = Expected Retention Time
BB088064.D BBB2700_050625.M Tue May 06 12:30:24 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1A.ch
Acq On : 06-May-2025, 11:04:53 Operator: fouads
Sample : ic2700-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:29 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration



(19) p-Nitrotoluene

16.00min 114.706ppb

response 339847

(19) p-Nitrotoluene #2

16.07min 117.521ppb m

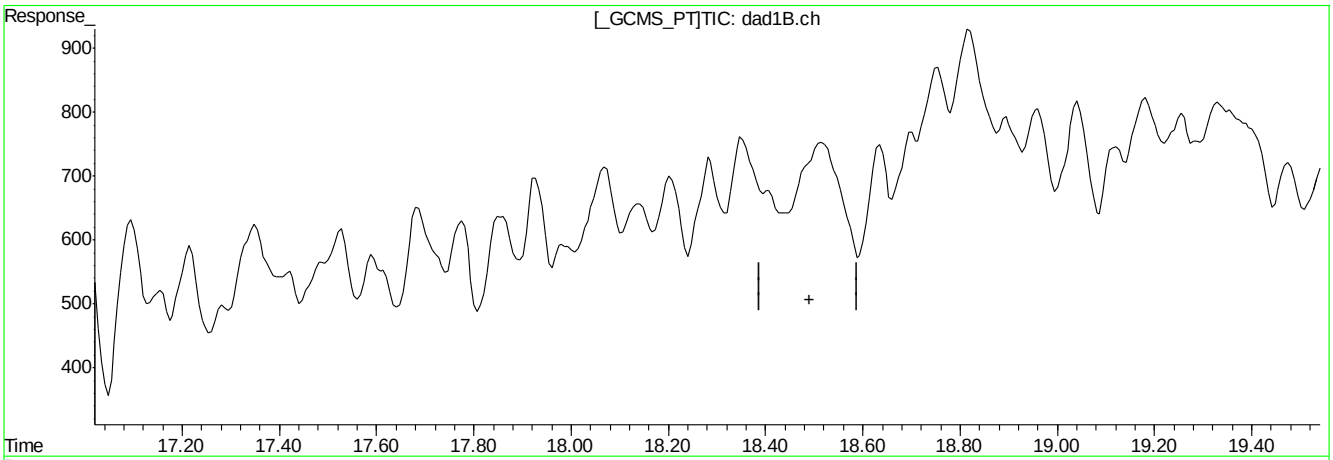
response 296555

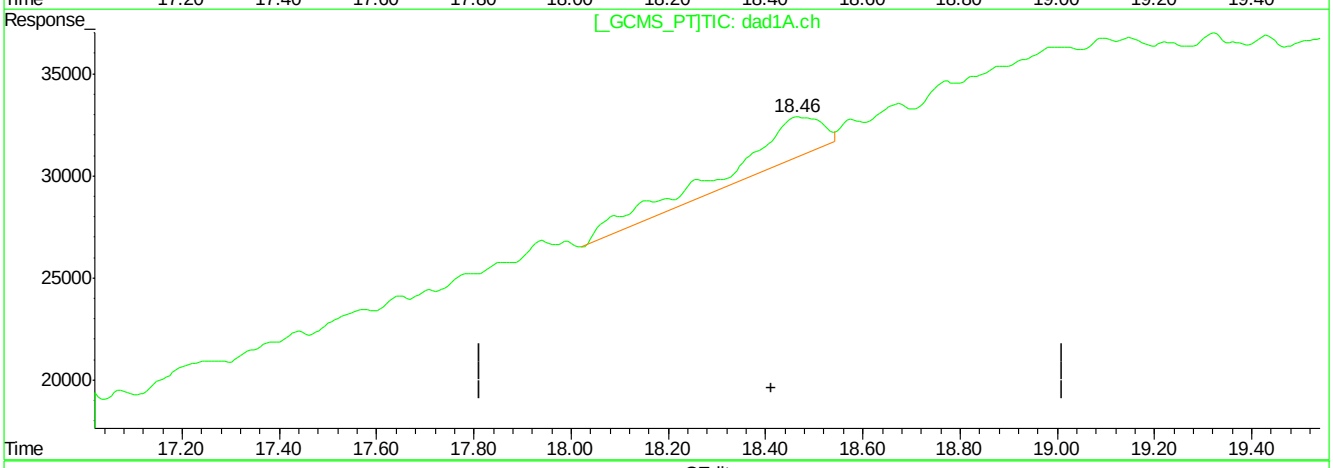
(+) = Expected Retention Time
BB088064.D BBB2700_050625.M Tue May 06 12:30:47 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1A.ch
Acq On : 06-May-2025, 11:04:53 Operator: fouads
Sample : ic2700-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:29 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

18.47min 262.901ppb

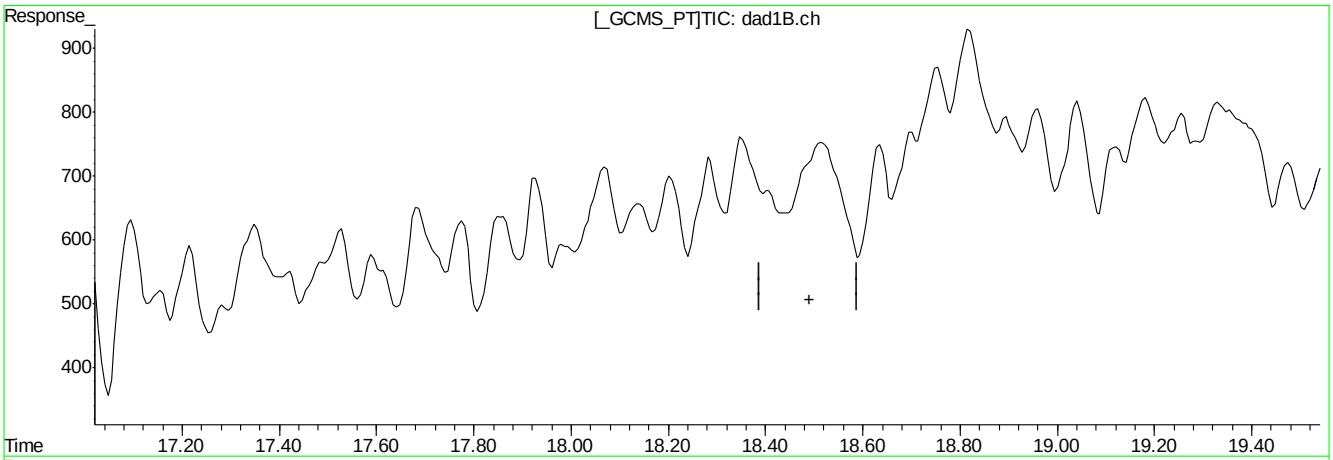
response 276614

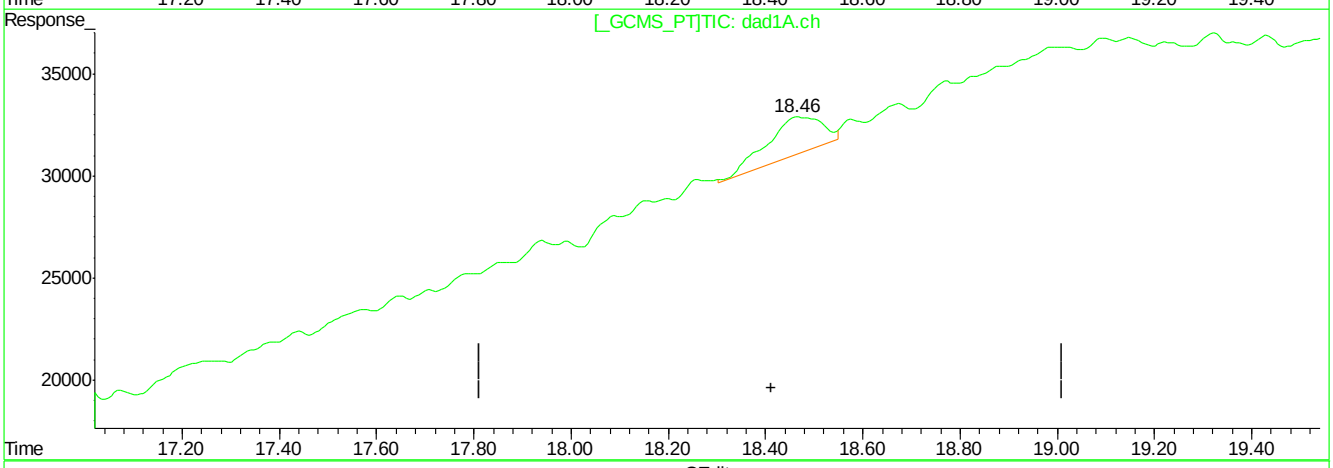
(+) = Expected Retention Time
BB088064.D BBB2700_050625.M Tue May 06 12:30:55 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1A.ch
Acq On : 06-May-2025, 11:04:53 Operator: fouads
Sample : ic2700-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:29 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:10:45 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

18.46min 137.721ppb m

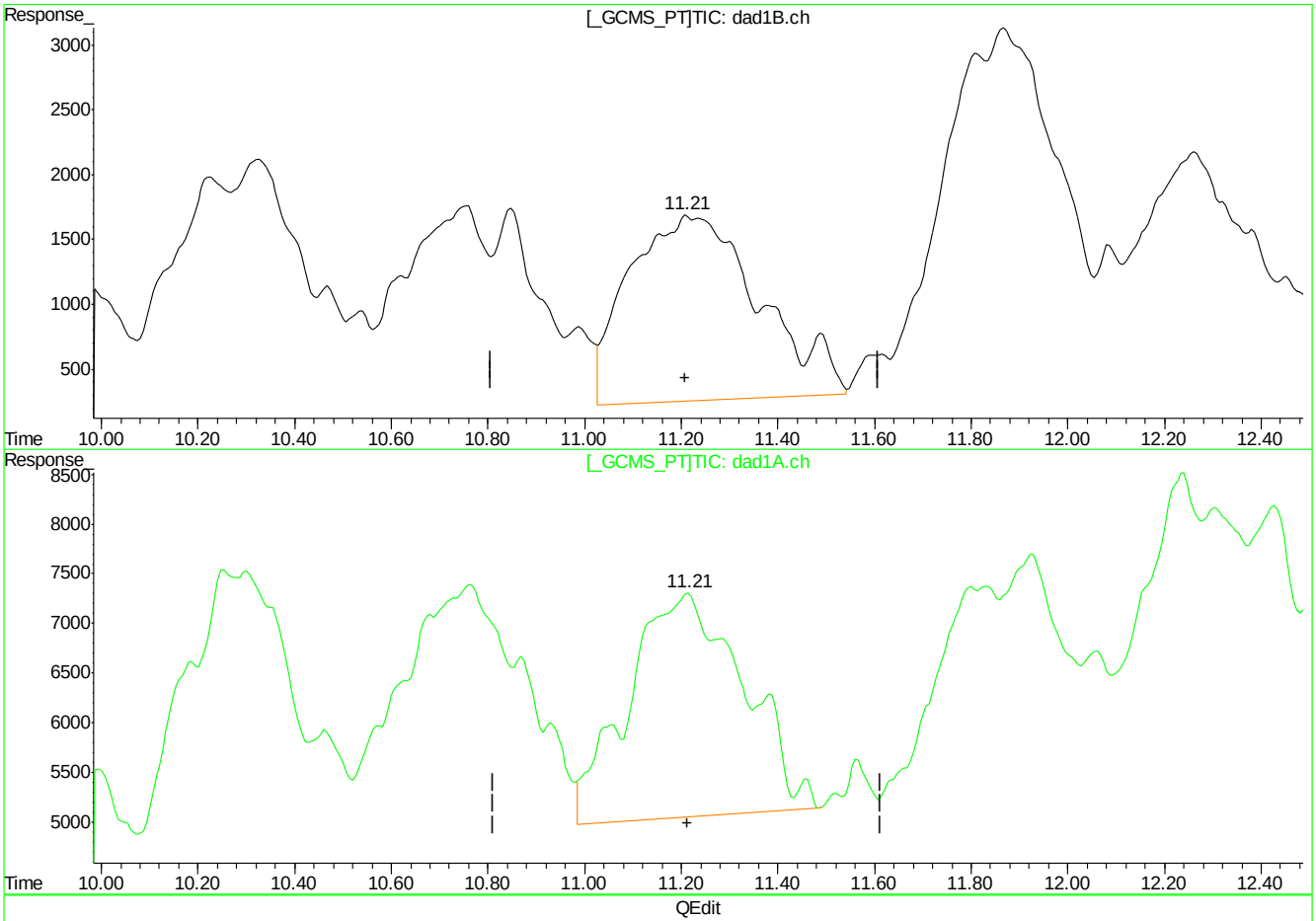
response 144904

(+) = Expected Retention Time
BB088064.D BBB2700_050625.M Tue May 06 12:31:02 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088064.D\dad1A.ch
Acq On : 06-May-2025, 11:04:53 Operator: fouads
Sample : ic2700-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:31 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:31:41 2025
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

11.21min 128.618ppb m

response 269396

(15) 3,4-Dinitrotoluene #2 (S)

11.21min 99.441ppb

response 372906

(+) = Expected Retention Time
BB088064.D BBB2700_050625.M Tue May 06 12:32:39 2025

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 05/08/25 17:12

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088065.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088065.D\dad1A.ch
Acq On : 06-May-2025, 11:32:20 Operator: fouads
Sample : ic2700-200 Inst : G1315B
Misc : op9214,GBB2700,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 06 12:02:02 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.70	10.73	466510	880490	222.726m	234.796
	Spiked Amount 500.000	Range 70 - 136		Recovery =		44.55%#	46.96%#
	Target Compounds						
1)	TNX	1.35	1.35	786139	1226694	129.952	132.097
2)	HMX	1.47	1.47	303004	930695	201.120	222.916
3)	DNX	1.74	1.74	1328668	2139587	270.188	277.200
4)	MNX	2.33	2.33	1435656	2228668	312.930	314.830
5)	RDX	2.95	2.95	380161	637276	205.485	215.584
6)	1,3,5-Trinitrobe	4.69	4.69	885060	1432948	227.611	212.975
7)	1,3-Dinitrobenze	5.93	5.93	1078137	786960	214.650	228.048m
8)	3,5-Dinitroanili	6.30	6.30	871402	1540213	225.113	236.790
9)	Nitrobenzene	7.53	7.53	672918	707891	230.853	248.723
10)	Nitroglycerin	0.00	8.92	0	327983	N.D. d	269.372
11)	Tetryl	9.36	9.37	611297	924836	230.689	217.703
12)	2,4,6-Trinitroto	9.79	9.79	750494	941539	220.906	229.117
13)	2-Amino-4,6-Dini	10.26	10.27	735098	1013921	232.984	214.116
14)	4-Amino-2,6-Dini	10.70	10.73	458644	880490	202.562m	193.405
16)	2,4-Dinitrotolue	11.88	11.91	967291	631125	218.078	213.627m
17)	2,6-Dinitrotolue	12.33	12.28	592306	687953	240.200	212.633
18)	o-Nitrotoluene	15.41	15.42	433113	590170	218.290	210.430
19)	p-Nitrotoluene	16.00	16.03	644816	463738	217.640	183.773
20)	m-Nitrotoluene	16.83	16.83	590440	770836	210.204	226.752
21)	PETN	0.00	18.47	0	234329	N.D. d	222.713m

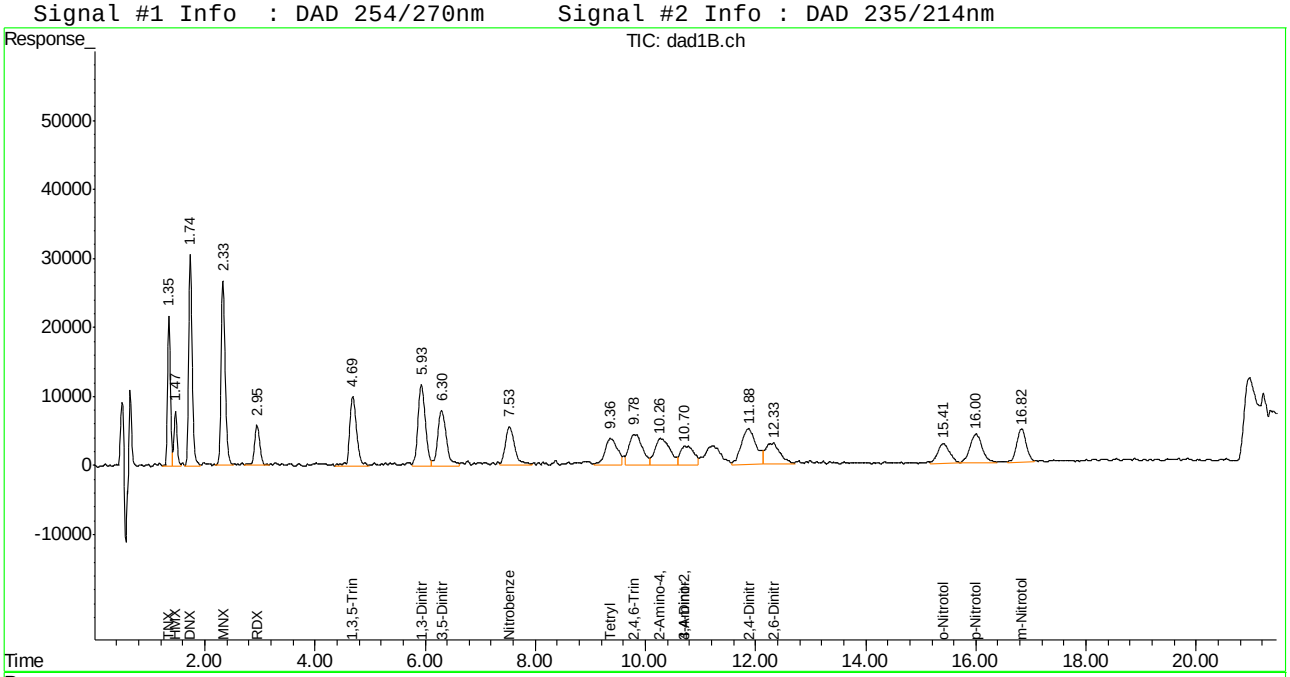
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088065.D BBB2700_050625.M Thu May 08 11:31:03 2025 Page 1

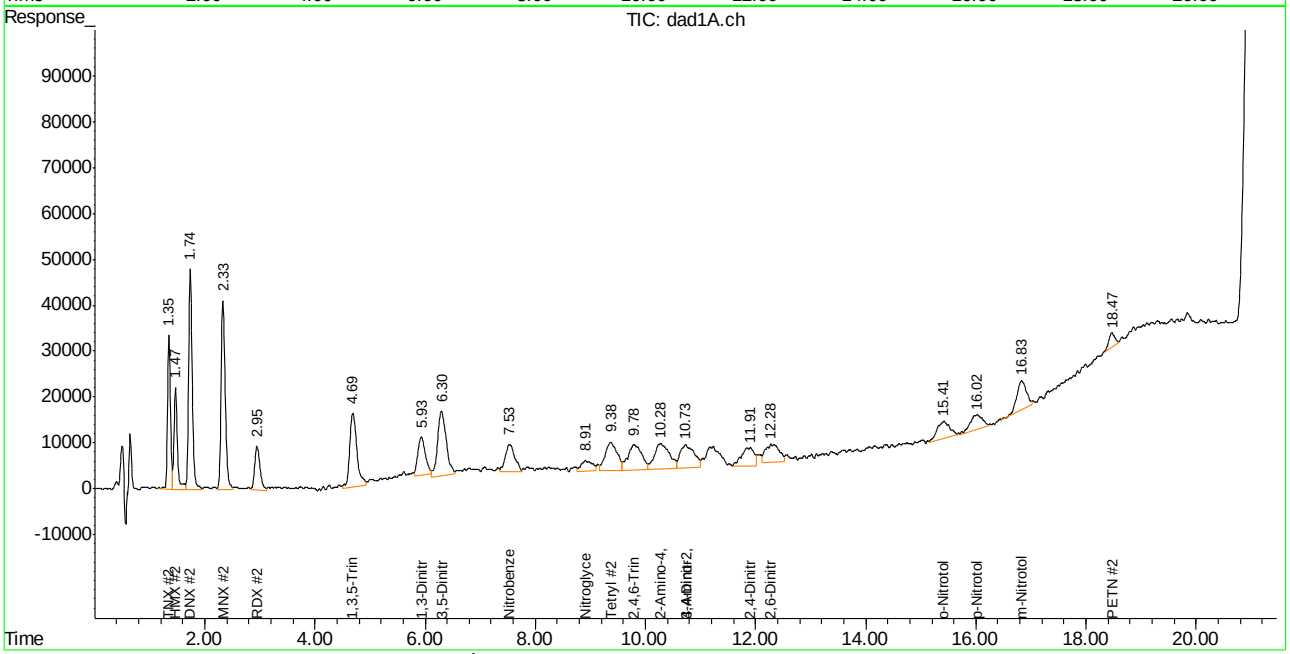
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088065.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088065.D\dad1A.ch
Acq On : 06-May-2025, 11:32:20 Operator: fouads
Sample : ic2700-200 Inst : G1315B
Misc : op9214,GBB2700,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:04 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

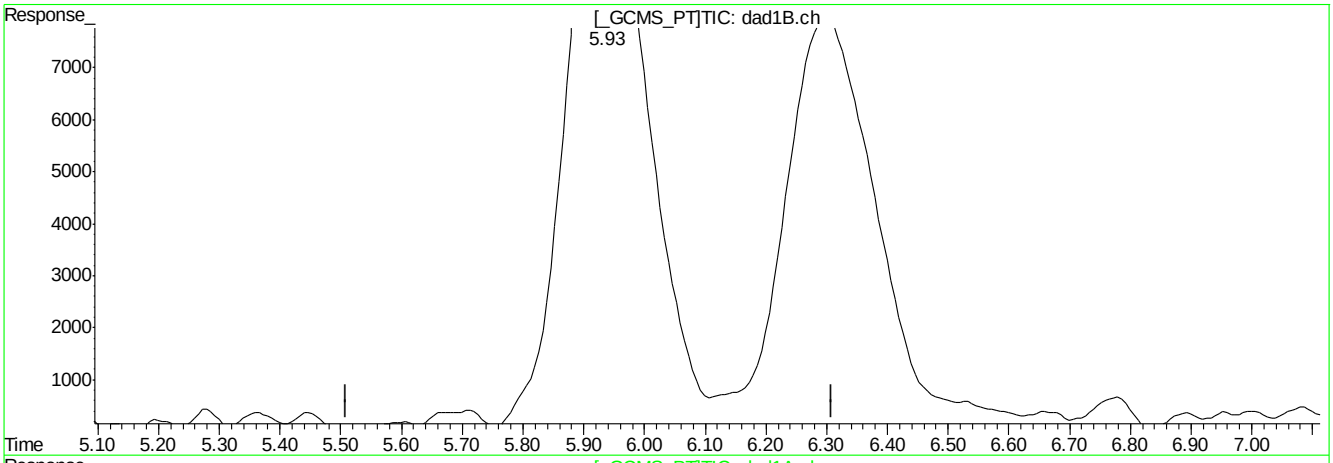
Sample Number: GBB2700-IC2700
Lab FileID: BB088065.D
Injection Time: 05/06/25 11:32
Method: SW846 8330A
Analyst approved: 05/08/25 12:00 Fouad Sekkar
Supervisor approved: 05/08/25 17:12 William Hustedde

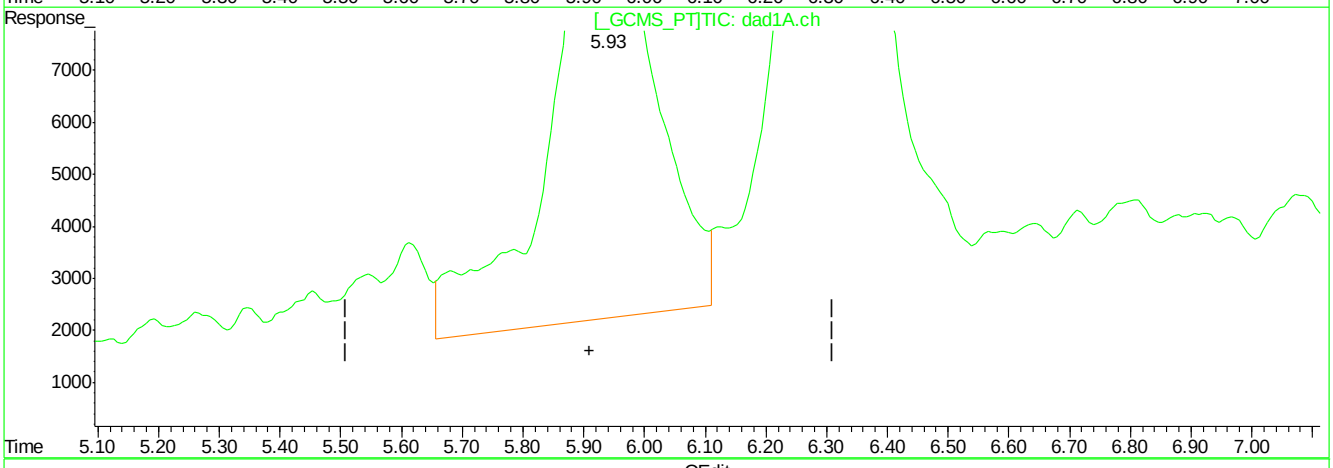
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	5.93	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	1	10.70	Missed peak
3,4-Dinitrotoluene	610-39-9	1	10.70	Missed peak
2,4-Dinitrotoluene	121-14-2	2	11.91	Missed peak
PETN	78-11-5	2	18.47	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088065.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088065.D\dad1A.ch
Acq On : 06-May-2025, 11:32:20 Operator: fouads
Sample : ic2700-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:02 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

5.93min 214.650ppb

response 1078137

(7) 1,3-Dinitrobenzene #2

5.94min 299.514ppb

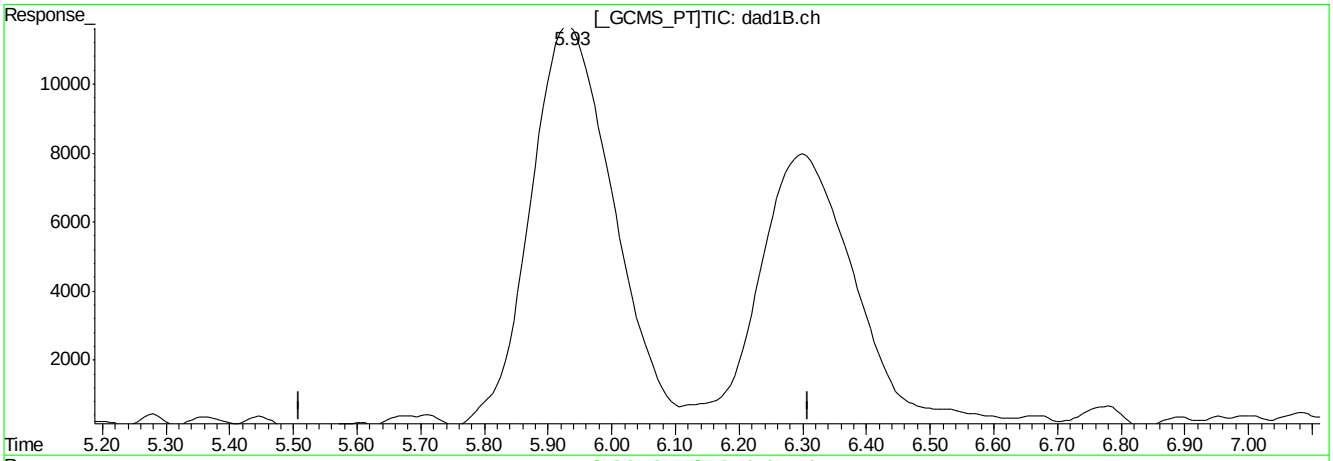
response 1033576

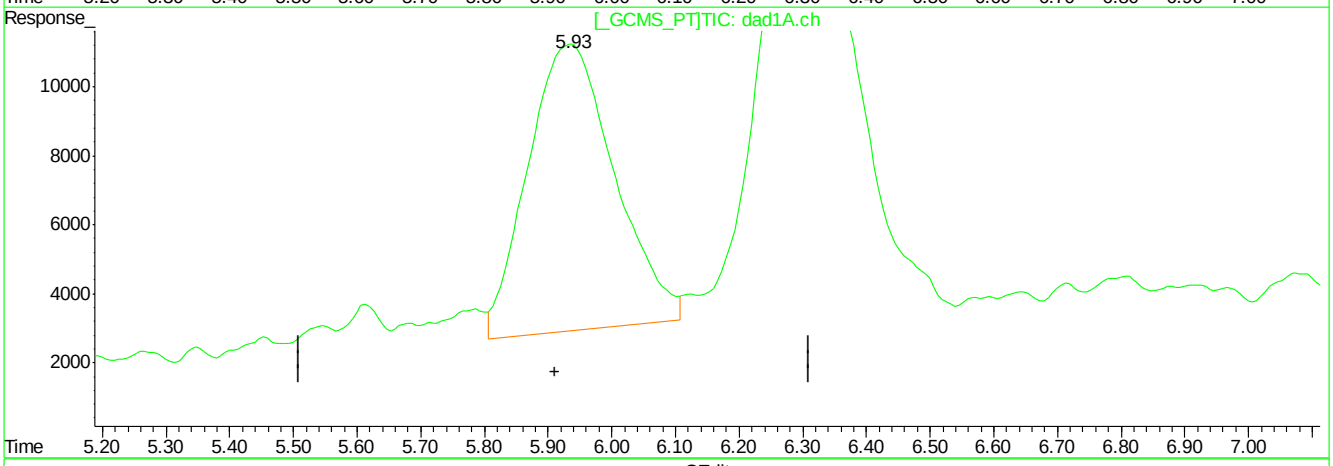
(+) = Expected Retention Time
BB088065.D BBB2700_050625.M Tue May 06 12:02:48 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088065.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088065.D\dad1A.ch
Acq On : 06-May-2025, 11:32:20 Operator: fouads
Sample : ic2700-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:02 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

5.93min 214.650ppb

response 1078137

(7) 1,3-Dinitrobenzene #2

5.93min 228.048ppb m

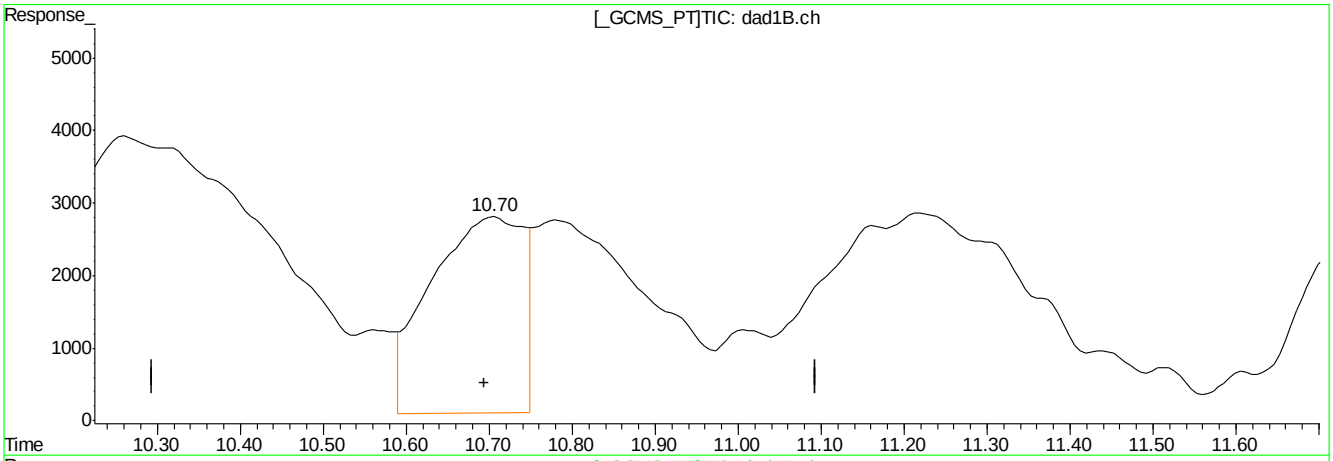
response 786960

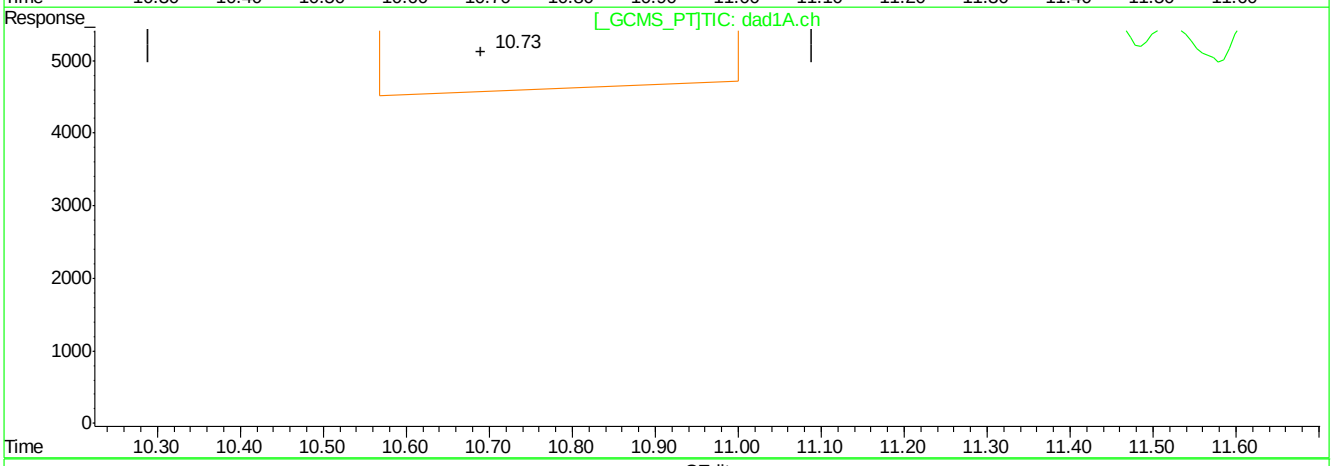
(+) = Expected Retention Time
BB088065.D BBB2700_050625.M Tue May 06 12:03:05 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088065.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088065.D\dad1A.ch
Acq On : 06-May-2025, 11:32:20 Operator: fouads
Sample : ic2700-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:02 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration





QEdit

(14) 4-Amino-2,6-Dinitrotoluene

10.71min 90.774ppb

response 205531

(14) 4-Amino-2,6-Dinitrotoluene #2

10.73min 193.405ppb

response 880490

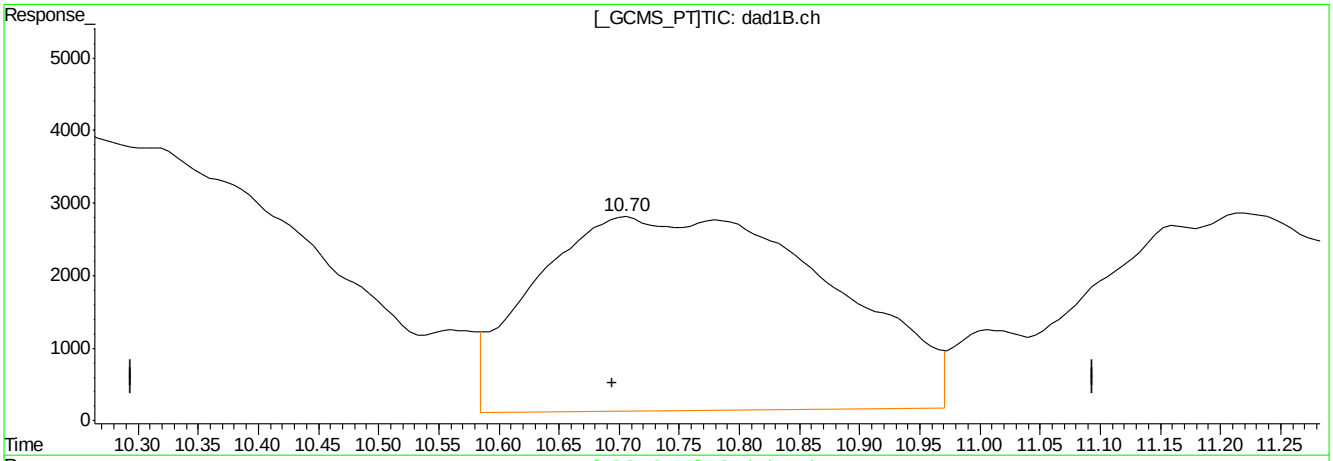
(+) = Expected Retention Time
BB088065.D BBB2700_050625.M Tue May 06 12:03:28 2025

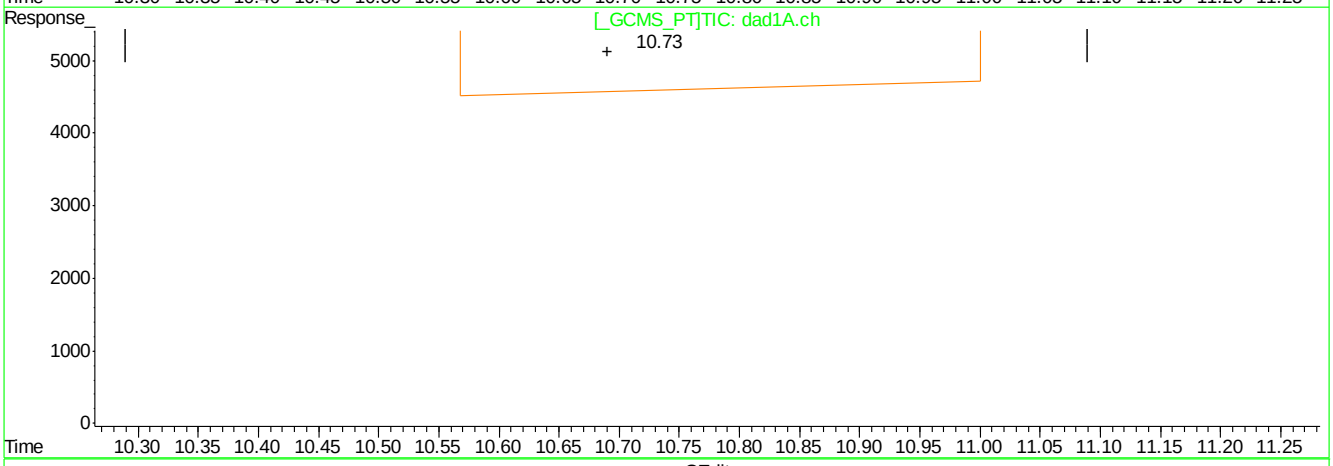
BB088065.D edits: 4-Amino-2,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088065.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088065.D\dad1A.ch
Acq On : 06-May-2025, 11:32:20 Operator: fouads
Sample : ic2700-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:02 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration





QEdit

(14) 4-Amino-2,6-Dinitrotoluene

10.70min 202.562ppb m

response 458644

(14) 4-Amino-2,6-Dinitrotoluene #2

10.73min 193.405ppb

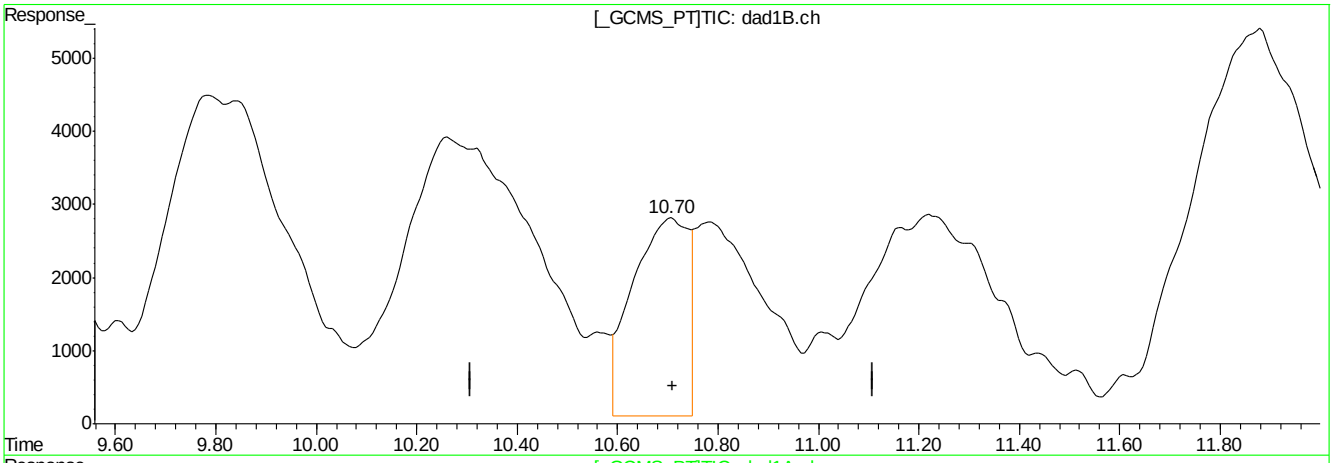
response 880490

(+) = Expected Retention Time
BB088065.D BBB2700_050625.M Tue May 06 12:03:38 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088065.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088065.D\dad1A.ch
Acq On : 06-May-2025, 11:32:20 Operator: fouads
Sample : ic2700-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:02 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.71min 98.127ppb

response 205531

(15) 3,4-Dinitrotoluene #2 (S)

10.73min 234.796ppb

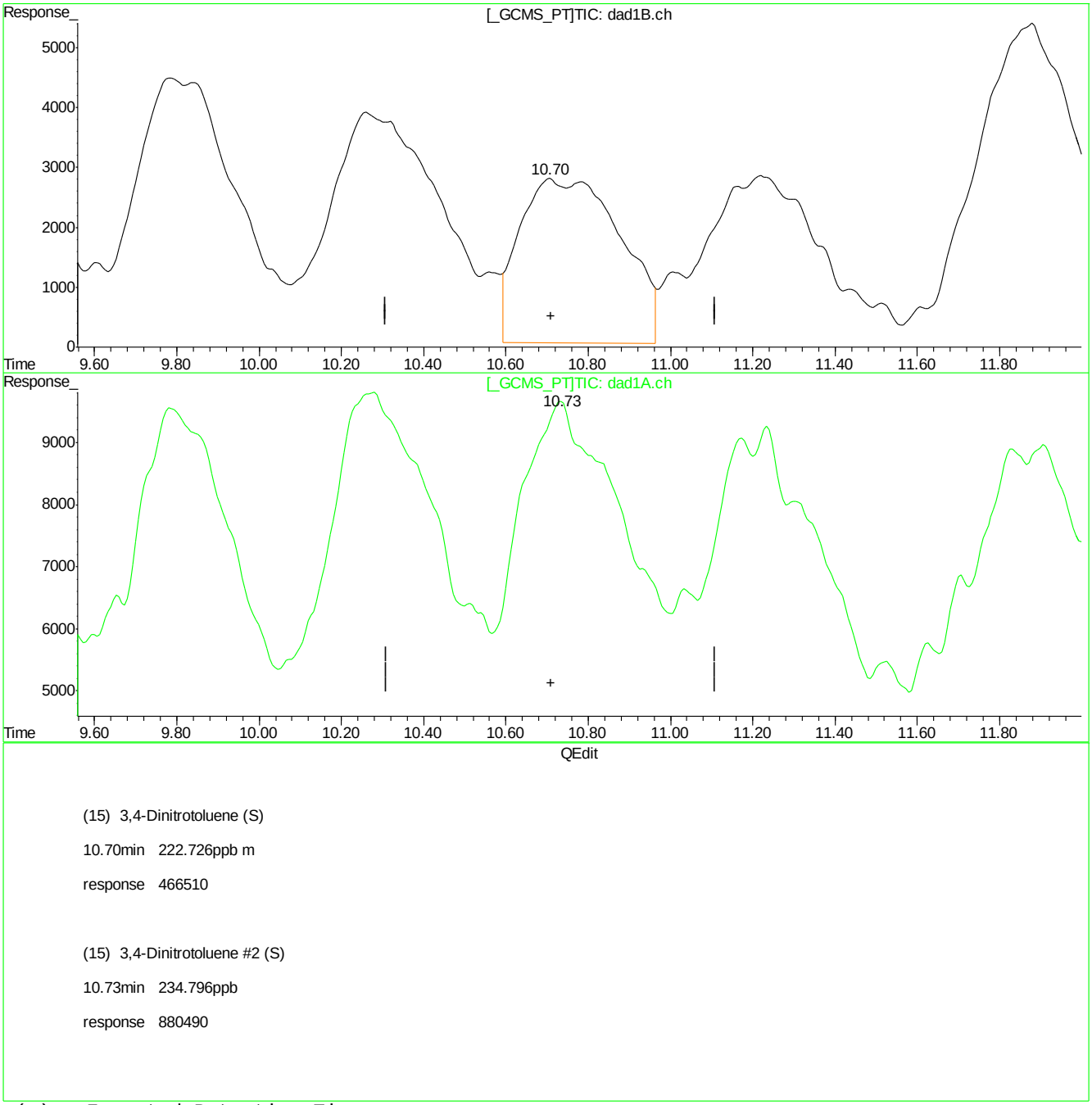
response 880490

(+) = Expected Retention Time
BB088065.D BBB2700_050625.M Tue May 06 12:03:45 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088065.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088065.D\dad1A.ch
Acq On : 06-May-2025, 11:32:20 Operator: fouads
Sample : ic2700-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:02 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

10.70min 222.726ppb m

response 466510

(15) 3,4-Dinitrotoluene #2 (S)

10.73min 234.796ppb

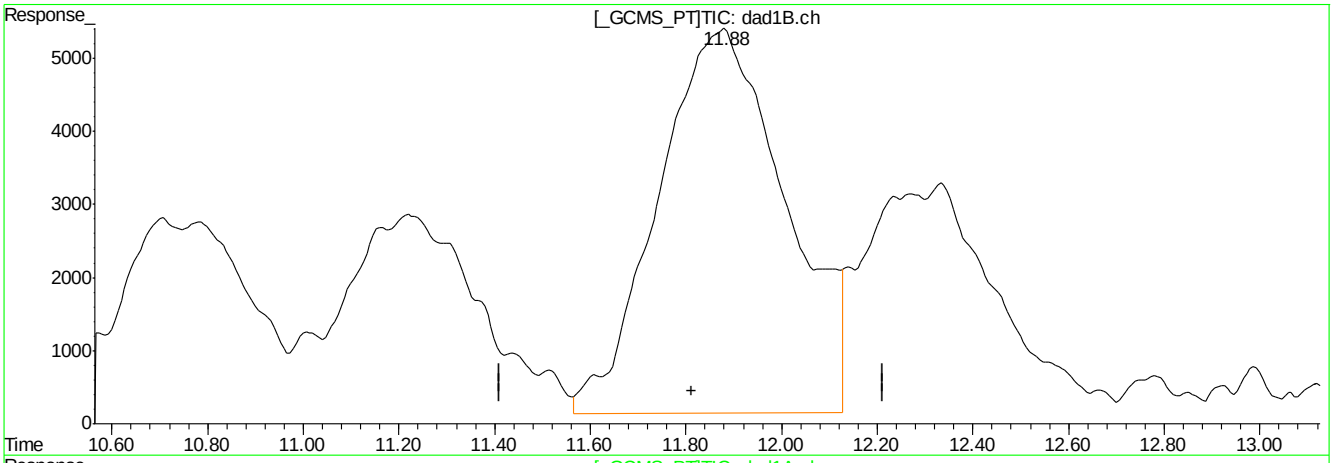
response 880490

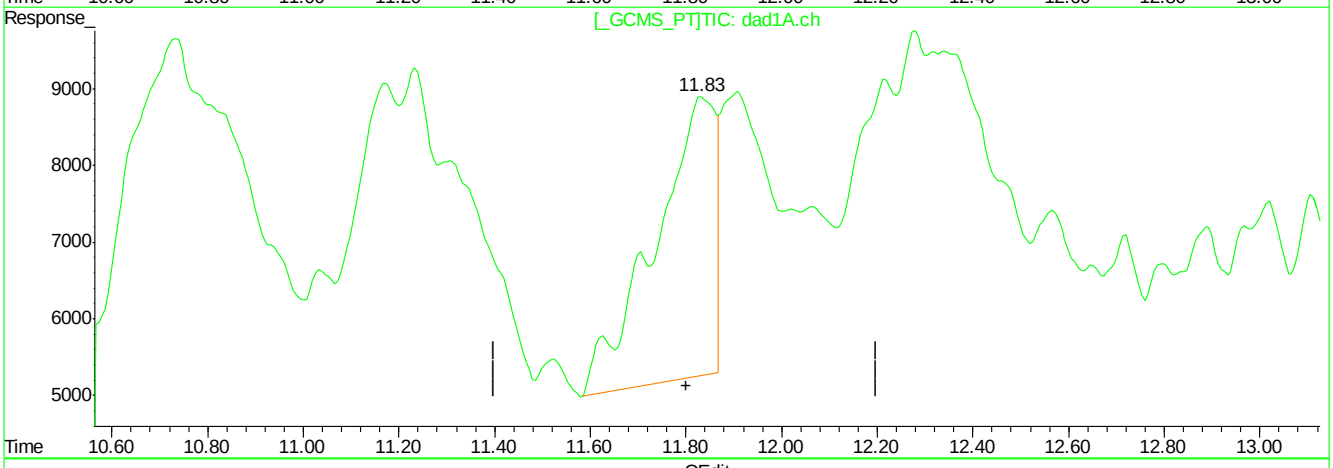
(+) = Expected Retention Time
BB088065.D BBB2700_050625.M Tue May 06 12:03:51 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088065.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088065.D\dad1A.ch
Acq On : 06-May-2025, 11:32:20 Operator: fouads
Sample : ic2700-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:02 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration





QEdit

(16) 2,4-Dinitrotoluene

11.88min 218.078ppb

response 967291

(16) 2,4-Dinitrotoluene #2

11.84min 106.498ppb

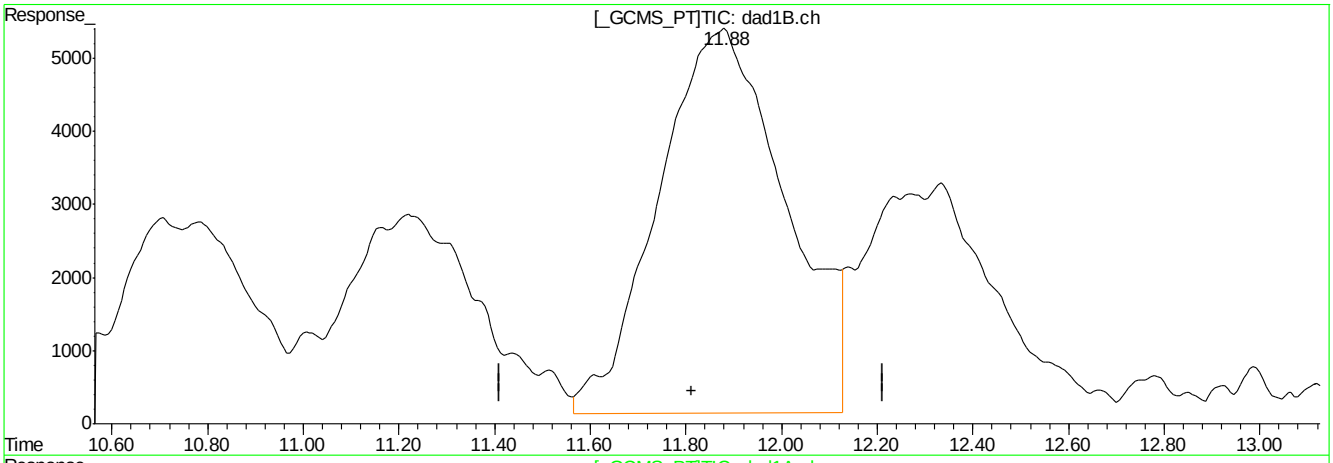
response 314629

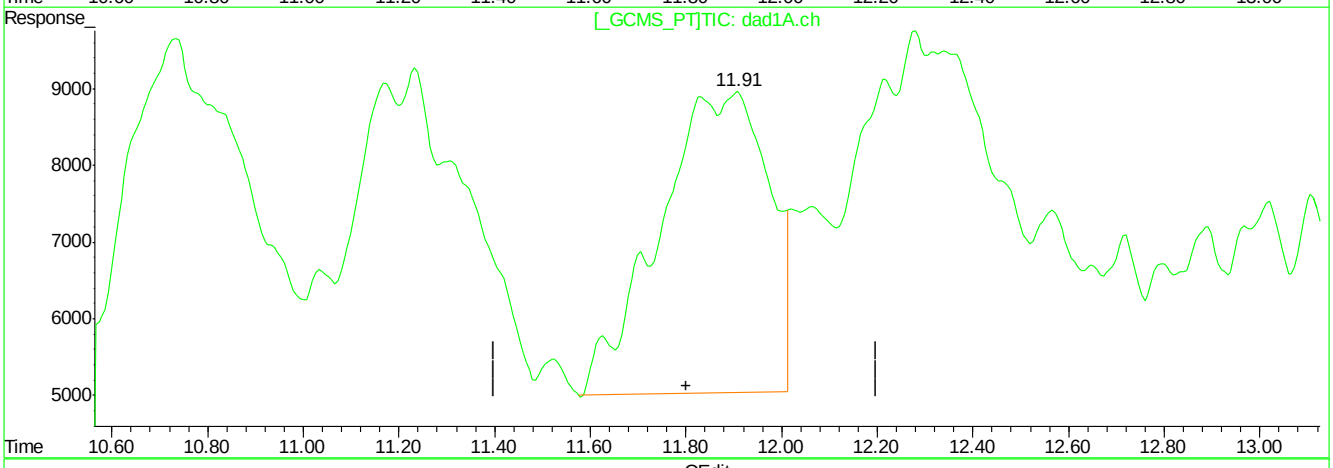
(+) = Expected Retention Time
BB088065.D BBB2700_050625.M Tue May 06 12:03:57 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088065.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088065.D\dad1A.ch
Acq On : 06-May-2025, 11:32:20 Operator: fouads
Sample : ic2700-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:02 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration





QEdit

(16) 2,4-Dinitrotoluene

11.88min 218.078ppb

response 967291

(16) 2,4-Dinitrotoluene #2

11.91min 213.627ppb m

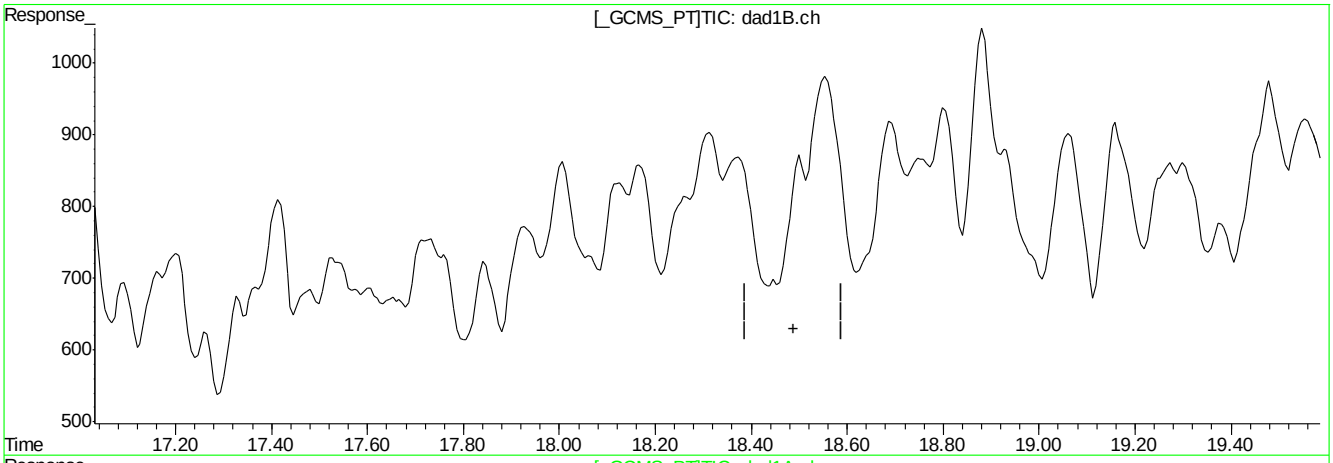
response 631125

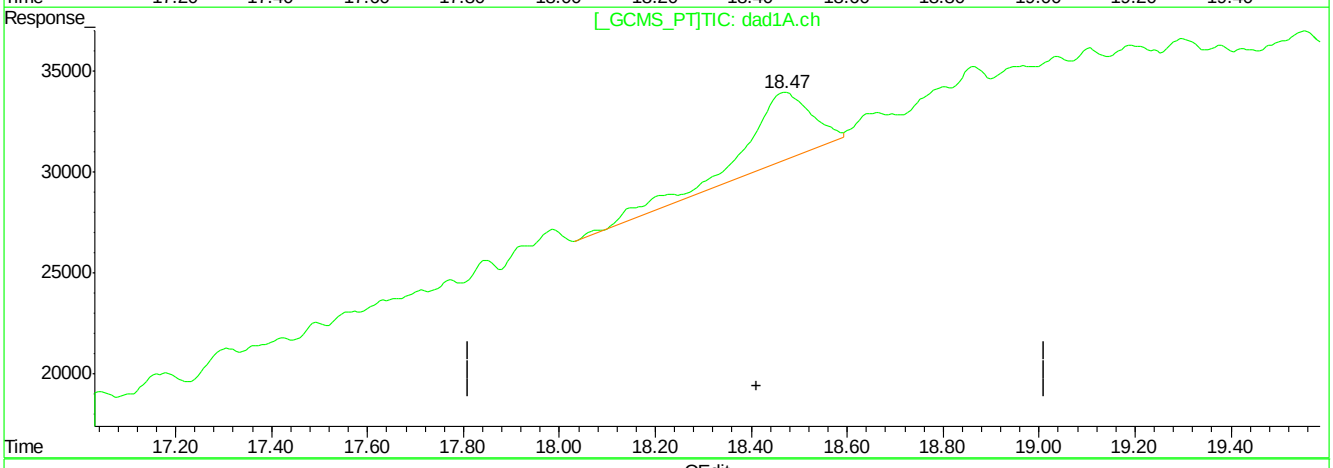
(+) = Expected Retention Time
BB088065.D BBB2700_050625.M Tue May 06 12:04:09 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088065.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088065.D\dad1A.ch
Acq On : 06-May-2025, 11:32:20 Operator: fouads
Sample : ic2700-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:02 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.47min 316.832ppb

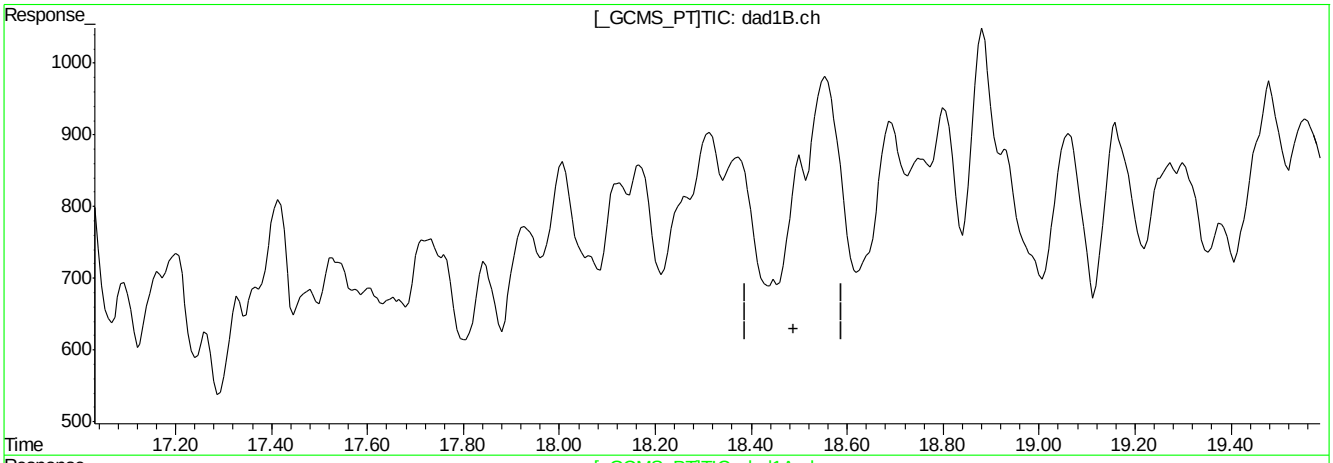
response 333358

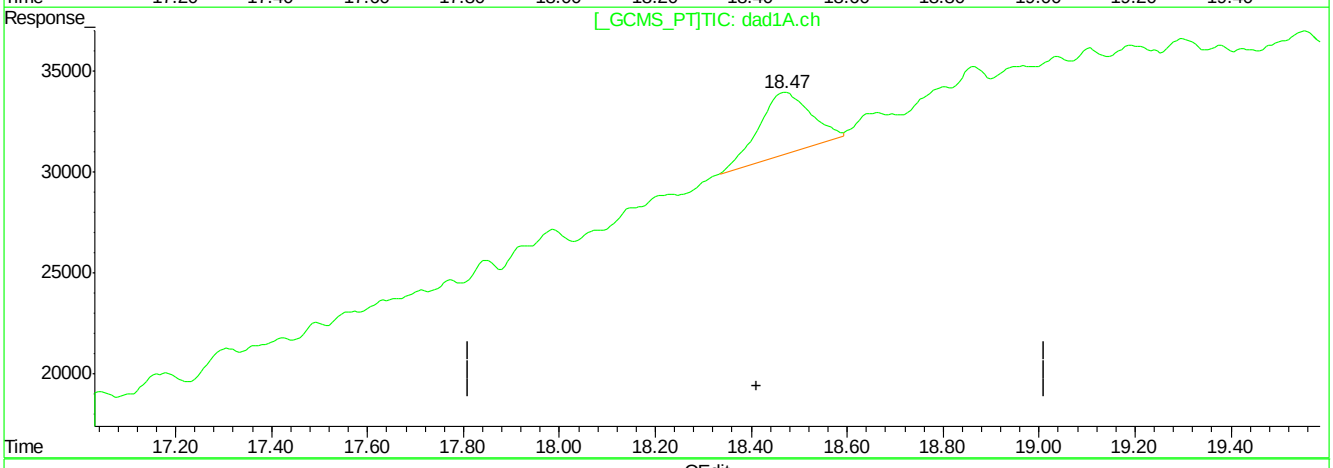
(+) = Expected Retention Time
BB088065.D BBB2700_050625.M Tue May 06 12:04:28 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088065.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088065.D\dad1A.ch
Acq On : 06-May-2025, 11:32:20 Operator: fouads
Sample : ic2700-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 12:02 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 11:09:37 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.47min 222.713ppb m

response 234329

(+) = Expected Retention Time
BB088065.D BBB2700_050625.M Tue May 06 12:04:34 2025

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088066.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088066.D\dad1A.ch
Acq On : 06-May-2025, 11:59:46 Operator: fouads
Sample : ic2700-500 Inst : G1315B
Misc : op9214,GBB2700,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 06 12:35:32 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:31:41 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.23	11.23	1185609	1966281	566.045	524.339
Spiked Amount	500.000	Range	70 - 136	Recovery	=	113.21%	104.87%
	Target Compounds						
1)	TNX	1.35	1.35	1930678	2997340	319.150	322.769
2)	HMX	1.47	1.47	775913	2193244	515.015	525.315
3)	DNX	1.74	1.74	3314902	5248753	674.093	680.017
4)	MNX	2.34	2.34	3555750	5517389	775.047	779.406
5)	RDX	2.95	2.95	951729	1498210	514.431	506.828
6)	1,3,5-Trinitrobe	4.70	4.70	2029132	3189639	521.832	474.066
7)	1,3-Dinitrobenze	5.94	5.94	2567853	2008416	511.243	582.007
8)	3,5-Dinitroanili	6.31	6.31	1908813	3396649	493.111	522.195
9)	Nitrobenzene	7.54	7.54	1500271	1586810	514.688	557.539
10)	Nitroglycerin	0.00	8.91	0	654607	N.D. d	537.628
11)	Tetryl	9.38	9.37	1463695	2216986	552.364	521.870
12)	2,4,6-Trinitroto	9.82	9.82	1824105	2151661	536.920	523.592
13)	2-Amino-4,6-Dini	10.29	10.29	1643426	2339612	520.872	494.071
14)	4-Amino-2,6-Dini	10.75	10.77	1198984	2229181	529.535	489.653
16)	2,4-Dinitrotolue	11.87	11.89	2295053	1432240	517.424	484.793
17)	2,6-Dinitrotolue	12.29	12.29	1362753	1848473	552.641	571.327
18)	o-Nitrotoluene	15.42	15.42	1063254	1454386	535.882	518.573
19)	p-Nitrotoluene	16.01	15.99	1596640	1196441	538.903	474.133
20)	m-Nitrotoluene	16.83	16.84	1584548	1864381	564.119	548.432
21)	PETN	0.00	18.47	0	570690	N.D. d	542.399

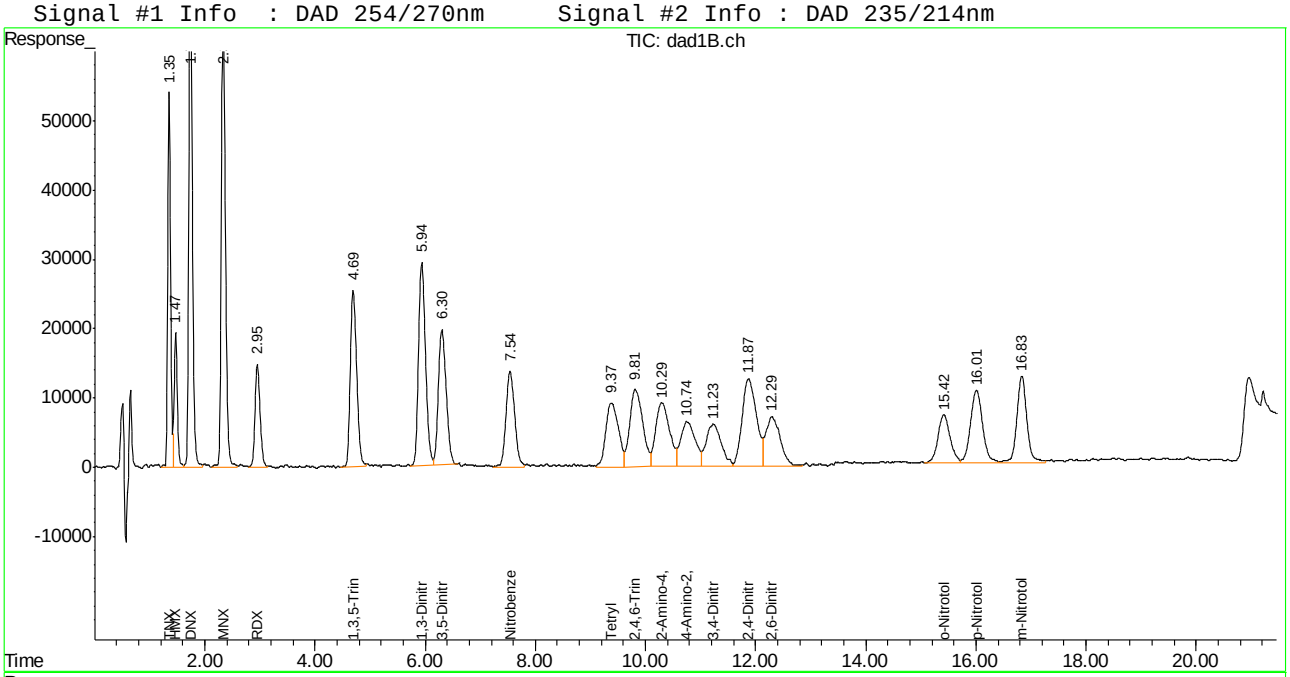
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088066.D BBB2700_050625.M Thu May 08 11:31:04 2025 Page 1

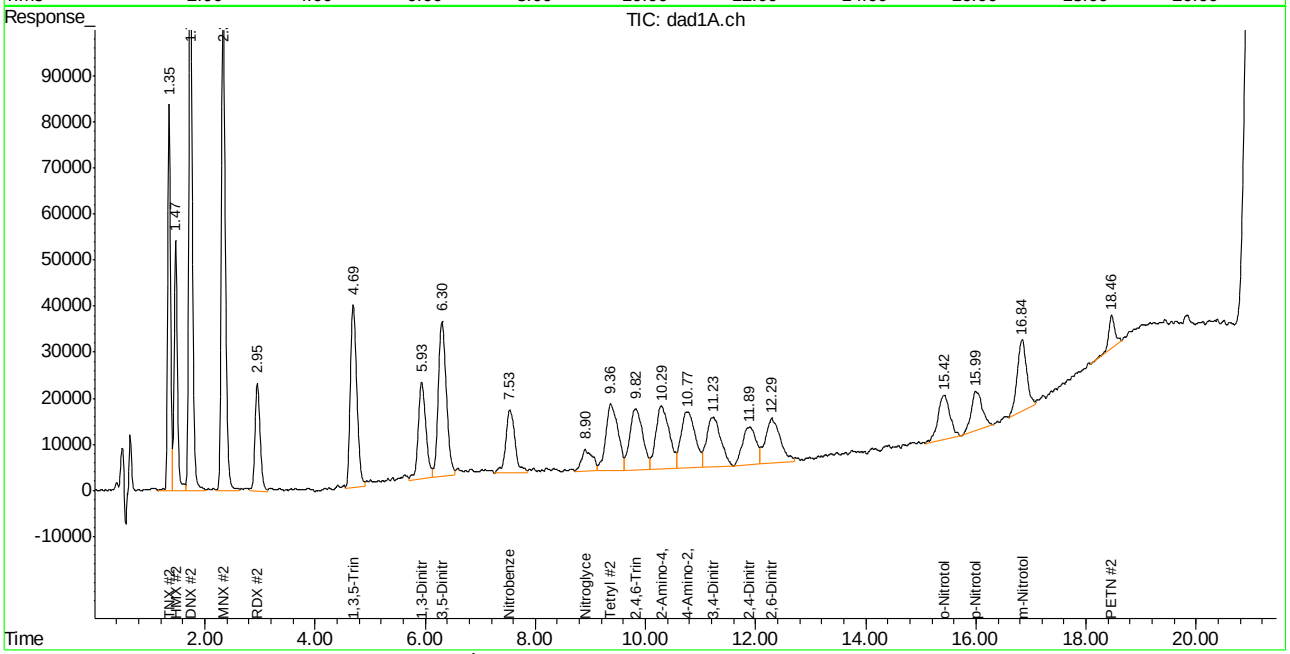
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088066.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088066.D\dad1A.ch
Acq On : 06-May-2025, 11:59:46 Operator: fouads
Sample : ic2700-500 Inst : G1315B
Misc : op9214,GBB2700,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 13:36 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:31:41 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 05/08/25 17:12

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088067.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088067.D\dad1A.ch
Acq On : 06-May-2025, 12:27:11 Operator: fouads
Sample : icc2700-1000 Inst : G1315B
Misc : op9214,GBB2700,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 06 13:33:23 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:31:41 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.24	11.24	2282754	3696770	1089.854	985.801
Spiked Amount	500.000	Range	70 - 136	Recovery	=	217.97%#	197.16%#
	Target Compounds						
1)	TNX	1.35	1.35	3815514	5842799	630.721	629.182
2)	HMX	1.47	1.47	1515519	4201064	1005.932	1006.219
3)	DNX	1.74	1.74	6499462	10217230	1321.681	1323.721
4)	MNX	2.34	2.34	6998712	10765640	1525.510	1520.792
5)	RDX	2.96	2.96	1823676	2868700	985.738	970.450
6)	1,3,5-Trinitrobe	4.70	4.70	4045026	6252833	1040.260	929.339
7)	1,3-Dinitrobenze	5.94	5.94	5095393	3651078	1014.460	1058.024
8)	3,5-Dinitroanili	6.31	6.31	3892566	6410970	1005.582	985.612
9)	Nitrobenzene	7.54	7.55	2948529	2875809	1011.532	1010.440
10)	Nitroglycerin	0.00	8.95	0	1255564	N.D. d	1031.193
11)	Tetryl	9.39	9.39	2842969	4295753	1072.871	1011.204
12)	2,4,6-Trinitroto	9.83	9.83	3581175	4103345	1054.109	998.521
13)	2-Amino-4,6-Dini	10.30	10.30	3164723	4482577	1003.037	946.615
14)	4-Amino-2,6-Dini	10.77	10.77	2400954	4401058	1060.390	966.719
16)	2,4-Dinitrotolue	11.88	11.88	4450110	2746546	1003.286	929.667
17)	2,6-Dinitrotolue	12.31	12.31	2694183	3234614	1092.580	999.755
18)	o-Nitrotoluene	15.42	15.42	2054512	2763961	1035.478	985.514
19)	p-Nitrotoluene	16.01	16.01	3132381	2385889	1057.250	945.495
20)	m-Nitrotoluene	16.84	16.84	2984654	3531832	1062.575	1038.935
21)	PETN	0.00	18.47	0	969051	N.D. d	921.012m

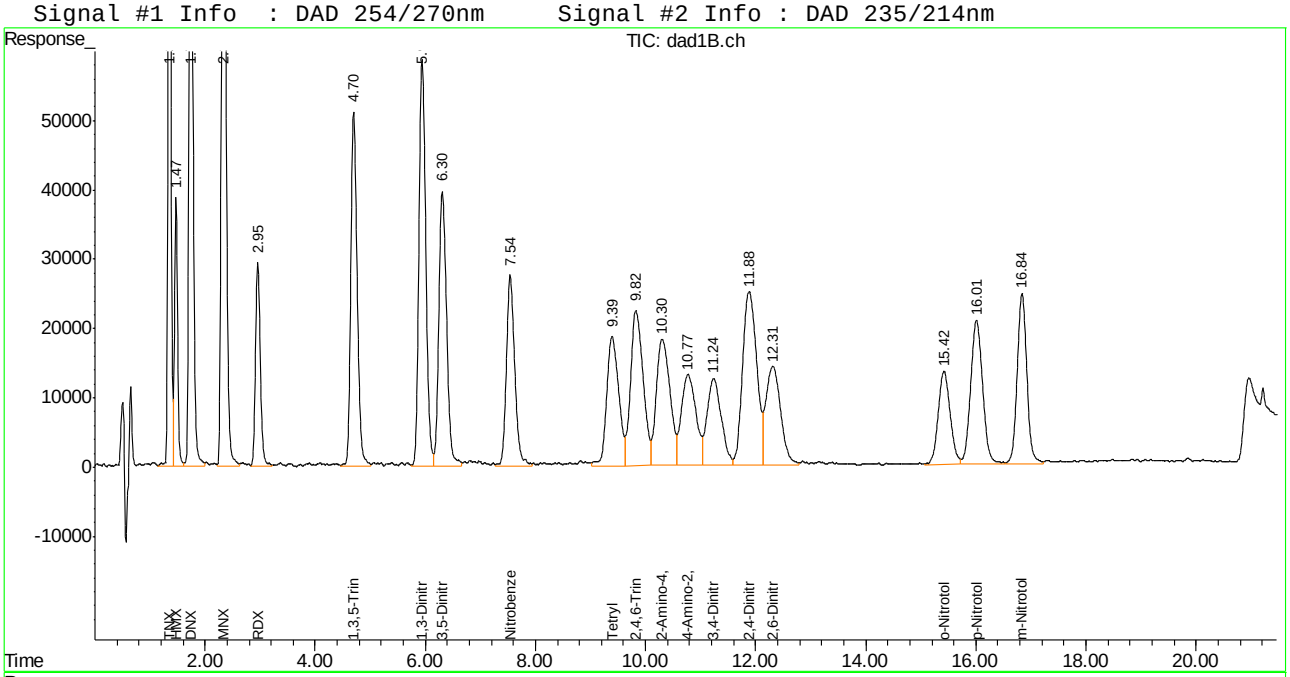
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088067.D BBB2700_050625.M Thu May 08 11:31:05 2025 Page 1

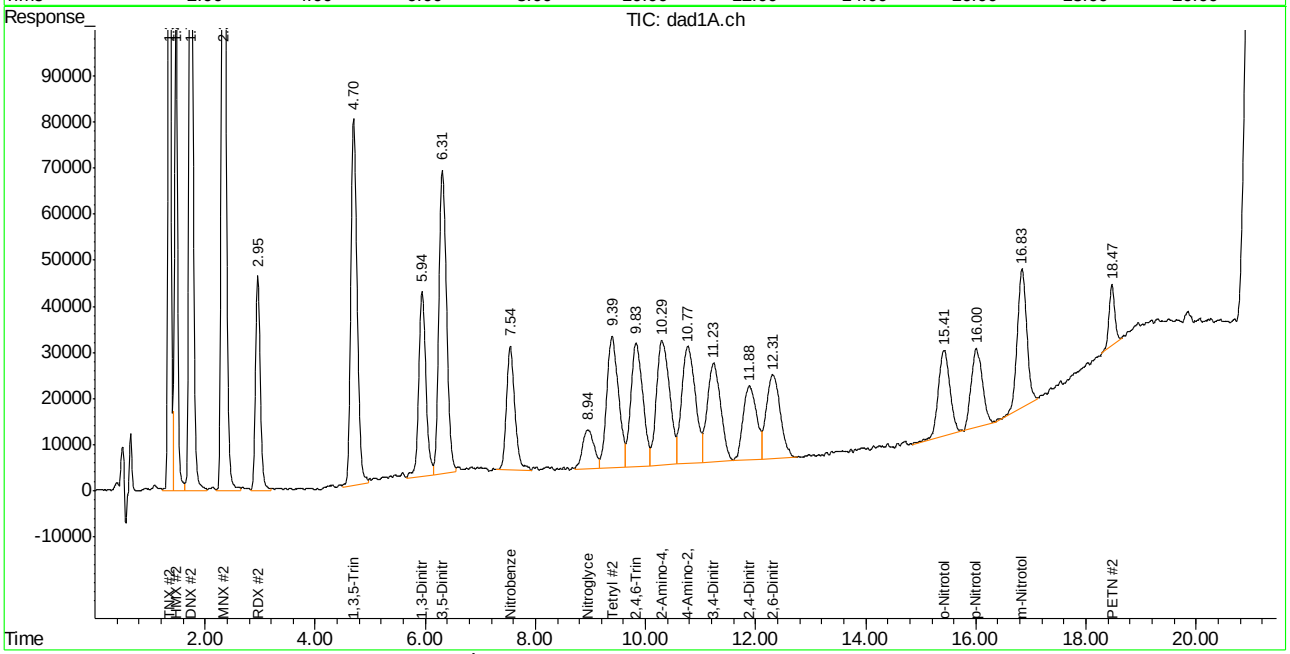
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088067.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088067.D\dad1A.ch
Acq On : 06-May-2025, 12:27:11 Operator: fouads
Sample : icc2700-1000 Inst : G1315B
Misc : op9214,GBB2700,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 13:35 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:31:41 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

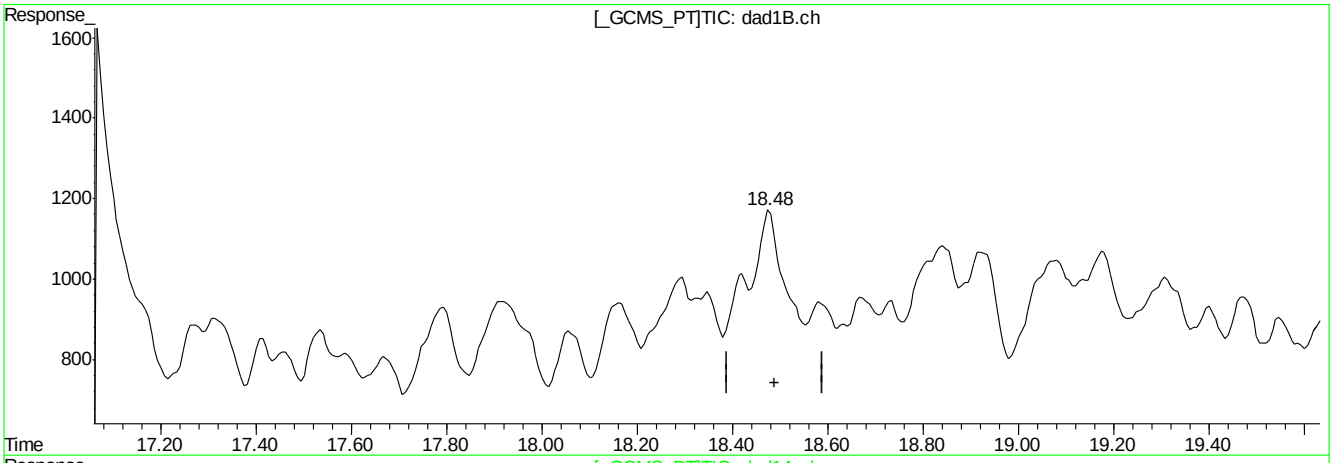
Sample Number: GBB2700-ICC2700
Lab FileID: BB088067.D
Injection Time: 05/06/25 12:27
Method: SW846 8330A
Analyst approved: 05/08/25 12:00 Fouad Sekkar
Supervisor approved: 05/08/25 17:12 William Hustedde

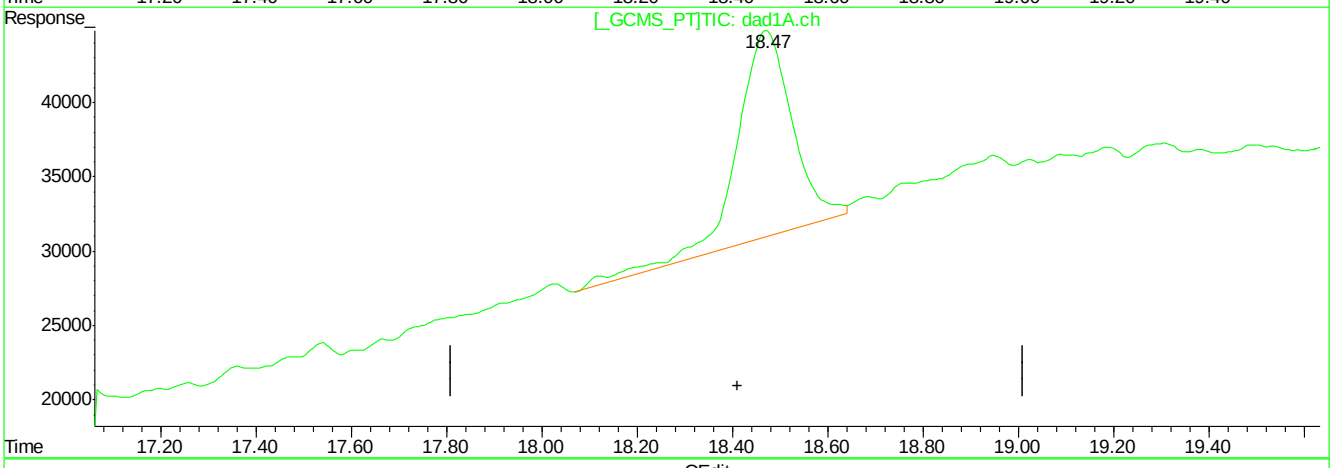
Parameter	CAS	Sig#	R.T. (min.)	Reason
PETN	78-11-5	2	18.47	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088067.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088067.D\dad1A.ch
Acq On : 06-May-2025, 12:27:11 Operator: fouads
Sample : icc2700-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 13:33 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:31:41 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

18.48min 0.000ppb

response 57419

(21) PETN #2

18.47min 1079.879ppb

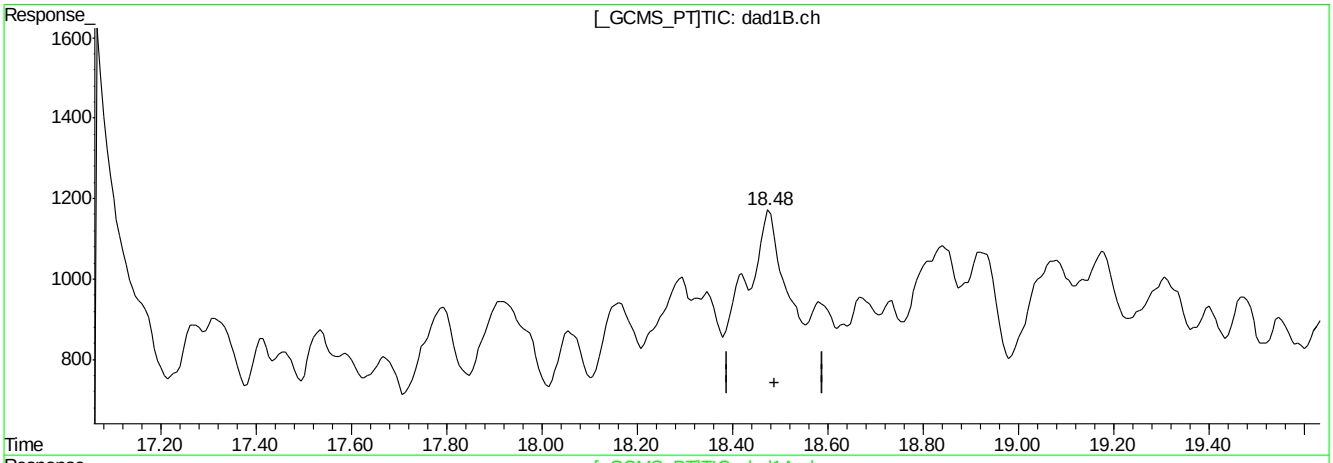
response 1136205

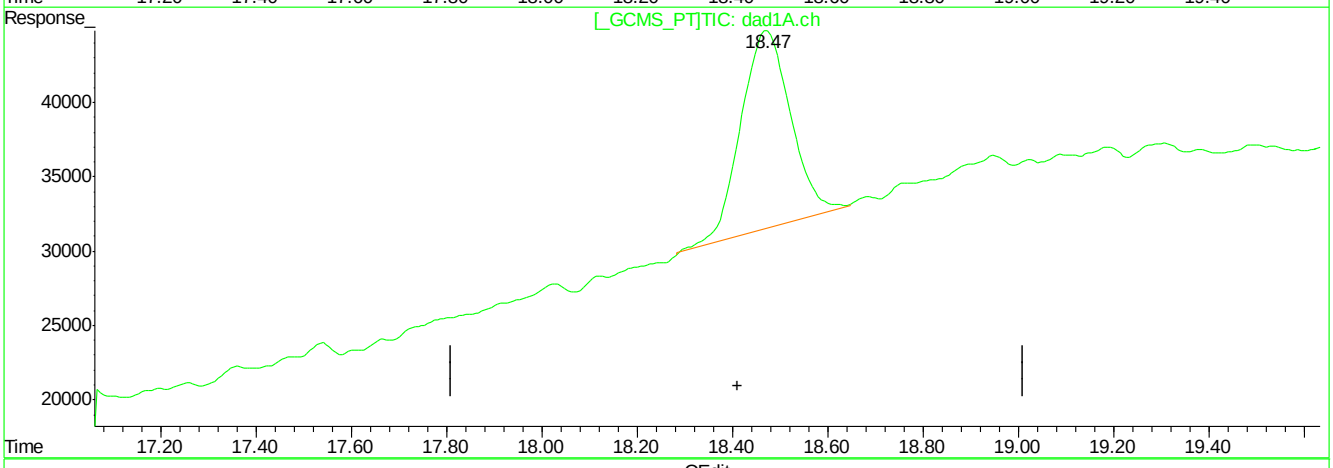
(+) = Expected Retention Time
BB088067.D BBB2700_050625.M Tue May 06 13:34:22 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088067.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088067.D\dad1A.ch
Acq On : 06-May-2025, 12:27:11 Operator: fouads
Sample : icc2700-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 13:33 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:31:41 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

18.48min 0.000ppb

response 57419

(21) PETN #2

18.47min 921.012ppb m

response 969051

(+) = Expected Retention Time
BB088067.D BBB2700_050625.M Tue May 06 13:34:31 2025

BB088068.D

Manual Integrations APPROVED (compounds with "m" flag)

William Hustedde 05/08/25 17:12

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088068.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088068.D\dad1A.ch
Acq On : 06-May-2025, 12:54:35 Operator: fouads
Sample : ic2700-2500 Inst : G1315B
Misc : op9214,GBB2700,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 06 13:34:41 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:31:41 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.26	11.26	5579766	9715463	2663.945	2590.778
	Spiked Amount 500.000	Range 70 - 136		Recovery =		532.79%#	518.16%#
	Target Compounds						
1)	TNX	1.36	1.36	9427291	14513066	1558.373	1562.841
2)	HMX	1.48	1.48	3733387	10391952	2478.051	2489.031
3)	DNX	1.75	1.75	16082949	25353528	3270.505	3284.746
4)	MNX	2.34	2.34	17315935	26876582	3774.356	3796.681
5)	RDX	2.97	2.97	4502125	7260794	2433.498	2456.248
6)	1,3,5-Trinitrobe	4.72	4.72	9996645	15507405	2570.838	2304.817
7)	1,3-Dinitrobenze	5.96	5.96	12633533	8675021	2515.254	2513.883
8)	3,5-Dinitroanili	6.33	6.33	9589245	15848011	2477.228	2436.446
9)	Nitrobenzene	7.55	7.55	7235868	7041192	2482.360	2473.982
10)	Nitroglycerin	0.00	8.98	0	3044325	N.D. d	2500.300
11)	Tetryl	9.43	9.42	6989575	10787163	2637.703	2539.256
12)	2,4,6-Trinitroto	9.86	9.86	8778695	10481187	2583.984	2550.526
13)	2-Amino-4,6-Dini	10.33	10.34	7851130	11571379	2488.361	2443.604
14)	4-Amino-2,6-Dini	10.80	10.80	5807325	11427157	2564.825	2510.045
16)	2,4-Dinitrotolue	11.91	11.91	11077480	7235789	2497.440	2449.213
17)	2,6-Dinitrotolue	12.34	12.34	6477222	8385796	2626.727	2591.883
18)	o-Nitrotoluene	15.43	15.43	5042216	6996775	2541.286	2494.759
19)	p-Nitrotoluene	16.02	16.02	7696677	6298898	2597.804	2496.167
20)	m-Nitrotoluene	16.84	16.84	7317424	8810094	2605.096	2591.605
21)	PETN	0.00	18.47	0	2425593	N.D. d	2305.347m

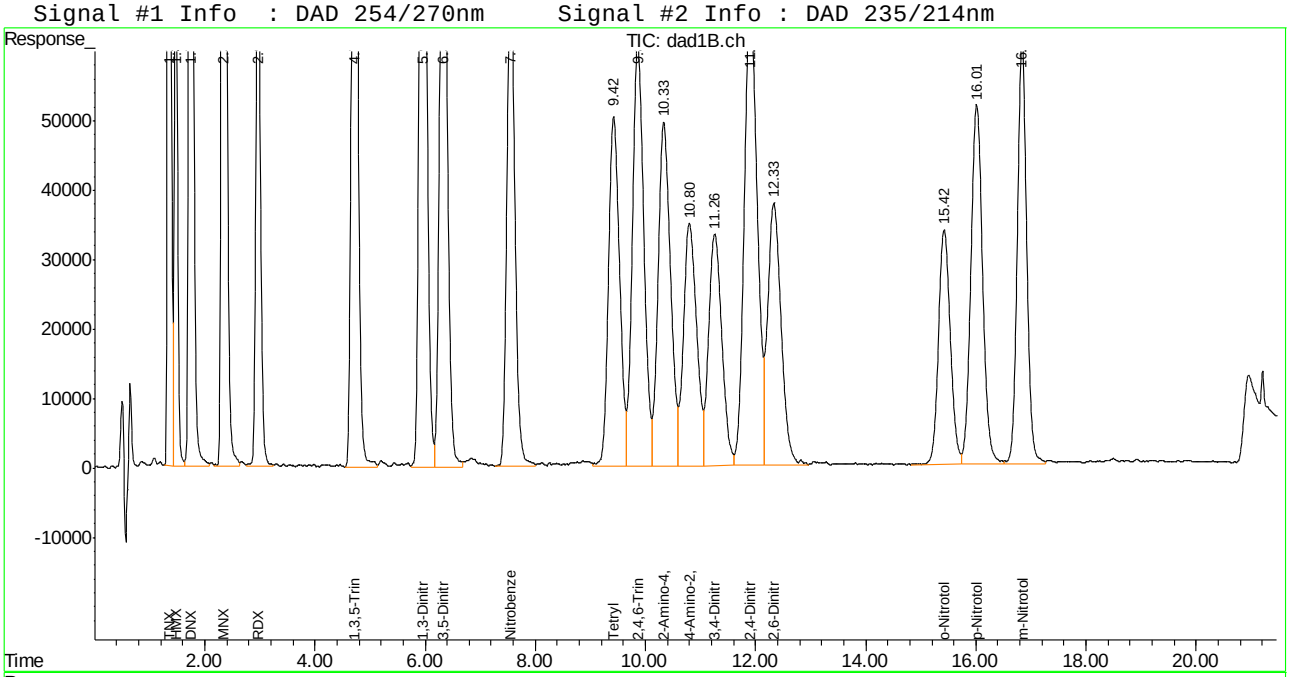
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

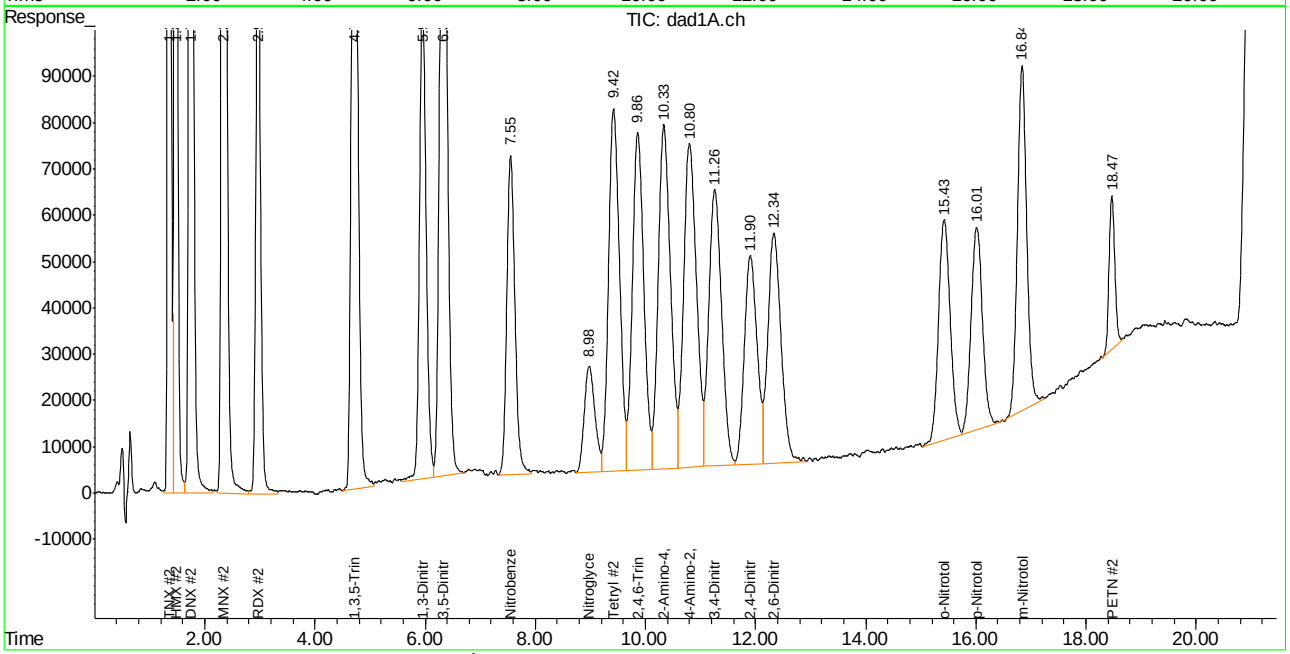
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088068.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088068.D\dad1A.ch
Acq On : 06-May-2025, 12:54:35 Operator: fouads
Sample : ic2700-2500 Inst : G1315B
Misc : op9214,GBB2700,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 13:35 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:31:41 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

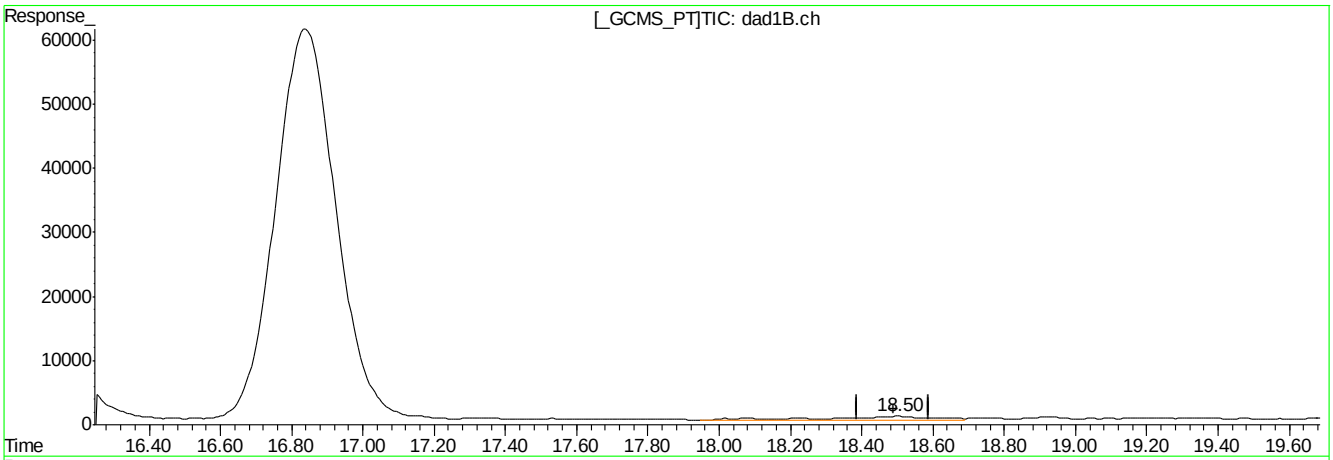
Sample Number: GBB2700-IC2700
Lab FileID: BB088068.D
Injection Time: 05/06/25 12:54
Method: SW846 8330A
Analyst approved: 05/08/25 12:00 Fouad Sekkar
Supervisor approved: 05/08/25 17:12 William Hustedde

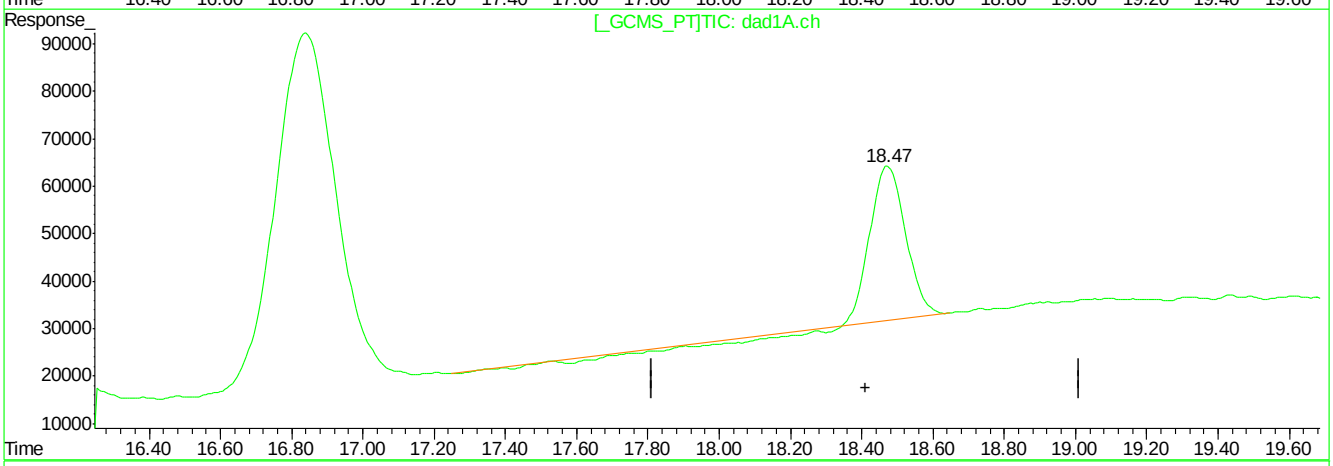
Parameter	CAS	Sig#	R.T. (min.)	Reason
PETN	78-11-5	2	18.47	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088068.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088068.D\dad1A.ch
Acq On : 06-May-2025, 12:54:35 Operator: fouads
Sample : ic2700-2500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 13:34 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:31:41 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

18.50min 0.000ppb

response 154860

(21) PETN #2

18.47min 1901.358ppb

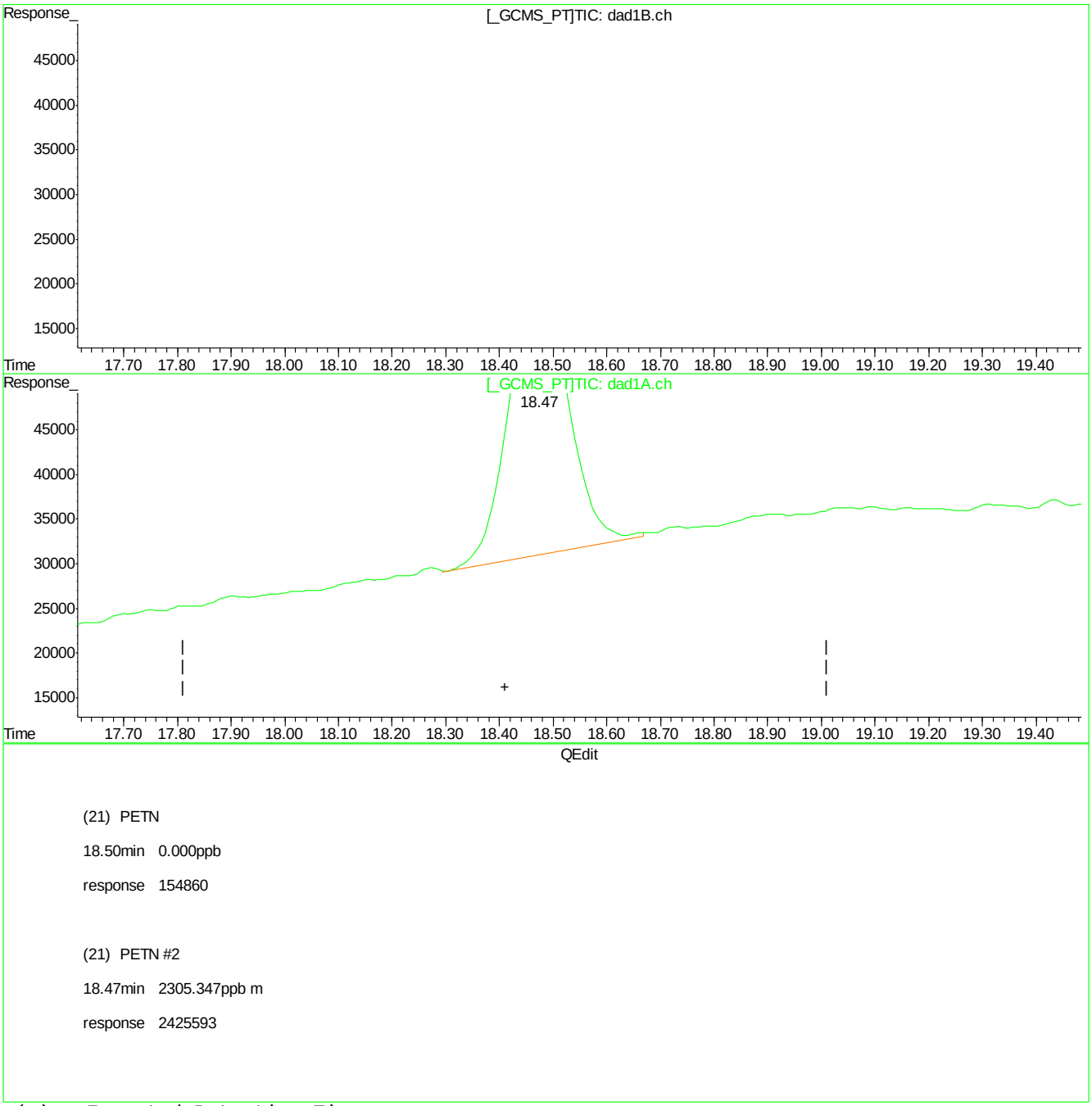
response 2000532

(+) = Expected Retention Time
BB088068.D BBB2700_050625.M Tue May 06 13:35:15 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088068.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088068.D\dad1A.ch
Acq On : 06-May-2025, 12:54:35 Operator: fouads
Sample : ic2700-2500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 13:34 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:31:41 2025
Response via : Multiple Level Calibration



(21) PETN

18.50min 0.000ppb

response 154860

(21) PETN #2

18.47min 2305.347ppb m

response 2425593

(+) = Expected Retention Time
BB088068.D BBB2700_050625.M Tue May 06 13:35:23 2025

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088069.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088069.D\dad1A.ch
Acq On : 06-May-2025, 13:22:03 Operator: fouads
Sample : ic2700-5000 Inst : G1315B
Misc : op9214,GBB2700,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 06 14:06:35 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:31:41 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.31	11.31	11020109	19626568	5261.325	5233.727
	Spiked Amount 500.000	Range 70 - 136		Recovery = 1052.27%#		1046.75%#	
	Target Compounds						
1)	TNX	1.36	1.36	18904102	29028230	3124.931	3125.908
2)	HMX	1.48	1.48	7422770	20539995	4926.895	4919.643
3)	DNX	1.75	1.75	32007662	50272047	6508.833	6513.133
4)	MNX	2.35	2.35	34560230	53405925	7533.097	7544.310
5)	RDX	2.98	2.98	8883013	14249269	4801.465	4820.374
6)	1,3,5-Trinitrobe	4.74	4.74	19842886	30776333	5102.996	4574.190
7)	1,3-Dinitrobenze	5.97	5.97	25227246	17042362	5022.581	4938.605
8)	3,5-Dinitroanili	6.35	6.35	18993376	31308281	4906.636	4813.282
9)	Nitrobenzene	7.57	7.57	14347063	13916979	4921.951	4889.848
10)	Nitroglycerin	0.00	9.02	0	6086967	N.D. d	4999.219
11)	Tetryl	9.47	9.47	13975730	21916410	5274.116	5159.038
12)	2,4,6-Trinitroto	9.91	9.91	17564220	21140016	5169.979	5144.279
13)	2-Amino-4,6-Dini	10.38	10.38	15590226	23446194	4941.215	4951.287
14)	4-Amino-2,6-Dini	10.85	10.85	11544346	23189869	5098.601	5093.797
16)	2,4-Dinitrotolue	11.95	11.95	22126443	14687557	4988.450	4971.532
17)	2,6-Dinitrotolue	12.38	12.38	12779563	16521614	5182.535	5106.503
18)	o-Nitrotoluene	15.44	15.44	10088183	14120787	5084.463	5034.885
19)	p-Nitrotoluene	16.02	16.02	15410572	12904030	5201.419	5113.690
20)	m-Nitrotoluene	16.84	16.84	14791303	17521642	5265.892	5154.222
21)	PETN	0.00	18.48	0	4830833	N.D. d	4591.350

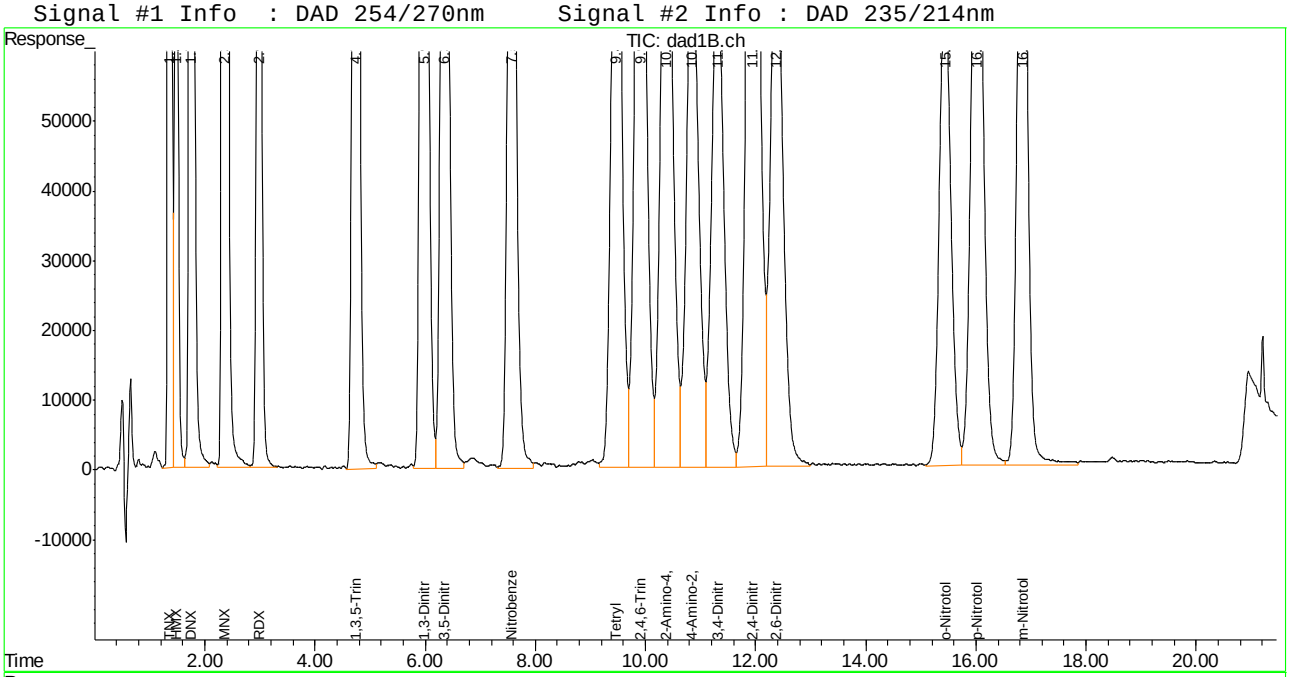
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088069.D BBB2700_050625.M Thu May 08 11:31:07 2025 Page 1

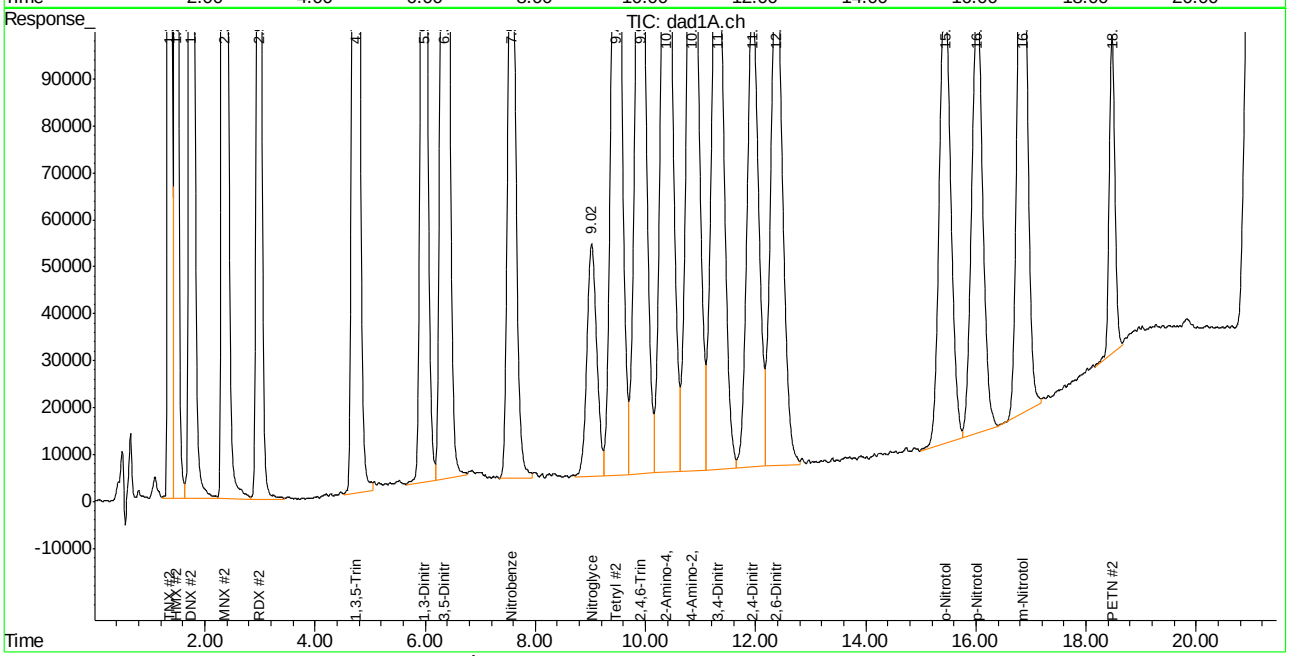
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088069.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088069.D\dad1A.ch
Acq On : 06-May-2025, 13:22:03 Operator: fouads
Sample : ic2700-5000 Inst : G1315B
Misc : op9214,GBB2700,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 14:07 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 12:31:41 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 05/08/25 17:12

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088070.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088070.D\dad1A.ch
Acq On : 06-May-2025, 13:49:33 Operator: fouads
Sample : icv2700-1000 Inst : G1315B
Misc : op9214,GBB2700,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 06 14:18:06 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 14:17:44 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.47	1.47	1565529	4435068	1052.139	958.571
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	2.96	2.96	1839440	2859738	1030.960	998.863
6)	1,3,5-Trinitrobe	4.70	4.70	3674729	5633498	923.644	912.858
7)	1,3-Dinitrobenze	5.95	5.95	4913192	3492476	972.849	1017.023
8)	3,5-Dinitroanili	6.31	6.31	4324398	7186620	1015.260m	1142.898m
9)	Nitrobenzene	7.55	7.55	2931907	2803486	1018.421	1002.256
10)	Nitroglycerin	0.00	8.96	0	1273155	N.D.	1043.666 #
11)	Tetryl	9.40	9.40	2793518	4294928	998.190	983.160
12)	2,4,6-Trinitroto	9.84	9.84	3641891	4333439	1035.617	1027.201
13)	2-Amino-4,6-Dini	10.32	10.32	3074514	4540658	917.523	971.988
14)	4-Amino-2,6-Dini	10.78	10.77	2417929	4588527	1044.466	996.752
16)	2,4-Dinitrotolue	11.90	11.90	4489187	2847903	1013.489	974.150
17)	2,6-Dinitrotolue	12.32	12.32	2657181	3449861	1034.269	1040.544
18)	o-Nitrotoluene	15.44	15.43	2055523	2791444	1017.622	990.295
19)	p-Nitrotoluene	16.03	16.03	3106539	2421220	935.384	945.305
20)	m-Nitrotoluene	16.85	16.85	3052072	3604422	1032.875	1026.449
21)	PETN	0.00	18.48	0	1276827	N.D. d	1194.604m

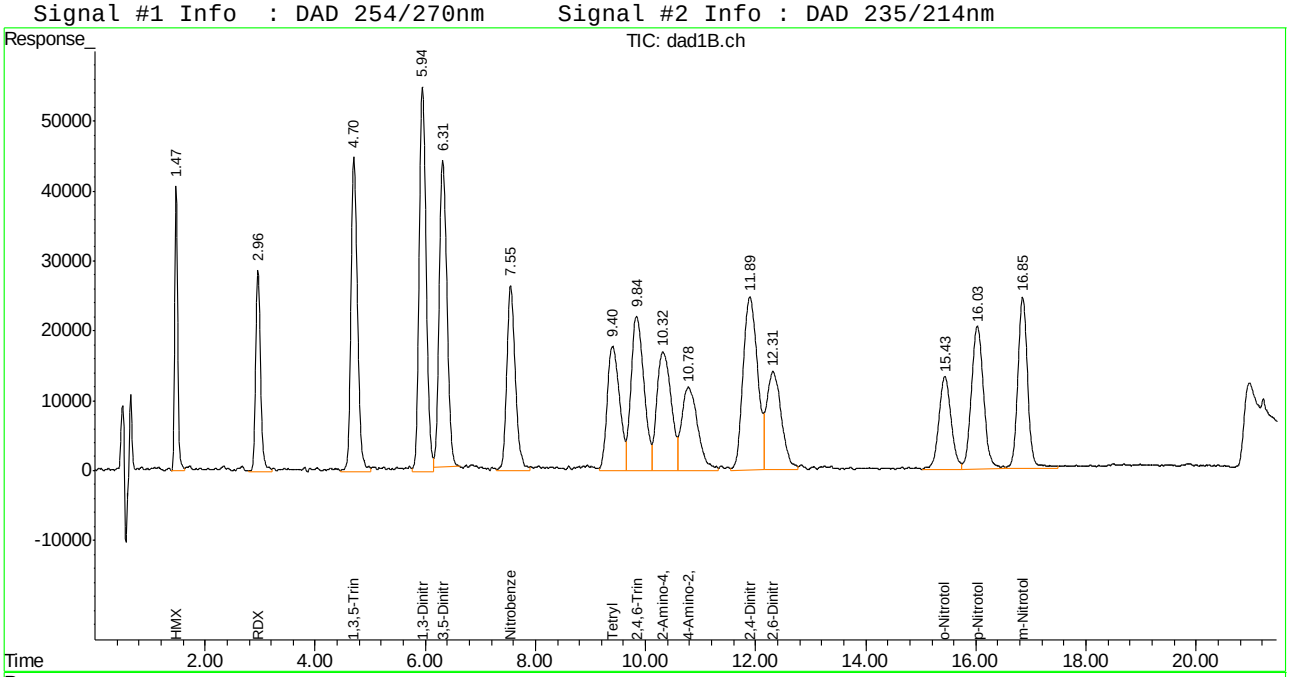
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088070.D BBB2700_050625.M Thu May 08 11:31:08 2025 Page 1

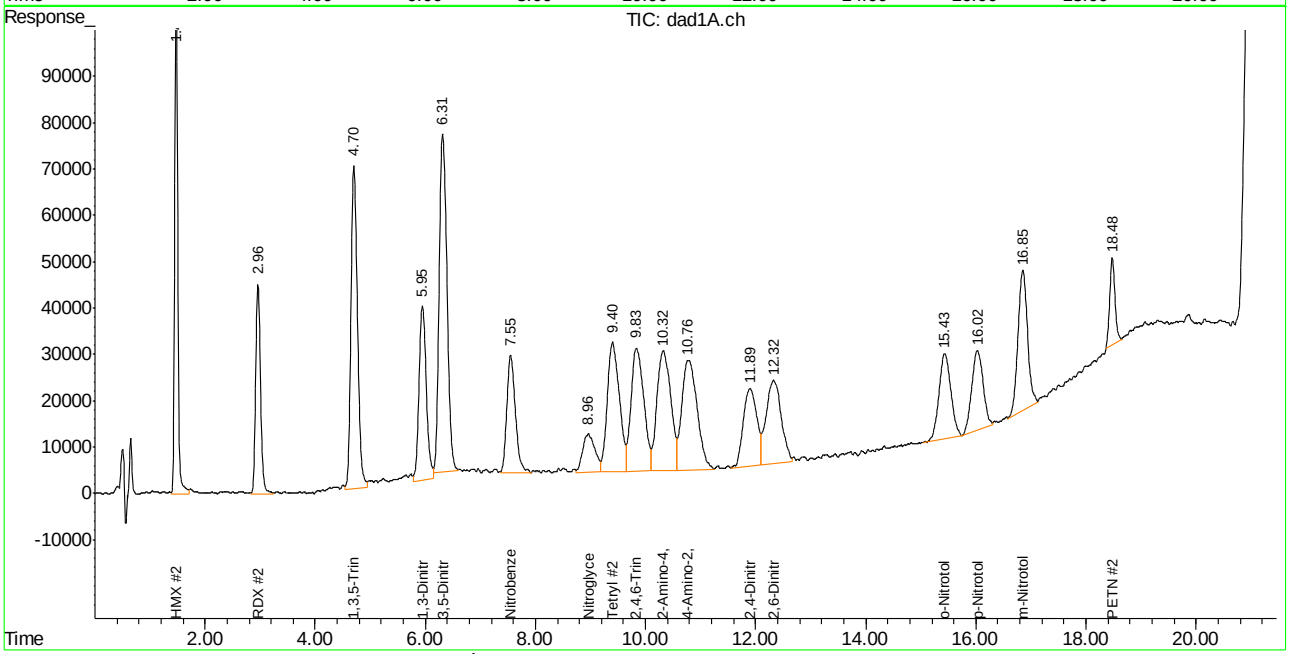
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088070.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088070.D\dad1A.ch
Acq On : 06-May-2025, 13:49:33 Operator: fouads
Sample : icv2700-1000 Inst : G1315B
Misc : op9214,GBB2700,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 14:20 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 14:17:44 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

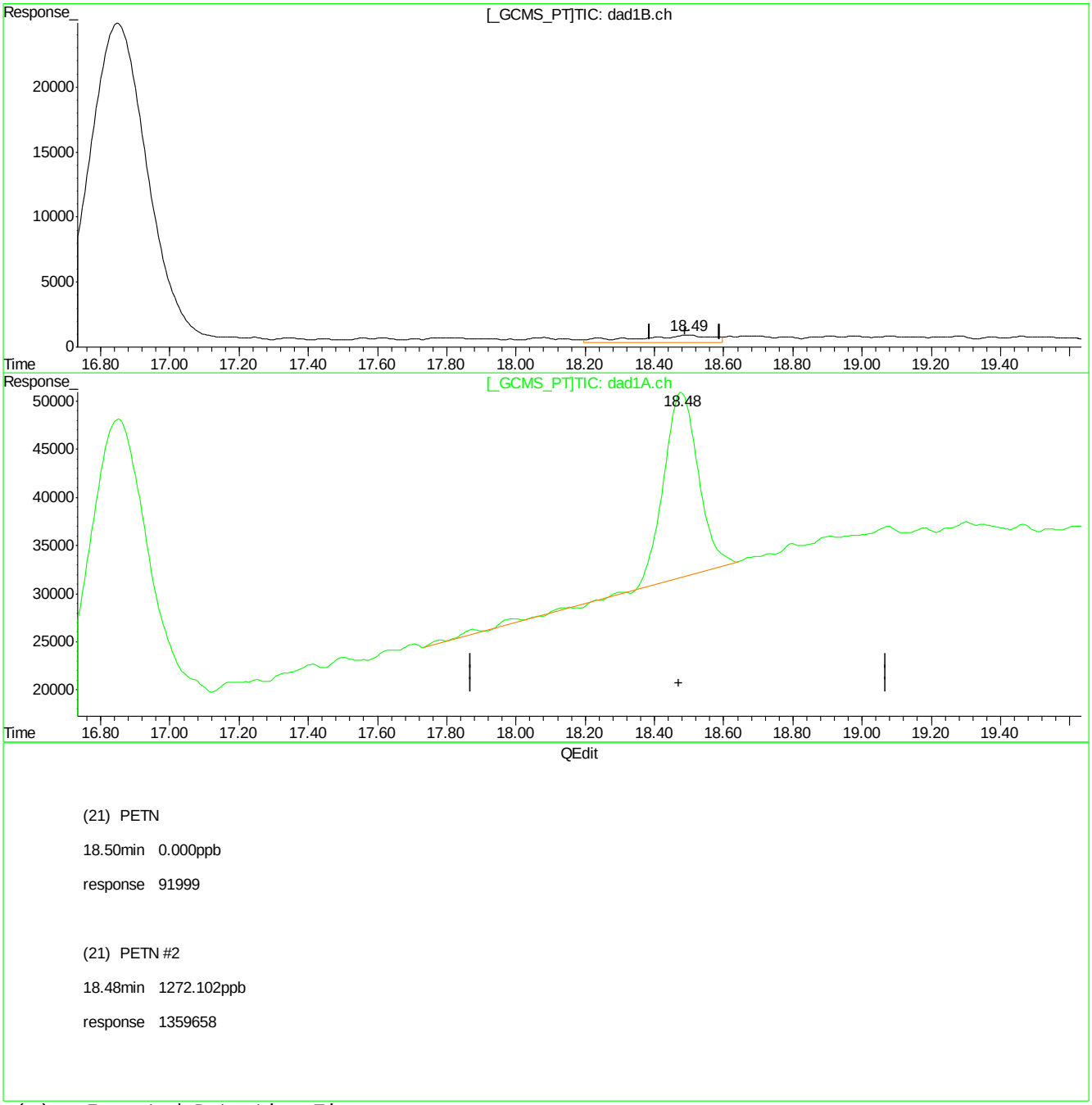
Sample Number: GBB2700-ICV2700 **Method:** SW846 8330A
Lab FileID: BB088070.D **Analyst approved:** 05/08/25 12:00 Fouad Sekkar
Injection Time: 05/06/25 13:49 **Supervisor approved:** 05/08/25 17:12 William Hustedde

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,5-Dinitroaniline	618-87-1	1	6.31	Missed peak
3,5-Dinitroaniline	618-87-1	2	6.31	Missed peak
PETN	78-11-5	2	18.48	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088070.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088070.D\dad1A.ch
Acq On : 06-May-2025, 13:49:33 Operator: fouads
Sample : icv2700-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 14:14 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 14:14:23 2025
Response via : Multiple Level Calibration



(21) PETN

18.50min 0.000ppb

response 91999

(21) PETN #2

18.48min 1272.102ppb

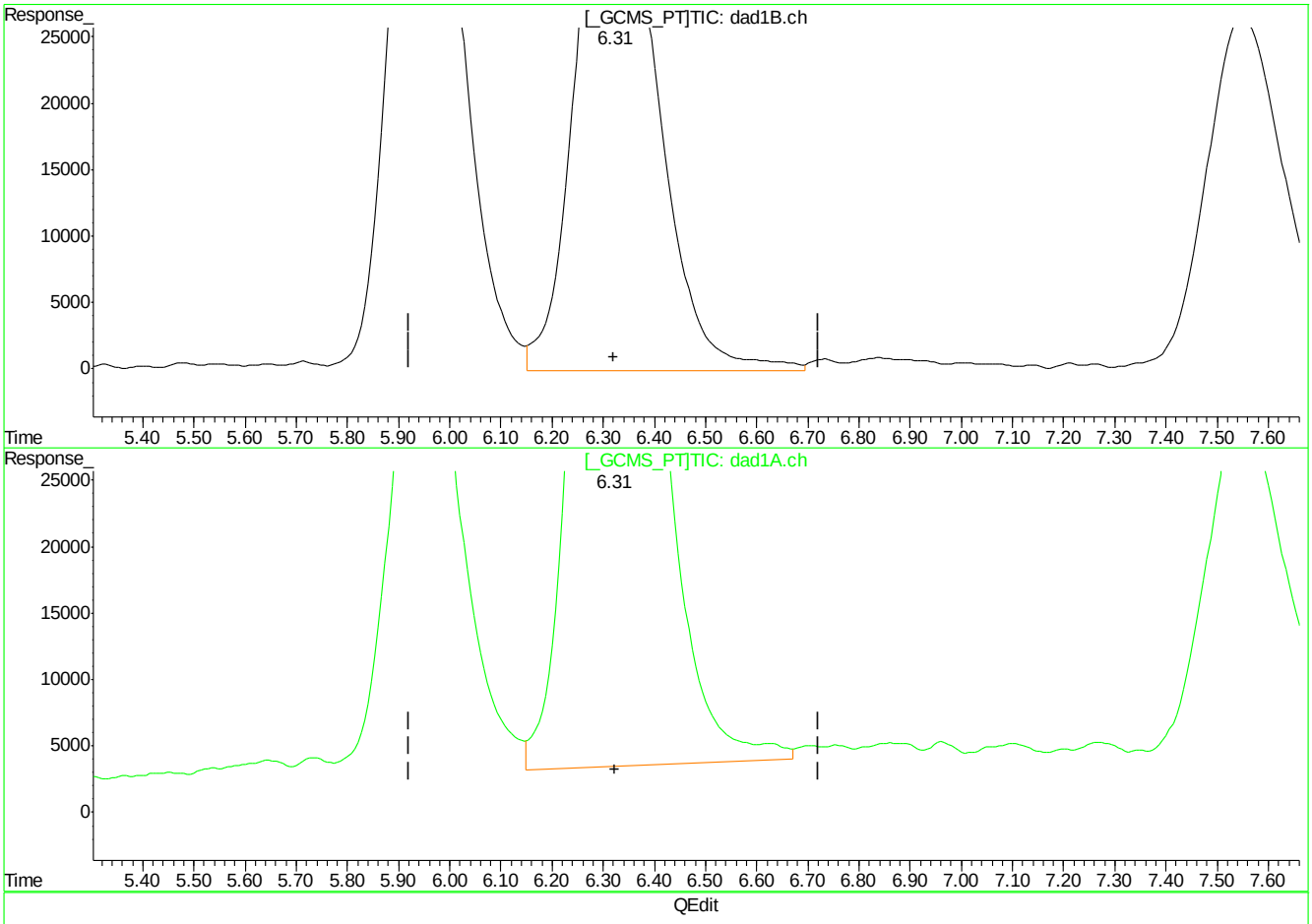
response 1359658

(+) = Expected Retention Time
BB088070.D BBB2700_050625.M Tue May 06 14:15:28 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088070.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088070.D\dad1A.ch
Acq On : 06-May-2025, 13:49:33 Operator: fouads
Sample : icv2700-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 14:15 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 14:14:23 2025
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.32min 1063.072ppb

response 4528047

(8) 3,5-Dinitroaniline #2

6.31min 1201.529ppb

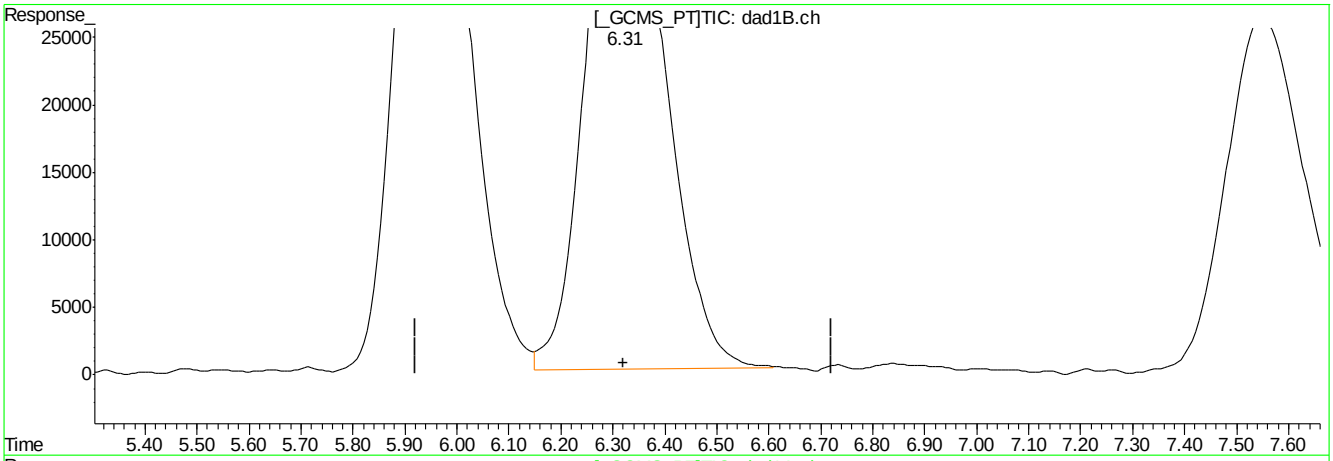
response 7555294

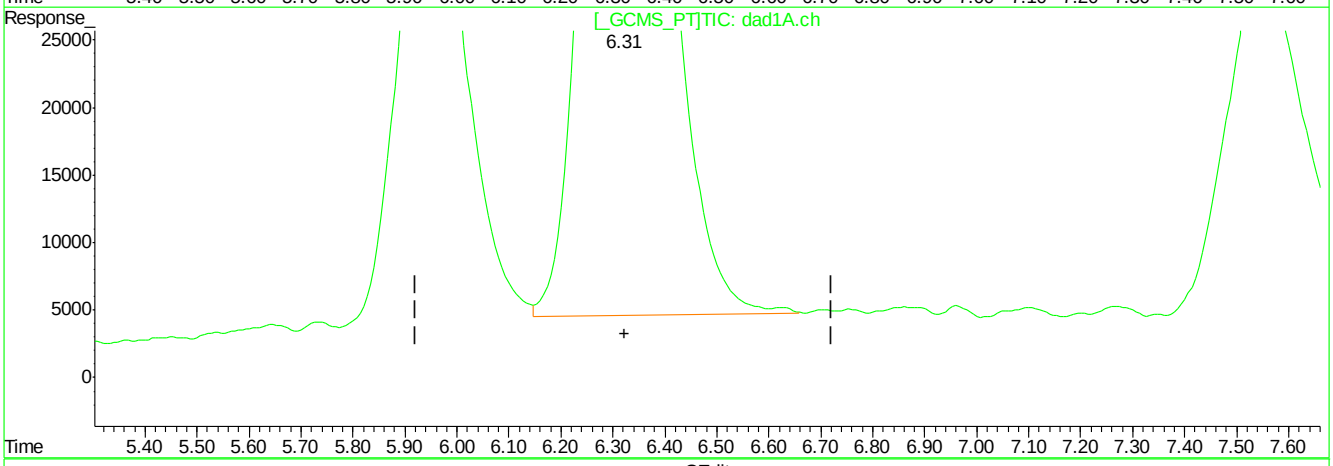
(+) = Expected Retention Time
BB088070.D BBB2700_050625.M Tue May 06 14:16:08 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088070.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088070.D\dad1A.ch
Acq On : 06-May-2025, 13:49:33 Operator: fouads
Sample : icv2700-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 14:15 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 14:14:23 2025
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.31min 1016.914ppb m

response 4331441

(8) 3,5-Dinitroaniline #2

6.31min 1149.793ppb m

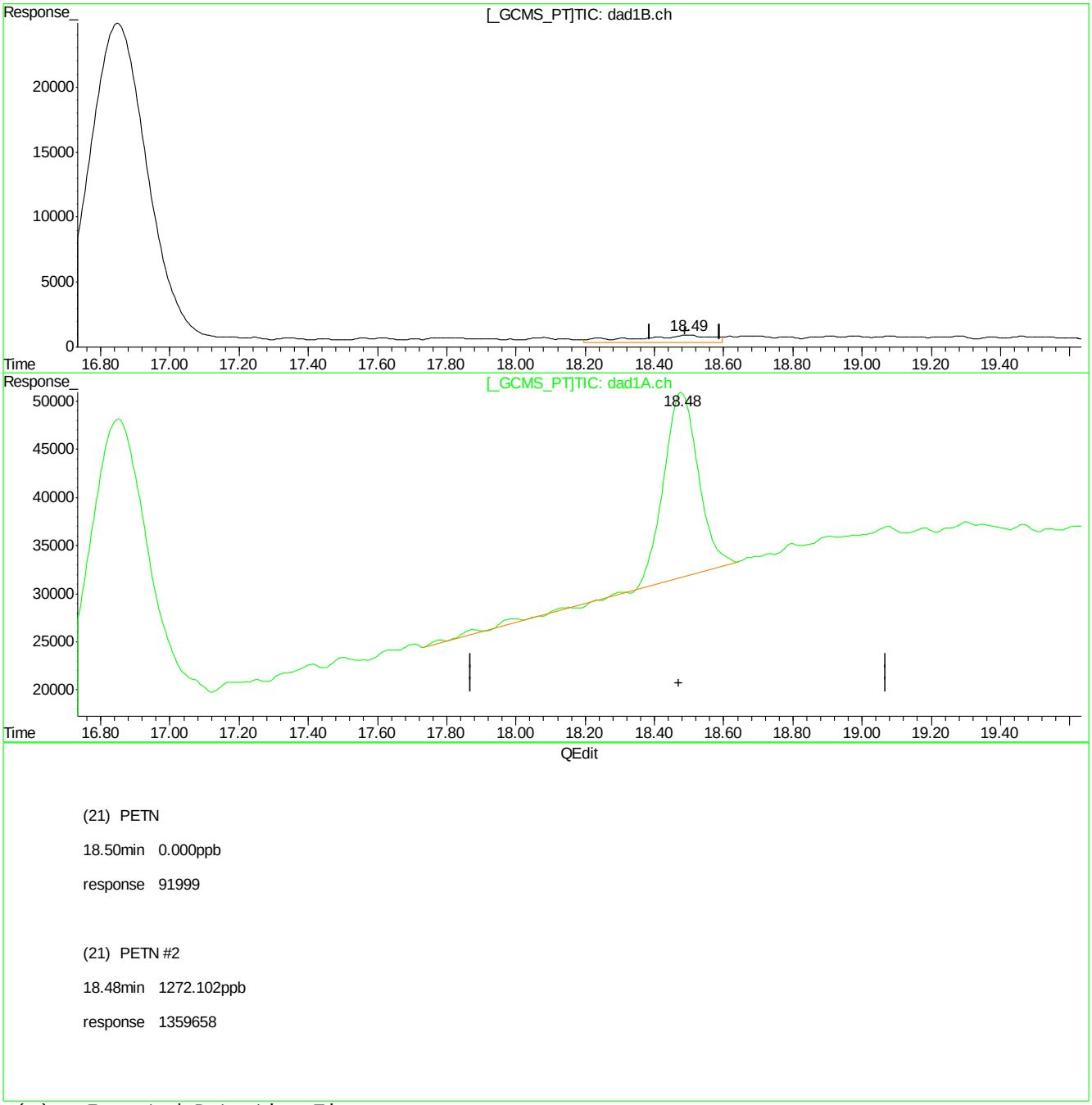
response 7229976

(+) = Expected Retention Time
BB088070.D BBB2700_050625.M Tue May 06 14:16:24 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088070.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088070.D\dad1A.ch
Acq On : 06-May-2025, 13:49:33 Operator: fouads
Sample : icv2700-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 14:18 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 14:17:44 2025
Response via : Multiple Level Calibration



(21) PETN

18.50min 0.000ppb

response 91999

(21) PETN #2

18.48min 1272.102ppb

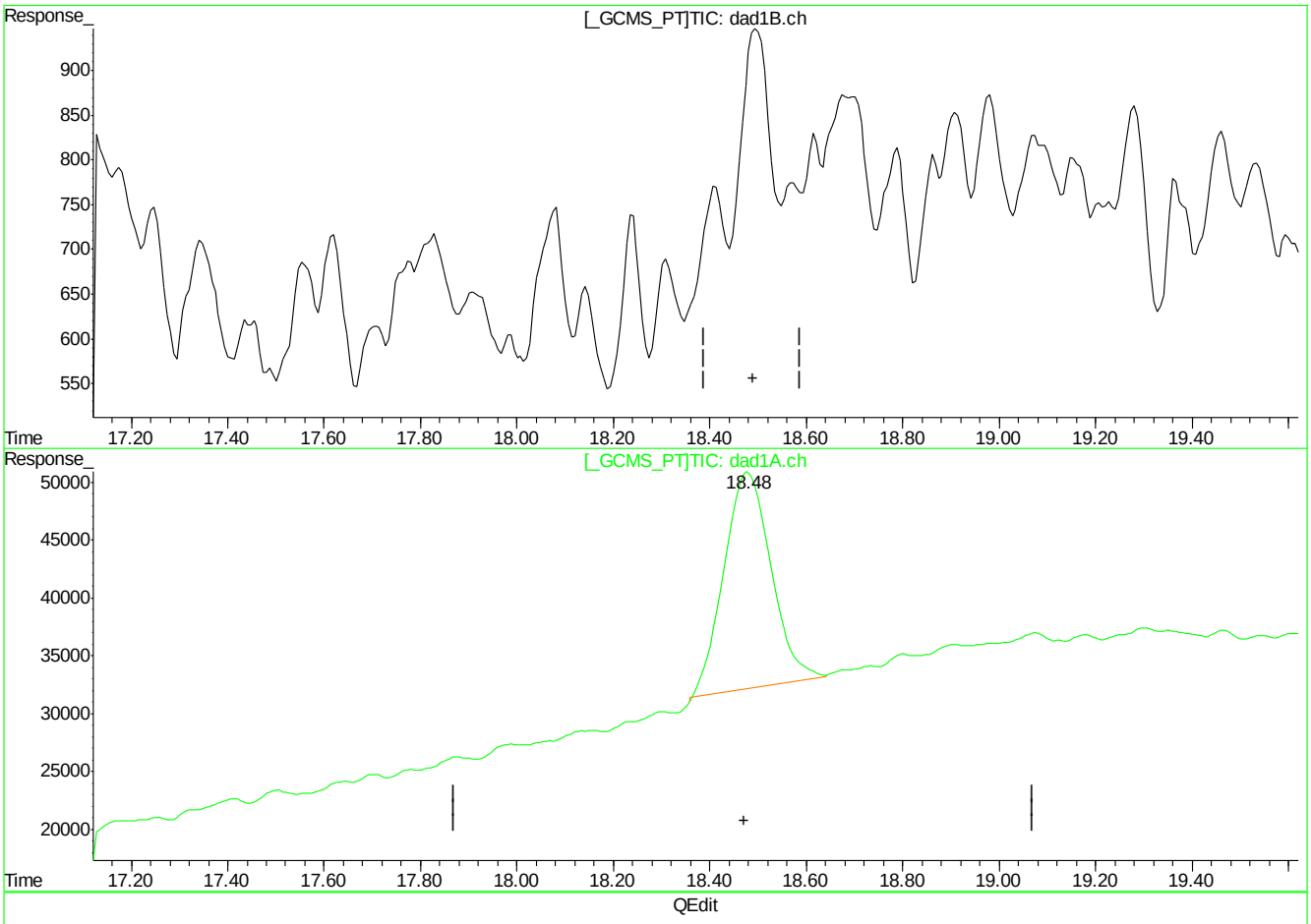
response 1359658

(+) = Expected Retention Time
BB088070.D BBB2700_050625.M Tue May 06 14:18:15 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088070.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088070.D\dad1A.ch
Acq On : 06-May-2025, 13:49:33 Operator: fouads
Sample : icv2700-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 6 14:18 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 14:17:44 2025
Response via : Multiple Level Calibration



QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.48min 1194.604ppb m

response 1276827

(+) = Expected Retention Time
BB088070.D BBB2700_050625.M Tue May 06 14:19:28 2025

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 05/08/25 17:12

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088071.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088071.D\dad1A.ch
Acq On : 06-May-2025, 15:49:08 Operator: fouads
Sample : icv2-2700-1000 Inst : G1315B
Misc : op9214,GBB2700,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 07 07:03:40 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 14:17:44 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
Spiked Amount	500.000	Range	70 - 136	Recovery	=	0.00%#	0.00%#
	Target Compounds						
1)	TNX	1.36	1.36	3602808	5574965	401.319m	404.699
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	1.76	1.76	6285518	9807320	980.085	858.663
4)	MNX	2.36	2.36	6917575	10610308	1064.016	1055.921
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

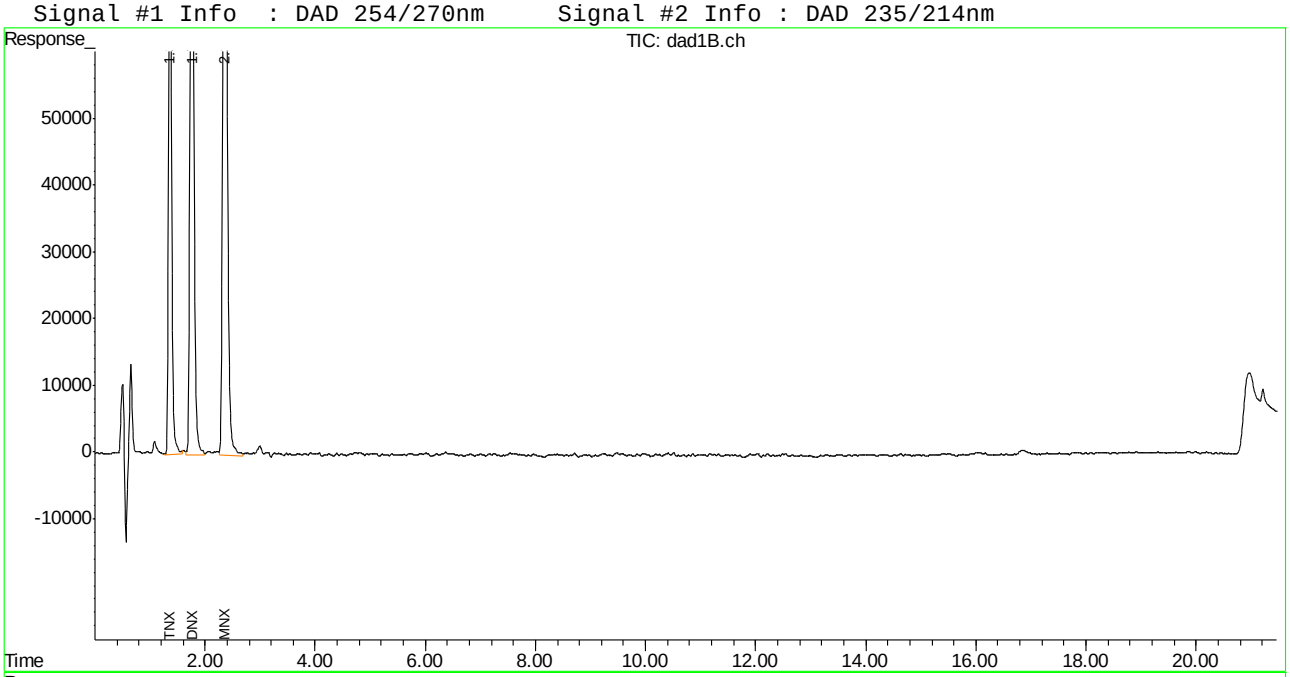
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088071.D BBB2700_050625.M Thu May 08 11:31:09 2025 Page 1

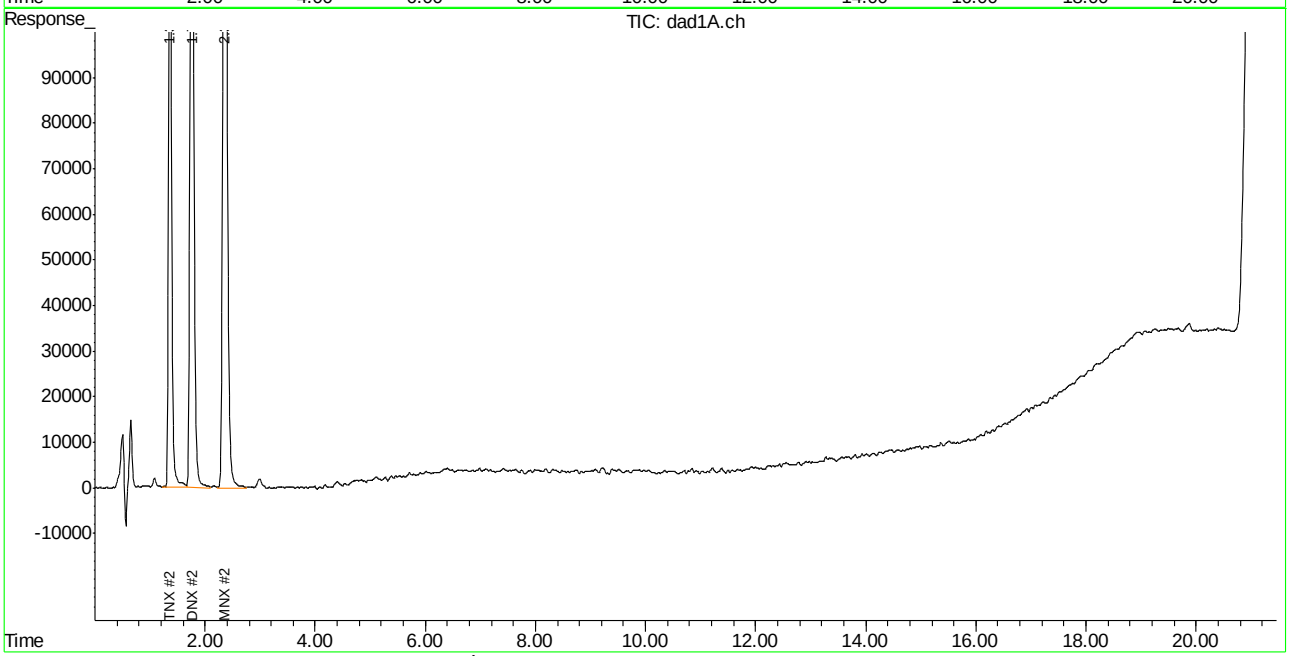
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2700\BB088071.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\2\DATA\GBB2700\BB088071.D\dad1A.ch
Acq On : 06-May-2025, 15:49:08 Operator: fouads
Sample : icv2-2700-1000 Inst : G1315B
Misc : op9214,GBB2700,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 7 7:04 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue May 06 14:17:44 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: GBB2700-ICV2700 **Method:** SW846 8330A
Lab FileID: BB088071.D **Analyst approved:** 05/08/25 12:15 Fouad Sekkar
Injection Time: 05/06/25 15:49 **Supervisor approved:** 05/08/25 17:12 William Hustedde

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.36	Missed peak

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 06/02/25 16:49

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088323.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088323.D\dad1A.ch
Acq On : 27-May-2025, 09:04:27 Operator: fouads
Sample : cc2700-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 09:11:23 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.29	11.29	2143084	3649606	911.273	933.059
	Spiked Amount 500.000	Range 70 - 136		Recovery =		182.25%#	186.61%#
	Target Compounds						
1)	TNX	1.44	1.44	4007282	6122704	446.373	444.461
2)	HMX	1.58	1.58	1584233	4397671	1064.709	950.488
3)	DNX	1.84	1.84	6716040	10495002	1047.215	918.872
4)	MNX	2.44	2.44	7223191	11080733	1111.024	1102.737
5)	RDX	3.06	3.06	1850931	2925621	1037.400	1021.875
6)	1,3,5-Trinitrobe	4.80	4.80	4129375	6574250	1037.920	1065.298
7)	1,3-Dinitrobenze	6.02	6.02	5262185	3940344	1041.953	1147.444
8)	3,5-Dinitroanili	6.41	6.41	3939539	6731030	924.905	1070.445
9)	Nitrobenzene	7.58	7.58	3051682	3027016	1060.026	1082.169
10)	Nitroglycerin	0.00	9.03	0	1207019	N.D.	989.451 #
11)	Tetryl	9.50	9.50	2787865	4482777	996.170	1026.161
12)	2,4,6-Trinitroto	9.91	9.91	3774282	4439707	1073.264	1052.391
13)	2-Amino-4,6-Dini	10.41	10.41	3184984	4573605	950.490	979.040
14)	4-Amino-2,6-Dini	10.86	10.86	2364811	4580336	1021.521	994.973
16)	2,4-Dinitrotolue	11.93	11.93	4549943	2708237	1027.206	926.376
17)	2,6-Dinitrotolue	12.33	12.34	2733552	3644555	1063.995	1099.268
18)	o-Nitrotoluene	15.35	15.35	2150432	2730633	1064.608	968.721
19)	p-Nitrotoluene	15.94	15.94	3336002	2572740	1004.476	1004.462
20)	m-Nitrotoluene	16.76	16.76	3156585	3750599	1068.244	1068.077
21)	PETN	0.00	18.41	0	1416536	N.D.	1325.316m#

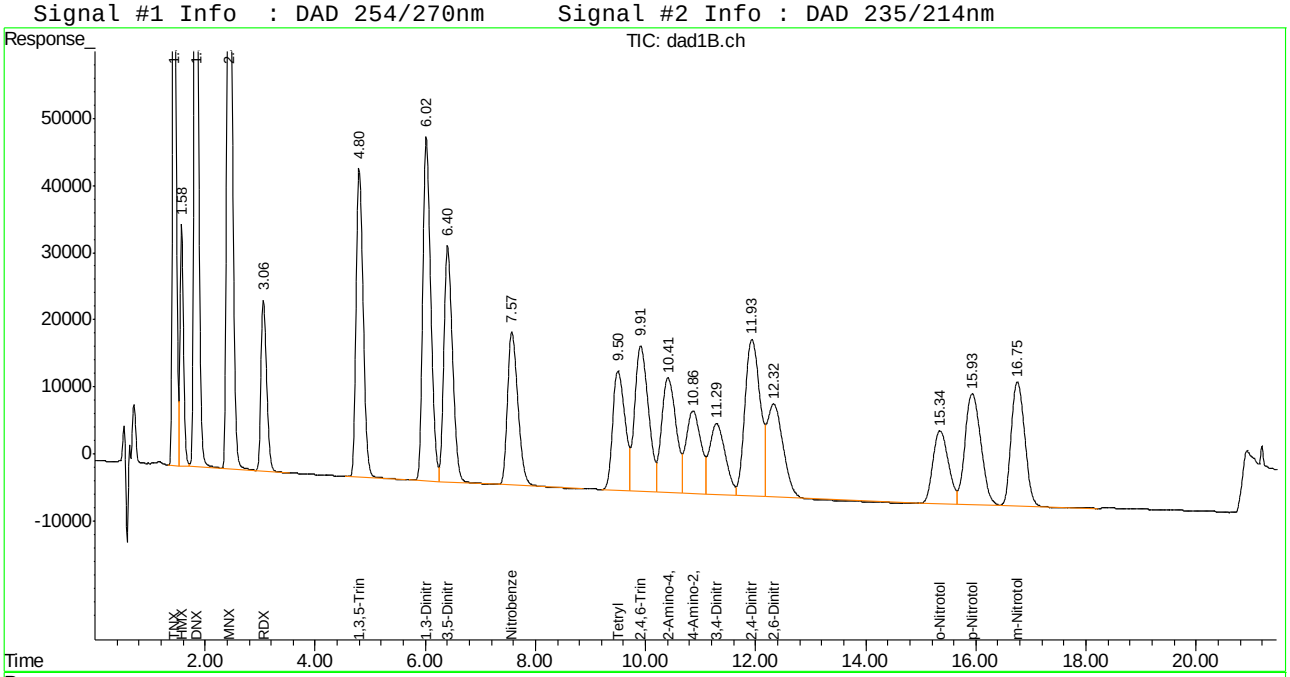
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088323.D BBB2700_050625.M Mon Jun 02 09:49:40 2025 Page 1

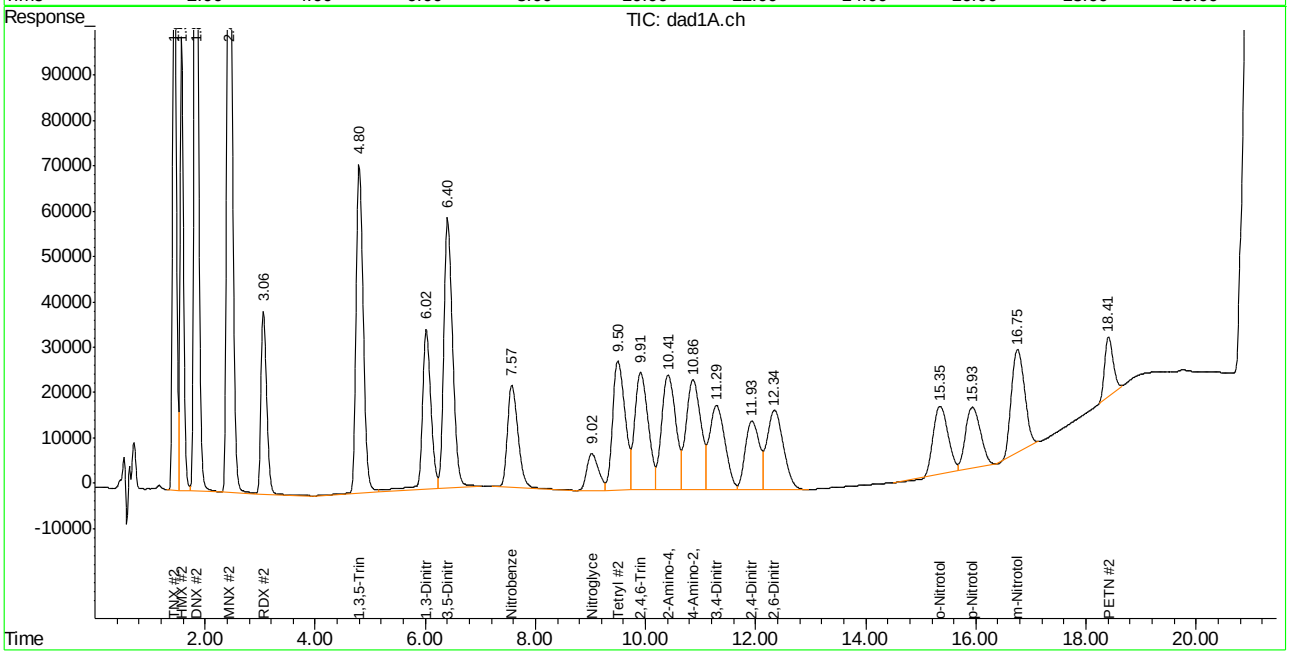
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088323.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088323.D\dad1A.ch
Acq On : 27-May-2025, 09:04:27 Operator: fouads
Sample : cc2700-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:12 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

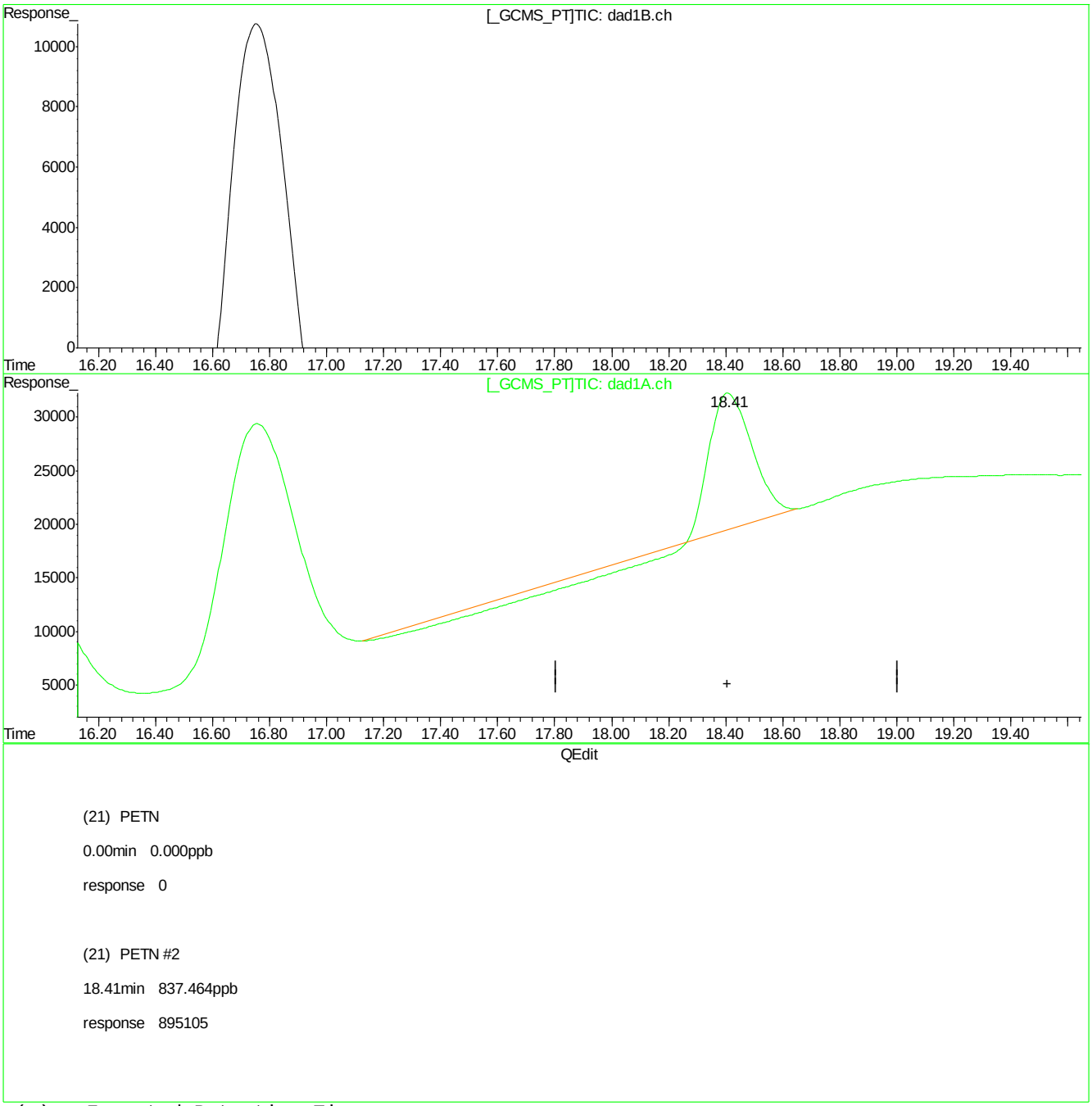
Sample Number: GBB2710-CC2700
Lab FileID: BB088323.D
Injection Time: 05/27/25 09:04
Method: SW846 8330B
Analyst approved: 06/02/25 10:11 Fouad Sekkar
Supervisor approved: 06/02/25 16:49 William Hustedde

Parameter	CAS	Sig#	R.T. (min.)	Reason
PETN	78-11-5	2	18.41	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088323.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088323.D\dad1A.ch
Acq On : 27-May-2025, 09:04:27 Operator: fouads
Sample : cc2700-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:11 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration

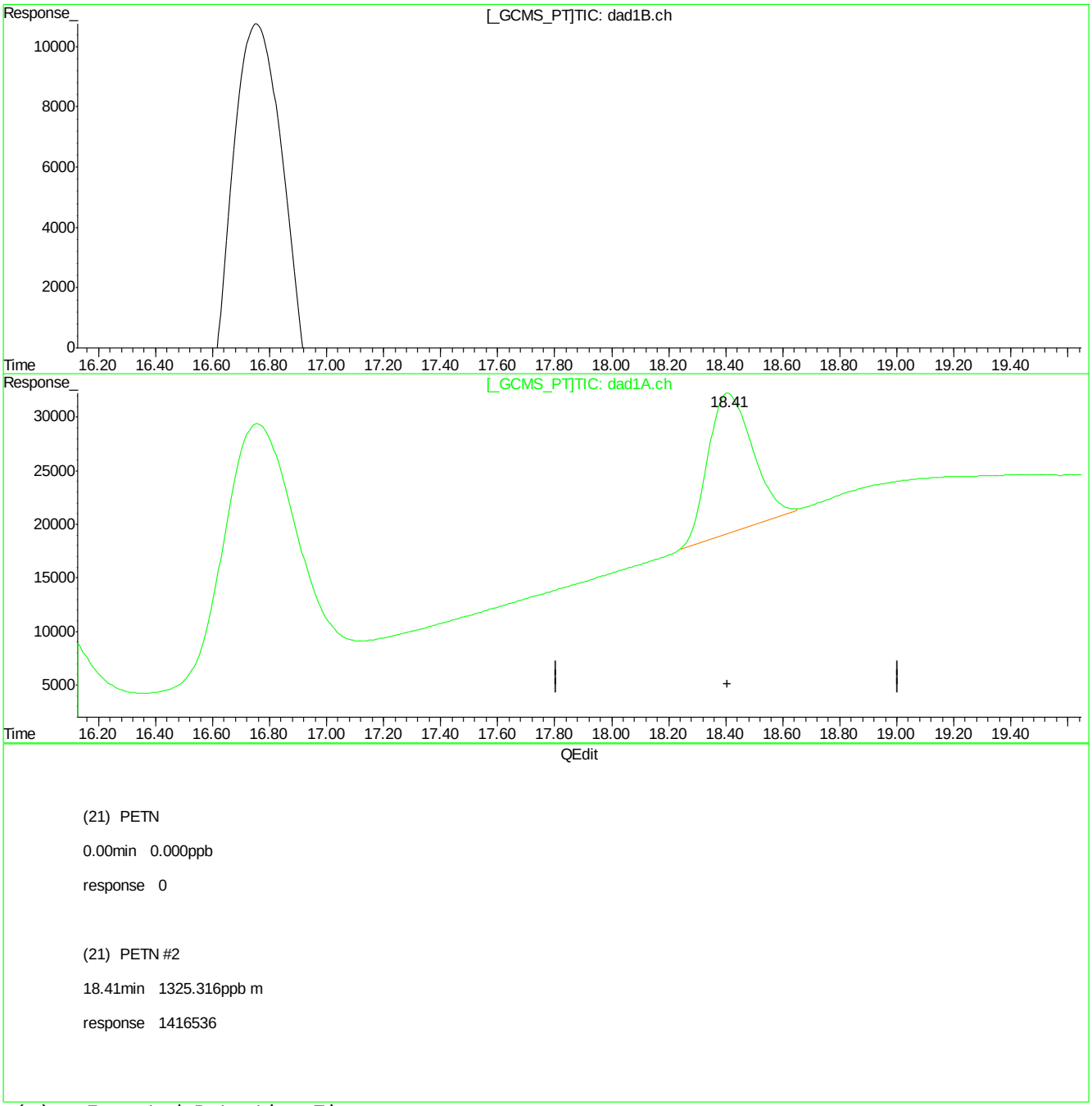


(+) = Expected Retention Time
BB088323.D BBB2700_050625.M Wed May 28 09:12:01 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088323.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088323.D\dad1A.ch
Acq On : 27-May-2025, 09:04:27 Operator: fouads
Sample : cc2700-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:11 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB088323.D BBB2700_050625.M Wed May 28 09:12:17 2025

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 06/02/25 16:49

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088333.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088333.D\dad1A.ch
Acq On : 27-May-2025, 14:38:40 Operator: fouads
Sample : ecc2700-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 09:16:25 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.35	11.35	2147731	3571686	913.249	913.138
	Spiked Amount 500.000	Range 70 - 136		Recovery =		182.65%#	182.63%#
	Target Compounds						
1)	TNX	1.45	1.45	3975102	6060759	442.789	439.964
2)	HMX	1.58	1.58	1573454	4345992	1057.465	939.318
3)	DNX	1.84	1.84	6675481	10401936	1040.891	910.724
4)	MNX	2.45	2.45	7185684	10987520	1105.255	1093.461
5)	RDX	3.07	3.07	1841409	2907698	1032.064	1015.614
6)	1,3,5-Trinitrobe	4.82	4.82	4076993	6419121	1024.753	1040.161
7)	1,3-Dinitrobenze	6.04	6.04	5207706	3866676	1031.165	1125.991
8)	3,5-Dinitroanili	6.42	6.42	3880335	6587548	911.005	1047.627
9)	Nitrobenzene	7.60	7.60	3028589	3006076	1052.005	1074.683
10)	Nitroglycerin	0.00	9.07	0	1119023	N.D.	917.316 #
11)	Tetryl	9.54	9.54	2762450	4378114	987.089	1002.202
12)	2,4,6-Trinitroto	9.96	9.96	3732075	4333287	1061.262	1027.166
13)	2-Amino-4,6-Dini	10.44	10.44	3191486	4495284	952.431	962.275
14)	4-Amino-2,6-Dini	10.90	10.90	2380724	4491775	1028.395	975.735
16)	2,4-Dinitrotolue	11.98	11.98	4491015	2668765	1013.902	912.875
17)	2,6-Dinitrotolue	12.38	12.39	2864041	3625353	1114.786	1093.476
18)	o-Nitrotoluene	15.40	15.40	2134586	2601801	1056.763	923.017
19)	p-Nitrotoluene	15.99	15.99	3347754	2511424	1008.014	980.523
20)	m-Nitrotoluene	16.80	16.80	3160288	3716878	1069.497	1058.474
21)	PETN	0.00	18.45	0	1385525	N.D.	1296.302m#

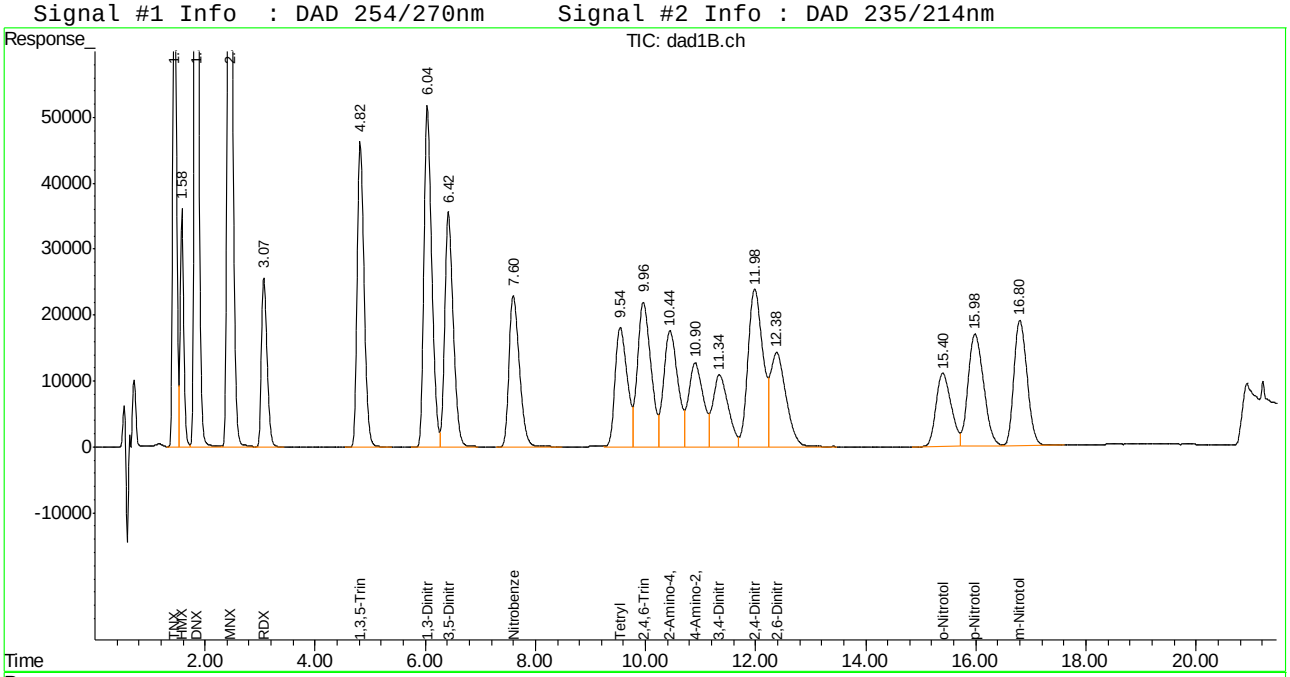
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088333.D BBB2700_050625.M Mon Jun 02 09:49:50 2025 Page 1

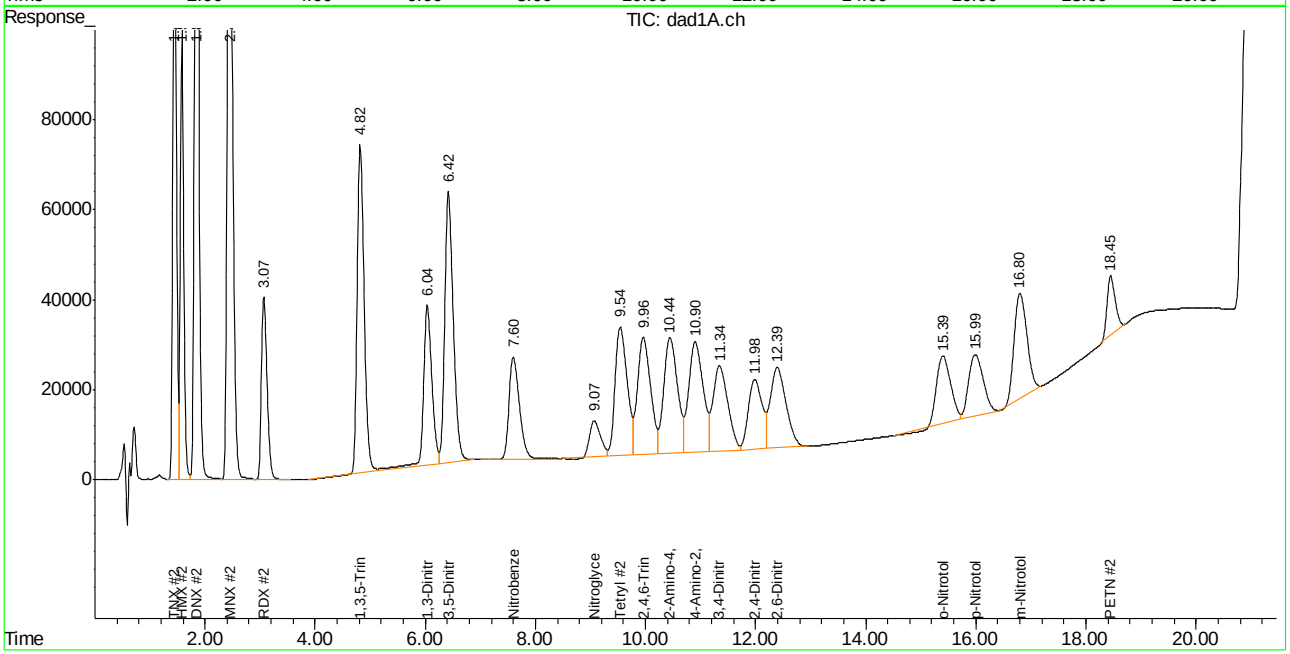
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088333.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088333.D\dad1A.ch
Acq On : 27-May-2025, 14:38:40 Operator: fouads
Sample : ecc2700-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jun 2 9:48 2025 Quant Results File: BBB2700_050625.RES

Quant Method : C:\MSDCHEM\2...\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

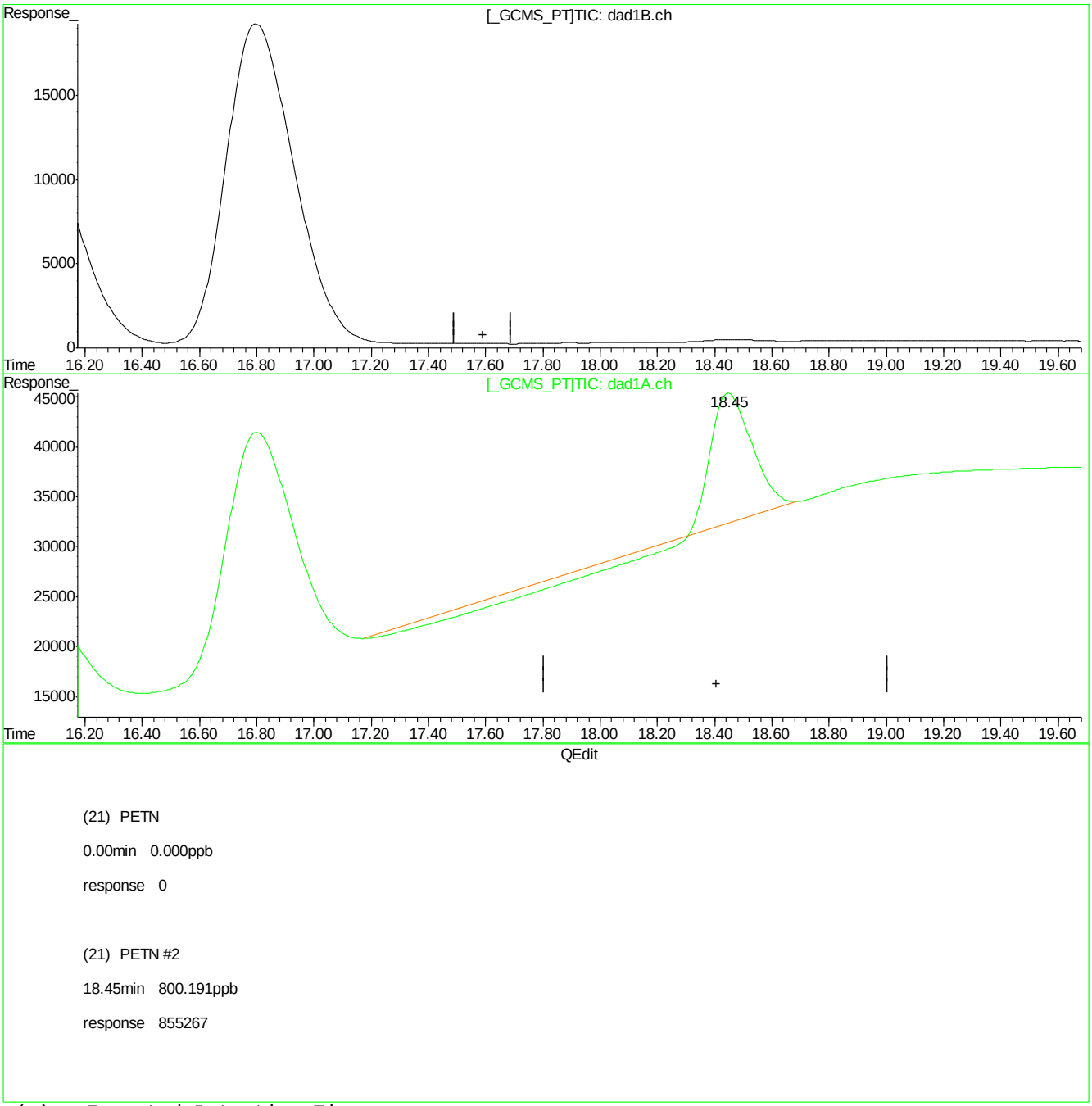
Sample Number: GBB2710-ECC2700 **Method:** SW846 8330B
Lab FileID: BB088333.D **Analyst approved:** 06/02/25 10:11 Fouad Sekkar
Injection Time: 05/27/25 14:38 **Supervisor approved:** 06/02/25 16:49 William Hustedde

Parameter	CAS	Sig#	R.T. (min.)	Reason
PETN	78-11-5	2	18.45	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088333.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088333.D\dad1A.ch
Acq On : 27-May-2025, 14:38:40 Operator: fouads
Sample : ecc2700-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

18.45min 800.191ppb

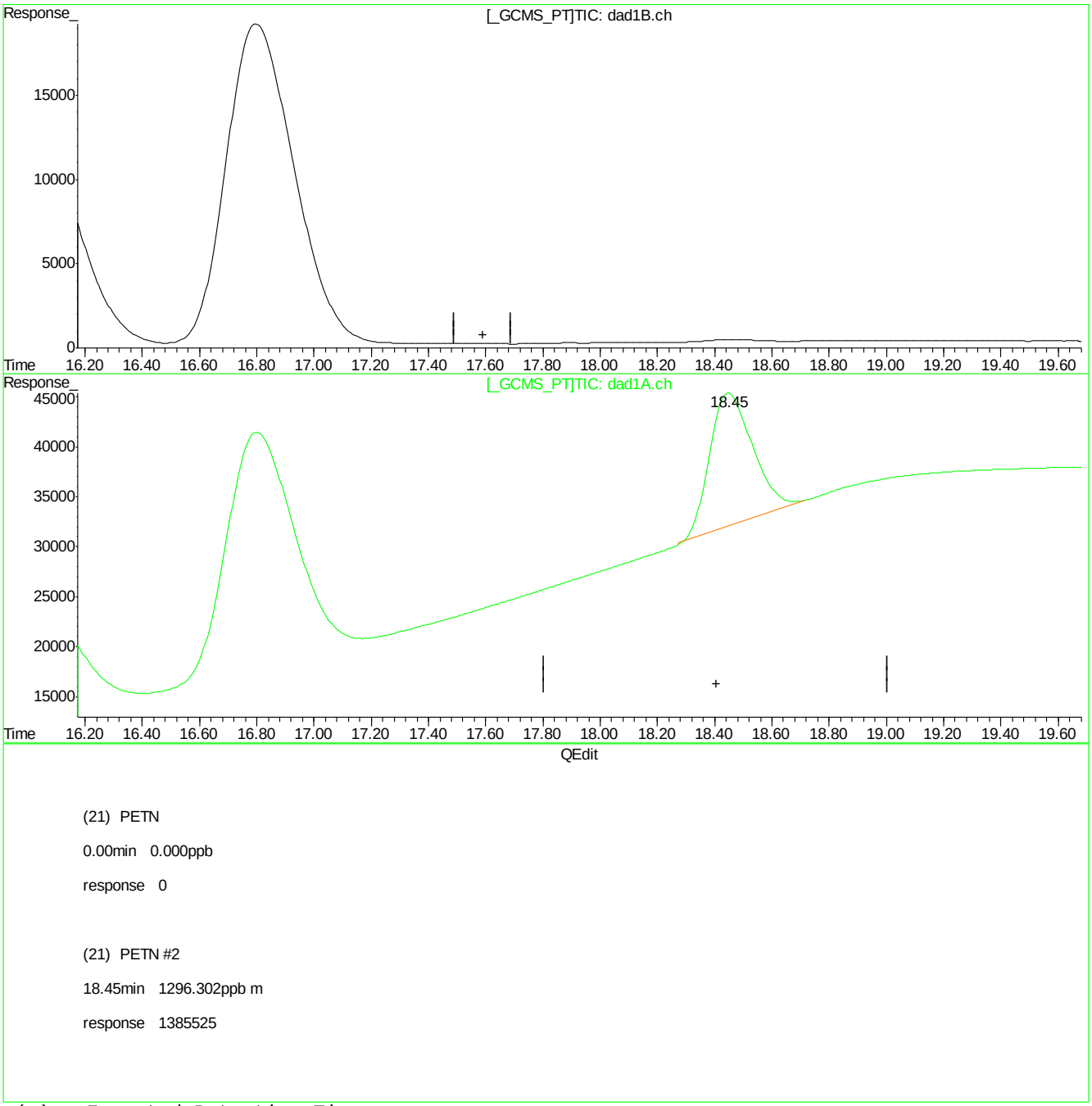
response 855267

(+) = Expected Retention Time
BB088333.D BBB2700_050625.M Mon Jun 02 09:48:48 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2710\BB088333.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\2\DATA\GBB2710\BB088333.D\dad1A.ch
Acq On : 27-May-2025, 14:38:40 Operator: fouads
Sample : ecc2700-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: May 28 9:16 2025 Quant Results File: BBB2700_050625.RES

Method : C:\MSDCHEM\2\METHODS\BBB2700_050625.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed May 28 09:10:50 2025
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

18.45min 1296.302ppb m

response 1385525

(+) = Expected Retention Time
BB088333.D BBB2700_050625.M Mon Jun 02 09:48:58 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan
01/16/25 12:01

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 14:56:39 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 14:56:27 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.00	13.98	73633	138071	16.228m	15.325m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		3.25%#	3.06%#
	Target Compounds						
1)	TNX	4.82	4.82	141264	148534	16.879m	18.027m
2)	HMX	5.24	5.25	56144	51732	17.443m	15.806m
3)	DNX	5.42	5.42	211827	193696	31.597m	29.590m
4)	MNX	6.58	6.58	262950	273870	42.815m	45.050m
5)	1,3,5-Trinitrobe	7.53	7.53	213837	196216	21.841m	19.900m
6)	RDX	7.96	7.96	80445	81847	17.945m	18.505m
7)	1,3-Dinitrobenze	9.92	9.97	328143	532799	25.243m	54.438m#
8)	Nitrobenzene	10.87	10.83	240571	299329	27.942m	38.574m
9)	2,4,6-Trinitroto	11.67	11.67	242311	246364	26.082m	19.976m
10)	Nitroglycerin	0.00	12.47	0	67790	N.D.	22.170m#
11)	Tetryl	12.97	12.95	162389	157281	23.514m	12.588m#
13)	2,6-Dinitrotolue	14.49	14.51	96281	188307	15.200m	19.549m
14)	2,4-Dinitrotolue	15.14	15.09	278008	298651	22.615m	34.655m#
15)	3,5-Dinitroanili	16.48	16.47	145351	352422	14.389m	21.777m#
16)	o-Nitrotoluene	16.57	16.54	165741	201114	32.143m	25.085m
17)	p-Nitrotoluene	18.17	18.19	243479	512895	44.670m	56.392m
18)	4-Amino-2,6-Dini	18.17	18.19	230615	525567	42.293m	57.634m
19)	m-Nitrotoluene	18.98	18.99	97350	114726	17.169m	12.884m
20)	2-Amino-4,6-Dini	20.05	20.07	189456	179203	21.353m	15.298m
21)	PETN	0.00	20.85	0	40692	N.D.	12.433m#

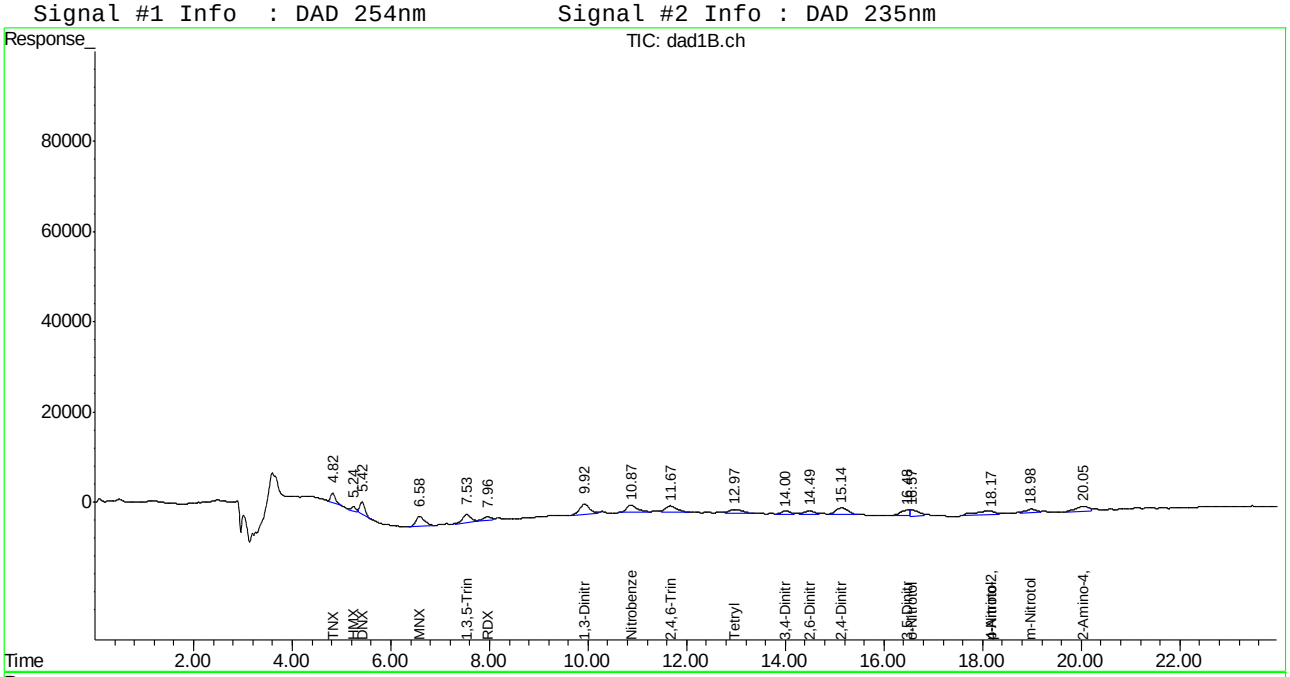
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG631114.D GGG3527_011325.M Wed Jan 15 06:48:51 2025 Page 1

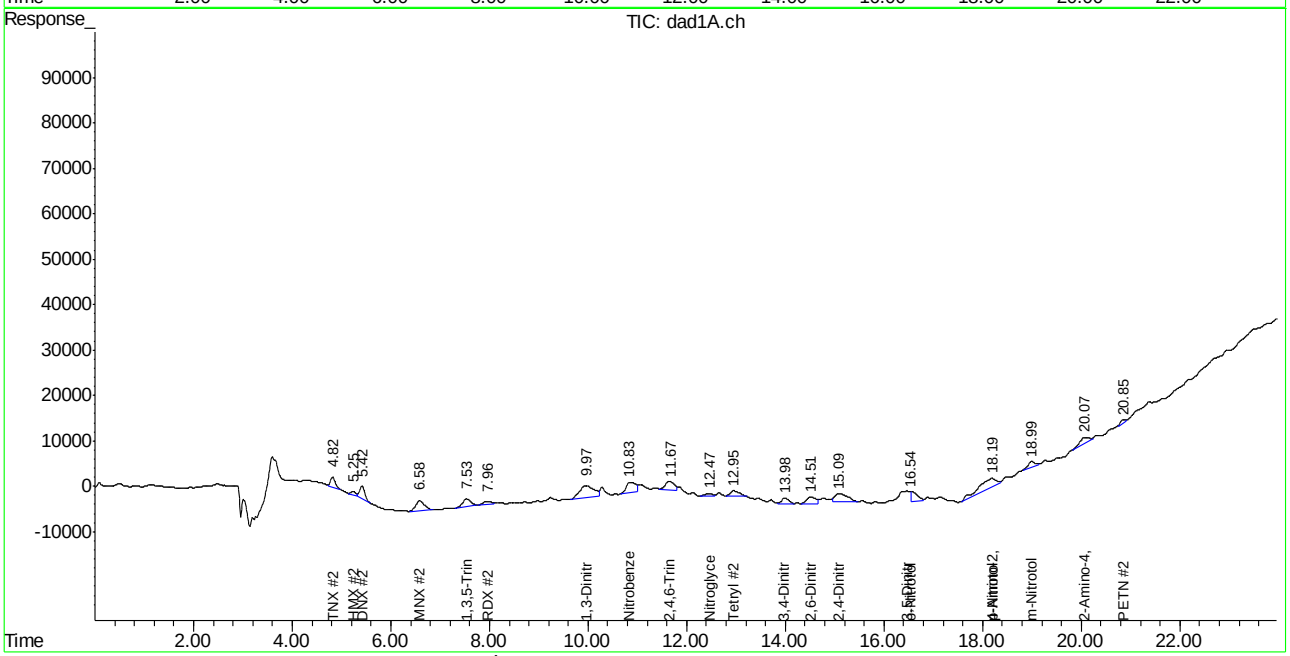
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:00 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 14:56:27 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

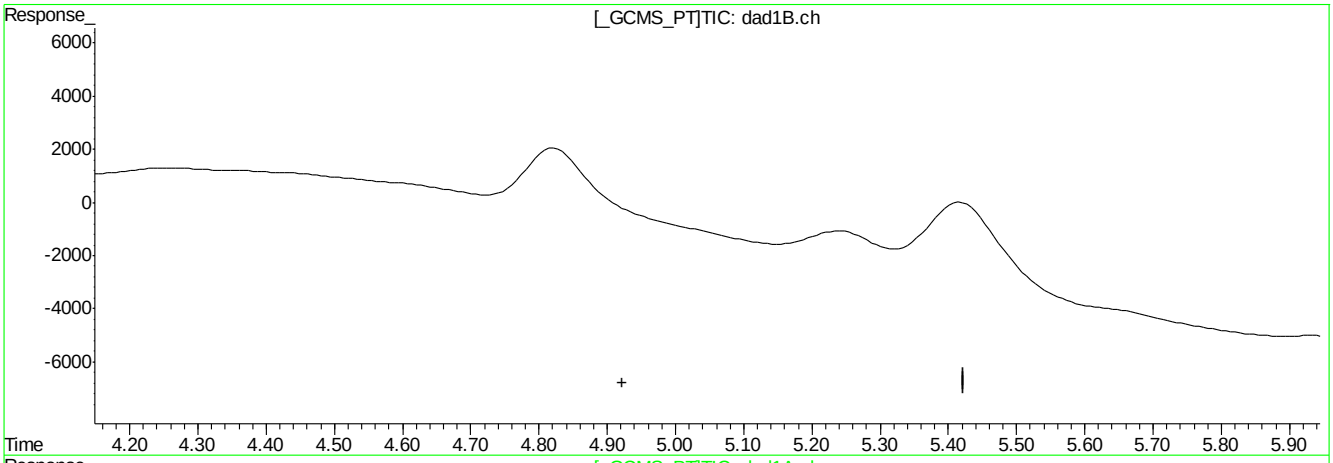
Sample Number: GGG3527-IC3527 **Method:** SW846 8330A
Lab FileID: GG631114.D **Analyst approved:** 01/15/25 08:07 Fouad Sekkar
Injection Time: 01/13/25 10:39 **Supervisor approved:** 01/16/25 12:01 Naresh Jiawan

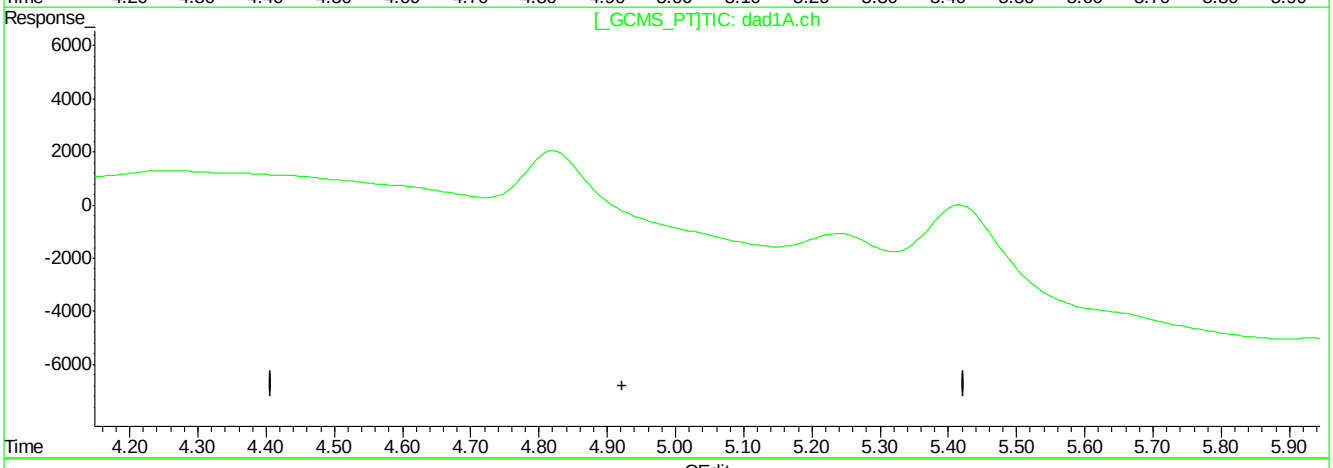
Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.82	Missed peak
TNX		2	4.82	Missed peak
HMX	2691-41-0	1	5.24	Missed peak
HMX	2691-41-0	2	5.25	Missed peak
DNX		1	5.42	Missed peak
DNX		2	5.42	Missed peak
MNX		1	6.58	Missed peak
MNX		2	6.58	Missed peak
1,3,5-Trinitrobenzene	99-35-4	1	7.53	Missed peak
1,3,5-Trinitrobenzene	99-35-4	2	7.53	Missed peak
RDX	121-82-4	1	7.96	Missed peak
RDX	121-82-4	2	7.96	Missed peak
1,3-Dinitrobenzene	99-65-0	1	9.92	Missed peak
1,3-Dinitrobenzene	99-65-0	2	9.97	Missed peak
Nitrobenzene	98-95-3	2	10.83	Missed peak
Nitrobenzene	98-95-3	1	10.87	Missed peak
2,4,6-Trinitrotoluene	118-96-7	1	11.67	Missed peak
2,4,6-Trinitrotoluene	118-96-7	2	11.67	Missed peak
Nitroglycerine	55-63-0	2	12.47	Missed peak
Tetryl	479-45-8	2	12.95	Missed peak
Tetryl	479-45-8	1	12.97	Missed peak
3,4-Dinitrotoluene	610-39-9	2	13.98	Missed peak
3,4-Dinitrotoluene	610-39-9	1	14.00	Missed peak
2,6-Dinitrotoluene	606-20-2	1	14.49	Missed peak
2,6-Dinitrotoluene	606-20-2	2	14.51	Missed peak
2,4-Dinitrotoluene	121-14-2	2	15.09	Missed peak
2,4-Dinitrotoluene	121-14-2	1	15.14	Missed peak
3,5-Dinitroaniline	618-87-1	2	16.47	Missed peak
3,5-Dinitroaniline	618-87-1	1	16.48	Missed peak
o-Nitrotoluene	88-72-2	2	16.54	Missed peak
o-Nitrotoluene	88-72-2	1	16.57	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	1	18.17	Missed peak
p-Nitrotoluene	99-99-0	1	18.17	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	2	18.19	Missed peak
p-Nitrotoluene	99-99-0	2	18.19	Missed peak
m-Nitrotoluene	99-08-1	1	18.98	Missed peak
m-Nitrotoluene	99-08-1	2	18.99	Missed peak
2-amino-4,6-Dinitrotoluene	35572-78-2	1	20.05	Missed peak
2-amino-4,6-Dinitrotoluene	35572-78-2	2	20.07	Missed peak
PETN	78-11-5	2	20.85	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(1) TNX

0.00min 0.000ppb

response 0

(1) TNX #2

0.00min 0.000ppb

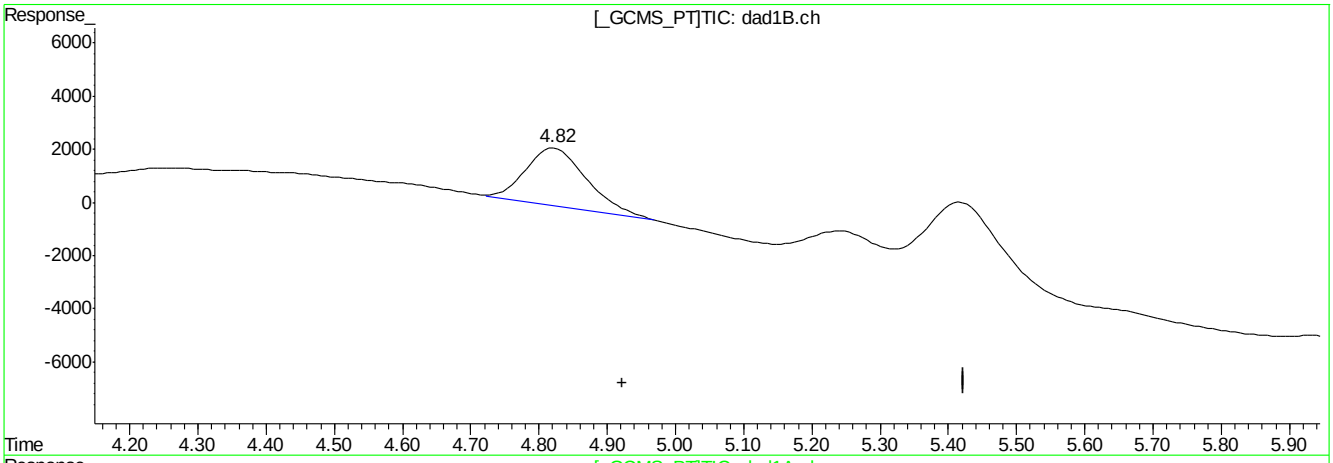
response 0

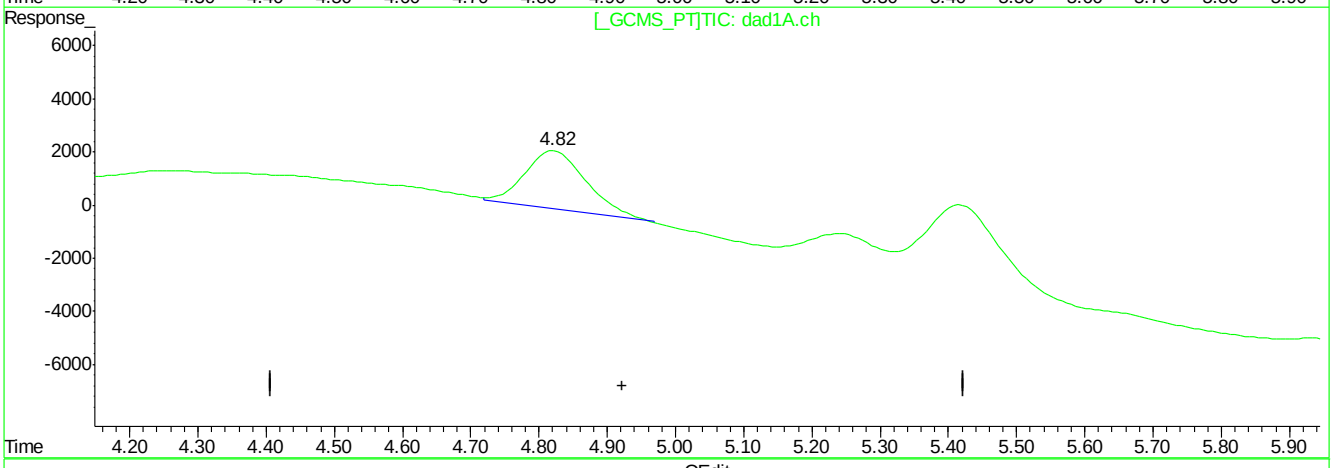
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:34:19 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(1) TNX

4.82min 16.133ppb m

response 135017

(1) TNX #2

4.82min 16.738ppb m

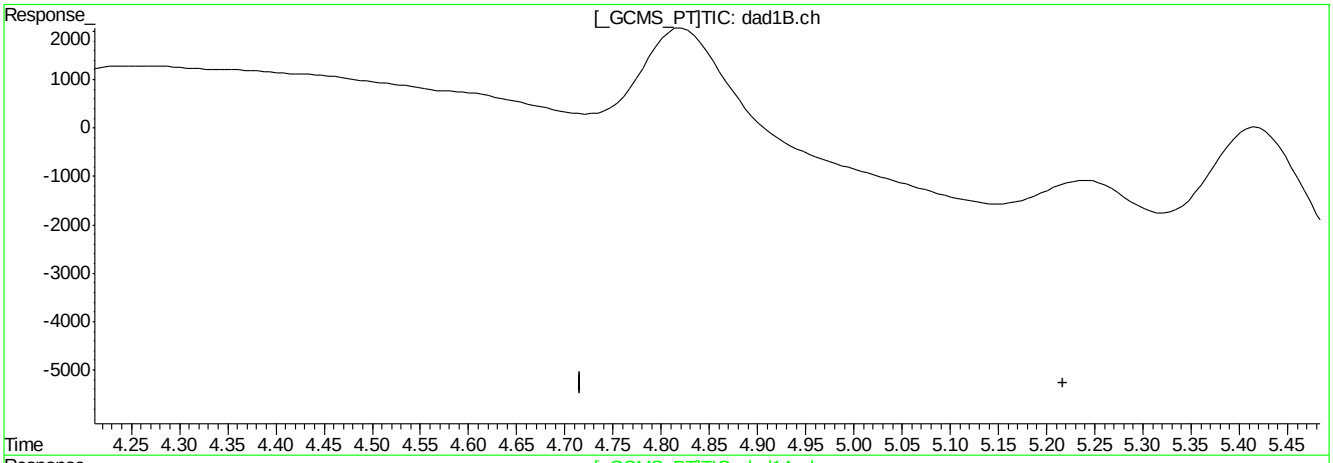
response 137910

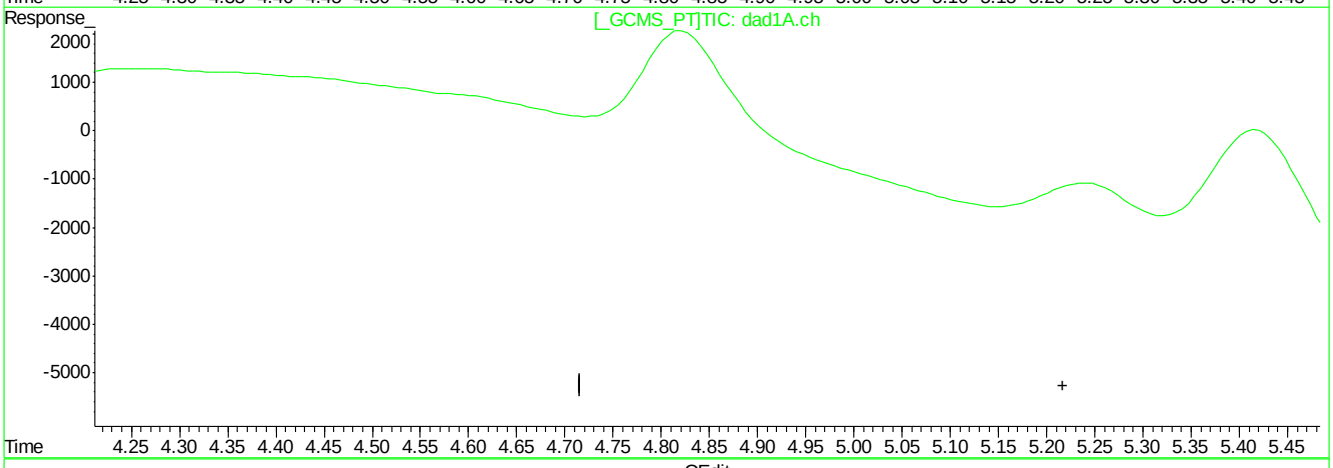
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:34:27 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

0.00min 0.000ppb

response 0

(2) HMX #2

0.00min 0.000ppb

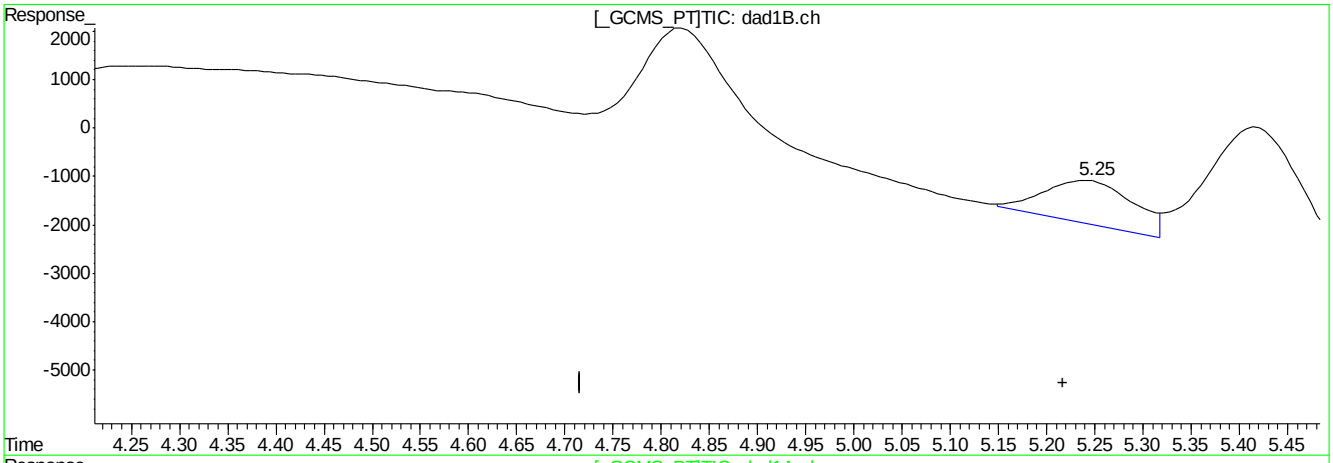
response 0

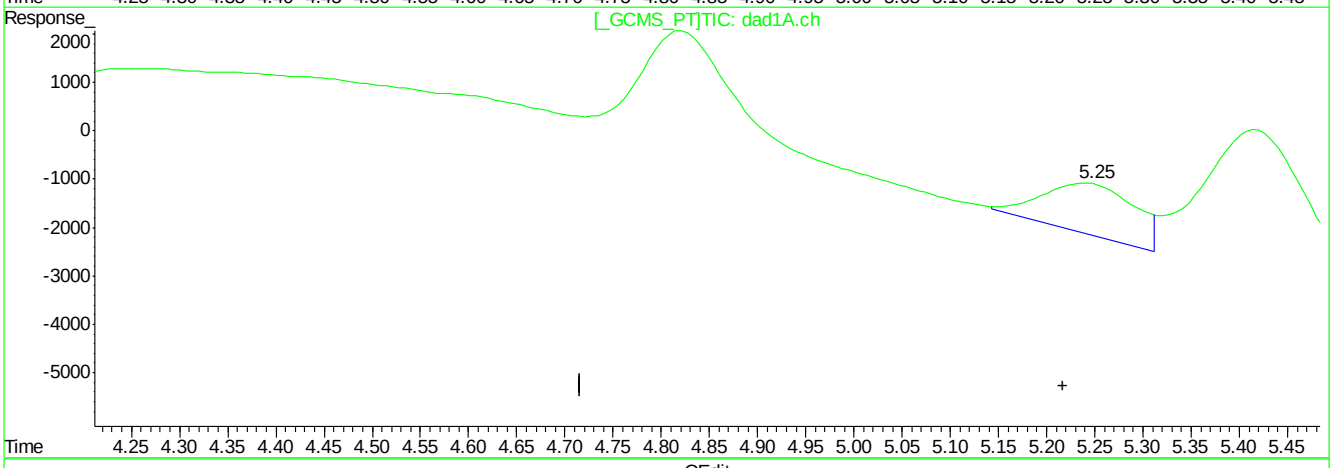
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:34:32 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

5.25min 18.123ppb m

response 58332

(2) HMX #2

5.25min 21.058ppb m

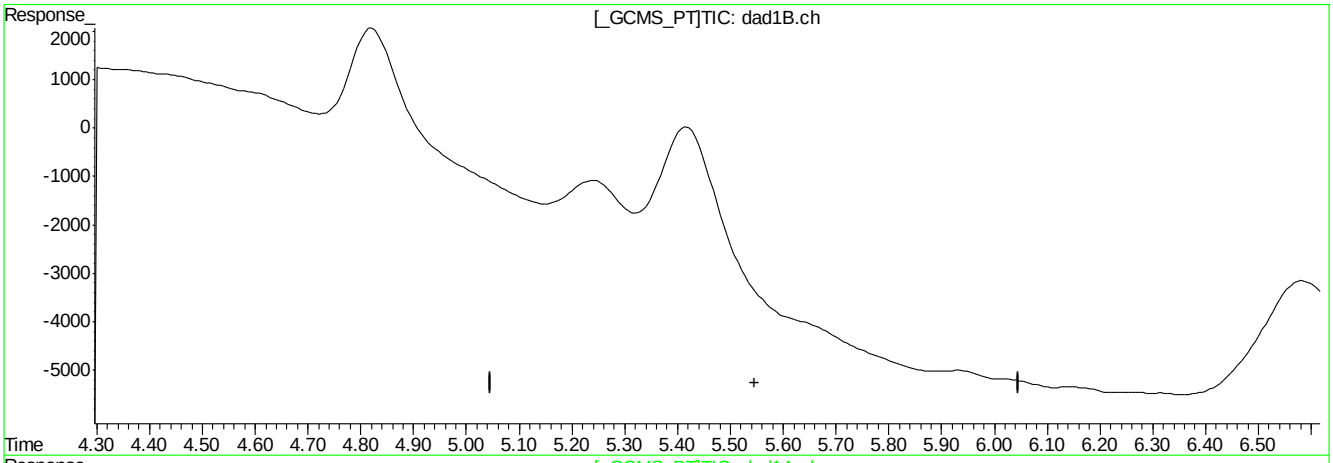
response 68925

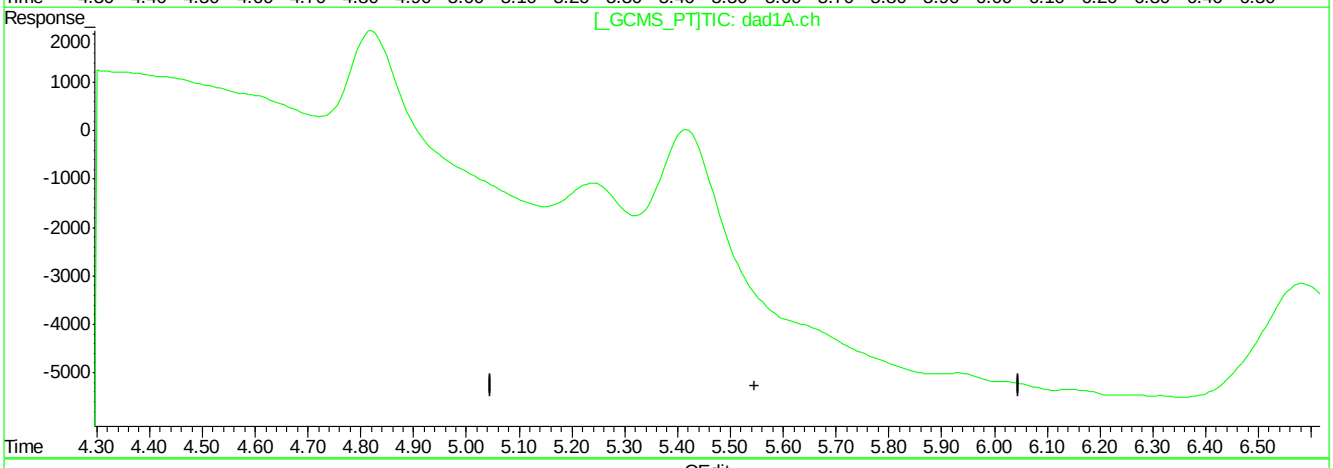
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:34:42 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(3) DNX

0.00min 0.000ppb

response 0

(3) DNX #2

0.00min 0.000ppb

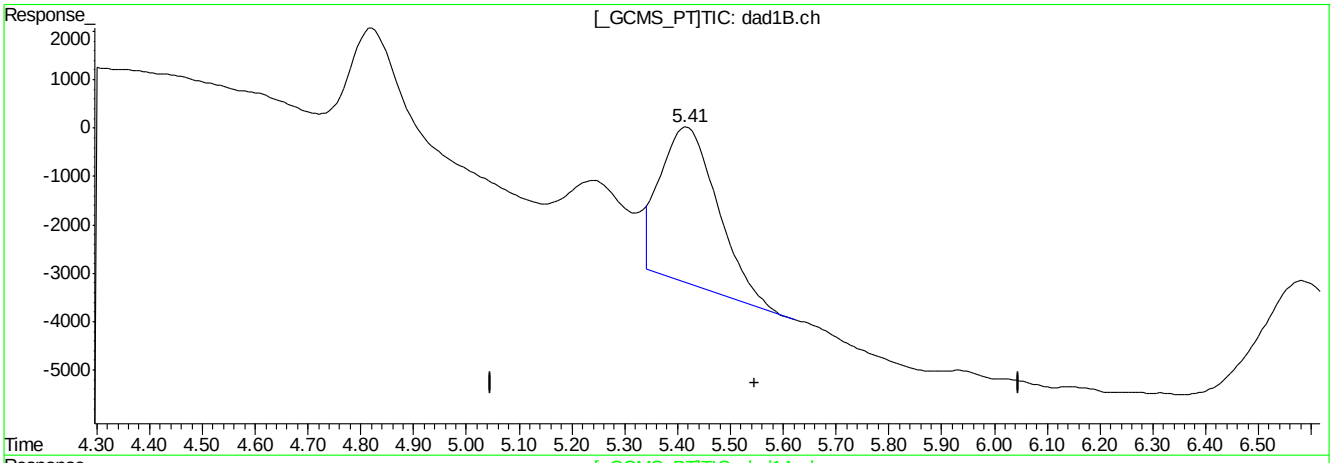
response 0

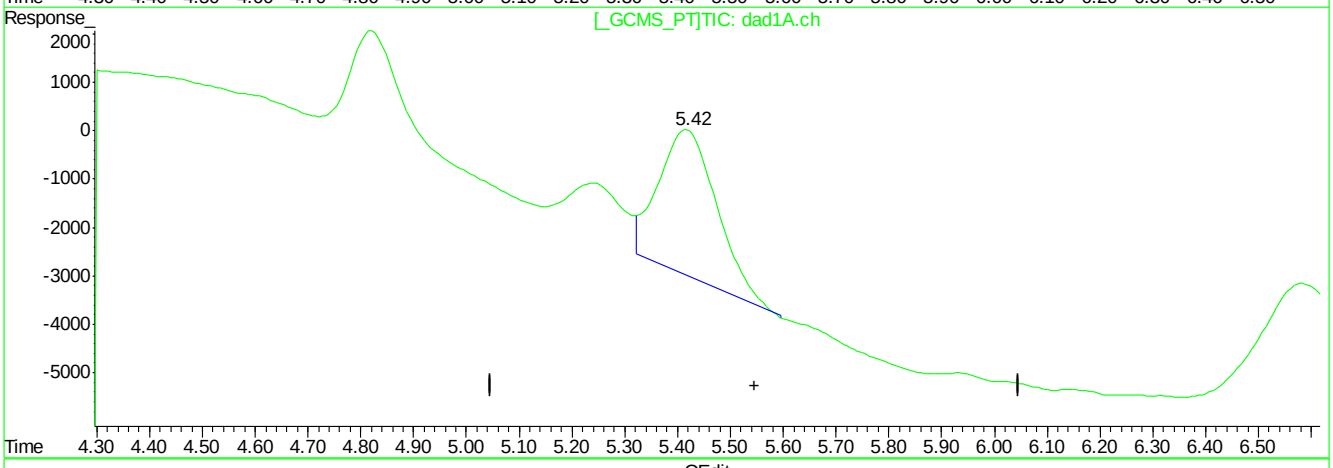
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:34:54 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(3) DNX

5.41min 36.711ppb m

response 246108

(3) DNX #2

5.42min 35.201ppb m

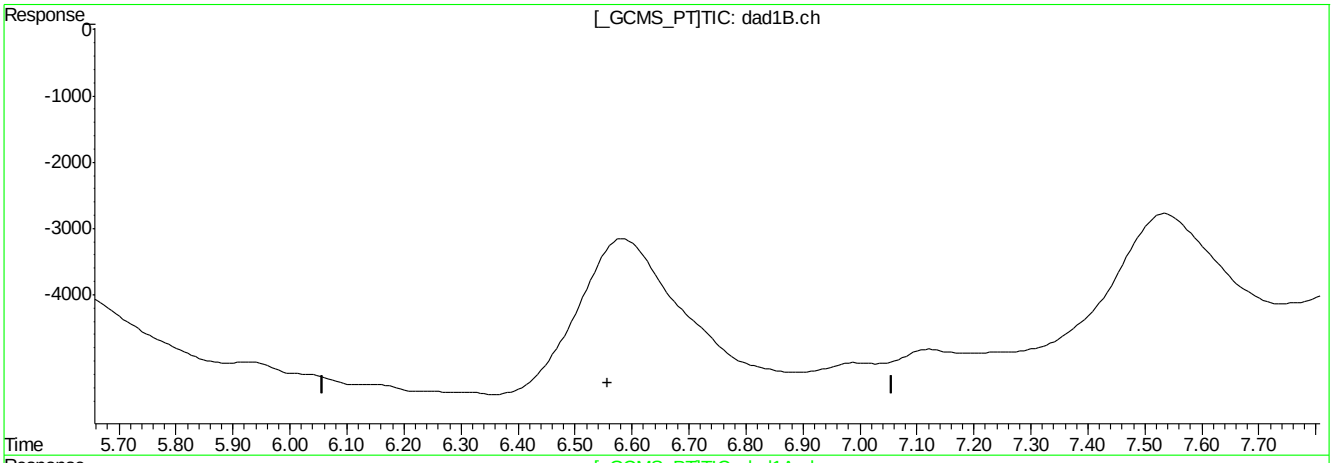
response 230431

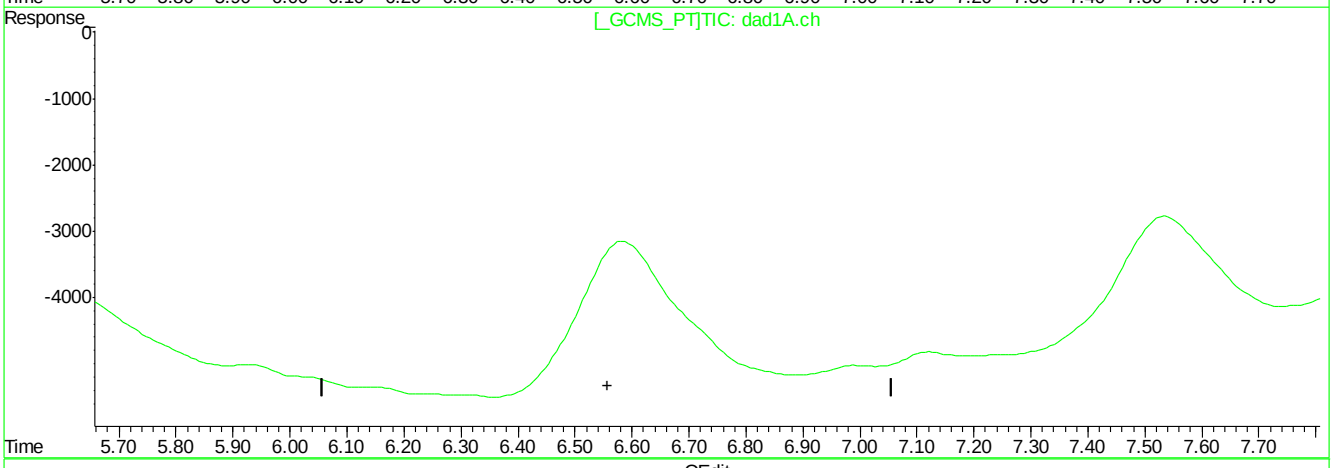
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:35:01 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(4) MNX

0.00min 0.000ppb

response 0

(4) MNX #2

0.00min 0.000ppb

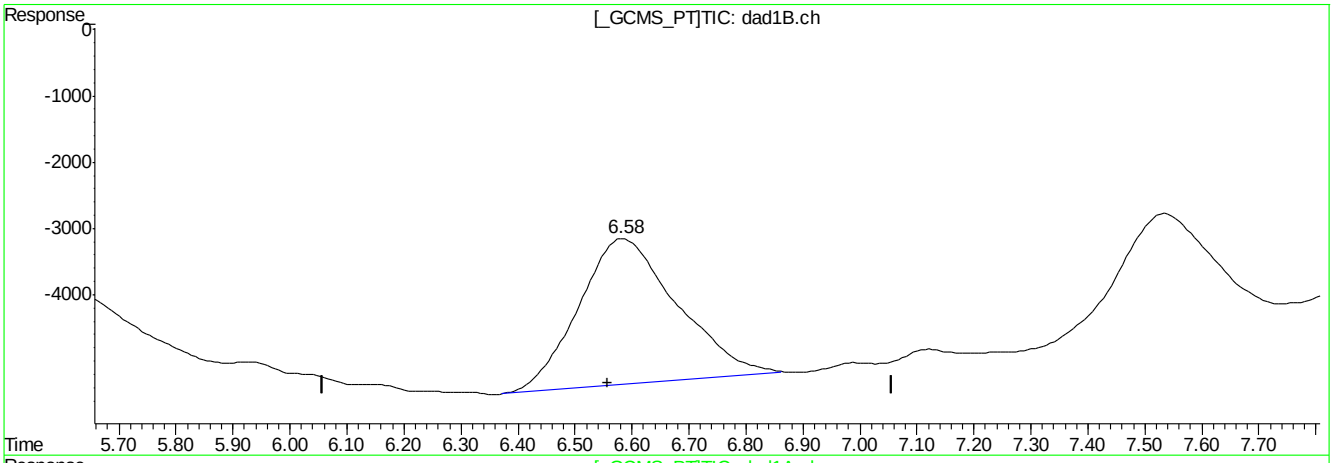
response 0

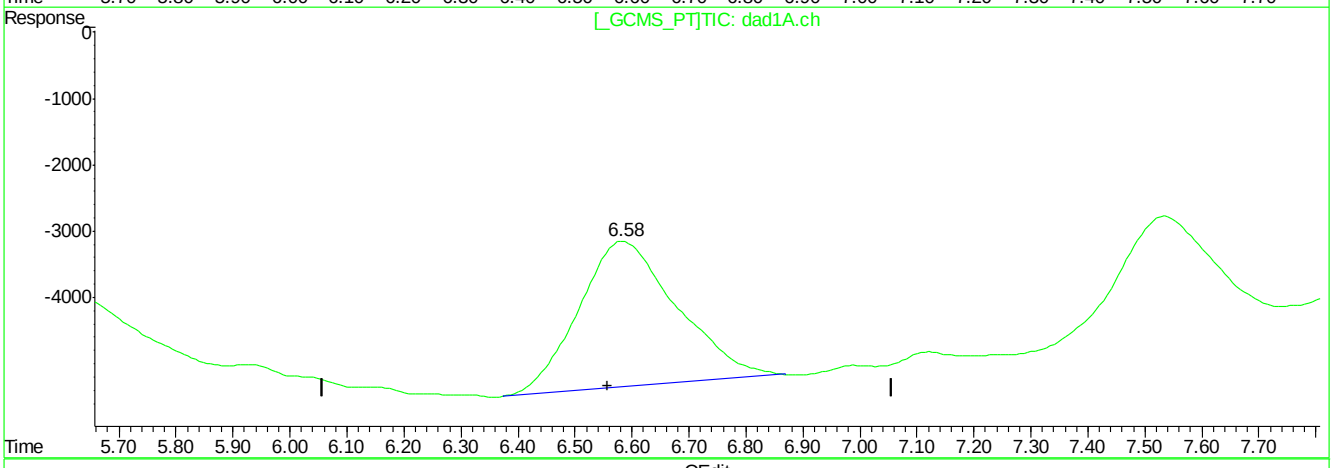
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:35:07 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(4) MNX

6.58min 42.865ppb m

response 263257

(4) MNX #2

6.58min 43.125ppb m

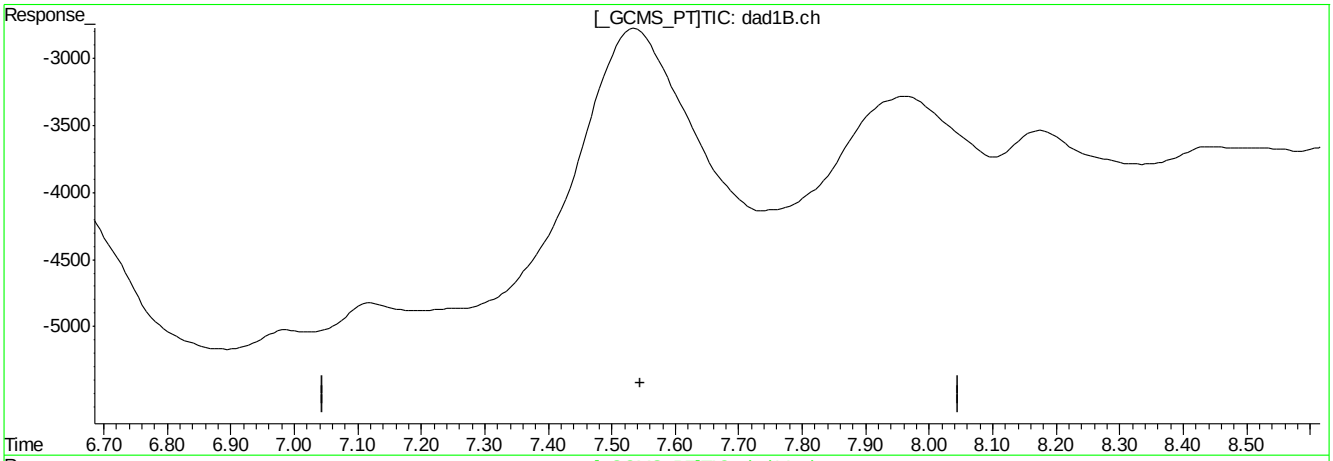
response 262168

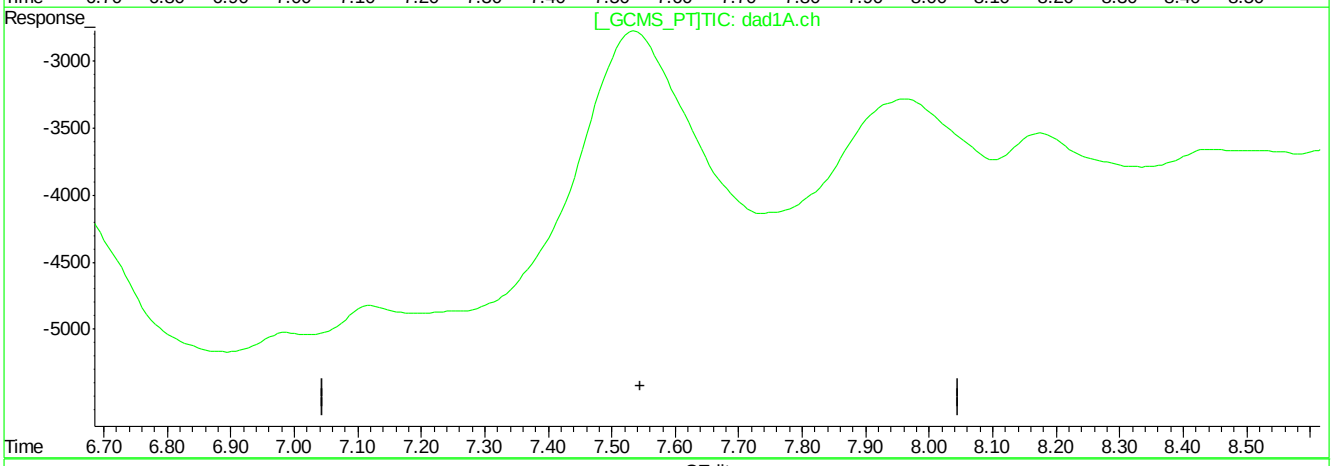
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:35:15 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(5) 1,3,5-Trinitrobenzene

0.00min 0.000ppb

response 0

(5) 1,3,5-Trinitrobenzene #2

0.00min 0.000ppb

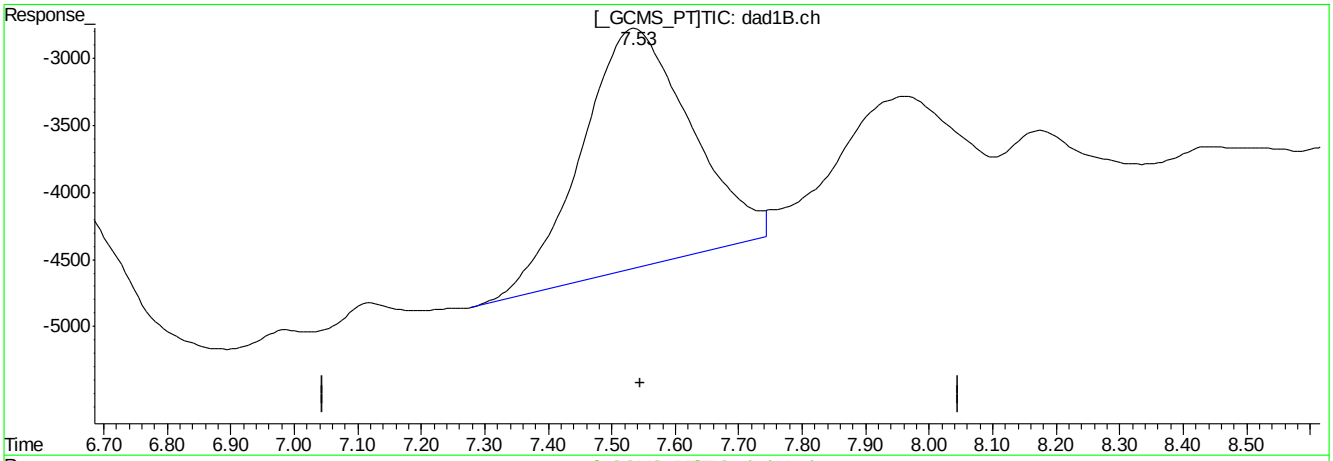
response 0

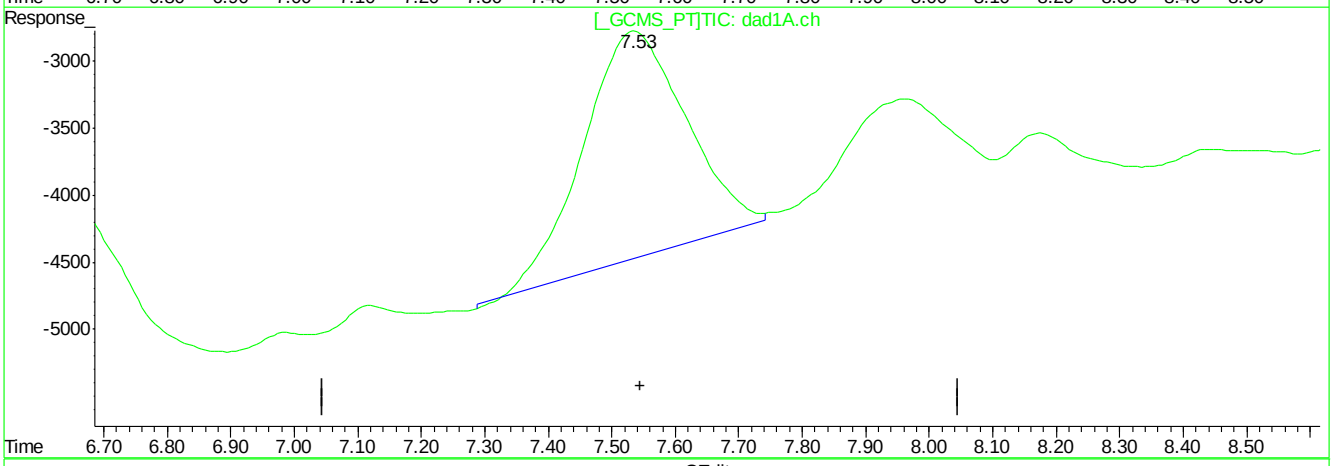
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:35:20 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(5) 1,3,5-Trinitrobenzene

7.53min 21.845ppb m

response 213881

(5) 1,3,5-Trinitrobenzene #2

7.53min 19.375ppb m

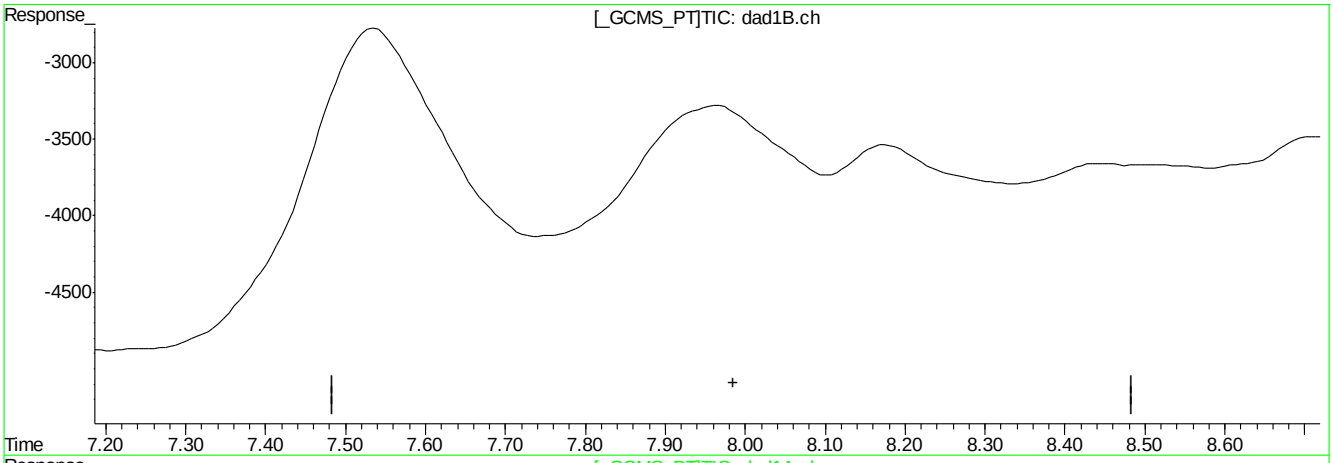
response 191044

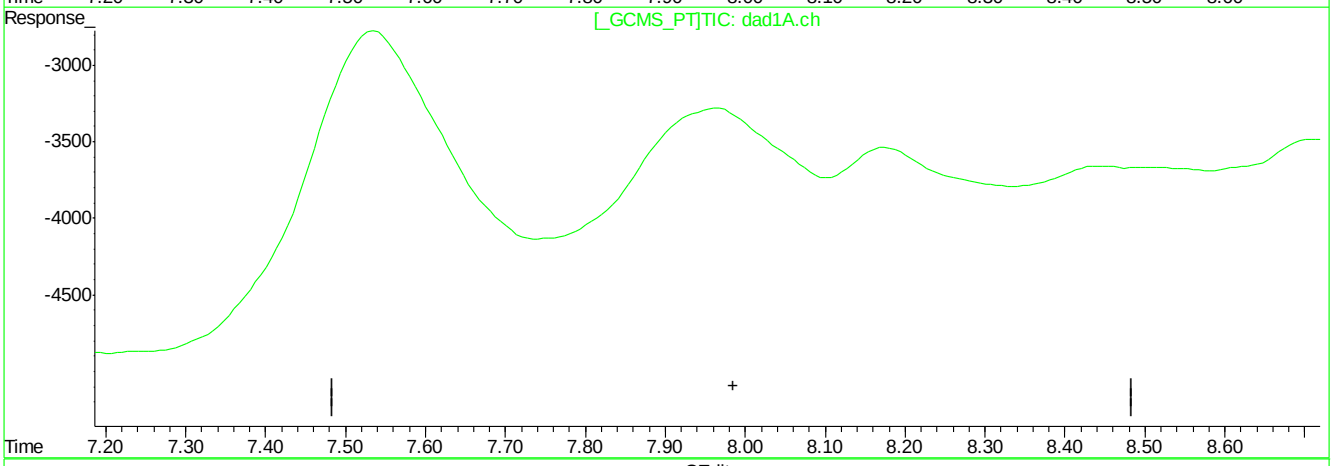
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:35:27 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(6) RDX

0.00min 0.000ppb

response 0

(6) RDX #2

0.00min 0.000ppb

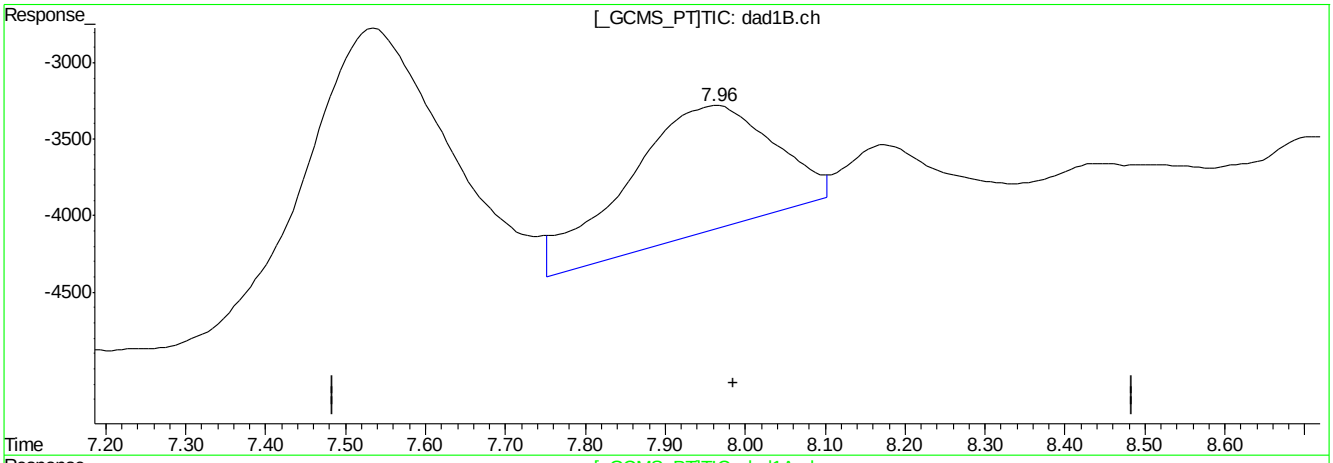
response 0

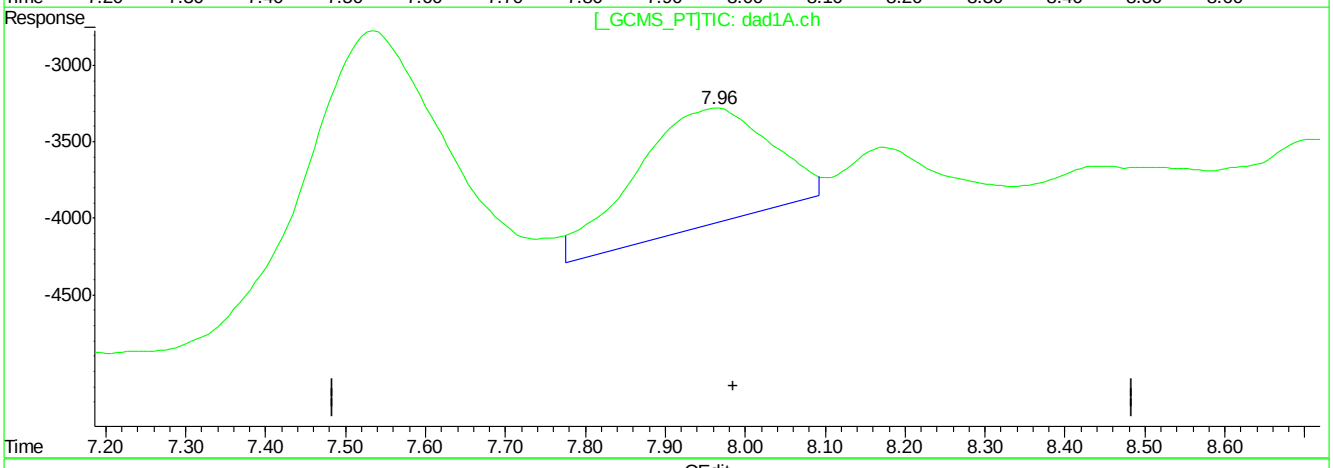
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:35:32 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(6) RDX

7.96min 23.630ppb m

response 105933

(6) RDX #2

7.96min 20.299ppb m

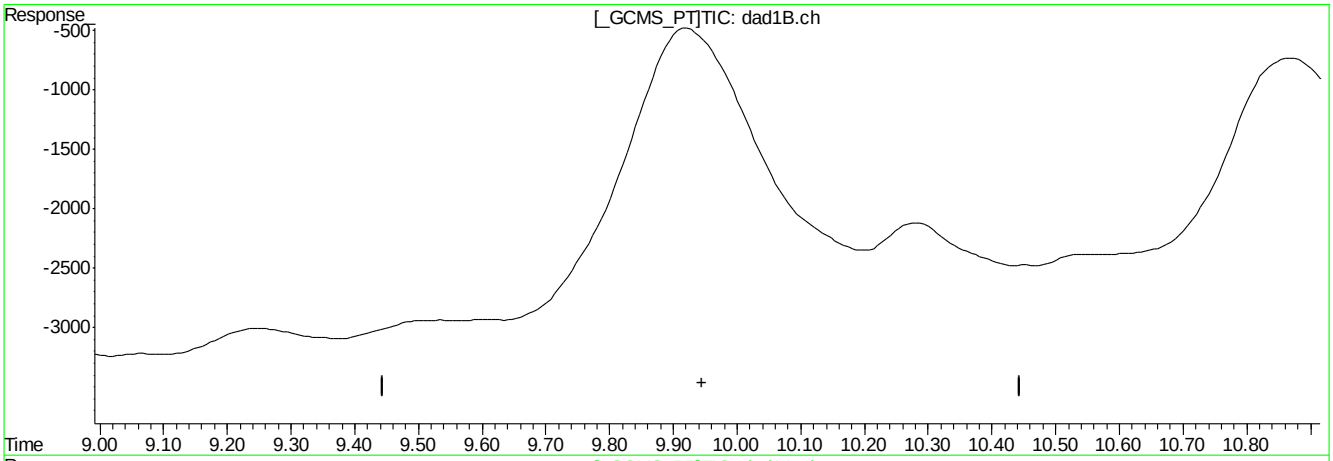
response 89784

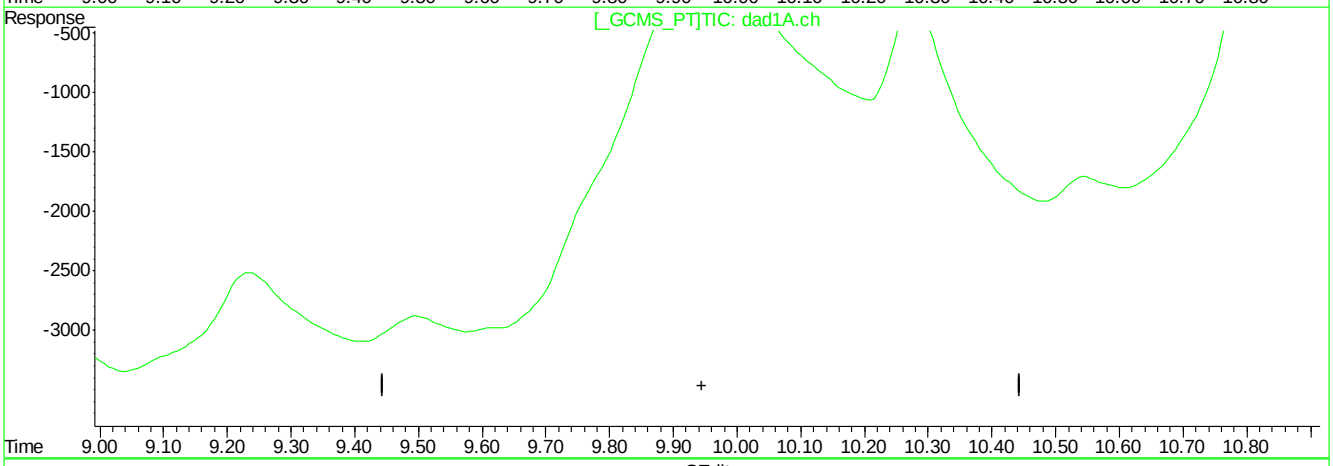
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:35:43 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

0.00min 0.000ppb

response 0

(7) 1,3-Dinitrobenzene #2

0.00min 0.000ppb

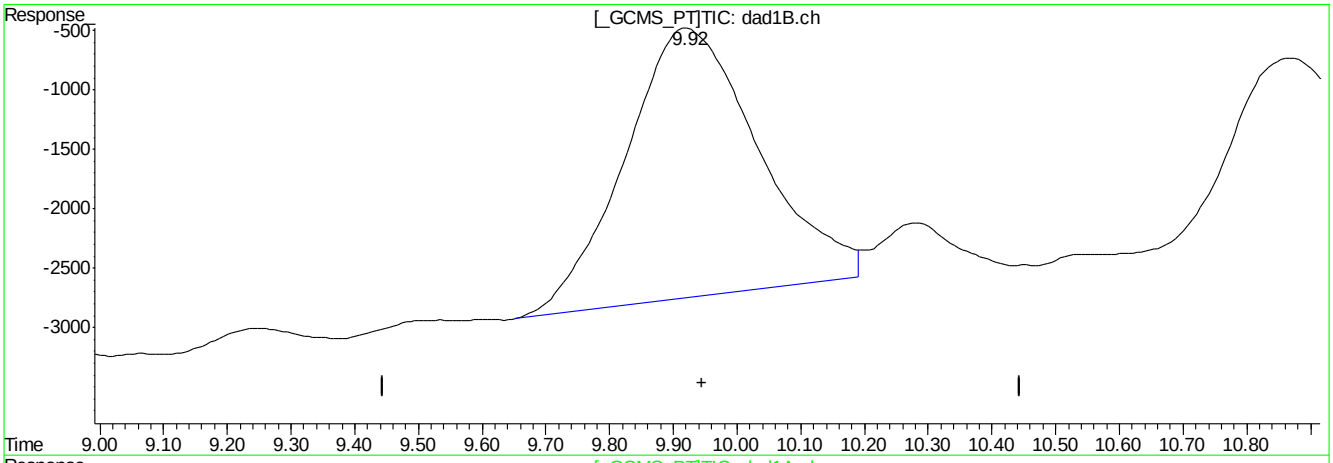
response 0

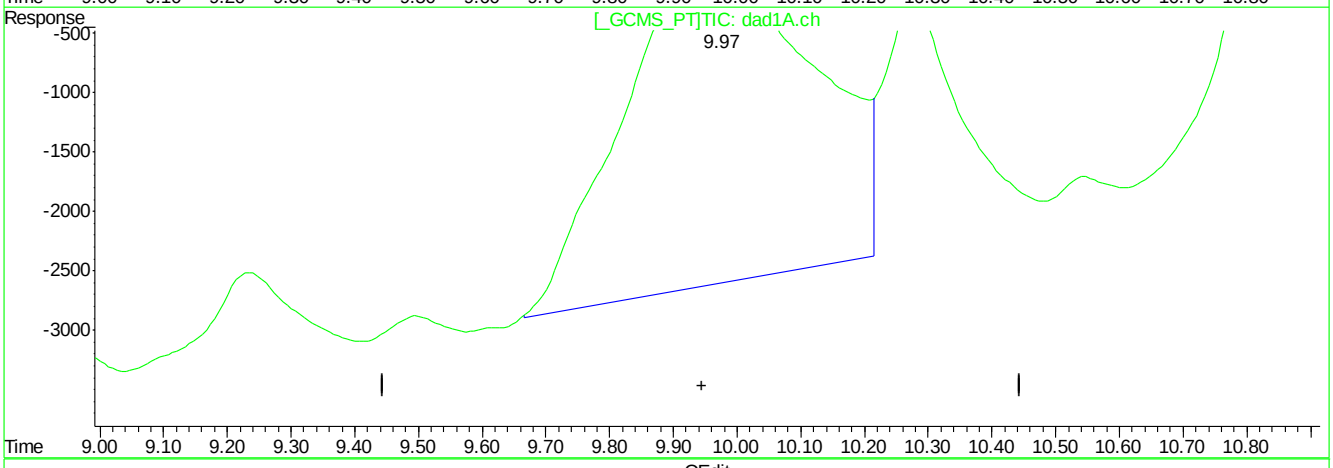
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:35:49 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

9.92min 25.327ppb m

response 329227

(7) 1,3-Dinitrobenzene #2

9.97min 57.673ppb m

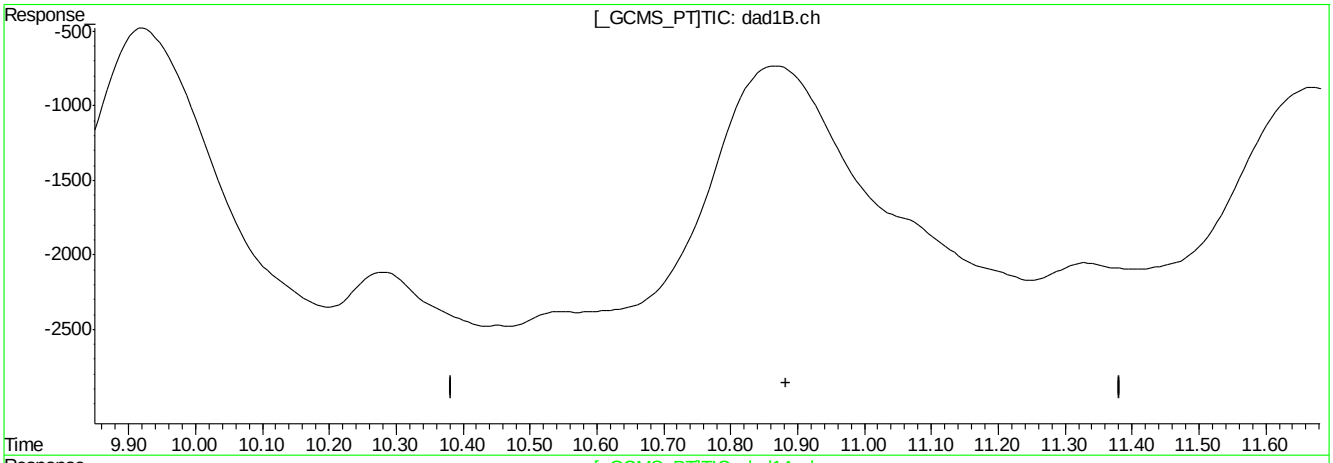
response 564460

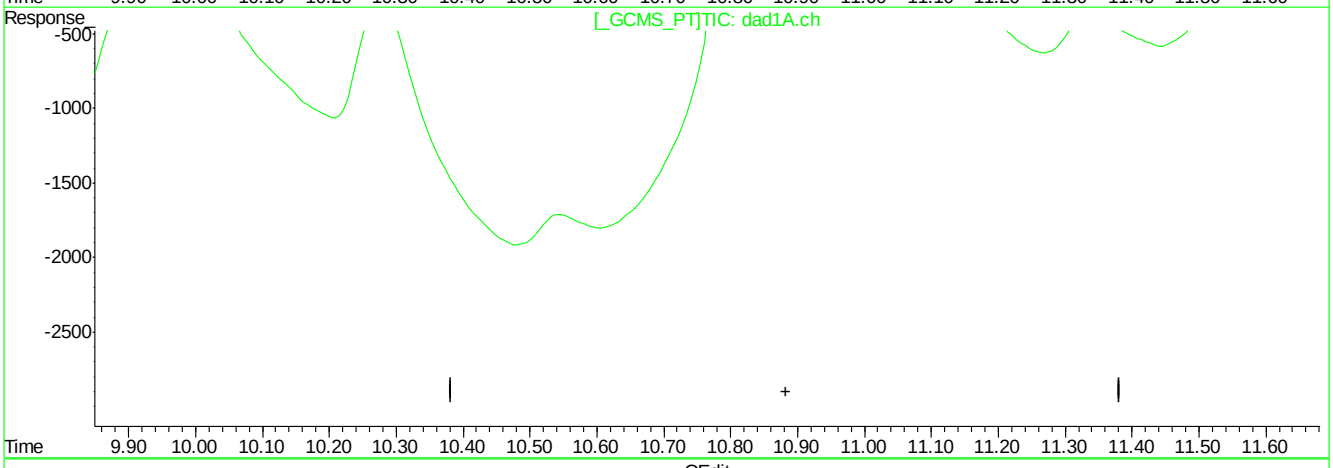
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:35:57 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(8) Nitrobenzene

0.00min 0.000ppb

response 0

(8) Nitrobenzene #2

0.00min 0.000ppb

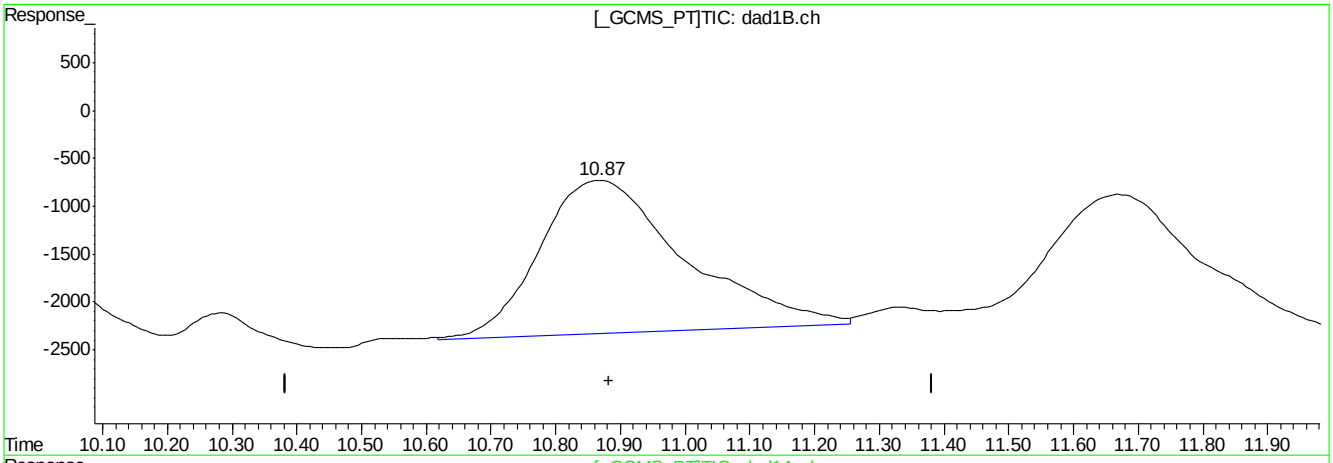
response 0

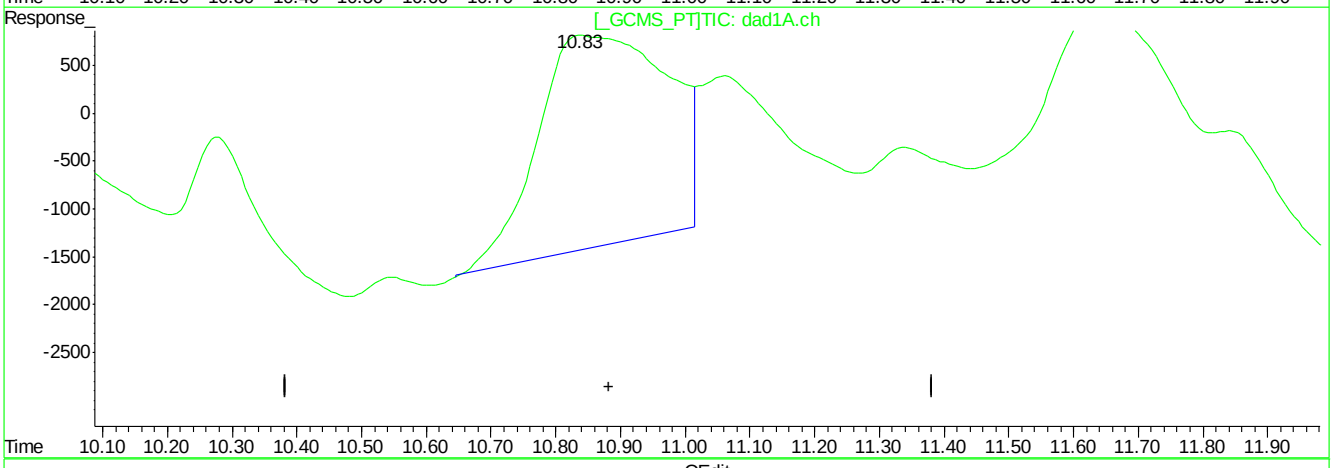
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:36:03 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(8) Nitrobenzene

10.87min 28.974ppb m

response 249462

(8) Nitrobenzene #2

10.83min 38.854ppb m

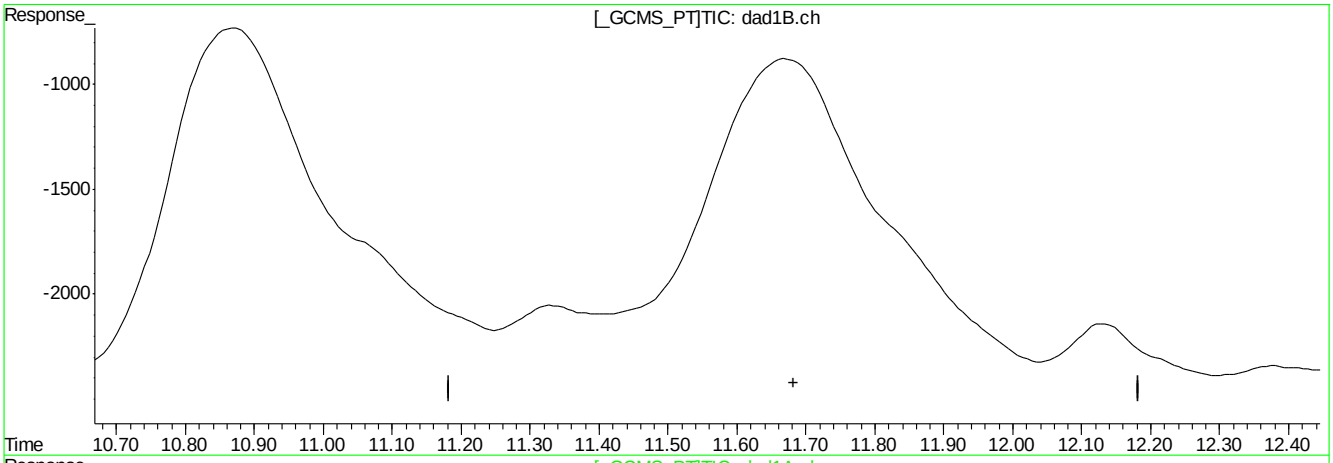
response 301502

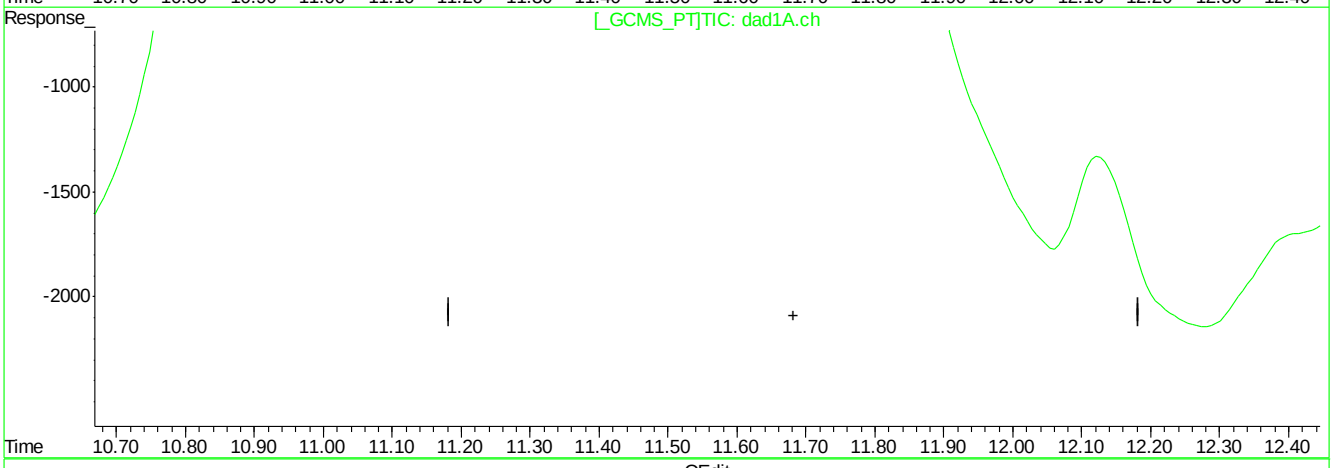
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:36:14 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(9) 2,4,6-Trinitrotoluene

0.00min 0.000ppb

response 0

(9) 2,4,6-Trinitrotoluene #2

0.00min 0.000ppb

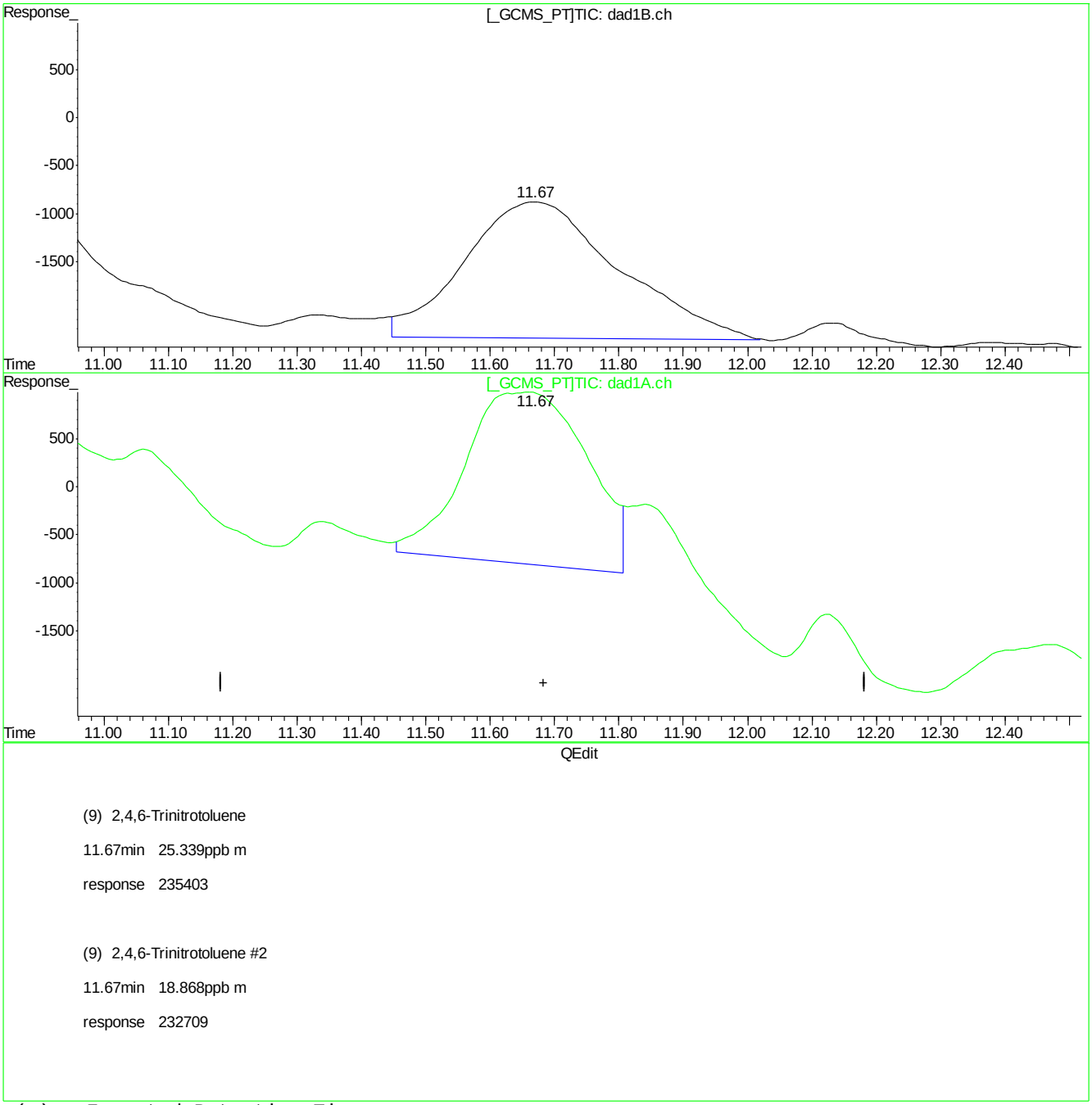
response 0

(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:36:19 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration

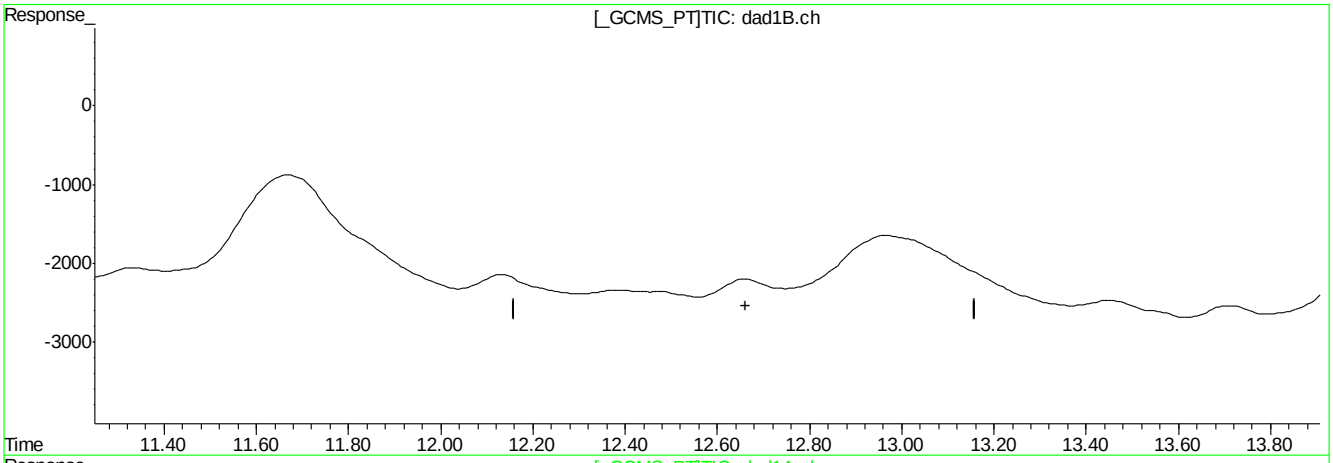


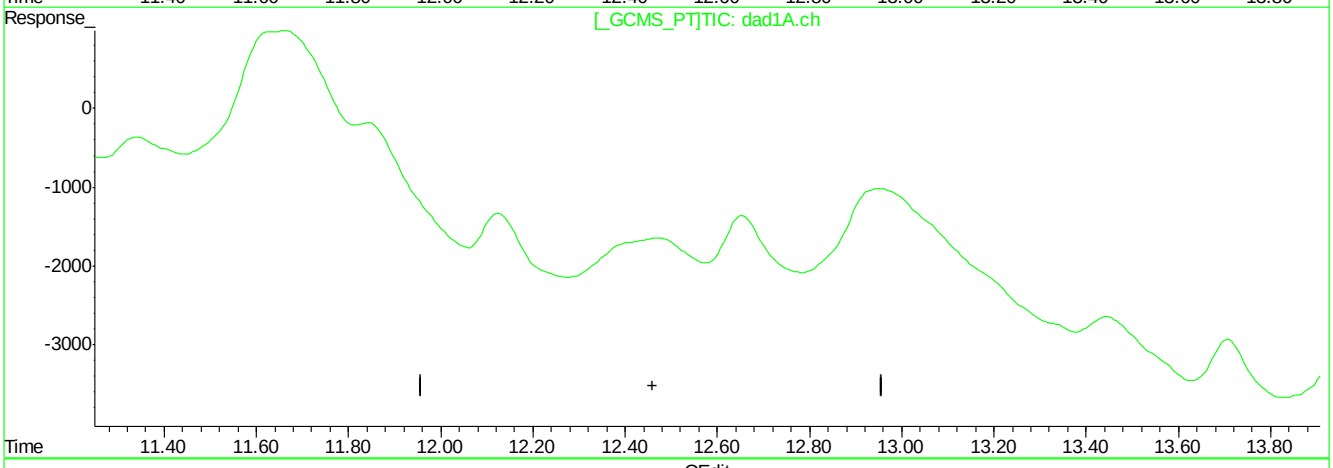
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:36:30 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

0.00min 0.000ppb

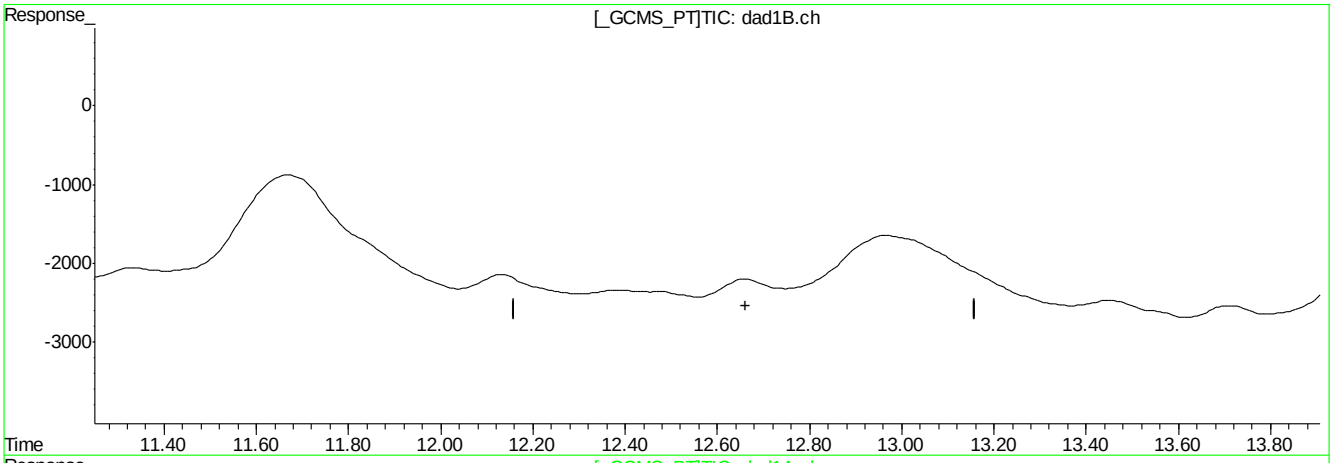
response 0

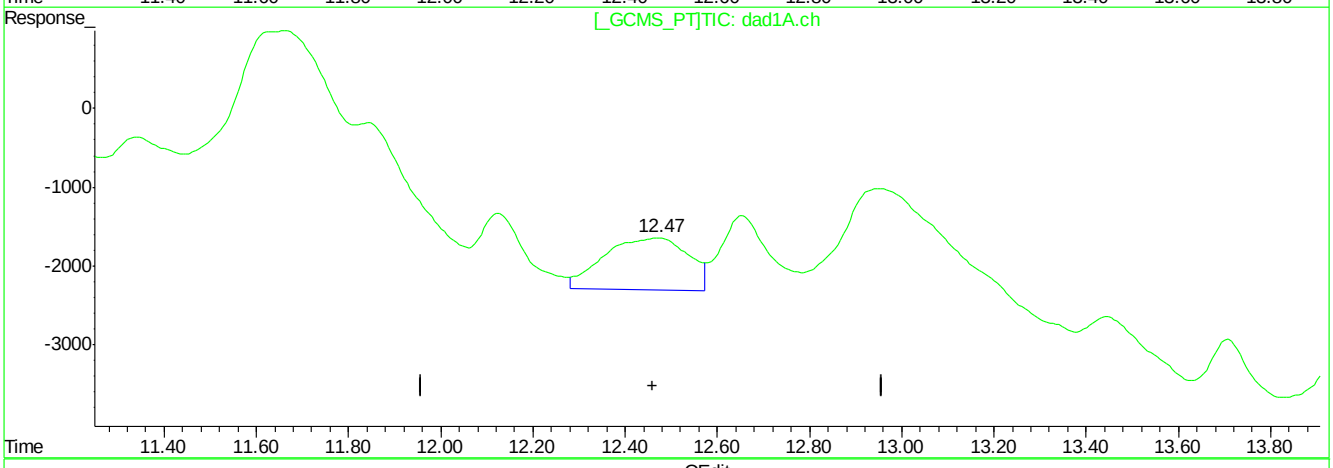
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:36:40 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

12.47min 27.105ppb m

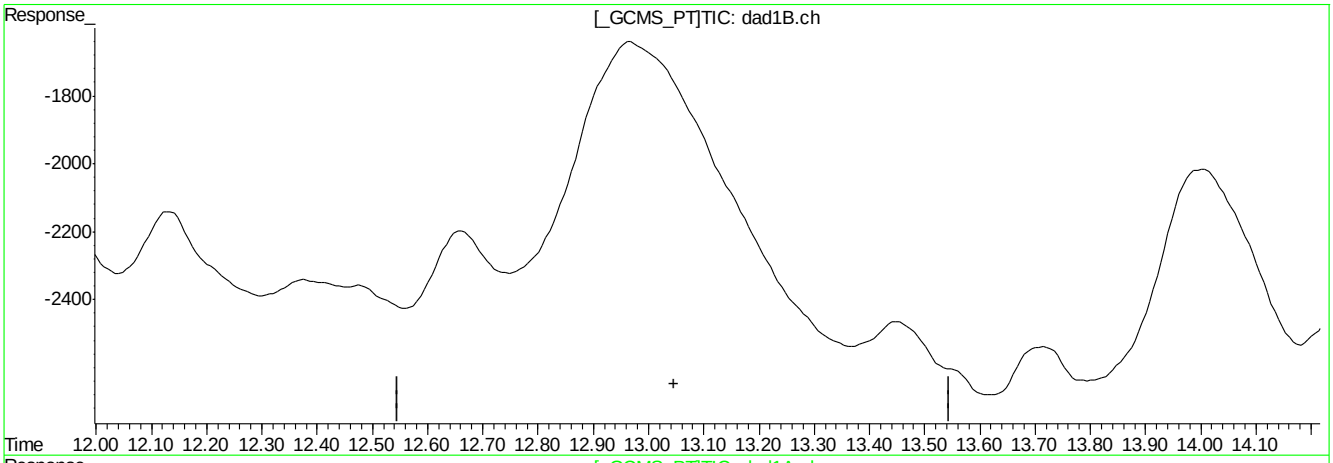
response 82882

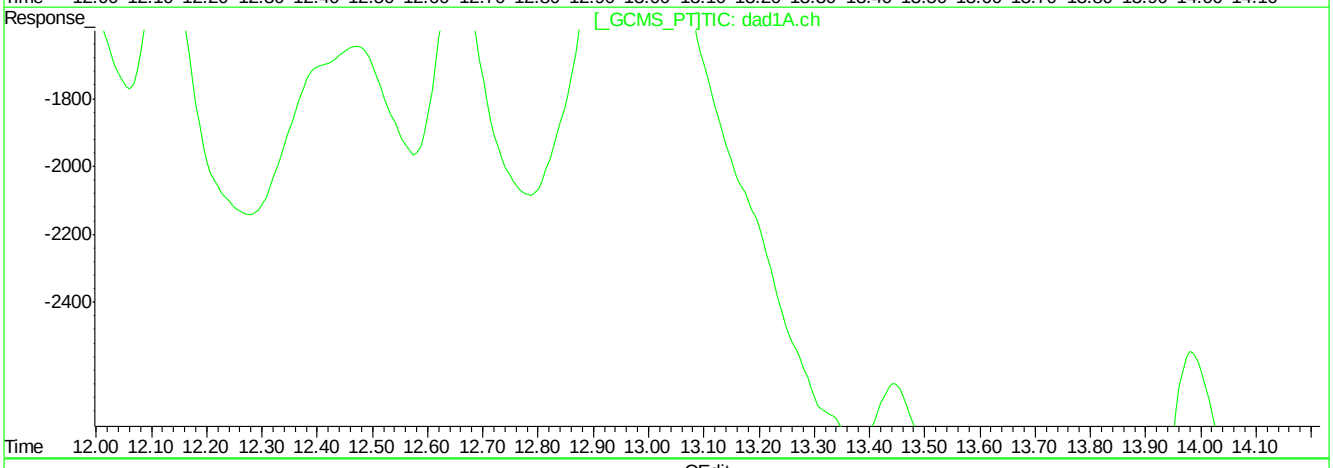
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:36:50 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(11) Tetryl

0.00min 0.000ppb

response 0

(11) Tetryl #2

0.00min 0.000ppb

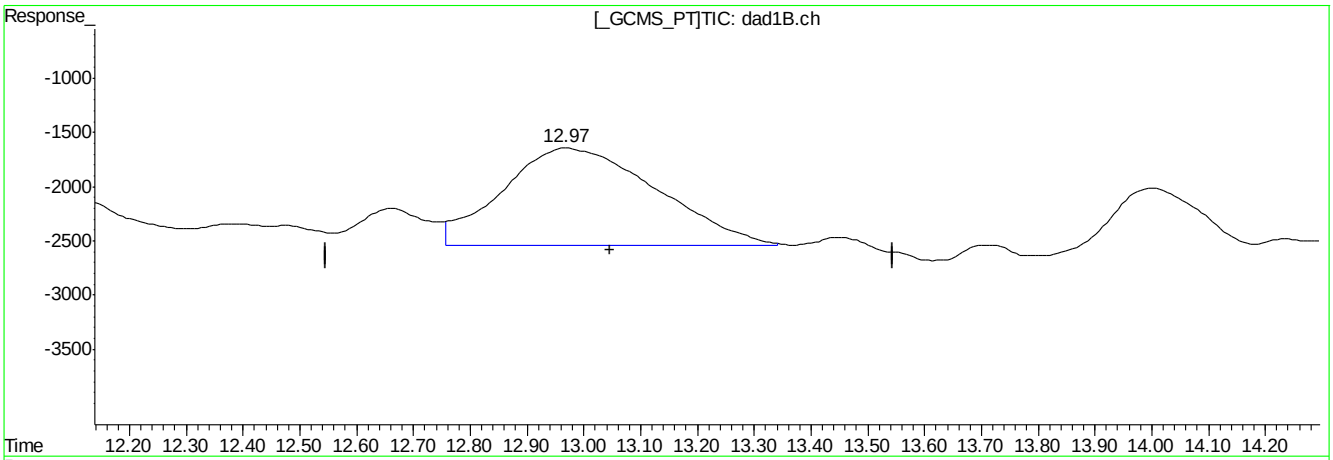
response 0

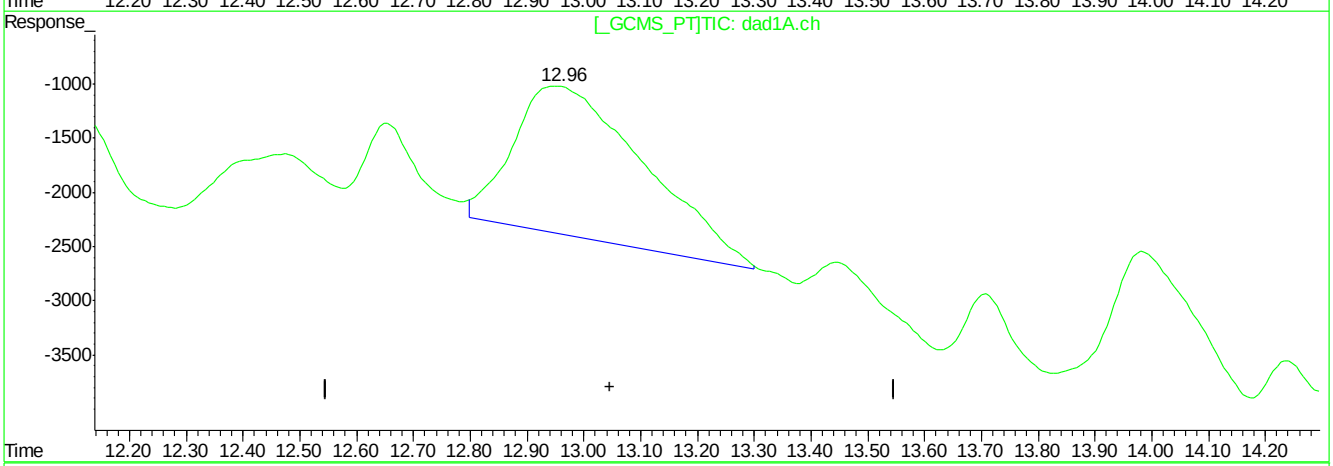
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:36:58 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(11) Tetryl

12.97min 24.673ppb m

response 170393

(11) Tetryl #2

12.96min 17.718ppb m

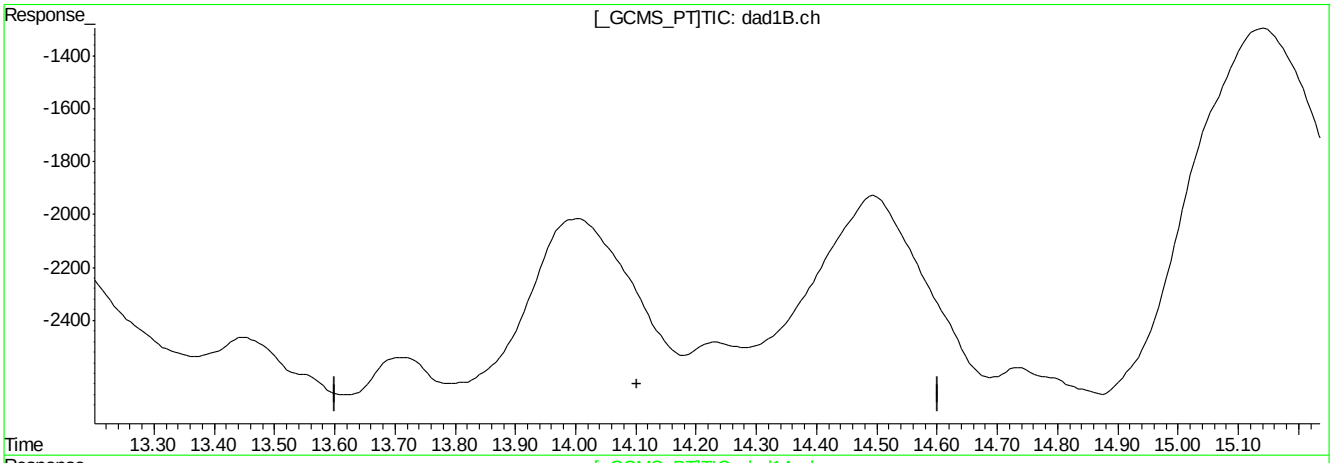
response 221380

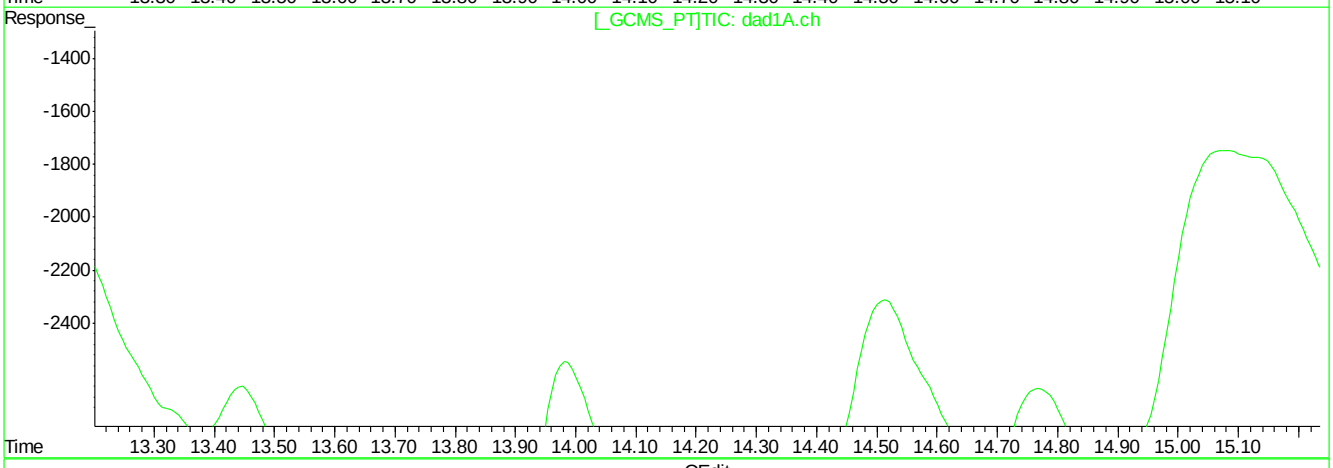
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:37:07 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(12) 3,4-Dinitrotoluene (S)

0.00min 0.000ppb

response 0

(12) 3,4-Dinitrotoluene #2 (S)

0.00min 0.000ppb

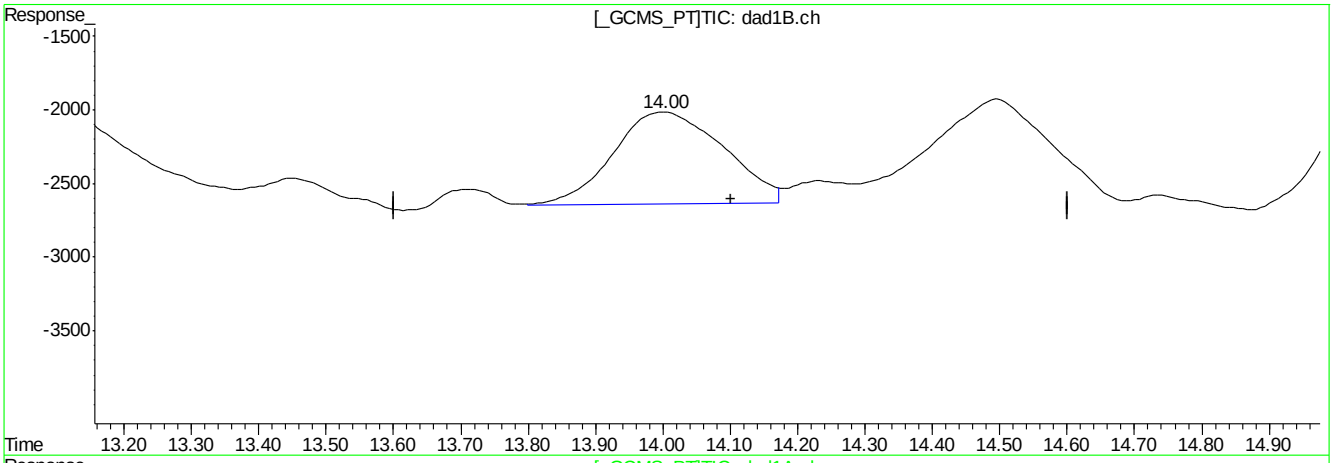
response 0

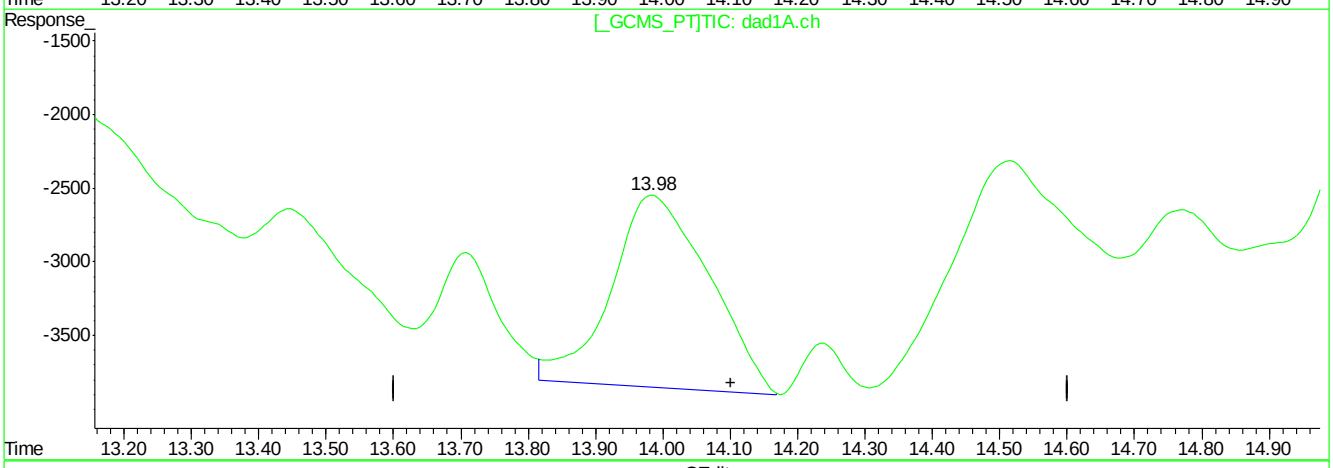
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:37:14 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(12) 3,4-Dinitrotoluene (S)

14.00min 15.665ppb m

response 71081

(12) 3,4-Dinitrotoluene #2 (S)

13.98min 14.712ppb m

response 132548

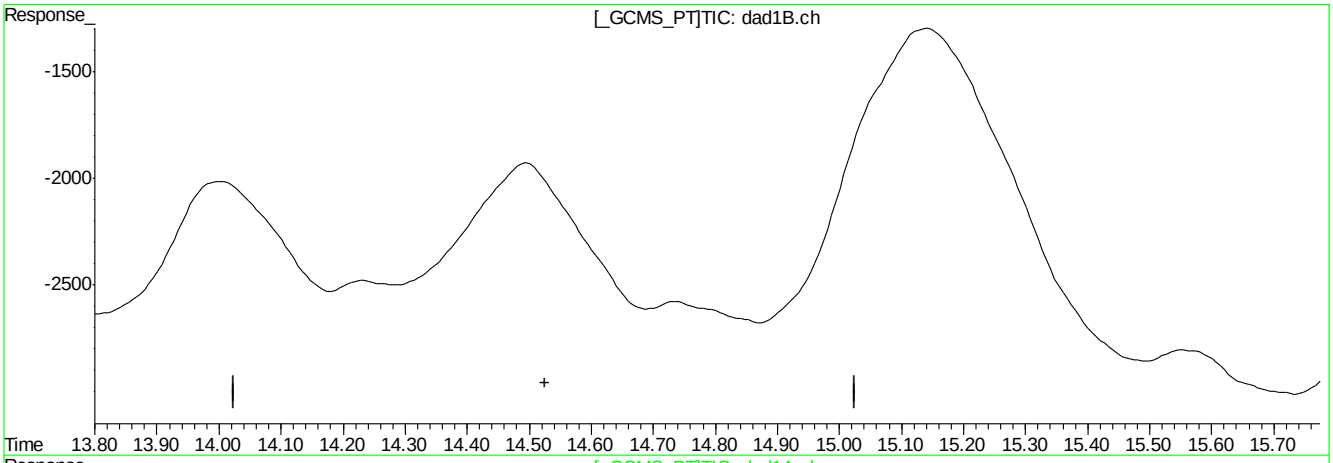
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:37:23 2025

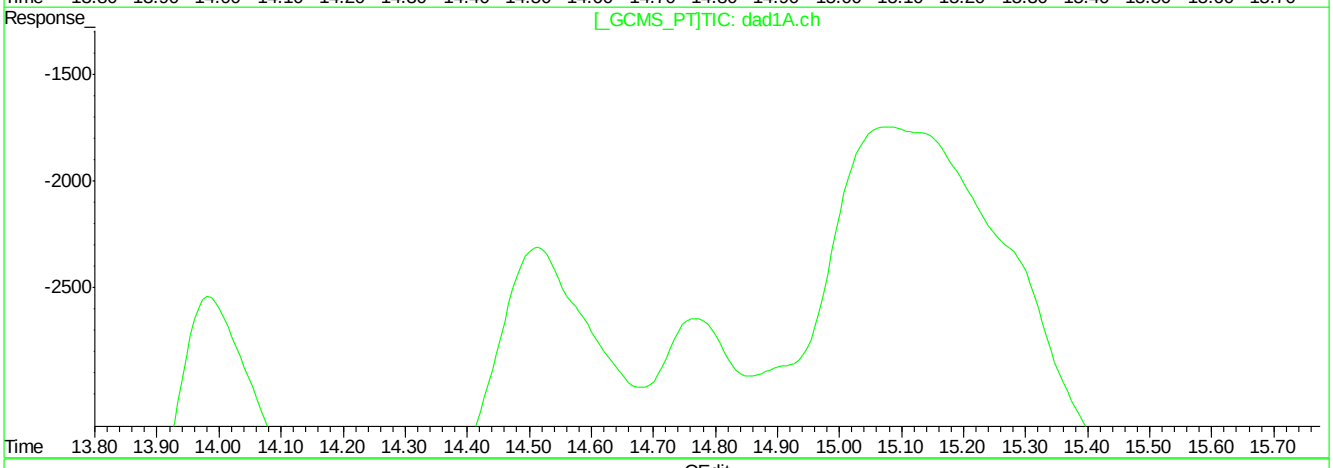
GG631114.D edits: 3,4-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(13) 2,6-Dinitrotoluene

0.00min 0.000ppb

response 0

(13) 2,6-Dinitrotoluene #2

0.00min 0.000ppb

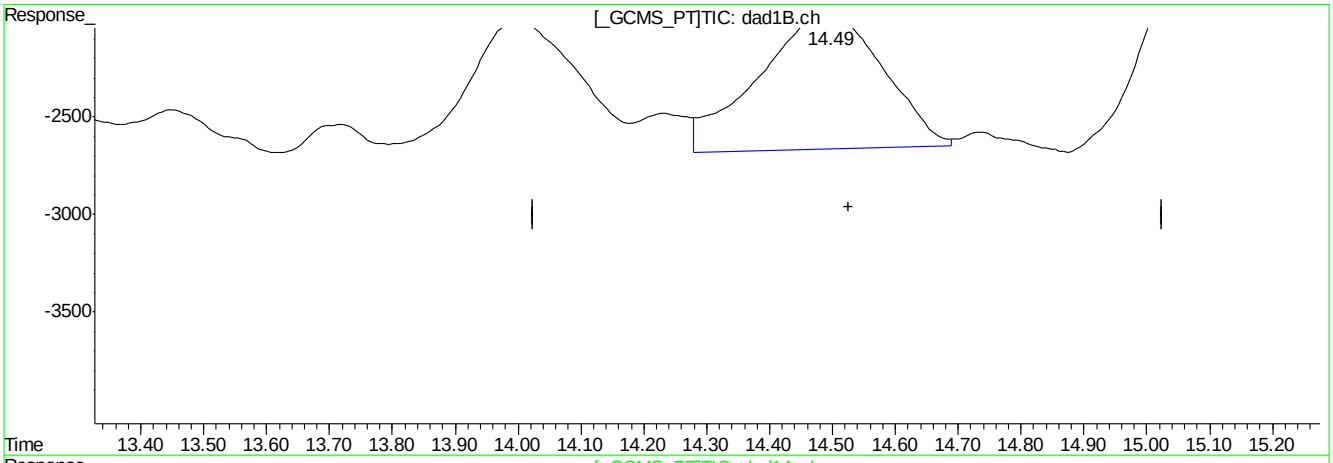
response 0

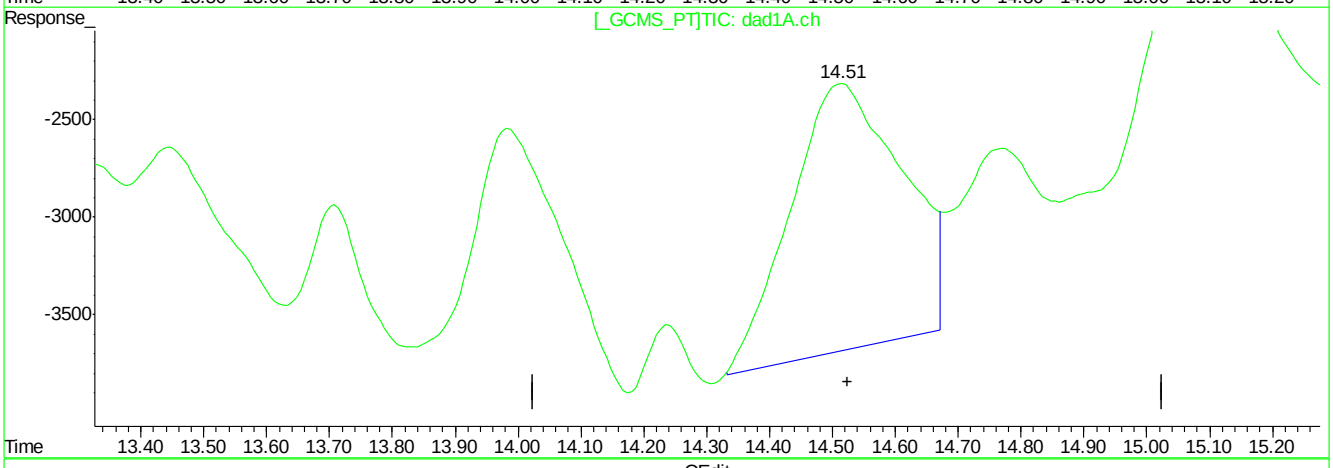
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:37:29 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(13) 2,6-Dinitrotoluene

14.49min 15.191ppb m

response 96226

(13) 2,6-Dinitrotoluene #2

14.51min 17.487ppb m

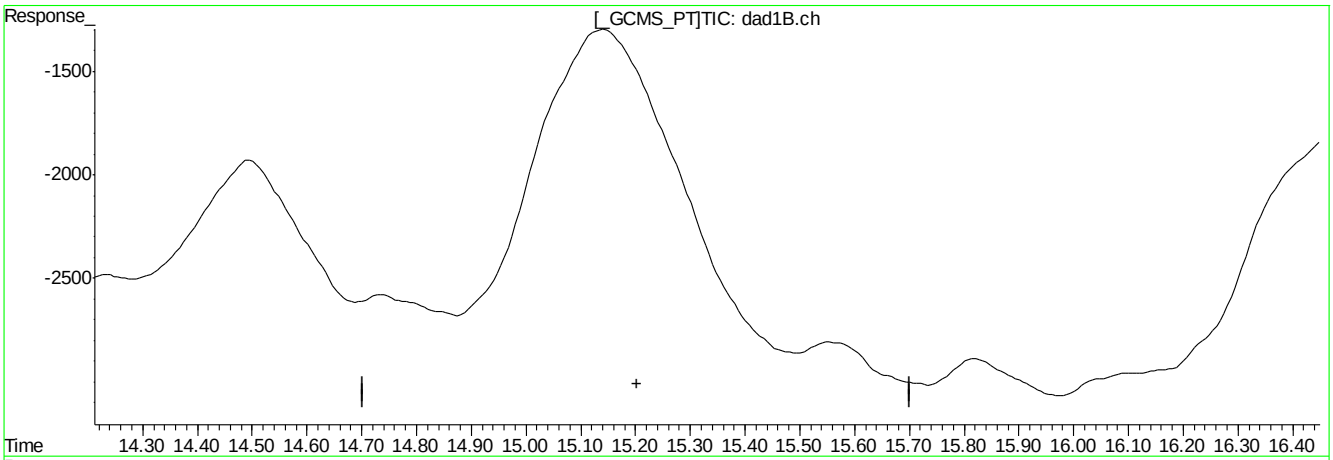
response 168440

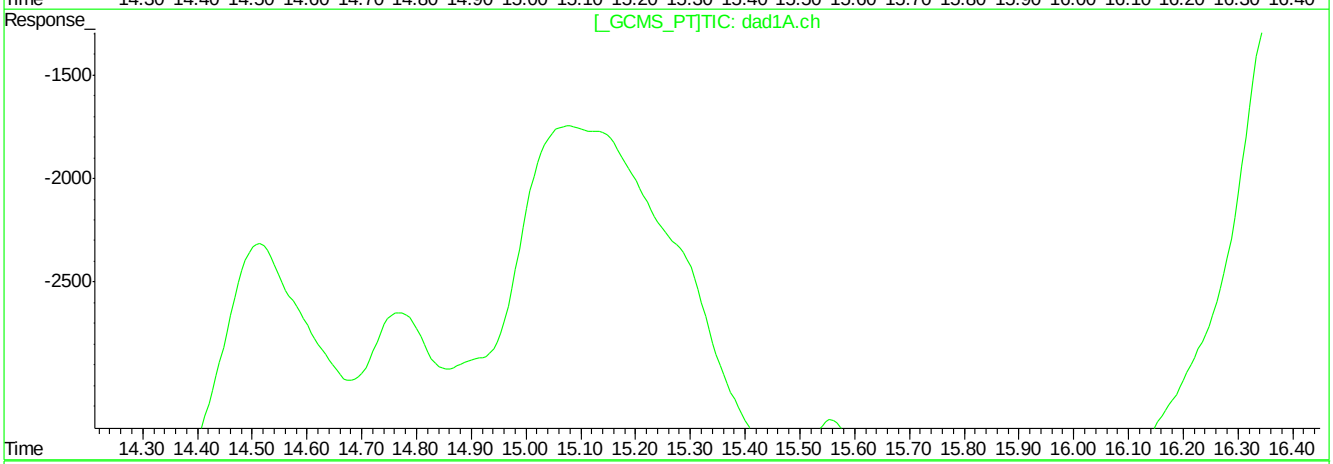
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:37:39 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:37 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(14) 2,4-Dinitrotoluene

0.00min 0.000ppb

response 0

(14) 2,4-Dinitrotoluene #2

0.00min 0.000ppb

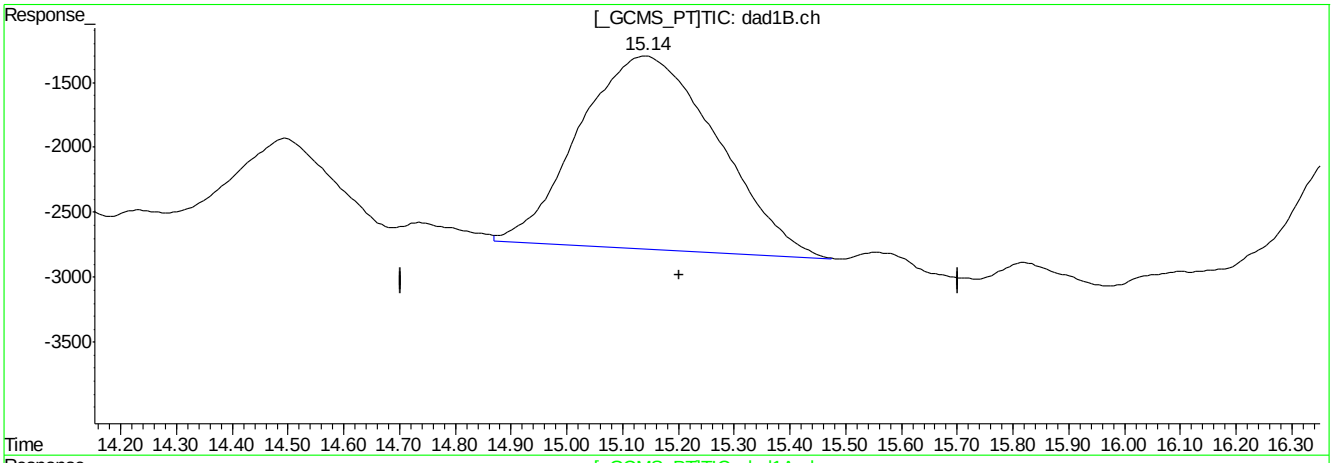
response 0

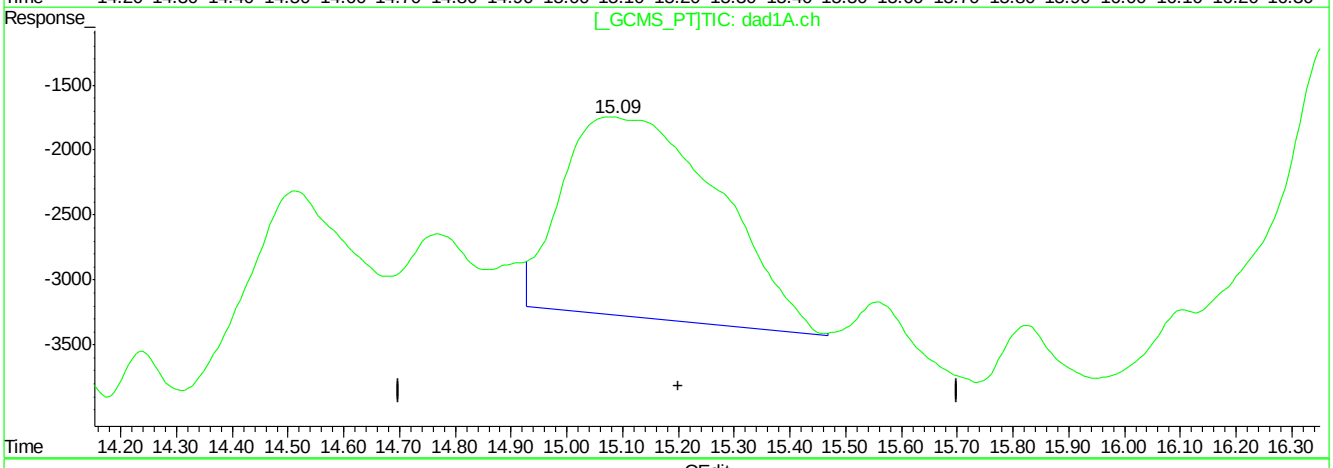
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:37:59 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:37 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(14) 2,4-Dinitrotoluene

15.14min 20.961ppb m

response 257669

(14) 2,4-Dinitrotoluene #2

15.09min 35.141ppb m

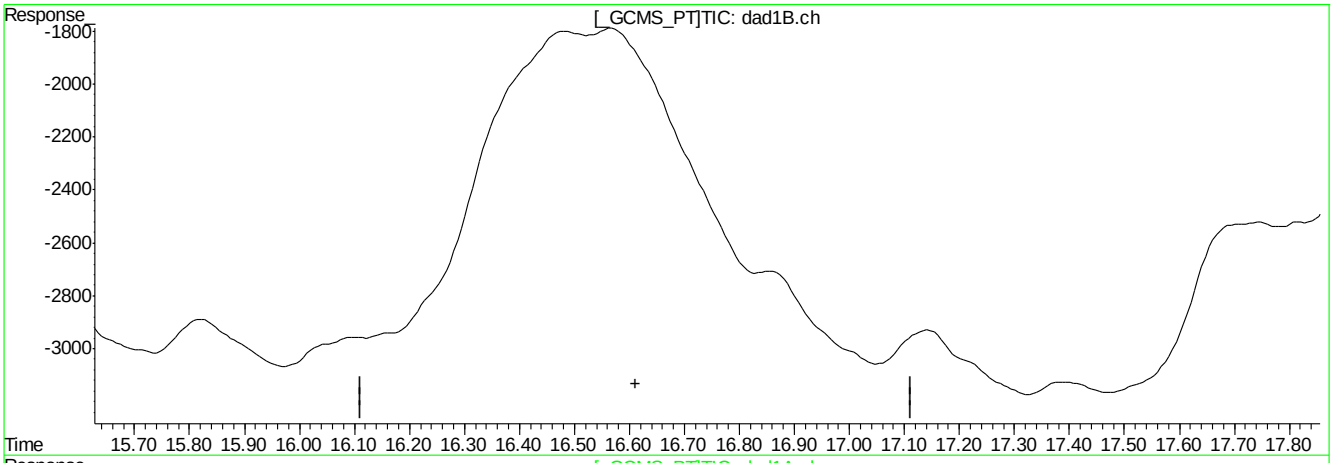
response 302838

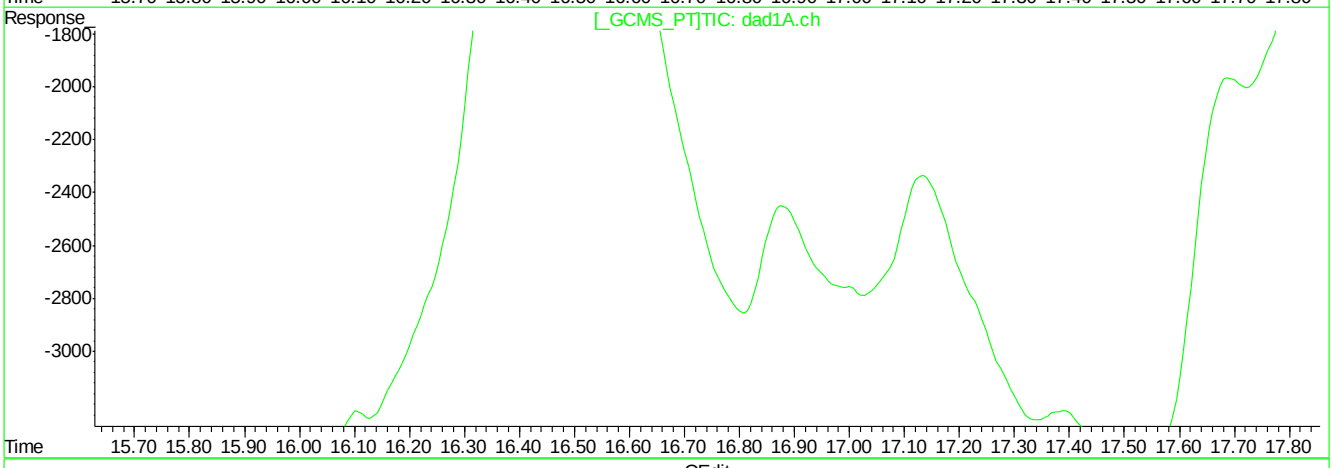
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:38:12 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:37 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(15) 3,5-Dinitroaniline

0.00min 0.000ppb

response 0

(15) 3,5-Dinitroaniline #2

0.00min 0.000ppb

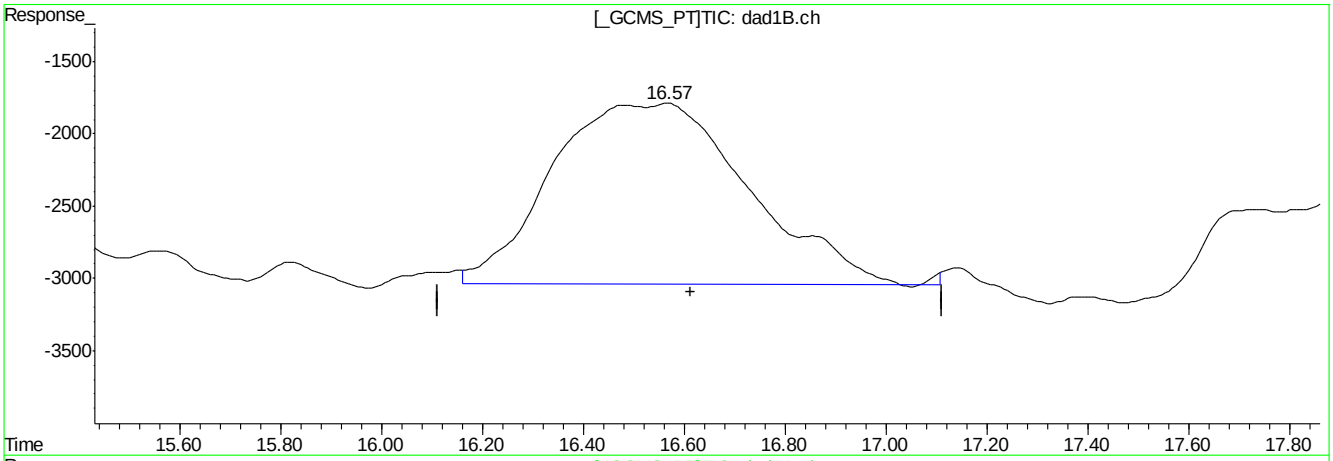
response 0

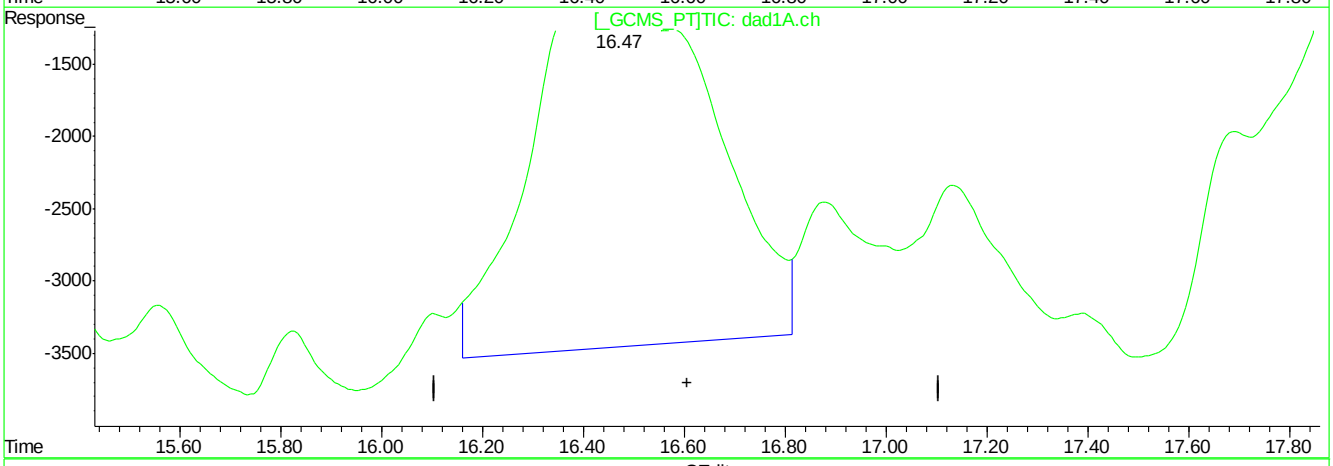
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:38:21 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:37 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(15) 3,5-Dinitroaniline

16.57min 33.628ppb m

response 339694

(15) 3,5-Dinitroaniline #2

16.47min 38.011ppb m

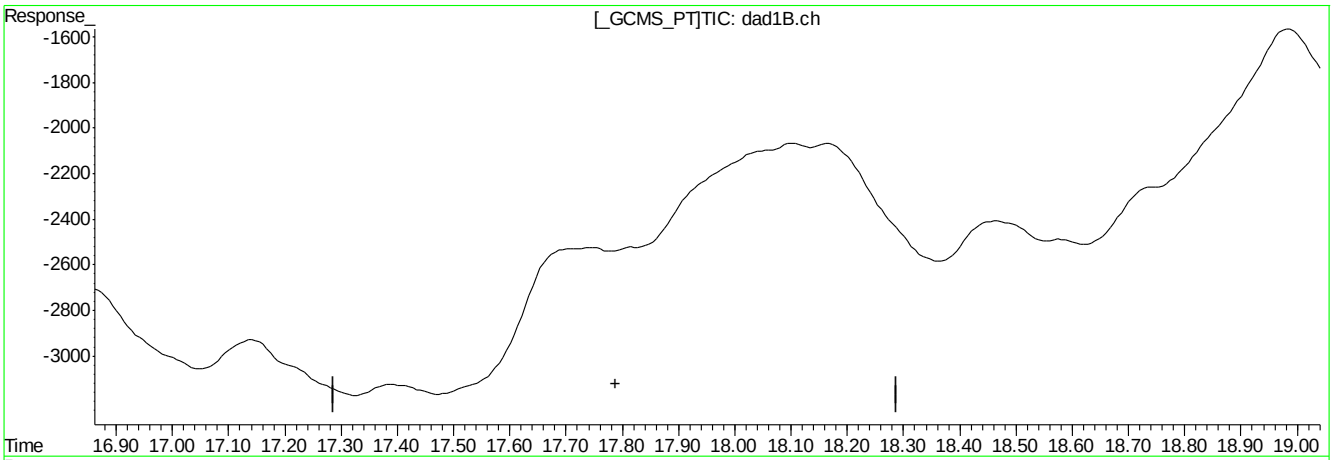
response 615152

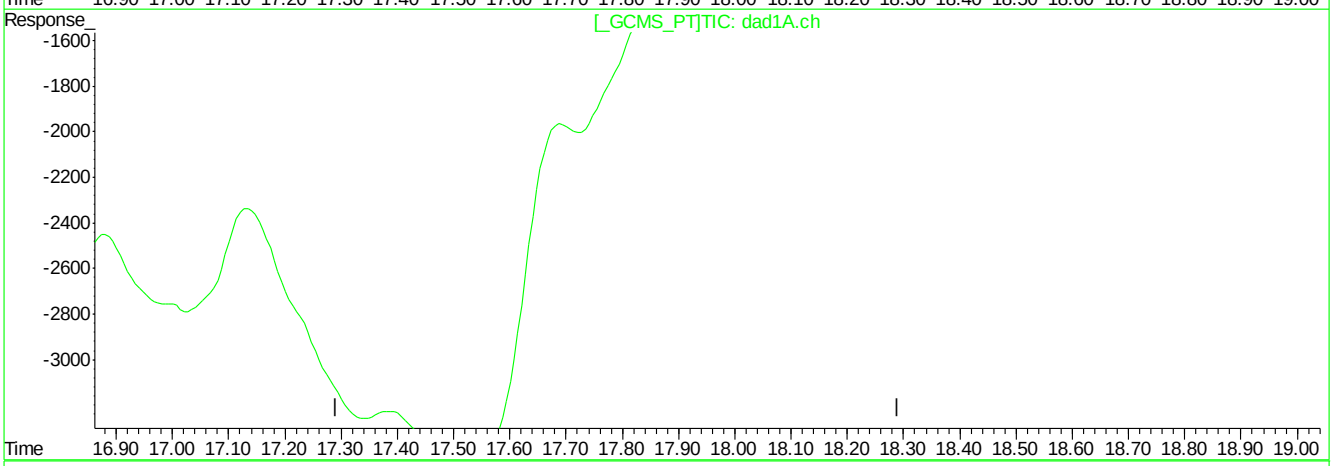
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:38:40 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:37 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(16) o-Nitrotoluene

0.00min 0.000ppb

response 0

(16) o-Nitrotoluene #2

0.00min 0.000ppb

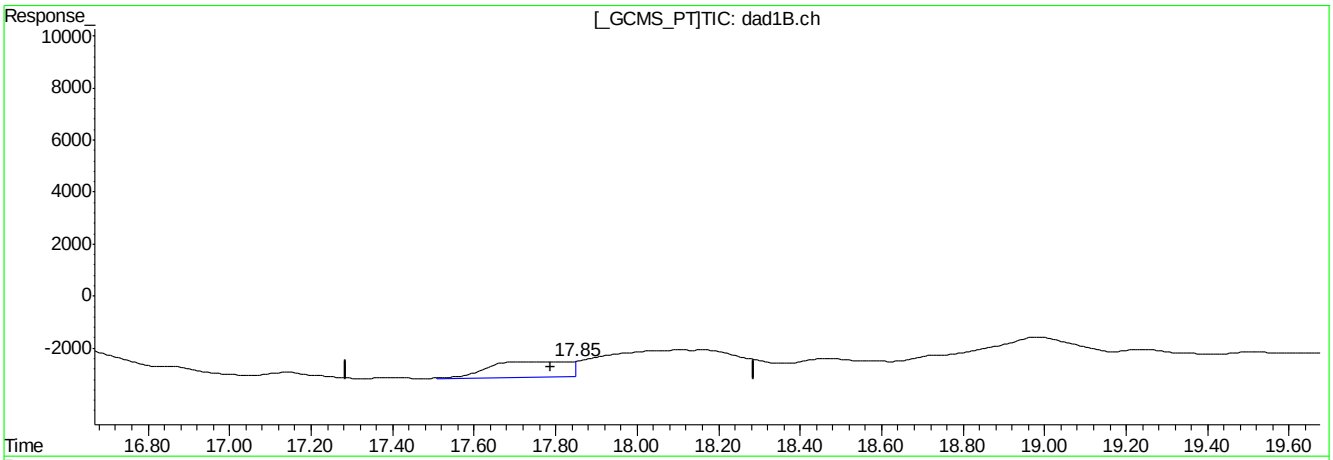
response 0

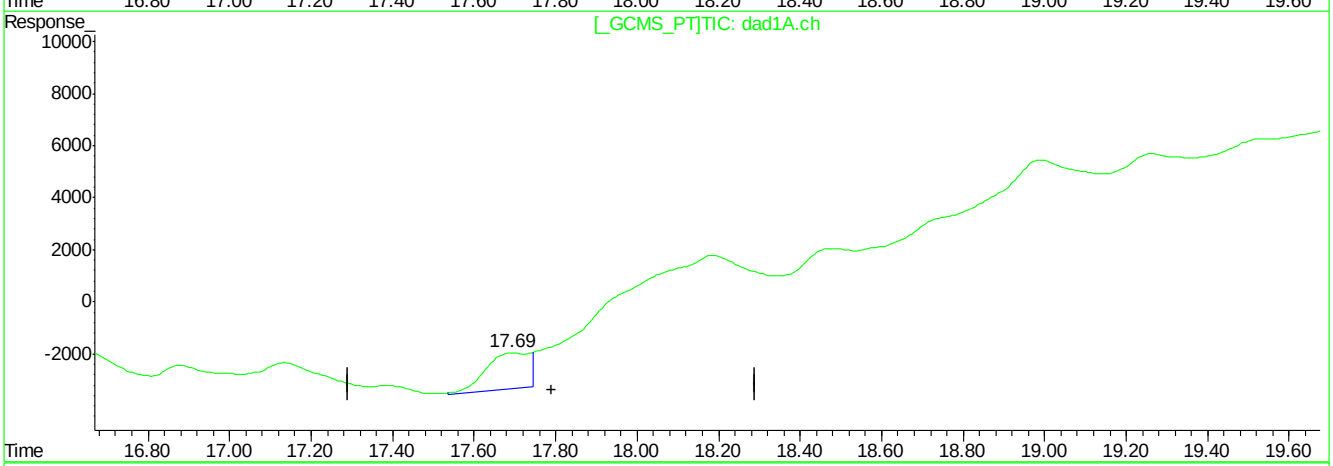
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:38:48 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:37 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(16) o-Nitrotoluene

17.85min 16.649ppb m

response 85850

(16) o-Nitrotoluene #2

17.69min 12.713ppb m

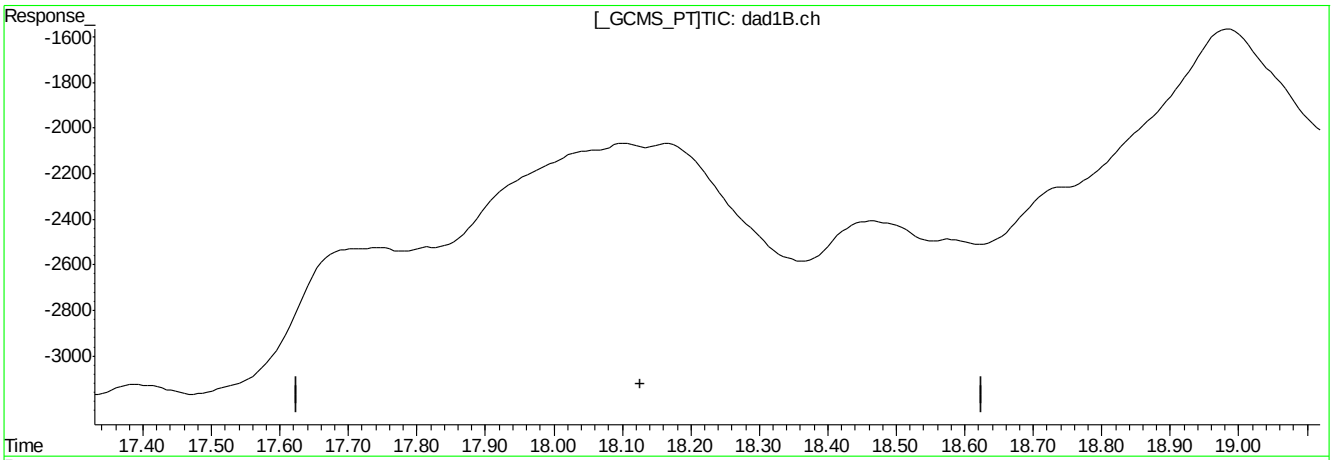
response 101926

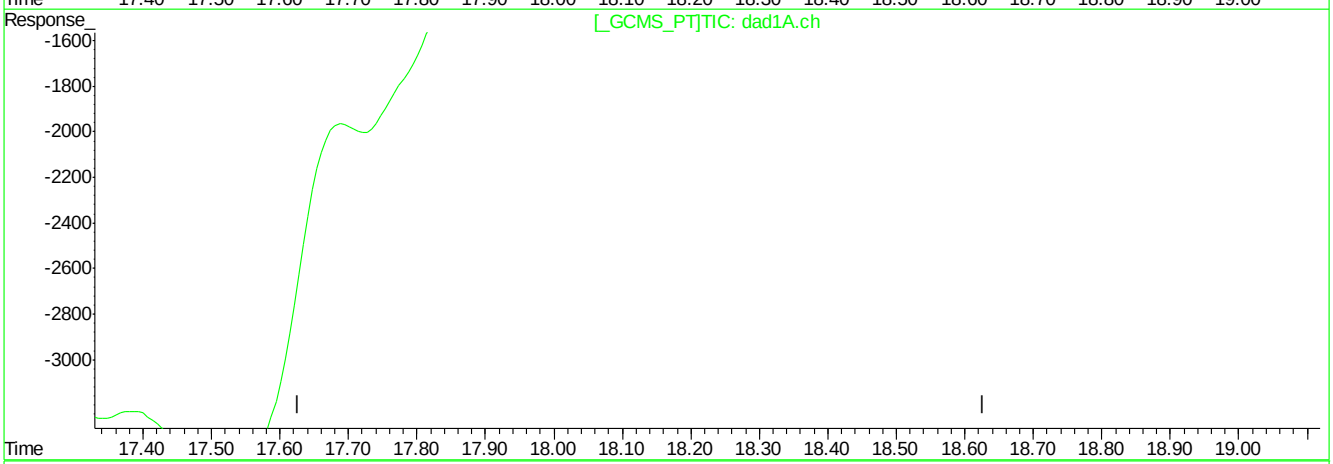
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:39:14 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:37 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(17) p-Nitrotoluene

0.00min 0.000ppb

response 0

(17) p-Nitrotoluene #2

0.00min 0.000ppb

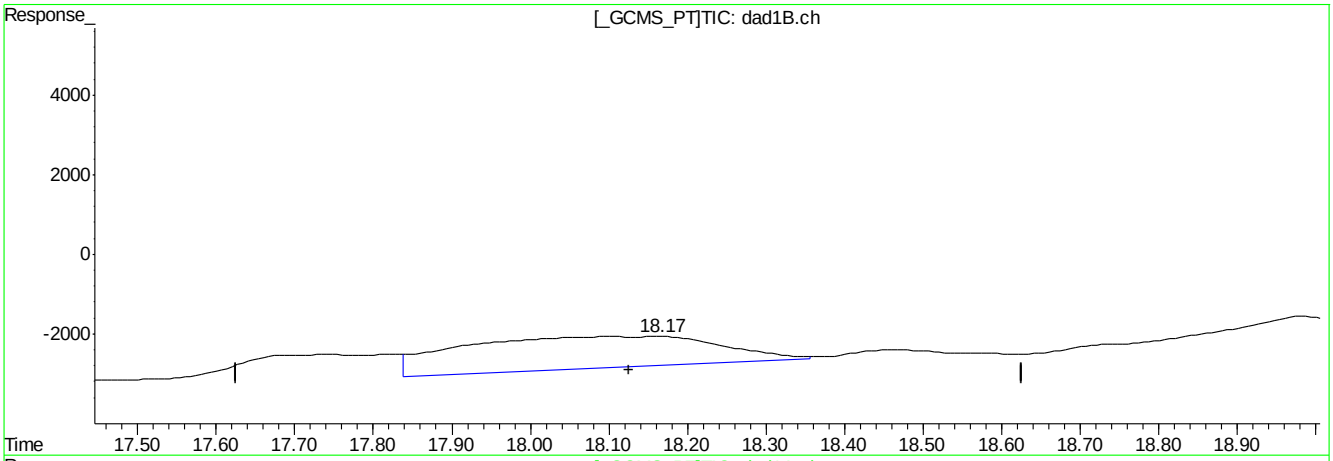
response 0

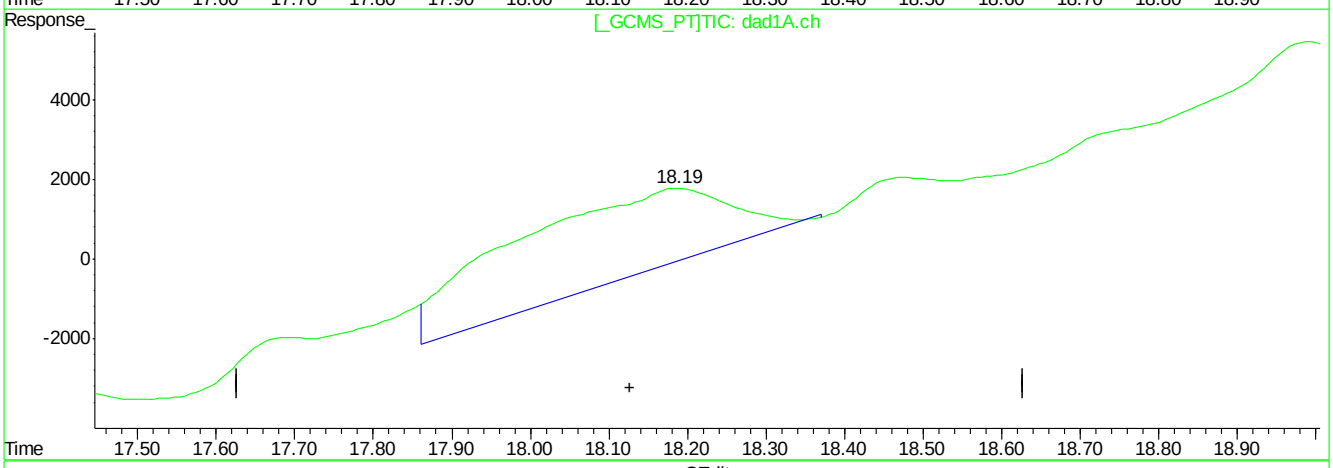
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:39:19 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:37 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(17) p-Nitrotoluene

18.17min 34.393ppb m

response 187460

(17) p-Nitrotoluene #2

18.19min 47.404ppb m

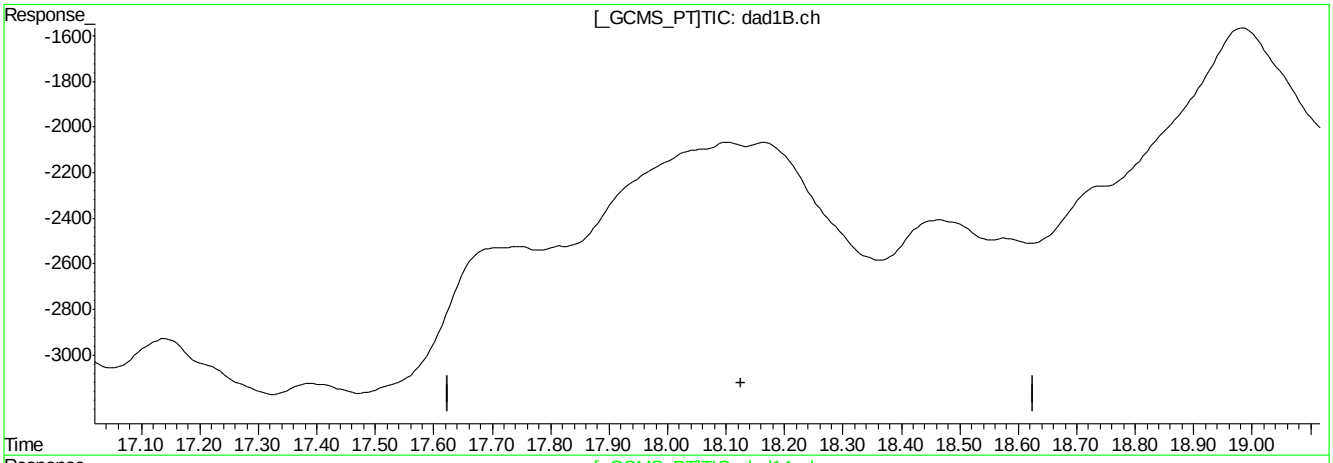
response 431154

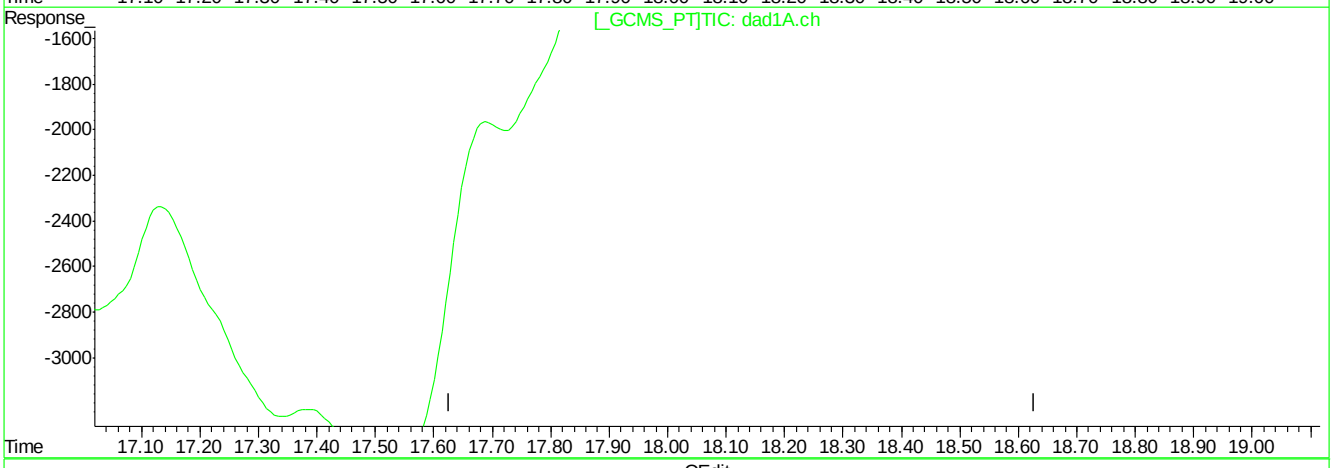
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:39:46 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:37 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(18) 4-Amino-2,6-Dinitrotoluene

0.00min 0.000ppb

response 0

(18) 4-Amino-2,6-Dinitrotoluene #2

0.00min 0.000ppb

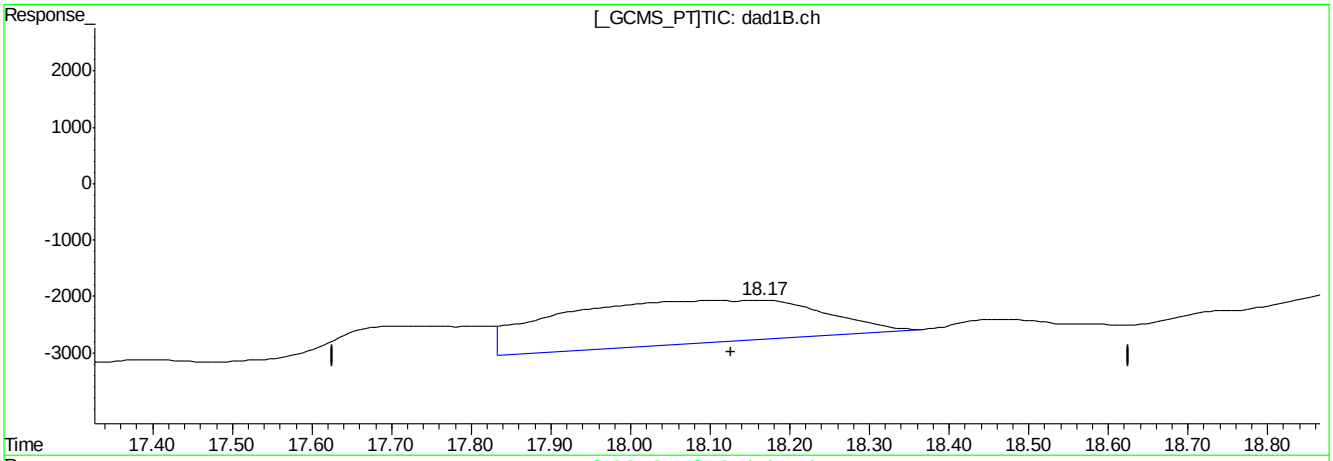
response 0

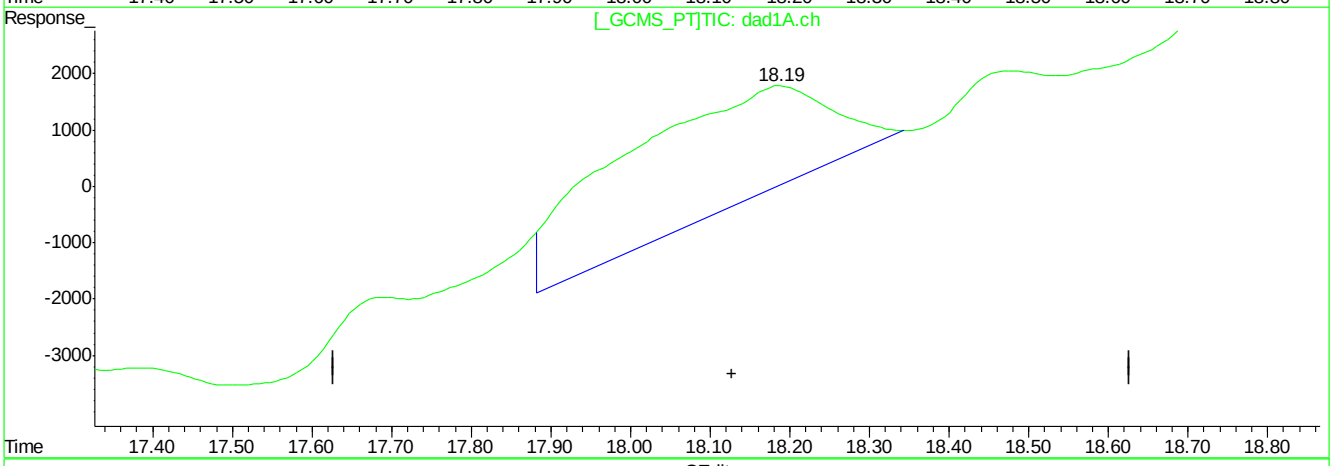
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:39:51 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:37 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(18) 4-Amino-2,6-Dinitrotoluene

18.17min 32.529ppb m

response 177373

(18) 4-Amino-2,6-Dinitrotoluene #2

18.19min 42.623ppb m

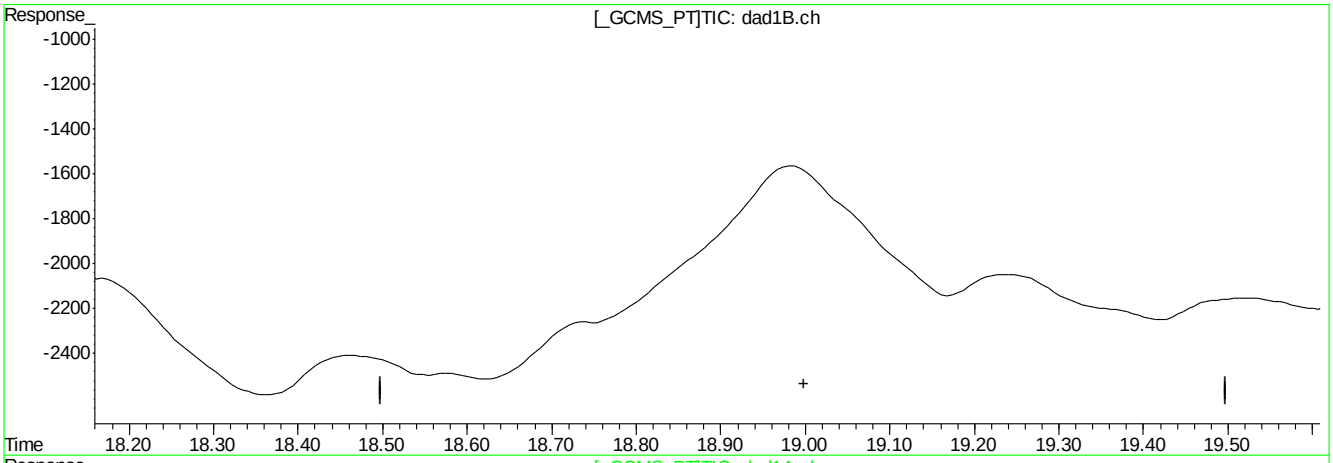
response 388675

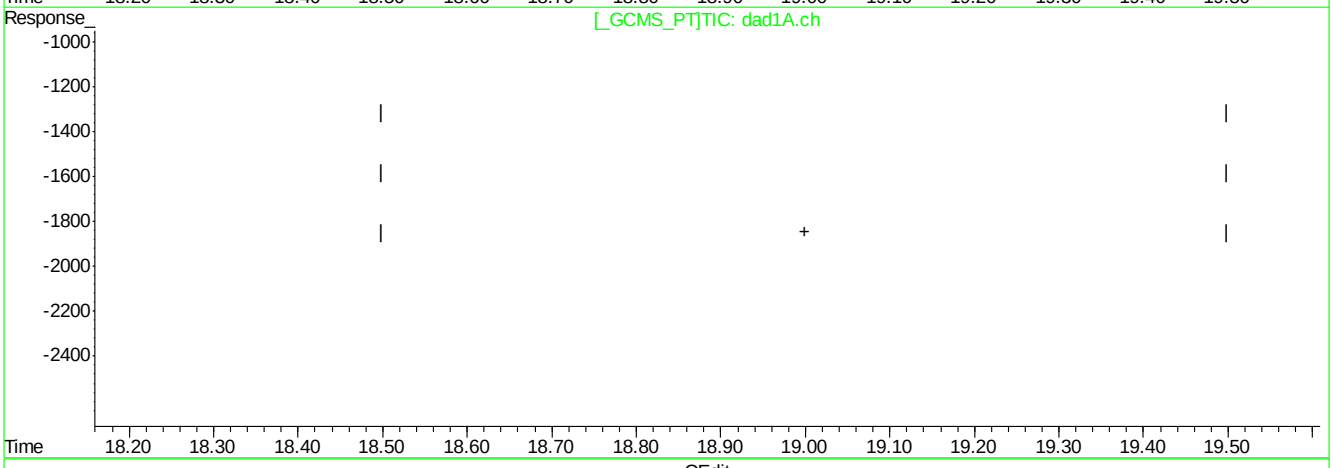
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:40:20 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:40 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(19) m-Nitrotoluene

0.00min 0.000ppb

response 0

(19) m-Nitrotoluene #2

0.00min 0.000ppb

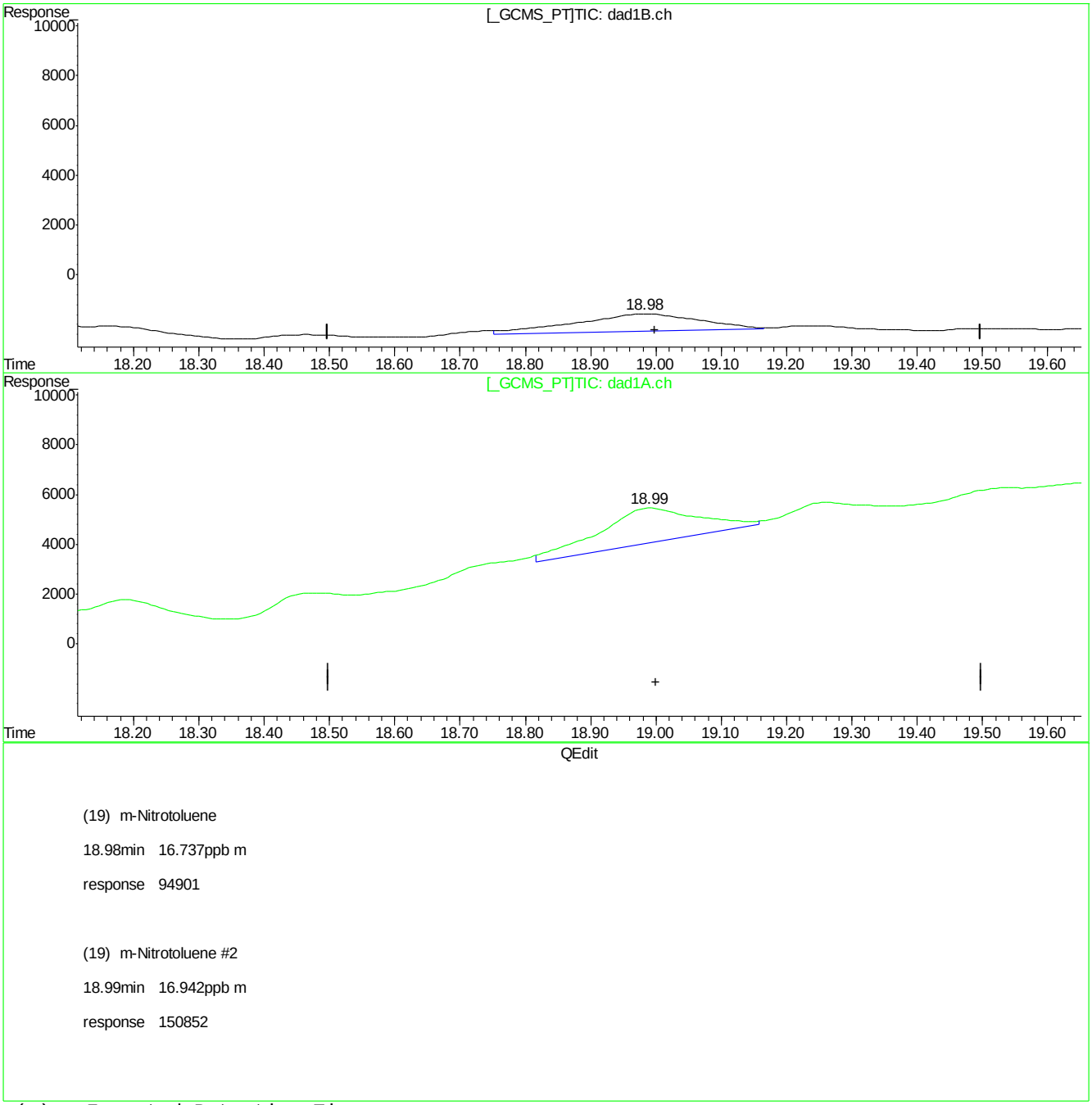
response 0

(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:40:42 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:40 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration

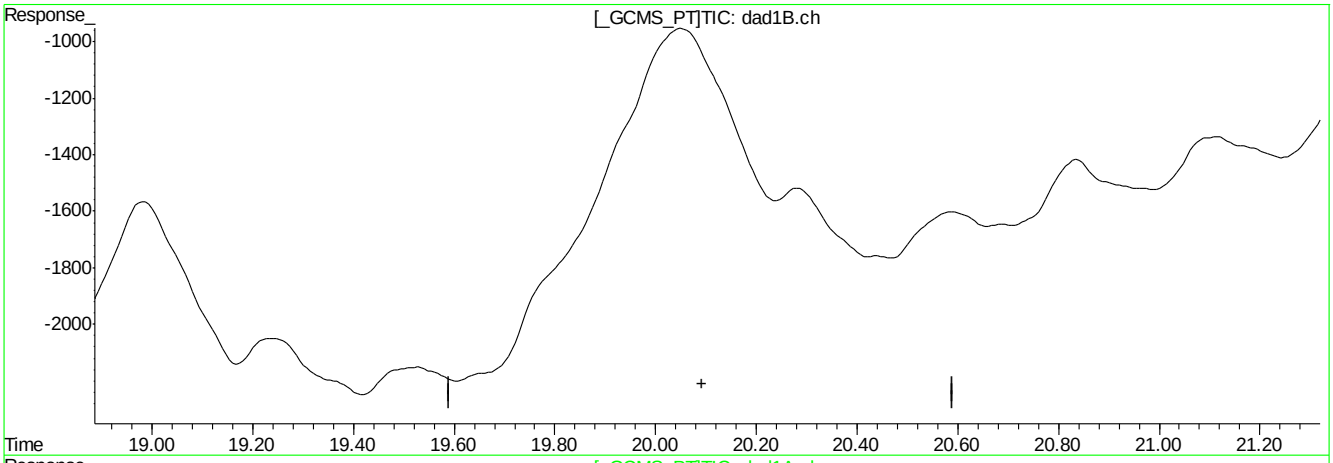


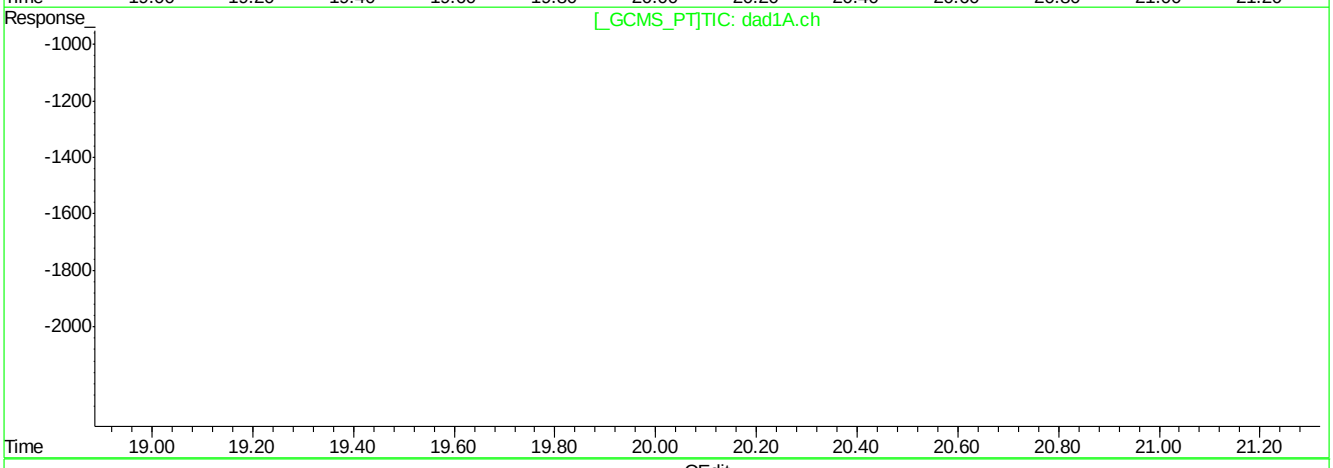
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:40:53 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:40 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(20) 2-Amino-4,6-Dinitrotoluene

0.00min 0.000ppb

response 0

(20) 2-Amino-4,6-Dinitrotoluene #2

0.00min 0.000ppb

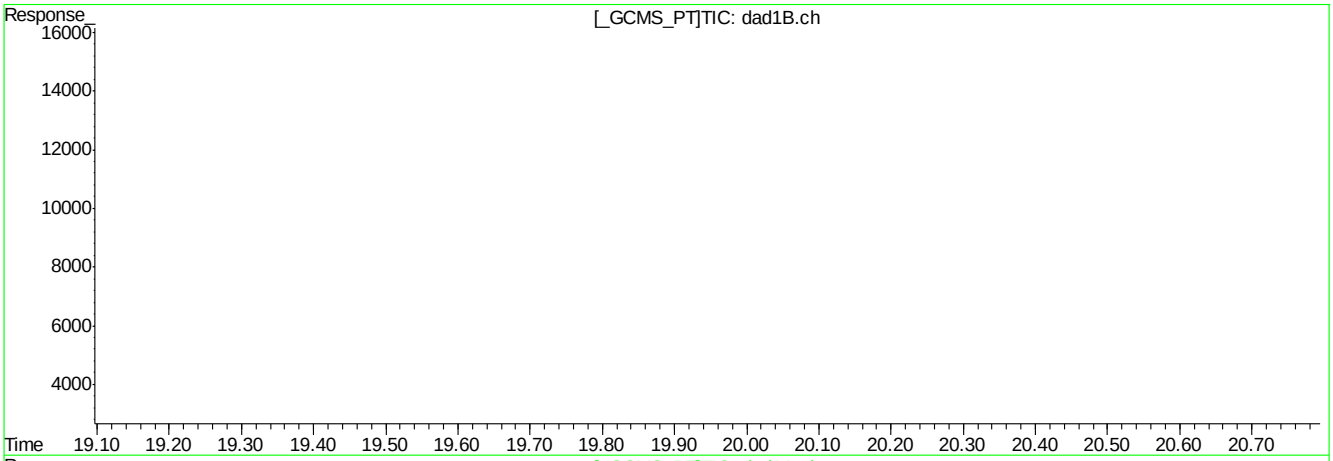
response 0

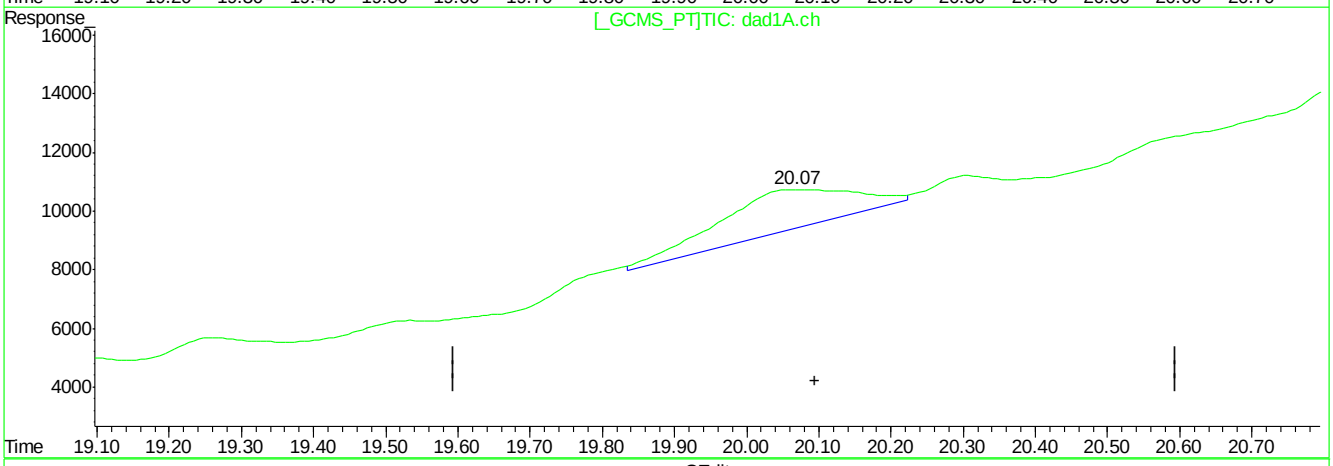
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:40:59 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:40 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(20) 2-Amino-4,6-Dinitrotoluene

20.05min 23.449ppb m

response 208051

(20) 2-Amino-4,6-Dinitrotoluene #2

20.07min 15.713ppb m

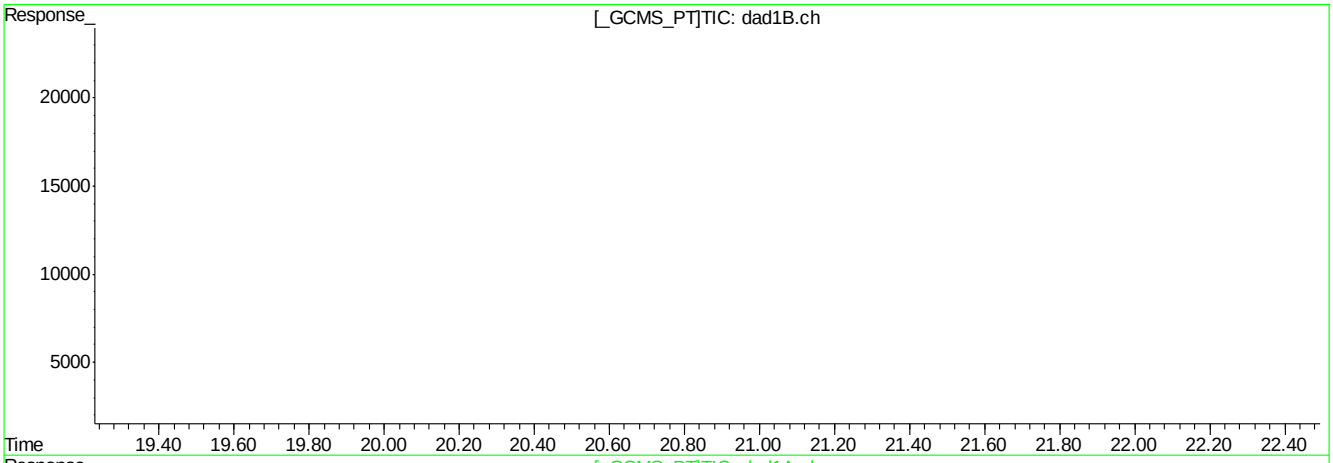
response 184068

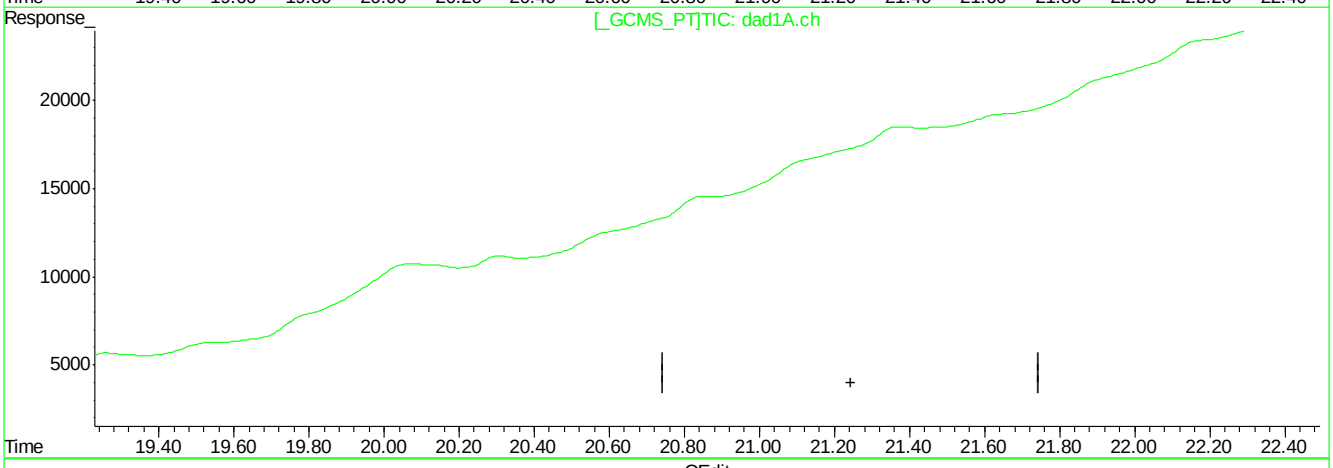
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:41:09 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:40 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

0.00min 0.000ppb

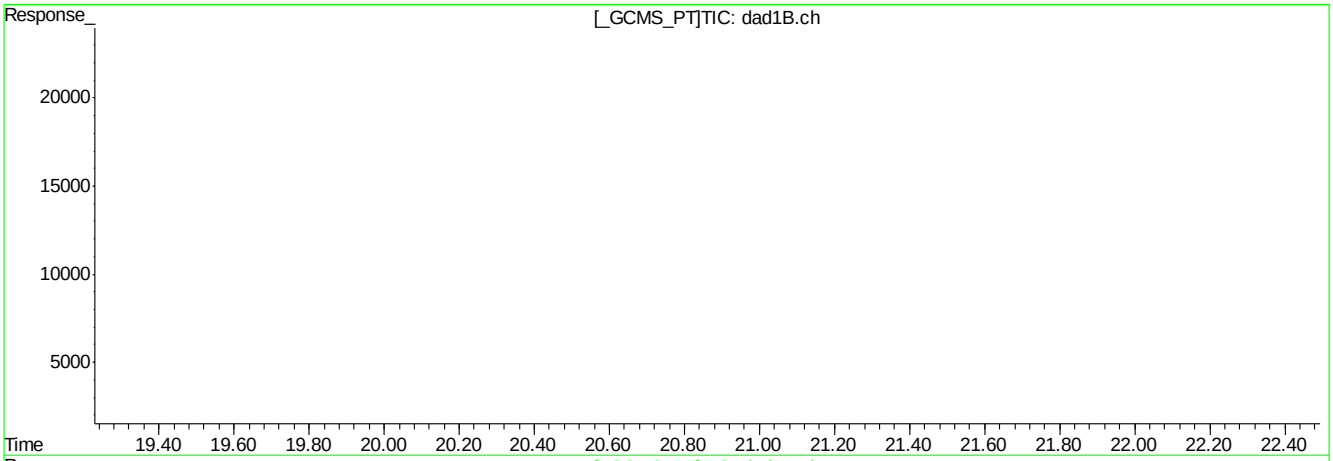
response 0

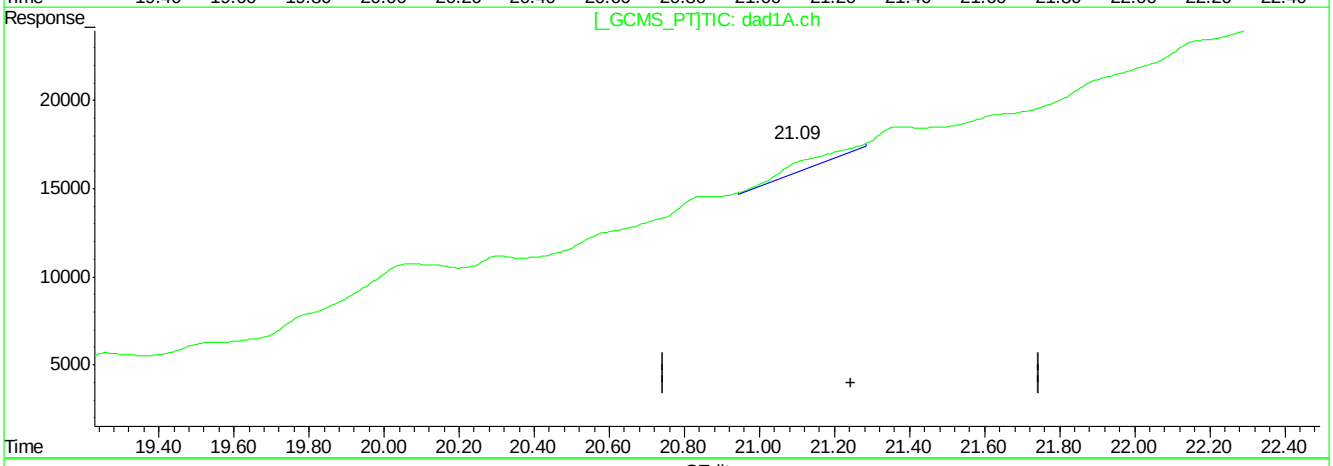
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:41:15 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 12:40 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 11:41:44 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

21.09min 18.409ppb m

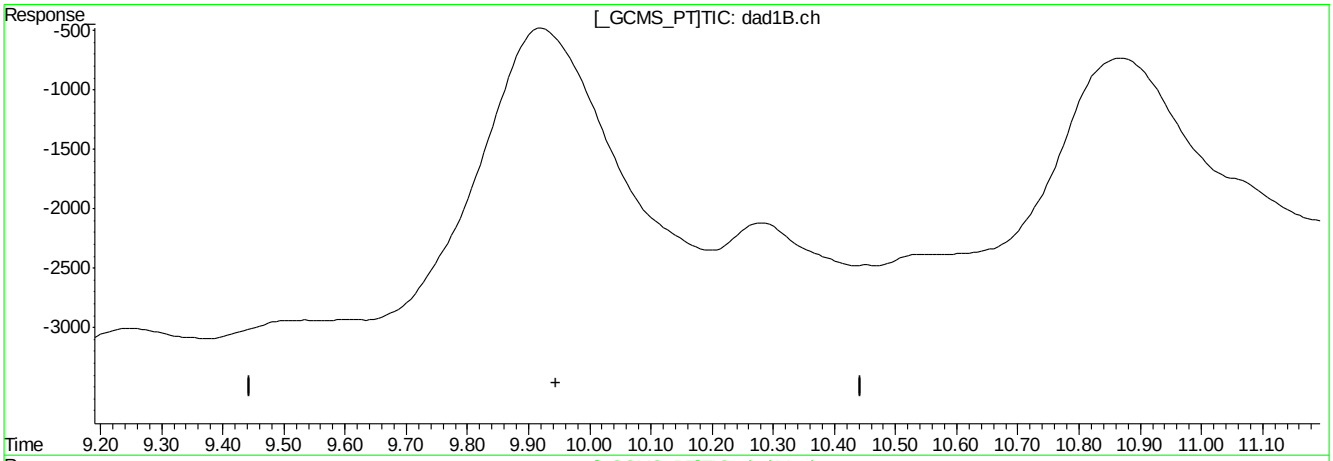
response 60248

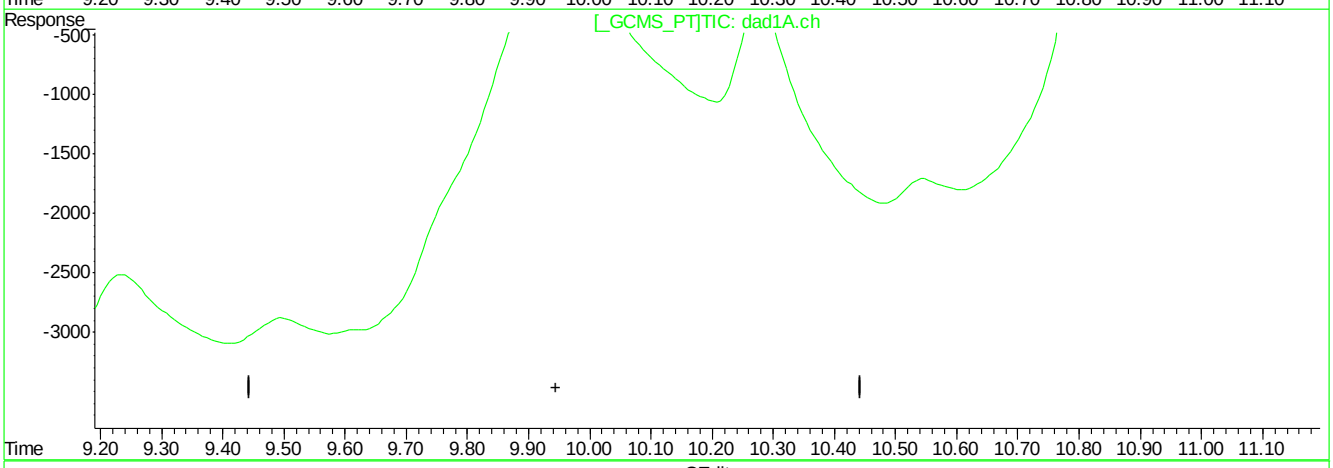
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 12:41:25 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 14:48 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 14:48:23 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

0.00min 0.000ppb

response 0

(7) 1,3-Dinitrobenzene #2

0.00min 0.000ppb

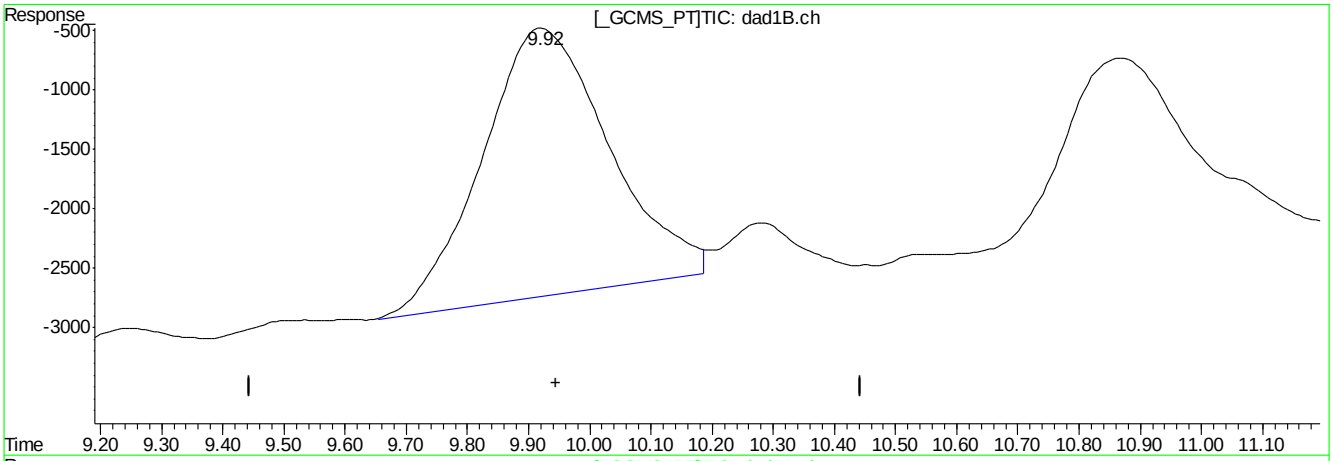
response 0

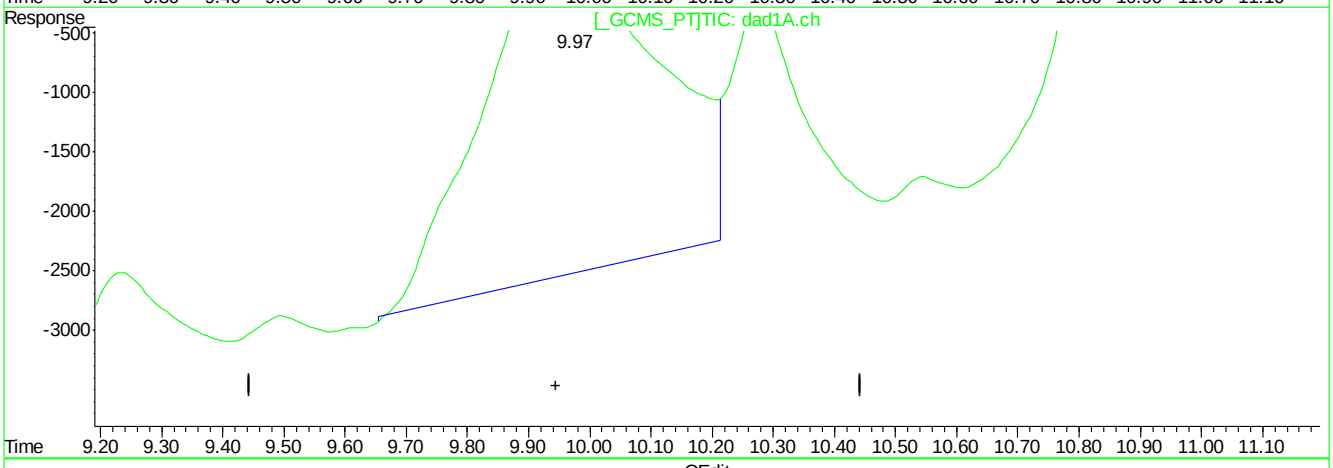
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 14:50:42 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 14:48 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 14:48:23 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

9.92min 24.929ppb m

response 324058

(7) 1,3-Dinitrobenzene #2

9.97min 55.148ppb m

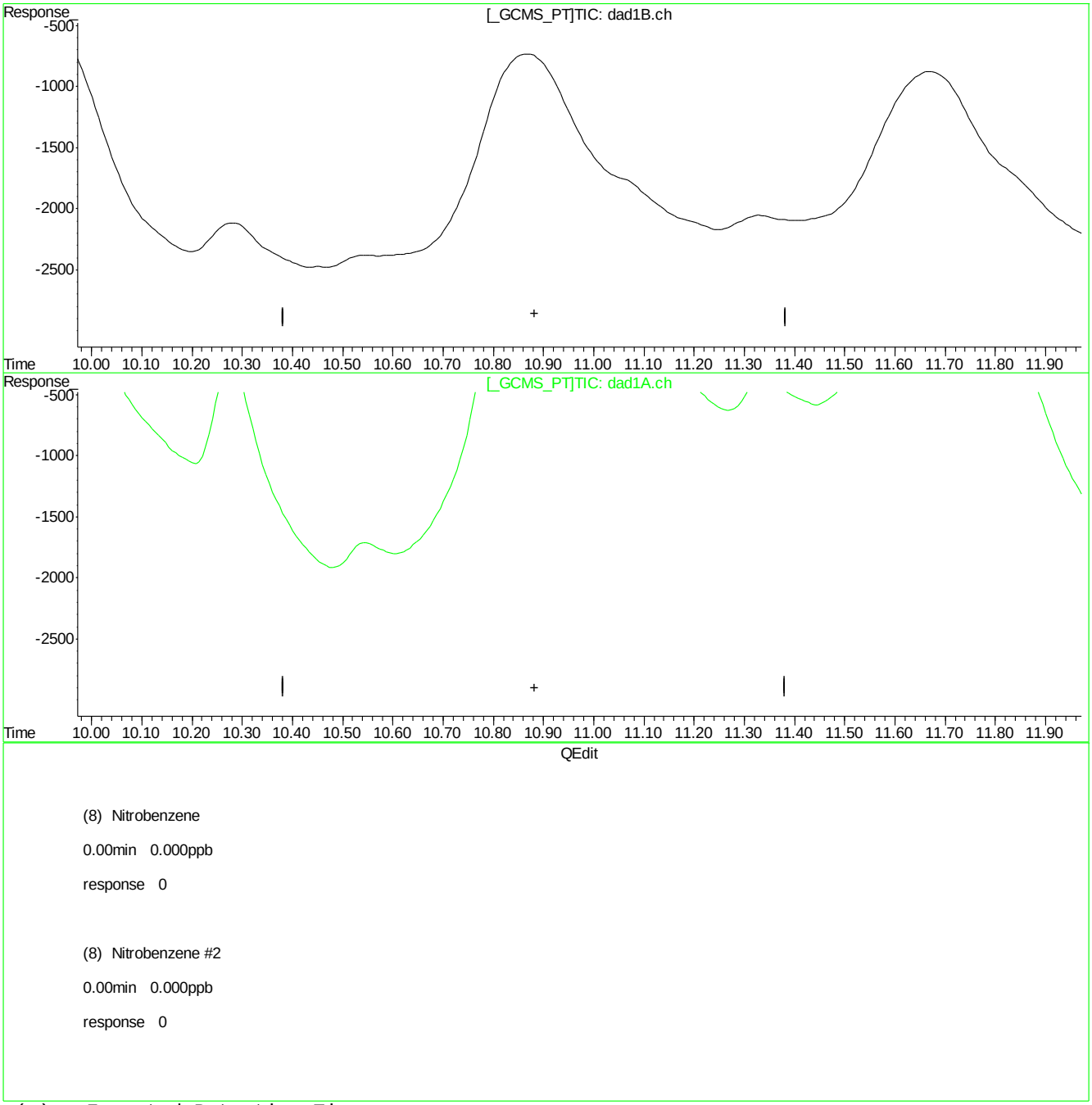
response 539747

(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 14:50:52 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 14:48 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 14:48:23 2025
Response via : Multiple Level Calibration

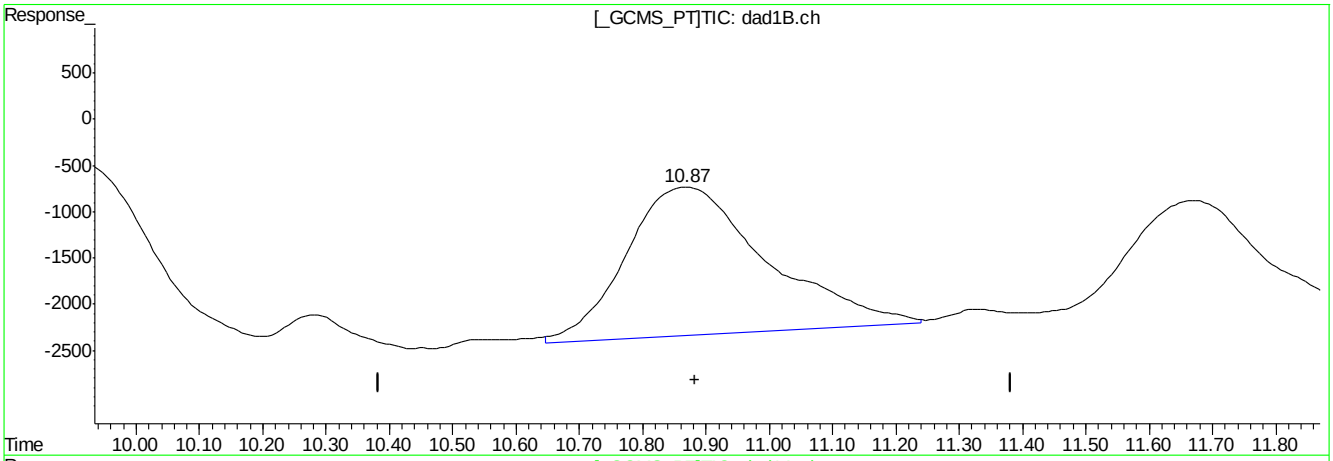


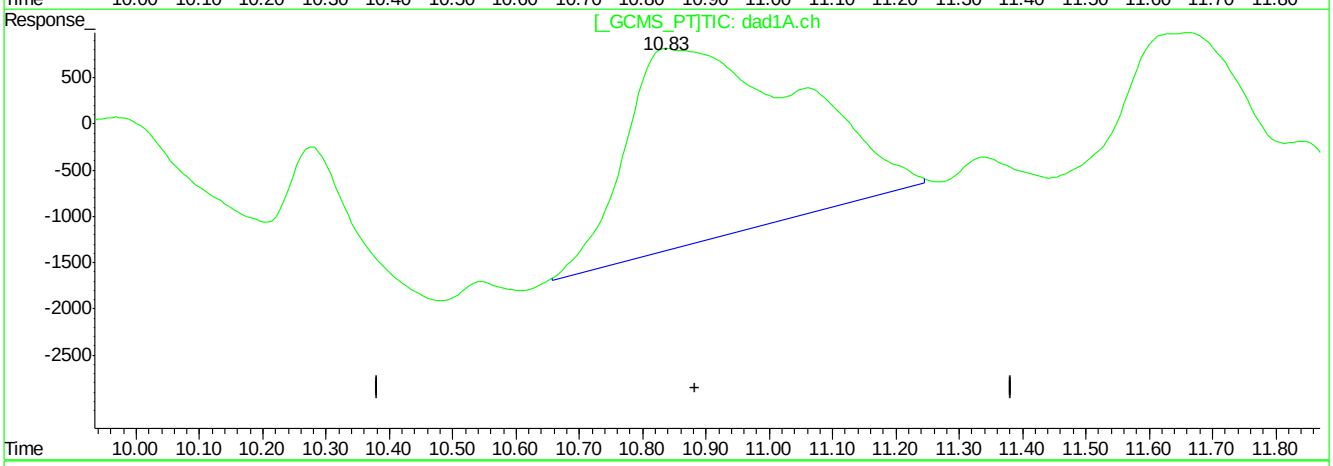
(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 14:50:59 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631114.D\dad1A.ch
Acq On : 13-Jan-2025, 10:39:08 Operator: fouads
Sample : ic3527-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 14:48 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 14:48:23 2025
Response via : Multiple Level Calibration





QEdit

(8) Nitrobenzene

10.87min 29.016ppb m

response 249818

(8) Nitrobenzene #2

10.83min 52.134ppb m

response 404553

(+) = Expected Retention Time
GG631114.D GGG3527_011325.M Mon Jan 13 14:51:09 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan 01/16/25 12:01

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631118.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631118.D\dad1A.ch
Acq On : 13-Jan-2025, 12:39:02 Operator: fouads
Sample : ic3527-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:04:22 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	13.69	13.69	2437935	4738092	537.291	525.893
	Spiked Amount 500.000	Range 70 - 136		Recovery =		107.46%	105.18%
	Target Compounds						
1)	TNX	4.80	4.80	2244013	2244013	268.128	272.352
2)	HMX	5.19	5.19	1394516	1394516	433.248	426.065
3)	DNX	5.38	5.38	3920448	3920448	584.790	598.898
4)	MNX	6.48	6.48	4048522	4048522	659.199	665.957
5)	1,3,5-Trinitrobe	7.47	7.47	4144017	4144017	423.258	420.281
6)	RDX	7.81	7.81	1958555	1958555	436.888	442.802
7)	1,3-Dinitrobenze	9.79	9.79	5552742	4003240	427.162	409.023
8)	Nitrobenzene	10.70	10.71	3671876	3264093	426.479	420.634
9)	2,4,6-Trinitroto	11.49	11.48	3864908	5181228	416.020	420.102
10)	Nitroglycerin	0.00	12.19	0	1252673	N.D.	409.668 #
11)	Tetryl	12.68	12.68	2951067	4984010	427.312	398.899
13)	2,6-Dinitrotolue	14.16	14.16	2676200	3895923	422.487	404.462
14)	2,4-Dinitrotolue	14.84	14.84	5167731	3566796	420.387	413.891
15)	3,5-Dinitroanili	16.09	16.09	4327703	7941933	428.422m	490.747m
16)	o-Nitrotoluene	16.26	16.25	2203049	3697579	427.251m	461.196m
17)	p-Nitrotoluene	17.51	17.54	4662441	8354106	855.407	918.512
18)	4-Amino-2,6-Dini	17.51	17.54	4662441	8354106	855.049	916.125
19)	m-Nitrotoluene	18.58	18.58	2515942	4488052	443.712	504.035
20)	2-Amino-4,6-Dini	19.55	19.55	3827268	5584035	431.367	476.680
21)	PETN	0.00	20.85	0	1550928	N.D.	473.884 #

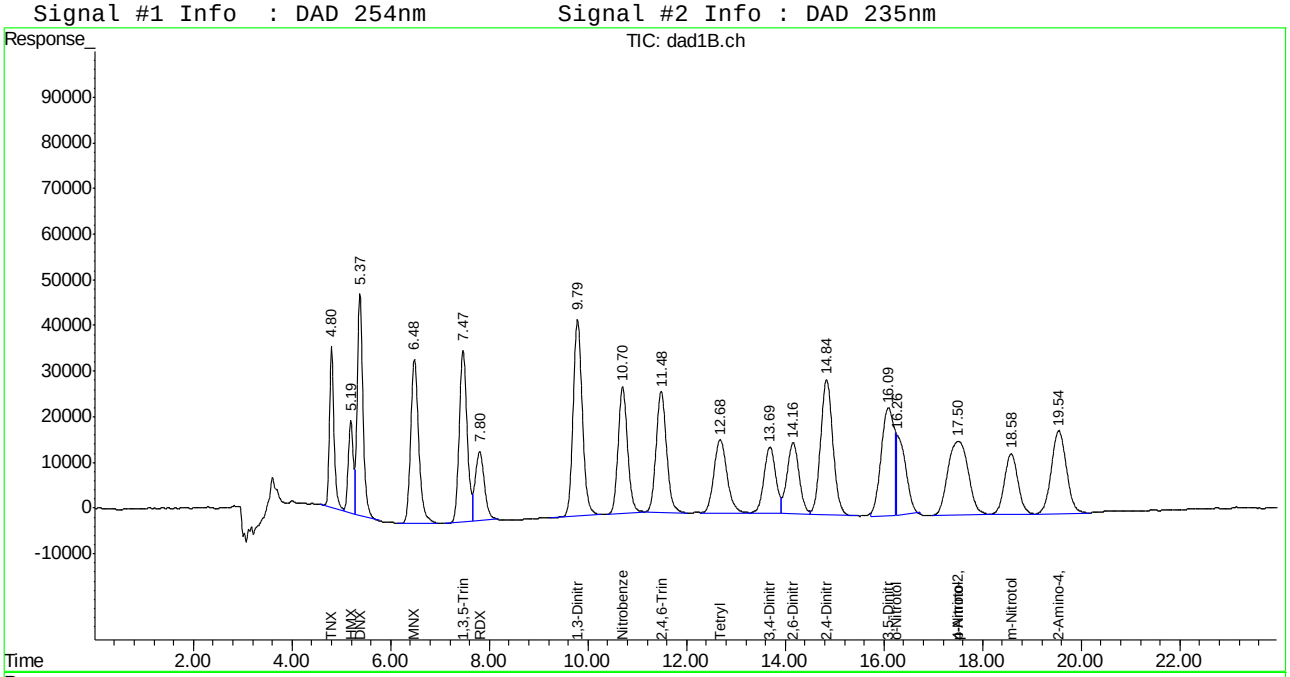
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG631118.D GGG3527_011325.M Wed Jan 15 06:48:52 2025 Page 1

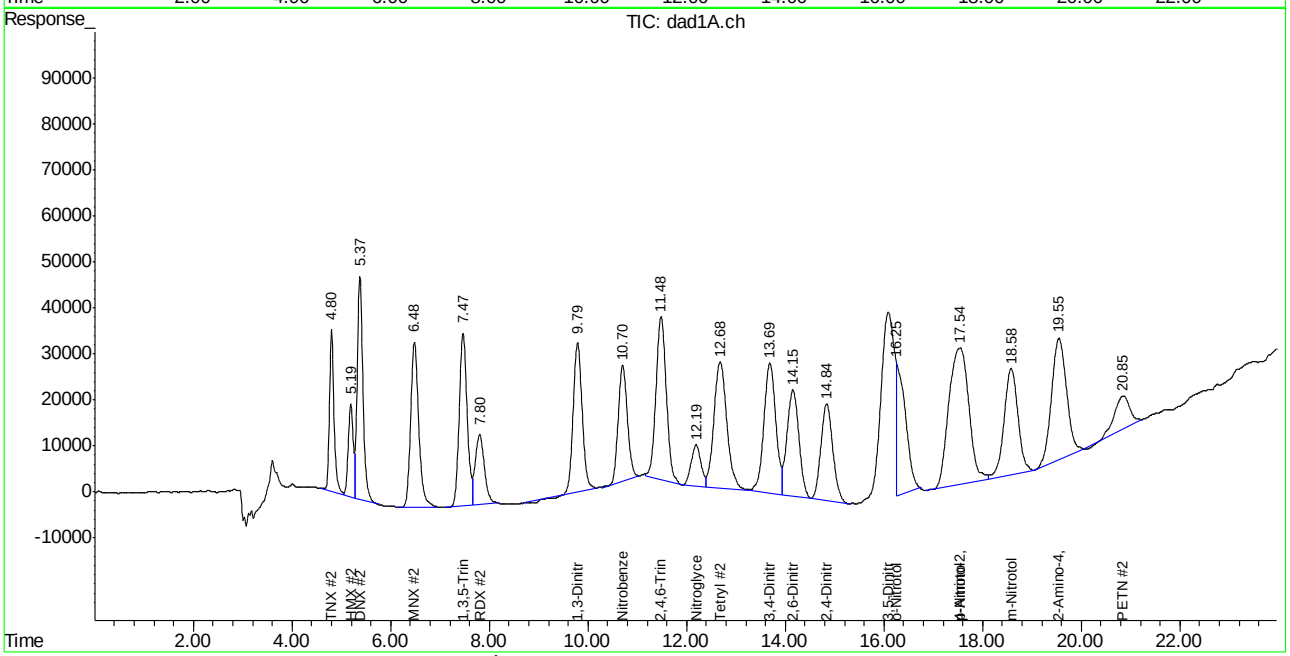
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631118.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631118.D\dad1A.ch
Acq On : 13-Jan-2025, 12:39:02 Operator: fouads
Sample : ic3527-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:05 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

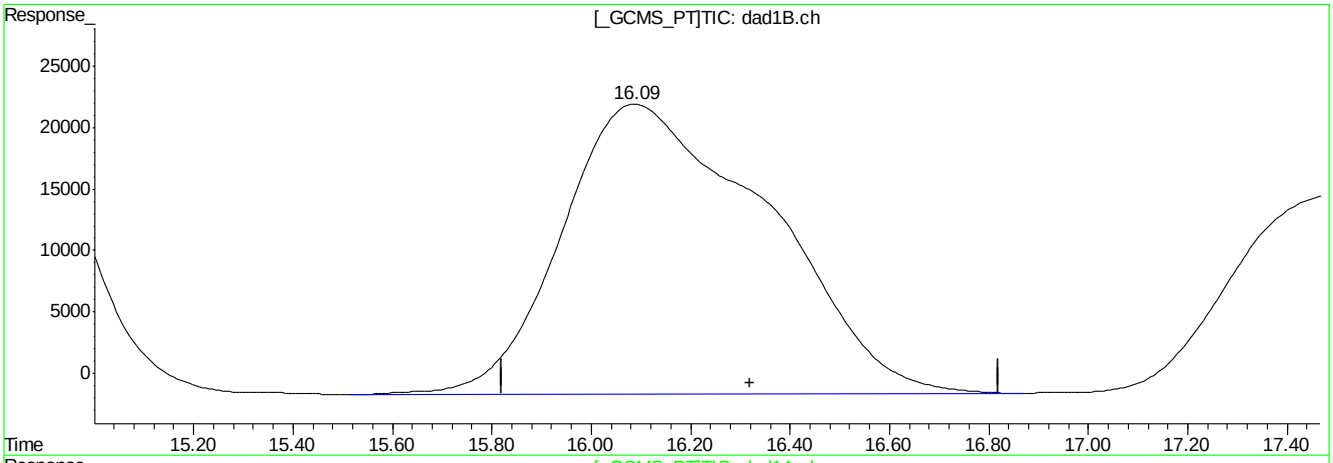
Sample Number: GGG3527-IC3527
Lab FileID: GG631118.D
Injection Time: 01/13/25 12:39
Method: SW846 8330A
Analyst approved: 01/15/25 08:07 Fouad Sekkar
Supervisor approved: 01/16/25 12:01 Naresh Jiawan

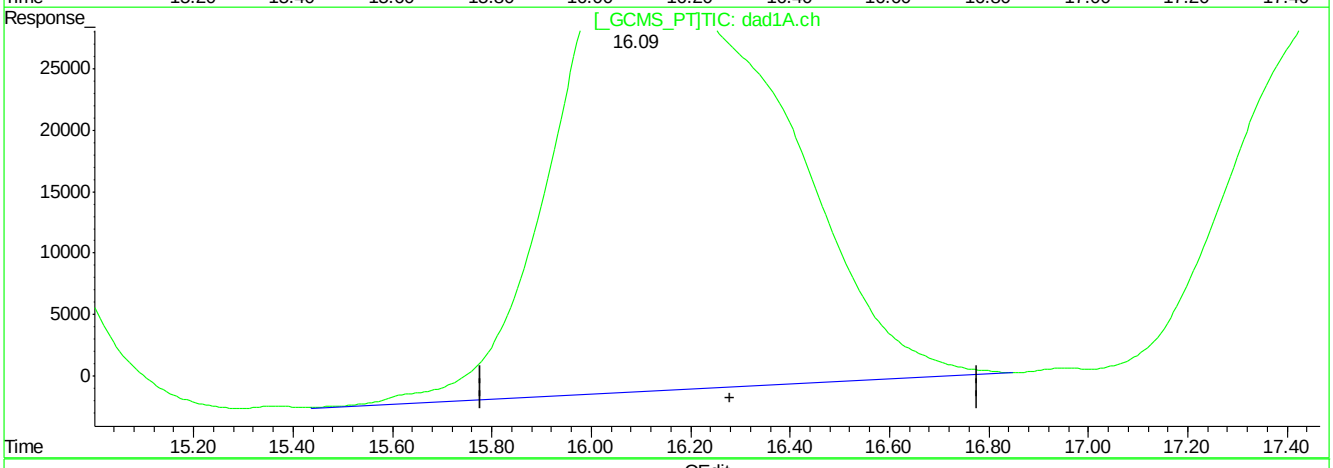
Parameter	CAS	Sig#	R.T. (min.)	Reason
3,5-Dinitroaniline	618-87-1	1	16.09	Missed peak
3,5-Dinitroaniline	618-87-1	2	16.09	Missed peak
o-Nitrotoluene	88-72-2	2	16.25	Missed peak
o-Nitrotoluene	88-72-2	1	16.26	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631118.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631118.D\dad1A.ch
Acq On : 13-Jan-2025, 12:39:02 Operator: fouads
Sample : ic3527-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:04 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(16) o-Nitrotoluene

16.09min 1323.006ppb

response 6821868

(16) o-Nitrotoluene #2

16.09min 1440.915ppb

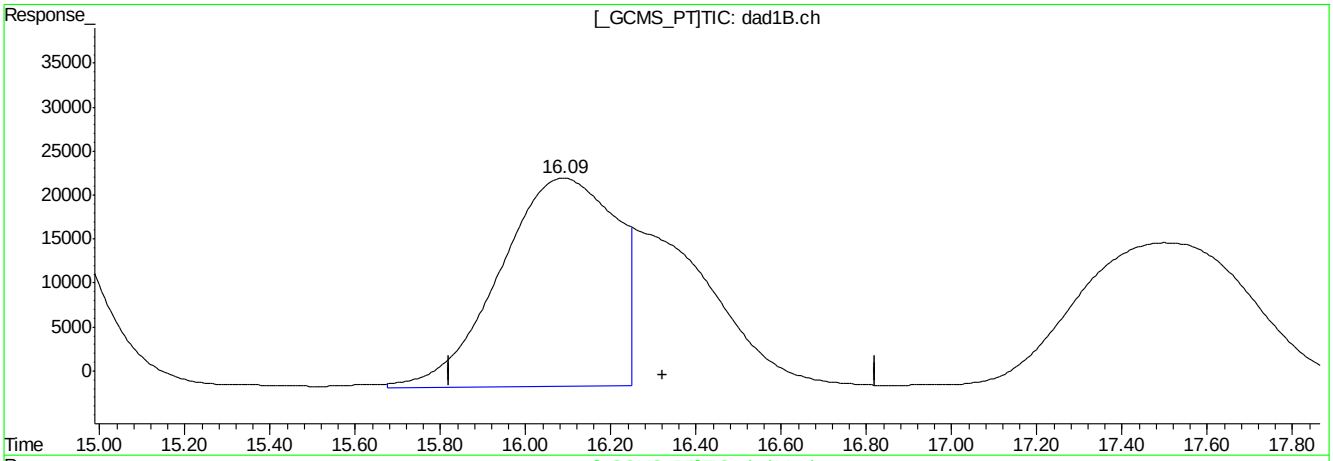
response 11552348

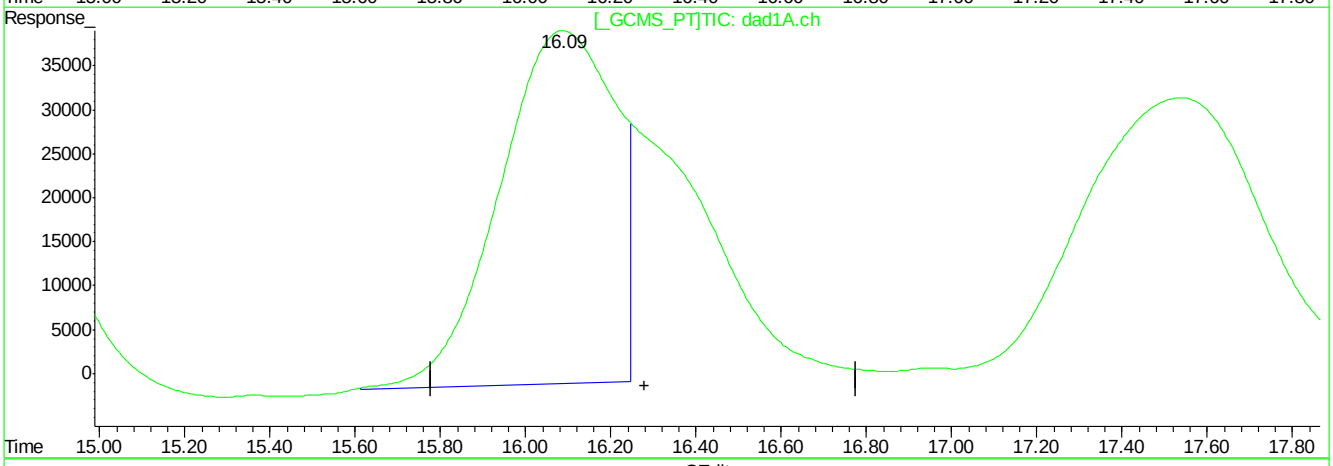
(+) = Expected Retention Time
GG631118.D GGG3527_011325.M Mon Jan 13 15:04:59 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631118.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631118.D\dad1A.ch
Acq On : 13-Jan-2025, 12:39:02 Operator: fouads
Sample : ic3527-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:04 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(16) o-Nitrotoluene

16.09min 863.892ppb m

response 4454520

(16) o-Nitrotoluene #2

16.09min 942.275ppb m

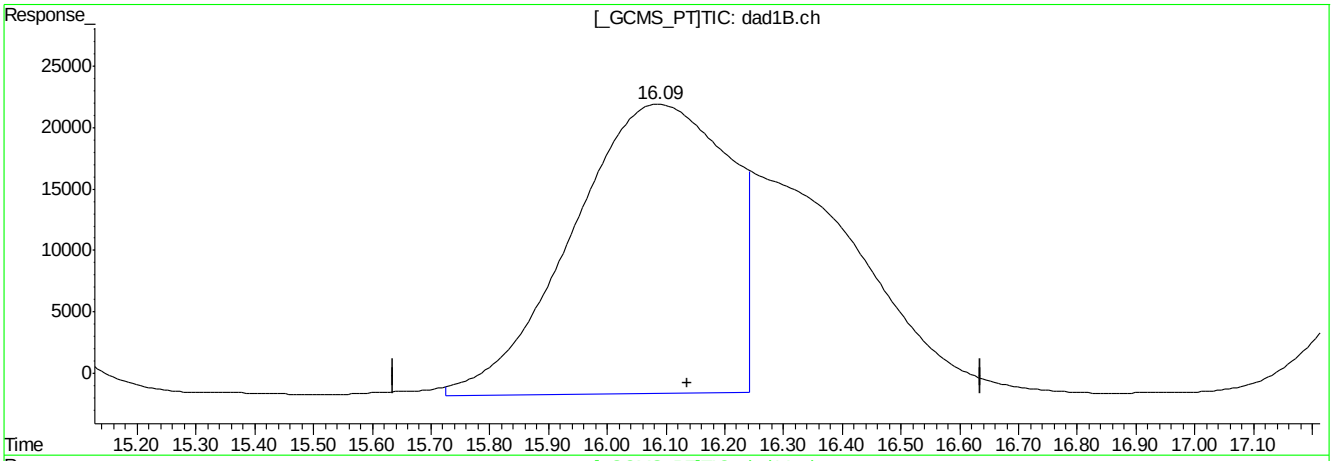
response 7554565

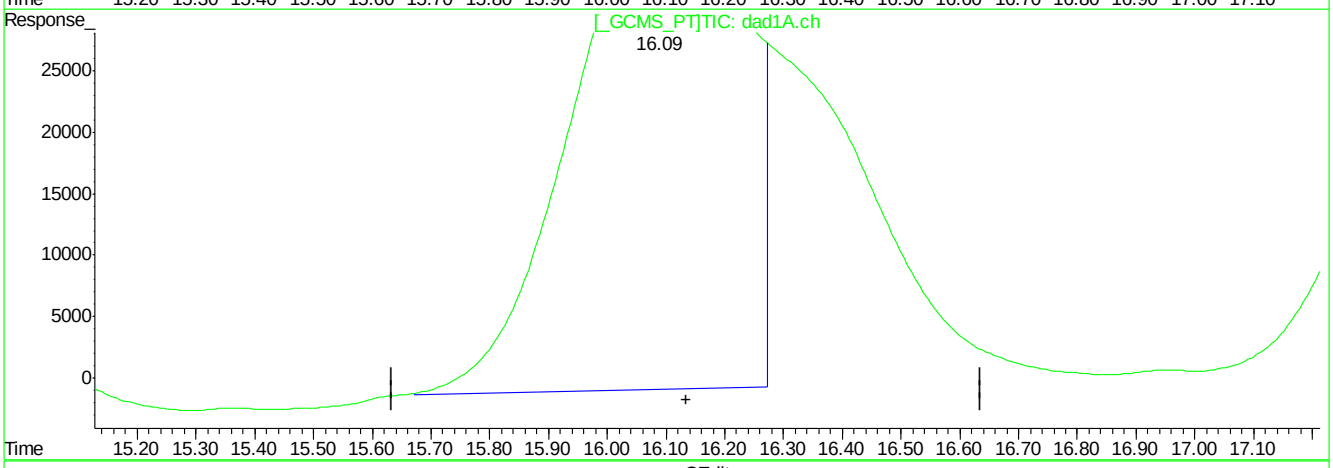
(+) = Expected Retention Time
GG631118.D GGG3527_011325.M Mon Jan 13 15:05:10 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631118.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631118.D\dad1A.ch
Acq On : 13-Jan-2025, 12:39:02 Operator: fouads
Sample : ic3527-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:04 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(15) 3,5-Dinitroaniline

16.09min 428.422ppb m

response 4327703

(15) 3,5-Dinitroaniline #2

16.09min 490.747ppb m

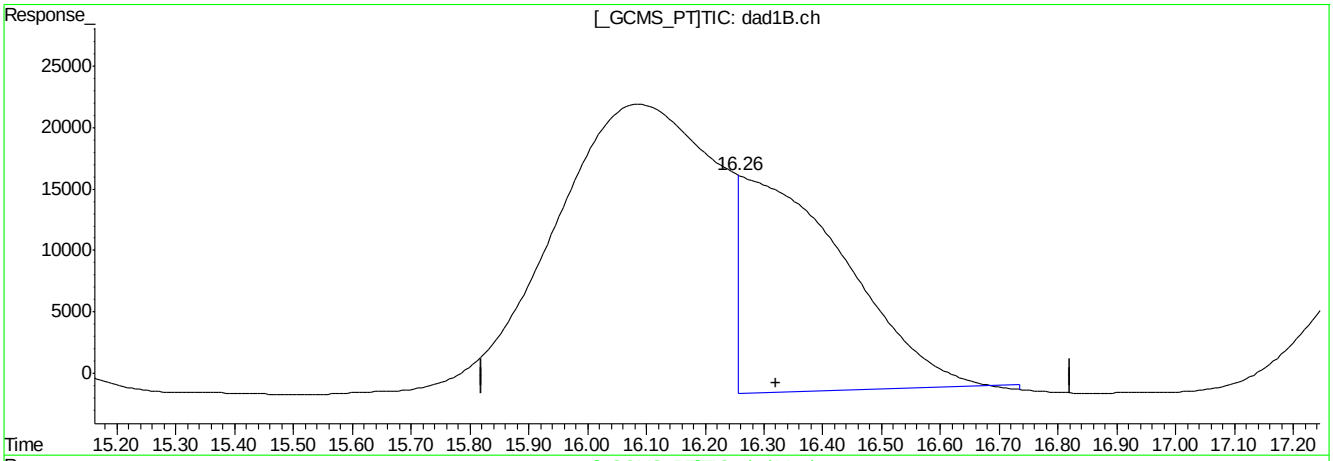
response 7941933

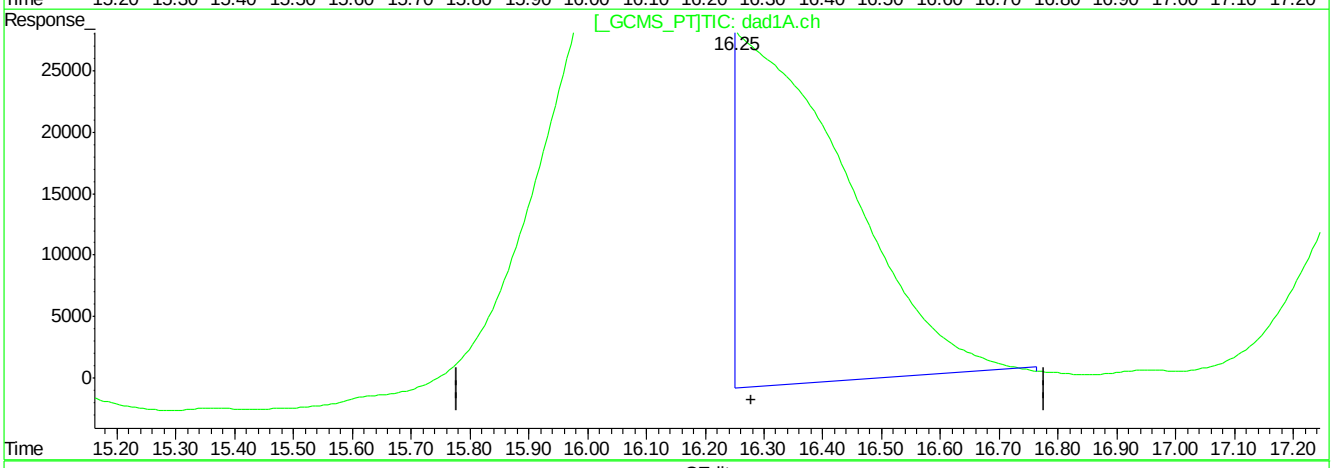
(+) = Expected Retention Time
GG631118.D GGG3527_011325.M Mon Jan 13 15:05:24 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631118.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631118.D\dad1A.ch
Acq On : 13-Jan-2025, 12:39:02 Operator: fouads
Sample : ic3527-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:04 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(16) o-Nitrotoluene

16.26min 427.251ppb m

response 2203049

(16) o-Nitrotoluene #2

16.25min 461.196ppb m

response 3697579

(+) = Expected Retention Time
GG631118.D GGG3527_011325.M Mon Jan 13 15:05:38 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan
01/16/25 12:01

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631119.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631119.D\dad1A.ch
Acq On : 13-Jan-2025, 13:08:29 Operator: fouads
Sample : icc3527-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:04:23 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	13.76	13.76	4905882	10238072	1081.196	1136.349
	Spiked Amount 500.000	Range 70 - 136		Recovery =		216.24%#	227.27%#
	Target Compounds						
1)	TNX	4.78	4.78	4450307	4450307	531.748	540.126
2)	HMX	5.16	5.16	2834813	2834813	880.719	866.116
3)	DNX	5.35	5.35	7965610	7965610	1188.183	1216.847
4)	MNX	6.45	6.45	8224687	8224687	1339.182	1352.910
5)	1,3,5-Trinitrobe	7.45	7.45	8408922	8408922	858.863	852.822
6)	RDX	7.78	7.78	4054323	4054323	904.384	916.626
7)	1,3-Dinitrobenze	9.80	9.80	11550658	10781734	888.570	1101.602
8)	Nitrobenzene	10.72	10.72	7840941	9866599	910.706	1271.480
9)	2,4,6-Trinitroto	11.52	11.52	7978384	12408481	858.796	1006.099
10)	Nitroglycerin	0.00	12.24	0	3424686	N.D.	1119.991 #
11)	Tetryl	12.74	12.75	6149896	12583478	890.499	1007.127
13)	2,6-Dinitrotolue	14.22	14.22	5443789	8302238	859.401	861.912
14)	2,4-Dinitrotolue	14.90	14.90	10681890	7768886	868.955	901.502
15)	3,5-Dinitroanili	16.14	16.14	8789771	15628096	870.145m	965.689m
16)	o-Nitrotoluene	16.30	16.30	5001650	7341642	970.000m	915.717m
17)	p-Nitrotoluene	17.60	17.63	9490270	17412585	1741.157	1914.469
18)	4-Amino-2,6-Dini	17.60	17.63	9490270	17412585	1740.428	1909.492
19)	m-Nitrotoluene	18.71	18.72	5182046	9072293	913.906	1018.872
20)	2-Amino-4,6-Dini	19.65	19.65	7821620	11587068	881.565	989.128
21)	PETN	0.00	20.96	0	3010601	N.D.	919.886 #

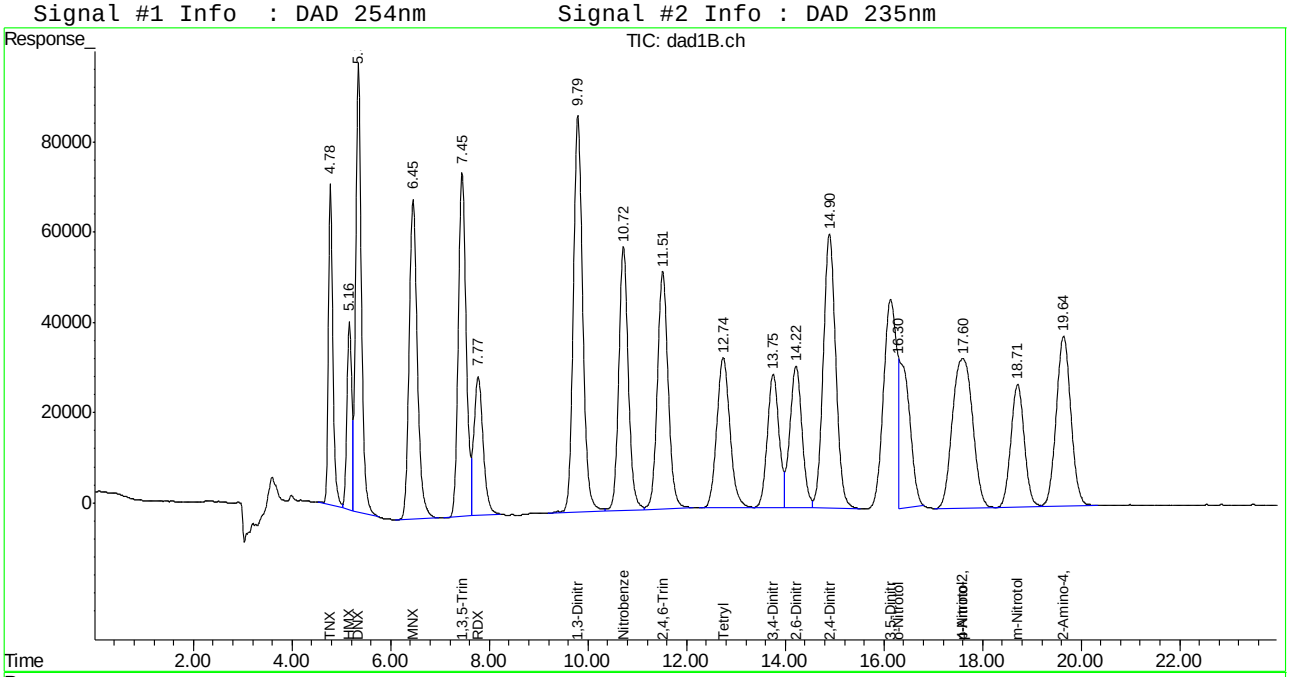
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG631119.D GGG3527_011325.M Wed Jan 15 06:48:53 2025 Page 1

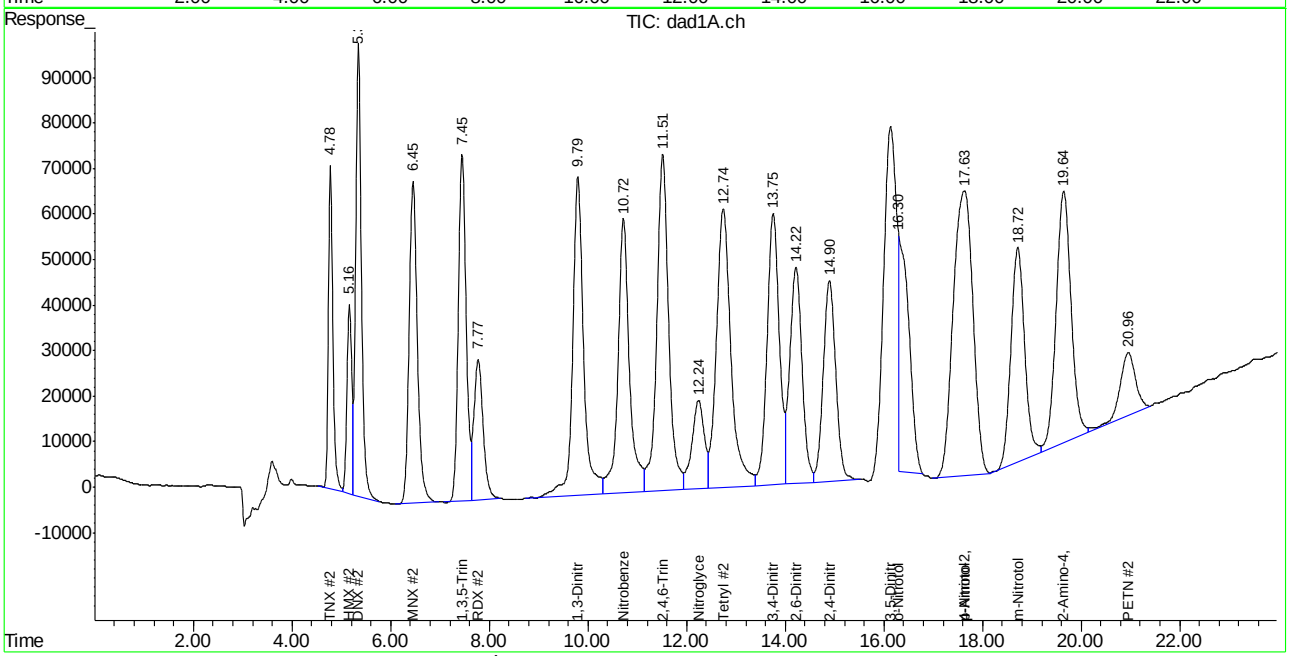
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631119.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631119.D\dad1A.ch
Acq On : 13-Jan-2025, 13:08:29 Operator: fouads
Sample : icc3527-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:06 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

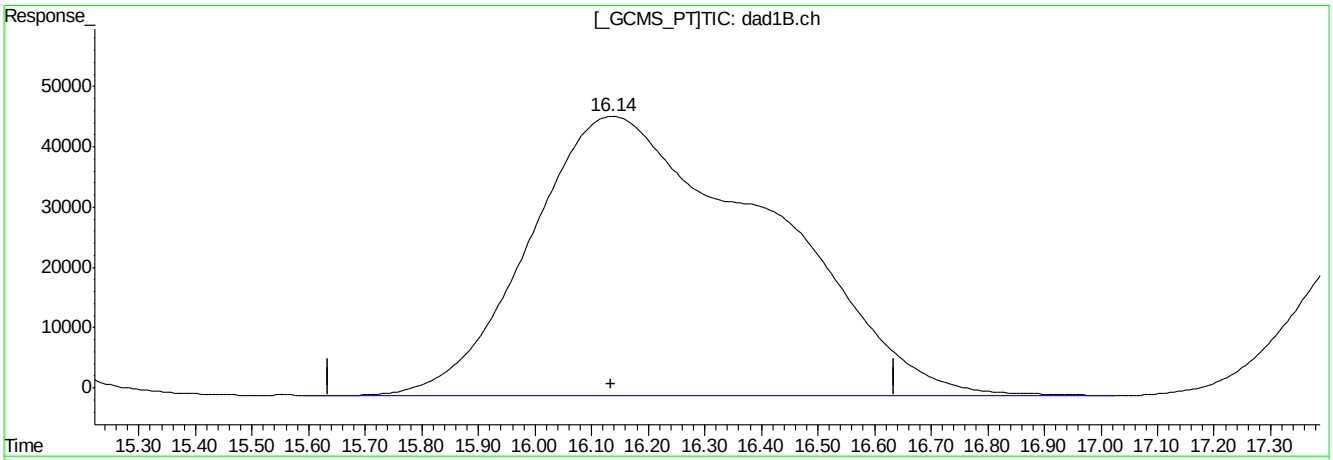
Sample Number: GGG3527-ICC3527 **Method:** SW846 8330A
Lab FileID: GG631119.D **Analyst approved:** 01/15/25 08:07 Fouad Sekkar
Injection Time: 01/13/25 13:08 **Supervisor approved:** 01/16/25 12:01 Naresh Jiawan

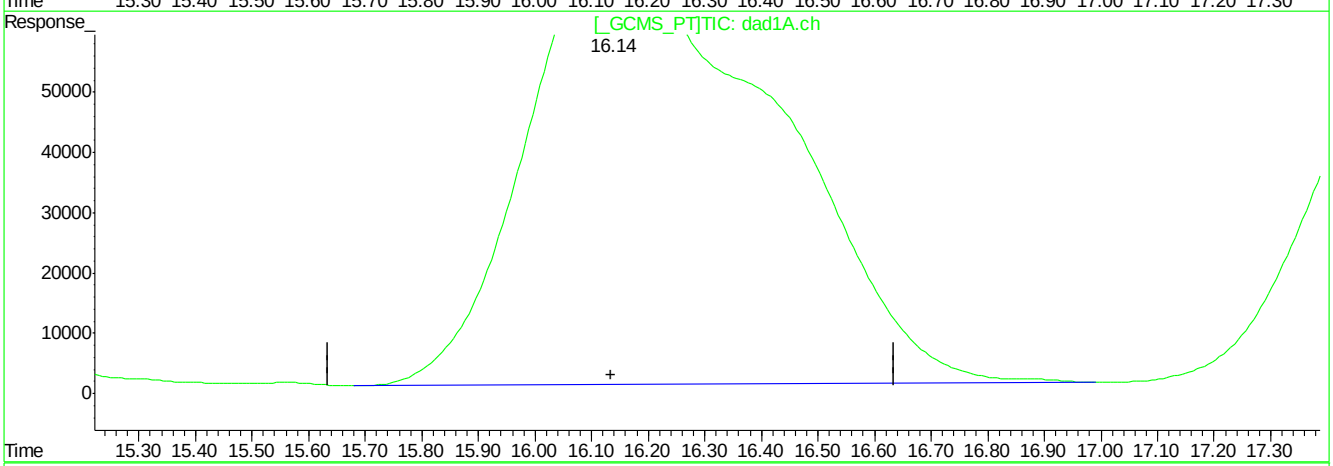
Parameter	CAS	Sig#	R.T. (min.)	Reason
3,5-Dinitroaniline	618-87-1	1	16.14	Missed peak
3,5-Dinitroaniline	618-87-1	2	16.14	Missed peak
o-Nitrotoluene	88-72-2	1	16.30	Missed peak
o-Nitrotoluene	88-72-2	2	16.30	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631119.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631119.D\dad1A.ch
Acq On : 13-Jan-2025, 13:08:29 Operator: fouads
Sample : icc3527-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:04 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(15) 3,5-Dinitroaniline

16.14min 1356.508ppb

response 13702767

(15) 3,5-Dinitroaniline #2

16.14min 1370.185ppb

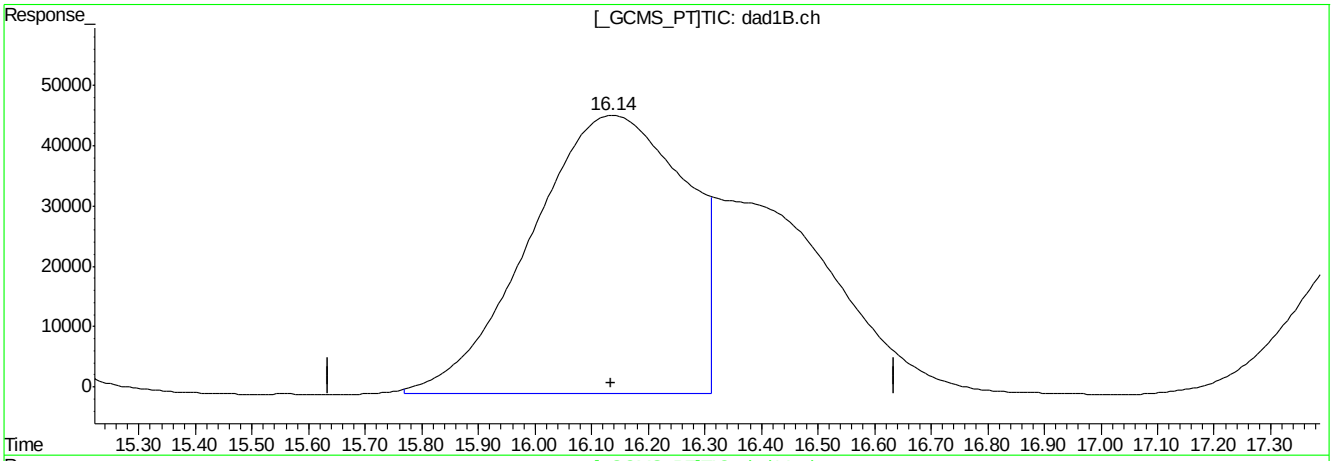
response 22174195

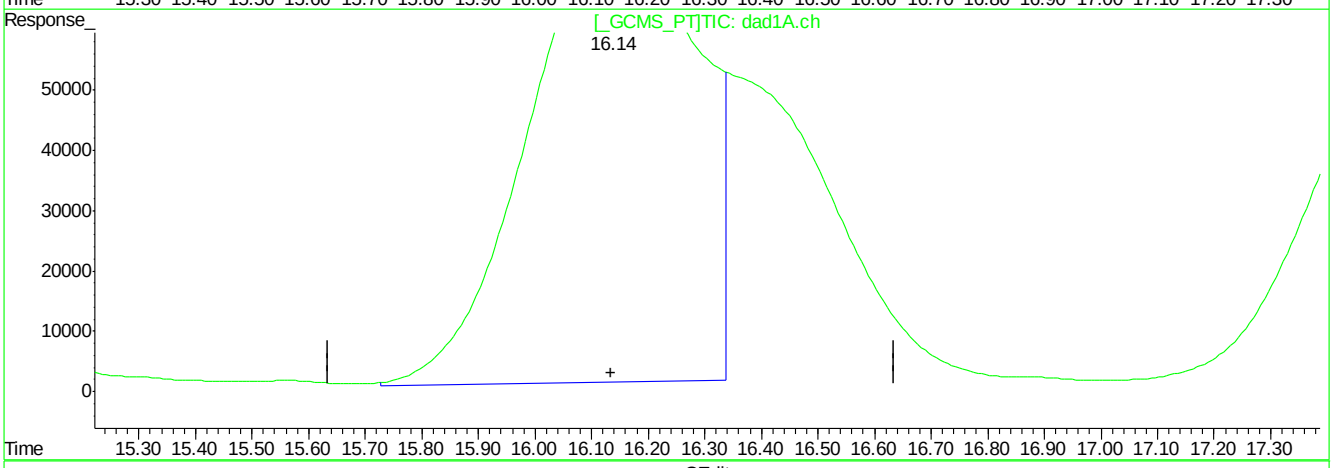
(+) = Expected Retention Time
GG631119.D GGG3527_011325.M Mon Jan 13 15:06:14 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631119.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631119.D\dad1A.ch
Acq On : 13-Jan-2025, 13:08:29 Operator: fouads
Sample : icc3527-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:04 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(15) 3,5-Dinitroaniline

16.14min 870.145ppb m

response 8789771

(15) 3,5-Dinitroaniline #2

16.14min 965.689ppb m

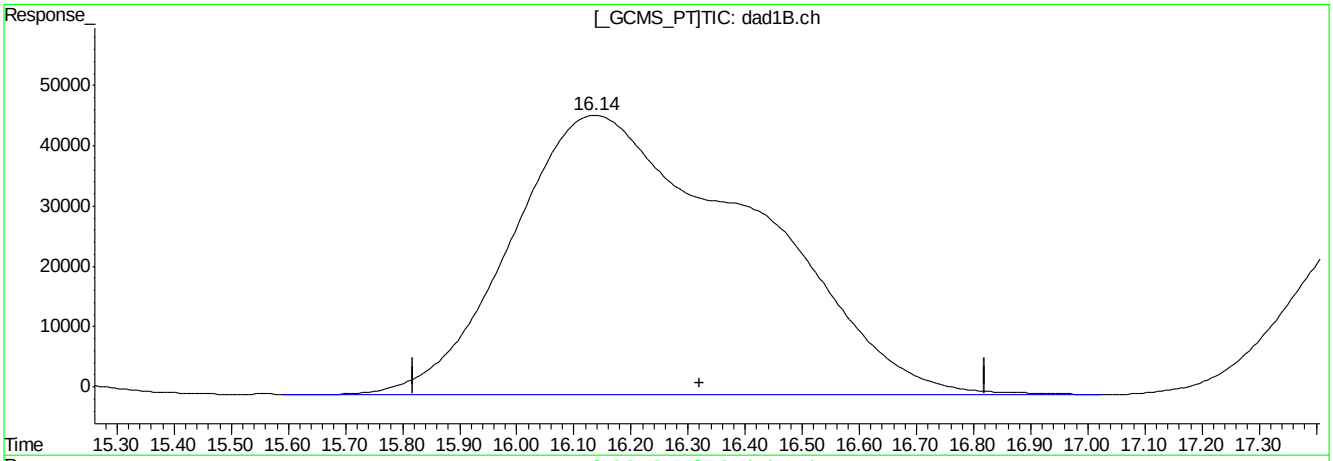
response 15628096

(+) = Expected Retention Time
GG631119.D GGG3527_011325.M Mon Jan 13 15:06:24 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631119.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631119.D\dad1A.ch
Acq On : 13-Jan-2025, 13:08:29 Operator: fouads
Sample : icc3527-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:04 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration



(16) o-Nitrotoluene

16.14min 2657.460ppb

response 13702767

(16) o-Nitrotoluene #2

16.14min 2765.770ppb

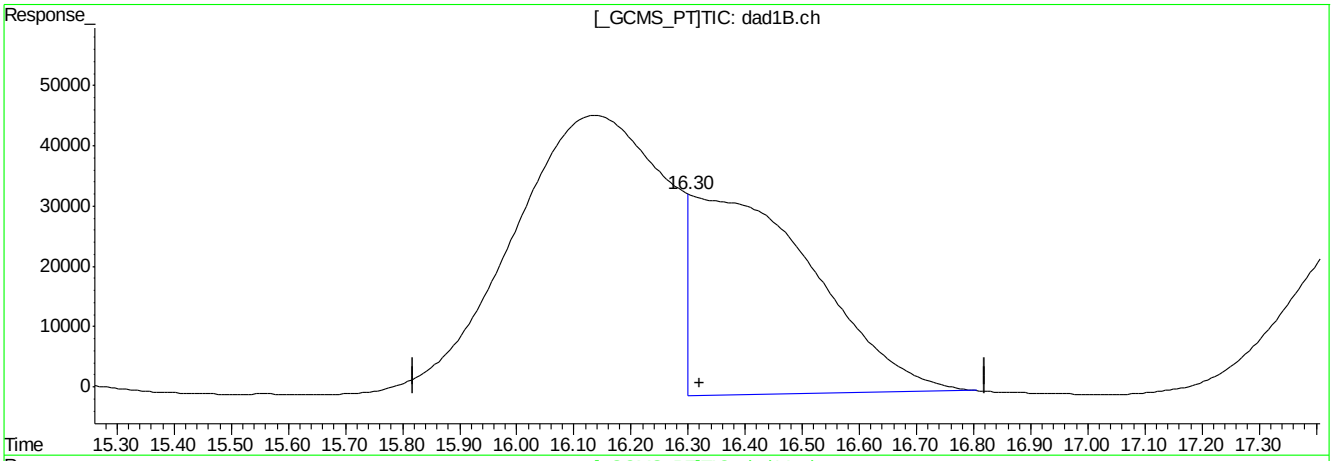
response 22174195

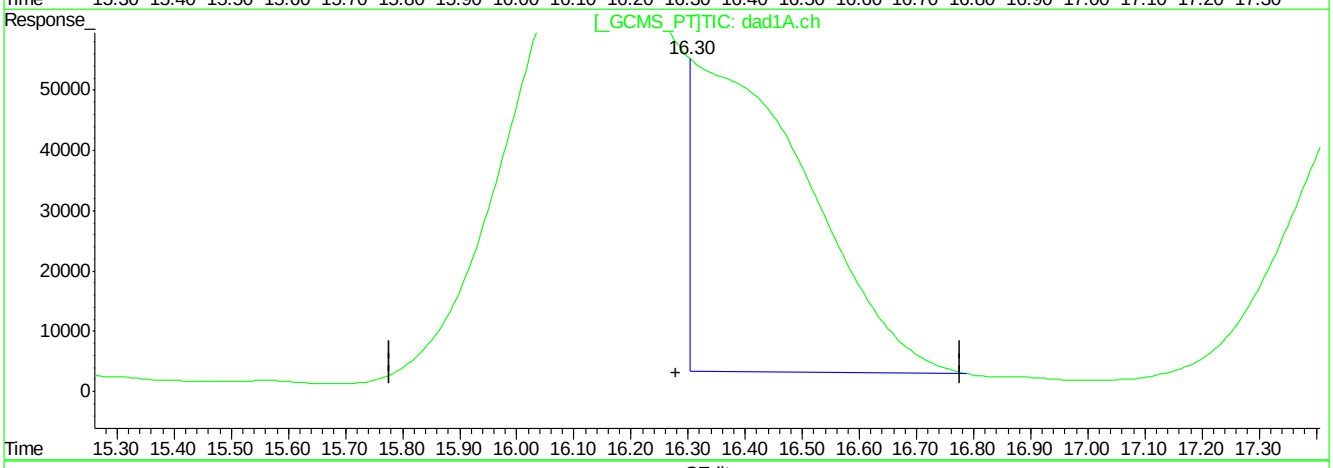
(+) = Expected Retention Time
GG631119.D GGG3527_011325.M Mon Jan 13 15:06:29 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631119.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631119.D\dad1A.ch
Acq On : 13-Jan-2025, 13:08:29 Operator: fouads
Sample : icc3527-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:04 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(16) o-Nitrotoluene

16.30min 970.000ppb m

response 5001650

(16) o-Nitrotoluene #2

16.30min 915.717ppb m

response 7341642

(+) = Expected Retention Time
GG631119.D GGG3527_011325.M Mon Jan 13 15:06:52 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan
01/16/25 12:01

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631120.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631120.D\dad1A.ch
Acq On : 13-Jan-2025, 13:37:56 Operator: fouads
Sample : ic3527-2500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:04:24 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	13.63	13.63	12404509	24891412	2733.801	2762.759
	Spiked Amount 500.000	Range 70 - 136		Recovery =		546.76%#	552.55%#
	Target Compounds						
1)	TNX	4.80	4.80	11021229	11021229	1316.880	1337.627
2)	HMX	5.18	5.18	7205033	7205033	2238.457	2201.343
3)	DNX	5.36	5.36	19625761	19625761	2927.460	2998.081
4)	MNX	6.44	6.44	20266248	20266248	3299.845	3333.671
5)	1,3,5-Trinitrobe	7.43	7.43	20860513	20860513	2130.633	2115.645
6)	RDX	7.75	7.75	10181348	10181348	2271.118	2301.861
7)	1,3-Dinitrobenze	9.70	9.70	28491256	21243091	2191.777	2170.471
8)	Nitrobenzene	10.61	10.61	19153102	18088291	2224.585	2330.986
9)	2,4,6-Trinitroto	11.41	11.41	19721513	26589087	2122.831	2155.884
10)	Nitroglycerin	0.00	12.11	0	6537970	N.D.	2138.143 #
11)	Tetryl	12.60	12.60	15204500	27176770	2201.597	2175.112
13)	2,6-Dinitrotolue	14.10	14.10	13770141	21202590	2173.866	2201.186
14)	2,4-Dinitrotolue	14.77	14.77	26822056	20030111	2181.932	2324.295
15)	3,5-Dinitroanili	16.04	16.03	22536708	38110617	2231.026m	2354.927m
16)	o-Nitrotoluene	16.21	16.22	10880430	17152779	2110.107m	2139.453m
17)	p-Nitrotoluene	17.50	17.53	24069825	44611118	4416.032	4904.878
18)	4-Amino-2,6-Dini	17.50	17.53	24069825	44611118	4414.183	4892.127
19)	m-Nitrotoluene	18.61	18.61	12971526	22257485	2287.658	2499.647
20)	2-Amino-4,6-Dini	19.56	19.56	19752061	29270098	2226.231	2498.637
21)	PETN	0.00	20.84	0	7512468	N.D.	2295.427 #

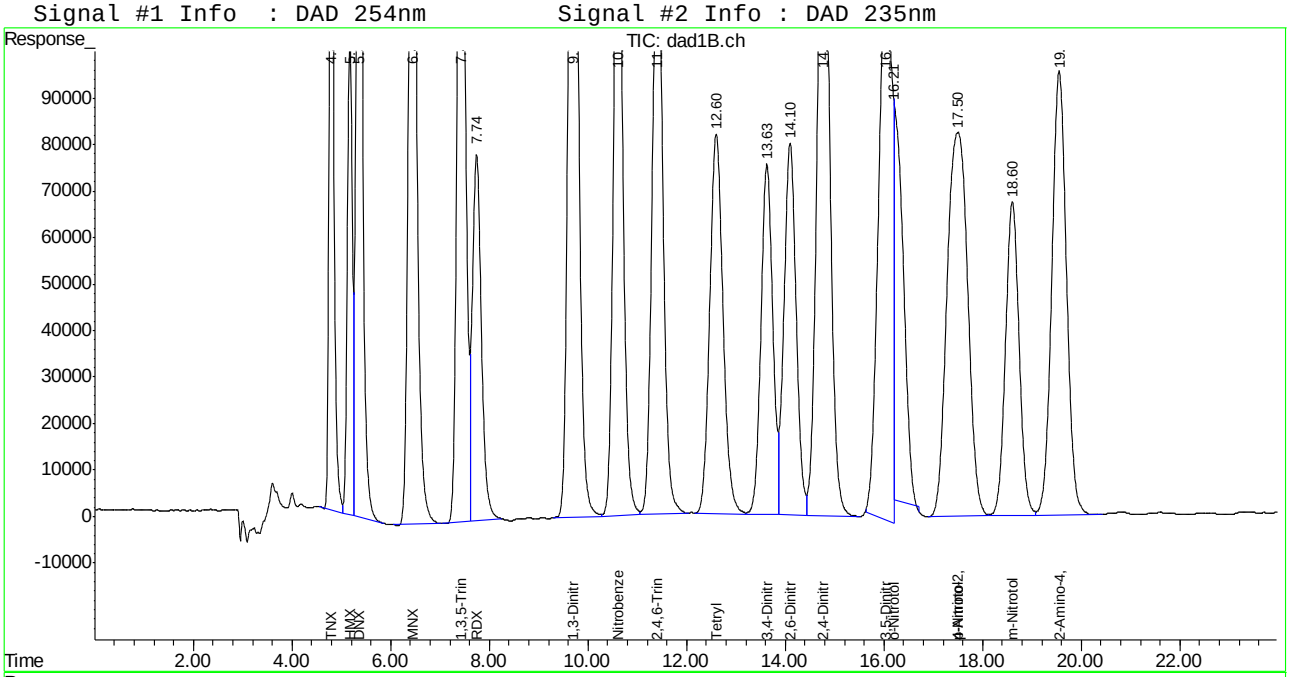
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG631120.D GGG3527_011325.M Wed Jan 15 06:48:54 2025 Page 1

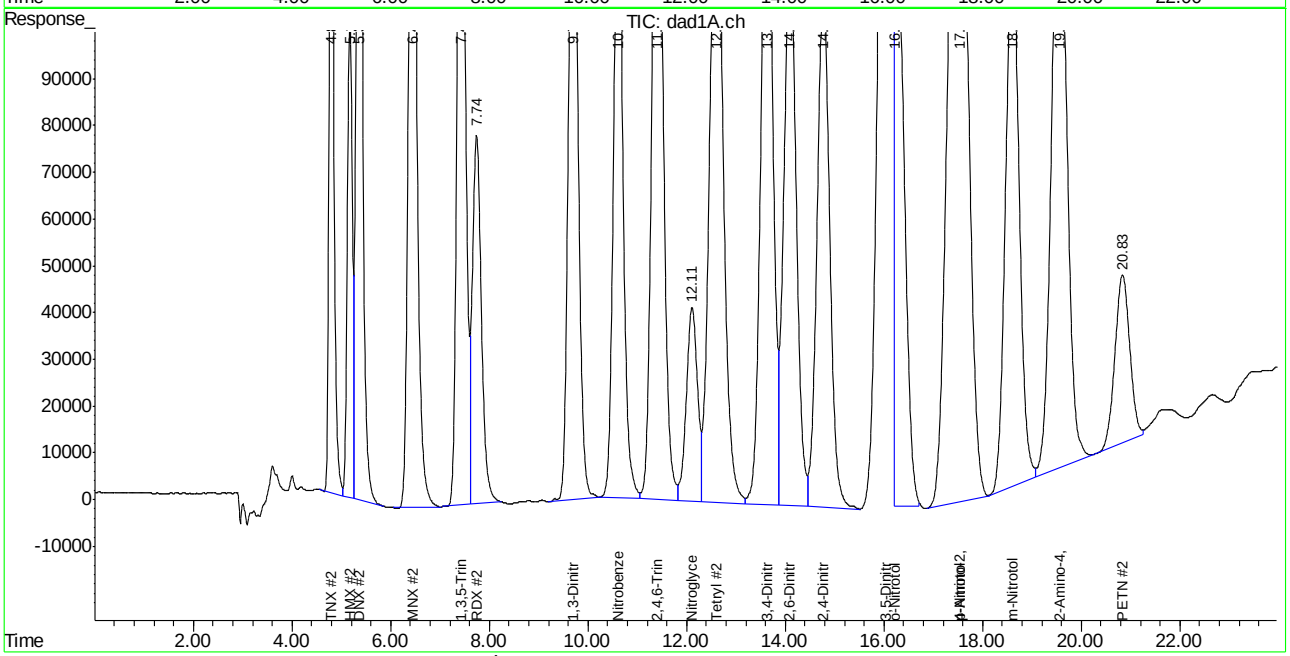
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631120.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631120.D\dad1A.ch
Acq On : 13-Jan-2025, 13:37:56 Operator: fouads
Sample : ic3527-2500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:08 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

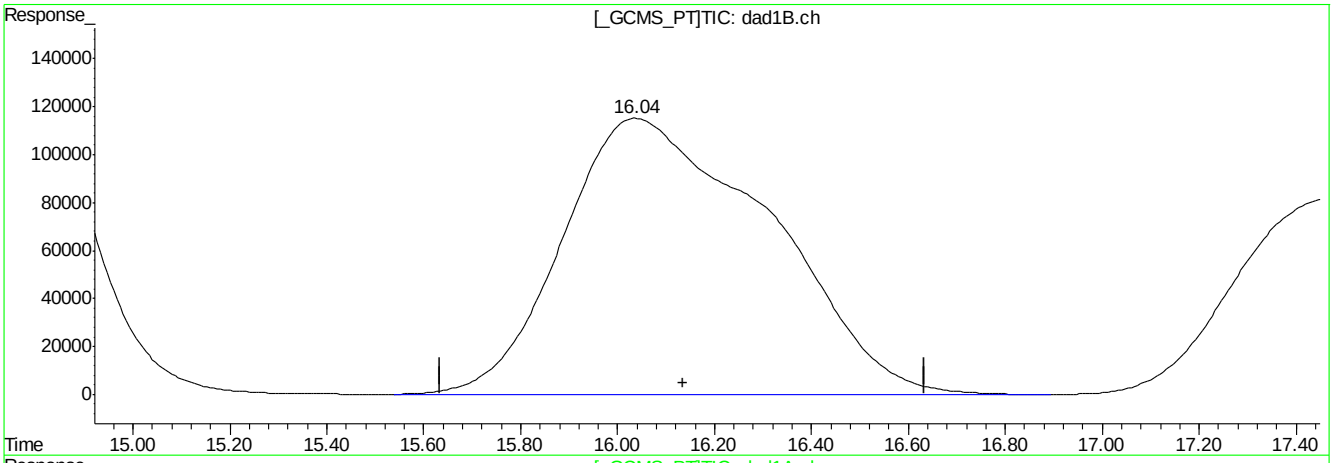
Sample Number: GGG3527-IC3527
Lab FileID: GG631120.D
Injection Time: 01/13/25 13:37
Method: SW846 8330A
Analyst approved: 01/15/25 08:07 Fouad Sekkar
Supervisor approved: 01/16/25 12:01 Naresh Jiawan

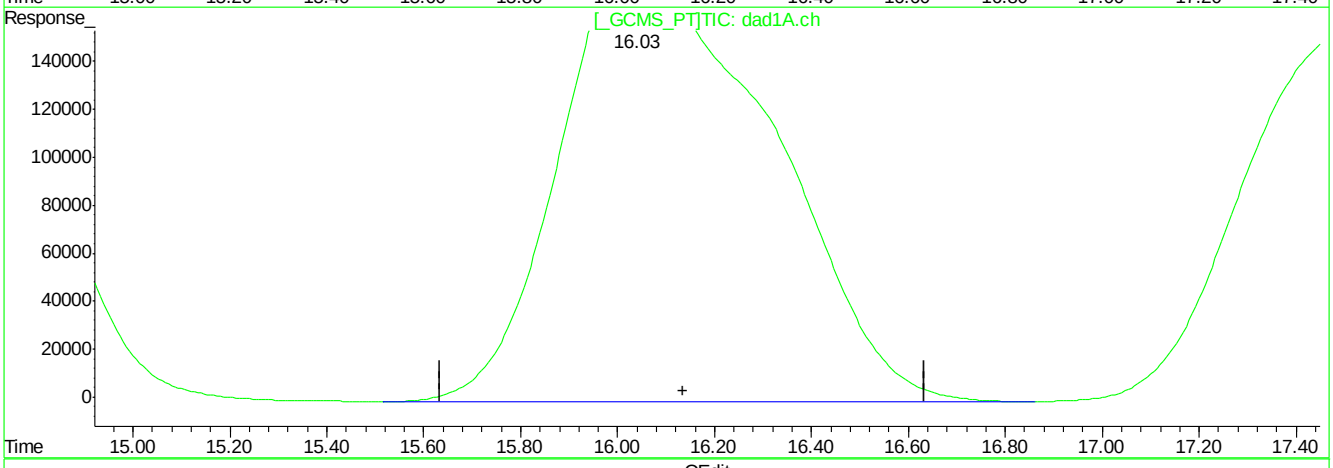
Parameter	CAS	Sig#	R.T. (min.)	Reason
3,5-Dinitroaniline	618-87-1	2	16.03	Missed peak
3,5-Dinitroaniline	618-87-1	1	16.04	Missed peak
o-Nitrotoluene	88-72-2	1	16.21	Missed peak
o-Nitrotoluene	88-72-2	2	16.22	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631120.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631120.D\dad1A.ch
Acq On : 13-Jan-2025, 13:37:56 Operator: fouads
Sample : ic3527-2500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:04 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(15) 3,5-Dinitroaniline

16.04min 3397.290ppb

response 34317725

(15) 3,5-Dinitroaniline #2

16.04min 3436.079ppb

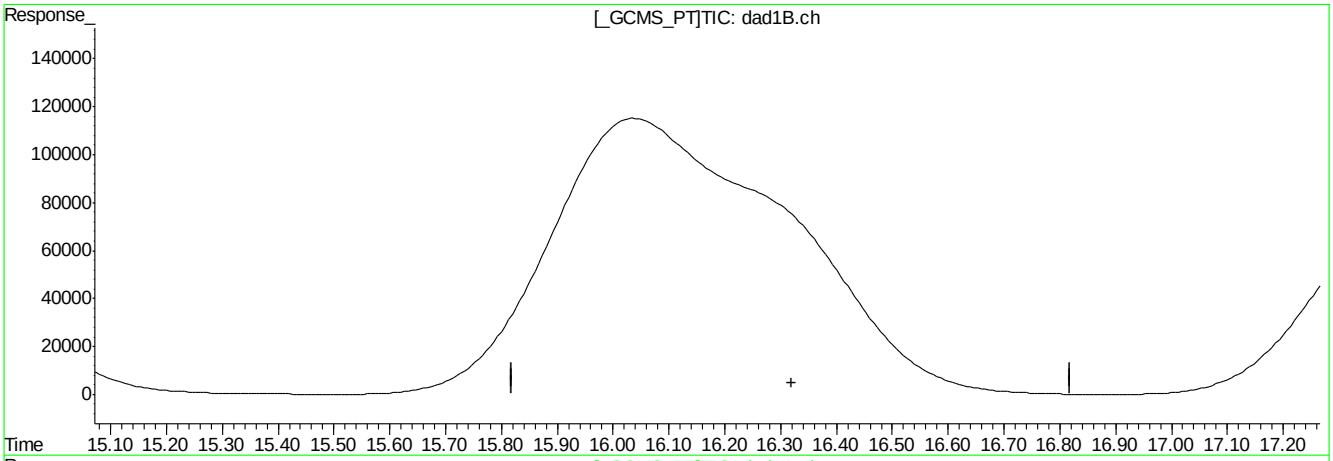
response 55607287

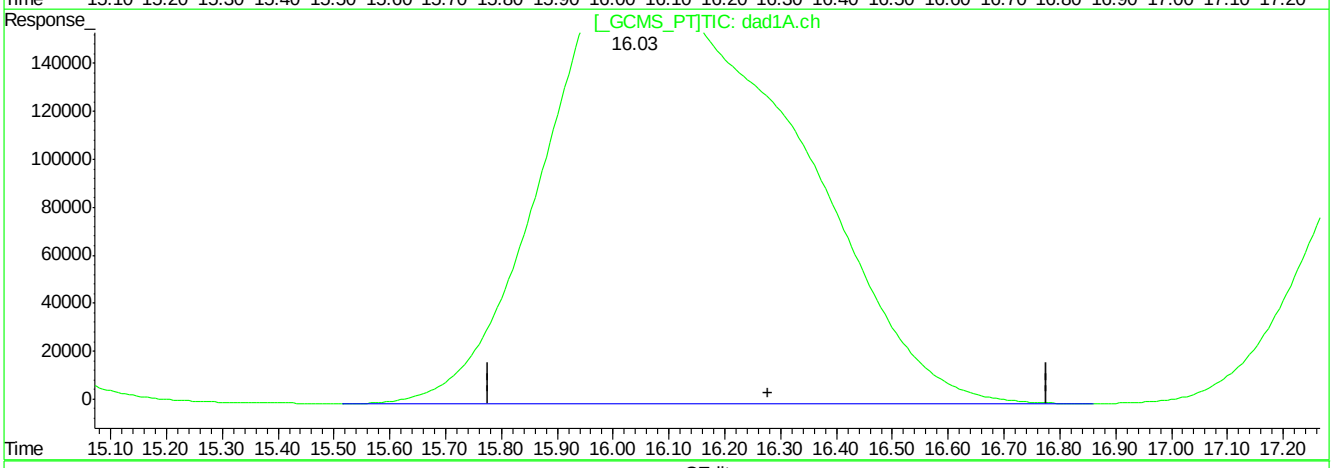
(+) = Expected Retention Time
GG631120.D GGG3527_011325.M Mon Jan 13 15:07:44 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631120.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631120.D\dad1A.ch
Acq On : 13-Jan-2025, 13:37:56 Operator: fouads
Sample : ic3527-2500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:04 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(16) o-Nitrotoluene

0.00min 0.000ppb

response 0

(16) o-Nitrotoluene #2

16.04min 6935.854ppb

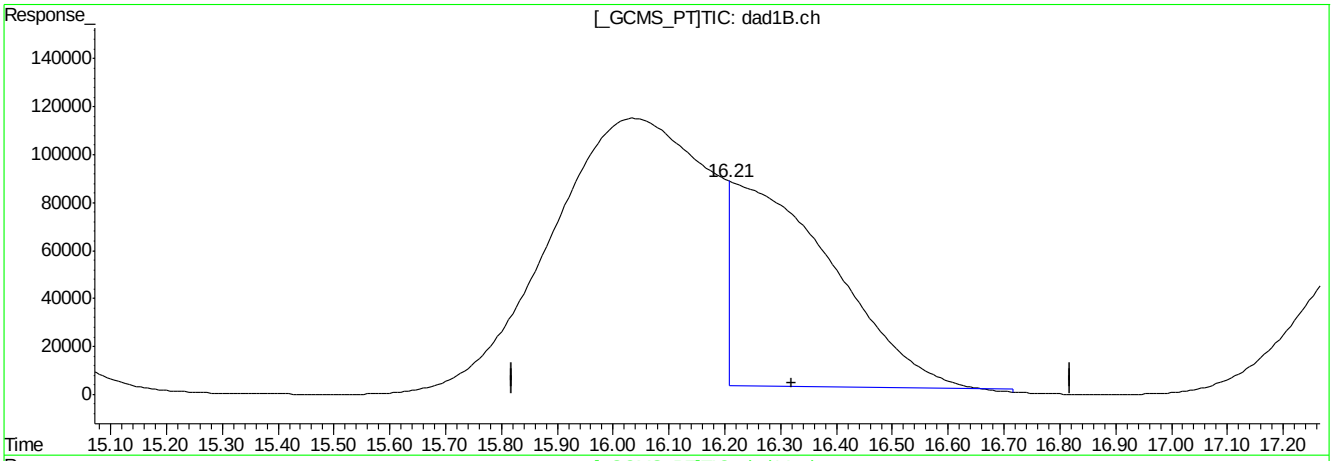
response 55607287

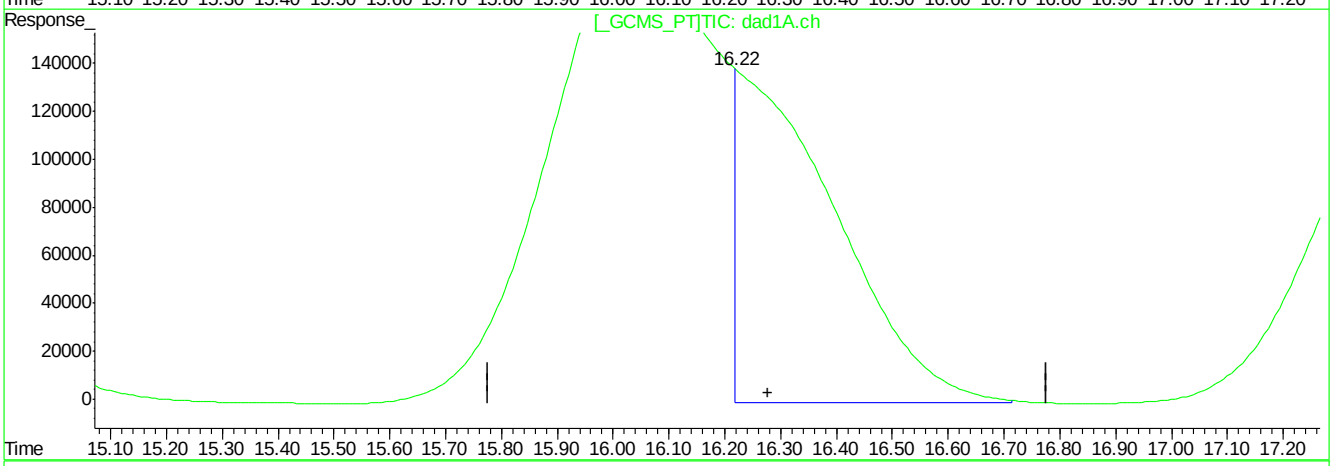
(+) = Expected Retention Time
GG631120.D GGG3527_011325.M Mon Jan 13 15:08:10 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631120.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631120.D\dad1A.ch
Acq On : 13-Jan-2025, 13:37:56 Operator: fouads
Sample : ic3527-2500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:04 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(16) o-Nitrotoluene

16.21min 2110.107ppb m

response 10880430

(16) o-Nitrotoluene #2

16.22min 2139.453ppb m

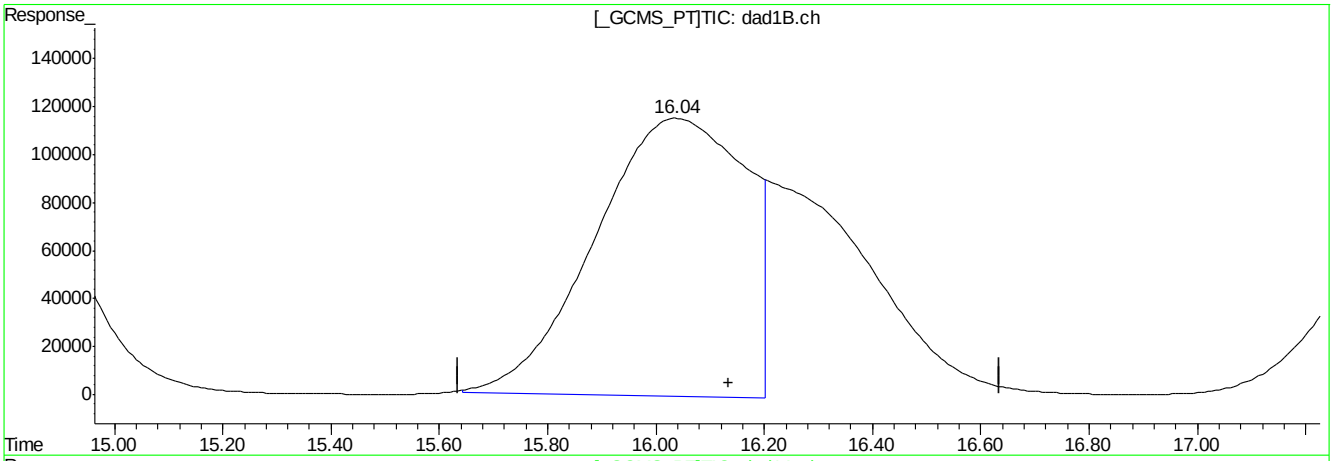
response 17152779

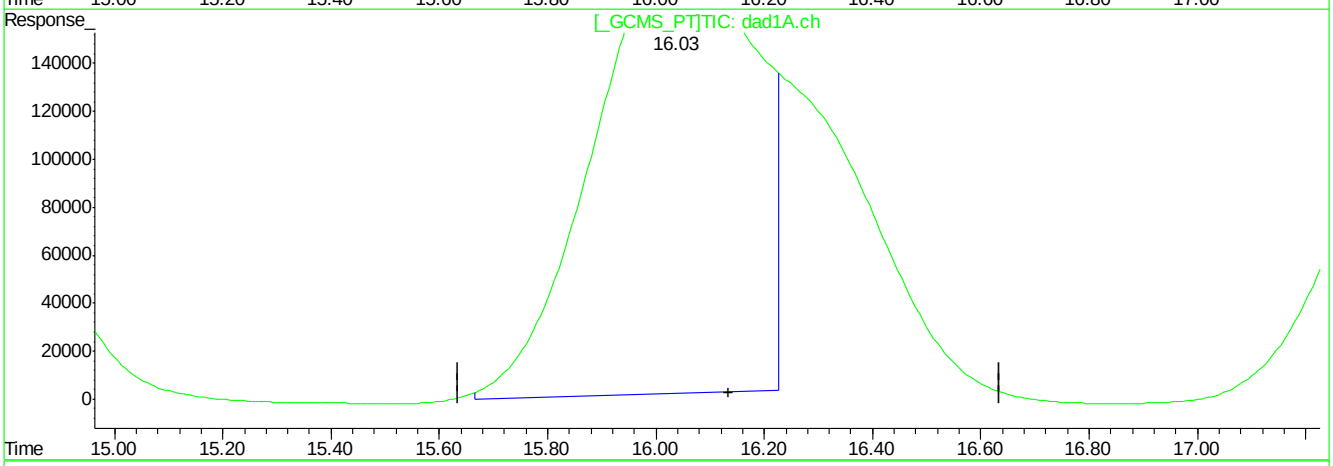
(+) = Expected Retention Time
GG631120.D GGG3527_011325.M Mon Jan 13 15:08:25 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631120.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631120.D\dad1A.ch
Acq On : 13-Jan-2025, 13:37:56 Operator: fouads
Sample : ic3527-2500 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:08 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(15) 3,5-Dinitroaniline

16.04min 2231.026ppb m

response 22536708

(15) 3,5-Dinitroaniline #2

16.03min 2354.927ppb m

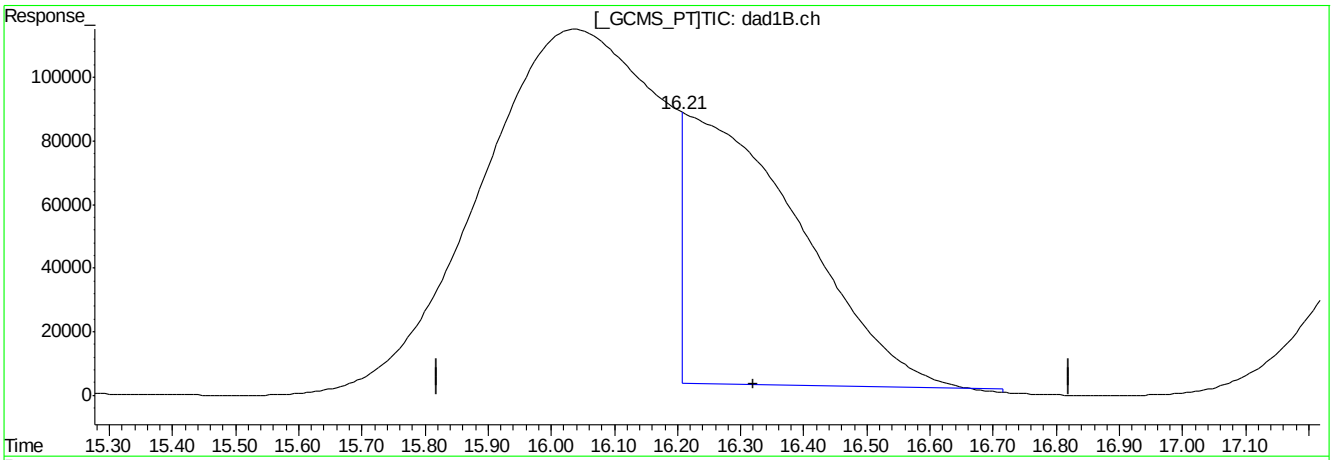
response 38110617

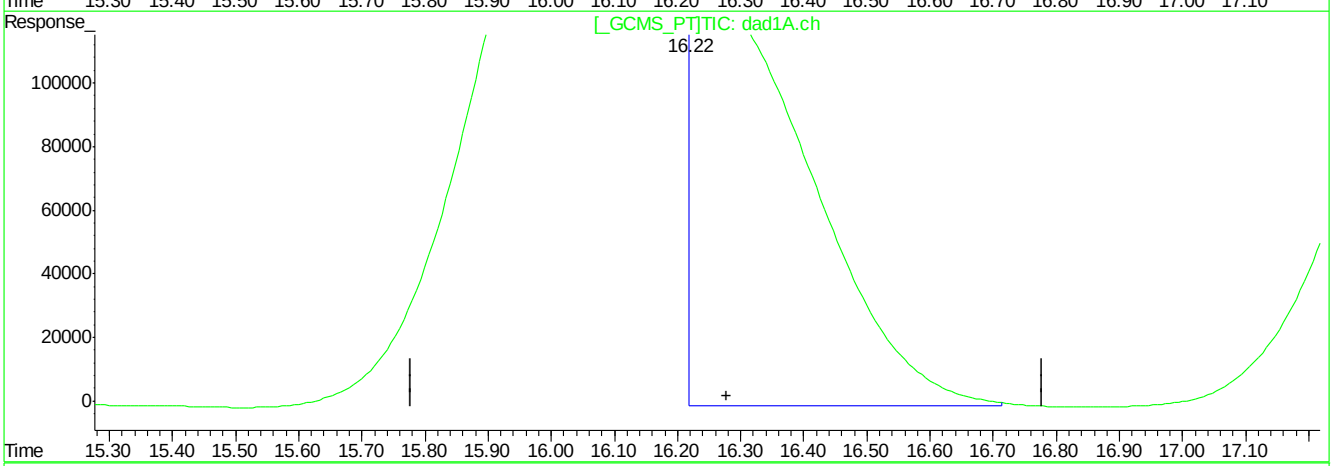
(+) = Expected Retention Time
GG631120.D GGG3527_011325.M Thu Jan 16 11:08:39 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631120.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631120.D\dad1A.ch
Acq On : 13-Jan-2025, 13:37:56 Operator: fouads
Sample : ic3527-2500 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:08 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(16) o-Nitrotoluene

16.21min 2110.107ppb m

response 10880430

(16) o-Nitrotoluene #2

16.22min 2139.453ppb m

response 17152779

(+) = Expected Retention Time
GG631120.D GGG3527_011325.M Thu Jan 16 11:08:45 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan 01/16/25 12:01

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631121.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631121.D\dad1A.ch
Acq On : 13-Jan-2025, 14:07:24 Operator: fouads
Sample : ic3527-5000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:04:25 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	13.83	13.83	25136874	48918970	5539.857	5429.637
	Spiked Amount 500.000	Range 70 - 136		Recovery =		1107.97%#	1085.93%#
	Target Compounds						
1)	TNX	4.81	4.81	23447335	23447335	2801.624	2845.762
2)	HMX	5.20	5.20	14169510	14169510	4402.179	4329.190
3)	DNX	5.38	5.38	41823233	41823233	6238.526	6389.023
4)	MNX	6.49	6.49	42826011	42826011	6973.131	7044.612
5)	1,3,5-Trinitrobe	7.47	7.47	42534644	42534644	4344.367	4313.806
6)	RDX	7.81	7.81	21076525	21076525	4701.468	4765.110
7)	1,3-Dinitrobenze	9.80	9.80	57705479	44010169	4439.171	4496.652
8)	Nitrobenzene	10.73	10.73	38583204	36569486	4481.342	4712.604
9)	2,4,6-Trinitroto	11.55	11.55	41190473	54487434	4433.758	4417.924
10)	Nitroglycerin	0.00	12.27	0	14873605	N.D.	4864.185 #
11)	Tetryl	12.78	12.78	31279955	55092886	4529.307	4409.398
13)	2,6-Dinitrotolue	14.29	14.29	27550300	41338448	4349.313	4291.627
14)	2,4-Dinitrotolue	14.97	14.97	53662771	38912330	4365.382	4515.389
15)	3,5-Dinitroanili	16.23	16.23	45013627	74555023	4456.132m	4606.895m
16)	o-Nitrotoluene	16.41	16.42	22842753	34574583	4430.033m	4312.461m
17)	p-Nitrotoluene	17.79	17.82	48067816	87992678	8818.885	9674.569
18)	4-Amino-2,6-Dini	17.79	17.82	48067816	87992678	8815.193	9649.418
19)	m-Nitrotoluene	18.85	18.85	25971520	43624926	4580.337	4899.337
20)	2-Amino-4,6-Dini	19.84	19.84	39505704	56508151	4452.641	4823.809
21)	PETN	0.00	21.14	0	14913553	N.D. d	4556.822 #

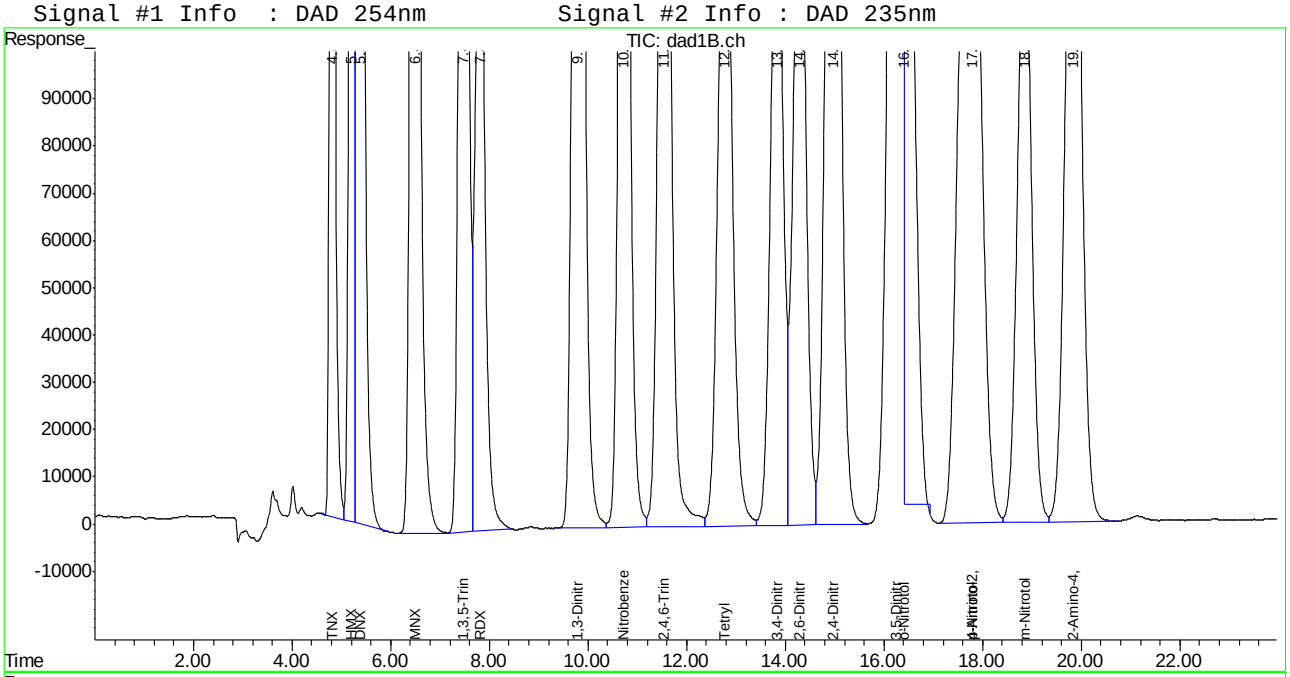
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

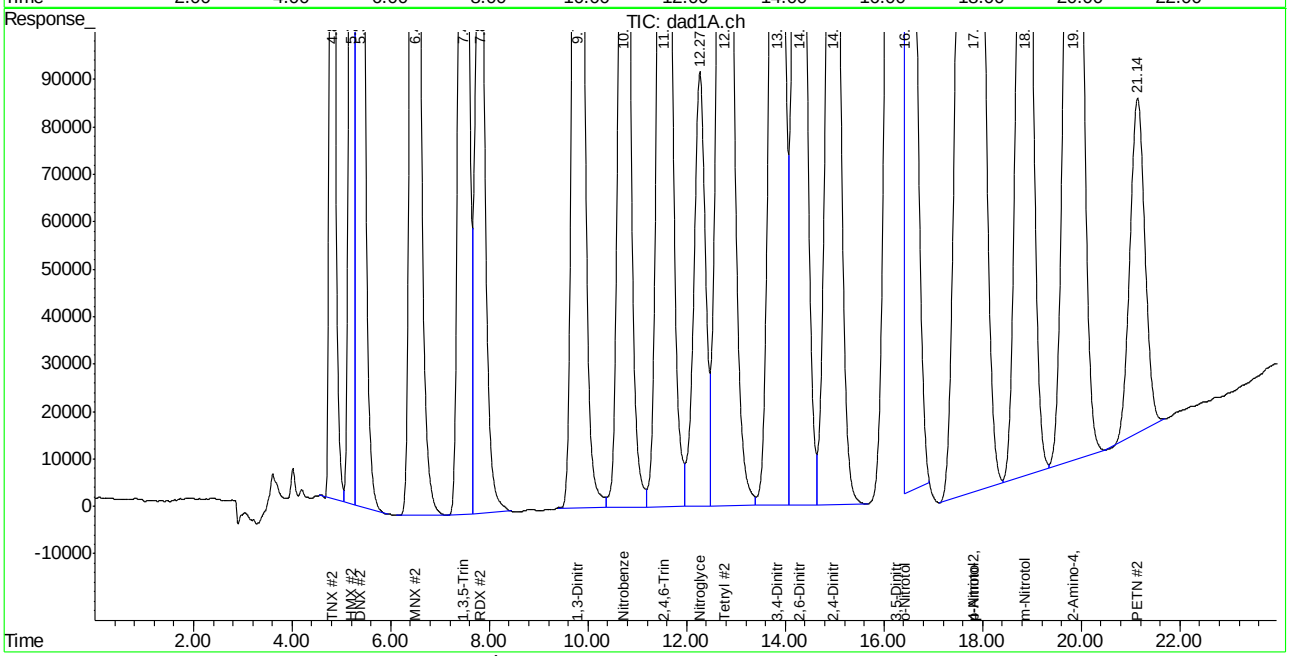
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631121.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631121.D\dad1A.ch
Acq On : 13-Jan-2025, 14:07:24 Operator: fouads
Sample : ic3527-5000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:39 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

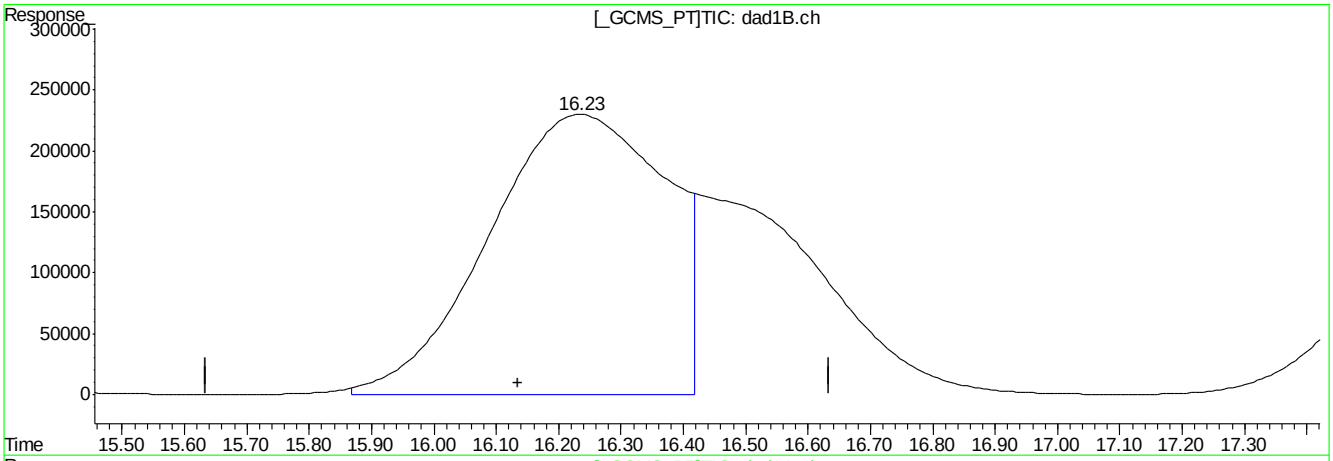
Sample Number: GGG3527-IC3527
Lab FileID: GG631121.D
Injection Time: 01/13/25 14:07
Method: SW846 8330A
Analyst approved: 01/15/25 08:07 Fouad Sekkar
Supervisor approved: 01/16/25 12:01 Naresh Jiawan

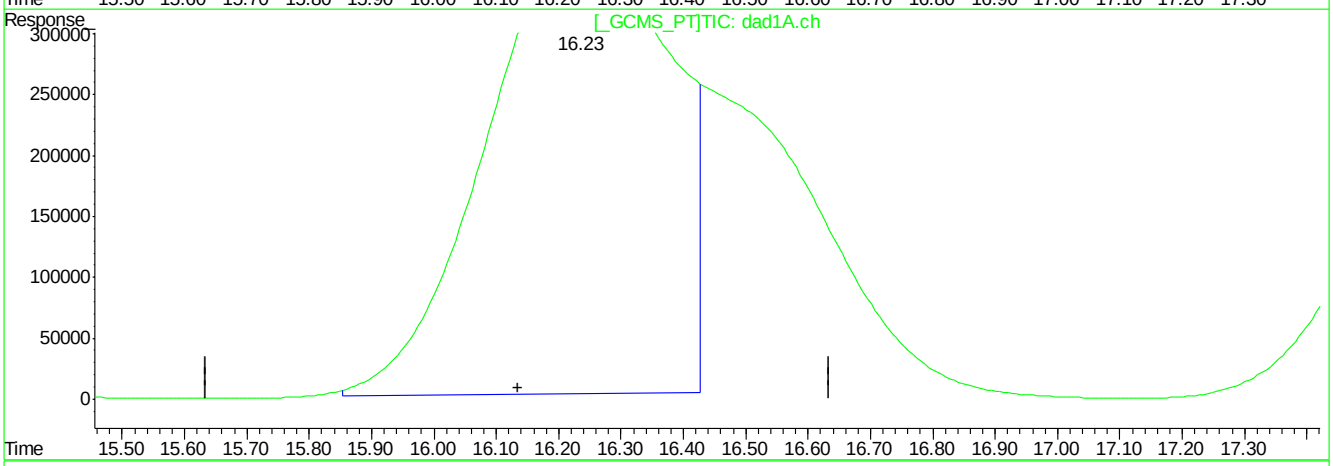
Parameter	CAS	Sig#	R.T. (min.)	Reason
3,5-Dinitroaniline	618-87-1	1	16.23	Missed peak
3,5-Dinitroaniline	618-87-1	2	16.23	Missed peak
o-Nitrotoluene	88-72-2	1	16.41	Missed peak
o-Nitrotoluene	88-72-2	2	16.42	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631121.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631121.D\dad1A.ch
Acq On : 13-Jan-2025, 14:07:24 Operator: fouads
Sample : ic3527-5000 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:39 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(15) 3,5-Dinitroaniline

16.23min 4456.132ppb m

response 45013627

(15) 3,5-Dinitroaniline #2

16.23min 4606.895ppb m

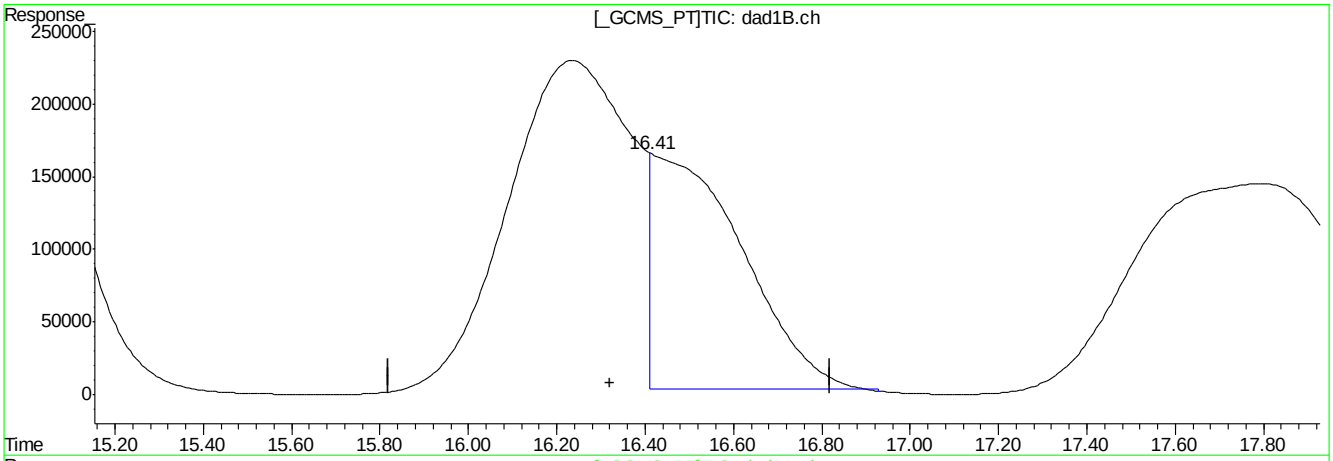
response 74555023

(+) = Expected Retention Time
GG631121.D GGG3527_011325.M Thu Jan 16 11:09:16 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631121.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631121.D\dad1A.ch
Acq On : 13-Jan-2025, 14:07:24 Operator: fouads
Sample : ic3527-5000 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:39 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration



(16) o-Nitrotoluene

16.41min 4430.033ppb m

response 22842753

(16) o-Nitrotoluene #2

16.42min 4312.461ppb m

response 34574583

(+) = Expected Retention Time
GG631121.D GGG3527_011325.M Thu Jan 16 11:09:21 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan 01/16/25 12:01

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:09:40 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:20:15 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	13.94	13.94	273517	596568	60.280m	66.215m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		12.06%#	13.24%#
	Target Compounds						
1)	TNX	4.82	4.82	278393	266344	33.264m	32.326m
2)	HMX	5.24	5.24	171750	177120	53.359m	54.115m
3)	DNX	5.42	5.42	468526	460595	69.887m	70.362m
4)	MNX	6.57	6.57	490969	488880	79.942m	80.418m
5)	1,3,5-Trinitrobe	7.52	7.52	486200	462021	49.659m	46.858m
6)	RDX	7.90	7.90	212639	204935	47.433m	46.333m
7)	1,3-Dinitrobenze	9.86	9.86	666156	555723	51.246m	56.780m
8)	Nitrobenzene	10.80	10.79	438653	503957	50.948m	64.943m
9)	2,4,6-Trinitroto	11.60	11.60	477698	632559	51.420m	51.289m
10)	Nitroglycerin	0.00	12.37	0	293837	N.D.	96.095m#
11)	Tetryl	12.89	12.90	350232	592397	50.713m	47.413m
13)	2,6-Dinitrotolue	14.38	14.37	305308	740492	48.198m	76.876m#
14)	2,4-Dinitrotolue	15.07	15.05	587570	555312	47.798m	64.438m
15)	3,5-Dinitroanili	16.36	16.36	544059	1064560	53.859m	65.781m
16)	o-Nitrotoluene	16.52	16.53	279597	225645	54.224m	28.144m#
17)	p-Nitrotoluene	17.67	17.65	505209	1802446	92.690m	198.174m#
18)	4-Amino-2,6-Dini	17.67	17.65	501093	2012607	91.896m	220.706m#
19)	m-Nitrotoluene	18.80	18.79	317829	803829	56.052m	90.275 #
20)	2-Amino-4,6-Dini	19.78	19.82	407425	266553	45.920m	22.754m#
21)	PETN	0.00	20.55	0	105472	N.D.	32.227m#

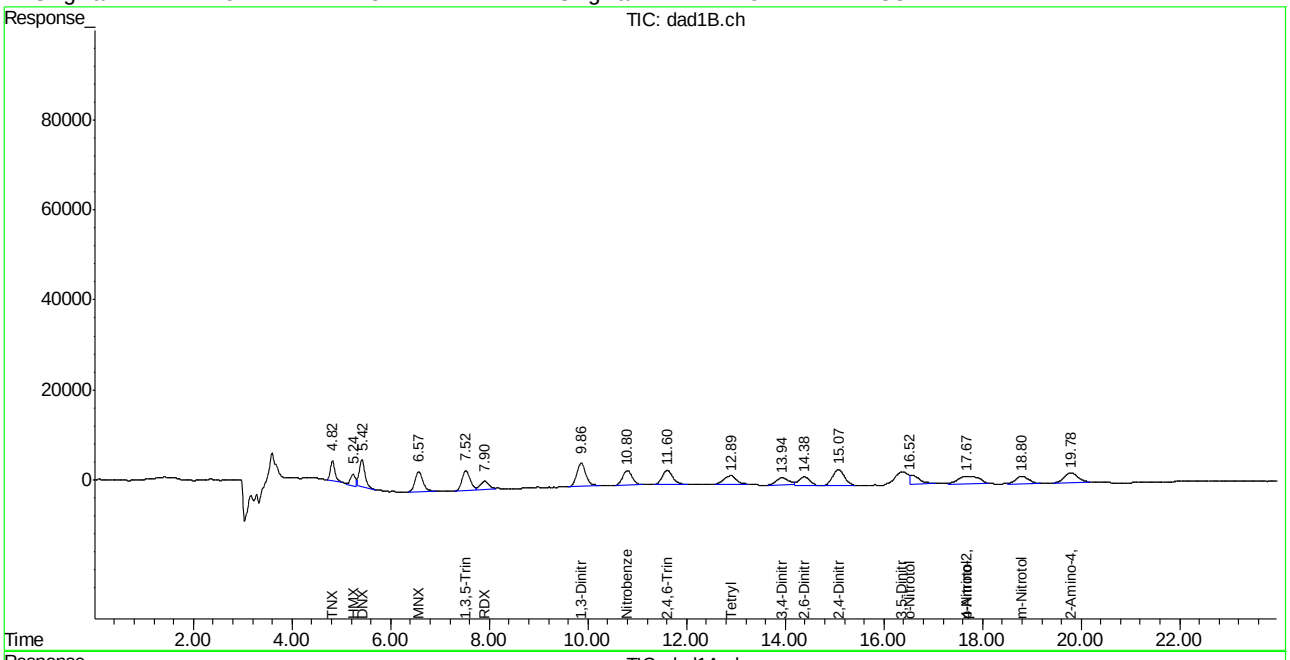
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG631122.D GGG3527_011325.M Wed Jan 15 06:48:56 2025 Page 1

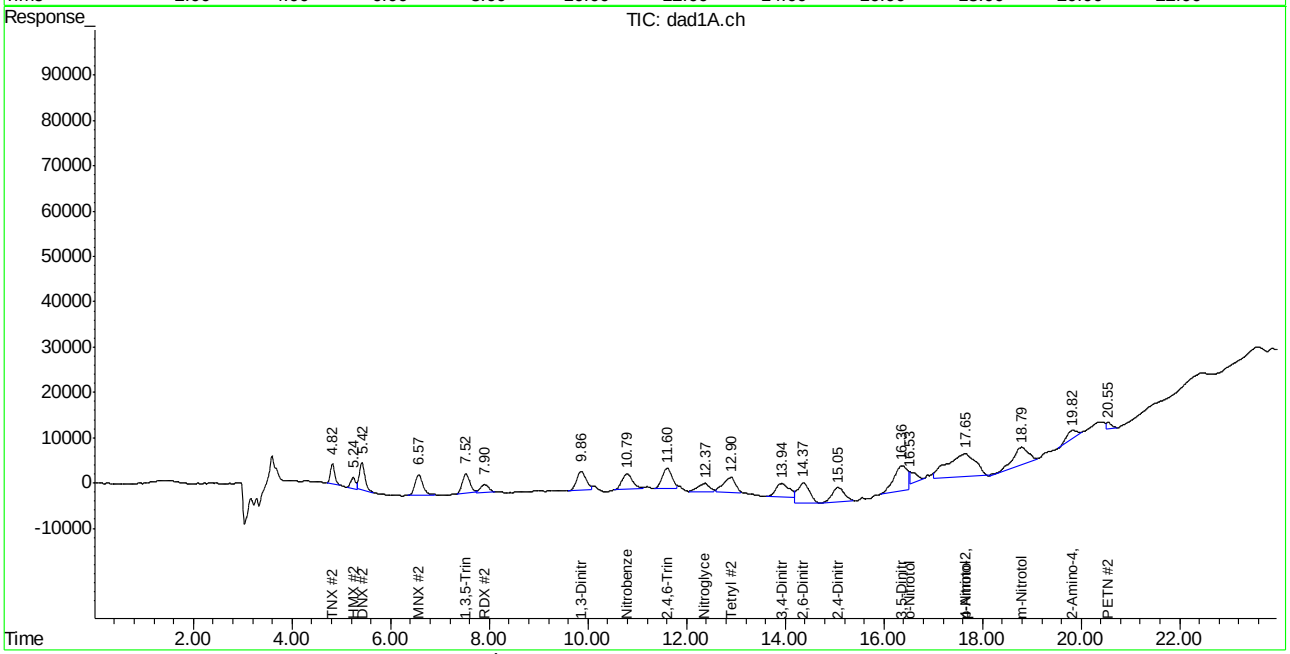
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:13 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:20:15 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

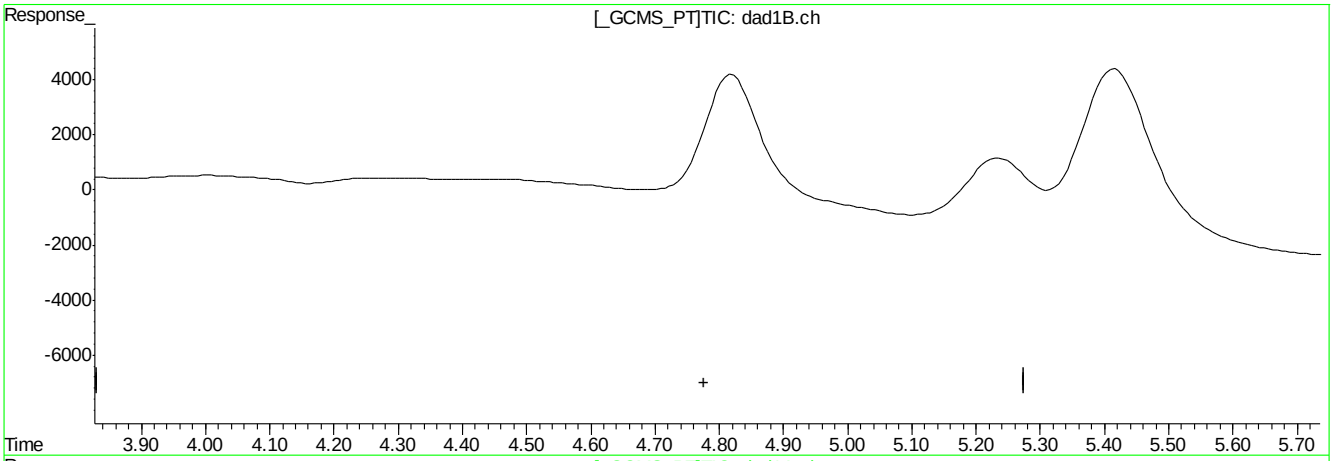
Sample Number: GGG3527-IC3527 **Method:** SW846 8330A
Lab FileID: GG631122.D **Analyst approved:** 01/15/25 08:07 Fouad Sekkar
Injection Time: 01/13/25 14:45 **Supervisor approved:** 01/16/25 12:01 Naresh Jiawan

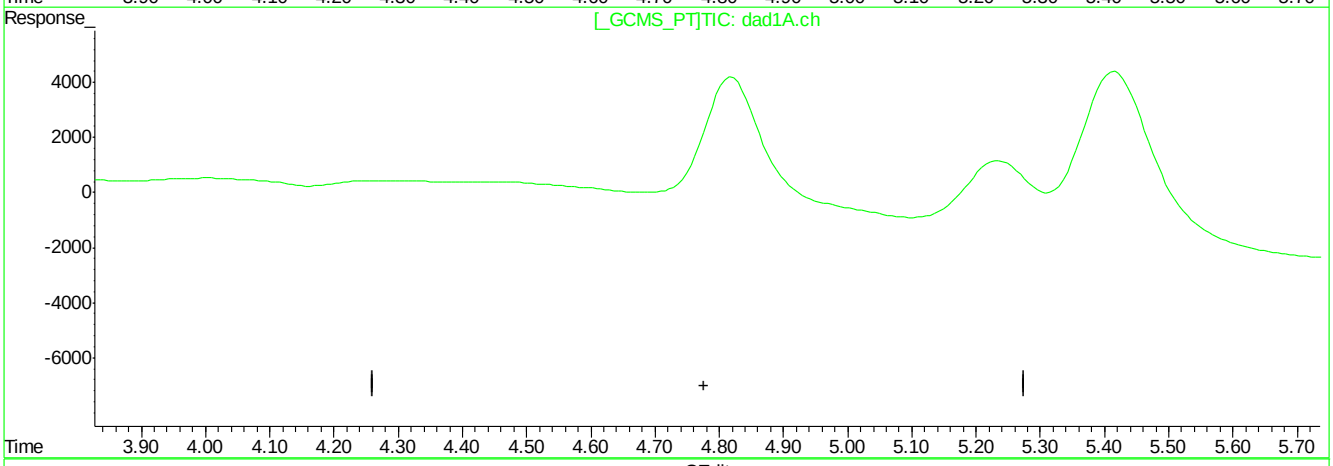
Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	4.82	Missed peak
TNX		2	4.82	Missed peak
HMX	2691-41-0	1	5.24	Missed peak
HMX	2691-41-0	2	5.24	Missed peak
DNX		1	5.42	Missed peak
DNX		2	5.42	Missed peak
MNX		1	6.57	Missed peak
MNX		2	6.57	Missed peak
1,3,5-Trinitrobenzene	99-35-4	1	7.52	Missed peak
1,3,5-Trinitrobenzene	99-35-4	2	7.52	Missed peak
RDX	121-82-4	1	7.90	Missed peak
RDX	121-82-4	2	7.90	Missed peak
1,3-Dinitrobenzene	99-65-0	1	9.86	Missed peak
1,3-Dinitrobenzene	99-65-0	2	9.86	Missed peak
Nitrobenzene	98-95-3	2	10.79	Missed peak
Nitrobenzene	98-95-3	1	10.80	Missed peak
2,4,6-Trinitrotoluene	118-96-7	1	11.60	Missed peak
2,4,6-Trinitrotoluene	118-96-7	2	11.60	Missed peak
Nitroglycerine	55-63-0	2	12.37	Missed peak
Tetryl	479-45-8	1	12.89	Missed peak
Tetryl	479-45-8	2	12.90	Missed peak
3,4-Dinitrotoluene	610-39-9	1	13.94	Missed peak
3,4-Dinitrotoluene	610-39-9	2	13.94	Missed peak
2,6-Dinitrotoluene	606-20-2	2	14.37	Missed peak
2,6-Dinitrotoluene	606-20-2	1	14.38	Missed peak
2,4-Dinitrotoluene	121-14-2	2	15.05	Missed peak
2,4-Dinitrotoluene	121-14-2	1	15.07	Missed peak
3,5-Dinitroaniline	618-87-1	1	16.36	Missed peak
3,5-Dinitroaniline	618-87-1	2	16.36	Missed peak
o-Nitrotoluene	88-72-2	1	16.52	Missed peak
o-Nitrotoluene	88-72-2	2	16.53	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	2	17.65	Missed peak
p-Nitrotoluene	99-99-0	2	17.65	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	1	17.67	Missed peak
p-Nitrotoluene	99-99-0	1	17.67	Missed peak
m-Nitrotoluene	99-08-1	1	18.80	Missed peak
2-amino-4,6-Dinitrotoluene	35572-78-2	1	19.78	Missed peak
2-amino-4,6-Dinitrotoluene	35572-78-2	2	19.82	Missed peak
PETN	78-11-5	2	20.55	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(1) TNX

0.00min 0.000ppb

response 0

(1) TNX #2

0.00min 0.000ppb

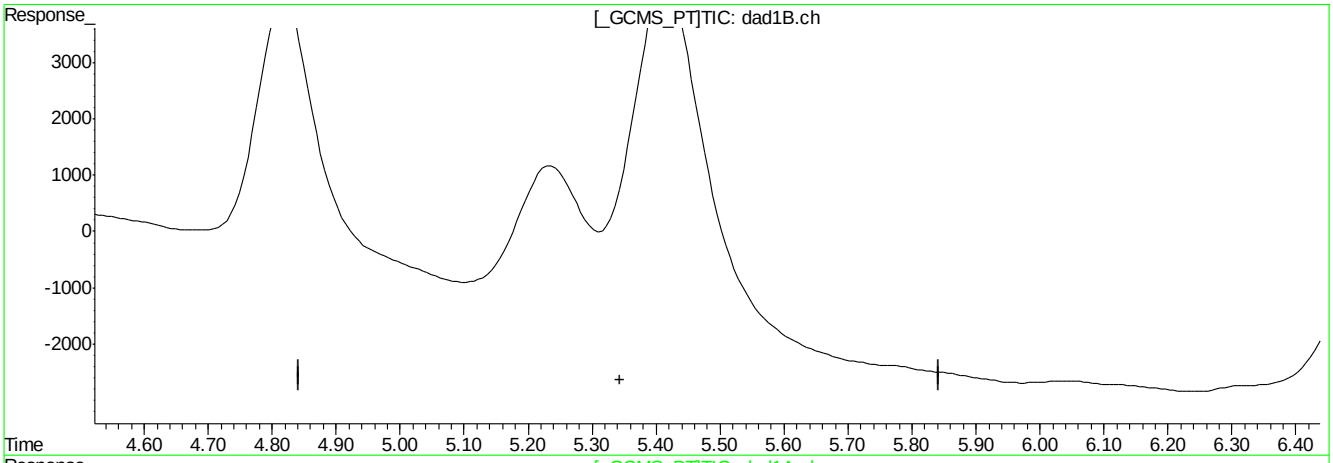
response 0

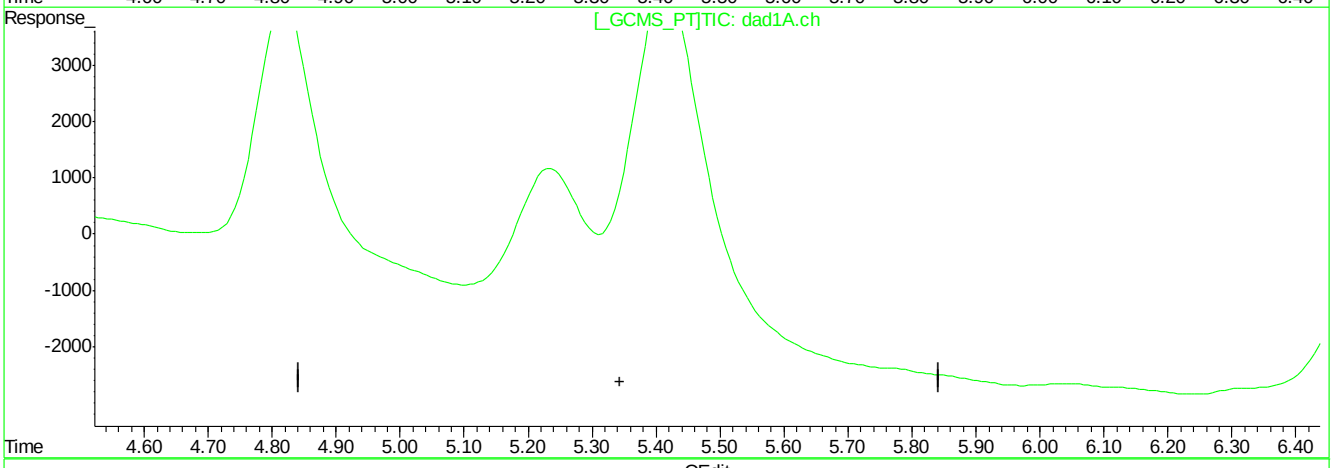
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:15:04 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(3) DNX

0.00min 0.000ppb

response 0

(3) DNX #2

0.00min 0.000ppb

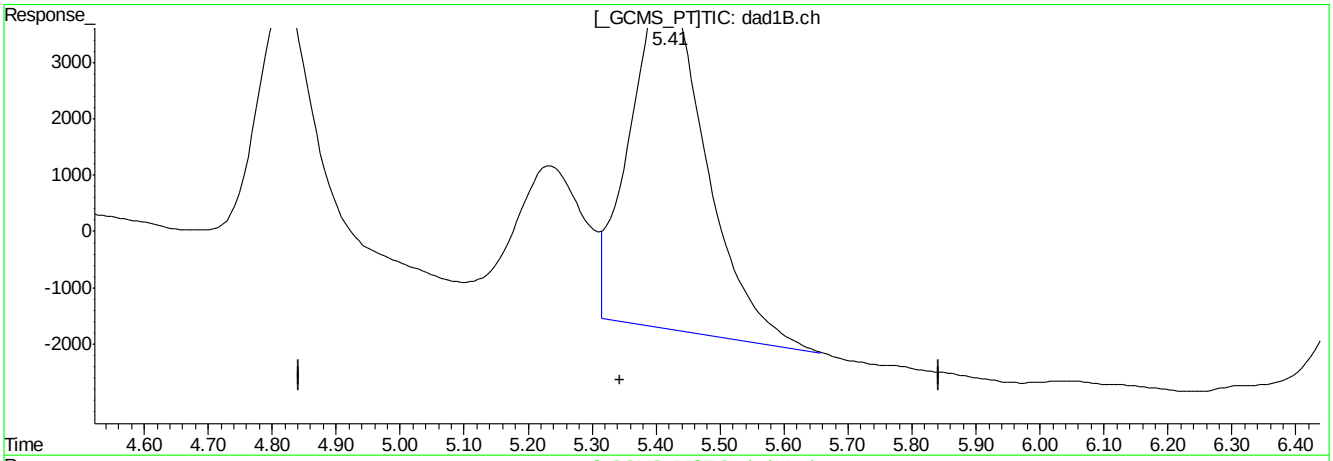
response 0

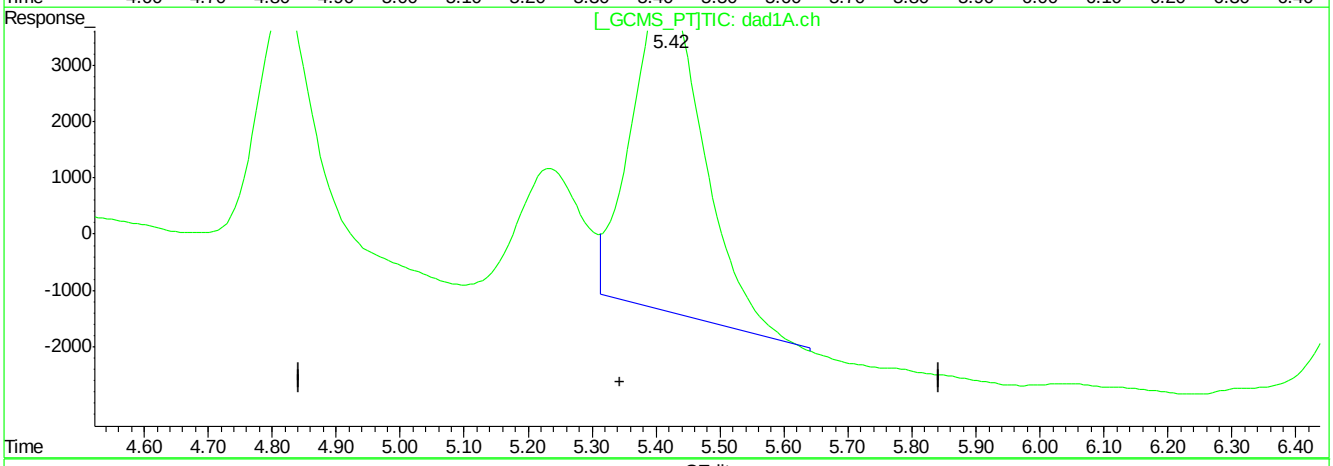
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:15:21 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(3) DNX

5.41min 75.204ppb m

response 504169

(3) DNX #2

5.42min 68.327ppb m

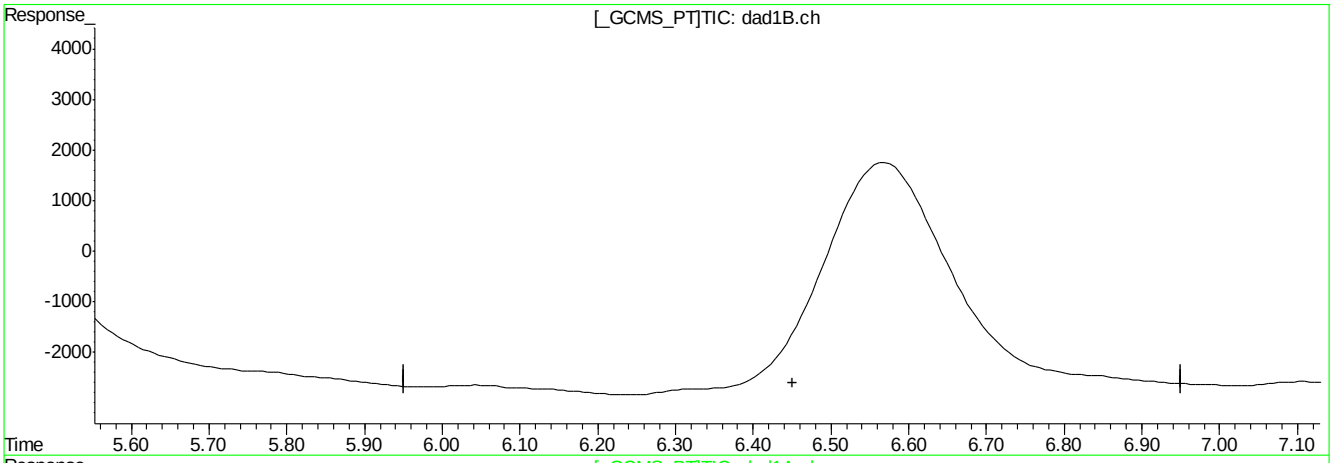
response 447276

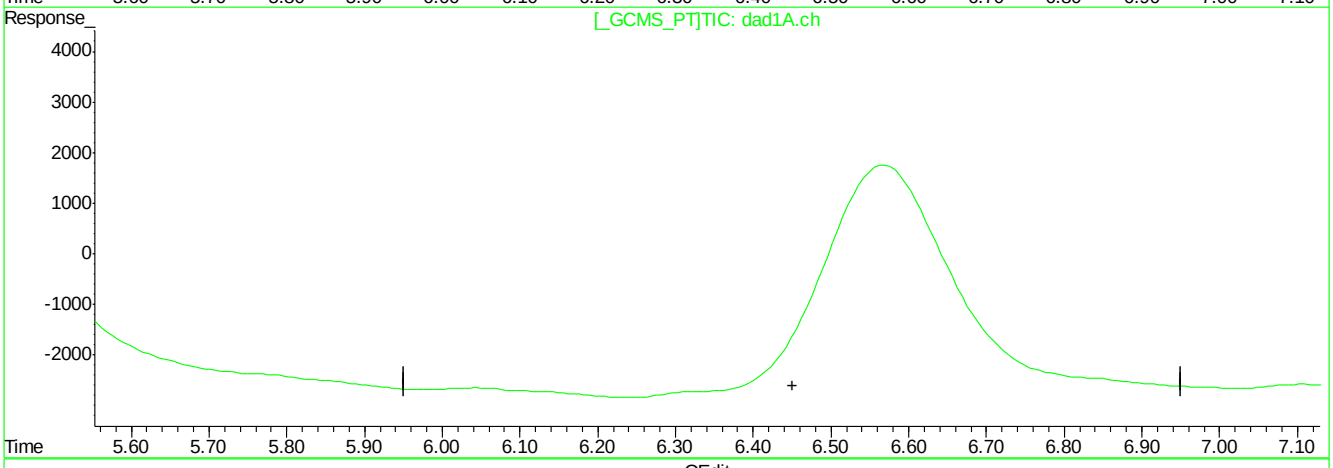
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:15:28 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(4) MNX

0.00min 0.000ppb

response 0

(4) MNX #2

0.00min 0.000ppb

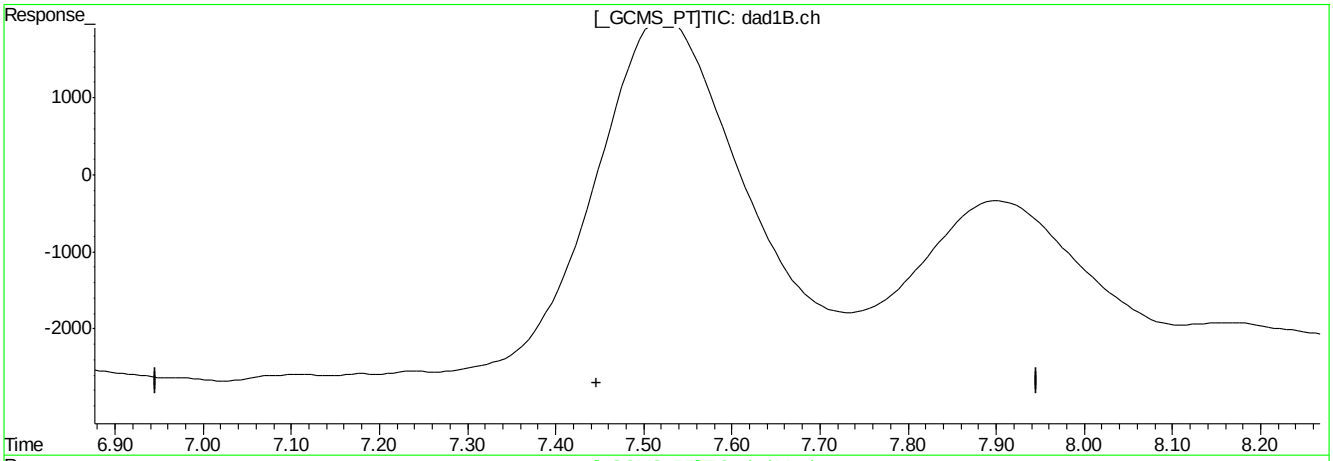
response 0

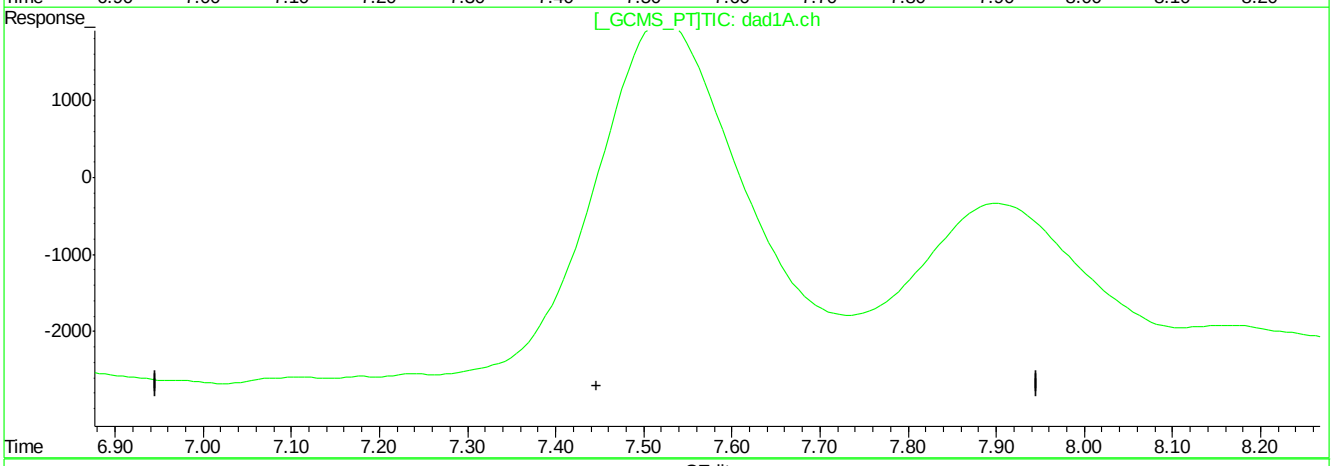
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:15:33 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(5) 1,3,5-Trinitrobenzene

0.00min 0.000ppb

response 0

(5) 1,3,5-Trinitrobenzene #2

0.00min 0.000ppb

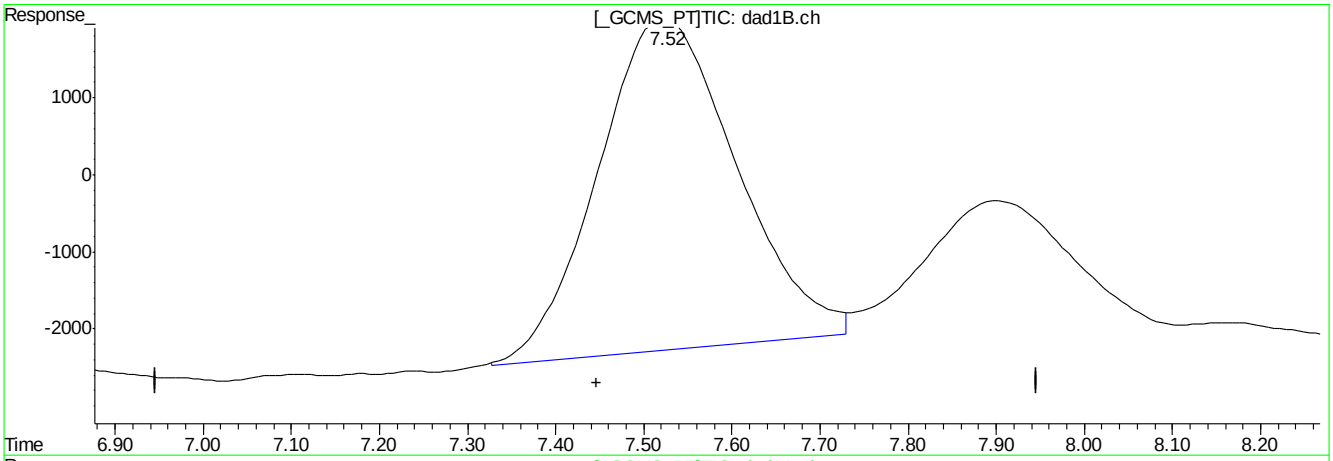
response 0

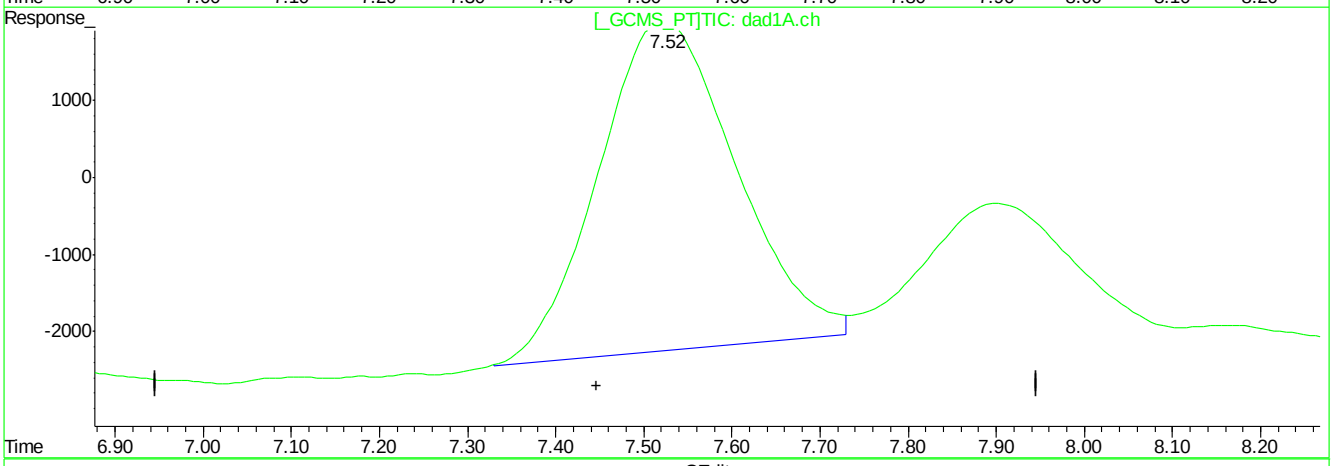
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:15:47 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(5) 1,3,5-Trinitrobenzene

7.52min 47.881ppb m

response 468794

(5) 1,3,5-Trinitrobenzene #2

7.52min 46.802ppb m

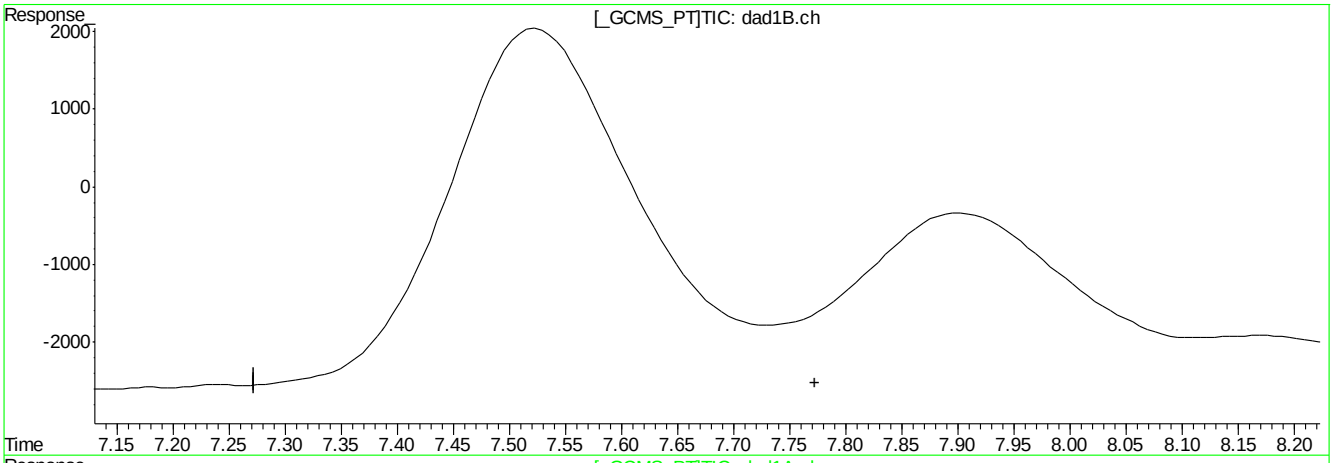
response 461469

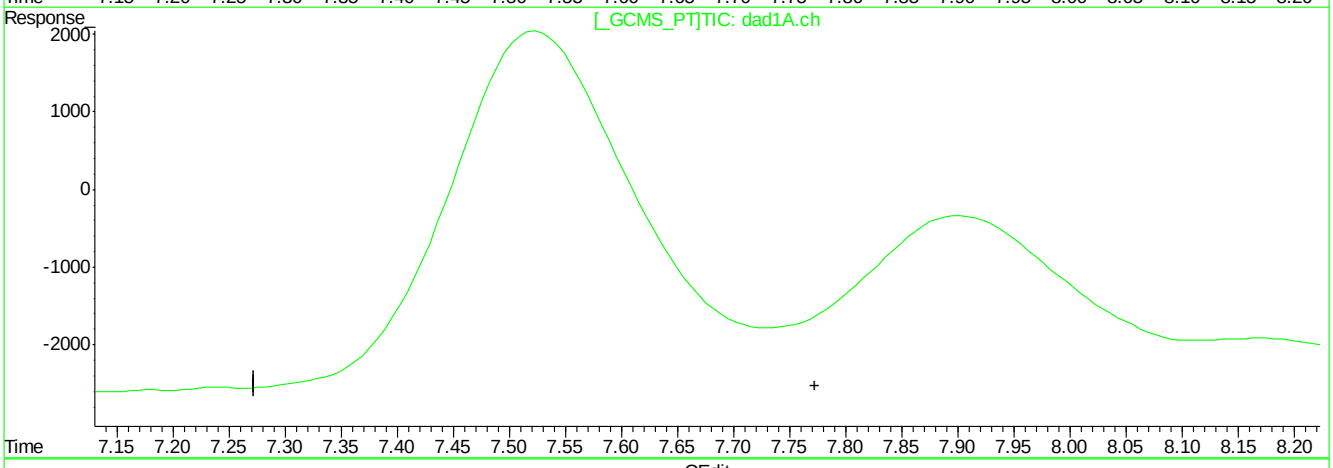
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:15:54 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(6) RDX

0.00min 0.000ppb

response 0

(6) RDX #2

0.00min 0.000ppb

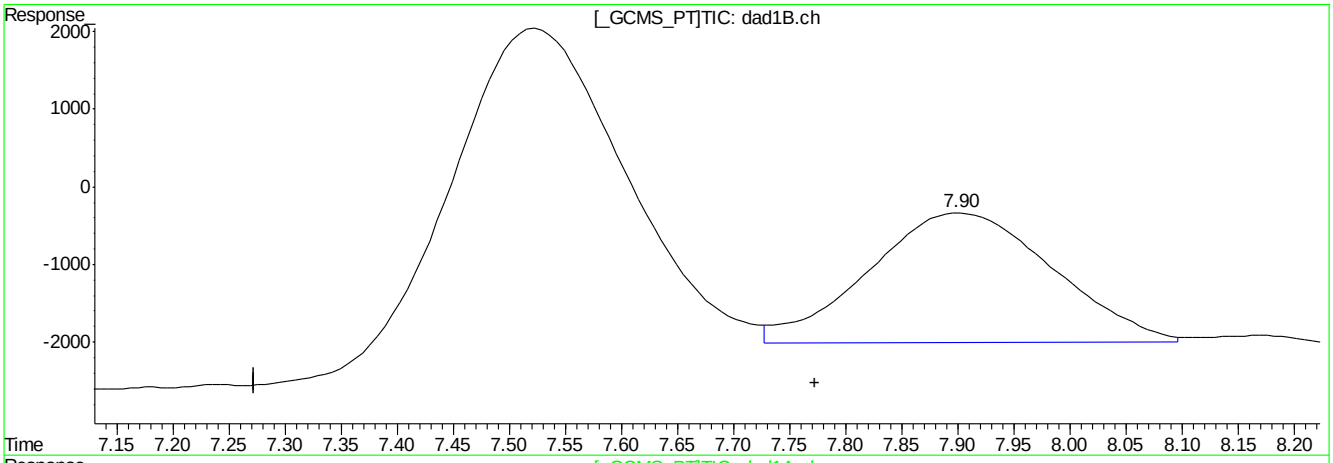
response 0

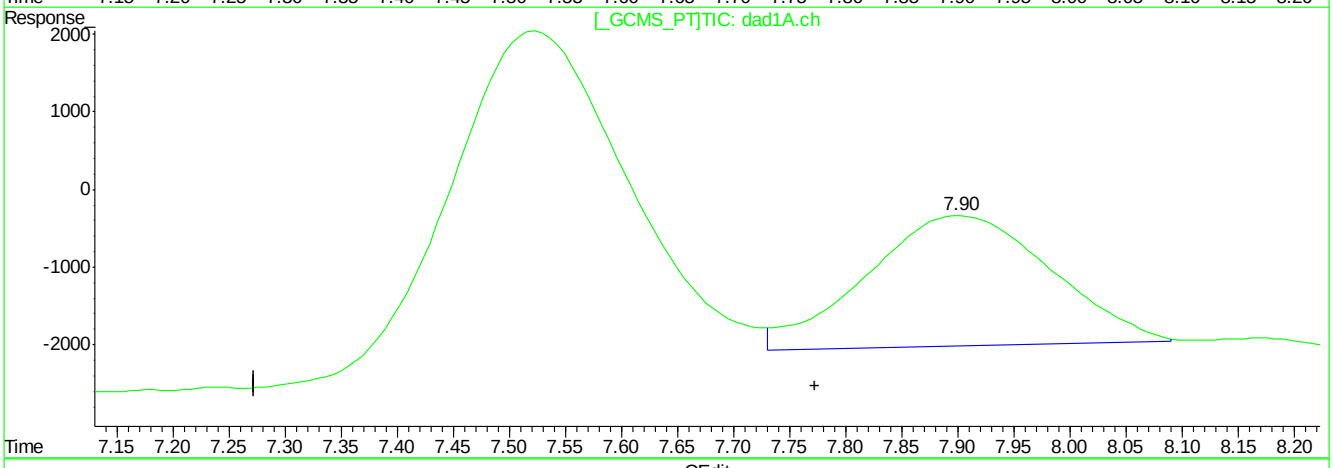
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:15:59 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(6) RDX

7.90min 42.479ppb m

response 190431

(6) RDX #2

7.90min 43.185ppb m

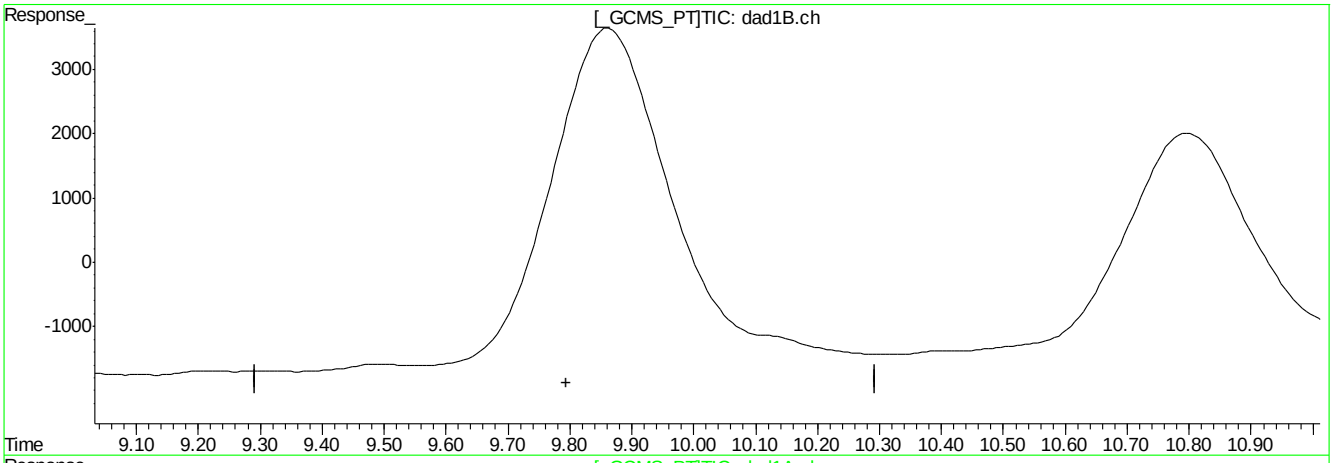
response 191009

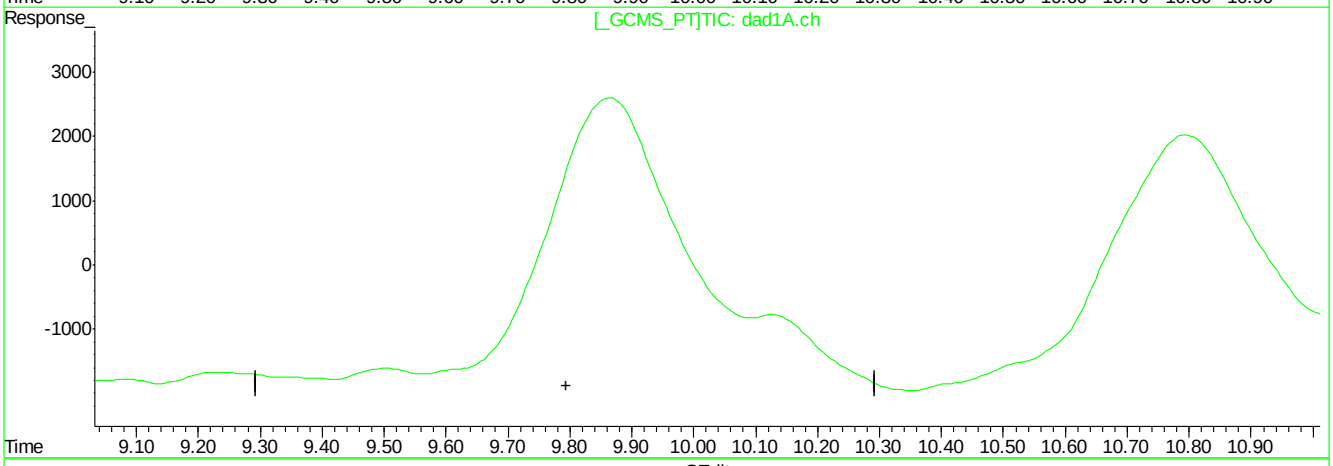
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:16:06 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

0.00min 0.000ppb

response 0

(7) 1,3-Dinitrobenzene #2

0.00min 0.000ppb

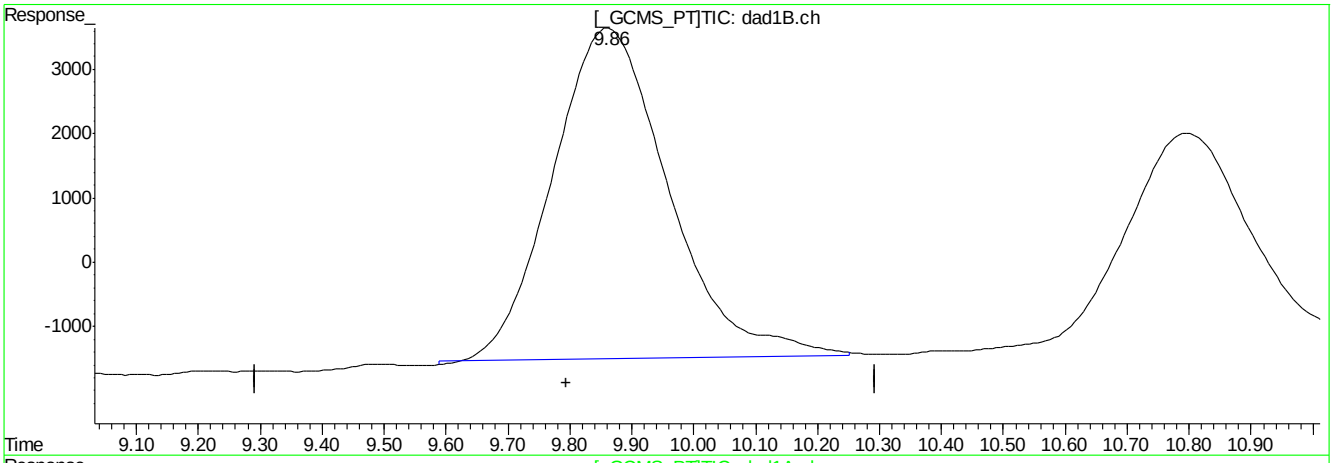
response 0

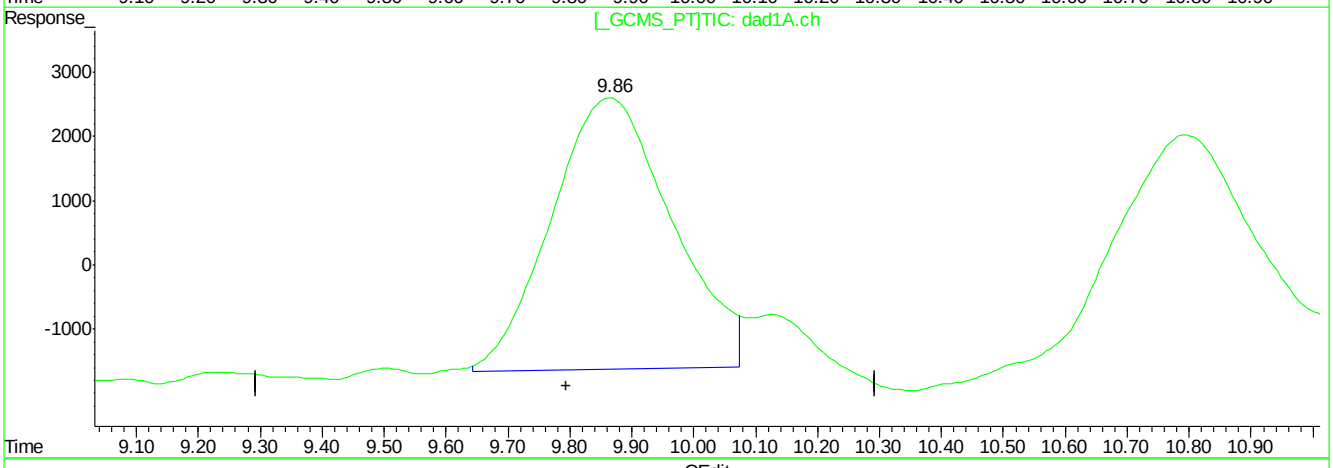
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:16:10 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

9.86min 51.465ppb m

response 669008

(7) 1,3-Dinitrobenzene #2

9.86min 58.076ppb m

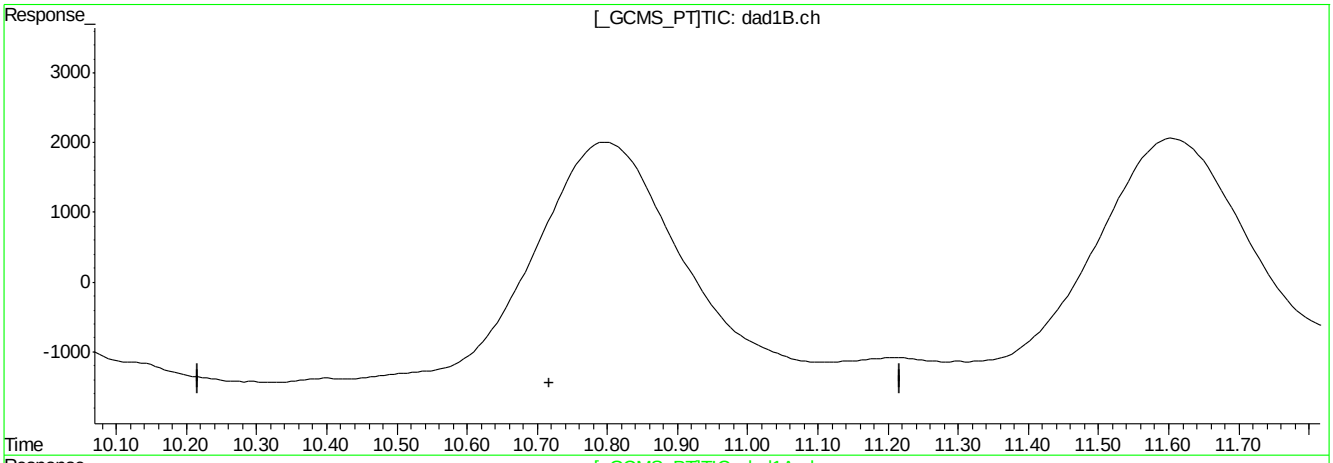
response 568405

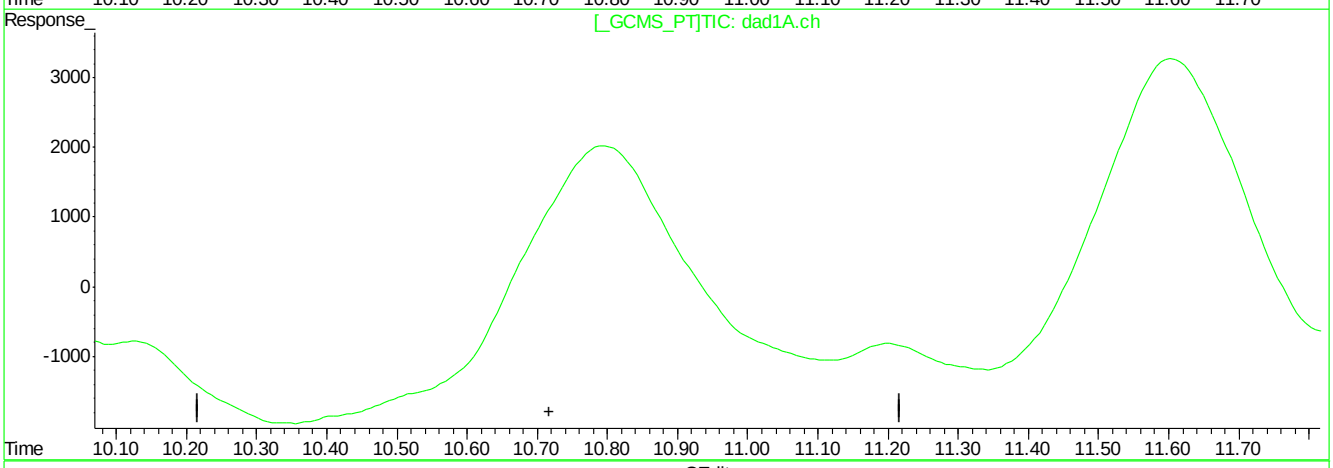
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:16:18 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(8) Nitrobenzene

0.00min 0.000ppb

response 0

(8) Nitrobenzene #2

0.00min 0.000ppb

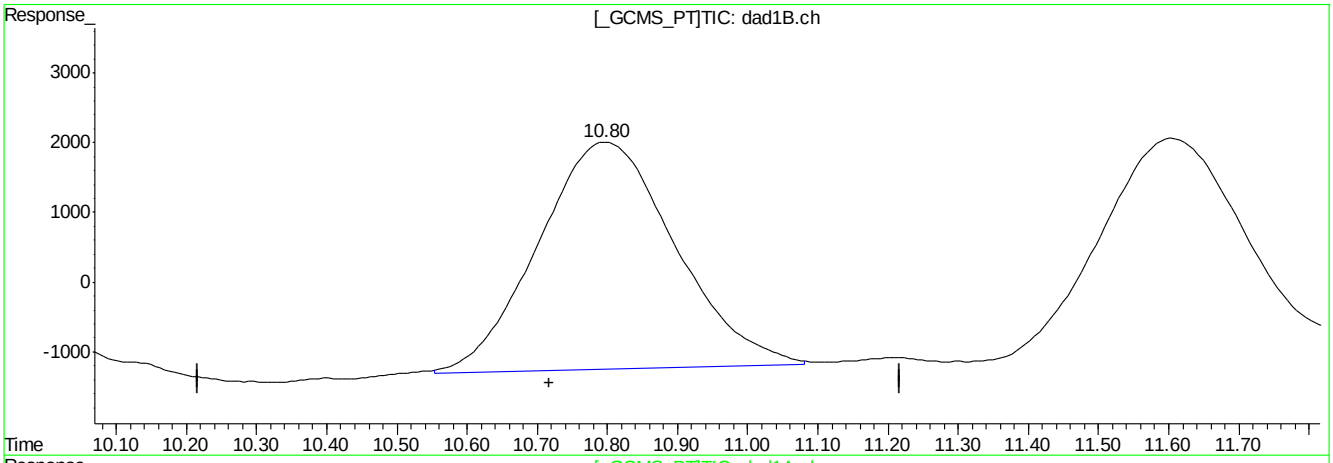
response 0

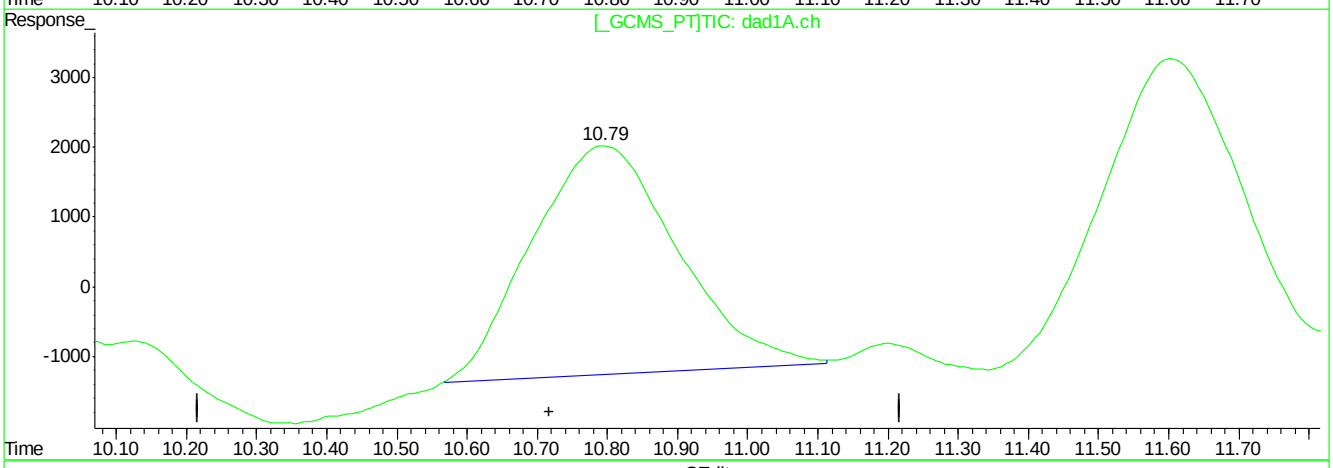
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:16:24 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(8) Nitrobenzene

10.80min 51.381ppb m

response 442374

(8) Nitrobenzene #2

10.79min 61.173ppb m

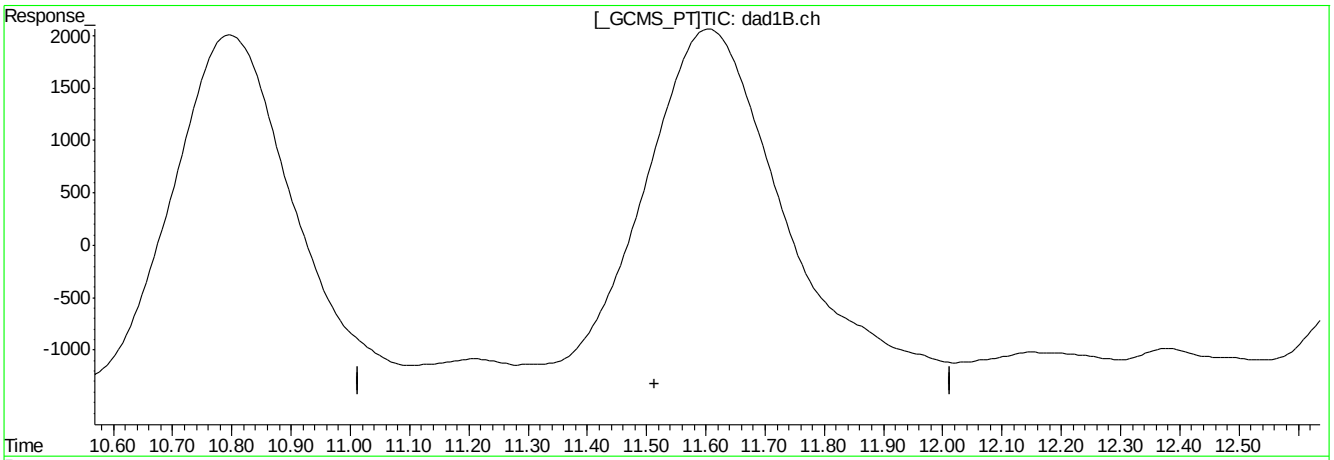
response 474695

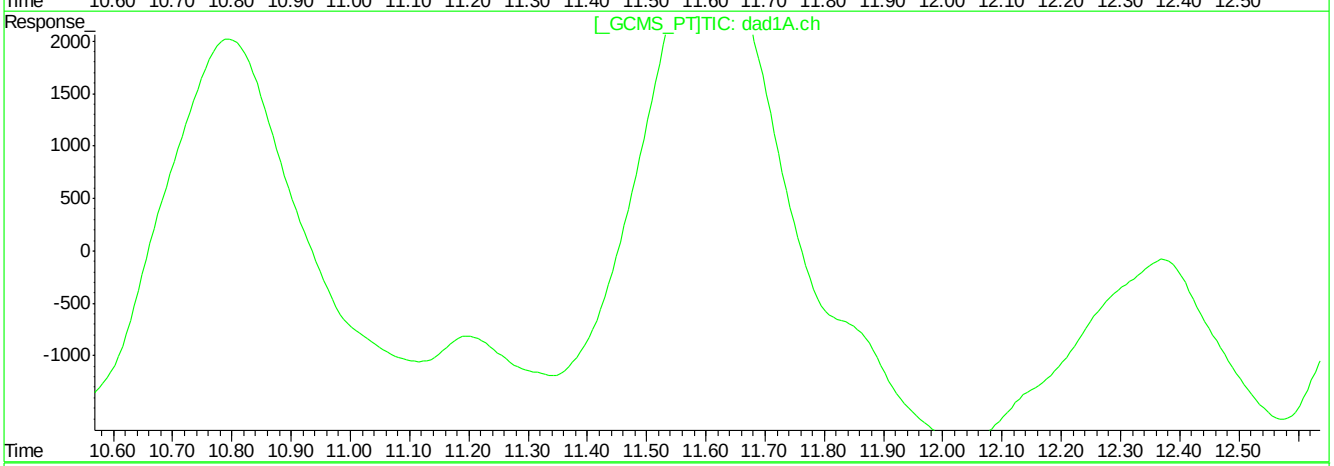
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:16:31 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(9) 2,4,6-Trinitrotoluene

0.00min 0.000ppb

response 0

(9) 2,4,6-Trinitrotoluene #2

0.00min 0.000ppb

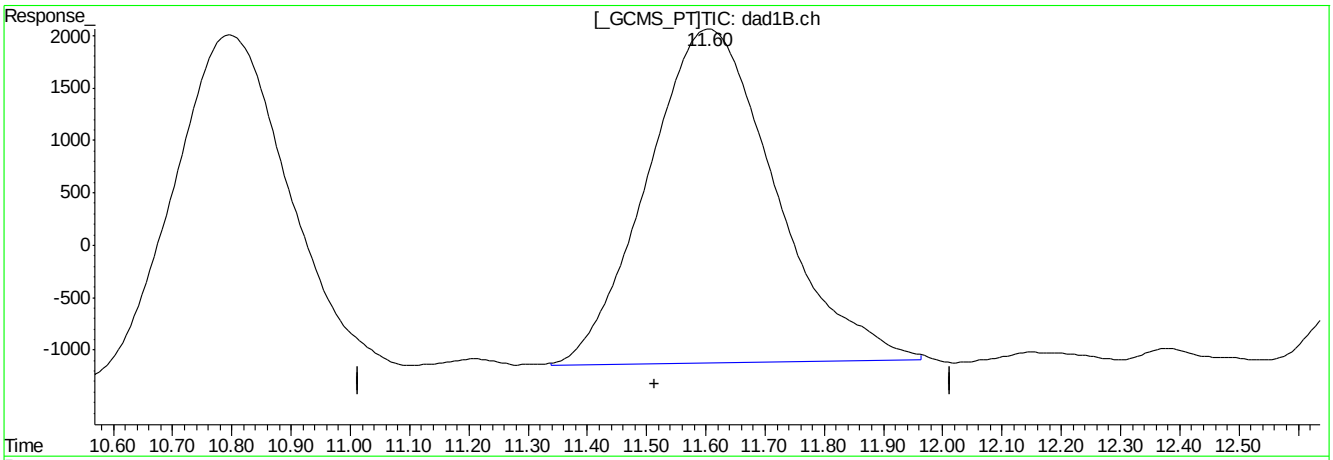
response 0

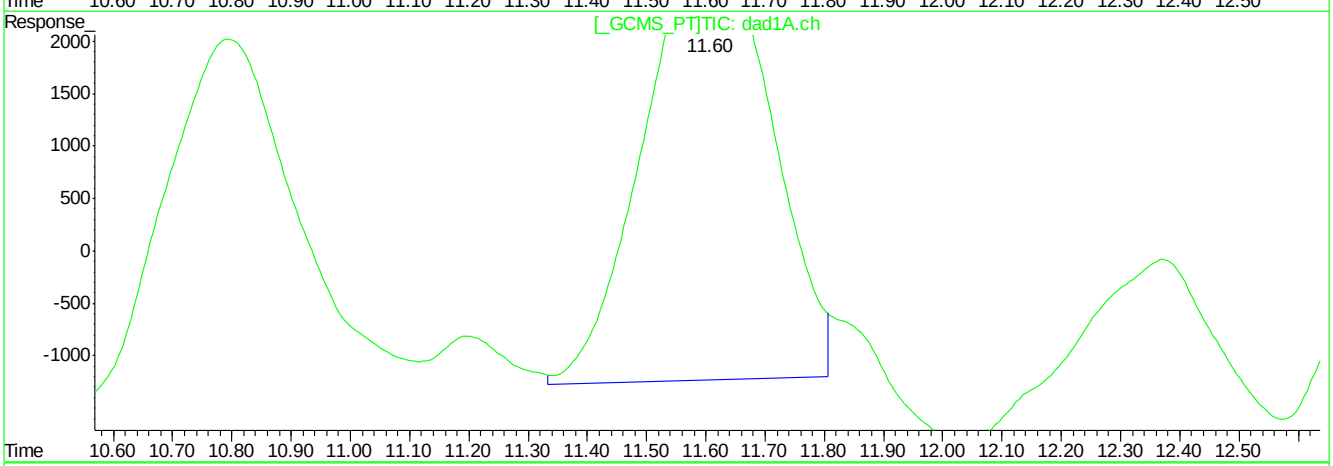
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:16:36 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(9) 2,4,6-Trinitrotoluene

11.60min 51.313ppb m

response 476707

(9) 2,4,6-Trinitrotoluene #2

11.60min 51.155ppb m

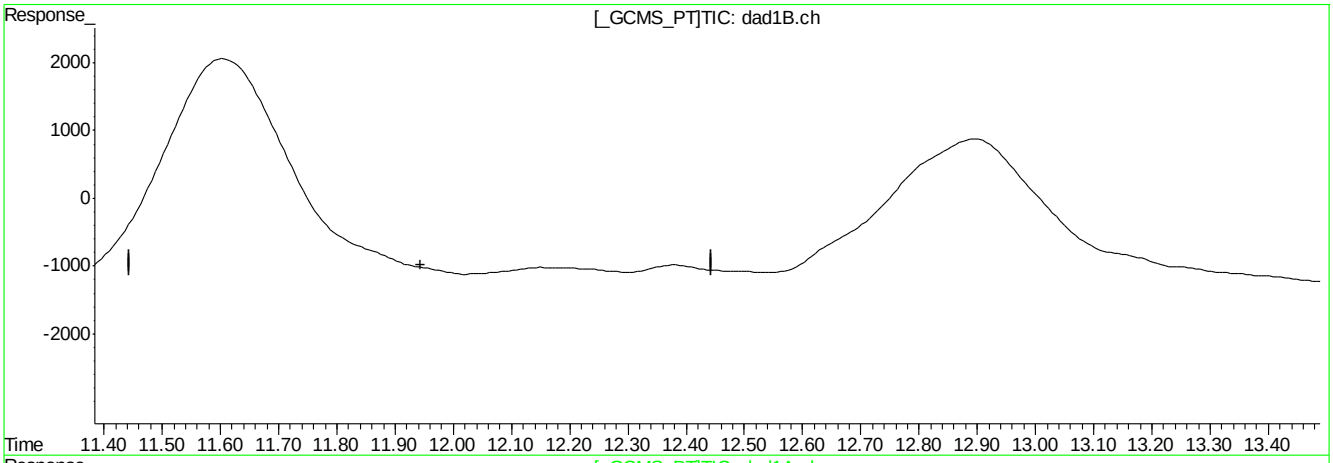
response 630905

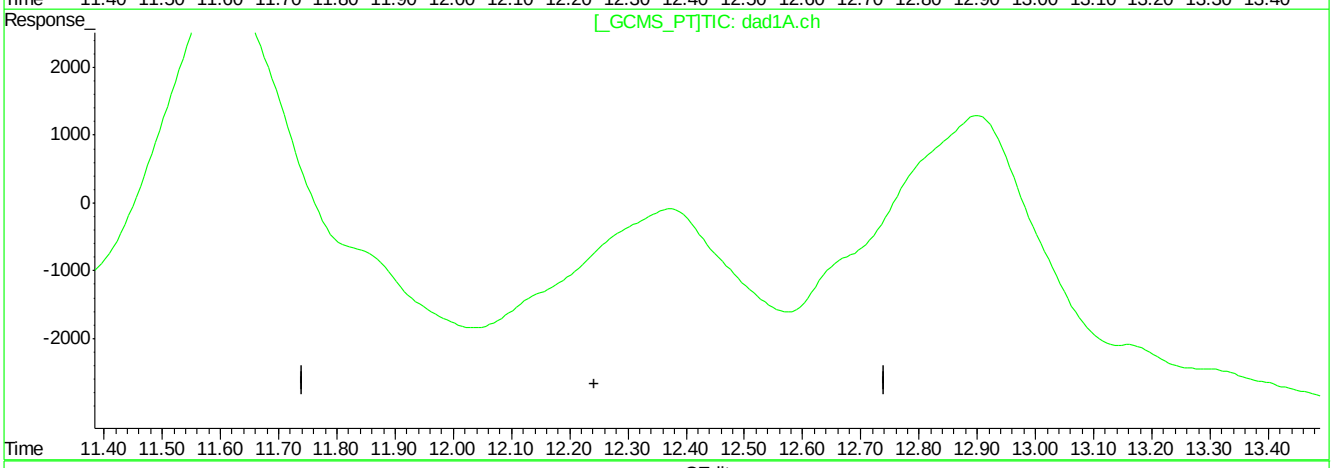
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:16:42 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

0.00min 0.000ppb

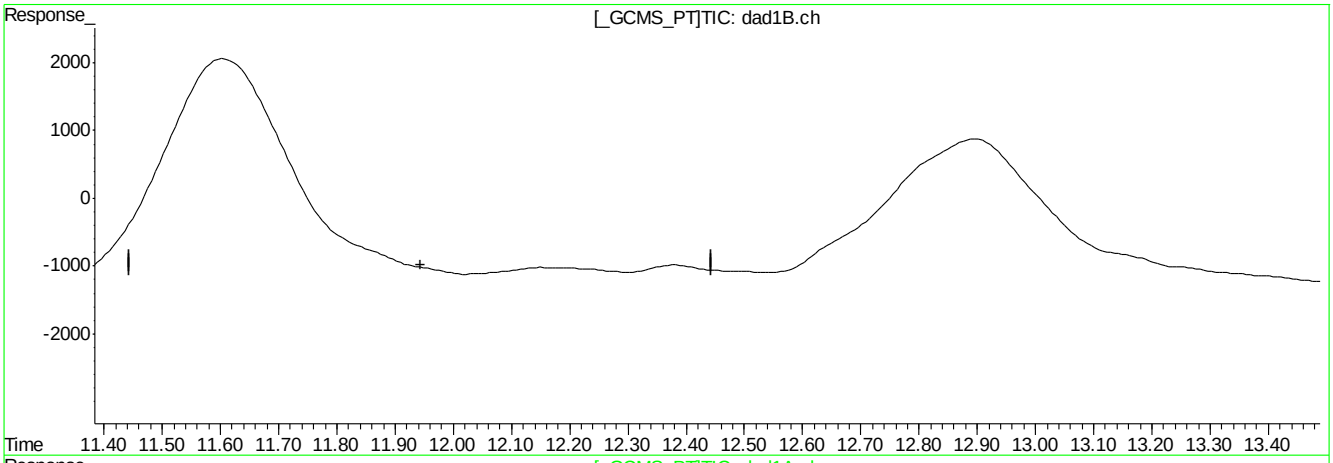
response 0

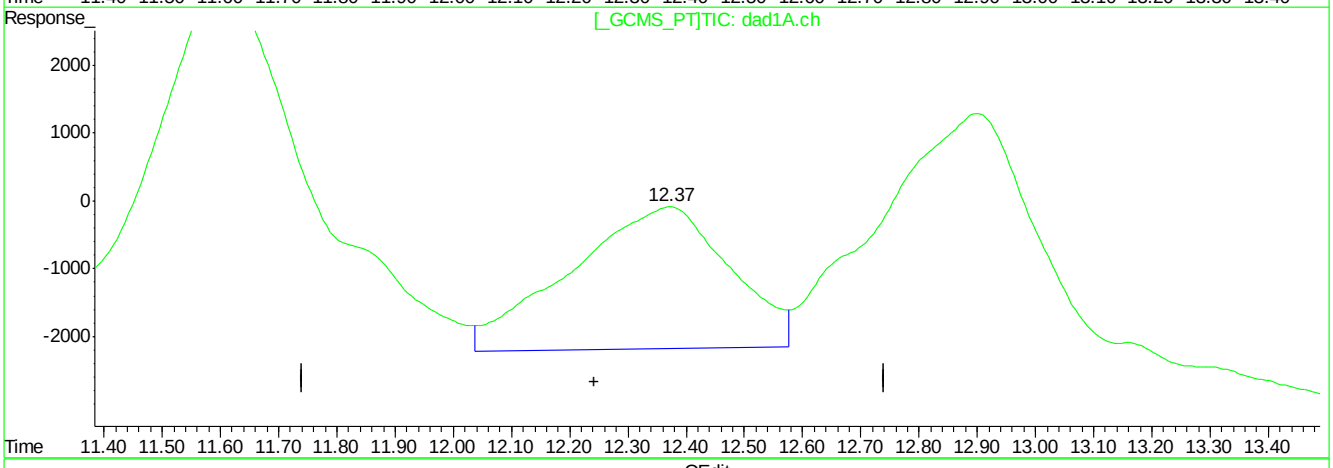
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:16:49 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

12.37min 130.240ppb m

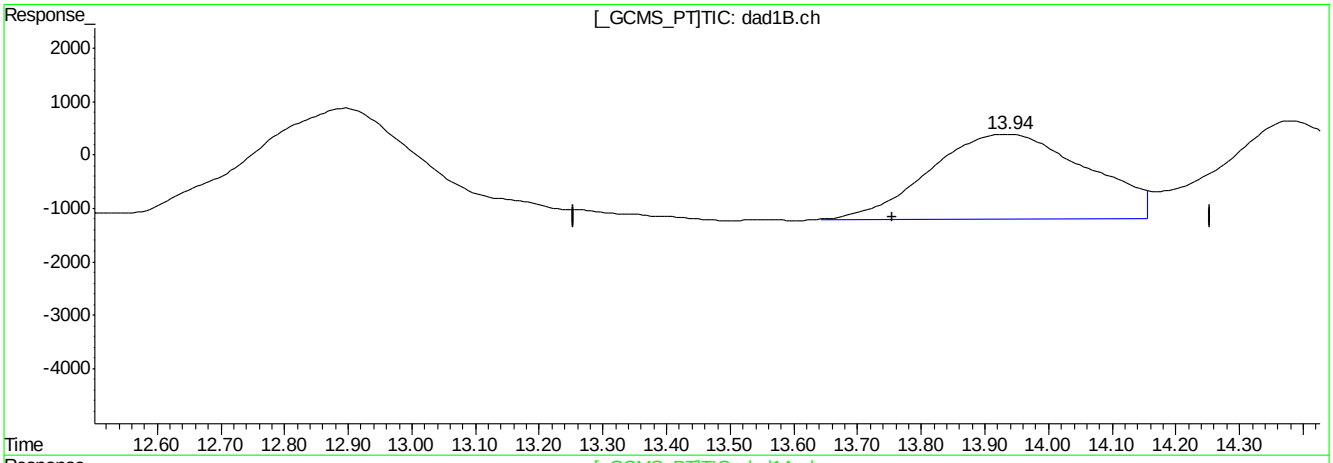
response 398245

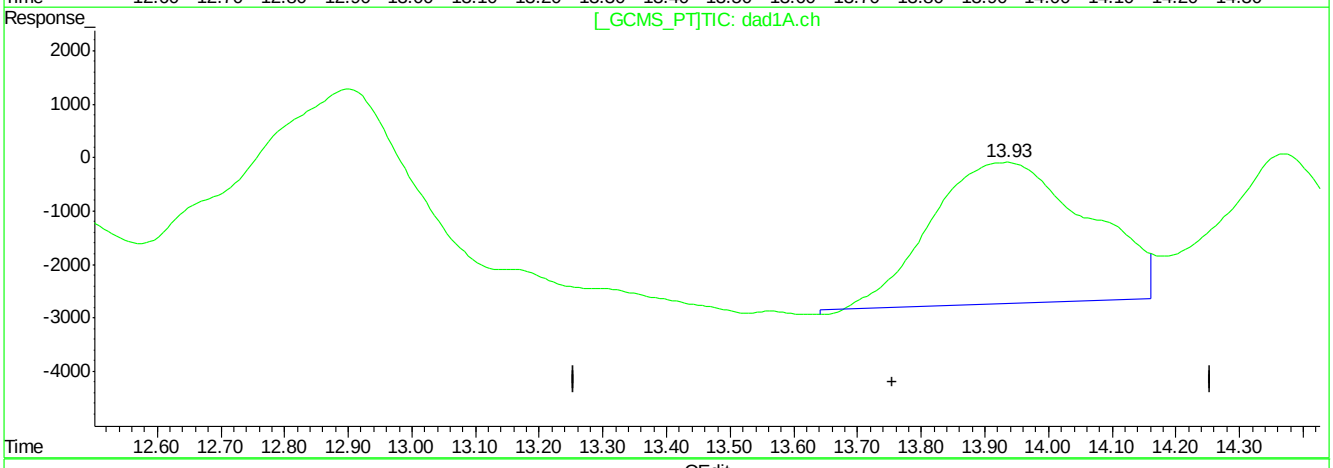
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:16:54 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(12) 3,4-Dinitrotoluene (S)

13.94min 60.063ppb m

response 272534

(12) 3,4-Dinitrotoluene #2 (S)

13.93min 50.320ppb m

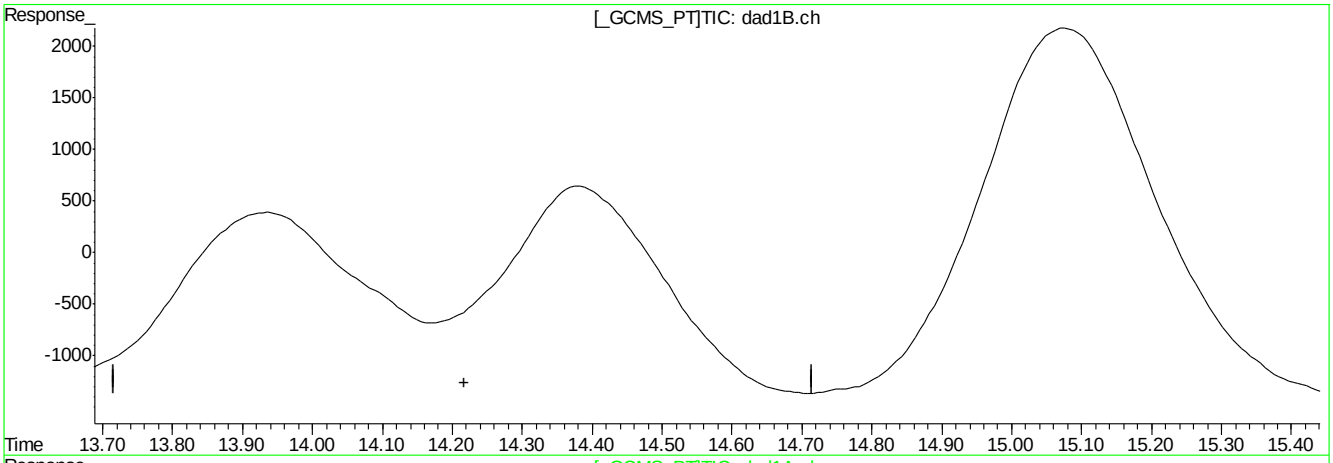
response 453366

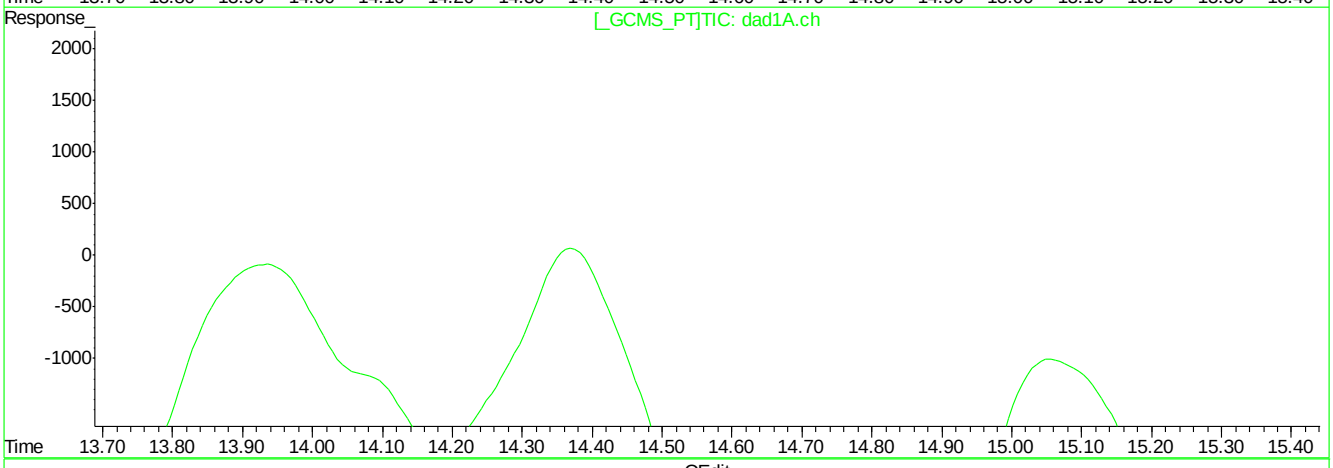
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:17:21 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(13) 2,6-Dinitrotoluene

0.00min 0.000ppb

response 0

(13) 2,6-Dinitrotoluene #2

0.00min 0.000ppb

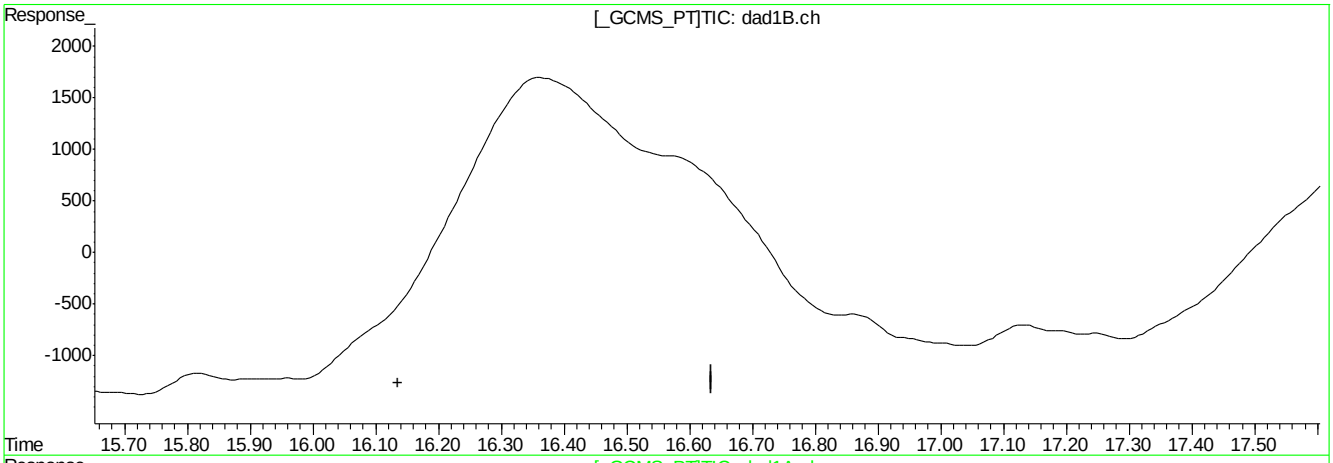
response 0

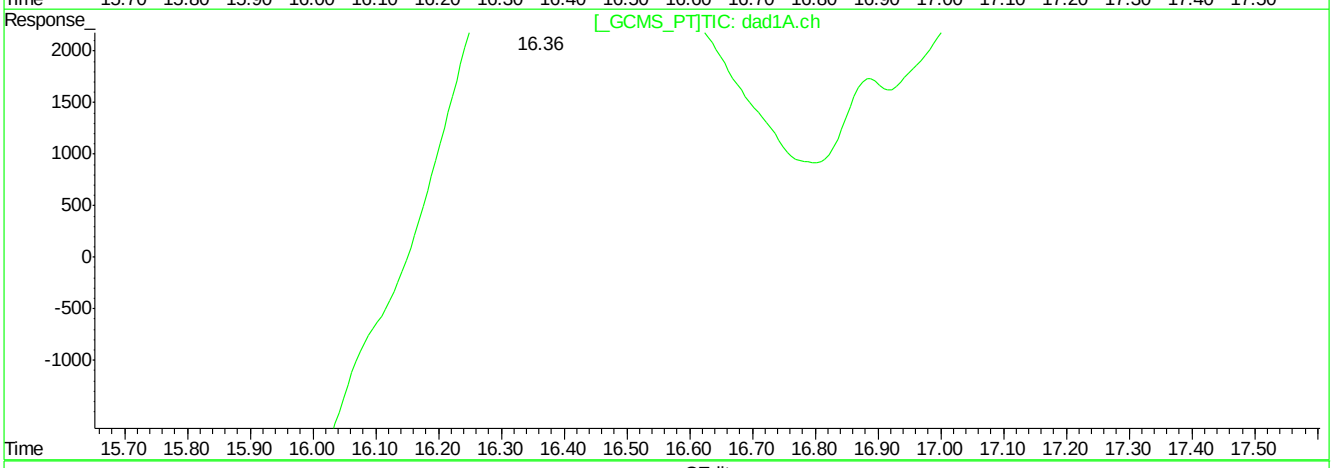
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:17:26 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(15) 3,5-Dinitroaniline

0.00min 0.000ppb

response 0

(15) 3,5-Dinitroaniline #2

16.36min 110.174ppb

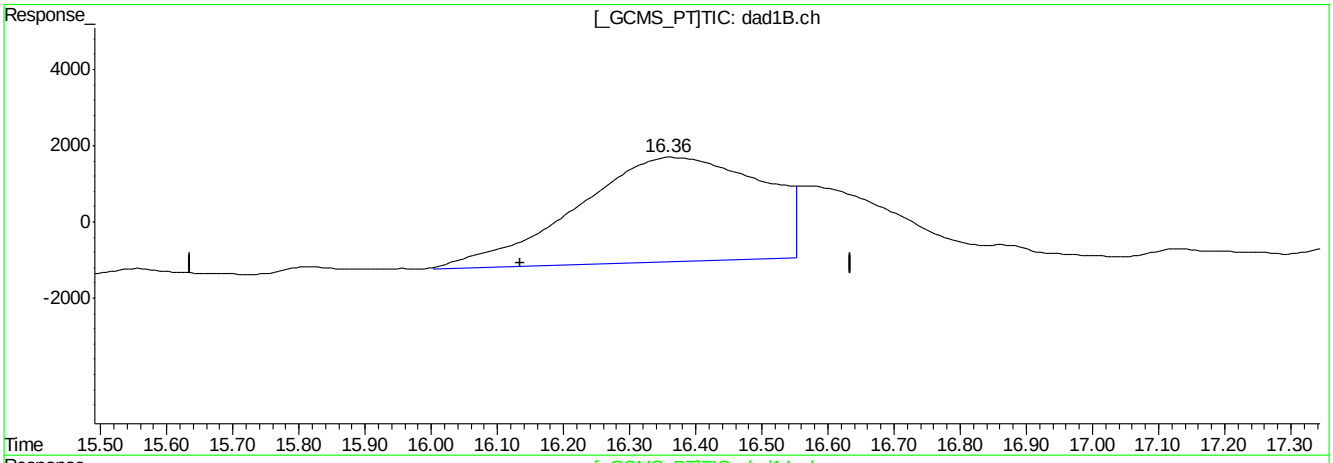
response 1782985

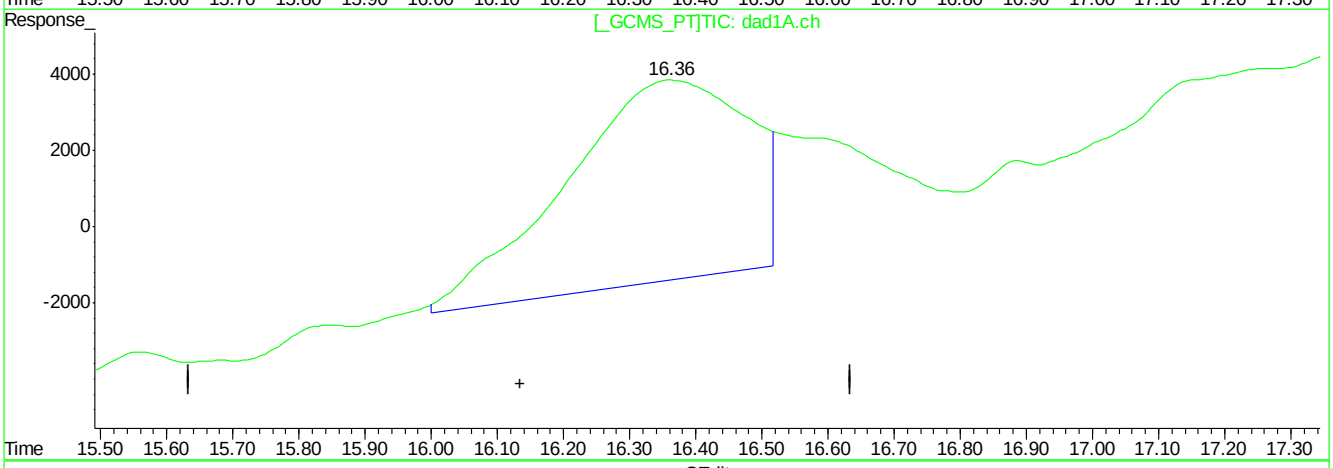
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:17:45 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(15) 3,5-Dinitroaniline

16.36min 53.094ppb m

response 536326

(15) 3,5-Dinitroaniline #2

16.36min 62.491ppb m

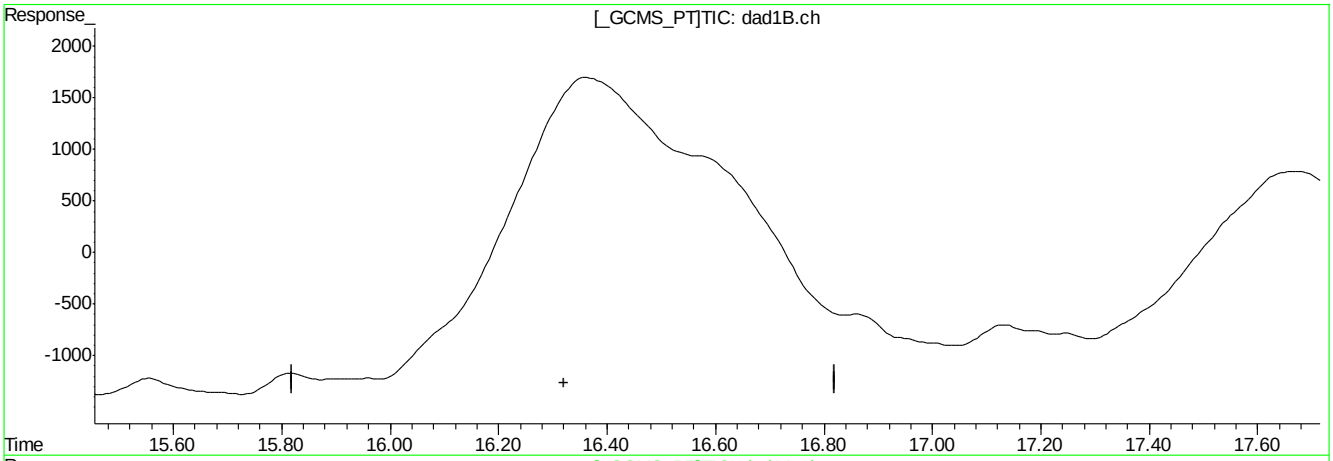
response 1011310

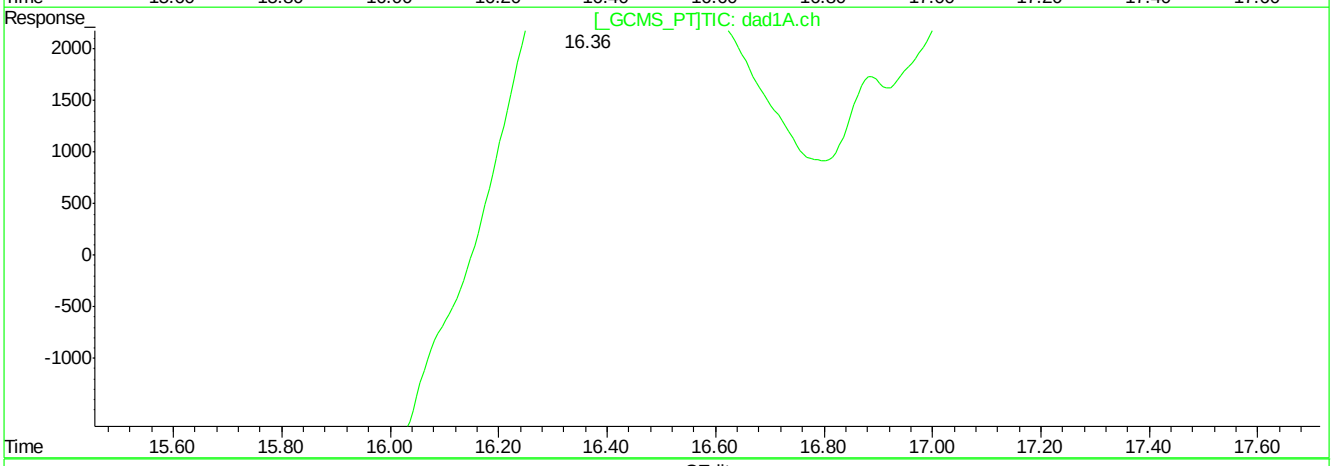
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:17:56 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(16) o-Nitrotoluene

0.00min 0.000ppb

response 0

(16) o-Nitrotoluene #2

16.36min 222.390ppb

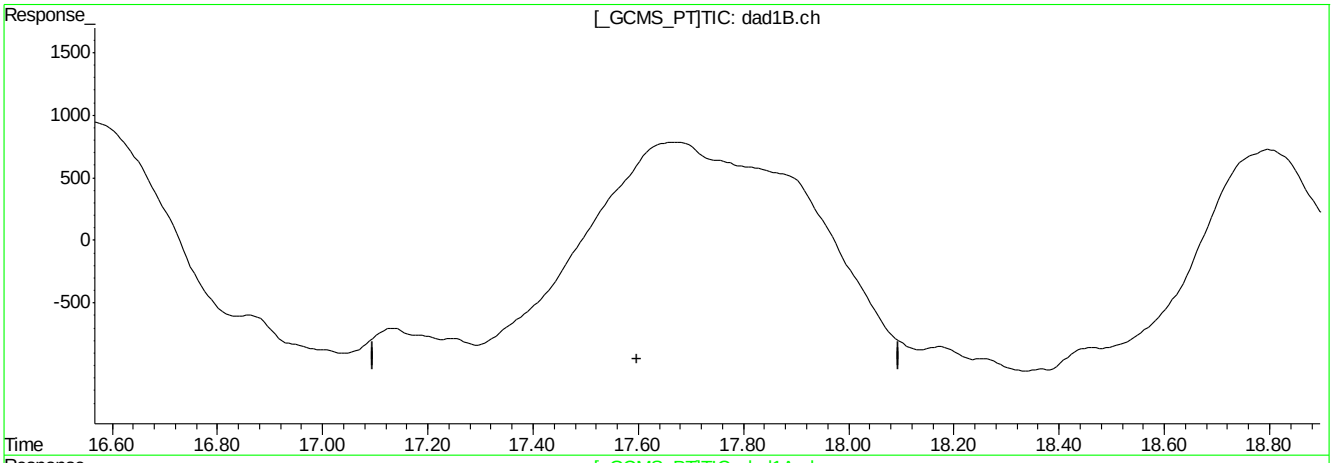
response 1782985

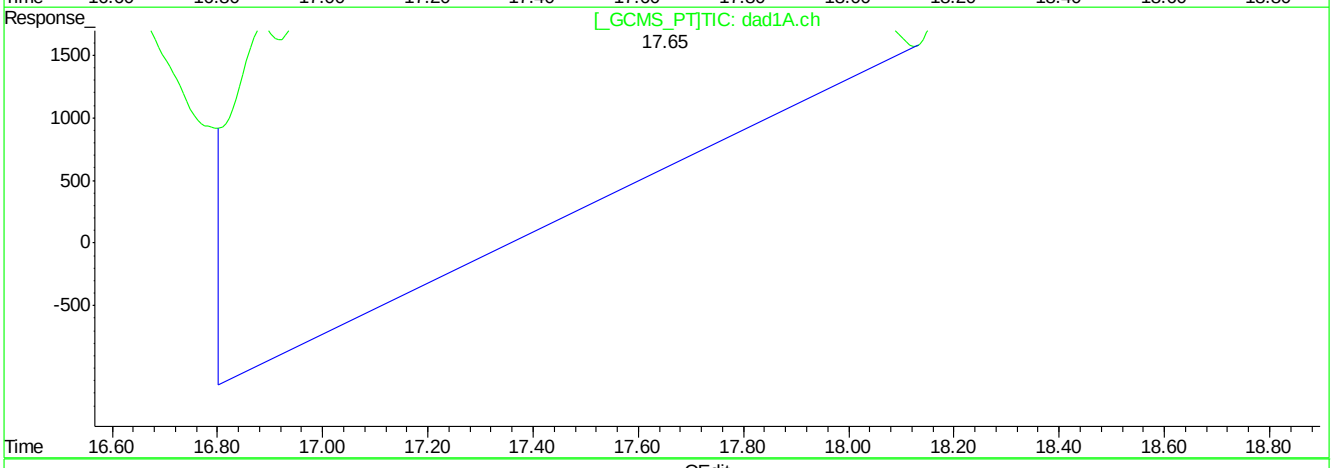
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:18:01 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(17) p-Nitrotoluene

0.00min 0.000ppb

response 0

(17) p-Nitrotoluene #2

17.65min 326.865ppb

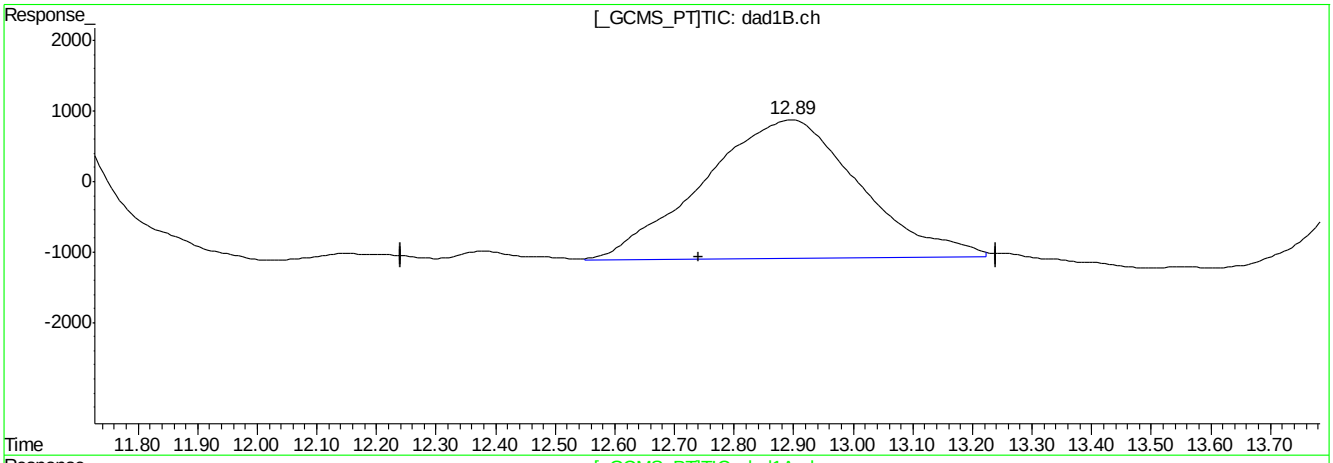
response 2972917

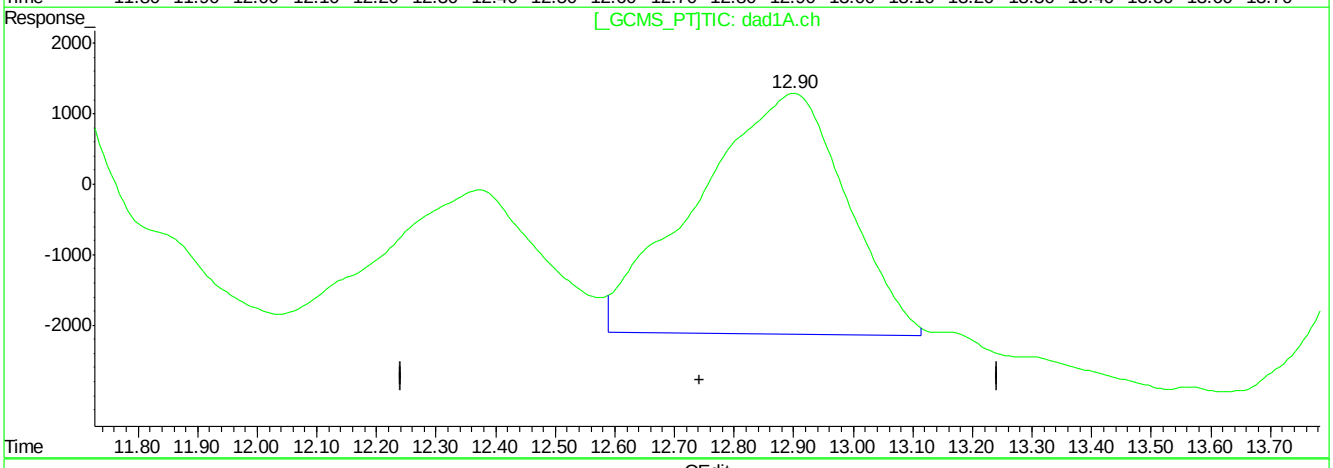
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:18:16 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(11) Tetryl

12.89min 51.900ppb m

response 358430

(11) Tetryl #2

12.90min 47.540ppb m

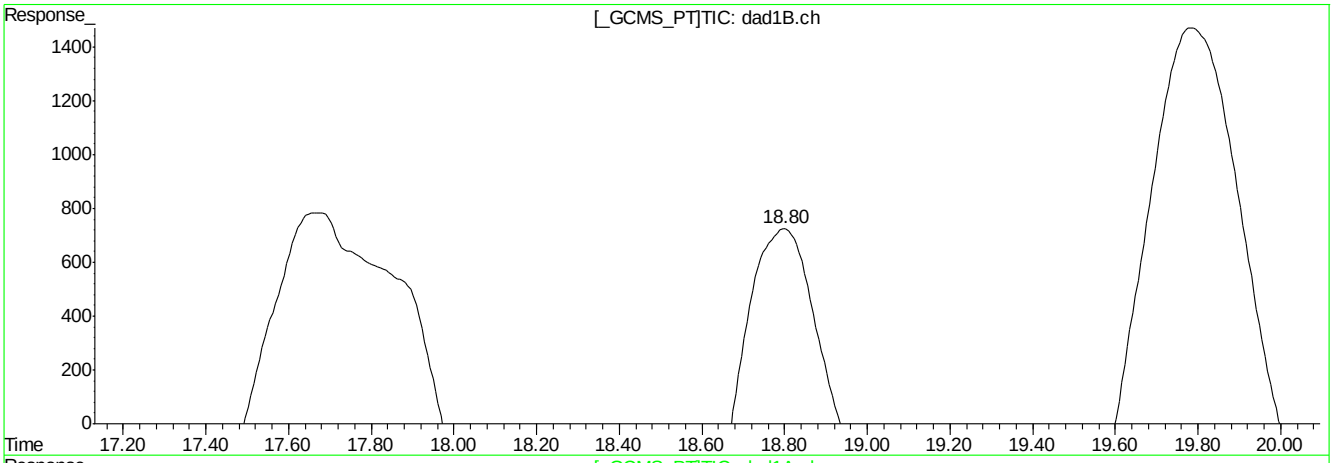
response 593991

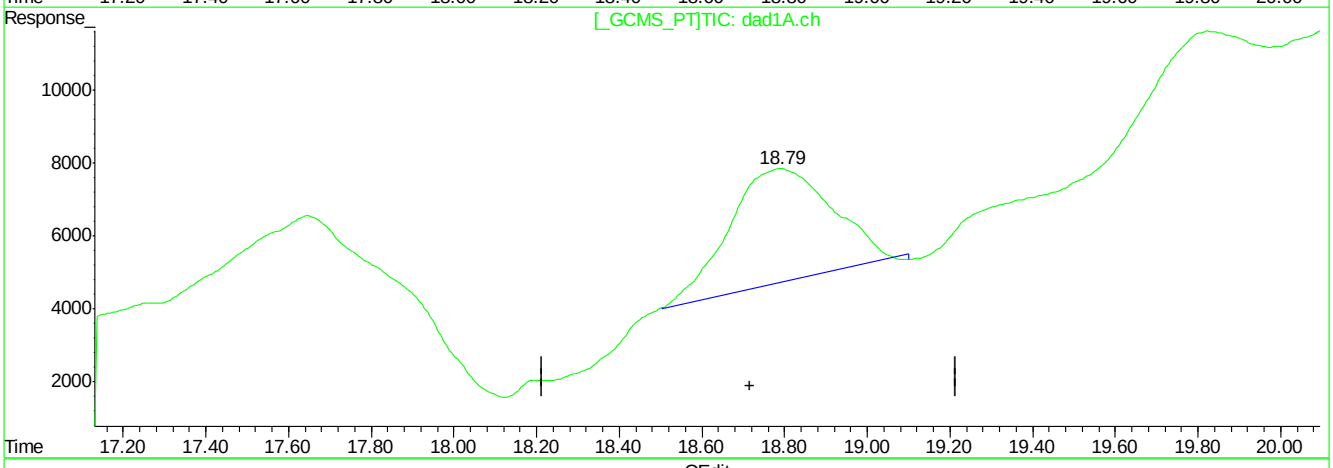
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:17:05 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(19) m-Nitrotoluene

18.80min 56.583ppb m

response 320835

(19) m-Nitrotoluene #2

18.79min 60.555ppb m

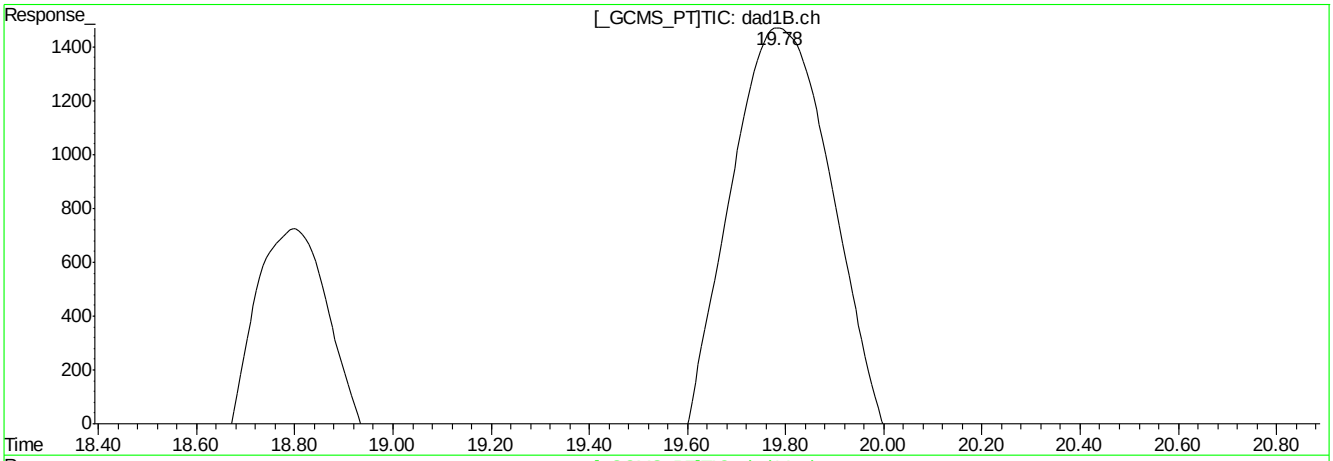
response 539195

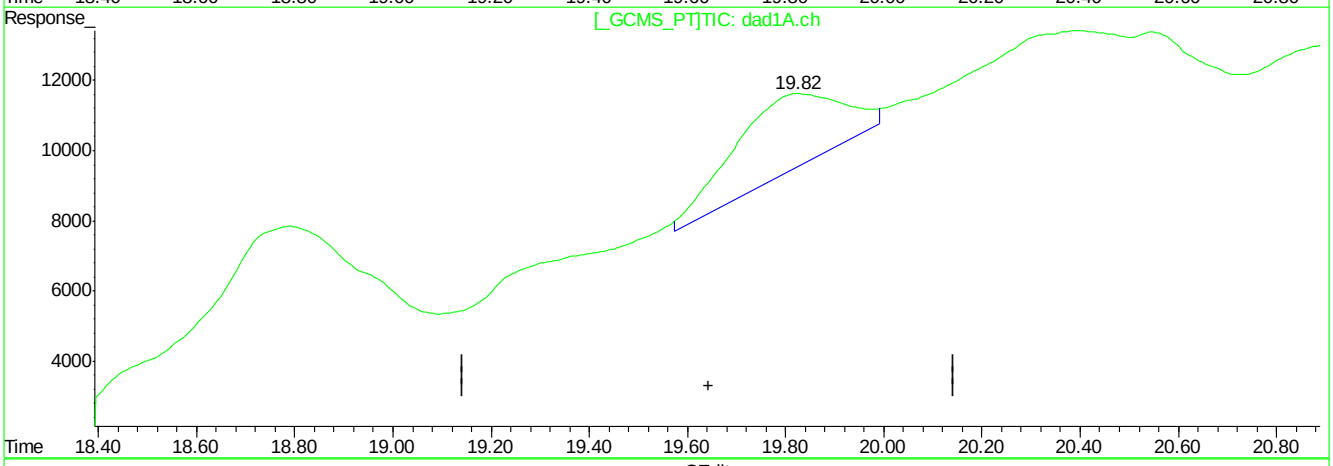
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:18:43 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(20) 2-Amino-4,6-Dinitrotoluene

19.78min 46.286ppb m

response 410668

(20) 2-Amino-4,6-Dinitrotoluene #2

19.82min 28.616ppb m

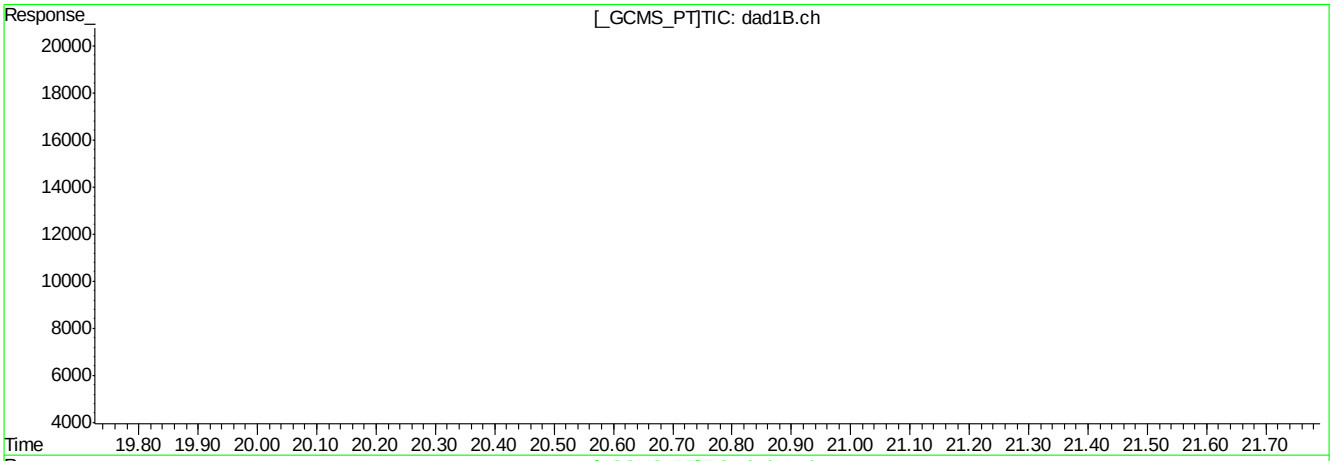
response 335224

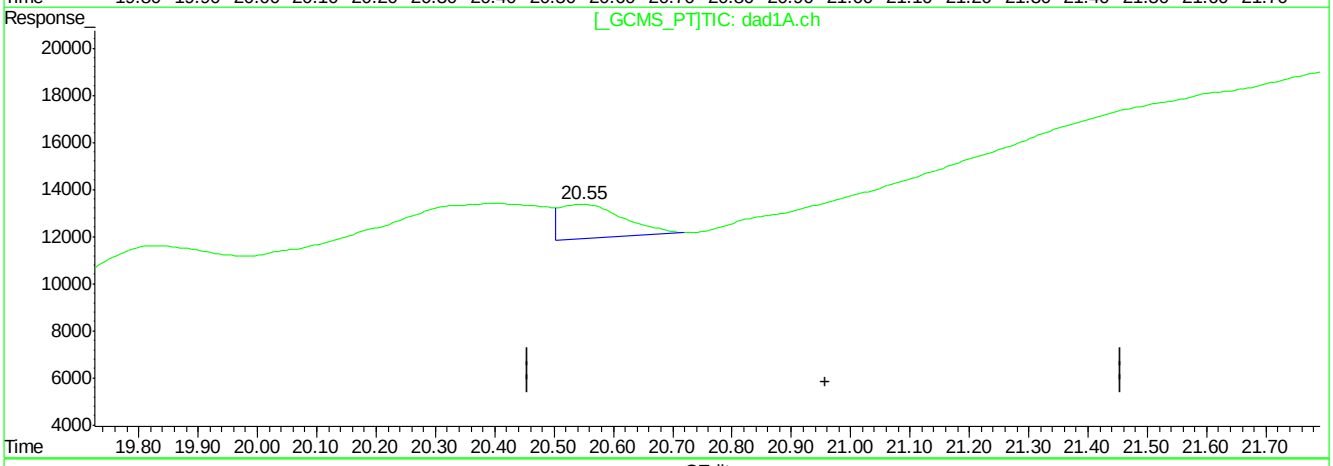
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:18:53 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 15:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:03:57 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

20.55min 32.197ppb m

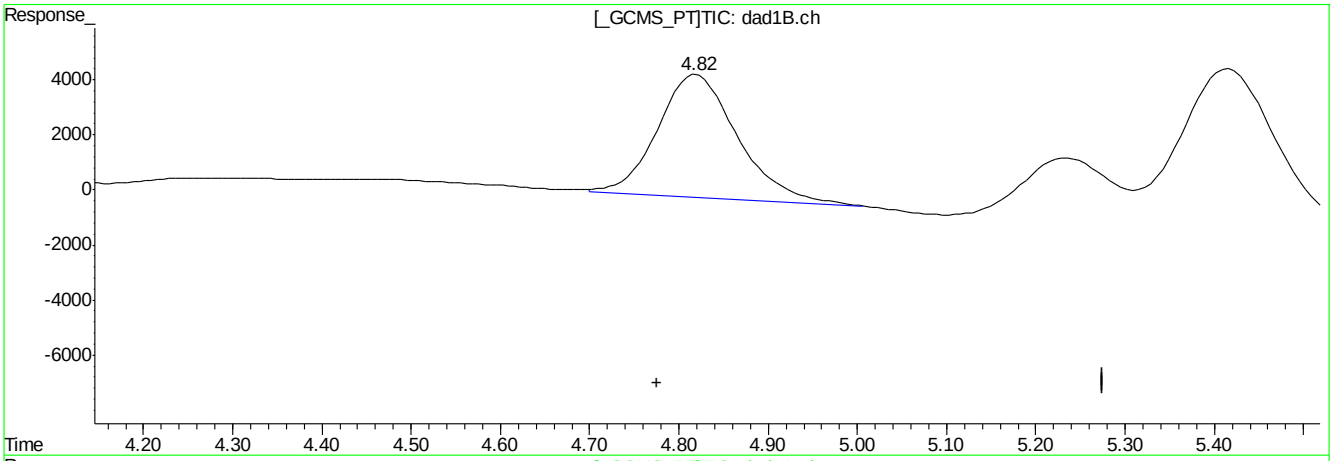
response 105375

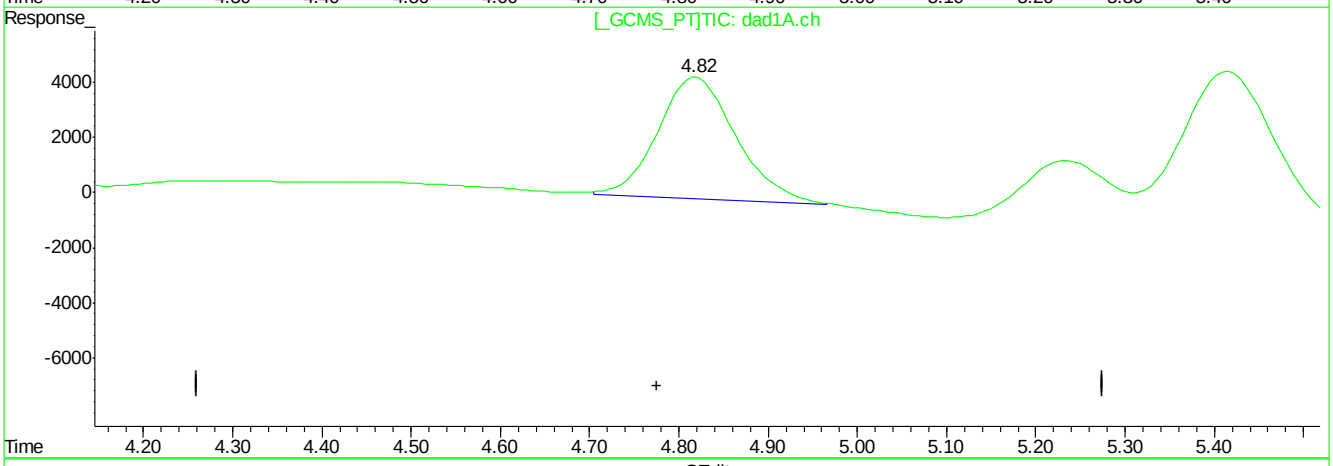
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Mon Jan 13 15:19:08 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:13 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(1) TNX

4.82min 33.264ppb m

response 278393

(1) TNX #2

4.82min 32.326ppb m

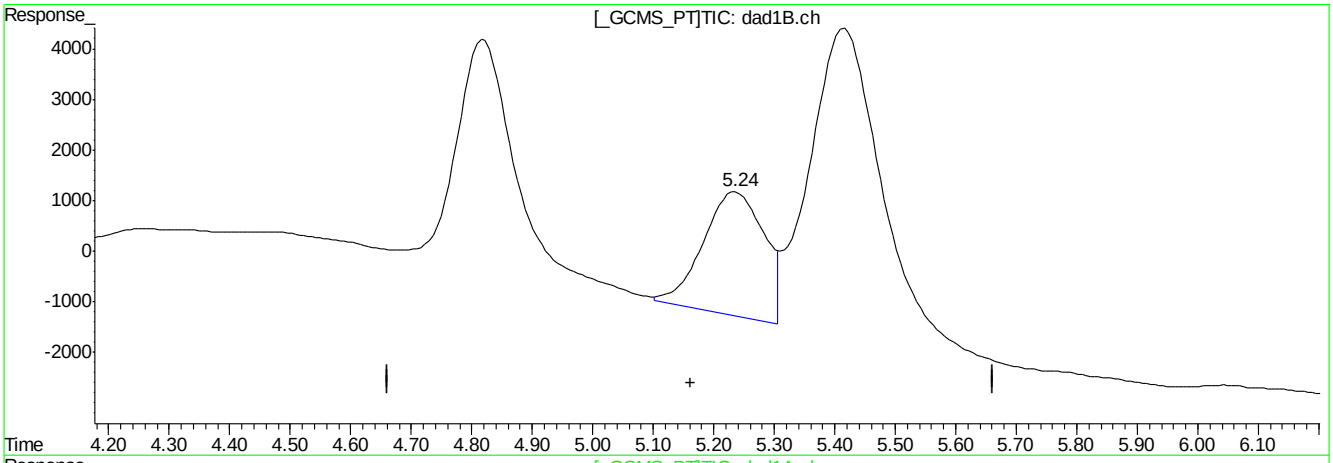
response 266344

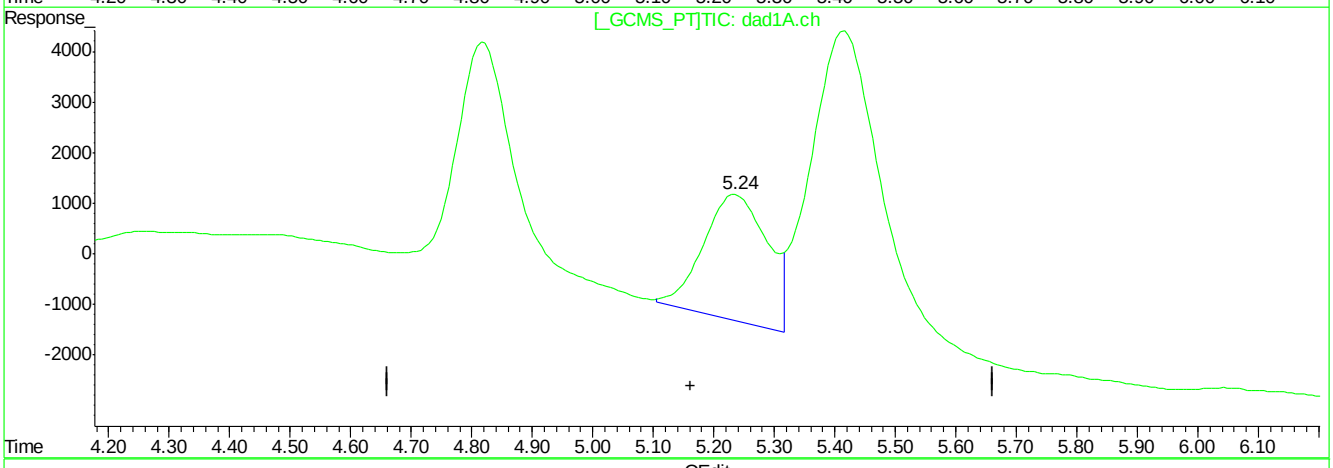
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Thu Jan 16 11:09:48 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:13 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

5.24min 53.359ppb m

response 171750

(2) HMX #2

5.24min 54.115ppb m

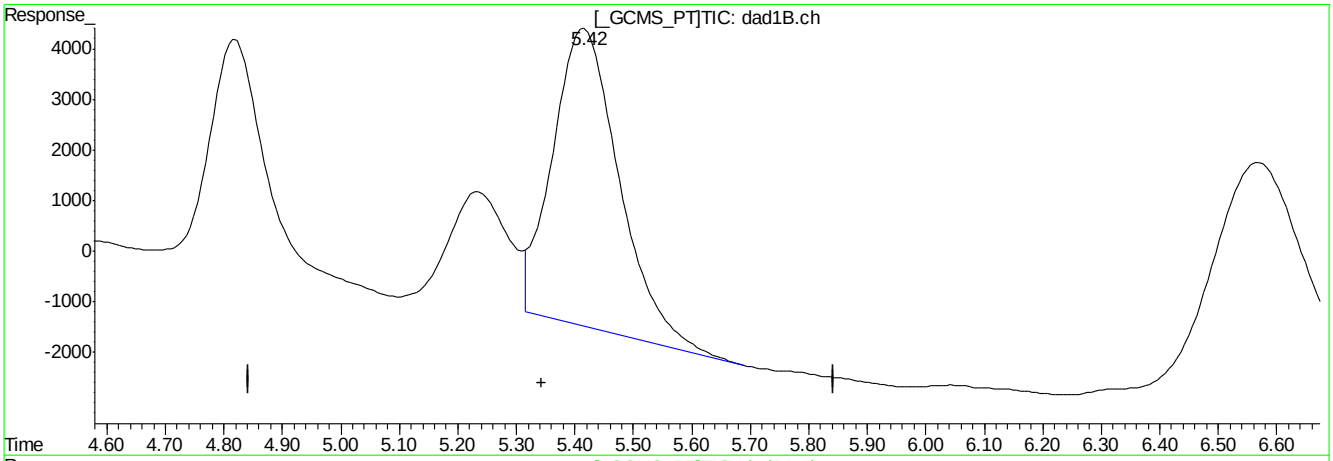
response 177120

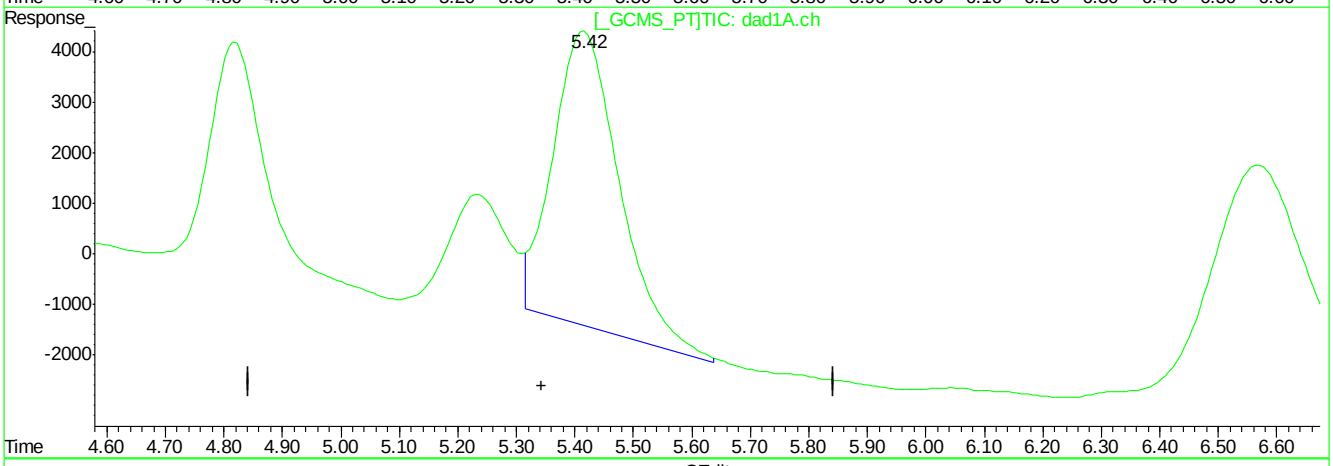
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Thu Jan 16 11:09:53 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:13 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(3) DNX

5.42min 69.887ppb m

response 468526

(3) DNX #2

5.42min 70.362ppb m

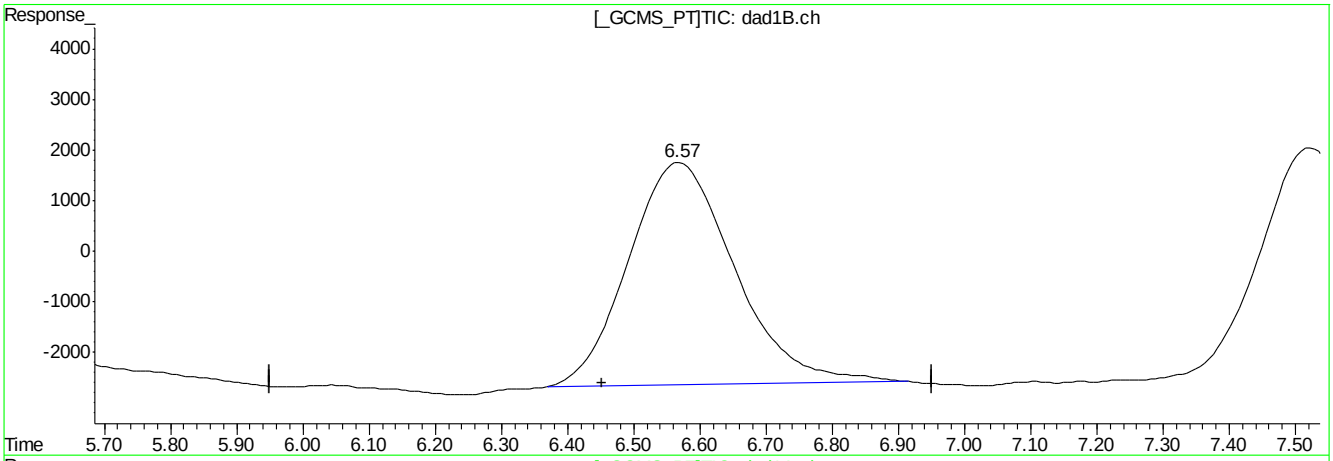
response 460595

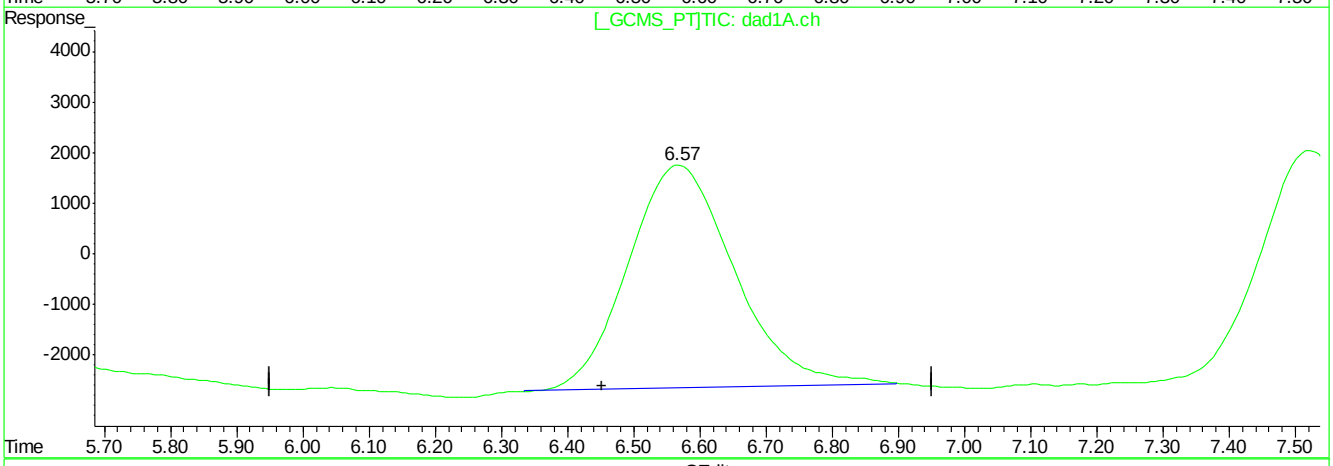
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Thu Jan 16 11:09:58 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:13 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(4) MNX

6.57min 79.942ppb m

response 490969

(4) MNX #2

6.57min 80.418ppb m

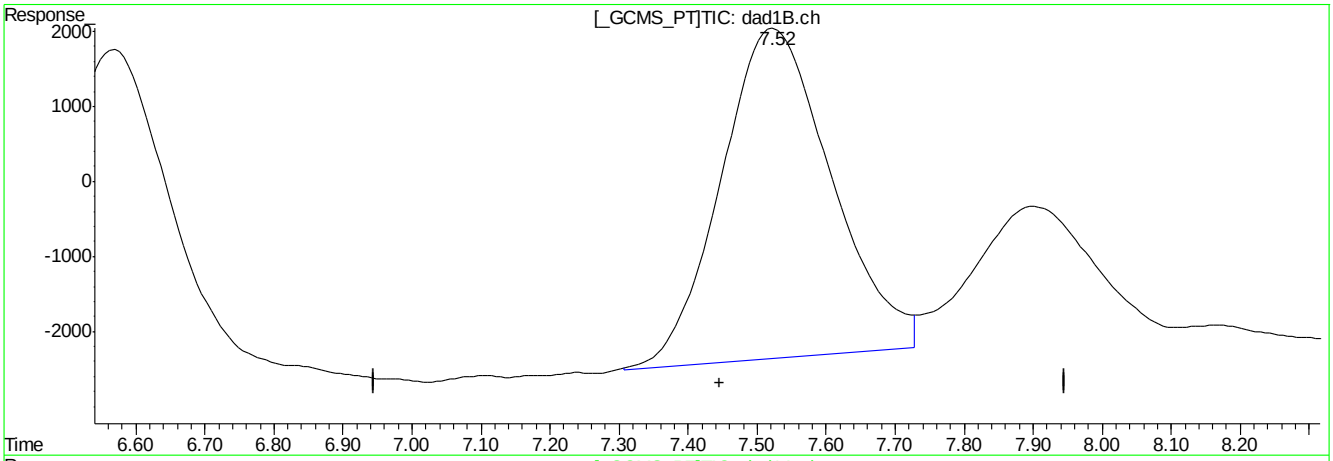
response 488880

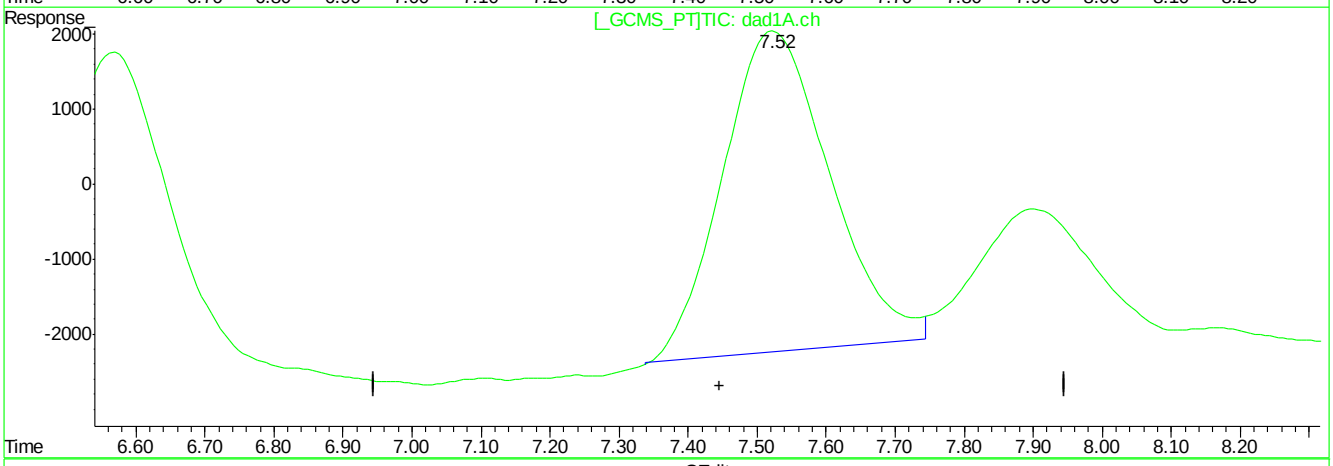
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Thu Jan 16 11:10:04 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:13 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(5) 1,3,5-Trinitrobenzene

7.52min 49.659ppb m

response 486200

(5) 1,3,5-Trinitrobenzene #2

7.52min 46.858ppb m

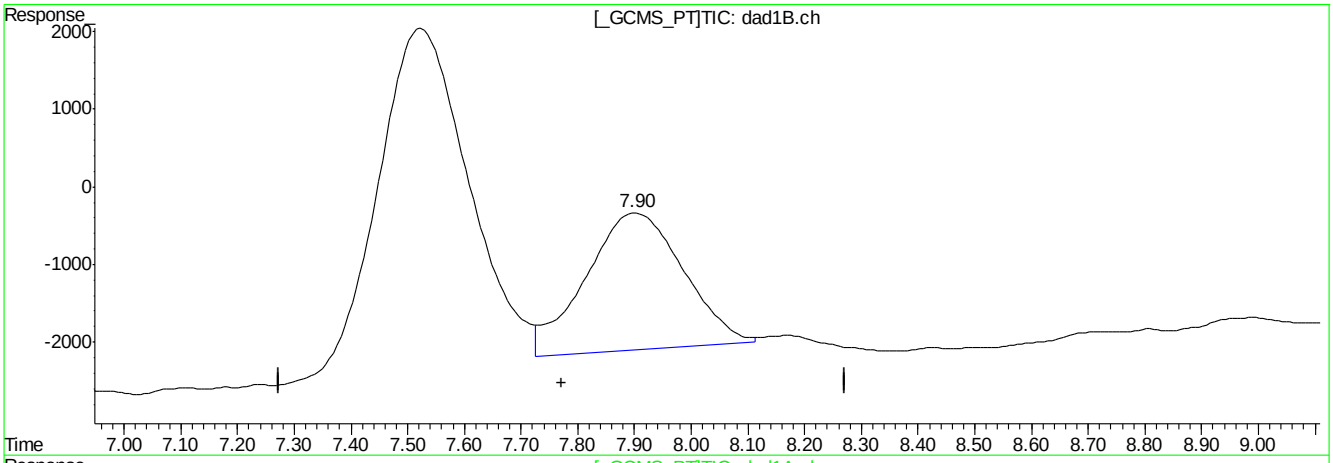
response 462021

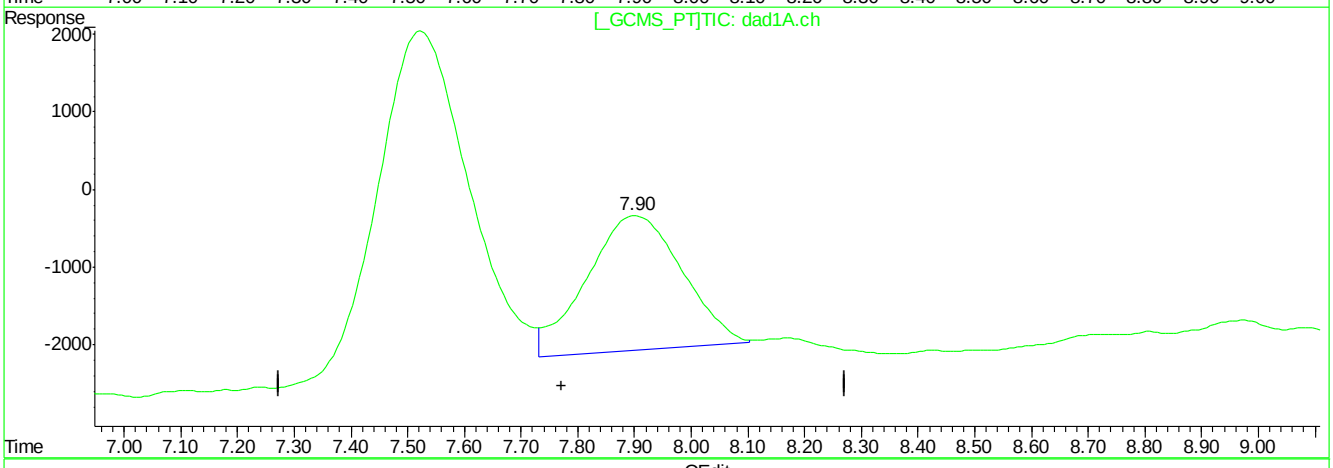
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Thu Jan 16 11:10:09 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:13 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(6) RDX

7.90min 47.433ppb m

response 212639

(6) RDX #2

7.90min 46.333ppb m

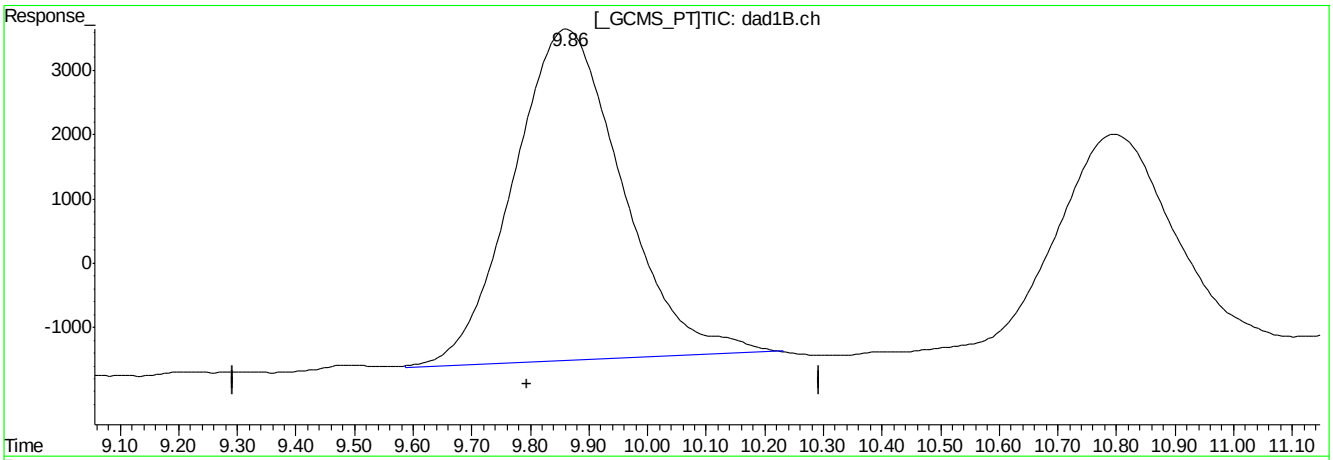
response 204935

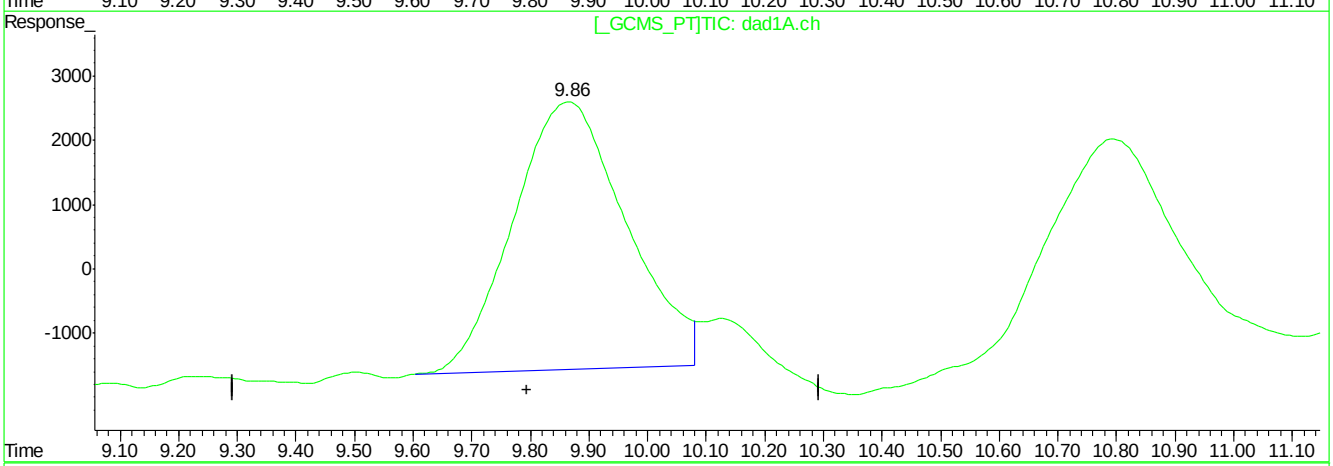
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Thu Jan 16 11:10:15 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:13 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

9.86min 51.246ppb m

response 666156

(7) 1,3-Dinitrobenzene #2

9.86min 56.780ppb m

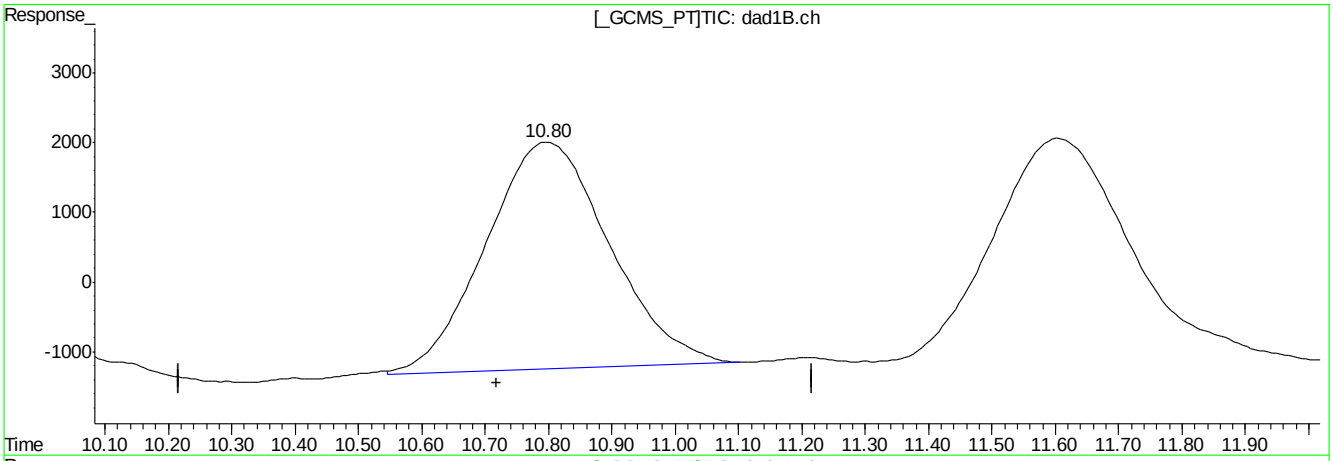
response 555723

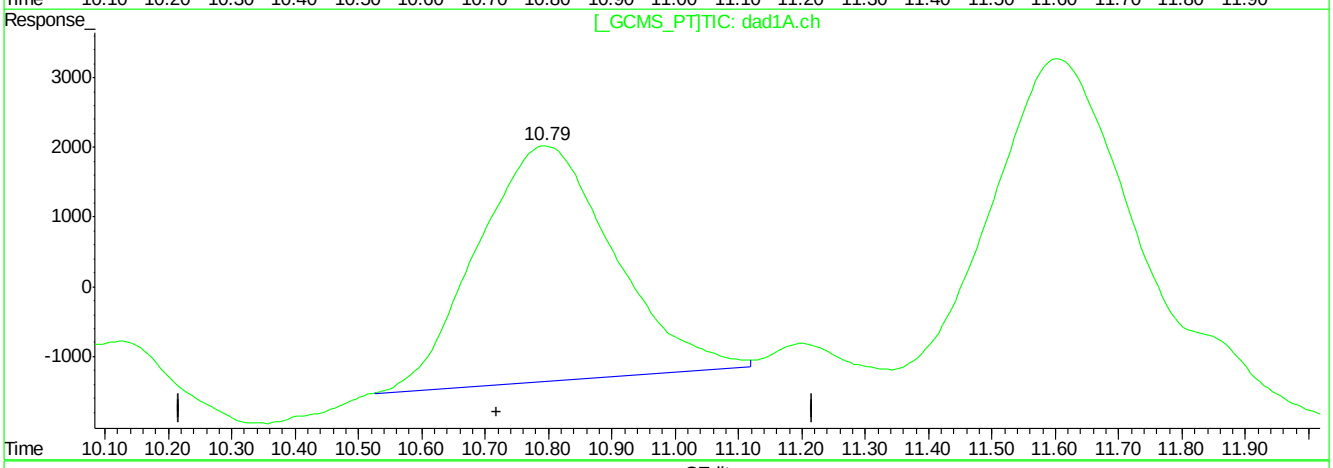
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Thu Jan 16 11:10:22 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:13 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(8) Nitrobenzene

10.80min 50.948ppb m

response 438653

(8) Nitrobenzene #2

10.79min 64.943ppb m

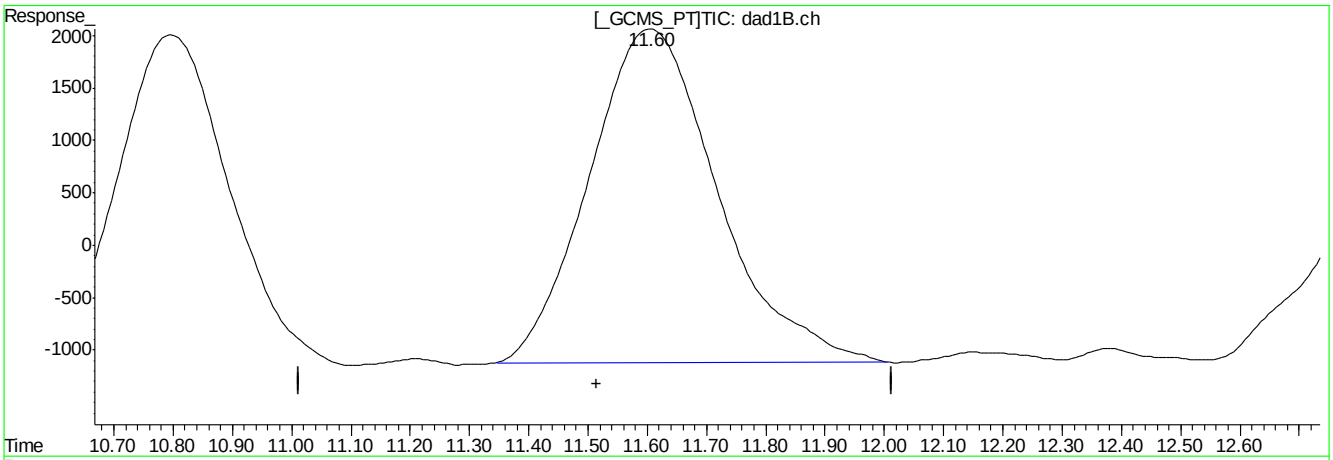
response 503957

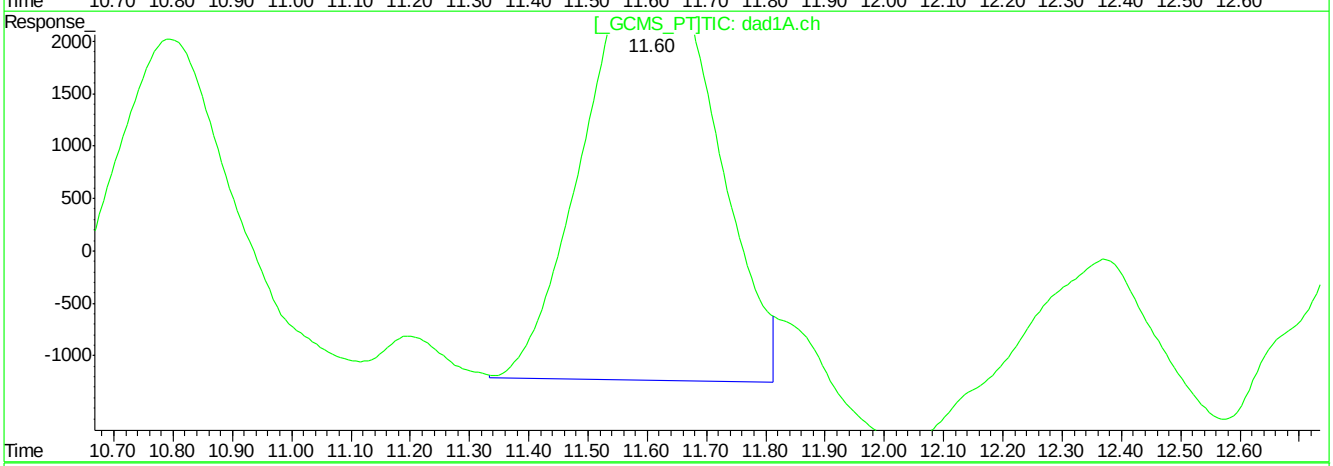
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Thu Jan 16 11:10:27 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:13 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(9) 2,4,6-Trinitrotoluene

11.60min 51.420ppb m

response 477698

(9) 2,4,6-Trinitrotoluene #2

11.60min 51.289ppb m

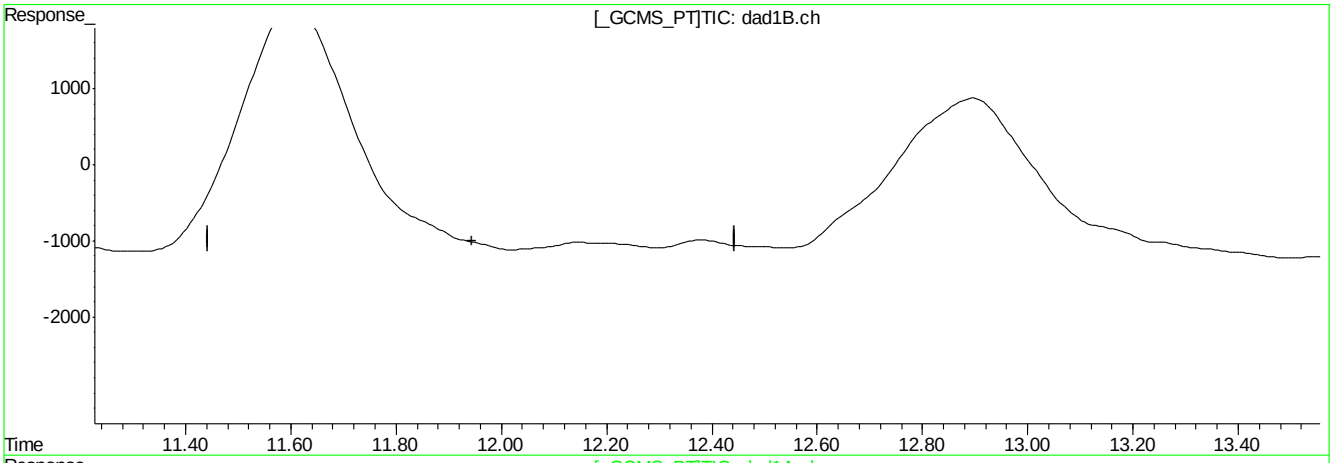
response 632559

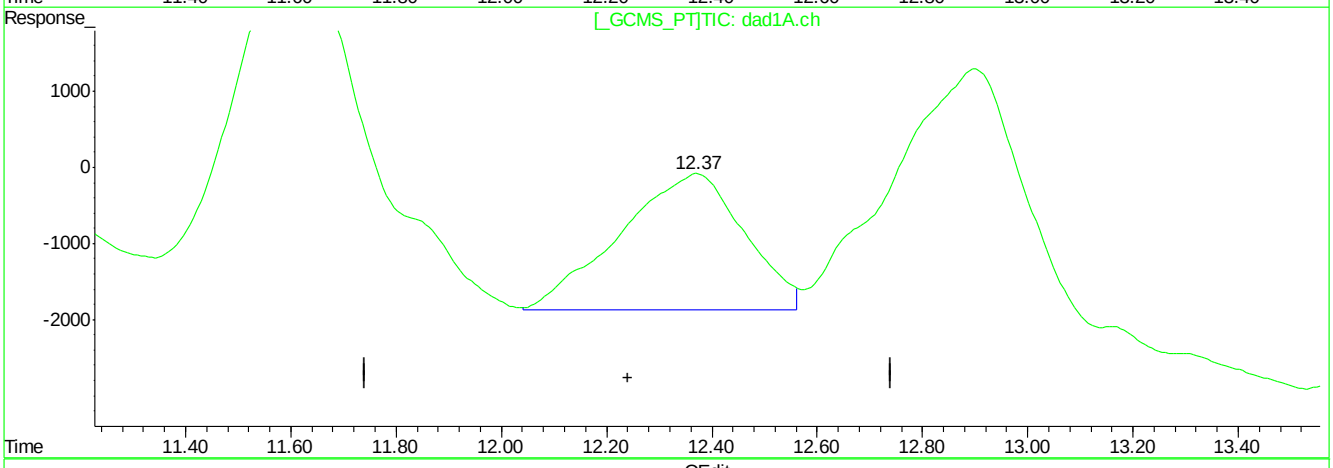
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Thu Jan 16 11:12:33 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:13 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

12.37min 96.095ppb m

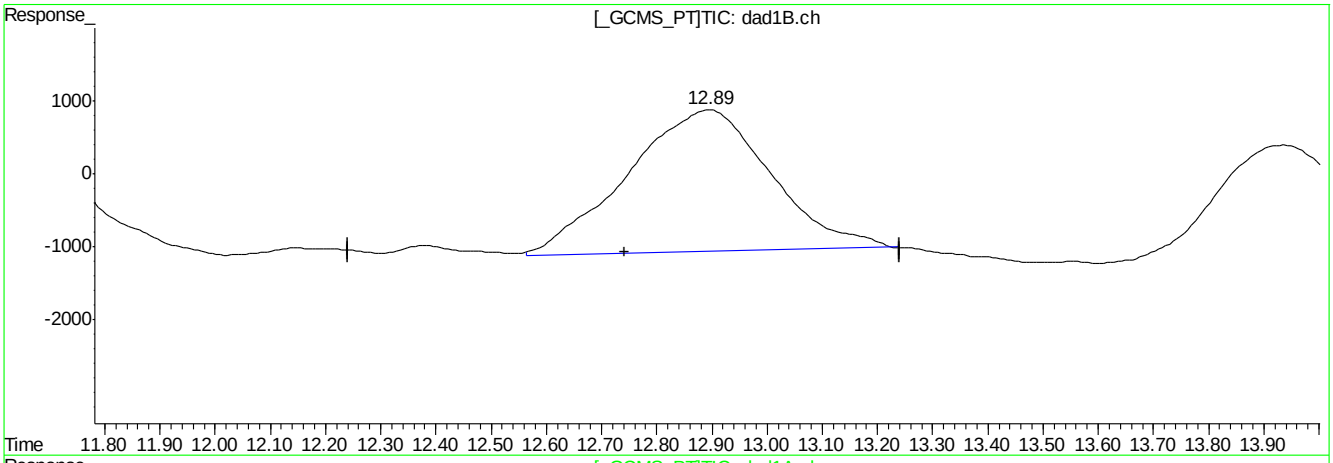
response 293837

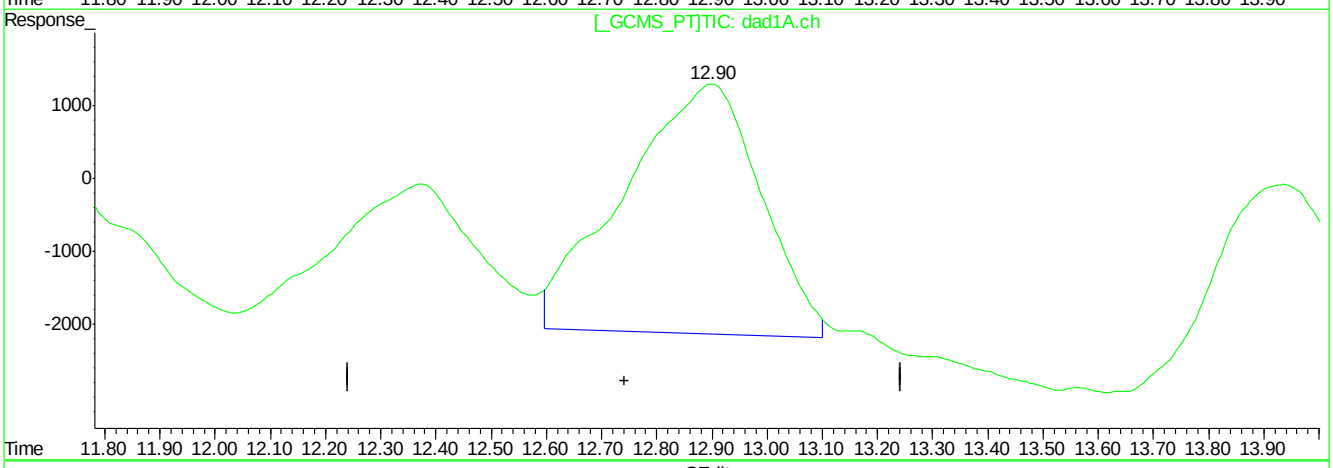
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Thu Jan 16 11:12:41 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:13 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(11) Tetryl

12.89min 50.713ppb m

response 350232

(11) Tetryl #2

12.90min 47.413ppb m

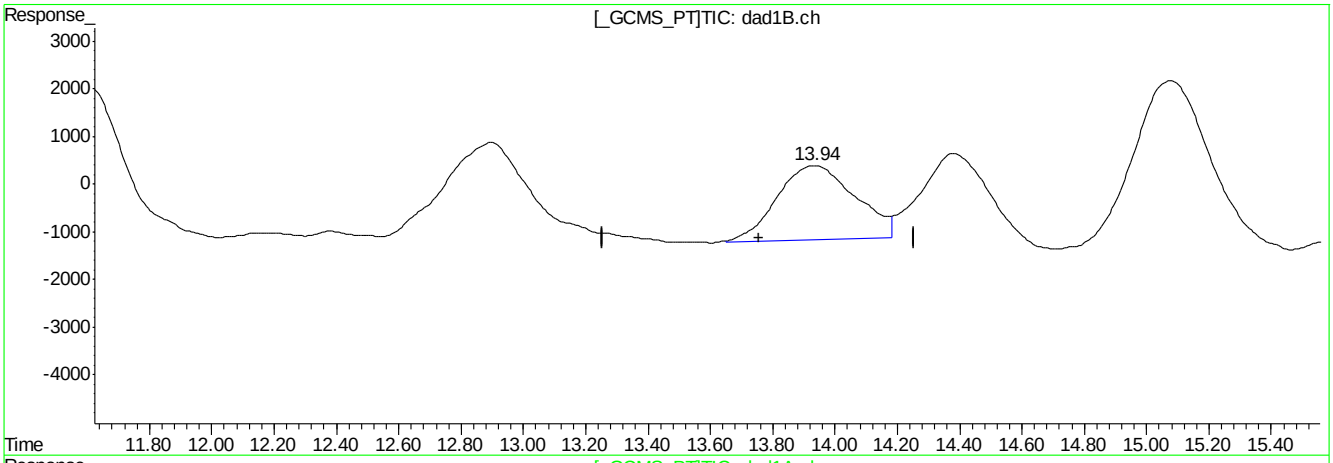
response 592397

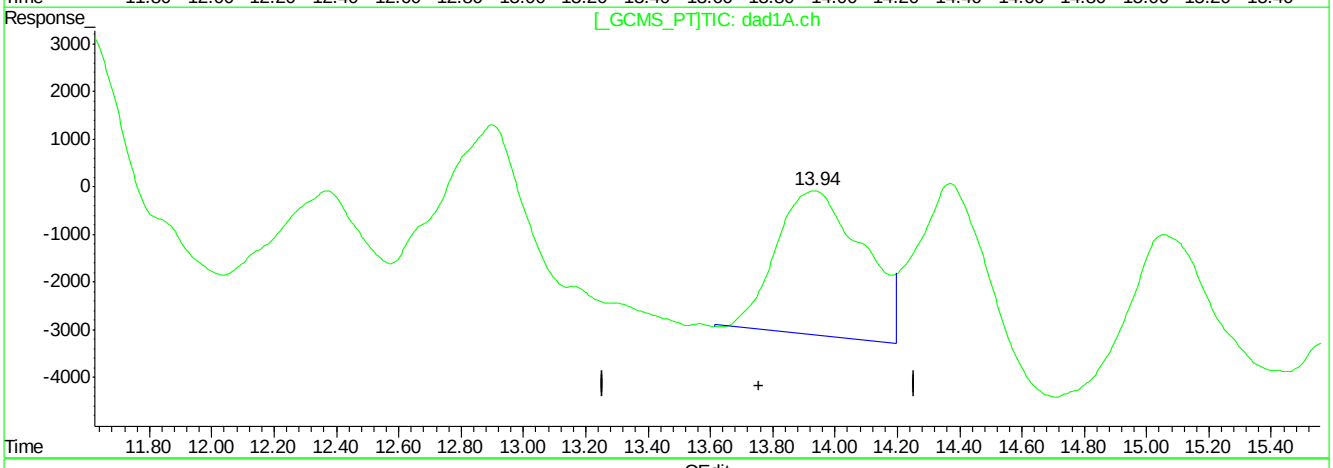
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Thu Jan 16 11:12:53 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:13 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(12) 3,4-Dinitrotoluene (S)

13.94min 60.280ppb m

response 273517

(12) 3,4-Dinitrotoluene #2 (S)

13.94min 66.215ppb m

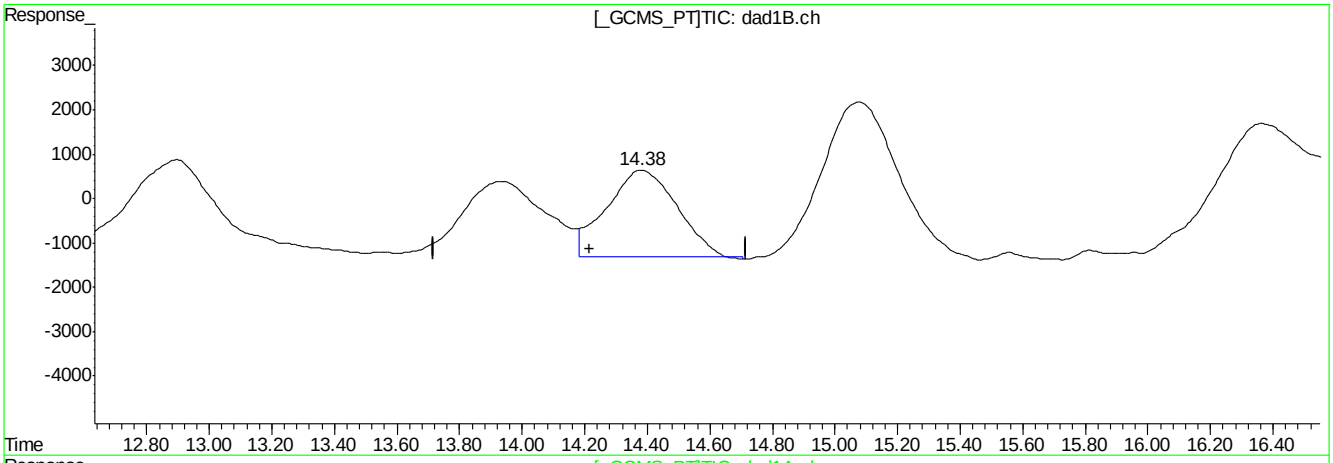
response 596568

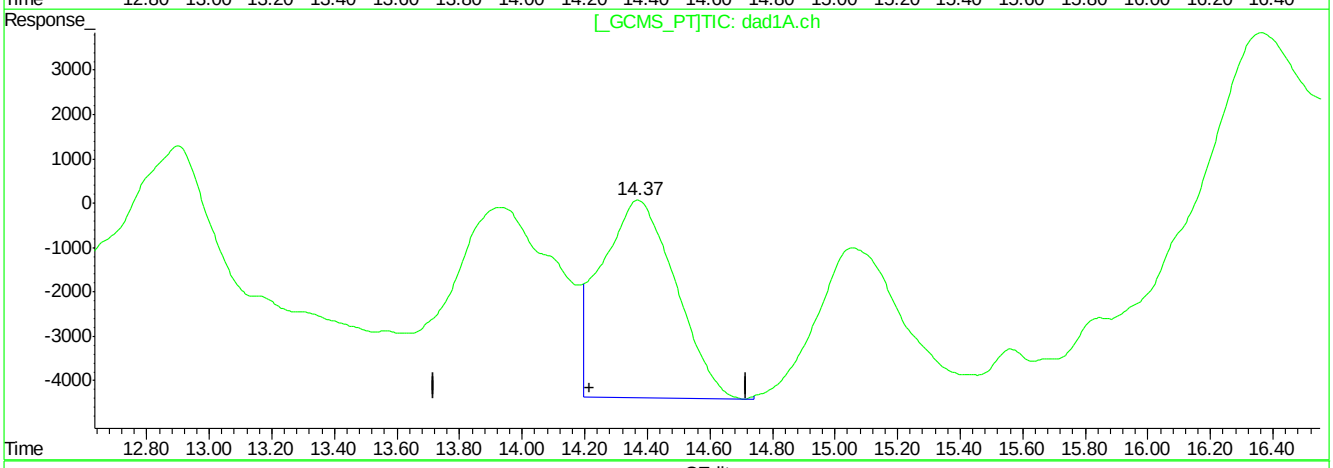
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Thu Jan 16 11:13:07 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:13 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(13) 2,6-Dinitrotoluene

14.38min 48.198ppb m

response 305308

(13) 2,6-Dinitrotoluene #2

14.37min 76.876ppb m

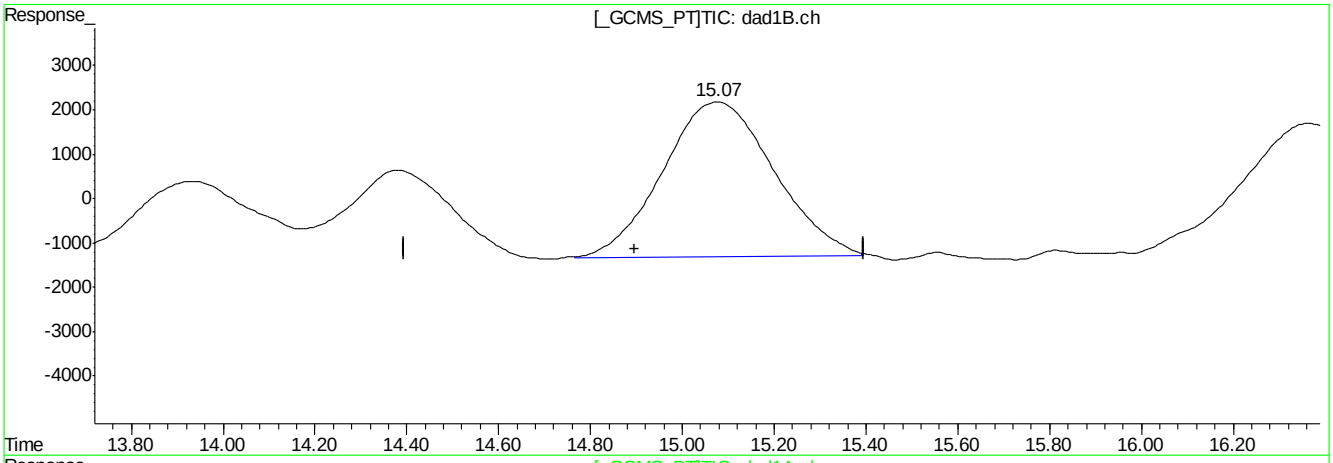
response 740492

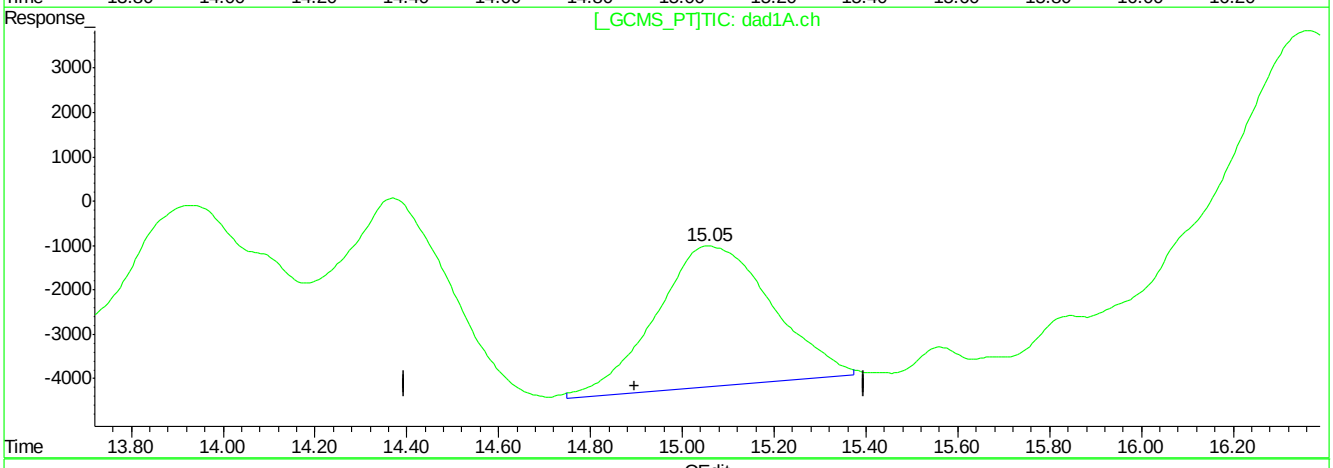
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Thu Jan 16 11:13:19 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:13 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(14) 2,4-Dinitrotoluene

15.07min 47.798ppb m

response 587570

(14) 2,4-Dinitrotoluene #2

15.05min 64.438ppb m

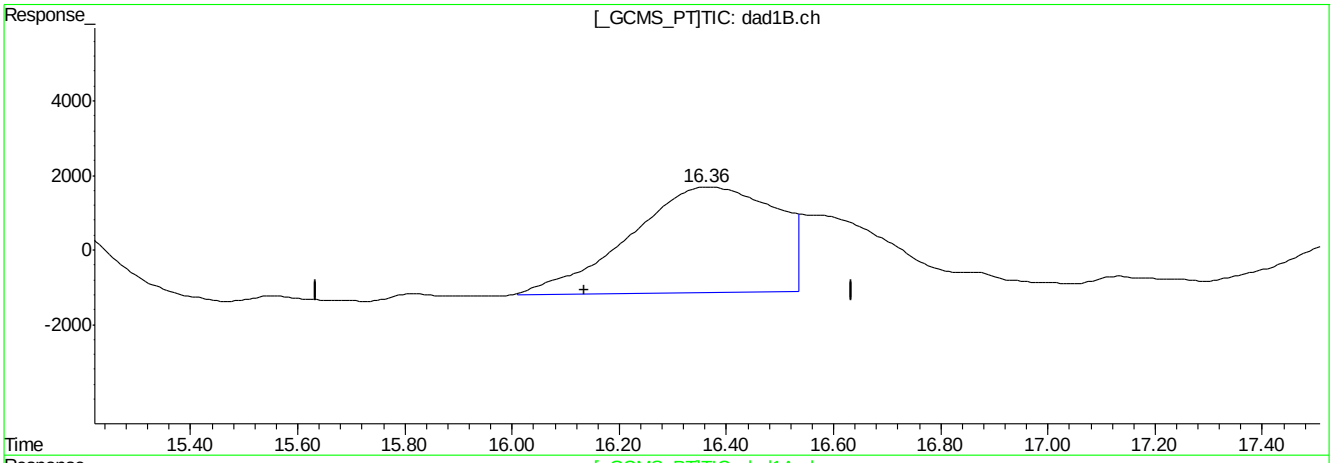
response 555312

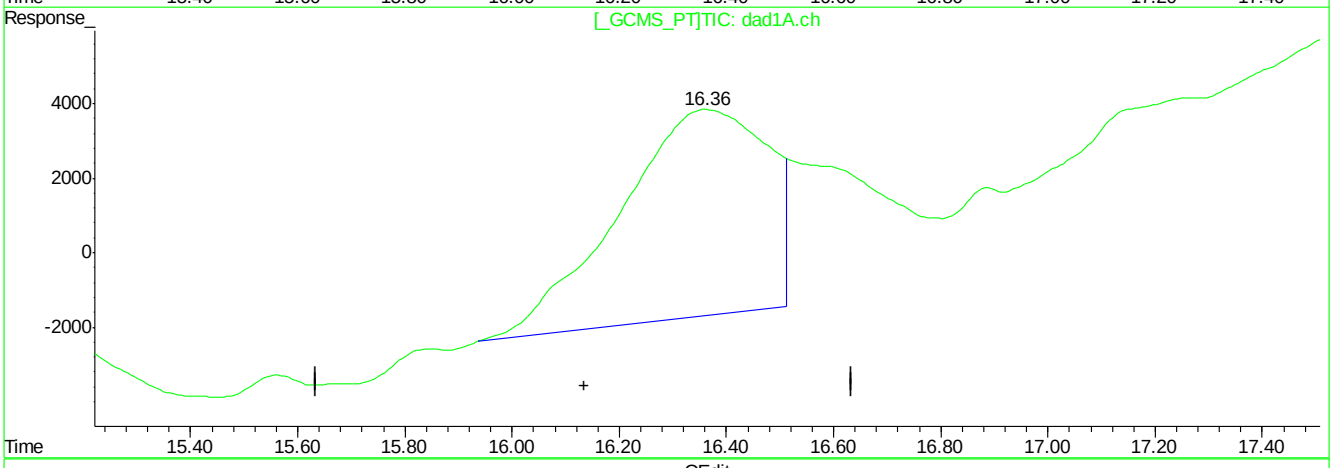
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Thu Jan 16 11:13:25 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:13 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(15) 3,5-Dinitroaniline

16.36min 53.859ppb m

response 544059

(15) 3,5-Dinitroaniline #2

16.36min 65.781ppb m

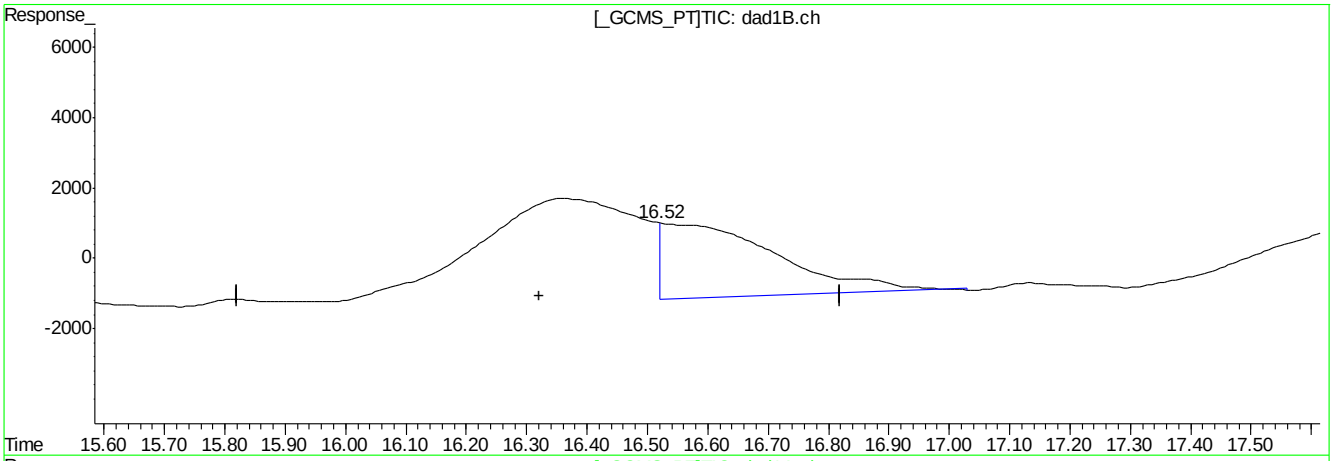
response 1064560

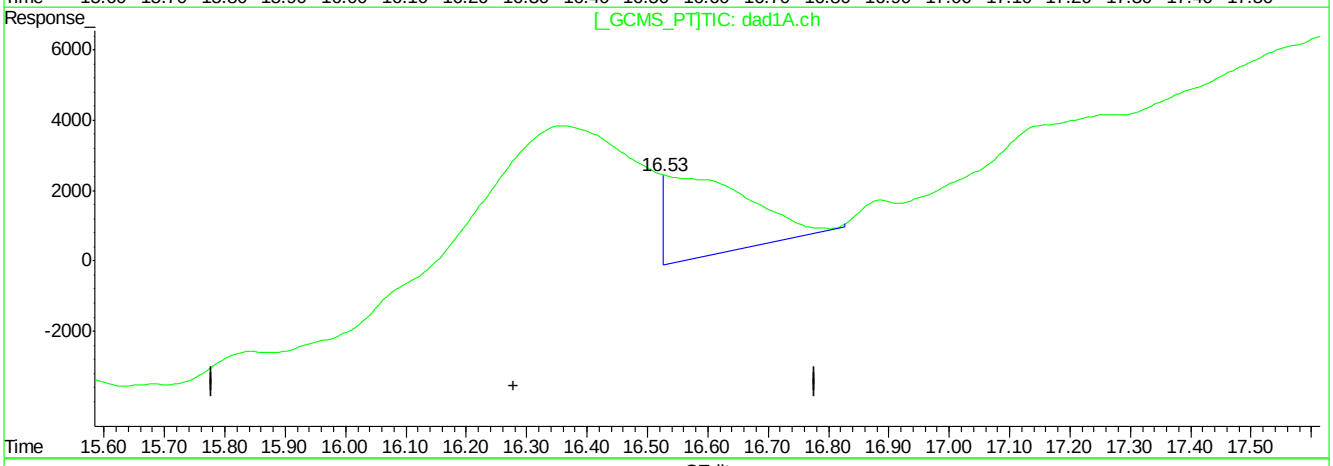
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Thu Jan 16 11:13:31 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:13 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(16) o-Nitrotoluene

16.52min 54.224ppb m

response 279597

(16) o-Nitrotoluene #2

16.53min 28.144ppb m

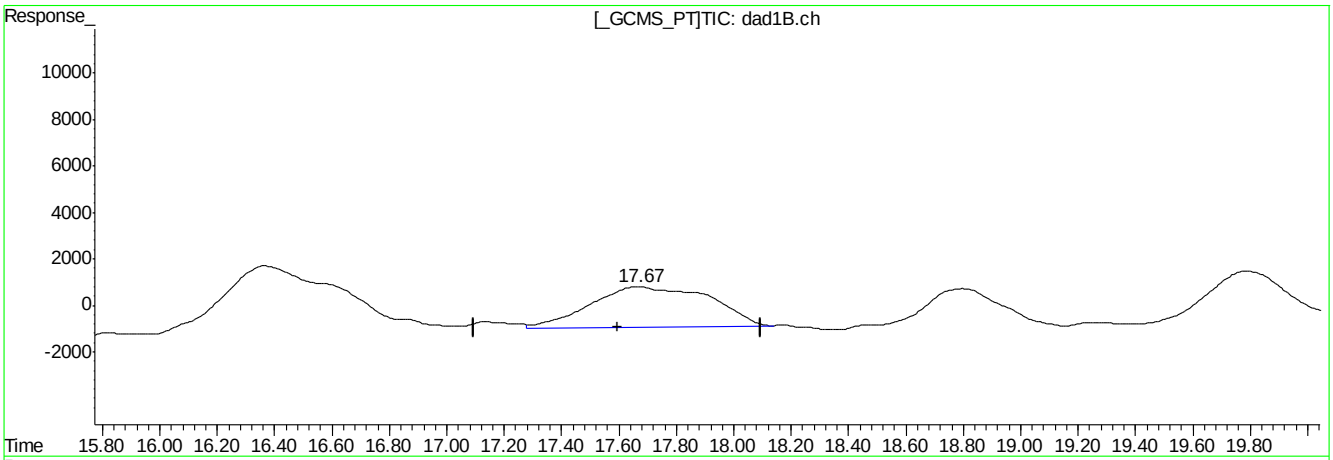
response 225645

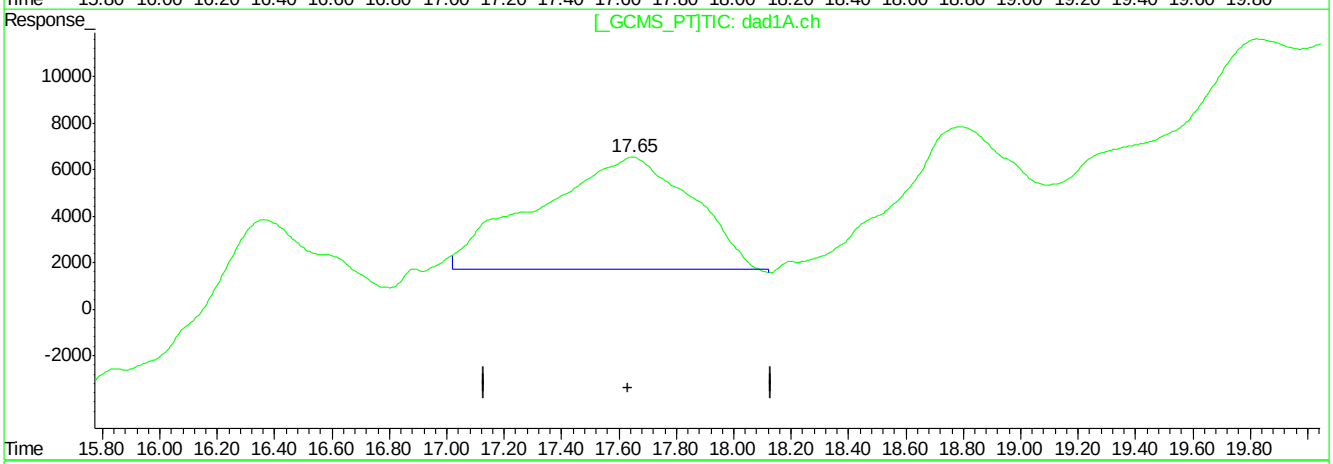
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Thu Jan 16 11:13:40 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:13 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(17) p-Nitrotoluene

17.67min 92.690ppb m

response 505209

(17) p-Nitrotoluene #2

17.65min 198.174ppb m

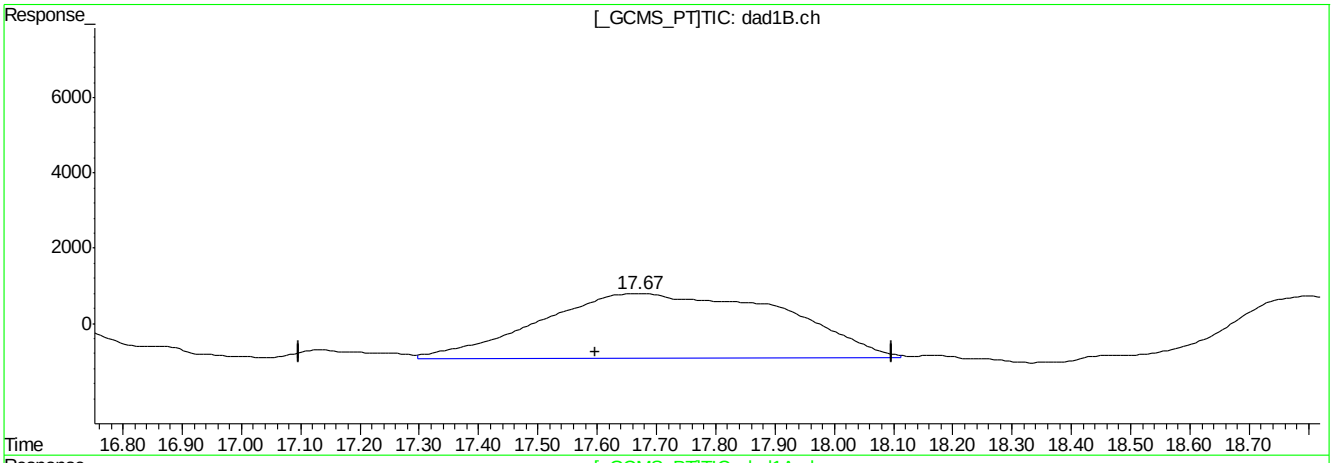
response 1802446

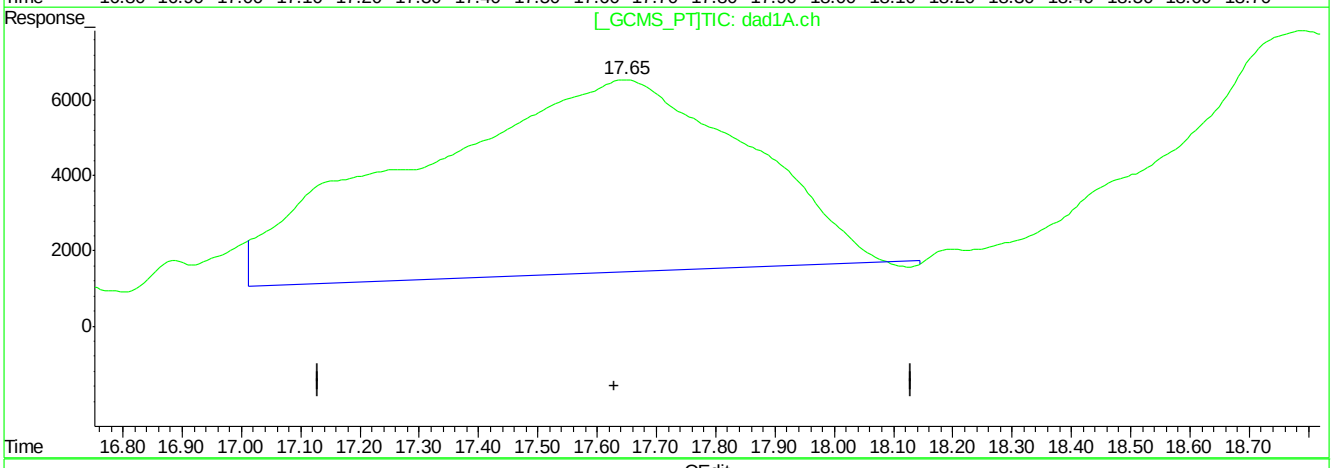
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Thu Jan 16 11:13:52 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:13 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(18) 4-Amino-2,6-Dinitrotoluene

17.67min 91.896ppb m

response 501093

(18) 4-Amino-2,6-Dinitrotoluene #2

17.65min 220.706ppb m

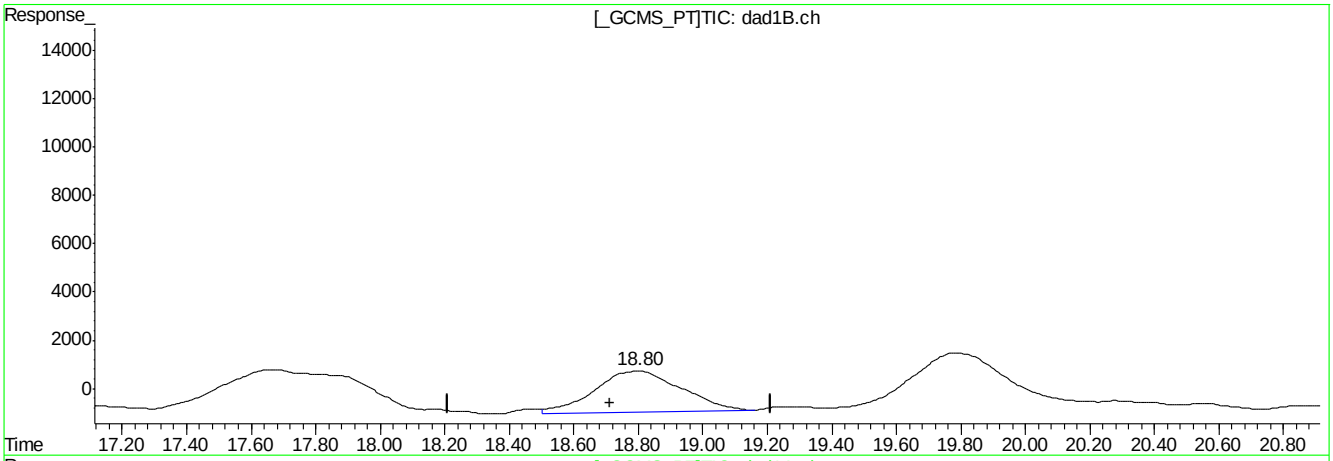
response 2012607

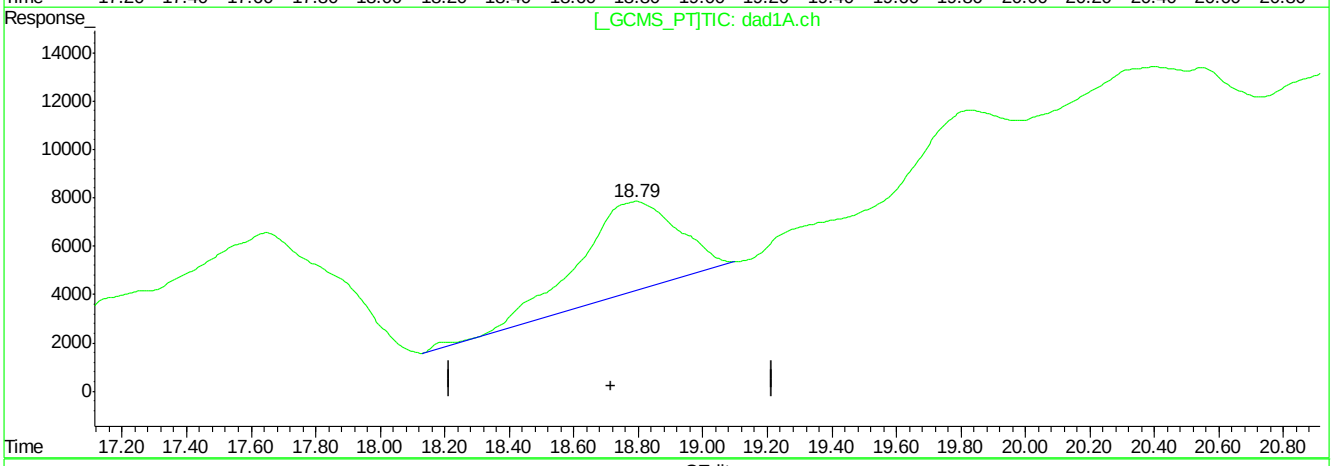
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Thu Jan 16 11:13:58 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:13 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(19) m-Nitrotoluene

18.80min 56.052ppb m

response 317829

(19) m-Nitrotoluene #2

18.79min 90.275ppb

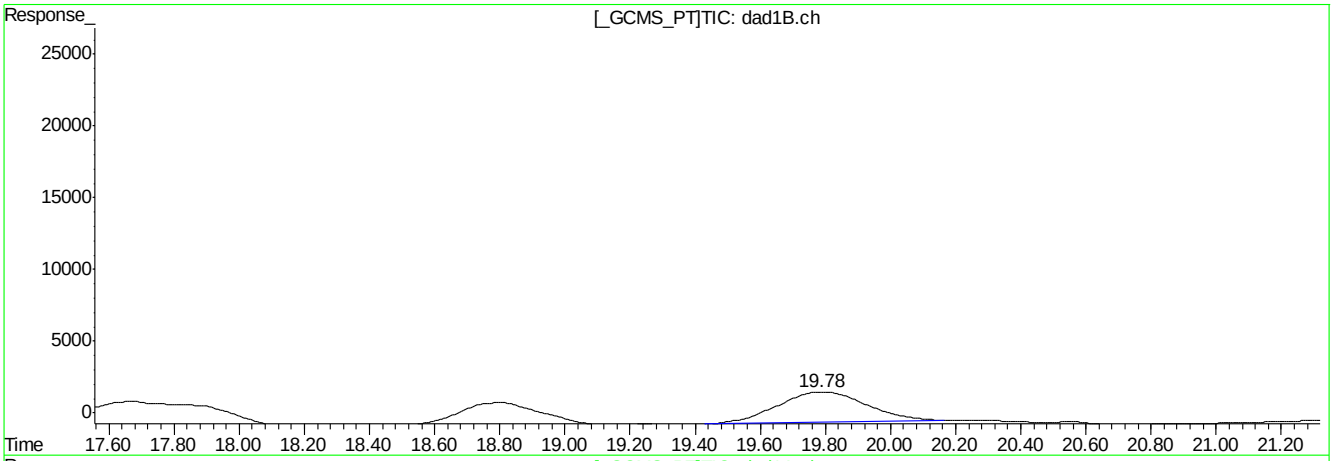
response 803829

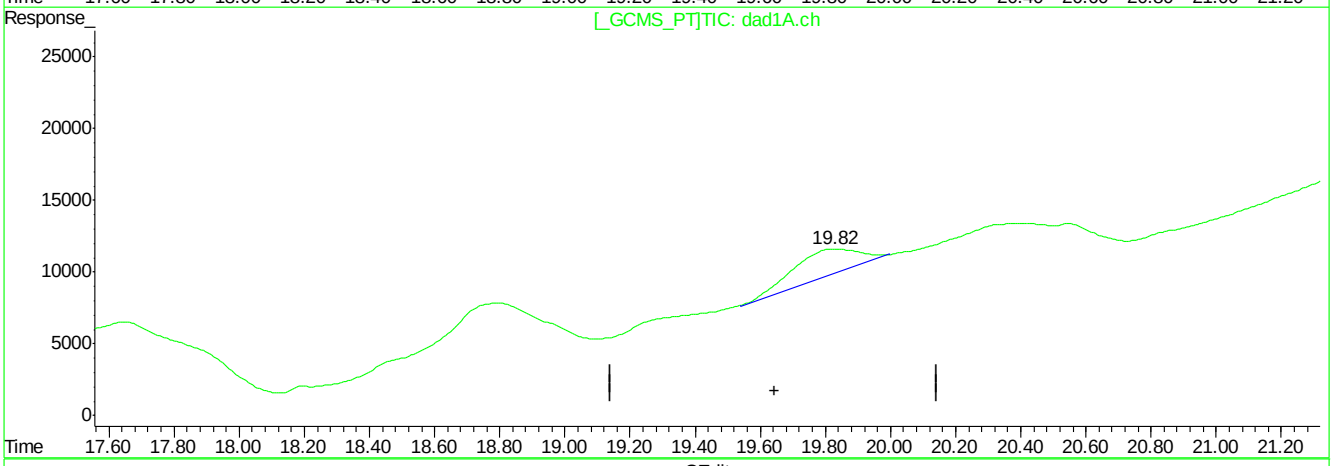
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Thu Jan 16 11:14:14 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:13 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(20) 2-Amino-4,6-Dinitrotoluene

19.78min 45.920ppb m

response 407425

(20) 2-Amino-4,6-Dinitrotoluene #2

19.82min 22.754ppb m

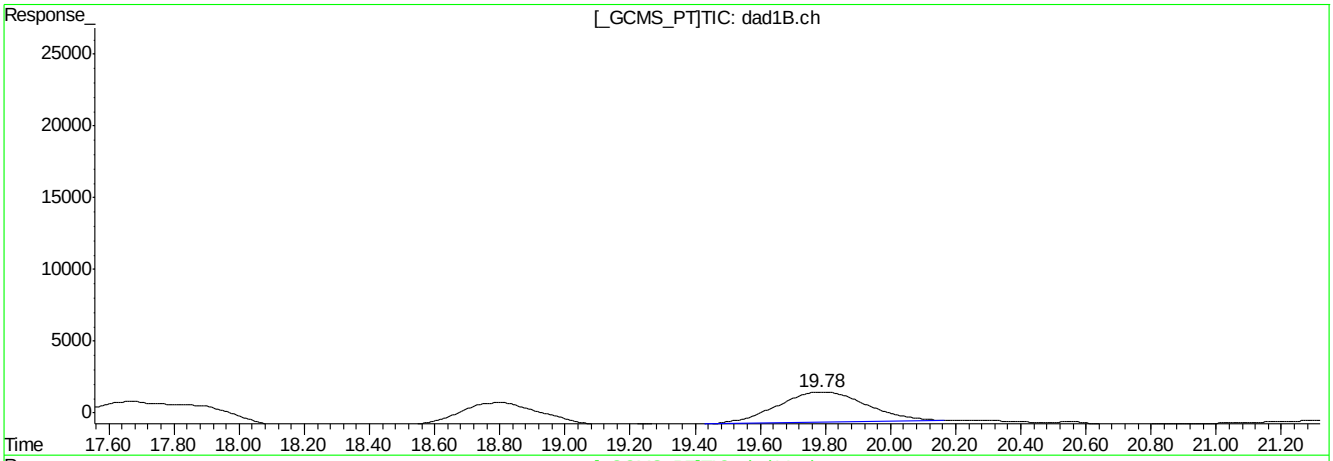
response 266553

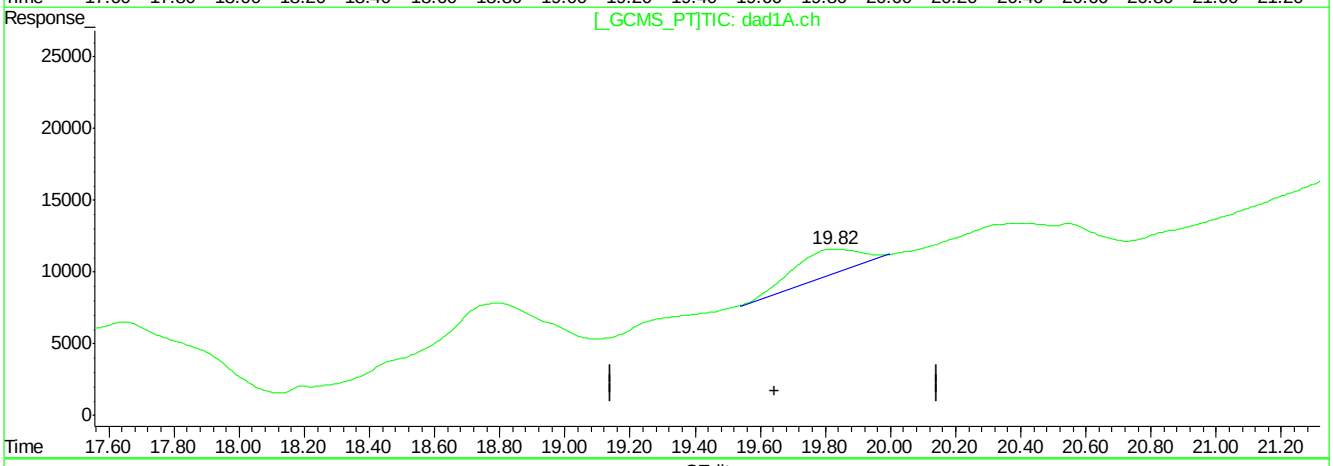
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Thu Jan 16 11:14:34 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:13 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(20) 2-Amino-4,6-Dinitrotoluene

19.78min 45.920ppb m

response 407425

(20) 2-Amino-4,6-Dinitrotoluene #2

19.82min 22.754ppb m

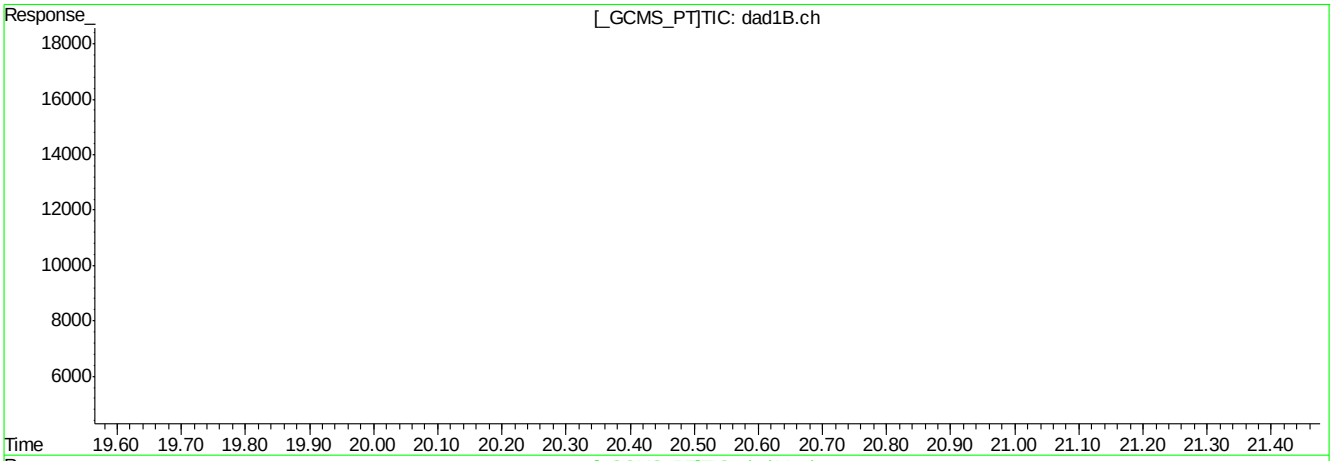
response 266553

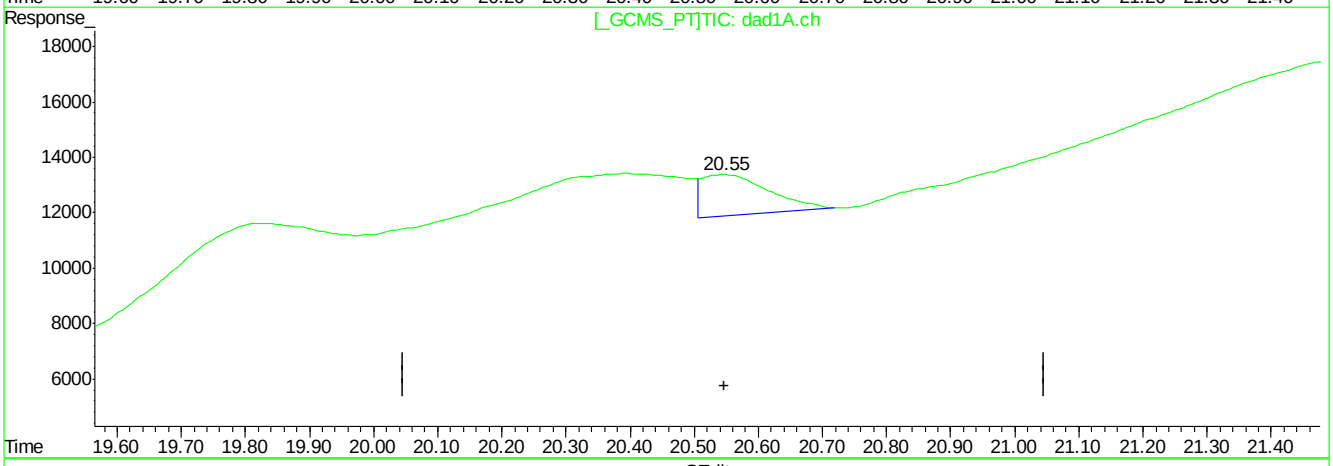
(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Thu Jan 16 11:15:48 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631122.D\dad1A.ch
Acq On : 13-Jan-2025, 14:45:56 Operator: fouads
Sample : ic3527-50 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:13 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

20.55min 32.227ppb m

response 105472

(+) = Expected Retention Time
GG631122.D GGG3527_011325.M Thu Jan 16 11:15:56 2025

GG631123.D

Manual Integrations APPROVED (compounds with "m" flag)

Naresh Jiawan 01/16/25 12:01

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:19:36 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 16:18:38 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	13.82	13.82	475372	1091331	104.766m	121.130m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		20.95%#	24.23%#
	Target Compounds						
1)	TNX	4.86	4.86	488236	488236	58.337	59.256
2)	HMX	5.26	5.26	282559	294830	87.785m	90.079m
3)	DNX	5.44	5.44	830850	830850	123.933	126.923
4)	MNX	6.54	6.54	880561	880561	143.377	144.847
5)	1,3,5-Trinitrobe	7.49	7.49	723527	723527	73.899	73.379
6)	RDX	7.83	7.83	389601	407681	86.907m	92.171m
7)	1,3-Dinitrobenze	9.76	9.75	1136990	902841	87.466	92.246m
8)	Nitrobenzene	10.68	10.67	749350	679572	87.035m	87.575m
9)	2,4,6-Trinitroto	11.50	11.51	803565	1027866	86.496m	83.341
10)	Nitroglycerin	0.00	12.22	0	491658	N.D.	160.789m#
11)	Tetryl	12.76	12.75	574071	989821	83.125m	79.221m
13)	2,6-Dinitrotolue	14.28	14.27	500351	871228	78.989m	90.448m
14)	2,4-Dinitrotolue	14.95	14.95	1052573	593806	85.625m	68.905m
15)	3,5-Dinitroanili	16.20	16.20	939175	1674477	92.974m	103.469m
16)	o-Nitrotoluene	16.34	16.36	540936	730083	104.907m	91.063m
17)	p-Nitrotoluene	17.65	17.66	973991	1738247	178.696m	191.116m
18)	4-Amino-2,6-Dini	17.65	17.66	958658	1743770	175.809m	191.225m
19)	m-Nitrotoluene	18.70	18.71	549388	950633	96.890m	106.762
20)	2-Amino-4,6-Dini	19.71	19.74	765342	1078740	86.261m	92.086
21)	PETN	0.00	20.95	0	264248	N.D.	80.741m#

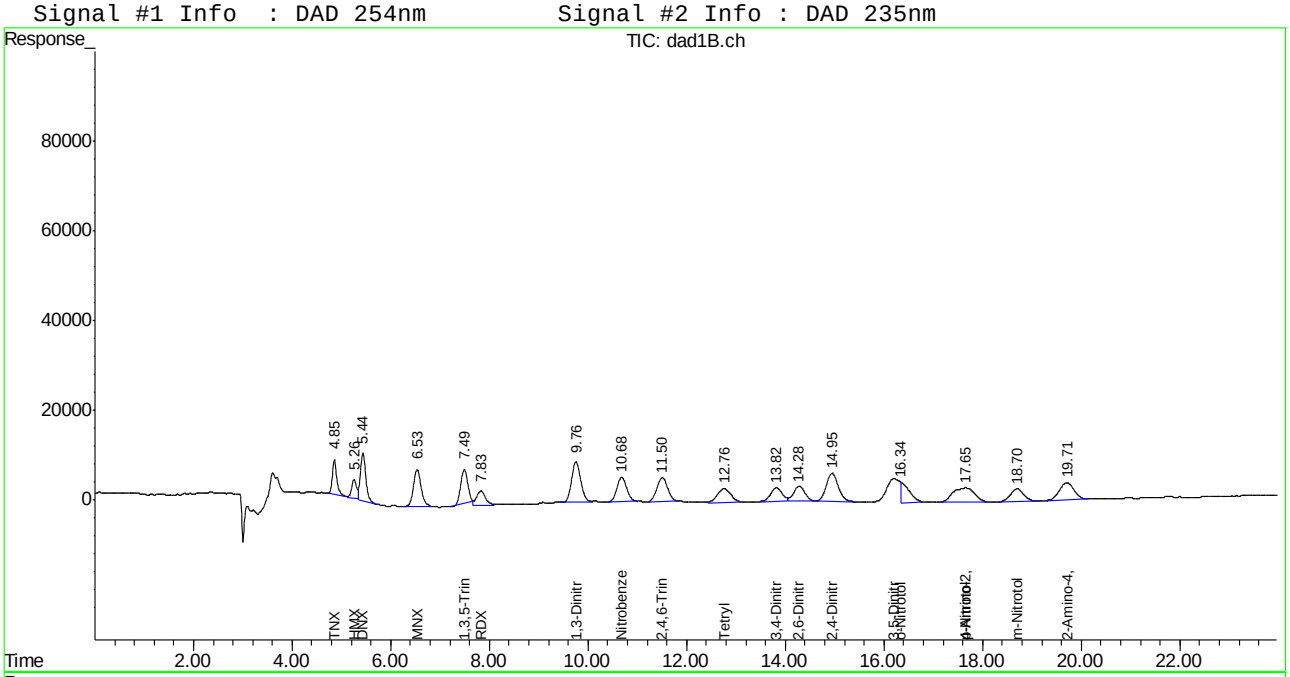
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG631123.D GGG3527_011325.M Wed Jan 15 06:48:57 2025 Page 1

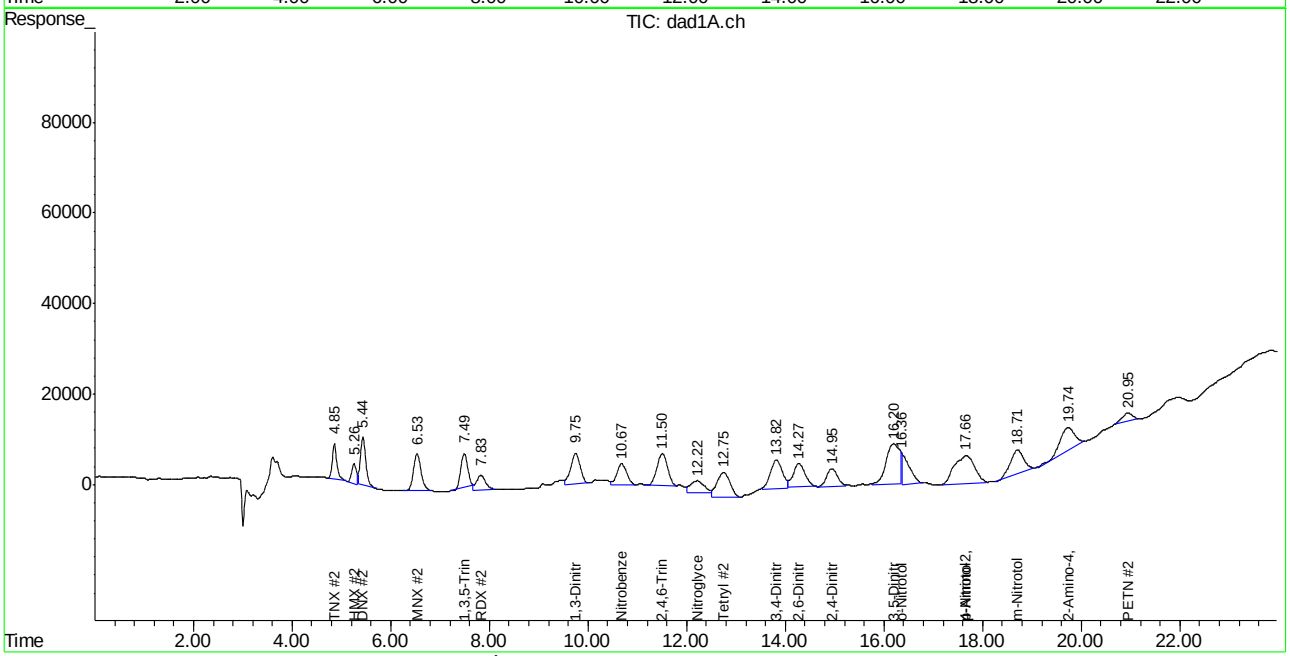
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:32 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 16:18:38 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

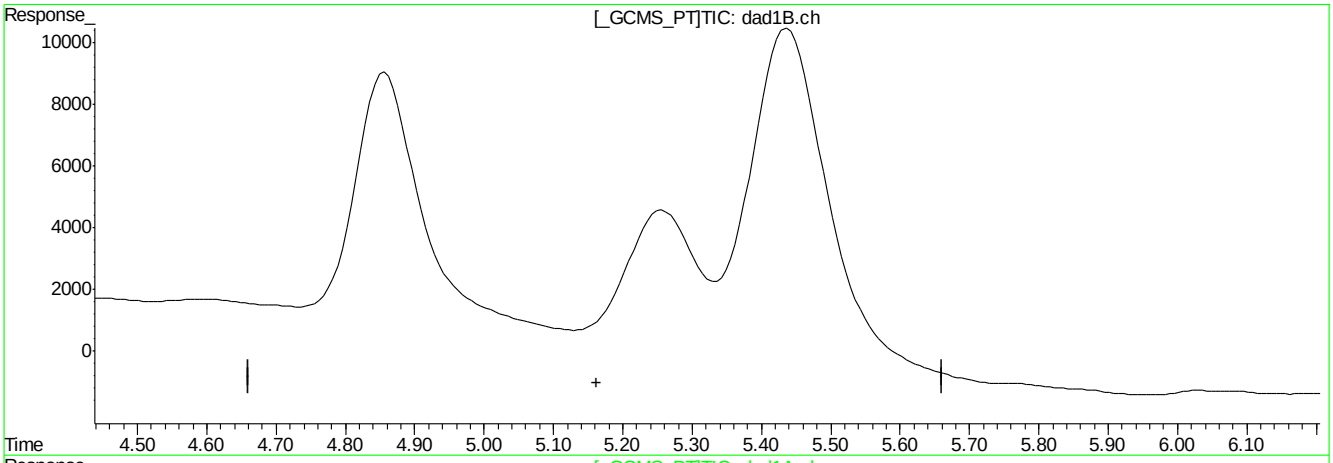
Sample Number: GGG3527-IC3527
Lab FileID: GG631123.D
Injection Time: 01/13/25 15:15
Method: SW846 8330A
Analyst approved: 01/15/25 08:07 Fouad Sekkar
Supervisor approved: 01/16/25 12:01 Naresh Jiawan

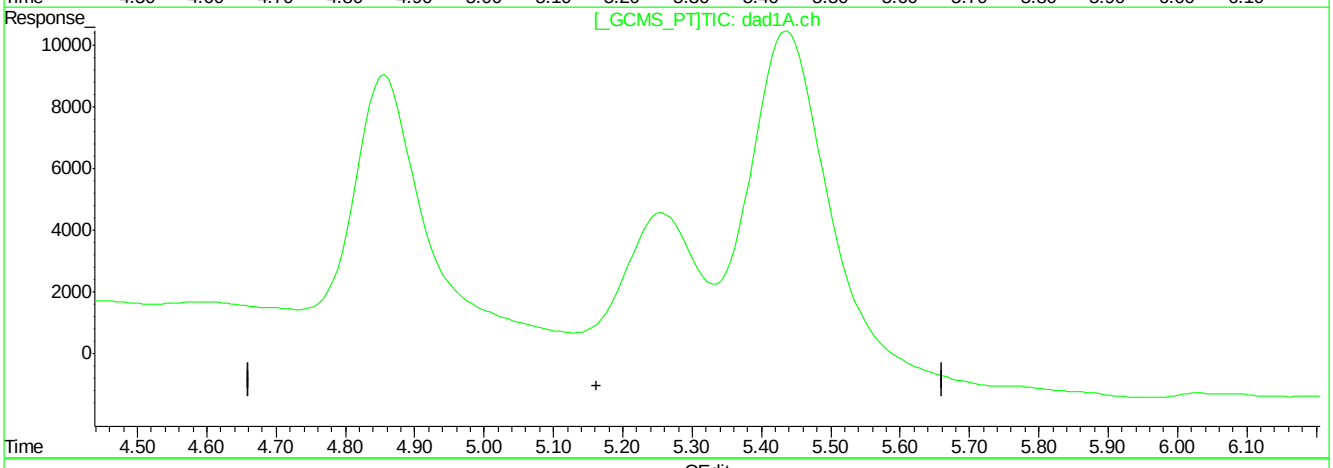
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	5.26	Missed peak
HMX	2691-41-0	2	5.26	Missed peak
RDX	121-82-4	1	7.83	Missed peak
RDX	121-82-4	2	7.83	Missed peak
1,3-Dinitrobenzene	99-65-0	2	9.75	Missed peak
Nitrobenzene	98-95-3	2	10.67	Missed peak
Nitrobenzene	98-95-3	1	10.68	Missed peak
2,4,6-Trinitrotoluene	118-96-7	1	11.50	Missed peak
Nitroglycerine	55-63-0	2	12.22	Missed peak
Tetryl	479-45-8	2	12.75	Missed peak
Tetryl	479-45-8	1	12.76	Missed peak
3,4-Dinitrotoluene	610-39-9	1	13.82	Missed peak
3,4-Dinitrotoluene	610-39-9	2	13.82	Missed peak
2,6-Dinitrotoluene	606-20-2	2	14.27	Missed peak
2,6-Dinitrotoluene	606-20-2	1	14.28	Missed peak
2,4-Dinitrotoluene	121-14-2	1	14.95	Missed peak
2,4-Dinitrotoluene	121-14-2	2	14.95	Missed peak
3,5-Dinitroaniline	618-87-1	1	16.20	Missed peak
3,5-Dinitroaniline	618-87-1	2	16.20	Missed peak
o-Nitrotoluene	88-72-2	1	16.34	Missed peak
o-Nitrotoluene	88-72-2	2	16.36	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	1	17.65	Missed peak
p-Nitrotoluene	99-99-0	1	17.65	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	2	17.66	Missed peak
p-Nitrotoluene	99-99-0	2	17.66	Missed peak
m-Nitrotoluene	99-08-1	1	18.70	Missed peak
2-amino-4,6-Dinitrotoluene	35572-78-2	1	19.71	Missed peak
PETN	78-11-5	2	20.95	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:09 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:20:15 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

0.00min 0.000ppb

response 0

(2) HMX #2

0.00min 0.000ppb

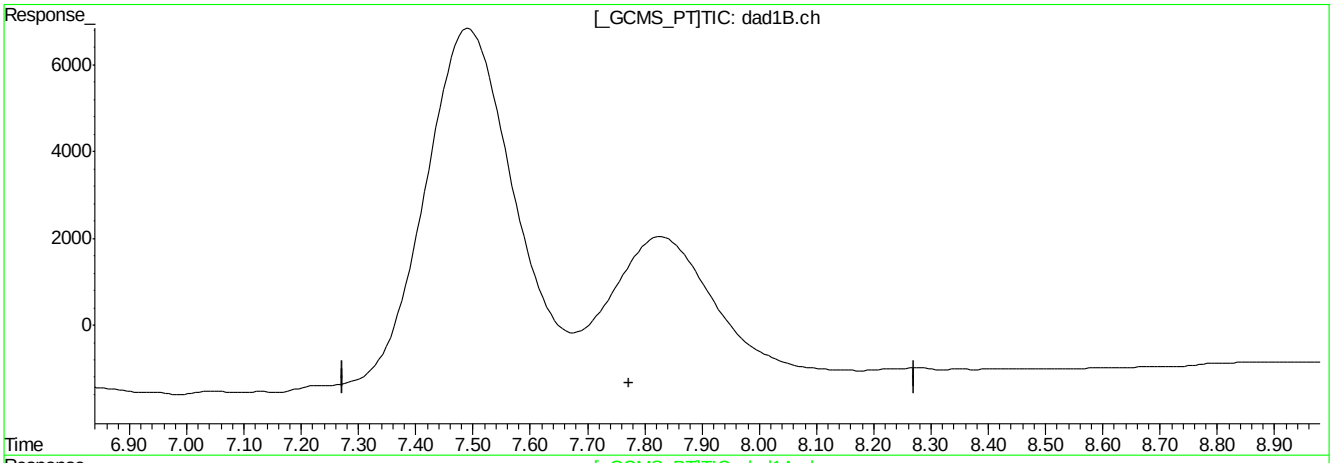
response 0

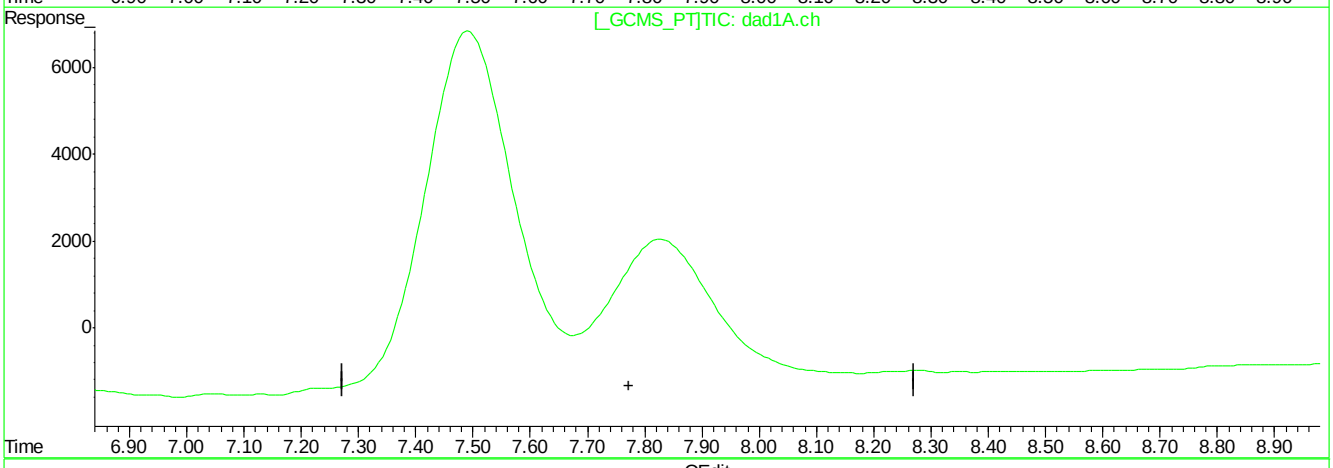
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Mon Jan 13 16:14:58 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:09 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:20:15 2025
Response via : Multiple Level Calibration





QEdit

(6) RDX

0.00min 0.000ppb

response 0

(6) RDX #2

0.00min 0.000ppb

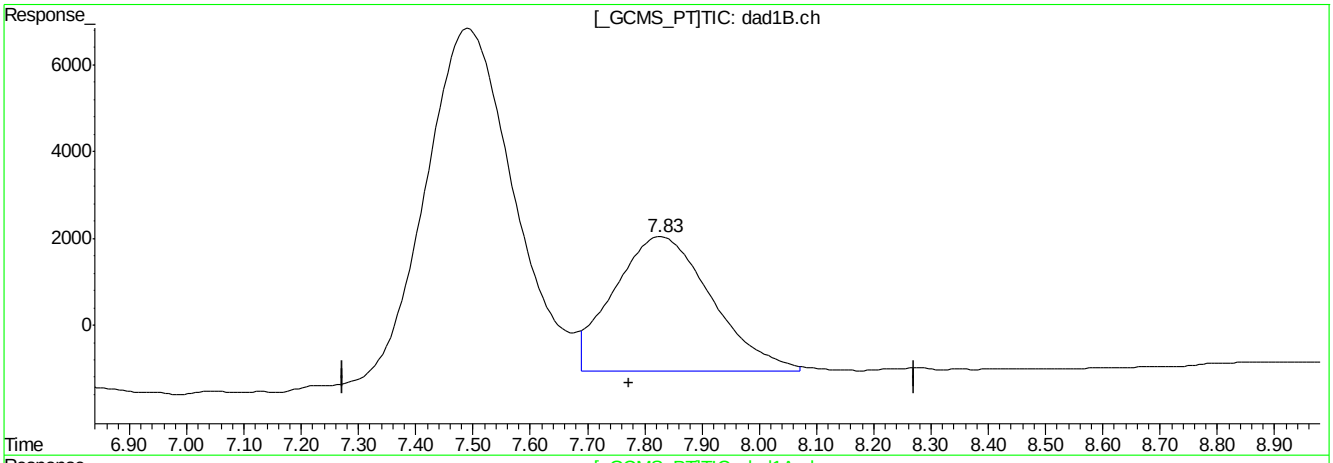
response 0

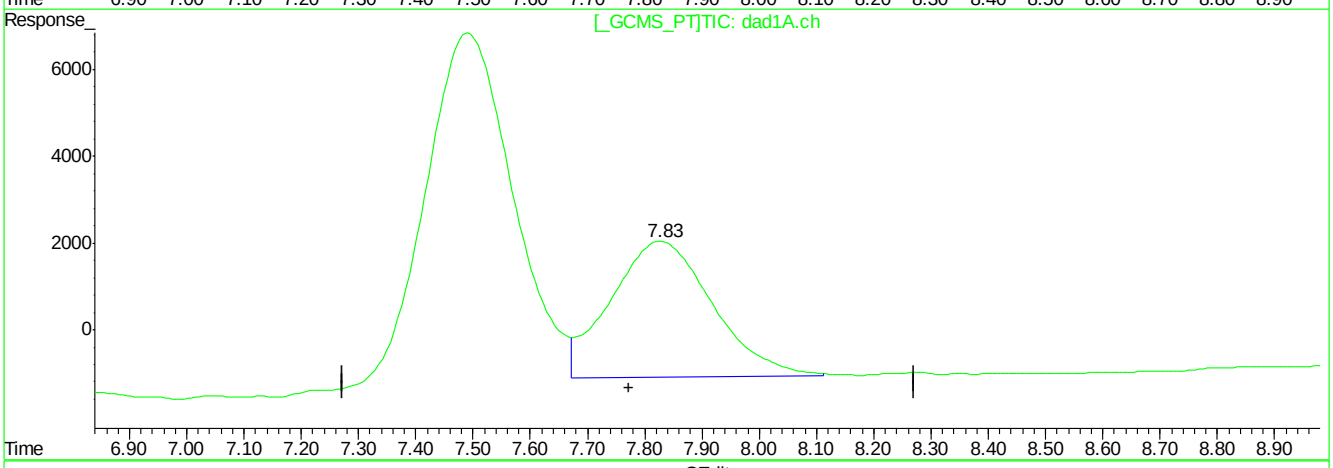
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Mon Jan 13 16:15:20 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:09 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:20:15 2025
Response via : Multiple Level Calibration





QEdit

(6) RDX

7.83min 82.620ppb m

response 370384

(6) RDX #2

7.83min 87.725ppb m

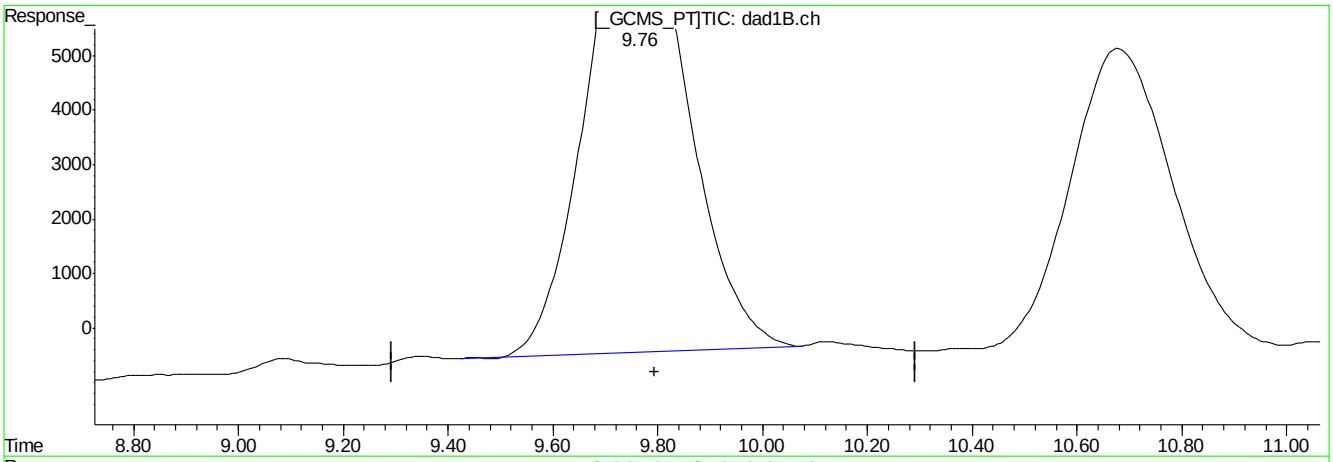
response 388017

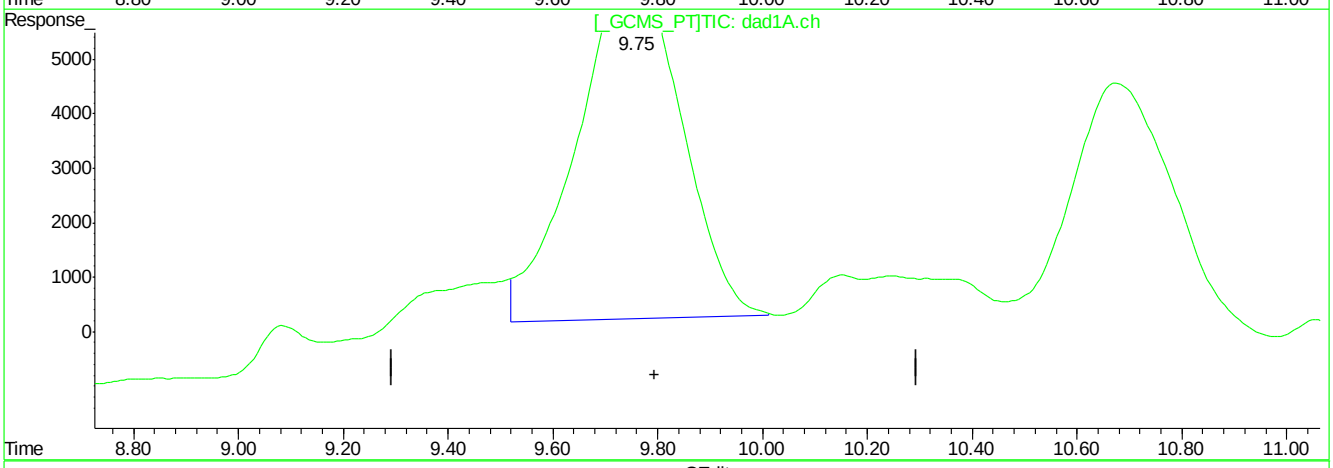
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Mon Jan 13 16:15:27 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:09 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:20:15 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

9.76min 87.466ppb

response 1136990

(7) 1,3-Dinitrobenzene #2

9.75min 90.184ppb m

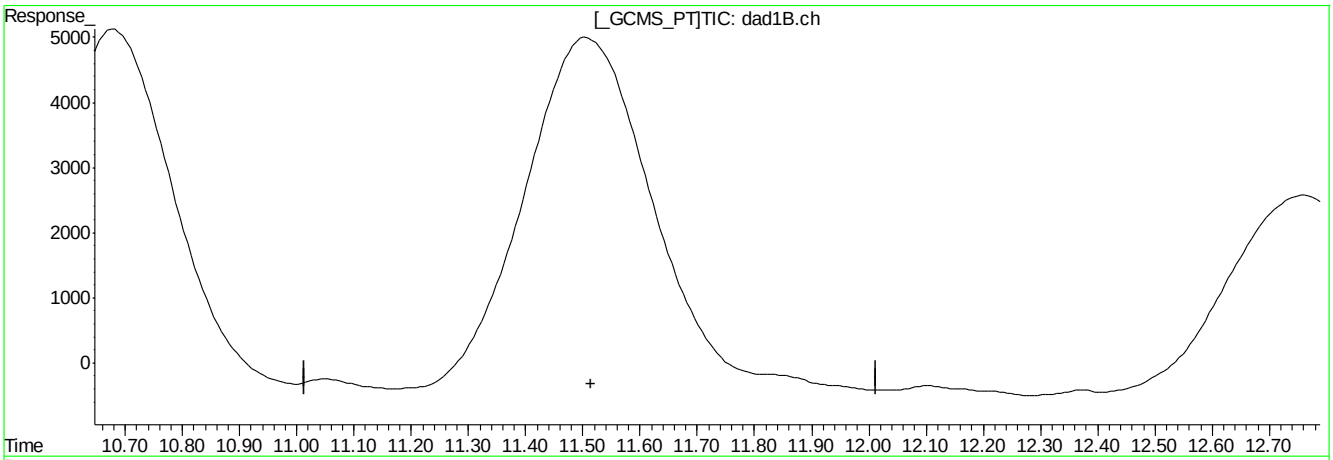
response 882657

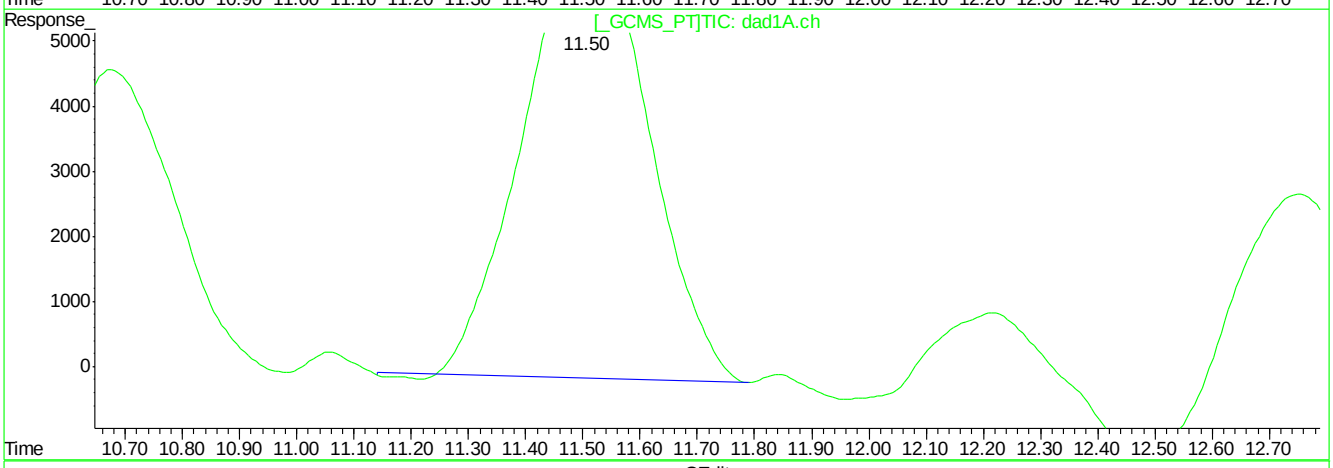
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Mon Jan 13 16:15:36 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:09 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:20:15 2025
Response via : Multiple Level Calibration





QEdit

(9) 2,4,6-Trinitrotoluene

0.00min 0.000ppb

response 0

(9) 2,4,6-Trinitrotoluene #2

11.51min 83.341ppb

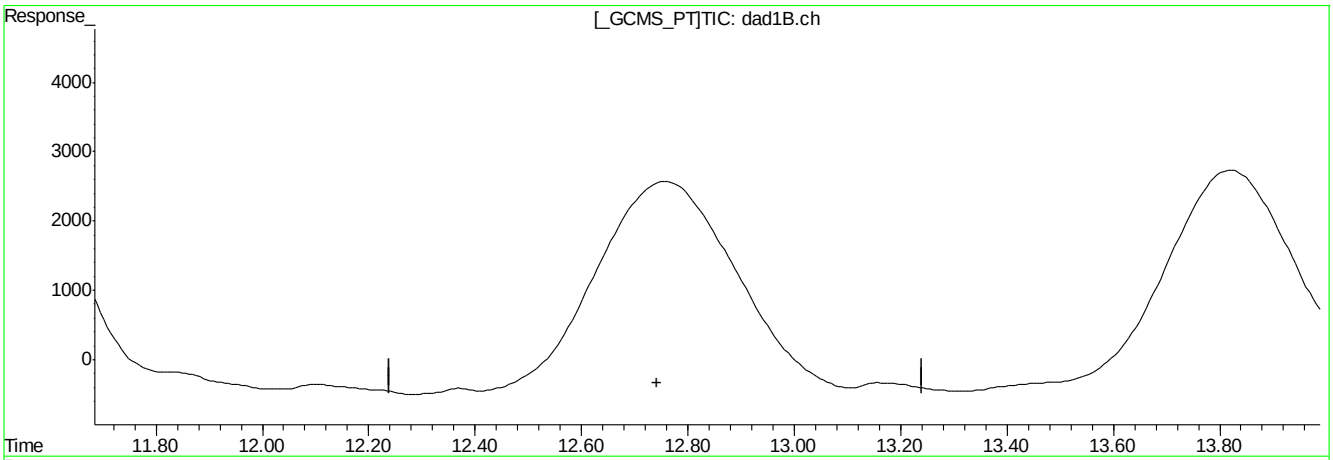
response 1027866

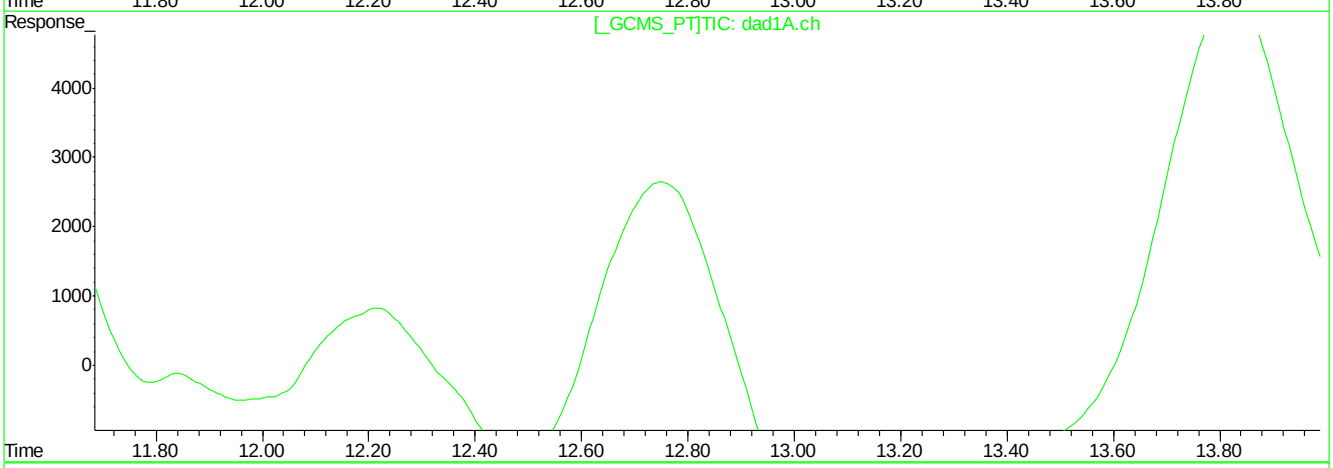
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Mon Jan 13 16:15:56 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:09 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:20:15 2025
Response via : Multiple Level Calibration





QEdit

(11) Tetryl

0.00min 0.000ppb

response 0

(11) Tetryl #2

0.00min 0.000ppb

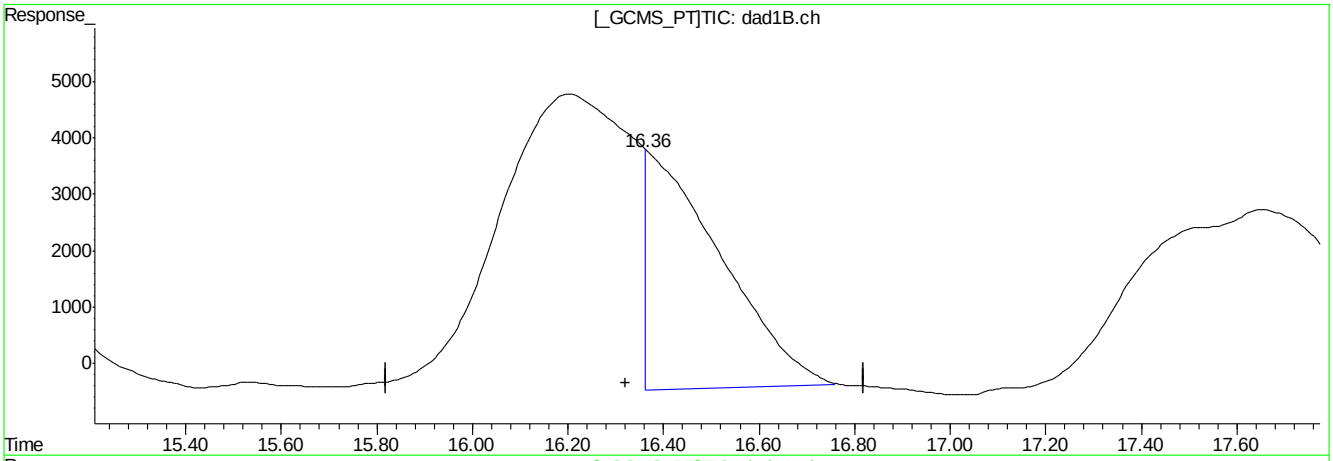
response 0

(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Mon Jan 13 16:16:10 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:09 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:20:15 2025
Response via : Multiple Level Calibration



(16) o-Nitrotoluene

16.36min 88.756ppb m

response 457654

(16) o-Nitrotoluene #2

16.34min 101.327ppb m

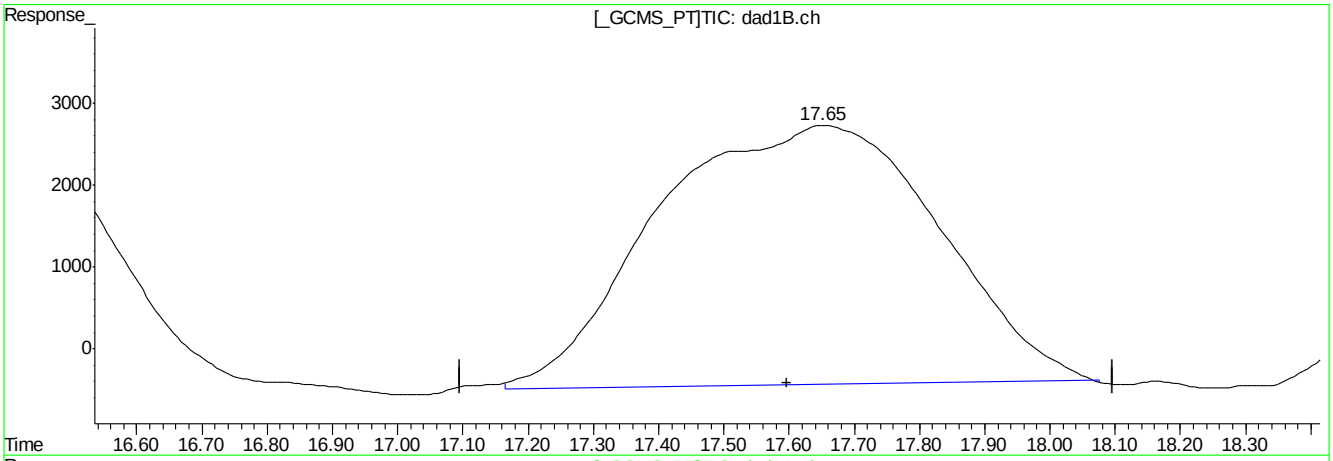
response 812374

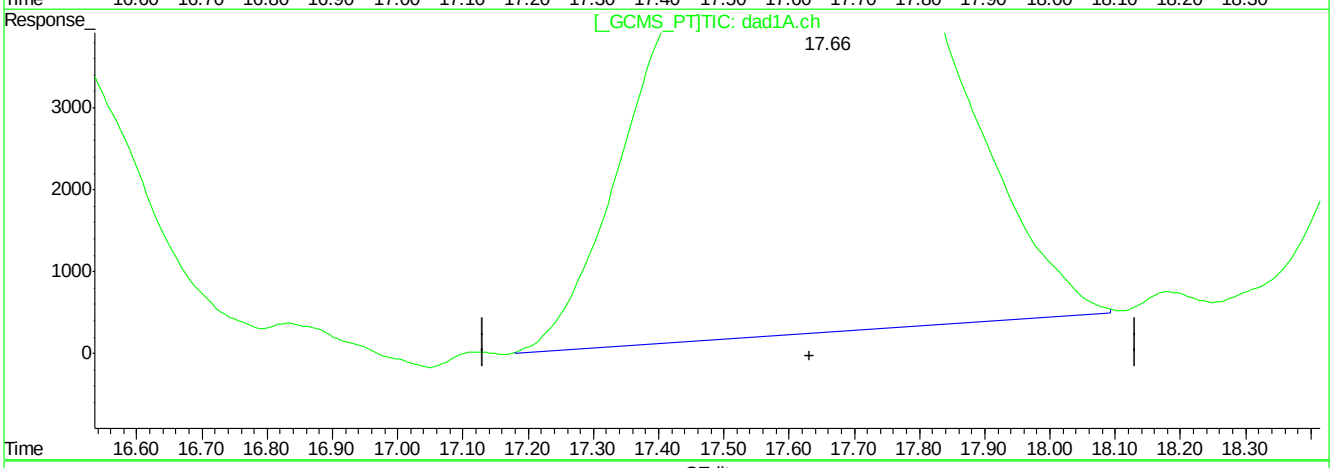
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Mon Jan 13 16:17:05 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:09 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:20:15 2025
Response via : Multiple Level Calibration





QEdit

(17) p-Nitrotoluene

17.65min 173.014ppb m

response 943022

(17) p-Nitrotoluene #2

17.66min 190.185ppb m

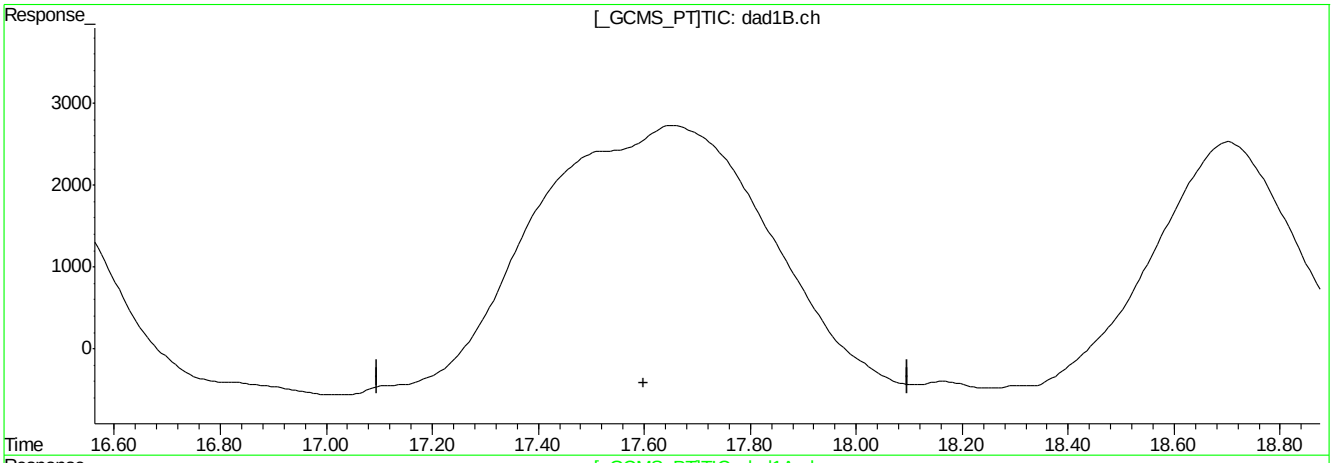
response 1729780

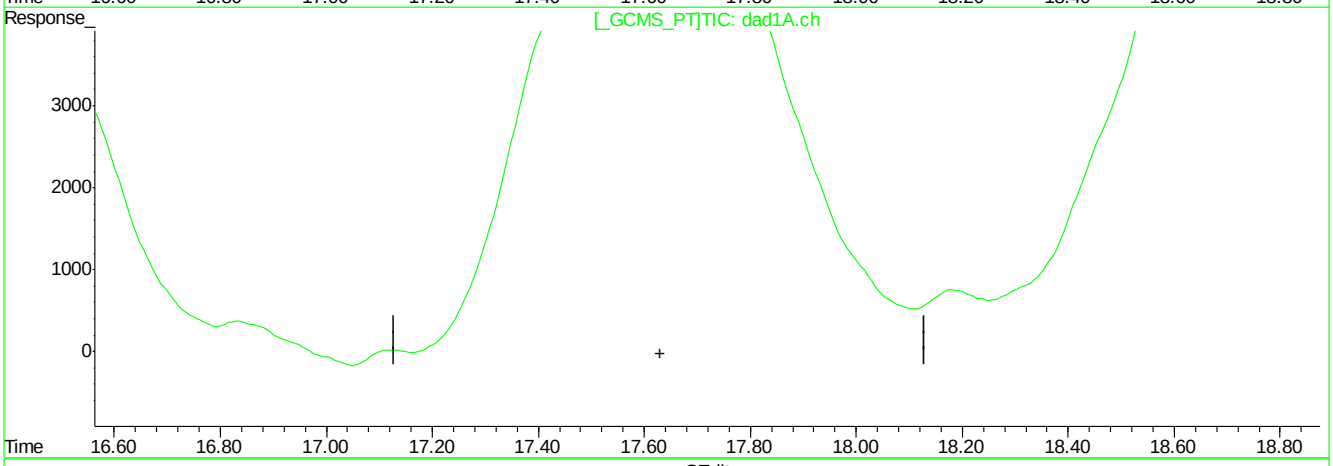
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Mon Jan 13 16:17:15 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:09 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:20:15 2025
Response via : Multiple Level Calibration





QEdit

(18) 4-Amino-2,6-Dinitrotoluene

0.00min 0.000ppb

response 0

(18) 4-Amino-2,6-Dinitrotoluene #2

0.00min 0.000ppb

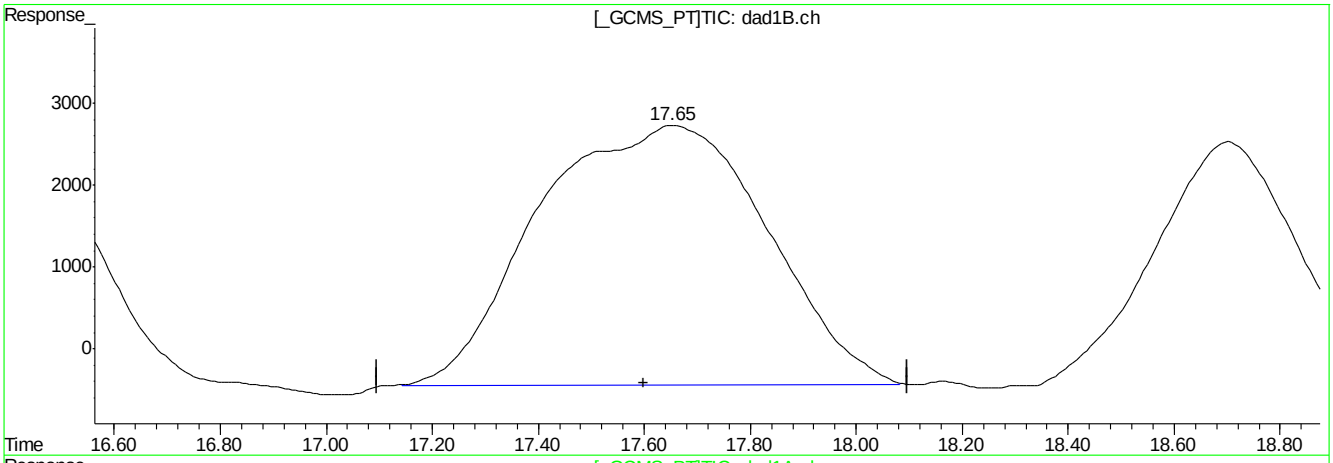
response 0

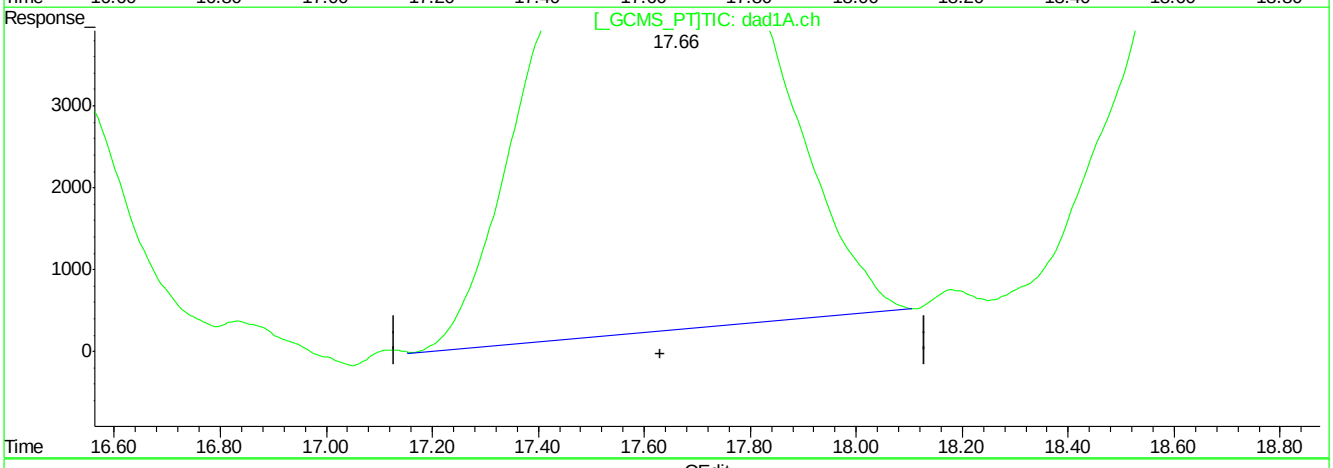
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Mon Jan 13 16:17:21 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:09 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:20:15 2025
Response via : Multiple Level Calibration





QEdit

(18) 4-Amino-2,6-Dinitrotoluene

17.65min 174.125ppb m

response 949476

(18) 4-Amino-2,6-Dinitrotoluene #2

17.66min 189.103ppb m

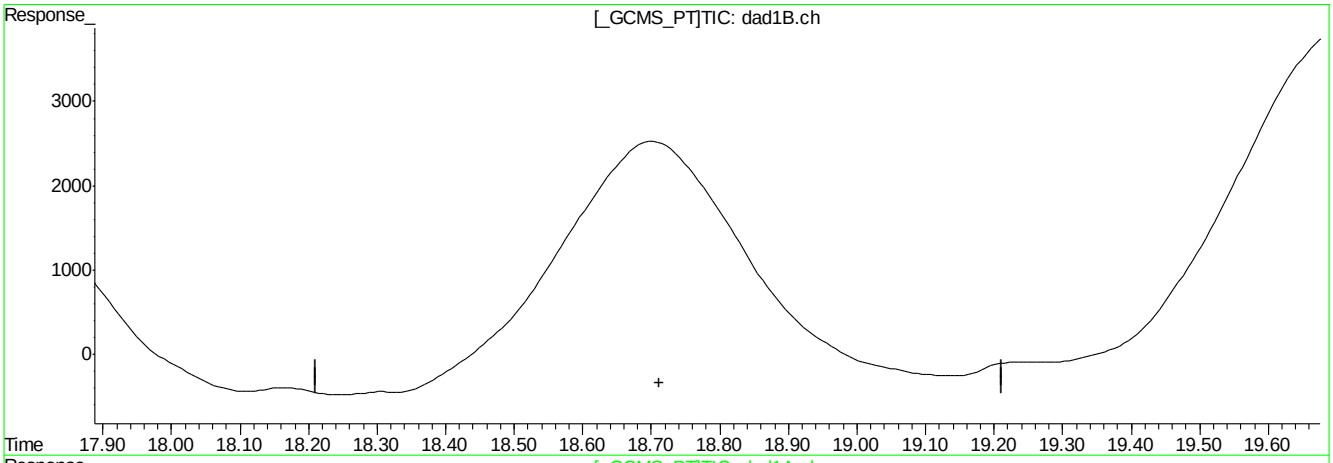
response 1724423

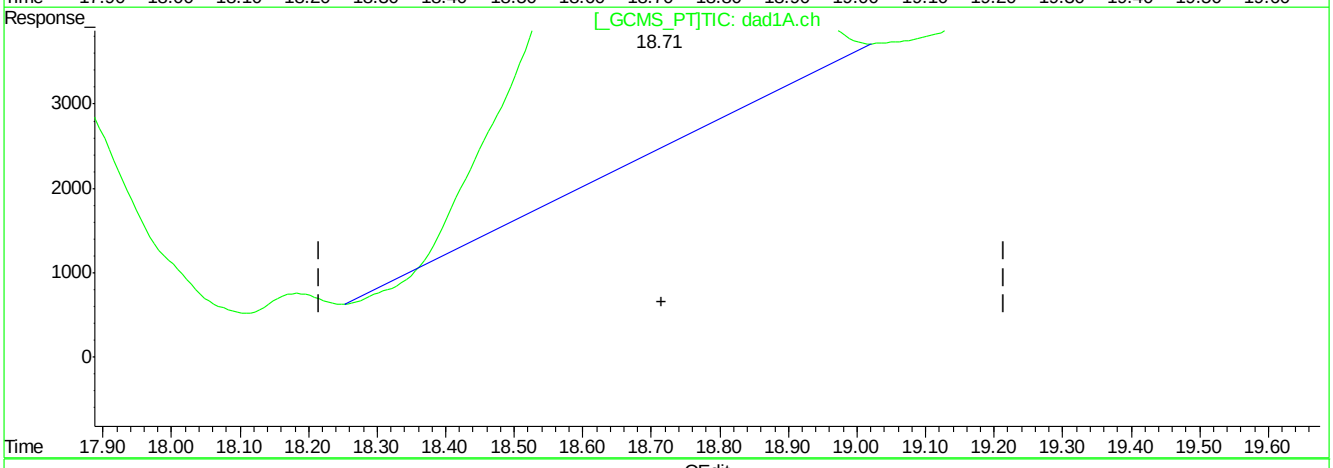
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Mon Jan 13 16:17:27 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:09 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:20:15 2025
Response via : Multiple Level Calibration





QEdit

(19) m-Nitrotoluene

0.00min 0.000ppb

response 0

(19) m-Nitrotoluene #2

18.71min 106.762ppb

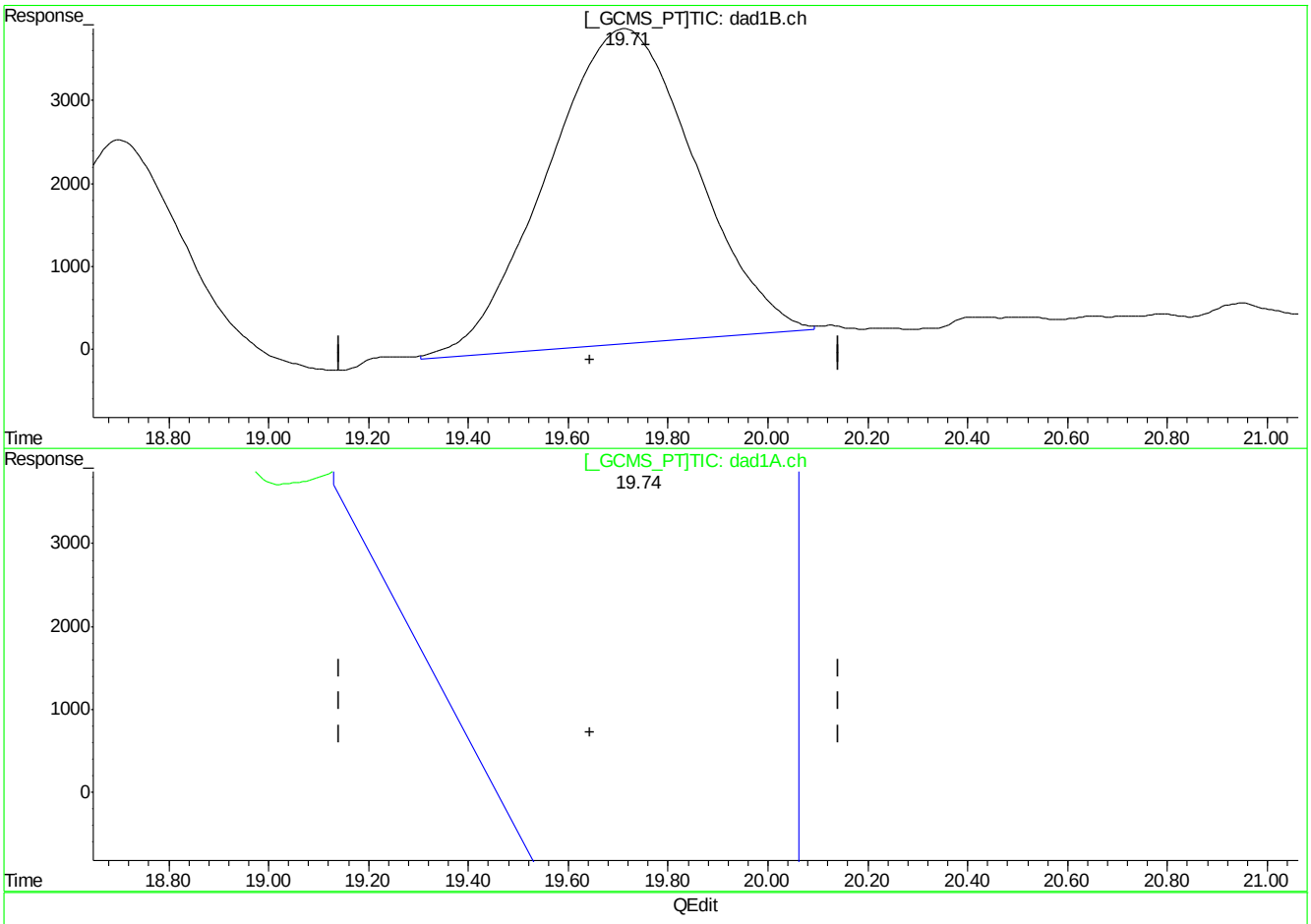
response 950633

(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Mon Jan 13 16:17:33 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:09 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 15:20:15 2025
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

19.71min 88.093ppb m

response 781601

(20) 2-Amino-4,6-Dinitrotoluene #2

19.74min 92.086ppb

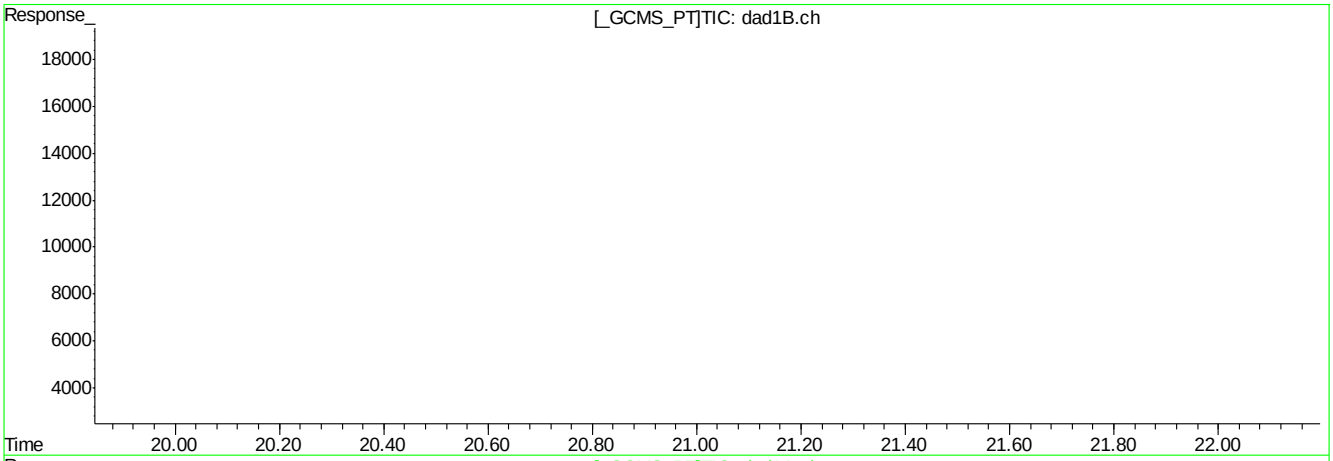
response 1078740

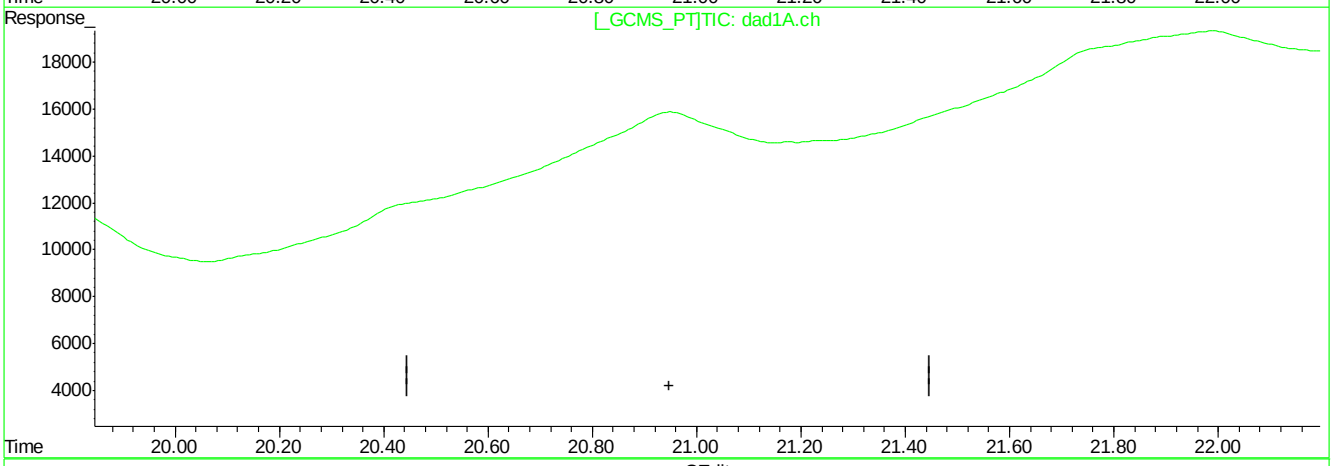
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Mon Jan 13 16:17:43 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:19 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 16:18:38 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

0.00min 0.000ppb

response 0

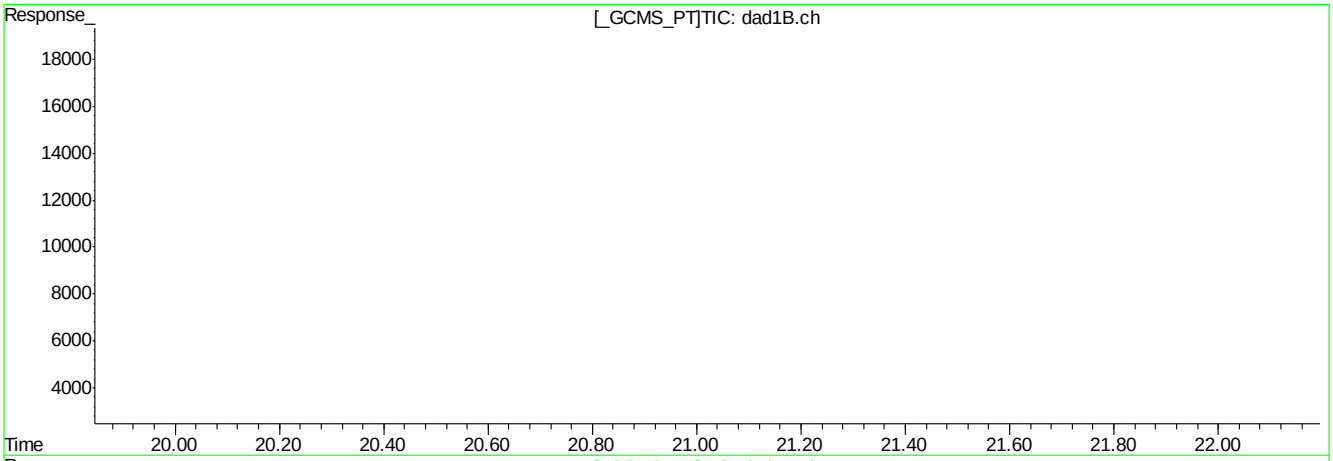
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Mon Jan 13 16:19:46 2025

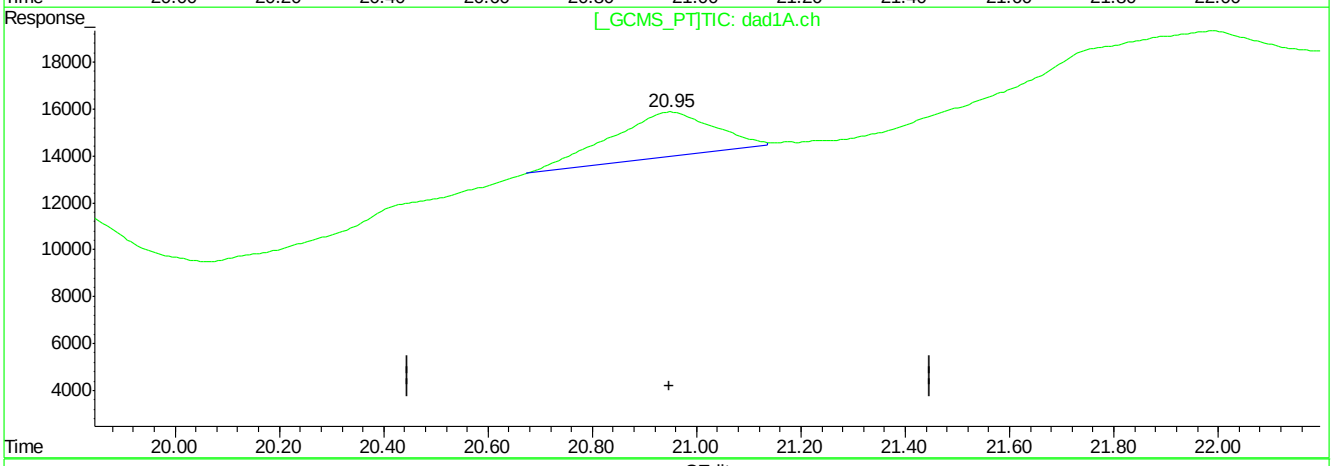
GG631123.D edits: PETN

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:19 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 16:18:38 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

20.95min 80.741ppb m

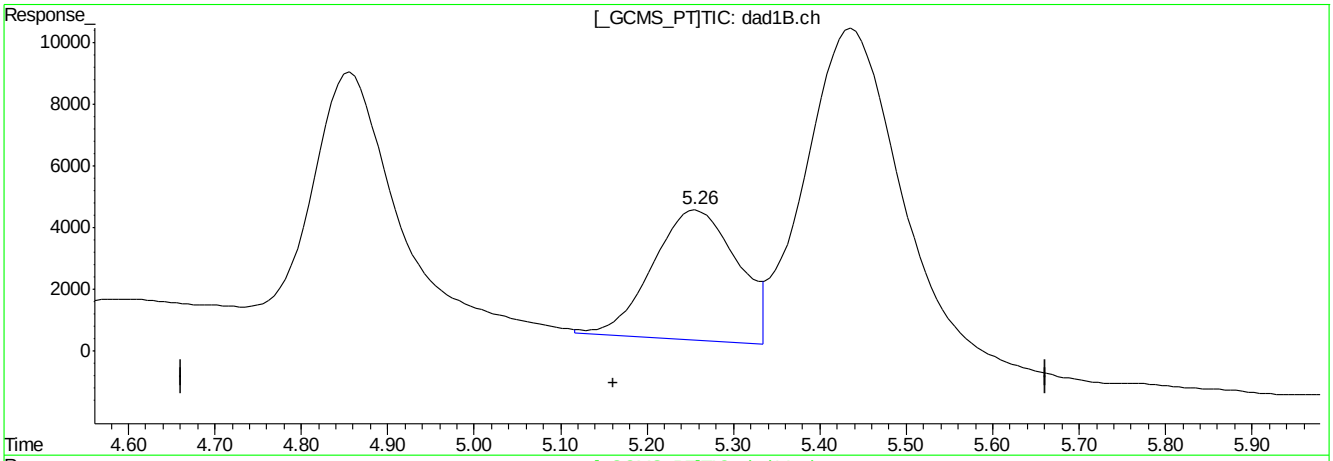
response 264248

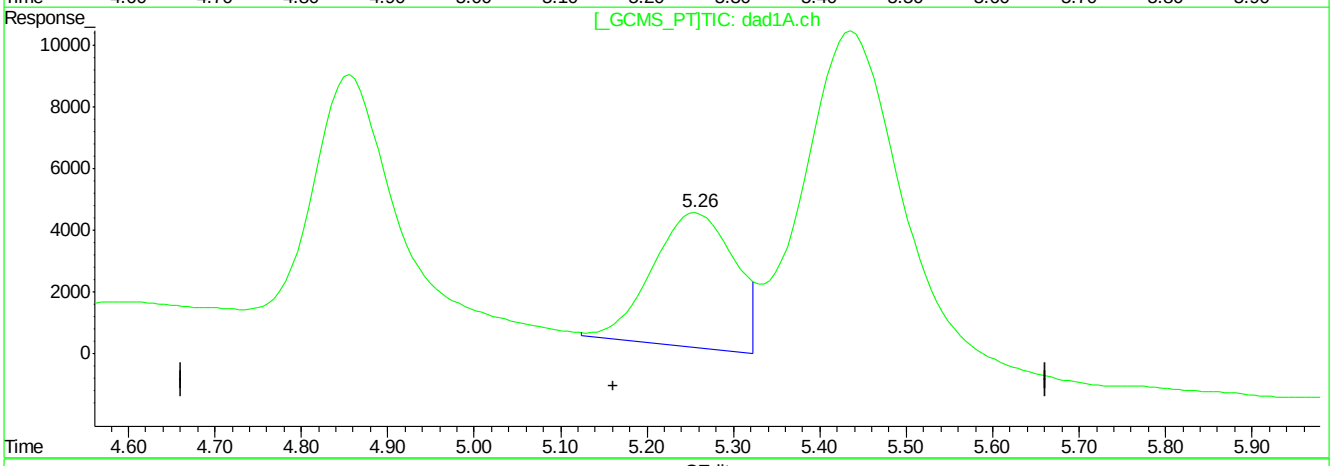
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Mon Jan 13 16:19:50 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

5.26min 87.785ppb m

response 282559

(2) HMX #2

5.26min 90.079ppb m

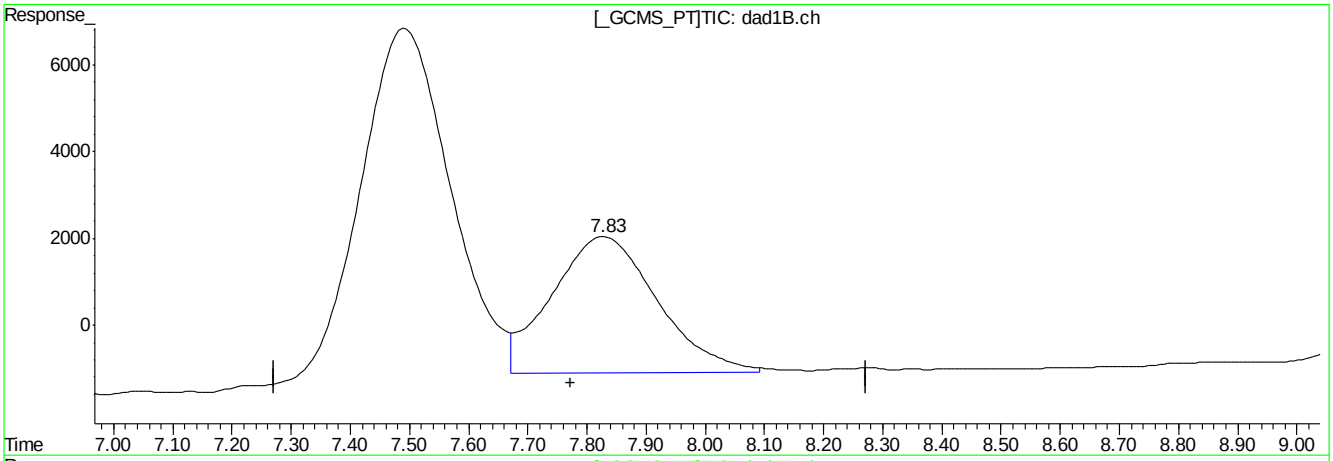
response 294830

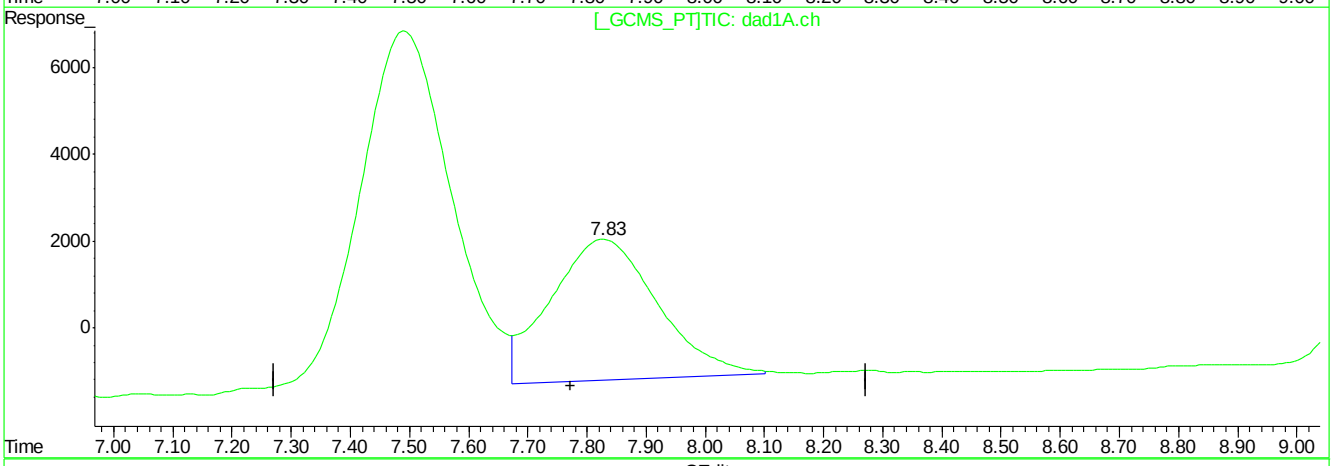
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Thu Jan 16 11:16:10 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(6) RDX

7.83min 86.907ppb m

response 389601

(6) RDX #2

7.83min 92.171ppb m

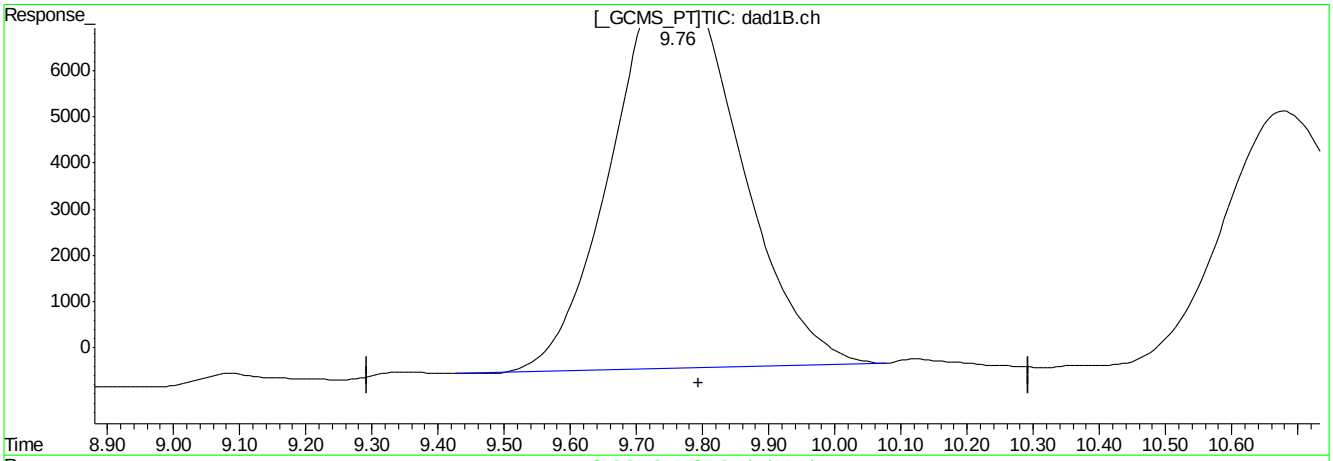
response 407681

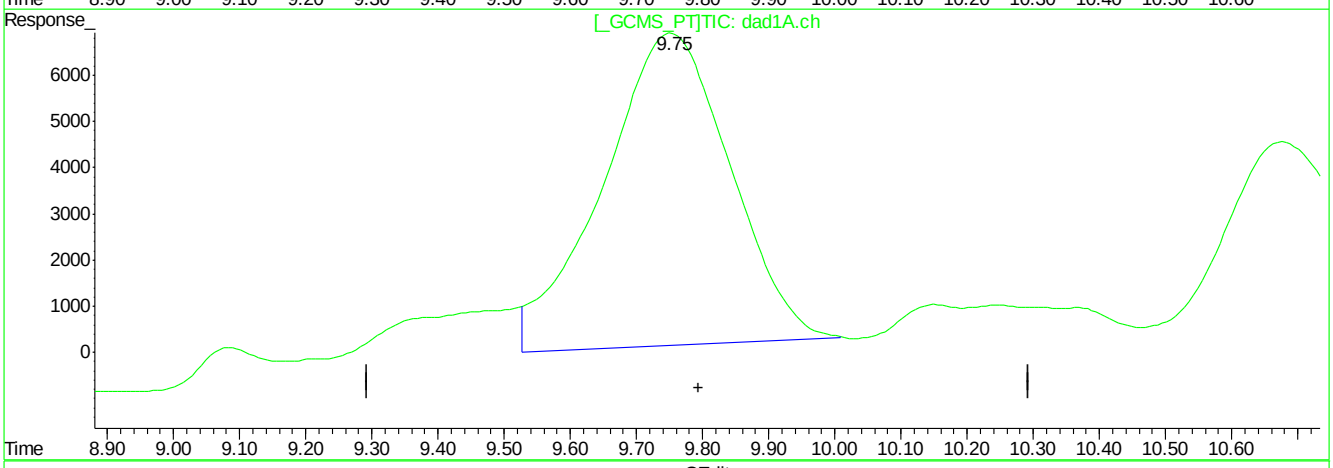
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Thu Jan 16 11:16:22 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

9.76min 87.466ppb

response 1136990

(7) 1,3-Dinitrobenzene #2

9.75min 92.246ppb m

response 902841

(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Thu Jan 16 11:16:27 2025

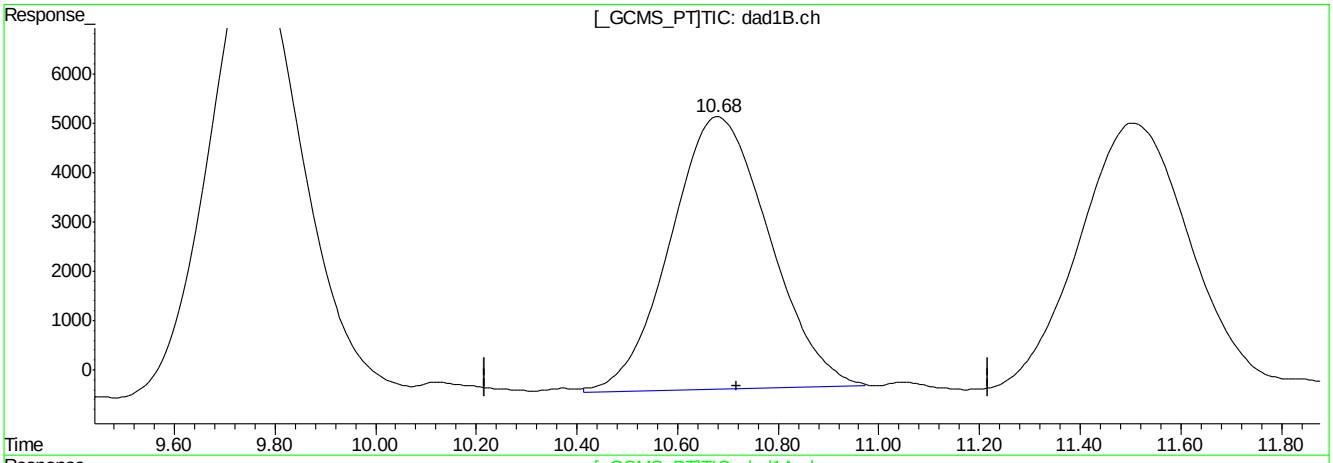
GG631123.D edits: 1,3-Dinitrobenzene

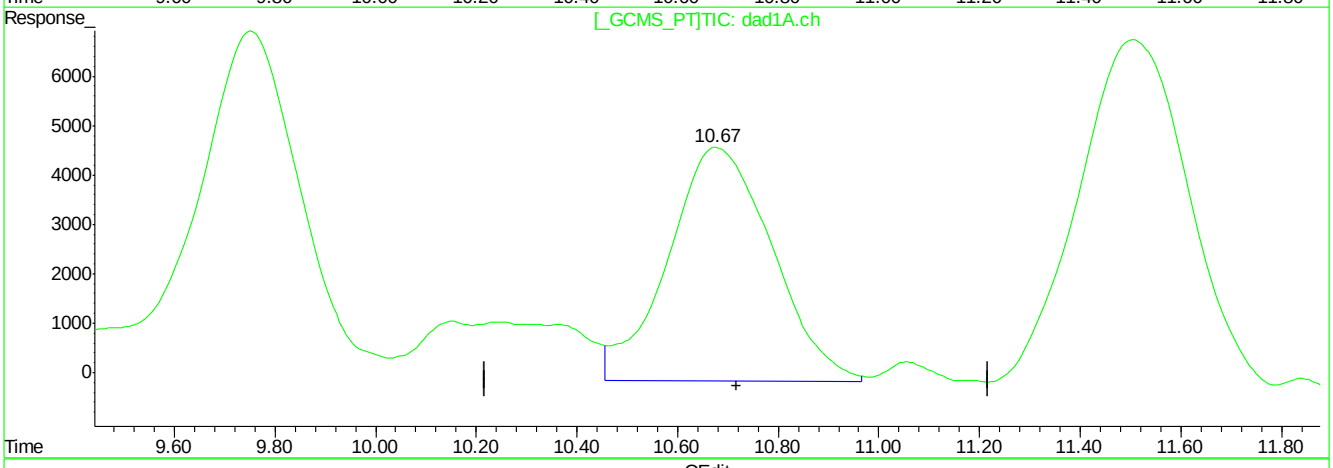
FC24818

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(8) Nitrobenzene

10.68min 87.035ppb m

response 749350

(8) Nitrobenzene #2

10.67min 87.575ppb m

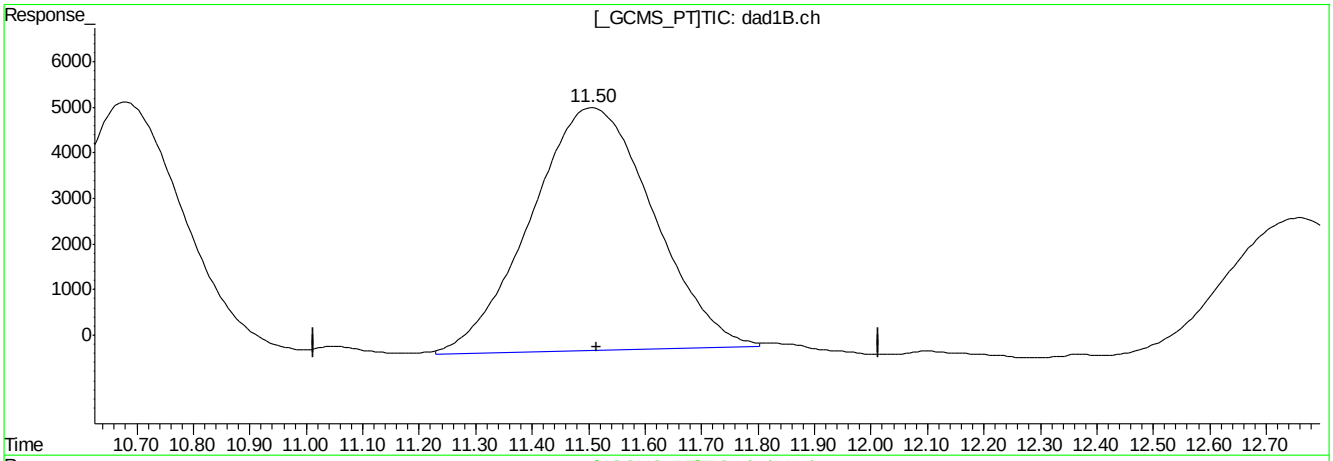
response 679572

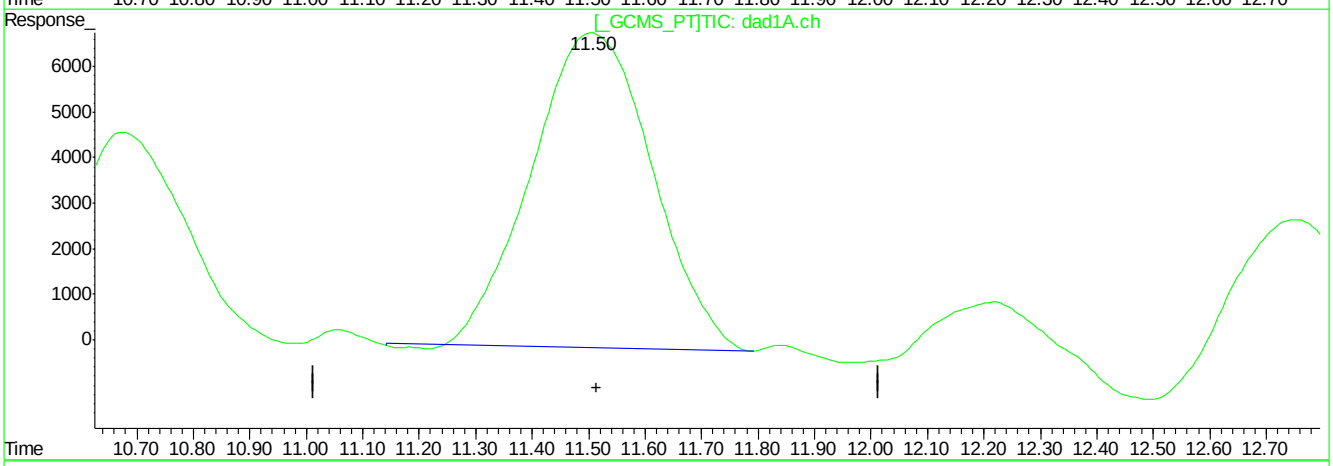
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Thu Jan 16 11:16:33 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(9) 2,4,6-Trinitrotoluene

11.50min 86.496ppb m

response 803565

(9) 2,4,6-Trinitrotoluene #2

11.51min 83.341ppb

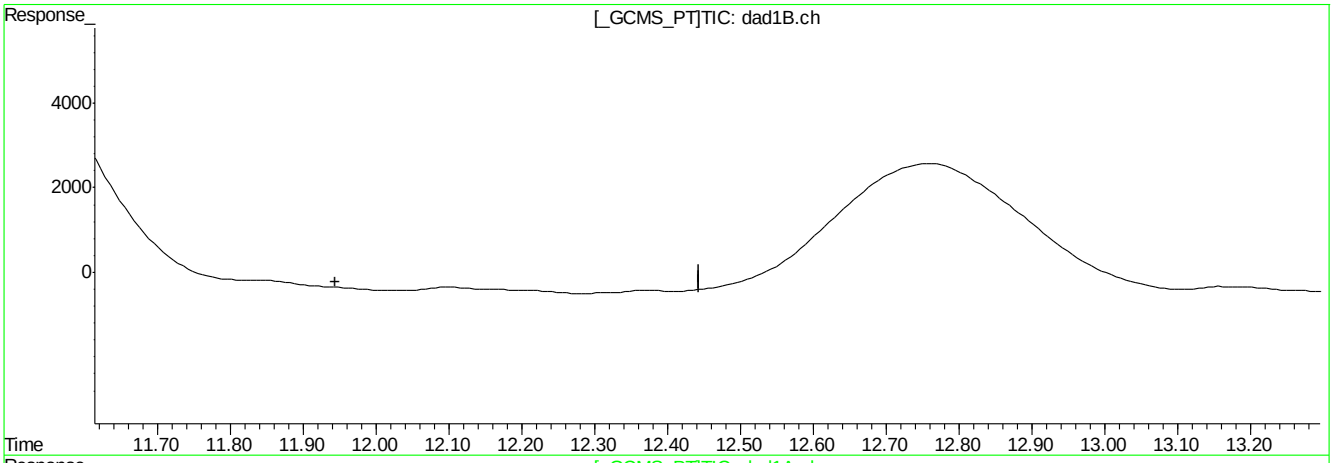
response 1027866

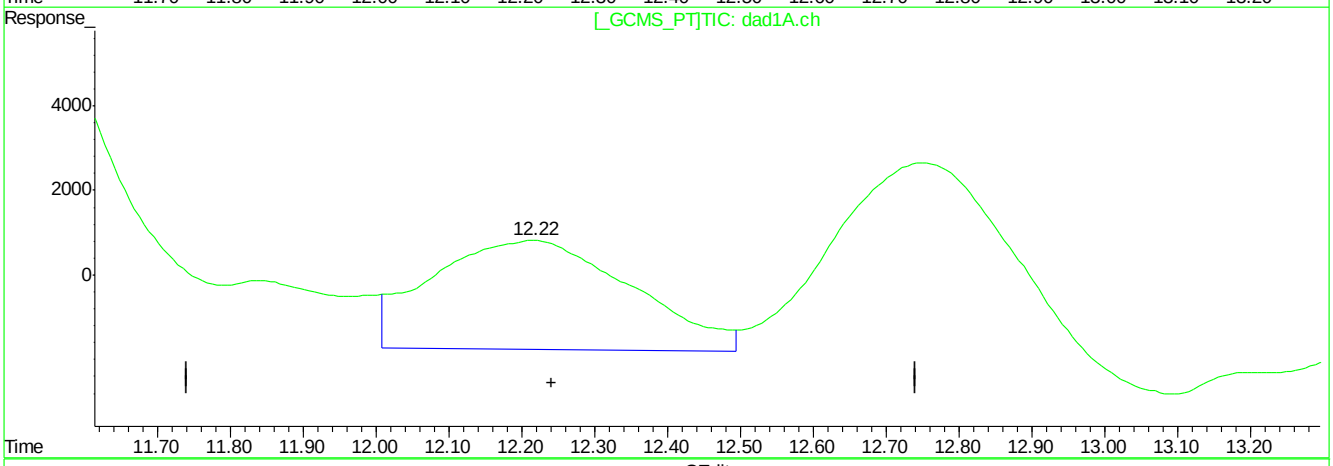
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Thu Jan 16 11:16:38 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

12.22min 160.789ppb m

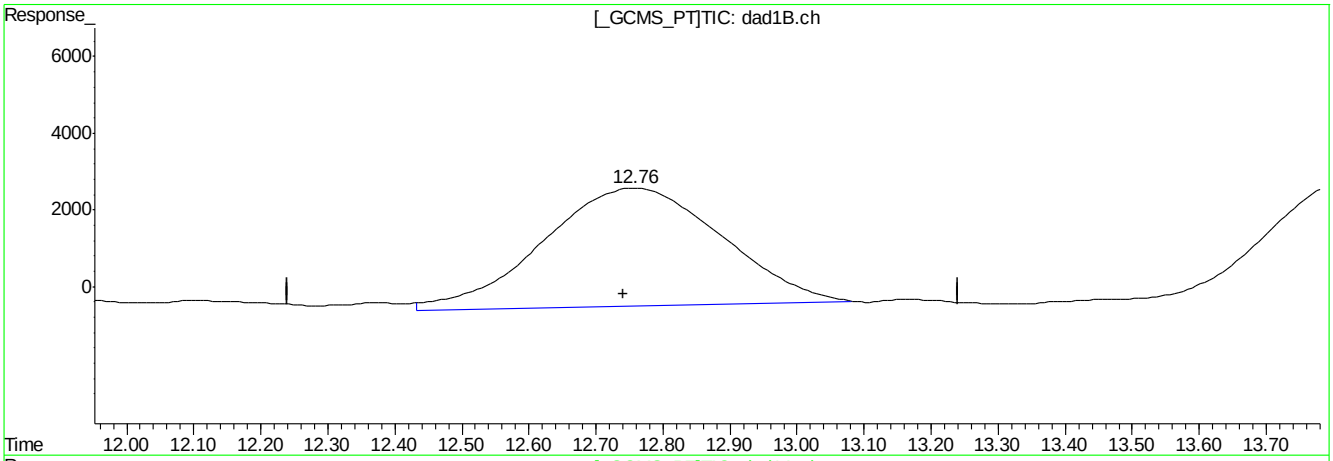
response 491658

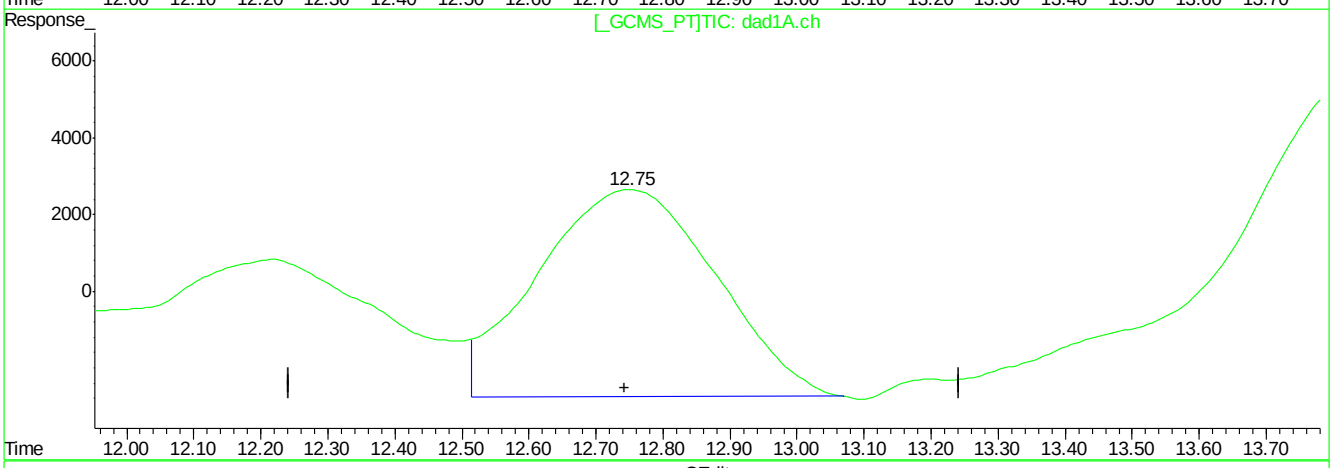
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Thu Jan 16 11:16:45 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(11) Tetryl

12.76min 83.125ppb m

response 574071

(11) Tetryl #2

12.75min 79.221ppb m

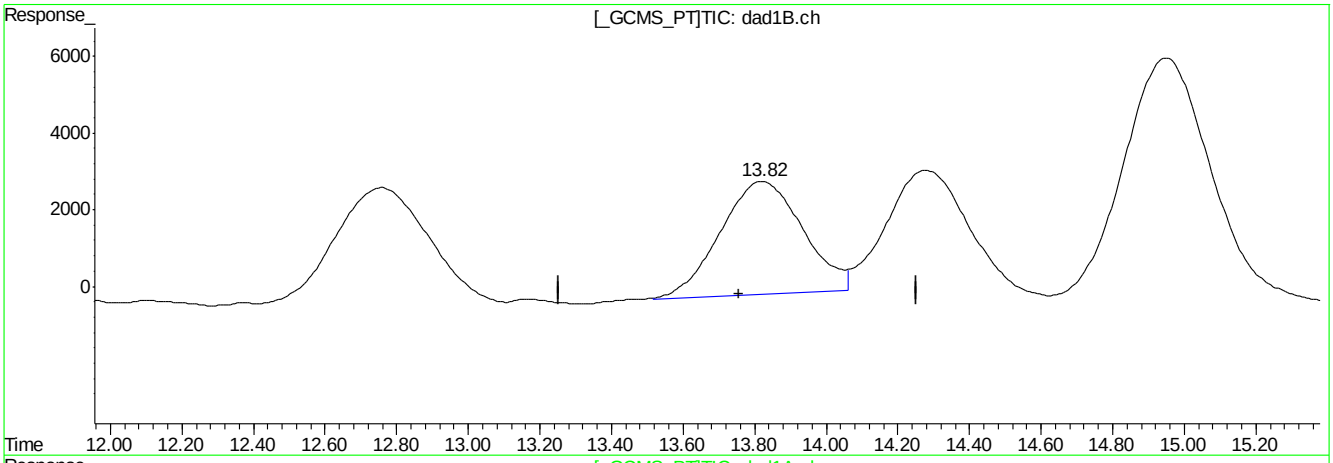
response 989821

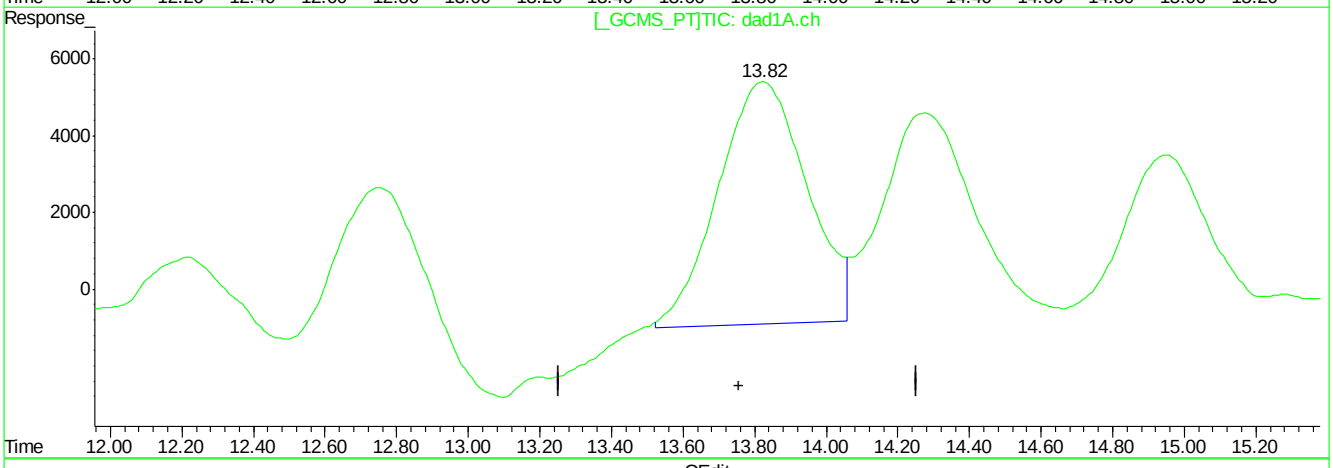
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Thu Jan 16 11:16:51 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(12) 3,4-Dinitrotoluene (S)

13.82min 104.766ppb m

response 475372

(12) 3,4-Dinitrotoluene #2 (S)

13.82min 121.130ppb m

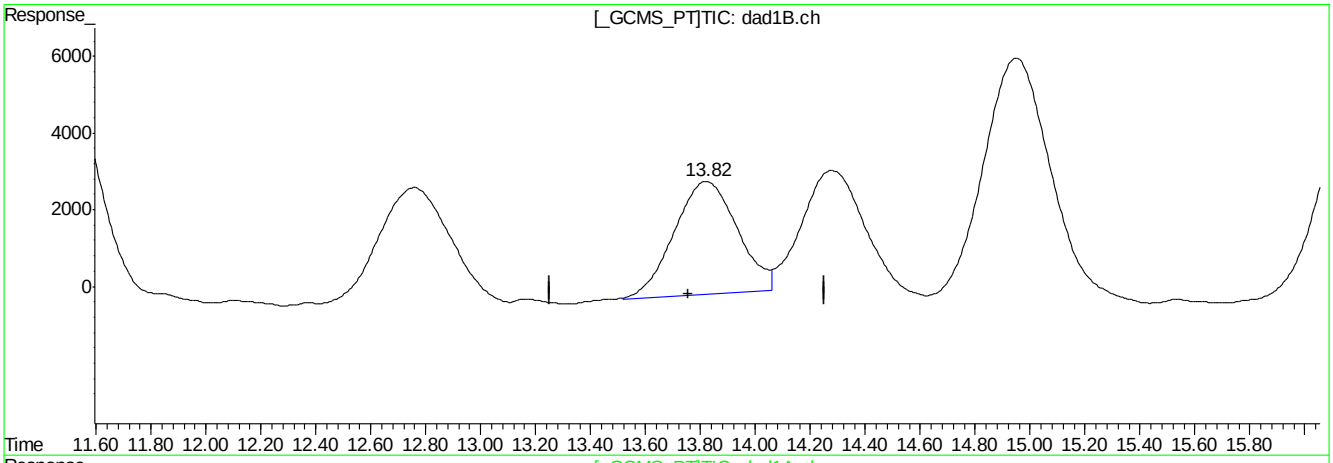
response 1091331

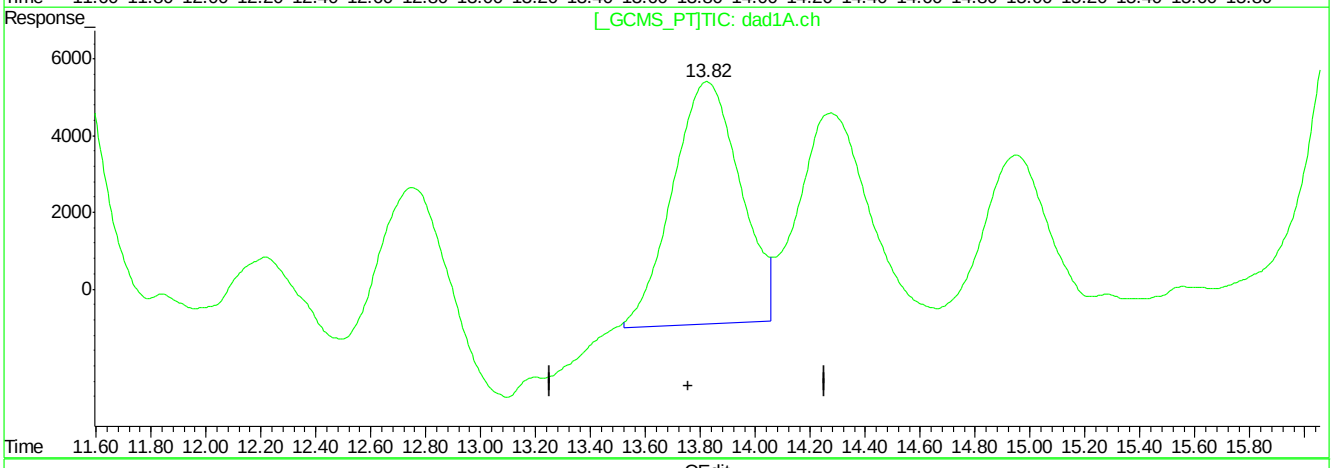
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Thu Jan 16 11:17:04 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(12) 3,4-Dinitrotoluene (S)

13.82min 104.766ppb m

response 475372

(12) 3,4-Dinitrotoluene #2 (S)

13.82min 121.130ppb m

response 1091331

(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Thu Jan 16 11:17:14 2025

9.5.19.24

9

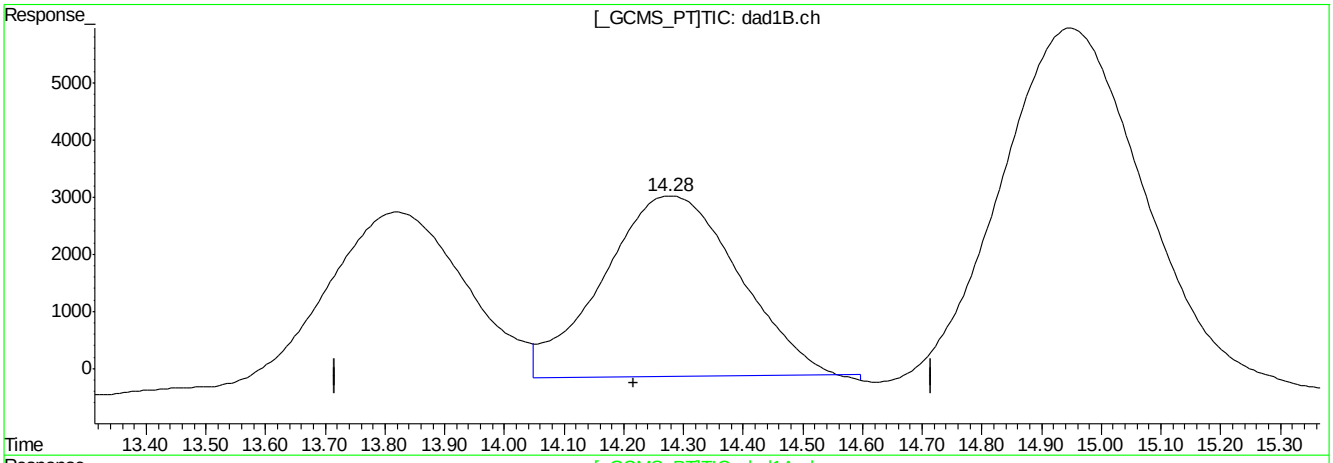
GG631123.D edits: 3,4-Dinitrotoluene

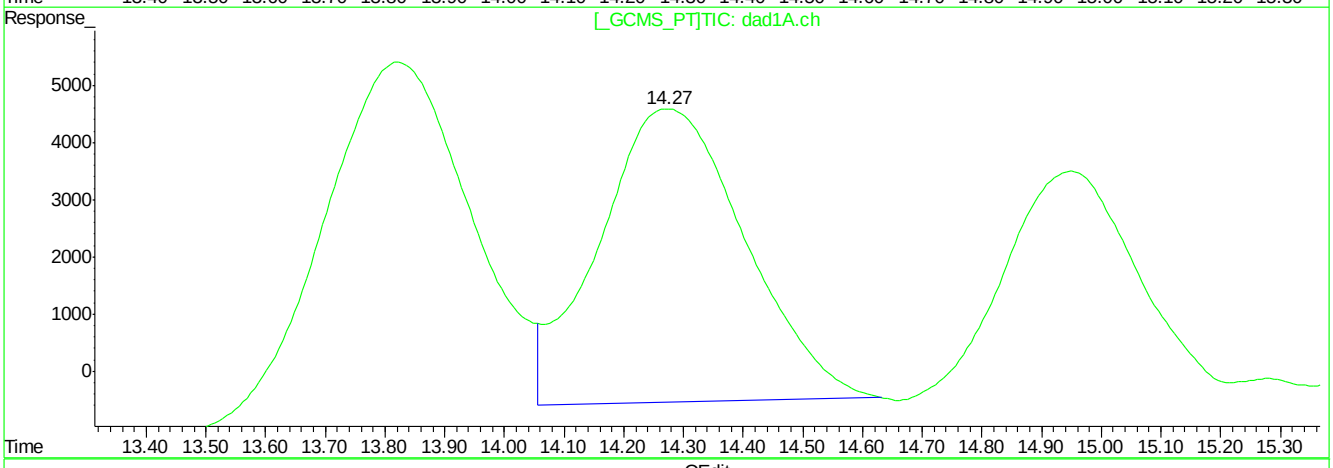
FC24818

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(13) 2,6-Dinitrotoluene

14.28min 78.989ppb m

response 500351

(13) 2,6-Dinitrotoluene #2

14.27min 90.448ppb m

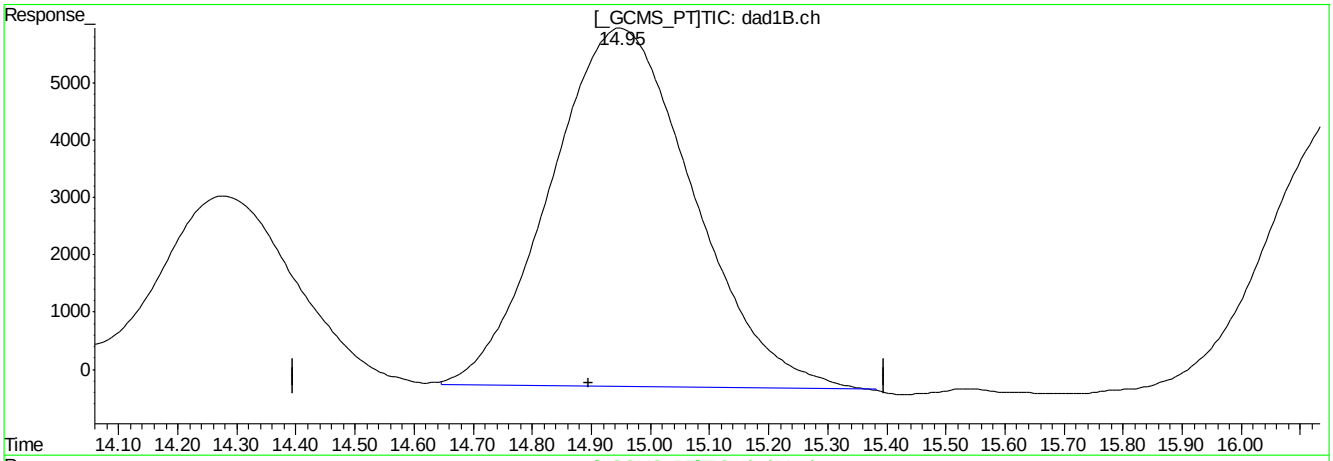
response 871228

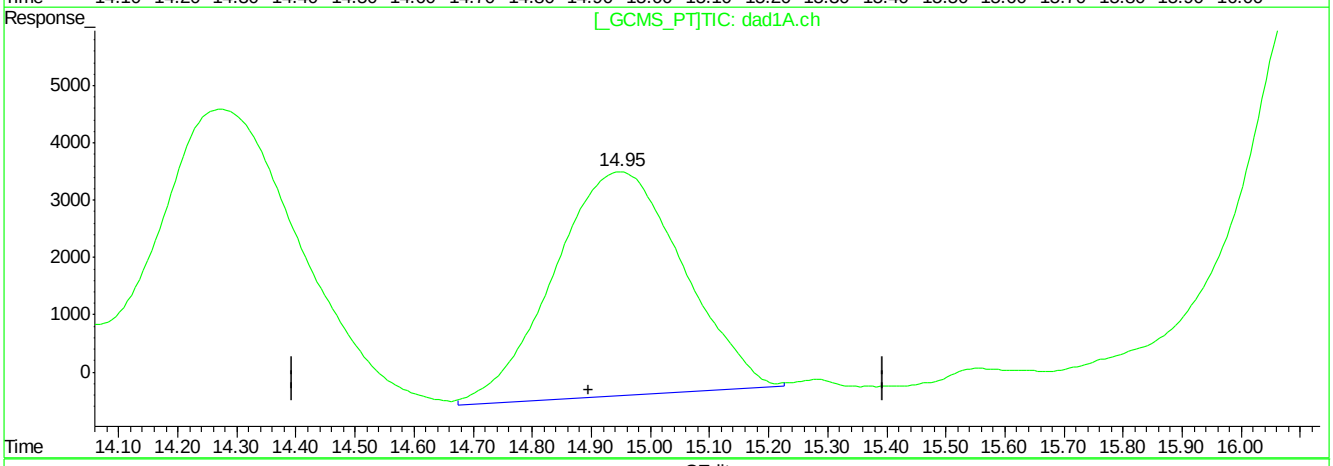
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Thu Jan 16 11:17:20 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(14) 2,4-Dinitrotoluene

14.95min 85.625ppb m

response 1052573

(14) 2,4-Dinitrotoluene #2

14.95min 68.905ppb m

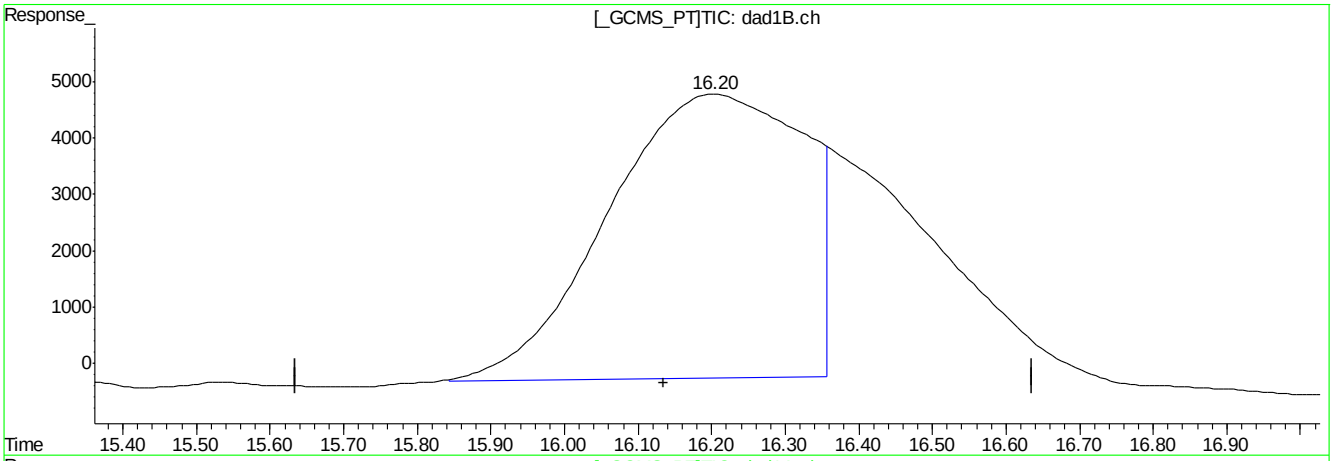
response 593806

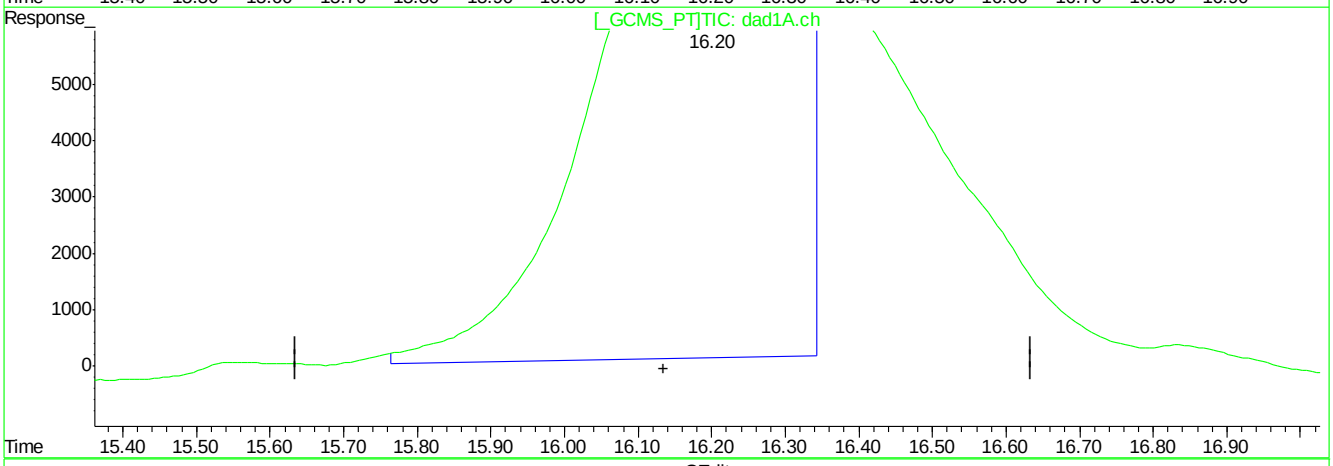
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Thu Jan 16 11:17:25 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(15) 3,5-Dinitroaniline

16.20min 92.974ppb m

response 939175

(15) 3,5-Dinitroaniline #2

16.20min 103.469ppb m

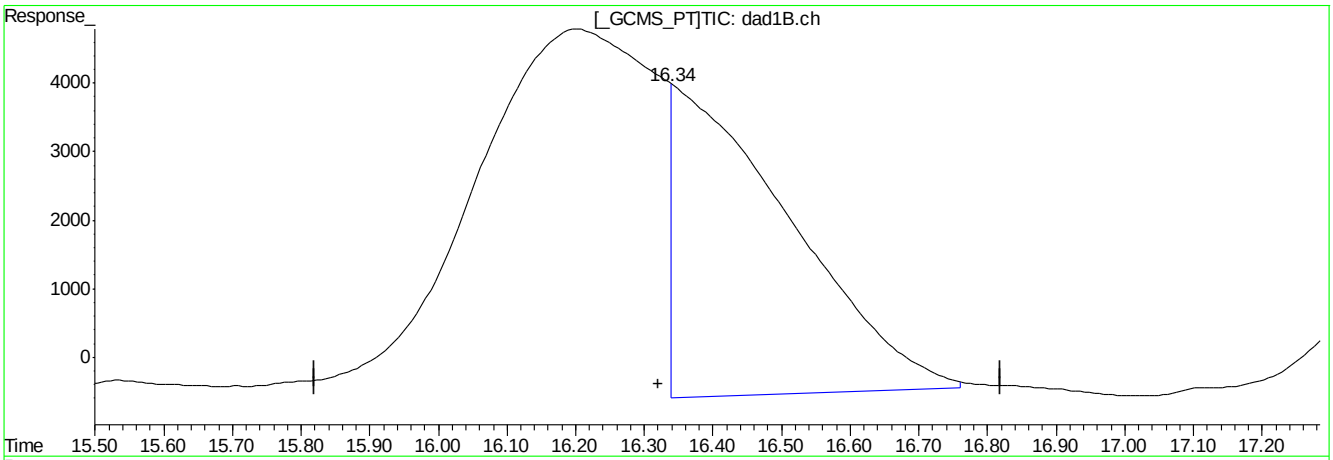
response 1674477

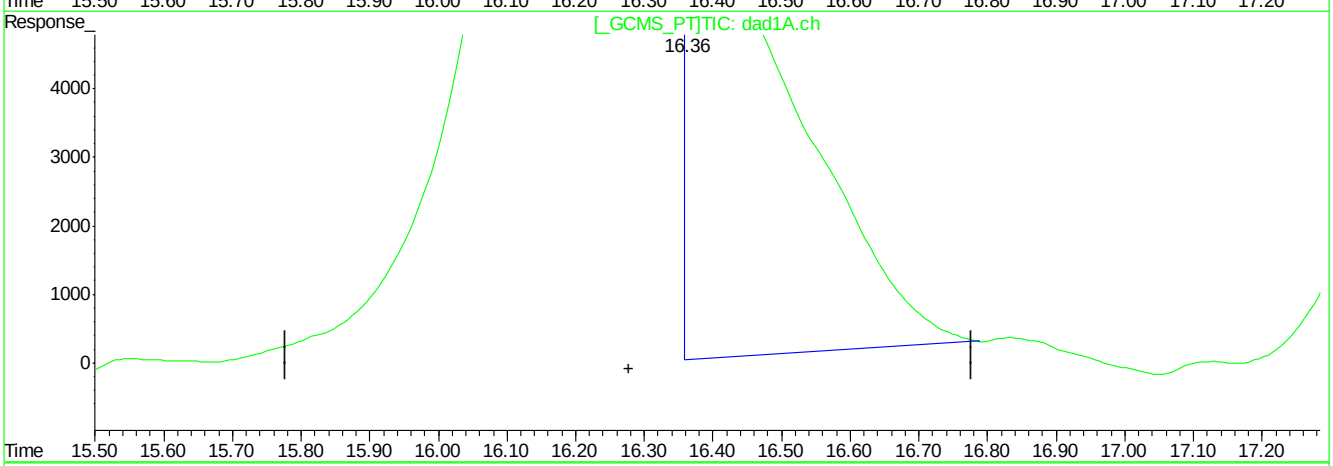
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Thu Jan 16 11:17:30 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(16) o-Nitrotoluene

16.34min 104.907ppb m

response 540936

(16) o-Nitrotoluene #2

16.36min 91.063ppb m

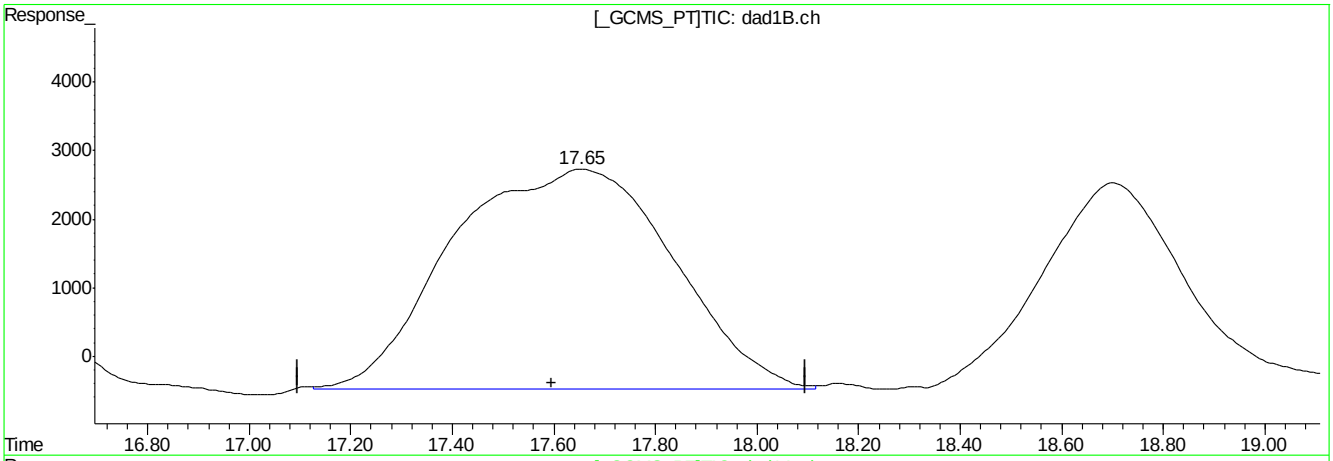
response 730083

(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Thu Jan 16 11:17:35 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration



(17) p-Nitrotoluene

17.65min 178.696ppb m

response 973991

(17) p-Nitrotoluene #2

17.66min 191.116ppb m

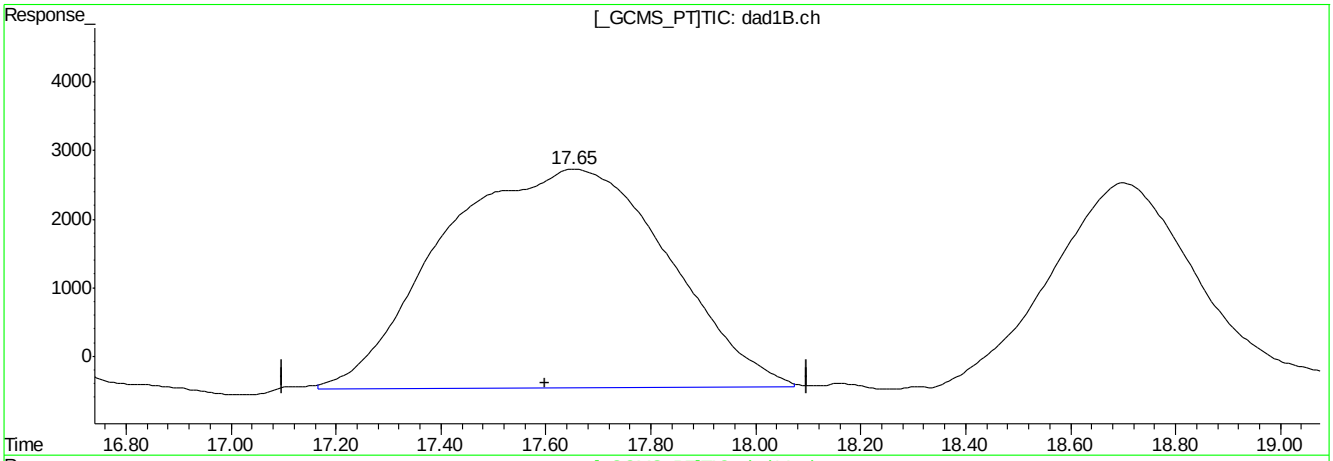
response 1738247

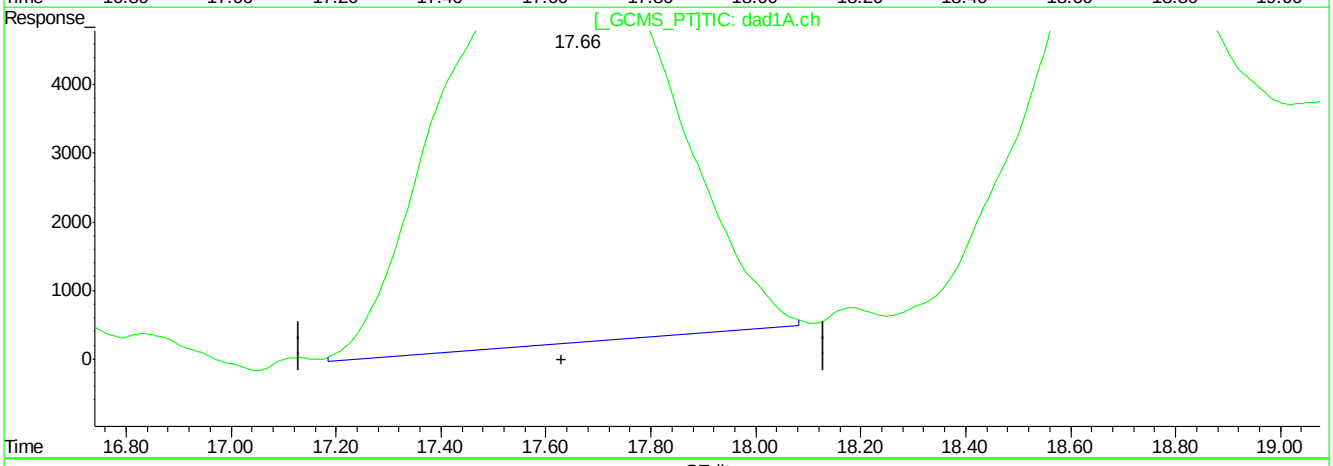
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Thu Jan 16 11:17:40 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(18) 4-Amino-2,6-Dinitrotoluene

17.65min 175.809ppb m

response 958658

(18) 4-Amino-2,6-Dinitrotoluene #2

17.66min 191.225ppb m

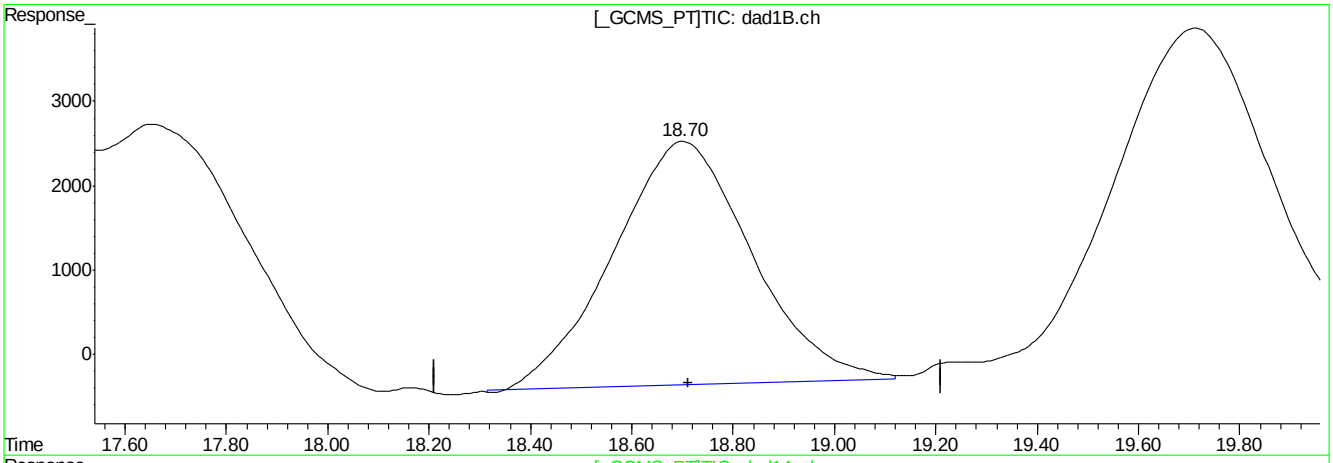
response 1743770

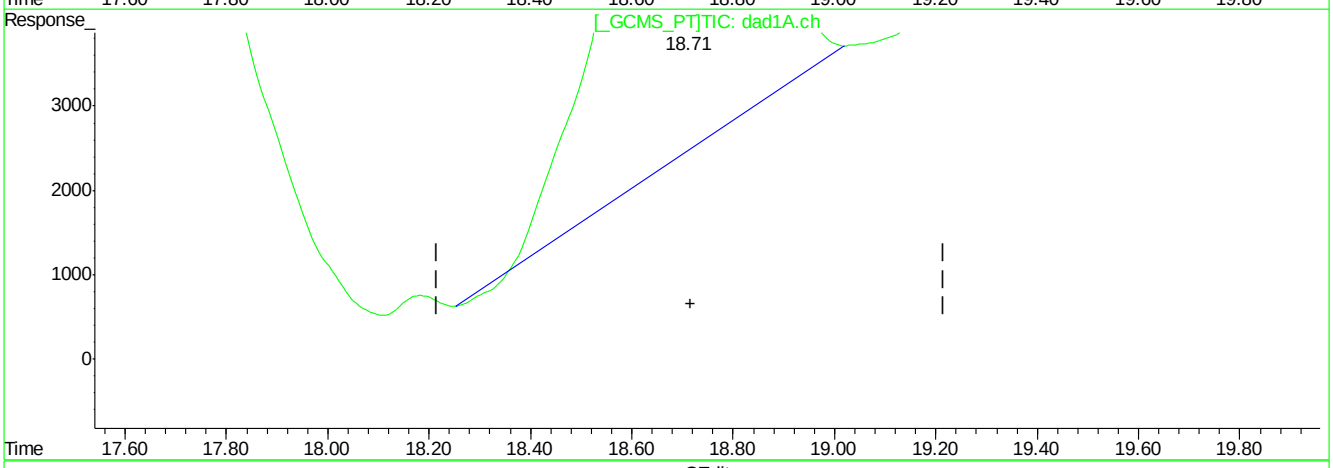
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Thu Jan 16 11:17:45 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(19) m-Nitrotoluene

18.70min 96.890ppb m

response 549388

(19) m-Nitrotoluene #2

18.71min 106.762ppb

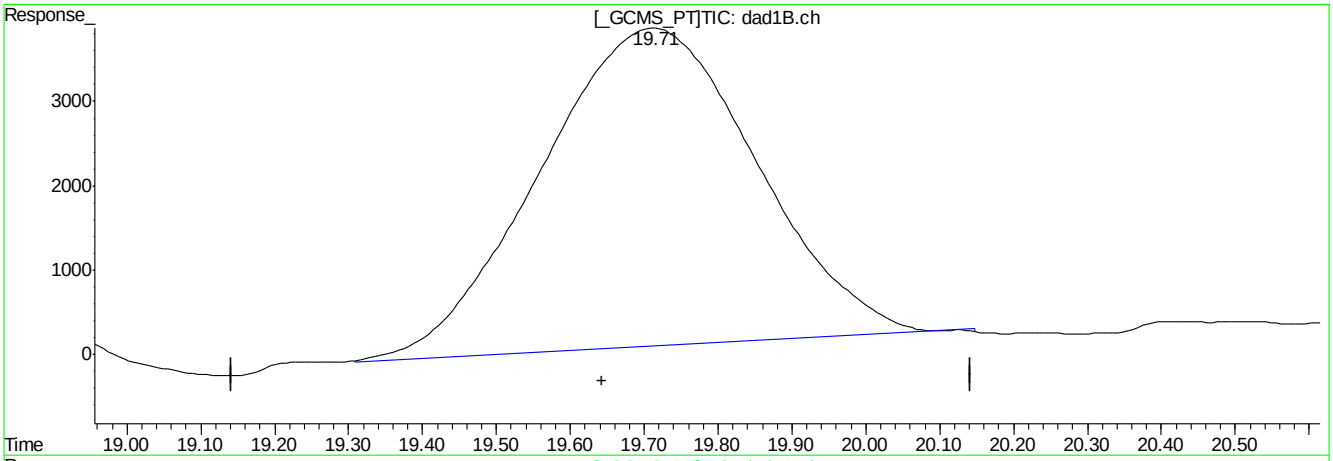
response 950633

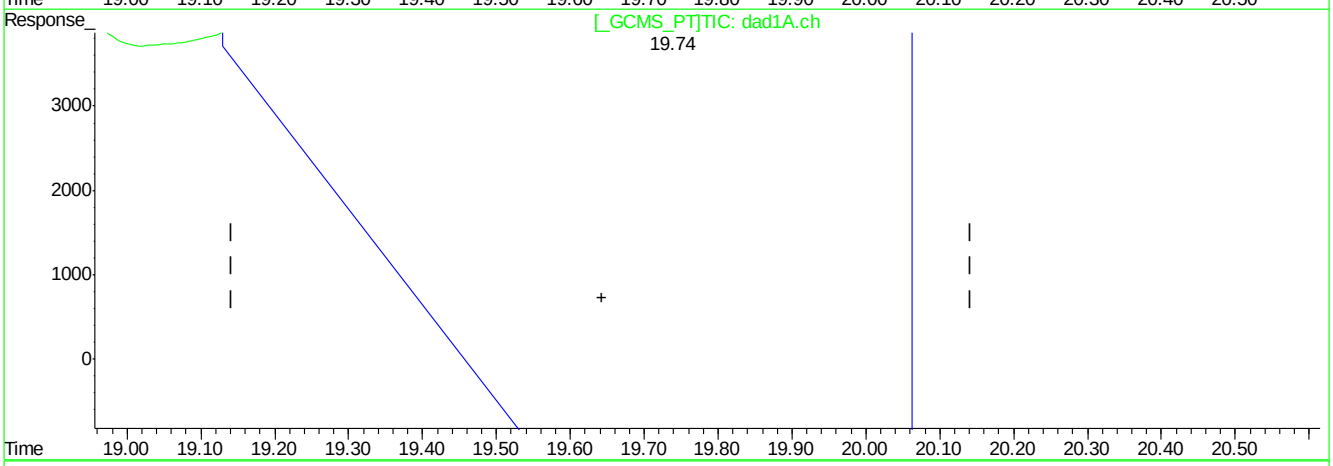
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Thu Jan 16 11:17:50 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(20) 2-Amino-4,6-Dinitrotoluene

19.71min 86.261ppb m

response 765342

(20) 2-Amino-4,6-Dinitrotoluene #2

19.74min 92.086ppb

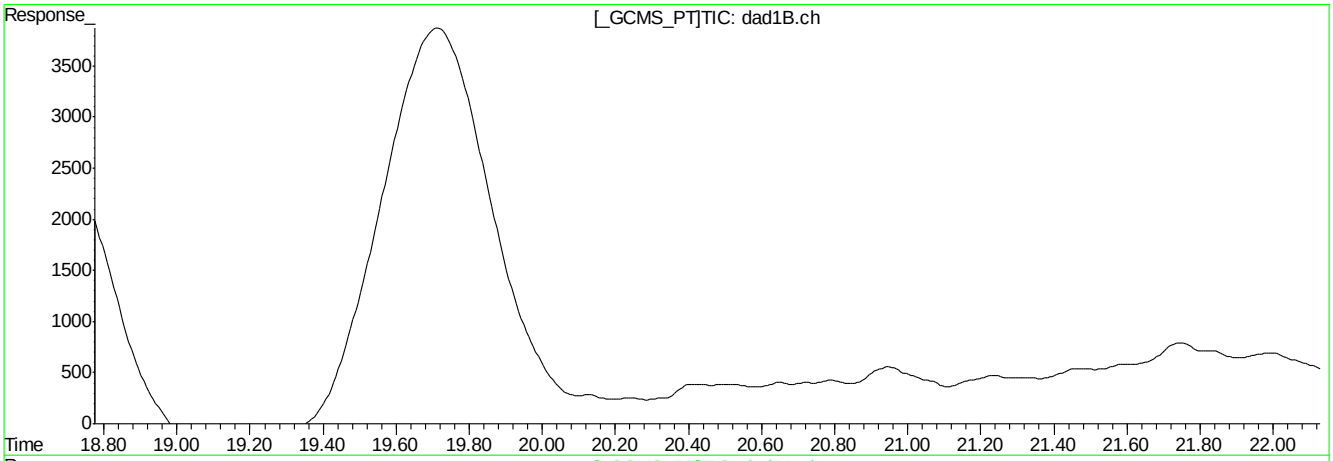
response 1078740

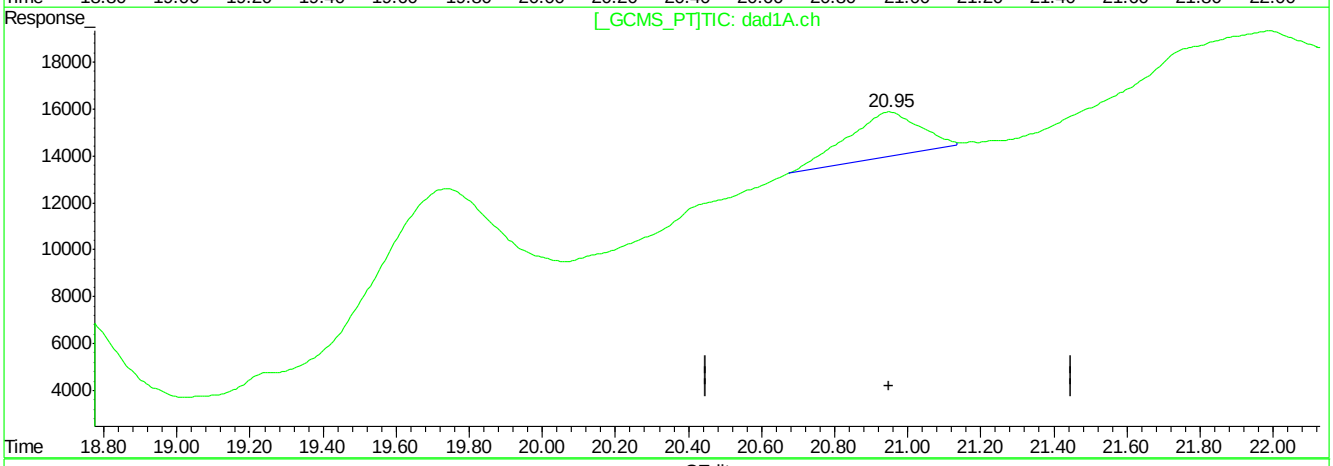
(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Thu Jan 16 11:17:55 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631123.D\dad1A.ch
Acq On : 13-Jan-2025, 15:15:21 Operator: fouads
Sample : ic3527-100 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:32 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

20.95min 80.741ppb m

response 264248

(+) = Expected Retention Time
GG631123.D GGG3527_011325.M Thu Jan 16 11:18:01 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan 01/16/25 12:01

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1A.ch
Acq On : 13-Jan-2025, 15:44:48 Operator: fouads
Sample : ic3527-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:26:54 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 16:26:37 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.17	14.18	945946	2049347	208.475m	227.462
	Spiked Amount 500.000	Range 70 - 136		Recovery =		41.70%#	45.49%#
	Target Compounds						
1)	TNX	4.81	4.81	920419	920419	109.977	111.710
2)	HMX	5.23	5.23	553807	553807	172.057	169.204
3)	DNX	5.41	5.41	1638182	1638182	244.358	250.253
4)	MNX	6.57	6.57	1678290	1678290	273.267	276.068
5)	1,3,5-Trinitrobe	7.52	7.52	1489757	1489757	152.159	151.089
6)	RDX	7.88	7.88	859849	780548	191.804m	176.471m
7)	1,3-Dinitrobenze	9.95	9.95	2346356	1856240	180.501	189.658
8)	Nitrobenzene	10.95	10.95	1528317	1458152	177.510	187.908
9)	2,4,6-Trinitroto	11.81	11.81	1659206	2271411	178.598	184.169m
10)	Nitroglycerin	11.81	12.60	1659206	707851	240.056	231.492m
11)	Tetryl	13.15	13.15	1236516	2736696	179.046	219.033
13)	2,6-Dinitrotolue	0.00	14.60	0	1730879	N.D.	179.694 #
14)	2,4-Dinitrotolue	15.23	15.24	2134007	2074752	173.598	240.754
15)	3,5-Dinitroanili	16.39	16.39	2006964	3303379	198.680m	204.122m
16)	o-Nitrotoluene	16.56	16.53	750648	1690127	145.578m	210.808m#
17)	p-Nitrotoluene	17.81	17.83	1792072	2791942	328.787m	306.967
18)	4-Amino-2,6-Dini	17.81	17.83	1749300	2791942	320.805m	306.169
19)	m-Nitrotoluene	18.78	18.78	1003883	1662281	177.045m	186.684
20)	2-Amino-4,6-Dini	19.76	19.76	1596749	2172660	179.968	185.469
21)	PETN	0.00	20.97	0	622276	N.D.	190.136m#

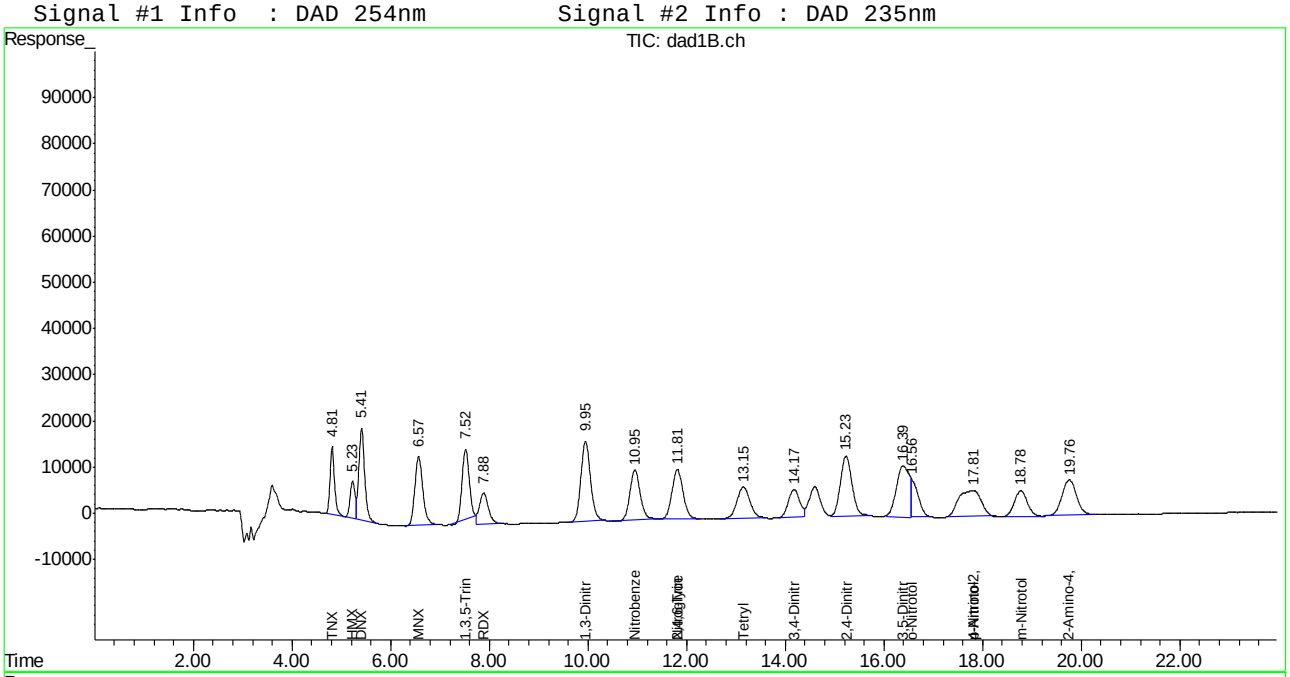
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG631124.D GGG3527_011325.M Wed Jan 15 06:48:58 2025 Page 1

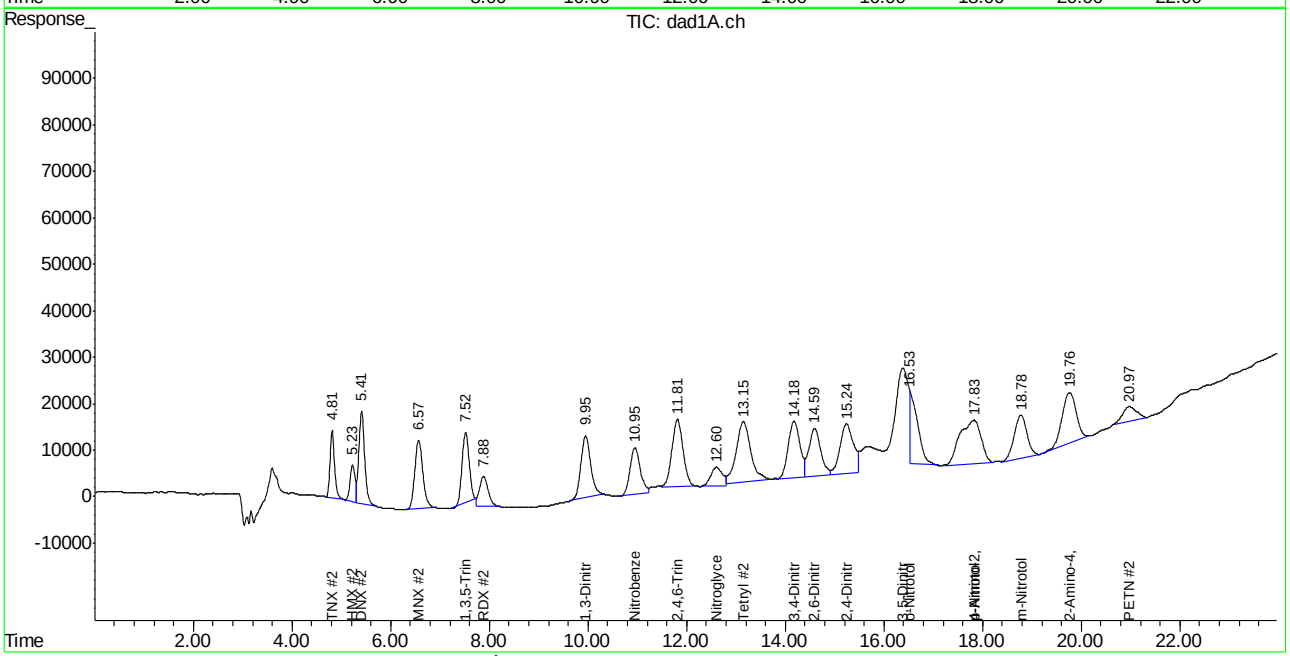
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1A.ch
Acq On : 13-Jan-2025, 15:44:48 Operator: fouads
Sample : ic3527-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:34 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 16:26:37 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

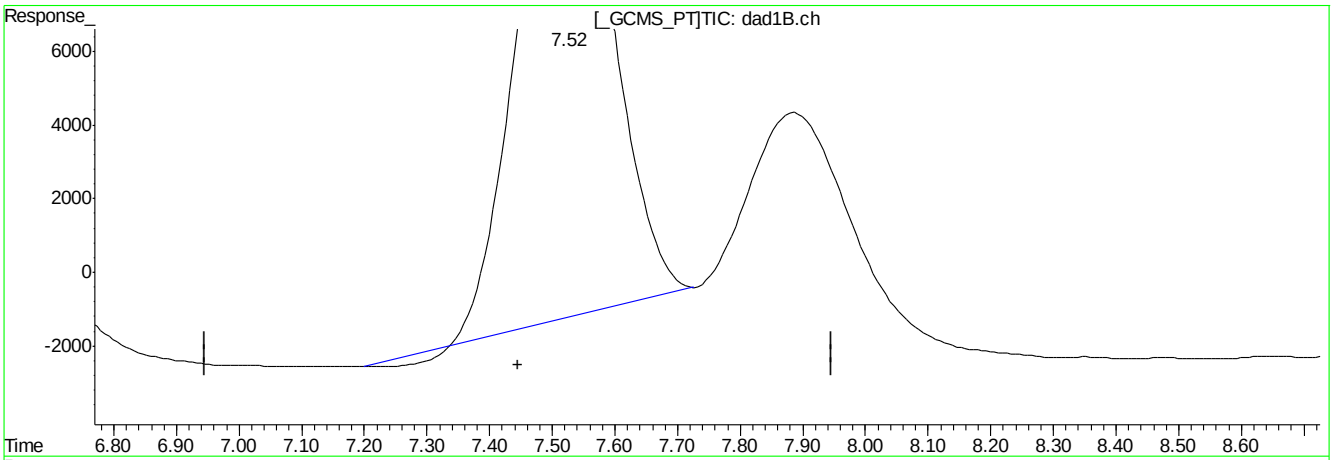
Sample Number: GGG3527-IC3527
Lab FileID: GG631124.D
Injection Time: 01/13/25 15:44
Method: SW846 8330A
Analyst approved: 01/15/25 08:07 Fouad Sekkar
Supervisor approved: 01/16/25 12:01 Naresh Jiawan

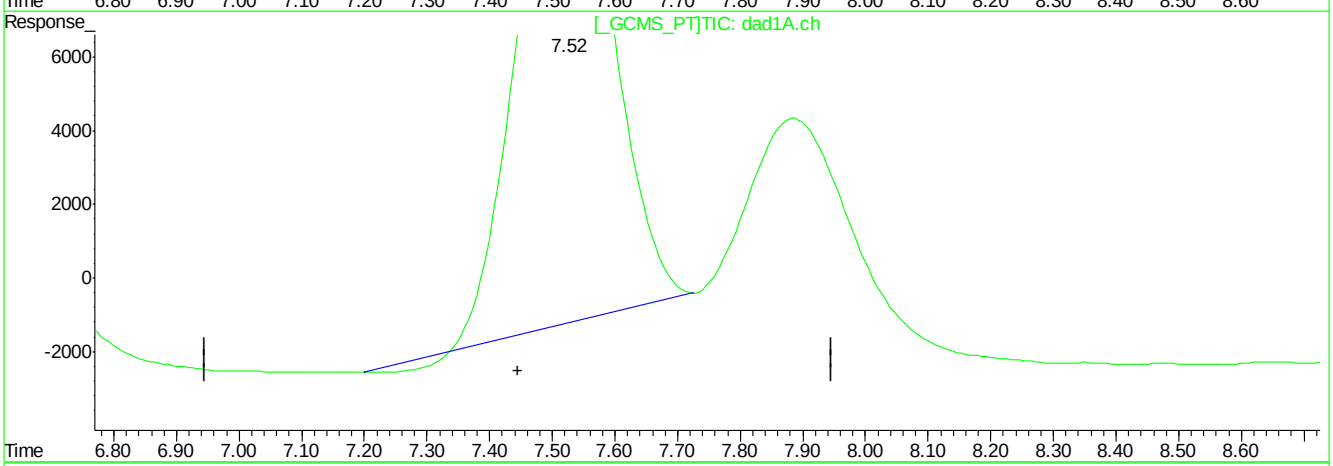
Parameter	CAS	Sig#	R.T. (min.)	Reason
RDX	121-82-4	1	7.88	Missed peak
RDX	121-82-4	2	7.88	Missed peak
2,4,6-Trinitrotoluene	118-96-7	2	11.81	Missed peak
Nitroglycerine	55-63-0	2	12.60	Missed peak
3,4-Dinitrotoluene	610-39-9	1	14.17	Missed peak
3,5-Dinitroaniline	618-87-1	1	16.39	Missed peak
3,5-Dinitroaniline	618-87-1	2	16.39	Missed peak
o-Nitrotoluene	88-72-2	2	16.53	Missed peak
o-Nitrotoluene	88-72-2	1	16.56	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	1	17.81	Missed peak
p-Nitrotoluene	99-99-0	1	17.81	Missed peak
m-Nitrotoluene	99-08-1	1	18.78	Missed peak
PETN	78-11-5	2	20.97	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1A.ch
Acq On : 13-Jan-2025, 15:44:48 Operator: fouads
Sample : ic3527-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:10 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 16:18:38 2025
Response via : Multiple Level Calibration





QEdit

(5) 1,3,5-Trinitrobenzene

7.52min 152.159ppb

response 1489757

(5) 1,3,5-Trinitrobenzene #2

7.52min 151.089ppb

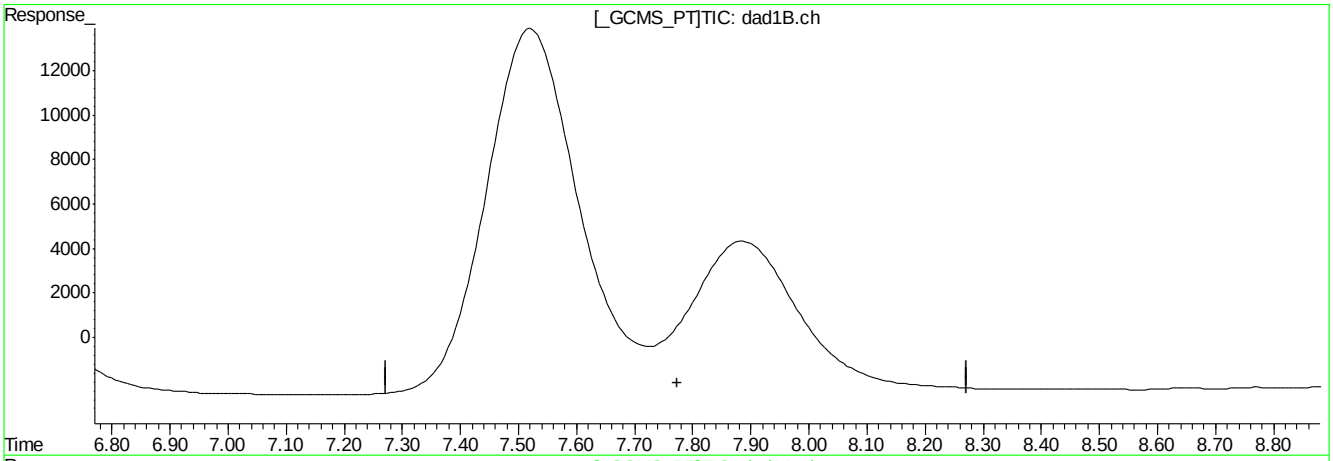
response 1489757

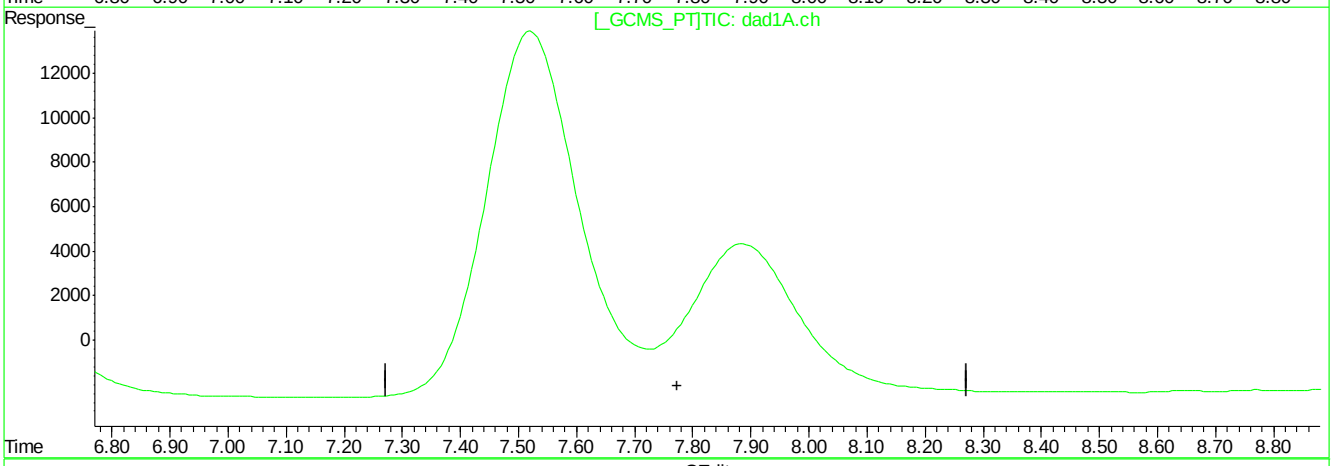
(+) = Expected Retention Time
GG631124.D GGG3527_011325.M Mon Jan 13 16:22:36 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1A.ch
Acq On : 13-Jan-2025, 15:44:48 Operator: fouads
Sample : ic3527-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:10 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 16:18:38 2025
Response via : Multiple Level Calibration





QEdit

(6) RDX

0.00min 0.000ppb

response 0

(6) RDX #2

0.00min 0.000ppb

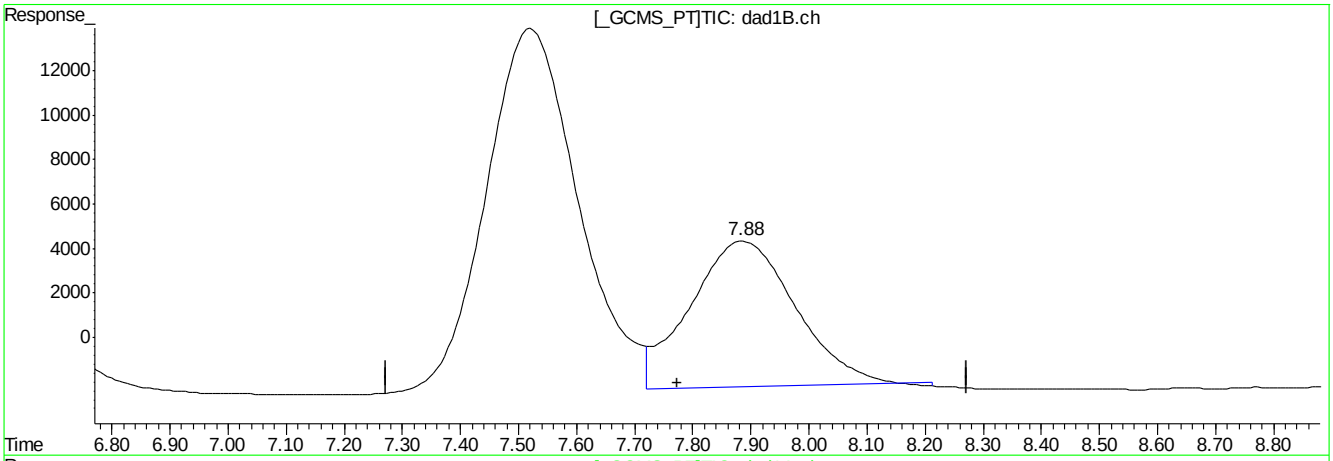
response 0

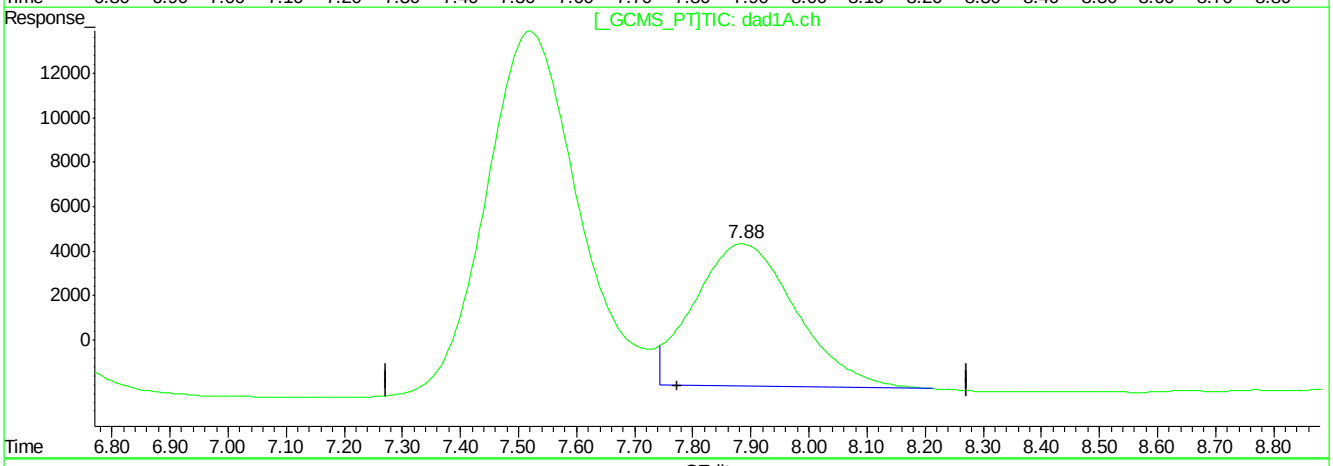
(+) = Expected Retention Time
GG631124.D GGG3527_011325.M Mon Jan 13 16:22:48 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1A.ch
Acq On : 13-Jan-2025, 15:44:48 Operator: fouads
Sample : ic3527-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:10 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 16:18:38 2025
Response via : Multiple Level Calibration





QEdit

(6) RDX

7.88min 183.920ppb m

response 824506

(6) RDX #2

7.88min 175.103ppb m

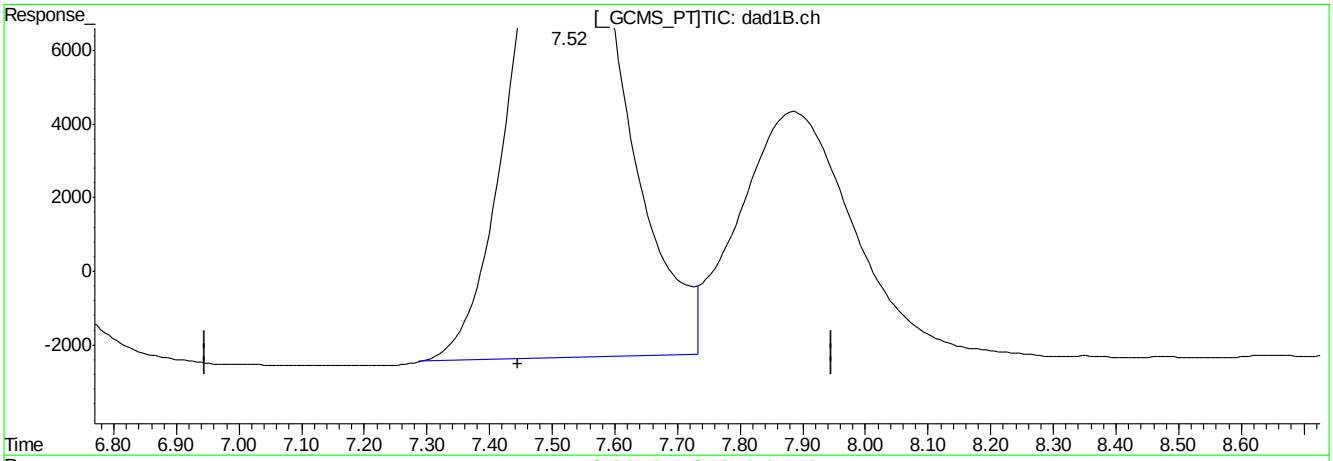
response 774496

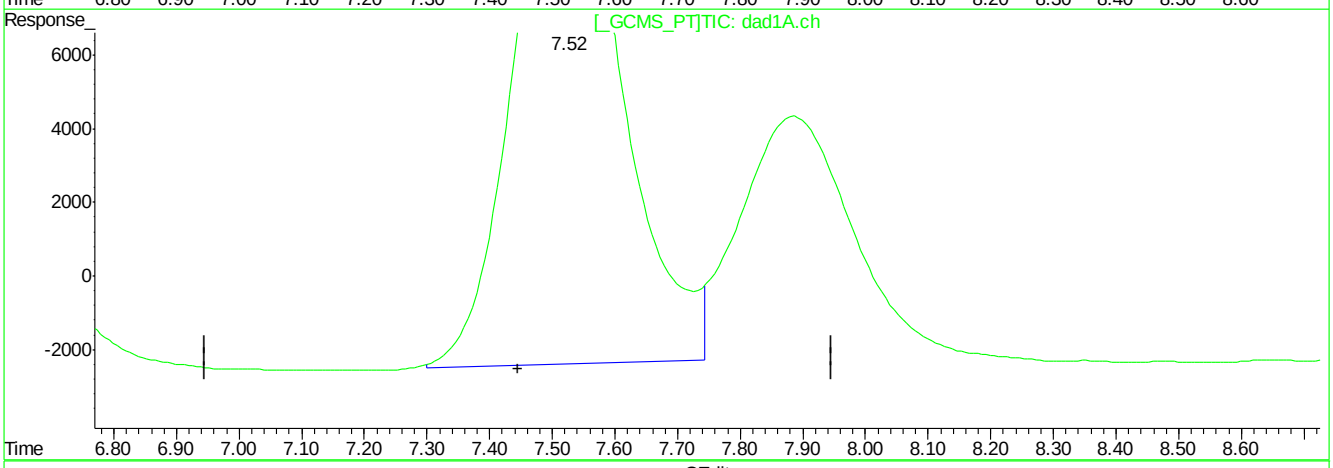
(+) = Expected Retention Time
GG631124.D GGG3527_011325.M Mon Jan 13 16:22:56 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1A.ch
Acq On : 13-Jan-2025, 15:44:48 Operator: fouads
Sample : ic3527-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:10 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 16:18:38 2025
Response via : Multiple Level Calibration





QEdit

(5) 1,3,5-Trinitrobenzene

7.52min 181.387ppb m

response 1775914

(5) 1,3,5-Trinitrobenzene #2

7.52min 183.438ppb m

response 1808722

(+) = Expected Retention Time
GG631124.D GGG3527_011325.M Mon Jan 13 16:22:43 2025

9.5.20.5

9

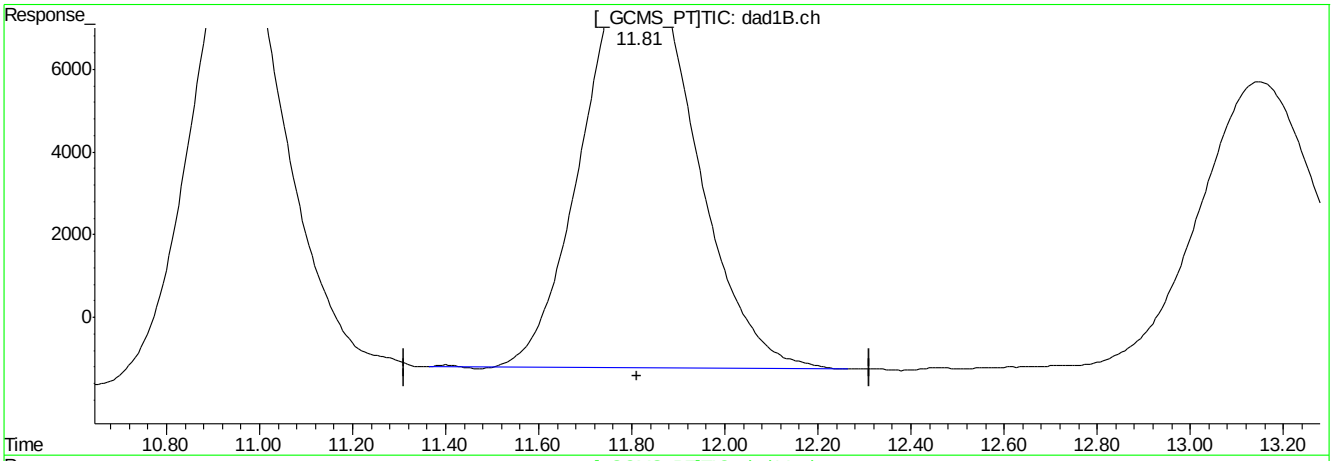
FC24818

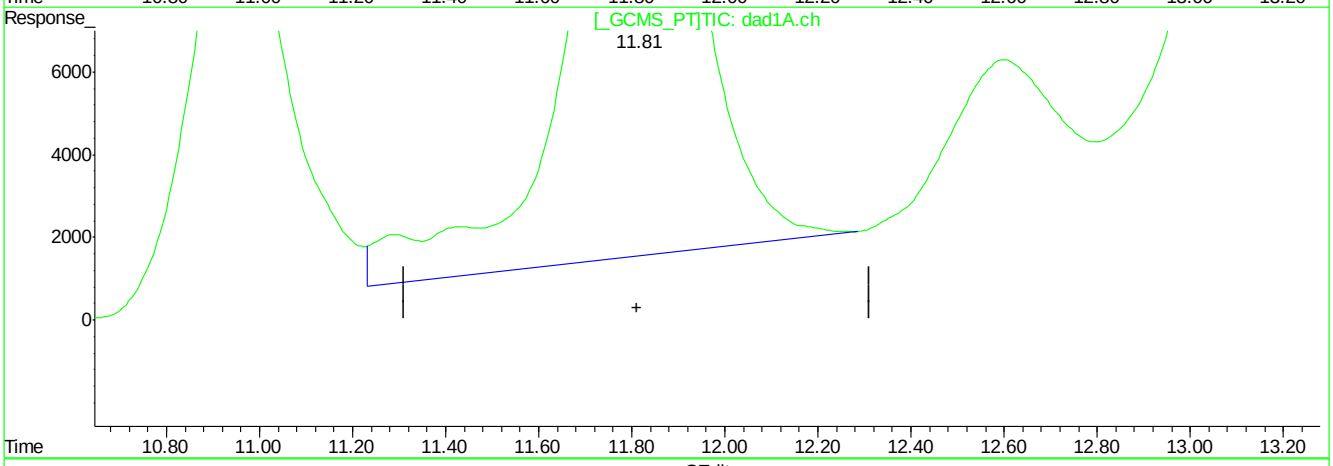
GG631124.D edits: 1,3,5-Trinitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1A.ch
Acq On : 13-Jan-2025, 15:44:48 Operator: fouads
Sample : ic3527-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:26 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 16:26:37 2025
Response via : Multiple Level Calibration





QEdit

(9) 2,4,6-Trinitrotoluene

11.81min 178.598ppb

response 1659206

(9) 2,4,6-Trinitrotoluene #2

11.81min 217.965ppb

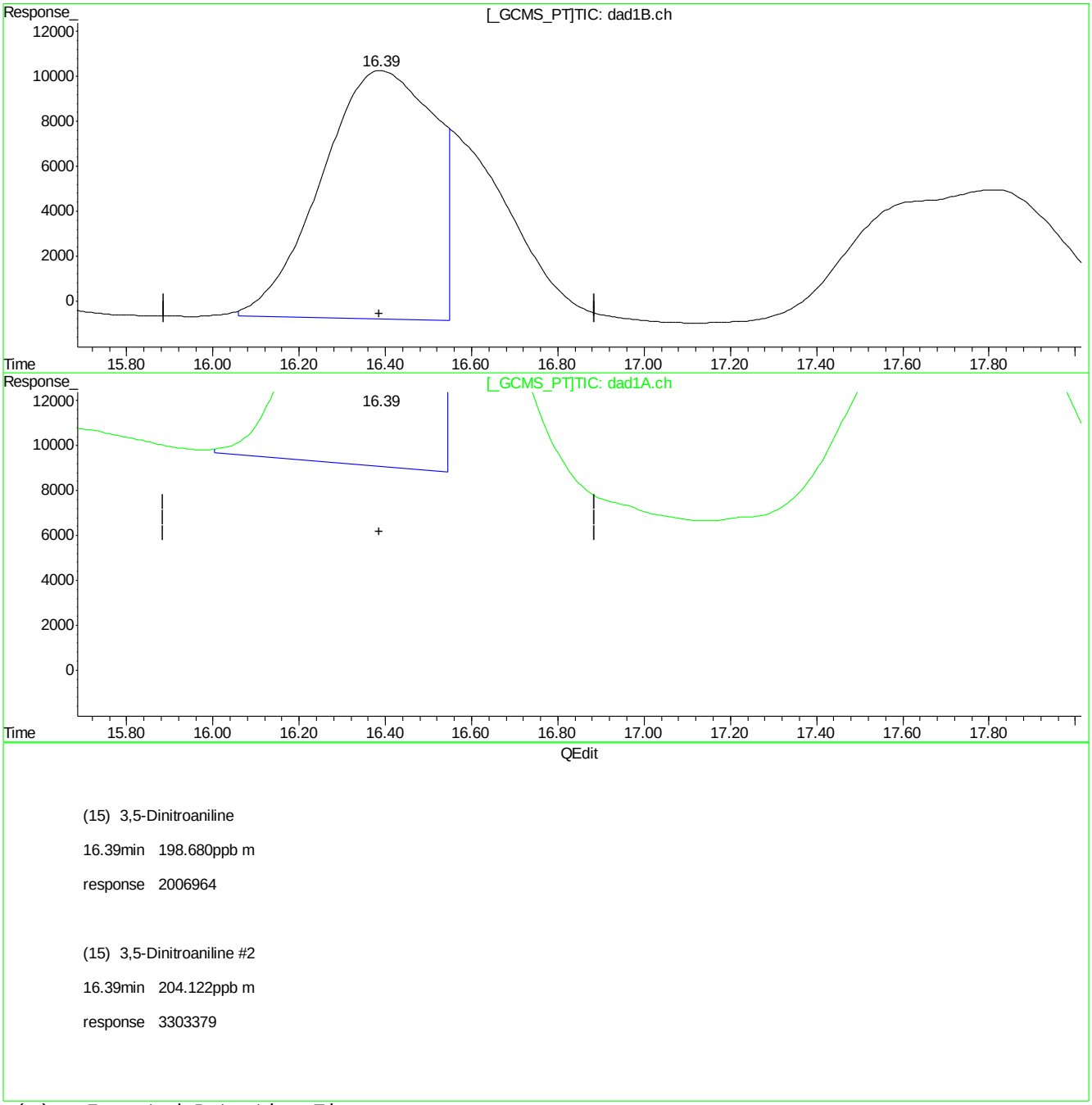
response 2688226

(+) = Expected Retention Time
GG631124.D GGG3527_011325.M Mon Jan 13 16:27:31 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1A.ch
Acq On : 13-Jan-2025, 15:44:48 Operator: fouads
Sample : ic3527-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:26 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 16:26:37 2025
Response via : Multiple Level Calibration



(15) 3,5-Dinitroaniline

16.39min 198.680ppb m

response 2006964

(15) 3,5-Dinitroaniline #2

16.39min 204.122ppb m

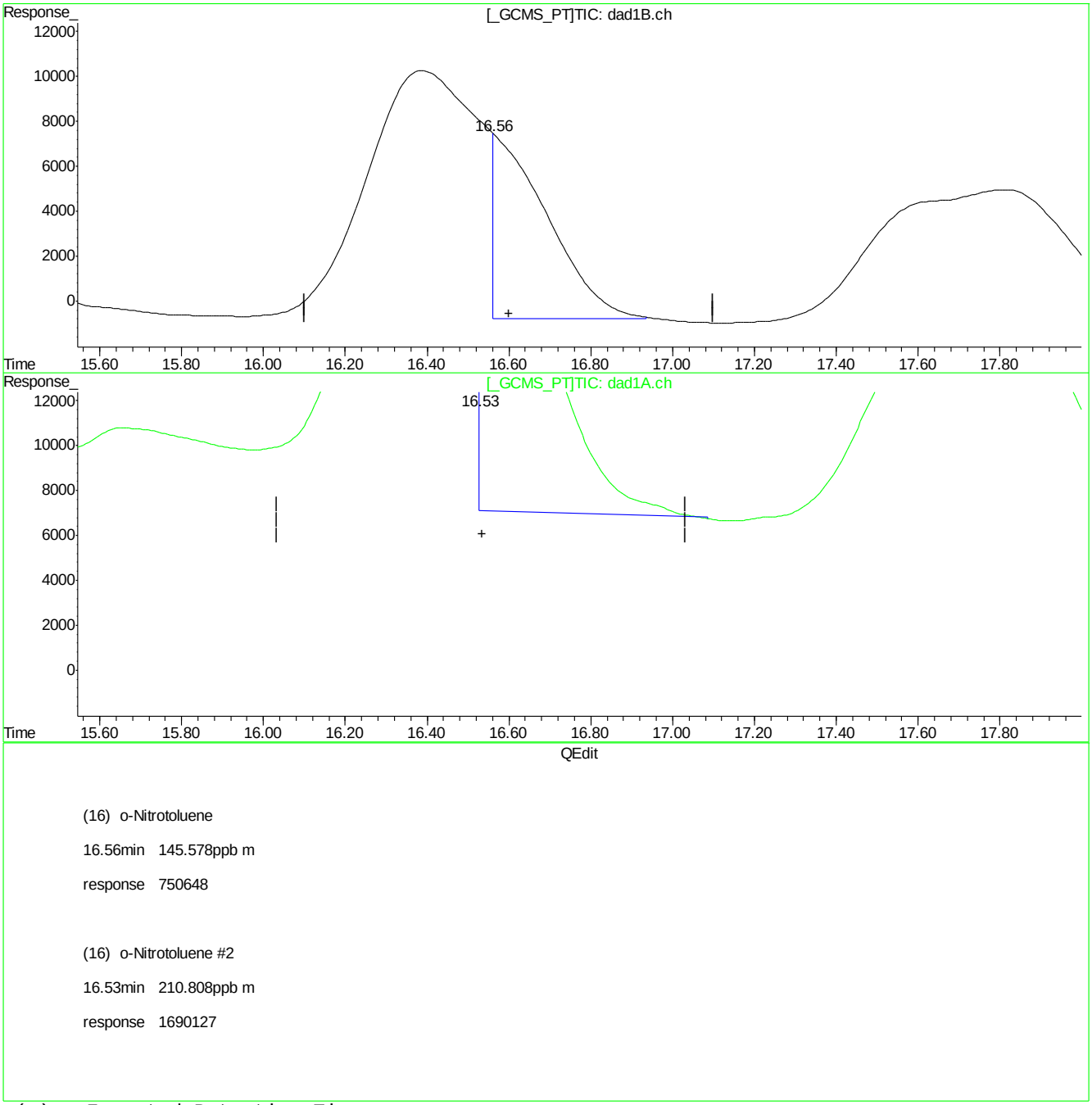
response 3303379

(+) = Expected Retention Time
GG631124.D GGG3527_011325.M Mon Jan 13 16:29:23 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1A.ch
Acq On : 13-Jan-2025, 15:44:48 Operator: fouads
Sample : ic3527-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:26 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 16:26:37 2025
Response via : Multiple Level Calibration



(16) o-Nitrotoluene

16.56min 145.578ppb m

response 750648

(16) o-Nitrotoluene #2

16.53min 210.808ppb m

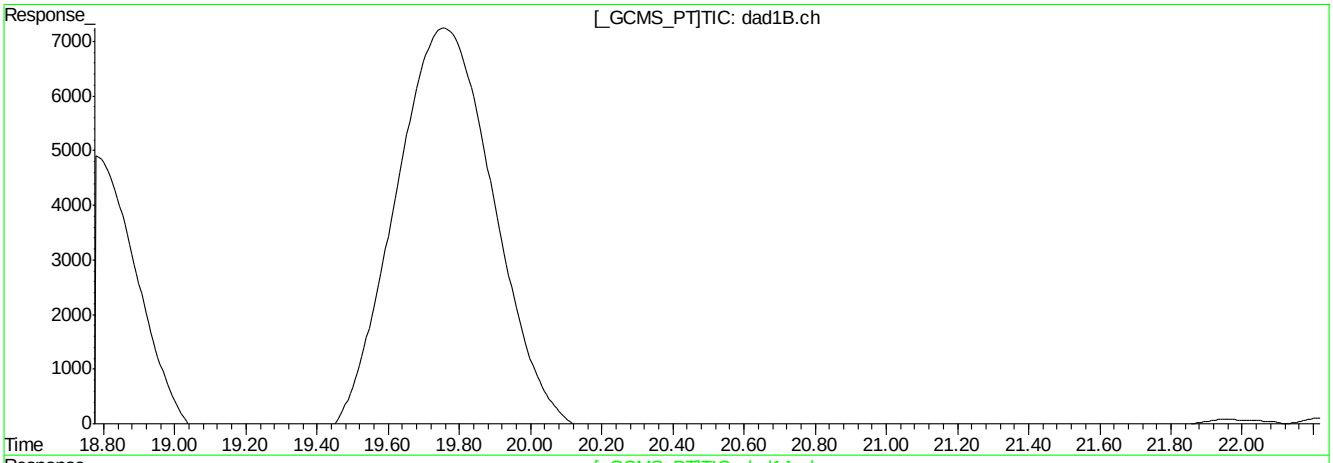
response 1690127

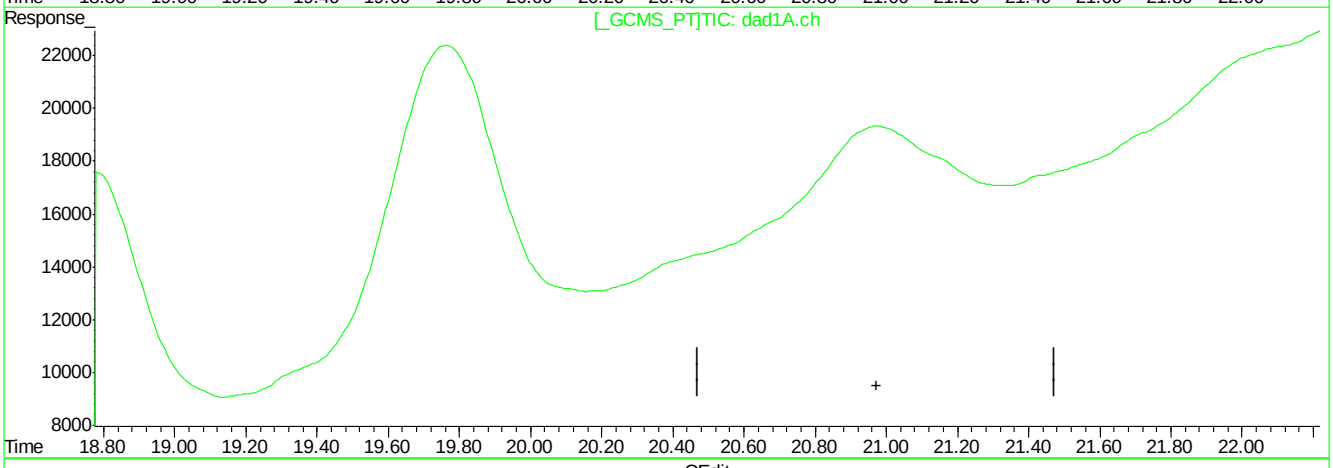
(+) = Expected Retention Time
GG631124.D GGG3527_011325.M Mon Jan 13 16:29:35 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1A.ch
Acq On : 13-Jan-2025, 15:44:48 Operator: fouads
Sample : ic3527-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:26 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 16:26:37 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

0.00min 0.000ppb

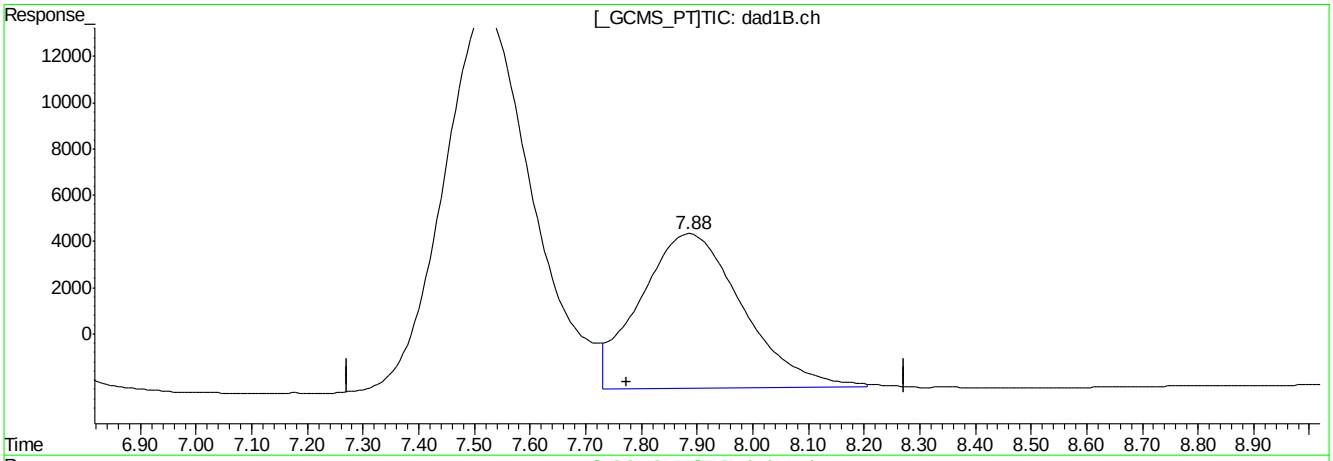
response 0

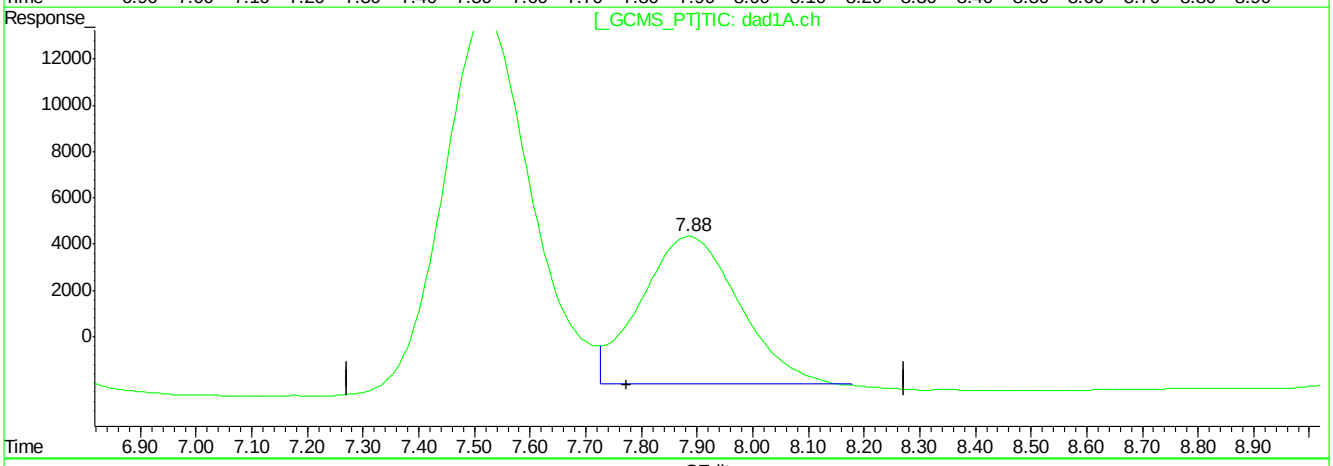
(+) = Expected Retention Time
GG631124.D GGG3527_011325.M Mon Jan 13 16:30:34 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1A.ch
Acq On : 13-Jan-2025, 15:44:48 Operator: fouads
Sample : ic3527-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:30 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 16:26:37 2025
Response via : Multiple Level Calibration





QEdit

(6) RDX

7.88min 191.804ppb m

response 859849

(6) RDX #2

7.88min 176.471ppb m

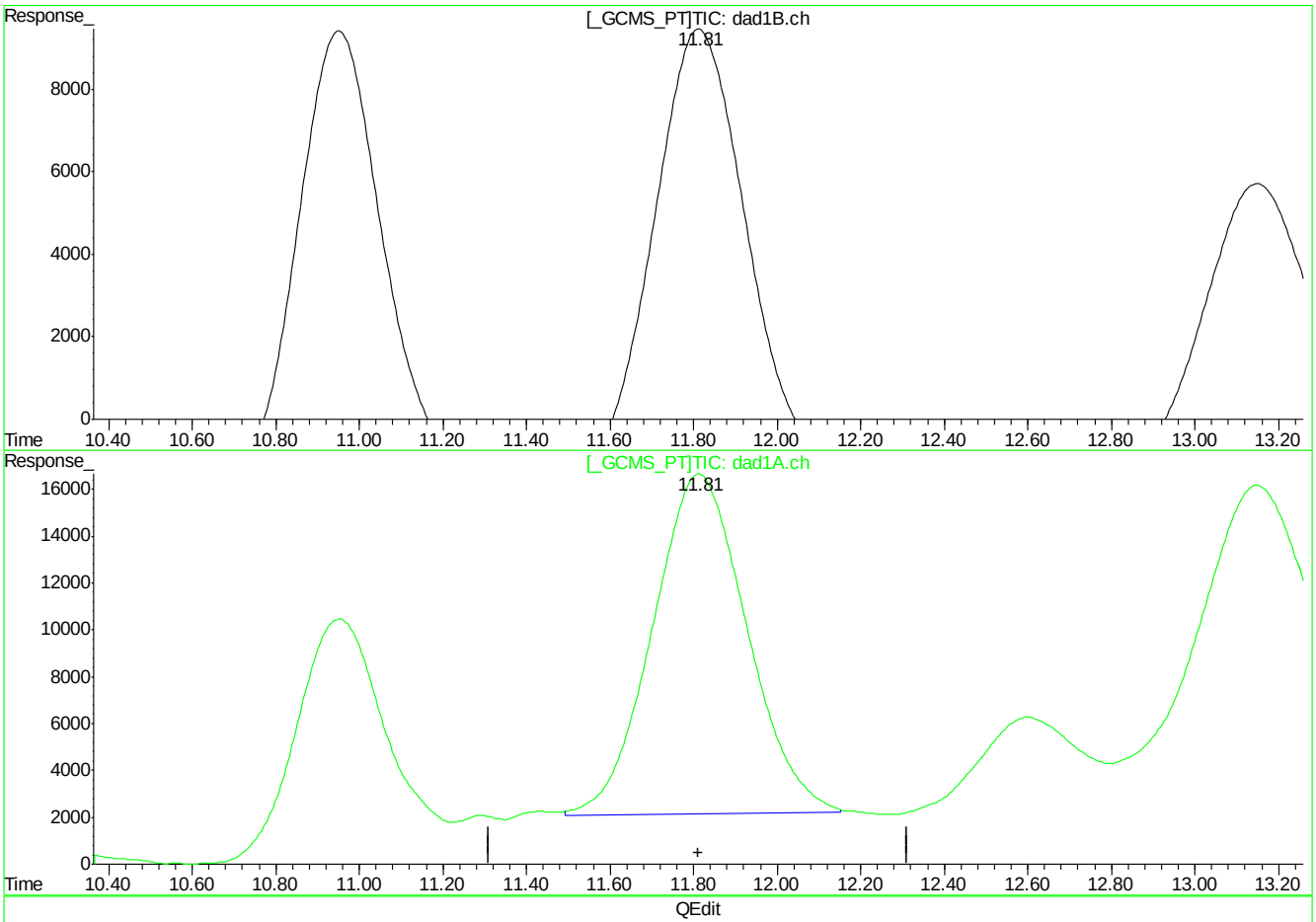
response 780548

(+) = Expected Retention Time
GG631124.D GGG3527_011325.M Mon Jan 13 16:33:35 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1A.ch
Acq On : 13-Jan-2025, 15:44:48 Operator: fouads
Sample : ic3527-200 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:34 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration



(9) 2,4,6-Trinitrotoluene

11.81min 178.598ppb

response 1659206

(9) 2,4,6-Trinitrotoluene #2

11.81min 184.169ppb m

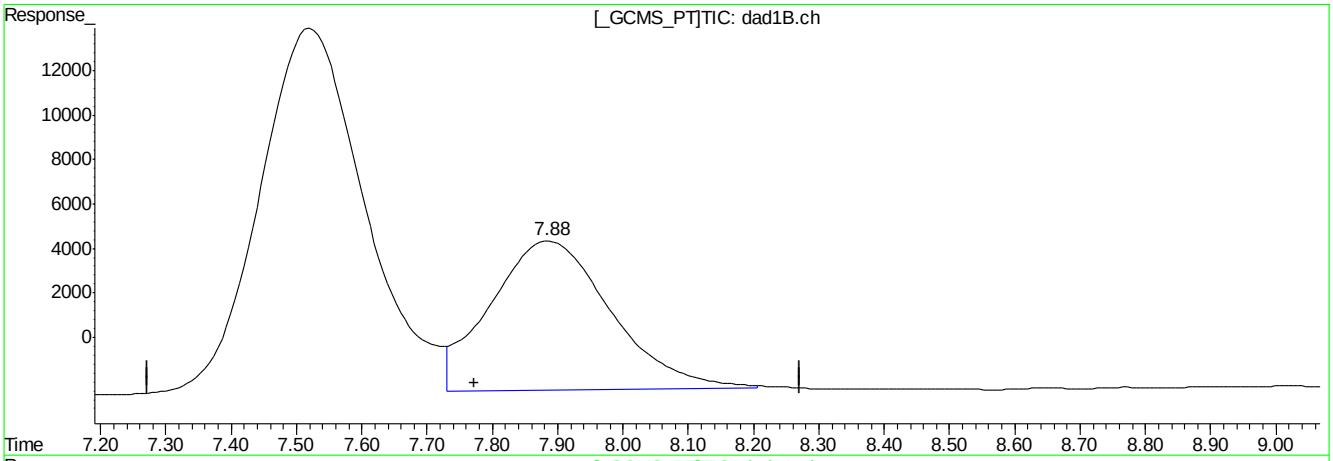
response 2271411

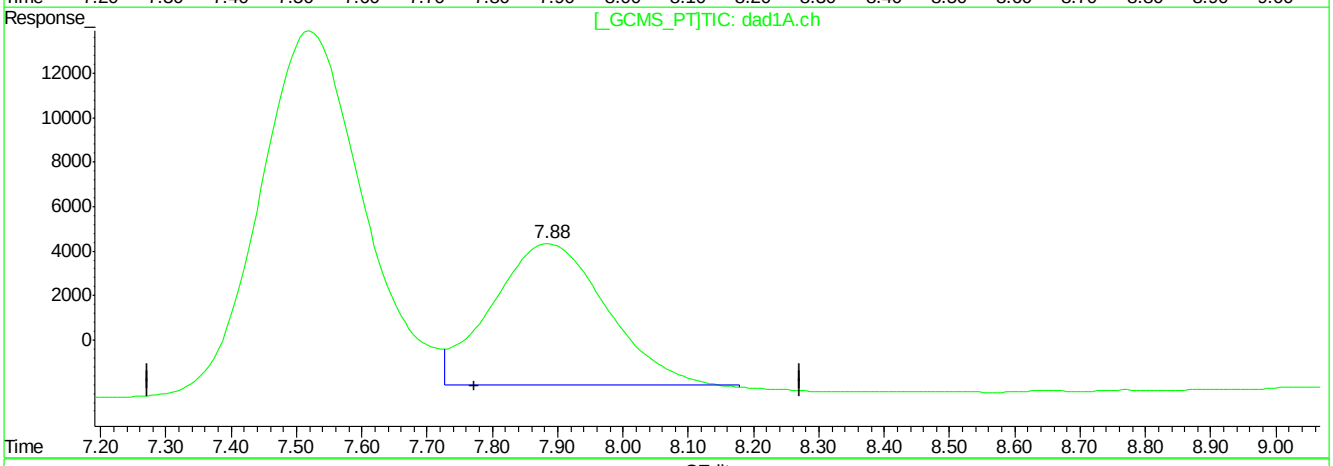
(+) = Expected Retention Time
GG631124.D GGG3527_011325.M Thu Jan 16 11:18:15 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1A.ch
Acq On : 13-Jan-2025, 15:44:48 Operator: fouads
Sample : ic3527-200 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:34 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(6) RDX

7.88min 191.804ppb m

response 859849

(6) RDX #2

7.88min 176.471ppb m

response 780548

(+) = Expected Retention Time
GG631124.D GGG3527_011325.M Thu Jan 16 11:18:20 2025

9.5.20.12

9

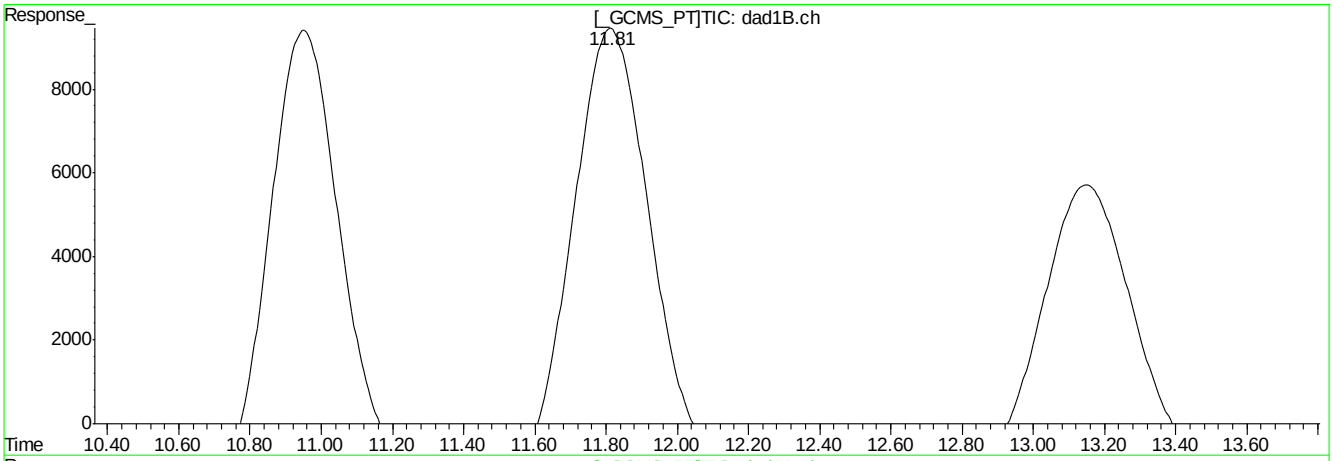
GG631124.D edits: RDX

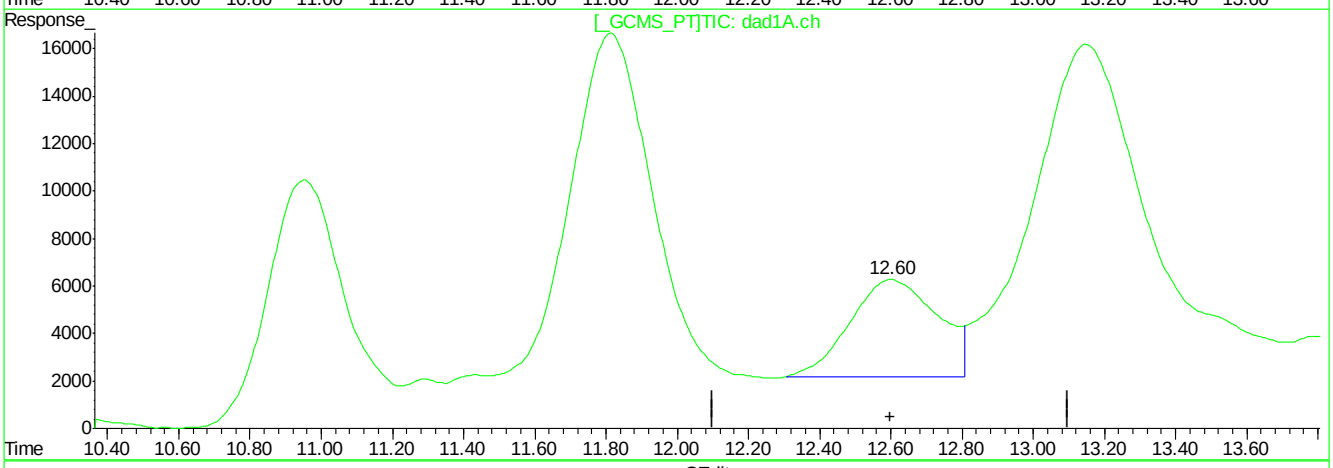
FC24818

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1A.ch
Acq On : 13-Jan-2025, 15:44:48 Operator: fouads
Sample : ic3527-200 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:34 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(10) Nitroglycerin

11.81min 240.056ppb

response 1659206

(10) Nitroglycerin #2

12.60min 231.492ppb m

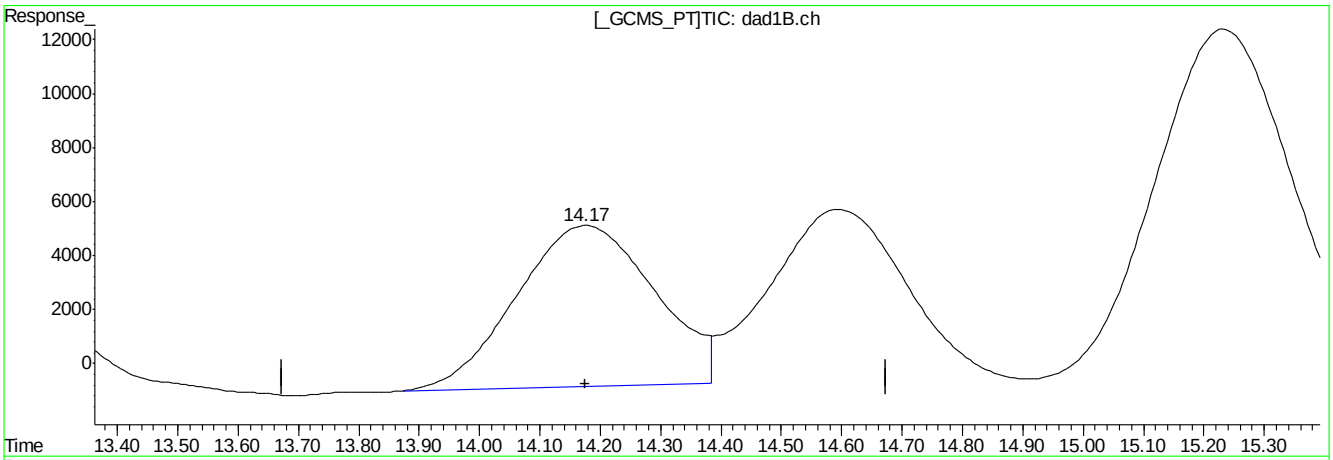
response 707851

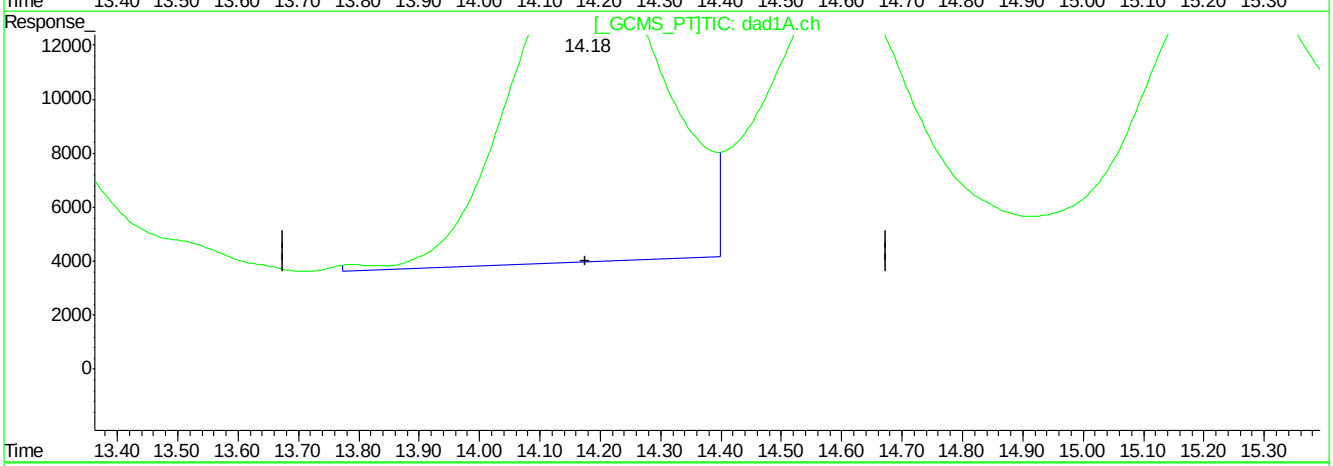
(+) = Expected Retention Time
GG631124.D GGG3527_011325.M Thu Jan 16 11:18:28 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1A.ch
Acq On : 13-Jan-2025, 15:44:48 Operator: fouads
Sample : ic3527-200 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:34 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(12) 3,4-Dinitrotoluene (S)

14.17min 208.475ppb m

response 945946

(12) 3,4-Dinitrotoluene #2 (S)

14.18min 227.462ppb

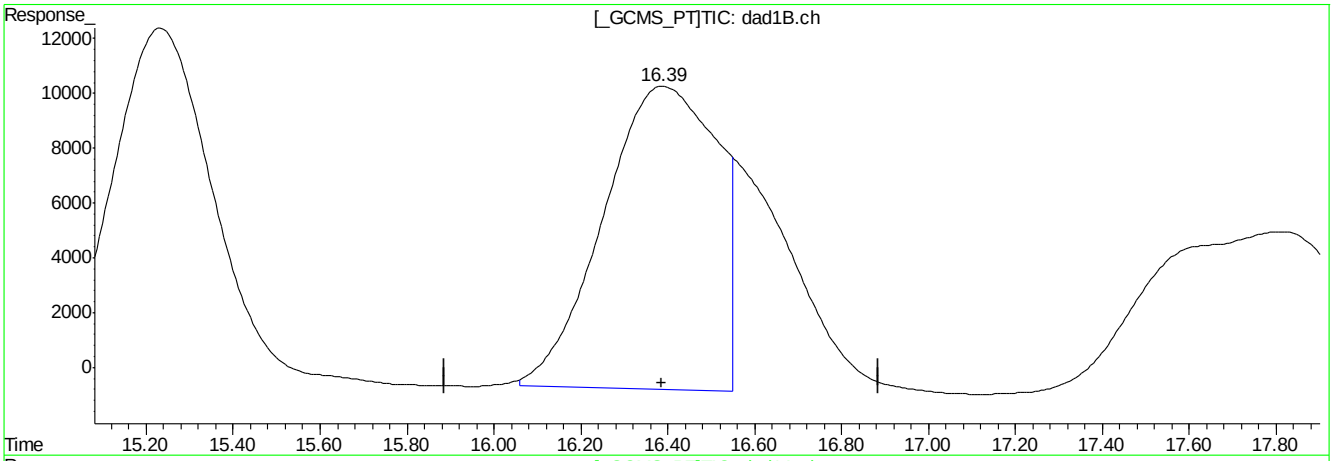
response 2049347

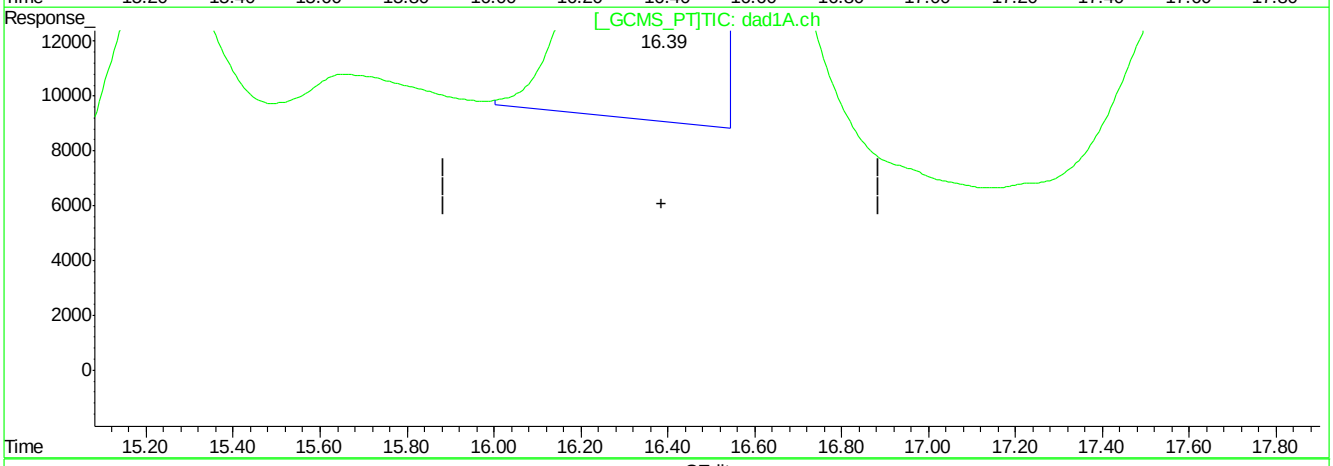
(+) = Expected Retention Time
GG631124.D GGG3527_011325.M Thu Jan 16 11:18:35 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1A.ch
Acq On : 13-Jan-2025, 15:44:48 Operator: fouads
Sample : ic3527-200 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:34 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(15) 3,5-Dinitroaniline

16.39min 198.680ppb m

response 2006964

(15) 3,5-Dinitroaniline #2

16.39min 204.122ppb m

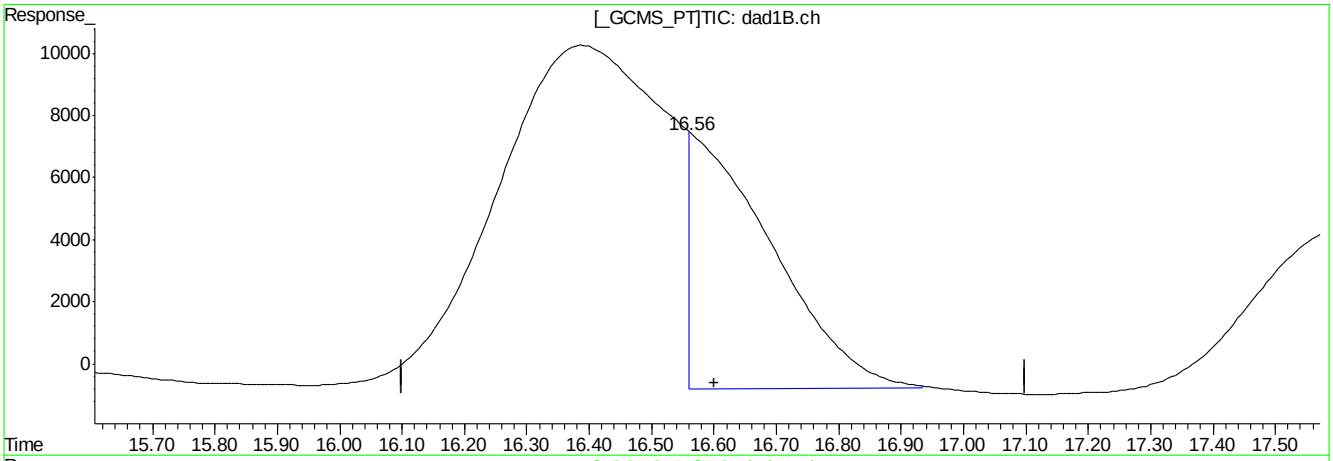
response 3303379

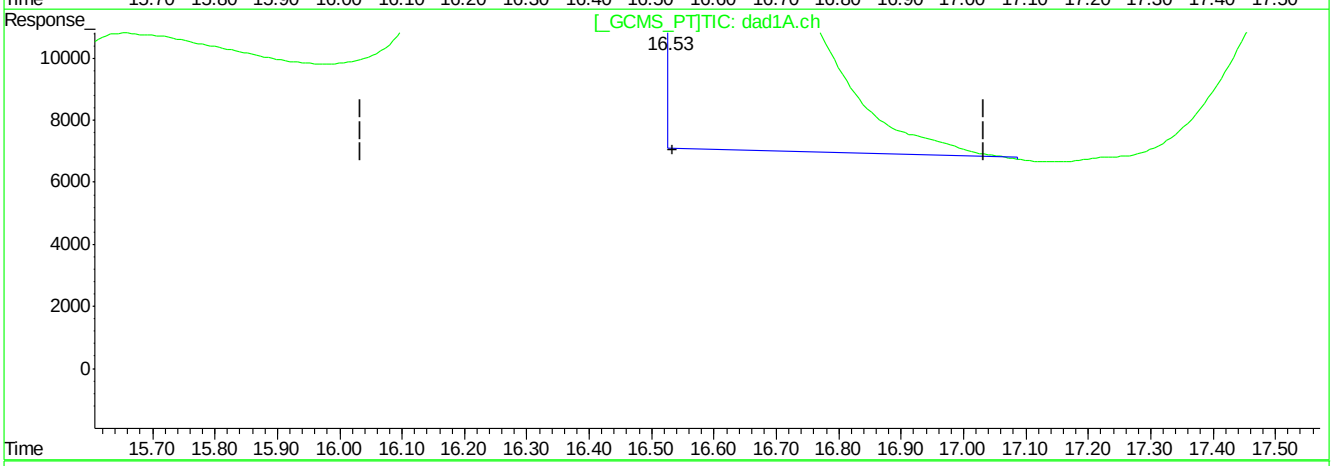
(+) = Expected Retention Time
GG631124.D GGG3527_011325.M Thu Jan 16 11:18:56 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1A.ch
Acq On : 13-Jan-2025, 15:44:48 Operator: fouads
Sample : ic3527-200 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:34 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(16) o-Nitrotoluene

16.56min 145.578ppb m

response 750648

(16) o-Nitrotoluene #2

16.53min 210.808ppb m

response 1690127

(+) = Expected Retention Time
GG631124.D GGG3527_011325.M Thu Jan 16 11:19:00 2025

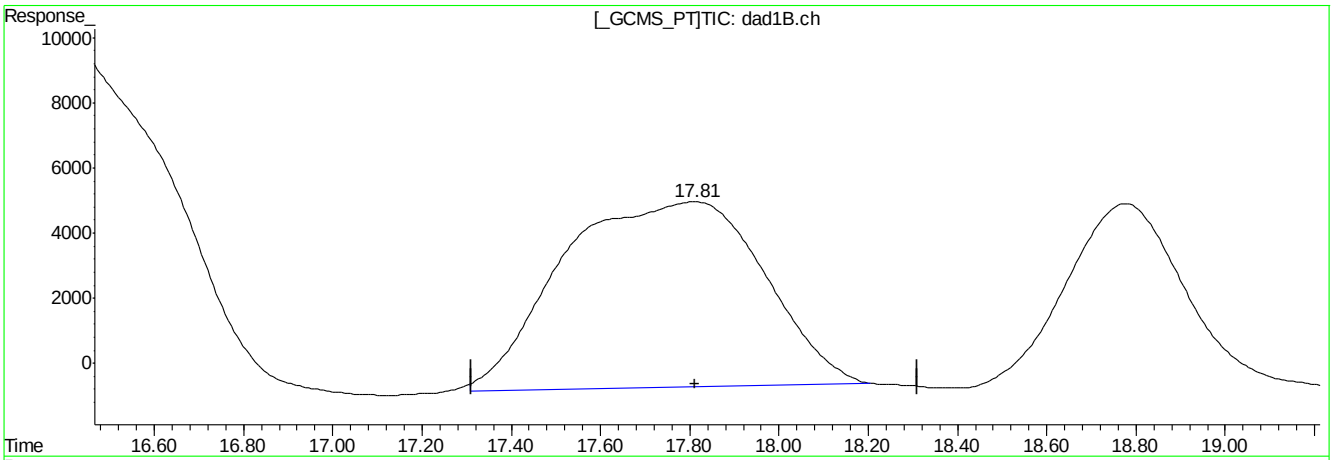
GG631124.D edits: o-Nitrotoluene

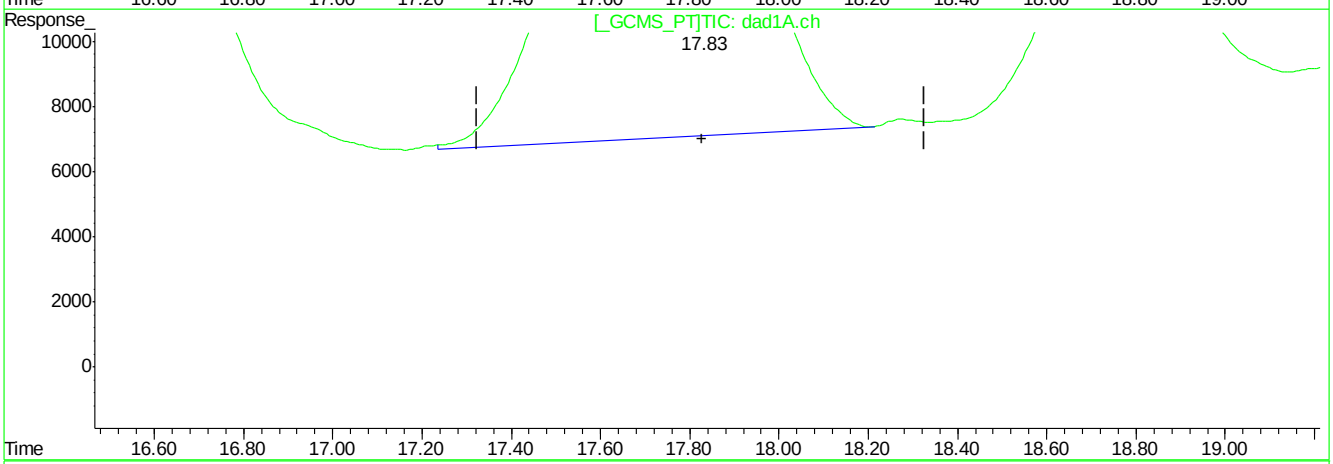
FC24818

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1A.ch
Acq On : 13-Jan-2025, 15:44:48 Operator: fouads
Sample : ic3527-200 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:34 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(17) p-Nitrotoluene

17.81min 328.787ppb m

response 1792072

(17) p-Nitrotoluene #2

17.83min 306.967ppb

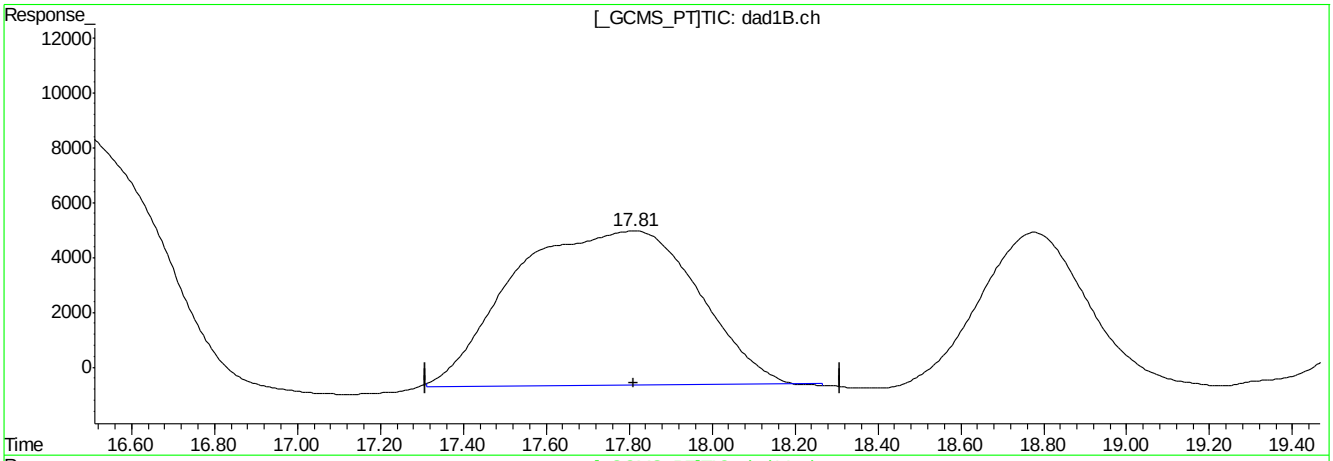
response 2791942

(+) = Expected Retention Time
GG631124.D GGG3527_011325.M Thu Jan 16 11:19:06 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1A.ch
Acq On : 13-Jan-2025, 15:44:48 Operator: fouads
Sample : ic3527-200 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:34 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

17.81min 320.805ppb m

response 1749300

(18) 4-Amino-2,6-Dinitrotoluene #2

17.83min 306.169ppb

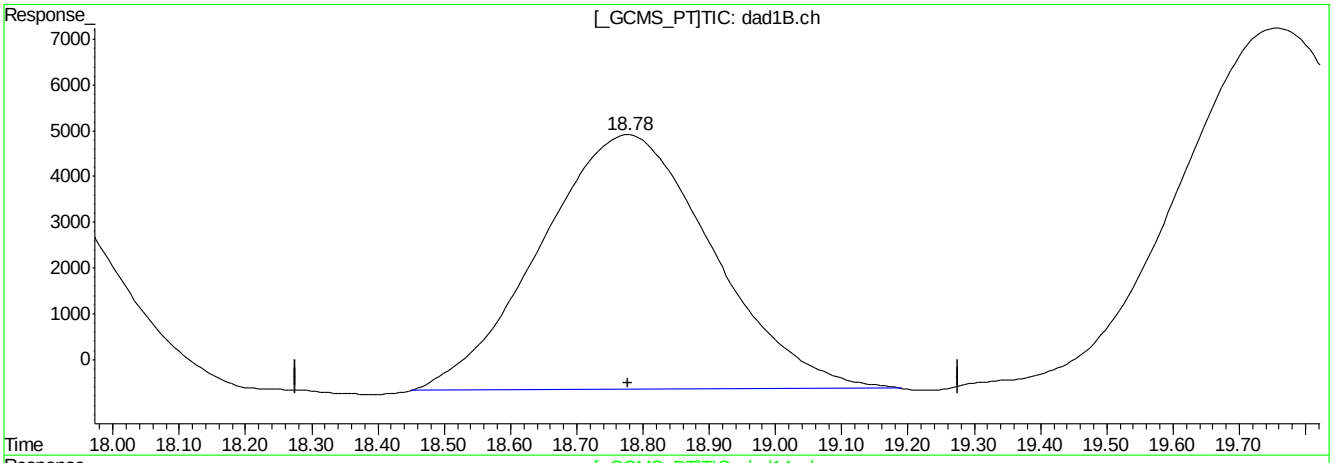
response 2791942

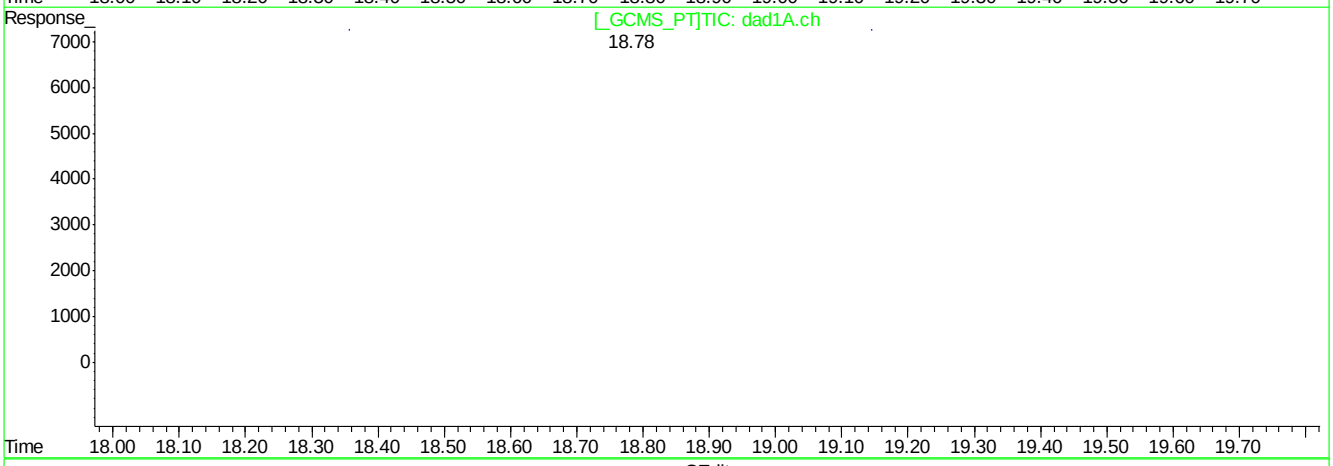
(+) = Expected Retention Time
GG631124.D GGG3527_011325.M Thu Jan 16 11:19:18 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1A.ch
Acq On : 13-Jan-2025, 15:44:48 Operator: fouads
Sample : ic3527-200 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:34 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(19) m-Nitrotoluene

18.78min 177.045ppb m

response 1003883

(19) m-Nitrotoluene #2

18.78min 186.684ppb

response 1662281

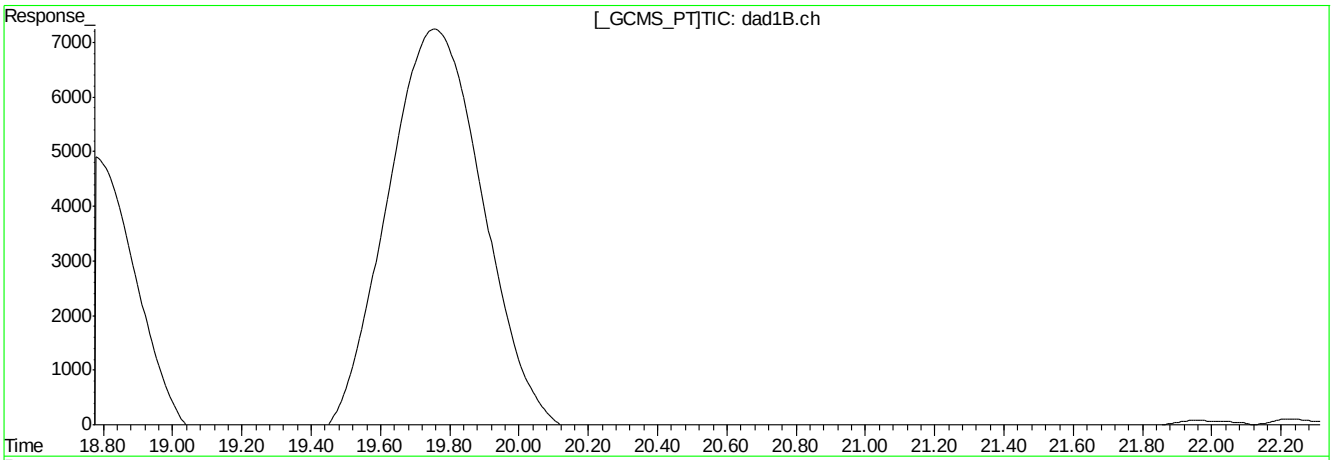
(+) = Expected Retention Time
GG631124.D GGG3527_011325.M Thu Jan 16 11:19:26 2025

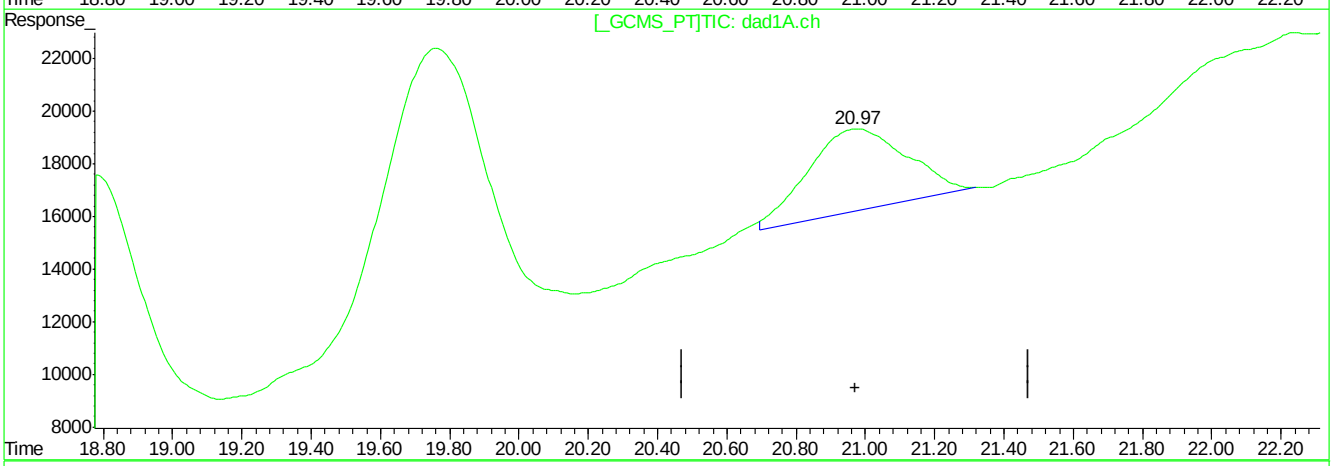
GG631124.D edits: m-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631124.D\dad1A.ch
Acq On : 13-Jan-2025, 15:44:48 Operator: fouads
Sample : ic3527-200 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 13 16:34 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

20.97min 190.136ppb m

response 622276

(+) = Expected Retention Time
GG631124.D GGG3527_011325.M Thu Jan 16 11:19:32 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan
01/16/25 12:01

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631125.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631125.D\dad1A.ch
Acq On : 13-Jan-2025, 17:13:42 Operator: fouads
Sample : icv3527-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 15 06:45:48 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jan 15 06:45:37 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	4.82	4.82	4466157	4466157	455.622	455.623
2)	HMX	5.23	5.23	2823883	2823883	974.735	974.337
3)	DNX	5.41	5.41	7980443	7980443	932.257	946.987
4)	MNX	6.55	6.55	8234441	8234441	1134.497	1134.497
5)	1,3,5-Trinitrobe	7.52	7.52	7362496	7237164	858.000m	860.499
6)	RDX	7.90	7.90	3842767	3842767	939.277	947.957
7)	1,3-Dinitrobenze	9.89	9.89	10614085	8501873	862.709m	966.202
8)	Nitrobenzene	10.83	10.83	6825186	6574621	885.591	891.920
9)	2,4,6-Trinitroto	11.66	11.66	7445405	10482468	912.509	922.456
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D. d
11)	Tetryl	12.95	12.95	5514422	9719419	857.655	880.929
13)	2,6-Dinitrotolue	14.49	14.49	4994714	7440525	926.467	895.673
14)	2,4-Dinitrotolue	15.16	15.16	9759311	6996289	874.037	894.197
15)	3,5-Dinitroanili	16.43	16.43	8768390	14930236	960.421m	892.415m
16)	o-Nitrotoluene	16.62	16.64	4285642	6191322	944.298m	894.281m
17)	p-Nitrotoluene	18.05	18.06	8642087	15420325	1749.520	1749.310
18)	4-Amino-2,6-Dini	18.05	18.06	8642087	15420325	1774.047	1749.276
19)	m-Nitrotoluene	19.06	19.06	4639881	7723319	876.809	872.168
20)	2-Amino-4,6-Dini	20.08	20.08	7069363	10163498	876.323	892.614
21)	PETN	0.00	21.35	0	3034064	N.D. d	1015.167 #

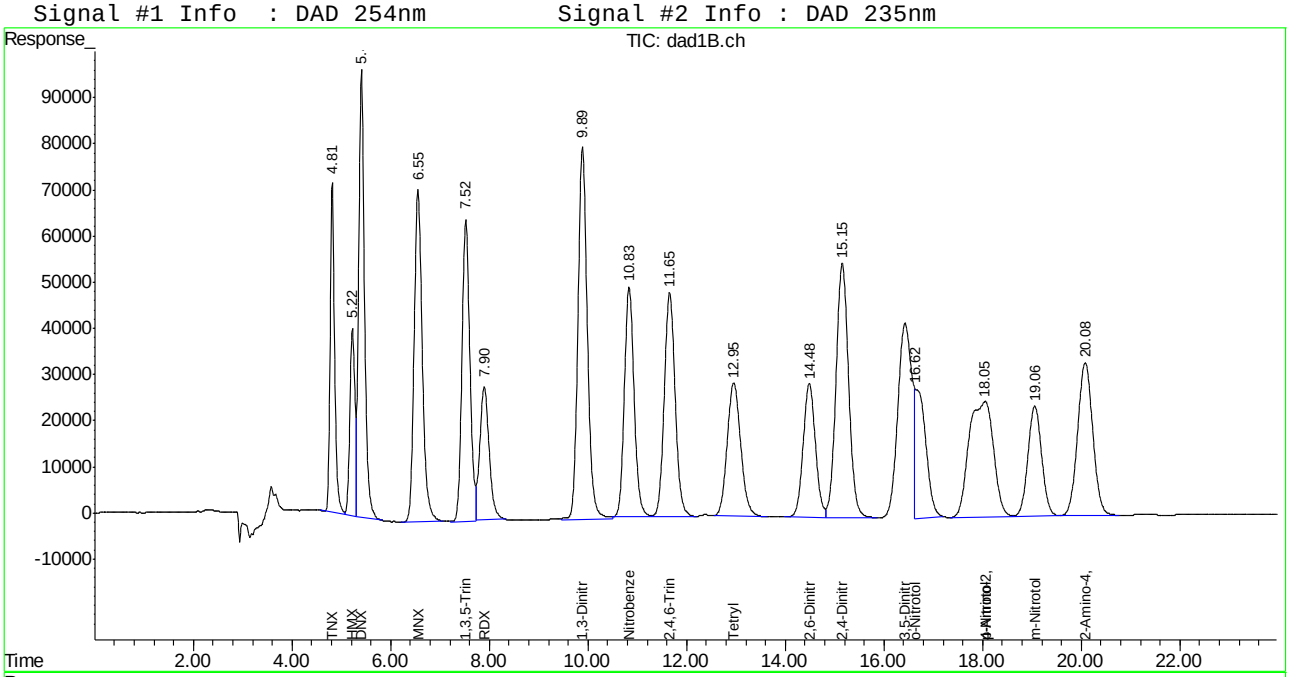
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

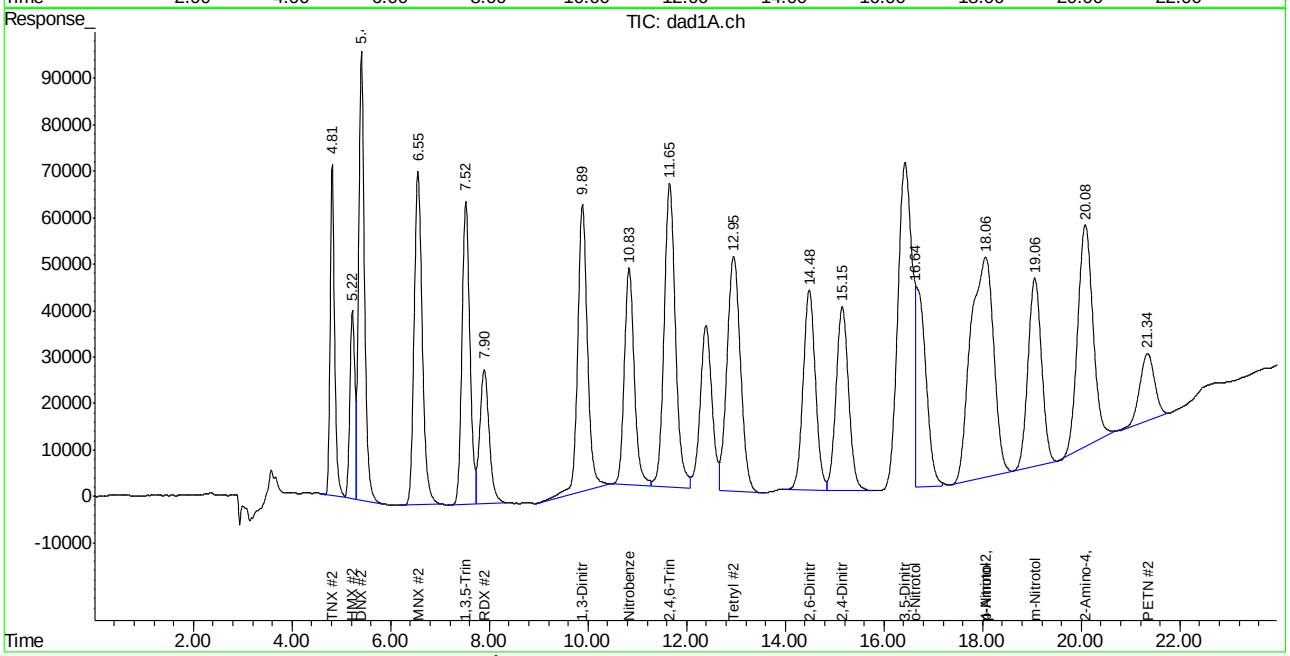
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631125.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631125.D\dad1A.ch
Acq On : 13-Jan-2025, 17:13:42 Operator: fouads
Sample : icv3527-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 15 6:47 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jan 15 06:45:37 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

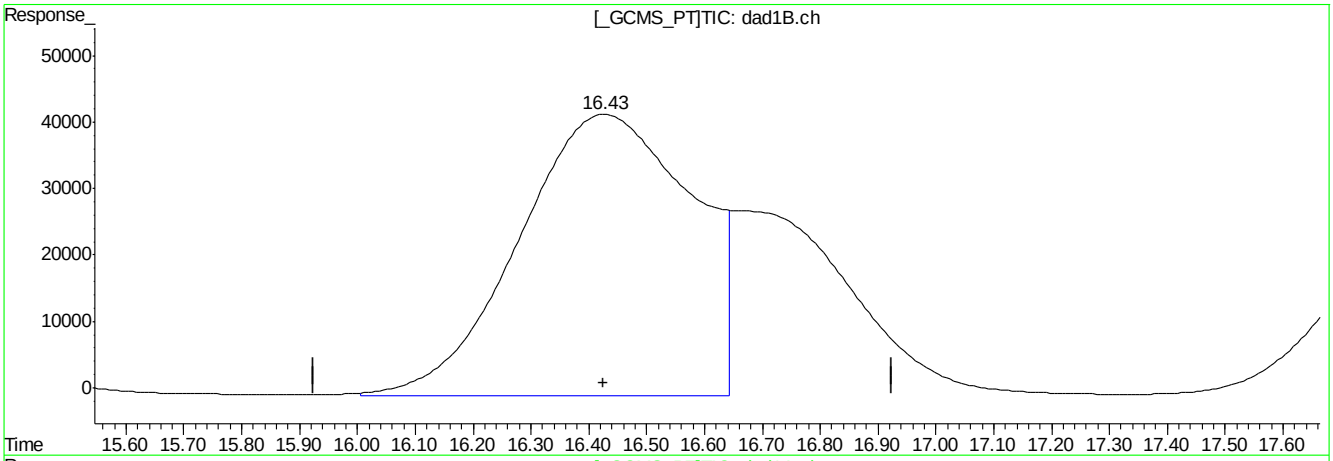
Sample Number: GGG3527-ICV3527 **Method:** SW846 8330A
Lab FileID: GG631125.D **Analyst approved:** 01/15/25 08:07 Fouad Sekkar
Injection Time: 01/13/25 17:13 **Supervisor approved:** 01/16/25 12:01 Naresh Jiawan

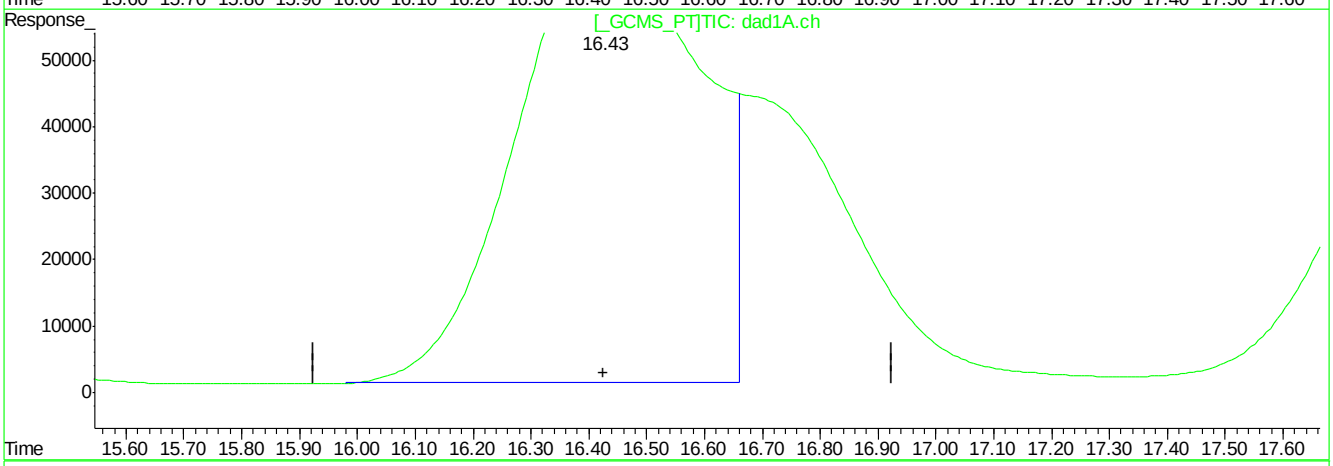
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3,5-Trinitrobenzene	99-35-4	1	7.52	Missed peak
1,3-Dinitrobenzene	99-65-0	1	9.89	Missed peak
3,5-Dinitroaniline	618-87-1	1	16.43	Missed peak
3,5-Dinitroaniline	618-87-1	2	16.43	Missed peak
o-Nitrotoluene	88-72-2	1	16.62	Missed peak
o-Nitrotoluene	88-72-2	2	16.64	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631125.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631125.D\dad1A.ch
Acq On : 13-Jan-2025, 17:13:42 Operator: fouads
Sample : icv3527-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 15 6:45 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jan 15 06:45:37 2025
Response via : Multiple Level Calibration





QEdit

(15) 3,5-Dinitroaniline

16.43min 960.421ppb m

response 8768390

(15) 3,5-Dinitroaniline #2

16.43min 892.415ppb m

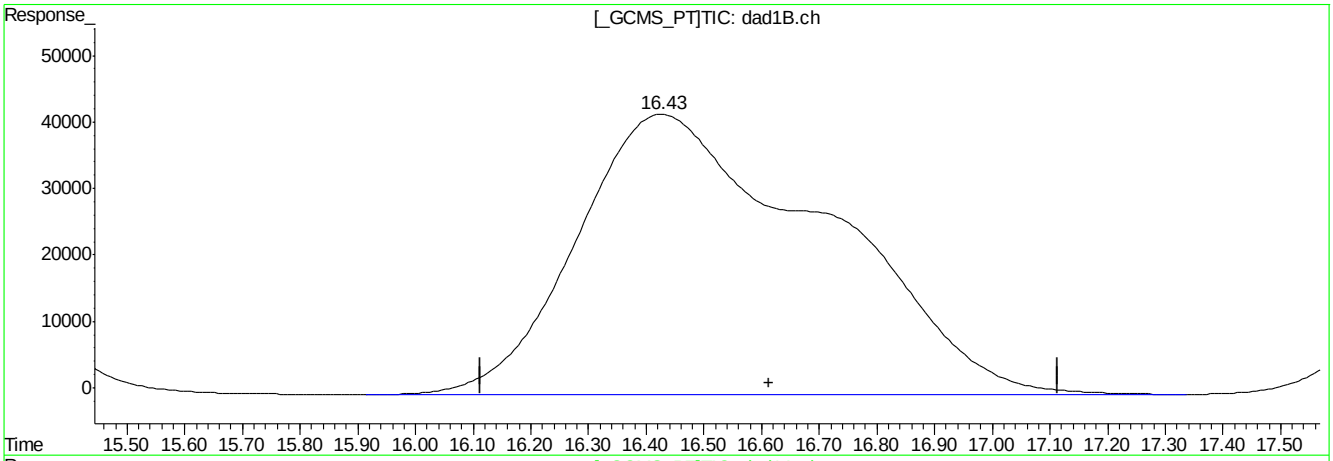
response 14930236

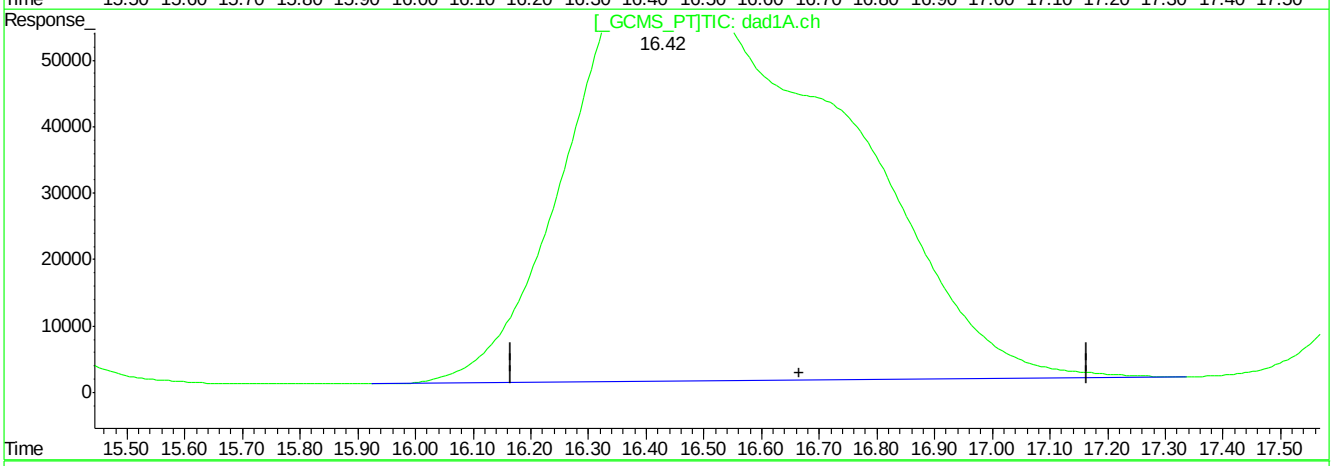
(+) = Expected Retention Time
GG631125.D GGG3527_011325.M Wed Jan 15 06:47:00 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631125.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631125.D\dad1A.ch
Acq On : 13-Jan-2025, 17:13:42 Operator: fouads
Sample : icv3527-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 15 6:45 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jan 15 06:45:37 2025
Response via : Multiple Level Calibration





QEdit

(16) o-Nitrotoluene

16.43min 2793.544ppb

response 12678344

(16) o-Nitrotoluene #2

16.43min 2963.938ppb

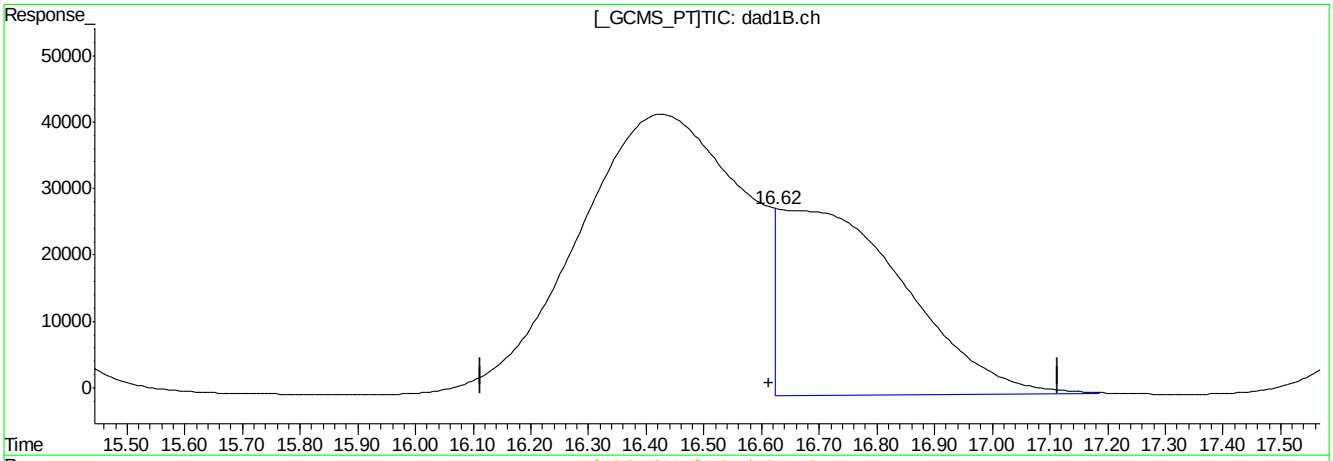
response 20520061

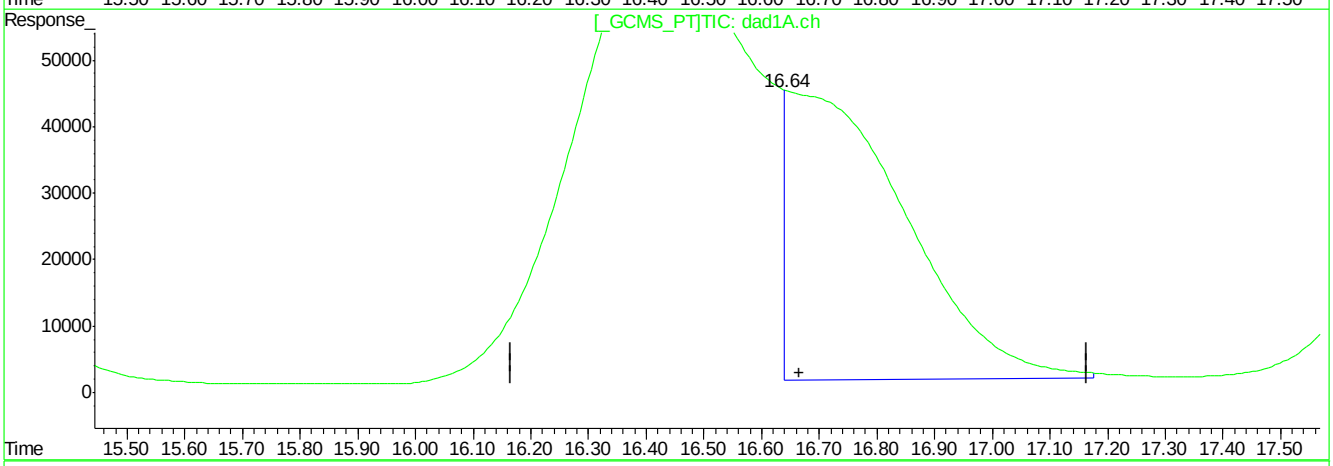
(+) = Expected Retention Time
GG631125.D GGG3527_011325.M Wed Jan 15 06:47:05 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631125.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631125.D\dad1A.ch
Acq On : 13-Jan-2025, 17:13:42 Operator: fouads
Sample : icv3527-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 15 6:45 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jan 15 06:45:37 2025
Response via : Multiple Level Calibration





QEdit

(16) o-Nitrotoluene

16.62min 944.298ppb m

response 4285642

(16) o-Nitrotoluene #2

16.64min 894.281ppb m

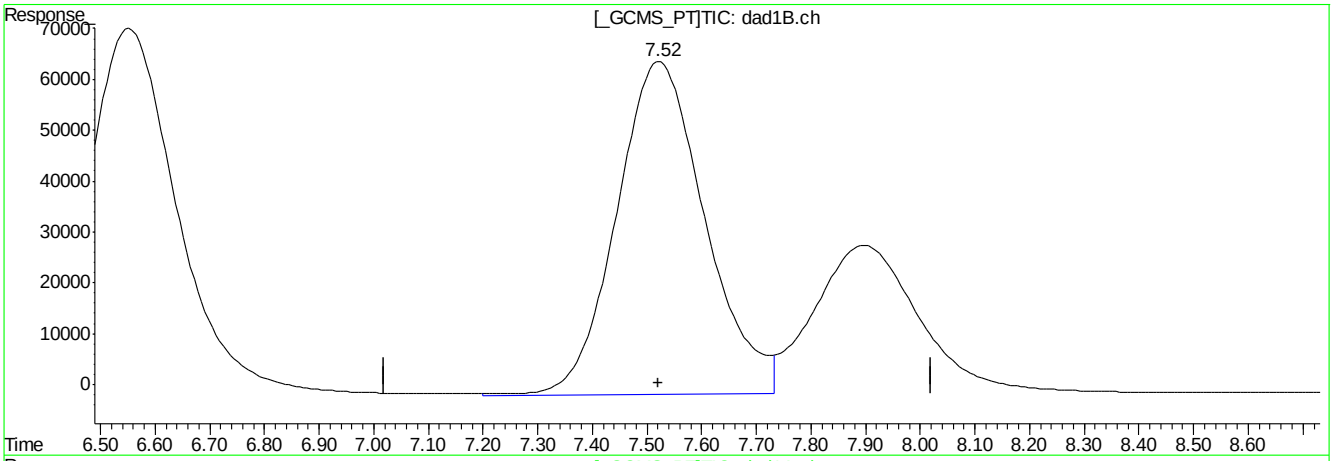
response 6191322

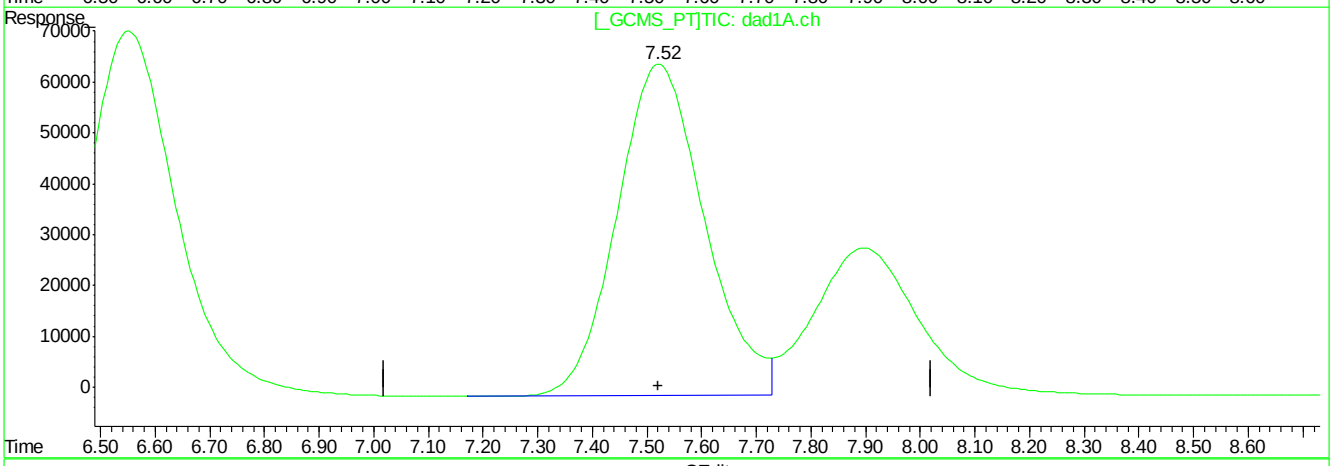
(+) = Expected Retention Time
GG631125.D GGG3527_011325.M Wed Jan 15 06:47:21 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631125.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631125.D\dad1A.ch
Acq On : 13-Jan-2025, 17:13:42 Operator: fouads
Sample : icv3527-1000 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 15 6:47 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(5) 1,3,5-Trinitrobenzene

7.52min 858.000ppb m

response 7362496

(5) 1,3,5-Trinitrobenzene #2

7.52min 860.499ppb

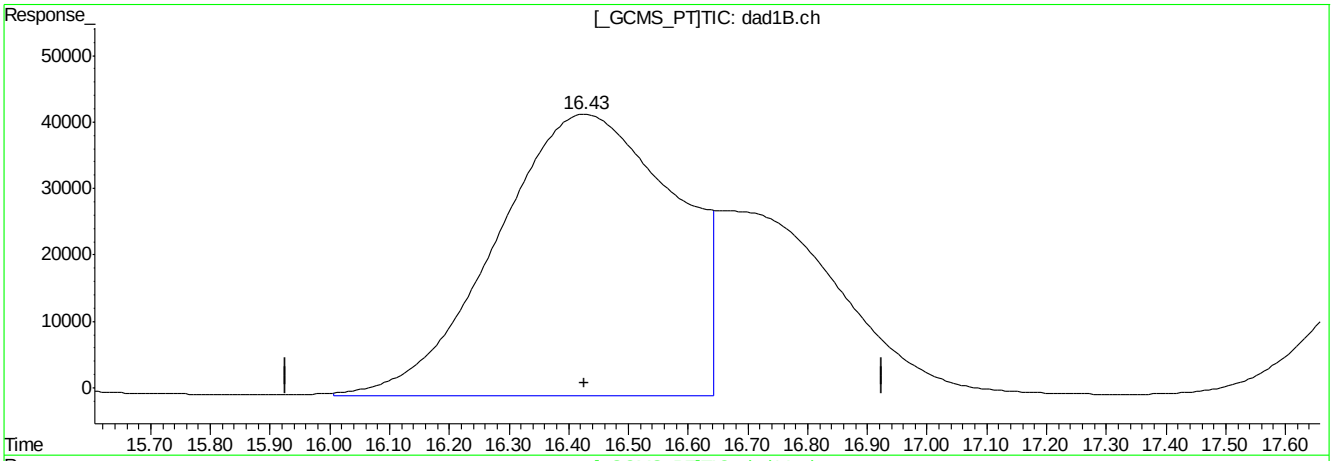
response 7237164

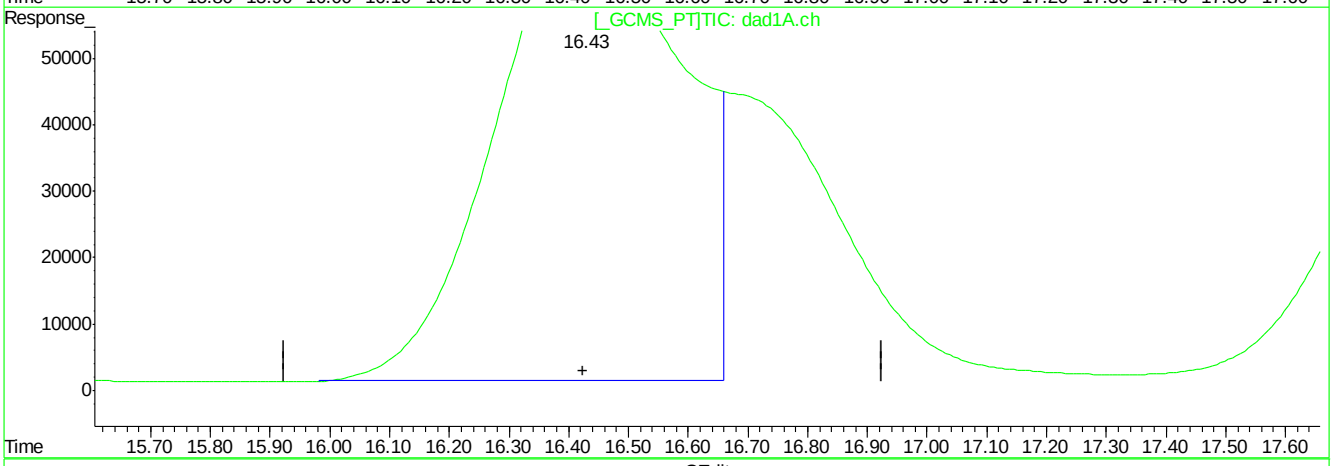
(+) = Expected Retention Time
GG631125.D GGG3527_011325.M Thu Jan 16 11:19:48 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631125.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631125.D\dad1A.ch
Acq On : 13-Jan-2025, 17:13:42 Operator: fouads
Sample : icv3527-1000 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 15 6:47 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(15) 3,5-Dinitroaniline

16.43min 960.421ppb m

response 8768390

(15) 3,5-Dinitroaniline #2

16.43min 892.415ppb m

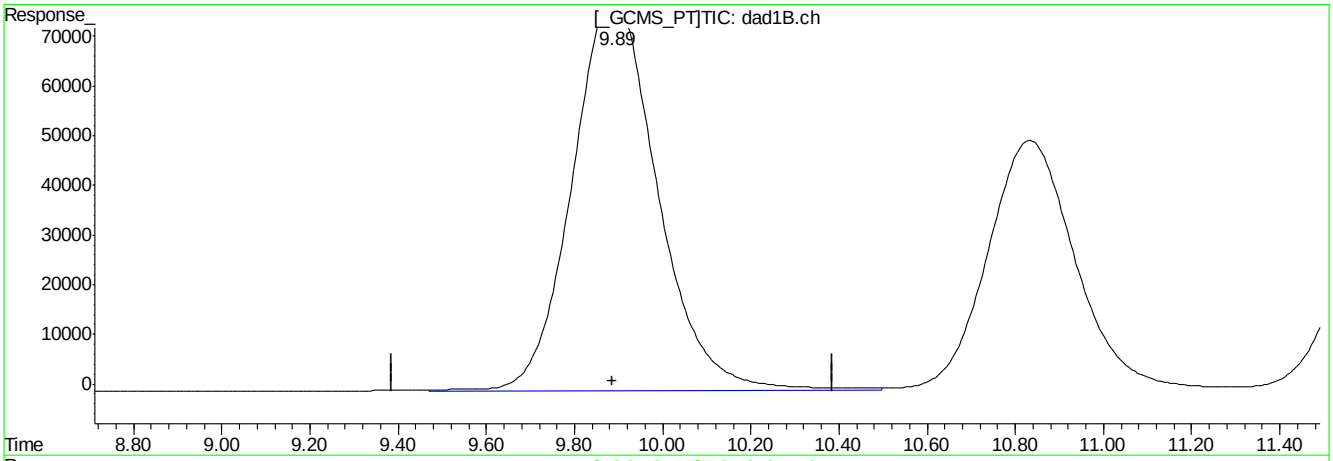
response 14930236

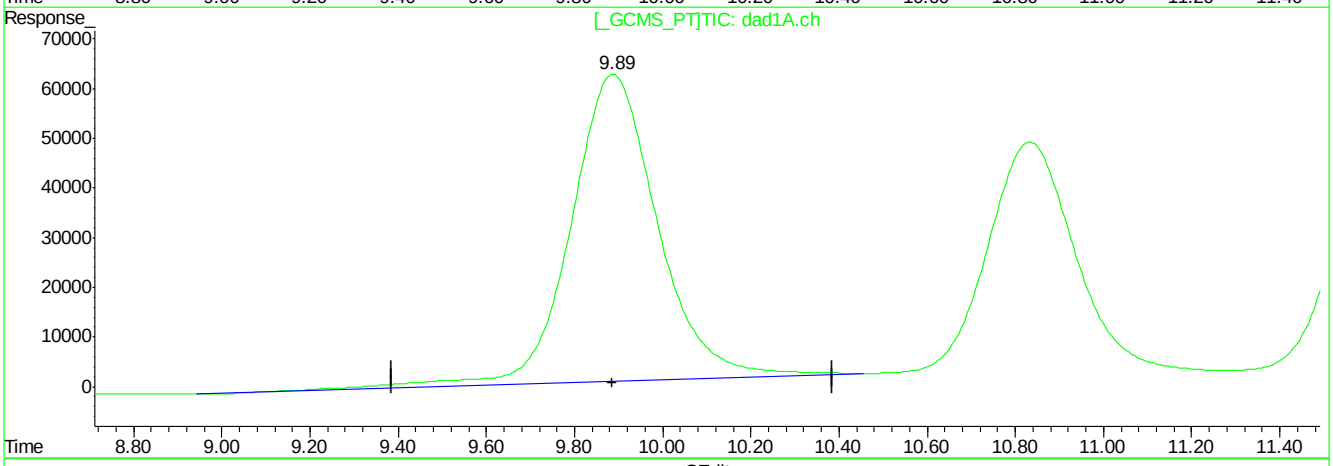
(+) = Expected Retention Time
GG631125.D GGG3527_011325.M Thu Jan 16 11:20:16 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631125.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631125.D\dad1A.ch
Acq On : 13-Jan-2025, 17:13:42 Operator: fouads
Sample : icv3527-1000 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 15 6:47 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

9.89min 862.709ppb m

response 10614085

(7) 1,3-Dinitrobenzene #2

9.89min 966.202ppb

response 8501873

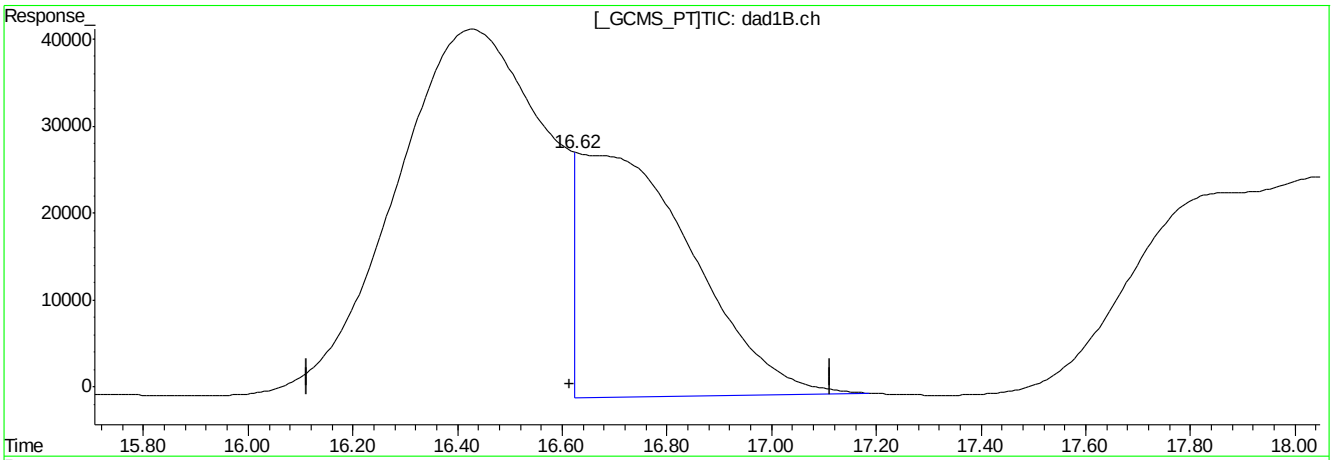
(+) = Expected Retention Time
GG631125.D GGG3527_011325.M Thu Jan 16 11:19:54 2025

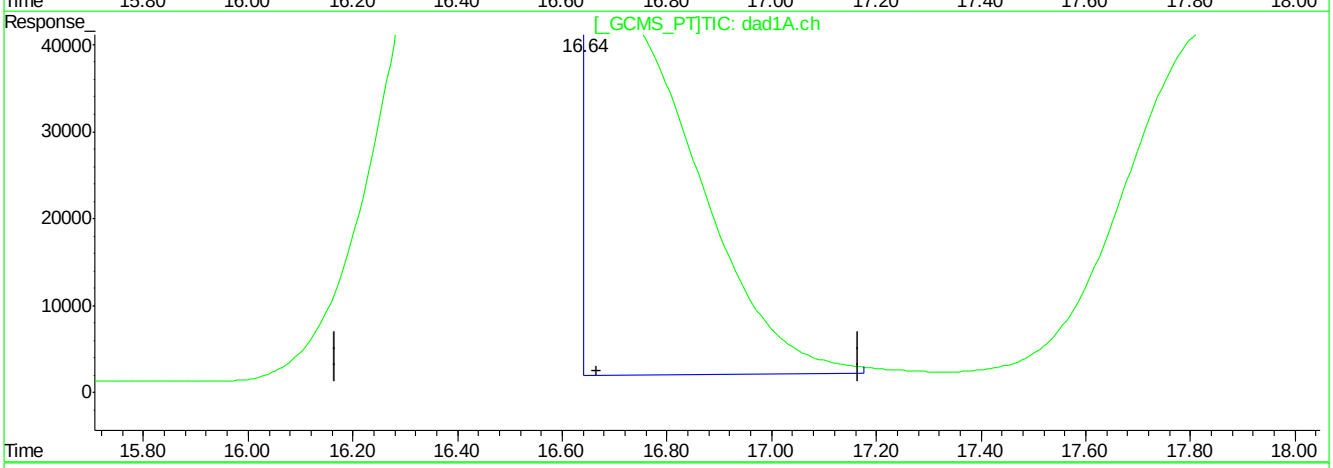
GG631125.D edits: 1,3-Dinitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631125.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631125.D\dad1A.ch
Acq On : 13-Jan-2025, 17:13:42 Operator: fouads
Sample : icv3527-1000 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 15 6:47 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(16) o-Nitrotoluene

16.62min 944.298ppb m

response 4285642

(16) o-Nitrotoluene #2

16.64min 894.281ppb m

response 6191322

(+) = Expected Retention Time
GG631125.D GGG3527_011325.M Thu Jan 16 11:20:20 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan
01/16/25 12:01

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631126.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631126.D\dad1A.ch
Acq On : 13-Jan-2025, 18:26:26 Operator: fouads
Sample : icv3527-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 14 07:13:50 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 16:46:31 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	0.00	0.00	0	0	N.D.	N.D.
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
6)	RDX	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	12.33	0	2611376	N.D.	895.095m#
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D.
16)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D.	N.D.
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

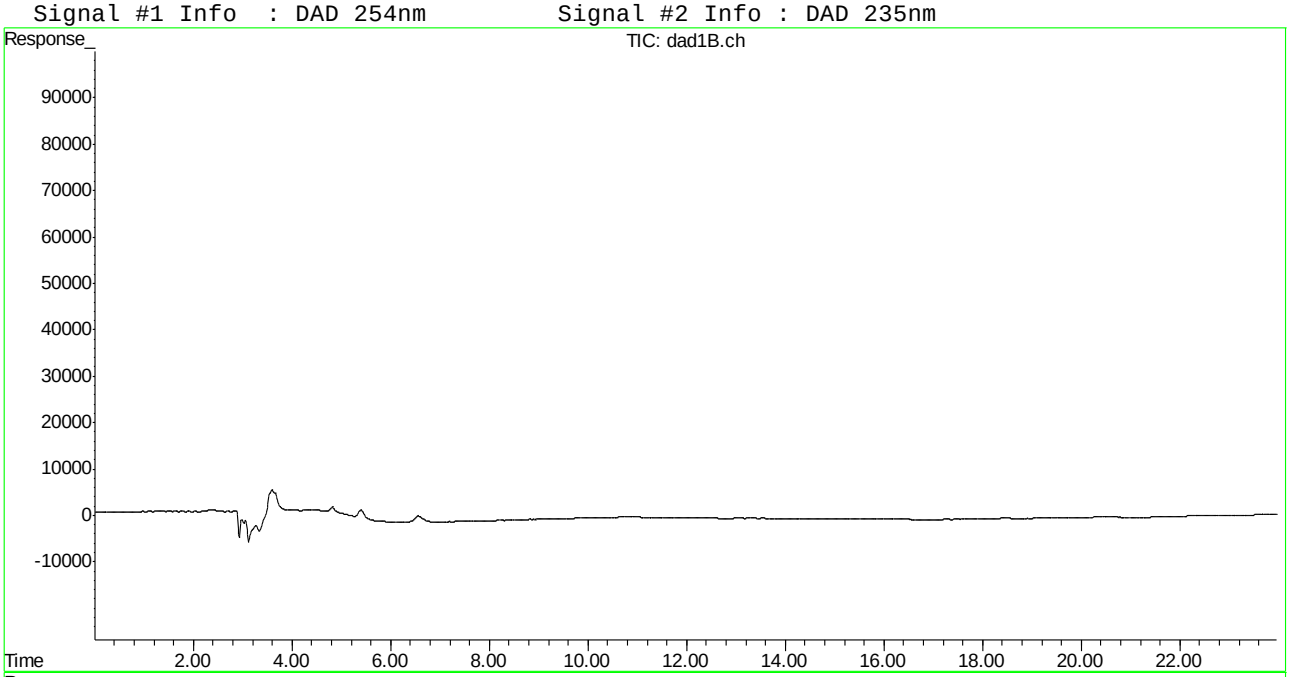
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG631126.D GGG3527_011325.M Wed Jan 15 06:49:00 2025 Page 1

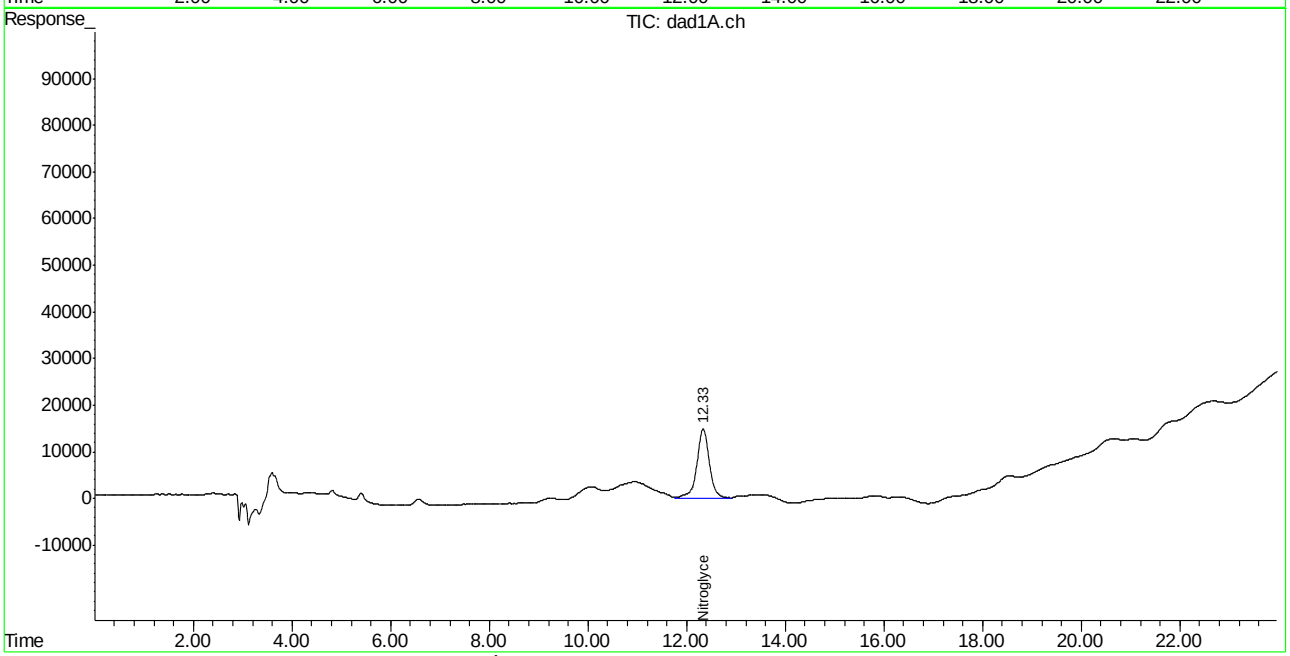
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631126.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631126.D\dad1A.ch
Acq On : 13-Jan-2025, 18:26:26 Operator: fouads
Sample : icv3527-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 14 7:14 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 16:46:31 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

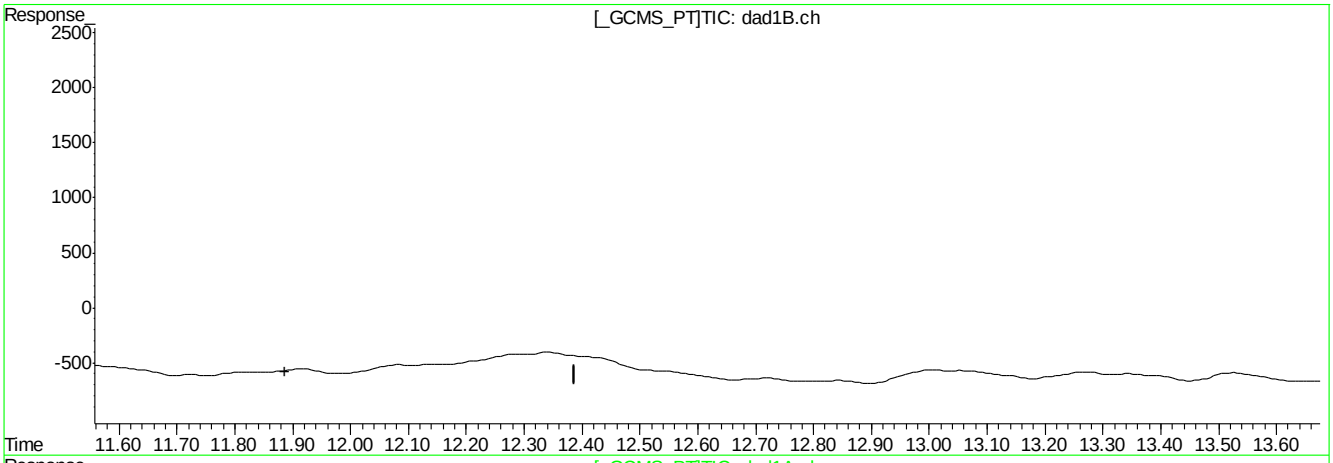
Sample Number:	GGG3527-ICV3527	**Method:**	SW846 8330A
Lab FileID:	GG631126.D	**Analyst approved:**	01/15/25 08:07 Fouad Sekkar
Injection Time:	01/13/25 18:26	**Supervisor approved:**	01/16/25 12:01 Naresh Jiawan

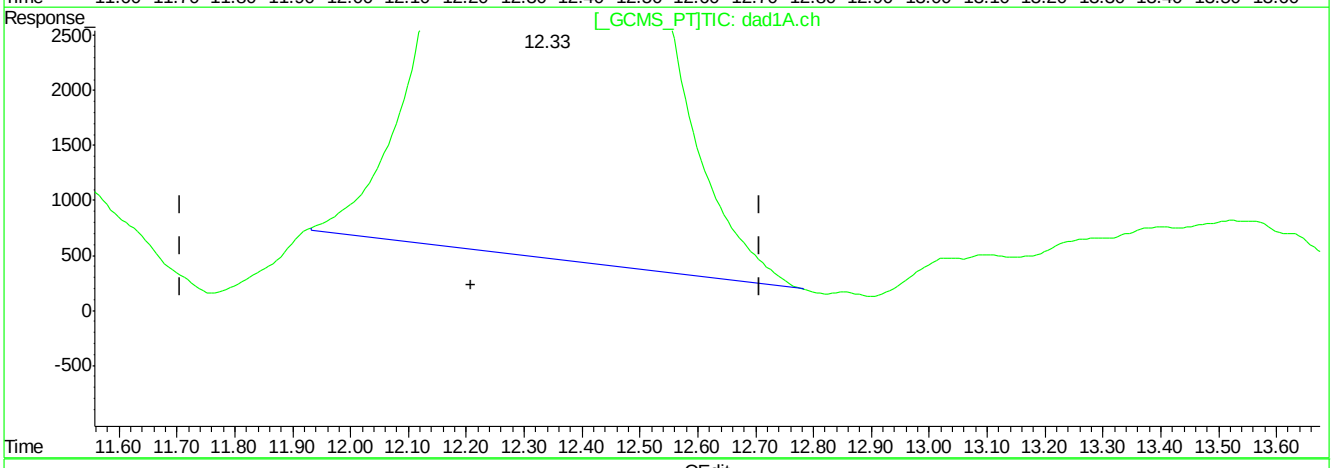
Parameter	CAS	Sig#	R.T. (min.)	Reason
Nitroglycerine	55-63-0	2	12.33	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631126.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631126.D\dad1A.ch
Acq On : 13-Jan-2025, 18:26:26 Operator: fouads
Sample : icv3527-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 14 7:13 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 16:46:31 2025
Response via : Multiple Level Calibration





QEdit

(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

12.34min 813.541ppb

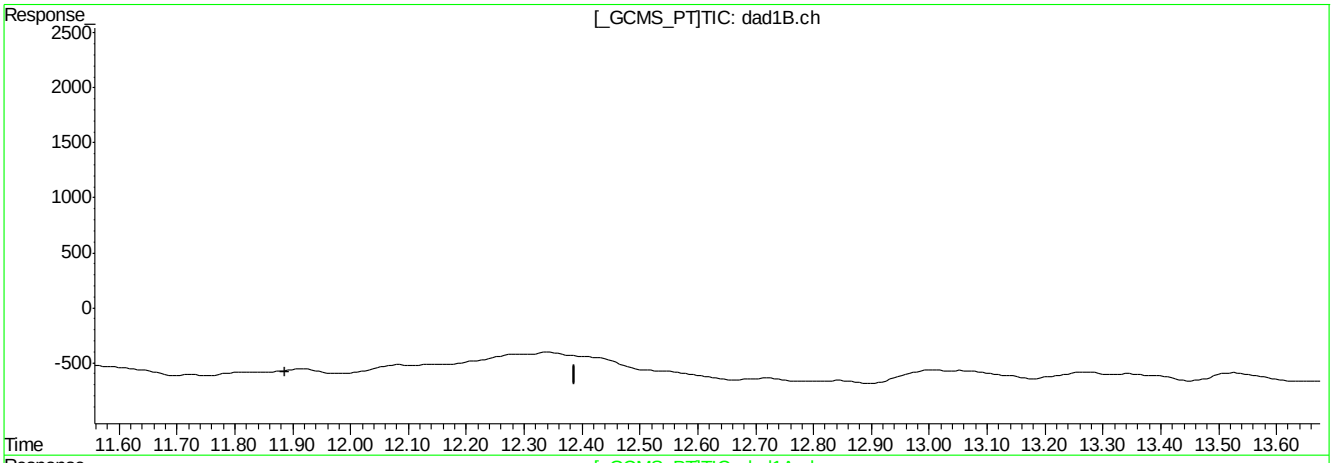
response 2373447

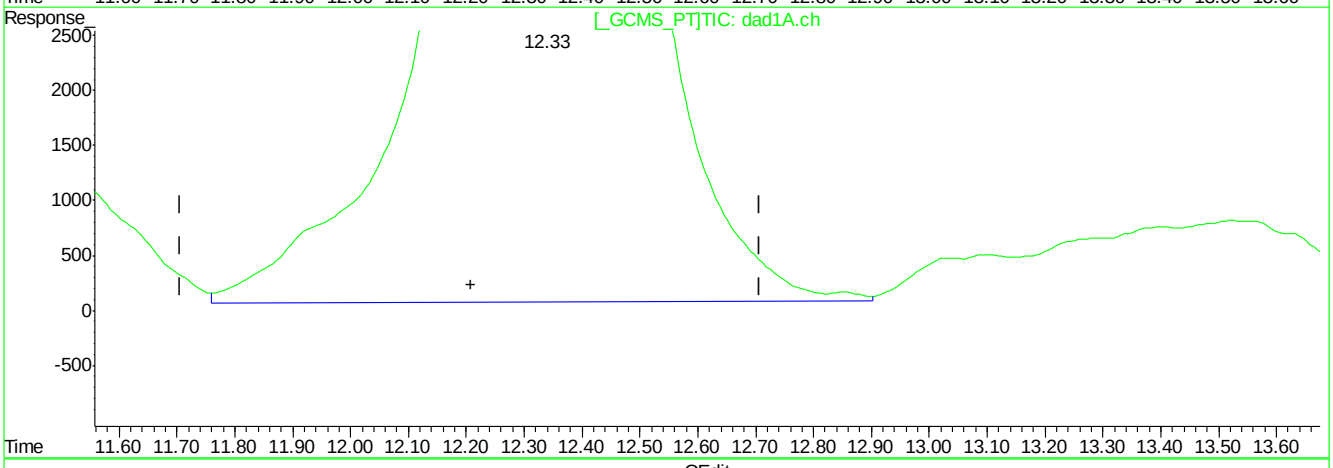
(+) = Expected Retention Time
GG631126.D GGG3527_011325.M Tue Jan 14 07:14:06 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631126.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631126.D\dad1A.ch
Acq On : 13-Jan-2025, 18:26:26 Operator: fouads
Sample : icv3527-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 14 7:13 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jan 13 16:46:31 2025
Response via : Multiple Level Calibration





QEdit

(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

12.33min 895.095ppb m

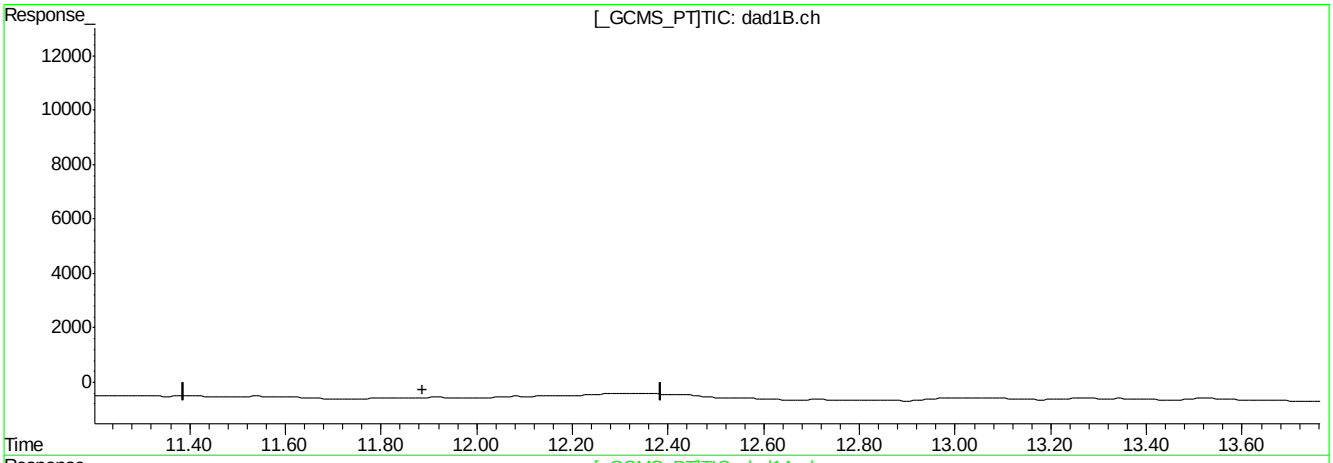
response 2611376

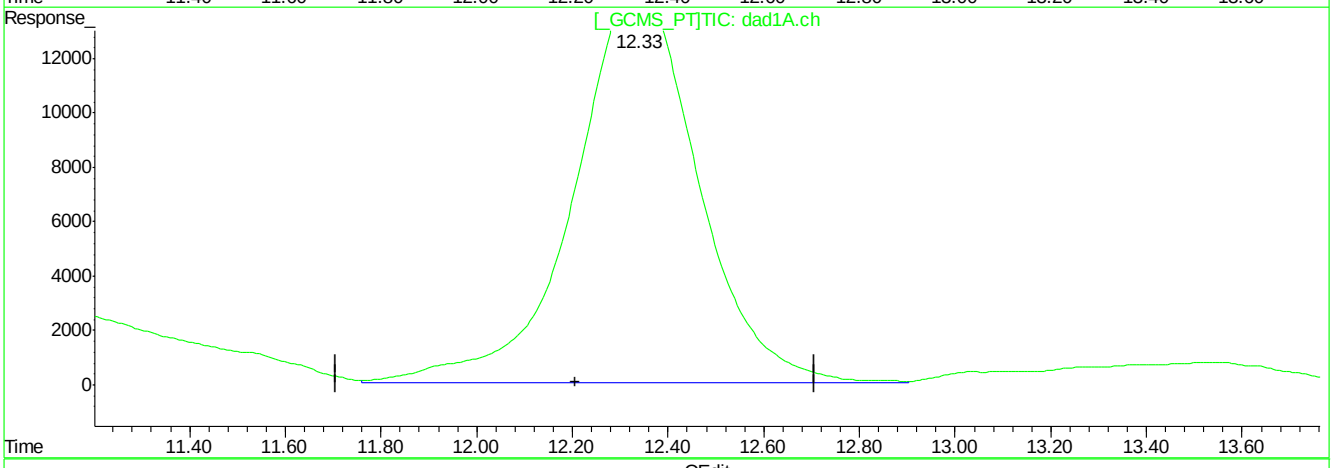
(+) = Expected Retention Time
GG631126.D GGG3527_011325.M Tue Jan 14 07:14:14 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3527\GG631126.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\1\DATA\GGG3527\GG631126.D\dad1A.ch
Acq On : 13-Jan-2025, 18:26:26 Operator: fouads
Sample : icv3527-1000 Inst : G1315B
Misc : op7298,GGG3527,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jan 14 7:14 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jan 16 09:42:25 2025
Response via : Multiple Level Calibration





QEdit

(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

12.33min 895.095ppb m

response 2611376

(+) = Expected Retention Time
GG631126.D GGG3527_011325.M Thu Jan 16 11:20:44 2025

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 06/03/25 11:30

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632197.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632197.D\dad1A.ch
Acq On : 29-May-2025, 12:16:58 Operator: fouads
Sample : cc3527-1000 Inst : G1315B
Misc : op9248,GGG3585,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 29 12:47:45 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu May 29 12:47:35 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	12.54	12.53	3785399	9085640	788.494	914.859
	Spiked Amount 500.000	Range 70 - 136		Recovery =		157.70%#	182.97%#
	Target Compounds						
1)	TNX	4.83	4.83	4738238	4738238	483.379	483.380
2)	HMX	5.15	5.15	2812809	2812809	970.913	970.516
3)	DNX	5.35	5.35	8459951	8459951	988.272	1003.887
4)	MNX	6.14	6.14	8431919	8431919	1161.705	1161.704
5)	1,3,5-Trinitrobe	6.88	6.88	8956371	8956371	1043.744	1064.913
6)	RDX	7.26	7.26	4726888	4726888	1155.381	1166.057
7)	1,3-Dinitrobenze	9.15	9.15	12534353	10478239	1018.787	1190.807m
8)	Nitrobenzene	9.99	9.99	6988524	7583661	906.784	1028.808
9)	2,4,6-Trinitroto	10.43	10.44	8824143	13497039	1081.487m	1187.738m
10)	Nitroglycerin	11.24	11.03	7093177	3076828	4275.042	1054.637m#
11)	Tetryl	11.24	11.23	7093177	15272577	1103.197	1384.245m
13)	2,6-Dinitrotolue	12.87	12.87	6694758	11029672	1241.807	1327.727
14)	2,4-Dinitrotolue	13.51	13.51	11747687	9833231	1052.115	1256.787
15)	3,5-Dinitroanili	14.33	14.33	8389825	14547548	918.956	869.541
16)	o-Nitrotoluene	17.00	17.01	4815226	6925742	1060.986	1000.361
17)	p-Nitrotoluene	15.85	15.85	10140443	17846323	2052.850	2024.520
18)	4-Amino-2,6-Dini	15.85	15.85	10140443	17846323	2081.629	2024.480
19)	m-Nitrotoluene	17.00	17.01	4815226	6925742	909.945	782.101
20)	2-Amino-4,6-Dini	17.83	17.84	8552870	10457592	1060.219	918.443
21)	PETN	0.00	18.72	0	1967480	N.D.	658.299 #

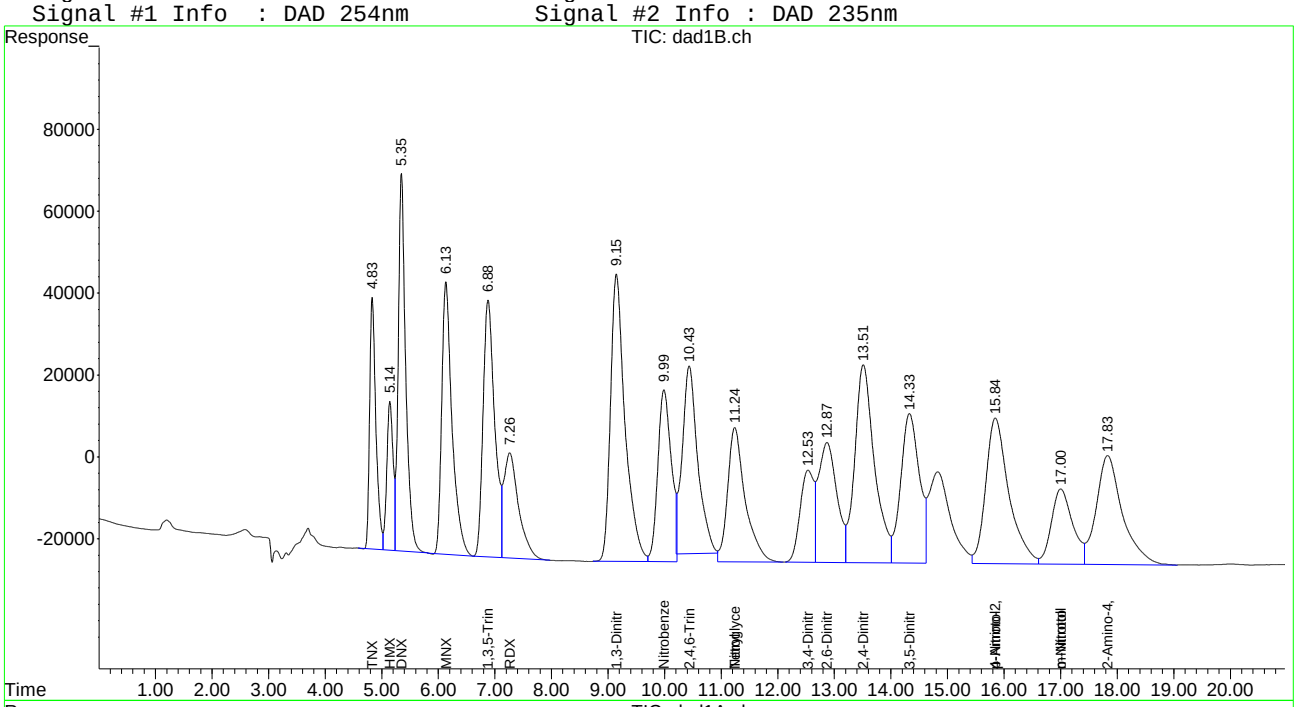
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG632197.D GGG3527_011325.M Mon Jun 02 10:16:13 2025

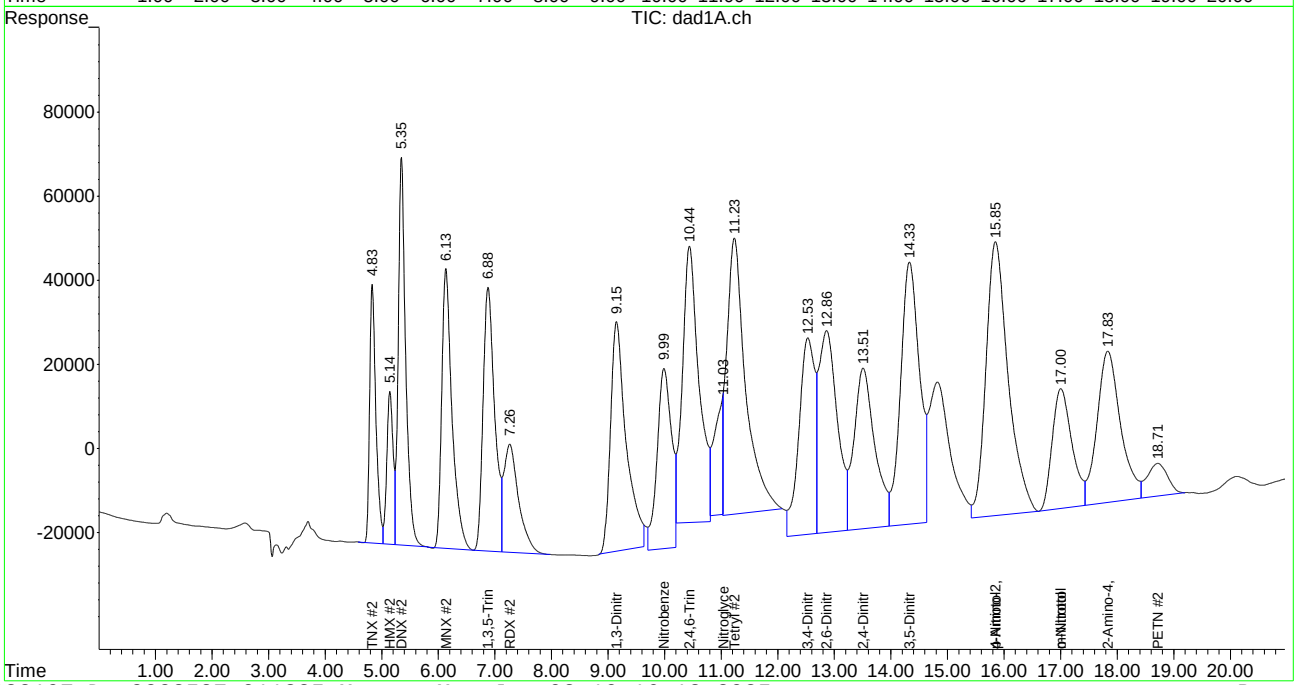
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632197.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632197.D\dad1A.ch
Acq On : 29-May-2025, 12:16:58 Operator: fouads
Sample : cc3527-1000 Inst : G1315B
Misc : op9248,GGG3585,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 29 12:52 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu May 29 12:47:35 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

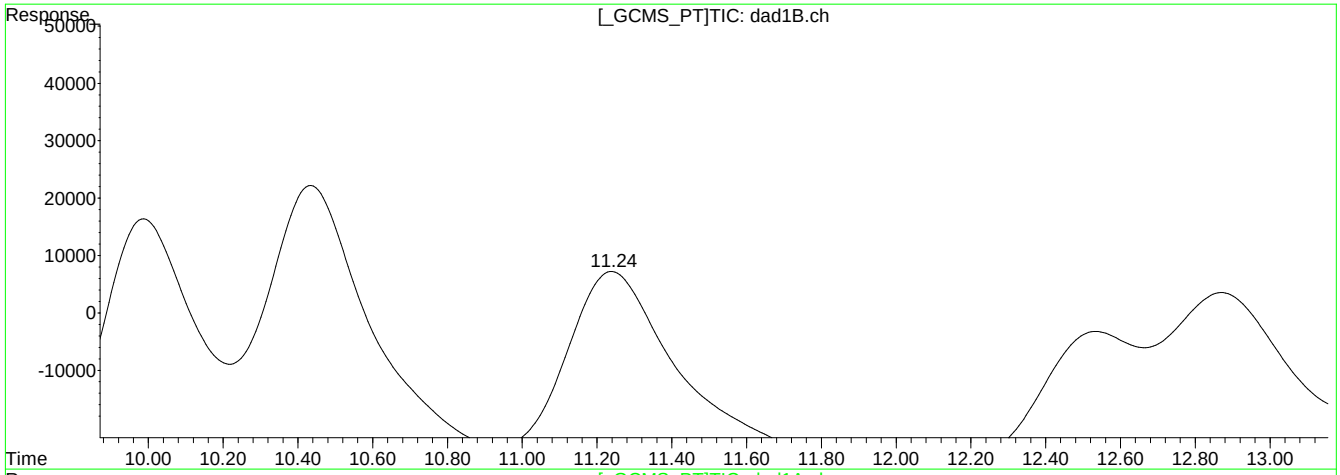
Sample Number: GGG3585-CC3527
Lab FileID: GG632197.D
Injection Time: 05/29/25 12:16
Method: SW846 8330A
Analyst approved: 06/02/25 11:16 Fouad Sekkar
Supervisor approved: 06/03/25 11:30 William Hustedde

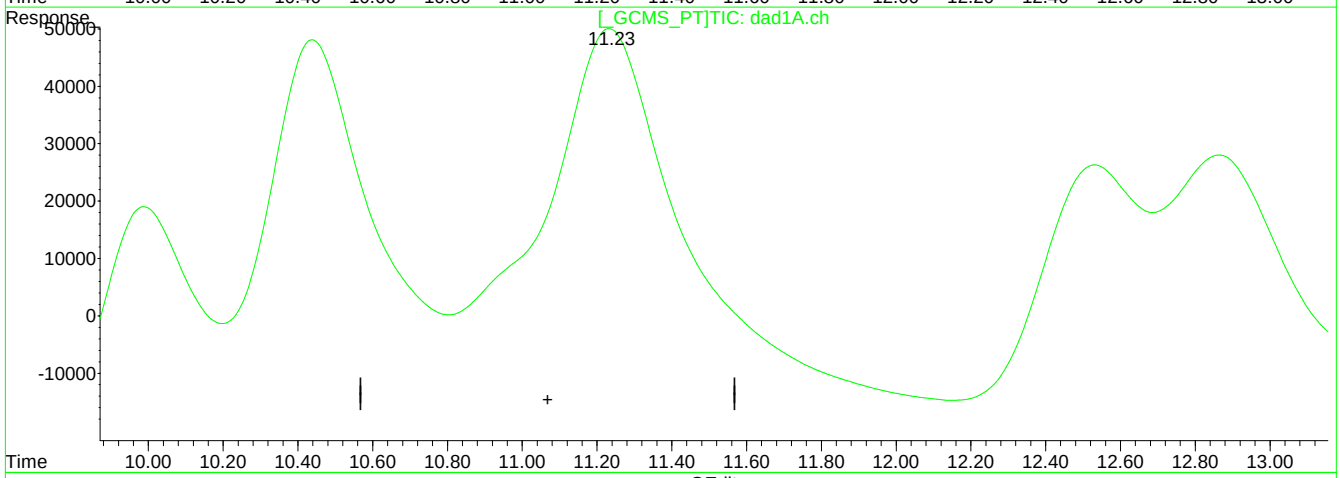
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	9.15	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	10.43	Missed peak
2,4,6-Trinitrotoluene	118-96-7	2	10.44	Missed peak
Nitroglycerine	55-63-0	2	11.03	Missed peak
Tetryl	479-45-8	2	11.23	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632197.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632197.D\dad1A.ch
Acq On : 29-May-2025, 12:16:58 Operator: fouads
Sample : cc3527-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 29 12:47 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu May 29 12:47:35 2025
Response via : Multiple Level Calibration





QEdit

(10) Nitroglycerin

11.24min 4275.042ppb

response 7093177

(10) Nitroglycerin #2

11.23min 8039.205ppb

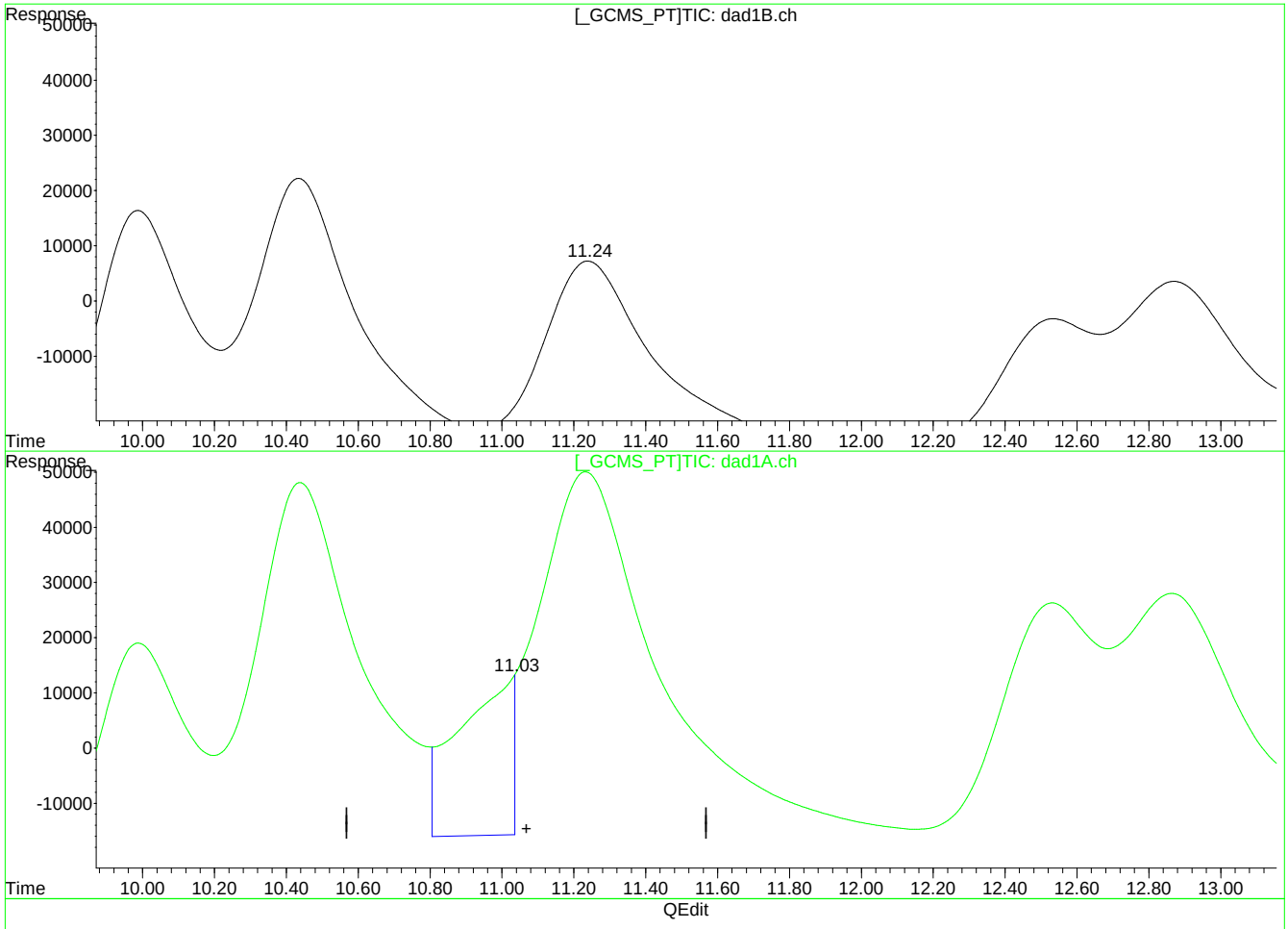
response 23453806

(+) = Expected Retention Time
GG632197.D GGG3527_011325.M Thu May 29 12:52:23 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632197.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632197.D\dad1A.ch
Acq On : 29-May-2025, 12:16:58 Operator: fouads
Sample : cc3527-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 29 12:47 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu May 29 12:47:35 2025
Response via : Multiple Level Calibration



(10) Nitroglycerin

11.24min 4275.042ppb

response 7093177

(10) Nitroglycerin #2

11.03min 1054.637ppb m

response 3076828

(+) = Expected Retention Time
GG632197.D GGG3527_011325.M Thu May 29 12:52:33 2025

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 06/03/25 11:30

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632209.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632209.D\dad1A.ch
Acq On : 29-May-2025, 17:55:44 Operator: fouads
Sample : cc3527-1000 Inst : G1315B
Misc : op9248,GGG3585,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 11:01:27 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 11:01:17 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.01	14.02	4436050	8542834	924.024m	860.202m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		184.80%#	172.04%#
	Target Compounds						
1)	TNX	4.86	4.86	4603304	4603304	469.613	469.615
2)	HMX	5.25	5.25	2586711	2586711	892.869	892.504
3)	DNX	5.46	5.46	8337282	8337282	973.942	989.330
4)	MNX	6.54	6.54	8136245	8136245	1120.968	1120.968
5)	1,3,5-Trinitrobe	7.21	7.21	9034807	9034807	1052.885	1074.239
6)	RDX	7.78	7.78	4067910	4067910	994.309	1003.497
7)	1,3-Dinitrobenze	9.63	9.63	12066052	9738850	980.724	1106.779
8)	Nitrobenzene	10.59	10.59	6880401	6816054	892.755	924.673
9)	2,4,6-Trinitroto	11.10	11.11	9060784	12542665	1110.489	1103.754
10)	Nitroglycerin	0.00	11.89	0	2606914	N.D.	893.566 #
11)	Tetryl	12.35	12.34	6430671	12490731	1000.158	1132.110
13)	2,6-Dinitrotolue	14.04	14.02	5293847	9266613	981.953m	1115.494m
14)	2,4-Dinitrotolue	14.68	14.67	11532443	8503272	1032.838	1086.805
15)	3,5-Dinitroanili	15.44	15.44	9054553	15043171	991.765	899.166
16)	o-Nitrotoluene	16.19	16.18	4968004	6521144	1094.649	941.920
17)	p-Nitrotoluene	17.27	17.28	9688325	16479757	1961.322	1869.494
18)	4-Amino-2,6-Dini	17.27	17.28	9688325	16479757	1988.818	1869.457
19)	m-Nitrotoluene	18.37	18.36	4795641	7935942	906.244	896.179
20)	2-Amino-4,6-Dini	19.19	19.19	8258133	10603070	1023.684	931.220
21)	PETN	0.00	20.24	0	2480780	N.D.	830.044 #

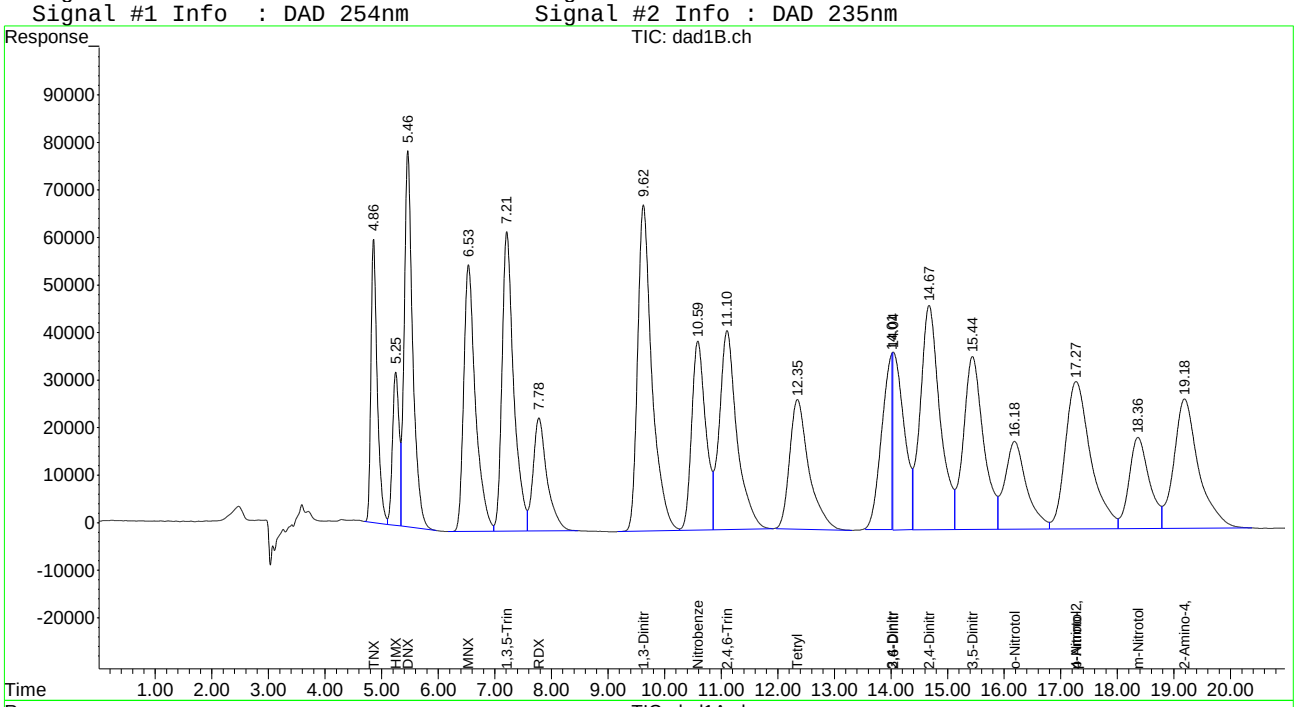
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG632209.D GGG3527_011325.M Mon Jun 02 10:16:24 2025

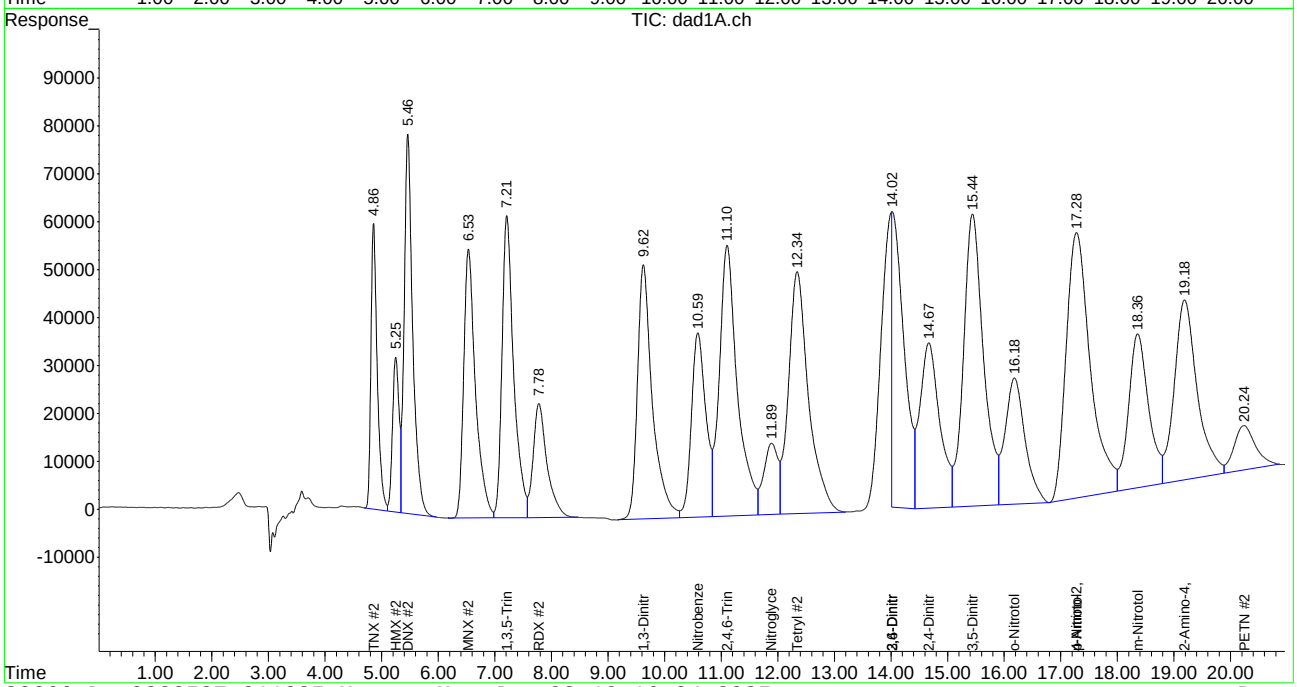
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632209.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632209.D\dad1A.ch
Acq On : 29-May-2025, 17:55:44 Operator: fouads
Sample : cc3527-1000 Inst : G1315B
Misc : op9248,GGG3585,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 11:02 2025 Quant Results File: GGG3527_011325.RES

Quant Method : C:\MSDCHEM\1...\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 11:01:17 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

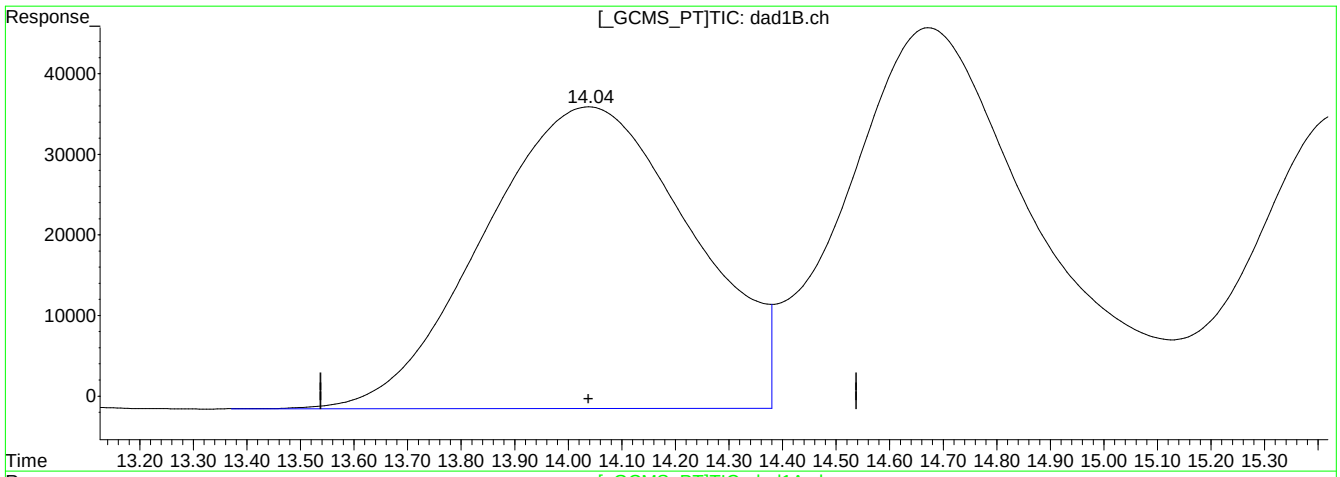
Sample Number: GGG3585-CC3527 **Method:** SW846 8330A
Lab FileID: GG632209.D **Analyst approved:** 06/02/25 11:16 Fouad Sekkar
Injection Time: 05/29/25 17:55 **Supervisor approved:** 06/03/25 11:30 William Hustedde

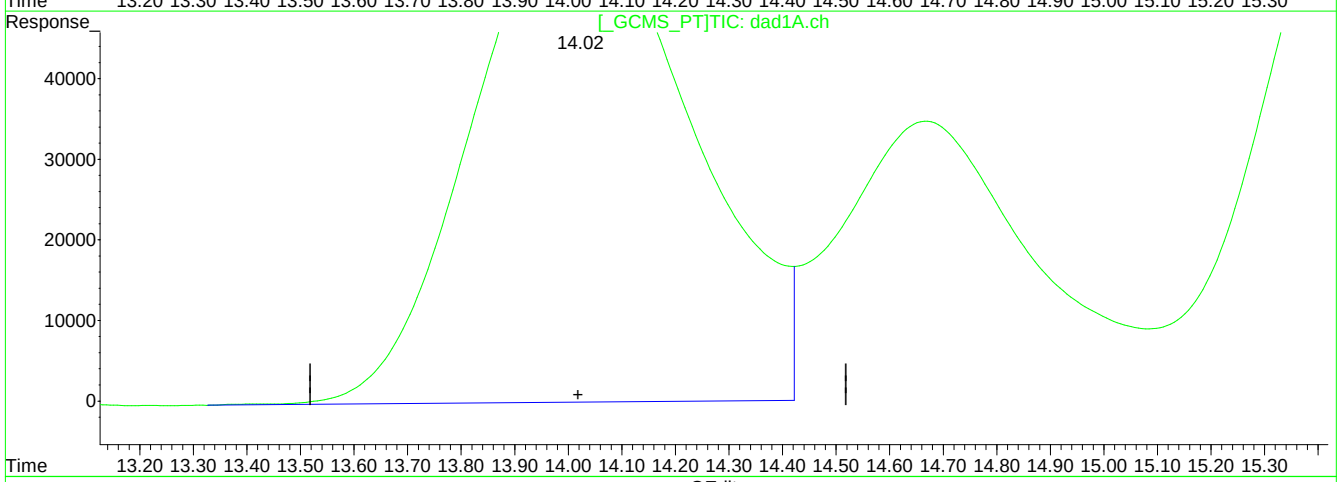
Parameter	CAS	Sig#	R.T. (min.)	Reason
3,4-Dinitrotoluene	610-39-9	1	14.01	Split peak
2,6-Dinitrotoluene	606-20-2	2	14.02	Split peak
3,4-Dinitrotoluene	610-39-9	2	14.02	Split peak
2,6-Dinitrotoluene	606-20-2	1	14.04	Split peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632209.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632209.D\dad1A.ch
Acq On : 29-May-2025, 17:55:44 Operator: fouads
Sample : cc3527-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 11:01 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 11:01:17 2025
Response via : Multiple Level Calibration





QEdit

(12) 3,4-Dinitrotoluene (S)

14.04min 2103.634ppb

response 10099121

(12) 3,4-Dinitrotoluene #2 (S)

14.02min 1741.924ppb

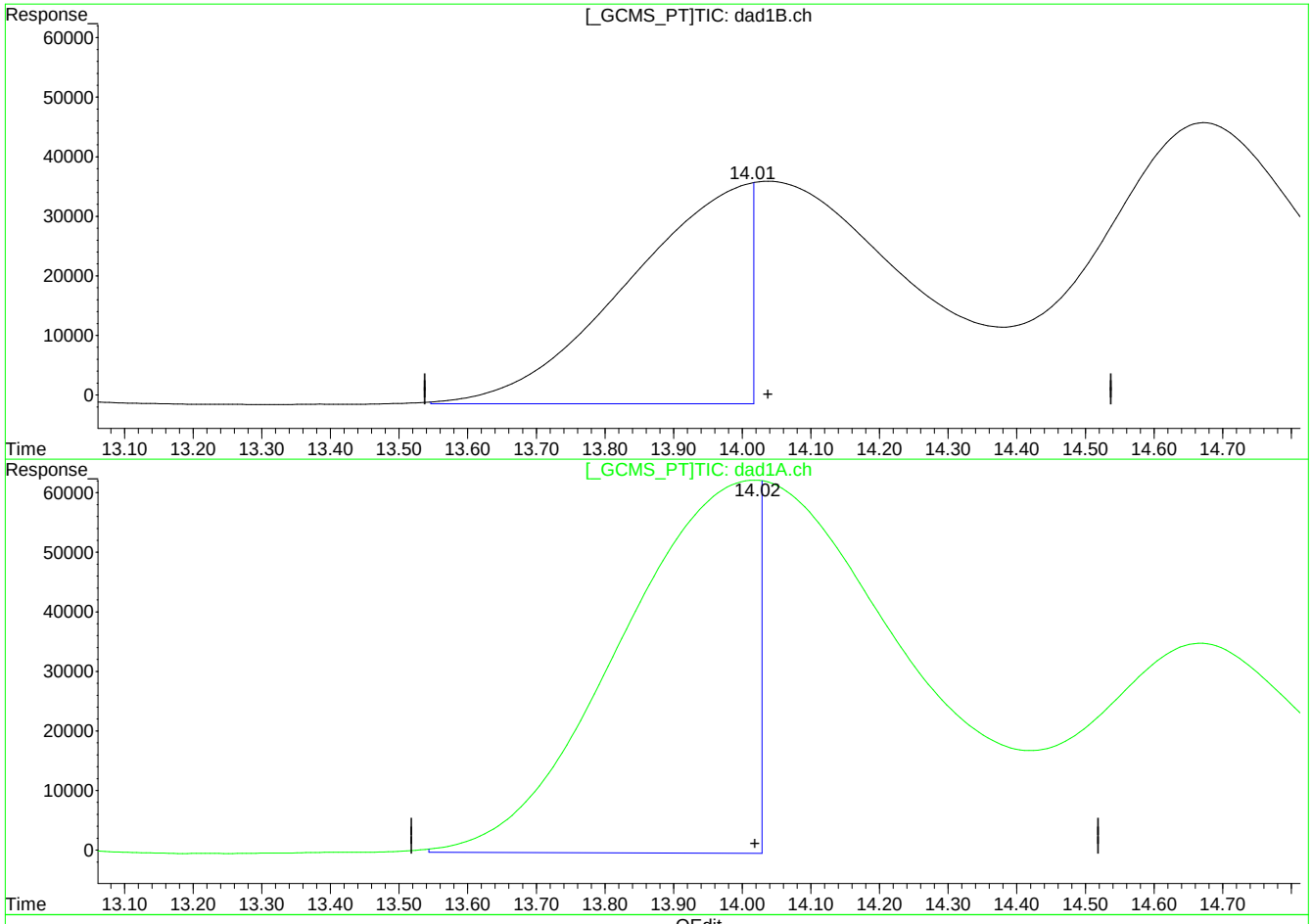
response 17299385

(+) = Expected Retention Time
GG632209.D GGG3527_011325.M Fri May 30 11:02:01 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632209.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632209.D\dad1A.ch
Acq On : 29-May-2025, 17:55:44 Operator: fouads
Sample : cc3527-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 11:01 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 11:01:17 2025
Response via : Multiple Level Calibration



(12) 3,4-Dinitrotoluene (S)

14.01min 924.024ppb m

response 4436050

(12) 3,4-Dinitrotoluene #2 (S)

14.02min 860.202ppb m

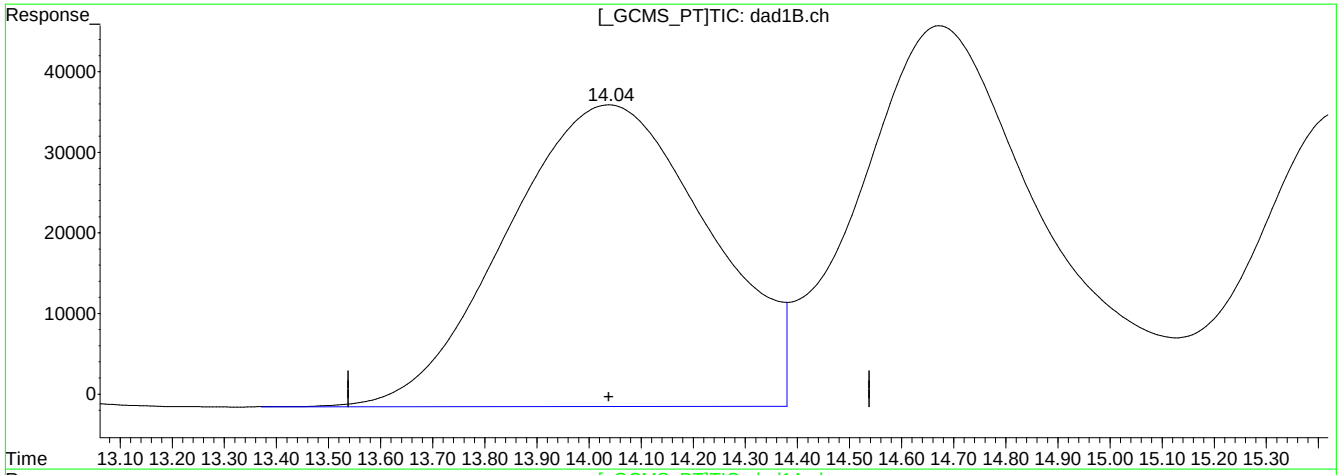
response 8542834

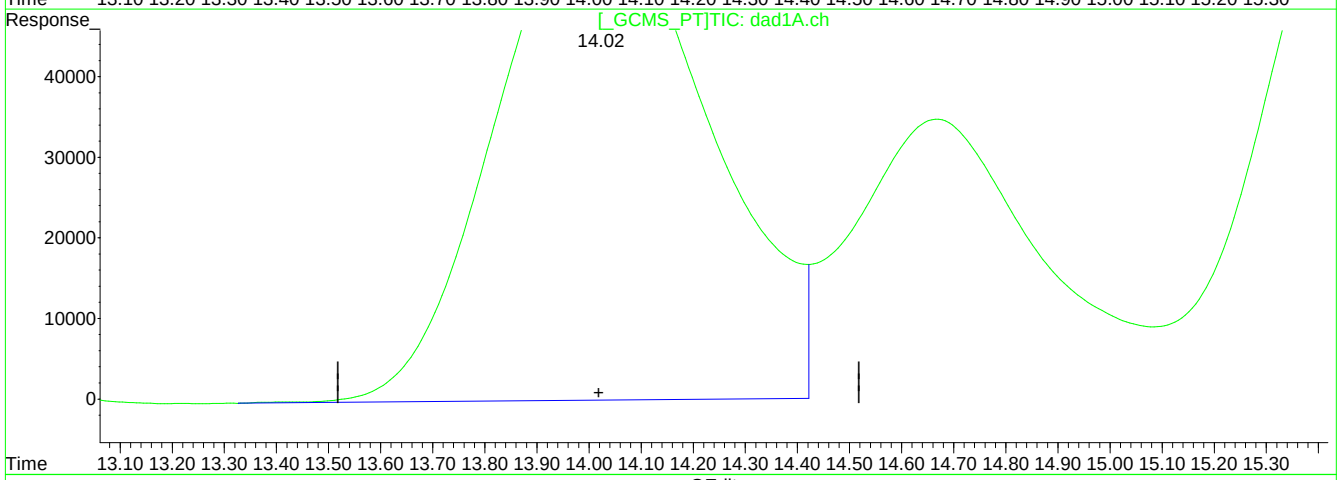
(+) = Expected Retention Time
GG632209.D GGG3527_011325.M Fri May 30 11:02:17 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632209.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632209.D\dad1A.ch
Acq On : 29-May-2025, 17:55:44 Operator: fouads
Sample : cc3527-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 11:01 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 11:01:17 2025
Response via : Multiple Level Calibration





QEdit

(13) 2,6-Dinitrotoluene

14.04min 1873.280ppb

response 10099121

(13) 2,6-Dinitrotoluene #2

14.02min 2082.460ppb

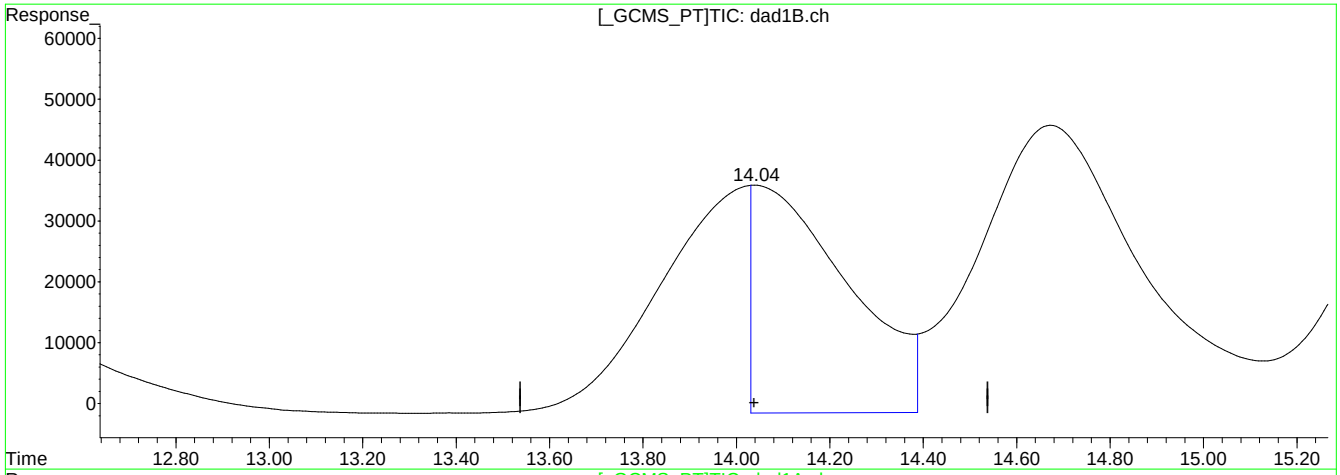
response 17299385

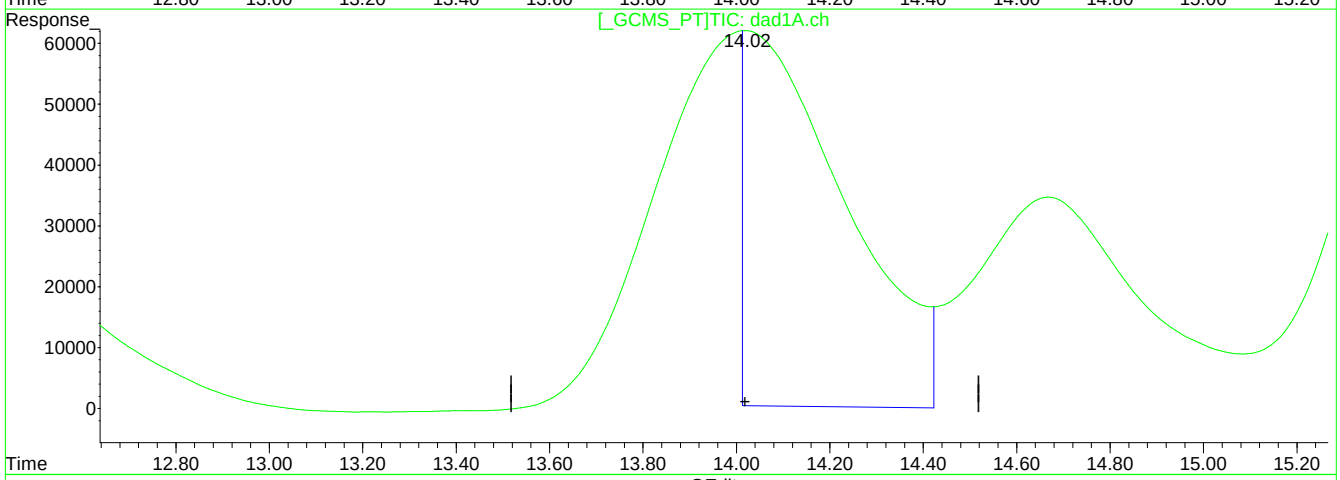
(+) = Expected Retention Time
GG632209.D GGG3527_011325.M Fri May 30 11:02:22 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3585\GG632209.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3585\GG632209.D\dad1A.ch
Acq On : 29-May-2025, 17:55:44 Operator: fouads
Sample : cc3527-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 30 11:01 2025 Quant Results File: GGG3527_011325.RES

Method : C:\MSDCHEM\1\METHODS\GGG3527_011325.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri May 30 11:01:17 2025
Response via : Multiple Level Calibration





QEdit

(13) 2,6-Dinitrotoluene

14.04min 981.953ppb m

response 5293847

(13) 2,6-Dinitrotoluene #2

14.02min 1115.494ppb m

response 9266613

(+) = Expected Retention Time
GG632209.D GGG3527_011325.M Fri May 30 11:02:40 2025

SGS-ORLANDO HPLC-04 BB **ANALYSIS LOG**

DATE	5/6/2025	**METHODS**	8330	**IC/ICC STD LOT**	**LC1750/LC1834**
COLUMN TYPE	Extend C18	**ACQ. METHOD**	8330B	**ICV STD LOT**	**LC1734**
AMOUNT INJ	100ul	**PROC. METHOD**	BBB2669_050625.m	**SOLVENT**	**222737**
INSTRUMENT	HPLC05-BB	**CALIB. DATE**	5/6/2025	**SOLVENT**	**258274**
ANALYST	fs/EM	**RUN BATCH**	GBB2700	**HEAD PRESSURE**	**240**

DATA FILE	ALS	SAMPLE NAME	METHOD	DF	MISC. INFO	COMMENTS
BB088059	1	ccb	8330	1	op98911,GBB2700,1000,,,10,1,water	/
BB088060	2	cc2669-1000	8330	1	op8076,GBB2700,1000,,,10,1,water	pressure high
BB088061	1	ccb	8330	1	op9214,GBB2700,1000,,,10,1,water	nd
BB088062	3	ic2700-20	8330	1	op9214,GBB2700,1000,,,10,1,water	curve passed
BB088063	4	ic2700-50	8330	1	op9214,GBB2700,1000,,,10,1,water	curve passed
BB088064	5	ic2700-100	8330	1	op9214,GBB2700,1000,,,10,1,water	curve passed
BB088065	6	ic2700-200	8330	1	op9214,GBB2700,1000,,,10,1,water	curve passed
BB088066	7	ic2700-500	8330	1	op9214,GBB2700,1000,,,10,1,water	curve passed
BB088067	8	icc2700-1000	8330	1	op9214,GBB2700,1000,,,10,1,water	curve passed
BB088068	9	ic2700-2500	8330	1	op9214,GBB2700,1000,,,10,1,water	curve passed
BB088069	10	ic2700-5000	8330	1	op9214,GBB2700,1000,,,10,1,water	curve passed
BB088070	11	icv1-2700-1000	8330	1	op9214,GBB2700,1000,,,10,1,water	icv1 passed
BB088071	12	icv2-2700-1000	8330	1	op9214,GBB2700,1000,,,10,1,water	icv2 passed
BB088072	13	op9248-mb	8330	1	op9248,GBB2700,1000,,,10,1,water	nd
BB088073	14	op9248-bs	8330	1	op9248,GBB2700,1000,,,10,1,water	/
BB088074	15	fc24142-6cf	8330	1	op9248,GBB2700,950,,,10,1,water	surg ok,hmx,rdx,2-46,246?
BB088075	16	fc24313-1	8330	1	op9248,GBB2700,1000,,,10,1,water	rdx,hmx?
BB088076	17	fc24313-2	8330	1	op9248,GBB2700,1000,,,10,1,water	rdx?
BB088077	18	fc24308-1	8330	1	op9248,GBB2700,960,,,10,1,water	nd
BB088078	19	fc24308-2	8330	1	op9248,GBB2700,1000,,,10,1,water	nd
BB088079	20	fc24308-3	8330	1	op9248,GBB2700,940,,,10,1,water	/
BB088080	21	fc24308-5	8330	1	op9248,GBB2700,970,,,10,1,water	nd
BB088081	22	fc24321-1	8330	1	op9248,GBB2700,960,,,10,1,water	hmx,rdx?
BB088082	1	ccb	8330	1	op9214,GBB2700,1000,,,10,1,water	/
BB088083	8	cc2700-1000	8330	1	op9214,GBB2700,1000,,,10,1,water	passed
BB088084	23	op9248-ms	8330	1	op9248,GBB2700,475,,,10,1,water	/
BB088085	24	op9248-msd	8330	1	op9248,GBB2700,475,,,10,1,water	/
BB088086	25	fc24321-2	8330	1	op9248,GBB2700,1000,,,10,1,water	hmx,rdx?
BB088087	26	fc24321-3	8330	1	op9248,GBB2700,980,,,10,1,water	hmx,rdx?
BB088088	27	fc24396-1,na	8330	1	op9248,GBB2700,950,,,10,1,water	na
BB088089	28	fc24422-2	8330	1	op9248,GBB2700,900,,,10,1,water	nd
BB088090	29	fc24422-6	8330	1	op9248,GBB2700,970,,,10,1,water	rerun 2x
BB088091	30	fc24422-7	8330	1	op9248,GBB2700,980,,,10,1,water	rerun 2x
BB088092	31	fc24422-8	8330	1	op9248,GBB2700,950,,,10,1,water	/
BB088093	32	fc24428-2	8330	1	op9248,GBB2700,970,,,10,1,water	nd
BB088094	1	ccb	8330	1	op9214,GBB2700,1000,,,10,1,water	/
BB088095	8	ecc2700-1000	8330	1	op9214,GBB2700,1000,,,10,1,water	passed

SGS-ORLANDO HPLC-04 BB ANALYSIS LOG

DATE	5/27/2025	METHODS	8330	IC/ICC STD LOT	LC 1912,LC1919
COLUMN TYPE	Extend C18	ACQ. METHOD	8330B	ICV STD LOT	LC1914,lc1915
AMOUNT INJ	100ul	PROC. METHOD	BBB2700_050625.m	SOLVENT	250128
INSTRUMENT	HPLC05-BB	CALIB. DATE	5/6/2025	SOLVENT	240562
ANALYST	fs	RUN BATCH	GBB2710	HEAD PRESSURE	280

DATA FILE	ALS	SAMPLE NAME	METHOD	DF	MISC. INFO	COMMENTS
BB088322	1	ccb	8330	1	op98911,GBB2710,1000,,,10,1,water	/
BB088323	2	cc2700-1000	8330	1	op8076,GBB2710,1000,,,10,1,water	passed (petn high)
BB088324	3	op9525-mb	8330	1	op9525,GBB2710,1000,,,10,1,water	nd
BB088325	4	op9525-bs	8330	1	op9525,GBB2710,1000,,,10,1,water	/
BB088326	5	fc24818-1	8330	1	op9525,GBB2710,930,,,10,1,water	/
BB088327	6	fc24818-2	8330	1	op9525,GBB2710,940,,,10,1,water	/
BB088328	7	fc24818-3	8330	1	op9525,GBB2710,950,,,10,1,water	/
BB088329	8	fc24818-4	8330	1	op9525,GBB2710,1000,,,10,1,water	/
BB088330	9	op9525-ms	8330	1	op9525,GBB2710,480,,,10,1,water	/
BB088331	10	op9525-msd	8330	1	op9525,GBB2710,480,,,10,1,water	/
BB088332	11	fc24818-5	8330	1	op9525,GBB2710,950,,,10,1,water	hmx?
BB088333	2	ecc2700-1000	8330	1	op8076,GBB2710,1000,,,10,1,water	passed (petn high)

DATE	1/13/2024	METHODS	8330	IC/ICC STD LOT	LC1750,lc1756
COLUMN TYPE	Bonus-RP	ACQ. METHOD	8330	ICV STD LOT	LC1734
AMOUNT INJ	100uL	PROC. METHOD	GGG3527_011327.M	SOLVENT	222742
INSTRUMENT	HPLC3-GG	CALIB. DATE	1/13/2025	SOLVENT	223231
ANALYST	fs	RUN BATCH	GGG3527	HEAD PRESSURE	180

DATA FILE	ALS	SAMPLE NAME	METHOD	DF	MISC. INFO	COMMENTS
GG631112	1	ccb	8330	1	op5407,GGG3527,1000,,,10,1,water	/
GG631113	2	cond std	8330	100+400	op5407,GGG3527,1000,,,10,1,water	ok
GG631114	3	ic2527-20	8330	1	op7298,GGG3527,1000,,,10,1,water	curve passed
GG631115	4	ic2527-50,na	8330	1	*op7298,GGG3527,1000,,,10,1,water*	na
GG631116	5	ic2527-100,na	8330	1	op7298,GGG3527,1000,,,10,1,water	na
GG631117	6	ic2527-200,na	8330	1	op7298,GGG3527,1000,,,10,1,water	na
GG631118	7	ic2527-500	8330	1	op7298,GGG3527,1000,,,10,1,water	curve passed
GG631119	8	icc2527-1000	8330	1	op7298,GGG3527,1000,,,10,1,water	curve passed
GG631120	9	ic2527-2500	8330	1	op7298,GGG3527,1000,,,10,1,water	curve passed
GG631121	10	ic2527-5000	8330	1	op7298,GGG3527,1000,,,10,1,water	curve passed
GG631122	4	ic2527-50	8330	1	op7298,GGG3527,1000,,,10,1,water	curve passed
GG631123	5	ic2527-100	8330	1	op7298,GGG3527,1000,,,10,1,water	curve passed
GG631124	6	ic2527-200	8330	1	op7298,GGG3527,1000,,,10,1,water	curve passed
GG631125	7	icv2527-1000	8330	1	op7298,GGG3527,1000,,,10,1,water	icv passed rerun (ng below)
GG631126	11	icv2527-1000	8330	1	op7298,GGG3527,1000,,,10,1,water	icv ng passed
GG631127	12	op7251-mb	8330	1	op7251,GGG3527,2,,,20,1,soil	nd
GG631128	13	fc21568-20b	8330	1	op7251,GGG3527,2,,,20,1,soil	mdls 8330 a soils
GG631129	14	fc21568-21b	8330	1	op7251,GGG3527,2,,,20,1,soil	mdls 8330 a soils
GG631130	15	fc21568-22b	8330	1	op7251,GGG3527,2,,,20,1,soil	mdls 8330 a soils
GG631131	16	fc21568-23b	8330	1	op7251,GGG3527,2,,,20,1,soil	mdls 8330 a soils
GG631132	17	fc21568-24b	8330	1	op7251,GGG3527,2,,,20,1,soil	mdls 8330 a soils
GG631133	1	ccb	8330	1	op7298,GGG3527,1000,,,10,1,water	/
GG631134	2	cc3527-1000	8330	100+400	op7298,GGG3527,1000,,,10,1,water	passed
GG631135	18	op7285-mb	8330	1	op7285,GGG3527,1000,,,10,1,water	nd
GG631136	19	fc21568-30b	8330	1	op7285,GGG3527,1000,,,10,1,water	mdls 8330 b water
GG631137	20	fc21568-31b	8330	1	op7285,GGG3527,1000,,,10,1,water	mdls 8330 b water
GG631138	21	fc21568-32b	8330	1	op7285,GGG3527,1000,,,10,1,water	mdls 8330 b water
GG631139	22	fc21568-33b	8330	1	op7285,GGG3527,1000,,,10,1,water	mdls 8330 b water
GG631140	1	ccb	8330	1	op7298,GGG3527,1000,,,10,1,water	/
GG631141	2	cc3527-1000	8330	100+400	op7298,GGG3527,1000,,,10,1,water	passed
GG631142	23	fc21568-34b	8330	1	op7285,GGG3527,1000,,,10,1,water	mdls 8330 b water
GG631143	1	ccb	8330	1	op7298,GGG3527,1000,,,10,1,water	/

GG631144	2	ecc3527-1000	8330	100+400	op7298,GGG3527,1000,,,10,1,water	passed

DATE	5/29/2025	**METHODS**	8330	**IC/ICC STD LOT**	**LC1917**
COLUMN TYPE	Bonus-RP	**ACQ. METHOD**	8330	**ICV STD LOT**	**LC1882**
AMOUNT INJ	100uL	**PROC. METHOD**	GGG3527_01/13/25	**SOLVENT**	**250128**
INSTRUMENT	HPLC3-GG	**CALIB. DATE**	1/13/2025	**SOLVENT**	**240562**
ANALYST	fs	**RUN BATCH**	GGG3585	**HEAD PRESSURE**	**180**

DATA FILE	ALS	SAMPLE NAME	METHOD	DF	MISC. INFO	COMMENTS
GG632196	1	ccb	8330	1	op5407,GGG3585,1000,,,10,1,water	/
GG632197	2	cc3527-1000	8330	100+400	op9248,GGG3585,1000,,,10,1,water	passed (target cpds)
GG632198	3	op9525-mb	8330	1	op9525,GGG3585,1000,,,10,1,water	nd
GG632199	4	fc24818-1cf	8330	1	*op9525,GGG3585,930,,,10,1,water*	confirmed
GG632200	5	fc24818-2cf	8330	1	op9525,GGG3585,940,,,10,1,water	confirmed
GG632201	6	fc24818-3cf	8330	1	op9525,GGG3585,950,,,10,1,water	confirmed
GG632202	7	fc24818-4cf	8330	1	op9525,GGG3585,1000,,,10,1,water	confirmed
GG632203	8	fc24818-5cf	8330	1	op9525,GGG3585,950,,,10,1,water	confirmed
GG632204	9	op9596-mb	8330	1	op9596,GGG3585,1000,,,10,1,water	nd
GG632205	10	fc24937-1cf	8330	1	op9596,GGG3585,940,,,10,1,water	confirmed
GG632206	11	fc24938-1cf	8330	1	op9596,GGG3585,980,,,10,1,water	nd
GG632207	12	fc24938-1cf,4	8330	4	op9596,GGG3585,980,,,10,4,water	confirmed ,rerun 1x
GG632208	1	ccb	8330	1	op5407,GGG3585,1000,,,10,1,water	/
GG632209	2	cc3527-1000	8330	100+400	op9248,GGG3585,1000,,,10,1,water	passed (target cpds)
GG632210	13	fc24938-2cf	8330	1	op9596,GGG3585,950,,,10,1,water	
GG632211	14	fc24938-2cf,25	8330	25	op9596,GGG3585,950,,,10,25,water	
GG632212	1	ccb	8330	1	op5407,GGG3585,1000,,,10,1,water	/
GG632213	2	ecc3527-1000	8330	100+400	op9248,GGG3585,1000,,,10,1,water	passed (target cpds)

SGS - ORLANDO

SPE LIQUID SAMPLE PREP REPORT

Date/Time: 05/21/2025 0730
Started {mm/dd/yy 24:00}

Prep Method: 3535A or 537 or 537MOD (circle)

Date/Time: 05/21/2025
Finished {mm/dd/yy 24:00}

Analytical Method: 8330B

Batch#: OP# 9525 Ext. By: CP Conc. By: — Vialed By: CP

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Manifold ID	Comments
OP 9525 MB	—	1000	7	N	250ul		10ml	AT2	
OP 9525 BS	—	1000				250ul			200 plus spike
FC24818-1	2	930							
-2	3	940							
-3	2	950							
-4	8	1000						AT1	
-5	5	950							
FC24818-4 MS	9	480	7	N	250ul	250ul	10ml	AT1	
FC24818-4 MSD	9	480							
DUP									

Comments:

Surr.1 ID: LC1916A Conc: 20ppm Exp. Date: 11/5/25 Inj. By: CP Ver. By JM

Spk.1 ID: LC1918 Conc: 20ppm Exp. Date: 11/13/25 Inj. By: CP Ver. By JM

Spk.2 ID: LC1887 Conc: 25ppm Exp. Date: 4/30/24 Inj. By: CP Ver. By JM

Spk.3 ID: — Conc: — Exp. Date: — Inj. By: — Ver. By —

TurboVap Temp (Therm ID): _____ Observed Temp °C: _____ Corr. Temp °C: _____

N-Evap Temp (Therm ID): _____ Observed Temp °C: _____ Corr. Temp °C: _____

Methanol Lot #: — SPE Lot #: 52140168 pH Paper #: 210224

Acetonitrile Lot #: 233710 Syringe filter Lot #: — Reagent #: —

Water Lot#: 244388 Pre-filter Lot#: — Reagent #: —

Solvent#: — Carbon Lot#: — Other —

Relinquished By: _____ Date: 5/21/25

Accepted By: _____ Date: 5/21/25

ORLD-EXT-0001-3-08-FORM-extwater_spe.xls 032718

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ANALYTICAL SUMMARY REPORT

This report at a minimum contains the following information:

Analytical Report of Test Results
Description of QC Qualifiers
Chain of Custody (copy)
Quality Control Summary (if applicable)
Case Narrative (if applicable)
Correspondence with Client (if applicable)

This report has been specifically prepared to satisfy project or program requirements. These results are in compliance with NELAC requirements for parameters where accreditation is required or available, unless otherwise noted in the case narrative.

Unless specifically stated to the contrary, soil/sediment/sludge sample results reported on a Dry Weight Basis

ANALYTICAL SAMPLE DATA

CAPE ENVIRONMENTAL MANAGEMENT
MATT FEITS
500 PINNACLE COURT
SUITE 100
NORCROSS, GA 30071

Project Name: RADFORD AAP SWMU 54
Project Phase: IDW
Project #: 10409-0222
Folder #: 195082
Purchase Order #: SC013781
Contract #: 3648

Arrival Temperature: 3.6
Report Date: 6/6/2025
Date Received: 5/20/2025
Reprint Date: 6/6/2025

Copy: chemistrysvcs@cape-inc.com

CT LAB#: 1585231 Sample Description: 54IDW Client Sample #: Sampled: 5/19/2025 16:25

Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method	
Inorganic Results														
pH	***7.54***	S.U.	0.1	0.1	0.1	0.1	1.00				5/20/25 14:10	HLB	EPA 9040C	^
COD	***190***	mg/L	18	50	75	75	1.00			5/27/25 09:00	5/28/25 11:48	RLB	EPA 410.4	^
Metals Results														
Total Potassium	***1180***	ug/L	120	250	500	500	1.00	B		5/20/25 19:35	5/21/25 13:35	NAH	EPA 6010C	
Total Sodium	***21600***	ug/L	200	500	700	700	1.00			5/20/25 19:35	5/21/25 13:35	NAH	EPA 6010C	
Total Aluminum	***144***	ug/L	15	60	120	120	1.00			5/20/25 19:35	5/21/25 13:35	NAH	EPA 6010C	
Total Antimony	<10	ug/L	4.4	10	20	20	1.00	U		5/20/25 19:35	5/21/25 13:35	NAH	EPA 6010C	
Total Arsenic	<20	ug/L	7.7	20	40	40	1.00	U		5/20/25 19:35	5/21/25 13:35	NAH	EPA 6010C	
Total Barium	***58.7***	ug/L	0.71	2.0	4.0	4.0	1.00			5/20/25 19:35	5/21/25 13:35	NAH	EPA 6010C	
Total Beryllium	<3.0	ug/L	0.75	3.0	8.0	8.0	1.00	U		5/20/25 19:35	5/21/25 13:35	NAH	EPA 6010C	
Total Cadmium	<1.0	ug/L	0.41	1.0	2.0	2.0	1.00	U		5/20/25 19:35	5/21/25 13:35	NAH	EPA 6010C	
Total Calcium	***49000***	ug/L	25	50	100	100	1.00			5/20/25 19:35	5/21/25 13:35	NAH	EPA 6010C	
Total Chromium	***2.7***	ug/L	1.1	2.5	5.0	5.0	1.00	J B		5/20/25 19:35	5/21/25 13:35	NAH	EPA 6010C	
Total Cobalt	<2.5	ug/L	0.60	2.5	5.0	5.0	1.00	U		5/20/25 19:35	5/21/25 13:35	NAH	EPA 6010C	
Total Copper	<20	ug/L	5.2	20	40	40	1.00	U		5/20/25 19:35	5/21/25 13:35	NAH	EPA 6010C	

Unless specifically stated to the contrary, soil/sediment/sludge sample results reported on a Dry Weight Basis

CT LAB#: 1585231 Sample Description: 54IDW Client Sample #: Sampled: 5/19/2025 16:25

Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method
Total Iron	***188***	ug/L	14	40	80	80	1.00			5/20/25 19:35	5/21/25 13:35	NAH	EPA 6010C
Total Lead	<5.0	ug/L	1.4	5.0	10	10	1.00	U		5/20/25 19:35	5/21/25 13:35	NAH	EPA 6010C
Total Magnesium	***24000***	ug/L	10	25	40	40	1.00			5/20/25 19:35	5/21/25 13:35	NAH	EPA 6010C
Total Manganese	***14.9***	ug/L	1.4	3.0	5.0	5.0	1.00			5/20/25 19:35	5/21/25 13:35	NAH	EPA 6010C
Total Nickel	<3.0	ug/L	1.5	3.0	5.0	5.0	1.00	U		5/20/25 19:35	5/21/25 13:35	NAH	EPA 6010C
Total Selenium	<20	ug/L	10	20	40	40	1.00	U		5/20/25 19:35	5/21/25 13:35	NAH	EPA 6010C
Total Silver	<2.5	ug/L	1.1	2.5	5.0	5.0	1.00	U		5/20/25 19:35	5/21/25 13:35	NAH	EPA 6010C
Total Thallium	<20	ug/L	6.8	20	40	40	1.00	U		5/20/25 19:35	5/21/25 13:35	NAH	EPA 6010C
Total Vanadium	<3.0	ug/L	1.3	3.0	5.0	5.0	1.00	U		5/20/25 19:35	5/21/25 13:35	NAH	EPA 6010C
Total Zinc	***9.8***	ug/L	4.5	10	20	20	1.00	J		5/20/25 19:35	5/21/25 13:35	NAH	EPA 6010C
Total Mercury	<0.080	ug/L	0.020	0.080	0.12	0.12	1.00	U M		5/20/25 14:15	5/21/25 10:12	MDS	EPA 7470A

Unless specifically stated to the contrary, soil/sediment/sludge sample results reported on a Dry Weight Basis

Notes:

^ Indicates the laboratory is NELAP accredited for this analyte by the indicated matrix and method . DL (detection limit), LOD (limit of detection), loq (limit of quantitation) as defined by most recent DOD QSM version.

All samples were received intact and properly preserved unless otherwise noted . The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without written approval of this laboratory. The Chain of Custody is attached.

This report has been specifically prepared to satisfy project or program requirements. These results are in compliance with NELAC requirements for the parameters where accreditation is required or available, unless noted in the case narrative.

Submitted by: Brett M. Szymanski
Project Manager
608-356-2760

QC Qualifiers

Code	Description
A	Result cannot be used for compliance due to QC issue
B	Analyte detected in the associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
I	Incubator temperature was outside acceptance limits during test period.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
U	Analyte concentration was below detection limit.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Specified calibration criteria was not met.

Current CT Laboratories Certifications

Wisconsin (WDNR) Chemistry ID# 157066030
Wisconsin (DATCP) Bacteriology ID# 289
Louisiana NELAP (primary) ID# 115843
Illinois NELAP Lab ID# 200073
Kansas NELAP Lab ID# E-10368
Virginia NELAP Lab ID# 460203
Florida NELAP Lab ID# E871111

DoD-ELAP QSM5.4 -
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QC Summary Report

CAPE ENVIRONMENTAL MANAGEMENT **Project Name: RADFORD AAP SWMU 54**

SDG #: 0 **Folder #: 195082** **Project #: 10409-0222**

Duplicate

Analytical Run #:	291932	Analysis Date:	5/28/2025	Prep Batch #:	138927	Matrix:	GROUND WATER
CTLab #:	1587727	Analysis Time:	11:48	Prep Date/Time:	05/27/2025 09:00	Method:	E410.4
Parent Sample #:	1585231	Analyst:	RLB	Prep Analyst:	RLB		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
COD	189	mg/L	190					1	20

Lab Control Spike Water

Analytical Run #:	291932	Analysis Date:	5/28/2025	Prep Batch #:	138927	Matrix:	LIQUID
CTLab #:	1587297	Analysis Time:	11:48	Prep Date/Time:	05/27/2025 09:00	Method:	E410.4
Parent Sample #:		Analyst:	RLB	Prep Analyst:	RLB		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
COD	410.7	mg/L			400.0	103	90 --- 110		

Method Blank Water

Analytical Run #:	291932	Analysis Date:	5/28/2025	Prep Batch #:	138927	Matrix:	LIQUID
CTLab #:	1587296	Analysis Time:	11:48	Prep Date/Time:	05/27/2025 09:00	Method:	E410.4
Parent Sample #:		Analyst:	RLB	Prep Analyst:	RLB		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total COD	18	mg/L		U	0		37		

Matrix Spike Duplicate Water

Analytical Run #:	291932	Analysis Date:	5/28/2025	Prep Batch #:	138927	Matrix:	GROUND WATER
CTLab #:	1587299	Analysis Time:	11:48	Prep Date/Time:	05/27/2025 09:00	Method:	E410.4
Parent Sample #:	1587298	Analyst:	RLB	Prep Analyst:	RLB		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
COD	326	mg/L	190		148	92	90 --- 110	1	20

Matrix Spike Water

Analytical Run #:	291932	Analysis Date:	5/28/2025	Prep Batch #:	138927	Matrix:	GROUND WATER
CTLab #:	1587298	Analysis Time:	11:48	Prep Date/Time:	05/27/2025 09:00	Method:	E410.4
Parent Sample #:	1585231	Analyst:	RLB	Prep Analyst:	RLB		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
COD	324	mg/L	190		148	91	90 --- 110		20

Duplicate

Analytical Run #:	291808	Analysis Date:	5/21/2025	Prep Batch #:	138859	Matrix:	GROUND WATER
CTLab #:	1585335	Analysis Time:	13:50	Prep Date/Time:	05/20/2025 19:35	Method:	SW6010
Parent Sample #:	1585231	Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Potassium	969	ug/L	1180				500	20	20

Duplicate

Analytical Run #:	291808	Analysis Date:	5/21/2025	Prep Batch #:	138859	Matrix:	GROUND WATER
CTLab #:	1585335	Analysis Time:	13:50	Prep Date/Time:	05/20/2025 19:35	Method:	SW6010
Parent Sample #:	1585231	Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Sodium	21300	ug/L	21600				700	1	20

Lab Control Spike Water

Analytical Run #:	291808	Analysis Date:	5/21/2025	Prep Batch #:	138859	Matrix:	LIQUID
CTLab #:	1585334	Analysis Time:	13:01	Prep Date/Time:	05/20/2025 19:35	Method:	SW6010
Parent Sample #:		Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Potassium	94800	ug/L			100000	95	86 --- 114		

Lab Control Spike Water

Analytical Run #:	291808	Analysis Date:	5/21/2025	Prep Batch #:	138859	Matrix:	LIQUID
CTLab #:	1585334	Analysis Time:	13:01	Prep Date/Time:	05/20/2025 19:35	Method:	SW6010
Parent Sample #:		Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Sodium	94600	ug/L			100000	95	87 --- 115		

Method Blank Water

Analytical Run #:	291808	Analysis Date:	5/21/2025	Prep Batch #:	138859	Matrix:	LIQUID
CTLab #:	1585333	Analysis Time:	13:08	Prep Date/Time:	05/20/2025 19:35	Method:	SW6010
Parent Sample #:		Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Potassium	221.0	ug/L			0		250		

Method Blank Water

Analytical Run #:	291808	Analysis Date:	5/21/2025	Prep Batch #:	138859	Matrix:	LIQUID
CTLab #:	1585333	Analysis Time:	13:08	Prep Date/Time:	05/20/2025 19:35	Method:	SW6010
Parent Sample #:		Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Sodium	200	ug/L		U	0		350		

Matrix Spike Duplicate Water

Analytical Run #:	291808	Analysis Date:	5/21/2025	Prep Batch #:	138859	Matrix:	GROUND WATER
CTLab #:	1585337	Analysis Time:	14:04	Prep Date/Time:	05/20/2025 19:35	Method:	SW6010
Parent Sample #:	1585336	Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Potassium	94500	ug/L	1180		100000	93	86 --- 114	0	20

Matrix Spike Duplicate Water

Analytical Run #:	291808	Analysis Date:	5/21/2025	Prep Batch #:	138859	Matrix:	GROUND WATER
CTLab #:	1585337	Analysis Time:	14:04	Prep Date/Time:	05/20/2025 19:35	Method:	SW6010
Parent Sample #:	1585336	Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Sodium	117000	ug/L	21600		100000	95	87 --- 115	1	20

Matrix Spike Water

Analytical Run #:	291808	Analysis Date:	5/21/2025	Prep Batch #:	138859	Matrix:	GROUND WATER
CTLab #:	1585336	Analysis Time:	13:57	Prep Date/Time:	05/20/2025 19:35	Method:	SW6010
Parent Sample #:	1585231	Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Potassium	94400	ug/L	1180		100000	93	86 --- 114		20

Matrix Spike Water

Analytical Run #:	291808	Analysis Date:	5/21/2025	Prep Batch #:	138859	Matrix:	GROUND WATER
CTLab #:	1585336	Analysis Time:	13:57	Prep Date/Time:	05/20/2025 19:35	Method:	SW6010
Parent Sample #:	1585231	Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Sodium	116000	ug/L	21600		100000	94	87 --- 115		20

Duplicate

Analytical Run #:	291809	Analysis Date:	5/21/2025	Prep Batch #:	138860	Matrix:	GROUND WATER
CTLab #:	1585340	Analysis Time:	13:50	Prep Date/Time:	05/20/2025 19:35	Method:	SW6010
Parent Sample #:	1585231	Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Aluminum	134	ug/L	144				120	7	20
Total Antimony	4.40	ug/L	<DL	U			20	0	20
Total Arsenic	7.70	ug/L	<DL	U			40	0	20
Total Barium	57.3	ug/L	58.7				4.0	2	20
Total Beryllium	0.750	ug/L	<DL	U			8.0	0	20
Total Cadmium	0.410	ug/L	<DL	U			2.0	0	20
Total Calcium	48300	ug/L	49000				100	1	20
Total Chromium	2.8	ug/L	2.7				5.0	4	20
Total Cobalt	0.600	ug/L	<DL	U			5.0	0	20
Total Copper	5.20	ug/L	<DL	U			40	0	20
Total Iron	186	ug/L	188				80	1	20
Total Lead	1.40	ug/L	<DL	U			10	0	20
Total Magnesium	23600	ug/L	24000				40	2	20
Total Manganese	15.3	ug/L	14.9				5.0	3	20
Total Nickel	1.50	ug/L	<DL	U			5.0	0	20
Total Selenium	10.0	ug/L	<DL	U			40	0	20
Total Silver	1.10	ug/L	<DL	U			5.0	0	20
Total Thallium	6.80	ug/L	<DL	U			40	0	20
Total Vanadium	1.30	ug/L	<DL	U			5.0	0	20
Total Zinc	9.9	ug/L	9.8				20	1	20

Lab Control Spike Water

Analytical Run #:	291809	Analysis Date:	5/21/2025	Prep Batch #:	138860	Matrix:	LIQUID
CTLab #:	1585339	Analysis Time:	13:01	Prep Date/Time:	05/20/2025 19:35	Method:	SW6010
Parent Sample #:		Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits			RPD	RPD Limit
Total Aluminum	792.0	ug/L			800.0	99	86	---	115		
Total Antimony	190.0	ug/L			200.0	95	88	---	113		
Total Arsenic	778.0	ug/L			800.0	97	87	---	113		
Total Barium	739.0	ug/L			800.0	92	88	---	113		
Total Beryllium	17.80	ug/L			20.0	89	89	---	112		
Total Cadmium	19.30	ug/L			20.0	96	88	---	113		
Total Calcium	188000	ug/L			200000	94	87	---	113		
Total Chromium	76.00	ug/L			80.0	95	90	---	113		
Total Cobalt	192.0	ug/L			200.0	96	89	---	114		
Total Copper	98.10	ug/L			100.0	98	86	---	114		
Total Iron	375.0	ug/L			400.0	94	87	---	115		
Total Lead	173.0	ug/L			200.0	86	86	---	113		
Total Magnesium	102000	ug/L			100000	102	85	---	113		
Total Manganese	186.0	ug/L			200.0	93	90	---	114		
Total Nickel	193.0	ug/L			200.0	96	88	---	113		
Total Selenium	805.0	ug/L			800.0	101	83	---	114		
Total Silver	20.80	ug/L			20.0	104	84	---	115		
Total Thallium	759.0	ug/L			800.0	95	85	---	114		
Total Vanadium	188.0	ug/L			200.0	94	90	---	111		
Total Zinc	193.0	ug/L			200.0	96	87	---	115		

Method Blank Water

Analytical Run #:	291809	Analysis Date:	5/21/2025	Prep Batch #:	138860	Matrix:	LIQUID
CTLab #:	1585338	Analysis Time:	13:08	Prep Date/Time:	05/20/2025 19:35	Method:	SW6010
Parent Sample #:		Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Aluminum	15	ug/L		U	0		60		
Total Antimony	4.4	ug/L		U	0		10		
Total Arsenic	7.7	ug/L		U	0		20		
Total Barium	0.71	ug/L		U	0		2.0		
Total Beryllium	0.75	ug/L		U	0		4.0		
Total Cadmium	0.41	ug/L		U	0		1.0		
Total Calcium	25	ug/L		U	0		50		
Total Chromium	1.48	ug/L			0		2.5		
Total Cobalt	0.60	ug/L		U	0		2.5		
Total Copper	5.2	ug/L		U	0		20		
Total Iron	14	ug/L		U	0		40		
Total Lead	1.4	ug/L		U	0		5.0		
Total Magnesium	10	ug/L		U	0		20		
Total Manganese	1.4	ug/L		U	0		2.5		
Total Nickel	1.5	ug/L		U	0		2.5		
Total Selenium	10	ug/L		U	0		20		
Total Silver	1.1	ug/L		U	0		2.5		
Total Thallium	6.8	ug/L		U	0		20		
Total Vanadium	1.3	ug/L		U	0		2.5		
Total Zinc	4.5	ug/L		U	0		10		

Matrix Spike Duplicate Water

Analytical Run #:	291809	Analysis Date:	5/21/2025	Prep Batch #:	138860	Matrix:	GROUND WATER
CTLab #:	1585342	Analysis Time:	14:04	Prep Date/Time:	05/20/2025 19:35	Method:	SW6010
Parent Sample #:	1585341	Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits			RPD	RPD Limit
Total Aluminum	968	ug/L	144		800	103	86	---	115	0	20
Total Antimony	192	ug/L	<DL		200	96	88	---	113	1	20
Total Arsenic	781	ug/L	<DL		800	98	87	---	113	1	20
Total Barium	797	ug/L	58.7		800	92	88	---	113	1	20
Total Beryllium	17.9	ug/L	<DL		20.0	90	89	---	112	1	20
Total Cadmium	19.1	ug/L	<DL		20.0	96	88	---	113	1	20
Total Calcium	234000	ug/L	49000		200000	92	87	---	113	1	20
Total Chromium	80.2	ug/L	2.7		80.0	97	90	---	113	4	20
Total Cobalt	190	ug/L	<DL		200	95	89	---	114	1	20
Total Copper	98.8	ug/L	<DL		100	99	86	---	114	1	20
Total Iron	571	ug/L	188		400	96	87	---	115	4	20
Total Lead	170	ug/L	<DL		200	85	86	---	113	1	20
Total Magnesium	124000	ug/L	24000		100000	100	85	---	113	0	20
Total Manganese	203	ug/L	14.9		200	94	90	---	114	3	20
Total Nickel	190	ug/L	<DL		200	95	88	---	113	1	20
Total Selenium	811	ug/L	<DL		800	101	83	---	114	1	20
Total Silver	32.8	ug/L	<DL		20.0	164	84	---	115	1	20
Total Thallium	752	ug/L	<DL		800	94	85	---	114	0	20
Total Vanadium	194	ug/L	<DL		200	97	90	---	111	4	20
Total Zinc	203	ug/L	9.8		200	97	87	---	115	0	20

Matrix Spike Water

Analytical Run #:	291809	Analysis Date:	5/21/2025	Prep Batch #:	138860	Matrix:	GROUND WATER
CTLab #:	1585341	Analysis Time:	13:57	Prep Date/Time:	05/20/2025 19:35	Method:	SW6010
Parent Sample #:	1585231	Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits			RPD	RPD Limit
Total Aluminum	971	ug/L	144		800	103	86	---	115		20
Total Antimony	191	ug/L	<DL		200	96	88	---	113		20
Total Arsenic	773	ug/L	<DL		800	97	87	---	113		20
Total Barium	789	ug/L	58.7		800	91	88	---	113		20
Total Beryllium	18.0	ug/L	<DL		20.0	90	89	---	112		20
Total Cadmium	18.9	ug/L	<DL		20.0	94	88	---	113		20
Total Calcium	232000	ug/L	49000		200000	92	87	---	113		20
Total Chromium	77.2	ug/L	2.7		80.0	93	90	---	113		20
Total Cobalt	189	ug/L	<DL		200	94	89	---	114		20
Total Copper	99.9	ug/L	<DL		100	100	86	---	114		20
Total Iron	549	ug/L	188		400	90	87	---	115		20
Total Lead	171	ug/L	<DL		200	86	86	---	113		20
Total Magnesium	124000	ug/L	24000		100000	100	85	---	113		20
Total Manganese	197	ug/L	14.9		200	91	90	---	114		20
Total Nickel	189	ug/L	<DL		200	94	88	---	113		20
Total Selenium	801	ug/L	<DL		800	100	83	---	114		20
Total Silver	33.2	ug/L	<DL		20.0	166	84	---	115		20
Total Thallium	750	ug/L	<DL		800	94	85	---	114		20
Total Vanadium	187	ug/L	<DL		200	94	90	---	111		20
Total Zinc	202	ug/L	9.8		200	96	87	---	115		20

Duplicate

Analytical Run #:	291816	Analysis Date:	5/21/2025	Prep Batch #:	138858	Matrix:	GROUND WATER
CTLab #:	1585273	Analysis Time:	10:15	Prep Date/Time:	05/20/2025 14:15	Method:	SW7470A
Parent Sample #:	1585231	Analyst:	MDS	Prep Analyst:	MDS		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Mercury	0.0200	ug/L	<DL	U			0.12	0	20

Lab Control Spike Water

Analytical Run #:	291816	Analysis Date:	5/21/2025	Prep Batch #:	138858	Matrix:	LIQUID
CTLab #:	1585272	Analysis Time:	09:56	Prep Date/Time:	05/20/2025 14:15	Method:	SW7470A
Parent Sample #:		Analyst:	MDS	Prep Analyst:	MDS		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Mercury	1.97	ug/L			2.00	98	82 --- 119		

Method Blank Water

Analytical Run #:	291816	Analysis Date:	5/21/2025	Prep Batch #:	138858	Matrix:	LIQUID
CTLab #:	1585271	Analysis Time:	10:02	Prep Date/Time:	05/20/2025 14:15	Method:	SW7470A
Parent Sample #:		Analyst:	MDS	Prep Analyst:	MDS		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Mercury	0.020	ug/L		U	0		0.06		

Matrix Spike Duplicate Water

Analytical Run #:	291816	Analysis Date:	5/21/2025	Prep Batch #:	138858	Matrix:	GROUND WATER
CTLab #:	1585275	Analysis Time:	10:52	Prep Date/Time:	05/20/2025 14:15	Method:	SW7470A
Parent Sample #:	1585274	Analyst:	MDS	Prep Analyst:	MDS		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits			RPD	RPD Limit
Total Mercury	0.75	ug/L	<DL		2.0	38	82	---	119	2	20

Matrix Spike Water

Analytical Run #:	291816	Analysis Date:	5/21/2025	Prep Batch #:	138858	Matrix:	GROUND WATER
CTLab #:	1585274	Analysis Time:	10:49	Prep Date/Time:	05/20/2025 14:15	Method:	SW7470A
Parent Sample #:	1585231	Analyst:	MDS	Prep Analyst:	MDS		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Mercury	0.77	ug/L	<DL		2.0	38	82 --- 119		20

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #:	195082	Print Date / Time:	05/20/2025 09:51
Client:	CAPE ENVIRONMENTAL MANAGEMENT	Received Date / Time / By:	05/20/2025 10:11 erc
Project Name:	RADFORD AAP SWMU 54	Log-In Date / Time / By:	05/20/2025 10:17 erc
Project Phase:	IDW	Project #:	10409-0222 PM: BMS
Coolers:	6029	Temperature:	3.6 C On Ice: **Y**
Custody Seals Present :	**Y**	COC Present:?	**Y** Complete? **Y**
Seal Intact?	**Y**	Numbers:	DATED AND SIGNED
Ship Method:	FEDEX EXPRESS	Tracking Number:	881316244063
Adequate Packaging:	**Y**	Temp Blank Enclosed?	**Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

TWO (2) CUSTODY SEALS WERE PRESENT AND INTACT ON THE COOLER UPON RECEIPT (BOTH WERE DATED 5/19/2025 AND SIGNED).

Sample ID /	Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
1585231	54IDW				
		H2SO4 PL	1	Y / N	COD
		Total # of Containers of Type (*H2SO4 PL*) = 1			
1585231	54IDW				
		HNO3	1	Y / N	HG,ICP,K,NA
		Total # of Containers of Type (*HNO3*) = 1			
1585231	54IDW				
		UNPRES PL	1	/	pH
		Total # of Containers of Type (*UNPRES PL*) = 1			

Condition Code	*Condition Description*
1	Sample Received OK

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: CAPE Environmental
Project Contact: Matt Feits
Telephone: (724) 622-3625
Project Name: Radford AAP SWMU 54
Project #:
Location: Radford, VA
Sampled By: Y. Miyakawa, P. Taylor

Lab #: 195082
Company: CAPE ENVIRONMENTAL MAN
Project: RADFORD AAP SWMU 54
Logged By: erc PM: BMS

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: Chemistry SVCS @ Cape-inc.com
Company: mfeits @ cape-inc.com
Address: CAPE Environmental Mgmt.
500 Pinnacle Ct. #100
Norcross, GA 30071

Invoice To:*
EMAIL:
Company: Same
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions
IDW Sample

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

ANALYSES REQUESTED

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	pH 9045	COD 410.4	Total Metals 6010C/7470A	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
5/19	1625	GW	G		54IDW	N	1	1	1	3		158231

Fill in Spaces with Bottles per Test

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By:	Date/Time	Received By:	Date/Time
	5/19/2025 1800	Fedex -	5/19/2025 1800
Received by:	Date/Time	Received for Laboratory by:	Date/Time

195082 - Page 31 of 32

Lab Use Only
Ice Present Yes No
Temp 16 IR Gun 33
Cooler # 6024

ORIGIN ID:LIYA (724) 622-3625
MATTHEW FEITS
CAPE ENVIRONMENTAL MANAGEMENT, INC
500 PINNACLE COURT
SUITE 100
NORCROSS, GA 30071
UNITED STATES US

SHIP DATE: 19MAY25
ACTWGT: 45.00 LB
CAD: 100980732/INET4535

BILL SENDER

TO **SAMPLE RECEIVING**
CT LABS
1230 LANGE COURT

BARABOO WI 53913
(608) 356-2760
INV:
PO:
REF: 10409-0222-002-003
DEPT:

58GJ4/EA36/59F2

J252025040801uv

FedEx Express

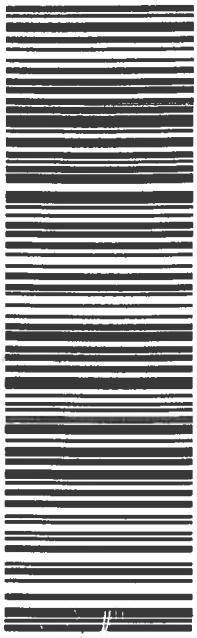
1 of 3

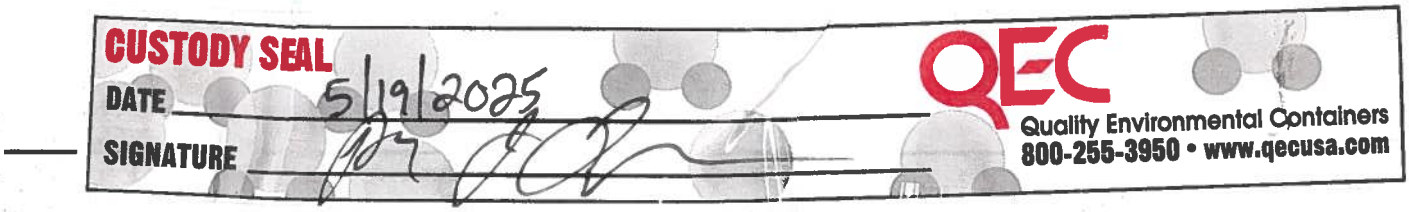
TRK# 0201 8813 1624 4063
MASTER

XS LNRA

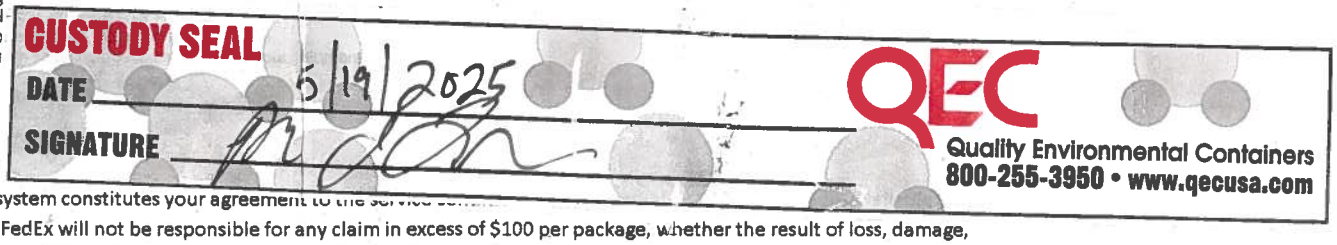
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ANALYTICAL SUMMARY REPORT

This report at a minimum contains the following information:

Analytical Report of Test Results
Description of QC Qualifiers
Chain of Custody (copy)
Quality Control Summary (if applicable)
Case Narrative (if applicable)
Correspondence with Client (if applicable)

This report has been specifically prepared to satisfy project or program requirements. These results are in compliance with NELAC requirements for parameters where accreditation is required or available, unless otherwise noted in the case narrative.

Unless specifically stated to the contrary, soil/sediment/sludge sample results reported on a Dry Weight Basis

ANALYTICAL SAMPLE DATA

CAPE ENVIRONMENTAL MANAGEMENT
MATT FEITS
500 PINNACLE COURT
SUITE 100
NORCROSS, GA 30071

Project Name: RADFORD AAP SWMU 54
Project Phase: RADFORD, VA
Project #: 10409-0222
Folder #: 199203
Purchase Order #: SC013781
Contract #: 3648

Arrival Temperature: 1.2
Report Date: 11/11/2025
Date Received: 10/21/2025
Reprint Date: 11/11/2025

Copy: chemistrysvcs@cape-inc.com

CT LAB#: 1642051 Sample Description: 54MW13 Client Sample #: Sampled: 10/20/2025 09:40

Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method	
Inorganic Results														
Total Inorganic Carbon	***110***	mg/L	0.8	3.0	6.0	6.0	2.00				10/22/25 12:09	TMG	EPA 9060A	^
Chloride	***7.8***	mg/L	1.0	1.5	3.0	3.0	1.00	M			10/21/25 21:21	DGS	EPA 9056A	
Nitrate Nitrogen	***0.59***	mg/L	0.12	0.20	0.40	0.40	1.00				10/21/25 21:21	DGS	EPA 9056A	
Sulfate	***35***	mg/L	0.80	1.5	3.0	3.0	1.00	M			10/21/25 21:21	DGS	EPA 9056A	
Total Organic Carbon	<1.5	mg/L	0.4	1.5	3.0	3.0	1.00	U			10/24/25 12:46	TMG	EPA 9060A	
Sub Lab Results														
Chlorate	***ATTACHED***						1.00				10/31/25 00:00	SUB	300.1	
Chlorite	***ATTACHED***						1.00				10/31/25 00:00	SUB	300.1	

CT LAB#: 1642052 Sample Description: 54MW10 Client Sample #: Sampled: 10/20/2025 12:20

Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method	
Inorganic Results														
Total Inorganic Carbon	***83***	mg/L	0.4	1.5	3.0	3.0	1.00				10/22/25 11:09	TMG	EPA 9060A	^

Unless specifically stated to the contrary, soil/sediment/sludge sample results reported on a Dry Weight Basis

CT LAB#: 1642052 Sample Description: 54MW10 Client Sample #: Sampled: 10/20/2025 12:20

Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method
Chloride	***4.5***	mg/L	1.0	1.5	3.0	3.0	1.00				10/21/25 23:41	DGS	EPA 9056A
Nitrate Nitrogen	<0.20	mg/L	0.12	0.20	0.40	0.40	1.00	U			10/21/25 23:41	DGS	EPA 9056A
Sulfate	***180***	mg/L	4.0	7.5	15	15	5.00				10/22/25 01:15	TMG	EPA 9056A
Total Organic Carbon	<1.5	mg/L	0.4	1.5	3.0	3.0	1.00	U			10/24/25 13:37	TMG	EPA 9060A
Sub Lab Results													
Chlorate	***ATTACHED***						1.00				10/31/25 00:00	SUB	300.1
Chlorite	***ATTACHED***						1.00				10/31/25 00:00	SUB	300.1

CT LAB#: 1642053 Sample Description: 54TW10 Client Sample #: Sampled: 10/20/2025 12:20

Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method	
Inorganic Results														
Total Inorganic Carbon	***82***	mg/L	0.4	1.5	3.0	3.0	1.00				10/22/25 11:24	TMG	EPA 9060A	^
Chloride	***4.5***	mg/L	1.0	1.5	3.0	3.0	1.00				10/22/25 00:05	DGS	EPA 9056A	
Nitrate Nitrogen	<0.20	mg/L	0.12	0.20	0.40	0.40	1.00	U			10/22/25 00:05	DGS	EPA 9056A	
Sulfate	***190***	mg/L	4.0	7.5	15	15	5.00				10/22/25 01:39	TMG	EPA 9056A	
Total Organic Carbon	<1.5	mg/L	0.4	1.5	3.0	3.0	1.00	U			10/24/25 13:55	TMG	EPA 9060A	
Sub Lab Results														
Chlorate	***ATTACHED***						1.00				10/31/25 00:00	SUB	300.1	
Chlorite	***ATTACHED***						1.00				10/31/25 00:00	SUB	300.1	

CT LAB#: 1642054 Sample Description: 54MW12 Client Sample #: Sampled: 10/20/2025 14:13

Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method

Unless specifically stated to the contrary, soil/sediment/sludge sample results reported on a Dry Weight Basis

CT LAB#: 1642054 Sample Description: 54MW12 Client Sample #: Sampled: 10/20/2025 14:13

Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method	
Inorganic Results														
Total Inorganic Carbon	***67***	mg/L	0.4	1.5	3.0	3.0	1.00				10/22/25 11:40	TMG	EPA 9060A	^
Chloride	***3.5***	mg/L	1.0	1.5	3.0	3.0	1.00				10/22/25 00:28	DGS	EPA 9056A	
Nitrate Nitrogen	***0.85***	mg/L	0.12	0.20	0.40	0.40	1.00				10/22/25 00:28	DGS	EPA 9056A	
Sulfate	***22***	mg/L	0.80	1.5	3.0	3.0	1.00				10/22/25 00:28	DGS	EPA 9056A	
Total Organic Carbon	<1.5	mg/L	0.4	1.5	3.0	3.0	1.00	U			10/24/25 14:16	TMG	EPA 9060A	
Sub Lab Results														
Chlorate	***ATTACHED***						1.00				10/31/25 00:00	SUB	300.1	
Chlorite	***ATTACHED***						1.00				10/31/25 00:00	SUB	300.1	

CT LAB#: 1642055 Sample Description: 54MW1 Client Sample #: Sampled: 10/20/2025 15:20

Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method	
Inorganic Results														
Total Inorganic Carbon	***64***	mg/L	0.4	1.5	3.0	3.0	1.00				10/22/25 11:54	TMG	EPA 9060A	^
Chloride	***3.1***	mg/L	1.0	1.5	3.0	3.0	1.00				10/22/25 00:52	DGS	EPA 9056A	
Nitrate Nitrogen	<0.20	mg/L	0.12	0.20	0.40	0.40	1.00	U			10/22/25 00:52	DGS	EPA 9056A	
Sulfate	***29***	mg/L	0.80	1.5	3.0	3.0	1.00				10/22/25 00:52	DGS	EPA 9056A	
Total Organic Carbon	<1.5	mg/L	0.4	1.5	3.0	3.0	1.00	U			10/24/25 14:28	TMG	EPA 9060A	
Sub Lab Results														
Chlorate	***ATTACHED***						1.00				10/31/25 00:00	SUB	300.1	
Chlorite	***ATTACHED***						1.00				10/31/25 00:00	SUB	300.1	

Unless specifically stated to the contrary, soil/sediment/sludge sample results reported on a Dry Weight Basis

Notes:

^ Indicates the laboratory is NELAP accredited for this analyte by the indicated matrix and method . DL (detection limit), LOD (limit of detection), loq (limit of quantitation) as defined by most recent DOD QSM version.

All samples were received intact and properly preserved unless otherwise noted . The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without written approval of this laboratory. The Chain of Custody is attached.

This report has been specifically prepared to satisfy project or program requirements. These results are in compliance with NELAC requirements for the parameters where accreditation is required or available, unless noted in the case narrative.

Submitted by: Brett M. Szymanski
Project Manager
608-356-2760

QC Qualifiers

Code	Description
A	Result cannot be used for compliance due to QC issue
B	Analyte detected in the associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
I	Incubator temperature was outside acceptance limits during test period.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
U	Analyte concentration was below detection limit.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Specified calibration criteria was not met.

Current CT Laboratories Certifications

Wisconsin (WDNR) Chemistry ID# 157066030
Wisconsin (DATCP) Bacteriology ID# 289
Louisiana NELAP (primary) ID# 115843
Illinois NELAP Lab ID# 200073
Kansas NELAP Lab ID# E-10368
Virginia NELAP Lab ID# 460203
Florida NELAP Lab ID# E871111

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QC Summary Report

CAPE ENVIRONMENTAL MANAGEMENT **Project Name: RADFORD AAP SWMU 54**

SDG #: 0 **Folder #: 199203** **Project #: 10409-0222**

Duplicate

Analytical Run #:	296105	Analysis Date:	10/21/2025	Prep Batch #:		Matrix:	GROUND WATER
CTLab #:	1642968	Analysis Time:	22:31	Prep Date/Time:		Method:	SW9056A
Parent Sample #:	1642051	Analyst:	DGS	Prep Analyst:			

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Chloride	7.68	mg/L	7.8				3.0	2	10
Nitrate Nitrogen	0.584	mg/L	0.59				0.40	1	10
Sulfate	34.6	mg/L	35				3.0	1	10

Lab Control Spike Water

Analytical Run #:	296105	Analysis Date:	10/21/2025	Prep Batch #:		Matrix:	LIQUID
CTLab #:	1642955	Analysis Time:	17:02	Prep Date/Time:		Method:	SW9056A
Parent Sample #:		Analyst:	DGS	Prep Analyst:			

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits			RPD	RPD Limit
Chloride	14.55	mg/L			15.00	97	87	---	111		
Nitrate Nitrogen	3.582	mg/L			3.500	102	88	---	111		
Sulfate	25.87	mg/L			25.00	103	87	---	112		

Method Blank Water

Analytical Run #:	296105	Analysis Date:	10/21/2025	Prep Batch #:		Matrix:	LIQUID
CTLab #:	1642957	Analysis Time:	17:26	Prep Date/Time:		Method:	SW9056A
Parent Sample #:		Analyst:	DGS	Prep Analyst:			

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Chloride	1.0	mg/L		U	0		1.5		
Nitrate Nitrogen	0.12	mg/L		U	0		0.20		
Sulfate	0.8	mg/L		U	0		1.5		

Matrix Spike Duplicate Water

Analytical Run #:	296105	Analysis Date:	10/21/2025	Prep Batch #:		Matrix:	GROUND WATER
CTLab #:	1642970	Analysis Time:	23:18	Prep Date/Time:		Method:	SW9056A
Parent Sample #:	1642969	Analyst:	DGS	Prep Analyst:			

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits			RPD	RPD Limit
Chloride	14.1	mg/L	7.8		8.00	79	87	---	111	3	15
Nitrate Nitrogen	2.46	mg/L	0.59		2.00	94	88	---	111	5	15
Sulfate	40.5	mg/L	35		8.00	69	87	---	112	2	15

Matrix Spike Water

Analytical Run #:	296105	Analysis Date:	10/21/2025	Prep Batch #:		Matrix:	GROUND WATER
CTLab #:	1642969	Analysis Time:	22:55	Prep Date/Time:		Method:	SW9056A
Parent Sample #:	1642051	Analyst:	DGS	Prep Analyst:			

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits			RPD	RPD Limit
Chloride	14.6	mg/L	7.8		8.00	85	87	---	111		15
Nitrate Nitrogen	2.58	mg/L	0.59		2.00	100	88	---	111		15
Sulfate	41.2	mg/L	35		8.00	78	87	---	112		15

Lab Control Spike Water

Analytical Run #:	296119	Analysis Date:	10/22/2025	Prep Batch #:		Matrix:	LIQUID
CTLab #:	1643201	Analysis Time:	10:25	Prep Date/Time:		Method:	SW9060
Parent Sample #:		Analyst:	TMG	Prep Analyst:			

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Inorganic Carbon	52.22	mg/L			50.0	104	85 --- 111		

Method Blank Water

Analytical Run #:	296119	Analysis Date:	10/22/2025	Prep Batch #:		Matrix:	LIQUID
CTLab #:	1643202	Analysis Time:	10:40	Prep Date/Time:		Method:	SW9060
Parent Sample #:		Analyst:	TMG	Prep Analyst:			

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Inorganic Carbon	0.5	mg/L		U	0		1.5		

Duplicate

Analytical Run #:	296203	Analysis Date:	10/24/2025	Prep Batch #:		Matrix:	GROUND WATER
CTLab #:	1645042	Analysis Time:	13:00	Prep Date/Time:		Method:	SW9060
Parent Sample #:	1642051	Analyst:	TMG	Prep Analyst:			

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Organic Carbon	0.4	mg/L	<DL	U			1.5	0	20

Lab Control Spike Water

Analytical Run #:	296203	Analysis Date:	10/24/2025	Prep Batch #:		Matrix:	LIQUID
CTLab #:	1645040	Analysis Time:	11:56	Prep Date/Time:		Method:	SW9060
Parent Sample #:		Analyst:	TMG	Prep Analyst:			

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Organic Carbon	51.36	mg/L			50.0	103	85 --- 111		20

Method Blank Water

Analytical Run #:	296203	Analysis Date:	10/24/2025	Prep Batch #:		Matrix:	LIQUID
CTLab #:	1645041	Analysis Time:	12:26	Prep Date/Time:		Method:	SW9060
Parent Sample #:		Analyst:	TMG	Prep Analyst:			

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Organic Carbon	0.40	mg/L		U	0		1.5		

Matrix Spike Duplicate Water

Analytical Run #:	296203	Analysis Date:	10/24/2025	Prep Batch #:		Matrix:	GROUND WATER
CTLab #:	1645044	Analysis Time:	13:24	Prep Date/Time:		Method:	SW9060
Parent Sample #:	1645043	Analyst:	TMG	Prep Analyst:			

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Organic Carbon	45.7	mg/L	<DL		50.0	91	85 --- 111	1	20

Matrix Spike Water

Analytical Run #:	296203	Analysis Date:	10/24/2025	Prep Batch #:		Matrix:	GROUND WATER
CTLab #:	1645043	Analysis Time:	13:11	Prep Date/Time:		Method:	SW9060
Parent Sample #:	1642051	Analyst:	TMG	Prep Analyst:			

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Organic Carbon	46.3	mg/L	<DL		50.0	93	85 --- 111		20

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Sample Condition Report

Folder #:	199203	Print Date / Time:	10/21/2025	10:26	
Client:	CAPE ENVIRONMENTAL MANAGEMENT	Received Date / Time / By:	10/21/2025	10:14	erc
Project Name:	RADFORD AAP SWMU 54	Log-In Date / Time / By:	10/21/2025	10:26	erc
Project Phase:	RADFORD, VA	Project #:	10409-0222	PM:	BMS
Coolers:	1-UNMARKED	Temperature:	1.2 C	On Ice:	**Y**
Custody Seals Present :	**Y**	COC Present:?	**Y**	Complete?	**Y**
Seal Intact?	**Y**	Numbers:	DATED AND SIGNED		
Ship Method:	FEDEX EXPRESS	Tracking Number:	885277209879		
Adequate Packaging:	**Y**	Temp Blank Enclosed?	**Y**		

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

TWO (2) CUSTODY SEALS WERE PRESENT AND INTACT ON THE COOLER UPON RECEIPT (BOTH WERE DATED 10/20/2025 AND SIGNED).

Sample ID /	Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
1642051	54MW13				
		VOA	1	/	
		VOA	1	/	
		VOA	1	/	
		VOA	1	/	
		VOA	1	/	
		VOA	1	/	
		VOA	1	/	
		VOA	1	/	
		VOA	1	/	
		Total # of Containers of Type (*VOA*) = 9			
1642051	54MW13				
		UNPRES PL	1	/	Anions
		UNPRES PL	1	/	ANIONS
		UNPRES PL	1	/	ANIONS
		Total # of Containers of Type (*UNPRES PL*) = 3			
1642051	54MW13				
		MISC	1	/	CHLORATE/CHLORITE
		Total # of Containers of Type (*MISC*) = 1			
1642051	54MW13				
		MISC	1	/	SUB
		MISC	1	/	SUB
		Total # of Containers of Type (*MISC*) = 2			
1642051	54MW13				

		H2SO4 PL	1	Y /	TOC
		H2SO4 PL	1	Y /	TOC
		H2SO4 PL	1	/	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) = 3**		

Sample ID /	Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
1642052	54MW10				
		VOA	1	/	
		VOA	1	/	
		VOA	1	/	
		Total # of Containers of Type	**(*VOA*) = 3**		
1642052	54MW10				
		UNPRES PL	1	/	Anions
		Total # of Containers of Type	**(*UNPRES PL*) = 1**		
1642052	54MW10				
		MISC	1	/	CHLORATE/CHLORITE
		Total # of Containers of Type	**(*MISC*) = 1**		
1642052	54MW10				
		H2SO4 PL	1	Y /	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID /	Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
1642053	54TW10				
		VOA	1	/	
		VOA	1	/	
		VOA	1	/	
		Total # of Containers of Type	**(*VOA*) = 3**		
1642053	54TW10				
		UNPRES PL	1	/	Anions
		Total # of Containers of Type	**(*UNPRES PL*) = 1**		
1642053	54TW10				
		MISC	1	/	CHLORATE/CHLORITE
		Total # of Containers of Type	**(*MISC*) = 1**		
1642053	54TW10				
		H2SO4 PL	1	Y /	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID /	Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
1642054	54MW12				
		VOA	1	/	
		VOA	1	/	
		VOA	1	/	
		Total # of Containers of Type	**(*VOA*) = 3**		
1642054	54MW12				

		UNPRES PL	1	/	Anions
		Total # of Containers of Type	**(*UNPRES PL*) = 1**		
1642054	54MW12				
		MISC	1	/	CHLORATE/CHLORITE
		Total # of Containers of Type	**(*MISC*) = 1**		
1642054	54MW12				
		H2SO4 PL	1 Y	/	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID /	Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
1642055	54MW1				
		VOA	1	/	
		VOA	1	/	
		VOA	1	/	
		Total # of Containers of Type	**(*VOA*) = 3**		
1642055	54MW1				
		UNPRES PL	1	/	Anions
		Total # of Containers of Type	**(*UNPRES PL*) = 1**		
1642055	54MW1				
		MISC	1	/	CHLORATE/CHLORITE
		Total # of Containers of Type	**(*MISC*) = 1**		
1642055	54MW1				
		H2SO4 PL	1 Y	/	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Condition Code *Condition Description*

1 Sample Received OK

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: Cape Environmental
Project Contact: Matt Feits
Telephone: (724) 622-3625
Project Name: Radford, VA SWMU 54
Project #:
Location: Radford, VA
Sampled By: Y. Miyakawa, P. Taylor

CT L

Lab Job #: 199203
Company: CAPE ENVIRONMENTAL
Project: RADFORD AAP SWMU
Logged By: erc PM: BMS

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
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Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: chemistrySVCS@capeinc.com
Company: mfeits@capeinc.com
Address: CAPE Environmental Mgmt. 500 Pinnacle Ct. #100 Norcross, GA 30071

Invoice To:*
EMAIL:
Company: Same
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
(Normal) RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	TOC 9060A	Anions 9056A	TIC 9060A	Chlorate/Chlorite	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test						
10/20	0940	GW	G		54MW13	N	3	3	9	3	18	X	642051
10/20	1220	GW	G		54MW10	N	1	1	3	1	6	X	52
10/20	1220	GW	G		54TW10	N	1	1	3	1	6		53
10/20	1413	GW	G		54MW12	N	1	1	3	1	6		54
10/20	1520	GW	G		54MW1	N	1	1	3	1	6		55

Relinquished By:	Date/Time	Received By:	Date/Time	Lab Use Only
	10/20/2025 1800	FedEx	10/20/2025 1800	Ice Present (Yes) No
Received by:	Date/Time	Received for Laboratory by:	Date/Time	Temp 1.2 IR Gun 33
			10/21/25 1014	Cooler # XXX

LC 10/24/25 1033

ORIGIN ID:LYA (614) 716-8502
YOKO MIYAKAWA
CAPE ENVIRONMENTAL MANAGAMENT INC.
500 PINNACLE COURT
STE. 100
NORCROSS, GA 30071
UNITED STATES US

SHIP DATE: 20OCT25
ACTWGT: 45.00 LB
CAD: 100211060/INET4535

BILL SENDER

TO **SAMPLE RECEIVING**
CT LABS
1230 LANGE COURT

BARABOO WI 53913
(608) 356-2760
INV:
PO:
REF: 10409-0222-002-006
DEPT:

58HJA/008C/59F2

J2543258240101v

FedEx Express

TRK# 0201 **8852 7720 9879**

TUE - 21 OCT 10:30A
PRIORITY OVERNIGHT

XS LNRA

53913
WI-US MSN

CUSTODY SEAL
DATE 10/20/2025
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • www.qecusa.com

After printing this label:
CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH
1. Fold the printed page along the horizontal line.
2. Place label in shipping pouch and affix it to your shipment

CUSTODY SEAL
DATE 10/20/2025
SIGNATURE

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delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Ice Present (Yes) No
Temperature 1.2 1.3
Initials
Date 10/21/25 Time 10:14
Cooler # XX

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Brett Szymanski
CT Laboratories
Environmental & Analytical Services
1230 Lange Court
Baraboo, Wisconsin 53913

Generated 10/31/2025 11:57:48 AM

JOB DESCRIPTION

Radford AAP SWMU 54

JOB NUMBER

810-169120-1

Eurofins Eaton Analytical South Bend
110 S Hill Street
South Bend IN 46617

See page two for job notes and contact information.

my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Eaton Analytical, LLC Project Manager.

Authorization



Generated
10/31/2025 11:57:48 AM

Authorized for release by
Traci Chlebowski, Senior Project Manager
Traci.Chlebowski@et.eurofinsus.com
(574)233-4777

Table of Contents

Cover Page 1
Table of Contents 3
Definitions/Glossary 4
Case Narrative 5
Detection Summary 6
Client Sample Results 7
Action Limit Summary 8
QC Sample Results 9
QC Association Summary 11
Lab Chronicle 12
Certification Summary 13
Method Summary 14
Sample Summary 15
Chain of Custody 16
Receipt Checklists 18

Definitions/Glossary

Client: CT Laboratories
Job ID: 810-169120-1
Project/Site: Radford AAP SWMU 54

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
810-169120-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt
The samples were received on 10/23/2025 10:10 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.6°C.

HPLC/IC
Method 300_OF_14D_B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for Batch: 166171, Sample: 810-169120-1 were outside the control limits of 90-110%. MS-83%, MSD-87% recovery for the analyte: chlorite. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: CT Laboratories
Job ID: 810-169120-1
Project/Site: Radford AAP SWMU 54

Client Sample ID: 54MW13 — Lab Sample ID: 810-169120-1

No Detections.

Client Sample ID: 54MW10 — Lab Sample ID: 810-169120-2

No Detections.

Client Sample ID: 54TW10 — Lab Sample ID: 810-169120-3

No Detections.

Client Sample ID: 54MW12 — Lab Sample ID: 810-169120-4

No Detections.

Client Sample ID: 54MW1 — Lab Sample ID: 810-169120-5

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: CT Laboratories
Job ID: 810-169120-1
Project/Site: Radford AAP SWMU 54

Client Sample ID: 54MW13
Lab Sample ID: 810-169120-1
Date Collected: 10/20/25 09:40
Matrix: Drinking Water
Date Received: 10/23/25 10:10

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chlorite	<10		10		ug/L			10/24/25 22:53	1
Chlorate	<10	F1	10		ug/L			10/24/25 22:53	1

Client Sample ID: 54MW10
Lab Sample ID: 810-169120-2
Date Collected: 10/20/25 12:20
Matrix: Drinking Water
Date Received: 10/23/25 10:10

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chlorite	<10		10		ug/L			10/25/25 00:17	1
Chlorate	<10		10		ug/L			10/25/25 00:17	1

Client Sample ID: 54TW10
Lab Sample ID: 810-169120-3
Date Collected: 10/20/25 12:20
Matrix: Drinking Water
Date Received: 10/23/25 10:10

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chlorite	<10		10		ug/L			10/25/25 00:45	1
Chlorate	<10		10		ug/L			10/25/25 00:45	1

Client Sample ID: 54MW12
Lab Sample ID: 810-169120-4
Date Collected: 10/20/25 14:13
Matrix: Drinking Water
Date Received: 10/23/25 10:10

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chlorite	<10		10		ug/L			10/25/25 01:13	1
Chlorate	<10		10		ug/L			10/25/25 01:13	1

Client Sample ID: 54MW1
Lab Sample ID: 810-169120-5
Date Collected: 10/20/25 15:20
Matrix: Drinking Water
Date Received: 10/23/25 10:10

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chlorite	<10		10		ug/L			10/25/25 01:41	1
Chlorate	<10		10		ug/L			10/25/25 01:41	1

Action Limit Summary

Client: CT Laboratories
Job ID: 810-169120-1
Project/Site: Radford AAP SWMU 54

Client Sample ID: 54MW13 — Lab Sample ID: 810-169120-1

Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits have been highlighted for your convenience.

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Chlorite	<10		ug/L	1000	10	300.0	Total/NA

Client Sample ID: 54MW10 — Lab Sample ID: 810-169120-2

Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits have been highlighted for your convenience.

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Chlorite	<10		ug/L	1000	10	300.0	Total/NA

Client Sample ID: 54TW10 — Lab Sample ID: 810-169120-3

Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits have been highlighted for your convenience.

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Chlorite	<10		ug/L	1000	10	300.0	Total/NA

Client Sample ID: 54MW12 — Lab Sample ID: 810-169120-4

Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits have been highlighted for your convenience.

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Chlorite	<10		ug/L	1000	10	300.0	Total/NA

Client Sample ID: 54MW1 — Lab Sample ID: 810-169120-5

Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits have been highlighted for your convenience.

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Chlorite	<10		ug/L	1000	10	300.0	Total/NA

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 810-166171/4
Matrix: Drinking Water
Analysis Batch: 166171

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chlorite	<10		10		ug/L			10/24/25 15:25	1
Chlorate	<10		10		ug/L			10/24/25 15:25	1

Lab Sample ID: LCS 810-166171/5
Matrix: Drinking Water
Analysis Batch: 166171

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chlorite			250	237		ug/L		95	90 - 110		
Chlorate			250	241		ug/L		96	90 - 110		

Lab Sample ID: LLCS 810-166171/1
Matrix: Drinking Water
Analysis Batch: 166171

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chlorite			10.0	12.8		ug/L		128	50 - 150		
Chlorate			10.0	12.7		ug/L		127	50 - 150		

Lab Sample ID: 810-169120-1 MS
Matrix: Drinking Water
Analysis Batch: 166171

Client Sample ID: 54MW13 MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chlorite	<10		250	255		ug/L		102	90 - 110		
Chlorate	<10	F1	250	207	F1	ug/L		83	90 - 110		

Lab Sample ID: 810-169120-1 MSD
Matrix: Drinking Water
Analysis Batch: 166171

Client Sample ID: 54MW13 MSD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chlorite	<10		250	254		ug/L		102	90 - 110	0	20
Chlorate	<10	F1	250	217	F1	ug/L		87	90 - 110	4	20

Lab Sample ID: MB 810-166664/4
Matrix: Drinking Water
Analysis Batch: 166664

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chlorite	<10		10		ug/L			10/28/25 14:46	1
Chlorate	<10		10		ug/L			10/28/25 14:46	1

Lab Sample ID: LCS 810-166664/5
Matrix: Drinking Water
Analysis Batch: 166664

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chlorite			250	235		ug/L		94	90 - 110		
Chlorate			250	241		ug/L		97	90 - 110		

Client: CT Laboratories
Job ID: 810-169120-1
Project/Site: Radford AAP SWMU 54

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LLCS 810-166664/1
Client Sample ID: Lab Control Sample
Matrix: Drinking Water
Prep Type: Total/NA
Analysis Batch: 166664

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chlorite			10.0	13.3		ug/L		133	50 - 150		
Chlorate			10.0	12.7		ug/L		127	50 - 150		

Lab Sample ID: 810-169510-A-1 MS
Client Sample ID: Matrix Spike
Matrix: Drinking Water
Prep Type: Total/NA
Analysis Batch: 166664

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chlorite	590	F1	250	792	F1	ug/L		80	90 - 110		
Chlorate	270	F1 F2	250	481	F1	ug/L		83	90 - 110		

Lab Sample ID: 810-169510-A-1 MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Drinking Water
Prep Type: Total/NA
Analysis Batch: 166664

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chlorite	590	F1	250	813	F1	ug/L		88	90 - 110	3	20
Chlorate	270	F1 F2	250	638	F1 F2	ug/L		146	90 - 110	28	20

QC Association Summary

Client: CT Laboratories
Project/Site: Radford AAP SWMU 54

Job ID: 810-169120-1

HPLC/IC

Analysis Batch: 166171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-169120-1	54MW13	Total/NA	Drinking Water	300.0	
810-169120-2	54MW10	Total/NA	Drinking Water	300.0	
810-169120-3	54TW10	Total/NA	Drinking Water	300.0	
810-169120-4	54MW12	Total/NA	Drinking Water	300.0	
810-169120-5	54MW1	Total/NA	Drinking Water	300.0	
MB 810-166171/4	Method Blank	Total/NA	Drinking Water	300.0	
LCS 810-166171/5	Lab Control Sample	Total/NA	Drinking Water	300.0	
LLCS 810-166171/1	Lab Control Sample	Total/NA	Drinking Water	300.0	
810-169120-1 MS	54MW13 MS	Total/NA	Drinking Water	300.0	
810-169120-1 MSD	54MW13 MSD	Total/NA	Drinking Water	300.0	

Analysis Batch: 166664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 810-166664/4	Method Blank	Total/NA	Drinking Water	300.0	
LCS 810-166664/5	Lab Control Sample	Total/NA	Drinking Water	300.0	
LLCS 810-166664/1	Lab Control Sample	Total/NA	Drinking Water	300.0	
810-169510-A-1 MS	Matrix Spike	Total/NA	Drinking Water	300.0	
810-169510-A-1 MSD	Matrix Spike Duplicate	Total/NA	Drinking Water	300.0	

Lab Chronicle

Client: CT Laboratories
Job ID: 810-169120-1
Project/Site: Radford AAP SWMU 54

Client Sample ID: 54MW13
Lab Sample ID: 810-169120-1
Date Collected: 10/20/25 09:40
Matrix: Drinking Water
Date Received: 10/23/25 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	166171	NR	EA SB	10/24/25 22:53

Client Sample ID: 54MW10
Lab Sample ID: 810-169120-2
Date Collected: 10/20/25 12:20
Matrix: Drinking Water
Date Received: 10/23/25 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	166171	NR	EA SB	10/25/25 00:17

Client Sample ID: 54TW10
Lab Sample ID: 810-169120-3
Date Collected: 10/20/25 12:20
Matrix: Drinking Water
Date Received: 10/23/25 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	166171	NR	EA SB	10/25/25 00:45

Client Sample ID: 54MW12
Lab Sample ID: 810-169120-4
Date Collected: 10/20/25 14:13
Matrix: Drinking Water
Date Received: 10/23/25 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	166171	NR	EA SB	10/25/25 01:13

Client Sample ID: 54MW1
Lab Sample ID: 810-169120-5
Date Collected: 10/20/25 15:20
Matrix: Drinking Water
Date Received: 10/23/25 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	166171	NR	EA SB	10/25/25 01:41

Laboratory References:

EA SB = Eurofins Eaton Analytical South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777

Accreditation/Certification Summary

Client: CT Laboratories
Job ID: 810-169120-1
Project/Site: Radford AAP SWMU 54

Laboratory: Eurofins Eaton Analytical South Bend

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Virginia	NELAP	460275	03-14-26

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0		Drinking Water	Chlorate

Method Summary

Client: CT Laboratories
Job ID: 810-169120-1
Project/Site: Radford AAP SWMU 54

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EA SB

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EA SB = Eurofins Eaton Analytical South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777

Sample Summary

Client: CT Laboratories
Job ID: 810-169120-1
Project/Site: Radford AAP SWMU 54

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
810-169120-1	54MW13	Drinking Water	10/20/25 09:40	10/23/25 10:10	Virginia
810-169120-2	54MW10	Drinking Water	10/20/25 12:20	10/23/25 10:10	Virginia
810-169120-3	54TW10	Drinking Water	10/20/25 12:20	10/23/25 10:10	Virginia
810-169120-4	54MW12	Drinking Water	10/20/25 14:13	10/23/25 10:10	Virginia
810-169120-5	54MW1	Drinking Water	10/20/25 15:20	10/23/25 10:10	Virginia

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

810-169120 Chain of Custody

PURCHASE ORDER #: 199203 EEA-IN *The PO# must appear on all invoice and reports!*

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: **Eurofins Eaton Analytical - IN**
110 South Hill Street
South Bend, IN 46617

Return Invoice and Results to: **bszymanski@ctlaboratories.com**

CTLaboratories
Brett M Szymanski
1230 Lange Court
Baraboo WI 53913

Government UPS Shipping Acct ? Y (N)

Ship by: Speedee ☐ UPS Grnd ☐ UPS 2nd ☐ UPS NDA [X]

Date Due: Standard TAT *RUSH TURNAROUND NEEDED?* Y or (N) *(Circle One)*

Initial Temp: 0.0
Corrected Temp: 0.6et
IR Gun # 7

Project Name: RADFORD AAP SWMU 54 **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM) NELAP (Circle one) OTHER_____

Report results as EDD? N (Y) (Circle one and indicate type: Basic Excel) Data Deliverable Package LEVEL: IV

CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method		Cost
1642051	10/20/2025 09:40	GROUND WATER	54MW13 (Designated MS/MSD)	CHLORATE/CHLORITE	300.1	
1642052	10/20/2025 12:20	GROUND WATER	54MW10	CHLORATE/CHLORITE	300.1	
1642053	10/20/2025 12:20	GROUND WATER	54TW10	CHLORATE/CHLORITE	300.1	
1642054	10/20/2025 14:13	GROUND WATER	54MW12	CHLORATE/CHLORITE	300.1	
1642055	10/20/2025 15:20	GROUND WATER	54MW1	CHLORATE/CHLORITE	300.1	

Relinquished by: Brett Szymanski Date/Time: 10/21/2025 11:05

Received by: Peyton Tourt Date/Time: 10/23/2025 1010 Receipt Temperature (C) _____

COMMENTS: **PLEASE LOG THE SAMPLES USING THE SAMPLE DESCRIPTIONS. 54MW13 IS A DESIGNATED MS/MSD SAMPLE.**

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

CT Laboratories Terms and Conditions

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy) - not applicable

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorneyâ€™s fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT - not applicable

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability Insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Â Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.

Login Sample Receipt Checklist

Client: CT Laboratories

Job Number: 810-169120-1

Login Number: 169120

List Source: Eurofins Eaton Analytical South Bend

List Number: 1

Creator: Trowbridge, Peyton

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Samples do not require splitting or compositing.	True	
Were samples preserved to correct pH upon receipt, if applicable?	True	
Container provided by EEA	True	

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ANALYTICAL SUMMARY REPORT

This report at a minimum contains the following information:

Analytical Report of Test Results
Description of QC Qualifiers
Chain of Custody (copy)
Quality Control Summary (if applicable)
Case Narrative (if applicable)
Correspondence with Client (if applicable)

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Unless specifically stated to the contrary, soil/sediment/sludge sample results reported on a Dry Weight Basis

ANALYTICAL SAMPLE DATA

CAPE ENVIRONMENTAL MANAGEMENT
MATT FEITS
500 PINNACLE COURT
SUITE 100
NORCROSS, GA 30071

Project Name: RADFORD AAP SWMU 54
Project Phase: RADFORD, VA
Project #: 10409-0222
Folder #: 199296
Purchase Order #: SC013781
Contract #: 3648

Arrival Temperature: 3.4
Report Date: 11/11/2025
Date Received: 10/23/2025
Reprint Date: 11/11/2025

Copy: chemistrysvcs@cape-inc.com

CT LAB#: 1643252 Sample Description: 54MW13 Client Sample #: Sampled: 10/22/2025 09:02

Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results													
Ethane	<0.80	ug/L	0.38	0.80	1.0	1.0	1.00	U		10/24/25 10:11	10/24/25 13:19	SRW	RSK 175
Ethene	<1.2	ug/L	0.59	1.2	1.4	1.4	1.00	U		10/24/25 10:11	10/24/25 13:19	SRW	RSK 175
Methane	<0.90	ug/L	0.45	0.90	1.0	1.0	1.00	U		10/24/25 10:11	10/24/25 13:19	SRW	RSK 175

CT LAB#: 1643253 Sample Description: 54MW10 Client Sample #: Sampled: 10/22/2025 09:50

Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results													
Ethane	<0.80	ug/L	0.38	0.80	1.0	1.0	1.00	U		10/24/25 10:11	10/24/25 13:39	SRW	RSK 175
Ethene	<1.2	ug/L	0.59	1.2	1.4	1.4	1.00	U		10/24/25 10:11	10/24/25 13:39	SRW	RSK 175
Methane	<0.90	ug/L	0.45	0.90	1.0	1.0	1.00	U		10/24/25 10:11	10/24/25 13:39	SRW	RSK 175

Unless specifically stated to the contrary, soil/sediment/sludge sample results reported on a Dry Weight Basis

CT LAB#: 1643254 Sample Description: 54TW10 Client Sample #: Sampled: 10/22/2025 09:50

Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results													
Ethane	<0.80	ug/L	0.38	0.80	1.0	1.0	1.00	U		10/24/25 10:11	10/24/25 13:42	SRW	RSK 175
Ethene	<1.2	ug/L	0.59	1.2	1.4	1.4	1.00	U		10/24/25 10:11	10/24/25 13:42	SRW	RSK 175
Methane	<0.90	ug/L	0.45	0.90	1.0	1.0	1.00	U		10/24/25 10:11	10/24/25 13:42	SRW	RSK 175

Unless specifically stated to the contrary, soil/sediment/sludge sample results reported on a Dry Weight Basis

Notes:

^ Indicates the laboratory is NELAP accredited for this analyte by the indicated matrix and method . DL (detection limit), LOD (limit of detection), loq (limit of quantitation) as defined by most recent DOD QSM version.

All samples were received intact and properly preserved unless otherwise noted . The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without written approval of this laboratory. The Chain of Custody is attached.

This report has been specifically prepared to satisfy project or program requirements. These results are in compliance with NELAC requirements for the parameters where accreditation is required or available, unless noted in the case narrative.

Submitted by: Brett M. Szymanski
Project Manager
608-356-2760

Current CT Laboratories Certifications

Wisconsin (WDNR) Chemistry ID# 157066030
Wisconsin (DATCP) Bacteriology ID# 289
Louisiana NELAP (primary) ID# 115843
Illinois NELAP Lab ID# 200073
Kansas NELAP Lab ID# E-10368
Virginia NELAP Lab ID# 460203
Florida NELAP Lab ID# E871111

DoD-ELAP QSM5.4 -
PJLA Testing Accreditation # 78929

ISO/IEC 17025-2017 Accredited -
PJLA Testing Accreditation # 78929

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QC Summary Report

CAPE ENVIRONMENTAL MANAGEMENT **Project Name: RADFORD AAP SWMU 54**

SDG #: 0 **Folder #: 199296** **Project #: 10409-0222**

Lab Control Spike Water

Analytical Run #:	296207	Analysis Date:	10/24/2025	Prep Batch #:	140741	Matrix:	LIQUID
CTLab #:	1643927	Analysis Time:	10:37	Prep Date/Time:	10/24/2025 10:11	Method:	RSK175
Parent Sample #:		Analyst:	SRW	Prep Analyst:	SRW		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits			RPD	RPD Limit
Ethane	4.24	ug/L			4.78	89	74	---	131		20
Ethene	6.02	ug/L			6.80	89	72	---	133		20
Methane	2.06	ug/L			2.30	90	73	---	125		20

Method Blank Water

Analytical Run #:	296207	Analysis Date:	10/24/2025	Prep Batch #:	140741	Matrix:	LIQUID
CTLab #:	1643926	Analysis Time:	10:44	Prep Date/Time:	10/24/2025 10:11	Method:	RSK175
Parent Sample #:		Analyst:	SRW	Prep Analyst:	SRW		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Ethane	0.38	ug/L		U	0		0.5		
Ethene	0.59	ug/L		U	0		0.7		
Methane	0.45	ug/L		U	0		0.5		

Matrix Spike Duplicate Water

Analytical Run #:	296207	Analysis Date:	10/24/2025	Prep Batch #:	140741	Matrix:	GROUND WATER
CTLab #:	1643953	Analysis Time:	13:27	Prep Date/Time:	10/24/2025 10:11	Method:	RSK175
Parent Sample #:	1643952	Analyst:	SRW	Prep Analyst:	SRW		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Ethane	3.93	ug/L	<DL		4.78	82	74 --- 131	3	30
Ethene	5.66	ug/L	<DL		6.80	83	72 --- 133	3	30
Methane	1.85	ug/L	<DL		2.30	80	73 --- 125	2	30

Matrix Spike Water

Analytical Run #:	296207	Analysis Date:	10/24/2025	Prep Batch #:	140741	Matrix:	GROUND WATER
CTLab #:	1643952	Analysis Time:	13:23	Prep Date/Time:	10/24/2025 10:11	Method:	RSK175
Parent Sample #:	1643252	Analyst:	SRW	Prep Analyst:	SRW		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Ethane	3.81	ug/L	<DL		4.78	80	74 --- 131		30
Ethene	5.49	ug/L	<DL		6.80	81	72 --- 133		30
Methane	1.88	ug/L	<DL		2.30	82	73 --- 125		30

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Sample Condition Report

Folder #:	199296	Print Date / Time:	10/23/2025 10:38
Client:	CAPE ENVIRONMENTAL MANAGEMENT	Received Date / Time / By:	10/23/2025 10:18 erc
Project Name:	RADFORD AAP SWMU 54	Log-In Date / Time / By:	10/23/2025 10:38 erc
Project Phase:	RADFORD, VA	Project #:	10409-0222 PM: BMS
Coolers:	1-UNMARKED	Temperature:	3.4 C On Ice: **Y**
Custody Seals Present :	**Y**	COC Present:?	**Y** Complete? **Y**
Seal Intact?	**Y**	Numbers:	DATED AND SIGNED
Ship Method:	FEDEX EXPRESS	Tracking Number:	885327582797
Adequate Packaging:	**Y**	Temp Blank Enclosed?	**Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

ONE (1) CUSTODY SEAL WAS PRESENT AND INTACT ON THE COOLER UPON RECEIPT (DATED 10/22/2025 AND SIGNED).

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
1643252 54MW13				
	VOA HCL	1	/	GAS
	VOA HCL	1	/	GAS
	VOA HCL	1	/	GAS
	VOA HCL	1	/	GAS
	VOA HCL	1	/	GAS
	VOA HCL	1	/	GAS
	Total # of Containers of Type	(***VOA HCL***) =	**6**	

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
1643253 54MW10				
	VOA HCL	1	/	GAS
	VOA HCL	1	/	GAS
	Total # of Containers of Type	(***VOA HCL***) =	**2**	

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
1643254 54TW10				
	VOA HCL	1	/	GAS
	VOA HCL	1	/	GAS
	Total # of Containers of Type	(***VOA HCL***) =	**2**	

Condition Code	*Condition Description*
1	Sample Received OK

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: CAPE Environmental
Project Contact: Matt Feits
Telephone: (724)622-3625
Project Name: Radford AAP SWMU 54
Project #:
Location: Radford, VA
Sampled By: Y. Miyakawa, P. Taylor

CT L — Order # 199296
Company: CAPE ENVIRONMENTAL MAN
Project: RADFORD AAP SWMU 54
Logged By: ere PM: BMS
#

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Program:
RCRA SDWA NPDES
Waste Other _____

Report To: Chemistry SVCS@cape-inc.com
EMAIL: mfeits@cape-inc.com
Company: CAPE Environmental Mgmt.
Address: 500 Pinnacle Ct. #100
Invoice To:* Norcross, GA 30071
EMAIL:
Company: Same
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time: ~~Normal~~ RUSH*
~~Date Needed:~~ _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

2025 Collection Date	Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: MEE RSK-175	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
10/22	0902	GW	G		54MW13		6	6	X	643252
10/22	0950	GW	G		54MW10		2	2		53
10/22	0950	GW	G		54TW10		2	2		54

Fill in Spaces with Bottles per Test

Relinquished By:	Date/Time	Received By:	Date/Time
	10/22/2025 1700	FedEx	10/22/2025 1700
Received By:	Date/Time	Received for Laboratory by:	Date/Time
		EC	10/23/25 1048

Lab Use Only
Ice Present Yes No
Temp 3.7 IR Gun 22
Cooler # XXX

EC 10/23/25 1019

ORIGIN ID:LIYA (614) 716-8502
YOKO MIYAKAWA
CAPE ENVIRONMENTAL MANAGAMENT INC.
500 PINNACLE COURT
STE. 100
NORCROSS, GA 30071
UNITED STATES US

SHIP DATE: 22OCT25
ACTWGT: 45.00 LB
CAD: 100211060/INET4535

BILL SENDER

TO SAMPLE RECEIVING
CT LABS
1230 LANGE COURT

BARABOO WI 53913
(608) 356-2760
REF: 10409-0222-002-006
INV:
PO:
DEPT:

58HJ4/008C/59F2

J2540256924011ur

FedEx Express

THU - 23 OCT 10:30A
PRIORITY OVERNIGHT

TRK# 0201 8853 2758 2797

XS LNRA

53913
WI-US MSN

CUSTODY SEAL
DATE 10/22/2025
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • www.qecusa.com

After printing this label:
CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH
1. Fold the printed page along the horizontal line.
2. Place label in shipping pouch and affix it to your shipment.

CUSTODY SEAL
DATE 10/22/2025
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • www.qecusa.com

Use of this system constitutes ... agrees to the ... s fees, costs, and ... is limited to the greater of $100 or the authorized ... documented loss. Maximum for items of extraordinary value is $1,000, e.g. ... precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Ice Present Yes No
Temperature 3.9 15B
Cooler #
Date 10/22/25 Time 1018
Tracker # XXX

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ANALYTICAL SUMMARY REPORT

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ANALYTICAL SAMPLE DATA

CAPE ENVIRONMENTAL MANAGEMENT
MATT FEITS
500 PINNACLE COURT
SUITE 100
NORCROSS, GA 30071

Project Name: RADFORD AAP SWMU 54
Project Phase: RADFORD, VA
Project #: 10409-0222
Folder #: 199401
Purchase Order #: SC013781
Contract #: 3648

Arrival Temperature: 12.8
Report Date: 11/11/2025
Date Received: 10/28/2025
Reprint Date: 11/11/2025

Copy: chemistrysvcs@cape-inc.com

CT LAB#: 1645325 Sample Description: 54MW12 Client Sample #: Sampled: 10/21/2025 12:30

Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results													
Ethane	<0.80	ug/L	0.38	0.80	1.0	1.0	1.00	U T		10/29/25 10:42	10/29/25 11:45	SRW	RSK 175
Ethene	<1.2	ug/L	0.59	1.2	1.4	1.4	1.00	U T		10/29/25 10:42	10/29/25 11:45	SRW	RSK 175
Methane	<0.90	ug/L	0.45	0.90	1.0	1.0	1.00	U T		10/29/25 10:42	10/29/25 11:45	SRW	RSK 175

CT LAB#: 1645326 Sample Description: 54MW1 Client Sample #: Sampled: 10/21/2025 12:45

Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results													
Ethane	<0.80	ug/L	0.38	0.80	1.0	1.0	1.00	U T		10/29/25 10:42	10/29/25 11:48	SRW	RSK 175
Ethene	<1.2	ug/L	0.59	1.2	1.4	1.4	1.00	U T		10/29/25 10:42	10/29/25 11:48	SRW	RSK 175
Methane	<0.90	ug/L	0.45	0.90	1.0	1.0	1.00	U T		10/29/25 10:42	10/29/25 11:48	SRW	RSK 175

Unless specifically stated to the contrary, soil/sediment/sludge sample results reported on a Dry Weight Basis

Notes:

^ Indicates the laboratory is NELAP accredited for this analyte by the indicated matrix and method . DL (detection limit), LOD (limit of detection), loq (limit of quantitation) as defined by most recent DOD QSM version.

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Submitted by: Brett M. Szymanski
Project Manager
608-356-2760

QC Qualifiers

Code	Description
A	Result cannot be used for compliance due to QC issue
B	Analyte detected in the associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
I	Incubator temperature was outside acceptance limits during test period.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
U	Analyte concentration was below detection limit.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Specified calibration criteria was not met.

Current CT Laboratories Certifications

Wisconsin (WDNR) Chemistry ID# 157066030
Wisconsin (DATCP) Bacteriology ID# 289
Louisiana NELAP (primary) ID# 115843
Illinois NELAP Lab ID# 200073
Kansas NELAP Lab ID# E-10368
Virginia NELAP Lab ID# 460203
Florida NELAP Lab ID# E871111

DoD-ELAP QSM5.4 -
PJLA Testing Accreditation # 78929

ISO/IEC 17025-2017 Accredited -
PJLA Testing Accreditation # 78929

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QC Summary Report

CAPE ENVIRONMENTAL MANAGEMENT **Project Name: RADFORD AAP SWMU 54**

SDG #: 0 **Folder #: 199401** **Project #: 10409-0222**

Lab Control Spike Water

Analytical Run #:	296340	Analysis Date:	10/29/2025	Prep Batch #:	140800	Matrix:	LIQUID
CTLab #:	1645739	Analysis Time:	11:05	Prep Date/Time:	10/29/2025 10:42	Method:	RSK175
Parent Sample #:		Analyst:	SRW	Prep Analyst:	SRW		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits			RPD	RPD Limit
Ethane	4.01	ug/L			4.78	84	74	---	131		20
Ethene	5.76	ug/L			6.80	85	72	---	133		20
Methane	1.90	ug/L			2.30	83	73	---	125		20

Method Blank Water

Analytical Run #:	296340	Analysis Date:	10/29/2025	Prep Batch #:	140800	Matrix:	LIQUID
CTLab #:	1645738	Analysis Time:	11:08	Prep Date/Time:	10/29/2025 10:42	Method:	RSK175
Parent Sample #:		Analyst:	SRW	Prep Analyst:	SRW		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Ethane	0.38	ug/L		U	0		0.5		
Ethene	0.59	ug/L		U	0		0.7		
Methane	0.45	ug/L		U	0		0.5		

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #:	199401	Print Date / Time:	10/28/2025	13:05	
Client:	CAPE ENVIRONMENTAL MANAGEMENT	Received Date / Time / By:	10/28/2025	10:20	erc
Project Name:	RADFORD AAP SWMU 54	Log-In Date / Time / By:	10/28/2025	13:05	erc
Project Phase:	RADFORD, VA	Project #:	10409-0222	PM:	BMS
Coolers:	1-UNMARKED	Temperature:	12.8 C	On Ice:	**N**
Custody Seals Present :	**Y**	COC Present:?	**Y**	Complete?	**Y**
Seal Intact?	**Y**	Numbers:	DATED AND SIGNED		
Ship Method:	FEDEX EXPRESS	Tracking Number:	885327024275		
Adequate Packaging:	**Y**	Temp Blank Enclosed?	**Y**		

Notes: THE SAMPLES WERE RECEIVED OVER-TEMP DUE TO A FEDEX SHIPPING DELAY. THE CLIENT INSTRUCTED THE LAB TO PROCEED WITH THE ANALYSIS OF THE SAMPLES. THE SAMPLE DATA WILL BE QUALIFIED ACCORDINGLY.

TWO (2) CUSTODY SEALS WERE PRESENT AND INTACT ON THE COOLER UPON RECEIPT (BOTH WERE DATED 10/21/2025 AND SIGNED).

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
1645325 54MW12				
	VOA HCL	1	/	GAS
	VOA HCL	1	/	GAS
	Total # of Containers of Type	**(*VOA HCL*) = 2**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
1645326 54MW1				
	VOA HCL	1	/	GAS
	VOA HCL	1	/	GAS
	Total # of Containers of Type	**(*VOA HCL*) = 2**		

Condition Code *Condition Description*

1 Sample Received OK

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: Cape Environmental
Project Contact: Matt Feits
Telephone: (724) 622-3625
Project Name: Radford AAP SWMU 54
Project #:
Location: Radford, VA
Sampled By: Y. Miyakawa, P. Taylor

CT

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Submitted: 199401
Company: CAPE ENVIRONMENTAL MA
Project: RADFORD AAP SWMU 54
Logged By: erc PM BMS
Program: SM RCRA SDWA NPDES
Solid Waste Other
PO #

Report To: Chemistry SVCS@cape-inc.com
EMAIL: mfeits@cape-inc.com
Company: CAPE Environmental Mgmt.
Address: 500 Pinnacle Court #100
Norcross, GA 30071
Invoice To:* same
EMAIL:
Company:
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: MEE RSK-175	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
10/21/2025	1230	GW	G		54MW12	N	2	2		164528
10/21	1245	GW	G		54MW1	N	2	2		-26

Fill in Spaces with Bottles per Test

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By: [signature] Date/Time 10/21/2025 1800
Received by: Date/Time

Received By: FedEx Date/Time 10/21/2025 1800
Received for Laboratory by: Date/Time 10/28/25 10 20

Lab Use Only
Ice Present Yes No
Temp 12.8 IR Gun #7
Cooler # XX

10-28-25 1806

ORIGIN ID:LIYA (614) 716-8502
YOKO MIYAKAWA
CAPE ENVIRONMENTAL MANAGAMENT INC.
500 PINNACLE COURT
STE. 100
NORCROSS, GA 30071
UNITED STATES US

SHIP DATE: 21OCT25
ACTWGT: 45.00 LB
CAD: 10021060/INET4535

BILL SENDER

TO **SAMPLE RECEIVING**
CT LABS
1230 LANGE COURT

BARABOO WI 53913
(608) 356-2760
INV:
PO:
REF: 10409-0222-002-006
DEPT:

58HJ4/008C/59F2

J2540230102401uv

FedEx Express

TRK# 0201 8853 2702 4275

XS LNRA

WED - 22 OCT 10:30A
PRIORITY OVERNIGHT

53913
WI-US MSN

CUSTODY SEAL
DATE 10/21/2025
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • www.qecusa.com

After printing this label:
CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH
1. Fold the printed page along the horizontal line.
2. Place label in shipping pouch and affix it to your shipment.

CUSTODY SEAL
DATE 10/21/2025
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • www.qecusa.com

Use this fed deli you Fedl othe ...damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Ice Present Yes No
Temperature 128 -33
Initials EC
Date 10/22/25 Time 1030
Cooler # XXX

Szymanski, Brett M

From: Matthew Feits <mfeits@cape-inc.com>
Sent: 10/28/2025 12:51
To: Pace, Anthony; Nisreen Saikaly; Szymanski, Brett M; Yoko Miyakawa; CAPE Chemistry Services; Scott Miller
Subject: RE: Delayed Radford AAP Cooler

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@Szymanski, Brett M Please proceed to analyze.

Sincerely,
Matthew Feits
Project Manager
Cape Environmental Management Inc
mfeits@cape-inc.com
Freedom, PA
(724)-622-3625

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---

From: Pace, Anthony <pacea@WestonSolutions.com>
Sent: Tuesday, October 28, 2025 1:38 PM
To: Matthew Feits <mfeits@cape-inc.com>; Nisreen Saikaly <nsaikaly@cape-inc.com>; Szymanski, Brett M <BSzymanski@ctlaboratories.com>; Yoko Miyakawa <ymiyakawa@cape-inc.com>; CAPE Chemistry Services <chemistrysvcs@cape-inc.com>; Scott Miller <smiller@cape-inc.com>
Subject: RE: Delayed Radford AAP Cooler

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Yes, and I don't think a re-sample is required. Likely the data will be consistent with past data and that will go a long way in documenting that the data is still of sufficient quality to use for an LTM program.

Tony Pace
Principal Project Manager
(757) 362-2461 pacea@WestonSolutions.com

From: Matthew Feits <mfeits@cape-inc.com>
Sent: Tuesday, October 28, 2025 1:35 PM
To: Nisreen Saikaly <nsaikaly@cape-inc.com>; Szymanski, Brett M <BSzymanski@ctlaboratories.com>; Yoko Miyakawa <ymiyakawa@cape-inc.com>; CAPE Chemistry Services <chemistrysvcs@cape-inc.com>; Scott Miller <smiller@cape-inc.com>; Pace, Anthony <pacea@WestonSolutions.com>
Subject: RE: Delayed Radford AAP Cooler

***** External Message *** -- PROBE message before clicking links or opening attachments.**

@Pace, Anthony what is your take on this? See the email chain below…. We'll have some J values and the nitrate will be out of the hold time.

Have you ran into this instance before and do you this warrants needing to resample?

Sincerely,
Matthew Feits
Project Manager
Cape Environmental Management Inc
mfeits@cape-inc.com
Freedom, PA
(724)-622-3625

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From: Nisreen Saikaly <nsaikaly@cape-inc.com>
Sent: Tuesday, October 28, 2025 12:18 PM
To: Matthew Feits <mfeits@cape-inc.com>; Szymanski, Brett M <BSzymanski@ctlaboratories.com>; Yoko Miyakawa <ymiyakawa@cape-inc.com>; CAPE Chemistry Services <chemistrysvcs@cape-inc.com>; Scott Miller <smiller@cape-inc.com>
Subject: RE: Delayed Radford AAP Cooler

Yes.

Thanks,

Nisreen Saikaly, PMP, ASQ CQA
Senior Program Chemist

Cape Environmental Management Inc
(803) 553-9844
Columbia, SC



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From: Matthew Feits <mfeits@cape-inc.com>
Sent: Tuesday, October 28, 2025 12:18 PM
To: Nisreen Saikaly <nsaikaly@cape-inc.com>; Szymanski, Brett M <BSzymanski@ctlaboratories.com>; Yoko Miyakawa <ymiyakawa@cape-inc.com>; CAPE Chemistry Services <chemistrysvcs@cape-inc.com>; Scott Miller <smiller@cape-inc.com>
Subject: RE: Delayed Radford AAP Cooler

Nisreen,

Would this historically still be acceptable data to use for an annual report despite the J Values?

Sincerely,
Matthew Feits
Project Manager
Cape Environmental Management Inc
mfeits@cape-inc.com
Freedom, PA
(724)-622-3625



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From: Nisreen Saikaly <nsaikaly@cape-inc.com>
Sent: Tuesday, October 28, 2025 12:12 PM
To: Matthew Feits <mfeits@cape-inc.com>; Szymanski, Brett M <BSzymanski@ctlaboratories.com>; Yoko Miyakawa <ymiyakawa@cape-inc.com>; CAPE Chemistry Services <chemistrysvcs@cape-inc.com>; Scott Miller <smiller@cape-

inc.com>
Cc: Nisreen Saikaly <nsaikaly@cape-inc.com>
Subject: RE: Delayed Radford AAP Cooler

The temperature exceedance of 12.5°C will result in the data being qualified (J-flagged)

Once holding time exceeds 2× the limit, the result is rejected. We are beyond that threshold for Nitrate, so the Nitrate data will be rejected during data validation.

That said, I still recommend analyzing all samples, including Nitrate. Even a rejected result can still be informative if it aligns with historical trends.

Thanks,

Nisreen Saikaly, PMP, ASQ CQA
Senior Program Chemist
Cape Environmental Management Inc
(803) 553-9844
Columbia, SC

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From: Matthew Feits <mfeits@cape-inc.com>
Sent: Tuesday, October 28, 2025 11:57 AM
To: Szymanski, Brett M <BSzymanski@ctlaboratories.com>; Nisreen Saikaly <nsaikaly@cape-inc.com>; Yoko Miyakawa <ymiyakawa@cape-inc.com>; CAPE Chemistry Services <chemistrysvcs@cape-inc.com>; Scott Miller <smiller@cape-inc.com>
Subject: RE: Delayed Radford AAP Cooler

@Nisreen Saikaly can you please give me your input on this and let me know how you advise us to proceed?

Sincerely,
Matthew Feits
Project Manager
Cape Environmental Management Inc
mfeits@cape-inc.com
Freedom, PA
(724)-622-3625

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From: Szymanski, Brett M <BSzymanski@ctlaboratories.com>
Sent: Tuesday, October 28, 2025 11:52 AM
To: Matthew Feits <mfeits@cape-inc.com>; Nisreen Saikaly <nsaikaly@cape-inc.com>; Yoko Miyakawa <ymiyakawa@cape-inc.com>; CAPE Chemistry Services <chemistrysvcs@cape-inc.com>; Scott Miller <smiller@cape-inc.com>
Subject: RE: Delayed Radford AAP Cooler

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Hello Matthew,

The only hold time that has been exceeded at this point is the 48-hour hold time for Nitrate analysis. All other parameters have a hold time of at least 14-days from collection.

I believe the data validation guidelines allow the results to be reported as estimated when samples are received at a temperature greater than 6°C but less than 15°C. You may want to check with your third-party data validation team for confirmation.

Thanks,

Brett Szymanski
Lab Director/Project Manager
CT Laboratories LLC
a woman-owned small business
1230 Lange Court
Baraboo, WI 53913
608-356-2760 office
608-356-2766 fax
www.ctlaboratories.com

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From: Matthew Feits <mfeits@cape-inc.com>
Sent: 10/28/2025 10:44 AM
To: Szymanski, Brett M <BSzymanski@ctlaboratories.com>; Nisreen Saikaly <nsaikaly@cape-inc.com>; Yoko Miyakawa <ymiyakawa@cape-inc.com>; CAPE Chemistry Services <chemistrysvcs@cape-inc.com>; Scott Miller <smiller@cape-inc.com>
Subject: RE: Delayed Radford AAP Cooler

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Brett,

I'm assuming all hold times are missed at this point and the temp wont provide adequate results?

Sincerely,
Matthew Feits
Project Manager
Cape Environmental Management Inc
mfeits@cape-inc.com
Freedom, PA
(724)-622-3625



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---

From: Szymanski, Brett M <BSzymanski@ctlaboratories.com>
Sent: Tuesday, October 28, 2025 11:40 AM
To: Matthew Feits <mfeits@cape-inc.com>; Nisreen Saikaly <nsaikaly@cape-inc.com>; Yoko Miyakawa <ymiyakawa@cape-inc.com>; CAPE Chemistry Services <chemistrysvcs@cape-inc.com>; Scott Miller <smiller@cape-inc.com>
Subject: Delayed Radford AAP Cooler
Importance: High

CAUTION EXTERNAL E-MAIL: This email originated from outside CAPE. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello,

The delayed cooler containing the Radford AAP samples from 10/21/2025 just arrived at our facility. The receipt temperature was 12.8°C with only melt-water remaining in the cooler. Please let me know how you would like to proceed.

Thanks,

Brett Szymanski
Lab Director/Project Manager
CT Laboratories LLC
a woman-owned small business
1230 Lange Court

Baraboo, WI 53913
608-356-2760 office
608-356-2766 fax
www.ctlaboratories.com

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The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Cape Environmental

Radford Army Ammunition Plant SMWU 54; VA

SGS Job Number: FC28746

Sampling Date: 10/20/25



Report to:

Cape Environmental
Jacksonville, FL
ajohnson@cape-inc.com; chemistrysvcs@cape-inc.com;
nsaikaly@cape-inc.com

ATTN: Alexis Johnson

Total number of pages in report: 535

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable unless noted in the narrative, comments or footnotes.

Norm Farmer
Technical Director

Client Service contact: Jean Dent-Smith 407-425-6700
Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AL, AK, AR, CT, IA, KY, MA, MI. MS, ND, NH, NV, OK, OR, IL, UT, VT, WA, WI, WV

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Test results relate only to samples analyzed.

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Table of Contents

Section 1: Sample Summary **4**
Section 2: Case Narrative/Conformance Summary **5**
Section 3: Summary of Hits **6**
Section 4: Sample Results **7**
4.1: FC28746-1: 54MW13 8
4.2: FC28746-2: 54MW10 10
4.3: FC28746-3: 54TW10 12
4.4: FC28746-4: 54MW12 14
4.5: FC28746-5: 54MW1 16
Section 5: Misc. Forms **18**
5.1: Chain of Custody 19
5.2: QC Evaluation: DOD QSM5.x Limits 21
Section 6: MS Semi-volatiles - QC Data Summaries **23**
6.1: Method Blank Summary 24
6.2: Blank Spike Summary 26
6.3: Matrix Spike/Matrix Spike Duplicate Summary 27
6.4: Internal Standard Area Summaries 28
6.5: Initial and Continuing Calibration Summaries 30
6.6: Run Sequence Reports 40
Section 7: MS Semi-volatiles - Raw Data **41**
7.1: Samples 42
7.2: Method Blanks 52
7.3: Blank Spikes 56
7.4: Matrix Spike/Matrix Spike Duplicates 58
7.5: Initial and Continuing Calibrations 62
7.6: Instrument Run Logs 96
7.7: Sample Prep Logs 98
Section 8: GC/LC Semi-volatiles - QC Data Summaries **99**
8.1: Method Blank Summary 100
8.2: Blank Spike Summary 102
8.3: Matrix Spike/Matrix Spike Duplicate Summary 103
8.4: GC Identification Summaries (Explosives) 104
8.5: Surrogate Recovery Summaries 108
8.6: GC Surrogate Retention Time Summaries 109
8.7: Initial and Continuing Calibration Summaries 112
8.8: Run Sequence Reports 134
Section 9: GC/LC Semi-volatiles - Raw Data **139**
9.1: Samples 140
9.2: Method Blanks 221
9.3: Blank Spikes 225
9.4: Matrix Spike/Matrix Spike Duplicates 234
9.5: Initial and Continuing Calibrations 251

Table of Contents

9.6: Instrument Run Logs 529
9.7: Sample Prep Logs 535

SGS North America Inc.

Sample Summary

Cape Environmental

Job No: FC28746

Radford Army Ammunition Plant SMWU 54; VA

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FC28746-1	10/20/25	09:40	YMPT	10/21/25	AQ	Ground Water	54MW13
FC28746-1D	10/20/25	09:40	YMPT	10/21/25	AQ	Water Dup/MSD	54MW13
FC28746-1S	10/20/25	09:40	YMPT	10/21/25	AQ	Water Matrix Spike	54MW13
FC28746-2	10/20/25	12:20	YMPT	10/21/25	AQ	Ground Water	54MW10
FC28746-3	10/20/25	12:20	YMPT	10/21/25	AQ	Ground Water	54TW10
FC28746-4	10/20/25	14:13	YMPT	10/21/25	AQ	Ground Water	54MW12
FC28746-5	10/20/25	15:20	YMPT	10/21/25	AQ	Ground Water	54MW1

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Cape Environmental **Job No:** FC28746

Site: Radford Army Ammunition Plant SMWU 54; VA **Report Date** 11/4/2025 1:50:52 PM

On 10/21/2025, 5 Sample(s), 0 Trip Blank(s), 0 Equip. Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. - Orlando, at a maximum corrected temperature of 2 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC28746 was assigned to the project.

All initial calibrations are verified by second-source standard.

Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

MS Semi-volatiles By Method SW846 6850

Matrix: AQ **Batch ID:** OP12286

Sample(s) FC28746-1MS, FC28746-1MSD were used as the QC samples indicated.

GC/LC Semi-volatiles By Method SW846 8330B

Matrix: AQ **Batch ID:** OP12165

Sample(s) FC28746-1MS, FC28746-1MSD were used as the QC samples indicated.

Blank Spike Recovery(s) for DNX, MNX, TNX are outside control limits.

Matrix Spike Recovery(s) for 1,3,5-Trinitrobenzene, 2,4,6-Trinitrotoluene, 2,6-Dinitrotoluene, 4-amino-2,6-Dinitrotoluene, Tetryl, DNX, MNX, TNX are outside control limits. Probable cause is due to matrix interference.

Matrix Spike Duplicate Recovery(s) for 2,4,6-Trinitrotoluene, 2,6-Dinitrotoluene, 2-amino-4,6-Dinitrotoluene, DNX, MNX, Tetryl, TNX are outside control limits. Probable cause is due to matrix interference.

RPD(s) for MSD for Tetryl are outside control limits for sample OP12165-MSD. Probable cause is due to sample non-homogeneity.

OP12165-BS for DNX: Compound not maintained in spike mix; standard is not available.

OP12165-BS for MNX: Compound not maintained in spike mix; standard is not available.

OP12165-BS for TNX: Compound not maintained in spike mix; standard is not available.

FC28746-1 for 3,5-Dinitroaniline: Primary and confirmation results differ by more than 40%.

FC28746-1: All hits confirmed by reanalysis on a dissimilar column.

FC28746-1: Confirmation run.

FC28746-2 for 4-amino-2,6-Dinitrotoluene: Primary and confirmation results differ by more than 40%.

FC28746-2: All hits confirmed by reanalysis on a dissimilar column.

FC28746-2: Confirmation run.

FC28746-3 for HMX: Primary and confirmation results differ by more than 40%.

FC28746-3: All hits confirmed by reanalysis on a dissimilar column.

FC28746-3: Confirmation run.

FC28746-4 for 4-amino-2,6-Dinitrotoluene: Primary and confirmation results differ by more than 40%.

FC28746-4: All hits confirmed by reanalysis on a dissimilar column.

FC28746-4: Confirmation run.

SGS North America Inc. - Orlando certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc.- Orlando is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

Narrative prepared by:

_____

Kim Benham, Report Generation (signature on file)

Summary of Hits

Job Number: FC28746
Account: Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA
Collected: 10/20/25

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FC28746-1	**54MW13**					
Perchlorate		0.30	0.20	0.10	ug/l	SW846 6850
HMX [a]		3.1	0.20	0.10	ug/l	SW846 8330B
RDX [a]		0.88	0.20	0.10	ug/l	SW846 8330B
3,5-Dinitroaniline [b]		0.55	0.20	0.10	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [a]		1.6	0.20	0.10	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [b]		0.84	0.20	0.10	ug/l	SW846 8330B
1,3,5-Trinitrobenzene [a]		18.2	0.20	0.10	ug/l	SW846 8330B
2,4,6-Trinitrotoluene [a]		6.4	0.20	0.10	ug/l	SW846 8330B
FC28746-2	**54MW10**					
HMX [a]		0.16 J	0.21	0.11	ug/l	SW846 8330B
RDX [a]		0.16 J	0.21	0.11	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [a]		0.14 J	0.21	0.11	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [b]		0.15 J	0.21	0.11	ug/l	SW846 8330B
FC28746-3	**54TW10**					
HMX [b]		0.14 J	0.21	0.11	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [a]		0.14 J	0.21	0.11	ug/l	SW846 8330B
FC28746-4	**54MW12**					
Perchlorate		0.50	0.20	0.10	ug/l	SW846 6850
HMX [a]		5.2	0.21	0.11	ug/l	SW846 8330B
RDX [a]		1.3	0.21	0.11	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [a]		3.4	0.21	0.11	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [b]		0.68	0.21	0.11	ug/l	SW846 8330B
1,3,5-Trinitrobenzene [a]		5.8	0.21	0.11	ug/l	SW846 8330B
2,4,6-Trinitrotoluene [a]		5.0	0.21	0.11	ug/l	SW846 8330B
FC28746-5	**54MW1**					

No hits reported in this sample.

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) All hits confirmed by reanalysis on a dissimilar column. Primary and confirmation results differ by more than 40%.

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	54MW13		
Lab Sample ID:	FC28746-1	**Date Sampled:**	10/20/25
Matrix:	AQ - Ground Water	**Date Received:**	10/21/25
Method:	SW846 6850 IN HOUSE	**Percent Solids:**	n/a
Project:	Radford Army Ammunition Plant SMWU 54; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q121394.D	1	10/29/25 17:20	AL	10/28/25 17:50	OP12286	SQ2495
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.30	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 54MW13
Lab Sample ID: FC28746-1
Matrix: AQ - Ground Water
Method: SW846 8330B SW846 3535A
Project: Radford Army Ammunition Plant SMWU 54; VA

Date Sampled: 10/20/25
Date Received: 10/21/25
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB089893.D	1	10/24/25 16:24	FS	10/22/25 10:15	OP12165	GBB2779
Run #2 [b]	GG633329.D	1	10/29/25 10:52	FS	10/22/25 10:15	OP12165	GGG3647

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2	1000 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	3.1	0.20	0.10	0.080	ug/l	
121-82-4	RDX	0.88	0.20	0.10	0.080	ug/l	
	DNX	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline [c]	0.55	0.20	0.10	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	1.6	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene [c]	0.84	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	18.2	0.20	0.10	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	6.4	0.20	0.10	0.080	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	105%	103%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Primary and confirmation results differ by more than 40%.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	54MW10		
Lab Sample ID:	FC28746-2	**Date Sampled:**	10/20/25
Matrix:	AQ - Ground Water	**Date Received:**	10/21/25
Method:	SW846 6850 IN HOUSE	**Percent Solids:**	n/a
Project:	Radford Army Ammunition Plant SMWU 54; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q121362.D	1	10/29/25 13:40	AL	10/28/25 17:50	OP12286	SQ2495
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 54MW10
Lab Sample ID: FC28746-2
Matrix: AQ - Ground Water
Method: SW846 8330B SW846 3535A
Project: Radford Army Ammunition Plant SMWU 54; VA

Date Sampled: 10/20/25
Date Received: 10/21/25
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB089896.D	1	10/24/25 17:46	FS	10/22/25 10:15	OP12165	GBB2779
Run #2 [b]	GG633330.D	1	10/29/25 11:18	FS	10/22/25 10:15	OP12165	GGG3647

	Initial Volume	Final Volume
Run #1	940 ml	10.0 ml
Run #2	940 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	0.16	0.21	0.11	0.085	ug/l	J
121-82-4	RDX	0.16	0.21	0.11	0.085	ug/l	J
	DNX	0.11 U	0.21	0.11	0.085	ug/l	
	MNX	0.11 U	0.21	0.11	0.085	ug/l	
	TNX	0.11 U	0.21	0.11	0.085	ug/l	
618-87-1	3,5-Dinitroaniline	0.11 U	0.21	0.11	0.085	ug/l	
99-65-0	1,3-Dinitrobenzene	0.11 U	0.21	0.11	0.085	ug/l	
606-20-2	2,6-Dinitrotoluene	0.11 U	0.21	0.11	0.085	ug/l	
121-14-2	2,4-Dinitrotoluene	0.11 U	0.21	0.11	0.085	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	0.14	0.21	0.11	0.085	ug/l	J
19406-51-0	4-amino-2,6-Dinitrotoluene [c]	0.15	0.21	0.11	0.085	ug/l	J
98-95-3	Nitrobenzene	0.11 U	0.21	0.11	0.10	ug/l	
88-72-2	o-Nitrotoluene	0.11 U	0.21	0.11	0.085	ug/l	
99-08-1	m-Nitrotoluene	0.11 U	0.21	0.11	0.085	ug/l	
99-99-0	p-Nitrotoluene	0.11 U	0.21	0.11	0.085	ug/l	
479-45-8	Tetryl	0.11 U	0.21	0.11	0.085	ug/l	
99-35-4	1,3,5-Trinitrobenzene	0.11 U	0.21	0.11	0.11	ug/l	
118-96-7	2,4,6-Trinitrotoluene	0.11 U	0.21	0.11	0.085	ug/l	
55-63-0	Nitroglycerine	1.1 U	2.1	1.1	0.53	ug/l	
78-11-5	PETN	1.1 U	2.1	1.1	0.53	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	95%	92%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Primary and confirmation results differ by more than 40%.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	54TW10		
Lab Sample ID:	FC28746-3	**Date Sampled:**	10/20/25
Matrix:	AQ - Ground Water	**Date Received:**	10/21/25
Method:	SW846 6850 IN HOUSE	**Percent Solids:**	n/a
Project:	Radford Army Ammunition Plant SMWU 54; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q121363.D	1	10/29/25 13:47	AL	10/28/25 17:50	OP12286	SQ2495
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	54TW10		
Lab Sample ID:	FC28746-3	**Date Sampled:**	10/20/25
Matrix:	AQ - Ground Water	**Date Received:**	10/21/25
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford Army Ammunition Plant SMWU 54; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB089897.D	1	10/24/25 18:13	FS	10/22/25 10:15	OP12165	GBB2779
Run #2 [b]	GG633365.D	1	10/31/25 10:17	FS	10/22/25 10:15	OP12165	GGG3649

	Initial Volume	Final Volume
Run #1	950 ml	10.0 ml
Run #2	950 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX [c]	0.14	0.21	0.11	0.084	ug/l	J
121-82-4	RDX	0.11 U	0.21	0.11	0.084	ug/l	
	DNX	0.11 U	0.21	0.11	0.084	ug/l	
	MNX	0.11 U	0.21	0.11	0.084	ug/l	
	TNX	0.11 U	0.21	0.11	0.084	ug/l	
618-87-1	3,5-Dinitroaniline	0.11 U	0.21	0.11	0.084	ug/l	
99-65-0	1,3-Dinitrobenzene	0.11 U	0.21	0.11	0.084	ug/l	
606-20-2	2,6-Dinitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
121-14-2	2,4-Dinitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	0.14	0.21	0.11	0.084	ug/l	J
19406-51-0	4-amino-2,6-Dinitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
98-95-3	Nitrobenzene	0.11 U	0.21	0.11	0.10	ug/l	
88-72-2	o-Nitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
99-08-1	m-Nitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
99-99-0	p-Nitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
479-45-8	Tetryl	0.11 U	0.21	0.11	0.084	ug/l	
99-35-4	1,3,5-Trinitrobenzene	0.11 U	0.21	0.11	0.10	ug/l	
118-96-7	2,4,6-Trinitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
55-63-0	Nitroglycerine	1.1 U	2.1	1.1	0.53	ug/l	
78-11-5	PETN	1.1 U	2.1	1.1	0.53	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	94%	87%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Primary and confirmation results differ by more than 40%.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	54MW12		
Lab Sample ID:	FC28746-4	**Date Sampled:**	10/20/25
Matrix:	AQ - Ground Water	**Date Received:**	10/21/25
Method:	SW846 6850 IN HOUSE	**Percent Solids:**	n/a
Project:	Radford Army Ammunition Plant SMWU 54; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q121397.D	1	10/29/25 17:41	AL	10/28/25 17:50	OP12286	SQ2495
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.50	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	54MW12		
Lab Sample ID:	FC28746-4	**Date Sampled:**	10/20/25
Matrix:	AQ - Ground Water	**Date Received:**	10/21/25
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford Army Ammunition Plant SMWU 54; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB089898.D	1	10/24/25 18:41	FS	10/22/25 10:15	OP12165	GBB2779
Run #2 [b]	GG633331.D	1	10/29/25 11:45	FS	10/22/25 10:15	OP12165	GGG3647

	Initial Volume	Final Volume
Run #1	940 ml	10.0 ml
Run #2	940 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	5.2	0.21	0.11	0.085	ug/l	
121-82-4	RDX	1.3	0.21	0.11	0.085	ug/l	
	DNX	0.11 U	0.21	0.11	0.085	ug/l	
	MNX	0.11 U	0.21	0.11	0.085	ug/l	
	TNX	0.11 U	0.21	0.11	0.085	ug/l	
618-87-1	3,5-Dinitroaniline	0.11 U	0.21	0.11	0.085	ug/l	
99-65-0	1,3-Dinitrobenzene	0.11 U	0.21	0.11	0.085	ug/l	
606-20-2	2,6-Dinitrotoluene	0.11 U	0.21	0.11	0.085	ug/l	
121-14-2	2,4-Dinitrotoluene	0.11 U	0.21	0.11	0.085	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	3.4	0.21	0.11	0.085	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene [c]	0.68	0.21	0.11	0.085	ug/l	
98-95-3	Nitrobenzene	0.11 U	0.21	0.11	0.10	ug/l	
88-72-2	o-Nitrotoluene	0.11 U	0.21	0.11	0.085	ug/l	
99-08-1	m-Nitrotoluene	0.11 U	0.21	0.11	0.085	ug/l	
99-99-0	p-Nitrotoluene	0.11 U	0.21	0.11	0.085	ug/l	
479-45-8	Tetryl	0.11 U	0.21	0.11	0.085	ug/l	
99-35-4	1,3,5-Trinitrobenzene	5.8	0.21	0.11	0.11	ug/l	
118-96-7	2,4,6-Trinitrotoluene	5.0	0.21	0.11	0.085	ug/l	
55-63-0	Nitroglycerine	1.1 U	2.1	1.1	0.53	ug/l	
78-11-5	PETN	1.1 U	2.1	1.1	0.53	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	99%	91%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Primary and confirmation results differ by more than 40%.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	54MW1		
Lab Sample ID:	FC28746-5	**Date Sampled:**	10/20/25
Matrix:	AQ - Ground Water	**Date Received:**	10/21/25
Method:	SW846 6850 IN HOUSE	**Percent Solids:**	n/a
Project:	Radford Army Ammunition Plant SMWU 54; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q121398.D	1	10/29/25 17:47	AL	10/28/25 17:50	OP12286	SQ2495
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: 54MW1
Lab Sample ID: FC28746-5
Matrix: AQ - Ground Water
Method: SW846 8330B SW846 3535A
Project: Radford Army Ammunition Plant SMWU 54; VA

Date Sampled: 10/20/25
Date Received: 10/21/25
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB089899.D	1	10/24/25 19:08	FS	10/22/25 10:15	OP12165	GBB2779
Run #2							

	Initial Volume	Final Volume
Run #1	950 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	0.11 U	0.21	0.11	0.084	ug/l	
121-82-4	RDX	0.11 U	0.21	0.11	0.084	ug/l	
	DNX	0.11 U	0.21	0.11	0.084	ug/l	
	MNX	0.11 U	0.21	0.11	0.084	ug/l	
	TNX	0.11 U	0.21	0.11	0.084	ug/l	
618-87-1	3,5-Dinitroaniline	0.11 U	0.21	0.11	0.084	ug/l	
99-65-0	1,3-Dinitrobenzene	0.11 U	0.21	0.11	0.084	ug/l	
606-20-2	2,6-Dinitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
121-14-2	2,4-Dinitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
98-95-3	Nitrobenzene	0.11 U	0.21	0.11	0.10	ug/l	
88-72-2	o-Nitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
99-08-1	m-Nitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
99-99-0	p-Nitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
479-45-8	Tetryl	0.11 U	0.21	0.11	0.084	ug/l	
99-35-4	1,3,5-Trinitrobenzene	0.11 U	0.21	0.11	0.10	ug/l	
118-96-7	2,4,6-Trinitrotoluene	0.11 U	0.21	0.11	0.084	ug/l	
55-63-0	Nitroglycerine	1.1 U	2.1	1.1	0.53	ug/l	
78-11-5	PETN	1.1 U	2.1	1.1	0.53	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	90%		70-136%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

SGS North America Inc - Orlando

Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL. 407-425-6700 FAX: 407-425-0707
www.sgs.com

SGS - ORLANDO JOB # : FC28746 PAGE 1 OF 1

SGS - ORLANDO Quote # SKIFF

Client / Reporting Information

Company Name: Cape Environmental
Address: 500 Pinnacle Court #100
City: Norcross State: GA Zip: 30071
Project Contact: Matt Feits Email: mfeits@cape-inc.com & chemistrySVCS@cape-inc.com
Phone #: (724) 622-3625
Sampler(s) Name(s) (Printed) Sampler 1: Y. Milyakaw Sampler 2: P. Taylor

Project Information

Project Name: Radford AAP SWMU 54
Street
City Radford State VA
Project # 1C
Fax #
Client Purchase Order #

Analytical Information

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE 2025	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NaOH+ZnAc	DI WATER	MEOH	LLC 6850 Perchlorate	LC 8330B XLC 3NX							Matrix Codes / LAB USE ONLY
1	54MW13	10/20	0940	YM/PT	GW	9		X								3	6			MS/MSD				
2	54MW10	10/20	1220	YM/PT	GW	3		X								1	2							
3	54TW10	10/20	1220	YM/PT	GW	3		X								1	2							
4	54MW12	10/20	1413	YM/PT	GW	3		X								1	2							
5	54MW1	10/20	1520	YM/PT	GW	3		X								1	2							

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid

Turnaround Time (Business days)

- 10 Day (Business) — Approved By: / Date:
- 7 Day
- 5 Day
- 3 Day *RUSH*
- 2 Day *RUSH*
- 1 Day *RUSH*
- Other

Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- COMMERCIAL "A" (RESULTS ONLY)
- COMMERCIAL "B" (RESULTS PLUS QC)
- REDT1 (EPA LEVEL 3)
- FULLT1 (EPA LEVEL 4)
- EDD'S

Comments / Remarks

INITIAL ASSESSMENT
TARGET VERIFICATION

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
1	Cape	10/20/2025 1800	2 FedEx	3		4 10/21/25 930
	Relinquished by/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
	5		6	7		8

Lab Use Only : Cooler Temperature (s) Celsius (corrected): 2.0 IR#1

http://www.sgs.com/en/terms-and-conditions

ORLD-SMT-0001-03-FORM-COC (4).xls Rev 031318

FC28746: Chain of Custody
Page 1 of 2

SGS - Orlando Sample Receipt Summary

Job Number: fc28746 **Client:** CAPE ENVIRONMENTAL **Project:** RADFORD AAP SWMU 54

Date / Time Received: 10/21/2025 9:30:00 AM **Delivery Method:** FEDEX **Airbill #'s:** 461950128340

Cooler Temps (Raw Measured) °C: Cooler 1: (2.0);

Cooler Temps (Corrected) °C: Cooler 1: (2.0);

Cooler Informatio	Y	or	N
1. Custody Seals Present:	☑		☐
2. Custody Seals Intact:	☑		☐
3. Temp criteria achieved:	☑		☐
4. Cooler temp verification:	IR Gun		
5. Cooler media:	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑

	W	or	S	N/A
3. Type of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles:	☑		☐	
2. Samples presented properly	☑		☐	
3. Sufficient volume/containers recv'd for analysi	☑		☐	
4. Condition of sample:	Intact			
5. Sample recv'd within HT	☑		☐	
6. Dates/Times/IDs on COC match sample labe	☑		☐	
7. VOCs have headspace	☐		☐	☑
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar Received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc Information

Number of Encores: 25 Gram 5 Gram

Test Strip Lot #s: pH 0-3: _____ pH 10-12: _____

Residual Chlorine Test Strip Lot _____

Number of Lab Filtered Metals

Other: (Specify) _____ _____

Comments

Sample Receipt Summary 112723 EK Technician: ZANEB Date: 10/21/2025 2:58:33 PM Reviewer: _____ Date: _____

QC Evaluation: DOD QSM5.x Limits

Job Number: FC28746
Account: Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA
Collected: 10/20/25

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP12286	SW846 6850						
OP12286-BS	14797-73-0	Perchlorate	BSP	REC	95	%	84-119
OP12286-MS2	14797-73-0	Perchlorate	MS	REC	100	%	84-119
OP12286-MSD2	14797-73-0	Perchlorate	MSD	REC	90	%	84-119
OP12286-MSD2	14797-73-0	Perchlorate	MSD	RPD	4	%	15
OP12165	SW846 8330B						
OP12165-BS	2691-41-0	HMX	BSP	REC	90	%	65-135
OP12165-BS	121-82-4	RDX	BSP	REC	92	%	68-130
OP12165-BS		DNX	BSP	REC	0 [a]	%	66-119
OP12165-BS		MNX	BSP	REC	0 [a]	%	57-132
OP12165-BS	618-87-1	3,5-Dinitroaniline	BSP	REC	96	%	71-117
OP12165-BS	99-65-0	1,3-Dinitrobenzene	BSP	REC	90	%	78-120
OP12165-BS	606-20-2	2,6-Dinitrotoluene	BSP	REC	100	%	77-127
OP12165-BS	121-14-2	2,4-Dinitrotoluene	BSP	REC	92	%	78-120
OP12165-BS	35572-78-2	2-amino-4,6-Dinitrotoluene	BSP	REC	94	%	79-120
OP12165-BS	19406-51-0	4-amino-2,6-Dinitrotoluene	BSP	REC	90	%	76-125
OP12165-BS	98-95-3	Nitrobenzene	BSP	REC	96	%	65-134
OP12165-BS	88-72-2	o-Nitrotoluene	BSP	REC	94	%	70-127
OP12165-BS	99-08-1	m-Nitrotoluene	BSP	REC	96	%	73-125
OP12165-BS	99-99-0	p-Nitrotoluene	BSP	REC	98	%	71-127
OP12165-BS	479-45-8	Tetryl	BSP	REC	72	%	64-128
OP12165-BS	99-35-4	1,3,5-Trinitrobenzene	BSP	REC	90	%	73-125
OP12165-BS	118-96-7	2,4,6-Trinitrotoluene	BSP	REC	96	%	71-123
OP12165-BS	55-63-0	Nitroglycerine	BSP	REC	84	%	74-127
OP12165-BS	78-11-5	PETN	BSP	REC	94	%	73-127
OP12165-MS	2691-41-0	HMX	MS	REC	94	%	65-135
OP12165-MS	121-82-4	RDX	MS	REC	91	%	68-130
OP12165-MS		DNX	MS	REC	0 [a]	%	66-119
OP12165-MS		MNX	MS	REC	0 [a]	%	57-132
OP12165-MS	618-87-1	3,5-Dinitroaniline	MS	REC	97	%	71-117
OP12165-MS	99-65-0	1,3-Dinitrobenzene	MS	REC	89	%	78-120
OP12165-MS	606-20-2	2,6-Dinitrotoluene	MS	REC	262	%	77-127
OP12165-MS	121-14-2	2,4-Dinitrotoluene	MS	REC	95	%	78-120
OP12165-MS	35572-78-2	2-amino-4,6-Dinitrotoluene	MS	REC	104	%	79-120
OP12165-MS	19406-51-0	4-amino-2,6-Dinitrotoluene	MS	REC	128	%	76-125
OP12165-MS	98-95-3	Nitrobenzene	MS	REC	95	%	65-134
OP12165-MS	88-72-2	o-Nitrotoluene	MS	REC	97	%	70-127
OP12165-MS	99-08-1	m-Nitrotoluene	MS	REC	97	%	73-125
OP12165-MS	99-99-0	p-Nitrotoluene	MS	REC	98	%	71-127
OP12165-MS	479-45-8	Tetryl	MS	REC	34	%	64-128
OP12165-MS	99-35-4	1,3,5-Trinitrobenzene	MS	REC	74	%	73-125

* Sample used for QC is not from job FC28746

QC Evaluation: DOD QSM5.x Limits

Job Number: FC28746
Account: Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA
Collected: 10/20/25

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP12165-MS	118-96-7	2,4,6-Trinitrotoluene	MS	REC	117	%	71-123
OP12165-MS	55-63-0	Nitroglycerine	MS	REC	80	%	74-127
OP12165-MS	78-11-5	PETN	MS	REC	95	%	73-127
OP12165-MSD	2691-41-0	HMX	MSD	REC	86	%	65-135
OP12165-MSD	2691-41-0	HMX	MSD	RPD	7	%	20
OP12165-MSD	121-82-4	RDX	MSD	REC	92	%	68-130
OP12165-MSD	121-82-4	RDX	MSD	RPD	1	%	20
OP12165-MSD		DNX	MSD	REC	0 [a]	%	66-119
OP12165-MSD		DNX	MSD	RPD	0	%	20
OP12165-MSD		MNX	MSD	REC	0 [a]	%	57-132
OP12165-MSD		MNX	MSD	RPD	0	%	20
OP12165-MSD	618-87-1	3,5-Dinitroaniline	MSD	REC	98	%	71-117
OP12165-MSD	618-87-1	3,5-Dinitroaniline	MSD	RPD	1	%	20
OP12165-MSD	99-65-0	1,3-Dinitrobenzene	MSD	REC	91	%	78-120
OP12165-MSD	99-65-0	1,3-Dinitrobenzene	MSD	RPD	2	%	20
OP12165-MSD	606-20-2	2,6-Dinitrotoluene	MSD	REC	261	%	77-127
OP12165-MSD	606-20-2	2,6-Dinitrotoluene	MSD	RPD	0	%	20
OP12165-MSD	121-14-2	2,4-Dinitrotoluene	MSD	REC	105	%	78-120
OP12165-MSD	121-14-2	2,4-Dinitrotoluene	MSD	RPD	10	%	20
OP12165-MSD	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	REC	121	%	79-120
OP12165-MSD	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	RPD	13	%	20
OP12165-MSD	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	REC	111	%	76-125
OP12165-MSD	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	RPD	13	%	20
OP12165-MSD	98-95-3	Nitrobenzene	MSD	REC	94	%	65-134
OP12165-MSD	98-95-3	Nitrobenzene	MSD	RPD	1	%	20
OP12165-MSD	88-72-2	o-Nitrotoluene	MSD	REC	96	%	70-127
OP12165-MSD	88-72-2	o-Nitrotoluene	MSD	RPD	1	%	20
OP12165-MSD	99-08-1	m-Nitrotoluene	MSD	REC	101	%	73-125
OP12165-MSD	99-08-1	m-Nitrotoluene	MSD	RPD	4	%	20
OP12165-MSD	99-99-0	p-Nitrotoluene	MSD	REC	98	%	71-127
OP12165-MSD	99-99-0	p-Nitrotoluene	MSD	RPD	0	%	20
OP12165-MSD	479-45-8	Tetryl	MSD	REC	42	%	64-128
OP12165-MSD	479-45-8	Tetryl	MSD	RPD	22	%	20
OP12165-MSD	99-35-4	1,3,5-Trinitrobenzene	MSD	REC	88	%	73-125
OP12165-MSD	99-35-4	1,3,5-Trinitrobenzene	MSD	RPD	6	%	20
OP12165-MSD	118-96-7	2,4,6-Trinitrotoluene	MSD	REC	118	%	71-123
OP12165-MSD	118-96-7	2,4,6-Trinitrotoluene	MSD	RPD	1	%	20
OP12165-MSD	55-63-0	Nitroglycerine	MSD	REC	94	%	74-127
OP12165-MSD	55-63-0	Nitroglycerine	MSD	RPD	16	%	20
OP12165-MSD	78-11-5	PETN	MSD	REC	103	%	73-127
OP12165-MSD	78-11-5	PETN	MSD	RPD	9	%	20

(a) Compound not maintained in spike mix; standard is not available.

* Sample used for QC is not from job FC28746

MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Instrument Blank

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
SQ2495-IBLK	Q121402.D	1	10/29/25	AL	n/a	n/a	SQ2495

The QC reported here applies to the following samples: **Method:** SW846 6850

FC28746-1, FC28746-2, FC28746-3, FC28746-4, FC28746-5

CAS No.	Compound	Result	RL	MDL	Units	Q
14797-73-0	Perchlorate	ND	0.20	0.050	ug/l	

Method Blank Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP12286-MB	Q121358.D	1	10/29/25	AL	10/28/25	OP12286	SQ2495

The QC reported here applies to the following samples: **Method:** SW846 6850

FC28746-1, FC28746-2, FC28746-3, FC28746-4, FC28746-5

CAS No.	Compound	Result	RL	MDL	Units	Q
14797-73-0	Perchlorate	ND	0.20	0.050	ug/l	

Blank Spike Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP12286-BS	Q121357.D	1	10/29/25	AL	10/28/25	OP12286	SQ2495

The QC reported here applies to the following samples: **Method:** SW846 6850

FC28746-1, FC28746-2, FC28746-3, FC28746-4, FC28746-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
14797-73-0	Perchlorate	0.2	0.19	95	80-120

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP12286-MS2	Q121395.D	1	10/29/25	AL	10/28/25	OP12286	SQ2495
OP12286-MSD2	Q121396.D	1	10/29/25	AL	10/28/25	OP12286	SQ2495
FC28746-1	Q121394.D	1	10/29/25	AL	10/28/25	OP12286	SQ2495

The QC reported here applies to the following samples: **Method:** SW846 6850

FC28746-1, FC28746-2, FC28746-3, FC28746-4, FC28746-5

CAS No.	Compound	FC28746-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
14797-73-0	Perchlorate	0.30		0.2	0.50	100	0.2	0.48	90	4	80-120/15

* = Outside of Control Limits.

Internal Standard Area Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Check Std:	SQ2495-CC2495	**Injection Date:**	10/29/25
Lab File ID:	Q121355.D	**Injection Time:**	12:52
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	22154	4.75
Check Std [b]	22943	4.75
Upper Limit [c]	33231	6.75
Lower Limit [d]	11077	2.75

Lab Sample ID	IS 1 AREA	RT
OP12286-BS	22433	4.74
OP12286-MB	23338	4.74
FC28746-2	33115	4.46
FC28746-3	32983	4.46

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ2495-ICC2495 Q121348.D 10/29/25 12:04. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Internal Standard Area Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Check Std:	SQ2495-CC2495	**Injection Date:**	10/29/25
Lab File ID:	Q121391.D	**Injection Time:**	17:00
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	22154	4.75
Check Std [b]	20862	4.73
Upper Limit [c]	33231	6.73
Lower Limit [d]	11077	2.73

Lab Sample ID	IS 1 AREA	RT
FC28746-1	27999	4.48
OP12286-MS2	28737	4.48
OP12286-MSD2	28783	4.48
FC28746-4	28677	4.56
FC28746-5	28605	4.53

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ2495-ICC2495 Q121348.D 10/29/25 12:04. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Initial Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: SQ2495-ICC2495
Lab FileID: Q121348.D

Initial Calibration Report

Method Path	D:\MassHunter\Methods
Method File	6850_102925_SQ2495.quantmethod.xml
Batch Name	D:\MassHunter\Data\102925_6850_SQ2495\QuantResults\sq2495.batch.bin
Last Calib Update	10/30/2025 9:30:04 AM

Level Name	Calibration Files	Acq. Date-Time	Level Last Update Time
1	D:\MassHunter\Data\102925_6850_SQ2495\Q121345.d	10/29/2025 11:44:00 AM	10/30/2025 9:30:04 AM
2	D:\MassHunter\Data\102925_6850_SQ2495\Q121346.d	10/29/2025 11:50:49 AM	10/30/2025 9:30:04 AM
3	D:\MassHunter\Data\102925_6850_SQ2495\Q121347.d	10/29/2025 11:57:40 AM	10/30/2025 9:30:04 AM
4	D:\MassHunter\Data\102925_6850_SQ2495\Q121348.d	10/29/2025 12:04:29 PM	10/30/2025 9:30:04 AM
5	D:\MassHunter\Data\102925_6850_SQ2495\Q121349.d	10/29/2025 12:11:18 PM	10/30/2025 9:30:04 AM
6	D:\MassHunter\Data\102925_6850_SQ2495\Q121350.d	10/29/2025 12:18:09 PM	10/30/2025 9:30:04 AM
7	D:\MassHunter\Data\102925_6850_SQ2495\Q121351.d	10/29/2025 12:24:59 PM	10/30/2025 9:30:04 AM
8	D:\MassHunter\Data\102925_6850_SQ2495\Q121352.d	10/29/2025 12:31:50 PM	10/30/2025 9:30:04 AM

Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
I Cl18O4		---------- ISTD ----------									
T Perchlorate	Linear	1.7673	1.7842	1.9397	1.8105	1.8174	1.7540	1.9198	1.9743	1.8459	4.634

(RedFont and #) = Outlier Flag; (I) = Internal Standard; (T) = Target; (S) = Surrogate; (M) = Matrix Spike

Initial Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: SQ2495-ICC2495
Lab FileID: Q121348.D

Initial Calibration Report

Compounds with Curve fitting not using Avg Response Factor:

Compound	Curve Fit	Curve Fit Formula	Curve Fit R2
T Perchlorate	Linear	y = 1.955661 * x	0.999248

(RedFont and #) = Outlier Flag; (I) = Internal Standard; (T) = Target; (S) = Surrogate; (M) = Matrix Spike

Initial Calibration Verification

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: SQ2495-ICV2495
Lab FileID: Q121353.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\102925_6850_SQ2495\sq2495.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\102925_6850_SQ2495\Q121345.d
2:D:\MassHunter\Data\102925_6850_SQ2495\Q121346.d
3:D:\MassHunter\Data\102925_6850_SQ2495\Q121347.d
4:D:\MassHunter\Data\102925_6850_SQ2495\Q121348.d
5:D:\MassHunter\Data\102925_6850_SQ2495\Q121349.d
6:D:\MassHunter\Data\102925_6850_SQ2495\Q121350.d
7:D:\MassHunter\Data\102925_6850_SQ2495\Q121351.d
8:D:\MassHunter\Data\102925_6850_SQ2495\Q121352.d

Data File: Q121353
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.927	-3.7	96.3

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: SQ2495-CC2495
Lab FileID: Q121355.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\102925_6850_SQ2495\sq2495.batch.bin

Level ID:Calibration File
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2:D:\MassHunter\Data\102925_6850_SQ2495\Q121346.d
3:D:\MassHunter\Data\102925_6850_SQ2495\Q121347.d
4:D:\MassHunter\Data\102925_6850_SQ2495\Q121348.d
5:D:\MassHunter\Data\102925_6850_SQ2495\Q121349.d
6:D:\MassHunter\Data\102925_6850_SQ2495\Q121350.d
7:D:\MassHunter\Data\102925_6850_SQ2495\Q121351.d
8:D:\MassHunter\Data\102925_6850_SQ2495\Q121352.d

Data File: Q121355
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.868	-6.6	93.4

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: SQ2495-CC2495
Lab FileID: Q121356.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\102925_6850_SQ2495\sq2495.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\102925_6850_SQ2495\Q121345.d
2:D:\MassHunter\Data\102925_6850_SQ2495\Q121346.d
3:D:\MassHunter\Data\102925_6850_SQ2495\Q121347.d
4:D:\MassHunter\Data\102925_6850_SQ2495\Q121348.d
5:D:\MassHunter\Data\102925_6850_SQ2495\Q121349.d
6:D:\MassHunter\Data\102925_6850_SQ2495\Q121350.d
7:D:\MassHunter\Data\102925_6850_SQ2495\Q121351.d
8:D:\MassHunter\Data\102925_6850_SQ2495\Q121352.d

Data File: Q121356
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.173	-13.6	86.4

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: SQ2495-CC2495
Lab FileID: Q121366.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\102925_6850_SQ2495\sq2495.batch.bin

Level ID:Calibration File
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3:D:\MassHunter\Data\102925_6850_SQ2495\Q121347.d
4:D:\MassHunter\Data\102925_6850_SQ2495\Q121348.d
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7:D:\MassHunter\Data\102925_6850_SQ2495\Q121351.d
8:D:\MassHunter\Data\102925_6850_SQ2495\Q121352.d

Data File: Q121366
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.829	-8.5	91.5

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: SQ2495-CC2495
Lab FileID: Q121367.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\102925_6850_SQ2495\sq2495.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\102925_6850_SQ2495\Q121345.d
2:D:\MassHunter\Data\102925_6850_SQ2495\Q121346.d
3:D:\MassHunter\Data\102925_6850_SQ2495\Q121347.d
4:D:\MassHunter\Data\102925_6850_SQ2495\Q121348.d
5:D:\MassHunter\Data\102925_6850_SQ2495\Q121349.d
6:D:\MassHunter\Data\102925_6850_SQ2495\Q121350.d
7:D:\MassHunter\Data\102925_6850_SQ2495\Q121351.d
8:D:\MassHunter\Data\102925_6850_SQ2495\Q121352.d

Data File: Q121367
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.179	-10.3	89.7

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: SQ2495-CC2495
Lab FileID: Q121391.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\102925_6850_SQ2495\sq2495.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\102925_6850_SQ2495\Q121345.d
2:D:\MassHunter\Data\102925_6850_SQ2495\Q121346.d
3:D:\MassHunter\Data\102925_6850_SQ2495\Q121347.d
4:D:\MassHunter\Data\102925_6850_SQ2495\Q121348.d
5:D:\MassHunter\Data\102925_6850_SQ2495\Q121349.d
6:D:\MassHunter\Data\102925_6850_SQ2495\Q121350.d
7:D:\MassHunter\Data\102925_6850_SQ2495\Q121351.d
8:D:\MassHunter\Data\102925_6850_SQ2495\Q121352.d

Data File: Q121391
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.841	-8.0	92.0

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: SQ2495-CC2495
Lab FileID: Q121392.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\102925_6850_SQ2495\sq2495.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\102925_6850_SQ2495\Q121345.d
2:D:\MassHunter\Data\102925_6850_SQ2495\Q121346.d
3:D:\MassHunter\Data\102925_6850_SQ2495\Q121347.d
4:D:\MassHunter\Data\102925_6850_SQ2495\Q121348.d
5:D:\MassHunter\Data\102925_6850_SQ2495\Q121349.d
6:D:\MassHunter\Data\102925_6850_SQ2495\Q121350.d
7:D:\MassHunter\Data\102925_6850_SQ2495\Q121351.d
8:D:\MassHunter\Data\102925_6850_SQ2495\Q121352.d

Data File: Q121392
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.189	-5.3	94.7

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: SQ2495-CC2495
Lab FileID: Q121400.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\102925_6850_SQ2495\sq2495.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\102925_6850_SQ2495\Q121345.d
2:D:\MassHunter\Data\102925_6850_SQ2495\Q121346.d
3:D:\MassHunter\Data\102925_6850_SQ2495\Q121347.d
4:D:\MassHunter\Data\102925_6850_SQ2495\Q121348.d
5:D:\MassHunter\Data\102925_6850_SQ2495\Q121349.d
6:D:\MassHunter\Data\102925_6850_SQ2495\Q121350.d
7:D:\MassHunter\Data\102925_6850_SQ2495\Q121351.d
8:D:\MassHunter\Data\102925_6850_SQ2495\Q121352.d

Data File: Q121400
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.793	-10.4	89.6

CC Criteria: +/- 15%

Run Sequence Report

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Run ID: SQ2495	**Method:** SW846 6850	**Instrument ID:** GCMSQ

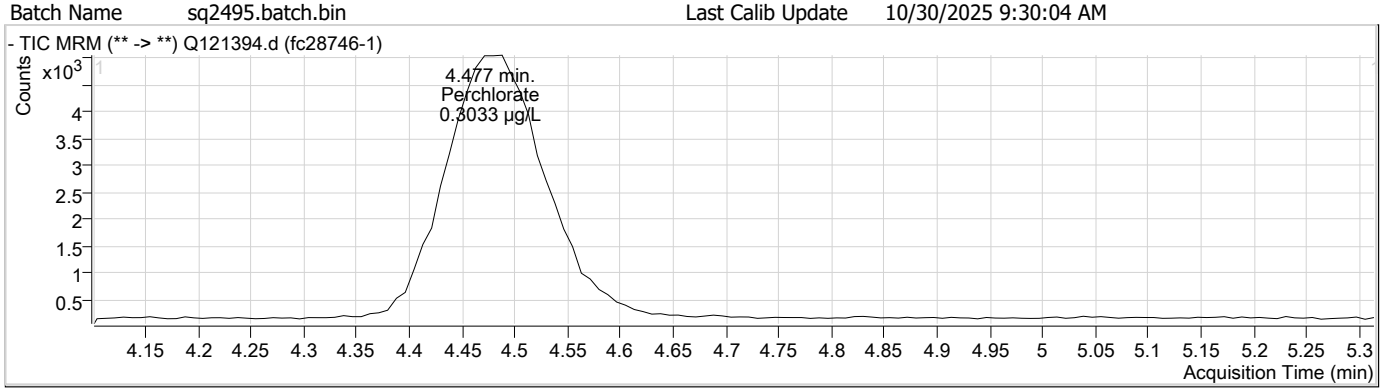
Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
SQ2495-IC2495	Q121344.D	10/29/25 11:37	n/a	Mass Calibration Verification
SQ2495-IC2495	Q121345.D	10/29/25 11:44	n/a	Initial cal 0.2
SQ2495-IC2495	Q121346.D	10/29/25 11:50	n/a	Initial cal 0.5
SQ2495-IC2495	Q121347.D	10/29/25 11:57	n/a	Initial cal 1
SQ2495-ICC2495	Q121348.D	10/29/25 12:04	n/a	Initial cal 2
SQ2495-IC2495	Q121349.D	10/29/25 12:11	n/a	Initial cal 5
SQ2495-IC2495	Q121350.D	10/29/25 12:18	n/a	Initial cal 10
SQ2495-IC2495	Q121351.D	10/29/25 12:24	n/a	Initial cal 25
SQ2495-IC2495	Q121352.D	10/29/25 12:31	n/a	Initial cal 50
SQ2495-ICV2495	Q121353.D	10/29/25 12:38	n/a	Initial cal verification 2
SQ2495-CC2495	Q121355.D	10/29/25 12:52	n/a	Continuing cal 2
SQ2495-CC2495	Q121356.D	10/29/25 12:59	n/a	Continuing cal 0.2
OP12286-BS	Q121357.D	10/29/25 13:05	OP12286	Blank Spike
OP12286-MB	Q121358.D	10/29/25 13:12	OP12286	Method Blank
FC28746-2	Q121362.D	10/29/25 13:40	OP12286	54MW10
FC28746-3	Q121363.D	10/29/25 13:47	OP12286	54TW10
SQ2495-CC2495	Q121366.D	10/29/25 14:07	n/a	Continuing cal 2
SQ2495-CC2495	Q121367.D	10/29/25 14:15	n/a	Continuing cal 0.2
ZZZZZZ	Q121373.D	10/29/25 14:56	OP12286	(unrelated sample)
ZZZZZZ	Q121374.D	10/29/25 15:03	OP12286	(unrelated sample)
ZZZZZZ	Q121376.D	10/29/25 15:17	OP12286	(unrelated sample)
ZZZZZZ	Q121377.D	10/29/25 15:23	OP12286	(unrelated sample)
SQ2495-CC2495	Q121378.D	10/29/25 15:30	n/a	Continuing cal 2
SQ2495-CC2495	Q121379.D	10/29/25 15:37	n/a	Continuing cal 0.2
OP12287-BS	Q121381.D	10/29/25 15:51	OP12287	Blank Spike
OP12287-MB	Q121382.D	10/29/25 15:58	OP12287	Method Blank
FC28868-1	Q121383.D	10/29/25 16:05	OP12287	(used for QC only; not part of job FC28746)
OP12287-MS	Q121384.D	10/29/25 16:12	OP12287	Matrix Spike
OP12287-MSD	Q121385.D	10/29/25 16:18	OP12287	Matrix Spike Duplicate
ZZZZZZ	Q121386.D	10/29/25 16:25	OP12287	(unrelated sample)
ZZZZZZ	Q121387.D	10/29/25 16:32	OP12287	(unrelated sample)
ZZZZZZ	Q121388.D	10/29/25 16:39	OP12287	(unrelated sample)
SQ2495-CC2495	Q121391.D	10/29/25 17:00	n/a	Continuing cal 2
SQ2495-CC2495	Q121392.D	10/29/25 17:06	n/a	Continuing cal 0.2
FC28746-1	Q121394.D	10/29/25 17:20	OP12286	54MW13
OP12286-MS2	Q121395.D	10/29/25 17:27	OP12286	Matrix Spike
OP12286-MSD2	Q121396.D	10/29/25 17:34	OP12286	Matrix Spike Duplicate
FC28746-4	Q121397.D	10/29/25 17:41	OP12286	54MW12
FC28746-5	Q121398.D	10/29/25 17:47	OP12286	54MW1
SQ2495-CC2495	Q121400.D	10/29/25 18:01	n/a	Continuing cal 2
SQ2495-ECC2495	Q121401.D	10/29/25 18:08	n/a	Ending cal 0.2
SQ2495-IBLK	Q121402.D	10/29/25 18:15	n/a	Instrument Blank

MS Semi-volatiles

Raw Data

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121394.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 5:20:34 PM
Sample Name	fc28746-1	Instrument	Instrument 1
Vial	P1-A4	Sample Information	OP12286,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

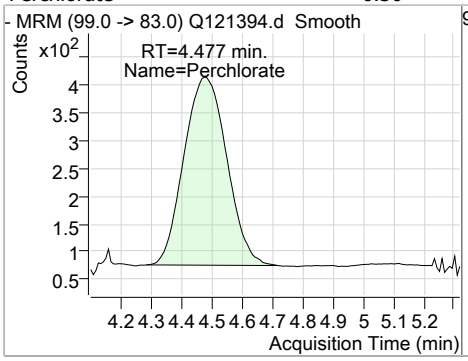


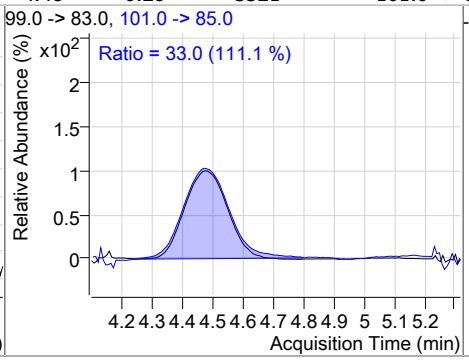
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.480	107.0 -> 89.0	27999	NoQ	5.00 µg/L	-0.275
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.477	99.0 -> 83.0	3321	3.0	0.30 µg/L	94

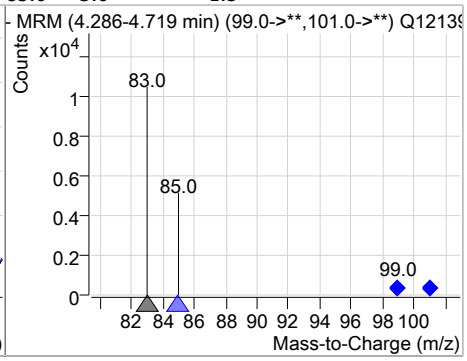
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.30	4.48	-0.28	3321	101.0 -> 85.0	3.0	1.5	

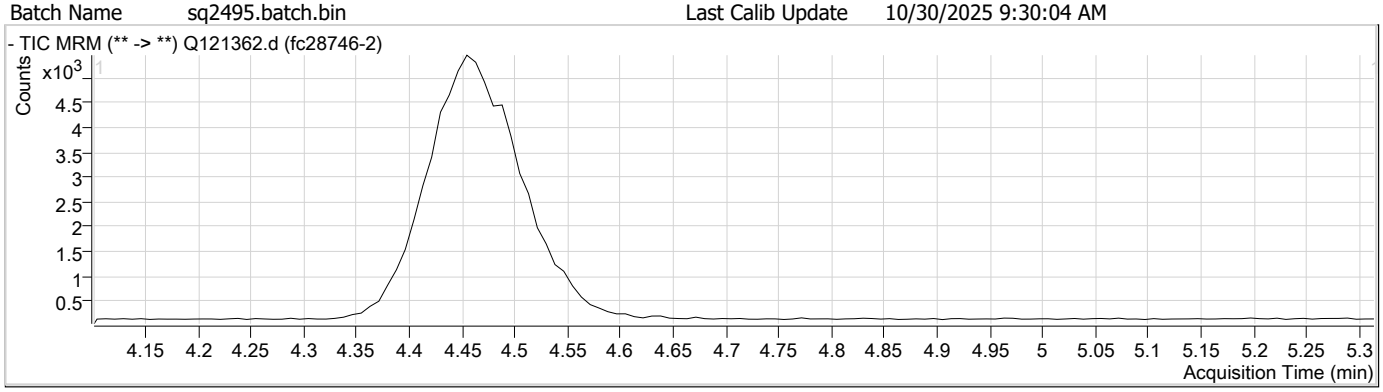






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121362.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 1:40:15 PM
Sample Name	fc28746-2	Instrument	Instrument 1
Vial	P1-A7	Sample Information	OP12286,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

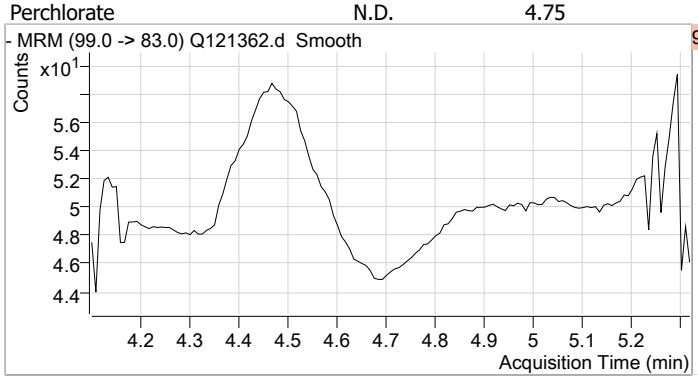


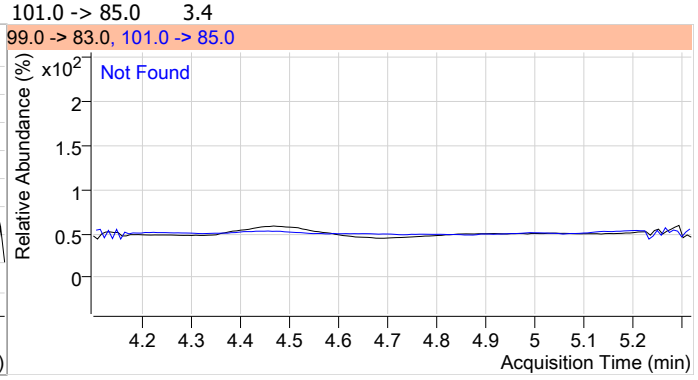
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.455	107.0 -> 89.0	33115	NoQ	5.00	µg/L	-0.300
System Monitoring Compounds							
Target Compounds							**QValue**
Perchlorate	-	99.0 -> 83.0		-	N.D.		

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

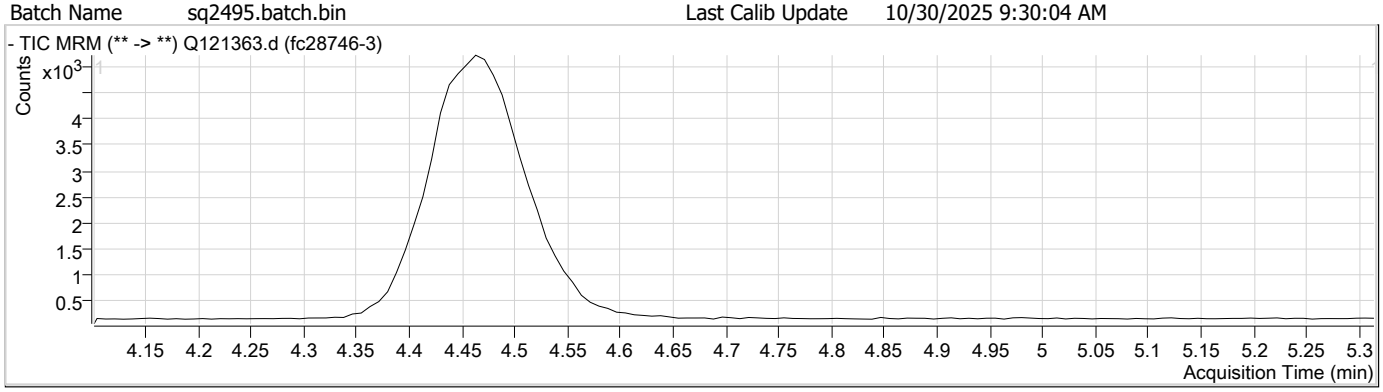
Compound	Conc.	Exp RT	QIon	Exp Ratio
Perchlorate	N.D.	4.75	101.0 -> 85.0	3.4





Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121363.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 1:47:07 PM
Sample Name	fc28746-3	Instrument	Instrument 1
Vial	P1-A8	Sample Information	OP12286,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

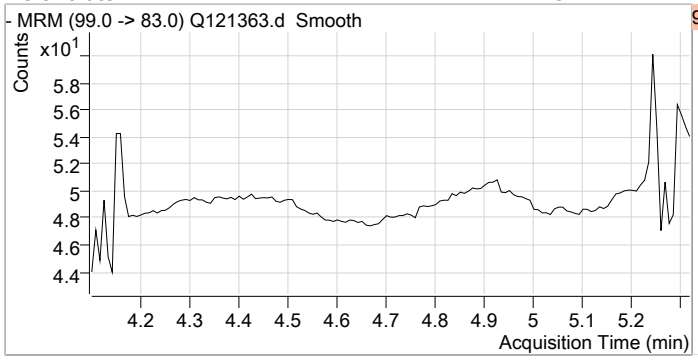


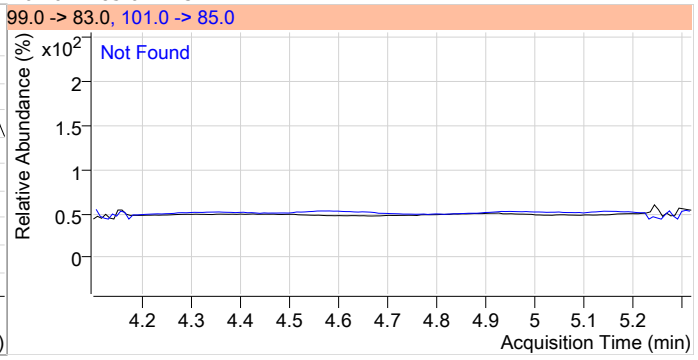
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.463	107.0 -> 89.0	32983	NoQ	5.00	µg/L	-0.292
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	-	99.0 -> 83.0		-	N.D.		

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

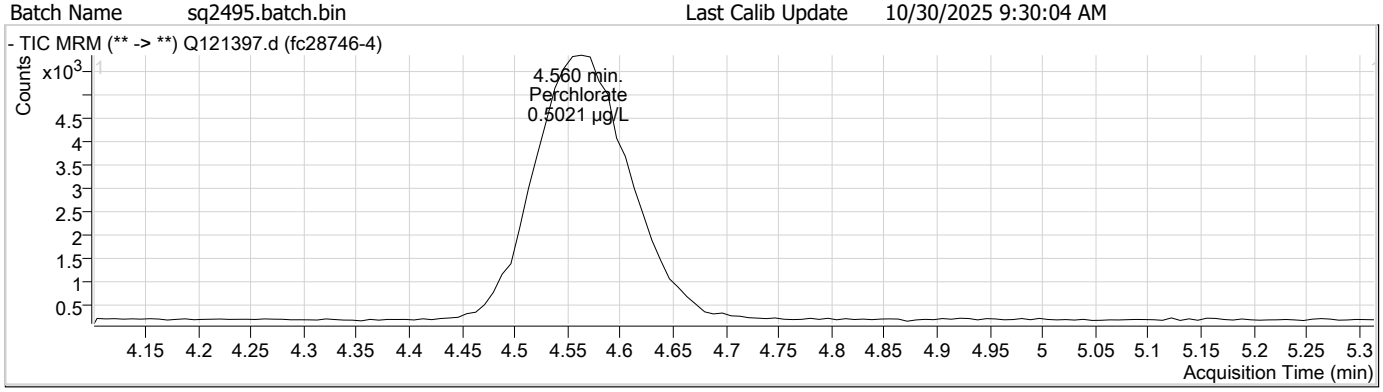
Compound	Conc.	Exp RT	QIon	Exp Ratio
Perchlorate	N.D.	4.75	101.0 -> 85.0	3.4





Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121397.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 5:41:04 PM
Sample Name	fc28746-4	Instrument	Instrument 1
Vial	P1-A9	Sample Information	OP12286,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

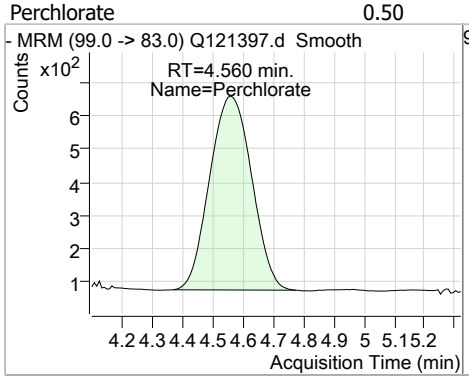


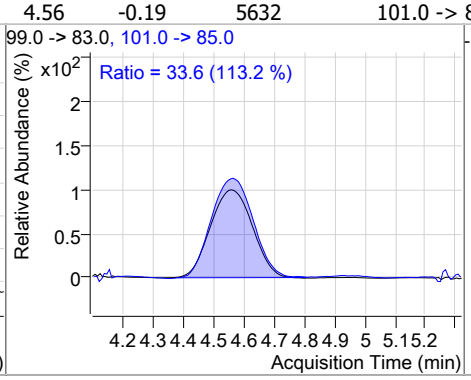
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.563	107.0 -> 89.0	28677	NoQ	5.00 µg/L	-0.192
System Monitoring Compounds						
Target Compounds						QValue
Perchlorate	4.560	99.0 -> 83.0	5632	3.0	0.50 µg/L	93

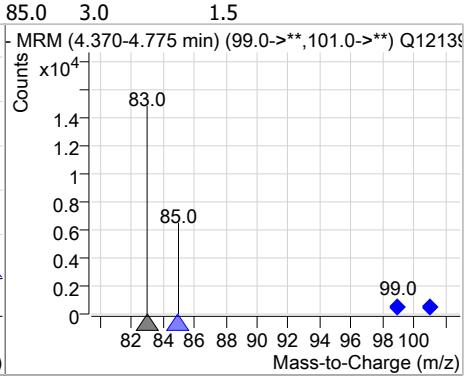
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.50	4.56	-0.19	5632	101.0 -> 85.0	3.0	1.5	

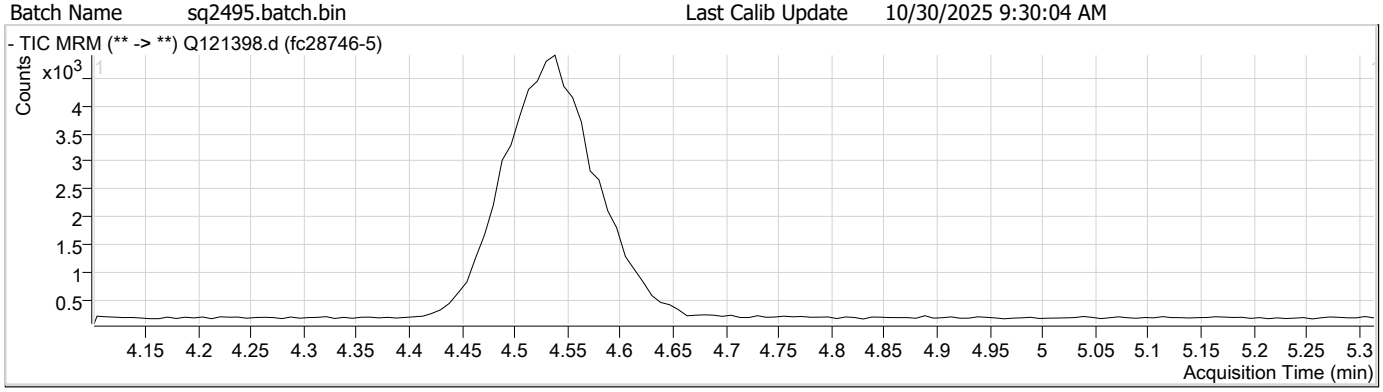






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121398.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 5:47:55 PM
Sample Name	fc28746-5	Instrument	Instrument 1
Vial	P1-B1	Sample Information	OP12286,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

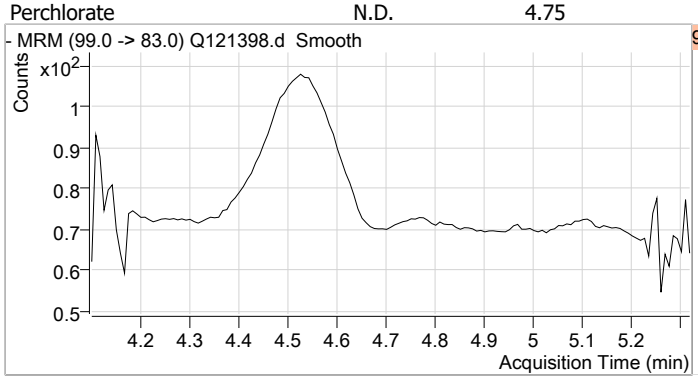


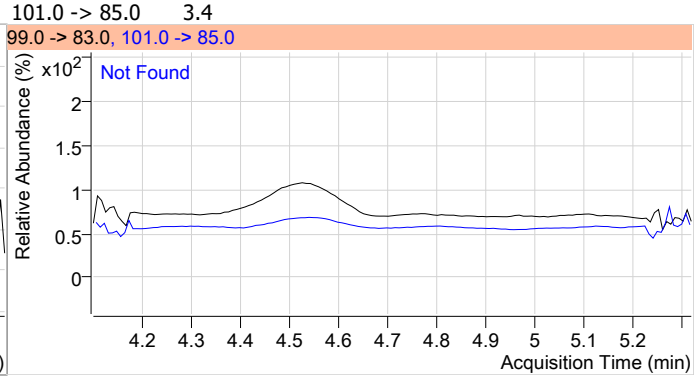
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.530	107.0 -> 89.0	28605	NoQ	5.00	µg/L	-0.225
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	-	99.0 -> 83.0		-	N.D.		

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

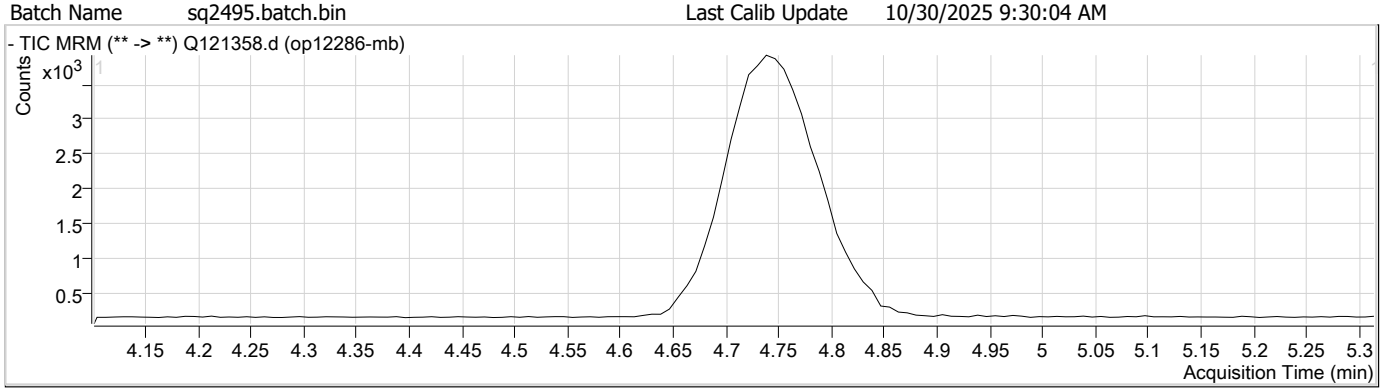
Compound	Conc.	Exp RT	QIon	Exp Ratio
Perchlorate	N.D.	4.75	101.0 -> 85.0	3.4





Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121358.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 1:12:49 PM
Sample Name	op12286-mb	Instrument	Instrument 1
Vial	P1-A3	Sample Information	OP12286,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

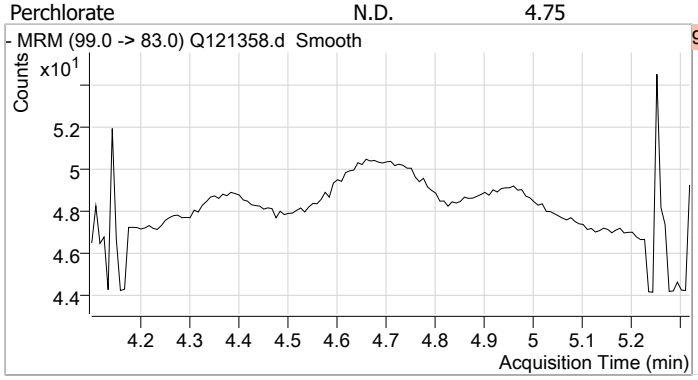


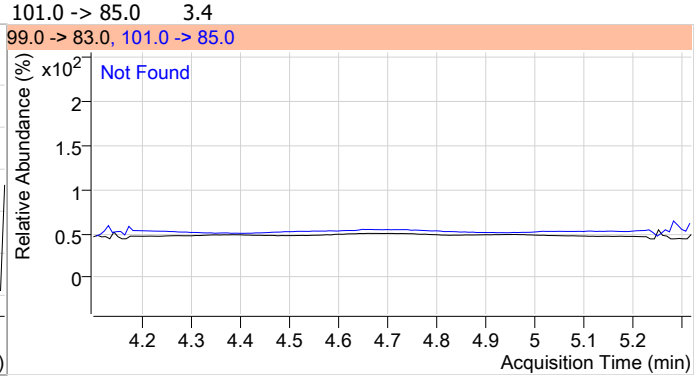
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.738	107.0 -> 89.0	23338	NoQ	5.00 µg/L	-0.017
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	-	99.0 -> 83.0		-	N.D.	

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

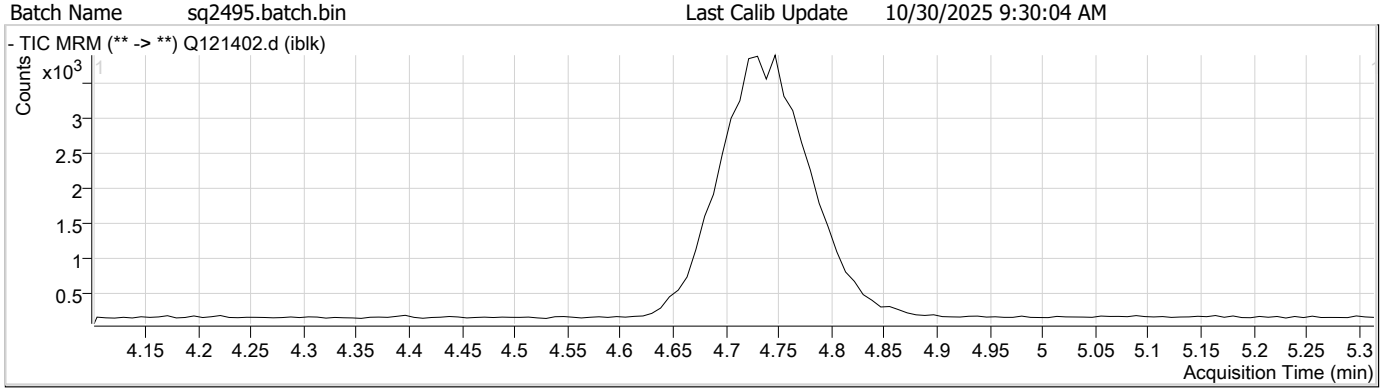
Compound	Conc.	Exp RT	QIon	Exp Ratio
Perchlorate	N.D.	4.75	101.0 -> 85.0	3.4





Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121402.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 6:15:16 PM
Sample Name	iblk	Instrument	Instrument 1
Vial	Vial 1	Sample Information	OP12013,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

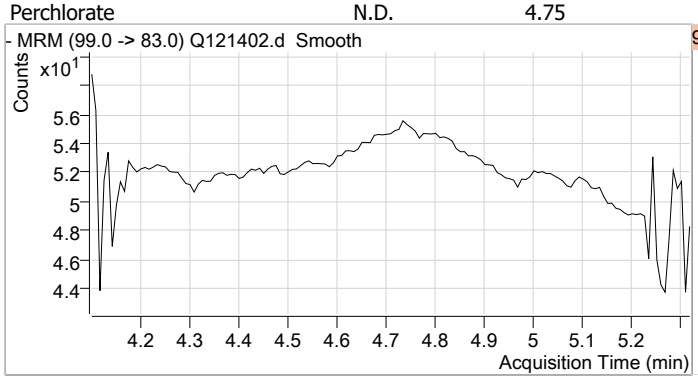


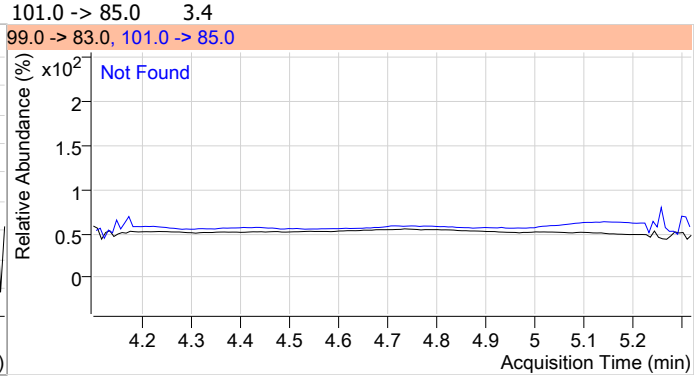
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.738	107.0 -> 89.0	22644	NoQ	5.00 µg/L	-0.017
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	-	99.0 -> 83.0		-	N.D.	

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

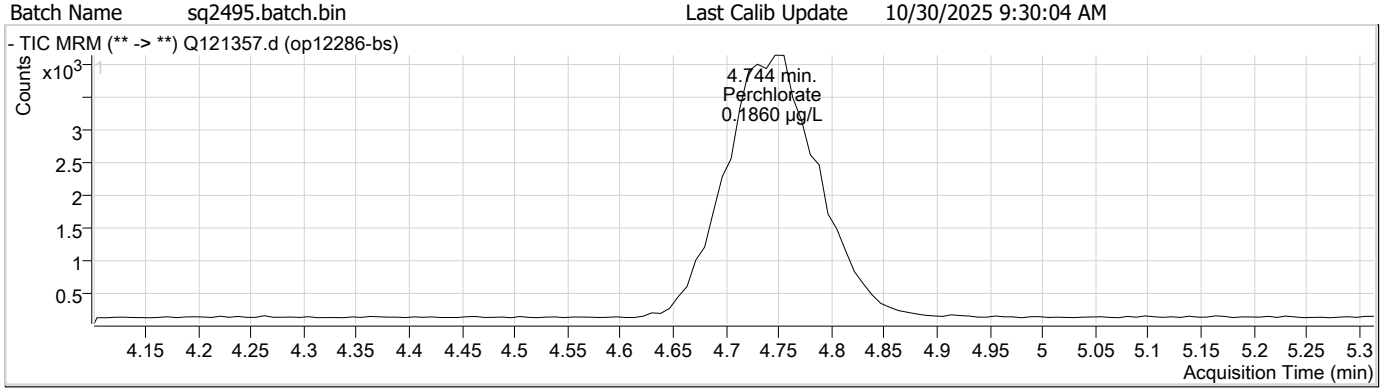
Compound	Conc.	Exp RT	QIon	Exp Ratio
Perchlorate	N.D.	4.75	101.0 -> 85.0	3.4





Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121357.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 1:05:59 PM
Sample Name	op12286-bs	Instrument	Instrument 1
Vial	P1-A2	Sample Information	OP12286,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

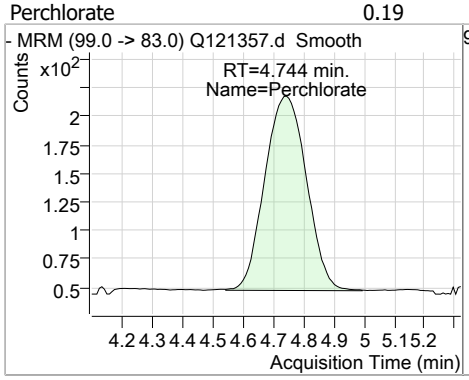


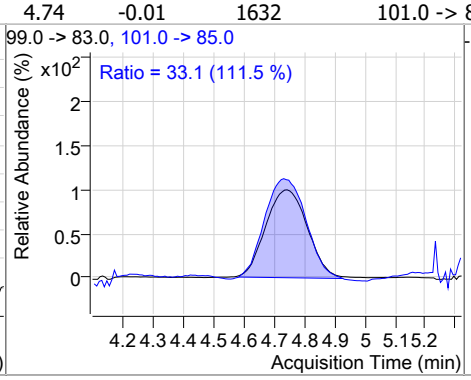
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.738	107.0 -> 89.0	22433	NoQ	5.00 µg/L	-0.017
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.744	99.0 -> 83.0	1632	3.0	0.19 µg/L	94

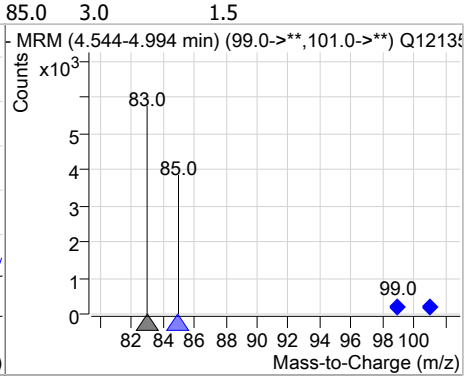
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.19	4.74	-0.01	1632	101.0 -> 85.0	3.0	1.5	

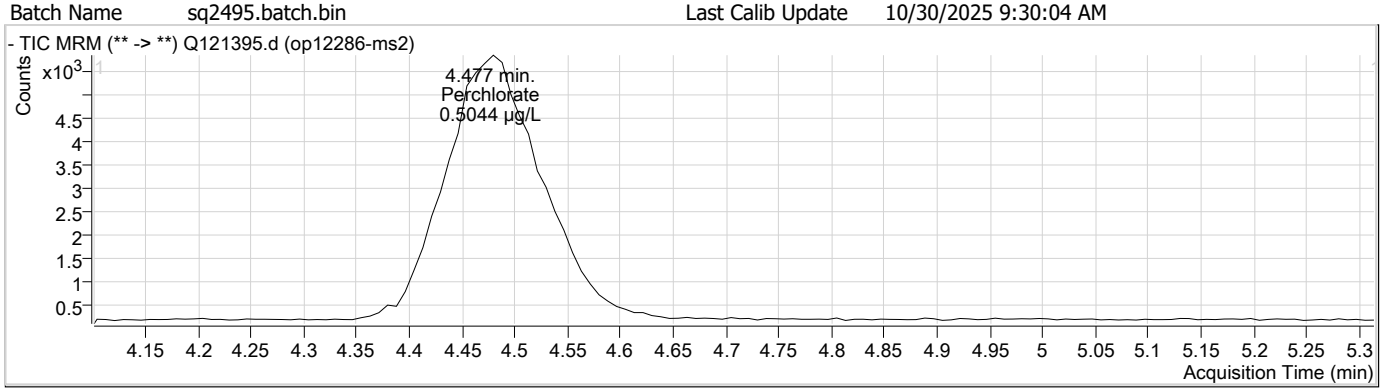






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121395.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 5:27:24 PM
Sample Name	op12286-ms2	Instrument	Instrument 1
Vial	P1-A5	Sample Information	OP12286,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

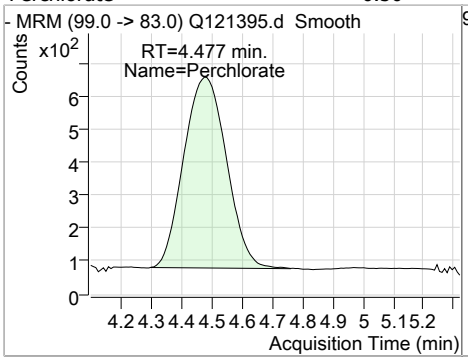


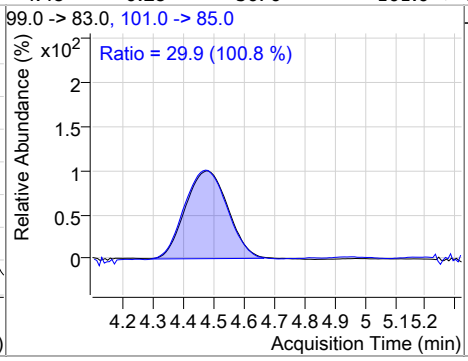
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.480	107.0 -> 89.0	28737	NoQ	5.00 µg/L	-0.275
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.477	99.0 -> 83.0	5670	3.3	0.50 µg/L	100

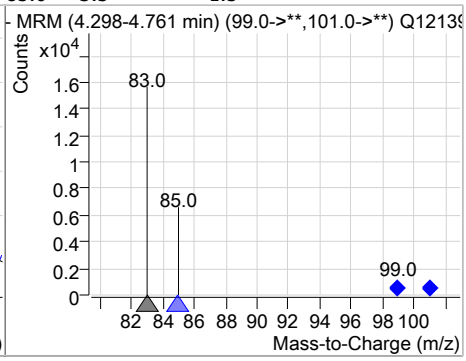
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.50	4.48	-0.28	5670	101.0 -> 85.0	3.3	1.5	

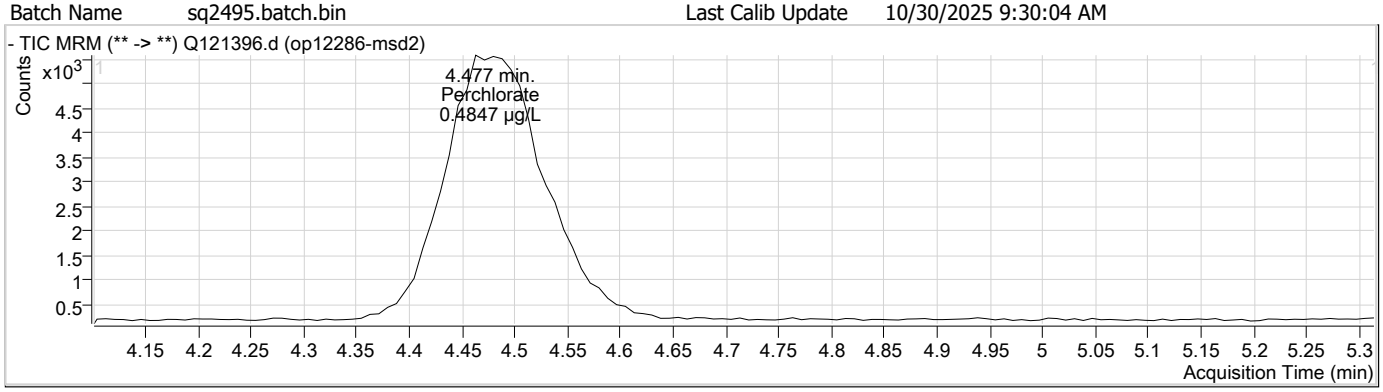






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121396.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 5:34:15 PM
Sample Name	op12286-msd2	Instrument	Instrument 1
Vial	P1-A6	Sample Information	OP12286,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

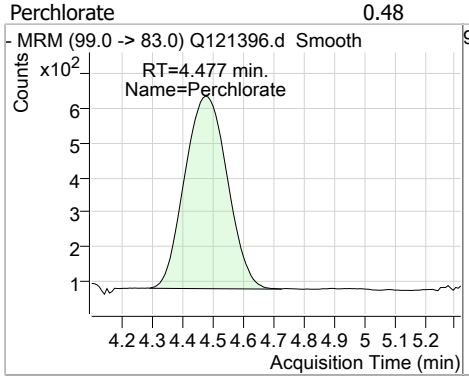


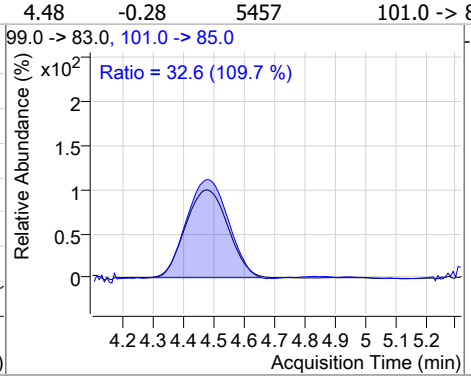
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.480	107.0 -> 89.0	28783	NoQ	5.00 µg/L	-0.275
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.477	99.0 -> 83.0	5457	3.1	0.48 µg/L	95

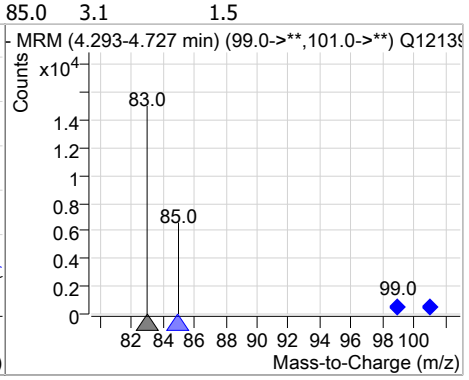
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.48	4.48	-0.28	5457	101.0 -> 85.0	3.1	1.5	







QQQ Check Tune Report

Agilent Technologies

Instrument Name	Instrument 1
MS Model	G6460A
MS Instrument Serial	SG10447001
Software_Firmware Version	B.08.02.B8260.0, FW: A.00.08.62
Tune Date & Time	21 October 2025 10:47:01
Data Path	D:\MassHunter\Tune\QQQ\G6460A\atunes.TUNE.XML
Ion Source	AJS ESI
Ionization Mode	AJS ESI
Tuned Resolution	All
Vacuum Pressure	1.61E+0[R]; 1.70E-5[H]

Source Parameters

Parameter	Value
Gas Temp	300
Gas Flow	10
Nebulizer	15
Capillary	4000
Nozzle Voltage	1500
Sheath Gas Temp	250
Sheath Gas Flow	7

QQQ Check Tune Report

Agilent Technologies

Negative Results

Analyzer: MS1 Polarity: Negative Width: Unit

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.91	-0.08	Pass	0.70	0.69	-0.01	Pass	52844
302.00	301.98	-0.02	Pass	0.70	0.71	0.01	Pass	35901
601.98	601.96	-0.02	Pass	0.70	0.75	0.05	Pass	91121
1033.99	1033.94	-0.05	Pass	0.70	0.74	0.04	Pass	124512
1633.95	1633.92	-0.03	Pass	0.70	0.75	0.05	Pass	188048
2233.91	2233.82	-0.09	Pass	0.70	0.77	0.07	Pass	33818

Analyzer: MS2 Polarity: Negative Width: Unit

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	69.05	0.05	Pass	0.70	0.61	-0.09	Pass	17525
112.99	112.97	-0.02	Pass	0.70	0.62	-0.08	Pass	127722
302.00	301.98	-0.02	Pass	0.70	0.73	0.03	Pass	72396
601.98	601.99	0.01	Pass	0.70	0.71	0.01	Pass	228144
1033.99	1033.99	0.00	Pass	0.70	0.70	0.00	Pass	346212
1633.95	1633.93	-0.02	Pass	0.70	0.67	-0.03	Pass	595981
2233.91	2233.95	0.04	Pass	0.70	0.66	-0.04	Pass	129262

Analyzer: MS1 Polarity: Negative Width: Wide

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.85	-0.14	Pass	1.20	1.11	-0.09	Pass	73359
302.00	301.92	-0.08	Pass	1.20	1.30	0.10	Pass	49059
601.98	601.84	-0.14	Pass	1.20	1.31	0.11	Pass	136002
1033.99	1033.89	-0.10	Pass	1.20	1.36	0.16	Pass	217364
1633.95	1633.84	-0.11	Pass	1.20	1.28	0.08	Pass	423848
2233.91	2233.86	-0.05	Pass	1.20	1.21	0.01	Pass	181272

Analyzer: MS2 Polarity: Negative Width: Wide

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	69.07	0.07	Pass	1.20	1.05	-0.15	Pass	23420
112.99	112.99	0.00	Pass	1.20	1.12	-0.08	Pass	151981
302.00	301.92	-0.08	Pass	1.20	1.25	0.05	Pass	105962
601.98	601.91	-0.07	Pass	1.20	1.18	-0.02	Pass	320349
1033.99	1033.92	-0.07	Pass	1.20	0.96	-0.24	Pass	533943
1633.95	1633.94	-0.01	Pass	1.20	1.00	-0.20	Pass	1315086
2233.91	2233.91	0.00	Pass	1.20	1.11	-0.09	Pass	932625

Analyzer: MS1 Polarity: Negative Width: Widest

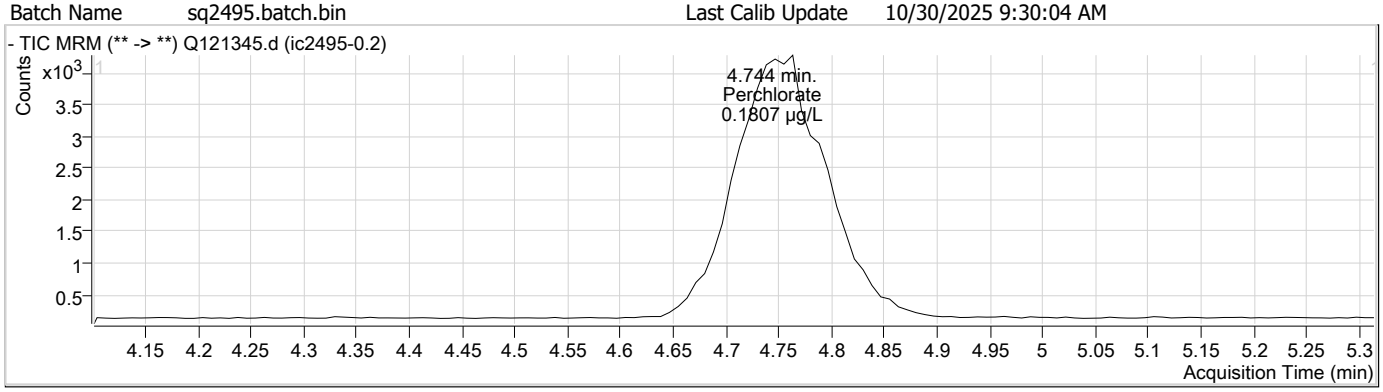
m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.77	-0.22	Pass	2.50	2.44	-0.06	Pass	92012
302.00	301.92	-0.08	Pass	2.50	2.65	0.15	Pass	60382
601.98	601.84	-0.14	Pass	2.50	2.70	0.20	Pass	190901
1033.99	1033.85	-0.14	Pass	2.50	2.71	0.21	Pass	369927
1633.95	1633.80	-0.15	Pass	2.50	2.75	0.25	Pass	865738
2233.91	2233.74	-0.17	Pass	2.50	2.71	0.21	Pass	496382

Analyzer: MS2 Polarity: Negative Width: Widest

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	69.04	0.04	Pass	2.50	2.37	-0.13	Pass	26850
112.99	112.97	-0.02	Pass	2.50	2.49	-0.01	Pass	160824
302.00	301.92	-0.08	Pass	2.50	2.59	0.09	Pass	125631
601.98	601.91	-0.07	Pass	2.50	2.60	0.10	Pass	442188
1033.99	1033.95	-0.04	Pass	2.50	2.27	-0.23	Pass	1091042
1633.95	1633.92	-0.03	Pass	2.50	2.36	-0.14	Pass	3609076
2233.91	2233.85	-0.06	Pass	2.50	2.53	0.03	Pass	2835996

Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121345.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 11:44:00 AM
Sample Name	ic2495-0.2	Instrument	Instrument 1
Vial	Vial 2	Sample Information	OP12013,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

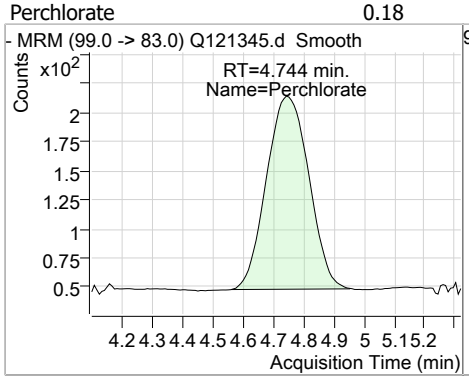


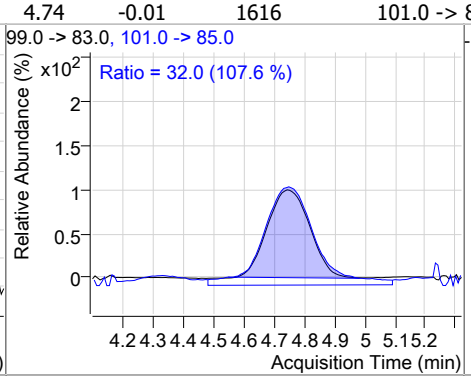
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.747	107.0 -> 89.0	22861	NoQ	5.00 µg/L	-0.008
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.744	99.0 -> 83.0	1616	3.1	0.18 µg/L	96

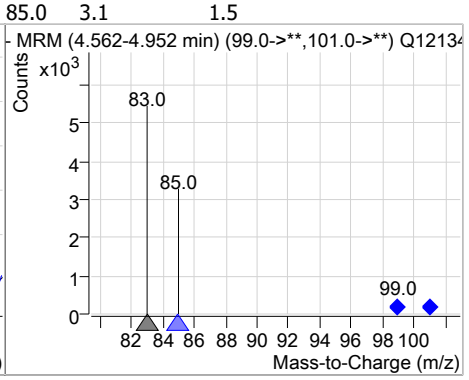
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.18	4.74	-0.01	1616	101.0 -> 85.0	3.1	1.5	

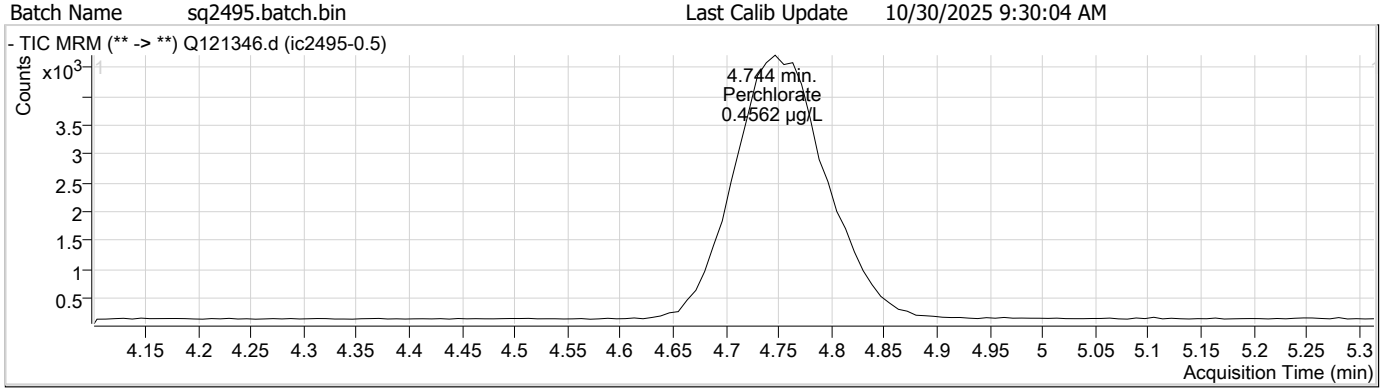






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121346.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 11:50:49 AM
Sample Name	ic2495-0.5	Instrument	Instrument 1
Vial	Vial 3	Sample Information	OP12013,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

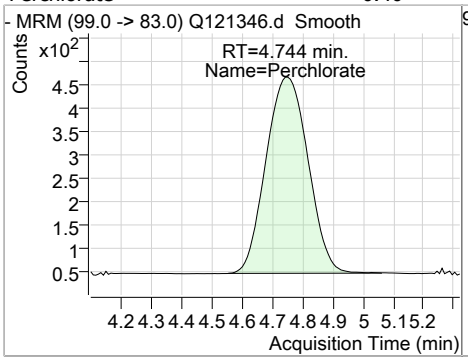


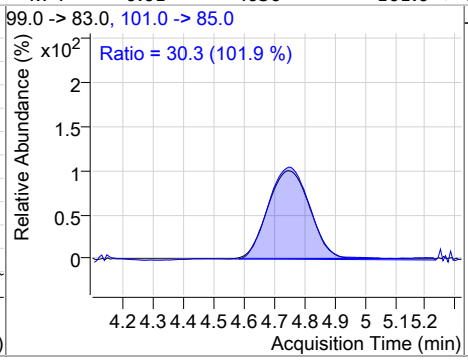
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.747	107.0 -> 89.0	22699	NoQ	5.00 µg/L	-0.008
System Monitoring Compounds						
Target Compounds						QValue
Perchlorate	4.744	99.0 -> 83.0	4050	3.3	0.46 µg/L	99

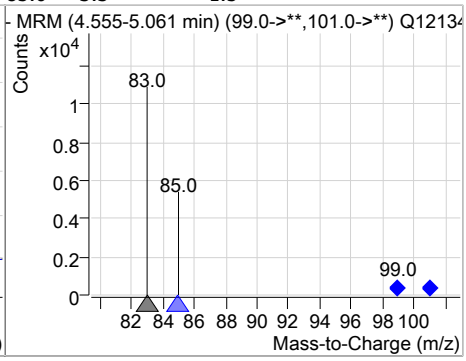
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.46	4.74	-0.01	4050	101.0 -> 85.0	3.3	1.5	

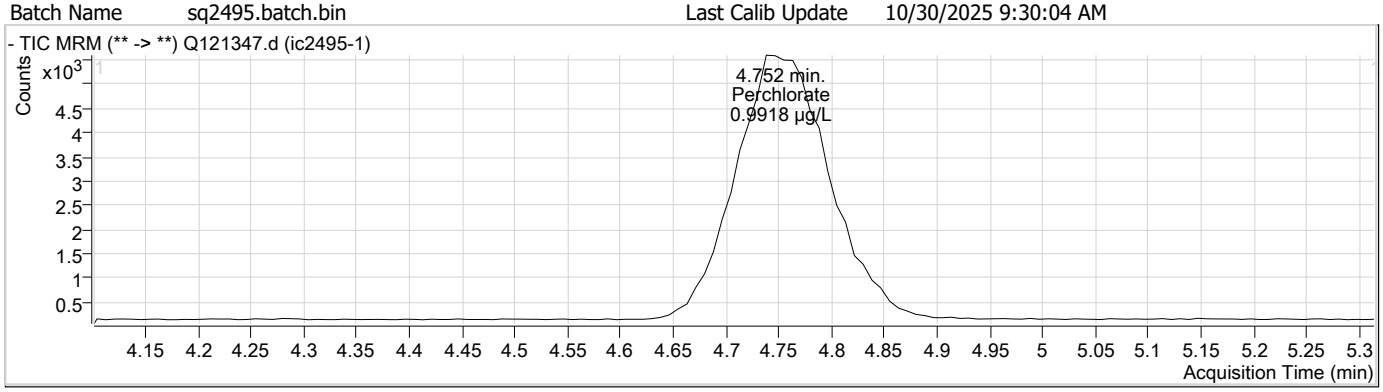






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121347.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 11:57:40 AM
Sample Name	ic2495-1	Instrument	Instrument 1
Vial	Vial 4	Sample Information	OP12013,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

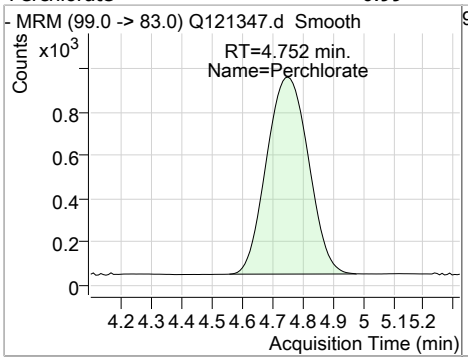


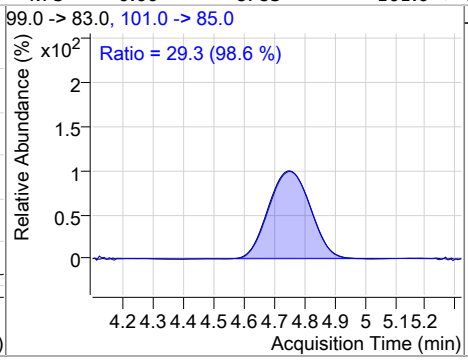
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.755	107.0 -> 89.0	22645	NoQ	5.00 µg/L	0.000
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.752	99.0 -> 83.0	8785	3.4	0.99 µg/L	99

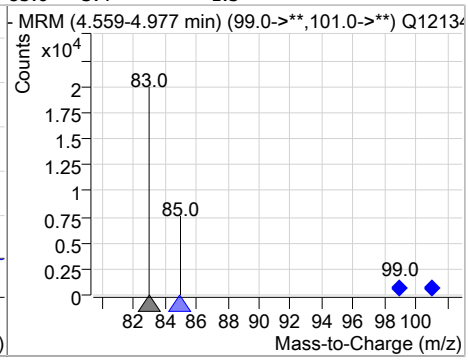
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.99	4.75	0.00	8785	101.0 -> 85.0	3.4	1.5	

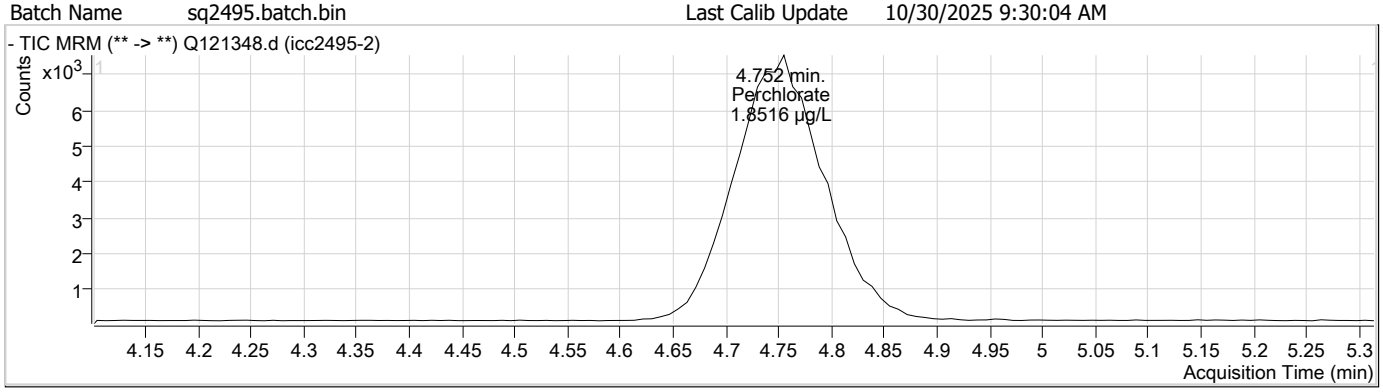






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121348.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 12:04:29 PM
Sample Name	icc2495-2	Instrument	Instrument 1
Vial	Vial 5	Sample Information	OP12013,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

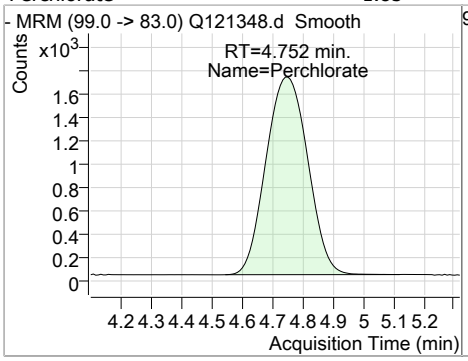


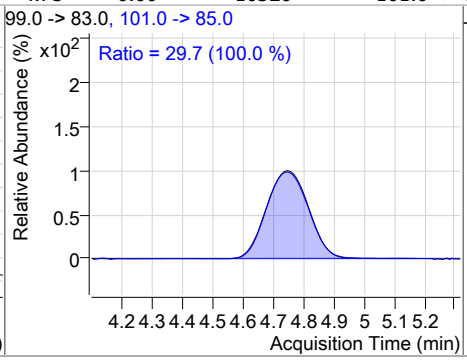
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.755	107.0 -> 89.0	22544	NoQ	5.00 µg/L	0.000
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.752	99.0 -> 83.0	16326	3.4	1.85 µg/L	100

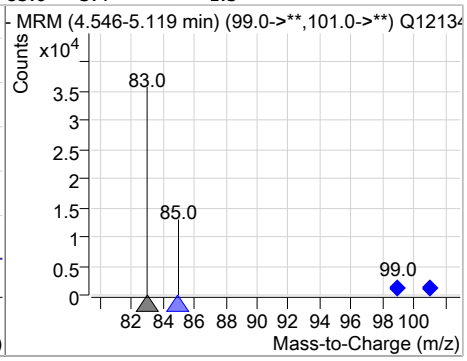
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	1.85	4.75	0.00	16326	101.0 -> 85.0	3.4	1.5	

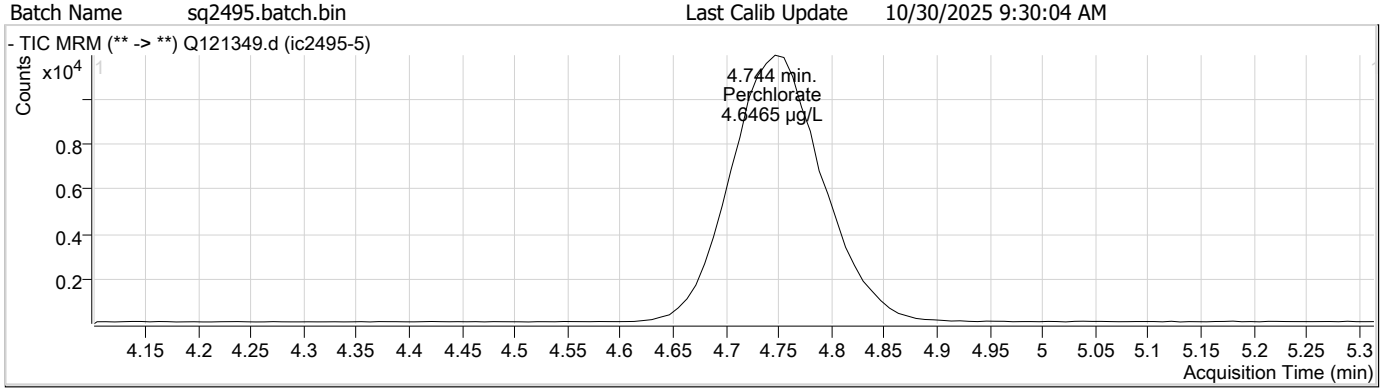






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121349.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 12:11:18 PM
Sample Name	ic2495-5	Instrument	Instrument 1
Vial	Vial 6	Sample Information	OP12013,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

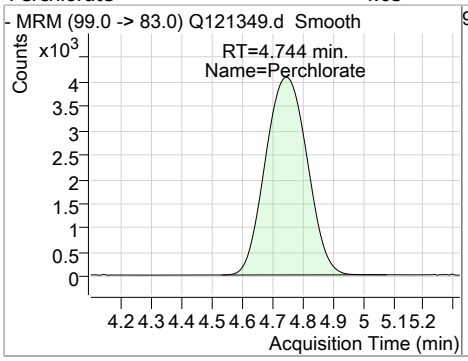


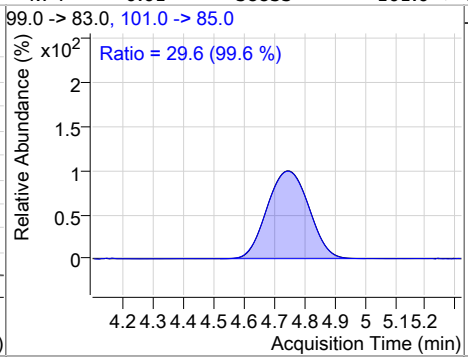
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.747	107.0 -> 89.0	21367	NoQ	5.00	µg/L	-0.008
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	4.744	99.0 -> 83.0	38833	3.4	4.65	µg/L	100

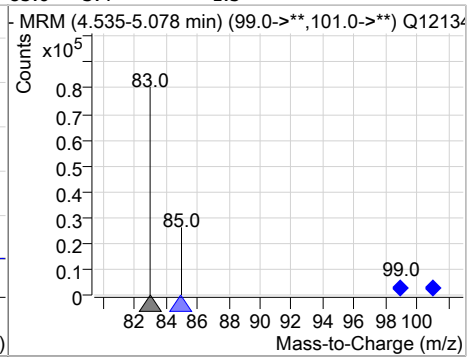
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	4.65	4.74	-0.01	38833	101.0 -> 85.0	3.4	1.5	

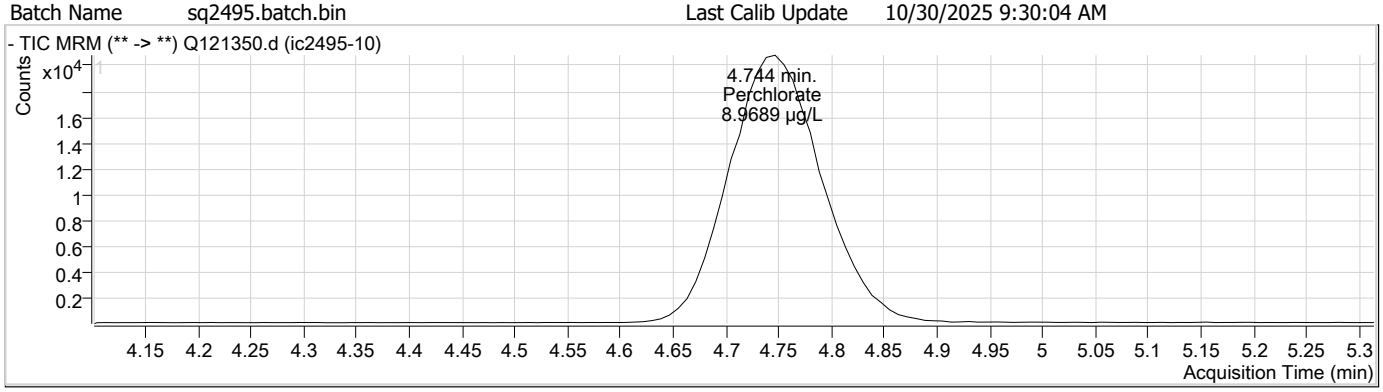






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121350.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 12:18:09 PM
Sample Name	ic2495-10	Instrument	Instrument 1
Vial	Vial 7	Sample Information	OP12013,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

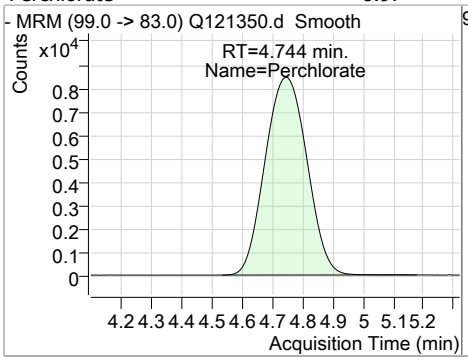


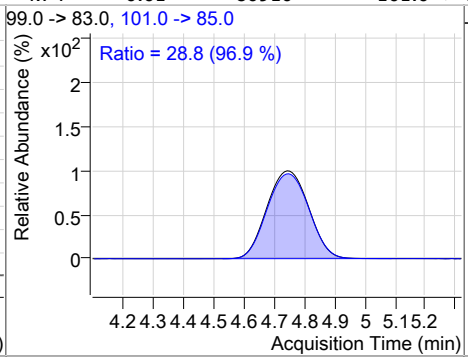
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.747	107.0 -> 89.0	23064	NoQ	5.00 µg/L	-0.008
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.744	99.0 -> 83.0	80910	3.5	8.97 µg/L	98

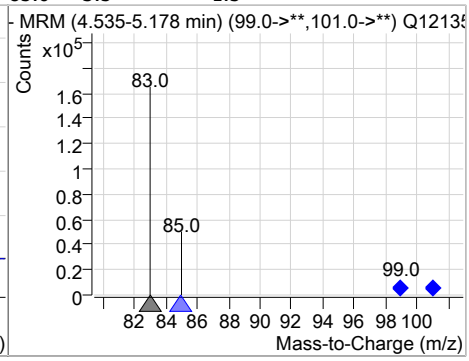
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	8.97	4.74	-0.01	80910	101.0 -> 85.0	3.5	1.5	

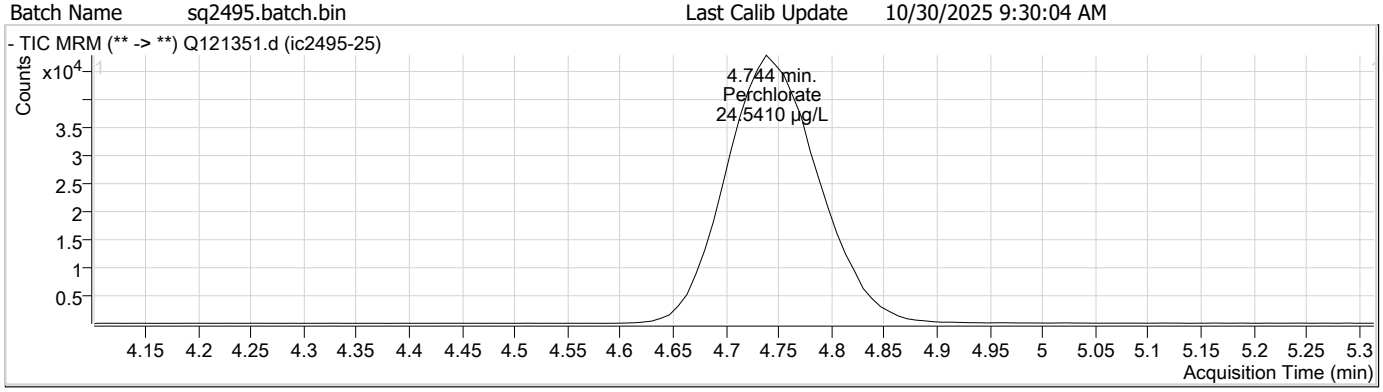






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121351.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 12:24:59 PM
Sample Name	ic2495-25	Instrument	Instrument 1
Vial	Vial 8	Sample Information	OP12013,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

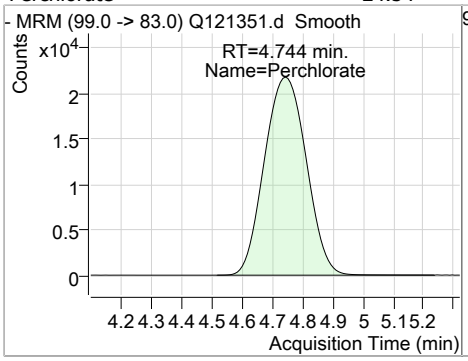


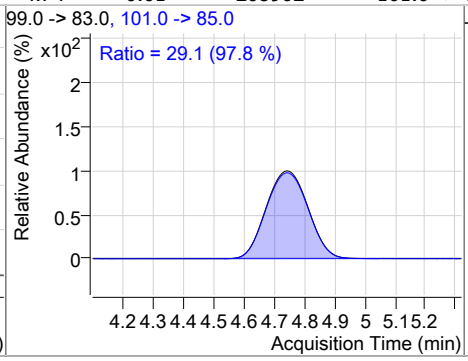
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.747	107.0 -> 89.0	21770	NoQ	5.00 µg/L	-0.008
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.744	99.0 -> 83.0	208962	3.4	24.54 µg/L	99

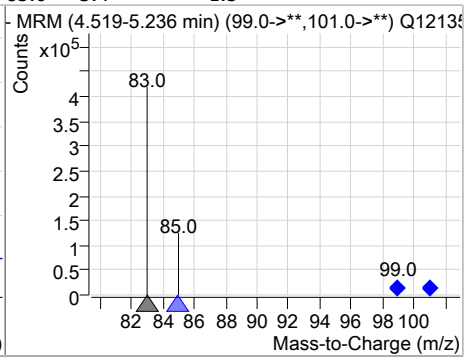
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	24.54	4.74	-0.01	208962	101.0 -> 85.0	3.4	1.5	

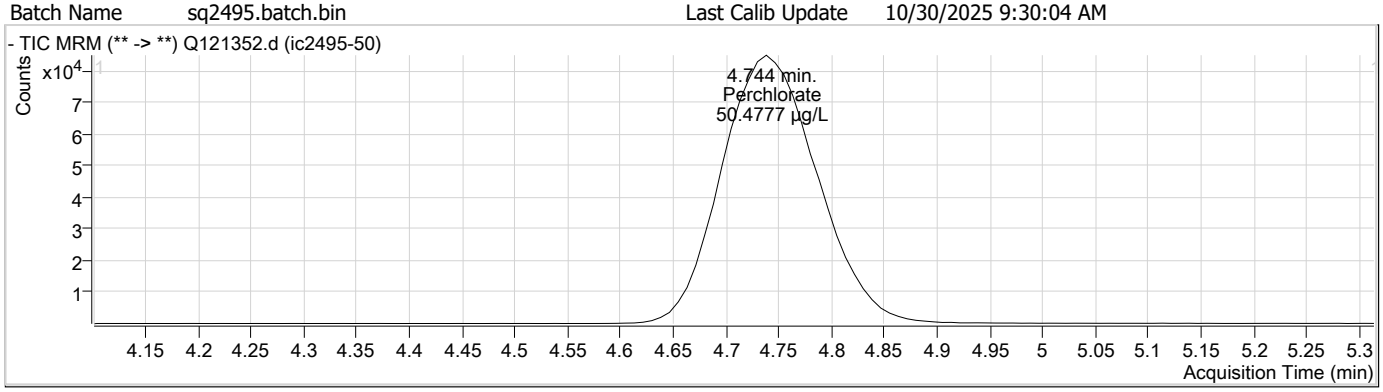






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121352.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 12:31:50 PM
Sample Name	ic2495-50	Instrument	Instrument 1
Vial	Vial 9	Sample Information	OP12013,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

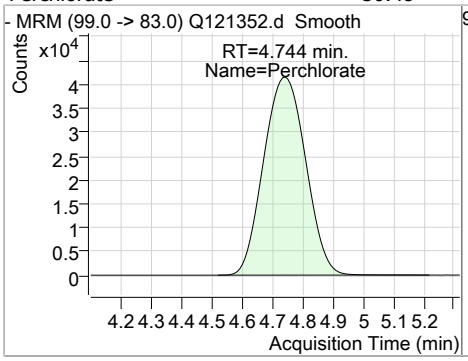


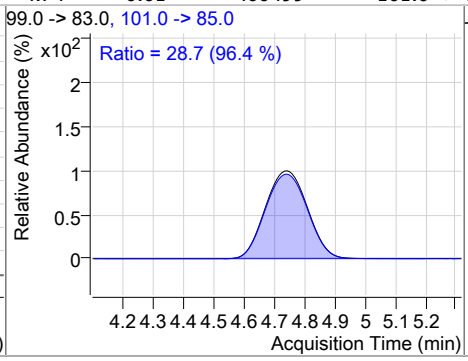
Compound	RT	QIon	Resp.	Q-ratio	Conc.	Units	Dev(Min)
Internal Standards							
Cl18O4	4.738	107.0 -> 89.0	20285	NoQ	5.00	µg/L	-0.017
System Monitoring Compounds							
Target Compounds							QValue
Perchlorate	4.744	99.0 -> 83.0	400499	3.5	50.48	µg/L	98

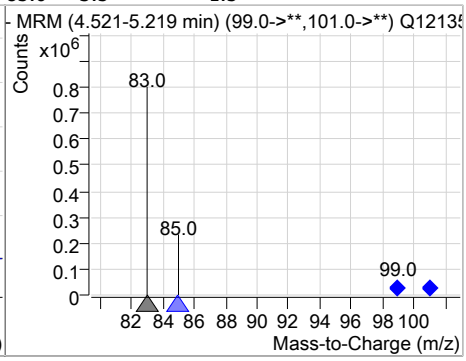
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	50.48	4.74	-0.01	400499	101.0 -> 85.0	3.5	1.5	

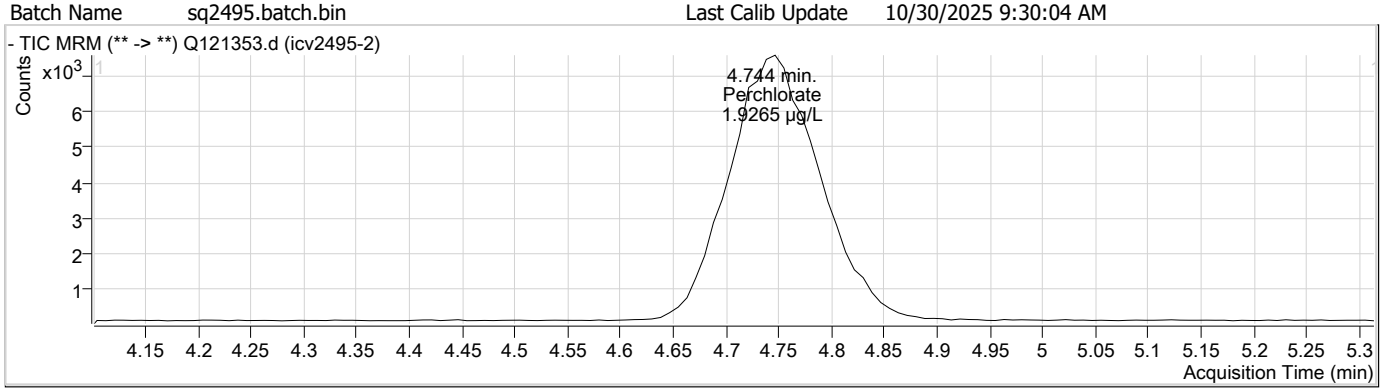






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121353.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 12:38:39 PM
Sample Name	icv2495-2	Instrument	Instrument 1
Vial	Vial 10	Sample Information	OP12013,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

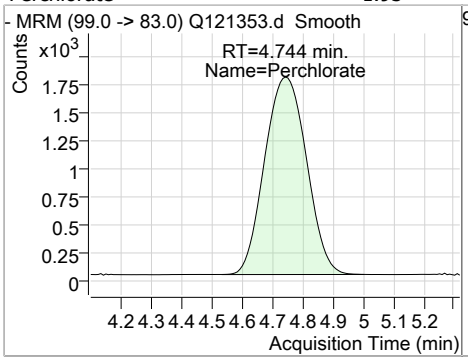


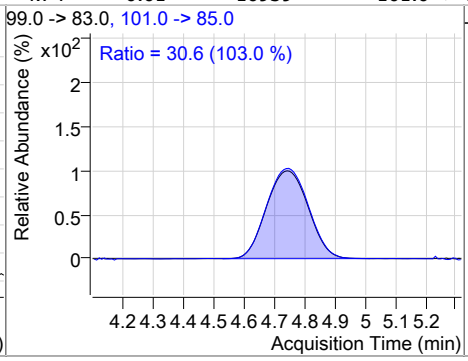
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.747	107.0 -> 89.0	22481	NoQ	5.00 µg/L	-0.008
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.744	99.0 -> 83.0	16939	3.3	1.93 µg/L	98

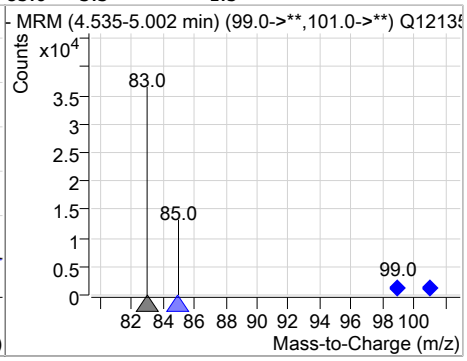
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	1.93	4.74	-0.01	16939	101.0 -> 85.0	3.3	1.5	

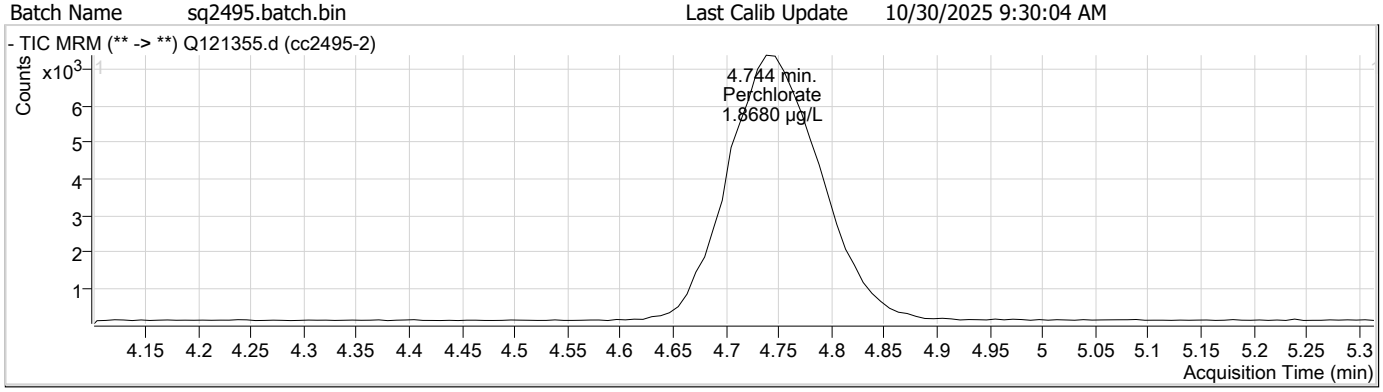






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121355.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 12:52:19 PM
Sample Name	cc2495-2	Instrument	Instrument 1
Vial	Vial 5	Sample Information	OP12013,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

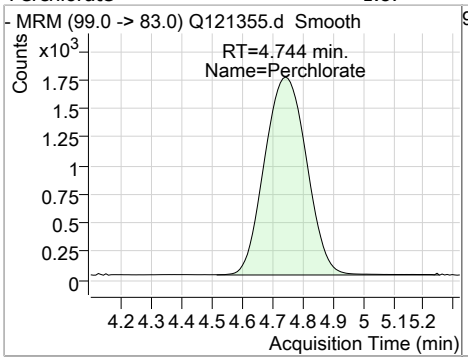


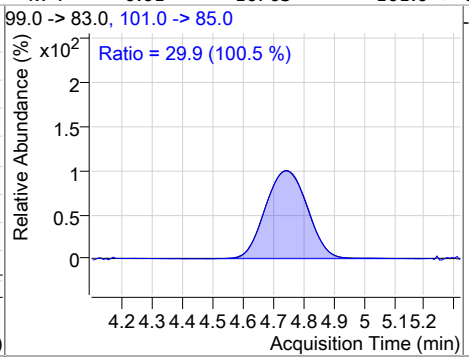
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.747	107.0 -> 89.0	22943	NoQ	5.00 µg/L	-0.008
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.744	99.0 -> 83.0	16763	3.3	1.87 µg/L	100

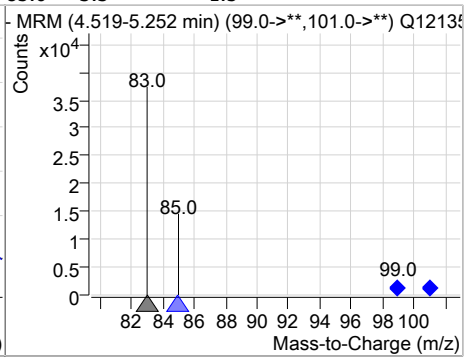
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	1.87	4.74	-0.01	16763	101.0 -> 85.0	3.3	1.5	

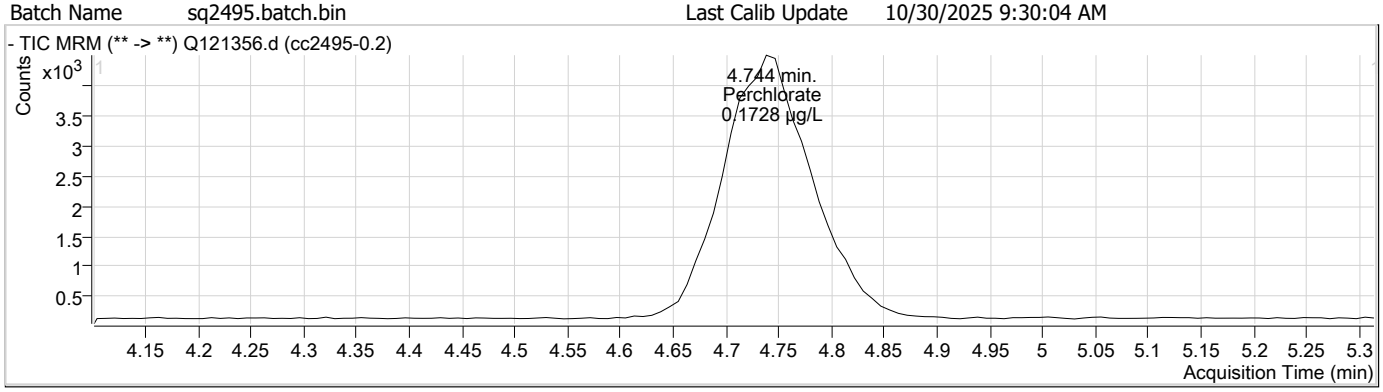






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121356.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 12:59:08 PM
Sample Name	cc2495-0.2	Instrument	Instrument 1
Vial	Vial 2	Sample Information	OP12013,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

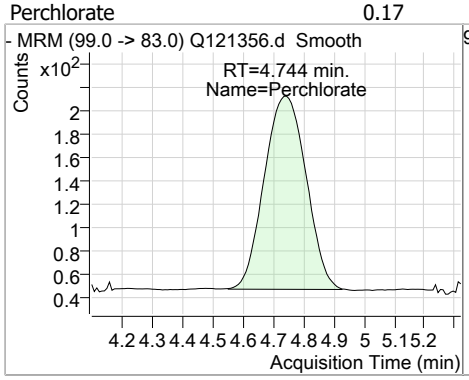


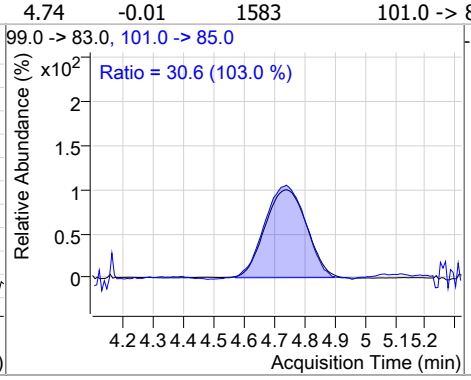
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.738	107.0 -> 89.0	23422	NoQ	5.00 µg/L	-0.017
System Monitoring Compounds						
Target Compounds						QValue
Perchlorate	4.744	99.0 -> 83.0	1583	3.3	0.17 µg/L	98

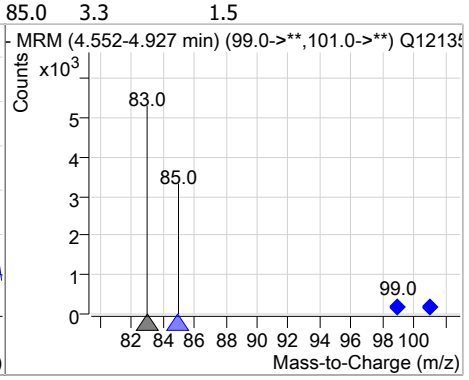
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.17	4.74	-0.01	1583	101.0 -> 85.0	3.3	1.5	

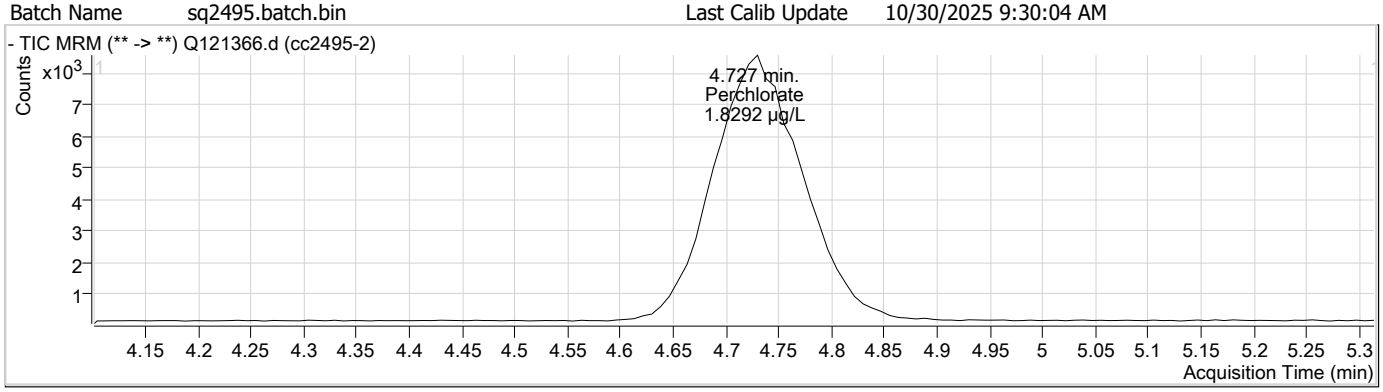






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121366.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 2:07:37 PM
Sample Name	cc2495-2	Instrument	Instrument 1
Vial	Vial 5	Sample Information	OP12013,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

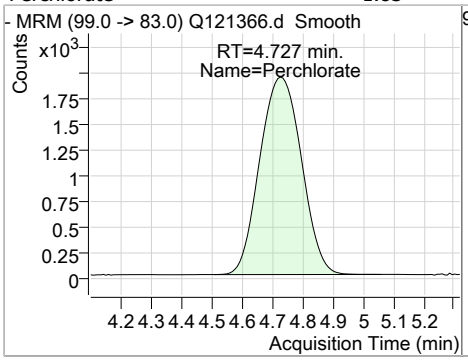


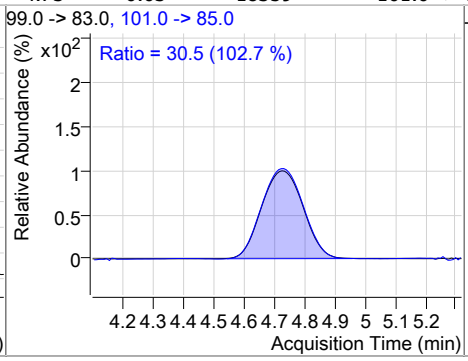
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.730	107.0 -> 89.0	25660	NoQ	5.00 µg/L	-0.025
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.727	99.0 -> 83.0	18359	3.3	1.83 µg/L	98

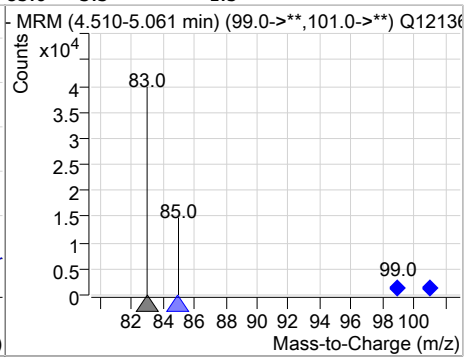
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	1.83	4.73	-0.03	18359	101.0 -> 85.0	3.3	1.5	

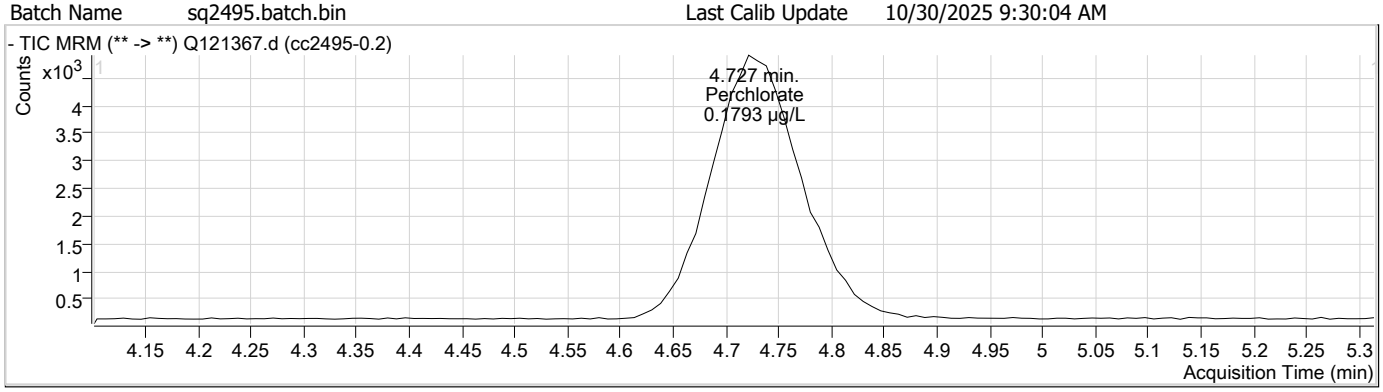






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121367.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 2:15:26 PM
Sample Name	cc2495-0.2	Instrument	Instrument 1
Vial	Vial 2	Sample Information	OP12013,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

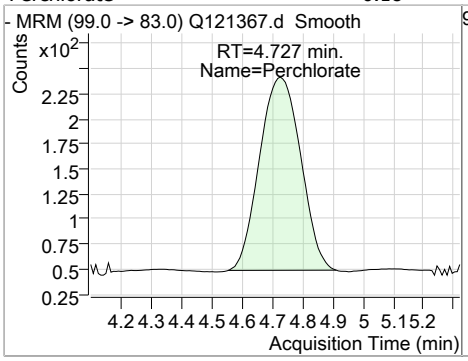


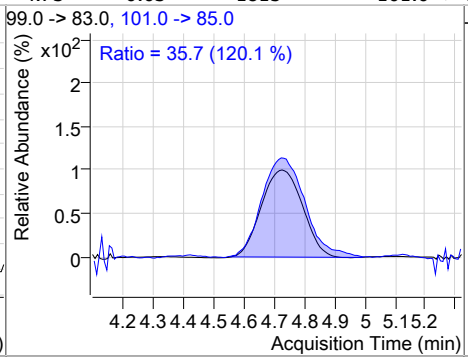
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.730	107.0 -> 89.0	25878	NoQ	5.00 µg/L	-0.025
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.727	99.0 -> 83.0	1815	2.8	0.18 µg/L	89

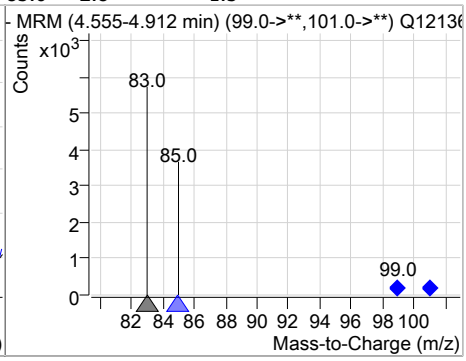
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.18	4.73	-0.03	1815	101.0 -> 85.0	2.8	1.5	

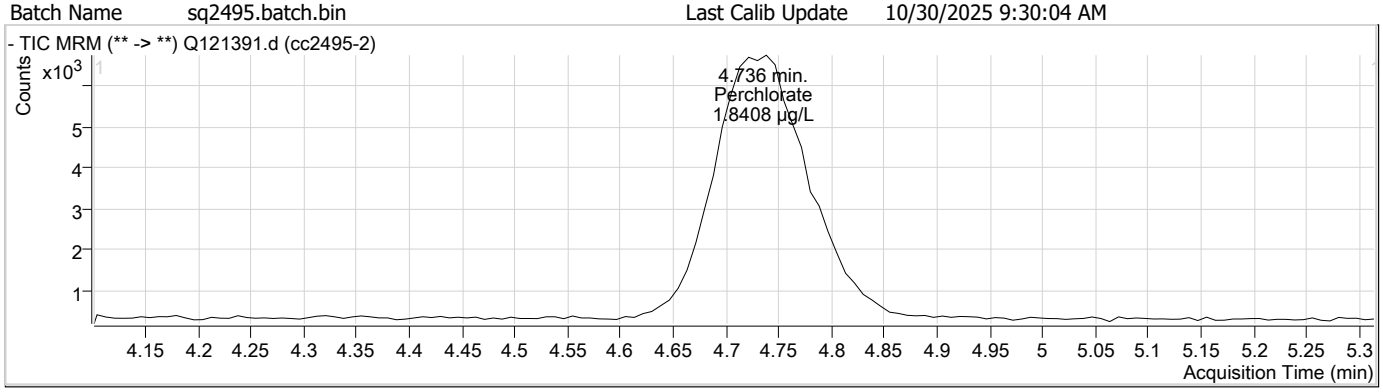






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121391.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 5:00:02 PM
Sample Name	cc2495-2	Instrument	Instrument 1
Vial	Vial 5	Sample Information	OP12013,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

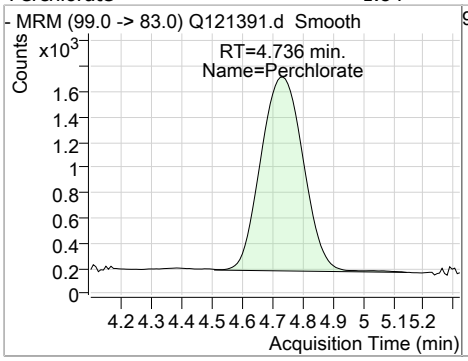


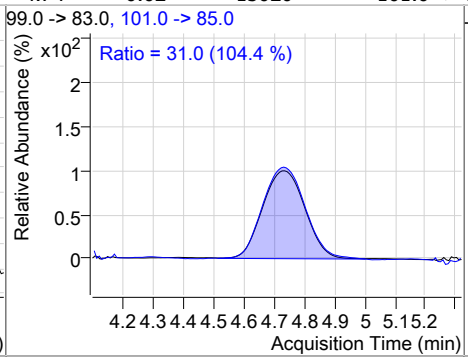
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.730	107.0 -> 89.0	20862	NoQ	5.00 µg/L	-0.025
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.736	99.0 -> 83.0	15020	3.2	1.84 µg/L	98

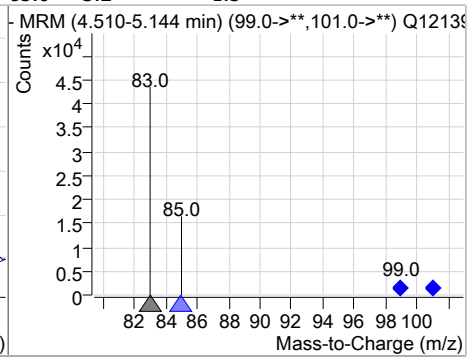
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	1.84	4.74	-0.02	15020	101.0 -> 85.0	3.2	1.5	

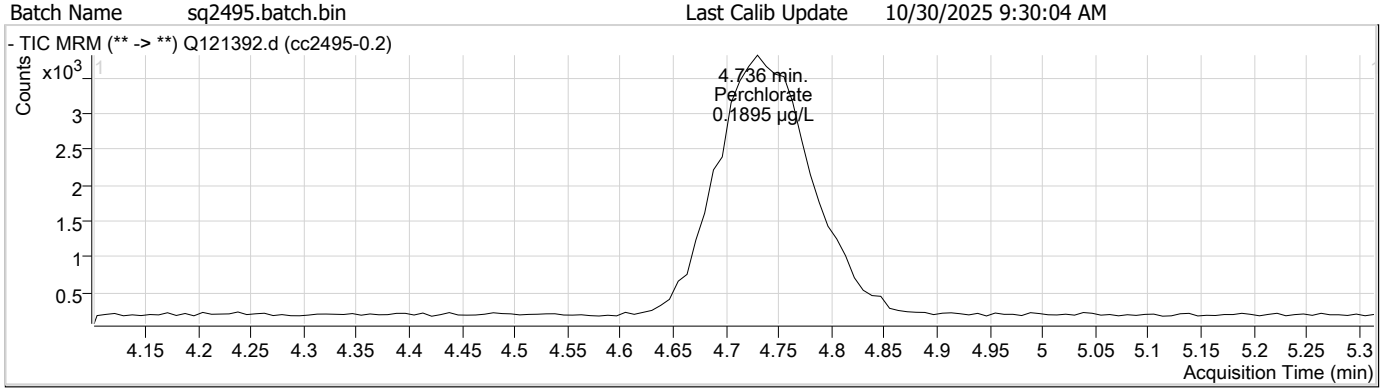






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121392.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 5:06:52 PM
Sample Name	cc2495-0.2	Instrument	Instrument 1
Vial	Vial 2	Sample Information	OP12013,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

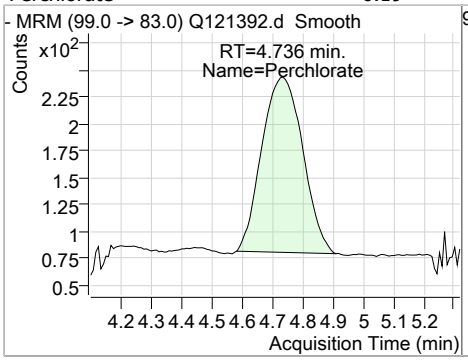


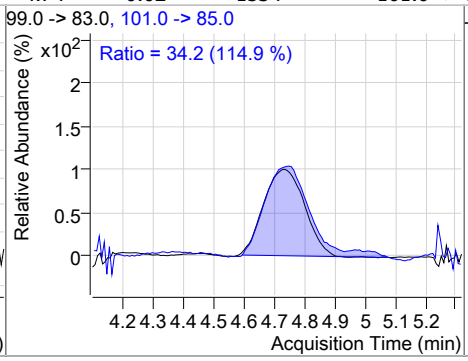
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.738	107.0 -> 89.0	20698	NoQ	5.00 µg/L	-0.017
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.736	99.0 -> 83.0	1534	2.9	0.19 µg/L	92

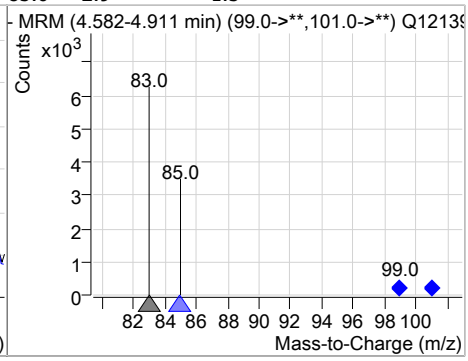
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	0.19	4.74	-0.02	1534	101.0 -> 85.0	2.9	1.5	

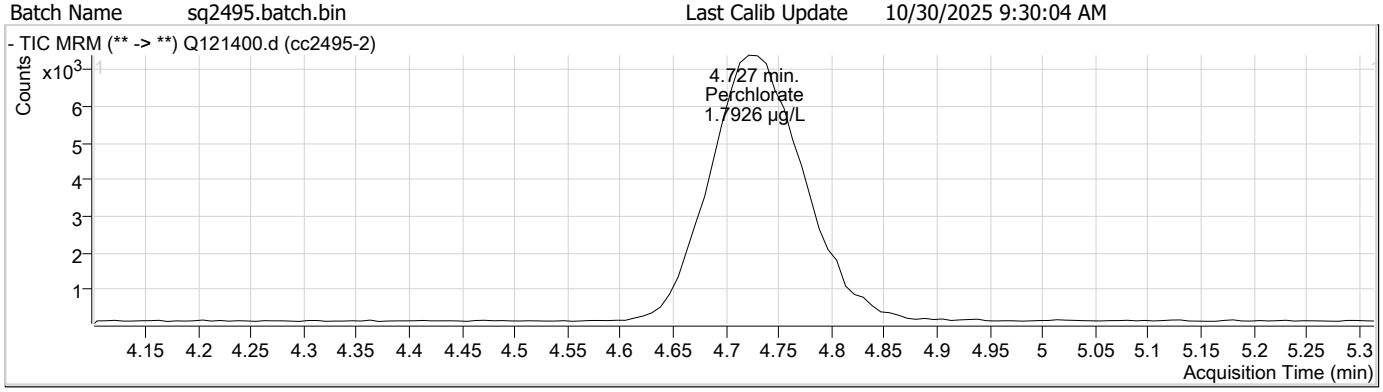






Quantitative Analysis Report for Perchlorate by 6850

Data File	: Q121400.d	Operator	annal
Acq. Method	Perchlorate_5.m	Acq. Date-Time	10/29/2025 6:01:36 PM
Sample Name	cc2495-2	Instrument	Instrument 1
Vial	Vial 5	Sample Information	OP12013,SQ2495,10,,,10,1,water
DA Method File	6850_102925_SQ2495.quantmethod.xml	Comment	
Batch Name	sq2495.batch.bin	Last Calib Update	10/30/2025 9:30:04 AM

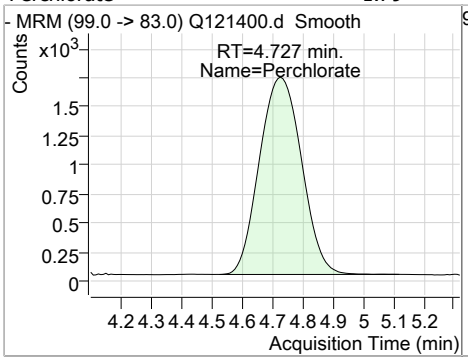


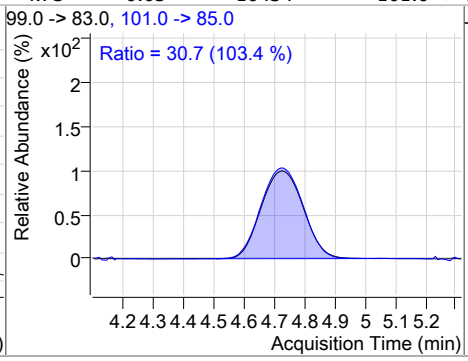
Compound	RT	QIon	Resp.	Q-ratio	Conc. Units	Dev(Min)
Internal Standards						
Cl18O4	4.730	107.0 -> 89.0	23439	NoQ	5.00 µg/L	-0.025
System Monitoring Compounds						
Target Compounds						**QValue**
Perchlorate	4.727	99.0 -> 83.0	16434	3.3	1.79 µg/L	98

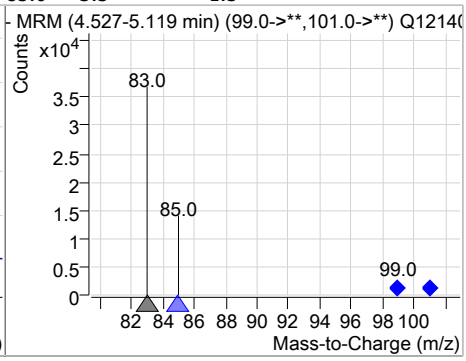
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitative Analysis Report for Perchlorate by 6850

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
Perchlorate	1.79	4.73	-0.03	16434	101.0 -> 85.0	3.3	1.5	







SGS ORLANDO

DATE:	10/29/25
COLUMN TYPE:	K-Prime
AMOUNT INJ:	5 ul
INSTRUMENT:	LCMS1-Q

LCMS1-Q ANALYSIS LOG

METHODS:	6850
PROC. METH:	6850_102925_SQ2495
CAL DATE:	10/29/25
ANALYST:	AS
RUN BATCH:	SQ2495

ELUENT A LOT #:	hplc h2o:250132 W/0.1% AA 224297
ELUENT B LOT #:	acn: 245704 W/0.1% AA 224297
IC/CC STD LOT #:	LCMS 2611
ICV STD LOT #:	LCMS 2545
ISTD/ID STD LOT #:	LCMS 2614

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
1	Q121336.d	Vial 7	conditioning std	Perchlorate_5.m	Sample		OP12013,SQ2495,10,,,10,1,water	ok
2	Q121337.d	Vial 7	conditioning std	Perchlorate_5.m	Sample		OP12013,SQ2495,10,,,10,1,water	ok
3	Q121338.d	Vial 7	conditioning std	Perchlorate_5.m	Sample		OP12013,SQ2495,10,,,10,1,water	ok
4	Q121339.d	Vial 7	conditioning std	Perchlorate_5.m	Sample		OP12013,SQ2495,10,,,10,1,water	ok
5	Q121340.d	Vial 7	conditioning std	Perchlorate_5.m	Sample		OP12013,SQ2495,10,,,10,1,water	ok
6	Q121341.d	Vial 7	conditioning std	Perchlorate_5.m	Sample		OP12013,SQ2495,10,,,10,1,water	ok
7	Q121342.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP12013,SQ2495,10,,,10,1,water	ok
8	Q121343.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP12013,SQ2495,10,,,10,1,water	ok
9	Q121344.d	Vial 1	ic2495-0	Perchlorate_5.m	Sample		OP12013,SQ2495,10,,,10,1,water	check tune file
10	Q121345.d	Vial 2	ic2495-0.2	Perchlorate_5.m	Calibration	500x	OP12013,SQ2495,10,,,10,1,water	pass
11	Q121346.d	Vial 3	ic2495-0.5	Perchlorate_5.m	Calibration	200x	OP12013,SQ2495,10,,,10,1,water	pass
12	Q121347.d	Vial 4	ic2495-1	Perchlorate_5.m	Calibration	100x	OP12013,SQ2495,10,,,10,1,water	pass
13	Q121348.d	Vial 5	icc2495-2	Perchlorate_5.m	Calibration	50x	OP12013,SQ2495,10,,,10,1,water	pass, +/-30% (2.38-4.42)
14	Q121349.d	Vial 6	ic2495-5	Perchlorate_5.m	Calibration	20x	OP12013,SQ2495,10,,,10,1,water	pass
15	Q121350.d	Vial 7	ic2495-10	Perchlorate_5.m	Calibration	10x	OP12013,SQ2495,10,,,10,1,water	pass
16	Q121351.d	Vial 8	ic2495-25	Perchlorate_5.m	Calibration	4x	OP12013,SQ2495,10,,,10,1,water	pass
17	Q121352.d	Vial 9	ic2495-50	Perchlorate_5.m	Calibration	2x	OP12013,SQ2495,10,,,10,1,water	pass
18	Q121353.d	Vial 10	icv2495-2	Perchlorate_5.m	QC	50x	OP12013,SQ2495,10,,,10,1,water	pass
19	Q121354.d	P1-A1	ics	Perchlorate_5.m	Sample	500x	OP12013,SQ2495,10,,,10,1,water	pass
20	Q121355.d	Vial 5	cc2495-2	Perchlorate_5.m	QC	50x	OP12013,SQ2495,10,,,10,1,water	pass
21	Q121356.d	Vial 2	cc2495-0.2	Perchlorate_5.m	QC	500x	OP12013,SQ2495,10,,,10,1,water	pass
22	Q121357.d	P1-A2	op12286-bs	Perchlorate_5.m	Sample		OP12286,SQ2495,10,,,10,1,water	✓
23	Q121358.d	P1-A3	op12286-mb	Perchlorate_5.m	Sample		OP12286,SQ2495,10,,,10,1,water	✓
24	Q121359.d	P1-A4	fc28746-1	Perchlorate_5.m	Sample		OP12286,SQ2495,10,,,10,1,water	rr 1x
25	Q121360.d	P1-A5	op12286-ms2	Perchlorate_5.m	Sample		OP12286,SQ2495,10,,,10,1,water	rr 1x
26	Q121361.d	P1-A6	op12286-msd2	Perchlorate_5.m	Sample		OP12286,SQ2495,10,,,10,1,water	rr 1x
27	Q121362.d	P1-A7	fc28746-2	Perchlorate_5.m	Sample		OP12286,SQ2495,10,,,10,1,water	✓
28	Q121363.d	P1-A8	fc28746-3	Perchlorate_5.m	Sample		OP12286,SQ2495,10,,,10,1,water	✓
29	Q121364.d	P1-A9	fc28746-4	Perchlorate_5.m	Sample		OP12286,SQ2495,10,,,10,1,water	rr 1x
30	Q121365.d	P1-B1	fc28746-5	Perchlorate_5.m	Sample		OP12286,SQ2495,10,,,10,1,water	rr 1x
31	Q121366.d	Vial 5	cc2495-2	Perchlorate_5.m	QC	50x	OP12013,SQ2495,10,,,10,1,water	pass
32	Q121367.d	Vial 2	cc2495-0.2	Perchlorate_5.m	QC	500x	OP12013,SQ2495,10,,,10,1,water	pass
33	Q121368.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP12013,SQ2495,10,,,10,1,water	nd
34	Q121369.d	P1-B2	fc28743-8	Perchlorate_5.m	Sample		OP12286,SQ2495,10,,,10,1,water	rr 2x
35	Q121370.d	P1-B3	op12286-ms	Perchlorate_5.m	Sample		OP12286,SQ2495,10,,,10,1,water	rr 2x

SGS ORLANDO LCMS1-Q ANALYSIS LOG

36	Q121371.d	P1-B4	op12286-msd	Perchlorate_5.m	Sample		OP12286,SQ2495,10,,,10,1,water	rr 2x
37	Q121372.d	P1-B5	fc28774-1	Perchlorate_5.m	Sample		OP12286,SQ2495,10,,,10,1,water	rr 1x co
38	Q121373.d	P1-B6	fc28774-2	Perchlorate_5.m	Sample		OP12286,SQ2495,10,,,10,1,water	✓
39	Q121374.d	P1-B7	fc28726-5f	Perchlorate_5.m	Sample		OP12286,SQ2495,10,,,10,1,water	✓
40	Q121375.d	P1-B8	fc28727-1f	Perchlorate_5.m	Sample		OP12286,SQ2495,10,,,10,1,water	rr 1x
41	Q121376.d	P1-B9	fc28791-4f	Perchlorate_5.m	Sample		OP12286,SQ2495,10,,,10,1,water	✓
42	Q121377.d	P1-C1	fc28791-5f	Perchlorate_5.m	Sample		OP12286,SQ2495,10,,,10,1,water	✓
43	Q121378.d	Vial 5	cc2495-2	Perchlorate_5.m	QC	50x	OP12013,SQ2495,10,,,10,1,water	pass
44	Q121379.d	Vial 2	cc2495-0.2	Perchlorate_5.m	QC	500x	OP12013,SQ2495,10,,,10,1,water	pass
45	Q121380.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP12013,SQ2495,10,,,10,1,water	nd
46	Q121381.d	P1-C2	op12287-bs	Perchlorate_5.m	Sample		OP12287,SQ2495,10,,,10,1,water	✓
47	Q121382.d	P1-C3	op12287-mb	Perchlorate_5.m	Sample		OP12287,SQ2495,10,,,10,1,water	✓
48	Q121383.d	P1-C4	fc28868-1	Perchlorate_5.m	Sample		OP12287,SQ2495,10,,,10,1,water	✓
49	Q121384.d	P1-C5	op12287-ms	Perchlorate_5.m	Sample		OP12287,SQ2495,10,,,10,1,water	✓
50	Q121385.d	P1-C6	op12287-msd	Perchlorate_5.m	Sample		OP12287,SQ2495,10,,,10,1,water	✓
51	Q121386.d	P1-C7	fc28868-2	Perchlorate_5.m	Sample		OP12287,SQ2495,10,,,10,1,water	✓
52	Q121387.d	P1-C8	fc28868-3	Perchlorate_5.m	Sample		OP12287,SQ2495,10,,,10,1,water	✓
53	Q121388.d	P1-C9	fc28868-4	Perchlorate_5.m	Sample		OP12287,SQ2495,10,,,10,1,water	✓
54	Q121389.d	P1-D1	fc28868-5	Perchlorate_5.m	Sample		OP12287,SQ2495,10,,,10,1,water	rr 50x
55	Q121390.d	P1-D2	fc28868-6	Perchlorate_5.m	Sample		OP12287,SQ2495,10,,,10,1,water	rr 100x, 500x
56	Q121391.d	Vial 5	cc2495-2	Perchlorate_5.m	QC	50x	OP12013,SQ2495,10,,,10,1,water	pass
57	Q121392.d	Vial 2	cc2495-0.2	Perchlorate_5.m	QC	500x	OP12013,SQ2495,10,,,10,1,water	pass
58	Q121393.d	Vial 1	ccb	Perchlorate_5.m	Sample		OP12013,SQ2495,10,,,10,1,water	nd
59	Q121394.d	P1-A4	fc28746-1	Perchlorate_5.m	Sample		OP12286,SQ2495,10,,,10,1,water	✓
60	Q121395.d	P1-A5	op12286-ms2	Perchlorate_5.m	Sample		OP12286,SQ2495,10,,,10,1,water	✓
61	Q121396.d	P1-A6	op12286-msd2	Perchlorate_5.m	Sample		OP12286,SQ2495,10,,,10,1,water	✓
62	Q121397.d	P1-A9	fc28746-4	Perchlorate_5.m	Sample		OP12286,SQ2495,10,,,10,1,water	✓
63	Q121398.d	P1-B1	fc28746-5	Perchlorate_5.m	Sample		OP12286,SQ2495,10,,,10,1,water	✓
64	Q121399.d	P1-B8	fc28727-1f	Perchlorate_5.m	Sample		OP12286,SQ2495,10,,,10,1,water	rr 5x, 10x matrix
65	Q121400.d	Vial 5	cc2495-2	Perchlorate_5.m	QC	50x	OP12013,SQ2495,10,,,10,1,water	pass
66	Q121401.d	Vial 2	ecc2495-0.2	Perchlorate_5.m	QC	500x	OP12013,SQ2495,10,,,10,1,water	pass within 30%
67	Q121402.d	Vial 1	iblk	Perchlorate_5.m	Sample		OP12013,SQ2495,10,,,10,1,water	nd

SGS - ORLANDO **PERCHLORATE PREP REPORT**

Date/Time: 10/28/25 17:50 Started {mm/dd/yy 24:00} Prep Method: **6850** Analytical Method: **6850**

Date/Time: 10/29/25 1000 Finished {mm/dd/yy 24:00} Batch#: OP12286 Ext. By: — Vialed By: AS

Sample ID	Bottle Number	Amount extracted ml / g (circle one)	ISTD Amount, ~~ml~~ µl	Spike Amount, ~~ml~~ µl	Final Volume, ml	SCON high? (Y)	Comments
OP12286 MB		10.0	50µl	①~~50µl~~	10.0		
OP12286 BS				20µl			
FC28746-1	8					N	
-2	3					N	
-3	3					N	
-4	2					N	
-5	2					N	
FC28743-8	1					N	
FC28774-1	1					N	
-2	1					N	
FC28726-5F	1					N	
FC28727-1F	1					N	
FC28791-4F	8					N	
-5F	8					N	
FC28743-8MS	2	10.0	50µl	20µl	10.0	N	
FC28743-8MSD	3					N	
FC28746-1 MS2	8					N	
FC28746-1 MSD2	8					N	
DUP							

Comments: ①wrote ISTD amount in the wrong column 10/29/25 AS

ISTD ID: LCMS 2614 Conc: 1ppm Exp. Date: 03/12/26 Inj. By: AS Ver. By MB

Spk. ID: LCMS 2545 Conc: 100 ppb Exp. Date: 11/27/25 Inj. By: AS Ver. By MB

Balance ID: — Filter Vial Lot#: 5637051925155781 NP HPLC Water #: 270733

Sonicator ID: — Time In: — {24:00} Time Out: — {24:00}

Pipette ID: LC30 Pipette ID: LC32 Pipette ID: —

Relinquished By: Anna Sullen Date: 10/29/25

Accepted By: Anna Sullen Date: 10/29/25

GC/LC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- GC Identification Summaries (Explosives)
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP12165-MB	BB089891.D	1	10/24/25	FS	10/22/25	OP12165	GBB2779

The QC reported here applies to the following samples: **Method:** SW846 8330B

FC28746-1, FC28746-2, FC28746-3, FC28746-4, FC28746-5

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	0.20	0.080	ug/l	
121-82-4	RDX	ND	0.20	0.080	ug/l	
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	ND	0.20	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	0.20	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.20	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
98-95-3	Nitrobenzene	ND	0.20	0.097	ug/l	
88-72-2	o-Nitrotoluene	ND	0.20	0.080	ug/l	
99-08-1	m-Nitrotoluene	ND	0.20	0.080	ug/l	
99-99-0	p-Nitrotoluene	ND	0.20	0.080	ug/l	
479-45-8	Tetryl	ND	0.20	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	ND	0.20	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	ND	0.20	0.080	ug/l	
55-63-0	Nitroglycerine	ND	2.0	0.50	ug/l	
78-11-5	PETN	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	89%	70-136%

Method Blank Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP12165-MB	GG633328.D	1	10/29/25	FS	10/22/25	OP12165	GGG3647

The QC reported here applies to the following samples: **Method:** SW846 8330B

FC28746-1, FC28746-2, FC28746-3, FC28746-4, FC28746-5

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	0.20	0.080	ug/l	
121-82-4	RDX	ND	0.20	0.080	ug/l	
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	ND	0.20	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	0.20	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.20	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
98-95-3	Nitrobenzene	ND	0.20	0.097	ug/l	
88-72-2	o-Nitrotoluene	ND	0.20	0.080	ug/l	
99-08-1	m-Nitrotoluene	ND	0.20	0.080	ug/l	
99-99-0	p-Nitrotoluene	ND	0.20	0.080	ug/l	
479-45-8	Tetryl	ND	0.20	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	ND	0.20	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	ND	0.20	0.080	ug/l	
55-63-0	Nitroglycerine	ND	2.0	0.50	ug/l	
78-11-5	PETN	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	91%	70-136%

Blank Spike Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP12165-BS	BB089892.D	1	10/24/25	FS	10/22/25	OP12165	GBB2779

The QC reported here applies to the following samples: **Method:** SW846 8330B

FC28746-1, FC28746-2, FC28746-3, FC28746-4, FC28746-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
2691-41-0	HMX	5	4.5	90	77-144
121-82-4	RDX	5	4.6	92	77-125
	DNX	5	ND	0* [a]	66-127
	MNX	5.8	ND	0* [a]	71-137
	TNX	2.35	ND	0* [a]	60-126
618-87-1	3,5-Dinitroaniline	5	4.8	96	77-115
99-65-0	1,3-Dinitrobenzene	5	4.5	90	79-122
606-20-2	2,6-Dinitrotoluene	5	5.0	100	81-131
121-14-2	2,4-Dinitrotoluene	5	4.6	92	80-123
35572-78-2	2-amino-4,6-Dinitrotoluene	5	4.7	94	81-120
19406-51-0	4-amino-2,6-Dinitrotoluene	5	4.5	90	79-119
98-95-3	Nitrobenzene	5	4.8	96	78-130
88-72-2	o-Nitrotoluene	5	4.7	94	76-131
99-08-1	m-Nitrotoluene	5	4.8	96	78-122
99-99-0	p-Nitrotoluene	5	4.9	98	79-124
479-45-8	Tetryl	5	3.6	72	65-124
99-35-4	1,3,5-Trinitrobenzene	5	4.5	90	79-128
118-96-7	2,4,6-Trinitrotoluene	5	4.8	96	72-112
55-63-0	Nitroglycerine	5	4.2	84	69-123
78-11-5	PETN	5	4.7	94	73-145

CAS No.	Surrogate Recoveries	BSP	Limits
610-39-9	3,4-Dinitrotoluene	109%	70-136%

(a) Compound not maintained in spike mix; standard is not available.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP12165-MS	BB089894.D	1	10/24/25	FS	10/22/25	OP12165	GBB2779
OP12165-MSD	BB089895.D	1	10/24/25	FS	10/22/25	OP12165	GBB2779
FC28746-1 [a]	BB089893.D	1	10/24/25	FS	10/22/25	OP12165	GBB2779
FC28746-1 [b]	GG633329.D	1	10/29/25	FS	10/22/25	OP12165	GGG3647

The QC reported here applies to the following samples: **Method:** SW846 8330B

FC28746-1, FC28746-2, FC28746-3, FC28746-4, FC28746-5

CAS No.	Compound	FC28746-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
2691-41-0	HMX	3.1		10.6	13.1	94	10.6	12.2	86	7	77-144/21
121-82-4	RDX	0.88		10.6	10.6	91	10.6	10.7	92	1	77-125/19
	DNX	0.20	U	10.6	ND	0* [c]	10.6	ND	0* [c]	nc	66-127/25
	MNX	0.20	U	12.3	ND	0* [c]	12.3	ND	0* [c]	nc	71-137/20
	TNX	0.20	U	5	ND	0* [c]	5	ND	0* [c]	nc	60-126/18
618-87-1	3,5-Dinitroaniline	0.55		10.6	10.3	97	10.6	10.4	98	1	77-115/19
99-65-0	1,3-Dinitrobenzene	0.20	U	10.6	9.5	89	10.6	9.7	91	2	79-122/17
606-20-2	2,6-Dinitrotoluene	0.20	U	10.6	27.9	262*	10.6	27.8	261*	0	81-131/17
121-14-2	2,4-Dinitrotoluene	0.20	U	10.6	10.1	95	10.6	11.2	105	10	80-123/19
35572-78-2	2-amino-4,6-Dinitrotoluene	1.6		10.6	12.7	104	10.6	14.5	121*	13	81-120/19
19406-51-0	4-amino-2,6-Dinitrotoluene	0.84		10.6	14.5	128*	10.6	12.7	111	13	79-119/20
98-95-3	Nitrobenzene	0.20	U	10.6	10.1	95	10.6	10.0	94	1	78-130/19
88-72-2	o-Nitrotoluene	0.20	U	10.6	10.3	97	10.6	10.2	96	1	76-131/20
99-08-1	m-Nitrotoluene	0.20	U	10.6	10.3	97	10.6	10.7	101	4	78-122/18
99-99-0	p-Nitrotoluene	0.20	U	10.6	10.4	98	10.6	10.4	98	0	79-124/18
479-45-8	Tetryl	0.20	U	10.6	3.6	34*	10.6	4.5	42*	22*	65-124/20
99-35-4	1,3,5-Trinitrobenzene	18.2		10.6	26.1	74*	10.6	27.6	88	6	79-128/16
118-96-7	2,4,6-Trinitrotoluene	6.4		10.6	18.9	117*	10.6	19.0	118*	1	72-112/16
55-63-0	Nitroglycerine	2.0	U	10.6	8.5	80	10.6	10	94	16	69-123/18
78-11-5	PETN	2.0	U	10.6	10.1	95	10.6	11.0	103	9	73-145/18

CAS No.	Surrogate Recoveries	MS	MSD	FC28746-1	FC28746-1	Limits
610-39-9	3,4-Dinitrotoluene	108%	109%	105%	103%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Compound not maintained in spike mix; standard is not available.

* = Outside of Control Limits.

GC Identification Summary (Explosives)

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample ID:	FC28746-1	**Method:**	SW846 8330B
Client ID:	54MW13		

Injection Type	Lab File ID	Dilution	Prep Batch	Inst Batch	Injection Time	Inst ID
Reportable	BB089893.D	1	OP12165	GBB2779	10/24/25 16:24	GCBB
Confirmation	GG633329.D	1	OP12165	GGG3647	10/29/25 10:52	GCGG

Compound	Lab File ID	Dilution	Sig#	Conc	Q	Units	RPD Conc
HMX	BB089893.D	1	1	3.1		ug/l	12.1
HMX	GG633329.D	1	1	3.5		ug/l	
RDX	BB089893.D	1	1	.88		ug/l	22.2
RDX	GG633329.D	1	1	1.1		ug/l	
3,5-Dinitroaniline [a]	BB089893.D	1	1	.55		ug/l	110.2
3,5-Dinitroaniline	GG633329.D	1	1	1.9		ug/l	
2-amino-4,6-Dinitrotoluene	BB089893.D	1	1	1.6		ug/l	0.0
2-amino-4,6-Dinitrotoluene	GG633329.D	1	1	1.6		ug/l	
4-amino-2,6-Dinitrotoluene [a]	BB089893.D	1	1	.84		ug/l	50.0
4-amino-2,6-Dinitrotoluene	GG633329.D	1	1	1.4		ug/l	
1,3,5-Trinitrobenzene	BB089893.D	1	1	18.2		ug/l	18.0
1,3,5-Trinitrobenzene	GG633329.D	1	1	15.2		ug/l	
2,4,6-Trinitrotoluene	BB089893.D	1	1	6.4		ug/l	6.1
2,4,6-Trinitrotoluene	GG633329.D	1	1	6.8		ug/l	

(a) Primary and confirmation results differ by more than 40%.

GC Identification Summary (Explosives)

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample ID:	FC28746-2	**Method:**	SW846 8330B
Client ID:	54MW10		

Injection Type	Lab File ID	Dilution	Prep Batch	Inst Batch	Injection Time	Inst ID
Reportable	BB089896.D	1	OP12165	GBB2779	10/24/25 17:46	GCBB
Confirmation	GG633330.D	1	OP12165	GGG3647	10/29/25 11:18	GCGG

Compound	Lab File ID	Dilution	Sig#	Conc	Q	Units	RPD Conc
HMX	BB089896.D	1	1	.16	J	ug/l	27.0
HMX	GG633330.D	1	1	.21		ug/l	
RDX	BB089896.D	1	1	.16	J	ug/l	40.0
RDX	GG633330.D	1	1	.24		ug/l	
2-amino-4,6-Dinitrotoluene	BB089896.D	1	1	.14	J	ug/l	19.4
2-amino-4,6-Dinitrotoluene	GG633330.D	1	1	.17	J	ug/l	
4-amino-2,6-Dinitrotoluene [a]	BB089896.D	1	1	.15	J	ug/l	42.1
4-amino-2,6-Dinitrotoluene	GG633330.D	1	1	.23		ug/l	

(a) Primary and confirmation results differ by more than 40%.

GC Identification Summary (Explosives)

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample ID: FC28746-3 **Method:** SW846 8330B
Client ID: 54TW10

Injection Type	Lab File ID	Dilution	Prep Batch	Inst Batch	Injection Time	Inst ID
Reportable	BB089897.D	1	OP12165	GBB2779	10/24/25 18:13	GCBB
Confirmation	GG633365.D	1	OP12165	GGG3649	10/31/25 10:17	GCGG

Compound	Lab File ID	Dilution	Sig#	Conc	Q	Units	RPD Conc
HMX [a]	BB089897.D	1	1	.14	J	ug/l	48.6
HMX	GG633365.D	1	1	.23		ug/l	
2-amino-4,6-Dinitrotoluene	BB089897.D	1	1	.14	J	ug/l	13.3
2-amino-4,6-Dinitrotoluene	GG633365.D	1	1	.16	J	ug/l	

(a) Primary and confirmation results differ by more than 40%.

GC Identification Summary (Explosives)

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample ID: FC28746-4 **Method:** SW846 8330B
Client ID: 54MW12

Injection Type	Lab File ID	Dilution	Prep Batch	Inst Batch	Injection Time	Inst ID
Reportable	BB089898.D	1	OP12165	GBB2779	10/24/25 18:41	GCBB
Confirmation	GG633331.D	1	OP12165	GGG3647	10/29/25 11:45	GCGG

Compound	Lab File ID	Dilution	Sig#	Conc	Q	Units	RPD Conc
HMX	BB089898.D	1	1	5.2		ug/l	3.9
HMX	GG633331.D	1	1	5		ug/l	
RDX	BB089898.D	1	1	1.3		ug/l	35.3
RDX	GG633331.D	1	1	.91		ug/l	
2-amino-4,6-Dinitrotoluene	BB089898.D	1	1	3.4		ug/l	19.4
2-amino-4,6-Dinitrotoluene	GG633331.D	1	1	2.8		ug/l	
4-amino-2,6-Dinitrotoluene [a]	BB089898.D	1	1	.68		ug/l	94.6
4-amino-2,6-Dinitrotoluene	GG633331.D	1	1	1.9		ug/l	
1,3,5-Trinitrobenzene	BB089898.D	1	1	5.8		ug/l	21.0
1,3,5-Trinitrobenzene	GG633331.D	1	1	4.7		ug/l	
2,4,6-Trinitrotoluene	BB089898.D	1	1	5		ug/l	3.9
2,4,6-Trinitrotoluene	GG633331.D	1	1	5.2		ug/l	

(a) Primary and confirmation results differ by more than 40%.

Surrogate Recovery Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Method: SW846 8330B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
FC28746-1	BB089893.D	105
FC28746-1	GG633329.D	103
FC28746-2	GG633330.D	92
FC28746-2	BB089896.D	95
FC28746-3	GG633365.D	87
FC28746-3	BB089897.D	94
FC28746-4	GG633331.D	91
FC28746-4	BB089898.D	99
FC28746-5	BB089899.D	90
OP12165-BS	BB089892.D	109
OP12165-MB	GG633328.D	91
OP12165-MB	BB089891.D	89
OP12165-MS	BB089894.D	108
OP12165-MSD	BB089895.D	109

Surrogate Compounds	Recovery Limits
S1 = 3,4-Dinitrotoluene	70-136%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Check Std:	GGG3647-CC3599	**Injection Date:**	10/29/25
Lab File ID:	GG633327.D	**Injection Time:**	09:15
Instrument ID:	GCGG	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	14.17

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
OP12165-MB	GG633328.D	10/29/25	10:26	14.14
FC28746-1	GG633329.D	10/29/25	10:52	14.15
FC28746-2	GG633330.D	10/29/25	11:18	14.20
FC28746-4	GG633331.D	10/29/25	11:45	14.18
ZZZZZZ	GG633332.D	10/29/25	12:11	14.16
ZZZZZZ	GG633333.D	10/29/25	12:37	14.14
ZZZZZZ	GG633334.D	10/29/25	13:03	0.00
FC28767-5	GG633335.D	10/29/25	13:29	14.20
ZZZZZZ	GG633336.D	10/29/25	13:55	14.19
ZZZZZZ	GG633337.D	10/29/25	14:21	14.19

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Check Std:	GGG3649-CC3599	**Injection Date:**	10/31/25
Lab File ID:	GG633364.D	**Injection Time:**	09:37
Instrument ID:	GCGG	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	14.27

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
FC28746-3	GG633365.D	10/31/25	10:17	14.21
OP12252-MB	GG633366.D	10/31/25	10:43	14.23
ZZZZZZ	GG633370.D	10/31/25	12:27	14.23
ZZZZZZ	GG633371.D	10/31/25	12:54	14.26
ZZZZZZ	GG633372.D	10/31/25	13:20	14.26
ZZZZZZ	GG633373.D	10/31/25	13:46	14.24

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Check Std:	GBB2779-CC2740	**Injection Date:**	10/24/25
Lab File ID:	BB089889.D	**Injection Time:**	14:16
Instrument ID:	GCBB	**Method:**	SW846 8330B

	S1 [a] RT	S1 [b] RT
Check Std	11.44	11.44

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
OP12165-MB	BB089891.D	10/24/25	15:29		11.45
OP12165-BS	BB089892.D	10/24/25	15:56		11.37
FC28746-1	BB089893.D	10/24/25	16:24		11.38
OP12165-MS	BB089894.D	10/24/25	16:51		11.38
OP12165-MSD	BB089895.D	10/24/25	17:18		11.36
FC28746-2	BB089896.D	10/24/25	17:46		11.38
FC28746-3	BB089897.D	10/24/25	18:13		11.36
FC28746-4	BB089898.D	10/24/25	18:41		11.38
FC28746-5	BB089899.D	10/24/25	19:08		11.38
GBB2779-ECC2740	BB089901.D	10/24/25	20:03	11.35	11.36

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

Initial Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GBB2740-ICC2740
Lab FileID: BB088915.D

Response Factor Report G1315B

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 31 11:26:54 2025
Response via : Initial Calibration

Calibration Files
20 =BB088910.D 50 =BB088911.D 100 =BB088912.D 200 =BB088913.D
500 =BB088914.D 1000=BB088915.D 2500=BB088916.D 5000=BB088917.D

Compound	20	50	100	200	500	1000	2500	5000	Avg	%RSD
1) TNX	5.521	9.535	8.285	7.747	7.868	7.654	7.534	7.617	7.720 E3	14.29
2) HMX	1.833	2.230	1.815	1.661	1.665	1.606	1.588	1.604	1.750 E3	12.31
3) DNX	7.725	7.375	6.712	6.198	6.290	6.137	6.039	6.123	6.575 E3	9.77
4) MNX	4.664	6.798	6.175	5.723	5.818	5.691	5.602	5.675	5.768 E3	10.35
5) RDX	1.736	2.376	2.115	1.956	1.946	1.902	1.876	1.901	1.976 E3	9.74
6) 1,3,5-Trinit	3.464	4.867	3.968	4.120	4.155	4.054	4.008	4.066	4.088 E3	9.35
7) 1,3-Dinitrob	7.240	6.335	5.744	5.273	5.319	5.206	5.105	5.176	5.675 E3	13.27
8) 3,5-Dinitroa	3.554	4.819	4.377	4.021	4.065	3.996	3.916	3.997	4.093 E3	9.02
9) Nitrobenzene	6.396	3.732	3.399	3.130	3.160	3.105	3.081	3.145	3.643 E3	31.12
---- Linear regr., Force(0,0) ---- Coefficient = 0.9999										
Response Ratio = 0.00000 + 3131.42215 *A										
10) Nitroglyceri									0.000	-1.00
11) Tetryl	2.475	3.801	3.281	3.080	3.037	2.992	2.956	2.992	3.077 E3	12.03
12) 2,4,6-Trinit	3.126	4.804	4.059	3.780	3.779	3.717	3.657	3.733	3.832 E3	12.30
13) 2-Amino-4,6-	3.138	4.085	3.537	3.368	3.380	3.315	3.292	3.312	3.428 E3	8.39
14) 4-Amino-2,6-	2.073	3.019	2.610	2.405	2.421	2.382	2.356	2.396	2.458 E3	10.99
15) 3,4-Dinitrot	1.879	2.772	2.403	2.044	2.044	2.002	1.966	2.022	2.141 E3	13.88
16) 2,4-Dinitrot	4.975	5.876	5.284	4.800	4.845	4.756	4.677	4.783	4.999 E3	8.01
17) 2,6-Dinitrot	2.577	3.242	2.913	2.636	2.658	2.611	2.570	2.616	2.728 E3	8.60
18) o-Nitrotolue	1.750	2.618	2.333	2.228	2.289	2.224	2.212	2.255	2.239 E3	10.61
19) p-Nitrotolue	2.485	3.783	3.560	3.311	3.408	3.339	3.316	3.386	3.324 E3	11.27
20) m-Nitrotolue	2.614	3.748	3.479	3.240	3.284	3.214	3.189	3.255	3.253 E3	9.79
21) PETN									0.000	-1.00

Signal #2

1) TNX	0.928	1.483	1.303	1.202	1.202	1.170	1.148	1.152	1.198 E4	13.02
2) HMX	7.357	7.076	5.548	4.844	4.614	4.429	4.365	4.410	5.330 E3	23.02
---- Linear regr., Force(0,0) ---- Coefficient = 0.9999										
Response Ratio = 0.00000 + 4404.97115 *A										
3) DNX	0.955	1.168	1.069	0.986	0.987	0.957	0.941	0.954	1.002 E4	7.82
4) MNX	0.714	1.043	0.946	0.883	0.893	0.872	0.858	0.870	0.885 E4	10.40
5) RDX	2.574	3.681	3.289	3.062	3.084	3.015	2.969	3.013	3.086 E3	10.12
6) 1,3,5-Trinit	1.788	7.629	6.419	6.494	6.108	6.933	6.279	6.426	6.009 E3	29.47
---- Linear regr., Force(0,0) ---- Coefficient = 0.9995										
Response Ratio = 0.00000 + 6410.77202 *A										
7) 1,3-Dinitrob	7.208	4.057	8.473	3.613	3.638	3.844	3.570	3.580	4.748 E3	40.98
---- Linear regr., Force(0,0) ---- Coefficient = 0.9993										
Response Ratio = 0.00000 + 3587.95016 *A										
8) 3,5-Dinitroa	6.925	7.967	8.394	7.050	6.969	6.781	6.600	6.713	7.175 E3	9.02
9) Nitrobenzene	5.554	3.748	3.476	3.095	3.125	3.061	3.045	3.086	3.524 E3	24.34
---- Linear regr., Force(0,0) ---- Coefficient = 0.9999										
Response Ratio = 0.00000 + 3077.85492 *A										

Initial Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GBB2740-ICC2740
Lab FileID: BB088915.D

```
10) Nitroglyceri 2.417 1.857 1.620 1.317 1.324 1.266 1.267 1.282 1.544 E3  26.70
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
              Response Ratio = 0.00000 + 1279.15704 *A

11) Tetryl       4.455 5.717 5.303 4.746 4.838 4.798 4.772 4.850 4.935 E3   7.94
12) 2,4,6-Trinit 4.145 5.613 4.983 4.369 4.440 4.460 4.430 4.532 4.622 E3  10.04
13) 2-Amino-4,6- 4.334 5.543 4.854 4.731 4.850 4.932 4.938 5.005 4.898 E3   6.82
14) 4-Amino-2,6- 2.839 5.214 4.794 4.430 4.648 4.700 4.728 4.812 4.520 E3  15.79
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
              Response Ratio = 0.00000 + 4790.53972 *A

15) 3,4-Dinitrot 2.613 4.253 3.974 3.536 3.647 3.582 3.589 3.649 3.605 E3  13.05
16) 2,4-Dinitrot 2.545 3.013 3.271 3.150 3.263 3.203 3.178 3.212 3.105 E3   7.73
17) 2,6-Dinitrot 2.983 3.643 3.624 3.411 3.544 3.477 3.455 3.506 3.455 E3   5.98
18) o-Nitrotolue 3.107 3.549 3.037 3.031 3.160 3.081 3.135 3.246 3.168 E3   5.33
19) p-Nitrotolue 1.325 2.367 2.522 2.384 2.740 2.741 2.820 2.927 2.478 E3  20.51
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9997
              Response Ratio = 0.00000 + 2898.40246 *A

20) m-Nitrotolue 2.847 3.856 3.818 3.090 3.710 3.803 3.871 4.004 3.625 E3  11.54
21) PETN         1.260 1.556 1.455 1.446 1.403 1.370 1.406 1.431 1.416 E3   5.90
---------------------------------------------------------------------------
(#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          BBB2740_073025.M        Fri Aug 01 11:15:39 2025
```

8.7.1

8

Initial Calibration Verification

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GBB2740-ICV2740
Lab FileID: BB088918.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088918.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088918.D\dad1A.ch
Acq On : 30-Jul-2025, 14:18:08 Operator: fouads
Sample : icv2740-1000 Inst : G1315B
Misc : OP10595,gbb2740,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 31 11:26:54 2025
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX		----------NA----------				
2	HMX	1000.000	852.606	14.7	93	-0.01	1.29- 1.89
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	RDX	1000.000	881.284	11.9	92	-0.01	2.68- 3.48
6	1,3,5-Trinitrobenzene	1000.000	935.186	6.5	94	-0.02	4.43- 5.23
7	1,3-Dinitrobenzene	1000.000	857.027	14.3	93	-0.02	5.62- 6.42
8	3,5-Dinitroaniline	1000.000	911.945	8.8	93	-0.03	5.99- 6.79
	----------	Amount	Calc.	%Drift			----------
9	Nitrobenzene	1000.000	935.772	6.4	95	-0.02	7.16- 7.96
	----------	Amount	Calc.	%Drift			----------
10	Nitroglycerin		----------NA----------				
11	Tetryl	1000.000	915.677	8.4	94	-0.05	9.06- 9.86
12	2,4,6-Trinitrotoluene	1000.000	911.571	8.8	94	-0.04	9.55-10.35
13	2-Amino-4,6-Dinitrotol	1000.000	913.751	8.6	95	-0.05	9.94-10.74
14	4-Amino-2,6-Dinitrotol	1000.000	923.773	7.6	95	-0.05	10.39-11.19
15 S	3,4-Dinitrotoluene		----------NA----------				
16	2,4-Dinitrotoluene	1000.000	892.727	10.7	94	-0.05	11.52-12.32
17	2,6-Dinitrotoluene	1000.000	901.420	9.9	94	-0.05	11.93-12.73
18	o-Nitrotoluene	1000.000	946.675	5.3	95	-0.05	14.92-15.80
19	p-Nitrotoluene	1000.000	951.785	4.8	95	-0.05	15.37-16.37
20	m-Nitrotoluene	1000.000	935.027	6.5	95	-0.04	16.21-17.21
21	PETN		----------NA----------				
*****	Signal #2 *****						
1	TNX		----------NA----------				
	----------	Amount	Calc.	%Drift			----------
2	HMX	1000.000	950.679	4.9	95	0.00	1.29- 1.89
	----------	Amount	Calc.	%Drift			----------
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	RDX	1000.000	892.001	10.8	91	-0.01	2.68- 3.48
	----------	Amount	Calc.	%Drift			----------
6	1,3,5-Trinitrobenzene	1000.000	875.657	12.4	81	-0.02	4.43- 5.23
7	1,3-Dinitrobenzene	1000.000	951.924	4.8	91	-0.02	5.62- 6.42

Initial Calibration Verification

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GBB2740-ICV2740
Lab FileID: BB088918.D

		Amount	Calc.	%Drift			
8	3,5-Dinitroaniline	1000.000	885.222	11.5	94	-0.03	5.99- 6.79
9	Nitrobenzene	1000.000	927.003	7.3	94	-0.02	7.16- 7.96
10	Nitroglycerin	1000.000	947.798	5.2	97	-0.04	8.59- 9.59
11	Tetryl	1000.000	919.693	8.0	95	-0.05	9.06- 9.86
12	2,4,6-Trinitrotoluene	1000.000	914.726	8.5	95	-0.04	9.55-10.35
13	2-Amino-4,6-Dinitrotol	1000.000	958.047	4.2	95	-0.05	9.94-10.74
14	4-Amino-2,6-Dinitrotol	1000.000	937.948	6.2	96	-0.05	10.39-11.19
15 S	3,4-Dinitrotoluene	----------	NA	----------			
16	2,4-Dinitrotoluene	1000.000	973.621	2.6	94	-0.05	11.52-12.32
17	2,6-Dinitrotoluene	1000.000	949.344	5.1	94	-0.05	11.93-12.73
18	o-Nitrotoluene	1000.000	932.678	6.7	96	-0.05	14.80-15.80
19	p-Nitrotoluene	1000.000	899.706	10.0	95	-0.05	15.37-16.37
20	m-Nitrotoluene	1000.000	987.903	1.2	94	-0.04	16.21-17.21
21	PETN	1000.000	923.920	7.6	95	-0.04	17.81-19.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

BB088915.D BBB2740_073025.M Fri Aug 01 11:09:07 2025

8.7.2

8

Continuing Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GBB2779-CC2740
Lab FileID: BB089889.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089889.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089889.D\dad1A.ch
Acq On : 24-Oct-2025, 14:16:57 Operator: fouads
Sample : cc2740-1000 Inst : G1315B
Misc : OP12007,gbb2779,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Oct 28 14:46:21 2025
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1		TNX		----------NA----------				
2		HMX	1000.000	892.091	10.8	97	0.02	1.35- 1.95
3		DNX		----------NA----------				
4		MNX		----------NA----------				
5		RDX	1000.000	933.157	6.7	97	0.02	2.81- 3.61
6		1,3,5-Trinitrobenzene	1000.000	1027.992	-2.8	104	0.03	4.56- 5.36
7		1,3-Dinitrobenzene	1000.000	954.420	4.6	104	0.03	5.77- 6.57
8		3,5-Dinitroaniline	1000.000	982.802	1.7	101	0.04	6.22- 7.02
9		Nitrobenzene	1000.000	987.927	1.2	100	0.05	7.28- 8.08
10		Nitroglycerin		----------NA----------				
11		Tetryl	1000.000	973.746	2.6	100	0.11	9.18- 9.98
12		2,4,6-Trinitrotoluene	1000.000	1006.700	-0.7	104	0.10	9.63-10.43
13		2-Amino-4,6-Dinitrotol	1000.000	939.575	6.0	97	0.12	10.21-11.01
14		4-Amino-2,6-Dinitrotol	1000.000	961.670	3.8	99	0.13	10.61-11.41
15	S	3,4-Dinitrotoluene	1000.000	1149.619	-15.0	123	0.15	10.90-11.70
16		2,4-Dinitrotoluene	1000.000	932.633	6.7	98	0.12	11.62-12.42
17		2,6-Dinitrotoluene	1000.000	1061.095	-6.1	111	0.13	11.98-12.78
18		o-Nitrotoluene	1000.000	974.087	2.6	98	0.13	14.89-15.76
19		p-Nitrotoluene	1000.000	1031.069	-3.1	103	0.14	15.33-16.33
20		m-Nitrotoluene	1000.000	1007.313	-0.7	102	0.12	16.15-17.15
21		PETN		----------NA----------				

***** Signal #2 *****

1		TNX		----------NA----------				
2		HMX	1000.000	990.815	0.9	100	0.02	1.35- 1.95
3		DNX		----------NA----------				
4		MNX		----------NA----------				
5		RDX	1000.000	951.910	4.8	97	0.02	2.81- 3.61
6		1,3,5-Trinitrobenzene	1000.000	1034.397	-3.4	96	0.03	4.56- 5.36
7		1,3-Dinitrobenzene	1000.000	1091.611	-9.2	104	0.03	5.77- 6.57
8		3,5-Dinitroaniline	1000.000	926.991	7.3	98	0.04	6.22- 7.02
9		Nitrobenzene	1000.000	981.852	1.8	99	0.05	7.28- 8.08
10		Nitroglycerin	1000.000	957.503	4.2	98	0.06	8.58- 9.58
11		Tetryl	1000.000	958.523	4.1	99	0.11	9.18- 9.98
12		2,4,6-Trinitrotoluene	1000.000	974.602	2.5	101	0.10	9.63-10.43
13		2-Amino-4,6-Dinitrotol	1000.000	916.605	8.3	91	0.12	10.21-11.01
14		4-Amino-2,6-Dinitrotol	1000.000	953.622	4.6	96	0.13	10.61-11.41
15	S	3,4-Dinitrotoluene	1000.000	1169.670	-17.0#	118	0.15	10.90-11.70
16		2,4-Dinitrotoluene	1000.000	933.746	6.6	91	0.12	11.62-12.42
17		2,6-Dinitrotoluene	1000.000	1072.653	-7.3	107	0.13	11.99-12.79

Continuing Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GBB2779-CC2740
Lab FileID: BB089889.D

18	o-Nitrotoluene	1000.000	975.498	2.5	100	0.13	14.76-15.76
19	p-Nitrotoluene	1000.000	900.184	10.0	93	0.14	15.33-16.33
20	m-Nitrotoluene	1000.000	1027.704	-2.8	98	0.12	16.16-17.16
21	PETN	1000.000	946.495	5.4	98	0.09	17.61-18.81

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB088915.D BBB2740_073025.M Wed Oct 29 13:32:56 2025

Continuing Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GBB2779-CC2740
Lab FileID: BB089890.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089890.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089890.D\dad1A.ch
Acq On : 24-Oct-2025, 14:44:22 Operator: fouads
Sample : cc2740-1000 Inst : G1315B
Misc : OP12007,gbb2779,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Oct 28 14:46:21 2025
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	472.000	541.734	-14.8	116	0.00	1.22- 1.82
2	HMX		----------NA----------				
3	DNX	1000.000	1047.336	-4.7	112	0.00	1.63- 2.23
4	MNX	1166.000	1284.901	-10.2	112	0.00	2.27- 2.87
5	RDX		----------NA----------				
6	1,3,5-Trinitrobenzene		----------NA----------				
7	1,3-Dinitrobenzene		----------NA----------				
8	3,5-Dinitroaniline		----------NA----------				
9	Nitrobenzene		----------NA----------				
10	Nitroglycerin		----------NA----------				
11	Tetryl		----------NA----------				
12	2,4,6-Trinitrotoluene		----------NA----------				
13	2-Amino-4,6-Dinitrotoluen		----------NA----------				
14	4-Amino-2,6-Dinitrotoluen		----------NA----------				
15 S	3,4-Dinitrotoluene		----------NA----------				
16	2,4-Dinitrotoluene		----------NA----------				
17	2,6-Dinitrotoluene		----------NA----------				
18	o-Nitrotoluene		----------NA----------				
19	p-Nitrotoluene		----------NA----------				
20	m-Nitrotoluene		----------NA----------				
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX	472.000	547.219	-15.9#	119	0.00	1.22- 1.82
2	HMX		----------NA----------				
3	DNX	1000.000	1071.406	-7.1	112	0.00	1.63- 2.23
4	MNX	1166.000	1284.105	-10.1	112	0.00	2.27- 2.87
5	RDX		----------NA----------				
6	1,3,5-Trinitrobenzene		----------NA----------				
7	1,3-Dinitrobenzene		----------NA----------				
8	3,5-Dinitroaniline		----------NA----------				
9	Nitrobenzene		----------NA----------				
10	Nitroglycerin		----------NA----------				
11	Tetryl		----------NA----------				
12	2,4,6-Trinitrotoluene		----------NA----------				
13	2-Amino-4,6-Dinitrotoluen		----------NA----------				
14	4-Amino-2,6-Dinitrotoluen		----------NA----------				
15 S	3,4-Dinitrotoluene		----------NA----------				
16	2,4-Dinitrotoluene		----------NA----------				
17	2,6-Dinitrotoluene		----------NA----------				

Continuing Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GBB2779-CC2740
Lab FileID: BB089890.D

18	o-Nitrotoluene	----------NA----------	
19	p-Nitrotoluene	----------NA----------	
20	m-Nitrotoluene	----------NA----------	
21	PETN	----------NA----------	

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB088915.D BBB2740_073025.M Wed Oct 29 13:32:57 2025

Continuing Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GBB2779-ECC2740
Lab FileID: BB089901.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089901.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089901.D\dad1A.ch
Acq On : 24-Oct-2025, 20:03:34 Operator: fouads
Sample : ecc2740-1000 Inst : G1315B
Misc : OP12007,gbb2779,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Oct 28 14:46:21 2025
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1		TNX		----------NA----------				
2		HMX	1000.000	904.375	9.6	99	0.01	1.35- 1.95
3		DNX		----------NA----------				
4		MNX		----------NA----------				
5		RDX	1000.000	942.150	5.8	98	0.00	2.81- 3.61
6		1,3,5-Trinitrobenzene	1000.000	1038.246	-3.8	105	0.00	4.56- 5.36
7		1,3-Dinitrobenzene	1000.000	960.438	4.0	105	0.00	5.77- 6.57
8		3,5-Dinitroaniline	1000.000	991.460	0.9	102	0.01	6.22- 7.02
9		Nitrobenzene	1000.000	964.511	3.5	98	0.01	7.28- 8.08
10		Nitroglycerin		----------NA----------				
11		Tetryl	1000.000	977.185	2.3	100	0.04	9.18- 9.98
12		2,4,6-Trinitrotoluene	1000.000	1007.156	-0.7	104	0.03	9.63-10.43
13		2-Amino-4,6-Dinitrotol	1000.000	939.897	6.0	97	0.04	10.21-11.01
14		4-Amino-2,6-Dinitrotol	1000.000	963.447	3.7	99	0.05	10.61-11.41
15	S	3,4-Dinitrotoluene	1000.000	1155.358	-15.5#	124	0.06	10.90-11.70
16		2,4-Dinitrotoluene	1000.000	933.239	6.7	98	0.05	11.62-12.42
17		2,6-Dinitrotoluene	1000.000	1053.423	-5.3	110	0.05	11.98-12.78
18		o-Nitrotoluene	1000.000	939.446	6.1	95	0.07	14.89-15.76
19		p-Nitrotoluene	1000.000	1005.658	-0.6	100	0.07	15.33-16.33
20		m-Nitrotoluene	1000.000	962.411	3.8	97	0.06	16.15-17.15
21		PETN		----------NA----------				

***** Signal #2 *****

1		TNX		----------NA----------				
2		HMX	1000.000	995.319	0.5	100	0.01	1.35- 1.95
3		DNX		----------NA----------				
4		MNX		----------NA----------				
5		RDX	1000.000	960.374	4.0	98	0.00	2.81- 3.61
6		1,3,5-Trinitrobenzene	1000.000	1039.910	-4.0	96	0.00	4.56- 5.36
7		1,3-Dinitrobenzene	1000.000	1118.513	-11.9	107	0.00	5.77- 6.57
8		3,5-Dinitroaniline	1000.000	941.304	5.9	100	0.01	6.22- 7.02
9		Nitrobenzene	1000.000	968.863	3.1	98	0.01	7.28- 8.08
10		Nitroglycerin	1000.000	978.732	2.1	100	0.02	8.58- 9.58
11		Tetryl	1000.000	968.575	3.1	100	0.04	9.18- 9.98
12		2,4,6-Trinitrotoluene	1000.000	981.346	1.9	102	0.03	9.63-10.43
13		2-Amino-4,6-Dinitrotol	1000.000	928.483	7.2	92	0.04	10.21-11.01
14		4-Amino-2,6-Dinitrotol	1000.000	964.696	3.5	98	0.05	10.61-11.41
15	S	3,4-Dinitrotoluene	1000.000	1179.905	-18.0#	119	0.06	10.90-11.70
16		2,4-Dinitrotoluene	1000.000	940.894	5.9	91	0.05	11.62-12.42
17		2,6-Dinitrotoluene	1000.000	1075.658	-7.6	107	0.05	11.99-12.79

Continuing Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GBB2779-ECC2740
Lab FileID: BB089901.D

18	o-Nitrotoluene	1000.000	850.392	15.0	87	0.07	14.76-15.76
19	p-Nitrotoluene	1000.000	889.825	11.0	92	0.07	15.33-16.33
20	m-Nitrotoluene	1000.000	988.019	1.2	94	0.06	16.16-17.16
21	PETN	1000.000	950.478	5.0	98	0.05	17.61-18.81

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB088915.D BBB2740_073025.M Wed Oct 29 13:32:58 2025

Initial Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GGG3599-ICC3599
Lab FileID: GG632470.D

Response Factor Report G1315B

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 17:33:22 2025
Response via : Initial Calibration

Calibration Files
20 =GG632465.D 50 =GG632466.D 100 =GG632467.D 200 =GG632468.D
500 =GG632469.D 1000=GG632470.D 2500=GG632471.D 5000=GG632472.D

Compound	20	50	100	200	500	1000	2500	5000	Avg		%RSD
1) TNX									0.000		-1.00
---- Linear regr., Force(0,0) ---- Coefficient = 0.0000											
Response Ratio = 0.00000 + 0.00000 *A											
2) HMX	4.094	3.585	3.389	3.567	3.357	3.303	3.242	3.260	3.475	E3	8.10
3) DNX									0.000		-1.00
4) MNX									0.000		-1.00
---- Linear regr., Force(0,0) ---- Coefficient = 0.0000											
Response Ratio = 0.00000 + 0.00000 *A											
5) 1,3,5-Trinit	1.049	0.901	0.907	0.899	0.894	0.892	0.886	0.891	0.915	E4	5.98
6) RDX	4.654	4.027	3.814	3.848	4.169	4.171	4.139	4.166	4.123	E3	6.28
7) 1,3-Dinitrob	1.339	1.246	1.200	1.216	1.202	1.203	1.192	1.201	1.225	E4	3.99
8) Nitrobenzene	9.269	7.753	7.975	8.025	7.926	7.911	7.847	7.911	8.077	E3	6.05
9) 2,4,6-Trinit	9.909	8.554	8.543	8.516	8.459	8.391	8.322	8.362	8.632	E3	6.06
10) Nitroglyceri									0.000		-1.00
11) Tetryl	7.246	6.540	6.648	6.510	6.419	6.485	6.490	6.573	6.614	E3	3.99
12) 3,4-Dinitrot	5.584	4.569	4.516	4.759	4.625	4.679	4.652	4.702	4.761	E3	7.16
13) 2,6-Dinitrot	6.768	5.733	5.415	5.947	5.848	5.883	5.876	5.922	5.924	E3	6.44
14) 2,4-Dinitrot	1.224	1.125	1.106	1.126	1.125	1.128	1.122	1.130	1.136	E4	3.20
15) 3,5-Dinitroa	1.042	0.947	0.942	0.922	0.935	0.933	0.930	0.938	0.949	E4	4.06
16) o-Nitrotolue	3.234	5.226	4.935	4.916	5.033	5.043	5.010	5.030	4.803	E3	13.35
17) p-Nitrotolue	5.771	5.281	5.121	5.071	4.982	4.946	4.940	4.977	5.136	E3	5.47
18) 4-Amino-2,6-	5.763	5.295	5.128	5.071	4.982	4.946	4.940	4.977	5.138	E3	5.44
19) m-Nitrotolue	5.558	5.537	5.211	5.403	5.320	5.283	5.302	5.357	5.371	E3	2.27
20) 2-Amino-4,6-	8.295	7.903	8.082	8.159	8.125	8.121	8.127	8.244	8.132	E3	1.43
21) PETN									0.000		-1.00

Signal #2

1) TNX									0.000		-1.00
2) HMX	1.431	1.155	1.138	1.085	1.068	1.001	0.973	0.986	1.105	E4	13.42
3) DNX									0.000		-1.00
4) MNX									0.000		-1.00
---- Linear regr., Force(0,0) ---- Coefficient = 0.0000											
Response Ratio = 0.00000 + 0.00000 *A											
5) 1,3,5-Trinit	2.087	1.836	1.382	1.823	1.813	1.808	1.794	1.805	1.793	E4	10.72
6) RDX	7.215	6.354	6.763	6.844	6.972	6.995	6.907	6.962	6.876	E3	3.62
7) 1,3-Dinitrob	1.642	1.494	1.464	1.476	1.458	1.449	1.438	1.448	1.483	E4	4.48
8) Nitrobenzene	4.733	3.331	3.449	3.771	3.647	3.651	3.625	3.663	3.734	E3	11.43
9) 2,4,6-Trinit	1.817	1.235	1.332	1.319	1.131	1.109	1.111	1.116	1.271	E4	18.82
---- Quadratic regression ---- Coefficient = 1.0000											
Response Ratio = 208647.22433 + 10912.32079 *A + 0.04160 *A^2											
10) Nitroglyceri	9.842	3.808	2.215	2.644	2.900	2.785	2.879	2.979	3.756	E3	66.52
---- Quadratic regression ---- Coefficient = 0.9999											

8.7.6

8

Initial Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GGG3599-ICC3599
Lab FileID: GG632470.D

```
              Response Ratio = 34770.82365 + 2738.47649 *A + 0.04692 *A^2

11) Tetryl       1.262 0.923 1.125 1.124 1.105 1.098 1.109 1.134 1.110 E4   8.28
12) 3,4-Dinitrot 1.379 1.017 0.893 0.912 0.895 0.895 0.914 0.923 0.979 E4  17.06
            ---- Quadratic regression ----  Coefficient =  1.0000
              Response Ratio = 25810.88151 + 8965.88723 *A + 0.05246 *A^2

13) 2,6-Dinitrot 1.593 0.719 0.857 0.781 0.859 0.851 0.855 0.862 0.922 E4  29.93
            ---- Quadratic regression ----  Coefficient =  1.0000
              Response Ratio = 797.58043 + 8482.46521 *A + 0.02703 *A^2

14) 2,4-Dinitrot 1.115 0.630 0.769 0.686 0.801 0.800 0.799 0.808 0.801 E4  17.78
            ---- Quadratic regression ----  Coefficient =  1.0000
              Response Ratio = -42648.46416 + 7955.00781 *A + 0.02594 *A^2

15) 3,5-Dinitroa 1.407 1.528 1.349 1.504 1.584 1.555 1.558 1.573 1.507 E4   5.65
16) o-Nitrotolue       1.157 0.663 0.671 0.791 0.763 0.750 0.750 0.792 E4  21.19
            ---- Quadratic regression ----  Coefficient =  0.9999
              Response Ratio = 39763.41945 + 7527.66074 *A + -0.00695 *A^2

17) p-Nitrotolue 1.162 0.857 0.987 0.984 0.913 0.908 0.917 0.920 0.956 E4   9.75
18) 4-Amino-2,6- 1.090 0.869 0.952 0.984 0.913 0.908 0.917 0.919 0.944 E4   7.20
19) m-Nitrotolue 6.085 9.531 7.183 9.694 9.318 8.998 8.977 9.026 8.602 E3  14.83
20) 2-Amino-4,6- 0.728 1.165 0.827 1.015 1.099 1.141 1.161 1.178 1.039 E4  16.53
            ---- Quadratic regression ----  Coefficient =  1.0000
              Response Ratio = -181378.17794 + 11513.03384 *A + 0.06050 *A^2

21) PETN               5.852 2.694 2.843 3.051 3.086 2.908 3.176 3.373 E3  32.77
            ---- Quadratic regression ----  Coefficient =  0.9996
              Response Ratio = 111807.20451 + 2679.43638 *A + 0.09395 *A^2

--------------------------------------------------------------------------------
(#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          GGG3599_071425.M        Mon Jul 14 17:35:09 2025
```

8.7.6

8

Initial Calibration Verification

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GGG3599-ICV3599
Lab FileID: GG632473.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632473.D\dad1B.ch Vial: 39
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632473.D\dad1A.ch
Acq On : 14-Jul-2025, 16:19:05 Operator: fouads
Sample : icv3599-1000 Inst : G1315B
Misc : op10213,GGG3599,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 17:33:22 2025
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1		TNX		----------NA----------				
2		HMX	1000.000	1109.278	-10.9	117	0.00	4.82- 5.82
3		DNX		----------NA----------				
4		MNX		----------NA----------				
5		1,3,5-Trinitrobenzene	1000.000	969.823	3.0	99	-0.01	7.25- 8.25
6		RDX	1000.000	1129.341	-12.9	112	0.00	7.60- 8.60
7		1,3-Dinitrobenzene	1000.000	1040.033	-4.0	106	0.00	9.66-10.66
8		Nitrobenzene	1000.000	1019.386	-1.9	104	-0.01	10.59-11.59
9		2,4,6-Trinitrotoluene	1000.000	1050.479	-5.0	108	-0.02	11.77-12.77
10		Nitroglycerin		----------NA----------				
11		Tetryl	1000.000	1035.214	-3.5	106	-0.01	13.33-14.33
12	S	3,4-Dinitrotoluene		----------NA----------				
13		2,6-Dinitrotoluene	1000.000	1031.842	-3.2	104	0.00	14.64-15.64
14		2,4-Dinitrotoluene	1000.000	1049.477	-4.9	106	0.00	15.35-16.35
15		3,5-Dinitroaniline	1000.000	1042.972	-4.3	106	0.03	16.36-17.36
16		o-Nitrotoluene	1000.000	1097.817	-9.8	105	-0.01	16.87-17.87
17		p-Nitrotoluene	2000.000	2031.202	-1.6	105	0.04	18.13-19.13
18		4-Amino-2,6-Dinitrotol	2000.000	2030.566	-1.5	105	0.04	18.13-19.13
19		m-Nitrotoluene	1000.000	1042.302	-4.2	106	-0.01	19.31-20.31
20		2-Amino-4,6-Dinitrotol	1000.000	1039.357	-3.9	104	0.02	20.38-21.38
21		PETN		----------NA----------				

***** Signal #2 *****

1		TNX		----------NA----------				
2		HMX	1000.000	1076.722	-7.7	119	0.00	4.82- 5.82
3		DNX		----------NA----------				
4		MNX		----------NA----------				
5		1,3,5-Trinitrobenzene	1000.000	1000.813	-0.1	99	-0.01	7.25- 8.25

Initial Calibration Verification

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GGG3599-ICV3599
Lab FileID: GG632473.D

			Amount	Calc.	%Drift			
6		RDX	1000.000	1135.073	-13.5	112	0.00	7.60- 8.60
7		1,3-Dinitrobenzene	1000.000	1035.018	-3.5	106	0.00	9.66-10.66
8		Nitrobenzene	1000.000	1019.080	-1.9	104	-0.01	10.59-11.59
			Amount	Calc.	%Drift			
9		2,4,6-Trinitrotoluene	1000.000	1084.609	-8.5	109	-0.02	11.77-12.77
10		Nitroglycerin	1000.000	2077.742	-107.8#	213	-0.02	12.61-13.61
			Amount	Calc.	%Drift			
11		Tetryl	1000.000	1065.494	-6.5	108	-0.01	13.33-14.33
			Amount	Calc.	%Drift			
12	S	3,4-Dinitrotoluene			NA			
13		2,6-Dinitrotoluene	1000.000	1073.645	-7.4	107	0.00	14.63-15.63
14		2,4-Dinitrotoluene	1000.000	1054.884	-5.5	105	0.00	15.35-16.35
			Amount	Calc.	%Drift			
15		3,5-Dinitroaniline	1000.000	1104.451	-10.4	107	0.03	16.36-17.36
			Amount	Calc.	%Drift			
16		o-Nitrotoluene	1000.000	1060.671	-6.1	105	-0.01	16.87-17.87
			Amount	Calc.	%Drift			
17		p-Nitrotoluene	2000.000	2003.408	-0.2	105	0.04	18.17-19.17
18		4-Amino-2,6-Dinitrotol	2000.000	2029.028	-1.5	105	0.04	18.17-19.17
19		m-Nitrotoluene	1000.000	1099.051	-9.9	105	-0.01	19.31-20.31
			Amount	Calc.	%Drift			
20		2-Amino-4,6-Dinitrotol	1000.000	1055.096	-5.5	105	0.02	20.38-21.38
21		PETN			NA			

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG632470.D GGG3599_071425.M Mon Jul 14 17:34:56 2025

8.7.7

8

Continuing Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GGG3647-CC3599
Lab FileID: GG633327.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633327.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633327.D\dad1A.ch
Acq On : 29-Oct-2025, 09:15:04 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX		----------NA----------				
2	HMX	1000.000	958.008	4.2	101	0.00	4.82- 5.82
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	1,3,5-Trinitrobenzene	1000.000	909.803	9.0	93	-0.04	7.00- 8.00
6	RDX	1000.000	1042.839	-4.3	103	-0.02	7.33- 8.33
7	1,3-Dinitrobenzene	1000.000	943.824	5.6	96	-0.04	9.34-10.34
8	Nitrobenzene	1000.000	936.825	6.3	96	-0.04	10.19-11.19
9	2,4,6-Trinitrotoluene	1000.000	939.891	6.0	97	-0.06	11.32-12.32
10	Nitroglycerin		----------NA----------				
11	Tetryl	1000.000	848.976	15.1	87	-0.06	12.75-13.75
12 S	3,4-Dinitrotoluene	1000.000	955.225	4.5	97	-0.07	13.74-14.74
13	2,6-Dinitrotoluene	1000.000	1110.385	-11.0	112	-0.05	14.04-15.04
14	2,4-Dinitrotoluene	1000.000	964.407	3.6	97	-0.05	14.78-15.78
15	3,5-Dinitroaniline	1000.000	874.035	12.6	89	0.00	15.71-16.71
16	o-Nitrotoluene	1000.000	1143.964	-14.4	109	-0.09	16.15-17.15
17	p-Nitrotoluene	2000.000	1823.143	8.8	95	-0.01	17.43-18.43
18	4-Amino-2,6-Dinitrotol	2000.000	1822.572	8.9	95	-0.01	17.43-18.43
19	m-Nitrotoluene	1000.000	937.498	6.3	95	-0.07	18.54-19.54
20	2-Amino-4,6-Dinitrotol	1000.000	964.742	3.5	97	-0.01	19.61-20.61
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX		----------NA----------				
2	HMX	1000.000	962.561	3.7	106	0.00	4.82- 5.82
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	1,3,5-Trinitrobenzene	1000.000	945.684	5.4	94	-0.04	7.00- 8.00

Continuing Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GGG3647-CC3599
Lab FileID: GG633327.D

			Amount	Calc.	%Drift			
6		RDX	1000.000	1045.049	-4.5	103	-0.02	7.32- 8.32
7		1,3-Dinitrobenzene	1000.000	940.541	5.9	96	-0.04	9.34-10.34
8		Nitrobenzene	1000.000	942.270	5.8	96	-0.04	10.19-11.19
			Amount	Calc.	%Drift			
9		2,4,6-Trinitrotoluene	1000.000	1096.847	-9.7	110	-0.06	11.31-12.31
10		Nitroglycerin	1000.000	1344.317	-34.4#	136	-0.08	12.12-13.12
			Amount	Calc.	%Drift			
11		Tetryl	1000.000	997.251	0.3	101	-0.06	12.75-13.75
			Amount	Calc.	%Drift			
12	S	3,4-Dinitrotoluene	1000.000	1075.051	-7.5	109	-0.07	13.73-14.73
13		2,6-Dinitrotoluene	1000.000	1140.303	-14.0	114	-0.05	14.02-15.02
14		2,4-Dinitrotoluene	1000.000	987.223	1.3	98	-0.05	14.78-15.78
			Amount	Calc.	%Drift			
15		3,5-Dinitroaniline	1000.000	954.506	4.5	93	0.00	15.71-16.71
			Amount	Calc.	%Drift			
16		o-Nitrotoluene	1000.000	1134.234	-13.4	112	-0.19	16.15-17.15
			Amount	Calc.	%Drift			
17		p-Nitrotoluene	2000.000	1753.971	12.3	92	-0.01	17.45-18.45
18		4-Amino-2,6-Dinitrotol	2000.000	1776.402	11.2	92	-0.01	17.45-18.45
19		m-Nitrotoluene	1000.000	943.676	5.6	90	-0.07	18.54-19.54
			Amount	Calc.	%Drift			
20		2-Amino-4,6-Dinitrotol	1000.000	924.964	7.5	92	-0.02	19.61-20.61
21		PETN	1000.000	979.869	2.0	92	-0.13	21.91-22.91

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG632470.D GGG3599_071425.M Fri Oct 31 07:59:38 2025

8.7.8

8

Continuing Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GGG3647-CC3599
Lab FileID: GG633339.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633339.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633339.D\dad1A.ch
Acq On : 29-Oct-2025, 15:14:06 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX		----------NA----------				
2	HMX	1000.000	952.631	4.7	100	0.00	4.82- 5.82
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	1,3,5-Trinitrobenzene	1000.000	904.762	9.5	93	-0.02	7.00- 8.00
6	RDX	1000.000	1023.499	-2.3	101	0.00	7.33- 8.33
7	1,3-Dinitrobenzene	1000.000	941.663	5.8	96	-0.02	9.34-10.34
8	Nitrobenzene	1000.000	904.569	9.5	92	-0.02	10.19-11.19
9	2,4,6-Trinitrotoluene	1000.000	933.395	6.7	96	-0.02	11.32-12.32
10	Nitroglycerin		----------NA----------				
11	Tetryl	1000.000	845.077	15.5	86	0.00	12.75-13.75
12 S	3,4-Dinitrotoluene	1000.000	950.331	5.0	97	0.00	13.74-14.74
13	2,6-Dinitrotoluene	1000.000	1111.935	-11.2	112	0.02	14.04-15.04
14	2,4-Dinitrotoluene	1000.000	963.852	3.6	97	0.01	14.78-15.78
15	3,5-Dinitroaniline	1000.000	863.973	13.6	88	0.07	15.71-16.71
16	o-Nitrotoluene	1000.000	1099.134	-9.9	105	-0.03	16.15-17.15
17	p-Nitrotoluene	2000.000	1809.455	9.5	94	0.06	17.43-18.43
18	4-Amino-2,6-Dinitrotol	2000.000	1808.888	9.6	94	0.06	17.43-18.43
19	m-Nitrotoluene	1000.000	911.430	8.9	93	0.00	18.54-19.54
20	2-Amino-4,6-Dinitrotol	1000.000	961.039	3.9	96	0.05	19.61-20.61
21	PETN		----------NA----------				
*****	Signal #2 *****						
1	TNX		----------NA----------				
2	HMX	1000.000	946.226	5.4	104	0.00	4.82- 5.82
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	1,3,5-Trinitrobenzene	1000.000	941.067	5.9	93	-0.03	7.00- 8.00

Continuing Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GGG3647-CC3599
Lab FileID: GG633339.D

			Amount	Calc.	%Drift			
6		RDX	1000.000	1035.038	-3.5	102	0.00	7.32- 8.32
7		1,3-Dinitrobenzene	1000.000	939.718	6.0	96	-0.02	9.34-10.34
8		Nitrobenzene	1000.000	914.893	8.5	94	-0.02	10.19-11.19
			Amount	Calc.	%Drift			
9		2,4,6-Trinitrotoluene	1000.000	1104.705	-10.5	111	-0.02	11.31-12.31
10		Nitroglycerin	1000.000	1343.032	-34.3#	136	-0.03	12.12-13.12
			Amount	Calc.	%Drift			
11		Tetryl	1000.000	1023.956	-2.4	103	0.00	12.75-13.75
			Amount	Calc.	%Drift			
12	S	3,4-Dinitrotoluene	1000.000	1122.131	-12.2	113	0.00	13.73-14.73
13		2,6-Dinitrotoluene	1000.000	1208.209	-20.8#	121	0.02	14.02-15.02
14		2,4-Dinitrotoluene	1000.000	1075.498	-7.5	107	0.02	14.78-15.78
			Amount	Calc.	%Drift			
15		3,5-Dinitroaniline	1000.000	954.769	4.5	93	0.07	15.71-16.71
			Amount	Calc.	%Drift			
16		o-Nitrotoluene	1000.000	1040.162	-4.0	103	-0.12	16.15-17.15
			Amount	Calc.	%Drift			
17		p-Nitrotoluene	2000.000	1749.384	12.5	92	0.06	17.45-18.45
18		4-Amino-2,6-Dinitrotol	2000.000	1771.756	11.4	92	0.06	17.45-18.45
19		m-Nitrotoluene	1000.000	911.394	8.9	87	0.00	18.54-19.54
			Amount	Calc.	%Drift			
20		2-Amino-4,6-Dinitrotol	1000.000	913.075	8.7	91	0.05	19.61-20.61
21		PETN	1000.000	1035.305	-3.5	97	-0.05	21.91-22.91

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG632470.D GGG3599_071425.M Fri Oct 31 08:29:01 2025

8.7.9

8

Continuing Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GGG3649-CC3599
Lab FileID: GG633364.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633364.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633364.D\dad1A.ch
Acq On : 31-Oct-2025, 09:37:16 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
	----------	Amount	Calc.	%Drift	----------		
1	TNX		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
2	HMX	1000.000	951.236	4.9	100	0.01	4.82- 5.82
3	DNX		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
4	MNX		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
5	1,3,5-Trinitrobenzene	1000.000	957.124	4.3	98	0.02	7.00- 8.00
6	RDX	1000.000	1026.826	-2.7	102	0.05	7.33- 8.33
7	1,3-Dinitrobenzene	1000.000	978.770	2.1	100	0.03	9.34-10.34
8	Nitrobenzene	1000.000	945.725	5.4	97	0.03	10.19-11.19
9	2,4,6-Trinitrotoluene	1000.000	955.890	4.4	98	0.01	11.32-12.32
10	Nitroglycerin		----------NA----------				
11	Tetryl	1000.000	952.827	4.7	97	0.04	12.75-13.75
12 S	3,4-Dinitrotoluene	1000.000	780.532	21.9#	79	0.03	13.74-14.74
13	2,6-Dinitrotoluene	1000.000	1136.656	-13.7	114	0.05	14.04-15.04
14	2,4-Dinitrotoluene	1000.000	974.523	2.5	98	0.04	14.78-15.78
15	3,5-Dinitroaniline	1000.000	891.126	10.9	91	0.10	15.71-16.71
16	o-Nitrotoluene	1000.000	1044.322	-4.4	99	0.00	16.15-17.15
17	p-Nitrotoluene	2000.000	1886.409	5.7	98	0.09	17.43-18.43
18	4-Amino-2,6-Dinitrotol	2000.000	1885.819	5.7	98	0.09	17.43-18.43
19	m-Nitrotoluene	1000.000	956.539	4.3	97	0.01	18.54-19.54
20	2-Amino-4,6-Dinitrotol	1000.000	968.471	3.2	97	0.08	19.61-20.61
21	PETN		----------NA----------				
*****	Signal #2 *****						
1	TNX		----------NA----------				
2	HMX	1000.000	942.668	5.7	104	0.01	4.82- 5.82
3	DNX		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
4	MNX		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
5	1,3,5-Trinitrobenzene	1000.000	993.006	0.7	99	0.02	7.00- 8.00

Continuing Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GGG3649-CC3599
Lab FileID: GG633364.D

			Amount	Calc.	%Drift			
6		RDX	1000.000	1034.902	-3.5	102	0.06	7.32- 8.32
7		1,3-Dinitrobenzene	1000.000	977.830	2.2	100	0.03	9.34-10.34
8		Nitrobenzene	1000.000	954.910	4.5	98	0.03	10.19-11.19
			Amount	Calc.	%Drift			
9		2,4,6-Trinitrotoluene	1000.000	1135.236	-13.5	114	0.01	11.31-12.31
10		Nitroglycerin	1000.000	1463.287	-46.3#	149	0.00	12.12-13.12
			Amount	Calc.	%Drift			
11		Tetryl	1000.000	1164.510	-16.5	118	0.03	12.75-13.75
			Amount	Calc.	%Drift			
12	S	3,4-Dinitrotoluene	1000.000	943.584	5.6	95	0.04	13.73-14.73
13		2,6-Dinitrotoluene	1000.000	1217.626	-21.8#	122	0.06	14.02-15.02
14		2,4-Dinitrotoluene	1000.000	1057.040	-5.7	105	0.04	14.78-15.78
			Amount	Calc.	%Drift			
15		3,5-Dinitroaniline	1000.000	982.568	1.7	95	0.10	15.71-16.71
			Amount	Calc.	%Drift			
16		o-Nitrotoluene	1000.000	1023.779	-2.4	101	-0.02	16.15-17.15
			Amount	Calc.	%Drift			
17		p-Nitrotoluene	2000.000	1877.181	6.1	99	0.09	17.45-18.45
18		4-Amino-2,6-Dinitrotol	2000.000	1901.187	4.9	99	0.09	17.45-18.45
19		m-Nitrotoluene	1000.000	974.987	2.5	93	0.01	18.54-19.54
			Amount	Calc.	%Drift			
20		2-Amino-4,6-Dinitrotol	1000.000	927.029	7.3	92	0.08	19.61-20.61
21		PETN	1000.000	1010.185	-1.0	94	-0.08	21.91-22.91

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG632470.D GGG3599_071425.M Mon Nov 03 08:58:32 2025

8.7.10

8

Continuing Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GGG3649-CC3599
Lab FileID: GG633375.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633375.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633375.D\dad1A.ch
Acq On : 31-Oct-2025, 14:38:39 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
	---------- Amount Calc. %Drift ----------						
1	TNX		----------NA----------				
	---------- Amount Calc. %Drift ----------						
2	HMX	1000.000	943.068	5.7	99	0.02	4.82- 5.82
3	DNX		----------NA----------				
	---------- Amount Calc. %Drift ----------						
4	MNX		----------NA----------				
	---------- Amount Calc. %Drift ----------						
5	1,3,5-Trinitrobenzene	1000.000	951.994	4.8	98	0.05	7.00- 8.00
6	RDX	1000.000	1014.458	-1.4	100	0.10	7.33- 8.33
7	1,3-Dinitrobenzene	1000.000	973.759	2.6	99	0.08	9.34-10.34
8	Nitrobenzene	1000.000	900.232	10.0	92	0.09	10.19-11.19
9	2,4,6-Trinitrotoluene	1000.000	943.633	5.6	97	0.08	11.32-12.32
10	Nitroglycerin		----------NA----------				
11	Tetryl	1000.000	960.751	3.9	98	0.13	12.75-13.75
12 S	3,4-Dinitrotoluene	1000.000	872.858	12.7	89	0.13	13.74-14.74
13	2,6-Dinitrotoluene	1000.000	1069.780	-7.0	108	0.14	14.04-15.04
14	2,4-Dinitrotoluene	1000.000	976.464	2.4	98	0.13	14.78-15.78
15	3,5-Dinitroaniline	1000.000	918.942	8.1	93	0.22	15.71-16.71
16	o-Nitrotoluene	1000.000	1066.755	-6.7	102	0.02	16.15-17.15
17	p-Nitrotoluene	2000.000	1870.011	6.5	97	0.23	17.43-18.43
18	4-Amino-2,6-Dinitrotol	2000.000	1869.425	6.5	97	0.23	17.43-18.43
19	m-Nitrotoluene	1000.000	916.954	8.3	93	0.13	18.54-19.54
20	2-Amino-4,6-Dinitrotol	1000.000	962.326	3.8	96	0.22	19.61-20.61
21	PETN		----------NA----------				
*****	Signal #2 *****						
1	TNX		----------NA----------				
2	HMX	1000.000	946.227	5.4	104	0.02	4.82- 5.82
3	DNX		----------NA----------				
	---------- Amount Calc. %Drift ----------						
4	MNX		----------NA----------				
	---------- Amount Calc. %Drift ----------						
5	1,3,5-Trinitrobenzene	1000.000	987.160	1.3	98	0.05	7.00- 8.00

8.7.11

8

Continuing Calibration Summary

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Sample: GGG3649-CC3599
Lab FileID: GG633375.D

			Amount	Calc.	%Drift			
6		RDX	1000.000	1019.829	-2.0	100	0.10	7.32- 8.32
7		1,3-Dinitrobenzene	1000.000	971.402	2.9	99	0.08	9.34-10.34
8		Nitrobenzene	1000.000	904.653	9.5	93	0.09	10.19-11.19
			Amount	Calc.	%Drift			
9		2,4,6-Trinitrotoluene	1000.000	1142.086	-14.2	115	0.08	11.31-12.31
10		Nitroglycerin	1000.000	1598.774	-59.9#	163	0.08	12.12-13.12
			Amount	Calc.	%Drift			
11		Tetryl	1000.000	1204.611	-20.5#	122	0.13	12.75-13.75
			Amount	Calc.	%Drift			
12	S	3,4-Dinitrotoluene	1000.000	949.182	5.1	96	0.14	13.73-14.73
13		2,6-Dinitrotoluene	1000.000	1271.033	-27.1#	127	0.14	14.02-15.02
14		2,4-Dinitrotoluene	1000.000	1082.293	-8.2	107	0.13	14.78-15.78
			Amount	Calc.	%Drift			
15		3,5-Dinitroaniline	1000.000	993.212	0.7	96	0.22	15.71-16.71
			Amount	Calc.	%Drift			
16		o-Nitrotoluene	1000.000	1120.224	-12.0	111	0.03	16.15-17.15
			Amount	Calc.	%Drift			
17		p-Nitrotoluene	2000.000	1909.870	4.5	101	0.23	17.45-18.45
18		4-Amino-2,6-Dinitrotol	2000.000	1934.294	3.3	101	0.23	17.45-18.45
19		m-Nitrotoluene	1000.000	953.353	4.7	91	0.13	18.54-19.54
			Amount	Calc.	%Drift			
20		2-Amino-4,6-Dinitrotol	1000.000	919.254	8.1	92	0.22	19.61-20.61
21		PETN	1000.000	1022.179	-2.2	96	0.01	21.91-22.91

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG632470.D GGG3599_071425.M Mon Nov 03 09:06:50 2025

8.7.11

8

Run Sequence Report

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Run ID: GBB2740	**Method:** SW846 8330A	**Instrument ID:** GCBB

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GBB2740-IC2740	BB088910.D	07/30/25 09:25	n/a	Initial cal 20
GBB2740-IC2740	BB088911.D	07/30/25 09:52	n/a	Initial cal 50
GBB2740-IC2740	BB088912.D	07/30/25 10:20	n/a	Initial cal 100
GBB2740-IC2740	BB088913.D	07/30/25 10:47	n/a	Initial cal 200
GBB2740-IC2740	BB088914.D	07/30/25 11:15	n/a	Initial cal 500
GBB2740-ICC2740	BB088915.D	07/30/25 12:55	n/a	Initial cal 1000
GBB2740-IC2740	BB088916.D	07/30/25 13:23	n/a	Initial cal 2500
GBB2740-IC2740	BB088917.D	07/30/25 13:50	n/a	Initial cal 5000
GBB2740-ICV2740	BB088918.D	07/30/25 14:18	n/a	Initial cal verification 1000
OP10686-MB	BB088919.D	07/30/25 14:52	OP10686	Method Blank
OP10686-BS	BB088920.D	07/30/25 15:58	OP10686	Blank Spike
FC26501-1	BB088921.D	07/30/25 16:25	OP10686	(used for QC only; not part of job FC28746)
OP10686-MS	BB088922.D	07/30/25 16:52	OP10686	Matrix Spike
OP10686-MSD	BB088923.D	07/30/25 17:20	OP10686	Matrix Spike Duplicate
ZZZZZZ	BB088924.D	07/30/25 17:47	OP10686	(unrelated sample)
ZZZZZZ	BB088925.D	07/30/25 18:15	OP10686	(unrelated sample)
GBB2740-CC2740	BB088928.D	07/30/25 19:37	n/a	Continuing cal 1000
ZZZZZZ	BB088931.D	07/30/25 21:00	OP10645	(unrelated sample)
ZZZZZZ	BB088932.D	07/30/25 21:27	OP10645	(unrelated sample)
ZZZZZZ	BB088933.D	07/30/25 21:55	OP10645	(unrelated sample)
ZZZZZZ	BB088934.D	07/30/25 22:22	OP10645	(unrelated sample)
ZZZZZZ	BB088935.D	07/30/25 22:49	OP10645	(unrelated sample)
GBB2740-ECC2740	BB088937.D	07/30/25 23:44	n/a	Ending cal 1000

Run Sequence Report

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Run ID: GBB2779 **Method:** SW846 8330B **Instrument ID:** GCBB

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GBB2779-CC2740	BB089880.D	10/24/25 10:28	n/a	Continuing cal 1000
GBB2779-CC2740	BB089881.D	10/24/25 10:55	n/a	Continuing cal 1000
OP12119-MB	BB089882.D	10/24/25 11:32	OP12119	Method Blank
OP12119-BS	BB089883.D	10/24/25 11:59	OP12119	Blank Spike
ZZZZZZ	BB089884.D	10/24/25 12:27	OP12119	(unrelated sample)
ZZZZZZ	BB089885.D	10/24/25 12:54	OP12119	(unrelated sample)
OP12119-MS	BB089886.D	10/24/25 13:22	OP12119	Matrix Spike
OP12119-MSD	BB089887.D	10/24/25 13:49	OP12119	Matrix Spike Duplicate
GBB2779-CC2740	BB089889.D	10/24/25 14:16	n/a	Continuing cal 1000
GBB2779-CC2740	BB089890.D	10/24/25 14:44	n/a	Continuing cal 1000
OP12165-MB	BB089891.D	10/24/25 15:29	OP12165	Method Blank
OP12165-BS	BB089892.D	10/24/25 15:56	OP12165	Blank Spike
FC28746-1	BB089893.D	10/24/25 16:24	OP12165	54MW13
OP12165-MS	BB089894.D	10/24/25 16:51	OP12165	Matrix Spike
OP12165-MSD	BB089895.D	10/24/25 17:18	OP12165	Matrix Spike Duplicate
FC28746-2	BB089896.D	10/24/25 17:46	OP12165	54MW10
FC28746-3	BB089897.D	10/24/25 18:13	OP12165	54TW10
FC28746-4	BB089898.D	10/24/25 18:41	OP12165	54MW12
FC28746-5	BB089899.D	10/24/25 19:08	OP12165	54MW1
GBB2779-ECC2740	BB089901.D	10/24/25 20:03	n/a	Ending cal 1000
GBB2779-ECC2740	BB089902.D	10/27/25 09:15	n/a	Ending cal 1000

Run Sequence Report

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Run ID: GGG3599 **Method:** SW846 8330B **Instrument ID:** GCGG

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GGG3599-IC3599	GG632465.D	07/14/25 12:38	n/a	Initial cal 20
GGG3599-IC3599	GG632466.D	07/14/25 13:06	n/a	Initial cal 50
GGG3599-IC3599	GG632467.D	07/14/25 13:34	n/a	Initial cal 100
GGG3599-IC3599	GG632468.D	07/14/25 14:01	n/a	Initial cal 200
GGG3599-IC3599	GG632469.D	07/14/25 14:29	n/a	Initial cal 500
GGG3599-ICC3599	GG632470.D	07/14/25 14:56	n/a	Initial cal 1000
GGG3599-IC3599	GG632471.D	07/14/25 15:24	n/a	Initial cal 2500
GGG3599-IC3599	GG632472.D	07/14/25 15:51	n/a	Initial cal 5000
GGG3599-ICV3599	GG632473.D	07/14/25 16:19	n/a	Initial cal verification 1000
OP10213-MB	GG632476.D	07/14/25 17:50	OP10213	Method Blank
ZZZZZZ	GG632478.D	07/14/25 18:45	OP10213	(unrelated sample)
OP10214-MB	GG632481.D	07/14/25 20:08	OP10214	Method Blank
ZZZZZZ	GG632482.D	07/14/25 20:35	OP10214	(unrelated sample)
ZZZZZZ	GG632483.D	07/14/25 21:03	OP10214	(unrelated sample)
GGG3599-CC3599	GG632485.D	07/14/25 21:58	n/a	Continuing cal 1000
OP10269-MB	GG632486.D	07/14/25 22:25	OP10269	Method Blank
OP10286-MB	GG632490.D	07/15/25 00:15	OP10286	Method Blank
ZZZZZZ	GG632491.D	07/15/25 00:43	OP10286	(unrelated sample)
ZZZZZZ	GG632492.D	07/15/25 01:10	OP10286	(unrelated sample)
ZZZZZZ	GG632493.D	07/15/25 01:38	OP10286	(unrelated sample)
FC25850-1	GG632494.D	07/15/25 02:05	OP10286	(used for QC only; not part of job FC28746)
ZZZZZZ	GG632495.D	07/15/25 02:33	OP10286	(unrelated sample)
GGG3599-CC3599	GG632497.D	07/15/25 03:28	n/a	Continuing cal 1000
ZZZZZZ	GG632498.D	07/15/25 03:55	OP10286	(unrelated sample)
ZZZZZZ	GG632499.D	07/15/25 04:23	OP10286	(unrelated sample)
ZZZZZZ	GG632500.D	07/15/25 04:50	OP10286	(unrelated sample)
ZZZZZZ	GG632501.D	07/15/25 05:18	OP10286	(unrelated sample)
GGG3599-ECC3599	GG632503.D	07/15/25 06:13	n/a	Ending cal 500

Run Sequence Report

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Run ID: GGG3647 **Method:** SW846 8330A **Instrument ID:** GCGG

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GGG3647-CC3599	GG633327.D	10/29/25 09:15	n/a	Continuing cal 1000
OP12165-MB	GG633328.D	10/29/25 10:26	OP12165	Method Blank
FC28746-1	GG633329.D	10/29/25 10:52	OP12165	54MW13
FC28746-2	GG633330.D	10/29/25 11:18	OP12165	54MW10
FC28746-4	GG633331.D	10/29/25 11:45	OP12165	54MW12
ZZZZZZ	GG633332.D	10/29/25 12:11	OP12244	(unrelated sample)
ZZZZZZ	GG633333.D	10/29/25 12:37	OP12244	(unrelated sample)
ZZZZZZ	GG633334.D	10/29/25 13:03	OP12244	(unrelated sample)
FC28767-5	GG633335.D	10/29/25 13:29	OP12244	(used for QC only; not part of job FC28746)
ZZZZZZ	GG633336.D	10/29/25 13:55	OP12244	(unrelated sample)
ZZZZZZ	GG633337.D	10/29/25 14:21	OP12244	(unrelated sample)
GGG3647-CC3599	GG633339.D	10/29/25 15:14	n/a	Continuing cal 1000
GGG3647-ECC3599	GG633345.D	10/29/25 17:57	n/a	Ending cal 1000

Run Sequence Report

Job Number: FC28746
Account: CAPEFLJ Cape Environmental
Project: Radford Army Ammunition Plant SMWU 54; VA

Run ID: GGG3649 **Method:** SW846 8330A **Instrument ID:** GCGG

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GGG3649-CC3599	GG633364.D	10/31/25 09:37	n/a	Continuing cal 1000
FC28746-3	GG633365.D	10/31/25 10:17	OP12165	54TW10
OP12252-MB	GG633366.D	10/31/25 10:43	OP12252	Method Blank
ZZZZZZ	GG633370.D	10/31/25 12:27	OP12252	(unrelated sample)
ZZZZZZ	GG633371.D	10/31/25 12:54	OP12252	(unrelated sample)
ZZZZZZ	GG633372.D	10/31/25 13:20	OP12252	(unrelated sample)
ZZZZZZ	GG633373.D	10/31/25 13:46	OP12252	(unrelated sample)
GGG3649-CC3599	GG633375.D	10/31/25 14:38	n/a	Continuing cal 1000
ZZZZZZ	GG633376.D	10/31/25 15:04	OP12252	(unrelated sample)
GGG3649-ECC3599	GG633379.D	10/31/25 15:57	n/a	Ending cal 1000

GC/LC Semi-volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan 11/04/25 10:12

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1A.ch
Acq On : 24-Oct-2025, 16:24:03 Operator: fouads
Sample : fc28746-1 Inst : G1315B
Misc : OP12165,gbb2779,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 08:02:30 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 07:22:56 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.38	11.38	1126107	1536068	525.850m	426.042m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		105.17%	85.21%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.66	1.66	548152	1489987	313.201m	320.593m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	3.21	3.21	174724	277388	88.430	89.892
6)	1,3,5-Trinitrobe	4.96	4.96	7459985	11934945	1824.940	1854.897
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	6.63	6.64	225481	339885	55.090m	47.372m
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	10.08	10.08	2451322	2727191	639.700	590.100
13)	2-Amino-4,6-Dini	10.68	10.68	547905	712712	159.816m	145.499
14)	4-Amino-2,6-Dini	11.19	11.17	206038	396832	83.831m	87.920m
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

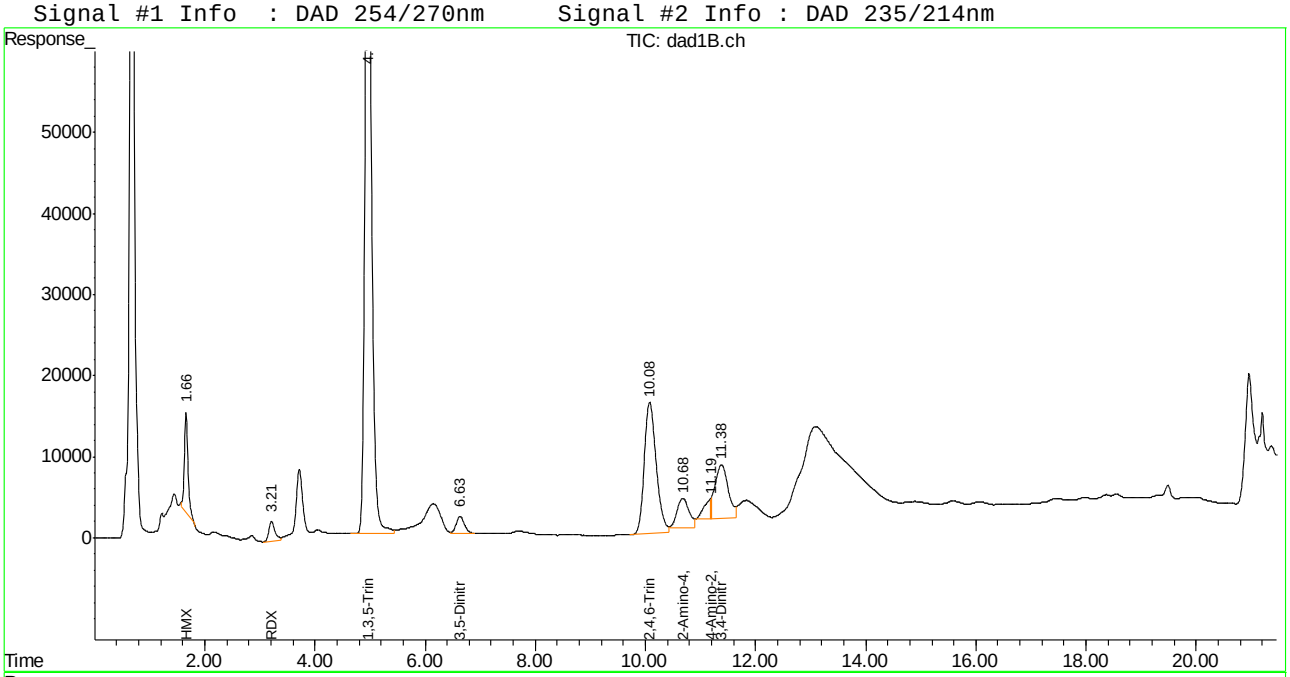
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB089893.D BBB2740_073025.M Tue Nov 04 08:14:13 2025 Page 1

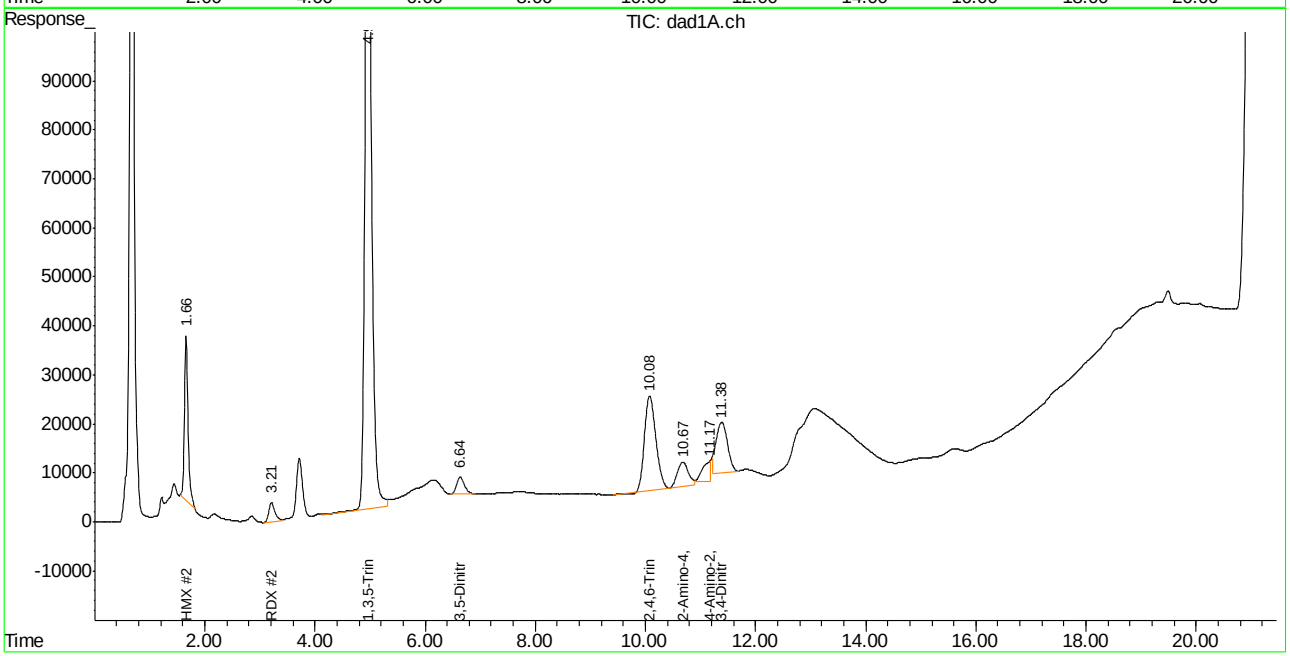
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1A.ch
Acq On : 24-Oct-2025, 16:24:03 Operator: fouads
Sample : fc28746-1 Inst : G1315B
Misc : OP12165,gbb2779,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Nov 4 8:10 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 07:22:56 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

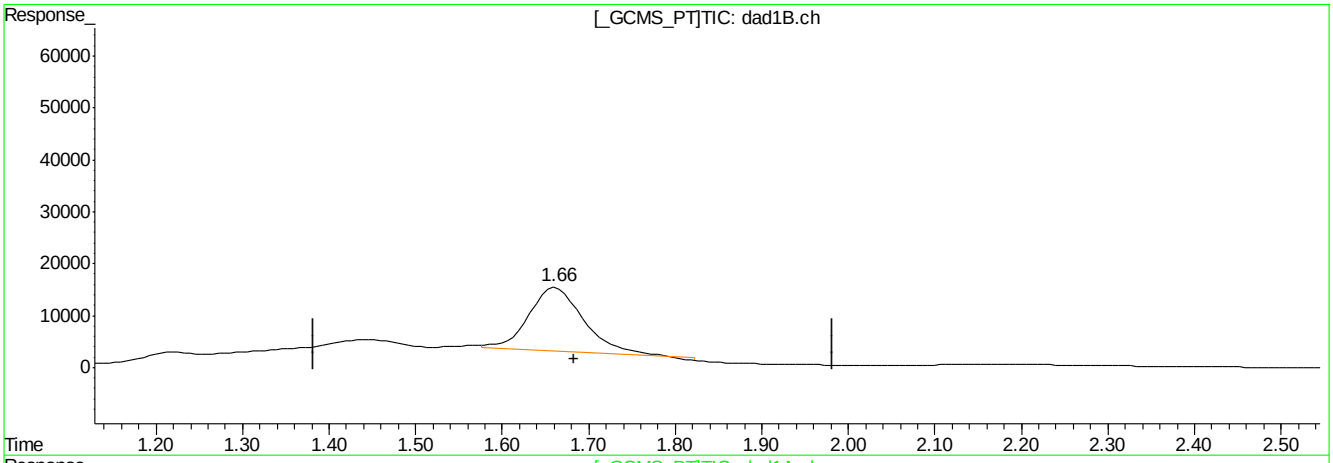
Sample Number: FC28746-1
Lab FileID: BB089893.D
Injection Time: 10/24/25 16:24
Method: SW846 8330B
Analyst approved: 11/04/25 08:30 Fouad Sekkar
Supervisor approved: 11/04/25 10:12 Naresh Jiawan

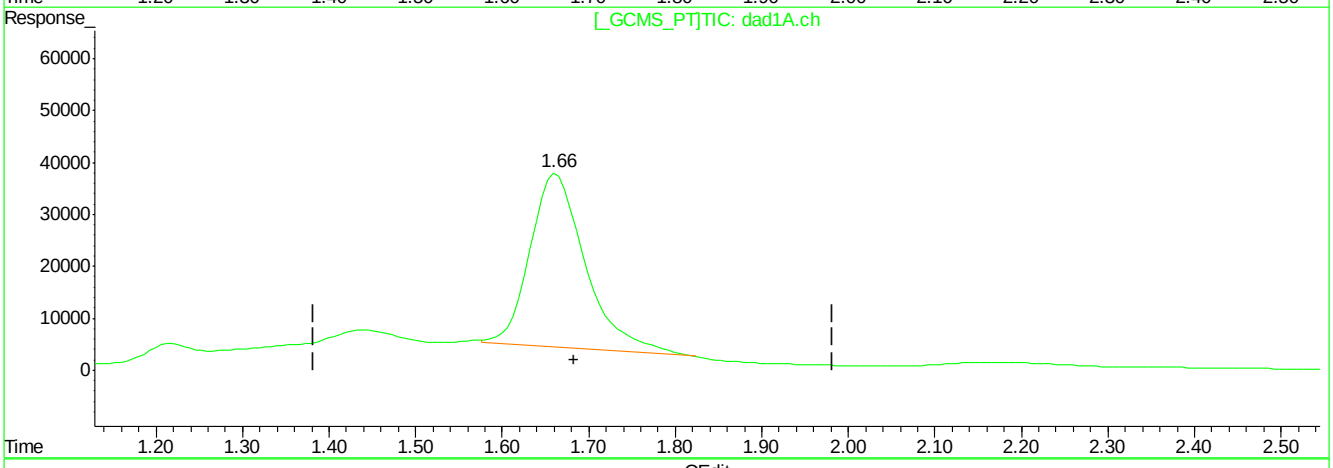
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.66	Missed peak
HMX	2691-41-0	2	1.66	Missed peak
3,5-Dinitroaniline	618-87-1	1	6.63	Missed peak
3,5-Dinitroaniline	618-87-1	2	6.64	Missed peak
2-amino-4,6-Dinitrotoluene	35572-78-2	1	10.68	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	11.17	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	1	11.19	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	1	11.38	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	11.38	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1A.ch
Acq On : 24-Oct-2025, 16:24:03 Operator: fouads
Sample : fc28746-1 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

1.66min 313.201ppb m

response 548152

(2) HMX #2

1.66min 320.593ppb m

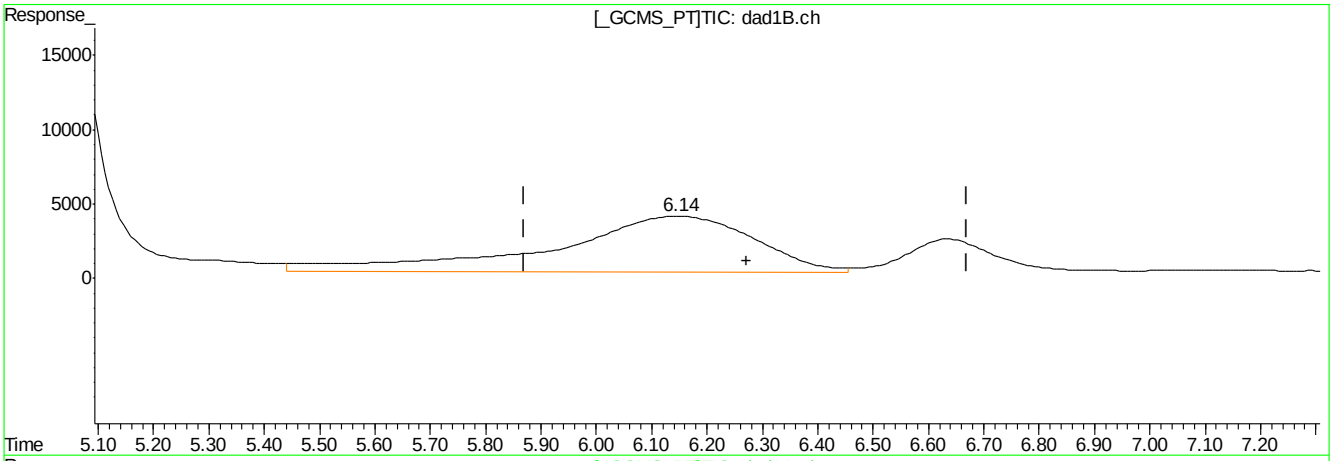
response 1489987

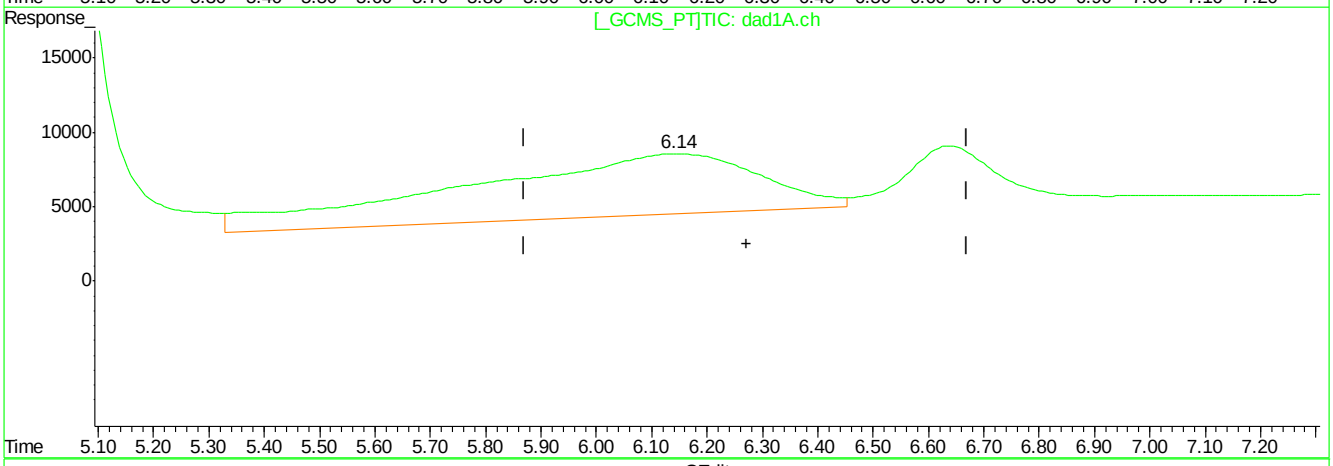
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BB089893.D BBB2740_073025.M Mon Oct 27 12:55:36 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1A.ch
Acq On : 24-Oct-2025, 16:24:03 Operator: fouads
Sample : fc28746-1 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

6.15min 169.047ppb

response 959297

(7) 1,3-Dinitrobenzene #2

6.14min 415.944ppb

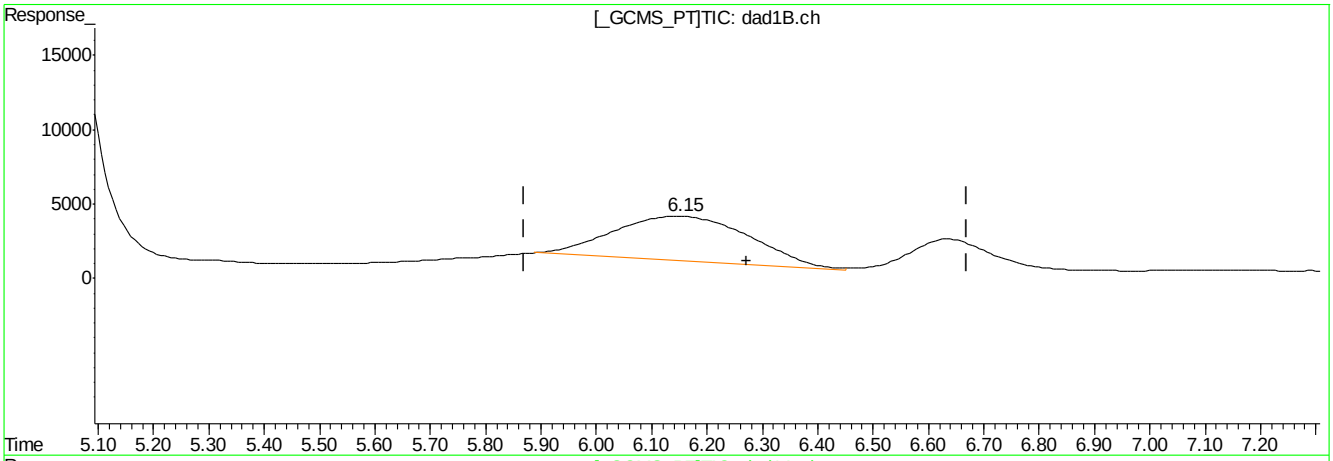
response 1595088

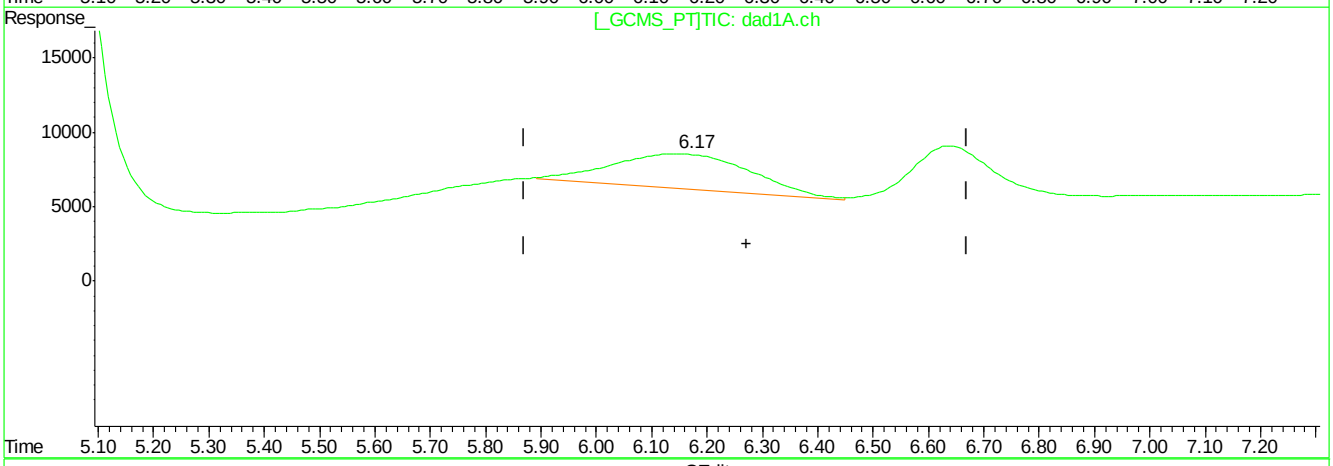
(+) = Expected Retention Time
BB089893.D BBB2740_073025.M Mon Oct 27 12:55:48 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1A.ch
Acq On : 24-Oct-2025, 16:24:03 Operator: fouads
Sample : fc28746-1 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

6.15min 90.057ppb m

response 511048

(7) 1,3-Dinitrobenzene #2

6.17min 86.321ppb m

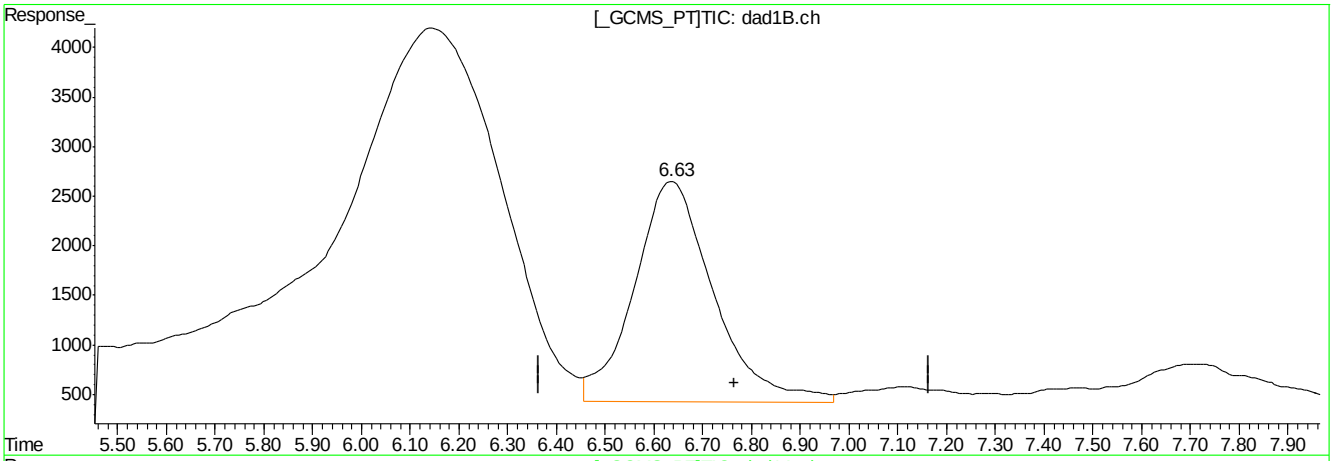
response 414474

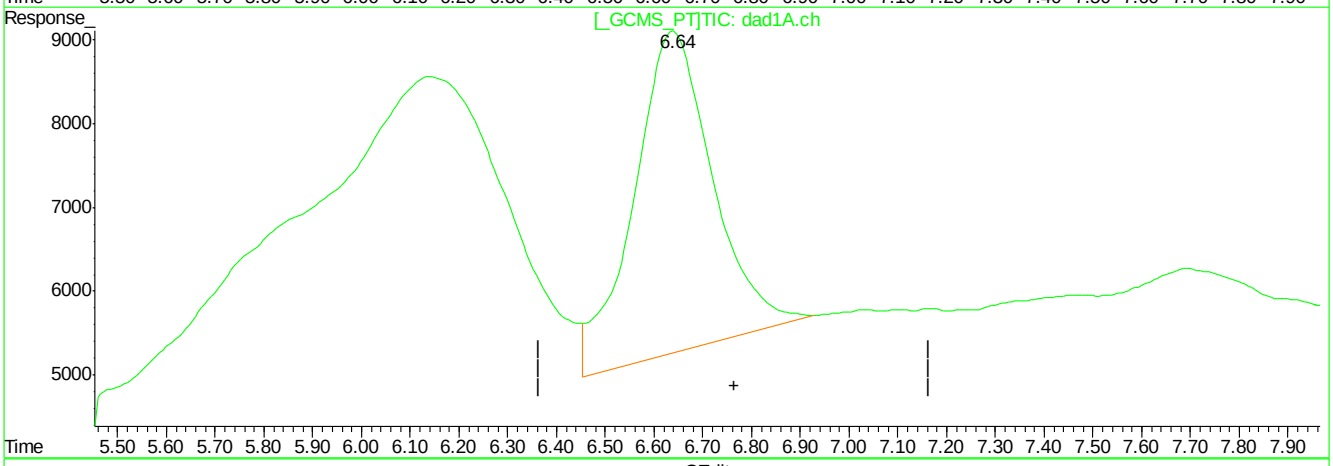
(+) = Expected Retention Time
BB089893.D BBB2740_073025.M Mon Oct 27 12:55:57 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1A.ch
Acq On : 24-Oct-2025, 16:24:03 Operator: fouads
Sample : fc28746-1 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.64min 61.222ppb

response 250578

(8) 3,5-Dinitroaniline #2

6.64min 60.195ppb

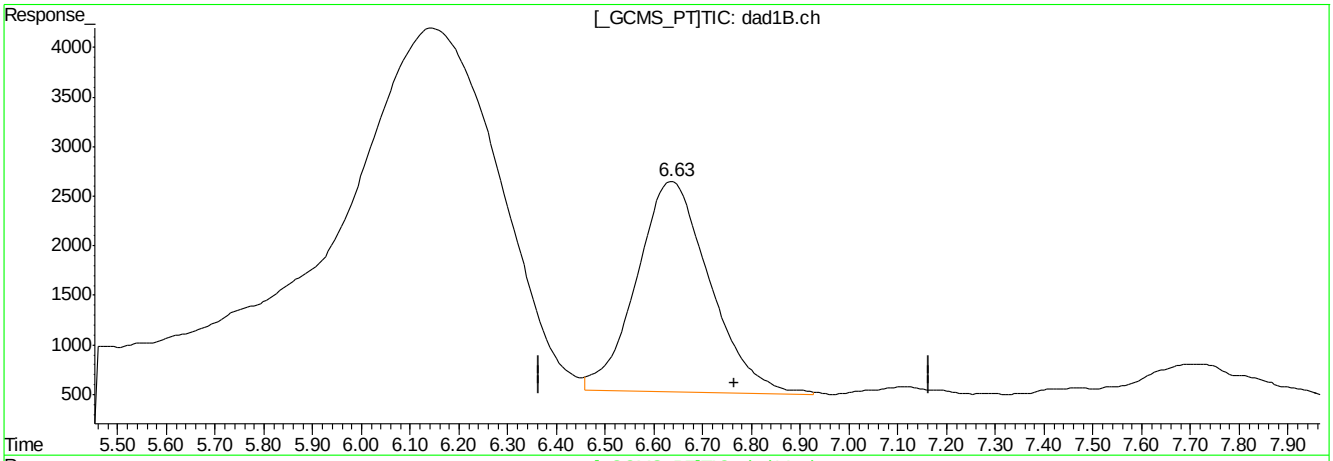
response 431895

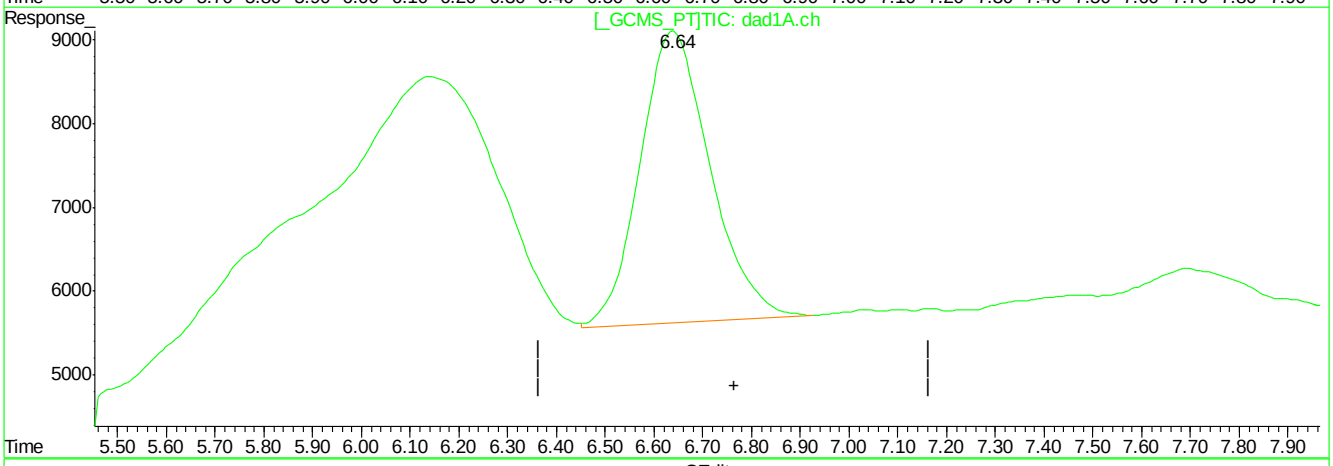
(+) = Expected Retention Time
BB089893.D BBB2740_073025.M Mon Oct 27 12:56:02 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1A.ch
Acq On : 24-Oct-2025, 16:24:03 Operator: fouads
Sample : fc28746-1 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(8) 3,5-Dinitroaniline

6.63min 54.112ppb m

response 221480

(8) 3,5-Dinitroaniline #2

6.64min 48.532ppb m

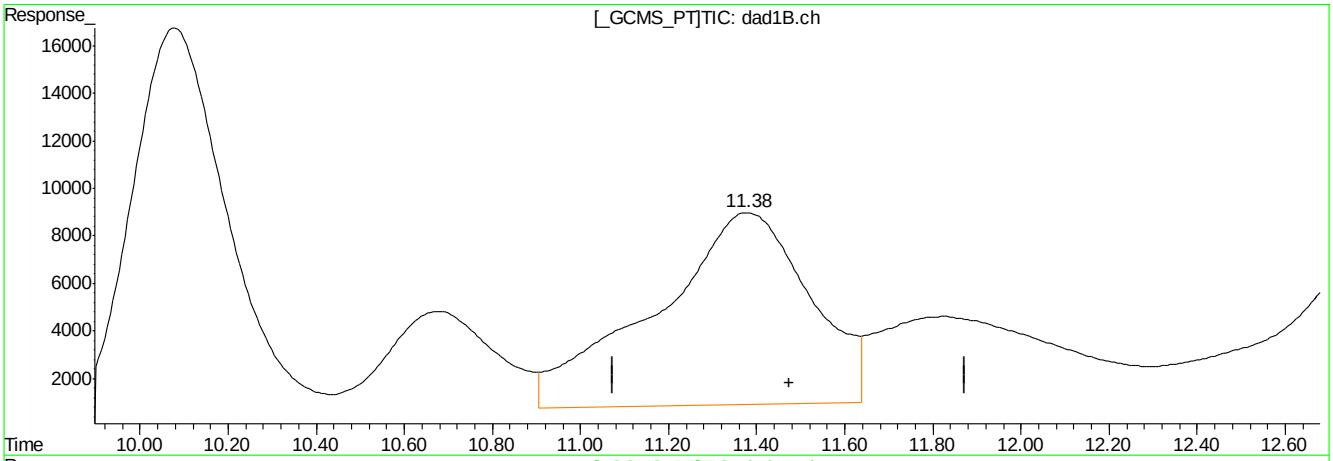
response 348210

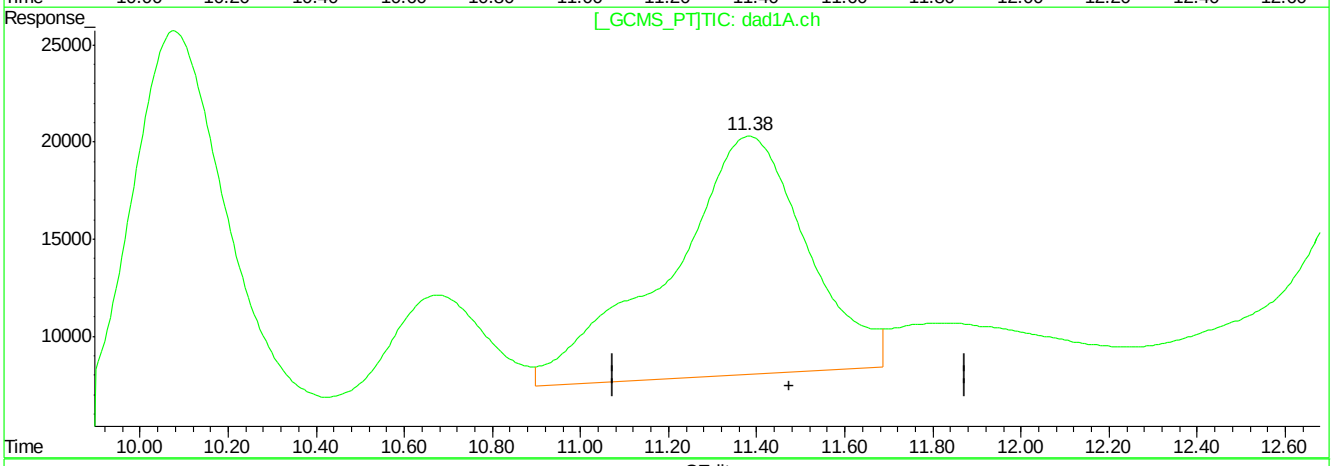
(+) = Expected Retention Time
BB089893.D BBB2740_073025.M Mon Oct 27 12:56:10 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1A.ch
Acq On : 24-Oct-2025, 16:24:03 Operator: fouads
Sample : fc28746-1 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(15) 3,4-Dinitrotoluene (S)

11.38min 915.246ppb

response 1959999

(15) 3,4-Dinitrotoluene #2 (S)

11.38min 740.016ppb

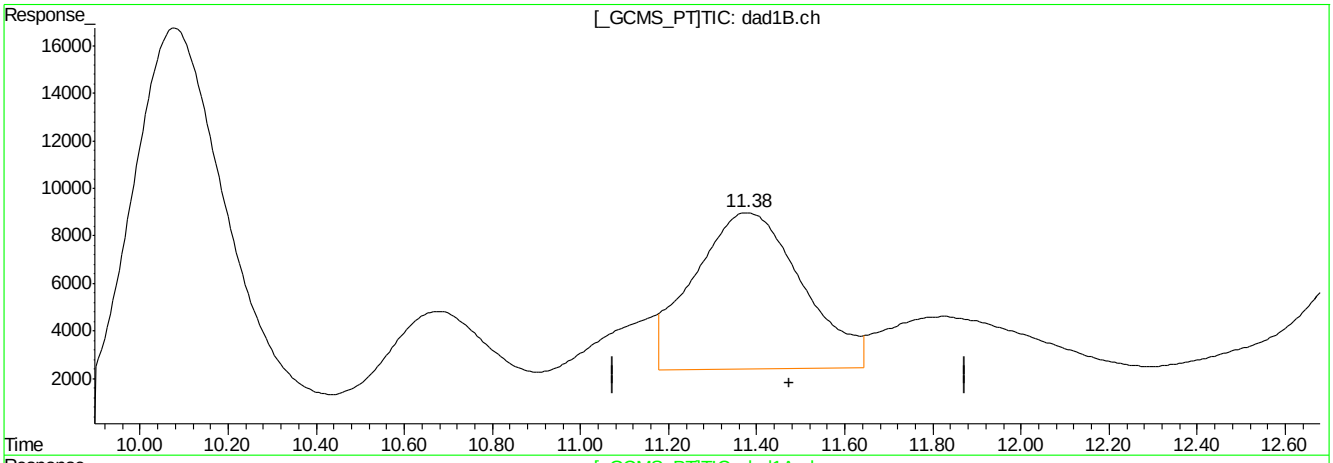
response 2668084

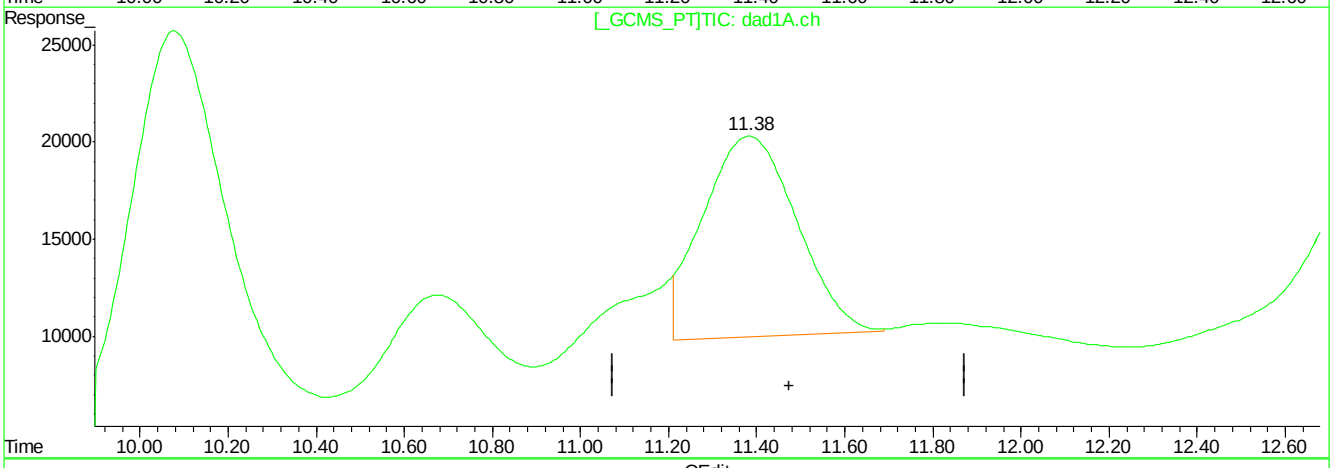
(+) = Expected Retention Time
BB089893.D BBB2740_073025.M Mon Oct 27 12:56:27 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1A.ch
Acq On : 24-Oct-2025, 16:24:03 Operator: fouads
Sample : fc28746-1 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(15) 3,4-Dinitrotoluene (S)

11.38min 525.850ppb m

response 1126107

(15) 3,4-Dinitrotoluene #2 (S)

11.38min 426.042ppb m

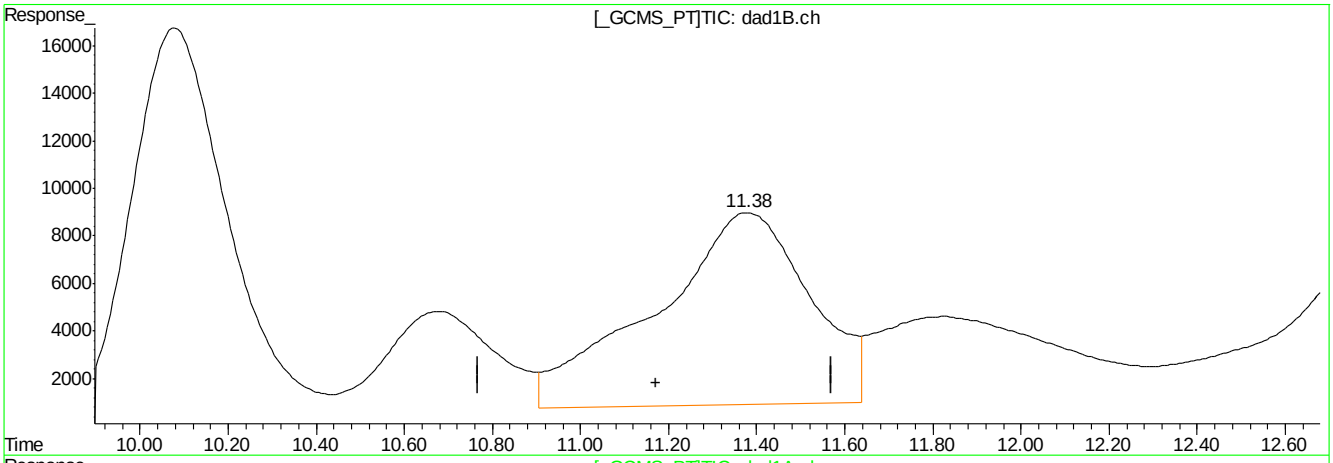
response 1536068

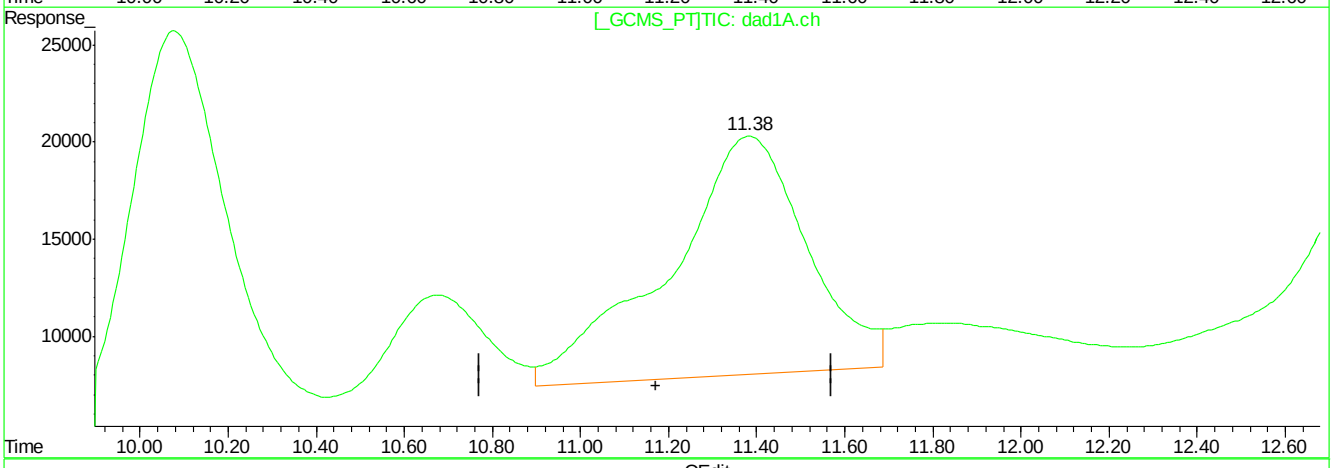
(+) = Expected Retention Time
BB089893.D BBB2740_073025.M Mon Oct 27 12:56:43 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1A.ch
Acq On : 24-Oct-2025, 16:24:03 Operator: fouads
Sample : fc28746-1 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(14) 4-Amino-2,6-Dinitrotoluene

11.38min 797.471ppb

response 1959999

(14) 4-Amino-2,6-Dinitrotoluene #2

11.38min 563.261ppb

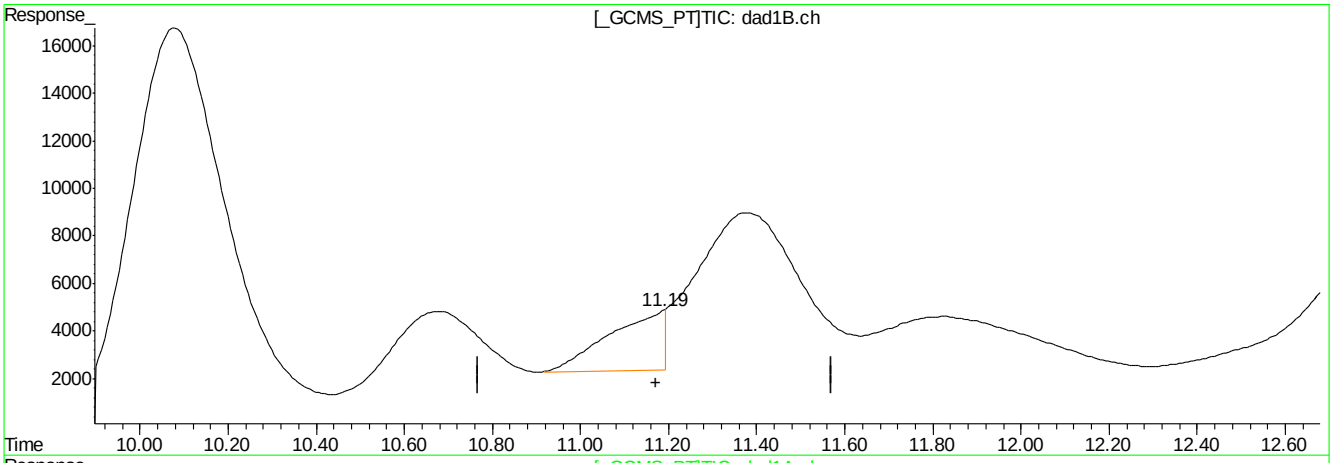
response 2668084

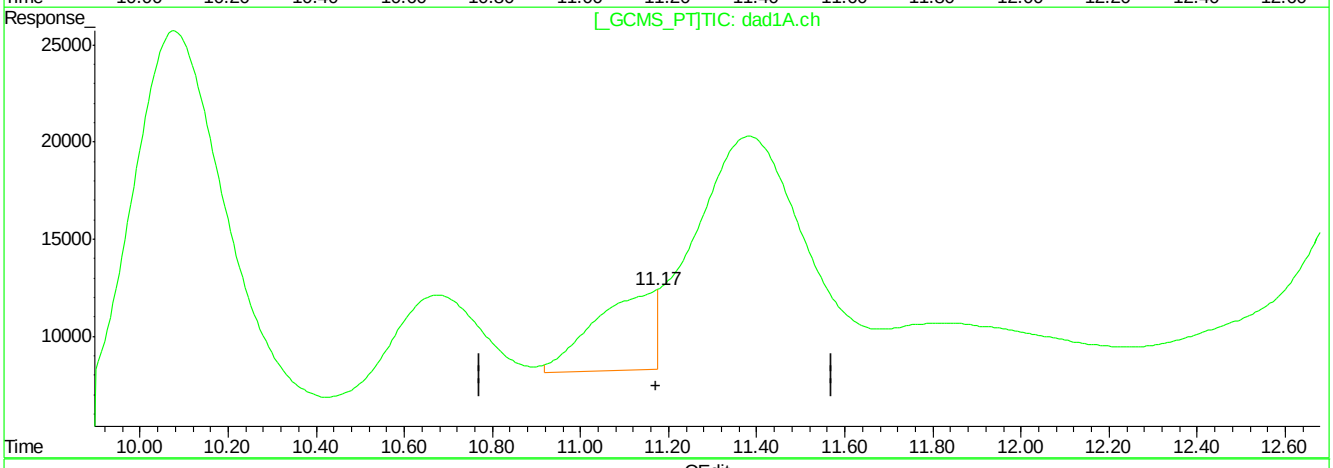
(+) = Expected Retention Time
BB089893.D BBB2740_073025.M Mon Oct 27 12:56:48 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1A.ch
Acq On : 24-Oct-2025, 16:24:03 Operator: fouads
Sample : fc28746-1 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(14) 4-Amino-2,6-Dinitrotoluene

11.19min 83.831ppb m

response 206038

(14) 4-Amino-2,6-Dinitrotoluene #2

11.17min 87.920ppb m

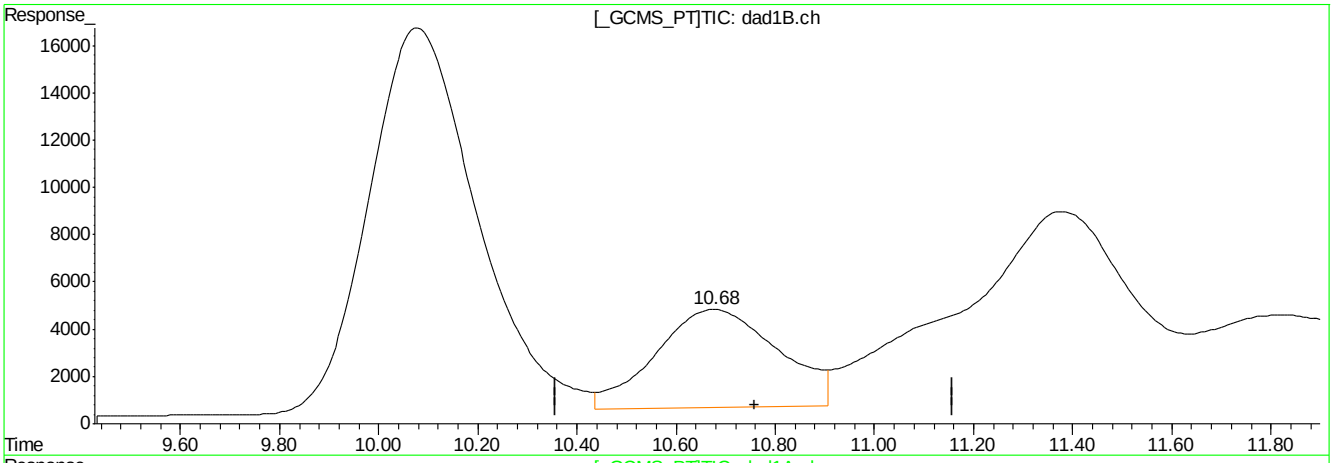
response 396832

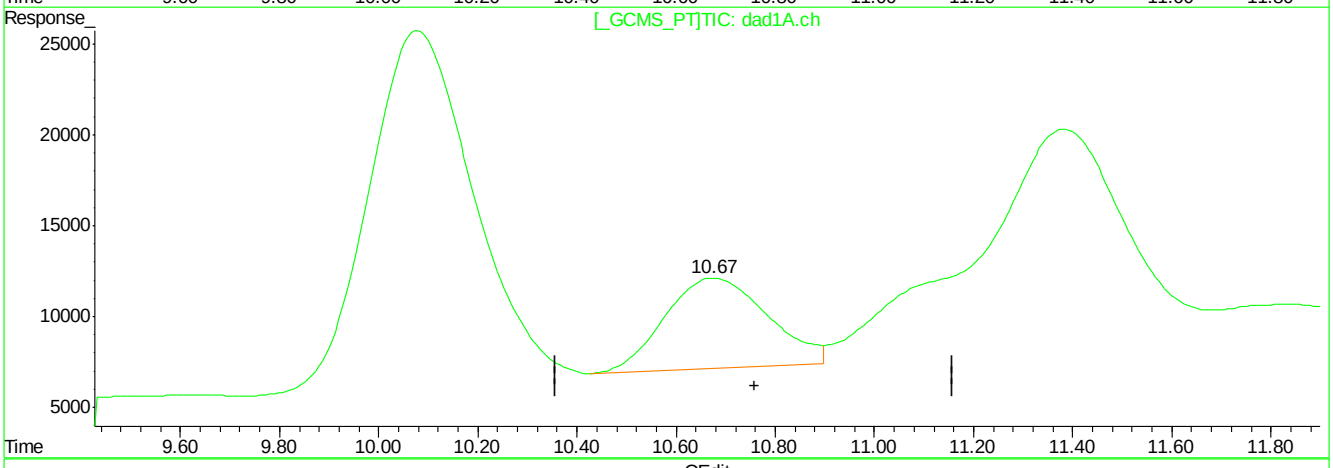
(+) = Expected Retention Time
BB089893.D BBB2740_073025.M Mon Oct 27 12:56:59 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1A.ch
Acq On : 24-Oct-2025, 16:24:03 Operator: fouads
Sample : fc28746-1 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(13) 2-Amino-4,6-Dinitrotoluene

10.68min 207.354ppb

response 710884

(13) 2-Amino-4,6-Dinitrotoluene #2

10.68min 145.499ppb

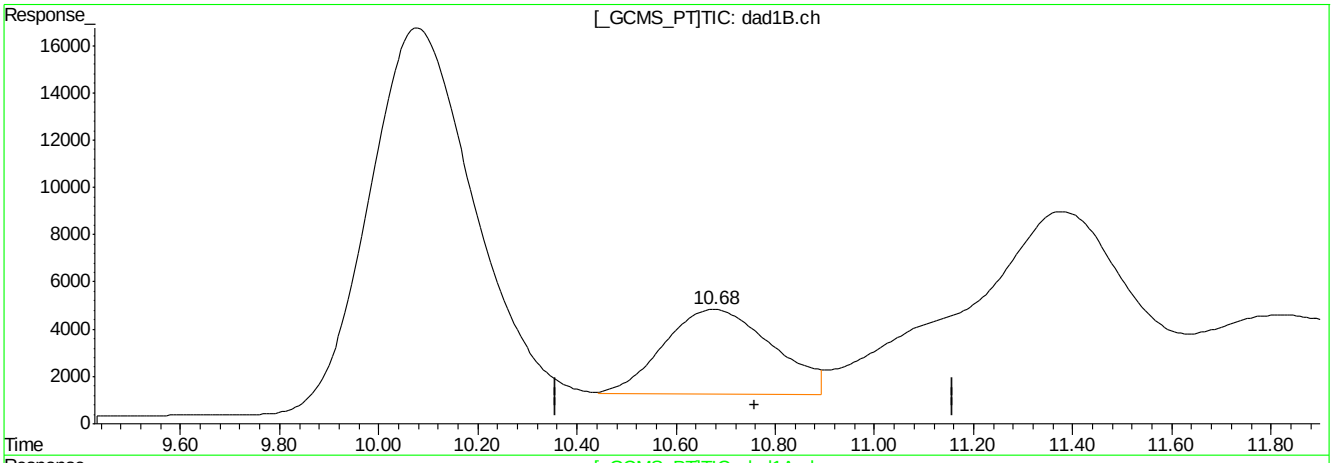
response 712712

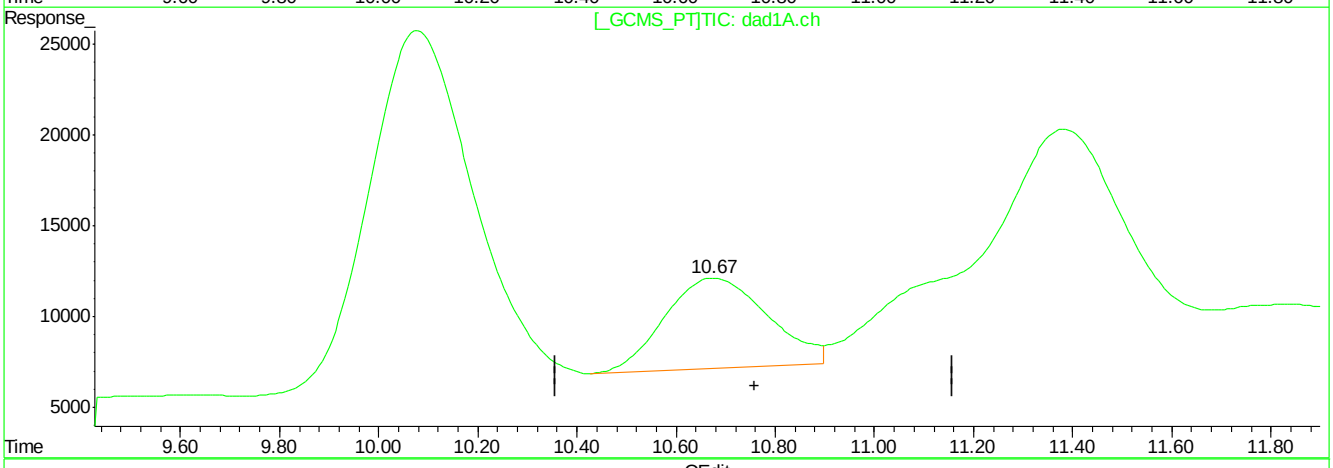
(+) = Expected Retention Time
BB089893.D BBB2740_073025.M Mon Oct 27 12:57:05 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089893.D\dad1A.ch
Acq On : 24-Oct-2025, 16:24:03 Operator: fouads
Sample : fc28746-1 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(13) 2-Amino-4,6-Dinitrotoluene

10.68min 159.816ppb m

response 547905

(13) 2-Amino-4,6-Dinitrotoluene #2

10.68min 145.499ppb

response 712712

(+) = Expected Retention Time
BB089893.D BBB2740_073025.M Mon Oct 27 12:57:17 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan 11/04/25 10:12

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633329.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633329.D\dad1A.ch
Acq On : 29-Oct-2025, 10:52:52 Operator: fouads
Sample : fc28746-1cf Inst : G1315B
Misc : OP12165,GGG3647,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 08:00:02 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.15	14.15	2448562	4547299	514.304	502.820
	Spiked Amount 500.000	Range 70 - 136		Recovery =		102.86%	100.56%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	5.31	5.30	1217033	3721091	350.250	336.859m
3)	DNX	5.31	5.31	1217033	4531979	NoCal	NoCal
4)	MNX	6.28	6.28	1255734	1896265	NoCal	NoCal
5)	1,3,5-Trinitrobe	7.43	7.43	13877365	28311964	1516.852m	1578.634m
6)	RDX	7.72	7.77	459460	653985	111.428m	95.105m
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	11.75	11.75	5879634	7867311	681.141	699.969
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	3,5-Dinitroanili	16.01	16.01	1811368	3268297	190.950m	216.840
16)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	17.98	18.00	731893	1387146	142.460m	146.940m
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	20.07	20.08	1305475	1619710	160.536m	156.311
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

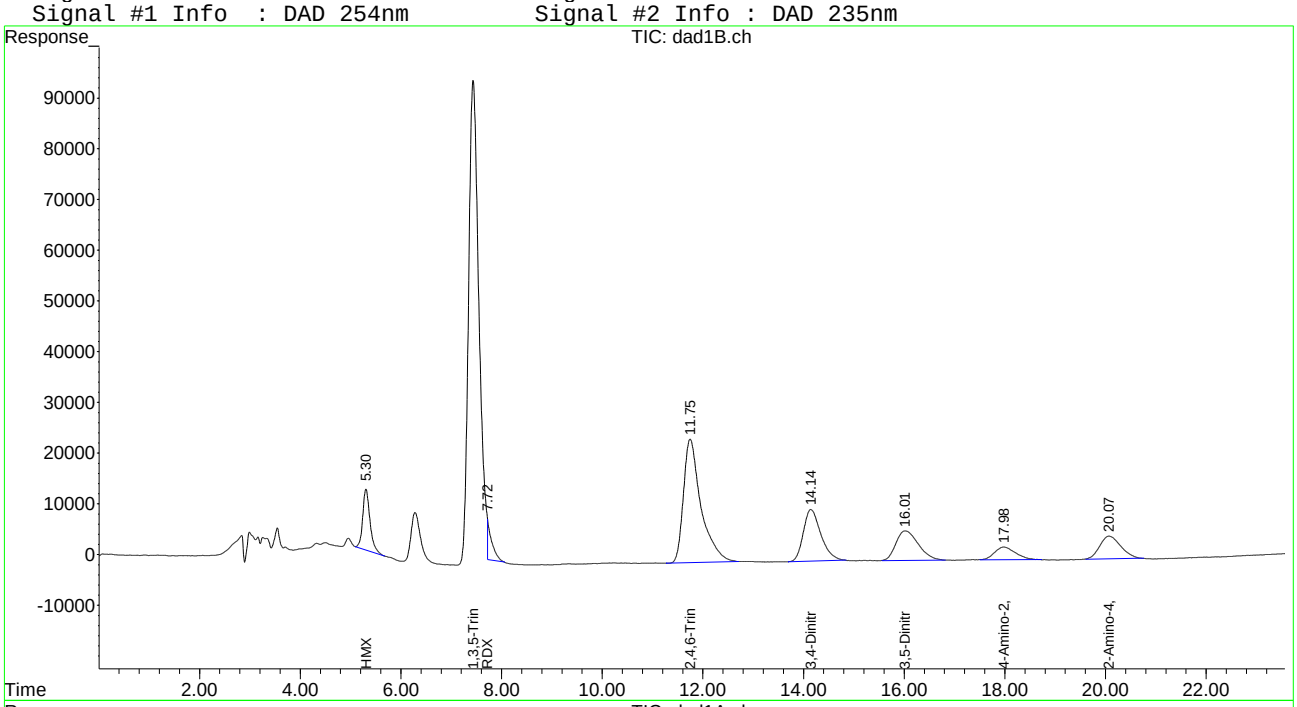
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG633329.D GGG3599_071425.M Tue Nov 04 08:42:40 2025

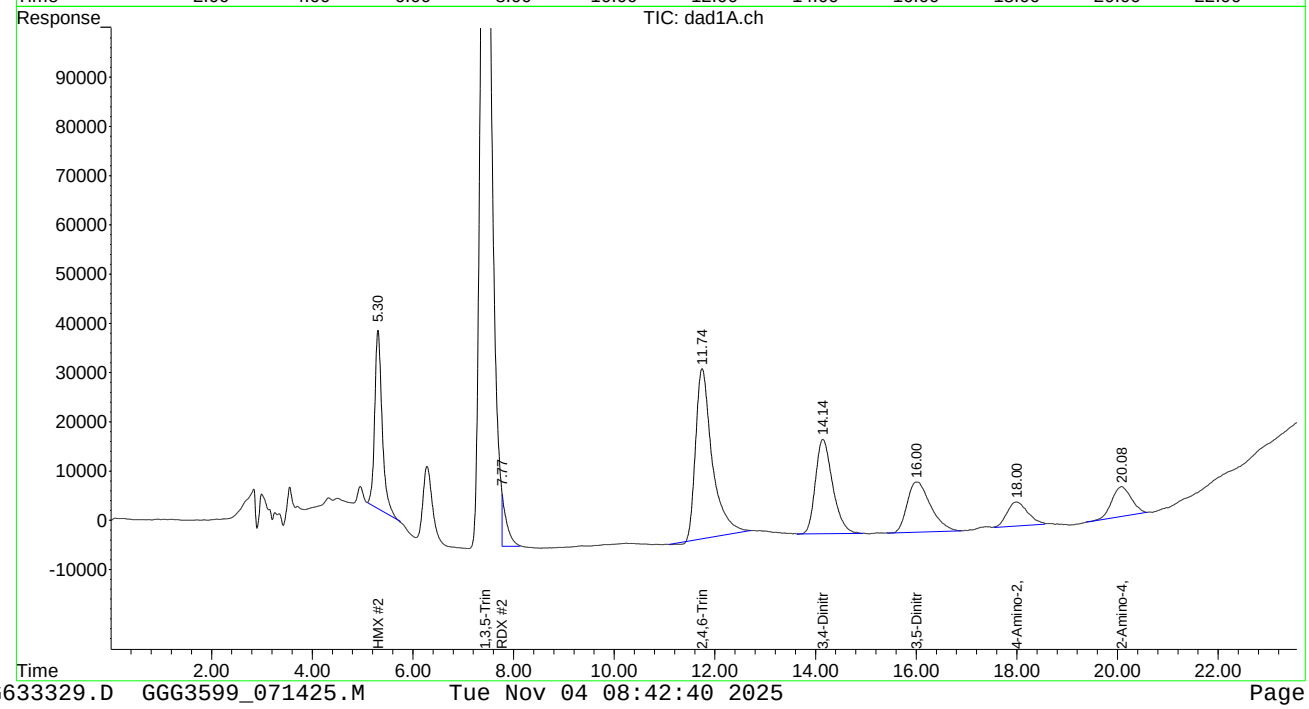
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633329.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633329.D\dad1A.ch
Acq On : 29-Oct-2025, 10:52:52 Operator: fouads
Sample : fc28746-1cf Inst : G1315B
Misc : OP12165,GGG3647,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Nov 4 8:09 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

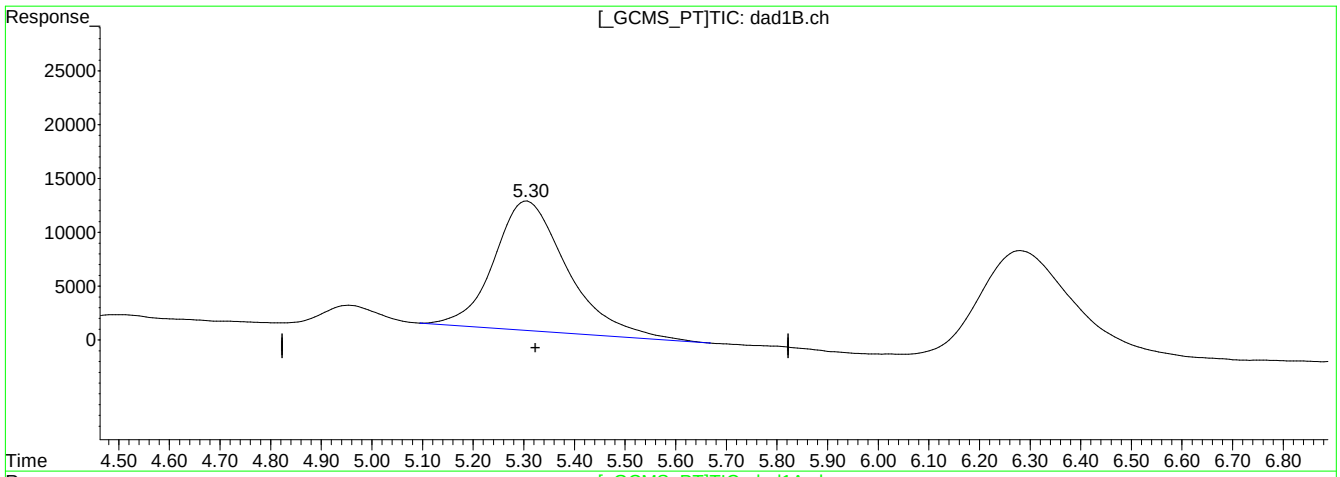
Sample Number: FC28746-1
Lab FileID: GG633329.D
Injection Time: 10/29/25 10:52
Method: SW846 8330B
Analyst approved: 11/04/25 10:12 Naresh Jiawan
Supervisor approved: 11/04/25 10:12 Naresh Jiawan

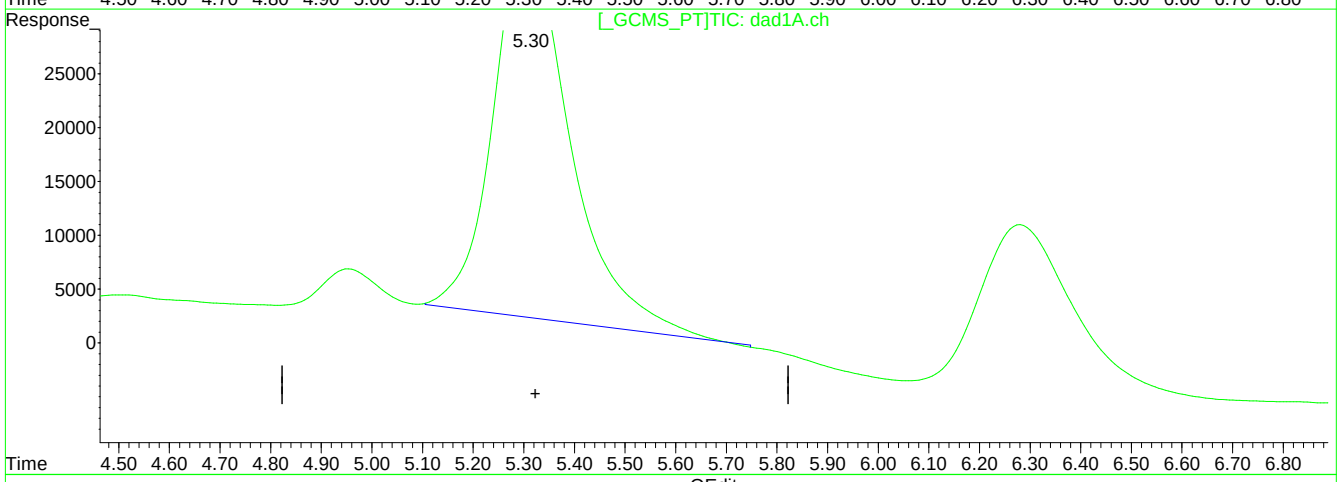
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	2	5.30	Poorly defined baseline
1,3,5-Trinitrobenzene	99-35-4	1	7.43	Poorly defined baseline
1,3,5-Trinitrobenzene	99-35-4	2	7.43	Poorly defined baseline
RDX	121-82-4	1	7.72	Poorly defined baseline
RDX	121-82-4	2	7.77	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	1	16.01	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	1	17.98	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	18.00	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	1	20.07	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633329.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633329.D\dad1A.ch
Acq On : 29-Oct-2025, 10:52:52 Operator: fouads
Sample : fc28746-1cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

5.31min 350.250ppb

response 1217033

(2) HMX #2

5.30min 336.859ppb m

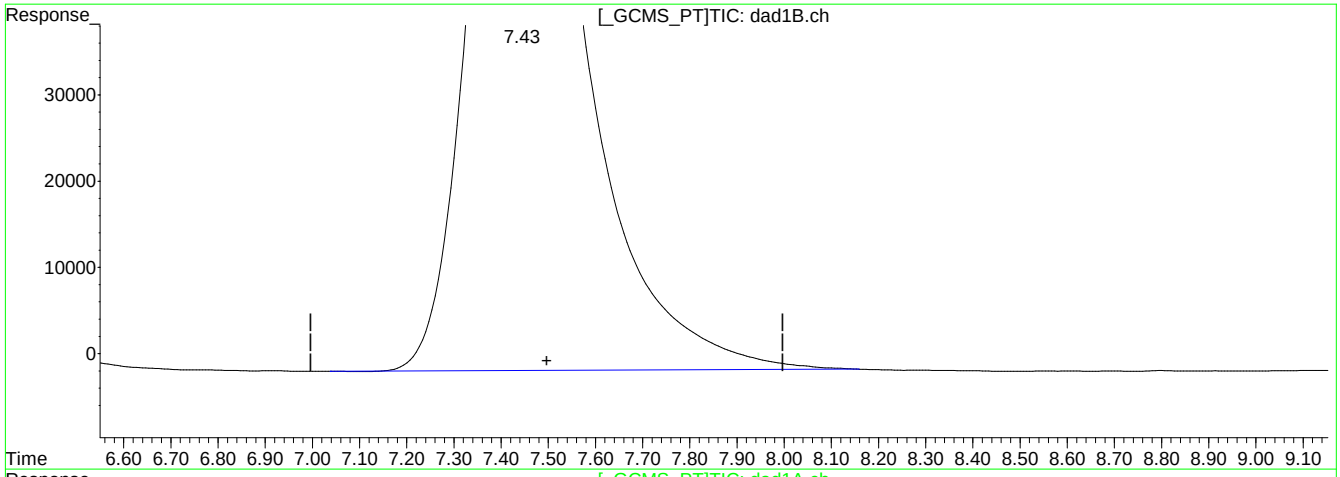
response 3721091

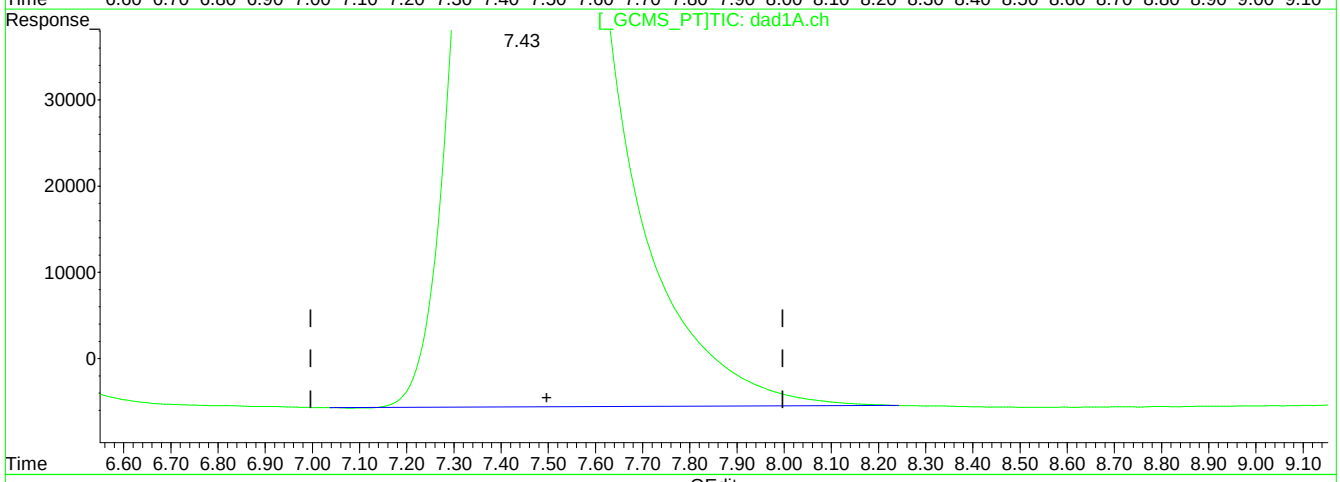
(+) = Expected Retention Time
GG633329.D GGG3599_071425.M Fri Oct 31 08:03:04 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633329.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633329.D\dad1A.ch
Acq On : 29-Oct-2025, 10:52:52 Operator: fouads
Sample : fc28746-1cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





(5) 1,3,5-Trinitrobenzene

7.44min 1561.016ppb

response 14281415

(5) 1,3,5-Trinitrobenzene #2

7.44min 1605.779ppb

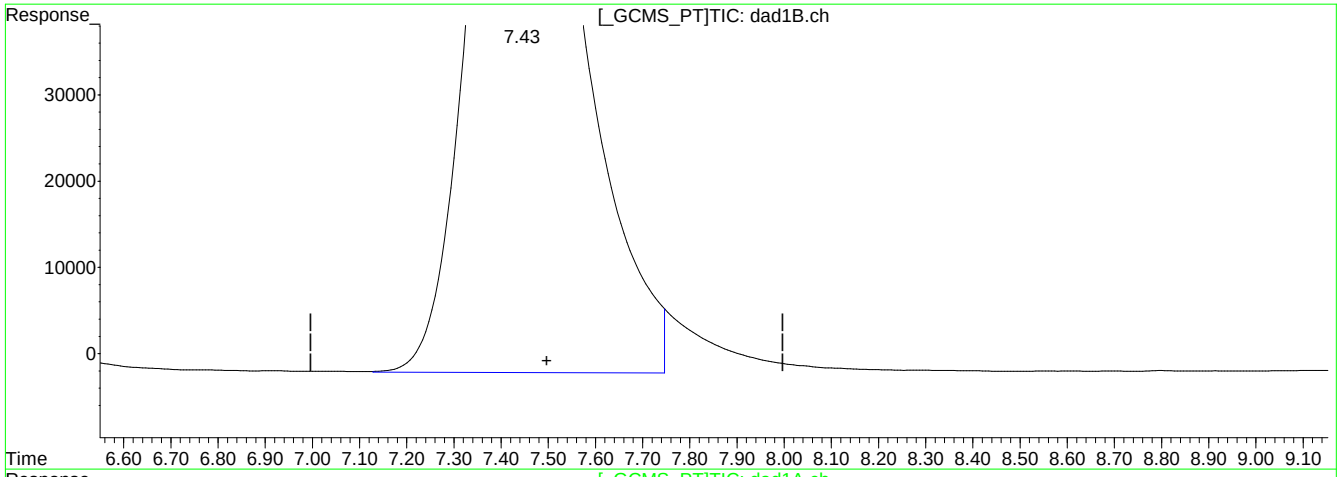
response 28798807

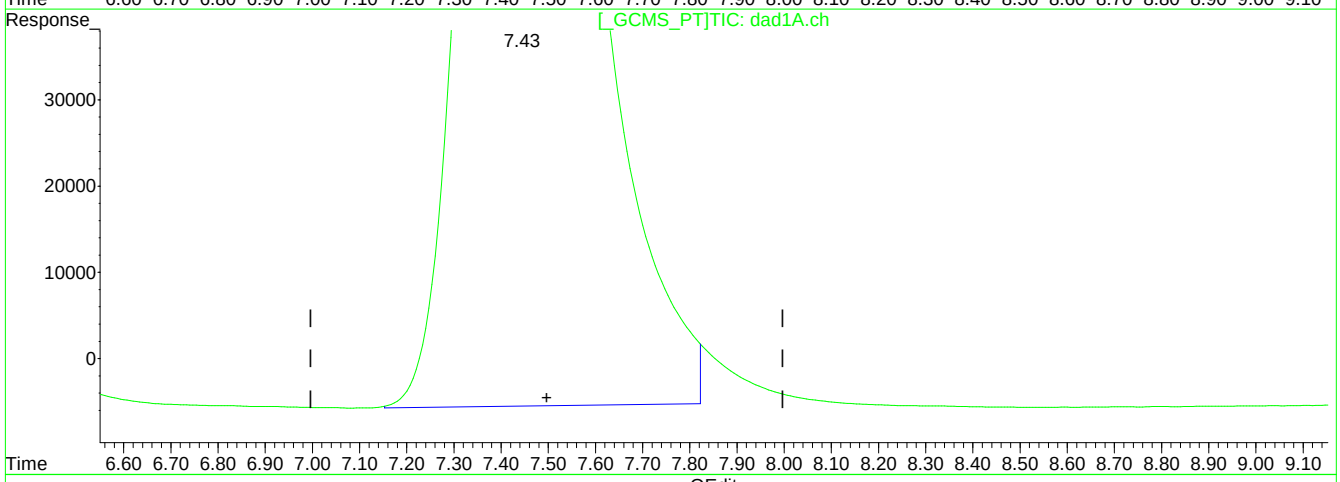
(+) = Expected Retention Time
GG633329.D GGG3599_071425.M Fri Oct 31 08:03:33 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633329.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633329.D\dad1A.ch
Acq On : 29-Oct-2025, 10:52:52 Operator: fouads
Sample : fc28746-1cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





(5) 1,3,5-Trinitrobenzene

7.43min 1516.852ppb m

response 13877365

(5) 1,3,5-Trinitrobenzene #2

7.43min 1578.634ppb m

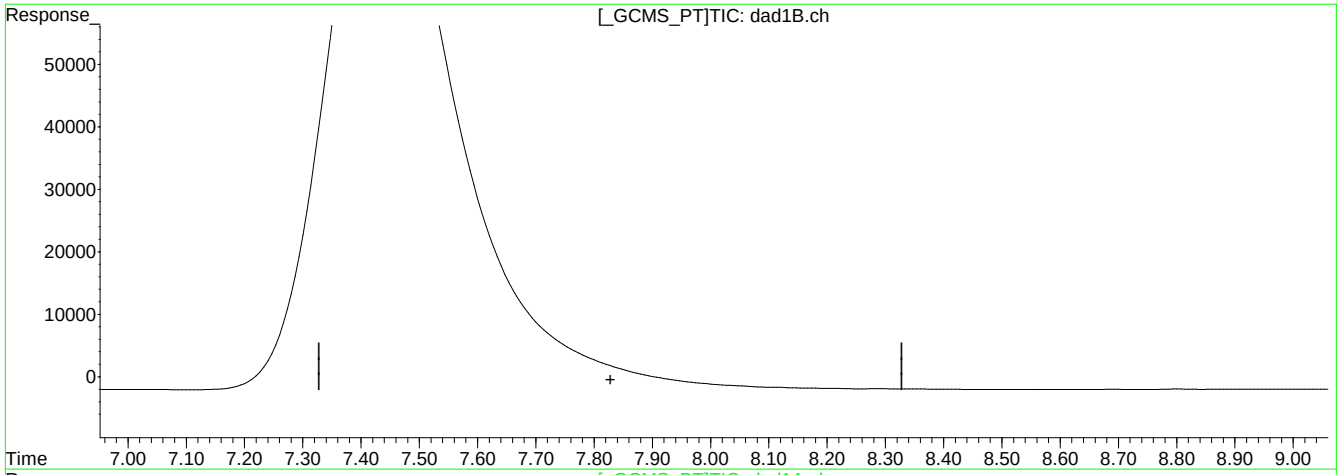
response 28311964

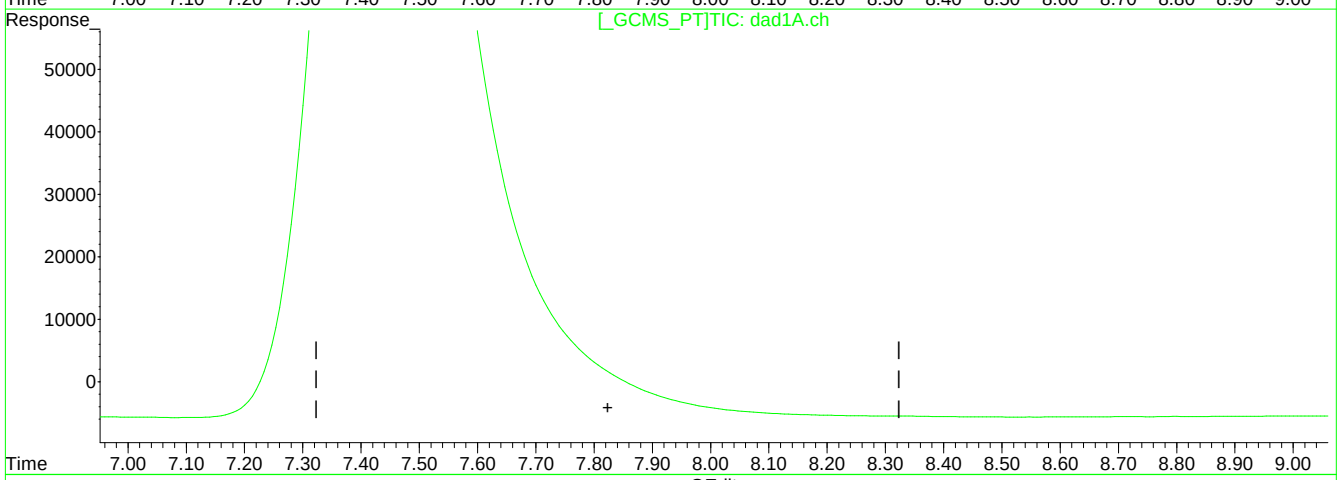
(+) = Expected Retention Time
GG633329.D GGG3599_071425.M Fri Oct 31 08:03:42 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633329.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633329.D\dad1A.ch
Acq On : 29-Oct-2025, 10:52:52 Operator: fouads
Sample : fc28746-1cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





QEdit

(6) RDX

0.00min 0.000ppb

response 0

(6) RDX #2

0.00min 0.000ppb

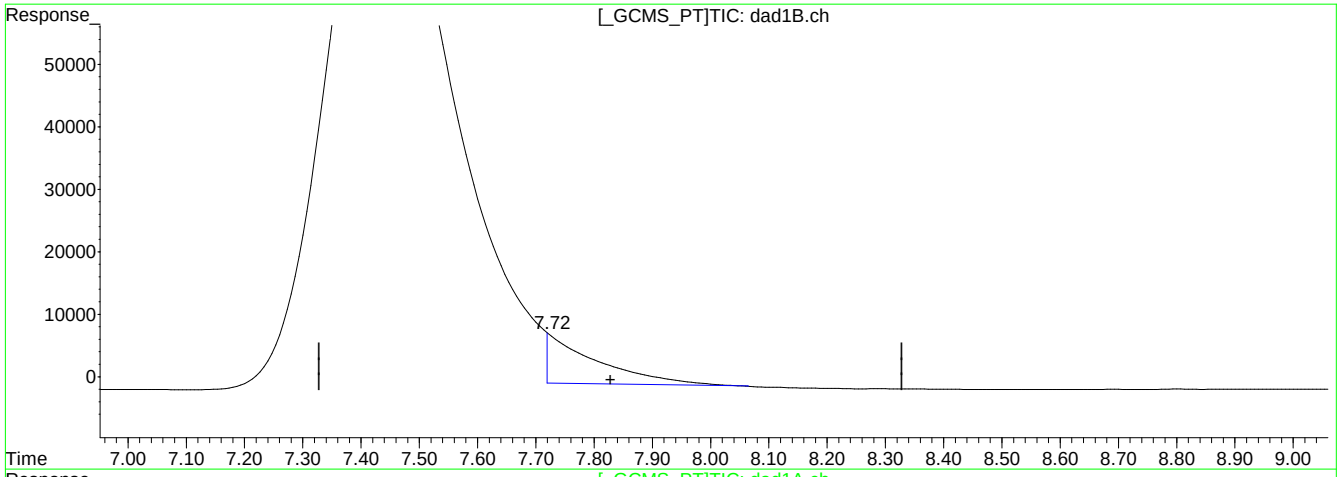
response 0

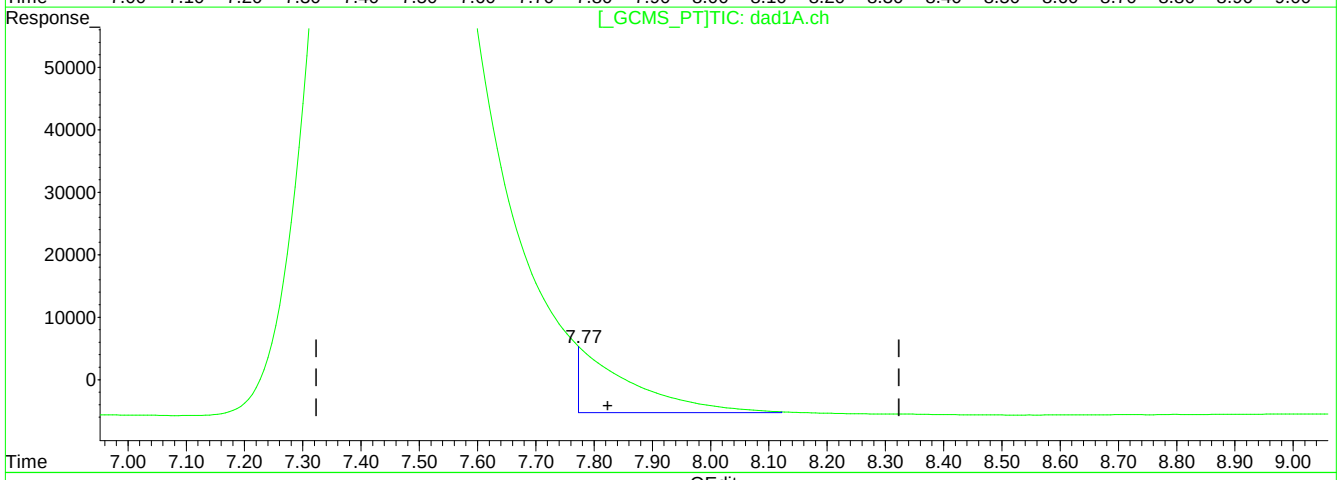
(+) = Expected Retention Time
GG633329.D GGG3599_071425.M Fri Oct 31 08:03:46 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633329.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633329.D\dad1A.ch
Acq On : 29-Oct-2025, 10:52:52 Operator: fouads
Sample : fc28746-1cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





QEdit

(6) RDX

7.72min 111.428ppb m

response 459460

(6) RDX #2

7.77min 95.105ppb m

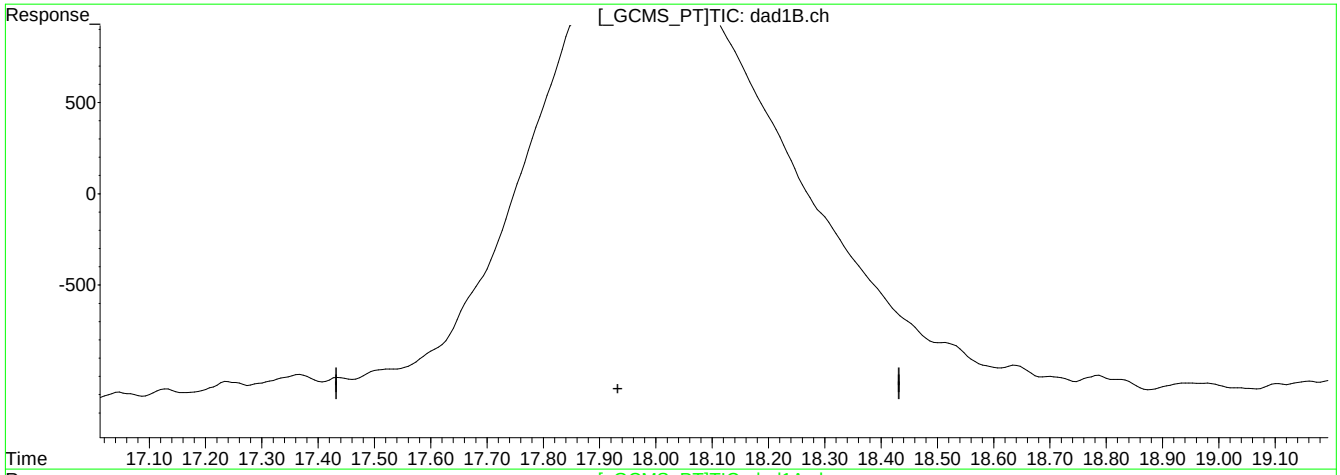
response 653985

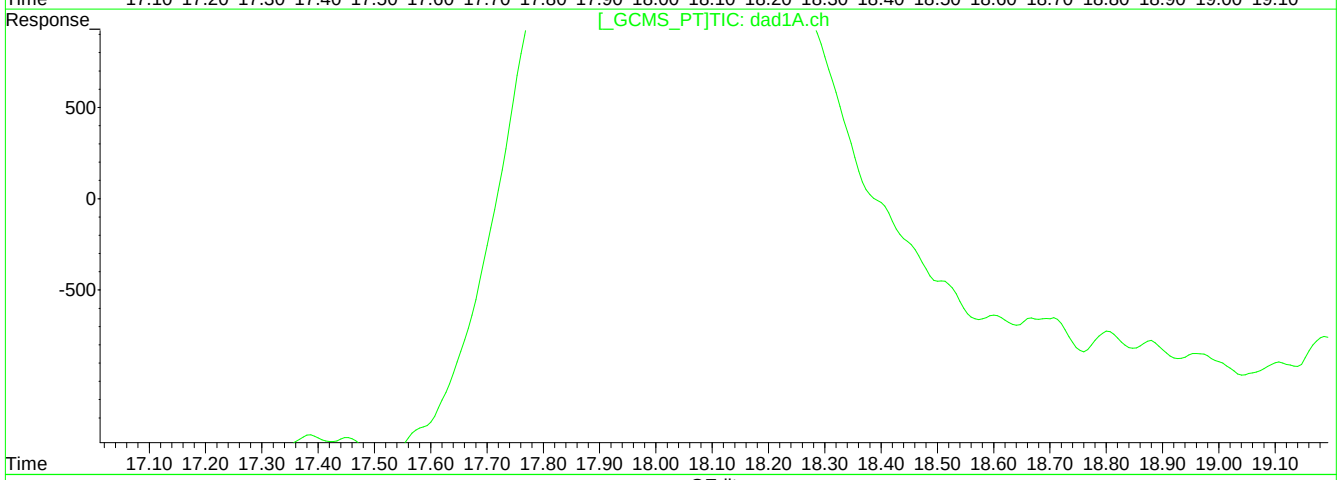
(+) = Expected Retention Time
GG633329.D GGG3599_071425.M Fri Oct 31 08:03:55 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633329.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633329.D\dad1A.ch
Acq On : 29-Oct-2025, 10:52:52 Operator: fouads
Sample : fc28746-1cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





QEdit

(18) 4-Amino-2,6-Dinitrotoluene

0.00min 0.000ppb

response 0

(18) 4-Amino-2,6-Dinitrotoluene #2

0.00min 0.000ppb

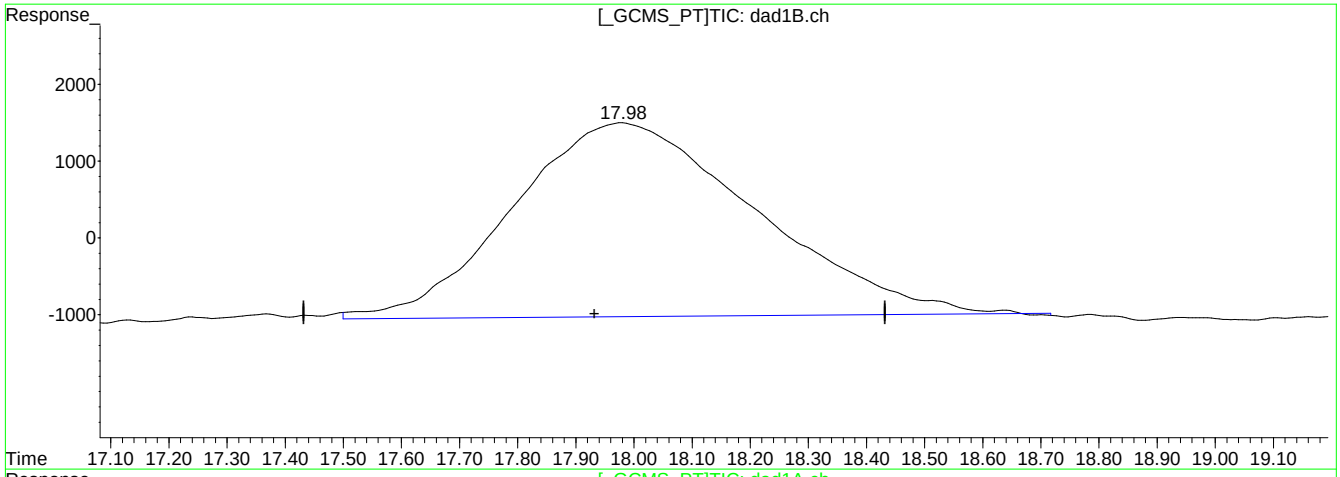
response 0

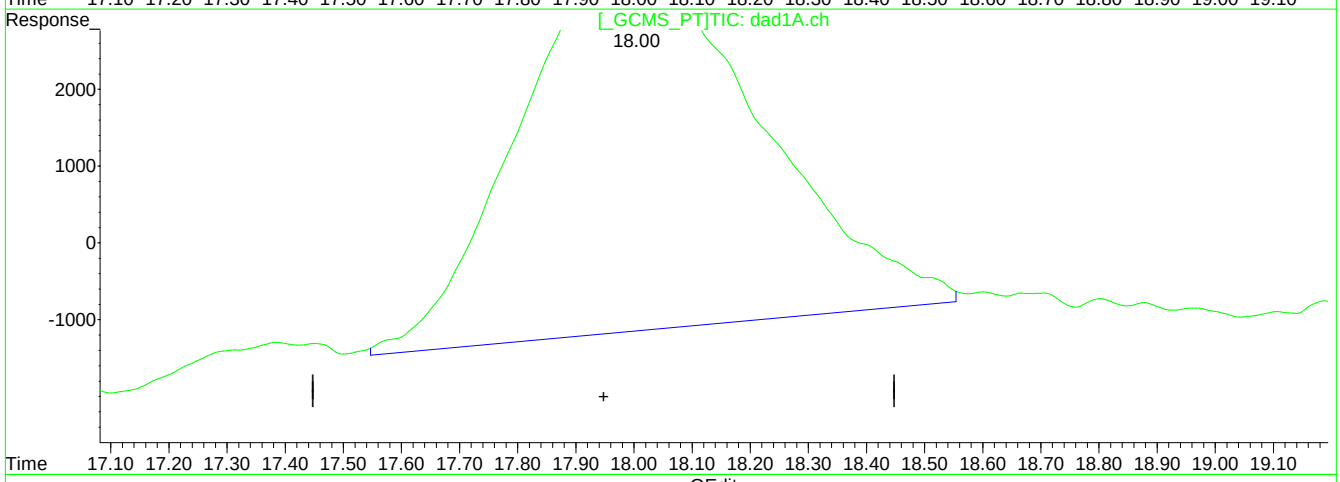
(+) = Expected Retention Time
GG633329.D GGG3599_071425.M Fri Oct 31 08:04:50 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633329.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633329.D\dad1A.ch
Acq On : 29-Oct-2025, 10:52:52 Operator: fouads
Sample : fc28746-1cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





QEdit

(18) 4-Amino-2,6-Dinitrotoluene

17.98min 142.460ppb m

response 731893

(18) 4-Amino-2,6-Dinitrotoluene #2

18.00min 146.940ppb m

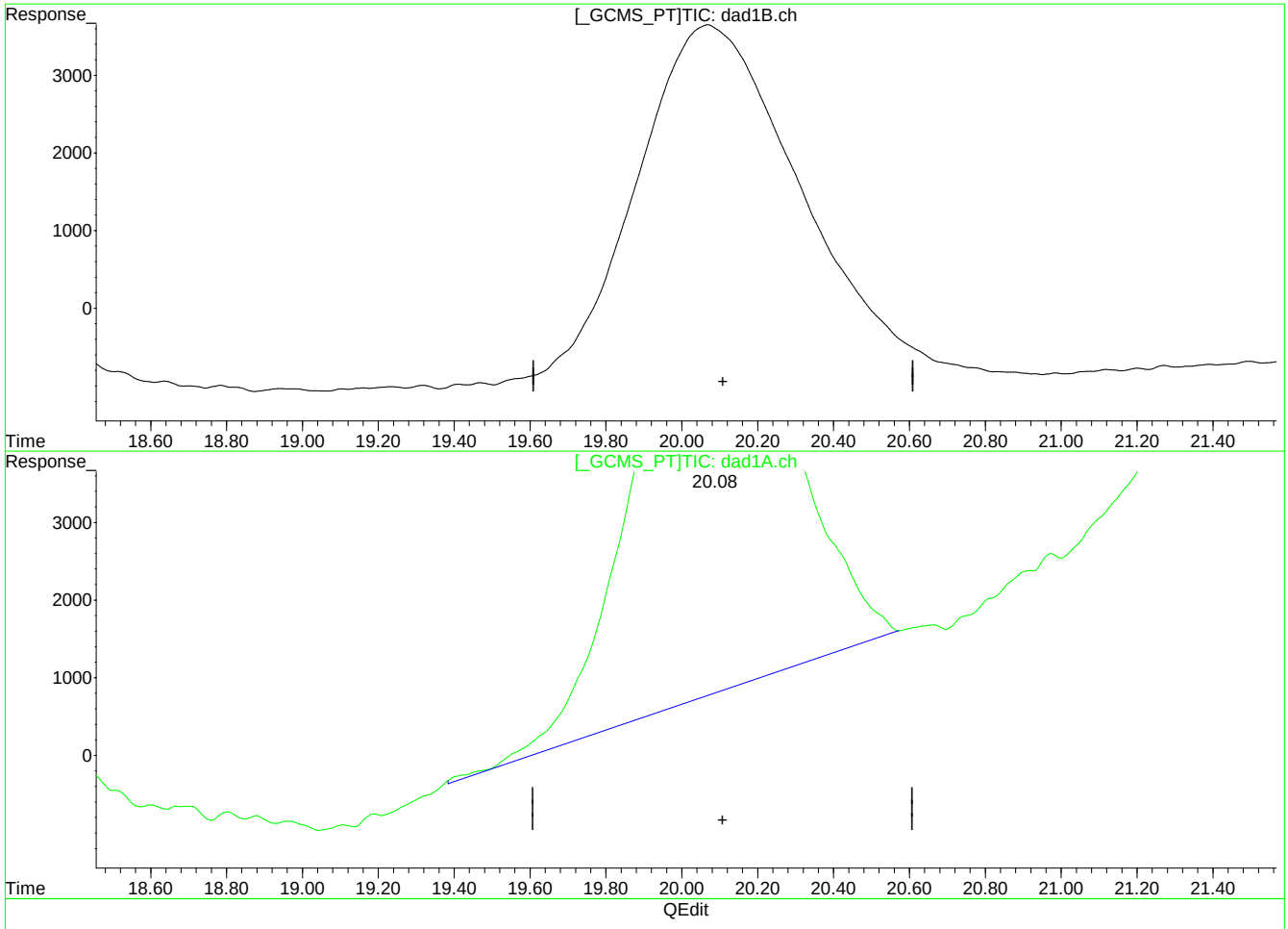
response 1387146

(+) = Expected Retention Time
GG633329.D GGG3599_071425.M Fri Oct 31 08:04:58 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633329.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633329.D\dad1A.ch
Acq On : 29-Oct-2025, 10:52:52 Operator: fouads
Sample : fc28746-1cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

0.00min 0.000ppb

response 0

(20) 2-Amino-4,6-Dinitrotoluene #2

20.08min 156.311ppb

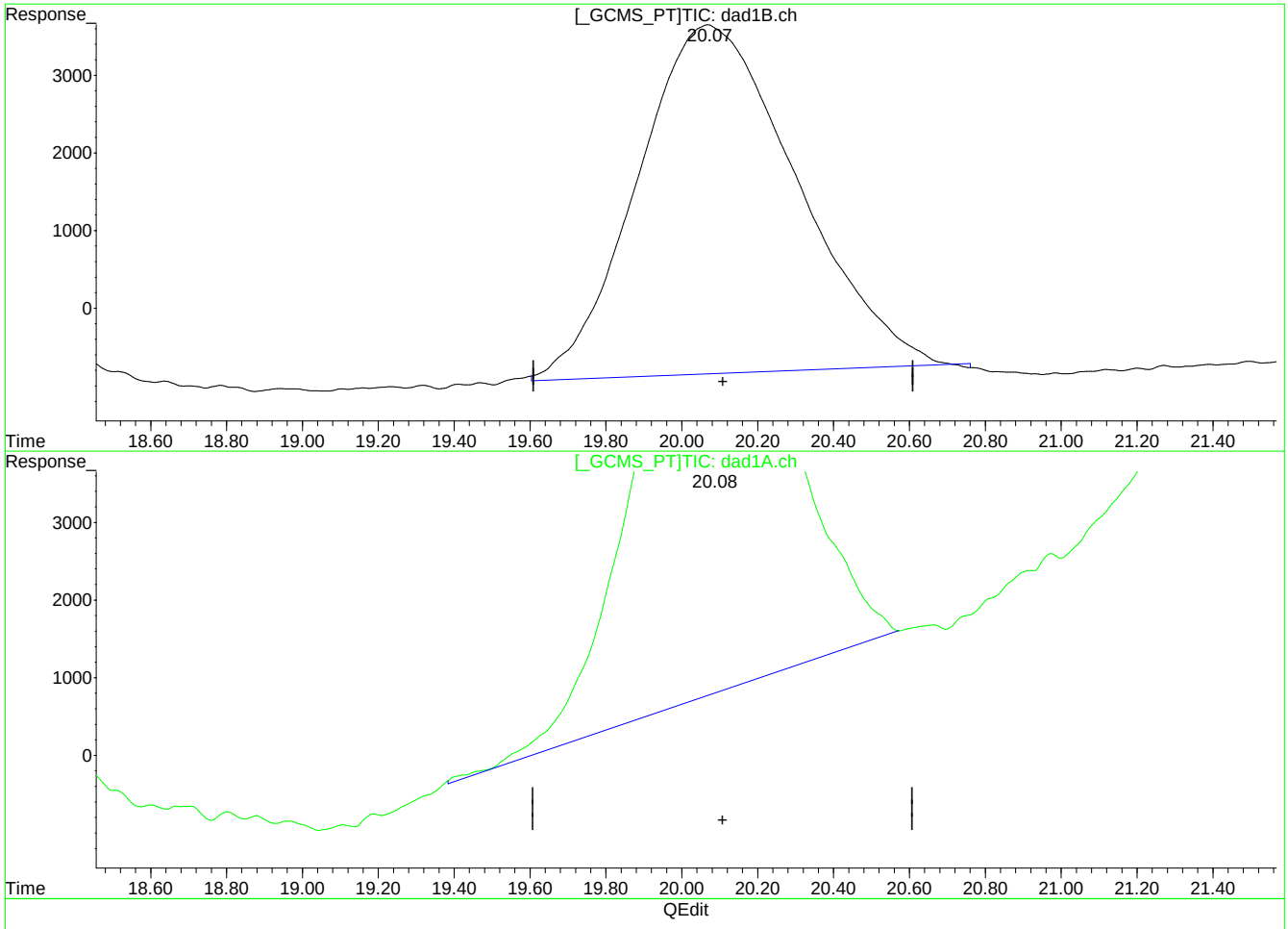
response 1619710

(+) = Expected Retention Time
GG633329.D GGG3599_071425.M Fri Oct 31 08:05:07 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633329.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633329.D\dad1A.ch
Acq On : 29-Oct-2025, 10:52:52 Operator: fouads
Sample : fc28746-1cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

20.07min 160.536ppb m

response 1305475

(20) 2-Amino-4,6-Dinitrotoluene #2

20.08min 156.311ppb

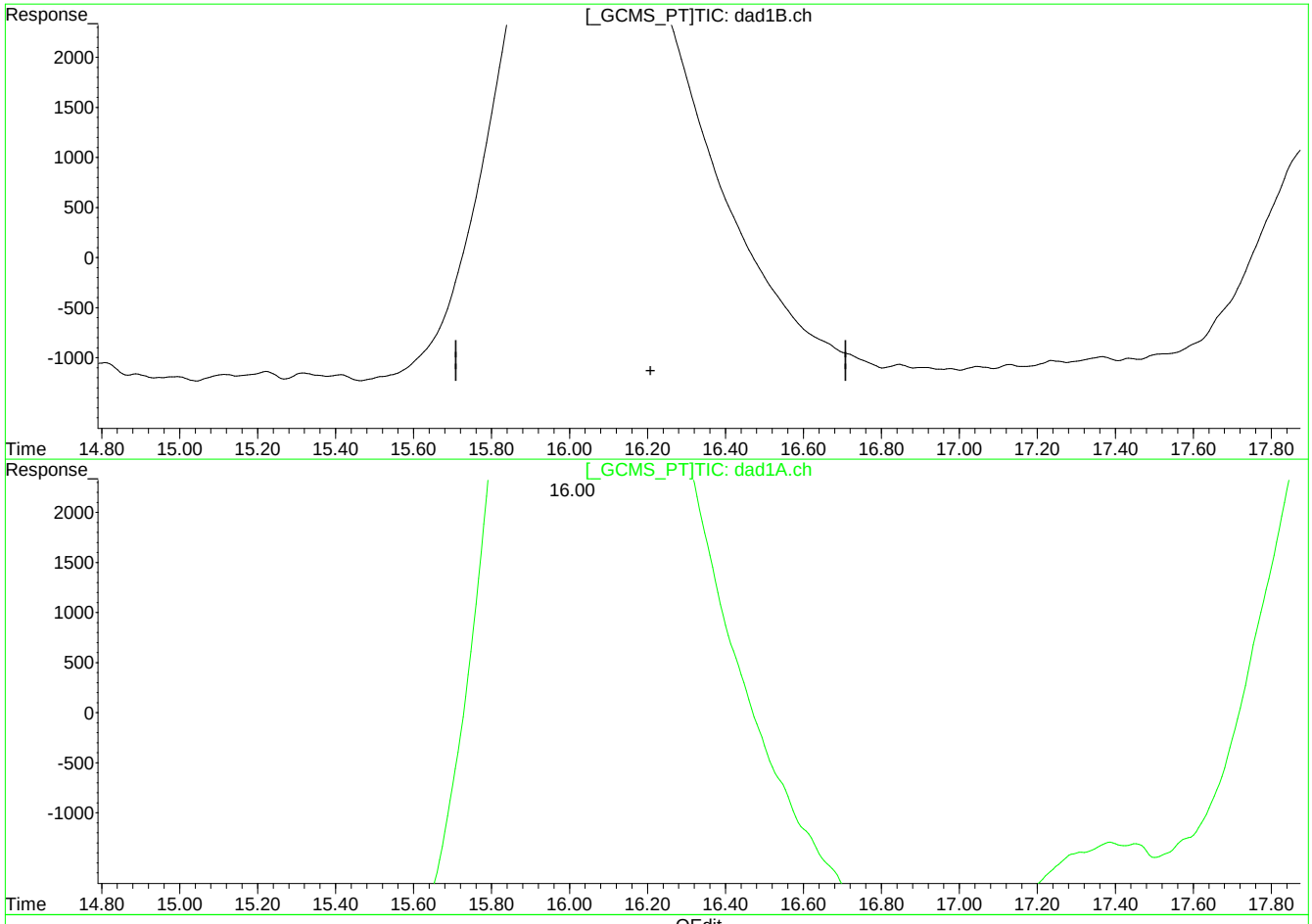
response 1619710

(+) = Expected Retention Time
GG633329.D GGG3599_071425.M Fri Oct 31 08:05:12 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633329.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633329.D\dad1A.ch
Acq On : 29-Oct-2025, 10:52:52 Operator: fouads
Sample : fc28746-1cf Inst : G1315B
Misc : OP12165,GGG3647,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:05 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Nov 03 12:22:12 2025
Response via : Multiple Level Calibration



(15) 3,5-Dinitroaniline

0.00min 0.000ppb

response 0

(15) 3,5-Dinitroaniline #2

16.01min 216.840ppb

response 3268297

(+) = Expected Retention Time
GG633329.D GGG3599_071425.M Tue Nov 04 08:09:44 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan
11/04/25 10:12

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089896.D\dad1B.ch Vial: 15
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089896.D\dad1A.ch
Acq On : 24-Oct-2025, 17:46:17 Operator: fouads
Sample : fc28746-2 Inst : G1315B
Misc : OP12165,gbb2779,940,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Nov 04 08:12:29 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Oct 28 14:46:21 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.38	11.38	1018127	1770004	475.427	490.926
	Spiked Amount 500.000	Range 70 - 136		Recovery =		95.09%	98.19%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.66	1.66	27095	186554	15.482	22.998m#
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	3.20	3.21	30039	39657	15.203m	12.851
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
13)	2-Amino-4,6-Dini	10.69	10.66	43805	48182	12.777	9.836
14)	4-Amino-2,6-Dini	11.11	11.11	33918	76410	13.801m	20.860m#
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

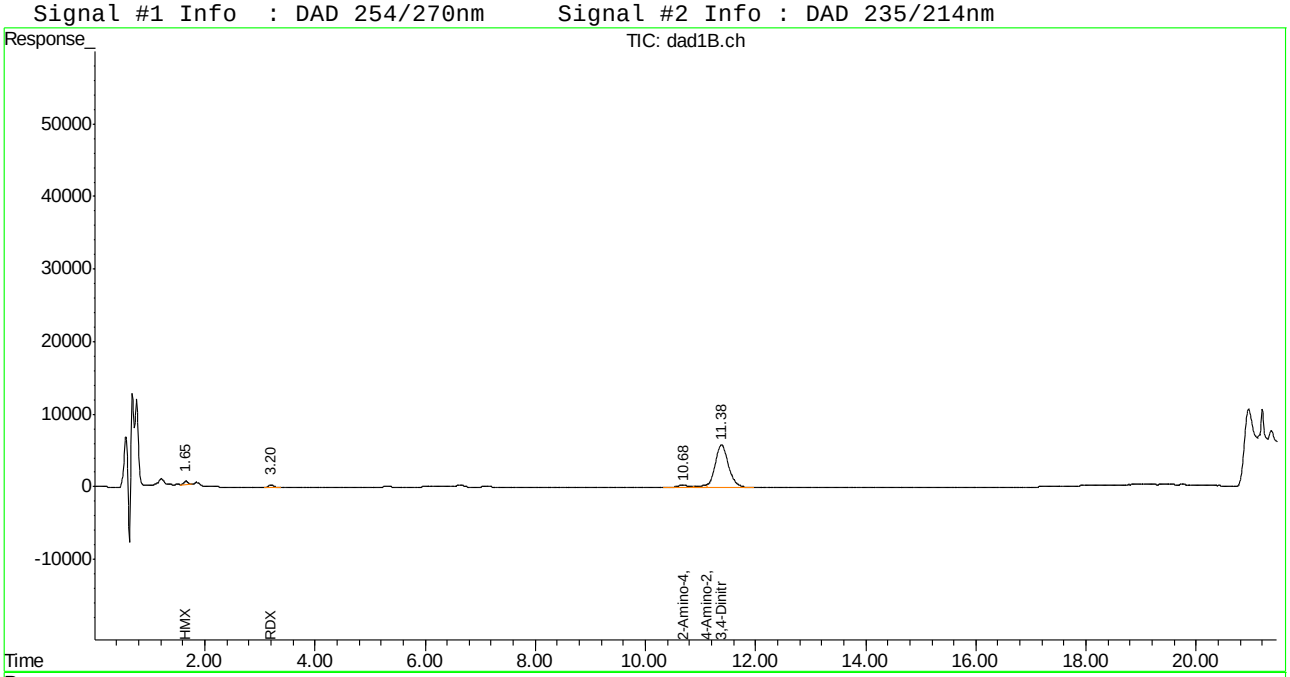
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB089896.D BBB2740_073025.M Tue Nov 04 08:14:14 2025 Page 1

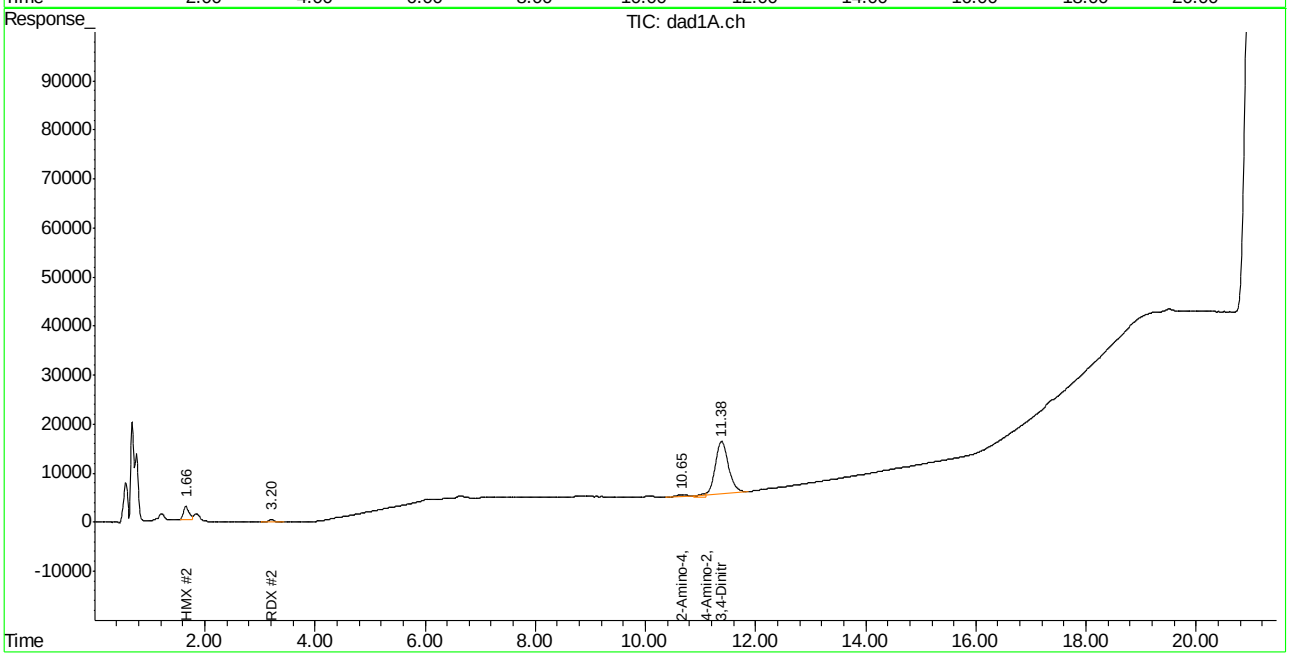
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089896.D\dad1B.ch Vial: 15
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089896.D\dad1A.ch
Acq On : 24-Oct-2025, 17:46:17 Operator: fouads
Sample : fc28746-2 Inst : G1315B
Misc : OP12165,gbb2779,940,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Nov 4 8:13 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Oct 28 14:46:21 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

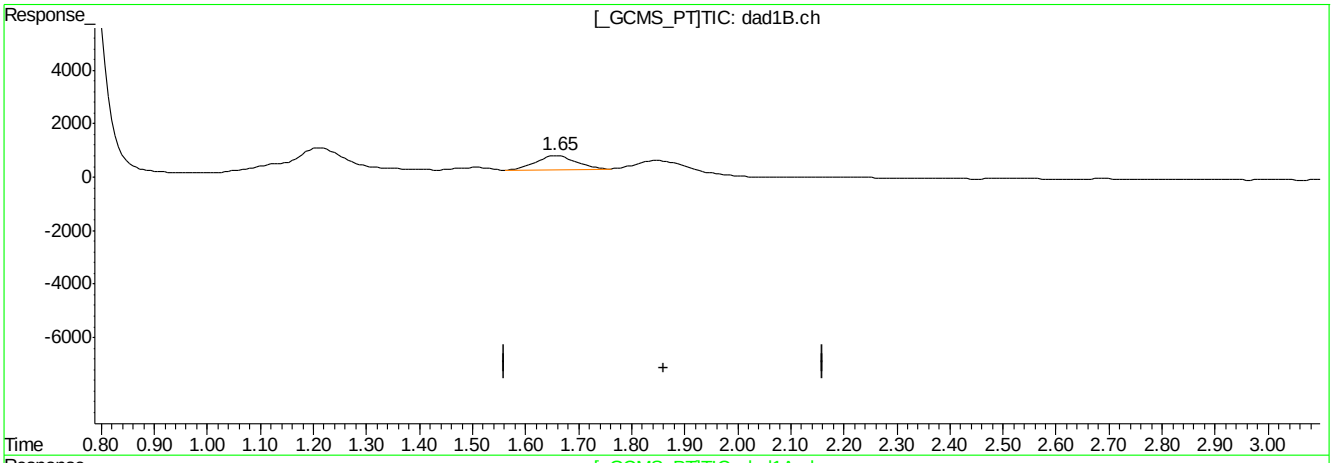
Sample Number: FC28746-2
Lab FileID: BB089896.D
Injection Time: 10/24/25 17:46
Method: SW846 8330B
Analyst approved: 11/04/25 08:30 Fouad Sekkar
Supervisor approved: 11/04/25 10:12 Naresh Jiawan

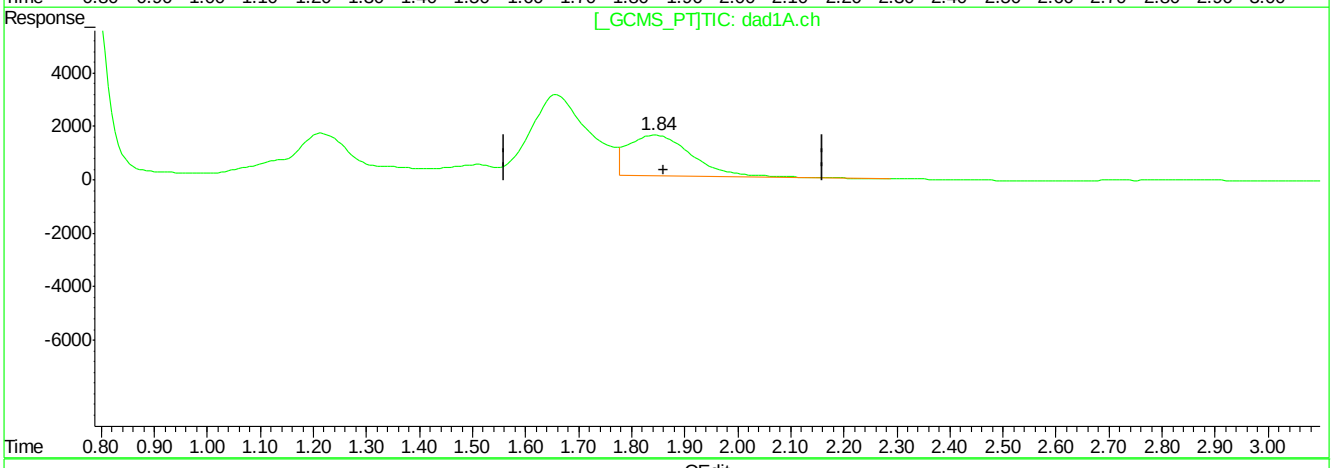
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	2	1.66	Missed peak
RDX	121-82-4	1	3.20	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	1	11.11	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	2	11.11	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089896.D\dad1B.ch Vial: 15
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089896.D\dad1A.ch
Acq On : 24-Oct-2025, 17:46:17 Operator: fouads
Sample : fc28746-2 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(3) DNX

1.66min 4.121ppb

response 27095

(3) DNX #2

1.85min 13.169ppb

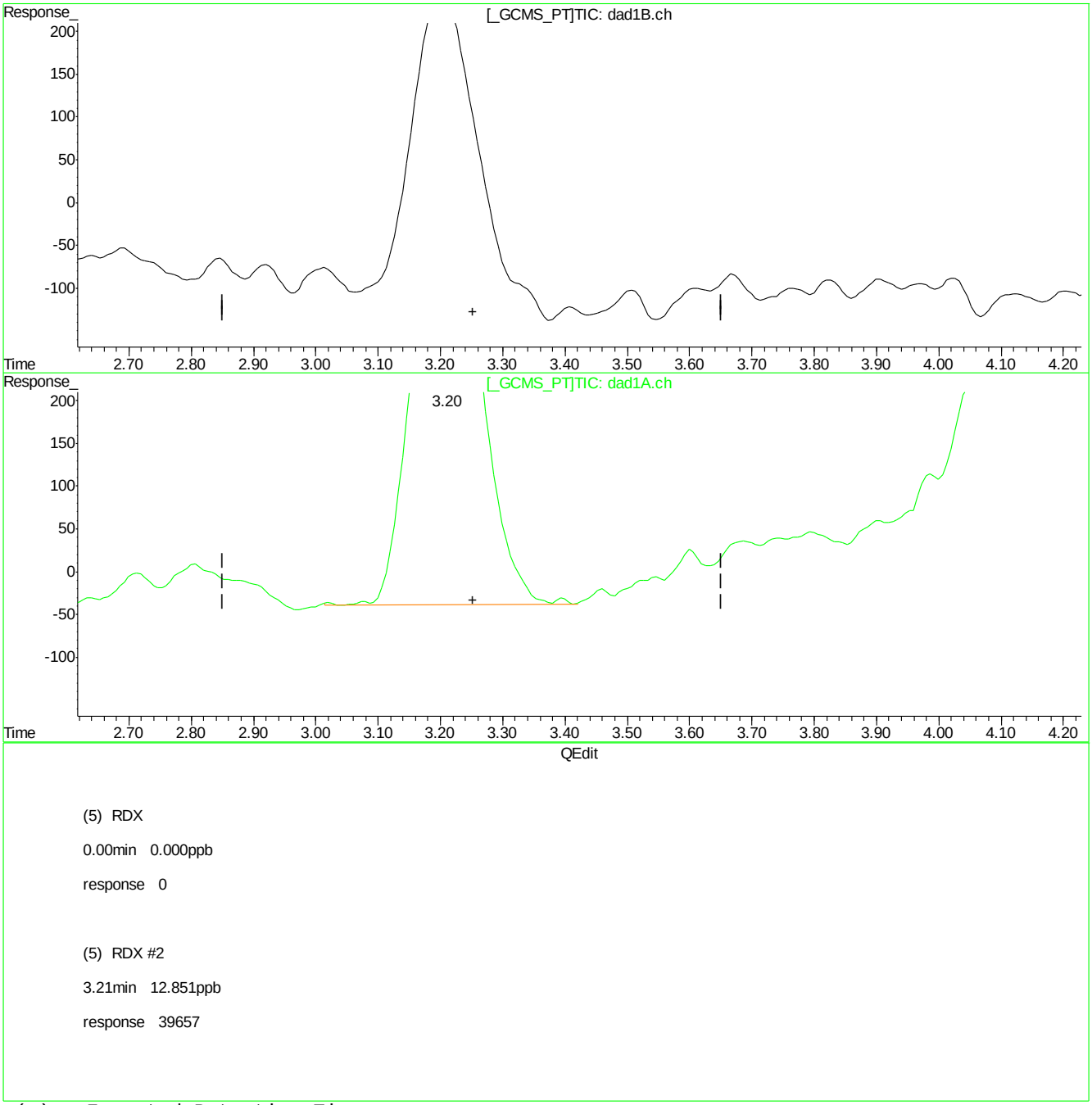
response 131978

(+) = Expected Retention Time
BB089896.D BBB2740_073025.M Mon Oct 27 13:02:48 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089896.D\dad1B.ch Vial: 15
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089896.D\dad1A.ch
Acq On : 24-Oct-2025, 17:46:17 Operator: fouads
Sample : fc28746-2 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration



(5) RDX

0.00min 0.000ppb

response 0

(5) RDX #2

3.21min 12.851ppb

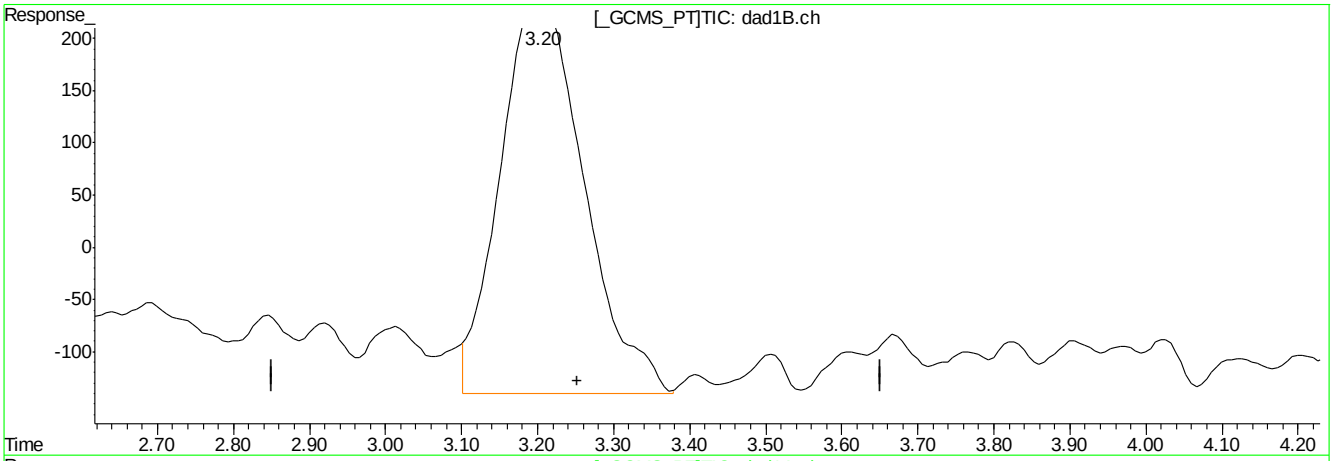
response 39657

(+) = Expected Retention Time
BB089896.D BBB2740_073025.M Mon Oct 27 13:03:03 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089896.D\dad1B.ch Vial: 15
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089896.D\dad1A.ch
Acq On : 24-Oct-2025, 17:46:17 Operator: fouads
Sample : fc28746-2 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration



(5) RDX

3.20min 14.824ppb m

response 29290

(5) RDX #2

3.21min 12.851ppb

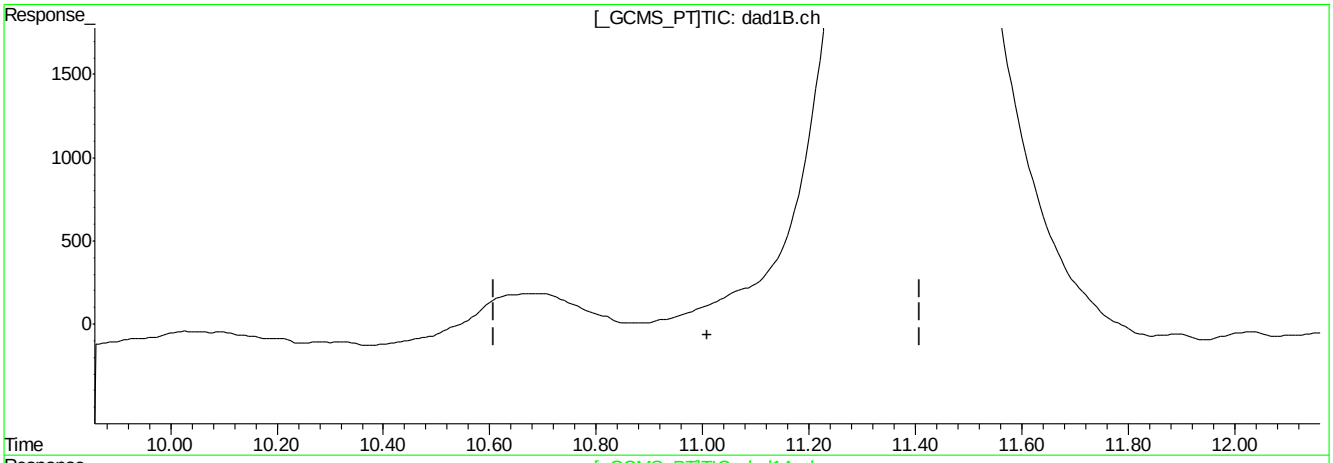
response 39657

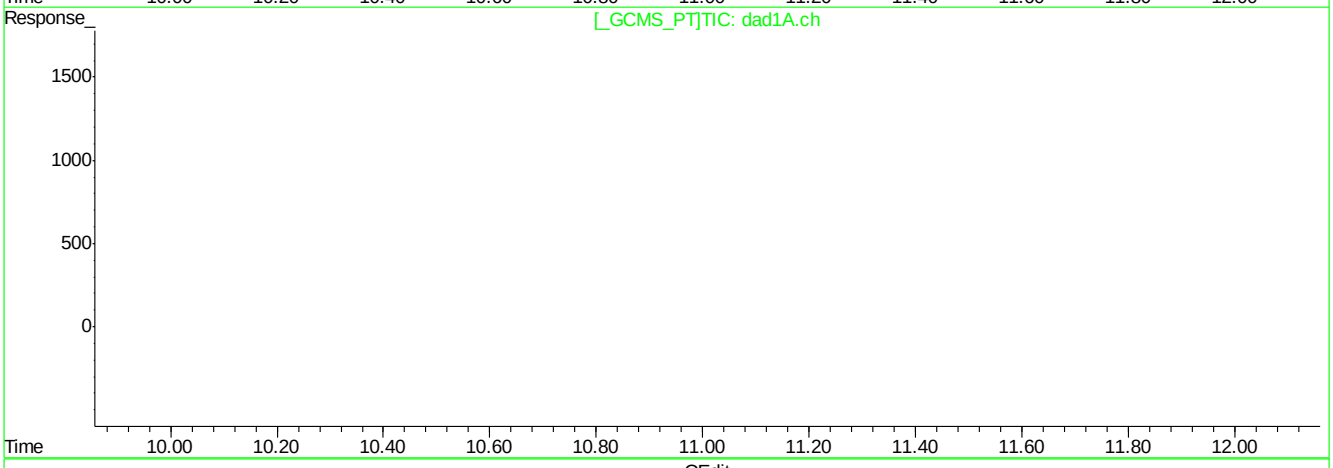
(+) = Expected Retention Time
BB089896.D BBB2740_073025.M Mon Oct 27 13:03:10 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089896.D\dad1B.ch Vial: 15
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089896.D\dad1A.ch
Acq On : 24-Oct-2025, 17:46:17 Operator: fouads
Sample : fc28746-2 Inst : G1315B
Misc : OP12165,gbb2779,940,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Nov 4 8:12 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Oct 28 14:46:21 2025
Response via : Multiple Level Calibration





QEdit

(14) 4-Amino-2,6-Dinitrotoluene

0.00min 0.000ppb

response 0

(14) 4-Amino-2,6-Dinitrotoluene #2

0.00min 0.000ppb

response 0

(+) = Expected Retention Time
BB089896.D BBB2740_073025.M Tue Nov 04 08:13:12 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan
11/04/25 10:12

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633330.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633330.D\dad1A.ch
Acq On : 29-Oct-2025, 11:18:58 Operator: fouads
Sample : fc28746-2cf Inst : G1315B
Misc : OP12165,GGG3647,940,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 08:00:03 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.20	14.20	2187132	4394037	459.393	485.824
	Spiked Amount 500.000	Range 70 - 136		Recovery =		91.88%	97.16%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	5.32	5.31	69892	351972	20.114m	31.863m#
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
6)	RDX	7.82	7.80	91376	69548	22.160m	10.114m#
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D.
16)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	18.04	18.32f	112009	229315	21.802m	24.291m
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	20.21	20.37f	132011	85058	16.234m	23.139m#
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

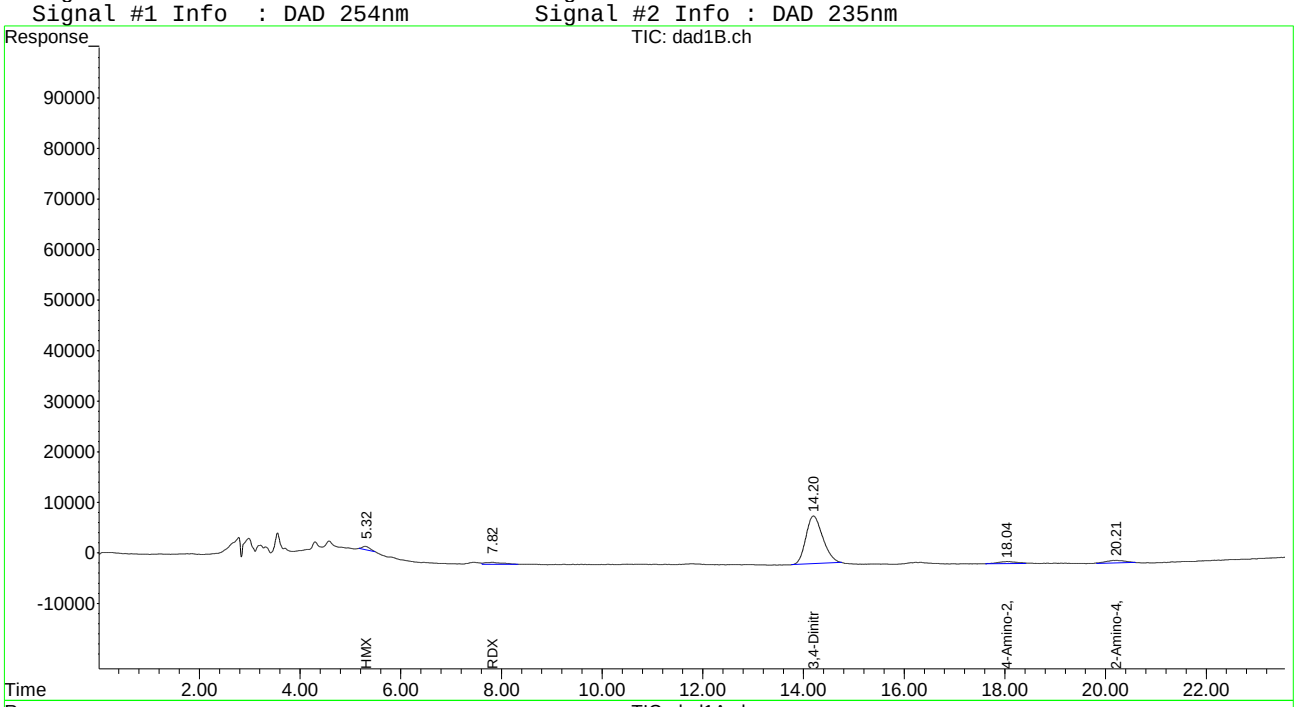
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG633330.D GGG3599_071425.M Fri Oct 31 13:39:20 2025

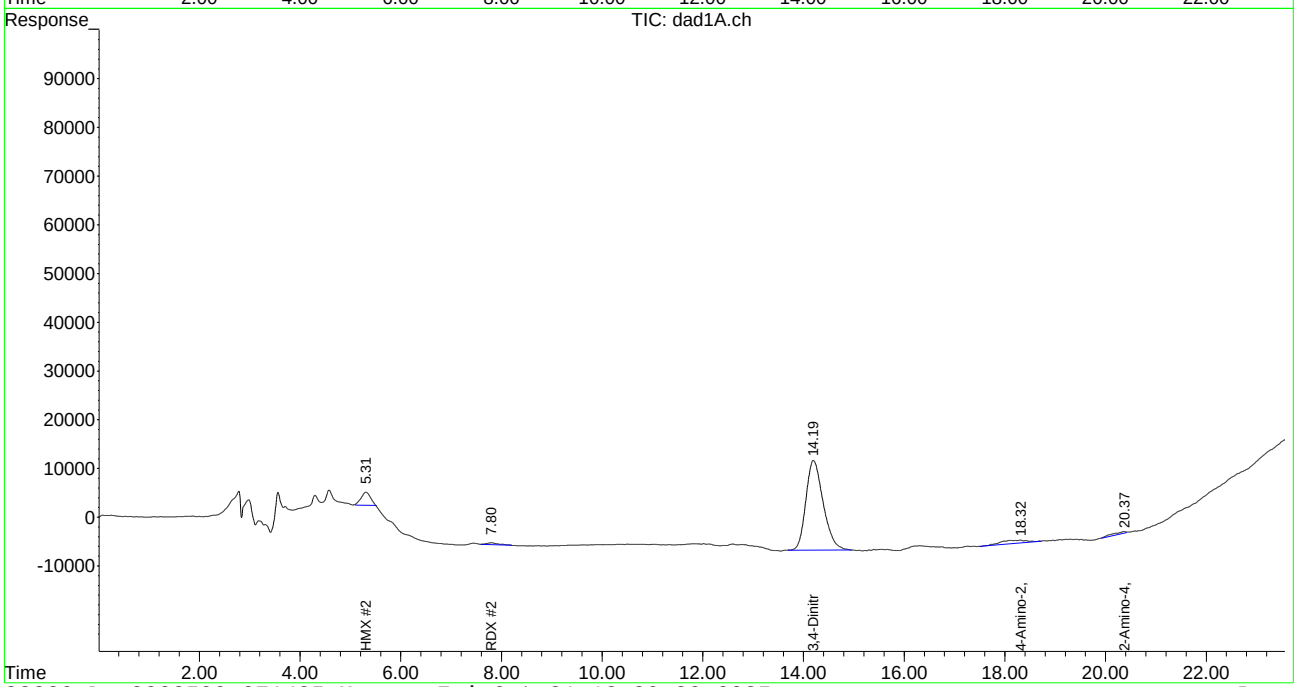
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633330.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633330.D\dad1A.ch
Acq On : 29-Oct-2025, 11:18:58 Operator: fouads
Sample : fc28746-2cf Inst : G1315B
Misc : OP12165,GGG3647,940,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:08 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

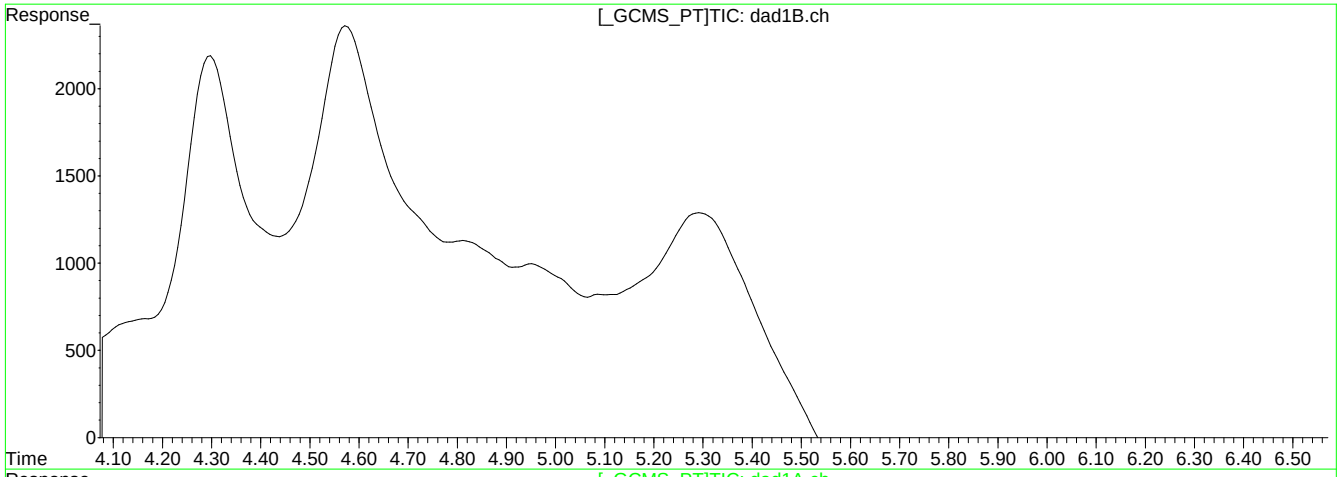
Sample Number: FC28746-2
Lab FileID: GG633330.D
Injection Time: 10/29/25 11:18
Method: SW846 8330B
Analyst approved: 10/31/25 14:53 Fouad Sekkar
Supervisor approved: 11/04/25 10:12 Naresh Jiawan

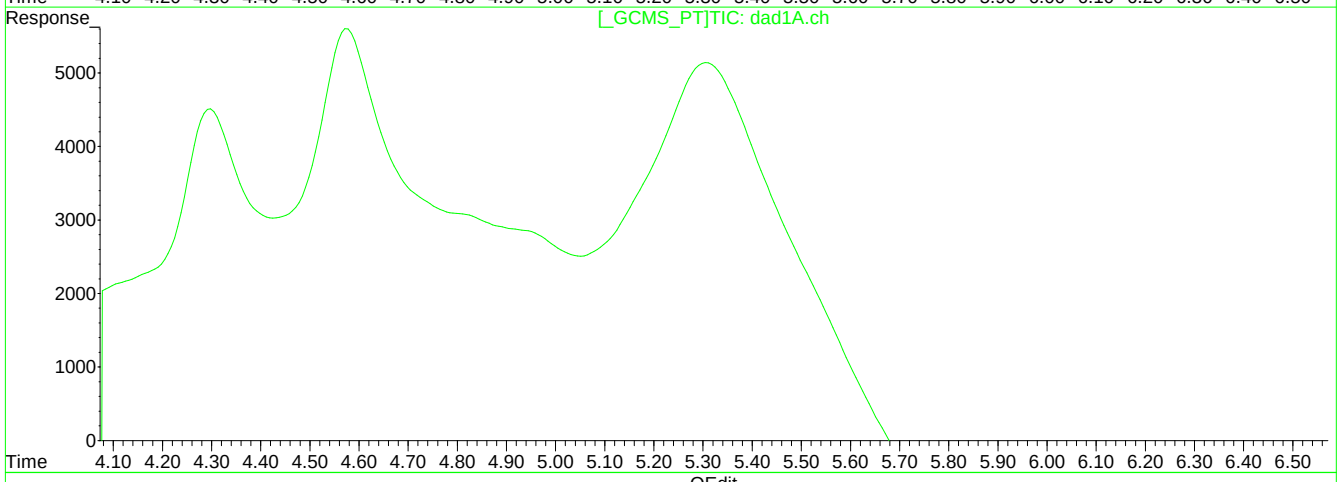
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	2	5.31	Missed peak
HMX	2691-41-0	1	5.32	Missed peak
RDX	121-82-4	2	7.80	Missed peak
RDX	121-82-4	1	7.82	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	1	18.04	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	2	18.32	Missed peak
2-amino-4,6-Dinitrotoluene	35572-78-2	1	20.21	Missed peak
2-amino-4,6-Dinitrotoluene	35572-78-2	2	20.37	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633330.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633330.D\dad1A.ch
Acq On : 29-Oct-2025, 11:18:58 Operator: fouads
Sample : fc28746-2cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

0.00min 0.000ppb

response 0

(2) HMX #2

0.00min 0.000ppb

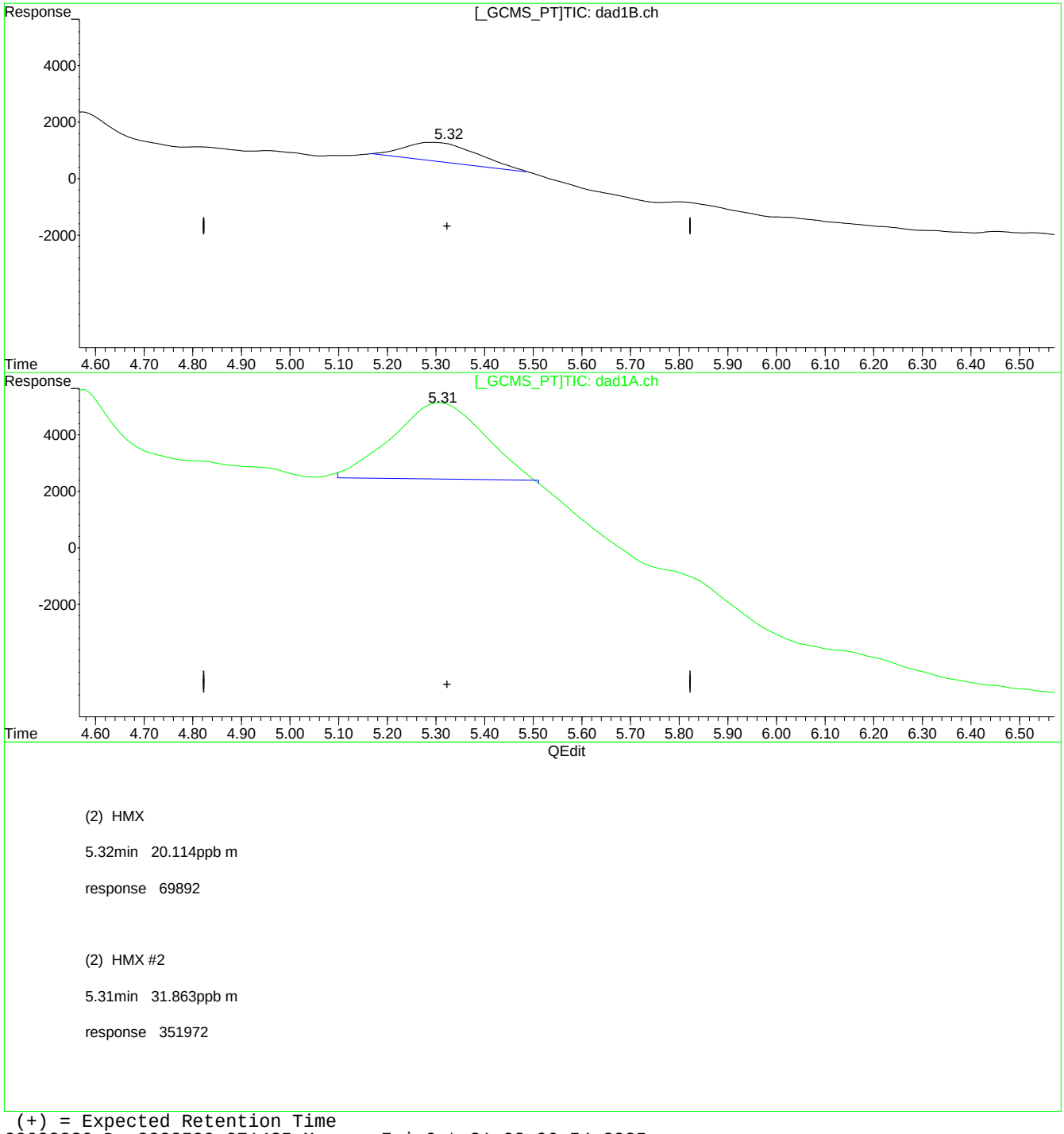
response 0

(+) = Expected Retention Time
GG633330.D GGG3599_071425.M Fri Oct 31 08:06:28 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633330.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633330.D\dad1A.ch
Acq On : 29-Oct-2025, 11:18:58 Operator: fouads
Sample : fc28746-2cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(2) HMX

5.32min 20.114ppb m

response 69892

(2) HMX #2

5.31min 31.863ppb m

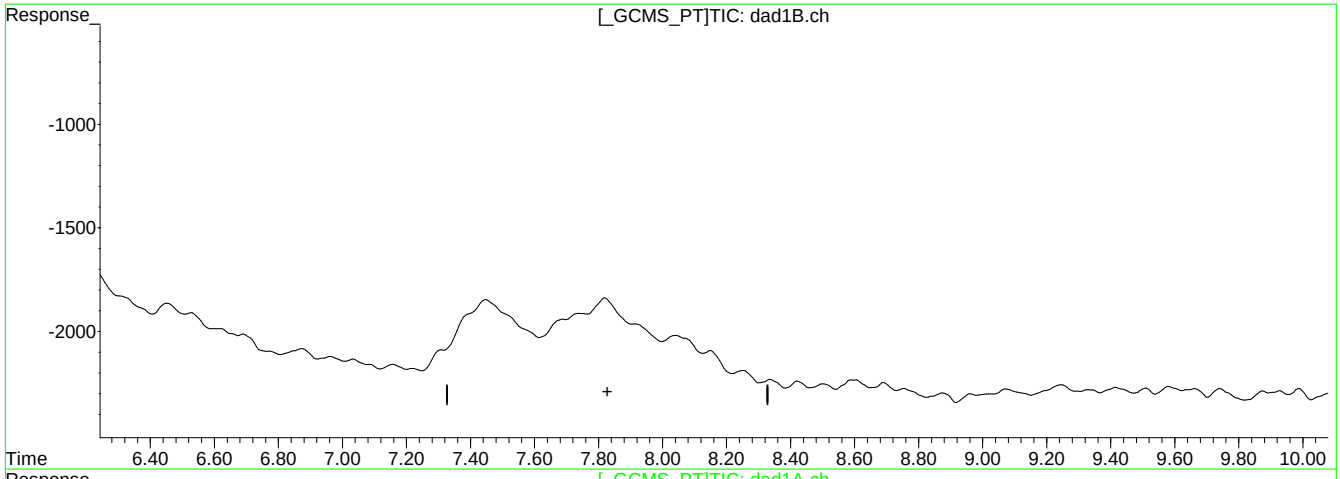
response 351972

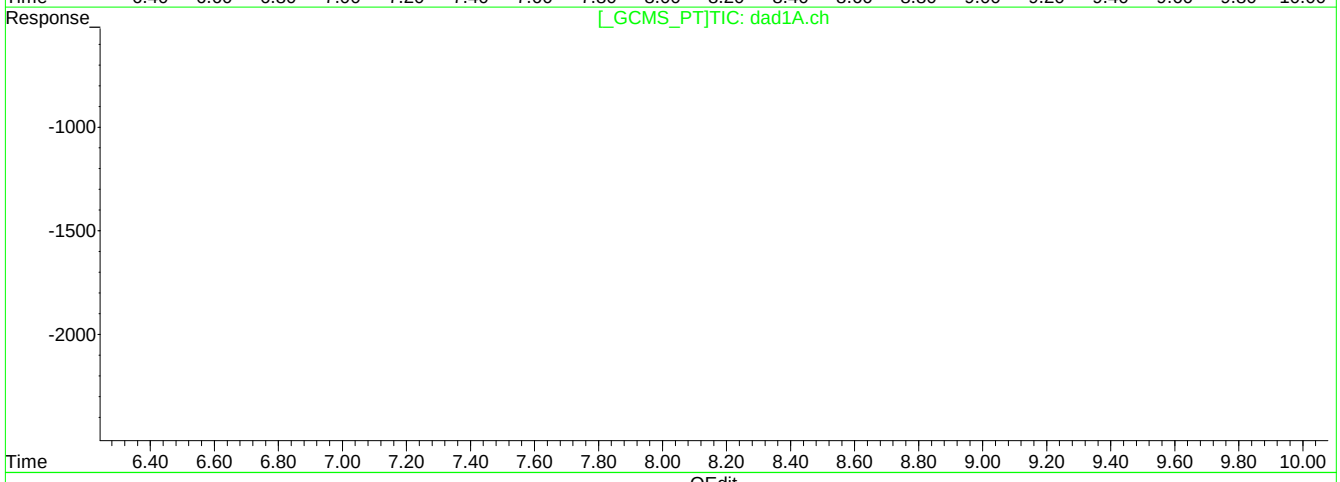
(+) = Expected Retention Time
GG633330.D GGG3599_071425.M Fri Oct 31 08:06:54 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633330.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633330.D\dad1A.ch
Acq On : 29-Oct-2025, 11:18:58 Operator: fouads
Sample : fc28746-2cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





QEdit

(6) RDX

0.00min 0.000ppb

response 0

(6) RDX #2

0.00min 0.000ppb

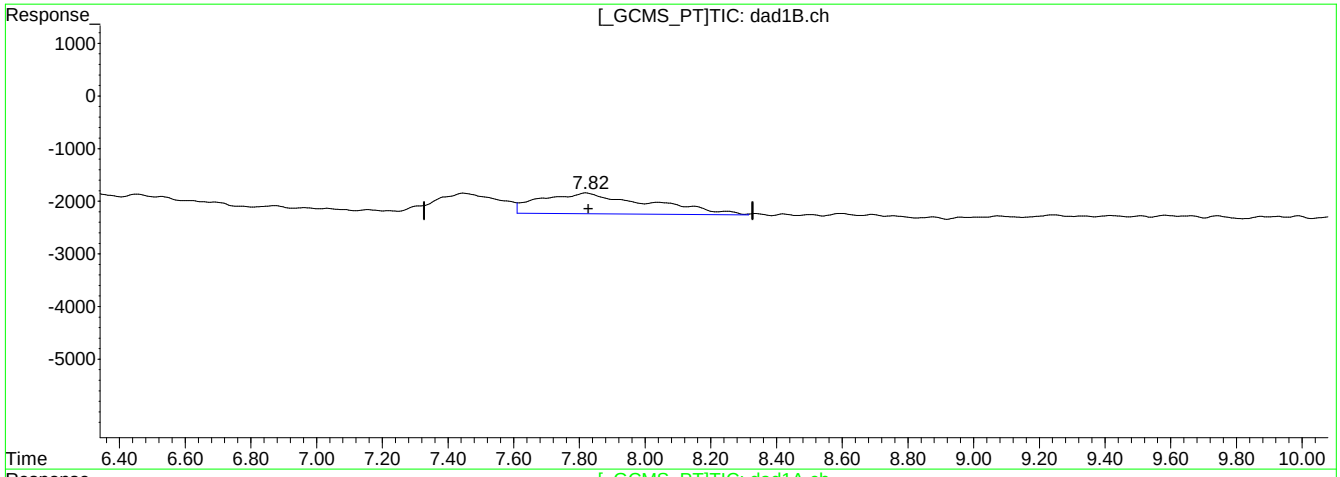
response 0

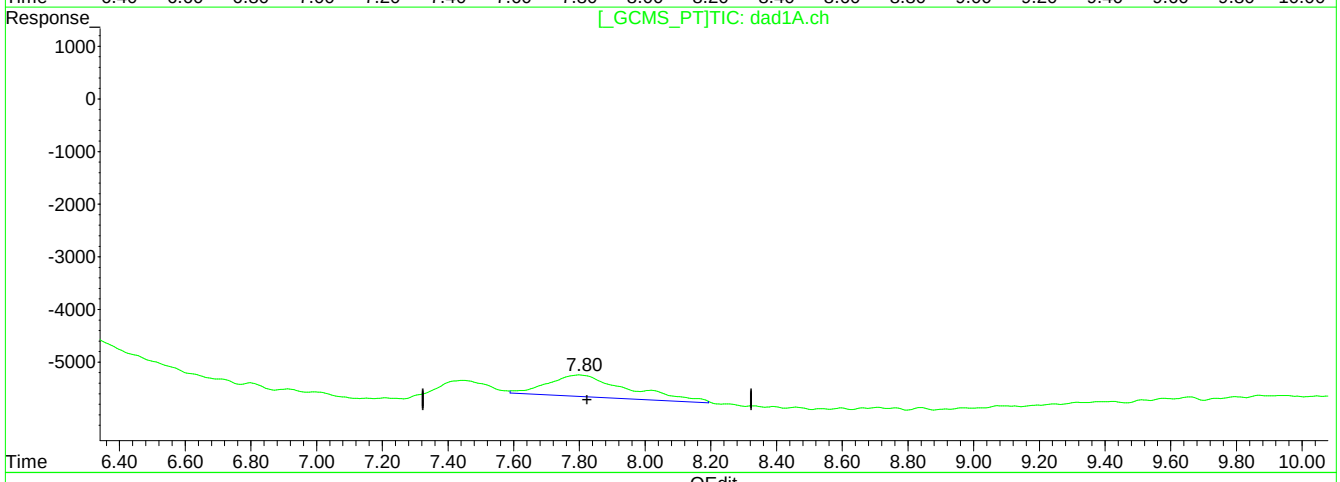
(+) = Expected Retention Time
GG633330.D GGG3599_071425.M Fri Oct 31 08:07:22 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633330.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633330.D\dad1A.ch
Acq On : 29-Oct-2025, 11:18:58 Operator: fouads
Sample : fc28746-2cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





QEdit

(6) RDX

7.82min 22.160ppb m

response 91376

(6) RDX #2

7.80min 10.114ppb m

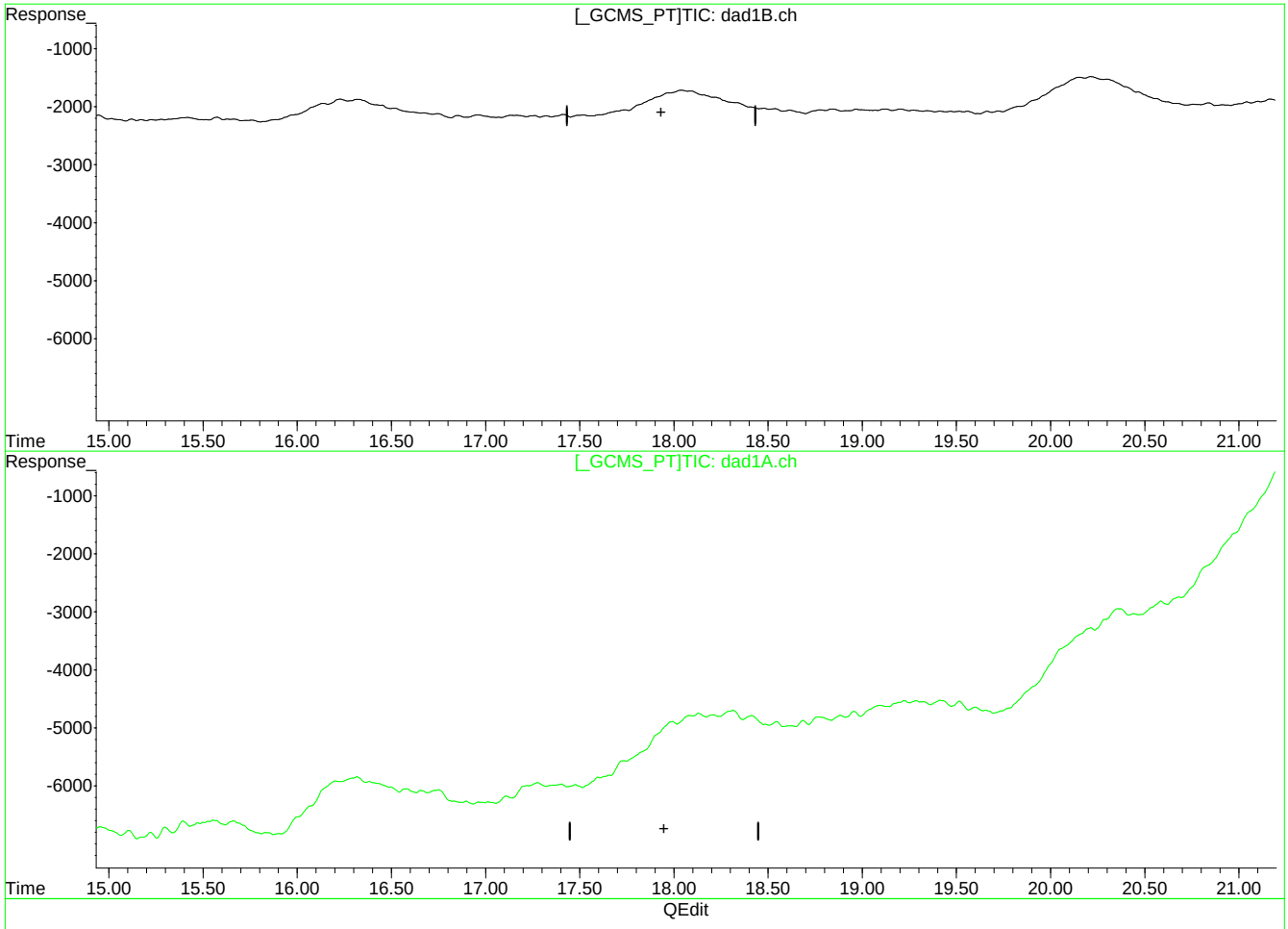
response 69548

(+) = Expected Retention Time
GG633330.D GGG3599_071425.M Fri Oct 31 08:07:39 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633330.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633330.D\dad1A.ch
Acq On : 29-Oct-2025, 11:18:58 Operator: fouads
Sample : fc28746-2cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

0.00min 0.000ppb

response 0

(18) 4-Amino-2,6-Dinitrotoluene #2

0.00min 0.000ppb

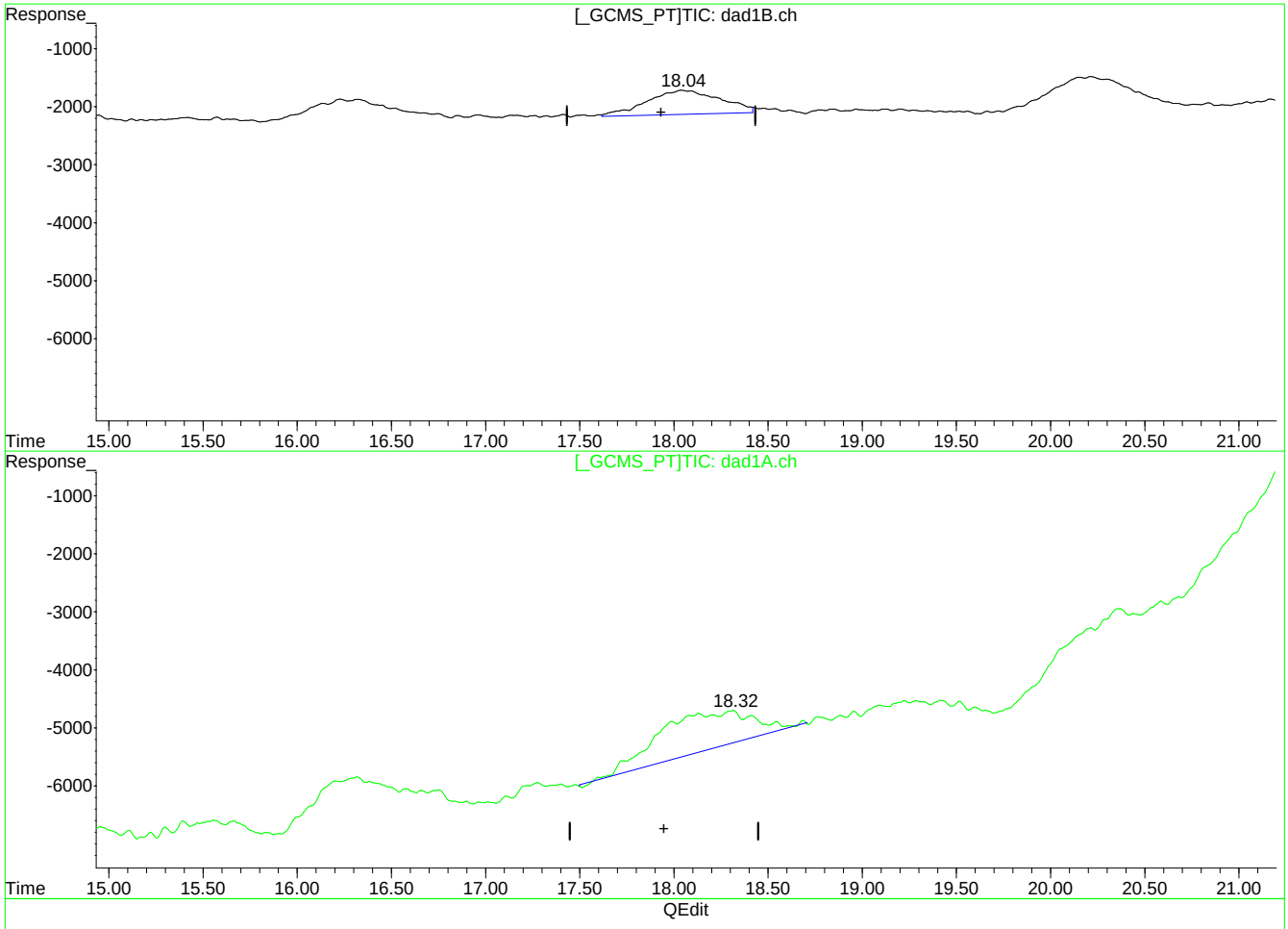
response 0

(+) = Expected Retention Time
GG633330.D GGG3599_071425.M Fri Oct 31 08:07:57 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633330.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633330.D\dad1A.ch
Acq On : 29-Oct-2025, 11:18:58 Operator: fouads
Sample : fc28746-2cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

18.04min 21.802ppb m

response 112009

(18) 4-Amino-2,6-Dinitrotoluene #2

18.32min 24.291ppb m

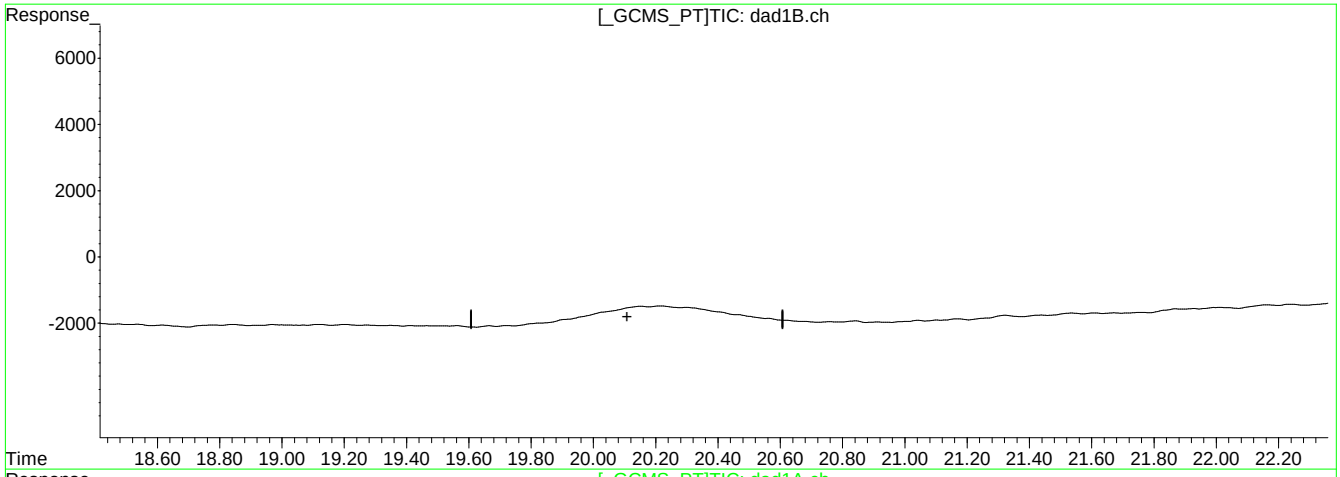
response 229315

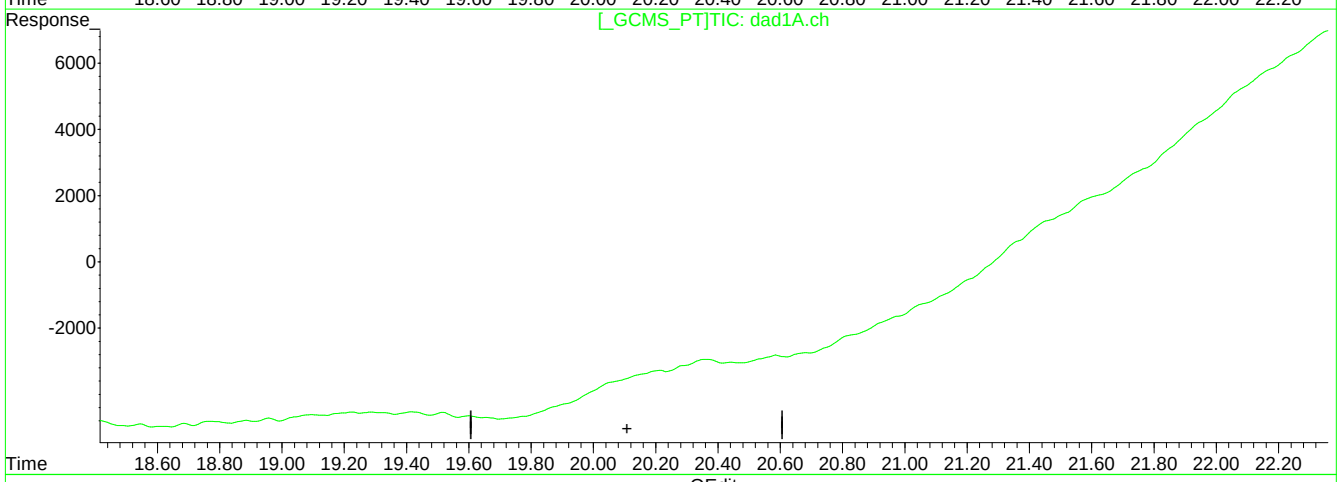
(+) = Expected Retention Time
GG633330.D GGG3599_071425.M Fri Oct 31 08:08:06 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633330.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633330.D\dad1A.ch
Acq On : 29-Oct-2025, 11:18:58 Operator: fouads
Sample : fc28746-2cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





QEdit

(20) 2-Amino-4,6-Dinitrotoluene

0.00min 0.000ppb

response 0

(20) 2-Amino-4,6-Dinitrotoluene #2

0.00min 0.000ppb

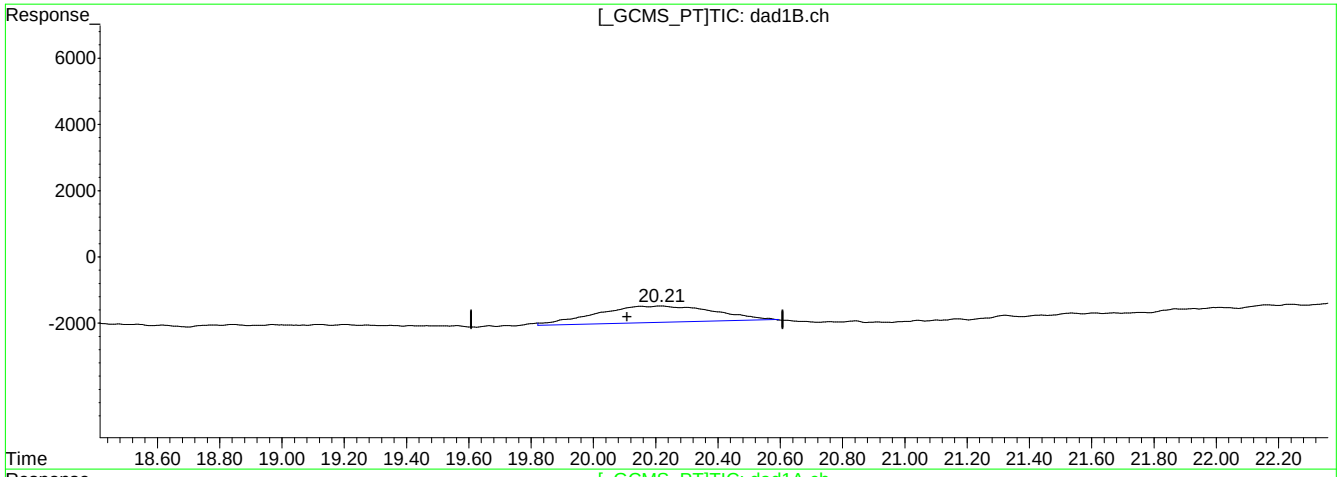
response 0

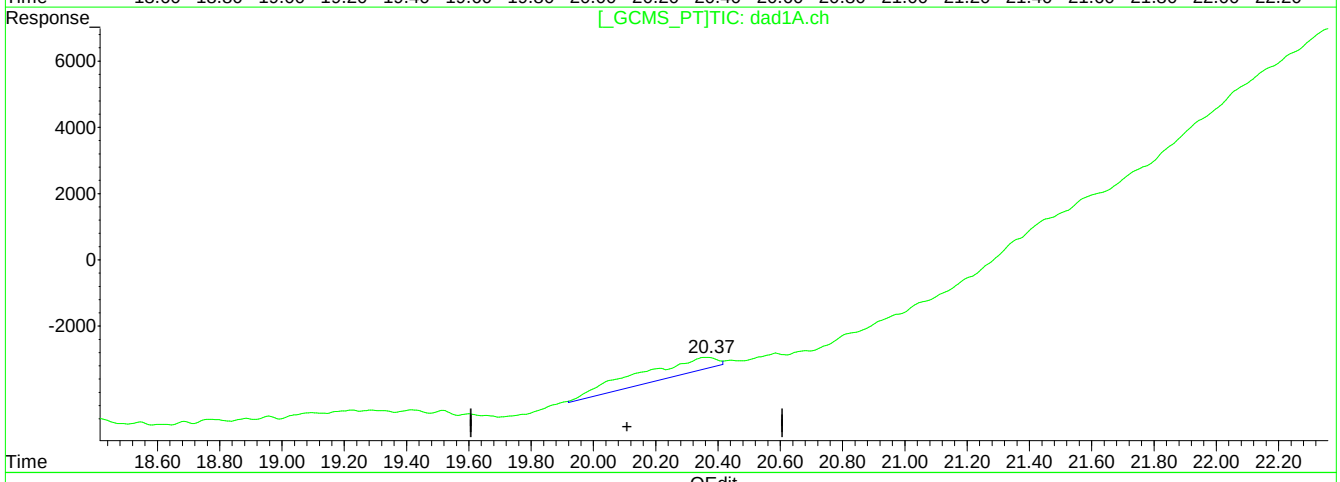
(+) = Expected Retention Time
GG633330.D GGG3599_071425.M Fri Oct 31 08:08:15 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633330.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633330.D\dad1A.ch
Acq On : 29-Oct-2025, 11:18:58 Operator: fouads
Sample : fc28746-2cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





QEdit

(20) 2-Amino-4,6-Dinitrotoluene

20.21min 16.234ppb m

response 132011

(20) 2-Amino-4,6-Dinitrotoluene #2

20.37min 23.139ppb m

response 85058

(+) = Expected Retention Time
GG633330.D GGG3599_071425.M Fri Oct 31 08:08:30 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan 11/03/25 16:22

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089897.D\dad1B.ch Vial: 16
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089897.D\dad1A.ch
Acq On : 24-Oct-2025, 18:13:43 Operator: fouads
Sample : fc28746-3 Inst : G1315B
Misc : OP12165,gbb2779,950,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 08:02:34 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 07:22:56 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.36	11.36	1003905	1675809	468.786	464.800
	Spiked Amount 500.000	Range 70 - 136		Recovery =		93.76%	92.96%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.66	1.67	23758	128342	13.575m	9.707
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D. d
9)	Nitrobenzene	0.00	7.57f	0	19298	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
13)	2-Amino-4,6-Dini	10.66	10.64	45190	43348	13.181	8.849
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

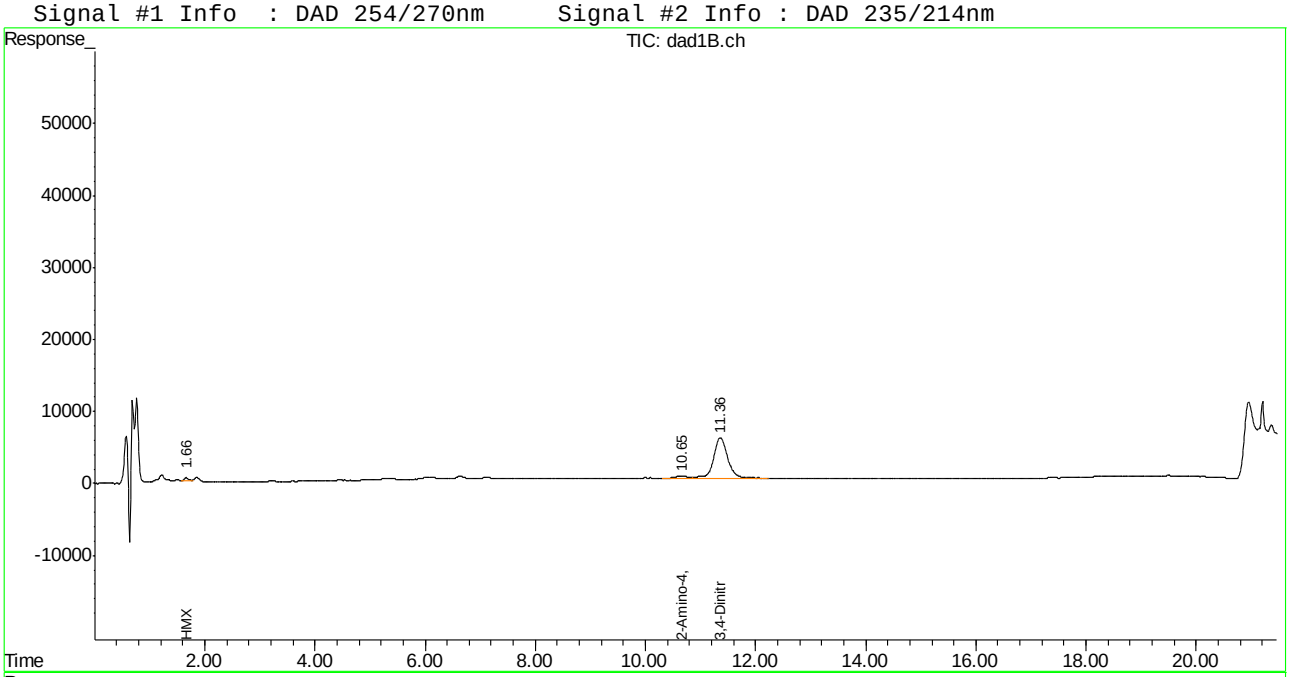
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB089897.D BBB2740_073025.M Fri Oct 31 13:41:20 2025 Page 1

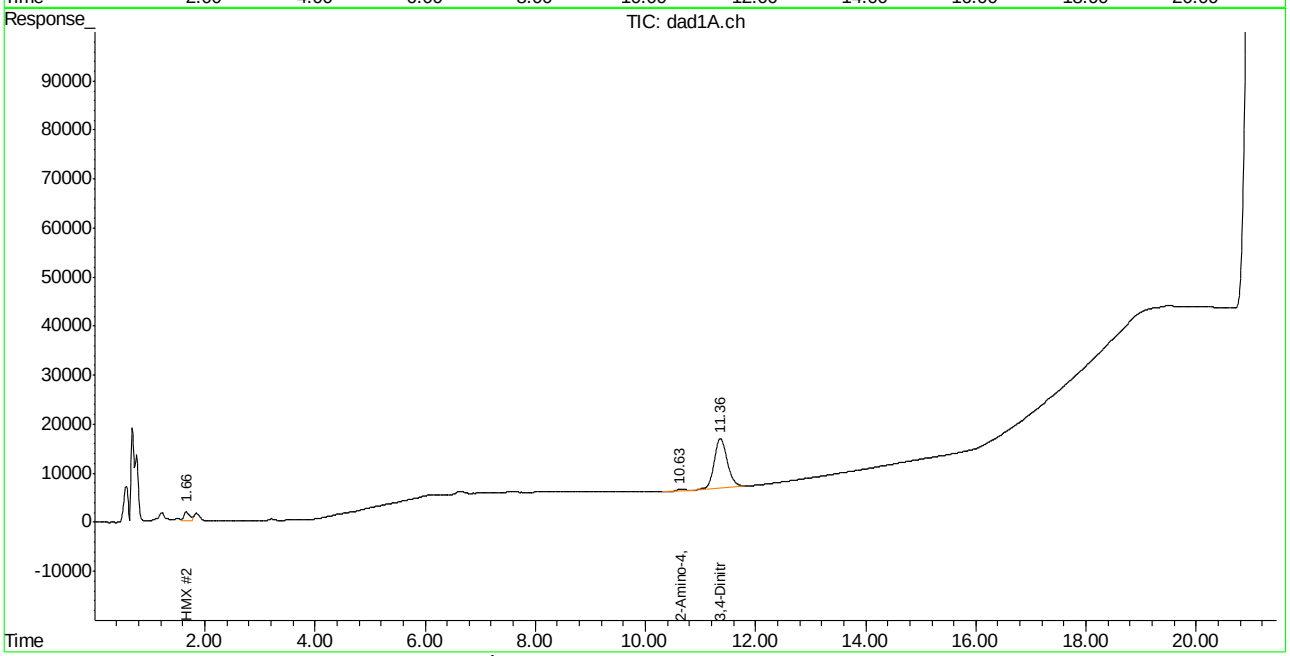
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089897.D\dad1B.ch Vial: 16
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089897.D\dad1A.ch
Acq On : 24-Oct-2025, 18:13:43 Operator: fouads
Sample : fc28746-3 Inst : G1315B
Misc : OP12165,gbb2779,950,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 13:06 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 07:22:56 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





BB089897.D BBB2740_073025.M Fri Oct 31 13:41:20 2025 Page 2

Manual Integration Approval Summary

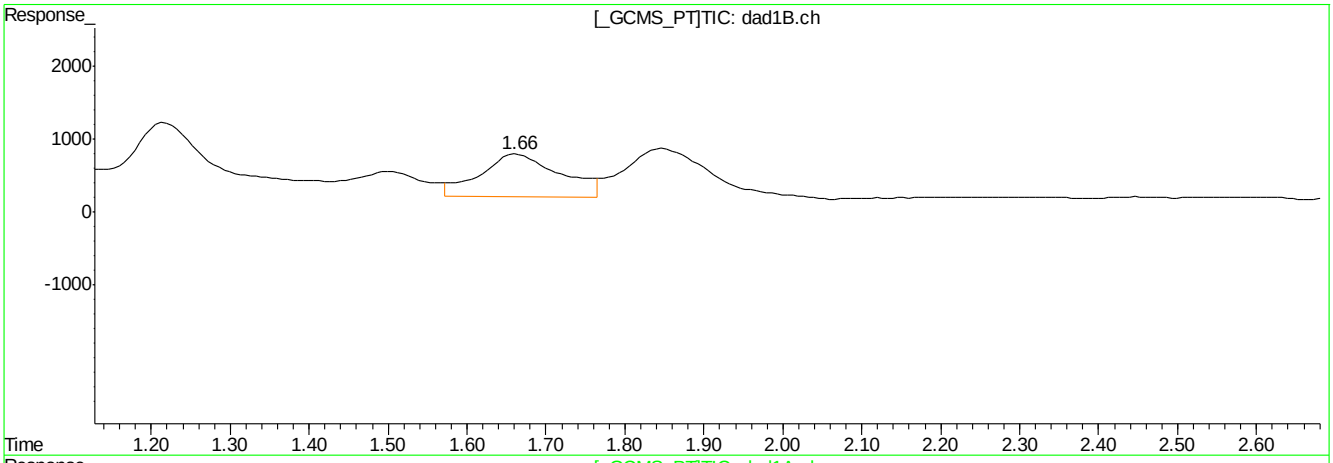
Sample Number:	FC28746-3	**Method:**	SW846 8330B
Lab FileID:	BB089897.D	**Analyst approved:**	10/31/25 14:49 Fouad Sekkar
Injection Time:	10/24/25 18:13	**Supervisor approved:**	11/03/25 16:22 Naresh Jiawan

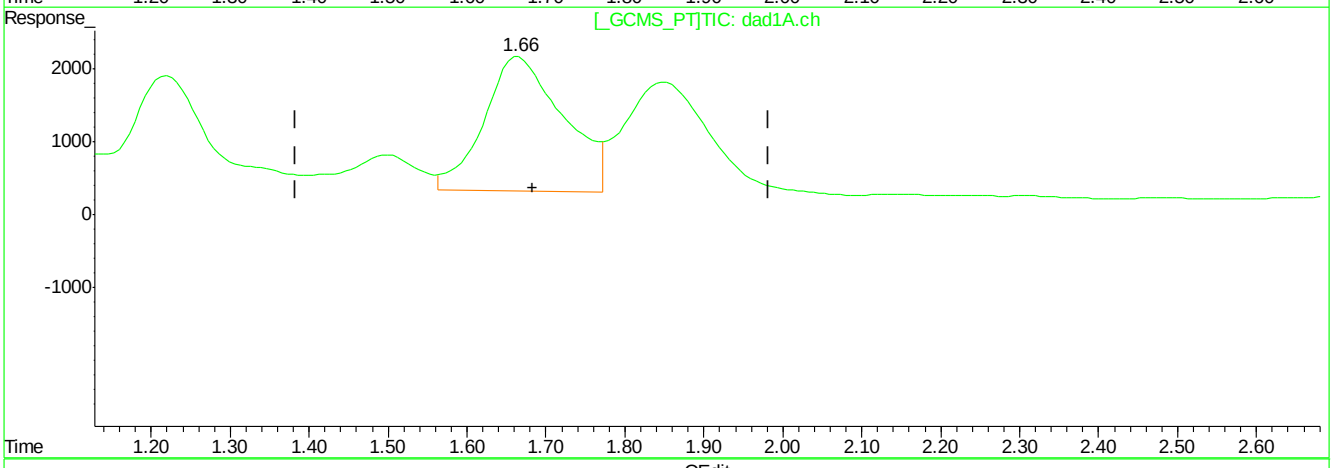
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.66	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089897.D\dad1B.ch Vial: 16
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089897.D\dad1A.ch
Acq On : 24-Oct-2025, 18:13:43 Operator: fouads
Sample : fc28746-3 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

1.66min 23.915ppb

response 41855

(2) HMX #2

1.67min 9.707ppb

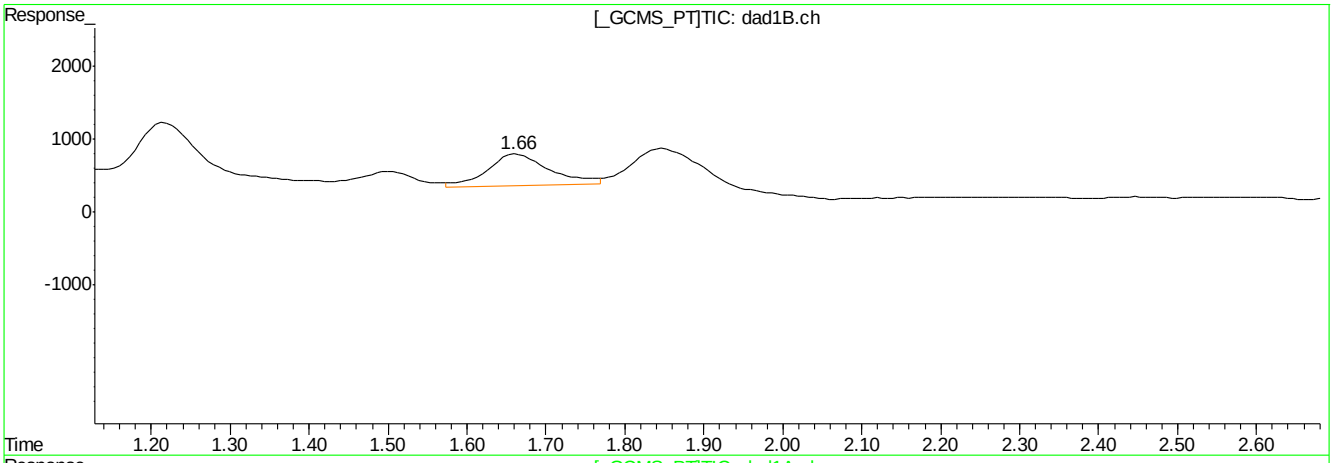
response 128342

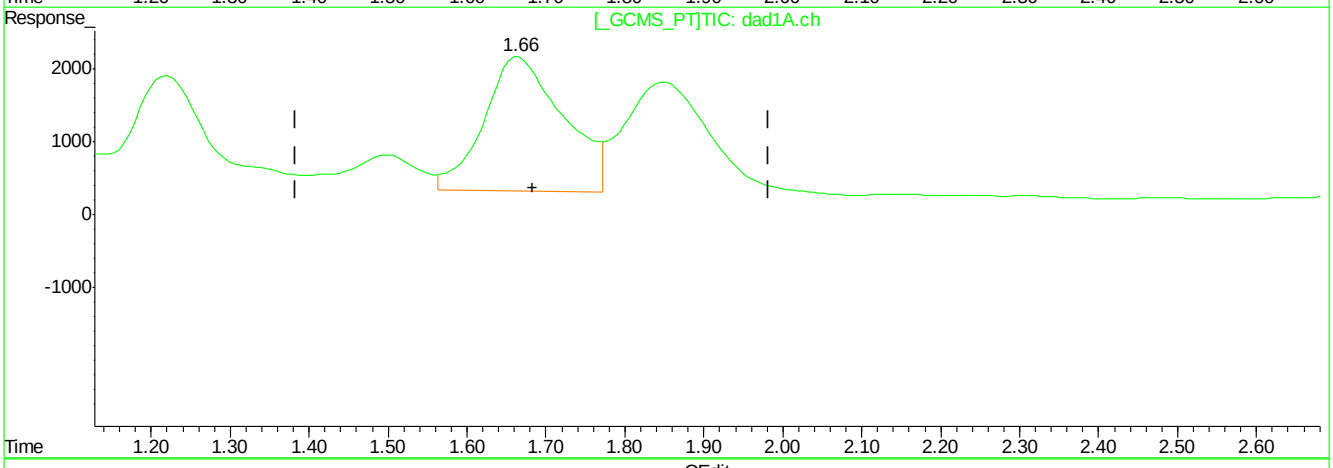
(+) = Expected Retention Time
BB089897.D BBB2740_073025.M Mon Oct 27 13:04:34 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089897.D\dad1B.ch Vial: 16
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089897.D\dad1A.ch
Acq On : 24-Oct-2025, 18:13:43 Operator: fouads
Sample : fc28746-3 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

1.66min 13.575ppb m

response 23758

(2) HMX #2

1.67min 9.707ppb

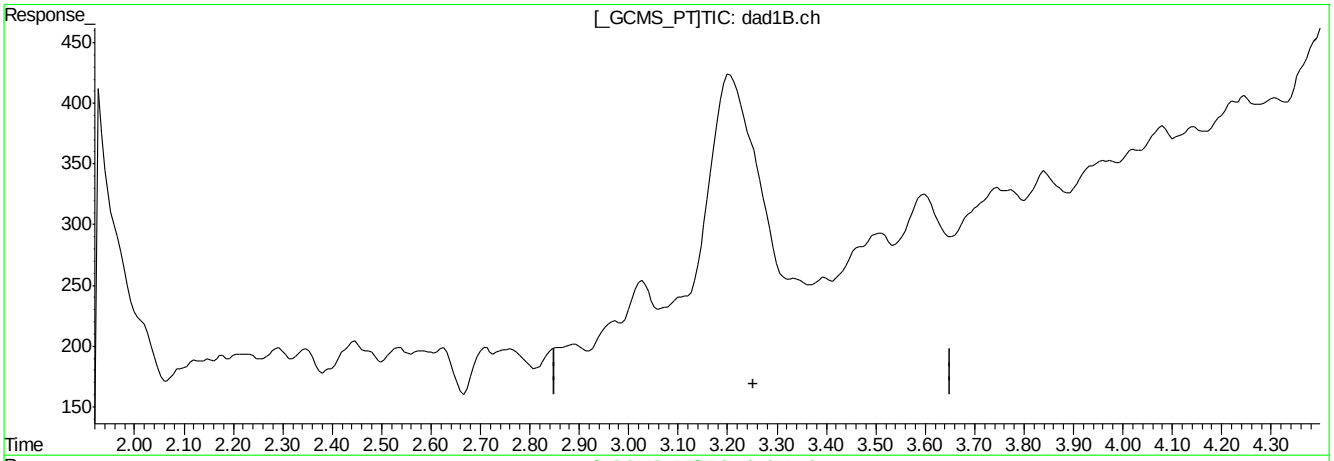
response 128342

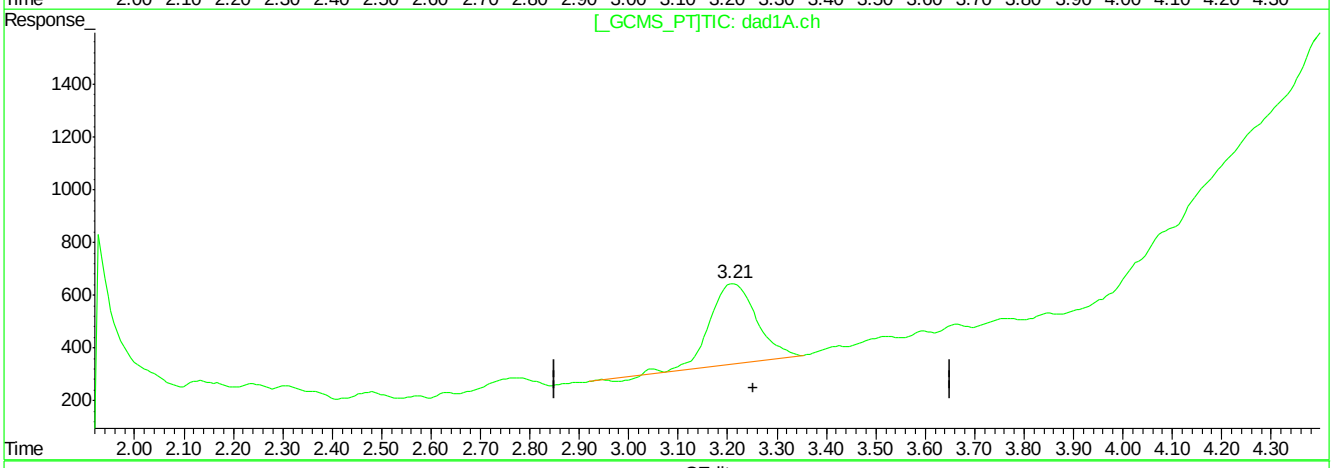
(+) = Expected Retention Time
BB089897.D BBB2740_073025.M Mon Oct 27 13:04:42 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089897.D\dad1B.ch Vial: 16
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089897.D\dad1A.ch
Acq On : 24-Oct-2025, 18:13:43 Operator: fouads
Sample : fc28746-3 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(5) RDX

0.00min 0.000ppb

response 0

(5) RDX #2

3.21min 6.355ppb

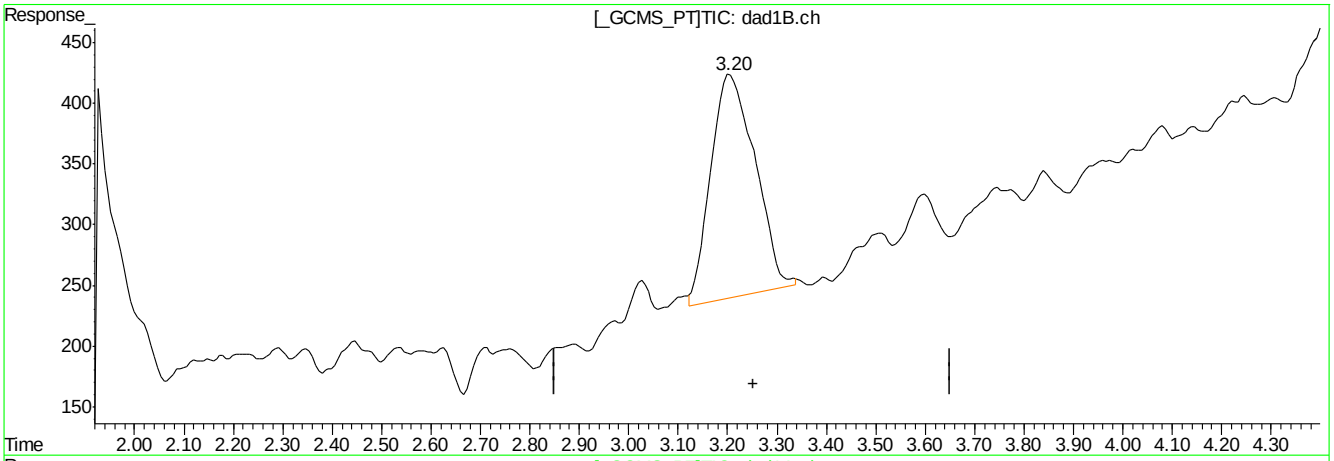
response 19610

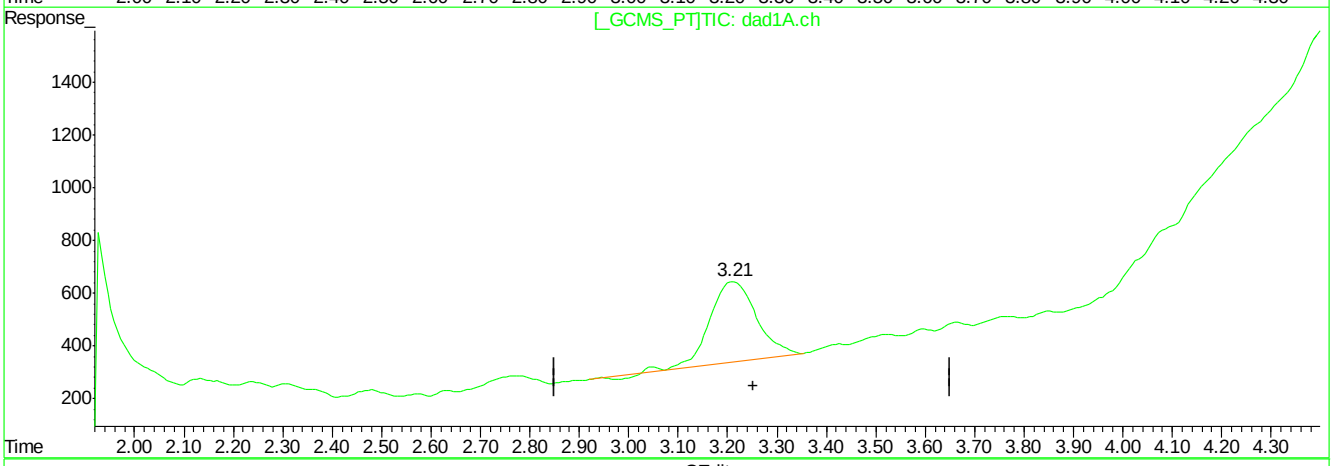
(+) = Expected Retention Time
BB089897.D BBB2740_073025.M Mon Oct 27 13:04:57 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089897.D\dad1B.ch Vial: 16
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089897.D\dad1A.ch
Acq On : 24-Oct-2025, 18:13:43 Operator: fouads
Sample : fc28746-3 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(5) RDX

3.20min 5.777ppb m

response 11414

(5) RDX #2

3.21min 6.355ppb

response 19610

(+) = Expected Retention Time
BB089897.D BBB2740_073025.M Mon Oct 27 13:05:03 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan
11/03/25 16:22

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633365.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633365.D\dad1A.ch
Acq On : 31-Oct-2025, 10:17:16 Operator: fouads
Sample : fc28746-3cf Inst : G1315B
Misc : OP12165,GGG3649,950,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Nov 03 08:48:48 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.21	14.20	2059138	4267610	432.508	471.802
	Spiked Amount 500.000	Range 70 - 136		Recovery =		86.50%	94.36%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	5.29	5.30	74387	312814	21.408m	28.318m
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
6)	RDX	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D.
16)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D.	N.D.
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	20.21	20.13	126885	140984	15.603m	27.996m#
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

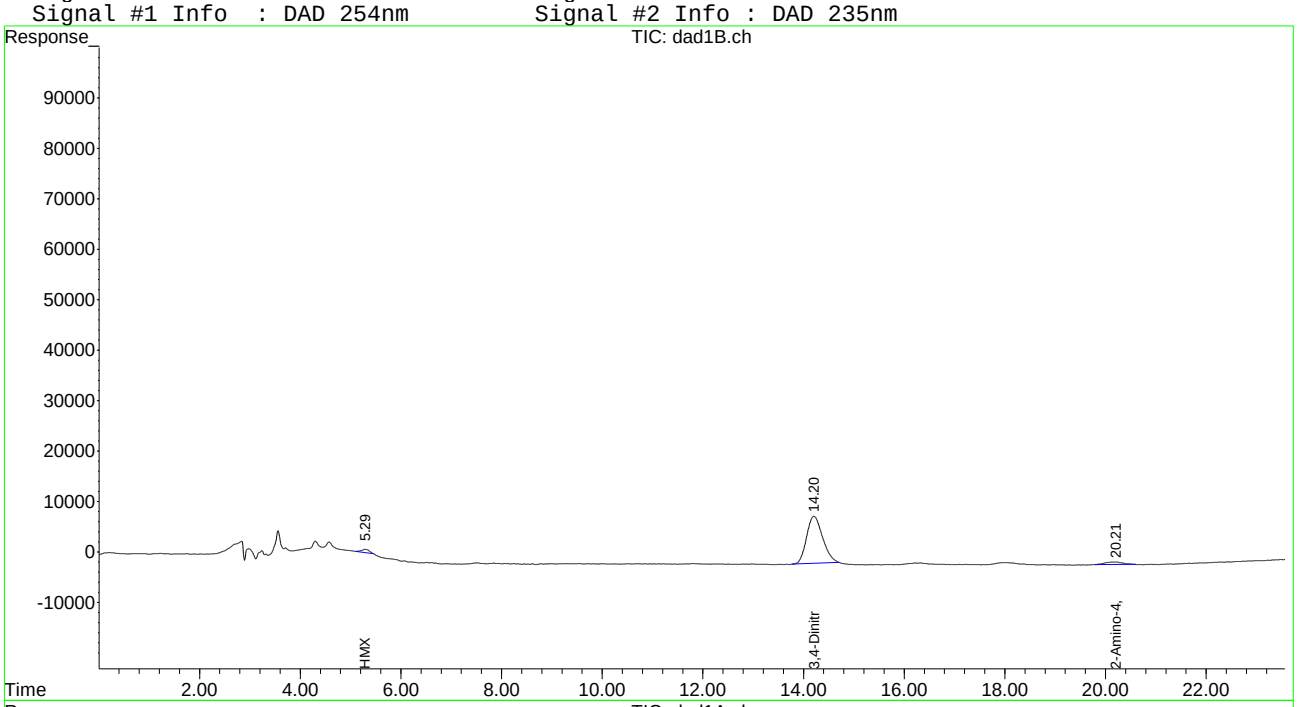
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG633365.D GGG3599_071425.M Mon Nov 03 11:18:58 2025

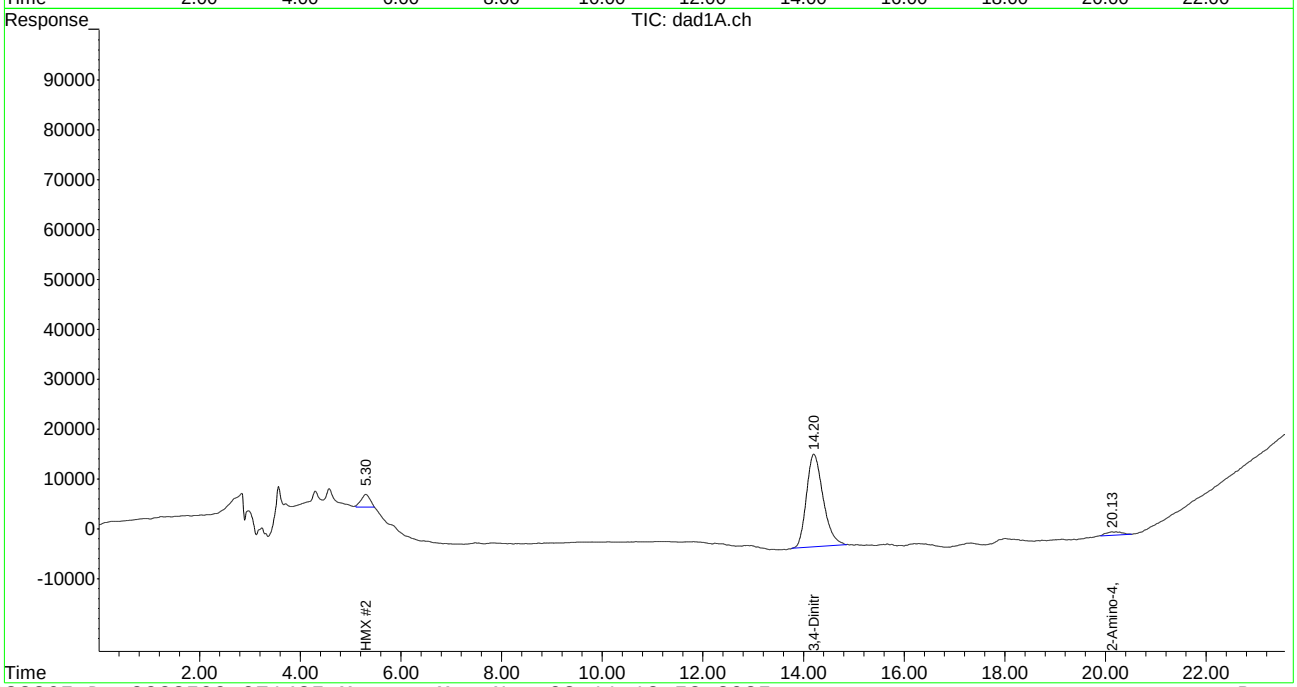
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633365.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633365.D\dad1A.ch
Acq On : 31-Oct-2025, 10:17:16 Operator: fouads
Sample : fc28746-3cf Inst : G1315B
Misc : OP12165,GGG3649,950,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Nov 3 9:21 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





GG633365.D GGG3599_071425.M Mon Nov 03 11:18:58 2025 Page 2

Manual Integration Approval Summary

Sample Number: FC28746-3
Lab FileID: GG633365.D
Injection Time: 10/31/25 10:17

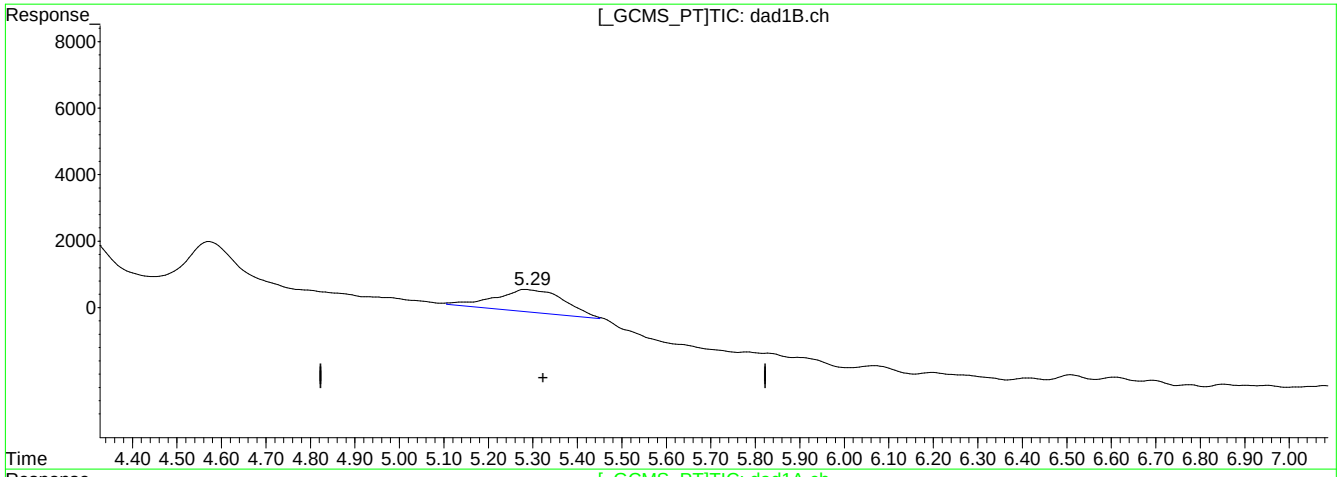
Method: SW846 8330B
Analyst approved: 11/03/25 11:33 Fouad Sekkar
Supervisor approved: 11/03/25 16:22 Naresh Jiawan

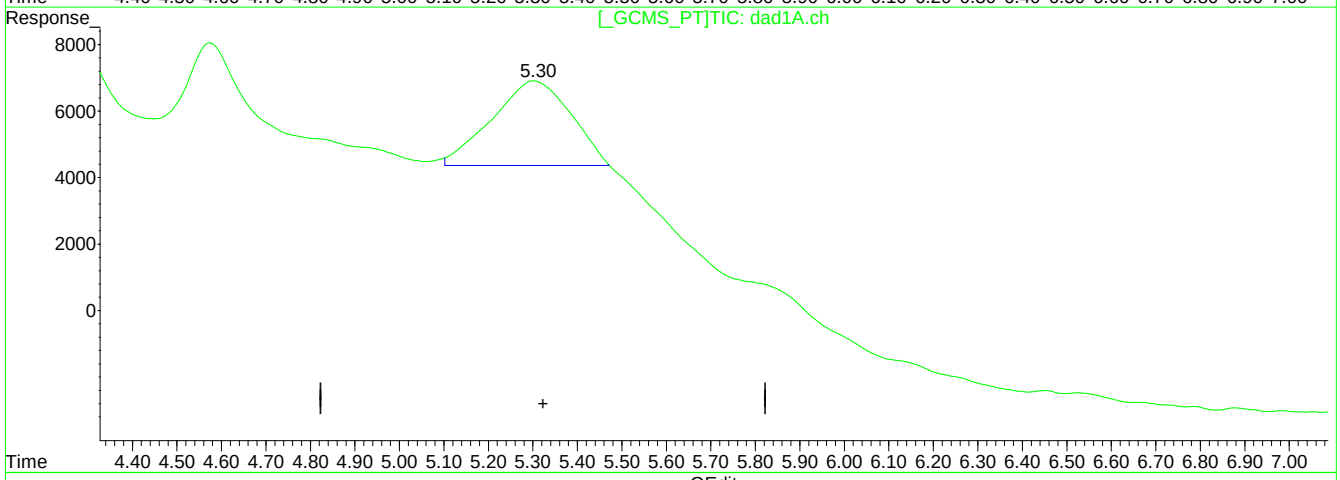
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	5.29	Poorly defined baseline
HMX	2691-41-0	2	5.30	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	2	20.13	Poorly defined baseline
2-amino-4,6-Dinitrotoluene	35572-78-2	1	20.21	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633365.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633365.D\dad1A.ch
Acq On : 31-Oct-2025, 10:17:16 Operator: fouads
Sample : fc28746-3cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Nov 3 8:48 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

5.29min 21.408ppb m

response 74387

(2) HMX #2

5.30min 28.318ppb m

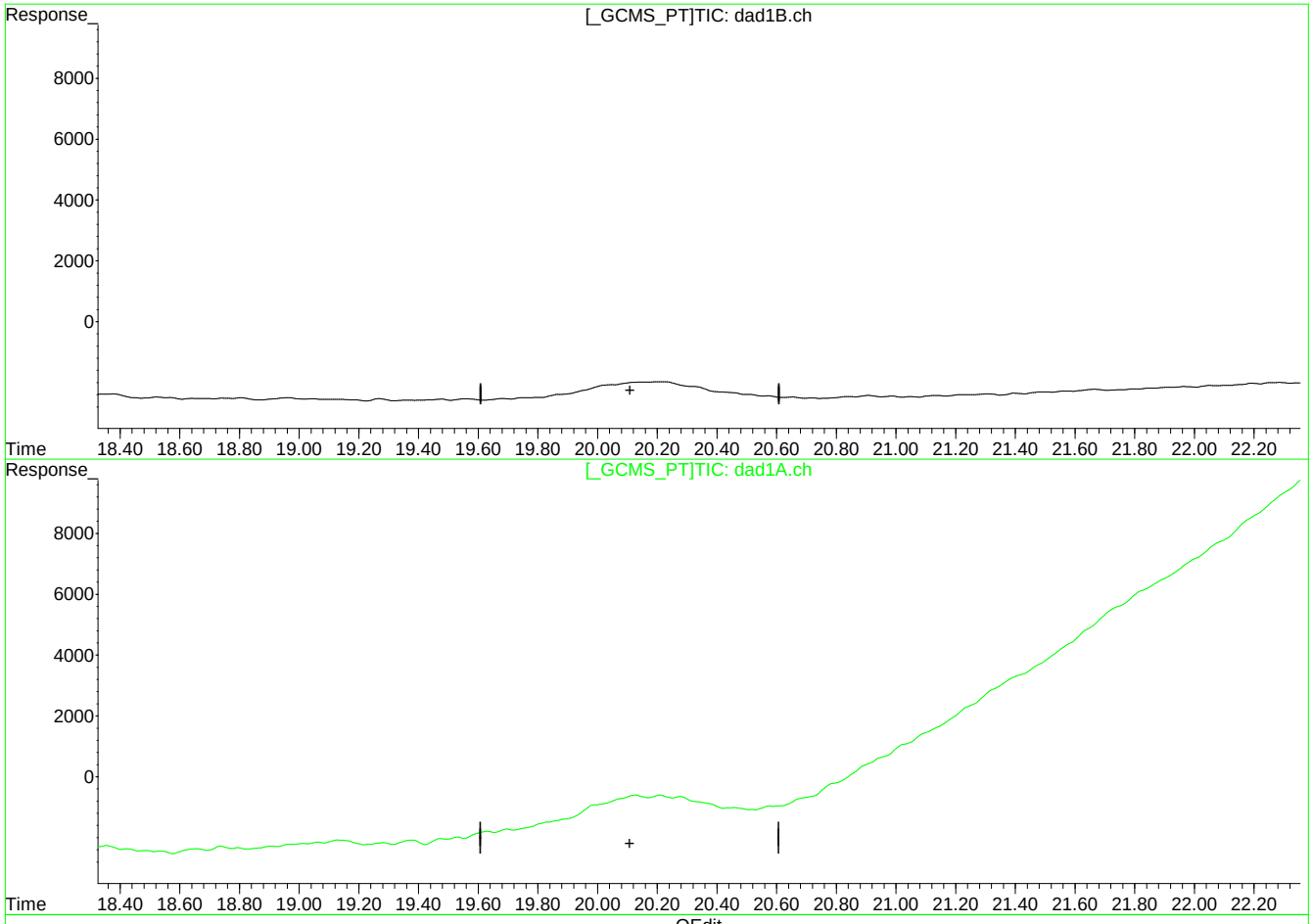
response 312814

(+) = Expected Retention Time
GG633365.D GGG3599_071425.M Mon Nov 03 09:21:06 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633365.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633365.D\dad1A.ch
Acq On : 31-Oct-2025, 10:17:16 Operator: fouads
Sample : fc28746-3cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Nov 3 8:48 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

0.00min 0.000ppb

response 0

(20) 2-Amino-4,6-Dinitrotoluene #2

0.00min 0.000ppb

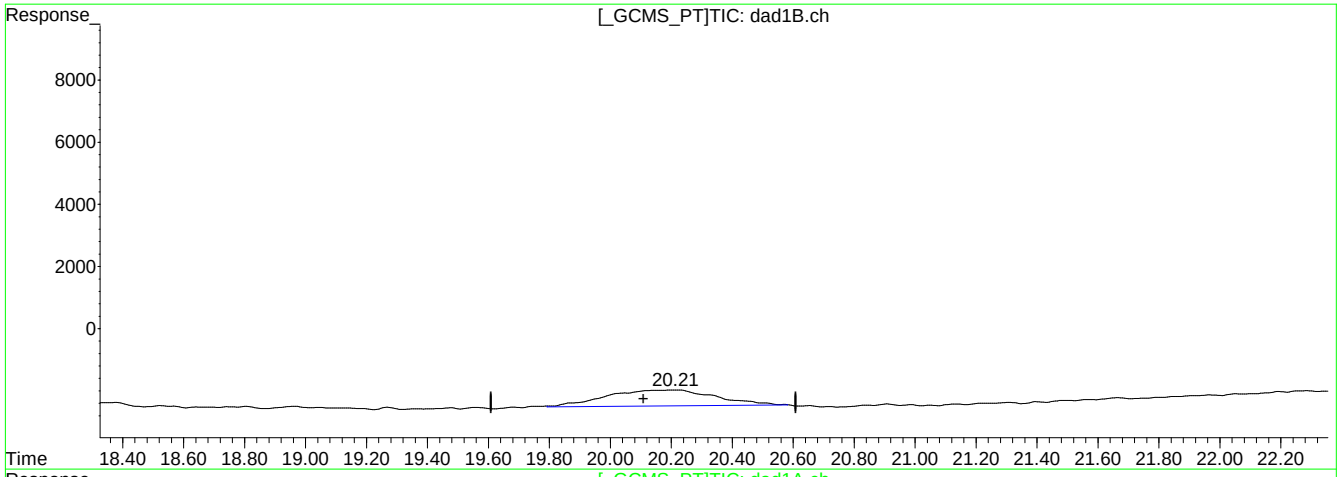
response 0

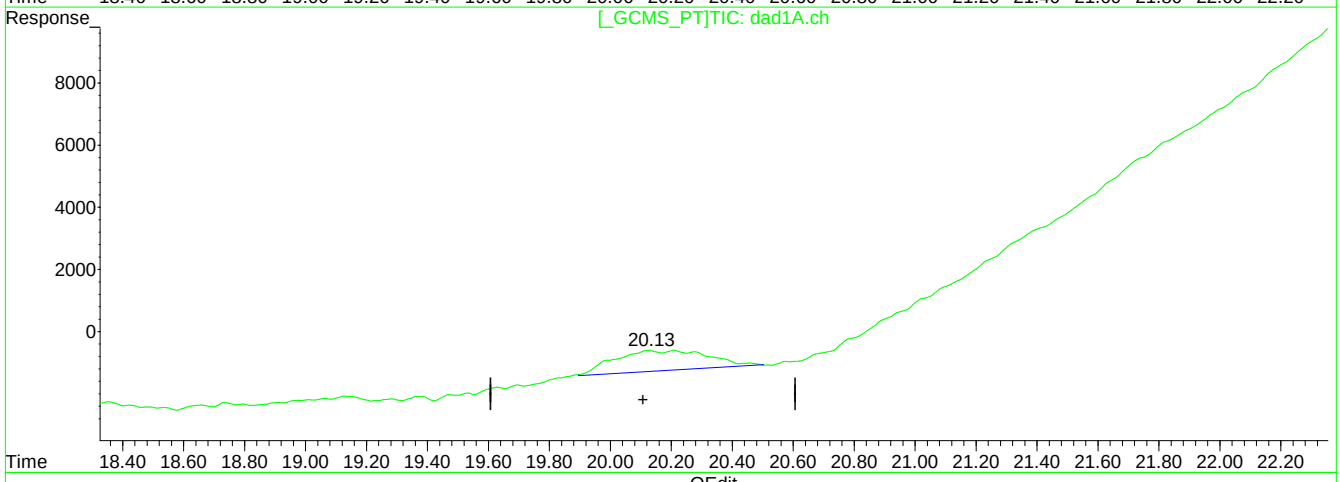
(+) = Expected Retention Time
GG633365.D GGG3599_071425.M Mon Nov 03 09:21:18 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633365.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633365.D\dad1A.ch
Acq On : 31-Oct-2025, 10:17:16 Operator: fouads
Sample : fc28746-3cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Nov 3 8:48 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





QEdit

(20) 2-Amino-4,6-Dinitrotoluene

20.21min 15.603ppb m

response 126885

(20) 2-Amino-4,6-Dinitrotoluene #2

20.13min 27.996ppb m

response 140984

(+) = Expected Retention Time
GG633365.D GGG3599_071425.M Mon Nov 03 09:21:32 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan 11/03/25 16:21

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089898.D\dad1B.ch Vial: 17
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089898.D\dad1A.ch
Acq On : 24-Oct-2025, 18:41:09 Operator: fouads
Sample : fc28746-4 Inst : G1315B
Misc : OP12165,gbb2779,940,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 08:02:35 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 07:22:56 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.38	11.38	1057132	1599720	493.641m	443.696m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		98.73%	88.74%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.66	1.66	851144	3230761	486.323m	718.039 #
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	3.21	3.21	249897	397220	126.476	128.725
6)	1,3,5-Trinitrobe	4.96	4.96	2210608	3764109	540.782	589.284
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	10.08	10.08	1796114	2025012	468.716	438.165
13)	2-Amino-4,6-Dini	10.68	10.68	1084122	1259155	316.223	257.055
14)	4-Amino-2,6-Dini	11.16	11.10	157443	317137	64.059m	71.241m
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

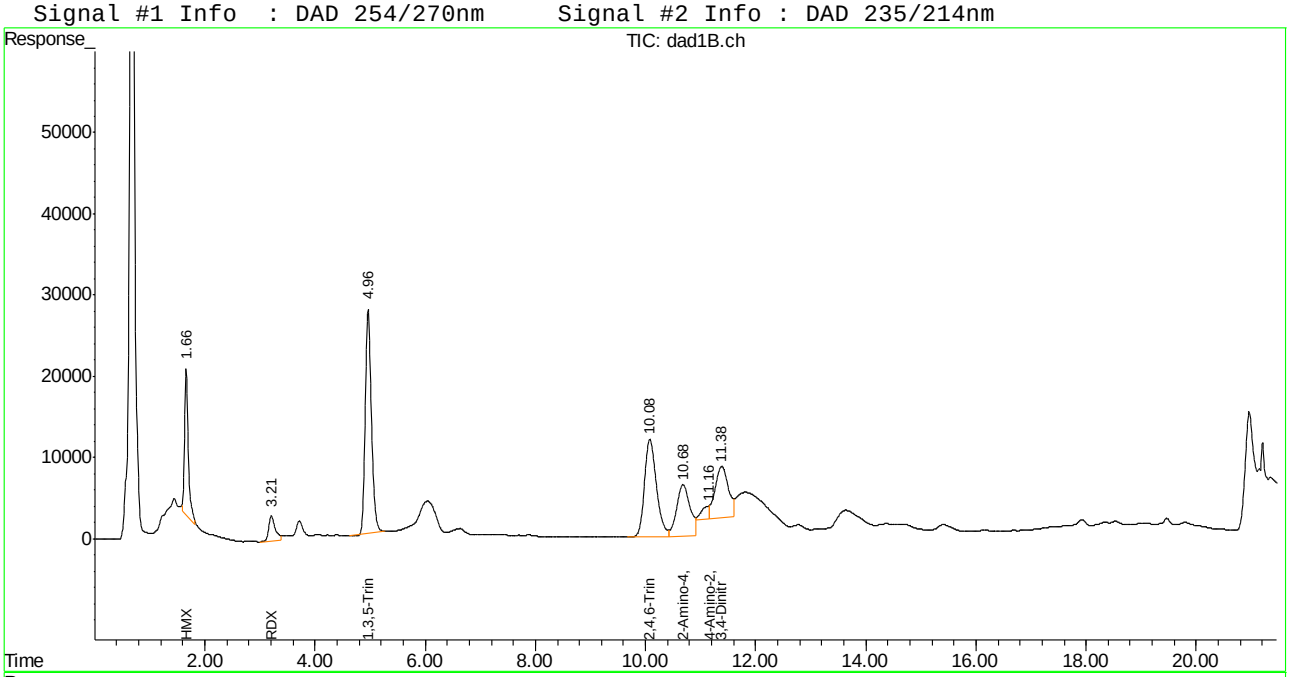
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB089898.D BBB2740_073025.M Fri Oct 31 14:10:12 2025 Page 1

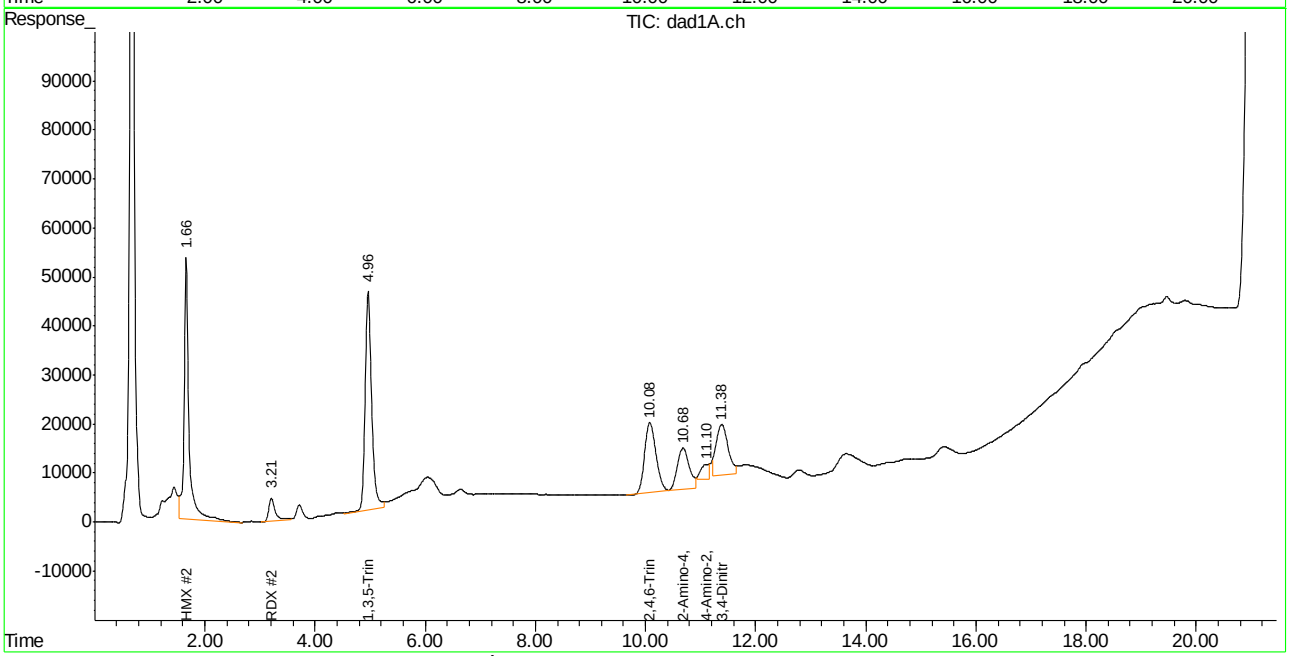
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089898.D\dad1B.ch Vial: 17
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089898.D\dad1A.ch
Acq On : 24-Oct-2025, 18:41:09 Operator: fouads
Sample : fc28746-4 Inst : G1315B
Misc : OP12165,gbb2779,940,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 31 14:10 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 07:22:56 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

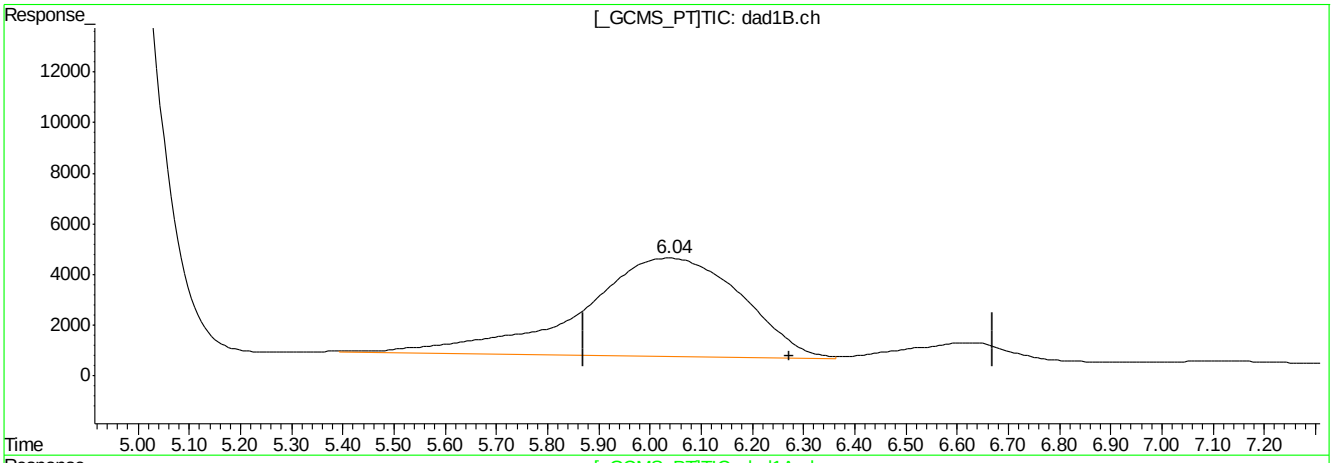
Sample Number: FC28746-4
Lab FileID: BB089898.D
Injection Time: 10/24/25 18:41
Method: SW846 8330B
Analyst approved: 10/31/25 14:49 Fouad Sekkar
Supervisor approved: 11/03/25 16:21 Naresh Jiawan

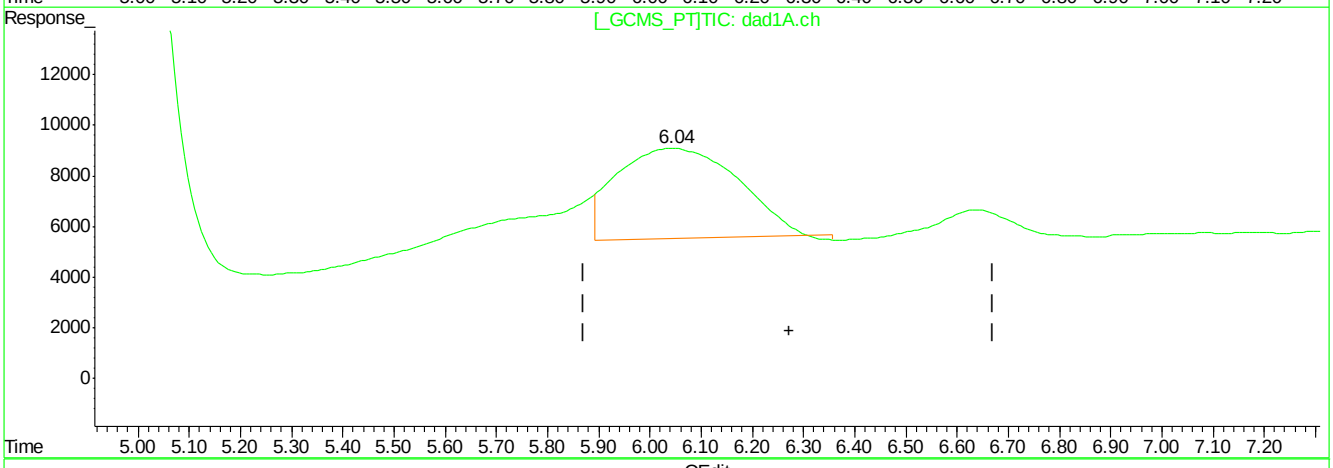
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.66	Poorly defined baseline
4-amino-2,6-Dinitrotoluene	19406-51-0	2	11.10	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	1	11.16	Missed peak
3,4-Dinitrotoluene	610-39-9	1	11.38	Poorly defined baseline
3,4-Dinitrotoluene	610-39-9	2	11.38	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089898.D\dad1B.ch Vial: 17
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089898.D\dad1A.ch
Acq On : 24-Oct-2025, 18:41:09 Operator: fouads
Sample : fc28746-4 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

6.04min 152.196ppb

response 863670

(7) 1,3-Dinitrobenzene #2

6.04min 135.890ppb m

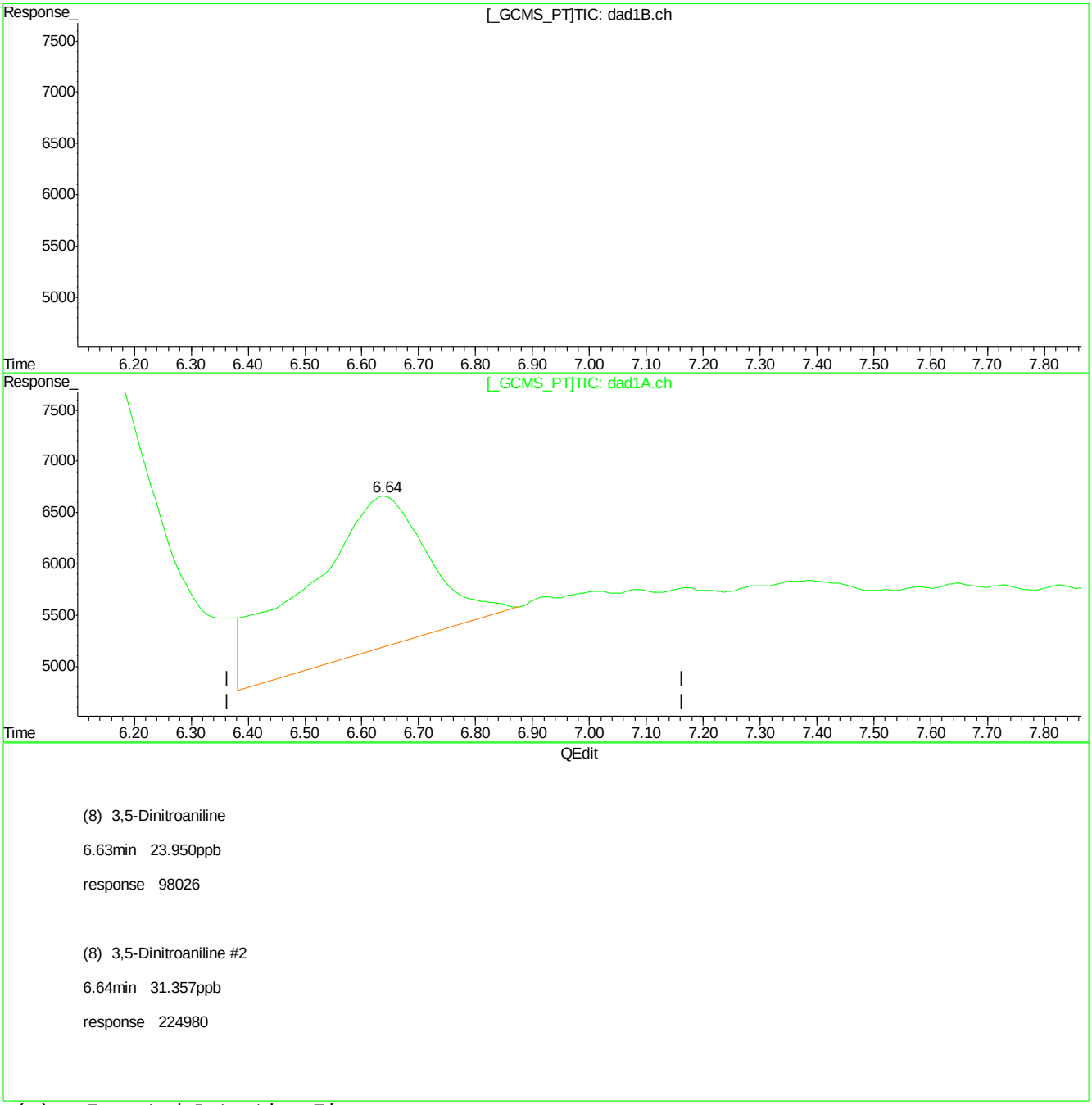
response 592018

(+) = Expected Retention Time
BB089898.D BBB2740_073025.M Mon Oct 27 13:16:33 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089898.D\dad1B.ch Vial: 17
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089898.D\dad1A.ch
Acq On : 24-Oct-2025, 18:41:09 Operator: fouads
Sample : fc28746-4 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration

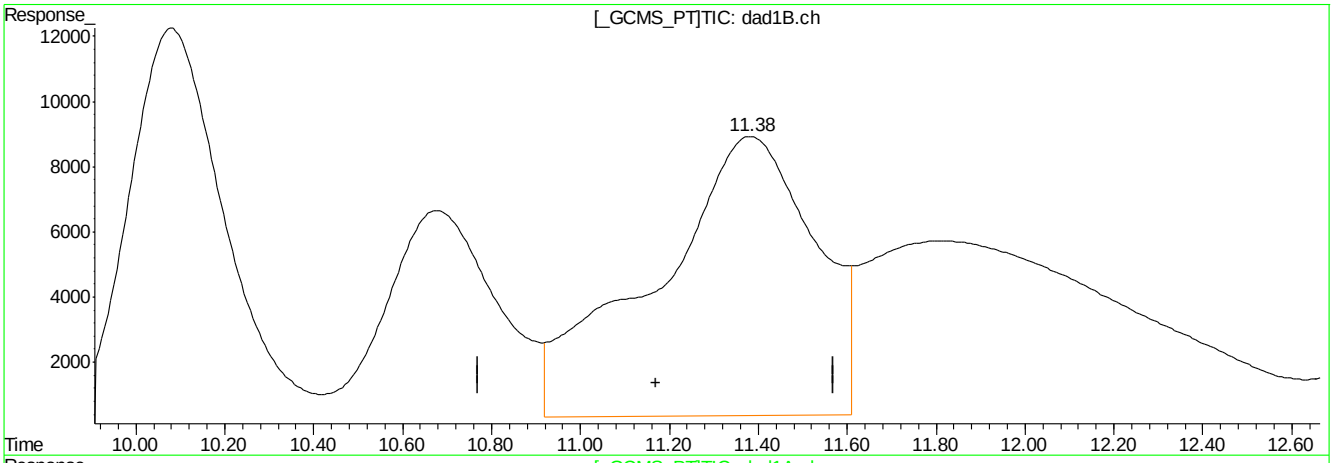


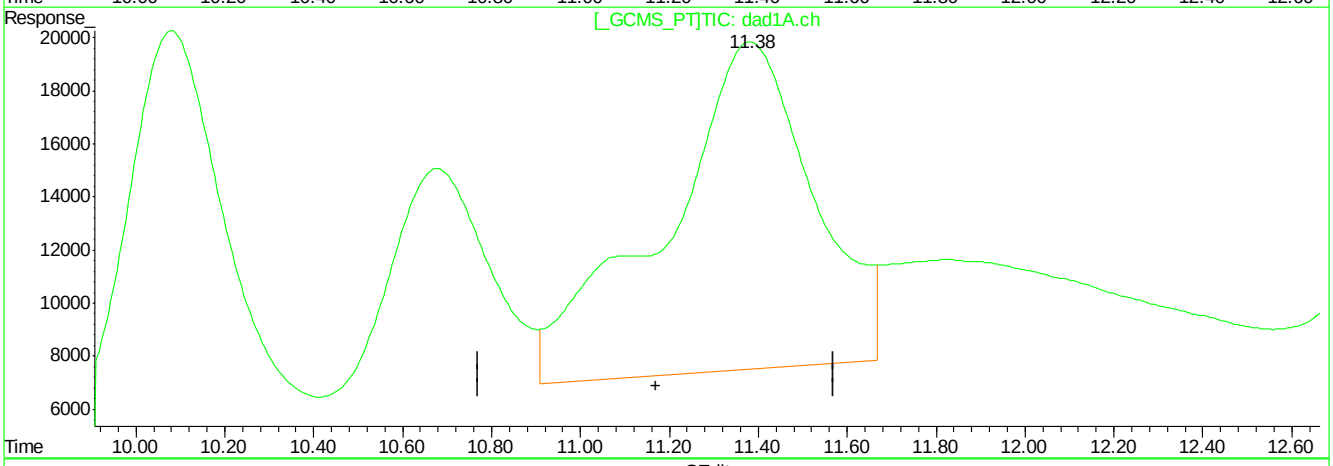
(+) = Expected Retention Time
BB089898.D BBB2740_073025.M Mon Oct 27 13:18:20 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089898.D\dad1B.ch Vial: 17
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089898.D\dad1A.ch
Acq On : 24-Oct-2025, 18:41:09 Operator: fouads
Sample : fc28746-4 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(14) 4-Amino-2,6-Dinitrotoluene

11.38min 867.746ppb

response 2132716

(14) 4-Amino-2,6-Dinitrotoluene #2

11.38min 604.595ppb

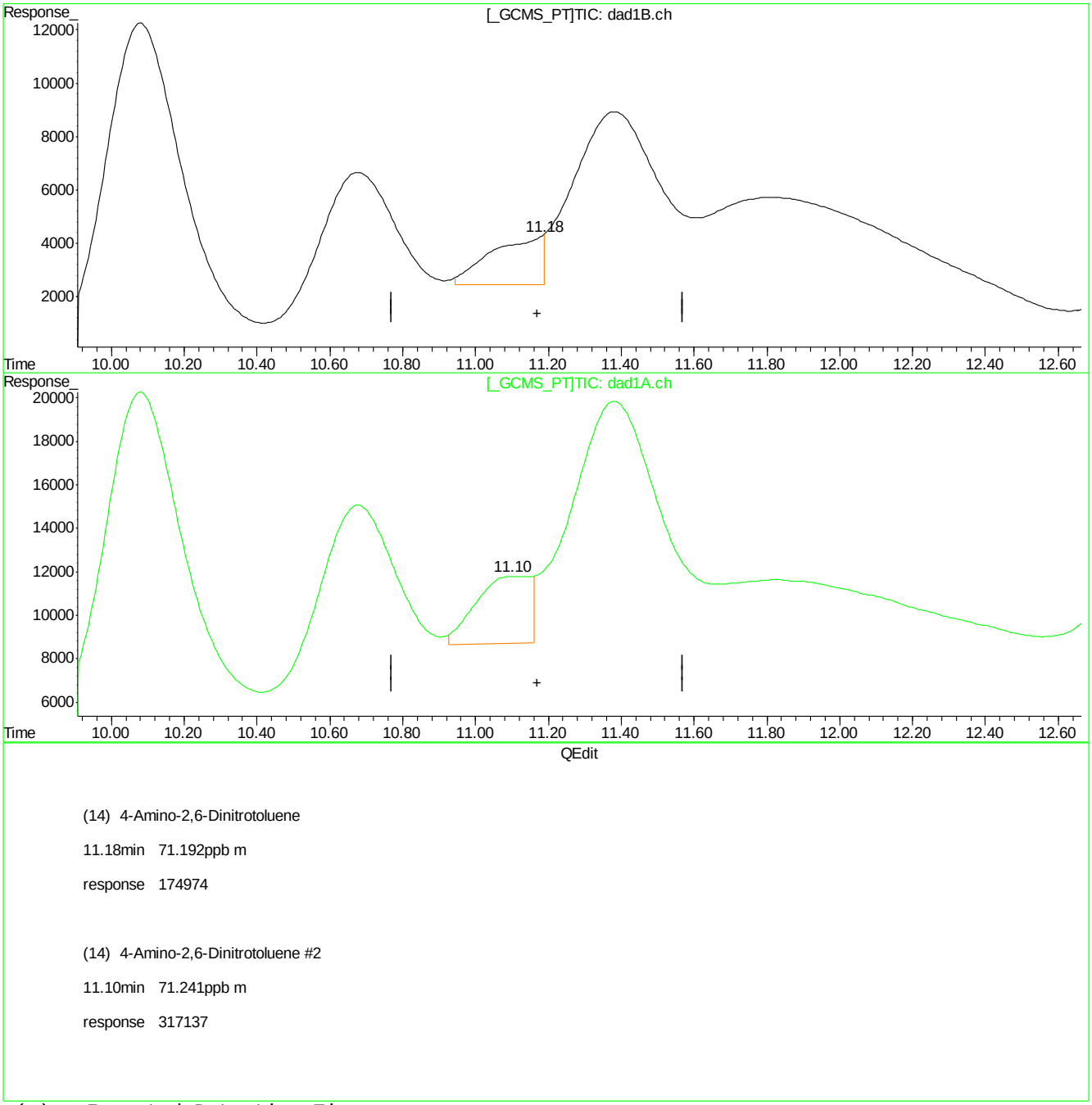
response 2865582

(+) = Expected Retention Time
BB089898.D BBB2740_073025.M Mon Oct 27 13:18:30 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089898.D\dad1B.ch Vial: 17
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089898.D\dad1A.ch
Acq On : 24-Oct-2025, 18:41:09 Operator: fouads
Sample : fc28746-4 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

11.18min 71.192ppb m

response 174974

(14) 4-Amino-2,6-Dinitrotoluene #2

11.10min 71.241ppb m

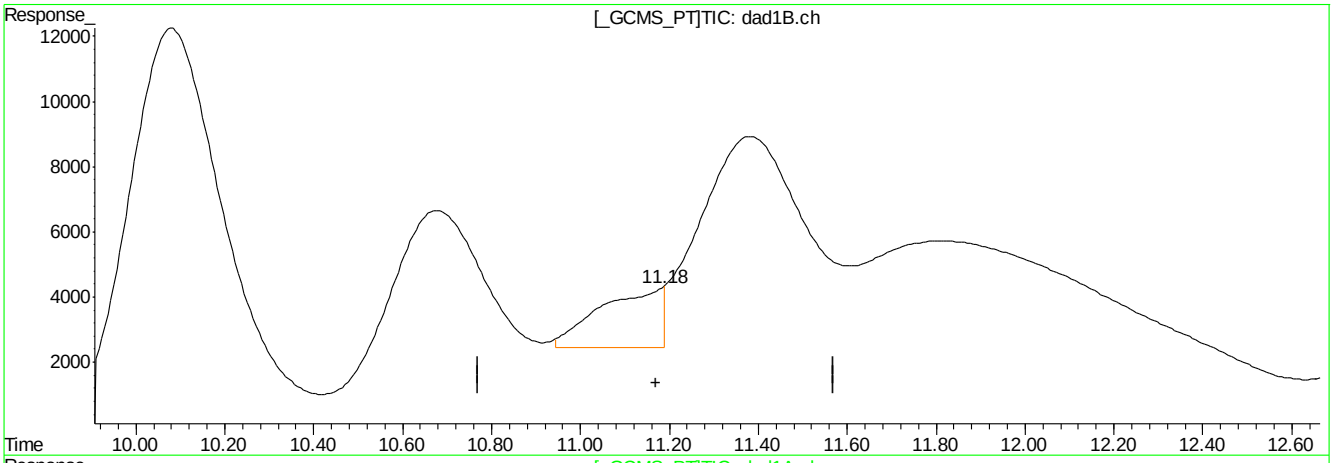
response 317137

(+) = Expected Retention Time
BB089898.D BBB2740_073025.M Mon Oct 27 13:18:43 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089898.D\dad1B.ch Vial: 17
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089898.D\dad1A.ch
Acq On : 24-Oct-2025, 18:41:09 Operator: fouads
Sample : fc28746-4 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration



(14) 4-Amino-2,6-Dinitrotoluene

11.18min 71.192ppb m

response 174974

(14) 4-Amino-2,6-Dinitrotoluene #2

11.10min 71.241ppb m

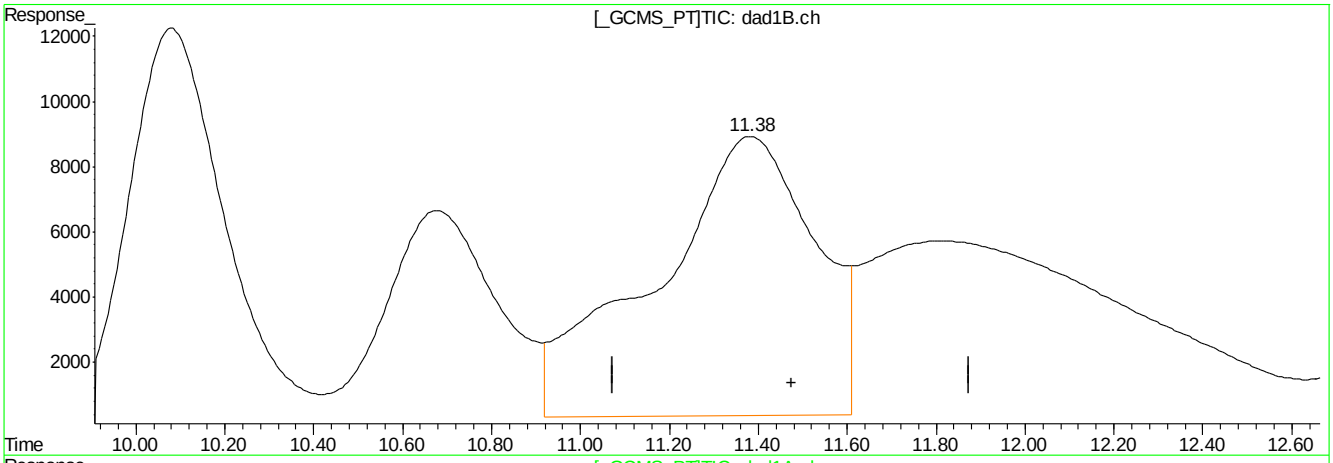
response 317137

(+) = Expected Retention Time
BB089898.D BBB2740_073025.M Mon Oct 27 13:18:46 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089898.D\dad1B.ch Vial: 17
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089898.D\dad1A.ch
Acq On : 24-Oct-2025, 18:41:09 Operator: fouads
Sample : fc28746-4 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration



(15) 3,4-Dinitrotoluene (S)

11.38min 995.899ppb

response 2132716

(15) 3,4-Dinitrotoluene #2 (S)

11.38min 794.794ppb

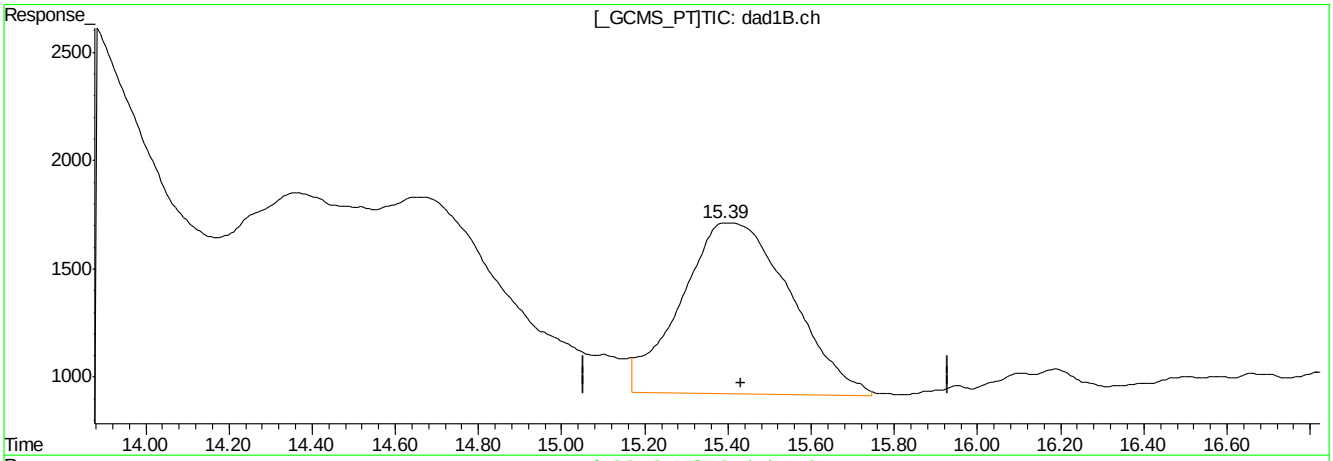
response 2865582

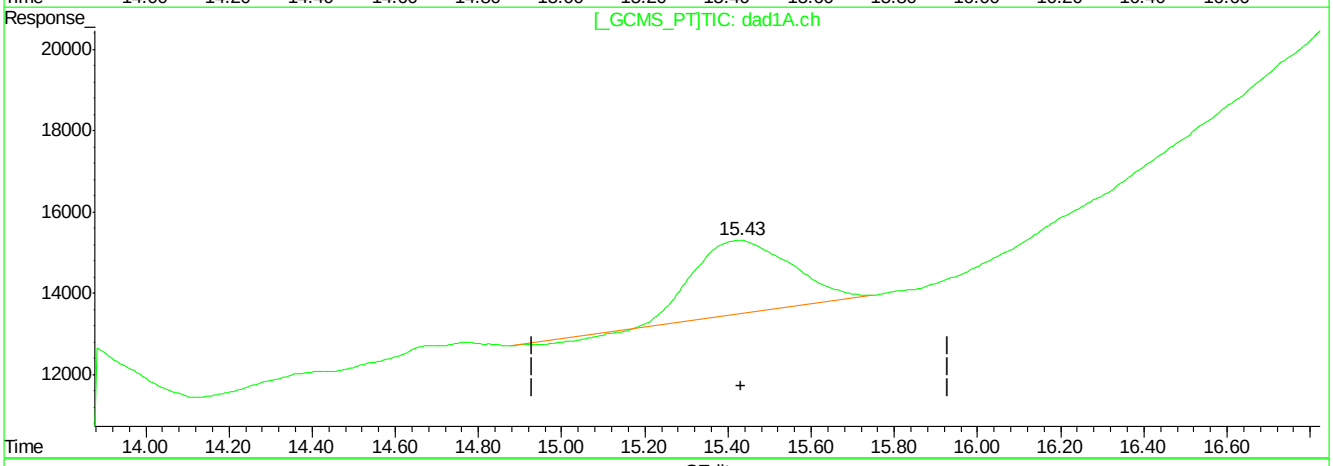
(+) = Expected Retention Time
BB089898.D BBB2740_073025.M Mon Oct 27 13:19:22 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089898.D\dad1B.ch Vial: 17
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089898.D\dad1A.ch
Acq On : 24-Oct-2025, 18:41:09 Operator: fouads
Sample : fc28746-4 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(18) o-Nitrotoluene

15.39min 64.462ppb m

response 144319

(18) o-Nitrotoluene #2

15.43min 90.416ppb

response 286448

(+) = Expected Retention Time
BB089898.D BBB2740_073025.M Mon Oct 27 13:22:20 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan
11/03/25 16:21

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633331.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633331.D\dad1A.ch
Acq On : 29-Oct-2025, 11:45:08 Operator: fouads
Sample : fc28746-4cf Inst : G1315B
Misc : OP12165,GGG3647,940,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 08:00:04 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.18	14.18	2170257	4206602	455.848	465.034
	Spiked Amount 500.000	Range 70 - 136		Recovery =		91.17%	93.01%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	5.32	5.31	1640223	4670119	472.040	422.771m
3)	DNX	5.32	5.32	1640223	5186127	NoCal	NoCal
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	7.46	7.45	4021236	7928802	439.537m	442.098m
6)	RDX	7.72	7.73	352490	666522	85.486m	96.928m
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	11.76	11.76	4185102	5389896	484.834	473.951
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D.
16)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	17.99	18.01	931871	1797595	181.385m	190.419
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	20.09	20.10	2167613	2791378	266.554	257.858
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

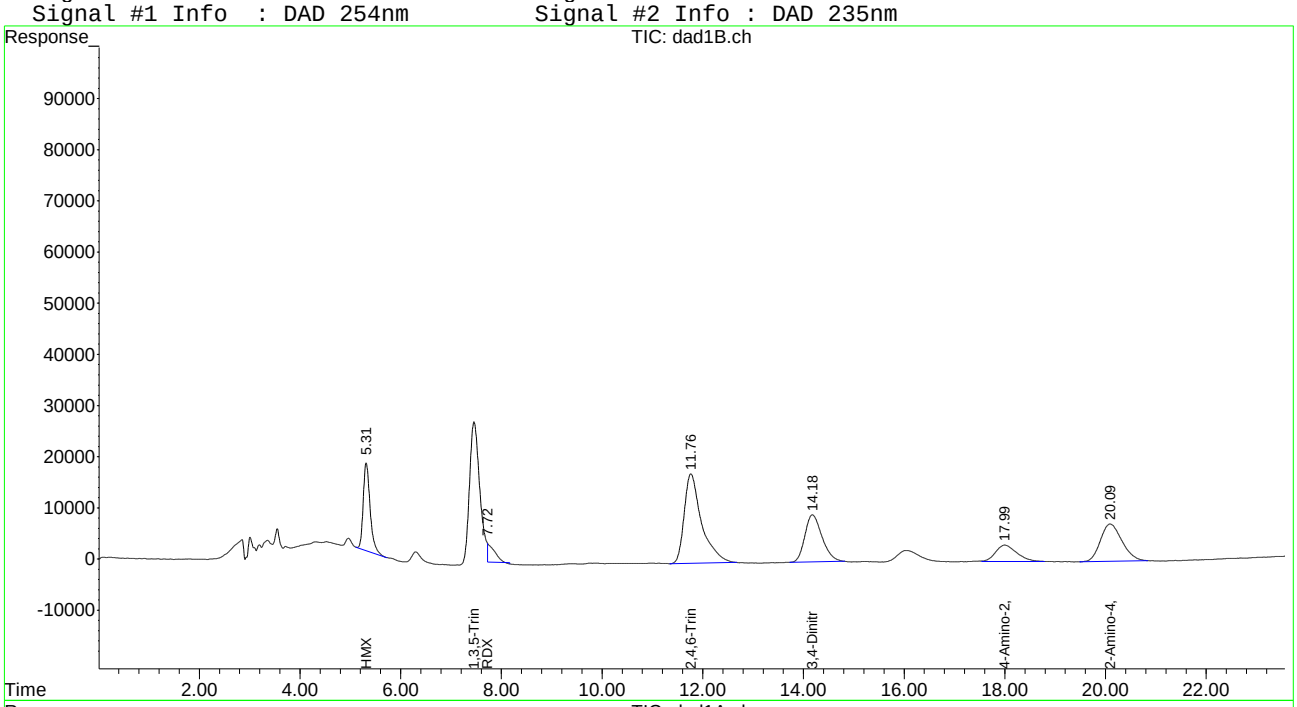
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG633331.D GGG3599_071425.M Fri Oct 31 13:39:21 2025

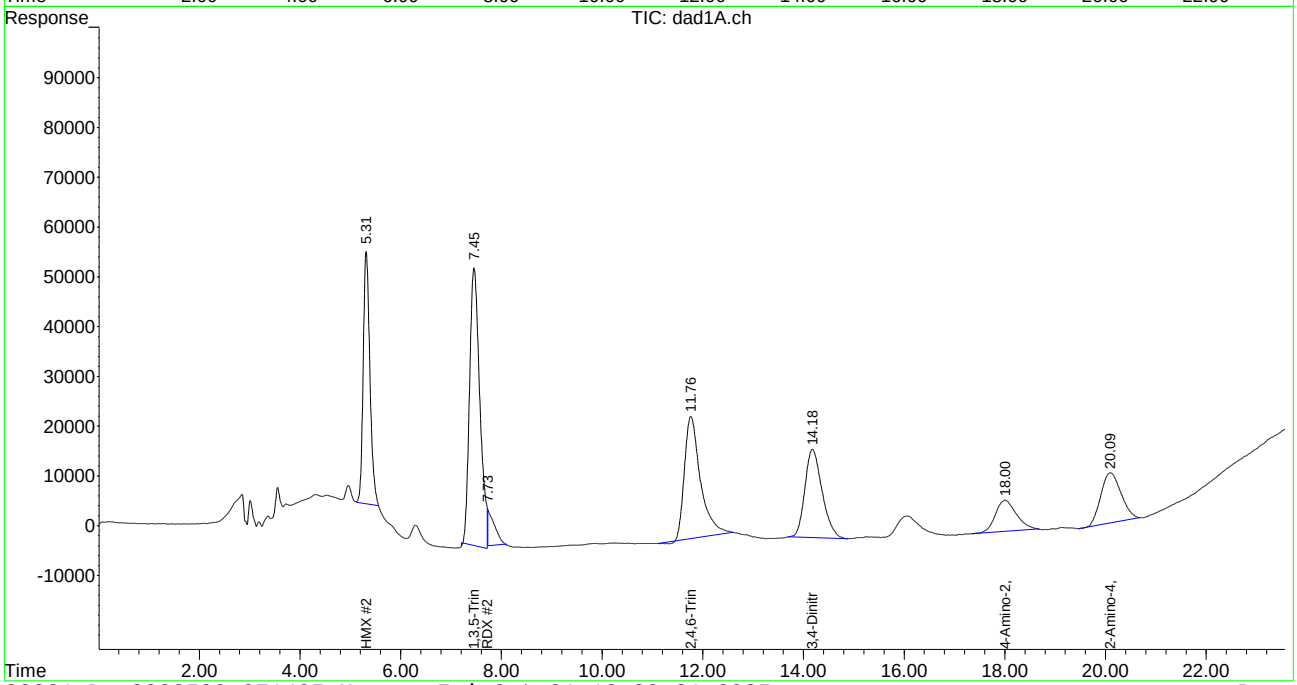
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633331.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633331.D\dad1A.ch
Acq On : 29-Oct-2025, 11:45:08 Operator: fouads
Sample : fc28746-4cf Inst : G1315B
Misc : OP12165,GGG3647,940,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:11 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

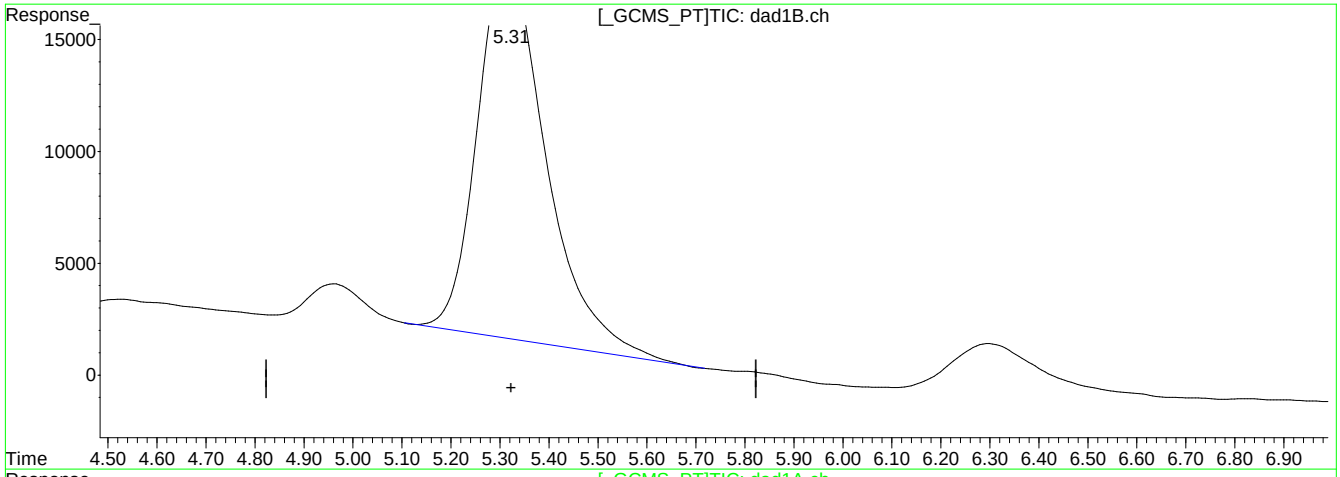
Sample Number: FC28746-4
Lab FileID: GG633331.D
Injection Time: 10/29/25 11:45
Method: SW846 8330B
Analyst approved: 10/31/25 14:53 Fouad Sekkar
Supervisor approved: 11/03/25 16:21 Naresh Jiawan

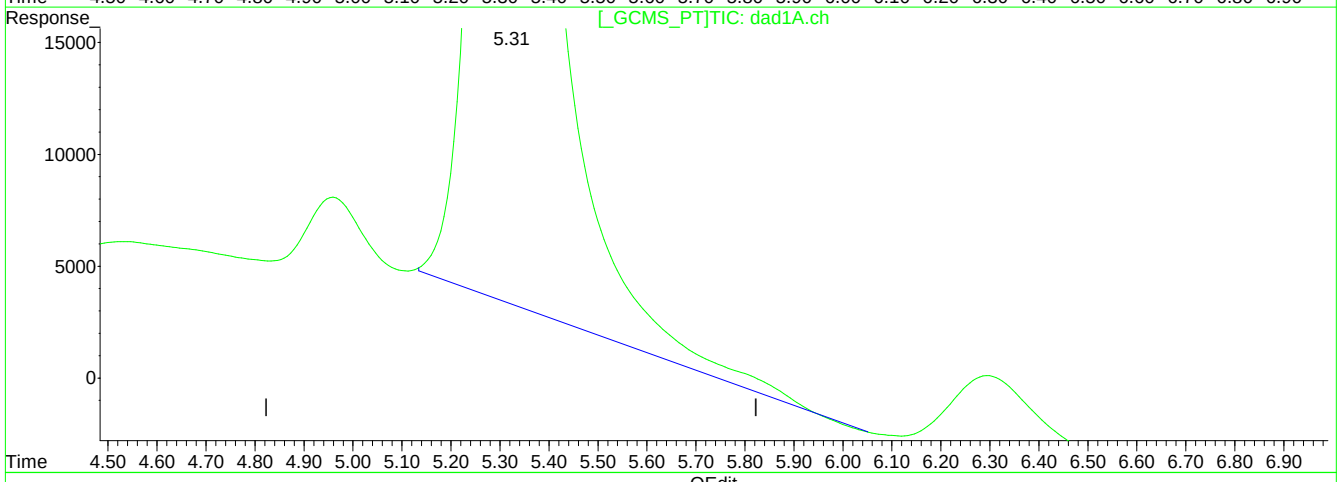
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	2	5.31	Missed peak
1,3,5-Trinitrobenzene	99-35-4	2	7.45	Missed peak
1,3,5-Trinitrobenzene	99-35-4	1	7.46	Missed peak
RDX	121-82-4	1	7.72	Missed peak
RDX	121-82-4	2	7.73	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	1	17.99	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633331.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633331.D\dad1A.ch
Acq On : 29-Oct-2025, 11:45:08 Operator: fouads
Sample : fc28746-4cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

5.32min 472.040ppb

response 1640223

(2) HMX #2

5.32min 469.484ppb

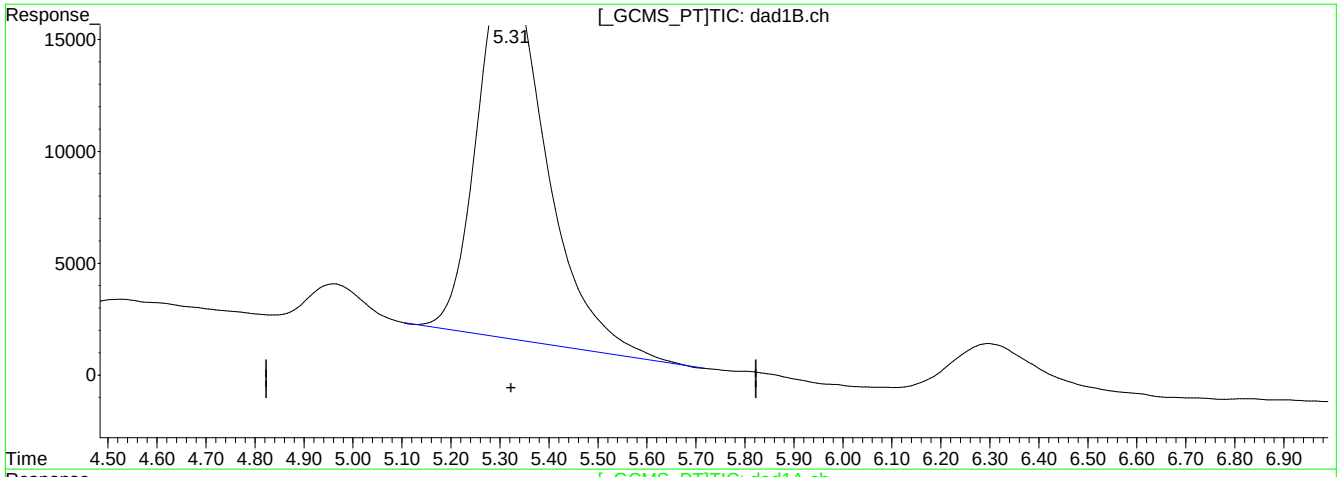
response 5186127

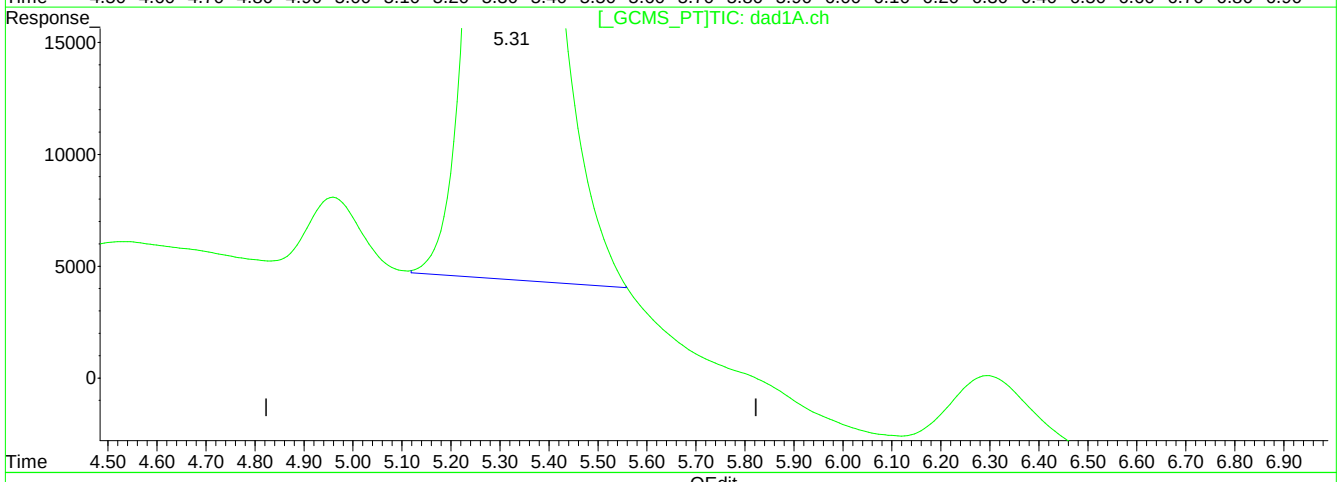
(+) = Expected Retention Time
GG633331.D GGG3599_071425.M Fri Oct 31 08:09:49 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633331.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633331.D\dad1A.ch
Acq On : 29-Oct-2025, 11:45:08 Operator: fouads
Sample : fc28746-4cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

5.32min 472.040ppb

response 1640223

(2) HMX #2

5.31min 422.771ppb m

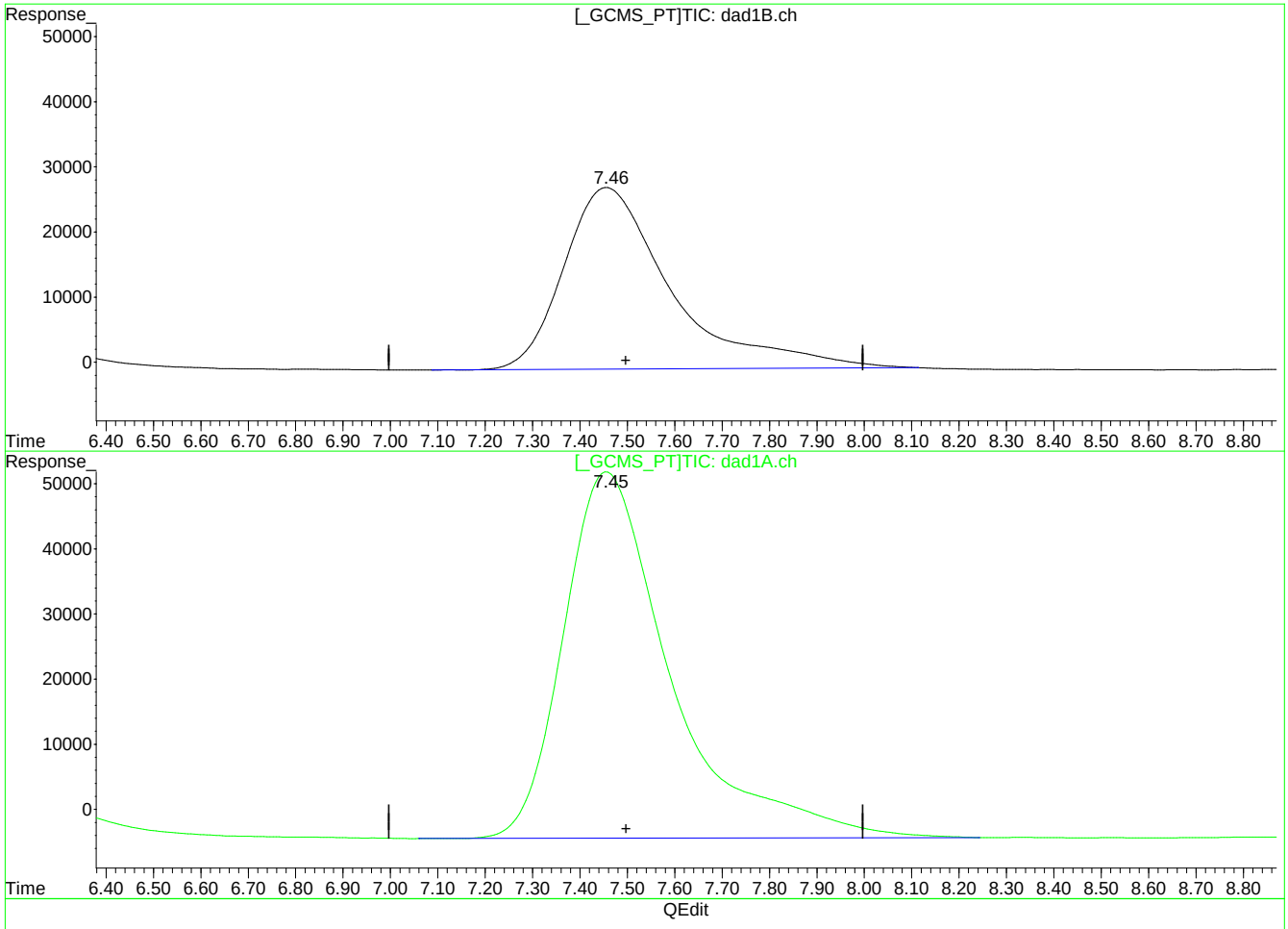
response 4670119

(+) = Expected Retention Time
GG633331.D GGG3599_071425.M Fri Oct 31 08:09:54 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633331.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633331.D\dad1A.ch
Acq On : 29-Oct-2025, 11:45:08 Operator: fouads
Sample : fc28746-4cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(5) 1,3,5-Trinitrobenzene

7.46min 479.859ppb

response 4390127

(5) 1,3,5-Trinitrobenzene #2

7.46min 494.173ppb

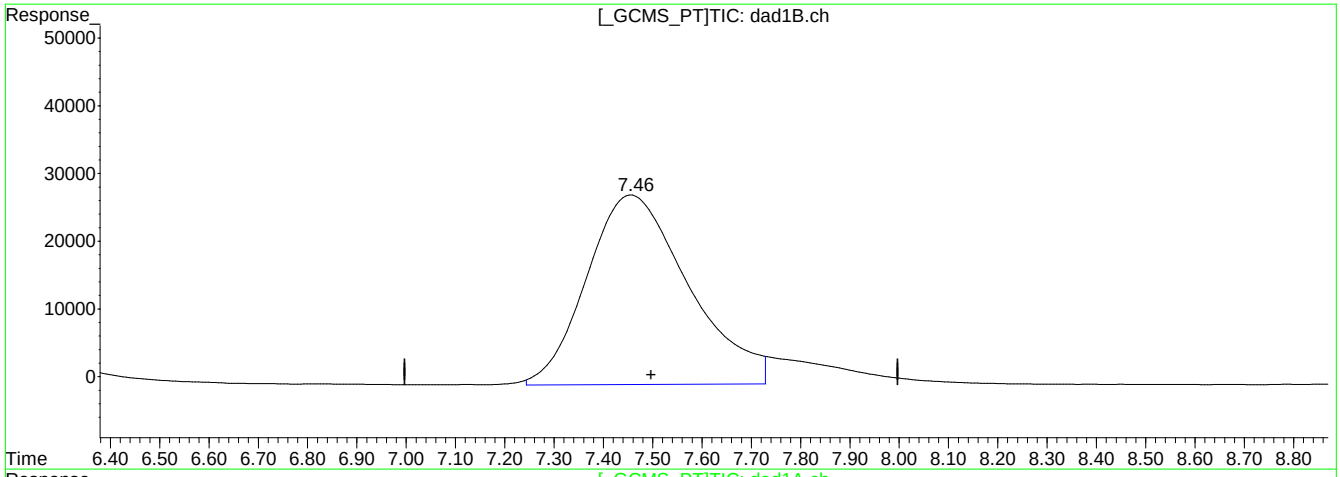
response 8862726

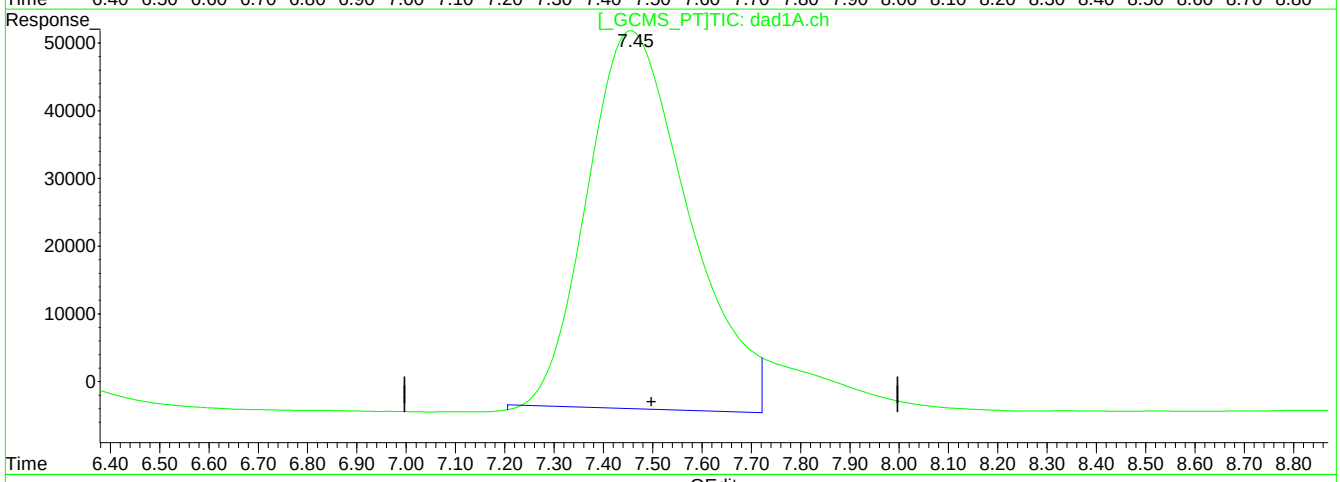
(+) = Expected Retention Time
GG633331.D GGG3599_071425.M Fri Oct 31 08:10:03 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633331.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633331.D\dad1A.ch
Acq On : 29-Oct-2025, 11:45:08 Operator: fouads
Sample : fc28746-4cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





(5) 1,3,5-Trinitrobenzene

7.46min 439.537ppb m

response 4021236

(5) 1,3,5-Trinitrobenzene #2

7.45min 442.098ppb m

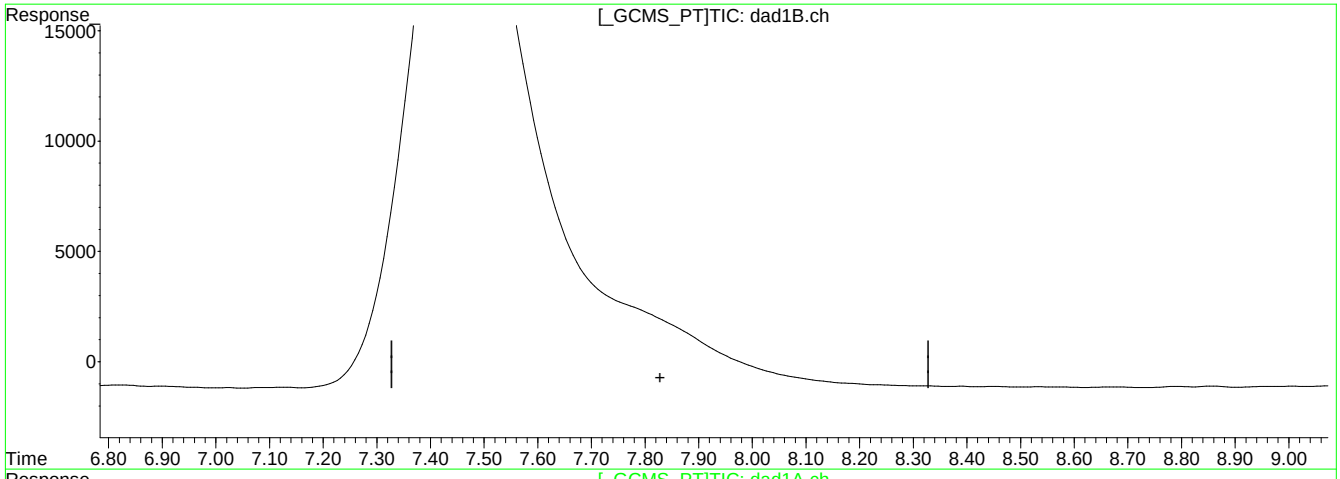
response 7928802

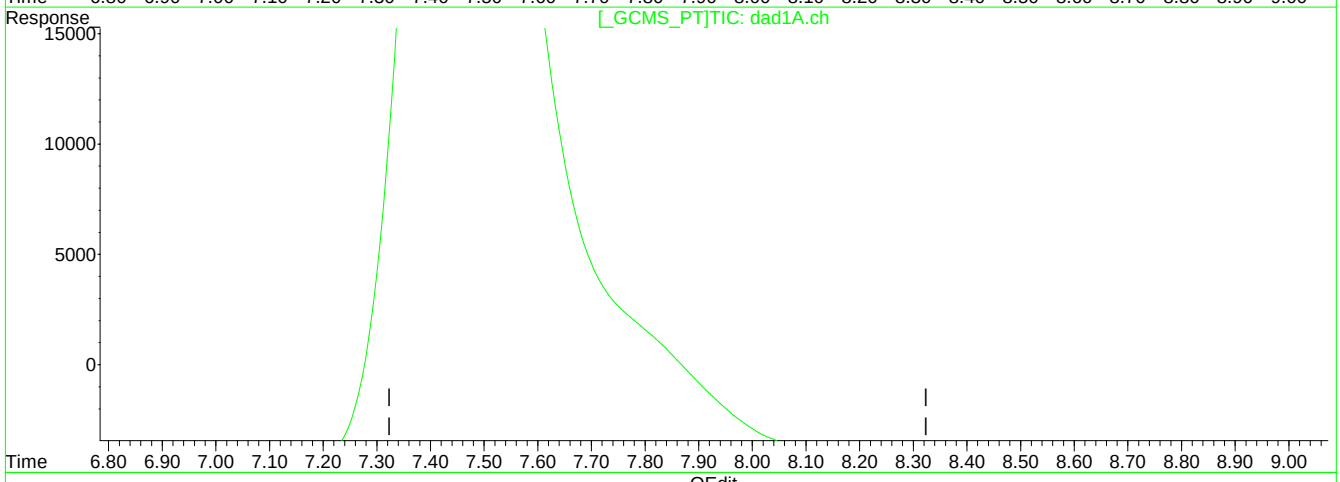
(+) = Expected Retention Time
GG633331.D GGG3599_071425.M Fri Oct 31 08:10:11 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633331.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633331.D\dad1A.ch
Acq On : 29-Oct-2025, 11:45:08 Operator: fouads
Sample : fc28746-4cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





QEdit

(6) RDX

0.00min 0.000ppb

response 0

(6) RDX #2

0.00min 0.000ppb

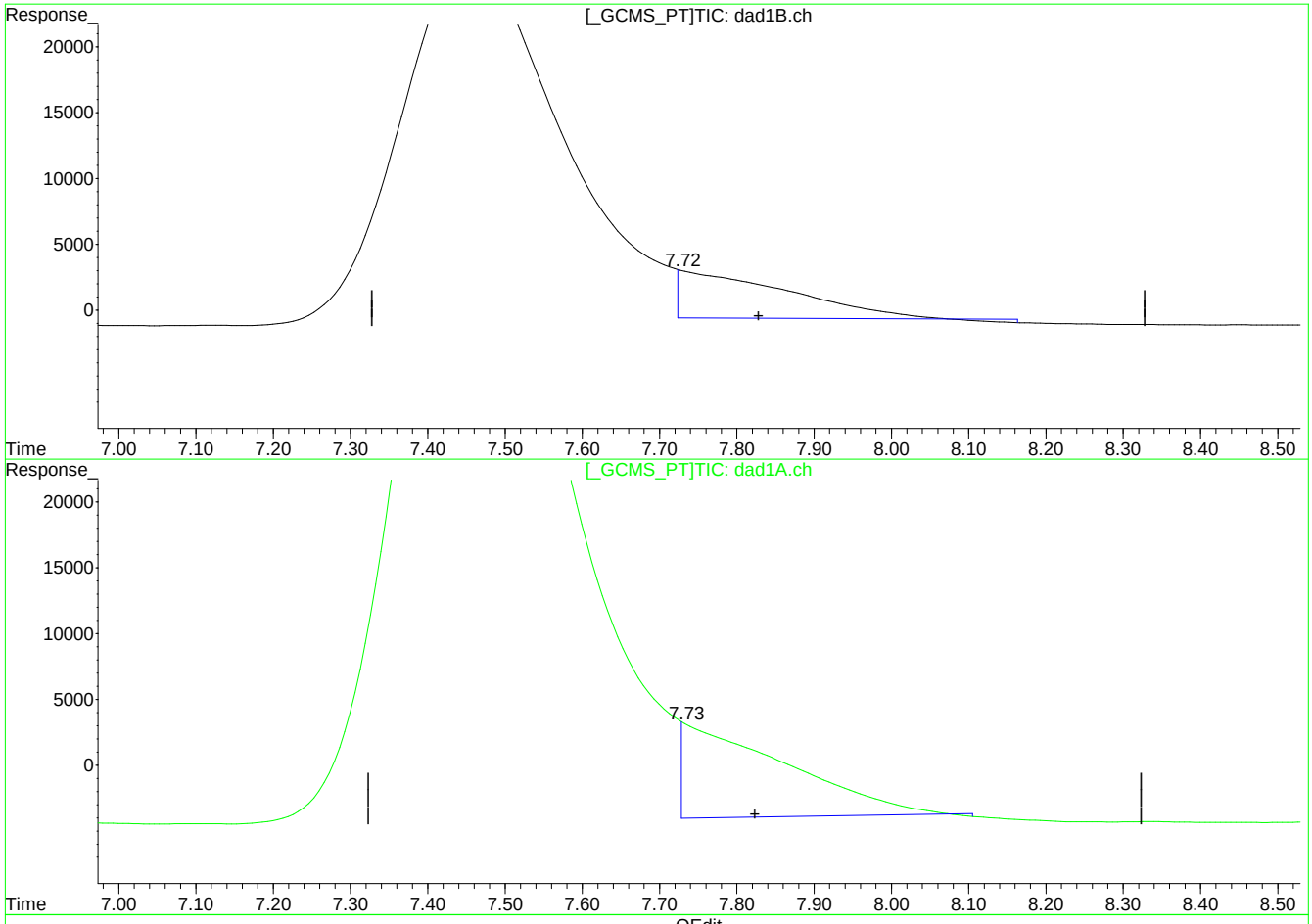
response 0

(+) = Expected Retention Time
GG633331.D GGG3599_071425.M Fri Oct 31 08:10:16 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633331.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633331.D\dad1A.ch
Acq On : 29-Oct-2025, 11:45:08 Operator: fouads
Sample : fc28746-4cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(6) RDX

7.72min 85.486ppb m

response 352490

(6) RDX #2

7.73min 96.928ppb m

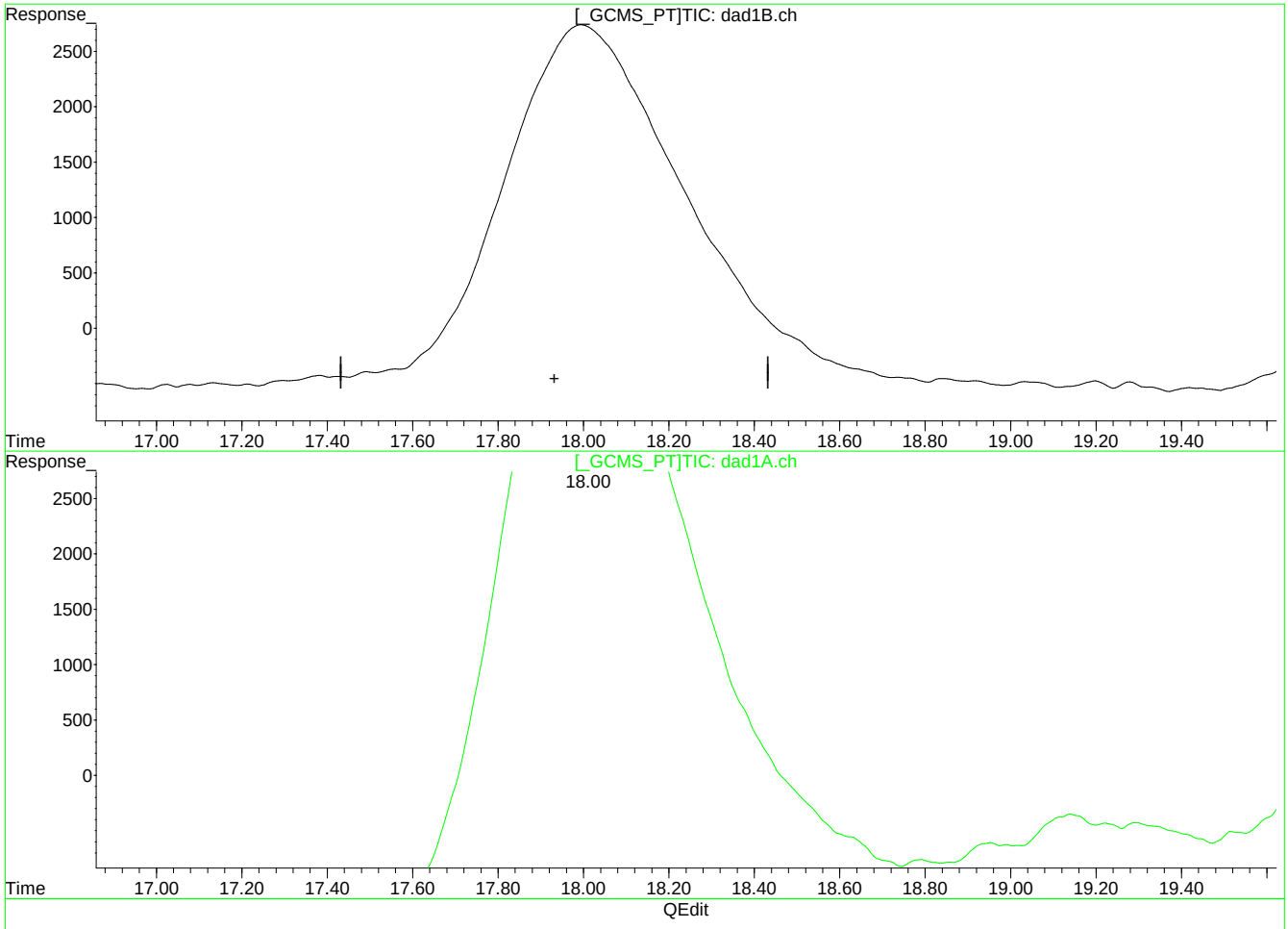
response 666522

(+) = Expected Retention Time
GG633331.D GGG3599_071425.M Fri Oct 31 08:10:29 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633331.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633331.D\dad1A.ch
Acq On : 29-Oct-2025, 11:45:08 Operator: fouads
Sample : fc28746-4cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

0.00min 0.000ppb

response 0

(18) 4-Amino-2,6-Dinitrotoluene #2

18.01min 190.419ppb

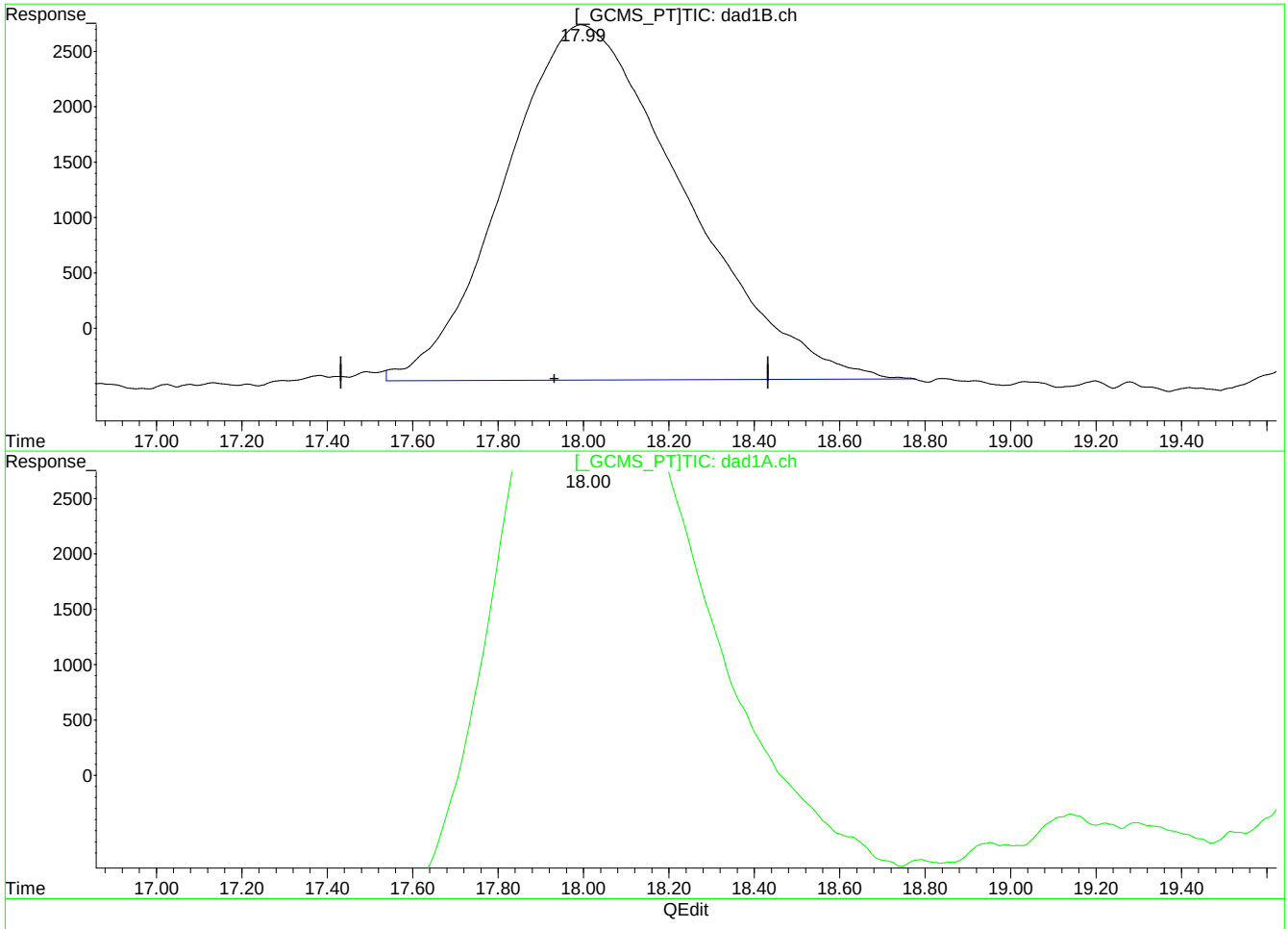
response 1797595

(+) = Expected Retention Time
GG633331.D GGG3599_071425.M Fri Oct 31 08:11:21 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633331.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633331.D\dad1A.ch
Acq On : 29-Oct-2025, 11:45:08 Operator: fouads
Sample : fc28746-4cf Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

17.99min 181.385ppb m

response 931871

(18) 4-Amino-2,6-Dinitrotoluene #2

18.01min 190.419ppb

response 1797595

(+) = Expected Retention Time
GG633331.D GGG3599_071425.M Fri Oct 31 08:11:25 2025

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089899.D\dad1B.ch Vial: 18
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089899.D\dad1A.ch
Acq On : 24-Oct-2025, 19:08:42 Operator: fouads
Sample : fc28746-5 Inst : G1315B
Misc : OP12165,gbb2779,950,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 08:02:36 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 07:22:56 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.38	11.38	959812	1722547	448.196	477.763
	Spiked Amount 500.000	Range 70 - 136		Recovery =		89.64%	95.55%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D. d
2)	HMX	0.00	0.00	0	0	N.D.	N.D. d
3)	DNX	0.00	0.00	0	0	N.D.	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	0.00	0.00	0	0	N.D.	N.D.
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D.
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D.	N.D.
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

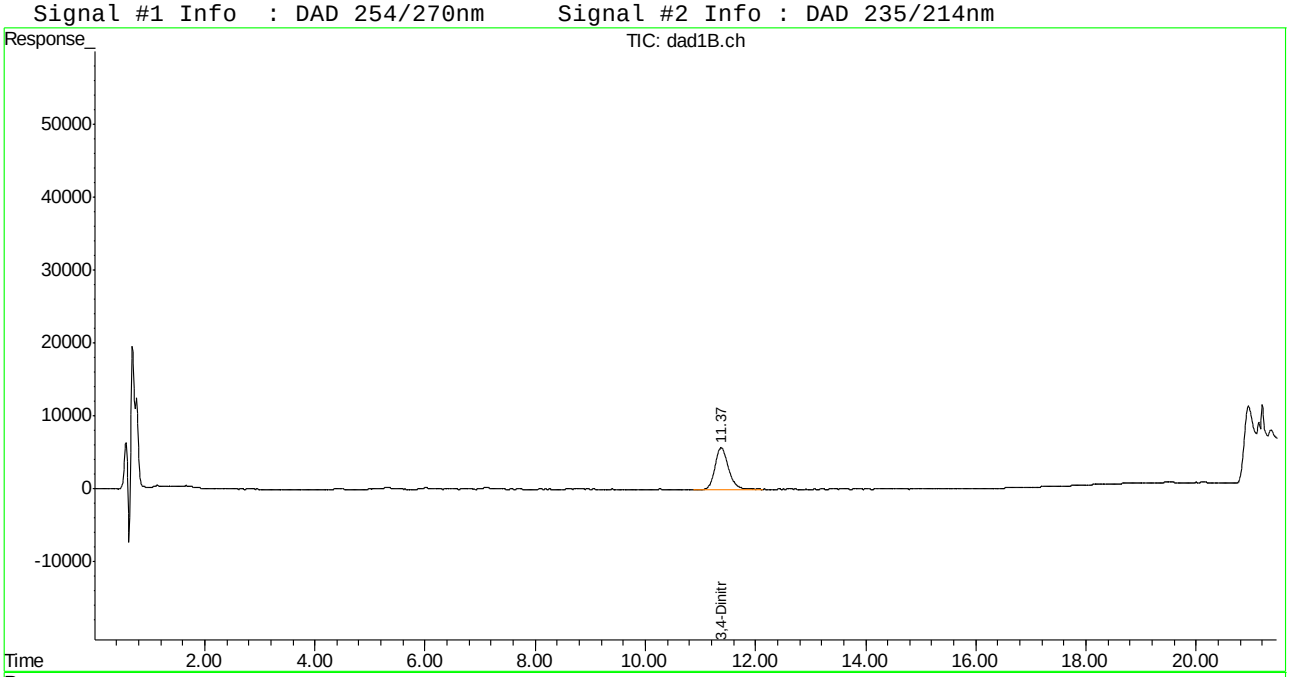
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB089899.D BBB2740_073025.M Fri Oct 31 13:41:22 2025 Page 1

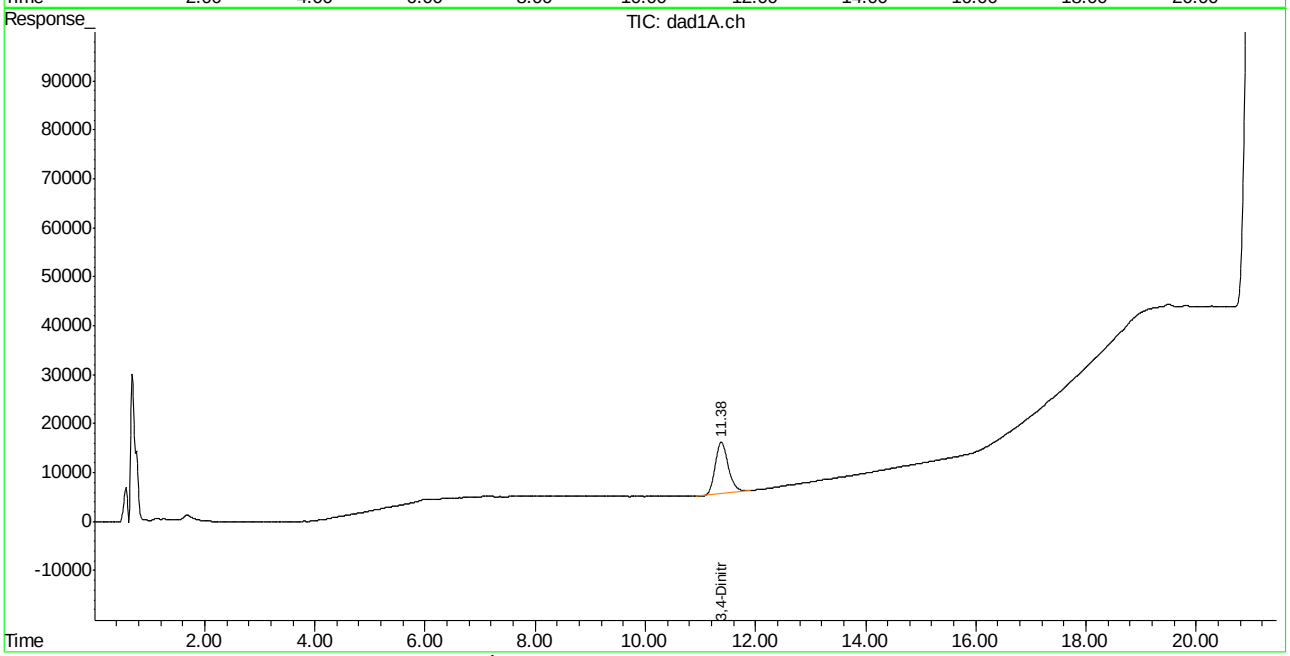
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089899.D\dad1B.ch Vial: 18
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089899.D\dad1A.ch
Acq On : 24-Oct-2025, 19:08:42 Operator: fouads
Sample : fc28746-5 Inst : G1315B
Misc : OP12165,gbb2779,950,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 31 8:12 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 07:22:56 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089891.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089891.D\dad1A.ch
Acq On : 24-Oct-2025, 15:29:05 Operator: fouads
Sample : op12165-mb Inst : G1315B
Misc : OP12165,gbb2779,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 11:11:41 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.45	11.45	956509	1719416	446.654	476.895
	Spiked Amount 500.000	Range 70 - 136		Recovery =		89.33%	95.38%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D. d
2)	HMX	0.00	1.67	0	79712	N.D.	N.D.
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	0.00	0.00	0	0	N.D.	N.D.
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D.	N.D.
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D.	N.D.
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

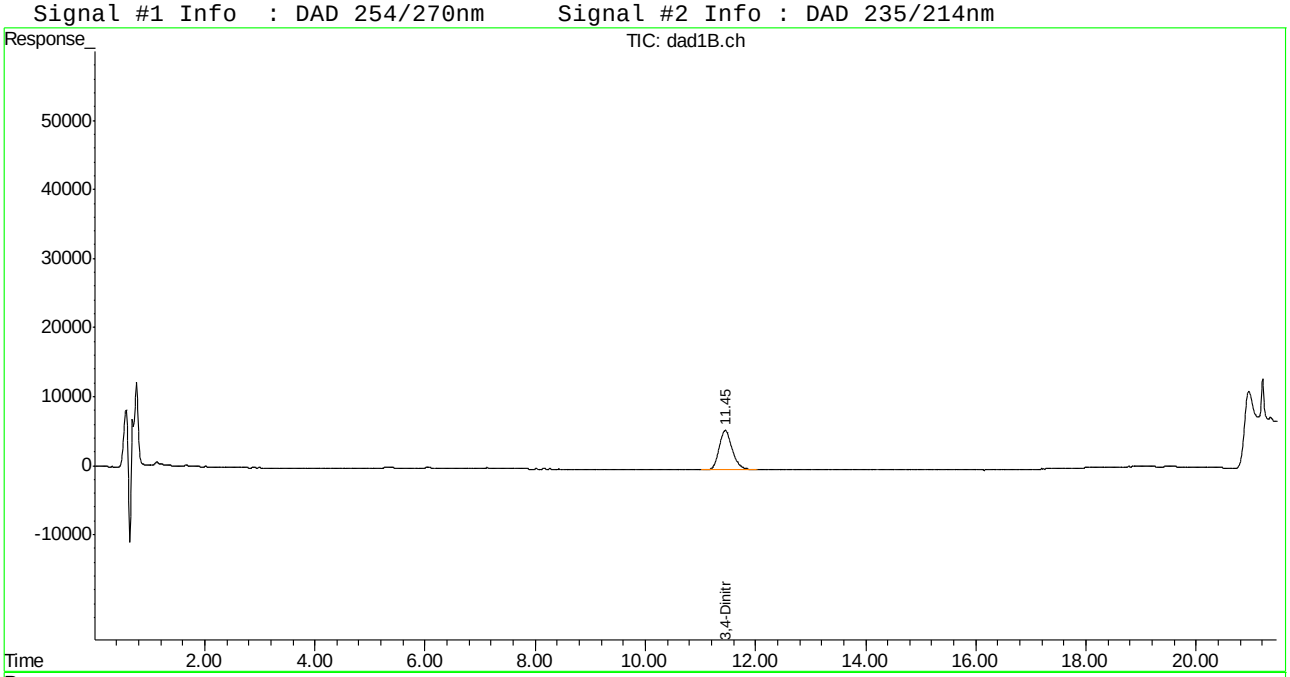
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB089891.D BBB2740_073025.M Fri Oct 31 13:41:14 2025 Page 1

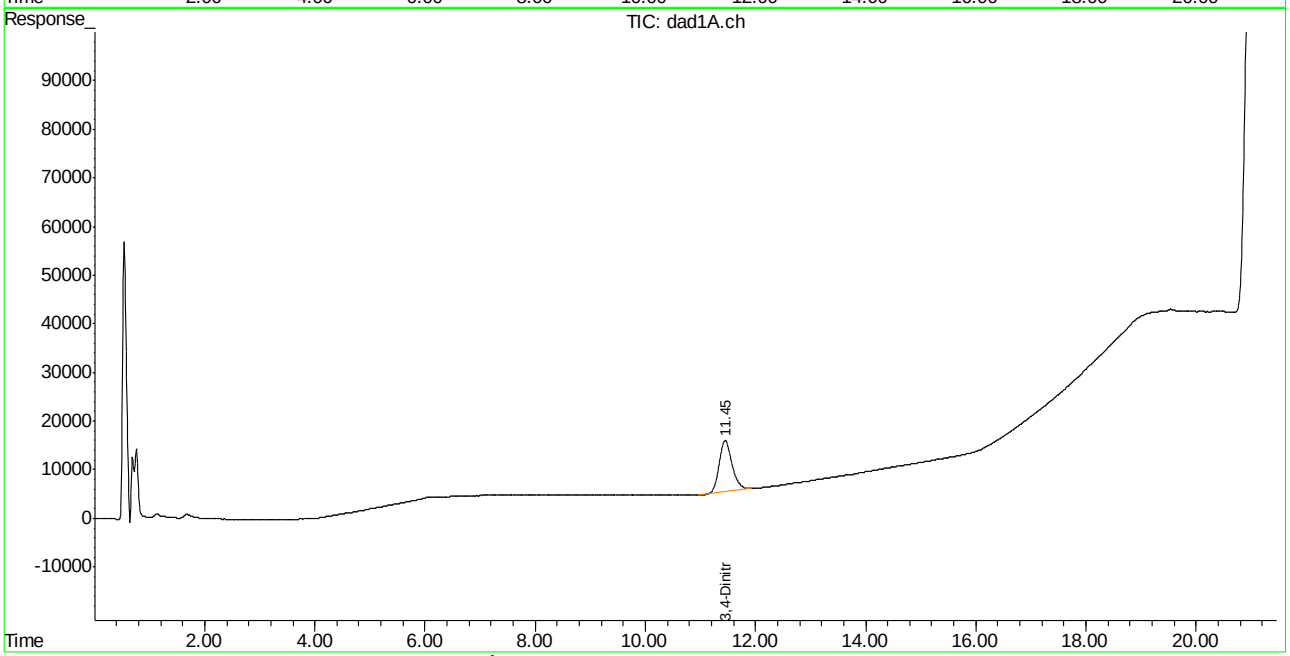
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089891.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089891.D\dad1A.ch
Acq On : 24-Oct-2025, 15:29:05 Operator: fouads
Sample : op12165-mb Inst : G1315B
Misc : OP12165,gbb2779,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 11:11 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633328.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633328.D\dad1A.ch
Acq On : 29-Oct-2025, 10:26:41 Operator: fouads
Sample : op12165-mb Inst : G1315B
Misc : OP12165,GGG3647,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 08:00:01 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.14	14.14	2168460	4392702	455.471	485.676
	Spiked Amount 500.000	Range 70 - 136		Recovery =		91.09%	97.14%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	0.00	0.00	0	0	N.D.	N.D.
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
6)	RDX	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D.
16)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D.	N.D.
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

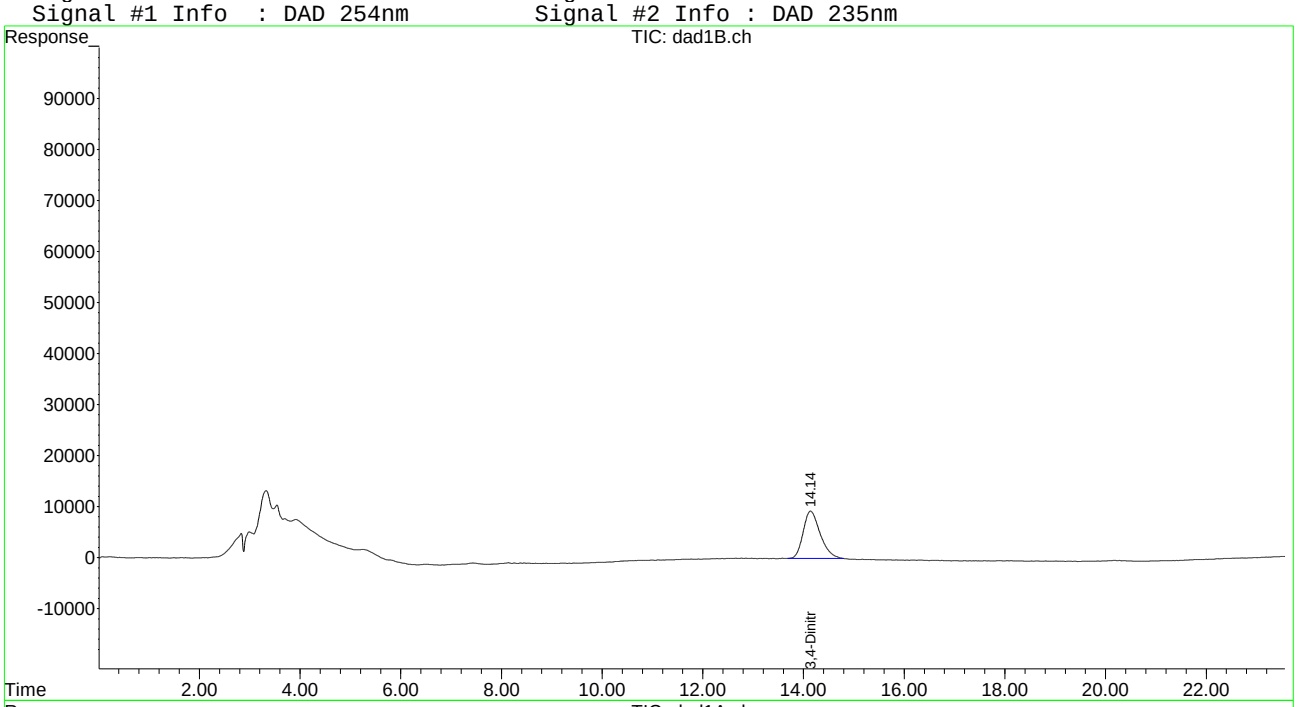
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG633328.D GGG3599_071425.M Fri Oct 31 13:39:18 2025

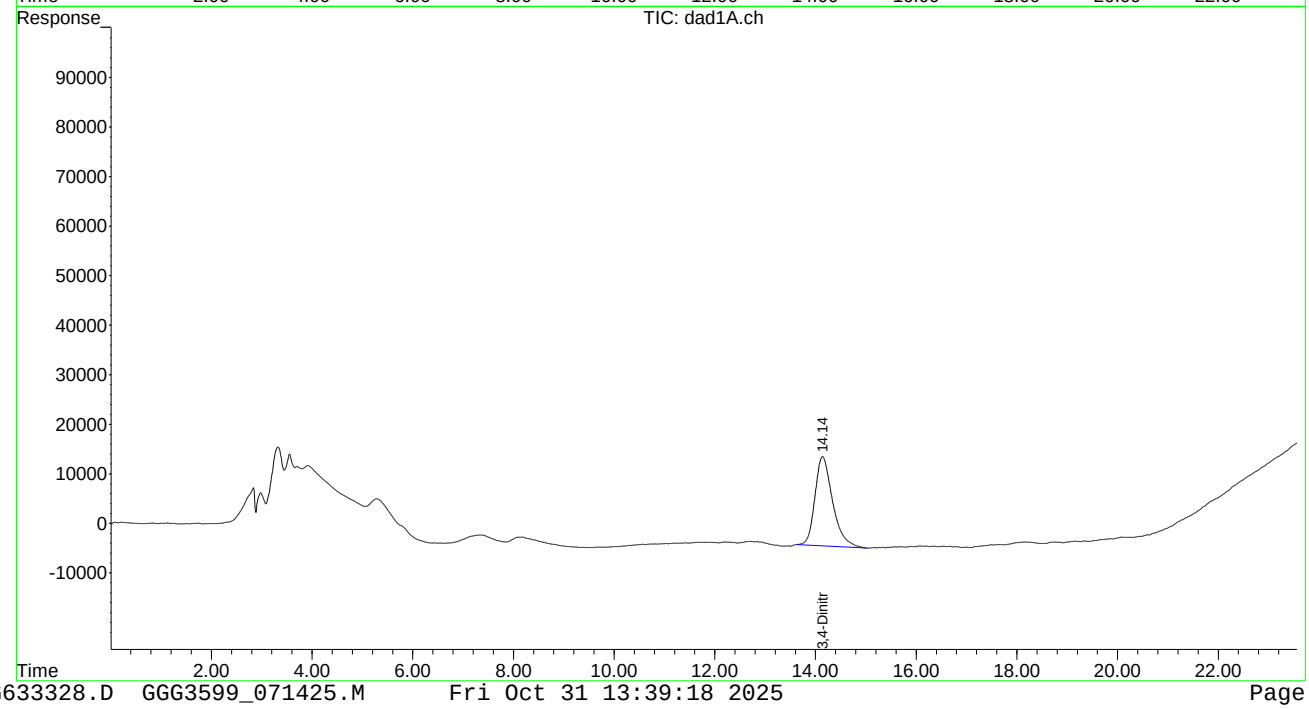
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633328.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633328.D\dad1A.ch
Acq On : 29-Oct-2025, 10:26:41 Operator: fouads
Sample : op12165-mb Inst : G1315B
Misc : OP12165,GGG3647,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan
11/03/25 16:21

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089892.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089892.D\dad1A.ch
Acq On : 24-Oct-2025, 15:56:35 Operator: fouads
Sample : op12165-bs Inst : G1315B
Misc : OP12165,gbb2779,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 08:02:11 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 07:22:56 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.37	11.37	1170859	1918139	546.748	532.012
	Spiked Amount 500.000	Range 70 - 136		Recovery =		109.35%	106.40%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.66	1.66	779806	2295175	445.562	504.430
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	3.19	3.19	910184	1452566	460.656	470.725
6)	1,3,5-Trinitrobe	4.95	4.95	1857658	2894251	454.440	454.549
7)	1,3-Dinitrobenze	6.17	6.16	2549259	1812081	449.231	476.528m
8)	3,5-Dinitroanili	6.62	6.62	1968080	3342296	480.844	465.832
9)	Nitrobenzene	7.68	7.68	1535461	1520748	480.195	484.435
10)	Nitroglycerin	0.00	9.10	0	551744	N.D.	415.724 #
11)	Tetryl	9.64	9.64	1108150	1663038	360.172	336.992
12)	2,4,6-Trinitroto	10.07	10.07	1846526	2090700	481.872	452.378
13)	2-Amino-4,6-Dini	10.65	10.66	1598890	2110497	466.373	430.856
14)	4-Amino-2,6-Dini	11.06	11.06	1111672	2064009	452.310	436.837
16)	2,4-Dinitrotolue	12.07	12.07	2291230	1378190	458.305	443.919
17)	2,6-Dinitrotolue	12.43	12.44	1359770	1749660	498.474	506.345
18)	o-Nitrotoluene	15.33	15.32	1053611	1491468	470.611	470.777m
19)	p-Nitrotoluene	15.90	15.90	1629090	1103272	490.145	395.998
20)	m-Nitrotoluene	16.72	16.72	1546216	1652971	475.346	455.994
21)	PETN	0.00	18.27	0	670317	N.D.	473.437m#

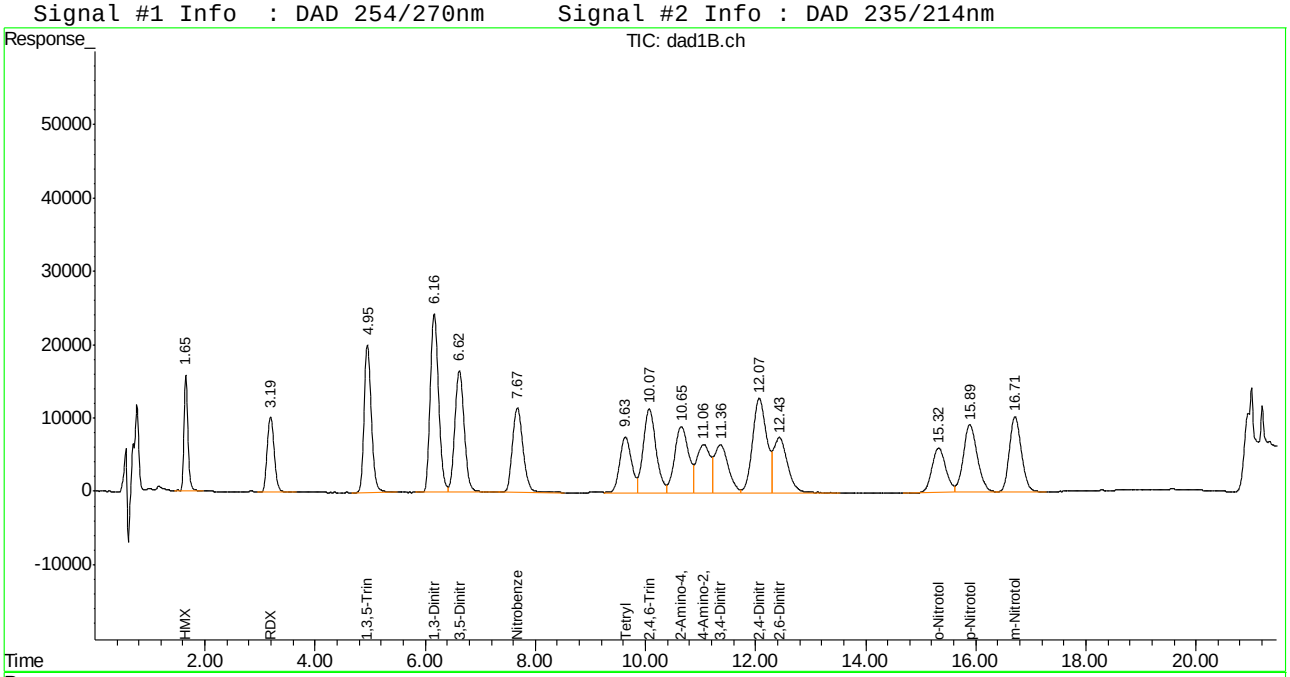
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB089892.D BBB2740_073025.M Fri Oct 31 13:41:15 2025 Page 1

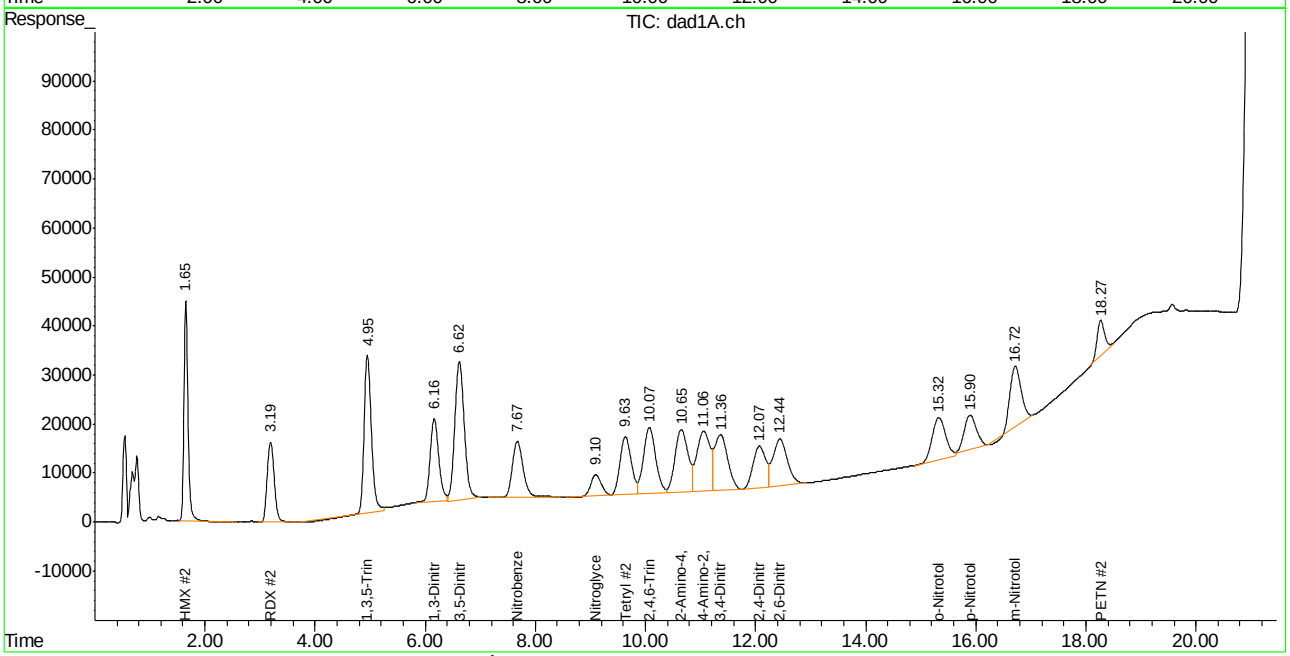
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089892.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089892.D\dad1A.ch
Acq On : 24-Oct-2025, 15:56:35 Operator: fouads
Sample : op12165-bs Inst : G1315B
Misc : OP12165,gbb2779,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 12:53 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 07:22:56 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

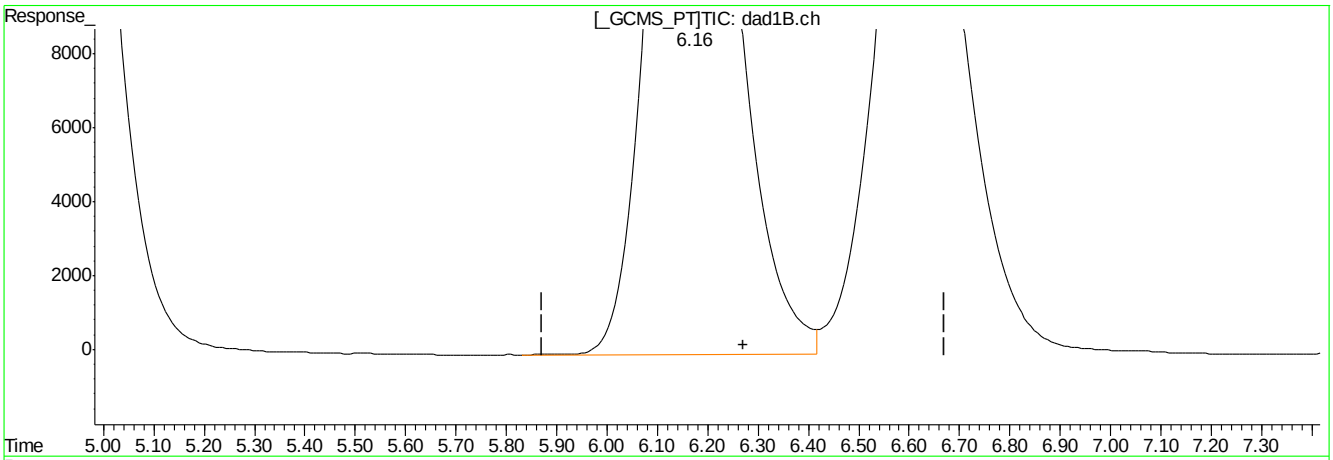
Sample Number: OP12165-BS
Lab FileID: BB089892.D
Injection Time: 10/24/25 15:56
Method: SW846 8330B
Analyst approved: 10/31/25 14:49 Fouad Sekkar
Supervisor approved: 11/03/25 16:21 Naresh Jiawan

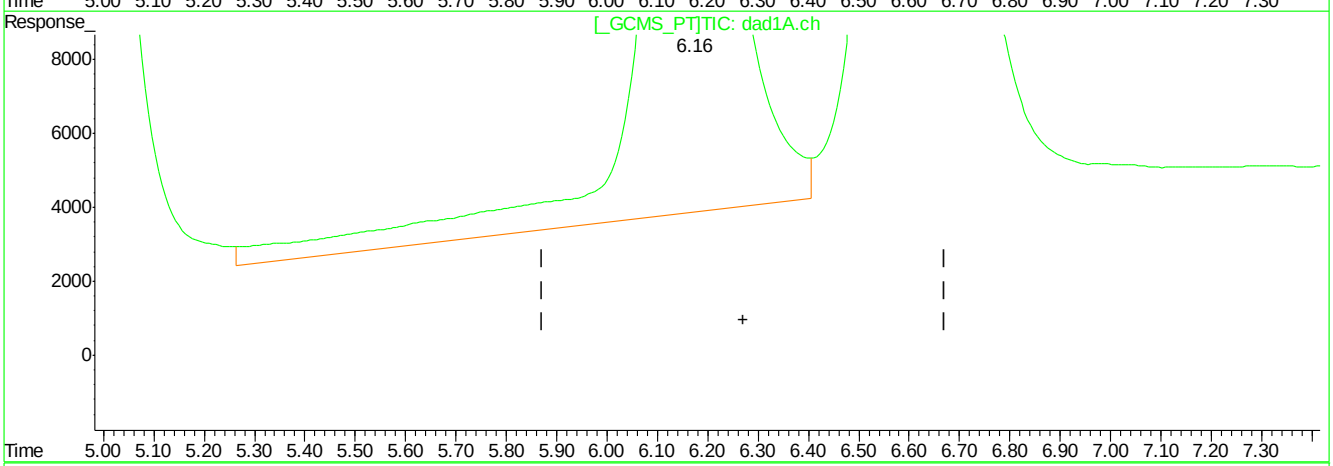
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	6.16	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	15.32	Poorly defined baseline
PETN	78-11-5	2	18.27	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089892.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089892.D\dad1A.ch
Acq On : 24-Oct-2025, 15:56:35 Operator: fouads
Sample : op12165-bs Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

6.17min 449.231ppb

response 2549259

(7) 1,3-Dinitrobenzene #2

6.17min 570.059ppb

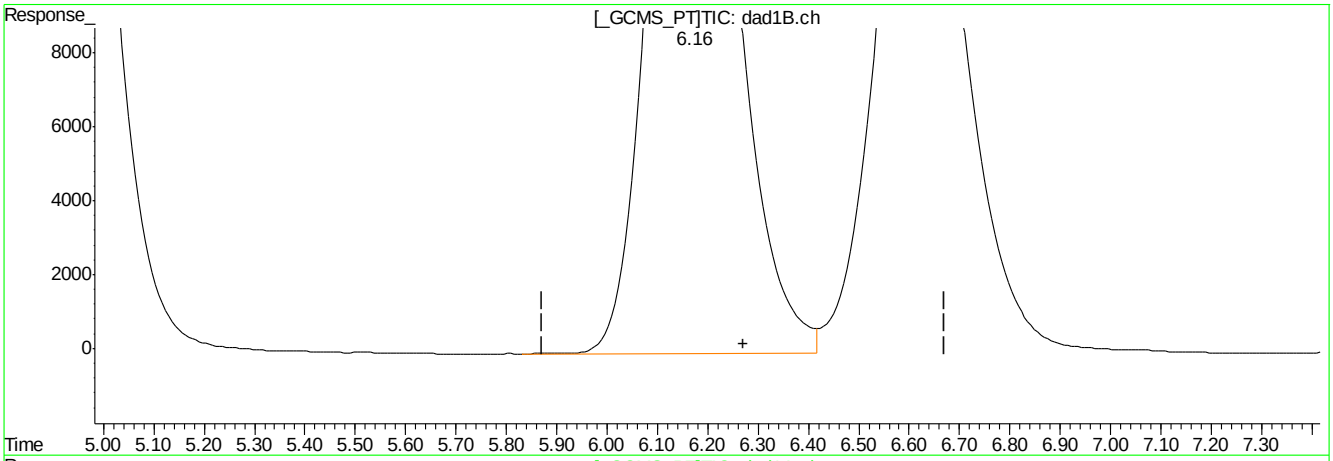
response 2147081

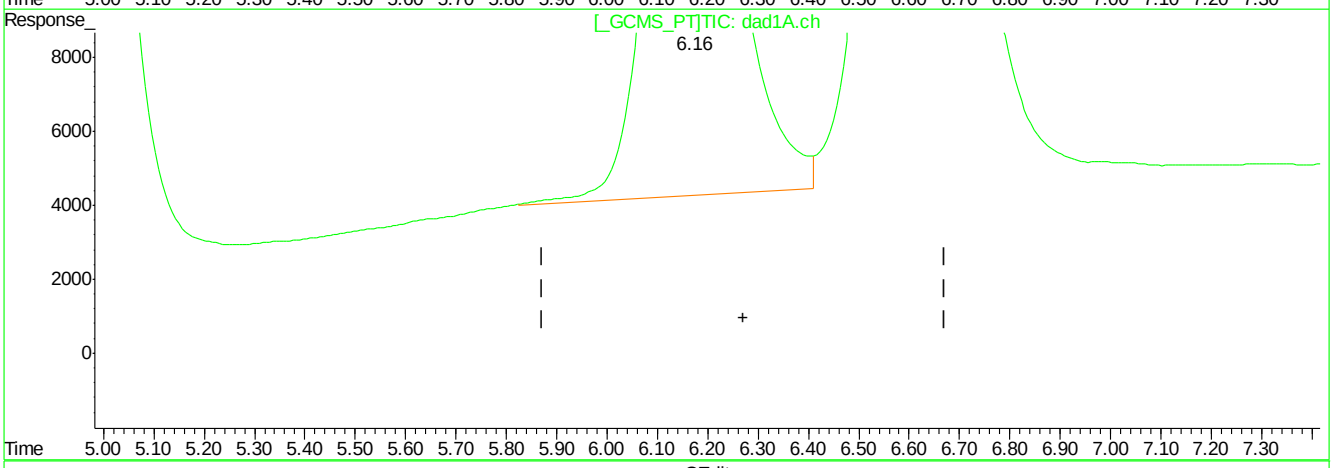
(+) = Expected Retention Time
BB089892.D BBB2740_073025.M Mon Oct 27 12:53:14 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089892.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089892.D\dad1A.ch
Acq On : 24-Oct-2025, 15:56:35 Operator: fouads
Sample : op12165-bs Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

6.17min 449.231ppb

response 2549259

(7) 1,3-Dinitrobenzene #2

6.16min 476.528ppb m

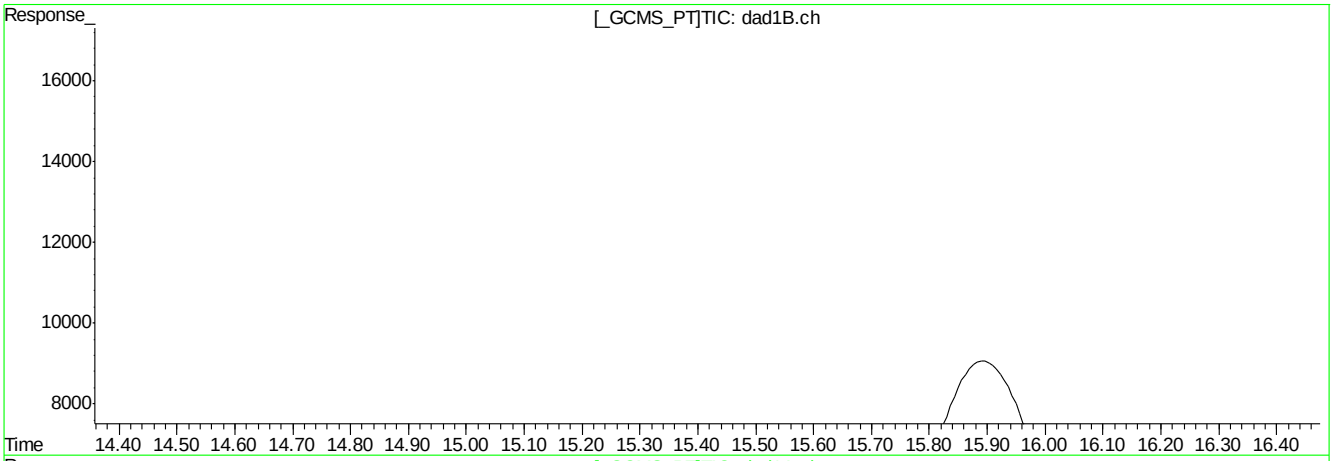
response 1812081

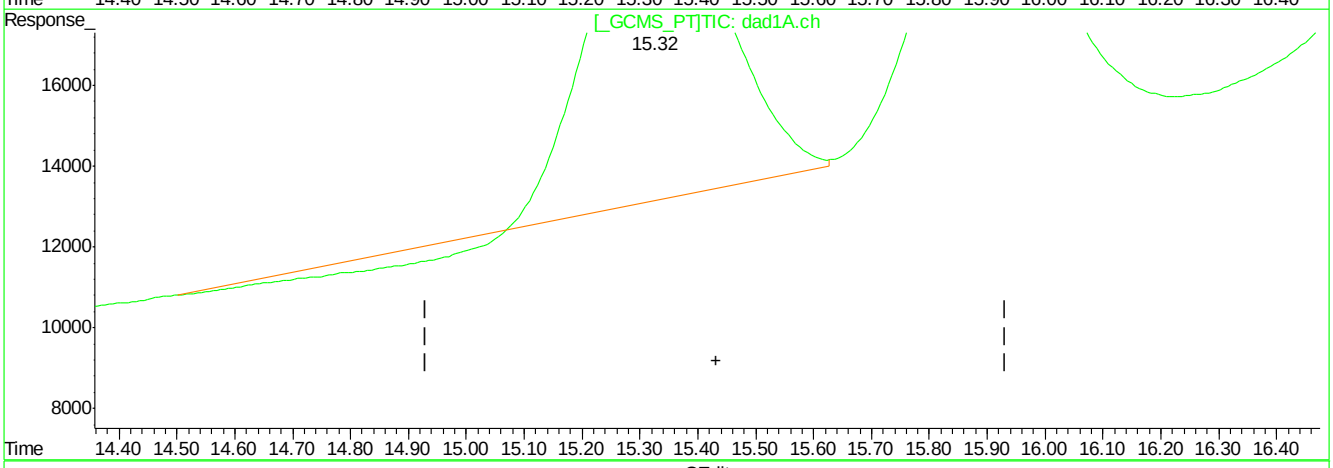
(+) = Expected Retention Time
BB089892.D BBB2740_073025.M Mon Oct 27 12:53:21 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089892.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089892.D\dad1A.ch
Acq On : 24-Oct-2025, 15:56:35 Operator: fouads
Sample : op12165-bs Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(18) o-Nitrotoluene

15.33min 470.611ppb

response 1053611

(18) o-Nitrotoluene #2

15.33min 384.955ppb

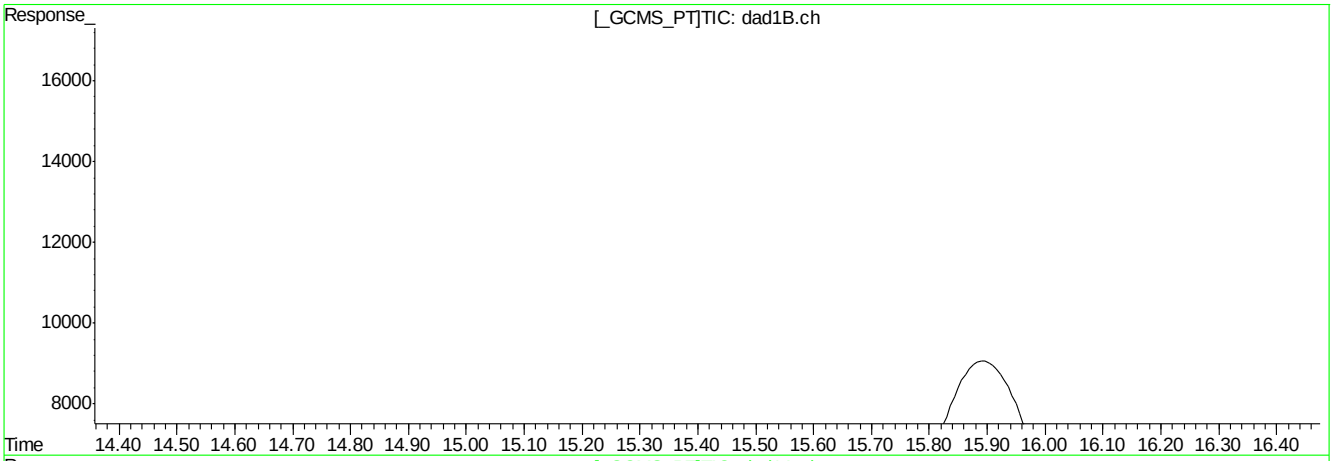
response 1219575

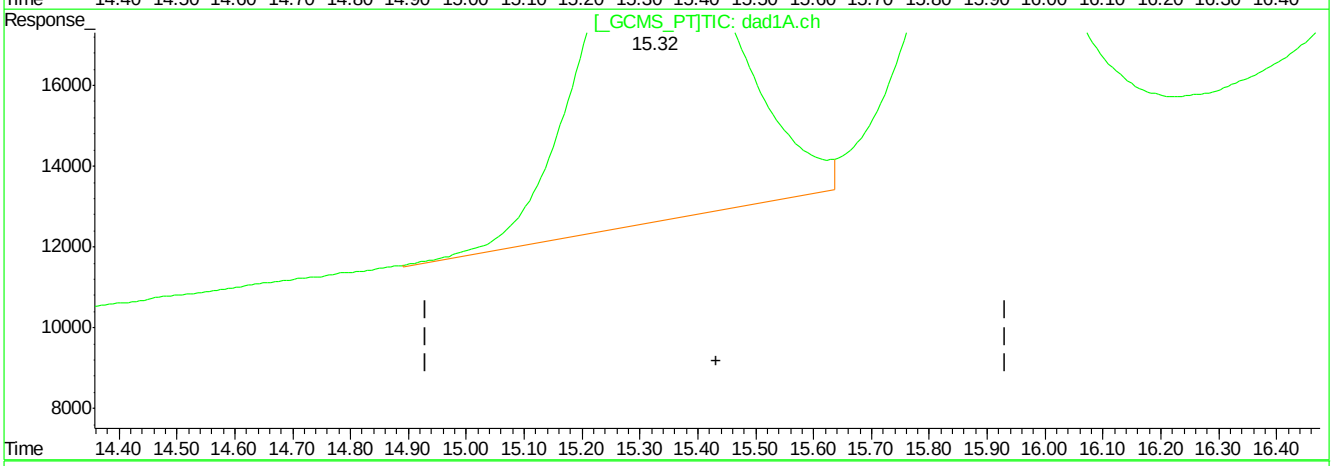
(+) = Expected Retention Time
BB089892.D BBB2740_073025.M Mon Oct 27 12:53:36 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089892.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089892.D\dad1A.ch
Acq On : 24-Oct-2025, 15:56:35 Operator: fouads
Sample : op12165-bs Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(18) o-Nitrotoluene

15.33min 470.611ppb

response 1053611

(18) o-Nitrotoluene #2

15.32min 470.777ppb m

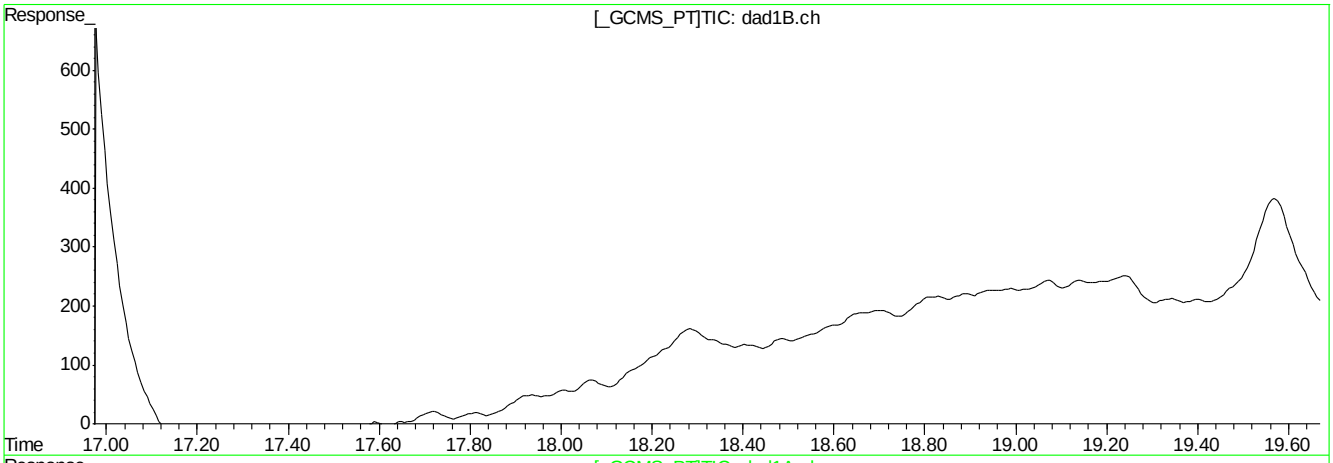
response 1491468

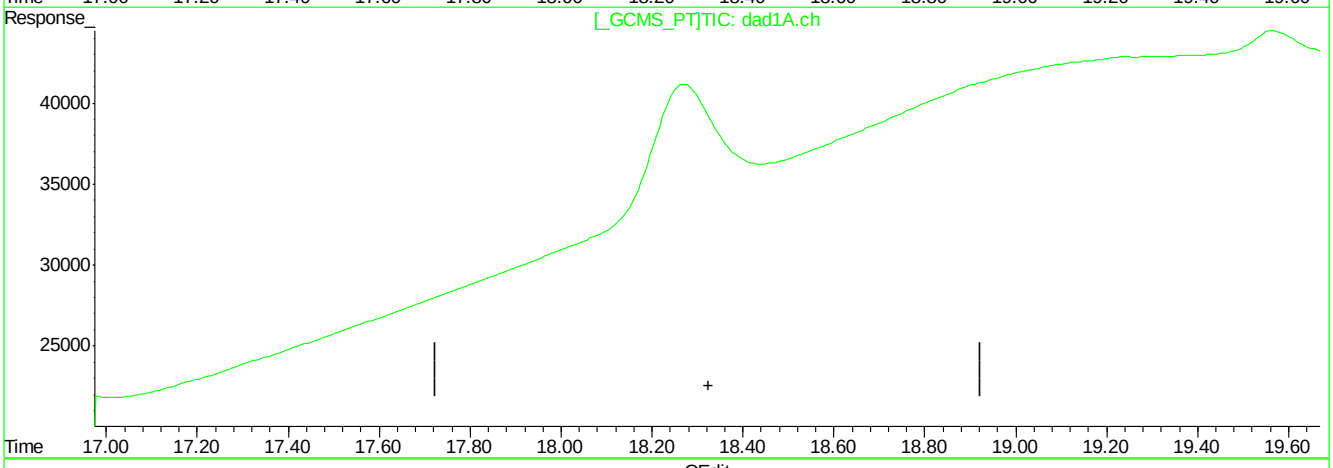
(+) = Expected Retention Time
BB089892.D BBB2740_073025.M Mon Oct 27 12:53:42 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089892.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089892.D\dad1A.ch
Acq On : 24-Oct-2025, 15:56:35 Operator: fouads
Sample : op12165-bs Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

0.00min 0.000ppb

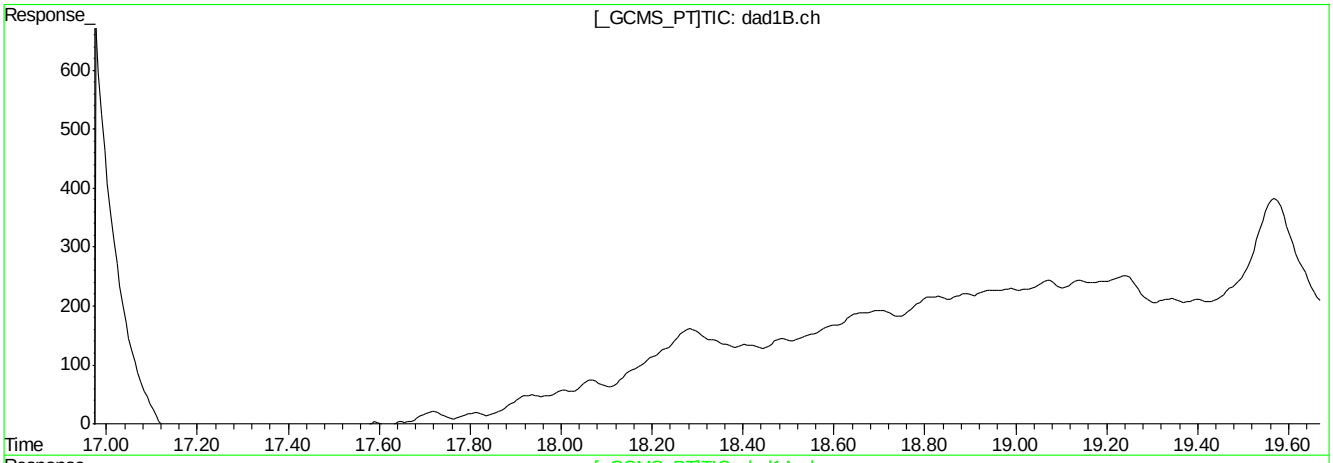
response 0

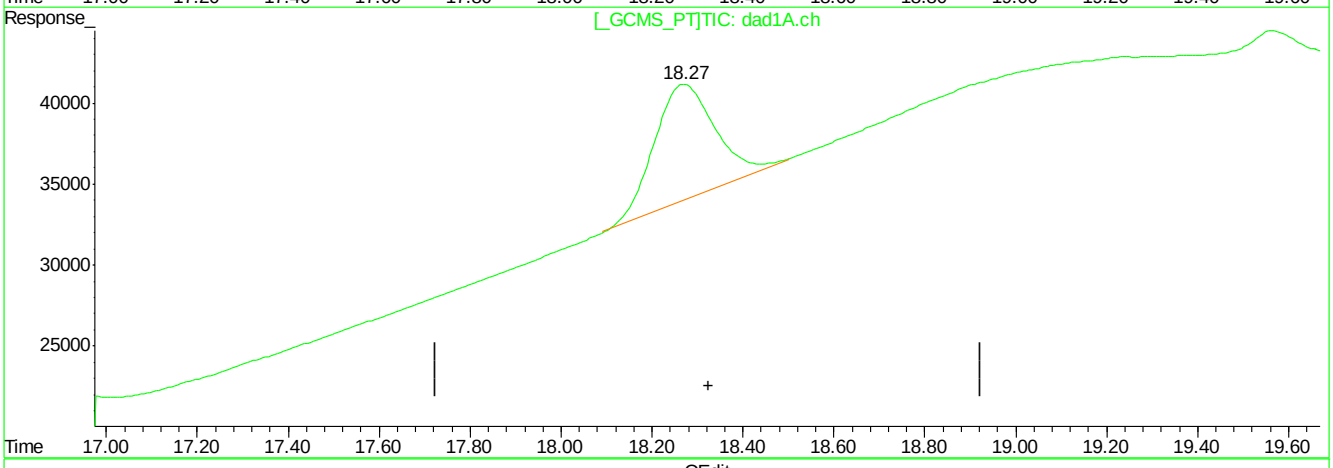
(+) = Expected Retention Time
BB089892.D BBB2740_073025.M Mon Oct 27 12:53:50 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089892.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089892.D\dad1A.ch
Acq On : 24-Oct-2025, 15:56:35 Operator: fouads
Sample : op12165-bs Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

18.27min 473.437ppb m

response 670317

(+) = Expected Retention Time
BB089892.D BBB2740_073025.M Mon Oct 27 12:54:05 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan
11/04/25 10:13

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089894.D\dad1B.ch Vial: 13
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089894.D\dad1A.ch
Acq On : 24-Oct-2025, 16:51:28 Operator: fouads
Sample : op12165-ms Inst : G1315B
Misc : OP12165,gbb2779,470,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 08:02:31 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 07:22:56 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.38	11.38	1152327	1771040	538.094	491.213
	Spiked Amount 500.000	Range 70 - 136		Recovery =		107.62%	98.24%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.66	1.66	1076516	3004541	615.095m	666.390m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	3.21	3.21	988072	1572968	500.076m	509.743m
6)	1,3,5-Trinitrobe	4.97	4.97	5006752	7795154	1224.804	1213.669
7)	1,3-Dinitrobenze	6.18	6.18	2544458	1859433	448.385	489.749m
8)	3,5-Dinitroanili	6.64	6.64	1980100	3417393	483.780	476.299
9)	Nitrobenzene	7.70	7.70	1525628	1515346	477.018	482.664
10)	Nitroglycerin	0.00	9.11	0	532867	N.D.	400.826 #
11)	Tetryl	9.65	9.65	519009	602823	168.689	122.154
12)	2,4,6-Trinitroto	10.09	10.10	3395338	4052154	886.052	876.791
13)	2-Amino-4,6-Dini	10.69	10.68	2048937	2704230	597.645	552.066
14)	4-Amino-2,6-Dini	11.09	11.09	1678872	2754423	683.088	581.331
16)	2,4-Dinitrotolue	12.09	12.09	2363506	1431452	472.762	461.074
17)	2,6-Dinitrotolue	12.49	12.49	3580347	4326309	1312.510	1252.017
18)	o-Nitrotoluene	15.34	15.34	1080615	1238850	482.673	391.039
19)	p-Nitrotoluene	15.91	15.92	1620110	1062883	487.443	381.959
20)	m-Nitrotoluene	16.73	16.73	1579208	1602414	485.488	442.048
21)	PETN	18.22	18.27	140917	670802	NoCal	473.779m#

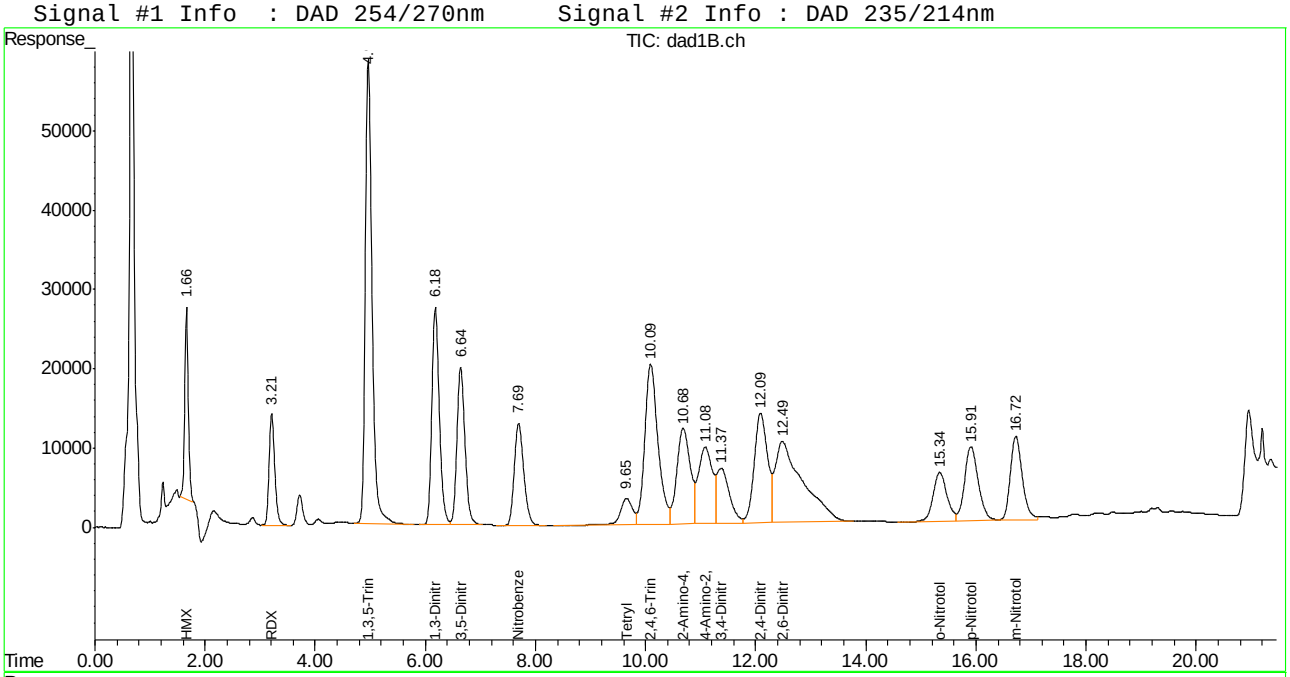
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

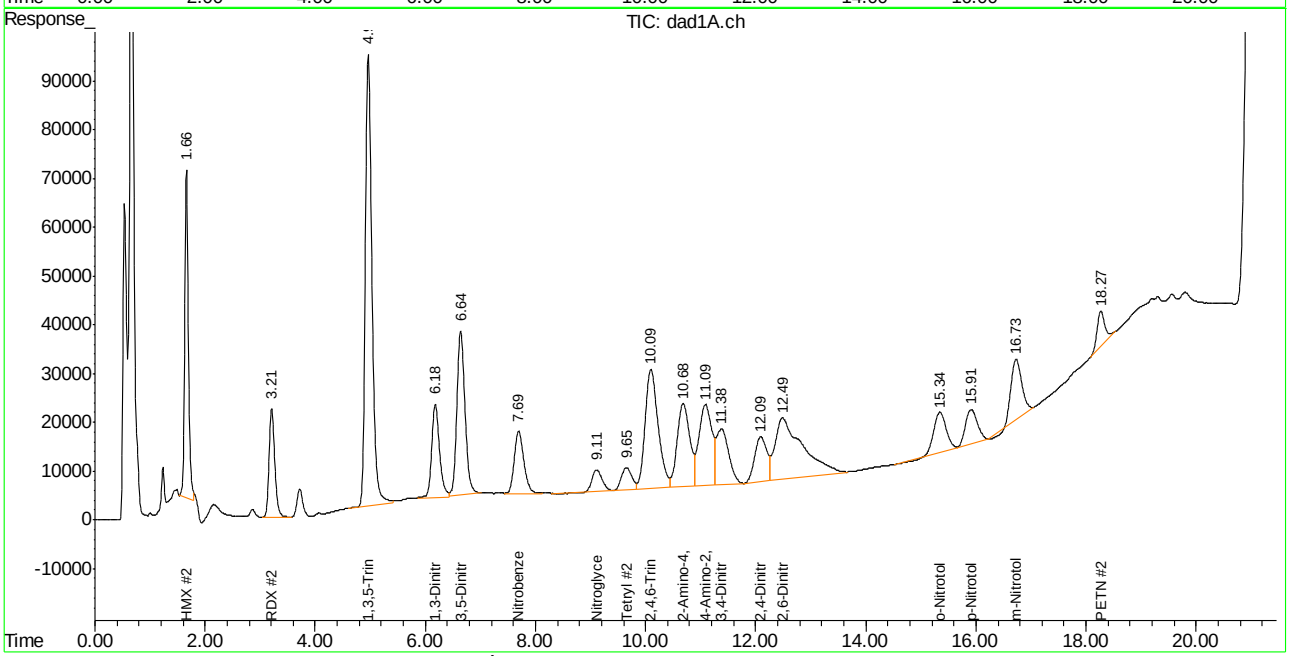
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089894.D\dad1B.ch Vial: 13
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089894.D\dad1A.ch
Acq On : 24-Oct-2025, 16:51:28 Operator: fouads
Sample : op12165-ms Inst : G1315B
Misc : OP12165,gbb2779,470,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 13:00 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 07:22:56 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

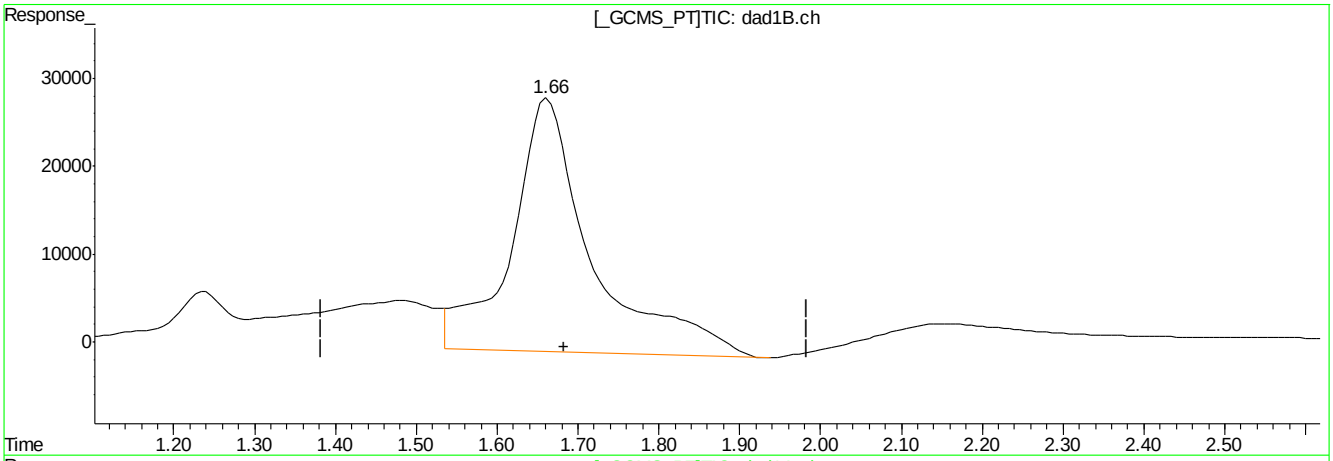
Sample Number: OP12165-MS
Lab FileID: BB089894.D
Injection Time: 10/24/25 16:51
Method: SW846 8330B
Analyst approved: 10/31/25 14:49 Fouad Sekkar
Supervisor approved: 11/04/25 10:13 Naresh Jiawan

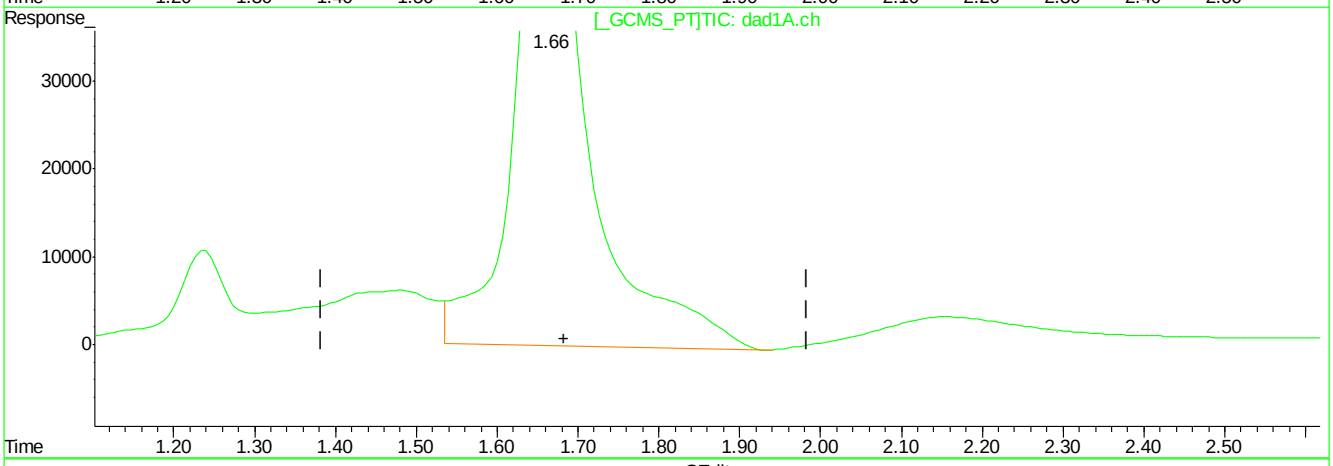
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.66	Poorly defined baseline
HMX	2691-41-0	2	1.66	Poorly defined baseline
RDX	121-82-4	1	3.21	Poorly defined baseline
RDX	121-82-4	2	3.21	Poorly defined baseline
1,3-Dinitrobenzene	99-65-0	2	6.18	Poorly defined baseline
PETN	78-11-5	2	18.27	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089894.D\dad1B.ch Vial: 13
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089894.D\dad1A.ch
Acq On : 24-Oct-2025, 16:51:28 Operator: fouads
Sample : op12165-ms Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

1.66min 1149.146ppb

response 2011190

(2) HMX #2

1.66min 888.691ppb

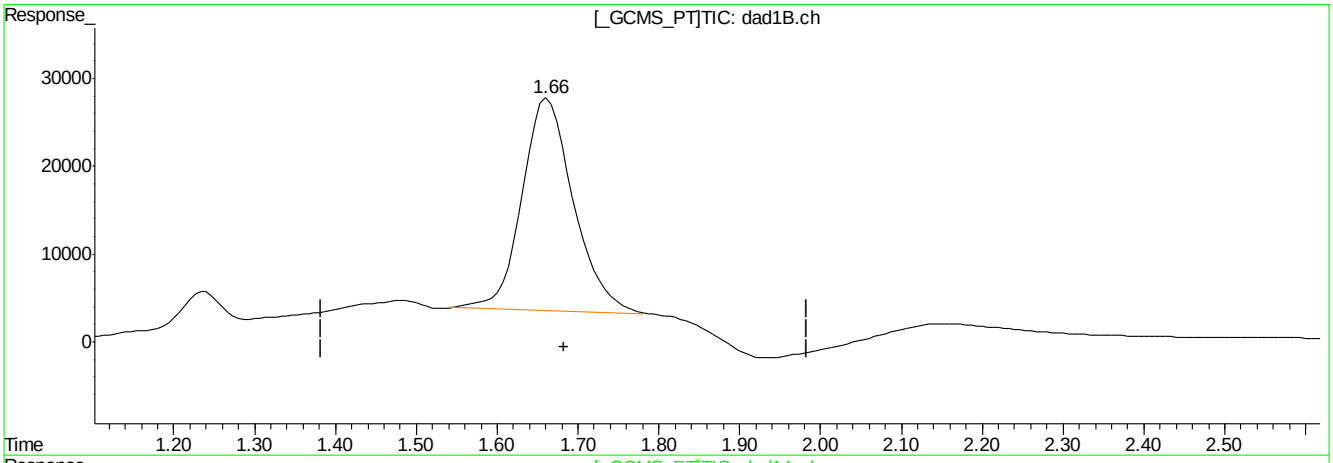
response 3978198

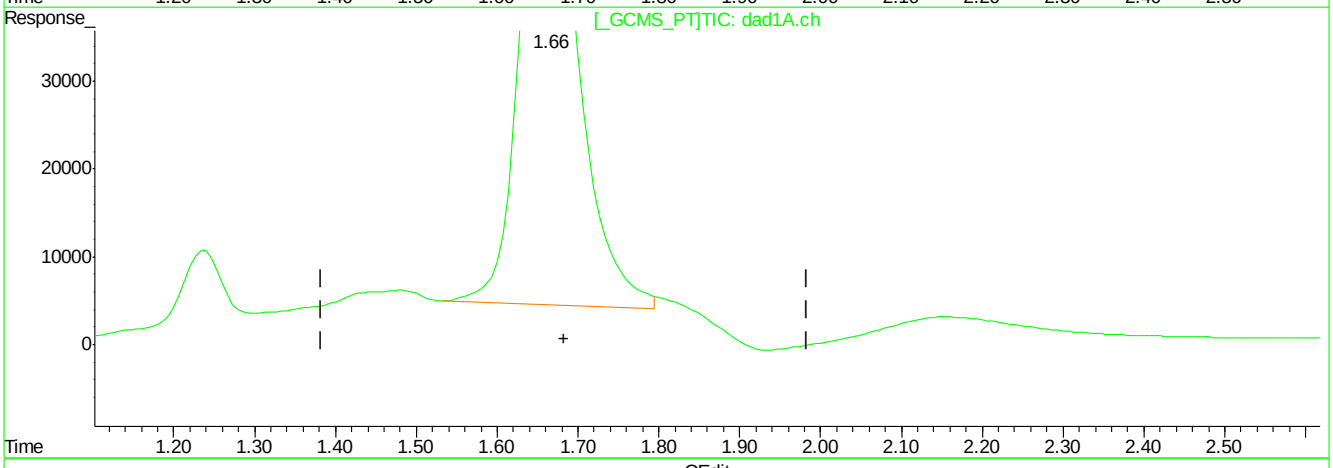
(+) = Expected Retention Time
BB089894.D BBB2740_073025.M Mon Oct 27 12:59:03 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089894.D\dad1B.ch Vial: 13
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089894.D\dad1A.ch
Acq On : 24-Oct-2025, 16:51:28 Operator: fouads
Sample : op12165-ms Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

1.66min 615.095ppb m

response 1076516

(2) HMX #2

1.66min 666.390ppb m

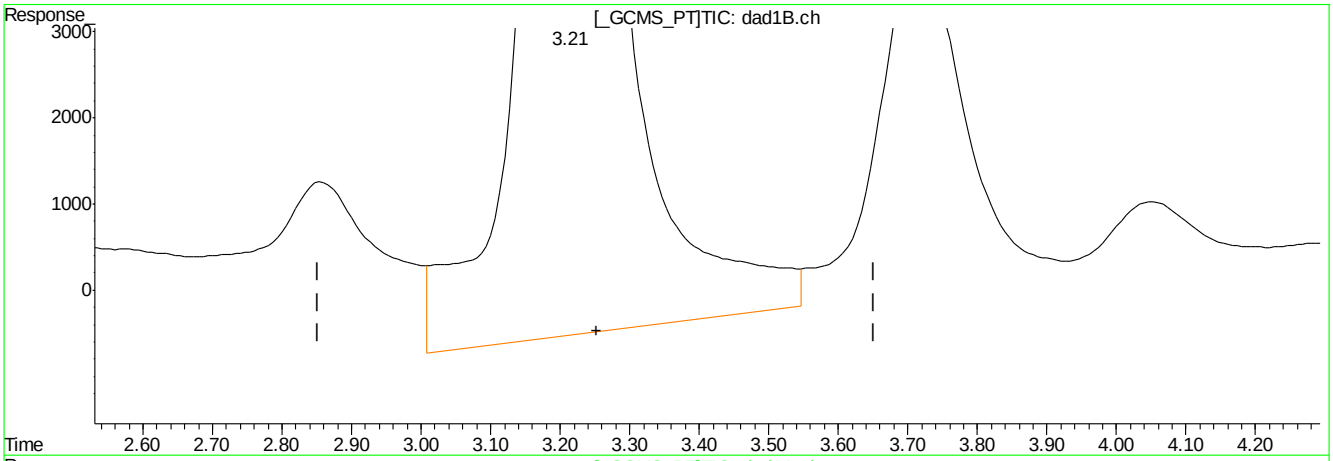
response 3004541

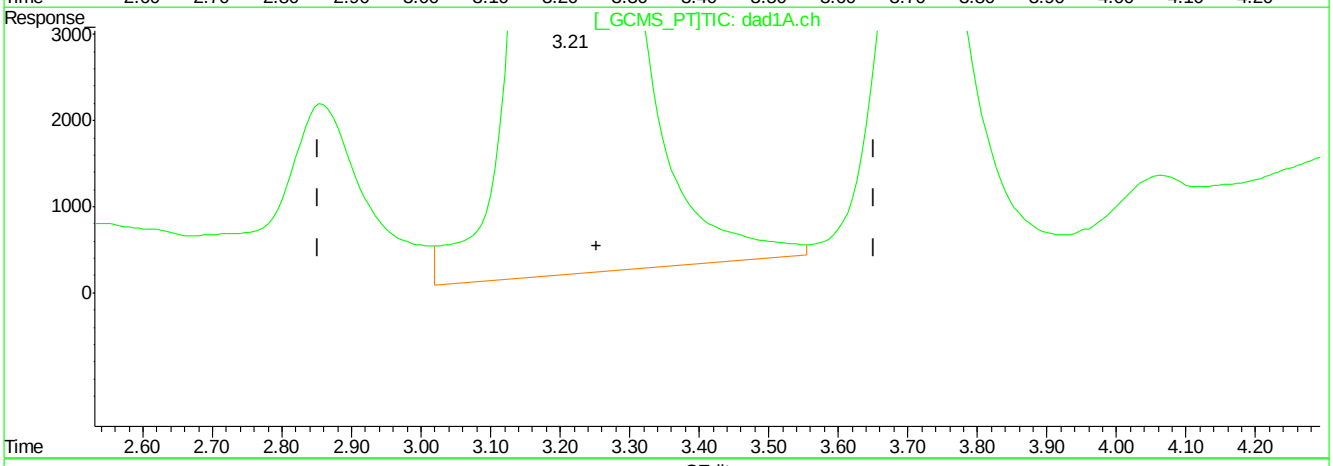
(+) = Expected Retention Time
BB089894.D BBB2740_073025.M Mon Oct 27 12:59:10 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089894.D\dad1B.ch Vial: 13
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089894.D\dad1A.ch
Acq On : 24-Oct-2025, 16:51:28 Operator: fouads
Sample : op12165-ms Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(5) RDX

3.21min 619.424ppb

response 1223883

(5) RDX #2

3.21min 537.247ppb

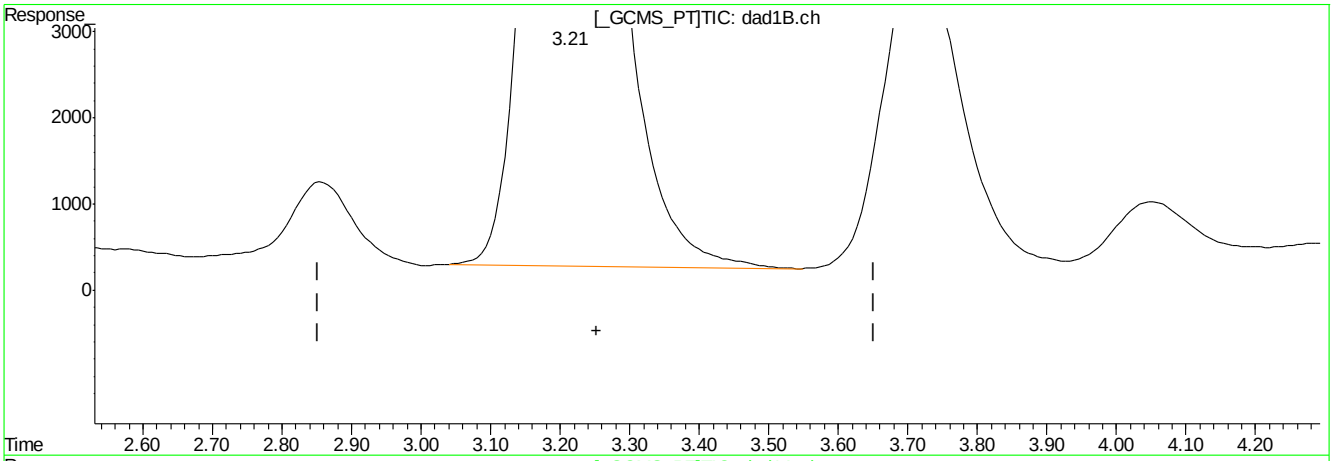
response 1657841

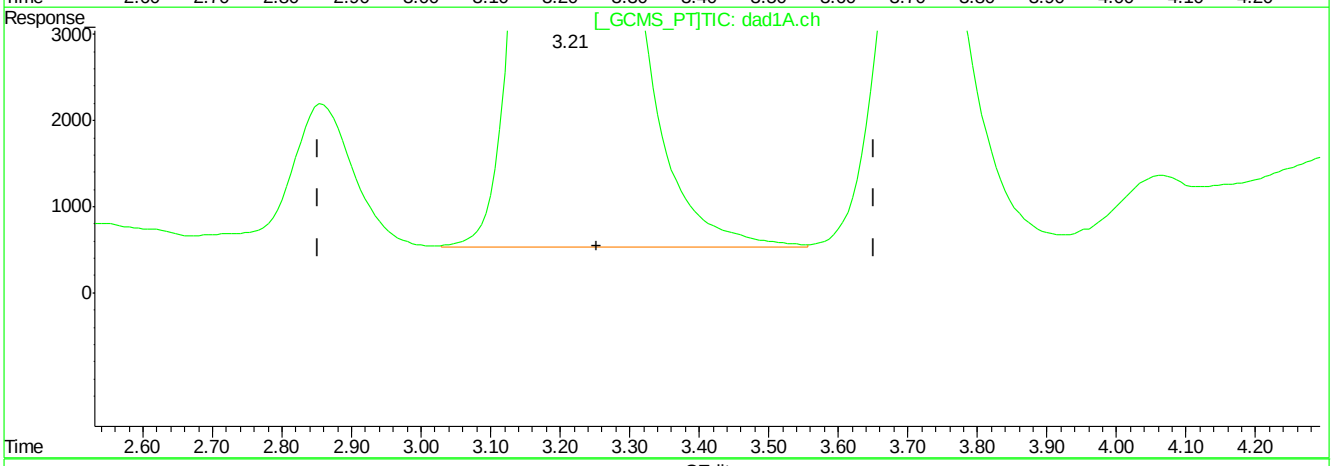
(+) = Expected Retention Time
BB089894.D BBB2740_073025.M Mon Oct 27 12:59:20 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089894.D\dad1B.ch Vial: 13
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089894.D\dad1A.ch
Acq On : 24-Oct-2025, 16:51:28 Operator: fouads
Sample : op12165-ms Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(5) RDX

3.21min 500.076ppb m

response 988072

(5) RDX #2

3.21min 509.743ppb m

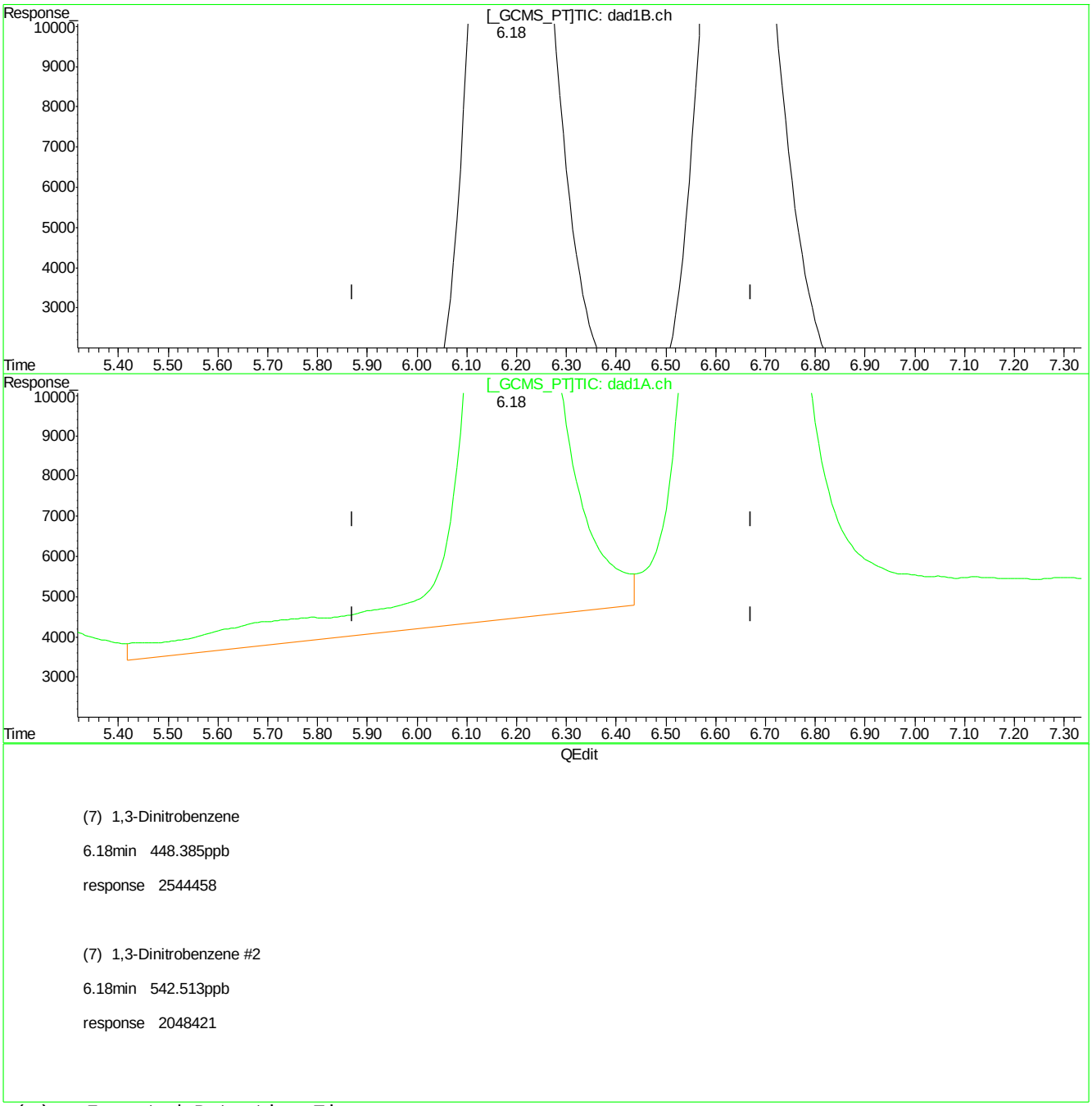
response 1572968

(+) = Expected Retention Time
BB089894.D BBB2740_073025.M Mon Oct 27 12:59:28 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089894.D\dad1B.ch Vial: 13
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089894.D\dad1A.ch
Acq On : 24-Oct-2025, 16:51:28 Operator: fouads
Sample : op12165-ms Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

6.18min 448.385ppb

response 2544458

(7) 1,3-Dinitrobenzene #2

6.18min 542.513ppb

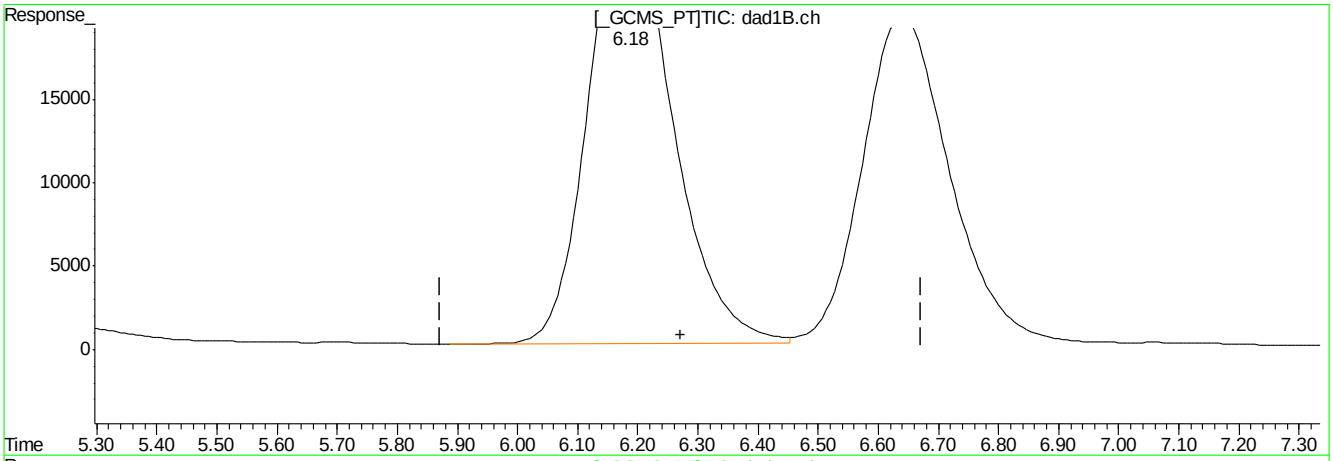
response 2048421

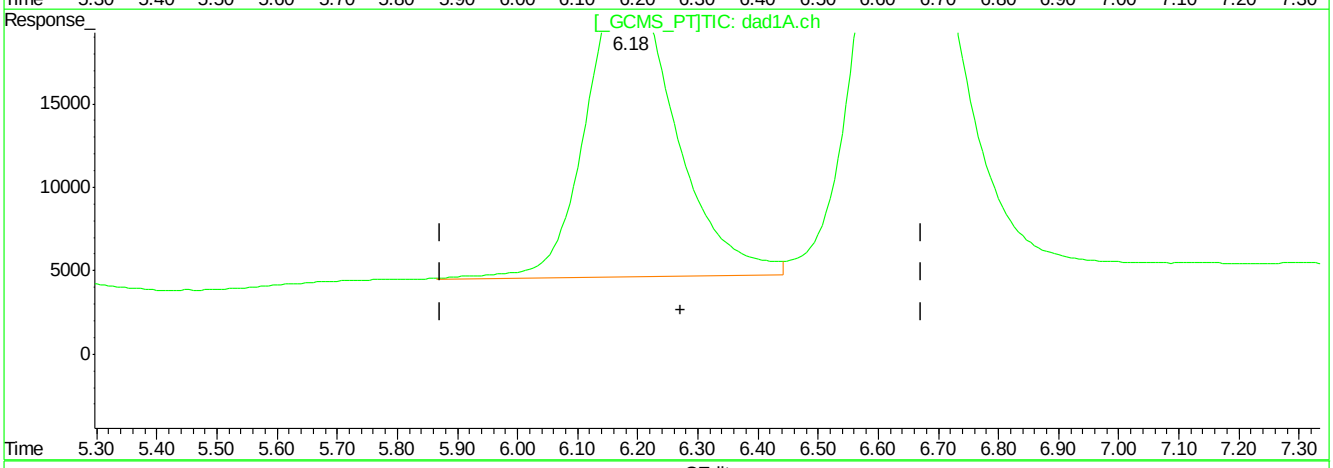
(+) = Expected Retention Time
BB089894.D BBB2740_073025.M Mon Oct 27 12:59:39 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089894.D\dad1B.ch Vial: 13
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089894.D\dad1A.ch
Acq On : 24-Oct-2025, 16:51:28 Operator: fouads
Sample : op12165-ms Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

6.18min 448.385ppb

response 2544458

(7) 1,3-Dinitrobenzene #2

6.18min 489.749ppb m

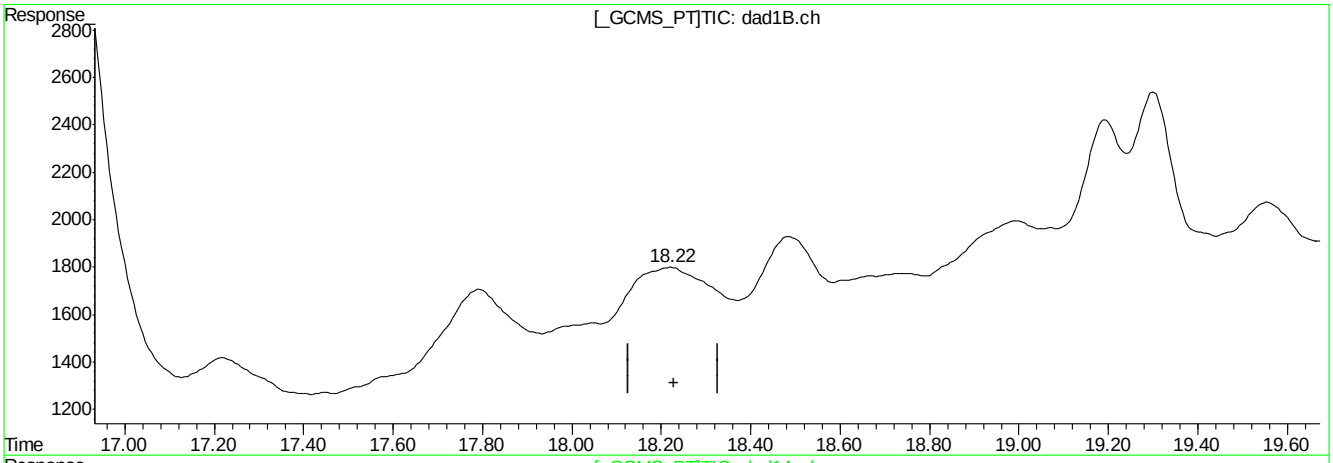
response 1859433

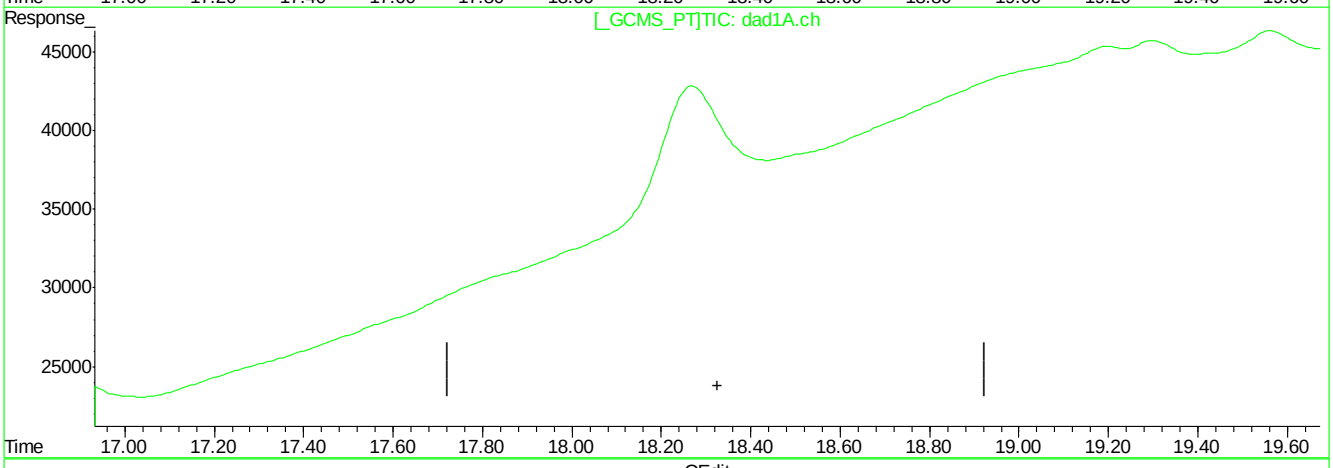
(+) = Expected Retention Time
BB089894.D BBB2740_073025.M Mon Oct 27 12:59:46 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089894.D\dad1B.ch Vial: 13
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089894.D\dad1A.ch
Acq On : 24-Oct-2025, 16:51:28 Operator: fouads
Sample : op12165-ms Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

18.22min 0.000ppb

response 140917

(21) PETN #2

0.00min 0.000ppb

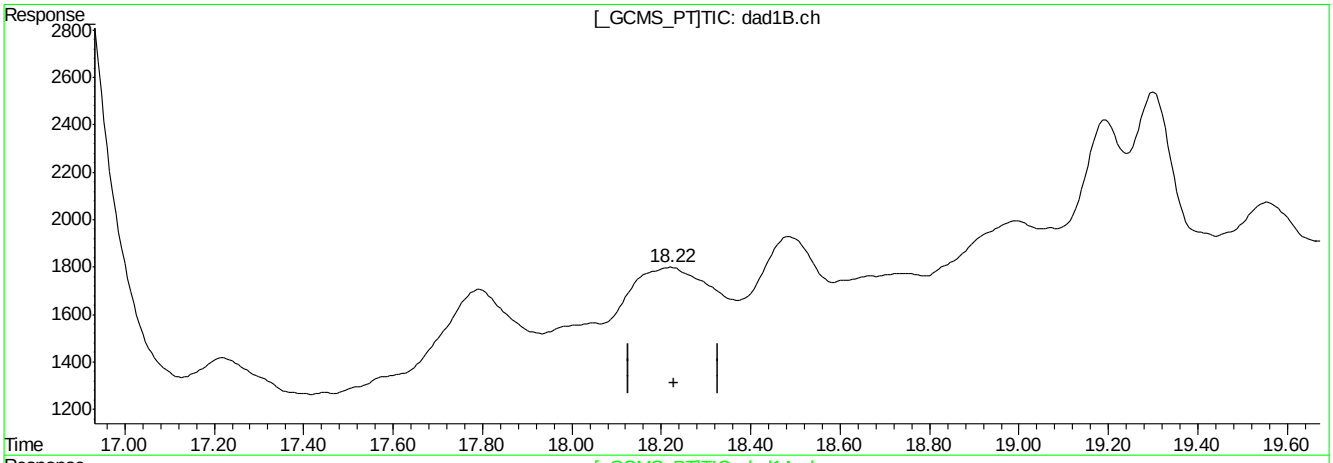
response 0

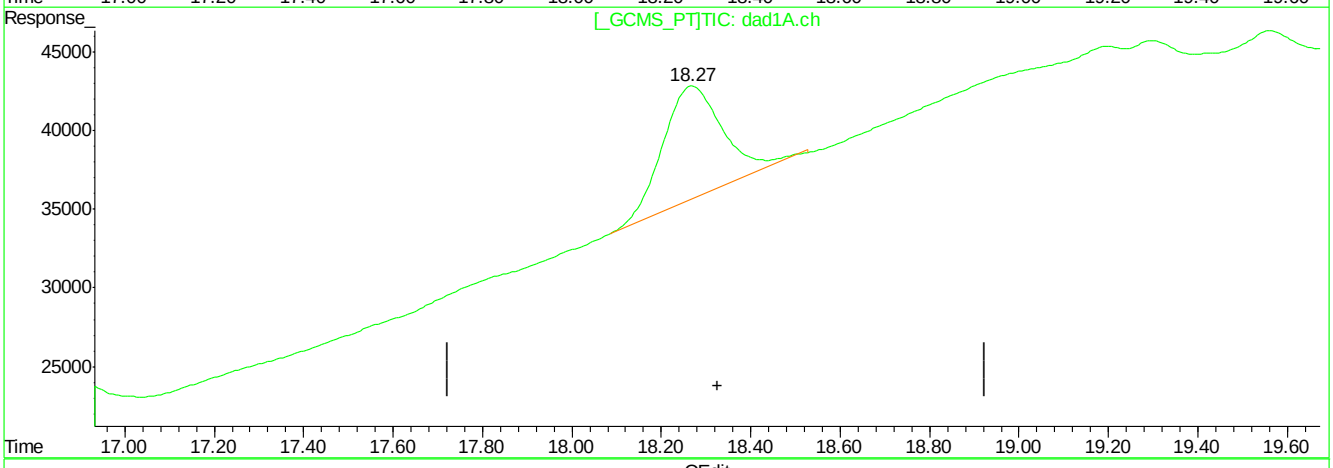
(+) = Expected Retention Time
BB089894.D BBB2740_073025.M Mon Oct 27 13:00:23 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089894.D\dad1B.ch Vial: 13
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089894.D\dad1A.ch
Acq On : 24-Oct-2025, 16:51:28 Operator: fouads
Sample : op12165-ms Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

18.22min 0.000ppb

response 140917

(21) PETN #2

18.27min 473.779ppb m

response 670802

(+) = Expected Retention Time
BB089894.D BBB2740_073025.M Mon Oct 27 13:00:29 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan
11/04/25 10:13

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089895.D\dad1B.ch Vial: 14
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089895.D\dad1A.ch
Acq On : 24-Oct-2025, 17:18:55 Operator: fouads
Sample : op12165-msd Inst : G1315B
Misc : OP12165,gbb2779,470,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 08:02:32 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 07:22:56 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.36	11.36	1164245	1690420	543.659	468.853
	Spiked Amount 500.000	Range 70 - 136		Recovery =		108.73%	93.77%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.66	1.66	1006408	2823957	575.037m	625.160m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	3.20	3.20	990471	1662534	501.291	538.768
6)	1,3,5-Trinitrobe	4.96	4.96	5312024	8454555	1299.483	1315.806
7)	1,3-Dinitrobenze	6.17	6.17	2575244	2019369	453.810	534.402
8)	3,5-Dinitroanili	6.63	6.63	1992365	3435658	486.777	478.845
9)	Nitrobenzene	7.68	7.68	1507828	1505318	471.265	479.378
10)	Nitroglycerin	0.00	9.10	0	617650	N.D.	467.738 #
11)	Tetryl	9.63	9.63	648569	745462	210.798	151.058
12)	2,4,6-Trinitroto	10.07	10.07	3430588	4049932	895.251	876.310
13)	2-Amino-4,6-Dini	10.66	10.66	2329037	2888880	679.346	589.762
14)	4-Amino-2,6-Dini	11.05	11.06	1465968	2526095	596.463	533.545
16)	2,4-Dinitrotolue	12.07	12.08	2632584	1542100	526.584	496.715
17)	2,6-Dinitrotolue	12.44	12.44	3567731	4201635	1307.885	1215.937
18)	o-Nitrotoluene	15.32	15.33	1075322	1305708	480.309	412.142
19)	p-Nitrotoluene	15.89	15.89	1631497	1100840	490.869	395.153
20)	m-Nitrotoluene	16.71	16.72	1631770	1617612	501.647	446.240
21)	PETN	18.22	18.26	136687	732627	NoCal	517.445m#

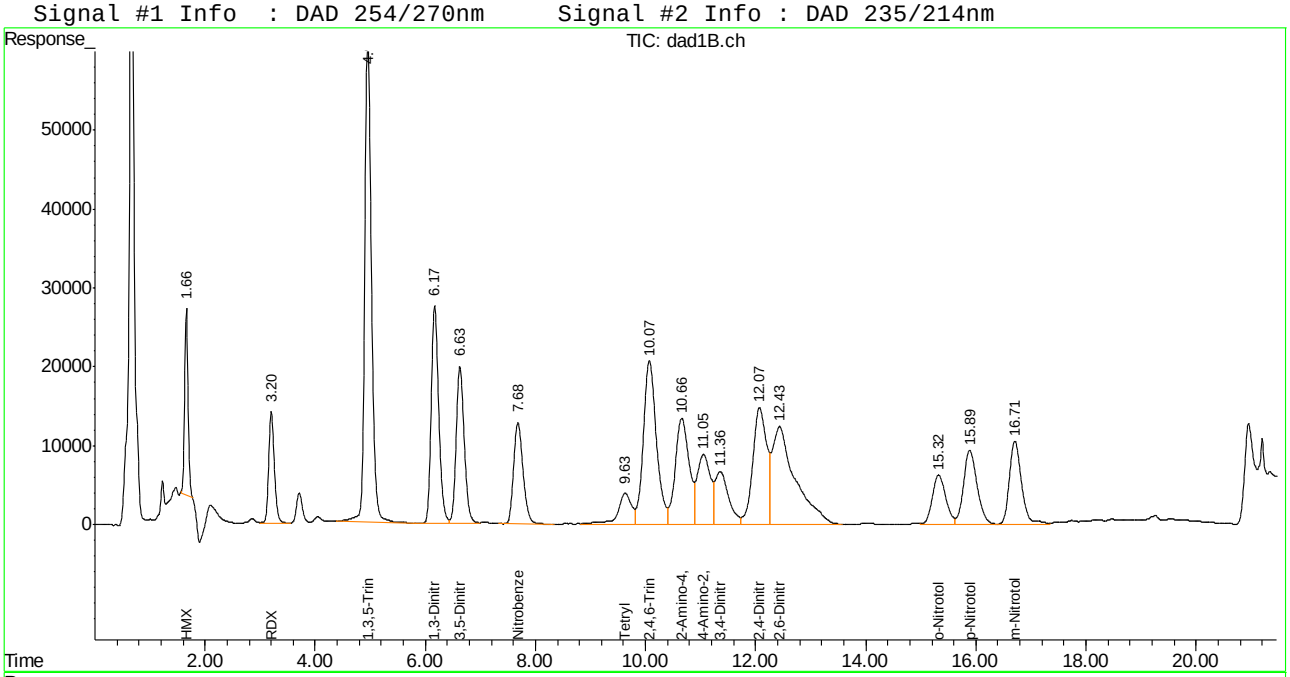
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB089895.D BBB2740_073025.M Fri Oct 31 13:41:18 2025 Page 1

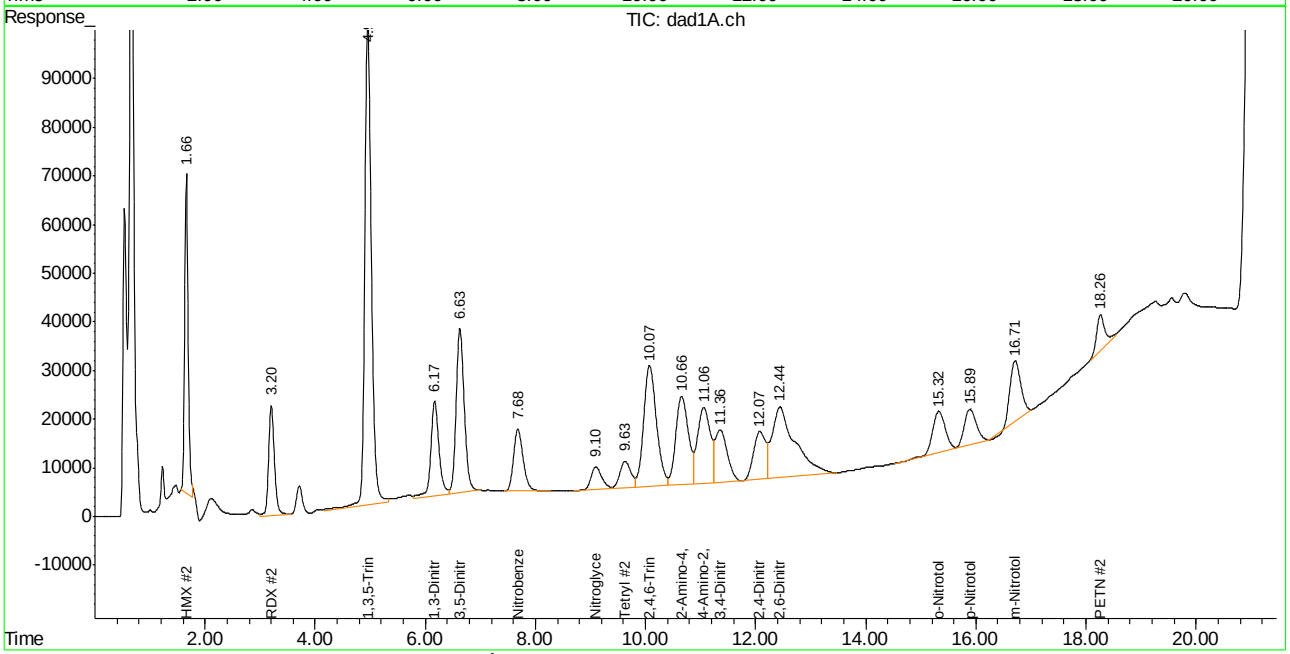
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089895.D\dad1B.ch Vial: 14
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089895.D\dad1A.ch
Acq On : 24-Oct-2025, 17:18:55 Operator: fouads
Sample : op12165-msd Inst : G1315B
Misc : OP12165,gbb2779,470,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 13:02 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 07:22:56 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: OP12165-MSD
Lab FileID: BB089895.D
Injection Time: 10/24/25 17:18

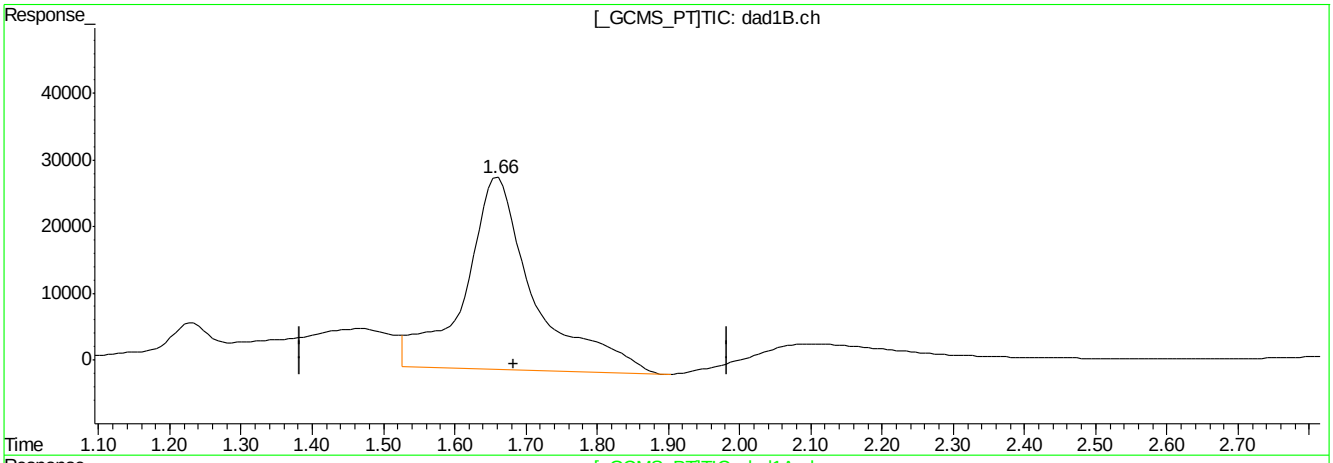
Method: SW846 8330B
Analyst approved: 10/31/25 14:49 Fouad Sekkar
Supervisor approved: 11/04/25 10:13 Naresh Jiawan

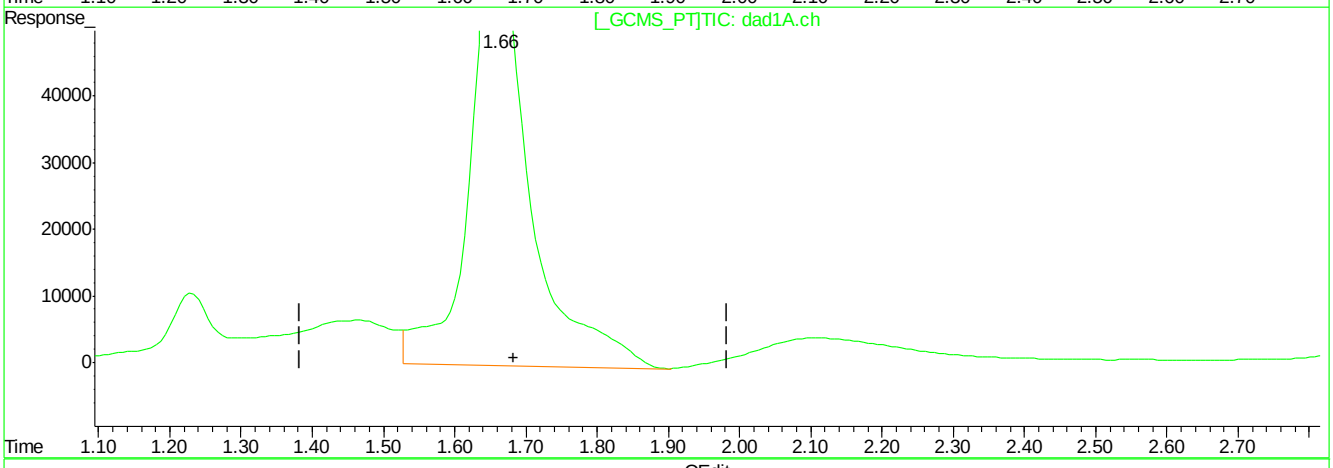
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.66	Poorly defined baseline
HMX	2691-41-0	2	1.66	Poorly defined baseline
PETN	78-11-5	2	18.26	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089895.D\dad1B.ch Vial: 14
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089895.D\dad1A.ch
Acq On : 24-Oct-2025, 17:18:55 Operator: fouads
Sample : op12165-msd Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

1.66min 1128.387ppb

response 1974859

(2) HMX #2

1.66min 857.983ppb

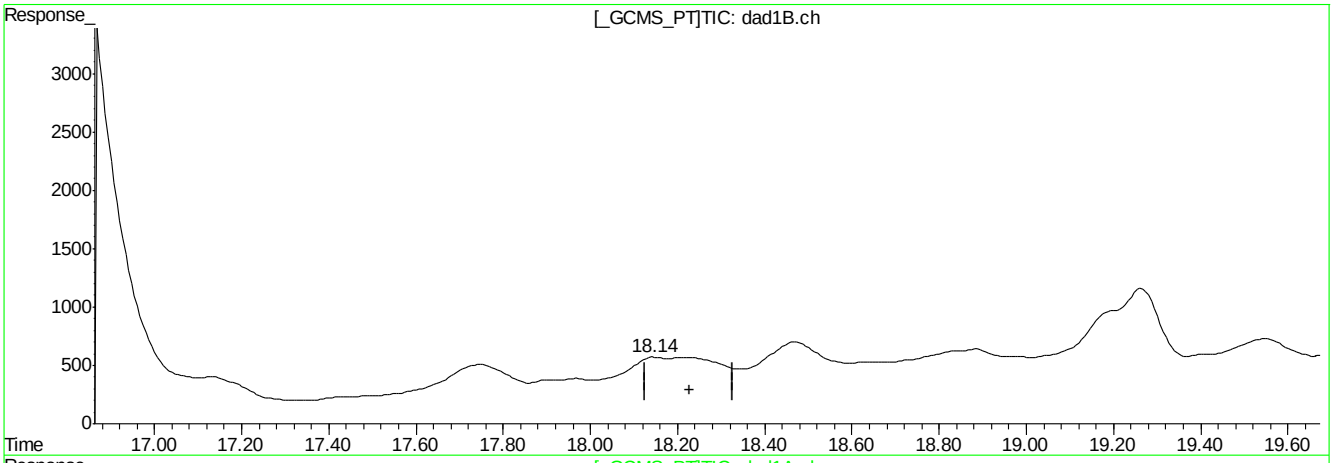
response 3843698

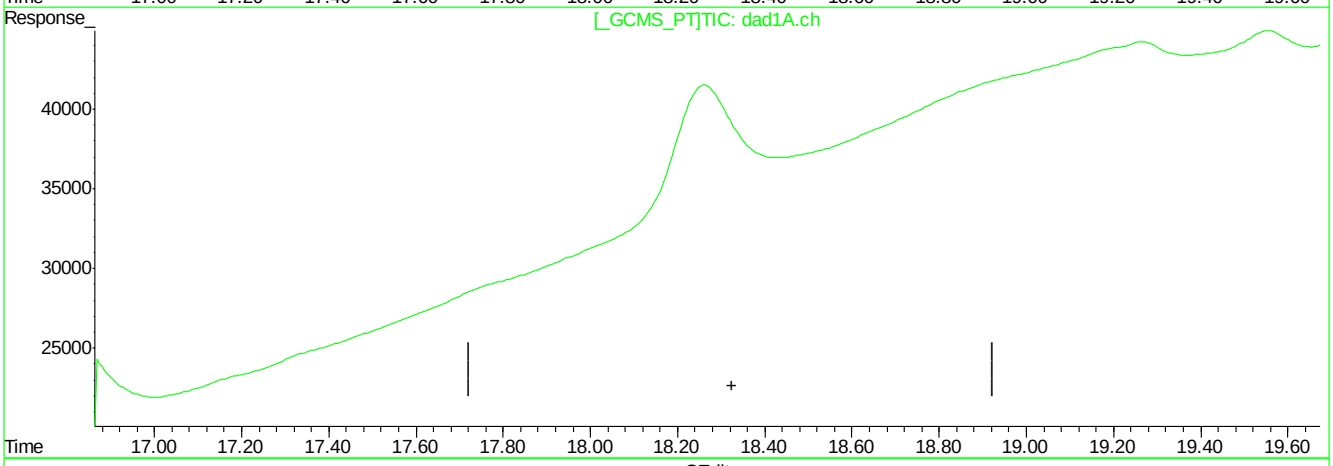
(+) = Expected Retention Time
BB089895.D BBB2740_073025.M Mon Oct 27 13:00:48 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089895.D\dad1B.ch Vial: 14
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089895.D\dad1A.ch
Acq On : 24-Oct-2025, 17:18:55 Operator: fouads
Sample : op12165-msd Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

18.22min 0.000ppb

response 136687

(21) PETN #2

0.00min 0.000ppb

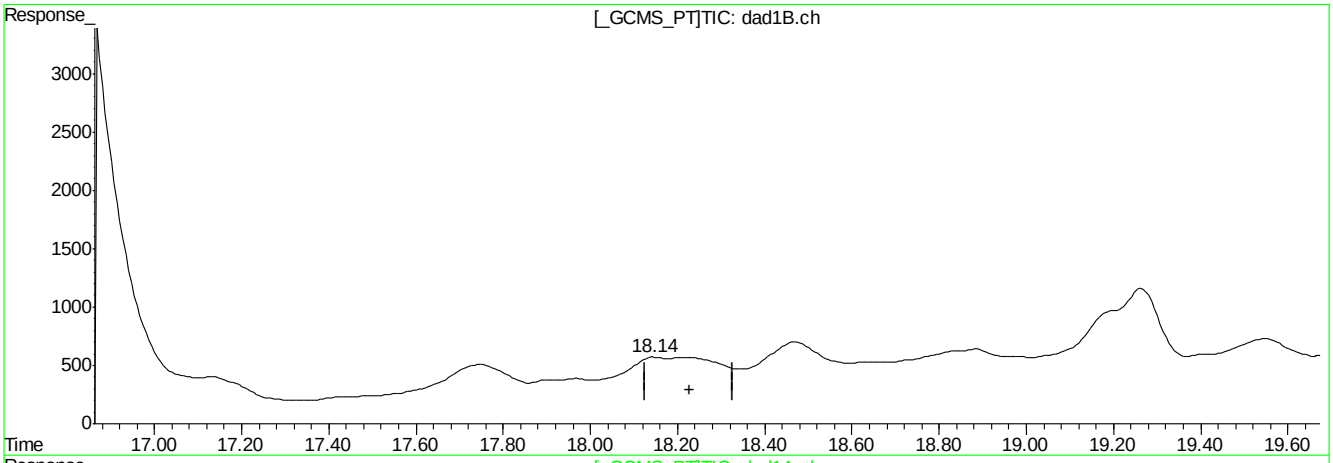
response 0

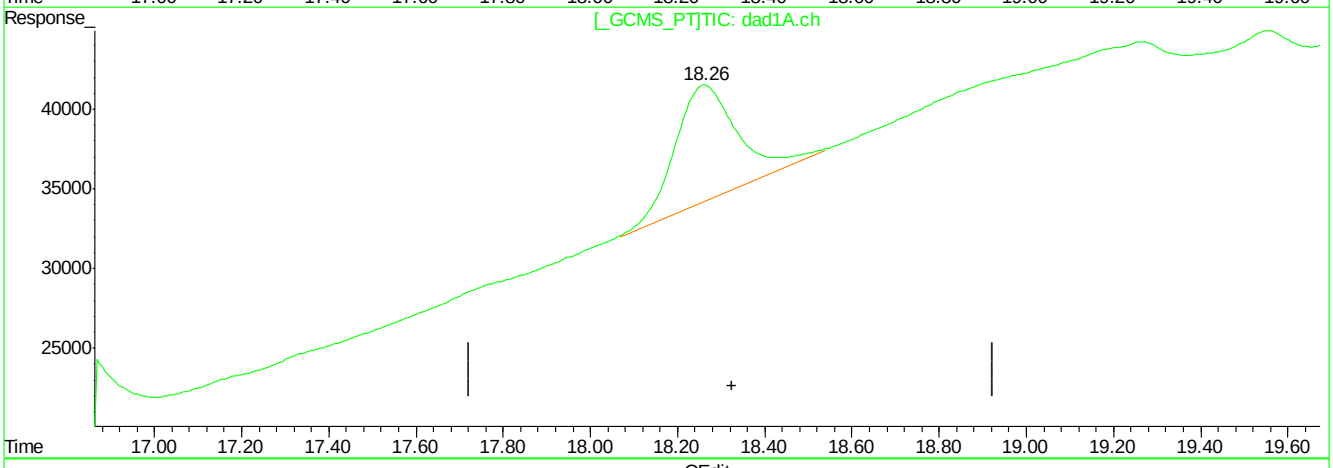
(+) = Expected Retention Time
BB089895.D BBB2740_073025.M Mon Oct 27 13:02:08 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089895.D\dad1B.ch Vial: 14
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089895.D\dad1A.ch
Acq On : 24-Oct-2025, 17:18:55 Operator: fouads
Sample : op12165-msd Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

18.22min 0.000ppb

response 136687

(21) PETN #2

18.26min 517.445ppb m

response 732627

(+) = Expected Retention Time
BB089895.D BBB2740_073025.M Mon Oct 27 13:02:14 2025

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 08/01/25 16:12

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1A.ch
Acq On : 30-Jul-2025, 09:25:14 Operator: fouads
Sample : ic2740-20 Inst : G1315B
Misc : OP10595,gbb2740,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39:08 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.44	11.45	37579	52266	15.979	13.362
	Spiked Amount 500.000	Range 70 - 136		Recovery =		3.20%#	2.67%#
	Target Compounds						
1)	TNX	1.50	1.50	52452	88136	5.843	6.398
2)	HMX	1.63	1.63	36662	147130	24.640	31.800
3)	DNX	1.90	1.90	154493	191056	24.090	16.728
4)	MNX	2.52	2.52	107263	164144	16.498	16.335
5)	RDX	3.14	3.14	34712	51471	19.455	17.978
6)	1,3,5-Trinitrobe	4.87	4.88	69284	35756	17.415	5.794 #
7)	1,3-Dinitrobenze	6.11	6.11	144799	144167	28.671	41.982m#
8)	3,5-Dinitroanili	6.52	6.51	71073	138501	16.686	22.026m
9)	Nitrobenzene	7.70	7.70	127923	111070	44.435	39.708
10)	Nitroglycerin	0.00	9.09	0	48348	N.D.	39.633 #
11)	Tetryl	9.58	9.58	49495	89101	17.686	20.396
12)	2,4,6-Trinitroto	10.03	10.04	62512	82906	17.776	19.652
13)	2-Amino-4,6-Dini	10.57	10.57	62760	86674	18.729	18.554
14)	4-Amino-2,6-Dini	11.03	11.04	41467	56775	17.913	12.333
16)	2,4-Dinitrotolue	12.08	12.15	99501	50907	22.464	17.413m
17)	2,6-Dinitrotolue	12.49	12.50	51547	59669	20.064	17.997m
18)	o-Nitrotoluene	15.49	15.53	35010	62142	17.332	22.046m
19)	p-Nitrotoluene	16.06	16.05	49704	26498	14.966	10.345m
20)	m-Nitrotoluene	16.86	16.85	52286	56943	17.695	16.216m
21)	PETN	0.00	18.37	0	25201	N.D.	23.578m#

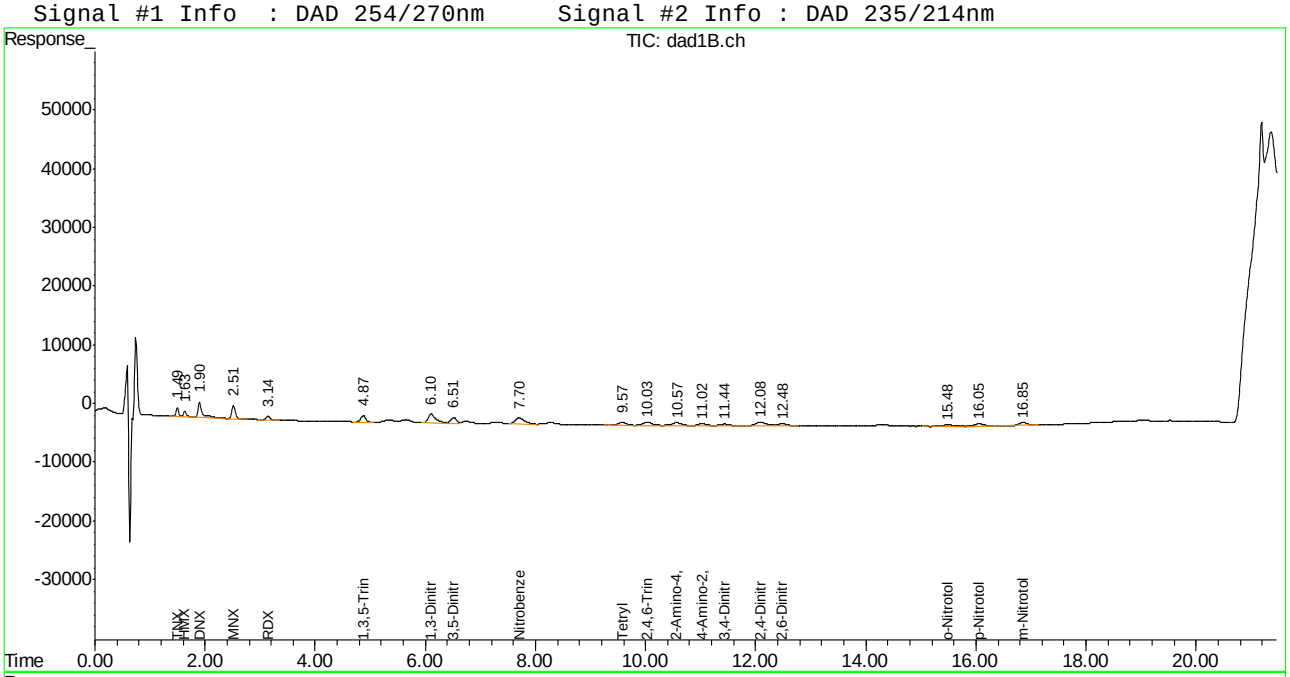
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088910.D BBB2740_073025.M Fri Aug 01 11:08:28 2025 Page 1

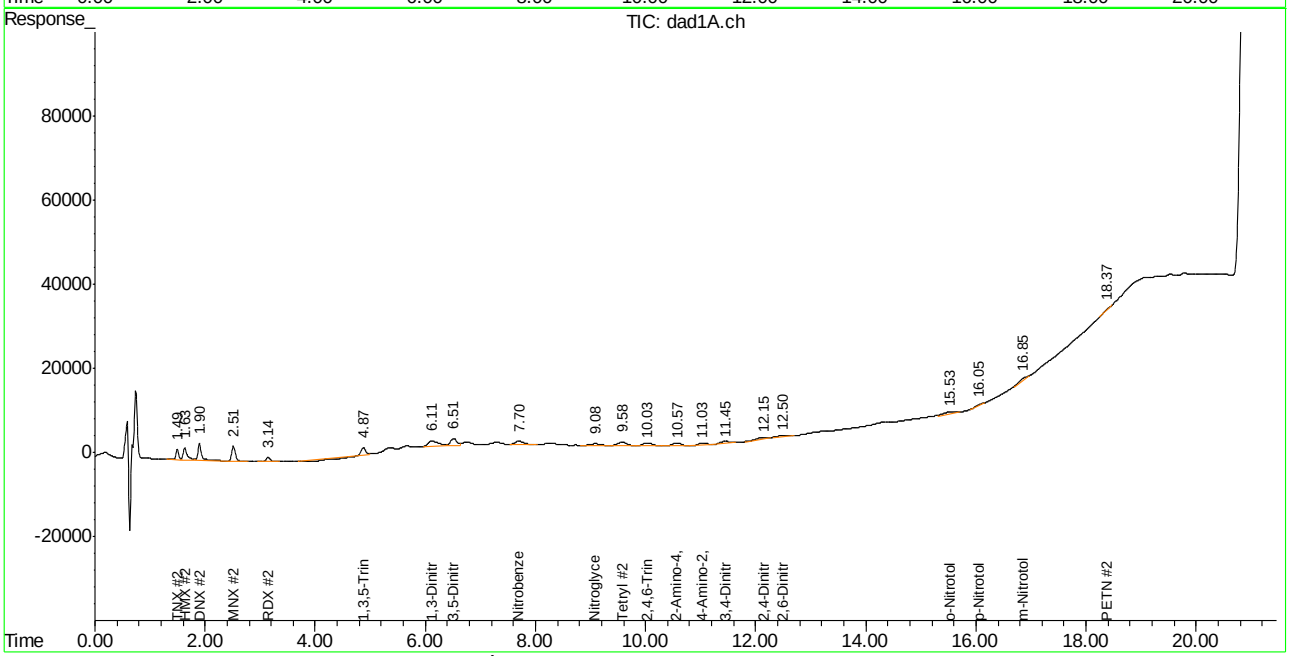
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1A.ch
Acq On : 30-Jul-2025, 09:25:14 Operator: fouads
Sample : ic2740-20 Inst : G1315B
Misc : OP10595,gbb2740,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:43 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

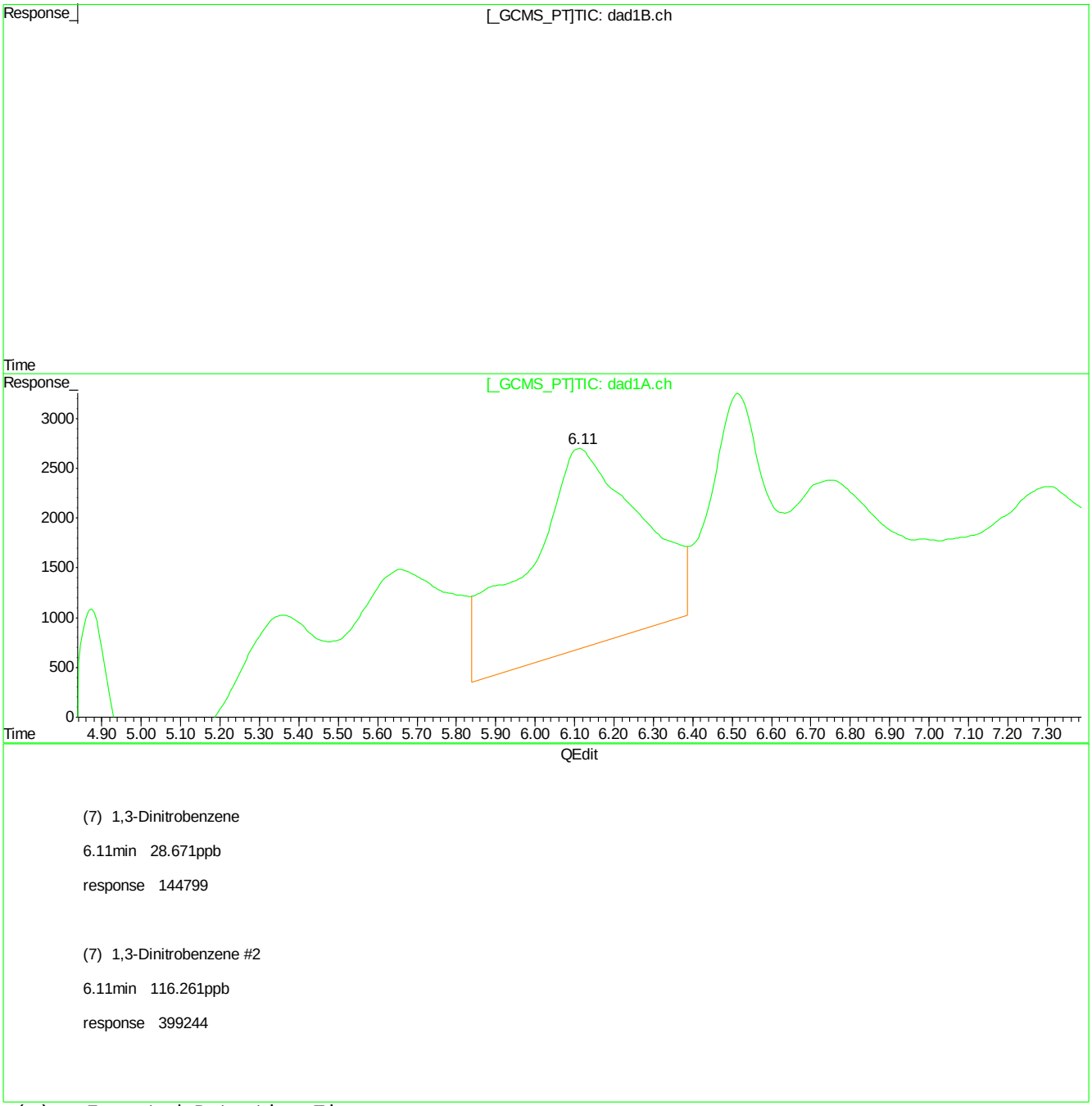
Sample Number: GBB2740-IC2740
Lab FileID: BB088910.D
Injection Time: 07/30/25 09:25
Method: SW846 8330A
Analyst approved: 08/01/25 12:08 Fouad Sekkar
Supervisor approved: 08/01/25 16:12 William Hustedde

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	6.11	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.51	Poorly defined baseline
2,4-Dinitrotoluene	121-14-2	2	12.15	Missed peak
2,6-Dinitrotoluene	606-20-2	2	12.50	Missed peak
o-Nitrotoluene	88-72-2	2	15.53	Missed peak
p-Nitrotoluene	99-99-0	2	16.05	Missed peak
m-Nitrotoluene	99-08-1	2	16.85	Missed peak
PETN	78-11-5	2	18.37	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1A.ch
Acq On : 30-Jul-2025, 09:25:14 Operator: fouads
Sample : ic2740-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration

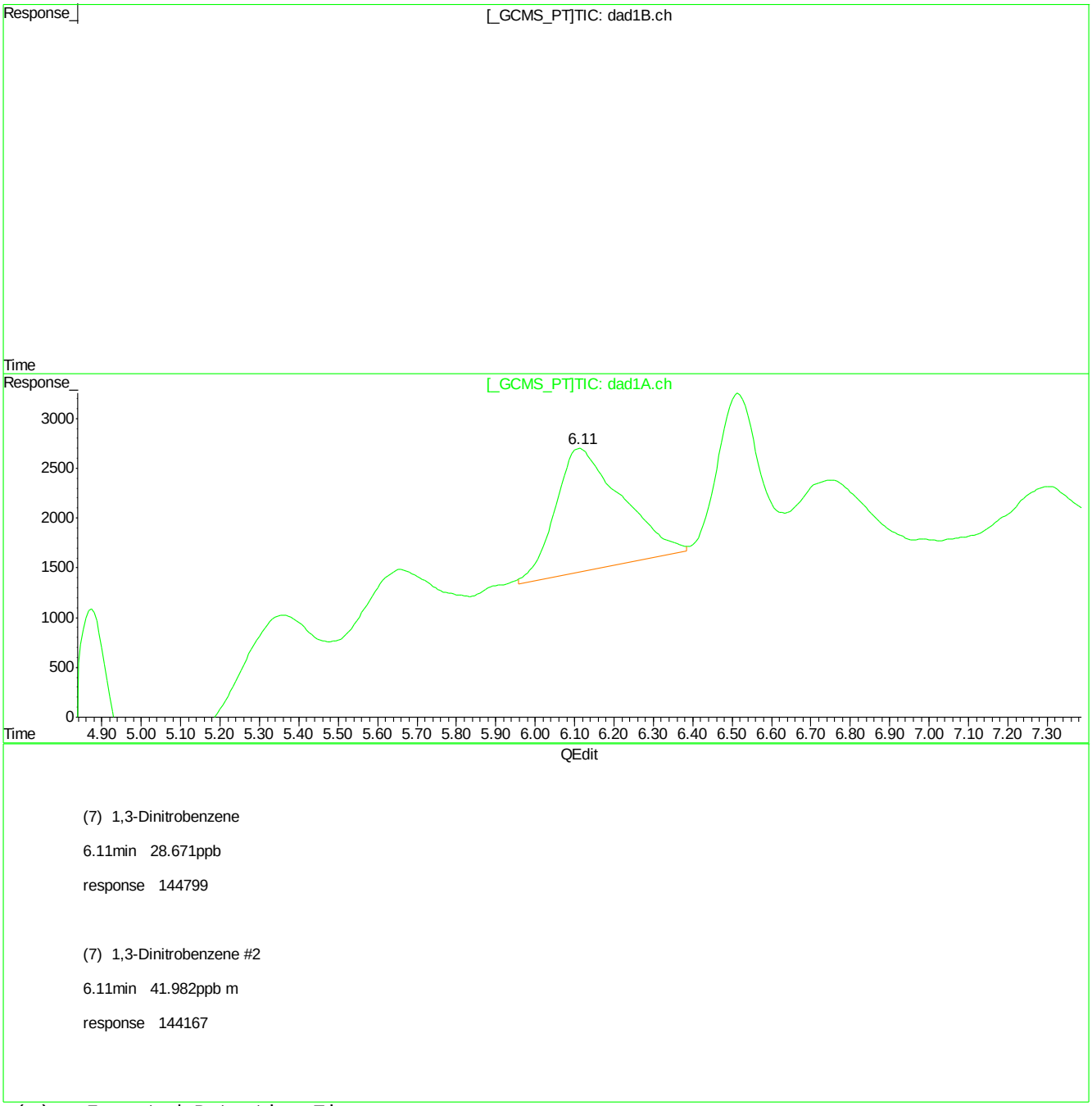


(+) = Expected Retention Time
BB088910.D BBB2740_073025.M Wed Jul 30 12:41:26 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1A.ch
Acq On : 30-Jul-2025, 09:25:14 Operator: fouads
Sample : ic2740-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration

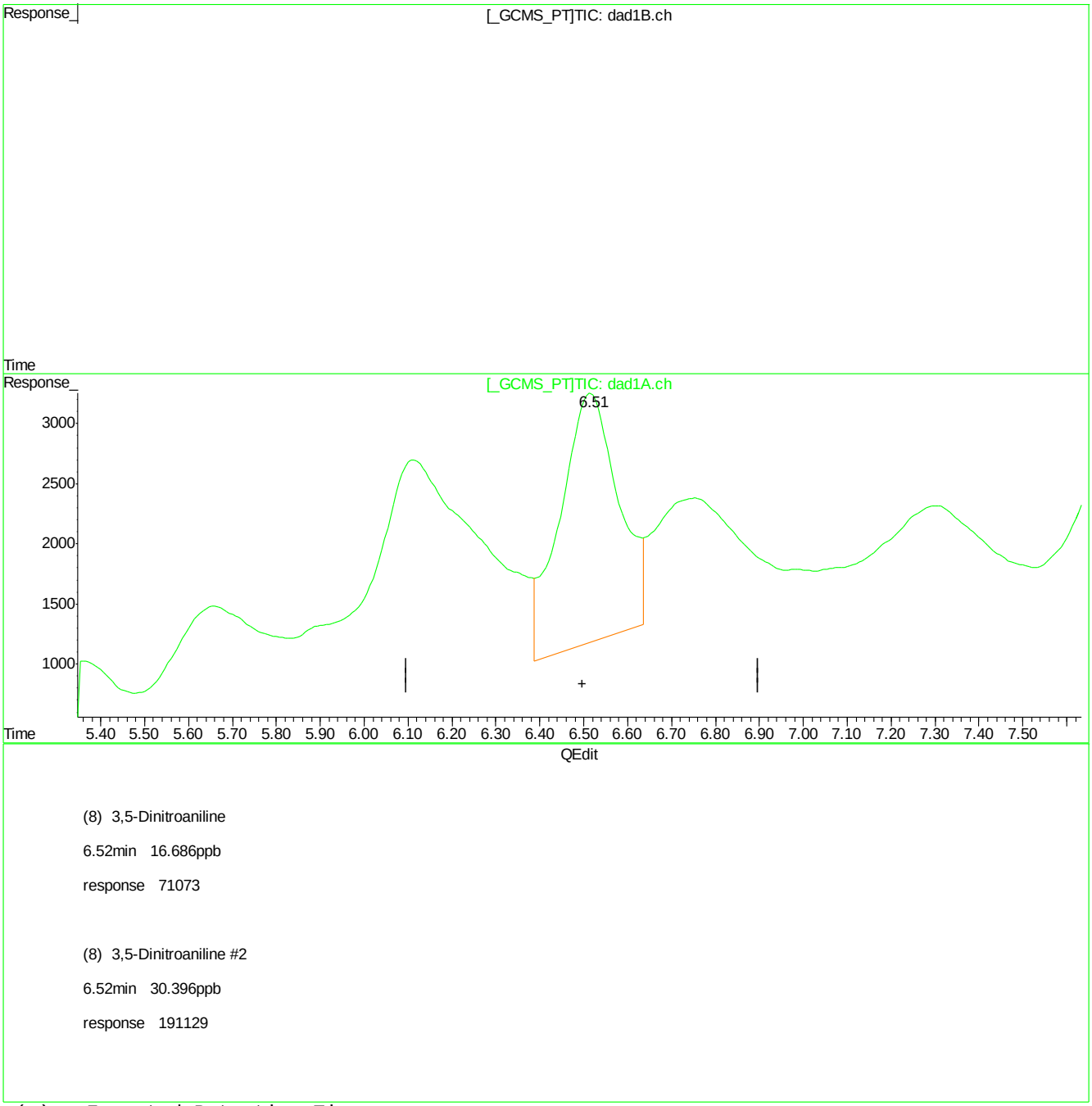


(+) = Expected Retention Time
BB088910.D BBB2740_073025.M Wed Jul 30 12:41:39 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1A.ch
Acq On : 30-Jul-2025, 09:25:14 Operator: fouads
Sample : ic2740-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.52min 16.686ppb

response 71073

(8) 3,5-Dinitroaniline #2

6.52min 30.396ppb

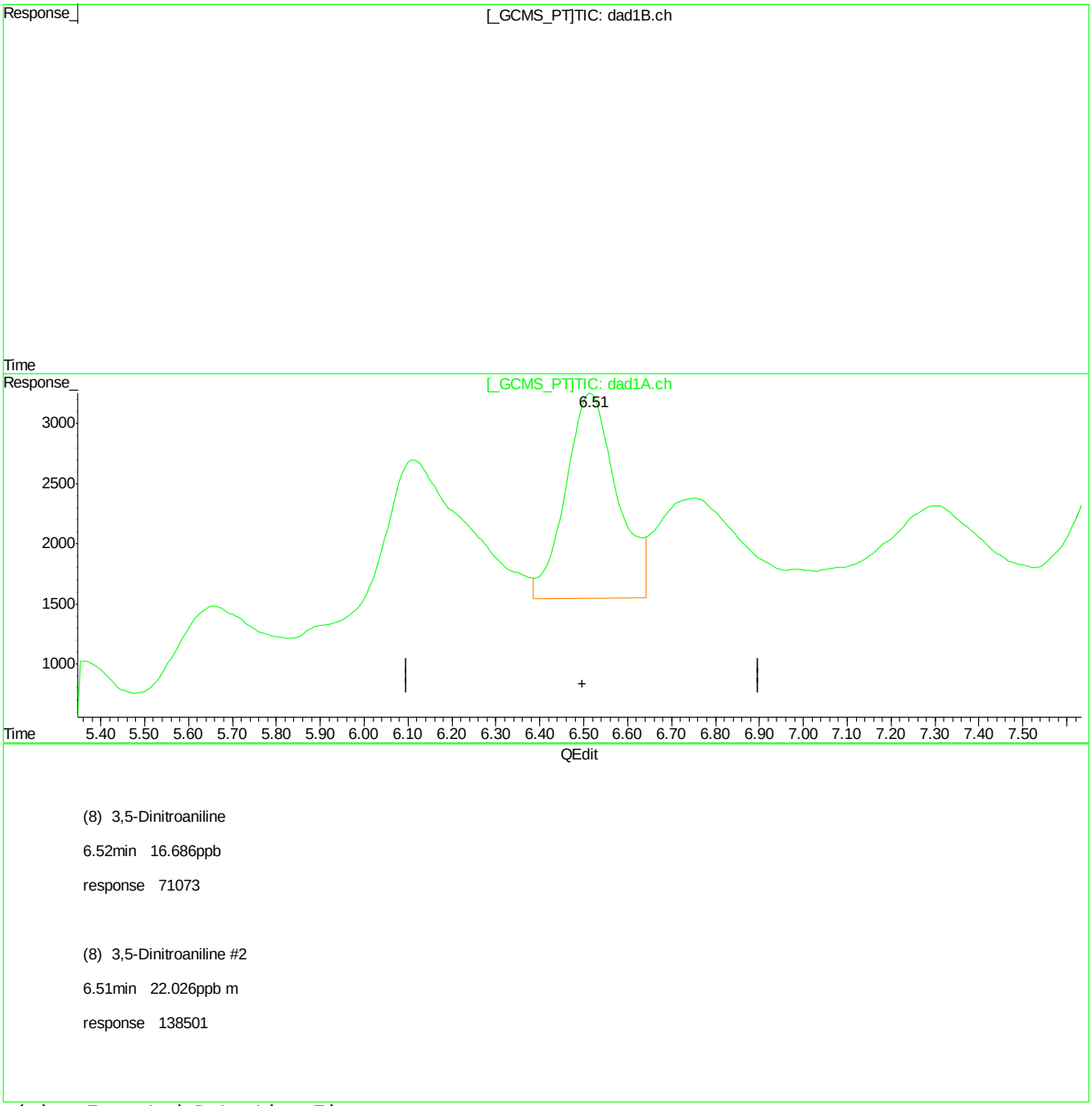
response 191129

(+) = Expected Retention Time
BB088910.D BBB2740_073025.M Wed Jul 30 12:41:49 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1A.ch
Acq On : 30-Jul-2025, 09:25:14 Operator: fouads
Sample : ic2740-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.52min 16.686ppb

response 71073

(8) 3,5-Dinitroaniline #2

6.51min 22.026ppb m

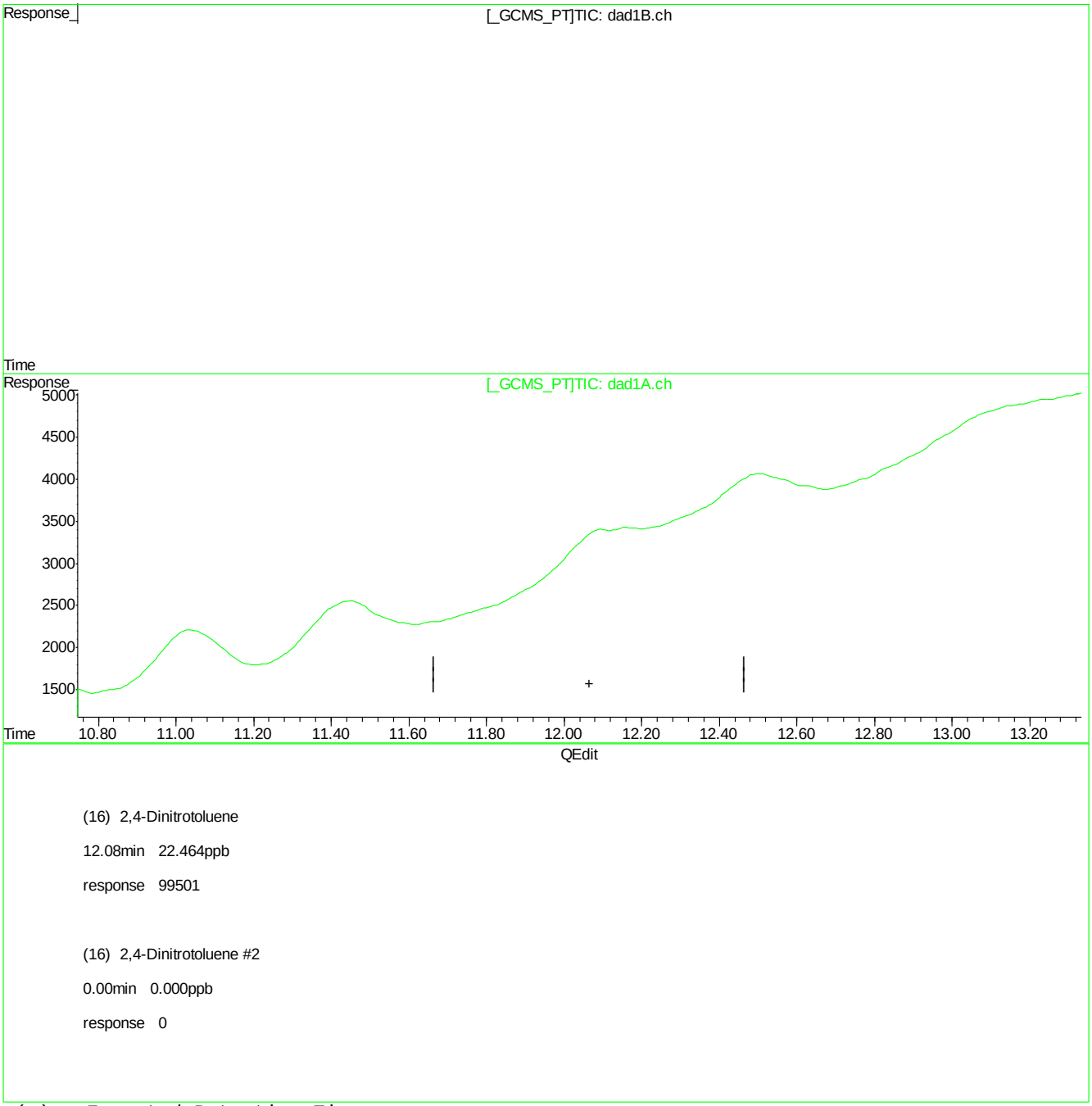
response 138501

(+) = Expected Retention Time
BB088910.D BBB2740_073025.M Wed Jul 30 12:41:55 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1A.ch
Acq On : 30-Jul-2025, 09:25:14 Operator: fouads
Sample : ic2740-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration



(16) 2,4-Dinitrotoluene

12.08min 22.464ppb

response 99501

(16) 2,4-Dinitrotoluene #2

0.00min 0.000ppb

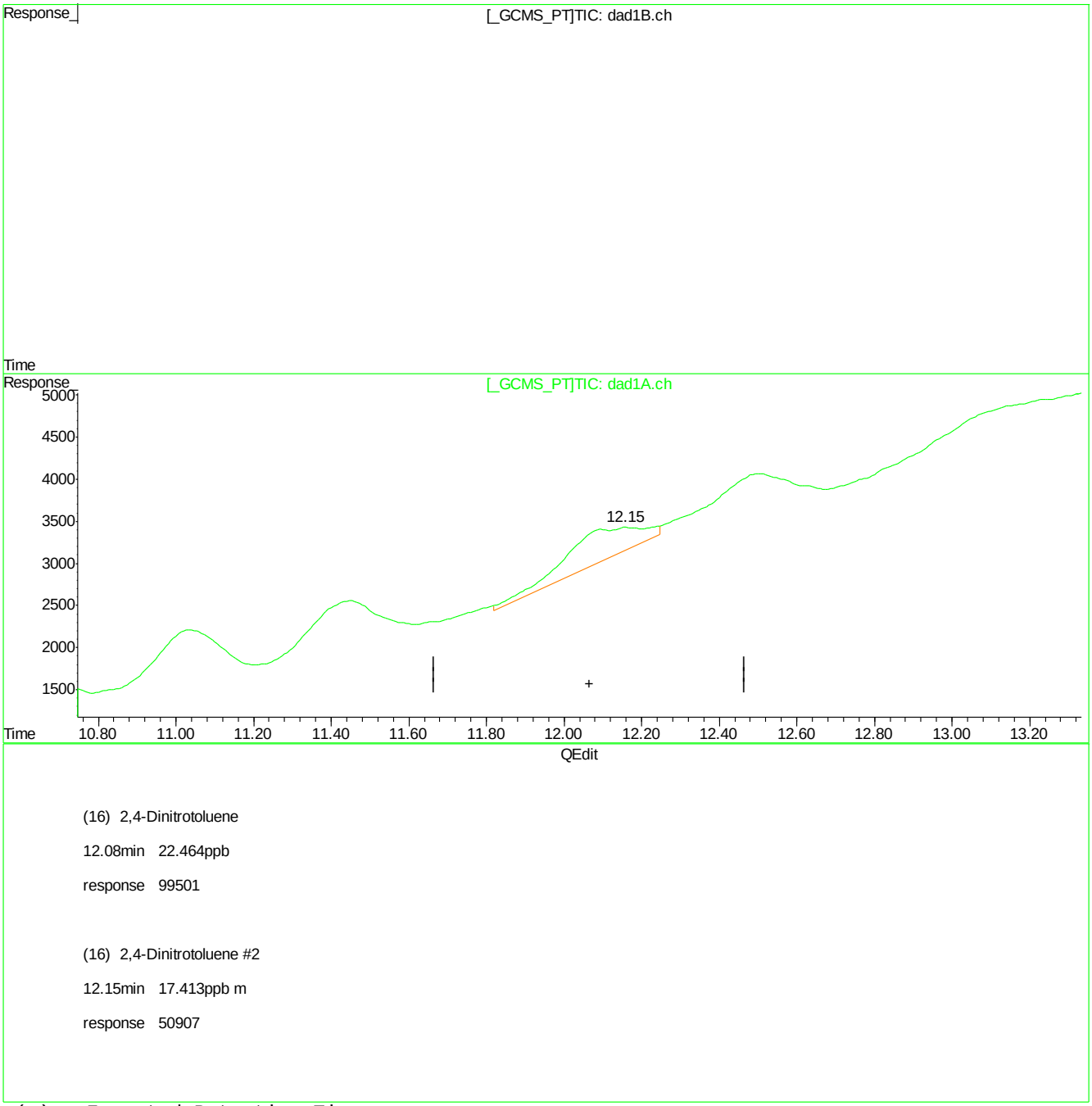
response 0

(+) = Expected Retention Time
BB088910.D BBB2740_073025.M Wed Jul 30 12:42:19 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1A.ch
Acq On : 30-Jul-2025, 09:25:14 Operator: fouads
Sample : ic2740-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration



(16) 2,4-Dinitrotoluene

12.08min 22.464ppb

response 99501

(16) 2,4-Dinitrotoluene #2

12.15min 17.413ppb m

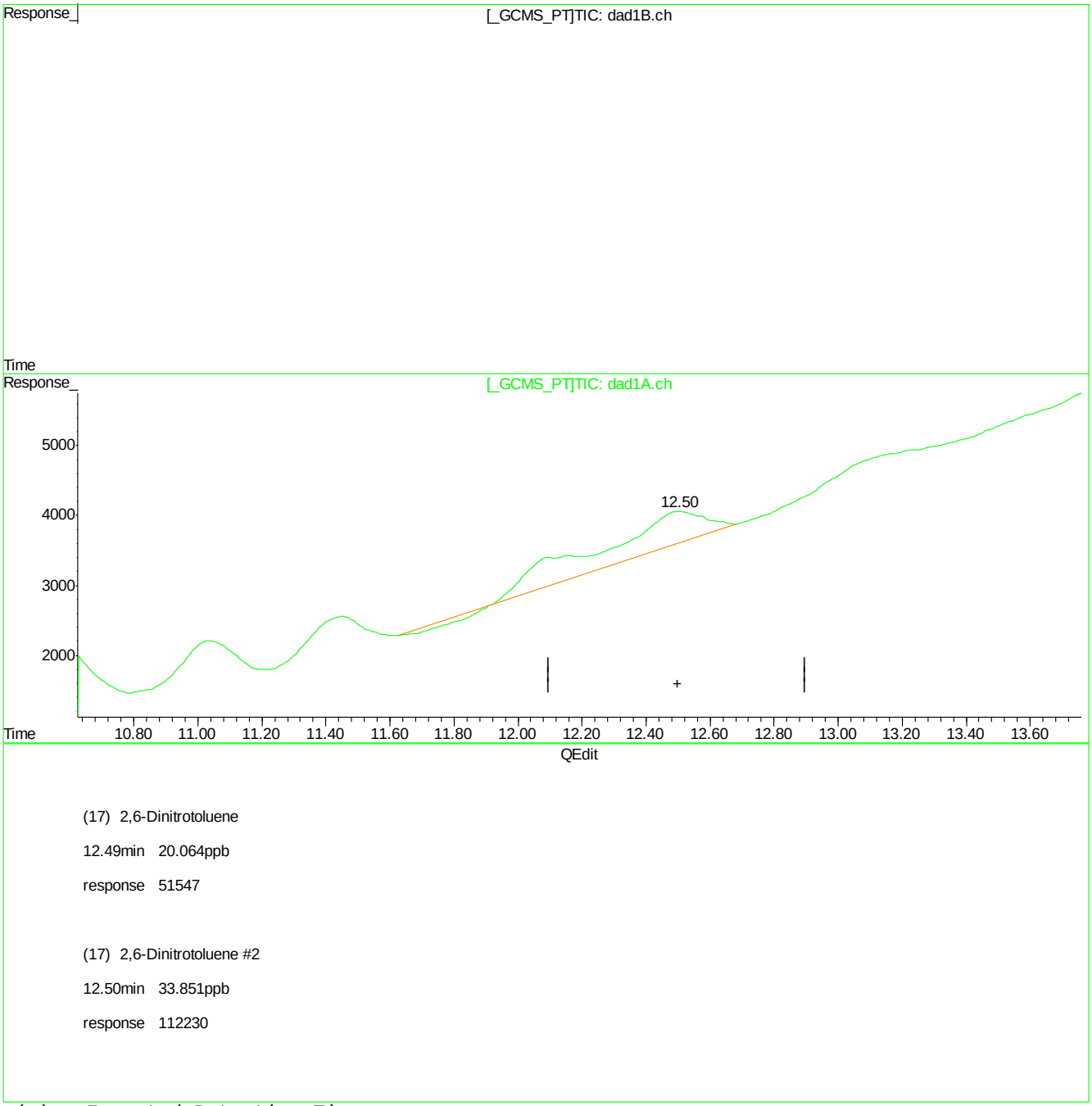
response 50907

(+) = Expected Retention Time
BB088910.D BBB2740_073025.M Wed Jul 30 12:42:30 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1A.ch
Acq On : 30-Jul-2025, 09:25:14 Operator: fouads
Sample : ic2740-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration



(17) 2,6-Dinitrotoluene

12.49min 20.064ppb

response 51547

(17) 2,6-Dinitrotoluene #2

12.50min 33.851ppb

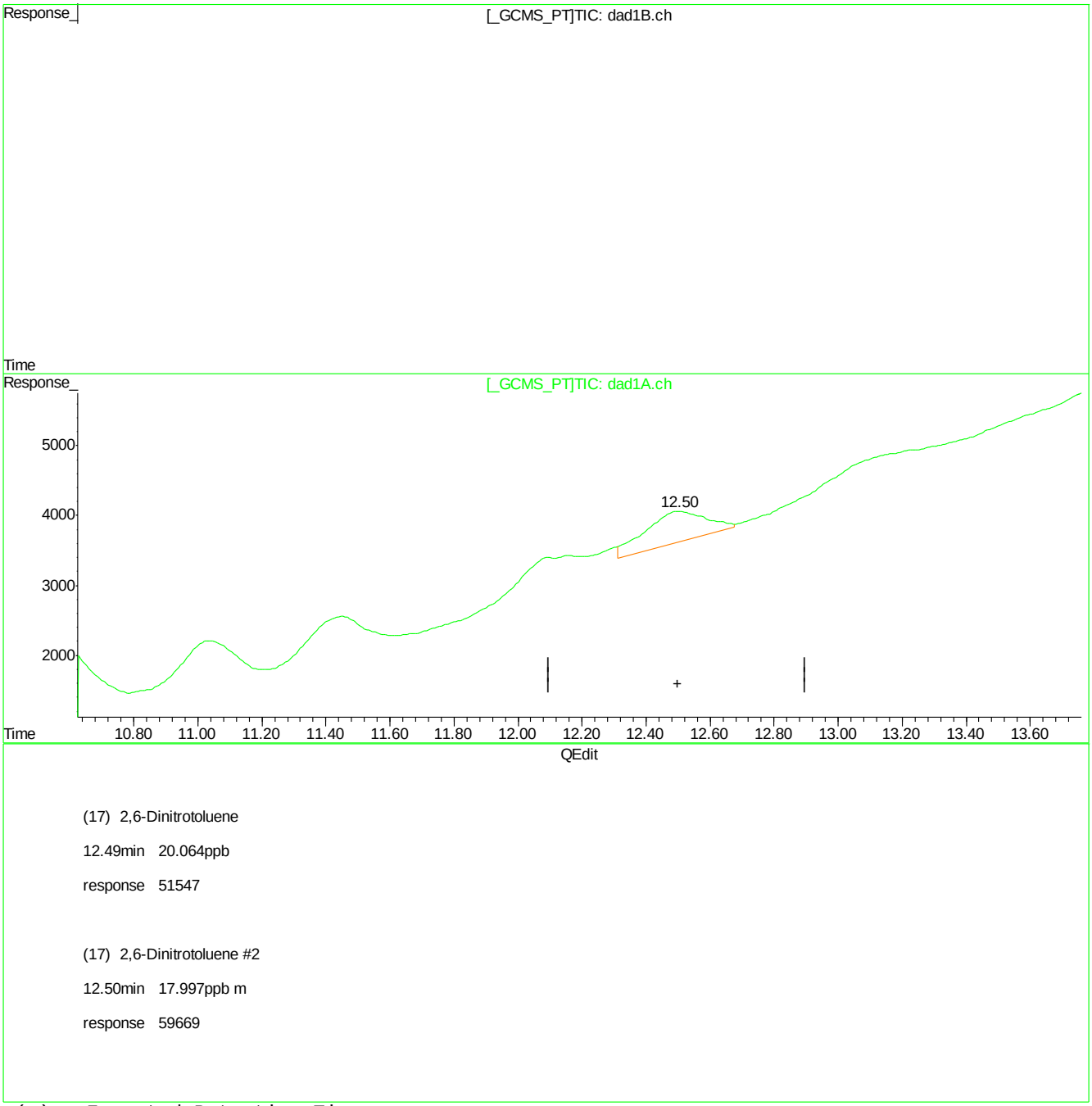
response 112230

(+) = Expected Retention Time
BB088910.D BBB2740_073025.M Wed Jul 30 12:42:34 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1A.ch
Acq On : 30-Jul-2025, 09:25:14 Operator: fouads
Sample : ic2740-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration



(17) 2,6-Dinitrotoluene

12.49min 20.064ppb

response 51547

(17) 2,6-Dinitrotoluene #2

12.50min 17.997ppb m

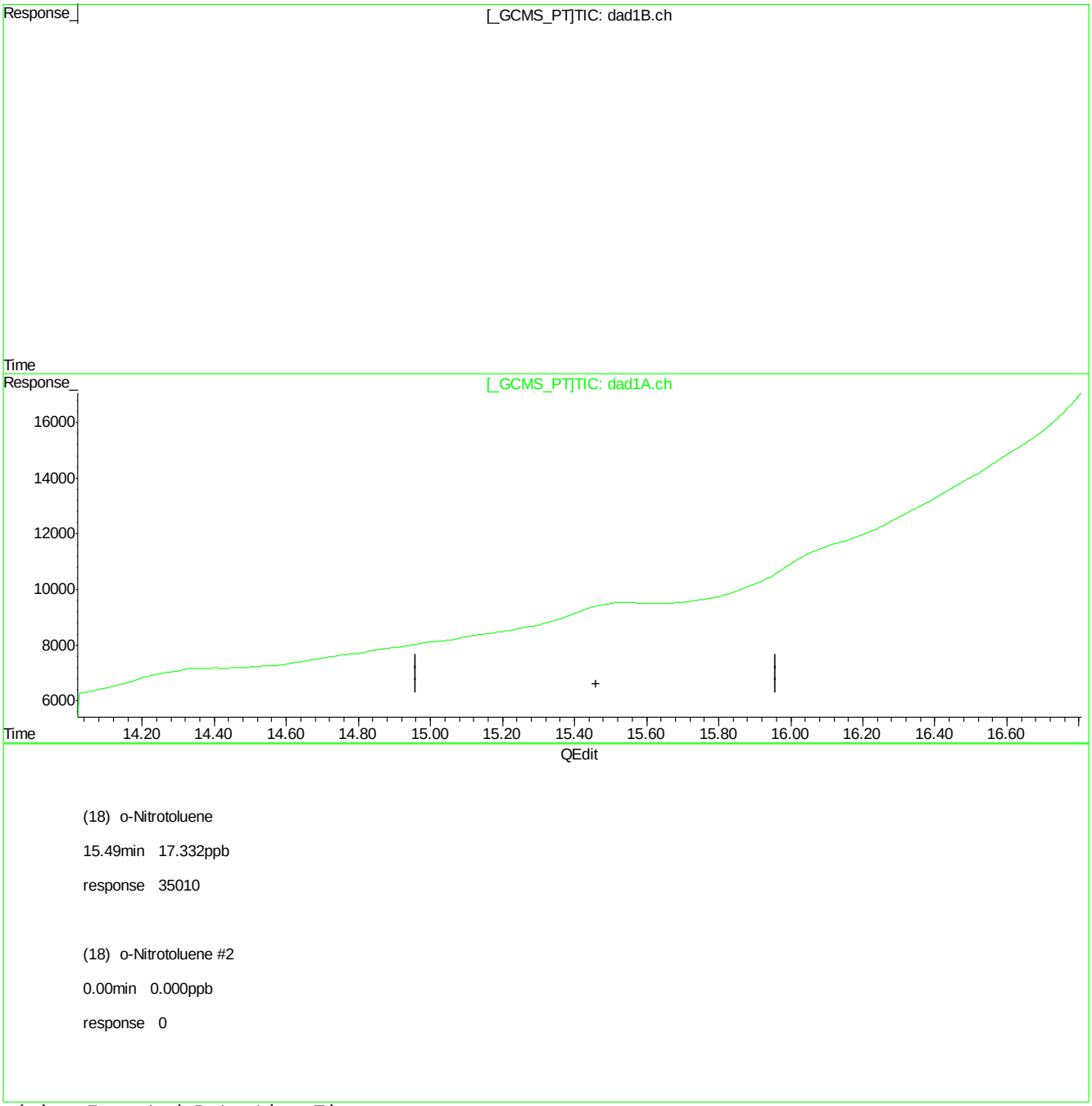
response 59669

(+) = Expected Retention Time
BB088910.D BBB2740_073025.M Wed Jul 30 12:42:42 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1A.ch
Acq On : 30-Jul-2025, 09:25:14 Operator: fouads
Sample : ic2740-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration

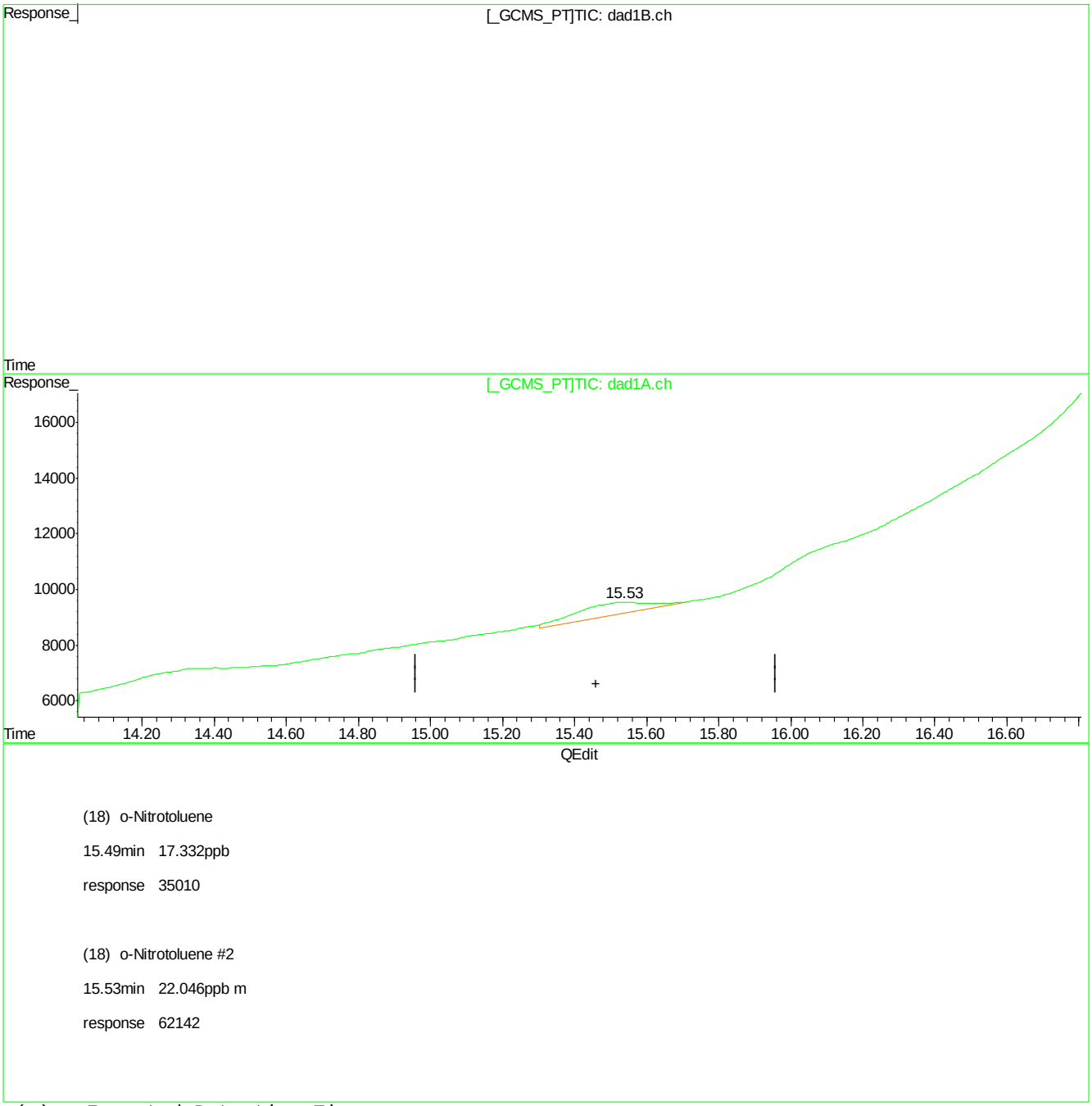


(+) = Expected Retention Time
BB088910.D BBB2740_073025.M Wed Jul 30 12:42:47 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1A.ch
Acq On : 30-Jul-2025, 09:25:14 Operator: fouads
Sample : ic2740-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration



(18) o-Nitrotoluene

15.49min 17.332ppb

response 35010

(18) o-Nitrotoluene #2

15.53min 22.046ppb m

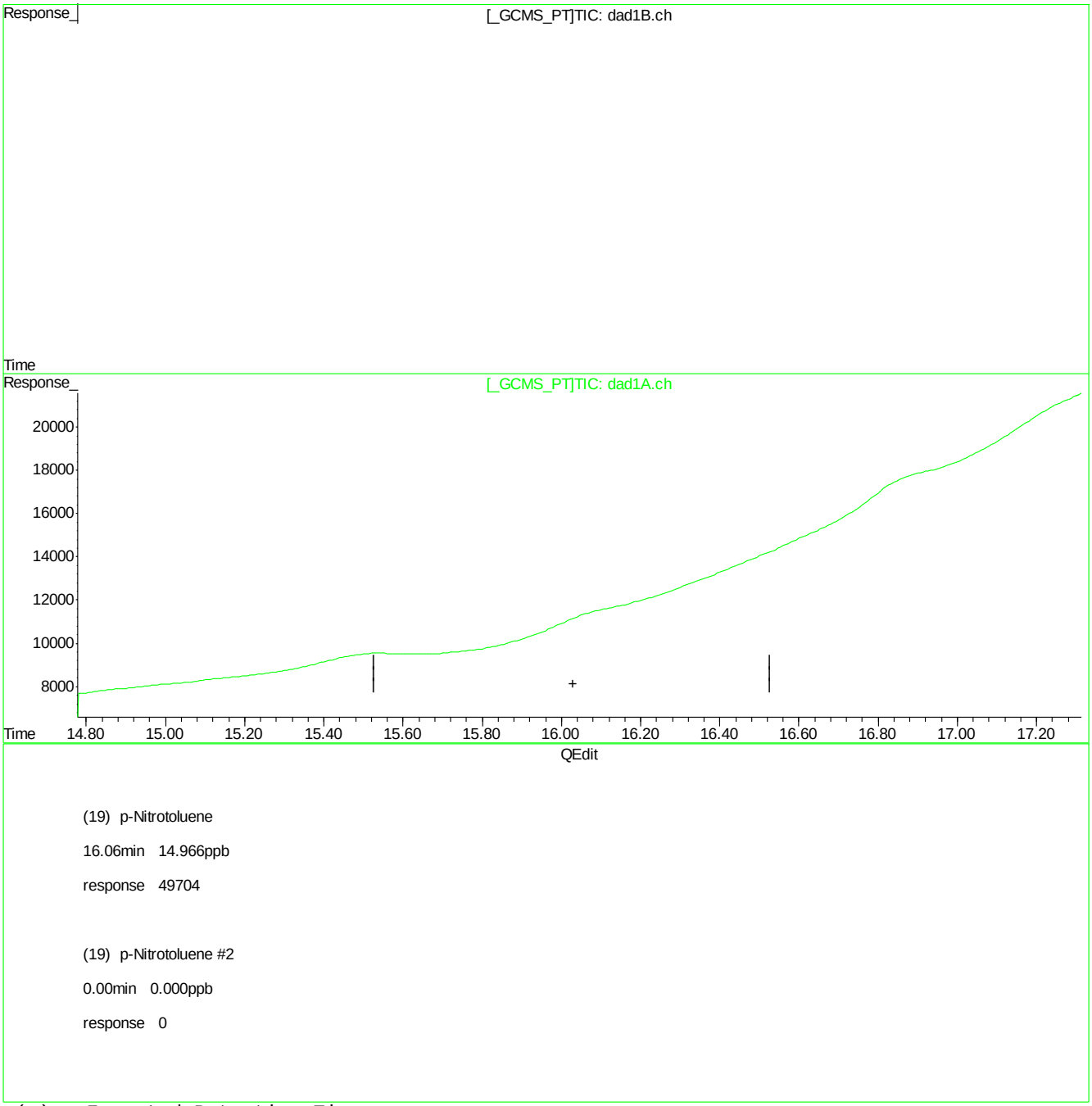
response 62142

(+) = Expected Retention Time
BB088910.D BBB2740_073025.M Wed Jul 30 12:42:56 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1A.ch
Acq On : 30-Jul-2025, 09:25:14 Operator: fouads
Sample : ic2740-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration



(19) p-Nitrotoluene

16.06min 14.966ppb

response 49704

(19) p-Nitrotoluene #2

0.00min 0.000ppb

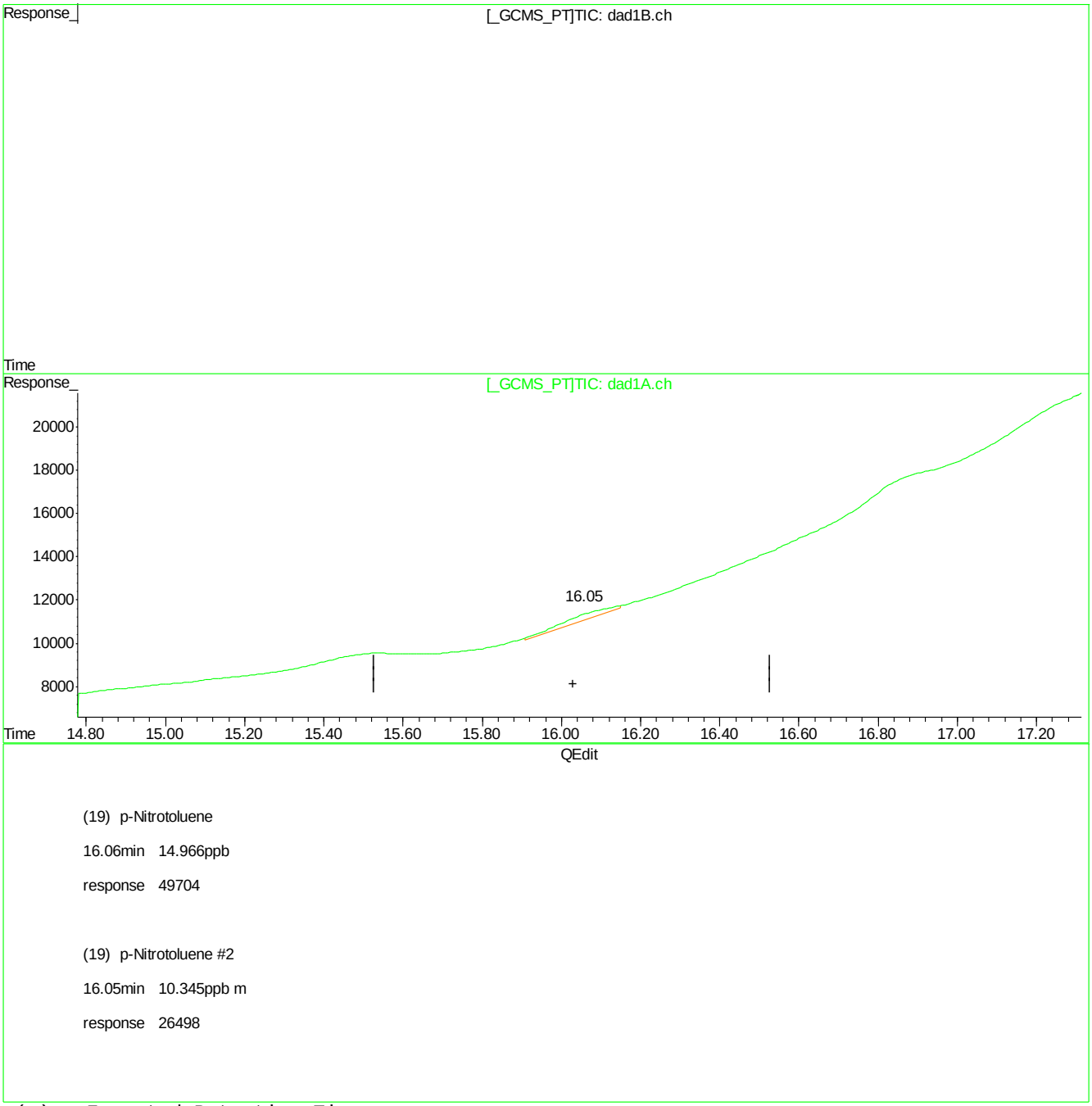
response 0

(+) = Expected Retention Time
BB088910.D BBB2740_073025.M Wed Jul 30 12:43:01 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1A.ch
Acq On : 30-Jul-2025, 09:25:14 Operator: fouads
Sample : ic2740-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration



(19) p-Nitrotoluene

16.06min 14.966ppb

response 49704

(19) p-Nitrotoluene #2

16.05min 10.345ppb m

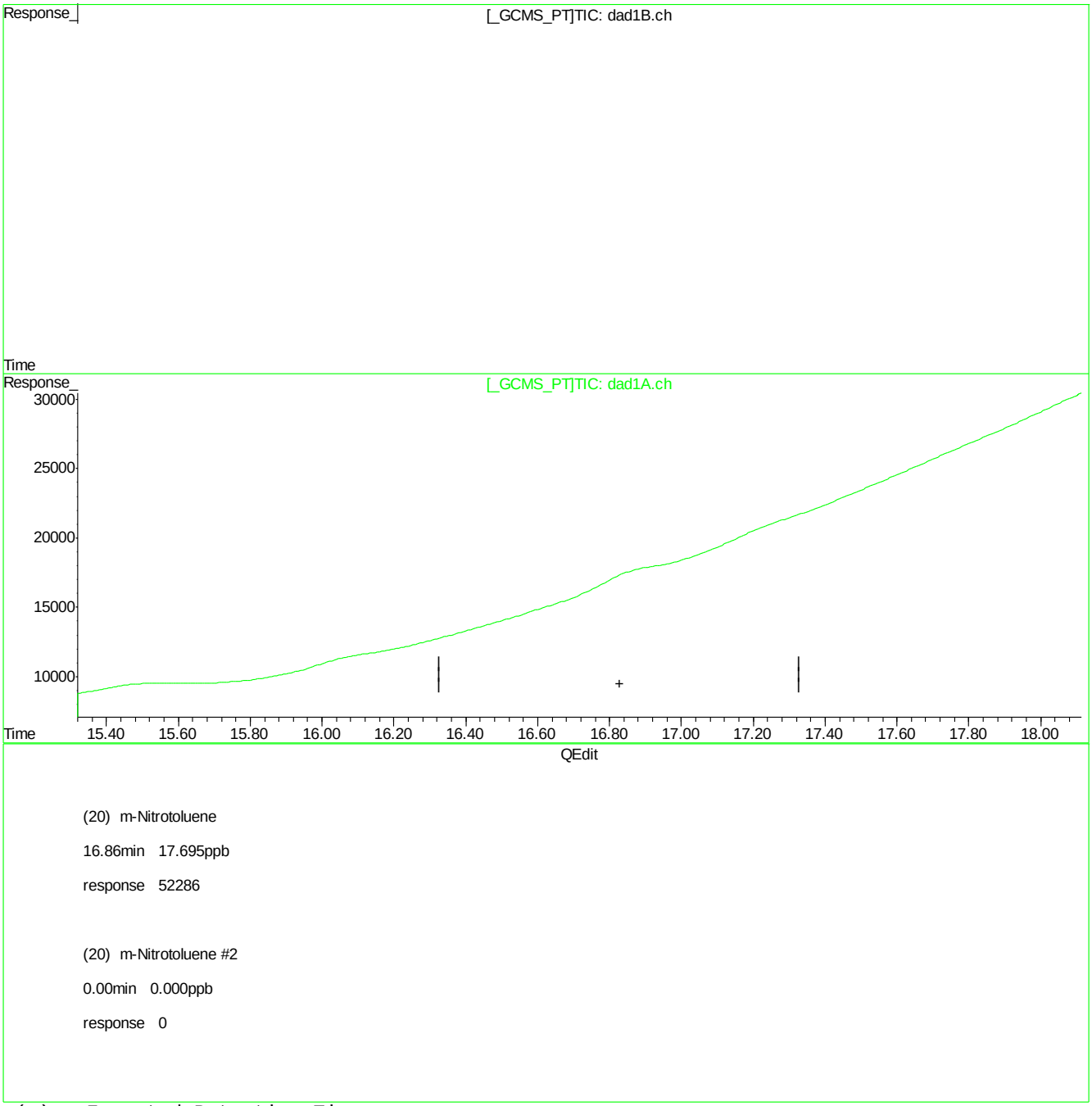
response 26498

(+) = Expected Retention Time
BB088910.D BBB2740_073025.M Wed Jul 30 12:43:12 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1A.ch
Acq On : 30-Jul-2025, 09:25:14 Operator: fouads
Sample : ic2740-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration

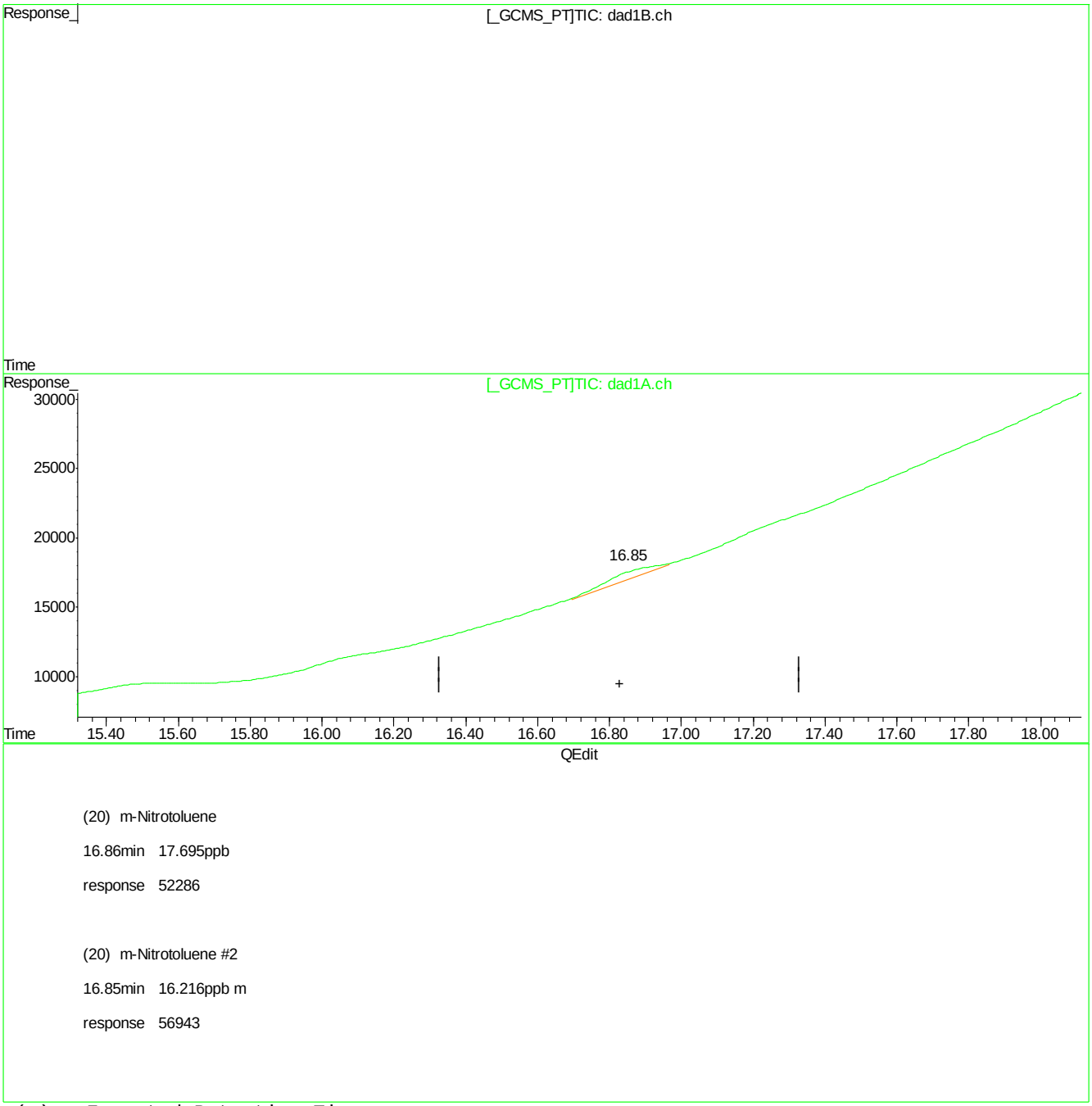


(+) = Expected Retention Time
BB088910.D BBB2740_073025.M Wed Jul 30 12:43:17 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1A.ch
Acq On : 30-Jul-2025, 09:25:14 Operator: fouads
Sample : ic2740-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration



(20) m-Nitrotoluene

16.86min 17.695ppb

response 52286

(20) m-Nitrotoluene #2

16.85min 16.216ppb m

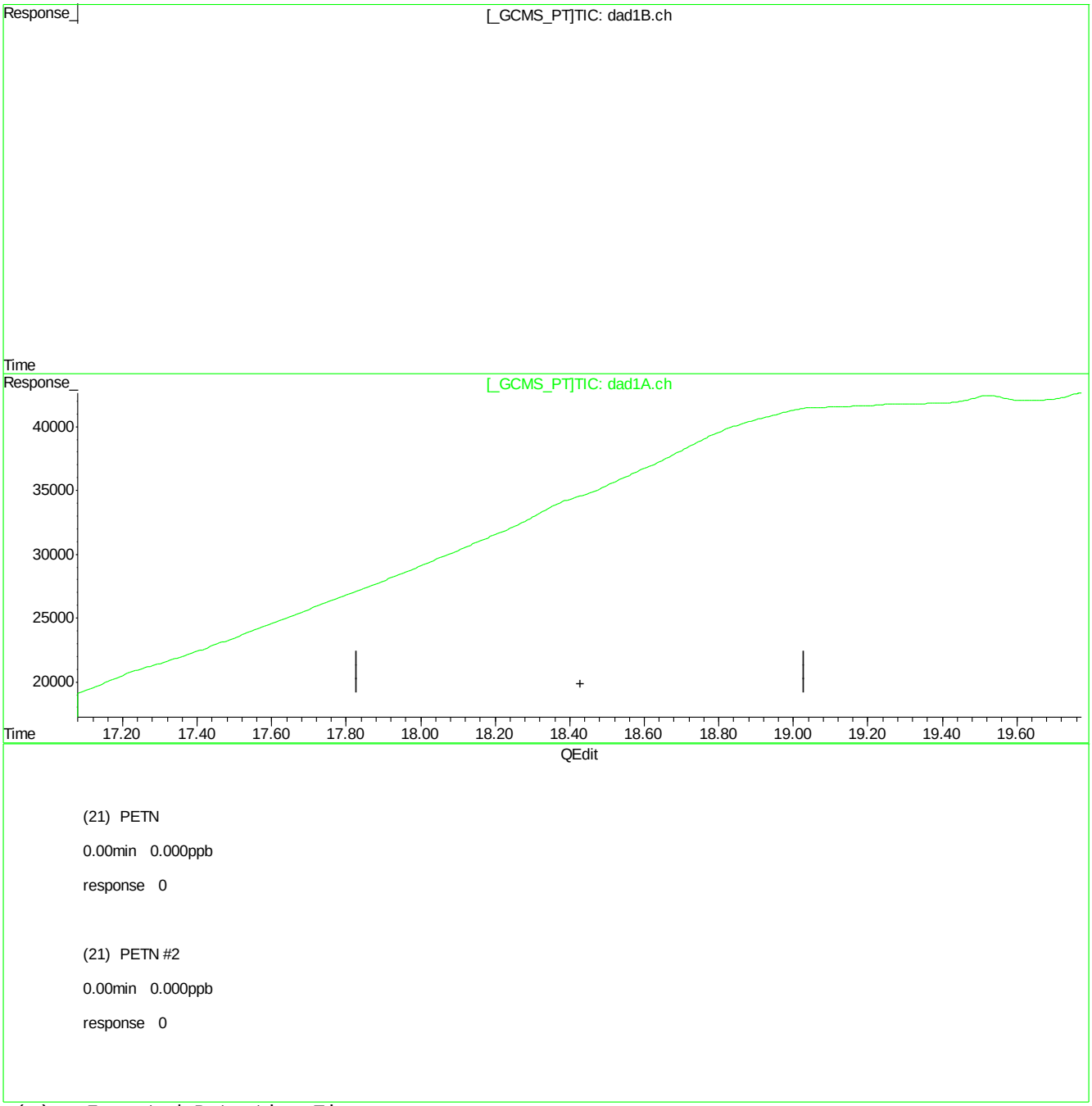
response 56943

(+) = Expected Retention Time
BB088910.D BBB2740_073025.M Wed Jul 30 12:43:25 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1A.ch
Acq On : 30-Jul-2025, 09:25:14 Operator: fouads
Sample : ic2740-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration

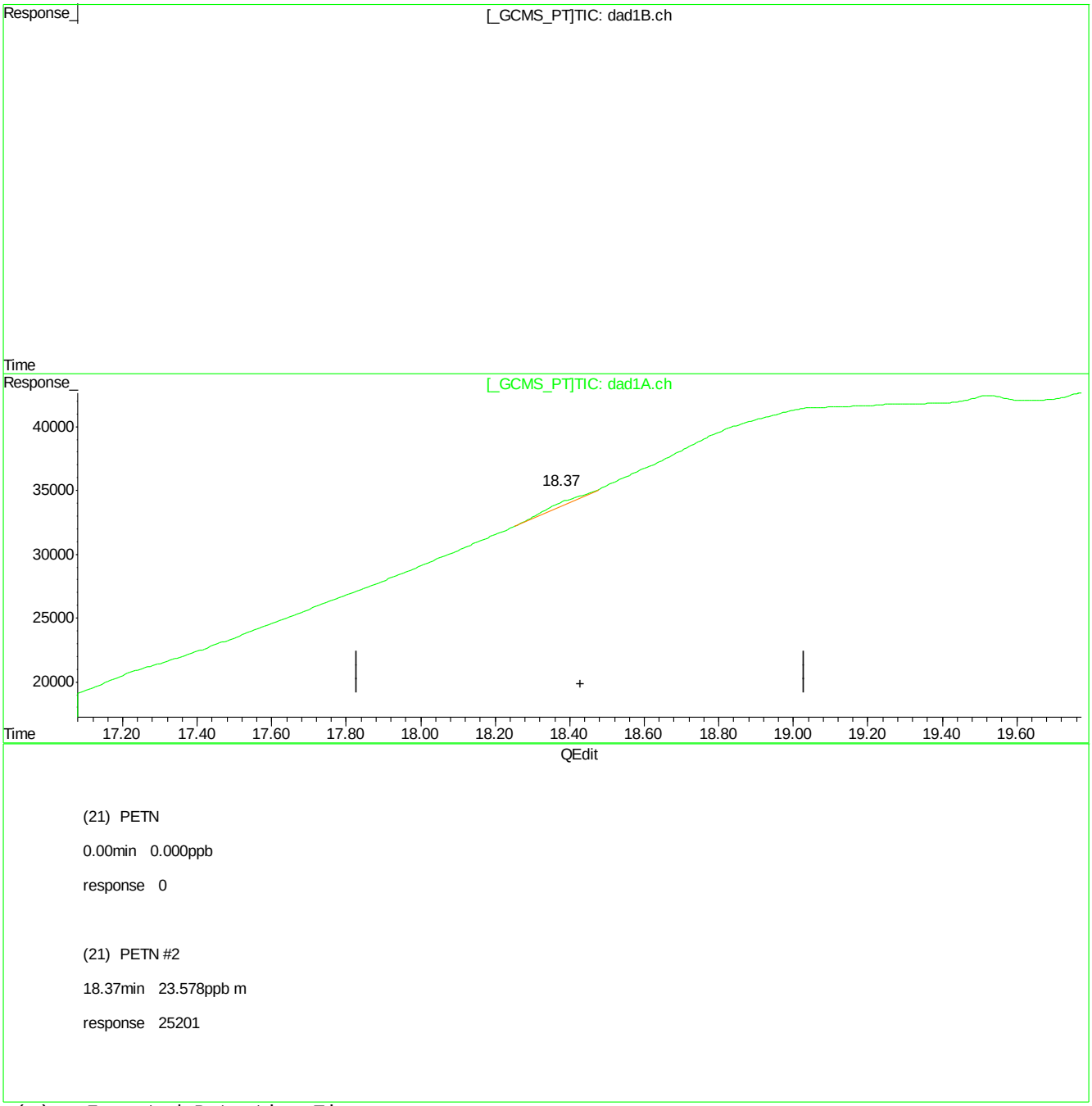


(+) = Expected Retention Time
BB088910.D BBB2740_073025.M Wed Jul 30 12:43:29 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088910.D\dad1A.ch
Acq On : 30-Jul-2025, 09:25:14 Operator: fouads
Sample : ic2740-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration



(+) = Expected Retention Time
BB088910.D BBB2740_073025.M Wed Jul 30 12:43:36 2025

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 08/01/25 16:12

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1A.ch
Acq On : 30-Jul-2025, 09:52:33 Operator: fouads
Sample : ic2740-50 Inst : G1315B
Misc : OP10595,gbb2740,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39:09 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.45	11.45	138602	212635	58.936	54.362
Spiked Amount	500.000	Range	70 - 136	Recovery	=	11.79%#	10.87%#
	Target Compounds						
1)	TNX	1.50	1.50	228847	355809	25.491	25.829
2)	HMX	1.64	1.64	111492	353788	74.930	76.466
3)	DNX	1.91	1.91	368735	584240	57.496	51.152
4)	MNX	2.53	2.53	394260	604898	60.643	60.198
5)	RDX	3.16	3.16	118792	184040	66.580	64.282
6)	1,3,5-Trinitrobe	4.89	4.89	243339	381447	61.163	61.810m
7)	1,3-Dinitrobenze	6.11	6.11	316763	202847	62.721	59.070m
8)	3,5-Dinitroanili	6.53	6.52	240948	398335	56.569	63.348m
9)	Nitrobenzene	7.68	7.68	186614	187397	64.822	66.995
10)	Nitroglycerin	0.00	9.17	0	92861	N.D.	76.122 #
11)	Tetryl	9.63	9.63	190056	285841	67.911	65.432
12)	2,4,6-Trinitroto	10.08	10.08	240225	280651	68.311	66.526
13)	2-Amino-4,6-Dini	10.60	10.60	204270	277155	60.960	59.329
14)	4-Amino-2,6-Dini	11.06	11.06	150966	260692	65.213	56.629
16)	2,4-Dinitrotolue	12.10	12.10	293793	150673	66.327	51.539
17)	2,6-Dinitrotolue	12.52	12.53	162079	182153	63.087	54.941
18)	o-Nitrotoluene	15.48	15.49	130894	177464	64.802	62.957
19)	p-Nitrotoluene	16.05	16.08	189168	118375	56.959	46.216m
20)	m-Nitrotoluene	16.85	16.86	187387	192802	63.415	54.905m
21)	PETN	0.00	18.43	0	77781	N.D.	72.772m#

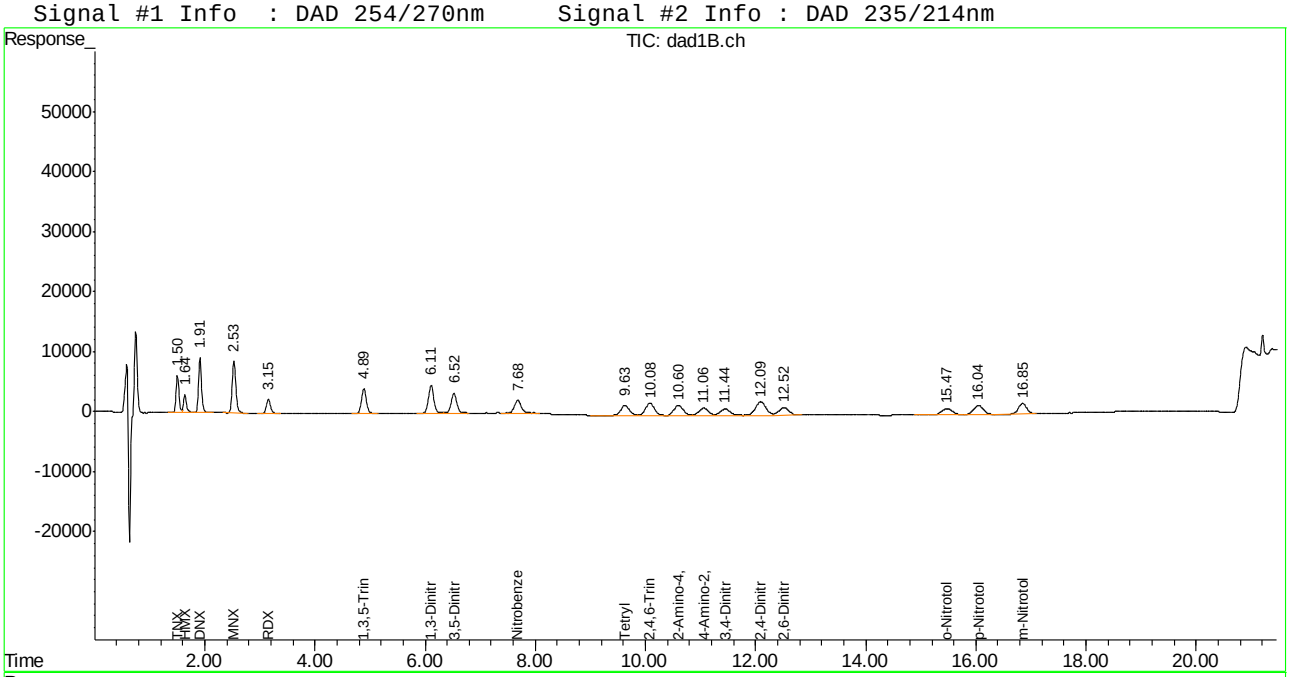
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088911.D BBB2740_073025.M Fri Aug 01 11:08:29 2025 Page 1

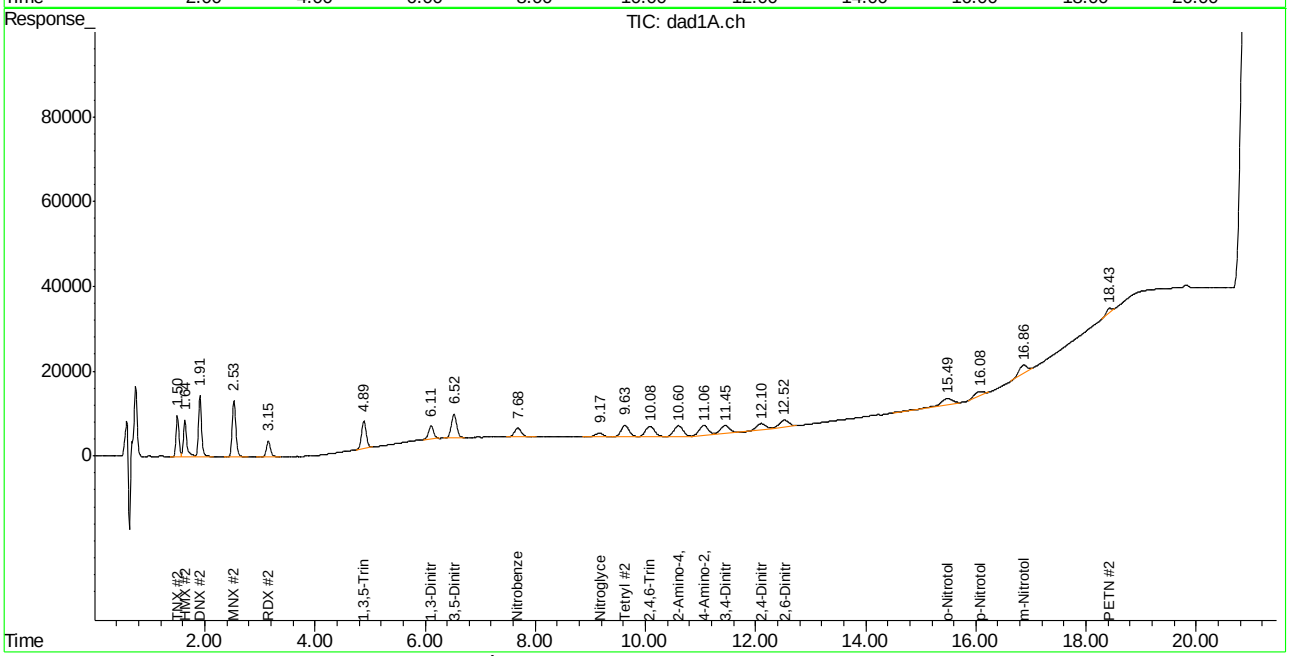
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1A.ch
Acq On : 30-Jul-2025, 09:52:33 Operator: fouads
Sample : ic2740-50 Inst : G1315B
Misc : OP10595,gbb2740,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:53 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

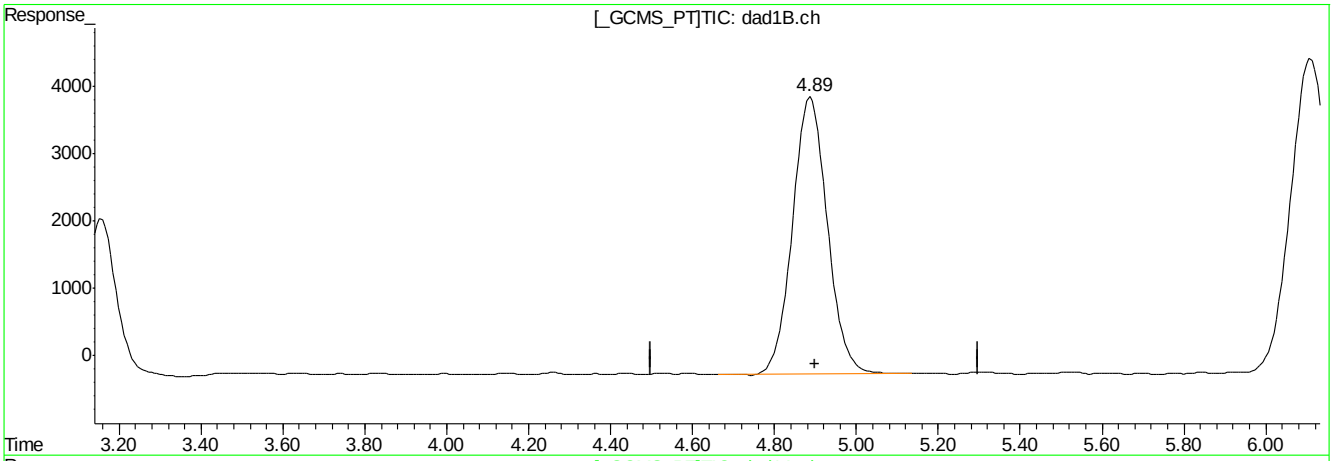
Sample Number: GBB2740-IC2740
Lab FileID: BB088911.D
Injection Time: 07/30/25 09:52
Method: SW846 8330A
Analyst approved: 08/01/25 12:08 Fouad Sekkar
Supervisor approved: 08/01/25 16:12 William Hustedde

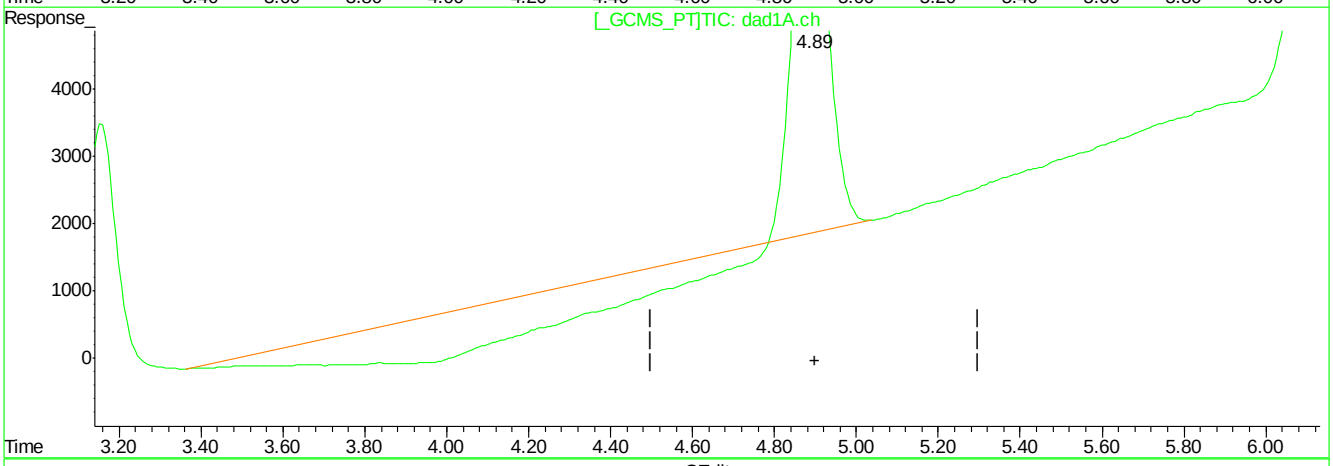
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3,5-Trinitrobenzene	99-35-4	2	4.89	Poorly defined baseline
1,3-Dinitrobenzene	99-65-0	2	6.11	Poorly defined baseline
3,5-Dinitroaniline	618-87-1	2	6.52	Poorly defined baseline
p-Nitrotoluene	99-99-0	2	16.08	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.86	Poorly defined baseline
PETN	78-11-5	2	18.43	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1A.ch
Acq On : 30-Jul-2025, 09:52:33 Operator: fouads
Sample : ic2740-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration





QEdit

(6) 1,3,5-Trinitrobenzene

4.89min 61.163ppb

response 243339

(6) 1,3,5-Trinitrobenzene #2

4.89min 0.938ppb

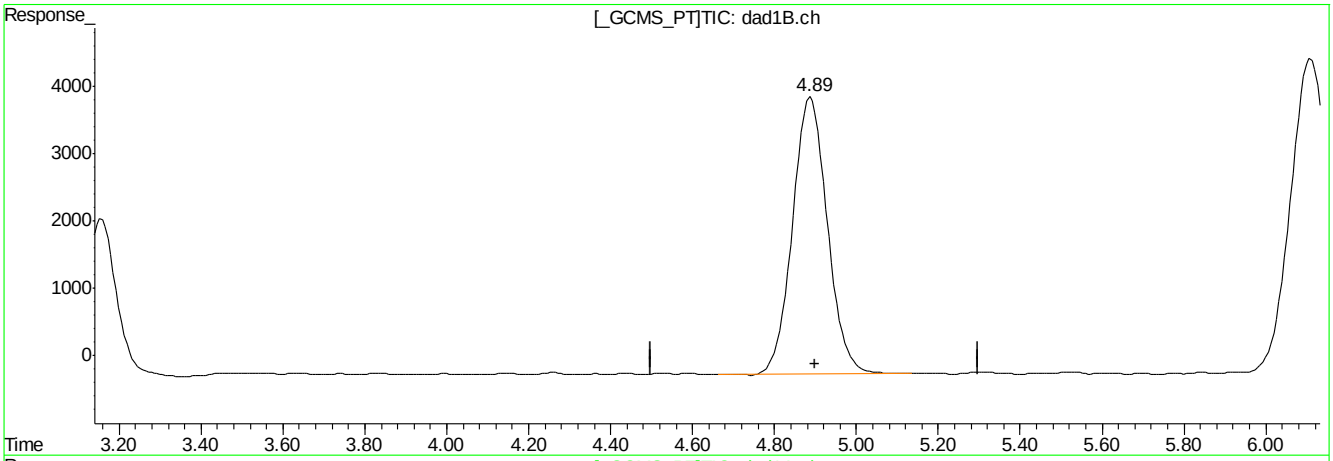
response 5788

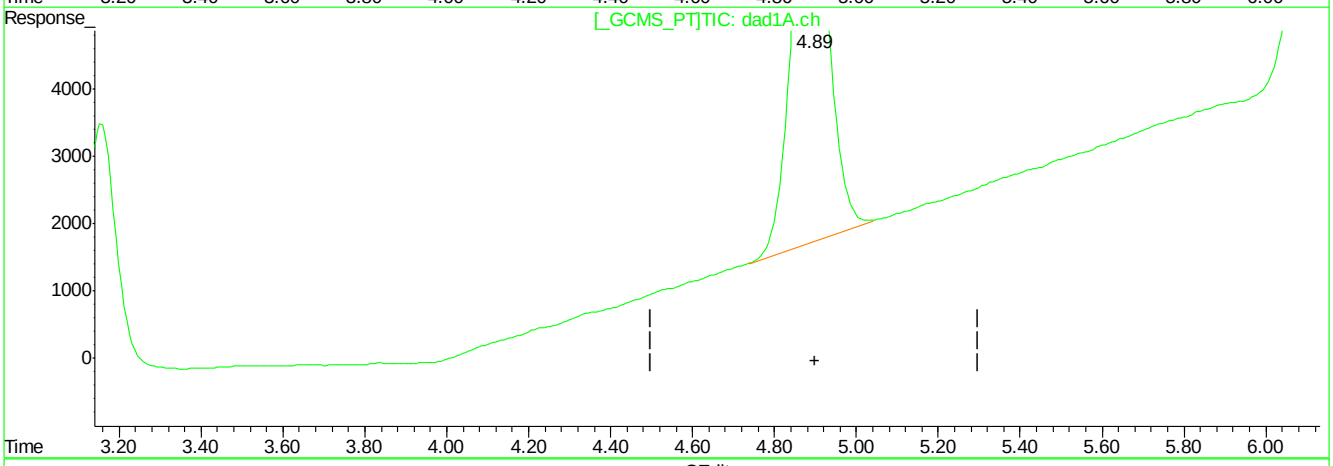
(+) = Expected Retention Time
BB088911.D BBB2740_073025.M Wed Jul 30 12:52:19 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1A.ch
Acq On : 30-Jul-2025, 09:52:33 Operator: fouads
Sample : ic2740-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration





QEdit

(6) 1,3,5-Trinitrobenzene

4.89min 61.163ppb

response 243339

(6) 1,3,5-Trinitrobenzene #2

4.89min 61.810ppb m

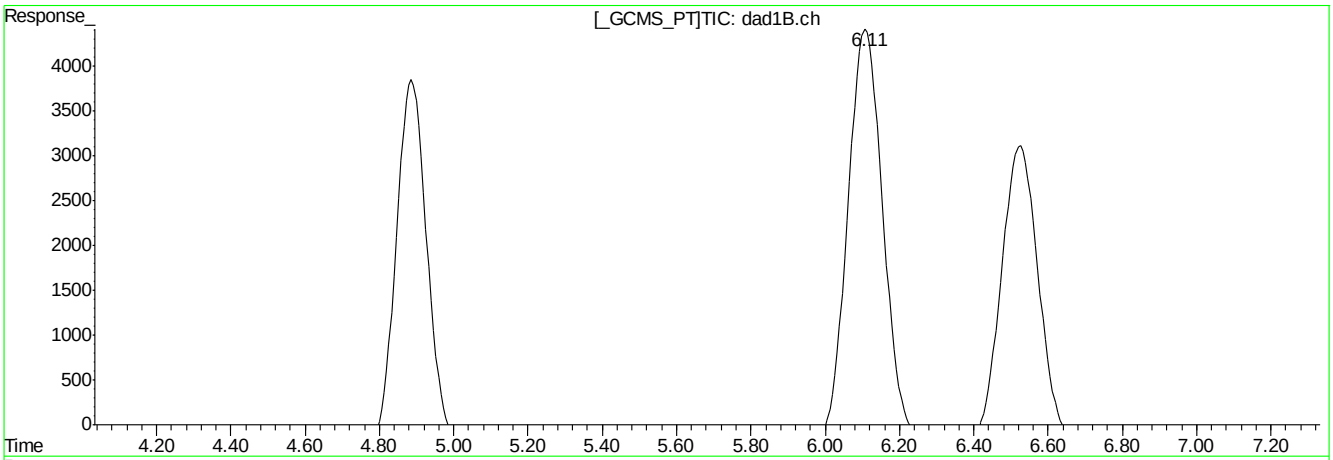
response 381447

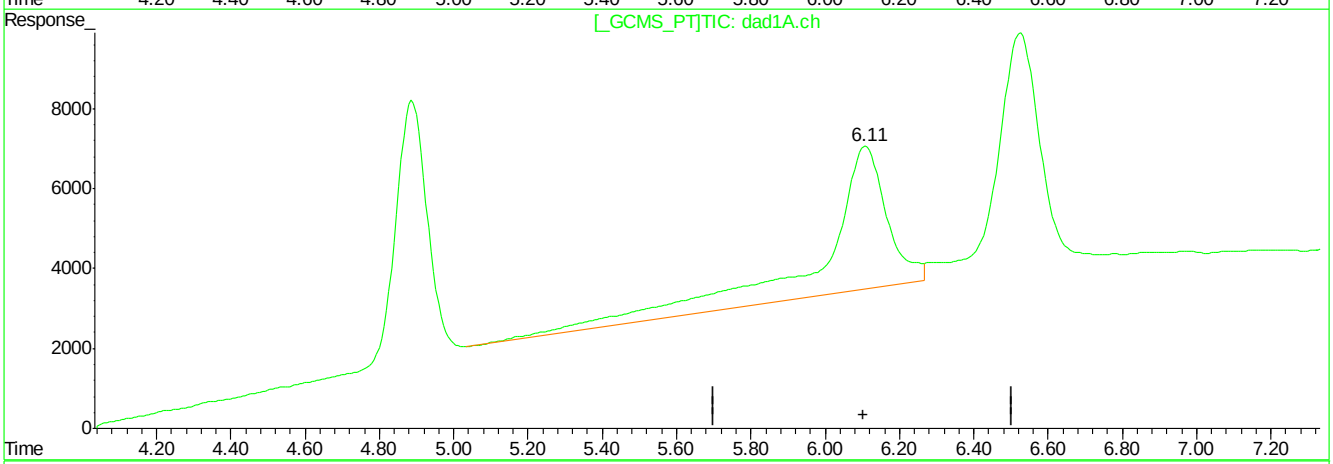
(+) = Expected Retention Time
BB088911.D BBB2740_073025.M Wed Jul 30 12:52:25 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1A.ch
Acq On : 30-Jul-2025, 09:52:33 Operator: fouads
Sample : ic2740-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

6.11min 62.721ppb

response 316763

(7) 1,3-Dinitrobenzene #2

6.11min 129.624ppb

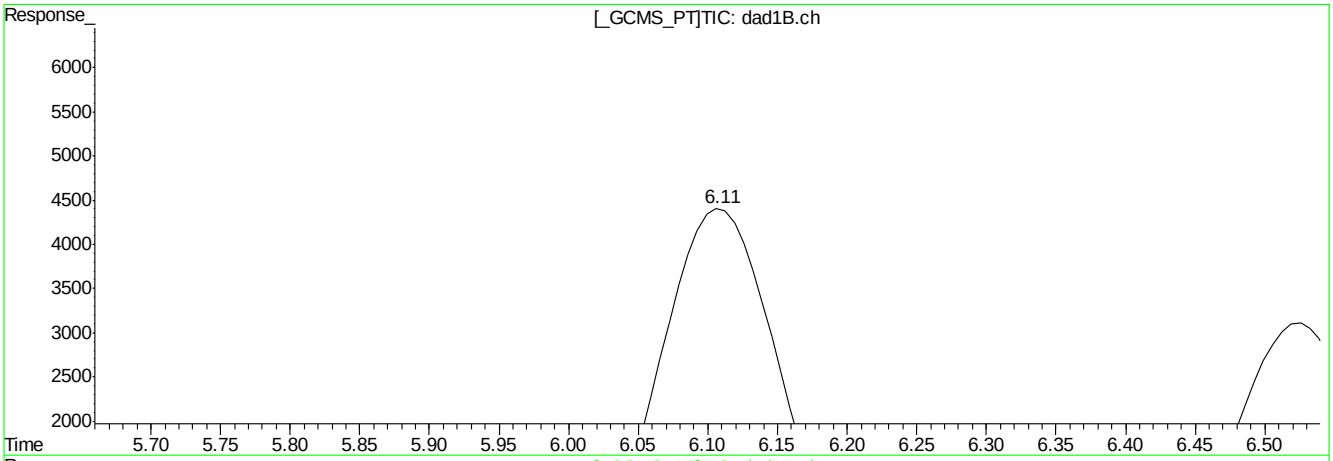
response 445133

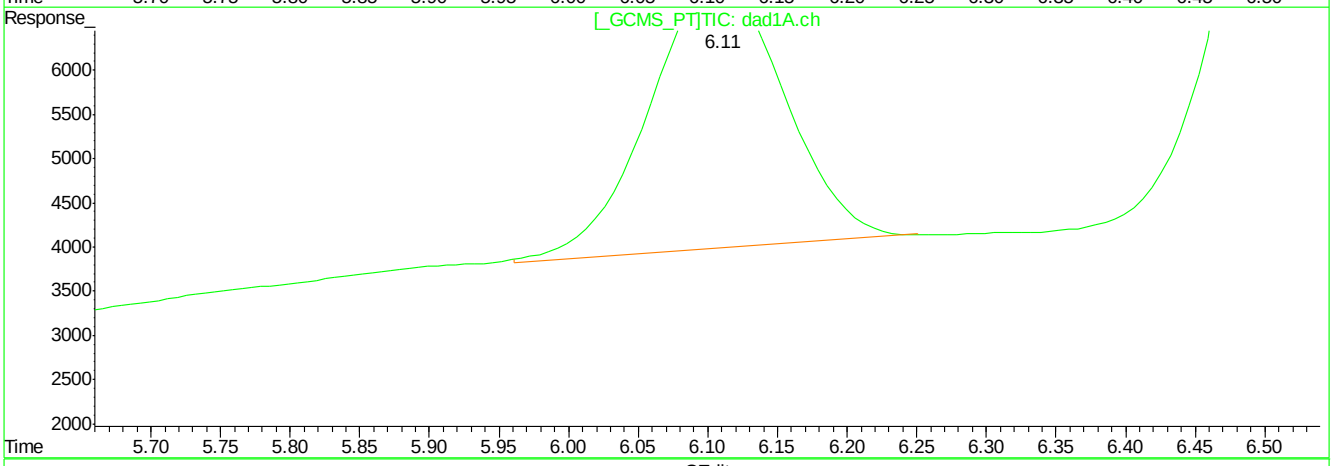
(+) = Expected Retention Time
BB088911.D BBB2740_073025.M Wed Jul 30 12:52:31 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1A.ch
Acq On : 30-Jul-2025, 09:52:33 Operator: fouads
Sample : ic2740-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

6.11min 62.721ppb

response 316763

(7) 1,3-Dinitrobenzene #2

6.11min 59.070ppb m

response 202847

(+) = Expected Retention Time
BB088911.D BBB2740_073025.M Wed Jul 30 12:52:40 2025

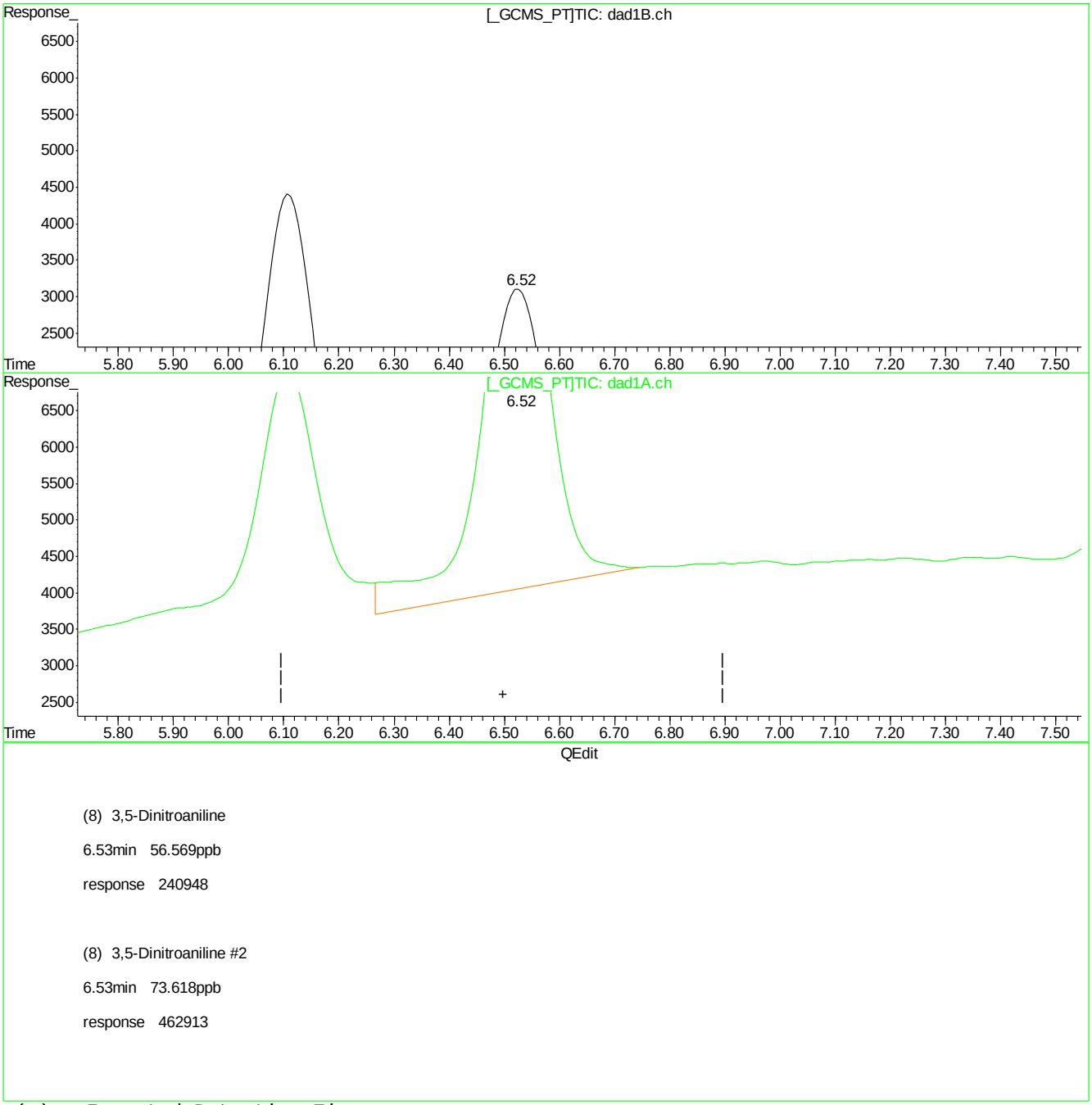
BB088911.D edits: 1,3-Dinitrobenzene

FC28746

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1A.ch
Acq On : 30-Jul-2025, 09:52:33 Operator: fouads
Sample : ic2740-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.53min 56.569ppb

response 240948

(8) 3,5-Dinitroaniline #2

6.53min 73.618ppb

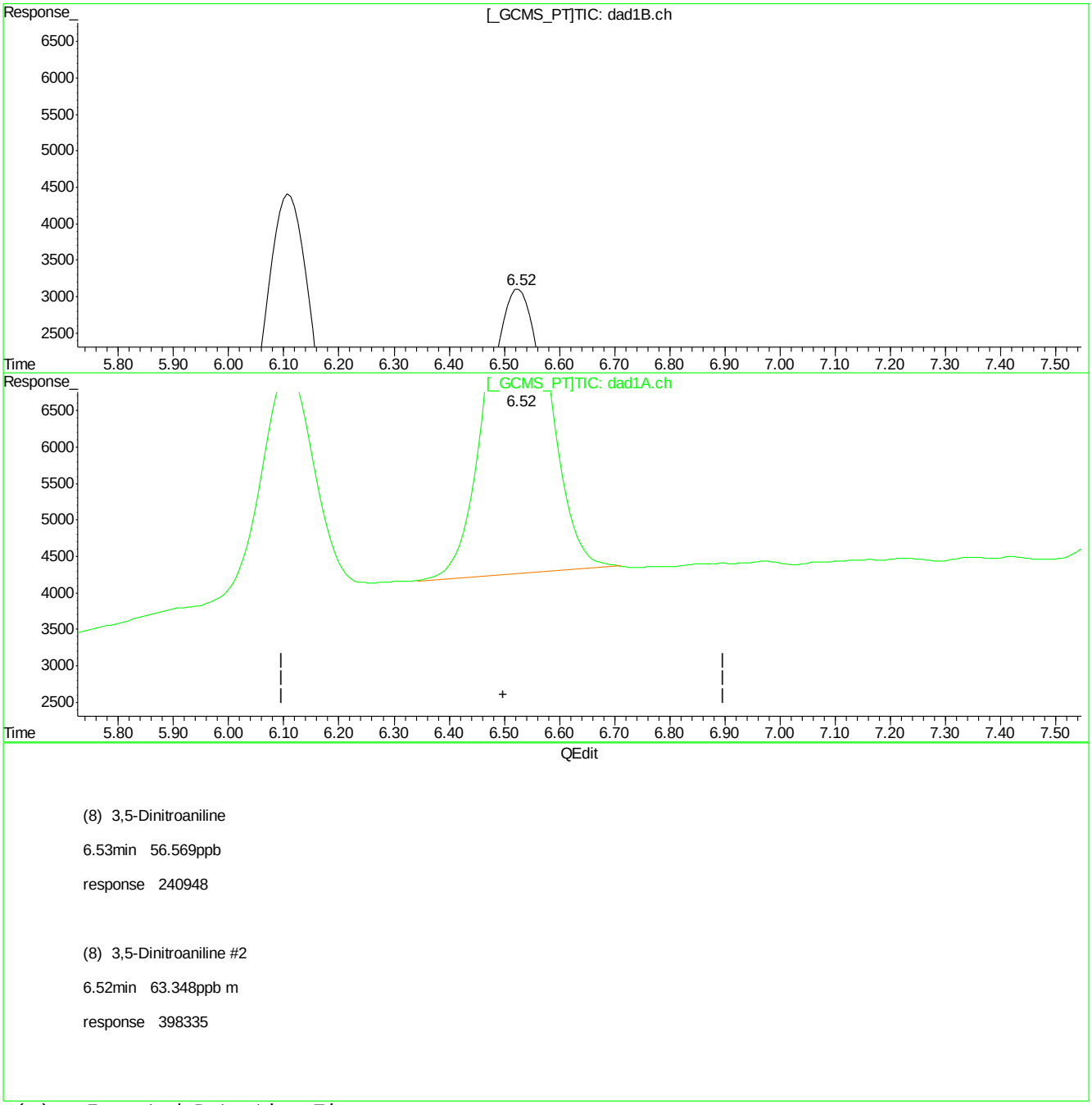
response 462913

(+) = Expected Retention Time
BB088911.D BBB2740_073025.M Wed Jul 30 12:52:51 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1A.ch
Acq On : 30-Jul-2025, 09:52:33 Operator: fouads
Sample : ic2740-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration



(8) 3,5-Dinitroaniline

6.53min 56.569ppb

response 240948

(8) 3,5-Dinitroaniline #2

6.52min 63.348ppb m

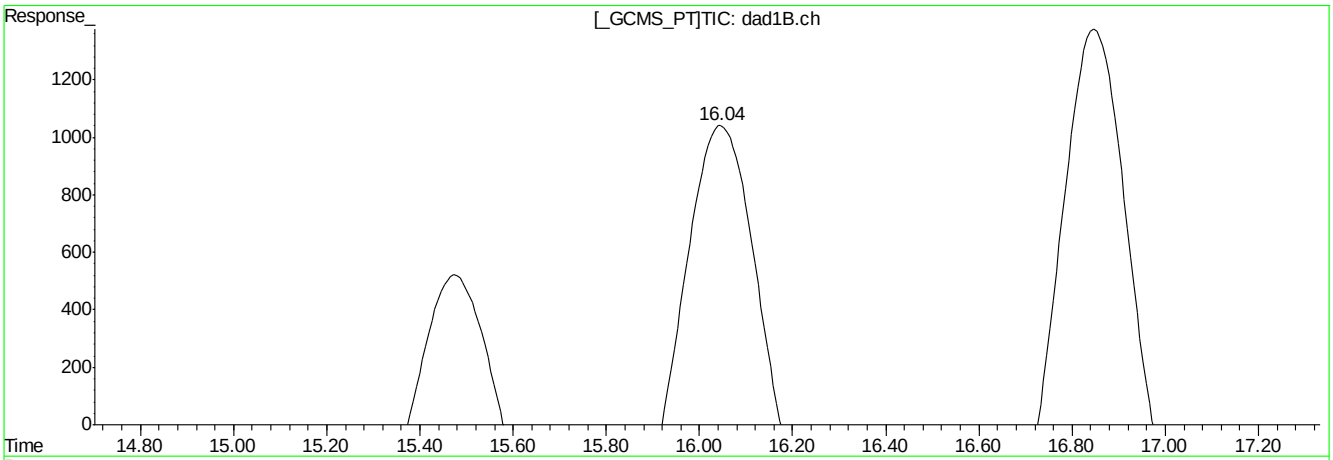
response 398335

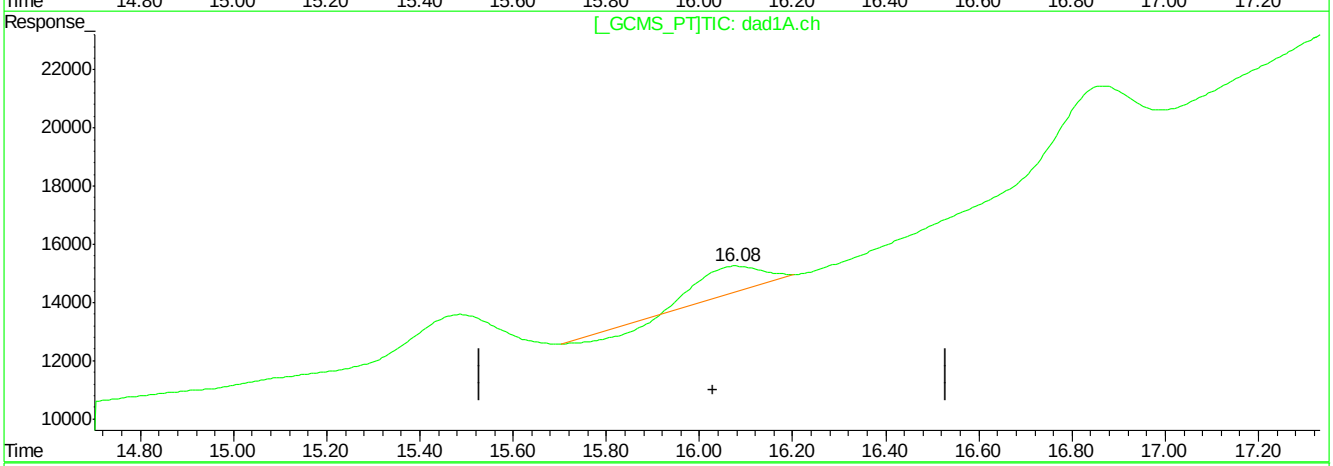
(+) = Expected Retention Time
BB088911.D BBB2740_073025.M Wed Jul 30 12:52:55 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1A.ch
Acq On : 30-Jul-2025, 09:52:33 Operator: fouads
Sample : ic2740-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration





QEdit

(19) p-Nitrotoluene

16.05min 56.959ppb

response 189168

(19) p-Nitrotoluene #2

16.08min 24.005ppb

response 61485

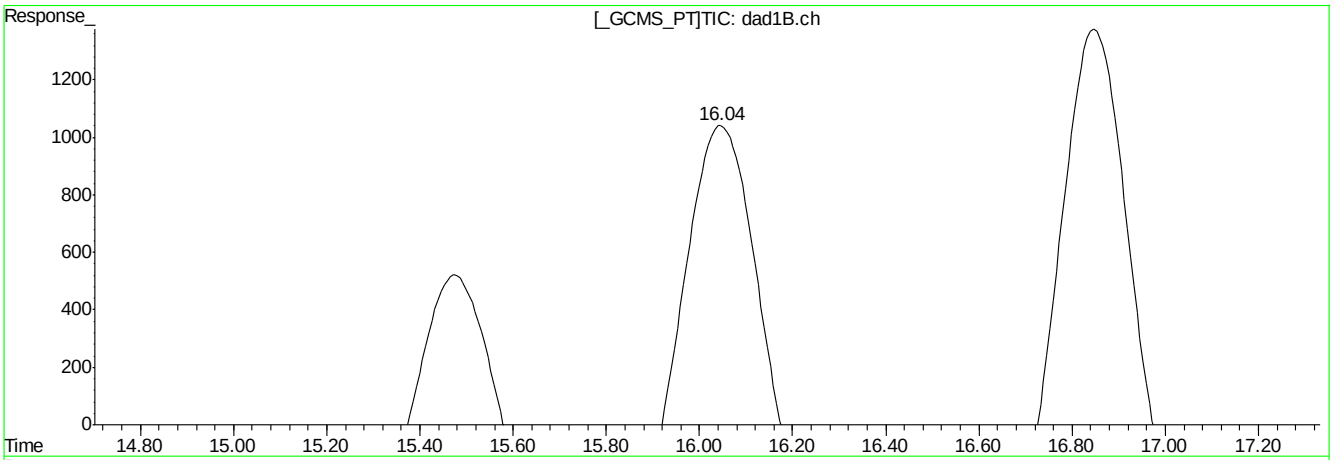
(+) = Expected Retention Time
BB088911.D BBB2740_073025.M Wed Jul 30 12:53:22 2025

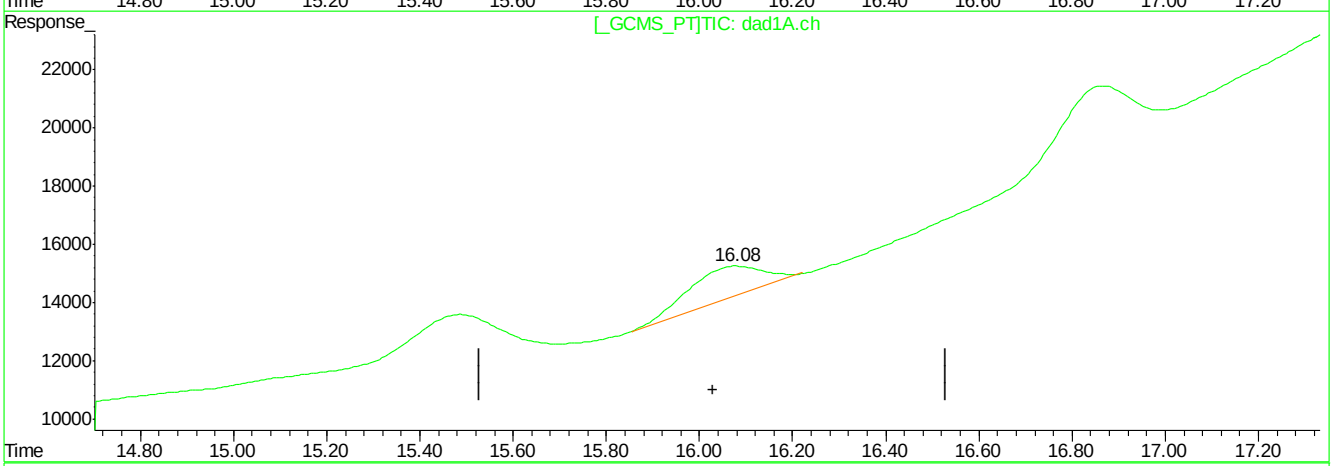
BB088911.D edits: p-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1A.ch
Acq On : 30-Jul-2025, 09:52:33 Operator: fouads
Sample : ic2740-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration





QEdit

(19) p-Nitrotoluene

16.05min 56.959ppb

response 189168

(19) p-Nitrotoluene #2

16.08min 46.216ppb m

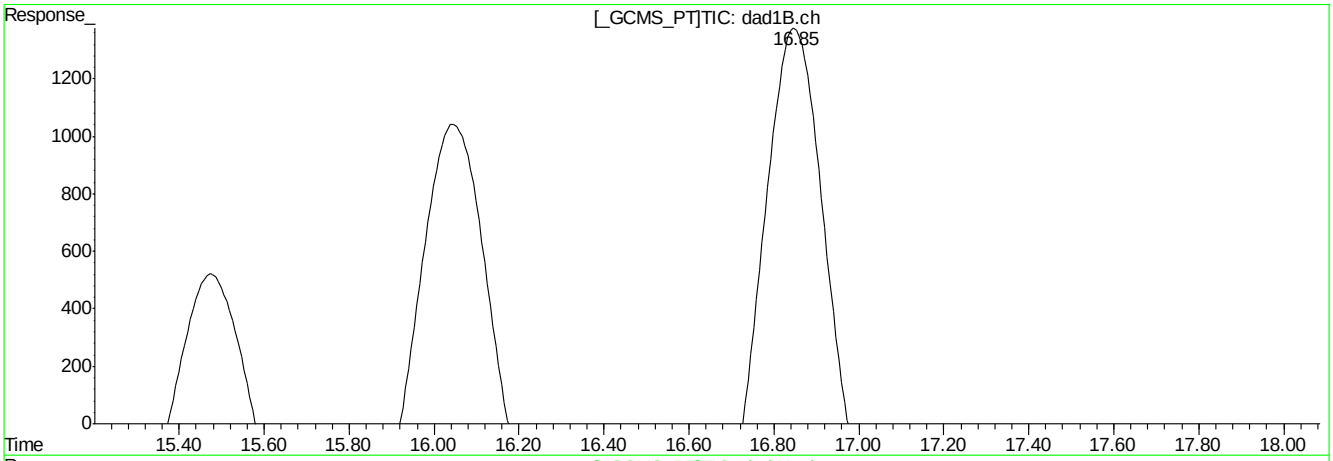
response 118375

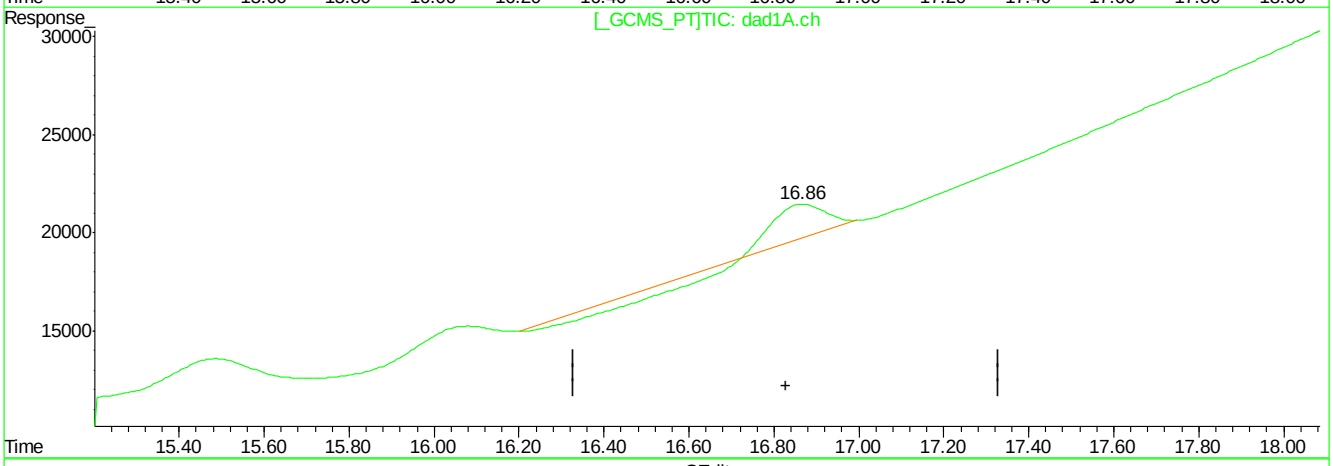
(+) = Expected Retention Time
BB088911.D BBB2740_073025.M Wed Jul 30 12:53:28 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1A.ch
Acq On : 30-Jul-2025, 09:52:33 Operator: fouads
Sample : ic2740-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration





QEdit

(20) m-Nitrotoluene

16.85min 63.415ppb

response 187387

(20) m-Nitrotoluene #2

16.87min 11.141ppb

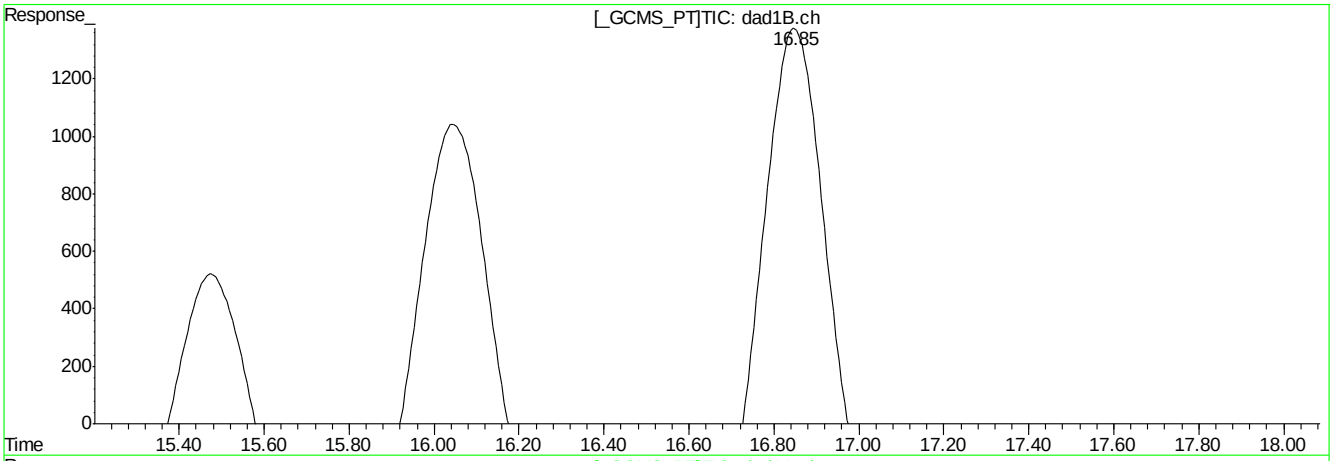
response 39124

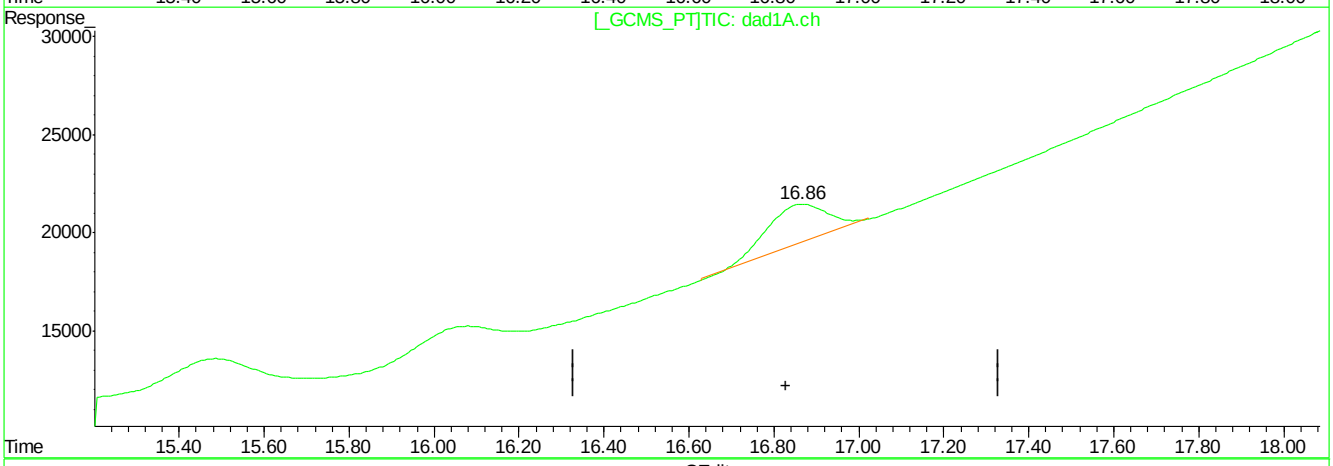
(+) = Expected Retention Time
BB088911.D BBB2740_073025.M Wed Jul 30 12:53:32 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1A.ch
Acq On : 30-Jul-2025, 09:52:33 Operator: fouads
Sample : ic2740-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration





QEdit

(20) m-Nitrotoluene

16.85min 63.415ppb

response 187387

(20) m-Nitrotoluene #2

16.86min 54.905ppb m

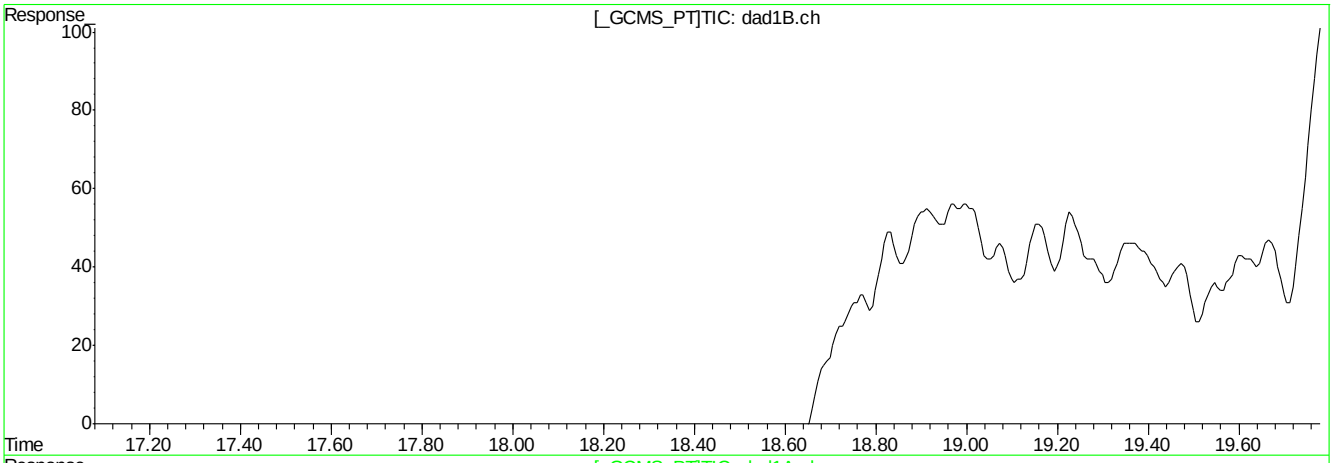
response 192802

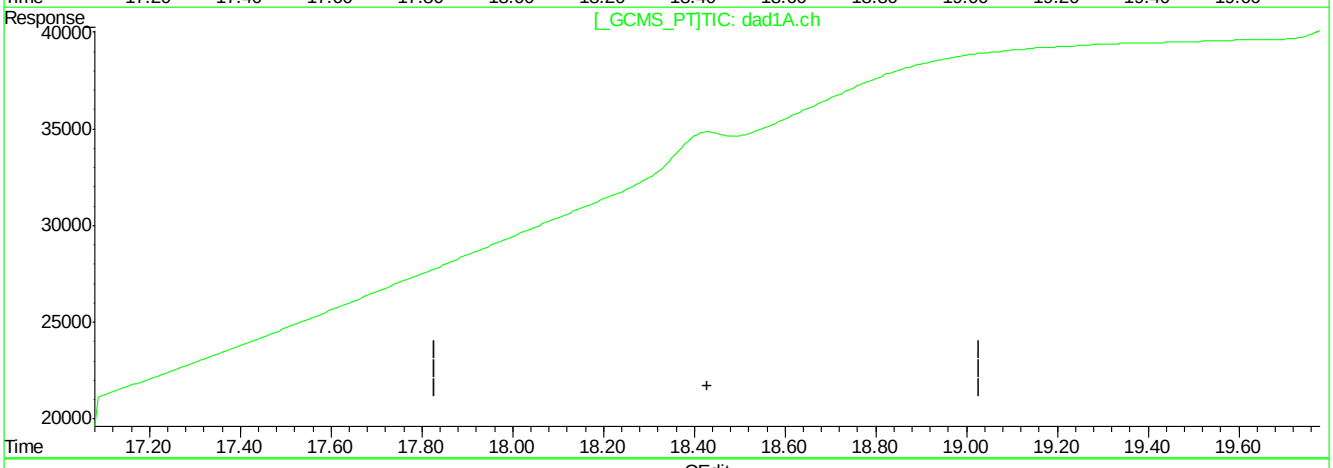
(+) = Expected Retention Time
BB088911.D BBB2740_073025.M Wed Jul 30 12:53:39 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1A.ch
Acq On : 30-Jul-2025, 09:52:33 Operator: fouads
Sample : ic2740-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

0.00min 0.000ppb

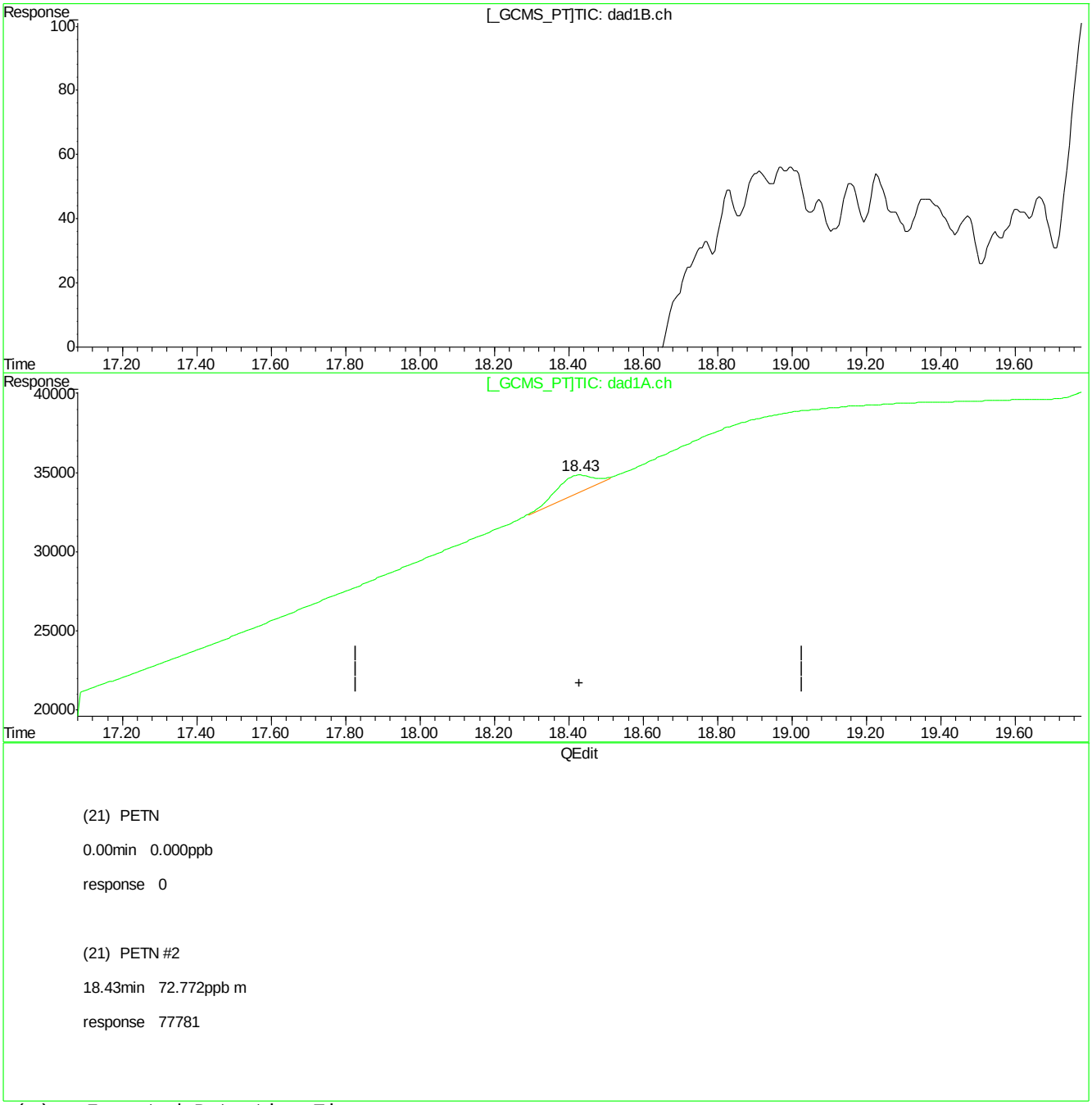
response 0

(+) = Expected Retention Time
BB088911.D BBB2740_073025.M Wed Jul 30 12:53:43 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088911.D\dad1A.ch
Acq On : 30-Jul-2025, 09:52:33 Operator: fouads
Sample : ic2740-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

18.43min 72.772ppb m

response 77781

(+) = Expected Retention Time
BB088911.D BBB2740_073025.M Wed Jul 30 12:53:49 2025

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 08/01/25 16:12

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088912.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088912.D\dad1A.ch
Acq On : 30-Jul-2025, 10:20:01 Operator: fouads
Sample : ic2740-100 Inst : G1315B
Misc : OP10595,gbb2740,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:55:47 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:55:39 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.72	11.73	240327	397428	102.191	101.607
	Spiked Amount 500.000	Range 70 - 136		Recovery =		20.44%#	20.32%#
	Target Compounds						
1)	TNX	1.52	1.52	389395	612254	43.375	44.445
2)	HMX	1.67	1.67	181511	554768	121.988	119.904
3)	DNX	1.94	1.94	671210	1069228	104.660	93.614
4)	MNX	2.57	2.57	722528	1106974	111.135	110.164
5)	RDX	3.22	3.22	211470	328888	118.524	114.875
6)	1,3,5-Trinitrobe	4.96	4.96	396823	641938	99.742	104.020m
7)	1,3-Dinitrobenze	6.20	6.20	574389	847349	113.733	246.751 #
8)	3,5-Dinitroanili	6.67	6.67	437684	839419	102.757	133.494
9)	Nitrobenzene	7.81	7.81	339927	347581	118.076	124.261
10)	Nitroglycerin	0.00	9.33	0	161992	N.D.	132.793 #
11)	Tetryl	9.87	9.87	328052	530345	117.221	121.402
12)	2,4,6-Trinitroto	10.29	10.29	405942	498320	115.435	118.122
13)	2-Amino-4,6-Dini	10.91	10.91	353685	485448	105.550	103.917
14)	4-Amino-2,6-Dini	11.38	11.38	260991	479383	112.740	104.135
16)	2,4-Dinitrotolue	12.36	12.36	528379	327103	119.288	111.888
17)	2,6-Dinitrotolue	12.77	12.78	291262	362383	113.369	109.302
18)	o-Nitrotoluene	15.68	15.68	233311	303685	115.504	107.735m
19)	p-Nitrotoluene	16.22	16.24	356005	252184	107.194	98.459m
20)	m-Nitrotoluene	16.98	16.98	347856	381837	117.721	108.738m
21)	PETN	0.00	18.48	0	145450	N.D.	136.084m#

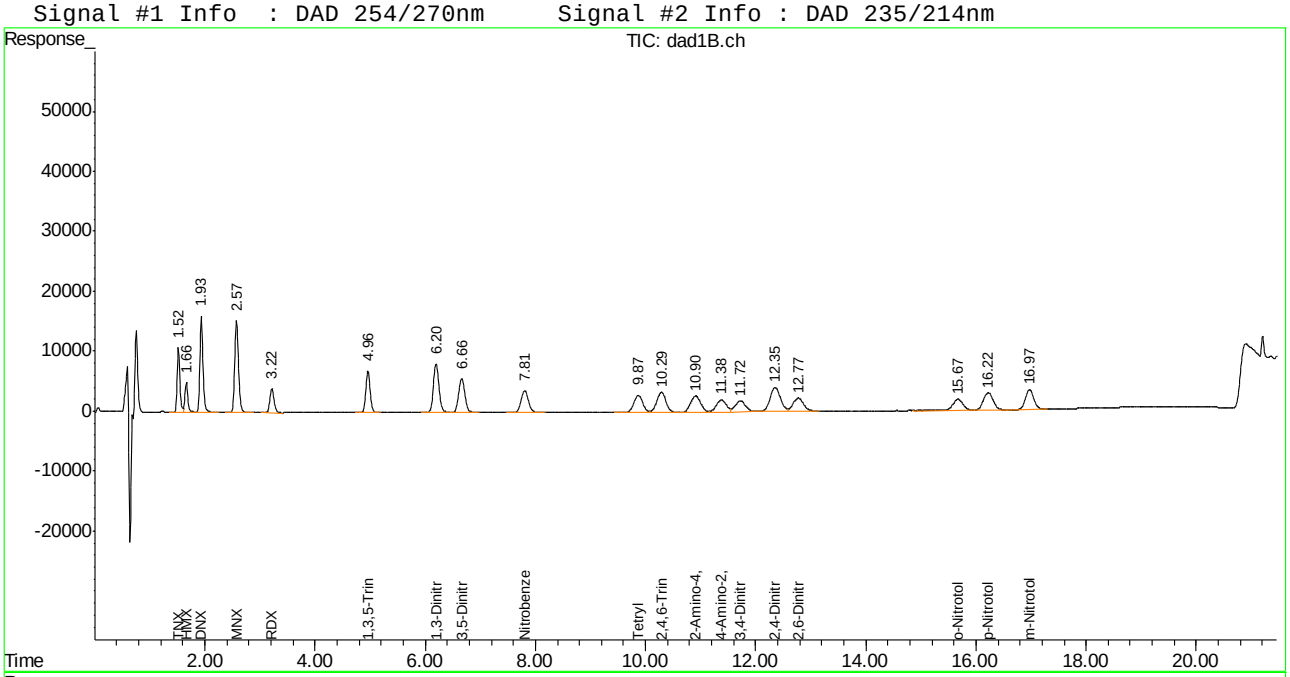
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088912.D BBB2740_073025.M Fri Aug 01 11:08:30 2025 Page 1

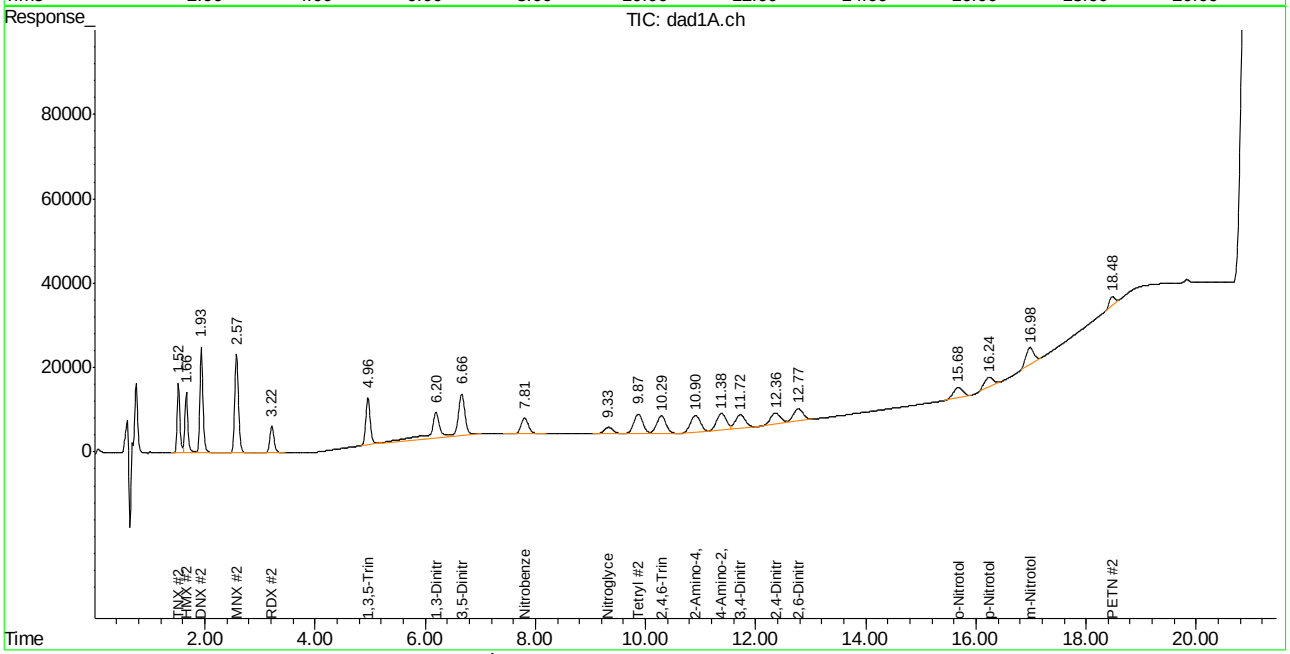
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088912.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088912.D\dad1A.ch
Acq On : 30-Jul-2025, 10:20:01 Operator: fouads
Sample : ic2740-100 Inst : G1315B
Misc : OP10595,gbb2740,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:57 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:55:39 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

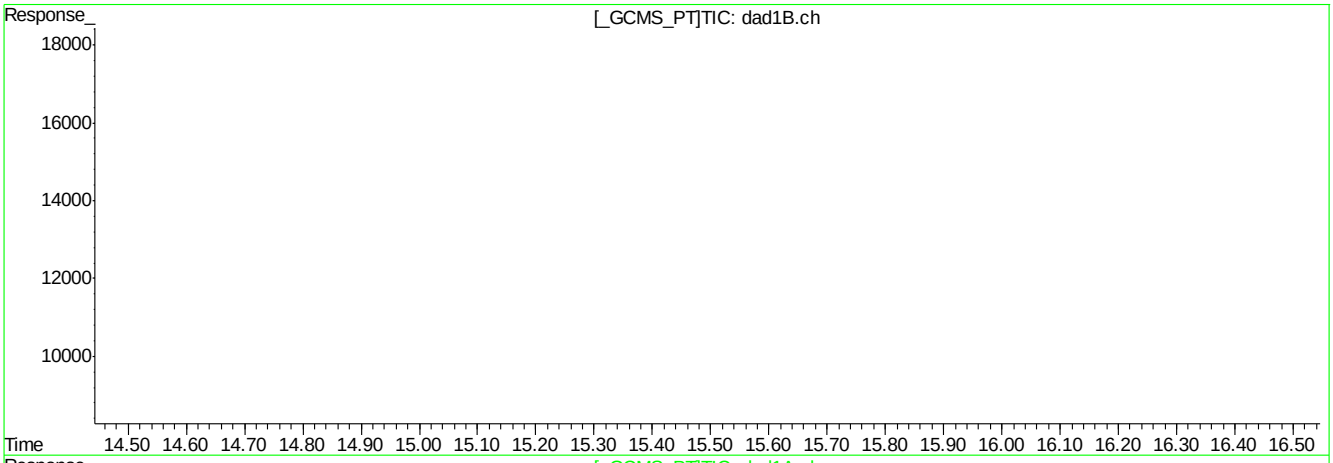
Sample Number: GBB2740-IC2740
Lab FileID: BB088912.D
Injection Time: 07/30/25 10:20
Method: SW846 8330A
Analyst approved: 08/01/25 12:08 Fouad Sekkar
Supervisor approved: 08/01/25 16:12 William Hustedde

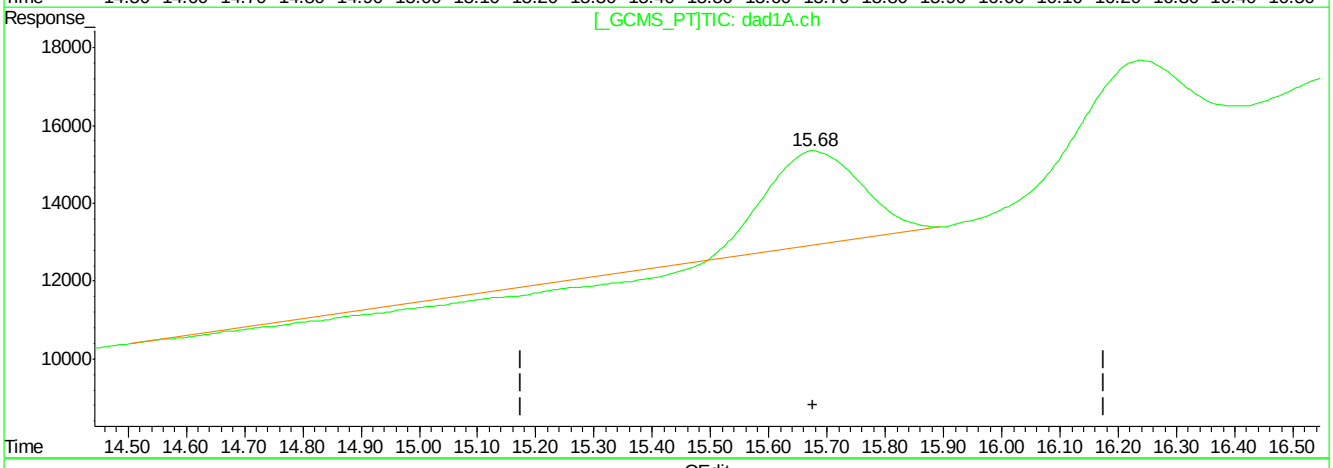
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3,5-Trinitrobenzene	99-35-4	2	4.96	Poorly defined baseline
o-Nitrotoluene	88-72-2	2	15.68	Poorly defined baseline
p-Nitrotoluene	99-99-0	2	16.24	Poorly defined baseline
m-Nitrotoluene	99-08-1	2	16.98	Poorly defined baseline
PETN	78-11-5	2	18.48	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088912.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088912.D\dad1A.ch
Acq On : 30-Jul-2025, 10:20:01 Operator: fouads
Sample : ic2740-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:55 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:55:39 2025
Response via : Multiple Level Calibration





QEdit

(18) o-Nitrotoluene

15.68min 115.504ppb

response 233311

(18) o-Nitrotoluene #2

15.68min 71.122ppb

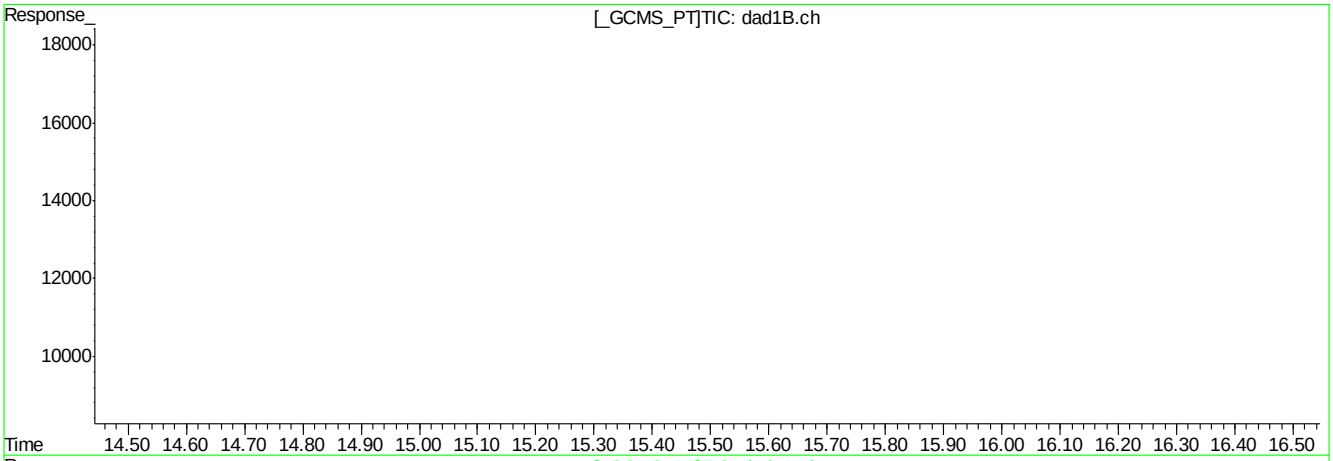
response 200478

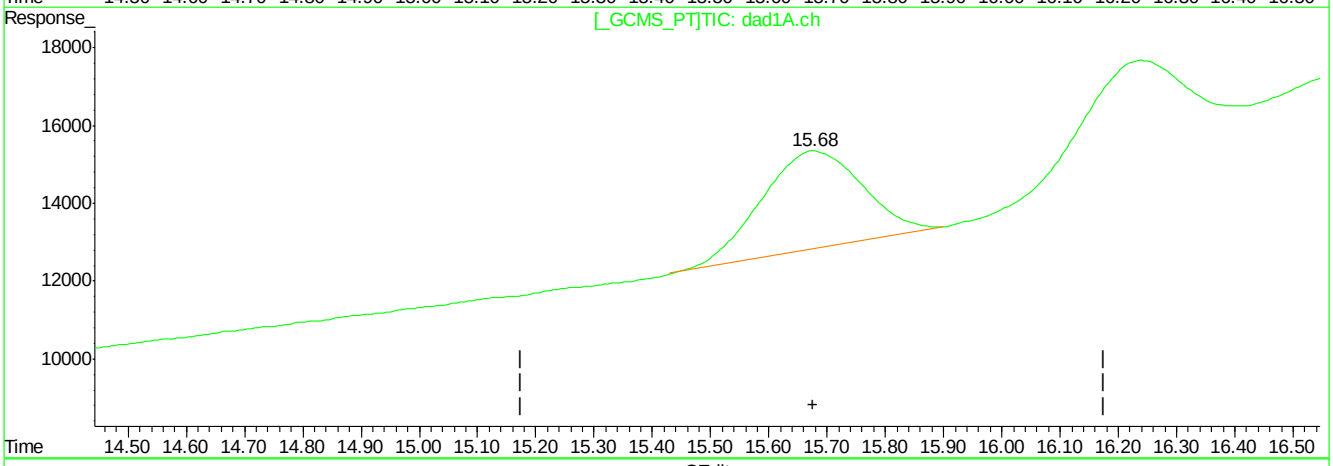
(+) = Expected Retention Time
BB088912.D BBB2740_073025.M Wed Jul 30 12:56:15 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088912.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088912.D\dad1A.ch
Acq On : 30-Jul-2025, 10:20:01 Operator: fouads
Sample : ic2740-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:55 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:55:39 2025
Response via : Multiple Level Calibration





QEdit

(18) o-Nitrotoluene

15.68min 115.504ppb

response 233311

(18) o-Nitrotoluene #2

15.68min 107.735ppb m

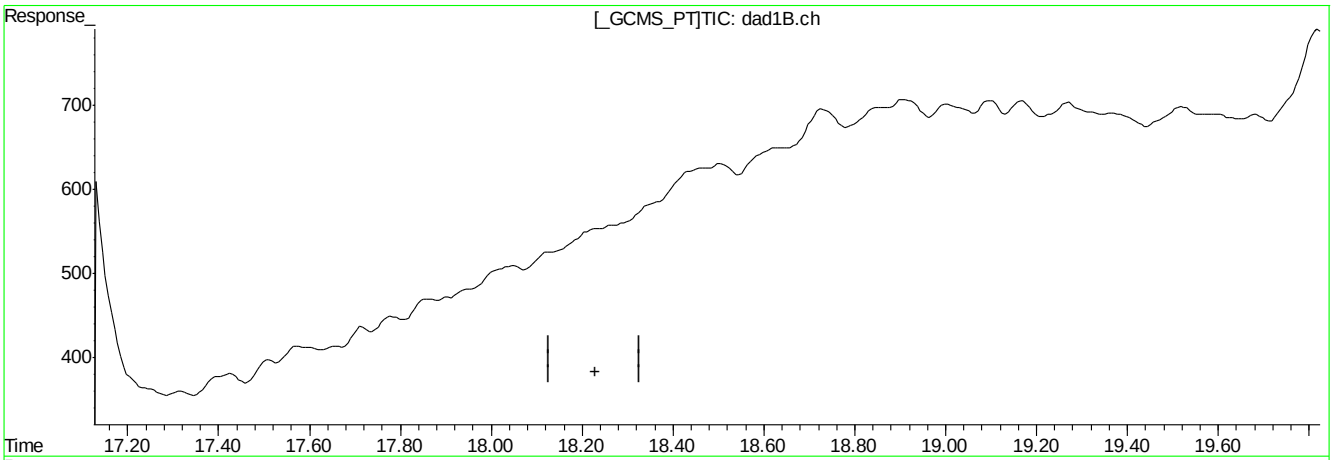
response 303685

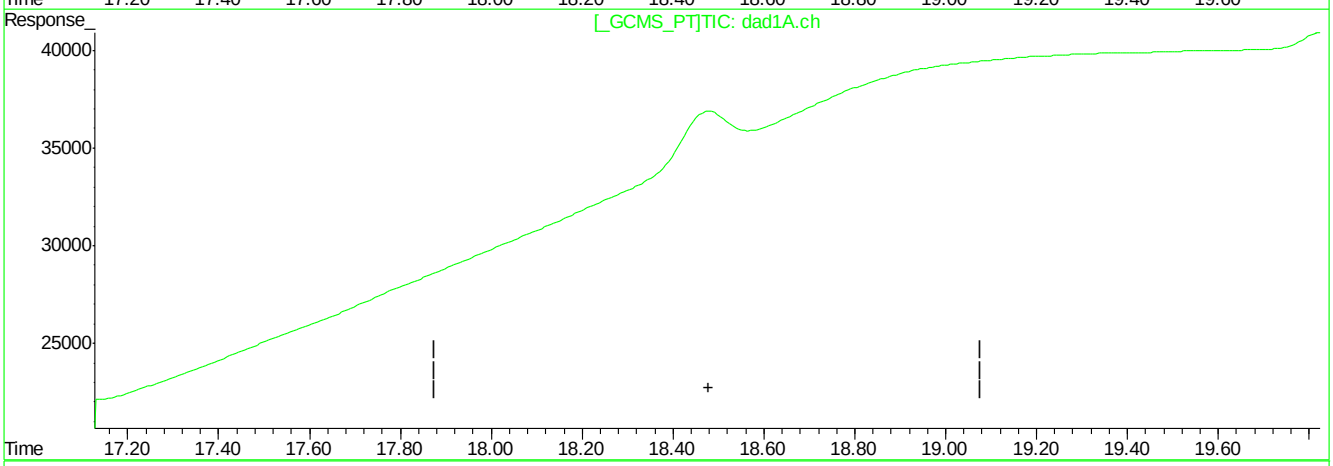
(+) = Expected Retention Time
BB088912.D BBB2740_073025.M Wed Jul 30 12:56:20 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088912.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088912.D\dad1A.ch
Acq On : 30-Jul-2025, 10:20:01 Operator: fouads
Sample : ic2740-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:55 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:55:39 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

0.00min 0.000ppb

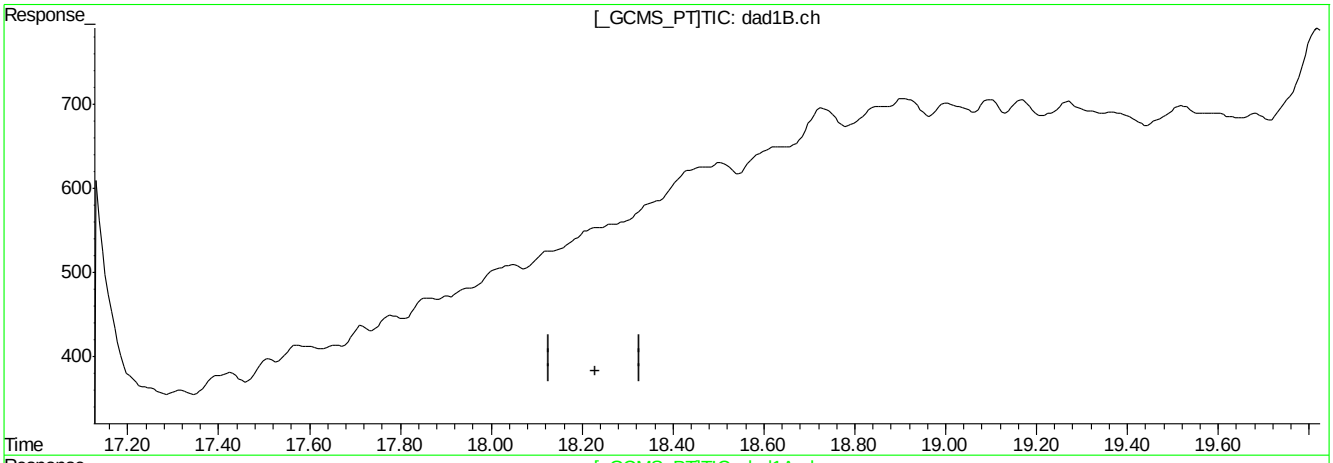
response 0

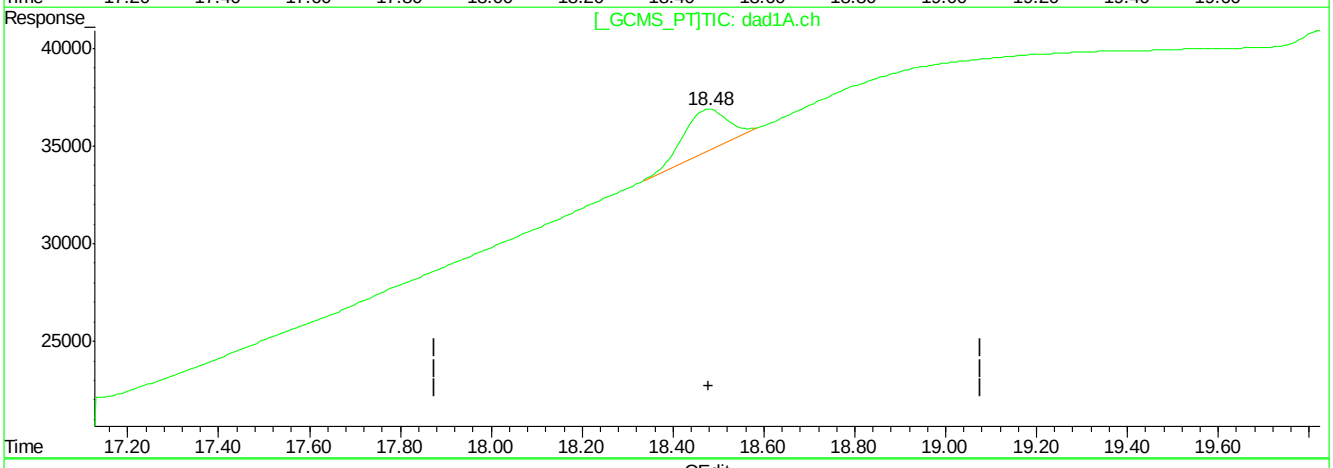
(+) = Expected Retention Time
BB088912.D BBB2740_073025.M Wed Jul 30 12:56:33 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088912.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088912.D\dad1A.ch
Acq On : 30-Jul-2025, 10:20:01 Operator: fouads
Sample : ic2740-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:55 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:55:39 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

18.48min 136.084ppb m

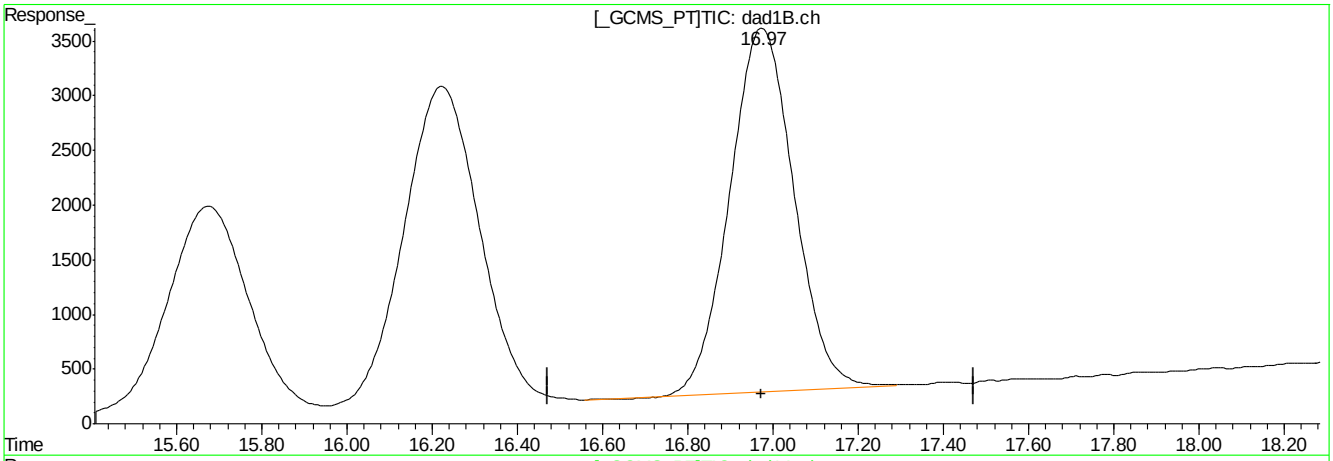
response 145450

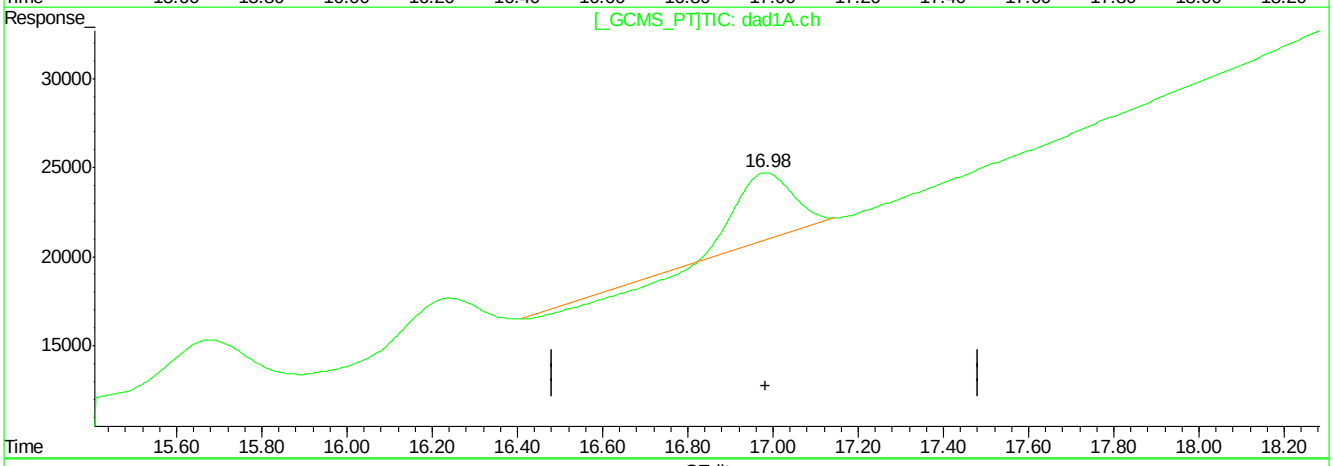
(+) = Expected Retention Time
BB088912.D BBB2740_073025.M Wed Jul 30 12:56:39 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088912.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088912.D\dad1A.ch
Acq On : 30-Jul-2025, 10:20:01 Operator: fouads
Sample : ic2740-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:55 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:55:39 2025
Response via : Multiple Level Calibration





QEdit

(20) m-Nitrotoluene

16.98min 117.721ppb

response 347856

(20) m-Nitrotoluene #2

16.99min 79.793ppb

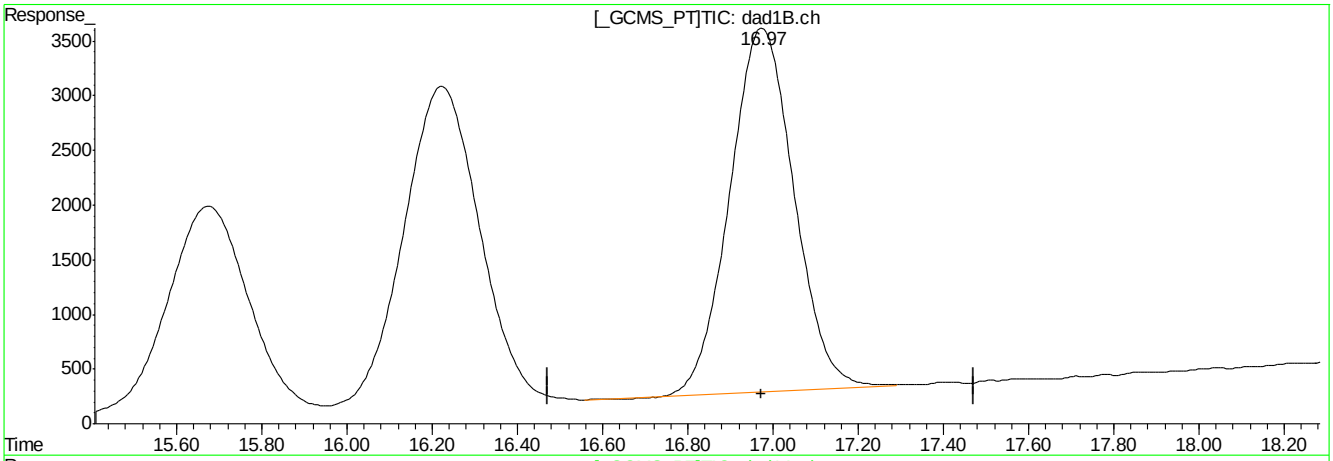
response 280197

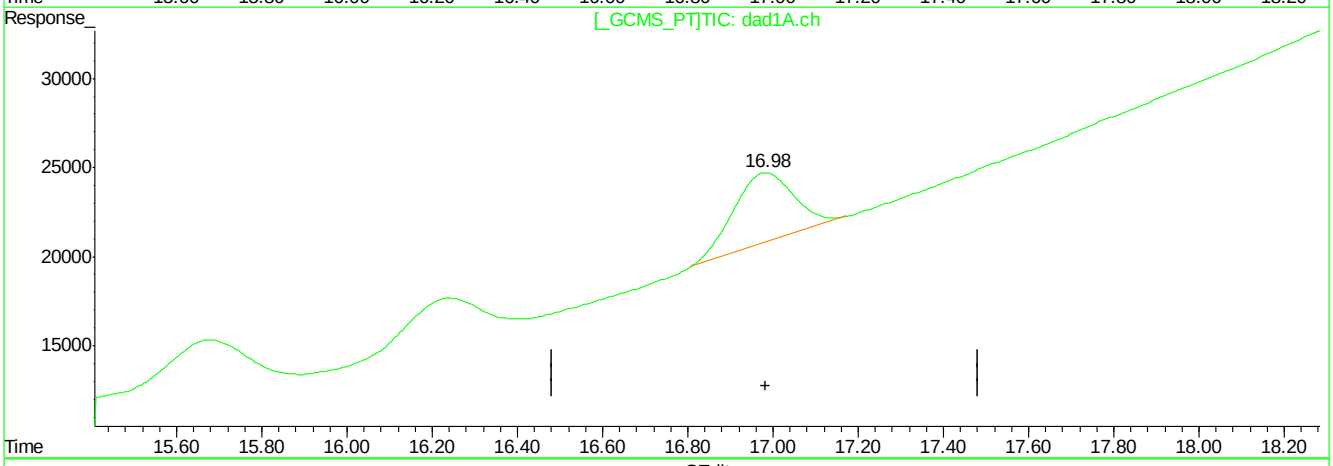
(+) = Expected Retention Time
BB088912.D BBB2740_073025.M Wed Jul 30 12:56:46 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088912.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088912.D\dad1A.ch
Acq On : 30-Jul-2025, 10:20:01 Operator: fouads
Sample : ic2740-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:55 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:55:39 2025
Response via : Multiple Level Calibration





QEdit

(20) m-Nitrotoluene

16.98min 117.721ppb

response 347856

(20) m-Nitrotoluene #2

16.98min 108.738ppb m

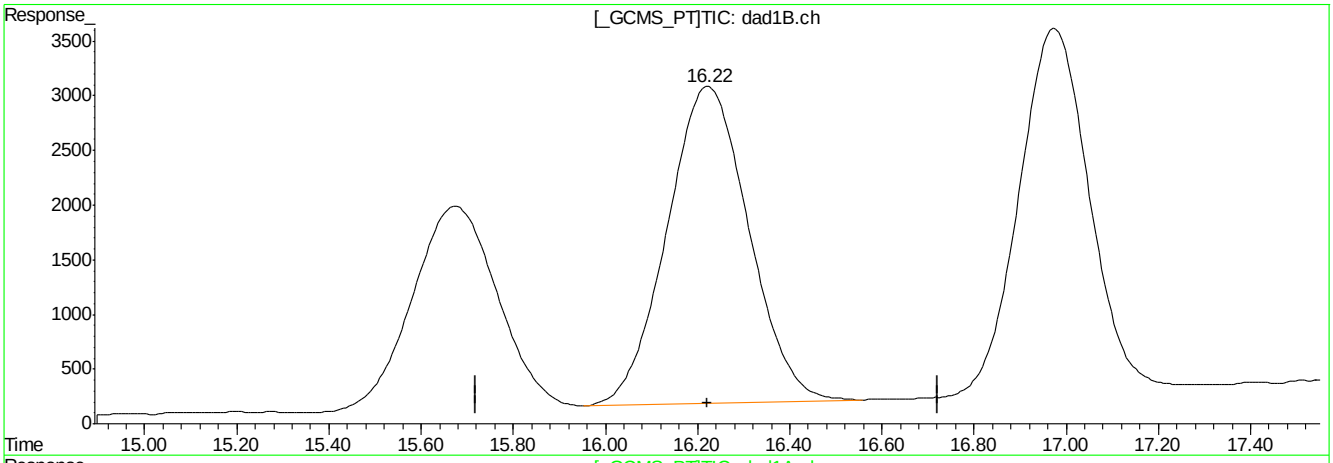
response 381837

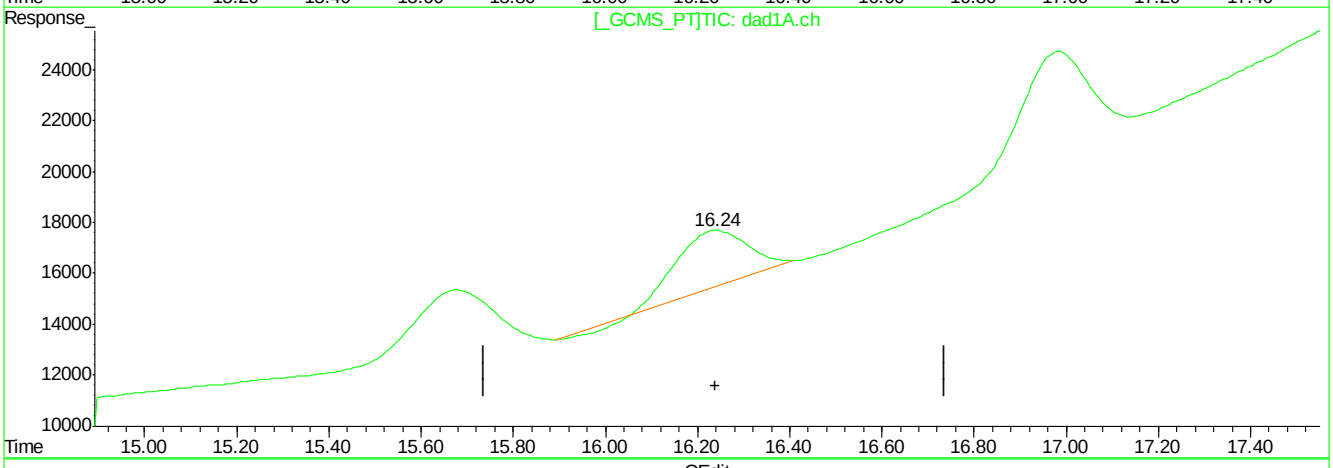
(+) = Expected Retention Time
BB088912.D BBB2740_073025.M Wed Jul 30 12:56:56 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088912.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088912.D\dad1A.ch
Acq On : 30-Jul-2025, 10:20:01 Operator: fouads
Sample : ic2740-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:55 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:55:39 2025
Response via : Multiple Level Calibration





QEdit

(19) p-Nitrotoluene

16.22min 107.194ppb

response 356005

(19) p-Nitrotoluene #2

16.24min 87.948ppb

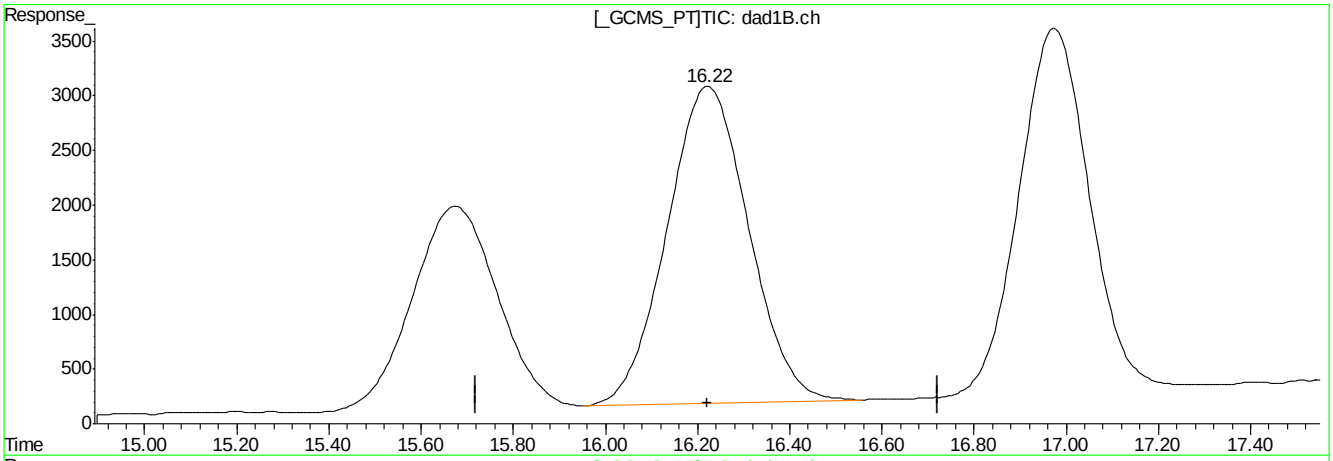
response 225263

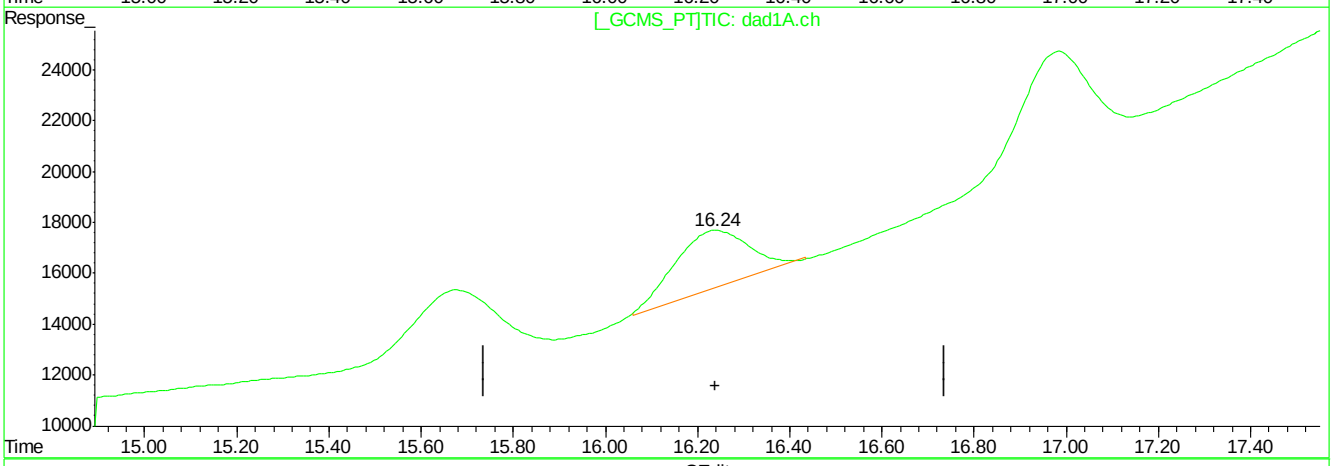
(+) = Expected Retention Time
BB088912.D BBB2740_073025.M Wed Jul 30 12:57:02 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088912.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088912.D\dad1A.ch
Acq On : 30-Jul-2025, 10:20:01 Operator: fouads
Sample : ic2740-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:55 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:55:39 2025
Response via : Multiple Level Calibration





QEdit

(19) p-Nitrotoluene

16.22min 107.194ppb

response 356005

(19) p-Nitrotoluene #2

16.24min 98.459ppb m

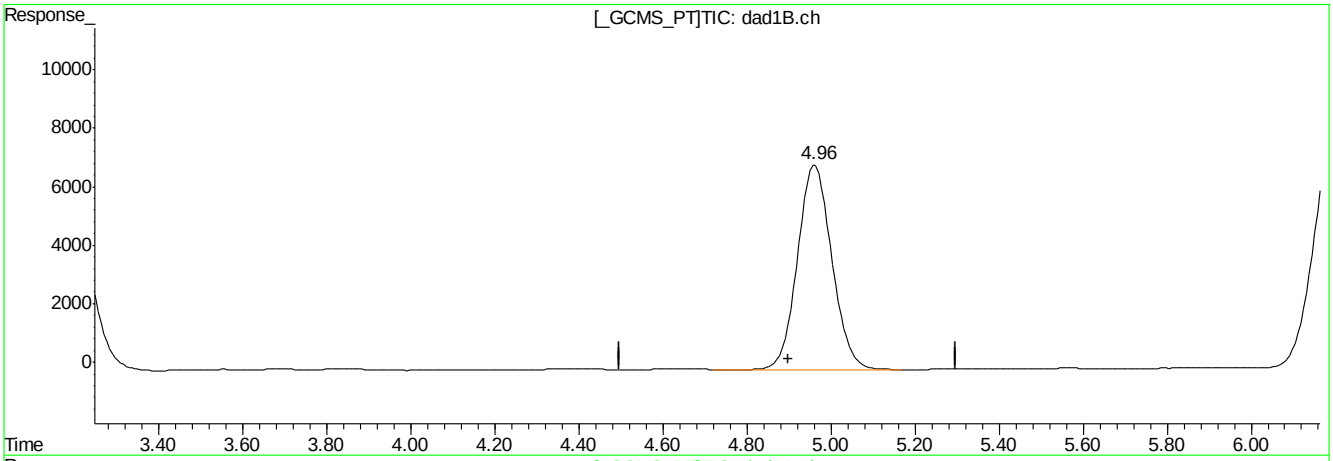
response 252184

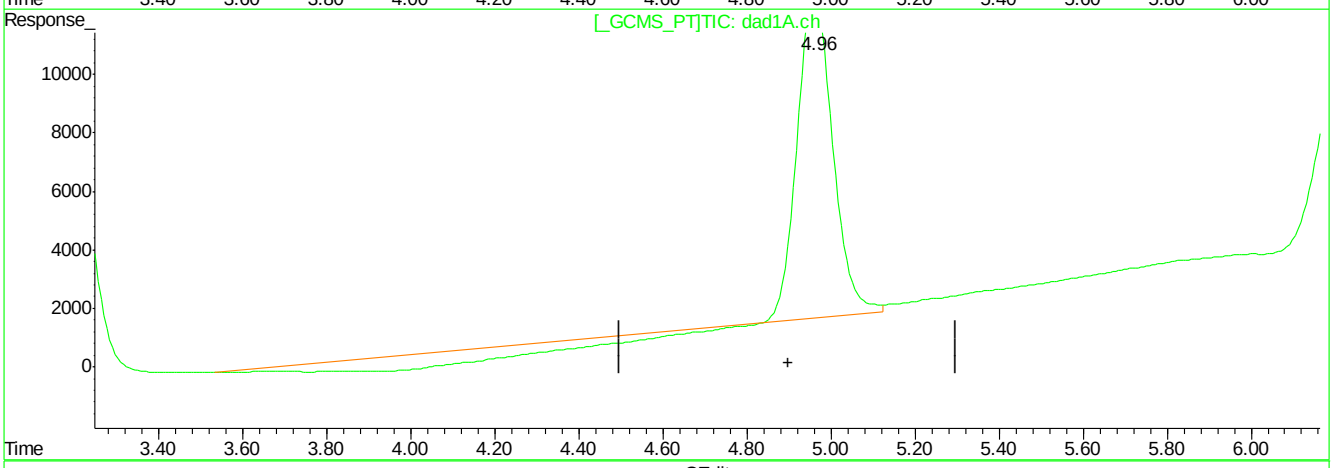
(+) = Expected Retention Time
BB088912.D BBB2740_073025.M Wed Jul 30 12:57:12 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088912.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088912.D\dad1A.ch
Acq On : 30-Jul-2025, 10:20:01 Operator: fouads
Sample : ic2740-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:57 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:55:39 2025
Response via : Multiple Level Calibration





QEdit

(6) 1,3,5-Trinitrobenzene

4.96min 99.742ppb

response 396823

(6) 1,3,5-Trinitrobenzene #2

4.96min 73.217ppb

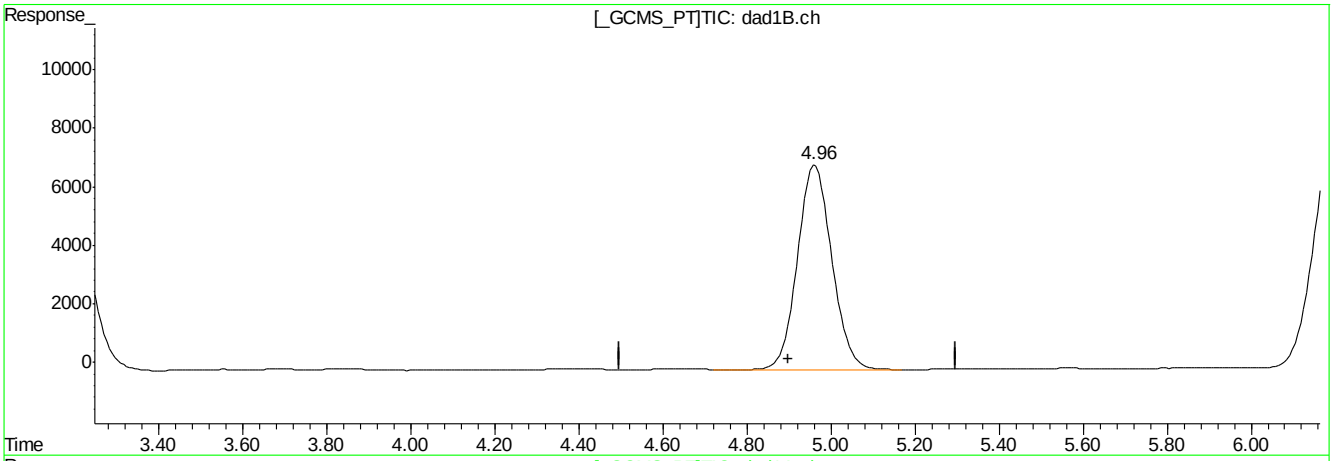
response 451842

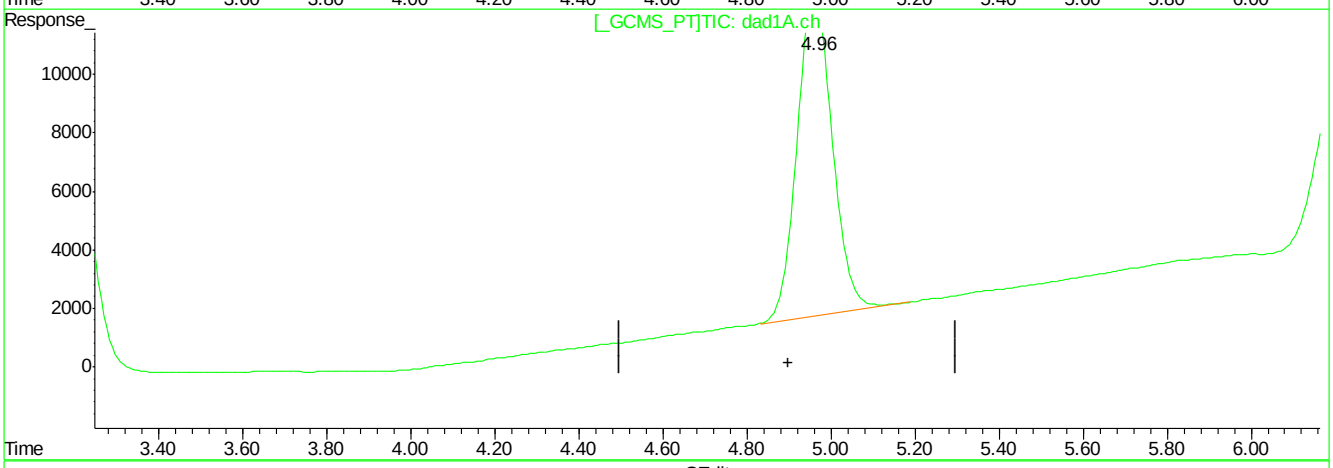
(+) = Expected Retention Time
BB088912.D BBB2740_073025.M Wed Jul 30 12:57:45 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088912.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088912.D\dad1A.ch
Acq On : 30-Jul-2025, 10:20:01 Operator: fouads
Sample : ic2740-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:57 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:55:39 2025
Response via : Multiple Level Calibration





QEdit

(6) 1,3,5-Trinitrobenzene

4.96min 99.742ppb

response 396823

(6) 1,3,5-Trinitrobenzene #2

4.96min 104.020ppb m

response 641938

(+) = Expected Retention Time
BB088912.D BBB2740_073025.M Wed Jul 30 12:57:55 2025

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 08/01/25 16:12

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088913.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088913.D\dad1A.ch
Acq On : 30-Jul-2025, 10:47:30 Operator: fouads
Sample : ic2740-200 Inst : G1315B
Misc : OP10595,gbb2740,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39:11 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.41	11.42	408847	707279	173.848	180.823
	Spiked Amount 500.000	Range 70 - 136		Recovery =		34.77%#	36.16%#
	Target Compounds						
1)	TNX	1.49	1.49	728209	1130188	81.116	82.043
2)	HMX	1.62	1.62	332170	968733	223.240	209.377
3)	DNX	1.89	1.89	1239620	1971930	193.291	172.649
4)	MNX	2.50	2.50	1333506	2056697	205.111	204.679
5)	RDX	3.13	3.13	391285	612383	219.306	213.896
6)	1,3,5-Trinitrobe	4.88	4.88	823994	1298784	207.111	210.456m
7)	1,3-Dinitrobenze	6.09	6.09	1054577	722521	208.814	210.401m
8)	3,5-Dinitroanili	6.49	6.49	804132	1409985	188.790	224.232
9)	Nitrobenzene	7.66	7.66	626077	619057	217.473	221.315
10)	Nitroglycerin	0.00	9.17	0	263379	N.D.	215.904 #
11)	Tetryl	9.59	9.59	615941	949206	220.090	217.285
12)	2,4,6-Trinitroto	10.06	10.06	756045	873775	214.991	207.120
13)	2-Amino-4,6-Dini	10.54	10.54	673548	946104	201.006	202.526
14)	4-Amino-2,6-Dini	11.00	11.00	480989	886072	207.771	192.479
16)	2,4-Dinitrotolue	12.07	12.08	959970	630034	216.725	215.509
17)	2,6-Dinitrotolue	12.49	12.49	527211	682256	205.209	205.782
18)	o-Nitrotoluene	15.46	15.47	445651	606138	220.627	215.034
19)	p-Nitrotoluene	16.03	16.04	662236	476756	199.400	186.138
20)	m-Nitrotoluene	16.83	16.84	648037	618020	219.307	175.997
21)	PETN	0.00	18.43	0	289191	N.D.	270.568m#

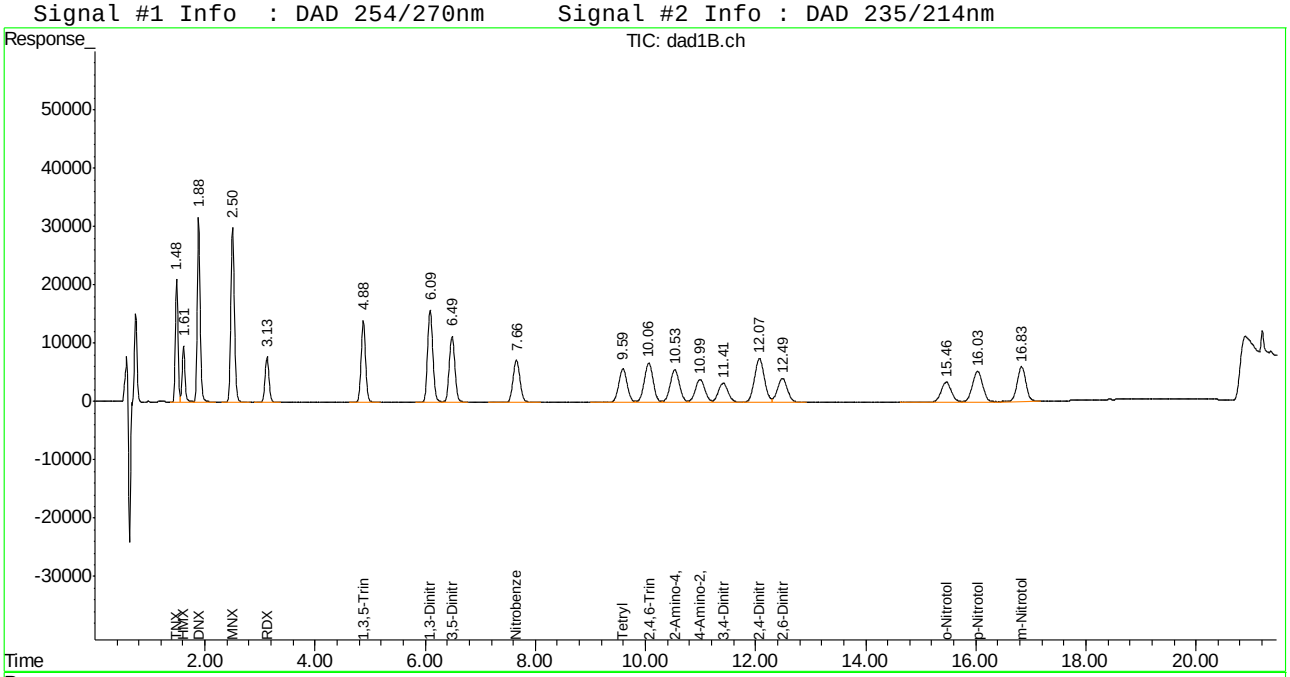
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088913.D BBB2740_073025.M Fri Aug 01 11:08:31 2025 Page 1

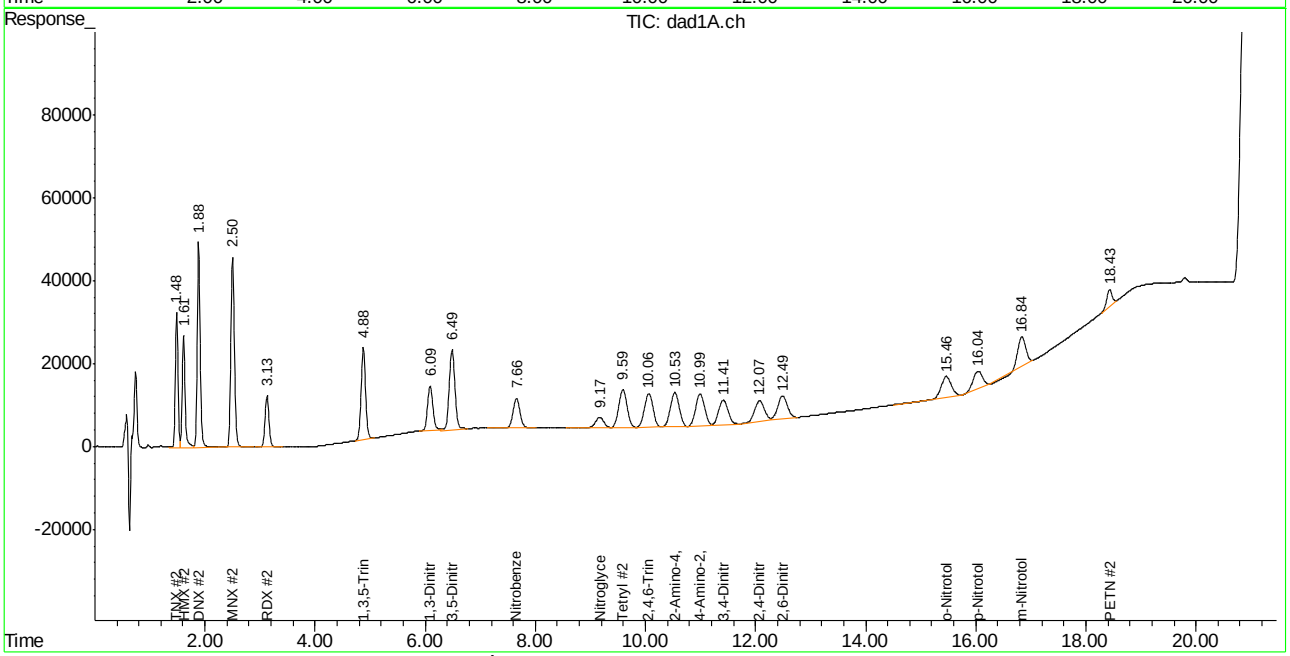
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088913.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088913.D\dad1A.ch
Acq On : 30-Jul-2025, 10:47:30 Operator: fouads
Sample : ic2740-200 Inst : G1315B
Misc : OP10595,gbb2740,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:59 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

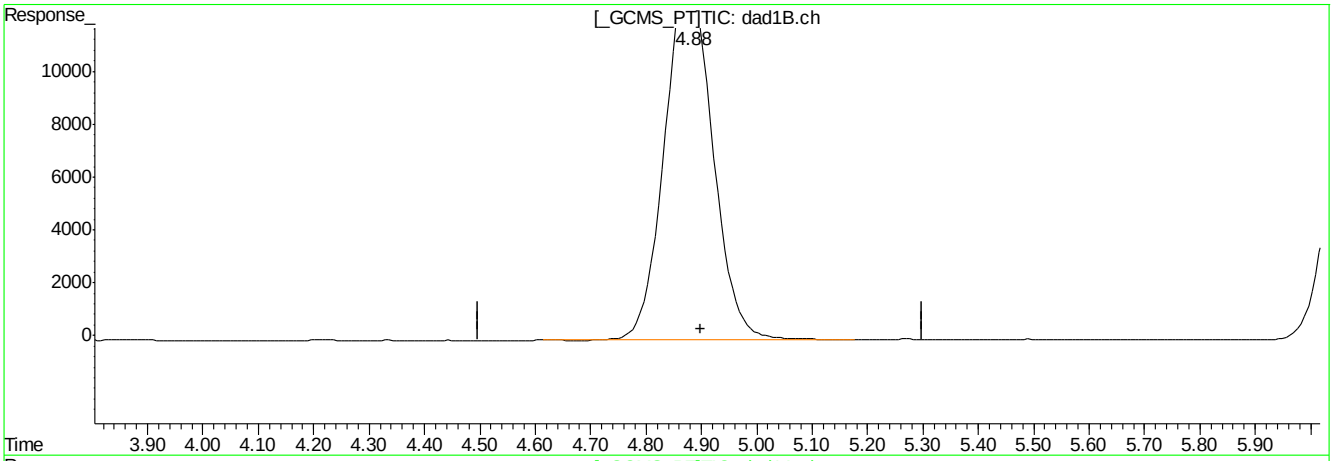
Sample Number: GBB2740-IC2740
Lab FileID: BB088913.D
Injection Time: 07/30/25 10:47
Method: SW846 8330A
Analyst approved: 08/01/25 12:08 Fouad Sekkar
Supervisor approved: 08/01/25 16:12 William Hustedde

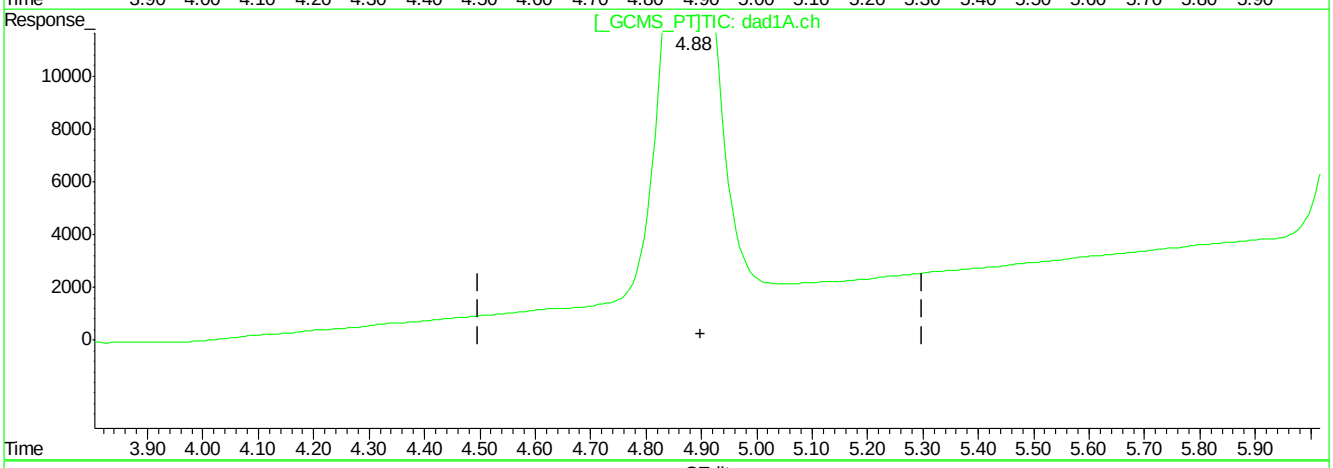
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3,5-Trinitrobenzene	99-35-4	2	4.88	Poorly defined baseline
1,3-Dinitrobenzene	99-65-0	2	6.09	Poorly defined baseline
PETN	78-11-5	2	18.43	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088913.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088913.D\dad1A.ch
Acq On : 30-Jul-2025, 10:47:30 Operator: fouads
Sample : ic2740-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:55:39 2025
Response via : Multiple Level Calibration





QEdit

(6) 1,3,5-Trinitrobenzene

4.88min 207.111ppb

response 823994

(6) 1,3,5-Trinitrobenzene #2

4.88min 166.396ppb

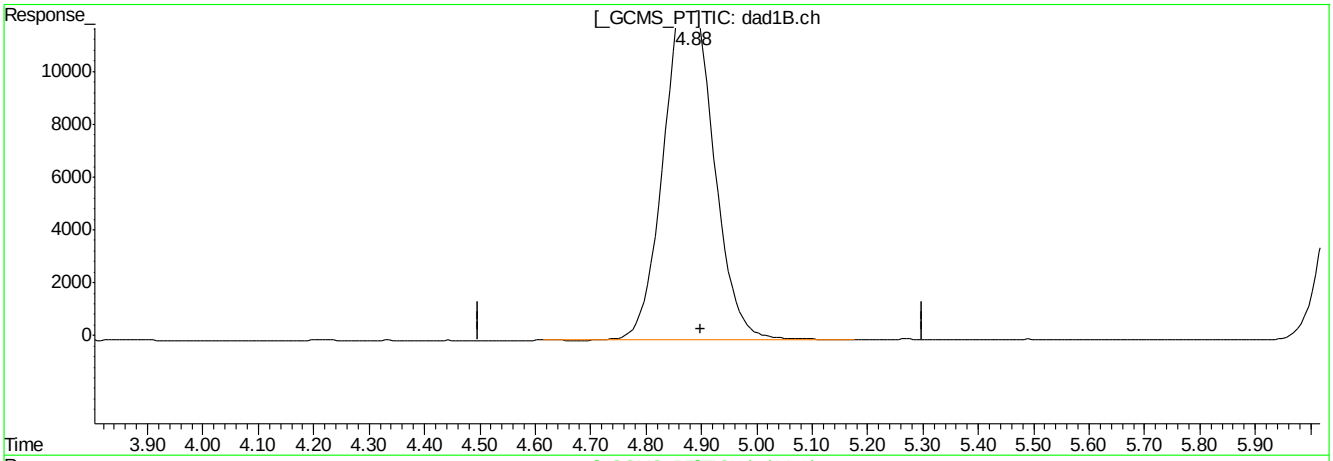
response 1026879

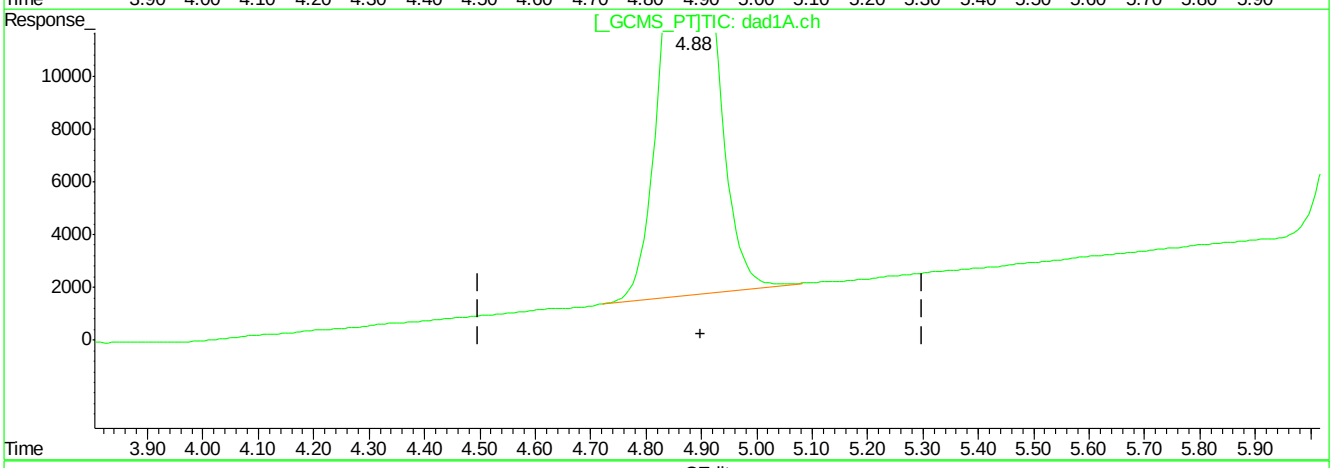
(+) = Expected Retention Time
BB088913.D BBB2740_073025.M Wed Jul 30 12:58:20 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088913.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088913.D\dad1A.ch
Acq On : 30-Jul-2025, 10:47:30 Operator: fouads
Sample : ic2740-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:55:39 2025
Response via : Multiple Level Calibration





QEdit

(6) 1,3,5-Trinitrobenzene

4.88min 207.111ppb

response 823994

(6) 1,3,5-Trinitrobenzene #2

4.88min 210.456ppb m

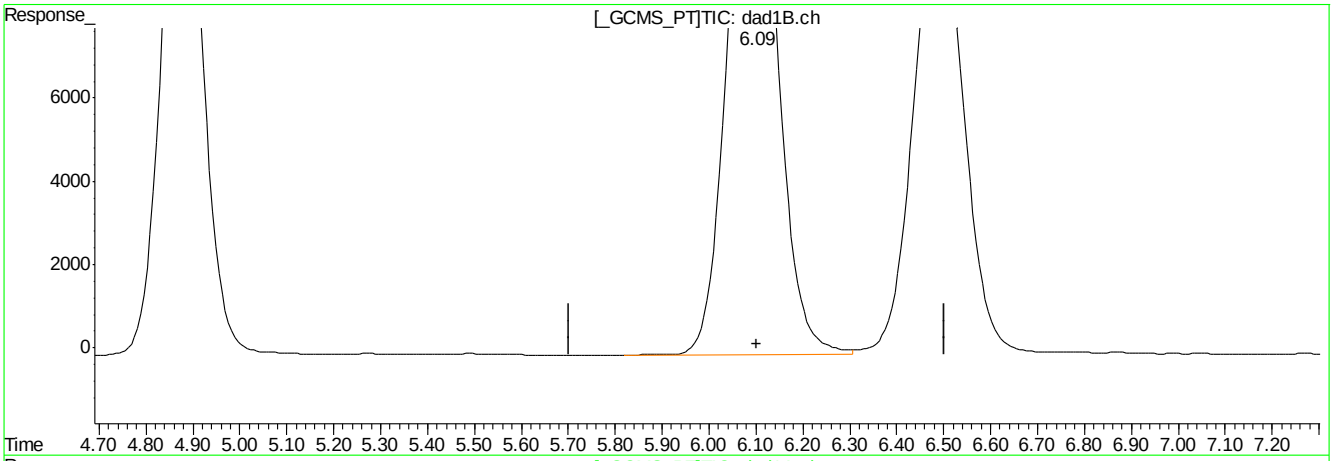
response 1298784

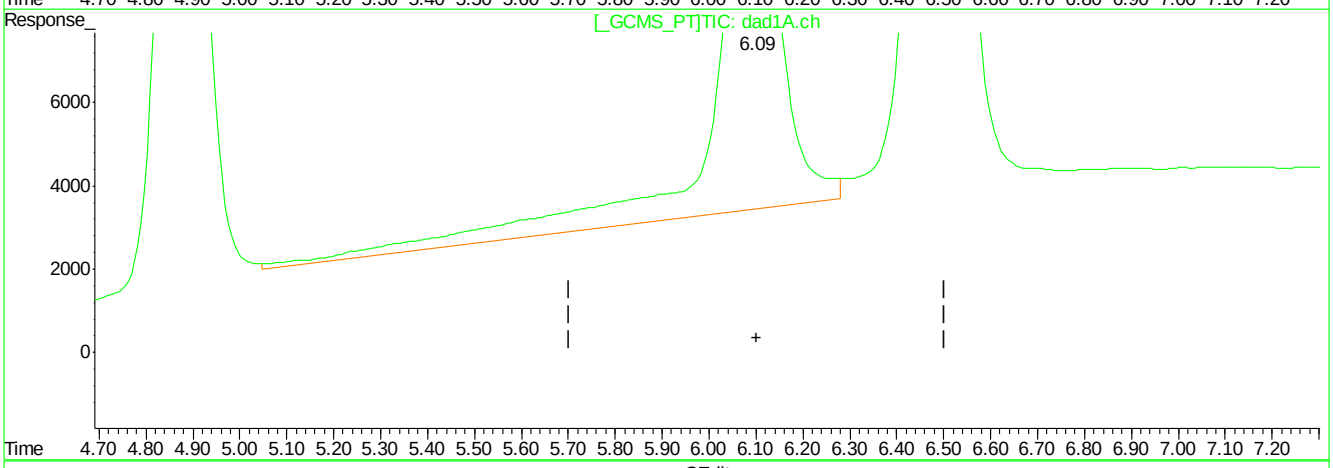
(+) = Expected Retention Time
BB088913.D BBB2740_073025.M Wed Jul 30 12:58:25 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088913.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088913.D\dad1A.ch
Acq On : 30-Jul-2025, 10:47:30 Operator: fouads
Sample : ic2740-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:55:39 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

6.09min 208.814ppb

response 1054577

(7) 1,3-Dinitrobenzene #2

6.09min 286.144ppb

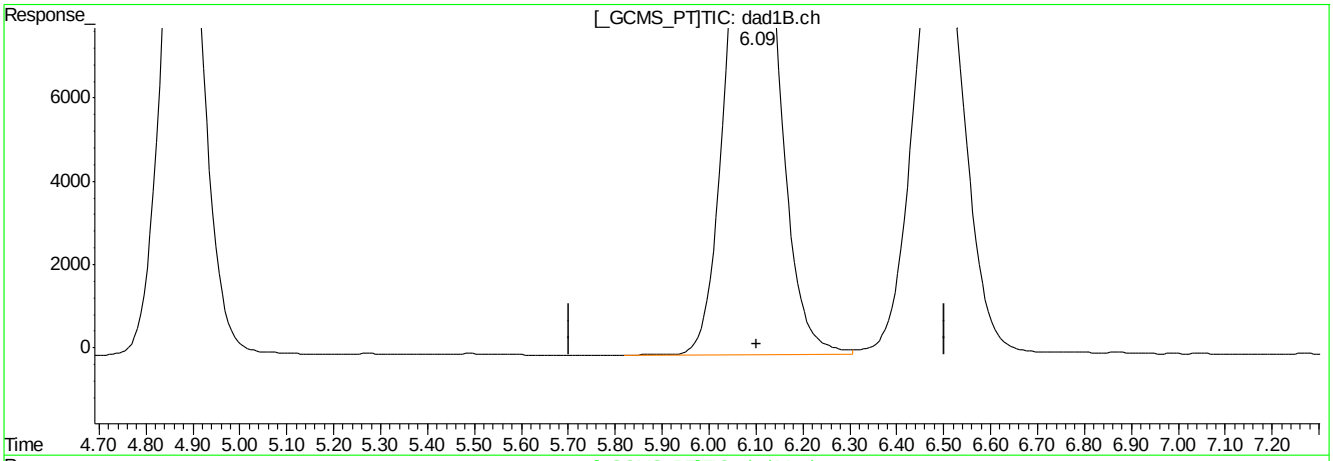
response 982625

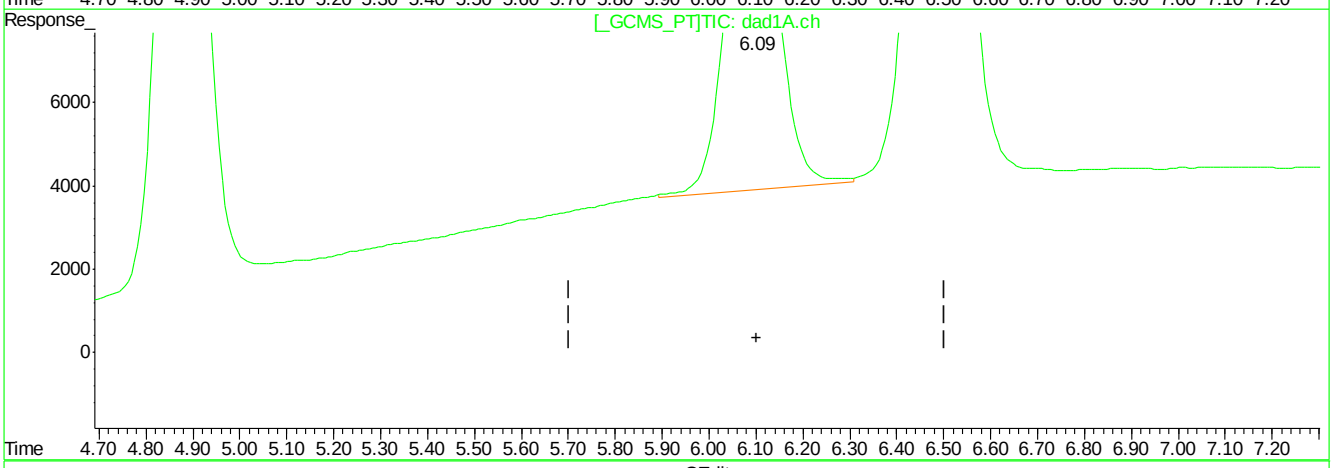
(+) = Expected Retention Time
BB088913.D BBB2740_073025.M Wed Jul 30 12:58:35 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088913.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088913.D\dad1A.ch
Acq On : 30-Jul-2025, 10:47:30 Operator: fouads
Sample : ic2740-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:55:39 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

6.09min 208.814ppb

response 1054577

(7) 1,3-Dinitrobenzene #2

6.09min 210.401ppb m

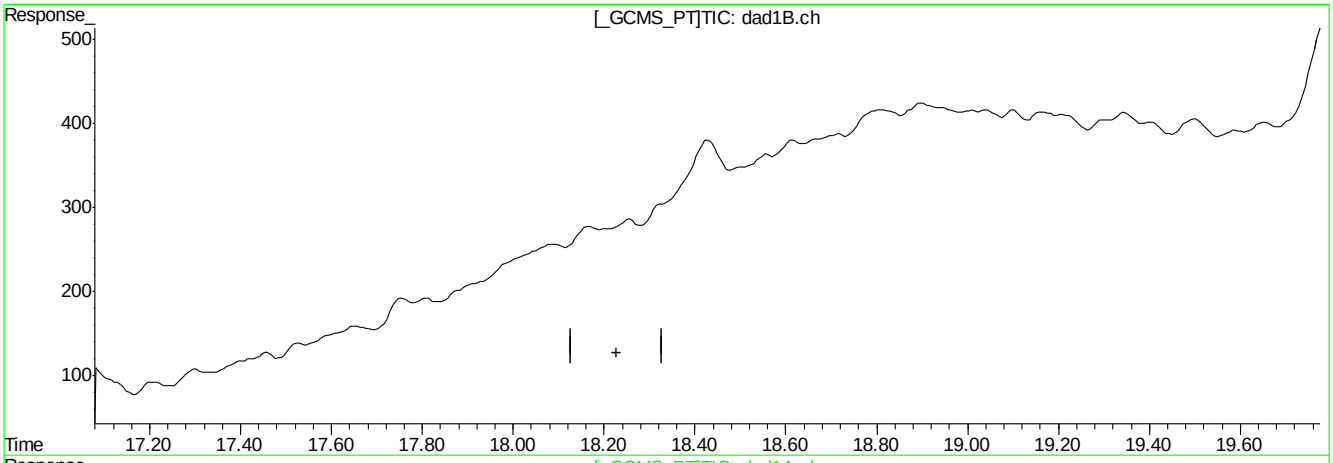
response 722521

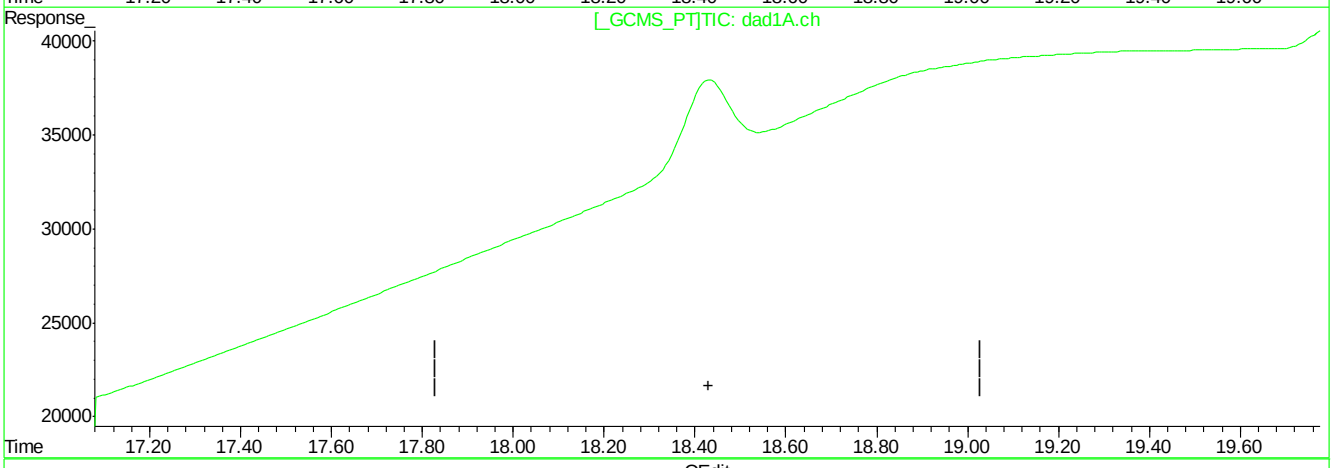
(+) = Expected Retention Time
BB088913.D BBB2740_073025.M Wed Jul 30 12:58:40 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088913.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088913.D\dad1A.ch
Acq On : 30-Jul-2025, 10:47:30 Operator: fouads
Sample : ic2740-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:55:39 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

0.00min 0.000ppb

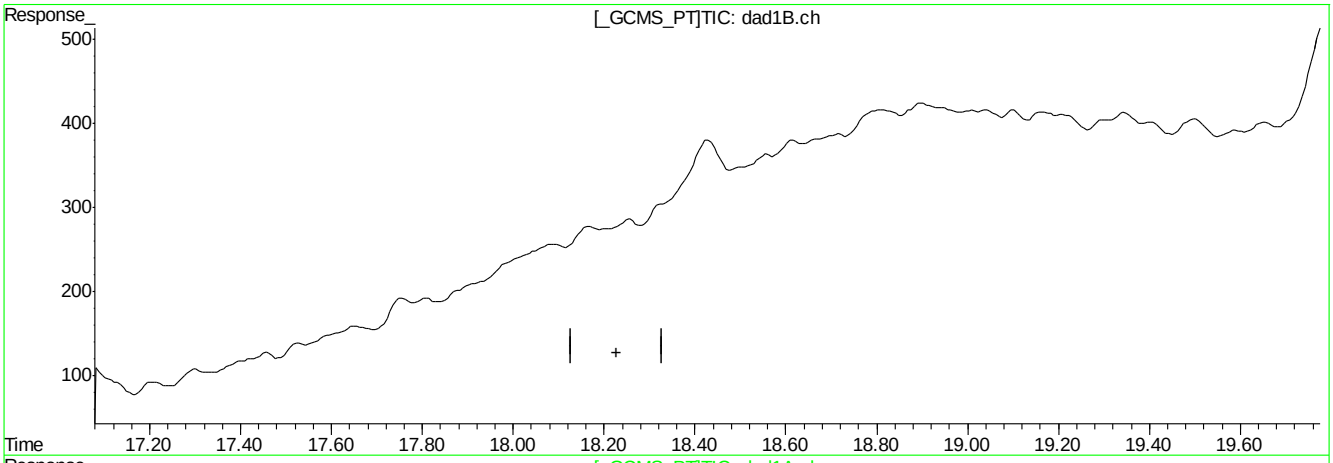
response 0

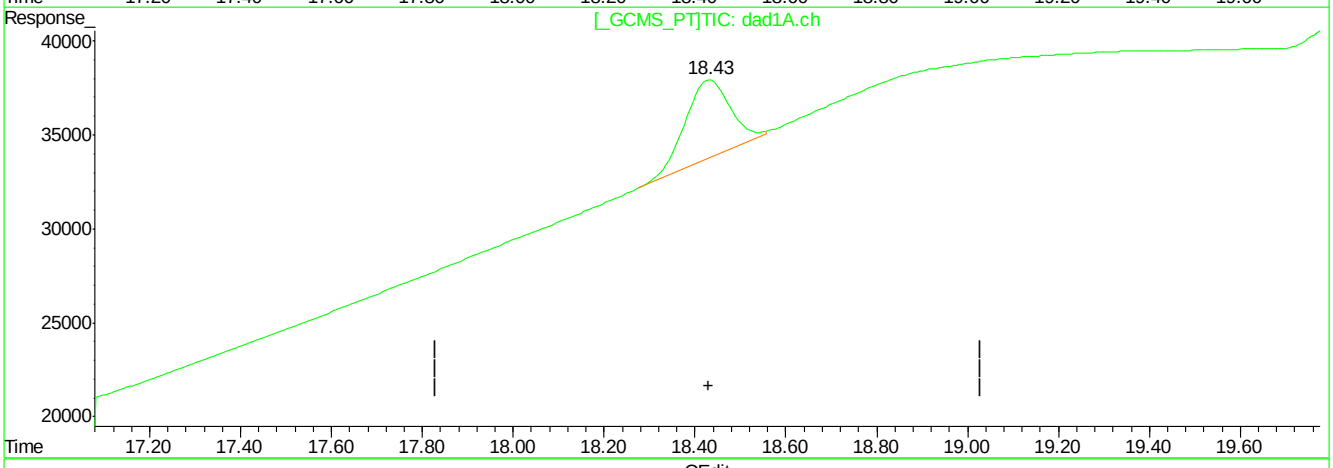
(+) = Expected Retention Time
BB088913.D BBB2740_073025.M Wed Jul 30 12:58:59 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088913.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088913.D\dad1A.ch
Acq On : 30-Jul-2025, 10:47:30 Operator: fouads
Sample : ic2740-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:55:39 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

18.43min 270.568ppb m

response 289191

(+) = Expected Retention Time
BB088913.D BBB2740_073025.M Wed Jul 30 12:59:04 2025

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 08/01/25 16:12

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088914.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088914.D\dad1A.ch
Acq On : 30-Jul-2025, 11:15:00 Operator: fouads
Sample : ic2740-500 Inst : G1315B
Misc : OP10595,gbb2740,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39:12 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.41	11.42	1021834	1823365	434.500	466.162
	Spiked Amount 500.000	Range 70 - 136		Recovery =		86.90%	93.23%
	Target Compounds						
1)	TNX	1.49	1.49	1856929	2837739	206.844	205.998
2)	HMX	1.62	1.62	832533	2307245	559.517	498.675
3)	DNX	1.89	1.89	3144963	4932721	490.386	431.876
4)	MNX	2.50	2.50	3391653	5203324	521.682	517.827
5)	RDX	3.13	3.13	972851	1542149	545.259	538.649
6)	1,3,5-Trinitrobe	4.88	4.88	2077608	3053787	522.208	494.839
7)	1,3-Dinitrobenze	6.09	6.09	2659351	1819125	526.572	529.736m
8)	3,5-Dinitroanili	6.49	6.49	2032350	3484438	477.145	554.135
9)	Nitrobenzene	7.66	7.66	1579928	1562431	548.801	558.575
10)	Nitroglycerin	0.00	9.18	0	661886	N.D.	542.580 #
11)	Tetryl	9.60	9.60	1518669	2419053	542.656	553.750
12)	2,4,6-Trinitroto	10.07	10.07	1889536	2220129	537.313	526.261
13)	2-Amino-4,6-Dini	10.54	10.54	1689996	2425111	504.343	519.127
14)	4-Amino-2,6-Dini	11.00	11.00	1210580	2324002	522.931	504.836
16)	2,4-Dinitrotolue	12.07	12.07	2422330	1631641	546.871	558.117
17)	2,6-Dinitrotolue	12.49	12.49	1329042	1772081	517.310	534.493
18)	o-Nitrotoluene	15.46	15.46	1144681	1579754	566.694	560.435
19)	p-Nitrotoluene	16.03	16.03	1704215	1370093	513.142	534.919
20)	m-Nitrotoluene	16.83	16.83	1641832	1854904	555.625	528.230
21)	PETN	0.00	18.43	0	701297	N.D.	656.136m#

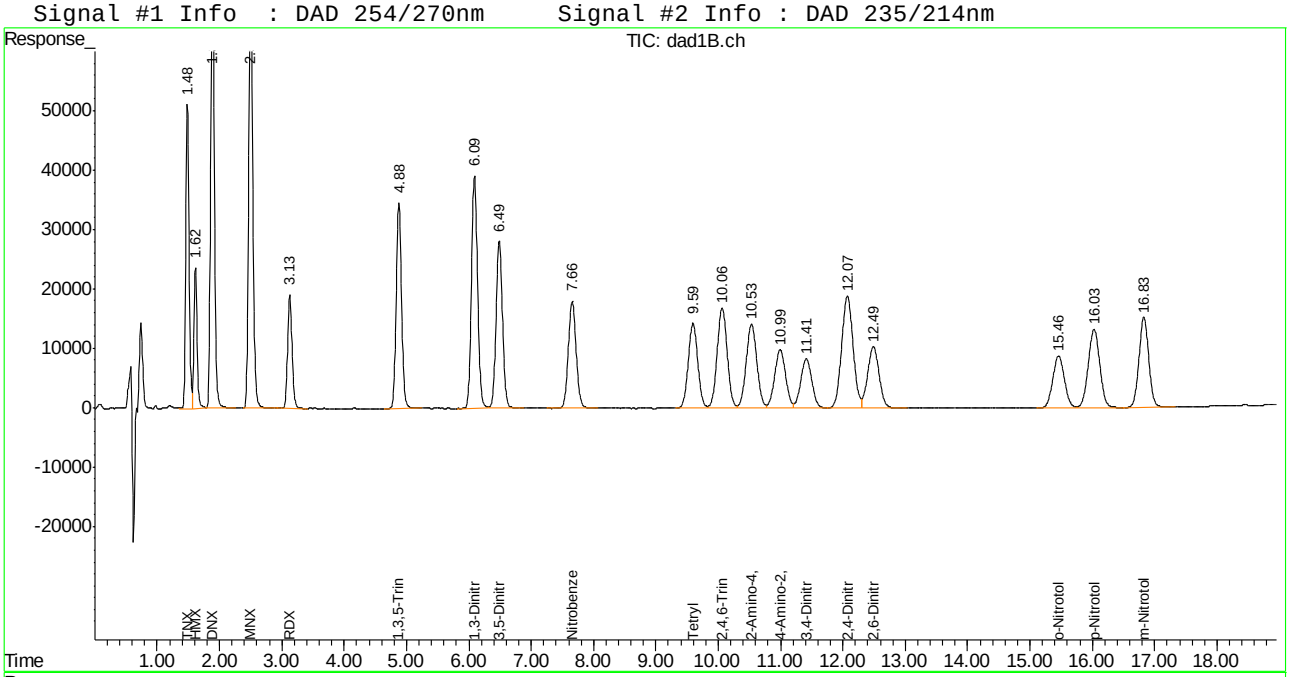
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088914.D BBB2740_073025.M Fri Aug 01 11:08:32 2025 Page 1

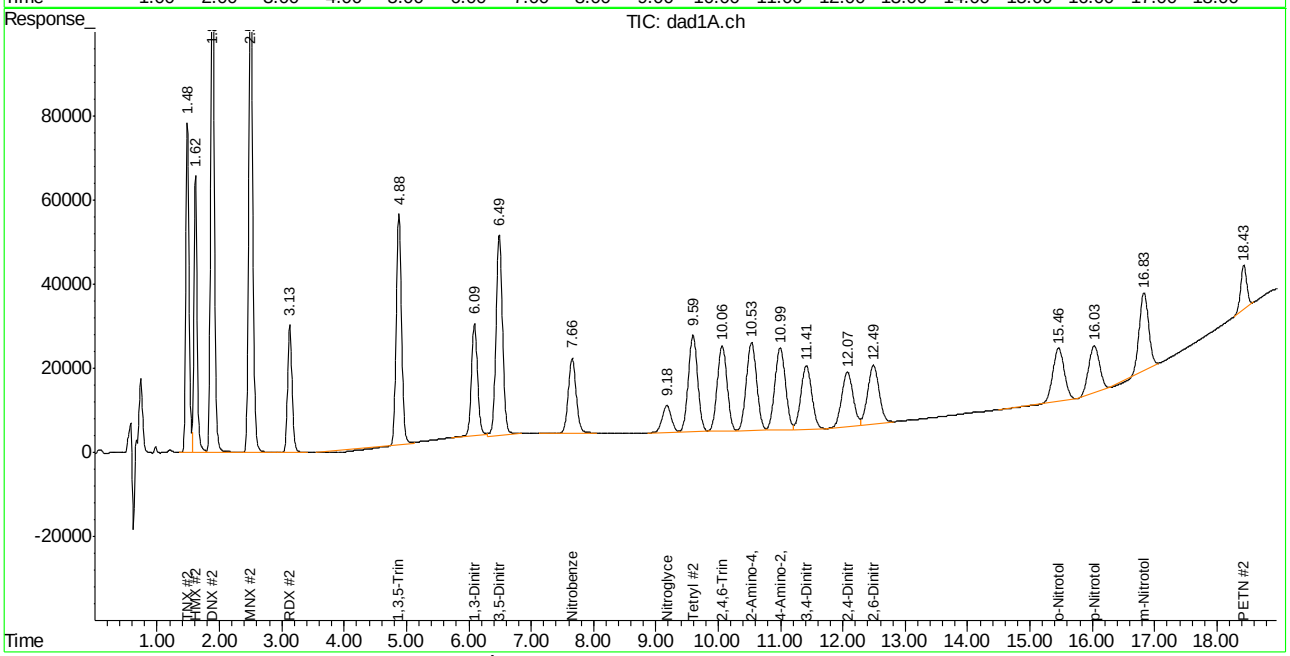
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088914.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088914.D\dad1A.ch
Acq On : 30-Jul-2025, 11:15:00 Operator: fouads
Sample : ic2740-500 Inst : G1315B
Misc : OP10595,gbb2740,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:59 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:36:38 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

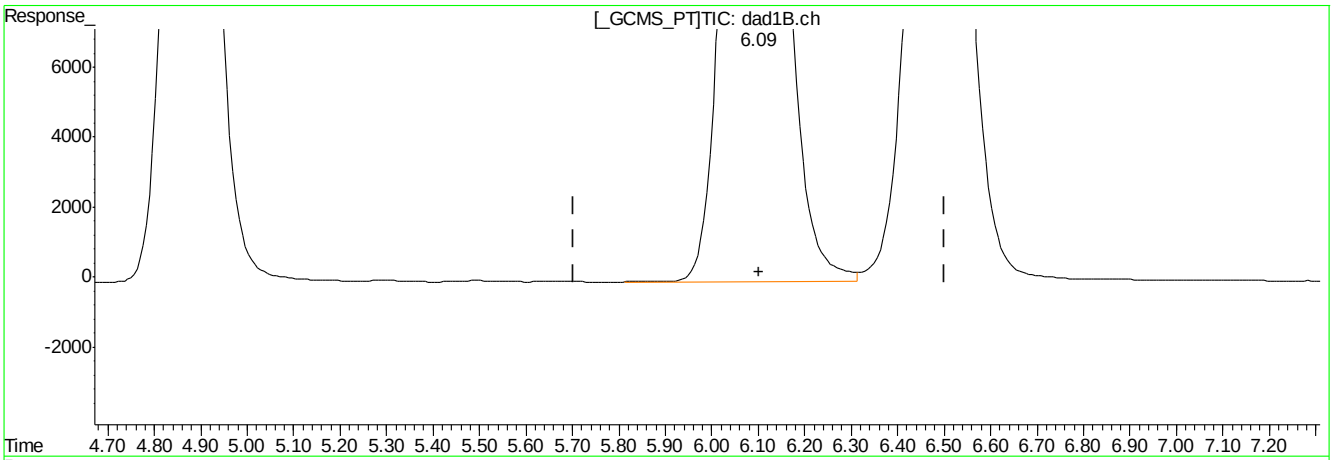
Sample Number: GBB2740-IC2740
Lab FileID: BB088914.D
Injection Time: 07/30/25 11:15
Method: SW846 8330A
Analyst approved: 08/01/25 12:08 Fouad Sekkar
Supervisor approved: 08/01/25 16:12 William Hustedde

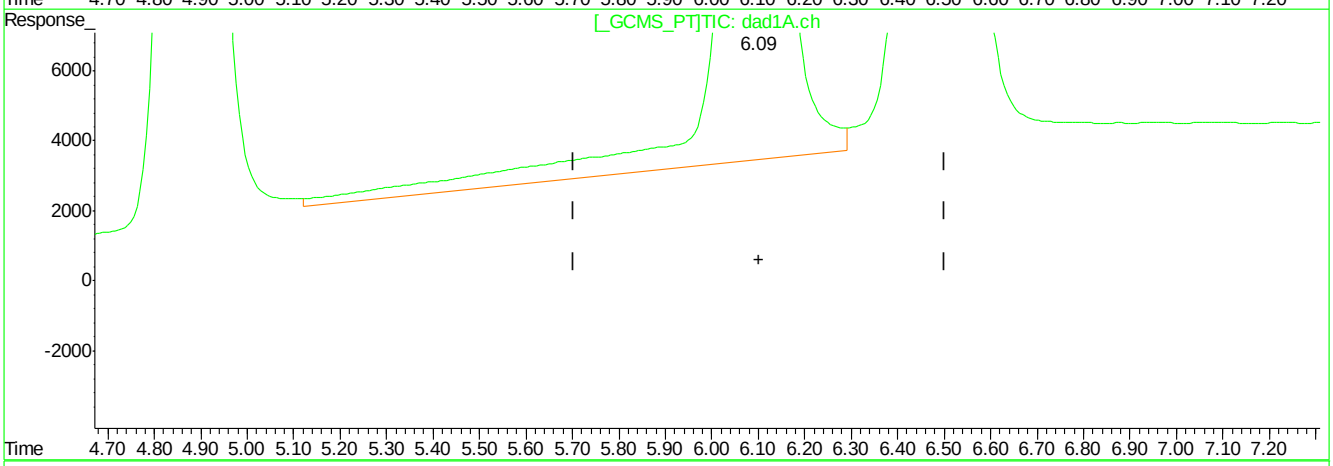
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	6.09	Poorly defined baseline
PETN	78-11-5	2	18.43	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088914.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088914.D\dad1A.ch
Acq On : 30-Jul-2025, 11:15:00 Operator: fouads
Sample : ic2740-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:55:39 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

6.09min 526.572ppb

response 2659351

(7) 1,3-Dinitrobenzene #2

6.09min 614.346ppb

response 2109676

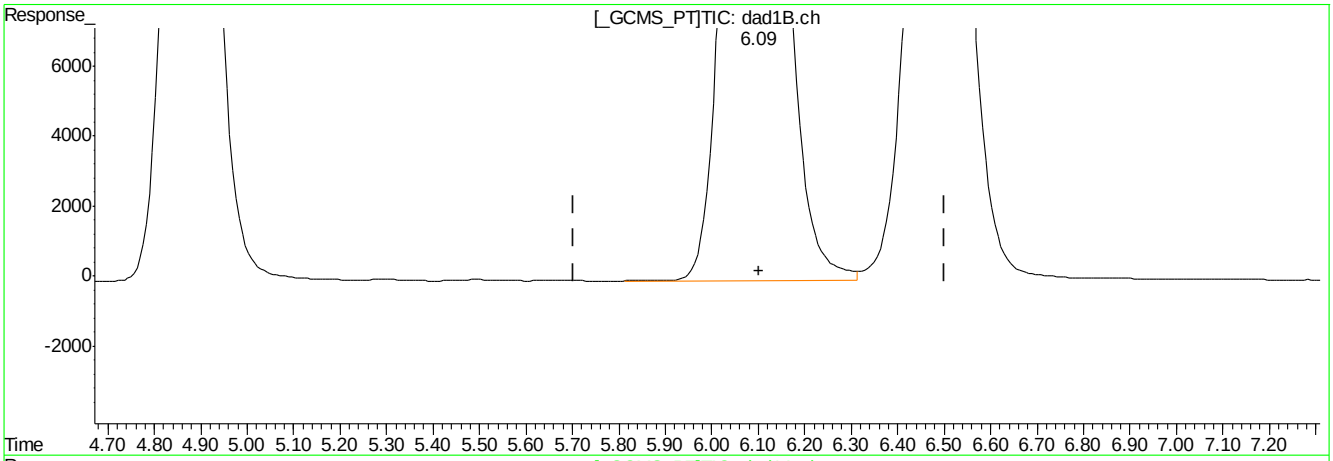
(+) = Expected Retention Time
BB088914.D BBB2740_073025.M Wed Jul 30 12:59:26 2025

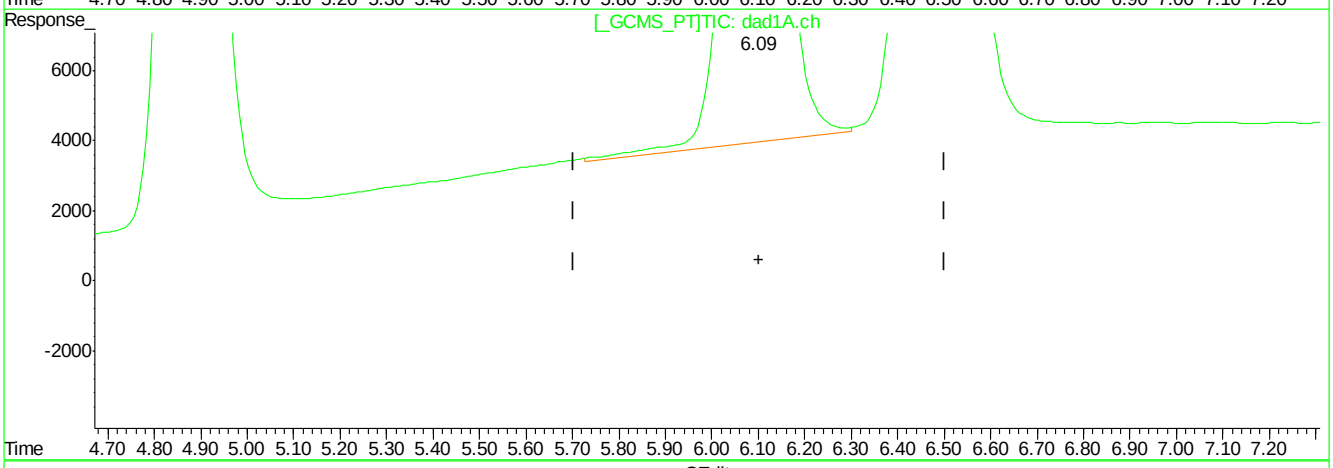
BB088914.D edits: 1,3-Dinitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088914.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088914.D\dad1A.ch
Acq On : 30-Jul-2025, 11:15:00 Operator: fouads
Sample : ic2740-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:55:39 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

6.09min 526.572ppb

response 2659351

(7) 1,3-Dinitrobenzene #2

6.09min 529.736ppb m

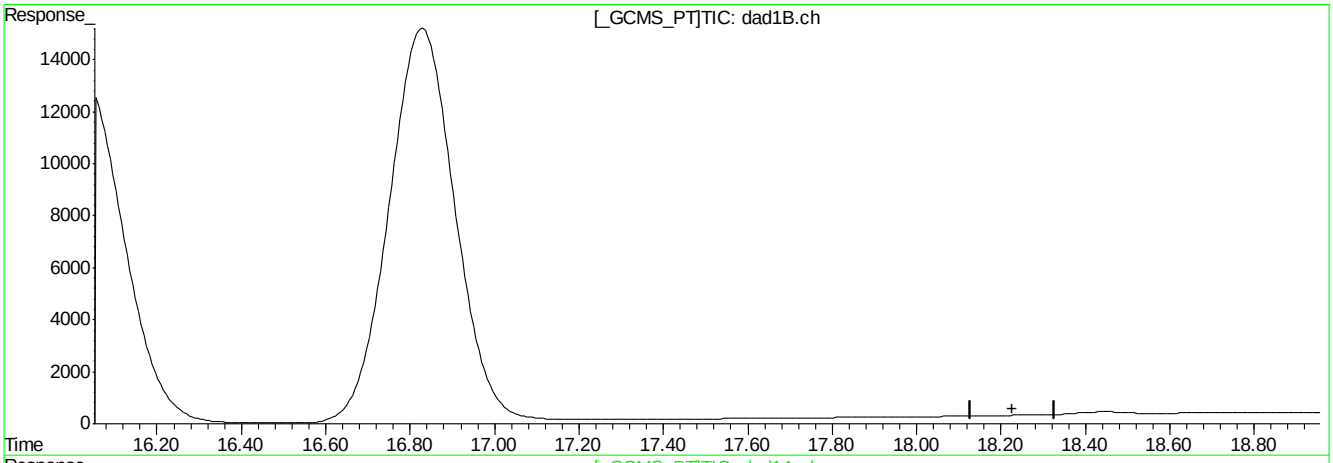
response 1819125

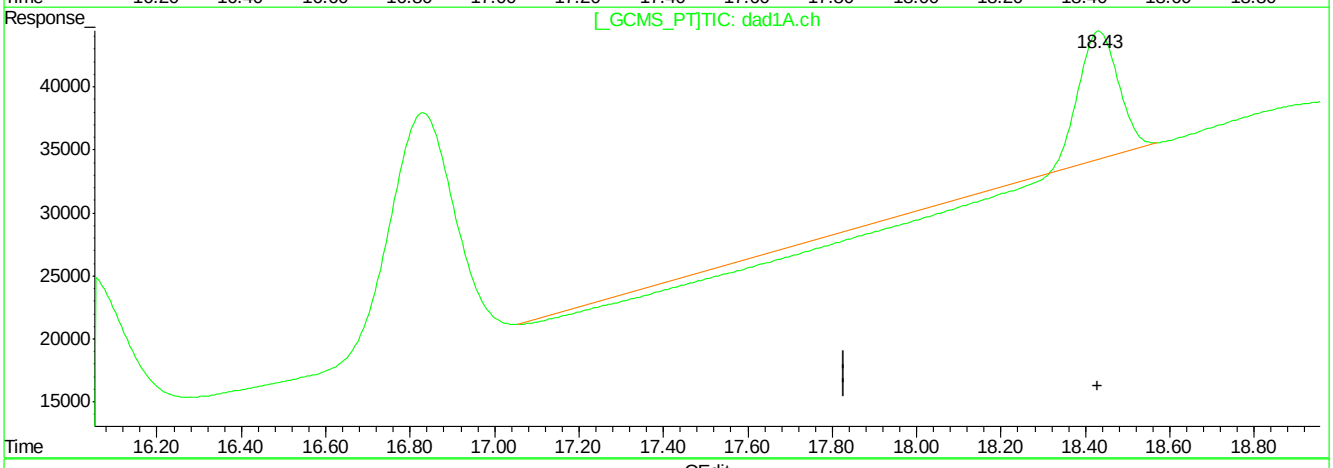
(+) = Expected Retention Time
BB088914.D BBB2740_073025.M Wed Jul 30 12:59:31 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088914.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088914.D\dad1A.ch
Acq On : 30-Jul-2025, 11:15:00 Operator: fouads
Sample : ic2740-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:55:39 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

18.43min 192.400ppb

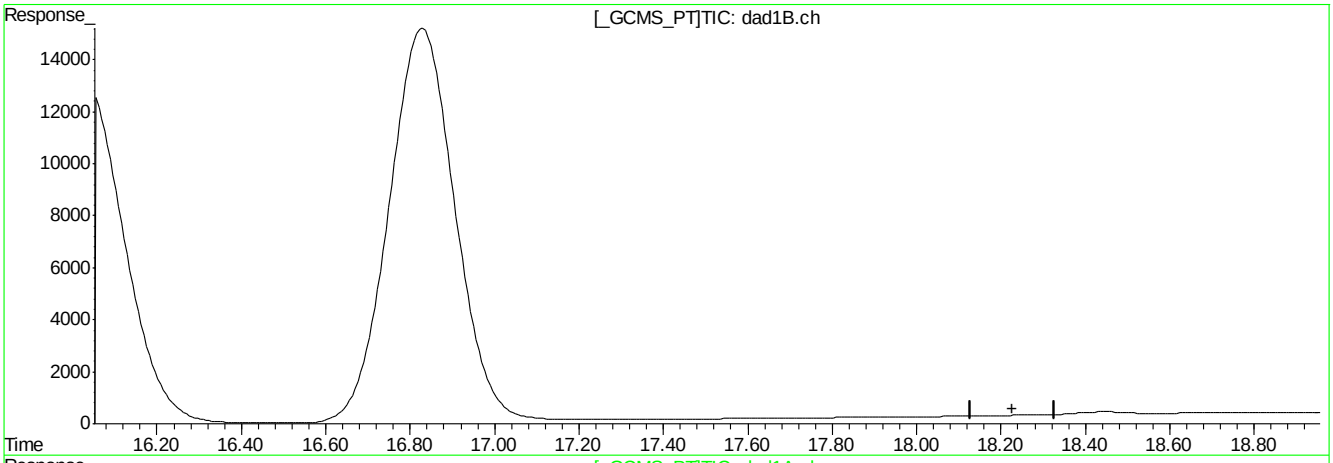
response 205643

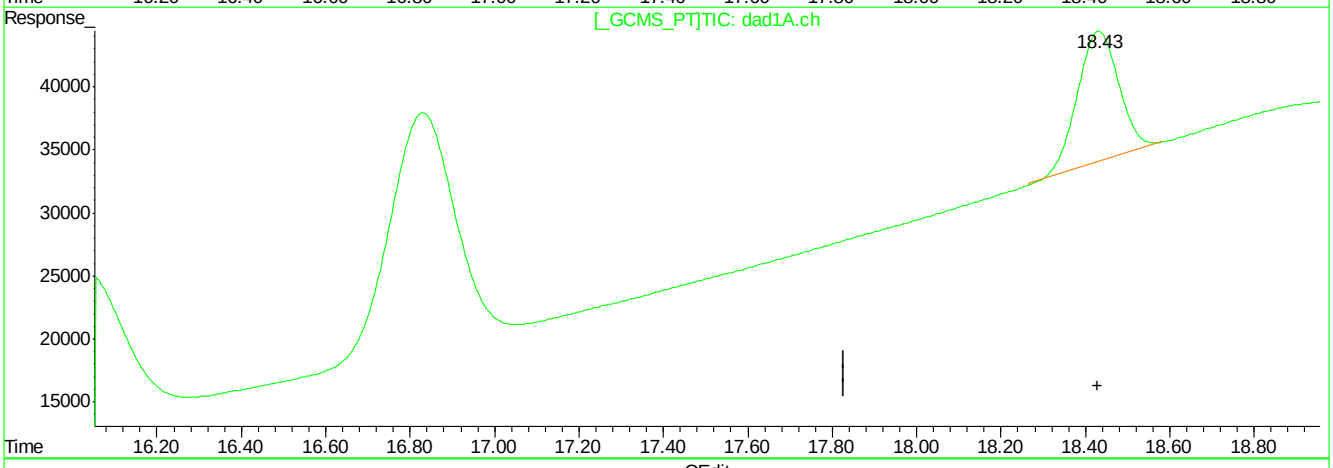
(+) = Expected Retention Time
BB088914.D BBB2740_073025.M Wed Jul 30 12:59:44 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088914.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088914.D\dad1A.ch
Acq On : 30-Jul-2025, 11:15:00 Operator: fouads
Sample : ic2740-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 12:39 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 12:55:39 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

18.43min 656.136ppb m

response 701297

(+) = Expected Retention Time
BB088914.D BBB2740_073025.M Wed Jul 30 12:59:50 2025

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088915.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088915.D\dad1A.ch
Acq On : 30-Jul-2025, 12:55:39 Operator: fouads
Sample : icc2740-1000 Inst : G1315B
Misc : OP10595,gbb2740,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 13:57:23 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 13:57:02 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
15) S	3,4-Dinitrotolue	11.24	11.24	2002345	3582362	851.429	915.867	
Spiked Amount	500.000	Range	70 - 136	Recovery	=	170.29%#	183.17%#	
	Target Compounds							
1)	TNX	1.46	1.46	3612912	5520507	402.444	400.746	
2)	HMX	1.58	1.58	1605545	4429341	1079.033	957.333	
3)	DNX	1.85	1.85	6136649	9571614	956.872	838.026	
4)	MNX	2.45	2.45	6635458	10170375	1020.623	1012.140	
5)	RDX	3.07	3.07	1901737	3014682	1065.876	1052.982	
6)	1,3,5-Trinitrobe	4.83	4.83	4054388	6932687	1019.072	1123.380	
7)	1,3-Dinitrobenze	6.02	6.02	5205962	3843903	1030.820	1119.360	
8)	3,5-Dinitroanili	6.38	6.38	3996039	6781268	938.170	1078.434	
9)	Nitrobenzene	7.57	7.57	3104528	3060928	1078.383	1094.293	
10)	Nitroglycerin	0.00	9.08	0	1265992	N.D.	1037.794	#
11)	Tetryl	9.44	9.44	2992194	4797840	1069.182	1098.282	
12)	2,4,6-Trinitroto	9.94	9.94	3717361	4460333	1057.077	1057.281	
13)	2-Amino-4,6-Dini	10.32	10.32	3314868	4932247	989.251	1055.812	
14)	4-Amino-2,6-Dini	10.77	10.77	2382133	4699566	1029.003	1020.873	
16)	2,4-Dinitrotolue	11.90	11.90	4756043	3202860	1073.735	1095.567	
17)	2,6-Dinitrotolue	12.32	12.32	2611117	3476994	1016.339	1048.728	
18)	o-Nitrotoluene	15.29	15.29	2224029	3080971	1101.044	1093.007	
19)	p-Nitrotoluene	15.86	15.86	3339300	2741037	1005.469	1070.169	
20)	m-Nitrotoluene	16.69	16.69	3214361	3803395	1087.796	1083.112	
21)	PETN	0.00	18.37	0	1370323	N.D.	1282.079	#

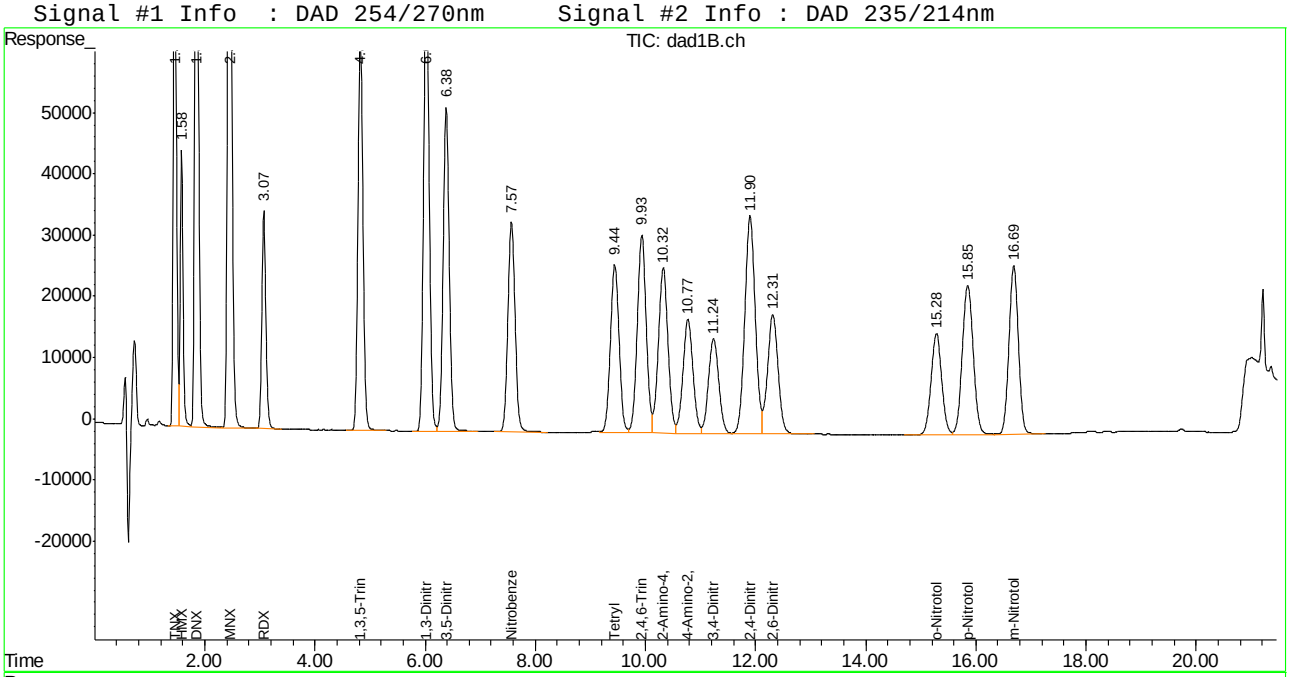
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088915.D BBB2740_073025.M Fri Aug 01 11:08:33 2025 Page 1

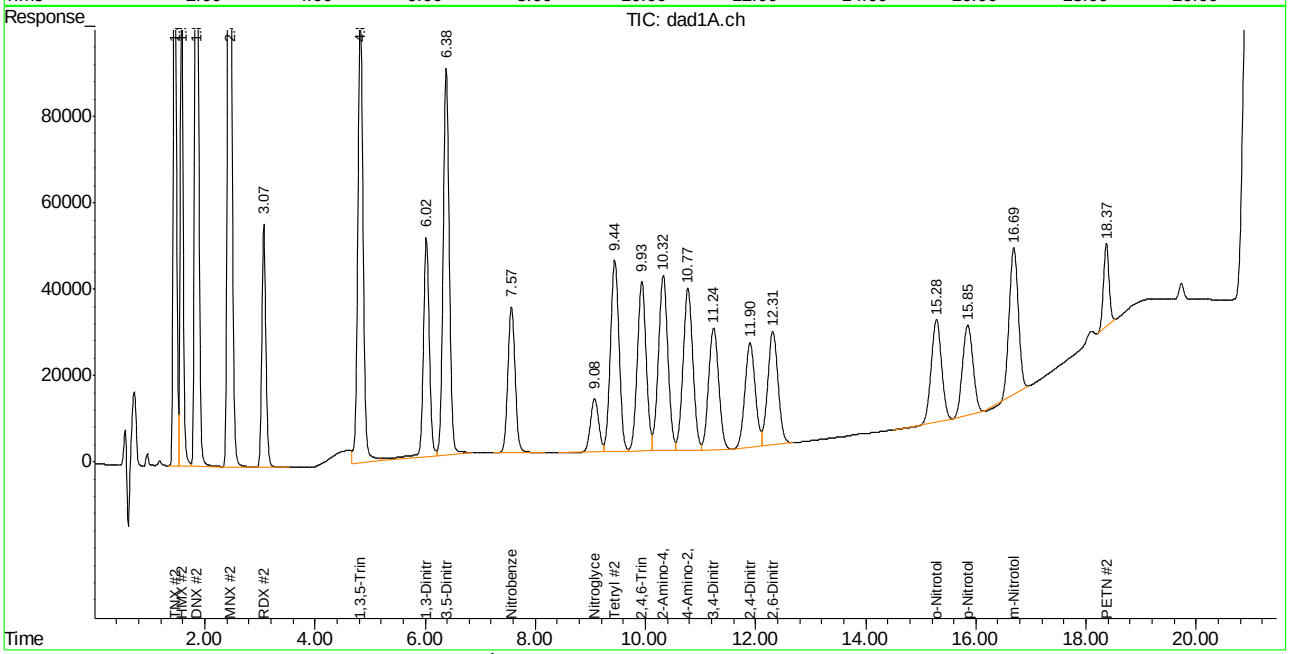
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088915.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088915.D\dad1A.ch
Acq On : 30-Jul-2025, 12:55:39 Operator: fouads
Sample : icc2740-1000 Inst : G1315B
Misc : OP10595,gbb2740,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 13:57 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 13:57:02 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





BB088916.D

Manual Integrations APPROVED (compounds with "m" flag)

William Hustedde 08/01/25 16:12

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088916.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088916.D\dad1A.ch
Acq On : 30-Jul-2025, 13:23:07 Operator: fouads
Sample : ic2740-2500 Inst : G1315B
Misc : OP10595,gbb2740,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 13:57:24 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 13:57:02 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.17	11.17	4914403	8971513	2089.682	2293.658
	Spiked Amount 500.000	Range 70 - 136		Recovery =		417.94%#	458.73%#
	Target Compounds						
1)	TNX	1.45	1.45	8890296	13542508	990.295	983.080
2)	HMX	1.58	1.58	3969979	10913695	2668.088	2358.825
3)	DNX	1.84	1.84	15096664	23522417	2353.984	2059.465
4)	MNX	2.43	2.43	16328507	25011002	2511.545	2489.056
5)	RDX	3.05	3.05	4690207	7423144	2628.744	2592.790
6)	1,3,5-Trinitrobe	4.80	4.80	10019651	15697590	2518.443	2543.653
7)	1,3-Dinitrobenze	5.99	5.99	12761802	8925080	2526.933	2599.019
8)	3,5-Dinitroanili	6.34	6.34	9790739	16500836	2298.620	2624.151
9)	Nitrobenzene	7.52	7.52	7702210	7611990	2675.424	2721.313
10)	Nitroglycerin	0.00	9.03	0	3168484	N.D. d	2597.358
11)	Tetryl	9.38	9.38	7389298	11929807	2640.371	2730.874
12)	2,4,6-Trinitroto	9.88	9.88	9142624	11075144	2599.818	2625.260
13)	2-Amino-4,6-Dini	10.24	10.24	8230702	12345160	2456.277	2642.644
14)	4-Amino-2,6-Dini	10.69	10.69	5889385	11819359	2544.021	2567.484
16)	2,4-Dinitrotolue	11.83	11.83	11692675	7945903	2639.765	2717.966
17)	2,6-Dinitrotolue	12.25	12.25	6425237	8637848	2500.929	2605.341
18)	o-Nitrotoluene	15.22	15.22	5530958	7837232	2738.195	2780.341
19)	p-Nitrotoluene	15.79	15.80	8289294	7049154	2495.920	2752.166
20)	m-Nitrotoluene	16.64	16.64	7971931	9678502	2697.841	2756.196
21)	PETN	0.00	18.35	0	3515902	N.D.	3289.491m#

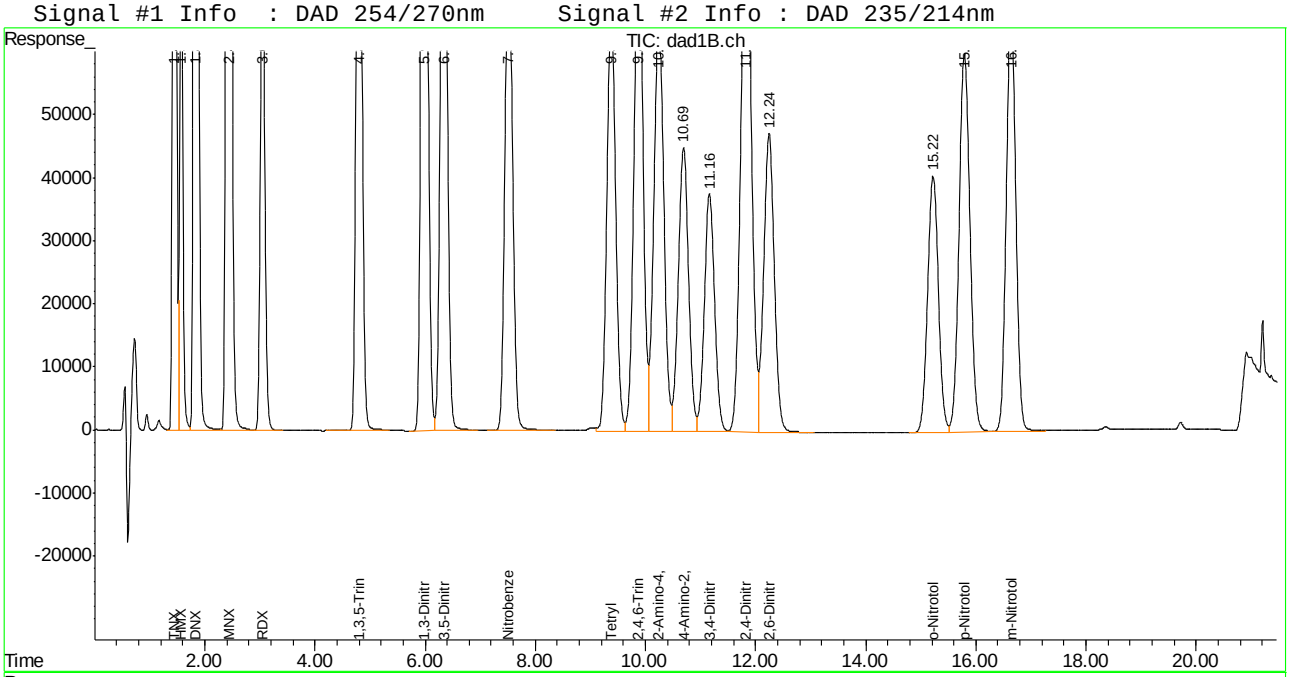
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088916.D BBB2740_073025.M Fri Aug 01 15:26:30 2025 Page 1

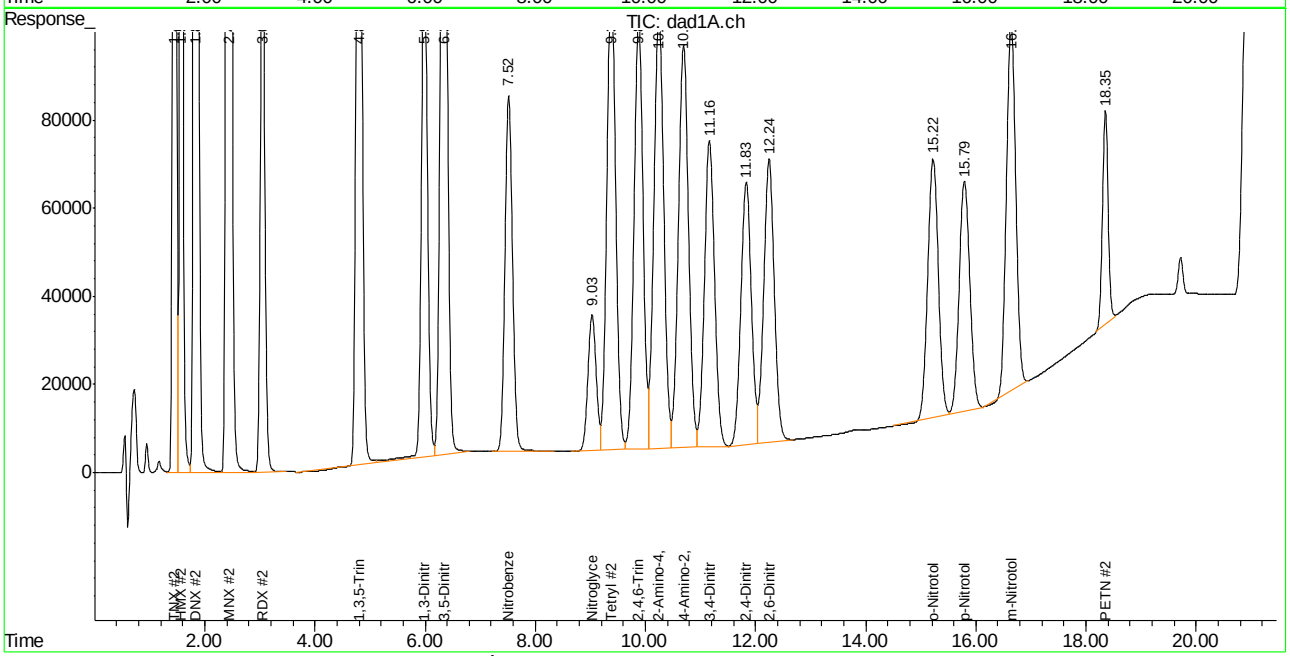
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088916.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088916.D\dad1A.ch
Acq On : 30-Jul-2025, 13:23:07 Operator: fouads
Sample : ic2740-2500 Inst : G1315B
Misc : OP10595,gbb2740,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 14:16 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 13:57:02 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: GBB2740-IC2740
Lab FileID: BB088916.D
Injection Time: 07/30/25 13:23

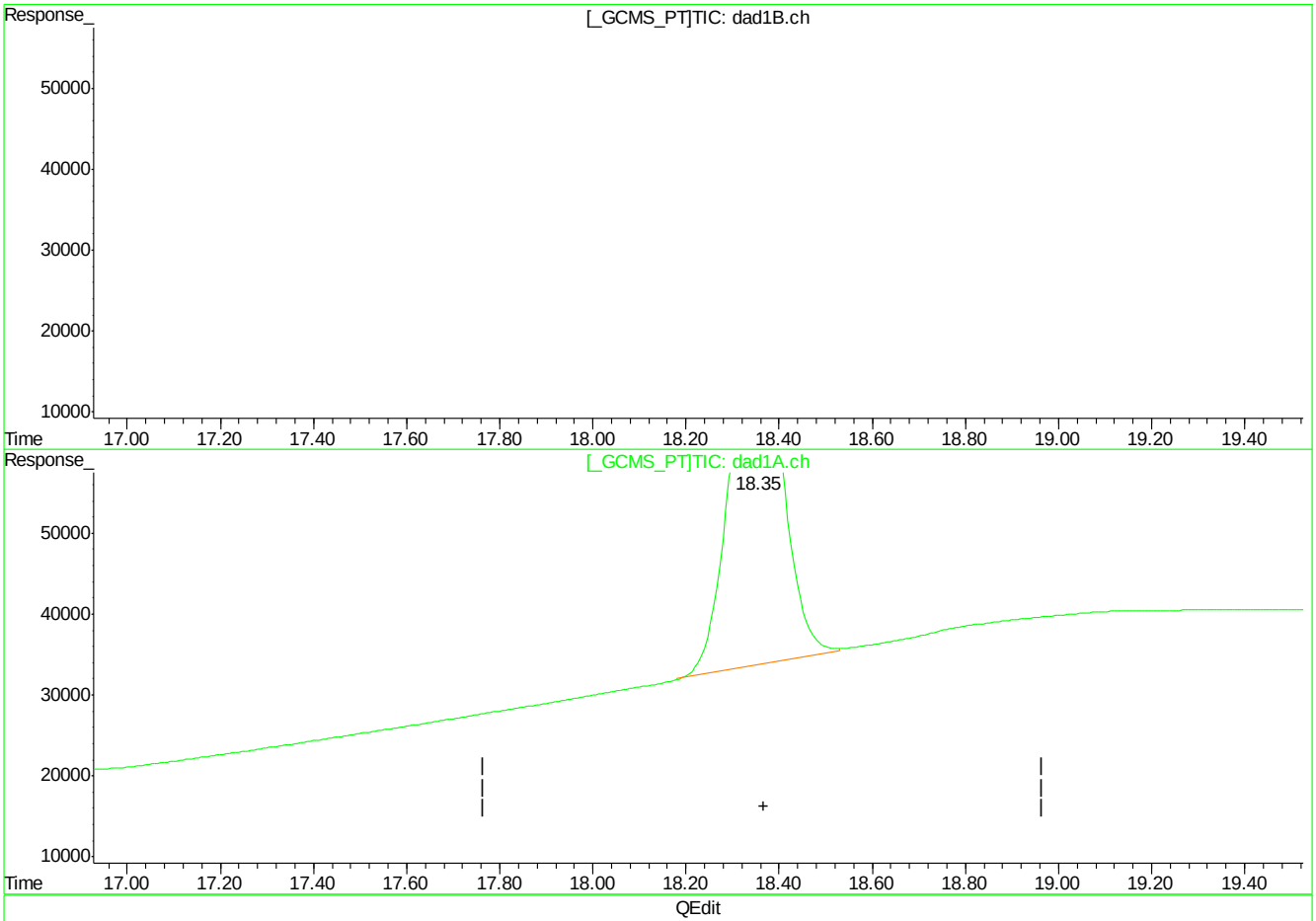
Method: SW846 8330A
Analyst approved: 08/01/25 12:08 Fouad Sekkar
Supervisor approved: 08/01/25 16:12 William Hustedde

Parameter	CAS	Sig#	R.T. (min.)	Reason
PETN	78-11-5	2	18.35	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088916.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088916.D\dad1A.ch
Acq On : 30-Jul-2025, 13:23:07 Operator: fouads
Sample : ic2740-2500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 13:57 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 13:57:02 2025
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

18.35min 3289.491ppb m

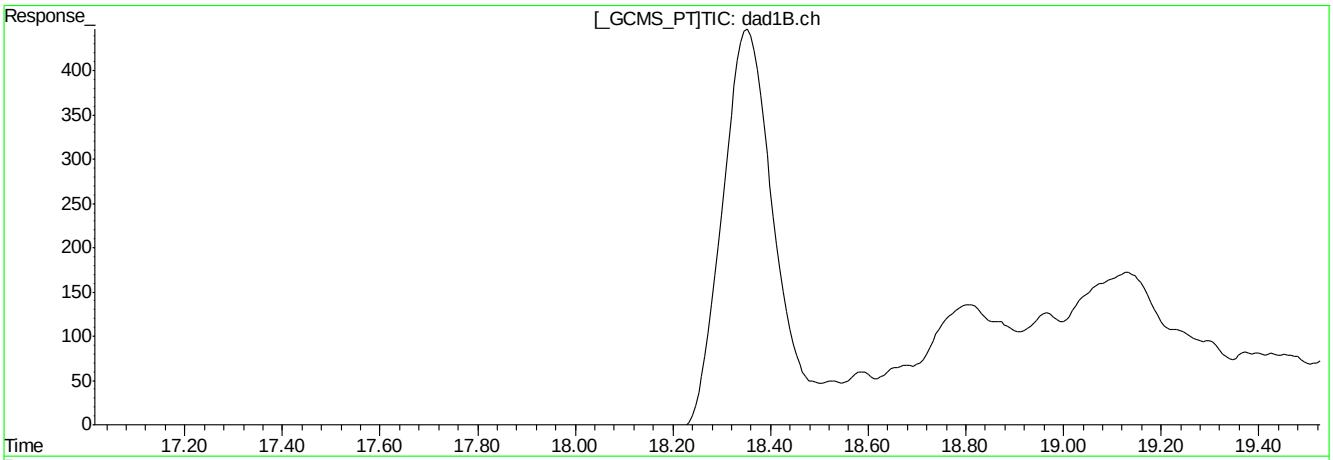
response 3515902

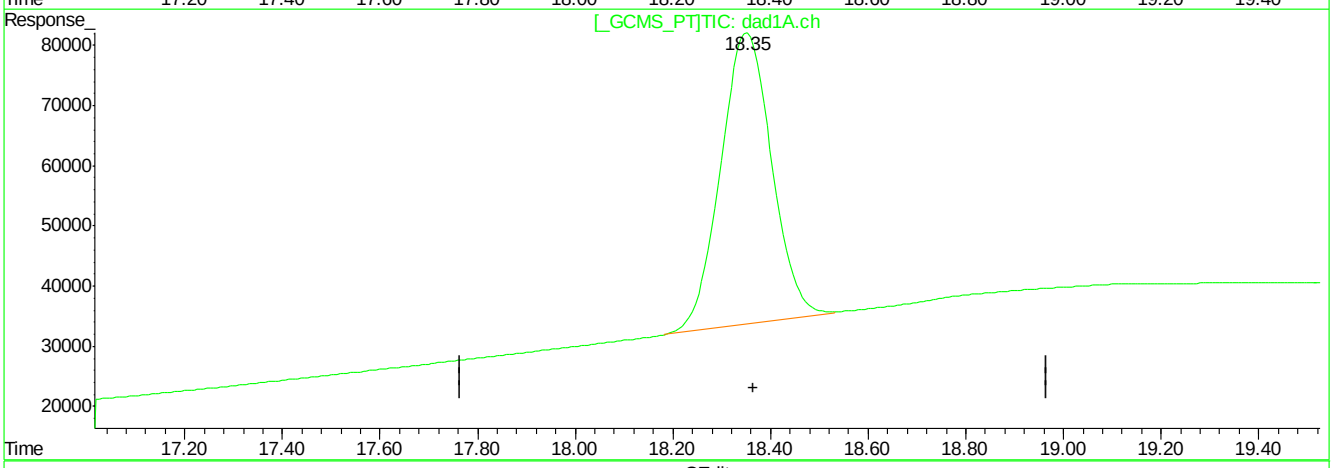
(+) = Expected Retention Time
BB088916.D BBB2740_073025.M Wed Jul 30 13:58:48 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088916.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088916.D\dad1A.ch
Acq On : 30-Jul-2025, 13:23:07 Operator: fouads
Sample : ic2740-2500 Inst : G1315B
Misc : OP10595,gbb2740,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 14:16 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 31 11:26:54 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

18.35min 3289.491ppb m

response 3515902

(+) = Expected Retention Time
BB088916.D BBB2740_073025.M Fri Aug 01 15:26:23 2025

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 08/01/25 16:12

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088917.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088917.D\dad1A.ch
Acq On : 30-Jul-2025, 13:50:35 Operator: fouads
Sample : ic2740-5000 Inst : G1315B
Misc : OP10595,gbb2740,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 14:15:17 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 13:57:02 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.15	11.15	10108590	18245768	4298.333	4664.714
	Spiked Amount 500.000	Range 70 - 136		Recovery =		859.67%#	932.94%#
	Target Compounds						
1)	TNX	1.43	1.43	17975949	27189163	2002.351	1973.721
2)	HMX	1.57	1.57	8018884	22051506	5389.220	4766.088
3)	DNX	1.82	1.82	30612858	47705553	4773.384	4176.777
4)	MNX	2.41	2.41	33086018	50714352	5089.076	5047.014
5)	RDX	3.03	3.03	9503213	15065468	5326.313	5262.137
6)	1,3,5-Trinitrobe	4.78	4.78	20328756	32128385	5109.640	5206.116
7)	1,3-Dinitrobenze	5.97	5.97	25881960	17897951	5124.824	5211.954
8)	3,5-Dinitroanili	6.32	6.32	19983103	33563943	4691.531	5337.720
9)	Nitrobenzene	7.49	7.49	15723152	15430165	5461.562	5516.338
10)	Nitroglycerin	0.00	9.02	0	6409528	N.D. d	5254.197
11)	Tetryl	9.37	9.37	14962332	24252091	5346.395	5551.590
12)	2,4,6-Trinitroto	9.87	9.87	18663318	22657849	5307.145	5370.833
13)	2-Amino-4,6-Dini	10.22	10.22	16558549	25023498	4941.545	5356.609
14)	4-Amino-2,6-Dini	10.67	10.67	11977667	24059335	5173.959	5226.338
16)	2,4-Dinitrotolue	11.82	11.82	23912859	16061551	5398.621	5493.995
17)	2,6-Dinitrotolue	12.23	12.23	13080044	17529177	5091.215	5287.136
18)	o-Nitrotoluene	15.21	15.21	11274942	16227521	5581.852	5756.886
19)	p-Nitrotoluene	15.78	15.78	16931520	14635084	5098.109	5713.903
20)	m-Nitrotoluene	16.63	16.63	16274996	20017835	5507.745	5700.579
21)	PETN	0.00	18.36	0	7157086	N.D.	6696.197m#

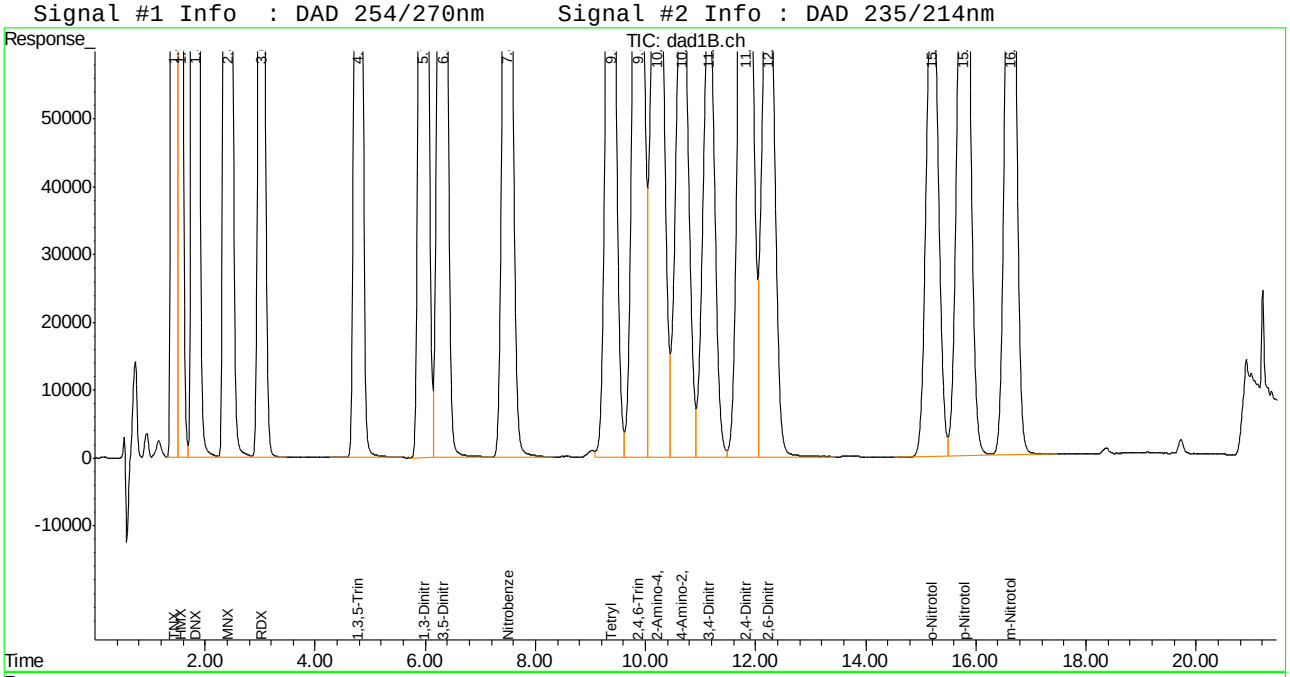
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088917.D BBB2740_073025.M Fri Aug 01 11:08:35 2025 Page 1

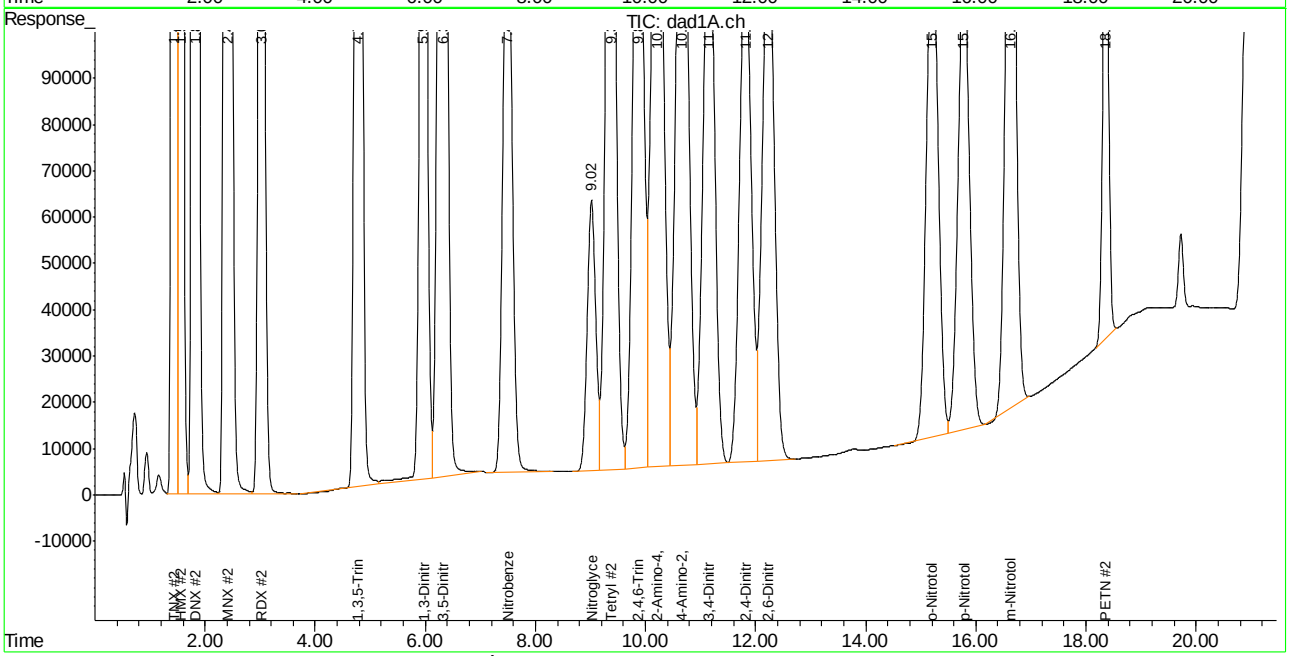
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088917.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088917.D\dad1A.ch
Acq On : 30-Jul-2025, 13:50:35 Operator: fouads
Sample : ic2740-5000 Inst : G1315B
Misc : OP10595,gbb2740,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 14:16 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 13:57:02 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

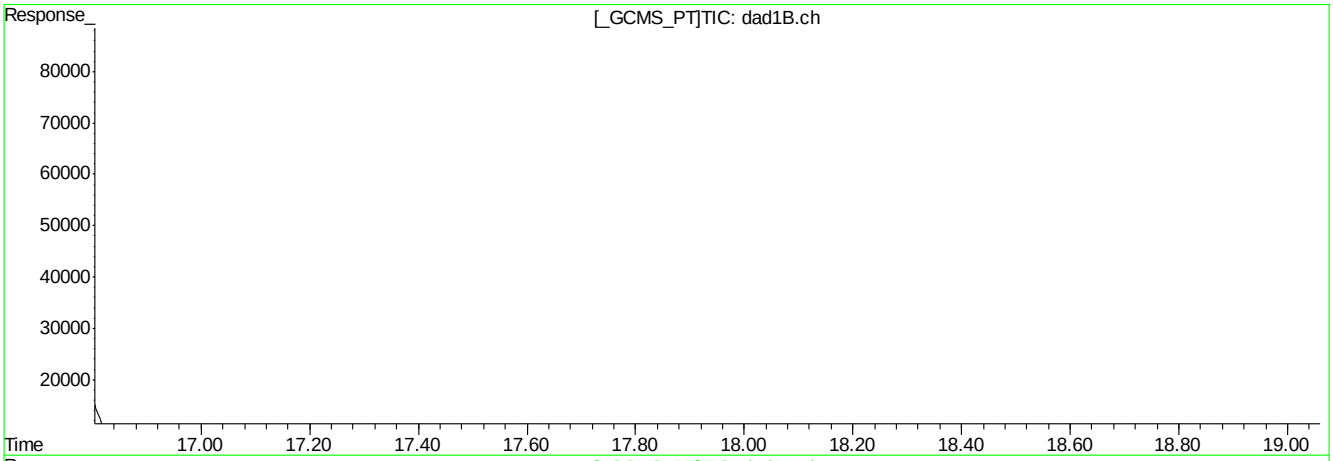
Sample Number:	GBB2740-IC2740	**Method:**	SW846 8330A
Lab FileID:	BB088917.D	**Analyst approved:**	08/01/25 12:08 Fouad Sekkar
Injection Time:	07/30/25 13:50	**Supervisor approved:**	08/01/25 16:12 William Hustedde

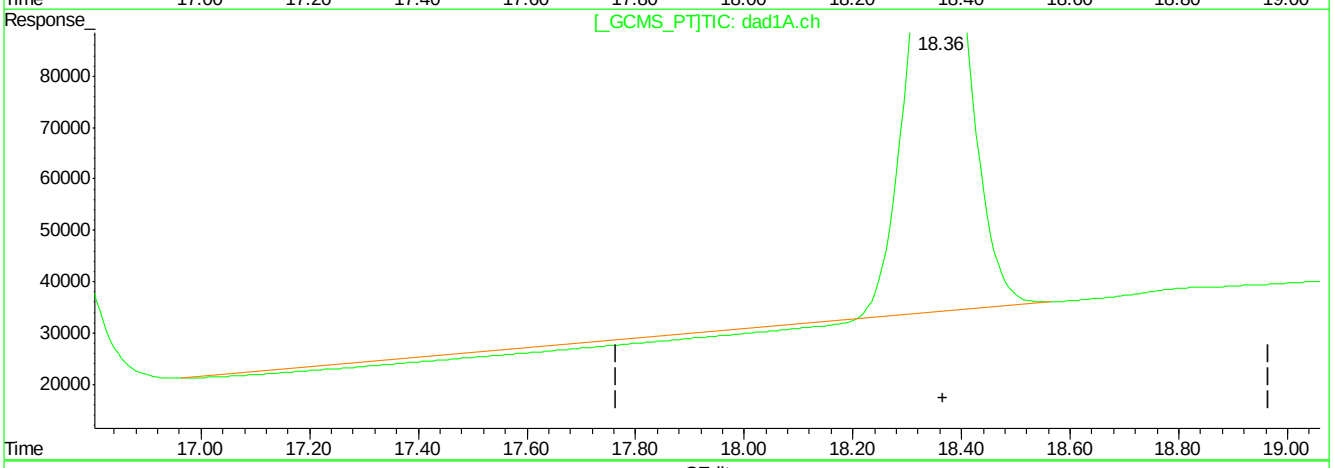
Parameter	CAS	Sig#	R.T. (min.)	Reason
PETN	78-11-5	2	18.36	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088917.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088917.D\dad1A.ch
Acq On : 30-Jul-2025, 13:50:35 Operator: fouads
Sample : ic2740-5000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 14:15 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 13:57:02 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

18.36min 6050.588ppb

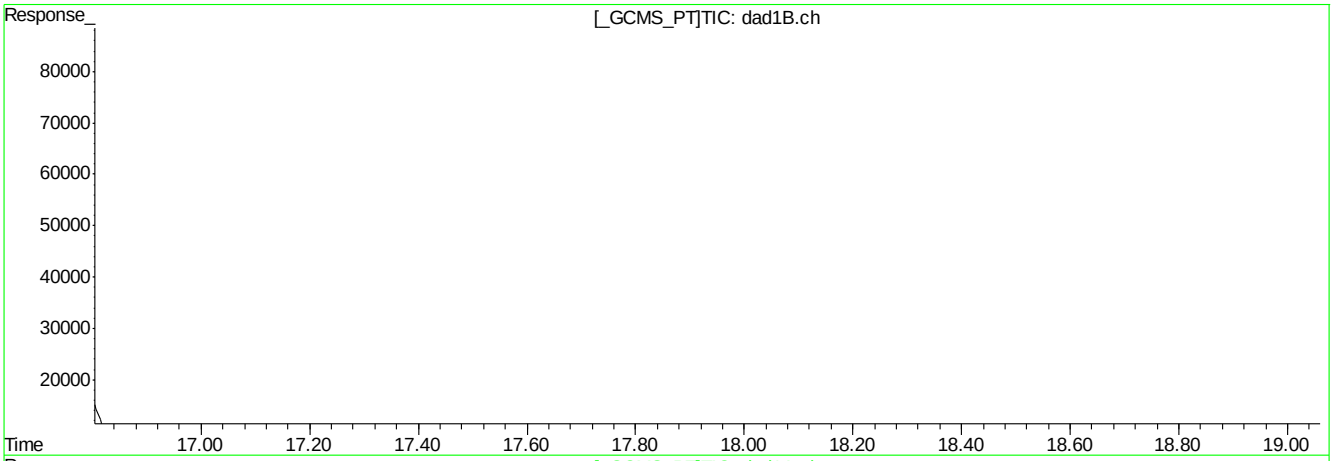
response 6467041

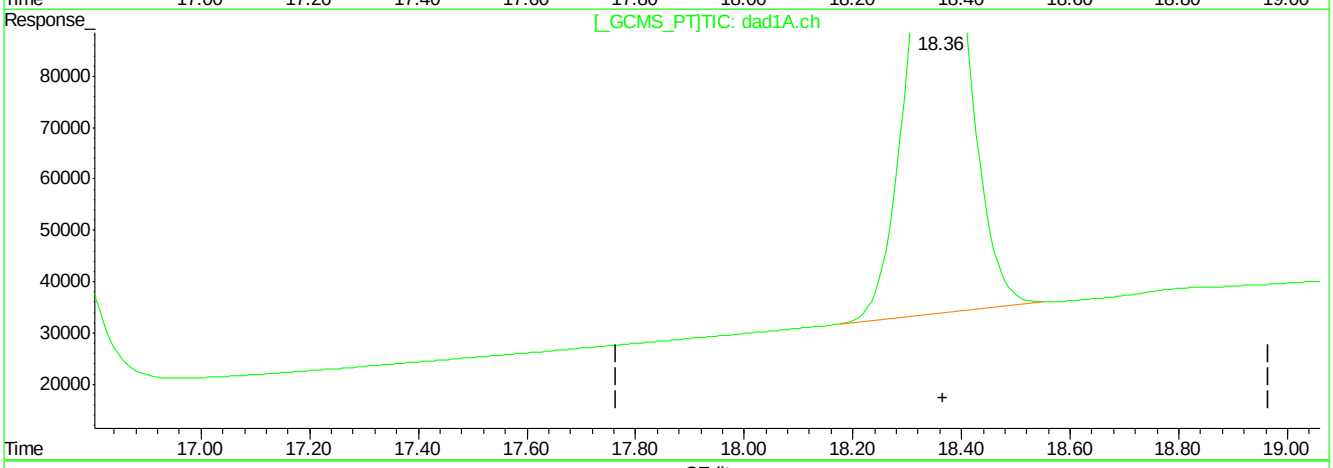
(+) = Expected Retention Time
BB088917.D BBB2740_073025.M Wed Jul 30 14:15:56 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088917.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088917.D\dad1A.ch
Acq On : 30-Jul-2025, 13:50:35 Operator: fouads
Sample : ic2740-5000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 14:15 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 13:57:02 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

18.36min 6696.197ppb m

response 7157086

(+) = Expected Retention Time
BB088917.D BBB2740_073025.M Wed Jul 30 14:16:06 2025

Manual Integrations APPROVED (compounds with "m" flag)
William Hustedde 08/01/25 16:12

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088918.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088918.D\dad1A.ch
Acq On : 30-Jul-2025, 14:18:08 Operator: fouads
Sample : icv2740-1000 Inst : G1315B
Misc : OP10595,gbb2740,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 31 11:56:56 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 31 11:46:06 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D. d
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.57	1.58	1492198	4187711	852.606m	950.679
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	3.06	3.06	1741279	2752541	881.284	892.001
6)	1,3,5-Trinitrobe	4.81	4.81	3822853	5613639	935.186	875.657
7)	1,3-Dinitrobenze	6.00	6.00	4863388	3514809	857.027	951.924
8)	3,5-Dinitroanili	6.36	6.36	3732566	6351372	911.945	885.222
9)	Nitrobenzene	7.54	7.54	2945154	2871093	935.772	927.003
10)	Nitroglycerin	0.00	9.06	0	1225927	N.D. d	947.798
11)	Tetryl	9.41	9.41	2817292	4538642	915.677	919.693
12)	2,4,6-Trinitroto	9.91	9.91	3493126	4227476	911.571	914.726
13)	2-Amino-4,6-Dini	10.29	10.29	3132661	4692882	913.751	958.047
14)	4-Amino-2,6-Dini	10.74	10.73	2270418	4493277	923.773	937.948
16)	2,4-Dinitrotolue	11.87	11.87	4463063	3022703	892.727	973.621
17)	2,6-Dinitrotolue	12.28	12.29	2458952	3280431	901.420	949.344
18)	o-Nitrotoluene	15.26	15.26	2119429	2954816	946.675	932.678
19)	p-Nitrotoluene	15.83	15.83	3163438	2607709	951.785	899.706
20)	m-Nitrotoluene	16.67	16.67	3041477	3581128	935.027	987.903
21)	PETN	0.00	18.37	0	1308134	N.D.	923.920m#

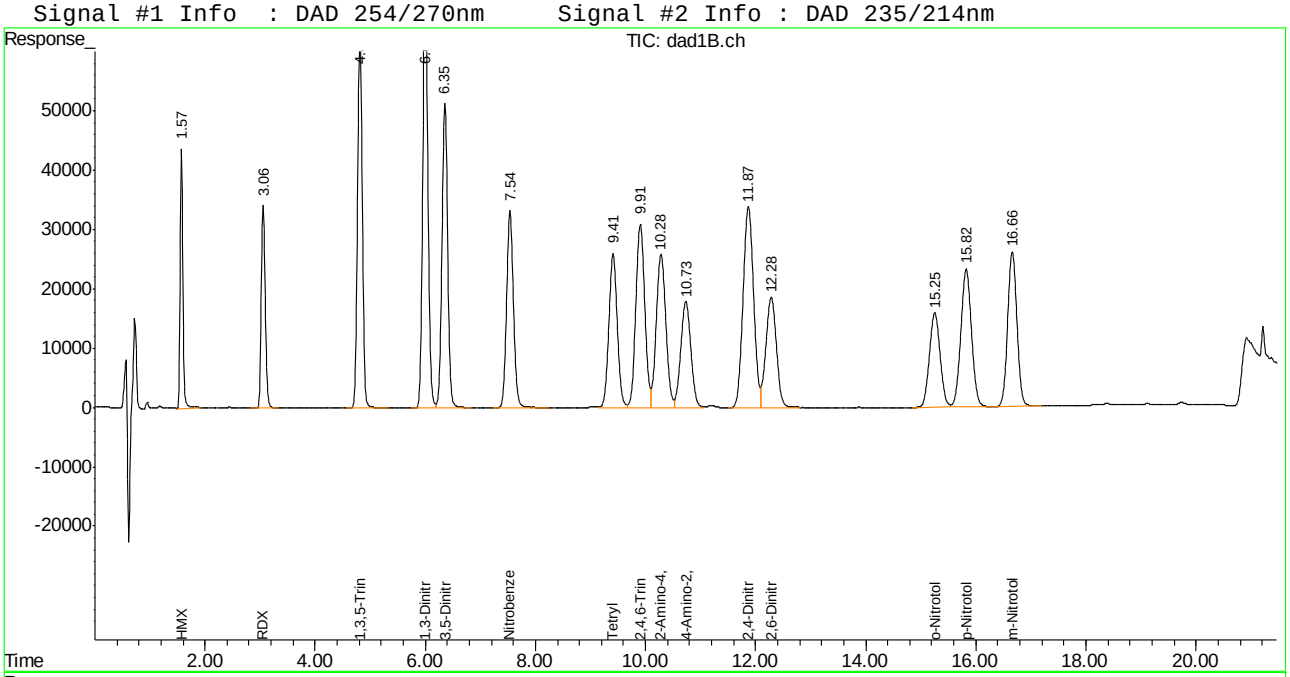
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB088918.D BBB2740_073025.M Fri Aug 01 11:08:36 2025 Page 1

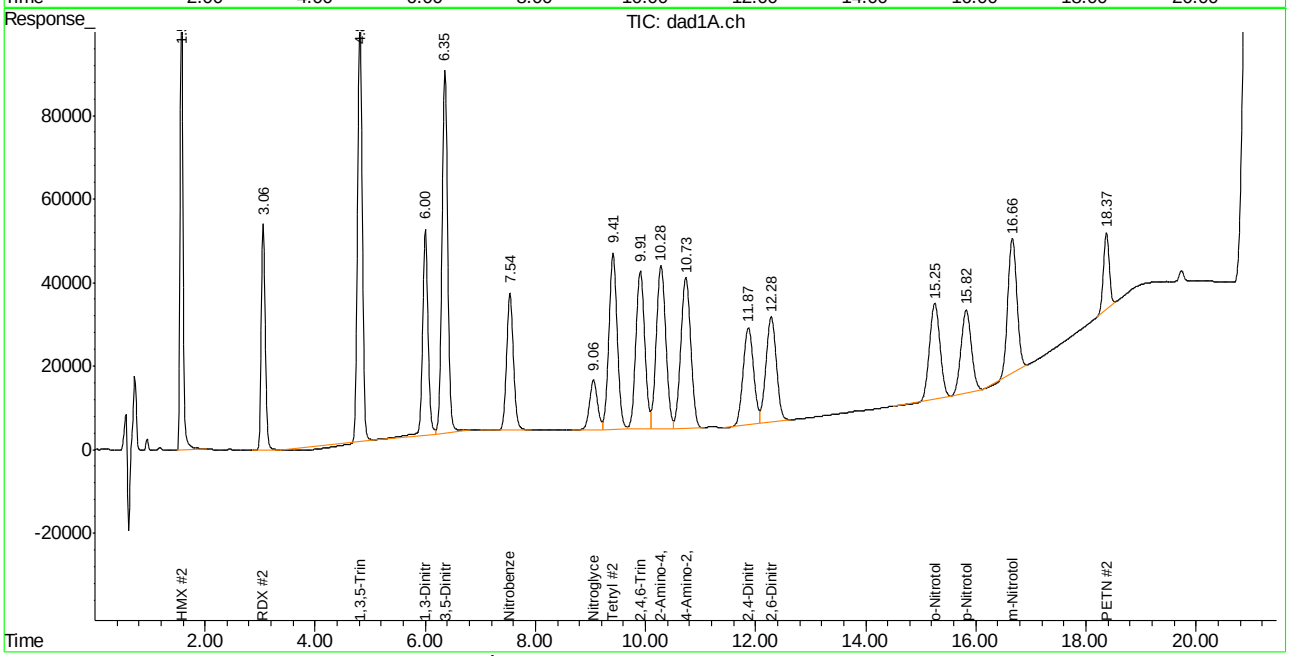
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088918.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088918.D\dad1A.ch
Acq On : 30-Jul-2025, 14:18:08 Operator: fouads
Sample : icv2740-1000 Inst : G1315B
Misc : OP10595,gbb2740,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 31 12:03 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 31 11:46:06 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

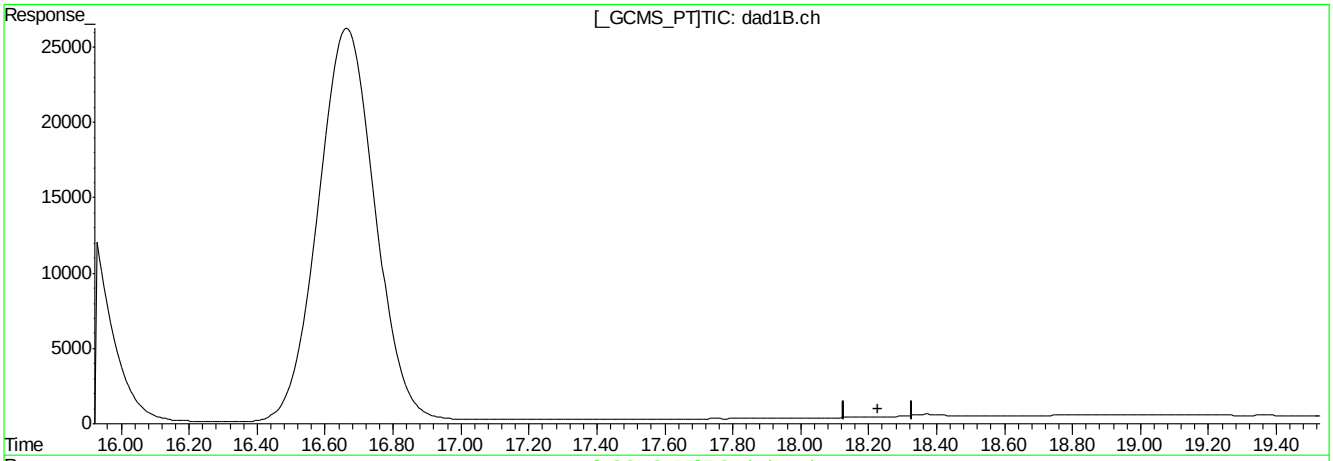
Sample Number: GBB2740-ICV2740 **Method:** SW846 8330A
Lab FileID: BB088918.D **Analyst approved:** 08/01/25 12:08 Fouad Sekkar
Injection Time: 07/30/25 14:18 **Supervisor approved:** 08/01/25 16:12 William Hustedde

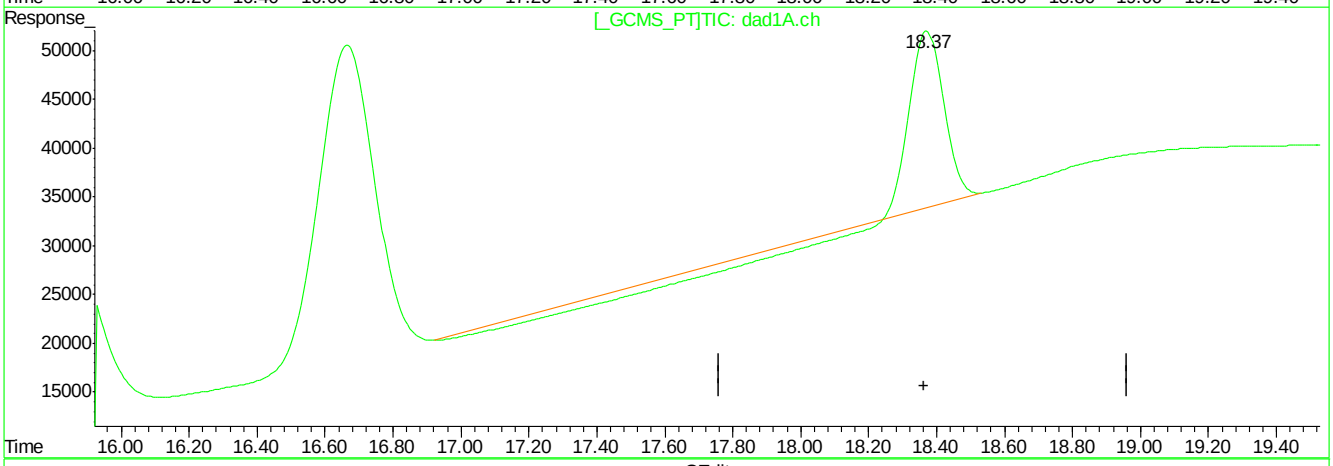
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.57	Poorly defined baseline
PETN	78-11-5	2	18.37	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088918.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088918.D\dad1A.ch
Acq On : 30-Jul-2025, 14:18:08 Operator: fouads
Sample : icv2740-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 14:43 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 14:22:43 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

18.37min 512.916ppb

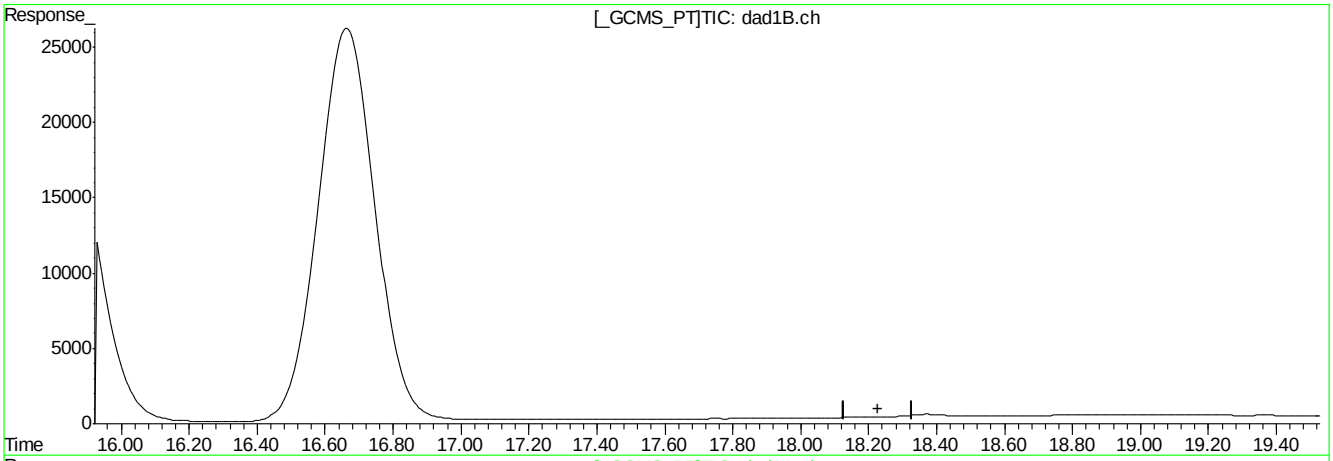
response 726214

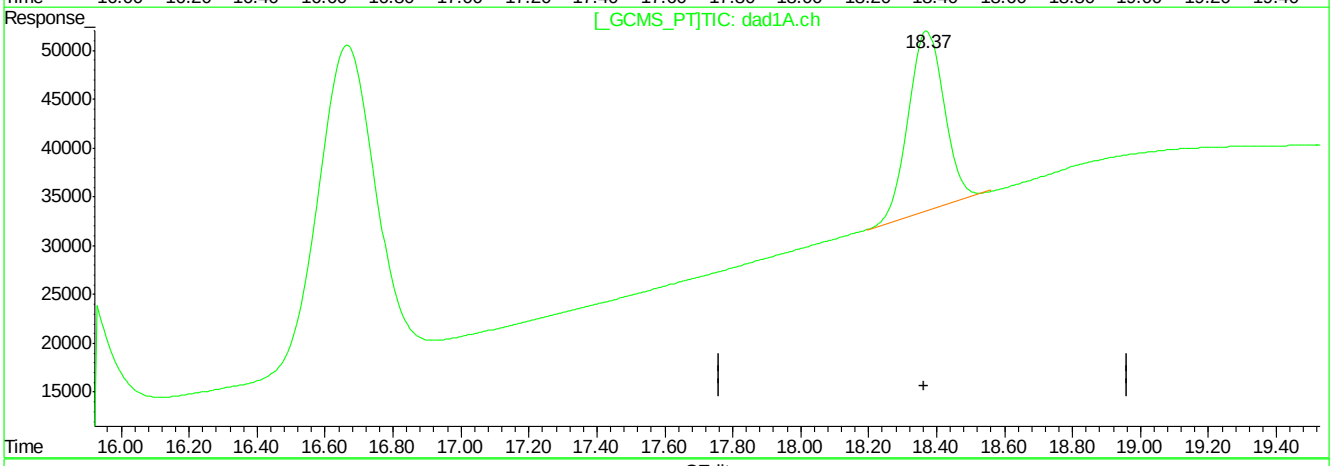
(+) = Expected Retention Time
BB088918.D BBB2740_073025.M Wed Jul 30 14:44:51 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2740\BB088918.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\2\DATA\GBB2740\BB088918.D\dad1A.ch
Acq On : 30-Jul-2025, 14:18:08 Operator: fouads
Sample : icv2740-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Jul 30 14:43 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 30 14:22:43 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

18.37min 942.566ppb m

response 1334534

(+) = Expected Retention Time
BB088918.D BBB2740_073025.M Wed Jul 30 14:44:58 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan
10/30/25 12:44

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089889.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089889.D\dad1A.ch
Acq On : 24-Oct-2025, 14:16:57 Operator: fouads
Sample : cc2740-1000 Inst : G1315B
Misc : OP12007,gbb2779,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 15:12:44 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 07:22:56 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.44	11.44	2461908	4217176	1149.619	1169.670
	Spiked Amount 500.000	Range 70 - 136		Recovery =		229.92%#	233.93%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.67	1.67	1561302	4425488	892.091	990.815
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	3.22	3.22	1843770	2937408	933.157	951.910
6)	1,3,5-Trinitrobe	4.98	4.98	4202222	6637768	1027.992	1034.397
7)	1,3-Dinitrobenze	6.20	6.20	5416069	4015126	954.420	1091.611
8)	3,5-Dinitroanili	6.67	6.67	4022580	6651063	982.802	926.991
9)	Nitrobenzene	7.72	7.72	3106536	3038444	987.927	981.852
10)	Nitroglycerin	0.00	9.14	0	1238223	N.D.	957.503 #
11)	Tetryl	9.70	9.70	2995954	4730269	973.746	958.523
12)	2,4,6-Trinitroto	10.13	10.13	3857657	4504197	1006.700	974.602
13)	2-Amino-4,6-Dini	10.73	10.73	3221195	4489881	939.575	916.605
14)	4-Amino-2,6-Dini	11.14	11.14	2363561	4533289	961.670	953.622
16)	2,4-Dinitrotolue	12.14	12.14	4662567	2898908	932.633	933.746
17)	2,6-Dinitrotolue	12.51	12.52	2894522	3706520	1061.095	1072.653
18)	o-Nitrotoluene	15.40	15.39	2180800	3090476	974.087	975.498m
19)	p-Nitrotoluene	15.97	15.97	3426956	2553798	1031.069	900.184
20)	m-Nitrotoluene	16.77	16.78	3276612	3725408	1007.313	1027.704
21)	PETN	0.00	18.30	0	1340098	N.D. d	946.495m

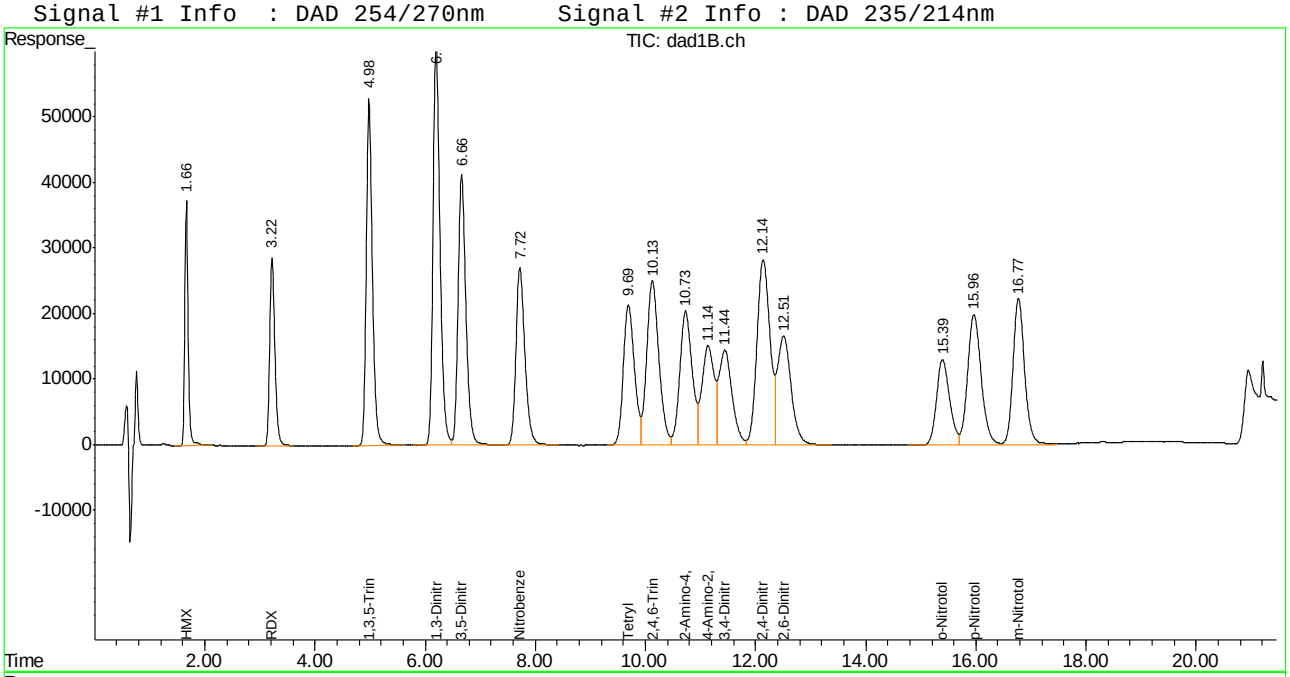
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB089889.D BBB2740_073025.M Wed Oct 29 13:34:06 2025 Page 1

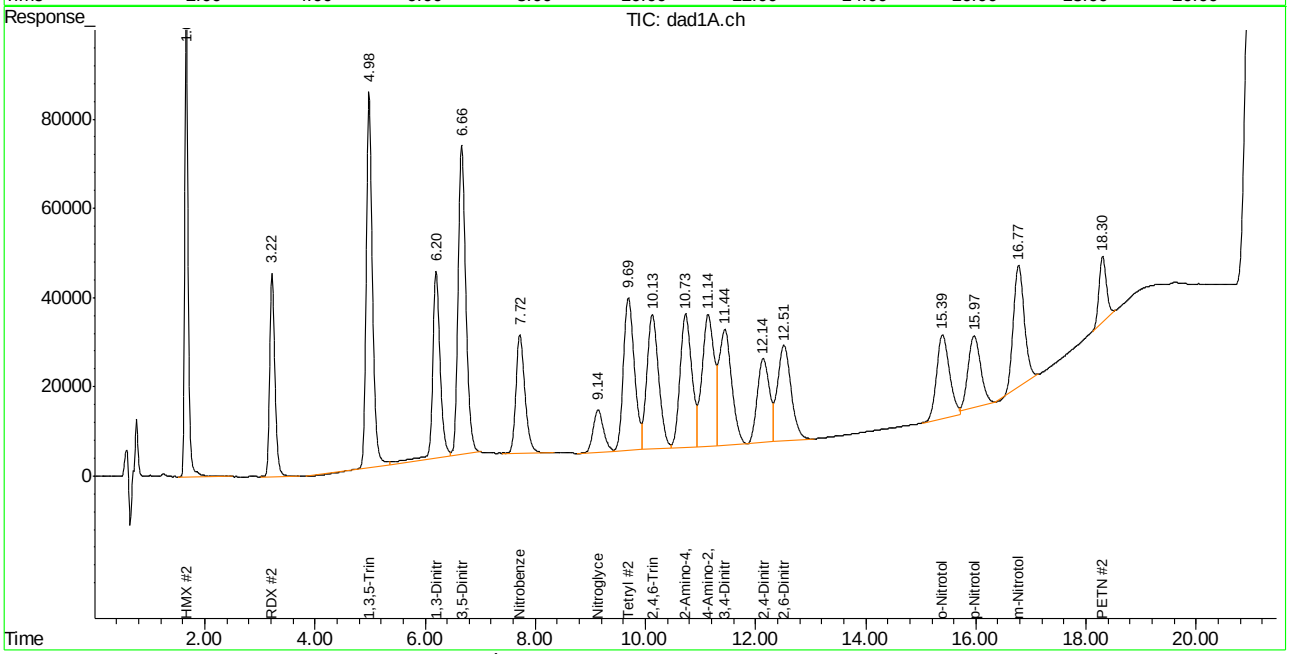
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089889.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089889.D\dad1A.ch
Acq On : 24-Oct-2025, 14:16:57 Operator: fouads
Sample : cc2740-1000 Inst : G1315B
Misc : OP12007,gbb2779,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 11:10 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 07:22:56 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

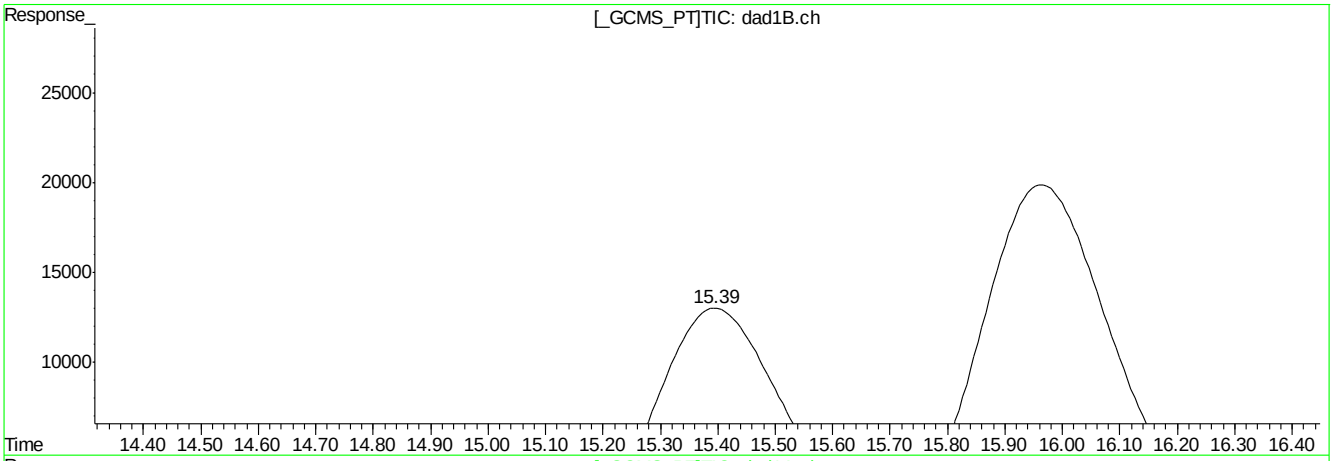
Sample Number: GBB2779-CC2740
Lab FileID: BB089889.D
Injection Time: 10/24/25 14:16
Method: SW846 8330B
Analyst approved: 10/29/25 14:41 Fouad Sekkar
Supervisor approved: 10/30/25 12:44 Naresh Jiawan

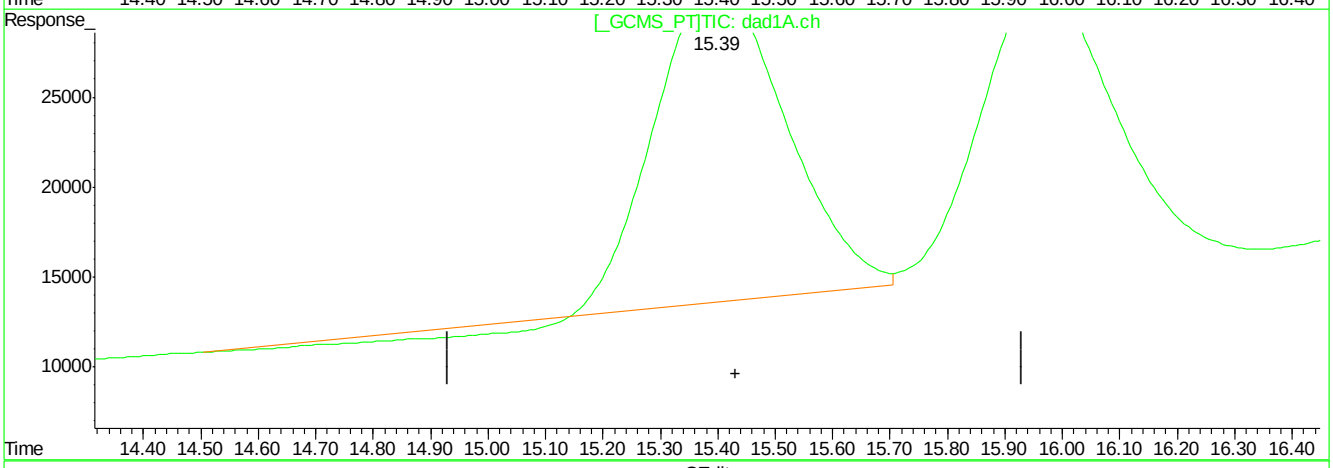
Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Nitrotoluene	88-72-2	2	15.39	Poorly defined baseline
PETN	78-11-5	2	18.30	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089889.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089889.D\dad1A.ch
Acq On : 24-Oct-2025, 14:16:57 Operator: fouads
Sample : cc2740-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 14:12 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(18) o-Nitrotoluene

15.40min 974.087ppb

response 2180800

(18) o-Nitrotoluene #2

15.40min 847.522ppb

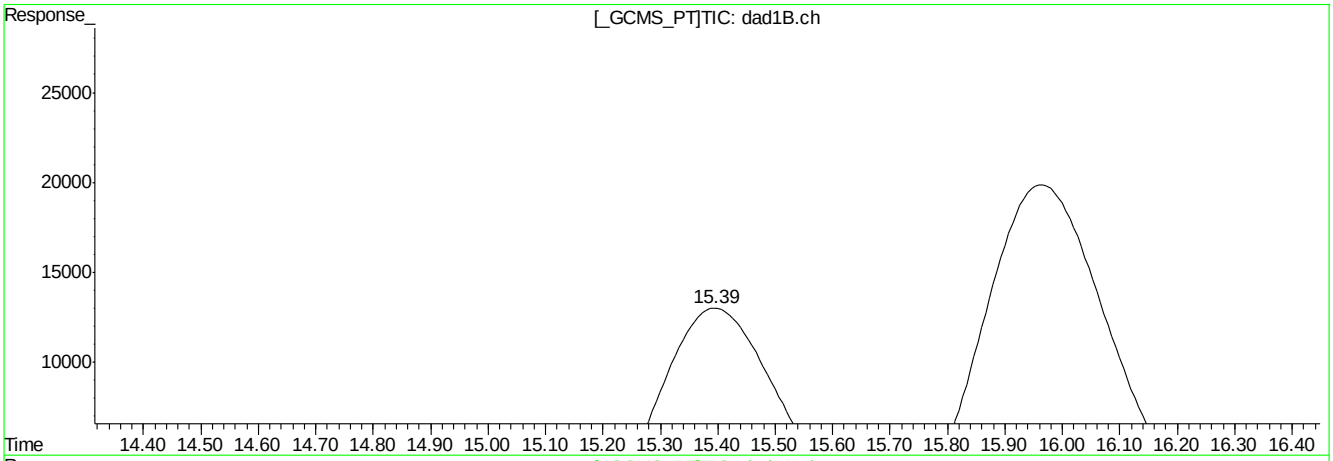
response 2685033

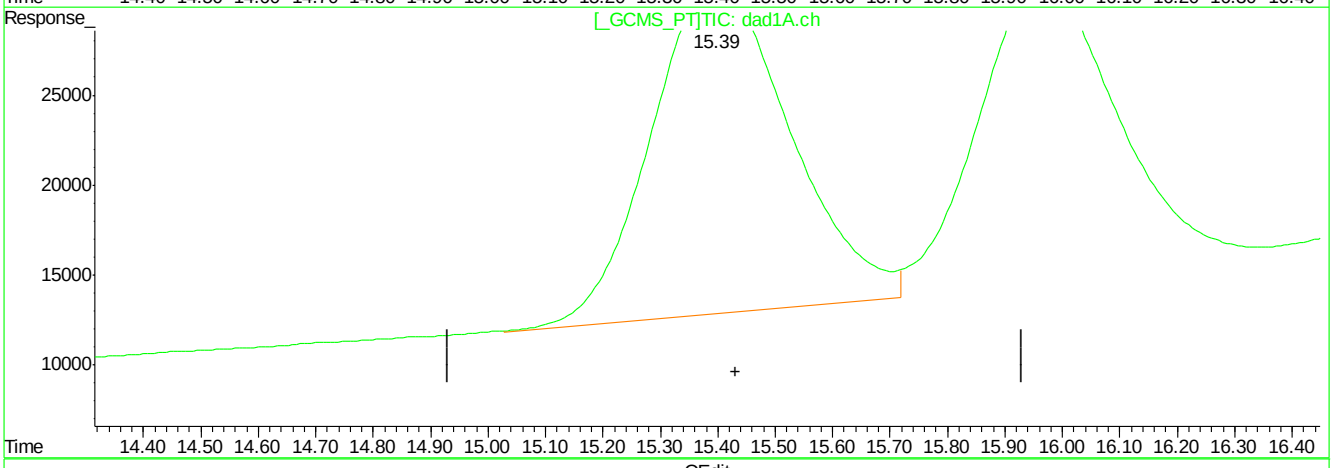
(+) = Expected Retention Time
BB089889.D BBB2740_073025.M Mon Oct 27 11:10:30 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089889.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089889.D\dad1A.ch
Acq On : 24-Oct-2025, 14:16:57 Operator: fouads
Sample : cc2740-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 14:12 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(18) o-Nitrotoluene

15.40min 974.087ppb

response 2180800

(18) o-Nitrotoluene #2

15.39min 975.498ppb m

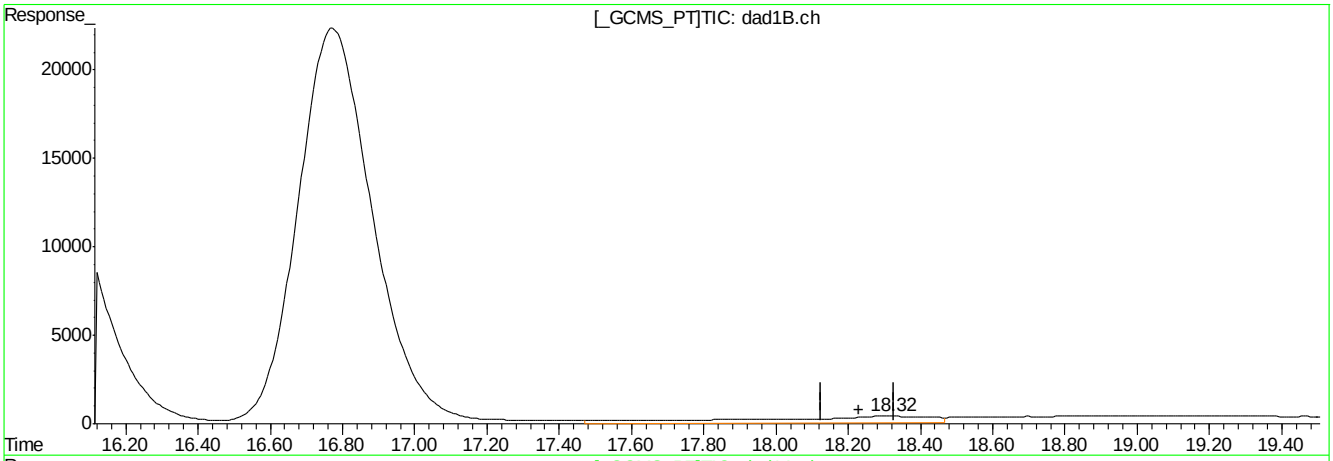
response 3090476

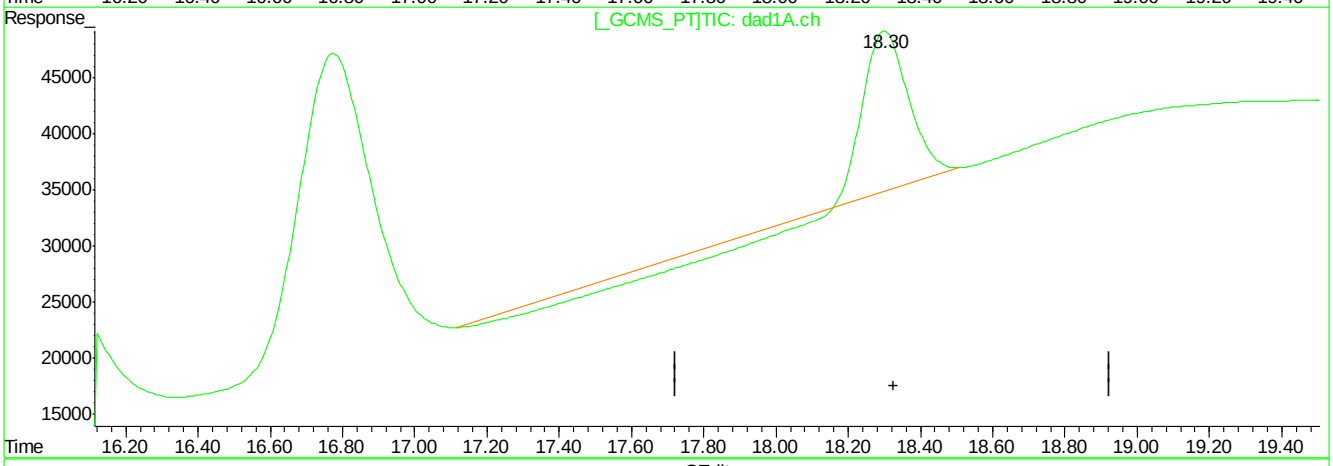
(+) = Expected Retention Time
BB089889.D BBB2740_073025.M Mon Oct 27 11:10:36 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089889.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089889.D\dad1A.ch
Acq On : 24-Oct-2025, 14:16:57 Operator: fouads
Sample : cc2740-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 14:12 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

18.31min 0.000ppb

response 141487

(21) PETN #2

18.30min 555.346ppb

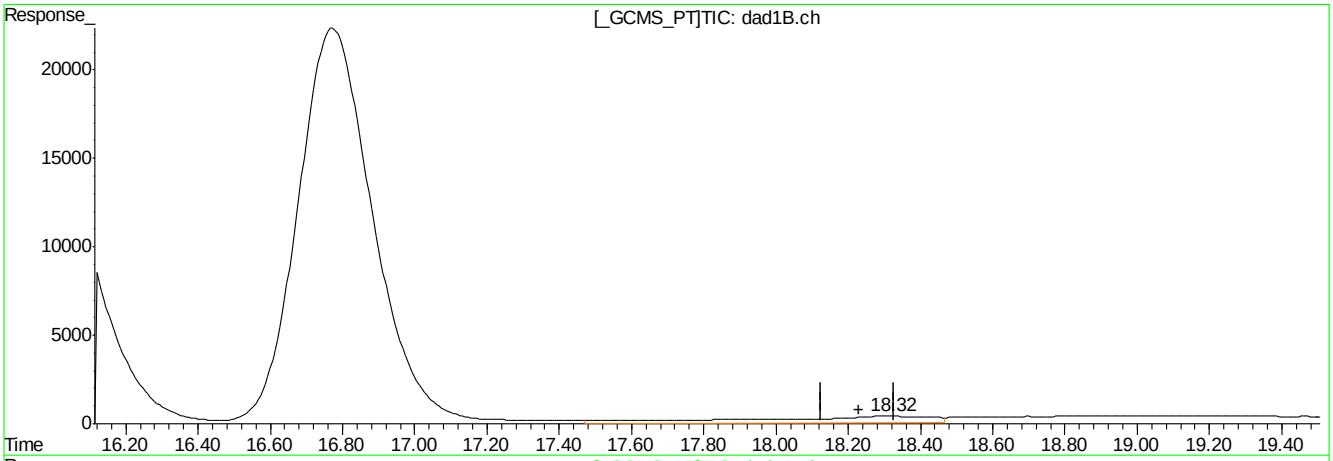
response 786289

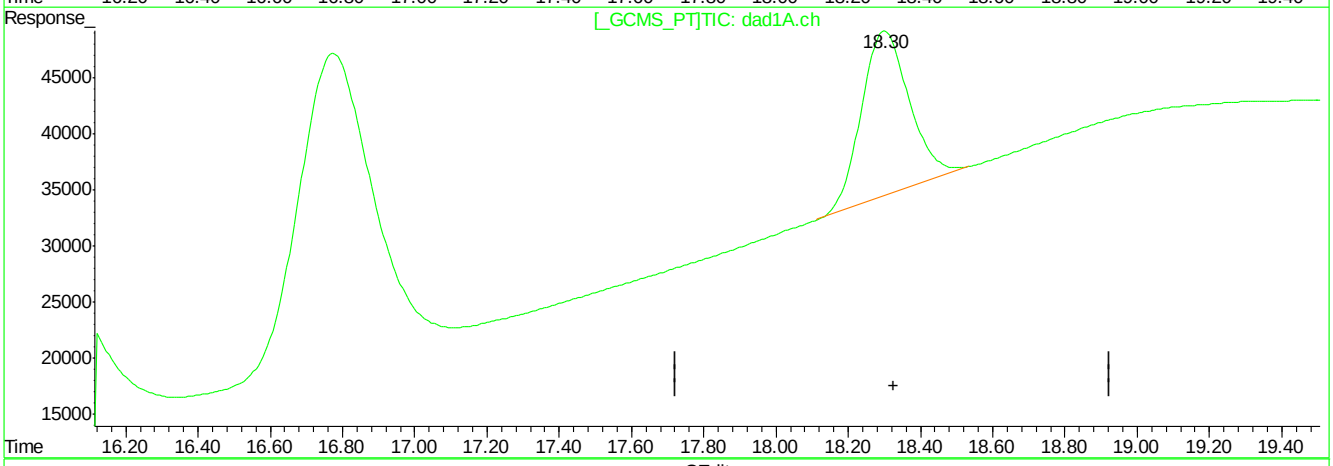
(+) = Expected Retention Time
BB089889.D BBB2740_073025.M Mon Oct 27 11:10:43 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089889.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089889.D\dad1A.ch
Acq On : 24-Oct-2025, 14:16:57 Operator: fouads
Sample : cc2740-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 14:12 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

18.31min 0.000ppb

response 141487

(21) PETN #2

18.30min 946.495ppb m

response 1340098

(+) = Expected Retention Time
BB089889.D BBB2740_073025.M Mon Oct 27 11:10:48 2025

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089890.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089890.D\dad1A.ch
Acq On : 24-Oct-2025, 14:44:22 Operator: fouads
Sample : cc2740-1000 Inst : G1315B
Misc : OP12007,gbb2779,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 24 15:13:04 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 07:22:56 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
	Spiked Amount 500.000	Range 70 - 136		Recovery	=	0.00%#	0.00%#
	Target Compounds						
1)	TNX	1.52	1.52	4182345	6557783	541.734	547.219
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	1.94	1.94	6885888	10737719	1047.336	1071.406
4)	MNX	2.57	2.57	7411451	11361244	1284.901	1284.105
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D.	N.D.
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D.	N.D.
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

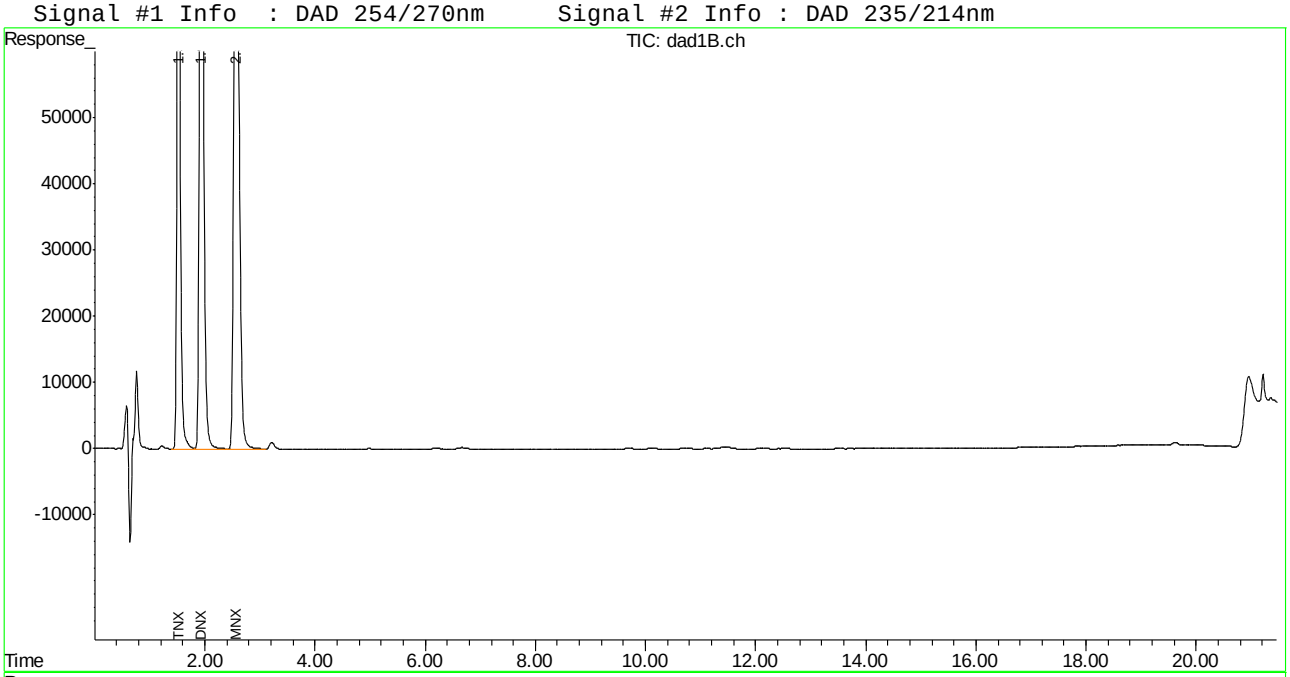
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB089890.D BBB2740_073025.M Wed Oct 29 13:34:07 2025 Page 1

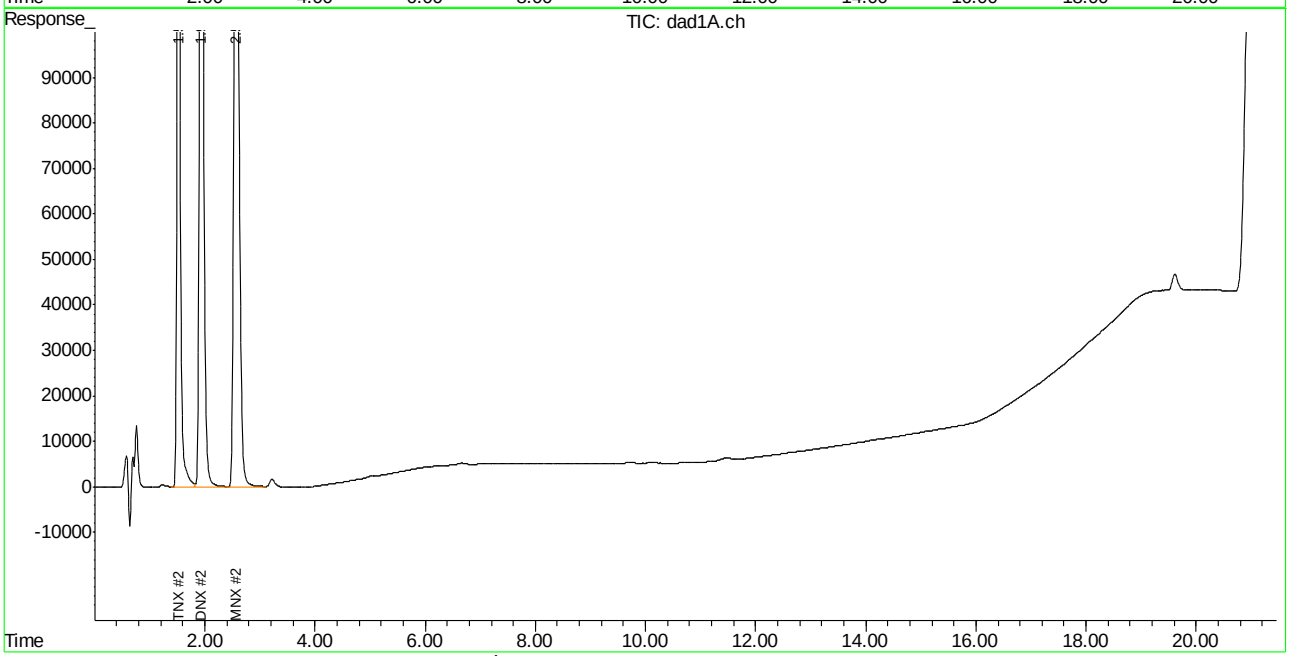
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089890.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089890.D\dad1A.ch
Acq On : 24-Oct-2025, 14:44:22 Operator: fouads
Sample : cc2740-1000 Inst : G1315B
Misc : OP12007,gbb2779,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 11:11 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 07:22:56 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan
10/30/25 12:44

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089901.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089901.D\dad1A.ch
Acq On : 24-Oct-2025, 20:03:34 Operator: fouads
Sample : ecc2740-1000 Inst : G1315B
Misc : OP12007,gbb2779,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 08:02:38 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 07:22:56 2025
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.36	11.35	2474197	4254077	1155.358	1179.905
	Spiked Amount 500.000	Range 70 - 136		Recovery =		231.07%#	235.98%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.66	1.66	1582802	4445215	904.375	995.319
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	3.21	3.21	1861540	2963526	942.150	960.374
6)	1,3,5-Trinitrobe	4.96	4.96	4244142	6673361	1038.246	1039.910
7)	1,3-Dinitrobenze	6.18	6.18	5450218	4111481	960.438	1118.513
8)	3,5-Dinitroanili	6.63	6.63	4058020	6753757	991.460	941.304
9)	Nitrobenzene	7.69	7.69	3034080	2998812	964.511	968.863
10)	Nitroglycerin	0.00	9.10	0	1265122	N.D.	978.732 #
11)	Tetryl	9.62	9.62	3006533	4779875	977.185	968.575
12)	2,4,6-Trinitroto	10.06	10.06	3859407	4535364	1007.156	981.346
13)	2-Amino-4,6-Dini	10.65	10.65	3222297	4548065	939.897	928.483
14)	4-Amino-2,6-Dini	11.06	11.06	2367927	4586203	963.447	964.696
16)	2,4-Dinitrotolue	12.06	12.07	4665599	2921100	933.239	940.894
17)	2,6-Dinitrotolue	12.44	12.44	2873595	3716903	1053.423	1075.658
18)	o-Nitrotoluene	15.33	15.33	2103244	2694126	939.446	850.392
19)	p-Nitrotoluene	15.90	15.90	3342497	2523997	1005.658	889.825
20)	m-Nitrotoluene	16.72	16.72	3130553	3581551	962.411	988.019
21)	PETN	0.00	18.26	0	1345737	N.D. d	950.478m

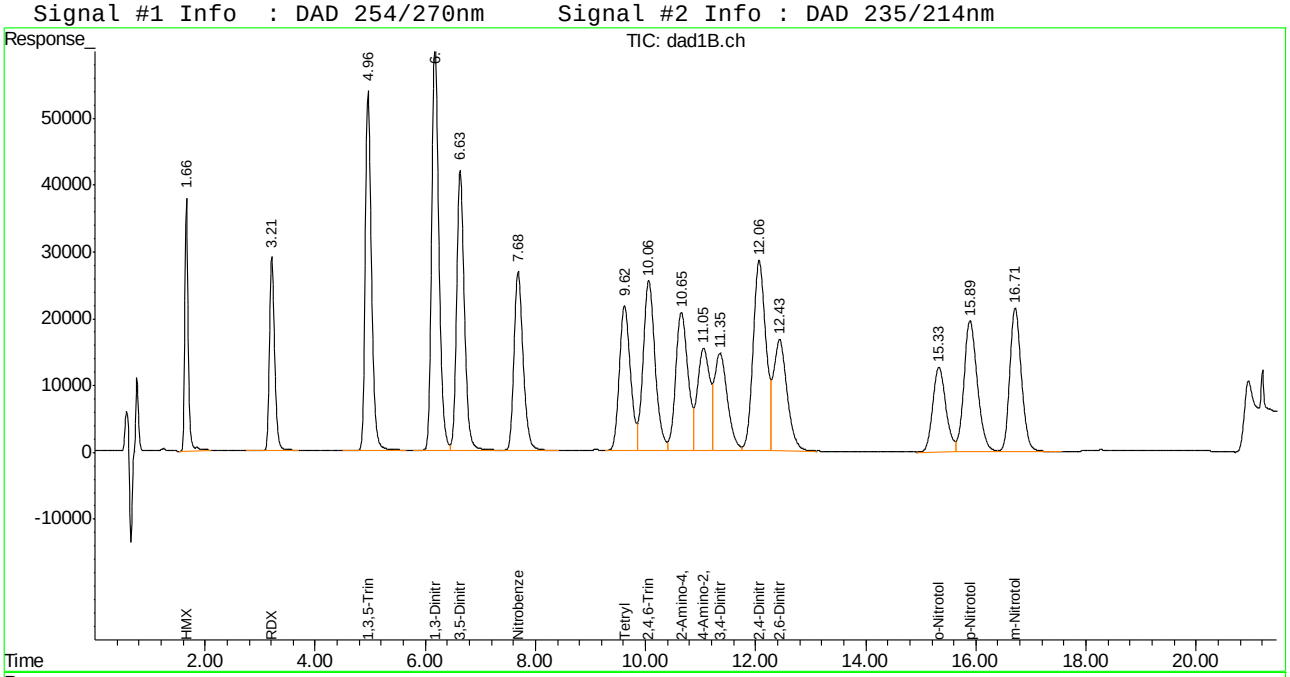
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB089901.D BBB2740_073025.M Wed Oct 29 13:34:08 2025 Page 1

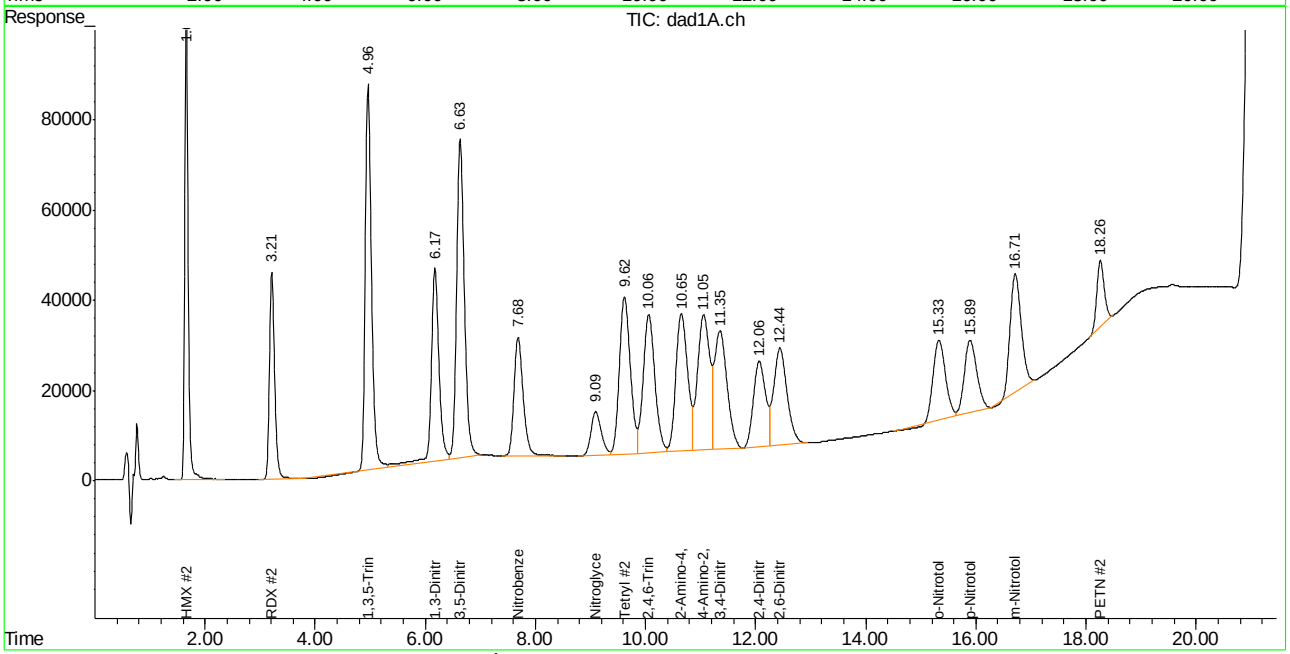
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089901.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089901.D\dad1A.ch
Acq On : 24-Oct-2025, 20:03:34 Operator: fouads
Sample : ecc2740-1000 Inst : G1315B
Misc : OP12007,gbb2779,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 13:33 2025 Quant Results File: BBB2740_073025.RES

Quant Method : C:\MSDCHEM\2...\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 07:22:56 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

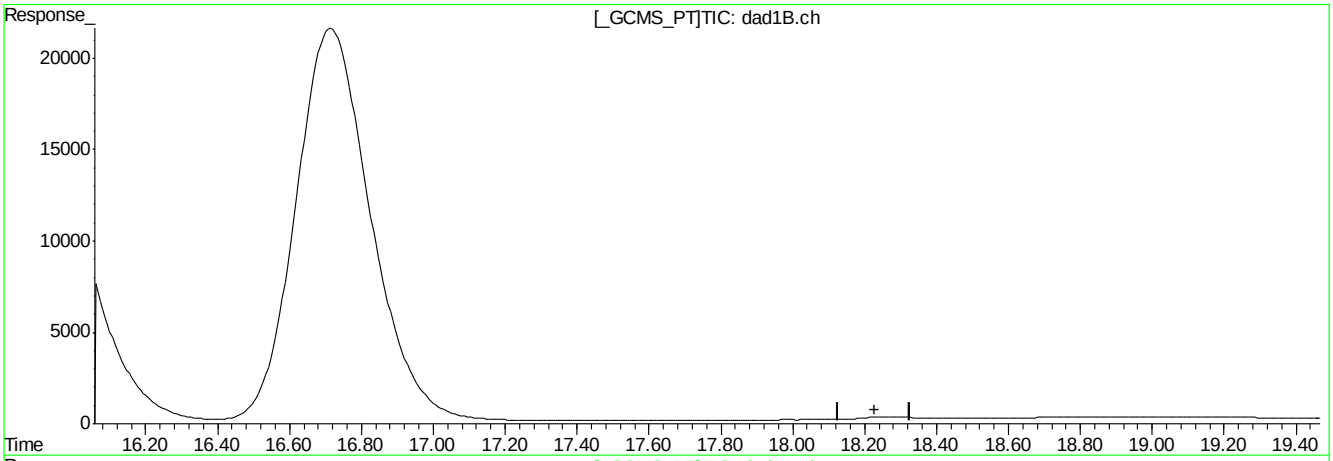
Sample Number:	GBB2779-ECC2740	**Method:**	SW846 8330B
Lab FileID:	BB089901.D	**Analyst approved:**	10/29/25 14:41 Fouad Sekkar
Injection Time:	10/24/25 20:03	**Supervisor approved:**	10/30/25 12:44 Naresh Jiawan

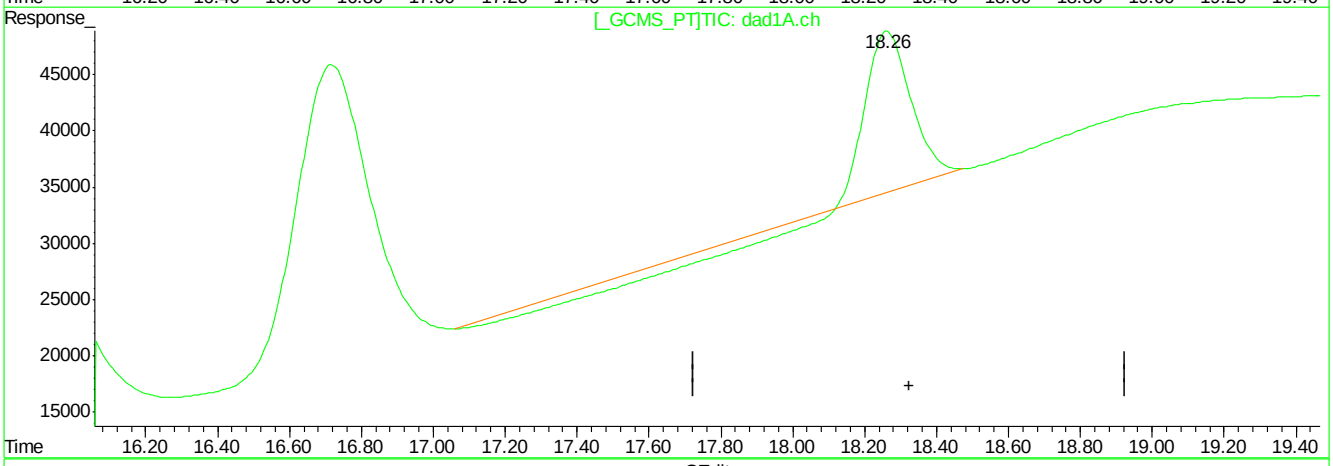
Parameter	CAS	Sig#	R.T. (min.)	Reason
PETN	78-11-5	2	18.26	Poorly defined baseline

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089901.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089901.D\dad1A.ch
Acq On : 24-Oct-2025, 20:03:34 Operator: fouads
Sample : ecc2740-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.26min 568.591ppb

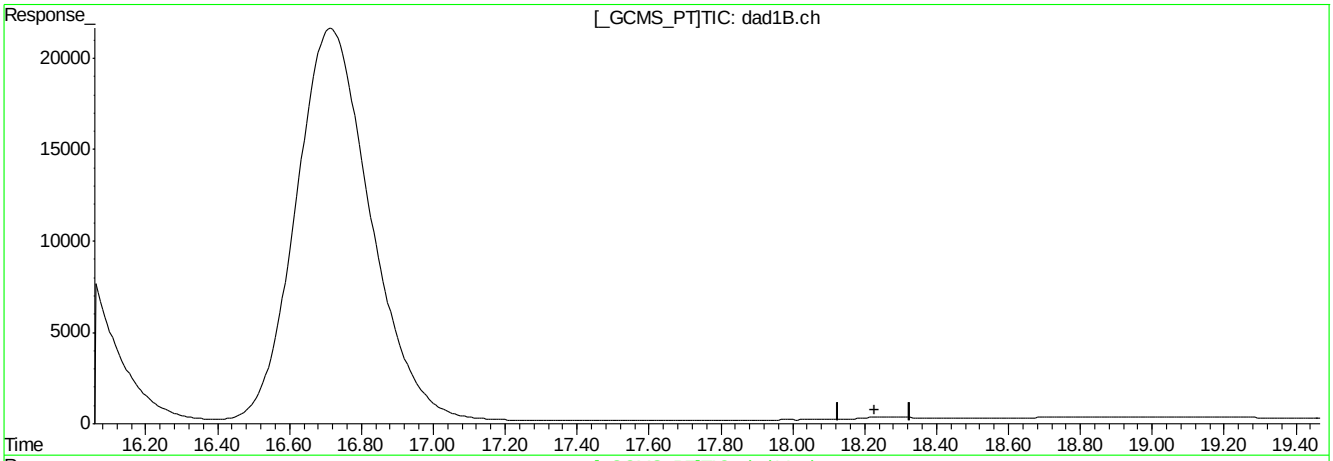
response 805041

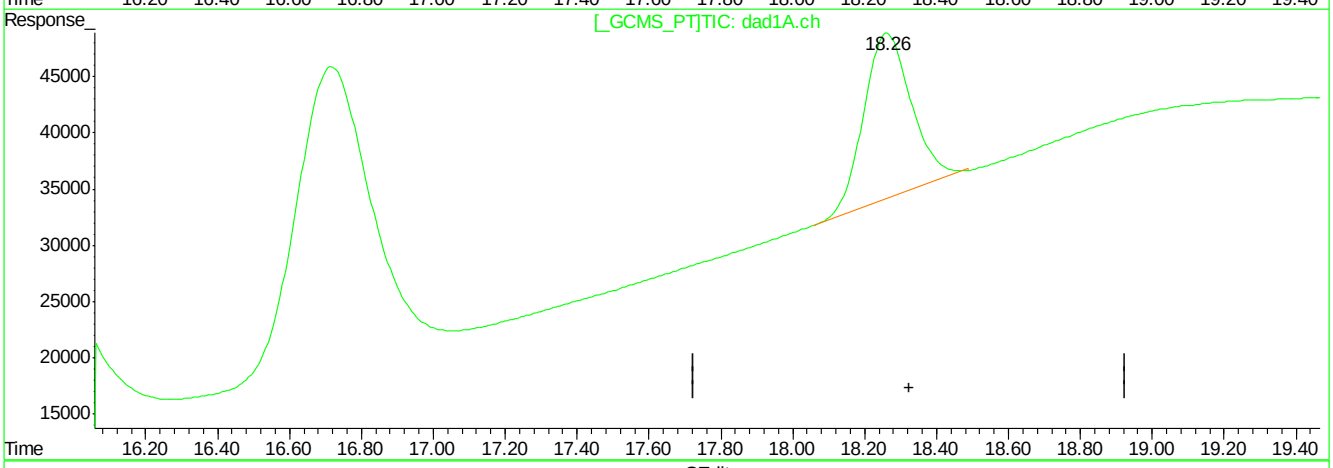
(+) = Expected Retention Time
BB089901.D BBB2740_073025.M Mon Oct 27 13:32:59 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\2\DATA\GBB2779\BB089901.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\2\DATA\GBB2779\BB089901.D\dad1A.ch
Acq On : 24-Oct-2025, 20:03:34 Operator: fouads
Sample : ecc2740-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: EVENTS2.E
Quant Time: Oct 27 8:02 2025 Quant Results File: BBB2740_073025.RES

Method : C:\MSDCHEM\2\METHODS\BBB2740_073025.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Oct 27 11:03:18 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb d

response 0

(21) PETN #2

18.26min 950.478ppb m

response 1345737

(+) = Expected Retention Time
BB089901.D BBB2740_073025.M Mon Oct 27 13:33:06 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan
07/15/25 10:01

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3599-20 Inst : G1315B
Misc : op10213,GGG3599,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49:34 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.25	14.34	111679	275897	23.263m	27.781m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		4.65%#	5.56%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	5.24	5.24	81883	286102	28.264m	98.715m#
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	7.59	7.59	209842	417320	24.454m	49.619m#
6)	RDX	7.90	7.89	93080	144306	22.751m	35.598m#
7)	1,3-Dinitrobenze	9.91	9.91	267722	328425	21.760m	37.324m#
8)	Nitrobenzene	10.80	10.79	185376	94667	24.053m	12.843m#
9)	2,4,6-Trinitroto	11.94	11.94	198179	363316	24.289m	31.972m
10)	Nitroglycerin	0.00	12.75	0	196832	N.D.	67.468m#
11)	Tetryl	13.38	13.42	144923	252428	22.540m	22.879m
13)	2,6-Dinitrotolue	14.65	14.65	135357	318598	25.107m	38.352m#
14)	2,4-Dinitrotolue	15.38	15.40	244778	223010	21.922m	28.503m
15)	3,5-Dinitroanili	16.42	16.46	208389	281424	22.825m	16.821m
16)	o-Nitrotoluene	16.81	0.00	64674	0	14.250m	N.D. #
17)	p-Nitrotoluene	18.03	18.05	230848	464801	46.733m	52.728m
18)	4-Amino-2,6-Dini	18.03	18.05	230523	436075	47.322m	49.468m
19)	m-Nitrotoluene	19.17	19.16	111152	121706	21.005m	13.744m
20)	2-Amino-4,6-Dini	20.26	20.26	165906	145512	20.566m	12.780m
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

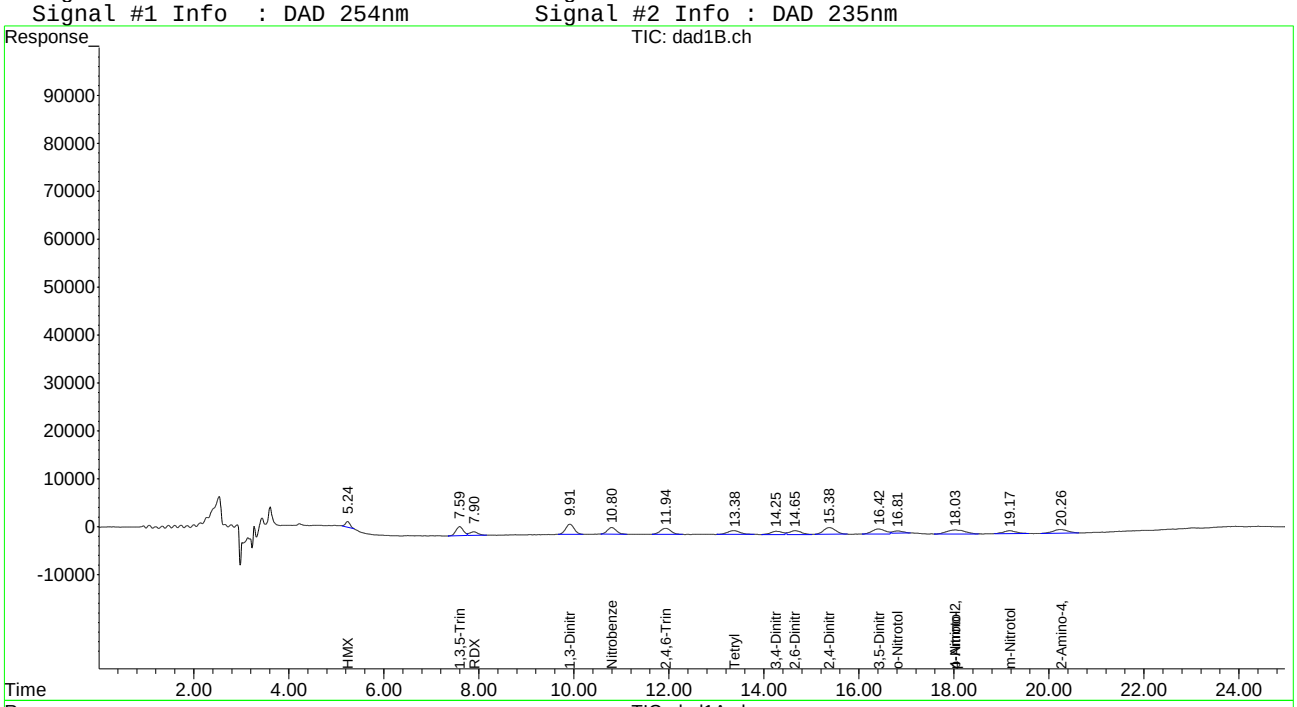
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG632465.D GGG3599_071425.M Mon Jul 14 17:26:31 2025

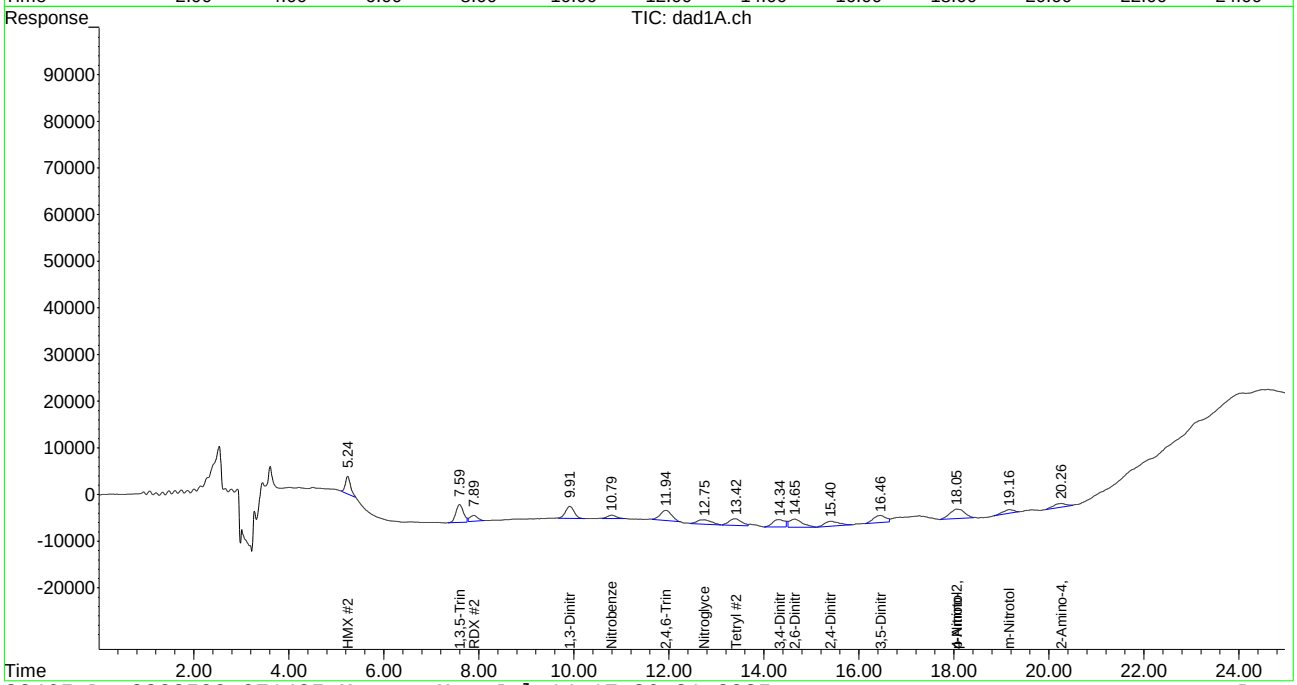
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3599-20 Inst : G1315B
Misc : op10213,GGG3599,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:54 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

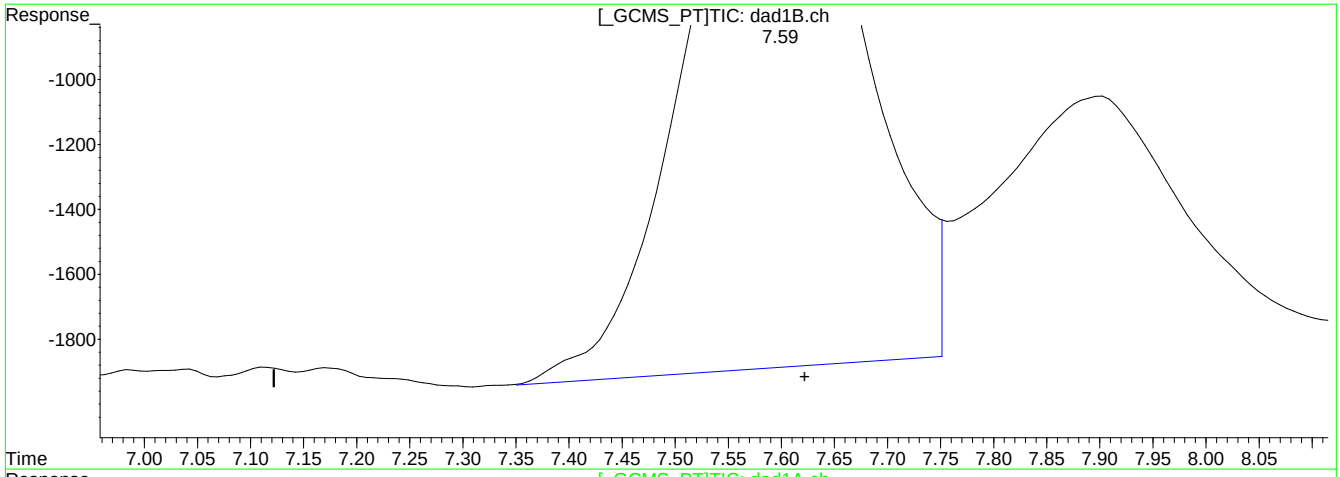
Sample Number: GGG3599-IC3599 **Method:** SW846 8330B
Lab FileID: GG632465.D **Analyst approved:** 07/14/25 17:37 William Hustedde
Injection Time: 07/14/25 12:38 **Supervisor approved:** 07/15/25 10:01 Naresh Jiawan

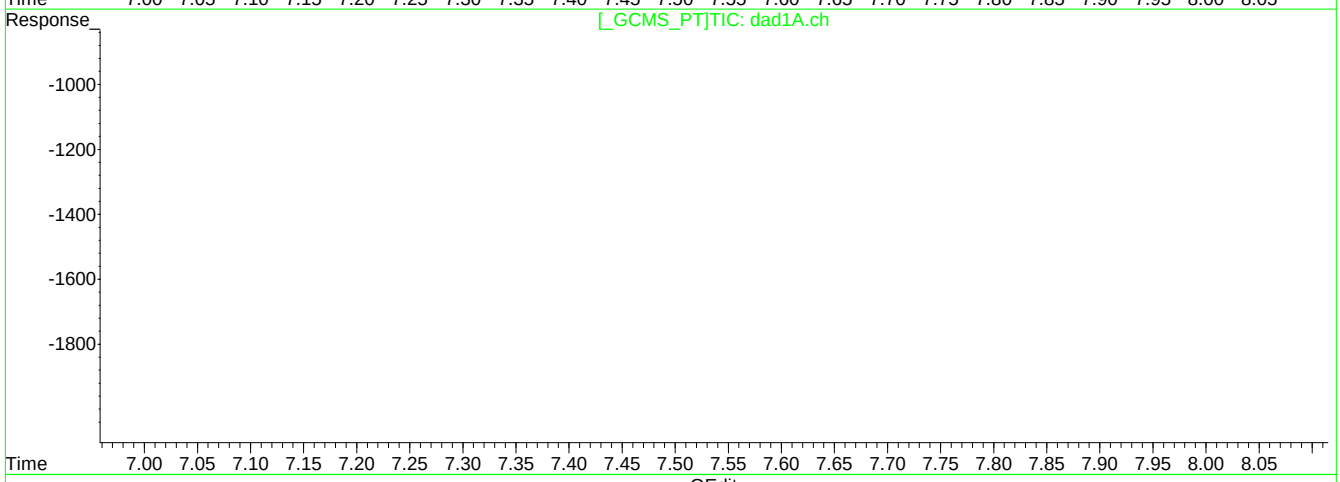
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	5.24	Missed peak
HMX	2691-41-0	2	5.24	Missed peak
1,3,5-Trinitrobenzene	99-35-4	1	7.59	Missed peak
1,3,5-Trinitrobenzene	99-35-4	2	7.59	Missed peak
RDX	121-82-4	2	7.89	Missed peak
RDX	121-82-4	1	7.90	Missed peak
1,3-Dinitrobenzene	99-65-0	1	9.91	Missed peak
1,3-Dinitrobenzene	99-65-0	2	9.91	Missed peak
Nitrobenzene	98-95-3	2	10.79	Missed peak
Nitrobenzene	98-95-3	1	10.80	Missed peak
2,4,6-Trinitrotoluene	118-96-7	1	11.94	Missed peak
2,4,6-Trinitrotoluene	118-96-7	2	11.94	Missed peak
Nitroglycerine	55-63-0	2	12.75	Missed peak
Tetryl	479-45-8	1	13.38	Missed peak
Tetryl	479-45-8	2	13.42	Missed peak
3,4-Dinitrotoluene	610-39-9	1	14.25	Missed peak
3,4-Dinitrotoluene	610-39-9	2	14.34	Missed peak
2,6-Dinitrotoluene	606-20-2	1	14.65	Missed peak
2,6-Dinitrotoluene	606-20-2	2	14.65	Missed peak
2,4-Dinitrotoluene	121-14-2	1	15.38	Missed peak
2,4-Dinitrotoluene	121-14-2	2	15.40	Missed peak
3,5-Dinitroaniline	618-87-1	1	16.42	Missed peak
3,5-Dinitroaniline	618-87-1	2	16.46	Missed peak
o-Nitrotoluene	88-72-2	1	16.81	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	1	18.03	Missed peak
p-Nitrotoluene	99-99-0	1	18.03	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	2	18.05	Missed peak
p-Nitrotoluene	99-99-0	2	18.05	Missed peak
m-Nitrotoluene	99-08-1	2	19.16	Missed peak
m-Nitrotoluene	99-08-1	1	19.17	Missed peak
2-amino-4,6-Dinitrotoluene	35572-78-2	1	20.26	Missed peak
2-amino-4,6-Dinitrotoluene	35572-78-2	2	20.26	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(5) 1,3,5-Trinitrobenzene

7.59min 24.454ppb m

response 209842

(5) 1,3,5-Trinitrobenzene #2

0.00min 0.000ppb

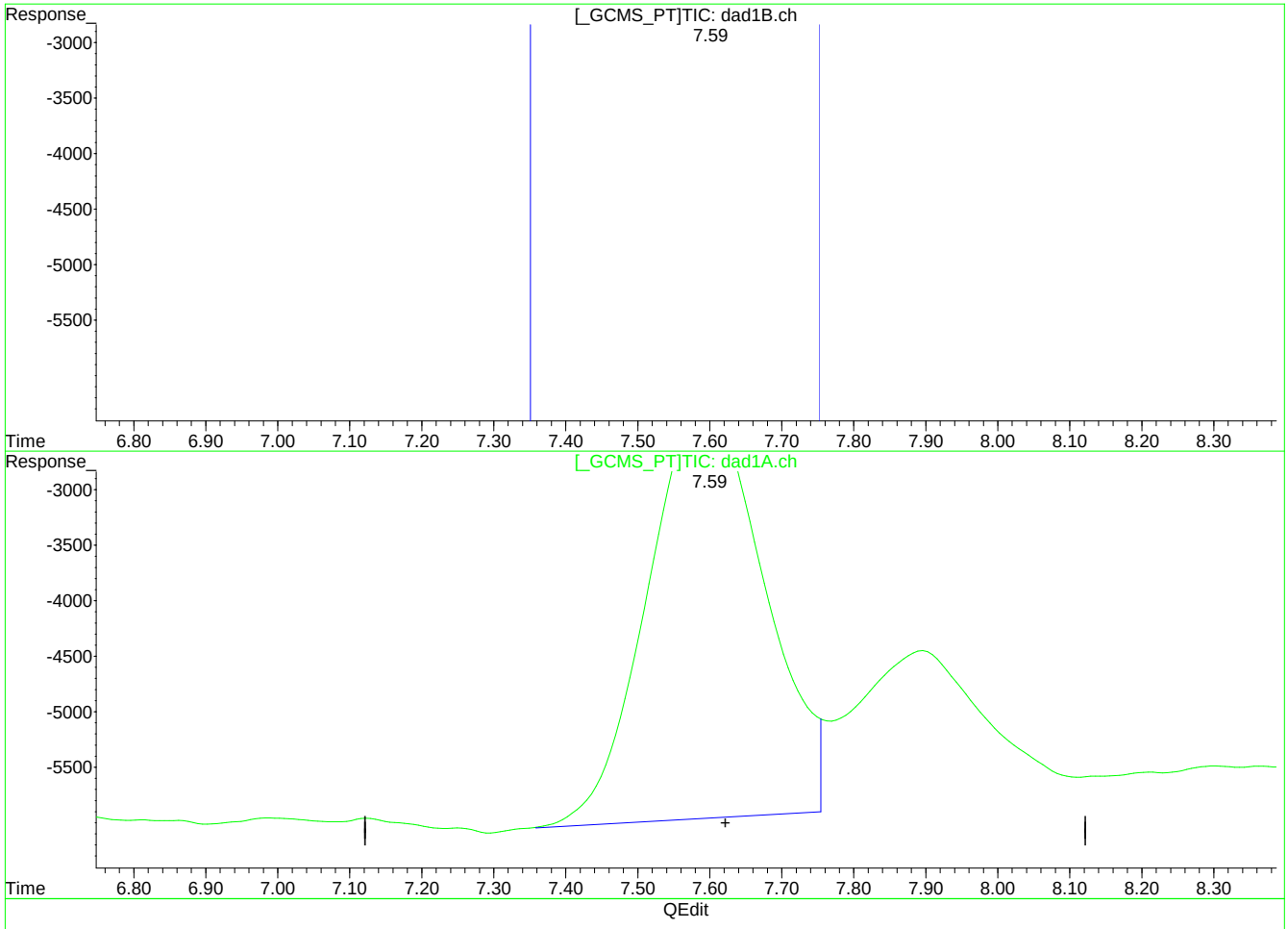
response 0

(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:51:23 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(5) 1,3,5-Trinitrobenzene

7.59min 24.454ppb m

response 209842

(5) 1,3,5-Trinitrobenzene #2

7.59min 49.619ppb m

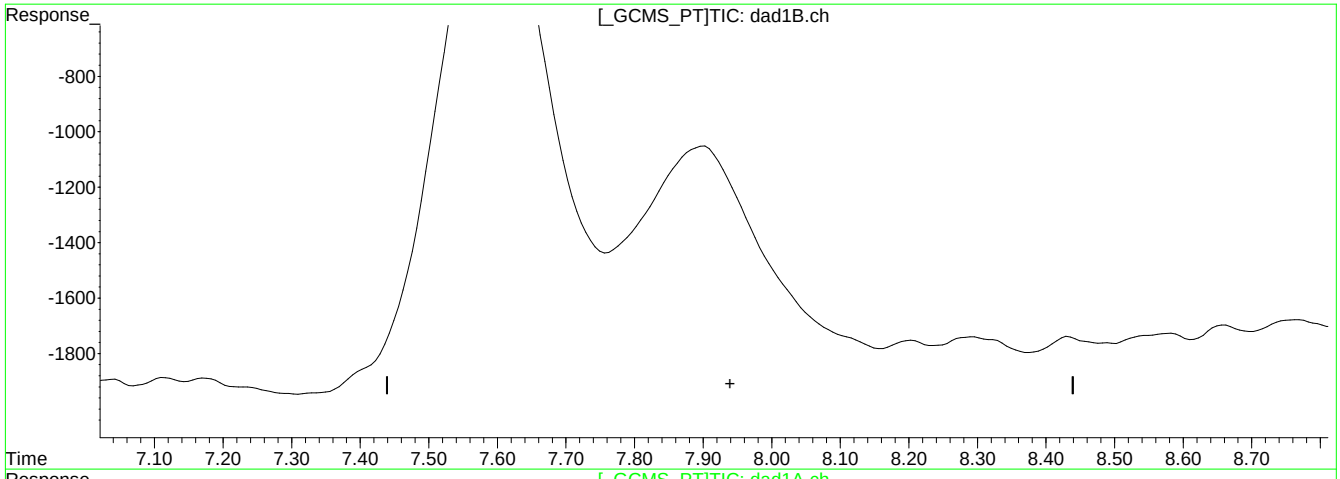
response 417320

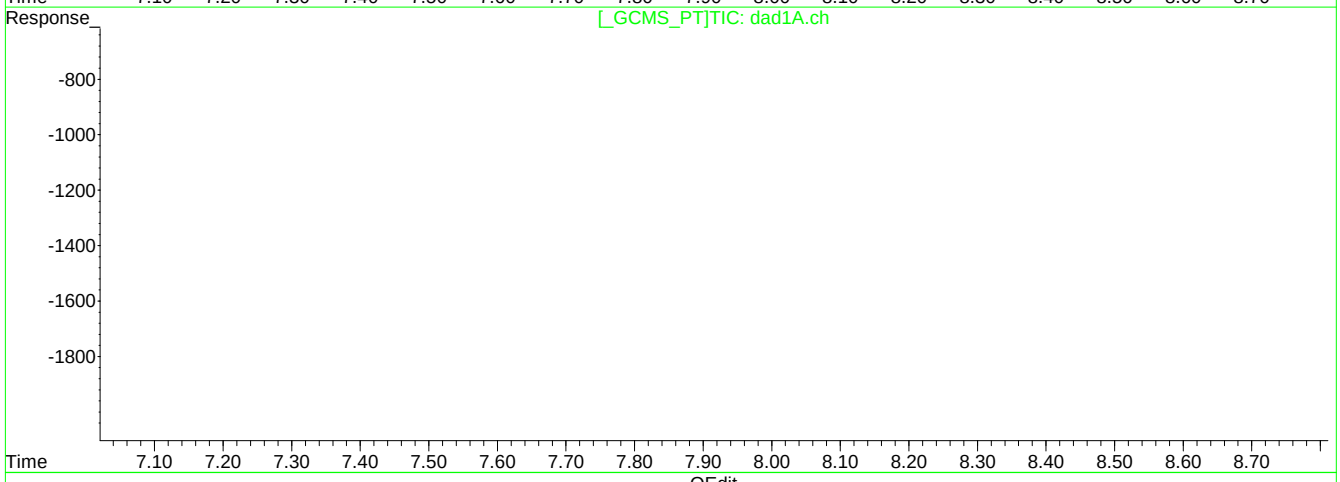
(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:51:28 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(6) RDX

0.00min 0.000ppb

response 0

(6) RDX #2

0.00min 0.000ppb

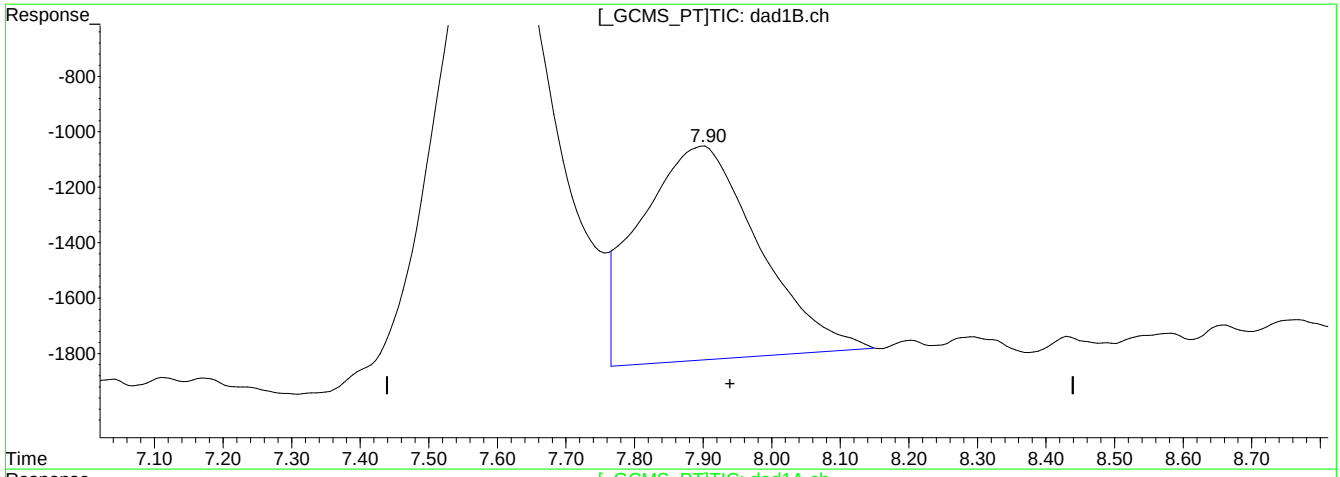
response 0

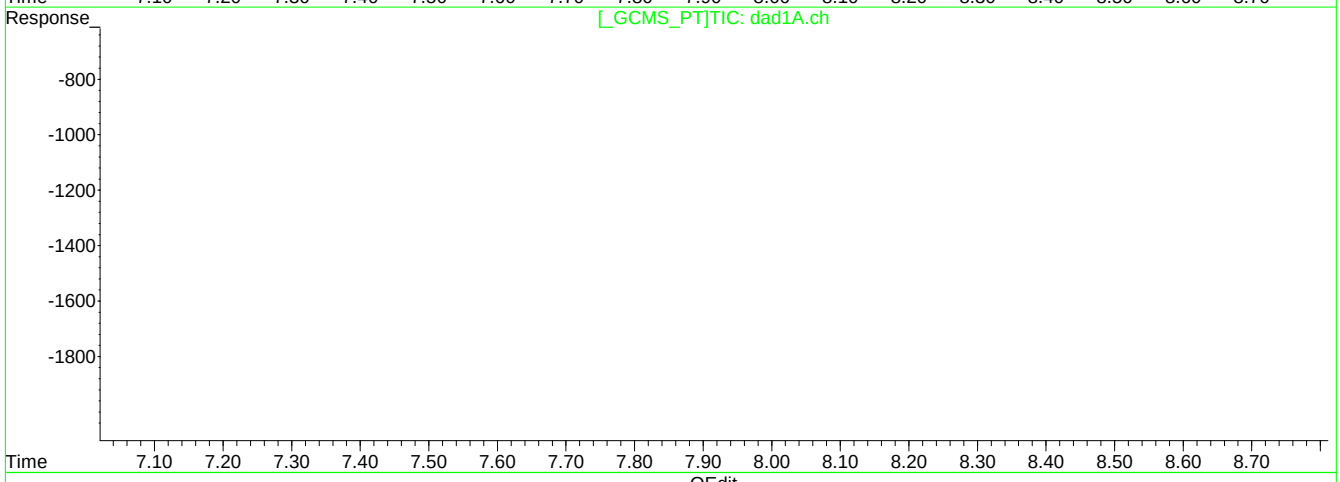
(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:51:32 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(6) RDX

7.90min 22.751ppb m

response 93080

(6) RDX #2

0.00min 0.000ppb

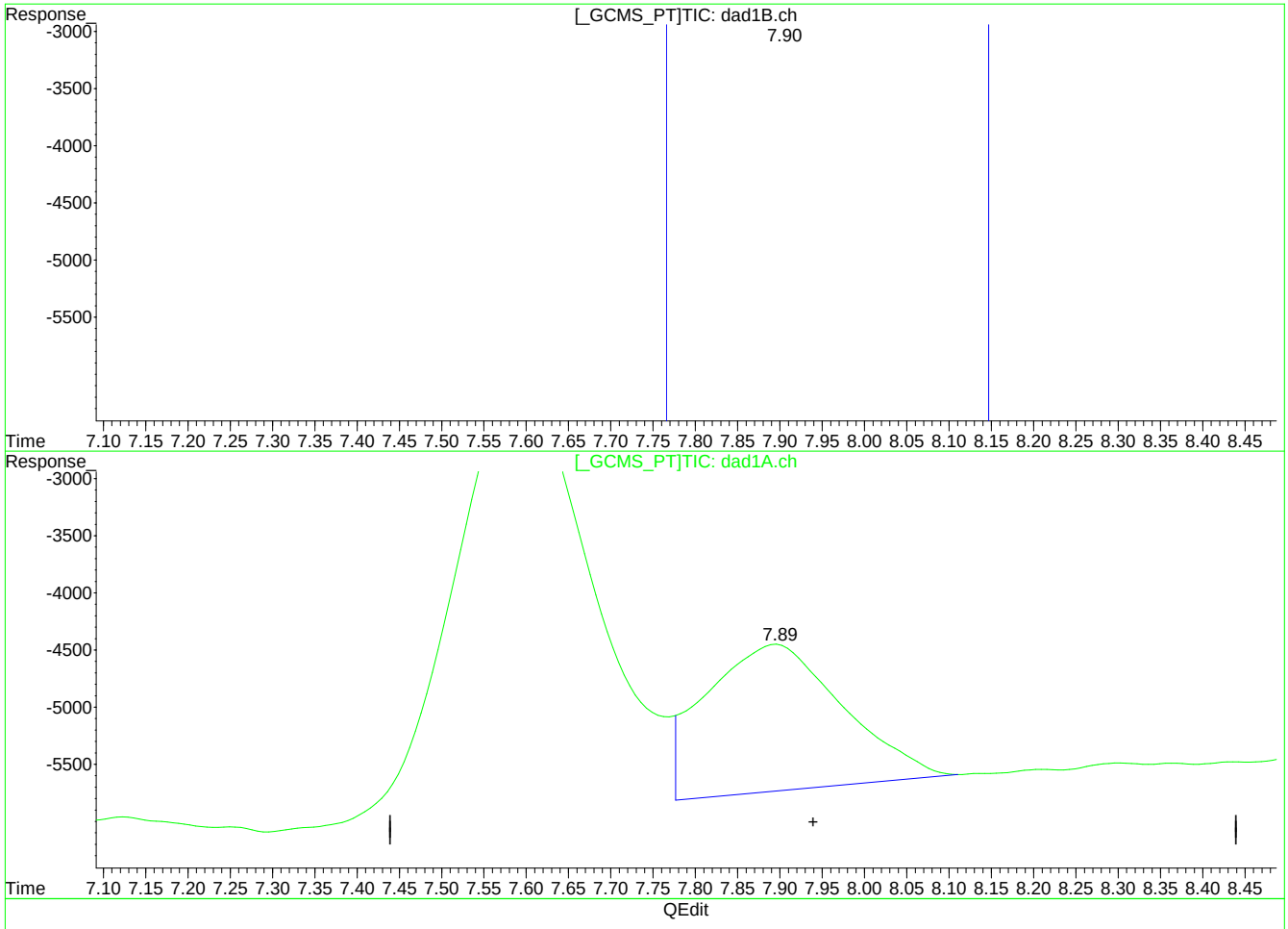
response 0

(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:51:37 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(6) RDX

7.90min 22.751ppb m

response 93080

(6) RDX #2

7.89min 35.598ppb m

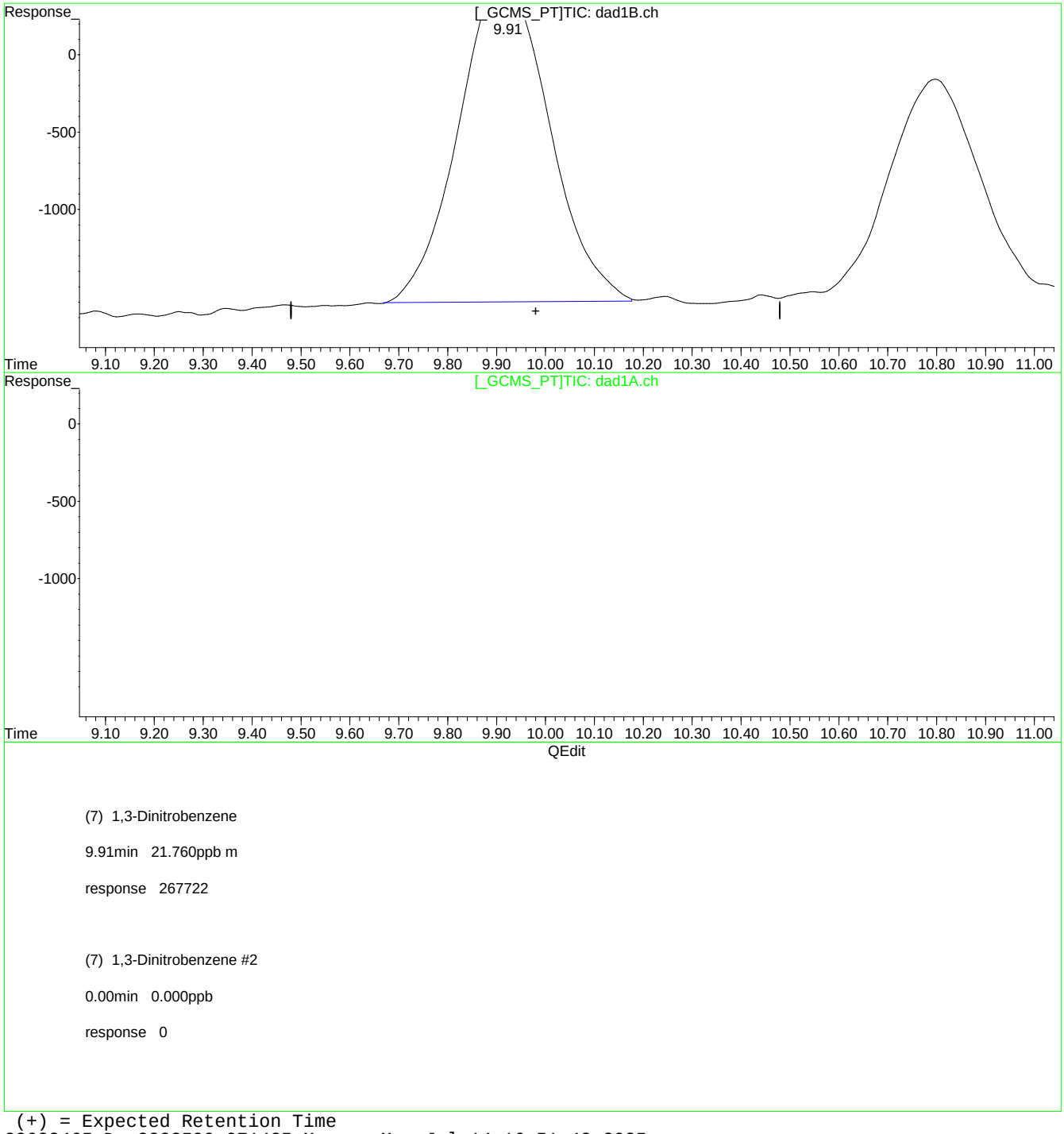
response 144306

(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:51:42 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

9.91min 21.760ppb m

response 267722

(7) 1,3-Dinitrobenzene #2

0.00min 0.000ppb

response 0

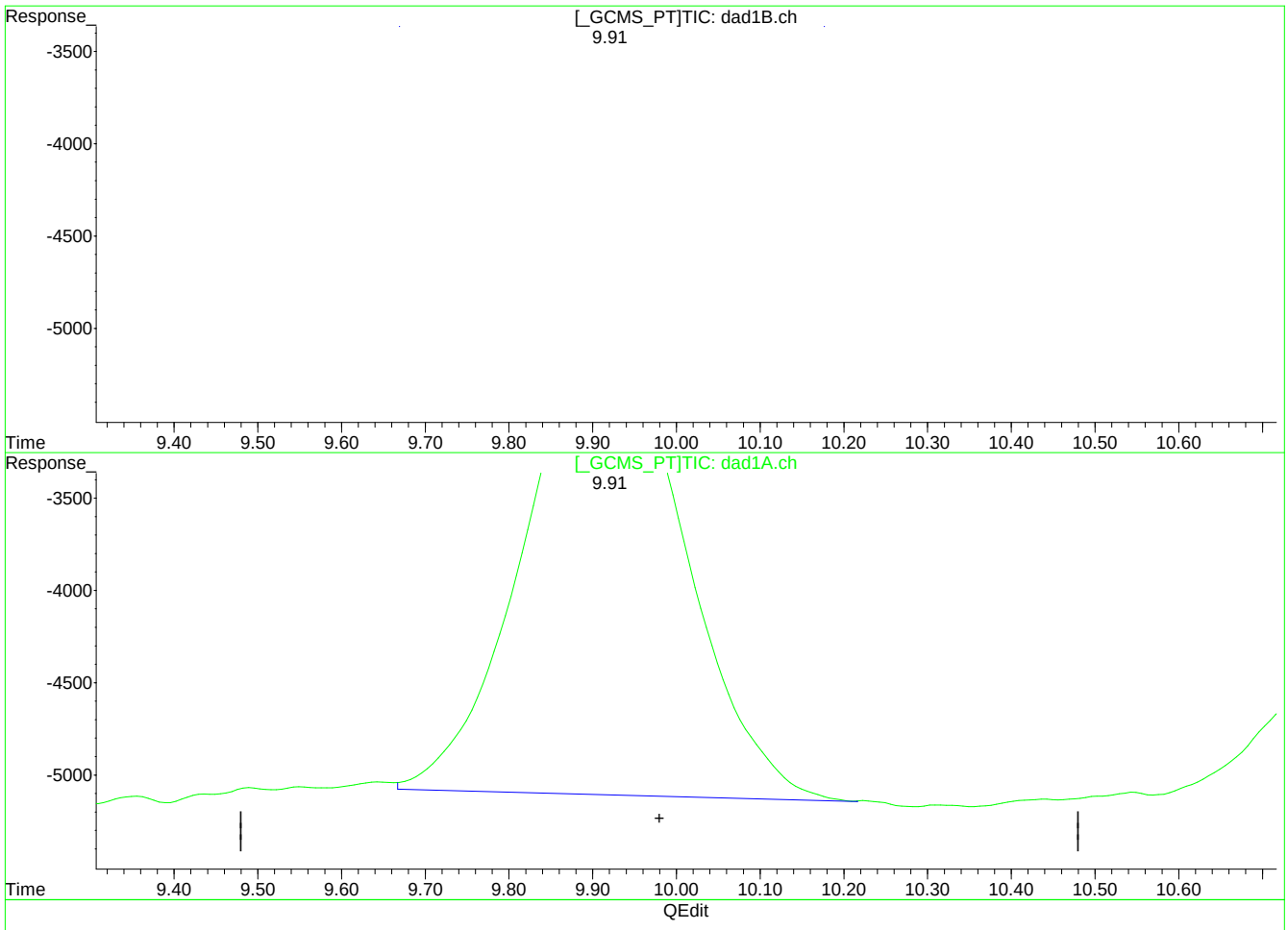
(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:51:48 2025

GG632465.D edits: 1,3-Dinitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

9.91min 21.760ppb m

response 267722

(7) 1,3-Dinitrobenzene #2

9.91min 37.324ppb m

response 328425

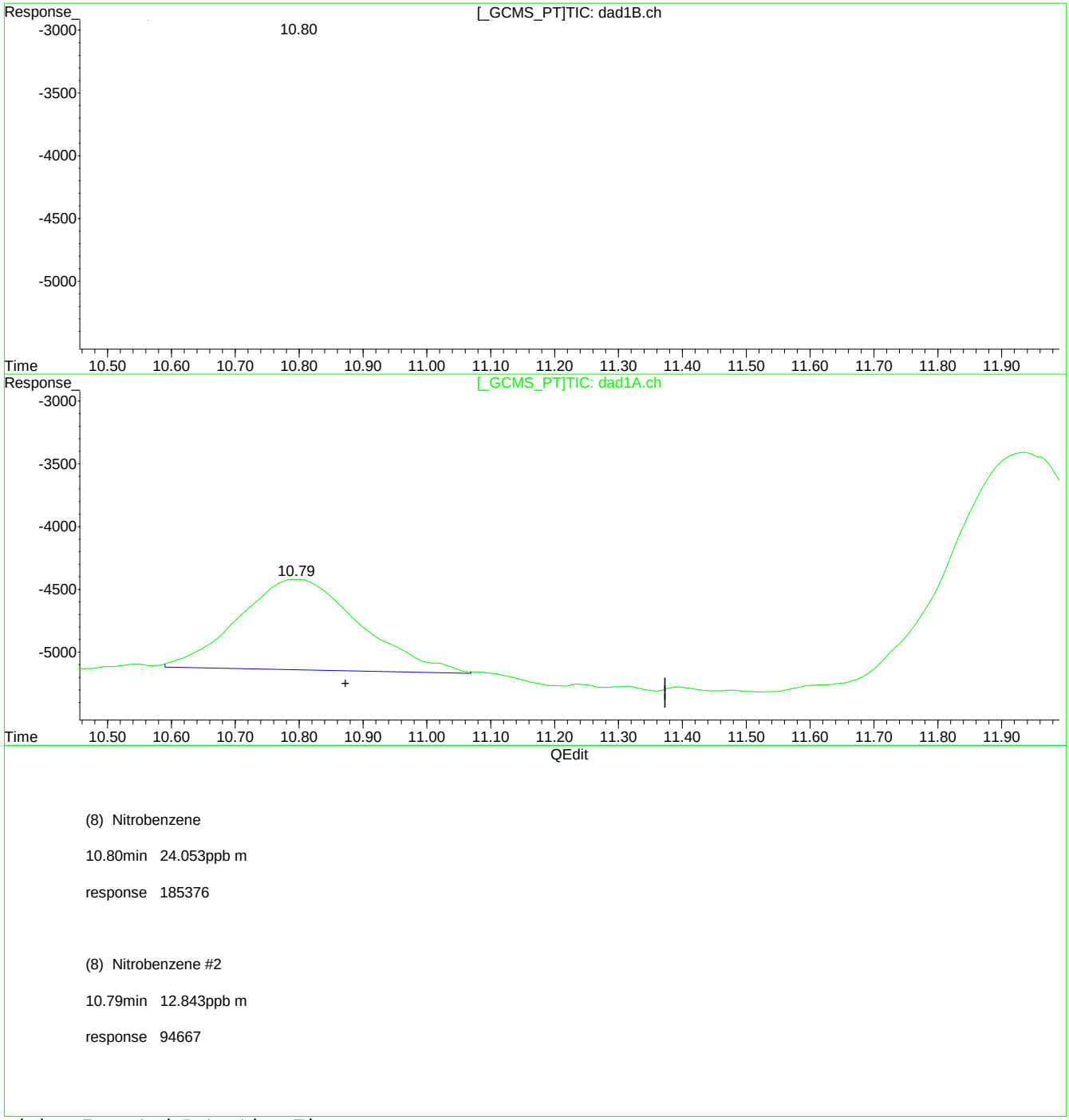
(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:51:54 2025

GG632465.D edits: 1,3-Dinitrobenzene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(8) Nitrobenzene

10.80min 24.053ppb m

response 185376

(8) Nitrobenzene #2

10.79min 12.843ppb m

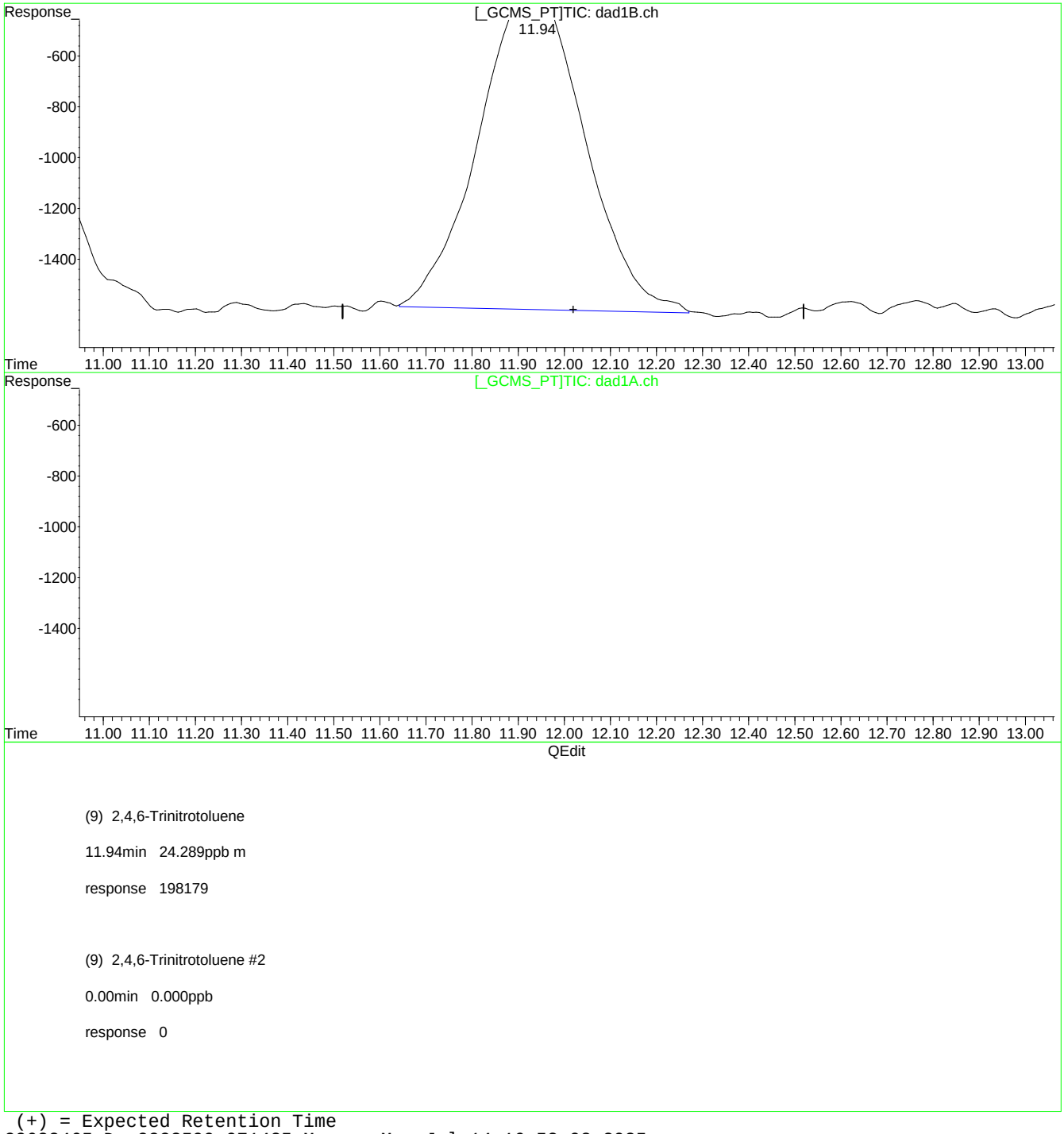
response 94667

(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:52:03 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(9) 2,4,6-Trinitrotoluene

11.94min 24.289ppb m

response 198179

(9) 2,4,6-Trinitrotoluene #2

0.00min 0.000ppb

response 0

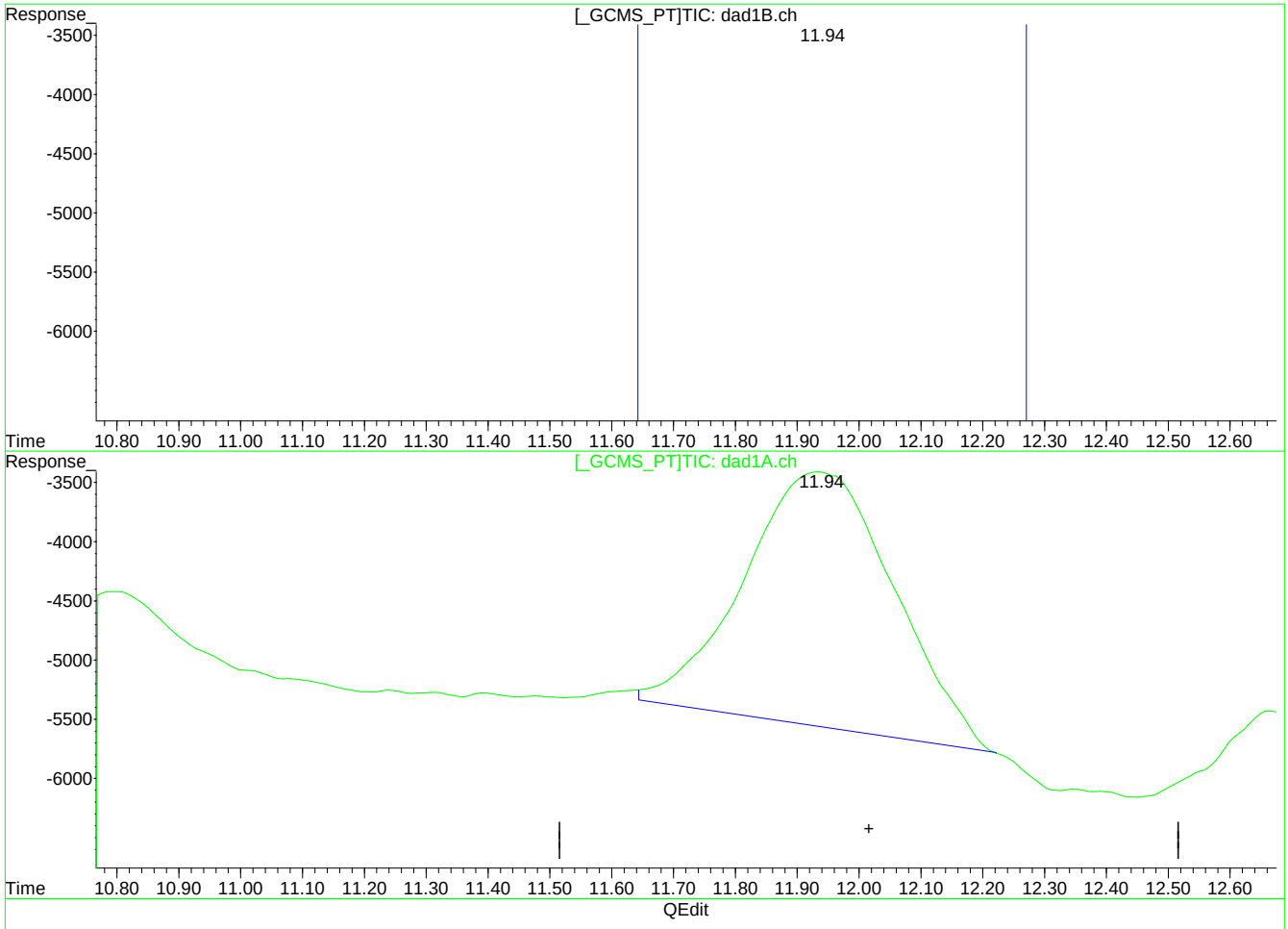
(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:52:08 2025

GG632465.D edits: 2,4,6-Trinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(9) 2,4,6-Trinitrotoluene

11.94min 24.289ppb m

response 198179

(9) 2,4,6-Trinitrotoluene #2

11.94min 31.972ppb m

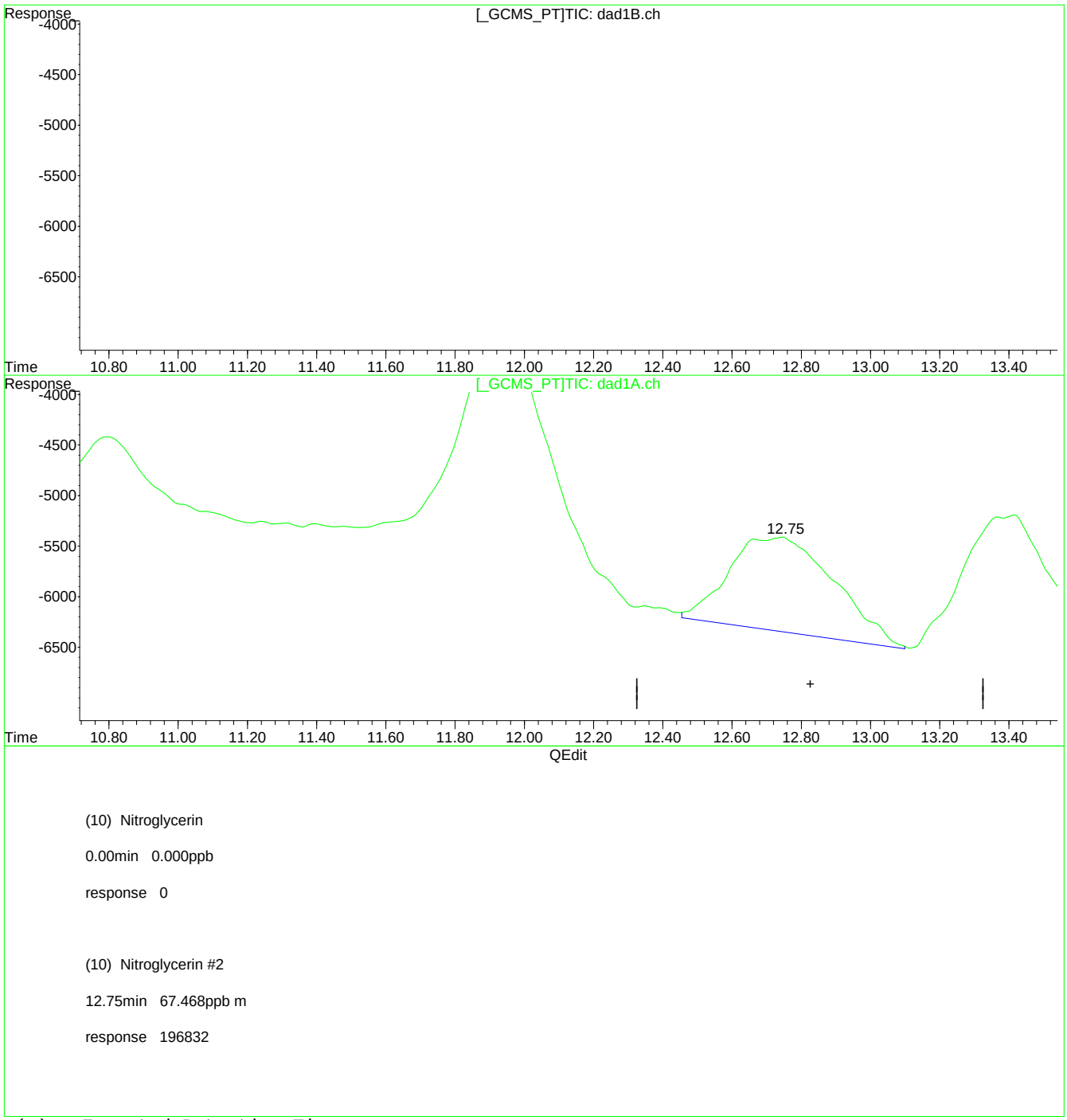
response 363316

(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:52:13 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

12.75min 67.468ppb m

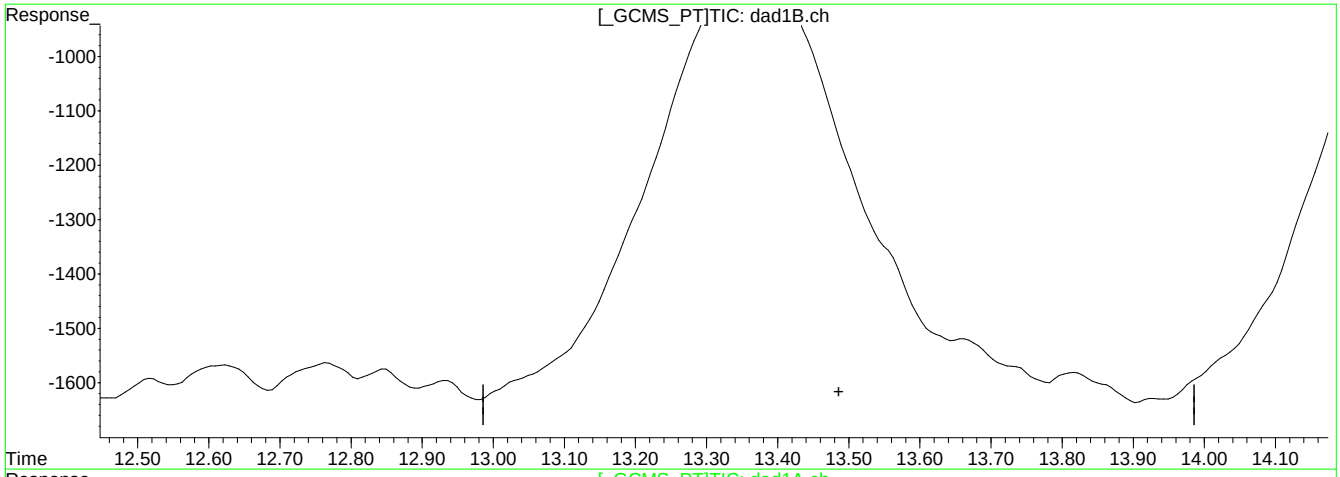
response 196832

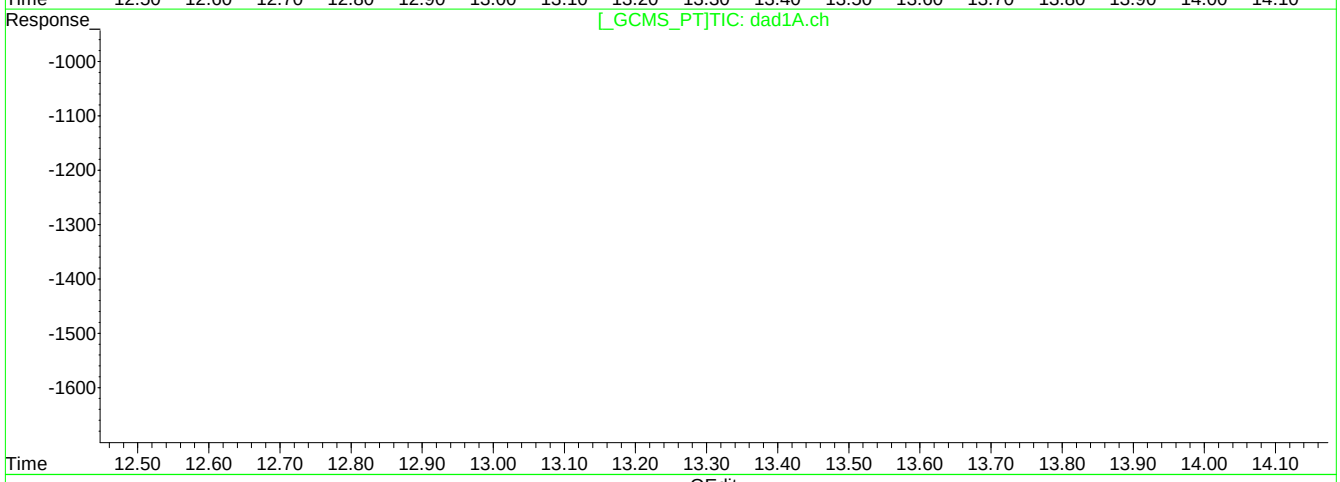
(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:52:27 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(11) Tetryl

0.00min 0.000ppb

response 0

(11) Tetryl #2

0.00min 0.000ppb

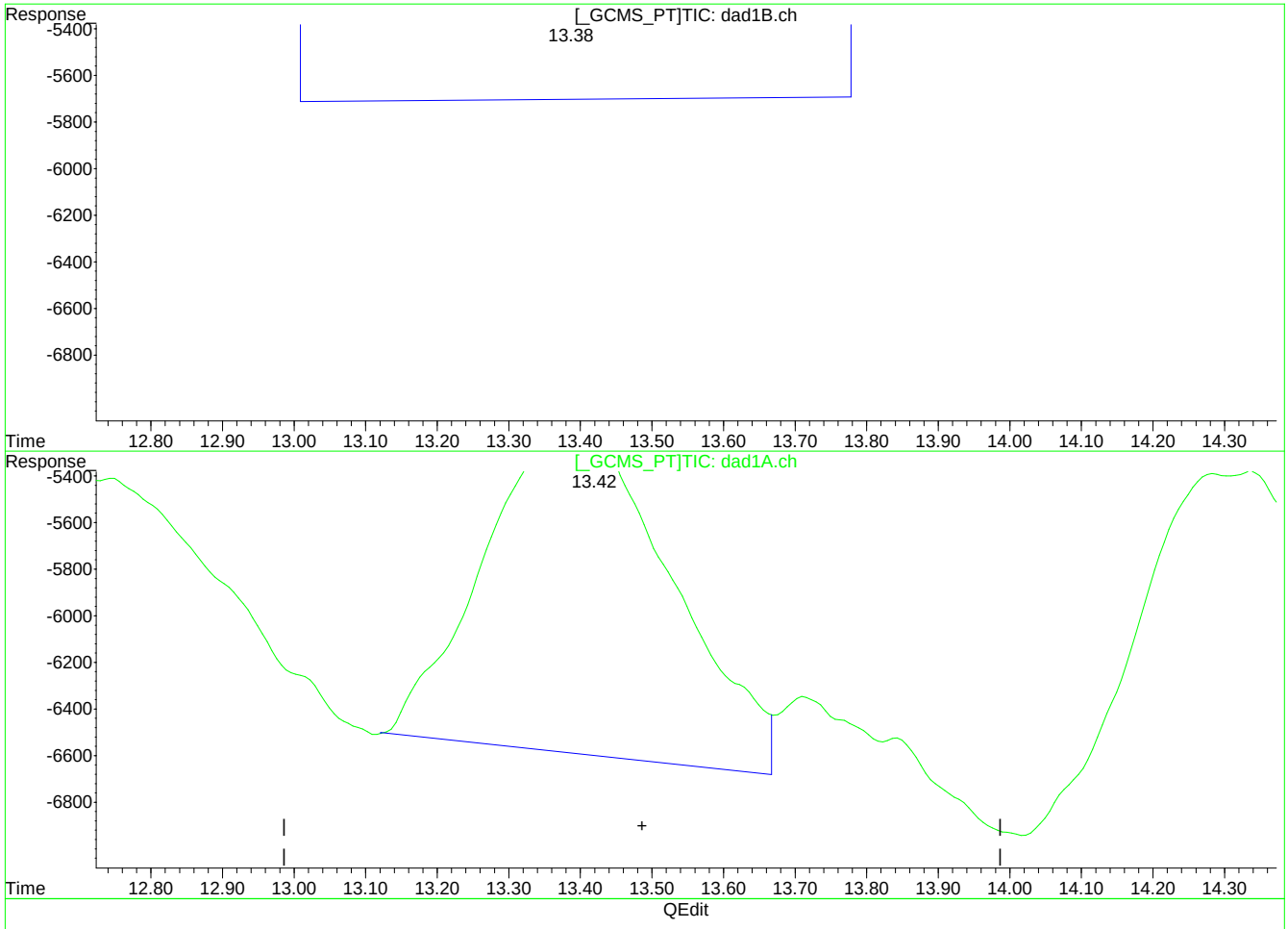
response 0

(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:53:00 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(11) Tetryl

13.38min 22.540ppb m

response 144923

(11) Tetryl #2

13.42min 22.879ppb m

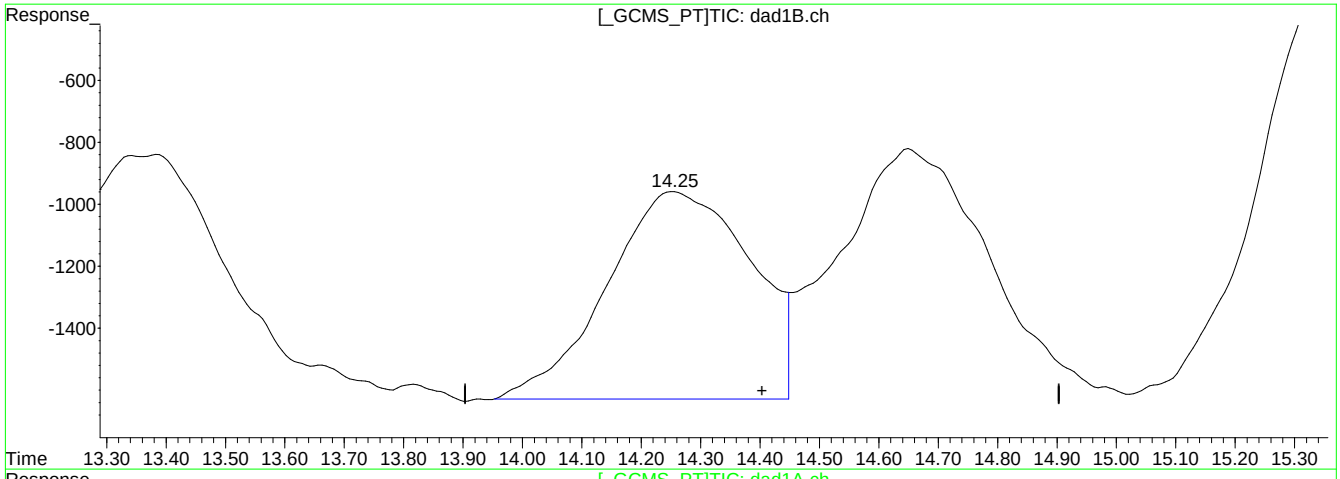
response 252428

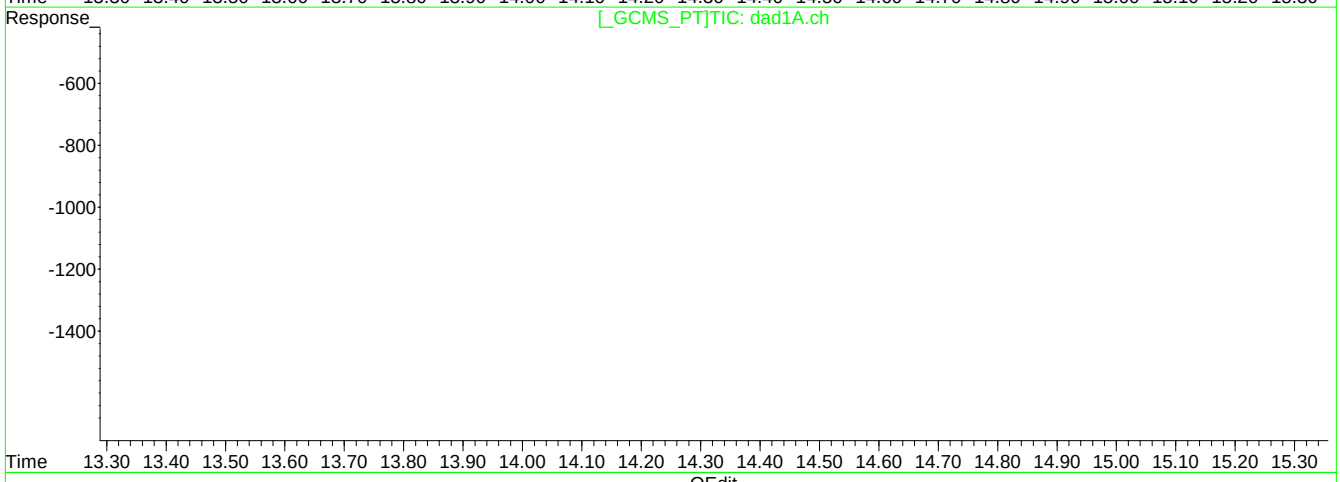
(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:53:08 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(12) 3,4-Dinitrotoluene (S)

14.25min 23.263ppb m

response 111679

(12) 3,4-Dinitrotoluene #2 (S)

0.00min 0.000ppb

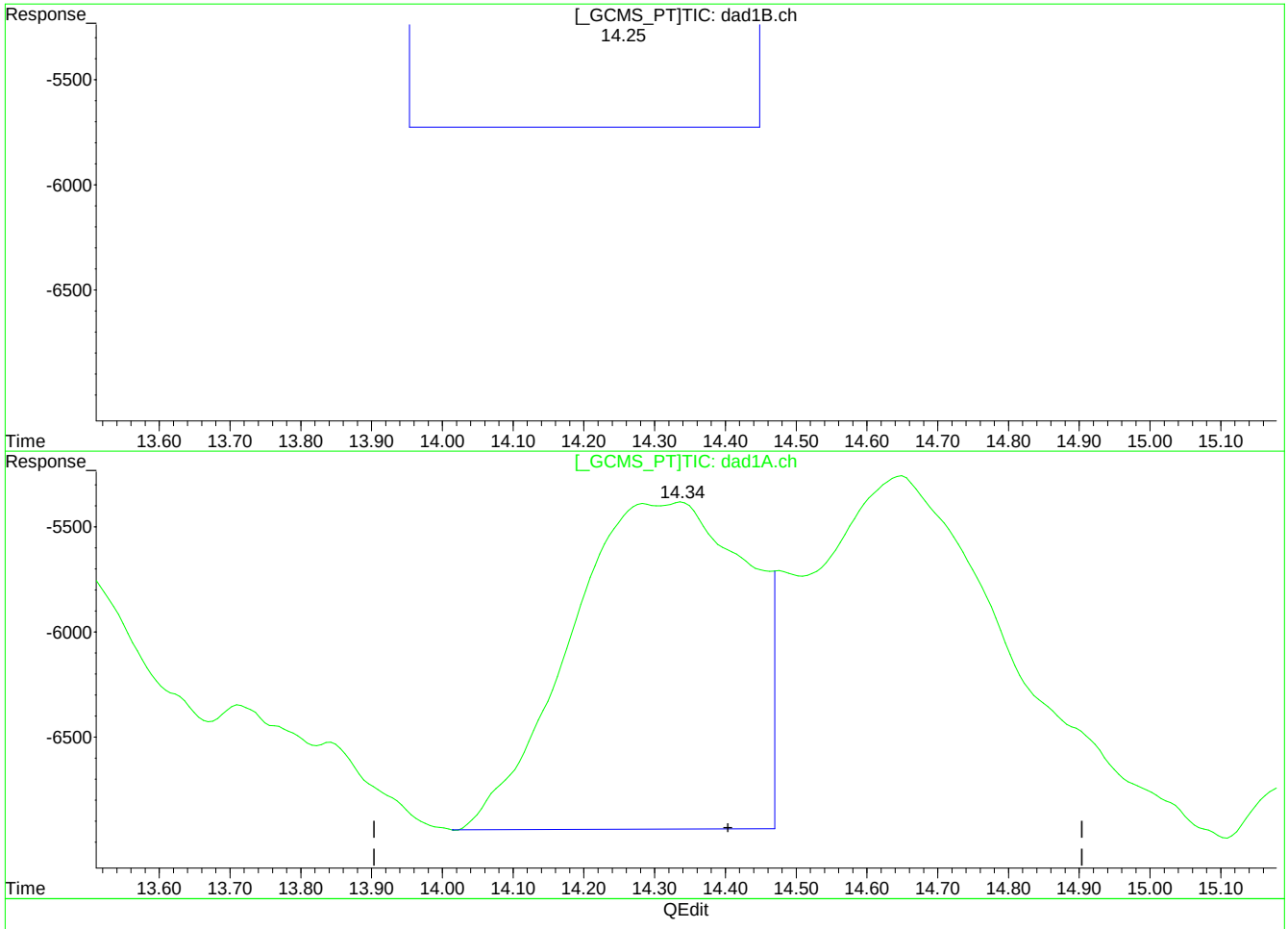
response 0

(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:53:13 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(12) 3,4-Dinitrotoluene (S)

14.25min 23.263ppb m

response 111679

(12) 3,4-Dinitrotoluene #2 (S)

14.34min 27.781ppb m

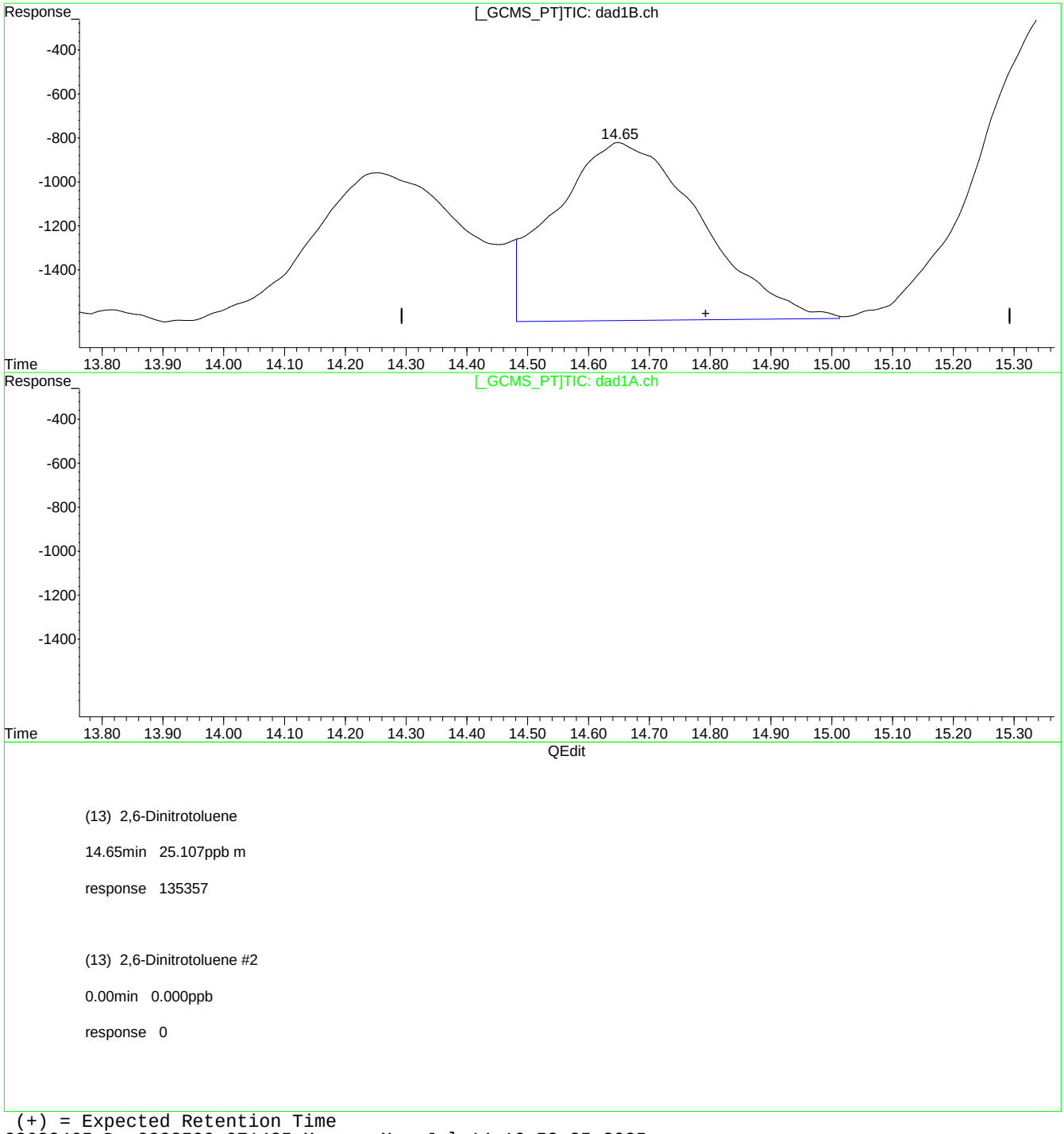
response 275897

(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:53:19 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(13) 2,6-Dinitrotoluene

14.65min 25.107ppb m

response 135357

(13) 2,6-Dinitrotoluene #2

0.00min 0.000ppb

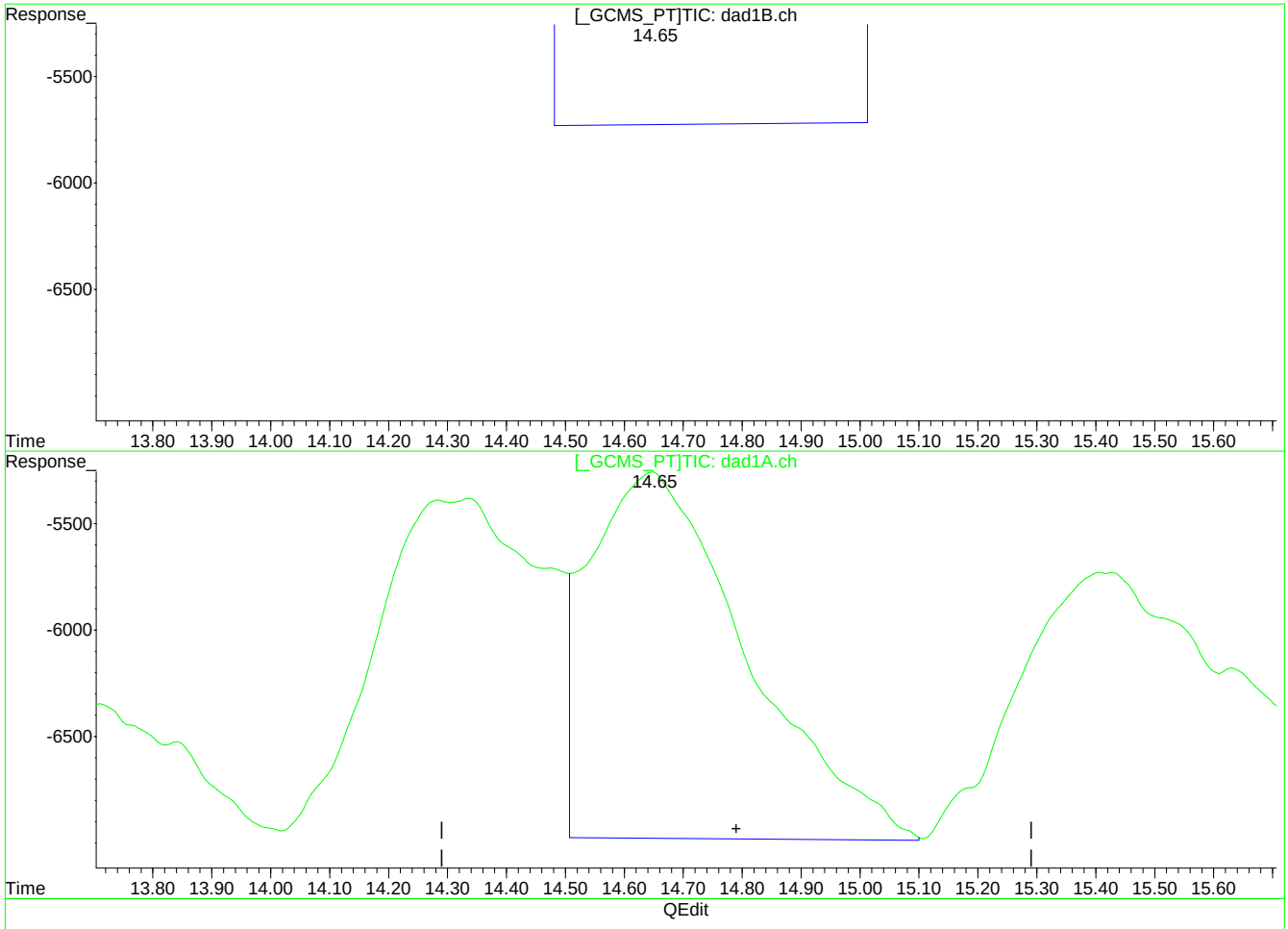
response 0

(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:53:25 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(13) 2,6-Dinitrotoluene

14.65min 25.107ppb m

response 135357

(13) 2,6-Dinitrotoluene #2

14.65min 38.352ppb m

response 318598

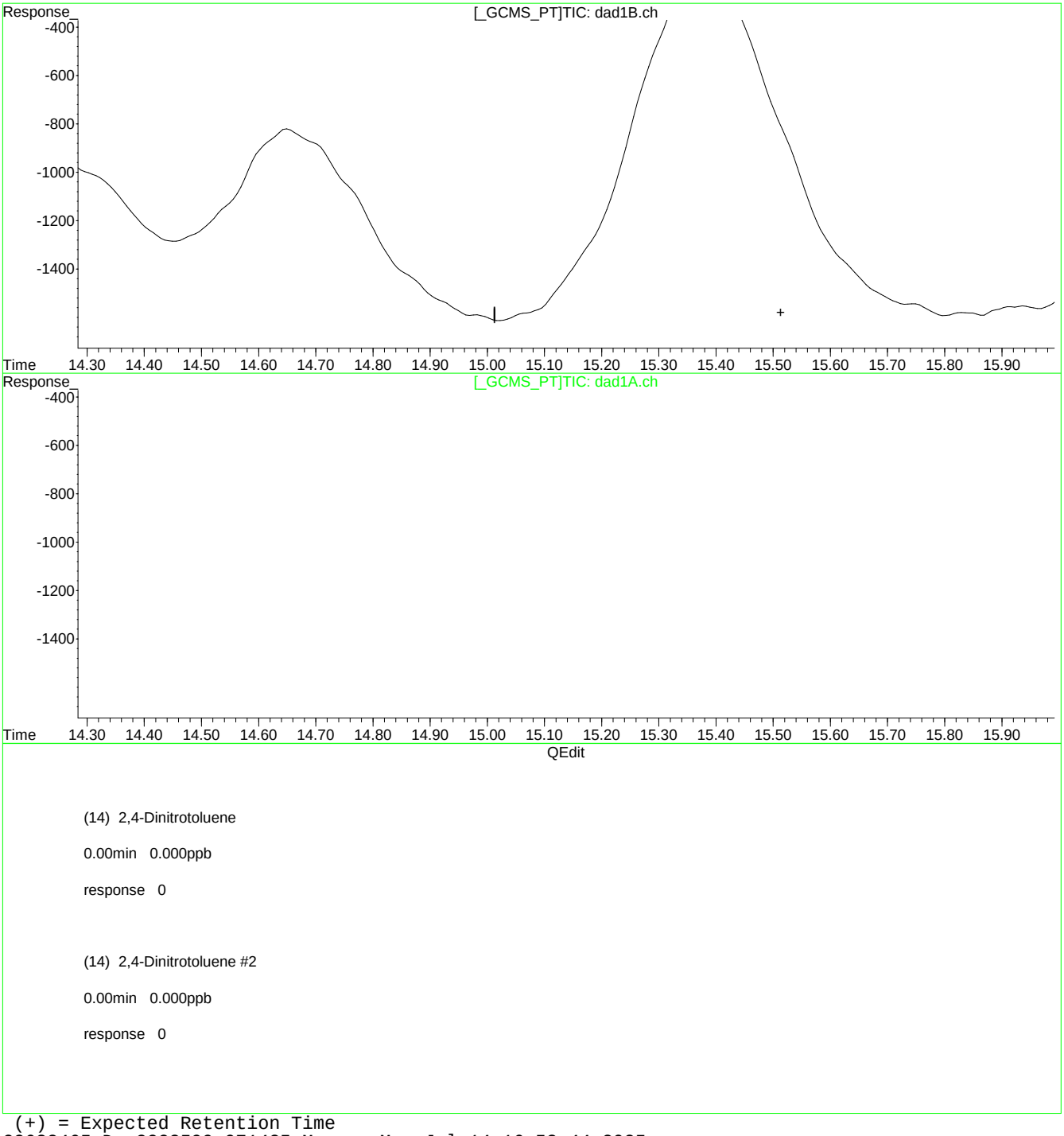
(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:53:39 2025

GG632465.D edits: 2,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(14) 2,4-Dinitrotoluene

0.00min 0.000ppb

response 0

(14) 2,4-Dinitrotoluene #2

0.00min 0.000ppb

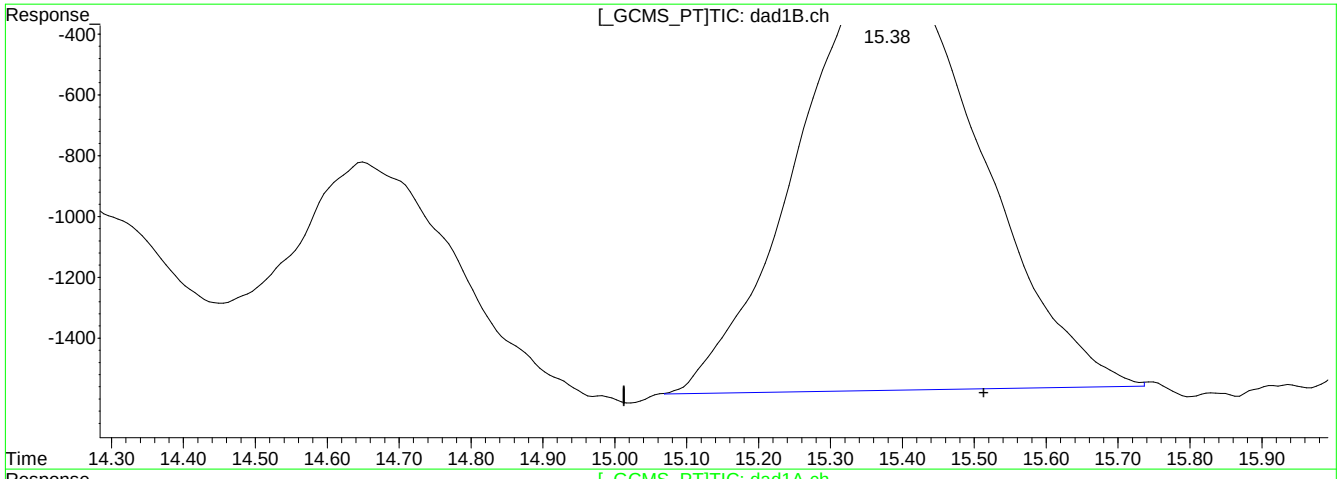
response 0

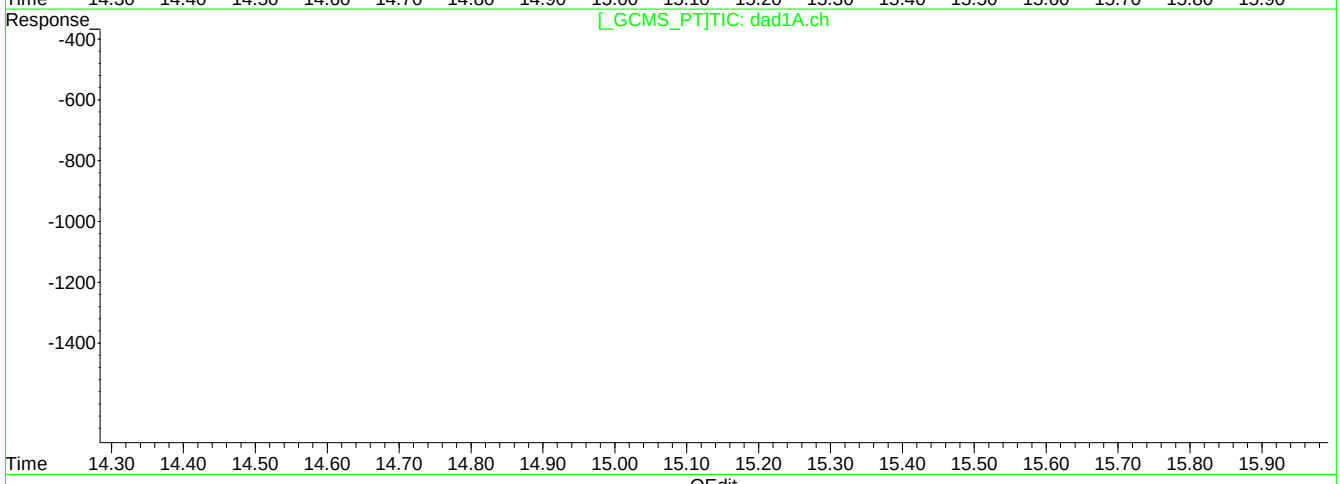
(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:53:44 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(14) 2,4-Dinitrotoluene

15.38min 21.922ppb m

response 244778

(14) 2,4-Dinitrotoluene #2

0.00min 0.000ppb

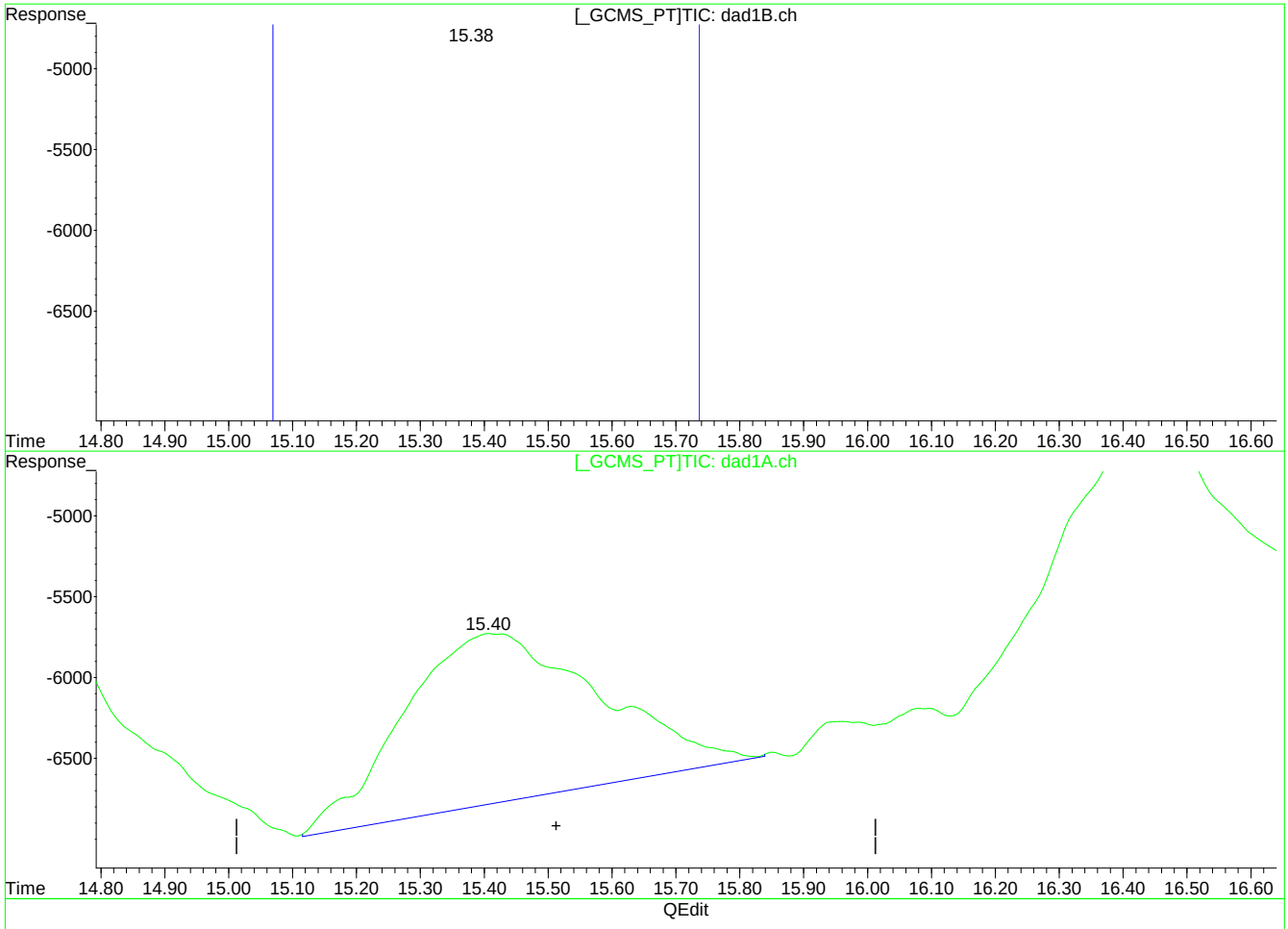
response 0

(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:53:47 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(14) 2,4-Dinitrotoluene

15.38min 21.922ppb m

response 244778

(14) 2,4-Dinitrotoluene #2

15.40min 28.503ppb m

response 223010

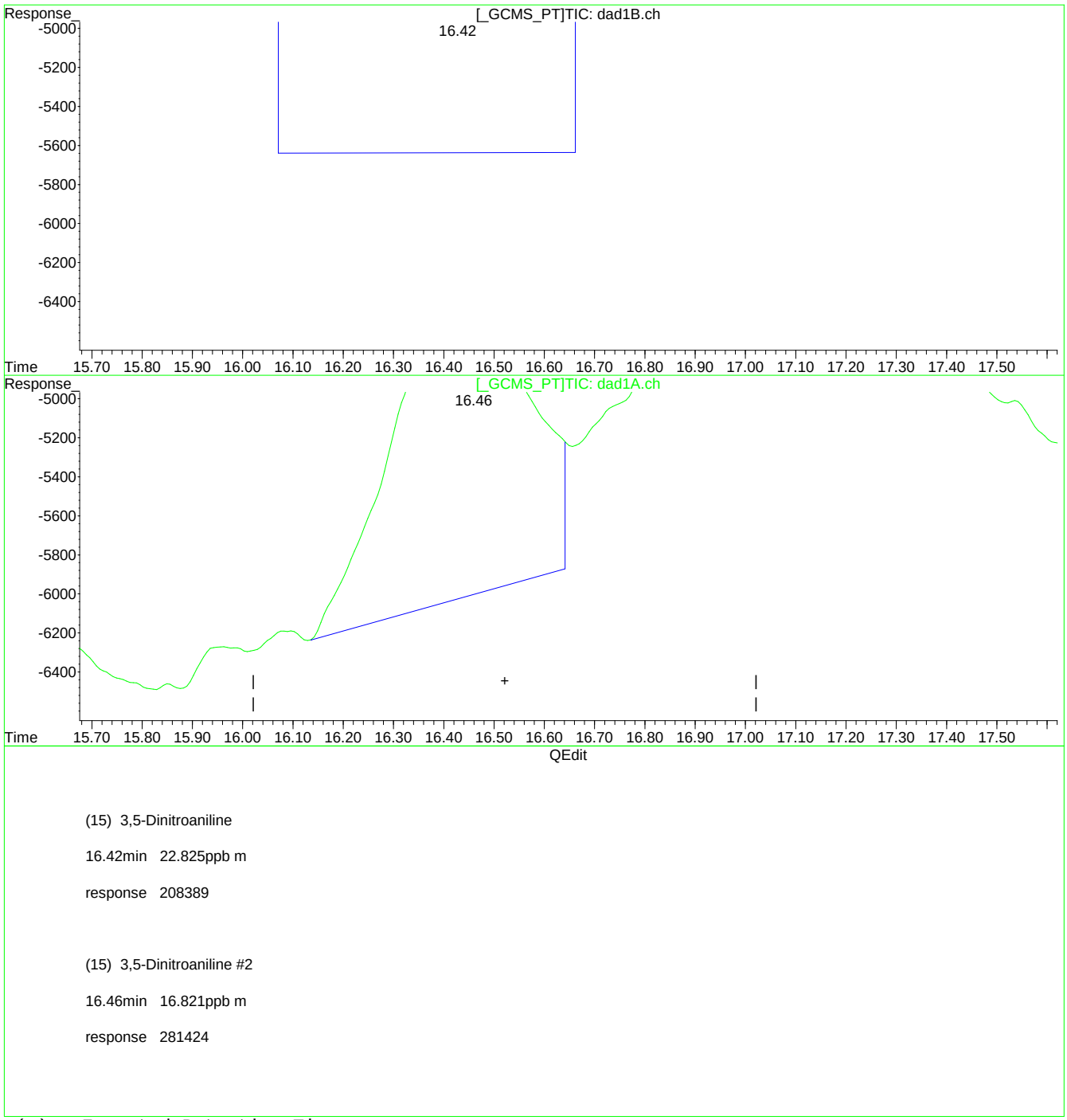
(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:53:52 2025

GG632465.D edits: 2,4-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(15) 3,5-Dinitroaniline

16.42min 22.825ppb m

response 208389

(15) 3,5-Dinitroaniline #2

16.46min 16.821ppb m

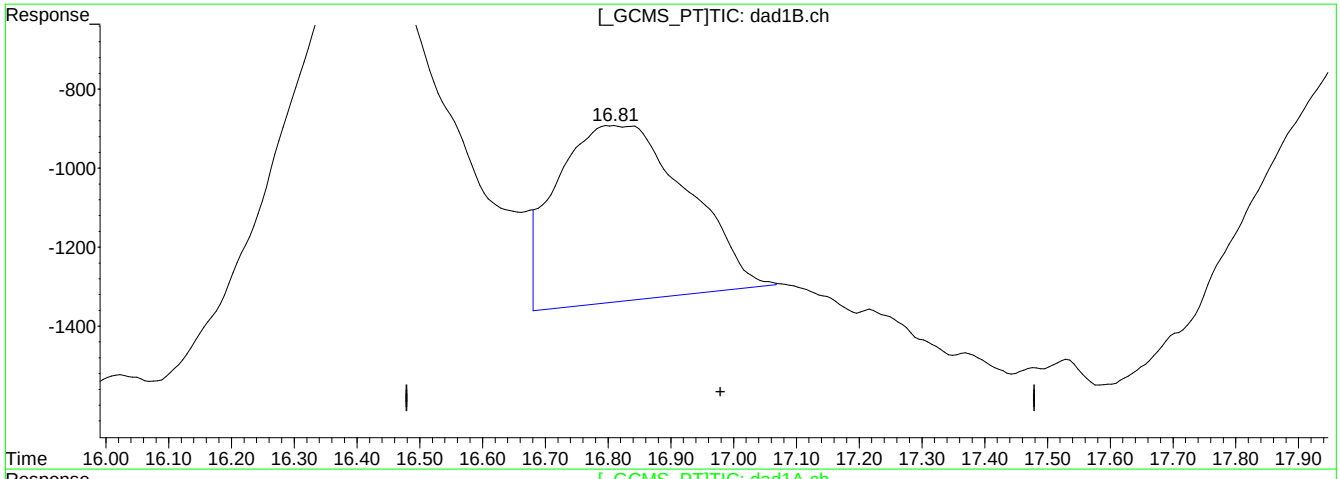
response 281424

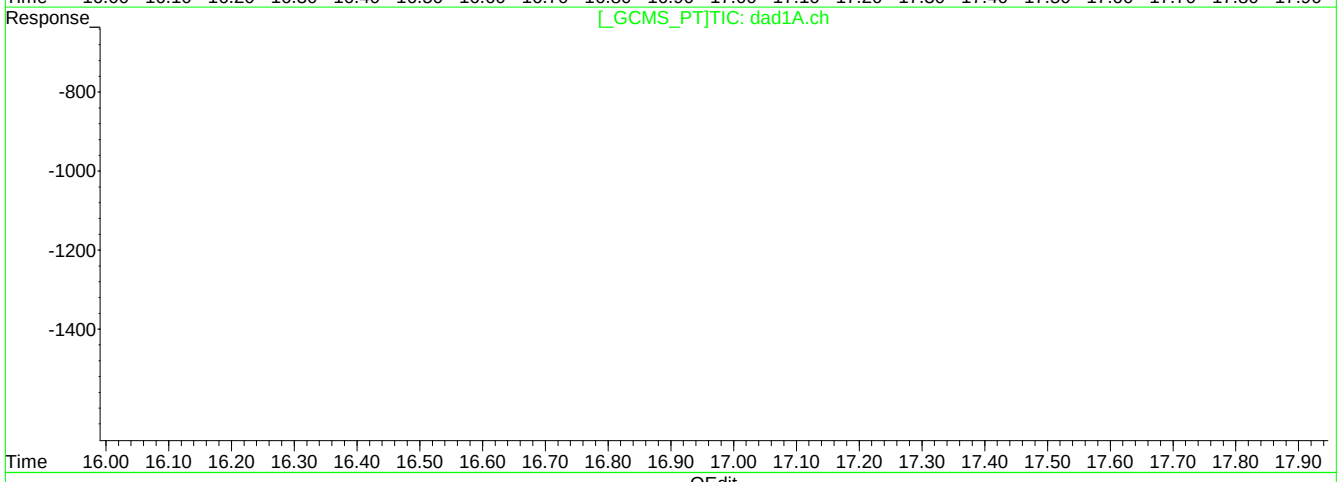
(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:54:04 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(16) o-Nitrotoluene

16.81min 14.250ppb m

response 64674

(16) o-Nitrotoluene #2

0.00min 0.000ppb

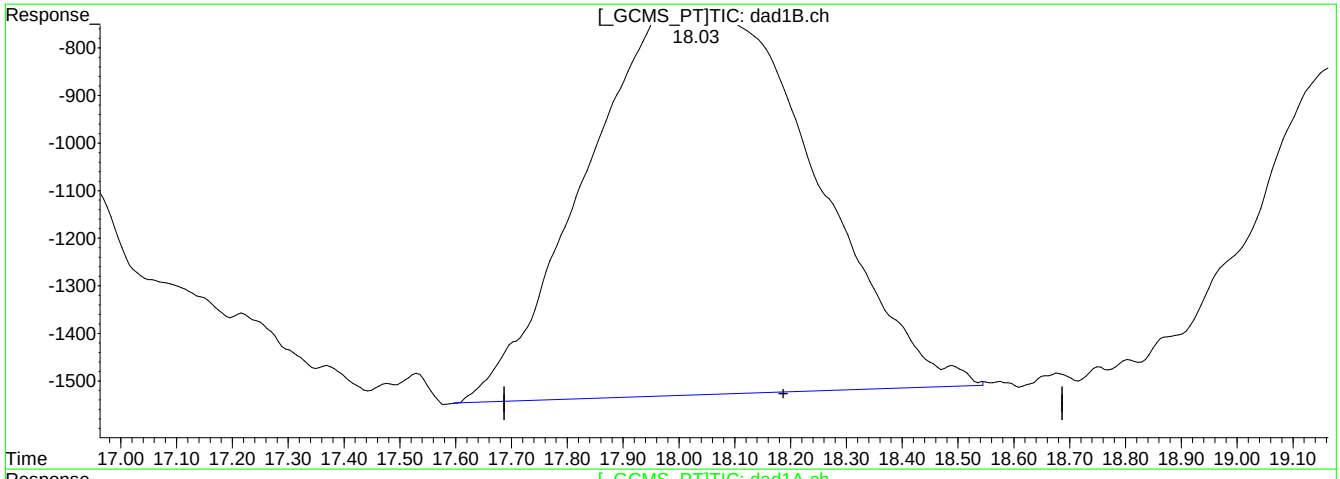
response 0

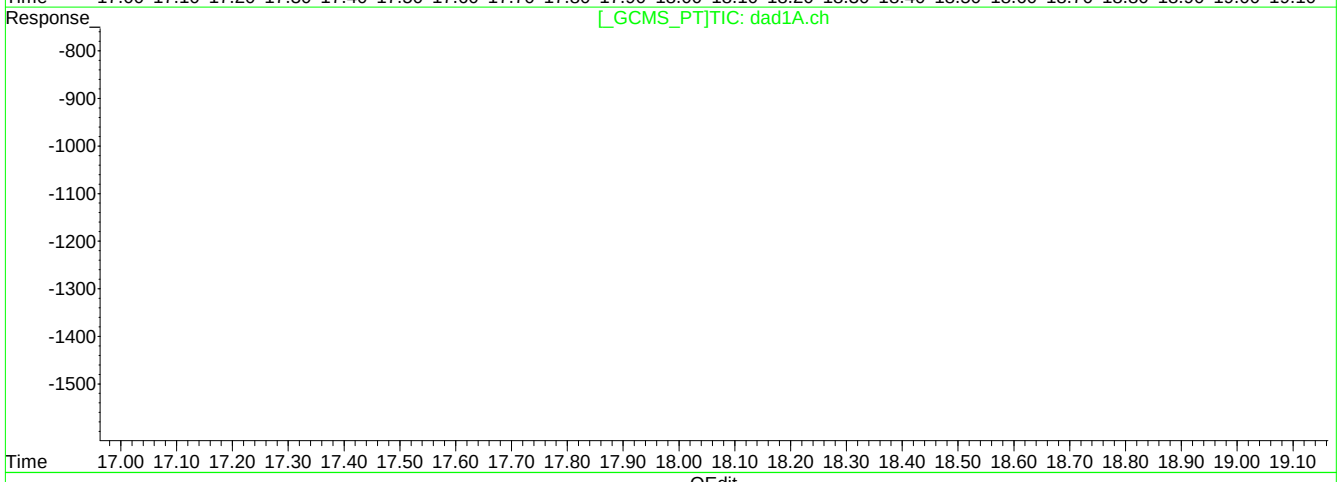
(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:54:09 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(17) p-Nitrotoluene

18.03min 46.733ppb m

response 230848

(17) p-Nitrotoluene #2

0.00min 0.000ppb

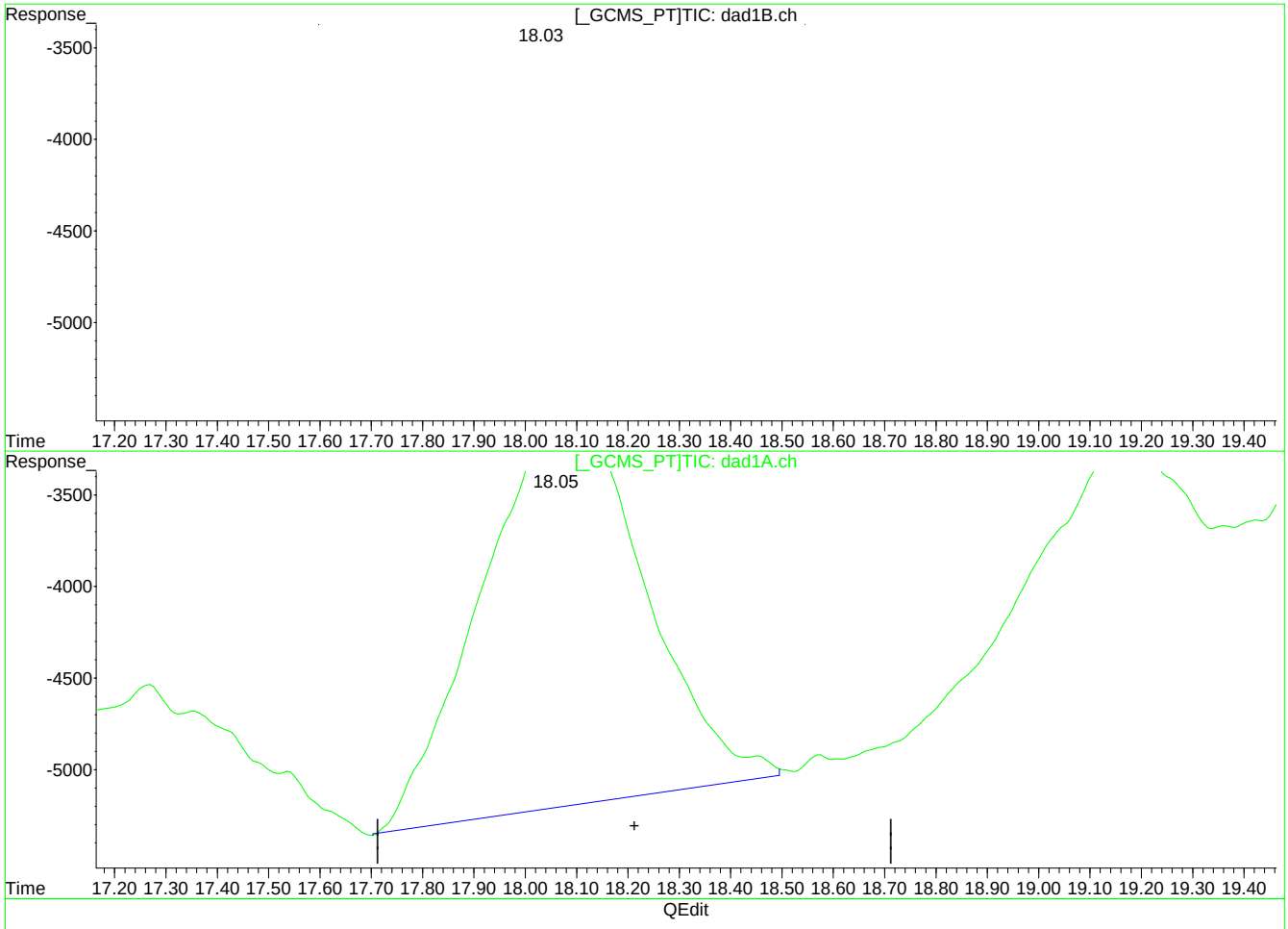
response 0

(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:54:22 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(17) p-Nitrotoluene

18.03min 46.733ppb m

response 230848

(17) p-Nitrotoluene #2

18.05min 52.728ppb m

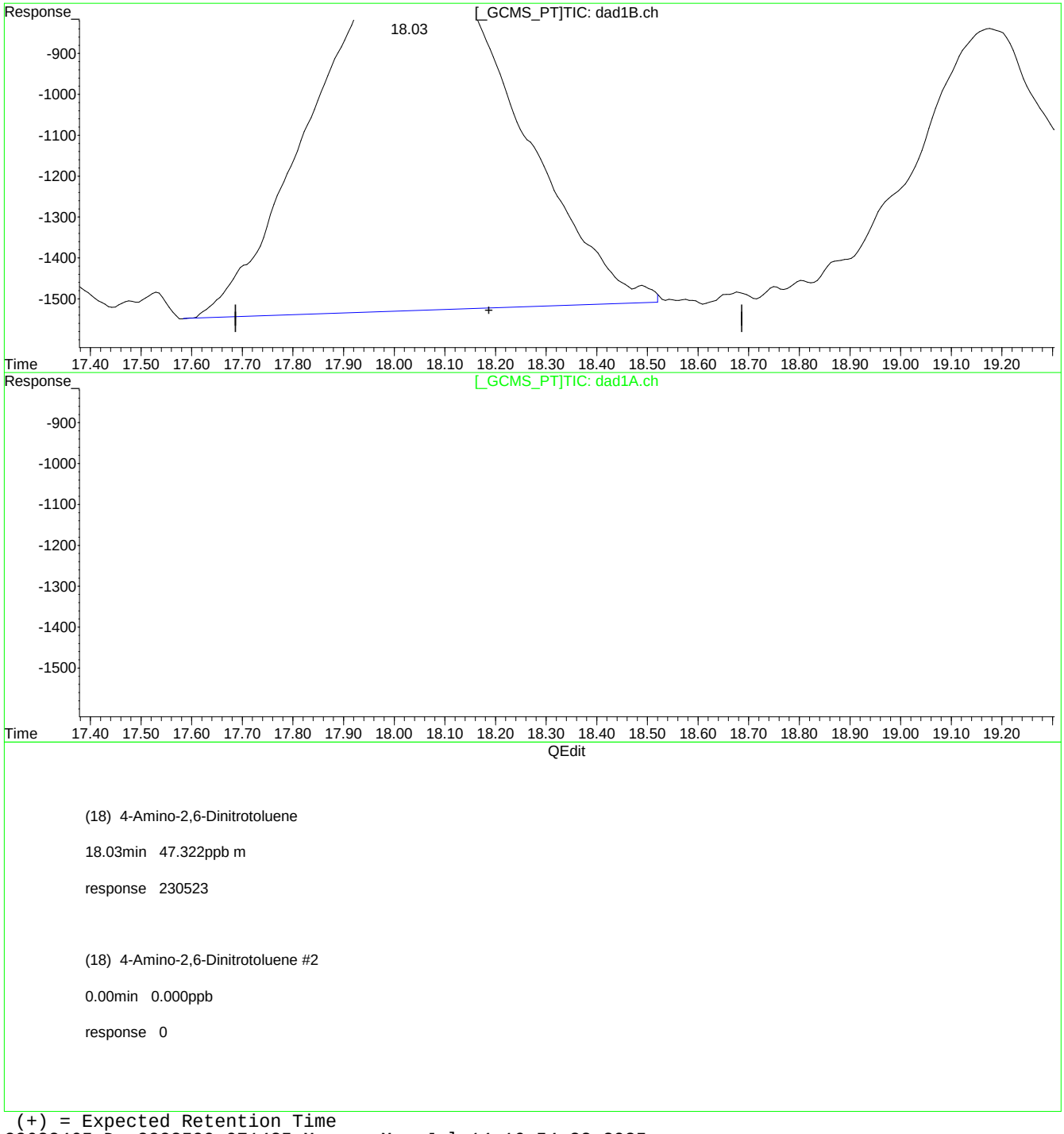
response 464801

(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:54:26 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

18.03min 47.322ppb m

response 230523

(18) 4-Amino-2,6-Dinitrotoluene #2

0.00min 0.000ppb

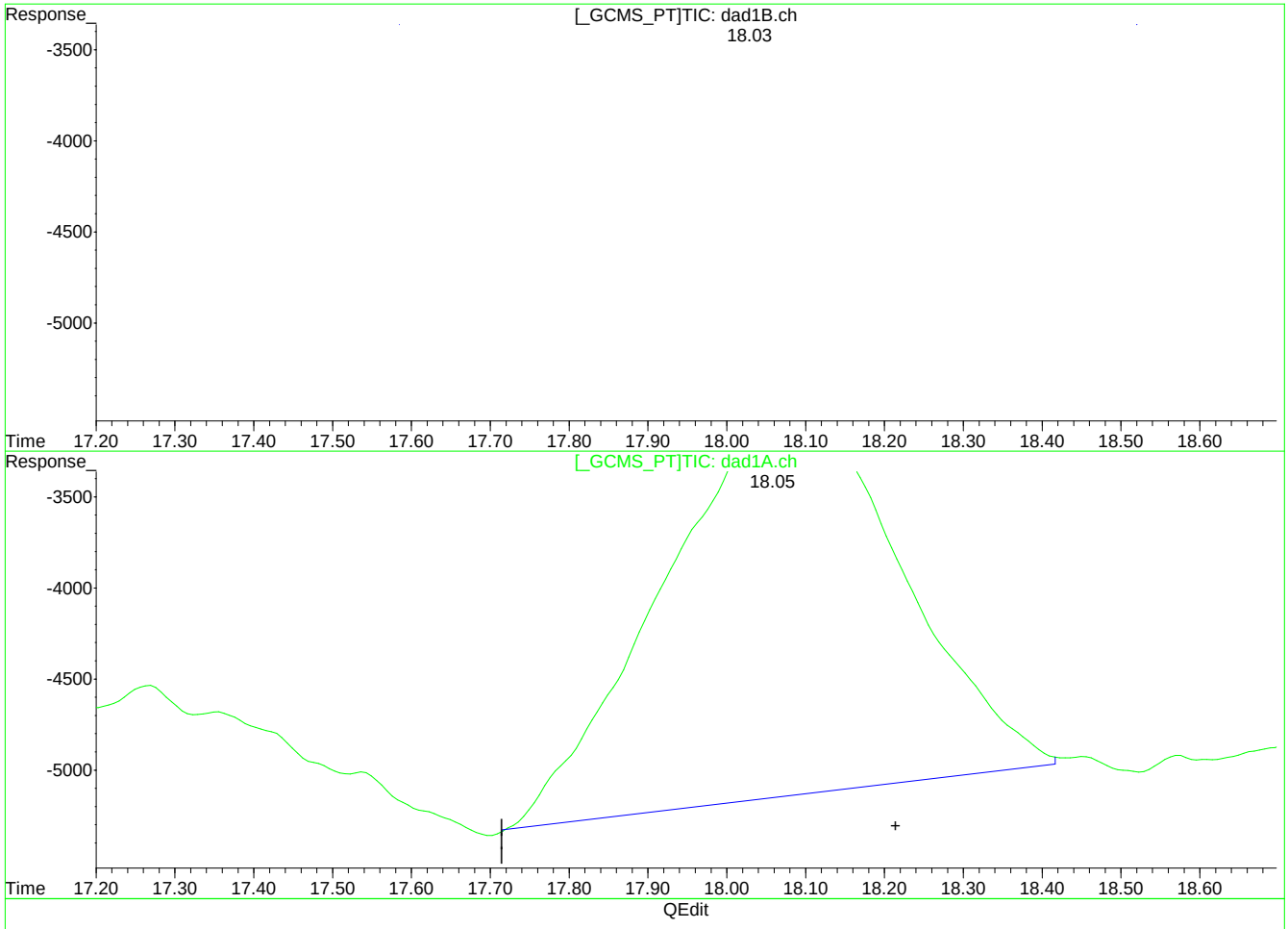
response 0

(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:54:32 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

18.03min 47.322ppb m

response 230523

(18) 4-Amino-2,6-Dinitrotoluene #2

18.05min 49.468ppb m

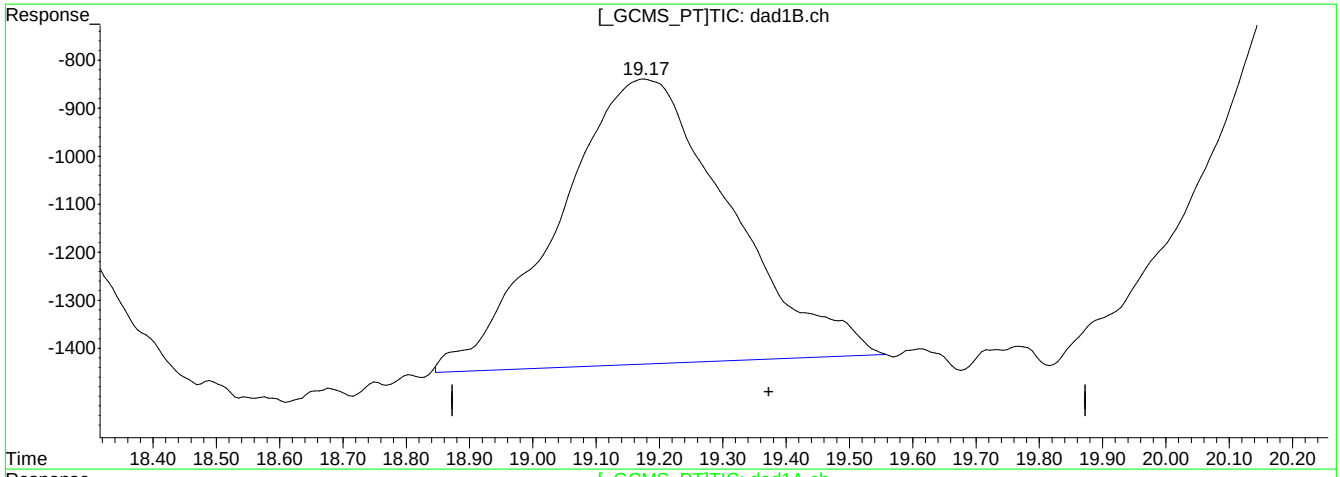
response 436075

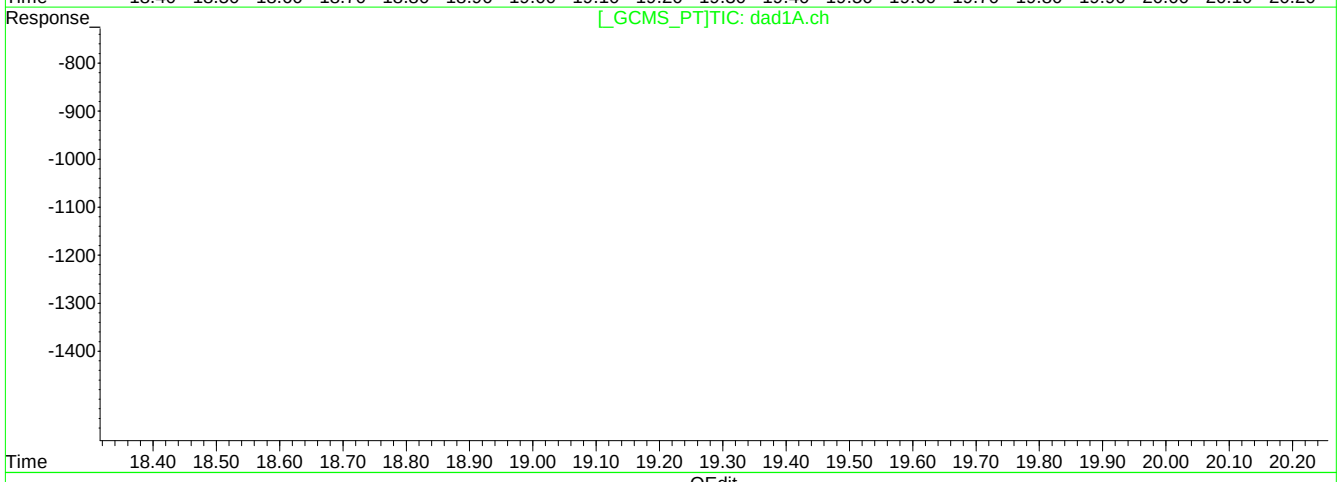
(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:54:37 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(19) m-Nitrotoluene

19.17min 21.005ppb m

response 111152

(19) m-Nitrotoluene #2

0.00min 0.000ppb

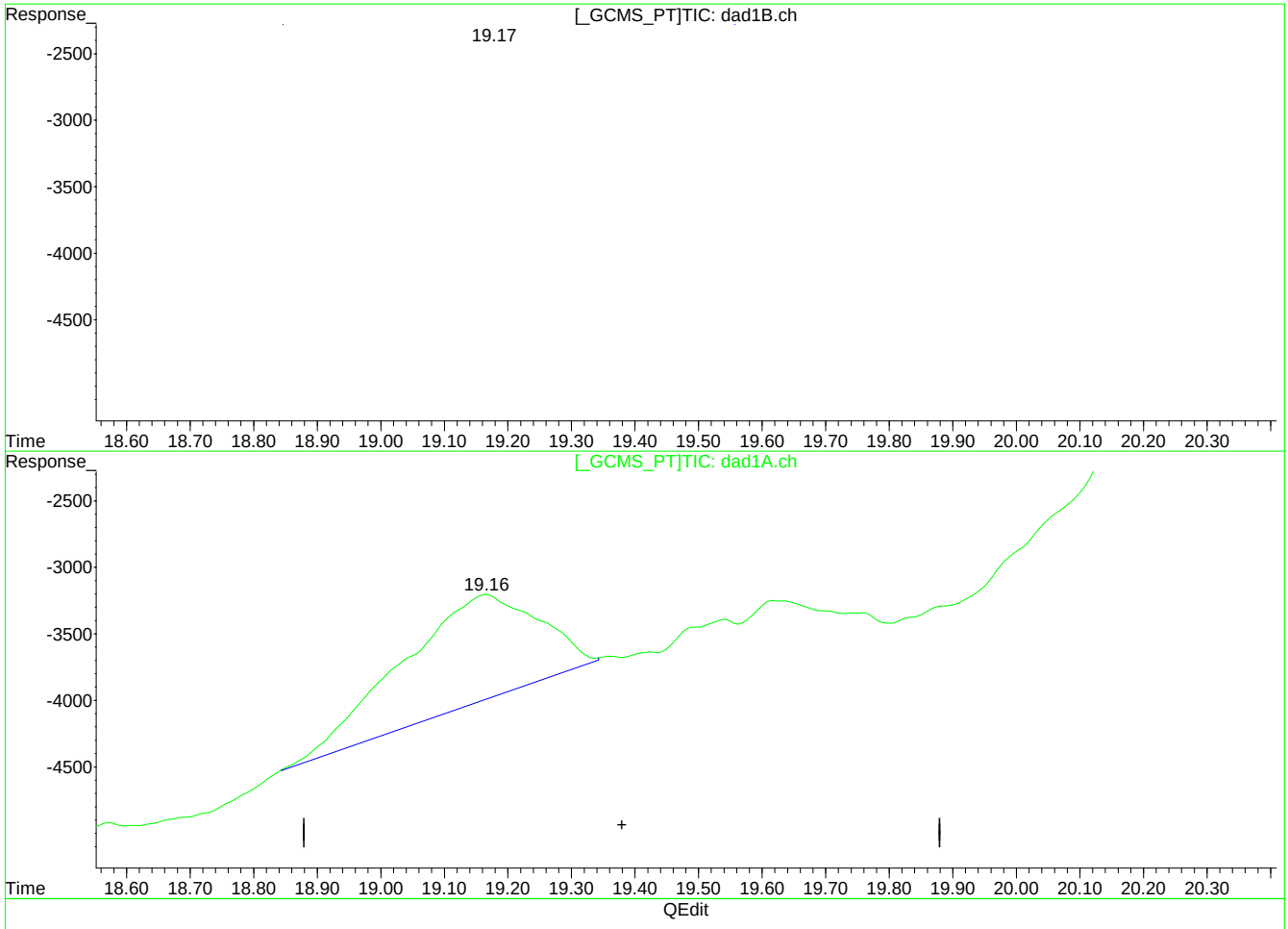
response 0

(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:54:43 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632465.D\dad1A.ch
Acq On : 14-Jul-2025, 12:38:56 Operator: fouads
Sample : ic3598-20 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:50 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

19.17min 21.005ppb m

response 111152

(19) m-Nitrotoluene #2

19.16min 13.744ppb m

response 121706

(+) = Expected Retention Time
GG632465.D GGG3599_071425.M Mon Jul 14 16:54:51 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan
07/15/25 10:01

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3599-50 Inst : G1315B
Misc : op10213,GGG3599,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49:35 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.24	14.23	228470	508339	47.590m	51.186m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		9.52%#	10.24%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	5.24	5.24	179251	577618	61.873m	199.298m#
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	7.58	7.58	450659	918235	52.518m	109.178m#
6)	RDX	7.88	7.87	201347	317685	49.215m	78.368m#
7)	1,3-Dinitrobenze	9.91	9.91	623032	747137	50.640m	84.909m#
8)	Nitrobenzene	10.79	10.79	387642	166569	50.298m	22.597m#
9)	2,4,6-Trinitroto	11.92	11.92	427708	617599	52.420m	54.349m
10)	Nitroglycerin	0.00	12.71	0	190391	N.D.	65.260m#
11)	Tetryl	13.33	13.33	327009	461744	50.859m	41.851m
13)	2,6-Dinitrotolue	14.65	14.66	286664	359459	53.173m	43.271m
14)	2,4-Dinitrotolue	15.37	15.37	562278	315202	50.357m	40.286m
15)	3,5-Dinitroanili	16.39	16.39	473717	764081	51.887m	45.671m
16)	o-Nitrotoluene	16.81	16.84	261313	578636	57.578m	83.579m#
17)	p-Nitrotoluene	18.01	18.04	528070	857095	106.903m	97.230m
18)	4-Amino-2,6-Dini	18.01	18.04	529477	868565	108.691m	98.530m
19)	m-Nitrotoluene	19.16	19.18	276832	476558	52.314m	53.816m
20)	2-Amino-4,6-Dini	20.24	20.20	395143	582474	48.982m	51.156m
21)	PETN	0.00	22.53	0	292610	N.D.	97.904m#

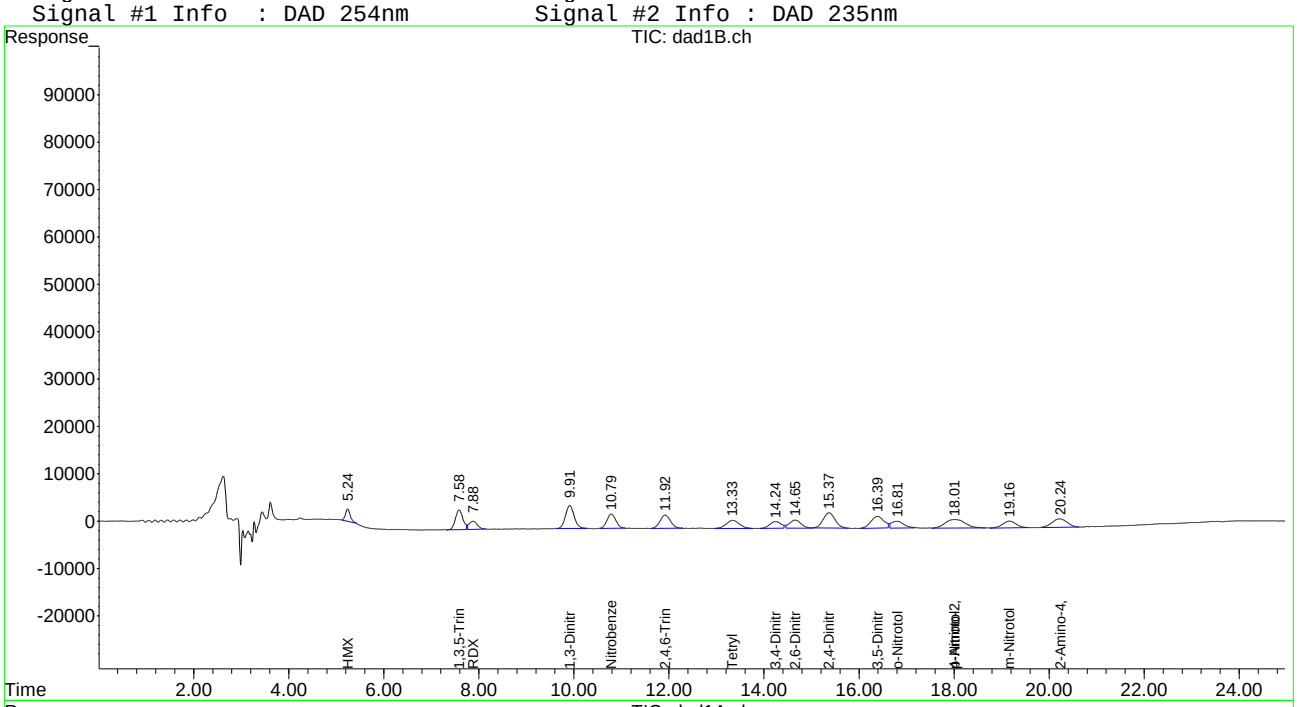
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG632466.D GGG3599_071425.M Mon Jul 14 17:26:32 2025

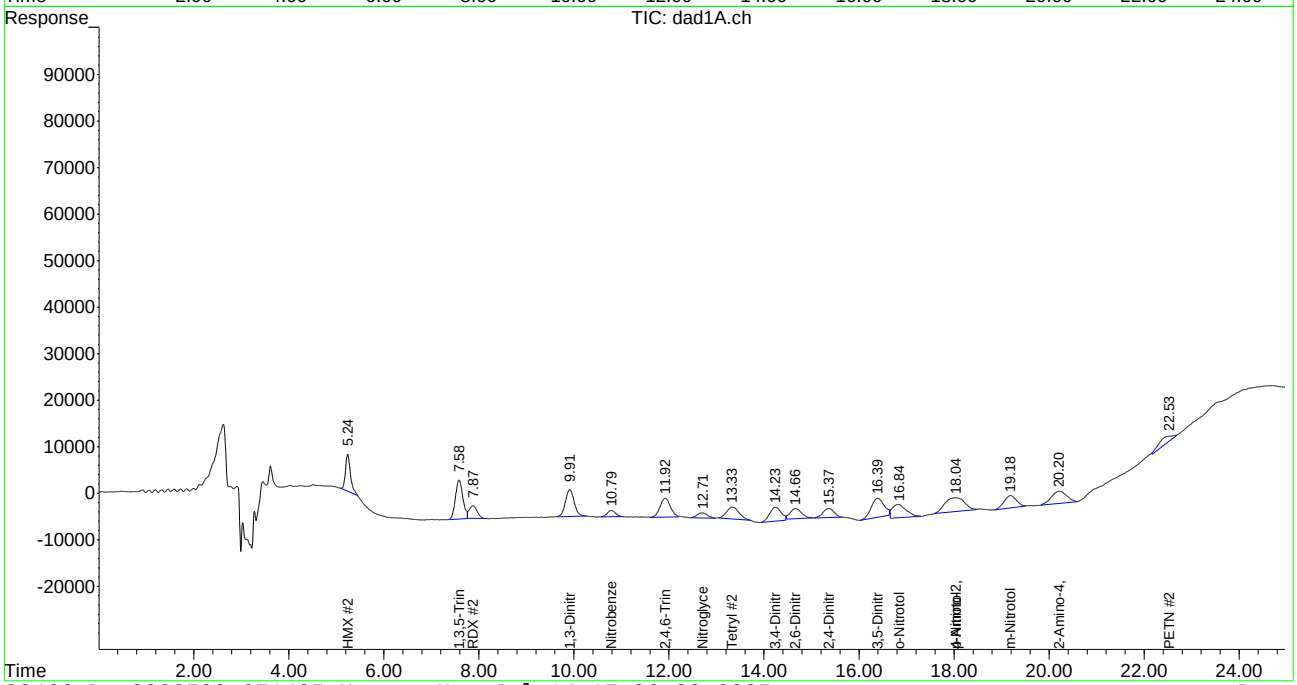
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3599-50 Inst : G1315B
Misc : op10213,GGG3599,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:58 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

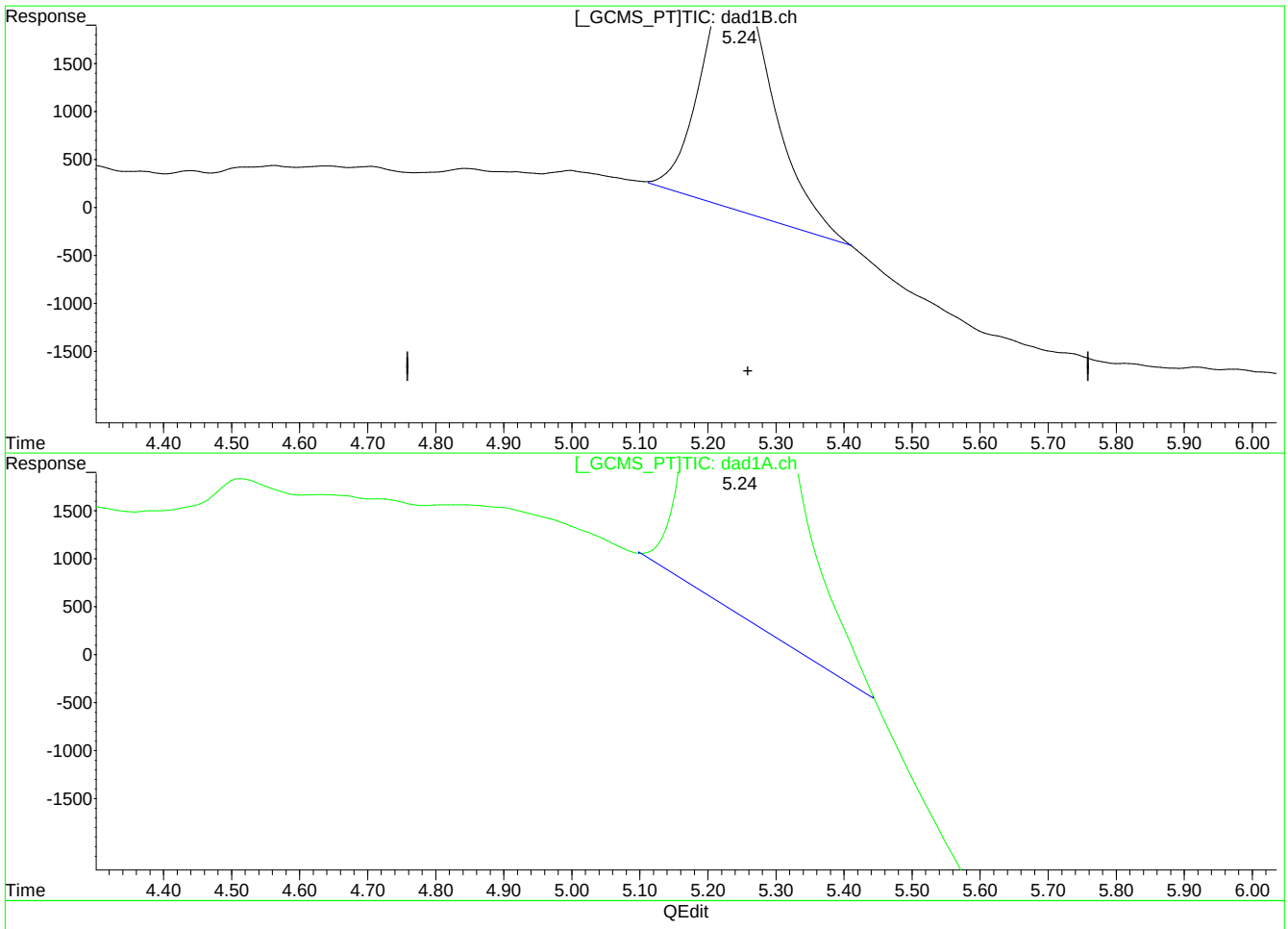
Sample Number: GGG3599-IC3599 **Method:** SW846 8330B
Lab FileID: GG632466.D **Analyst approved:** 07/14/25 17:37 William Hustedde
Injection Time: 07/14/25 13:06 **Supervisor approved:** 07/15/25 10:01 Naresh Jiawan

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	5.24	Missed peak
HMX	2691-41-0	2	5.24	Missed peak
1,3,5-Trinitrobenzene	99-35-4	1	7.58	Missed peak
1,3,5-Trinitrobenzene	99-35-4	2	7.58	Missed peak
RDX	121-82-4	2	7.87	Missed peak
RDX	121-82-4	1	7.88	Missed peak
1,3-Dinitrobenzene	99-65-0	1	9.91	Missed peak
1,3-Dinitrobenzene	99-65-0	2	9.91	Missed peak
Nitrobenzene	98-95-3	1	10.79	Missed peak
Nitrobenzene	98-95-3	2	10.79	Missed peak
2,4,6-Trinitrotoluene	118-96-7	1	11.92	Missed peak
2,4,6-Trinitrotoluene	118-96-7	2	11.92	Missed peak
Nitroglycerine	55-63-0	2	12.71	Missed peak
Tetryl	479-45-8	1	13.33	Missed peak
Tetryl	479-45-8	2	13.33	Missed peak
3,4-Dinitrotoluene	610-39-9	2	14.23	Missed peak
3,4-Dinitrotoluene	610-39-9	1	14.24	Missed peak
2,6-Dinitrotoluene	606-20-2	1	14.65	Missed peak
2,6-Dinitrotoluene	606-20-2	2	14.66	Missed peak
2,4-Dinitrotoluene	121-14-2	1	15.37	Missed peak
2,4-Dinitrotoluene	121-14-2	2	15.37	Missed peak
3,5-Dinitroaniline	618-87-1	1	16.39	Missed peak
3,5-Dinitroaniline	618-87-1	2	16.39	Missed peak
o-Nitrotoluene	88-72-2	1	16.81	Missed peak
o-Nitrotoluene	88-72-2	2	16.84	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	1	18.01	Missed peak
p-Nitrotoluene	99-99-0	1	18.01	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	2	18.04	Missed peak
p-Nitrotoluene	99-99-0	2	18.04	Missed peak
m-Nitrotoluene	99-08-1	1	19.16	Missed peak
m-Nitrotoluene	99-08-1	2	19.18	Missed peak
2-amino-4,6-Dinitrotoluene	35572-78-2	2	20.20	Missed peak
2-amino-4,6-Dinitrotoluene	35572-78-2	1	20.24	Missed peak
PETN	78-11-5	2	22.53	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(2) HMX

5.24min 61.873ppb m

response 179251

(2) HMX #2

5.24min 199.298ppb m

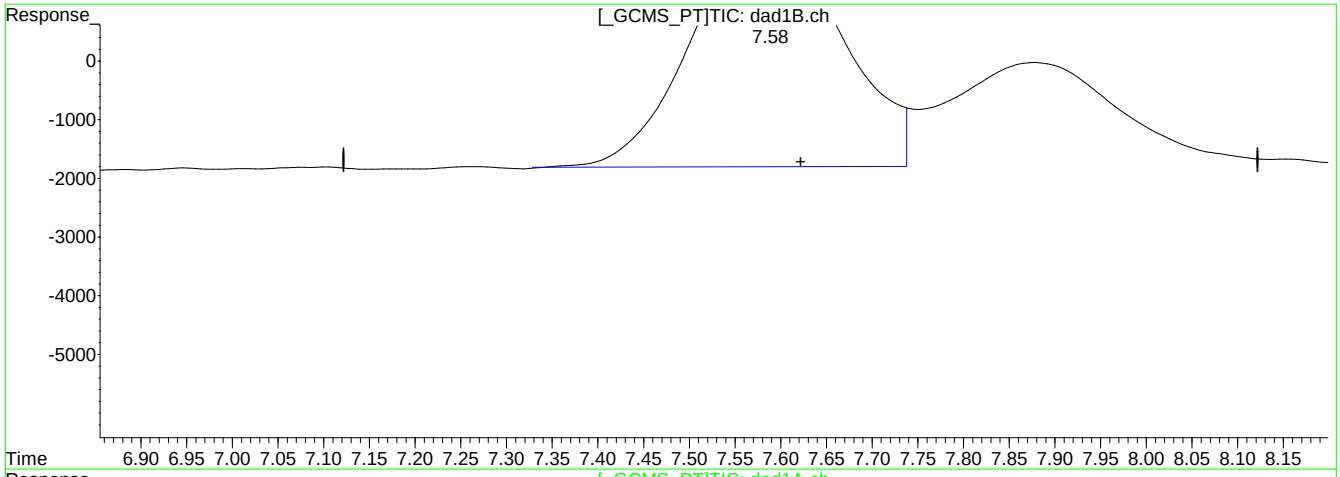
response 577618

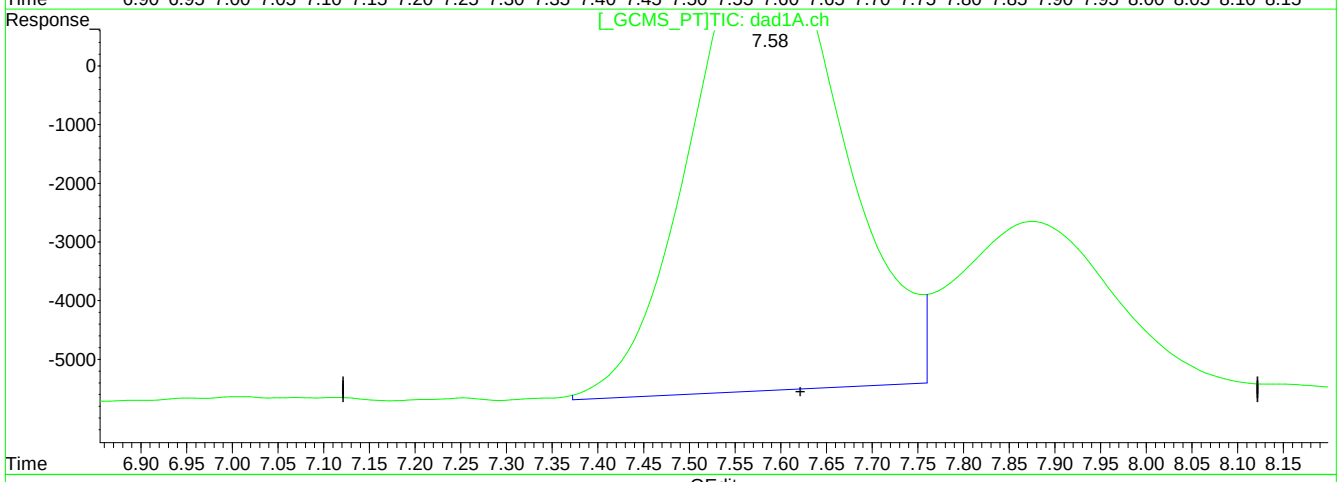
(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:55:25 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(5) 1,3,5-Trinitrobenzene

7.58min 52.518ppb m

response 450659

(5) 1,3,5-Trinitrobenzene #2

7.58min 109.178ppb m

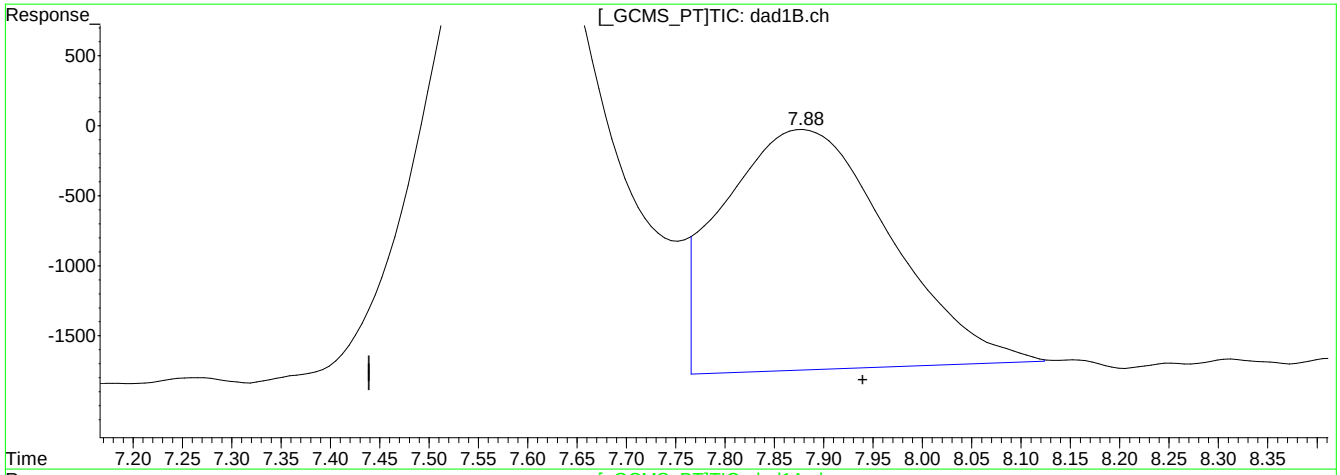
response 918235

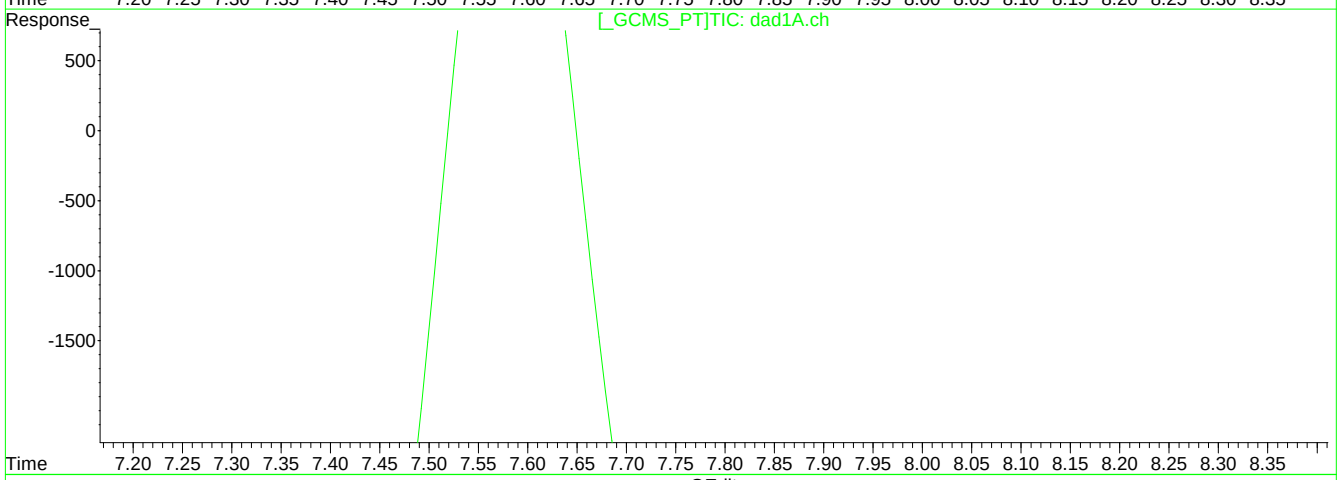
(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:55:40 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(6) RDX

7.88min 49.215ppb m

response 201347

(6) RDX #2

0.00min 0.000ppb

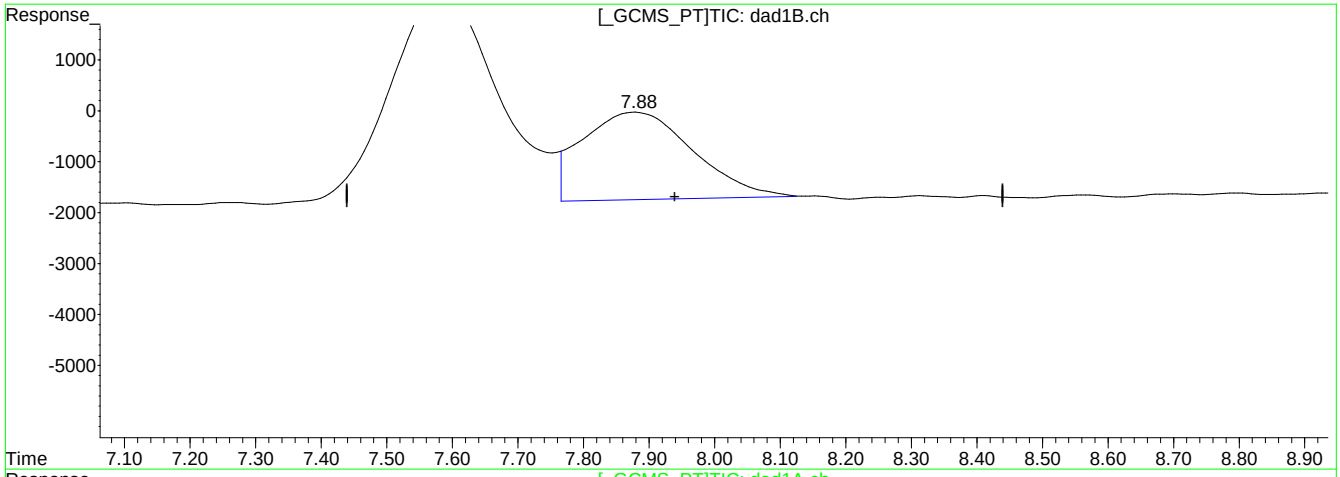
response 0

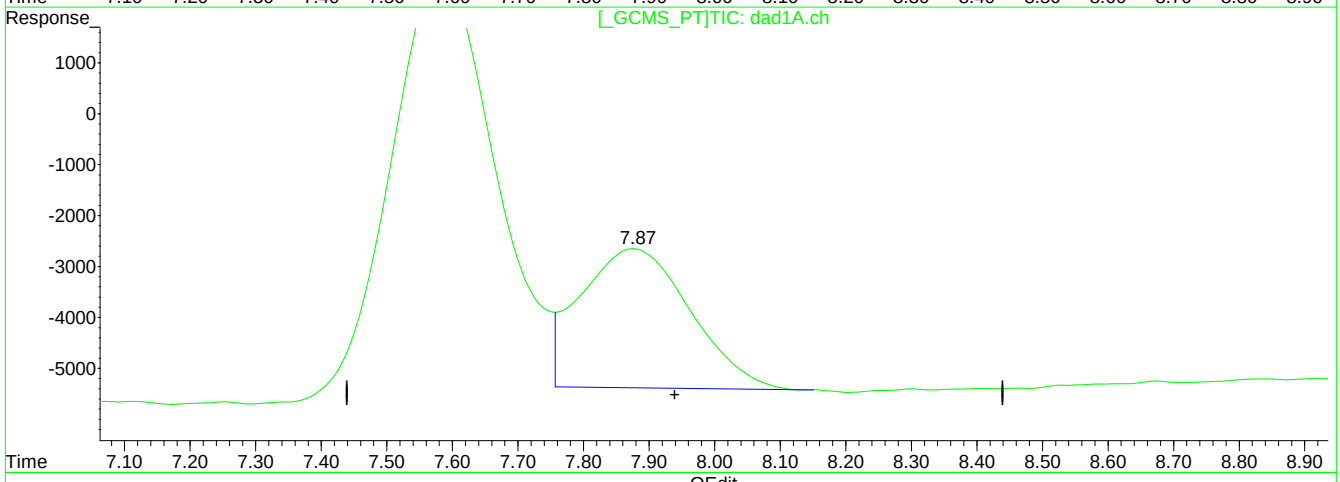
(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:55:45 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(6) RDX

7.88min 49.215ppb m

response 201347

(6) RDX #2

7.87min 78.368ppb m

response 317685

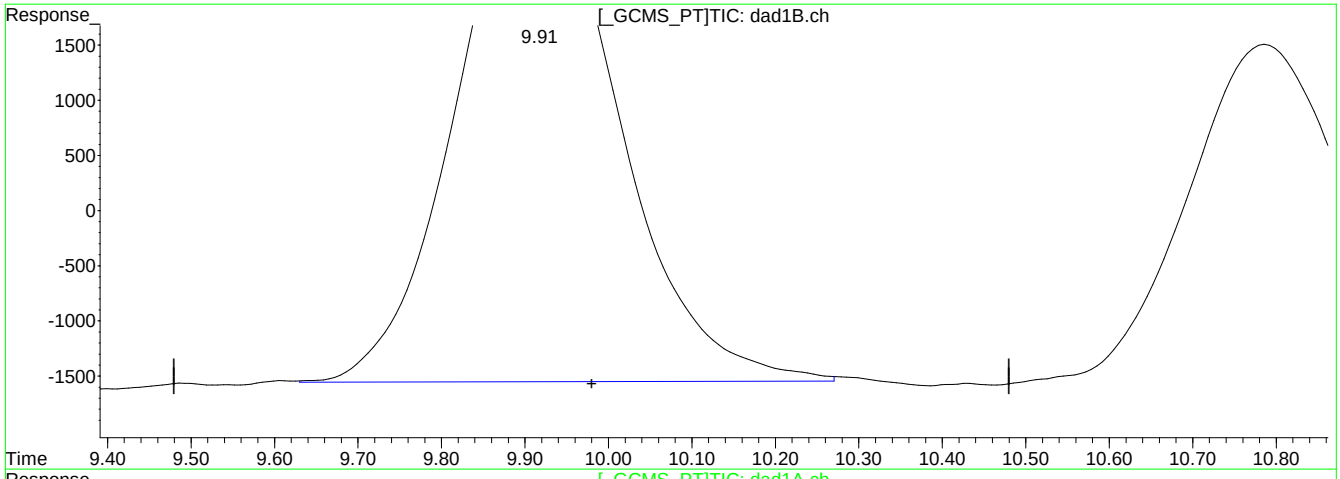
(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:55:51 2025

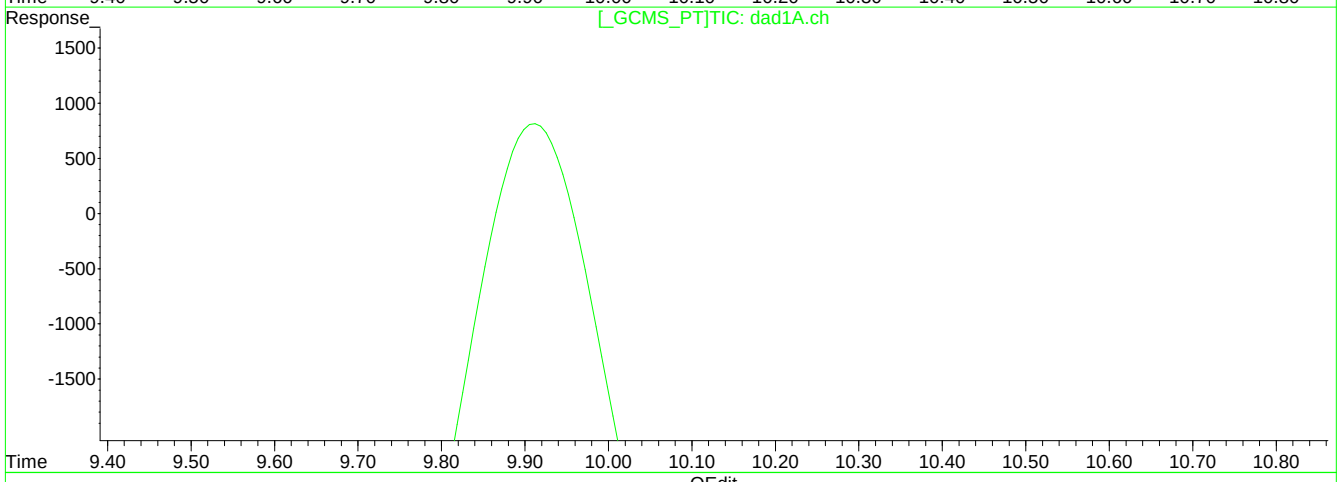
GG632466.D edits: RDX

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(7) 1,3-Dinitrobenzene

9.91min 50.640ppb m

response 623032

(7) 1,3-Dinitrobenzene #2

0.00min 0.000ppb

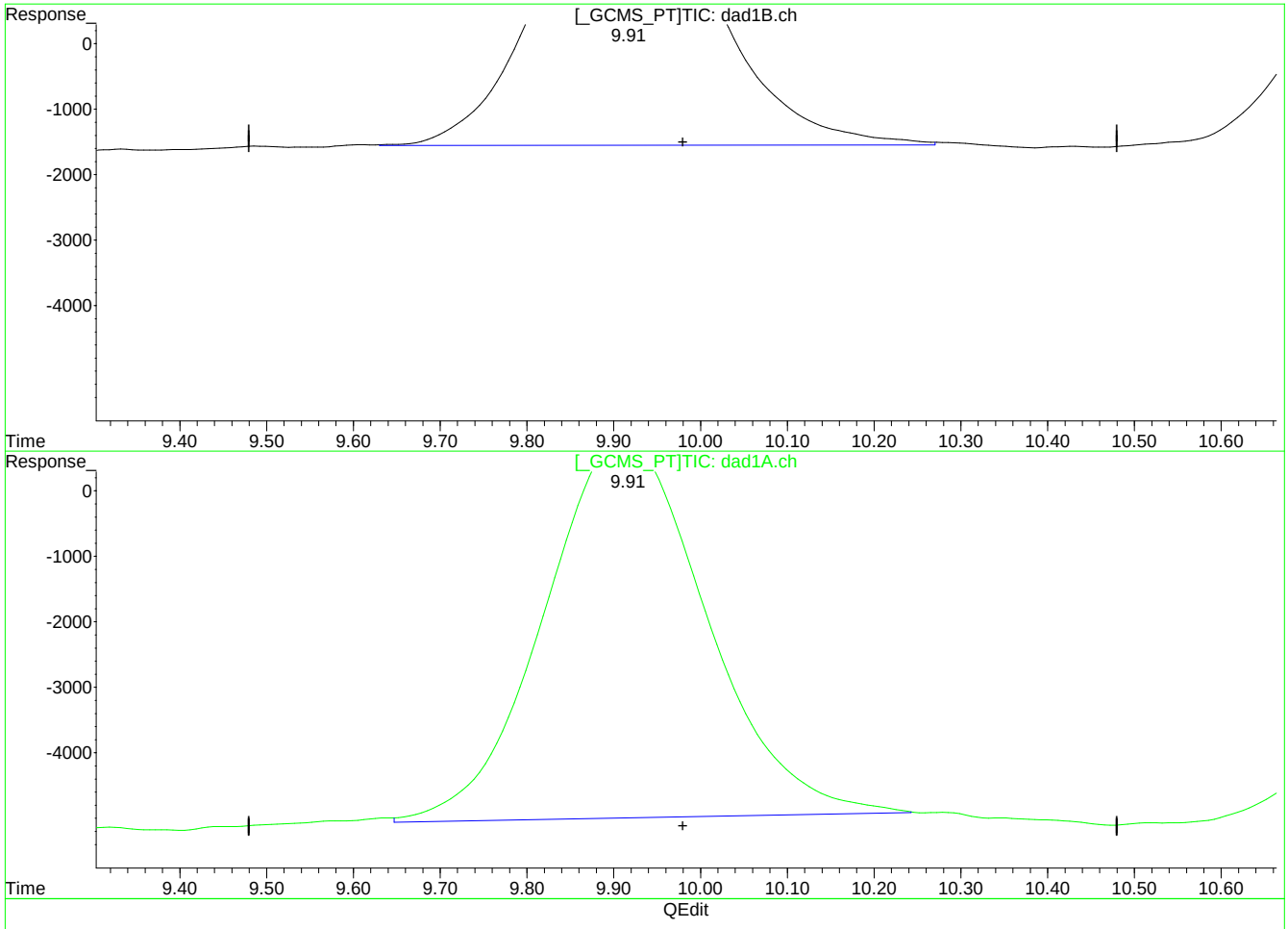
response 0

(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:55:56 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(7) 1,3-Dinitrobenzene

9.91min 50.640ppb m

response 623032

(7) 1,3-Dinitrobenzene #2

9.91min 84.909ppb m

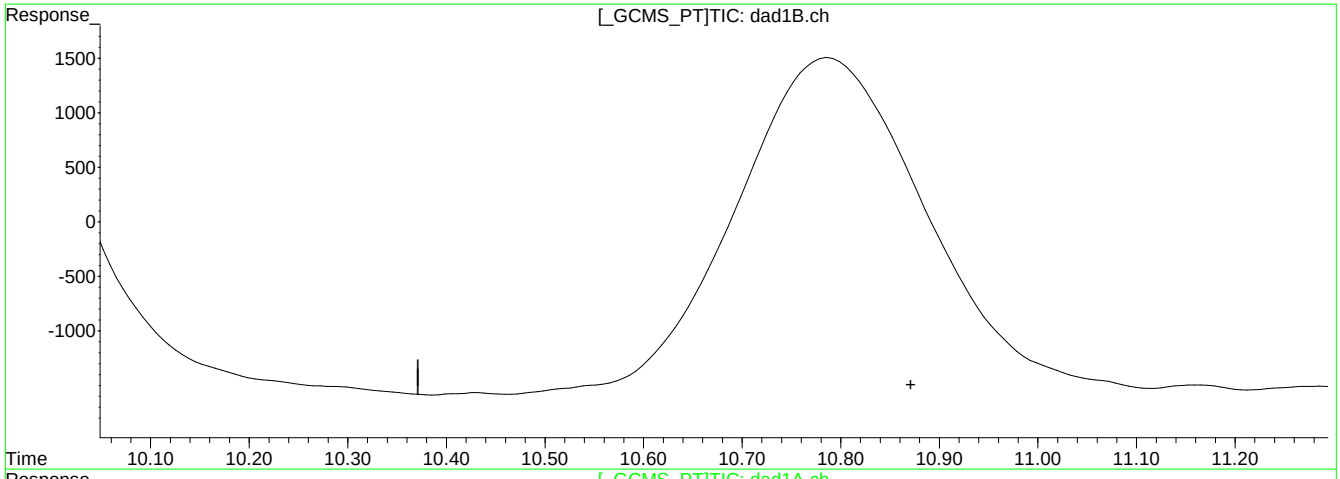
response 747137

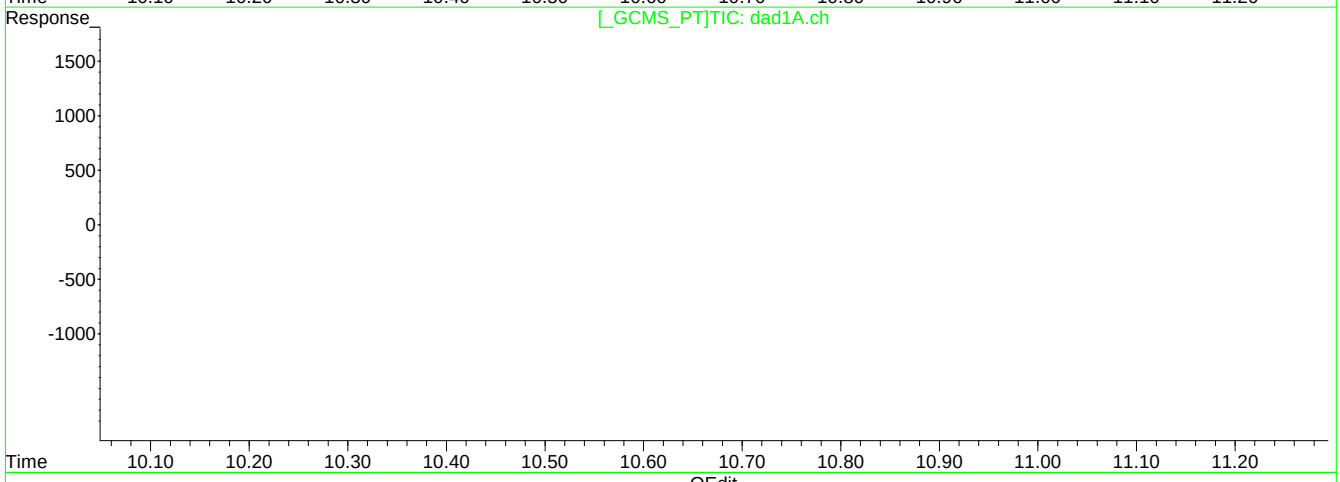
(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:56:02 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(8) Nitrobenzene

0.00min 0.000ppb

response 0

(8) Nitrobenzene #2

0.00min 0.000ppb

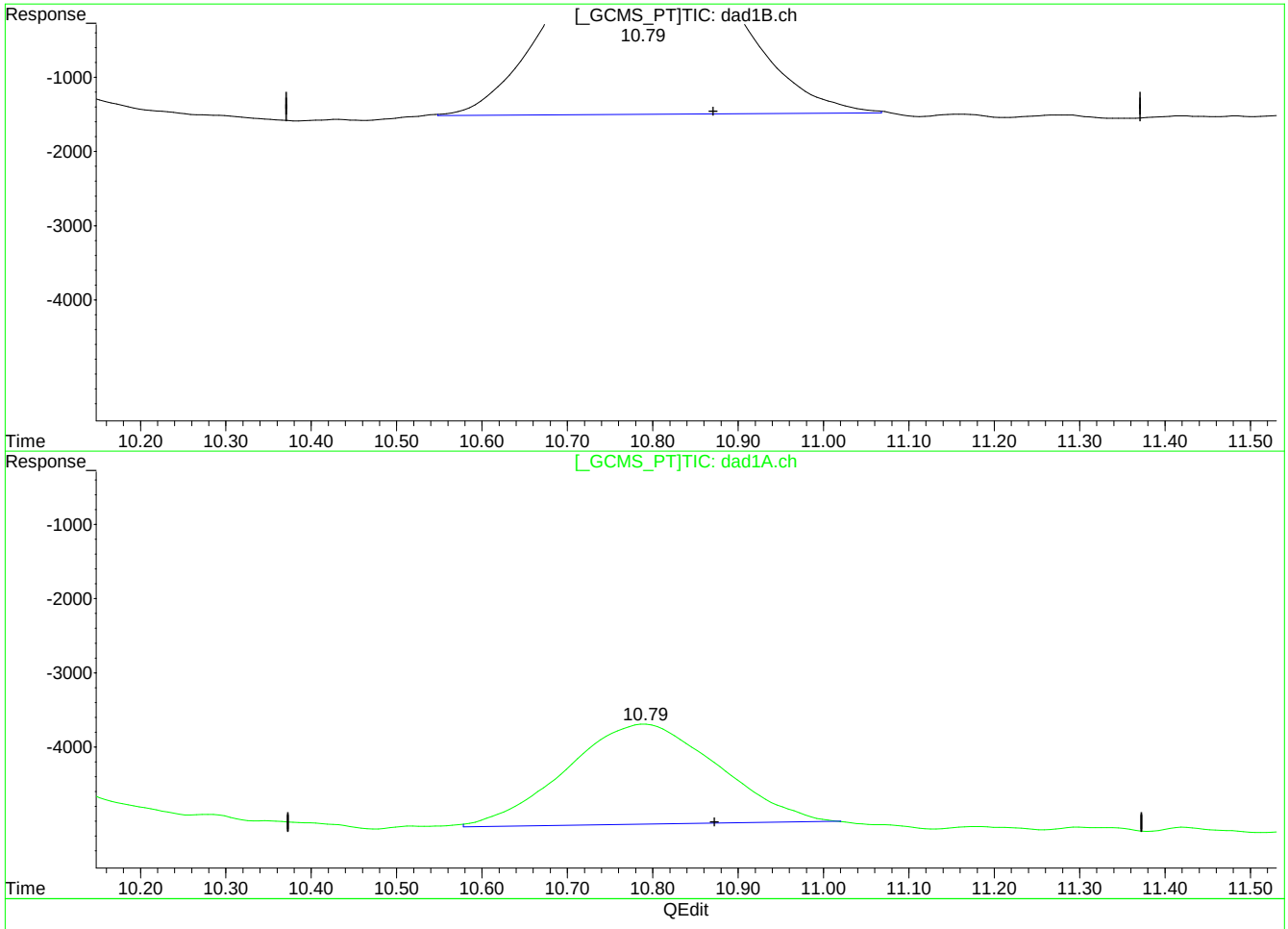
response 0

(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:56:19 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(8) Nitrobenzene

10.79min 50.298ppb m

response 387642

(8) Nitrobenzene #2

10.79min 22.597ppb m

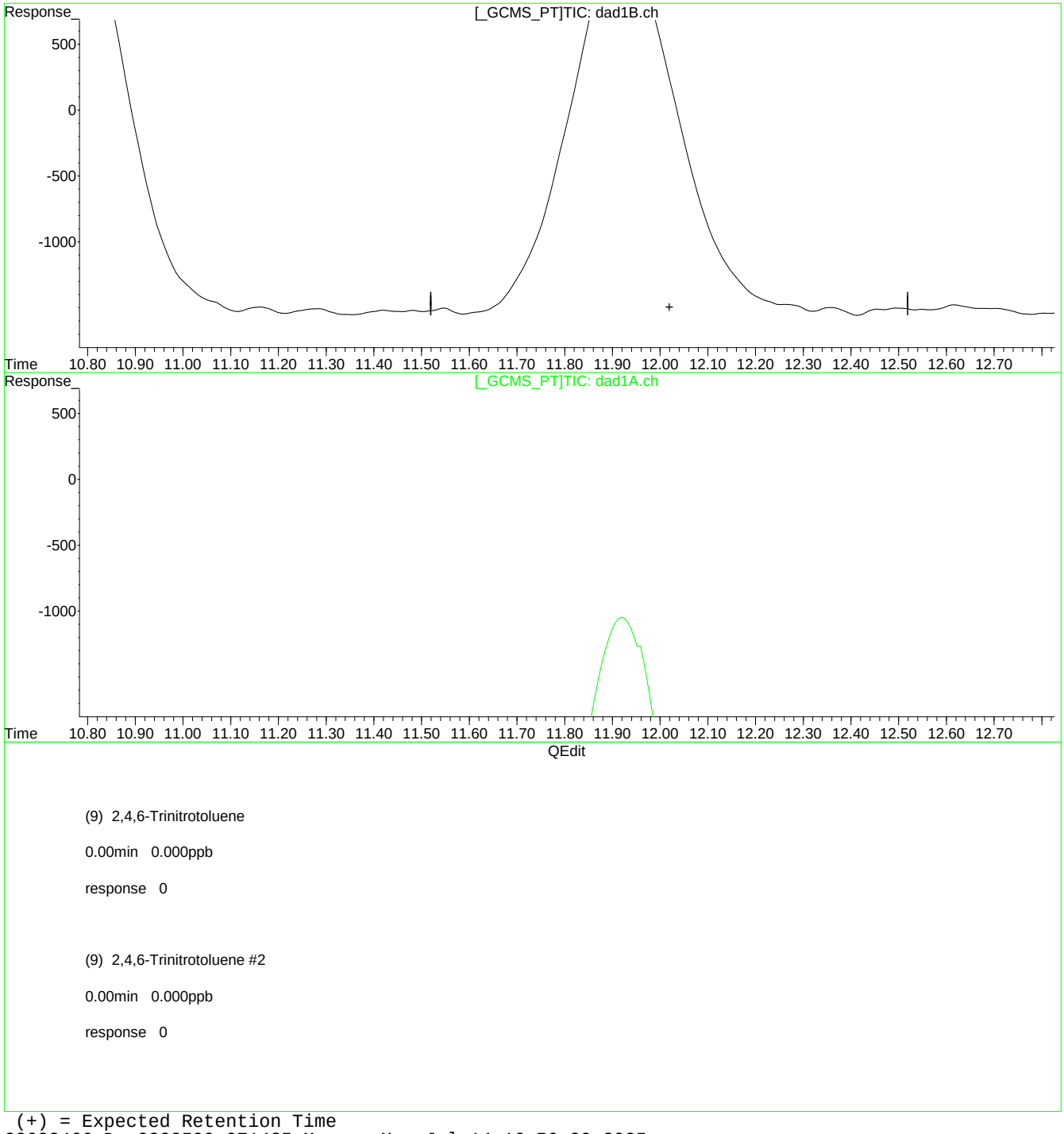
response 166569

(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:56:26 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(9) 2,4,6-Trinitrotoluene

0.00min 0.000ppb

response 0

(9) 2,4,6-Trinitrotoluene #2

0.00min 0.000ppb

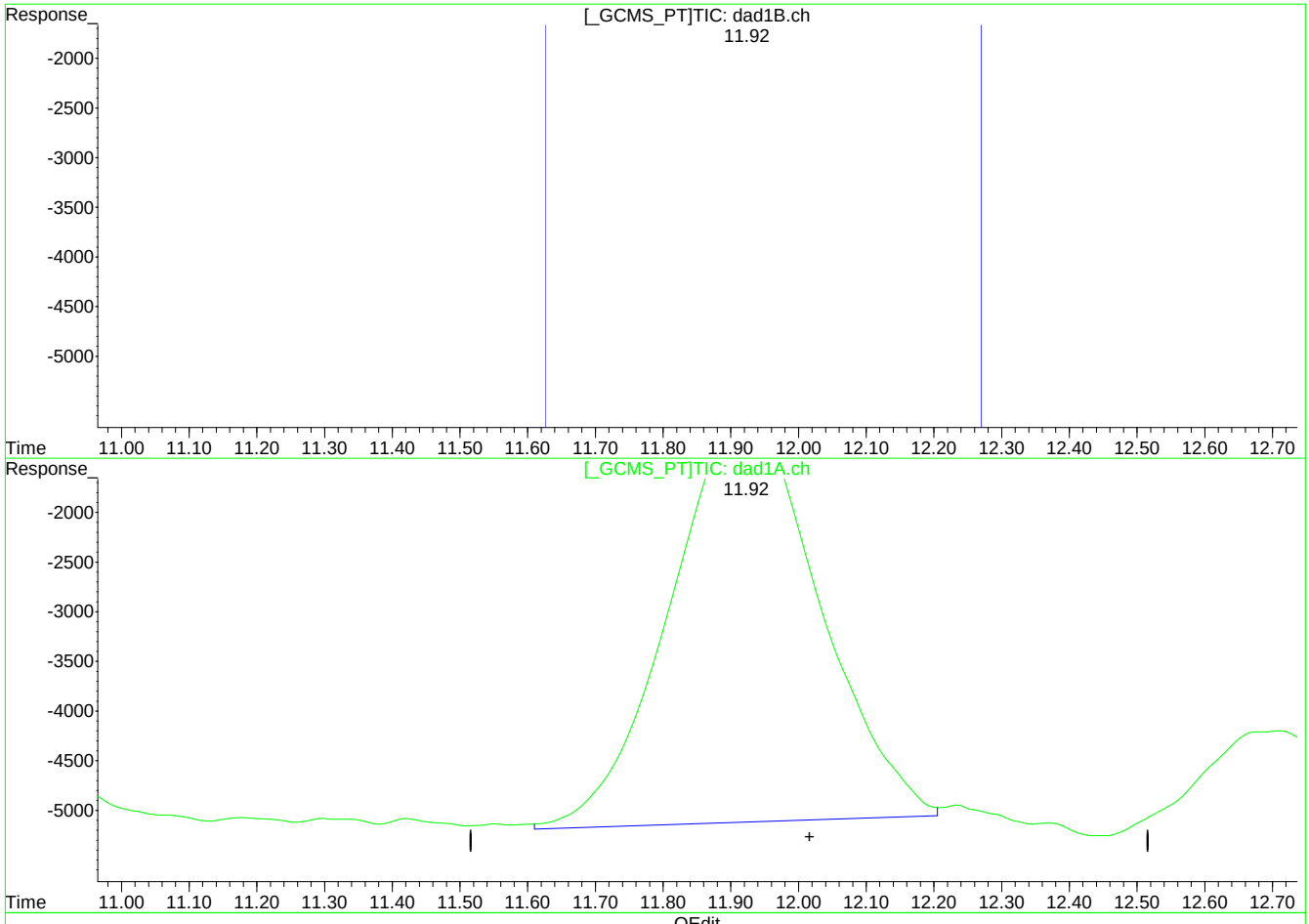
response 0

(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:56:30 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(9) 2,4,6-Trinitrotoluene

11.92min 52.420ppb m

response 427708

(9) 2,4,6-Trinitrotoluene #2

11.92min 54.349ppb m

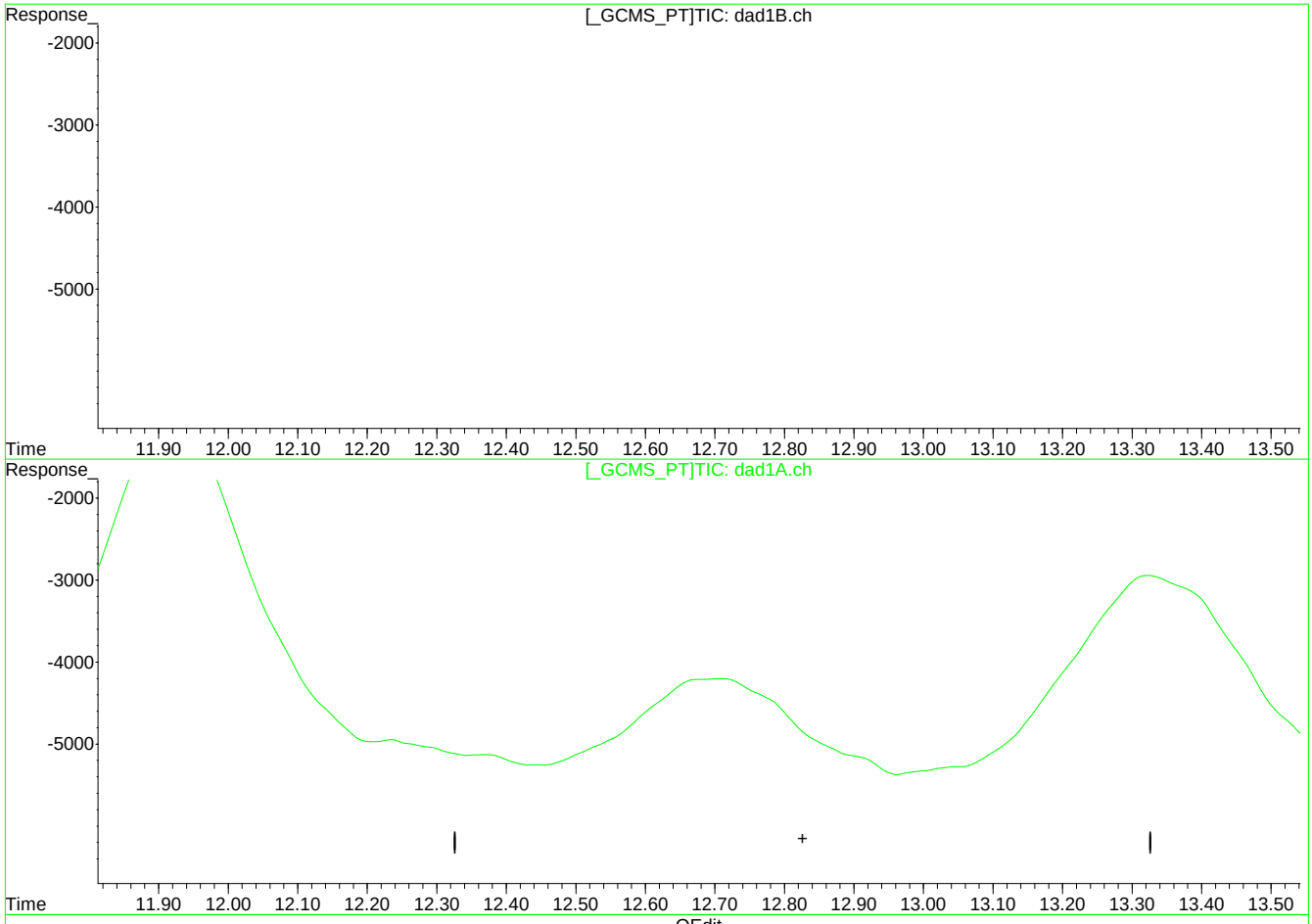
response 617599

(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:56:37 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

0.00min 0.000ppb

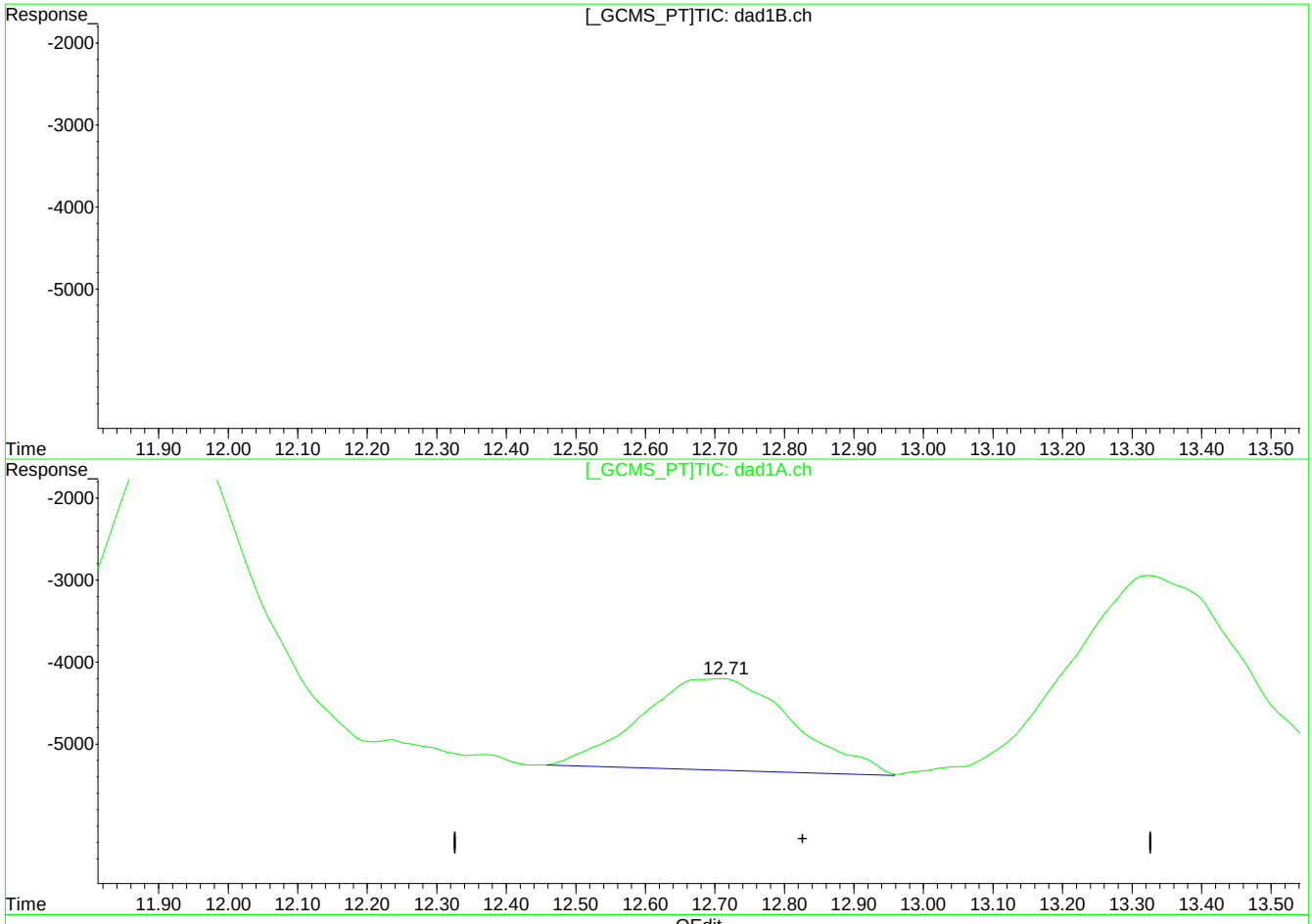
response 0

(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:56:46 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

12.71min 65.260ppb m

response 190391

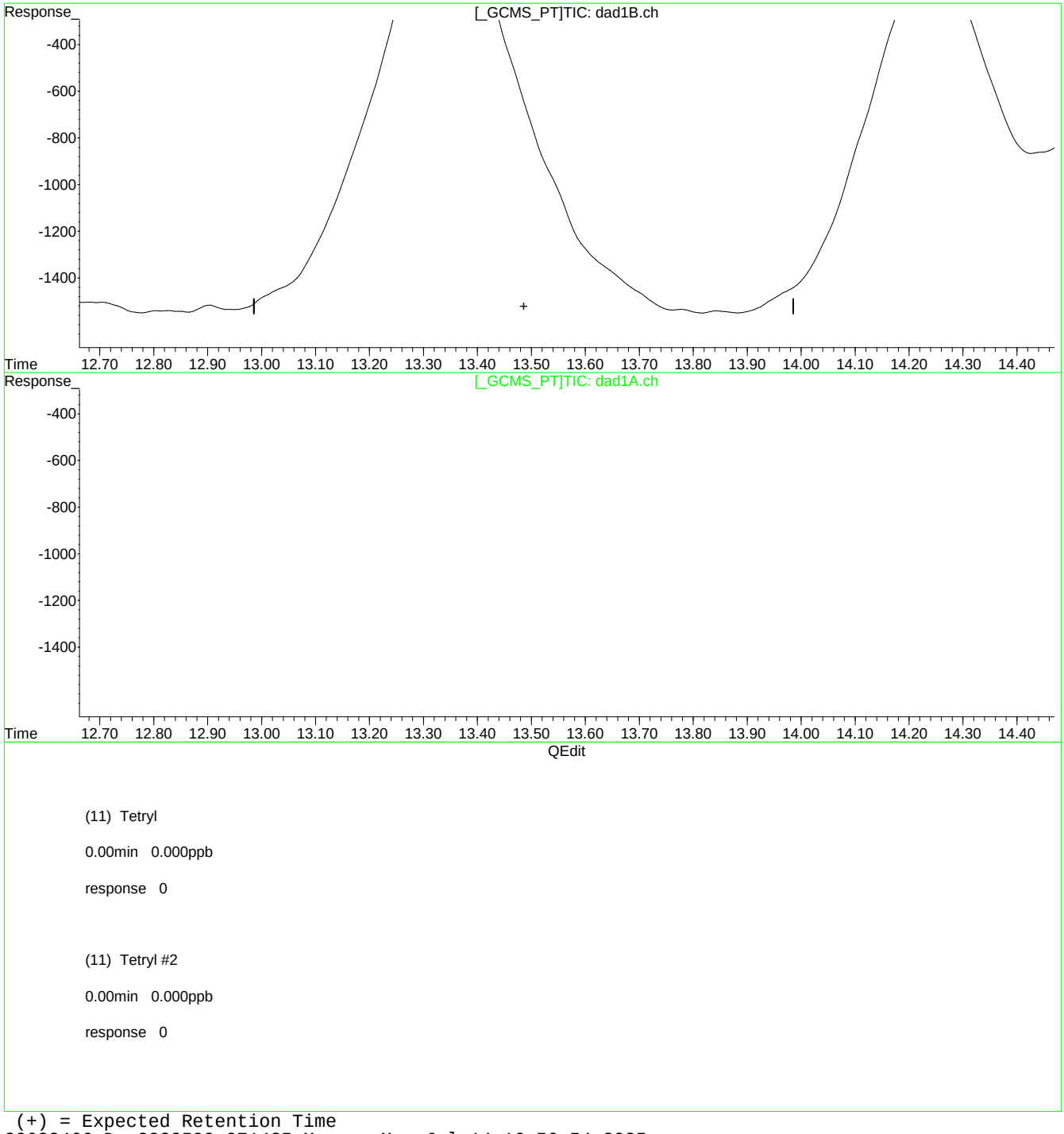
(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:56:50 2025

GG632466.D edits: Nitroglycerin

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(11) Tetryl

0.00min 0.000ppb

response 0

(11) Tetryl #2

0.00min 0.000ppb

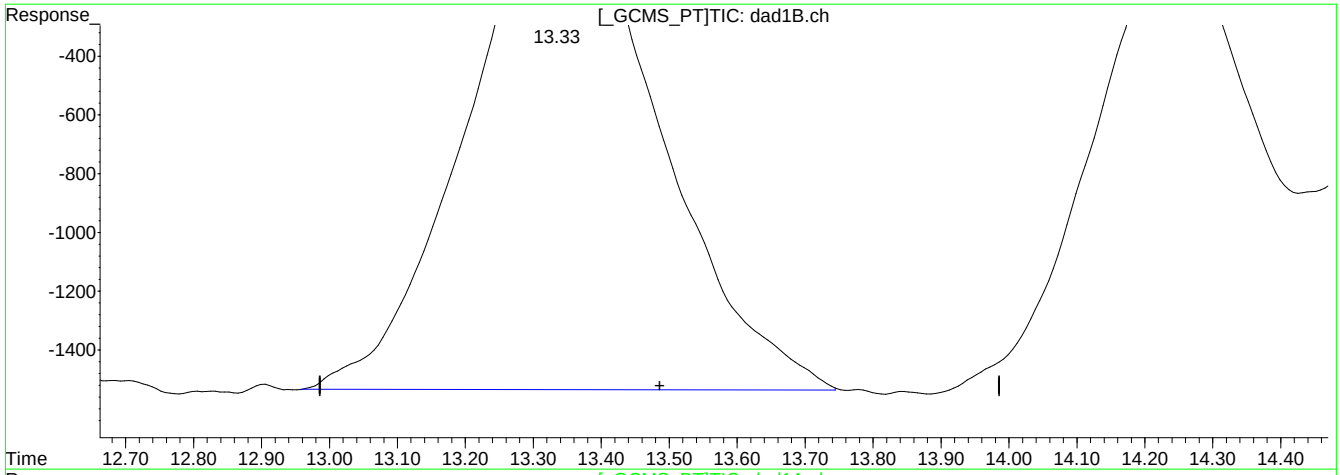
response 0

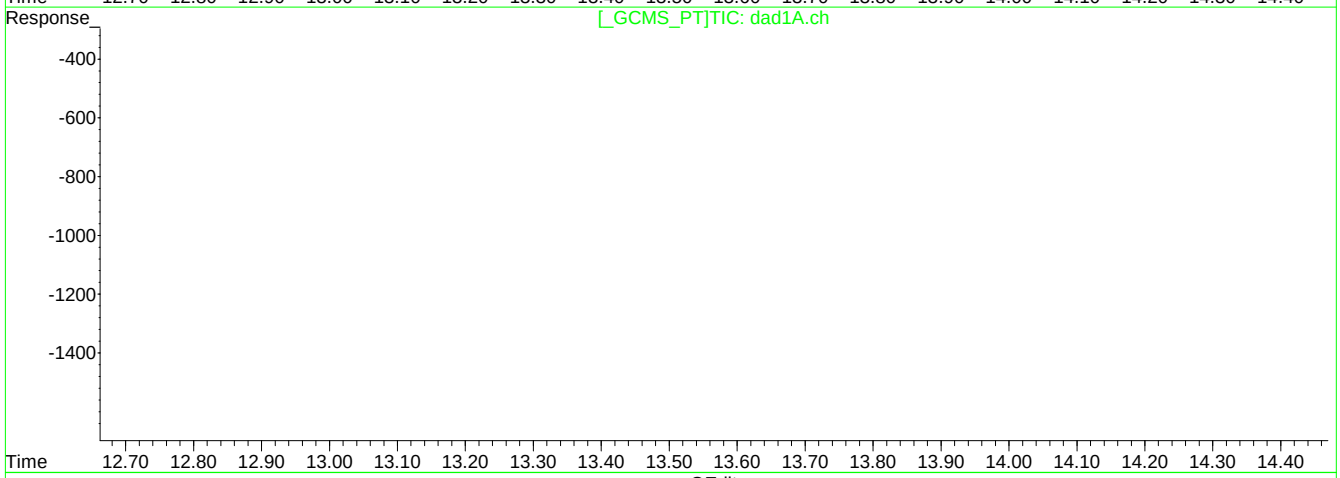
(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:56:54 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(11) Tetryl

13.33min 50.859ppb m

response 327009

(11) Tetryl #2

0.00min 0.000ppb

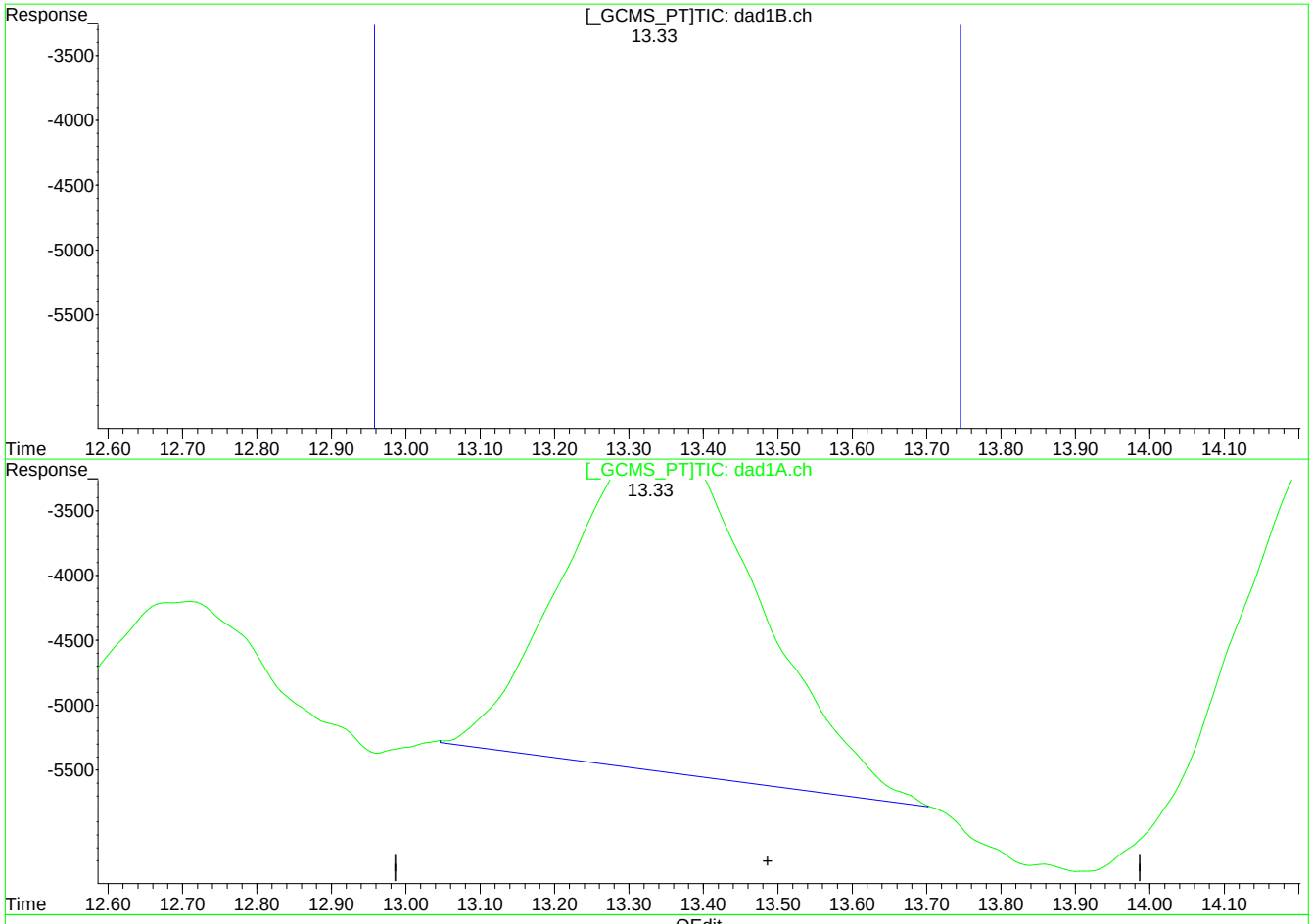
response 0

(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:56:57 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(11) Tetryl

13.33min 50.859ppb m

response 327009

(11) Tetryl #2

13.33min 41.851ppb m

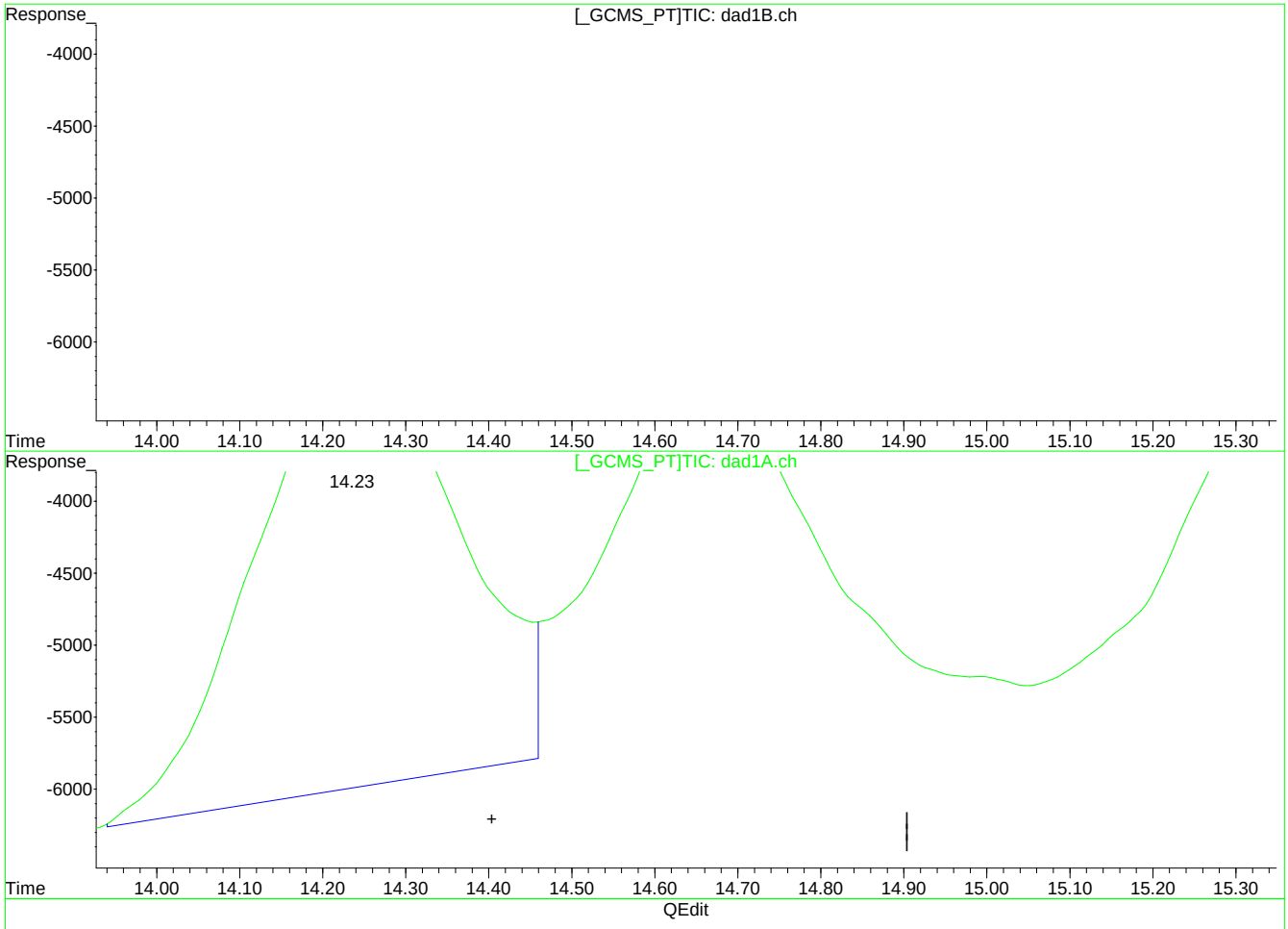
response 461744

(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:57:04 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(12) 3,4-Dinitrotoluene (S)

0.00min 0.000ppb

response 0

(12) 3,4-Dinitrotoluene #2 (S)

14.23min 51.186ppb m

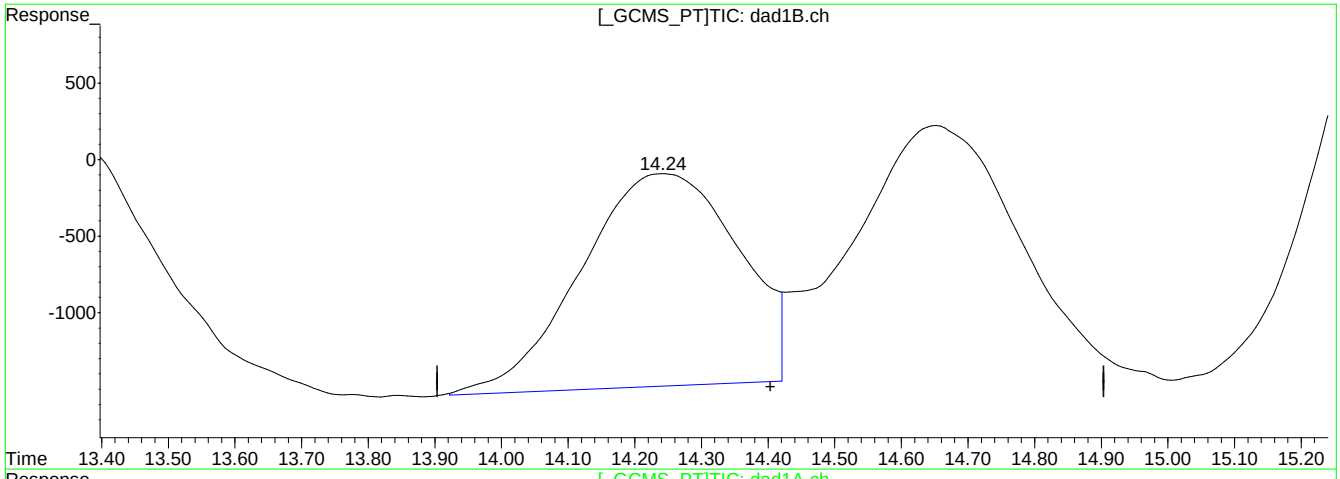
response 508339

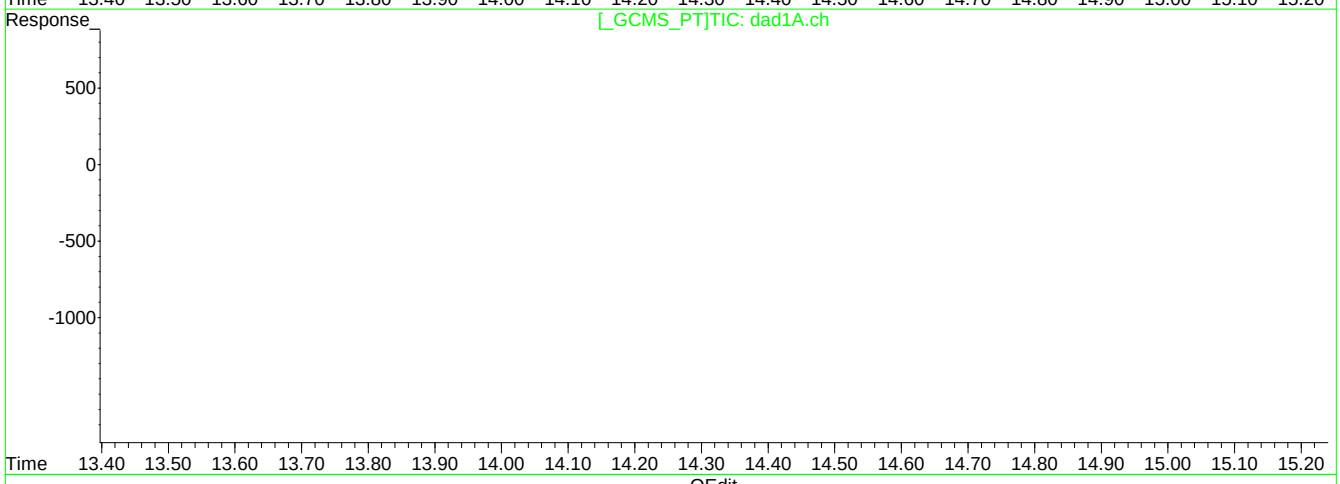
(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:57:14 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(12) 3,4-Dinitrotoluene (S)

14.24min 47.590ppb m

response 228470

(12) 3,4-Dinitrotoluene #2 (S)

14.23min 51.186ppb m

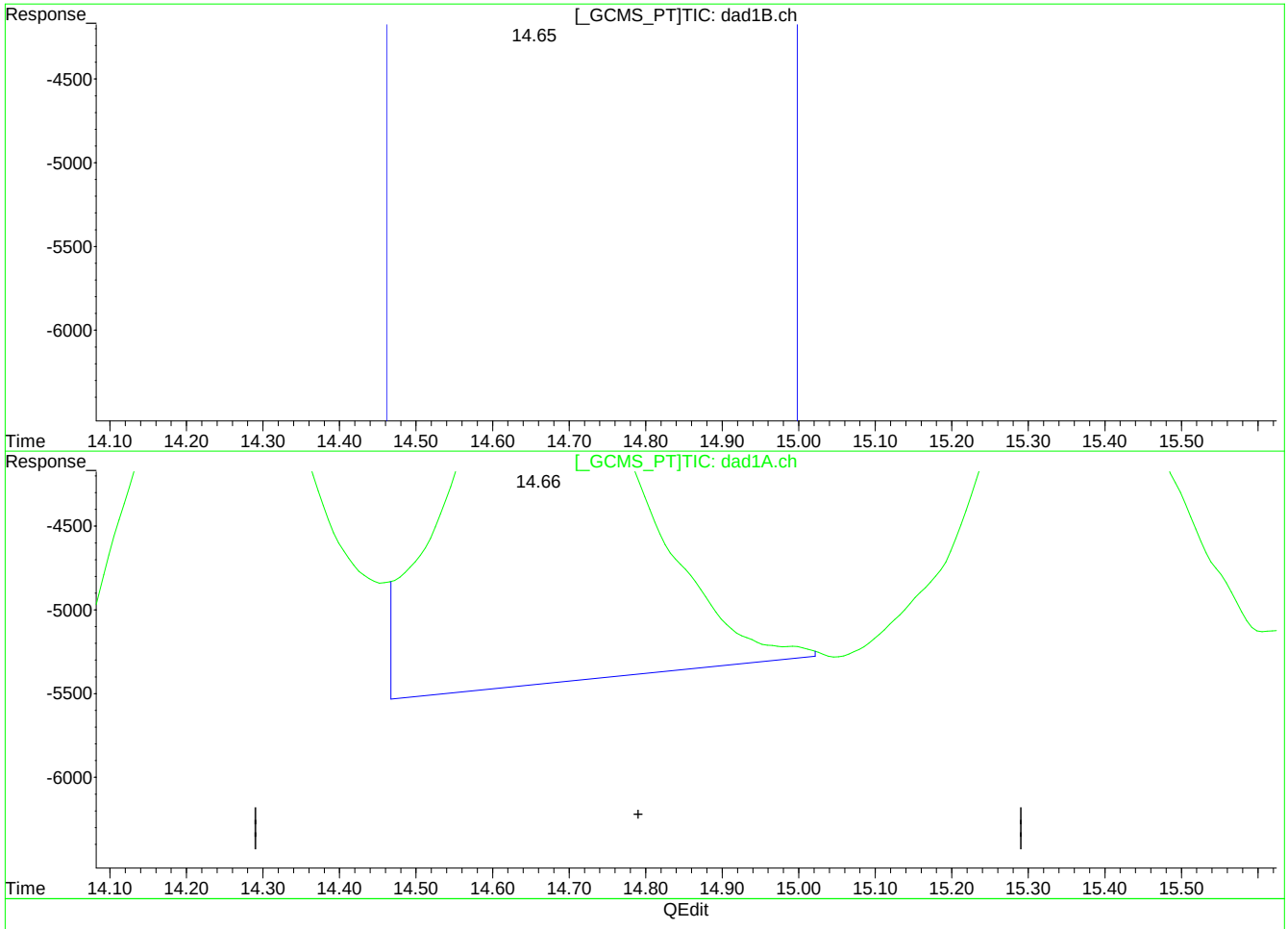
response 508339

(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:57:20 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(13) 2,6-Dinitrotoluene

14.65min 53.173ppb m

response 286664

(13) 2,6-Dinitrotoluene #2

14.66min 43.271ppb m

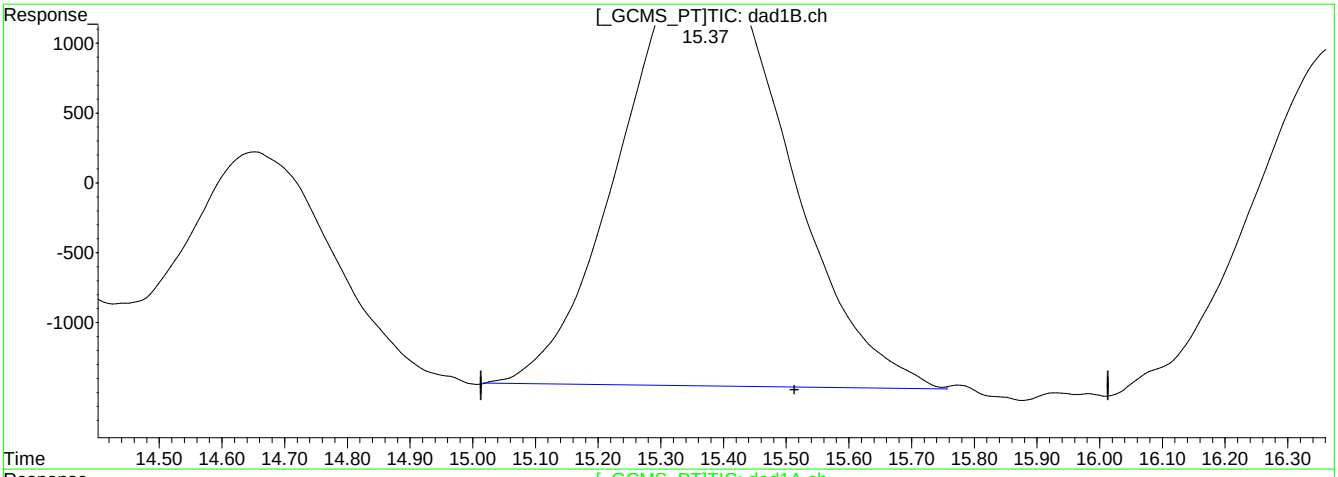
response 359459

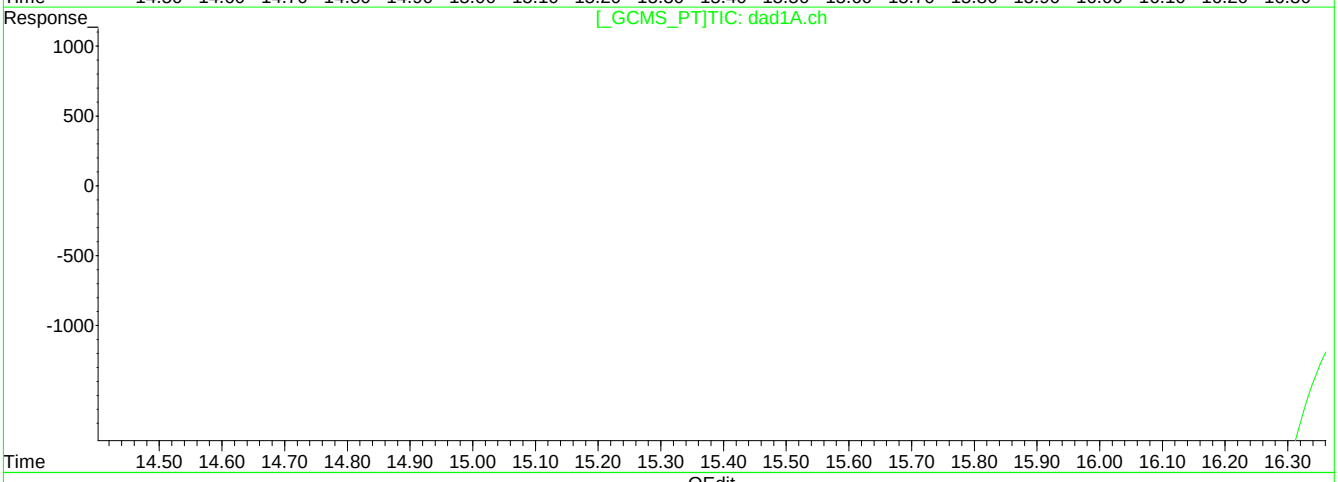
(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:57:28 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(14) 2,4-Dinitrotoluene

15.37min 50.357ppb m

response 562278

(14) 2,4-Dinitrotoluene #2

0.00min 0.000ppb

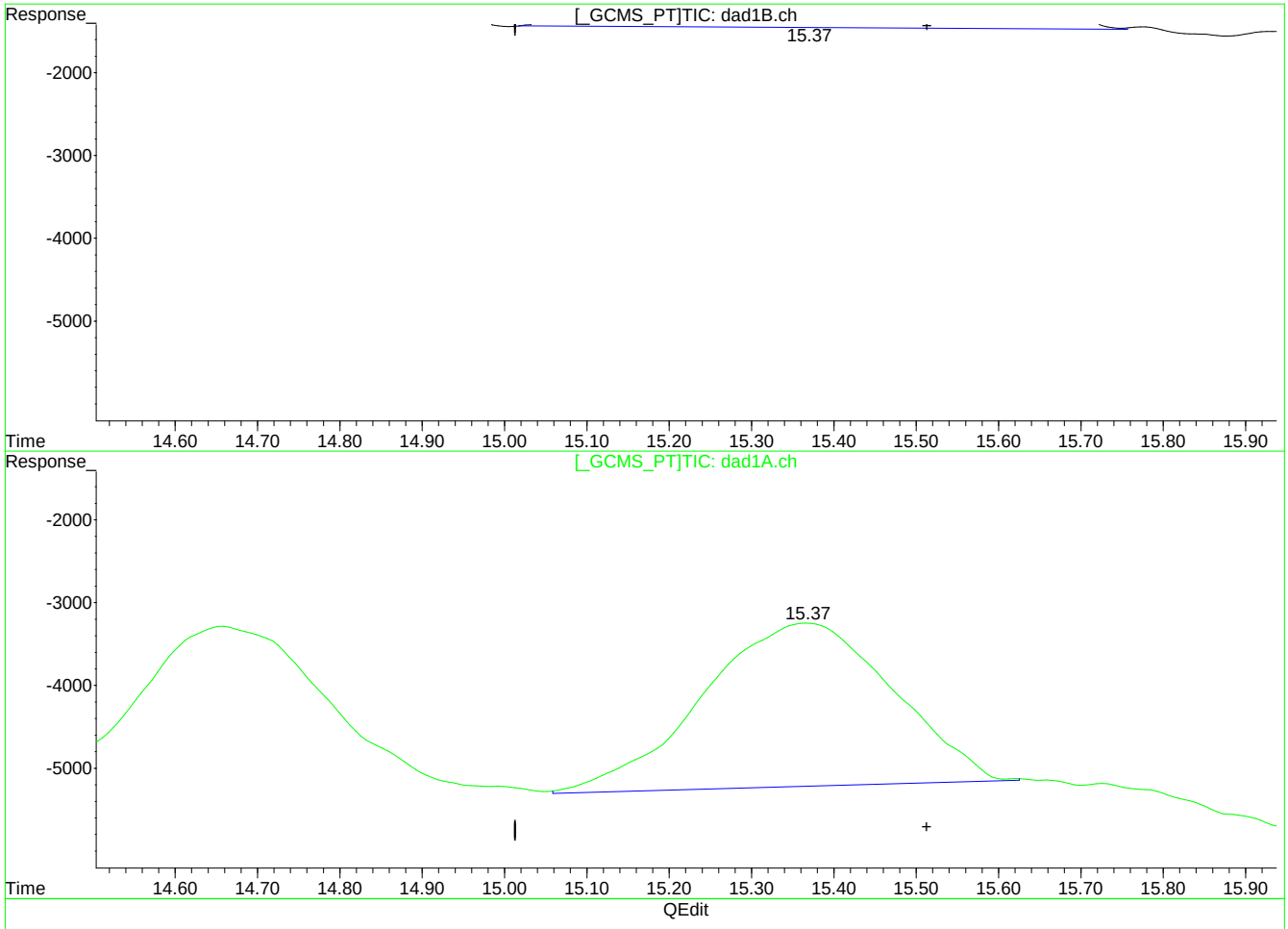
response 0

(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:57:32 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(14) 2,4-Dinitrotoluene

15.37min 50.357ppb m

response 562278

(14) 2,4-Dinitrotoluene #2

15.37min 40.286ppb m

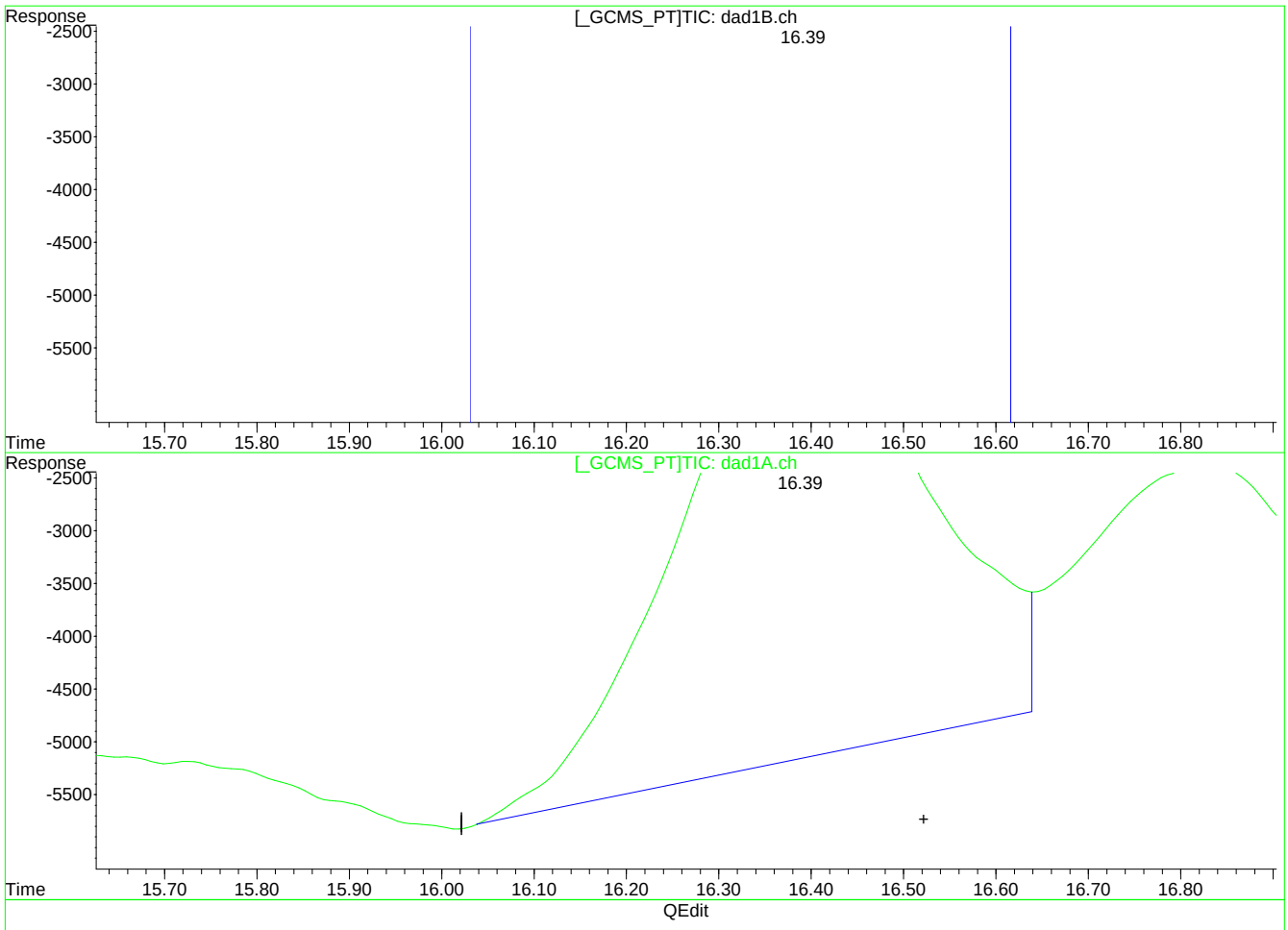
response 315202

(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:57:37 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(15) 3,5-Dinitroaniline

16.39min 51.887ppb m

response 473717

(15) 3,5-Dinitroaniline #2

16.39min 45.671ppb m

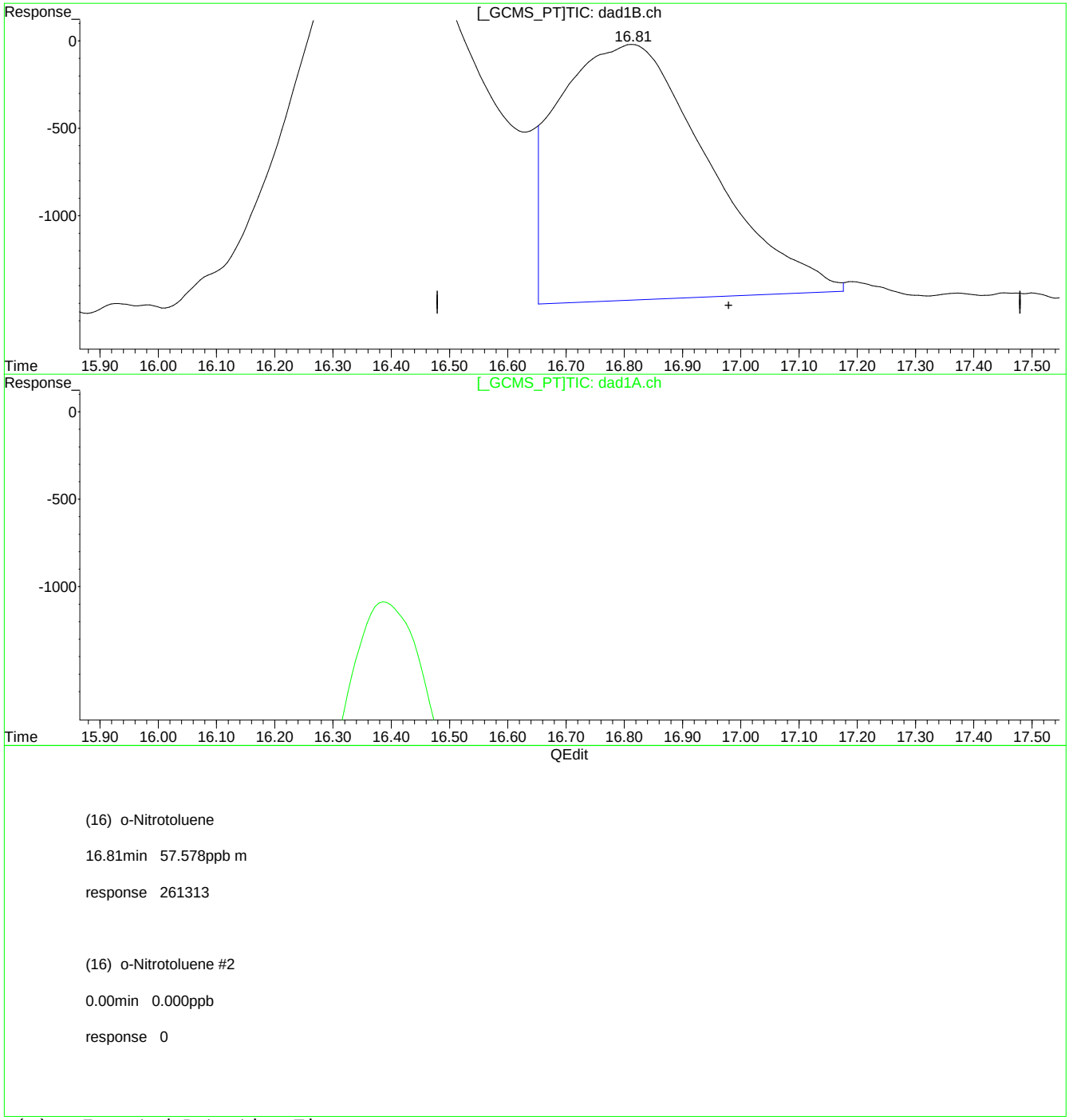
response 764081

(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:57:46 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(16) o-Nitrotoluene

16.81min 57.578ppb m

response 261313

(16) o-Nitrotoluene #2

0.00min 0.000ppb

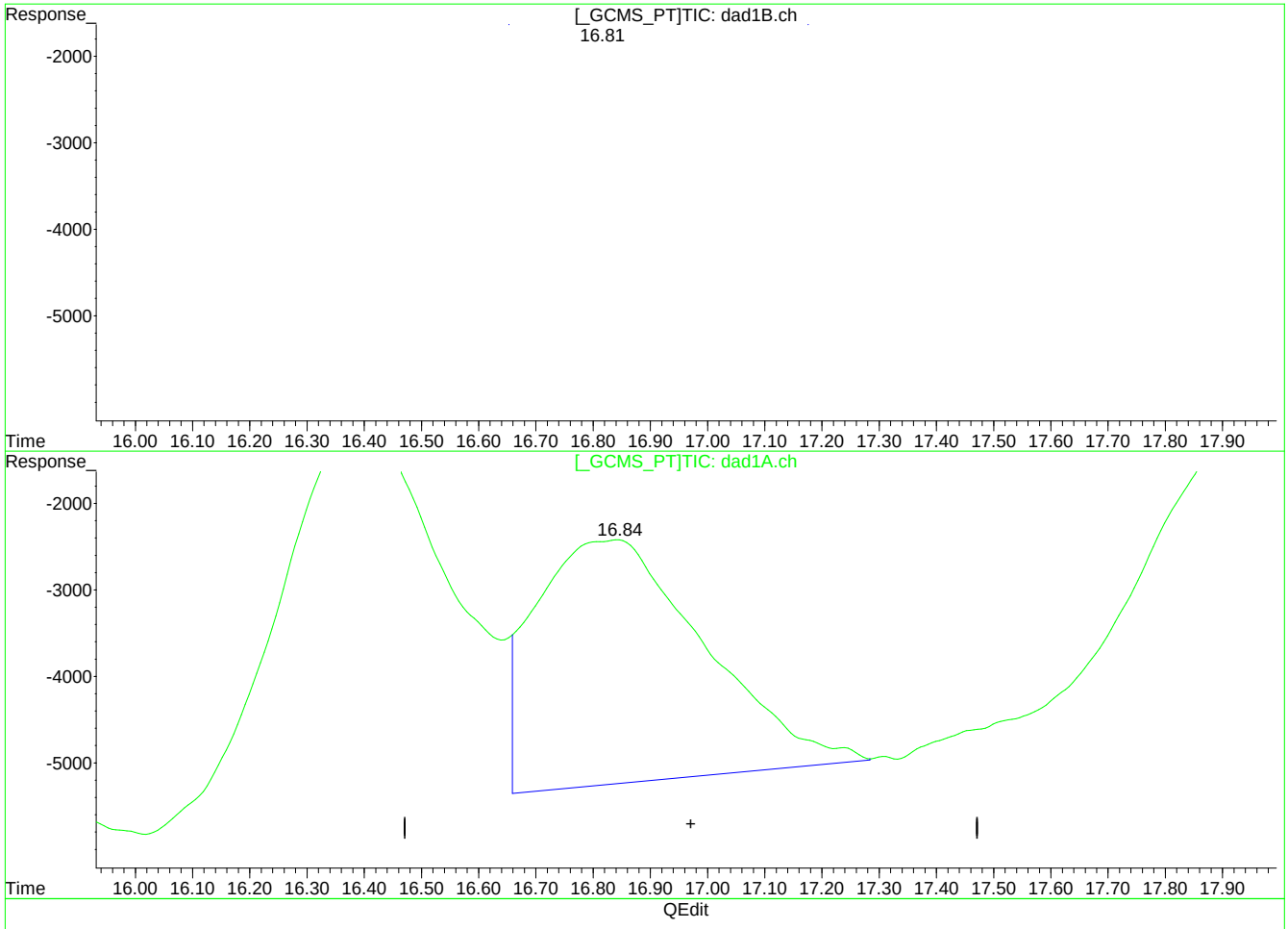
response 0

(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:57:53 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(16) o-Nitrotoluene

16.81min 57.578ppb m

response 261313

(16) o-Nitrotoluene #2

16.84min 83.579ppb m

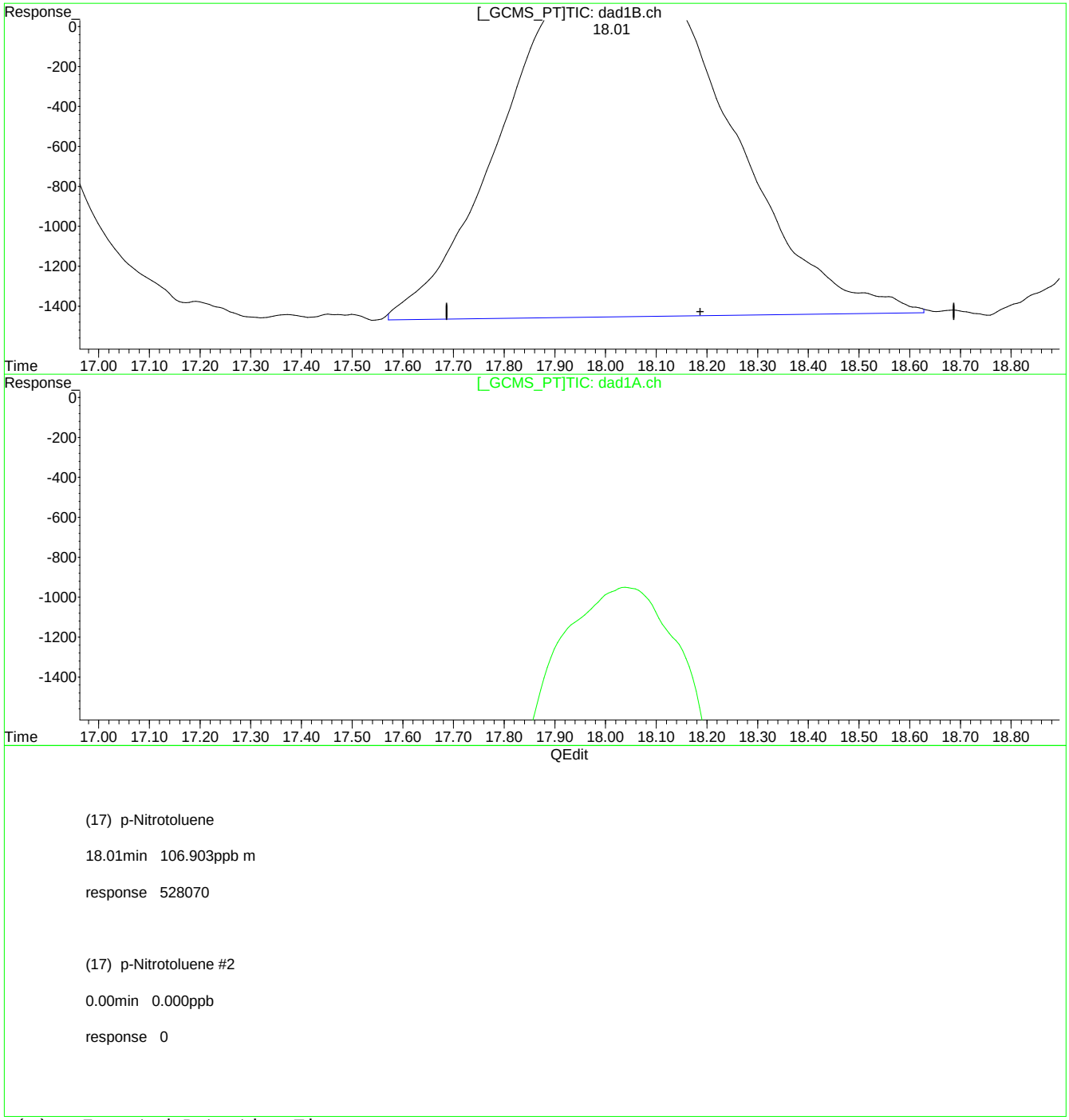
response 578636

(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:58:01 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(17) p-Nitrotoluene

18.01min 106.903ppb m

response 528070

(17) p-Nitrotoluene #2

0.00min 0.000ppb

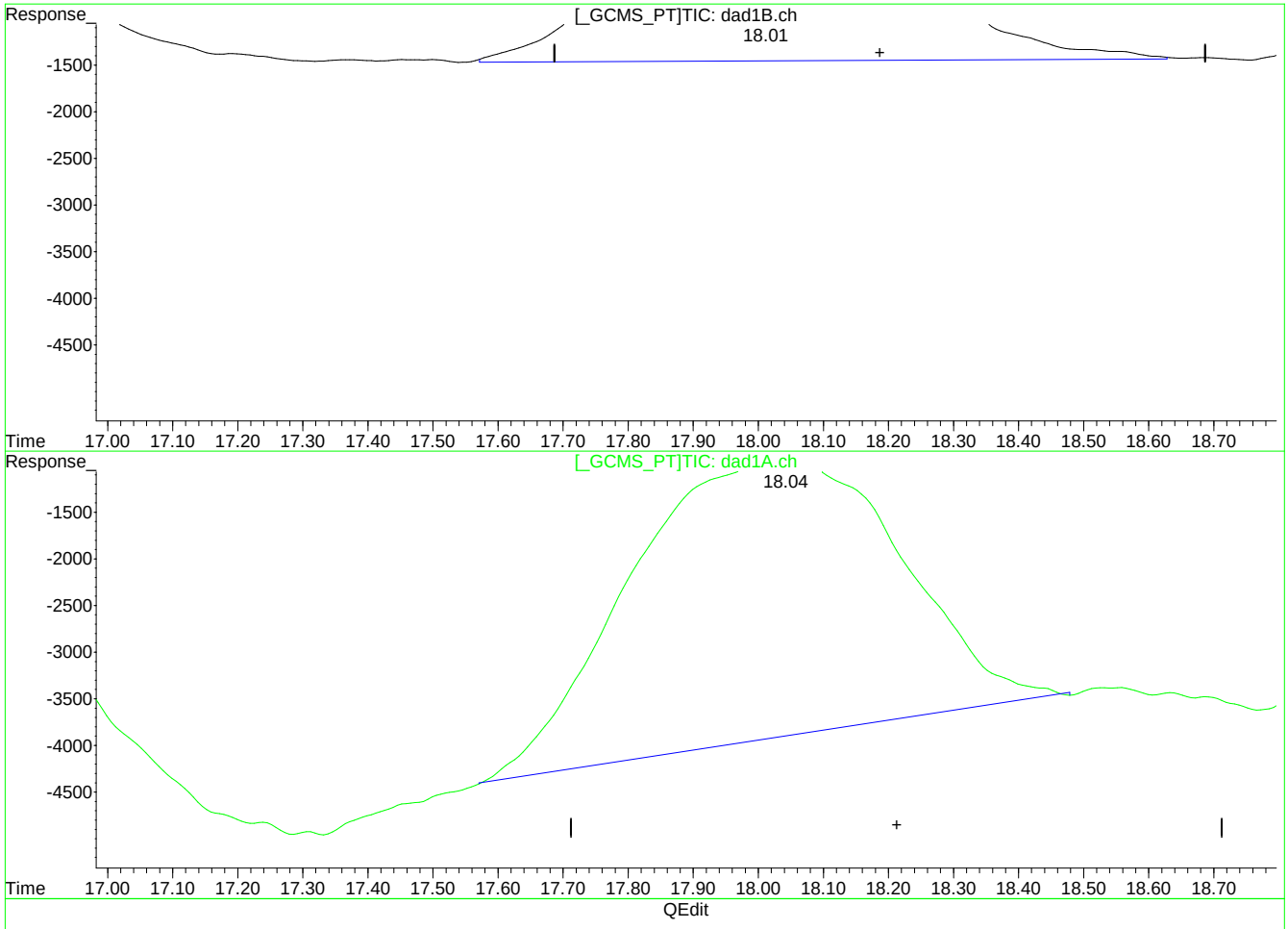
response 0

(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:58:08 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(17) p-Nitrotoluene

18.01min 106.903ppb m

response 528070

(17) p-Nitrotoluene #2

18.04min 97.230ppb m

response 857095

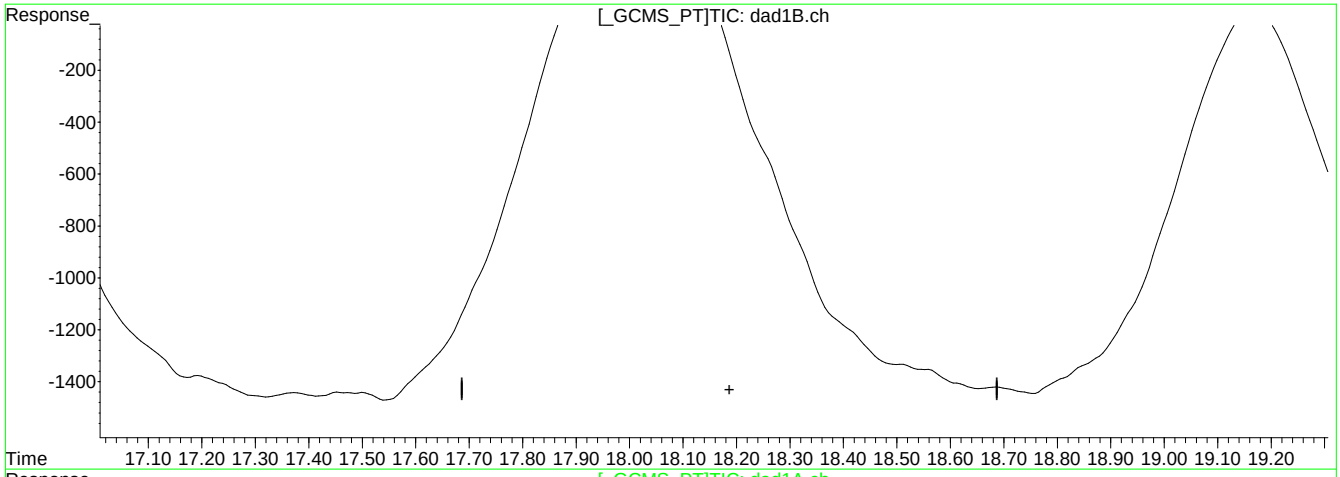
(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:58:14 2025

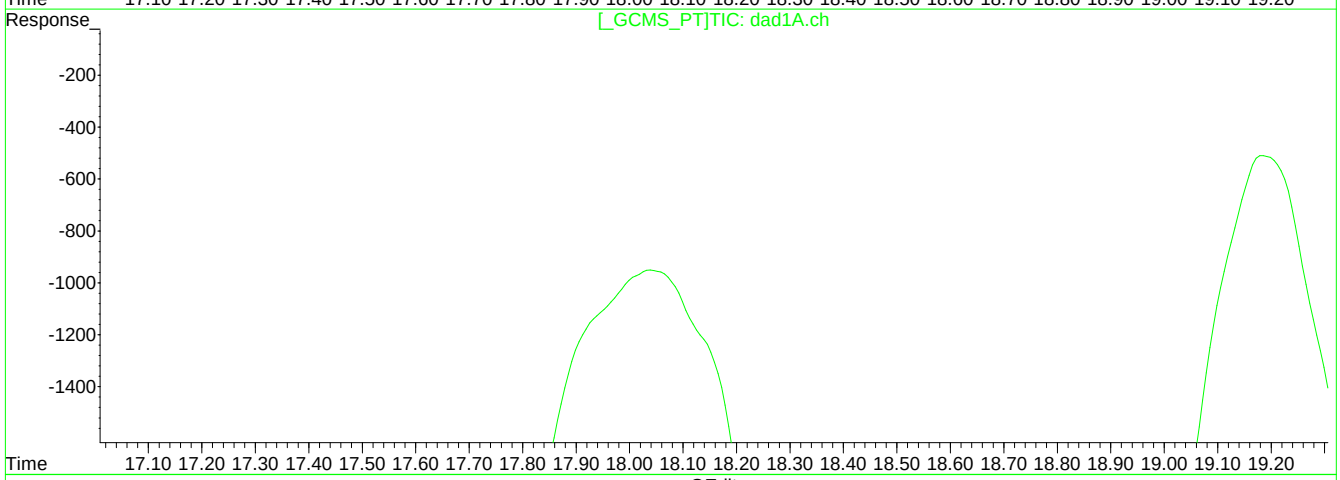
GG632466.D edits: p-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(18) 4-Amino-2,6-Dinitrotoluene

0.00min 0.000ppb

response 0

(18) 4-Amino-2,6-Dinitrotoluene #2

0.00min 0.000ppb

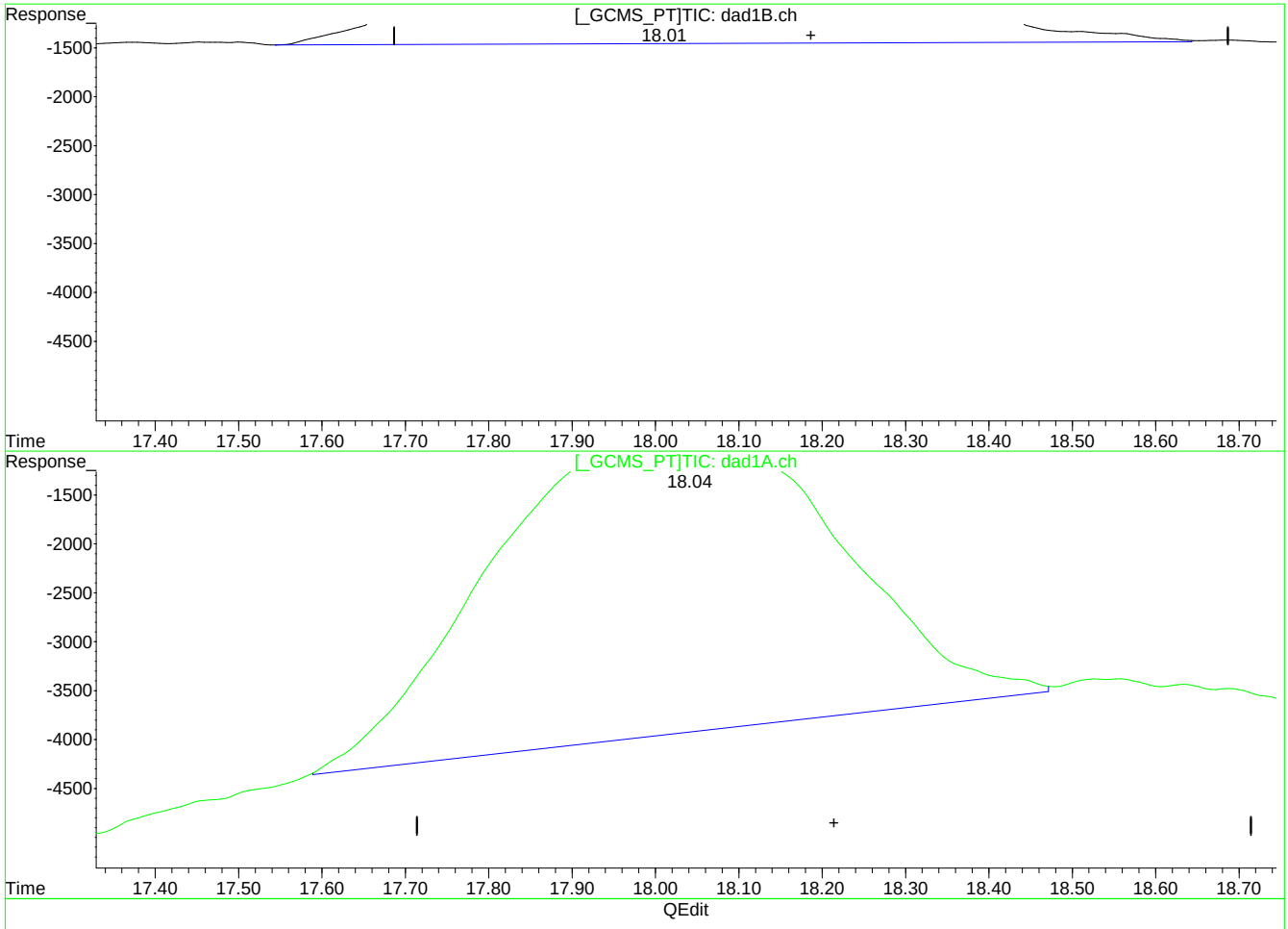
response 0

(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:58:18 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

18.01min 108.691ppb m

response 529477

(18) 4-Amino-2,6-Dinitrotoluene #2

18.04min 98.530ppb m

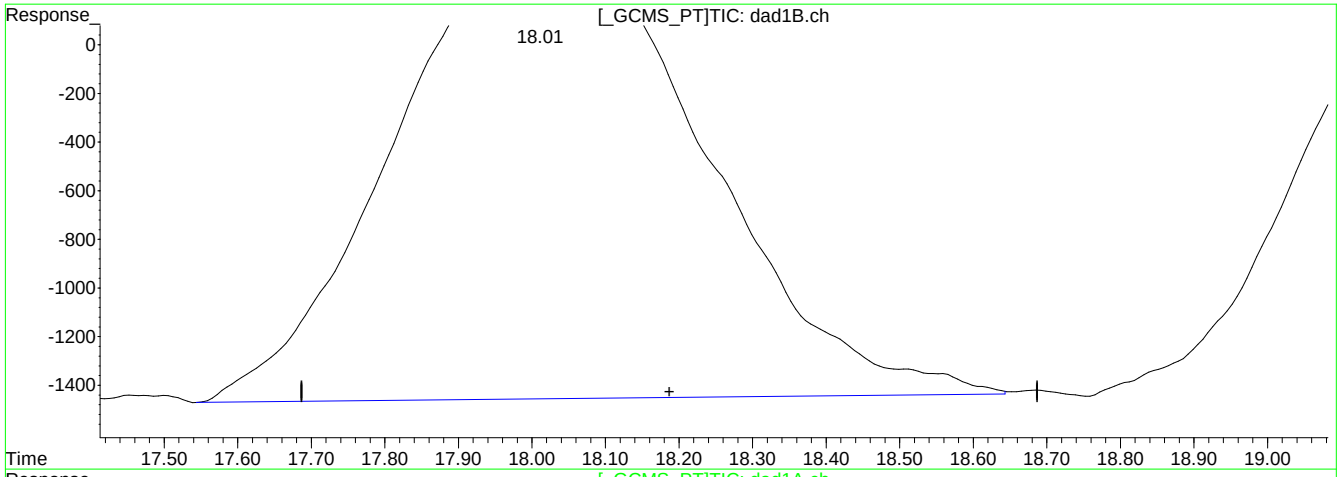
response 868565

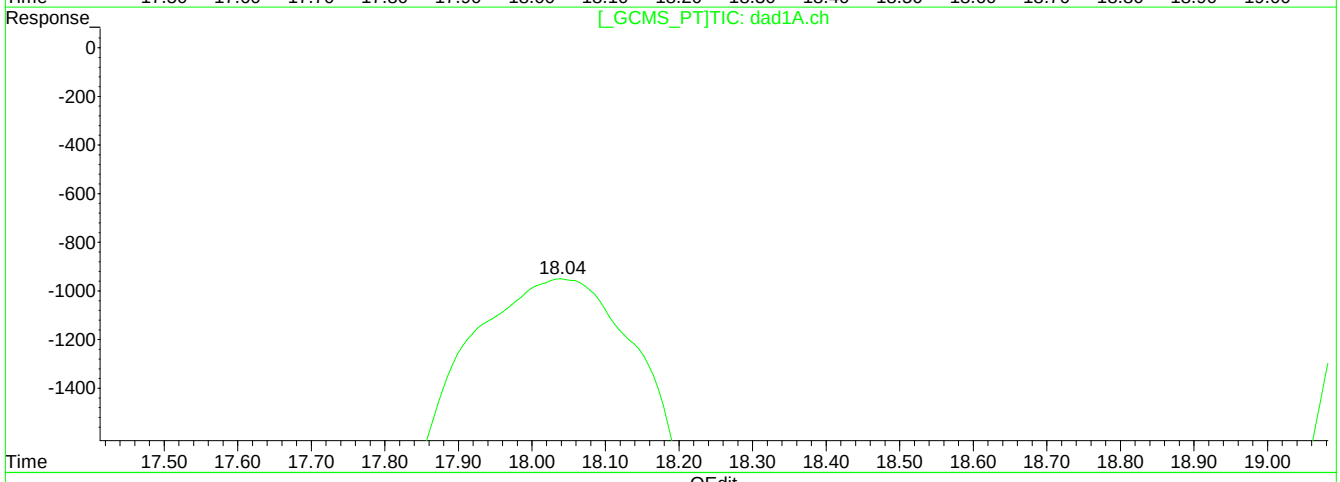
(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:58:25 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(18) 4-Amino-2,6-Dinitrotoluene

18.01min 108.691ppb m

response 529477

(18) 4-Amino-2,6-Dinitrotoluene #2

18.04min 98.530ppb m

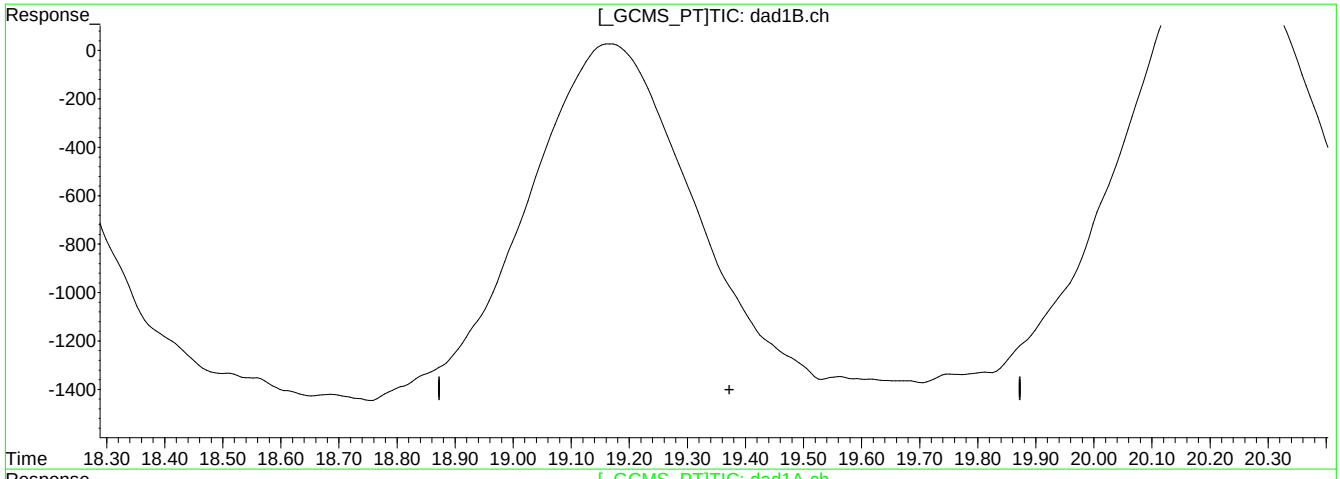
response 868565

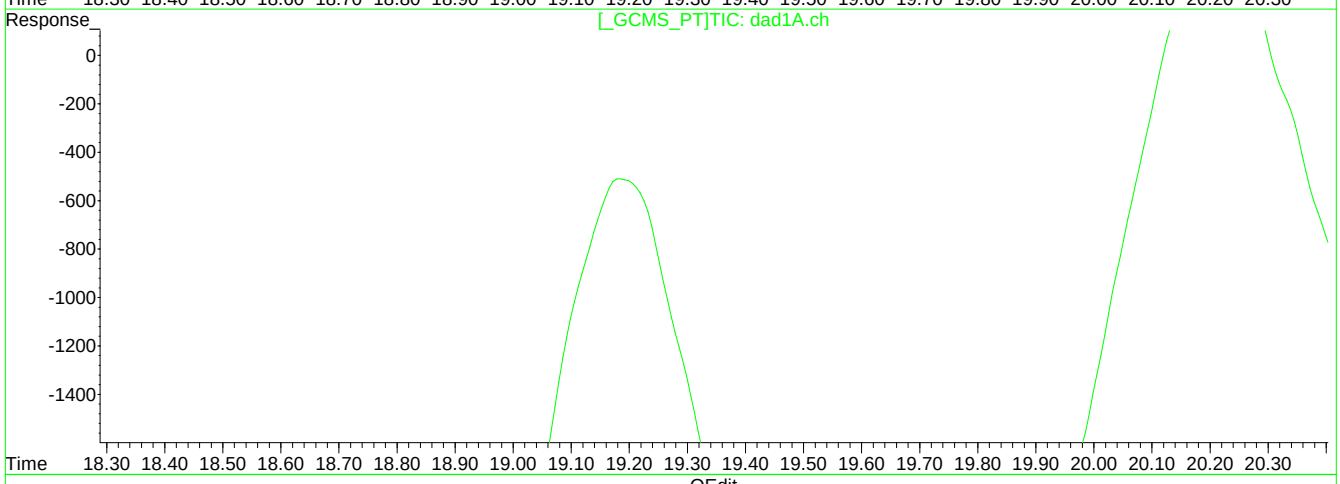
(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:58:28 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(19) m-Nitrotoluene

0.00min 0.000ppb

response 0

(19) m-Nitrotoluene #2

0.00min 0.000ppb

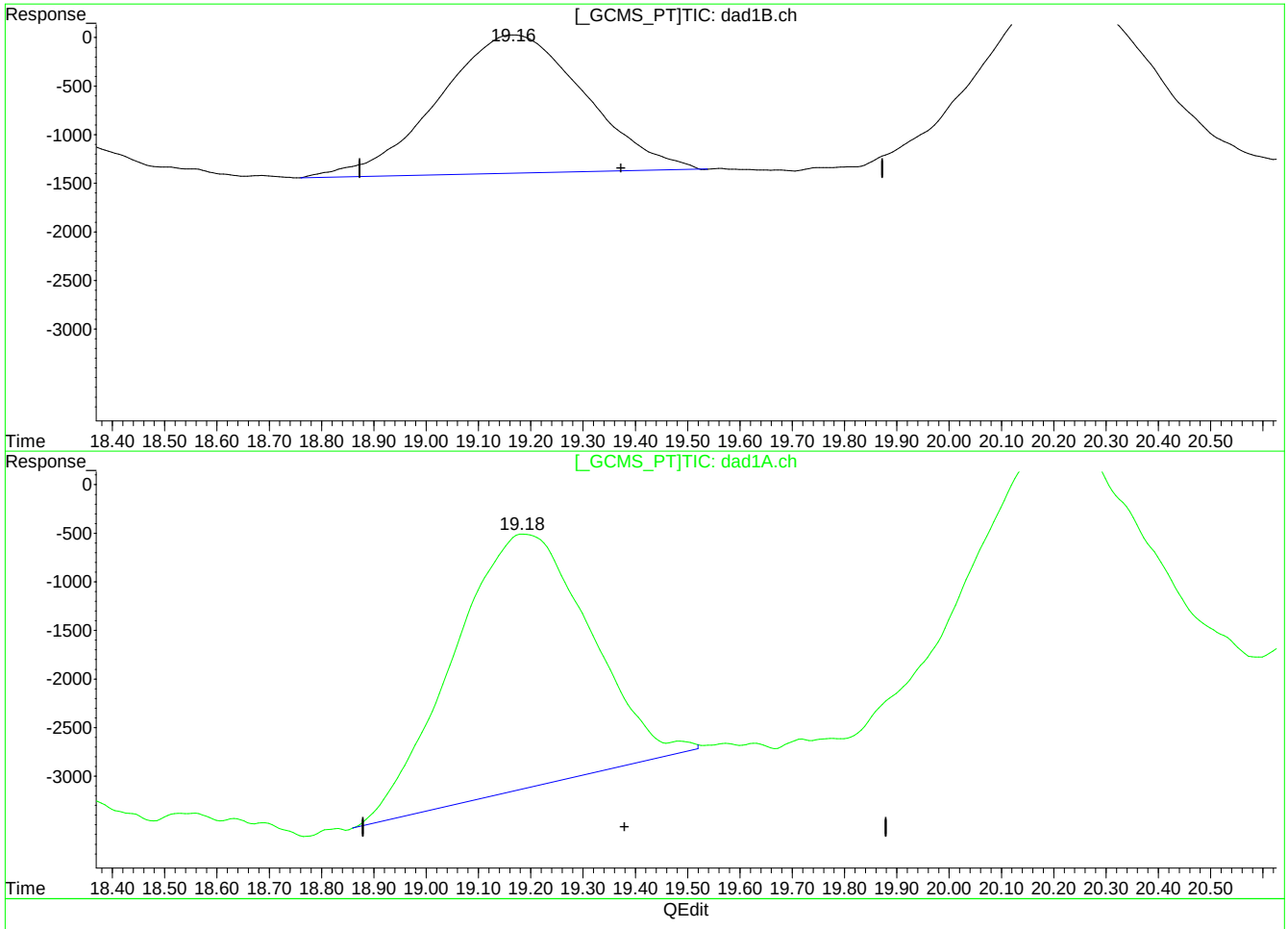
response 0

(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:58:31 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

19.16min 52.314ppb m

response 276832

(19) m-Nitrotoluene #2

19.18min 53.816ppb m

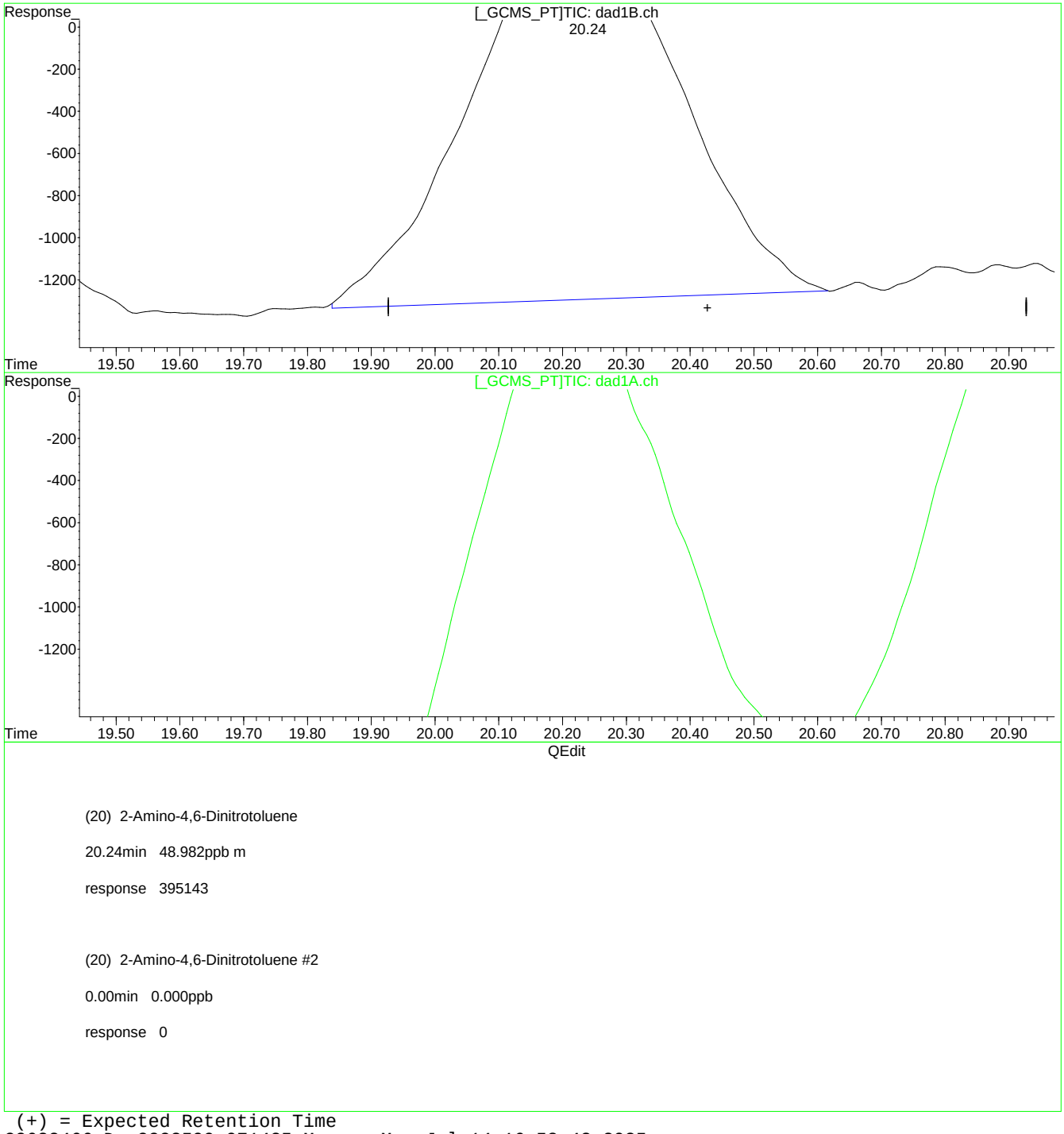
response 476558

(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:58:38 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

20.24min 48.982ppb m

response 395143

(20) 2-Amino-4,6-Dinitrotoluene #2

0.00min 0.000ppb

response 0

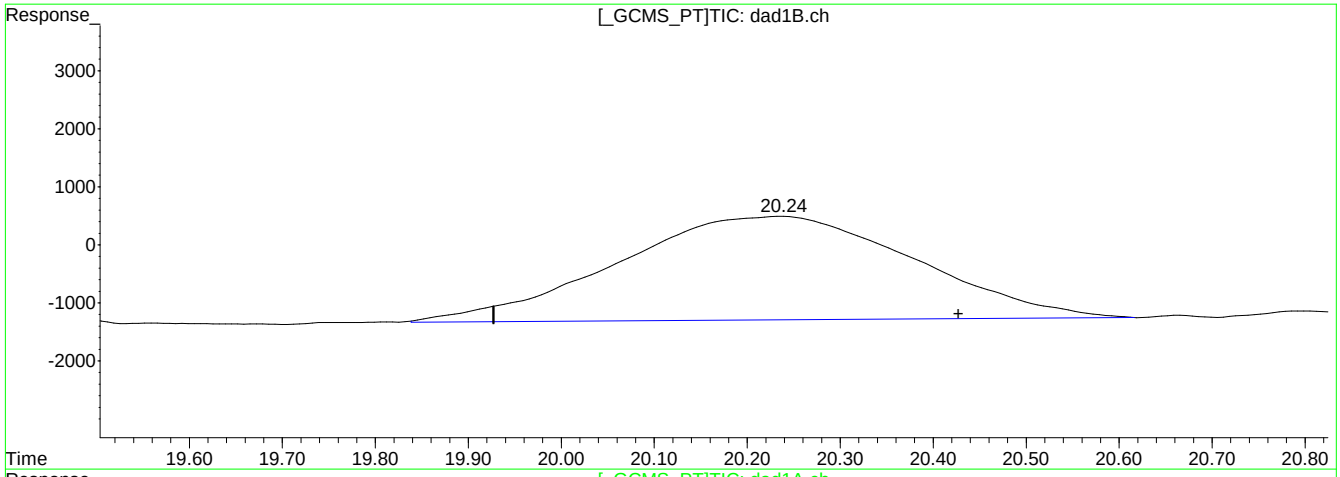
(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:58:43 2025

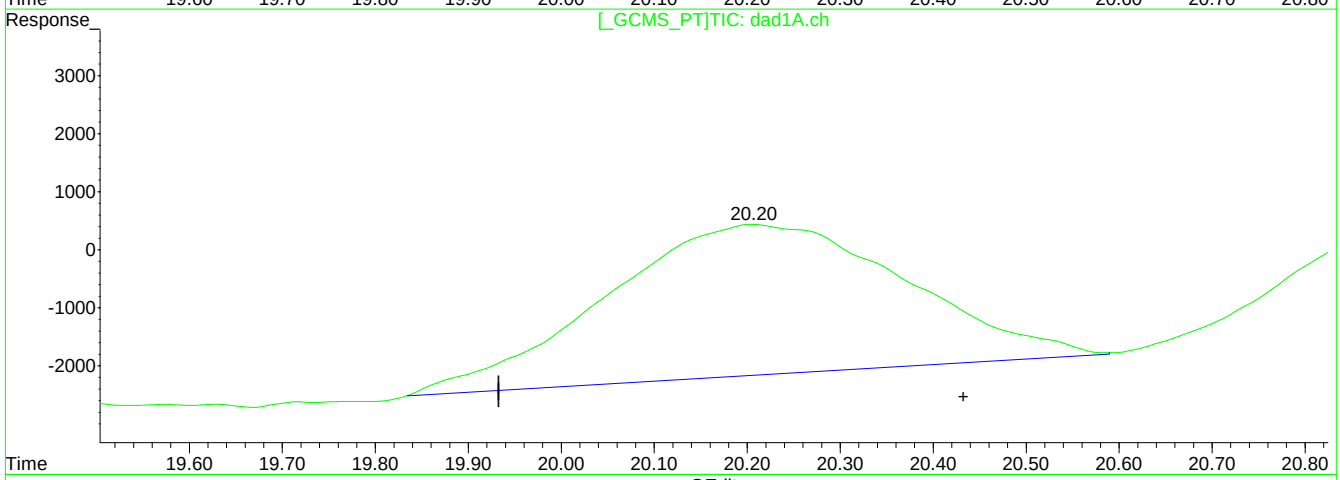
GG632466.D edits: 2-Amino-4,6-Dinitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(20) 2-Amino-4,6-Dinitrotoluene

20.24min 48.982ppb m

response 395143

(20) 2-Amino-4,6-Dinitrotoluene #2

20.20min 51.156ppb m

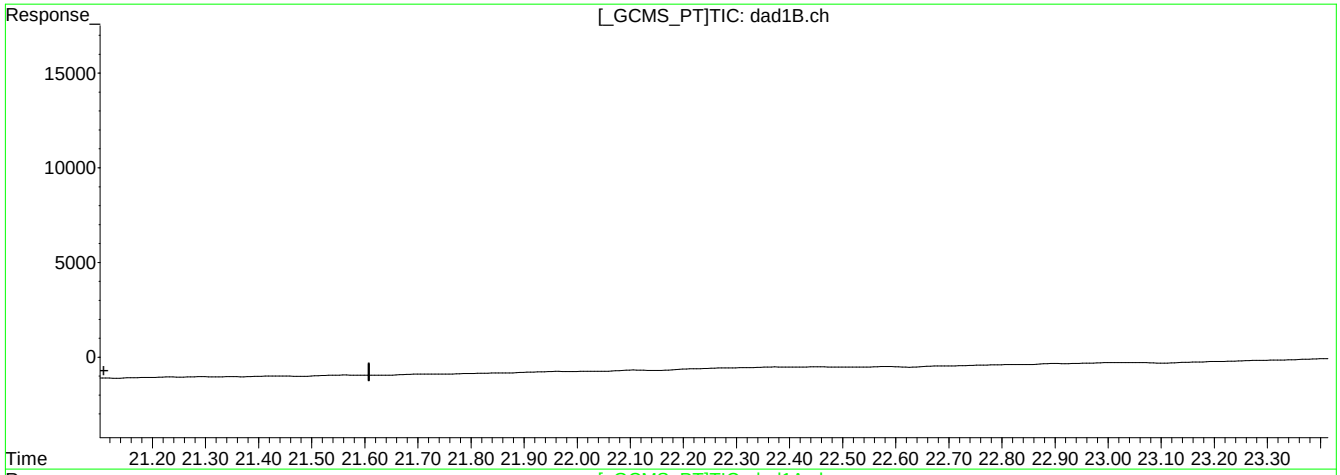
response 582474

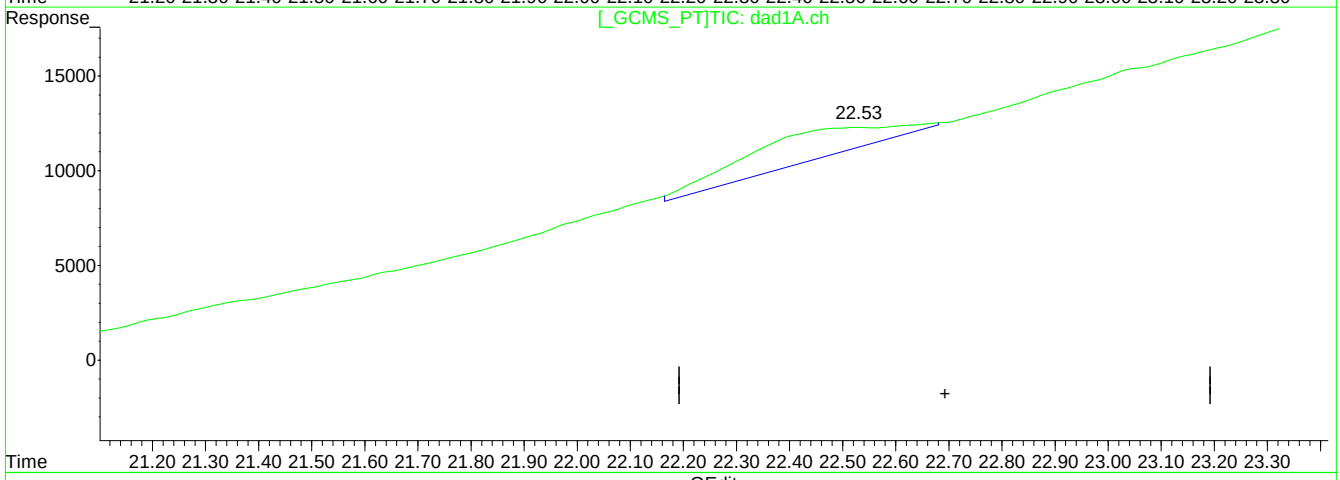
(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:58:48 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1B.ch Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632466.D\dad1A.ch
Acq On : 14-Jul-2025, 13:06:31 Operator: fouads
Sample : ic3598-50 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:56 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

22.53min 97.904ppb m

response 292610

(+) = Expected Retention Time
GG632466.D GGG3599_071425.M Mon Jul 14 16:59:00 2025

GG632466.D edits: PETN

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan
07/15/25 10:01

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : op10213,GGG3599,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49:36 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.34	14.34	451638	893160	94.076m	89.935m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		18.82%#	17.99%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	5.25	5.25	338888	1137781	116.976m	392.574m#
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	7.61	7.61	906758	1381843	105.670m	164.301 #
6)	RDX	7.91	7.91	381379	676273	93.220m	166.827m#
7)	1,3-Dinitrobenze	9.95	9.95	1200399	1463502	97.568	166.321 #
8)	Nitrobenzene	10.83	10.83	797507	344876	103.479m	46.786m#
9)	2,4,6-Trinitroto	11.98	11.98	854293	1331921	104.702m	117.209
10)	Nitroglycerin	0.00	12.78	0	221454	N.D.	75.907m#
11)	Tetryl	13.41	13.41	664832	1125267	103.401m	101.990m
13)	2,6-Dinitrotolue	14.73	14.74	541466	856516	100.436m	103.105m
14)	2,4-Dinitrotolue	15.45	15.45	1106307	768775	99.080m	98.257m
15)	3,5-Dinitroanili	16.46	16.47	941964	1348739	103.175m	80.617m
16)	o-Nitrotoluene	16.90	16.90	493543	663337	108.747m	95.813m
17)	p-Nitrotoluene	18.12	18.17	1024123	1973770	207.325m	223.908m
18)	4-Amino-2,6-Dini	18.12	18.17	1025508	1903074	210.516m	215.884
19)	m-Nitrotoluene	19.28	19.27	521055	718349	98.465m	81.121m
20)	2-Amino-4,6-Dini	20.34	20.31	808205	826622	100.186m	72.598m
21)	PETN	0.00	22.51	0	269437	N.D.	90.151m#

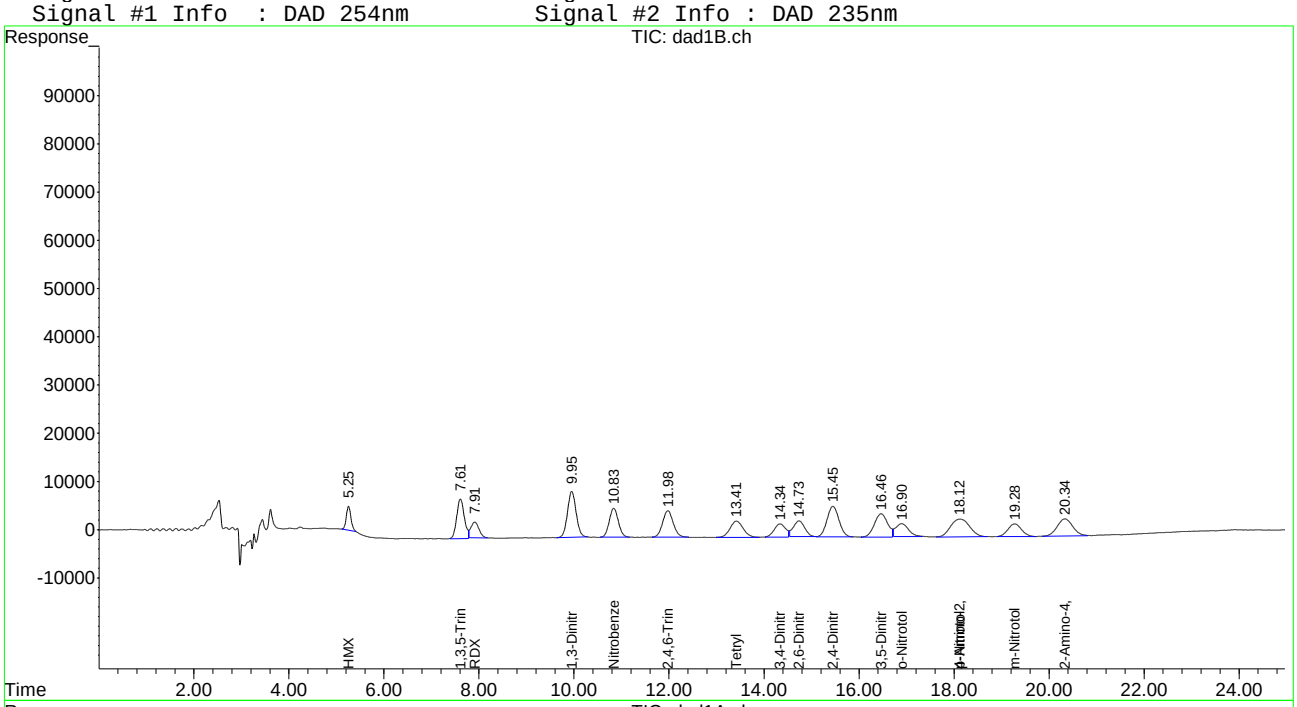
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG632467.D GGG3599_071425.M Mon Jul 14 17:26:33 2025

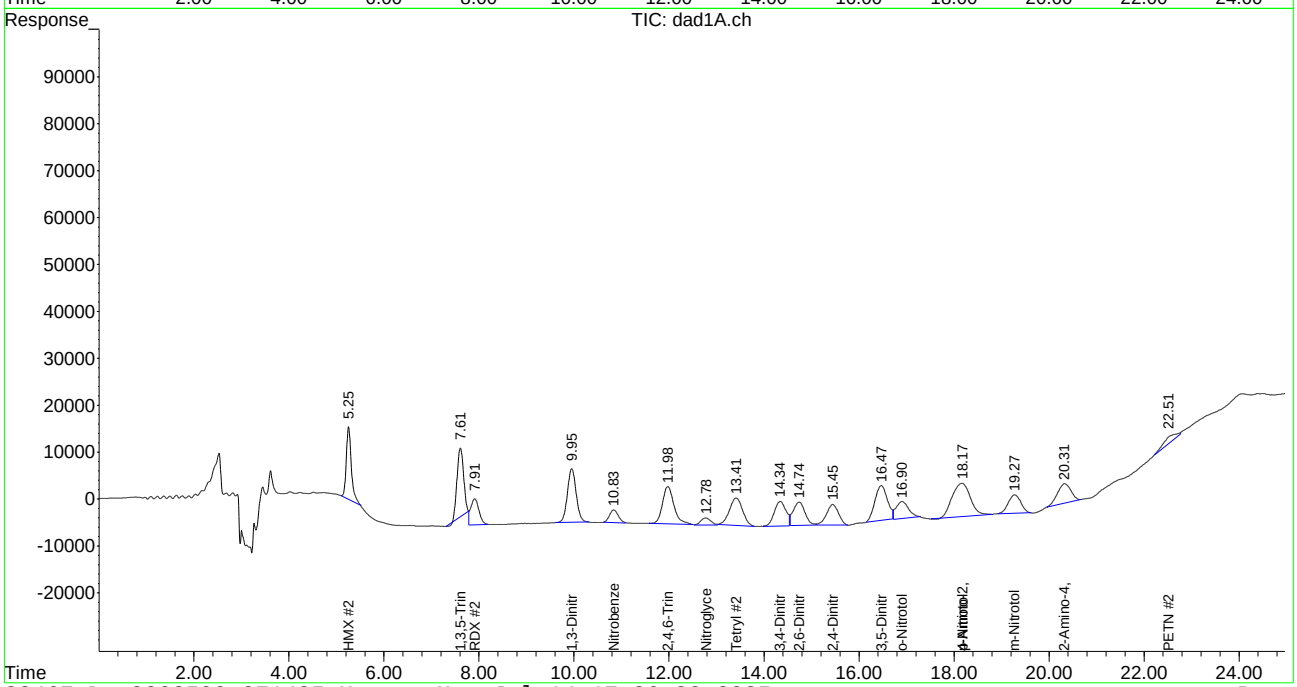
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : op10213,GGG3599,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 17:02 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

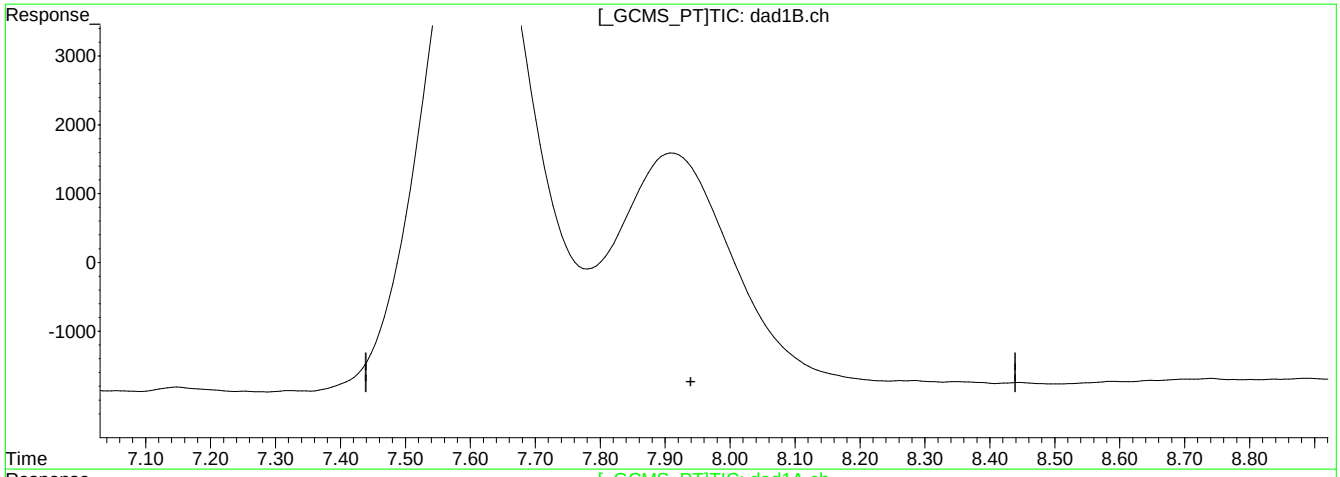
Sample Number: GGG3599-IC3599 **Method:** SW846 8330B
Lab FileID: GG632467.D **Analyst approved:** 07/14/25 17:37 William Hustedde
Injection Time: 07/14/25 13:34 **Supervisor approved:** 07/15/25 10:01 Naresh Jiawan

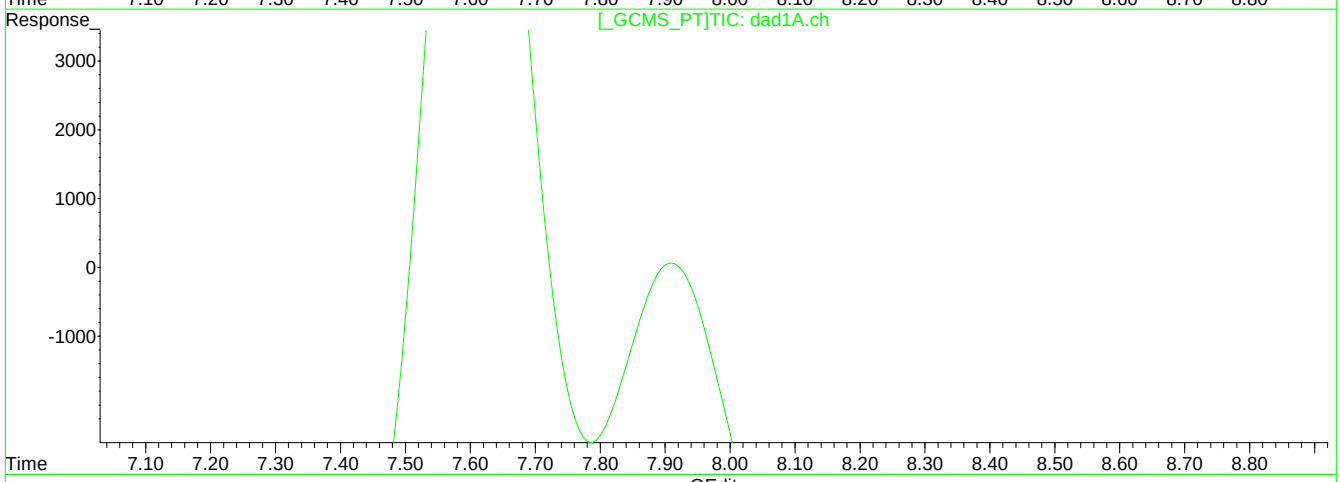
Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	5.25	Missed peak
HMX	2691-41-0	2	5.25	Missed peak
1,3,5-Trinitrobenzene	99-35-4	1	7.61	Missed peak
RDX	121-82-4	1	7.91	Missed peak
RDX	121-82-4	2	7.91	Missed peak
Nitrobenzene	98-95-3	1	10.83	Missed peak
Nitrobenzene	98-95-3	2	10.83	Missed peak
2,4,6-Trinitrotoluene	118-96-7	1	11.98	Missed peak
Nitroglycerine	55-63-0	2	12.78	Missed peak
Tetryl	479-45-8	1	13.41	Missed peak
Tetryl	479-45-8	2	13.41	Missed peak
3,4-Dinitrotoluene	610-39-9	1	14.34	Missed peak
3,4-Dinitrotoluene	610-39-9	2	14.34	Missed peak
2,6-Dinitrotoluene	606-20-2	1	14.73	Missed peak
2,6-Dinitrotoluene	606-20-2	2	14.74	Missed peak
2,4-Dinitrotoluene	121-14-2	1	15.45	Missed peak
2,4-Dinitrotoluene	121-14-2	2	15.45	Missed peak
3,5-Dinitroaniline	618-87-1	1	16.46	Missed peak
3,5-Dinitroaniline	618-87-1	2	16.47	Missed peak
o-Nitrotoluene	88-72-2	1	16.90	Missed peak
o-Nitrotoluene	88-72-2	2	16.90	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	1	18.12	Missed peak
p-Nitrotoluene	99-99-0	1	18.12	Missed peak
p-Nitrotoluene	99-99-0	2	18.17	Missed peak
m-Nitrotoluene	99-08-1	2	19.27	Missed peak
m-Nitrotoluene	99-08-1	1	19.28	Missed peak
2-amino-4,6-Dinitrotoluene	35572-78-2	2	20.31	Missed peak
2-amino-4,6-Dinitrotoluene	35572-78-2	1	20.34	Missed peak
PETN	78-11-5	2	22.51	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(6) RDX

0.00min 0.000ppb

response 0

(6) RDX #2

0.00min 0.000ppb

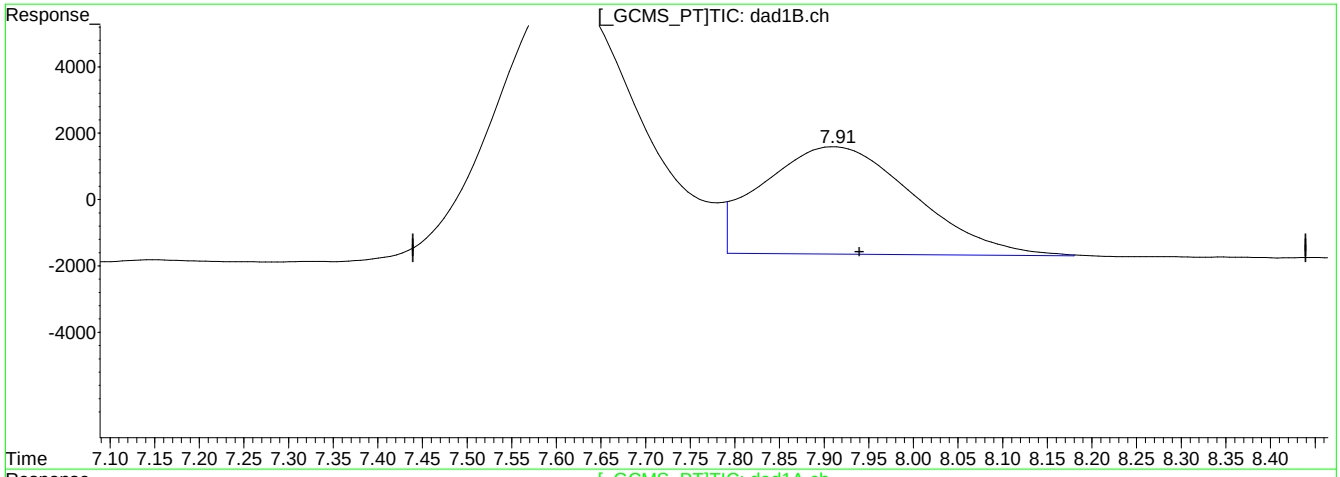
response 0

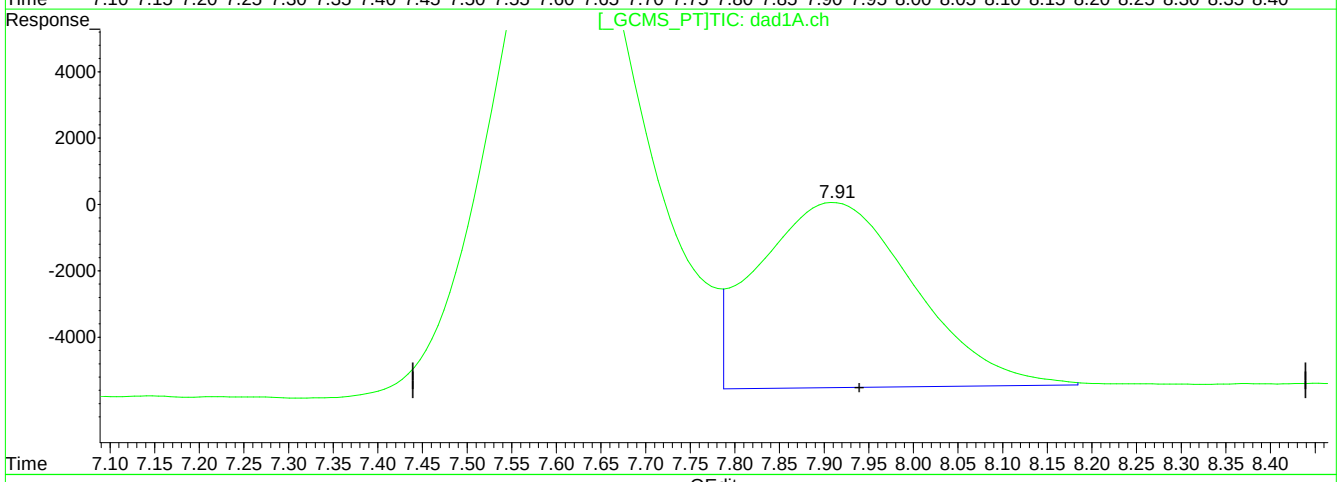
(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 16:59:16 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(6) RDX

7.91min 93.220ppb m

response 381379

(6) RDX #2

7.91min 166.827ppb m

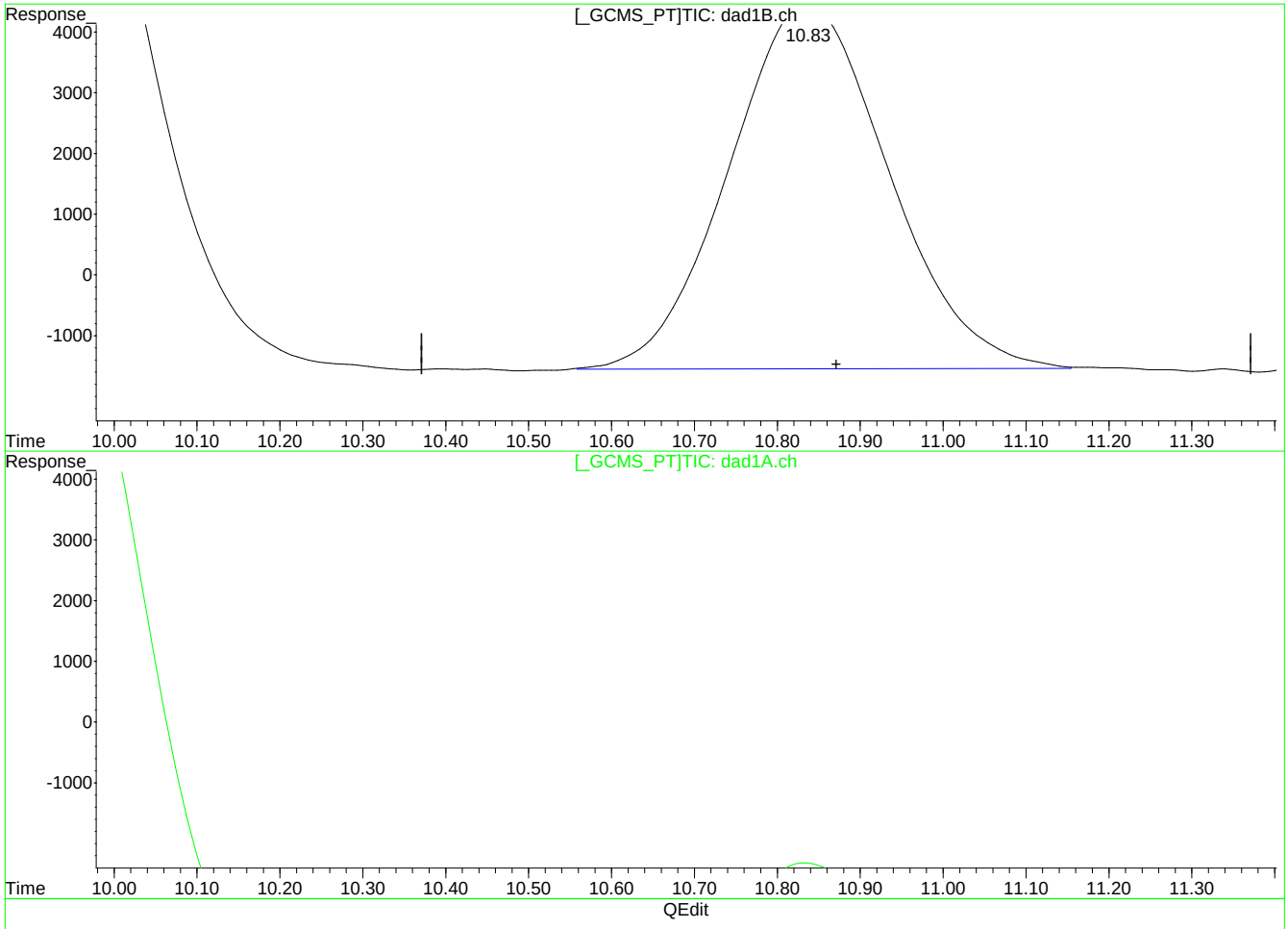
response 676273

(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 16:59:25 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(8) Nitrobenzene

10.83min 103.479ppb m

response 797507

(8) Nitrobenzene #2

0.00min 0.000ppb

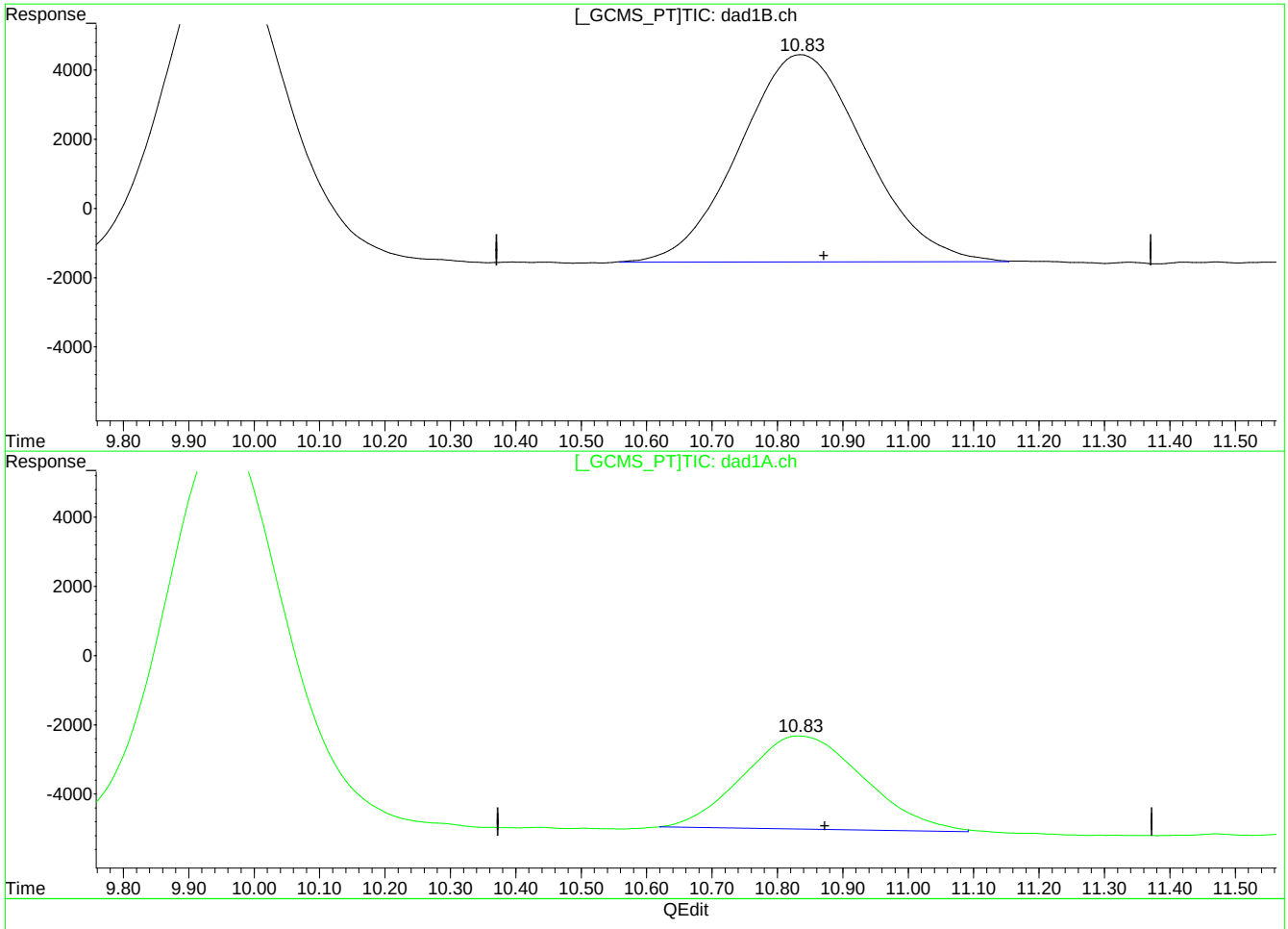
response 0

(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 16:59:35 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(8) Nitrobenzene

10.83min 103.479ppb m

response 797507

(8) Nitrobenzene #2

10.83min 46.786ppb m

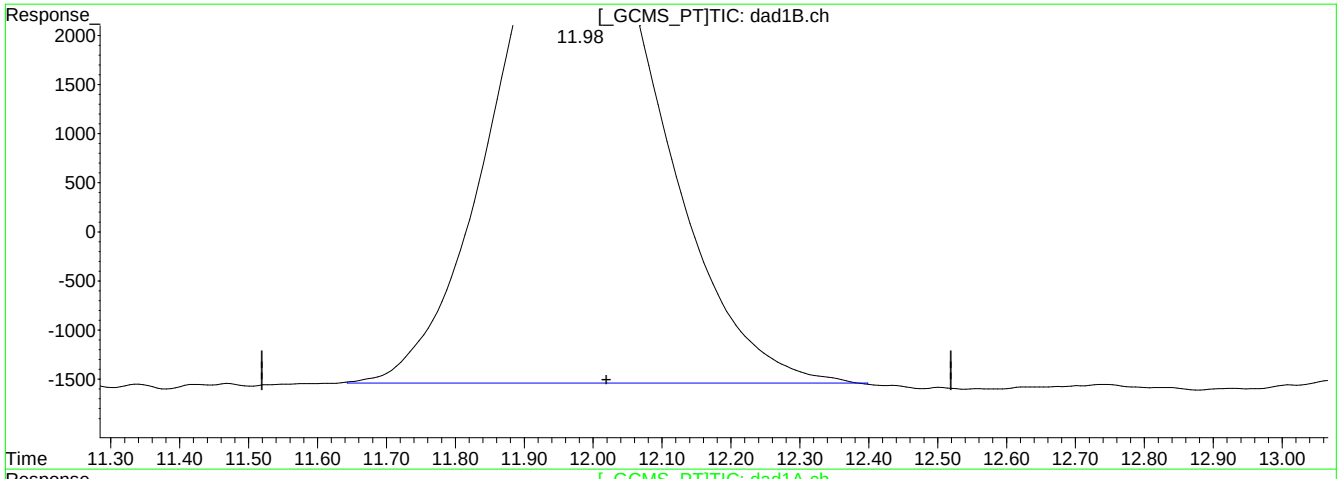
response 344876

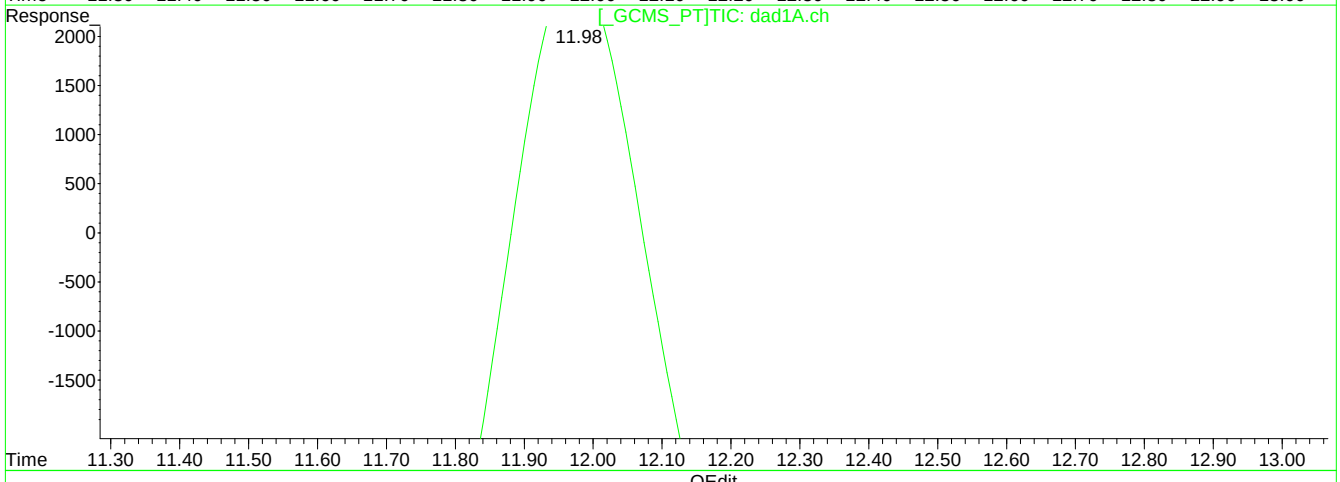
(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 16:59:40 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(9) 2,4,6-Trinitrotoluene

11.98min 104.702ppb m

response 854293

(9) 2,4,6-Trinitrotoluene #2

11.98min 117.209ppb

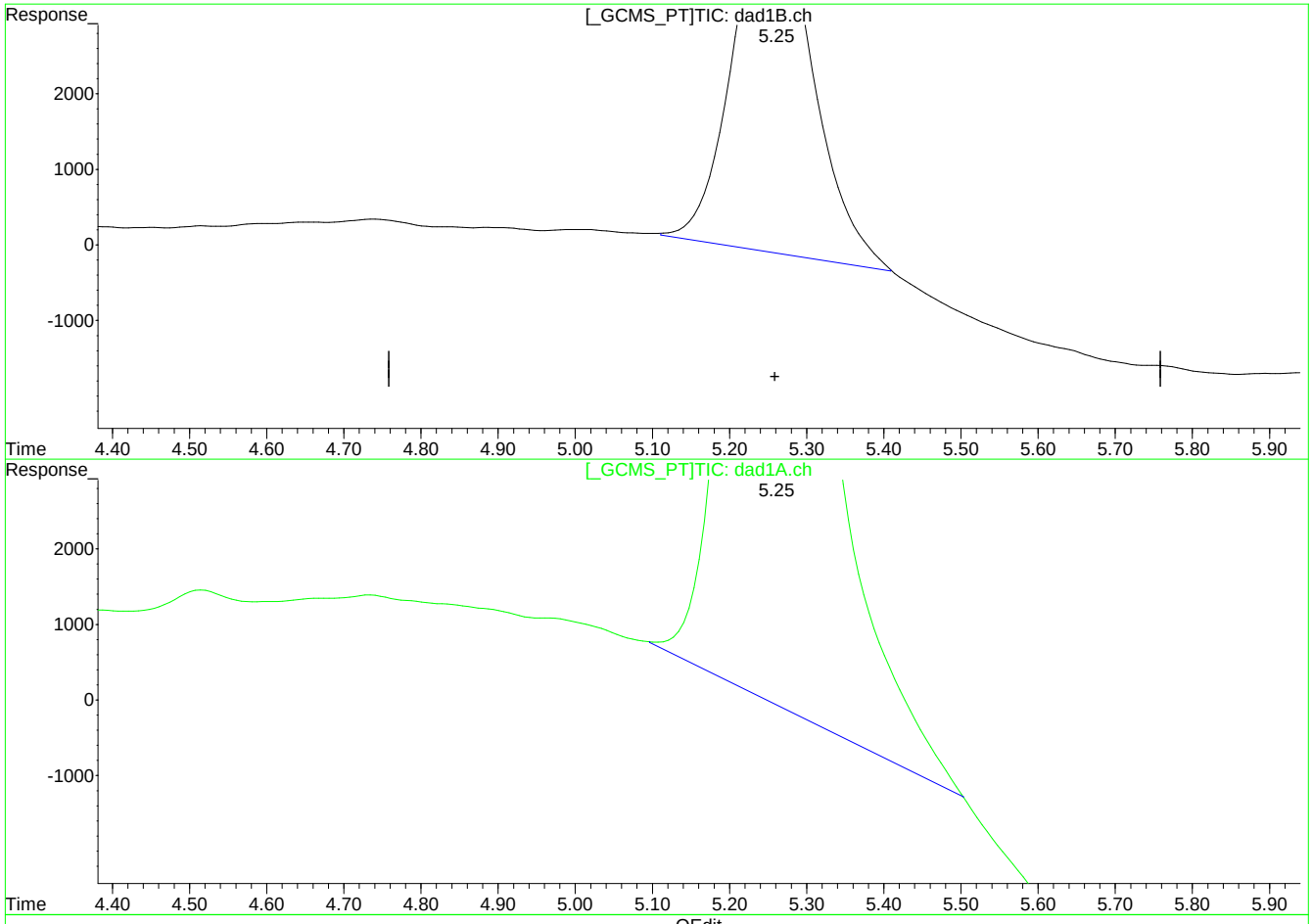
response 1331921

(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 16:59:47 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(2) HMX

5.25min 116.976ppb m

response 338888

(2) HMX #2

5.25min 392.574ppb m

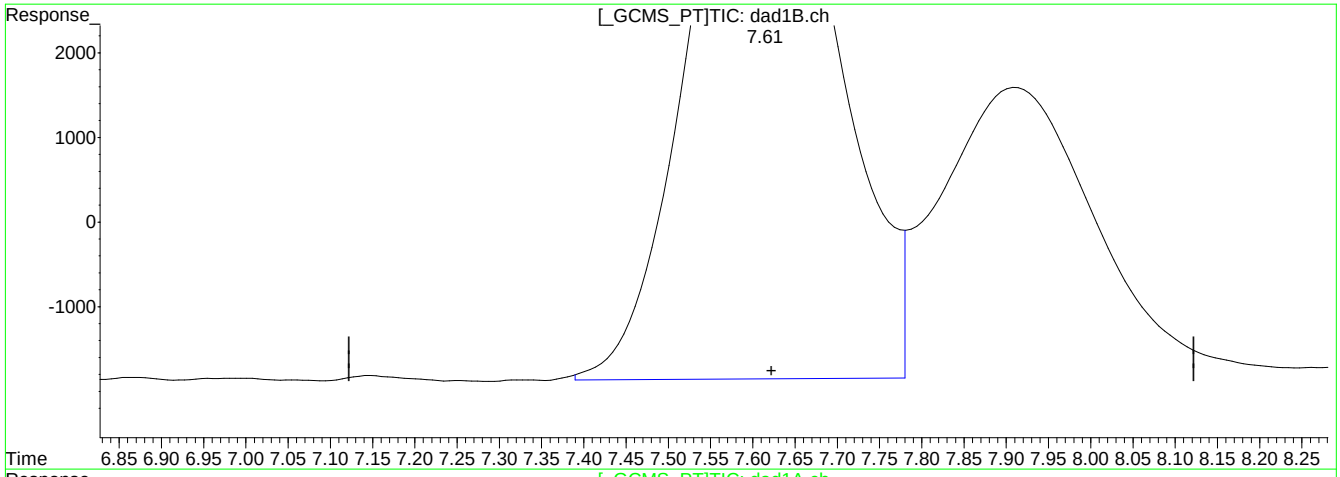
response 1137781

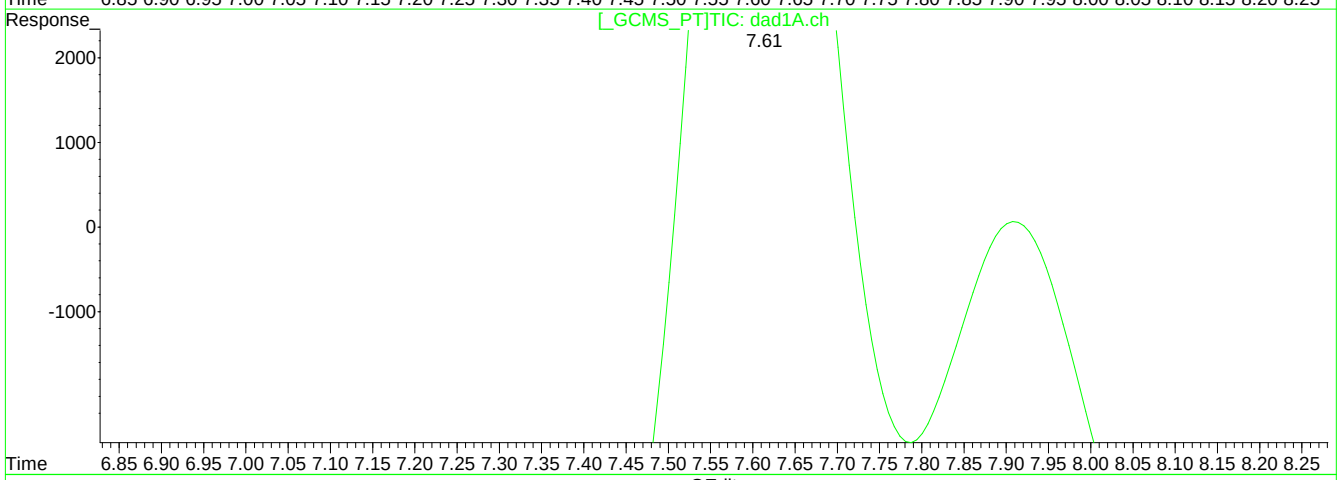
(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 16:59:56 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(5) 1,3,5-Trinitrobenzene

7.61min 105.670ppb m

response 906758

(5) 1,3,5-Trinitrobenzene #2

7.61min 164.301ppb

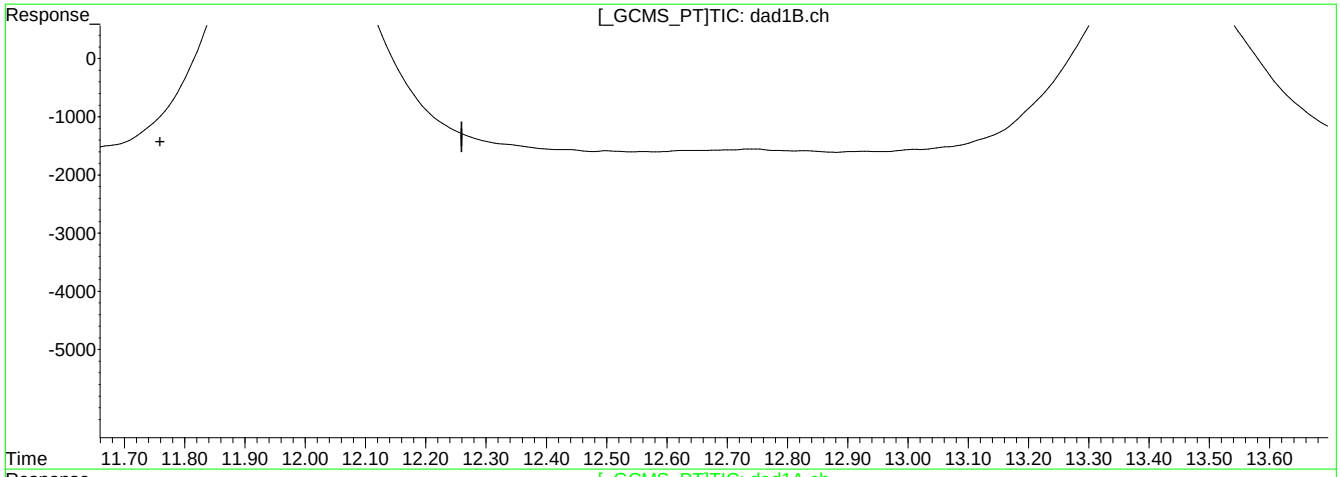
response 1381843

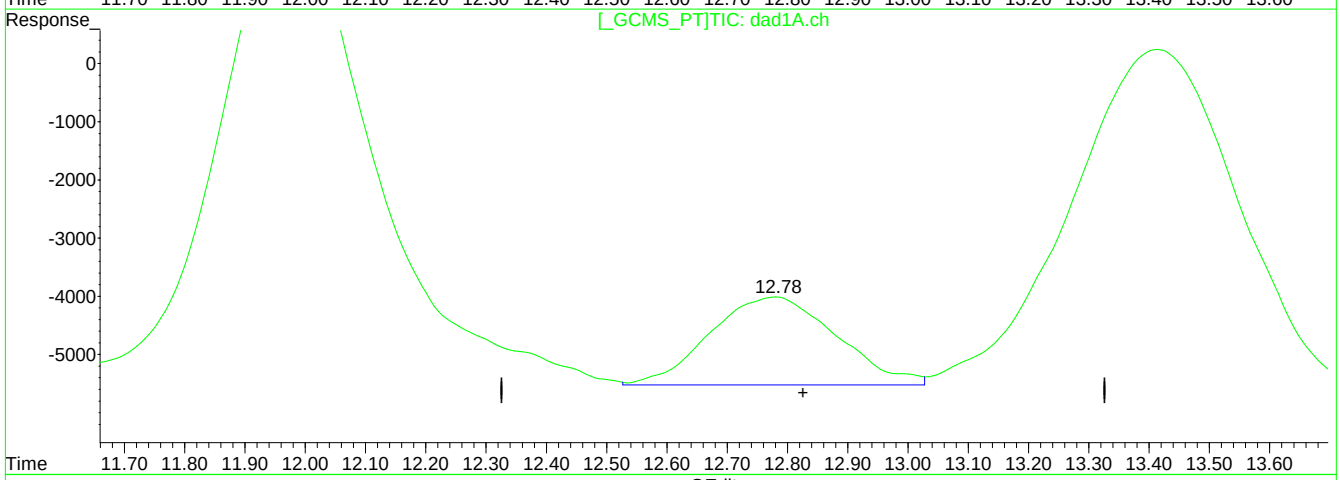
(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:00:07 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

12.78min 75.907ppb m

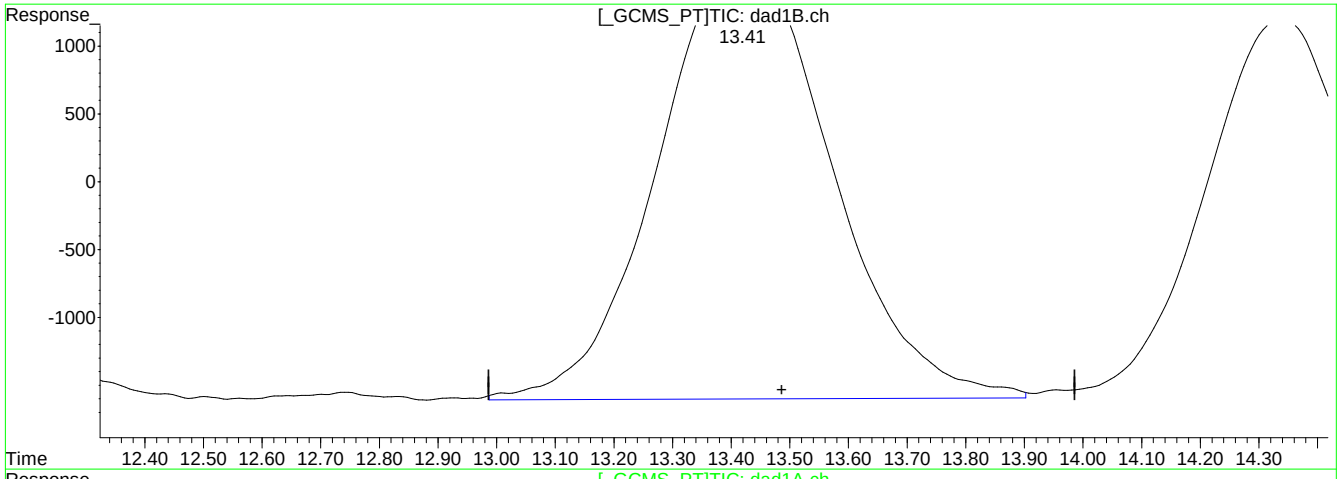
response 221454

(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:00:15 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(11) Tetryl

13.41min 103.401ppb m

response 664832

(11) Tetryl #2

0.00min 0.000ppb

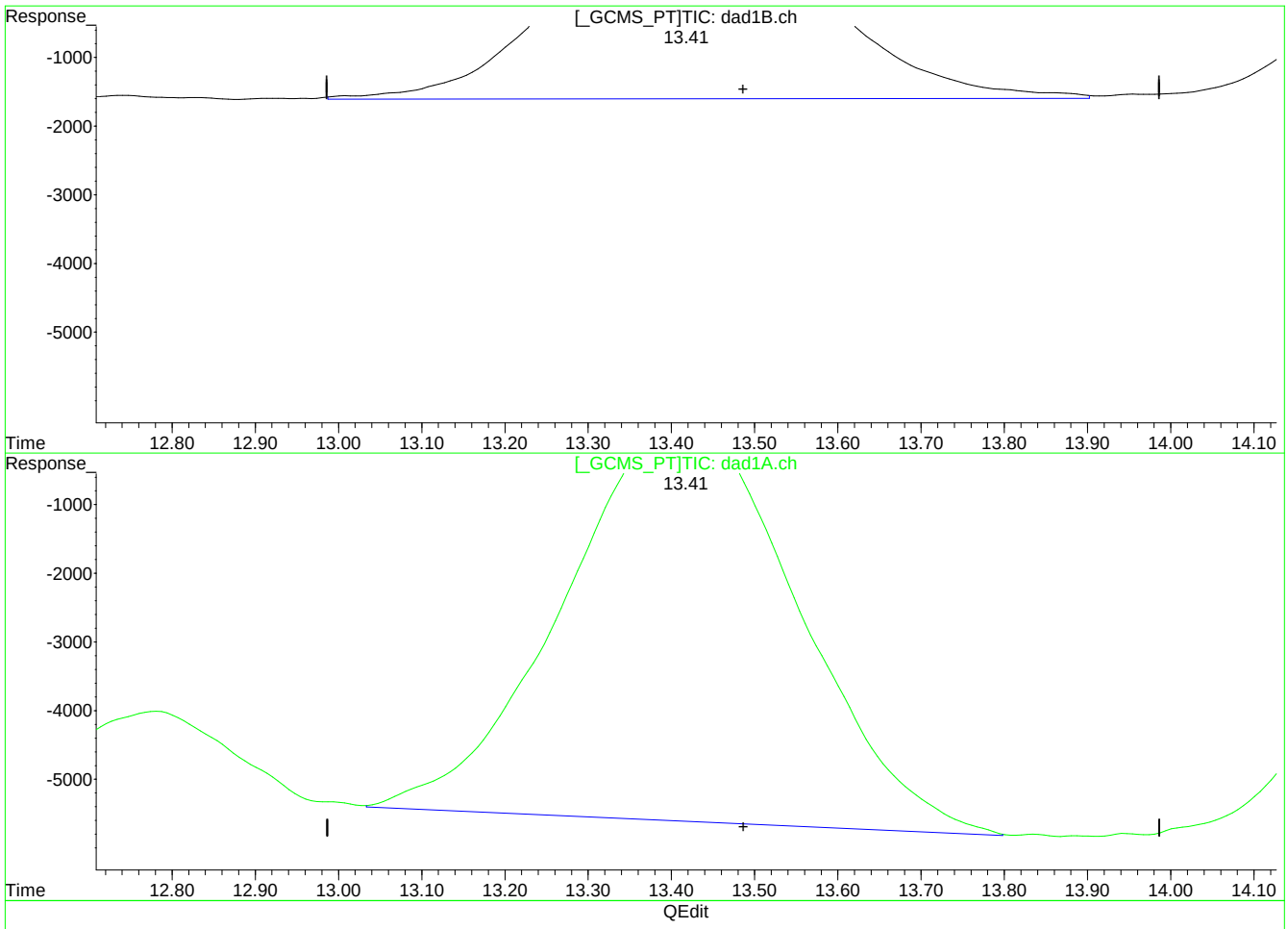
response 0

(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:00:20 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(11) Tetryl

13.41min 103.401ppb m

response 664832

(11) Tetryl #2

13.41min 101.990ppb m

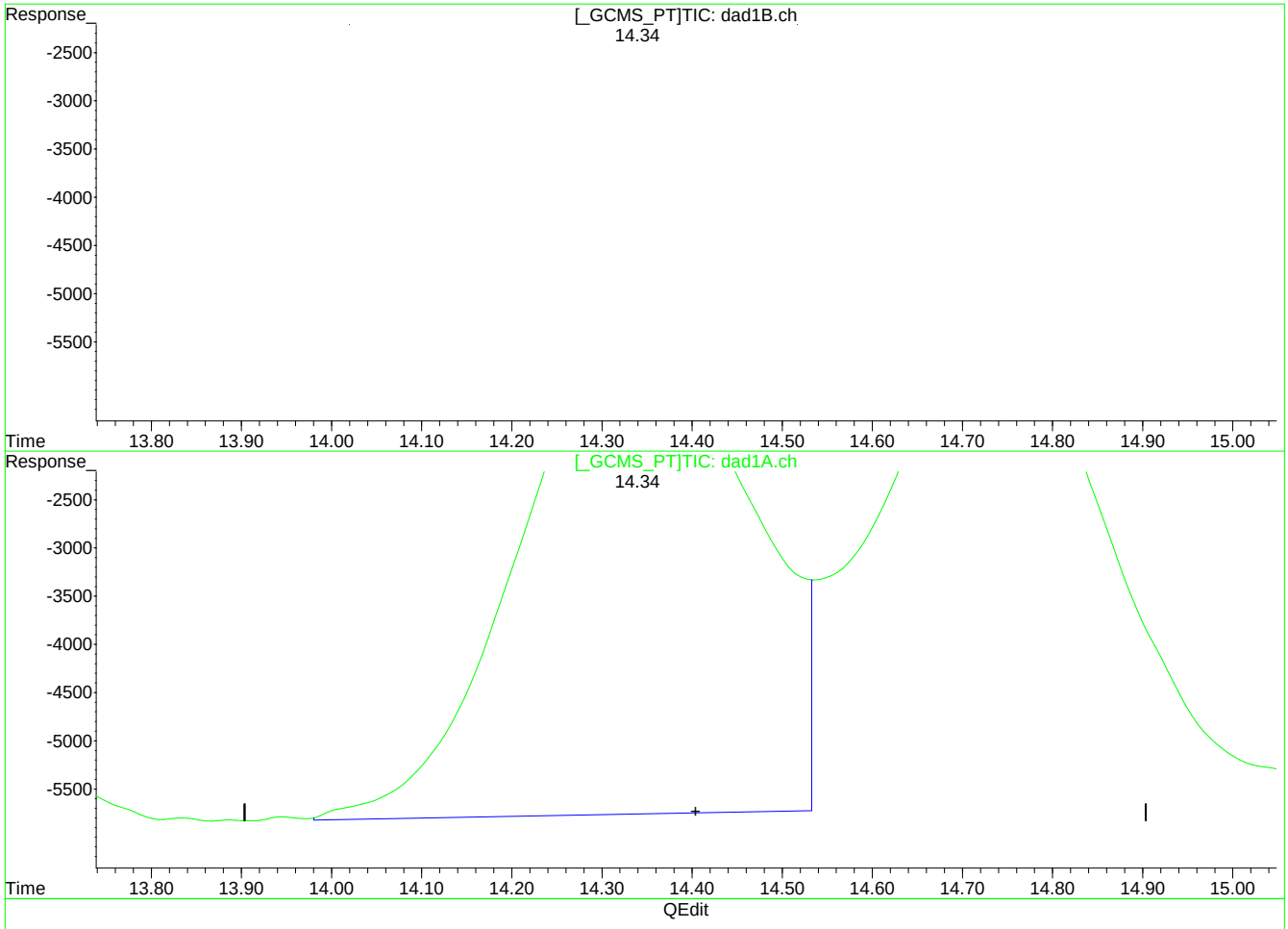
response 1125267

(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:00:25 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(12) 3,4-Dinitrotoluene (S)

14.34min 94.076ppb m

response 451638

(12) 3,4-Dinitrotoluene #2 (S)

14.34min 89.935ppb m

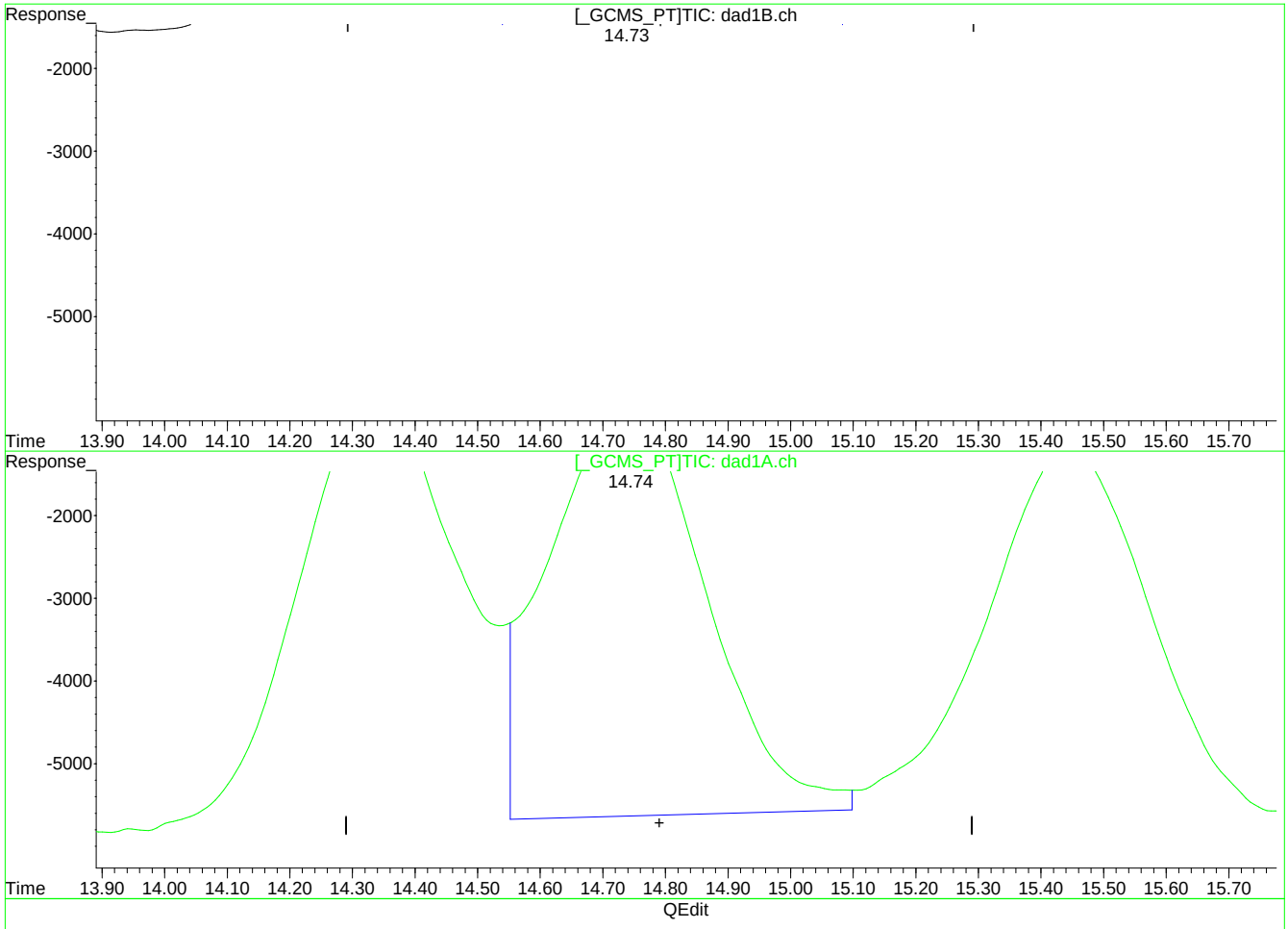
response 893160

(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:00:40 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(13) 2,6-Dinitrotoluene

14.73min 100.436ppb m

response 541466

(13) 2,6-Dinitrotoluene #2

14.74min 103.105ppb m

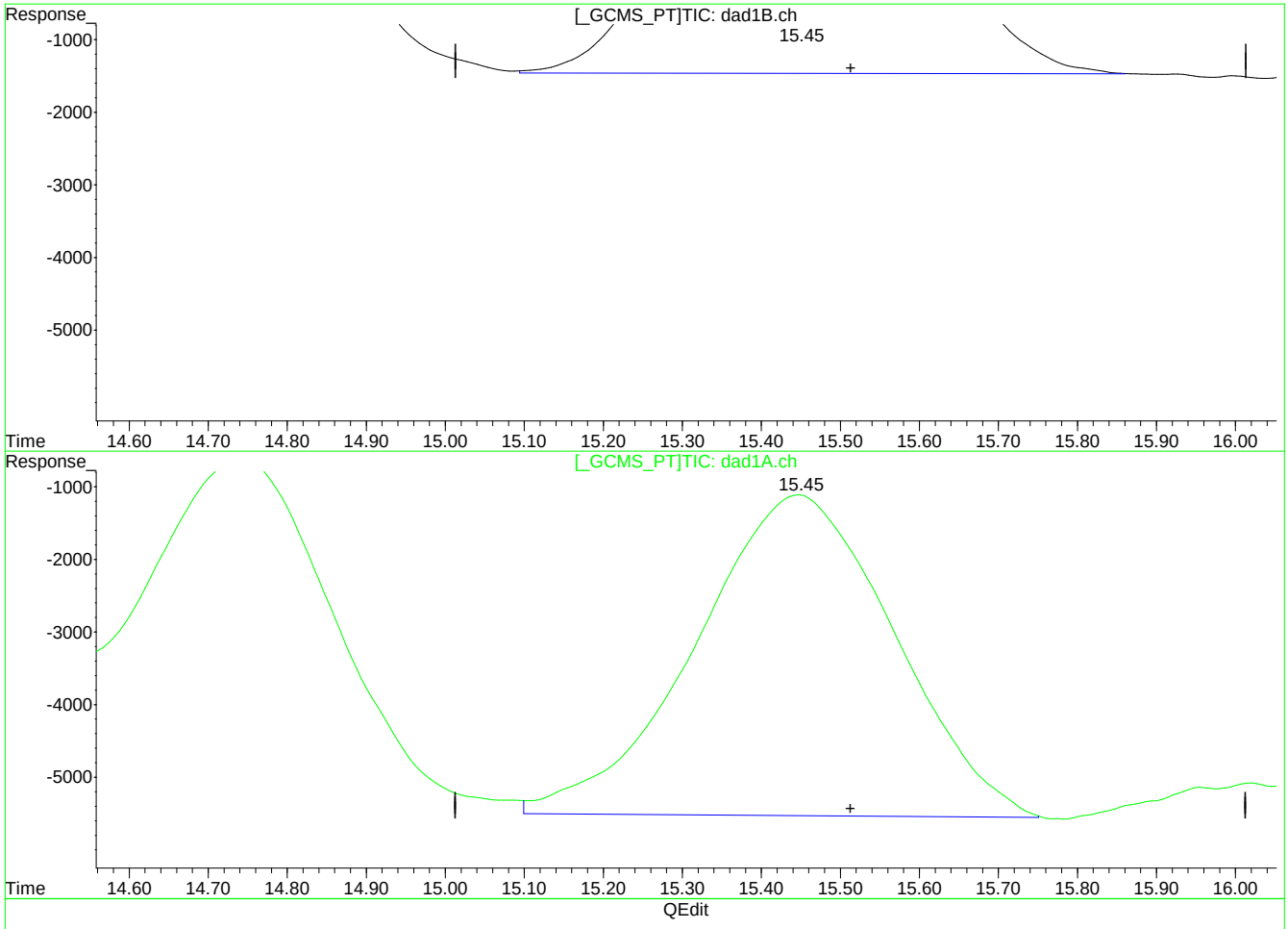
response 856516

(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:00:51 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(14) 2,4-Dinitrotoluene

15.45min 99.080ppb m

response 1106307

(14) 2,4-Dinitrotoluene #2

15.45min 98.257ppb m

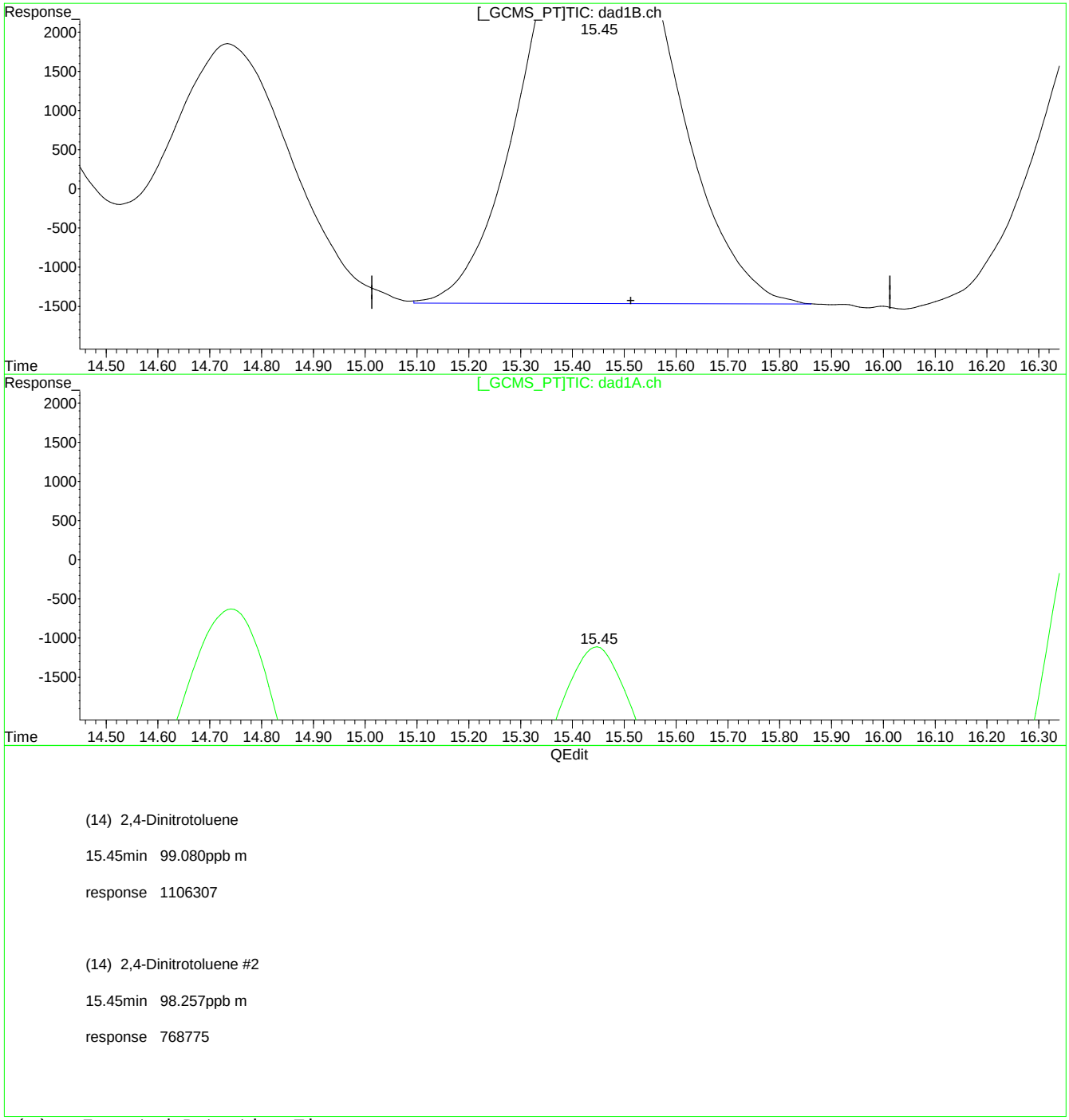
response 768775

(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:01:01 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(14) 2,4-Dinitrotoluene

15.45min 99.080ppb m

response 1106307

(14) 2,4-Dinitrotoluene #2

15.45min 98.257ppb m

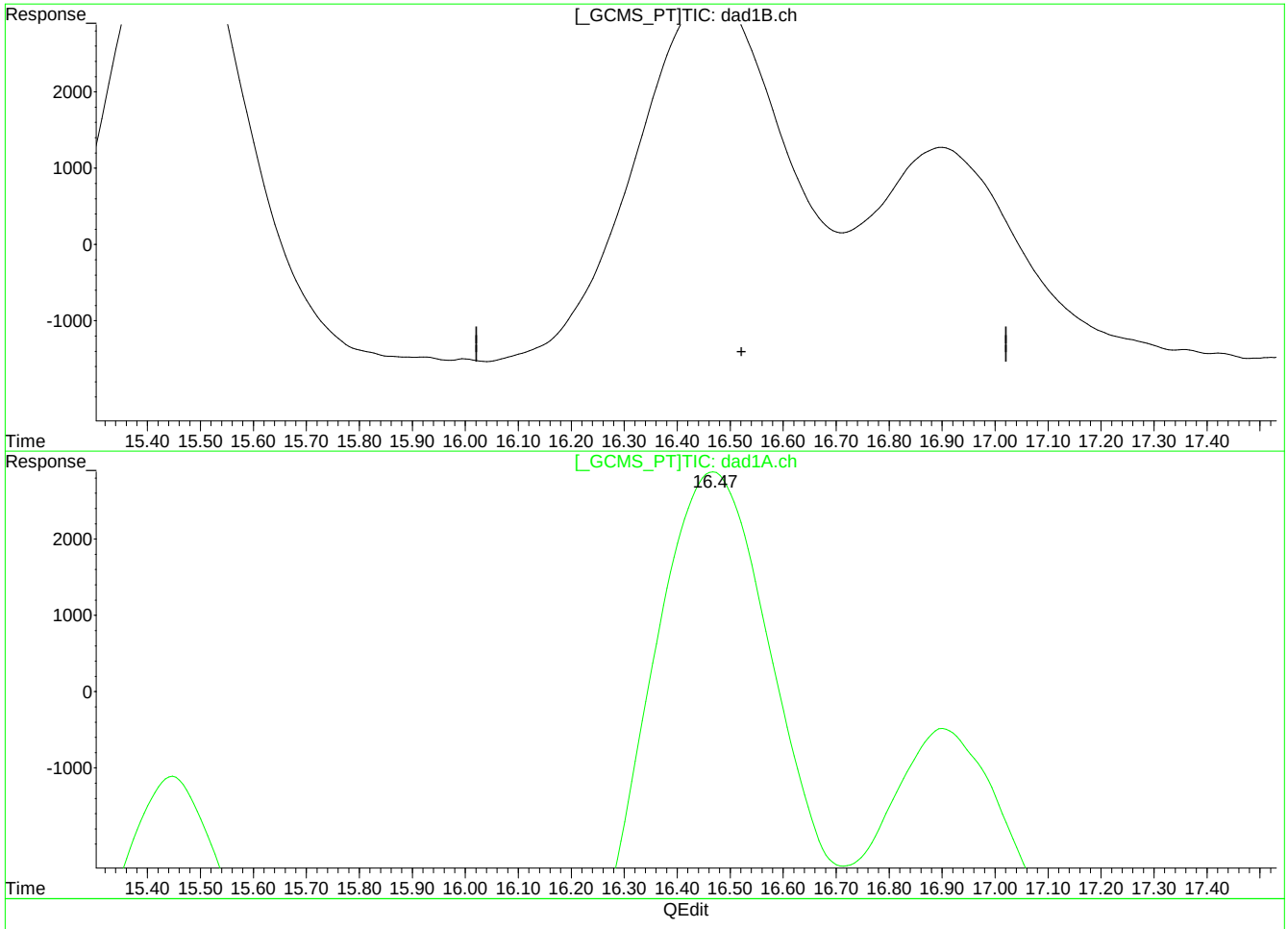
response 768775

(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:01:05 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(15) 3,5-Dinitroaniline

0.00min 0.000ppb

response 0

(15) 3,5-Dinitroaniline #2

16.47min 55.562ppb

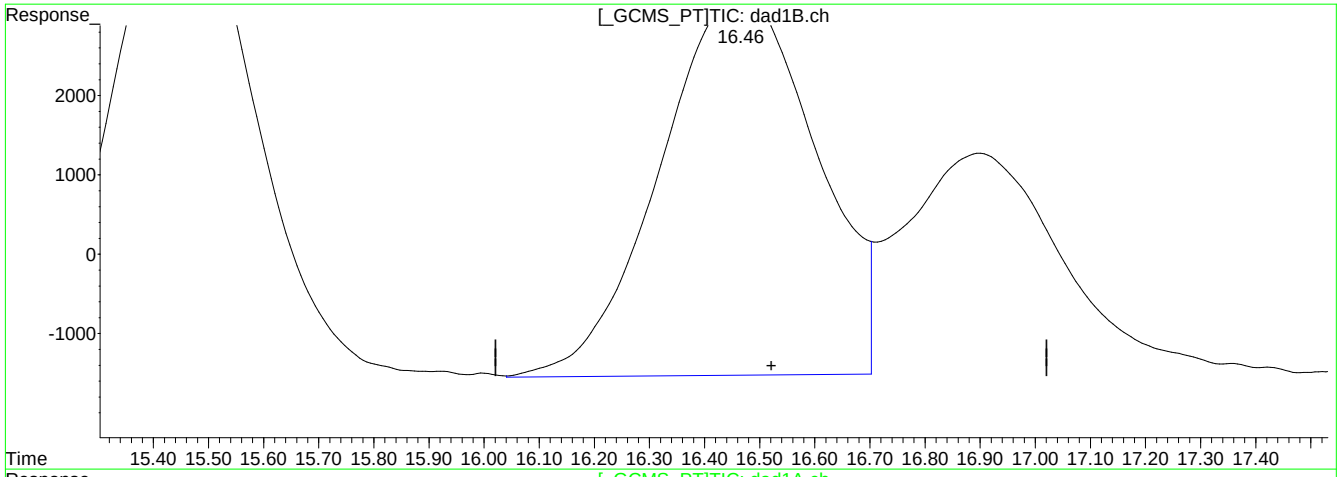
response 929562

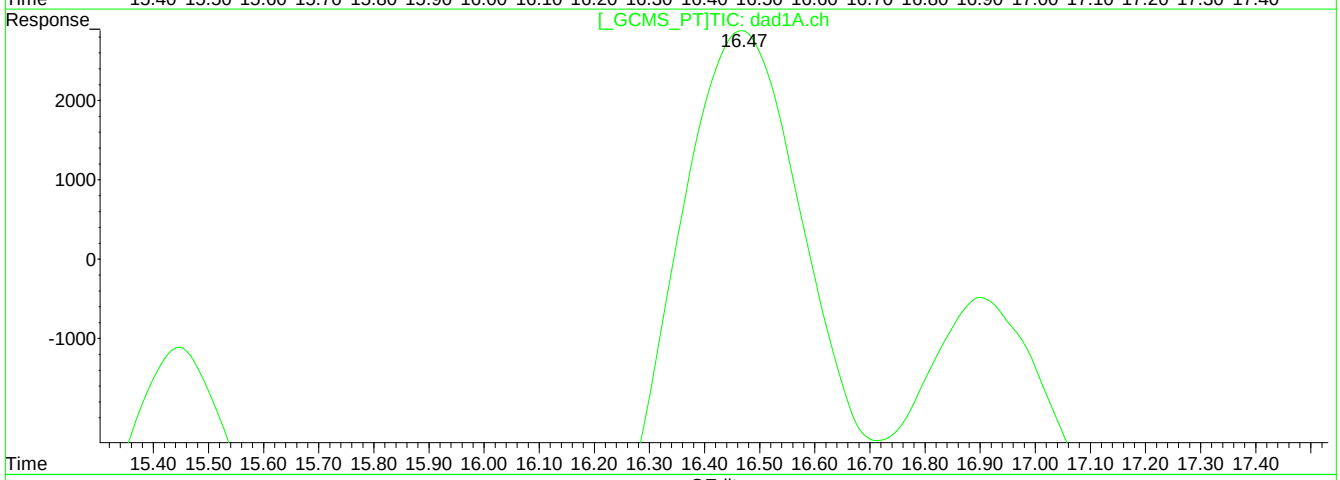
(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:01:08 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(15) 3,5-Dinitroaniline

16.46min 103.175ppb m

response 941964

(15) 3,5-Dinitroaniline #2

16.47min 55.562ppb

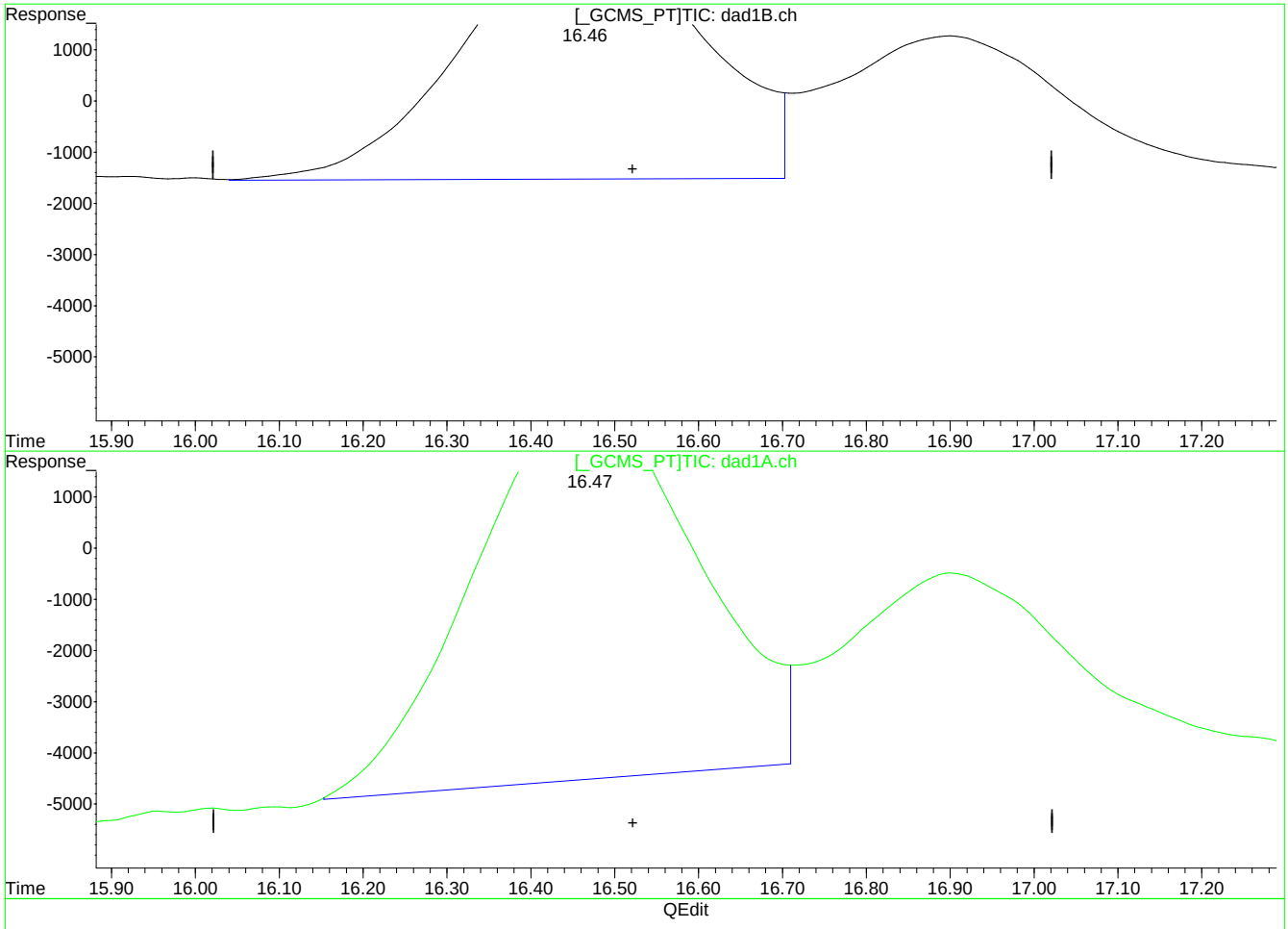
response 929562

(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:01:18 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(15) 3,5-Dinitroaniline

16.46min 103.175ppb m

response 941964

(15) 3,5-Dinitroaniline #2

16.47min 80.617ppb m

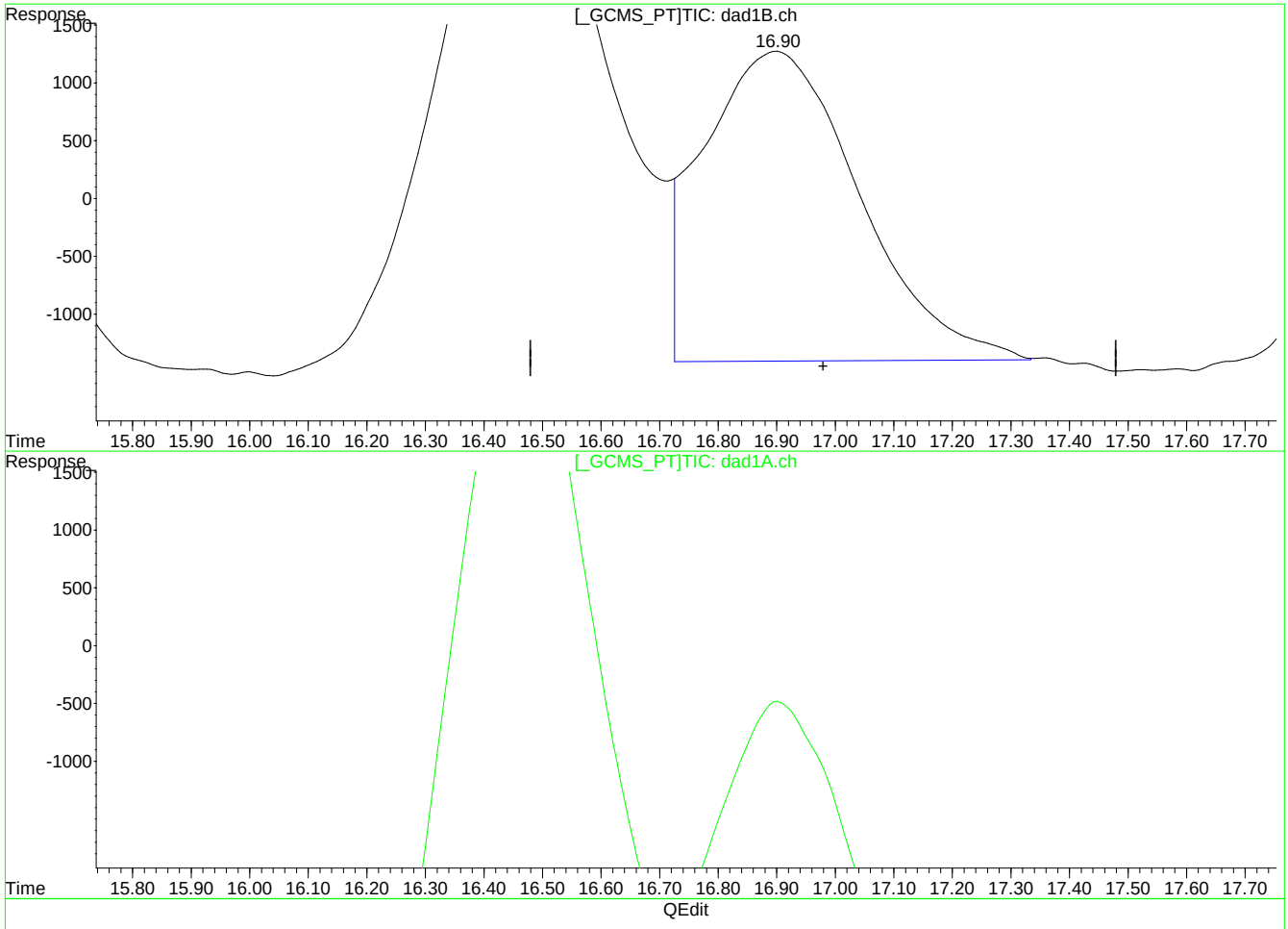
response 1348739

(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:01:24 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(16) o-Nitrotoluene

16.90min 108.747ppb m

response 493543

(16) o-Nitrotoluene #2

0.00min 0.000ppb

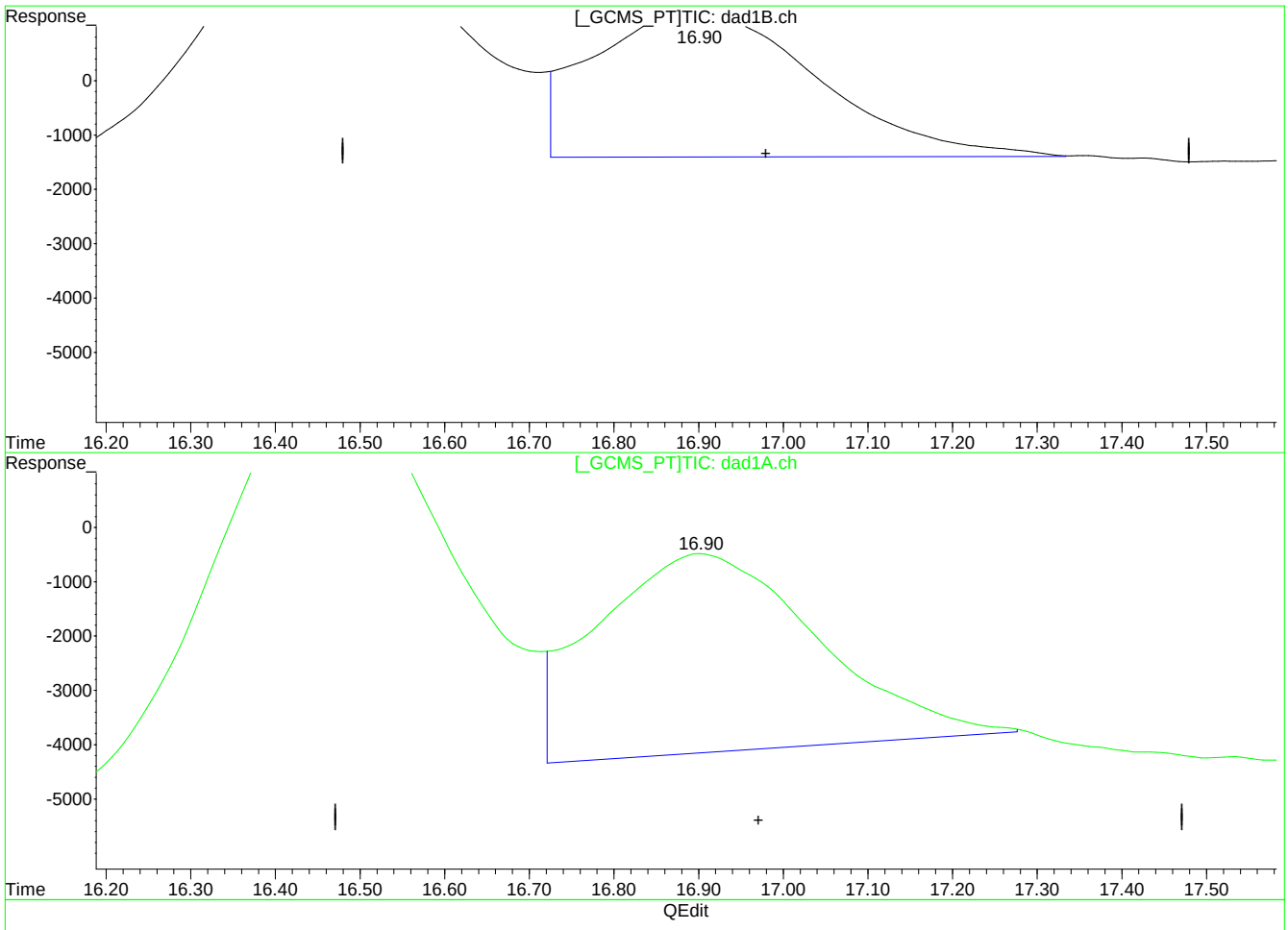
response 0

(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:01:31 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(16) o-Nitrotoluene

16.90min 108.747ppb m

response 493543

(16) o-Nitrotoluene #2

16.90min 95.813ppb m

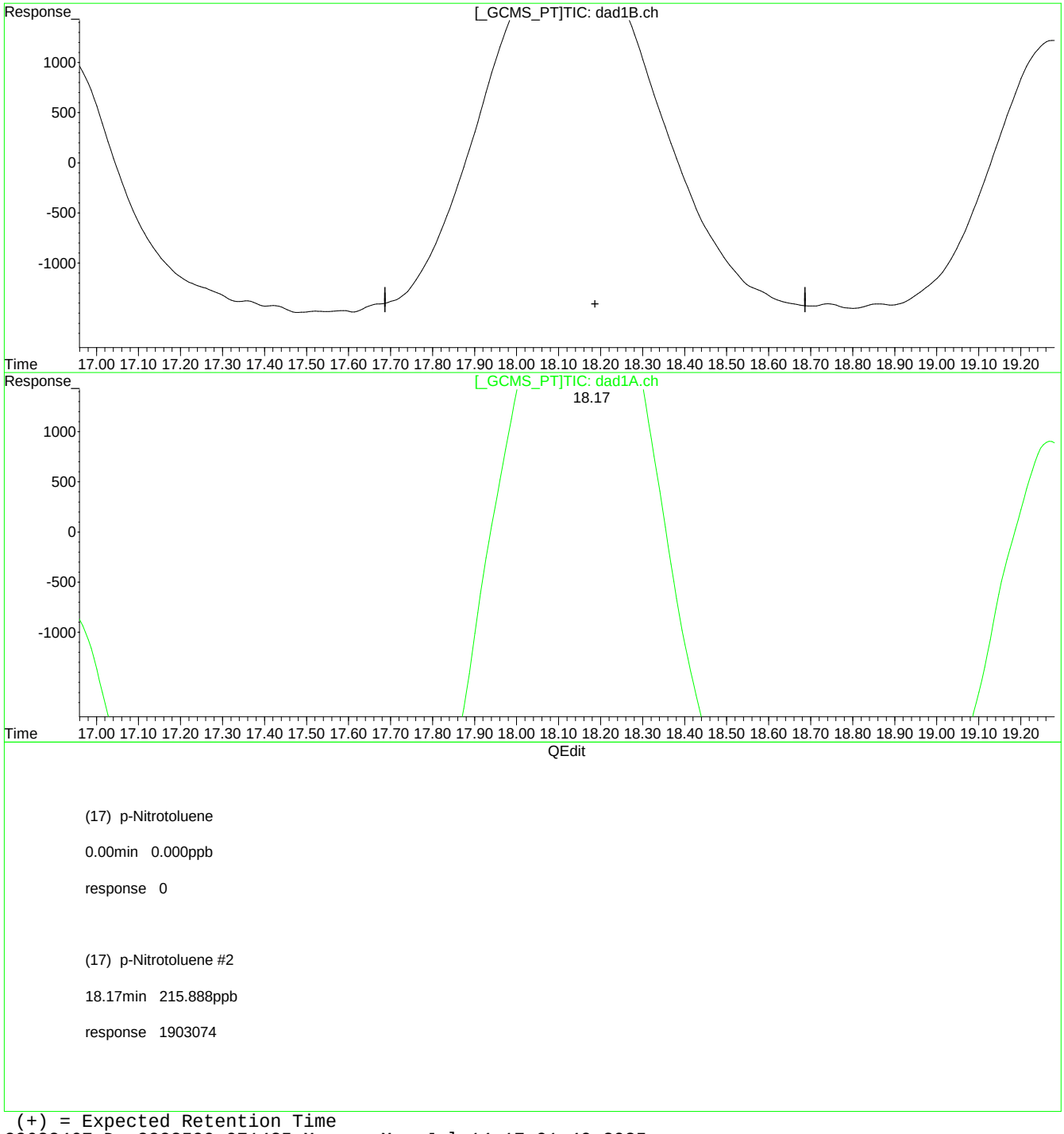
response 663337

(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:01:37 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(17) p-Nitrotoluene

0.00min 0.000ppb

response 0

(17) p-Nitrotoluene #2

18.17min 215.888ppb

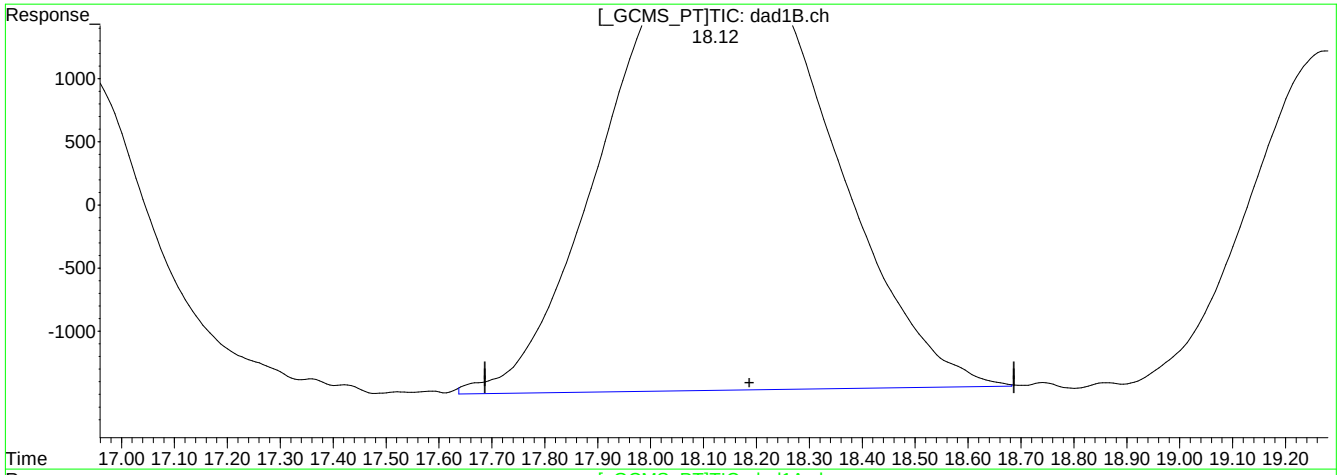
response 1903074

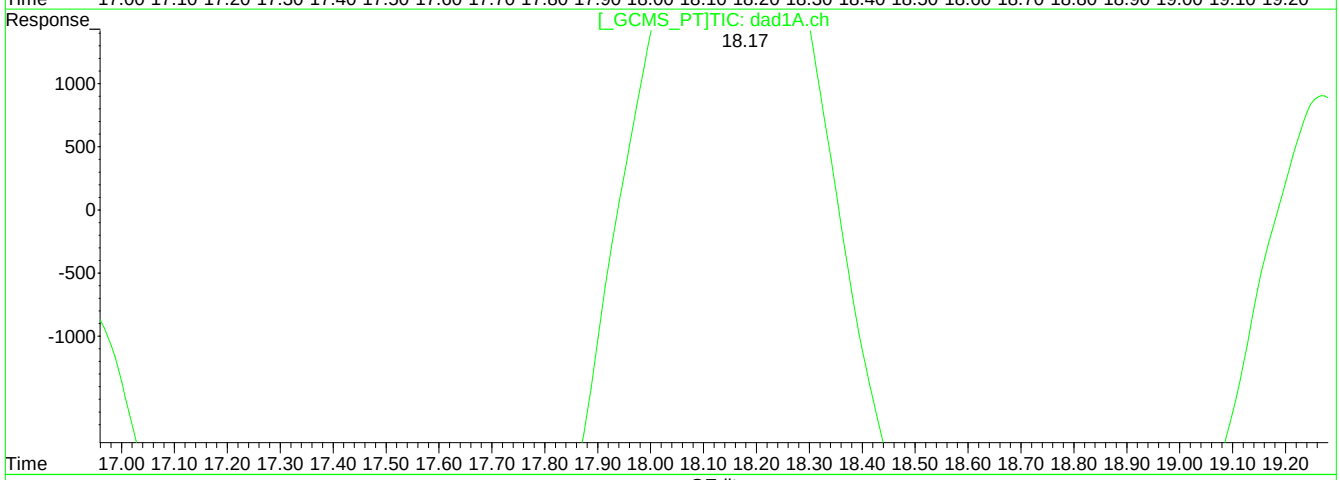
(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:01:40 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(17) p-Nitrotoluene

18.12min 207.325ppb m

response 1024123

(17) p-Nitrotoluene #2

18.17min 215.888ppb

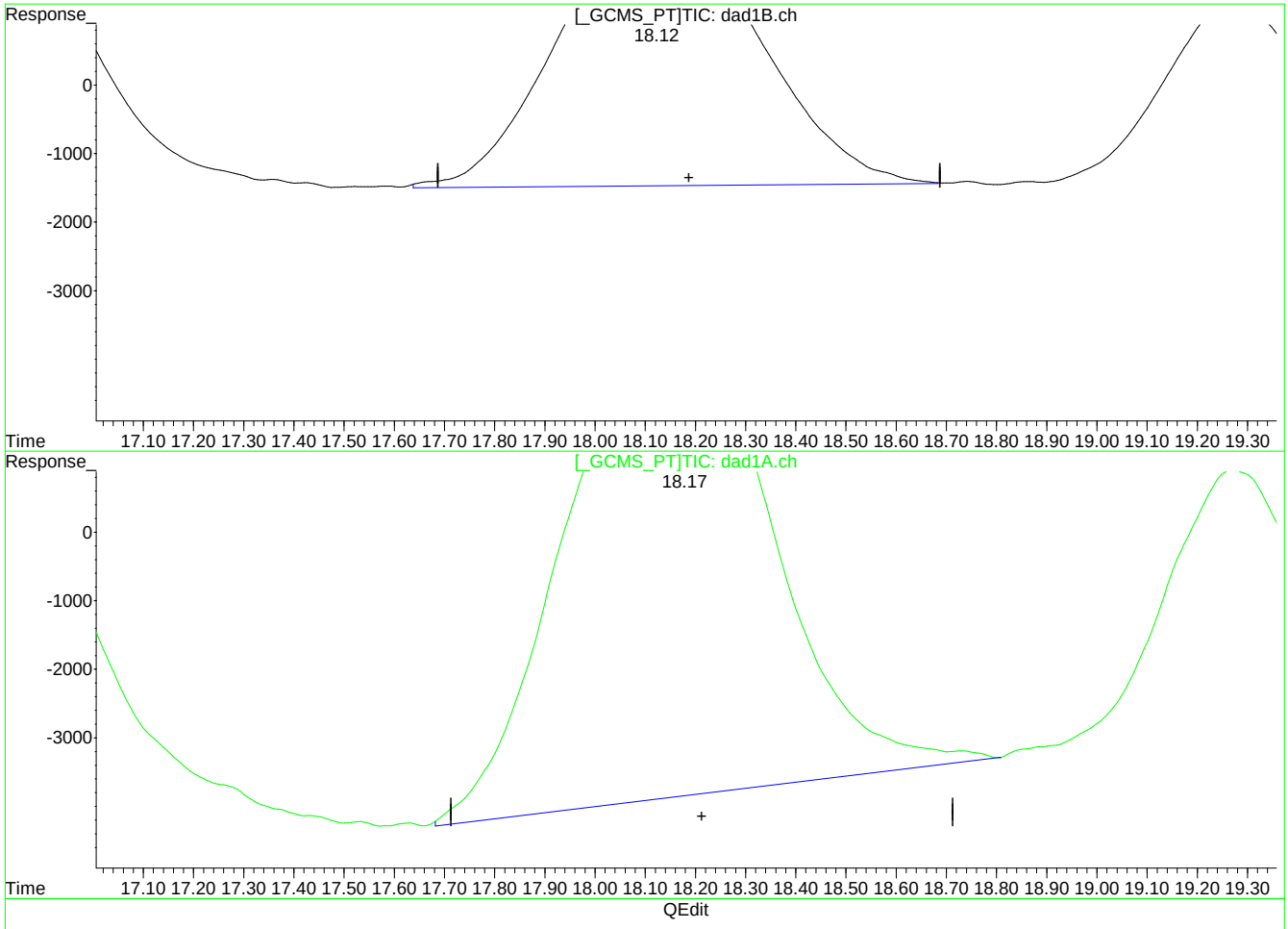
response 1903074

(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:01:44 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(17) p-Nitrotoluene

18.12min 207.325ppb m

response 1024123

(17) p-Nitrotoluene #2

18.17min 223.908ppb m

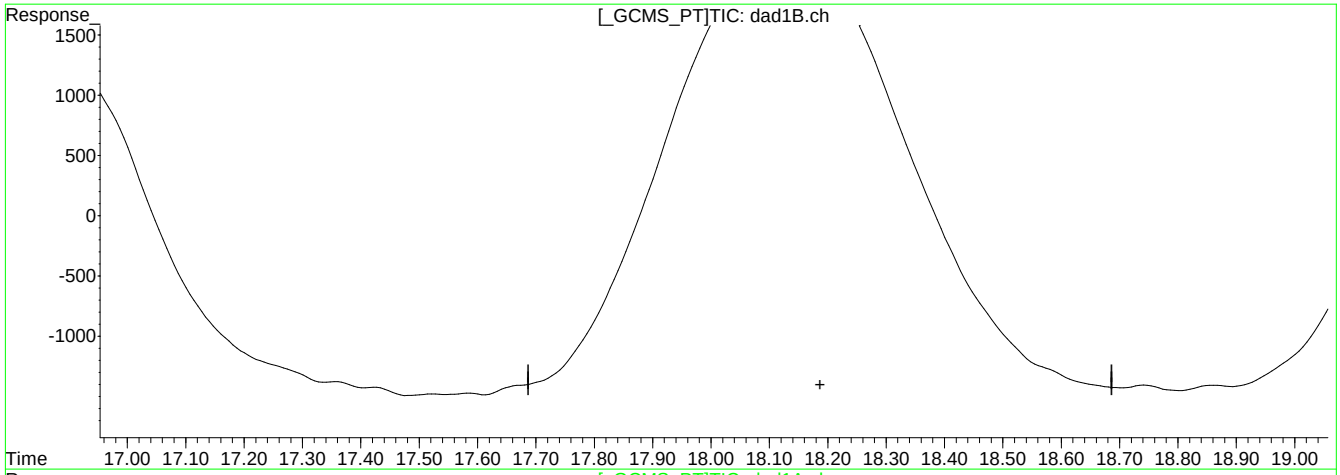
response 1973770

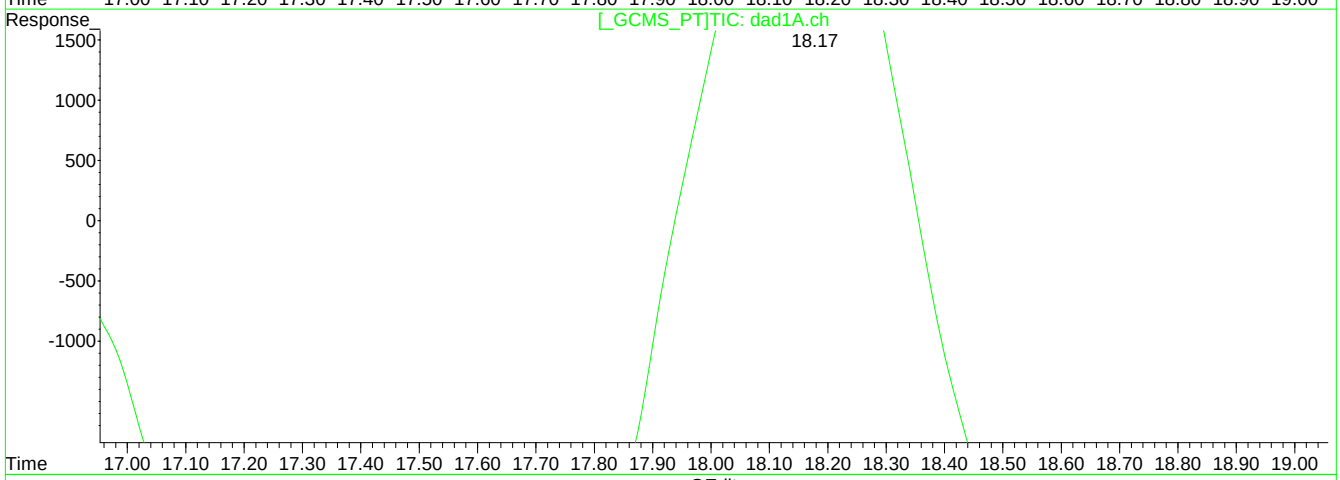
(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:01:50 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(18) 4-Amino-2,6-Dinitrotoluene

0.00min 0.000ppb

response 0

(18) 4-Amino-2,6-Dinitrotoluene #2

18.17min 215.884ppb

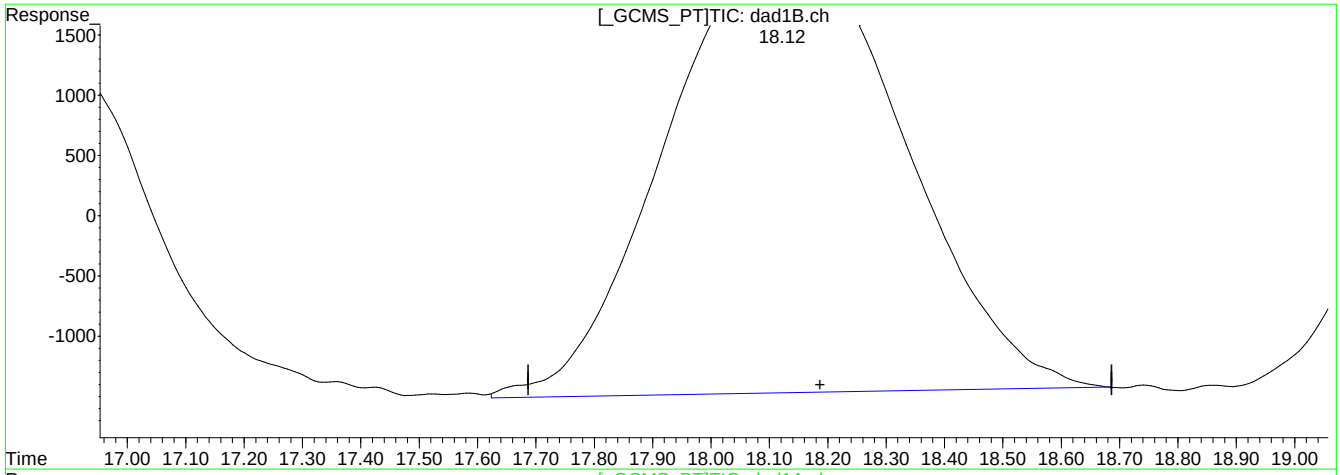
response 1903074

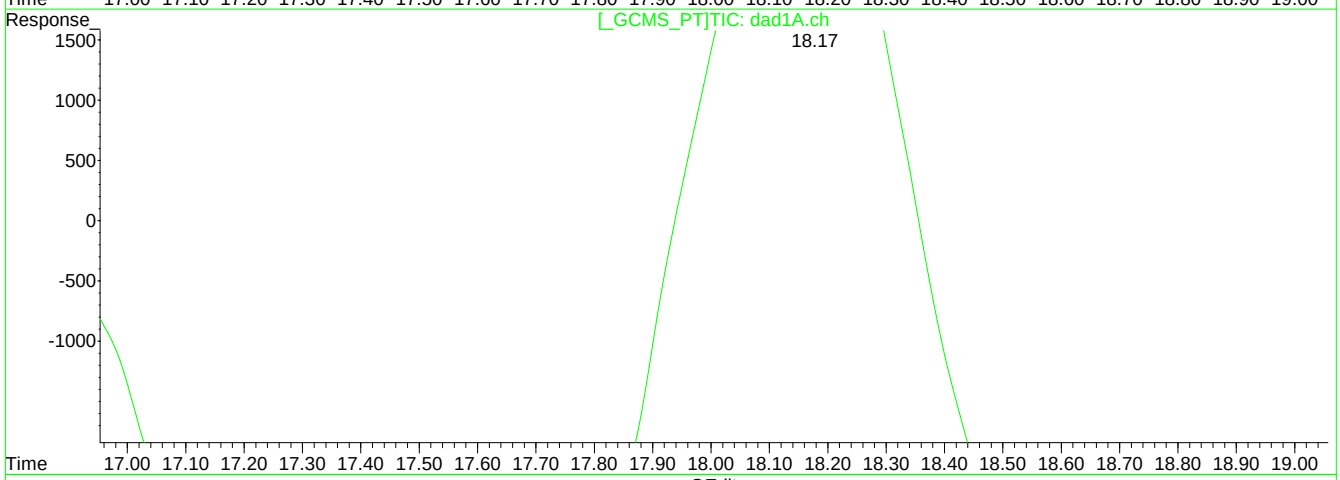
(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:01:55 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(18) 4-Amino-2,6-Dinitrotoluene

18.12min 210.516ppb m

response 1025508

(18) 4-Amino-2,6-Dinitrotoluene #2

18.17min 215.884ppb

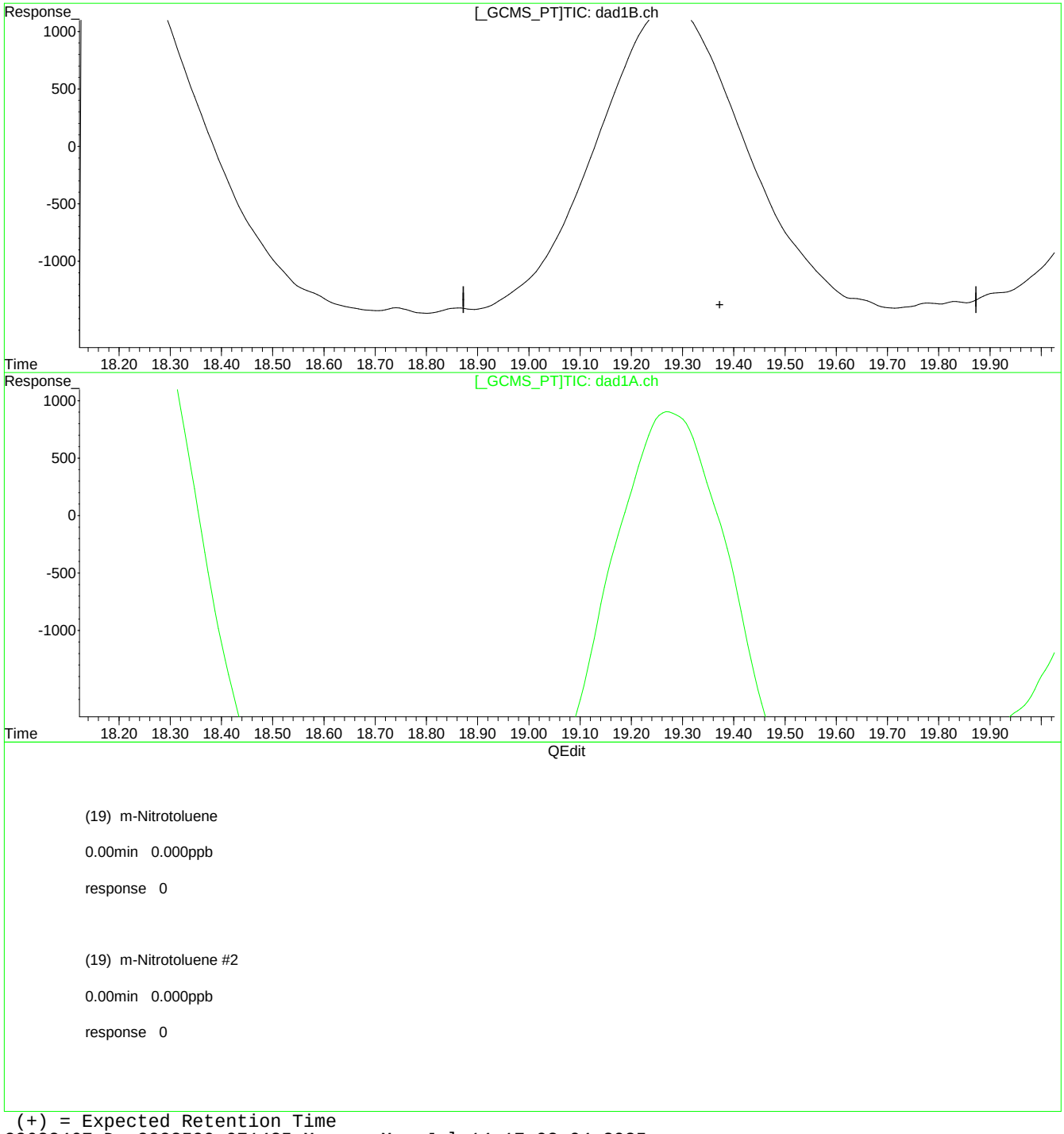
response 1903074

(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:01:59 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

0.00min 0.000ppb

response 0

(19) m-Nitrotoluene #2

0.00min 0.000ppb

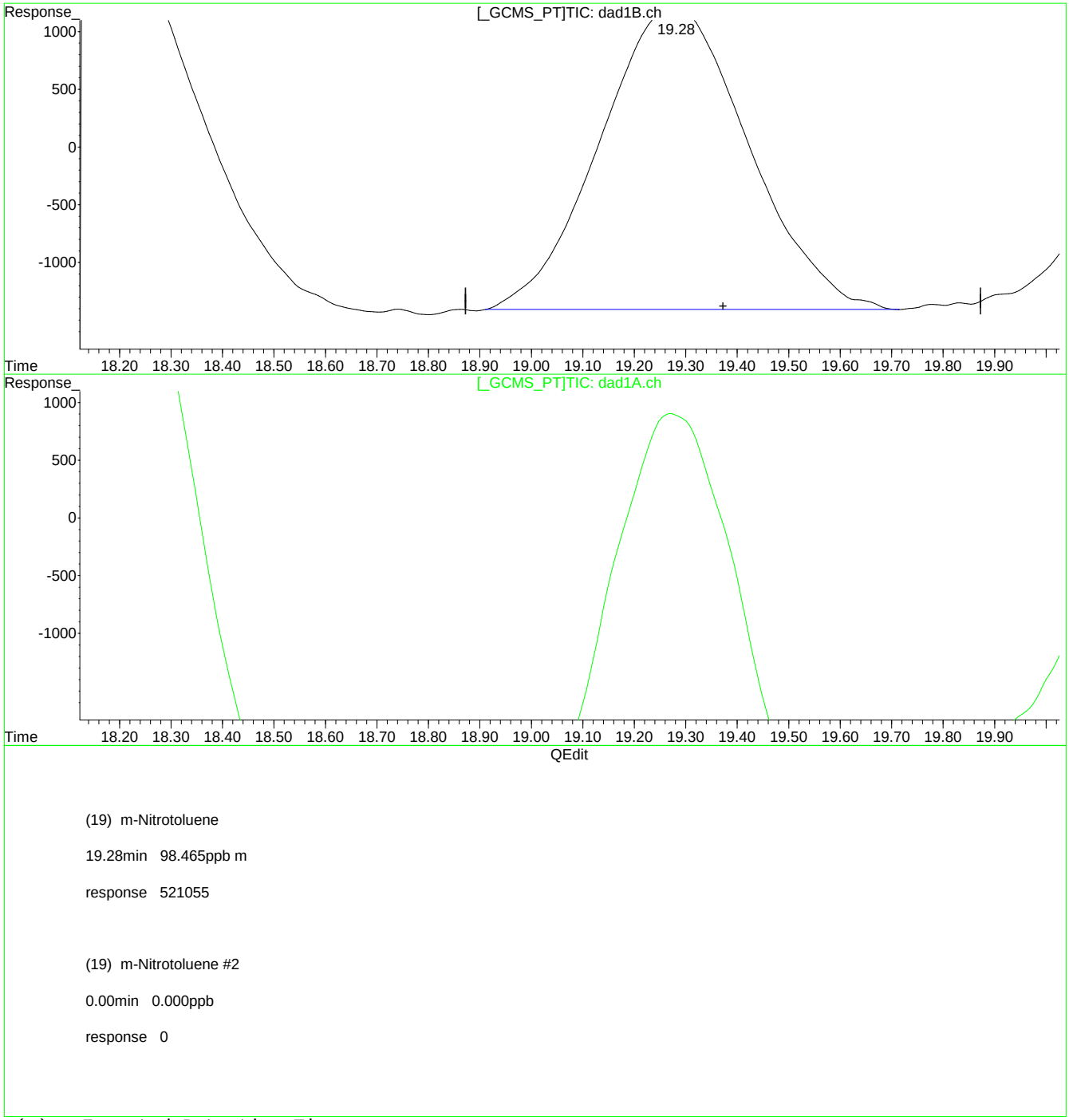
response 0

(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:02:04 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(19) m-Nitrotoluene

19.28min 98.465ppb m

response 521055

(19) m-Nitrotoluene #2

0.00min 0.000ppb

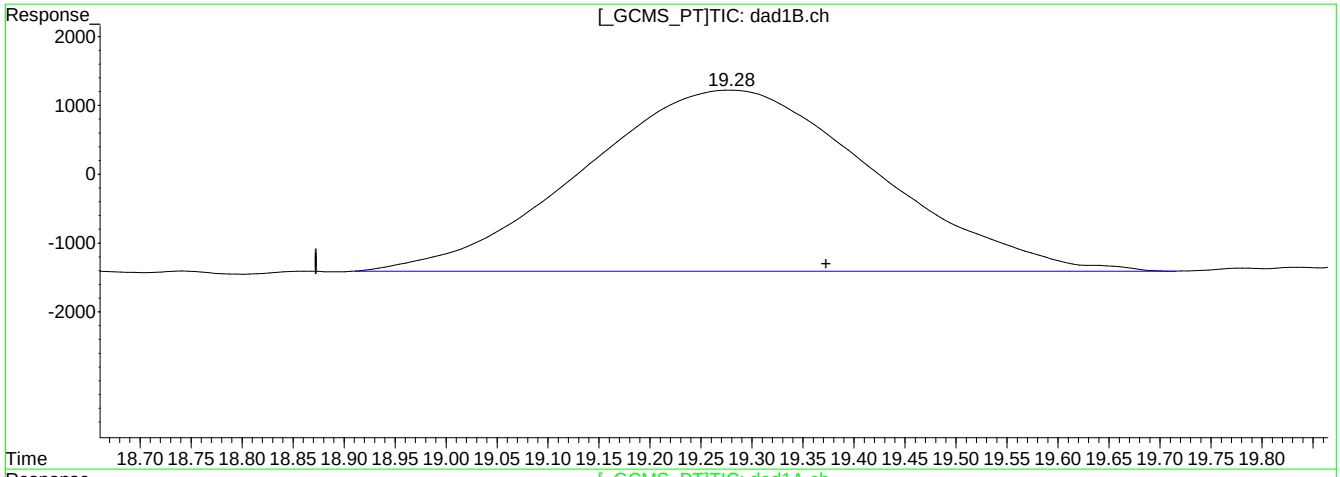
response 0

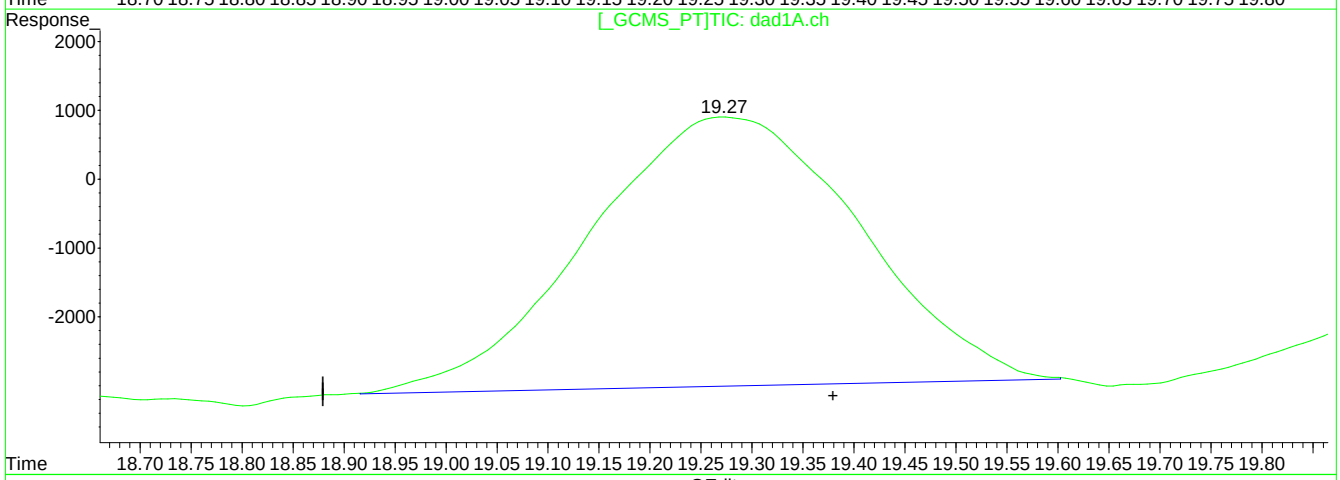
(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:02:08 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(19) m-Nitrotoluene

19.28min 98.465ppb m

response 521055

(19) m-Nitrotoluene #2

19.27min 81.121ppb m

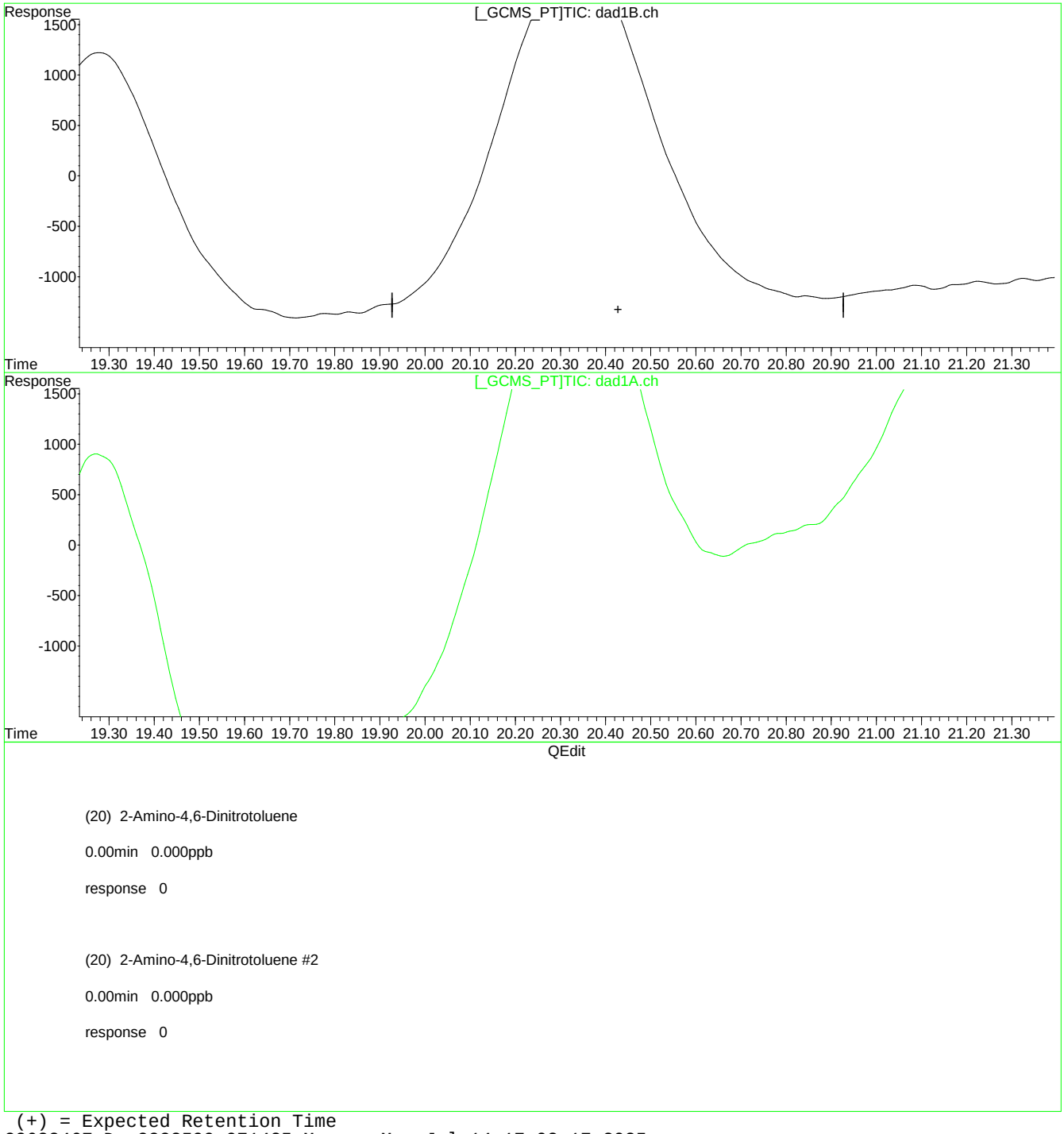
response 718349

(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:02:14 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

0.00min 0.000ppb

response 0

(20) 2-Amino-4,6-Dinitrotoluene #2

0.00min 0.000ppb

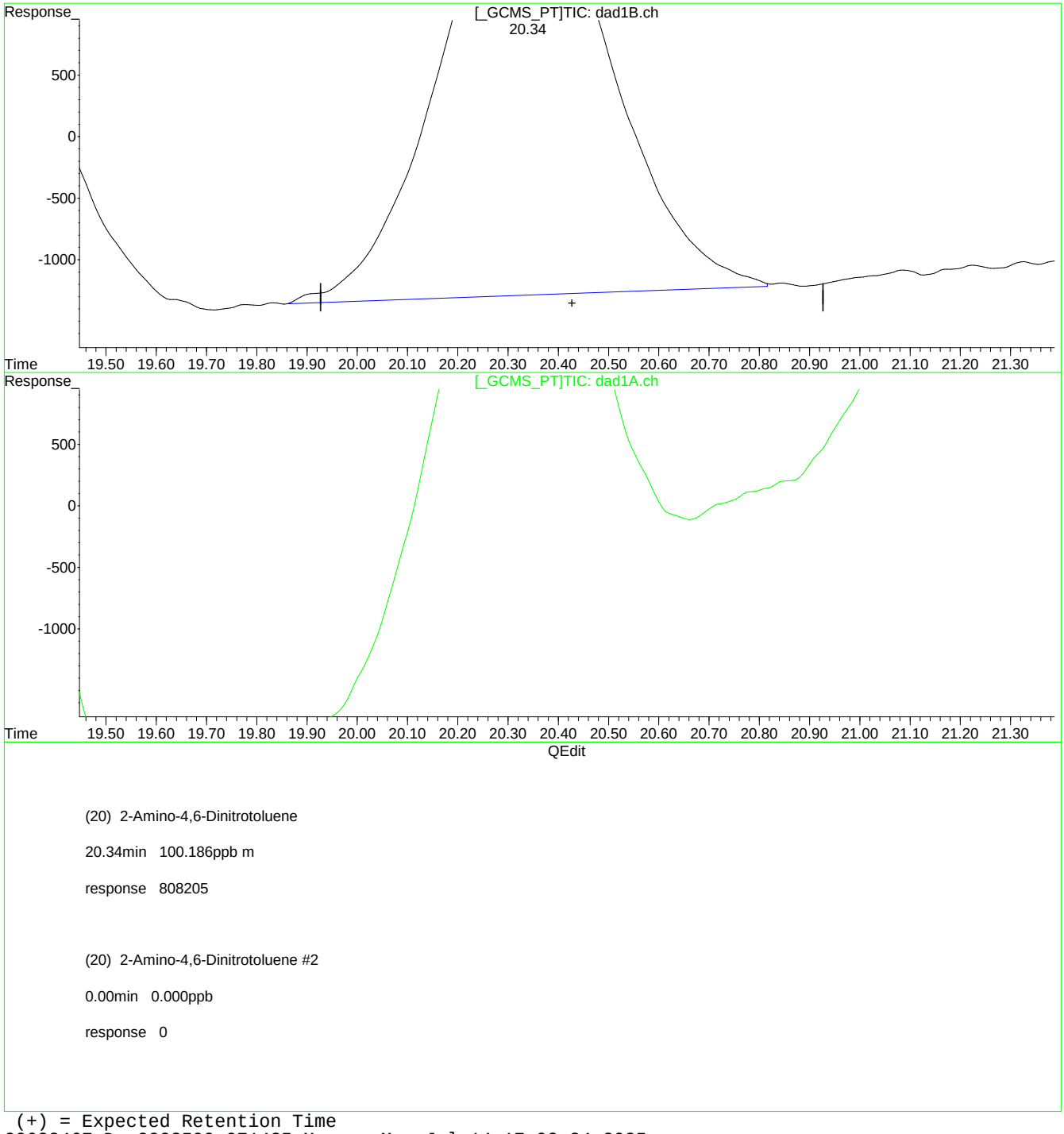
response 0

(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:02:17 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

20.34min 100.186ppb m

response 808205

(20) 2-Amino-4,6-Dinitrotoluene #2

0.00min 0.000ppb

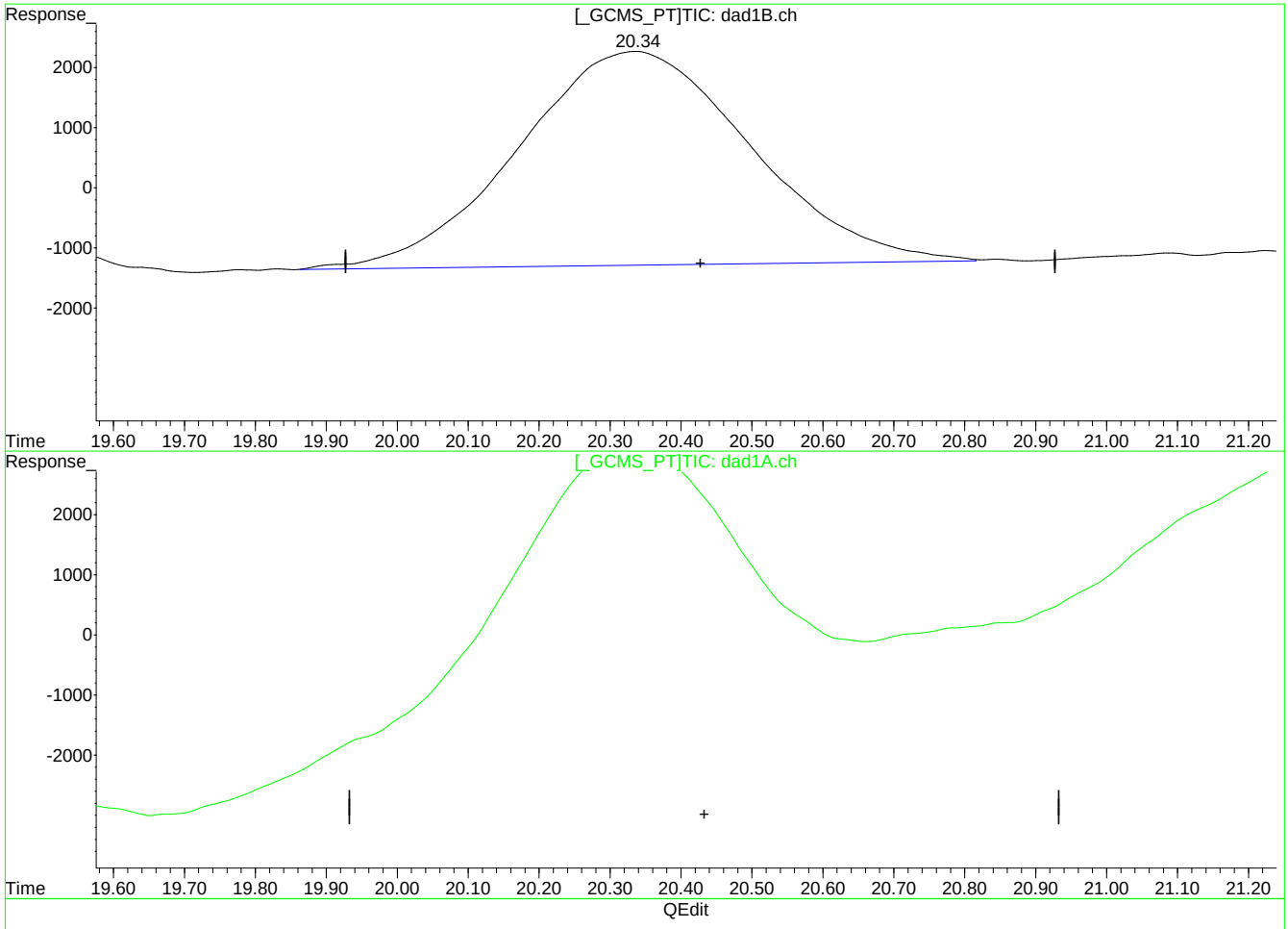
response 0

(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:02:24 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

20.34min 100.186ppb m

response 808205

(20) 2-Amino-4,6-Dinitrotoluene #2

0.00min 0.000ppb

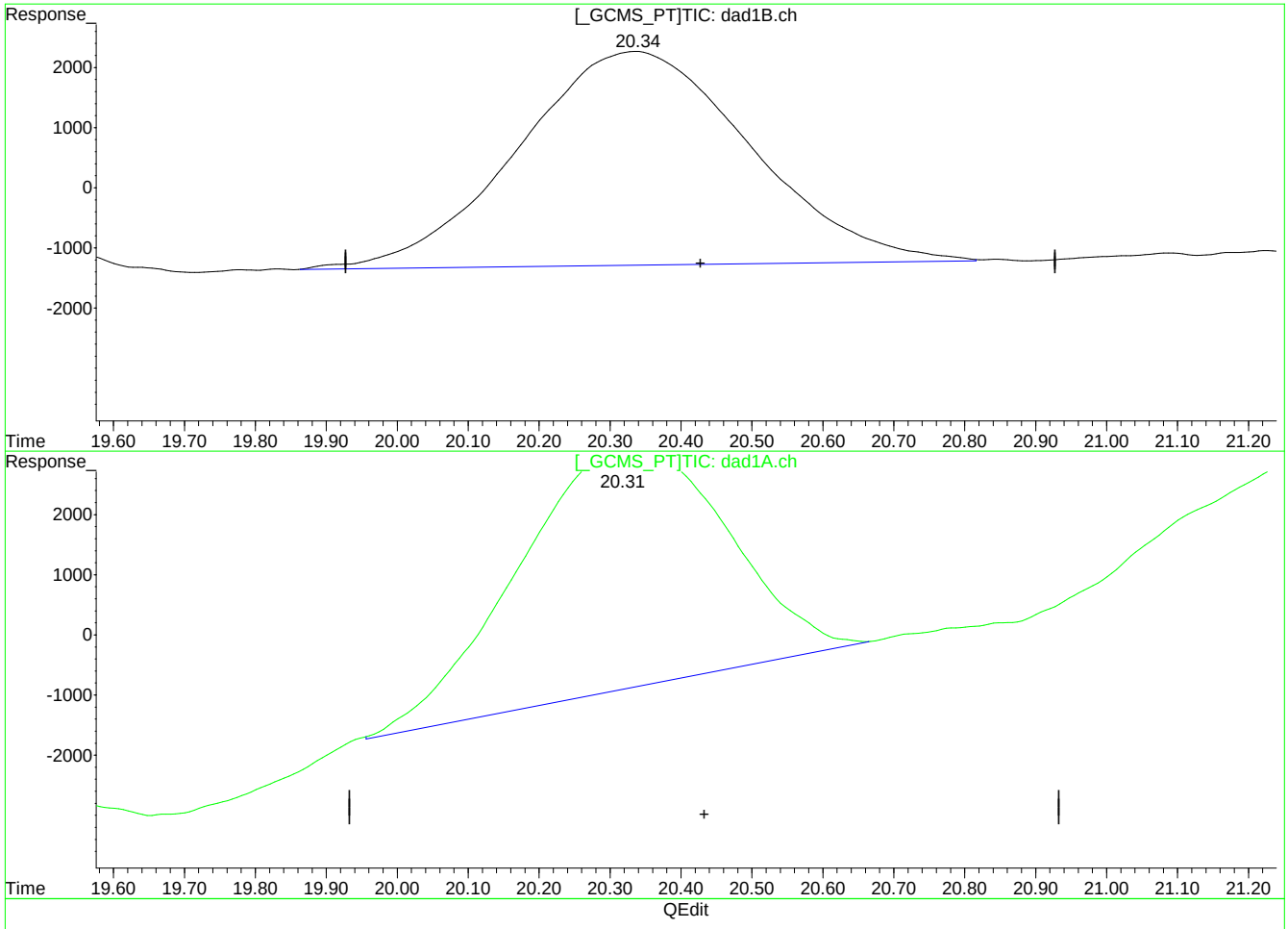
response 0

(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:02:28 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(20) 2-Amino-4,6-Dinitrotoluene

20.34min 100.186ppb m

response 808205

(20) 2-Amino-4,6-Dinitrotoluene #2

20.31min 72.598ppb m

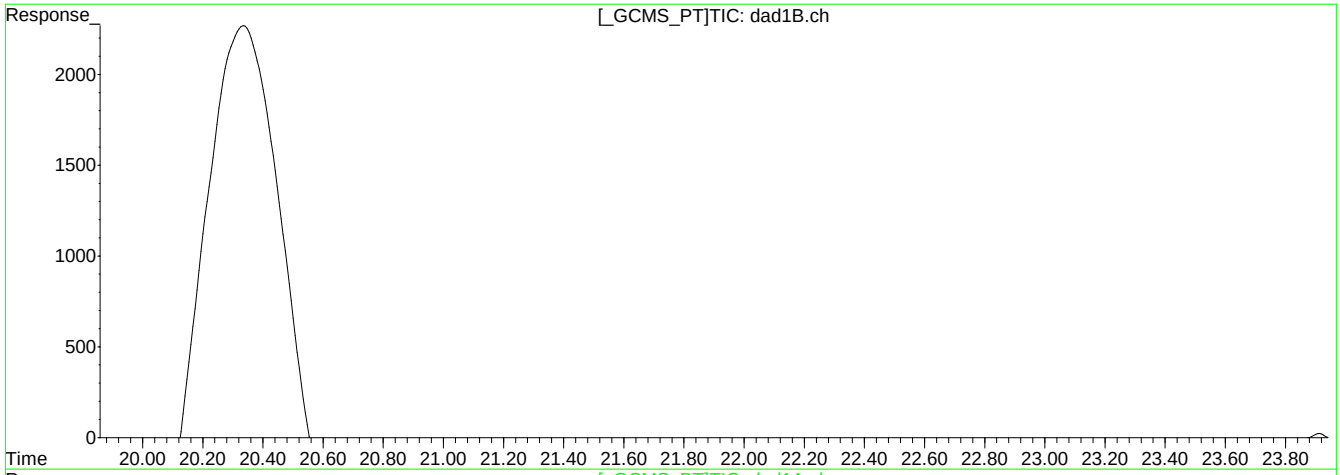
response 826622

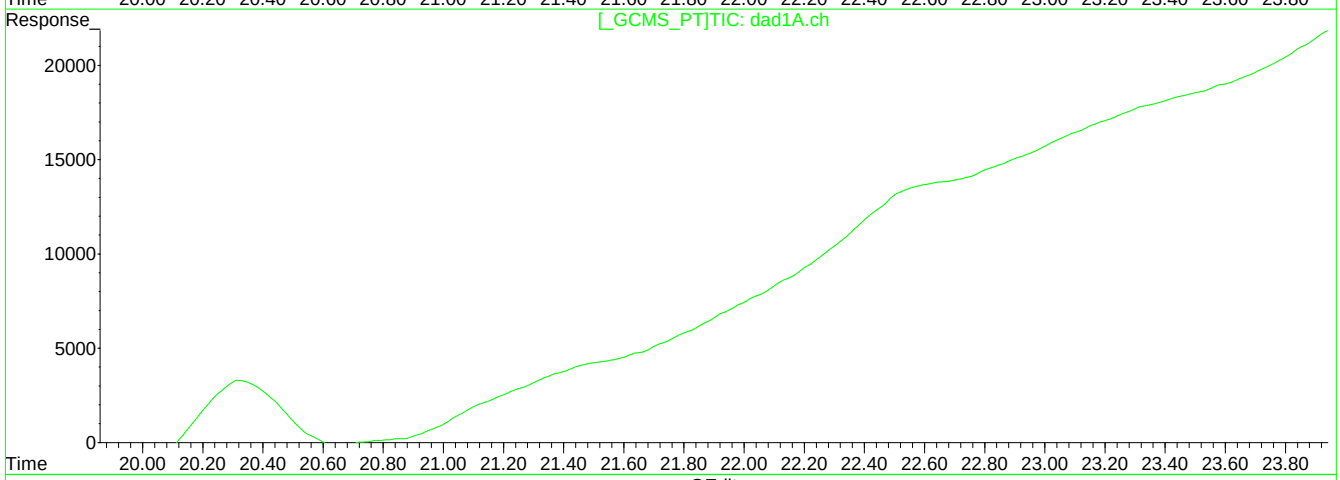
(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:02:33 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

0.00min 0.000ppb

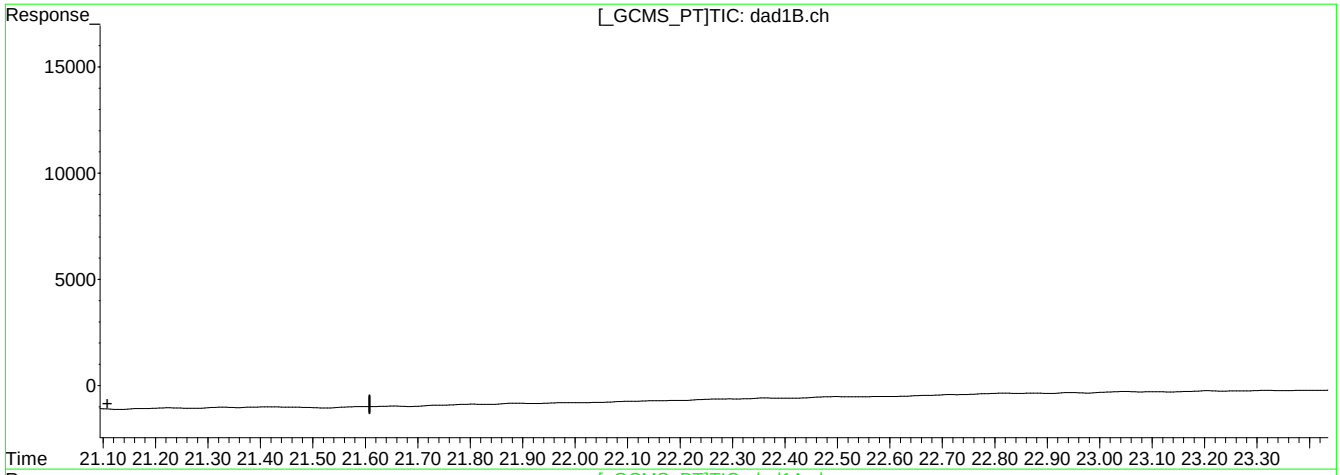
response 0

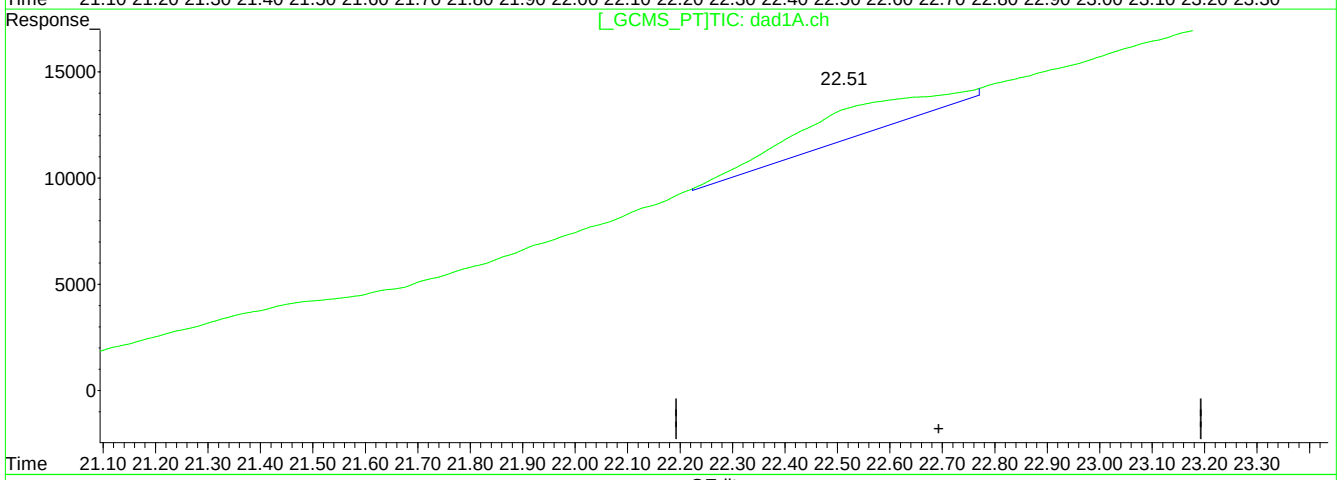
(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:02:37 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1B.ch Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632467.D\dad1A.ch
Acq On : 14-Jul-2025, 13:34:02 Operator: fouads
Sample : ic3599-100 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

22.51min 90.151ppb m

response 269437

(+) = Expected Retention Time
GG632467.D GGG3599_071425.M Mon Jul 14 17:02:46 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan
07/15/25 10:01

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1A.ch
Acq On : 14-Jul-2025, 14:01:33 Operator: fouads
Sample : ic3599-200 Inst : G1315B
Misc : op10213,GGG3599,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49:37 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.40	14.41	951899	1824329	198.279m	183.697
	Spiked Amount 500.000	Range 70 - 136		Recovery =		39.66%#	36.74%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	5.26	5.26	713391	2170857	246.245	749.020m#
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	7.62	7.62	1798664	3646614	209.610m	433.583 #
6)	RDX	7.93	7.93	769563	1368863	188.102m	337.680 #
7)	1,3-Dinitrobenze	9.98	9.98	2431442	2951385	197.627	335.412 #
8)	Nitrobenzene	10.87	10.87	1604925	754214	208.244	102.317m#
9)	2,4,6-Trinitroto	12.02	12.02	1703162	2637526	208.739	232.102
10)	Nitroglycerin	0.00	12.82	0	528758	N.D.	181.241m#
11)	Tetryl	13.49	13.49	1302082	2247233	202.512	203.680
13)	2,6-Dinitrotolue	14.79	14.79	1189396	1561131	220.620m	187.925
14)	2,4-Dinitrotolue	15.52	15.52	2251409	1372654	201.635	175.439
15)	3,5-Dinitroanili	16.52	16.53	1843564	3007418	201.930m	179.760
16)	o-Nitrotoluene	16.97	16.97	983197	1341299	216.637m	193.739
17)	p-Nitrotoluene	18.19	18.21	2028215	3936603	410.596	446.575
18)	4-Amino-2,6-Dini	18.19	18.21	2028215	3936603	416.352	446.567
19)	m-Nitrotoluene	19.37	19.38	1080601	1938787	204.204m	218.941
20)	2-Amino-4,6-Dini	20.43	20.43	1631836	2029982	202.283	178.284
21)	PETN	0.00	22.69	0	568578	N.D.	190.240m#

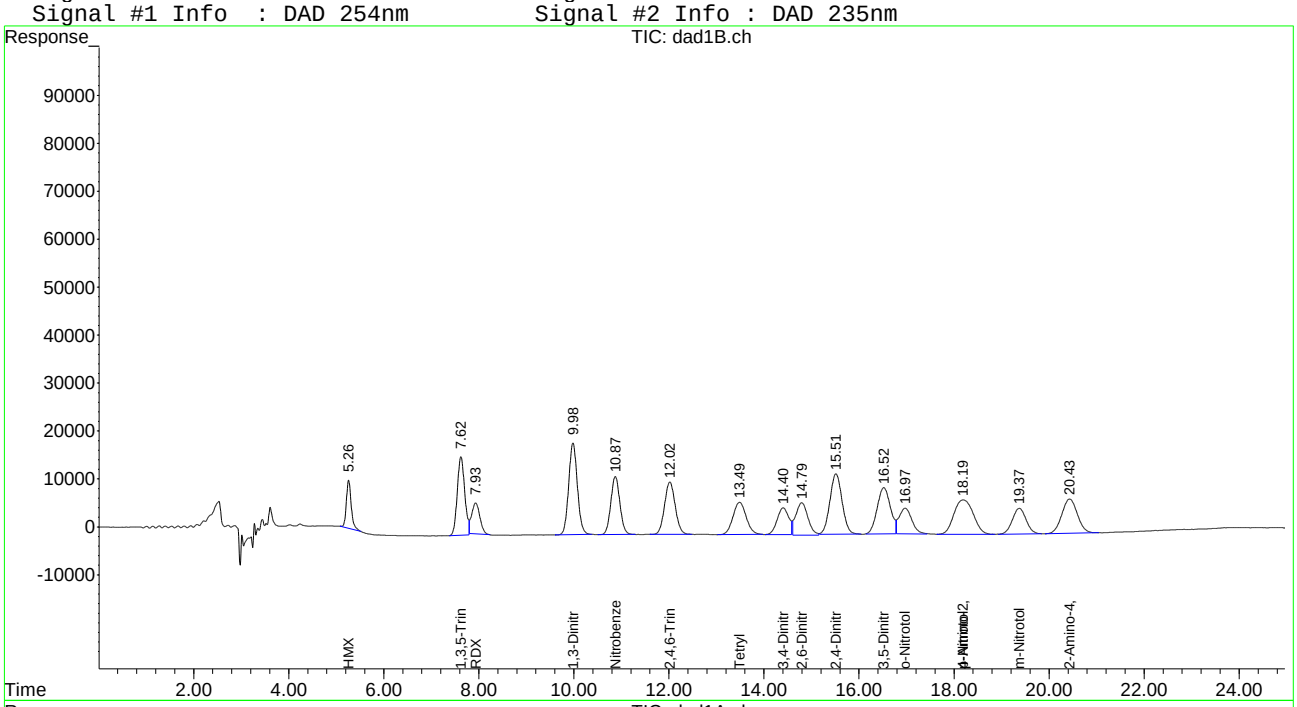
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG632468.D GGG3599_071425.M Mon Jul 14 17:26:34 2025

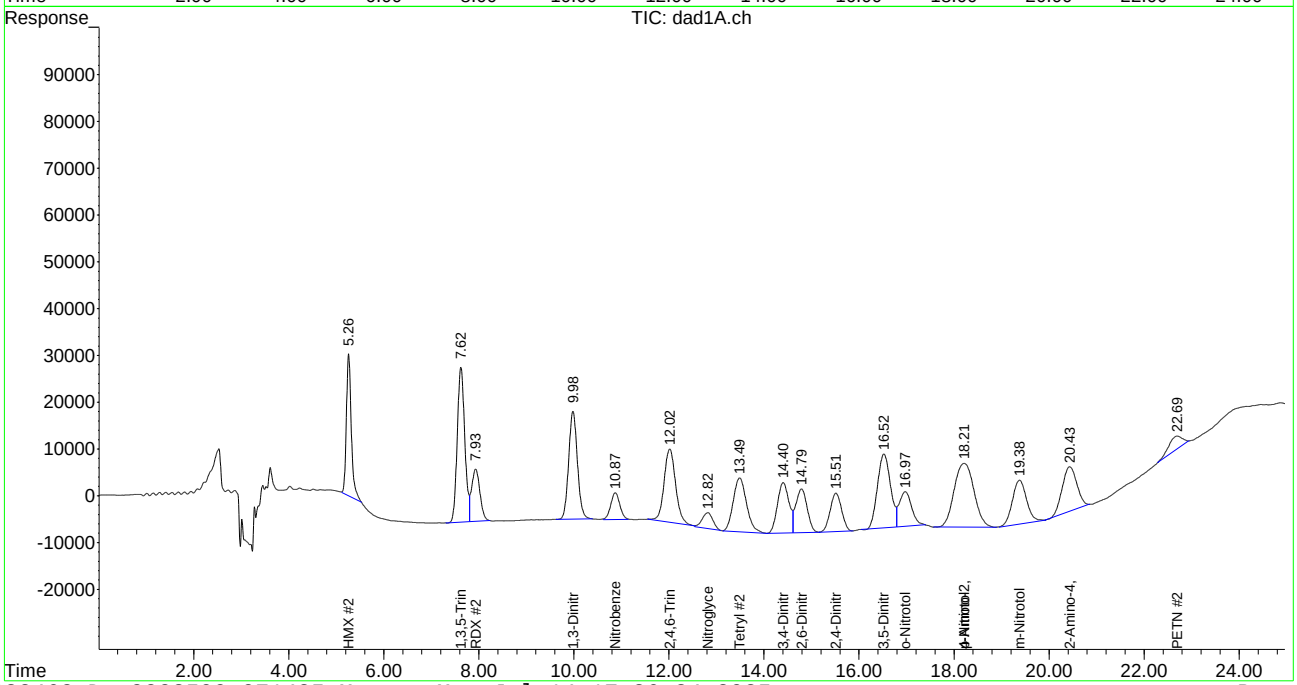
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1A.ch
Acq On : 14-Jul-2025, 14:01:33 Operator: fouads
Sample : ic3599-200 Inst : G1315B
Misc : op10213,GGG3599,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 17:05 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

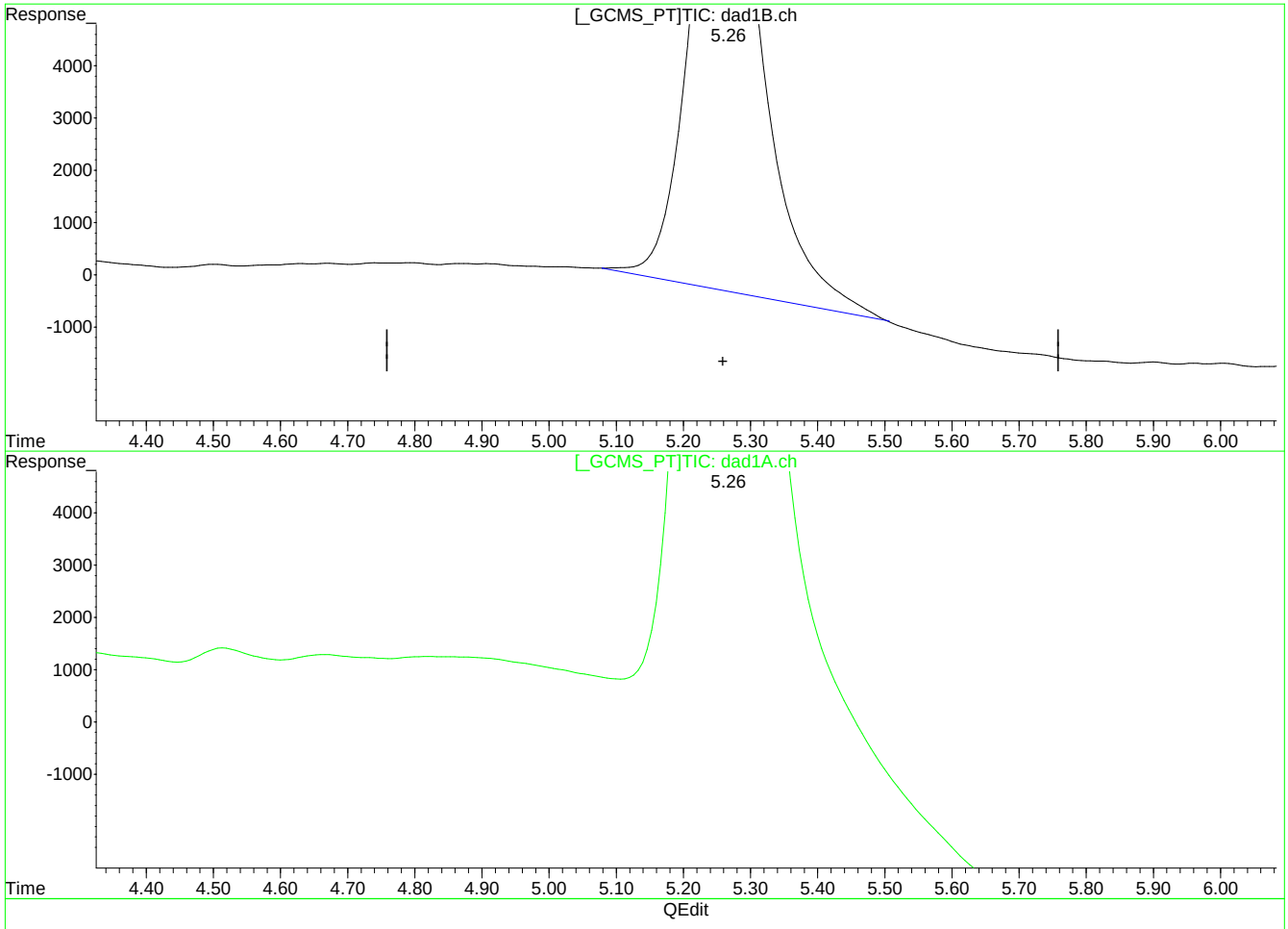
Sample Number: GGG3599-IC3599
Lab FileID: GG632468.D
Injection Time: 07/14/25 14:01
Method: SW846 8330B
Analyst approved: 07/14/25 17:37 William Hustedde
Supervisor approved: 07/15/25 10:01 Naresh Jiawan

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	2	5.26	Missed peak
1,3,5-Trinitrobenzene	99-35-4	1	7.62	Missed peak
RDX	121-82-4	1	7.93	Missed peak
Nitrobenzene	98-95-3	2	10.87	Missed peak
Nitroglycerine	55-63-0	2	12.82	Missed peak
3,4-Dinitrotoluene	610-39-9	1	14.40	Missed peak
2,6-Dinitrotoluene	606-20-2	1	14.79	Missed peak
3,5-Dinitroaniline	618-87-1	1	16.52	Missed peak
o-Nitrotoluene	88-72-2	1	16.97	Missed peak
m-Nitrotoluene	99-08-1	1	19.37	Missed peak
PETN	78-11-5	2	22.69	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1A.ch
Acq On : 14-Jul-2025, 14:01:33 Operator: fouads
Sample : ic3599-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(2) HMX

5.26min 246.245ppb

response 713391

(2) HMX #2

5.26min 845.517ppb

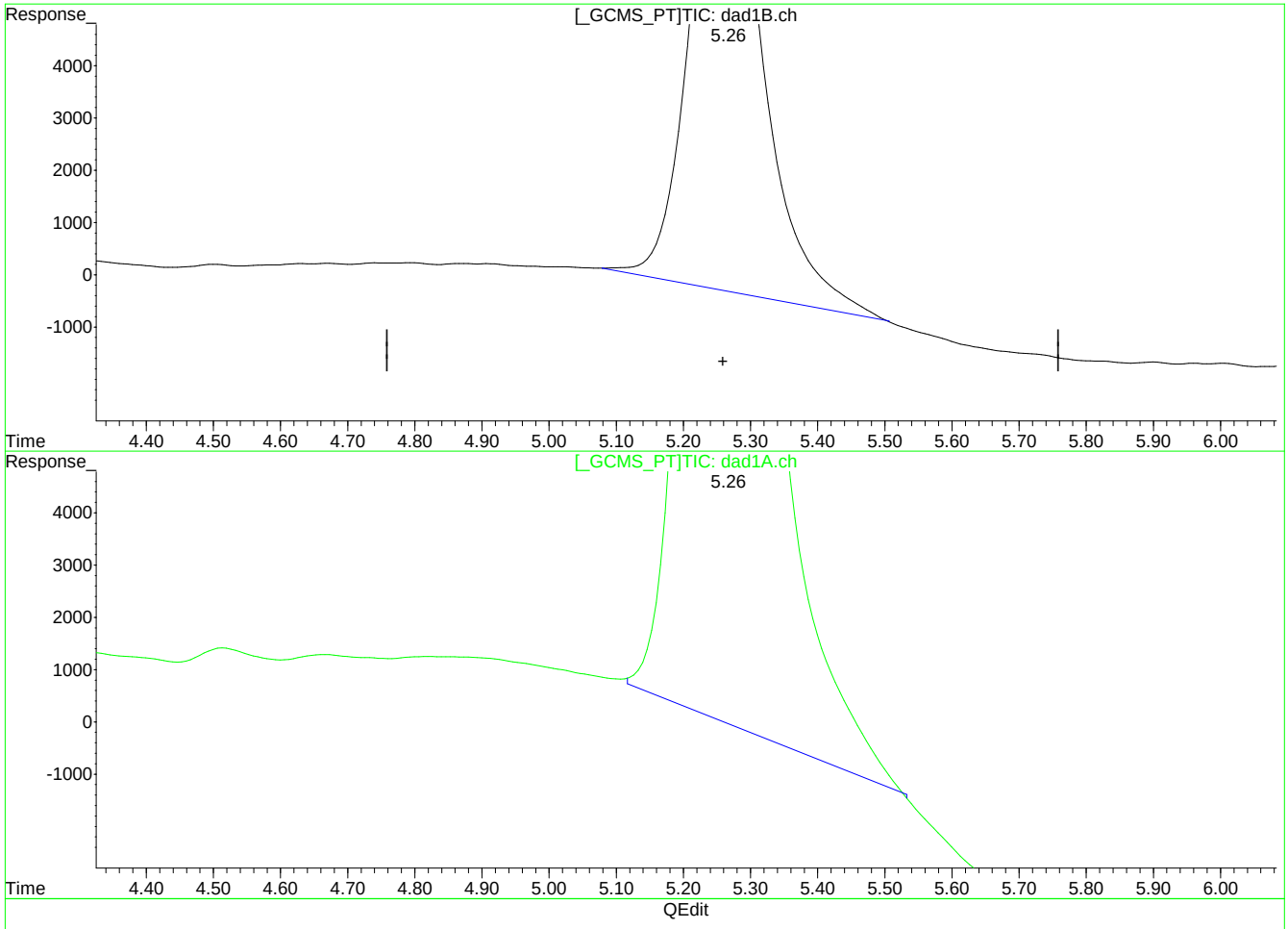
response 2450530

(+) = Expected Retention Time
GG632468.D GGG3599_071425.M Mon Jul 14 17:02:59 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1A.ch
Acq On : 14-Jul-2025, 14:01:33 Operator: fouads
Sample : ic3599-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(2) HMX

5.26min 246.245ppb

response 713391

(2) HMX #2

5.26min 749.020ppb m

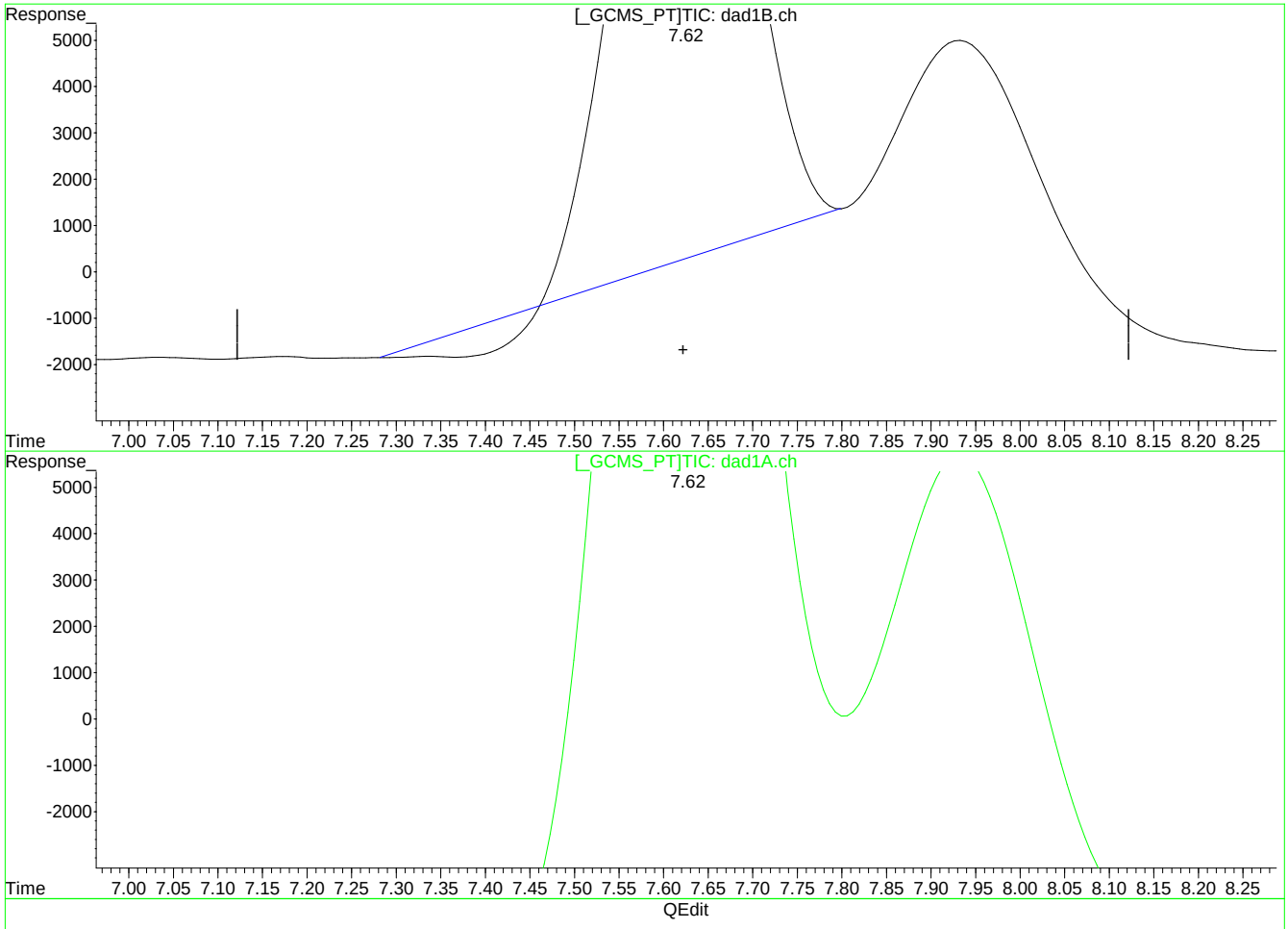
response 2170857

(+) = Expected Retention Time
GG632468.D GGG3599_071425.M Mon Jul 14 17:03:03 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1A.ch
Acq On : 14-Jul-2025, 14:01:33 Operator: fouads
Sample : ic3599-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(5) 1,3,5-Trinitrobenzene

7.62min 153.552ppb

response 1317630

(5) 1,3,5-Trinitrobenzene #2

7.62min 433.583ppb

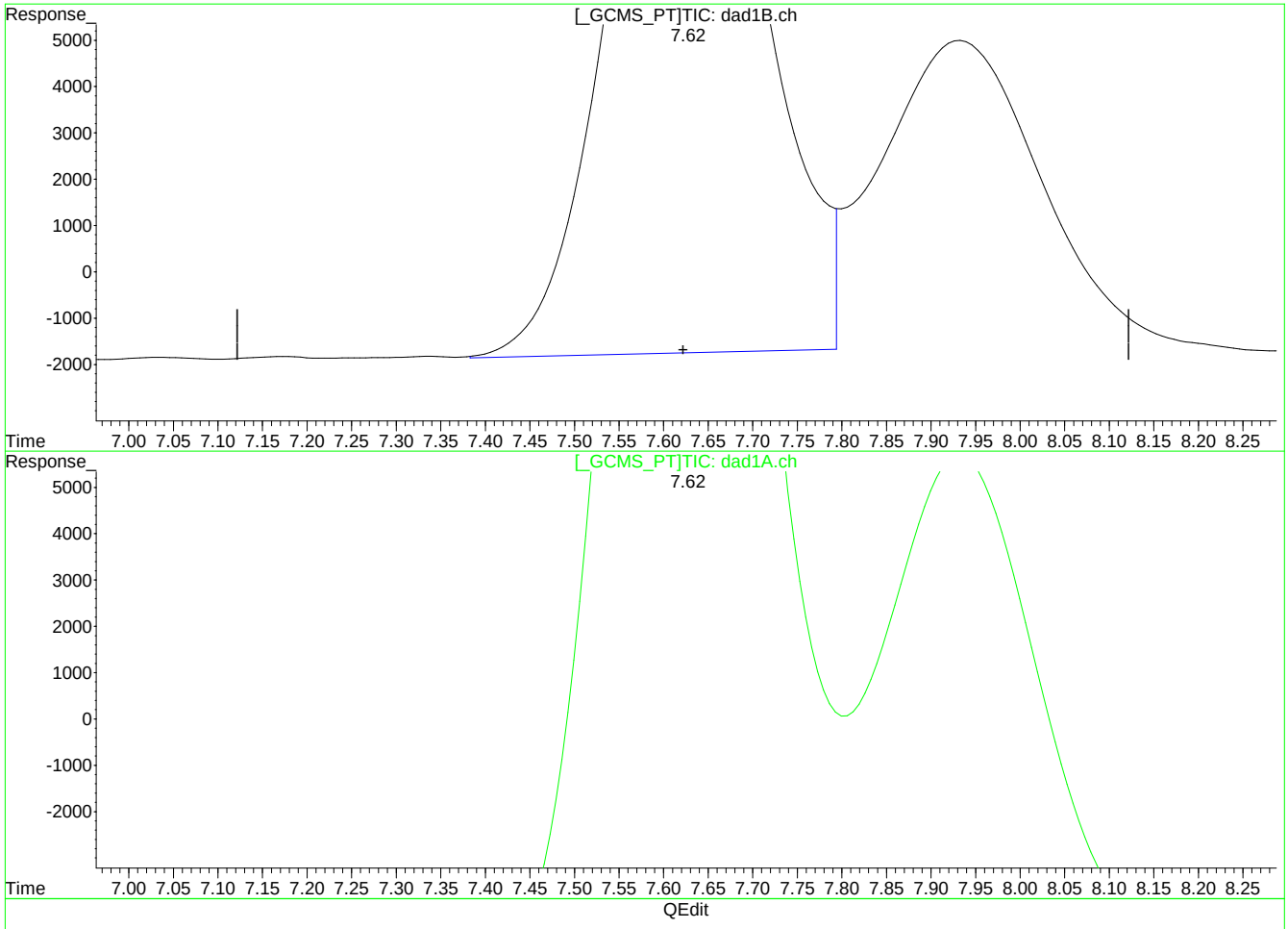
response 3646614

(+) = Expected Retention Time
GG632468.D GGG3599_071425.M Mon Jul 14 17:03:12 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1A.ch
Acq On : 14-Jul-2025, 14:01:33 Operator: fouads
Sample : ic3599-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(5) 1,3,5-Trinitrobenzene

7.62min 209.610ppb m

response 1798664

(5) 1,3,5-Trinitrobenzene #2

7.62min 433.583ppb

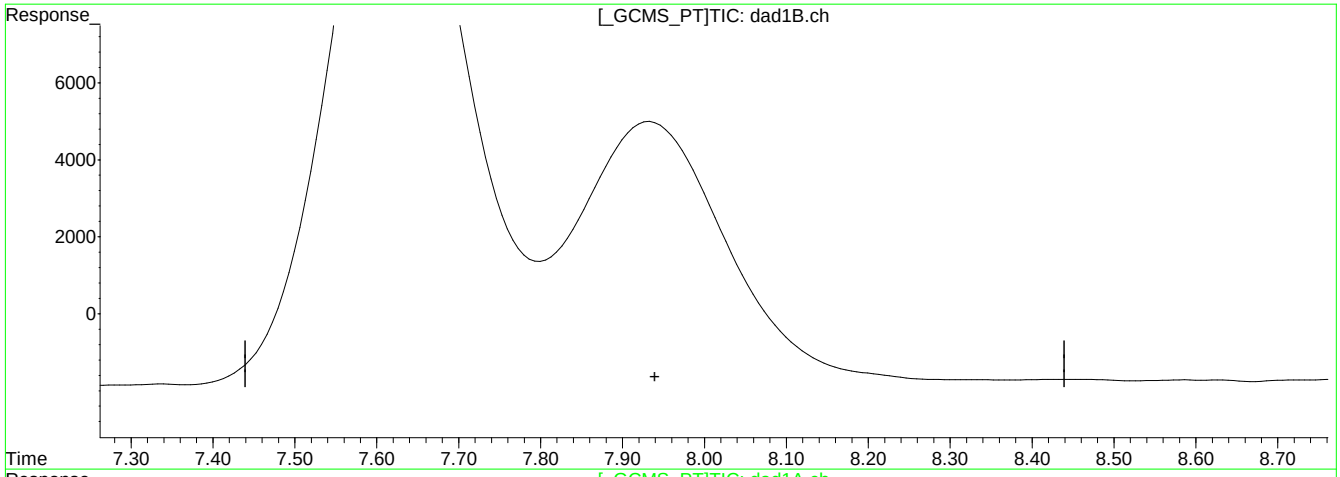
response 3646614

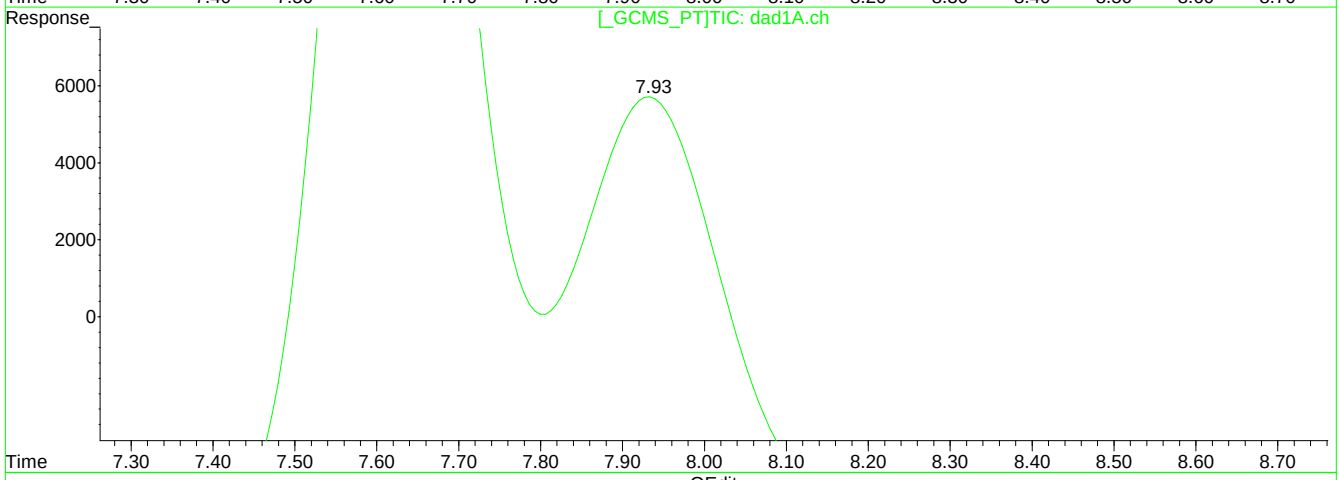
(+) = Expected Retention Time
GG632468.D GGG3599_071425.M Mon Jul 14 17:03:17 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1A.ch
Acq On : 14-Jul-2025, 14:01:33 Operator: fouads
Sample : ic3599-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(6) RDX

0.00min 0.000ppb

response 0

(6) RDX #2

7.93min 337.680ppb

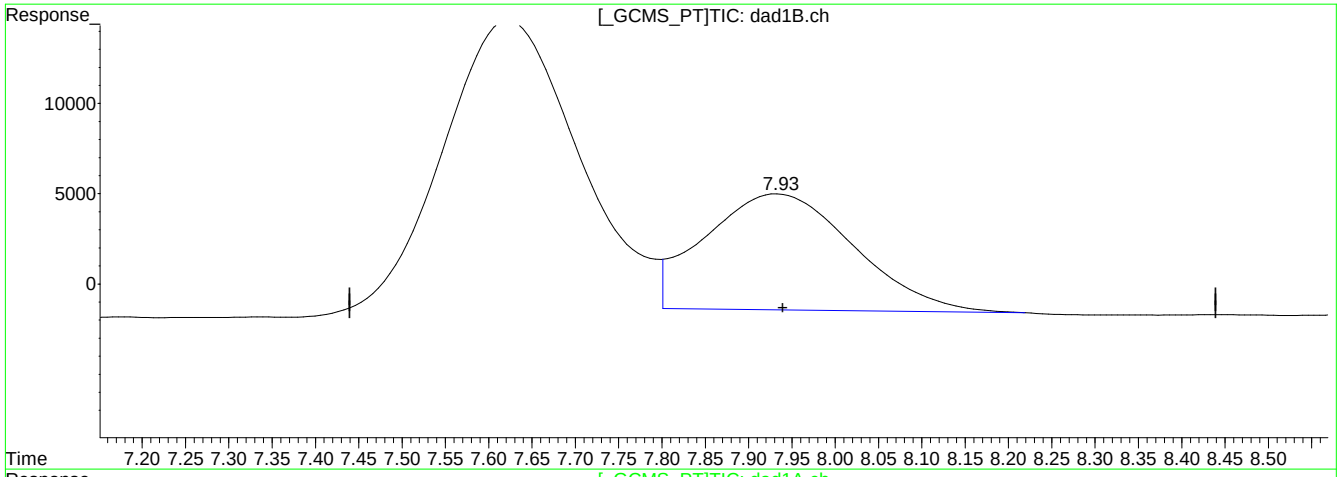
response 1368863

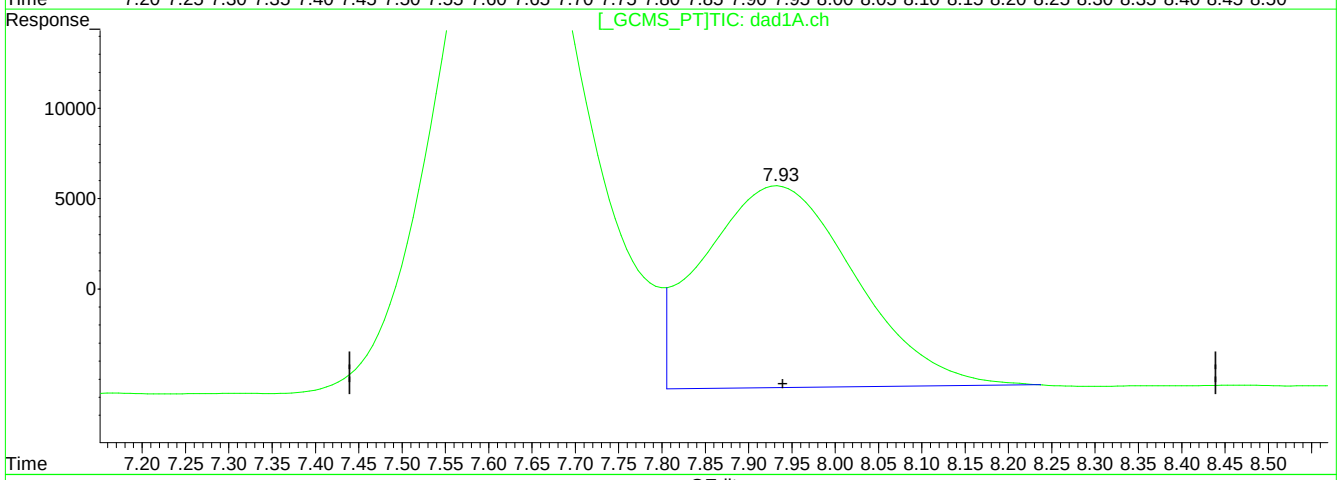
(+) = Expected Retention Time
GG632468.D GGG3599_071425.M Mon Jul 14 17:03:23 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1A.ch
Acq On : 14-Jul-2025, 14:01:33 Operator: fouads
Sample : ic3599-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(6) RDX

7.93min 188.102ppb m

response 769563

(6) RDX #2

7.93min 337.680ppb

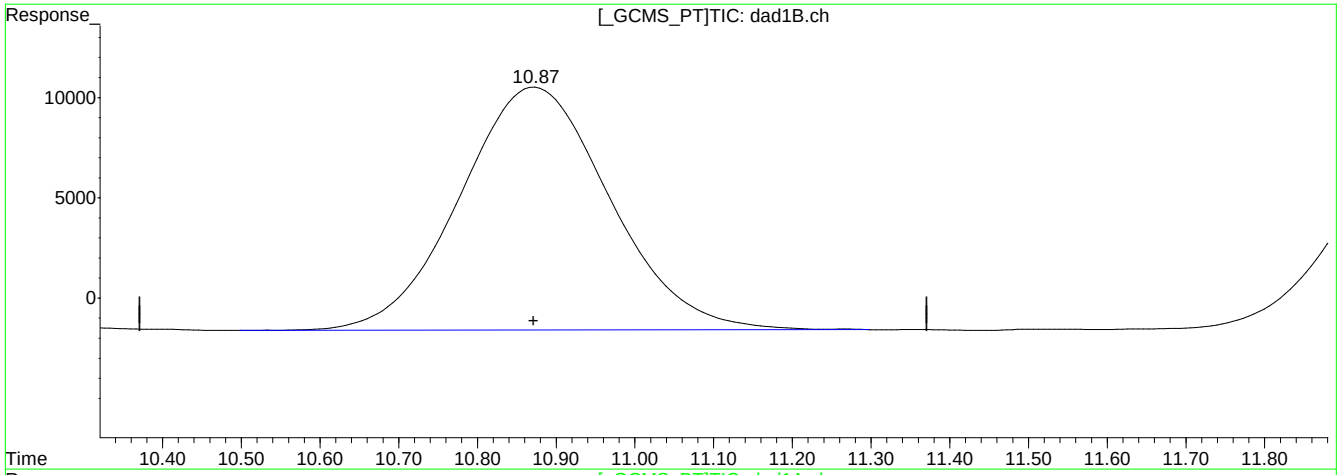
response 1368863

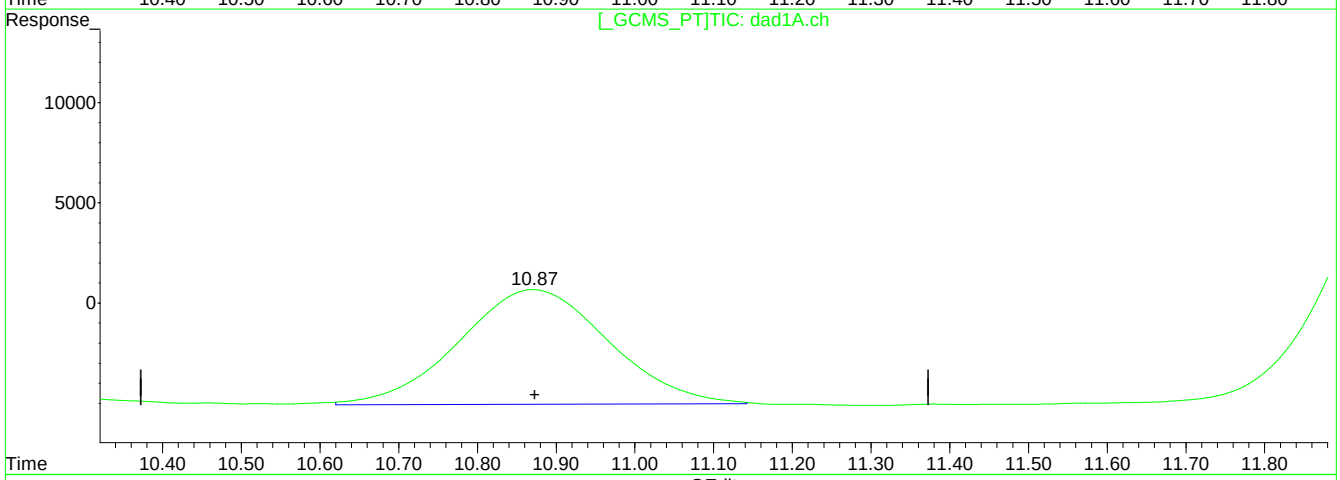
(+) = Expected Retention Time
GG632468.D GGG3599_071425.M Mon Jul 14 17:03:29 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1A.ch
Acq On : 14-Jul-2025, 14:01:33 Operator: fouads
Sample : ic3599-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





(8) Nitrobenzene

10.87min 208.244ppb

response 1604925

(8) Nitrobenzene #2

10.87min 102.317ppb m

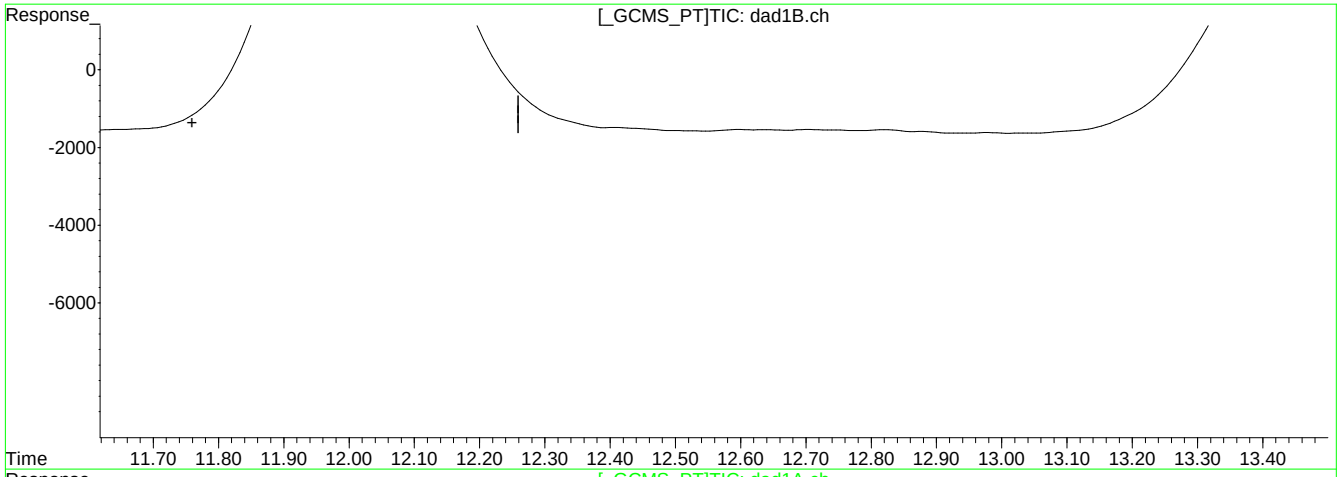
response 754214

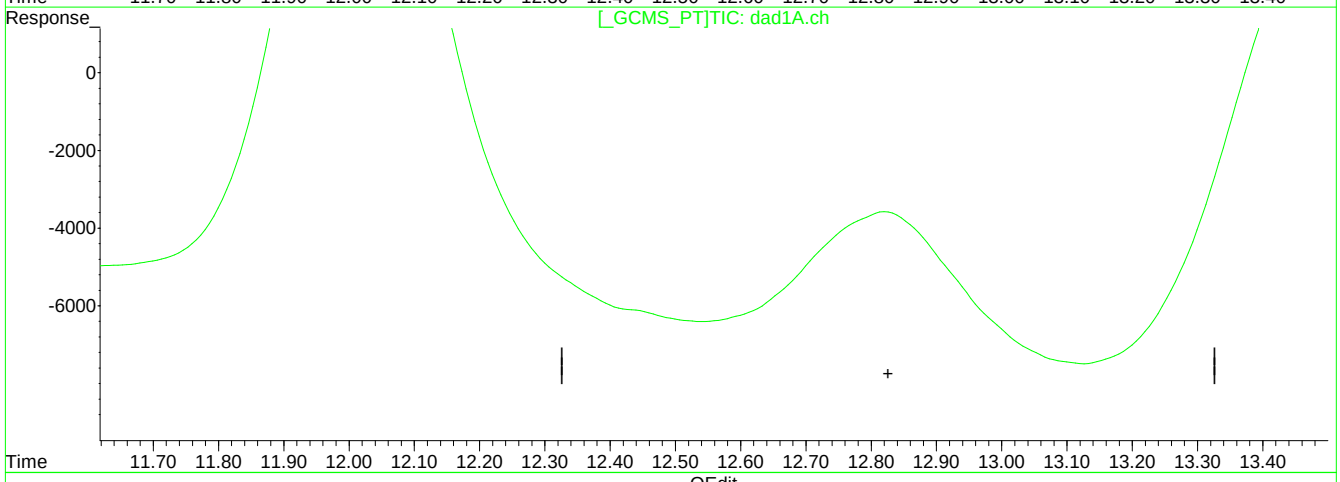
(+) = Expected Retention Time
GG632468.D GGG3599_071425.M Mon Jul 14 17:03:42 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1A.ch
Acq On : 14-Jul-2025, 14:01:33 Operator: fouads
Sample : ic3599-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

0.00min 0.000ppb

response 0

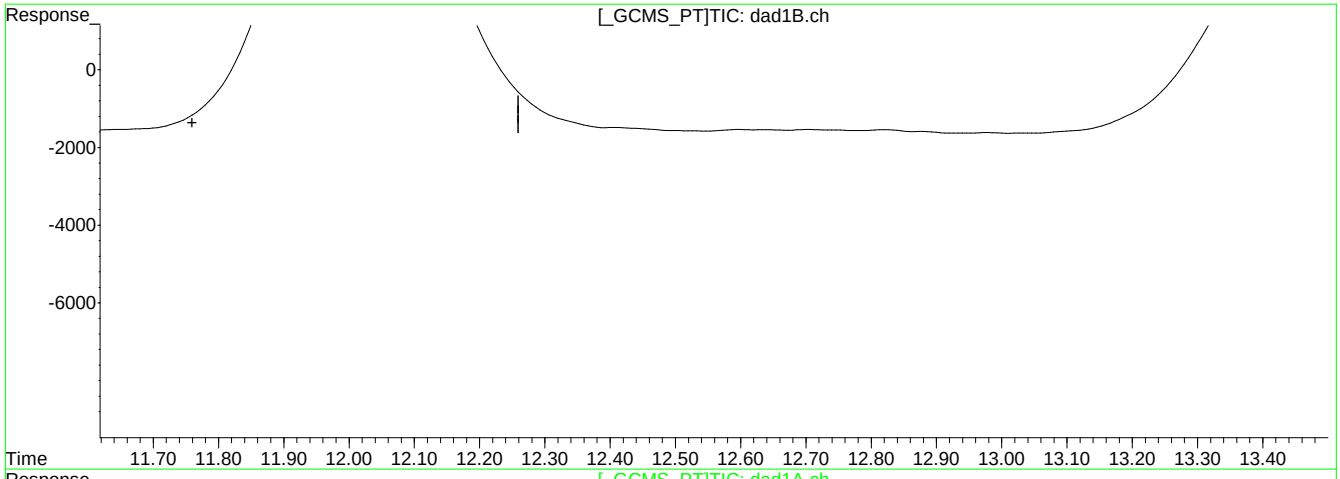
(+) = Expected Retention Time
GG632468.D GGG3599_071425.M Mon Jul 14 17:03:53 2025

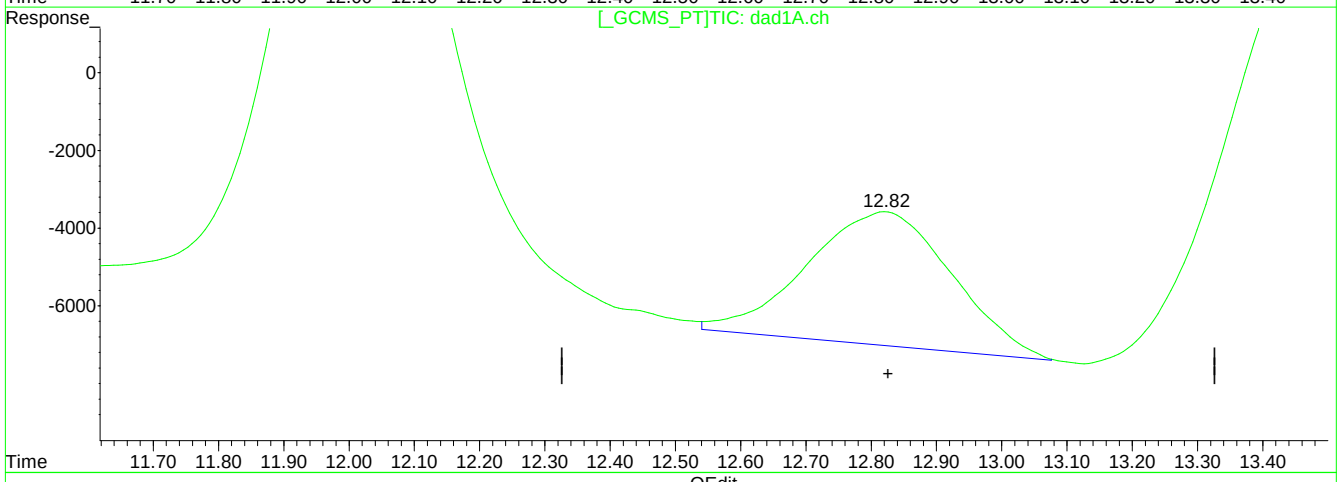
GG632468.D edits: Nitroglycerin

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1A.ch
Acq On : 14-Jul-2025, 14:01:33 Operator: fouads
Sample : ic3599-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(10) Nitroglycerin

0.00min 0.000ppb

response 0

(10) Nitroglycerin #2

12.82min 181.241ppb m

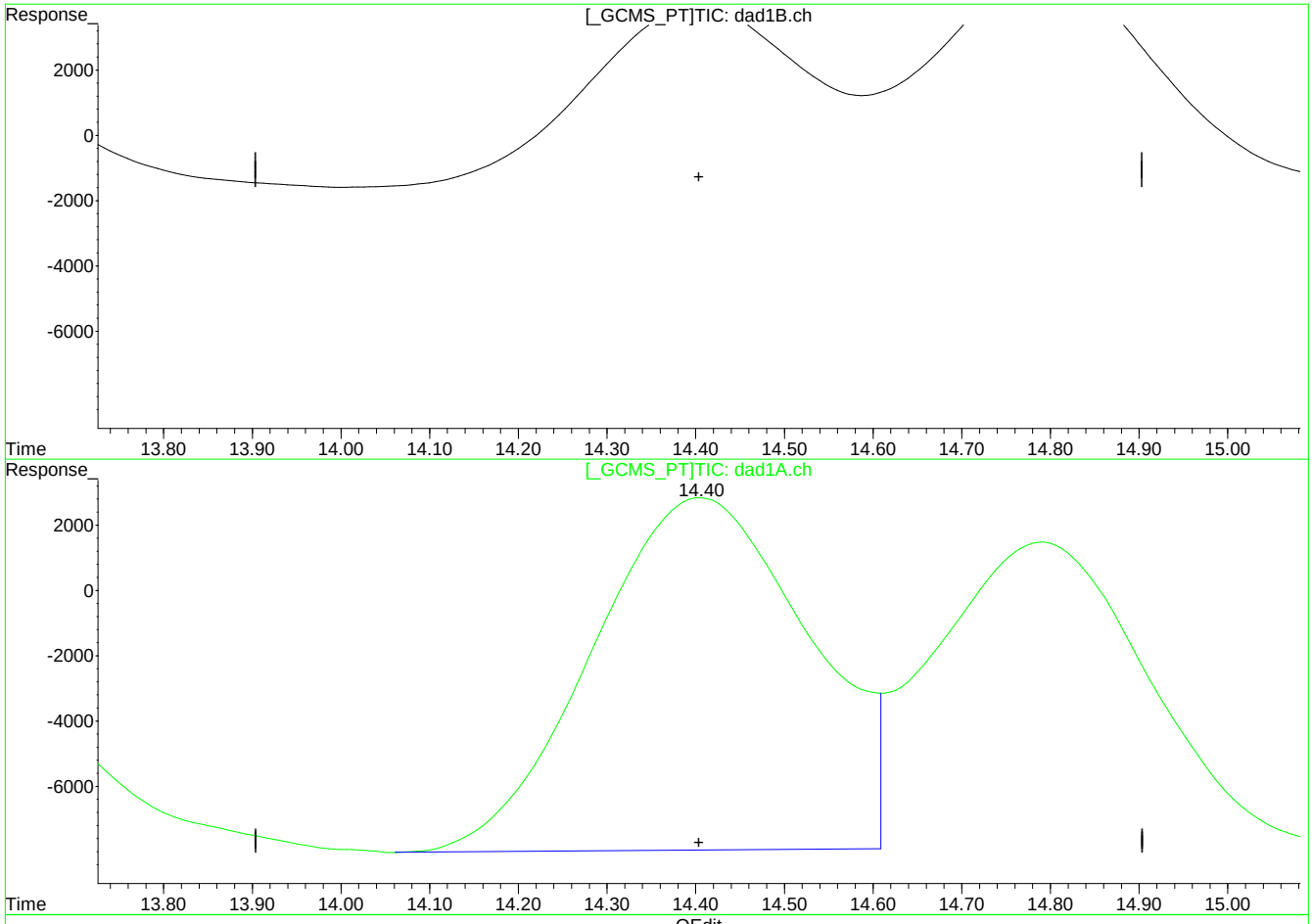
response 528758

(+) = Expected Retention Time
GG632468.D GGG3599_071425.M Mon Jul 14 17:03:58 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1A.ch
Acq On : 14-Jul-2025, 14:01:33 Operator: fouads
Sample : ic3599-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(12) 3,4-Dinitrotoluene (S)

0.00min 0.000ppb

response 0

(12) 3,4-Dinitrotoluene #2 (S)

14.41min 183.697ppb

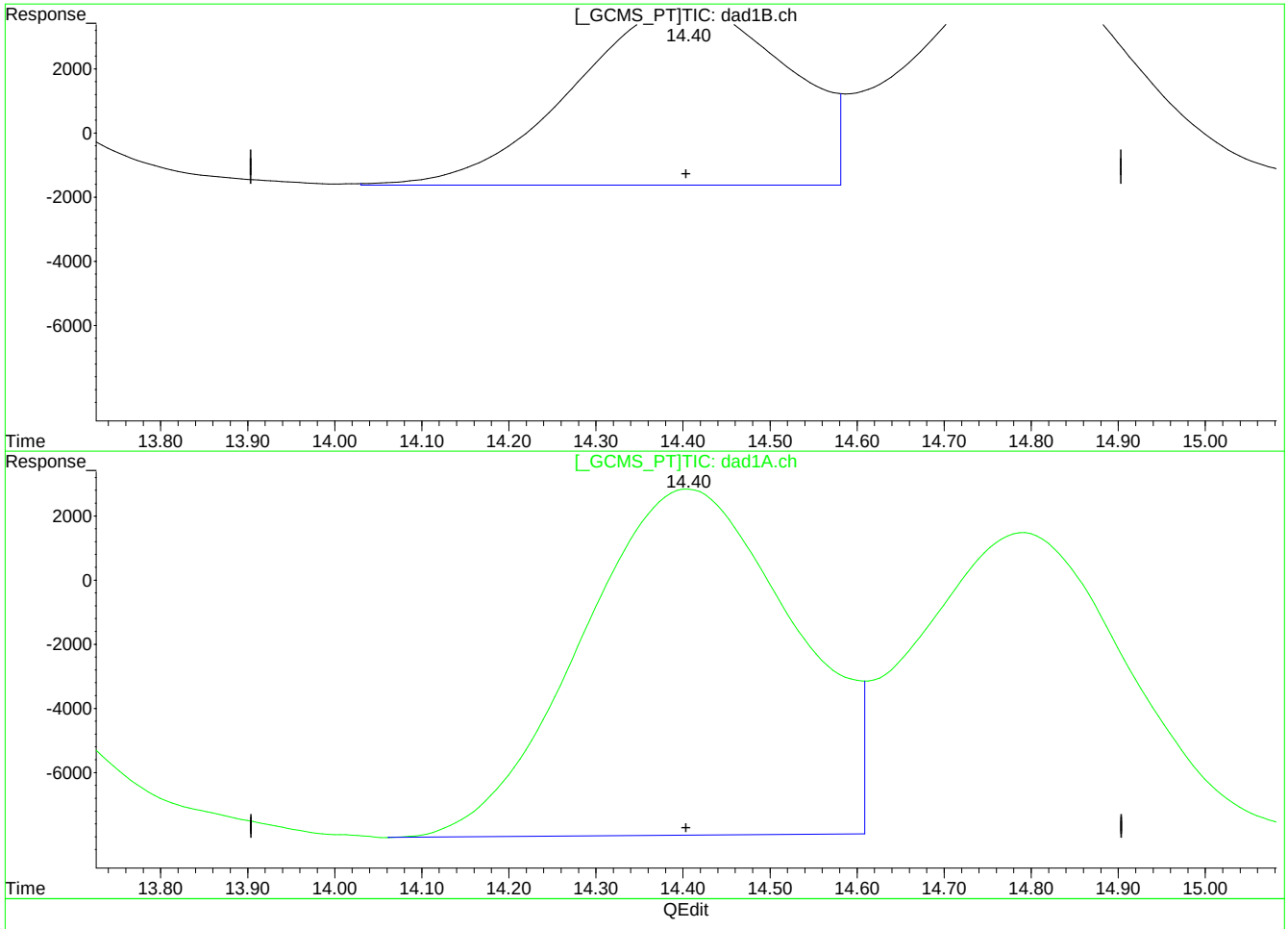
response 1824329

(+) = Expected Retention Time
GG632468.D GGG3599_071425.M Mon Jul 14 17:04:09 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1A.ch
Acq On : 14-Jul-2025, 14:01:33 Operator: fouads
Sample : ic3599-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(12) 3,4-Dinitrotoluene (S)

14.40min 198.279ppb m

response 951899

(12) 3,4-Dinitrotoluene #2 (S)

14.41min 183.697ppb

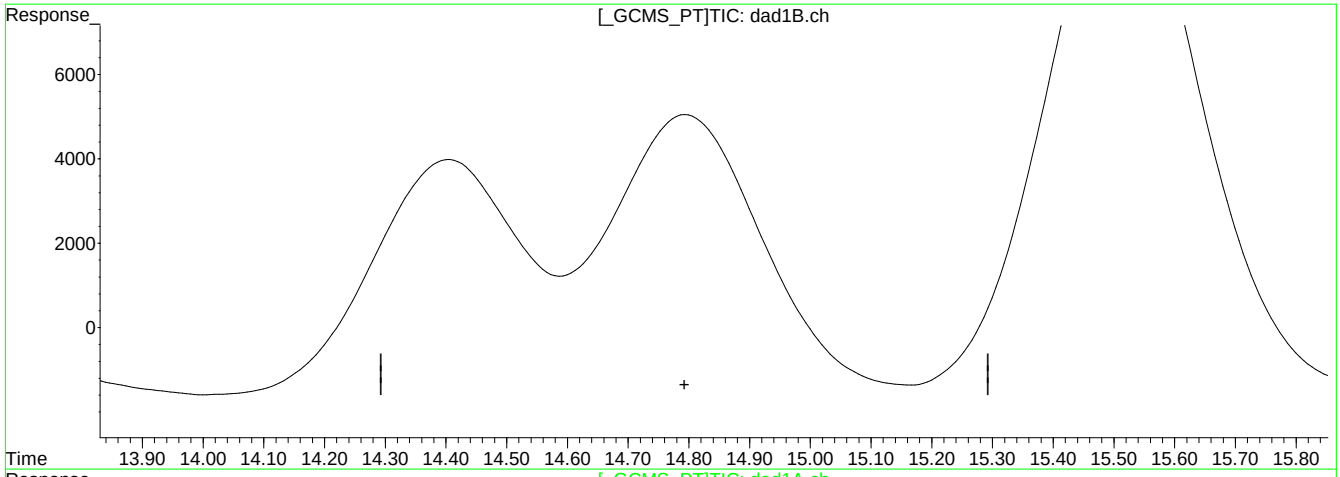
response 1824329

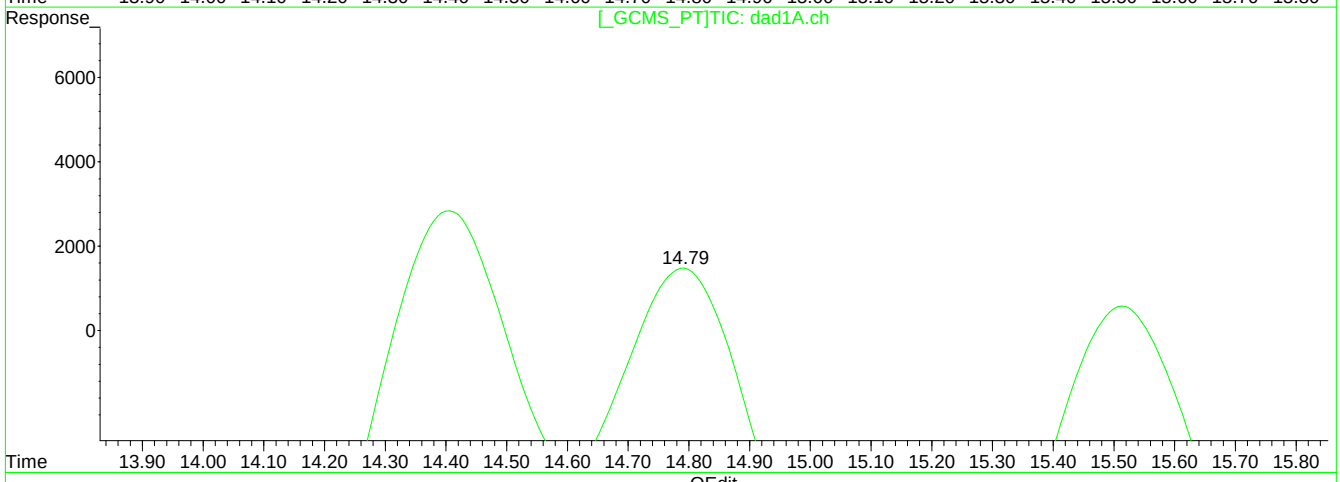
(+) = Expected Retention Time
GG632468.D GGG3599_071425.M Mon Jul 14 17:04:22 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1A.ch
Acq On : 14-Jul-2025, 14:01:33 Operator: fouads
Sample : ic3599-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(13) 2,6-Dinitrotoluene

0.00min 0.000ppb

response 0

(13) 2,6-Dinitrotoluene #2

14.79min 187.925ppb

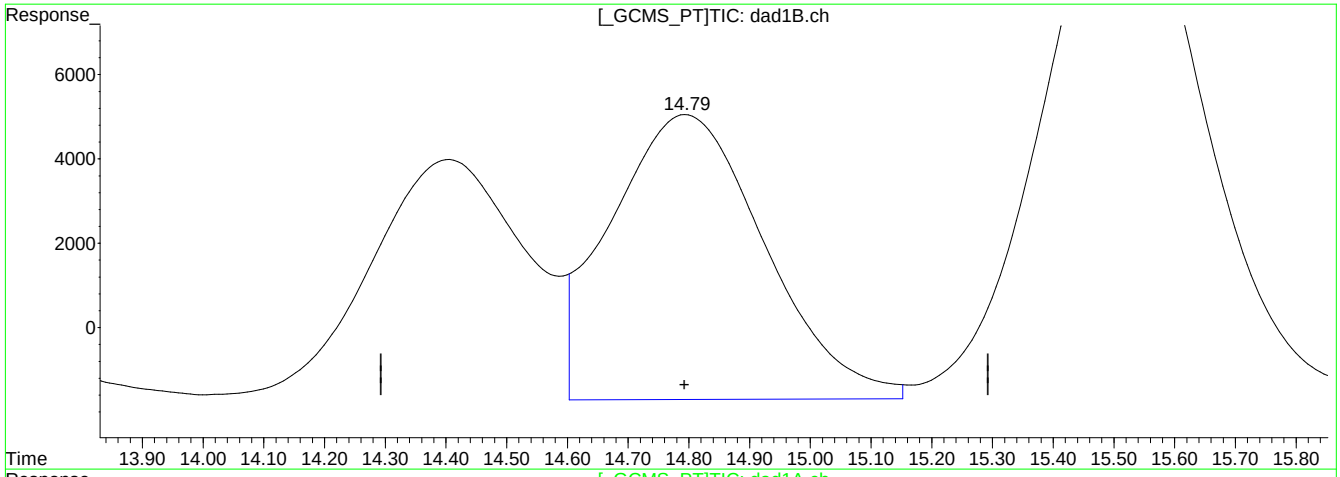
response 1561131

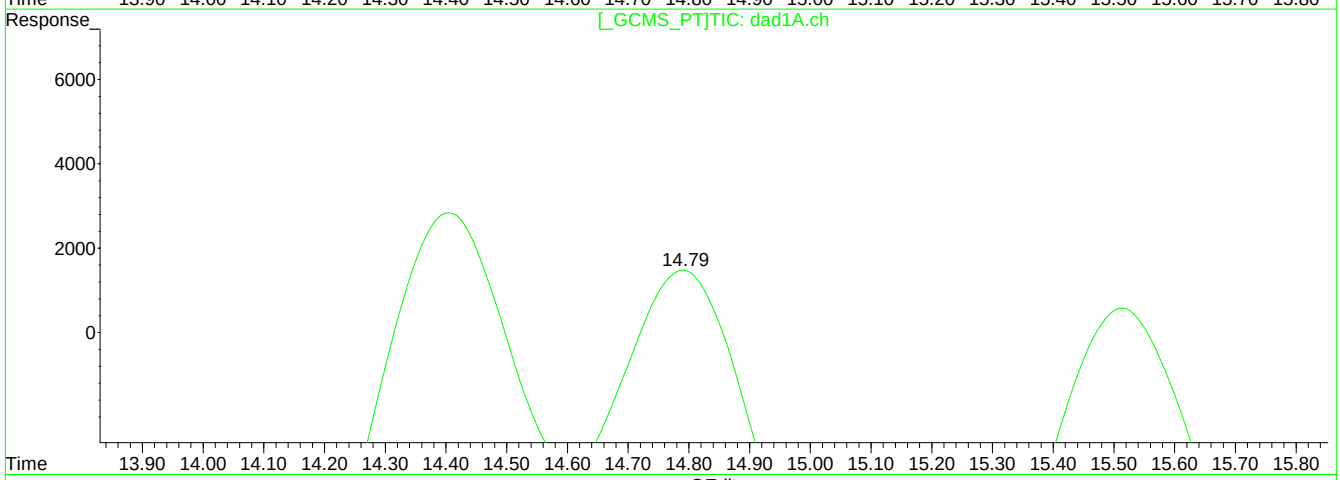
(+) = Expected Retention Time
GG632468.D GGG3599_071425.M Mon Jul 14 17:04:27 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1A.ch
Acq On : 14-Jul-2025, 14:01:33 Operator: fouads
Sample : ic3599-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(13) 2,6-Dinitrotoluene

14.79min 220.620ppb m

response 1189396

(13) 2,6-Dinitrotoluene #2

14.79min 187.925ppb

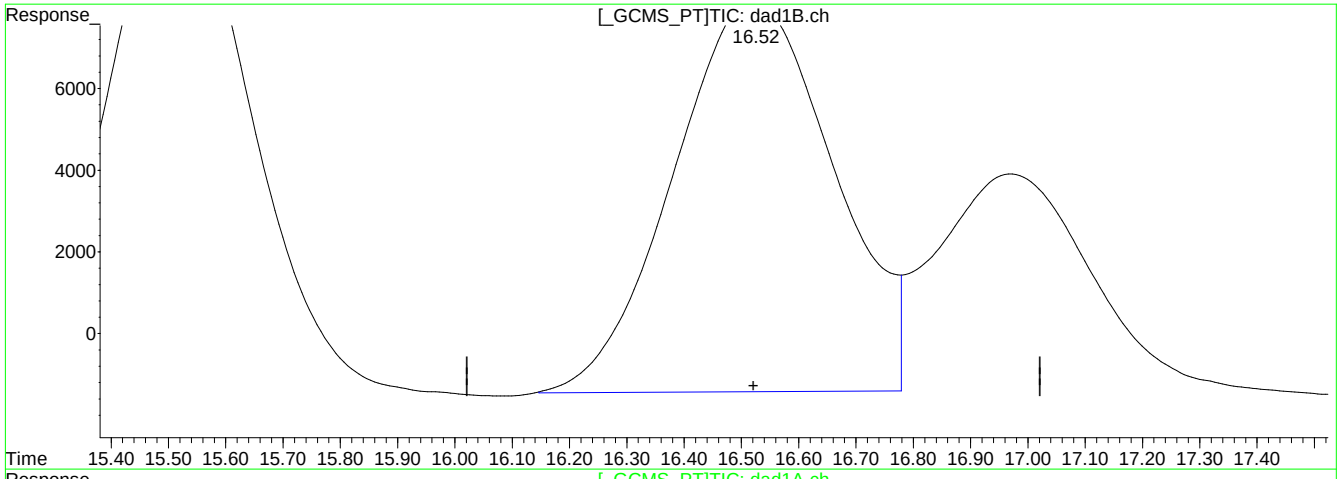
response 1561131

(+) = Expected Retention Time
GG632468.D GGG3599_071425.M Mon Jul 14 17:04:34 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1A.ch
Acq On : 14-Jul-2025, 14:01:33 Operator: fouads
Sample : ic3599-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



QEdit

(15) 3,5-Dinitroaniline

16.52min 201.930ppb m

response 1843564

(15) 3,5-Dinitroaniline #2

16.53min 179.760ppb

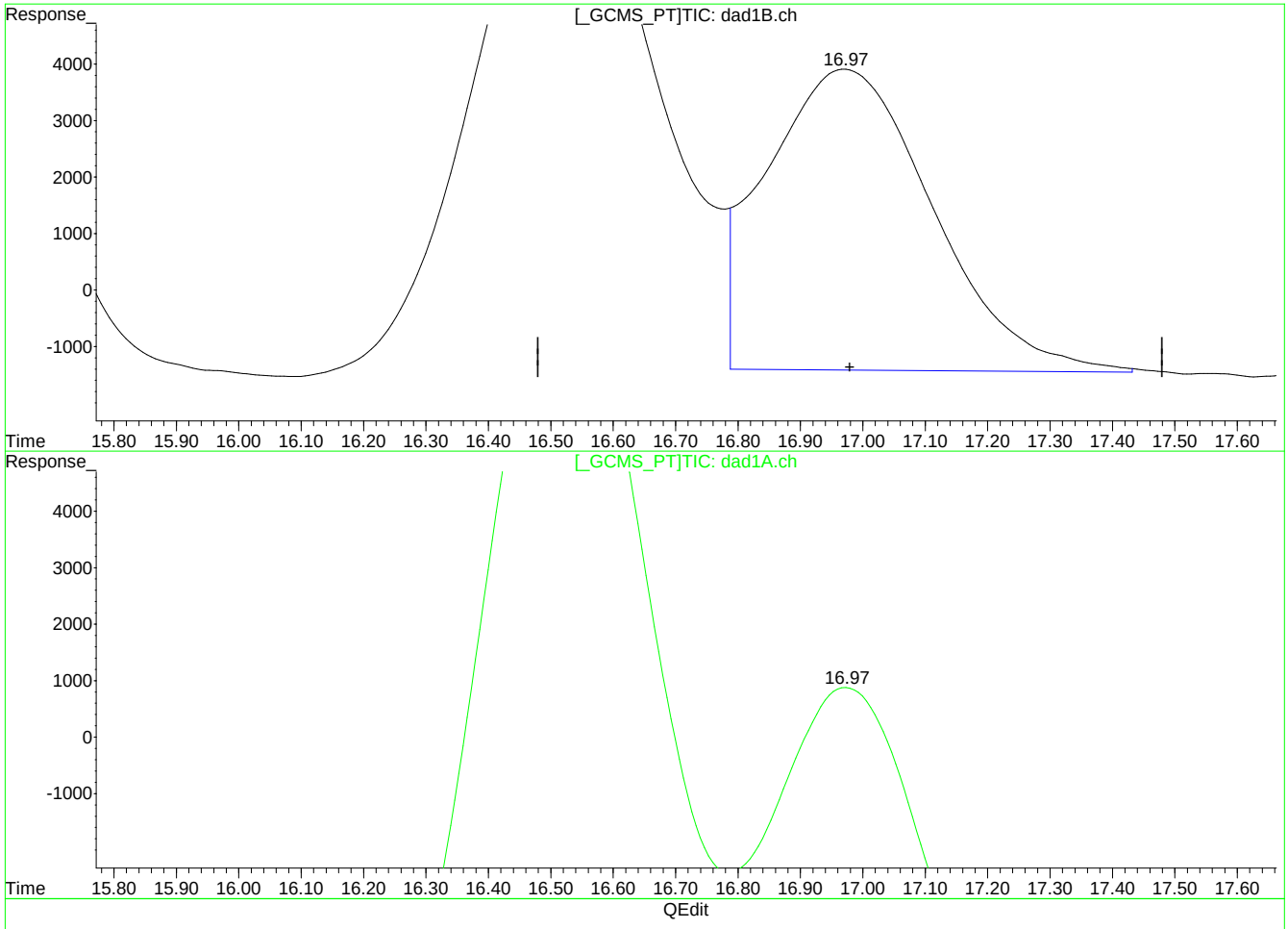
response 3007418

(+) = Expected Retention Time
GG632468.D GGG3599_071425.M Mon Jul 14 17:04:43 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1A.ch
Acq On : 14-Jul-2025, 14:01:33 Operator: fouads
Sample : ic3599-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(16) o-Nitrotoluene

16.97min 216.637ppb m

response 983197

(16) o-Nitrotoluene #2

16.97min 193.739ppb

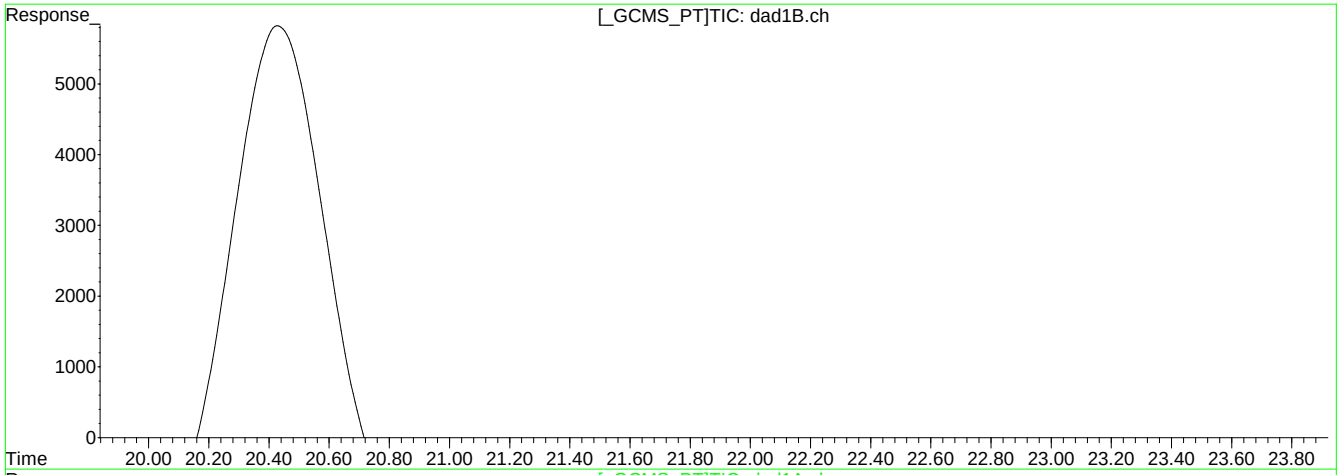
response 1341299

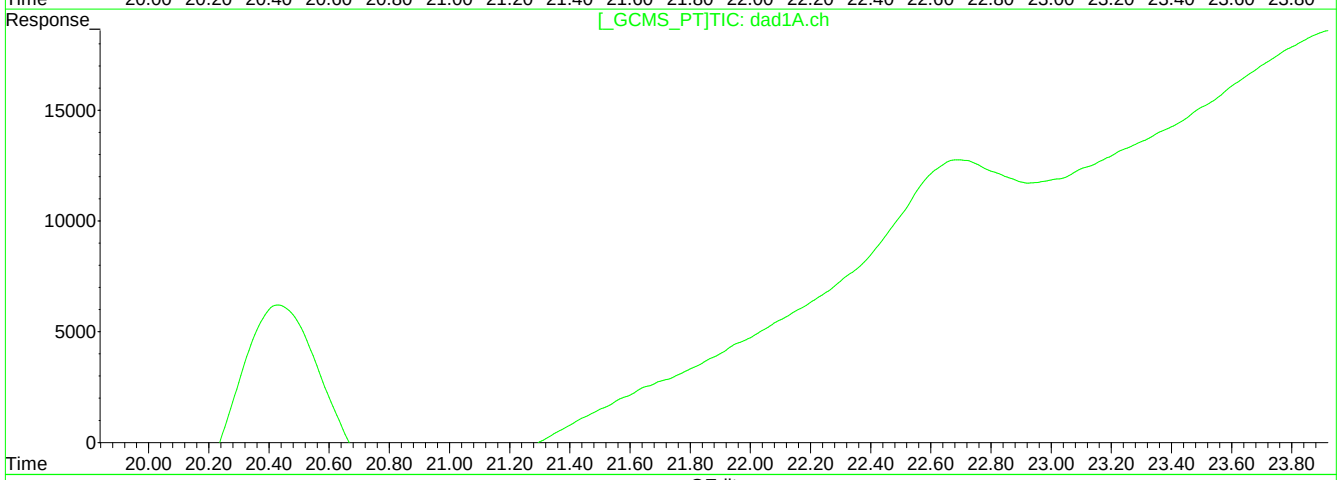
(+) = Expected Retention Time
GG632468.D GGG3599_071425.M Mon Jul 14 17:04:52 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1A.ch
Acq On : 14-Jul-2025, 14:01:33 Operator: fouads
Sample : ic3599-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

22.70min -106.907ppb

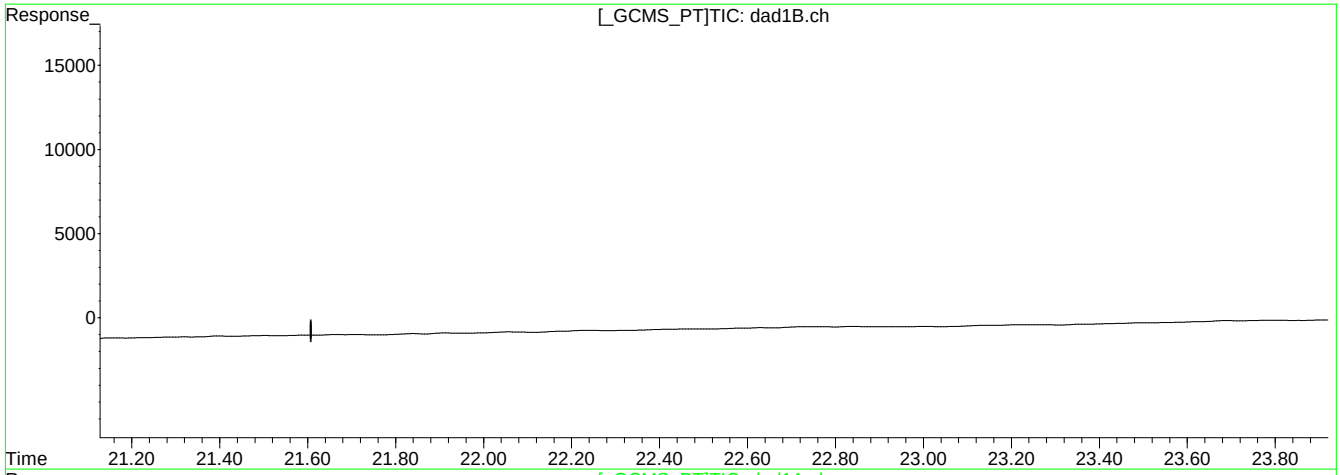
response -319515

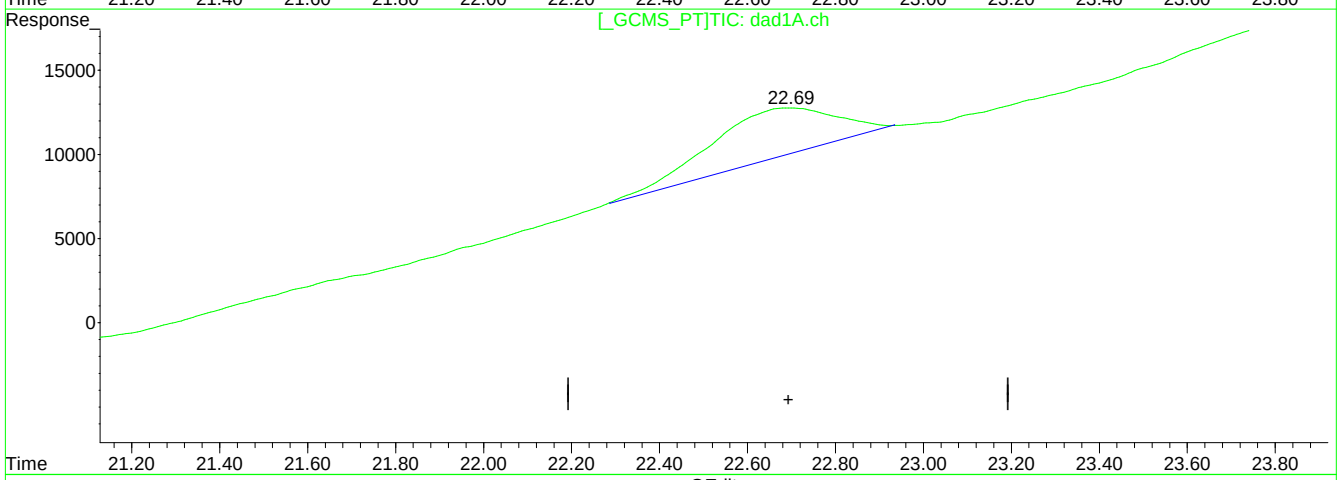
(+) = Expected Retention Time
GG632468.D GGG3599_071425.M Mon Jul 14 17:05:10 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1B.ch Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632468.D\dad1A.ch
Acq On : 14-Jul-2025, 14:01:33 Operator: fouads
Sample : ic3599-200 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

22.69min 190.240ppb m

response 568578

(+) = Expected Retention Time
GG632468.D GGG3599_071425.M Mon Jul 14 17:05:18 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan
07/15/25 10:01

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632469.D\dad1B.ch Vial: 35
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632469.D\dad1A.ch
Acq On : 14-Jul-2025, 14:29:00 Operator: fouads
Sample : ic3599-500 Inst : G1315B
Misc : op10213,GGG3599,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49:38 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.55	14.55	2312630	4474401	481.718	450.540
	Spiked Amount 500.000	Range 70 - 136		Recovery =		96.34%	90.11%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	5.29	5.29	1678644	5341520	579.427	1843.008 #
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	7.68	7.68	4470855	9063188	521.018	1077.614 #
6)	RDX	8.00	8.00	2084512	3486090	509.512	859.970 #
7)	1,3-Dinitrobenze	10.05	10.05	6010467	7287630	488.528	828.208 #
8)	Nitrobenzene	10.96	10.96	3963031	1823523	514.216	247.381 #
9)	2,4,6-Trinitroto	12.12	12.12	4229418	5653885	518.357	497.541
10)	Nitroglycerin	0.00	12.93	0	1449891	N.D.	496.976 #
11)	Tetryl	13.61	13.61	3209615	5526245	499.189	500.877
13)	2,6-Dinitrotolue	14.93	14.93	2923953	4293225	542.362	516.809
14)	2,4-Dinitrotolue	15.64	15.64	5626409	4002864	503.897	511.607
15)	3,5-Dinitroanili	16.66	16.66	4673536	7922427	511.903	473.542
16)	o-Nitrotoluene	17.13	17.13	2516705	3952777	554.530	570.943
17)	p-Nitrotoluene	18.36	18.40	4981549	9132475	1008.474	1036.005
18)	4-Amino-2,6-Dini	18.36	18.40	4981549	9132475	1022.612	1035.984
19)	m-Nitrotoluene	19.53	19.53	2659852	4659227	502.638	526.151
20)	2-Amino-4,6-Dini	20.60	20.60	4062612	5494228	503.604	482.533
21)	PETN	0.00	22.79	0	1525420	N.D.	510.390m#

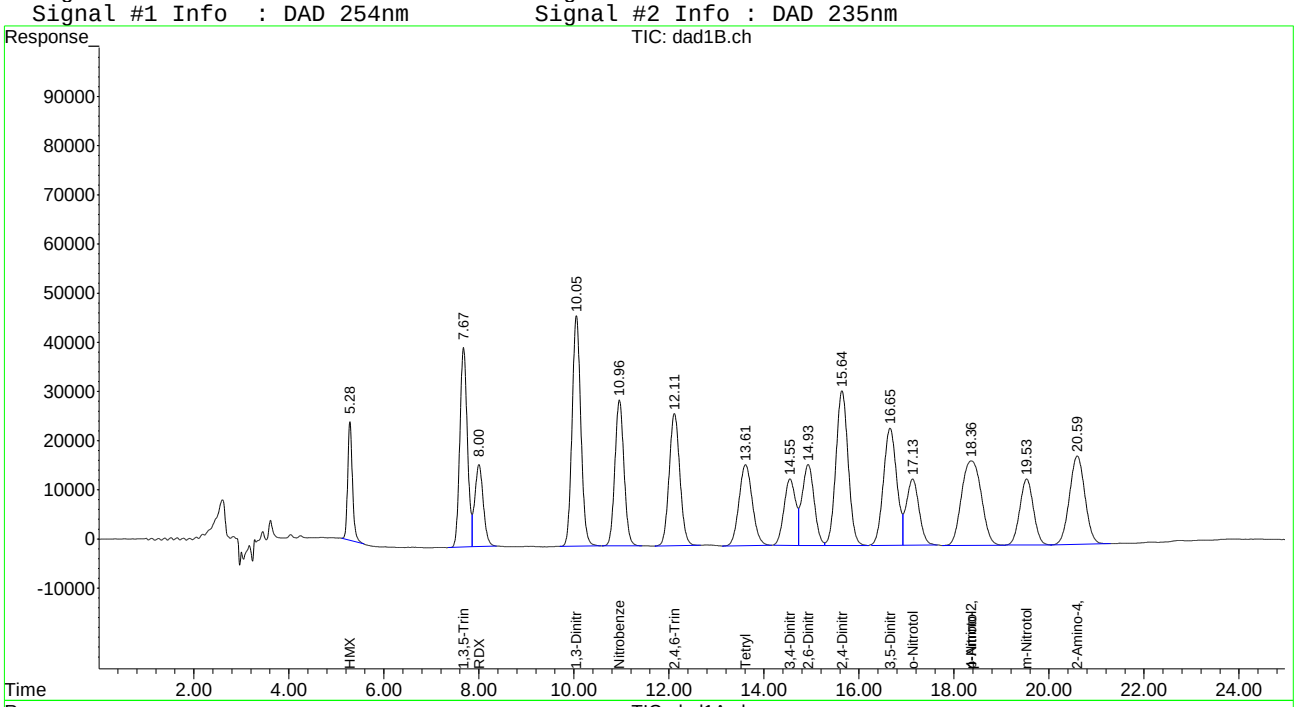
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG632469.D GGG3599_071425.M Mon Jul 14 17:26:35 2025

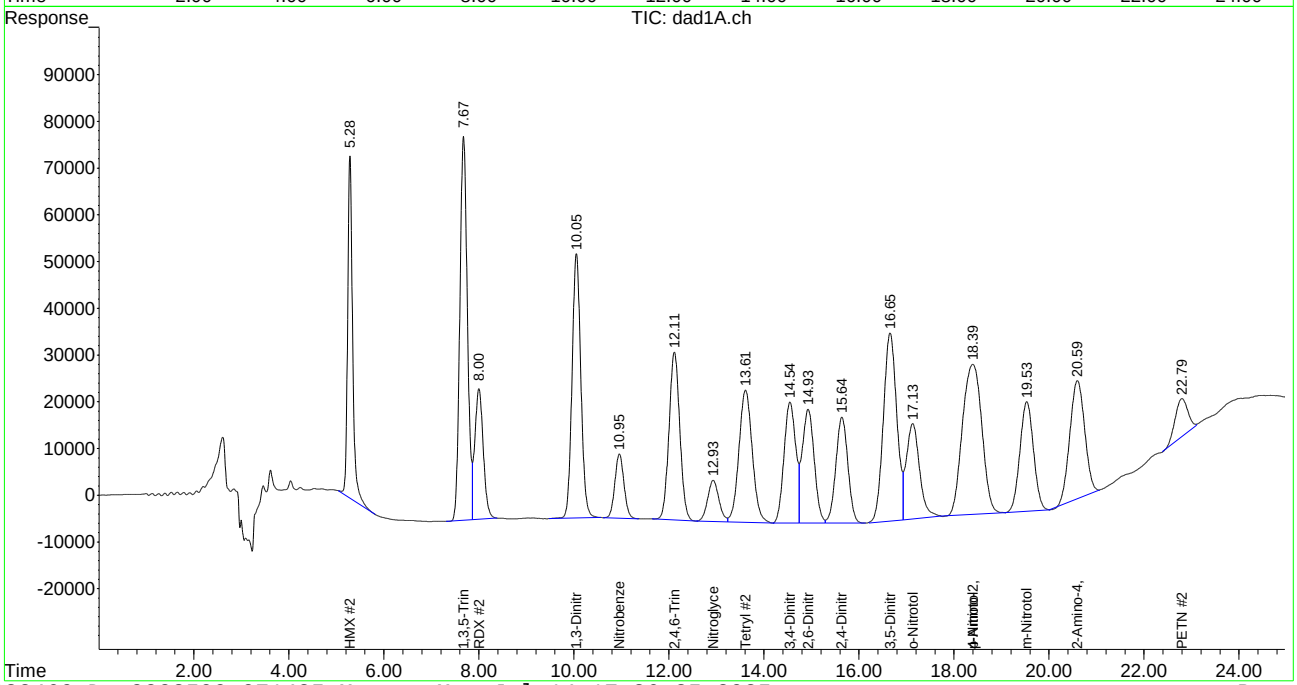
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632469.D\dad1B.ch Vial: 35
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632469.D\dad1A.ch
Acq On : 14-Jul-2025, 14:29:00 Operator: fouads
Sample : ic3599-500 Inst : G1315B
Misc : op10213,GGG3599,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 17:06 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GGG3599-IC3599
Lab FileID: GG632469.D
Injection Time: 07/14/25 14:29

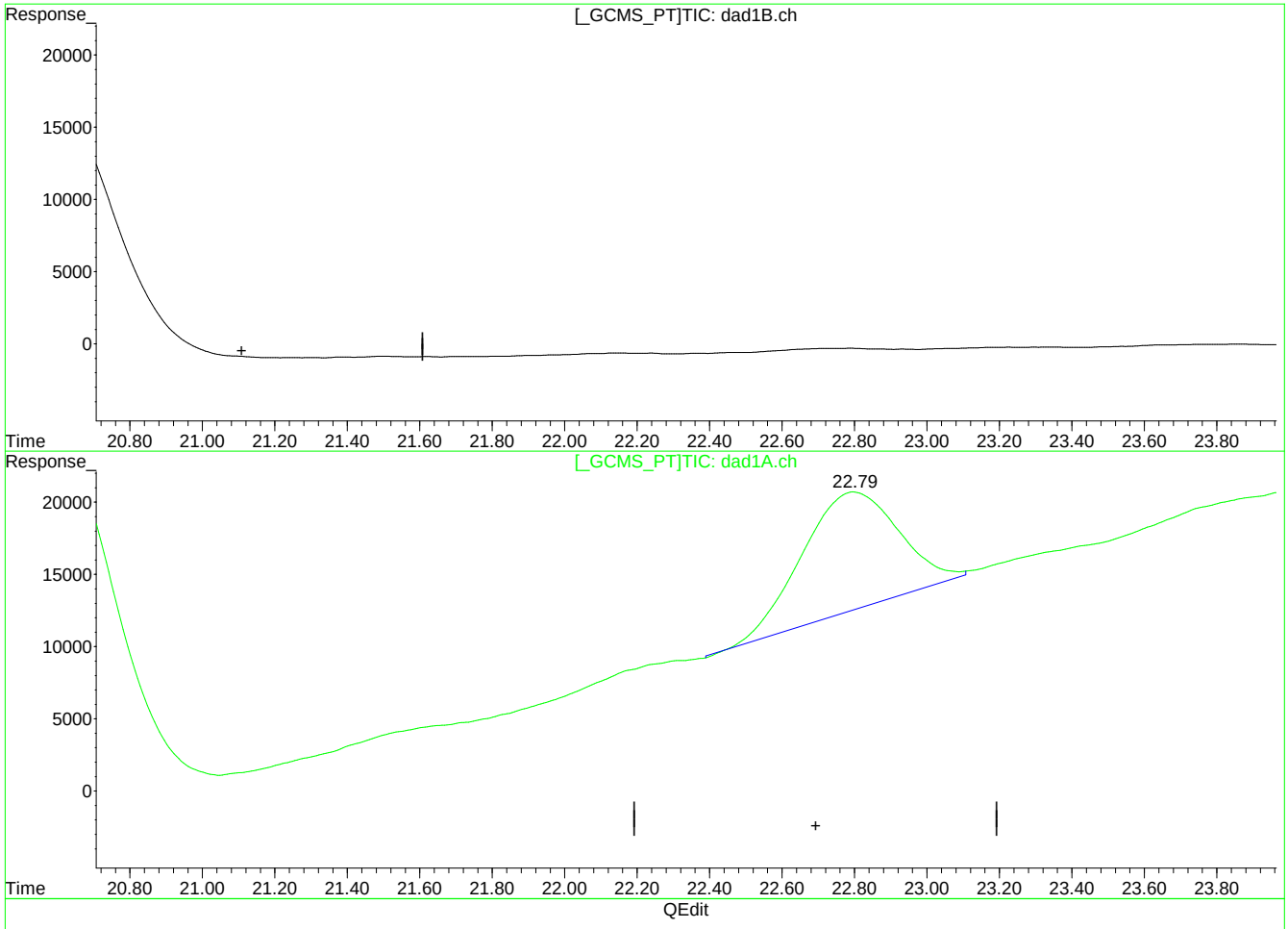
Method: SW846 8330B
Analyst approved: 07/14/25 17:37 William Hustedde
Supervisor approved: 07/15/25 10:01 Naresh Jiawan

Parameter	CAS	Sig#	R.T. (min.)	Reason
PETN	78-11-5	2	22.79	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632469.D\dad1B.ch Vial: 35
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632469.D\dad1A.ch
Acq On : 14-Jul-2025, 14:29:00 Operator: fouads
Sample : ic3599-500 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

22.79min 510.390ppb m

response 1525420

(+) = Expected Retention Time
GG632469.D GGG3599_071425.M Mon Jul 14 17:06:06 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan
07/15/25 10:01

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632470.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632470.D\dad1A.ch
Acq On : 14-Jul-2025, 14:56:33 Operator: fouads
Sample : icc3599-1000 Inst : G1315B
Misc : op10213,GGG3599,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 17:11:52 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 17:11:47 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.59	14.59	4678730	8953177	974.574	901.521
	Spiked Amount 500.000	Range 70 - 136		Recovery =		194.91%#	180.30%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	5.29	5.28	3303415	10012362	1140.258	3454.609m#
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	7.69	7.69	8918275	18077328	1039.305	2149.396 #
6)	RDX	8.02	8.02	4170603	6994834	1019.410	1725.528 #
7)	1,3-Dinitrobenze	10.07	10.07	12025223	14485271	977.405	1646.189 #
8)	Nitrobenzene	10.98	10.98	7910873	3651079	1026.462	495.309 #
9)	2,4,6-Trinitroto	12.14	12.14	8391485	11089568	1028.460	975.881
10)	Nitroglycerin	0.00	12.96	0	2784617	N.D.	954.476 #
11)	Tetryl	13.65	13.65	6485451	10984311	1008.678	995.574
13)	2,6-Dinitrotolue	14.97	14.97	5883479	8509569	1091.323	1024.362
14)	2,4-Dinitrotolue	15.69	15.69	11276410	8001969	1009.907	1022.733
15)	3,5-Dinitroanili	16.70	16.70	9332930	15545392	1022.256	929.184
16)	o-Nitrotoluene	17.19	17.19	5043074	7633547	1111.190	1102.597
17)	p-Nitrotoluene	18.44	18.47	9891571	18163911	2002.468	2060.548
18)	4-Amino-2,6-Dini	18.44	18.47	9891571	18163911	2030.541	2060.507
19)	m-Nitrotoluene	19.62	19.62	5283055	8998361	998.351	1016.155
20)	2-Amino-4,6-Dini	20.70	20.70	8120769	11411675	1006.656	1002.236
21)	PETN	0.00	22.92	0	3085951	N.D.	1032.528m#

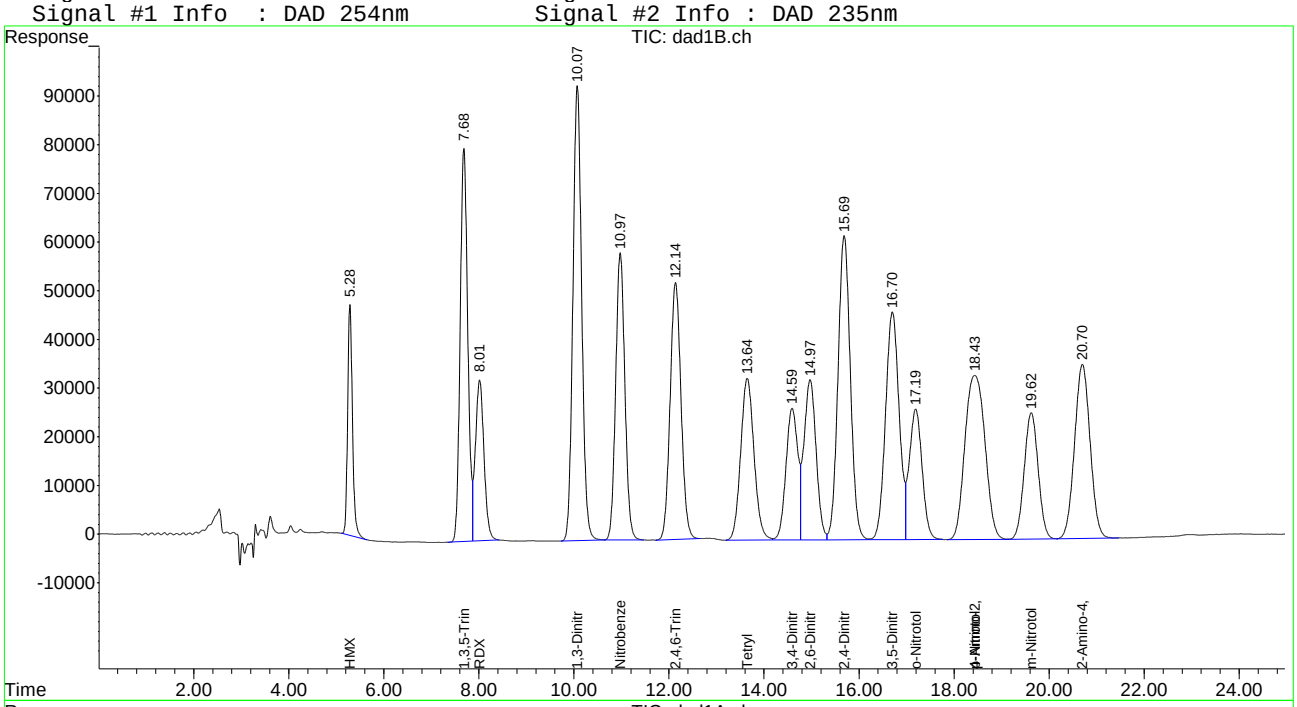
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG632470.D GGG3599_071425.M Mon Jul 14 17:26:36 2025

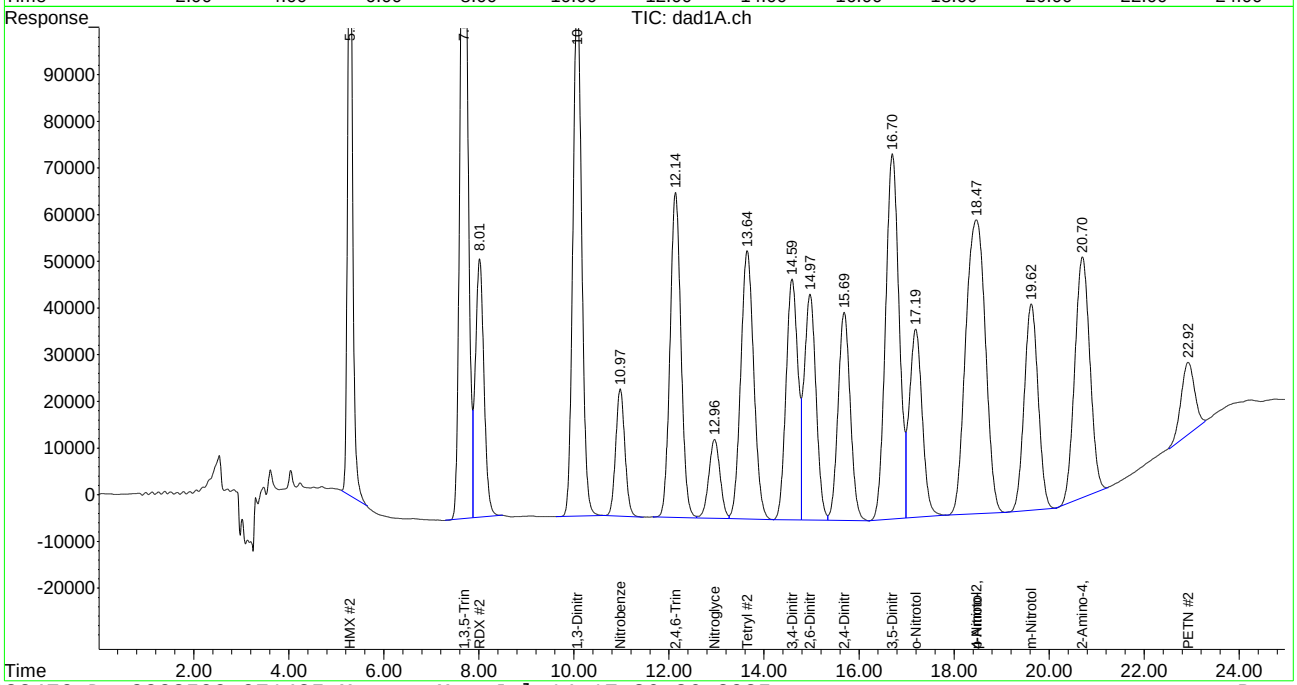
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632470.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632470.D\dad1A.ch
Acq On : 14-Jul-2025, 14:56:33 Operator: fouads
Sample : icc3599-1000 Inst : G1315B
Misc : op10213,GGG3599,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 17:12 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 17:11:47 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

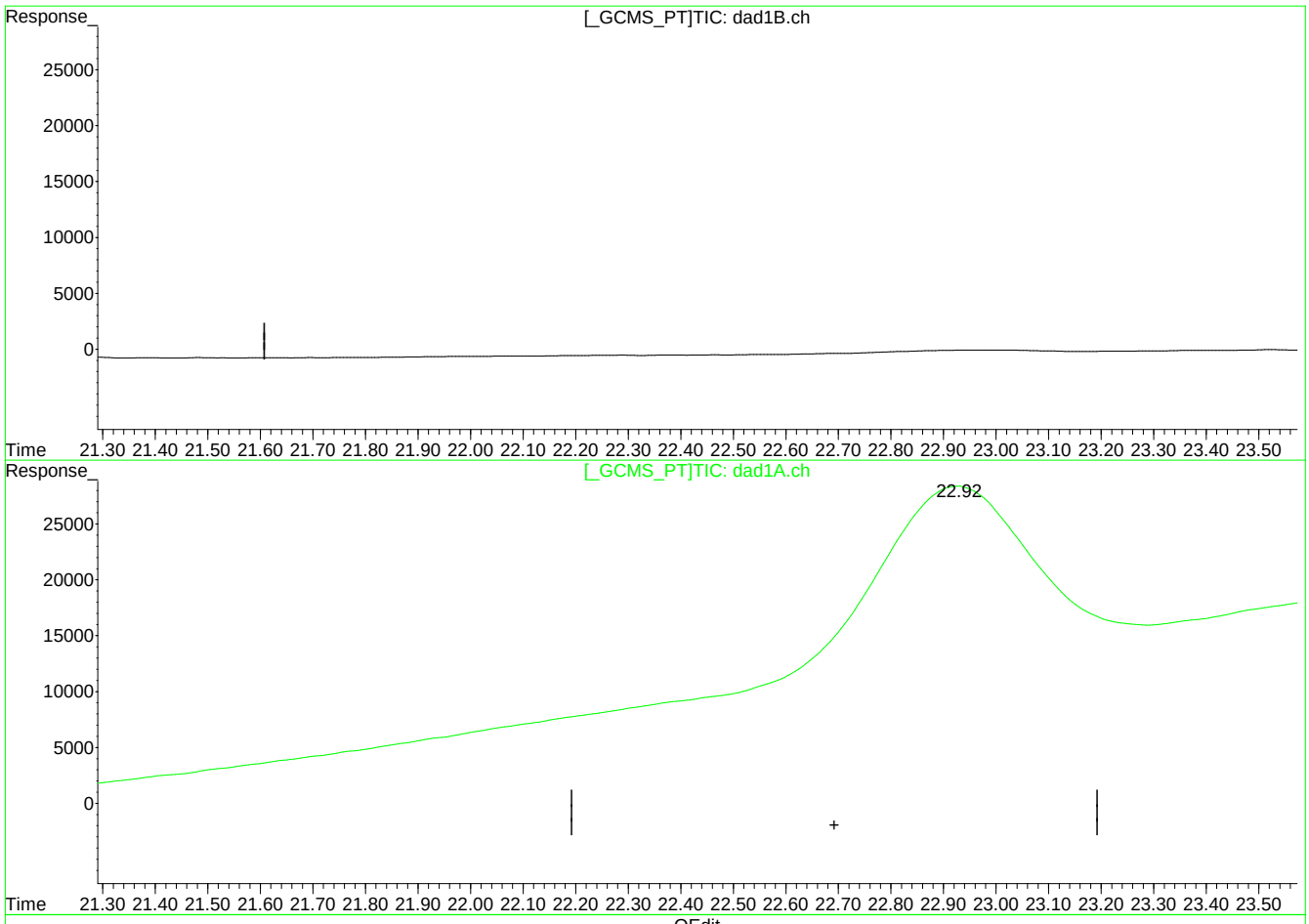
Sample Number: GGG3599-ICC3599 **Method:** SW846 8330B
Lab FileID: GG632470.D **Analyst approved:** 07/14/25 17:37 William Hustedde
Injection Time: 07/14/25 14:56 **Supervisor approved:** 07/15/25 10:01 Naresh Jiawan

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	2	5.28	Missed peak
PETN	78-11-5	2	22.92	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632470.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632470.D\dad1A.ch
Acq On : 14-Jul-2025, 14:56:33 Operator: fouads
Sample : icc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 16:49 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

22.93min 808.455ppb

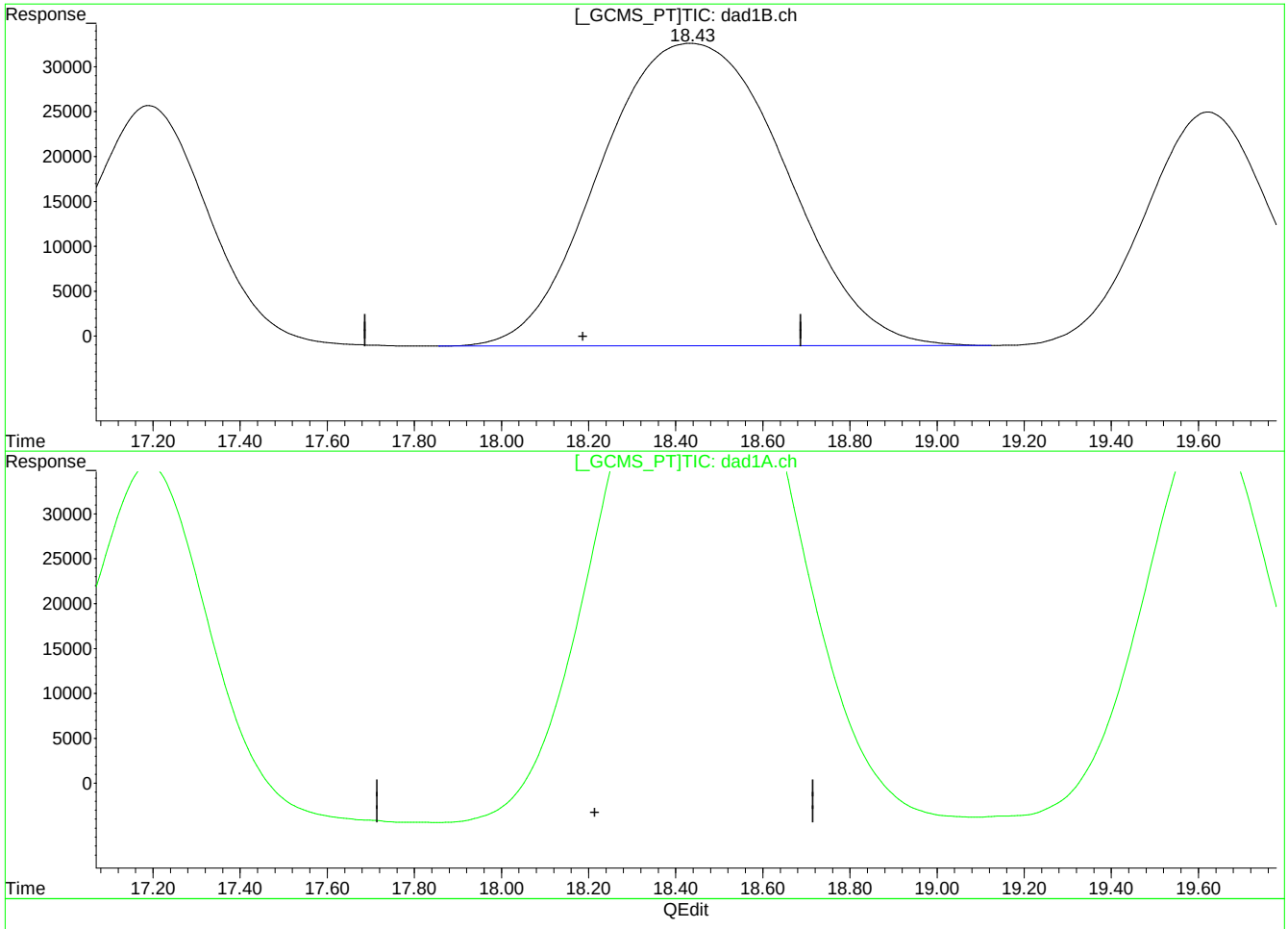
response 2416258

(+) = Expected Retention Time
GG632470.D GGG3599_071425.M Mon Jul 14 17:06:48 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632470.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632470.D\dad1A.ch
Acq On : 14-Jul-2025, 14:56:33 Operator: fouads
Sample : icc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 17:06 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 16:49:13 2025
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

18.44min 2030.541ppb

response 9891571

(18) 4-Amino-2,6-Dinitrotoluene #2

0.00min 0.000ppb

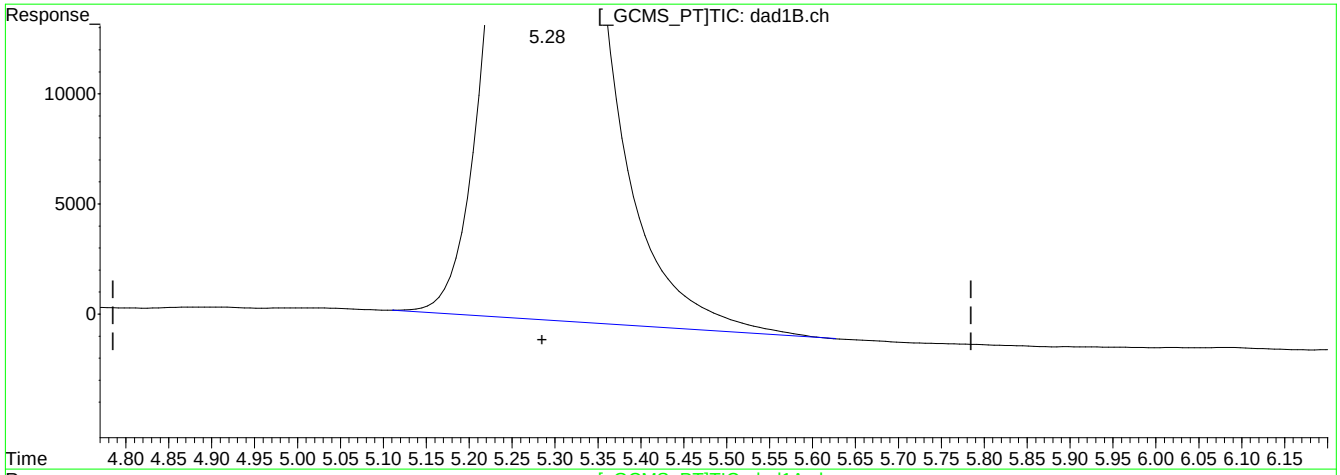
response 0

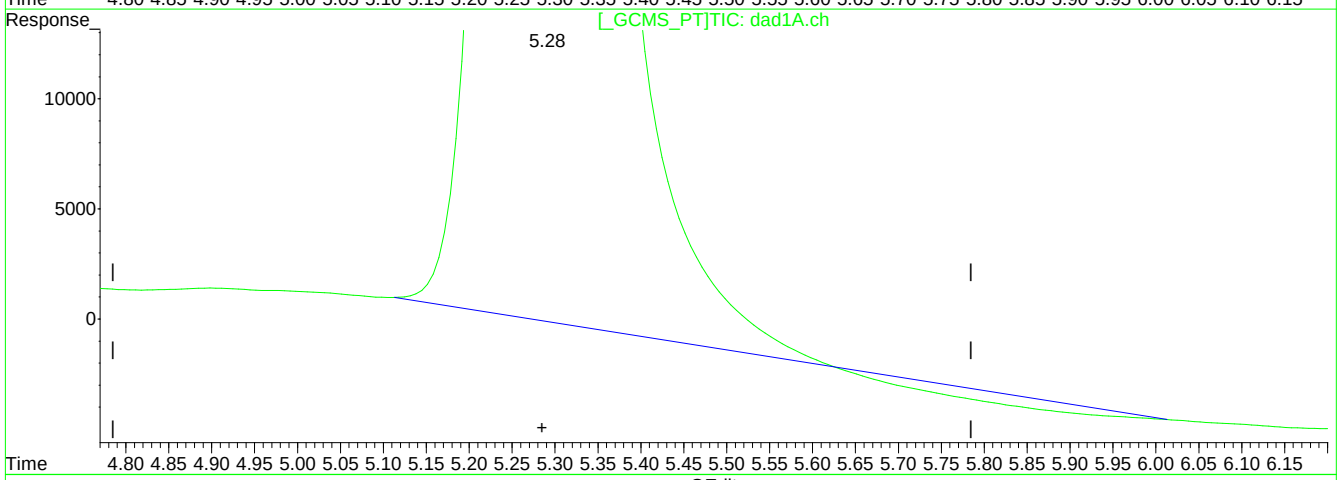
(+) = Expected Retention Time
GG632470.D GGG3599_071425.M Mon Jul 14 17:07:12 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632470.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632470.D\dad1A.ch
Acq On : 14-Jul-2025, 14:56:33 Operator: fouads
Sample : icc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 17:11 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 17:11:47 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

5.29min 1140.258ppb

response 3303415

(2) HMX #2

5.29min 3419.308ppb

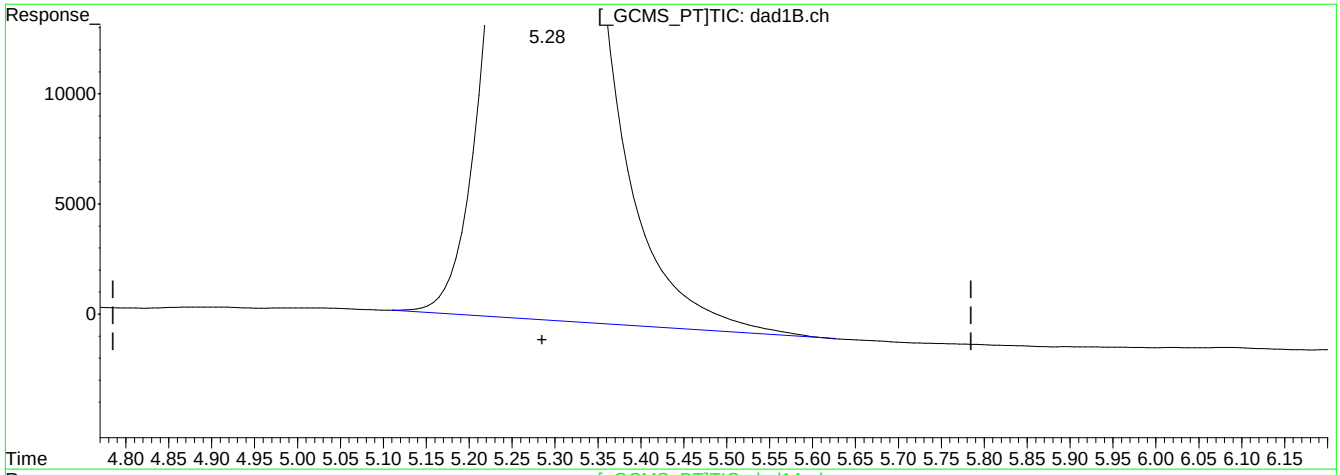
response 9910052

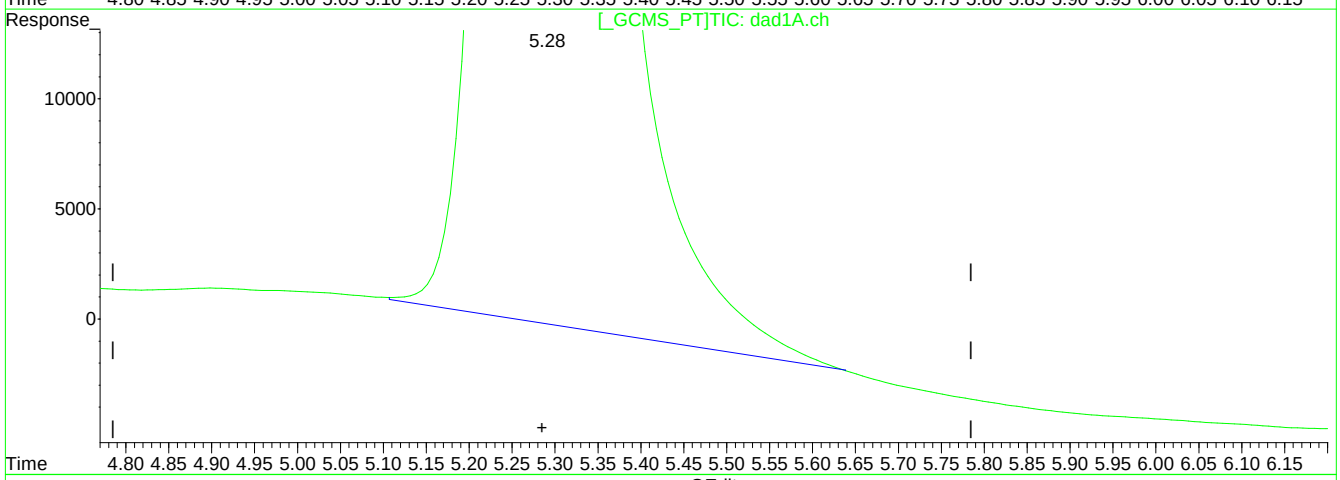
(+) = Expected Retention Time
GG632470.D GGG3599_071425.M Mon Jul 14 17:12:03 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632470.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632470.D\dad1A.ch
Acq On : 14-Jul-2025, 14:56:33 Operator: fouads
Sample : icc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 17:11 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 17:11:47 2025
Response via : Multiple Level Calibration





QEdit

(2) HMX

5.29min 1140.258ppb

response 3303415

(2) HMX #2

5.28min 3454.609ppb m

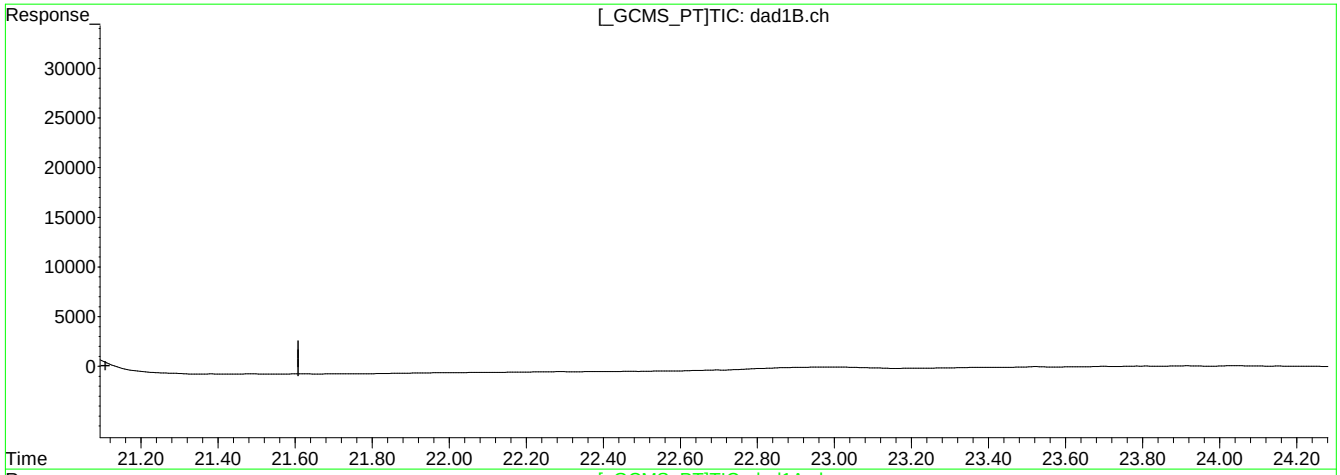
response 10012362

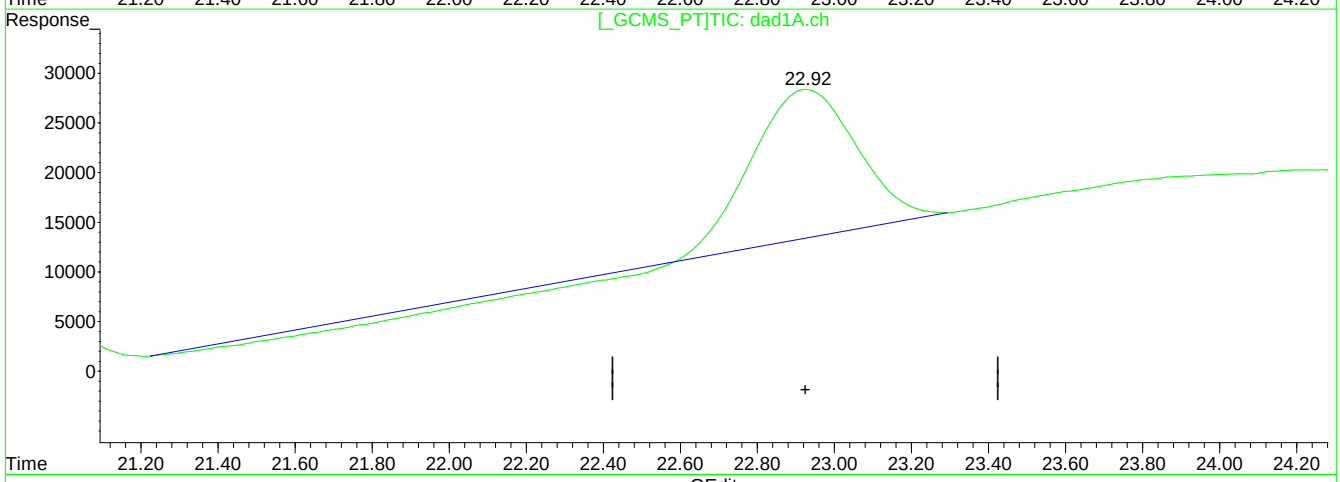
(+) = Expected Retention Time
GG632470.D GGG3599_071425.M Mon Jul 14 17:12:08 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632470.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632470.D\dad1A.ch
Acq On : 14-Jul-2025, 14:56:33 Operator: fouads
Sample : icc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 17:11 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 17:11:47 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

22.93min 808.455ppb

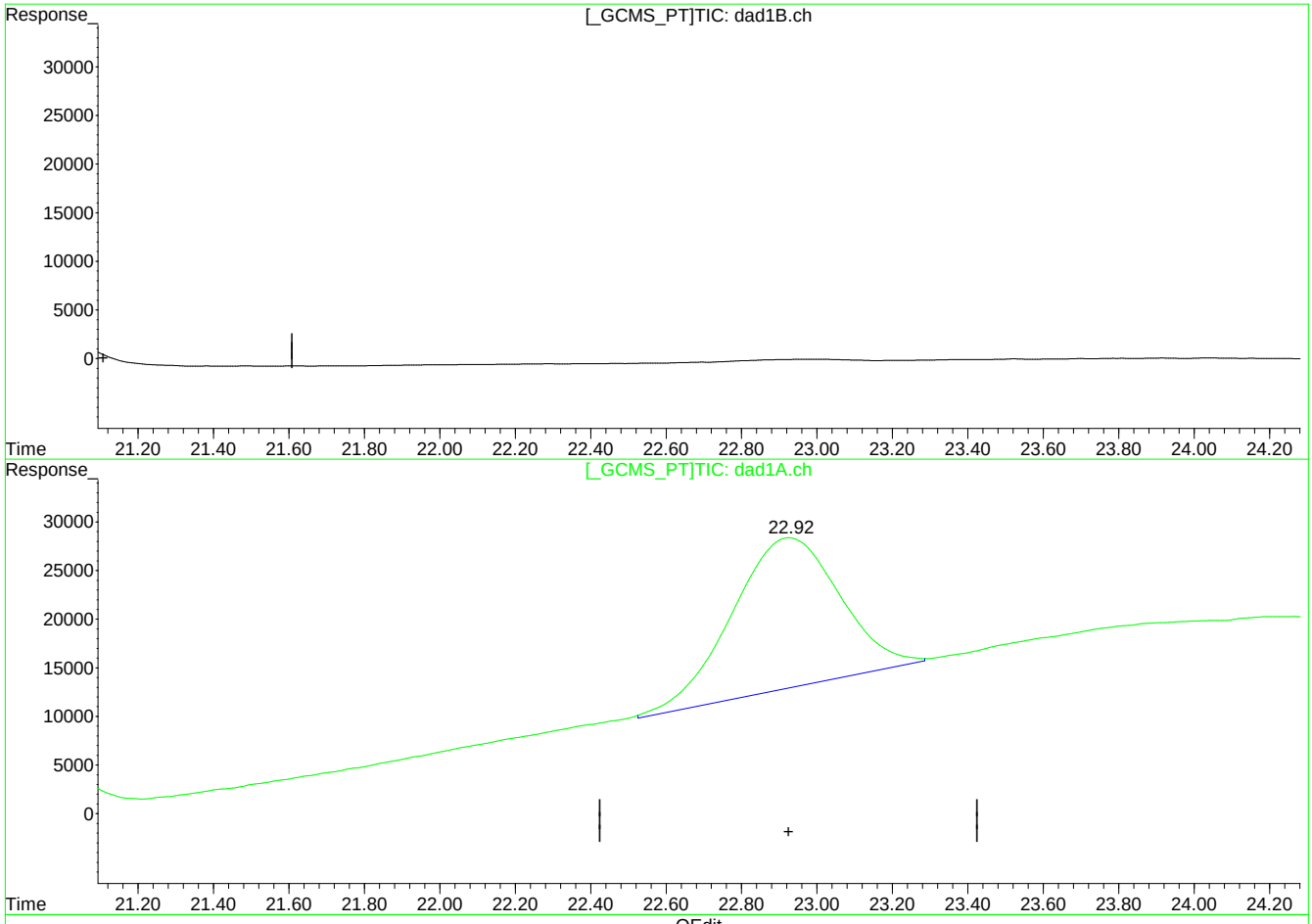
response 2416258

(+) = Expected Retention Time
GG632470.D GGG3599_071425.M Mon Jul 14 17:12:36 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632470.D\dad1B.ch Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632470.D\dad1A.ch
Acq On : 14-Jul-2025, 14:56:33 Operator: fouads
Sample : icc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 17:11 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 17:11:47 2025
Response via : Multiple Level Calibration



(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

22.92min 1032.528ppb m

response 3085951

(+) = Expected Retention Time
GG632470.D GGG3599_071425.M Mon Jul 14 17:12:40 2025

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632471.D\dad1B.ch Vial: 37
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632471.D\dad1A.ch
Acq On : 14-Jul-2025, 15:24:04 Operator: fouads
Sample : ic3599-2500 Inst : G1315B
Misc : op10213,GGG3599,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 17:28:00 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 17:27:20 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.78	14.78	11630822	22843076	2422.686	2300.134
	Spiked Amount 500.000	Range 70 - 136		Recovery =		484.54%#	460.03%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	5.32	5.32	8104825	24321008	2797.586	8391.583 #
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	7.75	7.75	22141188	44860609	2580.257	5333.930 #
6)	RDX	8.10	8.10	10346456	17268186	2528.957	4259.821 #
7)	1,3-Dinitrobenze	10.16	10.16	29802931	35954257	2422.371	4086.048 #
8)	Nitrobenzene	11.09	11.09	19616701	9063509	2545.332	1229.565 #
9)	2,4,6-Trinitroto	12.27	12.27	20805428	27770202	2549.913	2443.776
10)	Nitroglycerin	0.00	13.11	0	7197642	N.D.	2467.118 #
11)	Tetryl	13.83	13.83	16224044	27723737	2523.316	2512.768
13)	2,6-Dinitrotolue	15.14	15.13	14691224	21381133	2725.066	2573.812
14)	2,4-Dinitrotolue	15.85	15.85	28058361	19969903	2512.887	2552.356
15)	3,5-Dinitroanili	16.86	16.86	23239925	38951241	2545.520	2328.207
16)	o-Nitrotoluene	17.37	17.37	12523879	18749358	2759.509	2708.176
17)	p-Nitrotoluene	18.63	18.67	24698967	45845853	5000.104	5200.838
18)	4-Amino-2,6-Dini	18.63	18.67	24698967	45845853	5070.202	5200.736
19)	m-Nitrotoluene	19.81	19.81	13254361	22442105	2504.708	2534.311
20)	2-Amino-4,6-Dini	20.88	20.88	20316748	29018124	2518.478	2548.531
21)	PETN	0.00	23.05	0	7270596	N.D. d	2432.667 #

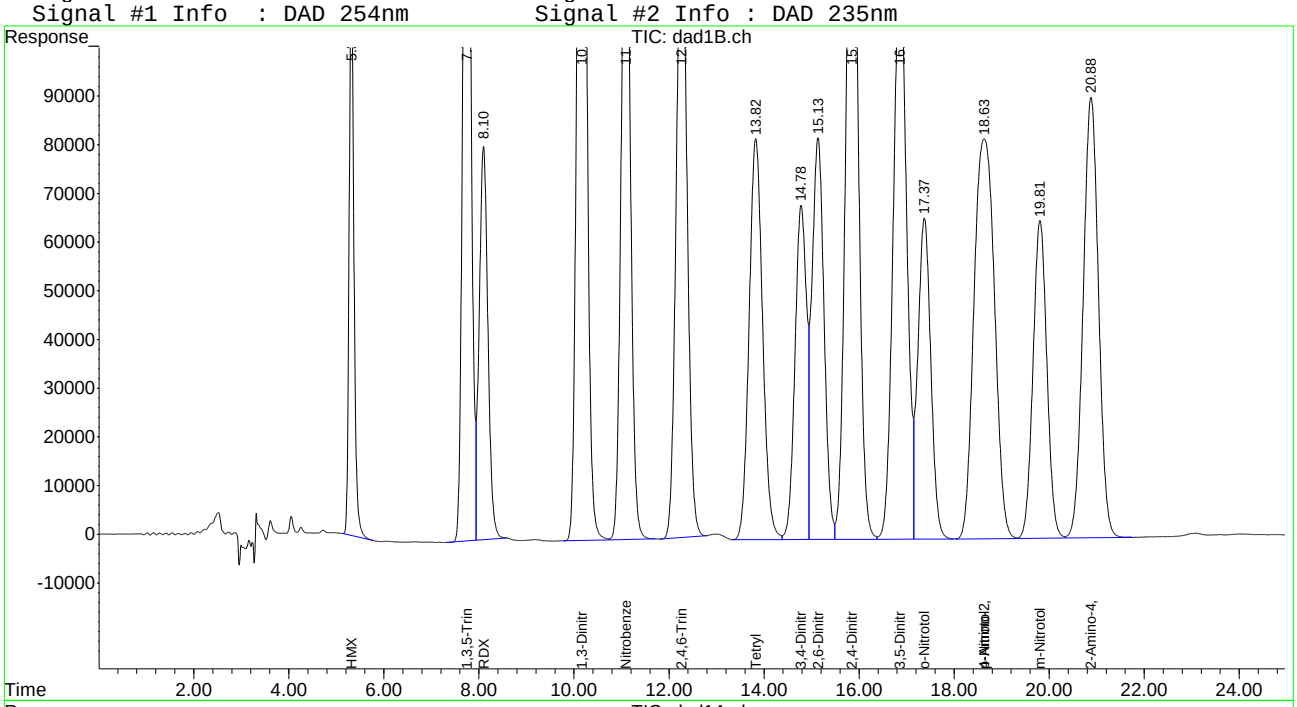
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG632471.D GGG3599_071425.M Mon Jul 14 17:34:40 2025

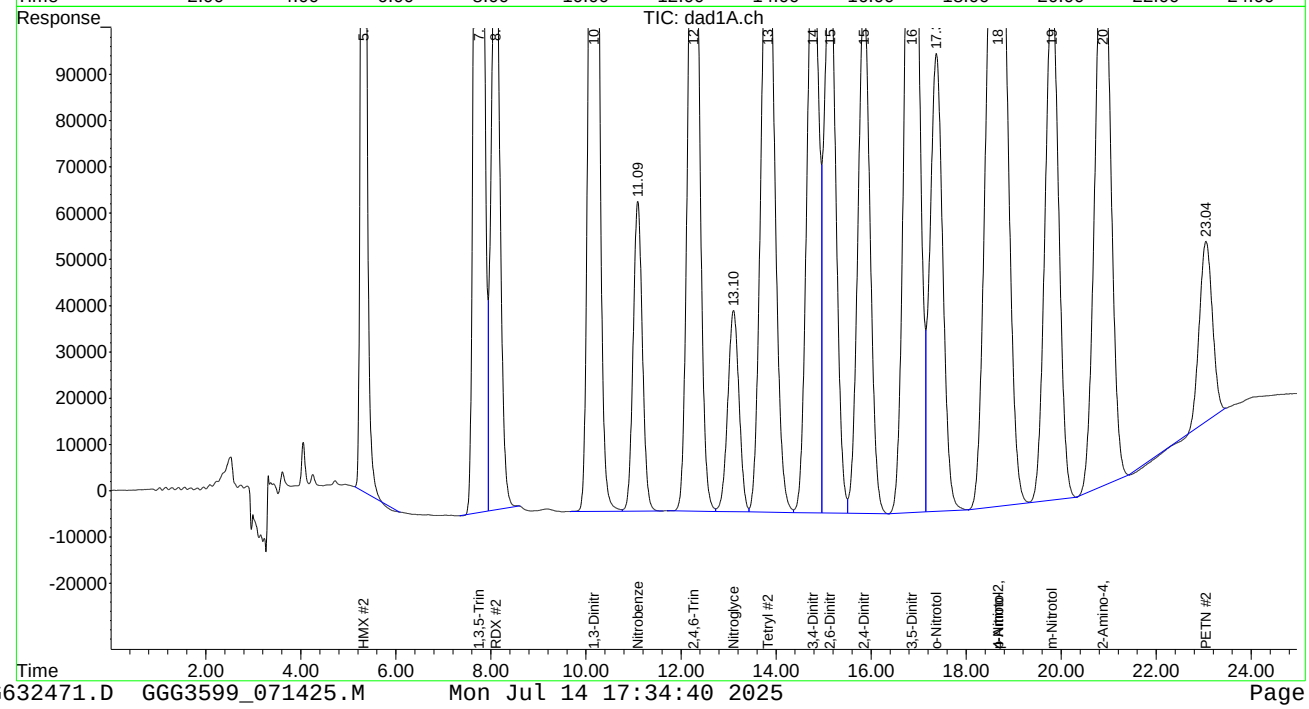
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632471.D\dad1B.ch Vial: 37
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632471.D\dad1A.ch
Acq On : 14-Jul-2025, 15:24:04 Operator: fouads
Sample : ic3599-2500 Inst : G1315B
Misc : op10213,GGG3599,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 17:28 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 17:27:20 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan 07/15/25 10:01

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632472.D\dad1B.ch Vial: 38
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632472.D\dad1A.ch
Acq On : 14-Jul-2025, 15:51:36 Operator: fouads
Sample : ic3599-5000 Inst : G1315B
Misc : op10213,GGG3599,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 17:28:01 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 17:27:20 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.82	14.82	23509062	46152188	4896.908	4647.194
	Spiked Amount 500.000	Range 70 - 136		Recovery =		979.38%#	929.44%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	5.33	5.33	16301790	49291151	5626.978	17007.139 #
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	7.76	7.76	44538615	90228390	5190.375	10728.164 #
6)	RDX	8.12	8.12	20831695	34807696	5091.837	8586.574 #
7)	1,3-Dinitrobenze	10.19	10.19	60046982	72407060	4880.595	8228.753 #
8)	Nitrobenzene	11.12	11.12	39553240	18315844	5132.164	2484.747 #
9)	2,4,6-Trinitroto	12.29	12.29	41809733	55807809	5124.200	4911.083
10)	Nitroglycerin	0.00	13.13	0	14895532	N.D.	5105.706 #
11)	Tetryl	13.86	13.86	32863034	56710194	5111.168	5139.984
13)	2,6-Dinitrotolue	15.18	15.18	29611291	43087443	5492.581	5186.767
14)	2,4-Dinitrotolue	15.90	15.90	56511844	40387282	5061.162	5161.905
15)	3,5-Dinitroanili	16.92	16.92	46908306	78655089	5137.970	4701.399
16)	o-Nitrotoluene	17.42	17.42	25152188	37516773	5542.028	5418.960
17)	p-Nitrotoluene	18.71	18.74	49772165	92026286	10075.968	10439.632
18)	4-Amino-2,6-Dini	18.71	18.74	49772165	91937769	10217.225	10429.385m
19)	m-Nitrotoluene	19.84	19.84	26786783	45131091	5061.961	5096.502
20)	2-Amino-4,6-Dini	20.92	20.92	41219257	58887070	5109.567	5171.785
21)	PETN	0.00	23.05	0	15881257	N.D. d	5313.706m#

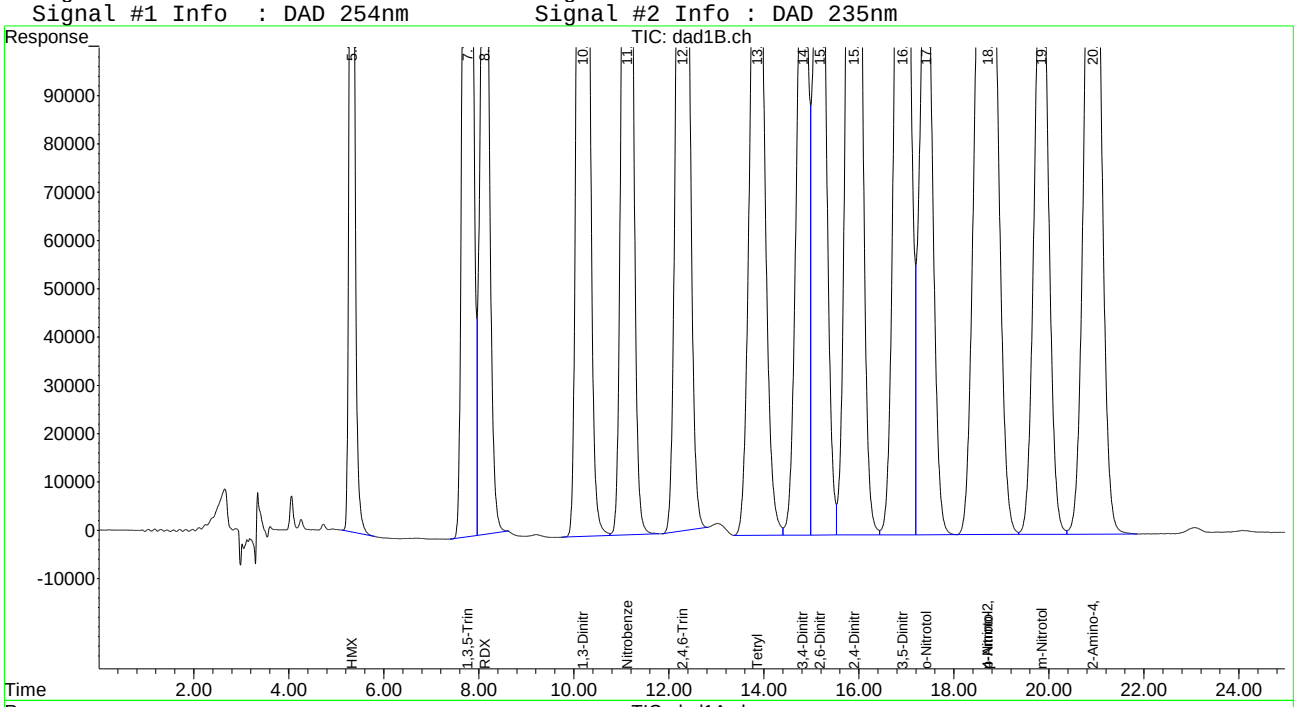
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG632472.D GGG3599_071425.M Mon Jul 14 17:34:41 2025

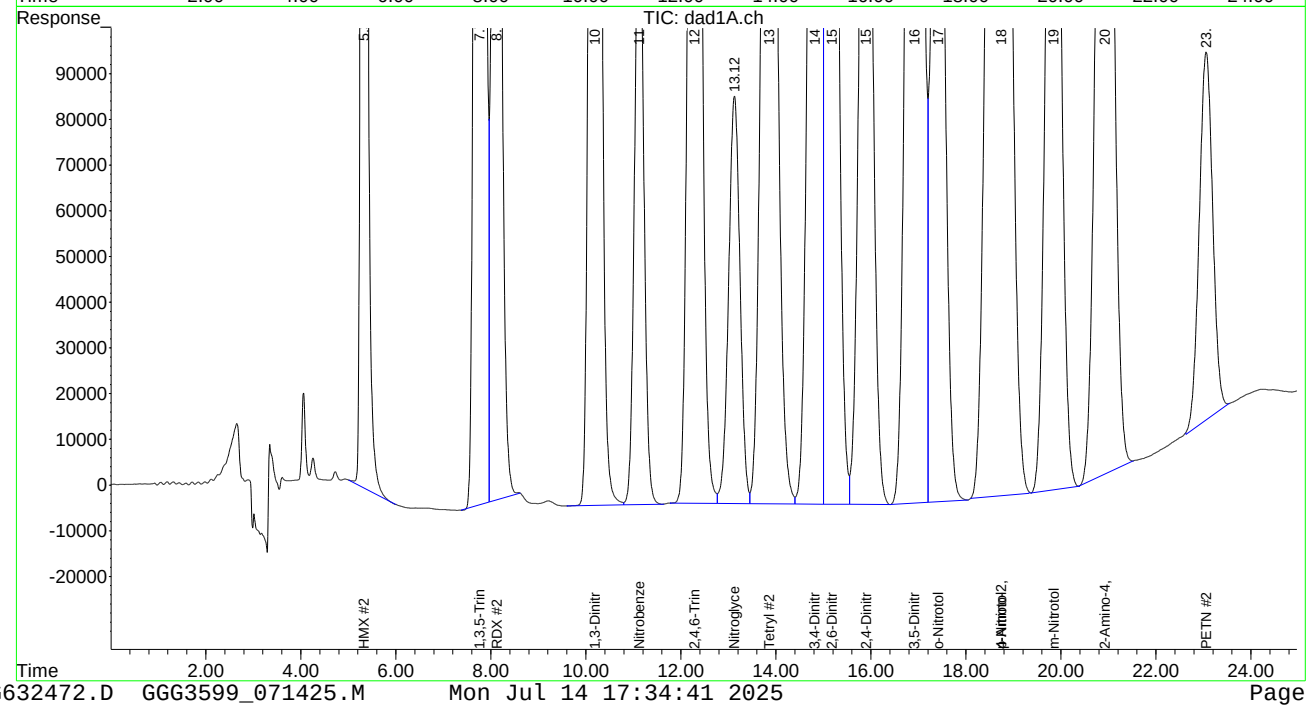
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632472.D\dad1B.ch Vial: 38
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632472.D\dad1A.ch
Acq On : 14-Jul-2025, 15:51:36 Operator: fouads
Sample : ic3599-5000 Inst : G1315B
Misc : op10213,GGG3599,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 17:29 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 17:27:20 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

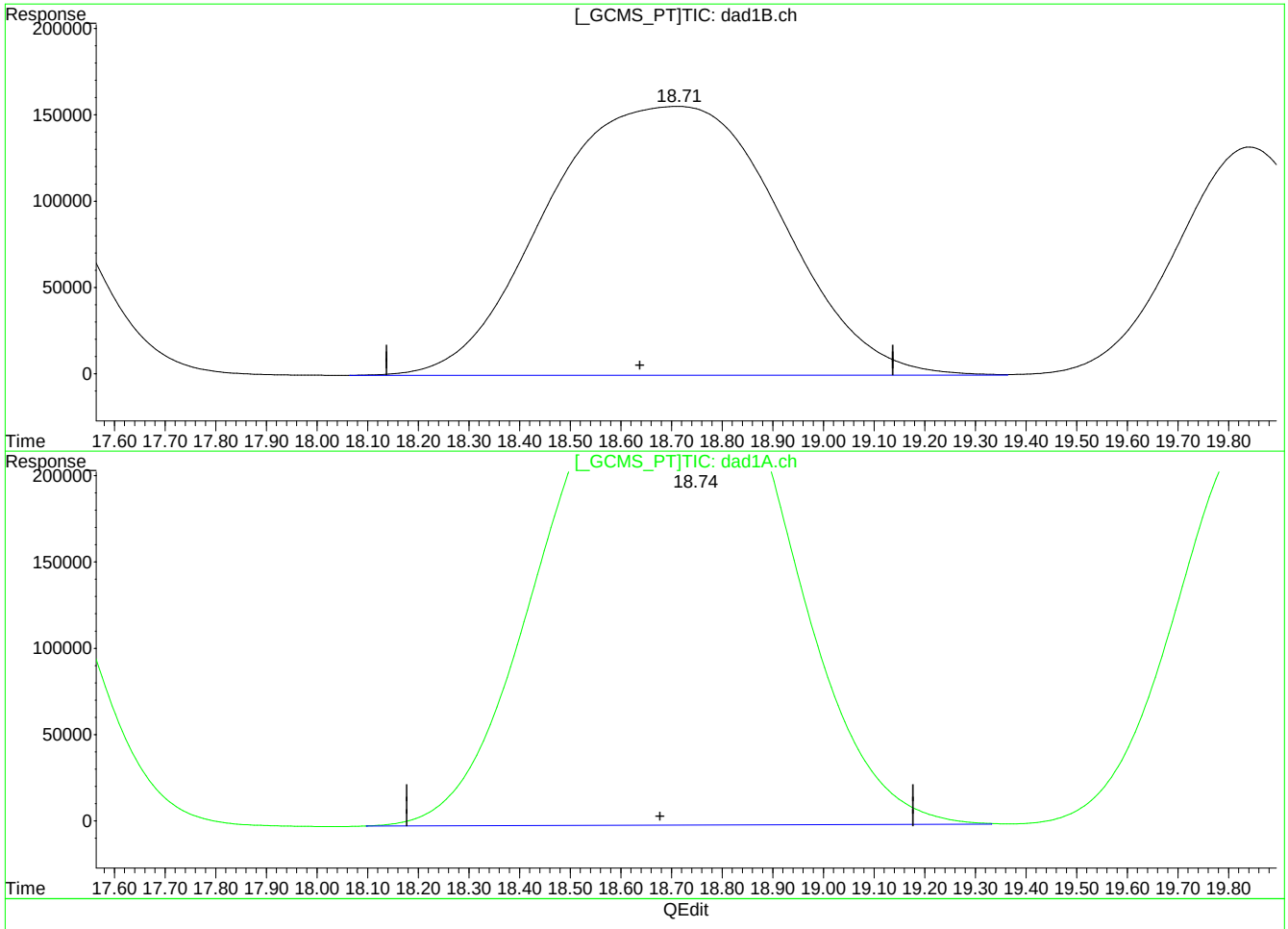
Sample Number: GGG3599-IC3599
Lab FileID: GG632472.D
Injection Time: 07/14/25 15:51
Method: SW846 8330B
Analyst approved: 07/14/25 17:37 William Hustedde
Supervisor approved: 07/15/25 10:01 Naresh Jiawan

Parameter	CAS	Sig#	R.T. (min.)	Reason
4-amino-2,6-Dinitrotoluene	19406-51-0	2	18.74	Missed peak
PETN	78-11-5	2	23.05	Missed peak

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632472.D\dad1B.ch Vial: 38
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632472.D\dad1A.ch
Acq On : 14-Jul-2025, 15:51:36 Operator: fouads
Sample : ic3599-5000 Inst : G1315B
Misc : op10213,GGG3599,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 17:28 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 17:27:20 2025
Response via : Multiple Level Calibration



(18) 4-Amino-2,6-Dinitrotoluene

18.71min 10217.225ppb

response 49772165

(18) 4-Amino-2,6-Dinitrotoluene #2

18.74min 10429.385ppb m

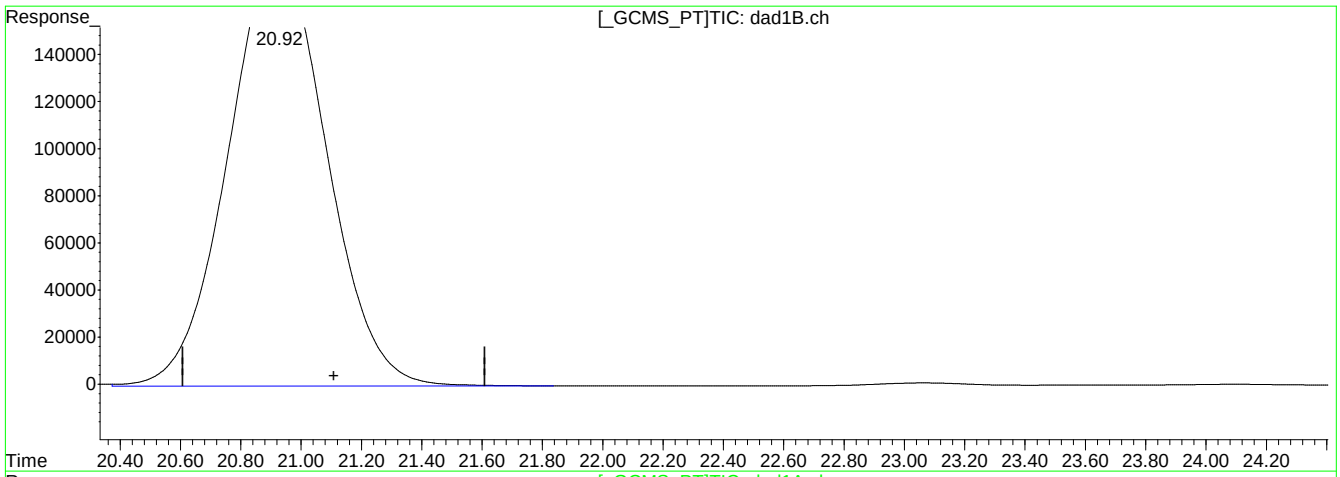
response 91937769

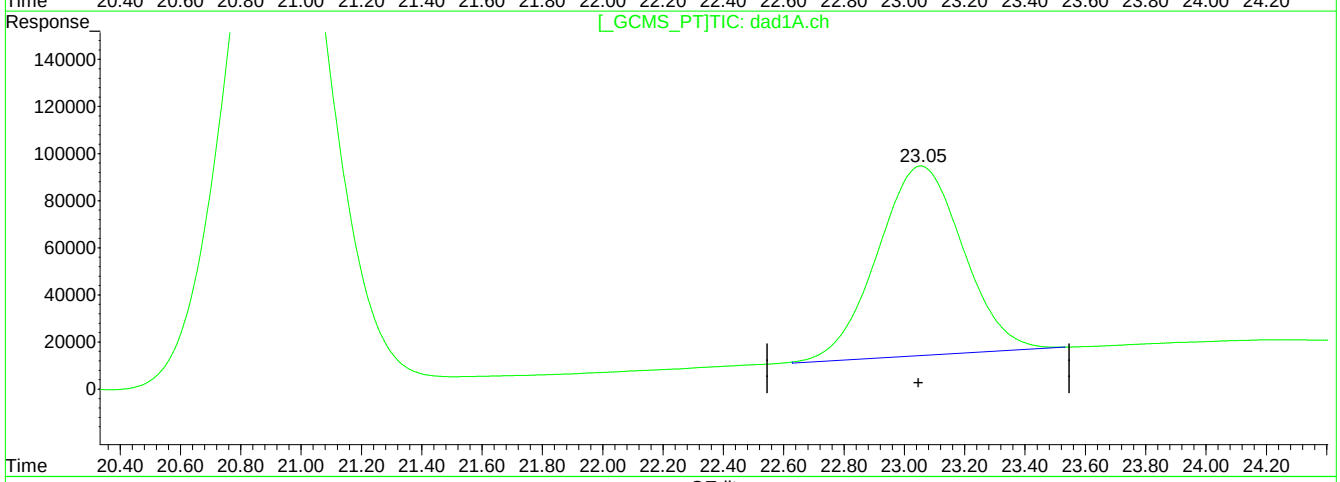
(+) = Expected Retention Time
GG632472.D GGG3599_071425.M Mon Jul 14 17:29:33 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632472.D\dad1B.ch Vial: 38
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632472.D\dad1A.ch
Acq On : 14-Jul-2025, 15:51:36 Operator: fouads
Sample : ic3599-5000 Inst : G1315B
Misc : op10213,GGG3599,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 17:28 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 17:27:20 2025
Response via : Multiple Level Calibration





(21) PETN

20.92min 2608.437ppb

response 41219257

(21) PETN #2

23.05min 5313.706ppb m

response 15881257

(+) = Expected Retention Time
GG632472.D GGG3599_071425.M Mon Jul 14 17:29:44 2025

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632473.D\dad1B.ch Vial: 39
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632473.D\dad1A.ch
Acq On : 14-Jul-2025, 16:19:05 Operator: fouads
Sample : icv3599-1000 Inst : G1315B
Misc : op10213,GGG3599,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 17:33:34 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 17:33:22 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	5.31	5.31	3854468	11893960	1109.278	1076.722
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	7.73	7.73	8872707	17949063	969.823	1000.813
6)	RDX	8.09	8.09	4656711	7805312	1129.341	1135.073
7)	1,3-Dinitrobenze	10.16	10.16	12738416	15354433	1040.033	1035.018
8)	Nitrobenzene	11.08	11.08	8233525	3805154	1019.386	1019.080
9)	2,4,6-Trinitroto	12.25	12.25	9067780	12093186	1050.479	1084.609
10)	Nitroglycerin	0.00	13.09	0	5927179	N.D.	2077.742 #
11)	Tetryl	13.81	13.81	6846896	11828774	1035.214	1065.494
13)	2,6-Dinitrotolue	15.13	15.13	6112753	9139111	1031.842	1073.645
14)	2,4-Dinitrotolue	15.85	15.85	11919374	8377824	1049.477	1054.884
15)	3,5-Dinitroanili	16.89	16.89	9893742	16646717	1042.972	1104.451
16)	o-Nitrotoluene	17.36	17.36	5273344	8016316	1097.817	1060.671
17)	p-Nitrotoluene	18.68	18.71	10432104	19154478	2031.202	2003.408
18)	4-Amino-2,6-Dini	18.68	18.71	10432104	19154478	2030.566	2029.028
19)	m-Nitrotoluene	19.80	19.80	5598420	9453726	1042.302	1099.051
20)	2-Amino-4,6-Dini	20.90	20.90	8452039	12033331	1039.357	1055.096
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

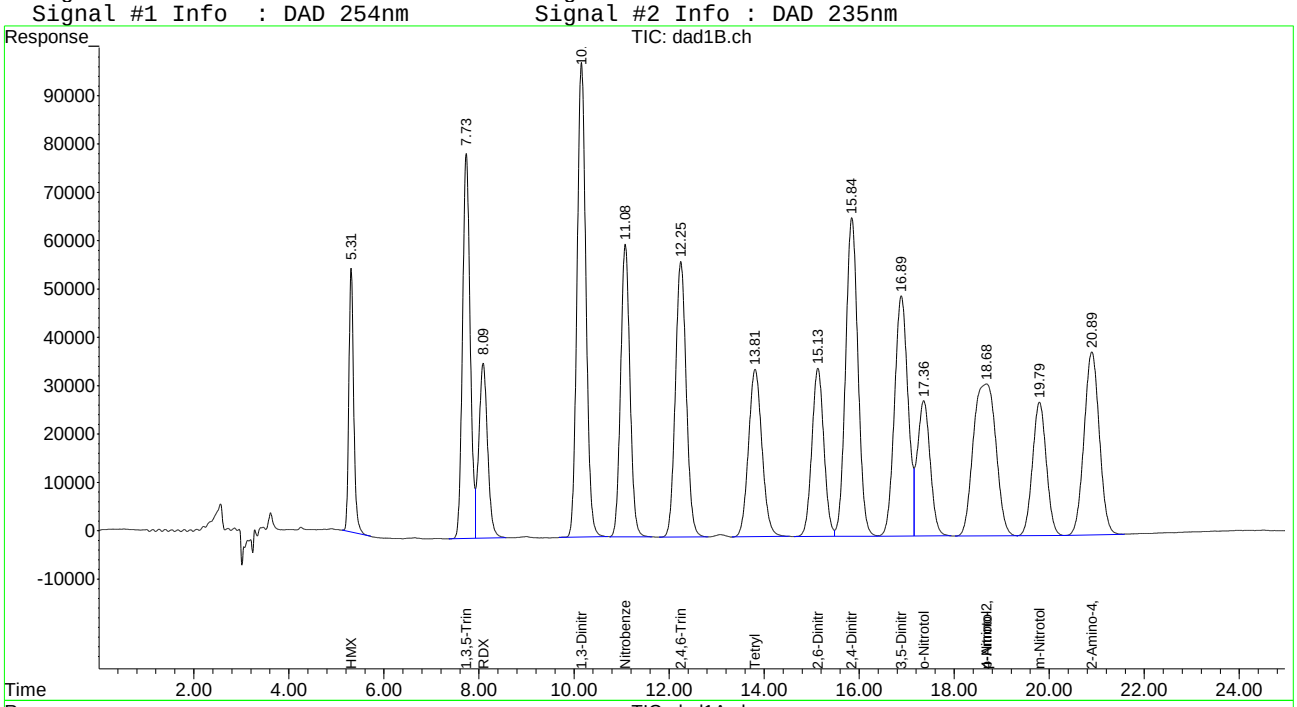
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG632473.D GGG3599_071425.M Mon Jul 14 17:36:27 2025

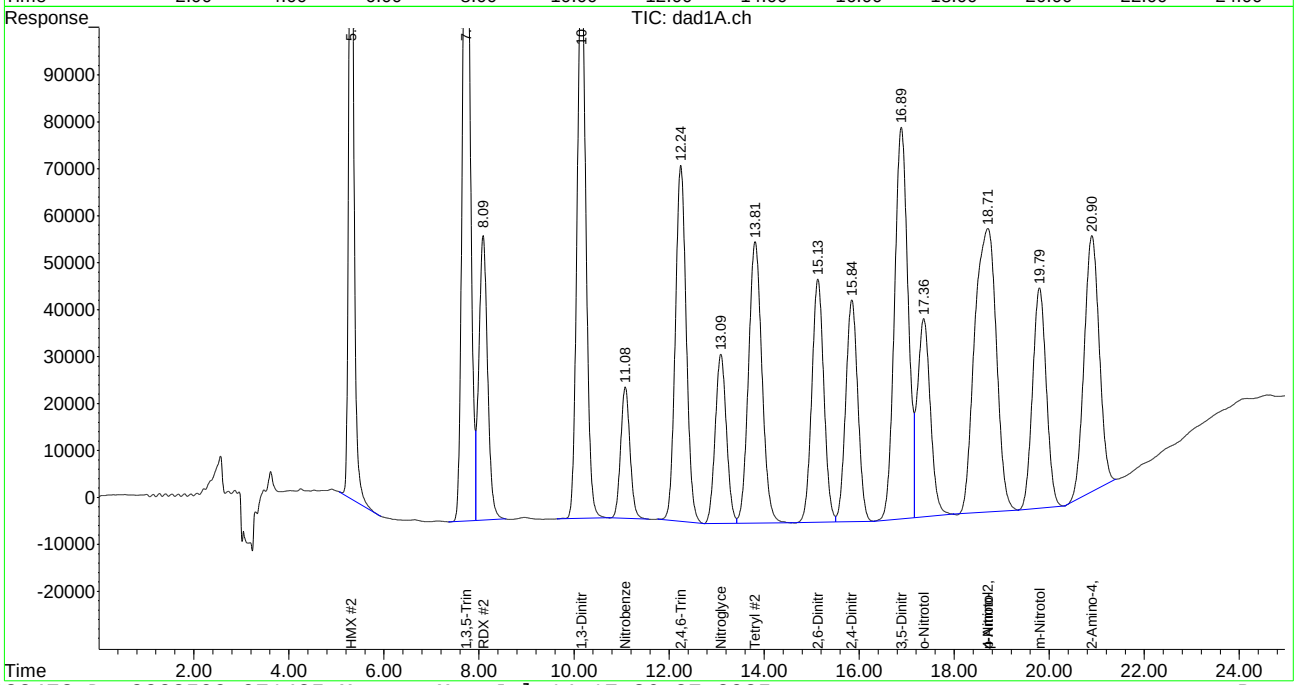
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3599\GG632473.D\dad1B.ch Vial: 39
Signal #2 : C:\HPCHEM\1\DATA\GGG3599\GG632473.D\dad1A.ch
Acq On : 14-Jul-2025, 16:19:05 Operator: fouads
Sample : icv3599-1000 Inst : G1315B
Misc : op10213,GGG3599,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Jul 14 17:36 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 14 17:33:22 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan
11/03/25 16:14

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633327.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633327.D\dad1A.ch
Acq On : 29-Oct-2025, 09:15:04 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : OP11972,GGG3647,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 29 08:53:14 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.17	14.17	4547751	9725226	955.225	1075.051
	Spiked Amount 500.000	Range 70 - 136		Recovery =		191.04%#	215.01%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	5.32	5.32	3328841	10632889	958.008	962.561
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	7.46	7.46	8323604	16960343	909.803	945.684
6)	RDX	7.81	7.80	4300030	7186264	1042.839	1045.049
7)	1,3-Dinitrobenze	9.80	9.80	11560034	13952881	943.824	940.541
8)	Nitrobenzene	10.65	10.65	7566688	3518352	936.825	942.270
9)	2,4,6-Trinitroto	11.76	11.76	8113177	12227842	939.891	1096.847
10)	Nitroglycerin	0.00	12.55	0	3800947	N.D.	1344.317 #
11)	Tetryl	13.19	13.19	5615123	11071159	848.976	997.251
13)	2,6-Dinitrotolue	14.49	14.48	6578049	9708527	1110.385	1140.303
14)	2,4-Dinitrotolue	15.23	15.23	10953196	7836000	964.407	987.223
15)	3,5-Dinitroanili	16.21	16.21	8291191	14386679	874.035	954.506m
16)	o-Nitrotoluene	16.56	16.46	5495012	8568948	1143.964	1134.234m
17)	p-Nitrotoluene	17.92	17.94	9363525	16769627	1823.143	1753.971
18)	4-Amino-2,6-Dini	17.92	17.94	9363525	16769627	1822.572	1776.402
19)	m-Nitrotoluene	18.97	18.97	5035497	8117241	937.498	943.676
20)	2-Amino-4,6-Dini	20.09	20.09	7845272	10519523	964.742	924.964
21)	PETN	0.00	22.29	0	2827513	N.D.	979.869m#

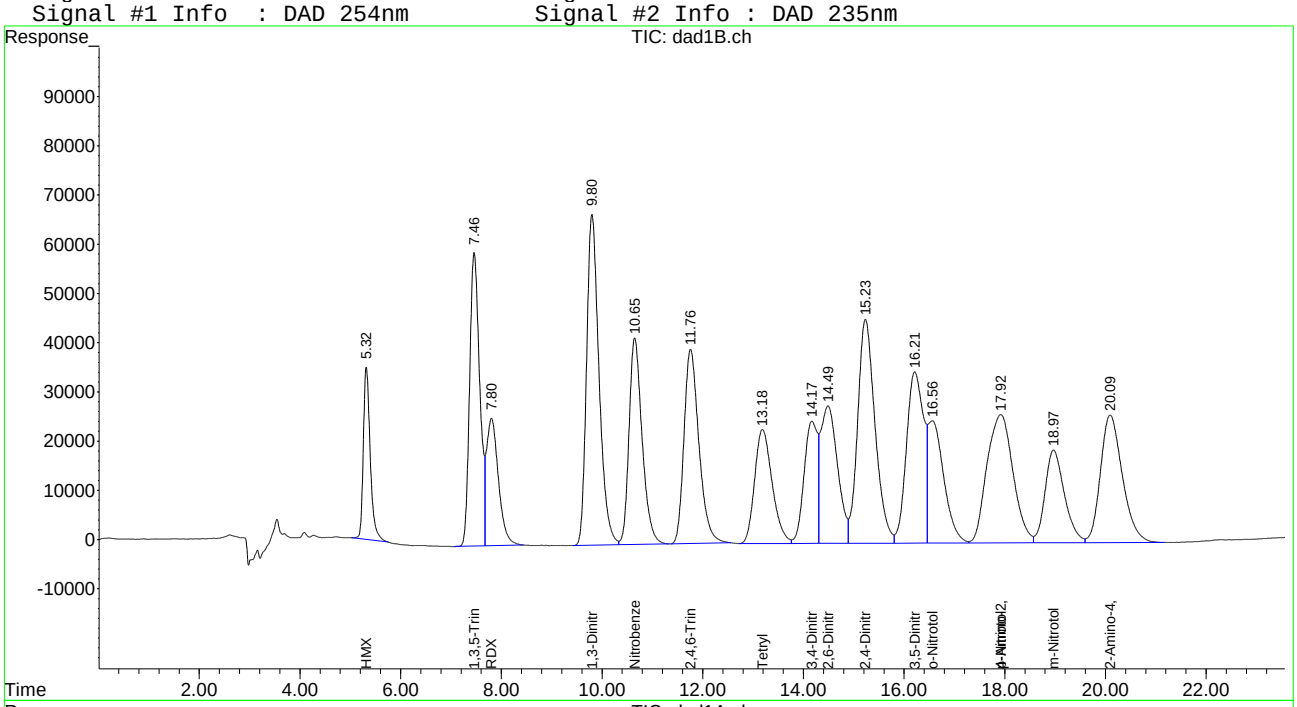
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG633327.D GGG3599_071425.M Fri Oct 31 13:39:17 2025

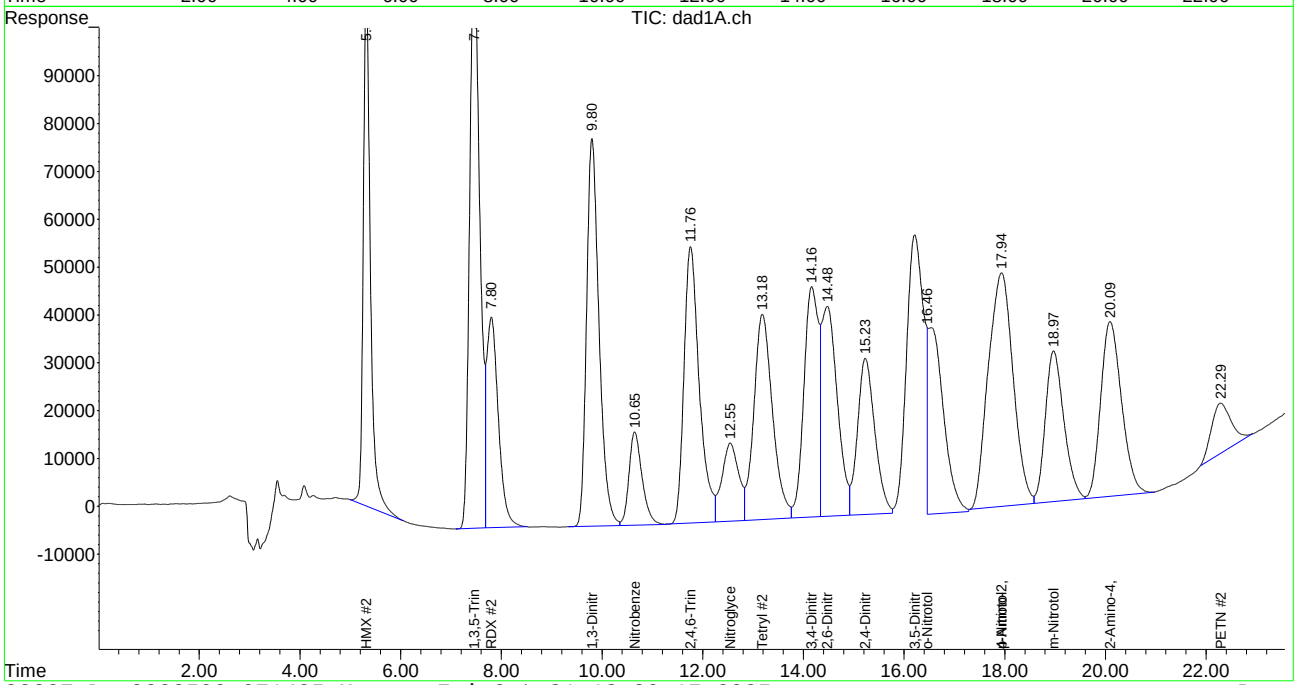
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633327.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633327.D\dad1A.ch
Acq On : 29-Oct-2025, 09:15:04 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : OP11972,GGG3647,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 7:59 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

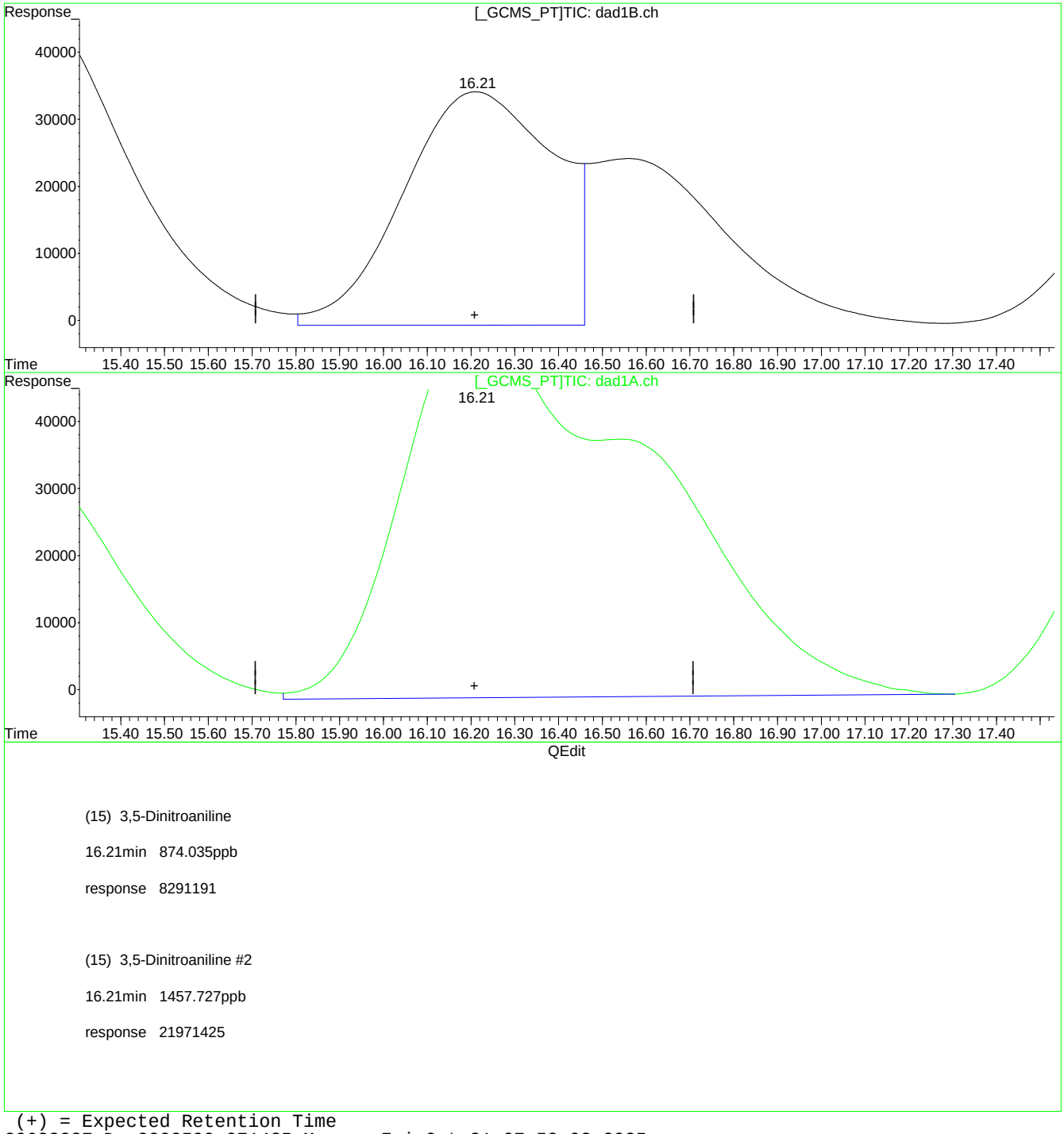
Sample Number: GGG3647-CC3599
Lab FileID: GG633327.D
Injection Time: 10/29/25 09:15
Method: SW846 8330A
Analyst approved: 10/31/25 14:53 Fouad Sekkar
Supervisor approved: 11/03/25 16:14 Naresh Jiawan

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,5-Dinitroaniline	618-87-1	2	16.21	Split peak
o-Nitrotoluene	88-72-2	2	16.46	Split peak
PETN	78-11-5	2	22.29	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633327.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633327.D\dad1A.ch
Acq On : 29-Oct-2025, 09:15:04 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 29 8:53 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(15) 3,5-Dinitroaniline

16.21min 874.035ppb

response 8291191

(15) 3,5-Dinitroaniline #2

16.21min 1457.727ppb

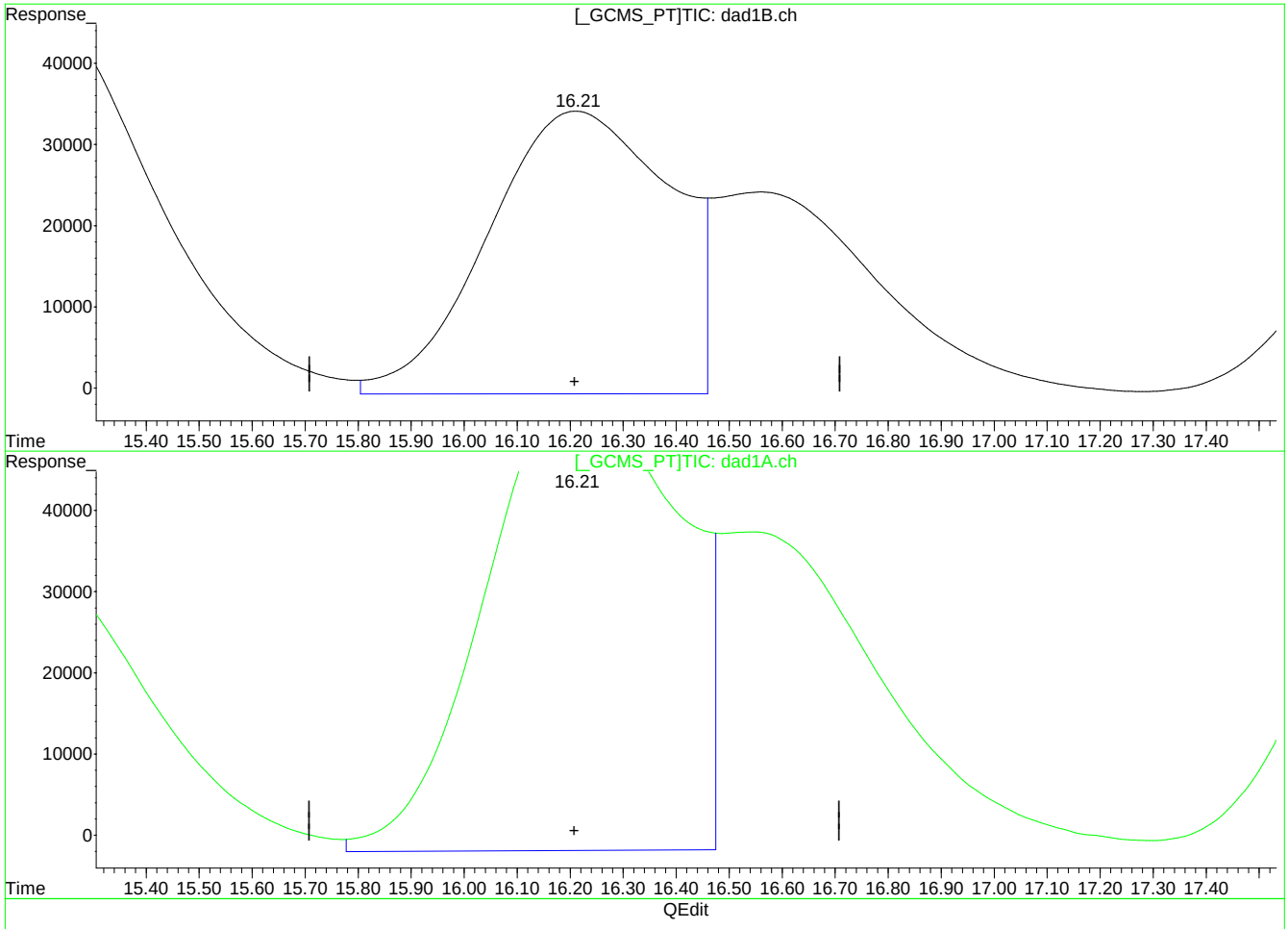
response 21971425

(+) = Expected Retention Time
GG633327.D GGG3599_071425.M Fri Oct 31 07:58:02 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633327.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633327.D\dad1A.ch
Acq On : 29-Oct-2025, 09:15:04 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 29 8:53 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(15) 3,5-Dinitroaniline

16.21min 874.035ppb

response 8291191

(15) 3,5-Dinitroaniline #2

16.21min 954.506ppb m

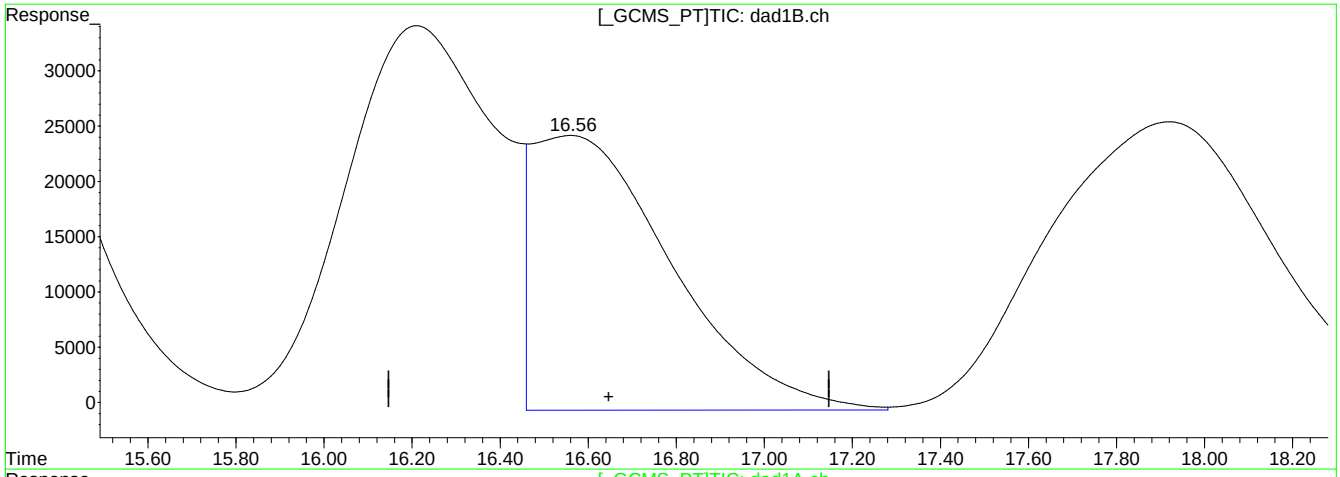
response 14386679

(+) = Expected Retention Time
GG633327.D GGG3599_071425.M Fri Oct 31 07:58:08 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633327.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633327.D\dad1A.ch
Acq On : 29-Oct-2025, 09:15:04 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 29 8:53 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(16) o-Nitrotoluene

16.56min 1143.964ppb

response 5495012

(16) o-Nitrotoluene #2

0.00min 0.000ppb

response 0

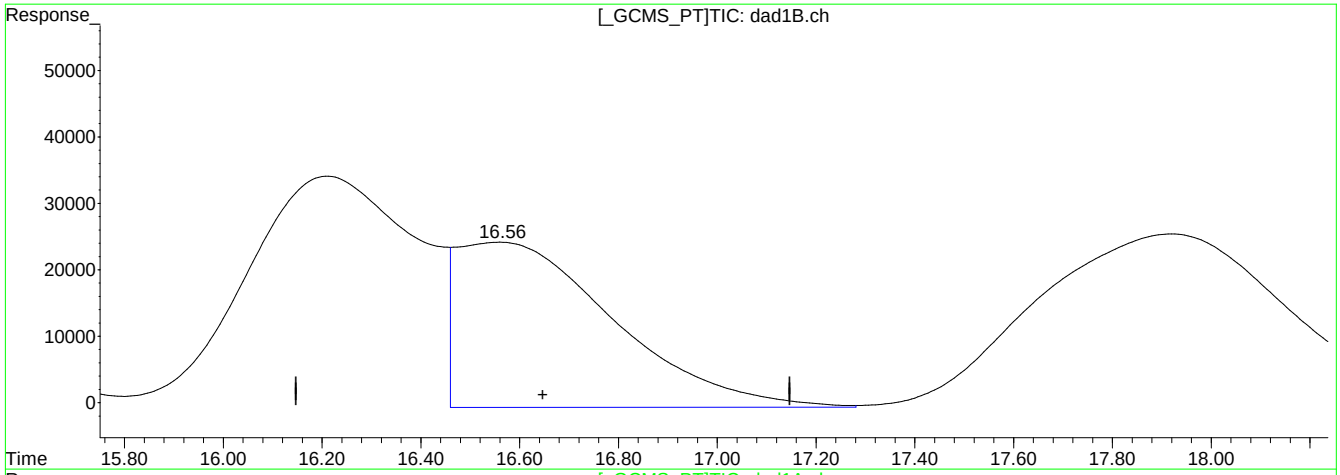
(+) = Expected Retention Time

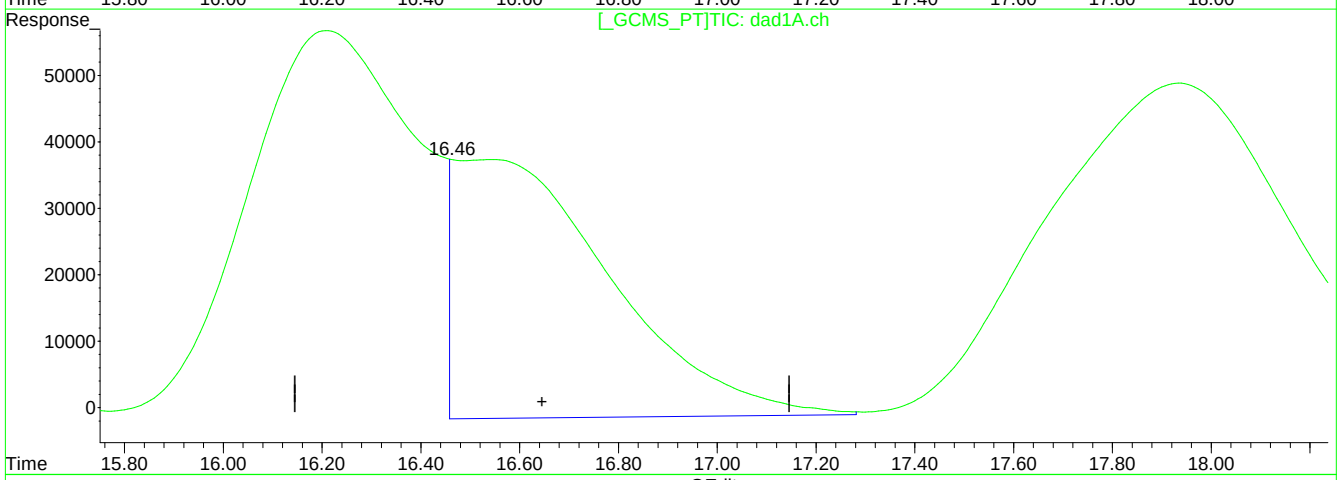
GG633327.D GGG3599_071425.M Fri Oct 31 07:58:14 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633327.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633327.D\dad1A.ch
Acq On : 29-Oct-2025, 09:15:04 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 29 8:53 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





QEdit

(16) o-Nitrotoluene

16.56min 1143.964ppb

response 5495012

(16) o-Nitrotoluene #2

16.46min 1134.234ppb m

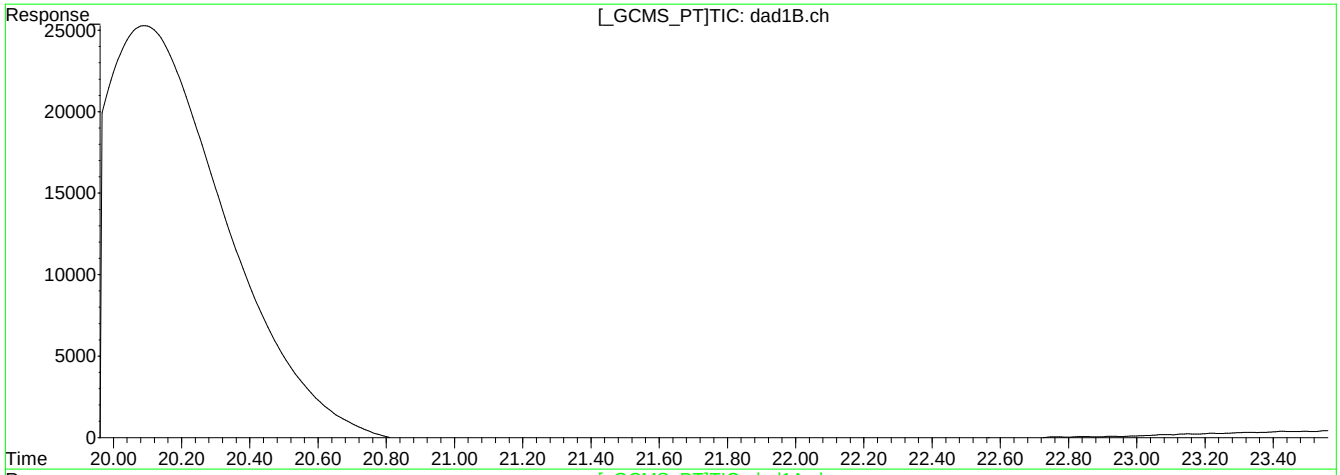
response 8568948

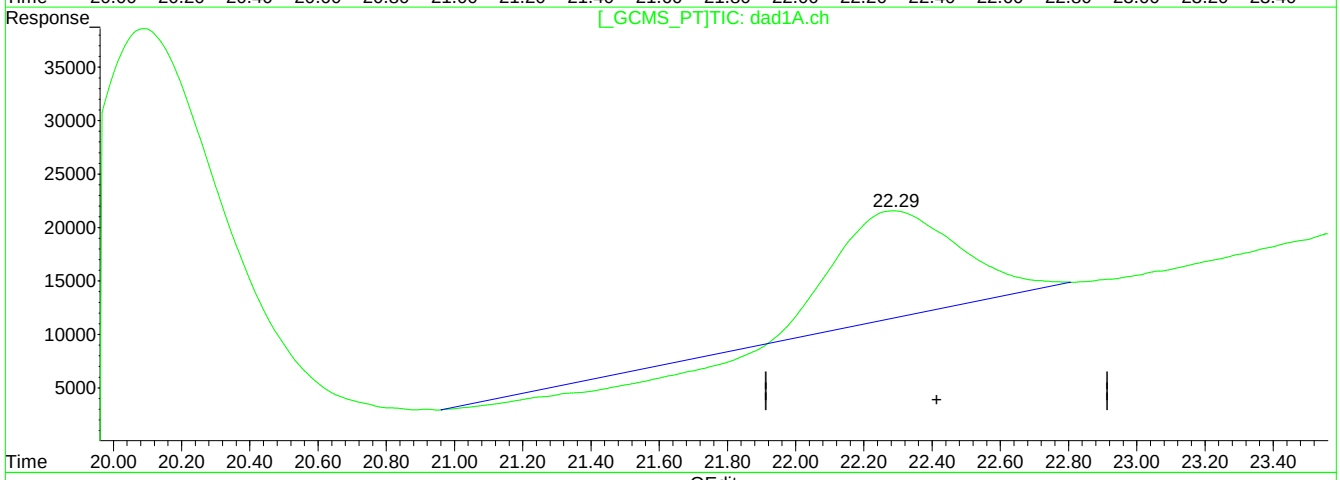
(+) = Expected Retention Time
GG633327.D GGG3599_071425.M Fri Oct 31 07:58:28 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633327.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633327.D\dad1A.ch
Acq On : 29-Oct-2025, 09:15:04 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 29 8:53 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

22.29min 718.166ppb

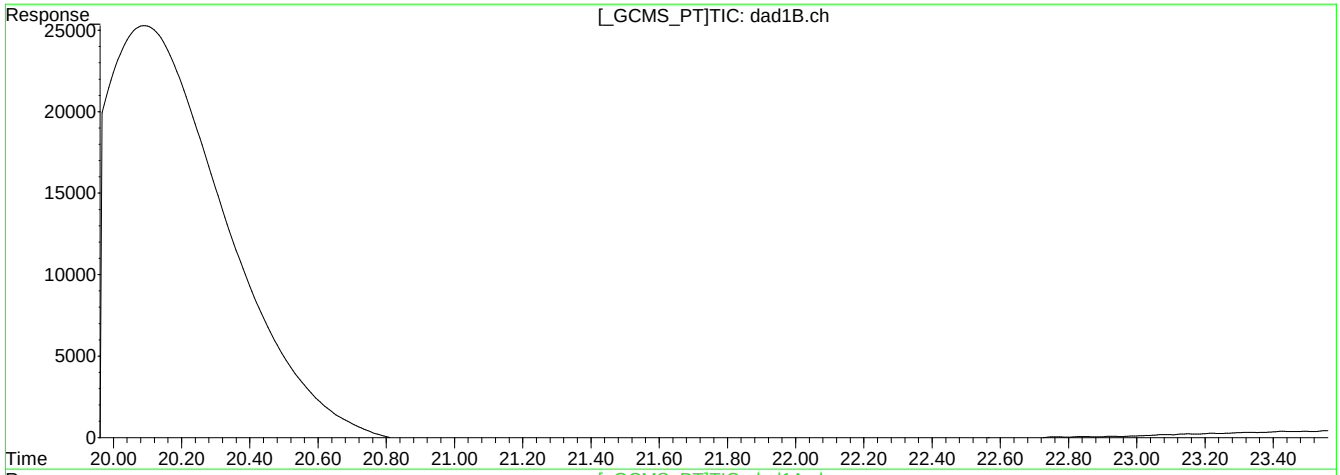
response 2084545

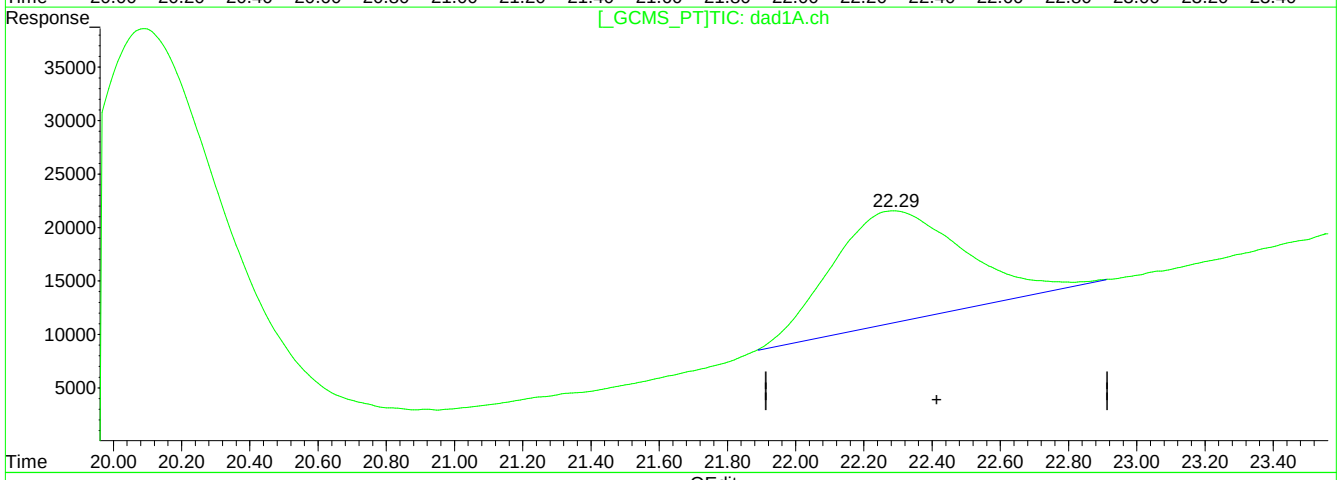
(+) = Expected Retention Time
GG633327.D GGG3599_071425.M Fri Oct 31 07:58:43 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633327.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633327.D\dad1A.ch
Acq On : 29-Oct-2025, 09:15:04 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 29 8:53 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

22.29min 979.869ppb m

response 2827513

(+) = Expected Retention Time
GG633327.D GGG3599_071425.M Fri Oct 31 07:58:53 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan
11/03/25 16:14

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633339.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633339.D\dad1A.ch
Acq On : 29-Oct-2025, 15:14:06 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : OP11972,GGG3647,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 08:00:12 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.24	14.24	4524451	10152766	950.331	1122.131
	Spiked Amount 500.000	Range 70 - 136		Recovery =		190.07%#	224.43%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	5.33	5.33	3310156	10452442	952.631	946.226
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	7.47	7.47	8277481	16877538	904.762	941.067
6)	RDX	7.82	7.82	4220283	7117423	1023.499	1035.038
7)	1,3-Dinitrobenze	9.82	9.82	11533568	13940661	941.663	939.718
8)	Nitrobenzene	10.68	10.68	7306159	3416128	904.569	914.893
9)	2,4,6-Trinitroto	11.79	11.79	8057100	12314305	933.395	1104.705
10)	Nitroglycerin	0.00	12.60	0	3797266	N.D.	1343.032 #
11)	Tetryl	13.25	13.25	5589335	11367630	845.077	1023.956
13)	2,6-Dinitrotolue	14.55	14.54	6587232	10288851	1111.935	1208.209
14)	2,4-Dinitrotolue	15.30	15.30	10946887	8542953	963.852	1075.498
15)	3,5-Dinitroanili	16.28	16.28	8195738	14390647	863.973m	954.769m
16)	o-Nitrotoluene	16.62	16.53	5279671	7862232	1099.134m	1040.162m
17)	p-Nitrotoluene	18.00	18.01	9293224	16725765	1809.455	1749.384
18)	4-Amino-2,6-Dini	18.00	18.01	9293224	16725765	1808.888	1771.756
19)	m-Nitrotoluene	19.03	19.03	4895481	7839558	911.430	911.394
20)	2-Amino-4,6-Dini	20.15	20.15	7815157	10381326	961.039	913.075
21)	PETN	0.00	22.36	0	2986548	N.D.	1035.305m#

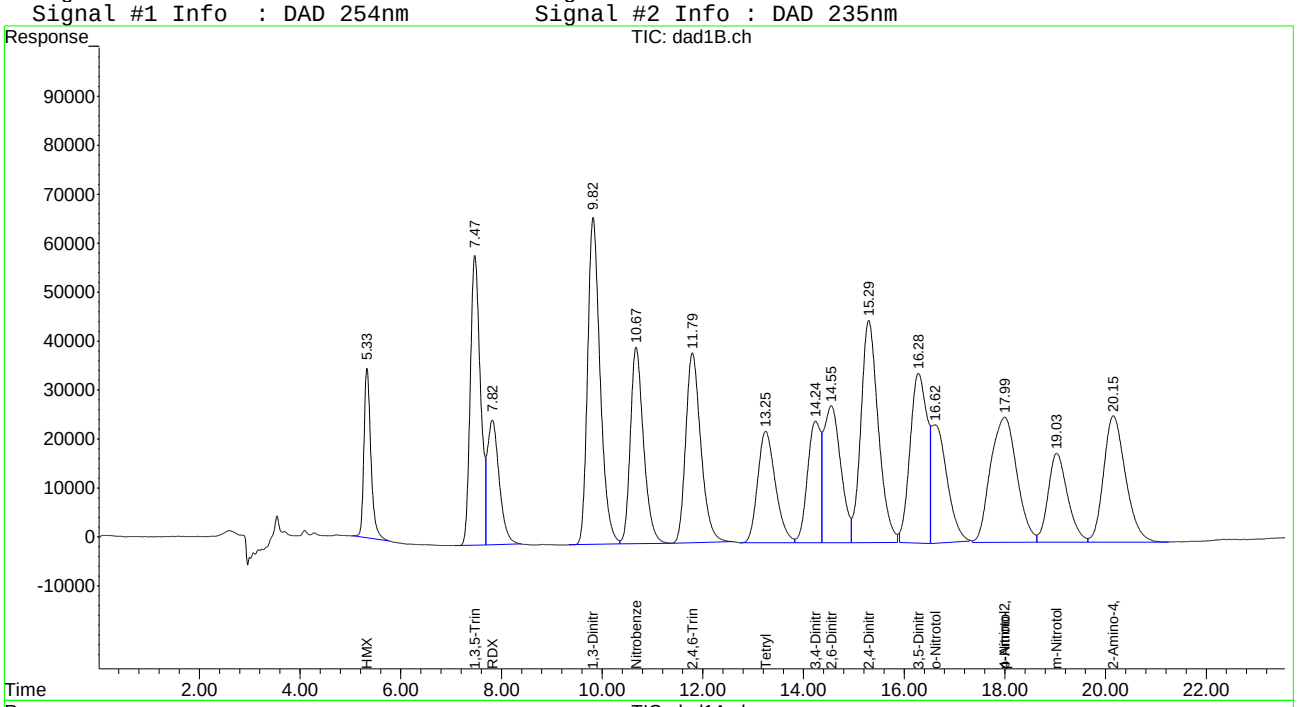
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG633339.D GGG3599_071425.M Fri Oct 31 13:39:28 2025

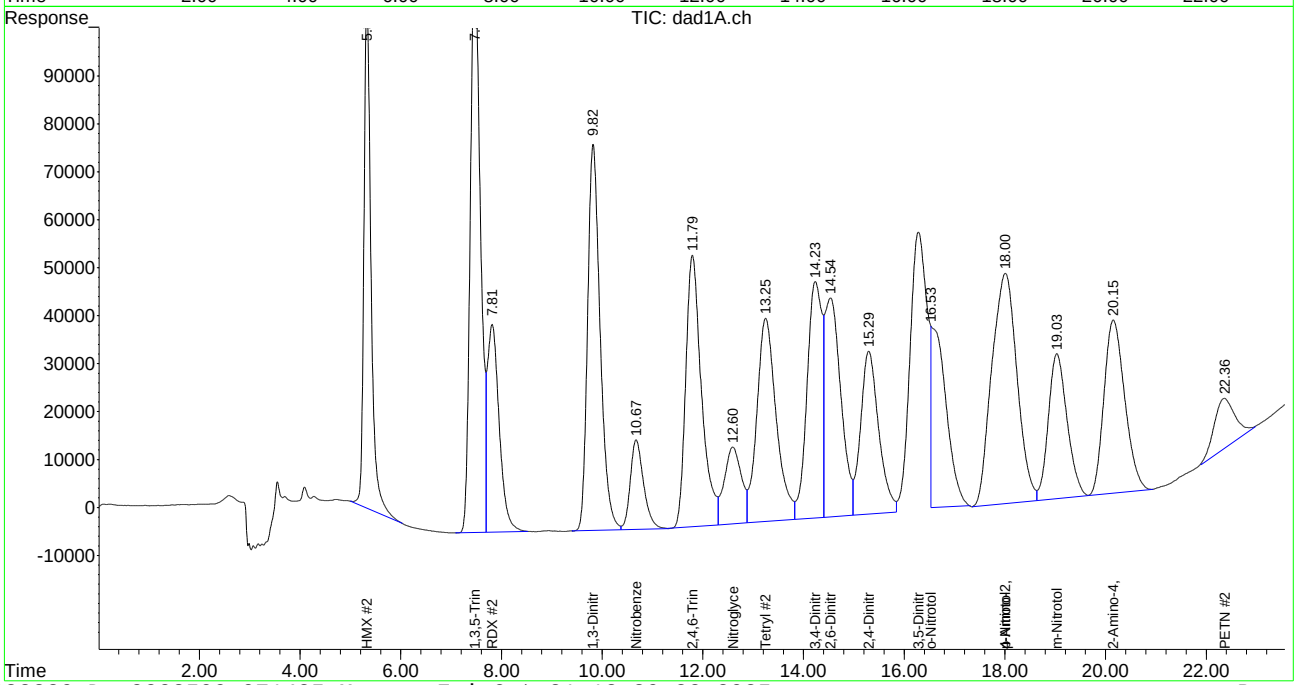
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633339.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633339.D\dad1A.ch
Acq On : 29-Oct-2025, 15:14:06 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : OP11972,GGG3647,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:28 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

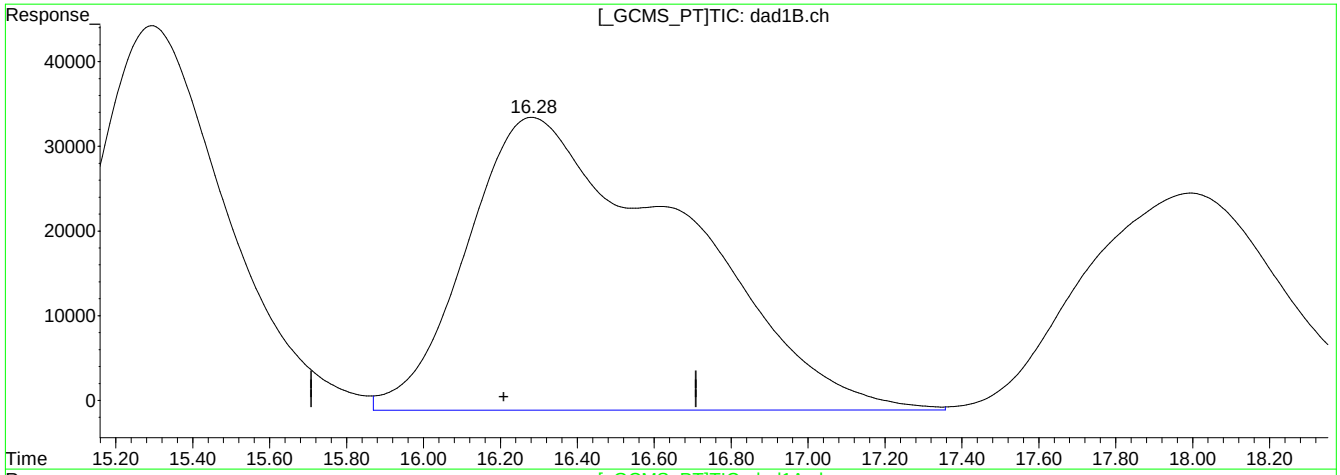
Sample Number: GGG3647-CC3599
Lab FileID: GG633339.D
Injection Time: 10/29/25 15:14
Method: SW846 8330A
Analyst approved: 10/31/25 14:53 Fouad Sekkar
Supervisor approved: 11/03/25 16:14 Naresh Jiawan

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,5-Dinitroaniline	618-87-1	1	16.28	Split peak
3,5-Dinitroaniline	618-87-1	2	16.28	Split peak
o-Nitrotoluene	88-72-2	2	16.53	Split peak
o-Nitrotoluene	88-72-2	1	16.62	Split peak
PETN	78-11-5	2	22.36	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633339.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633339.D\dad1A.ch
Acq On : 29-Oct-2025, 15:14:06 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(15) 3,5-Dinitroaniline

16.28min 1430.504ppb

response 13569914

(15) 3,5-Dinitroaniline #2

16.28min 1455.186ppb

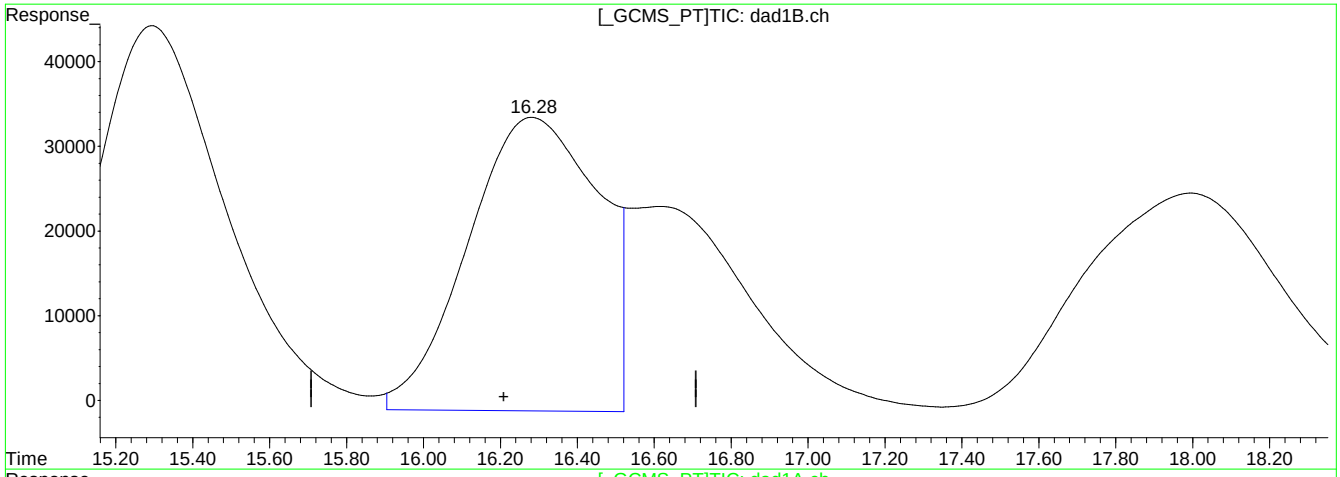
response 21933129

(+) = Expected Retention Time
GG633339.D GGG3599_071425.M Fri Oct 31 08:27:19 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633339.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633339.D\dad1A.ch
Acq On : 29-Oct-2025, 15:14:06 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(15) 3,5-Dinitroaniline

16.28min 863.973ppb m

response 8195738

(15) 3,5-Dinitroaniline #2

16.28min 954.769ppb m

response 14390647

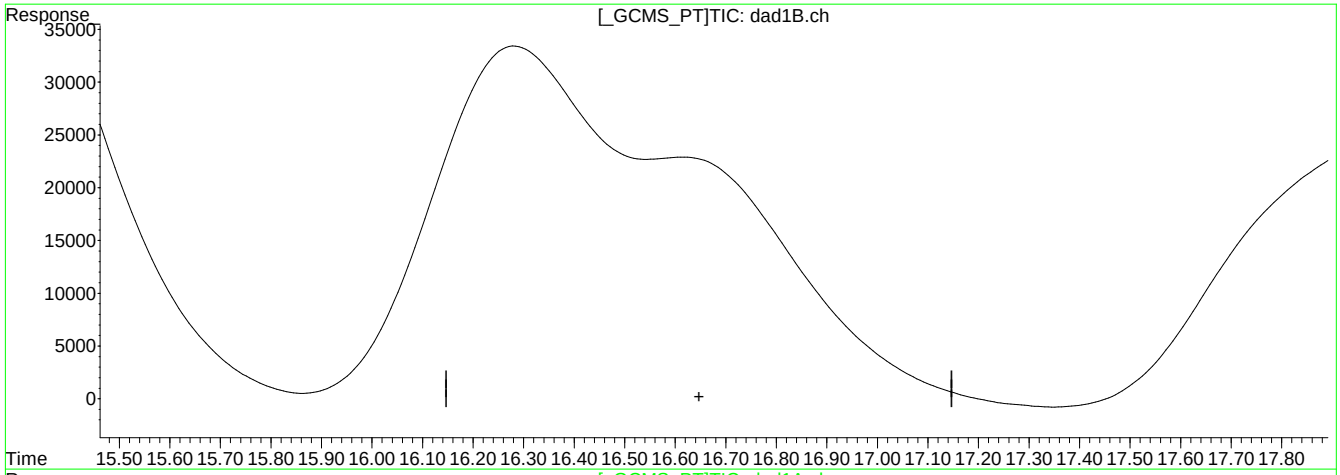
(+) = Expected Retention Time

GG633339.D GGG3599_071425.M Fri Oct 31 08:27:30 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633339.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633339.D\dad1A.ch
Acq On : 29-Oct-2025, 15:14:06 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



QEdit

(16) o-Nitrotoluene

0.00min 0.000ppb

response 0

(16) o-Nitrotoluene #2

0.00min 0.000ppb

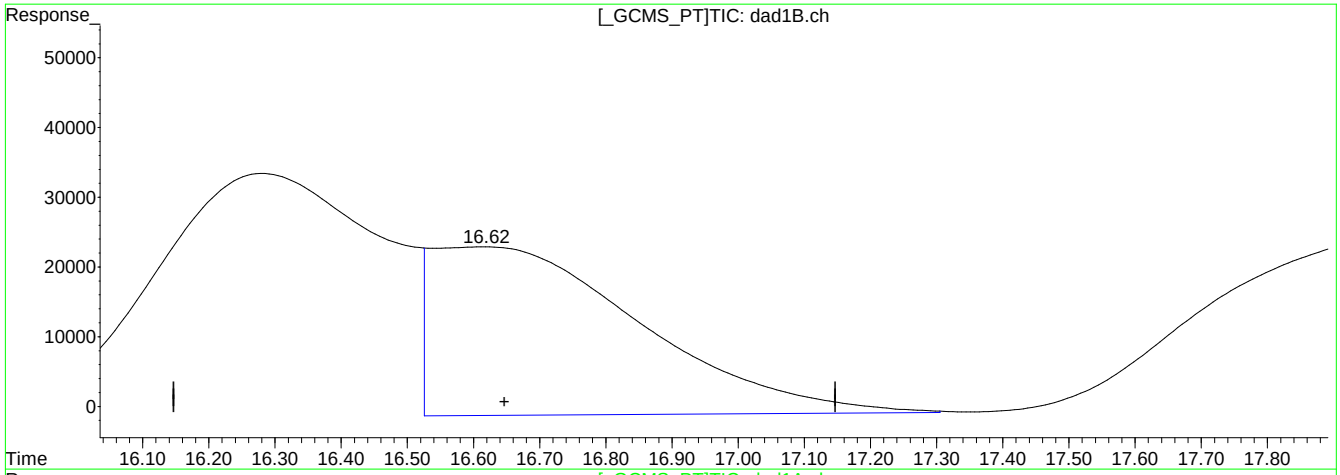
response 0

(+) = Expected Retention Time
GG633339.D GGG3599_071425.M Fri Oct 31 08:27:35 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633339.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633339.D\dad1A.ch
Acq On : 29-Oct-2025, 15:14:06 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(16) o-Nitrotoluene

16.62min 1099.134ppb m

response 5279671

(16) o-Nitrotoluene #2

16.53min 1040.162ppb m

response 7862232

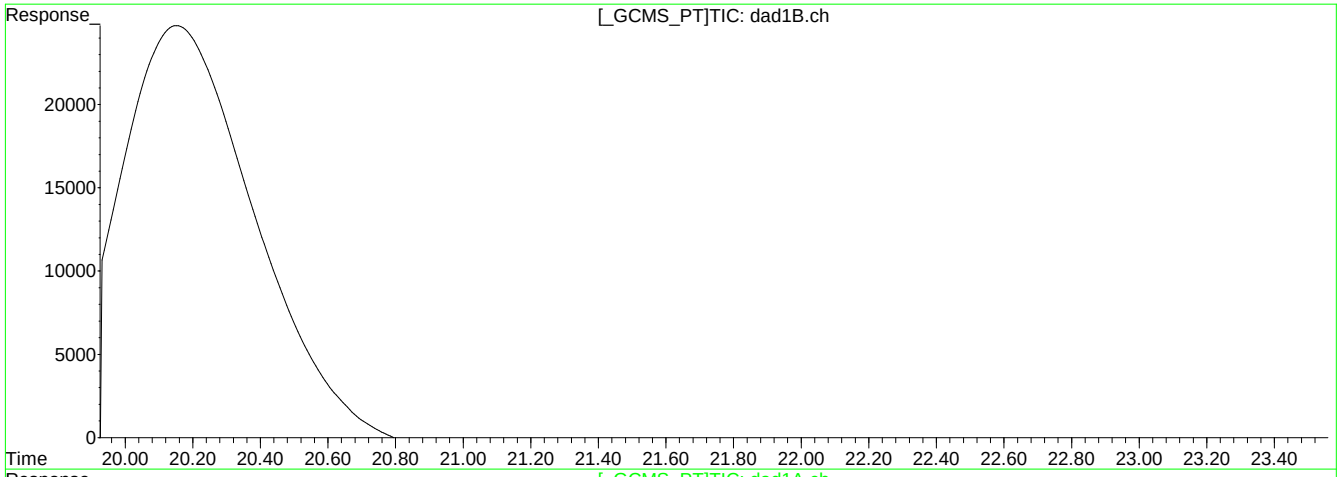
(+) = Expected Retention Time
GG633339.D GGG3599_071425.M Fri Oct 31 08:27:45 2025

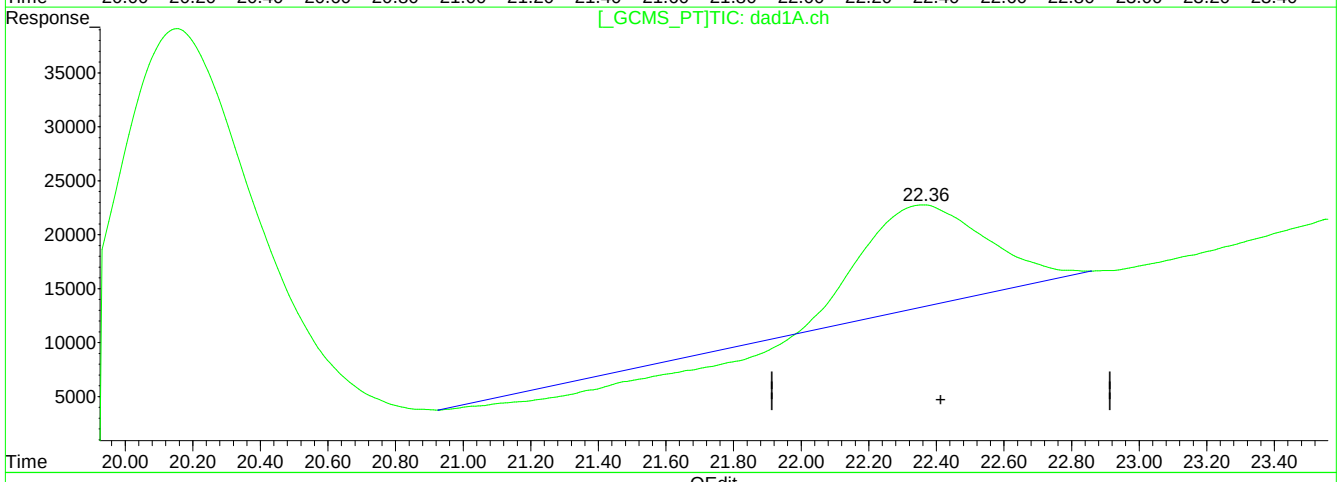
GG633339.D edits: o-Nitrotoluene

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633339.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633339.D\dad1A.ch
Acq On : 29-Oct-2025, 15:14:06 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

22.36min 620.952ppb

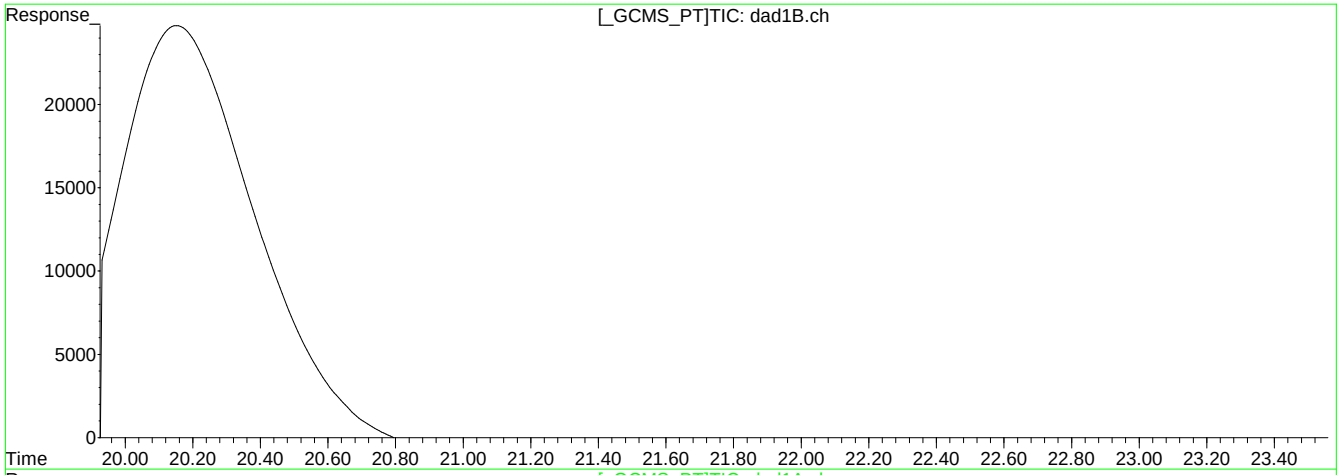
response 1811836

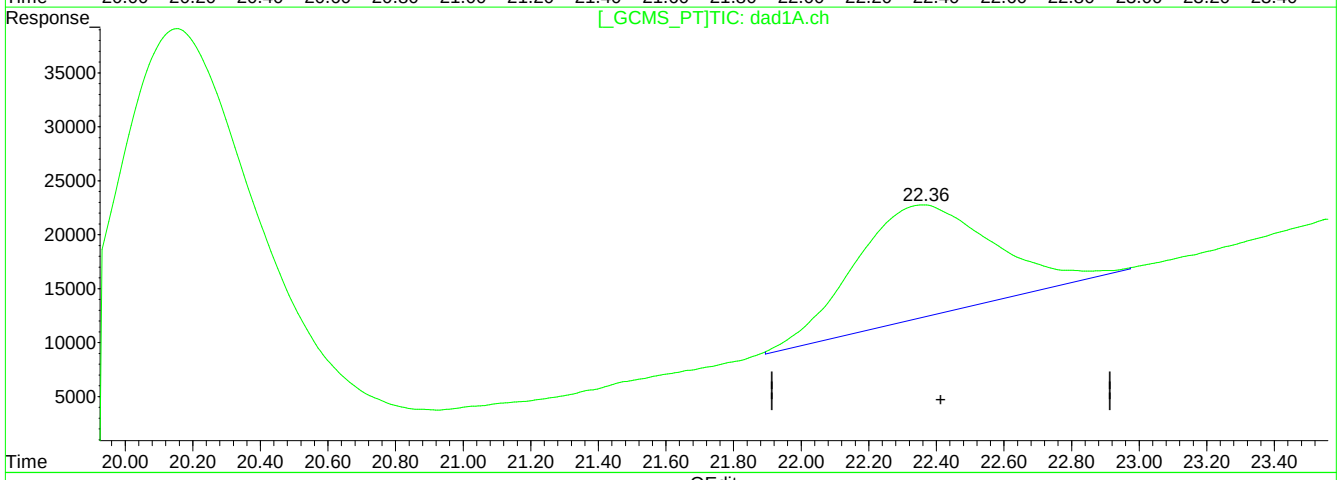
(+) = Expected Retention Time
GG633339.D GGG3599_071425.M Fri Oct 31 08:27:59 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3647\GG633339.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3647\GG633339.D\dad1A.ch
Acq On : 29-Oct-2025, 15:14:06 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 8:00 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

22.36min 1035.305ppb m

response 2986548

(+) = Expected Retention Time
GG633339.D GGG3599_071425.M Fri Oct 31 08:28:05 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan
11/03/25 16:05

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633364.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633364.D\dad1A.ch
Acq On : 31-Oct-2025, 09:37:16 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : OP11972,GGG3649,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 09:04:50 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.27	14.27	3716052	8532587	780.532	943.584
	Spiked Amount 500.000	Range 70 - 136		Recovery =		156.11%#	188.72%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	5.33	5.33	3305310	10413138	951.236	942.668
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	7.51	7.51	8756528	17809042	957.124	993.006
6)	RDX	7.88	7.88	4234001	7116486	1026.826	1034.902
7)	1,3-Dinitrobenze	9.87	9.87	11988053	14506053	978.770	977.830
8)	Nitrobenzene	10.72	10.72	7638568	3565547	945.725	954.910
9)	2,4,6-Trinitroto	11.83	11.83	8251280	12650321	955.890	1135.236
10)	Nitroglycerin	0.00	12.63	0	4142415	N.D.	1463.287 #
11)	Tetryl	13.28	13.28	6301989	12928019	952.827	1164.510
13)	2,6-Dinitrotolue	14.59	14.58	6733682	10369347	1136.656	1217.626
14)	2,4-Dinitrotolue	15.32	15.32	11068089	8395095	974.523	1057.040
15)	3,5-Dinitroanili	16.31	16.31	8453320	14809639	891.126m	982.568m
16)	o-Nitrotoluene	16.65	16.62	5016383	7739138	1044.322m	1023.779m
17)	p-Nitrotoluene	18.02	18.04	9688457	17947629	1886.409	1877.181
18)	4-Amino-2,6-Dini	18.02	18.04	9688457	17947629	1885.819	1901.187
19)	m-Nitrotoluene	19.05	19.05	5137771	8386567	956.539	974.987
20)	2-Amino-4,6-Dini	20.19	20.18	7875597	10543529	968.471	927.029
21)	PETN	0.00	22.33	0	2914412	N.D.	1010.185m#

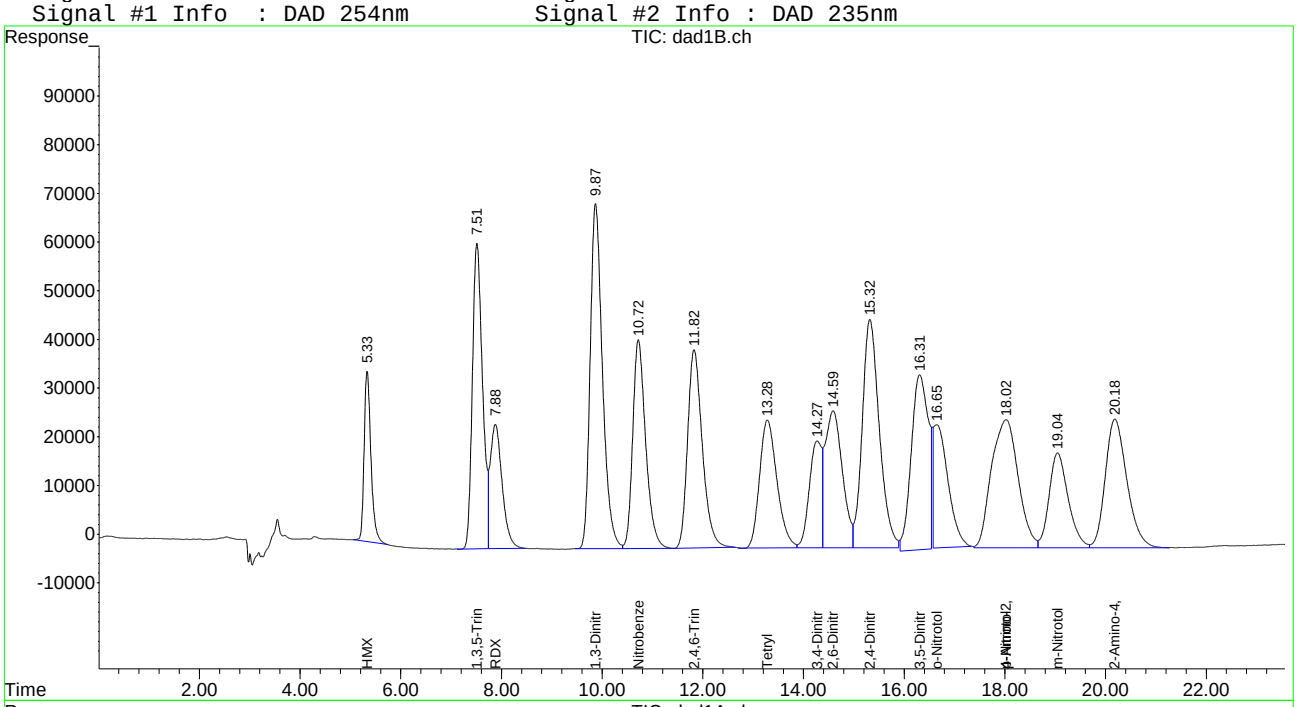
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG633364.D GGG3599_071425.M Mon Nov 03 11:18:57 2025

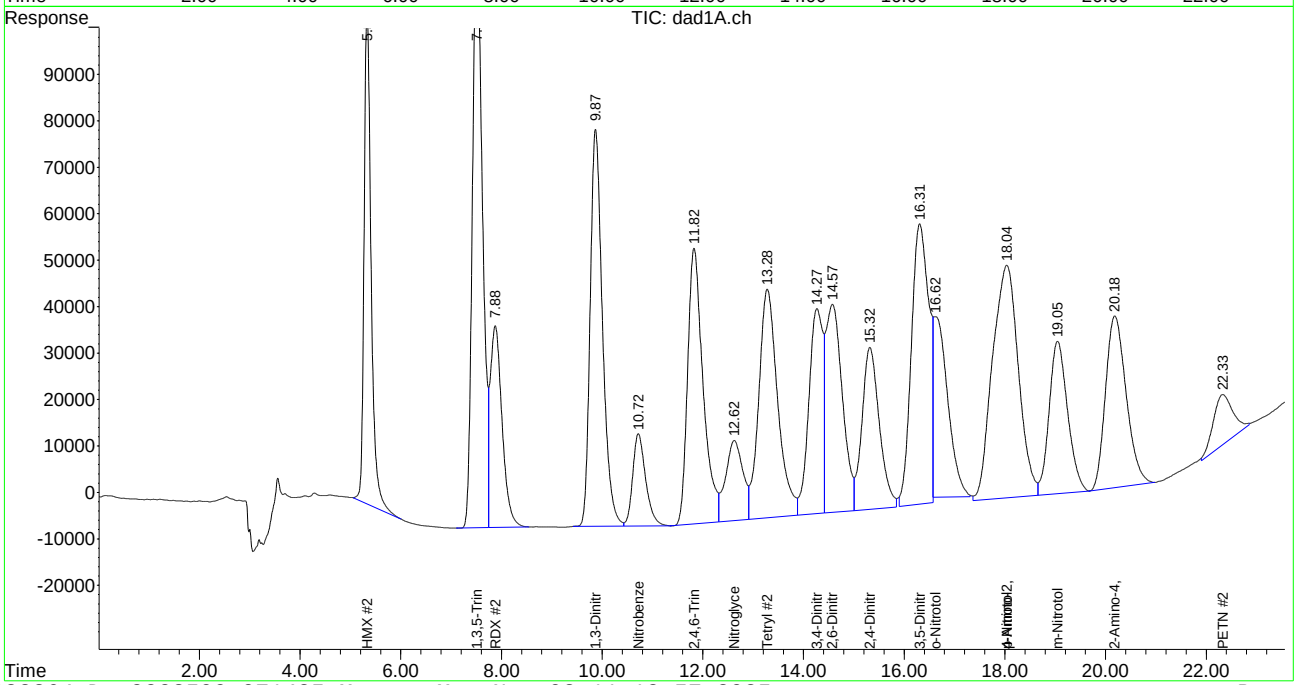
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633364.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633364.D\dad1A.ch
Acq On : 31-Oct-2025, 09:37:16 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : OP11972,GGG3649,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Nov 3 8:58 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

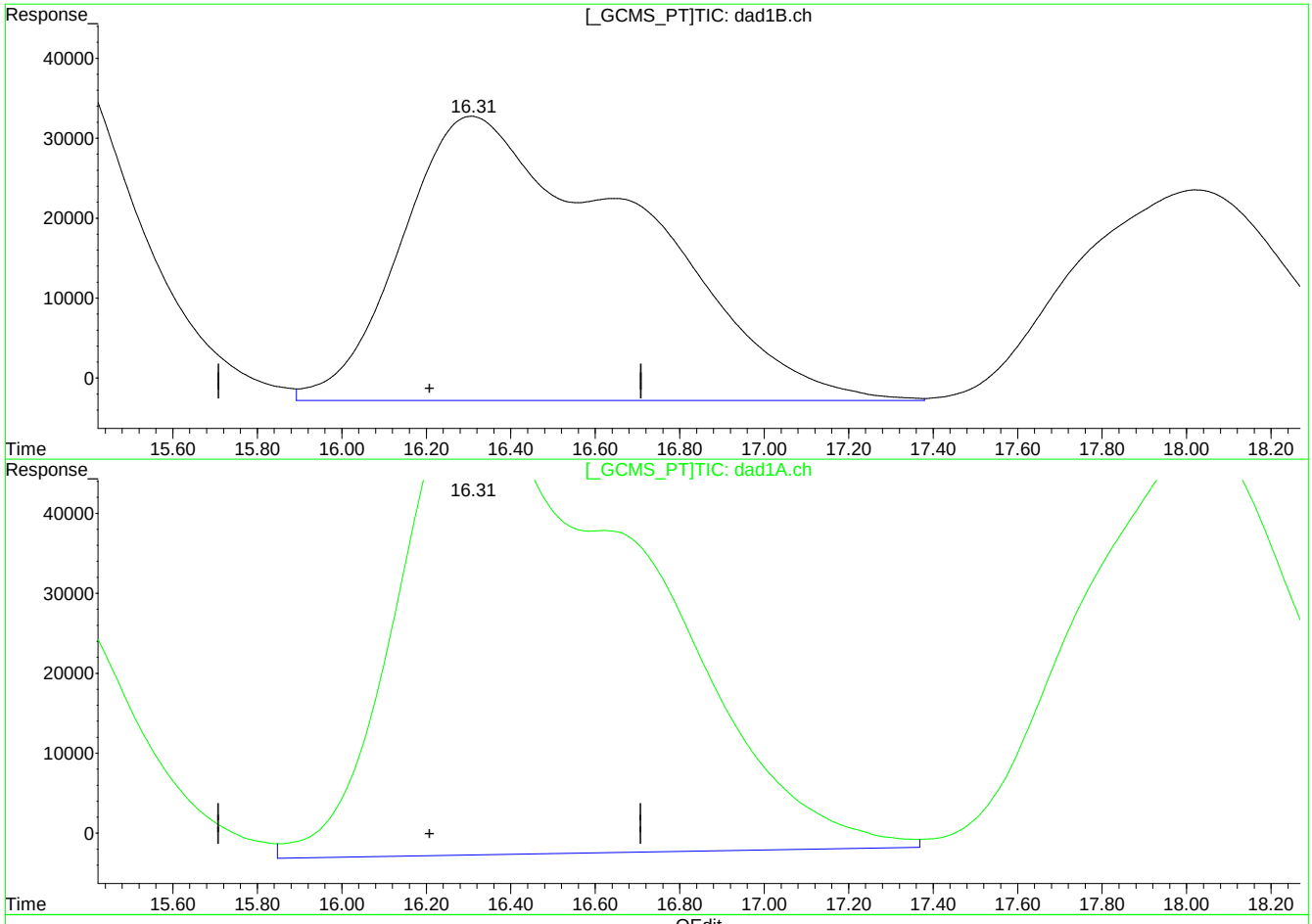
Sample Number: GGG3649-CC3599
Lab FileID: GG633364.D
Injection Time: 10/31/25 09:37
Method: SW846 8330A
Analyst approved: 11/03/25 11:33 Fouad Sekkar
Supervisor approved: 11/03/25 16:05 Naresh Jiawan

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,5-Dinitroaniline	618-87-1	1	16.31	Split peak
3,5-Dinitroaniline	618-87-1	2	16.31	Split peak
o-Nitrotoluene	88-72-2	2	16.62	Split peak
o-Nitrotoluene	88-72-2	1	16.65	Split peak
PETN	78-11-5	2	22.33	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633364.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633364.D\dad1A.ch
Acq On : 31-Oct-2025, 09:37:16 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 9:04 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(15) 3,5-Dinitroaniline

16.31min 1462.545ppb

response 13873860

(15) 3,5-Dinitroaniline #2

16.31min 1537.048ppb

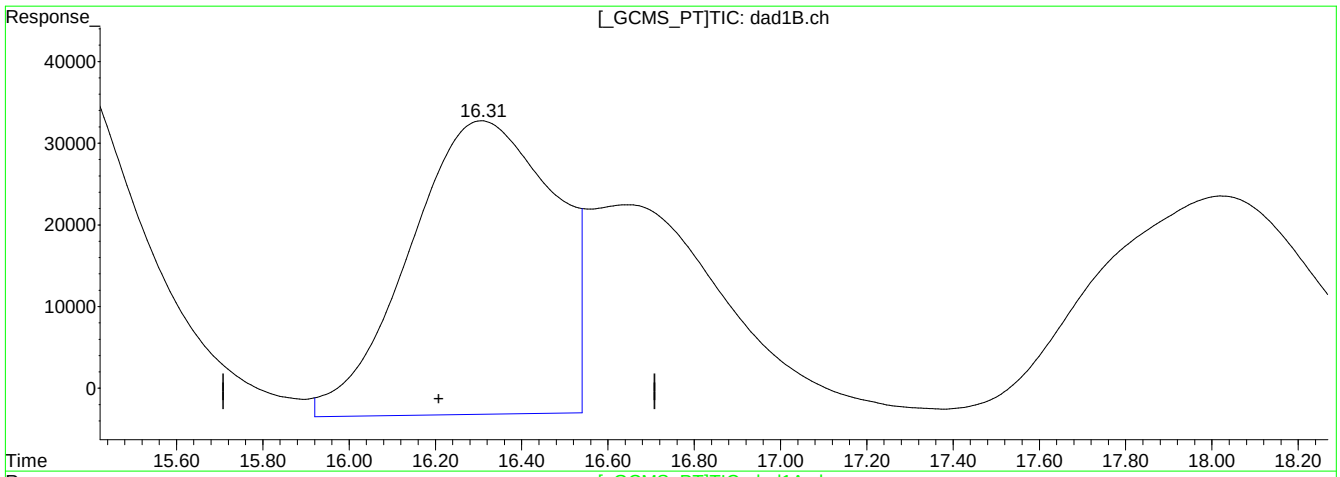
response 23166985

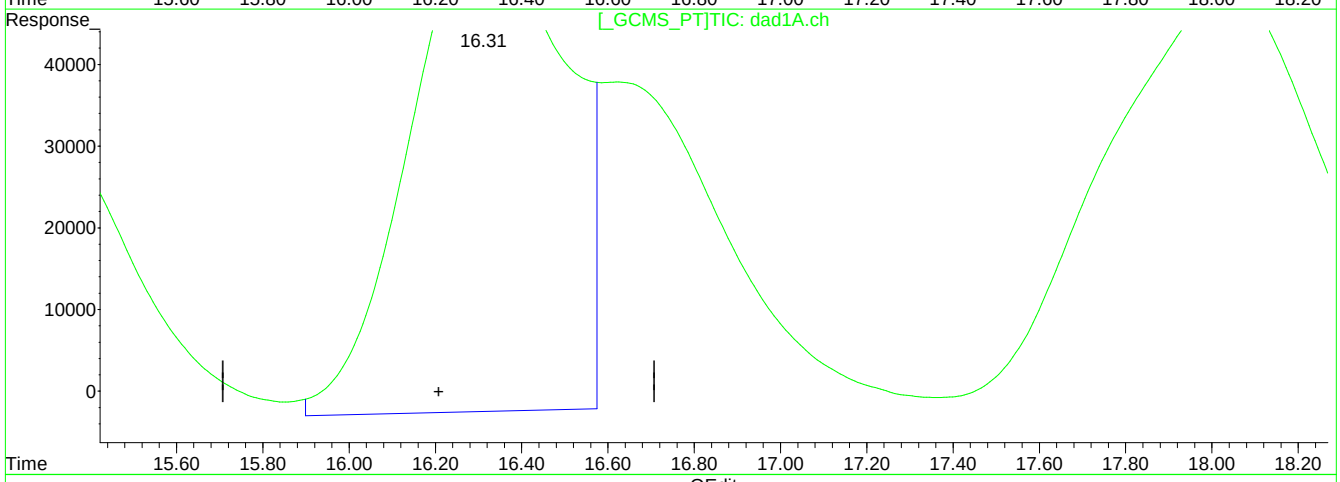
(+) = Expected Retention Time
GG633364.D GGG3599_071425.M Fri Oct 31 09:05:26 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633364.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633364.D\dad1A.ch
Acq On : 31-Oct-2025, 09:37:16 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 9:04 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





QEdit

(15) 3,5-Dinitroaniline

16.31min 891.126ppb m

response 8453320

(15) 3,5-Dinitroaniline #2

16.31min 982.568ppb m

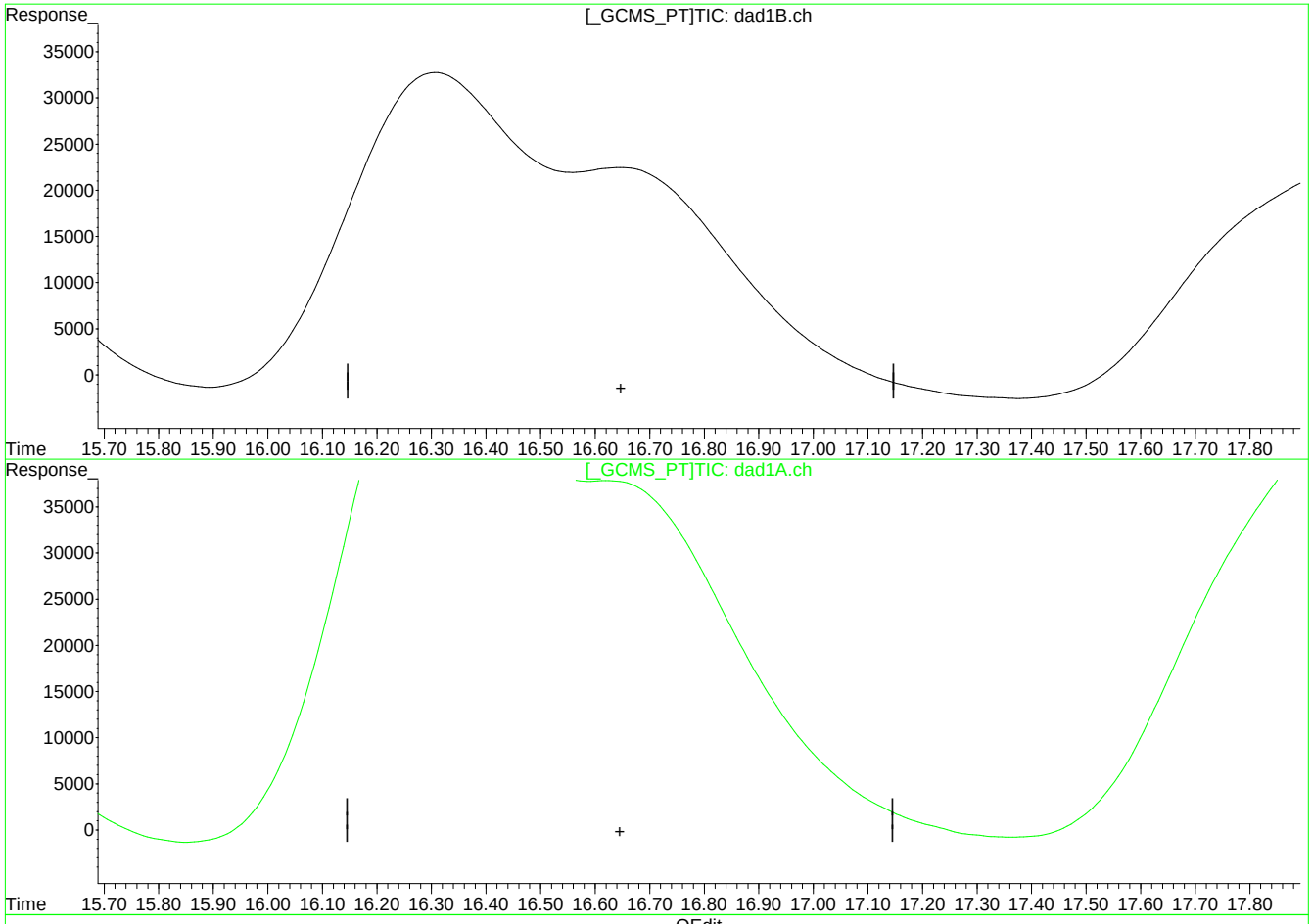
response 14809639

(+) = Expected Retention Time
GG633364.D GGG3599_071425.M Fri Oct 31 09:05:35 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633364.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633364.D\dad1A.ch
Acq On : 31-Oct-2025, 09:37:16 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 9:04 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(16) o-Nitrotoluene

0.00min 0.000ppb

response 0

(16) o-Nitrotoluene #2

0.00min 0.000ppb

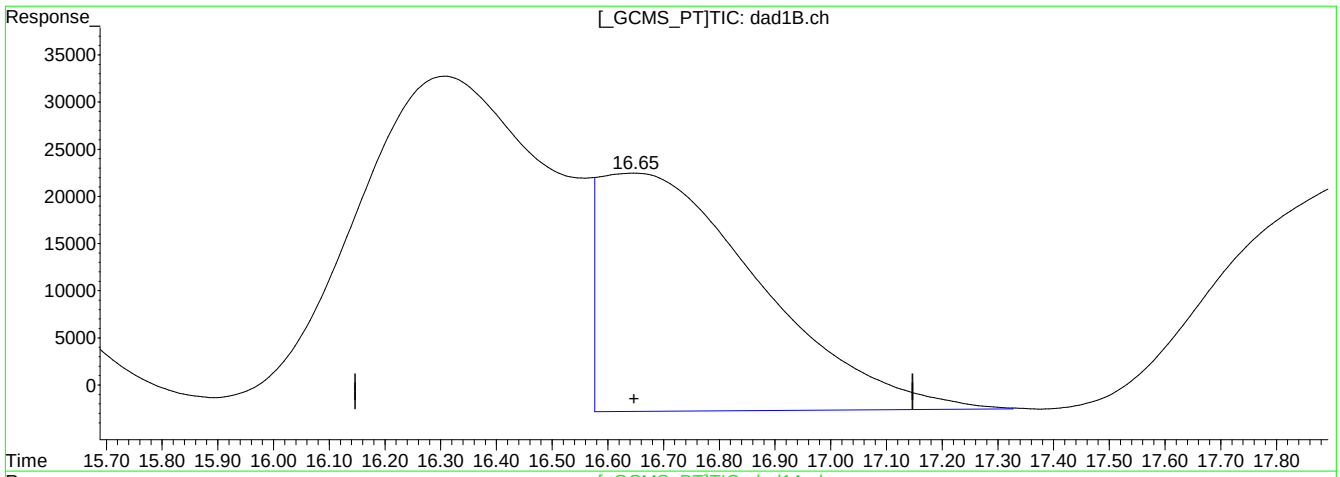
response 0

(+) = Expected Retention Time
GG633364.D GGG3599_071425.M Fri Oct 31 09:05:39 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633364.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633364.D\dad1A.ch
Acq On : 31-Oct-2025, 09:37:16 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 9:04 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(16) o-Nitrotoluene

16.65min 1044.322ppb m

response 5016383

(16) o-Nitrotoluene #2

16.62min 1023.779ppb m

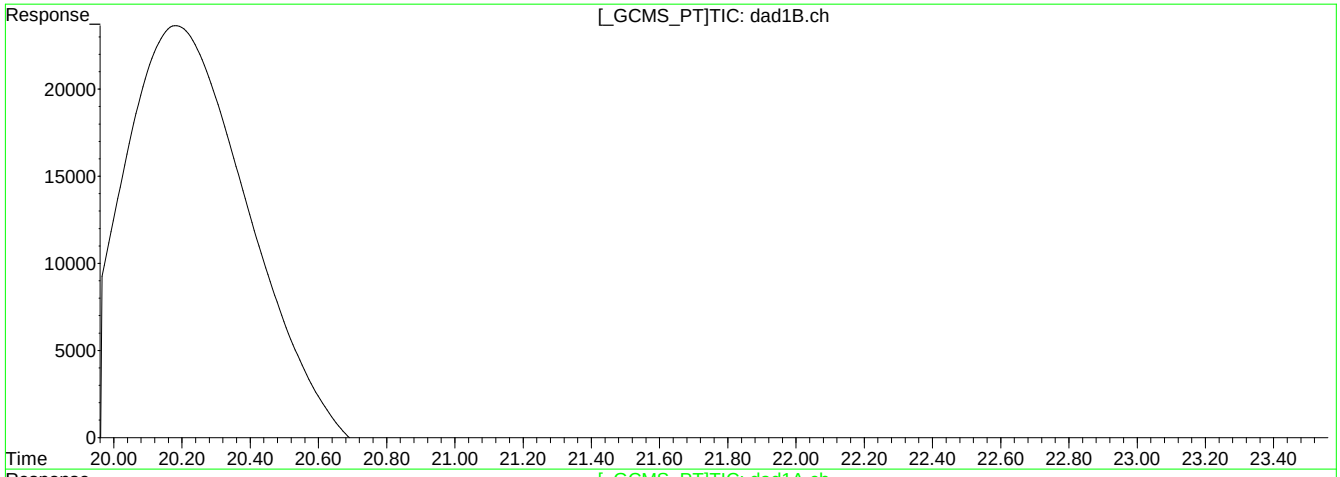
response 7739138

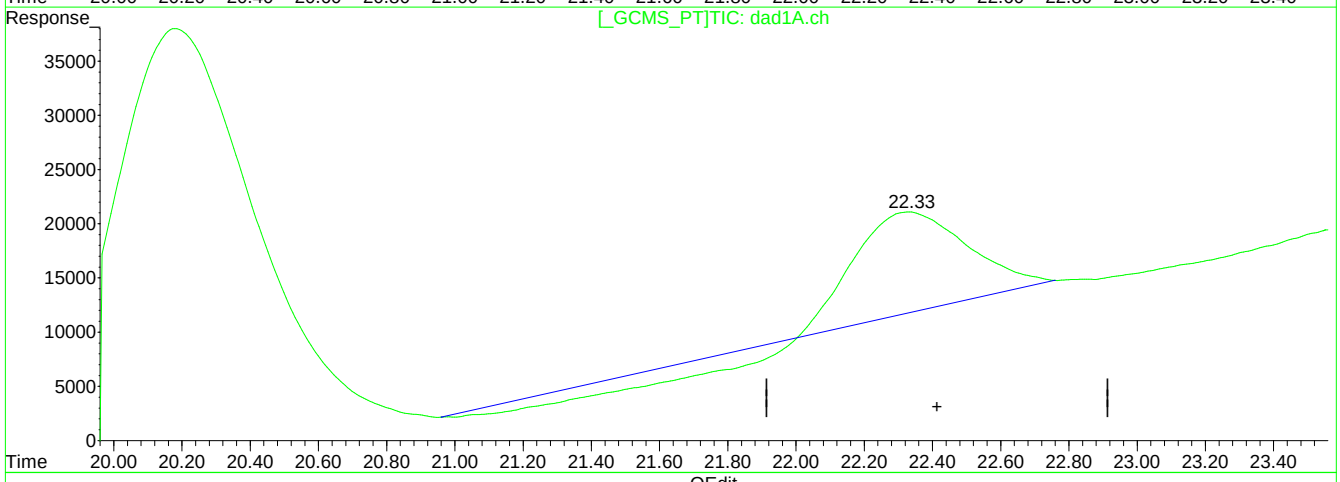
(+) = Expected Retention Time
GG633364.D GGG3599_071425.M Fri Oct 31 09:05:47 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633364.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633364.D\dad1A.ch
Acq On : 31-Oct-2025, 09:37:16 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 9:04 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

22.33min 506.945ppb

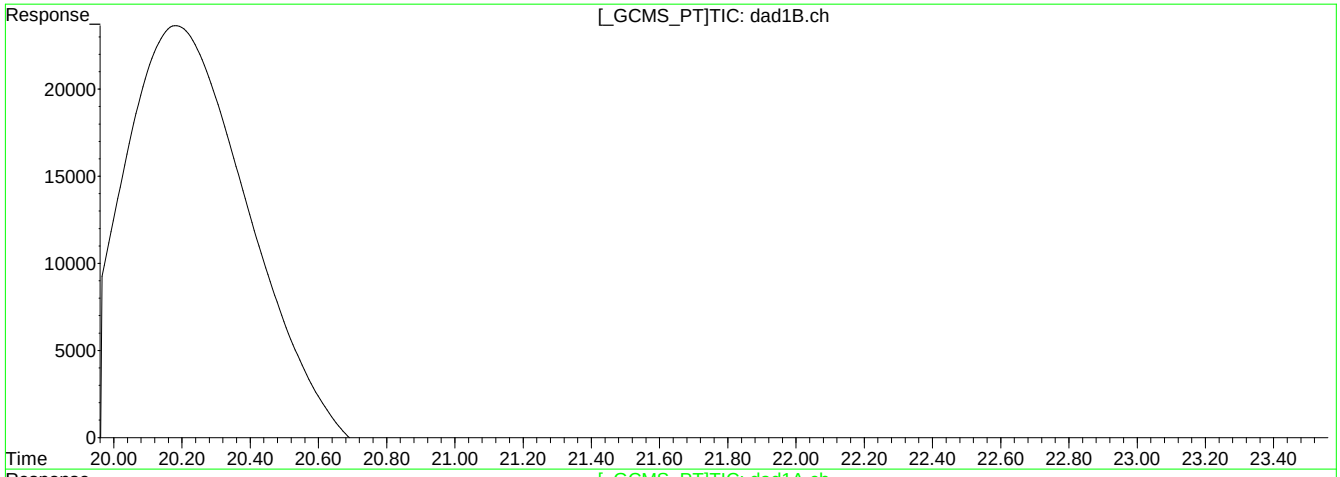
response 1494281

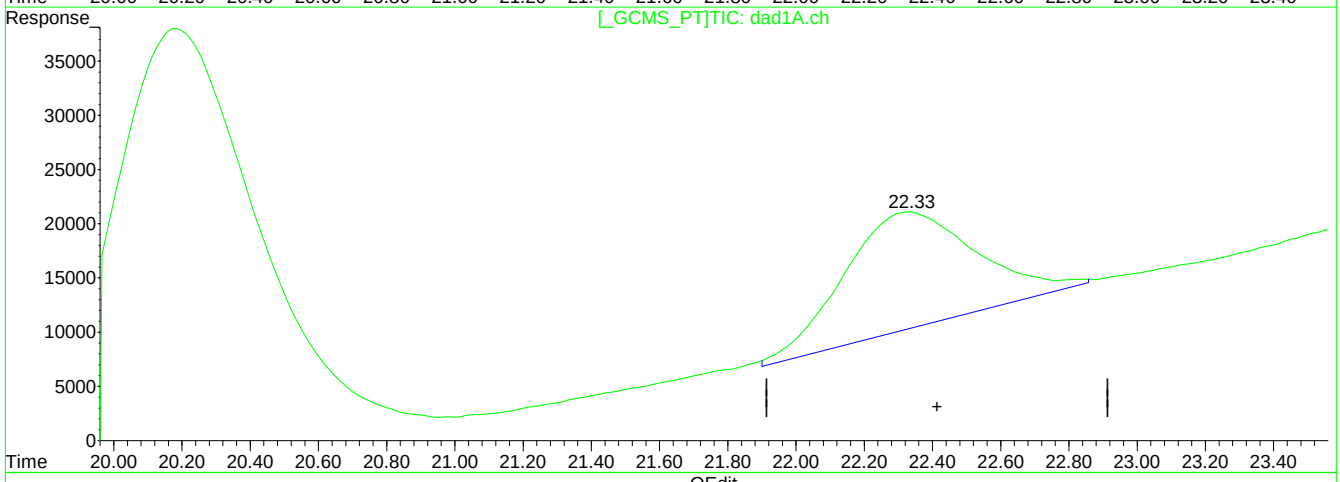
(+) = Expected Retention Time
GG633364.D GGG3599_071425.M Fri Oct 31 09:05:56 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633364.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633364.D\dad1A.ch
Acq On : 31-Oct-2025, 09:37:16 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 31 9:04 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

22.33min 1010.185ppb m

response 2914412

(+) = Expected Retention Time
GG633364.D GGG3599_071425.M Fri Oct 31 09:06:03 2025

Manual Integrations APPROVED (compounds with "m" flag)
Naresh Jiawan
11/03/25 16:05

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633375.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633375.D\dad1A.ch
Acq On : 31-Oct-2025, 14:38:39 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : OP11972,GGG3649,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Nov 03 08:48:58 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	14.37	14.37	4155606	8583329	872.858m	949.182
	Spiked Amount 500.000	Range 70 - 136		Recovery =		174.57%#	189.84%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	5.35	5.35	3276929	10452448	943.068	946.227
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	7.54	7.54	8709601	17704188	951.994	987.160
6)	RDX	7.93	7.93	4183005	7012837	1014.458	1019.829
7)	1,3-Dinitrobenze	9.92	9.92	11926678	14410691	973.759	971.402
8)	Nitrobenzene	10.78	10.78	7271124	3377893	900.232	904.653
9)	2,4,6-Trinitroto	11.89	11.89	8145476	12725718	943.633	1142.086
10)	Nitroglycerin	0.00	12.70	0	4532911	N.D.	1598.774 #
11)	Tetryl	13.37	13.37	6354404	13373211	960.751	1204.611
13)	2,6-Dinitrotolue	14.68	14.67	6337501	10825964	1069.780m	1271.033
14)	2,4-Dinitrotolue	15.42	15.42	11090130	8597386	976.464	1082.293
15)	3,5-Dinitroanili	16.43	16.43	8717184	14970068	918.942m	993.212m
16)	o-Nitrotoluene	16.67	16.68	5124140	8463710	1066.755m	1120.224m
17)	p-Nitrotoluene	18.17	18.18	9604237	18260167	1870.011	1909.870
18)	4-Amino-2,6-Dini	18.17	18.18	9604237	18260167	1869.425	1934.294
19)	m-Nitrotoluene	19.16	19.16	4925151	8200473	916.954	953.353
20)	2-Amino-4,6-Dini	20.33	20.33	7825625	10453152	962.326	919.254
21)	PETN	0.00	22.42	0	2948839	N.D.	1022.179m#

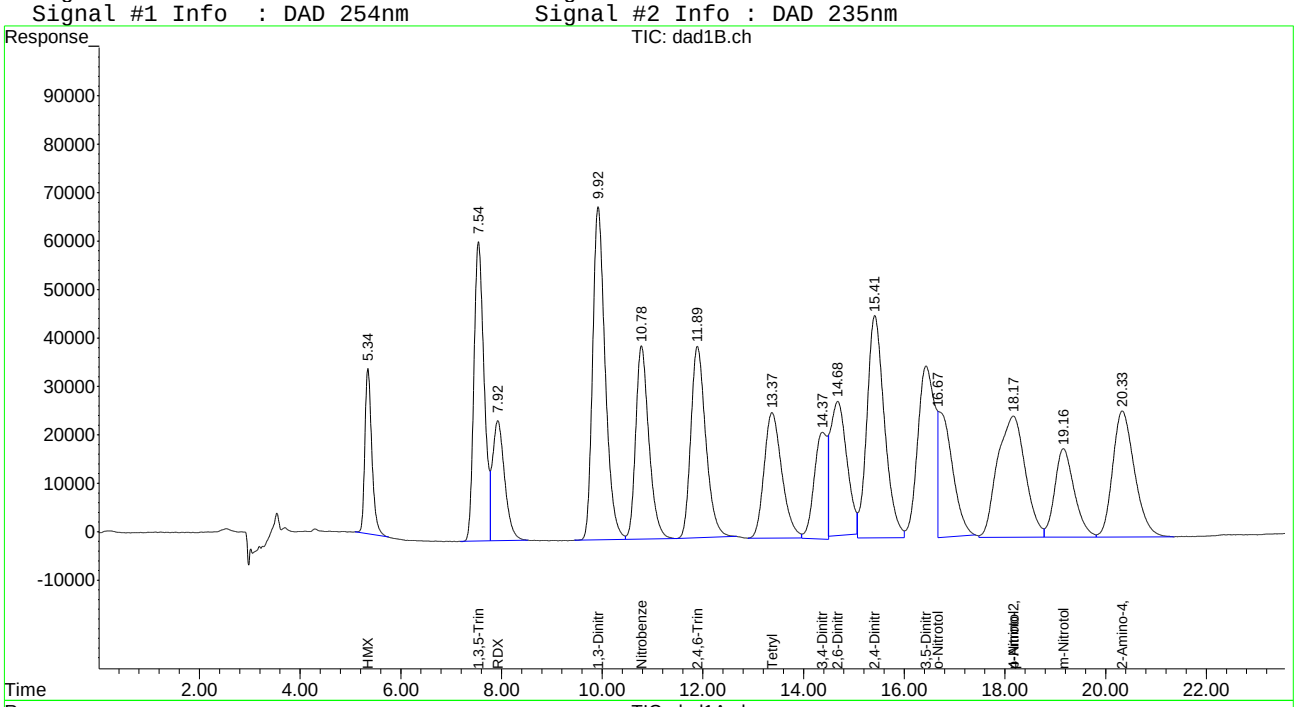
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG633375.D GGG3599_071425.M Mon Nov 03 11:19:07 2025

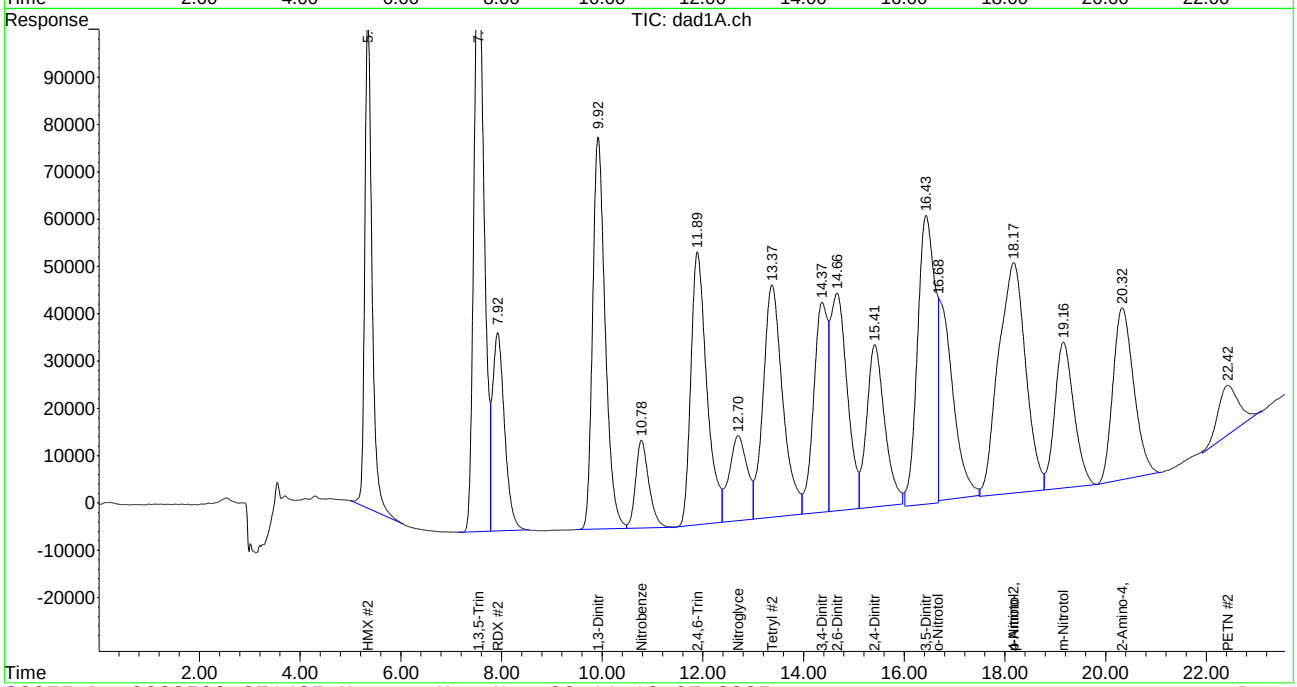
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633375.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633375.D\dad1A.ch
Acq On : 31-Oct-2025, 14:38:39 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : OP11972,GGG3649,1000,,,10,1,water Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Nov 3 9:06 2025 Quant Results File: GGG3599_071425.RES

Quant Method : C:\MSDCHEM\1...\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

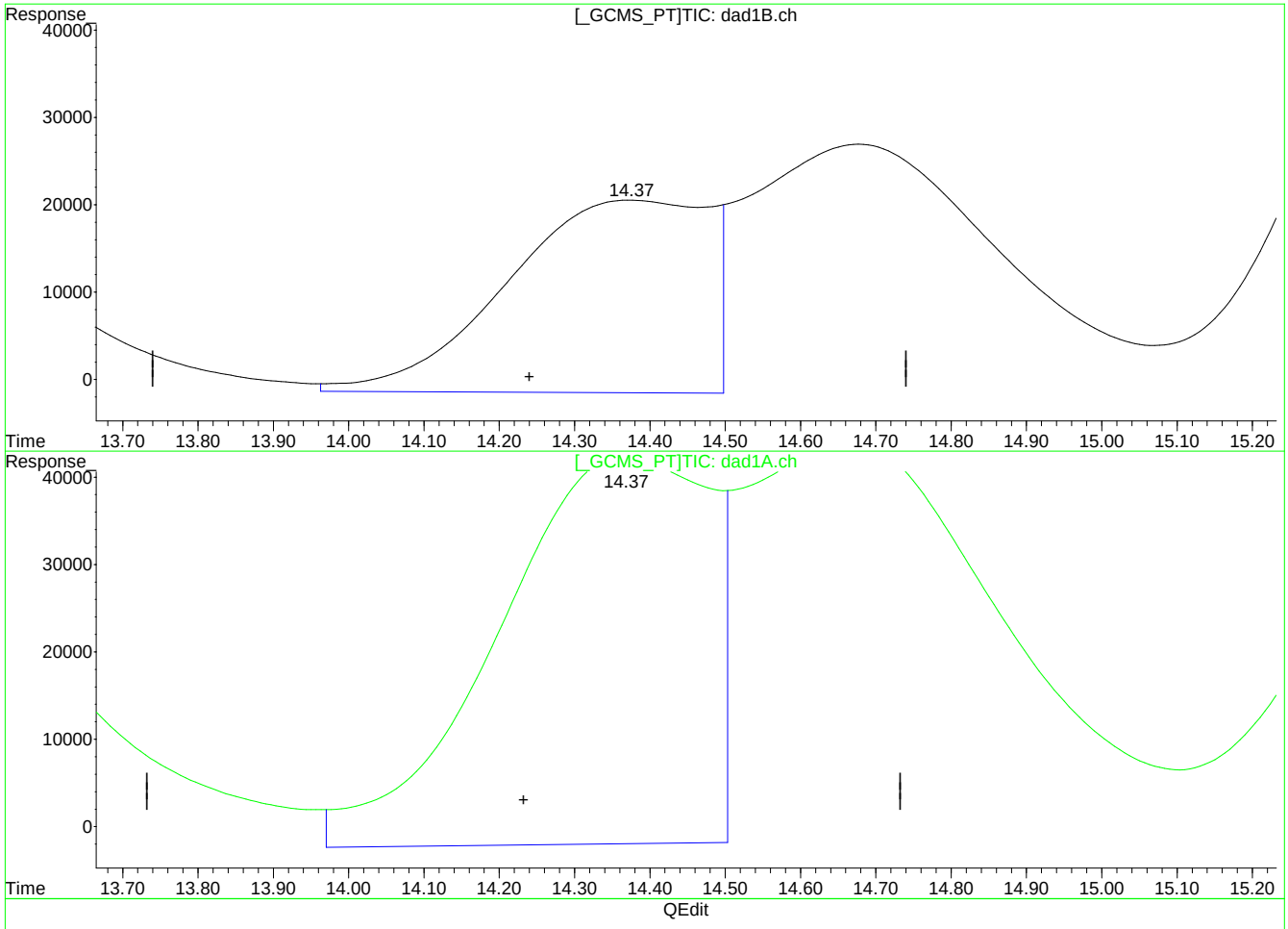
Sample Number: GGG3649-CC3599
Lab FileID: GG633375.D
Injection Time: 10/31/25 14:38
Method: SW846 8330A
Analyst approved: 11/03/25 11:33 Fouad Sekkar
Supervisor approved: 11/03/25 16:05 Naresh Jiawan

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,4-Dinitrotoluene	610-39-9	1	14.37	Split peak
2,6-Dinitrotoluene	606-20-2	1	14.68	Split peak
3,5-Dinitroaniline	618-87-1	1	16.43	Missed peak
3,5-Dinitroaniline	618-87-1	2	16.43	Missed peak
o-Nitrotoluene	88-72-2	1	16.67	Split peak
o-Nitrotoluene	88-72-2	2	16.68	Split peak
PETN	78-11-5	2	22.42	Poor instrument integration

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633375.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633375.D\dad1A.ch
Acq On : 31-Oct-2025, 14:38:39 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Nov 3 8:48 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(12) 3,4-Dinitrotoluene (S)

14.37min 872.858ppb m

response 4155606

(12) 3,4-Dinitrotoluene #2 (S)

14.37min 949.182ppb

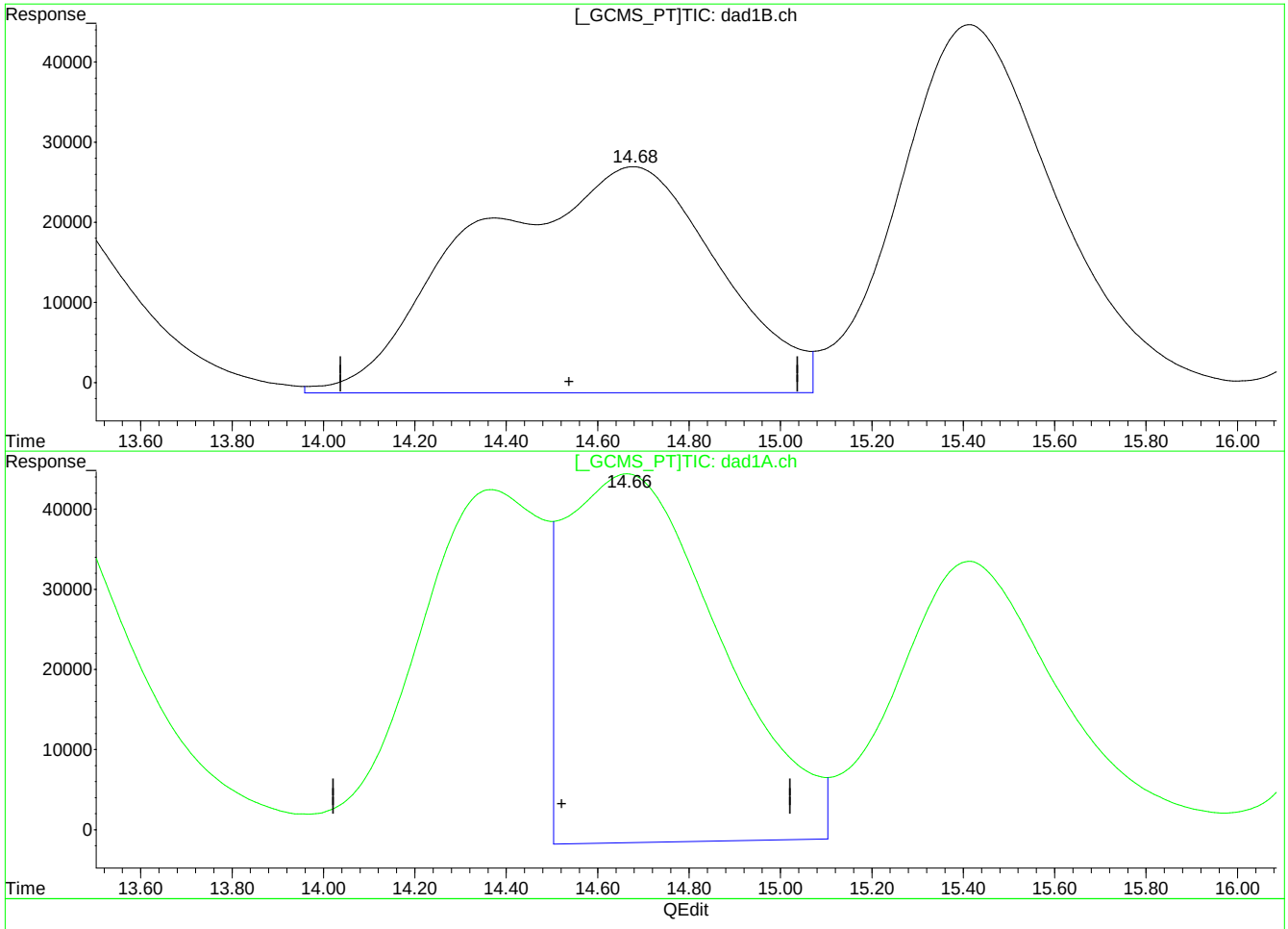
response 8583329

(+) = Expected Retention Time
GG633375.D GGG3599_071425.M Mon Nov 03 09:04:57 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633375.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633375.D\dad1A.ch
Acq On : 31-Oct-2025, 14:38:39 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Nov 3 8:48 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(13) 2,6-Dinitrotoluene

14.68min 1768.835ppb

response 10478784

(13) 2,6-Dinitrotoluene #2

14.67min 1271.033ppb

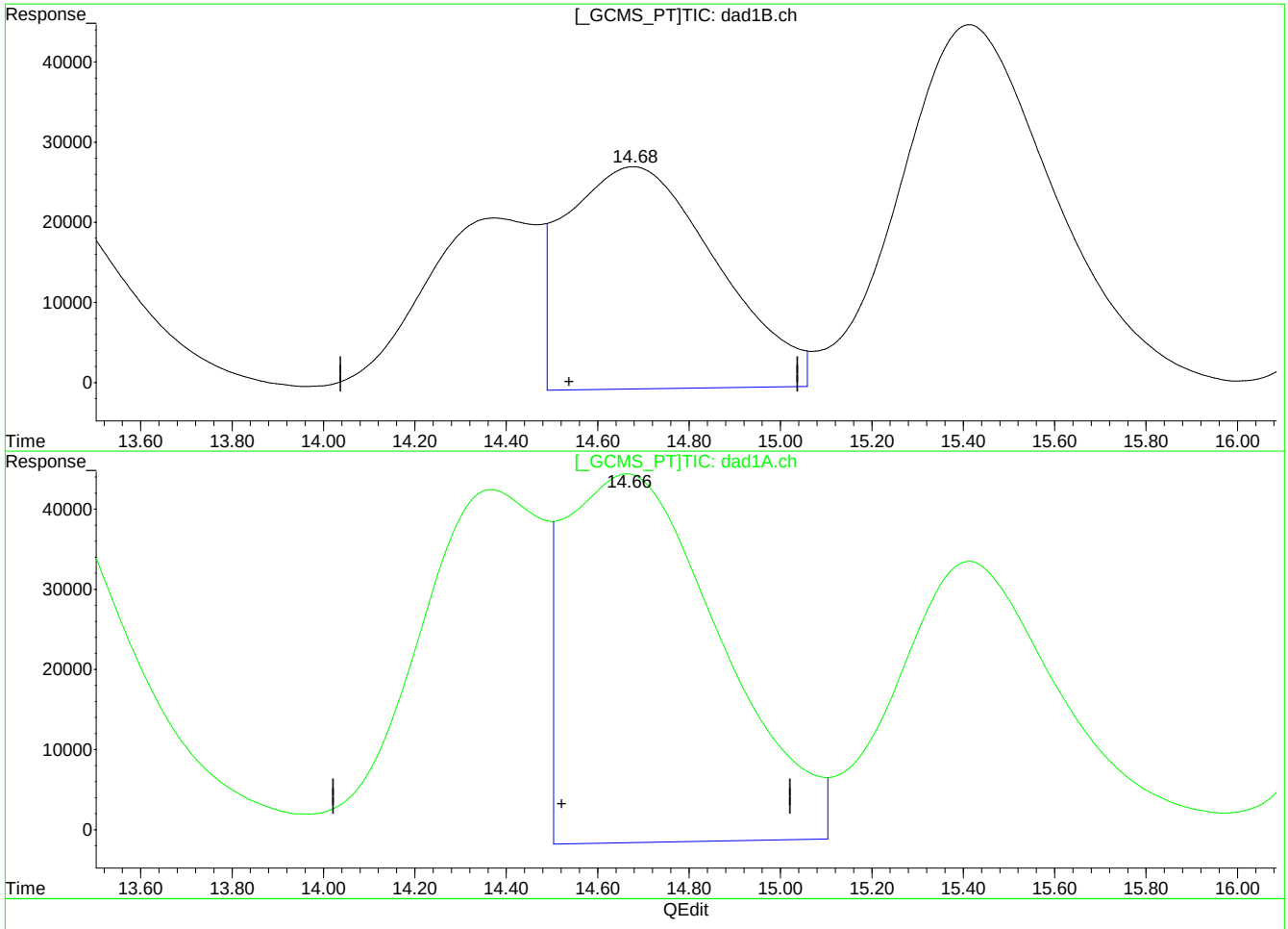
response 10825964

(+) = Expected Retention Time
GG633375.D GGG3599_071425.M Mon Nov 03 09:05:07 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633375.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633375.D\dad1A.ch
Acq On : 31-Oct-2025, 14:38:39 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Nov 3 8:48 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(13) 2,6-Dinitrotoluene

14.68min 1069.780ppb m

response 6337501

(13) 2,6-Dinitrotoluene #2

14.67min 1271.033ppb

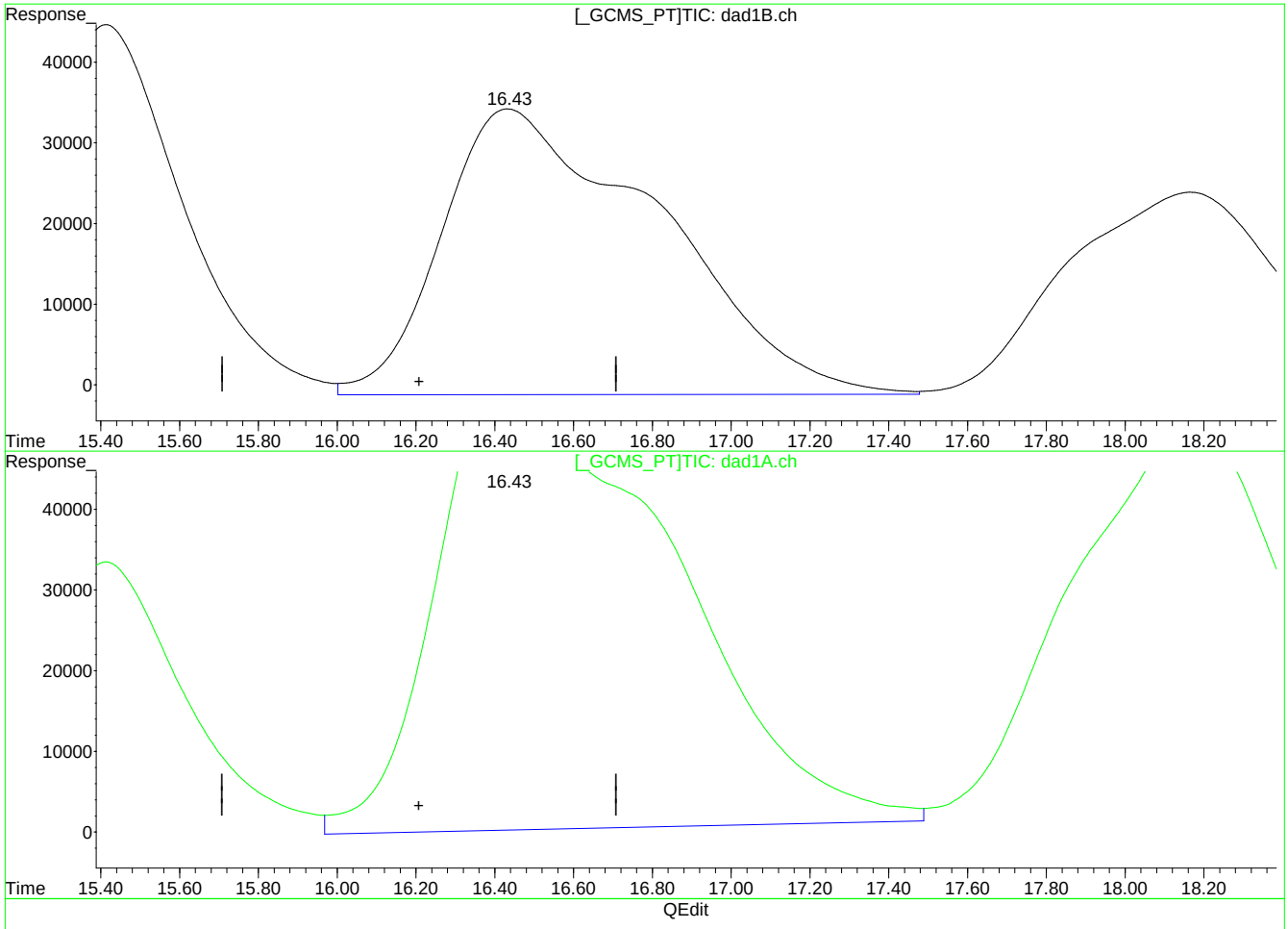
response 10825964

(+) = Expected Retention Time
GG633375.D GGG3599_071425.M Mon Nov 03 09:05:20 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633375.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633375.D\dad1A.ch
Acq On : 31-Oct-2025, 14:38:39 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Nov 3 8:48 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(15) 3,5-Dinitroaniline

16.44min 1441.766ppb

response 13676744

(15) 3,5-Dinitroaniline #2

16.43min 1539.420ppb

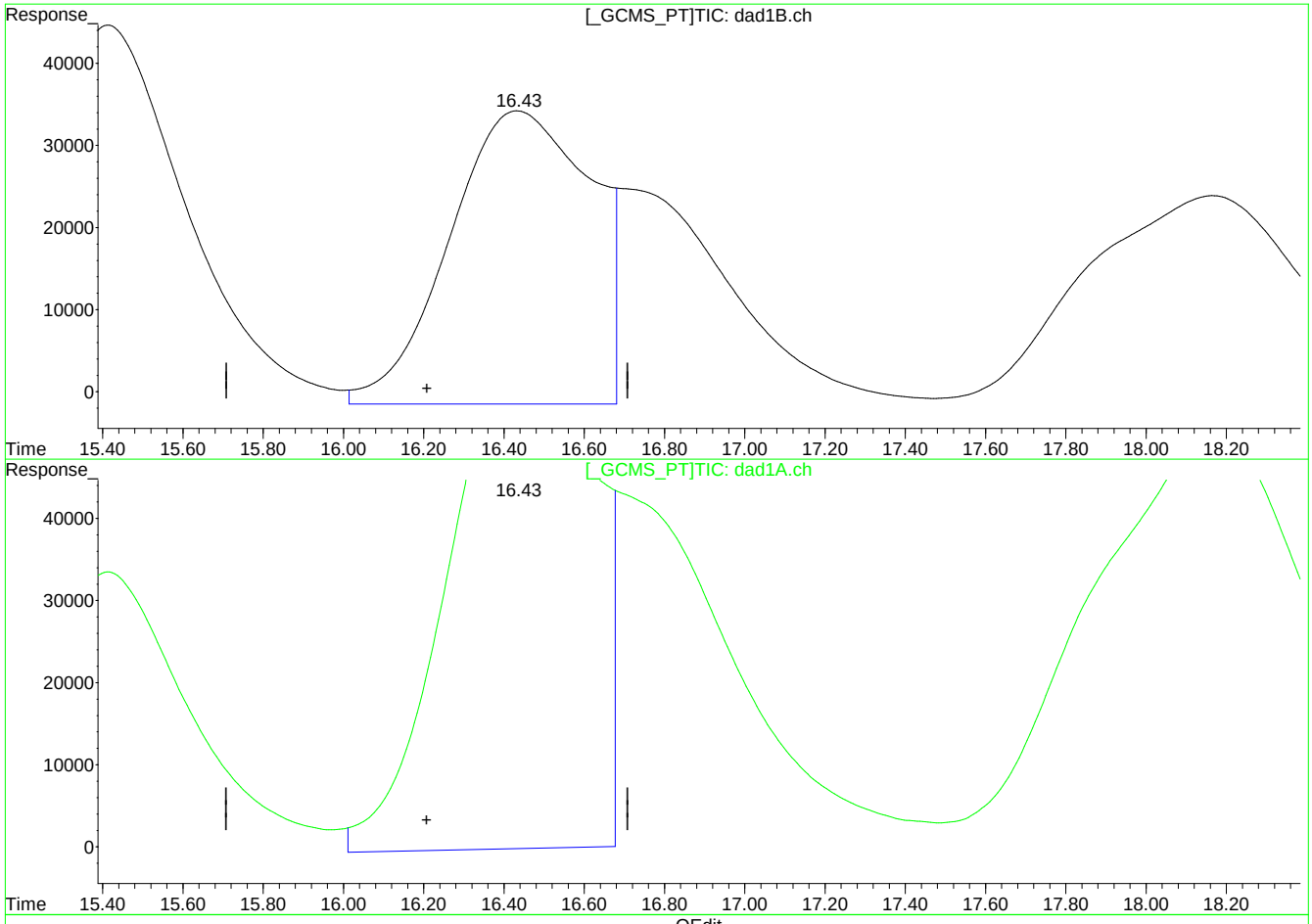
response 23202740

(+) = Expected Retention Time
GG633375.D GGG3599_071425.M Mon Nov 03 09:05:30 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633375.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633375.D\dad1A.ch
Acq On : 31-Oct-2025, 14:38:39 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Nov 3 8:48 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(15) 3,5-Dinitroaniline

16.43min 918.942ppb m

response 8717184

(15) 3,5-Dinitroaniline #2

16.43min 993.212ppb m

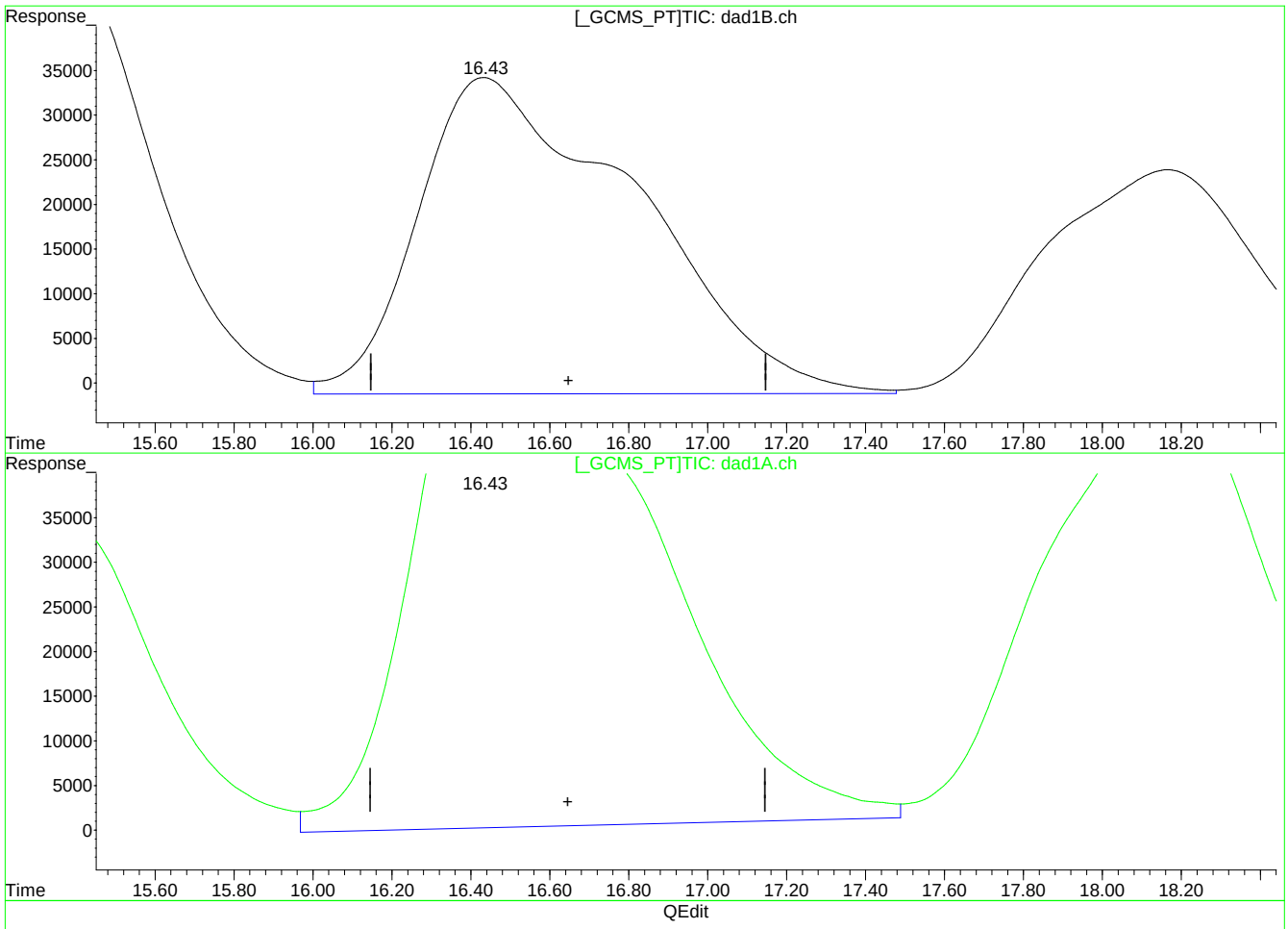
response 14970068

(+) = Expected Retention Time
GG633375.D GGG3599_071425.M Mon Nov 03 09:05:43 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633375.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633375.D\dad1A.ch
Acq On : 31-Oct-2025, 14:38:39 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Nov 3 8:48 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(16) o-Nitrotoluene

16.44min 2847.257ppb

response 13676744

(16) o-Nitrotoluene #2

16.43min 3085.840ppb

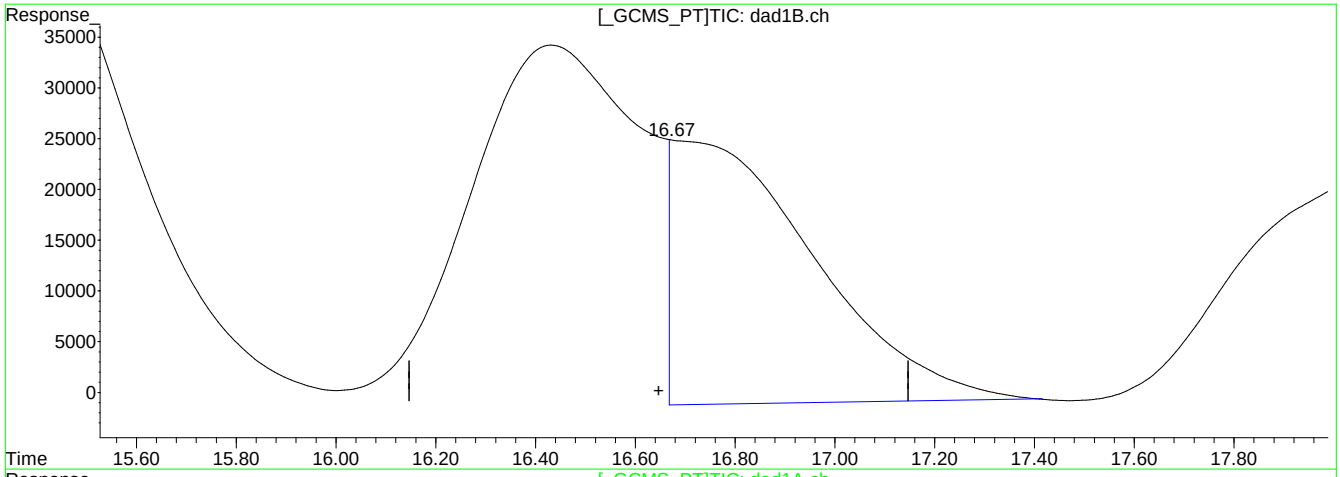
response 23202740

(+) = Expected Retention Time
GG633375.D GGG3599_071425.M Mon Nov 03 09:05:47 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633375.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633375.D\dad1A.ch
Acq On : 31-Oct-2025, 14:38:39 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Nov 3 8:48 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration



(16) o-Nitrotoluene

16.67min 1066.755ppb m

response 5124140

(16) o-Nitrotoluene #2

16.68min 1120.224ppb m

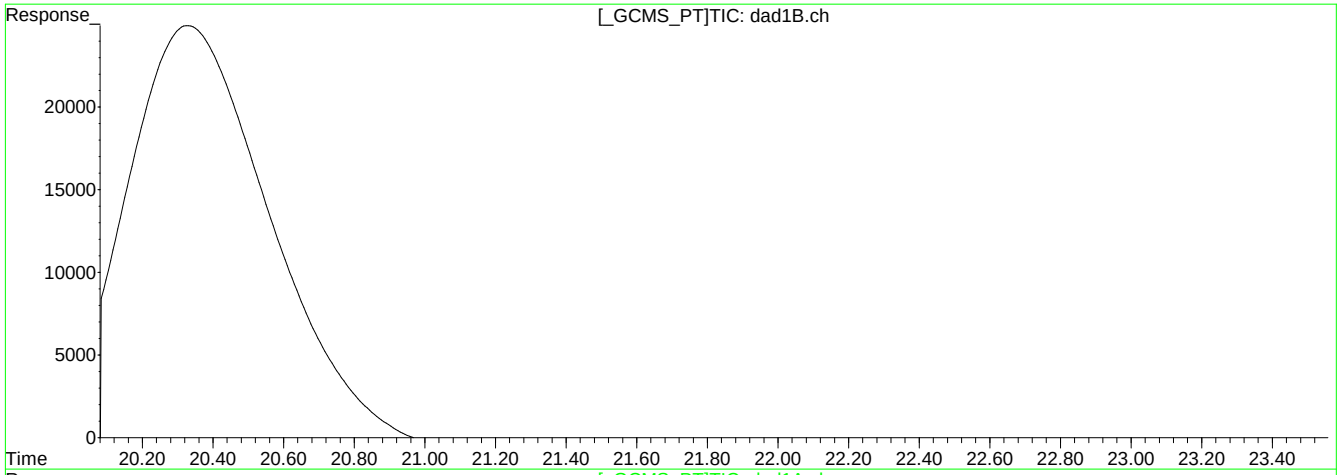
response 8463710

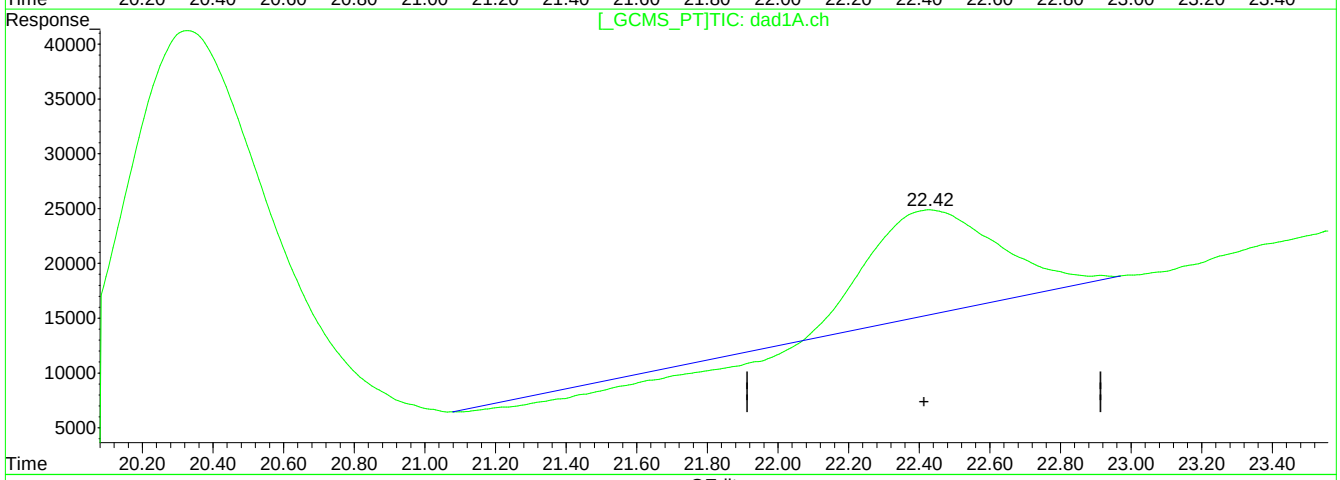
(+) = Expected Retention Time
GG633375.D GGG3599_071425.M Mon Nov 03 09:06:12 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633375.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633375.D\dad1A.ch
Acq On : 31-Oct-2025, 14:38:39 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Nov 3 8:48 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

22.43min 696.306ppb

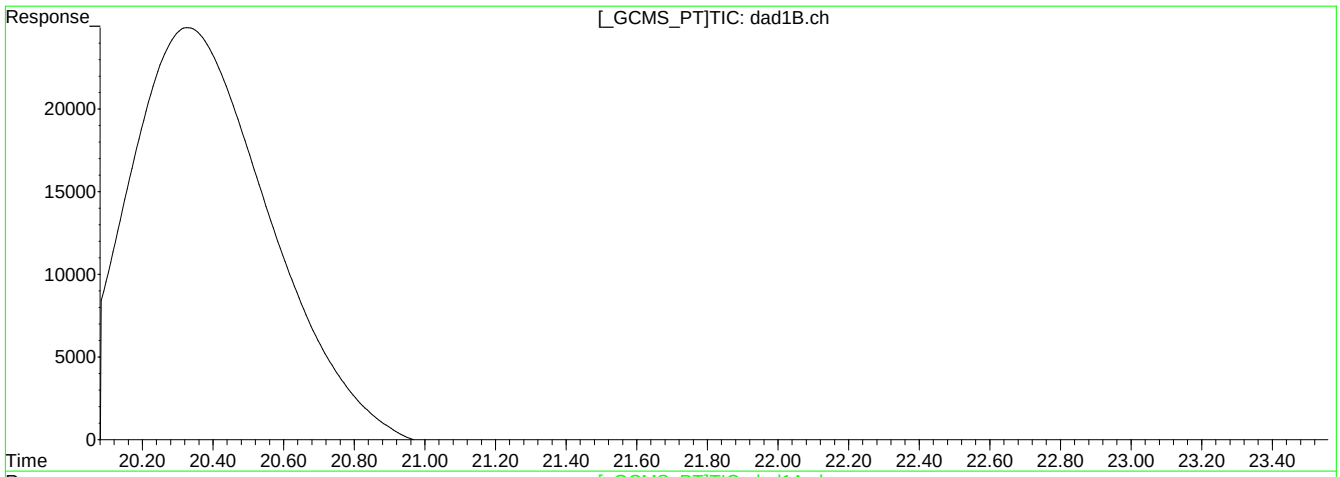
response 2023068

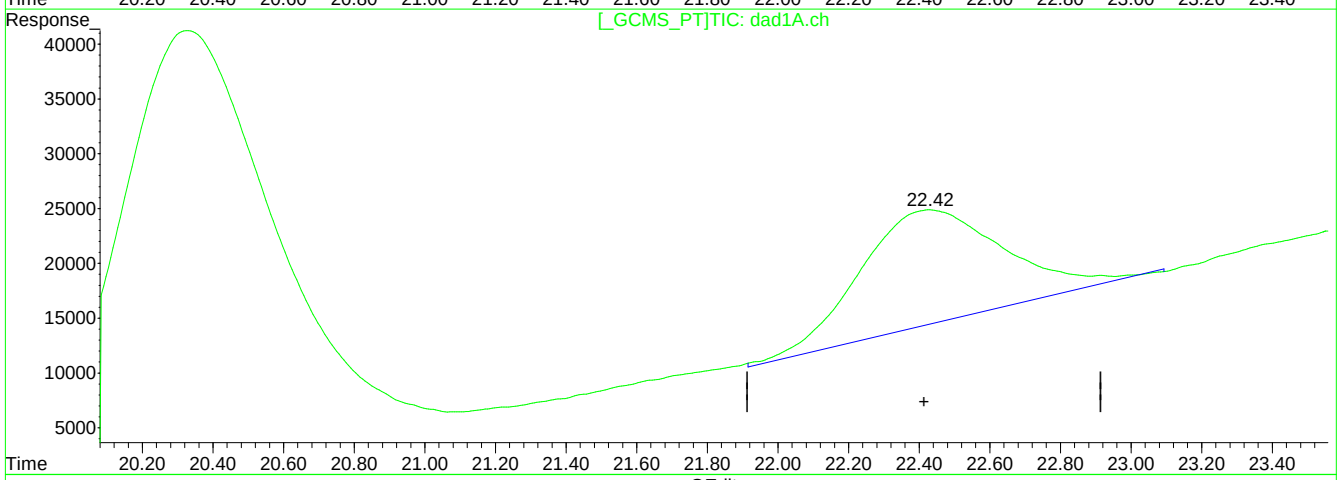
(+) = Expected Retention Time
GG633375.D GGG3599_071425.M Mon Nov 03 09:06:26 2025

Quantitation Report (Qedit)

Signal #1 : C:\HPCHEM\1\DATA\GGG3649\GG633375.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\GGG3649\GG633375.D\dad1A.ch
Acq On : 31-Oct-2025, 14:38:39 Operator: fouads
Sample : cc3599-1000 Inst : G1315B
Misc : Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Nov 3 8:48 2025 Quant Results File: GGG3599_071425.RES

Method : C:\MSDCHEM\1\METHODS\GGG3599_071425.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Oct 24 15:10:34 2025
Response via : Multiple Level Calibration





QEdit

(21) PETN

0.00min 0.000ppb

response 0

(21) PETN #2

22.42min 1022.179ppb m

response 2948839

(+) = Expected Retention Time
GG633375.D GGG3599_071425.M Mon Nov 03 09:06:33 2025

SGS-ORLANDO HPLC-04 BB ANALYSIS LOG

DATE	7/30/2025	METHODS	8330	IC/ICC STD LOT	LC 1912,LC1919
COLUMN TYPE	Extend C18	ACQ. METHOD	8330B	ICV STD LOT	LC1914,lc1915
AMOUNT INJ	100ul	PROC. METHOD	BBB2740_073025.m	SOLVENT	250128
INSTRUMENT	HPLC05-BB	CALIB. DATE	7/30/2025	SOLVENT	240562
ANALYST	fs	RUN BATCH	gbb2740	HEAD PRESSURE	280

DATA FILE	ALS	SAMPLE NAME	METHOD	DF	MISC. INFO	COMMENTS
BB088908	1	ccb	8330	1	op98911,gbb2740,1000,,,10,1,water	/
BB088909	2	cc2700-1000,rt check	8330	100/500	OP10539,gbb2740,1000,,,10,1,water	ok
BB088910	3	ic2740-20	8330	2/500	OP10595,gbb2740,1000,,,10,1,water	curve passed
BB088911	4	ic2740-50	8330	5/500	OP10595,gbb2740,1000,,,10,1,water	curve passed
BB088912	5	ic2740-100	8330	10/500	OP10595,gbb2740,1000,,,10,1,water	curve passed
BB088913	6	ic2740-200	8330	20/500	OP10595,gbb2740,1000,,,10,1,water	curve passed
BB088914	7	ic2740-500	8330	50/500	op10645,gbb2740,1000,,,10,1,water	curve passed
BB088915	8	icc2740-1000	8330	100/500	op10645,gbb2740,1000,,,10,1,water	curve passed
BB088916	9	ic2740-2500	8330	250/500	op10645,gbb2740,1000,,,10,1,water	curve passed
BB088917	10	ic2740-5000	8330	1x	op10645,gbb2740,1000,,,10,1,water	curve passed
BB088918	11	icv2740-1000	8330	1	op10645,gbb2740,1000,,,10,1,water	icv passed
BB088919	12	op10686-mb	8330	1	op10686,gbb2740,1000,,,10,1,water	nd, no surrg
BB088920	13	op10686-bs	8330	1	op10686,gbb2740,1000,,,10,1,water	/
BB088921	14	fc26501-1	8330	1	op10686,gbb2740,990,,,10,1,water	hmx?
BB088922	15	op10686-ms	8330	1	op10686,gbb2740,480,,,10,1,water	/
BB088923	16	op10686-msd	8330	1	op10686,gbb2740,480,,,10,1,water	/
BB088924	17	fc26507-1	8330	1	op10686,gbb2740,990,,,10,1,water	re-extract
BB088925	18	fc26507-2	8330	1	op10686,gbb2740,980,,,10,1,water	re-extract
BB088926	19	fc26507-3	8330	1	op10686,gbb2740,1000,,,10,1,water	re-extract
BB088927	1	ccb	8330	1	op10686,gbb2740,1000,,,10,1,water	/
BB088928	8	cc2740-1000	8330	1	op10686,gbb2740,1000,,,10,1,water	passed
BB088929	20	fc26515-1	8330	1	op10686,gbb2740,980,,,10,1,water	re-extract
BB088930	21	fc26515-2	8330	1	op10686,gbb2740,990,,,10,1,water	re-extract
BB088931	22	fc26438-2,2	8330	2	OP10645,gbb2740,970,,,10,2,water	report rdx
BB088932	23	fc26438-3,10	8330	10	OP10645,gbb2740,950,,,10,10,water	report rdx,246
BB088933	24	fc26438-4,10	8330	10	OP10645,gbb2740,970,,,10,10,water	report rdx,246
BB088934	25	fc26438-5,2	8330	2	OP10645,gbb2740,940,,,10,2,water	report rdx
BB088935	26	fc26438-8,20	8330	20	OP10645,gbb2740,980,,,10,20,water	report hmx,rdx,135,246
BB088936	1	ccb	8330	1	op98911,gbb2740,1000,,,10,1,water	/
BB088937	8	ecc2740-1000	8330	1	op10645,gbb2740,1000,,,10,1,water	passed

SGS-ORLANDO HPLC-04 BB **ANALYSIS LOG**

DATE	10/24/2025	**METHODS**	8330	**IC/ICC STD LOT**	**LC 1912,LC1947**
COLUMN TYPE	Extend C18	**ACQ. METHOD**	8330B	**ICV STD LOT**	**LC1914,lc1915**
AMOUNT INJ	100ul	**PROC. METHOD**	BBB2740_073025.m	**SOLVENT**	**250128**
INSTRUMENT	HPLC05-BB	**CALIB. DATE**	7/30/2025	**SOLVENT**	**240562**
ANALYST	fs	**RUN BATCH**	gbb2779	**HEAD PRESSURE**	**280**

DATA FILE	ALS	SAMPLE NAME	METHOD	DF	MISC. INFO	COMMENTS
BB089879	1	ccb	8330	1	OP12007,gbb2779,10,,,10,1,water	/
BB089880	2	cc2740-1000	8330	100/500	OP12007,gbb2779,1000,,,10,1,water	passed
BB089881	3	cc2740-1000,plus	8330	20/500	OP12117,gbb2779,1000,,,10,1,water	passed
BB089882	4	op12119-mb	8330	1	OP12119,gbb2779,1000,,,10,1,water	nd
BB089883	5	op12119-bs	8330	1	OP12119,gbb2779,1000,,,10,1,water	/
BB089884	6	fc28688-3	8330	1	OP12119,gbb2779,970,,,10,1,water	/mnx
BB089885	7	fc28726-6	8330	1	OP12119,gbb2779,990,,,10,1,water	/ ,rerun 20x
BB089886	8	op12119-ms	8330	1	OP12119,gbb2779,480,,,10,1,water	/
BB089887	9	op12119-msd	8330	1	OP12119,gbb2779,480,,,10,1,water	/
BB089888	1	ccb	8330	1	OP12007,gbb2779,1000,,,10,1,water	/
BB089889	2	cc2740-1000	8330	100/500	OP12007,gbb2779,1000,,,10,1,water	passed
BB089890	3	cc2740-1000,plus	8330	1	OP12117,gbb2779,1000,,,10,1,water	passed
BB089891	10	op12165-mb	8330	1	OP12165,gbb2779,1000,,,10,1,water	nd
BB089892	11	op12165-bs	8330	1	OP12165,gbb2779,1000,,,10,1,water	/
BB089893	12	fc28746-1	8330	1	OP12165,gbb2779,1000,,,10,1,water	/
BB089894	13	op12165-ms	8330	1	OP12165,gbb2779,470,,,10,1,water	/
BB089895	14	op12165-msd	8330	1	OP12165,gbb2779,470,,,10,1,water	/
BB089896	15	fc28746-2	8330	1	OP12165,gbb2779,940,,,10,1,water	/
BB089897	16	fc28746-3	8330	1	OP12165,gbb2779,950,,,10,1,water	/
BB089898	17	fc28746-4	8330	1	OP12165,gbb2779,940,,,10,1,water	/
BB089899	18	fc28746-5	8330	1	OP12165,gbb2779,950,,,10,1,water	/
BB089900	1	ccb	8330	1	OP12007,gbb2779,1000,,,10,1,water	/
BB089901	2	ecc2740-1000	8330	100/500	OP12007,gbb2779,1000,,,10,1,water	passed
BB089902	3	ecc2740-1000,plus	8330	20/500	OP12117,gbb2779,1000,,,10,1,water	passed

DATE	7/14/2025	METHODS	8330	IC/ICC STD LOT	LC1931
COLUMN TYPE	Bonus-RP	ACQ. METHOD	8330	ICV STD LOT	LC1882,11725
AMOUNT INJ	100uL	PROC. METHOD	GGG3599_07/14/25	SOLVENT	250128
INSTRUMENT	HPLC3-GG	CALIB. DATE	7/14/2025	SOLVENT	240562
ANALYST	WFH	RUN BATCH	GGG3599	HEAD PRESSURE	180

DATA FILE	ALS	SAMPLE NAME	METHOD	DF	MISC. INFO	COMMENTS
GG632464	1	RT Test	8330	1	op5407,GGG3599,1000,,,10,1,water	-
GG632465	31	ic3599-20	8330	2/500	op10213,GGG3599,1000,,,10,1,water	\
GG632466	32	ic3599-50	8330	5/500	op10213,GGG3599,1000,,,10,1,water	\
GG632467	33	ic3599-100	8330	10/500	*op10213,GGG3599,1000,,,10,1,water*	\
GG632468	34	ic3599-200	8330	20/500	op10213,GGG3599,1000,,,10,1,water	\
GG632469	35	ic3599-500	8330	50/500	op10213,GGG3599,1000,,,10,1,water	\
GG632470	36	icc3599-1000	8330	100/500	op10213,GGG3599,1000,,,10,1,water	\
GG632471	37	ic3599-2500	8330	250/500	op10214,GGG3599,1000,,,10,1,water	\
GG632472	38	ic3599-5000	8330	500/500	op10214,GGG3599,1000,,,10,1,water	\
GG632473	39	icv3599-1000	8330	1	op10214,GGG3599,1000,,,10,1,water	\
GG632474	39	icv3599-1000, PETN	8330	2/1000	op10213,GGG3599,1000,,,10,1,water	wrong position sequenced
GG632475	40	icv3599-1000, PETN	8330	2/1000	op10213,GGG3599,1000,,,10,1,water	Std mislabelled, no ICV for PETN
GG632476	3	OP10213-MB	8330	1	OP10213,GGG3599,1000,,,10,1,water	\
GG632477	4	FC25654-2A	8330	1	OP10213,GGG3599,950,,,10,1,water	\
GG632478	5	FC25654-9A	8330	1	OP10213,GGG3599,890,,,10,1,water	\
GG632479	6	FC25654-10A	8330	50/500	OP10213,GGG3599,910,,,10,5,water	\
GG632480	7	FC25654-13A	8330	50/500	OP10213,GGG3599,950,,,10,5,water	\
GG632481	8	OP10214-MB	8330	1	OP10214,GGG3599,1000,,,10,1,water	\
GG632482	9	FC25711-6A	8330	1	OP10214,GGG3599,890,,,10,1,water	\
GG632483	10	FC25711-8A	8330	1	OP10214,GGG3599,940,,,10,1,water	\
GG632484	1	ccb	8330	1	op10213,GGG3599,1000,,,10,1,water	\
GG632485	36	cc3599-1000	8330	100/500	op10213,GGG3599,1000,,,10,1,water	Pass
GG632486	11	OP10269-MB	8330	1	OP10269,GGG3599,1000,,,50,1,water	\
GG632487	12	JE13112-1B	8330	1	OP10269,GGG3599,10,,,50,1,soil	\
GG632488	13	JE13112-1B,10	8330	50/500	OP10269,GGG3599,10,,,50,10,soil	Insufficient sample-rerun 10x
GG632489	14	JE13112-1B,100	8330	5/500	OP10269,GGG3599,10,,,50,100,soil	Insufficient sample-rerun 100x
GG632490	15	OP10286-MB	8330	1	OP10286,GGG3599,1000,,,10,1,water	\
GG632491	16	FC25850-2,10	8330	50/500	OP10286,GGG3599,1000,,,10,10,water	\
GG632492	17	FC25848-1	8330	1	OP10286,GGG3599,950,,,10,1,water	\
GG632493	18	FC25848-2	8330	1	OP10286,GGG3599,950,,,10,1,water	\
GG632494	19	FC25850-1	8330	1	OP10286,GGG3599,980,,,10,1,water	\
GG632495	20	FC25850-2	8330	1	OP10286,GGG3599,1000,,,10,1,water	\

GG632496	1	ccb	8330	1	op10213,GGG3599,1000,,,10,1,water	\
GG632497	36	cc3599-1000	8330	100/500	op10213,GGG3599,1000,,,10,1,water	Pass
GG632498	21	FC25850-3	8330	1	OP10286,GGG3599,980,,,10,1,water	\
GG632499	22	FC25850-4	8330	1	OP10286,GGG3599,1000,,,10,1,water	\
GG632500	23	FC25850-5	8330	1	OP10286,GGG3599,1000,,,10,1,water	\
GG632501	24	FC25850-6	8330	1	OP10286,GGG3599,1000,,,10,1,water	\
GG632502	1	ccb	8330	1	op10213,GGG3599,1000,,,10,1,water	\
GG632503	36	ecc3599-1000	8330	100/500	op10213,GGG3599,1000,,,10,1,water	Pass

DATE	10/28/2025	**METHODS**	8330	**IC/ICC STD LOT**	**LC1931,lc1956**
COLUMN TYPE	Bonus-RP	**ACQ. METHOD**	8330	**ICV STD LOT**	**LC1882,11725**
AMOUNT INJ	100uL	**PROC. METHOD**	GGG3599_07/14/25	**SOLVENT**	**250128**
INSTRUMENT	HPLC3-GG	**CALIB. DATE**	7/14/2025	**SOLVENT**	**240562**
ANALYST	EM	**RUN BATCH**	GGG3647	**HEAD PRESSURE**	**180**

DATA FILE	ALS	SAMPLE NAME	METHOD	DF	MISC. INFO	COMMENTS
GG633326	1	ccb	8330	1	OP10213,GGG3647,1000,,,10,1,water	ND
GG633327	2	cc3599-1000	8330	100+400	OP11972,GGG3647,1000,,,10,1,water	PASSED TARGET CPDS
GG633328	3	op12165-mb	8330	1	OP12165,GGG3647,1000,,,10,1,water	CONFIRMED
GG633329	4	fc28746-1cf	8330	1	*OP12165,GGG3647,1000,,,10,1,water*	CONFIRMED
GG633330	5	fc28746-2cf	8330	1	OP12165,GGG3647,940,,,10,1,water	CONFIRMED nd
GG633331	6	fc28746-4cf	8330	1	OP12165,GGG3647,940,,,10,1,water	ND
GG633332	7	fc28767-3cf	8330	1	OP12244,GGG3647,970,,,10,1,water	CONFIRMED
GG633333	8	fc28767-4cf	8330	1	OP12244,GGG3647,970,,,10,1,water	CONFIRMED
GG633334	9	fc28767-4cf,10	8330	10	OP12244,GGG3647,970,,,10,10,water	CONFIRMED
GG633335	10	fc28767-5cf	8330	1	OP12244,GGG3647,970,,,10,1,water	CONFIRMED
GG633336	11	fc28767-6cf	8330	1	OP12244,GGG3647,980,,,10,1,water	CONFIRMED
GG633337	12	fc28767-7cf	8330	1	OP12244,GGG3647,970,,,10,1,water	CONFIRMED
GG633338	1	ccb	8330	1	OP10213,GGG3647,1000,,,10,1,water	ND
GG633339	2	cc3599-1000	8330	100+400	OP11972,GGG3647,1000,,,10,1,water	PASSED TARGET CPDS
GG633340	13	fc28791-3cf	8330	1	OP12244,GGG3647,950,,,10,1,water	CONFIRMED
GG633341	14	fc28791-4cf	8330	1	OP12244,GGG3647,1000,,,10,1,water	CONFIRMED
GG633342	15	fc28791-5cf	8330	1	OP12244,GGG3647,1000,,,10,1,water	CONFIRMED
GG633343	16	fc28846-1cf	8330	1	OP12244,GGG3647,990,,,10,1,water	CONFIRMED
GG633344	1	ccb	8330	1	OP10213,GGG3647,1000,,,10,1,water	CONFIRMED
GG633345	2	ecc3599-1000	8330	100+400	OP11972,GGG3647,1000,,,10,1,water	ND

DATE	10/31/2025	**METHODS**	8330	**IC/ICC STD LOT**	**LC1931,lc1956**
COLUMN TYPE	Bonus-RP	**ACQ. METHOD**	8330	**ICV STD LOT**	**LC1882,11725**
AMOUNT INJ	100uL	**PROC. METHOD**	GGG3599_07/14/25	**SOLVENT**	**253355**
INSTRUMENT	HPLC3-GG	**CALIB. DATE**	7/14/2025	**SOLVENT**	**251465**
ANALYST	EM	**RUN BATCH**	GGG3649	**HEAD PRESSURE**	**180**

DATA FILE	ALS	SAMPLE NAME	METHOD	DF	MISC. INFO	COMMENTS
GG633363	1	ccb	8330	1	OP10213,GGG3649,1000,,,10,1,water	ND
GG633364	2	cc3599-1000	8330	100+400	OP11972,GGG3649,1000,,,10,1,water	PASSED TARGET CPDS
GG633365	3	fc28746-3cf	8330	1	OP12165,GGG3649,950,,,10,1,water	CONFIRMED
GG633366	4	op12252-mb	8330	1	*OP12252,GGG3649,1000,,,10,1,water*	nd
GG633367	5	fc28846-1cf	8330	1	OP12252,GGG3649,980,,,10,1,water	CONFIRMED poor elution,re-extract
GG633368	6	fc28846-2cf	8330	1	OP12252,GGG3649,990,,,10,1,water	CONFIRMED poor elution,re-extract
GG633369	7	fc28846-3cf	8330	1	OP12252,GGG3649,970,,,10,1,water	CONFIRMED poor elution,re-extract
GG633370	8	fc28846-4cf	8330	1	OP12252,GGG3649,980,,,10,1,water	CONFIRMED
GG633371	9	fc28846-5cf	8330	1	OP12252,GGG3649,970,,,10,1,water	CONFIRMED
GG633372	10	fc28846-6cf	8330	1	OP12252,GGG3649,970,,,10,1,water	CONFIRMED
GG633373	11	fc28846-7cf	8330	1	OP12252,GGG3649,970,,,10,1,water	CONFIRMED
GG633374	1	ccb	8330	1	OP12252,GGG3649,1000,,,10,1,water	ND
GG633375	2	cc3599-1000	8330	100+400	OP11972,GGG3649,1000,,,10,1,water	PASSED TARGET CPDS
GG633376	2	fc28846-8cf	8330	1	OP12252,GGG3649,970,,,10,1,water	CONFIRMED
GG633377	13	fc28846-4cf,10	8330	10	OP12252,GGG3649,990,,,10,10,water	not acquired,rerun
GG633378	1	ccb	8330	1	OP10213,GGG3649,1000,,,10,1,water	ND
GG633379	2	ecc3599-1000	8330	100+400	OP11972,GGG3649,1000,,,10,1,water	PASSED TARGET CPDS

SGS - ORLANDO

SPE LIQUID SAMPLE PREP REPORT

Date/Time: 10/22/2025 10:15 Started {mm/dd/yy 24:00}

Date/Time: 10/23/2025 07:00 Finished {mm/dd/yy 24:00}

Prep Method: 3535A or 537 or 537MOD (circle)

Analytical Method: 8330B

Batch#: OP#12165 Ext. By: CP Conc. By: — Vialed By: CP

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Manifold ID	Comments
OP#12165 MB	—	1000	7	N	250 ul		10ml	AT1	
OP#12165 BS	—	1000				250ul			
FC28746-1	6	1000							
-2	2	940							
-3	2	950							
-4	3	540						AT2	
-5	3	950							
FC28746-1 MS	7	470	7	N	250 ul	250ul	10ml	AT2	
FC28746-MSD	7	470							
DUP									

Comments:

Surr.1 ID: LC1951A Conc: 20ppm Exp. Date: 3/24/26 Inj. By: CP Ver. By

Spk.1 ID: LC1955 Conc: 20ppm Exp. Date: 4/21/26 Inj. By: CP Ver. By

Spk.2 ID: Conc: Exp. Date: Inj. By: Ver. By

Spk.3 ID: Conc: Exp. Date: Inj. By: Ver. By

TurboVap Temp (Therm ID): Observed Temp °C: Corr. Temp °C:

N-Evap Temp (Therm ID): Observed Temp °C: Corr. Temp °C:

Methanol Lot #

Acetonitrile Lot # 245419

Water Lot#

Solvent#

SPE Lot # 5214016B/5214017S

Syringe filter Lot #

Pre-filter Lot#

Carbon Lot#

pH Paper # 244209

Reagent #

Reagent #

Other

Relinquished By: Date: 10/23/2025

Accepted By: Date: 10/23/25

ORLD-EXT-0001-3-08-FORM_extwater_spe.xls 032718

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ANALYTICAL SUMMARY REPORT

This report at a minimum contains the following information:

Analytical Report of Test Results
Description of QC Qualifiers
Chain of Custody (copy)
Quality Control Summary (if applicable)
Case Narrative (if applicable)
Correspondence with Client (if applicable)

This report has been specifically prepared to satisfy project or program requirements. These results are in compliance with NELAC requirements for parameters where accreditation is required or available, unless otherwise noted in the case narrative.

Unless specifically stated to the contrary, soil/sediment/sludge sample results reported on a Dry Weight Basis

ANALYTICAL SAMPLE DATA

CAPE ENVIRONMENTAL MANAGEMENT
MATT FEITS
500 PINNACLE COURT
SUITE 100
NORCROSS, GA 30071

Project Name: RADFORD AAP SWMU 54
Project Phase: IDW
Project #: 10409-0222
Folder #: 199204
Purchase Order #: SC013781
Contract #: 3648

Arrival Temperature: 1.2
Report Date: 11/11/2025
Date Received: 10/21/2025
Reprint Date: 11/11/2025

Copy: chemistrysvcs@cape-inc.com

CT LAB#: 1642062 Sample Description: 54IDW Client Sample #: Sampled: 10/20/2025 16:25

Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method	
Inorganic Results														
pH	***8.15***	S.U.					1.00				10/21/25 14:15	AJB	EPA 9040C	^
COD	***95***	mg/L	18	50	75	75	1.00	M		10/28/25 09:30	10/29/25 13:59	RLB	EPA 410.4	^
Metals Results														
Total Potassium	***875***	ug/L	120	250	500	500	1.00			10/21/25 23:43	10/23/25 23:34	NAH	EPA 6010C	
Total Sodium	***27100***	ug/L	200	500	700	700	1.00			10/21/25 23:43	10/23/25 23:34	NAH	EPA 6010C	
Total Aluminum	***137***	ug/L	15	60	120	120	1.00			10/21/25 23:43	10/23/25 23:34	NAH	EPA 6010C	
Total Antimony	<10	ug/L	4.4	10	20	20	1.00	U		10/21/25 23:43	10/23/25 23:34	NAH	EPA 6010C	
Total Arsenic	<20	ug/L	7.7	20	40	40	1.00	U		10/21/25 23:43	10/23/25 23:34	NAH	EPA 6010C	
Total Barium	***59.9***	ug/L	0.71	2.0	4.0	4.0	1.00			10/21/25 23:43	10/23/25 23:34	NAH	EPA 6010C	
Total Beryllium	<3.0	ug/L	0.75	3.0	8.0	8.0	1.00	U		10/21/25 23:43	10/23/25 23:34	NAH	EPA 6010C	
Total Cadmium	<1.0	ug/L	0.41	1.0	2.0	2.0	1.00	U		10/21/25 23:43	10/23/25 23:34	NAH	EPA 6010C	
Total Calcium	***52300***	ug/L	25	50	100	100	1.00			10/21/25 23:43	10/23/25 23:34	NAH	EPA 6010C	
Total Chromium	***1.6***	ug/L	1.1	2.5	5.0	5.0	1.00	J		10/21/25 23:43	10/23/25 23:34	NAH	EPA 6010C	
Total Cobalt	<2.5	ug/L	0.60	2.5	5.0	5.0	1.00	U		10/21/25 23:43	10/23/25 23:34	NAH	EPA 6010C	
Total Copper	<20	ug/L	5.2	20	40	40	1.00	U		10/21/25 23:43	10/23/25 23:34	NAH	EPA 6010C	

Unless specifically stated to the contrary, soil/sediment/sludge sample results reported on a Dry Weight Basis

CT LAB#: 1642062 Sample Description: 54IDW Client Sample #: Sampled: 10/20/2025 16:25

Analyte	Result	Units	DL	DOD LOD	DOD LOQ	RL	DF	Qualifier	Leach Date	Prep Date/Time	Analysis Date/Time	Analyst	Method
Total Iron	***176***	ug/L	14	40	80	80	1.00			10/21/25 23:43	10/23/25 23:34	NAH	EPA 6010C
Total Lead	***3.7***	ug/L	1.4	5.0	10	10	1.00	J		10/21/25 23:43	10/23/25 23:34	NAH	EPA 6010C
Total Magnesium	***27000***	ug/L	10	25	40	40	1.00			10/21/25 23:43	10/23/25 23:34	NAH	EPA 6010C
Total Manganese	***8.2***	ug/L	1.4	3.0	5.0	5.0	1.00			10/21/25 23:43	10/23/25 23:34	NAH	EPA 6010C
Total Nickel	<3.0	ug/L	1.5	3.0	5.0	5.0	1.00	U		10/21/25 23:43	10/23/25 23:34	NAH	EPA 6010C
Total Selenium	<20	ug/L	10	20	40	40	1.00	U		10/21/25 23:43	10/23/25 23:34	NAH	EPA 6010C
Total Silver	***1.1***	ug/L	1.1	2.5	5.0	5.0	1.00	J		10/21/25 23:43	10/23/25 23:34	NAH	EPA 6010C
Total Thallium	<20	ug/L	6.8	20	40	40	1.00	U		10/21/25 23:43	10/23/25 23:34	NAH	EPA 6010C
Total Vanadium	<3.0	ug/L	1.3	3.0	5.0	5.0	1.00	U		10/21/25 23:43	10/23/25 23:34	NAH	EPA 6010C
Total Zinc	***6.9***	ug/L	4.5	10	20	20	1.00	J		10/21/25 23:43	10/23/25 23:34	NAH	EPA 6010C
Total Mercury	<0.080	ug/L	0.020	0.080	0.12	0.12	1.00	U M		10/22/25 14:40	10/23/25 10:27	MDS	EPA 7470A

Unless specifically stated to the contrary, soil/sediment/sludge sample results reported on a Dry Weight Basis

Notes:

^ Indicates the laboratory is NELAP accredited for this analyte by the indicated matrix and method . DL (detection limit), LOD (limit of detection), loq (limit of quantitation) as defined by most recent DOD QSM version.

All samples were received intact and properly preserved unless otherwise noted . The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without written approval of this laboratory. The Chain of Custody is attached.

This report has been specifically prepared to satisfy project or program requirements. These results are in compliance with NELAC requirements for the parameters where accreditation is required or available, unless noted in the case narrative.

Submitted by: Brett M. Szymanski
Project Manager
608-356-2760

QC Qualifiers

Code	Description
A	Result cannot be used for compliance due to QC issue
B	Analyte detected in the associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
I	Incubator temperature was outside acceptance limits during test period.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
U	Analyte concentration was below detection limit.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Specified calibration criteria was not met.

Current CT Laboratories Certifications

Wisconsin (WDNR) Chemistry ID# 157066030
Wisconsin (DATCP) Bacteriology ID# 289
Louisiana NELAP (primary) ID# 115843
Illinois NELAP Lab ID# 200073
Kansas NELAP Lab ID# E-10368
Virginia NELAP Lab ID# 460203
Florida NELAP Lab ID# E871111

DoD-ELAP QSM5.4 -
PJLA Testing Accreditation # 78929

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QC Summary Report

CAPE ENVIRONMENTAL MANAGEMENT **Project Name: RADFORD AAP SWMU 54**

SDG #: 0 **Folder #: 199204** **Project #: 10409-0222**

Duplicate

Analytical Run #:	296096	Analysis Date:	10/21/2025	Prep Batch #:		Matrix:	GROUND WATER
CTLab #:	1642414	Analysis Time:	14:15	Prep Date/Time:		Method:	SW9045C
Parent Sample #:	1642062	Analyst:	AJB	Prep Analyst:			

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
pH	8.16	S.U.	8.15					0	1

Duplicate

Analytical Run #:	296304	Analysis Date:	10/29/2025	Prep Batch #:	140780	Matrix:	GROUND WATER
CTLab #:	1645118	Analysis Time:	13:59	Prep Date/Time:	10/28/2025 09:30	Method:	E410.4
Parent Sample #:	1642062	Analyst:	RLB	Prep Analyst:	RLB		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
COD	87.2	mg/L	95					9	20

Lab Control Spike Water

Analytical Run #:	296304	Analysis Date:	10/29/2025	Prep Batch #:	140780	Matrix:	LIQUID
CTLab #:	1645116	Analysis Time:	13:59	Prep Date/Time:	10/28/2025 09:30	Method:	E410.4
Parent Sample #:		Analyst:	RLB	Prep Analyst:	RLB		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
COD	379.8	mg/L			400.0	95	90 --- 110		

Method Blank Water

Analytical Run #:	296304	Analysis Date:	10/29/2025	Prep Batch #:	140780	Matrix:	LIQUID
CTLab #:	1645115	Analysis Time:	13:59	Prep Date/Time:	10/28/2025 09:30	Method:	E410.4
Parent Sample #:		Analyst:	RLB	Prep Analyst:	RLB		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total COD	18	mg/L		U	0		37		

Matrix Spike Duplicate Water

Analytical Run #:	296304	Analysis Date:	10/29/2025	Prep Batch #:	140780	Matrix:	GROUND WATER
CTLab #:	1645120	Analysis Time:	13:59	Prep Date/Time:	10/28/2025 09:30	Method:	E410.4
Parent Sample #:	1645119	Analyst:	RLB	Prep Analyst:	RLB		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
COD	213	mg/L	95		148	80	90 --- 110	0	20

Matrix Spike Water

Analytical Run #:	296304	Analysis Date:	10/29/2025	Prep Batch #:	140780	Matrix:	GROUND WATER
CTLab #:	1645119	Analysis Time:	13:59	Prep Date/Time:	10/28/2025 09:30	Method:	E410.4
Parent Sample #:	1642062	Analyst:	RLB	Prep Analyst:	RLB		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
COD	213	mg/L	95		148	80	90 --- 110		20

Duplicate

Analytical Run #:	296111	Analysis Date:	10/23/2025	Prep Batch #:	140686	Matrix:	GROUND WATER
CTLab #:	1642208	Analysis Time:	23:49	Prep Date/Time:	10/21/2025 23:43	Method:	SW6010
Parent Sample #:	1642062	Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Potassium	120	ug/L	875	U			500	200	20

Duplicate

Analytical Run #:	296111	Analysis Date:	10/23/2025	Prep Batch #:	140686	Matrix:	GROUND WATER
CTLab #:	1642208	Analysis Time:	23:49	Prep Date/Time:	10/21/2025 23:43	Method:	SW6010
Parent Sample #:	1642062	Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Sodium	28600	ug/L	27100				700	5	20

Lab Control Spike Water

Analytical Run #:	296111	Analysis Date:	10/23/2025	Prep Batch #:	140686	Matrix:	LIQUID
CTLab #:	1642207	Analysis Time:	23:20	Prep Date/Time:	10/21/2025 23:43	Method:	SW6010
Parent Sample #:		Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Potassium	107000	ug/L			100000	107	86 --- 114		

Lab Control Spike Water

Analytical Run #:	296111	Analysis Date:	10/23/2025	Prep Batch #:	140686	Matrix:	LIQUID
CTLab #:	1642207	Analysis Time:	23:20	Prep Date/Time:	10/21/2025 23:43	Method:	SW6010
Parent Sample #:		Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Sodium	100000	ug/L			100000	100	87 --- 115		

Method Blank Water

Analytical Run #:	296111	Analysis Date:	10/23/2025	Prep Batch #:	140686	Matrix:	LIQUID
CTLab #:	1642206	Analysis Time:	23:27	Prep Date/Time:	10/21/2025 23:43	Method:	SW6010
Parent Sample #:		Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Potassium	120	ug/L		U	0		250		

Method Blank Water

Analytical Run #:	296111	Analysis Date:	10/23/2025	Prep Batch #:	140686	Matrix:	LIQUID
CTLab #:	1642206	Analysis Time:	23:27	Prep Date/Time:	10/21/2025 23:43	Method:	SW6010
Parent Sample #:		Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Sodium	200	ug/L		U	0		350		

Matrix Spike Duplicate Water

Analytical Run #:	296111	Analysis Date:	10/24/2025	Prep Batch #:	140686	Matrix:	GROUND WATER
CTLab #:	1642210	Analysis Time:	00:22	Prep Date/Time:	10/21/2025 23:43	Method:	SW6010
Parent Sample #:	1642209	Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Potassium	109000	ug/L	875		100000	108	86 --- 114	3	20

Matrix Spike Duplicate Water

Analytical Run #:	296111	Analysis Date:	10/24/2025	Prep Batch #:	140686	Matrix:	GROUND WATER
CTLab #:	1642210	Analysis Time:	00:22	Prep Date/Time:	10/21/2025 23:43	Method:	SW6010
Parent Sample #:	1642209	Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Sodium	135000	ug/L	27100		100000	108	87 --- 115	0	20

Matrix Spike Water

Analytical Run #:	296111	Analysis Date:	10/23/2025	Prep Batch #:	140686	Matrix:	GROUND WATER
CTLab #:	1642209	Analysis Time:	23:56	Prep Date/Time:	10/21/2025 23:43	Method:	SW6010
Parent Sample #:	1642062	Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Potassium	112000	ug/L	875		100000	111	86 --- 114		20

Matrix Spike Water

Analytical Run #:	296111	Analysis Date:	10/23/2025	Prep Batch #:	140686	Matrix:	GROUND WATER
CTLab #:	1642209	Analysis Time:	23:56	Prep Date/Time:	10/21/2025 23:43	Method:	SW6010
Parent Sample #:	1642062	Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Sodium	135000	ug/L	27100		100000	108	87 --- 115		20

Duplicate

Analytical Run #:	296112	Analysis Date:	10/23/2025	Prep Batch #:	140687	Matrix:	GROUND WATER
CTLab #:	1642213	Analysis Time:	23:49	Prep Date/Time:	10/21/2025 23:43	Method:	SW6010
Parent Sample #:	1642062	Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Aluminum	138	ug/L	137				120	1	20
Total Antimony	4.40	ug/L	<DL	U			20	0	20
Total Arsenic	7.70	ug/L	<DL	U			40	0	20
Total Barium	62.7	ug/L	59.9				4.0	5	20
Total Beryllium	0.750	ug/L	<DL	U			8.0	0	20
Total Cadmium	0.410	ug/L	<DL	U			2.0	0	20
Total Calcium	55700	ug/L	52300				100	6	20
Total Chromium	3.7	ug/L	1.6				5.0	79	20
Total Cobalt	0.600	ug/L	<DL	U			5.0	0	20
Total Copper	5.20	ug/L	<DL	U			40	0	20
Total Iron	181	ug/L	176				80	3	20
Total Lead	2.7	ug/L	3.7				10	31	20
Total Magnesium	28500	ug/L	27000				40	5	20
Total Manganese	8.7	ug/L	8.2				5.0	6	20
Total Nickel	1.50	ug/L	<DL	U			5.0	0	20
Total Selenium	10.0	ug/L	<DL	U			40	0	20
Total Silver	1.10	ug/L	1.1	U			5.0	200	20
Total Thallium	6.80	ug/L	<DL	U			40	0	20
Total Vanadium	1.30	ug/L	<DL	U			5.0	0	20
Total Zinc	7.1	ug/L	6.9				20	3	20

Lab Control Spike Water

Analytical Run #:	296112	Analysis Date:	10/23/2025	Prep Batch #:	140687	Matrix:	LIQUID
CTLab #:	1642212	Analysis Time:	23:20	Prep Date/Time:	10/21/2025 23:43	Method:	SW6010
Parent Sample #:		Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits			RPD	RPD Limit
Total Aluminum	899.0	ug/L			800.0	112	86	---	115		
Total Antimony	193.0	ug/L			200.0	96	88	---	113		
Total Arsenic	823.0	ug/L			800.0	103	87	---	113		
Total Barium	772.0	ug/L			800.0	96	88	---	113		
Total Beryllium	19.60	ug/L			20.0	98	89	---	112		
Total Cadmium	19.90	ug/L			20.0	100	88	---	113		
Total Calcium	183000	ug/L			200000	92	87	---	113		
Total Chromium	80.40	ug/L			80.0	100	90	---	113		
Total Cobalt	196.0	ug/L			200.0	98	89	---	114		
Total Copper	93.60	ug/L			100.0	94	86	---	114		
Total Iron	387.0	ug/L			400.0	97	87	---	115		
Total Lead	192.0	ug/L			200.0	96	86	---	113		
Total Magnesium	105000	ug/L			100000	105	85	---	113		
Total Manganese	194.0	ug/L			200.0	97	90	---	114		
Total Nickel	196.0	ug/L			200.0	98	88	---	113		
Total Selenium	790.0	ug/L			800.0	99	83	---	114		
Total Silver	21.40	ug/L			20.0	107	84	---	115		
Total Thallium	783.0	ug/L			800.0	98	85	---	114		
Total Vanadium	198.0	ug/L			200.0	99	90	---	111		
Total Zinc	197.0	ug/L			200.0	98	87	---	115		

Method Blank Water

Analytical Run #:	296112	Analysis Date:	10/23/2025	Prep Batch #:	140687	Matrix:	LIQUID
CTLab #:	1642211	Analysis Time:	23:27	Prep Date/Time:	10/21/2025 23:43	Method:	SW6010
Parent Sample #:		Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Aluminum	15	ug/L		U	0		60		
Total Antimony	4.4	ug/L		U	0		10		
Total Arsenic	7.7	ug/L		U	0		20		
Total Barium	0.71	ug/L		U	0		2.0		
Total Beryllium	0.75	ug/L		U	0		4.0		
Total Cadmium	0.41	ug/L		U	0		1.0		
Total Calcium	25	ug/L		U	0		50		
Total Chromium	1.1	ug/L		U	0		2.5		
Total Cobalt	0.60	ug/L		U	0		2.5		
Total Copper	5.2	ug/L		U	0		20		
Total Iron	14	ug/L		U	0		40		
Total Lead	1.4	ug/L		U	0		5.0		
Total Magnesium	10	ug/L		U	0		20		
Total Manganese	1.4	ug/L		U	0		2.5		
Total Nickel	1.5	ug/L		U	0		2.5		
Total Selenium	10	ug/L		U	0		20		
Total Silver	1.1	ug/L		U	0		2.5		
Total Thallium	6.8	ug/L		U	0		20		
Total Vanadium	1.3	ug/L		U	0		2.5		
Total Zinc	4.5	ug/L		U	0		10		

Matrix Spike Duplicate Water

Analytical Run #:	296112	Analysis Date:	10/24/2025	Prep Batch #:	140687	Matrix:	GROUND WATER
CTLab #:	1642215	Analysis Time:	00:22	Prep Date/Time:	10/21/2025 23:43	Method:	SW6010
Parent Sample #:	1642214	Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits			RPD	RPD Limit
Total Aluminum	1110	ug/L	137		800	122	86	---	115	0	20
Total Antimony	206	ug/L	<DL		200	103	88	---	113	1	20
Total Arsenic	864	ug/L	<DL		800	108	87	---	113	0	20
Total Barium	860	ug/L	59.9		800	100	88	---	113	1	20
Total Beryllium	21.1	ug/L	<DL		20.0	106	89	---	112	2	20
Total Cadmium	20.1	ug/L	<DL		20.0	100	88	---	113	3	20
Total Calcium	243000	ug/L	52300		200000	95	87	---	113	0	20
Total Chromium	86.9	ug/L	1.6		80.0	107	90	---	113	1	20
Total Cobalt	206	ug/L	<DL		200	103	89	---	114	0	20
Total Copper	96.1	ug/L	<DL		100	96	86	---	114	1	20
Total Iron	594	ug/L	176		400	104	87	---	115	1	20
Total Lead	201	ug/L	3.7		200	99	86	---	113	0	20
Total Magnesium	134000	ug/L	27000		100000	107	85	---	113	1	20
Total Manganese	214	ug/L	8.2		200	103	90	---	114	2	20
Total Nickel	203	ug/L	<DL		200	102	88	---	113	0	20
Total Selenium	830	ug/L	<DL		800	104	83	---	114	0	20
Total Silver	22.4	ug/L	1.1		20.0	106	84	---	115	2	20
Total Thallium	843	ug/L	<DL		800	105	85	---	114	1	20
Total Vanadium	210	ug/L	<DL		200	105	90	---	111	1	20
Total Zinc	212	ug/L	6.9		200	103	87	---	115	0	20

Matrix Spike Water

Analytical Run #:	296112	Analysis Date:	10/23/2025	Prep Batch #:	140687	Matrix:	GROUND WATER
CTLab #:	1642214	Analysis Time:	23:56	Prep Date/Time:	10/21/2025 23:43	Method:	SW6010
Parent Sample #:	1642062	Analyst:	NAH	Prep Analyst:	NAH		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Aluminum	1110	ug/L	137		800	122	86 --- 115		20
Total Antimony	208	ug/L	<DL		200	104	88 --- 113		20
Total Arsenic	860	ug/L	<DL		800	108	87 --- 113		20
Total Barium	869	ug/L	59.9		800	101	88 --- 113		20
Total Beryllium	20.7	ug/L	<DL		20.0	104	89 --- 112		20
Total Cadmium	20.7	ug/L	<DL		20.0	104	88 --- 113		20
Total Calcium	243000	ug/L	52300		200000	95	87 --- 113		20
Total Chromium	86.1	ug/L	1.6		80.0	106	90 --- 113		20
Total Cobalt	205	ug/L	<DL		200	102	89 --- 114		20
Total Copper	96.8	ug/L	<DL		100	97	86 --- 114		20
Total Iron	587	ug/L	176		400	103	87 --- 115		20
Total Lead	201	ug/L	3.7		200	99	86 --- 113		20
Total Magnesium	136000	ug/L	27000		100000	109	85 --- 113		20
Total Manganese	210	ug/L	8.2		200	101	90 --- 114		20
Total Nickel	204	ug/L	<DL		200	102	88 --- 113		20
Total Selenium	828	ug/L	<DL		800	104	83 --- 114		20
Total Silver	22.0	ug/L	1.1		20.0	104	84 --- 115		20
Total Thallium	833	ug/L	<DL		800	104	85 --- 114		20
Total Vanadium	208	ug/L	<DL		200	104	90 --- 111		20
Total Zinc	213	ug/L	6.9		200	103	87 --- 115		20

Duplicate

Analytical Run #:	296160	Analysis Date:	10/23/2025	Prep Batch #:	140683	Matrix:	GROUND WATER
CTLab #:	1642071	Analysis Time:	10:30	Prep Date/Time:	10/22/2025 14:40	Method:	SW7470A
Parent Sample #:	1642062	Analyst:	MDS	Prep Analyst:	MDS		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Mercury	0.0200	ug/L	<DL	U			0.12	0	20

Lab Control Spike Water

Analytical Run #:	296160	Analysis Date:	10/23/2025	Prep Batch #:	140683	Matrix:	LIQUID
CTLab #:	1642070	Analysis Time:	10:17	Prep Date/Time:	10/22/2025 14:40	Method:	SW7470A
Parent Sample #:		Analyst:	MDS	Prep Analyst:	MDS		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Mercury	1.91	ug/L			2.00	96	82 --- 119		

Method Blank Water

Analytical Run #:	296160	Analysis Date:	10/23/2025	Prep Batch #:	140683	Matrix:	LIQUID
CTLab #:	1642069	Analysis Time:	10:22	Prep Date/Time:	10/22/2025 14:40	Method:	SW7470A
Parent Sample #:		Analyst:	MDS	Prep Analyst:	MDS		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Mercury	0.020	ug/L		U	0		0.06		

Matrix Spike Duplicate Water

Analytical Run #:	296160	Analysis Date:	10/23/2025	Prep Batch #:	140683	Matrix:	GROUND WATER
CTLab #:	1642073	Analysis Time:	10:51	Prep Date/Time:	10/22/2025 14:40	Method:	SW7470A
Parent Sample #:	1642072	Analyst:	MDS	Prep Analyst:	MDS		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits			RPD	RPD Limit
Total Mercury	1.1	ug/L	<DL		2.0	55	82	---	119	4	20

Matrix Spike Water

Analytical Run #:	296160	Analysis Date:	10/23/2025	Prep Batch #:	140683	Matrix:	GROUND WATER
CTLab #:	1642072	Analysis Time:	10:40	Prep Date/Time:	10/22/2025 14:40	Method:	SW7470A
Parent Sample #:	1642062	Analyst:	MDS	Prep Analyst:	MDS		

Analyte	QC sample result	Units	Parent sample result	Qualifier(s)	Spike Amount Added	% Recovery	Control Limits	RPD	RPD Limit
Total Mercury	1.1	ug/L	<DL		2.0	55	82 --- 119		20

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #:	199204	Print Date / Time:	10/21/2025 10:34
Client:	CAPE ENVIRONMENTAL MANAGEMENT	Received Date / Time / By:	10/21/2025 10:14 erc
Project Name:	RADFORD AAP SWMU 54	Log-In Date / Time / By:	10/21/2025 10:34 erc
Project Phase:	IDW	Project #:	10409-0222 PM: BMS
Coolers:	1-UNMARKED	Temperature:	1.2 C On Ice: **Y**
Custody Seals Present :	**Y**	COC Present:?	**Y** Complete? **Y**
Seal Intact?	**Y**	Numbers:	DATED AND SIGNED
Ship Method:	FEDEX PRIORITY OVRNT	Tracking Number:	885277209879
Adequate Packaging:	**Y**	Temp Blank Enclosed?	**Y**

Notes: THE SAMPLE WAS RECEIVED IN GOOD CONDITION ON ICE.

TWO (2) CUSTODY SEALS WERE PRESENT AND INTACT ON THE COOLER UPON RECEIPT (BOTH WERE DATED 10/20/2025 AND SIGNED).

Sample ID /	Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
1642062	54IDW				
		H2SO4 PL	1	Y /	COD
		Total # of Containers of Type	(***H2SO4 PL***) = **1**		
1642062	54IDW				
		HNO3	1	Y /	HG,ICP,K,NA
		Total # of Containers of Type	(***HNO3***) = **1**		
1642062	54IDW				
		UNPRES PL	1	/	pH
		Total # of Containers of Type	(***UNPRES PL***) = **1**		

Condition Code	*Condition Description*
1	Sample Received OK

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

199204

CAPE ENVIRONMENTAL MA
RADFORD AAP SWMU 54
Logged By: erc PM BMS

CT

Company: CAPE Environmental
Project Contact: Matt Feits
Telephone: (724) 622-3625
Project Name: Radford AAP
Project #: SWMU 54
Location: Radford, VA
Sampled By: Y. Miyakawa, P. Taylor

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Program:
ISM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To: ChemistySVCS@cape-inc.com
EMAIL: mfeits@cape-inc.com
Company: Cape Environmental Mgt.
Address: 500 Pinnacle Ct. #100 Norcross, GA 30071

Invoice To:* Same
EMAIL:
Company:
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions
IDW Sample

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	pH 9040	COD 410.4	Total Metals 6010C/7471	Total # Containers	Designated MS/MSD
10/20/25	1625	GW	G		54 IDW	N	X	X	X	3	

ANALYSES REQUESTED — Fill in Spaces with Bottles per Test

Turnaround Time
(Normal) RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

CT Lab ID # (Lab use only): 1642062

Relinquished By:	Date/Time	Received By:	Date/Time
	10/20/2025 1800	FedEx	10/20/2025 1800
Received by:	Date/Time	Received for Laboratory by:	Date/Time
			10/21 1014

Lab Use Only
Ice Present Yes No
Temp 1.2 IR Gun 33
Cooler # XXX

E 10/21 M35

ORIGIN ID:LIYA (614) 716-8502
YOKO MIYAKAWA
CAPE ENVIRONMENTAL MANAGAMENT INC.
500 PINNACLE COURT
STE. 100
NORCROSS, GA 30071
UNITED STATES US

SHIP DATE: 20OCT25
ACTWGT: 45.00 LB
CAD: 10021106O/INET4535

BILL SENDER

TO **SAMPLE RECEIVING**
CT LABS
1230 LANGE COURT

BARABOO WI 53913
(608) 356-2760
INV:
PO:
REF: 10409-0222-002-006
DEPT:

58HJ4/008C/59F2

J254025092491uv

TRK# 0201 **8852 7720 9879**

XS LNRA

TUE - 21 OCT 10:30A
PRIORITY OVERNIGHT

53913
WI-US MSN

CUSTODY SEAL
DATE 10/20/2025
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • www.qecusa.com

After printing this label:
CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH
1. Fold the printed page along the horizontal line.
2. Place label in shipping pouch and affix it to your shipment.

CUSTODY SEAL
DATE 10/20/2025
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • www.qecusa.com

delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Ice Present (Yes) No
Temperature 1.2 IR#3
Seals
Date 10/21/25 Time 1014
Tracer # XXX

Appendix C: Data Validation Reports



DATA VERIFICATION/VALIDATION REPORT
Solid Waste Management Unit (SWMU) 54
Radford Army Ammunition Plant (RFAAP), Radford, VA
SDGs FC24818 (SGS), 195081 (CTL)

U.S. ARMY CORPS OF ENGINEERS, Baltimore District

Radford Army Ammunition Depot

Radford, Virginia

SWMU 54: Interim Measures

August 8, 2025

Prepared for:

Cape Environmental Management Inc.

500 Pinnacle Ct, Ste 100

Norcross, GA 30071

Prepared by:

Neptune and Company, Inc

1435 Garrison Street, Suite 201

Lakewood CO, 80215

Signature Page

Data validator: Phil Conley	
Reviewer: Polona Carson	

Table of contents

Signature Page ii
Introduction 1
Sample Receipt 2
Preservation and Holding Times 2
Validation 3
Explosives by Method SW8330 3
Calibration 3
Blanks 3
Laboratory Control Sample 3
Matrix Spike / Matrix Spike Duplicate 3
Target Compound Quantitation 4
Perchlorate by Method SW6850 4
Calibration 4
Blanks 4
Laboratory Control Sample 4
Matrix Spike / Matrix Spike Duplicate 4
Target Compound Quantitation 4
TOC/TIC by Method SW9060A 5
Calibration 5
Blanks 5
Laboratory Control Sample 5
Matrix Spike / Matrix Spike Duplicate 5
Target Compound Identification and Quantitation 5
Anions by Method SW9056A 5
Calibration 5
Blanks 6

Laboratory Control Sample 6
Matrix Spike / Matrix Spike Duplicate 6
Target Compound Identification and Quantitation 6
Chlorate/Chlorite by Method 300.0 6
Calibration 6
Blanks 6
Laboratory Control Sample 7
Matrix Spike / Matrix Spike Duplicate 7
Target Compound Identification and Quantitation 7
Field Duplicate Comparison 7
Overall Assessment 7
Appendix A1

Acronyms and Abbreviations

°C	degrees Celsius
%D	percent difference
%R	percent recovery
%RSD	percent relative standard deviation
CCV	continuing calibration verification
COC	chains-of-custody
CTL	CT Laboratories, Inc
DL	detection limit
ICV	initial calibration verification
IS	internal standard
LCS	laboratory control sample
LOD	limit of detection
LOQ	limit of quantitation
MS	matrix spike
MSD	matrix spike duplicate
QAPP	quality assurance project plan
QC	quality control
QSM	Quality Systems Manual
RPD	relative percent difference
SEDD	Staged Electronic Data Deliverable
SGS	SGS North America, Inc.
SWMU	Solid Waste Management Unit
USEPA	U.S. Environmental Protection Agency
USACE	U.S. Army Corps of Engineers

Introduction

This data verification/validation report is for groundwater samples collected from the Propellant Burning Ash Disposal Area site at the Radford Army Ammunition Plant, located in Radford, VA. The data analyses are for 5 groundwater samples collected on May 19, 2025. The samples were shipped to two laboratories, SGS North America, Inc. (SGS) and CT Laboratories, LLC (CTL) and were received by the laboratories on May 20, 2025. CTL subcontracted to Eurofins Eaton Analytical South Bend (Eurofins). Eurofins received samples directly from the field on May 22, 2025. The attributes of the samples collected, including calendar dates and identification numbers, are summarized in Table 1.

Table 1: Samples Collected from Clearfield Naval Supply Depot Historical Landfill Site

SGS ID	CTL ID/Eurofins	Client Sample ID	Matrix	Date Sampled	Date Received	Validation
FC24818-1	1585226	54MW13	Groundwater	05/19/2025	05/20/2025	S4VEM
FC24818-2	1585227	54TW13	Groundwater	05/19/2025	05/20/2025	S4VEM
FC24818-3	1585228	54MW10	Groundwater	05/19/2025	05/20/2025	S4VEM
FC24818-4	1585229	54MW12	Groundwater	05/19/2025	05/20/2025	S4VEM
FC24818-5	1585230	54MW1	Groundwater	05/19/2025	05/20/2025	S4VEM

Site samples were collected in accordance with the SWMU 54 Interim Measures Work Plan, Section 4 Quality Assurance Project Plan (QAPP). The samples were shipped to SGS located in Orlando, FL for analysis of perchlorate (SW6850) and explosives (SW8330). Samples were also shipped to CTL located in Baraboo, WI for analysis of TOC/TIC (9060A) and Anions (9056A). CTL subcontracted the analysis of Chlorate/Chlorite (300.0) to Eurofins located in South Bend, IN.

Analytical results were reviewed in accordance with the project QAPP, the Department of Defense (DoD) Quality Systems Manual (QSM), DoD General Data Validation Guidelines, DoD Data Validation Guidelines Module 1.

Both SGS and CTL provided Level IV data package, which included the required elements to perform the USEPA Region III level M3, Stage 4 electronic and manual validation (S4VEM) defined in the QAPP. The data were validated to S4VEM by the Neptune and Company, Incorporated (Neptune) data validator.

Data qualifier definitions are listed in Table 2 below.

Table 2: Final Validation Flags Definitions

Qualifier	Definition
U	Not detected. The associated number indicates the compound reporting limit for the sample.
J	Indicates an estimated value for 1) estimated value due to QC non-conformance. Reported value may not be accurate or precise, 2) estimating a concentration as a tentatively identified compound as

Qualifier	Definition
	indicated by the mass spectral and retention time data, or 3) estimating a concentration >=MDL and <MRL or <3*MRL, whichever is greater
B	The analyte has been detected in the sample and the associated laboratory or field blank.
K	Analyte present. Reported value may be biased high (estimated) due to QC non-conformance.
L	Analyte present. Reported value may be biased low (estimated) due to QC non-conformance.
UL	Value is estimated bias low and not detected due to QC non-conformance. Reporting limit may be inaccurate or imprecise. QL is probably higher
UJ	The analyte was analyzed for, but was not detected above the reported sample QL. The reported QL is approximate and may be inaccurate or imprecise.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meeting the QC criteria. The analyte may or may not be present in the sample.

Sample Receipt

Samples were received at SGS Orlando, FL, and CTL Baraboo, WI on May 20, 2025. Eurofins South Bend, IN facilities received samples on May 22, 2025. There were two coolers received by SGS at the maximum corrected temperatures of 2.2°C and 3.8°C. There was one cooler received at CTL at a temperature of 3.6°C. There was one cooler received at Eurofins at a corrected temperature of 0.2°C. CTL. The samples were received intact and in good condition.

Preservation and Holding Times

The sample receipt form indicates that the samples were received intact and in good condition. The cooler temperatures met the criteria. The case narrative indicates all samples were extracted and analyzed within the preparation and analytical hold times. This was verified by reviewing the sample summaries containing sample collection, receipt, preparation, and analytical dates, with the exception of analysis of chlorite. Preservation and hold time are not provided in the QAPP. Method 300.0 is consulted for preservation and hold time criteria for Chlorate/Chlorite analysis. Method 300.0 indicates the analytical hold time for chlorite is "immediately" for unpreserved samples. The hold time may be increased to 14 days if the sample is collected in an opaque bottle and preserved with EDA. The lab provided email confirmation that the correct sample containers and preservative were shipped to the field for collecting samples for chlorite analysis. Therefore, the hold time is extended to 14 days with

properly preserved samples. The samples were collected on May 19, 2025, and analyzed on May 22, 2025. Samples for chlorite analysis were analyzed within the hold time. No qualifiers were applied.

Validation

Explosives by Method SW8330

Calibration

The initial calibration consisted of eight (8) calibration standards. The lab employed the average relative response factor with the %RSD within acceptance limit (<20%), or linear regression forced through zero. The second source calibration verification was performed following the initial calibration and was within control limits (+/-20%). The continuing calibrations checks performed prior to analysis of samples were within control limits, except PETN on instrument GCBB for second column is high. All associated results are non-detect. No qualifiers were applied. Instrument GCGG was used for confirmation run. The continuing calibration verification percent differences were outside control limits for analytes 3,4-Dinitrotoluene (GCGG) low, 2,6-Dinitrotoluene (GCGG) high, Tetryl (GCGG) high, 2,6-Dinitrotoluene (GCGG) high, 2,4-Dinitrotoluene (GCGG) high, m-Nitrotoluene (GCGG) low, PETN (GCGG) low. All results are reported from the initial run (GCBB). No qualifiers were applied based upon the confirmation run.

Blanks

A method blank was prepared and analyzed with the batch of samples. All results were non-detect. No qualifiers were necessary.

Laboratory Control Sample

A laboratory control sample (LCS) was prepared and analyzed with the batch of samples. All analyte recoveries were within control limits. No qualifiers were necessary.

Matrix Spike / Matrix Spike Duplicate

MS/MSD analyses were performed on sample 54MW12. The MS/MSD recoveries and RPD were within control limits except for HMX (high MS/RPD), RDX (high MS/MSD), DNX (RPD), TNX (RPD), 2-Amino-4,6-dinitrotoluene (low MSD), and Nitroglycerin (low MS). HMX and RDX were detected in the parent sample and qualified as estimated with a high bias, J+. Analyte 2-Amino-4,6-dinitrotoluene was detected in the parent sample and qualified as estimated with a low bias, J-. DNX and TNX were not detected in the parent sample and are not qualified due to the results are non-detect. Nitroglycerin was not detected in the sample and was qualified as estimated at the LOD, UJ.

Target Compound Quantitation

Target compound quantitation's were manually recalculated for analytes HMX, 3,5-dinitroaniline and surrogate 3,4-dinitrotoluene. Manual integration was performed on all samples, except 54MW1. This is due to unidentified co-eluding material, which makes peak baseline determination difficult, and poor instrument integration. This is observed in the manual integration of 3,5-dinitroaniline and 1,3,5-trinitrobenzene. The confirmation column does not resolve this unidentified co-eluding interference. Manual integration of both peaks from the primary and confirmation column is subjective based upon analyst's interpretation and is the primary reason for the high difference (>40%) between the columns. The sample results for analytes exceeding the RPD for column difference are qualified as estimated, J, for samples 54MW13, 54TW13, 54MW10, and 54ME12.

Perchlorate by Method SW6850

Calibration

Prior to analyzing the calibration standards, the instrument was properly tuned. The initial calibration consisted of eight (8) calibration standards. The lab employed quadratic regression with r^2 >0.99. The second source calibration verification was performed following the initial calibration and was within control limits (+/-15%, +/-50% for low concentration CCV). The continuing calibrations checks performed prior to analysis of samples were within control limits. No qualifications were necessary.

Blanks

A method blank was prepared and analyzed with the batch of samples. The result was non-detect. No qualifiers were necessary.

Laboratory Control Sample

A laboratory control sample (LCS) was prepared and analyzed with the batch of samples. The analyte recovery was within control limits. No qualifiers were necessary.

Matrix Spike / Matrix Spike Duplicate

MS/MSD analyses were performed on sample 54MW12. The MS/MSD recoveries were outside control limits due to insignificant spike level relative to parent sample result. The RPD was within control limit. No qualifiers were necessary.

Target Compound Quantitation

Target compound quantitation's were manually recalculated.

TOC/TIC by Method SW9060A

Calibration

The analysis of TOC and TIC are determined from the same initial calibration. The initial calibration consisted of seven (7) points for TOC/TIC and the correlation coefficient, r, was >0.995. A second source calibration verification was performed following the initial calibration and was within control limits. The initial calibration and second source verifications were verified by manual calculation for TOC/TIC.

Analysis of samples proceeded immediately following the initial calibration. The calibration was verified throughout the analysis with CCV standards. All CCVs were within acceptance limits. The continuing calibration verifications results were manually calculated from the raw data for TOC/TIC.

Blanks

A method blank was prepared and analyzed with each analytical batch from each lab. There were no detects for TOC and TIC in the method blanks. Raw data was reviewed for the QC blanks.

Laboratory Control Sample

A laboratory control sample (LCS) was prepared and analyzed with each analytical batch. The TOC and TIC recoveries were within the control limits. The results and recoveries for TOC and TIC were verified from the raw data.

Matrix Spike / Matrix Spike Duplicate

MS/MSD analyses were performed on sample 54MW12 for the TIC analytical batch. The MS/MSD recoveries and percent RPD were within control limits. The MS/MSD results and recoveries for TIC were verified from the raw data.

Target Compound Identification and Quantitation

Target compound identification was reviewed for all samples. No anomalies were identified. TOC and TIC sample results were calculated manually from the raw data.

Anions by Method SW9056A

Calibration

The initial calibration consisted of six to seven (6-7) points for all anions (chloride, nitrate, and sulfate) using linear regression. The correlation of determination, (r^2), was above 0.995. A second source calibration verification was performed following the initial calibration and was within control limits. The initial calibration and second source verifications were verified by manual calculation for sulfate.

The calibration was verified throughout the analysis with CCV standards. All CCVs were within acceptance limits. The continuing calibration verifications results were manually calculated from the raw data for sulfate.

Blanks

A method blank was prepared and analyzed with the analytical batch. There was no target analytes detected in the method blank. The raw data were reviewed for all QC blanks.

Laboratory Control Sample

A laboratory control sample (LCS) was prepared and analyzed with the analytical batch. The recoveries for all target anions were within the control limits. The result and recovery for sulfate were verified from the raw data.

Matrix Spike / Matrix Spike Duplicate

MS/MSD analyses were performed on sample 54MW12. The MS recovery for sulfate was slightly below control limits. The MSD recovery and percent RPD for sulfate was within control limits demonstrating acceptable precision. The sulfate result in the parent sample is qualified as estimated with a low bias. The MS/MSD results, recoveries, and RPD for sulfate were verified from the raw data.

Target Compound Identification and Quantitation

Target compound identification was reviewed for all samples. No anomalies were identified. Sulfate sample results were calculated manually from the raw data.

Chlorate/Chlorite by Method 300.0

Calibration

The initial calibration consisted of five (5) points and the coefficient of determination, r^2, was >0.995. A second source calibration verification was performed following the initial calibration and was within control limits. The initial calibration and second source verifications were verified by manual calculation for chlorite.

The calibration was verified throughout the analysis with CCV standards. All CCVs were within acceptance limits. The continuing calibration verifications results were manually calculated from the raw data for chlorite.

Blanks

A method blank was prepared and analyzed with the analytical batch. There was no target analytes detected in the method blank. Raw data was reviewed for the QC blank.

Laboratory Control Sample

A laboratory control sample (LCS) was prepared and analyzed with the analytical batch. The recoveries were within the control limits for all target analytes. The results and recoveries were verified for chlorite from the raw data.

Matrix Spike / Matrix Spike Duplicate

MS/MSD analyses were performed on sample 54MW12 (1585229). The MS/MSD recoveries and percent RPD were within control limits. The MS/MSD results and recoveries for chlorite were verified from the raw data.

Target Compound Identification and Quantitation

Target compound identification was reviewed for all samples. No anomalies were identified. Chlorite sample results were calculated manually from the raw data.

Field Duplicate Comparison

Table 3 below lists the field duplicate comparison. Only detected analytes are listed. The RPD or "<2xLOQ" factor for each analyte was determined. Where the result is less than 2 times the sample-specific LOQ, the difference between the results should be less than 2 times the LOQ value. The QAPP does not provide a criterion for evaluating the field duplicate precision. Note that RPD between results for RDX is greater than 50% and MNX is greater than two times the LOQ.

Table 3: Field Duplicate Comparison

Analyte	Sample ID	Field Duplicate ID	RPD or <2xLOQ
	54MW13	**54TW13**	
perchlorate	0.49 ug/L	0.51 ug/L	4.0%
HMX	5.4 ug/L	6.4 ug/L	16.9%
RDX	43.8 ug/L	28.8 ug/L	**41.3%**
MNX	0.85 ug/L	0.11 U ug/L	**>2xLOQ**
3,5-dinitroaniline	0.48 ug/L	0.45 ug/L	6.5%
2-amnio-4,6-dinitroaniline	1.4 ug/L	1.2 ug/L	15.4%
4-amino-2,6-dinitroaniline	1.2 ug/L	1.0 ug/L	18.2%
1,3,5-trinitrobenzene	9.7 ug/L	8.8 ug/L	9.7%
2,4,6-trinitrotoluene	7.9 ug/L	8.7 ug/L	9.6%
TIC	69 mg/L	66 mg/L	4.4%
chloride	6.2 mg/L	6.3 mg/L	1.6%
sulfate	24 mg/L	24 mg/L	0.0%
nitrate as nitrogen	0.53 mg/L	0.52 mg/L	3.8%

Overall Assessment

All data are deemed usable as no results were considered for exclusion. The MS/MSD recovery was high for HMX, RDX and low for 2-amino-4,6-dinitrotoluene and nitroglycerin. The MS/MSD RPD was high for

HMX, DNX, and TNX. Results for the parent sample were qualified. Several explosive analytes were qualified as estimated due to high RPD between the primary and confirmation column. Positive results are qualified as estimated. For sulfate, the MS/MSD recovery was low. The result for the parent sample was qualified as estimated with a low bias. For the S4VEM review, the results for HMX, 3,5-dinitroaniline, surrogate 3,4-dinitrolotuene, perchlorate, TOC, TIC, sulfate and chlorite were recalculated to verify reported results. All results may be utilized for project decision-making processes, noting the qualifications described within this review.

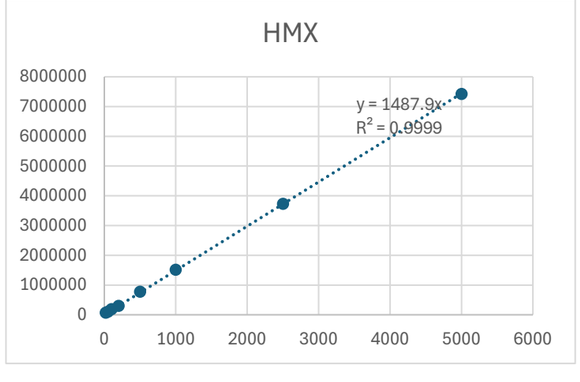
Table 4: Qualified Sample Results

Client Sample ID	Analyte	Result	Qualifier	Reason
54MW13	RDX	43.8 ug/L	J	P1
54MW13	MNX	0.85 ug/L	J	P1
54MW13	3.5-dinitroaniline	22.4 ug/L	J	P1
54TW13	HMX	6.4 ug/L	J	P1
54TW13	2-amino-4,6-dinitrotoluene	1.2 ug/L	J	P1
54TW13	4-amino-2,6-dinitrotoluene	1.0 ug/L	J	P1
54TW13	1,3,5-trinitrobenzene	8.8 ug/L	J	P1
54MW10	HMX	11.6 ug/L	J	P1
54MW10	RDX	11.2 ug/L	J	P1
54MW10	3,5-dinitroaniline	0.59 ug/L	J	P1
54MW10	1,3,5-trinitrobenzene	2.7 ug/L	J	P1
54MW12	HMX	19.3 ug/L	J+	M
54MW12	RDX	13.7 ug/L	J+	M, D
54MW12	2-amino-4,6-dinitroaniline	3.5 ug/L	J-	M
54MW12	nitroglycerin	1.0 U ug/L	UJ	M
54MW12	sulfate	21 mg/L	J-	M

M – MS and/or MSD recovery outside project control limits
P1 – Confirmation column RPD outside project control limit
D – ME/MED RPD outside project control limits

Initial Calibration and Calculation Worksheet - HMX

Calibration Levels	Y-Values, Comp Response #1, Ax	X-Values, Comp Conc, Cx
1	72302	20
2	103788	50
3	190220	100
4	303004	200
5	775913	500
6	1515519	1000
7	3733387	2500
8	7422770	5000
Sums =	**14116903**	**9370**



1.4879489E+03 0

CALIBRATION MODELS

Linear Regression:

y = mx

Cx = Ax/m

	Calculated	Calc through origin, b = 0	Lab Reported
Slope (m)	**1487.9489**	**0.0**	**1487.9489**
Correlation Coefficient	**1.0000**		**1.0000**

Sample Concentration Calculations

Sample ID	Spike Amount	Compound Response #1 Ax	Linear On-column Concentration	Lab Reported	Sample volume	Extract Volume	Calculated Result	Lab Reported	Calculated %Rec, %D, RPD	Lab Reported %Rec, %D, RPD
20		72302	48.592							
50		103788	69.752							
100		190220	127.840							
200		303004	203.639							
500		775913	521.465							
1000		1515519	1018.529							
2500		3733387	2509.083							
5000		7422770	4988.592							
ICV	1000.000	1565529	1052.139	1052.139	-	-	-	-	-5.2%	-5.20%
CCV	1000.000	1584233	1064.709	1064.709	-	-	-	-	-6.5%	-6.50%
ECCV	1000.000	1573454	1057.465	1057.465	-	-	-	-	-5.7%	-5.70%
MB		ND	ND	ND	1000	10	ND	ND		
BS	5.000	720135	483.978	483.978	1000	10	4.8	5.1	97%	96%
54MW12-MS	10.4	2750873	1848.768	1848.769	480	10	38.5	38.5	185%	184%
54MW12-MSD	10.4	2073534	1393.552	1393.552	480	10	29.0	29	94%, 28%	93%, 28%
54MW13		745401	500.9587411	500.958	930	10	5.4	5.4		
54TW13		895301	601.701	601.701	940	10	6.4	6.4		
54MW10		1639005	1101.520	1101.519	950	10	11.6	11.6		
54MW12		2866911	1926.754	1926.754	1000	10	19.3	19.3		
54MW1		0	0.000	0	950	10	0.0	0		

Initial Calibration and Calculation Worksheet - 3,5-dinitroaniline				
Calibration Levels	**Y-Values, Comp Response #1, Ax**	**X-Values, Comp Conc, Cx**	**Response Factor**	**Lab Reported Response Factor**
1	103437	20	5172	4.447E+03
2	226114	50	4522	4.451E+03
3	467950	100	4680	3.834E+03
4	871402	200	4357	3.215E+03
5	1908813	500	3818	3.757E+03
6	3892566	1000	3893	3.674E+03
7	9589245	2500	3836	3.704E+03
8	18993376	5000	3799	3.707E+03
		Average Response Factor	**4259**	

CALIBRATION MODELS

Avareage Response Factor

y = mx Cx = Ax/m

	Calculated	**Lab Reported**
Avg RF	**4259**	**4259**

Sample Concentration Calculations										
Sample ID	**Spike Amount**	**Compound**	**Average RF**						**Calculated**	**Lab Reported**
		Response #1	**On-column**	**Lab Reported**	**Sample volume**	**Extract Volume**	**Calculated Result**	**Lab Reported**	**%Rec, %D, RPD**	**%Rec, %D, RPD**
		Ax	**Concentration**							
20		103437	24.284							
50		226114	53.086							
100		467950	109.863							
200		871402	204.583							
500		1908813	448.141							
1000		3892566	913.876							
2500		9589245	2251.313							
5000		18993376	4459.166							
ICV	1000.000	4324398	1015.260	1015.260	-	-	-	-	-1.5%	-1.50%
CCV	1000.000	3939539	924.905	924.905	-	-	-	-	7.5%	7.50%
ECCV	1000.000	3880335	911.005	911.005	-	-	-	-	8.9%	8.90%
MB	0.000	ND	ND	ND	1000	10	ND	ND		
BS	5.000	1790827	420.441	420.441	1000	10	4.2	4.6	84%	84%
54MW12-MS	10.4	1711970	401.927	401.928	480	10	8.4	8.4	79%	79%
54MW12-MSD	10.4	1701085	399.372	399.372	480	10	8.3	8.3	78%, 1%	78%, 1%
54MW13		189100	44.396	44.396	930	10	0.5	0.48		
54TW13		179537	42.151	42.151	940	10	0.4	0.45		
54MW10		238593	56.016	56.016	950	10	0.6	0.59		
54MW12		84906	19.934	19.934	1000	10	0.2	0.2		
54MW1		0	0.000	0	950	10	0.0	0.10 U		

Initial Calibration and Calculation Worksheet - 3,4-dinitrotoluene				
Calibration Levels	**Y-Values, Comp Response #1, Ax**	**X-Values, Comp Conc, Cx**	**Response Factor**	**Lab Reported Response Factor**
1	54882	20	2744	4.447E+03
2	97674	50	1953	4.451E+03
3	269396	100	2694	3.834E+03
4	466510	200	2333	3.215E+03
5	1185609	500	2371	3.757E+03
6	2282754	1000	2283	3.674E+03
7	5579766	2500	2232	3.704E+03
8	11020109	5000	2204	3.707E+03
		Average Response Factor	**2352**	

CALIBRATION MODELS

Avareage Response Factor

y = mx Cx = Ax/m

	Calculated	**Lab Reported**
Avg RF	**2352**	**2352**

Sample Concentration Calculations						
Sample ID	**Spike Amount**	**Compound**	**Average RF**		**Calculated**	**Lab Reported**
		Response #1	**On-column**	**Lab Reported**	**%Rec, %D, RPD**	**%Rec, %D, RPD**
		Ax	**Concentration**			
20		54882	23.337			
50		97674	41.532			
100		269396	114.551			
200		466510	198.367			
500		1185609	504.139			
1000		2282754	970.662			
2500		5579766	2372.603			
5000		11020109	4685.921			
ICV	1000	Not spiked				
CCV	1000	2143084	911.273	911.273	8.9%	8.9%
ECCV	1000	2147731	913.248	913.248	8.7%	8.7%
MB	500	866908	368.623	368.623	74%	74%
BS	500	992587	422.063	422.064	84%	84%
54MW12-MS	500	1025887	436.223	436.223	87%	87%
54MW12-MSD	500	1010184	429.546	429.546	86%	86%
54MW13	500	1010775	429.797	429.797	86%	86%
54TW13	500	955510	406.298	406.298	81%	81%
54MW10	500	975251	414.692	414.692	83%	83%
54MW12	500	1046470	444.975	444.976	89%	89%
54MW1	500	930300	395.578	395.579	79%	79%

APPENDIX: Manual Calculations - Perchlorate

Internal Standard Initial Calibration and Calculation Worksheet - Perchlorate							
Compound Area, Ax	**ISTD Area, Ais**	**Compound Conc, Cx**	**ISTD Conc, Cis**	**Y-Values Ax/Ais**	**X-Values Cx/Cis**		**RF (Ax*Cis)/(Ais*Cx)**
2306	41560	0.2	5	0.277430221	0.2	0.277430221	1.387
5099	40140	0.5	5	0.635151968	0.5	0.635151968	1.27030
10458	39440	1	5	1.325811359	1	1.325811359	1.32581
23411	39123	2	5	2.991974031	2	2.991974031	1.49599
57461	38549	5	5	7.452981919	5	7.452981919	1.49060
113708	37128	10	5	15.31297134	10	15.31297134	1.53130
290923	34623	25	5	42.01296826	25	42.01296826	1.68052
543564	31846	50	5	85.3425862	50	85.3425862	1.70685

CALIBRATION MODEL:

Average Response Factor:

Cx = Ax*Cis/Ais/RF

		Lab Reported
Average RF	**1.4861**	**1.4861**
RSD	**10.510%**	**10.510%**
Quadratice Regression		**weighted, $1/x^2$**
Slope x2	**0.03732**	**0.037326**
Slope x	**1.3986**	**1.398621**
intercept	**0**	**0**
COD	**0.9962**	**0.996118**

Method

Weights C4 $1/x^2$

Regression Equation

C1 = 1.3986 C2 + 0.03732 C2*C2

Coefficients

Term	Coef	SE Coef	T-Value	P-Value	VIF
C2	1.3986	0.0398	35.11	0	1.51
C2*C2	0.03732	0.00988	3.78	0.009	1.51

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
0.018349	99.72%	99.62%	99.00%

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Regression	**2**	**0.711494**	**0.355747**	**1056.61**	**0**
C2	1	0.41494	0.41494	1232.42	0
C2*C2	1	0.00481	0.00481	14.29	0.009
Error	**6**	**0.00202**	**0.000337**		
Total	**8**	**0.713514**			

Fits and Diagnostics for Unusual Observations

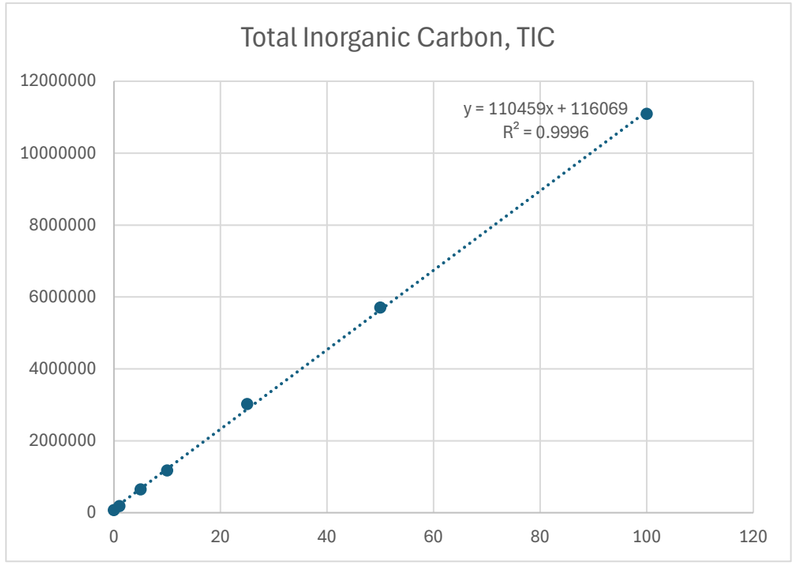
Obs	C1	Fit	Resid	Std Resid	
8	17.069	17.719	-0.65	-1.6	X

Sample Concentration Calculations										
Lab ID	**Spike Concentration**	**Compound Area Ax**	**ISTD Area Ais**	**ISTD Conc Cis**	**Quadratic Regression On-column Conc**	**Dilution**	**Calculated Result**	**Lab Result Reported Result**	**Rec., RPD, Drift, %Deviation**	**Lab Result Reported RPD, Drift, %Deviation**
Level 1	0.2	2306	41560	5	0.20	1.000	0.20	NA	1.3%	
Level 2	0.5	5099	40140	5	0.45	1.000	0.45	NA	10.2%	
Level 3	1	10458	39440	5	0.93	1.000	0.93	NA	7.5%	
Level 4	2	23411	39123	5	2.03	1.000	2.03	NA	-1.5%	
Level 5	5	57461	38549	5	4.73	1.000	4.73	NA	5.4%	
Level 6	10	113708	37128	5	8.86	1.000	8.86	NA	11.4%	
Level 7	25	290923	34623	5	19.69	1.000	19.69	NA	21.2%	
Level 8	50	543564	31846	5	32.62	1.000	32.62	NA	34.8%	
ICV	2	20138	38816	5	1.77	1.000	1.77	1.84	-11.45%	-8.20%
CCV	2	21218	35114	5	2.05	1.000	2.05	2.14	2.41%	6.80%
CCVL	0.2	1858	34622	5	0.19	1.000	0.191	0.190	-4.56%	-4.20%
CCV	2.0	24835	41456	5	2.03	1.000	2.032	2.120	1.58%	5.90%
CCVL	0.2	2055	39101	5	0.19	1.000	0.187	0.190	-6.52%	-6.10%
CCV	2.0	23884	39630	5	2.04	1.000	2.043	2.130	2.16%	6.50%
BLK		ND	32844	5	ND	1.000	ND	ND		
IBLK		ND	36047	5	ND	1.000	ND	ND		
BS	0.2	1965	34632	5	0.20	1.000	0.20	0.20	100.88%	100.00%
54MW12		10099	45905	5	0.77	1.000	0.77	0.78		
54MW12-MS	0.20	12386	48293	5	0.90	1.000	0.90	0.91	62.43%	65.00%
54MW12-MSD	0.20	12291	49189	5	0.87	1.000	0.87	0.89	51%, 2.5%	55%, 2%
54MW10		11793	44412	5	0.93	1.000	0.93	0.94		
54MW13		6180	45394	5	0.48	1.000	0.48	0.49		
54TW13		6464	45288	5	0.50	1.000	0.50	0.51		
54MW1		0	43244	5	0.00	1.000	0.00	ND		

* Although the quadratic equations calculated and reported by the lab match exactly, there is a slight difference in calculated and lab reported results, most likely due to rounding.

Area1	Area 2	Area 1	Area 2	X-Values, Compound Conc, Cx	Average Area
92436	71353	82635	47243	0	73416.75
196772	184321	174346	180252	1	183922.75
684567	643092	647828	616265	5	647938
1226071	1182734	1140556	1144944	10	1173576.25
3087508	2989571	3000783	3029640	25	3026875.5
5762859	5709511	5693224	5667589	50	5708295.75
11250887	10979593	11093393	11060976	100	11096212.3

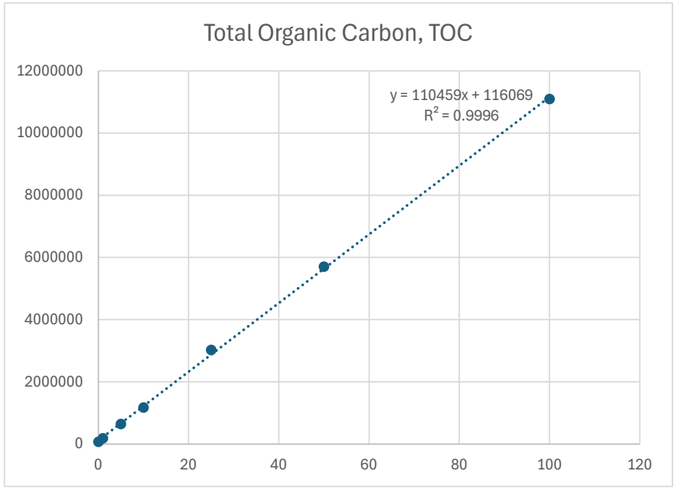
	Calculated	Lab Reported
Slope	110459.443	110459
intercept	116069.092	116069
COD	0.99962	0.99973



Sample Concentration Calculations												
Lab ID	Spike Conc.	Area 1	Area 2	Area 3	Area 4	Average Area	Instrument Result	Dilution	Calculated Result	Lab Instrument Reported Result	Rec., RPD, Drift, %Deviation	Lab Result Reported RPD, Drift, %Deviation
Level 1	0	92436	71353	82635	47243	73416.750	-0.386	1.000	-0.39			
Level 2	1	196772	184321	174346	180252	183922.750	0.614	1.000	0.61			
Level 3	5	684567	643092	647828	616265	647938.000	4.815	1.000	15.50			
Level 4	10	1226071	1182734	1140556	1144944	1173576.250	9.57371	1.000	9.57371			
Level 5	25	3087508	2989571	3000783	3029640	3026875.500	26.352	1.000	26.35			
Level 6	50	5762859	5709511	5693224	5667589	5708295.750	50.627	1.000	50.627			
Level 7	100	11250887	10979593	11093393	11060976	11096212.250	99.404	1.000	99.40			
ICV	50	5631270	5510939	5478458	5533060	5538431.750	49.089	1.000	49.09	49.09	98.2%	98.0%
LCS	50	6204677	6121724	5911545	5824694	6015660.000	53.410	1.000	53.41	53.41	106.8%	107.0%
MB		167086	140871	97548	169797	131160.600	0.137	1.000	0.14	1.5 U	< 0.4 DL	
54MW13		11024092	10816131	10654556	10609087	10775966.500	96.505	1.000	96.51	96.51		
54MW10		8864406	8648071	8619501	8679855	8702958.250	77.7379365	1.000	77.74	77.74		
54MW12		8050756	7926590	7759150	7834910	7892851.500	70.4039618	1.000	70.40	70.4		
54TW12		8026442	7820466	7638516	7740587	7806502.750	69.6222383	1.000	69.62	69.62		
54MW1		6979205	6907587	6872900	6896647	6914084.750	61.543092	1.000	61.54	61.54		

Area1	Area 2	Area 1	Area 2	X-Values, Compound Conc, Cx	Average Area
242802	182228	169324	211724	0	201519.5
370123	301617	315699	285521	1	318240
849745	836006	841868	856310	5	845982.25
1640297	1469028	1506184	1471547	10	1521764
3849895	3663528	3539172	3629968	25	3670640.75
6941202	6774644	6785198	6852827	50	6838467.75
13069740	13074745	13060434	13138286	100	13085801.25

	Calculated	Lab Reported
Slope	129293.23	129293
intercept	255344.04	255244
COD	0.99973	0.99965



Sample Concentration Calculations												
Lab ID	Field Sample ID	Spike Conc.	Area 1	Area 2	Area 3	Area 4	Average Area	Instrument Result	Dilution	Calculated Result	Lab Instrument Reported Result	Rec., RPD, Drift, %Deviation
Level 1		0	242802	182228	169324	211724	201520	-0.416	1.000	-0.42		
Level 2		1	370123	301617	315699	285521	318240	0.486	1.000	0.49		
Level 3		5	849745	836006	841868	856310	845982	4.568	1.000	15.50		
Level 4		10	1640297	1469028	1506184	1471547	1521764	9.79494	1.000	9.79494		
Level 5		25	3849895	3663528	3539172	3629968	3670641	26.415	1.000	26.42		
Level 6		50	6941202	6774644	6785198	6852827	6838468	50.916	1.000	50.916		
Level 7		100	13069740	13074745	13060434	13138286	13085801	99.235	1.000	99.24		
ICV		50	7016449	6857470	6796233	7306057	6994052	52.120	1.000	52.12	52.12	104%
CCV		50	6193137	6400534	6514461	6458699	6391708	47.461	1.000	47.46	47.44	95%
LCSW		50	6589942	6640204	6635920	6752270	6654584	49.494	1.000	49.49	49.48	99.0%
MB			0	0	0	0	16100	-1.850	1.000	-1.85	1.5 U	
1585226	54MW13		9376430	9112305	9085416	9206188	9195085	69.143	1.000	69.14	69.14	
1585227	54TW13		8766856	8755444	9049013	8706630	8819486	66.2381287	1.000	66.24	66.23	
1585228	54MW10		9855578	9981385	9915759	10182213	9983734	75.24283828	1.000	75.24	75.24	
1575229	54MW12		10438108	9881342	9957730	10164083	10110316	76.22186865	1.000	76.22	76.22	
1585230	54MW1		8515018	8395345	8351504	8370005	8407968	63.05530355	1.000	63.06	63.05	
CCV		50	6566548	6495363	6715985	6811351	6647312	49.438	1.000	49.44	49.42	99%
LCSW		50	6652320	6637198	6584580	6596534	6617658	49.20840701	1.000	49.21	49.19	98%
MBW			0	0	0	0	0	-1.97492194	1.000	-1.97	0	
CCV		50	6541646	6413585	6609896	6652434	6554390	48.71907165	1.000	48.72	48.70	97%
1585226	54MW13		-76897	0	0	0	-19224	-2.12360915	1.000	-2.12	0	
1585227	54TW13		0	0	0	0	0	-1.97492194	1.000	-1.97	0	
1585228	54MW10		98121	-150051	0	0	-12983	-2.07533323	1.000	-2.08	0	
1575229	54MW12		0	0	0	0	0	-1.97492194	1.000	-1.97	0	
DUP1585229	54MW12		66359	75994	61333	80919	71151	-1.42461278	1.000	-1.42	0	
MSW1585229	54MW12	50	6951384	6930278	7125985	7012479	7005032	52.20449192	1.000	52.20	52.19	104%
MSDW1585229	54MW12	50	6988491	6832542	6874778	7023808	6929905	51.62343482	1.000	51.62	51.61	103%, -1%

Initial Calibration Model Worksheet - Sulfate					
Y-Values, Compound Area, Ax	X-Values, Compound Conc, Cx/Vs	X^2	RF	Y^2	XY
		$(Cx)^2$	Ax/Cx	$(Ax)^2$	(Cx*Ax)
0.7810	3	9.000	0	6.10E-01	2.3
1.2910	5	25.000	0	1.67E+00	6.5
2.6190	10	100.000	0	6.86E+00	26.2
5.7530	20	400.000	0	3.31E+01	115.1
8.7230	30	900.000	0	7.61E+01	261.7
15.0970	50	2500.000	0	2.28E+02	754.9
22.0600	70	4900.000	0	4.87E+02	1544.2
56.324	**188**	**8834**	**7**	**832.88655**	**2710.8**

CALIBRATION MODELS:

	Weighting		Equal	Reported
Linear Regression:	**Slope (m)**		**0.3165**	**0.3165**
	Intercept (b)		**-0.4553**	**-0.4553**
y = mx + b	**CC (R) (≥0.99)**		**0.9994**	**NR**
Cx = (Ax-b)/m	**COD (R^2) (≥0.98)**		**0.99885**	**0.99885**
	Note			

Sample Concentration Calculations								
Lab Sample ID	Field Sample ID	Spike Concentration	Compound Area Ax	Linear Cal On-column Conc	Dilution	Calculated Result	Laboratory Reported	% Recovery
ICV {p. 67}	ICV	25	6.908	23.261	1	23.261	23.261	93%
ICB	ICB		0	1.438	1	1.438	1.5 U	
CCV	CCV	25	7.327	24.585	1	24.585	24.586	98%
LCSW	LCSW	25	7.549	25.286	1	25.286	25.287	101%
MBW	MBW		0	1.438	1	1.438	1.5 U	
CCV	CCV	25	7.46	25.005	1	25.005	25.006	100%
CCB	CCB		0	1.438	1	1.438	1.5 U	
1585226 {p. 84}	54MW13		7.035	23.662	1	23.662	23.663	
1585227	54MW10		7.105	23.884	1	23.884	23.883	
1585228	54MW12		13.808	45.059	1	45.059	45.058	
1585228	54TW12		1.212	5.267	10	52.670	52.684	
1585229	54MW1		6.281	21.280	1	21.280	21.280	
DUP1585229			6.238	21.145	1	21.145	21.144	1%
MSW1585229	54MW13-MS	8	8.336	27.772	1	27.772	27.773	81%
MSDW1585229	54MW13-MSD	8	8.405	27.990	1	27.990	27.991	84%, 0%
1585230	54MW13-MS		8.612	28.644	1	28.644	28.645	
CCV	CCV	25	7.272	24.411	1	24.411	24.412	98%
MBW-CCB	MBW-CCB		0	1.438	1	1.438	1.5U	

The lab rounded the sample and matrix spike results prior to calculating recovery and RPD values.

Initial Calibration Model Worksheet - Chlorite

Y-Values, Ax	X-Values, Cx	X^2
0	0	0
394969	0.01	0.0001
774773	0.02	0.0004
4213077	0.1	0.01
10897422	0.25	0.0625
22163495	0.5	0.25
45618438	1	1

Quadratic Regression: $y = ax^2 + bx + c$

Cx=(SQRT(b^2-(4*a*(c-Ax)))-b)/(2*a)

Weighting	Equal	Lab Reported
x^2 Coefficient (a)	2549281.46	2549281.46
x Coefficient (b)	43130028.3	43130028.3
Intercept (c)	-56425.504	-56425.504
COD (R^2)	1.0000	1.0000

Sample Concentration Calculations

Lab Sample ID	Field Sample ID	Spike Concentration	Compound Area, Ax	Calculated On-Column Result, ug/mL	Dilution	Calculated Result, ug/L	Laboratory Reported Result, ug/L	% Recovery
ICV 810-144114/8 {p. 263}		250	10954601	0.2516	1	252	252	101%
CCV 810-145338/2 {p. 267}		250	11059372	0.2539	1	254	254	102%
CCB 810-145338/3 {p. 286)			0	0.0013	1	1	<3	
CCV 810-145338//18 {p. 273}		250	11276938	0.2588	1	259	259	104%
CCB 810-145338/19 {p. 290)			0	0.0013	1	1	<3	
MB 810-145338/4 {p. 279}	MB		0	0.0013	1	1	<10	
LCS 810-145338/5 {p. 300}	LCS	250	11106492	0.2550	1	255	255	102%
LLCS 810-145338/1 {p. 306}	LLCS	10	388893	0.0103	1	10.3	10.3	103%
810-149697-4 MS {p. 313}	54MW12-MS	250	10056549	0.2313	1	231	231	93%
810-149697-4 MSD {p. 317}	54MW12-MSD	250	9784689	0.2252	1	225	225	90% 3%
1585226 {p. 180}	54MW13		0	0.0013	1	1	<10	
1585227 {p. 184}	54TW13		0	0.0013	1	1	<10	
1585228 {p. 189}	54MW10		0	0.0013	1	1	<10	
1585229 {p. 195}	54MW12		0	0.0013	1	1	<10	
1585230 {p. 199}	54MW1		0	0.0013	1	1	<10	

Slight differences in percent recovery calculations are due to lab rounding prior to determing percent recoveries.



DATA VERIFICATION/VALIDATION REPORT
Solid Waste Management Unit (SWMU) 54
Radford Army Ammunition Plant (RFAAP), Radford, VA
SDG FC28746 (SGS) and 199203 (CTL)

U.S. ARMY CORPS OF ENGINEERS, Baltimore District

Radford Army Ammunition Depot

Radford, Virginia

SWMU 54: Interim Measures

January 5, 2026

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Table of contents

Signature Page ii
Introduction 1
Sample Receipt 2
Preservation and Holding Times 2
Validation 3
Explosives by Method SW8330 3
Calibration 3
Blanks 3
Laboratory Control Sample 4
Matrix Spike / Matrix Spike Duplicate 4
Target Compound Quantitation 4
Perchlorate by Method SW6850 4
Calibration 4
Blanks 4
Laboratory Control Sample 5
Matrix Spike / Matrix Spike Duplicate 5
Target Compound Quantitation 5
VOC Gases by Method RSK-175 5
Calibration 5
Blanks 5
Laboratory Control Sample 5
Matrix Spike / Matrix Spike Duplicate 6
Target Compound Identification and Quantitation 6
TOC/TIC by Method SW9060A 6
Calibration 6
Blanks 6

Laboratory Control Sample 6
Matrix Spike / Matrix Spike Duplicate 6
Laboratory Duplicate 6
Target Compound Identification and Quantitation 7
Anions by Method SW9056A 7
Calibration 7
Blanks 7
Laboratory Control Sample 7
Matrix Spike / Matrix Spike Duplicate 7
Laboratory Duplicate 7
Target Compound Identification and Quantitation 7
Chlorate/Chlorite by Method 300.0 8
Calibration 8
Blanks 8
Laboratory Control Sample (LCS) and Low Level Laboratory Control Sample (LLCS) 8
Matrix Spike / Matrix Spike Duplicate 8
Target Compound Identification and Quantitation 8
Field Duplicate Comparison 8
Overall Assessment 9
Appendix A1

Acronyms and Abbreviations

°C	degrees Celsius
%D	percent difference
%R	percent recovery
%RSD	percent relative standard deviation
CCV	continuing calibration verification
COC	chains-of-custody
CTL	CT Laboratories, Inc
DL	detection limit
ICV	initial calibration verification
IS	internal standard
LCS	laboratory control sample
LOD	limit of detection
LOQ	limit of quantitation
MS	matrix spike
MSD	matrix spike duplicate
QAPP	quality assurance project plan
QC	quality control
QSM	Quality Systems Manual
RPD	relative percent difference
SEDD	Staged Electronic Data Deliverable
SGS	SGS North America, Inc.
SWMU	Solid Waste Management Unit
USEPA	U.S. Environmental Protection Agency
USACE	U.S. Army Corps of Engineers

Introduction

This data verification/validation report is for groundwater samples collected from the Propellant Burning Ash Disposal Area site at the Radford Army Ammunition Plant, located in Radford, VA. The data analyses are for 5 groundwater samples collected on October 20, 2025. The samples were shipped to CT Laboratories, LLC (CTL) and were received by the laboratory on October 21, 2025. The attributes of the samples collected, including calendar dates and identification numbers, are summarized in Table 1.

Table 1: Samples Collected from Clearfield Naval Supply Depot Historical Landfill Site

CTL ID	Client Sample ID	Matrix	Date Sampled	Date Received	Validation Stage
1543252	54MW13	Groundwater	10/20/2025	10/21/2025	S4VEM
1643253	54MW10	Groundwater	10/20/2025	10/21/2025	S4VEM
1643254	54TW10	Groundwater	10/20/2025	10/21/2025	S4VEM
1645325	54MW12	Groundwater	10/20/2025	10/21/2025	S4VEM
1645326	54MW1	Groundwater	10/20/2025	10/21/2025	S4VEM

Site samples were collected in accordance with the SWMU 54 Interim Measures Work Plan, Section 4 Quality Assurance Project Plan (QAPP). The samples were shipped to SGS located in Orlando, FL for analysis of perchlorate (SW6850) and explosives (SW8330). Samples were also shipped to CTL located in Baraboo, WI for analysis of TOC/TIC (9060A) and Anions (9056A). CTL subcontracted the analysis of Chlorate/Chlorite (300.0) to Eurofins located in South Bend, IN.

Analytical results were reviewed in accordance with the project QAPP, the Department of Defense (DoD) Quality Systems Manual (QSM), DoD General Data Validation Guidelines. DoD Data Validation Guidelines Module 4.

Both SGS and CTL provided Level IV data package, which included the required elements to perform the USEPA Region III level M3, Stage 4 electronic and manual validation (S4VEM) defined in the QAPP. The data were validated to S4VEM by the Neptune and Company, Incorporated (Neptune) data validator.

Data qualifier definitions are listed in Table 2 below.

Table 2: Final Validation Flags Definitions

Qualifier*	Definition
U	The analyte was not detected and was reported as less than the LOD or as defined by the customer. The LOD has been adjusted for any dilution or concentration of the sample.
J	The reported result was an estimated value with an unknown bias.
J+	The result was an estimated quantity, but the result may be biased high.
J-	The result was an estimated quantity, but the result may be biased low.

Qualifier*	Definition
N	The analysis indicates the presence of an analyte for which there was presumptive evidence to make a "tentative identification."
NJ	The analyte has been “tentatively identified” or “presumptively” as present and the associated numerical value was the estimated concentration in the sample.
UJ	The analyte was not detected and was reported as less than the LOD or as defined by the customer. However, the associated numerical value is approximate.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

*The data qualifiers listed have been modified from the work plan to reflect the current data validation qualifier practices discussed in DoD General Data Validation Guidelines, Revision 1, November 2019.

Sample Receipt

Samples were received at SGS Orlando, FL, and CTL Baraboo, WI on October 21, 2025. CTL Baraboo, WI facilities on October 21, 2025. There was one cooler received at SGS at a temperature of 2.0°C. There was one cooler received at CTL at a temperature of 1.2°C. CTL repackaged samples and shipped to Eurofins for the analysis of chlorate/chlorite. The cooler was received at Eurofins South Bend facility on October 23, 2025. The cooler corrected temperature was 0.6°C. The samples were received intact and in good condition.

Preservation and Holding Times

The sample receipt form indicates that the samples were received intact and in good condition. Cooler temperatures met the criteria. The case narrative indicates all samples were extracted and analyzed within the preparation and analytical hold times. This was verified by reviewing the sample summaries containing sample collection, receipt, preparation and analytical dates, with the exception for analysis of chlorite. Preservation and hold time are not provided in the QAPP. Method 300.0 is consulted for preservation and hold time criteria for Chlorate/Chlorite analysis. Method 300.0 indicates the analytical hold time for chlorite is “immediately” for unpreserved samples. The hold time may be increased to 14 days if the sample is collected in an opaque bottle and preserved with EDA. The CoC did not provide preservation information. Eurofins indicated in the sample login form that the sample containers were provided by Eurofins. The lab provided email confirmation that the correct sample containers and preservative were shipped to the field for collecting samples for chlorite analysis. Therefore, the hold time is extended to 14 days with properly preserved samples. The samples were collected on October 20, 2025, and analyzed on October 24 and 25, 2025 . Samples for chlorite analysis were analyzed within hold time. No qualifiers were applied.

Validation

Explosives by Method SW8330

Calibration

The initial calibration consisted of eight (8) calibration standards. The lab employed the average relative response factor with the %RSD within acceptance limit (<15%), linear or quadratic regression with correlation coefficient (r) greater than 0.995. The second source calibration verification was performed following the initial calibration and was within control limits (+/-20%), except for the following:

- Nitroglycerin (grossly high) on signal #2 on instrument GCGG. This instrument was used for confirmation only. Sample results were reported from instrument GCBB and all results were non-detect for this analyte. No qualifiers were applied.

The continuing calibrations checks performed prior to analysis of samples were within control limits, except for the following:

- Nitroglycerin (high) on signal #2 on instrument GCBB analyzed on 10/29/25 9:15.
- Nitroglycerin (high) and 2,6-dinitrotoluene (high) on signal #2 on instrument GCBB analyzed on 10/29/25 15:14.
- 3,4-dinitrotoluene (low) on signal #1 and nitroglycerin (high) and 2,6-dinitrotoluene (high) on signal #2 on instrument GCBB analyzed on 10/31/25 9:37
- Nitroglycerin (high), tetryl (high) and 2,6-dinitrotoluene (high) on signal #2 on instrument GCBB analyzed on 10/31/25 14:38.
- Nitroglycerin (high) on signal #2 on instrument GCGG analyzed on 10/29/25 9:15.
- Nitroglycerin (high) and 2,6-dinitrotoluene (high) on signal #2 on instrument GCGG analyzed on 10/29/25 15:14.
- 3,4-dinitrotoluene (low) on signal #1 and nitroglycerin (high) and 2,6-dinitrotoluene (high) on signal #2 on instrument GCGG analyzed on 10/31/25 9:37
- Nitroglycerin (high), tetryl (high) and 2,6-dinitrotoluene (high) on signal #2 on instrument GCGG analyzed on 10/31/25 14:38.

All results were reported from signal #1. Analyte 3,4-dinitrotoluene is a surrogate. All surrogate recoveries were within control limits. No qualifiers were applied based upon the low recovery of the surrogate.

Blanks

A method blank was prepared and analyzed with the batch of samples. All results were non-detect. No qualifiers were necessary.

Laboratory Control Sample

A laboratory control sample (LCS) was prepared and analyzed with the batch of samples. All analyte recoveries were within control limits. The lab indicated that a standard mix containing analytes DNX, MNX, and TNX with the other analytes was unavailable. These analytes may not be in a standard mix, however, the standards are available as the instrument was calibrated for these three analytes. Instrument accuracy cannot be determined for these three analytes. All non-detect results are considered for exclusion. No qualifiers were applied for the remaining analytes.

Matrix Spike / Matrix Spike Duplicate

MS/MSD analyses were performed on sample 54MW13. The MS/MSD recoveries and RPD were within control limits except for 2,6-dinitrotoluene (high MS/MSD) 2-amino-4,6-dinitrotoluene (high MSD), 4-Amino-2,6-dinitrotoluene (high MS), tetryl (low MS/MSD, RPD), 1,3,5-trinitrobenzene (low MS), and 2,4,6-trinitrotoluene (high MS/MSD). Analytes 4-amino-2,6-dinitrotoluene, and 2,4,6-trinitrotoluene were detected in the parent sample and qualified as estimated with a high bias, J+. Analytes 2-Amino-4,6-dinitrotoluene and 1,3,5-trinitrobenzene were detected in the parent sample and qualified as estimated with a low bias, J-. Analyte tetryl was not detected in the parent sample and qualified as estimated at the LOD. Analyte 2,6-dinitrotoluene was not detected in the parent sample and was not qualified.

Target Compound Quantitation

Target compound quantitation's were manually recalculated for analytes HMX, 3,5-dinitroaniline and surrogate 3,4-dinitrotoluene. The sample results for analytes exceeding the RPD for column difference are qualified as estimated, J, for samples 54MW13 (3,5-dinitroaniline, 4-amino-2,6-dinitrotoluene), 54MW10 (4-amino-2,6-dinitrotoluene), 54TW10 (HMX), 54MW12 (4-amino-2,6-dinitrotoluene).

Perchlorate by Method SW6850

Calibration

Prior to analyzing the calibration standards, the instrument was properly tuned. The initial calibration consisted of eight (8) calibration standards. The lab employed quadratic regression with r^2 >0.99. The second source calibration verification was performed following the initial calibration and was within control limits (+/-15%, +/-50% for low concentration CCV). The continuing calibrations checks performed prior to analysis of samples were within control limits. No qualifications were necessary.

Blanks

A method blank was prepared and analyzed with each batch of samples. The results were non-detect. No qualifiers were necessary.

Laboratory Control Sample

A laboratory control sample (LCS) was prepared and analyzed with the batch of samples. The analyte recovery was within control limits. No qualifiers were necessary.

Matrix Spike / Matrix Spike Duplicate

MS/MSD analyses were performed on sample 54MW13. The MS/MSD were within control limits. No qualifiers were necessary.

Target Compound Quantitation

Target compound quantitation's were manually recalculated.

VOC Gases by Method RSK-175

Calibration

The initial calibration consisted of eight (8) points for VOC Gases and the correlation coefficient, r, was >0.995. A second source calibration verification was performed following the initial calibration and was within control limits.

Analysis of samples proceeded immediately following the initial calibration. The calibration was verified throughout the analysis with CCV standards. All CCVs were within acceptance limits. Continuing calibration blanks (CCB) were run after the CCVs. Methane was detected in the initial calibration blank on July 3, 2025 13:08. Methane was detected in the CCB on October 24, 2025 11:58. All VOC Gases were detected in the CCB on October 24, 2025 13:34. Methane was detected in the CCB on October 24, 2025 14:09. Methane was detected on the CCB on October 29, 2025 11:59. When converting the result from ppmv to ug/L the result is less than the reporting limit and reported as non-detect. No qualifiers were applied.

Blanks

A method blank was prepared and analyzed with each analytical batch from each lab. Methane was detected in the method blank 296207 and 296340. When converting the result from ppmv to ug/L the result is less than the reporting limit and reported as non-detect. No qualifiers were applied. Raw data was reviewed for the QC blanks.

Laboratory Control Sample

A laboratory control sample (LCS) was prepared and analyzed with each analytical batch. The recoveries were within the control limits.

Matrix Spike / Matrix Spike Duplicate

MS/MSD analyses were performed on sample 54MW13 for the analytical batch. The MS/MSD recoveries and percent RPD were within control limits.

Target Compound Identification and Quantitation

Target compound identification was reviewed for sample 54MW13. No anomalies were identified. TOC and TIC sample results were calculated manually from the raw data.

TOC/TIC by Method SW9060A

Calibration

The analysis of TOC and TIC are determined from the same initial calibration. The initial calibration consisted of seven (7) points for TOC/TIC and the correlation coefficient, r, was >0.995. A second source calibration verification was performed following the initial calibration and was within control limits.

Analysis of samples proceeded immediately following the initial calibration. The calibration was verified throughout the analysis with CCV standards. All CCVs were within acceptance limits.

Blanks

A method blank was prepared and analyzed with each analytical batch from each lab. There were no detects for TOC or TIC in the method blank. Raw data was reviewed for the QC blanks. All results for TIC were greater than 10x the blank contamination. No qualifiers were applied.

Laboratory Control Sample

A laboratory control sample (LCS) was prepared and analyzed with each analytical batch. The TOC and TIC recoveries were within the control limits.

Matrix Spike / Matrix Spike Duplicate

MS/MSD analyses were performed on sample 54MW13 for the TIC analytical batch. The MS/MSD recoveries and percent RPD were within control limits.

Laboratory Duplicate

The Laboratory Duplicate analysis was performed on sample 54MW13. The RPD values were within control limits. No qualifiers were necessary.

Target Compound Identification and Quantitation

Target compound identification was reviewed for sample 54MW13. No anomalies were identified. TOC and TIC sample results were calculated manually from the raw data.

Anions by Method SW9056A

Calibration

The initial calibration consisted of nine (9) points for all anions (chloride, nitrate, and sulfate) using linear regression. The correlation of determination, (r^2), was above 0.995. A second source calibration verification was performed following the initial calibration and was within control limits.

The calibration was verified throughout the analysis with CCV standards. All CCVs were within acceptance limits. The continuing calibration blanks (CCB) were analyzed following the CCV. All CCB results were non-detect. No qualifiers were necessary.

Blanks

A method blank was prepared and analyzed with the analytical batch. There were no detects in the method blank. The raw data were reviewed for all QC blanks.

Laboratory Control Sample

A laboratory control sample (LCS) was prepared and analyzed with the analytical batch. The recoveries for all anions were within the control limits.

Matrix Spike / Matrix Spike Duplicate

MS/MSD analyses were performed on sample 54MW13. The MS/MSD recoveries for sulfate were slightly below control limits. The percent RPD was within control limits demonstrating acceptable precision. The parent sample sulfate level is more than 4 times the spike level. No qualifiers were applied due to the insignificant spike level.

Laboratory Duplicate

The Laboratory Duplicate analysis was performed on sample 54MW13. The RPD values were within control limits. No qualifiers were necessary.

Target Compound Identification and Quantitation

Target compound identification was reviewed for all samples. No anomalies were identified. All detected anions in sample 54MW13 were calculated manually from the raw data.

Chlorate/Chlorite by Method 300.0

Calibration

The initial calibration consisted of seven (7) points and the coefficient of determination, r^2, was >0.995. A second source calibration verification was performed following the initial calibration and was within control limits.

Analysis of samples proceeded immediately following the initial calibration. The calibration was verified throughout the analysis with CCV standards. All CCVs were within acceptance limits.

Blanks

A method blank was prepared and analyzed with each analytical batch from each lab. There were no detects in the method blank. Raw data was reviewed for the QC blank.

Laboratory Control Sample (LCS) and Low Level Laboratory Control Sample (LLCS)

A LCS and LLCS were prepared and analyzed with each analytical batch. The recoveries were within the control limits.

Matrix Spike / Matrix Spike Duplicate

MS/MSD analyses were performed on sample 54MW13. The MS/MSD recoveries were below the control limits for chlorate. The RPD value was within control limit. The parent sample result for chlorate was non-detect. The parent sample result was qualified as estimated at the LOD.

Target Compound Identification and Quantitation

Target compound identification was reviewed for Laboratory QC as no detections were observed above the reporting limit in any sample . No anomalies were identified. Chlorite/Chlorate results were calculated manually from the raw data.

Field Duplicate Comparison

Table 3 below lists the field duplicate comparison. Only detected analytes are listed. The RPD or "<2xLOQ" factor for each analyte was determined. Where the result is less than 2 times the sample-specific LOQ, the difference between the results should be less than 2 times the LOQ value. The QAPP does not provide a criterion for evaluating the field duplicate precision, however, precision has been demonstrated for the detected analytes.

Table 3: Field Duplicate Comparison

Analyte	Sample ID	Field Duplicate ID	RPD or <2xLOQ
	54MW10	54TW10	
TIC	83 mg/L	82 mg/L	1.2%
Chloride	4.5 mg/L	4.5 mg/L	0.0%
Sulfate	180 mg/L	190 mg/L	5.4%
HMX	0.16 J ug/L	0.14 J ug/L	<2xLOQ
RDX	0.16 J ug/L	ND	<2xLOQ
2-amino-4,6-dinitrotoluene	0.14 J ug/L	0.14 J ug/L	<2xLOQ
4-amino-2,6-dinitrotoluene	0.15 J ug/L	ND	<2xLOQ

Overall Assessment

All data are deemed usable, except for the explosive results considered for exclusion. See Table 4 for qualifications due to the QC outliers. For the S4VEM review, all detects for sample 54MW13 and laboratory QC were manually calculated from instrument raw data to verify reported results. All results may be utilized for project decision-making processes noting the qualifications described within this review.

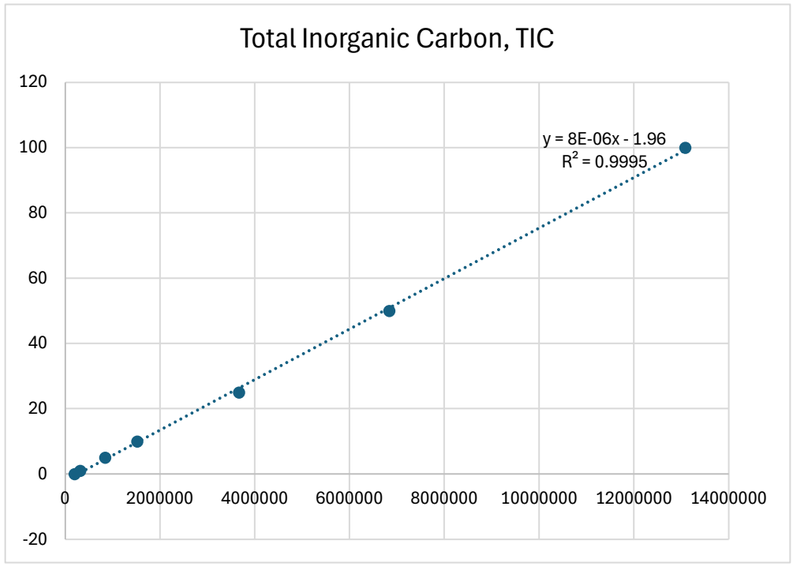
Table 4: Qualified Sample Results

Client Sample ID	Analyte	Result	Qualifier	Reason
54MW13	chlorate	10	UJ	M
54MW13	DNX	0.10	X	C, M
54MW13	MNX	0.10	X	C, M
54MW13	TNX	0.10	X	C, M
54MW10	DNX	0.11	X	C, M
54MW10	MNX	0.11	X	C, M
54MW10	TNX	0.11	X	C, M
54TW10	DNX	0.11	X	C, M
54TW10	MNX	0.11	X	C, M
54TW10	TNX	0.11	X	C, M
54MW12	DNX	0.11	X	C, M
54MW12	MNX	0.11	X	C, M
54MW12	TNX	0.11	X	C, M
54MW1	DNX	0.11	X	C, M
54MW1	MNX	0.11	X	C, M
54MW1	TNX	0.11	X	C, M
54MW13	1,3,5-Trinitrobenzene	18.2	J-	M
54MW13	2,4,6-Trinitrotoluene	6.4	J+	M
54MW13	4-amino-2,6-Dinitrotoluene	0.84	J+	M
54MW13	2-amino-4,6-Dinitrotoluene	1.6	J-	M
54MW13	Tetryl	0.10	UJ	M
54MW12	4-amino-2,6-Dinitrotoluene	0.68	J	P1
54MW13	4-amino-2,6-Dinitrotoluene	0.84	J	P1
54MW13	3,5-Dinitroaniline	0.55	J	P1
54MW10	4-amino-2,6-Dinitrotoluene	0.15	J	P1
54TW10	HMX	0.14	J	P1

C – LCS recovery outside project limits
M – MS and/or MSD recovery outside project limits
P1 – Confirmation column RPD outside control limit

Area1	Area 2	Area 3	Area 4	X-Values, Compound Conc, Cx	Average Area
242802	182228	169324	211724	0	201519.5
370123	301617	315699	285521	1	318240
849745	836006	841868	856310	5	845982.25
1640297	1469028	1506184	1471547	10	1521764
3849895	3663528	3539182	3629968	25	3670643.25
6941202	6774644	6785198	6852827	50	6838467.75
13069740	13074745	13060434	13138286	100	13085801.25

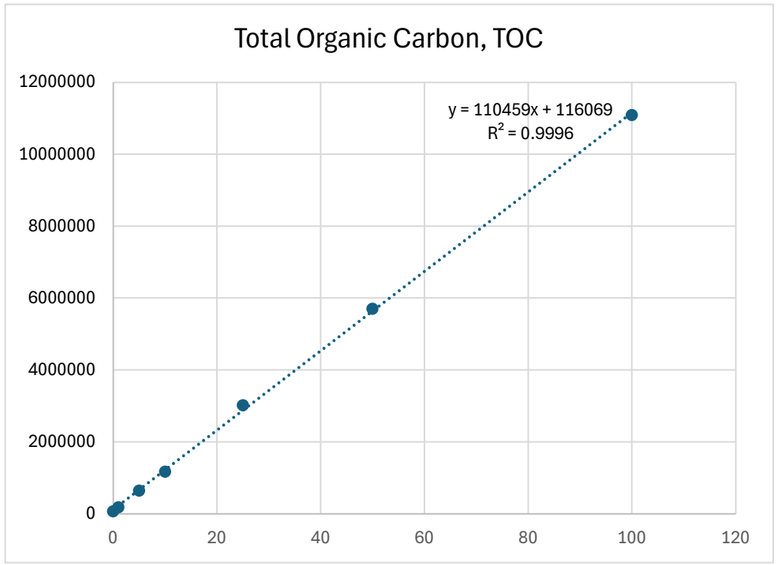
	Calculated	Lab Reported
Slope	129293.231	129293
intercept	255344.417	255344
Correl Coef	0.99975	0.99965



Sample Concentration Calculations												
Lab ID	Spike Conc.	Area 1	Area 2	Area 3	Area 4	Average Area	Instrument Result	Dilution	Calculated Result	Lab Instrument Reported Result	Rec., RPD, Drift, %Deviation	Lab Result Reported RPD, Drift, %Deviation
Level 1	0	242802	182228	169324	211724	201519.500	-0.416	1.000	-0.416	0.000		
Level 2	1	370123	301617	315699	285521	318240.000	0.486	1.000	0.486	0.490		
Level 3	5	849745	836006	841868	856310	845982.250	4.568	1.000	4.568	4.570		
Level 4	10	1640297	1469028	1506184	1471547	1521764.000	9.795	1.000	9.795	9.790		
Level 5	25	3849895	3663528	3539182	3629968	3670643.250	26.415	1.000	26.415	26.410		
Level 6	50	6941202	6774644	6785198	6852827	6838467.750	50.916	1.000	50.916	50.910		
Level 7	100	13069740	13074745	13060434	13138286	13085801.250	99.235	1.000	99.235	99.230		
ICV	50	7016449	6857470	6796233	7306057	6994052.250	52.120	1.000	52.12	52.120	104%	104%
CCV	50	6924593	6857172	6794891	6829849	6851626.250	51.018	1.000	51.02	51.01	102%	102%
LCS	50	6933702	6988078	7020528	7092966	7008818.500	52.234	1.000	52.23	52.22	104%	104%
MB		93426	68431	57434	99921	79942.600	-1.357	1.000	-1.36	1.5 U		
54MW13		7152270	7067937	6947224	7044769	7053050.000	52.576	2.000	105.15	110		
54MW10		11056360	10969437	10984884	11065321	11019000.500	83.2499584	1.000	83.25	83		
54TW10		10980688	10871886	10679649	10993457	10881420.000	82.1858617	1.000	82.19	82		
54MW12		8863422	9036198	8933264	8755928	8897203.000	66.8392191	1.000	66.84	67		
54MW1		8514486	8564567	8519440	8585145	8545909.500	64.1221898	1.000	64.12	64		
CCV	50	6928781	6663259	6879869	6892791	6841175.000	50.937	1.000	50.94	51.00	102%	102.0%

Area1	Area 2	Area 3	Area 4	X-Values, Compound Conc, Cx	Average Area
242802	182228	169324	211724	0	201519.5
370123	301617	315699	285521	1	318240
849745	836006	841868	856310	5	845982.25
1640297	1469028	1506184	1471547	10	1521764
3849895	3663528	3539172	3629968	25	3670640.75
6941202	6774644	6785198	6852827	50	6838467.75
13069740	13074745	13060434	13138286	100	13085801.25

	Calculated	Lab Reported
Slope	129293.23	129293
intercept	255344.04	255244
COD	0.99973	0.99965



Sample Concentration Calculations													
Lab ID	Field Sample ID	Spike Conc.	Area 1	Area 2	Area 3	Area 4	Average Area	Instrument Result	Dilution	Calculated Result	Lab Instrument Reported Result	Rec., RPD, Drift, %Deviation	Lab Result Reported RPD, Drift, %Deviation
Level 1		0	242802	182228	169324	211724	201520	-0.416	1.000	-0.42			
Level 2		1	370123	301617	315699	285521	318240	0.486	1.000	0.49			
Level 3		5	849745	836006	841868	856310	845982	4.568	1.000	15.50			
Level 4		10	1640297	1469028	1506184	1471547	1521764	9.79494	1.000	9.79494			
Level 5		25	3849895	3663528	3539172	3629968	3670641	26.415	1.000	26.42			
Level 6		50	6941202	6774644	6785198	6852827	6838468	50.916	1.000	50.916			
Level 7		100	13069740	13074745	13060434	13138286	13085801	99.235	1.000	99.24			
ICV		50	7016449	6857470	6796233	7306057	6994052	52.120	1.000	52.12	52.12	104%	104.0%
CCV		50	6483926	6414504	6534130	6463783	6474086	48.098	1.000	48.10	48.08	96%	96.0%
LCSW		50	6858764	6933464	6927268	6873435	6898233	51.378	1.000	51.38	51.36	103%	103%
MB			0	0	0	0	0	-1.975	1.000	-1.97	1.5 U		
1642051	54MW13		169117	132061	142499	89271	133237	-0.944	1.000	-0.94	0		
DUP1642051	54MW13		135392	129100	118199	124309	126750	-0.9945922	1.000	-0.99	1.5 U		
MSW1642051	54MW13	50	6188455	6260184	6264276	6275823	6247185	46.3430327	1.000	46.34	46.33	93%	93%
MSDW1642051	54MW13	50	6013916	6157666	6290690	6177378	6159913	45.6680399	1.000	45.67	45.65	91%, 1%	91%, 1%
1642052	54MW10		86165	48411	0	0	33644	-1.71470724	1.000	-1.71	1.5 U		
1642053	54TW10		0	0	0	0	0	-1.97492194	1.000	-1.97	1.5 U		
1642054	54MW12		95302	73877	90787	78923	84722	-1.31964982	1.000	-1.32	1.5 U		
1642055	54MW1		0	0	0	0	0	-1.97492194	1.000	-1.97	1.5 U		
CCV		50	6329283	6404942	6349167	6381883	6366319	47.2644595	1.000	47.26	47.25	95%	94%

Initial Calibration Model Worksheet - Sulfate					
Y-Values, Compound Area, Ax	X-Values, Compound Conc, Cx/Vs	X^2	RF	Y^2	XY
		$(Cx)^2$	Ax/Cx	$(Ax)^2$	(Cx*Ax)
0.7810	3	9.000	0	6.10E-01	2.3
1.2910	5	25.000	0	1.67E+00	6.5
2.6190	10	100.000	0	6.86E+00	26.2
5.7530	20	400.000	0	3.31E+01	115.1
8.7230	30	900.000	0	7.61E+01	261.7
15.0970	50	2500.000	0	2.28E+02	754.9
22.0600	70	4900.000	0	4.87E+02	1544.2
56.324	**188**	**8834**	**7**	**832.88655**	**2710.8**

CALIBRATION MODELS:

	Weighting		Equal	Reported
Linear Regression:	**Slope (m)**		**0.3165**	**0.3165**
	Intercept (b)		**-0.4553**	**-0.4553**
y = mx + b	**CC (R) (≥0.99)**		**0.9994**	**NR**
Cx = (Ax-b)/m	**COD (R^2) (≥0.98)**		**0.99885**	**0.99885**
	Note			

Sample Concentration Calculations											
Lab Sample ID	Field Sample ID	Spike Concentration	Compound Area Ax	Linear Cal On-column Conc	Dilution	Calculated Result	Laboratory Reported	% Recovery	Lab Reported	Lab Rounded Values	Calculated From Rounded Value
ICV	ICV	25	6.908	23.261	1	23.261	23.261	93%	93%		
ICB	ICB		0	1.438	1	1.438	1.5 U				
CCV	CCV	25	7.707	25.785	1	25.785	25.784	103%	103%		
LCSW	LCSW	25	7.733	25.867	1	25.867	25.867	103%	103%		
MBW	MBW		0	1.438	1	1.438	1.5 U				
CCV	CCV	25	7.46	25.005	1	25.005	25.006	100%	100%		
CCB	CCB		0	1.438	1	1.438	1.5 U				
1642051	54MW13		10.534	34.716	1	34.716	34.717				
CCV	CCV	25	7.551	25.292	1	25.292	25.294	101%	101%		
CCB	CCB		0	1.438	1	1.438	1.5 U				
DUP1642051	54MW13		10.488	34.571	1	34.571	34.571	0.42%	1%	21	200%
MS1642051	54MW13	8	12.577	41.170	1	41.170	41.170	81%	78%	27.8	348%
MSD1642051	54MW13	8	12.364	40.497	1	40.497	40.496	72%, 1%	69%, 2%	28	350%, 0%
1642054	54TW12		6.51	22.004	1	22.004	22.005				
1642055	54MW1		8.632	28.707	1	28.707	28.708			21	
1642052	54MW10		11.046	36.333	5	181.667	181.668				
1642053	54TW10		11.65	38.242	5	191.208	191.214				
CCV	CCV	25	7.588	25.409	1	25.409	25.408	102%	102		
CCB	CCB		0	1.438	1	1.438	1.5U				
CCV	CCV	25	7.62	25.510	1	25.510	25.511	102%	98		
CCB	CCB		0	1.438	1	1.438	1.5U				

The lab rounded the sample and matrix spike results prior to calculating recovery and RPD values.

Initial Calibration Model Worksheet - Chlorite

Y-Values, Ax	X-Values, Cx	X^2
0	0	0
379814	0.01	0.0001
761045	0.02	0.0004
4561219	0.1	0.01
11499037	0.25	0.0625
22884455	0.5	0.25
47730150	1	1

Quadratic Regression: $y = ax^2 + bx + c$

37981400 Cx=(SQRT(b^2-(4*a*(c-Ax)))-b)/(2*a)

38052250

45612190

45996148

45768910

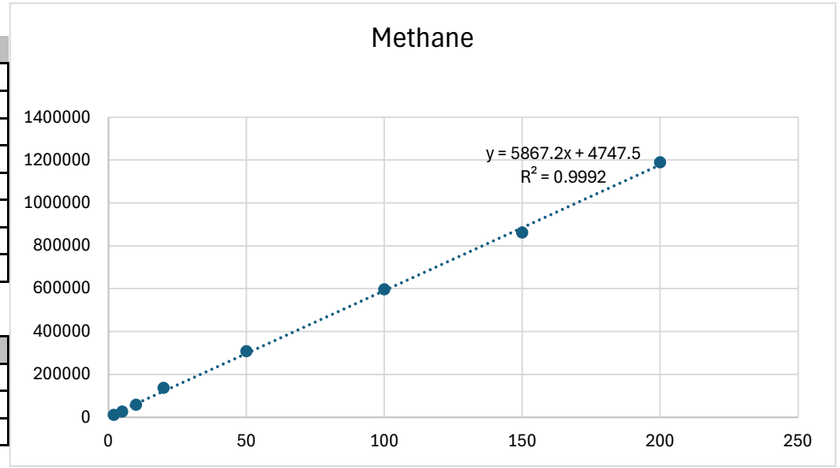
47730150

Weighting	Equal	Lab Reported
x^2 Coefficient (a)	47595849.2	47595849.2
x Coefficient (b)		
Intercept (c)	-237782.37	-237782.37
COD (R^2)	0.9996	1.0000

Sample Concentration Calculations

Lab Sample ID	Field Sample ID	Spike Concentration	Compound Area, Ax	Calculated On-Column Result, ug/mL	Dilution	Calculated Result, ug/L	Laboratory Reported Result, ug/L	% Recovery	Lab Reported
ICV		250	11458343	0.2457	1	246	246	98%	98%
CCV		250	11179662	0.2399	1	240	240	96%	96%
CCB			0	0.0050	1	5	<3		
CCV		250	11063110	0.2374	1	237	237	95%	95%
CCB			0	0.0050	1	5	<3		
MB 810-145338/4 {p. 279}	MB		0	0.0707	1	71	<10		
LCS 810-145338/5 {p. 300}	LCS	250	11106492	0.4882	1	488	255	195%	102%
LLCS 810-145338/1 {p. 306}	LLCS	10	388893	0.1147	1	114.7	10.3	1147%	103%
810-149697-4 MS {p. 313}	54MW12-MS	250	10056549	0.4651	1	465	231	186%	93%
810-149697-4 MSD {p. 317}	54MW12-MSD	250	9784689	0.4589	1	459	225	184% 1%	90%, 3%
1585226 {p. 180}	54MW13		0	0.0707	1	71	<10		
1585227 {p. 184}	54TW13		0	0.0707	1	71	<10		
1585228 {p. 189}	54MW10		0	0.0707	1	71	<10		
1585229 {p. 195}	54MW12		0	0.0707	1	71	<10		
1585230 {p. 199}	54MW1		0	0.0707	1	71	<10		
CCV		250							

Conc, Cx	Area, Ax
2	10734
5	26365
10	58678
20	137068
50	307944
100	596424
150	862377
200	1189081



Calc	Lab Report
5867.21	5867.21
4747.53	4747.53
0.999204	0.999204

Lab Tamp, C	22
Headspace volume, ml	4
Sample volume, ml	43
Henry's Constant	37526.9925

Sample Concentration Calculations										
Lab ID	Spike Conc.	Compound Area, Ax	Ave RF, On-column Conc	Dilution	Calculated instrument Result, ppmv	Lab Instrument Reported Result	Calculated Final Result, ug/L	Lab Final Result, ug/L	Calculated % Rec, % Diff	Lab Reported %Rec, %Diff
ICV	50	307707	51.636	1.000	51.636	51.636			3.272%	3.272%
ICV	50	297472	49.892	1.000	49.892	49.892			0.217%	0.217%
ICV	50	300745	50.449	1.000	50.449	50.449			0.899%	0.889%
ICV	50	301154	50.519	1.000	50.519	50.519			1.038%	1.038%
ICV	50	310153	52.053	1.000	52.053	52.053			4.106%	4.106%
ICB		8394	0.621	1.000	0.621	0.621				
CCV	50	268441	44.944	1.000	44.944	44.944			10.113%	10.113%
CCV	50	280737	47.039	1.000	47.039	47.039			5.921%	5.921%
CCB		7588	0.484	1.000	0.484	0.484				
CCV	50	272201	45.584	1.000	45.584	45.584			8.831%	8.831%
CCB		13542	1.499	1.000	1.499	1.499				
CCV	50	269494	45.123	1.000	45.123	45.123			9.754%	9.754%
CCB		6295	0.264	1.000	0.264	0.264				
CCV	50	276600	46.334	1.000	46.334	46.334			7.332%	7.332%
CCV	50	282668	47.368	1.000	47.368	47.368			5.263%	5.263%
CCB		8309	0.607	1.000	0.607	0.607				
LCS	2.3	136265	22.416	1.000	22.416	22.416	2.05	2.06	89%	90%
MB		12250	1.279	1.000	1.279	1.279	0.12	0.90 U		
13MW4-MS	2.3	124958	20.489	1.000	20.489	20.489	1.87	1.88	81%	82%
13MW4-MSD	2.3	122971	20.150	1.000	20.150	20.150	1.84	1.85	80%, 2%	80%, 2%
LCS	2.3	126012	20.668	1.000	20.668	20.668	1.89	1.900	82%	83%
MB		8336	0.612	1.000	0.612	0.612	0.06	0.90 U		
54MW13		0	-0.809	1.000	-0.809	0.000	-0.07	0.90 U		
54MW10		13758	1.536	1.000	1.536	1.536	0.14	0.90 U		
54TW10		14452	1.654	1.000	1.654	1.654	0.15	0.90 U		
54MW12		21991	2.939	1.000	2.939	2.939	0.27	0.90 U		
54MW1		8716	0.676	1.000	0.676	0.676	0.06	0.90 U		

The slight difference in the final result is likely due to the lab using a slightly different calculated Henry's constant.

Initial Calibration and Calculation Worksheet - HMX			
Calibration Levels	**Y-Values, Comp Response #1, Ax**	**X-Values, Comp Conc, Cx**	**Response Factor**
1	36662	20	1833
2	111492	50	2230
3	181511	100	1815
4	332170	200	1661
5	832533	500	1665
6	1605545	1000	1606
7	3969979	2500	1588
8	8018884	5000	1604

CALIBRATION MODELS

Average Response Factor
Cx = Ax/RF

	Calculated	**Lab Reported**
Average Response Factor	**1750**	**1750**
% RSD	**12.3%**	**12.3%**

Sample Concentration Calculations										
Sample ID	**Spike Amount**	**Compound Response #1 Ax**	**Linear On-column Concentration**	**Lab Reported**	**Sample volume**	**Extract Volume**	**Calculated Result**	**Lab Reported**	**Calculated %Rec, %D, RPD**	**Lab Reported %Rec, %D, RPD**
20		36662	20.948							
50		111492	63.704							
100		181511	103.711							
200		332170	189.794							
500		832533	475.690							
1000		1605545	917.370							
2500		3969979	2268.352							
5000		8018884	4581.801							
ICV	1000.000	1492198	852.607	852.606	-	-	-	-	14.7%	-5.20%
CCV	1000.000	1561302	892.091	892.091	-	-	-	-	10.8%	-6.50%
ECCV	1000.000	1582802	904.376	904.375	-	-	-	-	9.6%	-5.70%
op12165-mb		0	0.000	ND	1000	10	ND	ND		
op12165-bs	5.000	779806	445.563	445.562	1000	10	4.5	4.5	89%	90%
op12165-ms	10.6	1076516	615.096	615.095	470	10	13.1	13.1	94%	94%
op12165-msd	10.6	1006408	575.038	575.037	470	10	12.2	12.2	86%, 7%	86%, 7%
54MW13		548152	313.2010922	313.201	1000	10	3.1	3.1		
54MW10		27095	15.481	15.482	940	10	0.16	0.16 J		
54TW10		23758	13.575	13.575	950	10	0.14	0.14 J		
54MW12		851144	486.324	486.323	940	10	5.2	5.2		
54MW1		0	0.000	0	950	10	0.0	0.11 U		

Initial Calibration and Calculation Worksheet - 3,5-dinitroaniline				
Calibration Levels	**Y-Values, Comp Response #1, Ax**	**X-Values, Comp Conc, Cx**	**Response Factor**	**Lab Reported Response Factor**
1	71073	20	3554	4.447E+03
2	240948	50	4819	4.451E+03
3	437684	100	4377	3.834E+03
4	804132	200	4021	3.215E+03
5	2032350	500	4065	3.757E+03
6	3996039	1000	3996	3.674E+03
7	9790739	2500	3916	3.704E+03
8	19983103	5000	3997	3.707E+03
		Average Response Factor	**4093**	

CALIBRATION MODELS

Avareage Response Factor

y = mx Cx = Ax/m

	Calculated	**Lab Reported**
Avg RF	**4093**	**4259**

Sample Concentration Calculations										
Sample ID	**Spike Amount**	**Compound**	**Average RF**						**Calculated**	**Lab Reported**
		Response #1	**On-column**	**Lab Reported**	**Sample volume**	**Extract Volume**	**Calculated Result**	**Lab Reported**	**%Rec, %D, RPD**	**%Rec, %D, RPD**
		Ax	**Concentration**							
20		103437	25.272							
50		226114	55.244							
100		467950	114.330							
200		871402	212.902							
500		1908813	466.364							
1000		3892566	951.037							
2500		9589245	2342.857							
5000		18993376	4640.487							
ICV	1000.000	4324398	1056.543	1015.260	-	-	-	-	-5.7%	-1.50%
CCV	1000.000	3939539	962.513	924.905	-	-	-	-	3.7%	7.50%
ECCV	1000.000	3880335	948.049	911.005	-	-	-	-	5.2%	8.90%
MB	0.000	ND	ND	ND	1000	10	ND	ND		
BS	5.000	1790827	437.537	420.441	1000	10	4.2	4.6	84%	84%
54MW12-MS	10.4	1711970	418.271	401.928	480	10	8.4	8.4	79%	79%
54MW12-MSD	10.4	1701085	415.611	399.372	480	10	8.3	8.3	78%, 1%	78%, 1%
54MW13		189100	46.201	44.396	930	10	0.5	0.48		
54TW13		179537	43.865	42.151	940	10	0.4	0.45		
54MW10		238593	58.293	56.016	950	10	0.6	0.59		
54MW12		84906	20.744	19.934	1000	10	0.2	0.2		
54MW1		0	0.000	0	950	10	0.0	0.10 U		

Initial Calibration and Calculation Worksheet - 3,4-dinitrotoluene				
Calibration Levels	**Y-Values, Comp Response #1, Ax**	**X-Values, Comp Conc, Cx**	**Response Factor**	**Lab Reported Response Factor**
1	54882	20	2744	4.447E+03
2	97674	50	1953	4.451E+03
3	269396	100	2694	3.834E+03
4	466510	200	2333	3.215E+03
5	1185609	500	2371	3.757E+03
6	2282754	1000	2283	3.674E+03
7	5579766	2500	2232	3.704E+03
8	11020109	5000	2204	3.707E+03
	Average Response Factor		**2352**	

CALIBRATION MODELS

Avareage Response Factor

y = mx Cx = Ax/m

	Calculated	**Lab Reported**
Avg RF	**2352**	**2352**

Sample Concentration Calculations						
Sample ID	**Spike Amount**	**Compound**	**Average RF**		**Calculated**	**Lab Reported**
		Response #1	**On-column**	**Lab Reported**	**%Rec, %D, RPD**	**%Rec, %D, RPD**
		Ax	**Concentration**			
20		54882	23.337			
50		97674	41.532			
100		269396	114.551			
200		466510	198.367			
500		1185609	504.139			
1000		2282754	970.662			
2500		5579766	2372.603			
5000		11020109	4685.921			
ICV	1000	Not spiked				
CCV	1000	2143084	911.273	911.273	8.9%	8.9%
ECCV	1000	2147731	913.248	913.248	8.7%	8.7%
MB	500	866908	368.623	368.623	74%	74%
BS	500	992587	422.063	422.064	84%	84%
54MW12-MS	500	1025887	436.223	436.223	87%	87%
54MW12-MSD	500	1010184	429.546	429.546	86%	86%
54MW13	500	1010775	429.797	429.797	86%	86%
54TW13	500	955510	406.298	406.298	81%	81%
54MW10	500	975251	414.692	414.692	83%	83%
54MW12	500	1046470	444.975	444.976	89%	89%
54MW1	500	930300	395.578	395.579	79%	79%

Internal Standard Initial Calibration and Calculation Worksheet - Perchlorate							
Compound Area, Ax	**ISTD Area, Ais**	**Compound Conc, Cx**	**ISTD Conc, Cis**	**Y-Values Ax/Ais**	**X-Values Cx/Cis**		**RF (Ax*Cis)/(Ais*Cx)**
1616	22861	0.2	5	0.353440357	0.2	0.277430221	1.767
4050	22699	0.5	5	0.892109785	0.5	0.635151968	1.78422
8785	22645	1	5	1.939721793	1	1.325811359	1.93972
16326	22544	2	5	3.620919092	2	2.991974031	1.81046
38833	21367	5	5	9.087143726	5	7.452981919	1.81743
80910	23064	10	5	17.54032258	10	15.31297134	1.75403
208962	21770	25	5	47.99310978	25	42.01296826	1.91972
400499	20285	50	5	98.71801824	50	85.3425862	1.97436

CALIBRATION MODEL:

Average Response Factor:

Cx = Ax*Cis/Ais/RF

	1.956	0
	0.01665094	#N/A
	0.99949	0.950021868
	13794.7127	7
	12450.30137	6.317790846

		Lab Reported
Average RF	**1.8459**	**1.8459**
RSD	**4.636%**	**4.634%**
Linear Regression		
Slope x	**1.9556678**	**1.955661**
intercept	**0**	**0**
COD	**0.999464**	**0.999248**

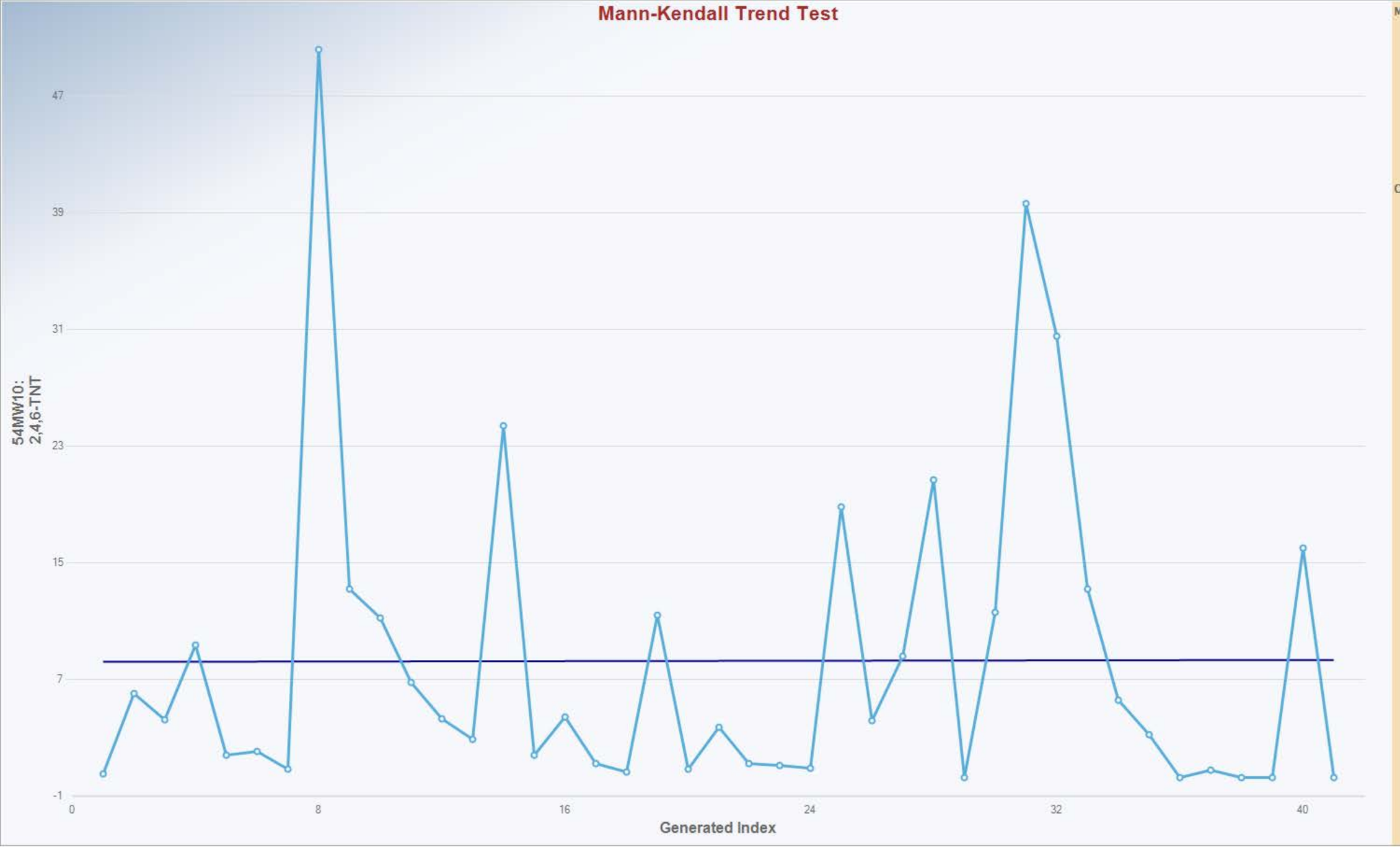
Sample Concentration Calculations										
Lab ID	**Spike Concentration**	**Compound Area Ax**	**ISTD Area Ais**	**ISTD Conc Cis**	**Linear Regression On-column Conc**	**Dilution**	**Calculated Result**	**Lab Result Reported Result**	**Rec., RPD, Drift, %Deviation**	**Lab Result Reported RPD, Drift, %Deviation**
Level 1	0.2	1616	22861	5	0.18073	1.000	0.18	NA	9.6%	
Level 2	0.5	4050	22699	5	0.45617	1.000	0.46	NA	8.8%	
Level 3	1	8785	22645	5	0.99185	1.000	0.99	NA	0.8%	
Level 4	2	16326	22544	5	1.85150	1.000	1.85	NA	7.4%	
Level 5	5	38833	21367	5	4.64657	1.000	4.65	NA	7.1%	
Level 6	10	80910	23064	5	8.96897	1.000	8.97	NA	10.3%	
Level 7	25	208962	21770	5	24.54052	1.000	24.54	NA	1.8%	
Level 8	50	400499	20285	5	50.47791	1.000	50.48	NA	-1.0%	
ICV	2	16939	22481	5	1.92640	1.000	1.93	1.93	-3.7%	-3.7%
CCV	2	16763	22943	5	1.86800	1.000	1.87	1.87	-6.6%	-6.6%
CCVL	0.2	1583	23422	5	0.17280	1.000	0.17	0.17	-13.6%	-13.6%
CCV	2.0	18359	25660	5	1.82923	1.000	1.83	1.83	-8.5%	-8.5%
CCVL	0.2	1815	25878	5	0.17932	1.000	0.18	0.18	-10.3%	-10.3%
CCV	2.0	15020	20862	5	1.84072	1.000	1.84	1.84	-8.0%	-8.0%
CCVL	0.2	1534	20698	5	0.18948	1.000	0.19	0.19	-5.3%	-5.3%
CCV	2.0	16434	23439	5	1.79258	1.000	1.79	1.79	-10.4%	-10.4%
op12286-mb		0	23338	5	0.00000	1.000	ND	ND		
IBLK		0	22644	5	0.00000	1.000	ND	ND		
op12286-bs	0.2	1632	22433	5	0.18600	1.000	0.19	0.19	93.00%	95%
54MW13		3321	27999	5	0.30325	1.000	0.30	0.30		
op12286-ms2	0.20	5670	28737	5	0.50445	1.000	0.50	0.50	101%	100%
op12286-msd2	0.20	5457	28783	5	0.48472	1.000	0.48	0.48	91%, 4%	90%, 4%
54MW10		0	33115	5	0.00000	1.000	ND	ND		
54TW10		0	32983	5	0.00000	1.000	ND	ND		
54MW12		5632	28677	5	0.50212	1.000	0.50	0.50		
54MW1		0	28605	5	0.00000	1.000	ND	ND		

* The lab rounded the final result to two significant figures before determining percent recovery.

Appendix D: Mann-Kendall Analyses

	A	B	C	D	E	F	G	H	I	J
1	**54MW10: 2,4,6-TNT**	**54MW10: Perchlorate**	**54MW10: RDX**	**54MW12: 2,4,6-TNT**	**54MW12: Perchlorate**	**54MW12: RDX**	**54MW13: 2,4,6-TNT**	**54MW13: Perchlorate**	**54MW13: RDX**	
2	0.305	ND	ND	15.9	ND	ND	ND	ND	ND	
3	5.84	0.325	3.24	16.1	0.726	9.77	4.09	0.244	2.59	
4	4.05	0.258	2.95	19.4	10.5	13.2	0.699	0.206	0.614	
5	ND	ND	ND	48	22.8	18.4	0.979	0.243	1.14	
6	9.17	3.74	7.84	10.1	2	1.95	9.4	0.627	4.77	
7	1.59	0.344	1.35	7.62	5.31	6.59	0.843	0.308	0.855	
8	1.88	0.832	2.36	6.29	2.98	3.79	0.318	0.313	0.642	
9	0.637	0.835	1.29	108	22.7	25	4.91	0.64	3.2	
10	ND	0.365	2.23	65.9	9.88	14.6	3.81	0.477	1.46	
11	50	2.3	21	17	1.1	0.54	9.8	0.43	4	
12	13	0.42	5.3	29	4	8.7	2.5	0.32	0.88	
13	11	0.44	8.7	10	1.7	2	5.8	0.37	2.5	
14	6.6	ND	2.1	11	0.737	3.9	5.4	0.27	2.6	
15	4.1	0.326	3.1	110	8.85	30	1.4	0.216	0.54	
16	2.7	0.082	1.8	11	1.2	0.62	0.79	0.18	0.17	
17	24.2	0.84	6.6	7.4	0.56	0.37	13.9	0.33	0.86	
18	1.6	0.12	0.4	10.6	1.6	6	8	0.21	0.7	
19	4.2	0.1	1.1	28.1	2.9	4.8	5.9	0.29	ND	
20	1	0.24	ND	78.6	4.3	51.4	1.8	0.23	1	
21	0.44	0.2	0.76	8.7	1.1	ND	8.2	0.45	ND	
22	11.2	0.23	1.8	39	1.4	14	3	0.2	0.48	
23	ND	ND	0.1	22.3	1.9	13.4	4.4	0.25	ND	
24	0.67	0.5	ND	52.3	2.8	33.3	2	0.33	ND	
25	3.5	ND	4.4	29.7	1.7	8.2	10.9	0.45	ND	
26	1	0.65	1.4	13.3	1.4	3.6	1.6	0.25	0.38	
27	0.88	0.34	0.88	164	3.7	13.5	2.3	0.29	0.46	
28	0.74	0.35	0.32	39.5	2	4.8	5.1	0.47	0.32	
29	18.6	0.45	3.9	13.6	0.61	ND	15.5	0.4	1.3	
30	4	0.025	2.1	10.1	0.53	0.04	12.5	0.55	1.1	
31	8.4	0.25	1.9	10.2	0.49	0.56	4.1	0.26	0.55	
32	20.5	0.61	5.1	8.3	0.73	0.17	5.5	0.34	1.5	
33	0.04	0.025	0.025	4.1	0.75	0.04	8.3	0.3	0.43	
34	11.4	6.2	1.8	7.8	8.2	0.038	12.7	7.9	0.58	
35	39.4	0.62	5.8	8.6	0.46	0.095	10.7	0.29	0.83	
36	30.3	0.38	3.8	51.4	1.5	0.095	17.7	0.34	0.57	
37	13	0.19	0.48	10	0.3	0.047	17	0.26	0.38	
38	5.4	0.072	1.4	9.3	0.44	0.048	11.8	0.14	0.58	
39	3	0.12	1.8	4.5	0.72	0.75	5.8	0.26	2	
40	0.049	0.05	0.35	4	0.61	0.27	5	0.24	0.91	
41	0.56	0.05	0.34	4.8	0.77	11	8.8	0.3	0.9	
42	0.05	0.05	0.05	2.7	0.77	0.34	7	0.37	1.2	
43	0.055	0.055	0.055	9.2	0.78	13.7	26.8	0.63	1.2	
44	15.8	11.2	0.94	5	0.5	1.3	8.7	0.49	43.8	
45	0.055	0.16	0.05				6.4	0.51	0.88	
46										
47										

Mann-Kendall Trend Test



Mann-Kendall Trend Analysis

n	41
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	89.0150
Standardized Value of S	-0.7864
M-K Test Value (S)	-71
Appx. Critical Value (0.05)	-1.6449
Approximate p-value	0.2158

OLS Regression Line (Blue)

OLS Regression Slope	0.0028
OLS Regression Intercept	8.0116

Insufficient statistical evidence of a significant trend at the specified level of significance.

Mann-Kendall Trend Test Analysis		
User Selected Options		
Date/Time of Computation	ProUCL 5.2 3/18/2026 4:05:07 PM	
From File	2025MK_SW54_inputs.xls	
Full Precision	OFF	
Confidence Coefficient	0.95	
Level of Significance	0.05	

54MW10: 2,4,6-TNT

General Statistics

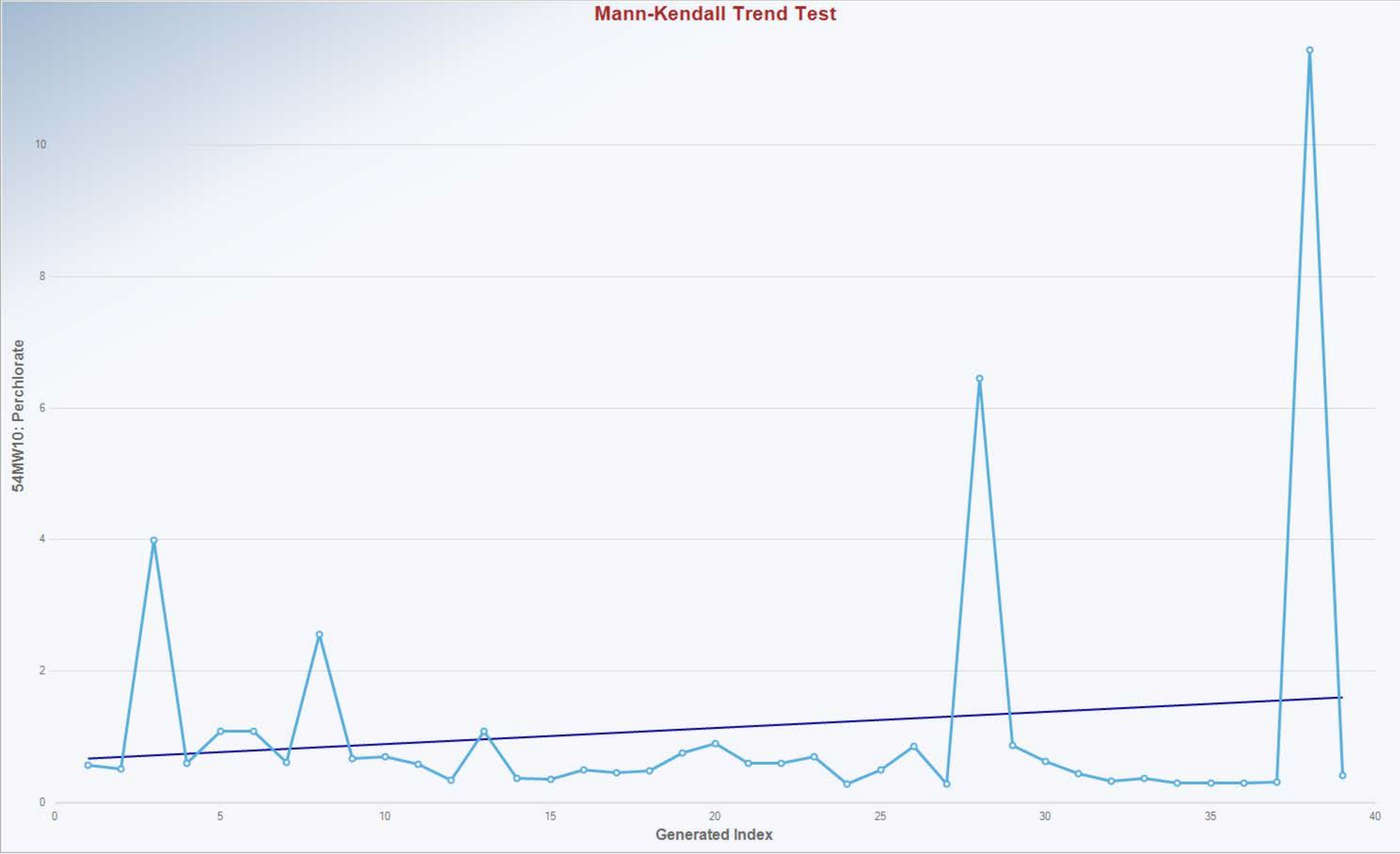
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Number of Generated Events	41
Number Values Reported (n)	44
Number Values Missing	3
Number Values Used	41
Minimum	0.04
Maximum	50
Mean	8.071
Geometric Mean	2.441
Median	4
Standard Deviation	11.16
Coefficient of Variation	1.383

Mann-Kendall Test

M-K Test Value (S)	-71
Critical Value (0.05)	-1.645
Standard Deviation of S	89.01
Standardized Value of S	-0.786
Approximate p-value	0.216

Insufficient evidence to identify a significant trend at the specified level of significance.

Mann-Kendall Trend Test



Mann-Kendall Trend Analysis

n	39
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	82.6317
Standardized Value of S	-2.2146
M-K Test Value (S)	-184
Appx. Critical Value (0.05)	-1.6449
Approximate p-value	0.0134

OLS Regression Line (Blue)

OLS Regression Slope	0.0243
OLS Regression Intercept	0.3938

Statistically significant evidence of a decreasing trend at the specified level of significance.

Mann-Kendall Trend Test Analysis		
User Selected Options		
Date/Time of Computation	ProUCL 5.2 3/18/2026 4:13:36 PM	
From File	2025MK_SW54_inputs.xls	
Full Precision	OFF	
Confidence Coefficient	0.95	
Level of Significance	0.05	

54MW10: Perchlorate

General Statistics

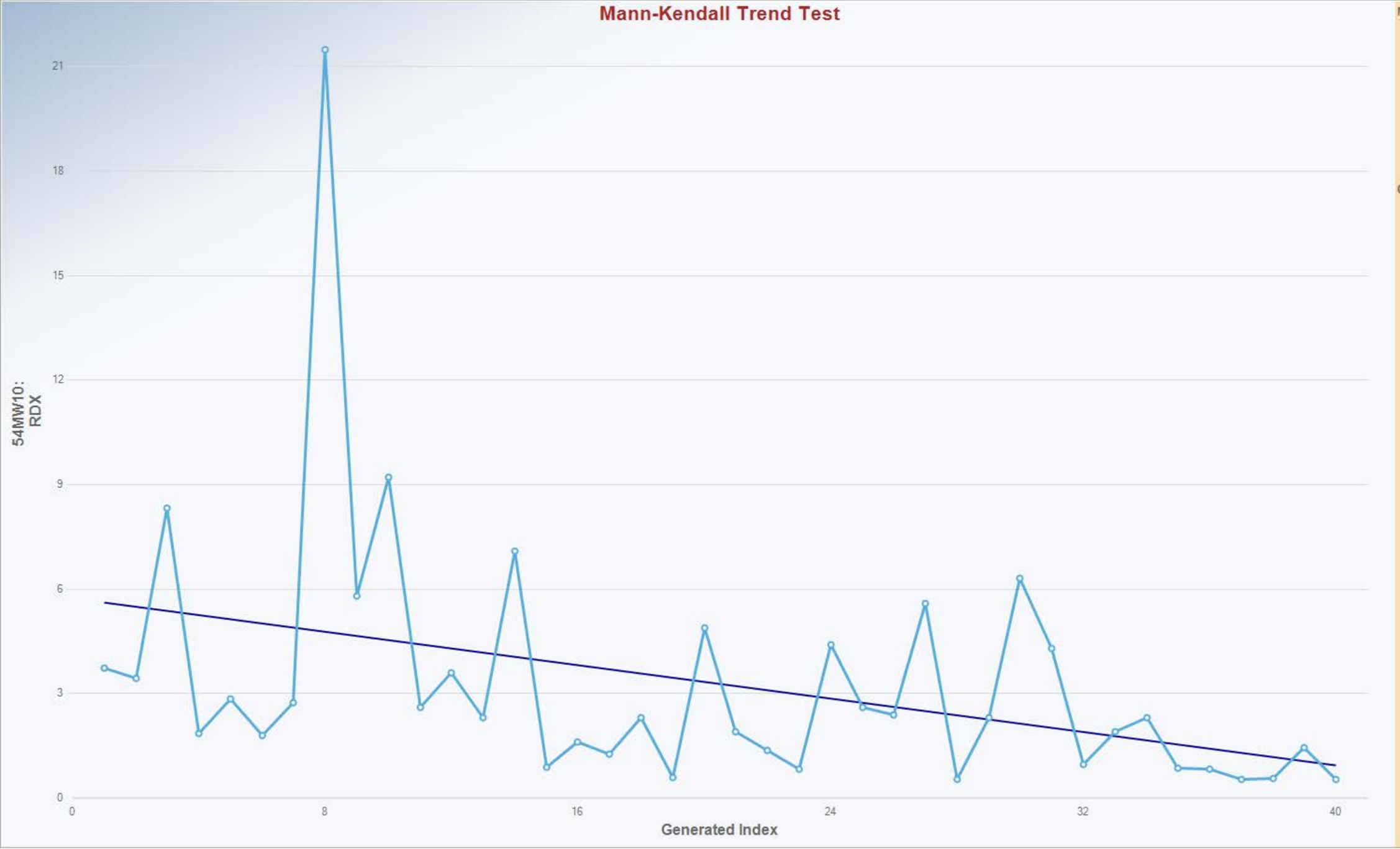
Number or Reported Events Not Used	0
Number of Generated Events	39
Number Values Reported (n)	44
Number Values Missing	5
Number Values Used	39
Minimum	0.025
Maximum	11.2
Mean	0.881
Geometric Mean	0.293
Median	0.326
Standard Deviation	2.041
Coefficient of Variation	2.317

Mann-Kendall Test

M-K Test Value (S)	-184
Critical Value (0.05)	-1.645
Standard Deviation of S	82.63
Standardized Value of S	-2.215
Approximate p-value	0.0134

Statistically significant evidence of a decreasing trend at the specified level of significance.

Mann-Kendall Trend Test



Mann-Kendall Trend Analysis	
n	40
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	85.7613
Standardized Value of S	-3.3815
M-K Test Value (S)	-291
Appx. Critical Value (0.05)	-1.6449
Approximate p-value	0.0004

OLS Regression Line (Blue)	
OLS Regression Slope	-0.1199
OLS Regression Intercept	5.2303

Statistically significant evidence of a decreasing trend at the specified level of significance.

Mann-Kendall Trend Test Analysis		
User Selected Options		
Date/Time of Computation	ProUCL 5.2 3/18/2026 4:15:45 PM	
From File	2025MK_SW54_inputs.xls	
Full Precision	OFF	
Confidence Coefficient	0.95	
Level of Significance	0.05	

54MW10: RDX

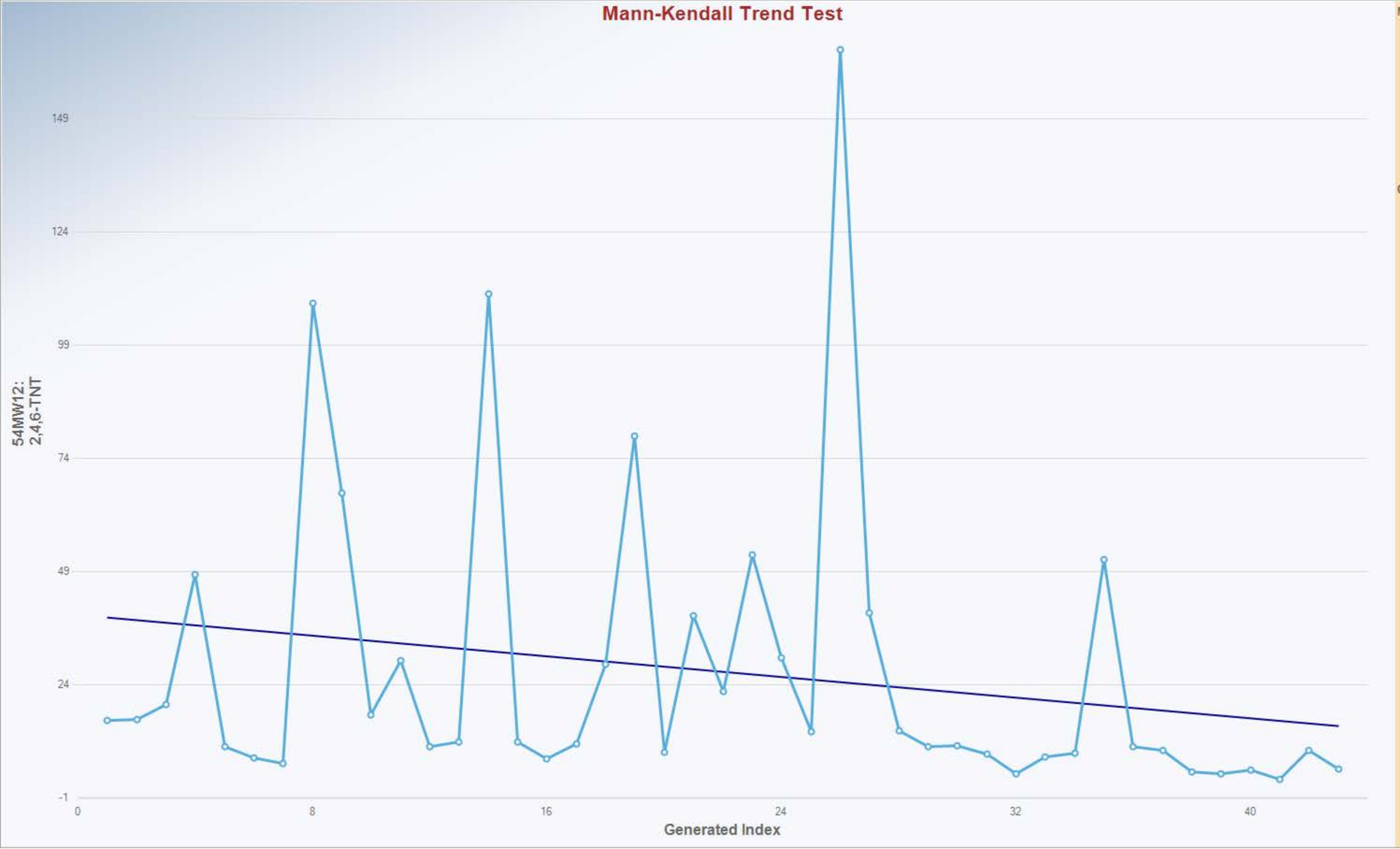
General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	40
Number Values Reported (n)	44
Number Values Missing	4
Number Values Used	40
Minimum	0.025
Maximum	21
Mean	2.773
Geometric Mean	1.251
Median	1.8
Standard Deviation	3.677
Coefficient of Variation	1.326

Mann-Kendall Test

M-K Test Value (S)	-291
Critical Value (0.05)	-1.645
Standard Deviation of S	85.76
Standardized Value of S	-3.381
Approximate p-value	3.6048E-4

Statistically significant evidence of a decreasing trend at the specified level of significance.



Mann-Kendall Trend Analysis

n	43
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	95.5371
Standardized Value of S	-2.9831
M-K Test Value (S)	-286
Appx. Critical Value (0.05)	-1.6449
Approximate p-value	0.0014

OLS Regression Line (Blue)

OLS Regression Slope	-0.5690
OLS Regression Intercept	39.0862

Statistically significant evidence of a decreasing trend at the specified level of significance.

	Mann-Kendall Trend Test Analysis	
User Selected Options		
Date/Time of Computation	ProUCL 5.2 3/18/2026 4:16:30 PM	
From File	2025MK_SW54_inputs.xls	
Full Precision	OFF	
Confidence Coefficient	0.95	
Level of Significance	0.05	

54MW12: 2,4,6-TNT

General Statistics

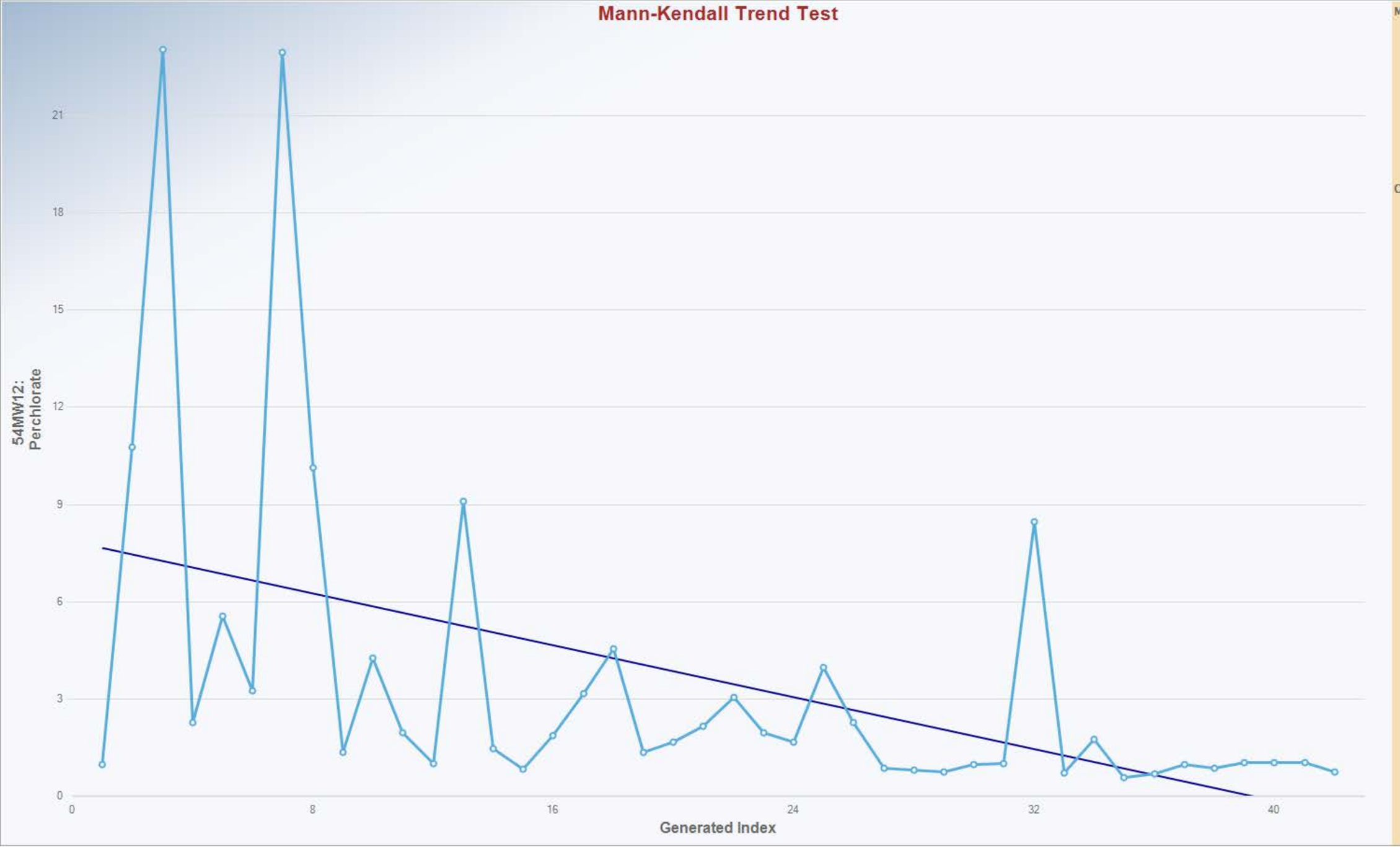
Number or Reported Events Not Used	0
Number of Generated Events	43
Number Values Reported (n)	43
Minimum	2.7
Maximum	164
Mean	26.57
Geometric Mean	15.51
Median	11
Standard Deviation	33.71
Coefficient of Variation	1.269

Mann-Kendall Test

M-K Test Value (S)	-286
Critical Value (0.05)	-1.645
Standard Deviation of S	95.54
Standardized Value of S	-2.983
Approximate p-value	0.00143

Statistically significant evidence of a decreasing trend at the specified level of significance.

Mann-Kendall Trend Test



Mann-Kendall Trend Analysis

n	42
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	92.2406
Standardized Value of S	-3.9896
M-K Test Value (S)	-369
Appx. Critical Value (0.05)	-1.6449
Approximate p-value	0.0000

OLS Regression Line (Blue)

OLS Regression Slope	-0.2009
OLS Regression Intercept	7.6055

Statistically significant evidence of a decreasing trend at the specified level of significance.

Mann-Kendall Trend Test Analysis		
User Selected Options		
Date/Time of Computation	ProUCL 5.2 3/18/2026 4:17:06 PM	
From File	2025MK_SW54_inputs.xls	
Full Precision	OFF	
Confidence Coefficient	0.95	
Level of Significance	0.05	

54MW12: Perchlorate

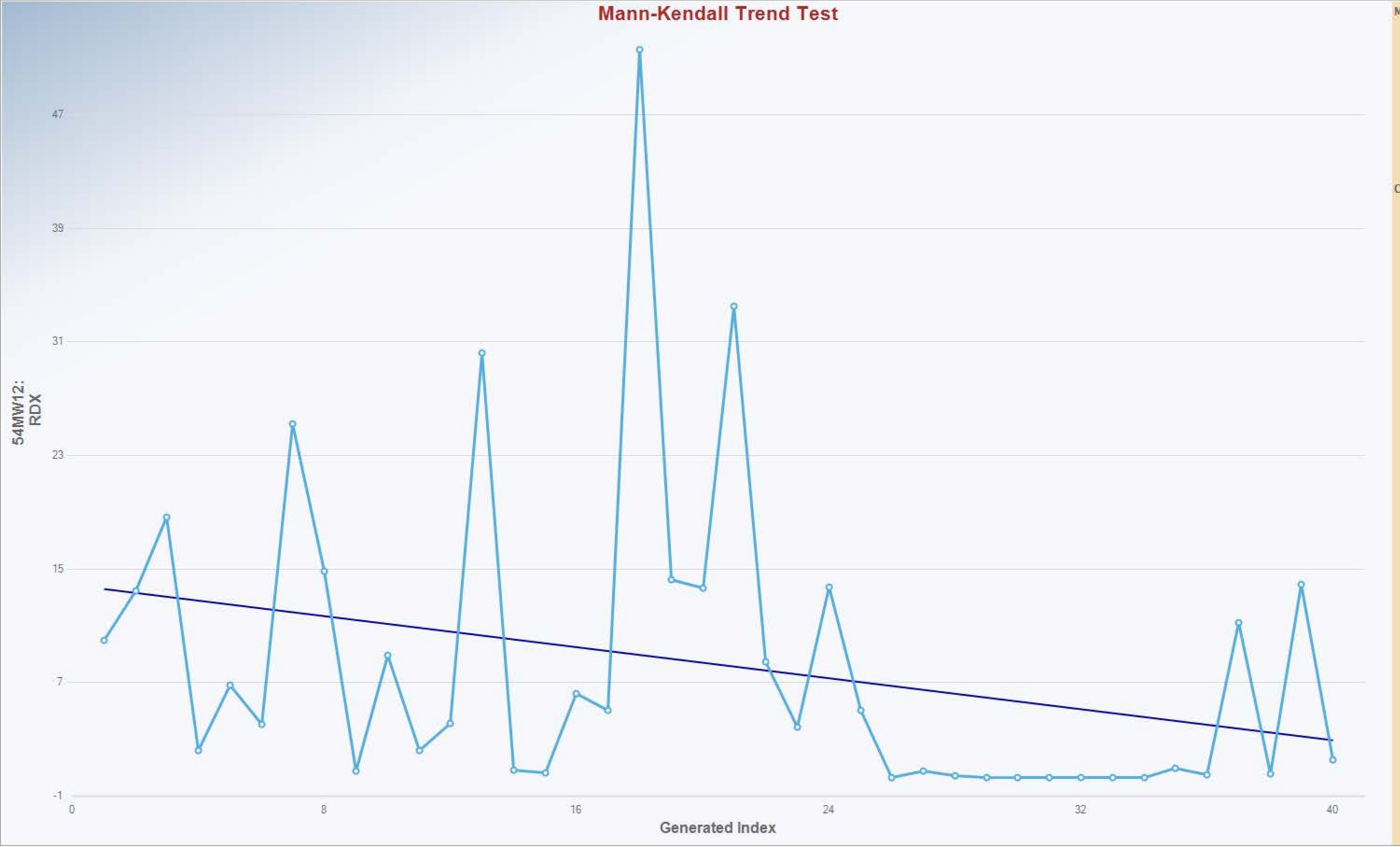
General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	42
Number Values Reported (n)	43
Number Values Missing	1
Number Values Used	42
Minimum	0.3
Maximum	22.8
Mean	3.286
Geometric Mean	1.628
Median	1.4
Standard Deviation	5.117
Coefficient of Variation	1.557

Mann-Kendall Test

M-K Test Value (S)	-369
Critical Value (0.05)	-1.645
Standard Deviation of S	92.24
Standardized Value of S	-3.99
Approximate p-value	3.3097E-5

Statistically significant evidence of a decreasing trend at the specified level of significance.



Mann-Kendall Trend Analysis

n	40
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	85.8118
Standardized Value of S	-2.7036
M-K Test Value (S)	-233
Appx. Critical Value (0.05)	-1.6449
Approximate p-value	0.0034

OLS Regression Line (Blue)

OLS Regression Slope	-0.2720
OLS Regression Intercept	13.5981

Statistically significant evidence of a decreasing trend at the specified level of significance.

Mann-Kendall Trend Test Analysis		
User Selected Options		
Date/Time of Computation	ProUCL 5.2 3/18/2026 4:17:52 PM	
From File	2025MK_SW54_inputs.xls	
Full Precision	OFF	
Confidence Coefficient	0.95	
Level of Significance	0.05	

54MW12: RDX

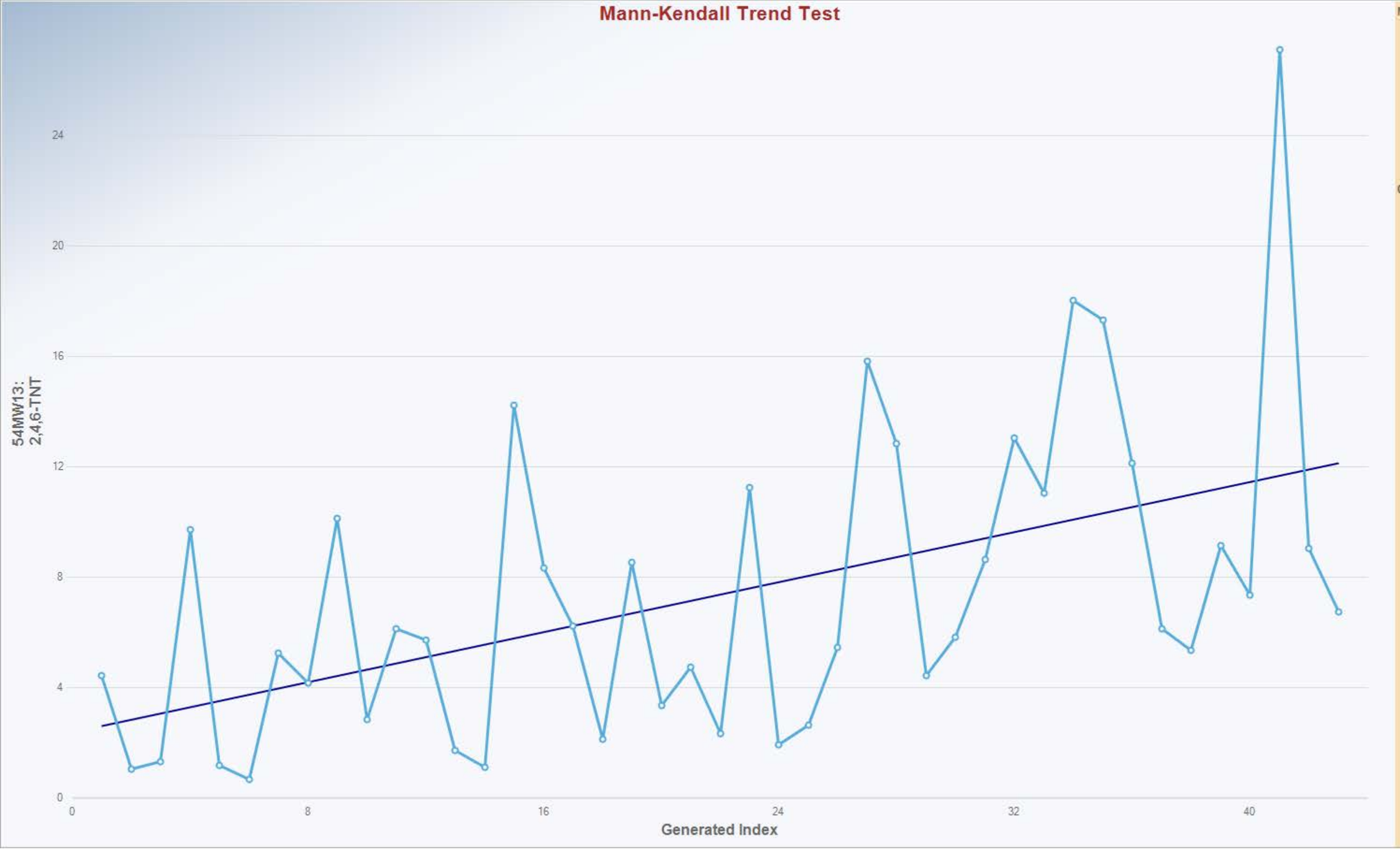
General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	40
Number Values Reported (n)	43
Number Values Missing	3
Number Values Used	40
Minimum	0.038
Maximum	51.4
Mean	8.023
Geometric Mean	1.936
Median	3.845
Standard Deviation	10.99
Coefficient of Variation	1.37

Mann-Kendall Test

M-K Test Value (S)	-233
Critical Value (0.05)	-1.645
Standard Deviation of S	85.81
Standardized Value of S	-2.704
Approximate p-value	0.00343

Statistically significant evidence of a decreasing trend at the specified level of significance.



Mann-Kendall Trend Analysis

n	43
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	95.5475
Standardized Value of S	3.6108
M-K Test Value (S)	346
Appx. Critical Value (0.05)	1.6449
Approximate p-value	0.0002

OLS Regression Line (Blue)

OLS Regression Slope	0.2265
OLS Regression Intercept	2.0444

Statistically significant evidence of an increasing trend at the specified level of significance.

Mann-Kendall Trend Test Analysis		
User Selected Options		
Date/Time of Computation	ProUCL 5.2 3/18/2026 4:18:38 PM	
From File	2025MK_SW54_inputs.xls	
Full Precision	OFF	
Confidence Coefficient	0.95	
Level of Significance	0.05	

54MW13: 2,4,6-TNT

General Statistics

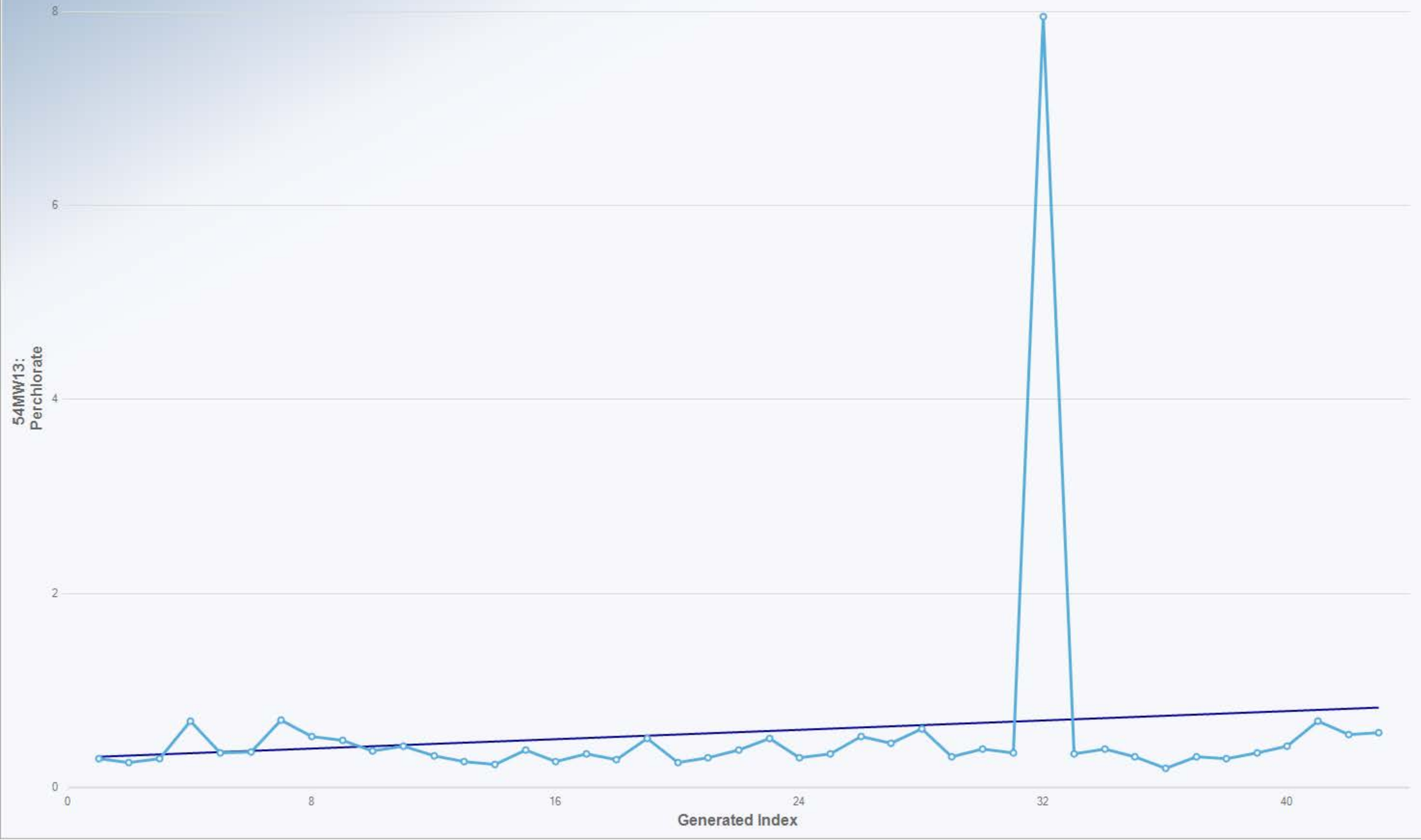
Number or Reported Events Not Used	0
Number of Generated Events	43
Number Values Reported (n)	44
Number Values Missing	1
Number Values Used	43
Minimum	0.318
Maximum	26.8
Mean	7.026
Geometric Mean	4.837
Median	5.8
Standard Deviation	5.538
Coefficient of Variation	0.788

Mann-Kendall Test

M-K Test Value (S)	346
Critical Value (0.05)	1.645
Standard Deviation of S	95.55
Standardized Value of S	3.611
Approximate p-value	1.5265E-4

Statistically significant evidence of an increasing trend at the specified level of significance.

Mann-Kendall Trend Test



Mann-Kendall Trend Analysis	
n	43
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	95.4830
Standardized Value of S	1.0892
M-K Test Value (S)	105
Appx. Critical Value (0.05)	1.6449
Approximate p-value	0.1380

OLS Regression Line (Blue)	
OLS Regression Slope	0.0122
OLS Regression Intercept	0.2478

Insufficient statistical evidence of a significant trend at the specified level of significance.

	Mann-Kendall Trend Test Analysis	
User Selected Options		
Date/Time of Computation	ProUCL 5.2 3/18/2026 4:19:48 PM	
From File	2025MK_SW54_inputs.xls	
Full Precision	OFF	
Confidence Coefficient	0.95	
Level of Significance	0.05	

54MW13: Perchlorate

General Statistics

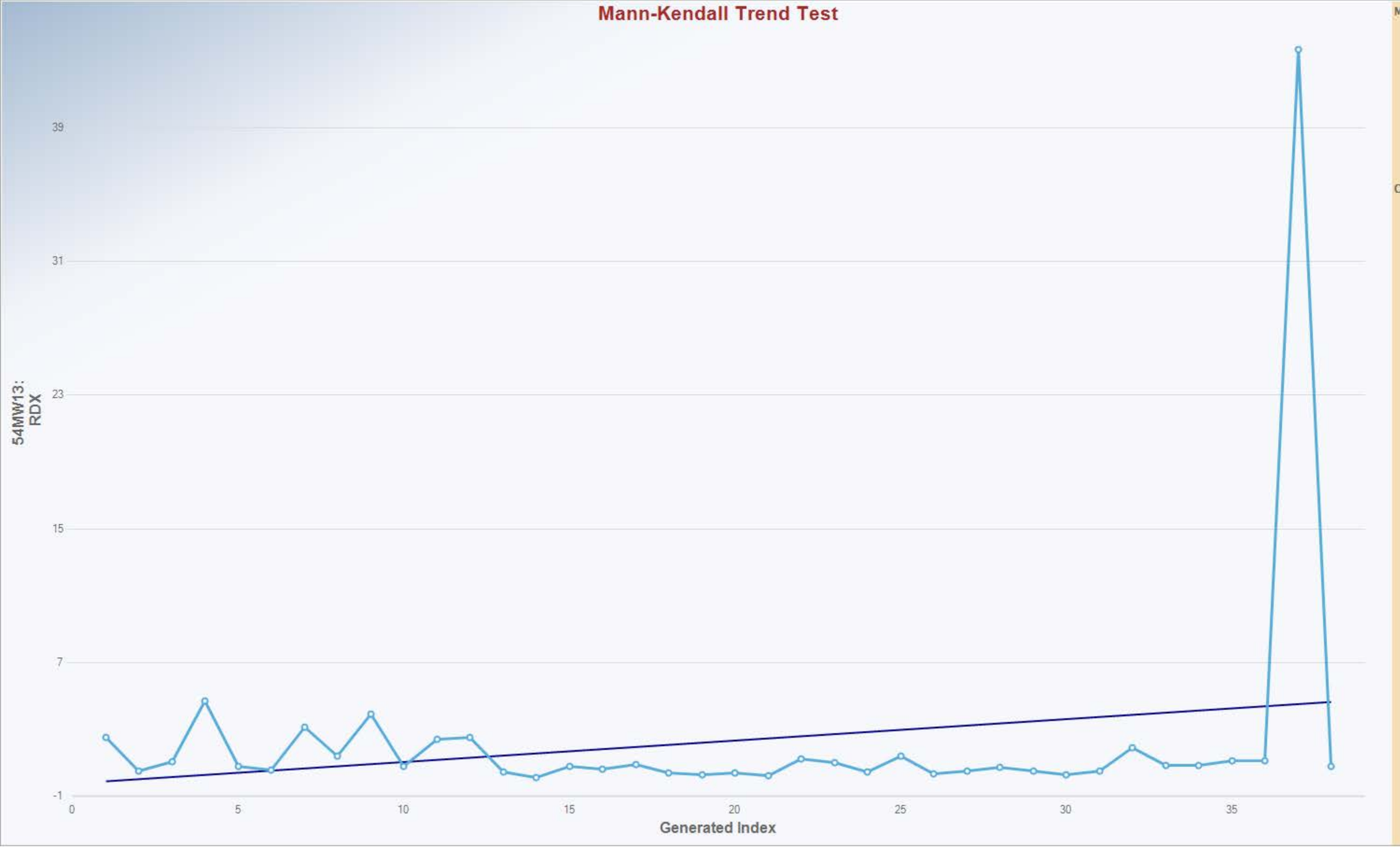
Number or Reported Events Not Used	0
Number of Generated Events	43
Number Values Reported (n)	44
Number Values Missing	1
Number Values Used	43
Minimum	0.14
Maximum	7.9
Mean	0.516
Geometric Mean	0.344
Median	0.308
Standard Deviation	1.16
Coefficient of Variation	2.249

Mann-Kendall Test

M-K Test Value (S)	105
Critical Value (0.05)	1.645
Standard Deviation of S	95.48
Standardized Value of S	1.089
Approximate p-value	0.138

Insufficient evidence to identify a significant trend at the specified level of significance.

Mann-Kendall Trend Test



Mann-Kendall Trend Analysis

n	38
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	79.5173
Standardized Value of S	-0.7294
M-K Test Value (S)	-59
Appx. Critical Value (0.05)	-1.6449
Approximate p-value	0.2329

OLS Regression Line (Blue)

OLS Regression Slope	0.1282
OLS Regression Intercept	-0.1611

Insufficient statistical evidence of a significant trend at the specified level of significance.

	Mann-Kendall Trend Test Analysis	
User Selected Options		
Date/Time of Computation	ProUCL 5.2 3/18/2026 4:20:35 PM	
From File	2025MK_SW54_inputs.xls	
Full Precision	OFF	
Confidence Coefficient	0.95	
Level of Significance	0.05	

54MW13: RDX

General Statistics

Number or Reported Events Not Used	0
Number of Generated Events	38
Number Values Reported (n)	44
Number Values Missing	6
Number Values Used	38
Minimum	0.17
Maximum	43.8
Mean	2.339
Geometric Mean	1.02
Median	0.88
Standard Deviation	6.985
Coefficient of Variation	2.987

Mann-Kendall Test

M-K Test Value (S)	-59
Critical Value (0.05)	-1.645
Standard Deviation of S	79.52
Standardized Value of S	-0.729
Approximate p-value	0.233

Insufficient evidence to identify a significant trend at the specified level of significance.