From: Kochan, Kurt (DEQ)
To: Mckenna, James J CIV (US)

Cc: Hawks, Jody (US); Hendon, Bill (US); Cutler, Jim (DEQ); Lohman, Elizabeth (DEQ);

Mcgoldrick.catherine@epa.gov; Fisher, Brett (DEQ); Scott, Ashby (DEQ)

Subject: [Non-DoD Source] SWMU 49 Final Report Year 1 MNA

 Date:
 Tuesday, July 18, 2017 5:37:55 AM

 Attachments:
 VA1210020730 DEQ corr 49 2017-7-18.pdf

Jim-

Please see attached correspondence regarding the referenced report. Please let me know if you have any questions. Thanks.

Kurt W. Kochan Corrective Action Project Manager Virginia Department of Environmental Quality Office of Remediation Programs P.O. Box 1105 Richmond, VA 23218 (703) 583-3825



## COMMONWEALTH of VIRGINIA

#### DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219

Mailing address: P.O. Box 1105, Richmond, Virginia 23218

www.deq.virginia.gov

David K. Paylor Director

(804) 698-4020 1-800-592-5482

July 18, 2017

Mr. Jim McKenna Radford Army Ammunition Plant Route 114, P.O. Box 1 Radford, Virginia 24143-0100

#### VIA ELECTRONIC MAIL

Re: Final SWMU 49 Monitored Natural Attenuation Sampling Year One Report

Radford Army Ammunitions Plant Route 114, Radford, Virginia 24141

EPA ID#: VA1210020730

Dear Mr. McKenna:

Molly Joseph Ward

Secretary of Natural Resources

This letter acknowledges the receipt and review of the Final SWMU 49 Monitored Natural Attenuation Sampling Year One Report (Report), submitted to the Virginia Department of Environmental Quality, Office of Remediation Programs (Department) by BAE Systems on behalf of the Radford Army Ammunitions Plant (RFAAP).

The Department accepts the report as complete.

If you have any additional technical questions, you may contact me at 703-583-3825 or by email at Kurt.Kochan@deq.virginia.gov.

Sincerely,

Kurt W. Kochan

Kart W Jole

Corrective Action Project Manager Office of Remediation Programs

cc: RFAAP Correspondence File
Brett Fisher, Jim Cutler, Ashby Scott, VDEQ-CO
Beth Lohman, VDEQ-BRRO
Cassie McGoldrick, EPA Region 3
William Hendon, Jody Hawks, BAE

From: Mckenna, James J CIV (US)

To: Cutler, Jim; Kochan, Kurt (DEQ); beth lohman (ealohman@deg.virginia.gov)

Cc: Gross, Kimberly U CIV USARMY CENAB (US); Bonnie Morris; Hawks, Jody (US); Patton, Mark (US); Sengphet J.

Liu; MaryAnn Bogucki - Radford (maryann.bogucki@baesystems.com); Davie, Robert N III CIV USARMY JML LCMC (US); Masson, Alicia M LTC USARMY JMC (US); Pizarro.Luis@epamail.epa.gov; Haines-Eklund, Laurie B CIV

USARMY IMCOM AEC (US); Hendon, Bill (US)

Subject: RE: SWMU 49 Final Report Year 1 MNA

Date: Monday, June 05, 2017 6:14:34 AM

Attachments: 17 0900 078 Final SWMU 49 MNA Year 1 Report cert letter.pdf

Kurt Kochan, Jim Cutler, Beth Lohman, All,

Attached is the certification for the report that was submitted on May 25, 2017.

Thank you for your support of the Radford AAP Installation Restoration Program, Jim McKenna

Confidentiality Note: This e-mail is Official Correspondence and is For Official Use Only, it is intended only for the person or entity to which it is addressed, and may contain information that is privileged, confidential, sensitive, or otherwise protected from disclosure. If you receive this email in error please notify the sender immediately.

----Original Message----

From: Mckenna, James J CIV (US) Sent: Thursday, May 25, 2017 1:55 PM

To: Cutler,Jim <James.Cutler@deq.virginia.gov>; Kochan, Kurt (DEQ) <Kurt.Kochan@deq.virginia.gov>; beth lohman@deq.virginia.gov> <ealohman@deq.virginia.gov>

Importance: High

Kurt Kochan, Jim Cutler, Beth Lohman,

Note the BSe share file site link below for the subject report that has been revised and is submitted in accordance with the Correction Action Permit in response to DEQ letter/email dated April 21, 2017 (attached). Also note the contractor will ship hard copies of the subject document with a copy of this email to the POCs and tracking numbers below. Certification will follow by separate letter.

James L. Cutler, Jr. (1 Hard Copy + 1 CD) Virginia Department of Environmental Quality 629 East Main Street Richmond, VA 23219 Fed Ex Tracking #: 779228633043

Kurt Kochan (1 Hard Copy + 1 CD) Virginia Department of Environmental Quality 629 East Main Street Richmond, VA 23219 Fed Ex Tracking #: 779228602147

Luis Pizarro (1 Hard Copy + 1 CD)

Associate Director, Office of Remediation US Environmental Protection Agency, Region III 1650 Arch Street

Philadelphia, PA 19103-2029 Mail Code: (3LC20) Fed Ex Tracking #: 779228669868

Jim McKenna, Army Staff, Bldg 220 (2 Hard Copies + 1 CD) Radford Army Ammunition Plant 4050 Peppers Ferry RD State Rd 114 Radford, VA 24141

The document has also been uploaded to the sharefile site, and can be downloaded using the following link:

 $Caution-\underline{https://bseak.sharefile.com/d-se8fe7f966ac45a1b} < Caution-\underline{https://bseak.sharefile.com/d-se8fe7f966ac45a1b} < Caution-\underline{https://bseak.sharefile.com/d-se8fe7f966ac45a1b} > \\$ 

Thank you for your support of the Radford AAP Installation Restoration Program.

Jim McKenna

Fed Ex Tracking #: 779228524425

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#### ORDNANCE SYSTEMS INC.

Radford Army Ammunition Plant 4050 Peppers Ferry Road, P.O. Box 1 Radford, VA 24143 Telephone (540) 639-7631 BAE SYSTEMS

May 31, 2017

Mr. Kurt Kochan Virginia Department of Environmental Quality Groundwater/Correction Action Program Manager Office of Remediation Programs PO Box 1105 Richmond, VA 23218

Mr. James L. Cutler, Jr. Virginia Department of Environmental Quality 629 East Main Street Richmond, VA 23219

Subject: With Certification, Final SWMU 49 Monitored Natural Attenuation Sampling Year One Report, May 2017 EPA ID# VA1210020730, Response to Department of Environmental Quality Letter Dated April 21, 2017

Dear Mr. Kochan and Mr. Cutler:

Enclosed is the certification for the subject document that was sent to you on May 25, 2017. Also enclosed is the May 25, 2017 transmittal email.

If you have any questions, please contact me at 540-639-7701 or Mr. James McKenna, Radford AAP Army Staff at 540 731 5782.

Sincerely,

Jody Hawks

Sr. Environmental Specialist

BAE Systems, Ordnance Systems Inc.

Elizabeth Lohman
 Virginia Department of Environmental Quality
 Blue Ridge Regional Office
 3019 Peters Creek Road
 Roanoke, VA 24019

Derrick Lopez
U.S. Army Environmental Command
Cleanup and Munitions Response Division
2450 Connell Road, Bldg 2264, 1st Floor, Room 126
Fort Sam Houston, TX 78234-7664

Luis Pizarro Associate Director, Office of Remediation US Environmental Protection Agency, Region III 1650 Arch Street Philadelphia, PA 19103-2029 Mail Code: (3LC20)

Kim Gross Corps of Engineers, Baltimore District ATTN: CENAB-EN-HM 10 South Howard Street Baltimore, MD 21201

bc:

Administrative File J. McKenna, ACO Staff

Rob Davie-ACO Staff

Coordination: M. McKenna

#### Concerning the following:

## Radford Army Ammunition Plant Final SWMU 49 Monitored Natural Attenuation Sampling Year One Report May 2017

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

SIGNATURE:

PRINTED NAME:

TITLE:

ALICIA M. MASSON

LTC, CM

Commanding

SIGNATURE:

PRINTED NAME:

TITLE:

William M. Barnett

General Manager

BAE Systems

#### Mckenna, James J CIV (US)

From: Mckenna, James J CIV (US)

**Sent:** Thursday, May 25, 2017 1:55 PM

To: Cutler, Jim; Kochan, Kurt (DEQ); beth lohman (ealohman@deq.virginia.gov)

Cc: 'Gross, Kimberly U CIV USARMY CENAB (US)'; 'Bonnie Morris'; 'Hawks, Jody (US)';

'Patton, Mark (US)'; 'Sengphet J. Liu'; MaryAnn Bogucki - Radford

(maryann.bogucki@baesystems.com); Davie, Robert N III CIV USARMY JML LCMC (US); Masson, Alicia M LTC USARMY JMC (US); Pizarro.Luis@epamail.epa.gov; Haines-Eklund, Laurie B CIV USARMY IMCOM AEC (US) (laurie.b.haines-eklund.civ@mail.mil); Hendon,

Bill (US); Herschler, Nichole (US)

**Subject:** SWMU 49 Final Report Year 1 MNA

**Attachments:** 17 APR KK Email 21 Apr 2017 VA1210020730\_DEQ\_corr\_49\_2017-4-21.pdf

Importance: High

Kurt Kochan, Jim Cutler, Beth Lohman,

Note the BSe share file site link below for the subject report that has been revised and is submitted in accordance with the Correction Action Permit in response to DEQ letter/email dated April 21, 2017 (attached). Also note the contractor will ship hard copies of the subject document with a copy of this email to the POCs and tracking numbers below. Certification will follow by separate letter.

James L. Cutler, Jr. (1 Hard Copy + 1 CD) Virginia Department of Environmental Quality

629 East Main Street Richmond, VA 23219

Fed Ex Tracking #: 779228633043

Kurt Kochan (1 Hard Copy + 1 CD)

Virginia Department of Environmental Quality

629 East Main Street Richmond, VA 23219

Fed Ex Tracking #: 779228602147

Luis Pizarro (1 Hard Copy + 1 CD)

Associate Director, Office of Remediation US Environmental Protection Agency, Region III

1650 Arch Street

Philadelphia, PA 19103-2029 Mail Code: (3LC20) Fed Ex Tracking #: 779228669868

Jim McKenna, Army Staff, Bldg 220 (2 Hard Copies + 1 CD) Radford Army Ammunition Plant

4050 Peppers Ferry RD

State Rd 114

Radford, VA 24141

Fed Ex Tracking #: 779228524425

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Thank you for your support of the Radford AAP Installation Restoration Program.

#### Jim McKenna

Confidentiality Note: This e-mail is Official Correspondence and is For Official Use Only, it is intended only for the person or entity to which it is addressed, and may contain information that is privileged, confidential, sensitive, or otherwise protected from disclosure. If you receive this email in error please notify the sender immediately.

From: Mckenna, James J CIV (US) To: Kochan, Kurt (DEQ); Cutler, Jim

Hawks, Jody (US); Fisher, Brett (DEQ); Cutler, Jim (DEQ); Scott, Ashby (DEQ); Mcgoldrick.catherine@epa.gov; Cc:

Hendon, Bill (US); Lohman, Elizabeth (DEQ); Bonnie Morris; Sengphet J. Liu; Sarah Skrobialowski; Diioia,

Leonard L Jr CIV USARMY JMC (US); Davie, Robert N III CIV USARMY JML LCMC (US); Herschler, Nichole (US)

Subject: RE: RFAAP SWMU 49 MNA Monitoring Report response letter certified

Wednesday, May 31, 2017 11:14:29 AM

17 MAY JM KK Email 31 18 May 21 Apr 2017 RFAAP SWMU 49 MNA Mon Rpt response certified.pdf Attachments:

Importance:

Kurt, Jim, All,

Attached is the subject certified letter (referenced below) for the responses on the subject report.

Thanks Jim

----Original Message-----

From: Mckenna, James J CIV (US) Sent: Thursday, May 18, 2017 3:05 PM

To: 'Kochan, Kurt (DEQ)' <Kurt.Kochan@deq.virginia.gov>; Cutler,Jim <James.Cutler@deq.virginia.gov> Cc: Hawks, Jody (US) <jody.hawks@baesystems.com>; Fisher, Brett (DEQ) <Brett.Fisher@deq.virginia.gov>; Cutler, Jim (DEQ) <James.Cutler@deq.virginia.gov>; Scott, Ashby (DEQ) <Ashby.Scott@deq.virginia.gov>; Mcgoldrick.catherine@epa.gov; Hendon, Bill (US) <bill.hendon@baesystems.com>; Lohman, Elizabeth (DEQ) <Elizabeth.Lohman@deq.virginia.gov>; Bonnie Morris <br/> <br/>bmorris@bsenv.com>; Julia Liu (sliu@bsenv.com) <sliu@bsenv.com>; Sarah Skrobialowski <sskrobialowski@bsenv.com>; Diioia, Leonard L Jr CIV USARMY JMC (US) <leonard.l.diioia.civ@mail.mil>; Davie, Robert N III CIV USARMY JML LCMC (US) <robert.n.davie4.civ@mail.mil>; Herschler, Nichole (US) <nichole.herschler@baesystems.com> Subject: RE: [Non-DoD Source] RFAAP SWMU 49 MNA Monitoring Report Department response Importance: High

Kurt, Jim, All,

The attached file contains our responses to the subject DEQ comments on the Draft Final SWMU 49 Monitored Natural Attenuation Sampling Year One Report, January 2017. The certification letter will follow under separate cover. Once we receive DEQ concurrence we can complete revision and resubmit the report.

Thanks, Jim

----Original Message----

From: Kochan, Kurt (DEQ) [mailto:Kurt.Kochan@deq.virginia.gov]

Sent: Friday, April 21, 2017 11:10 AM

To: Mckenna, James J CIV (US) < james.j.mckenna16.civ@mail.mil>

Cc: Hawks, Jody (US) <jody.hawks@baesystems.com>; Fisher, Brett (DEQ) <Brett.Fisher@deq.virginia.gov>; Cutler, Jim (DEQ) <James.Cutler@deq.virginia.gov>; Scott, Ashby (DEQ) <Ashby.Scott@deq.virginia.gov>; Mcgoldrick.catherine@epa.gov; Hendon, Bill (US) <bill.hendon@baesystems.com>; Lohman, Elizabeth (DEQ) <Elizabeth.Lohman@deq.virginia.gov>

Subject: [Non-DoD Source] RFAAP SWMU 49 MNA Monitoring Report Department response

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

Please accept the attached as the Departments' response to the above-referenced report.

Kurt W. Kochan

Corrective Action Project Manager

Virginia Department of Environmental Quality

Office of Remediation Programs

P.O. Box 1105

Richmond, VA 23218

(703) 583-3825

#### ORDNANCE SYSTEMS INC.

Radford Army Ammunition Plant 4050 Peppers Ferry Road, P.O. Box 1 Radford, VA 24143 Telephone (540) 639-7631



May 19, 2017

Mr. Kurt Kochan Virginia Department of Environmental Quality Groundwater/Correction Action Program Manager Office of Remediation Programs PO Box 1105 Richmond, VA 23218

Mr. James L. Cutler, Jr. Virginia Department of Environmental Quality 629 East Main Street Richmond, VA 23219

Subject: With Certification, Draft Final SMWU 49 Monitored Natural Attenuation Sampling Year One Report, January 2017 EPA ID# VA1210020730, Response to Department of Environmental Quality Letter Dated April 21, 2017

Dear Mr. Kochan and Mr. Cutler:

Enclosed is the certification for the subject document that was sent to you on May 18, 2017. Also enclosed is the May 18, 2017 transmittal email.

If you have any questions, please contact me at 540-639-8766 or by email at nichole.herschler@baesystems.com.

Sincerely,

Nichole Herschler Environmental Manager

BAE Systems, Ordnance Systems Inc.

c: Elizabeth Lohman

Virginia Department of Environmental Quality Blue Ridge Regional Office 3019 Peters Creek Road Roanoke, VA 24019

Derrick Lopez

U.S. Army Environmental Command Cleanup and Munitions Response Division 2450 Connell Road, Bldg 2264, 1<sup>st</sup> Floor, Room 126 Fort Sam Houston, TX 78234-7664

Luis Pizarro Associate Director, Office of Remediation US Environmental Protection Agency, Region III 1650 Arch Street Philadelphia, PA 19103-2029 Mail Code: (3LC20) Kim Gross

Corps of Engineers, Baltimore District

ATTN: CENAB-EN-HM 10 South Howard Street Baltimore, MD 21201

bc: Administrative File

J. McKenna, ACO Staff Rob Davie-ACO Staff Coordination:

J. McKenna

#### Concerning the following:

## Radford Army Ammunition Plant Response to April 21, 2017 Department of Environmental Quality Comments on Draft Final SWMU 49 Monitored Natural Attenuation Sampling Year One Report January 2017

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

SIGNATURE:

PRINTED NAME: TITLE:

Alicia M. Masson

Lieutenant Colonel, US Army

Commanding

SIGNATURE:

PRINTED NAME:

TITLE:

William M. Barnett

General Manager BAE Systems

### Mckenna, James J CIV (US)

From: Sent:	Mckenna, James J CIV (US) Thursday, May 18, 2017 3:05 PM
To:	'Kochan, Kurt (DEQ)'; Cutler,Jim
Cc:	Hawks, Jody (US); Fisher, Brett (DEQ); Cutler, Jim (DEQ); Scott, Ashby (DEQ); Mcgoldrick.catherine@epa.gov; Hendon, Bill (US); Lohman, Elizabeth (DEQ); Bonnie Morris; Julia Liu (sliu@bsenv.com); Sarah Skrobialowski; Diioia, Leonard L Jr CIV USARMY JMC (US); Davie, Robert N III CIV USARMY JML LCMC (US); Herschler, Nichole (US)
Subject: Attachments:	RE: [Non-DoD Source] RFAAP SWMU 49 MNA Monitoring Report Department response Comments_RadfordAAP_SWMU49-FirstYearMNAReport_2016_KWK_VDEQ 04272016 jjm.xlsx; VA1210020730_DEQ_corr_49_2017-4-21.pdf
Importance:	High
Kurt, Jim, All,	
Attenuation Sampling Year Or	responses to the subject DEQ comments on the Draft Final SWMU 49 Monitored Natural ne Report, January 2017. The certification letter will follow under separate cover. Once we can complete revision and resubmit the report.
Thanks, Jim	
Sent: Friday, April 21, 2017 11 To: Mckenna, James J CIV (US) Cc: Hawks, Jody (US) <jody.ha (deq)="" <elizabeth.lohman@deq.virgi<="" <james.cutler@deq.virg="" mcgoldrick.catherine@epa.go="" th=""><th>) <james.j.mckenna16.civ@mail.mil> wks@baesystems.com&gt;; Fisher, Brett (DEQ) <brett.fisher@deq.virginia.gov>; Cutler, Jim ginia.gov&gt;; Scott, Ashby (DEQ) <ashby.scott@deq.virginia.gov>; ov; Hendon, Bill (US) <bill.hendon@baesystems.com>; Lohman, Elizabeth (DEQ)</bill.hendon@baesystems.com></ashby.scott@deq.virginia.gov></brett.fisher@deq.virginia.gov></james.j.mckenna16.civ@mail.mil></th></jody.ha>	) <james.j.mckenna16.civ@mail.mil> wks@baesystems.com&gt;; Fisher, Brett (DEQ) <brett.fisher@deq.virginia.gov>; Cutler, Jim ginia.gov&gt;; Scott, Ashby (DEQ) <ashby.scott@deq.virginia.gov>; ov; Hendon, Bill (US) <bill.hendon@baesystems.com>; Lohman, Elizabeth (DEQ)</bill.hendon@baesystems.com></ashby.scott@deq.virginia.gov></brett.fisher@deq.virginia.gov></james.j.mckenna16.civ@mail.mil>
	is email were disabled. Please verify the identity of the sender, and confirm the ned within the message prior to copying and pasting the address to a Web browser.
Mr. McKenna-	

Please accept the attached as the Departments' response to the above-referenced report.

		Response/Resolution		Separate figures were created for the CT and TCE plumes in the Baseline Report prepared by CB&I Federal Services LLC (CB&I) dated July 2015. As such, this practice was continued. Concur that the current representation infers two separate plumes. In sampling events where wells 49MW04 and 13MW2 did not have detections, it is anticipated that the CT and TCE plumes likely dipped below the two wells. However, Figures 5-1 through 5-7 have been revised to illustrate a connection between the detections on the ridgeline and detections within the burning grounds.	The use of precise time scale intervals will cause a bunching of the trend lines through the 2013 - 2016 monitoring period, distorting the data. However, the following footnote will be added to the figures, "x-axis time intervals do not reflect actual period of time between events."	The requirements have been added to the document.	10110	The state of the s											
TM Report		Response By BSEn		Concur.	Concur.	Concur.													
Project Name: Radford Army Ammunition Plant, SWMU 49 Draft Final LTM Report Project Location: Radford VA	Contract No.: W912QR-13-D-0001, DO 0001	Comment	TECHNICAL COMMENTS	Please provide justification for depicting separate Carbon Tetrachloride (CT) and Trichloroethene (TCE) plumes in Figures 5-3 through 5-8. Due to the heterogeneity of potential pathways from the top of the cliff to the river, well HAMV2 is likely an outlier and causing the computer depiction of two TCE plumes. For CT, given the site conceptual model, a single CT plume is more obvious.	The data in Figures 5-13 and 5-14 should be plotted with a linear x-axis scale where the time intervals between sampling events is accurate. The figures as presented are also useful, but a time break and footnote should be used to acknowledge that different time intervals are depicted.	The conclusions should repeat requirements 3 and 4 as listed in EPA's concurrence letter dated December 1, 2014.													
		Section		Section 5	Section 5	Section 7													
		Page(s)		Figures 5-3 through 5-8	Figures 5-13 and 5-14	7-1													
		Commenter, ORG		KWK, VDEQ	KWK, VDEQ	KWK, VDEQ													
		Comment		-	7	င													



## COMMONWEALTH of VIRGINIA

#### DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219

Mailing address: P.O. Box 1105, Richmond, Virginia 23218

www.deq.virginia.gov

David K. Paylor Director

(804) 698-4020 1-800-592-5482

April 21, 2017

Mr. Jim McKenna Radford Army Ammunition Plant Route 114, P.O. Box 1 Radford, Virginia 24143-0100

#### VIA ELECTRONIC MAIL

Re: Draft Final SWMU 49 Monitored Natural Attenuation Sampling Year One Report Radford Army Ammunitions Plant Route 114, Radford, Virginia 24141

EPA ID#: VA1210020730

Dear Mr. McKenna:

Molly Joseph Ward

Secretary of Natural Resources

This letter acknowledges the receipt and review of the Draft Final SWMU 49 Monitored Natural Attenuation Sampling Year One Report (Report), submitted to the Virginia Department of Environmental Quality, Office of Remediation Programs (Department) by BAE Systems on behalf of the Radford Army Ammunitions Plant (RFAAP).

The Department has the following comments on the Report:

- Please provide justification for depicting separate Carbon Tetrachloride (CT) and Trichloroethene (TCE) plumes in Figures 5-3 through 5-8. Due to the heterogeneity of potential pathways from the top of the cliff to the river, well 13MW2 is likely an outlier and causing the computer depiction of two TCE plumes. For CT, given the site conceptual model, a single CT plume is more obvious.
- The data in Figures 5-13 and 5-14 should be plotted with a linear x-axis scale where the time intervals between sampling events is accurate. The figures as presented are also useful, but a time break and footnote should be used to acknowledge that different time intervals are depicted.
- The conclusions should repeat requirements 3 and 4 as listed in EPA's concurrence letter dated December 1, 2014.

EPA ID#: VA1210020730 Radford Army Ammunitions Plant Radford, Virginia April 21, 2017

Please provide written response or a revised report to the Departments' comments. If you have any additional technical questions, you may contact me at 703-583-3825 or by email at Kurt.Kochan@deq.virginia.gov.

Sincerely,

Kurt W. Kochan

Lat whole

Corrective Action Project Manager Office of Remediation Programs

cc: RFAAP Correspondence File
Brett Fisher, VDEQ-CO
Jim Cutler, VDEQ-CO
Ashby Scott, VDEQ-CO
Beth Lohman, VDEQ-BRRO
Cassie McGoldrick, EPA Region 3
William Hendon, BAE
Jody Hawks, BAE

From: Mckenna, James J CIV (US)

To: Cutler, Jim; Kochan, Kurt (DEQ); beth lohman (ealohman@deg.virginia.gov)

Gross, Kimberly U CIV USARMY CENAB (US); Bonnie Morris; Hawks, Jody (US); Patton, Mark (US); Sengphet J. Cc:

Liu; MaryAnn Bogucki - Radford (maryann.bogucki@baesystems.com); Davie, Robert N III CIV USARMY JML LCMC (US); Masson, Alicia M LTC USARMY JMC (US); Pizarro.Luis@epamail.epa.gov; Haines-Eklund, Laurie B CIV

USARMY IMCOM AEC (US); Hendon, Bill (US); Herschler, Nichole (US)

Subject: SWMU 49 Final Report Year 1 MNA Date: Thursday, May 25, 2017 9:55:47 AM

Attachments: 17 APR KK Email 21 Apr 2017 VA1210020730 DEQ corr 49 2017-4-21.pdf

High Importance:

Kurt Kochan, Jim Cutler, Beth Lohman,

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James L. Cutler, Jr. (1 Hard Copy + 1 CD) Virginia Department of Environmental Quality 629 East Main Street Richmond, VA 23219 Fed Ex Tracking #: 779228633043

Kurt Kochan (1 Hard Copy + 1 CD) Virginia Department of Environmental Quality 629 East Main Street Richmond, VA 23219 Fed Ex Tracking #: 779228602147

Luis Pizarro (1 Hard Copy + 1 CD)

Associate Director, Office of Remediation US Environmental Protection Agency, Region III

1650 Arch Street

Philadelphia, PA 19103-2029 Mail Code: (3LC20)

Fed Ex Tracking #: 779228669868

Jim McKenna, Army Staff, Bldg 220 (2 Hard Copies + 1 CD) Radford Army Ammunition Plant 4050 Peppers Ferry RD State Rd 114 Radford, VA 24141 Fed Ex Tracking #: 779228524425

The document has also been uploaded to the sharefile site, and can be downloaded using the following link:

Caution-https://bseak.sharefile.com/d-se8fe7f966ac45a1b < Caution-https://bseak.sharefile.com/dse8fe7f966ac45a1b >

Thank you for your support of the Radford AAP Installation Restoration Program.

Jim McKenna

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## COMMONWEALTH of VIRGINIA

#### DEPARTMENT OF ENVIRONMENTAL QUALITY

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Mailing address: P.O. Box 1105, Richmond, Virginia 23218

www.deq.virginia.gov

David K. Paylor Director

(804) 698-4020 1-800-592-5482

April 21, 2017

Mr. Jim McKenna Radford Army Ammunition Plant Route 114, P.O. Box 1 Radford, Virginia 24143-0100

#### VIA ELECTRONIC MAIL

Re: Draft Final SWMU 49 Monitored Natural Attenuation Sampling Year One Report Radford Army Ammunitions Plant Route 114, Radford, Virginia 24141 EPA ID#: VA1210020730

Dear Mr. McKenna:

Molly Joseph Ward

Secretary of Natural Resources

This letter acknowledges the receipt and review of the Draft Final SWMU 49 Monitored Natural Attenuation Sampling Year One Report (Report), submitted to the Virginia Department of Environmental Quality, Office of Remediation Programs (Department) by BAE Systems on behalf of the Radford Army Ammunitions Plant (RFAAP).

The Department has the following comments on the Report:

- Please provide justification for depicting separate Carbon Tetrachloride (CT) and Trichloroethene (TCE) plumes in Figures 5-3 through 5-8. Due to the heterogeneity of potential pathways from the top of the cliff to the river, well 13MW2 is likely an outlier and causing the computer depiction of two TCE plumes. For CT, given the site conceptual model, a single CT plume is more obvious.
- The data in Figures 5-13 and 5-14 should be plotted with a linear x-axis scale where the time intervals between sampling events is accurate. The figures as presented are also useful, but a time break and footnote should be used to acknowledge that different time intervals are depicted.
- The conclusions should repeat requirements 3 and 4 as listed in EPA's concurrence letter dated December 1, 2014.

EPA ID#: VA1210020730 Radford Army Ammunitions Plant Radford, Virginia April 21, 2017

Please provide written response or a revised report to the Departments' comments. If you have any additional technical questions, you may contact me at 703-583-3825 or by email at <a href="mailto:Kurt.Kochan@deq.virginia.gov">Kurt.Kochan@deq.virginia.gov</a>.

Sincerely,

Kurt W. Kochan

Corrective Action Project Manager Office of Remediation Programs

Last worken

cc: RFAAP Correspondence File
Brett Fisher, VDEQ-CO
Jim Cutler, VDEQ-CO
Ashby Scott, VDEQ-CO
Beth Lohman, VDEQ-BRRO
Cassie McGoldrick, EPA Region 3
William Hendon, BAE
Jody Hawks, BAE

From: Kochan, Kurt (DEQ)

To: Mckenna, James J CIV (US); Cutler, Jim (DEQ)

Cc: Hawks, Jody (US); Fisher, Brett (DEQ); Cutler, Jim (DEQ); Scott, Ashby (DEQ); Mcgoldrick.catherine@epa.gov;

Hendon, Bill (US); Lohman, Elizabeth (DEQ); Bonnie Morris; Sengphet J. Liu; Sarah Skrobialowski; Diioia, Leonard L Jr CIV USARMY JMC (US); Davie, Robert N III CIV USARMY JML LCMC (US); Herschler, Nichole (US)

Subject: RE: [Non-DoD Source] RFAAP SWMU 49 MNA Monitoring Report Department response

**Date:** Friday, May 19, 2017 7:00:36 AM

#### Good morning Jim-

I concur with the revisions. Please proceed with the revisions and resubmittal of the report. Thanks.

#### Kurt

----Original Message-----

From: Mckenna, James J CIV (US) [mailto:james.j.mckenna16.civ@mail.mil]

Sent: Thursday, May 18, 2017 3:05 PM To: Kochan, Kurt (DEQ); Cutler, Jim (DEQ)

Cc: Hawks, Jody (US); Fisher, Brett (DEQ); Cutler, Jim (DEQ); Scott, Ashby (DEQ);

Mcgoldrick.catherine@epa.gov; Hendon, Bill (US); Lohman, Elizabeth (DEQ); Bonnie Morris; Julia Liu

(sliu@bsenv.com); Sarah Skrobialowski; Diioia, Leonard L Jr CIV USARMY JMC (US); Davie, Robert N III CIV

USARMY JML LCMC (US); Herschler, Nichole (US)

Subject: RE: [Non-DoD Source] RFAAP SWMU 49 MNA Monitoring Report Department response

Importance: High

Kurt, Jim, All,

The attached file contains our responses to the subject DEQ comments on the Draft Final SWMU 49 Monitored Natural Attenuation Sampling Year One Report, January 2017. The certification letter will follow under separate cover. Once we receive DEQ concurrence we can complete revision and resubmit the report.

#### Thanks,

Jim

----Original Message-----

From: Kochan, Kurt (DEQ) [mailto:Kurt.Kochan@deq.virginia.gov]

Sent: Friday, April 21, 2017 11:10 AM

To: Mckenna, James J CIV (US) < james.j.mckenna16.civ@mail.mil>

Cc: Hawks, Jody (US) <jody.hawks@baesystems.com>; Fisher, Brett (DEQ) <Brett.Fisher@deq.virginia.gov>; Cutler, Jim (DEQ) <James.Cutler@deq.virginia.gov>; Scott, Ashby (DEQ) <Ashby.Scott@deq.virginia.gov>; Mcgoldrick.catherine@epa.gov; Hendon, Bill (US) <br/>bill.hendon@baesystems.com>; Lohman, Elizabeth (DEQ) <Elizabeth Lohman@deq.virginia.gov>

<Elizabeth.Lohman@deq.virginia.gov>

Subject: [Non-DoD Source] RFAAP SWMU 49 MNA Monitoring Report Department response

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

\_\_\_\_\_

Please accept the attached as the Departments' response to the above-referenced report.

Kurt W. Kochan

Corrective Action Project Manager

Virginia Department of Environmental Quality

Office of Remediation Programs

P.O. Box 1105

Richmond, VA 23218

(703) 583-3825

From: Mckenna, James J CIV (US)
To: Kochan, Kurt (DEQ); Cutler, Jim

Cc: Hawks, Jody (US); Fisher, Brett (DEQ); Cutler, Jim (DEQ); Scott, Ashby (DEQ); Mcgoldrick.catherine@epa.gov;

Hendon, Bill (US); Lohman, Elizabeth (DEQ); Bonnie Morris; Sengphet J. Liu; Sarah Skrobialowski; Diioia, Leonard L Jr CIV USARMY JMC (US); Davie, Robert N III CIV USARMY JML LCMC (US); Herschler, Nichole (US)

Subject: RE: [Non-DoD Source] RFAAP SWMU 49 MNA Monitoring Report Department response

**Date:** Thursday, May 18, 2017 11:04:50 AM

Attachments: Comments RadfordAAP SWMU49-FirstYearMNAReport 2016 KWK VDEQ 04272016 jim.xlsx

VA1210020730 DEQ corr 49 2017-4-21.pdf

Importance: High

Kurt, Jim, All,

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Thanks, Jim

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Sent: Friday, April 21, 2017 11:10 AM

To: Mckenna, James J CIV (US) <james.j.mckenna16.civ@mail.mil>

Cc: Hawks, Jody (US) <jody.hawks@baesystems.com>; Fisher, Brett (DEQ) <Brett.Fisher@deq.virginia.gov>; Cutler, Jim (DEQ) <James.Cutler@deq.virginia.gov>; Scott, Ashby (DEQ) <Ashby.Scott@deq.virginia.gov>; Mcgoldrick.catherine@epa.gov; Hendon, Bill (US) <br/>bill.hendon@baesystems.com>; Lohman, Elizabeth (DEQ)

<Elizabeth.Lohman@deq.virginia.gov>

Subject: [Non-DoD Source] RFAAP SWMU 49 MNA Monitoring Report Department response

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Kurt W. Kochan

Corrective Action Project Manager

Virginia Department of Environmental Quality

Office of Remediation Programs

P.O. Box 1105

Richmond, VA 23218

(703) 583-3825



## COMMONWEALTH of VIRGINIA

#### DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219

Mailing address: P.O. Box 1105, Richmond, Virginia 23218

www.deq.virginia.gov

David K. Paylor Director

(804) 698-4020 1-800-592-5482

April 21, 2017

Mr. Jim McKenna Radford Army Ammunition Plant Route 114, P.O. Box 1 Radford, Virginia 24143-0100

#### VIA ELECTRONIC MAIL

Re: Draft Final SWMU 49 Monitored Natural Attenuation Sampling Year One Report Radford Army Ammunitions Plant Route 114, Radford, Virginia 24141 EPA ID#: VA1210020730

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Molly Joseph Ward

Secretary of Natural Resources

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The Department has the following comments on the Report:

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- The conclusions should repeat requirements 3 and 4 as listed in EPA's concurrence letter dated December 1, 2014.

EPA ID#: VA1210020730 Radford Army Ammunitions Plant Radford, Virginia April 21, 2017

Please provide written response or a revised report to the Departments' comments. If you have any additional technical questions, you may contact me at 703-583-3825 or by email at <a href="mailto:Kurt.Kochan@deq.virginia.gov">Kurt.Kochan@deq.virginia.gov</a>.

Sincerely,

Kurt W. Kochan

Corrective Action Project Manager Office of Remediation Programs

Last worken

cc: RFAAP Correspondence File
Brett Fisher, VDEQ-CO
Jim Cutler, VDEQ-CO
Ashby Scott, VDEQ-CO
Beth Lohman, VDEQ-BRRO
Cassie McGoldrick, EPA Region 3
William Hendon, BAE
Jody Hawks, BAE

				Project Name: Radford Army Ammunition Plant, SWMU 49 Draft Final L	TM Report							
				Project Location: Radford, VA								
	Contract No.: W912QR-13-D-0001, DO 0001											
Comment Number	Commenter, ORG	Page(s)	Section	Comment	Response By BSEn	Response/Resolution						
				TECHNICAL COMMENTS								
1	KWK, VDEQ	Figures 5-3 through 5-8	Section 5	Please provide justification for depicting separate Carbon Tetrachloride (CT) and Trichloroethene (TCE) plumes in Figures 5-3 through 5-8. Due to the heterogeneity of potential pathways from the top of the cliff to the river, well 13MW2 is likely an outlier and causing the computer depiction of two TCE plumes. For CT, given the site conceptual model, a single CT plume is more obvious.	Concur.	Separate figures were created for the CT and TCE plumes in the Baseline Report prepared by CB&I Federal Services LLC (CB&I) dated July 2015. As such, this practice was continued. Concur that the current representation infers two separate plumes. In sampling events where wells 49MW04 and 13MW2 did not have detections, it is anticipated that the CT and TCE plumes likely dipped below the two wells. However, Figures 5-1 through 5-7 have been revised to illustrate a connection between the detections on the ridgeline and detections within the burning grounds.						
2	KWK, VDEQ	Figures 5-13 and 5-14	Section 5	The data in Figures 5-13 and 5-14 should be plotted with a linear x-axis scale where the time intervals between sampling events is accurate. The figures as presented are also useful, but a time break and footnote should be used to acknowledge that different time intervals are depicted.	Concur.	The use of precise time scale intervals will cause a bunching of the trend lines through the 2013 - 2016 monitoring period, distorting the data. However, the following footnote will be added to the figures, "x-axis time intervals do not reflect actual period of time between events."						
3	KWK, VDEQ	7-1	Section 7	The conclusions should repeat requirements 3 and 4 as listed in EPA's concurrence letter dated December 1, 2014.	Concur.	The requirements have been added to the document.						
				_								

From: Kochan, Kurt (DEQ)
To: Mckenna, James J CIV (US)

Cc: Hawks, Jody (US); Fisher, Brett (DEQ); Cutler, Jim (DEQ); Scott, Ashby (DEQ); Mcgoldrick.catherine@epa.gov;

Hendon, Bill (US); Lohman, Elizabeth (DEQ)

Subject: [Non-DoD Source] RFAAP SWMU 49 MNA Monitoring Report Department response

**Date:** Friday, April 21, 2017 7:13:29 AM

Attachments: <u>VA1210020730 DEQ corr 49 2017-4-21.pdf</u>

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

Mr. McKenna-

Please accept the attached as the Departments' response to the above-referenced report.

Kurt W. Kochan
Corrective Action Project Manager
Virginia Department of Environmental Quality
Office of Remediation Programs
P.O. Box 1105
Richmond, VA 23218
(703) 583-3825



## COMMONWEALTH of VIRGINIA

#### DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219

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David K. Paylor Director

(804) 698-4020 1-800-592-5482

April 21, 2017

Mr. Jim McKenna Radford Army Ammunition Plant Route 114, P.O. Box 1 Radford, Virginia 24143-0100

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Molly Joseph Ward

Secretary of Natural Resources

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EPA ID#: VA1210020730 Radford Army Ammunitions Plant Radford, Virginia April 21, 2017

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Sincerely,

Kurt W. Kochan

Corrective Action Project Manager Office of Remediation Programs

Last worken

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Jim Cutler, VDEQ-CO
Ashby Scott, VDEQ-CO
Beth Lohman, VDEQ-BRRO
Cassie McGoldrick, EPA Region 3
William Hendon, BAE
Jody Hawks, BAE

From: Mckenna, James J CIV (US)

To: Cutler, Jim; Kochan, Kurt (DEQ); beth lohman (ealohman@deg.virginia.gov)

Cc: Gross, Kimberly U CIV USARMY CENAB (US); Bonnie Morris; Hawks, Jody (US); Patton, Mark (US); Sengphet J.

Liu; MaryAnn Bogucki - Radford (maryann.bogucki@baesystems.com); Davie, Robert N III CIV USARMY JML LCMC (US); Masson, Alicia M LTC USARMY JMC (US); Pizarro.Luis@epamail.epa.gov; Haines-Eklund, Laurie B CIV

USARMY IMCOM AEC (US); Hendon, Bill (US)

Subject: SWMU 49 LTM Report certified letter

Date: Wednesday, February 15, 2017 3:34:59 AM

Attachments: 17 0900 021 SWMU 49 MNA LTM Year 1 transmittal letter cert.pdf

Jim Cutler, Kurt Kochan, Beth, All,

The subject certified letter is attached.

Thank you for your support of the Radford AAP Installation Restoration Program.

Jim McKenna

Confidentiality Note: This e-mail is Official Correspondence and is For Official Use Only, it is intended only for the person or entity to which it is addressed, and may contain information that is privileged, confidential, sensitive, or otherwise protected from disclosure. If you receive this email in error please notify the sender immediately.

----Original Message----

From: Mckenna, James J CIV (US)

Sent: Tuesday, January 24, 2017 8:27 AM

To: Cutler,Jim <James.Cutler@deq.virginia.gov>; Kochan, Kurt (DEQ) <Kurt.Kochan@deq.virginia.gov>; beth lohman@deq.virginia.gov> <ealohman@deq.virginia.gov>

Cc: 'Gross, Kimberly U CIV USARMY CENAB (US)' <Kimberly.U.Gross@usace.army.mil>; 'Bonnie Morris' <br/>

Subject: SWMU 49 LTM Report

Importance: High

Jim Cutler, Kurt Kochan, Beth,

Note the BSe share file site link below for the subject report that is submitted in accordance with the Correction Action Permit. Also note the contractor will ship hard copies of the subject document with a copy of this email to the POCs and tracking numbers below. Certification will follow by separate letter.

Please see tracking numbers below for the SMWU 49 report:

James L. Cutler, Jr.
Virginia Department of Environmental Quality
629 East Main Street
Richmond, VA 23219
One hard copy/One CD
Tracking #:778256233035

Luis Pizarro

Associate Director, Office of Remediation US Environmental Protection Agency, Region III 1650 Arch Street

Philadelphia, PA 19103-2029 Mail Code: (3LC20) One hard copy/One CD Tracking #: 778256221535

Radford Army Ammunition Plant 4050 Peppers Ferry RD State Rd 114 Attn: Jim McKenna, Army Staff, Bldg 220 Radford, VA 24141 Two hard copies/One CD Tracking #: 778256237085

The document has also been uploaded to the share file site. The link is good for a year.

Caution-https://bseak.sharefile.com/d-s75da6a14eab4cde8

Thank you for your support of the Radford AAP Installation Restoration Program.

Jim McKenna

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#### ORDNANCE SYSTEMS INC.

Radford Army Ammunition Plant 4050 Peppers Ferry Road, P.O. Box 1 Radford, VA 24143 Telephone (540) 639-7631



February 2, 2017

Mr. James L. Cutler, Jr. Virginia Department of Environmental Quality 629 East Main Street Richmond, VA 23219

Subject:

With Certification, Draft Final SWMU 49 Monitored Natural Attenuation Sampling

Year One Report, January 2017 EPA ID# VA1210020730

Dear Mr. Cutler:

Enclosed is the certification for the subject document that was sent to you on January 24, 2017. Also enclosed is the January 24, 2017 transmittal email.

Please coordinate with and provide any questions or comments to myself at 540 639 7005 or Mr. Jim McKenna, Radford AAP Army Staff at 540 731 5782.

Sincerely,

William Hendon, PG, CPG

Wir dell

Safety, Health, & Environmental Manager BAE Systems, Ordnance Systems Inc.

c: Elizabeth Lohman

Virginia Department of Environmental Quality Blue Ridge Regional Office 3019 Peters Creek Road Roanoke, VA 24019

Kurt Kochan

Virginia Department of Environmental Quality Groundwater/Correction Action Program Manager Office of Remediation Programs PO Box 1105 Richmond, VA 23218

Derrick Lopez

U.S. Army Environmental Command Cleanup and Munitions Response Division 2450 Connell Road, Bldg 2264, 1<sup>st</sup> Floor, Room 126 Fort Sam Houston, TX 78234-7664

Luis Pizarro
Associate Director, Office of Remediation
US Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, PA 19103-2029 Mail Code: (3LC20)

Kim Gross Corps of Engineers, Baltimore District ATTN: CENAB-EN-HM 10 South Howard Street Baltimore, MD 21201

bc: Environmental File – 17-0900-021

J. McKenna, ACO Staff Rob Davie-ACO Staff Coordination: J. McKenna

J. Hawks

17-0900-021

#### Concerning the following:

# Radford Army Ammunition Plant Draft Final SWMU 49 Monitored Natural Attenuation Sampling Year One Report January 2017 Site Investigation at Radford Army Ammunition Plant

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

SIGNATURE: PRINTED NAME:

TITLE:

Alicia M. Masson

Lieutenant Colonel, US Army

Commanding

SIGNATURE:

PRINTED NAME:

TITLE:

William M. Barnett

General Manager BAE Systems

#### Hawks, Jody (US)

From: Mckenna, James J CIV (US) <james.j.mckenna16.civ@mail.mil>

Sent: Tuesday, January 24, 2017 8:27 AM

To: Cutler, Jim; Kochan, Kurt (DEQ); beth lohman (ealohman@deq.virginia.gov)

Cc: Gross, Kimberly U CIV USARMY CENAB (US); Bonnie Morris; Hawks, Jody (US); Patton,

Mark (US); Sengphet J. Liu; Bogucki, MaryAnn (US); Davie, Robert N.; Masson, Alicia (RFAAP); Pizarro.Luis@epamail.epa.gov; Haines-Eklund, Laurie B CIV USARMY IMCOM

AEC (US); Hendon, Bill (US)

Subject: SWMU 49 LTM Report

Importance: High

Jim Cutler, Kurt Kochan, Beth,

Note the BSe share file site link below for the subject report that is submitted in accordance with the Correction Action Permit. Also note the contractor will ship hard copies of the subject document with a copy of this email to the POCs and tracking numbers below. Certification will follow by separate letter.

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James L. Cutler, Jr.
Virginia Department of Environmental Quality
629 East Main Street
Richmond, VA 23219
One hard copy/One CD
Tracking #:778256233035

Luis Pizarro

Associate Director, Office of Remediation US Environmental Protection Agency, Region III 1650 Arch Street

Philadelphia, PA 19103-2029 Mail Code: (3LC20) One hard copy/One CD Tracking #: 778256221535

Radford Army Ammunition Plant 4050 Peppers Ferry RD State Rd 114

Attn: Jim McKenna, Army Staff, Bldg 220

Radford, VA 24141 Two hard copies/One CD Tracking #: 778256237085

The document has also been uploaded to the share file site. The link is good for a year.

Caution-https://bseak.sharefile.com/d-s75da6a14eab4cde8

Thank you for your support of the Radford AAP Installation Restoration Program.

#### Jim McKenna

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Cc: Gross, Kimberly U CIV USARMY CENAB (US); Bonnie Morris; Hawks, Jody (US); Patton, Mark (US); Sengphet J.

Liu; MaryAnn Bogucki - Radford (maryann.bogucki@baesystems.com); Davie, Robert N III CIV USARMY JML LCMC (US); Masson, Alicia M LTC USARMY JMC (US); Pizarro.Luis@epamail.epa.gov; Haines-Eklund, Laurie B CIV

USARMY IMCOM AEC (US); Hendon, Bill (US)

Subject: SWMU 49 LTM Report

**Date:** Tuesday, January 24, 2017 4:27:28 AM

Importance: High

Jim Cutler, Kurt Kochan, Beth,

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Jim McKenna

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