Ohio Environmental Protection Agency (Ohio EPA)
And
Ravenna Army Ammunition Plant (RVAAP)
2025 Correspondences

Received May 22, 2025

May 21, 2025

TRANSMITTED ELECTRONICALLY

Kathryn Tait
Environmental Specialist 3
Ohio Adjunct General's Department
Camp James A Garfield JMTC
Attn: Environmental Office (Bldg 1071)
8451 State Route 5
Ravenna, OH 44266

RE: US Army Ammunition Plt RVAAP
Remediation Response
Project Records
Remedial Response
Portage County
ID # 267000859110

Sent via email to: kathryn.s.tait.nfg@army.mil

Subject: **Former Ravenna Army Ammunition Plant**
RVAAP-50 – Atlas Scrap Yard (Former Storage Area (FSA)) – Performance Soil Sampling Memorandum (Memo) for Thermally-treated Soil
Ohio EPA Concurrence

Dear Ms. Tait:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the "Performance Soil Sampling Memorandum (Memo) for Thermally-treated Soil" at the Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio (Camp James A. Garfield)[1]. This document was received at Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) via email on April 16, 2025.

Ohio EPA's DERR reviewed the performance soil results and considers the remedial action complete.

If you have any questions, please contact me at (330) 963-1109, or via email at craig.kowalski@epa.ohio.gov.

Sincerely,

Craig Kowalski

Craig Kowalski
Site Coordinator
Division of Environmental Response and Revitalization

ec: Kevin Sedlak, Army National Guard Directorate
Megan Oravec, Ohio EPA, NEDO DERR
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR
Brian Tucker, Ohio EPA, CO DERR

CK/cm

[1] https://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3526514

Ohio Army National Guard
Camp James A. Garfield Joint Military Training Center
8451 State Route 5, Building 1071
Ravenna, Oho 44266

April 16, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Mr. Craig Kowalski
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: RVAAP-50 – Atlas Scrap Yard (Former Storage Area (FSA)) – Performance Soil Sampling Memorandum (Memo) for Thermally-treated Soil – RVAAP Restoration Program, Camp James A. Garfield JMTC (CJAG), Portage and Trumbull Counties, Ohio – Ohio EPA ID # 267000859110

Dear Mr. Kowalski:

PIKA-Insight, JV completed soil performance sampling of the thermal remediation soil pile at RVAAP-50 Atlas Scrap Yard – Former Storage Area (FSA) on March 24, 2025. Sidewall samples were collected around the perimeter of the treatment pile at multiple vertical levels (bottom, mid, top). Mid-layer pile samples were collected from the top of the pile to a depth of approximately 3.5 feet. Sample analytical results revealed concentrations of benzo(a)pyrene (B(a)P) below the industrial project cleanup goal (CUG) (21.0 mg/kg) except sample ASYpl-160-0006-SO (at location 006 on the figure) with a concentration of 25.7 mg/kg. This area was excavated and placed in a drum and characterized for proper transport and disposal.

The attached table provides the soil sample results, and the figure depicts the layout of sample locations and approximate vertical/depth collection points. PIKA-Insight requests that the Ohio EPA review these performance soil results and consider the remedial action complete to thermally treat B(a)P contamination to achieve Commercial/Industrial Use. If approved, PIKA-Insight will use the soil to backfill the excavation area.

This Memo was prepared for the Army National Guard in support of the RVAAP Restoration Program. Please contact the undersigned at (614)336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak, ARNG Restoration Project Manager, at (330)235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.04.16 07:56:45 -04'00'

Kathryn S. Tait
Environmental Specialist 3
Ohio Army National Guard

cc: Megan Oravec, Ohio EPA
Tom Schneider, Ohio EPA
Kevin Sedlak, ARNG
Steve Kvaal, USACE Louisville

Subject: Remedial Action at RVAAP-50 – Atlas Scrap Yard (FSA) – Performance Soil Sampling Memo

Jeremy Renner, USACE Louisville
Marco Mendoza, PIKA-Insight JV
Jennifer Tierney, Chenega (Admin Record)

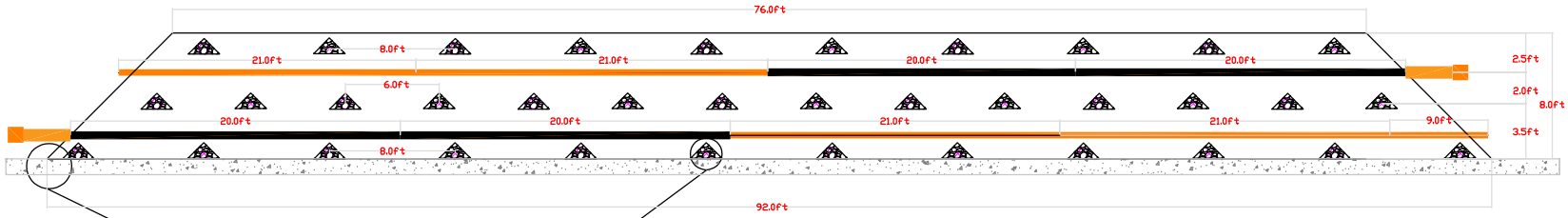
Table 8
Analytical Results - Performance Thermal Pile Soil Samples
RVAAP-50 FSA
Camp James A. Garfield, Portage and Trumbull Counties, Ohio

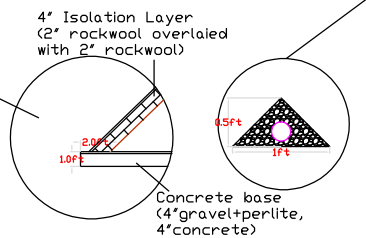
		Sidewall (SW), Top Layer (T), Lower Layer (L), Middle Layer (M), or Duplicate	Analyte:	Benzo(a)pyrene	
			CAS #:	50-32-8	
			Method:	8270E	
			Cleanup Goal (Industrial):	21.0	
			Units:	mg/kg	
Sample ID	Site	Sample	Date Collected	Result	Qual
ASYpl-160-0001-SO	RVAAP-50 FSA (Performance Sampling)	SW, L	3/24/2025	1.1	
ASYpl-160-0002-SO	RVAAP-50 FSA (Performance Sampling)	SW, M	3/24/2025	7.1	
ASYpl-160-0003-SO	RVAAP-50 FSA (Performance Sampling)	SW, L	3/24/2025	1.6	
ASYpl-160-0004-SO	RVAAP-50 FSA (Performance Sampling)	SW, L	3/24/2025	1	
ASYpl-160-0005-SO	RVAAP-50 FSA (Performance Sampling)	SW, M	3/24/2025	1.9	
ASYpl-160-0006-SO	RVAAP-50 FSA (Performance Sampling)	SW, L	3/24/2025	25.7	
ASYpl-160-0007-SO	RVAAP-50 FSA (Performance Sampling)	SW, T	3/24/2025	1	
ASYpl-160-0008-SO	RVAAP-50 FSA (Performance Sampling)	SW, M	3/24/2025	16.5	
ASYpl-160-0009-SO	RVAAP-50 FSA (Performance Sampling)	T	3/24/2025	2.4	
ASYpl-160-0010-SO	RVAAP-50 FSA (Performance Sampling)	T	3/24/2025	7.7	
ASYpl-160-0011-SO	RVAAP-50 FSA (Performance Sampling)	M	3/24/2025	0.046	J
ASYpl-160-0012-SO	RVAAP-50 FSA (Performance Sampling)	M	3/24/2025	0.046	U
ASYpl-160-0013-SO	RVAAP-50 FSA (Performance Sampling)	Duplicate	3/24/2025	1.4	

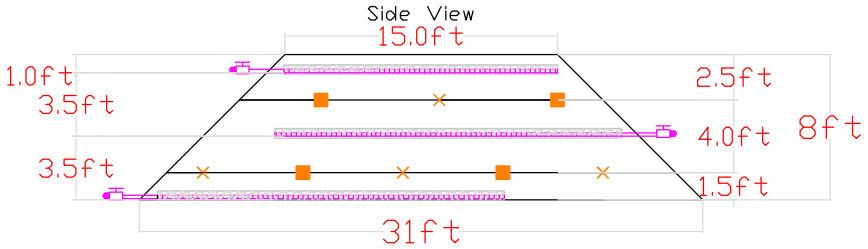
Notes:

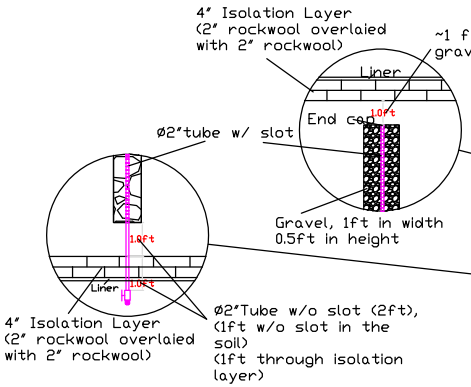
Detected results in **bold**.
Cleanup Goal exceedance highlighted in blue.
J: result estimated
mg/kg: milligram(s) per kilogram
Qual: qualifier
U: not detected at the listed concentration

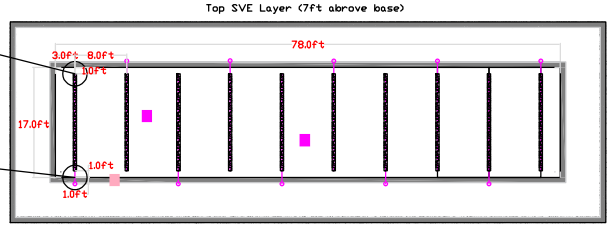
Side View

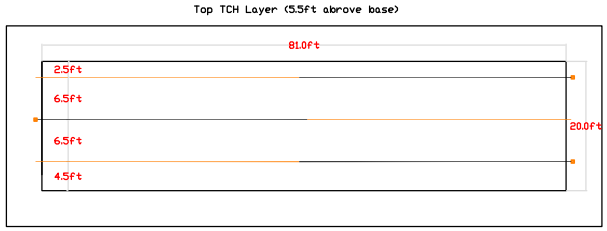


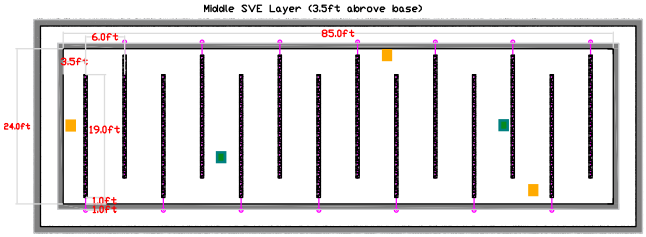


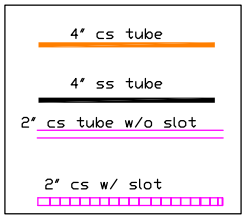


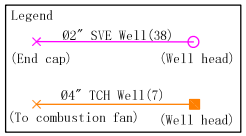


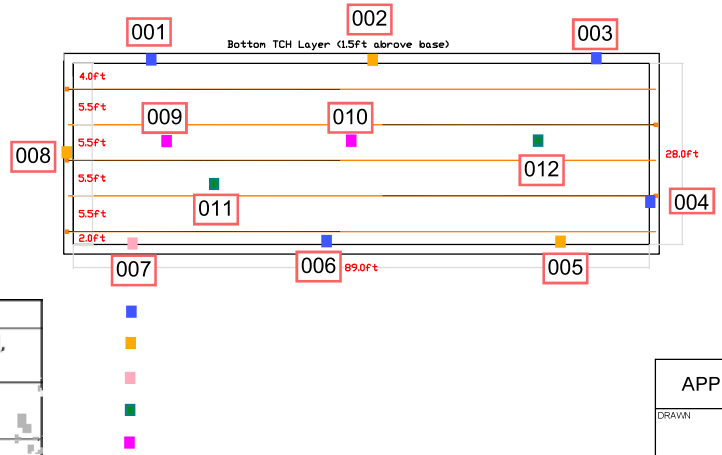


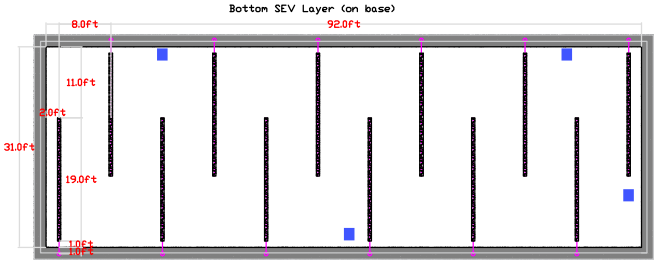












Well Type		Quantity	Total Length(ft)	Length in the Soil (ft)	Slot(ft)
SVE	Top	10	17	16	15
	Middle	14	21	20	19
	Bottom	12	21	20	19
TCH	Top	3	82	81	-
	Middle	5	91	89	-

Steel Materials	#	Note
20ft 4" SS tube	16	16 tubes (8 tubes connects to well head, followed by 8 tubes)
21ft 4" CS tube	19	16 whole tubes; 3 tubes cut into five 9ft
21ft 2" CS tube	36	26x whole tube (19ft slot w/ endcap); 10x cut into 17ft tube (15ft slot w/ endcap)
TCH wellhead	8	
SVE wellhead w/valve	36	

APPROVED	DATE
DRAWN RZ	3/12/24
CHKD XC	3/12/24
APVD XC	3/12/24

GEO Environmental Remediation Company
1500 W KATELLA AVE
ORANGE, CA 92867

TITLE: Figure 5-5: Pile View

SIZE | Project: Ravenna Ohio - EPTD

SCALE | UNITS: FEET & INCHES | SHEET 1 OF 1

Main Site: 301 Fulling Mill Road | Middletown, PA 17057 | Phone: 717-944-5541 | www.alsglobal.com
Associated Site: 20 Riverside Drive | Spring City, PA 19475 | Phone: 610-948-4903 |

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343, NJ PA101

Analytical Results Report For

Insight Environmental Engineering & Construction

Project IEC019|RVAPP-50 AND RVAPP-70 R
Workorder 3407065
Report ID 400615 on 3/27/2025 (Revised report. See Project Notations Section.)

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Mar 25, 2025.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Susan Scherer (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Global.
ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):
Carrie Stock - Tetra Tech
Amy Thomson - Tetra Tech, Inc.
Jim Cirillo - Insight Environmental Engineering & Construction
Marco Mendoza - Insight Environmental Engineering & Construction

Susan Scherer

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Susan Scherer *(ALS Digital Signature)*
Project Coordinator

Sample Summary

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collector	Collection Company
3407065001	ASYpl-160-0001-SO	Solid	03/24/2025 09:45	03/25/2025 09:24		
3407065002	ASYpl-160-0002-SO	Solid	03/24/2025 10:10	03/25/2025 09:24		
3407065003	ASYpl-160-0003-SO	Solid	03/24/2025 10:25	03/25/2025 09:24		
3407065004	ASYpl-160-0004-SO	Solid	03/24/2025 10:40	03/25/2025 09:24		
3407065005	ASYpl-160-0005-SO	Solid	03/24/2025 11:05	03/25/2025 09:24		
3407065006	ASYpl-160-0006-SO	Solid	03/24/2025 11:30	03/25/2025 09:24		
3407065007	ASYpl-160-0007-SO	Solid	03/24/2025 11:45	03/25/2025 09:24		
3407065008	ASYpl-160-0008-SO	Solid	03/24/2025 09:20	03/25/2025 09:24		
3407065009	ASYpl-160-0009-SO	Solid	03/24/2025 13:00	03/25/2025 09:24		
3407065010	ASYpl-160-0010-SO	Solid	03/24/2025 13:15	03/25/2025 09:24		
3407065011	ASYpl-160-0011-SO	Solid	03/24/2025 15:30	03/25/2025 09:24		
3407065012	ASYpl-160-0012-SO	Solid	03/24/2025 15:05	03/25/2025 09:24		
3407065013	ASYpl-160-0013-SO	Solid	03/24/2025 00:00	03/25/2025 09:24		
3407065014	ASYpl-160-RB-032425	Water	03/24/2025 00:00	03/25/2025 09:24	CBC	Collected By Client

Reference

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- Except as qualified, Clean Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 136, including but not limited to the following EPA Method reference revisions:
  EPA 300.1 Rev. 1.0-1997
  EPA 300.0 Rev. 2.1-1993
  EPA 353.2 Rev. 2.0-1993
  EPA 410.4 Rev. 1.0-1993
  EPA 420.4 Rev. 1.0-1993
  EPA 365.1 Rev. 2.0-1993
  EPA 200.7 Rev. 4.4-1994
  EPA 200.8 Rev. 5.4-1994
  EPA 245.1 Rev. 3.0-1994
- Except as qualified, Safe Drinking Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 141.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND) above the MDL
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Practical Quantitation Limit for this Project
ND	Not Detected - indicates that the analyte was Not Detected
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits
#	Please reference the result in the Results Section for analyte-level flags.

Project Notations

Sample Notations

Lab ID	Sample ID

Result Notations

Notation Ref.	
1	The QC sample type MSD for method SW846 8270E was outside the control limits for the analyte Benzo(a)pyrene. The RPD was reported as 33.4 and the upper control limit is 20.
2	The QC sample type DUP for method S2540G-15 was outside the control limits for the analyte Moisture. The RPD was reported as 35.9 and the upper control limit is 10.
3	The surrogate 2,4,6-Tribromophenol for method SW846 8270E was outside of control limits. The % Recovery was reported as 27.5 and the control limits were 39 to 132. This result was reported at a dilution of 1.
4	The surrogate 2,4,6-Tribromophenol for method SW846 8270E was outside of control limits. The % Recovery was reported as 32.3 and the control limits were 39 to 132. This result was reported at a dilution of 1.

Detected Results Summary

Client Sample ID	ASYpl-160-0001-SO	Collected	03/24/2025 09:45
Lab Sample ID	3407065001	Lab Receipt	03/25/2025 09:24

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	1.1	mg/kg	0.075	0.050	0.020	SW846 8270E	#
WET CHEMISTRY							
Moisture	0.2	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	99.8	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYpl-160-0002-SO	Collected	03/24/2025 10:10
Lab Sample ID	3407065002	Lab Receipt	03/25/2025 09:24

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	7.1	mg/kg	0.074	0.049	0.020	SW846 8270E	#
WET CHEMISTRY							
Moisture	2.1	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	97.9	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYpl-160-0003-SO	Collected	03/24/2025 10:25
Lab Sample ID	3407065003	Lab Receipt	03/25/2025 09:24

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	1.6	mg/kg	0.084	0.056	0.022	SW846 8270E	#
WET CHEMISTRY							
Moisture	15.6	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	84.4	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYpl-160-0004-SO	Collected	03/24/2025 10:40
Lab Sample ID	3407065004	Lab Receipt	03/25/2025 09:24

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	1.0	mg/kg	0.073	0.049	0.020	SW846 8270E	#
WET CHEMISTRY							
Moisture	3.3	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	96.7	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYpl-160-0005-SO	Collected	03/24/2025 11:05
Lab Sample ID	3407065005	Lab Receipt	03/25/2025 09:24

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	1.9	mg/kg	0.092	0.061	0.024	SW846 8270E	#
WET CHEMISTRY							
Moisture	31.7	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	68.3	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYpl-160-0006-SO	Collected	03/24/2025 11:30
Lab Sample ID	3407065006	Lab Receipt	03/25/2025 09:24

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	25.7	mg/kg	1.0	0.68	0.27	SW846 8270E	#
WET CHEMISTRY							
Moisture	29.6	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	70.4	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYpl-160-0007-SO	Collected	03/24/2025 11:45
Lab Sample ID	3407065007	Lab Receipt	03/25/2025 09:24

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	1.0	mg/kg	0.074	0.049	0.020	SW846 8270E	#
WET CHEMISTRY							
Moisture	0.1J	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	99.9	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYpl-160-0008-SO	Collected	03/24/2025 09:20
Lab Sample ID	3407065008	Lab Receipt	03/25/2025 09:24

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	16.5	mg/kg	0.75	0.50	0.20	SW846 8270E	#
WET CHEMISTRY							
Moisture	0.5	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	99.5	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYpl-160-0009-SO	Collected	03/24/2025 13:00
Lab Sample ID	3407065009	Lab Receipt	03/25/2025 09:24

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	2.4	mg/kg	0.072	0.048	0.019	SW846 8270E	#
WET CHEMISTRY							
Moisture	1.8	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	98.2	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYpl-160-0010-SO	Collected	03/24/2025 13:15
Lab Sample ID	3407065010	Lab Receipt	03/25/2025 09:24

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	7.7	mg/kg	0.071	0.047	0.019	SW846 8270E	#
WET CHEMISTRY							
Moisture	2.3	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	97.7	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYpl-160-0011-SO	Collected	03/24/2025 15:30
Lab Sample ID	3407065011	Lab Receipt	03/25/2025 09:24

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	0.046J	mg/kg	0.064	0.042	0.017	SW846 8270E	#
WET CHEMISTRY							
Moisture	0.1	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	99.9	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYpl-160-0012-SO	Collected	03/24/2025 15:05
Lab Sample ID	3407065012	Lab Receipt	03/25/2025 09:24

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
WET CHEMISTRY							
Moisture	0.3	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	99.7	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYpl-160-0013-SO	Collected	03/24/2025 00:00
Lab Sample ID	3407065013	Lab Receipt	03/25/2025 09:24

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	1.4	mg/kg	0.072	0.048	0.019	SW846 8270E	#
WET CHEMISTRY							
Moisture	1.5	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	98.5	%	0.1	0.1	0.01	S2540G-15	#

Results

Client Sample ID	ASYpl-160-0001-SO	Collected	03/24/2025 09:45
Lab Sample ID	3407065001	Lab Receipt	03/25/2025 09:24

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	1.1		mg/kg	0.075	0.050	0.020	SW846 8270E	1	03/26/2025 09:26	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
			–		
2-Fluorobiphenyl	321-60-8	72.7%	44 –115	03/26/2025 09:26	
			–		
Nitrobenzene-d5	4165-60-0	81.9%	37 –122	03/26/2025 09:26	
			–		
Terphenyl-d14	98904-43-9	90.3%	54 –127	03/26/2025 09:26	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	0.2		%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A
Total Solids	99.8		%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A

Results

Client Sample ID	ASYpl-160-0002-SO	Collected	03/24/2025 10:10
Lab Sample ID	3407065002	Lab Receipt	03/25/2025 09:24

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	7.1		mg/kg	0.074	0.049	0.020	SW846 8270E	1	03/26/2025 09:51	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	59.2%	39 –132	03/26/2025 09:51	
2-Fluorobiphenyl	321-60-8	60.7%	44 –115	03/26/2025 09:51	
2-Fluorophenol	367-12-4	53.4%	35 –115	03/26/2025 09:51	
Nitrobenzene-d5	4165-60-0	68.5%	37 –122	03/26/2025 09:51	
Phenol-d5	4165-62-2	56.6%	33 –122	03/26/2025 09:51	
Terphenyl-d14	98904-43-9	73.4%	54 –127	03/26/2025 09:51	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	2.1		%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A
Total Solids	97.9		%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A

Results

Client Sample ID	ASYpl-160-0003-SO	Collected	03/24/2025 10:25
Lab Sample ID	3407065003	Lab Receipt	03/25/2025 09:24

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	1.6		mg/kg	0.084	0.056	0.022	SW846 8270E	1	03/26/2025 10:17	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	67.7%	39 –132	03/26/2025 10:17	
2-Fluorobiphenyl	321-60-8	66.6%	44 –115	03/26/2025 10:17	
2-Fluorophenol	367-12-4	64%	35 –115	03/26/2025 10:17	
Nitrobenzene-d5	4165-60-0	74.8%	37 –122	03/26/2025 10:17	
Phenol-d5	4165-62-2	66.4%	33 –122	03/26/2025 10:17	
Terphenyl-d14	98904-43-9	76.5%	54 –127	03/26/2025 10:17	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	15.6		%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A
Total Solids	84.4		%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A

Results

Client Sample ID	ASYpl-160-0004-SO	Collected	03/24/2025 10:40
Lab Sample ID	3407065004	Lab Receipt	03/25/2025 09:24

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	1.0	1	mg/kg	0.073	0.049	0.020	SW846 8270E	1	03/26/2025 10:42	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	58.8%	39 –132	03/26/2025 10:42	
2-Fluorobiphenyl	321-60-8	69.3%	44 –115	03/26/2025 10:42	
2-Fluorophenol	367-12-4	55.6%	35 –115	03/26/2025 10:42	
Nitrobenzene-d5	4165-60-0	75.8%	37 –122	03/26/2025 10:42	
Phenol-d5	4165-62-2	59.2%	33 –122	03/26/2025 10:42	
Terphenyl-d14	98904-43-9	80.6%	54 –127	03/26/2025 10:42	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	3.3	2	%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A
Total Solids	96.7		%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A

Results

Client Sample ID	ASYpl-160-0005-SO	Collected	03/24/2025 11:05
Lab Sample ID	3407065005	Lab Receipt	03/25/2025 09:24

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	1.9		mg/kg	0.092	0.061	0.024	SW846 8270E	1	03/26/2025 11:58	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	46.3%	39 –132	03/26/2025 11:58	
2-Fluorobiphenyl	321-60-8	58%	44 –115	03/26/2025 11:58	
2-Fluorophenol	367-12-4	51.6%	35 –115	03/26/2025 11:58	
Nitrobenzene-d5	4165-60-0	67.8%	37 –122	03/26/2025 11:58	
Phenol-d5	4165-62-2	51.2%	33 –122	03/26/2025 11:58	
Terphenyl-d14	98904-43-9	60.6%	54 –127	03/26/2025 11:58	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	31.7		%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A
Total Solids	68.3		%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A

Results

Client Sample ID	ASYpl-160-0006-SO	Collected	03/24/2025 11:30
Lab Sample ID	3407065006	Lab Receipt	03/25/2025 09:24

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	25.7		mg/kg	1.0	0.68	0.27	SW846 8270E	10	03/26/2025 15:45	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	45.7%	39 –132	03/26/2025 15:45	
2,4,6-Tribromophenol	118-79-6	62.8%	39 –132	03/26/2025 12:23	
2-Fluorobiphenyl	321-60-8	66.5%	44 –115	03/26/2025 15:45	
2-Fluorobiphenyl	321-60-8	61.9%	44 –115	03/26/2025 12:23	
2-Fluorophenol	367-12-4	61.1%	35 –115	03/26/2025 15:45	
2-Fluorophenol	367-12-4	57.4%	35 –115	03/26/2025 12:23	
Nitrobenzene-d5	4165-60-0	69.6%	37 –122	03/26/2025 15:45	
Nitrobenzene-d5	4165-60-0	69.4%	37 –122	03/26/2025 12:23	
Phenol-d5	4165-62-2	64.5%	33 –122	03/26/2025 15:45	
Phenol-d5	4165-62-2	60.1%	33 –122	03/26/2025 12:23	
Terphenyl-d14	98904-43-9	76.9%	54 –127	03/26/2025 15:45	
Terphenyl-d14	98904-43-9	72.4%	54 –127	03/26/2025 12:23	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	29.6		%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A
Total Solids	70.4		%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A

Results

Client Sample ID	ASYpl-160-0007-SO	Collected	03/24/2025 11:45
Lab Sample ID	3407065007	Lab Receipt	03/25/2025 09:24

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	1.0		mg/kg	0.074	0.049	0.020	SW846 8270E	1	03/26/2025 12:48	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	63.2%	39 –132	03/26/2025 12:48	
2-Fluorobiphenyl	321-60-8	56.7%	44 –115	03/26/2025 12:48	
2-Fluorophenol	367-12-4	54.2%	35 –115	03/26/2025 12:48	
Nitrobenzene-d5	4165-60-0	62.6%	37 –122	03/26/2025 12:48	
Phenol-d5	4165-62-2	56.1%	33 –122	03/26/2025 12:48	
Terphenyl-d14	98904-43-9	75.8%	54 –127	03/26/2025 12:48	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	0.1J	J	%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A
Total Solids	99.9		%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A

Results

Client Sample ID	ASYpl-160-0008-SO	Collected	03/24/2025 09:20
Lab Sample ID	3407065008	Lab Receipt	03/25/2025 09:24

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	16.5		mg/kg	0.75	0.50	0.20	SW846 8270E	10	03/26/2025 16:11	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	42.5%	39 –132	03/26/2025 16:11	
2,4,6-Tribromophenol	118-79-6	67.1%	39 –132	03/26/2025 13:14	
2-Fluorobiphenyl	321-60-8	59.6%	44 –115	03/26/2025 16:11	
2-Fluorobiphenyl	321-60-8	62.7%	44 –115	03/26/2025 13:14	
2-Fluorophenol	367-12-4	49.9%	35 –115	03/26/2025 16:11	
2-Fluorophenol	367-12-4	54.1%	35 –115	03/26/2025 13:14	
Nitrobenzene-d5	4165-60-0	58.1%	37 –122	03/26/2025 16:11	
Nitrobenzene-d5	4165-60-0	67.3%	37 –122	03/26/2025 13:14	
Phenol-d5	4165-62-2	53.3%	33 –122	03/26/2025 16:11	
Phenol-d5	4165-62-2	58.2%	33 –122	03/26/2025 13:14	
Terphenyl-d14	98904-43-9	71.6%	54 –127	03/26/2025 16:11	
Terphenyl-d14	98904-43-9	78.7%	54 –127	03/26/2025 13:14	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	0.5		%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A
Total Solids	99.5		%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A

Results

Client Sample ID	ASYpl-160-0009-SO	Collected	03/24/2025 13:00
Lab Sample ID	3407065009	Lab Receipt	03/25/2025 09:24

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	2.4		mg/kg	0.072	0.048	0.019	SW846 8270E	1	03/26/2025 13:39	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	55.2%	39 –132	03/26/2025 13:39	
2-Fluorobiphenyl	321-60-8	55.4%	44 –115	03/26/2025 13:39	
2-Fluorophenol	367-12-4	52.6%	35 –115	03/26/2025 13:39	
Nitrobenzene-d5	4165-60-0	62.1%	37 –122	03/26/2025 13:39	
Phenol-d5	4165-62-2	54.4%	33 –122	03/26/2025 13:39	
Terphenyl-d14	98904-43-9	65.5%	54 –127	03/26/2025 13:39	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	1.8		%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A
Total Solids	98.2		%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A

Results

Client Sample ID	ASYpl-160-0010-SO	Collected	03/24/2025 13:15
Lab Sample ID	3407065010	Lab Receipt	03/25/2025 09:24

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	7.7		mg/kg	0.071	0.047	0.019	SW846 8270E	1	03/26/2025 14:04	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	44.9%	39 –132	03/26/2025 16:36	
2,4,6-Tribromophenol	118-79-6	61.5%	39 –132	03/26/2025 14:04	
2-Fluorobiphenyl	321-60-8	57.6%	44 –115	03/26/2025 16:36	
2-Fluorobiphenyl	321-60-8	59.5%	44 –115	03/26/2025 14:04	
2-Fluorophenol	367-12-4	53%	35 –115	03/26/2025 16:36	
2-Fluorophenol	367-12-4	54%	35 –115	03/26/2025 14:04	
Nitrobenzene-d5	4165-60-0	61.4%	37 –122	03/26/2025 16:36	
Nitrobenzene-d5	4165-60-0	63.4%	37 –122	03/26/2025 14:04	
Phenol-d5	4165-62-2	55%	33 –122	03/26/2025 16:36	
Phenol-d5	4165-62-2	56.2%	33 –122	03/26/2025 14:04	
Terphenyl-d14	98904-43-9	69.8%	54 –127	03/26/2025 16:36	
Terphenyl-d14	98904-43-9	74.4%	54 –127	03/26/2025 14:04	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	2.3		%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A
Total Solids	97.7		%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A

Results

Client Sample ID	ASYpl-160-0011-SO	Collected	03/24/2025 15:30
Lab Sample ID	3407065011	Lab Receipt	03/25/2025 09:24

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	0.046J	J	mg/kg	0.064	0.042	0.017	SW846 8270E	1	03/26/2025 14:30	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	27.5*%	39 –132	03/26/2025 14:30	3
2-Fluorobiphenyl	321-60-8	62%	44 –115	03/26/2025 14:30	
2-Fluorophenol	367-12-4	45.7%	35 –115	03/26/2025 14:30	
Nitrobenzene-d5	4165-60-0	68.5%	37 –122	03/26/2025 14:30	
Phenol-d5	4165-62-2	56.9%	33 –122	03/26/2025 14:30	
Terphenyl-d14	98904-43-9	77.5%	54 –127	03/26/2025 14:30	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	0.1		%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A
Total Solids	99.9		%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A

Results

Client Sample ID	ASYpl-160-0012-SO	Collected	03/24/2025 15:05
Lab Sample ID	3407065012	Lab Receipt	03/25/2025 09:24

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	0.046U	U	mg/kg	0.068	0.046	0.018	SW846 8270E	1	03/26/2025 14:55	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	32.3*%	39 –132	03/26/2025 14:55	4
2-Fluorobiphenyl	321-60-8	56%	44 –115	03/26/2025 14:55	
2-Fluorophenol	367-12-4	38.4%	35 –115	03/26/2025 14:55	
Nitrobenzene-d5	4165-60-0	61.7%	37 –122	03/26/2025 14:55	
Phenol-d5	4165-62-2	49.4%	33 –122	03/26/2025 14:55	
Terphenyl-d14	98904-43-9	74.1%	54 –127	03/26/2025 14:55	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	0.3		%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A
Total Solids	99.7		%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A

Results

Client Sample ID	ASYpl-160-0013-SO	Collected	03/24/2025 00:00
Lab Sample ID	3407065013	Lab Receipt	03/25/2025 09:24

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	1.4		mg/kg	0.072	0.048	0.019	SW846 8270E	1	03/26/2025 15:20	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	52.8%	39 –132	03/26/2025 15:20	
2-Fluorobiphenyl	321-60-8	63.3%	44 –115	03/26/2025 15:20	
2-Fluorophenol	367-12-4	49.7%	35 –115	03/26/2025 15:20	
Nitrobenzene-d5	4165-60-0	71%	37 –122	03/26/2025 15:20	
Phenol-d5	4165-62-2	53.4%	33 –122	03/26/2025 15:20	
Terphenyl-d14	98904-43-9	71.9%	54 –127	03/26/2025 15:20	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	1.5		%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A
Total Solids	98.5		%	0.1	0.1	0.01	S2540G-15	1	03/25/2025 21:59	LMD	A

Results

Client Sample ID	ASYpl-160-RB-032425	Collected	03/24/2025 00:00
Lab Sample ID	3407065014	Lab Receipt	03/25/2025 09:24

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	1.0U	U	ug/L	2.0	1.0	0.25	SW846 8270E	1	03/27/2025 00:54	M1O	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	75.1%	43 –140	03/27/2025 00:54	
2-Fluorobiphenyl	321-60-8	72.3%	44 –119	03/27/2025 00:54	
2-Fluorophenol	367-12-4	44.9%	19 –119	03/27/2025 00:54	
Nitrobenzene-d5	4165-60-0	74%	44 –120	03/27/2025 00:54	
Phenol-d5	4165-62-2	36.1%	13 –49	03/27/2025 00:54	
Terphenyl-d14	98904-43-9	79.7%	50 –134	03/27/2025 00:54	

Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3407065001	ASYpl-160-0001-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3407065002	ASYpl-160-0002-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3407065003	ASYpl-160-0003-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3407065004	ASYpl-160-0004-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3407065005	ASYpl-160-0005-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3407065006	ASYpl-160-0006-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3407065007	ASYpl-160-0007-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3407065008	ASYpl-160-0008-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3407065009	ASYpl-160-0009-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3407065010	ASYpl-160-0010-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3407065011	ASYpl-160-0011-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3407065012	ASYpl-160-0012-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3407065013	ASYpl-160-0013-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3407065014	ASYpl-160-RB-032425	SW846 8270E	SW846 3510C	

QUALITY CONTROL SAMPLES

SEMIVOLATILES

QC Batch

QC Batch	1410906	Prep Method	SW846 3546
Date	03/25/2025 00:20	Analysis Method	SW846 8270E
Tech.	J1H		

Associated Samples

3407065008	3407065009	3407065010	3407065011
3407065012	3407065013	3407065001	3407065002
3407065003	3407065004	3407065005	3407065006
3407065007			

Method Blank 3960778 (MB) Created on 03/25/2025 11:28 For QC Batch 1410906

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
Benzo(a)pyrene	50-32-8	BLK	0.050U	mg/kg	0.075	U

SURROGATES

Compound	CAS No		Result (ug/kg)	Expected (ug/kg)	Rec. (%)	Limits (%)	Qualifiers
2,4,6-Tribromophenol	118-79-6	BLK	3530	5000	70.7	39 - 132	
2-Fluorobiphenyl	321-60-8	BLK	1930	2500	77.1	44 - 115	
2-Fluorophenol	367-12-4	BLK	3810	5000	76.3	35 - 115	
Nitrobenzene-d5	4165-60-0	BLK	2140	2500	85.4	37 - 122	
Phenol-d5	4165-62-2	BLK	3960	5000	79.3	33 - 122	
Terphenyl-d14	98904-43-9	BLK	2320	2500	92.8	54 - 127	

Lab Control Standard 3960779 (LCS) Created on 03/25/2025 11:28 For QC Batch 1410906

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Benzo(a)pyrene	50-32-8	LCS	2.2		2.50	87.4	45 - 129		

SURROGATES

Compound	CAS No		Result (ug/kg)	Expected (ug/kg)	Rec. (%)	Limits (%)	Qualifiers
2,4,6-Tribromophenol	118-79-6	LCS	3840	5000	76.8	39 - 132	
2-Fluorobiphenyl	321-60-8	LCS	1720	2500	68.9	44 - 115	
2-Fluorophenol	367-12-4	LCS	3580	5000	71.6	35 - 115	
Nitrobenzene-d5	4165-60-0	LCS	1890	2500	75.4	37 - 122	
Phenol-d5	4165-62-2	LCS	3670	5000	73.4	33 - 122	
Terphenyl-d14	98904-43-9	LCS	2160	2500	86.4	54 - 127	

Matrix Spike 3960780 (MS) 3407065004 For QC Batch 1410906

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Matrix Spike Duplicate 3960781 (MSD) 3407065004 For QC Batch 1410906

QUALITY CONTROL SAMPLES

SEMIVOLATILES (cont.)

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Benzo(a)pyrene	50-32-8	MS	3	1	2.20	88.7	45 - 129		
Benzo(a)pyrene	50-32-8	MSD	2.1	1	2.10	54	45 - 129	RPD 33.40* (Max-20)	

SURROGATES

Compound	CAS No		Result (ug/kg)	Expected (ug/kg)	Rec. (%)	Limits (%)	Qualifiers
2,4,6-Tribromophenol	118-79-6	MS	3070	4460	68.8	39 - 132	
2,4,6-Tribromophenol	118-79-6	MSD	2310	4170	55.5	39 - 132	
2-Fluorobiphenyl	321-60-8	MS	1510	2230	67.8	44 - 115	
2-Fluorobiphenyl	321-60-8	MSD	1130	2080	54	44 - 115	
2-Fluorophenol	367-12-4	MS	2610	4460	58.4	35 - 115	
2-Fluorophenol	367-12-4	MSD	1990	4170	47.7	35 - 115	
Nitrobenzene-d5	4165-60-0	MS	1700	2230	75.9	37 - 122	
Nitrobenzene-d5	4165-60-0	MSD	1220	2080	58.8	37 - 122	
Phenol-d5	4165-62-2	MS	2760	4460	61.8	33 - 122	
Phenol-d5	4165-62-2	MSD	2090	4170	50.2	33 - 122	
Terphenyl-d14	98904-43-9	MS	1770	2230	79.5	54 - 127	
Terphenyl-d14	98904-43-9	MSD	1360	2080	65.2	54 - 127	

QC Batch

QC Batch	1410962	Prep Method	SW846 3510C
Date	03/26/2025 08:10	Analysis Method	SW846 8270E
Tech.	RMF		

Associated Samples

3407065014

Method Blank 3960911 (MB) Created on 03/25/2025 14:23 For QC Batch 1410962

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
Benzo(a)pyrene	50-32-8	BLK	1.0U	ug/L	2.0	U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2,4,6-Tribromophenol	118-79-6	BLK	78.3	100	78.3	43 - 140	
2-Fluorobiphenyl	321-60-8	BLK	30.9	50	61.8	44 - 119	
2-Fluorophenol	367-12-4	BLK	48.4	100	48.4	19 - 119	
Nitrobenzene-d5	4165-60-0	BLK	35.1	50	70.2	44 - 120	
Phenol-d5	4165-62-2	BLK	37	100	37	13 - 49	
Terphenyl-d14	98904-43-9	BLK	36.1	50	72.1	50 - 134	

QUALITY CONTROL SAMPLES

SEMIVOLATILES (cont.)

Lab Control Standard 3960912 (LCS) Created on 03/25/2025 14:23 For QC Batch 1410962

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Benzo(a)pyrene	50-32-8	LCS	41.3		50	82.6	54 - 128		

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2,4,6-Tribromophenol	118-79-6	LCS	82.5	100	82.5	43 - 140	
2-Fluorobiphenyl	321-60-8	LCS	32.6	50	65.2	44 - 119	
2-Fluorophenol	367-12-4	LCS	48	100	48	19 - 119	
Nitrobenzene-d5	4165-60-0	LCS	35.3	50	70.6	44 - 120	
Phenol-d5	4165-62-2	LCS	37.2	100	37.2	13 - 49	
Terphenyl-d14	98904-43-9	LCS	31.4	50	62.8	50 - 134	

QUALITY CONTROL SAMPLES

WET CHEMISTRY

QC Batch

QC Batch	1411094	Prep Method	N/A
Date	N/A	Analysis Method	S2540G-15
Tech.			

Associated Samples

3407065008	3407065009	3407065010	3407065011
3407065012	3407065013	3407065001	3407065002
3407065003	3407065004	3407065005	3407065006
3407065007			

Duplicate 3961043 (DUP) 3407080011 (non-Project Sample) For QC Batch 1411094

****NOTE - The Original Result and Duplicate Result shown below are raw results and are only used for the purpose of calculating Sample Duplicate percent recoveries. This result is not a final value and cannot be used as such.

RESULTS

Compound	CAS No		Result (%)	Orig. Result (%)			Qualifiers
Moisture	MOISTURE	DUP	18.6634	18.2067	RPD	2.48 (Max-10)	
Total Solids	TSP	DUP	81.3365	81.7932	RPD	0.56 (Max-5)	

Duplicate 3961044 (DUP) 3406925004 (non-Project Sample) For QC Batch 1411094

****NOTE - The Original Result and Duplicate Result shown below are raw results and are only used for the purpose of calculating Sample Duplicate percent recoveries. This result is not a final value and cannot be used as such.

RESULTS

Compound	CAS No		Result (%)	Orig. Result (%)			Qualifiers
Moisture	MOISTURE	DUP	98.0650	98.4341	RPD	0.38 (Max-10)	
Total Solids	TSP	DUP	1.9349	1.5658	RPD	21.10* (Max-5)	

Duplicate 3961045 (DUP) 3406925006 (non-Project Sample) For QC Batch 1411094

****NOTE - The Original Result and Duplicate Result shown below are raw results and are only used for the purpose of calculating Sample Duplicate percent recoveries. This result is not a final value and cannot be used as such.

RESULTS

Compound	CAS No		Result (%)	Orig. Result (%)			Qualifiers
Moisture	MOISTURE	DUP	98.0607	98.2456	RPD	0.19 (Max-10)	
Total Solids	TSP	DUP	1.9392	1.7543	RPD	10* (Max-5)	

Duplicate 3961046 (DUP) 3407124002 (non-Project Sample) For QC Batch 1411094

****NOTE - The Original Result and Duplicate Result shown below are raw results and are only used for the purpose of calculating Sample Duplicate percent recoveries. This result is not a final value and cannot be used as such.

QUALITY CONTROL SAMPLES

WET CHEMISTRY (cont.)

RESULTS

Compound	CAS No		Result (%)	Orig. Result (%)			Qualifiers
Moisture	MOISTURE	DUP	7.21	7.3770	RPD	2.29 (Max-10)	
Total Solids	TSP	DUP	92.7899	92.6229	RPD	0.18 (Max-5)	

Duplicate 3961047 (DUP) 3407191001 (non-Project Sample) For QC Batch 1411094

****NOTE - The Original Result and Duplicate Result shown below are raw results and are only used for the purpose of calculating Sample Duplicate percent recoveries. This result is not a final value and cannot be used as such.

RESULTS

Compound	CAS No		Result (%)	Orig. Result (%)			Qualifiers
Moisture	MOISTURE	DUP	97.2083	97.6320	RPD	0.43 (Max-10)	
Total Solids	TSP	DUP	2.7916	2.3679	RPD	16.40* (Max-5)	

Duplicate 3961041 (DUP) 3407065004 For QC Batch 1411094

****NOTE - The Original Result and Duplicate Result shown below are raw results and are only used for the purpose of calculating Sample Duplicate percent recoveries. This result is not a final value and cannot be used as such.

RESULTS

Compound	CAS No		Result (%)	Orig. Result (%)			Qualifiers
Moisture	MOISTURE	DUP	2.3142	3.3266	RPD	35.90* (Max-10)	
Total Solids	TSP	DUP	97.6857	96.6733	RPD	1.04 (Max-5)	

Duplicate 3961042 (DUP) 3407065002 For QC Batch 1411094

****NOTE - The Original Result and Duplicate Result shown below are raw results and are only used for the purpose of calculating Sample Duplicate percent recoveries. This result is not a final value and cannot be used as such.

RESULTS

Compound	CAS No		Result (%)	Orig. Result (%)			Qualifiers
Moisture	MOISTURE	DUP	2.1003	2.0512	RPD	2.37 (Max-10)	
Total Solids	TSP	DUP	97.8996	97.9487	RPD	0.05 (Max-5)	

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3407065001	ASYpl-160-0001-SO	SW846 3546 N/A	1410906 N/A	03/25/2025 00:20 N/A	J1H	SW846 8270E S2540G-15	1411339 1411094
3407065002	ASYpl-160-0002-SO	SW846 3546 N/A	1410906 N/A	03/25/2025 00:20 N/A	J1H	SW846 8270E S2540G-15	1411339 1411094
3407065003	ASYpl-160-0003-SO	SW846 3546 N/A	1410906 N/A	03/25/2025 00:20 N/A	J1H	SW846 8270E S2540G-15	1411339 1411094
3407065004	ASYpl-160-0004-SO	SW846 3546 N/A	1410906 N/A	03/25/2025 00:20 N/A	J1H	SW846 8270E S2540G-15	1411339 1411094
3407065005	ASYpl-160-0005-SO	SW846 3546 N/A	1410906 N/A	03/25/2025 00:20 N/A	J1H	SW846 8270E S2540G-15	1411339 1411094
3407065006	ASYpl-160-0006-SO	SW846 3546 N/A	1410906 N/A	03/25/2025 00:20 N/A	J1H	SW846 8270E S2540G-15	1411339 1411094
3407065007	ASYpl-160-0007-SO	SW846 3546 N/A	1410906 N/A	03/25/2025 00:20 N/A	J1H	SW846 8270E S2540G-15	1411339 1411094
3407065008	ASYpl-160-0008-SO	SW846 3546 N/A	1410906 N/A	03/25/2025 00:20 N/A	J1H	SW846 8270E S2540G-15	1411339 1411094
3407065009	ASYpl-160-0009-SO	SW846 3546 N/A	1410906 N/A	03/25/2025 00:20 N/A	J1H	SW846 8270E S2540G-15	1411339 1411094
3407065010	ASYpl-160-0010-SO	SW846 3546 N/A	1410906 N/A	03/25/2025 00:20 N/A	J1H	SW846 8270E S2540G-15	1411339 1411094
3407065011	ASYpl-160-0011-SO	SW846 3546 N/A	1410906 N/A	03/25/2025 00:20 N/A	J1H	SW846 8270E S2540G-15	1411339 1411094
3407065012	ASYpl-160-0012-SO	SW846 3546 N/A	1410906 N/A	03/25/2025 00:20 N/A	J1H	SW846 8270E S2540G-15	1411339 1411094
3407065013	ASYpl-160-0013-SO	SW846 3546 N/A	1410906 N/A	03/25/2025 00:20 N/A	J1H	SW846 8270E S2540G-15	1411339 1411094
3407065014	ASYpl-160-RB-032425	SW846 3510C	1410962	03/26/2025 08:10	RMF	SW846 8270E	1411435

3407065
Logged By: MJE
PM: SJB

CHAIN OF CUSTODY

NO. 03242025-01

Project No:	Facility:	Project Manger:	Phone:	Laboratory Name and Contact:
PO 4-40008	CJAG - Site 50 (FSA)	Jim Goerdt	(412) 443-0244	ALS Global / Susan Scherer (717-702-2245)
Samplers: Sarah Mitcheltree		Field Ops. Leader: Sarah Mitcheltree	Phone: (330) 207-6180	Address: 301 Fulling Mill Road
		FedEx Airbill:		City, State, Zip: Middletown, PA 17057
		Container Type: 4 oz glass jar	G	
TAT: 2-day		Preservative Used:	~~<8°C~~ UNP MJE 3/25/25	

Date Year: 2025	Time	Sample ID	Location ID	Top Depth (FT)	Bottom Depth (FT)	Matrix (GW, SO, SW, QC)	Grab, Composite (G, C)	Total No. of Containers	ANALYSIS	BaP 8270E						Comments
3/24	0945	ASYpl-160-0001-SO	0001	2"	12"	SO	G	1		1						
3/24	1010	ASYpl-160-0002-SO	0002	3"	12"	SO	G	1		1						
3/24	1025	ASYpl-160-0003-SO	0003	3"	12"	SO	G	1		1						
3/24	1040	ASYpl-160-0004-SO	0004	3"	12"	SO	G	1		1						
3/24	1105	ASYpl-160-0005-SO	0005	3"	12"	SO	G	1		1						
3/24	1130	ASYpl-160-0006-SO	0006	3"	12"	SO	G	1		1						
3/24	1145	ASYpl-160-0007-SO	0007	3"	12"	SO	G	1		1						
3/24	0920	ASYpl-160-0008-SO	0008	3"	12"	SO	G	1		1						
3/24	1300	ASYpl-160-0009-SO	0009	1'	1.5'	SO	G	1		1						
3/24	1315	ASYpl-160-0010-SO	0010	1'	1.5'	SO	G	1		1						
3/24	~~1340~~ 530	ASYpl-160-0011-SO	0011	3'	3.5'	SO	G	1		1						
3/24	1505	ASYpl-160-0012-SO	0012	3'	3.5'	SO	G	1		1						
3/24	0000	ASYpl-160-0013-SO	0013	QC	QC	SO	G	1		1						Field Duplicate
3/24	1550	ASYpl-160-RB-032425	NA	---	---	Water	NA	2		2						Equipment Rinsate

1. Relinquished By:	Date: 3/24/25	Time: 1745	1. Received By: Fedex	Date:	Time:
2. Relinquished By: Fedex	Date: 3/25/25	Time: 924	2. Received By:	Date: 3/25/25	Time: 924

Comments:

CoC Sealed 4° TH649

286794295981

Middletown Sample Condition Form

Client Insight Workorder 3407065

Temp °C 4° Therm ID 649 Ice? (Y) N N/A Initials & Date MJE 3/25/25

(Fedex) UPS Client ALS Other Tracking # 286794295981

	Yes	No[1]	N/A	Comments
Cooler Custody Seals present & intact	X			
Sample Custody Seals present & intact			X	
Chain-of-Custody present	X			
Sample collector name present *If not present, must contact PM/client to request name.*	X			
COC/bottle labels complete & in agreement		X		
•Sample location	X			
•Date and time of sample collection	X			
•Type(s) of preservation		X		UC
•Number of containers	X			
•Composite or grab	X			
•Matrix	X			
Proper containers, preservation, and volume per method	X			
Received within hold time	X			
Containers intact	X			
Trip blanks present (EPA 504, EPA 524)			X	
Field blanks present (Hg 1631, PFAS)			X	
NJ ≤ 4 Days			X	
CR6 Samples Filtered			X	
OP Samples Filtered			X	
WV Containers 0-6°C			X	
SDWA compliance reporting			X	

[1] *If No, provide comment*

Rad Screen (uCi) _____

PM - PM to contact client
N/A - Not Applicable
UC - Updated coc with missing info

Review Comments:

_____

_____

_____

3/27/2025 2:18 PM

March 17, 2025

Received March 18, 2024

TRANSMITTED ELECTRONICALLY

Kevin Sedlak
Camp James A. Garfield JMTC
Attn: Environmental Office (Bldg 1071)
8451 State Route 5
Ravenna OH 44266

Sent via email to:
Kevin.m.sedlak.ctr@army.mil

RE: US Army Ammunition Plt RVAAP
Remediation Response
Project Records
Remedial Response
Portage County
ID # 267000859110

Subject: Former Ravenna Army Ammunition Plant
Approval Army responses to Ohio EPA Comments on the Draft Wetlands Restoration/Mitigation Plan for RVAAP-50 Atlas Scrap Yard
RVAAP-50 Atlas Scrap Yard
Ohio EPA Approval

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the "Final Wetland Mitigation and Restoration Plan" at the Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio (Camp James A. Garfield)[1]. This document was received at Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) via email on January 21, 2025.

The final document was reviewed by personnel from Ohio EPA's DERR. Pursuant to the Director's Findings and Orders paragraph 39 (b), Ohio EPA considers the document final and approved.

This letter is an official response from Ohio EPA that will be maintained as a public record.

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3394282

If you have any questions, please contact me at (330) 963-1109, or via email at craig.kowalski@epa.ohio.gov.

Sincerely,

Craig Kowalski

Craig Kowalski
Site Coordinator
Division of Environmental Response and Revitalization

CK/cm

ec: Katie Tait, OHARNG RTLS
Megan Oravec, Ohio EPA, NEDO DERR
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Joe Loucek, Ohio EPA, NEDO DSW
Thomas Schneider, Ohio EPA, SWDO DERR
Rachel Secrest, Ohio EPA SEDO DSW
Brian Tucker, Ohio EPA, CO DERR

NATIONAL GUARD BUREAU
111 SOUTH GEORGE MASON DRIVE
ARLINGTON VA 22204-1373

January 21, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Mr. Craig Kowalski
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, Ohio, Final Wetlands Mitigation and Restoration Plan for RVAAP-50 Atlas Scrap Yard (Ohio EPA ID# 267000859110)

Dear Mr. Kowalski:

Enclosed is the *Final Wetlands Mitigation and Restoration Plan for RVAAP-50 Atlas Scrap Yard* for the Ravenna Army Ammunition Plant Restoration Program. Please contact Katie Tait, OHARNG Environmental Specialist, at (614) 336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak, ARNG Restoration Project Manager, at (330) 235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275

Digitally signed by TAIT.KATHRYN.SERENA.1289508275
Date: 2025.01.21 07:33:43 -05'00'

FOR Kevin M. Sedlak
ARNG Restoration Project Manager

cc:
Katie Tait, OHARNG
Steve Kvaal, USACE Louisville
Jeremy Renner, USACE Louisville
Jennifer Tierney, Chenega (RVAAP Admin Record)
Tom Schneider, Ohio EPA
Megan Oravec, Ohio EPA
Marco Mendoza, PIKA-Insight

Received January 7, 2025

January 6, 2025

TRANSMITTED ELECTRONICALLY

Mr. Kevin Sedlak
Camp James A. Garfield JMTC
Attn: Environmental Office (Bldg 1071)
8451 State Route 5
Ravenna OH 44266

RE: US Army Ammunition Plt RVAAP
Remediation Response
Project Records
Remedial Response
Portage County
ID # 267000859110

Sent via email to:
Kevin.m.sedlak.ctr@army.mil

Subject: Former Ravenna Army Ammunition Plant
Responses to Ohio EPA comments on the Draft Wetlands Restoration/Mitigation Plan for RVAAP-50 Atlas Scrap Yard
RVAAP-50 Atlas Scrap Yard
Ohio EPA – Request for Final Plan

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the "Responses to Ohio EPA Comments on the Draft Wetlands Restoration/Mitigation Plan for RVAAP-50 Atlas Scrap Yard" at the Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio (Camp James A. Garfield)[1]. This document was received at Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) via email on December 11, 2024.

Based on our review of the Army National Guard's Response to Ohio EPA comments provided in your letter dated December 11, 2024, we find the responses generally acceptable, and the document can be finalized. Please be sure that all agreed-upon changes, additions, and clarifications are provided in the final document.

This letter is an official response from Ohio EPA that will be maintained as a public record.

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3341629

If you have any questions, please contact me at (330) 963-1109, or via email at craig.kowalski@epa.ohio.gov.

Sincerely,

Craig Kowalski

Craig Kowalski,
Site Coordinator
Division of Environmental Response and Revitalization

CK/cm

ec: Katie Tait, OHARNG RTLS
Megan Oravec, Ohio EPA, NEDO DERR
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR
Brian Tucker, Ohio EPA, CO DERR
Joe Loucek, Ohio EPA, NEDO DSW
Rachel Secrest, Ohio EPA SEDO DSW

August 27, 2025

Received August 28, 2025

TRANSMITTED ELECTRONICALLY

Ms. Kathryn Tait
Environmental Specialist 3
Ohio Adjutant General's Department
Camp James A Garfield JMTC
Attn: Environmental Office (Bldg 1071)
8451 State Route 5
Ravenna, OH 44266

RE: US Army Ammunition Plt RVAAP
Remediation Response
Approval
Project Records
Remedial Response
Portage County
ID#267000859036

Sent via email to: kathryn.s.tait.nfg@army.mil

Subject: **Former Ravenna Army Ammunition Plant**
Responses to Comments on the *Draft Facility-Wide Groundwater Monitoring Program Plan RVAAP-66 Facility-Wide Groundwater Annual Report for 2024*, dated June 9, 2025
Ohio EPA – Request for Final Report

Dear Ms. Tait:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the *RVAAP-66 Facility-Wide Groundwater, Responses to Comments on the Draft RVAAP-66 Facility-Wide Groundwater Annual Report for 2024 (Responses to Comments Draft FWGWMP Annual Report for 2024*)[1] for the Former Ravenna Army Ammunition Plant (RVAAP), Portage and Trumbull Counties, Ohio dated June 9, 2025. This document was received via email by Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) on June 9, 2025. The response letter was prepared on behalf of the Army National Guard Bureau by Ohio Army National Guard/Leidos.

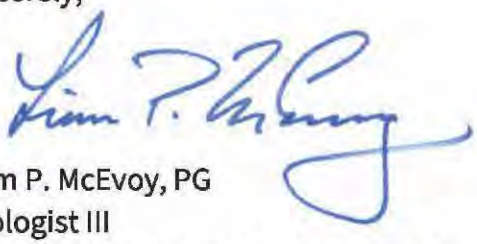
Based on our review of the Army National Guard's Response to Ohio EPA comments provided in your letter dated June 9, 2025, we find the responses generally acceptable, and the document can

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3801819

be finalized. Please be sure that all agreed-upon changes, additions, and clarifications are provided in the final document.

This letter is an official response from Ohio EPA that will be maintained as a public record. If you have questions or would like to set up a meeting to discuss these comments, you can contact me at liam.mcevoy@epa.ohio.gov or call me at (330) 963-1181.

Sincerely,



Liam P. McEvoy, PG
Geologist III
Division of Environmental Response and Revitalization

LPM/cm

ec: Kevin Sedlak, Army National Guard Directorate
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Megan Oravec, Ohio EPA, NEDO DERR
Craig Kowalski, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR
Carrie Rasik, Ohio EPA, CO DERR
Doug Switzer, Ohio EPA, CO DERR

November 10, 2025

Received November 12, 2025

TRANSMITTED ELECTRONICALLY

Ms. Kathryn Tait
Environmental Specialist 3
Ohio Adjutant General's Department
Camp James A Garfield JMTC
Attn: Environmental Office (Bldg 1071)
8451 State Route 5
Ravenna, OH 44266

RE: US Army Ammunition Plt RVAAP
Remediation Response
Project Records
Approval
Remedial Response
Portage County
ID#267000859036

Sent via email to: kathryn.s.tait.nfg@army.mil

Subject: **Former Ravenna Army Ammunition Plant**
Receipt of Final Facility-Wide Groundwater Monitoring Program, RVAAP-66 Facility-wide Groundwater Addendum for 2025 (Work Activity No. 267000859036)
Ohio EPA – Approval of Final Report

Dear Ms. Tait:

The Ohio Environmental Protection Agency (Ohio EPA) has received the Final Facility-Wide Groundwater Monitoring Program, RVAAP-66 Facility-Wide Groundwater Addendum for 2025 (Work Activity No. 267000859036) for the Former Ravenna Army Ammunition Plant (RVAAP)[1], Portage and Trumbull Counties, Ohio dated September 4, 2025. This document was received via email by Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) on September 4, 2025. The report was prepared for the United States Army Corps of Engineers on behalf of the National Guard Bureau by Leidos.

The final document was reviewed by personnel from Ohio EPA's DERR. Pursuant to the Director's Findings and Orders paragraph 39 (b), Ohio EPA considers the document final and approved.

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3892821

This letter is an official response from Ohio EPA that will be maintained as a public record. If you have questions or would like to set up a meeting to discuss these comments, you can contact me at liam.mcevoy@epa.ohio.gov or call me at (330) 963-1181.

Sincerely,

Liam P. McEvoy, PG
Geologist III
Division of Environmental Response and Revitalization

LPM/cm

ec: Kevin Sedlak, Army National Guard Directorate
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Thomas Schneider, Ohio EPA, SWDO DERR
Carrie Rasik, Ohio EPA, CO DERR

Ohio Army National Guard
Camp James A. Garfield Joint Military Training Center
8451 State Route 5, Building 1071
Ravenna, Ohio 44266

November 20, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Mr. Liam McEvoy, Site Coordinator
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, RVAAP-66 Facility-Wide Groundwater, Responses to Comments on the Draft Feasibility Study Report (Work Activity No. 267-000-859-036)

Dear Mr. McEvoy:

The Army appreciates your comments on the *Draft Feasibility Study Report for RVAAP-66 Facility-wide Groundwater*. Enclosed for your review are responses to your comments. To supplement your review, a redline version of the Feasibility Study is also being provided. Upon final resolution of the comments, the Army will provide a clean, Final version of the Feasibility Study for Ohio EPA concurrence.

These comment responses were prepared for the Army National Guard in support of the RVAAP Restoration Program. Please contact the undersigned at (614) 336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak, ARNG Restoration Project Manager, at (330) 235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.11.20 08:56:10 -05'00'

Kathryn S. Tait
Environmental Specialist 3
Ohio Army National Guard

cc: Natalie Oryshkewych, Ohio EPA
Megan Oravec, Ohio EPA
Craig Kowalski, Ohio EPA
Tom Schneider, Ohio EPA
Carrie Rasik, Ohio EPA
Doug Switzer, Ohio EPA
Kevin Sedlak, ARNG
Steve Kvaal, USACE Louisville
Jay Trumble, USACE Louisville
Jed Thomas, Leidos
Ryan Laurich, Leidos
Jennifer Tierney, Chenega (Admin Record)

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, RVAAP-66 Facility-Wide Groundwater, Responses to Comments on the Draft Feasibility Study Report (Work Activity No. 267-000-859-036)

COMMENTS

GW Comment 1 Feasibility Study Recommendations Compared to Previous RI Recommendations/Findings

The Draft RVAAP FS Report June 2025, within Section 1.2 Scope, references potential contaminant sources to be evaluated in the Feasibility Study (FS) to include

- RVAAP-05 Winklepeck Burning Grounds,
- RVAAP-08 Load Line 1,
- RVAAP-10 Load Line 3,
- RVAAP-12 Load Line 12, and
- RVAAP-16 Fuze and Booster Quarry.

Recommended Remedial Alternatives were suggested for Load Line 1, Load Line 3, Load Line 12, and Fuze and Booster Quarry, and are conceptually acceptable with the additional Risk Comments presented below. Winklepeck Burning Grounds was considered to be below remedial cleanup goals for Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX) and deemed to have no further action warranted, however GW Comment 2 and Risk Comment 3 detail additional work that may be needed at Winklepeck Burning Grounds.

Action Item: Please address GW Comment 2 and Risk Comment 3 concerns regarding additional work that may be needed at Winklepeck Burning Grounds under this Feasibility Study.

Army Response: Please see responses to GW Comment 2 and Risk Comment 3.

GW Comment 2 Statistical Data Evaluation and Graphs to Determine Cleanup Attainment

As stated in Risk Comment 3, the Facility Wide Groundwater (FWGW) Feasibility Study has the conclusion that no action is required at Winklepeck Burning Grounds to address groundwater contamination to achieve Unrestricted Use because the RDX concentrations continue to be below the remedial cleanup goal since June 2022 at WBGmw-006. Risk Comment 3 suggests providing a demonstration that eight consecutive events have fallen below a remedial cleanup goal prior to meeting attainment. While it appears that eight events have not yet all been below the RDX remedial cleanup goal of 9.7 ug/L, it is also suggested from a groundwater evaluation standpoint that some alternate statistical evaluation be conducted to evaluate the data rather than straight- line trendlines. Sanitas statistical evaluation software (or equivalent) can provide more powerful evaluation and graphs of data trends.

Action Item: Please verify if there are eight consecutive groundwater sampling events of RDX being below the RDX remedial cleanup goal of 9.7 ug/L for Winklepeck Burning Grounds. Please provide Sanitas statistical evaluation (or equivalent) of the well data to provide more powerful evaluation and graphs of data trends.

Army Response: Clarification and agree. Appendix II-B will be added to Volume II presenting the Mann-Kendall Kendall trend analysis (using SAS version 9.4) for the COCs at all sites presented in Volume II (including Winklepeck Burning Grounds) and Appendix III-B will be added to Volume III for the Mann-Kendall analysis of the COCs at Load Line 12.

With the recent approval of the 2024 Annual Report and data collected in 2024, the graphs within the Final FS will be updated to include available data through 2024. With respect to WBGmw-006, please refer to the response to Risk Comment 3.

GW Comment 3 Well Abandonment Recommendations

According to Volume 1, Section 4.0, the Attachment 1 of the Draft RVAAP FS Report June 2025 provides a list of monitoring wells that are recommended to be properly abandoned upon approval of the Record of Decision (from sites determined to require no further action from a risk standpoint). Further clarification appears warranted for the statements from Volume 1, Table 2-1 Remedial Investigation Conclusions and Recommendations for Groundwater: "The nature and extent of groundwater has been defined and the HHRA and ERA did not identify a risk requiring an action" and "The groundwater associated with Group…no longer requires analysis and the monitoring wells from Group…can be abandoned." Without having to go back through findings of the previous RI, it may be beneficial if this table more clearly presents the rational for each statement, helping to demonstrate that the wells in question for abandonment have met the minimum of three years of groundwater monitoring indicating that concentration limits for each contaminant of concern have not been exceeded. Additionally, U.S. EPA guidance recommends a minimum of eight consecutive sampling events below a remedial cleanup goal as meeting attainment (Recommended Approach for Evaluating Completion of Groundwater Restoration Remedial Actions at Groundwater Monitoring Wells. OSWER 9283.1-44. August 2014), and it is not clear if these proposed wells meet those criteria.

It is also not clear if concurrence on proposed well abandonments is expected during this review of the FS or if a separate Well Abandonment Work Plan will be submitted for approval (such as the Final Well Abandonment Work Plan for RVAAP-66 Facility-Wide Groundwater). Volume 1 Section 4.0 and Section 5.1 appear to indicate that existing monitoring wells proposed for abandonment will be reviewed and approved after subsequent submittals of a Preferred Plan and the Record of Decision.

Action Item: Further clarification appears warranted for the statements from Volume 1, Table 2-1 Remedial Investigation Conclusions and Recommendations for Groundwater in order to more fully demonstrate the rationale that the wells in question for abandonment have met the minimum of three years of groundwater monitoring/minimum of eight consecutive sampling events indicating that concentration limits for each contaminant of concern have not been exceeded. Additionally, please clarify if concurrence on proposed well abandonments is expected now or if concurrence is anticipated later during reviews of the forthcoming preferred plan and record of decision submittals.

Army Response: Clarification and agree. The cited Recommended Approach for Evaluating Completion of Groundwater Restoration Remedial Actions at Groundwater Monitoring Wells. OSWER 9283.1-44. August 2014 is for the remediation monitoring phase and attainment

monitoring phase, used for assessing if cleanup levels are met for all COCs set forth in the Record of Decision (ROD). With the exception of some wells at Winklepeck Burning Grounds and Fuze and Booster Quarry, the monitoring wells recommended for abandonment are associated with sites that the RI Report concluded to have no COCs in groundwater. Therefore, the guidance regarding completion of groundwater remedial actions is not applicable regarding the monitoring requirements of these wells.

The Director's Final Findings and Orders (DFFOs) states the following:

> "The Facility-wide groundwater monitoring activities shall continue of a minimum of three years following the completion of all environmental investigations at the Site. If groundwater contamination is detected at the Site or a portion of the Site, the Facility-wide groundwater monitoring activities shall continue for a minimum of three years following the completion of environmental investigations and remediation at the Site, or until a minimum of three consecutive years of groundwater monitoring data indicate that concentration limits for each contaminant of concern have not been exceeded at the Site, whichever is longer. At the completion of the groundwater monitoring activities at the Site, all remaining groundwater monitoring wells shall be properly plugged and abandoned…."

The demonstration of completing a minimum of three consecutive years of groundwater monitoring data is not required since these proposed wells and their co-located site were determined to not have COCs.

Please refer to Risk Comment 3 regarding the Winklepeck Burning Grounds wells.

Regarding the Fuze and Booster Quarry wells, these were recommended for abandonment as they were in the Unconsolidated aquifer and in a separate area of the site that did not have COCs. However, the table will be revised to exclude these wells for abandonment.

The Army will develop a separate Well Abandonment Work Plan.

Risk Comment 1 Volume 1, Section 1.2, Scope, Load Line 10, Carbon Tetrachloride:

The current Facility-Wide Groundwater (FWGW) Feasibility Study (FS) does not include Load Line 10. Load Line 10 should be added to the Facility-Wide Groundwater Feasibility Study based on the carbon tetrachloride concentrations that continue to be monitored at LL10 for remedial clean up goal achievement. This is supported by the February 2025 Draft FWGW 2024 Annual Report recommendation to continue monitoring carbon tetrachloride to verify recent reduced concentrations (Table 8.1 Summary of 2023 FWGWMP Wells, Rationale, and Results Recommendation in the 2024 Addendum: RVAPP_43 Load Line 10 (LL10mw-003; Homewood Aquifer)).

Action Item: Add LL10 to the FWGW FS.

Army Response: Clarification. Although the Ohio EPA requested and the Army agreed to continue monitoring LL10mw-003, it was not for remedial cleanup goal achievement. The approved Remedial Investigation Report (Leidos 2022) concluded that there was no risk and no COCs in groundwater at Load Line 10. Accordingly, groundwater at Load Line 10 will not be included in the FWGW FS.

From May 2019 through October 2024 (the last FWGWMP sampling event to date), the carbon tetrachloride concentrations in groundwater at LL10mw-003 have been below the maximum contaminant level (MCL) of 5 mg/L for twelve consecutive semi-annual sampling events with a maximum concentration of 4 ug/L.

Risk Comment 2 Volume 1, Section 2.3.3, Human Health Receptors and Exposure Routes, Lines 253-256

The FWGW FS is missing a summary of U.S. EPA's Resident Soil to Groundwater (e.g., leaching) Screening Levels compared to the groundwater constituent of concern concentrations in soil (RI Report Resolution Meeting, Feasibility Study Report Technical Project Planning RVAAP-66 FWGW RVAAP Restoration Program Meeting Minutes January 18, 2022). These summaries will aid in determining any potential contributing soil sources that may need consideration for remedial alternatives to have a successful groundwater remedial alternative.

Action Item: Include in Volumes II and III of the FWGW FS a summary of U.S. EPA's Resident Soil to Groundwater (e.g., leaching) Regional Screening Levels compared to the groundwater constituent of concern concentrations in soil.

Army Response: Clarification. A site-specific soil to groundwater evaluation was performed and presented in the RI Report. The results of the simulations were presented in Section X.1.4 of the FS reports. At Winklepeck Burning Grounds, Load Line 1, Load Line 3, and Fuze and Booster Quarry, the site-specific evaluations indicated the explosive CMCOPCs will be reduced to concentrations below the screening level at site-specific durations. These durations were used when estimating the duration of the MNA and LTM remedial action phase. As these site-specific evaluations were conducted and the explosive CMCOPCs are expected to be reduced, additional soil to groundwater comparisons are not needed for purposes of the FS.

For nitrate and ammonia, the site-specific soil to groundwater evaluation had a long duration in which they will be reduced. As specified in response to Risk Comment 8, the revised alternatives will include a Pre-Design Investigation (PDI) to assess if and how much nitrate in soil is impacting groundwater. Using results from the PDI, the Remedial Design Work Plan will include a calculation of the site-specific soil screening level (SSL). An additional soil to groundwater comparison is not needed for purposes of this FS.

Risk Comment 3 Volume 1 Section 4.1 and Volume II Section 5.2&Graph 5-1, RVAAP-05 Winklepeck Burning Grounds, RDX concentrations in WBGmw-006

The FWGW Feasibility Study has the conclusion that no action is required at Winklepeck Burning Grounds to address groundwater contamination to achieve Unrestricted Use because the RDX concentrations continue to be below the remedial cleanup goal since June 2022 at WBGmw-006.

U.S. EPA guidance recommends eight consecutive events below a remedial cleanup goal as meeting attainment (Recommended Approach for Evaluating Completion of Groundwater Restoration Remedial Actions at Groundwater Monitoring Wells. OSWER 9283.1-44. August 2014). The data provided in the FS is through May 2024 with the 2025 data housed in the Annual Report due to the differing publication dates.

Action Item: Verify there are eight consecutive groundwater sampling events of RDX being below the remedial cleanup goal at WBGmw-006.

> *Army Response*: Clarification. The cited guidance does not recommend eight consecutive events below a remedial cleanup goal as meeting attainment, rather it recommends that a minimum of eight data points be used in the analysis of whether 1) the contaminant cleanup level for each COC has been met; and 2) the groundwater will continue to meet the contaminant cleanup level for each COC in the future.
>
> Results from a Mann-Kendall test will be added to the FS. This analysis will demonstrate that RDX in WBGmw-006 has a statistically significant downward trend at the 0.05 significance level. Accordingly, the Final FS will continue to have a no action conclusion and the wells will be recommended for abandonment.

<u>Risk Comment 4</u> Volume 1, Section 4.2 RVAAP-08 Load Line 1 and Section 4.3 RVAAP-10 Load Line 3, Volume 2 Section 6.2.2 and, FS recommended remedial alternative as Alternative 2: Land Use Controls, Long Term Monitoring, and Maintenance

Remedial Alternative 2: Land Use Controls, Long Term Monitoring, and Maintenance, which is the recommended remedial alternative in the FS, does not include a remedial action that would decrease the mass and volume of the contamination in the groundwater. Monitored Natural Attenuation (MNA) is a remedy at Remedial Program Sites that may effectively decrease the levels of groundwater contamination at some sites (https://dam.assets.ohio.gov/image/upload/epa.ohio.gov/Portals/30/rules/Monitored%20Natural%20Attenuation.pdf). Volume II section 6.1.4 states that the Fate and Transport (F&T) modeling simulations indicate all of the explosive contaminant migrations contaminant of potential concern (CMCOPCs) will be reduced to concentrations less than their respective groundwater (remedial clean up goal) within 19 years assuming biodegradation, and 116 years assuming no biodegradation; thus, as written in the FS, monitoring is already proposed in Remedial Alternative 2 and adding MNA, which is included in Table 4-1 'Initial Screening of Technologies for Explosives in Groundwater", to the proposed remedial alternative 2 should not result in an increase to the monitoring cost estimates of the remedial alternatives due to the shorter modeled timeframe, assuming the F&T modeling biodegradation is natural attenuation.

Action Item: Add MNA to remedial Alternative 2 for Load Line 1 and Load Line 3 to aid Ohio EPA in their remedy selection process by having multiple remedial options to choose from that will reduce contaminant mass.

Army Response: Agree, MNA will be added to remedial Alternative 2 for Load Line 1 and Load Line 3.

Risk Comment 5 Volume 1, Section 4.2 RVAAP-08 Load Line 1 and Section 4.3 RVAAP-10 Load Line 3, Volume 2 Section 6.2.2 and, FS recommended remedial alternative as Alternative 2: Land Use Controls, Long Term Monitoring, and Maintenance

The FWGW Feasibility Study contains in multiple sections the language, "without a remedial action a National Guard Trainee can ingest and be dermally exposed to groundwater for and hours [and ingestion rate] assumed in the Facility-Wide Human Health Risk Assessor Manual (USACE, 2005 rev.2014)". Ohio EPA generally restricts potable use of water until the unrestricted use remedial goals (e.g., MCLs or background, etc.) are attained. Allowing a national guard trainee drinking water exposure will require more restrictive language in the Environmental Covenant/Land Use Control document and will require monitoring the trainee's time on the site and water ingestion rates to verify the site-specific National Guard Trainee drinking water ingestion rate (2 L/day) and exposure frequency (39 days/yr) are not exceeded.

Action Item: Consider prohibiting the use of contaminated groundwater until the selected remedial clean up goals are achieved.

Army Response: Clarification and agree. Please note that Environmental Covenants are not allowed on federal property. The Army agrees to prohibit potable use of contaminated groundwater in the contaminated areas identified in the FS until the selected remedial cleanup goals are achieved.

The referenced will be revised as follows in Sections 6.5, 7.5, and 8.5 of Volume II:

"As demonstrated in Section 3, groundwater COC concentrations at <<SITE>>> are below the National Guard Trainee FWCUGs. However, potable use of groundwater is prohibited in the contaminated areas described in the FS until the selected remedial cleanup goals are achieved. ~~Therefore, without a remedial action, a National Guard Trainee can ingest and be dermally exposed to <<SITE>> groundwater for the hours assumed in the FWHHRAM~~."

Additionally, the text below will be revised in Sections 6.2.2.2, 6.2.3.4, 7.2.2.2, 7.2.3.4, 8.2.2.2, 8.2.3.4

"~~If groundwater use is required at Load Line 3 to support the military mission, administrative controls would allow for groundwater use at Load Line 3 for ingestion and dermal exposure the hours assumed for the National Guard Trainee in the FWHHRAM.~~ Potable use of groundwater is prohibited at the site until the selected remedial cleanup goals are achieved."

Risk Comment 6 Volume II, Table 3-2 Comparison of FWCUGs and U.S. EPA RSLs and Table 3-3 Remedial Clean Up Goals

The 'selected groundwater remedial clean up goals' include Site-Specific Residential Farmer Facility Wide Clean up Goals (FWCUGs) (2014). Because some time has passed since these values were calculated, the chemical toxicity and exposure parameters used to create the FWCUG need to be reviewed and compared against current toxicity and default exposure parameters to determine if the FWCUGs need to be updated. As an alternative to using the FWCUGs, the U.S. EPA Tap Water regional screening levels (RSLs) can be used (note: none of the chemicals of potential concerns (COPCs) have maximum contaminant levels (MCLs)).

Action Item: Evaluate if the chemical toxicity and exposure parameters used in 2014 to create the FWCUGs are still applicable.

> *Army Response*: Agree. The Feasibility Study has been revised to use the USEPA Tap Water RSLs at TR of 1E-05, HQ of 1 as the remedial CUGs for explosive COCs. Nitrate will continue to have the MCL (10 mg/L) as the remedial CUG and ammonia will continue to have the Drinking Water Advisory (30 mg/L) as the remedial CUG.

Risk Comment 7 Volume II, Section 8.0 RVAAP-16 Fuze and Booster Quarry

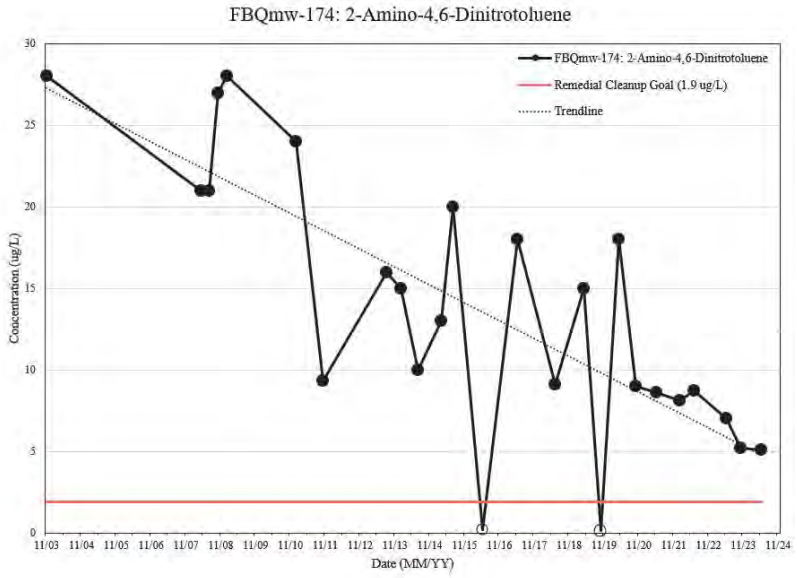
The FWGW FS recommends Remedial Alternative 2 (land use controls (LUCs), long term monitoring (LTM), and Maintenance) at RVAAP-16 Fuze and Booster Quarry. Graph 8-4: 2-Amino-4,6-DNT Concentrations in FBQmw-174 reports concentrations in groundwater are nearly the same today as they were in 2003. 2-amino-4,6-dinitrotoluene does not break down readily in the environment.

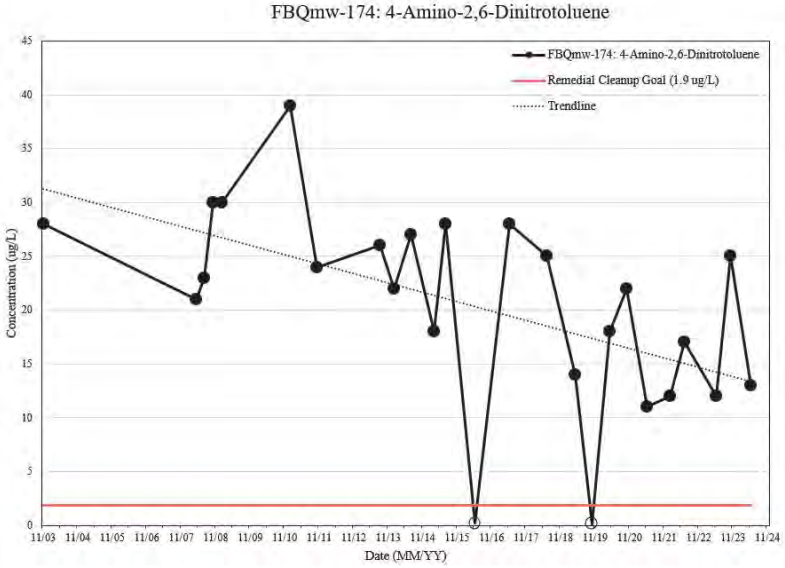
Therefore, Remedial Alternative 3, which includes technologies that would reduce the mass and concentrations of the constituents In-Situ Chemical Treatment (ISCR) is a more likely choice for success. The cost for Alternative 2 is $602,616 and the cost of Alternative 3 is $791,155, a price difference of $188,499.

Action Item: Recommend Alternative 3 for Fuze and Booster Quarry.

> *Army Response*: Clarification. With the recent approval of the 2024 Annual Report and data collected in 2024, the graphs within the Final FS will be updated to include available data through 2024. The updated graphs below show the concentrations in groundwater at FBQmw-174 of 2-amino-4,6-DNT and 4-amino-2,6-DNT respectively. As demonstrated in both graphs, the concentrations of both are decreasing in time. In addition, the Final FS will be updated to include Mann-Kendall analysis of these constituents in FBQmw-174. 2-amino-4,6-dinitrotoluene and 4-amino-2,6-dinitrotoluene showed statistically significant downward trends.
>
> To select the recommended alternative, a comparative analysis was performed that included all the NCP Evaluation Criteria. Cost was not the only balancing criteria that scored higher for FBQ

Alternative 2. As part of the five-year review process, the selected alternative will be assessed, and if the selective alternative is not effective, a different alternative can be considered.





Risk Comment 8 Volume III, Section 4.0 Graph 4-1 Nitrate Concentrations in LL12mw-187

Load Line 12 is a 76 acre former ammonium nitrate manufacturing facility where explosive-grade ammonium nitrate was manufactured (Final Proposed Plan for Soil, Sediment, and Surface Water at RVAAP Load Lines 1,2,3,4 and 12, 2018). The nitrate Surface Soil Clean-Up Goal was 1,000,000 mg/kg, which was based on direct contact for the resident Farmer (Adult) and National Guard Trainee Receptors (Final Characterization sampling Report of Surface and Subsurface incremental sampling Methodology at…Load Lines 1,2,3,4 and 12, March 2013). The current nitrate groundwater concentrations at LL12mw-187 have an increasing trend (Graph 4-1); if a soil source of nitrate is contributing to the increasing groundwater concentration trend, then remediation of this soil release area will likely be needed to have a successful groundwater remedy.

Action Item: Determine if a soil leaching to groundwater source remains at Load Line 12 that requires remediation to have a successful groundwater remedy.

> *Army Response*: Agree. LL12 Alternative 2 and LL12 Alternative 3 have been updated to include a Pre-Design Investigation (PDI) to assess if and how much nitrate in soil is impacting groundwater. Using results from the PDI, the Remedial Design Work Plan will include a calculation of the site-specific soil screening level (SSL). This SSL will be used to determine if phytoremediation remediation of nitrate in soil is necessary and if it is what will be the overall extent required for treatment to supplement the overall groundwater remediation.

Received November 12, 2025

November 10, 2025

TRANSMITTED ELECTRONICALLY

Ms. Kathryn Tait
Environmental Specialist 3
Ohio Adjutant General's Department
Camp James A Garfield JMTC
Attn: Environmental Office (Bldg 1071)
8451 State Route 5
Ravenna, OH 44266

RE: US Army Ammunition Plt RVAAP
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Portage County
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Sent via email to: kathryn.s.tait.nfg@army.mil

Subject: Former Ravenna Army Ammunition Plant
Receipt of Final Facility-Wide Groundwater Monitoring Program, RVAAP-66 Facility-wide Groundwater Annual Report for 2024 (Work Activity No. 267000859036)
Ohio EPA – Approval of Final Report

Dear Ms. Tait:

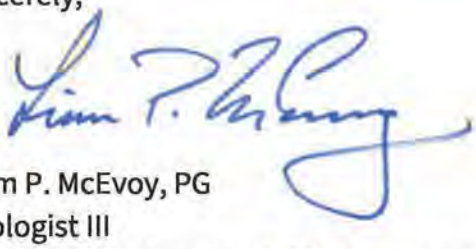
The Ohio Environmental Protection Agency (Ohio EPA) has received the Final Facility-Wide Groundwater Monitoring Program, RVAAP-66 Facility-Wide Groundwater Annual Report for 2024 (Work Activity No. 267000859036) for the Former Ravenna Army Ammunition Plant (RVAAP)[1], Portage and Trumbull Counties, Ohio dated September 8, 2025. This document was received via email by Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) on September 8, 2025. The report was prepared for the United States Army Corps of Engineers on behalf of the National Guard Bureau by Leidos.

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3892820

The final document was reviewed by personnel from Ohio EPA's DERR. Pursuant to the Director's Findings and Orders paragraph 39 (b), Ohio EPA considers the document final and approved.

This letter is an official response from Ohio EPA that will be maintained as a public record. If you have questions or would like to set up a meeting to discuss these comments, you can contact me at liam.mcevoy@epa.ohio.gov or call me at (330) 963-1181.

Sincerely,



Liam P. McEvoy, PG
Geologist III
Division of Environmental Response and Revitalization

LPM/cm

ec: Kevin Sedlak, Army National Guard Directorate
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Megan Oravec, Ohio EPA, NEDO DERR
Craig Kowalski, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR
Carrie Rasik, Ohio EPA, CO DERR

Ohio Army National Guard
Camp James A. Garfield Joint Military Training Center
8451 State Route 5, Building 1071
Ravenna, Ohio 44266

September 8, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Mr. Liam McEvoy, Site Coordinator
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Camp James A. Garfield (CJAG), Portage/Trumbull Counties, Final Facility-wide Groundwater 2024 Annual Report (Work Activity No. 267000859036)

Dear Mr. McEvoy:

An electronic version of the *Final Facility-wide Groundwater Monitoring Program RVAAP-66 Facility-wide Groundwater Annual Report for 2024* has been sent using the Ohio EPA LiquidFile system.

This report was prepared for the Army National Guard in support of the RVAAP Restoration Program. Please contact the undersigned at (614)336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak, ARNG Restoration Project Manager, at (330)235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.09.08 14:16:22 -04'00'

Kathryn S. Tait
Environmental Specialist 3
Ohio Army National Guard

cc: Megan Oravec, Ohio EPA
Tom Schneider, Ohio EPA
Kevin Sedlak, ARNG
Steve Kvaal, USACE Louisville
Jay Trumble, USACE Louisville
Jed Thomas, Leidos
Ryan Laurich, Leidos
Jennifer Tierney, Chenega (Admin Record)

Ohio Army National Guard
Camp James A. Garfield Joint Military Training Center
8451 State Route 5, Building 1071
Ravenna, Ohio 44266

September 4, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Mr. Liam McEvoy, Site Coordinator
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Camp James A. Garfield/former RVAAP, Portage/Trumbull Counties, Final Facility-wide Groundwater Addendum for 2025 (Work Activity No. 267000859036)

Dear Mr. McEvoy:

Attached for your review is the *Final Facility-wide Groundwater Monitoring Program Plan RVAAP-66 Facility-wide Groundwater Addendum for 2025*. Due to small file size, this report is being sent to you via email and not through the Ohio EPA LiquidFile system.

This report was prepared for the Army National Guard in support of the RVAAP Restoration Program. Please contact the undersigned at (614)336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak, ARNG Restoration Project Manager, at (330)235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.09.04 08:19:52 -04'00'

Kathryn S. Tait
Environmental Specialist 3
Ohio Army National Guard

cc: Megan Oravec, Ohio EPA, NEDO
Tom Schneider, Ohio EPA, SWDO
Kevin Sedlak, ARNG
Steve Kvaal, USACE Louisville
Jay Trumble, USACE Louisville
Jed Thomas, Leidos
Ryan Laurich, Leidos
Jennifer Tierney, Chenega (Admin Record)

Received August 28, 2025

August 27, 2025

TRANSMITTED ELECTRONICALLY

Ms. Kathryn Tait
Environmental Specialist 3
Ohio Adjutant General's Department
Camp James A Garfield JMTC
Attn: Environmental Office (Bldg 1071)
8451 State Route 5
Ravenna, OH 44266

RE: US Army Ammunition Plt RVAAP
Remediation Response
Approval
Project Records
Remedial Response
Portage County
ID#267000859036

Sent via email to: kathryn.s.tait.nfg@army.mil

Subject: Former Ravenna Army Ammunition Plant
Responses to Comments on the *Draft RVAAP-66 Facility-wide Groundwater Addendum for 2025*, dated June 9, 2025
Ohio EPA – Request for Final Report

Dear Ms. Tait:

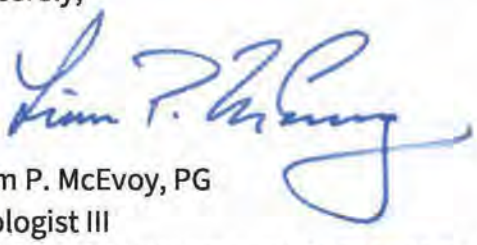
The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the *RVAAP-66 Facility-Wide Groundwater, Responses to Comments on the Draft RVAAP-66 Facility-wide Groundwater Addendum for 2025 (Responses to Comments Draft FWGWMP Addendum for 2025)*[1] for the Former Ravenna Army Ammunition Plant (RVAAP), Portage and Trumbull Counties, Ohio dated June 9, 2025. This document was received via email by Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) on June 9, 2025. The response letter was prepared on behalf of the Army National Guard Bureau by Ohio Army National Guard/Leidos.

Based on our review of the Army National Guard's Response to Ohio EPA comments provided in your letter dated June 9, 2025, we find the responses generally acceptable, and the document can be finalized. Please be sure that all agreed-upon changes, additions, and clarifications are provided in the final document.

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3757805

This letter is an official response from Ohio EPA that will be maintained as a public record. If you have questions or would like to set up a meeting to discuss these comments, you can contact me at liam.mcevoy@epa.ohio.gov or call me at (330) 963-1181.

Sincerely,



Liam P. McEvoy, PG
Geologist III
Division of Environmental Response and Revitalization

LPM/cm

ec: Kevin Sedlak, Army National Guard Directorate
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Megan Oravec, Ohio EPA, NEDO DERR
Craig Kowalski, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR
Carrie Rasik, Ohio EPA, CO DERR
Doug Switzer, Ohio EPA, CO DERR

Ohio Army National Guard
Camp James A. Garfield Joint Military Training Center
8451 State Route 5, Building 1071
Ravenna, Ohio 44266

June 27, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Mr. Liam McEvoy, Site Coordinator
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, RVAAP-66 Facility-Wide Groundwater, Draft Feasibility Study (Work Activity No. 267-000-859-036)

Dear Mr. McEvoy:

An electronic version of the Draft Feasibility Study for RVAAP-66 Facility-wide Groundwater has been sent using the Ohio EPA LiquidFile system. This report contains three volumes, as summarized below. For ease of review, the separate volumes are in separate files.

- Volume I: Main Text
- Volume II: Explosives-Contaminated Sites
- Volume III: Load Line 12

This report was prepared for the Army National Guard in support of the RVAAP Restoration Program. Please contact the undersigned at (614) 336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak, ARNG Restoration Project Manager, at (330) 235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.06.27 12:10:23 -04'00'

Kathryn S. Tait
Environmental Specialist 3
Ohio Army National Guard

cc: Megan Oravec, Ohio EPA
Tom Schneider, Ohio EPA
Kevin Sedlak, ARNG
Steve Kvaal, USACE Louisville
Jay Trumble, USACE Louisville
Jed Thomas, Leidos
Jennifer Tierney, Chenega (Admin Record)

Ohio Army National Guard
Camp James A. Garfield Joint Military Training Center
8451 State Route 5, Building 1071
Ravenna, Ohio 44266

June 9, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Mr. Liam McEvoy, Site Coordinator
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, RVAAP-66 Facility-Wide Groundwater, Responses to Comments on the Draft RVAAP-66 Facility-wide Groundwater Annual Report for 2024 (Work Activity No. 267-000-859-036)

Dear Mr. McEvoy:

The Army appreciates your comments on the Draft Facility-wide Groundwater Monitoring Program Plan, RVAAP-66 Facility-wide Groundwater, Annual Report for 2024. Enclosed for your review are responses to your comments. Upon final resolution of the comments, the Army will provide a Final version of the report for Ohio EPA concurrence.

These comment responses were prepared for the Army National Guard in support of the RVAAP Restoration Program. Please contact the undersigned at (614) 336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak, ARNG Restoration Project Manager, at (330) 235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

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Kathryn S. Tait
Environmental Specialist 3
Ohio Army National Guard

cc: Megan Oravec, Ohio EPA
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Steve Kvaal, USACE Louisville
Jay Trumble, USACE Louisville
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Jennifer Tierney, Chenega (Admin Record)

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, RVAAP-66 Facility-Wide Groundwater, Responses to Comments on the Draft RVAAP-66 Facility-wide Groundwater Annual Report for 2024 (Work Activity No. 267-000-859-036)

COMMENTS

Ohio EPA Comment 1 Appendix Monitoring Well Clarifications:

Appendix A of the Draft FWGWMP Annual Report for 2024 lists Monitoring Well Construction Details for 331 wells. According to Table 5.1, a total of 330 wells were gauged (including LL1mw-085 that has a submersible well blockage which accounts for the 329 wells referenced on Page 5-1, lines 968-969).

Please confirm the total amount of wells on-site.

> *Army Response*: Agree. Appendix A mistakenly includes monitoring well FWGmw-017 that was abandoned in 2018. This well will be removed from the list of wells in Appendix A.

Ohio EPA Comment 2 Sampling Analysis Clarifications:

In the Draft FWGWMP Annual Report for 2024, numerous analytical testing suites were discontinued from those noted in previous 2023 and earlier sampling, either cut back from previous well analytical suites or analyses were eliminated altogether. Analytical suites that appear to be missing include, but are not limited to: expanded explosives, cyanide, nitrate, nitrite, sulfate, sulfide, alkalinity, Total Petroleum Hydrocarbons (TPH); Gasoline Range Organics (GRO) and Diesel Range Organics (DRO), and total organic carbon (TOC).

It does not appear rationale was provided within the text from the 2023 Annual Report or in the 2024 Addendum regarding removal of these analyses.

The 2024 Draft Addendum (in Table 3-1: Recommended FWGWMP Wells for 2024) states that for well FBQmw-173, sampling is to "Continue to monitor for explosives and assess effectiveness of MNA (anions, TOC, alkalinity, pH, and expanded explosives, which include explosive daughter products) as a remedial option" from 2023 sampling recommendations and "Continue monitoring for explosives to support the feasibility study and future remedial decisions" for 2024 sampling. These recommendations appear similar since they do not specifically say that certain analyses will be eliminated, nor provide the rationale for doing any elimination. The results are presented in the addendum Table 3-1, but the table doesn't state that certain analyses will be omitted based on these results as has been the case in previous year's iterations of this table.

Previous 2022 correspondence between the Army and Ohio EPA indicated that further statistical evaluation (utilizing Sanitas or some other acceptable form of statistical evaluation program) would also be appropriate in determining the discontinuation of specific well sampling analytical testing suites (rather than the visual method of best linear fit evaluations presented in the time series graphs). Please see Comment #4 below.

Please provide rationale for removing certain analyses, and if the rationale was provided in the report, make that rationale more clear in the text and tables of the annual addendums and the text and tables of this and future annual reports.

Army Response: Clarification and agree. Table 3-1 of the annual addendums have been modified to add a column that specifies "Rationale for Excluding Previous Year's Analyses". This will ensure the 2025 Addendum and future year addendums address this request. Please note the following:

1) There are no changes in the proposed analytical suite from 2024 to 2025.
2) Cyanide was not removed as an analytical suite, and that a summary is provided to document it remains a part of the analytical suite for monitoring wells DETmw-003 and DETmw-004.
3) The MNA parameters (anions, TOC, alkalinity, pH, and expanded explosives, which include explosive daughter products) were not analyzed for in 2024. The data collected in 2023 was adequate for supporting the FS. As these were not collected in 2024, the 2025 Addendum does not address these chemicals.
4) TPH (GRO and DRO) were not analyzed in 2024. They were analyzed from groundwater collected in 2023 from temporary well 071tw-001 that has since been abandoned. As these were not collected in 2024, the 2025 Addendum does not address these chemicals.

Ohio EPA Comment 3 Well Redevelopment Activities:

In the Draft FWGWMP Annual Report for 2024 Section 8.2.1: Well Redevelopment it states that for 2025 a total of two wells will be considered for redevelopment, LL1mw-091 and FBWmw- 175 (FBWmw-175 is not a well on the current FWGWMP list).

Section 4.3.3: Well Redevelopment Recommendations provided recommendation on 19 wells during 2025, with two wells recommended for additional consideration or redevelopment in 2025: LL1mw-091 and FBQmw-175 (both of these wells are on the current FWGWMP list).

It appears that well FBWmw-175 referenced in Section 8.2.1 may be a typographic mistake, please verify if this Section 8.2.1 intended to identify well FBQmw-175, and please make corrections/edits as needed to the report.

Also, please reference the Ohio EPA Technical Guidance Manual for Ground Water Investigations, Chapter 8 - Monitoring Well Development, Maintenance, and Redevelopment, under Development Procedure for additional guidance with redevelopment means and methods.

Army Response: Agree. Section 8.2.1 will be revised to indicate that FBQmw-175 is considered for redevelopment. In addition, the Ohio EPA TGM will be referenced for additional guidance regarding redevelopment means and methods.

Ohio EPA Comment 4 Ongoing Statistical Data Evaluation:

While the following Ohio EPA comment was previously noted in the 2021 Annual Report, and an Army response was provided in a July 11, 2022 letter, the comment is being memorialized below for future reference:

"While the visibly recognizable best linear fit evaluations presented in the time series graphs are useful, please explain if further statistical evaluation of these data (in future reports) will be used to more accurately determine decreasing, stable or increasing trend lines in the data (utilizing Sanitas or some other acceptable form of statistical evaluation program). Statistical trend analyses would be recommended to help evaluate the ongoing FWGWMP and/or to help support future proposed well abandonment decisions."

The July 11, 2022 Army response to this comment stated that the linear fit evaluations were useful, and indicated that further statistical evaluation of the chemicals of concern (COCs) will be provided in the Feasibility Study to then determine long-term monitoring needs and evaluate the long-term monitoring well network.

Ohio EPA concurs with this approach and adds that such further statistical evaluation would also be appropriate in determining the discontinuation of specific well sampling (rather than the visual method). No response to this memorialization comment is necessary.

> *Army Response*: Clarification and agree. This 2024 Annual Report will be upgraded to include a Mann-Kendall analysis of the COCs going forward in the Feasibility Study in each applicable well. The results will be placed in Appendix I. In addition, the Feasibility Study will include provisions to include statistical analysis of FS COCs as part of the applicable remedial alternatives, such as monitoring natural attenuation.

Ohio Army National Guard
Camp James A. Garfield Joint Military Training Center
8451 State Route 5, Building 1071
Ravenna, Ohio 44266

June 9, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Mr. Liam McEvoy, Site Coordinator
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, RVAAP-66 Facility-Wide Groundwater, Responses to Comments on the Draft RVAAP-66 Facility-wide Groundwater Annual Report for 2024 (Work Activity No. 267-000-859-036)

Dear Mr. McEvoy:

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These comment responses were prepared for the Army National Guard in support of the RVAAP Restoration Program. Please contact the undersigned at (614) 336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak, ARNG Restoration Project Manager, at (330) 235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.06.09 10:16:48 -04'00'

Kathryn S. Tait
Environmental Specialist 3
Ohio Army National Guard

cc: Megan Oravec, Ohio EPA
Tom Schneider, Ohio EPA
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Steve Kvaal, USACE Louisville
Jay Trumble, USACE Louisville
Jed Thomas, Leidos
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Jennifer Tierney, Chenega (Admin Record)

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, RVAAP-66 Facility-Wide Groundwater, Responses to Comments on the Draft RVAAP-66 Facility-wide Groundwater Annual Report for 2024 (Work Activity No. 267-000-859-036)

COMMENTS

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Please confirm the total amount of wells on-site.

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Army Response: Clarification and agree. Table 3-1 of the annual addendums have been modified to add a column that specifies "Rationale for Excluding Previous Year's Analyses". This will ensure the 2025 Addendum and future year addendums address this request. Please note the following:

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Section 4.3.3: Well Redevelopment Recommendations provided recommendation on 19 wells during 2025, with two wells recommended for additional consideration or redevelopment in 2025: LL1mw-091 and FBQmw-175 (both of these wells are on the current FWGWMP list).

It appears that well FBWmw-175 referenced in Section 8.2.1 may be a typographic mistake, please verify if this Section 8.2.1 intended to identify well FBQmw-175, and please make corrections/edits as needed to the report.

Also, please reference the Ohio EPA Technical Guidance Manual for Ground Water Investigations, Chapter 8 - Monitoring Well Development, Maintenance, and Redevelopment, under Development Procedure for additional guidance with redevelopment means and methods.

Army Response: Agree. Section 8.2.1 will be revised to indicate that FBQmw-175 is considered for redevelopment. In addition, the Ohio EPA TGM will be referenced for additional guidance regarding redevelopment means and methods.

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> *Army Response*: Clarification and agree. This 2024 Annual Report will be upgraded to include a Mann-Kendall analysis of the COCs going forward in the Feasibility Study in each applicable well. The results will be placed in Appendix I. In addition, the Feasibility Study will include provisions to include statistical analysis of FS COCs as part of the applicable remedial alternatives, such as monitoring natural attenuation.

Received June 4, 2025

June 3, 2025

TRANSMITTED ELECTRONICALLY

Ms. Kathryn Tait
Environmental Specialist 3
Ohio Adjutant General's Department
Camp James A Garfield JMTC
Attn: Environmental Office (Bldg 1071)
8451 State Route
Ravenna, OH 44266

RE: US Army Ammunition Plt RVAAP
Remediation Response
Project Records
Remedial Response
Portage County
ID#267000859036

Sent via email to: kathryn.s.tait.nfg@army.mil

Subject: Former Ravenna Army Ammunition Plant
Draft Facility-wide Groundwater Monitoring Program Plan RVAAP-66 Facility-wide Groundwater Annual Report for 2024
Ohio EPA Comments

Dear Ms. Tait:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the *Draft Facility-Wide Ground Water Monitoring Program (FWGWMP) RVAAP-66 Facility-wide Groundwater Annual Report for 2024 (Draft FWGWMP Annual Report for 2024*)[1] for the Former Ravenna Army Ammunition Plant (RVAAP), Portage and Trumbull Counties, Ohio dated February 13, 2025. This document was received via email by Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) on February 13, 2025. Comments on the document based on Ohio EPA review are provided below. Please provide responses to the enclosed comments in accordance with the Directors Findings and Orders.

COMMENTS

1. Appendix Monitoring Well Clarifications:

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3431245 - *Draft FWGWMP RVAAP-66 Facility-wide Groundwater Annual Report for 2024*

Appendix A of the *Draft FWGWMP Annual Report for 2024* lists Monitoring Well Construction Details for 331 wells. According to Table 5.1, a total of 330 wells were gauged (including LL1mw-085 that has a submersible well blockage which accounts for the 329 wells referenced on Page 5-1, lines 968-969).

Please confirm the total amount of wells on-site.

2. **Sampling Analysis Clarifications:**

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Please provide rationale for removing certain analyses, and if the rationale was provided in the report, make that rationale more clear in the text and tables of the annual addendums and the text and tables of this and future annual reports.

3. **Well Redevelopment Activities:**

   In the *Draft FWGWMP Annual Report for 2024* Section 8.2.1:Well Redevelopment it states that for 2025 a total of two wells will be considered for redevelopment, LL1mw-091 and FBWmw-175 (FBWmw-175 is not a well on the current FWGWMP list).

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4. **Ongoing Statistical Data Evaluation:**

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   "While the visibly recognizable best linear fit evaluations presented in the time series graphs are useful, please explain if further statistical evaluation of these data (in future reports) will be used to more accurately determine decreasing, stable or increasing trend lines in the data (utilizing Sanitas or some other acceptable form of statistical evaluation program). Statistical trend analyses would be recommended to help evaluate the ongoing FWGWMP and/or to help support future proposed well abandonment decisions."

   The July 11, 2022 Army response to this comment stated that the linear fit evaluations were useful, and indicated that further statistical evaluation of the chemicals of concern (COCs) will be provided in the Feasibility Study to then determine long-term monitoring needs and evaluate the long-term monitoring well network.

   Ohio EPA concurs with this approach and adds that such further statistical evaluation would also be appropriate in determining the discontinuation of specific well sampling (rather than the visual method). No response to this memorialization comment is necessary.

This *Draft Facility-Wide Ground Water Monitoring Program (FWGWMP) RVAAP-66 Facility-wide Groundwater Annual Report for 2024* was reviewed by personnel from Ohio EPA. Additional information is necessary to approve the document.

This letter is an official response from Ohio EPA that will be maintained as a public record. If you have questions or would like to set up a meeting to discuss these comments, you can contact me at liam.mcevoy@epa.ohio.gov or call me at (330) 963-1181.

Sincerely,

Liam P. McEvoy, PG
Geologist III
Division of Environmental Response and Revitalization

LPM/cm

ec: Kevin Sedlak, Army National Guard Directorate
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Megan Oravec, Ohio EPA, NEDO DERR
Craig Kowalski, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR
Carrie Rasik, Ohio EPA, CO DERR
Doug Switzer, Ohio EPA, CO DERR

Received April 30, 2025

April 29, 2025

TRANSMITTED ELECTRONICALLY

Ms. Kathryn Tait
Environmental Specialist 3
Ohio Adjutant General's Department
Camp James A Garfield JMTC
Attn: Environmental Office (Bldg 1071)
8451 State Route 5
Ravenna, OH 44266

RE: US Army Ammunition Plt RVAAP
Remediation Response
Approval
Project Records
Remedial Response
Portage County
ID#267000859036

Sent via email to: kathryn.s.tait.nfg@army.mil

Subject: **Former Ravenna Army Ammunition Plant**
Receipt of Final Facility-Wide Groundwater Monitoring Program, RVAAP-66 Facility-wide Groundwater Semi-Annual Report for Spring 2024 Sampling Event
Ohio EPA – Approval of Final Report

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) has received the Final Facility-Wide Groundwater Monitoring Program, RVAAP-66 Facility-wide Groundwater Semi-Annual Report for Spring 2024 Sampling Event for the Former Ravenna Army Ammunition Plant (RVAAP)[1], Portage and Trumbull Counties, Ohio dated March 31, 2025. This document was received via email by Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) on April 1, 2025.

The final document was reviewed by personnel from Ohio EPA's DERR. Pursuant to the Director's Findings and Orders paragraph 39 (b), Ohio EPA considers the document final and approved.

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3563445 - Final FWGWMP Semi-Annual Report for Spring 2024 Sampling Event

This letter is an official response from Ohio EPA that will be maintained as a public record. If you have questions or would like to set up a meeting to discuss these comments, you can contact me at liam.mcevoy@epa.ohio.gov or call me at (330) 963-1181.

Sincerely,



Liam P. McEvoy, PG
Geologist III
Division of Environmental Response and Revitalization

LPM/cm

ec: Kevin Sedlak, Army National Guard Directorate
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Megan Oravec, Ohio EPA, NEDO DERR
Craig Kowalski, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR
Carrie Rasik, Ohio EPA, CO DERR
Doug Switzer, Ohio EPA, CO DERR

April 18, 2025

Received April 21, 2025

TRANSMITTED ELECTRONICALLY

Ms. Kathryn Tait
Camp James A Garfield JMTC
Environmental Office, Bldg. 1071
8451 State Route 5
Ravenna, OH 44266

RE: US Army Ammunition Plt RVAAP
Remediation Response
Project Records
Remedial Response
Portage County
ID#267000859036

Sent via email to: kathryn.s.tait.nfg@army.mil

Subject: **Former Ravenna Army Ammunition Plant**
Draft Facility-wide Groundwater Monitoring Program Plan RVAAP-66 Facility-wide Groundwater Addendum for 2025
Ohio EPA – Comments and Request for Additional Information

Dear Ms. Tait:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the *Draft Facility-Wide Ground Water Monitoring Program (FWGWMP) RVAAP-66 Facility-wide Groundwater Addendum for 2025 (Draft FWGWMP Addendum for 2025*)[1] for the Former Ravenna Army Ammunition Plant (RVAAP), Portage and Trumbull Counties, Ohio dated February 13, 2025. This document was received via email by Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) on February 13, 2025. Comments on the document based on Ohio EPA review are provided below. Please provide responses to the enclosed comments in accordance with the Directors Findings and Orders.

COMMENTS

1. **Conditional Concurrence with the 2025 Sampling Scheme:**

   The *Draft FWGWMP Addendum for 2025*, within Section 3.0 Scope of Work, references that a total of 60 wells have been selected for sampling during 2025. These consist of the same 60 wells that had been selected for 2024 sampling.

   Data for some explosives were rejected from the Spring 2024 data due to lab quality parameters. These affected wells will be resampled to recollect explosives that were rejected in Spring 2024. The proposed analytical testing suites as well as the analytical testing methods proposed for 2025 remained the same

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3431247 - Draft FWGWMP RVAAP-66 Facility-wide Groundwater Addendum for 2025

as the 2024 sampling. No additional wells or sampling is being recommended, and Ohio EPA conditionally concurs with this *Draft FWGWMP Addendum for 2025* pending response from Comment 2 below.

2. **Sampling Analysis Clarifications:**

   In 2024, numerous analytical testing suites were discontinued from previous 2023 and earlier sampling, either cut back from previous well analytical or analyses were eliminated altogether. Analytical suites that appear to be missing include, but are not limited to, cyanide, nitrate, nitrite, sulfate, sulfide, alkalinity, TPH (GRO and DRO), and total organic carbon.

   It does not appear rationale was provided within the text from the *2023 Annual Report* or in the *2024 Addendum* regarding removal of these analyses.

   The *2024 Addendum* states in *Table 3-1: Recommended FWGWMP Wells for 2024* for example for well FBQmw-173 "Continue to monitor for explosives and assess effectiveness of MNA (anions, TOC, alkalinity, pH, and expanded explosives, which include explosive daughter products) as a remedial option" from 2023 sampling recommendations and "Continue monitoring for explosives to support the FS and future remedial decisions" for 2024 sampling. These recommendations appear similar since they do not specifically say that certain analyses will be eliminated nor the rationale for doing so. The results are presented in the addendum Table 3-1, but it doesn't state that certain analyses will be omitted based on these results as has been the case in previous year's iterations of this table.

   Please provide rationale for removing certain analyses and make that rationale more clear in the text and tables of the annual addendums and the text and tables of the annual reports.

This *Draft Facility-Wide Ground Water Monitoring Program (FWGWMP) RVAAP-66 Facility-wide Groundwater Addendum for 2025* was reviewed by personnel from Ohio EPA. Additional information is necessary to approve the document.

If you have questions or would like to set up a meeting to discuss these comments, you can contact me at liam.mcevoy@epa.ohio.gov or call me at (330) 963-1181.

Sincerely,

Liam P. McEvoy, PG
Geologist III
Division of Environmental Response and Revitalization

ec: Kevin Sedlak, Army National Guard Directorate
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Megan Oravec, Ohio EPA, NEDO DERR
Craig Kowalski, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR
Carrie Rasik, Ohio EPA, CO DERR
Doug Switzer, Ohio EPA, CO DERR

LPM/cm

Ohio Army National Guard
Camp James A. Garfield Joint Military Training Center
8451 State Route 5, Building 1071
Ravenna, Oho 44266

April 1, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Mr. Liam McEvoy, Site Coordinator
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, Ohio - Final Facility-wide Groundwater 2024 Semi-Annual Report (Work Activity No. 267000859036)

Dear Mr. McEvoy:

An electronic version of the *Final Facility-wide Groundwater Monitoring Program RVAAP-66 Facility-wide Groundwater Semi-Annual Report for Spring 2024 Sampling Event* was submitted to you for review using the Ohio EPA LiquidFile system. Due to the large file size, the text (including figures and tables) is included as a separate file from the appendices.

This report was prepared for the Army National Guard in support of the RVAAP Restoration Program. Please contact the undersigned at (614)336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak, ARNG Restoration Project Manager, at (330)235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.04.01 14:35:00 -04'00'

Kathryn S. Tait
Environmental Specialist 3
Ohio Army National Guard

cc: Megan Oravec, Ohio EPA
Tom Schneider, Ohio EPA
Kevin Sedlak, ARNG
Steve Kvaal, USACE Louisville
Jay Trumble, USACE Louisville
Jed Thomas, Leidos
Ryan Laurich, Leidos
Jennifer Tierney, Chenega (Admin Record)

Received March 19, 2025

March 18, 2025

TRANSMITTED ELECTRONICALLY

Mr. Kevin Sedlak
Restoration Program Manager
ARNG-ILE Clean Up
Camp James A Garfield JMTC
Attn: Environmental Office (Bldg 1071)
8451 State Route 5
Ravenna, OH 44266

RE: US Army Ammunition Plt RVAAP
Remediation Response
Approval
Project Records
Remedial Response
Portage County
ID#267000859036

Sent via email to: Kevin.m.sedlak.ctr@army.mil

Subject: Former Ravenna Army Ammunition Plant
Responses to Comments on the Draft RVAAP-66 Facility-wide Groundwater Semi-Annual Report for Spring 2024 Sampling Event (Work Activity No. 267-000-859-036)
Ohio EPA – Request for Final Report

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the RVAAP-66 Facility-Wide Groundwater, Responses to Comments on the Draft RVAAP-66 Facility-wide Groundwater Semi-Annual Report for Spring 2024 Sampling Event (Work Activity No. 267-000-859-036) for the Former Ravenna Army Ammunition Plant (RVAAP)[1], Portage and Trumbull Counties, Ohio dated March 10, 2025. This document was received via email by Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) on March 10, 2025. The response letter was prepared on behalf of the Army National Guard Bureau by Ohio Army National Guard/Leidos.

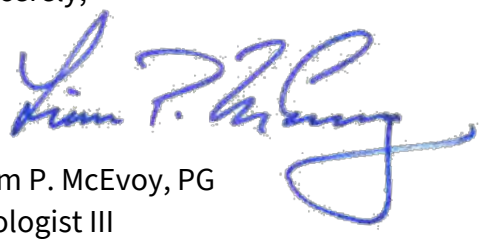
Based on our review of the Army National Guard's Response to Ohio EPA comments provided in your letter dated March 10, 2025, we find the responses generally acceptable, and the document

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3473310 - Response to Comments on DRAFT RVAAP-66 Facility-wide Spring 2024 Report

can be finalized. Please be sure that all agreed-upon changes, additions, and clarifications are provided in the final document.

This letter is an official response from Ohio EPA that will be maintained as a public record. If you have questions or would like to set up a meeting to discuss these comments, you can contact me at liam.mcevoy@epa.ohio.gov or call me at (330) 963-1181.

Sincerely,



Liam P. McEvoy, PG
Geologist III
Division of Environmental Response and Revitalization

LPM/cm

ec: Katie Tait, OHARNG RTLS
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Atiur Rahman, Ohio EPA, NEDO DERR
Megan Oravec, Ohio EPA, NEDO DERR
Craig Kowalski, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR
Carrie Rasik, Ohio EPA, CO DERR
Doug Switzer, Ohio EPA, CO DERR

NATIONAL GUARD BUREAU
111 SOUTH GEORGE MASON DRIVE
ARLINGTON VA 22204-1373

March 10, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Mr. Liam McEvoy
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, RVAAP-66 Facility-Wide Groundwater, Responses to Comments on the Draft RVAAP-66 Facility-wide Groundwater Semi-Annual Report for Spring 2024 Sampling Event (Work Activity No. 267-000-859-036)

Dear Mr. McEvoy:

The Army appreciates your comments on the Draft Facility-wide Groundwater Monitoring Program RVAAP-66 Facility-wide Groundwater Semi-Annual Report for Spring 2024 Sampling Event. Enclosed for your review are responses to your comments. Upon final resolution of the comments, the Army will provide a Final version of the report for Ohio EPA concurrence.

These comment responses were prepared for the Army National Guard in support of the RVAAP Restoration Program. Please contact Katie Tait, OHARNG Environmental Specialist 3, at 614-336-6136 or kathryn.s.tait.nfg@army.mil or the undersigned at 330-235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.03.10 11:19:47 -04'00'

FOR Kevin M. Sedlak
Restoration Project Manager
Army National Guard Directorate (Plateau GRP)

ec: Tom Schneider, Ohio EPA
Megan Oravec, Ohio EPA
Katie Tait, OHARNG
Steve Kvaal, USACE Louisville
Jay Trumble, USACE Louisville
Jed Thomas, Leidos
Ryan Laurich, Leidos
Jennifer Tierney, Chenega (Admin Record)

Subject: Former Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, RVAAP-66 Facility-wide Groundwater Semi-Annual Report for Spring 2024 Sampling Event (Work Activity No. 267-000-859-036)

COMMENTS

Ohio EPA Comment 1: Section 5.0 Data Quality Assessment:

The summary from Section 5.0 states "The overall quality of the Spring 2024 sampling event meets established project objectives. Through implementation of the project data verification, validation, and assessment process, project information has been determined to be acceptable for use."

Section 5.0 Data Quality Assessment of the *Draft FWGWMP Semi-Annual Report for Spring 2024* indicated that a Data Quality Assessment (DQA) was performed and included in Appendix F and documented Quality Control procedures, the quality of the data collected, and any problems encountered during the DQA.

A review of Appendix F.5 (Data Quality Assessment Report) states "The overall quality of the Spring 2024 sampling event meets established project objectives with the exception noted above. Through implementation of the project data verification, validation, and assessment process, project information has been determined to be acceptable for use."

Appendix F.5 explains that the exception noted above (in Section F.4.13 Completeness) was that the completeness goal of 95% was not achieved, as 72 explosives results (which was 7.9% of the explosives data) were qualified "R" and considered unusable due to significant non-compliance QC results. Overall, 94.7% of the data were considered valid and usable, close to the 95%.

Ohio EPA recommends confirmation that the project information/data definitely has been determined to be acceptable for use, and if any Quality Control measures will be implemented at the laboratory in an effort to prevent significant non-compliance QC results in the future.

> *Army Response*: Clarification and agree. There were results from the Spring 2024 sampling and analysis event that were not used, as they did not meet FWGWMP project QA requirements. As noted in the DQA, 72 of 912 explosives results were rejected due to LCS non-compliances. During the Fall 2024 sampling and analysis event, appropriate corrective action (re-extraction/re-analysis) was performed as required for any samples associated with outlier LCS recoveries, and no Fall 2024 data were qualified as rejected.
>
> Section 5, lines 257 through 259 of the report will be revised as follows: "The overall quality of the data used to evaluate the Spring 2024 sampling event (59 FWGWMP wells [Appendix F]) meets established project objectives ~~.~~, explosives data that were rejected were not used in evaluating project objectives. Through implementation of the project data verification, validation, and assessment process, project information has been determined to be acceptable for use.

Ohio EPA Comment 2: Well Redevelopment – Elevated Turbidity Results:

Section 6.0 Well Redevelopment of the *Draft FWGWMP Semi-Annual Report for Spring 2024* indicated that Section 4.4.3 of the 2023 Annual Report (Leidos 2024b) recommended that 14 monitoring wells (*FWGmw-011, FWGmw-021, LL1mw-063, LL1mw-081, LL1mw-082, LL1mw-086, LL2mw-059, LL3mw-238, LL3mw-239, LL12mw-187, LL12mw-244, LL12mw-246, WBGmw-016, and WBGmw-017*) be considered for redevelopment during the Spring 2024 FWGWMP sampling event.

- Well redevelopment activities described in Section 6.0 indicated that the following one well was dry during the sampling event and could not be redeveloped: *LL1mw-063*.
- Redevelopment activities were deemed successful in the following six wells: *LL1mw-086, LL2mw-059, LL3mw-239, LL12mw-187, LL12mw-246, and WBGmw-017*.
- Due to post-development nephelometric turbidity unit (NTU) readings continuing to range from 50 to 300 (with one well exceeding 1,000), it was stated that further evaluation and recommendations will be provided in the 2024 Annual Report for the following seven wells: *FWGmw-011, FWGmw-021, LL1mw-081, LL1mw-082, LL3mw-238, LL12mw-244, and WBGmw-016*.

Ohio EPA is pleased to read the report that some wells were able to be redeveloped and looks forward to the further evaluation and recommendations for remaining well redevelopment activities. As mentioned previously, Ohio EPA recommends that additional redevelopment activities be conducted in accordance with Chapter 8 of Ohio EPA's Technical Guidance Manual (TGM) suggested methods, (including a Waterra surge pump or equivalent if necessary to help remove sediments) and in accordance with Section 3.5.2 of the approved Revised Final Remedial Investigation Work Plan (RIWP) produced by TEC-Weston and dated December 21, 2016.

Army Response: Clarification. The following summary list includes further evaluation and recommendations for *FWGmw-011, FWGmw-021, LL1mw-081, LL1mw-082, LL3mw-238, LL12mw-244, and WBGmw-016* as presented in the Draft 2024 Annual Report.

- ***LL12mw-244*:** Redevelopment was completed with a Waterra pump. Redevelopment with the Waterra pump did not have any significant effect on turbidity. This well was also redeveloped in Spring 2021 and Spring 2023. Redevelopment in Spring 2024 with the Waterra pump removed approximately 1.97 ft. of sediment from the bottom of the well. Turbidity measurements during redevelopment remained > 1,000 NTUs (above the limits of the water quality meter used during redevelopment). Following redevelopment, turbidity measurements during the Spring 2024 sampling event were > 4,000 NTUs (above the limits of the water quality meter used during sampling). Redevelopment in Spring 2023 with a monsoon pump removed approximately 1.17 ft. of sediment from the bottom of the well. Turbidity measurements during redevelopment remained > 1,000 NTUs. Following redevelopment, turbidity measurements during the Spring 2023 sampling event were > 2,500 NTUs. Historical data indicate that the well is likely within a naturally high-turbidity water-bearing zone/aquifer. Further redevelopment activities are not being recommended as the target analytes for this well do not include metals. (Note: Due to the ineffectiveness of the Waterra surge pump, a bailer and monsoon pump were used for the subsequent wells).
- ***FWGmw-011*:** Redevelopment was completed with a bailer and a monsoon pump. Based on post redevelopment field measurements, 0.03 ft. of sediment were removed from the bottom of the well. Post redevelopment field observations also indicate there is no measurable amount sediment at the bottom of the well (hard bottom). Further redevelopment activities are not being recommended as there is currently no measurable amount of sediment at the bottom of the well. Additionally, the target analytes for this well do not include metals.
- ***FWGmw-021*:** Redevelopment was completed with a monsoon pump. Based on post redevelopment field measurements, 0.91 ft. of sediment were removed from the bottom of the well. Approximately 0.39 ft. of sediment could not be removed from the well. Historical data indicate that the well is likely within a naturally high-turbidity water-bearing zone/aquifer.

Further redevelopment activities are not being recommended as the target analytes for this well do not include metals.

- ***LL1mw-081*:** Redevelopment was completed with a bailer. Post redevelopment field observations indicate there is no measurable amount of sediment at the bottom of the well (hard bottom). Turbidity measurements during the Spring 2024 (9.44 NTU) and Fall 2024 (6.60 NTU) FWGWMP sampling events were both below 10 NTUs. Further redevelopment activities are not being recommended as this well cannot sustain continuous development (multiple days are required to allow for the well to fully recharge) and it is unlikely that development criteria will stabilize. Additionally, the target analytes for this well do not include metals.
- ***LL1mw-082*:** Redevelopment was completed with a bailer. Post redevelopment field observations indicate there is no measurable amount of sediment at the bottom of the well (hard bottom). Further redevelopment activities are not being recommended as this well cannot sustain continuous development (multiple days are required to allow for the well to fully recharge) and it is unlikely that development criteria will stabilize. Additionally, the target analytes for this well do not include metals.
- ***LL3mw-238*:** Redevelopment was completed with a bailer. Post redevelopment field observations indicate there is no measurable amount of sediment at the bottom of the well (hard bottom). Turbidity measurements during the Spring 2024 (0.19 NTU) and Fall 2024 (0.47 NTU) FWGWMP sampling events were both below 10 NTUs. Further redevelopment activities are not being recommended as this well cannot sustain continuous development (multiple days are required to allow for the well to fully recharge) and it is unlikely that development criteria will stabilize. Additionally, the target analytes for this well do not include metals.
- ***WBGmw-016:*** Redevelopment was completed with a monsoon pump. Turbidity measurements during the Spring 2024 (6.41 NTU) and Fall 2024 (5.00 NTU) FWGWMP sampling events were both below 10 NTUs. Further redevelopment activities are not being recommended as the target analytes for this well do not include metals.

Received February 24, 2025

February 21, 2025

TRANSMITTED ELECTRONICALLY

Mr. Kevin Sedlak
Restoration Program Manager
ARNG-ILE Clean Up
Camp James A Garfield JMTC
Attn: Environmental Office (Bldg 1071)
8451 State Route 5
Ravenna, OH 44266

RE: US Army Ammunition Plt RVAAP
Remediation Response
Project Records
Remedial Response
Portage County
ID#267000859036

Sent via email to: Kevin.m.sedlak.ctr@army.mil

Subject: Former Ravenna Army Ammunition Plant
Ohio EPA Comments on the "Draft Facility-wide Groundwater Monitoring Program Plan RVAAP-66 Facility-wide Groundwater Semi-Annual Report for Spring 2024 Sampling Event" dated October 18, 2024 (Work Activity No. 267000859036)

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the "Draft Facility-wide Groundwater Monitoring Program Plan RVAAP-66 Facility-wide Groundwater Semi-Annual Report for Spring 2024 Sampling Event" for the Former Ravenna Army Ammunition Plant (RVAAP), Portage and Trumbull Counties, Ohio (Camp James A. Garfield Joint Training Facility-CJAG)[1], dated October 18, 2024. This document was received via email by Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) on October 21, 2024. The report was prepared for the United States Army Corps of Engineers on behalf of the National Guard Bureau by Leidos under Contract Number W912QR-21-D-0016. Comments on the document based on Ohio EPA review are provided below. Please provide responses to the following comments in accordance with the Directors Final Findings and Orders.

DRAFT FWGWMP SEMI-ANNUAL REPORT FOR SPRING 2024

The *Draft Facility-Wide Ground Water Monitoring Program (FWGWMP) Semi-Annual Report for Spring 2024* summarizes ground water monitoring activities conducted during the Spring 2024 sampling event, and provides descriptions of field activities performed, presents field and analytical results, and evaluates

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3366182

chemical data collected per the approved ground water sampling scheme specified in the *Final FWGWMP Addendum for 2024* dated August 20, 2024.

According to the *Draft FWGWMP Addendum for 2024* dated January 23, 2024, proposed sampling included a total of 58 wells during 2024 (up from 48 wells sampled in 2023) - 12 additional permanent wells and one temporary well were installed and sampled in 2023. The temporary well at the CC RVAAP-71 Barn No. 5 Petroleum Release AOC was found to be below applicable screening levels and was scheduled for abandonment in 2024. Ohio EPA comments to the *Draft FWGWMP Addendum for 2024* included suggestions to verify if 58 or 60 wells were slated for sampling, so the *Final FWGWMP Addendum for 2024* included proposed sampling of a total of 60 wells.

According to Section 3.1, Table 3-1, and Table 4-1 of the *Draft FWGWMP Semi-Annual Report for Spring 2024*, 59 out of the 60 wells specified in the *Final FWGWMP Addendum for 2024* were sampled. Monitoring well LL1mw-063 was dry during the entire sampling event and could not be sampled.

COMMENTS

1. **Section 5.0 Data Quality Assessment:**

   The summary from Section 5.0 states "The overall quality of the Spring 2024 sampling event meets established project objectives. Through implementation of the project data verification, validation, and assessment process, project information has been determined to be acceptable for use."

   Section 5.0 Data Quality Assessment of the *Draft FWGWMP Semi-Annual Report for Spring 2024* indicated that a Data Quality Assessment (DQA) was performed and included in Appendix F and documented Quality Control procedures, the quality of the data collected, and any problems encountered during the DQA.

   A review of Appendix F.5 (Data Quality Assessment Report) states "The overall quality of the Spring 2024 sampling event meets established project objectives with the exception noted above. Through implementation of the project data verification, validation, and assessment process, project information has been determined to be acceptable for use."

   Appendix F.5 explains that the exception noted above (in Section F.4.13 Completeness) was that the completeness goal of 95% was not achieved, as 72 explosives results (which was 7.9% of the explosives data) were qualified "R" and considered unusable due to significant non-compliance QC results. Overall, 94.7% of the data were considered valid and usable, close to the 95%.

   Ohio EPA recommends confirmation that the project information/data definitely has been determined to be acceptable for use, and if any Quality Control measures will be implemented at the laboratory in an effort to prevent significant non-compliance QC results in the future.

2. **Well Redevelopment – Elevated Turbidity Results:**

   Section 6.0 Well Redevelopment of the *Draft FWGWMP Semi-Annual Report for Spring 2024* indicated that Section 4.4.3 of the 2023 Annual Report (Leidos 2024b) recommended that 14 monitoring wells (*FWGmw-011, FWGmw-021, LL1mw-063, LL1mw-081, LL1mw-082, LL1mw-086, LL2mw-059, LL3mw-238, LL3mw-239, LL12mw-187, LL12mw-244, LL12mw-246, WBGmw-016, and WBGmw-017)* be considered for redevelopment during the Spring 2024 FWGWMP sampling event.

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Ohio EPA is pleased to read the report that some wells were able to be redeveloped and looks forward to the further evaluation and recommendations for remaining well redevelopment activities. As mentioned previously, Ohio EPA recommends that additional redevelopment activities be conducted in accordance with Chapter 8 of Ohio EPA's Technical Guidance Manual (TGM) suggested methods, (including a Waterra surge pump or equivalent if necessary to help remove sediments) and in accordance with Section 3.5.2 of the approved Revised Final Remedial Investigation Work Plan (RIWP) produced by TEC-Weston and dated December 21, 2016.

This "Draft Facility-wide Groundwater Monitoring Program Plan RVAAP-66 Facility-wide Groundwater Semi-Annual Report for Spring 2024 Sampling Event" was reviewed by personnel from Ohio EPA. Additional information is necessary to approve the document.

If you have questions or would like to set up a meeting to discuss these comments, you can contact me at liam.mcevoy@epa.ohio.gov or call me at (330) 963-1181.

Sincerely,

Liam P. McEvoy, PG
Geologist III
Division of Environmental Response and Revitalization

LPM/cm

ec: Katie Tait, OHARNG RTLS
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Atiur Rahman, Ohio EPA, NEDO DERR
Megan Oravec, Ohio EPA, NEDO DERR
Craig Kowalski, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR
Carrie Rasik, Ohio EPA, CO DERR
Doug Switzer, Ohio EPA, CO DERR

NATIONAL GUARD BUREAU
111 SOUTH GEORGE MASON DRIVE
ARLINGTON VA 22204-1373

February 13, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Mr. Liam McEvoy, Site Coordinator
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, Draft Facility-wide Groundwater Addendum for 2025 (Work Activity No. 267000859036)

Dear Mr. McEvoy:

Attached for your review is the *Draft Facility-wide Groundwater Monitoring Program Plan RVAAP-66 Facility-wide Groundwater Addendum for 2025*. Due to small file size, this report is only being sent to you via email and not through the Ohio EPA LiquidFile system.

This addendum was prepared for the Army National Guard in support of the RVAAP Restoration Program. Please contact Katie Tait, OHARNG Environmental Specialist 3, at 614-336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak at 330-235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.02.13 11:59:16 -05'00'

FOR Kevin M. Sedlak
Restoration Project Manager
Army National Guard Directorate

cc: Megan Oravec, Ohio EPA, NEDO
Tom Schneider, Ohio EPA, SWDO
Katie Tait, OHARNG
Steve Kvaal, USACE Louisville
Jay Trumble, USACE Louisville
Jed Thomas, Leidos
Ryan Laurich, Leidos
Jennifer Tierney, Chenega

NATIONAL GUARD BUREAU
111 SOUTH GEORGE MASON DRIVE
ARLINGTON VA 22204-1373

February 13, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Mr. Liam McEvoy, Site Coordinator
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, Draft Facility-wide Groundwater 2024 Annual Report (Work Activity No. 267000859036)

Dear Mr. McEvoy:

An electronic version of the *Draft Facility-wide Groundwater Monitoring Program RVAAP-66 Facility-wide Groundwater Annual Report for 2024* has been sent using the Ohio EPA LiquidFile system. Due to the file size, the text (including figures and tables) will be included as a separate file from the appendices.

This report was prepared for the Army National Guard in support of the RVAAP Restoration Program. Please contact Katie Tait, OHARNG Environmental Specialist 3, at 614-336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak, ARNG Restoration Project Manager, at 330-235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.02.13 11:54:41 -05'00'

FOR Kevin M. Sedlak
Restoration Project Manager
Army National Guard Directorate

cc: Megan Oravec, Ohio EPA, NEDO
Tom Schneider, Ohio EPA, SWDO
Katie Tait, OHARNG
Steve Kvaal, USACE Louisville
Jay Trumble, USACE Louisville
Jed Thomas, Leidos
Ryan Laurich, Leidos
Jennifer Tierney, Chenega

January 15, 2025

Received January 16, 2025

TRANSMITTED ELECTRONICALLY

Mr. Kevin Sedlak
Restoration Program Manager
ARNG-ILE Clean Up
Camp James A Garfield JMTC
Attn: Environmental Office (Bldg 1071)
8451 State Route 5
Ravenna, OH 44266

RE: US Army Ammunition Plt RVAAP
Remediation Response
Approval
Project Records
Remedial Response
Portage County
ID#267000859036

Sent via email to: Kevin.m.sedlak.ctr@army.mil

Subject: Former Ravenna Army Ammunition Plant
Receipt of Final Facility-Wide Groundwater Monitoring Program, RVAAP-66 Facility-wide Groundwater Annual Report for 2023 (Work Activity No. 267000859036)
Ohio EPA – Approval of Final Report

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) has received the Final Facility-Wide Groundwater Monitoring Program, RVAAP-66 Facility-Wide Groundwater Annual Report for 2023 (Work Activity No. 267000859036) for the Former Ravenna Army Ammunition Plant (RVAAP)[1], Portage and Trumbull Counties, Ohio dated November 1, 2024. This document was received via email by Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) on November 5, 2024. The report was prepared for the United States Army Corps of Engineers on behalf of the National Guard Bureau by Leidos.

The final document was reviewed by personnel from Ohio EPA's DERR. Pursuant to the Director's Findings and Orders paragraph 39 (b), Ohio EPA considers the document final and approved.

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3296204

This letter is an official response from Ohio EPA that will be maintained as a public record. If you have questions or would like to set up a meeting to discuss these comments, you can contact me at liam.mcevoy@epa.ohio.gov or call me at (330) 963-1181.

Sincerely,



Liam P. McEvoy, PG
Geologist III
Division of Environmental Response and Revitalization

LPM/cm

ec: Katie Tait, OHARNG RTLS
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Atiur Rahman, Ohio EPA, NEDO DERR
Megan Oravec, Ohio EPA, NEDO DERR
Craig Kowalski, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR
Carrie Rasik, Ohio EPA, CO DERR
Doug Switzer, Ohio EPA, CO DERR

March 17, 2025

Received March 18, 2025

TRANSMITTED ELECTRONICALLY

Mr. Kevin Sedlak
Restoration Program Manager
ARNG-ILE Clean Up
Camp James A Garfield JTC
1438 State Route 534 SW
Newton Falls, OH 44444

RE: US Army Ammunition Plt RVAAP
Remediation Response
Project Records
Remedial Response
Portage County
ID # 267000859276

Sent via email to: Kevin.m.sedlak.ctr@army.mil

Subject: Former Ravenna Army Ammunition Plant
Response to Ohio EPA's Comments on the Excavation Confirmation Sample Results Memo from CC RVAAP-70 East Classification Yard
Ohio EPA Approval with Comments

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) received and reviewed the "Response to Ohio EPA Comments - Excavation Confirmation Sample Results Memo for CC RVAAP 70 – East Classification Yard – Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage and Trumbull Counties, OH", received on January 17, 2025[1].

Approval with comments on the January 17, 2025, document based on Ohio EPA's review are provided below.

Ohio EPA acknowledges the findings within the sample memo and understands that the current funding to complete additional sampling or over excavating is unavailable for the current scope of work. The final completion report will document additional excavation or samples collection that will be needed for completion. The Army will develop a scope of work and pursue a new contract to complete work at CC RVAPP-70.

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3394284

This letter is an official response from Ohio EPA that will be maintained as a public record. If you have any questions, please contact me at (330) 963-1109, or via email at craig.kowalski@epa.ohio.gov.

Sincerely,

Craig Kowalski

Craig Kowalski
Site Coordinator
Division of Environmental Response and Revitalization

CK/cm

ec: Katie Tait, OHARNG RTLS, CJAG
Megan Oravec, Ohio EPA, NEDO DERR
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR
Brian Tucker, Ohio EPA, CO DERR

NATIONAL GUARD BUREAU
111 SOUTH GEORGE MASON DRIVE
ARLINGTON VA 22204-1373

January 17, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Mr. Craig Kowalski
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Response to Ohio EPA Comments - Excavation Confirmation Sample Results Memo for CC RVAAP 70 – East Classification Yard – Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage and Trumbull Counties, OH (Ohio EPA ID 267000859276)

Dear Mr. Kowalski:

Comments from the Ohio EPA on the Excavation Confirmation Sample Results Memo for CC RVAAP-70 East Classification Yard were received on December 19, 2025. Ohio EPA presented two action item options in the letter: sampling of the road/asphalt and associated interface or continue the overexcavation and complete additional confirmation sampling. Contract options for overexcavation have already been requested and obligated for overexcavation that was already previously completed. Additional funding to conduct additional overexcavation or sampling of the road/asphalt with sampling plan is not available. Additionally, both of these items are beyond the scope of the current contract. As such, the following tasks will be conducted to complete the project under the existing contract:

- survey the current limits of the completed excavation;
- backfill the excavation with approved backfill source material;
- grade and seed the excavated area;
- finish the NTCRA completion report.

The Final NTCRA completion report will document that additional investigation needs to be completed. The Army will develop a scope of work and pursue a new contract to complete the additional work at CC RVAAP-70.

Please contact Katie Tait, OHARNG Environmental Specialist 3, at (614) 336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak, ARNG Restoration Project Manager at (330) 235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.01.17 11:31:40 -05'00'

FOR Kevin M. Sedlak
ARNG Restoration Project Manager

cc:
Marco Mendoza, PIKA-Insight JV
Kathryn Tait, OHARNG
Steve Kvaal, USACE Louisville

Jeremy Renner, USACE Louisville
Jennifer Tierney, Chenega
Tom Schneider, Ohio EPA
Megan Oravec, Ohio EPA
Jennifer Tierney, Chenega (Admin Record)

Ohio Environmental Protection Agency

EPA.Ohio.gov

Mike DeWine, Governor Jim Tressel, Lt. Governor John Logue, Director

Received 18 July 2025

July 17, 2025

TRANSMITTED ELECTRONICALLY

Ms. Kathryn Tait
Environmental Specialist 3
Ohio Adjutant General's Department
Camp James A Garfield JMTC
Attn: Environmental Office (Bldg 1071) 8451 State
Route 5
Ravenna, OH 44266

RE: US Army Ammunition Plt RVAAP
Remediation Response
Project Records
Remedial Response
Portage County
ID # 267000859216

Sent via email to: : kathryn.s.tait.nfg@army.mil

Subject: **Former Ravenna Army Ammunition Plant**
Final Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP), CC RVAAP-78
Quarry Pond Surface Dump
Ohio EPA Approval

Dear Ms. Tait:

The Ohio Environmental Protection Agency (Ohio EPA), has received and reviewed the "The Final Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP) for Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, CC RVAAP-78 Quarry Pond Surface Dump. The final UFP-QAPP[1] was received via email on March 31, 2025.

The final document was reviewed by personnel from Ohio EPA's DERR. Pursuant to the Director's Findings and Orders paragraph 39 (b), Ohio EPA considers the document approved.

If you have any questions, please contact me at (330) 963-1109, or via email at craig.kowalski@epa.ohio.gov.

Sincerely,

Craig Kowalski

Craig Kowalski, Site Coordinator
Division of Environmental Response and Revitalization

ec: Kevin Sedlak, Army National Guard Directorate
Megan Oravec, Ohio EPA, NEDO DERR
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR

CK/cm

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3509693

Northeast District Office
2110 E. Aurora Road
Twinsburg, Ohio 44087 U.S.A.

330 | 963 1200
epa.ohio.gov

The State of Ohio is an Equal Opportunity Employer and Provider of ADA Services

NATIONAL GUARD BUREAU
111 SOUTH GEORGE MASON DRIVE
ARLINGTON VA 22204-1373

March 31, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Mr. Craig Kowalski
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Camp James A. Garfield JMTC, Portage/Trumbull Counties, Ohio - CC RVAAP-78 Quarry Pond Surface Dump, Final Uniform Federal Policy-Quality Assurance Project Plan (Work Activity No. 267000859216)

Dear Mr. Kowalski:

For your review, an electronic version of the *Final Uniform Federal Policy-Quality Assurance Project Plan for the Remedial Investigation of Asbestos at CC RVAAP-78 Quarry Pond Surface Dump* has been sent using the Ohio EPA LiquidFile system. This plan was prepared for the Army National Guard in support of the RVAAP Restoration Program. Please contact Katie Tait at 614-336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak at 330-235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275
Digitally signed by TAIT.KATHRYN.SERENA.1289508275
Date: 2025.03.31 08:57:49 -04'00'

FOR Kevin M. Sedlak
Restoration Project Manager
Army National Guard Directorate (Plateau GRP)

cc: Tom Schneider, Ohio EPA
Megan Oravec, Ohio EPA
Katie Tait, OHARNG
Steve Kvaal, USACE Louisville
Jeremy Renner, USACE Louisville
Jed Thomas, Leidos
Ryan Laurich, Leidos
Jennifer Tierney, Chenega

Received March 20, 2025

March 20, 2025

TRANSMITTED ELECTRONICALLY

Mr. Kevin Sedlak
Restoration Program Manager
ARNG-ILE Clean Up
Camp James A Garfield JTC
1438 State Route 534 SW
Newton Falls, OH 44444

RE: US Army Ammunition Plt RVAAP
Remediation Response
Project Records
Remedial Response
Portage County
ID # 267000859216

Sent via email to: Kevin.m.sedlak.ctr@army.mil

Subject: Former Ravenna Army Ammunition Plant
Responses to Comments on the Draft Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP) for Remedial Investigation of Asbestos at CC RVAAP-78 Quarry Pond Surface Dump
Ohio EPA - Request for Final Document

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the Army's Responses to Comments on the Draft Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP) for Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, CC RVAAP-78 Quarry Pond Surface Dump. The draft UFA-QAPP was received at Ohio EPA's (NEDO), Division of Environmental Response and Revitalization (DERR) via email on October 15th, 2024[1], and on December 11th, 2024, Ohio EPA provided comments on the draft UFA-QAPP[2]. Ohio EPA received the Army's Response to Comments for the UFP-QAPP via email on January 7, 2025[3].

Based on our review of the Responses to Ohio EPA comments provided in your letter dated January 7, 2025, we find the responses generally acceptable, and the document can be finalized. Please be sure that all agreed-upon changes, additions, and clarifications are

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3261773
[2] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3386436
[3] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3373588

provided in the final document.

If you have any questions, please contact me at (330) 963-1109, or via email at craig.kowalski@epa.ohio.gov.

Sincerely,

Craig Kowalski

Craig Kowalski
Site Coordinator
Division of Environmental Response and Revitalization

CK/cm

ec: Katie Tait, OHARNG RTLS, CJAG
Megan Oravec, Ohio EPA, NEDO DERR
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR

January 7, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Mr. Craig Kowalski
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, Responses to Comments on the Draft Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP) for Remedial Investigation of Asbestos at CC RVAAP-78 Quarry Pond Surface Dump (Work Activity No. 267-000-859-216)

Dear Mr. Kowalski:

The Army appreciates your comments on the *Draft Uniform Federal Policy-Quality Assurance Project Plan for Remedial Investigation of Asbestos at CC RVAAP-78 Quarry Pond Surface Dump*. Enclosed for your review are responses to your comments. Upon final resolution of the comments, the Army will provide a Final version of the report for Ohio EPA concurrence.

These comment responses were prepared for the Army National Guard in support of the RVAAP Restoration Program. Please contact the undersigned at 330.235.2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.01.07 07:07:03 -05'00'

FOR Kevin M. Sedlak
Restoration Project Manager
Army National Guard Directorate

ec: Megan Oravec, Ohio EPA
Thomas Schneider, Ohio EPA
Katie Tait, OHARNG
Steve Kvaal, USACE Louisville
Jeremy Renner, USACE Louisville
Jennifer Tierney, Chenega, Admin Record
Jed Thomas, Leidos
Ryan Laurich, Leidos

Subject: Former Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, Draft Uniform Federal Policy-Quality Assurance Project Plan for Remedial Investigation of Asbestos at CC RVAAP-78 Quarry Pond Surface Dump (Work Activity No. 267-000-859-216)

COMMENTS

Ohio EPA Comment 1: Section 11.2.5 Describes (CAHES) Certified Asbestos Hazard Evaluation Specialist will assess the condition of the asbestos containing material (ACM), which in turn will determine if it is friable or nonfriable. It is intended for trenching to be conducted until the extent of ACM is established.

Section 18.3.5 Describes determine if suspect ACM is uncovered during excavation activities. The CAHES will sample suspect ACM and provide a condition grade to determine if the material is friable. Soils that are removed during trenching will be placed on plastic sheeting, wetted as necessary to prevent generating dust, and covered with plastic sheeting until the trench is complete and the soils can be put back. At the completion of the investigation, the trenches will be abandoned by refilling the trenches with the excavated soil.

Action Item: Please confirm that the CAHES is certified by the State of Ohio (Ohio EPA) with a valid certificate to perform Asbestos Sampling and/or Oversite duties that are applicable to the certification.

> *Army Response*: Agree. The first callout of the CAHES (Section 11.2.3 – fourth bullet in list) has been revised to include the language provided under the Action Item for this comment and reads as follows:
>
> Field observations made during trenching activities per this UFP-QAPP made by a Certified Asbestos Hazard Evaluation Specialist (CAHES). The CAHES will be certified by the State of Ohio (Ohio EPA) with a valid certificate to perform asbestos sampling and/or oversight duties that are applicable to the certification.

Ohio EPA Comment 2: Sections 15.1 Asbestos-Containing Soil and 17.2 Sampling Areas and Rational, discuss using both visual determination and soil sample results above 1% asbestos as the criteria for determining the extent of ACM in area C of RVAAP-78 Quarry Pond Surface Dump. Following the investigation described in the QAPP, a summary of the results describing the extent and volume of ACM, asbestos contaminated soil, and the area of concern (AOC) history will be provided in a remedial investigation (RI) report. Section 17.2 states the RI will be produced without a risk assessment section as the project will move directly into a feasibility study to evaluate remedial alternatives to address ACM contamination.

Action Item: Clarify in the revised QAPP that the results of the investigation will be included in a combined RI/FS or another document (e.g., streamlined FS) and that potential risk from visual ACM and contaminated soil above 1% asbestos will be considered unacceptable, requiring a remedy for area C in the AOC. The combined RI/FS or other document will also evaluate appropriate remedial alternatives for reaching cleanup goals at area C in RVAAP-78 Quarry Pond Surface Dump.

> *Army Response*: Clarification and agree. Agreed to during the November 7, 2024 conference call with Ohio EPA, the Army, and Leidos, the results of the investigation will be included in a combined RI/FS. The RI portion of the report will present the results of this investigation and will not require calculation of risks. The FS portion of the report will develop and evaluate remedial alternatives to address all ACM and asbestos-contaminated soil required to achieve project cleanup

Received September 11, 2025

September 10, 2025

TRANSMITTED ELECTRONICALLY

Ms. Kathryn Tait
Camp James A. Garfield JMTC
Environmental Office, Bldg. 1071
8451 State Route 5
Ravenna, OH 44266

Sent via email to: kathryn.s.tait.nfg@army.mil

RE: US Army Ravenna Ammunition Plt RVAAP
Remediation Response
Project records
Federal Facilities
Remedial Investigation
Portage County
267000859274

Subject: **Former Ravenna Army Ammunition Plant - Open Demolition Area #2**
Final Summary of Findings, Magnetometer-Assisted Survey of Sand Creek at Open Demolition Area 2 (ODA2)
Ohio EPA Approval

Dear Ms. Tait:

On June 9, 2025, the Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) received and has reviewed the Final Summary of Findings, Magnetometer-Assisted Survey of Sand Creek at Open Demolition Area 2 (ODA2) (the "Report")[1] - conducted November 18-19, 2024. The Report documented the results of the Magnetometer-Assisted Survey of Sand Creek conducted by USACE Ordnance and Explosive Safety Specialist (OESS) personnel at ODA2. The document was prepared and submitted by U. S. Army Corps of Engineers – Baltimore District.

Ohio EPA concurs with the findings and approves the final report.

If you have any questions concerning this letter or report, please contact me at (330) 963-1235 or nicholas.roope@epa.ohio.gov.

Sincerely,

Nicholas Roope, Environmental Specialist
Division of Environmental Response and Revitalization

ec: Mr. Kevin Sedlak, ARNG-IEE-D
Megan Oravec, Ohio EPA, NEDO, DERR
Natalie Oryshkewych, Ohio EPA, NEDO, DERR
Thomas Schneider, Ohio EPA, SWDO, DERR

NR/cm

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3818644 – Final Summary of Findings, Magnetometer-Assisted Survey of Sand Creek

Received October 8, 2025

October 7, 2025

TRANSMITTED ELECTRONICALLY

Ms. Kathryn Tait
Camp James A. Garfield JMTC
Environmental Office, Bldg. 1071
8451 State Route 5
Ravenna, OH 44266

Sent via email to: kathryn.s.tait.nfg@army.mil

RE: US Army Ravenna Ammunition Plt
RVAAP
Remediation Response
Project records
Remedial Investigation
Federal Facilities
Portage County
267000859274

Subject: Former Ravenna Army Ammunition Plant
Draft Remedial Investigation Report – Open Demolition Area #2 (RVAAP-004-R-01) Munitions Response Site - Ohio EPA Comments

Dear Ms. Tait:

On August 6, 2025, the Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) received the "*Response to Ohio EPA Comments on the Draft Remedial Investigation Report – Open Demolition Area #2 (RVAAP-004-R-01)*"[1] (the "RTCs") dated August 6, 2025. The RTCs were prepared for the Army National Guard (ARNG) in support of the Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Camp James A. Garfield (CJAG), Portage/Trumbull Counties, Ohio and U.S. Army Corps of Engineers (USACE), Baltimore District. Below are additional comments provided to support the continued investigation of the Open Demolition Area #2 (ODA2) Munitions Response Site (MRS). Please note, some of Ohio EPA's comments are applicable to multiple comments as specified below.

Comments

1. Response to Comments 1, 3, and 12:

Ohio EPA does not approve of a five-point or any composite (excluding incremental sampling methodology (ISM)) sample result(s) being used for determining the nature and extent of

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3817553 –ODA#2 RI RTC's

contamination or when developing an exposure point concentration for risk characterization. However, Ohio EPA evaluated the source area five-point composite data collected with the ISM values from the kick-out area and general background soil background concentrations to compare common soil metal concentrations between the areas/methods. Many of the trenching results were similar to the ISM values for these metals. Elevated metals (*e.g.*, Calcium, Magnesium, Manganese) are not considered munitions constituents (MC) and these metals, including Barium, have relatively low toxicity. However, trenches 4 and 29 have elevated metal concentrations in the subsurface that could be indicative hotspots.

Section 5.3.1 of the November 2009, Final Army Military Munitions Response Program (MMRP) Remedial Investigation/Feasibility Study (RI/FS) Guidance (the "Guidance")[2] states, "The environmental characteristics of MC in soil indicate that they [MC] are extremely heterogeneous in spatial distribution… At locations used for [open burn/open demolition] OB/OD, MC-related contamination can vary greatly (from nonexistent to the presence of chunks of explosive filler)." The primary mechanism for release at the MRS is historical OB/OD activity. If the multiplied approach is applied to the results (analytical results multiplied by the number of points per composite), then the metals contamination present may be significant.

Additionally, the Guidance states, "MC contamination can result from corrosion of munitions (*e.g.*, unexploded ordnance (UXO), Discarded Military Munitions (DMM)) or from low-order detonations." Section 5.3.3.2 of the Guidance discusses how composite and discrete sampling methods are not representative sampling methods. The Guidance specifically calls out the use of multi-incremental sampling methods and the collection of 30 or more individual subsamples over a defined decision unit at a specific depth interval to provide adequate representation of the heterogeneous distribution. As previously discussed, and responded to, not all samples achieved the minimum of 30 subsamples/aliquots. Given the remaining volume of munitions debris (MD) and potential munitions and explosives of concern (MEC) in soil that may continue to degrade, long-term protectiveness cannot be determined. Therefore, further investigation is necessary to account for spatial distribution of OB/OD activities and the volume of MD that may act as a source and release MC to the environment to verify long-term protectiveness.

Action Item: Please provide how the nature and extent were fully determined consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Guidance using the existing environmental data resulting from unapproved methodology. Alternatively, additional sampling may be warranted to confirm the data are consistent with the QAPP and the Guidance to support the determination of nature and extent.

[2] https://www.paerab.us/MMRP/mmrp_rifs_guidancefinal.pdf - MMRP RI/FS Guidance, November 2009

2. Response to Comments 3 and 9:

The RTCs in part states, "(a)s discussed with Ohio EPA on 28 July 2025, it is envisioned that land use controls [LUCs] will effectively be in place for ODA2 for the foreseeable future because it is part of an operational range complex and its future use is unlikely to change. Therefore, text in the Executive Summary and Sections 6.3.3.7, 8.0, 8.3, and 8.4 originally concluding "no further action" for MC in soil, sediment, and surface water based on risk assessment results has been revised to "no further remedial investigation"." Please see comment one above referencing nature and extent of contamination as it relates to the OB/OD activities specified in the Guidance. The remaining MEC/MD in soil may act as a source of MC as the material continues to degrade. Further action is required until the data can demonstrate no further remedial action is necessary. Additionally, the long-term protectiveness being achieved/maintained with the use of LUCs is a remedial action that needs to be maintained.

Action Item: Please remove all references to no further remedial action, and/or no further action, while LUCs are being used to maintain protectiveness. If LUCs are intended to be implemented, then MC sampling is expected to continue as long as the source remains to verify there is no active release or potential threat of carcinogenic risk or noncarcinogenic hazard to human health and the environment through exposure to MC. Additionally, please refer to Comment 1 for actions relating to sampling.

3. Response to Comments 6 and 21:

The RTCs in part states, "(i)n both instances, "very poor" triplicate [Relative Standard Deviation] RSDs were obtained as an artifact of comparing at least one non-detect result (reported as non-detect at the [limit of detection] LOD) to trace detected concentrations reported between the [detection limit] DL and the LOD. This artifact effect was also the case for six of the 11 "poor" RSD results. For the five other "poor" RSD instances (two for chromium, two for manganese, and one for chromium), the RSDs were "good" for the other analytes in the same samples (with rare sporadic exceptions). This indicates that overall, for all the samples, RSDs were acceptable.

As discussed in Section 4.2.4, the recommendation for ISM samples with "poor" precision was to compare the 95% [upper confidence limit] UCL for replicate data to 150% of the screening level (as discussed during the 28 July 2025, this recommendation was provided by Ohio EPA in a letter dated 13 December 2022).

The response is generally acceptable. However, it should be made clear that comparisons of 95% UCL values to 150% of a screening or other values are no longer used and will not be approved by Ohio EPA as the methods have been updated for use at RVAAP.

Action Item: Please update the current approach for the remainder of RVAAP projects using ISM in a revised response to comments (no changes to the proposed changes in the revised RI/FS are

required). This response should include a table for the RSD ranges (*e.g.*, good, poor, very poor) and how the results are to be used in risk assessment and data evaluations.

In addition, the proposed additional text regarding trace and non-detected compounds in a sample is not an artificial elevation of the RSD. Remove the qualifier "artificially". For general information for future projects, if RSDs levels are listed as poor or very poor for primary contaminants of concern (COCs), then other commonly detected COCs (*e.g.*, soil metals) should also be evaluated to further assess the reliability of the ISM samples. If those evaluations of commonly detected COCs indicate very poor results, then those samples should be rejected and removed from the evaluations/risk assessment.

4. Response to Comment 13:

The RTCs mentioned that the type of blast radius information is not pertinent to the objectives of this RI. It is unclear how investigations under the MMRP would not be focused on the type of blast information, specifically, the radius. Knowing the maximum extent of dispersion may help identify the furthest potential extent of any remaining MD and associated MC.

Action Item: No action is necessary to address Comment 13, as it relates to the RI Report based on the number of geophysical and visual surveys of the area helping to determine the visual extent of contamination. However, please note that any future reports are requested to have the blast radius information and type (fragmentation, etc.) to help understand the full nature and extent of the investigation and means of the potential/actual release.

5. Response to Comment 14:

Despite the heterogeneity of OB/OD operations, it is unclear why the locations and descriptions (results) of the items found during the previous investigations/surface clearance activities were not included in the Visual Sample Plan (VSP) modeling to help target sampling. It is interpreted that a larger set of data providing the relative type and location of recovered items would help increase the general precision of the investigation, and by default, focus response to areas more likely to be saturated with MEC/MD/MC.

Action Item: Please provide an updated VSP model to verify the areas sampled for MC were areas with the highest volume of source (MEC/MD) over time. If these areas don't overlap with the existing locations, then additional sampling may need to be completed and/or additional text provided to support why the use of the data from previous investigations are unnecessary/not applicable to determining nature and extent.

Conclusion

The planned future use at the MRS as part of CJAG Range Complex precludes exposure to media in the area to human receptors and residual source material. However, the Report indicates that "unacceptable site conditions" for MEC are present at the ODA2 MRS. This will require long-term

operation and maintenance. Additionally, with a concern for an unacceptable risk of exposure to MEC, there remains a concern that the source (the MEC and/or saturated areas of MD) may contribute to potential MC contamination in the future. One approach for addressing the future use of the area may be to continue into an FS for a possible remedy to address both MEC/MD and any associated MC released long-term. This could include confirmation sampling for MC on data driven frequency (annually, biannually, etc.) in addition to the use of LUCs.

Lastly, without groundwater being investigated it is premature to make a "no further action" determination for other media that may be affected by contaminated groundwater (sediment, and surface water). Additional sampling and monitoring may be necessary while sources of contamination remain in place.

Ohio EPA has reviewed the draft Report and provided the above action items requested to be addressed within **45 days** of receipt of this letter.

This letter is an official response from Ohio EPA that will be maintained as a public record. If you have any questions concerning this correspondence, please contact me at (330) 963-1235.

Sincerely,

Nicholas Roope
Site Coordinator
Division of Environmental Response and Revitalization

NR/cm

ec: Kevin Sedlak, ARNG-IEE-D
Megan Oravec, Ohio EPA, NEDO, DERR
Natalie Oryshkewych, Ohio EPA, NEDO, DERR
Brian Tucker, Ohio EPA, CO, DERR
Thomas Schneider, Ohio EPA, SWDO, DERR

Ohio Army National Guard
Camp James A. Garfield Joint Military Training Center
8451 State Route 5, Building 1071
Ravenna, Ohio 44266

August 6, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Mr. Nicholas Roope, Site Coordinator
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Camp James A. Garfield (CJAG), Portage/Trumbull Counties, Ohio – Response to Ohio EPA Comments on the Open Demolition Area #2 (RVAAP-004-R-01) Draft Remedial Investigation Report (Ohio EPA ID# 267000859274)

Dear Mr. Roope:

On June 30, 2025, the Army National Guard (ARNG) received Ohio EPA comments on the *Draft Remedial Investigation Report for Open Demolition Area #2 (RVAAP-004-R-01)*, dated February 28, 2025. A conference call was held on July 28, 2025, to discuss and clarify the comments. Attached, for your review, are responses to Ohio EPA comments with associated revised report components updated in response to the comments, which include the following:

1. Comment matrix highlighting changes to the report text in blue font;
2. Table 3-3;
3. Figures ES-1, 1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-2, 3-3, 3-4, 3-5, 4-6, 4-8, 4-9, 4-9a through 4-9i, 4-10, 4-11, 4-12, 4-13, 4-14, 4-15, 4-16, 4-17, 4-18, 4-19, and 8-1;
4. Appendices E and H; and
5. A readme file for Appendix N.

These responses to comments were prepared for the Army National Guard in support of the RVAAP Restoration Program. Please contact the undersigned at (614)336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak, ARNG Restoration Project Manager, at (330)235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.08.06 08:24:08 -04'00'

Kathryn S. Tait
Environmental Specialist 3
Ohio Army National Guard

cc: Megan Oravec, Ohio EPA
Tom Schneider, Ohio EPA
Kevin Sedlak, ARNG
Steve Kvaal, USACE Louisville
Nicole Walworth, USACE Baltimore
David Heuer, Arcadis
Jennifer Tierney, Chenega (Admin Record)

goals in Debris Pile C. The following sections of the UFP-QAPP have been revised to indicate the path forward is a combined RI/FS Report: Introduction (Scope – first paragraph, and Project Objectives – third bullet), Worksheet #11 (Section 11.2.2 – third bullet, Section 11.3.2 – third bullet, and Section 11.3.6 – first paragraph), and Worksheet #17 (Section 17.2 – second paragraph).

Ohio Environmental Protection Agency

EPA.Ohio.gov

Mike DeWine, *Governor* Jim Tressel, *Lt. Governor* John Logue, *Director*

Received June 30, 2025

June 27, 2025

TRANSMITTED ELECTRONICALLY

Ms. Kathryn Tait
Camp James A. Garfield JMTC
Environmental Office, Bldg. 1071
8451 State Route 5
Ravenna, OH 44266

Sent via email to: kathryn.s.tait.nfg@army.mil

RE: US Army Ravenna Ammunition Plt
RVAAP
Remediation Response
Project records
Remedial Investigation
Federal Facilities
Portage County
267000859274

Subject: Former Ravenna Army Ammunition Plant
Draft Remedial Investigation Report – Open Demolition Area #2 (RVAAP-004-R-01) Munitions Response Site
Ohio EPA Comments

Dear Ms. Tait:

On February 28, 2025, the Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) received the "*Draft Remedial Investigation Report – Open Demolition Area #2 (RVAAP-004-R-01)*"[1] (the "Report/RI") dated February 2025. The RI was prepared by Arcadis U.S., Inc., on behalf of the U.S. Army Corps of Engineers (USACE), Baltimore District.

Unacceptable risks for human health and ecological receptors from munitions constituents (MC) are present at the Open Demolition Area #2 (ODA2) Munitions Response Site (MRS). Additional information is required to approve the RI and concur with the conclusions. Ohio EPA requests that you address the comments found below.

Comments

1. General, Composite, Discrete, and Incremental Sampling Methodology Issues:

   The RI indicates soil samples within the Source Area were collected as composite samples instead of using the incremental sampling method (ISM) as outlined in the approved 2023 Final

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3453303 – Draft ODA#2 RI Report

RI Quality Assurance Project Plan[2] (QAPP). Prior to issuing this comment letter, Ohio EPA had a meeting with Arcadis U.S., Inc. and USACE on May 19, 2025. Ohio EPA was informed that the references to "composite" sampling are incorrect and the RI should reference "discrete" sampling was performed. However, the general process for collecting the samples as outlined on the call and provided in the text indicates *five similar scoops* of soil - from the "lift" approximately 120 cubic feet (ft^3) of soil - were collected and combined for one representative sample. Composite sampling consists of discrete aliquots of equal amounts being collected and thoroughly mixed. After mixing, a sample is collected and is then sent to the laboratory. Though the five scoops are discrete aliquots, the combining of scoops into one representative sample for that "lift" is composite sampling (see Section 6.e. of the Standard Operating Procedure – Sample Chain of Custody in the QAPP).

Data for risk assessment (and following risk management), in particular for identifying the nature and extent of contamination and for estimating exposure point concentrations (EPCs), are in the form of 95 percent (%) upper confidence limit (UCL) of the constituent means of discrete datasets (the primary approach supported under the Comprehensive Environmental Response, Compensation, and Liability Act (see: SUPPLEMENTAL GUIDANCE TO RAGS: CALCULATING THE CONCENTRATION TERM), or through the mean concentrations of decision units (DUs) based on ISM approaches (Incremental Sampling Methodology (ISM) at Polychlorinated Biphenyl (PCB) Cleanup Sites, Incremental Sampling Methodology Update - ITRC | ITRC, Decision Unit and Multi Increment Sampling Methods - HAZARD EVALUATION & EMERGENCY RESPONSE (HEER) OFFICE). Composite sampling approaches should generally not be used outside of waste characterization most often for contaminated soil disposal (see: RCRA Waste Sampling Draft Technical Guidance).

The approach described in the RI was not approved by Ohio EPA and should have been discussed prior to any changes occurring to the sampling methodology given its significance and possible exclusion of all related data. Not only does the five-point composite method possibly dilute potential hotspots or areas of localized contamination, but the use of a windrow may also mechanically mix the soil prior to sampling potentially compromising the integrity of the sample. To clarify, the QAPP does state, "Collection of soil samples for laboratory analysis may be performed using a variety of techniques including grab samples and *composite* [emphasis added] or homogenized samples. Samples may require homogenization across a given depth interval, or several discrete grabs (usually five) may be combined into a composite sample." However, this text is specific to drilling activities and is in reference to characterizing

[2] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2225517 – 2023 QAPP

waste (see Section 2.3.1). The text in Section 2.3.1 is not applicable to the trenching activities specifically identified in Section 17.7.3.3 of the QAPP.

Additionally, for samples collected using ISM, it is unclear how many aliquots were collected (see Appendix E-1). Some Kickout Area sampling units (e.g., 285, 285, 278) listed in Incremental Soil Sample Forms in Appendix E indicate less than 30 subsamples/aliquots were collected as part of an ISM sample. The use of 30 aliquots per ISM sample has been the "rule of thumb" for reliable ISM samples. In some cases, the incremental sample number(s) column indicates a range of 1-30 in the table despite the number of incremental samples being listed as 30. The "sample length" is also noted as "12", but it is unclear what the unit of measure is (see page 1407). The next page (page 1408) then presents a table that makes it appear that ISM sampling occurred at the 0-4 ft interval instead of the 0-1 ft and 1-4 ft intervals as outlined in the approved QAPP. This sample length was "48", again, with no unit of measure. These are two examples of discrepancies noted, but there are additional ISM sampling forms that require additional edits/clarification within the Report.

The limited trenching locations in the Source Area are not sufficient to determine the presence or extent of possible MC contamination. In addition, composite soil sampling is not an appropriate sampling technique for risk assessment or risk management use. The various errors/corrections and general deviations from the QAPP in the Report raises concern on the quality and representativeness of the soil data. It is unclear if the data are sufficient to make project decisions. Ohio EPA was unaware of the deviation(s) from the approved QAPP, as a field change request was not submitted to Ohio EPA for approval consistent with Worksheet #6 of the QAPP (specific to the composite sampling - but may also include the method in which trenching activities were collected, and laboratory analysis).

Ohio EPA understands the reason for changing the sampling approach and considers safety extremely important in all steps of remedial process. However, the conclusions for the Source Area in the Report cannot be supported at this time using the soil data collected.

Action Items: Discussions with Ohio EPA are necessary to decide the next steps for the Source Area delineation of nature and extent of contamination and risk assessment/risk management. This may include additional sampling and/or continuing the current classification and use of the MRS as "CJAG Range Complex surface danger zone, and is under restricted access" (*i.e.*, not unrestricted or for National Guard trainee use based on possible MC) or advancing the site decision(s) in a Feasibility Study (FS) to complete a remedy for the MRS.

Review of Appendix E and the remainder of the RI is necessary to ensure that the required 30 aliquots were taken per ISM sample protocol. If minor deviations are identified (e.g., 25 aliquots), then identify those data and provide rationale why the deviation from the QAPP was

performed. If the samples listed above and others that may be identified, only included four aliquots per ISM sample, then those data are to be rejected, and any use of those data be removed from the document and conclusions. A discussion should also be included on why any discovered deviation occurred.

Additional sampling may be warranted if the quality of the data cannot be verified to meet the objectives/criteria outlined in the QAPP. Future deviations from the QAPP will be provided to Ohio EPA for approval prior to performing the work activities. Failure to provide adequate notice of any deviation of the QAPP, and obtain approval from Ohio EPA, may result in additional work being required.

2. General, Sampling Inconsistencies:

Text in multiple sections of the RI states 83 samples were collected. However, based on the field notes contained in Appendix E-2, it appears only 64 samples were collected (not including duplicates, which consistent with Worksheet #20b of the QAPP, would increase the total to 79 samples). The text is also unclear whether samples were collected using a split-spoon coring device prior to excavation (see field notes in Appendix E-2), or from the soil spread across the plastic sheeting (presented during the call and photographed in Appendix E-2) – reference to the windrows.

Text in Section 3.3.2.1 states, "Soil samples were collected at a frequency of one per 2-ft lift to the termination depth of each of *19* [emphasis added] trenches..." Only 16 trenches were sampled as stated in various sections within the text (see Section 4.2.1.2 and Appendix E-2). Further in the same section, the text states, "Due to observations of staining within the 0- to 2-ft-[below ground surface] bgs through 6- to 8-ft-bgs lifts in trench 29 [T29], samples from these lifts were analyzed for [volatile organic compounds] VOCs and [Polychlorinated Biphenyls] PCBs in addition to the MC and [open burn/open demolition] OB/OD-related constituent analyses...". This is inaccurate based on the field notes in Appendix E-2 (page 1555), samples were not collected until after 96 inches (8 ft) bgs.

Field notes in Appendix E-2 also reference that samples were collected at the same time. It is unclear how this is possible given all that occurs prior to collecting a sample (see the process outlined in Section 17.6.4 in the QAPP). It is Ohio EPA's interpretation that another lift was unable to be processed until the first lift was cleared and people have returned to the designated safe distance. As such, time should have passed between collecting samples from each lift. If all the lifts of soil were excavated to the full depth of the trench first, cleared by hand, and then sampled; it would mean the first lift of soil had time to set exposed to the sun and other environmental factors that could contribute to potential degradation of contaminants (specifically VOCs, and semi-volatile organic compounds (SVOCs)) before a

sample was collected. This would also be a deviation from Sections 17.6.4 and 17.7.3.3 of the QAPP.

Furthermore, it is also unclear how, "… trenches where significant [munitions debris/material potentially presenting an explosive hazard] MD/MPPEH recovery occurred, the lift(s) containing the most MD/MPPEH items were also analyzed for SVOCs, hexavalent chromium, and dioxins/furans" (page ES-5) were determined without laying out all the lifts prior to sampling. Consistent with Section 17.7.3.3 of the QAPP it was anticipated that discrete samples would be collected at the location containing the most MD/MPPEH per 50 ft of trench. The QAPP states, "… the sample will be collected from stockpiled soil after it has been cleared, and all intrusive work is paused. Location of the samples will be based on field team judgement considering the length of each pit and based on visual observations of material removed from each pit." The various errors/corrections necessary to the sampling forms in the field, and general deviations from the QAPP in the Report raises concern on the quality and representativeness of the soil data.

Action Item: Please update the Report to provide a clear understanding of what work occurred prior to the samples being collected.

3. General, Munitions Constituent No Further Action Determination:

Text states, "The primary types of MC in the Source Area and Kickout Area are metals, explosives, and propellants in surface soil from *aerial distribution/deposition* [emphasis added] or from individual [munitions and explosives of concern] *MEC or MD accumulations* [emphasis added]." Additionally, text states, "The results of the [human health risk assessment] HHRA and the [ecological risk assessment] ERA indicate that MC do not present unacceptable human health risks or adverse impacts to ecological receptors at the MRS; therefore, no further actions are required to address MC in soil, sediment, and surface water at the ODA2 MRS."

With limited soil data in the source area, no current groundwater data, and the potential for releases of MC to continue over time as waste remains in place; it is unclear how no further action pertaining to MC sampling can be determined at this time. To determine the full nature and extent of MC, groundwater sampling is required. Following groundwater sampling the data would need to demonstrate that the mass of MD and/or potential MEC would not release a high enough concentration of MC to cause a risk to human health and/or the environment. Additionally, MPPEH/MD have been discovered washing out of the banks of the stream as erosion occurs and in direct contact with groundwater/surface water as mentioned in Section 2.3.3.2.

Text in 6.4.2 states, "The amount of time since release of a chemical, which has been 33 years for the MC and OB/OD constituents, affects bioavailability through the degradation or transformation that occurs in the environment, often sequestering a chemical into unavailable forms." Being there are detections of MC specifically metals and low concentrations of explosives (tetryl) in other environmental media, the exposure pathway may remain, especially in contact with groundwater.

Action Item: Ohio EPA requests an explanation on how the MC have been appropriately characterized (nature and extent) in *all* environmental media to support the no further action determination related to MC sampling and how the data quality objectives (DQOs) found in Tables 2 and 2-3 of the Report have been achieved. Discussion with the parties is required to determine what may be the best approach for addressing the groundwater data gap.

4. Section ES.1.2, Defining Criteria for Intrusive Investigation and the Boundary of the Source Area, Pages ES-2 and ES-3:

   Text indicates *select* subsurface anomalies were intrusively investigated following the Digital Geophysical Mapping (DGM) transect and grid surveys without providing context to what priority is placed on the *selected* items (depth, size, shape, anticipated hazard, etc.). In addition, it is unclear what the threshold criteria are to re-designate an area as a Source Area instead of part of the Kickout Area. For example, greater than 1,200 anomalies per acre (ApA) were identified near the western side of the source area. If this area is now included in the Source Area (which was expanded by 70%) then the ApA appears to be a reason/criterion for the Source Area being expanded by 70%.

   Action Item: Please include text (the Anomaly Selection Memo, referenced in the QAPP) to help convey how anomalies were selected/prioritized over others. In addition, please provide the criteria for supporting the expansion of the Source Area boundary, whether it includes ApA or other considerations, as applicable.

5. Section ES.1.2, Potential Explosive Hazard Storage, Page ES-4:

   Text indicates MPPEH that was recovered was inspected, removed and *secured* until the explosive safety status could be ensured/confirmed via demolition operations.

   Action Item: Please provide additional information, specifically, the volume and length of time the explosive hazard was secured/stored at any given time before explosive safety status could be ensured/confirmed.

6. Section ES.1.2, Table 4-8, and Table 4-14, Laboratory Analysis and Results, Pages ES-5, Page 273, and Page 368, General Data Quality:

   Table 4-14 presents some of the data quality results, including percent relative standard deviation (RSD). Much of the ISM soil data, although usually below the <35% RSD good quality guidelines, are "J" qualified. This includes common metals (e.g., Fe, Pb, Ca, Cd, Cu) routinely measured in surface and subsurface soils. "J" qualified data is not a normal occurrence for most media and specifically these common analytes and in these concentrations. This may indicate metals did not meet the measurement performance criteria specified in the QAPP.

   Action Item: Include discussions in the revised report on the frequency of qualified data for metal and common organic constituents of potential concern (COPCs) and how this is related to general data reliability including how the data quality compares with the QAPP quality assurance/quality control requirements. Please, also discuss how triplicates with elevated RSD levels were addressed including rejection of data if RSDs were found to be poor or very poor (see comment 20 below for additional details).

7. Section ES.1.2, Surface Water Sampling, Page ES-5:

   The text references "other unique features" during visual reconnaissance but never indicates what those unique features are and why they are pertinent to the investigation. Ohio EPA noted Section 17.8 of the QAPP states, "Sand Creek flows from west to east for approximately 5,150 ft within the MRS boundary with approximately 2,300 ft within the Source Area, 1,750 ft in the upstream Kickout Area and 1,100 ft in the downstream Kickout Area. To generate meaningful UCLs, Pro UCL statistical software will be used, which requires a minimum of 8 to 10 samples for *each area* [emphasis added] over which a UCL is computed." This implies samples would be collected from the upstream portion of Sand Creek. Though the remainder of the QAPP indicates samples would be collected from the Source Area and eight transects in the Kickout Area *downstream* of the Source Area, which was completed, it is unclear why additional samples were rejected from being collected from the upstream portion of Sand Creek given the radial dispersion from the OB/OD operations within the Kickout Area.

   Additionally, MPPEH was found *re-occurring* between Waypoints 2 and 3 in Sand Creek. As erosion continues, it is presumed that additional MPPEH will continue to enter Sand Creek. This is further supported by text in Section 5.0. The potential for direct contact risk to an explosive hazard and associated MC would therefore be expected to occur in the future but this is not addressed in the text nor the conceptual site model (CSM). Furthermore, Section 3.2.6.1.2, provides a list of limitations pertaining to the investigation of the stream bed of Sand Creek, which implies the potential for MEC/MPPEH to remain in areas unable to be accessed.

Action Item: Please provide clarification on what other unique features were being observed during the reconnaissance and explain why additional sampling was unnecessary in the upstream portion of Sand Creek for continuity between the reports. Please also include text to clarify if all areas of the stream bed are cleared of potential munitions related items, and if not, if these items can mobilize.

8. General, Figure Edits, Multiple Pages:

The text in Section 1.3.1 references the total acreage of the MRS as 317.4 acres before being reduced to 254 acres. It is unclear why the 14.8 acres outside the MRS boundary are not accounted for/included as the Kickout Area especially since Figure 1-6 highlights MPPEH items discovered outside of the MRS boundary. In addition, the 14.8 acres outside the Kickout Area are not explained in the Figures. Therefore, the total acreages provided do not add up to the correct total acres unless the 14.8 acres is subtracted from the total footprint of the Kickout Area. For example, in Figure 1-2, adding the acreage of the Source Area, the Kickout Area, and the No Further Action Area equates to 332.2 acres. The only way to get to the total acreage of the MRS is to subtract the 14.8 acres outside the footprint of the MRS. Additionally, in Figure 1-2, it appears that the excess 14.8 acres outside the MRS boundary are included/identified as the Kickout Area.

Figure 4-7 and other surface water figures do not provide the location of the Waypoints mentioned in the text. Figure 4-8 included mention of an item as "Other/ No Find" without an explanation of what this item is, and the totals of the items found do not match the totals provided in the text. Figure 1-3 would benefit from being a potentiometric surface map, and not a 3D image to help illustrate how groundwater is flowing on the north and south sides of Sand Creek, also Figure 1-3 is missing the location of the wells used to determine the groundwater flow direction.

ODA2 is located within the Camp James A. Garfield (CJAG) range complex. Many of the figures in the Report do not include the areal extent of the range complex. Being the MRS is being carried forward through the Military Munitions Response Program (MMRP), no work can be completed within the active range area. Therefore, the area of any active ranges in proximity to the MRS is important to include in the figures.

Action Item: For Figure 1-1, please add a clarifying description of the boundary (the "original" boundary, etc.) and revise all figures for consistency. Please update the Figure to provide the appropriate boundary for each item within the Figure's legend, and/or explain why the 14.8 acres are not included, despite MPPEH items being discovered between 2016 and 2019. Please include the surface water Waypoints to support the creek walk efforts and revise Figure 4-8 and/or the text to define the "Other/ No Find" items. Please include wells and update Figure 1-3

to be a potentiometric surface map. Finally, please update the figures to include the boundary of the active range and supporting text providing how the presence of the range affects the RI under the MMRP (limits of the investigation, etc.).

9. Section 1.3.5, Groundwater Sampling from Existing Wells, Page 1-11:

   Ohio EPA has identified multiple objectives listed in the Report that are dependent on the complete investigation of the Site groundwater, including:

   - Characterize the nature (type) and extent (density and distribution) of MC and at the ODA2 MRS, including the Kickout Area, Source Area, Soil Cover, and Sand Creek.
   - Evaluate the horizontal site boundary based on the RI findings.
   - Collect sufficient data to support preparation of an FS.

   The text in Section 1.4.3 indicates with the historical investigation, "The horizontal extent of [site related contaminants] SRCs in groundwater both north and south of Sand Creek has not been fully determined."

   Furthermore, boring logs from the existing monitoring wells at ODA2 indicate the thickness of the unconsolidated deposits varies from approximately 3 ft to greater than 40 ft. The depth to groundwater at the MRS ranges from 4 to 30 ft bgs in unconsolidated sediments. Based on wells installed in 2019 (and in 2005), groundwater from north of Sand Creek flows south towards the creek, and groundwater from south of Sand Creek flows north towards the creek. This suggests that groundwater in the unconsolidated deposits is in direct hydraulic communication with surface water, and Sand Creek likely acts as a groundwater discharge location.

   Ohio EPA interprets that wells are still present from historical investigations, but it is unclear why groundwater sampling was not performed from the existing wells as a means of providing updated information. The text also supports the concerns for potential MC migration in groundwater, and the eventual effect it may have on Sand Creek. This is further supported by historical reports of site-related metals, and explosives and/or propellants being found in the wells outlined in Section 1.4.3 and further supported by text in Section 5.2.2. Furthermore, text indicates the maximum groundwater concentrations of the constituents were predicted to exceed the maximum contaminant levels (MCLs)/risk-based concentrations at Sand Creek at the closest point downgradient from the Source Area in earlier investigations. Despite the prediction, the 2006 investigation indicated the predicted impacts to groundwater were not expected to reach downgradient receptor locations due to being restricted. However, it is unclear if the pathway to Sand Creek remains as it relates to the ambient water quality standards (WQSs) including State of Ohio Water Quality standards (Water Quality Standards Program), and MCLs.

Action Item: Please include rationale for not collecting samples from the existing wells located at the MRS. It is unclear why the locations of the trenches couldn't be used for the locations of the wells around the Site once they were cleared of MD/MPPEH related material. Ohio EPA is willing to meet to discuss other alternatives to address the data gap of the investigation.

10. Section 1.4.7, Potentially Remaining MC Contamination, Page 1-27:

    MC sampling during the 2010-to-2011-time critical removal action (TCRA) confirmed that soil left in place was less than 10% explosives by weight based on two ISM soil samples and one ISM sediment sample; soils with greater than 10% explosives by weight were removed. It is unclear how the percent explosives by weight relates to relative risk of exposure to receptors in relationship to addressing what is interpreted to be the primary concern (explosive hazard).

    Action Item: Please provide a summary of how the 10% explosives by weight relates to risk of exposure and the established clean-up goals for the MRS.

11. Section 1.4.13, Defining Unexploded Ordinance, Page 1-35:

    Most of the text references MEC/MPPEH/MD/MC, the term unexploded ordinance (UXO) provides a different term that is not well defined and unclear to whether it includes MEC and/or MPPEH or just MEC items, etc.

    Action Item: Please provide more information on what is considered UXO or edit the text to use MEC/MPPEH/MD/MC for consistency in the Report.

12. Table 2-1, Conceptual Site Model Update, Page 2-2:

    Figures 7-1 through 7-3 provide the vertical CSM per area, but there is no lateral CSM to identify mobility. Typically, the CSM is presented in part as a chart based on pathway, exposure, and potential receptors. It is recommended that the CSM be updated. Also, there should be a figure/model to help further illustrate what exposure pathway(s) exist(s) and why (see Table 5 or Table 2 of the QAPP for examples). Additionally, in Section 7.1, the revised CSM does not address the concern for MC being released or migrating from the MEC/MPPEH/MD items that remain at the Site.

    Action Item: Please provide the lateral CSM for three primary areas (the Kickout Area, Source Area, and Sand Creek Area), or provide rationale for why this was not included (*i.e.*, no groundwater sampling was performed) and how this creates a data gap. Until the lateral extent is included and the data gap is addressed, Ohio EPA cannot concur with the determination of no further action for potential MC contamination, as specified in Comment 2.

13. Table 2-2, Explosive Hazard Overview, Page 2-6:

    Table 2-2 provides a list of items that may be present at the MRS. What is not conveyed is the difference in the explosive hazards these items present. For example, the 155 millimeter (mm) HE, M107 series item(s) presents the largest radius of an explosive hazard (an approximate 50-300 meter (m) lethal radius), whereas the 40 mm HE-T, MK II series item(s) presents a lethal radius of approximately 10 m. Though the 40 mm HE-T has a smaller radius, the item is meant to detonate on contact and therefore may be considered more shock sensitive than other items present and lethal. This information would be helpful moving forward from the RI into the FS by addressing the potentially remaining MEC/MPPEH at the MRS (net weigh of explosives countered by a cover for example). Additionally, the text states, "The smallest and largest munitions items recovered for the ODA2 MRS were 20 mm projectiles and 75 mm projectiles, respectively." This is correct by size of the actual item, but not necessarily by the explosive hazard (effective/lethal radius). It is easy for the reader to assume the size of an item as presenting the greatest hazard, which may not be the case.

    Action Items: Please update the table to include risks of exposure to the MEC/MPPEH items including the approximate lethal radius, kinetic compound compositions – tetryl, TNT, etc., and shock sensitivity (the "nature" of the source) to help focus the RI and facilitate the drafting of the future FS. Please also distinguish the size and explosive hazard of the items in the text.

14. Section 2.3.3.1, Discrepancy in Anomaly Intrusive Investigation Results, Page 2-13:

    Text states, "In accordance with the Final RI QAPP (Arcadis 2023), 100% of anomalies identified in the Kickout Area were to be intrusively investigated in *thirteen* [emphasis added] Kickout Area grids… Intrusive investigation activities were not completed in seven Kickout Area grids (KO 256, KO 262, KO 266, KO 274, KO 289, KO 291, and KO 319), as after investigating approximately 1.4 acres of the 2.98 acres in the Kickout Area planned for investigation, *553* [emphasis added] anomalies had been investigated in six Kickout Area grids (KO 332, KO 340, KO 350, KO 278, KO 279, and KO 297). Consequently, the discovery of these differing conditions in the Kickout Area was formally communicated to the USACE Contracting Officer in a notification dated August 18, 2023. Following this notification, a decision was made by Arcadis to suspend the intrusive investigation in the Kickout Area pending further direction from the Contracting Officer." This is inconsistent with the QAPP, and Ohio EPA was not made aware of the change until review of the RI.

    It was anticipated that 298 anomalies would be found at the 13 grids within the Kickout Area based on previous investigations. This would account for only 19.7% of the 1,512 total items identified. It is unclear how the initial estimate of 298 anomalies was made given the RI identified the presence of 1,512 items, without excavation of 978 items. Of the six grids

intrusively investigated *463* items were intrusively investigated at KO 332, KO 340, KO 350 (approximately 30.5% of the total items identified). Then from KO 278, KO 279, and KO 297 an additional *90* anomalies were intrusively investigated (30/area). *553* anomalies were intrusively investigated; however, text in Section 4.1.3.1 indicates, "... 17 targets resulted in [non-munitions-related debris] NMRD, ... 515 targets resulted in MD, ... one target resulted in MPPEH, ... and one target resulted in a MEC item..." This would add up to a total of 534 anomalies being recovered, not 553. Additionally, Figure 4-8 indicates a total of 441 items were recovered from the three grids (KO 332, KO 340, KO 350) not 463. It is also unclear if there are/were additional items detected in the other grids intrusively investigated other than the 30 "select" items recovered.

Ohio EPA noted only 1.4 acres of the 2.98 acres were investigated (this is approximately 0.8% of the total 175.5 acres as modified by the RI). If the same totals are extrapolated to the remaining acreage of the Kickout Area (534 total items intrusively investigated in the six grids/0.8% of the total area (1.4 acres of the 175.5 acres)), there may be approximately 66,750 additional anomalies within the Kickout Area: approximately 250 of those items being potential MEC/MPPEH (two items/0.8% of the total area = 250). These estimates were conservatively calculated by Ohio EPA assuming even/uniform distribution in all grids. However, based on the mechanism of release and findings within the text for the Kickout Area, there is not uniform distribution. Text states, "Estimator calculations for the Kickout Area indicates there is at least a 95% confidence level that there is no more than 1.65 UXO per acre in and a 78.9% confidence level there is no more than 1.0 UXO per acre." This appears to use uniform distribution. Using 250 MEC/MPPEH items in the total area (175.5 acres). Ohio EPA determined approximately 1.42 items per acre would be present.

With the calculations appearing to be completed without accounting for radial/random dispersion, it is unclear if the likelihood of MEC presence is accurate. This also by default raises concern about the risk of exposure to potential MEC items. In addition, the MEC item discovered in grid 340 is interpreted to be located within a low-density area where less than 618 anomalies were located as conveyed in Figure 4-6. Please provide how/if this affects the MEC modeling calculations in the text as this emphasizes that high density areas of anomalies do not necessarily mean that these are the only areas where MEC may exist.

Furthermore, Section 4.1.5.1 indicates that historical data from previous investigations would be used to help characterize the Site. It is unclear if the number of MEC and/or MPPEH items recovered over time from the other investigations were used for assessing the risk of exposure to additional potential MEC items *not* recovered from the remainder of the Site.

Action Items: Ohio EPA requests all future field changes are submitted for review prior to approval consistent with the QAPP (see Comment 1). Please also provide:

- Further clarification as to why the estimate of the expected totals of the intrusively investigated items within the grids was higher than originally anticipated;
- How many anomalies are present in each grid in a table format (intrusively or non-intrusively discovered);
- Clarification if MEC/MPPEH items historically recovered were used for modeling/assessing the risk of exposure to MEC/MPPEH that may remain at the Site, and update the text, tables, and estimator accordingly;
- Edits to the text to correct totals of the anomalies recovered (refer to Table 4-3, for reference to the remaining 19 items); and
- Clarification on how the uneven distribution of potential MEC was accounted for in the "Estimator" that provides the likelihood of MEC presence within the Kickout Area, and how uneven distribution may affect the risk of exposure.

Please also revise Figure 4-8 and/or the text accordingly to address the inconsistent totals of munitions related items.

15. Section 2.3.3.2, Modification of Trenching Activities, Page 2-14:

Upon review of the completed DGM surveys, the initial trenching results for the trenches excavated to 6 ft bgs, and in discussion with the USACE [not Ohio EPA], it was decided that the maximum vertical extent of contamination investigated needed to be expanded to 12 ft bgs or until no items were observed. Ohio EPA was not made aware of this change consistent with the QAPP. In some cases, it appears that bedrock/groundwater (see Section 2.3.3.2) may have been encountered that prevented further trenching activities, however this is not mentioned to be the case in the earlier trenches to depths of 6 ft bgs. Also, it is unclear whether the trenches that were only completed to 6 ft bgs were re-investigated to the deeper depths following this change from USACE, or if it was determined to be unnecessary.

In the same section, text references the maximum depths of 6-12 ft bgs, whereas one of the trenches (T11) extended to a depth of 13 ft bgs. Table 2-4 indicates additional anomaly acquisition is the reason for the excavation to 13 ft bgs despite there being nothing recovered (see Table 4-5). This does not provide clarification on whether additional items remain below the maximum depth of the other trenches, specifically T29, which had 103 items recovered from the 10-12 ft depth interval. In T19, items increased with depth and stopped at the maximum depth of 6 ft bgs without any additional rationale. The maximum depth MPPEH appeared to be

discovered is 6 ft bgs, but it is unclear if there is anything beyond 6 ft bgs if that is the maximum depth of the trench. Therefore, it is unclear how the vertical extent has been fully delineated being some of the trenches did not extend to depth.

Ohio EPA also noted the total depths of the trenches mentioned in the text and various Tables is inconsistent. It is unclear if the depths of the trenches match the notes from Appendix E-2, or the Tables (see Table 2-4 or Table 4-5), or the text in the Report. The soil description section contained in all the other field notes for the trenches was not included for T18.

Action Items: Please provide Ohio EPA with notice of any field changes consistent with the QAPP (see Comment 1). Please also include further clarification on what prevented further investigation of the trenches *(e.g.*, encountering refusal, or groundwater), and provide whether the trenches investigated to 6 ft bgs, were re-investigated following the expansion to 12 ft bgs. Please update the text to reflect the maximum depth of the trenches for consistency throughout the Report, and verify all forms have the necessary reported information.

16. Section 2.3.3.3, Frost Heave, Page 2-14:

Section 1.4.8 references a total of 196.7 acres of visual survey transects were investigated over the MRS. Following the historical survey, a total of 1,396 MPPEH items were discovered on the ground surface during the Schoenstatt-assisted visual survey. It is interpreted that prior to the RI work being completed that the 1,396 MPPEH items discovered on the ground surface were removed. However, the text later in Section 2.3.3.3 states, "...unexpected high density of MD on the ground surface..." This supports the concern for vertical movement of MEC/MPPEH to migrate to the surface via frost heave. Additionally, most of the items that were discovered, especially in the Kickout Area, were located within the top three feet of soil. This is above the frostline in Ohio and subject to heaving.

Action Item: Please edit the text to clearly indicate the surface soil was cleared of visual MEC/MD/MPPEH prior to any intrusive work being completed. In addition, please provide text in the conclusion section to further define mobility potential via frost heave and if it may create a potentially complete pathway of exposure.

17. Section 3.2.5.1, Wooden Crates, Page 3-4:

Text references multiple DGM pieces of equipment that identify the locations of metallic objects. Earlier in the Report wood crates are referenced as being present within the Site boundary. It is unclear if the DGM equipment used can detect any potential wooden objects/anomalies which may contain stockpiled MC for further investigation.

Action Item: Please clarify if the DGM equipment used for the RI was able to detect wooden objects and provide text to support that MC was not stored or potentially stockpiled in wooden objects.

18. Appendix N, Unable to Review, Not Included:

    Appendix N was not included for review as the size of the file is too large to manage without the use of an external hard drive being submitted or paper copies being provided for review. Ohio EPA has discussed the use of the information and has determined that a summary of the data conveyed in Appendix N is acceptable.

    Action Item: Please include a summarized version of the data intended to be included in the Report for Ohio EPA review.

19. Table 4-22, Inconsistency in the Table, Page 4-13:

    Results in the Table of 4-22 mentions failures occurred on 6/20/2023, 6/22/2023, and 7/21/2023. These were addressed in corrective action reports (CARs) 001 and 003. There were only two CARs mentioned despite there being three failures. Additionally, text in Section 2.3.1 references CAR-003 occurred on "7/14/2023" not "7/21/2023".

    Action Item: Please include text to support the CAR for the remaining failure or include text to support why there was not a third CAR issued and edit the text for consistency/accuracy.

20. Section 6.0, Level II ERA for Aquatic Receptors may Require a Water Quality Survey including a Biological Survey, Various Pages:

    The Level II: Screening-Level ERA discusses both terrestrial and aquatic ERAs. For aquatic risk assessments, once site-related contaminants have been released to a surface water body, the responsible party must ensure the water body is in full attainment of the State of Ohio WQSs. A release is generally determined through detecting constituents of potential ecological concern (COPECs) in sediment and/or surface water above background or screening values (*e.g.*, sediment reference values (SRVs), sediment screening values (MacDonald et al. 2000[3]), or in excess of the outside mixing zone average values for the protection of aquatic life found in Ohio Administrative Code (OAC) 3745-1 (Water Quality Standards Program). A Level II ERA per Ohio EPA guidance requires a complete surface water evaluation if a release has been determined for a water body. The Level II ERA would include a biological survey, if necessary. See Ohio ERA

[3] MacDonald, D. D., C. G. Ingersoll, and T. A. Berger. 2000. "Development and Evaluation of Consensus-Based Sediment Quality Guidelines for Freshwater Ecosystems." *Archives of Environmental Contamination and Toxicology* 39 (1): 20–31. https://doi.org/10.1007/s002440010075.

guidance for additional details RR-031.pdf. The current Report's ERA does not include a complete assessment of Sand Creek as required by the Ohio EPA guidance.

It should also be noted that past bio-surveys of surface water in CJAG identified the state endangered Mountain Brook Lamprey (Pub 5356 Ohio Listed Species_R0722.pdf) as being present. Special consideration is required when special interest species are possibly adversely affected by contamination.

Action Item: Provide additional information on which waterbody(ies) the Mountain Brook Lamprey was identified. Also, provide information on previous sampling locations from the facility wide surface water assessments completed at CJAG and the nearest Sand Creek sampling location to ODA2. If the Mountain Brook Lamprey was identified in Sand Creek and a sampling location was not near the MRS (*e.g.*, ~ 500 m downstream of ODA2), then a biological survey may be required to confirm that releases to Sand Creek have not brought the waterbody out of full attainment of the Ohio WQSs and remain protective of the biological receptors including the Mountain Brook Lamprey.

21. Section 6.2.3, Calculating Average Concentrations of ISM Samples, Page 6-8:

For the ISM soil samples, collected in triplicate, the three sample results were used to calculate a single mean concentration using the ISM UCL calculator. This was confirmed on the May 19, 2025 call, and is taking an average of the average. Additionally, Section 6.4.2 states, "…generally, in the HHRA, the 95% UCL on the arithmetic mean was adopted as the EPC, and for the ERA Level II refinement of COPECs, an arithmetic mean was used, for composite soil sample and discrete sediment and surface water results and is considered to represent a conservative estimate of the average concentration across an [exposure unit] EU."

Ideally, the DU approach should be used when using ISM. The DU is often defined as the smallest scale for which a remedial, risk, or other decision is required. Recently, sampling units (SUs) have been used when the size of the DU is large and the distribution of the contaminants within the area are not well understood. This is not the preferred approach for the ISM.

For the refinement step in a Level II ERA, occasionally, a mean value is used as part of a weight of evidence approach to determine the magnitude of a release and if further ecological assessment is necessary. It should be noted that ISM results are estimates of means and should not be further averaged as a weight of evidence in ecological or other risk assessments. Only data from discrete samples should be averaged if the approach is used. Per OAC 3745-1, surface water sample results should not be averaged unless samples are collected within 30 days at a similar location. Averaging surface water results over a larger area is also not appropriate.

In addition, for triplicate ISM results, Ohio EPA and the U.S. Army Corps of Engineers formalized how triplicate ISM results are to be evaluated and used. Generally, if the precision is good (RSD ≤ 35) or Moderate (RSD >35% but <50%), the maximum value of the triplicate value is to be used as the EPC. If the precession is poor (RSD >50% but <100%), then a 95% UCL is to be used (see: https://rvaap.org/docs/pub/F_RD_WP_LL1-4_12_40_00/F_RD_WP_LL1-4_12_40_00.pdf).

Action Item: Please revise calculations presented to provide the appropriate EPC values for triplicate samples for the HHRA and ERA. Revise the report to remove any use or discussion of ISM or composite result averaging for any refinement step in the ERA.

22. Section 6.3.2.4, Unknown Abbreviation, Page 6-15:

    The use of the abbreviation "INRMP" was used without reference.

    Action Item: Please provide the definition of the abbreviation.

23. Section 6.5, Risk Assessment Conclusions, Page 6-37:

    Text indicates additional actions will be taken to address "unacceptable risk" requiring additional response actions to address MEC. Being the MEC is a source for MC, until the final remedy is implemented, MC sampling will need to continue.

    Action Item: Please revise the text to reflect continued monitoring of MC until a final remedy is implemented to address the MEC items.

24. Section 8.0, MRS Layout Changes, Page 8-1:

    The text provides two changes to the MRS layout/footprint: (i) the northwest boundary of MRS was adjusted, and (ii) the Source Area has been expanded by approximately 70%. There should be a third change as the footprint of the soil cover was removed as no soil cover was found to exist. This is important to note in the conclusion of the document as it is one of the primary objectives of the RI.

    Action Item: Please revise the text to provide how the soil cover was removed as an area being carried forward, and why.

25. Table 3-3 and Table 4-8, General Edits to Text, Pages 268 and 273:

    The text in Table 3-3 is cut off due to formatting and is unable to be reviewed. In addition, Table 4-8 contains 1280 ug/kg as the Ecological Project Action Limit (PAL). The correct PAL is 1000 as listed in the QAPP.

    Action Item: Please format and edit the Tables to correct the issues.

Conclusion

The planned future use at the MRS as part of CJAG Range Complex precludes exposure to media in the area to human receptors and residual source material. However, the Report indicates that "unacceptable site conditions" for MEC are present at the ODA2 MRS. This will require long term operation and maintenance. Additionally, with a concern for an unacceptable risk of exposure to MEC, there remains a concern that the source (the MEC and/or saturated areas of MD) may contribute potential MC contamination in the future. One approach for addressing the future use of the area may be to continue into an FS for a possible remedy to address both MC and MEC. This could include confirmation sampling for MC during MEC work to better understand possible releases of MC at the MRS.

Lastly, without groundwater being investigated it is premature to make a no further action determination for other media that may be affected by contaminated groundwater. Additional sampling and monitoring may be necessary.

Ohio EPA has reviewed the draft Report and provided the above action items requested to be addressed within **45 days** of receipt of this letter.

This letter is an official response from Ohio EPA that will be maintained as a public record. If you have any questions concerning this correspondence, please contact me at (330) 963-1235.

Sincerely,



Nicholas Roope
Site Coordinator
Division of Environmental Response and Revitalization

NR/cm

ec: Megan Oravec, Ohio EPA, NEDO, DERR
Natalie Oryshkewych, Ohio EPA, NEDO, DERR
Brian Tucker, Ohio EPA, CO, DERR
Thomas Schneider, Ohio EPA, SWDO, DERR
Kevin Sedlak, ARNG-IEE-D

Received May 16, 2025

May 13, 2025

TRANSMITTED ELECTRONICALLY

Ms. Kathryn Tait
Camp James A. Garfield JMTC
Environmental Office, Bldg. 1071
8451 State Route 5
Ravenna, OH 44266

Sent via email to:
kathryn.s.tait.nfg@army.mil

RE: US Army Ravenna Ammunition Plt
RVAAP
Remediation Response
Project records
Federal Facilities
Remedial Investigation
Portage County
267000859274

Subject: Former Ravenna Army Ammunition Plant
Review of the Response to Ohio EPA Comments on the Time Critical Removal Action for Open Demolition Area #2 Summary of Findings, Magnetometer-Assisted Survey of Sand Creek
Ohio EPA – Request for Final Report

Dear Ms. Tait:

On March 21, 2025, the Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) received and has reviewed the Response to Ohio EPA Comments for the "*Summary of Findings, Magnetometer-Assisted Survey of Sand Creek*" (the "Report")[1] - conducted November 18-19, 2024. The Report supports the Time Critical Removal Action for Open Demolition Area #2 at Camp James A. Garfield Joint Military Training Center. The document was prepared and submitted by U. S. Army Corps of Engineers – Baltimore District.

Ohio EPA has no additional comments and requests the final document be submitted for approval.

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3423706 – Summary of Findings, Magnetometer-Assisted Survey of Sand Creek

If you have any questions concerning this letter or report, please contact me at (330) 963-1235 or nicholas.roope@epa.ohio.gov.

Sincerely,

Nicholas Roope
Environmental Specialist
Division of Environmental Response and Revitalization

NR/cm

ec: Mr. Kevin Sedlak, ARNG-IEE-D
Megan Oravec, Ohio EPA, NEDO, DERR
Natalie Oryshkewych, Ohio EPA, NEDO, DERR
Thomas Schneider, Ohio EPA, SWDO, DERR

March 28, 2025

Received March 31, 2025

TRANSMITTED ELECTRONICALLY

Mr. Kevin Sedlak
Camp James A. Garfield JMTC
Attn: Environmental Office (Bldg 1071)
8451 State Route 5
Ravenna OH 44266

Sent via email to:
kevin.m.sedlak.ctr@army.mil

RE: US Army Ravenna Ammunition Plt
RVAAP
Remediation Response
Project records
Federal Facilities
Remedial Design
Portage County
267000859274

Subject: Former Ravenna Army Ammunition Plant
Draft Remedial Investigation Report – Open Demolition Area #2 (RVAAP-004-R-01) Munitions Response Site
Ohio EPA Request for Extension

Dear Mr. Sedlak:

On February 28, 2025, the Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) received the "*Draft Remedial Investigation Report – Open Demolition Area #2 (RVAAP-004-R-01)*"[1] (the "Report") dated February 2025. The Report was prepared by Arcadis U.S., Inc., on behalf of the U.S. Army Corps of Engineers, Baltimore District. Pursuant to the Director's Final Findings and Orders (Orders), the deadline for review on this document is April 14, 2025.

This letter requests a 60-day extension from the due date. This extension would move the due date to **June 13, 2025**.

Ohio EPA respectfully requests your review and approval of this extension request pursuant to the Orders.

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3453303 – Draft ODA#2 RI Report

If you have any questions concerning this correspondence, please contact me at (330) 963-1235.

Sincerely,

Nicholas Roope
Site Coordinator
Division of Environmental Response and Revitalization

NR/cm

ec: Katie Tait, OHARNG RTLS, CJAG
Megan Oravec, Ohio EPA, NEDO, DERR
Natalie Oryshkewych, Ohio EPA, NEDO, DERR
Brian Tucker, Ohio EPA, CO, DERR
Thomas Schneider, Ohio EPA, SWDO, DERR

NATIONAL GUARD BUREAU
111 SOUTH GEORGE MASON DRIVE
ARLINGTON VA 22204-1373

March 21, 2025

Ohio Environmental Protection Agency
Attn: Mr. Nicholas Roope
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant Restoration Program, Army Responses on the Draft Open Demolition Area #2 Summary of Findings Report – Magnetometer-Assisted Survey of Sand Creek, Camp James A. Garfield, Portage/Trumbull Counties, Ohio (Ohio EPA ID No. 267000859274)

Dear Mr. Roope:

We received Ohio EPA comments on the above referenced report. Below are Army responses to those comments. Please review the responses and let us know if you have any questions. We also think it would be beneficial to have a quick discussion on the comment responses and ongoing Creek Walks. Please let us know when you may be available for a meeting to discuss.

These responses were prepared for the Army National Guard in support of the RVAAP Restoration Program. Please contact Ms. Katie Tait at (614)336-6136 or kathryn.s.tait.nfg@army.mil or Mr. Kevin Sedlak at (330)235-2153 or kavin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275
Digitally signed by TAIT.KATHRYN.SERENA.1289508275
Date: 2025.03.21 09:17:07 -04'00'

FOR Kevin M. Sedlak
Restoration Project Manager
Army National Guard (Plateau GRP)

cc: Tom Schneider, Ohio EPA
Megan Oravec, Ohio EPA
Katie Tait, OHARNG
Steve Kvaal, USACE – Louisville
Jennifer Tierney, AR Records Manager
Travis McCoun, USACE – Baltimore

Ohio EPA Comment 1. Address the discrepancies in weight of MPPEH/MD recovered from the Waypoints.

Army Response 1. The Summary Report for the 18-19 November 2024 Creek Walk, dated 27 January 2025, is accurate as submitted. A total of 7 pounds of MPPEH was recovered during the 18-19 November 2024 Creek Walk. All recovered MPPEH (7 pounds) were inspected and certified as MDAS. All MDAS was transported and stored in a secure magazine. This material will be recycled at a later date. The text in the Summary Report for the 18-19 November 2024 Creek Walk will be clarified to clearly state that all recovered MPPEH during the creek walk was certified as MDAS. Please note that 105 pounds of MPPEH was recovered during the 23-27 September 2024 creek walk. This was a separate event. The results of this survey were reported in the Summary Report for the 23-27 September 2024 Creek Walk, dated 30 September 2024.

Comment 2. Provide the locations of where the MPPEH came from.

Army Response 2. The Summary Report for the 18-19 November 2024 Creek Walk, dated 27 January 2025, clearly summarizes what was recovered in Section 6a. Section 6a of the report will be modified to clarify that MPPEH was recovered from the creek, as follows: "Approximately 7 lbs of MPPEH was recovered during this creek walk conducted on 18-19 November 2024. Five (5) lbs of MPPEH was recovered from the creek between Waypoints 2 and 3. All items were certified as MDAS (5 lbs). This material does not appear to be migrating downstream, rather this material appears to be collecting at bends and at the foot of eroded banks. Two (2) lbs of MPPEH was recovered from the creek between Waypoints 3 and 4. All items were certified as MDAS (2 lbs). Based on these observations, it is concluded that the stream banks are continuing to erode. Future surveys of this area are recommended especially after high energy events."

Please note that the information discussed in the Ohio EPA letter references the 23-27 September 2024 Creek Walk, which is a separate event. During the 23-27 September 2024 event, not all MPPEH was certified to be MDAS. Rather, some of the recovered items remained MPPEH and were stored for future demolition, and some of the recovered items were certified as MDAS and stored for future recycling.

Comment 3. Identify if the items recovered were determined to be MPPEH, then transported to the BEM immediately for demilitarization in the same day to achieve the MDAS designation.

Army Response 3. The Summary Report for the 18-19 November 2024 Creek Walk, dated 27 January 2025, is accurate as submitted. A total of 7 pounds of MPPEH was recovered during the 18-19 November 2024 Creek Walk. All recovered MPPEH (7 pounds) were inspected and certified as MDAS. Demolition operations were not required for this material. The results of the Creek Walk were reported in the Summary Report for the 18-19 November 2024 walk.

Please note that demolition operations were conducted at the BEM on 21 November 2024. This is a separate activity. The results of this work are reported in the Post-Notification Report, USACE Demolition at ODA2, January 2025. This report summarizes that 37 MPPEH items that were consolidated and stored in the magazine from previous creek sweep(s) were explosively demilitarized in the BEM. After demolition, all remaining material (MPPEH) was inspected and certified as MDAS. The MDAS was transported to a magazine and stored for future recycling.

Environmental Protection Agency

EPA.Ohio.gov

Mike DeWine, *Governor* Jim Tressel, *Lt. Governor* Anne M. Vogel, *Director*

Received March 18, 2025

March 17, 2025

TRANSMITTED ELECTRONICALLY

Mr. Kevin Sedlak
Camp James A. Garfield JMTC
Attn: Environmental Office (Bldg 1071)
8451 State Route 5
Ravenna OH 44266

Sent via email: kevin.m.sedlak.ctr@army.mil

RE: US Army Ravenna Ammunition Plt
RVAAP
Remediation Response
Project records
Federal Facilities
Remedial Investigation
Portage County
267000859274

Subject: Former Ravenna Army Ammunition Plant
Time Critical Removal Action for Open Demolition Area #2 – Summary of Findings, Magnetometer-Assisted Survey of Sand Creek
Ohio EPA – Request for Additional Clarification

Dear Mr. Sedlak:

On February 3, 2025, the Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) received and has reviewed the "*Summary of Findings, Magnetometer-Assisted Survey of Sand Creek*" (the "Report")[1] - conducted November 18-19, 2024. The Report supports the Time Critical Removal Action for Open Demolition Area #2 at Camp James A. Garfield Joint Military Training Center. The document was prepared and submitted by U. S. Army Corps of Engineers – Baltimore District.

Ohio EPA identified discrepancies in the Report that require more clarification prior to providing concurrence with the findings.

Discrepancies in Reported Information

First, the total weight of the MPPEH/MD recovered in the Report does not match what was reported in the emailed summary provided to Ohio EPA on November 21, 2024 (approximately 7-lbs vs. 105-lbs., respectively).

Additionally, text in paragraph a) of the email indicates not all the MPPEH was able to be inspected as MD. Then in paragraph c) text indicates all MPPEH/MDAS was transported to the earth covered

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3423706 – Summary of Findings, Magnetometer-Assisted Survey of Sand Creek

Northeast District Office
2110 E. Aurora Road
Twinsburg, Ohio 44087 U.S.A.

330 | 963 1200
epa.ohio.gov

The State of Ohio is an Equal Opportunity Employer and Provider of ADA Services

magazine (Bldg 1501) at ODA2. The text in the Report makes it appear that all the items recovered were only **MDAS** (emphasis added) prior to being stored.

Furthermore, the Post-Demolition Report[2] indicates that there were 37 items recovered from Sand Creek determined to be MPPEH until demilitarization operations occurred at the buried explosive module (BEM). Following the demilitarization the items were determined to be MDAS. Text in the Report and the email does not mention the use of the BEM.

Finally, based on the Report, the Post-Demolition Report, and the emailed information, it is interpreted that the 37 items demilitarized at the BEM were located between Waypoints 2 and 3. However, this is not clearly stated in the Report. Therefore, it is unclear if there were items collected further downstream that were MPPEH, but were otherwise labeled as MDAS following demilitarization activities at the BEM.

Action Item: Please submit a revised Report and/or clarification to:

- Address the discrepancies in weight of MPPEH/MD recovered from the Waypoints.
- Provide the locations of where the MPPEH came from.
- Identify if the items recovered were determined to be MPPEH, then transported to the BEM immediately for demilitarization in the same day to achieve the MDAS designation.

Ohio EPA encourages you to include the Pre- and Post-Demolition Reports as supporting information.

If you have any questions concerning this letter or report, please contact me at (330) 963-1235 or nicholas.roope@epa.ohio.gov.

Sincerely,



Nicholas Roope
Environmental Specialist
Division of Environmental Response and Revitalization

NR/cm

ec: Katie Tait, OHARNG RTLS, CJAG
Megan Oravec, Ohio EPA, NEDO, DERR
Natalie Oryshkewych, Ohio EPA, NEDO, DERR
Thomas Schneider, Ohio EPA, SWDO, DERR

[2] https://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3386435 – Post-Demolition Report, dated November 19, 2024

NATIONAL GUARD BUREAU
111 SOUTH GEORGE MASON DRIVE
ARLINGTON VA 22204-1373

February 28, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Mr. Nicholas Roope
2110 East Aurora Road
Twinsburg, Ohio 44087

Subject: Ravenna Army Ammunition Plant Restoration Program, Draft Remedial Investigation Report, Open Demolition Area #2 (RVAAP-004-R-01), Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio (Ohio EPA ID# 267000859274)

Dear Mr. Roope:

The Draft Remedial Investigation Report for the Open Demolition Area #2 (ODA2) MRS (RVAAP-004-R-01) at the former Ravenna Army Ammunition Plant is being submitted for your review via the Ohio EPA LiquidFile system. Please note that the lab reports were too large to be provided in the Draft RI report and can be provided on CD upon request.

The Draft ODA2 Remedial Investigation Report was prepared for the Army National Guard (ARNG) in support of the RVAAP Restoration Program. Please contact Ms. Katie Tait, OHARNG Environmental Specialist 3, at 614-336-6136 or kathryn.s.tait.nfg@army.mil or Mr. Kevin Sedlak at 330-235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.02.28 12:36:28 -05'00'

FOR Kevin M. Sedlak
Restoration Project Manager, Plateau GRP
ARNG-IEE-D Cleanup

cc: Tom Schneider, Ohio EPA
Megan Oravec, Ohio EPA
Katie Tait, OHARNG
Steve Kvaal, USACE Louisville District
Nicole Walworth, USACE Baltimore District
Jennifer Tierney, Chenega (RVAAP Administrative Record)
David Heuer, Arcadis

Environmental Protection Agency

EPA.Ohio.gov

Mike DeWine, *Governor* Jim Tressel, *Lt. Governor* Anne M. Vogel, *Director*

Received April 1, 2025

March 31, 2025

TRANSMITTED ELECTRONICALLY

Mr. Kevin Sedlak
Camp James A. Garfield JMTC
Attn: Environmental Office (Bldg 1071)
8451 State Route 5
Ravenna OH 44266

Sent via email to:
kevin.m.sedlak.ctr@army.mil

RE: US Army Ravenna Ammunition Plt
RVAAP
Remediation Response
Project records
Federal Facilities
Remedial Design
Portage County
267000859271

Subject: Former Ravenna Army Ammunition Plant
Draft Uniform Federal Policy Quality Assurance Project Plan, Addendum 1 for Remedial Action – RVAAP-060-R-01 Block D Igloo Munitions Response Site
Ohio EPA Request for an Addendum

Dear Mr. Sedlak:

On January 23, 2025, the Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) received the Draft Uniform Federal Policy Quality Assurance Project Plan, Addendum 1 for Remedial Action[1] (the "Report") dated July 2024. The Report was prepared by HydroGeoLogic, Inc., on behalf of the U.S. Army Corps of Engineers, Louisville District. On January 3, 2025, Ohio EPA provided a request for additional clarification on the blow-in-place (BIP) procedure via email, specifically focused on the incremental sampling methodology.

On January 23, 2025, Ohio EPA received the "*Blow-in-Place Procedures -Response to Ohio EPA Comment*"[2] dated January 23, 2025. Ohio EPA acknowledges, the approved blow-in-place

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3065531 – Draft Uniform Federal Policy Quality Assurance Project Plan, Addendum 1 for Remedial Action
[2] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3395705 - Blow-in-Place Procedures - Response to Ohio EPA Comment

Northeast District Office
2110 E. Aurora Road
Twinsburg, Ohio 44087 U.S.A.

330 | 963 1200
epa.ohio.gov

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(BIP) procedures that are currently used, including detailed sampling procedures and data quality objectives (DQOs), and established during the development of the Final Work Plan for the Time Critical Removal Action at RVAAP-004-R-01 Open Demolition Area #2 (ODA#2), dated March 2016. However, Worksheet #20 in the Report states, "Field Quality Control sampling will not be required for pre- and post-BIP sampling." This is inconsistent with the previous approved work plans using incremental sampling methodology (ISM) which requires field quality control sampling (*e.g.*, triplicate sampling) to support general DQOs and to monitor field sampling activities. This applies to all Quality Assurance Project Plans (QAPPs) using ISM. In addition, Appendix C should have the relative standard deviation (RSD) values we clarified to be used with the triplicates, similar to ODA#2.

Section 17.7.1.2 in the March 2023 Remedial Investigation (RI) QAPP for ODA#2[3] states, "Field duplicate and triplicate replicates will be collected from 10% of the sample grids. The replicate data will be used to statistically evaluate sampling precision. Separate cores (n=30) will be collected for each duplicate and triplicate ISM sample and will be processed as described above for the primary samples." Furthermore, Section 17.7.3.1 states, "100% ISM sampling coverage will be used to assess the nature and extent of [munitions constituents] MC in the 46.1-acre Source Area (Figure A-8b). Therefore, 201 100-foot by 100-foot ISM sample grids will be established, each with 2 [sample units] SUs, as discussed in Section 17.7.1. Field duplicate and triplicate replicates will be collected from 10% of the ISM grids (or 21 grids in the Source Area). All ISM soil samples from the Source Area will be analyzed for metals and explosives / propellants. ISM samples collected from the ten grids that overlap the Former [open burn/open demolition] OB/OD Unit will be analyzed for OB/OD-related constituents (dioxins/furans and [semi-volatile organic compounds] SVOCs) as well as for hexavalent chromium (to allow for computation of the ratio of hexavalent to trivalent chromium). Seven of the 20 grids with replicates will be collected at the start of the sampling effort to provide an early indication of the RSDs between replicate results (see further discussion of RSDs in Section 17.7.5)."

Ohio EPA has directed the Army to use the Hawaii ISM data quality recommendations (with several Ohio EPA-specific modifications) for the ODA#2 RI in the context of RI decision making and any use of ISM. As an alternative, discrete sampling methodology may also be implemented provided the necessary field quality controls are implemented. A recommended minimum of 3 discrete samples located in the area most likely to be contaminated (*e.g.*, bottom of craters or center of cover soil/materials used to contain blasts) by the BIP actions would be sufficient to confirm pre and post potential contamination.

---

[3] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2225517 – March 2023 ODA#2 RI QAPP

Please submit an addendum to the Report consistent with the historical QAPPs for Ohio EPA review.

Should you have any questions, please contact me at (330) 963-1235 or by email at nicholas.roope@epa.ohio.gov.

Sincerely,



Nicholas Roope
Site Coordinator
Division of Environmental Response and Revitalization

NR/cm

ec: Katie Tait, OHARNG RTLS, CJAG
Megan Oravec, Ohio EPA, NEDO, DERR
Natalie Oryshkewych, Ohio EPA, NEDO, DERR
Brian Tucker, Ohio EPA, CO, DERR
Thomas Schneider, Ohio EPA, SWDO, DERR

Ohio Army National Guard
Camp James A. Garfield Joint Military Training Center
8451 State Route 5, Building 1071
Ravenna, Ohio 44266

September 17, 2025

Ohio Environmental Protection Agency
Attn: Mr. Tom Schneider
401 East Fifth Street
Dayton, Ohio 45402

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Camp James A. Garfield JMTC, Portage/Trumbull Counties, Ohio – RVAAP-063-R-01 Group 8 MRS – Draft Remedial Action (RA) Completion Report – Milestone Extension

Dear Mr. Schneider:

A milestone date of September 30, 2025, was established for the Draft Remedial Action Completion Report for the Group 8 MRS at the former RVAAP. The Remedial Action at this site was contracted with the Block D MRS Remedial Action. Additional work is required at both the Group 8 MRS and the Block D MRS and the project was paused in order to request additional funding and do a contract modification. Due to lack of funding availability, the contract modification has been delayed and the Remedial Action for both sites has not been completed. Therefore, the Army National Guard (ARNG) would like to request a milestone extension for the Group 8 MRS Draft Remedial Action Completion Report. The new proposed milestone date is July 30, 2026. Currently, the ARNG, with support from USACE, is trying to obtain funding to complete the Remedial Action at the Group 8 MRS under the existing contract with HGL.

Please let us know if the proposed new milestone date is acceptable. Please contact the undersigned at (614)336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak, ARNG Restoration Project Manager, at (330)235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.09.17 12:52:06 -04'00'

Kathryn S. Tait
Environmental Specialist 3
Ohio Army National Guard

cc: Megan Oravec, Ohio EPA
Kevin Sedlak, ARNG (Plateau GRP)
Steve Kvaal, USACE Louisville
Nicole Walworth, USACE Baltimore
Jennifer Tierney, Chenega (Admin Record)
Erik Powers, HGL

Ohio Army National Guard
Camp James A. Garfield Joint Military Training Center
8451 State Route 5, Building 1071
Ravenna, Ohio 44266

April 21, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Mr. Nicholas Roope, Site Coordinator
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, Ohio – Response to Ohio EPA Comments on the Group 8 MRS Remedial Action (RVAAP-063-R-01) Confirmation Sampling Report (Ohio EPA ID# 267000859272)

Dear Mr. Roope:

On March 20, 2025, the Army National Guard (ARNG) received a response to the memo "*Response to Ohio EPA Comments on the Group 8 MRS Remedial Action (RVAAP-063-R-01) Confirmation Sampling Report, Ravenna Army Ammunition Plant (RVAAP), Portage and Trumbull Counties, Ohio (Ohio EPA ID# 267000859272)*", dated January 15, 2025. Below for your review are responses to the Ohio Environmental Protection Agency (Ohio EPA) comments. In addition, a conference call was held on April 7, 2025, to discuss the comments and the path forward.

Ohio EPA Comment 1:
Sample results provided in the Confirmation Sampling Report indicate munitions constituent (MC) contaminated soils are present above Preliminary Remediation Goals (PRGs) vertically and laterally. Soil samples beyond the "2.0' – 2.5' depth increment" are requested to be sampled to verify the following remedial action objectives outlined in the ROD are met:

- Confirmation soil samples will be collected to confirm that **the extent of MC-contaminated soil has been removed** (emphasis added); and
- Under this alternative, **all** (emphasis added) MC-contaminated soil exceeding the Preliminary Remediation Goals (PRGs) would be removed, allowing for unlimited use/unrestricted access (UU/UE) at the MRS.

As indicated in the ROD, the assumption that up to 2 feet below ground surface may be required to be excavated, based on the results of confirmation sampling, was used to establish the cost estimate. If indicated, localized areas may require further limited excavation to deeper than 6 inches after the confirmation sampling occurs. Although, previous investigations within the original footprint of the Site indicate the extent of contamination is limited to the top two feet of soil the sample grid; 'AE-10' is outside of the original footprint of the Site. Additional samples are necessary to verify the extent of contamination vertically and laterally and perform additional removal of soil at the bottom of 'AE-10', the NW-wall (potentially further), and the SW wall adjacent to AD-10 (potentially further) to achieve UU/UE.

Response to Comment 1:
The Army National Guard concurs that in addition to a sample to be collected at the 2.0' – 2.5' depth increment where the Confirmation Sampling Report indicates lead-contaminated soils are present above Preliminary Remediation Goals (PRGs), post-excavation confirmation samples will be collected from the sidewalls of all four sides of the excavation. The Confirmation Sampling Report will be revised as follows:

~~Three~~ Two pre-excavation discrete samples will be collected from ~~the center of AE10~~ end of the ditch at depths of ~~1.0'-1.5', 1.5-2.0', and~~ 2.0'-2.5' and 3.5'-4.0' bgs and analyzed for lead (Figure 3). ~~It is not expected that lead exceedances will extend deeper than 2.0' bgs.~~ The deeper sample will be analyzed if the shallower sample exceeds a lead concentration of 200 mg/kg. In addition to lead sampling, a composite sample will be collected from the top 2.0 feet of soil for waste characterization.

Once the extent of lead contamination exceeding 200 mg/kg has been delineated, the determined volume will be excavated ~~and backfilled with clean soil~~. Following excavation, a sidewall sample will be collected from each side of the excavation and rushed for lead analysis (Figure 3). Should preliminary results confirm concentrations below 200 mg/kg, the area will be backfilled with clean soil.

No additional work plan is required beyond the revised Confirmation Sampling Report. The revised report will incorporate the guidance provided to the Army National Guard within this response memo and during the conference call.

These responses to comments were prepared for the Army National Guard in support of the RVAAP Restoration Program. Please contact the undersigned at (614)336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak, ARNG Restoration Project Manager, at (330)235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.04.21 08:20:24 -04'00'

Kathryn S. Tait
Environmental Specialist 3
Ohio Army National Guard

cc: Megan Oravec, Ohio EPA
Tom Schneider, Ohio EPA
Kevin Sedlak, ARNG
Steve Kvaal, USACE Louisville
Nicole Walworth, USACE Baltimore
Erik Powers, HydroGeoLogic
Jennifer Tierney, Chenega (Admin Record)

Received March 20, 2025

March 20, 2025

TRANSMITTED ELECTRONICALLY

Mr. Kevin Sedlak
Camp James A. Garfield JMTC
Attn: Environmental Office (Bldg 1071)
8451 State Route 5
Ravenna OH 44266

Sent via email to: kevin.m.sedlak.ctr@army.mil

RE: US Army Ravenna Ammunition Plt RVAAP
Remediation Response
Project records
Federal Facilities
Remedial Design
Portage County
267000859272

Subject: Former Ravenna Army Ammunition Plant
Response to Ohio EPA Comments on the Group 8 MRS Remedial Action (RVAAP-063-R-01) Confirmation Sampling Report
Ohio EPA - Request for a Work Plan

Dear Mr. Sedlak:

On January 15, 2025, the Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) received the "*Response to Ohio EPA Comments on the Group 8 (Munitions Response Site) MRS Remedial Action (RVAAP-063-R-01) Confirmation Sampling Report*"[1] (the "Report") dated January 15, 2025.

Ohio EPA has reviewed the Report and supporting information contained in the July 2023, *Final Uniform Federal Policy Quality Assurance Project Plan for Remedial Action* (QAPP)[2], the October 30, 2024*, Group 8 MRS Remedial Action (RVAAP-063-R-01) Confirmation Sampling Report*[3]*, and the September 25, 2020, Final Record of Decision for RVAAP-063-R-01 Group 8 Munitions Response Site Version 1.0 (ROD)*[4].

Sample results provided in the Confirmation Sampling Report indicate munitions constituent (MC) contaminated soils are present above Preliminary Remediation Goals (PRGs) vertically and laterally. Soil

[1] https://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3394286 – Response to Ohio EPA Comments on the Group 8 MRS Remedial Action Confirmation Sampling Report
[2] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3294838 – October 2024, Confirmation Sampling Report
[3] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2480136 – July 2023, QAPP
[4] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=1440713 – September 2020, ROD

samples beyond the "2.0' – 2.5' depth increment" are requested to be sampled to verify the following remedial action objectives outlined in the ROD are met:

- Confirmation soil samples will be collected to confirm that **the extent of MC-contaminated soil has been removed** (emphasis added); and
- Under this alternative, **all** (emphasis added) MC-contaminated soil exceeding the Preliminary Remediation Goals (PRGs) would be removed, allowing for unlimited use/unrestricted access (UU/UE) at the MRS.

As indicated in the ROD, the assumption that up to 2 feet below ground surface may be required to be excavated, based on the results of confirmation sampling, was used to establish the cost estimate. If indicated, localized areas may require further limited excavation to deeper than 6 inches after the confirmation sampling occurs. Although, previous investigations within the original footprint of the Site indicate the extent of contamination is limited to the top two feet of soil the sample grid; 'AE-10' is outside of the original footprint of the Site. Additional samples are necessary to verify the extent of contamination vertically and laterally and perform additional removal of soil at the bottom of 'AE-10', the NW-wall (potentially further), and the SW wall adjacent to AD-10 (potentially further) to achieve UU/UE.

Ohio EPA has no additional comments. Please submit a work plan to address the soils exceeding the PRGs outlined in the Confirmation Sampling Report.

Should you have any questions, please contact me at (330) 963-1235 or by email at nicholas.roope@epa.ohio.gov.

Sincerely,



Nicholas Roope
Site Coordinator
Division of Environmental Response and Revitalization

NR/cm

ec: Katie Tait, OHARNG RTLS, CJAG
Megan Oravec, Ohio EPA, NEDO, DERR
Natalie Oryshkewych, Ohio EPA, NEDO, DERR
Brian Tucker, Ohio EPA, CO, DERR
Thomas Schneider, Ohio EPA, SWDO, DERR

January 6, 2025

Received January 7, 2025

TRANSMITTED ELECTRONICALLY

Mr. Kevin Sedlak
Camp James A. Garfield JMTC
Attn: Environmental Office (Bldg 1071)
8451 State Route 5
Ravenna OH 44266

Sent via email to:
kevin.m.sedlak.ctr@army.mil

RE: US Army Ravenna Ammunition Plt
RVAAP
Remediation Response
Plans
Remedial Action
Federal Facilities
Portage County
267000859272

Subject: Former Ravenna Army Ammunition Plant
Confirmation Sampling Report for the RVAAP-063-R-01 Group 8 Munitions Response Site
Ohio EPA Comments

Dear Mr. Sedlak:

On October 30, 2024, the Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) received the "Group 8 MRS Remedial Action (RVAAP-063-R-01) – Confirmation Sampling Report for the RVAAP-063-R-01 Group 8 Munitions Response Site"[1] (the "Report") dated October 30, 2024. Ohio EPA has reviewed the Report and has the following comments, requested to be addressed prior to obtaining Ohio EPA concurrence.

COMMENTS

Hazardous Waste Determination

Ohio EPA accepts sample #G8SL-004M-AE10-SWN-REG, at 203 mg/kg, as meeting the criterion for the cleanup goal given the adjacent samples and rationale provided in the text. However, AD10 is on the edge of the retainage ditch that was excavated. This is concerning given the sediment/soils in the retainage ditch were adjacent to, and contaminated with, the same

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3294838

contaminants of concern as Group 8 MRS (RVAAP-063-R-01). The report indicated the sediment/soils were "disposed of assuming a hazardous waste classification."

Action Item: Please provide any analytical data generated as part of this removal effort to verify that the sediments/soils were appropriately assessed.

Extent of Contamination

For sample location #G8SL-004M-AE10-1.0-REG, additional sampling to determine the vertical extent of lead contamination is necessary. Confirmation samples, post soil removal, are still required to ensure remedial levels are met.

Action Item: Please collect more than one sample at the bottom of the excavation to ensure remedial levels are met, or a single sample per the approved work plan is also acceptable given the size of the unit.

If you have any questions concerning this letter or report, please contact me at (330) 963-1235 or nicholas.roope@epa.ohio.gov.

Sincerely,

Nicholas Roope
Environmental Specialist
Division of Environmental Response and Revitalization

NR/cm

ec: Katie Tait, OHARNG RTLS, CJAG
Megan Oravec, Ohio EPA, NEDO, DERR
Natalie Oryshkewych, Ohio EPA, NEDO, DERR
Brian Tucker, Ohio EPA, CO, DERR
Thomas Schneider, Ohio EPA, SWDO, DERR

Ohio Army National Guard
Camp James A. Garfield Joint Military Training Center
8451 State Route 5, Building 1071
Ravenna, Ohio 44266

December 2, 2025

Ohio Environmental Protection Agency
Mr. Nick Roope
2110 E. Aurora Road
Twinsburg, Ohio 44087

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Camp James A. Garfield JMTC, Portage/Trumbull Counties, Ohio – Draft Annual LUC Monitoring Report (Ohio EPA ID 267000859029)

Dear Mr. Roope:

The Draft Annual LUC Monitoring Report for 2025 for the RVAAP Restoration Program is being submitted for your review. This document was prepared by the OHARNG so please direct comments and questions to Ms. Kathryn Tait. Please note that the document will be electronically signed as required once the Final is issued.

Please contact the undersigned at (614)336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak, ARNG Restoration Project Manager, at (330)235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.12.02 09:52:28 -05'00'

Kathryn S. Tait
Environmental Specialist 3
Ohio Army National Guard

cc: Tom Schneider, Ohio EPA
Megan Oravec, Ohio EPA
Kevin Sedlak, ARNG (Plateau GRP)
Steve Kvaal, USACE Louisville
Jennifer Tierney, Chenega (Admin Record)

Ohio Army National Guard
Camp James A. Garfield Joint Military Training Center
8451 State Route 5, Building 1071
Ravenna, Ohio 44266

December 2, 2025

Ohio Environmental Protection Agency
Mr. Nick Roope
2110 E. Aurora Road
Twinsburg, Ohio 44087

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Camp James A. Garfield JMTC, Portage/Trumbull Counties, Ohio – Draft Annual LUC Monitoring Report (Ohio EPA ID 267000859029)

Dear Mr. Roope:

The Draft Annual LUC Monitoring Report for 2025 for the RVAAP Restoration Program is being submitted for your review. This document was prepared by the OHARNG so please direct comments and questions to Ms. Kathryn Tait. Please note that the document will be electronically signed as required once the Final is issued.

Please contact the undersigned at (614)336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak, ARNG Restoration Project Manager, at (330)235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.12.02 09:52:28 -05'00'

Kathryn S. Tait
Environmental Specialist 3
Ohio Army National Guard

cc: Tom Schneider, Ohio EPA
Megan Oravec, Ohio EPA
Kevin Sedlak, ARNG (Plateau GRP)
Steve Kvaal, USACE Louisville
Jennifer Tierney, Chenega (Admin Record)

March 31, 2025

Received April 1, 2025

TRANSMITTED ELECTRONICALLY

Mr. Kevin Sedlak
Camp James A. Garfield JMTC
Attn: Environmental Office (Bldg 1071)
8451 State Route 5
Ravenna OH 44266

Sent via email to: kevin.m.sedlak.ctr@army.mil

RE: US Army Ravenna Ammunition Plt RVAAP
Remediation Response
Approval
Federal Facilities
Operation and Maintenance
Portage County
267000859029

Subject: Former Ravenna Army Ammunition Plant
Final 2024 Annual Land Use Control Monitoring Report
Ohio EPA Approval

Dear Mr. Sedlak:

On March 18, 2025, the Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) received the Final 2024 Annual Land Use Control Monitoring Report, RVAAP-01 Ramsdell Quarry Landfill, RVAAP-04 Open Demolition Area #2, RVAAP-05 Winklepeck Burning Grounds, RVAAP-08 - 12 Load Lines 1 through 4 and 12, RVAAP-51 Dump Along Paris Windham Road, Camp James A. Garfield, Portage/Trumbull Counties, Ohio[1] (the "Report") dated March 18, 2025. The Report was prepared by Chenega Reliable Services, LLC on behalf of the U.S. Army Corps of Engineers, Louisville District, and submitted to Ohio EPA by Ohio Army National Guard.

Ohio EPA has reviewed the Report and approves the Report in its final format. If you have any questions concerning this letter or Report, please contact me at (330) 963-1235 or nicholas.roope@epa.ohio.gov.

Sincerely,

Nicholas Roope
Site Coordinator
Division of Environmental Response and Revitalization

ec: Megan Oravec, Ohio EPA, NEDO, DERR
Natalie Oryshkewych, Ohio EPA, NEDO, DERR
Thomas Schneider, Ohio EPA, SWDO, DERR
Katie Tait, OHARNG RTLS, CJAG

NR/cm

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3483582 – Final 2024 Annual Report

Ohio Army National Guard
Camp James A. Garfield Joint Military Training Center
8451 State Route 5, Building 1071
Ravenna, Ohio 44266

December 5, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Ms. Natalie Oryshkewych
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Camp James A. Garfield (CJAG), Portage/Trumbull Counties, Ohio – Monthly Activity Report – November 2025

Dear Ms. Oryshkewych:

Enclosed for your review is the "RVAAP Restoration Program - DFFO Monthly Summary Report – November 2025". The report summarizes the Restoration Program activities conducted at the former RVAAP for the period from November 1, 2025, through November 30, 2025. This report is being submitted to the Ohio EPA to comply with the Ohio EPA Director's Final Findings and Orders, Section XVI, paragraphs 36 and 37.

This report was prepared for the Army National Guard in support of the RVAAP Restoration Program. Please contact the undersigned at (614)336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak, ARNG Restoration Project Manager, at (330)235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.12.05 11:03:19 -05'00'

Kathryn S. Tait
Environmental Specialist 3
Ohio Army National Guard

cc: Megan Oravec, Ohio EPA
Tom Schneider, Ohio EPA
Kevin Sedlak, ARNG (Plateau GRP)
Steve Kvaal, USACE Louisville
Jay Trumble, USACE Louisville
Jennifer Tierney, Chenega, Admin Record

Status of project activities for reporting period (November 2025)

Project Name	USACE Project Manager / Contractor	Project Status
RVAAP-67 Facility-wide Sewers	J. Renner	Approval of the comment responses on the Draft RI was received from the Ohio EPA on October 21, 2024. Remaining work is scoped and awaiting funding and a new contract.
Block D Igloo MRS and Group 8 MRS-Remedial Actions	Travis McCoun & Nicole Walworth / HGL	Field work is on hold for the Block D and Group 8 MRSs while awaiting funding for a contract modification. Due to funding constraints, the modification scope has changed to only include the work at the Group 8 MRS. Revised proposal has been accepted for Group 8 and prior years funds have been requested. Modification will be awarded when funds are received.
RVAAP-004-R-01 Open Demolition Area #2 (ODA2) MRS	Nicole Walworth & Travis McCoun	The Draft RI report was submitted to the Ohio EPA on February 28, 2025, and comments were received on June 30, 2025. Comment responses were submitted to Ohio EPA on August 6, 2025. Comments were received from the Ohio EPA on October 8, 2025. The Arcadis contract is complete. Responses to Ohio EPA comments and a Final RI report will be submitted under a new contract.
Remedial Actions for 3 AOCs – RVAAP-06 C Block Quarry, RVAAP-50 Atlas Scrap Yard, CC RVAAP-70 E Classification Yard	J. Renner / PIKA- Insight JV	The Preliminary Draft Remedial Action Completion Report for CC RVAAP-70 was submitted on November 6, 2025. Army comments were received, and responses are being developed. The Preliminary Draft Remedial Action Completion Report for RVAAP-50 was submitted on September 9, 2025. Army comments were received, and a revision was submitted on October 30, 2025. Additional Army comments were received, and responses are being developed. The Preliminary Draft Remedial Action Completion Report for RVAAP-06 was submitted for review to the Army on December 1, 2025. Army comments are pending.

PROJECT NAME	USACE TECH MGR /Contractor	PROJECT STATUS
Investigation at 9 AOCs - RVAAP-34 Sand Creek, CC RVAAP-69 Building 1048 Fire Station, CC RVAAP-78 Quarry Pond Dump, CC RVAAP- 79 DLA Ore Storage Yard, RVAAP-38 NACA Test Area, RVAAP-45 Wet Storage, RVAAP-42 Load Line 9, CC RVAAP-76 Depot Area, CC RVAAP-70 E Classification Yard	J. Renner/ Leidos	The Final UFP-QAPP for RVAAP-78 Quarry Pond Surface Dump was approved on July 18, 2025. Field work is pending. The Preliminary Draft RD Addendum is being prepared for RVAAP-42 Load Line 9. The Preliminary Draft RD Addendums for RVAAP-38, CC RVAAP-76 Depot Area, and RVAAP-45 were submitted to the Army for review. The Draft RI Addendum Report and Preliminary Draft FS Report are being prepared for RVAAP-34. The Preliminary Draft FS for CC RVAAP-69 Former Fire Station was submitted to the Army on July 16, 2025. Army comments have been received, and responses are being developed. The Preliminary Draft FS for CC RVAAP-79 DLA Ore Storage Yard is being prepared. The Draft RI Addendum 2 is being developed.
2022 Environmental Program Support Services	J. Renner/ Chenega	Chenega is preparing for the next RAB meeting on December 17, 2025. Work on the administrative record and websites continues. The Chenega contract ends on December 29, 2025
2025 Annual Land Use Control Monitoring Report	OHARNG - K. Tait	The Draft 2025 Annual LUC Monitoring Report was submitted to the Ohio EPA on December 2, 2025. Comments are pending.
RVAAP-66 Facility-wide Groundwater	J. Trumble / Leidos	The Army responses to comments on the Draft Feasibility Study for RVAAP-66 were submitted to the Ohio EPA on November 20, 2025. Ohio EPA approved the Final FWGWMP 2025 Addendum in a letter dated November 10, 2025. Ohio EPA approved the Final FWGWMP 2024 Annual Report in a letter dated November 10, 2025.

A. Describe difficulties encountered during the reporting period and actions taken to rectify any difficulties
Still awaiting funding for several new contracts to continue progress on multiple sites.

B. Identify changes in key personnel
None.

C. List target and actual completion dates for each element of activity, including project completion
The actual completion dates and target dates where applicable are provided with the status of activities in Section A.

D. Provide an explanation for any deviation from applicable schedules
Groundwater sampling in accordance with the DFFOs was not completed in Spring 2025 or Fall 2025 due to no funding for a new sampling contract. Progress on the FS for the FWGWMP continues as the FS is under an existing contract.

Remedial action field work at the Block D MRS and the Group 8 MRS have been delayed as a modification to the contract is needed and funds are not available.

E. Indicate how much soil and groundwater was generated and/or transported and disposed as part of RVAAP restoration activities

No IDW was generated or is currently stored or awaiting transport and disposal.

F. Describe activities planned for the following month (December 2025)

1. PIKA-Insight JV will continue responding to Army comments on the remedial/removal action reports
   for 3 AOCs.

2. Leidos will continue drafting the RD Addendums and Feasibility Studies for multiple AOCs. Resolution meetings are to be held with the Army to plan paths forward.

3. Leidos will submit the Final Feasibility Study for RVAAP-66 Facility-wide Groundwater, once Ohio EPA approves the responses to comments.

4. RAB meeting will be held on December 17, 2025.

G. Describe activities currently under Ohio EPA review and/or activities to be submitted for Ohio EPA review in the next 4 weeks.

Site Name/Activity Name	Current Status – In Progress/To Be Submitted	Start Date (Actual or Projected)	End Date (based on 45-day review timeframe)	Ohio EPA Reviewer Name (if known)
Leidos				
Response to Ohio EPA Comments on the Draft FS for RVAAP-66 FW Groundwater	In Progress	November 20, 2025	January 4, 2026	Liam McEvoy
Army				
Response to Ohio EPA comments on the Draft RI Report for Open Demolition Area 2 MRS	To be submitted (Ohio EPA Comments received on October 8, 2025)			Nick Roope
Draft Annual LUC Monitoring Report for 2025	In Progress	December 2, 2025	January 16, 2026	Nick Roope
PIKA-Insight				
Draft Remedial Action Completion Report for RVAAP-50 Atlas Scrap Yard	To be submitted			Craig Kowalski

H. List of FY25 Milestones

Milestone Activity	Proposed Milestone Date	Actual Date Achieved
Draft Remedial Design Addendum for RVAAP-38 NACA Test Area – Leidos	January 9, 2026	
Draft Feasibility Study for CC RVAAP-69 Building 1048 Fire Station	December 19, 2025	
Block D Igloo MRS Draft Remedial Action Completion Report – HGL	January 17, 2026	
Draft Remedial Action Completion Report for RVAAP-50 Atlas Scrap Yard	February 6, 2026	
FWGWMP Draft Annual Report (set by DFFOs)	February 15, 2026	
FWGWMP Draft Groundwater Addendum (set by DFFOs)	February 15, 2026	
Group 8 MRS Draft Remedial Action Completion Report	July 30, 2026	

Ohio Army National Guard
Camp James A. Garfield Joint Military Training Center
8451 State Route 5, Building 1071
Ravenna, Ohio 44266

November 5, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Ms. Natalie Oryshkewych
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Camp James A. Garfield (CJAG), Portage/Trumbull Counties, Ohio – Monthly Activity Report – October 2025

Dear Ms. Oryshkewych:

Enclosed for your review is the "RVAAP Restoration Program - DFFO Monthly Summary Report – October 2025". The report summarizes the Restoration Program activities conducted at the former RVAAP for the period from October 1, 2025, through October 31, 2025. This report is being submitted to the Ohio EPA to comply with the Ohio EPA Director's Final Findings and Orders, Section XVI, paragraphs 36 and 37.

This report was prepared for the Army National Guard in support of the RVAAP Restoration Program. Please contact the undersigned at (614)336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak, ARNG Restoration Project Manager, at (330)235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.11.05 13:47:03 -05'00'

Kathryn S. Tait
Environmental Specialist 3
Ohio Army National Guard

cc: Megan Oravec, Ohio EPA
Tom Schneider, Ohio EPA
Kevin Sedlak, ARNG (Plateau GRP)
Steve Kvaal, USACE Louisville
Jay Trumble, USACE Louisville
Jennifer Tierney, Chenega, Admin Record

Status of project activities for reporting period (October 2025)

Project Name	USACE Project Manager / Contractor	Project Status
RVAAP-67 Facility-wide Sewers	J. Renner	Approval of the comment responses on the Draft RI was received from the Ohio EPA on October 21, 2024. Remaining work is scoped and awaiting funding and a new contract.
Block D Igloo MRS and Group 8 MRS-Remedial Actions	Travis McCoun & Nicole Walworth / HGL	Field work is on hold for the Block D and Group 8 MRSs while awaiting funding for a contract modification. Due to funding constraints, the modification scope has changed to only include the work at the Group 8 MRS.
RVAAP-004-R-01 Open Demolition Area #2 (ODA2) MRS	Nicole Walworth & Travis McCoun	The Draft RI report was submitted to the Ohio EPA on February 28, 2025, and comments were received on June 30, 2025. On July 28, 2025, a meeting was conducted with the Ohio EPA to review the proposed responses to comments. Comment responses were submitted to Ohio EPA on August 6, 2025. Comments were received from the Ohio EPA on October 8, 2025. The Arcadis contract is complete. Responses to Ohio EPA comments and a Final RI report will be submitted under a new contract.
Remedial Actions for 3 AOCs – RVAAP-06 C Block Quarry, RVAAP-50 Atlas Scrap Yard, CC RVAAP-70 E Classification Yard	J. Renner / PIKA- Insight JV	The field work at CC RVAAP-70 East Classification Yard is complete and the Removal Action report is being drafted. The path forward (additional investigation and site characterization) will be documented in the removal action report. The Remedial Action field work at RVAAP-50 is complete and the Remedial Action Completion Report is being drafted. The Remedial Action field work at RVAAP-06 C Block Quarry is complete. Additional surficial asbestos is present and will need to be properly removed and disposed. Siebert stakes and signage were installed per the Remedial Design. The Remedial Action Completion Report is being drafted.

PROJECT NAME	USACE TECH MGR /Contractor	PROJECT STATUS
Investigation at 9 AOCs - RVAAP-34 Sand Creek, CC RVAAP-69 Building 1048 Fire Station, CC RVAAP-78 Quarry Pond Dump, CC RVAAP- 79 DLA Ore Storage Yard, RVAAP-38 NACA Test Area, RVAAP-45 Wet Storage, RVAAP-42 Load Line 9, CC RVAAP-76 Depot Area, CC RVAAP-70 E Classification Yard	J. Renner/ Leidos	The Final UFP-QAPP for RVAAP-78 Quarry Pond Surface Dump was approved on July 18, 2025. Field work is pending. The Preliminary Draft RD Addendum is being prepared for RVAAP-42 Load Line 9. The Preliminary Draft RD Addendums for RVAAP-38, CC RVAAP-76 Depot Area, and RVAAP-45 were submitted to the Army for review. The Draft RI Addendum Report and Preliminary Draft FS Report are being prepared for RVAAP-34. The Preliminary Draft FS for CC RVAAP-69 Former Fire Station was submitted to the Army on July 16, 2025. Responses to Army comments are pending. The Draft RI Addendum Report for CC RVAAP-79 DLA Ore Storage Yard is being prepared.
2022 Environmental Program Support Services	J. Renner/ Chenega	Chenega is preparing for the next RAB meeting on December 17, 2025. Work on the administrative record and websites continues. The Chenega contract ends on December 31, 2025.
RVAAP-66 Facility-wide Groundwater	J. Trumble / Leidos	The Army submitted the Draft Feasibility Study for RVAAP-66 to the Ohio EPA on June 27, 2025. Ohio EPA comments were received on October 1, 2025, and responses are being drafted. Responses to Ohio EPA comments on the Draft FWGWMP 2025 Addendum were approved in a letter dated August 27, 2025. The Final was submitted to the Ohio EPA on September 4, 2025. Responses to Ohio EPA comments on the FWGWMP 2024 Annual Report were approved in a letter dated August 27, 2025. The Final was submitted to the Ohio EPA on September 8, 2025.

A. Describe difficulties encountered during the reporting period and actions taken to rectify any difficulties

Shortage of funding for new contracts continues to be an issue. USACE, ARNG and OHARNG are continuing to prepare scopes of work to be ready for when funding comes in. ARNG and OHARNG continue to push for funds for new contracts. USACE is currently not able to work on RVAAP restoration program tasks due to the government shutdown and lack of funding.

B. Identify changes in key personnel

None.

C. List target and actual completion dates for each element of activity, including project completion

The actual completion dates and target dates where applicable are provided with the status of activities in Section A.

D. Provide an explanation for any deviation from applicable schedules

Groundwater sampling in accordance with the DFFOs was not completed in Spring 2025 or Fall 2025 due to no funding for a new sampling contract. Discussion will be needed to address how to handle the FWGWMP Addendum and Annual Report. Progress on the FS for the FWGWMP continues as the FS is under an existing contract.

Remedial action field work at the Block D MRS and the Group 8 MRS have been delayed as a modification to the contract is needed and funds are not available. Based on discussions with Army Environmental Command (AEC), it looks like we will be able to fund the remaining work at the Group 8 MRS. Work on the modification specific to Group 8 MRS is being completed.

E. Indicate how much soil and groundwater was generated and/or transported and disposed as part of RVAAP restoration activities

No IDW was generated or is currently stored or awaiting transport and disposal.

F. Describe activities planned for the following month (October 2025)

1. PIKA-Insight JV will continue drafting the remedial/removal action reports for 3 AOCs.

2. Leidos will continue drafting the RD Addendums and Feasibility Studies for multiple AOCs.

3. Leidos will submit responses to Ohio EPA comments on the Draft FS for RVAAP-66 Facility-wide Groundwater.

4. Leidos will submit responses to Army comments on the Preliminary Draft RD Addendums for RVAAP-38 NACA Test Area and RVAAP-45 Wet Storage Area.

G. Describe activities currently under Ohio EPA review and/or activities to be submitted for Ohio EPA review in the next 4 weeks.

Site Name/Activity Name	Current Status – In Progress/To Be Submitted	Start Date (Actual or Projected)	End Date (based on 45-day review timeframe)	Ohio EPA Reviewer Name (if known)
Leidos				
Final FWGWMP 2025 Addendum	In Progress	September 4, 2025	October 19, 2025	Liam McEvoy
Final FWGWMP 2024 Annual Report	In Progress	September 8, 2025	October 23, 2025	Liam McEvoy
Army Response to Ohio EPA Comments on the Draft FS for RVAAP-66 FW Groundwater	To be submitted (Ohio EPA Comments received on October 1, 2025)			Liam McEvoy
Army				
Response to Ohio EPA comments on the Draft RI Report for Open Demolition Area 2 MRS	To be submitted (Ohio EPA comments received on October 8, 2025)			

H. List of FY26 Milestones

Milestone Activity	Proposed Milestone Date	Actual Date Achieved
Draft Remedial Design Addendum for RVAAP-38 NACA Test Area – Leidos	January 9, 2026	
Draft Feasibility Study for CC RVAAP-69 Building 1048 Fire Station	December 19, 2025	
Block D Igloo MRS Draft Remedial Action Completion Report – HGL	January 17, 2026	
Draft Remedial Action Completion Report for RVAAP-50 Atlas Scrap Yard	February 6, 2026	
FWGWMP Draft Annual Report (set by DFFOs)	February 15, 2026	
FWGWMP Draft Groundwater Addendum (set by DFFOs)	February 15, 2026	
Group 8 MRS Draft Remedial Action Completion Report – HGL	July 30, 2026	

March 17, 2025

Received March 18, 2025

TRANSMITTED ELECTRONICALLY

Mr. Kevin Sedlak
Camp James A. Garfield JMTC
Attn: Environmental Office (Bldg 1071)
8451 State Route 5
Ravenna OH 44266

Sent via email to: kevin.m.sedlak.ctr@army.mil

RE: US Army Ravenna Ammunition Plt RVAAP
Remediation Response
Project records
Operation and Maintenance
Federal Facilities
Portage County
267000859029

Subject: Former Ravenna Army Ammunition Plant
Draft 2024 Annual Land Use Control Monitoring Report
Ohio EPA Request for Final

Dear Mr. Sedlak:

On December 19, 2024, the Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) received the "*Draft 2024 Annual Land Use Control Monitoring Report, RVAAP-01 Ramsdell Quarry Landfill, RVAAP-04 Open Demolition Area #2, RVAAP-05 Winklepeck Burning Grounds, RVAAP-08 - 12 (Load Lines 1 through 4 and 12), RVAAP-51 (Dump Along Paris Windham Road), Camp James A. Garfield, Portage/Trumbull Counties, Ohio*"[1] (the "Report") dated December 18, 2024.

Ohio EPA has reviewed the Report and has no comments. Please submit the final Report for concurrence.

Should you have any questions, please contact me at (330) 963-1235 or by email at nicholas.roope@epa.ohio.gov.

Sincerely,

Nicholas Roope
Site Coordinator
Division of Environmental Response and Revitalization

NR/cm

ec: Katie Tait, OHARNG RTLS, CJAG
Megan Oravec, Ohio EPA, NEDO, DERR
Natalie Oryshkewych, Ohio EPA, NEDO, DERR
Thomas Schneider, Ohio EPA, SWDO, DERR

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3354446 – 2024 Annual Report

Ohio Army National Guard
Camp James A. Garfield Joint Military Training Center
8451 State Route 5, Building 1071
Ravenna, Ohio 44266

October 8, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Ms. Natalie Oryshkewych
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Camp James A. Garfield (CJAG), Portage/Trumbull Counties, Ohio – Monthly Activity Report – September 2025

Dear Ms. Oryshkewych:

Enclosed for your review is the "RVAAP Restoration Program - DFFO Monthly Summary Report – September 2025". The report summarizes the Restoration Program activities conducted at the former RVAAP for the period from September 1, 2025, through September 30, 2025. This report is being submitted to the Ohio EPA to comply with the Ohio EPA Director's Final Findings and Orders, Section XVI, paragraphs 36 and 37.

This report was prepared for the Army National Guard in support of the RVAAP Restoration Program. Please contact the undersigned at (614)336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak, ARNG Restoration Project Manager, at (330)235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.10.07 15:07:36 -04'00'

Kathryn S. Tait
Environmental Specialist 3
Ohio Army National Guard

cc: Megan Oravec, Ohio EPA
Tom Schneider, Ohio EPA
Kevin Sedlak, ARNG (Plateau GRP)
Steve Kvaal, USACE Louisville
Jay Trumble, USACE Louisville
Jennifer Tierney, Chenega, Admin Record

Status of project activities for reporting period (September 2025)

Project Name	USACE Project Manager / Contractor	Project Status
RVAAP-67 Facility-wide Sewers	J. Renner	Approval of the comment responses on the Draft RI was received from the Ohio EPA on October 21, 2024. Remaining work is scoped and awaiting funding and new contract.
Block D Igloo MRS and Group 8 MRS-Remedial Actions	Travis McCoun & Nicole Walworth / HGL	Field work is on hold for the Block D and Group 8 MRSs while awaiting funding for a contract modification. Due to funding constraints, the modification scope has changed to only include the work at the Group 8 MRS. The Group 8 MRS Confirmation Sampling Report was approved by the Ohio EPA in a letter dated September 25, 2025.
RVAAP-004-R-01 Open Demolition Area #2 (ODA2) MRS	Nicole Walworth & Travis McCoun	The Draft RI report was submitted to the Ohio EPA on February 28, 2025, and comments were received on June 30, 2025. On July 28, 2025, a meeting was conducted with the Ohio EPA to review the proposed responses to comments. Comment responses were submitted to Ohio EPA on August 6, 2025, and are pending approval. The Arcadis contract is complete. Arcadis submitted all native files for the report to the Army.
Remedial Actions for 3 AOCs – RVAAP-06 C Block Quarry, RVAAP-50 Atlas Scrap Yard, CC RVAAP-70 E Classification Yard	J. Renner / PIKA- Insight JV	The field work at CC RVAAP-70 East Classification Yard is complete and the Removal Action report is being drafted. The path forward (additional investigation and site characterization) will be documented in the removal action report. The Remedial Action field work at RVAAP-50 is complete and the Remedial Action Completion Report is being drafted. The Remedial Action field work at RVAAP-06 C Block Quarry is complete. Additional surficial asbestos is present and will need to be properly removed and disposed. Siebert stakes and signage were installed per the Remedial Design. The Remedial Action Report is being drafted.

PROJECT NAME	USACE TECH MGR /Contractor	PROJECT STATUS
Investigation at 9 AOCs - RVAAP-34 Sand Creek, CC RVAAP-69 Building 1048 Fire Station, CC RVAAP-78 Quarry Pond Dump, CC RVAAP- 79 DLA Ore Storage Yard, RVAAP-38 NACA Test Area, RVAAP-45 Wet Storage, RVAAP-42 Load Line 9, CC RVAAP-76 Depot Area, CC RVAAP-70 E Classification Yard	J. Renner/ Leidos	The Final UFP-QAPP for RVAAP-78 Quarry Pond Surface Dump was approved on July 18, 2025. Preparations for field activities are underway. The Preliminary Draft RD Addendums are being prepared for RVAAP-42 Load Line 9 and CC RVAAP-76 Depot Area. The Preliminary Draft RD Addendums for RVAAP-38 and RVAAP-45 were submitted to the Army for review on September 19, 2025. The Draft RI Addendum Report and Preliminary Draft FS Report are being prepared for RVAAP-34. The Preliminary Draft FS for CC RVAAP-69 Former Fire Station was submitted to the Army on July 16, 2025. Responses to Army comments are being drafted. The Preliminary Draft RI Addendum 2 for CC RVAAP-79 DLA Ore Storage Yard was submitted to the Army and comments were received. Responses to Army comments were submitted on August 18, 2025. The Draft RI Addendum Report is being prepared.
2022 Environmental Program Support Services	J. Renner/ Chenega	Chenega facilitated the RAB site tour on September 10, 2025, and prepared meeting minutes.
RVAAP-66 Facility-wide Groundwater	J. Trumble / Leidos	The Army submitted the Draft Feasibility Study for RVAAP-66 to the Ohio EPA on June 27, 2025. Ohio EPA comments were received on October 1, 2025. Responses to Ohio EPA comments on the Draft FWGWMP 2025 Addendum were approved in a letter dated August 27, 2025. The Final was submitted to the Ohio EPA on September 4, 2025. Responses to Ohio EPA comments on the FWGWMP 2024 Annual Report were approved in a letter dated August 27, 2025. The Final was submitted to the Ohio EPA on September 8, 2025.

A. Describe difficulties encountered during the reporting period and actions taken to rectify any difficulties

Shortage of funding for new contracts continues to be an issue. USACE, ARNG and OHARNG are continuing to prepare scopes of work to be ready for when funding comes in. ARNG and OHARNG continue to push for funds for new contracts.

B. Identify changes in key personnel

None.

C. List target and actual completion dates for each element of activity, including project completion

The actual completion dates and target dates where applicable are provided with the status of activities in Section A.

Please see proposed FY26 milestones listed below. Please let us know if you concur with the milestones and if you have any questions.

D. Provide an explanation for any deviation from applicable schedules

Groundwater sampling in accordance with the DFFOs was not completed in Spring 2025 or Fall 2025 due to no funding for a new sampling contract. Discussion will be needed to address how to handle the FWGWMP Addendum and Annual Report. Progress on the FS for the FWGWMP continues as the FS is under an existing contract.

Remedial action field work at the Block D MRS and the Group 8 MRS have been delayed as a modification to the contract is needed and funds are not available. Based on discussions with Army Environmental Command (AEC), it looks like we will be able to fund the remaining work at the Group 8 MRS. Work on the modification specific to Group 8 MRS is being completed.

E. Indicate how much soil and groundwater was generated and/or transported and disposed as part of RVAAP restoration activities

Two drums of granulated activated carbon from the thermal treatment unit at Atlas Scrap Yard were characterized as hazardous waste. The waste was approximately 600 pounds causing the former RVAAP to be classified as a SQG. Accumulation start date was March 26, 2025. These drums were repacked into 10 smaller quantity drums at the request of the disposal facility. The waste was properly stored, labeled and inspected at Building 1047 at CJAG. Due to delays with the waste profile approval and with transport, 180 days were surpassed. However, as coordinated with the Ohio EPA, 270-day storage was acceptable due to the waste being shipped over 200 miles away from the facility. The waste was properly transported to the disposal facility in Orange, TX on September 29, 2025.

F. Describe activities planned for the following month (October 2025)

1. The Arcadis contract ends on September 30, 2025. Native files will be submitted to the Army.

2. PIKA-Insight JV will continue drafting the remedial/removal action reports for 3 AOCs.

3. Leidos will continue drafting the RD Addendums and Feasibility Studies for multiple AOCs.

4. Leidos will submit responses to Ohio EPA comments on the Draft FS for RVAAP-66 Facility-wide Groundwater.

5. Leidos will submit responses to Army comments on the Preliminary Draft RD Addendums for RVAAP-38 NACA Test Area and RVAAP-45 Wet Storage Area.

G. Describe activities currently under Ohio EPA review and/or activities to be submitted for Ohio EPA review in the next 4 weeks.

Site Name/Activity Name	Current Status – In Progress/To Be Submitted	Start Date (Actual or Projected)	End Date (based on 45-day review timeframe)	Ohio EPA Reviewer Name (if known)
Leidos				
Final FWGWMP 2025 Addendum	In Progress	September 4, 2025	October 19, 2025	Liam McEvoy
Final FWGWMP 2024 Annual Report	In Progress	September 8, 2025	October 23, 2025	Liam McEvoy
Army Response to Ohio EPA Comments on the Draft FS for RVAAP-66 FW Groundwater	To be submitted (Ohio EPA Comments received on October 1, 2025)			Liam McEvoy
Arcadis				
Response to Ohio EPA comments on the Draft RI Report for Open Demolition Area 2 MRS	In Progress	August 6, 2025	September 20, 2025 (note that Arcadis contract ends on 30 SEP 2025)	Nick Roope

H. List of FY26 Milestones

Milestone Activity	Proposed Milestone Date	Actual Date Achieved
Draft Remedial Design Addendum for RVAAP-38 NACA Test Area – Leidos	January 9, 2026	
Draft Feasibility Study for CC RVAAP-69 Building 1048 Fire Station	December 19, 2025	
Block D Igloo MRS Draft Remedial Action Completion Report – HGL	January 17, 2026	
Draft Remedial Action Completion Report for RVAAP-50 Atlas Scrap Yard	February 6, 2026	
FWGWMP Draft Annual Report (set by DFFOs)	February 15, 2026	
FWGWMP Draft Groundwater Addendum (set by DFFOs)	February 15, 2026	
Group 8 MRS Draft Remedial Action Completion Report – HGL	July 30, 2026	

Ohio Army National Guard
Camp James A. Garfield Joint Military Training Center
8451 State Route 5, Building 1071
Ravenna, Ohio 44266

September 8, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Ms. Natalie Oryshkewych
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Camp James A. Garfield (CJAG), Portage/Trumbull Counties, Ohio – Monthly Activity Report – August 2025

Dear Ms. Oryshkewych:

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This report was prepared for the Army National Guard in support of the RVAAP Restoration Program. Please contact the undersigned at (614)336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak, ARNG Restoration Project Manager, at (330)235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.09.08 08:08:59 -04'00'

Kathryn S. Tait
Environmental Specialist 3
Ohio Army National Guard

cc: Megan Oravec, Ohio EPA
Tom Schneider, Ohio EPA
Kevin Sedlak, ARNG (Plateau GRP)
Steve Kvaal, USACE Louisville
Jay Trumble, USACE Louisville
Jennifer Tierney, Chenega, Admin Record

Status of project activities for reporting period (August 2025)

Project Name	USACE Project Manager / Contractor	Project Status
RVAAP-67 Facility-wide Sewers	J. Renner	Approval of the comment responses on the Draft RI was received from the Ohio EPA on October 21, 2024. Remaining work is scoped and awaiting funding and new contract.
Block D Igloo MRS and Group 8 MRS-Remedial Actions	Travis McCoun & Nicole Walworth / HGL	Field work is on hold for the Block D MRS while awaiting funding for a contract modification. Due to funding constraints, the modification scope has changed to include the work at the Group 8 MRS only. A revised Request for Proposal and proposal are pending. A Revised Confirmation Sampling Memo for the Group 8 MRS was submitted to the Ohio EPA on October 31, 2024. Ohio EPA comments were received on January 7, 2025. Responses to comments were submitted to the Ohio EPA on January 15, 2025, and comments were received from Ohio EPA on March 20, 2025. A meeting was held with Ohio EPA on April 7, 2025, to discuss comments. A response memo was sent to Ohio EPA on April 21, 2025, and is pending approval.
RVAAP-004-R-01 Open Demolition Area #2 (ODA2) MRS	Nicole Walworth & Travis McCoun / Arcadis	The Draft RI report was submitted to the Ohio EPA on February 28, 2025, and comments were received on June 30, 2025. On July 28, 2025, a meeting was conducted with the Ohio EPA to review the proposed responses to comments. Comment responses were submitted to Ohio EPA on August 6, 2025, and are pending approval.
Remedial Actions for 3 AOCs – RVAAP-06 C Block Quarry, RVAAP-50 Atlas Scrap Yard, CC RVAAP-70 E Classification Yard	J. Renner / PIKA- Insight JV	The field work at CC RVAAP-70 East Classification Yard is complete and the Removal Action report is being drafted. The path forward (additional investigation and site characterization) will be documented in the removal action report. The Remedial Action field work at RVAAP-50 is complete and the Remedial Action Completion Report is being drafted. The Remedial Action field work at RVAAP-06 C Block Quarry is complete. Additional surficial asbestos is present and will need to be properly removed and disposed. Siebert stakes and signage were installed per the Remedial Design. The Remedial Action report is being drafted.

PROJECT NAME	USACE TECH MGR /Contractor	PROJECT STATUS
Investigation at 9 AOCs - RVAAP-34 Sand Creek, CC RVAAP-69 Building 1048 Fire Station, CC RVAAP-78 Quarry Pond Dump, CC RVAAP- 79 DLA Ore Storage Yard, RVAAP-38 NACA Test Area, RVAAP-45 Wet Storage, RVAAP-42 Load Line 9, CC RVAAP-76 Depot Area, CC RVAAP-70 E Classification Yard	J. Renner/ Leidos	The Final UFP-QAPP for RVAAP-78 Quarry Pond Surface Dump was approved on July 18, 2025. Preparations for field activities are underway. The Preliminary Draft RD Addendums are being prepared for RVAAP-38 NACA Test Area, RVAAP-42 Load Line 9, RVAAP-45 Wet Storage Area, and CC RVAAP-76 Depot Area. The Draft RI Addendum Report and Preliminary Draft FS Report are being prepared for RVAAP-34. The Preliminary Draft FS for CC RVAAP-69 Former Fire Station was submitted to the Army on July 16, 2025. USACE comments are pending. The Preliminary Draft RI Addendum 2 for CC RVAAP-79 DLA Ore Storage Yard was submitted to the Army on April 28, 2025. Comments were received, and responses were submitted on August 18, 2025. The Draft FS Report is being prepared.
2022 Environmental Program Support Services	J. Renner/ Chenega	Chenega is preparing for the RAB site tour on September 10, 2025, and continuing to maintain the administrative record.
RVAAP-66 Facility-wide Groundwater	J. Trumble / Leidos	The Army submitted the Draft Feasibility Study for RVAAP-66 to the Ohio EPA for review on June 27, 2025. Ohio EPA requested two extensions. An extension to September 30, 2025, was approved. Responses to Ohio EPA comments on the Draft FWGWMP 2025 Addendum were approved in a letter dated August 27, 2025. The Final is being prepared. Responses to Ohio EPA comments on the FWGWMP 2024 Annual Report were approved in a letter dated August 27, 2025. The Final is being prepared.

A. Describe difficulties encountered during the reporting period and actions taken to rectify any difficulties

Shortage of funding for new contracts continues to be an issue. USACE, ARNG and OHARNG are continuing to prepare scopes of work to be ready for when funding comes in. ARNG and OHARNG continue to push for funds for new contracts.

B. Identify changes in key personnel

None.

C. List target and actual completion dates for each element of activity, including project completion

The actual completion dates and target dates where applicable are provided with the status of activities in Section A.

Please see proposed FY26 milestones listed below. Please let us know if you concur with the milestones and if you have any questions.

D. Provide an explanation for any deviation from applicable schedules

Groundwater sampling in accordance with the DFFOs was not completed in Spring 2025 or Fall 2025 due to no funding for a new sampling contract. Discussion will be needed to address how to handle the FWGWMP Addendum and Annual Report. Progress on the FS for the FWGWMP continues as the FS is under an existing contract.

Remedial action field work at the Block D MRS and the Group 8 MRS have been delayed as a modification to the contract is needed and funds are not available. Based on discussions with Army Environmental Command (AEC), it looks like we will be able to fund the remaining work at the Group 8 MRS. Work on the modification specific to Group 8 MRS is being completed.

E. Indicate how much soil and groundwater was generated and/or transported and disposed as part of RVAAP restoration activities

Two drums of granulated activated carbon from the thermal treatment unit at Atlas Scrap Yard were characterized as hazardous waste. These drums were repacked into 10 smaller quantity drums for proper transportation and disposal and are being properly managed and stored at Building 1047 at CJAG. The waste profile has been approved and the date for transport and disposal is being scheduled.

F. Describe activities planned for the following month (September 2025)

1. HGL is awaiting Ohio EPA concurrence on Army comments on the Group 8 MRS Revised Confirmation Sampling Memo.

2. Arcadis will submit Final RI Report for ODA2, pending Ohio EPA acceptance of the comment responses and revisions.

3. PIKA-Insight JV will continue drafting the remedial/removal action reports for 3 AOCs.

4. Leidos will continue drafting the RD Addendums and Feasibility Studies for multiple AOCs.

5. Leidos will submit the Final 2024 Annual FWGWMP Report.

6. Leidos will submit the Final 2025 FWGWMP Addendum Report.

7. The RAB tour will be held on September 10, 2025.

G. Describe activities currently under Ohio EPA review and/or activities to be submitted for Ohio EPA review in the next 4 weeks.

Site Name/Activity Name	Current Status – In Progress/To Be Submitted	Start Date (Actual or Projected)	End Date (based on 45-day review timeframe)	Ohio EPA Reviewer Name (if known)
Leidos				
Final FWGWMP 2025 Addendum	In Progress	September 4, 2025	October 19, 2025	Liam McEvoy
Final FWGWMP 2024 Annual Report	To be submitted (approval received Aug 28, 2025)			Liam McEvoy
Draft FS for RVAAP FW Groundwater	In Progress	June 27, 2025	September 30, 2025 (extension requested)	Liam McEvoy
HGL				
Army Response to Ohio EPA comments on the Group 8 MRS Revised Confirmation Sampling Memo	In Progress	April 21, 2025	June 5, 2025	Nick Roope
Army				
Final Creek Walk Report for Open Demo Area 2 – November 2024	In Progress	June 9, 2025	July 24, 2025	Nick Roope
PIKA-Insight JV				
Arcadis				
Response to Ohio EPA comments on the Draft RI Report for Open Demolition Area 2 MRS	In Progress	August 6, 2025	September 20, 2025 (note that Arcadis contract ends on 30 SEP 2025)	Nick Roope

H. List of FY25 Milestones

Milestone Activity	Milestone Date	Actual Date Achieved
Group 8 MRS Draft Remedial Action Completion Report – HGL	September 30, 2025	
Draft 2024 LUC Inspection Report - Chenega	February 3, 2025	December 19, 2024
Draft RI Addendum for Open Demolition Area 2 – Arcadis	February 28, 2025	February 28, 2025
FWGWMP Draft Annual Report - Leidos	February 15, 2025	February 13, 2025
FWGWMP Draft Groundwater Addendum – Leidos	February 15, 2025	February 13, 2025

Note: FY25 milestone for Block D Igloo Draft Remedial Action Report moved to FY26 due to delays in funding the modification

I. Proposed List of FY26 Milestones

Milestone Activity	Proposed Milestone Date	Actual Date Achieved
Draft Remedial Design Addendum for RVAAP-38 NACA Test Area – Leidos	January 9, 2026	
Draft Feasibility Study for CC RVAAP-69 Building 1048 Fire Station	December 19, 2025	
Block D Igloo MRS Draft Remedial Action Completion Report – HGL	January 17, 2026	
Draft Remedial Action Completion Report for RVAAP-50 Atlas Scrap Yard	February 6, 2026	
FWGWMP Draft Annual Report (set by DFFOs)	February 15, 2026	
FWGWMP Draft Groundwater Addendum (set by DFFOs)	February 15, 2026	

Ohio Army National Guard
Camp James A. Garfield Joint Military Training Center
8451 State Route 5, Building 1071
Ravenna, Ohio 44266

August 7, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Ms. Natalie Oryshkewych
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Camp James A. Garfield (CJAG), Portage/Trumbull Counties, Ohio – Monthly Activity Report – July 2025

Dear Ms. Oryshkewych:

Attached for your review is the "RVAAP Restoration Program - DFFO Monthly Summary Report – July 2025". The report summarizes the Restoration Program activities conducted at the former RVAAP for the period from July 1, 2025, through July 31, 2025. This report is being submitted to the Ohio EPA to comply with the Ohio EPA Director's Final Findings and Orders, Section XVI, paragraphs 36 and 37.

This report was prepared for the Army National Guard in support of the RVAAP Restoration Program. Please contact the undersigned at (614) 336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak, ARNG Restoration Project Manager, at (330)235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.08.07 07:37:15 -04'00'

Kathryn S. Tait
Environmental Specialist 3
Ohio Army National Guard

cc: Megan Oravec, Ohio EPA
Tom Schneider, Ohio EPA
Kevin Sedlak, ARNG (Plateau GRP)
Steve Kvaal, USACE Louisville
Jay Trumble, USACE Louisville
Jennifer Tierney, Chenega (Admin Record)

RVAAP RESTORATION PROGRAM - DFFO MONTHLY SUMMARY REPORT
July 2025

Status of project activities for reporting period (July 2025)

Project Name	USACE Project Manager / Contractor	Project Status
RVAAP-67 Facility-wide Sewers	J. Renner	Approval of the comment responses on the Draft RI was received from the Ohio EPA on October 21, 2024. Remaining work is scoped and awaiting funding and new contract.
Block D Igloo MRS and Group 8 MRS-Remedial Actions	Travis McCoun & Nicole Walworth / HGL	Field work is currently on hold for the Block D MRS while the ARNG, HGL and USACE work on a contract modification. The modification is pending funding. A Revised Confirmation Sampling Memo for the Group 8 MRS was submitted to the Ohio EPA on October 31, 2024. Ohio EPA comments were received on January 7, 2025. Responses to comments were submitted to the Ohio EPA on January 15, 2025, and comments were received from Ohio EPA on March 20, 2025. A meeting was held with Ohio EPA on April 7, 2025, to discuss comments. A response memo was sent to Ohio EPA on April 21, 2025, and is pending approval.
RVAAP-004-R-01 Open Demolition Area #2 (ODA2) MRS	Nicole Walworth & Travis McCoun / Arcadis	The Draft RI report was submitted to the Ohio EPA on February 28, 2025, and comments were received on June 30, 2025. On July 28, 2025, a meeting was conducted with the Ohio EPA to review the proposed responses to comments.
Remedial Actions for 3 AOCs – RVAAP-06 C Block Quarry, RVAAP-50 Atlas Scrap Yard, CC RVAAP-70 E Classification Yard	J. Renner / PIKA- Insight JV	The field work at CC RVAAP-70 East Classification Yard is complete and the Removal Action report is being drafted. The path forward (additional investigation and site characterization) will be documented in the removal action report. The Remedial Action field work at RVAAP-50 is complete and the Remedial Action Completion Report is being drafted. The Remedial Action field work at RVAAP-06 C Block Quarry is complete. Based on field conditions, additional surficial asbestos is present and will need to be properly removed and disposed. Siebert stakes and signage were installed per the Remedial Design. The Remedial Action report is being drafted.

PROJECT NAME	USACE TECH MGR /Contractor	PROJECT STATUS
Investigation at 9 AOCs - RVAAP-34 Sand Creek, CC RVAAP-69 Building 1048 Fire Station, CC RVAAP-78 Quarry Pond Dump, CC RVAAP- 79 DLA Ore Storage Yard, RVAAP-38 NACA Test Area, RVAAP-45 Wet Storage, RVAAP-42 Load Line 9, CC RVAAP-76 Depot Area, CC RVAAP-70 E Classification Yard	J. Renner/ Leidos	The Final UFP-QAPP for RVAAP-78 Quarry Pond Surface Dump was submitted to the Ohio EPA on March 31, 2025, and was approved on July 18, 2025. The Preliminary Draft RD Addendums are being prepared for RVAAP-38 NACA Test Area, RVAAP-42 Load Line 9, RVAAP-45 Wet Storage Area, and CC RVAAP-76 Depot Area. The Draft RI Addendum Report and Preliminary Draft FS Report are being prepared for RVAAP-34. The Preliminary Draft FS for CC RVAAP-69 Former Fire Station was submitted to the Army on July 16, 2025. Army comments are pending. The Preliminary Draft RI Addendum 2 for CC RVAAP-79 DLA Ore Storage Yard was submitted to the Army on April 28, 2025. Comments have been received, and responses are being drafted. The Preliminary Draft FS Report is being prepared.
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RVAAP-66 Facility-wide Groundwater	J. Trumble / Leidos	The Army submitted the Draft Feasibility Study for RVAAP-66 to the Ohio EPA for review on June 27, 2025. Ohio EPA requested a 30-day extension which was approved. Responses to Ohio EPA comments on the Draft FWGWMP 2025 Addendum and the FWGWMP 2024 Annual Report were submitted to the Ohio EPA on June 9, 2025, and concurrence is pending.

A. Describe difficulties encountered during the reporting period and actions taken to rectify any difficulties

ARNG is facing a shortage in restoration program funding nationally which is impacting restoration work at the former RVAAP. ARNG has indicated that there is no funding for new contracts in FY2025 and funding for new contracts will be limited in FY2026. This is impacting restoration work on RVAAP projects such as Block D MRS and Group 8 MRS (requires funding to do a contract mod to complete the work), Facility-wide Groundwater (requires a new contract to conduct semi-annual groundwater sampling), and Facility-wide Sewers (requires a new contract to complete additional work). The ARNG PM and USACE are routinely checking in with ARNG financial staff to get funding updates and to try to push AEC for funding. ARNG and USACE have prepared scopes of work and contract packets for awaiting projects, so they are ready when funding comes in. The OHARNG PM has briefed leadership regarding the funding shortage. OHARNG leadership is preparing to discuss the funding issue with ARNG G9 and AEC.

B. Identify changes in key personnel

None.

C. List target and actual completion dates for each element of activity, including project completion

The actual completion dates and target dates where applicable are provided with the status of activities in Section A.

D. Provide an explanation for any deviation from applicable schedules

None.

E. Indicate how much soil and groundwater was generated and/or transported and disposed as part of RVAAP restoration activities

Two drums of granulated activated carbon from the thermal treatment unit at Atlas Scrap Yard were characterized as hazardous waste. These drums were repacked into 10 smaller quantity drums for proper transportation and disposal and are being properly managed and stored at Building 1047 at CJAG. The waste profile has been approved and the date for transport and disposal is being scheduled.

F. Describe activities planned for the following month (August 2025)

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7. The agenda will be prepared and finalized for the RAB tour on September 10, 2025.

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Site Name/Activity Name	Current Status – In Progress/To Be Submitted	Start Date (Actual or Projected)	End Date (based on 45-day review timeframe)	Ohio EPA Reviewer Name (if known)
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Ohio Army National Guard
Camp James A. Garfield Joint Military Training Center
8451 State Route 5, Building 1071
Ravenna, Ohio 44266

August 7, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Ms. Natalie Oryshkewych
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Camp James A. Garfield (CJAG), Portage/Trumbull Counties, Ohio – Monthly Activity Report – July 2025

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Environmental Specialist 3
Ohio Army National Guard

cc: Megan Oravec, Ohio EPA
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RVAAP RESTORATION PROGRAM - DFFO MONTHLY SUMMARY REPORT
July 2025

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July 9, 2025

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This report was prepared for the Army National Guard in support of the RVAAP Restoration Program. Please contact the undersigned at (614)336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak, ARNG Restoration Project Manager, at (330)235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.07.09 12:53:15 -04'00'

Kathryn S. Tait
Environmental Specialist 3
Ohio Army National Guard

cc: Megan Oravec, Ohio EPA
Tom Schneider, Ohio EPA
Kevin M. Sedlak, ARNG (Plateau GRP)
Steve Kvaal, USACE Louisville
Jay Trumble, USACE Louisville
Jennifer Tierney, Chenega, Admin Record

RVAAP RESTORATION PROGRAM - DFFO MONTHLY SUMMARY REPORT
June 2025

Status of project activities for reporting period (June 2025)

Project Name	USACE Project Manager / Contractor	Project Status
RVAAP-67 Facility-wide Sewers	J. Renner	Approval of the comment responses on the Draft RI was received from the Ohio EPA on October 21, 2024. Remaining work is scoped and awaiting funding and new contract.
Block D Igloo MRS and Group 8 MRS-Remedial Actions	Travis McCoun & Nicole Walworth / HGL	Field work is currently on hold for the Block D MRS while the ARNG, HGL and USACE work on a contract modification. The modification is pending funding. A Revised Confirmation Sampling Memo for the Group 8 MRS was submitted to the Ohio EPA on October 31, 2024. Ohio EPA comments were received on January 7, 2025. Responses to comments were submitted to the Ohio EPA on January 15, 2025, and received from Ohio EPA on March 20, 2024. A meeting was held with Ohio EPA on April 7, 2025, to discuss. A response memo was sent to Ohio EPA on April 21, 2025, and is pending approval.
RVAAP-004-R-01 Open Demolition Area #2 (ODA2) MRS	Nicole Walworth & Travis McCoun / Arcadis	Arcadis field activities at ODA2 are complete. The Draft RI report was submitted to the Ohio EPA on February 28, 2025, and comments were received June 30, 2025.
Remedial Actions for 3 AOCs – RVAAP-06 C Block Quarry, RVAAP-50 Atlas Scrap Yard, CC RVAAP-70 E Classification Yard	J. Renner / PIKA- Insight JV	The Removal Action field work at CC RVAAP-70 East Classification Yard is complete. Site grading and seeding was completed. The removal action report is being drafted. The path forward (additional investigation and site characterization) will be documented in the removal action report. The Remedial Action at RVAAP-50 is complete. Site restoration activities are complete. The remedial action completion report is being drafted. Wetland restoration activities are complete. The Remedial Action field work at RVAAP-06 C Block Quarry is complete. 15 CY of asbestos was removed, transported, and properly disposed. Based on field conditions, additional surficial asbestos is present and will need to be properly removed and disposed. Siebert stakes and signage were installed per the Remedial Design. The Remedial Action report is being drafted.

PROJECT NAME	USACE TECH MGR /Contractor	PROJECT STATUS
Investigation at 9 AOCs - RVAAP-34 Sand Creek, CC RVAAP-69 Building 1048 Fire Station, CC RVAAP-78 Quarry Pond Dump, CC RVAAP- 79 DLA Ore Storage Yard, RVAAP-38 NACA Test Area, RVAAP-45 Wet Storage, RVAAP-42 Load Line 9, CC RVAAP-76 Depot Area, CC RVAAP-70 E Classification Yard	J. Renner/ Leidos	The Final UFP-QAPP for CC RVAAP-78 Quarry Pond Surface Dump was submitted to the Ohio EPA on March 31, 2025 and is awaiting approval from the Ohio EPA. Field sampling activities were completed at RVAAP-38 NACA Test Area, RVAAP-42 Load Line 9, RVAAP-45 Wet Storage Area, and CC RVAAP-76 Depot Area. The Preliminary Draft RD Addendums are being prepared. Field sampling activities at RVAAP-34 Sand Creek Disposal Road Landfill are complete and the RI Addendum Report is being drafted. The Preliminary Draft FS for CC RVAAP-69 Former Fire Station is being drafted. The Preliminary Draft RI Addendum 2 for CC RVAAP-79 DLA Ore Storage Yard was submitted to the Army on April 28, 2025.
2022 Environmental Program Support Services	J. Renner/ Chenega	Chenega facilitated the RAB meeting on May 21, 2025. Draft meeting minutes were prepared.
RVAAP-66 Facility-wide Groundwater	J. Trumble / Leidos	The Army submitted the Draft Feasibility Study for RVAAP-66 to the Ohio EPA for review on June 27, 2025. Leidos provided responses to Ohio EPA comments on the Draft 2025 FWGWMP Addendum on June 9, 2025. The Ohio EPA provided comments on the Draft 2024 Annual Report in a letter dated June 4, 2025. Leidos submitted responses to Ohio EPA comments on the Draft FWGWMP 2024 Annual Report on June 9, 2025.

A. Describe difficulties encountered during the reporting period and actions taken to rectify any difficulties
None.

B. Identify changes in key personnel
None.

C. List target and actual completion dates for each element of activity, including project completion
The actual completion dates and target dates where applicable are provided with the status of activities in Section A.

D. Provide an explanation for any deviation from applicable schedules
None.

E. Indicate how much soil and groundwater was generated and/or transported and disposed as part of RVAAP restoration activities

Two drums of granulated activated carbon from the thermal treatment unit at Atlas Scrap Yard was characterized as hazardous waste and is being properly managed and stored at Building 1047 at CJAG. The waste profile has been approved and the date for proper transport and disposal is being scheduled.

F. Describe activities planned for the following month (July 2025)

1. HGL is awaiting funding for the pending modification to continue field work at the Group 8 MRS and Block D Igloo MRS.
2. Arcadis will draft responses to comments on the Draft RI Report for ODA2 and submit the responses to Ohio EPA.
3. PIKA-Insight JV will continue drafting the remedial/removal action reports.
4. Leidos will continue drafting the RD addendums and Feasibility Studies for multiple AOCs.
5. Leidos will submit the Final APP addendum for CC RVAAP-78.

G. Describe activities currently under Ohio EPA review and/or activities to be submitted for Ohio EPA review in the next 8 weeks.

Site Name/Activity Name	Current Status – In Progress/To Be Submitted	Start Date (Actual or Projected)	End Date (based on 45-day review timeframe)	Ohio EPA Reviewer Name (if known)
Leidos				
Response to Ohio EPA comments on the Draft FWGWMP 2025 Addendum	In Progress	June 9, 2025	July 24, 2025	Liam McEvoy
Response to comments on the Draft FWGWMP 2024 Annual Report	In Progress	June 9, 2025	July 24, 2025	Liam McEvoy

Draft FS for RVAAP FW Groundwater	In Progress	June 27, 2025	August 11, 2025	Liam McEvoy
Final RI QAPP for CC RVAAP-78 Quarry Pond Surface Dump	In Progress	March 31, 2025	May 15, 2025	Craig Kowalski
HGL				
Army Response to Ohio EPA comments on the Group 8 MRS Revised Confirmation Sampling Memo	In Progress	April 21, 2025	June 5, 2025	Nick Roope
FCR documenting sampling process for BIP activities	To be submitted			Nick Roope
Army				
Final Creek Walk Report for Open Demo Area 2 – November 2024	In Progress	June 9, 2025	July 24, 2025	Nick Roope
PIKA-Insight JV				
Arcadis				
Response to Ohio EPA comments on the Draft RI Report for Open Demolition Area 2 MRS	To be submitted (Ohio EPA comments received on June 30, 2025)			Nick Roope

H. List of FY25 Milestones

Milestone Activity	Milestone Date	Actual Date Achieved
Block D Igloo MRS Draft Remedial Action Completion Report – HGL	January 17, 2026 (now a FY26 milestone)	
Group 8 MRS Draft Remedial Action Completion Report – HGL	September 30, 2025	
Draft 2024 LUC Inspection Report - Chenega	February 3, 2025	December 19, 2024
Draft RI Addendum for Open Demolition Area 2 – Arcadis	February 28, 2025	February 28, 2025
FWGWMP Draft Annual Report - Leidos	February 15, 2025	February 13, 2025
FWGWMP Draft Groundwater Addendum – Leidos	February 15, 2025	February 13, 2025

Ohio Army National Guard
Camp James A. Garfield Joint Military Training Center
8451 State Route 5, Building 1071
Ravenna, Ohio 44266

June 6, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Ms. Natalie Oryshkewych
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program (RVAAP), Portage/Trumbull Counties, Ohio – Monthly Activity Report – May 2025

Dear Ms. Oryshkewych:

Attached is the "RVAAP Restoration Program - DFFO Monthly Summary Report – May 2025". This report summarizes the Restoration Program activities conducted at the former RVAAP for the period from May 1, 2025, through May 31, 2025. This report is being submitted to the Ohio EPA to comply with the Ohio EPA Director's Final Findings and Orders, Section XVI, paragraphs 36 and 37.

This report was prepared for the Army National Guard in support of the RVAAP Restoration Program. Please contact the undersigned at (614) 336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak, ARNG Restoration Project Manager, at (330) 235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.06.06 12:32:19 -04'00'

Kathryn S. Tait
Environmental Specialist 3
Ohio Army National Guard

cc: Megan Oravec, Ohio EPA
Tom Schneider, Ohio EPA
Kevin M. Sedlak, ARNG (Plateau GRP)
Steve Kvaal, USACE Louisville
Jay Trumble, USACE Louisville
Jennifer Tierney, Chenega (Admin Record)

RVAAP RESTORATION PROGRAM - DFFO MONTHLY SUMMARY REPORT
May 2025

Status of project activities for reporting period (May 2025)

Project Name	USACE Project Manager / Contractor	Project Status
RVAAP-67 Facility-wide Sewers	J. Renner	Approval of the comment responses on the Draft RI was received from the Ohio EPA on October 21, 2024. Remaining work is scoped and awaiting funding and new contract.
Block D Igloo MRS and Group 8 MRS-Remedial Actions	Travis McCoun & Nicole Walworth / HGL	Field work is currently on hold for the Block D MRS while the ARNG, HGL and USACE work on a contract modification; A Request for Proposal (RFP) was released on March 20, 2025. HGL submitted their proposal. Modification is pending funding. Field work is anticipated to start again in August 2025. A Revised Confirmation Sampling Memo for the Group 8 MRS was submitted to the Ohio EPA on October 31, 2024. Ohio EPA comments were received on January 7, 2025. Responses to comments were submitted to the Ohio EPA on January 15, 2025, and received from Ohio EPA on March 20, 2024. A meeting was held with Ohio EPA on April 7, 2025, to discuss. A response memo was sent to Ohio EPA on April 21, 2025.
RVAAP-004-R-01 Open Demolition Area #2 (ODA2) MRS	Nicole Walworth & Travis McCoun / Arcadis	Arcadis field activities at ODA2 are complete. The Draft RI report was submitted to the Ohio EPA on February 28, 2025, and comments are pending. A Technical Project Planning meeting with Ohio EPA was conducted on May 19, 2025.
Remedial Actions for 3 AOCs – RVAAP-06 C Block Quarry, RVAAP-50 Atlas Scrap Yard, CC RVAAP-70 E Classification Yard	J. Renner / PIKA- Insight JV	The Removal Action field work at CC RVAAP-70 East Classification Yard is complete. Site grading and seeding was completed. The removal action report is being drafted. The path forward (additional characterization) will be documented in the removal action report. The Remedial Action at RVAAP-50 is complete. Site restoration activities are underway. The remedial action completion report is being drafted. For RVAAP-06 C Block Quarry, 15 CY of asbestos was removed, transported, and properly disposed. Based on field conditions, additional surficial asbestos is present and will need to be properly removed and disposed. Siebert stakes and signage were installed per the Remedial Design. The Remedial Action report is being drafted.

PROJECT NAME	USACE TECH MGR /Contractor	PROJECT STATUS
Investigation at 9 AOCs - RVAAP-34 Sand Creek, CC RVAAP-69 Building 1048 Fire Station, CC RVAAP-78 Quarry Pond Dump, CC RVAAP- 79 DLA Ore Storage Yard, RVAAP-38 NACA Test Area, RVAAP-45 Wet Storage, RVAAP-42 Load Line 9, CC RVAAP-76 Depot Area, CC RVAAP-70 E Classification Yard	J. Renner/ Leidos	The Final UFP-QAPP for RVAAP-78 Quarry Pond Surface Dump was submitted to the Ohio EPA on March 31, 2025. Field sampling activities were completed at RVAAP-38 NACA Test Area, RVAAP-42 Load Line 9, RVAAP-45 Wet Storage Area, and CC RVAAP-76 Depot Area. The Preliminary Draft RD Addendums are being prepared. Field sampling activities at RVAAP-34 Sand Creek Disposal Road Landfill are complete and the RI Addendum Report is being drafted. The Preliminary Draft FS for CC RVAAP-69 Former Fire Station is being drafted. The Preliminary Draft RI Addendum 2 for CC RVAAP-79 DLA Ore Storage Yard was submitted to the Army on April 28, 2025.
2022 Environmental Program Support Services	J. Renner/ Chenega	Chenega facilitated the RAB meeting on May 21, 2025. Draft meeting minutes were submitted to the Army.
RVAAP-66 Facility-wide Groundwater	J. Trumble / Leidos	The Ohio EPA provided comments on the Draft 2025 FWGWMP Addendum on April 21, 2025. Leidos is currently working on responses to comments. Ohio EPA comments on the Draft FWGWMP 2024 Annual Report were received on June 4, 2025. Leidos is currently working on responses to comments.

A. Describe difficulties encountered during the reporting period and actions taken to rectify any difficulties
None.

B. Identify changes in key personnel
None.

C. List target and actual completion dates for each element of activity, including project completion
The actual completion dates and target dates where applicable are provided with the status of activities in Section A.

D. Provide an explanation for any deviation from applicable schedules
None.

E. Indicate how much soil and groundwater was generated and/or transported and disposed as part of RVAAP restoration activities

One 55-gallon drum of nonhazardous soil from the thermal treatment pile at Atlas Scrap Yard was properly transported and disposed on May 20, 2025.

Two 55-gallon drums of nonhazardous liquid phase spent carbon from the thermal treatment system at Atlas Scrap Yard was properly transported on May 8, 2025 for recycling/reactivation.

Two drums of hazardous carbon from the thermal treatment unit at Atlas Scrap Yard is being properly managed and stored at Building 1047 at CJAG. The waste is currently being profiled for proper transport and disposal.

F. Describe activities planned for the following month (June 2025)

1. HGL is awaiting funding for the pending modification to continue field work at the Group 8 MRS and Block D Igloo MRS.

2. Arcadis will receive Ohio EPA's comments on the Draft RI Report for ODA2 and start preparing responses to comments.

3. PIKA-Insight JV plans to continue restoration activities at Atlas Scrap Yard.

4. Leidos will submit responses to Ohio EPA comments on the Draft 2024 Annual FWGWMP Report.

5. Leidos will submit responses to Ohio EPA comments on the Draft 2025 FWGWMP Addendum.

6. PIKA-Insight JV will continue drafting the remedial/removal action reports.

7. Leidos will continue drafting the RD addendums for multiple AOCs.

G. Describe activities currently under Ohio EPA review and/or activities to be submitted for Ohio EPA review in the next 8 weeks.

Site Name/Activity Name	Current Status – In Progress/To Be Submitted	Start Date (Actual or Projected)	End Date (based on 45 day review timeframe)	Ohio EPA Reviewer Name (if known)
Leidos				
Response to Ohio EPA comments on the Draft FWGWMP 2025 Addendum	To be submitted (Ohio EPA comments received on 4/21/2025)			Liam McEvoy
Draft FWGWMP 2024 Annual Report	To be submitted (Ohio EPA comments received on 6/4/2025)			Liam McEvoy
Final RI QAPP for CC RVAAP-78 Quarry Pond Surface Dump	In Progress	March 31, 2025	May 15, 2025	Craig Kowalski
HGL				
Army Response to Ohio EPA comments on the Group 8 MRS Revised Confirmation Sampling Memo	In Progress	April 21, 2025	June 5, 2025	Nick Roope
FCR documenting sampling process for BIP activities	To be submitted			Nick Roope
Army				
Final Creek Walk Report for Open Demo Area 2	To be submitted (Ohio EPA comments received on 5/16/2025)			Nick Roope
PIKA-Insight JV				
Arcadis				
Draft RI Report for Open Demolition Area 2 MRS	In Progress	February 28, 2025	May 31, 2025	Nick Roope

H. List of FY25 Milestones

Milestone Activity	Milestone Date	Actual Date Achieved
Block D Igloo MRS Draft Remedial Action Completion Report – HGL	January 17, 2026 (now a FY26 milestone)	
Group 8 MRS Draft Remedial Action Completion Report – HGL	September 30, 2025	
Draft 2024 LUC Inspection Report - Chenega	February 3, 2025	December 19, 2024
Draft RI Addendum for Open Demolition Area 2 – Arcadis	February 28, 2025	February 28, 2025
FWGWMP Draft Annual Report - Leidos	February 15, 2025	February 13, 2025
FWGWMP Draft Groundwater Addendum – Leidos	February 15, 2025	February 13, 2025

Ohio Army National Guard
Camp James A. Garfield Joint Military Training Center
8451 State Route 5, Building 1071
Ravenna, Ohio 44266

May 8, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Ms. Natalie Oryshkewych
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Camp James A. Garfield JMTC, Portage/Trumbull Counties, Ohio – Monthly Activity Report – April 2025

Dear Ms. Oryshkewych:

Enclosed for your review is the "RVAAP Restoration Program - DFFO Monthly Summary Report – April 2025". The report summarizes the Restoration Program activities conducted at the former RVAAP for the period from April 1, 2025, through April 30, 2025. This report is being submitted to the Ohio EPA to comply with the Ohio EPA Director's Final Findings and Orders, Section XVI, paragraphs 36 and 37.

This report was prepared for the Army National Guard in support of the RVAAP Restoration Program. Please contact the undersigned at (614)336-6136 or kathryn.s.tait.nfg@army.mil or Kevin Sedlak, ARNG Restoration Project Manager, at (330)235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.05.08 07:28:18 -04'00'

Kathryn S. Tait
Environmental Specialist 3
Ohio Army National Guard

cc: Megan Oravec, Ohio EPA
Tom Schneider, Ohio EPA
Kevin M. Sedlak, ARNG (Plateau GRP)
Steve Kvaal, USACE Louisville
Jay Trumble, USACE Louisville
Jennifer Tierney (Admin Record)

Status of project activities for reporting period (April 2025)

Project Name	USACE Project Manager / Contractor	Project Status
RVAAP-67 Facility-wide Sewers	J. Renner	Approval of the comment responses on the Draft RI was received from the Ohio EPA on October 21, 2024. ARNG sent a letter to the Ohio EPA on November 5, 2024, requesting a six-month extension to produce the Final RI as the contract has ended and additional time is needed to prepare for a new contract. The extension was approved. A meeting between the Ohio EPA, ARNG, USACE and OHARNG will be setup to discuss the path forward (waste in place) once a new contract is in place to complete the next phase of work.
Block D Igloo MRS and Group 8 MRS-Remedial Actions	Travis McCoun & Nicole Walworth / HGL	Field work is currently on hold for the Block D MRS while the ARNG, HGL and USACE work on a contract modification; RFP was released March 20, 2025. HGL submitted their proposal, and it is under review. Field work is anticipated to start again in July 2025. A Revised Confirmation Sampling Memo for the Group 8 MRS was submitted to the Ohio EPA on October 31, 2024. Ohio EPA comments were received on January 7, 2025. Responses to comments were submitted to the Ohio EPA on January 15, 2025, and received from Ohio EPA on March 20, 2024. A meeting was held with Ohio EPA on April 7, 2025, to discuss. A response memo was sent to Ohio EPA on April 21, 2025.
RVAAP-004-R-01 Open Demolition Area #2 (ODA2) MRS	Nicole Walworth & Travis McCoun / Arcadis	Arcadis field activities at ODA2 are complete. The Draft RI report was submitted to the Ohio EPA on February 28, 2025. Ohio EPA comments are pending.

Project Name	USACE Project Manager / Contractor	Project Status
Remedial Actions for 3 AOCs – RVAAP-06 C Block Quarry, RVAAP-50 Atlas Scrap Yard, CC RVAAP-70 E Classification Yard	J. Renner / PIKA-Insight JV	The Removal Action at CC RVAAP-70 East Classification Yard is underway. Excavation, over-excavation, and confirmation sampling was completed. An Excavation Confirmation Sampling Memo was submitted to the Ohio EPA on November 6, 2024. Ohio EPA comments were received on December 19, 2024. A response to comments was submitted to the Ohio EPA on January 17, 2025, which was approved. The path forward (additional characterization) will be documented in the Completion Report. Backfill and site restoration is pending. At RVAAP-50 Former Storage Area (FSA), soil was excavated and placed on the treatment unit pad. Thermal treatment was started in December 2024 and was completed in March 2025. Confirmation samples of the thermally treated soil were collected in March 2025. The Draft Performance Sampling Memo for Thermally-treated Soil was submitted to the Ohio EPA on April 16, 2025. Ohio EPA comments are pending. The thermal treatment system infrastructure was demobilized. Backfill and site restoration is pending. At RVAAP-50 Former Incinerator Area (FIA), soil was excavated and properly transported and disposed and the former incinerator was demolished and disposed. Confirmation samples were collected, and the Memo was approved by Ohio EPA on November 21, 2024. The Final Wetlands Plan was approved by the Ohio EPA. Site restoration and backfill is pending. For RVAAP-06 C Block Quarry, 15 CY of asbestos was removed, transported, and disposed. Based on field conditions, it appears that additional surficial asbestos is present and will need addressed in the future. Siebert stakes and signage were installed per the Remedial Design.

PROJECT NAME	USACE TECH MGR /Contractor	PROJECT STATUS
Investigation at 9 AOCs - RVAAP-34 Sand Creek, CC RVAAP-69 Building 1048 Fire Station, CC RVAAP-78 Quarry Pond Dump, CC RVAAP-79 DLA Ore Storage Yard, RVAAP-38 NACA Test Area, RVAAP-45 Wet Storage, RVAAP-42 Load Line 9, CC RVAAP-76 Depot Area, CC RVAAP-70 E Classification Yard	J. Renner/ Leidos	The Final UFP-QAPP for RVAAP-78 Quarry Pond Surface Dump was submitted on March 31, 2025. Field sampling activities were completed at RVAAP-38 NACA Test Area, RVAAP-42 Load Line 9, RVAAP-45 Wet Storage Area, and CC RVAAP-76 Depot Area. Preliminary Draft RD Addendums are being prepared. Field sampling activities at RVAAP-34 Sand Creek Disposal Road Landfill are completed and Leidos began developing the RI Report Addendum. The Preliminary Draft Vapor Intrusion Study for CC RVAAP-69 Former Fire Station was submitted to the Army on March 21, 2025. OHARNG and USACE have provided comments and Leidos is developing responses. The Preliminary Draft RI Addendum 2 for CC RVAAP-79 DLA Ore Storage Yard was submitted to the Army on April 28, 2025.
2022 Environmental Program Support Services	J. Renner/ Chenega	Chenega prepared for the RAB meeting which is scheduled in May 2025.
RVAAP-66 Facility Wide Ground Water Monitoring	J. Trumble / Leidos	The Army submitted the Final 2024 Spring Semi-Annual FWGWMP Report on April 1, 2025. In a letter dated April 29, 2025, the Ohio EPA concurred with the report. The Ohio EPA provided comments on the Draft 2025 FWGWMP Addendum which were received on April 21, 2025.

A. Describe difficulties encountered during the reporting period and actions taken to rectify any difficulties
None.

B. Identify changes in key personnel
None.

C. List target and actual completion dates for each element of activity, including project completion
The actual completion dates and target dates where applicable are provided with the status of activities in Section A.

D. Provide an explanation for any deviation from applicable schedules
None.

E. Indicate how much soil and groundwater was generated and/or transported and disposed as part of RVAAP restoration activities

One 55-gallon drum of soil IDW and one 55-gallon drum of liquid IDW (decontamination water) was generated during the Sand Creek Disposal Road Landfill and multi-AOC sampling activities. These drums are Nonhazardous waste and were properly transported and disposed on April 10, 2025.

Two drums of liquid GAC were generated from the thermal treatment system at Atlas Scrap Yard. The waste was characterized and are Nonhazardous waste and are being properly managed and stored at Building 1036 while awaiting transport and disposal.

Two drums of vapor GAC were generated from the thermal treatment system at Atlas Scrap Yard. The waste was characterized and are Hazardous waste and are being properly managed and stored at Building 1047 (hazardous waste storage building) while awaiting transport and disposal.

One drum of soil was generated from the thermal treatment at Atlas Scrap Yard as it did not achieve the cleanup goal based on confirmation sampling. The soil was excavated and placed in a drum and characterized. The soil is Nonhazardous waste and is being properly managed and stored in Building 1036 while awaiting transport and disposal.

F. Describe activities planned for the following month (May 2025)

1. HGL is awaiting the pending modification award and will begin coordinating the field work for the Group 8 MRS and Block D MRS.

2. Arcadis will receive the Ohio EPA's comments on the Draft RI Report for ODA2 and will start working on resolving the comments.

3. Arcadis will have a meeting with the Army and Ohio EPA on May 19, 2025, to summarize and discuss the results of the ODA2 RI Report.

4. A RAB meeting will be held at the Charlestown Township Hall on May 21, 2025, at 4:30 pm.

5. PIKA-Insight JV plans to restore and backfill at RVAAP-50 Atlas Scrap Yard and CC RVAAP-70 East Classification Yard.

6. Leidos plans to submit the CC RVAAP-78 Final APP Addendum and respond to Army comments on the CC RVAAP-69 Preliminary Draft VI Study.

7. Leidos will begin preparing responses to Ohio EPA comments on the Draft 2024 Annual FWGWMP Report, once comments are received.

8. Leidos will prepare responses to Ohio EPA comments on the Draft 2025 Annual FWGWMP Addendum.

9. Chenega will prepare for the RAB meeting by publishing the public notice, having a dry run meeting, and setting up for and attending the RAB meeting on May 21, 2025.

G. Describe activities currently under Ohio EPA review and/or activities to be submitted for Ohio EPA review in the next 4 weeks.

Site Name/Activity Name	Current Status – In Progress/To Be Submitted	Start Date (Actual or Projected)	End Date (based on 45 day review timeframe)	Ohio EPA Reviewer Name (if known)
Leidos				
Response to Ohio EPA comments on the Draft FWGWMP 2025 Addendum	To be submitted (Ohio EPA comments received on 4/21/2025)			Liam McEvoy
Draft FWGWMP 2024 Annual Report	In Progress	February 13, 2025	March 30, 2025	Liam McEvoy
Final RI QAPP for CC RVAAP-78 Quarry Pond Surface Dump	In Progress	March 31, 2025	May 15, 2025	Craig Kowalski
HGL				
Army Response to Ohio EPA comments on the Group 8 MRS Revised Confirmation Sampling Memo	In Progress	April 21, 2025	June 5, 2025	Nick Roope
Army				
Responses to Ohio EPA comments on the Draft Creek Walk Report for Open Demo Area 2	In Progress	March 21, 2025	May 5, 2025	Nick Roope
PIKA-Insight JV				
Draft Performance Sampling Memo for Thermally-treated Soil at RVAAP-50 Atlas Scrap Yard	In Progress	April 16, 2025	May 30, 2025	Craig Kowalski
Arcadis				
Draft RI Report for Open Demolition Area 2 MRS	In Progress	February 28, 2025	May 31, 2025	Nick Roope

H. List of FY25 Milestones

Milestone Activity	Milestone Date	Actual Date Achieved
Block D Igloo MRS Draft Remedial Action Completion Report – HGL	January 17, 2026 (now a FY26 milestone)	
Group 8 MRS Draft Remedial Action Completion Report – HGL	September 30, 2025	
Draft 2024 LUC Inspection Report - Chenega	February 3, 2025	December 19, 2024
Draft RI Addendum for Open Demolition Area 2 – Arcadis	February 28, 2025	February 28, 2025
FWGWMP Draft Annual Report - Leidos	February 15, 2025	February 13, 2025
FWGWMP Draft Groundwater Addendum – Leidos	February 15, 2025	February 13, 2025

Ohio Army National Guard
Camp James A. Garfield Joint Military Training Center
8451 State Route 5, Building 1071
Ravenna, Oho 44266

April 8, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Ms. Natalie Oryshkewych
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, Ohio – Monthly Activity Report – March 2025

Dear Ms. Oryshkewych:

Attached for your review is the "RVAAP Restoration Program - DFFO Monthly Summary Report – March 2025". The report summarizes the Restoration Program activities conducted at the former RVAAP for the period from March 1, 2025, through March 31, 2025. This report is being submitted to the Ohio EPA to comply with the Ohio EPA Director's Final Findings and Orders, Section XVI, paragraphs 36 and 37.

This report was prepared for the Army National Guard in support of the RVAAP Restoration Program. Please contact the undersigned at (614) 336-6136 or kathryn.s.tait.nfg@army.mil or Mr. Kevin Sedlak, ARNG Restoration Project Manager, at (330) 235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.04.09 08:18:26 -04'00'

Kathryn S. Tait
Environmental Specialist 3
Ohio Army National Guard

cc: Megan Oravec, Ohio EPA
Tom Schneider, Ohio EPA
Kevin Sedlak, ARNG (Plateau GRP)
Steve Kvaal, USACE Louisville
Jay Trumble, USACE Louisville
Jennifer Tierney, Chenega

Status of project activities for reporting period (March 2025)

Project Name	USACE Project Manager / Contractor	Project Status
RVAAP-67 Facility-wide Sewers	J. Renner	Approval of the comment responses on the Draft RI was received from the Ohio EPA on October 21, 2024. ARNG sent a letter to the Ohio EPA on November 5, 2024, requesting a six-month extension to produce the Final RI as the contract has ended and additional time is needed to prepare for a new contract. The extension was approved. A meeting between the Ohio EPA, ARNG, USACE and OHARNG will be setup to discuss the path forward (waste in place) once a new contract is in place to complete the next phase of work.
Block D Igloo MRS and Group 8 MRS-Remedial Actions	Travis McCoun & Nicole Walworth / HGL	Field work is currently on hold for the Block D MRS while the ARNG, HGL and USACE work on a contract modification; RFP was released March 20, 2025. HGL submitted their proposal. Field work is anticipated to start again in July 2025. A Revised Confirmation Sampling Memo for the Group 8 MRS was submitted to the Ohio EPA on October 31, 2024. Ohio EPA comments were received on January 7, 2025. Responses to comments were submitted to the Ohio EPA on January 15, 2025, and received from Ohio EPA on March 20, 2024. A comment clarification meeting is scheduled for April 7, 2025. Comment responses are being drafted.
RVAAP-004-R-01 Open Demolition Area #2 (ODA2) MRS	Nicole Walworth & Travis McCoun / Arcadis	Arcadis field activities at ODA2 are complete. The Draft RI report was submitted to the Ohio EPA on February 28, 2025. Regulatory comments are pending.

Project Name	USACE Project Manager / Contractor	Project Status
Remedial Actions for 3 AOCs – RVAAP-06 C Block Quarry, RVAAP-50 Atlas Scrap Yard, CC RVAAP-70 E Classification Yard	J. Renner / PIKA-Insight JV	The Removal Action at CC RVAAP-70 East Classification Yard is underway. Excavation, over-excavation, and confirmation sampling was completed. An Excavation Confirmation Sampling Memo was submitted to the Ohio EPA on November 6, 2024. Ohio EPA comments were received on December 19, 2024. A response to comments was submitted to the Ohio EPA on January 17, 2025 which was approved. The path forward (additional characterization) will be documented in the Completion Report. Backfill is pending. At RVAAP-50 Former Storage Area (FSA), soil was excavated and placed on the treatment unit pad. Thermal treatment was started in December 2024 and was completed in March 2025. Confirmation samples of the thermally-treated soil were collected in March 2025. At RVAAP-50 Former Incinerator Area (FIA), soil was excavated and properly transported and disposed and the former incinerator was demolished and disposed. Confirmation samples were collected, and the Memo was approved by Ohio EPA on November 21, 2024. The draft wetlands plan was approved by the Ohio EPA on January 7, 2025, and the Final Plan was submitted to Ohio EPA on January 21, 2025. Backfill is pending. For RVAAP-06 C Block Quarry, 15 CY of asbestos was removed, transported, and disposed. Based on field conditions, it appears that additional surficial asbestos is present. Siebert stakes and signage were installed per the RD.

PROJECT NAME	USACE TECH MGR /Contractor	PROJECT STATUS
Investigation at 9 AOCs - RVAAP-34 Sand Creek, CC RVAAP-69 Building 1048 Fire Station, CC RVAAP-78 Quarry Pond Dump, CC RVAAP- 79 DLA Ore Storage Yard, RVAAP-38 NACA Test Area, RVAAP-45 Wet Storage, RVAAP-42 Load Line 9, CC RVAAP-76 Depot Area, CC RVAAP-70 E Classification Yard	J. Renner/ Leidos	The Final UFP-QAPP for RVAAP-78 Quarry Pond Surface Dump was submitted on March 31, 2025. Field sampling activities were completed at RVAAP-38 NACA Test Area, RVAAP-42 Load Line 9, RVAAP-45 Wet Storage Area, and CC RVAAP-76 Depot Area. Preliminary Draft RD Addendums are being prepared. Field sampling activities at RVAAP-34 Sand Creek Disposal Road Landfill are completed and Leidos began developing RI Report Addendum. The Preliminary Draft Vapor Intrusion Study for RVAAP-69 Former Fire Station was submitted to the Army on March 21, 2025. Leidos continued developing the RI Addendum 2 for RVAAP-79 DLA Ore Storage Yard.
2022 Environmental Program Support Services	J. Renner/ Chenega	The Final Annual LUC Report for 2024 was submitted March 18, 2025.
RVAAP-66 Facility Wide Ground Water Monitoring	J. Trumble / Leidos	The Army submitted responses to Ohio EPA comments on the Draft 2024 Spring Semi-Annual FWGWMP Report on March 10, 2025. The Ohio EPA approved the responses to comments on the Draft 2024 Spring Semi-Annual FWGWMP Report on March 19, 2025.

A. Describe difficulties encountered during the reporting period and actions taken to rectify any difficulties. None

B. Identify changes in key personnel

A Project Manager Designation letter was submitted to the Ohio EPA on March 31, 2025. As discussed, current roles and responsibilities will virtually remain the same.

C. List target and actual completion dates for each element of activity, including project completion
The actual completion dates and target dates where applicable are provided with the status of activities in Section A.

D. Provide an explanation for any deviation from applicable schedules
None.

E. Indicate how much soil and groundwater was generated and/or transported and disposed as part of RVAAP restoration activities

Two 55-gallon drums of soil IDW and two 55-gallon drums of liquid IDW (decontamination water) was generated during the Sand Creek Disposal Road Landfill and multi-AOC sampling activities. These drums are Nonhazardous and are being properly inspected and stored in Building 1036.

F. Describe activities planned for the following month (April 2025)

1. HGL will draft responses to comments on the Revised Group 8 MRS Confirmation Sampling Report.

2. Arcadis will receive the Ohio EPA's comments on the Draft RI Report for ODA2 and prepare to resolve comments.

3. PIKA-Insight JV plans to backfill at RVAAP-50 FSA/FIA and CC RVAAP-70.

4. Leidos plans to submit the RVAAP-78 Final APP Addendum and RVAAP-79 RI Addendum 2.

5. Leidos will begin preparing responses to Ohio EPA comments on the Draft 2024 Annual FWGWMP Report, once comments are received.

6. Leidos will begin preparing responses to Ohio EPA comments on the Draft 2025 Annual FWGWMP Addendum once comments are received.

G. Describe activities currently under Ohio EPA review and/or activities to be submitted for Ohio EPA review in the next 4 weeks.

Site Name/Activity Name	Current Status – In Progress/To Be Submitted	Start Date (Actual or Projected)	End Date (based on 45 day review timeframe)	Ohio EPA Reviewer Name (if known)
Leidos				
Final FWGWMP Spring 2024 Semi-Annual Report	In Progress	April 1, 2025	May 16, 2025	Liam McEvoy
Draft FWGWMP 2025 Addendum	In Progress	February 13, 2025	March 30, 2025	Liam McEvoy
Draft FWGWMP 2024 Annual Report	In Progress	February 13, 2025	March 30, 2025	Liam McEvoy
Final RI QAPP for CC RVAAP-78 Quarry Pond Surface Dump	In Progress	March 31, 2025	May 15, 2025	Craig Kowalski
HGL				
Army Response to Ohio EPA comments on the Group 8 MRS Revised Confirmation Sampling Memo	To be submitted – Ohio EPA comments received on 3/20/25			Nick Roope
Army				
FW Sewers Final RI - Extension Requested until May 5, 2025	To be submitted			
Responses to Ohio EPA comments on the Draft Creek Walk Report for Open Demo Area 2	In Progress	March 21, 2025	May 5, 2025	Nick Roope
Arcadis				
Draft RI Report for Open Demolition Area 2 MRS	In Progress – Extension requested	February 28, 2025	May 31, 2025 – Ohio EPA response to proposed May 31 date is pending	Nick Roope

H. List of FY25 Milestones

Milestone Activity	Milestone Date	Actual Date Achieved
Block D Igloo MRS Draft Remedial Action Completion Report – HGL	January 17, 2026 (now a FY26 milestone)	
Group 8 MRS Draft Remedial Action Completion Report – HGL	September 30, 2025	
Draft 2024 LUC Inspection Report - Chenega	February 3, 2025	December 19, 2024
Draft RI Addendum for Open Demolition Area 2 – Arcadis	February 28, 2025	February 28, 2025
FWGWMP Draft Annual Report - Leidos	February 15, 2025	February 13, 2025
FWGWMP Draft Groundwater Addendum – Leidos	February 15, 2025	February 13, 2025

NATIONAL GUARD BUREAU
111 SOUTH GEORGE MASON DRIVE
ARLINGTON VA 22204-1373

March 6, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Ms. Natalie Oryshkewych
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, Ohio, Monthly Activity Report – February 2025

Dear Ms. Oryshkewych:

Enclosed for your review is the "RVAAP Restoration Program - DFFO Monthly Summary Report – February 2025". The report summarizes the Restoration Program activities conducted at the former RVAAP for the period from February 1, 2025, through February 28, 2025. This report is being submitted to the Ohio EPA to comply with the Ohio EPA Director's Final Findings and Orders, Section XVI, paragraphs 36 and 37.

Please contact Ms. Katie Tait, OHARNG Environmental Specialist 3, at kathryn.s.tait.nfg@army.mil or 614-336-6136 or Mr. Kevin Sedlak, ARNG Project Manager (Plateau GRP) at kevin.m.sedlak.ctr@army.mil or 330-235-2153 if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275
Digitally signed by TAIT.KATHRYN.SERENA.1289508275
Date: 2025.03.06 12:39:14 -05'00'

FOR Kevin M. Sedlak
Restoration Project Manager
Army National Guard Directorate

Attachment

cc: Megan Oravec, Ohio EPA
Tom Schneider, Ohio EPA
Katie Tait, OHARNG
Steve Kvaal, USACE – Louisville
James Trumble, USACE – Louisville
Jennifer Tierney, Chenega, Admin Record

Status of project activities for reporting period (February 2025)

Project Name	USACE Project Manager / Contractor	Project Status
RVAAP-67 Facility-wide Sewers	J. Renner	Approval of the comment responses on the Draft RI was received from the Ohio EPA on October 21, 2024. ARNG sent a letter to the Ohio EPA on November 5, 2024, requesting a six-month extension to produce the Final RI as the contract has ended and additional time is needed to prepare for a new contract. The extension was approved. A meeting between the Ohio EPA, ARNG, USACE and OHARNG will be setup to discuss the path forward (waste in place).
Block D Igloo MRS and Group 8 MRS-Remedial Actions	Travis McCoun & Nicole Walworth / HGL	Field work is currently on hold for the Block D MRS while the ARNG, HGL and USACE work on a contract modification. Field work is anticipated to start again in Spring 2025. A Revised Confirmation Sampling Memo for the Group 8 MRS was submitted to the Ohio EPA on October 31, 2024. Ohio EPA comments were received on January 7, 2025. Responses to comments were submitted to the Ohio EPA on January 15, 2025. Ohio EPA comments are pending (due March 1, 2025).
RVAAP-004-R-01 Open Demolition Area #2 (ODA2) MRS	Nicole Walworth & Travis McCoun / Arcadis	Arcadis field activities at ODA2 are complete. The Draft RI report was submitted to the Ohio EPA on February 28, 2025 and comments are pending.

Project Name	USACE Project Manager / Contractor	Project Status
Remedial Actions for 3 AOCs – RVAAP-06 C Block Quarry, RVAAP-50 Atlas Scrap Yard, CC RVAAP-70 E Classification Yard	J. Renner / PIKA-Insight JV	The Removal Action at CC RVAAP-70 East Classification Yard is underway. Excavation, over-excavation, and confirmation sampling was completed. An Excavation Confirmation Sampling Memo was submitted to the Ohio EPA on November 6, 2024. Ohio EPA comments were received on December 19, 2024. A response to comments was submitted to the Ohio EPA on January 17, 2025. Backfill is pending. At RVAAP-50 Former Storage Area (FSA), soil was excavated and placed on the treatment unit pad. Thermal treatment was started in December 2024 and is ongoing. An Excavation Confirmation Sampling Memo was approved by the Ohio EPA on December 11, 2024. At RVAAP-50 Former Incinerator Area (FIA), soil was excavated and properly transported and disposed and the former incinerator was demolished and disposed. Confirmation samples were collected, and the Memo was approved by Ohio EPA on November 21, 2024. The draft wetlands plan was approved by the Ohio EPA on January 7, 2025, and the Final Plan was submitted to Ohio EPA on January 21, 2025. For RVAAP-06 C Block Quarry, 15 CY of asbestos was removed, transported, and disposed. Based on field conditions, it appears that additional surficial asbestos is present and requires removal and will most likely need to be covered under a different contract. Siebert stakes and signage were installed per the RD.

PROJECT NAME		
Investigation at 9 AOCs - RVAAP-34 Sand Creek, CC RVAAP-69 Building 1048 Fire Station, CC RVAAP-78 Quarry Pond Dump, CC RVAAP- 79 DLA Ore Storage Yard, RVAAP-38 NACA Test Area, RVAAP-45 Wet Storage, RVAAP-42 Load Line 9, CC RVAAP-76 Depot Area, CC RVAAP-70 E Classification Yard	J. Renner/ Leidos	On December 18, 2024, Ohio EPA provided comments on the Draft UFP-QAPP for the Quarry Pond Surface Dump RI. Responses to comments were submitted on January 7, 2025. Field sampling activities were completed at RVAAP-38 NACA Test Area, RVAAP-42 Load Line 9, RVAAP-45 Wet Storage Area, and CC RVAAP-76 Depot Area. Preliminary Draft RD Addendums are being prepared. Field sampling activities at RVAAP-34 Sand Creek Disposal Road Landfill are completed and Leidos began developing the RI Report Addendum. Leidos continued preparing the VI Study technical memo for CC RVAAP-69. Leidos continued developing the RI Addendum 2 for CC RVAAP-79.
2022 Environmental Program Support Services	J. Renner/ Chenega	The Preliminary Draft Annual LUC Report for 2024 was submitted for Ohio EPA review on December 19, 2024. Ohio EPA comments are pending.
RVAAP-66 Facility Wide Ground Water Monitoring	J. Trumble / Leidos	The Army received comments from the Ohio EPA on the Draft 2024 Spring Semi-Annual FWGWMP Report in a letter dated February 24, 2025. The Draft 2025 FWGWMP Addendum was submitted to the Ohio EPA for review on February 13, 2025. The Draft 2024 Annual Report was submitted to the Ohio EPA for review on February 13, 2025.

A. Describe difficulties encountered during the reporting period and actions taken to rectify any difficulties
None.

B. Identify changes in key personnel

None.

C. List target and actual completion dates for each element of activity, including project completion
The actual completion dates and target dates where applicable are provided with the status of activities in Section A.

D. Provide an explanation for any deviation from applicable schedules
None.

E. Indicate how much soil and groundwater was generated and/or transported and disposed as part of RVAAP restoration activities

One 55-gallon drum of soil IDW and one 55-gallon drum of liquid IDW (decontamination water) was generated during the Sand Creek Disposal Road Landfill sampling activities. These drums are Pending Analysis and are being properly inspected and stored in Building 1036.

F. Describe activities planned for the following month (March 2025)

1. HGL will finalize the Revised Group 8 MRS Confirmation Sampling Report once Ohio EPA approval is received.

2. Arcadis will receive the Ohio EPA's comments on the Draft RI Report for ODA2 and prepare to resolve comments.

3. PIKA-Insight JV will decommission the thermal treatment system, collect performance samples for the FSA treatment pile, and backfill RVAAP-50, 70 after approval to proceed.

4. Leidos will submit the Final QAPP once Ohio EPA approval is received for the CC RVAAP-78 Quarry Pond Surface Dump.

5. Chenega will prepare responses to comments on the Draft Annual LUC Report once Ohio EPA comments are received.

RVAAP RESTORATION PROGRAM - DFFO MONTHLY SUMMARY REPORT
February 2025
G. Describe activities currently under Ohio EPA review and/or activities to be submitted for Ohio EPA review in the next 4 weeks.

Site Name/Activity Name	Current Status – In Progress/To Be Submitted	Start Date (Actual or Projected)	End Date (based on 45 day review timeframe)	Ohio EPA Reviewer Name (if known)
Leidos				
Army response to Ohio EPA comments on the Draft FWGWMP Spring 2024 Semi-Annual Report	To be submitted (OEPA comments received on 2/24/25)			Liam McEvoy
Draft FWGWMP 2025 Addendum	In Progress	February 13, 2025	March 30, 2025	Liam McEvoy
Draft FWGWMP 2024 Annual Report	In Progress	February 13, 2025	March 30, 2025	Liam McEvoy
Responses to Ohio EPA comments on the Draft RI QAPP for CC RVAAP-78 Quarry Pond Surface Dump	In Progress	January 7, 2025	February 21, 2025	Craig Kowalski
HGL				
Army Response to Ohio EPA comments on the Group 8 MRS Revised Confirmation Sampling Memo	In Progress	January 15, 2025	March 1, 2025	Nick Roope
PIKA-Insight JV				
Final Wetlands Restoration Plan for Atlas Scrap Yard	In Progress	January 21, 2025	March 7, 2025	Craig Kowalski
CC RVAAP-70 Excavation Confirmation Sampling Results Memo	In Progress	January 17, 2025	March 3, 2025	Craig Kowalski
Army				
FW Sewers Final RI - Extension Requested until May 5, 2025	To be submitted			
Draft Creek Walk Report for Open Demo Area 2	In Progress	February 3, 2025	March 20, 2025	Nick Roope
Chenega				
Draft Annual LUC Inspection Report	In Progress	December 19, 2024	February 5, 2025	Nick Roope
Arcadis				
Draft RI Report for Open Demolition Area 2 MRS	In Progress	February 28, 2025	April 14, 2025	Nick Roope

H. List of FY25 Milestones

Milestone Activity	Milestone Date	Actual Date Achieved
Block D Igloo MRS Draft Remedial Action Completion Report – HGL	January 17, 2026 (now a FY26 milestone)	
Group 8 MRS Draft Remedial Action Completion Report – HGL	September 30, 2025	
Draft 2024 LUC Inspection Report - Chenega	February 3, 2025	December 19, 2024
Draft RI Addendum for Open Demolition Area 2 – Arcadis	February 28, 2025	February 28, 2025
FWGWMP Draft Annual Report - Leidos	February 15, 2025	February 13, 2025
FWGWMP Draft Groundwater Addendum – Leidos	February 15, 2025	February 13, 2025

NATIONAL GUARD BUREAU
111 SOUTH GEORGE MASON DRIVE
ARLINGTON VA 22204-1373

February 7, 2025

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Ms. Natalie Oryshkewych
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, Ohio, DFFO Monthly Summary Report – January 2025

Dear Ms. Oryshkewych:

Enclosed for your review is the "RVAAP Restoration Program - DFFO Monthly Summary Report – January 2025". The report summarizes the Restoration Program activities conducted at the former RVAAP for the period from January 1, 2025, through January 31, 2025. This report is being submitted to the Ohio EPA to comply with the Ohio EPA Director's Final Findings and Orders, Section XVI, paragraphs 36 and 37.

Please contact Kevin Sedlak, ARNG Restoration Project Manager, at (330) 235-2153 or kevin.m.sedlak.ctr@army.mil or Katie Tait, OHARNG Environmental Specialist 3, at (614) 336-6136 or kathryn.s.tait.nfg@army.mil if there are issues or concerns with this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2025.02.07 13:02:33 -05'00'

FOR Kevin M. Sedlak
Restoration Project Manager
Army National Guard Directorate

Attachment

cc: Megan Oravec, Ohio EPA
Tom Schneider, Ohio EPA
Katie Tait, OHARNG
Steve Kvaal, USACE – Louisville
James Trumble, USACE – Louisville
Jennifer Tierney, Chenega (Administrative Record)

Status of project activities for reporting period (January 2025)

Project Name	USACE Project Manager / Contractor	Project Status
RVAAP-67 Facility-wide Sewers	J. Renner	Approval of the comment responses on the Draft RI was received from the Ohio EPA on October 21, 2024. ARNG sent a letter to the Ohio EPA on November 5, 2024, requesting a six-month extension to produce the Final RI as the contract has ended and additional time is needed to prepare for a new contract. The extension was approved. A meeting between the Ohio EPA, ARNG, USACE and OHARNG will be setup to discuss the path forward (waste in place).
Block D Igloo MRS and Group 8 MRS-Remedial Actions	Travis McCoun & Nicole Walworth / HGL	Field work is currently on hold for the Block D MRS while the ARNG, HGL and USACE work on a contract modification. Field work is anticipated to start again in Spring 2025. A Revised Confirmation Sampling Memo for the Group 8 MRS was submitted to the Ohio EPA on October 31, 2024. Ohio EPA comments were received on January 7, 2025. Responses to comments were submitted to the Ohio EPA on January 15, 2025.
RVAAP-004-R-01 Open Demolition Area #2 (ODA2)	Nicole Walworth & Travis McCoun / Arcadis	Arcadis field activities at ODA2 are complete. The Preliminary Draft RI report was submitted to the Army on October 10, 2024. Arcadis is working on responses to Army comments which are expected to be submitted in February.

Project Name	USACE Project Manager / Contractor	Project Status
Remedial Actions for 3 AOCs – RVAAP-06 C Block Quarry, RVAAP-50 Atlas Scrap Yard, CC RVAAP-70 E Classification Yard	J. Renner / PIKA-Insight JV	The Removal Action at CC RVAAP-70 East Classification Yard is underway. Excavation, over-excavation, and confirmation sampling was completed. An Excavation Confirmation Sampling Memo was submitted to the Ohio EPA on November 6, 2024. Ohio EPA comments were received on December 19, 2024. A response to comments was submitted to the Ohio EPA on January 17, 2025. Backfill is pending. At RVAAP-50 Former Storage Area (FSA), soil was excavated and placed on the treatment unit pad. Thermal treatment was started in December 2024 and is ongoing. An Excavation Confirmation Sampling Memo was approved by the Ohio EPA on December 11, 2024. At RVAAP-50 Former Incinerator Area (FIA), soil was excavated and properly transported and disposed and the former incinerator was demolished and disposed. Confirmation samples were collected, and the Memo was approved by Ohio EPA on November 21, 2024. The draft wetlands plan was approved by the Ohio EPA on January 7, 2025 and the Final Plan was submitted to Ohio EPA on January 21, 2025. For RVAAP-06 C Block Quarry, 15 CY of asbestos was removed, transported, and disposed. Based on field conditions, it appears that additional surficial asbestos is present and requires removal. A request for funds to exercise options to remove the additional surficial asbestos is pending. Siebert stakes and signage were installed per the RD.

PROJECT NAME	USACE TECH MGR /Contractor	PROJECT STATUS
Investigation at 9 AOCs - RVAAP-34 Sand Creek, CC RVAAP-69 Building 1048 Fire Station, CC RVAAP-78 Quarry Pond Dump, CC RVAAP- 79 DLA Ore Storage Yard, RVAAP-38 NACA Test Area, RVAAP-45 Wet Storage, RVAAP-42 Load Line 9, CC RVAAP-76 Depot Area, CC RVAAP-70 E Classification Yard	J. Renner / Leidos	On December 18, 2024, Ohio EPA provided comments on the Draft UFP-QAPP for the Quarry Pond Surface Dump RI. Responses to comments were submitted on January 7, 2025. Leidos began the sampling associated with RVAAP-34 Sand Creek Disposal Rd Landfill, RVAAP-38 NACA Test Area, RVAAP-42 Load Line 9, RVAAP-45 Wet Storage Area, and CC RVAAP-76 Depot Area.
2022 Environmental Program Support Services	J. Renner / Chenega	The Preliminary Draft Annual LUC Report for 2024 was submitted for Ohio EPA review on December 19, 2024. Ohio EPA comments are pending.
RVAAP-66 Facility Wide Ground Water Monitoring	J. Trumble / Leidos	On October 21, 2024, the Draft Spring Semi-Annual Report was submitted to the Ohio EPA for review. Ohio EPA comments are pending. The Final 2023 Annual FWGWMP Report was approved by the Ohio EPA in a letter dated January 15, 2025. The Preliminary Draft 2025 FWGWMP Addendum was submitted to the Army for review on January 23, 2025. The Preliminary Draft 2024 Annual Report was submitted to the Army for review on January 24, 2025.

A. Describe difficulties encountered during the reporting period and actions taken to rectify any difficulties
None.

B. Identify changes in key personnel

None.

C. List target and actual completion dates for each element of activity, including project completion
The actual completion dates and target dates where applicable are provided with the status of activities in Section A.

D. Provide an explanation for any deviation from applicable schedules
None.

E. Indicate how much soil and groundwater was generated and/or transported and disposed as part of RVAAP restoration activities

Four (4) 55-gallon drums containing Nonhazardous purge water and decontamination water from the Fall 2024 FWGWMP sampling event were properly transported and disposed on January 30, 2025.

One 55-gallon drum of soil IDW and one 55-gallon drum of liquid IDW (decontamination water) was generated during the Sand Creek Disposal Road Landfill sampling activities. These drums are being properly inspected and stored in Building 1036.

F. Describe activities planned for the following month (February 2025)

1. Leidos will continue and complete sampling for the multi-site AOC project.
2. HGL will finalize the Revised Group 8 MRS Confirmation Sampling Report once Ohio EPA approval is received.
3. Arcadis will provide responses to the Army's comments on the Preliminary Draft RI Report for ODA2 and submit the Draft RI Report to the Ohio EPA.
4. PIKA-Insight JV will continue monitoring of the thermal treatment system for RVAAP-50 FSA which started in December 2024.
5. Leidos will submit the Final QAPP once Ohio EPA approval is received for the CC RVAAP-78 Quarry Pond Surface Dump.
6. Leidos will submit the Final 2024 Spring Semi-Annual FWGWMP Report once Ohio EPA approval is received.
7. Leidos will address Army comments on the Preliminary Draft 2024 FWGWMP Annual Report and submit the Draft Report to the Ohio EPA.
8. Leidos will address Army comments on the Preliminary Draft 2025 FWGWMP Addendum and submit the Draft Report to the Ohio EPA.

9. Chenega will prepare responses to comments on the Draft Annual LUC Report once Ohio EPA comments are received.

G. Describe activities currently under Ohio EPA review and/or activities to be submitted for Ohio EPA review in the next 4 weeks.

Site Name/Activity Name	Current Status – In Progress/To Be Submitted	Start Date (Actual or Projected)	End Date (based on 45 day review timeframe)	Ohio EPA Reviewer Name (if known)
Leidos				
Draft FWGWMP Spring 2024 Semi-Annual Report	In Progress	October 21, 2024	December 6, 2024	Liam McEvoy
Final FWGWMP 2023 Annual Report	Complete - Received on January 16, 2025			
Responses to Ohio EPA comments on the Draft RI QAPP for CC RVAAP-78 Quarry Pond Surface Dump	In Progress	January 7, 2025	February 21, 2025	Craig Kowalski
HGL				
Army Response to Ohio EPA comments on the Group 8 MRS Revised Confirmation Sampling Memo	In Progress	January 15, 2025	March 1, 2025	Nick Roope
PIKA-Insight JV				
Final Wetlands Restoration Plan for Atlas Scrap Yard	In Progress	January 21, 2025	March 7, 2025	Craig Kowalski
CC RVAAP-70 Excavation Confirmation Sampling Results Memo	In Progress	January 17, 2025	March 3, 2025	Craig Kowalski
Army				
FW Sewers Final RI - Extension Requested until May 5, 2025	To be submitted			
Draft Creek Walk Report for Open Demo Area 2	In Progress	February 3, 2025	March 20, 2025	Nick Roope
Chenega				
Draft Annual LUC Inspection Report	In Progress	December 19, 2024	February 5, 2025	Nick Roope

H. List of FY25 Milestones

Milestone Activity	Milestone Date	Actual Date Achieved
Block D Igloo MRS Draft Remedial Action Completion Report - HGL	January 17, 2026 (now a FY26 milestone)	
Group 8 MRS Draft Remedial Action Completion Report – HGL	September 30, 2025	
Draft 2024 LUC Inspection Report - Chenega	February 3, 2025	December 19, 2024
Draft RI Addendum for Open Demolition Area 2 - Arcadis	February 28, 2025	
FWGWMP Draft Annual Report - Leidos	February 15, 2025	
FWGWMP Draft Groundwater Addendum - Leidos	February 15, 2025	

STATE OF OHIO
ADJUTANT GENERAL'S DEPARTMENT
2825 West Dublin-Granville Road
Columbus, Ohio 43235-2789

March 31, 2025

Mr. Tom Schneider
Federal Facilities Program Administrator
Ohio Environmental Protection Agency
401 East Fifth Street
Dayton, Ohio 45402

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Project Manager Designation

Dear Mr. Schneider:

The purpose of this letter is to update the Project Manager (PM) for the RVAAP Restoration Program in accordance with Article XV, paragraph 33, of the Ohio Environmental Protection Agency's (Ohio EPA) Director's Final Findings and Orders (DFFOs), dated June 10, 2004.

The Army National Guard Directorate (ARNG) is part of National Guard Bureau (NGB), which is the federal entity of the National Guard. The ARNG implements federal environmental programs through cooperative agreements with State military agencies. The ARNG exercises federal oversight and issues federal funds to the States. The States use the federal funds for environmental staff and technical execution of required environmental programs. This is a different process than the active-duty Army, who manages and implements programs without State involvement. In Ohio, the State agency is the Ohio Adjutant General's Department, which oversees both the Ohio Army National Guard and the Ohio Air National Guard. Federal funding from NGB for the restoration program comes from the ARNG Cleanup and Restoration Branch and the Ohio Adjutant General's Department oversees implementation. The former RVAAP restoration program is managed jointly by the Ohio Army National Guard (OHARNG) and ARNG.

ARNG staff who help to support cleanup at the former RVAAP are remote or located at their Headquarters in Alexandria, Virginia under the ARNG Cleanup and Restoration Division (ARNG-IEE-D) led by LTC Charlton (CJ) Mosley, ARNG Cleanup and Restoration Branch Chief. The supporting environmental staff for the Ohio Adjutant General's Department are located on-site at the former RVAAP facility (known as Camp James A. Garfield Joint Military Training Center).

Due to this dual Federal-State nature of the National Guard, designation of two PM positions, one primary PM position (OHARNG Restoration Program Manager) and one Federal PM support position is necessary. The current OHARNG Restoration Program Manager is Ms. Katie Tait. Mr. Kevin Sedlak, Restoration Project Manager, is the ARNG-contracted employee designated to assist LTC Mosley and ARNG-IEE-D and the OHARNG with restoration tasks such as technical reviews, meeting support, funds oversight, and routing of legal reviews and signatures on cleanup documents. As future personnel fill these positions, the new personnel will assume the roles of OHARNG or ARNG PM and the Ohio EPA will be notified.

Ms. Tait is designated as the main PM for the RVAAP Restoration Program. Ms. Tait will oversee all daily restoration program activities and be the main point of contact for all questions, issues, and correspondence. All correspondence should be sent to Ms. Tait with the ARNG PM designee (Mr. Kevin Sedlak) copied. Contact information for Ms. Tait is as follows:

Ms. Kathryn Tait
Camp James A. Garfield JMTC
Environmental Office, Bldg. 1071
8451 State Route 5
Ravenna, OH 44266
kathryn.s.tait.nfg@army.mil
614-336-6136

Contact information for Mr. Sedlak is as follows:

Army National Guard Directorate
Attn: Mr. Kevin Sedlak, ARNG-IEE-D
111 South George Mason Drive
Arlington, VA 22204-1382
kevin.m.sedlak.ctr@army.mil
330-235-2153

If you have any questions or issues with this correspondence, please contact the undersigned at thomas.d.daugherty.nfg@army.mil or 614-336-7395.

Sincerely,

DAUGHERTY.THOMAS.DOLBY.1080101666 Digitally signed by DAUGHERTY.THOMAS.DOLBY.1080101666 Date: 2025.03.31 16:53:18 -04'00'

Thomas D. Daugherty
OHARNG Environmental Division Chief
Ohio Adjutant General's Department

cc: Natalie Oryshkewych, Ohio EPA
Megan Oravec, Ohio EPA
LTC Charlton Mosley, ARNG
Kevin Sedlak, ARNG
Tim Morgan, OHARNG
Katie Tait, OHARNG
Steve Kvaal, USACE – Louisville
Jennifer Tierney, Chenega (RVAAP Admin Record)

STATE OF OHIO
ADJUTANT GENERAL'S DEPARTMENT
2825 West Dublin-Granville Road
Columbus, Ohio 43235-2789

March 31, 2025

Mr. Tom Schneider
Federal Facilities Program Administrator
Ohio Environmental Protection Agency
401 East Fifth Street
Dayton, Ohio 45402

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Project Manager Designation

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