Ohio Environmental Protection Agency (Ohio EPA)
And
Ravenna Army Ammunition Plant (RVAAP)
2024 Correspondences

Received October 10, 2024

October 9, 2024

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 # 267000859266

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

Subject: Former Ravenna Army Ammunition Plant
Approval Remedial Design Remedial Action at RVAAP-06
C-Block Quarry
Ohio EPA Final Approval

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the "Final Remedial Design, Removal Action at FVAAP-06 – C Block Quarry" 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 September 6, 2024.

The document was prepared for the United States Army Corps of Engineers (USACE) on behalf of the National Guard Bureau by PIKA-Insight.

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=3195542

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

September 6, 2024

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 Remedial Design for RVAAP-06 C Block Quarry, Ohio EPA ID# 267000859266

Dear Mr. Kowalski:

Attached is the *Final Remedial Design for RVAAP-06 C Block Quarry*. This document is being submitted as part of the RVAAP Restoration Program. Due to small file size, this document is only being submitted to you via email and not through the Ohio EPA LiquidFile system. 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: 2024.09.06 13:15:16 -04'00'

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

cc:
Katie Tait, OHARNG
Steve Kvaal, USACE Louisville
T. Zack Bayne, USACE Louisville
Jennifer Tierney, Chenega
Tom Schneider, Ohio EPA
Megan Oravec, Ohio EPA
Marco Mendoza, PIKA-Insight

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
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
Angela Cobbs, Chenega Reliable Services
Jennifer Tierney, Chenega Reliable Services
Megan Oravec, Ohio EPA, NEDO, DERR
Natalie Oryshkewych, Ohio EPA, NEDO, DERR
Thomas Schneider, Ohio EPA, SWDO, DERR
Tim Christman, Ohio EPA, CO, DERR
Brian Tucker, Ohio EPA, CO, DERR

August 30, 2024

Received August 30, 2024

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

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

RE: US Army Ravenna Ammunition Plt
RVAAP
Remediation Response
Project Records
Remedial Design
Remedial Response
Portage County
ID # 267000859266

Subject: Former Ravenna Army Ammunition Plant
Response to Comments for Ohio EPA comments on the Draft Remedial Design for RVAAP-06 C Block Quarry
Ohio EPA Request for Final

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO) has received and reviewed the Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, Ohio, Response to Comments for Ohio EPA Comments on the Draft Remedial Design for RVAAP-06 C-Block Quarry, dated June 5, 2024[1]. This document was received at Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) via email on June 5, 2024. Ohio EPA received the Draft Remedial Design on February 14, 2024[2] and provided comments on May 14, 2024[3]. The Draft Remedial Design was prepared for the United States Army Corps of Engineers (USACE) on behalf of the National Guard Bureau by PIKA-Insight.

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2936508
[2] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2795620
[3] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2845788

Ohio EPA has no further comments. Please provide the final Remedial Design for RVAAP-06 C Block Quarry for Ohio EPA Approval.

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
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
Angela Cobbs, Chenega Reliable Services
Jennifer Tierney, Chenega Reliable Services
Megan Oravec, Ohio EPA, NEDO DERR
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR
Tim Christman, Ohio EPA DERR, CO
Brian Tucker, Ohio EPA, CO DERR

May 14, 2024

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 Ravenna Ammunition Plt RVAAP
Remediation Response
Project Records
RD
Remedial Response
Portage County
ID # 267000859266

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

Subject: Draft Remedial Design RVAAP-06 C- Block Quarry Report
Ravenna Army Ammunition Plant Restoration Program
Ohio EPA Comments

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) has received and reviewed the Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, Ohio, Draft Remedial Design for RVAAP-06 C-Block Quarry dated February 14, 2024[1]. This document was received at Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) via email on February 14, 2024. The document was prepared for the United States Army National Guard.

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.

Comment 1) Section 5.4 AIR SAMPLING

Soil confirmation sampling details are needed in the work plan. The Plan states in part: "(a)sbestos abatement work will be considered to be substantially complete upon confirmation of final air clearance (PCM < 0.01 fibers per cubic centimeter) by the CAHAS and passing a visual clearance inspection. The CAHAS will give verbal notification to the PIKA-Insight PM of the final clearance results of each test within 24 hours of the receipt of sample analyses."

The March 1, 2022, final Record of Decision (ROD) and supporting documents identified asbestos in soil and lists a remedial cleanup goal for asbestos of non-detectable (non-detectable concentration of asbestos will

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2795620

be determined by using test methods with an analytical sensitivity of at least 0.25 percent by weight. (page 37 or ROD)). Confirmation samples should be collected to ensure the asbestos is removed from the soil and meets the remedial cleanup goal.

Comment 2)

Source material contributing to ground water contamination is likely present in the subsurface and may require additional remediation to restore contaminated ground water in the area of concern (AOC).

Soil to ground water remediation levels were not considered in the Feasibility Study (FS) or ROD and if ground water contamination is identified per the AOC investigation in the facility-wide ground water evaluation, then additional soil removal and/or treatment may still be required for the AOC. As noted in the work plan summary and other investigative documents, the C-Block quarry is one of the few AOCs at Camp James A Garfield JTC (CJAG) where liquid wastes were known to be disposed of over time. Per the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and expectations of ground water restoration under CERCLA, "EPA expects to return usable ground waters to their beneficial uses wherever practicable, within a timeframe that is reasonable given the particular circumstances of the site. When restoration of ground water to beneficial uses is not practicable, EPA expects to prevent further migration of the plume, prevent exposure to the contaminated ground water, and evaluate further risk reduction." See: https://semspub.epa.gov/work/HQ/175202.pdf for additional information.

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.

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: Megan Oravec, Ohio EPA, NEDO, DERR
Natalie Oryshkewych, Ohio EPA, NEDO, DERR
Thomas Schneider, Ohio EPA, SWDO, DERR
Tim Christman, Ohio EPA, CO, DERR
Brian Tucker, Ohio EPA, CO, DERR
Katie Tait, OHARNG RTLS, CJAG
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
Jennifer M. Tierney, Chenega Reliable Services
Angela Cobbs, Chenega Reliable Services

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

February 14, 2024

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Mr. Ed D'Amato
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, Ohio, Draft Remedial Design for RVAAP-06 C-Block Quarry, Ohio EPA ID# 267000859113

Dear Mr. D'Amato:

Attached for your review is the *Draft Remedial Design for RVAAP-06 C-Block Quarry*. Due to small file size, the electronic file is being submitted via email only and will not be submitted via the Ohio EPA LiquidFile system. 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: 2024.02.14 07:56:57 -05'00'

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

cc:
Katie Tait, OHARNG
Steve Kvaal, USACE Louisville
Nat Peters, USACE Louisville
Jennifer Tierney, Chenega
Tom Schneider, Ohio EPA
Megan Oravec, Ohio EPA
Marco Mendoza, PIKA-Insight
Zack Bayne, USACE Louisville

April 5, 2024

Received April 8, 2024

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

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

RE: US Army Ravenna Ammunition Plt
RVAAP
Remediation Response
Project Records
RI
Remedial Response
Portage County
ID # 267000859137

Subject: Approval of the "Uniform Federal Policy-Quality Assurance Project Plan for Additional Delineation Sampling at RVAAP-34 Sand Creek Disposal Road Landfill Ravenna Army Ammunition Plant Restoration Program" dated February 13, 2024

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the

"Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP) for Additional Delineation Sampling at RVAAP-34 Sand Creek Disposal Road Landfill" at the Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio (Camp James A. Garfield)[1]. This document was received by Ohio EPA's Division of Environmental Response and Revitalization (DERR) via email on February 16, 2024. The document was prepared for the United States Army Corps of Engineers (USACE) on behalf of the National Guard Bureau by Leidos.

The final document was reviewed by personnel from Ohio EPA. 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=2773719

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
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
Jennifer Tierney, Chenega Reliable Services
Angela Cobbs, Chenega Reliable Services
Megan Oravec, Ohio EPA, NEDO, DERR
Natalie Oryshkewych, Ohio EPA, NEDO, DERR
Liam McEvoy, Ohio EPA, NEDO, DERR
Thomas Schneider, Ohio EPA, SWDO, DERR
Carrie Rasik, Ohio EPA, CO, DERR

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

December 11, 2024

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

Subject: Responses to Ohio EPA Comments on the Draft Wetlands Restoration/Mitigation Plan for RVAAP-50 Atlas Scrap Yard, Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Camp James A. Garfield, Portage/Trumbull Counties, Ohio (Ohio EPA ID# 267000859110)

Dear Mr. Kowalski:

Enclosed for your review are the Army responses to Ohio EPA comments on the Draft Wetlands Restoration/Mitigation Plan for RVAAP-50 Atlas Scrap Yard. Due to small file size, this response letter is only being submitted via email.

Please contact the undersigned at (330)235-2153 or kevin.m.sedlak.ctr@army.mil or Ms. Katie Tait at (614)336-6136 or kathryn.s.tait.nfg@army.mil if there are comments or questions on this submission.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275
Digitally signed by TAIT.KATHRYN.SERENA.1289508275
Date: 2024.12.11 09:15:38 -05'00'

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

Attachment – Responses to Ohio EPA Comments

cc: Megan Oravec, Ohio EPA
Thomas Schneider, Ohio EPA
Katie Tait, OHARNG
Steve Kvaal, USACE – Louisville
Jeremy Renner, USACE – Louisville
Marco Mendoza, PIKA-Insight JV
Amy Allen, Davey Resource Group
Jennifer Tierney, Chenega (Admin Record)

DAVEY Resource Group

Local Office
333 Martinel Drive
Kent, OH 44240
330-673-5685

Responses To Ohio EPA Comments Dated December 4, 2024, Received December 5, 2024

Comment 1

Table 1 has a typo. The sum of total woody stems proposed for planting is 60, not 50. The Ohio EPA Division of Surface Water (DSW) strongly recommends plantings be a minimum size of 1gallon trees/shrubs to assist in their vitality since the standard 10 years of monitoring is not required to confirm the area will be successfully reforested.

Response:

Table 1 (below) has been revised to correct the typo. The quantities for the swamp white oak and pin oak species were incorrect in the submitted plan. The total number of containers is correct at 50.

Table 1: Tree and Shrub Species Selection and Quantities for FSA Site

Scientific Name	Common Name	Quantity
Carya laciniosa	shellbark hickory	5
Quercus bicolor	swamp white oak	10
Quercus palustris	pin oak	15
Amelanchier laevis	Allegheny serviceberry	5
Cornus sericea	red osier dogwood	5
Physocarpus opulifolius	ninebark	5
Salix sericea	silky willow	5
Total		50

Additional comments noted and agreed. No change is needed as the proposed trees and shrubs for this project are planned to be at the three (3) gallon container size to promote survival and establishment.

Comment 2

Except in situations where it can be demonstrated as justified, the 401 program strongly recommends the planting schedule be composed of only those species that have been identified as native to the project's county or an immediately adjacent county at a minimum. We also do not allow for nursery cultivars. There were not any nursery cultivars being proposed, but we identified the following species as not regionally native:

Stiff Goldenrod, *Solidago rigida*

Scarlet Toothcup, *Ammannia coccinea*

Locality maps for these two species are included as Attachment 1. DSW recommends either removing these two species from the planting schedule or substituting them with one of the following:

For *Solidago rigida*, the following are acceptable/recommended substitutions:

Stout goldenrod, *Solidago squarrosa*
Roundleaf goldenrod, *Solidago patula*
Riddell's goldenrod, *Solidago riddellii*
Ohio goldenrod, *Solidago ohioensis*

For *Ammannia coccinea*, the following are acceptable/recommended substitutions (all three are in the Lythraceae family, have similar CofC scores, and are either FACW or OBL):

Swamp loosestrife, *Decodon verticillatus*
Winged lythrum, *Lythrum alatum*

Response:

While we agree that stiff goldenrod (*Solidago rigida*) and scarlet toothcup (*Ammannia coccinea*) are not naturally known to occur in Portage County or any of the adjacent counties; they are known to occur in many Ohio counties to the west and southwest, within the same USDA growing zones and habitat types. Further, use of any state or federally-listed species was avoided, of which several of the provided *Solidago* sp. are state-listed. These two species are very minor components of the seed mixes, added to increase species diversity, and were selected for their availability and compatibility with each of the two sites. Because these two sites are not being restored as part of any type of onsite mitigation (mitigation credits are being purchased at the Willow Creek Mitigation Bank) or other permit requirements, but rather to simply enhance these sites following remediation work, the provided mixes were purchased following review by experienced botanists/ecologists at Camp James A. Garfield (CJAG) in anticipation of starting restoration work. Revision of these mixes at this stage would result in additional time and unforeseen costs to the project.

Comment 3

Tables 2 and 4 are native wetland seed mixes for the two restoration wetlands. The Mitigation Plan states the purpose of these seed mixes are “native shaded wetland seed mixes” and “will provide initial site stabilization and provide understory vegetation once the trees and shrubs reach maturity.” Ultimately, like with the woody stems, the end goal of these restoration projects are forested wetland communities that blend naturally with the immediately adjacent forested wetlands. As stated in the goals of planting, these seed mixes are to provide initial site stabilization. Some species will provide the understory of the forested wetland communities. Again, some natural recruitment can be expected, but the restoration should not rely solely on it. The proposed seed mixes should include those species already present in the immediately adjacent forested wetlands to each restoration site. The consultant should provide a demonstration that some component of the species in the proposed seed mixes are present in the adjacent forest wetland areas.

Response:

The existing vegetation at both sites was evaluated prior to commencement of the remediation work to aid in development of the appropriate seed mixes. Both mixes include species found to exist on the sites naturally. This included species such as *Asclepias incarnata* (swamp milkweed), *Carex critina* (fringed sedge), *Carex lurida* (shallow sedge), *Carex lupulina* (hop sedge), *Juncus effusus* (common

rush), *Monarda fistulosa* (wild bergamot), *Panicum clandestinum* (deer-tongue grass), and *Rudbeckia hirta* (black-eyed Susan).

In addition to existing species, the selected mixes included additional native species suited to each site's conditions, to enhance the overall diversity and habitat value. While many of these species will decline as the woody species form a canopy, they will contribute to the surrounding seedbank throughout the process of succession, thereby reintroducing native species, increasing diversity, and enhancing the surrounding habitats. This increases the overall value of the restoration of these two sites. Again, because these two sites are not being restored as part of any type of onsite mitigation, but rather as a voluntary action by CJAG, the provided mixes were purchased following review by experienced CJAG botanists/ecologists in anticipation of starting restoration work. Revision of these mixes at this stage would result in additional time and unforeseen costs to the project.

Comment 4

The contract for purchasing the mitigation credits from Stream + Wetlands Foundation's ("S+W") Willow Creek Wetlands Mitigation Bank ("Willow Creek") as part of the Mahoning Shenango Umbrella Mitigation Bank is not signed. A proof of credit purchase letter should be provided by the banker (S+W) to demonstrate the credits have been purchased to fulfill this obligation.

Response:

This contract was not signed in the Draft document as it was requested to wait for approval of the Wetlands Restoration Plan by the Ohio EPA. A copy of the contract has been provided to the CJAG Environmental Office and is in the process of being signed and credits purchased.

Received December 5, 2024

December 4, 2024

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 Ammunition Plt RVAAP
Remediation Response
Project Records
Remedial Action
Remedial Response
Portage County
ID # 267000859110

Subject: Former Ravenna Army Ammunition Plant
Draft Wetland Mitigation and Restoration Plan Remedial Action Work Plan
from RVAAP-50 Atlas Scrap Yard
Ohio Comment Letter

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the "Draft 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 September 30, 2024.

Comments on the September 2024 document based on Ohio EPA's review are provided below.

Comment 1:

Table 1 has typo. The sum of total woody stems proposed for planting is 60, not 50. The Ohio EPA Division of Surface Water (DSW) strongly recommends plantings be a minimum size of 1-gallon trees/shrubs to assist in their vitality since the standard 10 years of monitoring is not required to confirm the area will be successfully reforested.

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3299602

Comment 2:

Except in situations where it can be demonstrated as justified, the 401 program strongly recommends the planting schedule be composed of only those species that have been identified as native to the project's county or an immediately adjacent county at a minimum. We also do not allow for nursery cultivars. There were not any nursery cultivars being proposed, but we identified the following species as not regionally native:

Stiff Goldenrod, Solidago rigida
Scarlet Toothcup, *Ammannia coccinea*

Locality maps for these two species are included as Attachment 1. DSW recommends either removing these two species from the planting schedule or substituting them with one of the following:

For *Solidago rigida*, the following are acceptable/recommended substitutions:

Stout goldenrod, *Solidago squarrosa*
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Riddell's goldenrod, *Solidago riddellii*
Ohio goldenrod, *Solidago ohioensis*

For *Ammannia coccinea*, the following are acceptable/recommended substitutions (all three are in the Lythraceae family, have similar CofC scores, and are either FACW or OBL):

Swamp loosestrife, *Decodon verticillatus*
Winged lythrum, *Lythrum alatum*

Comment 3:

Tables 2 and 4 are native wetland seed mixes for the two restoration wetlands. The Mitigation Plan states the purpose of these seed mixes are "native shaded wetland seed mixes" and "will provide initial site stabilization and provide understory vegetation once the trees and shrubs reach maturity." Ultimately, like with the woody stems, the end goal of these restoration projects are forested wetland communities that blend naturally with the immediately adjacent forested wetlands. As stated in the goals of planting, these seed mixes are to provide initial site stabilization. Some species will provide the understory of the forested wetland communities. Again, some natural recruitment can be expected, but the restoration should not rely solely on it. The proposed seed mixes should include those species already present in the immediately adjacent forested wetlands to each restoration site. The consultant should provide a demonstration that some component of the species in the proposed seed mixes are present in the adjacent forest wetland areas.

Comment 4:

The contract for purchasing the mitigation credits from Stream + Wetlands Foundation's ("S+W") Willow Creek Wetlands Mitigation Bank ("Willow Creek") as part of the Mahoning-Shenango Umbrella Mitigation Bank is not signed. A proof of credit purchase letter should be provided by the banker (S+W) to demonstrate the credits have been purchased to fulfill this obligation.

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
Megan Oravec, Ohio EPA, NEDO DERR
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR
Brian Tucker, Ohio EPA, CO DERR

Attachment 1
Plant Distribution Maps for Species Not Regionally Native to the Project Area

Oligoneuron rigidum (L.) Small var. *rigidum*

stiff goldenrod

stiff goldenrod General Information	
Symbol:	OLRIR
Group:	Dicot
Duration:	Perennial
Growth Habit:	Forb/herb
Native Status:	CAN N L48 N
Fact Sheet (doc) (pdf)	

Download Distribution Data

View Print Options

Ammannia coccinea Rottb.

valley redstem

valley redstem General Information	
Symbol:	AMCO
Group:	Dicot
Duration:	Annual
Growth Habit:	Forb/herb Subshrub
Native Status:	HI I L48 N PR N VI N

Download Distribution Data

View Print Options

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

November 27, 2024

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

Subject: RVAAP-50 Atlas Scrap Yard- Former Storage Area (FSA) – Excavation Confirmation Sample Results, Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Camp James A. Garfield JMTC, Portage/Trumbull Counties, Ohio (Work Activity No. 267000859110)

Dear Mr. Kowalski:

PIKA-Insight, JV conducted soil confirmation sampling at RVAAP-50 Atlas Scrap Yard – Former Storage Area (FSA) on October 9, 2024. Floor and sidewall confirmation samples were collected around the completed excavation per the attached figure (Phase I). Phase I sample results revealed concentrations of benzo(a)pyrene (BaP) above the project cleanup goal (CUG) of 1.1 mg/kg at four sidewall locations in the southern (ASYcs-188-0001-SO), eastern (ASYcs-181-0001-SO), and northern (ASYcs-171-0001-SO, ASYcs-172-0001-SO) edges of the excavation. One floor sample (ASYcs-177-0001-SO) was also above the BaP CUG. Additional soil was over-excavated (and added to the thermal treatment stockpile to be treated) at these five locations and additional confirmation samples were collected on October 17, 2024 (Phase II). Phase II analytical results revealed three samples above the CUG for BaP (ASYcs-190-0001-SO (1.2 mg/ kg), ASYcs-192-0001-SO (10.8 mg/kg), and ASYcs-193-0001-SO (116 mg/kg)). An additional three cubic yards of soil was over-excavated from these three locations and a third round of confirmation samples were collected on November 8, 2024 (Phase III). Phase III samples revealed two samples (ASYcs-195-0001-SO (3.2 mg/kg) and ASYcs-196-0001-SO (2.8 mg/kg)) above the project CUG. Additional confirmation samples were collected (Phase IV) beyond each of the Phase III samples in anticipation of sampling results being above the CUG and were placed on hold at the lab. Since two of the Phase III samples were above the CUG, two correlating hold samples were analyzed for BaP (Phase IV samples). An additional two cubic yards of soil were excavated at the locations of the Phase III samples that were over the project CUG. Phase IV sample results for ASYcs-198-0001-SO and ASYcs-199-0001-SO were below the CUG. All confirmation samples for the FSA excavation are below the CUG. All excavated soil was placed on the thermal remediation system stockpile for ex-situ thermal treatment in accordance with the Final ROD.

The Army National Guard (ARNG) requests your review of these confirmation sample results. If approved, the ARNG will backfill the area with sampled fill already approved by the Ohio EPA.

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.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275
Digitally signed by TAIT.KATHRYN.SERENA.1289508275
Date: 2024.11.27 07:21:18 -05'00'

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

Attachments:
1 Confirmation Sample Results Table
2 Figure Showing Confirmation Sample Locations
3 Laboratory Analytical Results

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

Table 1
Analytical Results - Confirmation Samples
RVAAP-50 Atlas Scrap Yard FSA
Camp James A. Garfield, Portage and Trumbull Counties, Ohio

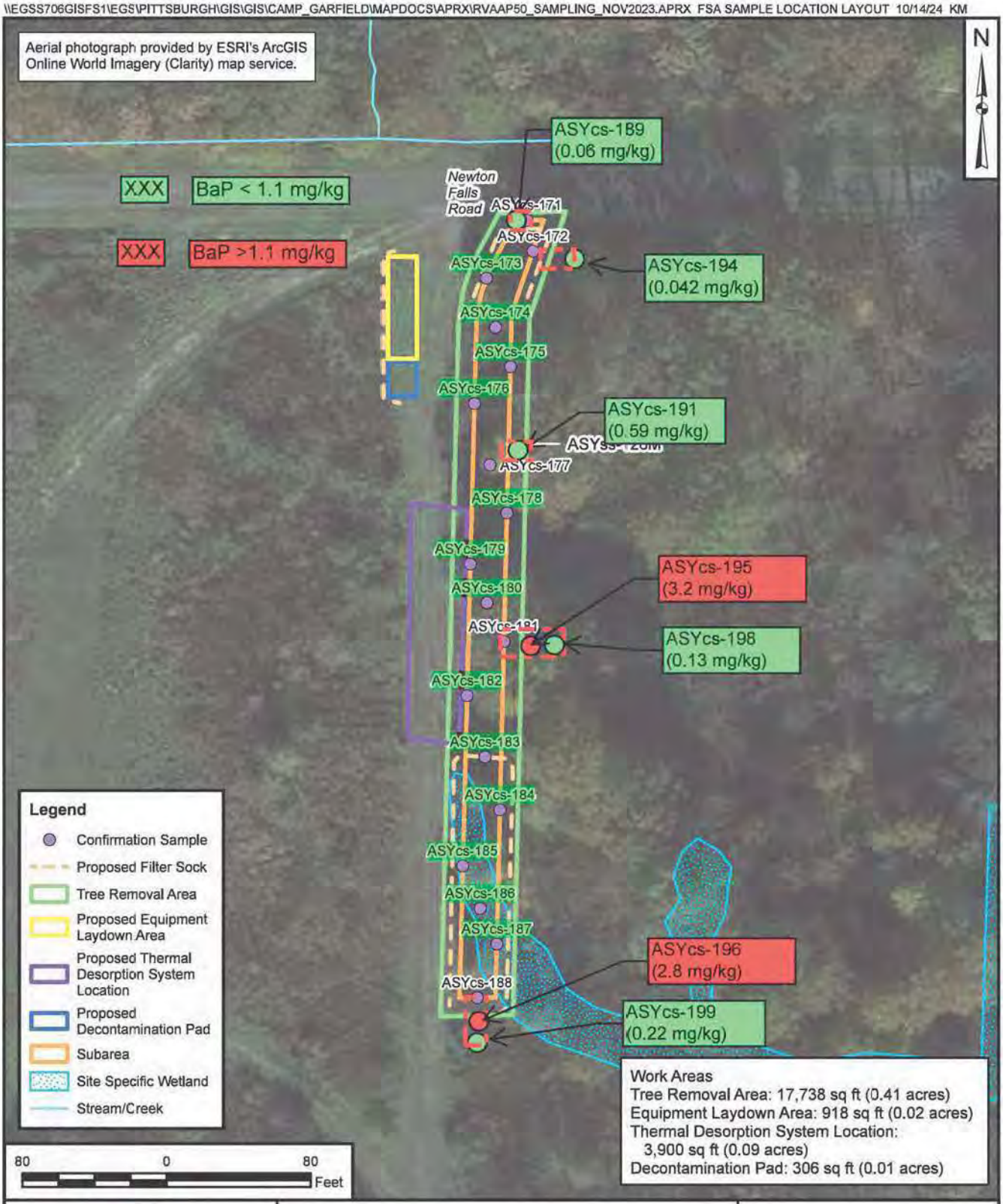
			Analyte:	Benzo(a)pyrene	
			CAS #:	50-32-8	
			Method:	8270E	
		Sidewall (SW) or	Cleanup Goal:	1.1	
		Floor (FL) Sample	Units:	mg/kg	
Sample ID	**Site**	**Sample**	**Date Collected**	**Result**	**Qual**
ASYcs-171-0001-SO	RVAAP-50 FSA (Phase I)	SW	10/9/2024	**5.5**	
ASYcs-172-0001-SO	RVAAP-50 FSA (Phase I)	SW	10/9/2024	**5.4**	
ASYcs-173-0001-SO	RVAAP-50 FSA (Phase I)	SW	10/9/2024	**0.18**	
ASYcs-174-0001-SO	RVAAP-50 FSA (Phase I)	FL	10/9/2024	**0.37**	
ASYcs-175-0001-SO	RVAAP-50 FSA (Phase I)	SW	10/9/2024	0.056	U
ASYcs-176-0001-SO	RVAAP-50 FSA (Phase I)	SW	10/9/2024	**0.32**	
ASYcs-177-0001-SO	RVAAP-50 FSA (Phase I)	FL	10/9/2024	**23.2**	
ASYcs-178-0001-SO	RVAAP-50 FSA (Phase I)	SW	10/9/2024	**0.054**	J
ASYcs-179-0001-SO	RVAAP-50 FSA (Phase I)	SW	10/9/2024	**0.83**	
ASYcs-180-0001-SO	RVAAP-50 FSA (Phase I)	FL	10/9/2024	**0.45**	
ASYcs-181-0001-SO	RVAAP-50 FSA (Phase I)	SW	10/9/2024	**25.6**	
ASYcs-182-0001-SO	RVAAP-50 FSA (Phase I)	SW	10/9/2024	**0.087**	J
ASYcs-183-0001-SO	RVAAP-50 FSA (Phase I)	FL	10/9/2024	0.062	U
ASYcs-184-0001-SO	RVAAP-50 FSA (Phase I)	SW	10/9/2024	0.055	U
ASYcs-185-0001-SO	RVAAP-50 FSA (Phase I)	SW	10/9/2024	**0.58**	
ASYcs-186-0001-SO	RVAAP-50 FSA (Phase I)	FL	10/9/2024	**0.17**	
ASYcs-187-0001-SO	RVAAP-50 FSA (Phase I)	SW	10/9/2024	0.06	U
ASYcs-188-0001-SO	RVAAP-50 FSA (Phase I)	SW	10/9/2024	**1.7**	
ASYcs-Field Duplicate 1	RVAAP-50 FSA (Phase I)	SW	10/9/2024	**0.85**	
ASYcs-Field Duplicate 2	RVAAP-50 FSA (Phase I)	SW	10/9/2024	0.061	U
ASYcs-189-0001-SO	RVAAP-50 FSA (Phase II)	SW	10/17/2024	**0.06**	J
ASYcs-190-0001-SO	RVAAP-50 FSA (Phase II)	SW	10/17/2024	**1.2**	
ASYcs-191-0001-SO	RVAAP-50 FSA (Phase II)	FL	10/17/2024	**0.59**	
ASYcs-192-0001-SO	RVAAP-50 FSA (Phase II)	SW	10/17/2024	**10.8**	
ASYcs-193-0001-SO	RVAAP-50 FSA (Phase II)	SW	10/17/2024	**116**	
ASYcs-Field Duplicate 3	RVAAP-50 FSA (Phase II)	SW	10/17/2024	0.06	U
ASYcs-194-0001-SO	RVAAP-50 FSA (Phase III)	SW	11/8/2024	**0.042**	J
ASYcs-195-0001-SO	RVAAP-50 FSA (Phase III)	SW	11/8/2024	**3.2**	
ASYcs-196-0001-SO	RVAAP-50 FSA (Phase III)	SW	11/8/2024	**2.8**	
ASYcs-198-0001-SO	RVAAP-50 FSA (Phase IV)	SW	11/8/2024	**0.13**	
ASYcs-199-0001-SO	RVAAP-50 FSA (Phase IV)	SW	11/8/2024	**0.22**	

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

Attachment 2
FSA Confirmation Sample Locations

\\EGSS706GISFS1\EGS\PITTSBURGH\GIS\GIS\CAMP_GARFIELD\MAPDOCS\APRX\RVAAP50_SAMPLING_NOV2023.APRX FSA SAMPLE LOCATION LAYOUT 10/14/24 KM



TETRA TECH

FSA SITE LAYOUT MAP
RVAAP-50 - ATLAS SCRAP YARD
FORMER STORAGE AREA
CAMP JAMES A. GARFIELD
PORTAGE AND TRUMBULL COUNTIES, OHIO

DRAWN BY: J. ENGLISH 11/14/23
CHECKED BY: J. GOERDT 10/14/24
APPROVED BY:

CONTRACT NUMBER: 112G09943

FIGURE NUMBER	REV
3	0

Over-excavation area

Attachment 3
ALS Analytical Lab Results- RVAAP-50 FSA

Main Site: 301 Fulling Mill Road | Middletown, PA 17057 | Phone: 717-944-5541 | Fax: 717-944-1430 | www.alsglobal.com
Associated Site: 20 Riverside Drive | Spring City, PA 19475 | Phone: 610-948-4903 | Fax: 717-944-1430 |

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 IEC007JPIKA-Insight
Workorder 3382556
Report ID 359950 on 10/14/2024

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Oct 10, 2024.

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.

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

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

Susan Scherer

Susan Scherer *(ALS Digital Signature)*
Project Coordinator

Sample Summary

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collector	Collection Company
3382556001	ASYcs-171-0001-SO	Solid	10/09/2024 14:40	10/10/2024 09:25		
3382556002	ASYcs-172-0001-SO	Solid	10/09/2024 14:35	10/10/2024 09:25		
3382556003	ASYcs-173-0001-SO	Solid	10/09/2024 14:30	10/10/2024 09:25		
3382556004	ASYcs-174-0001-SO	Solid	10/09/2024 14:25	10/10/2024 09:25		
3382556005	ASYcs-175-0001-SO	Solid	10/09/2024 14:20	10/10/2024 09:25		
3382556006	ASYcs-176-0001-SO	Solid	10/09/2024 14:15	10/10/2024 09:25		
3382556007	ASYcs-177-0001-SO	Solid	10/09/2024 14:10	10/10/2024 09:25		
3382556008	ASYcs-178-0001-SO	Solid	10/09/2024 14:05	10/10/2024 09:25		
3382556009	ASYcs-179-0001-SO	Solid	10/09/2024 14:00	10/10/2024 09:25		
3382556010	ASYcs-180-0001-SO	Solid	10/09/2024 15:10	10/10/2024 09:25		
3382556011	ASYcs-181-0001-SO	Solid	10/09/2024 14:50	10/10/2024 09:25		
3382556012	ASYcs-182-0001-SO	Solid	10/09/2024 14:55	10/10/2024 09:25		
3382556013	ASYcs-183-0001-SO	Solid	10/09/2024 13:55	10/10/2024 09:25		
3382556014	ASYcs-184-0001-SO	Solid	10/09/2024 13:50	10/10/2024 09:25		
3382556015	ASYcs-185-0001-SO	Solid	10/09/2024 13:45	10/10/2024 09:25		
3382556016	ASYcs-186-0001-SO	Solid	10/09/2024 13:40	10/10/2024 09:25		
3382556017	ASYcs-187-0001-SO	Solid	10/09/2024 13:35	10/10/2024 09:25		
3382556018	ASYcs-188-0001-SO	Solid	10/09/2024 13:30	10/10/2024 09:25		
3382556019	ASYcs-Field Duplicate 1	Solid	10/09/2024 00:00	10/10/2024 09:25		
3382556020	ASYcs-Field Duplicate 2	Solid	10/09/2024 00:00	10/10/2024 09:25		

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.

Detected Results Summary

Client Sample ID	ASYcs-171-0001-SO	Collected	10/09/2024 14:40
Lab Sample ID	3382556001	Lab Receipt	10/10/2024 09:25

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	5.5	mg/kg	0.092	0.061	0.025	SW846 8270E	#
WET CHEMISTRY							
Moisture	21.7	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	78.3	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-172-0001-SO	Collected	10/09/2024 14:35
Lab Sample ID	3382556002	Lab Receipt	10/10/2024 09:25

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	5.4	mg/kg	0.077	0.051	0.020	SW846 8270E	#
WET CHEMISTRY							
Moisture	17.1	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	82.9	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-173-0001-SO	Collected	10/09/2024 14:30
Lab Sample ID	3382556003	Lab Receipt	10/10/2024 09:25

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	0.18	mg/kg	0.093	0.062	0.025	SW846 8270E	#
WET CHEMISTRY							
Moisture	21.0	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	79.0	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-174-0001-SO	Collected	10/09/2024 14:25
Lab Sample ID	3382556004	Lab Receipt	10/10/2024 09:25

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	0.37	mg/kg	0.084	0.056	0.022	SW846 8270E	#
WET CHEMISTRY							
Moisture	14.0	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	86.0	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-175-0001-SO	Collected	10/09/2024 14:20
Lab Sample ID	3382556005	Lab Receipt	10/10/2024 09:25

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
WET CHEMISTRY							
Moisture	15.1	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	84.9	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-175-0001-SO	Collected	10/09/2024 14:20
Lab Sample ID	3382556005	Lab Receipt	10/10/2024 09:25

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
WET CHEMISTRY							
Moisture	15.1	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	84.9	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-176-0001-SO	Collected	10/09/2024 14:15
Lab Sample ID	3382556006	Lab Receipt	10/10/2024 09:25

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	0.32	mg/kg	0.071	0.047	0.019	SW846 8270E	#
WET CHEMISTRY							
Moisture	11.5	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	88.5	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-177-0001-SO	Collected	10/09/2024 14:10
Lab Sample ID	3382556007	Lab Receipt	10/10/2024 09:25

Detected Results Summary

Client Sample ID	ASYcs-178-0001-SO	Collected	10/09/2024 14:05
Lab Sample ID	3382556008	Lab Receipt	10/10/2024 09:25

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	0.054J	mg/kg	0.072	0.048	0.019	SW846 8270E	#
WET CHEMISTRY							
Moisture	12.8	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	87.2	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-179-0001-SO	Collected	10/09/2024 14:00
Lab Sample ID	3382556009	Lab Receipt	10/10/2024 09:25

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	0.83	mg/kg	0.082	0.055	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	ASYcs-180-0001-SO	Collected	10/09/2024 15:10
Lab Sample ID	3382556010	Lab Receipt	10/10/2024 09:25

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	0.45	mg/kg	0.073	0.049	0.019	SW846 8270E	#
WET CHEMISTRY							
Moisture	14.4	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	85.6	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-180-0001-SO	Collected	10/09/2024 15:10
Lab Sample ID	3382556010	Lab Receipt	10/10/2024 09:25

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	0.45	mg/kg	0.073	0.049	0.019	SW846 8270E	#
WET CHEMISTRY							
Moisture	14.4	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	85.6	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-181-0001-SO	Collected	10/09/2024 14:50
Lab Sample ID	3382556011	Lab Receipt	10/10/2024 09:25

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	25.6	mg/kg	0.79	0.53	0.21	SW846 8270E	#
WET CHEMISTRY							
Moisture	15.4	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	84.6	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-183-0001-SO	Collected	10/09/2024 13:55
Lab Sample ID	3382556013	Lab Receipt	10/10/2024 09:25

Detected Results Summary

Client Sample ID	ASYcs-184-0001-SO	Collected	10/09/2024 13:50
Lab Sample ID	3382556014	Lab Receipt	10/10/2024 09:25

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
WET CHEMISTRY							
Moisture	13.2	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	86.8	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-185-0001-SO	Collected	10/09/2024 13:45
Lab Sample ID	3382556015	Lab Receipt	10/10/2024 09:25

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	0.58	mg/kg	0.082	0.055	0.022	SW846 8270E	#
WET CHEMISTRY							
Moisture	19.8	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	80.2	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-186-0001-SO	Collected	10/09/2024 13:40
Lab Sample ID	3382556016	Lab Receipt	10/10/2024 09:25

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	0.17	mg/kg	0.080	0.053	0.021	SW846 8270E	#
WET CHEMISTRY							
Moisture	16.0	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	84.0	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-187-0001-SO	Collected	10/09/2024 13:35
Lab Sample ID	3382556017	Lab Receipt	10/10/2024 09:25

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
WET CHEMISTRY							
Moisture	21.2	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	78.8	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-188-0001-SO	Collected	10/09/2024 13:30
Lab Sample ID	3382556018	Lab Receipt	10/10/2024 09:25

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	1.7	mg/kg	0.081	0.054	0.022	SW846 8270E	#
WET CHEMISTRY							
Moisture	17.5	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	82.5	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-Field Duplicate 1	Collected	10/09/2024 00:00
Lab Sample ID	3382556019	Lab Receipt	10/10/2024 09:25

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	0.85	mg/kg	0.081	0.054	0.022	SW846 8270E	#
WET CHEMISTRY							
Moisture	17.8	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	82.2	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-Field Duplicate 2	Collected	10/09/2024 00:00
Lab Sample ID	3382556020	Lab Receipt	10/10/2024 09:25

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
WET CHEMISTRY							
Moisture	22.7	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	77.3	%	0.1	0.1	0.01	S2540G-15	#

Results

Client Sample ID	ASYcs-171-0001-SO	Collected	10/09/2024 14:40
Lab Sample ID	3382556001	Lab Receipt	10/10/2024 09:25

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	5.5		mg/kg	0.092	0.061	0.025	SW846 8270E	1	10/11/2024 08:38	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	72.6%	39 -132	10/11/2024 08:38	
2-Fluorobiphenyl	321-60-8	81.1%	44 -115	10/11/2024 08:38	
2-Fluorophenol	367-12-4	54.3%	35 -115	10/11/2024 08:38	
Nitrobenzene-d5	4165-60-0	80.9%	37 -122	10/11/2024 08:38	
Phenol-d5	4165-62-2	63.6%	33 -122	10/11/2024 08:38	
Terphenyl-d14	98904-43-9	104%	54 -127	10/11/2024 08:38	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	21.7		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A
Total Solids	78.3		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A

Results

Client Sample ID	ASYcs-172-0001-SO	Collected	10/09/2024 14:35
Lab Sample ID	3382556002	Lab Receipt	10/10/2024 09:25

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	5.4		mg/kg	0.077	0.051	0.020	SW846 8270E	1	10/11/2024 09:04	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	74.8%	39 -132	10/11/2024 09:04	
2-Fluorobiphenyl	321-60-8	79.8%	44 -115	10/11/2024 09:04	
2-Fluorophenol	367-12-4	60.7%	35 -115	10/11/2024 09:04	
Nitrobenzene-d5	4165-60-0	80.7%	37 -122	10/11/2024 09:04	
Phenol-d5	4165-62-2	68.1%	33 -122	10/11/2024 09:04	
Terphenyl-d14	98904-43-9	95.2%	54 -127	10/11/2024 09:04	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	17.1		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A
Total Solids	82.9		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A

Results

Client Sample ID	ASYcs-173-0001-SO	Collected	10/09/2024 14:30
Lab Sample ID	3382556003	Lab Receipt	10/10/2024 09:25

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	0.18		mg/kg	0.093	0.062	0.025	SW846 8270E	1	10/11/2024 09:30	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	50.4%	39 -132	10/11/2024 09:30	
2-Fluorobiphenyl	321-60-8	58%	44 -115	10/11/2024 09:30	
2-Fluorophenol	367-12-4	41.3%	35 -115	10/11/2024 09:30	
Nitrobenzene-d5	4165-60-0	57.6%	37 -122	10/11/2024 09:30	
Phenol-d5	4165-62-2	48.4%	33 -122	10/11/2024 09:30	
Terphenyl-d14	98904-43-9	71.3%	54 -127	10/11/2024 09:30	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	21.0		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A
Total Solids	79.0		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A

Results

Client Sample ID	ASYcs-174-0001-SO	Collected	10/09/2024 14:25
Lab Sample ID	3382556004	Lab Receipt	10/10/2024 09:25

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	0.37		mg/kg	0.084	0.056	0.022	SW846 8270E	1	10/11/2024 09:55	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	81.8%	39 -132	10/11/2024 09:55	
2-Fluorobiphenyl	321-60-8	85.9%	44 -115	10/11/2024 09:55	
2-Fluorophenol	367-12-4	64.7%	35 -115	10/11/2024 09:55	
Nitrobenzene-d5	4165-60-0	94.8%	37 -122	10/11/2024 09:55	
Phenol-d5	4165-62-2	73.2%	33 -122	10/11/2024 09:55	
Terphenyl-d14	98904-43-9	99.6%	54 -127	10/11/2024 09:55	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	14.0		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A
Total Solids	86.0		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A

Results

Client Sample ID	ASYcs-175-0001-SO	Collected	10/09/2024 14:20
Lab Sample ID	3382556005	Lab Receipt	10/10/2024 09:25

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	0.056U	U	mg/kg	0.083	0.056	0.022	SW846 8270E	1	10/11/2024 10:21	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	79.5%	39 -132	10/11/2024 10:21	
2-Fluorobiphenyl	321-60-8	81.9%	44 -115	10/11/2024 10:21	
2-Fluorophenol	367-12-4	68.7%	35 -115	10/11/2024 10:21	
Nitrobenzene-d5	4165-60-0	84%	37 -122	10/11/2024 10:21	
Phenol-d5	4165-62-2	75.5%	33 -122	10/11/2024 10:21	
Terphenyl-d14	98904-43-9	96.1%	54 -127	10/11/2024 10:21	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	15.1		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A
Total Solids	84.9		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A

Results

Client Sample ID	ASYcs-176-0001-SO	Collected	10/09/2024 14:15
Lab Sample ID	3382556006	Lab Receipt	10/10/2024 09:25

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	0.32		mg/kg	0.071	0.047	0.019	SW846 8270E	1	10/11/2024 10:47	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	87.4%	39 -132	10/11/2024 10:47	
2-Fluorobiphenyl	321-60-8	87%	44 -115	10/11/2024 10:47	
2-Fluorophenol	367-12-4	68.5%	35 -115	10/11/2024 10:47	
Nitrobenzene-d5	4165-60-0	92.1%	37 -122	10/11/2024 10:47	
Phenol-d5	4165-62-2	74.9%	33 -122	10/11/2024 10:47	
Terphenyl-d14	98904-43-9	102%	54 -127	10/11/2024 10:47	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	11.5		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A
Total Solids	88.5		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A

Results

Client Sample ID	ASYcs-177-0001-SO	Collected	10/09/2024 14:10
Lab Sample ID	3382556007	Lab Receipt	10/10/2024 09:25

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	23.2		mg/kg	0.73	0.49	0.20	SW846 8270E	10	10/12/2024 03:47	M1O	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	71.3%	39 -132	10/12/2024 03:47	
2,4,6-Tribromophenol	118-79-6	74.5%	39 -132	10/11/2024 11:13	
2-Fluorobiphenyl	321-60-8	73.6%	44 -115	10/12/2024 03:47	
2-Fluorobiphenyl	321-60-8	73.1%	44 -115	10/11/2024 11:13	
2-Fluorophenol	367-12-4	53.2%	35 -115	10/12/2024 03:47	
2-Fluorophenol	367-12-4	55.8%	35 -115	10/11/2024 11:13	
Nitrobenzene-d5	4165-60-0	63.6%	37 -122	10/12/2024 03:47	
Nitrobenzene-d5	4165-60-0	74.7%	37 -122	10/11/2024 11:13	
Phenol-d5	4165-62-2	61.2%	33 -122	10/12/2024 03:47	
Phenol-d5	4165-62-2	61.4%	33 -122	10/11/2024 11:13	
Terphenyl-d14	98904-43-9	104%	54 -127	10/12/2024 03:47	
Terphenyl-d14	98904-43-9	82.6%	54 -127	10/11/2024 11:13	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	5.4		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A
Total Solids	94.6		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A

Results

Client Sample ID	ASYcs-178-0001-SO	Collected	10/09/2024 14:05
Lab Sample ID	3382556008	Lab Receipt	10/10/2024 09:25

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	0.054J	J	mg/kg	0.072	0.048	0.019	SW846 8270E	1	10/11/2024 11:39	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	82.3%	39 -132	10/11/2024 11:39	
2-Fluorobiphenyl	321-60-8	81.7%	44 -115	10/11/2024 11:39	
2-Fluorophenol	367-12-4	67.3%	35 -115	10/11/2024 11:39	
Nitrobenzene-d5	4165-60-0	84.8%	37 -122	10/11/2024 11:39	
Phenol-d5	4165-62-2	73.6%	33 -122	10/11/2024 11:39	
Terphenyl-d14	98904-43-9	90.8%	54 -127	10/11/2024 11:39	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	12.8		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A
Total Solids	87.2		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A

Results

Client Sample ID	ASYcs-179-0001-SO	Collected	10/09/2024 14:00
Lab Sample ID	3382556009	Lab Receipt	10/10/2024 09:25

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	0.83		mg/kg	0.082	0.055	0.022	SW846 8270E	1	10/11/2024 12:05	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	55.5%	39 -132	10/11/2024 12:05	
2-Fluorobiphenyl	321-60-8	57.4%	44 -115	10/11/2024 12:05	
2-Fluorophenol	367-12-4	44.8%	35 -115	10/11/2024 12:05	
Nitrobenzene-d5	4165-60-0	60.9%	37 -122	10/11/2024 12:05	
Phenol-d5	4165-62-2	51.4%	33 -122	10/11/2024 12:05	
Terphenyl-d14	98904-43-9	67.2%	54 -127	10/11/2024 12:05	

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	10/10/2024 22:18	LMD	A
Total Solids	84.4		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A

Results

Client Sample ID	ASYcs-180-0001-SO	Collected	10/09/2024 15:10
Lab Sample ID	3382556010	Lab Receipt	10/10/2024 09:25

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	0.45		mg/kg	0.073	0.049	0.019	SW846 8270E	1	10/11/2024 12:31	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	75%	39 -132	10/11/2024 12:31	
2-Fluorobiphenyl	321-60-8	77.7%	44 -115	10/11/2024 12:31	
2-Fluorophenol	367-12-4	65.6%	35 -115	10/11/2024 12:31	
Nitrobenzene-d5	4165-60-0	81.4%	37 -122	10/11/2024 12:31	
Phenol-d5	4165-62-2	71.6%	33 -122	10/11/2024 12:31	
Terphenyl-d14	98904-43-9	92.6%	54 -127	10/11/2024 12:31	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	14.4		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A
Total Solids	85.6		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A

Results

Client Sample ID	ASYcs-181-0001-SO	Collected	10/09/2024 14:50
Lab Sample ID	3382556011	Lab Receipt	10/10/2024 09:25

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	25.6		mg/kg	0.79	0.53	0.21	SW846 8270E	10	10/12/2024 04:12	M1O	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	68%	39 -132	10/12/2024 04:12	
2,4,6-Tribromophenol	118-79-6	72.2%	39 -132	10/11/2024 13:49	
2-Fluorobiphenyl	321-60-8	66.2%	44 -115	10/12/2024 04:12	
2-Fluorobiphenyl	321-60-8	70%	44 -115	10/11/2024 13:49	
2-Fluorophenol	367-12-4	51.1%	35 -115	10/12/2024 04:12	
2-Fluorophenol	367-12-4	58.8%	35 -115	10/11/2024 13:49	
Nitrobenzene-d5	4165-60-0	68%	37 -122	10/12/2024 04:12	
Nitrobenzene-d5	4165-60-0	74.3%	37 -122	10/11/2024 13:49	
Phenol-d5	4165-62-2	58.6%	33 -122	10/12/2024 04:12	
Phenol-d5	4165-62-2	63.5%	33 -122	10/11/2024 13:49	
Terphenyl-d14	98904-43-9	101%	54 -127	10/12/2024 04:12	
Terphenyl-d14	98904-43-9	79.7%	54 -127	10/11/2024 13:49	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	15.4		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A
Total Solids	84.6		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A

Results

Client Sample ID	ASYcs-182-0001-SO	Collected	10/09/2024 14:55
Lab Sample ID	3382556012	Lab Receipt	10/10/2024 09:25

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	0.087J	J	mg/kg	0.090	0.060	0.024	SW846 8270E	1	10/11/2024 14:15	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	54.7%	39 -132	10/11/2024 14:15	
2-Fluorobiphenyl	321-60-8	63.9%	44 -115	10/11/2024 14:15	
2-Fluorophenol	367-12-4	44.5%	35 -115	10/11/2024 14:15	
Nitrobenzene-d5	4165-60-0	66.3%	37 -122	10/11/2024 14:15	
Phenol-d5	4165-62-2	53.5%	33 -122	10/11/2024 14:15	
Terphenyl-d14	98904-43-9	76%	54 -127	10/11/2024 14:15	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	19.5		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A
Total Solids	80.5		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A

Results

Client Sample ID	ASYcs-183-0001-SO	Collected	10/09/2024 13:55
Lab Sample ID	3382556013	Lab Receipt	10/10/2024 09:25

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	0.062U	U	mg/kg	0.093	0.062	0.025	SW846 8270E	1	10/11/2024 14:41	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	87.8%	39 -132	10/11/2024 14:41	
2-Fluorobiphenyl	321-60-8	80.7%	44 -115	10/11/2024 14:41	
2-Fluorophenol	367-12-4	76.7%	35 -115	10/11/2024 14:41	
Nitrobenzene-d5	4165-60-0	86.1%	37 -122	10/11/2024 14:41	
Phenol-d5	4165-62-2	82.2%	33 -122	10/11/2024 14:41	
Terphenyl-d14	98904-43-9	96.6%	54 -127	10/11/2024 14:41	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	20.5		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A
Total Solids	79.5		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A

Results

Client Sample ID	ASYcs-184-0001-SO	Collected	10/09/2024 13:50
Lab Sample ID	3382556014	Lab Receipt	10/10/2024 09:25

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	0.055U	U	mg/kg	0.083	0.055	0.022	SW846 8270E	1	10/11/2024 15:07	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	71.6%	39 -132	10/11/2024 15:07	
2-Fluorobiphenyl	321-60-8	81.4%	44 -115	10/11/2024 15:07	
2-Fluorophenol	367-12-4	64.1%	35 -115	10/11/2024 15:07	
Nitrobenzene-d5	4165-60-0	88.4%	37 -122	10/11/2024 15:07	
Phenol-d5	4165-62-2	70.7%	33 -122	10/11/2024 15:07	
Terphenyl-d14	98904-43-9	90.9%	54 -127	10/11/2024 15:07	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	13.2		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A
Total Solids	86.8		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A

Results

Client Sample ID	ASYcs-185-0001-SO	Collected	10/09/2024 13:45
Lab Sample ID	3382556015	Lab Receipt	10/10/2024 09:25

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	0.58		mg/kg	0.082	0.055	0.022	SW846 8270E	1	10/11/2024 15:33	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	76.4%	39 -132	10/11/2024 15:33	
2-Fluorobiphenyl	321-60-8	78.8%	44 -115	10/11/2024 15:33	
2-Fluorophenol	367-12-4	67.9%	35 -115	10/11/2024 15:33	
Nitrobenzene-d5	4165-60-0	82.2%	37 -122	10/11/2024 15:33	
Phenol-d5	4165-62-2	74.8%	33 -122	10/11/2024 15:33	
Terphenyl-d14	98904-43-9	89.9%	54 -127	10/11/2024 15:33	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	19.8		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A
Total Solids	80.2		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A

Results

Client Sample ID	ASYcs-186-0001-SO	Collected	10/09/2024 13:40
Lab Sample ID	3382556016	Lab Receipt	10/10/2024 09:25

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	0.17		mg/kg	0.080	0.053	0.021	SW846 8270E	1	10/11/2024 15:59	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	81.5%	39 -132	10/11/2024 15:59	
2-Fluorobiphenyl	321-60-8	79.8%	44 -115	10/11/2024 15:59	
2-Fluorophenol	367-12-4	68.7%	35 -115	10/11/2024 15:59	
Nitrobenzene-d5	4165-60-0	81.4%	37 -122	10/11/2024 15:59	
Phenol-d5	4165-62-2	75%	33 -122	10/11/2024 15:59	
Terphenyl-d14	98904-43-9	96.3%	54 -127	10/11/2024 15:59	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	16.0		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A
Total Solids	84.0		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A

Results

Client Sample ID	ASYcs-187-0001-SO	Collected	10/09/2024 13:35
Lab Sample ID	3382556017	Lab Receipt	10/10/2024 09:25

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	0.060U	U	mg/kg	0.090	0.060	0.024	SW846 8270E	1	10/11/2024 16:25	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	71.2%	39 -132	10/11/2024 16:25	
2-Fluorobiphenyl	321-60-8	72%	44 -115	10/11/2024 16:25	
2-Fluorophenol	367-12-4	66.4%	35 -115	10/11/2024 16:25	
Nitrobenzene-d5	4165-60-0	73.5%	37 -122	10/11/2024 16:25	
Phenol-d5	4165-62-2	69.9%	33 -122	10/11/2024 16:25	
Terphenyl-d14	98904-43-9	82.3%	54 -127	10/11/2024 16:25	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	21.2		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A
Total Solids	78.8		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A

Results

Client Sample ID	ASYcs-188-0001-SO	Collected	10/09/2024 13:30
Lab Sample ID	3382556018	Lab Receipt	10/10/2024 09:25

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	1.7		mg/kg	0.081	0.054	0.022	SW846 8270E	1	10/11/2024 16:51	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	74.8%	39 -132	10/11/2024 16:51	
2-Fluorobiphenyl	321-60-8	71.2%	44 -115	10/11/2024 16:51	
2-Fluorophenol	367-12-4	62.9%	35 -115	10/11/2024 16:51	
Nitrobenzene-d5	4165-60-0	74.8%	37 -122	10/11/2024 16:51	
Phenol-d5	4165-62-2	70.4%	33 -122	10/11/2024 16:51	
Terphenyl-d14	98904-43-9	83.9%	54 -127	10/11/2024 16:51	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	17.5		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A
Total Solids	82.5		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A

Results

Client Sample ID	ASYcs-Field Duplicate 1	Collected	10/09/2024 00:00
Lab Sample ID	3382556019	Lab Receipt	10/10/2024 09:25

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	0.85		mg/kg	0.081	0.054	0.022	SW846 8270E	1	10/11/2024 17:17	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	83.1%	39 -132	10/11/2024 17:17	
2-Fluorobiphenyl	321-60-8	88.5%	44 -115	10/11/2024 17:17	
2-Fluorophenol	367-12-4	75.4%	35 -115	10/11/2024 17:17	
Nitrobenzene-d5	4165-60-0	92.7%	37 -122	10/11/2024 17:17	
Phenol-d5	4165-62-2	81.2%	33 -122	10/11/2024 17:17	
Terphenyl-d14	98904-43-9	99.2%	54 -127	10/11/2024 17:17	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	17.8		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A
Total Solids	82.2		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A

Results

Client Sample ID	ASYcs-Field Duplicate 2	Collected	10/09/2024 00:00
Lab Sample ID	3382556020	Lab Receipt	10/10/2024 09:25

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	0.061U	U	mg/kg	0.092	0.061	0.024	SW846 8270E	1	10/11/2024 17:43	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	86.3%	39 -132	10/11/2024 17:43	
2-Fluorobiphenyl	321-60-8	82.5%	44 -115	10/11/2024 17:43	
2-Fluorophenol	367-12-4	75.7%	35 -115	10/11/2024 17:43	
Nitrobenzene-d5	4165-60-0	88.9%	37 -122	10/11/2024 17:43	
Phenol-d5	4165-62-2	83.4%	33 -122	10/11/2024 17:43	
Terphenyl-d14	98904-43-9	90.2%	54 -127	10/11/2024 17:43	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	22.7		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A
Total Solids	77.3		%	0.1	0.1	0.01	S2540G-15	1	10/10/2024 22:18	LMD	A

Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3382556001	ASYcs-171-0001-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3382556002	ASYcs-172-0001-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3382556003	ASYcs-173-0001-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3382556004	ASYcs-174-0001-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3382556005	ASYcs-175-0001-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3382556006	ASYcs-176-0001-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3382556007	ASYcs-177-0001-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3382556008	ASYcs-178-0001-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3382556009	ASYcs-179-0001-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3382556010	ASYcs-180-0001-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3382556011	ASYcs-181-0001-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3382556012	ASYcs-182-0001-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3382556013	ASYcs-183-0001-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3382556014	ASYcs-184-0001-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3382556015	ASYcs-185-0001-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3382556016	ASYcs-186-0001-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3382556017	ASYcs-187-0001-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3382556018	ASYcs-188-0001-SO	SW846 8270E S2540G-15	SW846 3546 N/A	
3382556019	ASYcs-Field Duplicate 1	SW846 8270E S2540G-15	SW846 3546 N/A	
3382556020	ASYcs-Field Duplicate 2	SW846 8270E S2540G-15	SW846 3546 N/A	

QUALITY CONTROL SAMPLES

SEMIVOLATILES

QC Batch

QC Batch	1313435	Prep Method	SW846 3546
Date	10/10/2024 19:50	Analysis Method	SW846 8270E
Tech.	JIH		

Associated Samples

3382556001	3382556002	3382556003	3382556004
3382556005	3382556006	3382556007	3382556008
3382556009	3382556010	3382556011	3382556012
3382556013	3382556014	3382556015	3382556016
3382556017	3382556018	3382556019	3382556020

Method Blank 3890154 (MB) Created on 10/10/2024 12:03 For QC Batch 1313435

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	4470	5000	89.5	39 - 132	
2-Fluorobiphenyl	321-60-8	BLK	2130	2500	85.4	44 - 115	
2-Fluorophenol	367-12-4	BLK	3950	5000	79.1	35 - 115	
Nitrobenzene-d5	4165-60-0	BLK	2300	2500	92	37 - 122	
Phenol-d5	4165-62-2	BLK	4310	5000	86.2	33 - 122	
Terphenyl-d14	98904-43-9	BLK	2690	2500	108	54 - 127	

Lab Control Standard 3890155 (LCS) Created on 10/10/2024 12:03 For QC Batch 1313435

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	2.50		2.50	100	45 - 129		

SURROGATES

Compound	CAS No		Result (ug/kg)	Expected (ug/kg)	Rec. (%)	Limits (%)	Qualifiers
2,4,6-Tribromophenol	118-79-6	LCS	4570	5000	91.4	39 - 132	
2-Fluorobiphenyl	321-60-8	LCS	2140	2500	85.6	44 - 115	
2-Fluorophenol	367-12-4	LCS	4110	5000	82.3	35 - 115	
Nitrobenzene-d5	4165-60-0	LCS	2280	2500	91.4	37 - 122	
Phenol-d5	4165-62-2	LCS	4430	5000	88.6	33 - 122	
Terphenyl-d14	98904-43-9	LCS	2570	2500	103	54 - 127	

Matrix Spike 3890156 (MS) 3382556010 For QC Batch 1313435

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

Matrix Spike Duplicate 3890157 (MSD) 3382556010 For QC Batch 1313435

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	0.39	2.20	115	45 - 129		
Benzo(a)pyrene	50-32-8	MSD	2.60	0.39	2.40	92.5	45 - 129	RPD 13.90 (Max-20)	

SURROGATES

Compound	CAS No		Result (ug/kg)	Expected (ug/kg)	Rec. (%)	Limits (%)	Qualifiers
2,4,6-Tribromophenol	118-79-6	MS	3750	4460	83.9	39 - 132	
2,4,6-Tribromophenol	118-79-6	MSD	4150	4720	87.9	39 - 132	
2-Fluorobiphenyl	321-60-8	MS	1830	2230	81.8	44 - 115	
2-Fluorobiphenyl	321-60-8	MSD	1950	2360	82.7	44 - 115	
2-Fluorophenol	367-12-4	MS	3300	4460	74	35 - 115	
2-Fluorophenol	367-12-4	MSD	3630	4720	77	35 - 115	
Nitrobenzene-d5	4165-60-0	MS	1940	2230	87.1	37 - 122	
Nitrobenzene-d5	4165-60-0	MSD	2000	2360	84.8	37 - 122	
Phenol-d5	4165-62-2	MS	3550	4460	79.4	33 - 122	
Phenol-d5	4165-62-2	MSD	3990	4720	84.5	33 - 122	
Terphenyl-d14	98904-43-9	MS	2180	2230	97.9	54 - 127	
Terphenyl-d14	98904-43-9	MSD	2380	2360	101	54 - 127	

QUALITY CONTROL SAMPLES

WET CHEMISTRY

QC Batch

QC Batch	1313613	Prep Method	N/A
Date	N/A	Analysis Method	S2540G-15
Tech.			

Associated Samples

3382556001	3382556002	3382556003	3382556004
3382556005	3382556006	3382556007	3382556008
3382556009	3382556010	3382556011	3382556012
3382556013	3382556014	3382556015	3382556016
3382556017	3382556018	3382556019	3382556020

Duplicate 3890381 (DUP) 3382540008 (non-Project Sample) For QC Batch 1313613

****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	18.9497	18.6263	RPD	1.72 (Max-10)	
Total Solids	TSP	DUP	81.0502	81.3736	RPD	0.40 (Max-5)	

Duplicate 3890382 (DUP) 3382599001 (non-Project Sample) For QC Batch 1313613

****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	4.5112	4.5727	RPD	1.35 (Max-10)	
Total Solids	TSP	DUP	95.4887	95.4272	RPD	0.06 (Max-5)	

Duplicate 3890383 (DUP) 3382582003 (non-Project Sample) For QC Batch 1313613

****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	17.3770	17.2217	RPD	0.90 (Max-10)	
Total Solids	TSP	DUP	82.6229	82.7782	RPD	0.19 (Max-5)	

Duplicate 3890384 (DUP) 3382580001 (non-Project Sample) For QC Batch 1313613

****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	9.1076	10.5306	RPD	14.50* (Max-10)	
Total Solids	TSP	DUP	90.8923	89.4693	RPD	1.58 (Max-5)	

Duplicate 3890385 (DUP) 3382580002 (non-Project Sample) For QC Batch 1313613

****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	11.1583	11.8171	RPD	5.73 (Max-10)	
Total Solids	TSP	DUP	88.8416	88.1828	RPD	0.74 (Max-5)	

Duplicate 3890378 (DUP) 3382556016 For QC Batch 1313613

****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	14.9532	16.0477	RPD	7.06 (Max-10)	
Total Solids	TSP	DUP	85.0467	83.9522	RPD	1.30 (Max-5)	

Duplicate 3890379 (DUP) 3382556003 For QC Batch 1313613

****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	20.8198	20.9631	RPD	0.69 (Max-10)	
Total Solids	TSP	DUP	79.1801	79.0368	RPD	0.18 (Max-5)	

Duplicate 3890380 (DUP) 3382556010 For QC Batch 1313613

****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	14.6428	14.3624	RPD	1.93	(Max-10)	
Total Solids	TSP	DUP	85.3571	85.6375	RPD	0.33	(Max-5)	

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3382556001	ASYcs-171-0001-SO	SW846 3546	1313435	10/10/2024 19:50	J1H	SW846 8270E	1313669
		N/A	N/A	N/A		S2540G-15	1313613
3382556002	ASYcs-172-0001-SO	SW846 3546	1313435	10/10/2024 19:50	J1H	SW846 8270E	1313669
		N/A	N/A	N/A		S2540G-15	1313613
3382556003	ASYcs-173-0001-SO	SW846 3546	1313435	10/10/2024 19:50	J1H	SW846 8270E	1313669
		N/A	N/A	N/A		S2540G-15	1313613
3382556004	ASYcs-174-0001-SO	SW846 3546	1313435	10/10/2024 19:50	J1H	SW846 8270E	1313669
		N/A	N/A	N/A		S2540G-15	1313613
3382556005	ASYcs-175-0001-SO	SW846 3546	1313435	10/10/2024 19:50	J1H	SW846 8270E	1313669
		N/A	N/A	N/A		S2540G-15	1313613
3382556006	ASYcs-176-0001-SO	SW846 3546	1313435	10/10/2024 19:50	J1H	SW846 8270E	1313669
		N/A	N/A	N/A		S2540G-15	1313613
3382556007	ASYcs-177-0001-SO	SW846 3546	1313435	10/10/2024 19:50	J1H	SW846 8270E	1315633
		SW846 3546	1313435	10/10/2024 19:50	J1H	SW846 8270E	1313669
		N/A	N/A	N/A		S2540G-15	1313613
3382556008	ASYcs-178-0001-SO	SW846 3546	1313435	10/10/2024 19:50	J1H	SW846 8270E	1313669
		N/A	N/A	N/A		S2540G-15	1313613
3382556009	ASYcs-179-0001-SO	SW846 3546	1313435	10/10/2024 19:50	J1H	SW846 8270E	1313669
		N/A	N/A	N/A		S2540G-15	1313613
3382556010	ASYcs-180-0001-SO	SW846 3546	1313435	10/10/2024 19:50	J1H	SW846 8270E	1313669
		N/A	N/A	N/A		S2540G-15	1313613
3382556011	ASYcs-181-0001-SO	SW846 3546	1313435	10/10/2024 19:50	J1H	SW846 8270E	1315633
		SW846 3546	1313435	10/10/2024 19:50	J1H	SW846 8270E	1313669
		N/A	N/A	N/A		S2540G-15	1313613
3382556012	ASYcs-182-0001-SO	SW846 3546	1313435	10/10/2024 19:50	J1H	SW846 8270E	1313669
		N/A	N/A	N/A		S2540G-15	1313613
3382556013	ASYcs-183-0001-SO	SW846 3546	1313435	10/10/2024 19:50	J1H	SW846 8270E	1313669
		N/A	N/A	N/A		S2540G-15	1313613
3382556014	ASYcs-184-0001-SO	SW846 3546	1313435	10/10/2024 19:50	J1H	SW846 8270E	1313669
		N/A	N/A	N/A		S2540G-15	1313613
3382556015	ASYcs-185-0001-SO	SW846 3546	1313435	10/10/2024 19:50	J1H	SW846 8270E	1313669
		N/A	N/A	N/A		S2540G-15	1313613
3382556016	ASYcs-186-0001-SO	SW846 3546	1313435	10/10/2024 19:50	J1H	SW846 8270E	1313669
		N/A	N/A	N/A		S2540G-15	1313613
3382556017	ASYcs-187-0001-SO	SW846 3546	1313435	10/10/2024 19:50	J1H	SW846 8270E	1313669
		N/A	N/A	N/A		S2540G-15	1313613
3382556018	ASYcs-188-0001-SO	SW846 3546	1313435	10/10/2024 19:50	J1H	SW846 8270E	1313669
		N/A	N/A	N/A		S2540G-15	1313613
3382556019	ASYcs-Field Duplicate 1	SW846 3546	1313435	10/10/2024 19:50	J1H	SW846 8270E	1313669
		N/A	N/A	N/A		S2540G-15	1313613
3382556020	ASYcs-Field Duplicate 2	SW846 3546	1313435	10/10/2024 19:50	J1H	SW846 8270E	1313669
		N/A	N/A	N/A		S2540G-15	1313613

~~TETRA TECH~~

50

CHAIN OF CUSTODY

NO. 09-2024-003

3382556
Logged By: MJE
PM: SJB

Project No: ~~PIKA - Insight 112G89948~~	Facility: CJAG - Site 50 (FSA)	Project Manger: Jim Goerdt	Phone: (412) 443-0244	Laboratory Name and Contact: ALS Global / Susan Scherer (717-702-2245)
Samplers: Joshua Daugherty Tetratech		Field Ops. Leader: Josh Daugherty	Phone: (724) 762-9905	Address: 301 Fulling Mill Road
		FedEx Airbill: Insight Environmental Fed Ex# 220964434		City, State, Zip: Middletown, PA 17057
		Container Type: 4 oz 8 oz glass jar	G	
TAT: 2-day		Preservative Used: N/A	<6°C	

Date Year: 2024	Time	Sample ID	Location ID	Top Depth (FT)	Bottom Depth (FT)	Matrix (GW, SO, SW, OC)	Grab, Composite (G, C)	Total No. of Containers	ANALYSIS	BaP							Comments
10/9	1440	ASYcs-171-0001-SO	171	0	1	SO	G	1		X							
	1435	ASYcs-172-0001-SO	172	0	1	SO	G	1		X							
	1430	ASYcs-173-0001-SO	173	0	1	SO	G	1		X							
	1425	ASYcs-174-0001-SO	174	0	1	SO	G	1		X							
	1420	ASYcs-175-0001-SO	175	0	1	SO	G	1		X							
	1415	ASYcs-176-0001-SO	176	0	1	SO	G	1		X							
	1410	ASYcs-177-0001-SO	177	0	1	SO	G	1		X							
	1405	ASYcs-178-0001-SO	178	0	1	SO	G	1		X							
	1400	ASYcs-179-0001-SO	179	0	1	SO	G	1		X							
	1510	ASYcs-180-0001-SO	180	0	1	SO	G	3		X							MS MSD
	1450	ASYcs-181-0001-SO	181	0	1	SO	G	1		X							
	1455	ASYcs-182-0001-SO	182	0	1	SO	G	1		X							
	1355	ASYcs-183-0001-SO	183	0	1	SO	G	1		X							
	1350	ASYcs-184-0001-SO	184	0	1	SO	G	1		X							
	1345	ASYcs-185-0001-SO	185	0	1	SO	G	1		X							
↓	1340	ASYcs-186-0001-SO	186	0	1	SO	G	1		X							

Temp By: GRD | WO Temp (°C): 1 | Therm ID: 569

Receipt Info Completed By: GRD
Cooler Custody Seal Intact: Y N NA
Sample Custody Seal Intact: Y N NA
Received on Ice: Y N
Cooler & Samples Intact: Y N
Correct Containers Provided: Y N
Sample Label/COC Agree: Y N
Adequate Sample Volumes: Y N
CR6 Samples Filtered: Y N NA
DP Samples Filtered: Y N NA
VOA Trip Blank: Y N NA
NJ 4 Days?
Rad Screen (uR)
Courier/Tracking #: 7791 3862 6782
SDWA Compliance: Y N
PWSID
WV Containers 0-6°C: Y N NA

~~AD Sampler~~ GW 101024
GRD 10/10/24

1. Relinquished By: Joshua Daugherty	Date: 10/9/24	Time: 1700	1. Received By: Fed Ex	Date: 10/9/24	Time: 1700
2. Relinquished By: Fed Ex	Date: 10/10/24	Time: 0928	2. Received By: [signature] ALS	Date: 10/10/24	Time: 0925

Comments:

TETRA TECH

30

CHAIN OF CUSTODY

NO. 09-2024-004

Project No: ~~PKA - Insight 112G09943~~	Facility: CJAG - Site 50 (FSA)	Project Manger: Jim Goerdt	Phone: (412) 443-0244	Laboratory Name and Contact: ALS Global / Susan Scherer (717-702-2245)
Samplers: Joshua Daugherty Tetra Tech		Field Ops. Leader: Josh Daugherty	Phone: (724) 762-9905	Address: 301 Fulling Mill Road
		FedEx Airbill: Insight Environmental fed Ex #: 220964434		City, State, Zip: Middletown, PA 17057
		Container Type: (4) 8 oz glass jar	G	
TAT: 2-day		Preservative Used: N/A	<6°C	

Date Year: 2024	Time	Sample ID	Location ID	Top Depth (FT)	Bottom Depth (FT)	Matrix (GW, SO, SW, OC)	Grab, Composite (G, C)	Total No. of Containers	ANALYSIS	BaP								Comments
10/9	1335	ASYcs-187-0001-SO	187	0	1	SO	G	1		X								
	1330	ASYcs-188-0001-SO	188	0	1	SO	G	1		X								
	0000	ASYcs- Field Duplicate 1	QC	0	1	SO	G	1		X								
↓	0000	ASYcs- Field Duplicate 2	QC	0	1	SO	G	1		X								

1. Relinquished By:	Date:	Time:	1. Received By:	Date:	Time:
Joshua Daugherty	10/9/24	1700	Fed Ex	10/9/24	1700
2. Relinquished By: Fed Ex	Date: 10/10/24	Time: 0928	2. Received By: ALS	Date: 10/10/24	Time: 0928

Comments:

Main Site: 301 Fulling Mill Road | Middletown, PA 17057 | Phone: 717-944-5541 | Fax: 717-944-1430 | www.alsglobal.com
Associated Site: 20 Riverside Drive | Spring City, PA 19475 | Phone: 610-948-4903 | Fax: 717-944-1430 |

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 IEC010|PIKA-Insight
Workorder 3383815
Report ID 361914 on 10/22/2024

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Oct 18, 2024.

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.

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

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

Susan Scherer

Susan Scherer *(ALS Digital Signature)*
Project Coordinator

Sample Summary

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collector	Collection Company
3383815001	ASYCS-189-0001-SO	Solid	10/17/2024 10:20	10/18/2024 08:53	CBC	Collected By Client
3383815002	ASYCS-190-0001-SO	Solid	10/17/2024 10:25	10/18/2024 08:53	CBC	Collected By Client
3383815003	ASYCS-191-0001-SO	Solid	10/17/2024 10:40	10/18/2024 08:53	CBC	Collected By Client
3383815004	ASYCS-192-0001-SO	Solid	10/17/2024 10:30	10/18/2024 08:53	CBC	Collected By Client
3383815005	ASYCS-193-0001-SO	Solid	10/17/2024 10:35	10/18/2024 08:53	CBC	Collected By Client
3383815006	ASYCS-FieldDuplicate3	Solid	10/17/2024 00:00	10/18/2024 08:53	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 MS for method SW846 8270E was outside the control limits for the analyte Benzo(a)pyrene. The % Recovery was reported as 131 and the control limits were 45 to 129.
2	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 105 and the upper control limit is 20.
3	The QC sample type MSD for method SW846 8270E was outside the control limits for the analyte Benzo(a)pyrene. The % Recovery was reported as 458 and the control limits were 45 to 129.

Project Notations

Sample Notations

Lab ID	Sample ID

Result Notations

Notation Ref.	
1	The QC sample type MS for method SW846 8270E was outside the control limits for the analyte Benzo(a)pyrene. The % Recovery was reported as 131 and the control limits were 45 to 129.
2	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 105 and the upper control limit is 20.
3	The QC sample type MSD for method SW846 8270E was outside the control limits for the analyte Benzo(a)pyrene. The % Recovery was reported as 458 and the control limits were 45 to 129.

Detected Results Summary

Client Sample ID	ASYCS-190-0001-SO	Collected	10/17/2024 10:25
Lab Sample ID	3383815002	Lab Receipt	10/18/2024 08:53

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	1.2	mg/kg	0.081	0.054	0.022	SW846 8270E	#
WET CHEMISTRY							
Moisture	20.2	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	79.8	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYCS-191-0001-SO	Collected	10/17/2024 10:40
Lab Sample ID	3383815003	Lab Receipt	10/18/2024 08:53

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	0.59	mg/kg	0.095	0.063	0.025	SW846 8270E	#
WET CHEMISTRY							
Moisture	24.2	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	75.8	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYCS-192-0001-SO	Collected	10/17/2024 10:30
Lab Sample ID	3383815004	Lab Receipt	10/18/2024 08:53

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	10.8	mg/kg	0.36	0.24	0.095	SW846 8270E	#
WET CHEMISTRY							
Moisture	20.7	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	79.3	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYCS-193-0001-SO	Collected	10/17/2024 10:35
Lab Sample ID	3383815005	Lab Receipt	10/18/2024 08:53

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	116	mg/kg	4.8	3.2	1.3	SW846 8270E	#
WET CHEMISTRY							
Moisture	24.1	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	75.9	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYCS-FieldDuplicate3	Collected	10/17/2024 00:00
Lab Sample ID	3383815006	Lab Receipt	10/18/2024 08:53

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
WET CHEMISTRY							
Moisture	23.1	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	76.9	%	0.1	0.1	0.01	S2540G-15	#

Results

Client Sample ID	ASYCS-189-0001-SO	Collected	10/17/2024 10:20
Lab Sample ID	3383815001	Lab Receipt	10/18/2024 08:53

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	0.060J	J	mg/kg	0.095	0.064	0.025	SW846 8270E	1	10/22/2024 12:46	CGS	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	73.9%	39 -132	10/22/2024 12:46	
2-Fluorobiphenyl	321-60-8	66.2%	44 -115	10/22/2024 12:46	
2-Fluorophenol	367-12-4	73.3%	35 -115	10/22/2024 12:46	
Nitrobenzene-d5	4165-60-0	74.3%	37 -122	10/22/2024 12:46	
Phenol-d5	4165-62-2	81.3%	33 -122	10/22/2024 12:46	
Terphenyl-d14	98904-43-9	84.2%	54 -127	10/22/2024 12:46	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	24.4		%	0.1	0.1	0.01	S2540G-15	1	10/18/2024 20:54	LMD	A
Total Solids	75.6		%	0.1	0.1	0.01	S2540G-15	1	10/18/2024 20:54	LMD	A

Results

Client Sample ID	ASYCS-190-0001-SO	Collected	10/17/2024 10:25
Lab Sample ID	3383815002	Lab Receipt	10/18/2024 08:53

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	1.2		mg/kg	0.081	0.054	0.022	SW846 8270E	1	10/22/2024 01:59	M1O	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	91.9%	39 -132	10/22/2024 01:59	
2-Fluorobiphenyl	321-60-8	79%	44 -115	10/22/2024 01:59	
2-Fluorophenol	367-12-4	75%	35 -115	10/22/2024 01:59	
Nitrobenzene-d5	4165-60-0	87.3%	37 -122	10/22/2024 01:59	
Phenol-d5	4165-62-2	80.2%	33 -122	10/22/2024 01:59	
Terphenyl-d14	98904-43-9	94.1%	54 -127	10/22/2024 01:59	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	20.2		%	0.1	0.1	0.01	S2540G-15	1	10/18/2024 20:54	LMD	A
Total Solids	79.8		%	0.1	0.1	0.01	S2540G-15	1	10/18/2024 20:54	LMD	A

Results

Client Sample ID	ASYCS-191-0001-SO	Collected	10/17/2024 10:40
Lab Sample ID	3383815003	Lab Receipt	10/18/2024 08:53

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	0.59	1,2,3	mg/kg	0.095	0.063	0.025	SW846 8270E	1	10/22/2024 02:25	M1O	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	85.7%	39 -132	10/22/2024 02:25	
2-Fluorobiphenyl	321-60-8	73.9%	44 -115	10/22/2024 02:25	
2-Fluorophenol	367-12-4	79.1%	35 -115	10/22/2024 02:25	
Nitrobenzene-d5	4165-60-0	87.1%	37 -122	10/22/2024 02:25	
Phenol-d5	4165-62-2	88.1%	33 -122	10/22/2024 02:25	
Terphenyl-d14	98904-43-9	87.6%	54 -127	10/22/2024 02:25	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	24.2		%	0.1	0.1	0.01	S2540G-15	1	10/18/2024 20:54	LMD	A
Total Solids	75.8		%	0.1	0.1	0.01	S2540G-15	1	10/18/2024 20:54	LMD	A

Results

Client Sample ID	ASYCS-192-0001-SO	Collected	10/17/2024 10:30
Lab Sample ID	3383815004	Lab Receipt	10/18/2024 08:53

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	10.8		mg/kg	0.36	0.24	0.095	SW846 8270E	4	10/22/2024 11:54	CGS	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	91.3%	39 -132	10/22/2024 03:42	
2-Fluorobiphenyl	321-60-8	79.4%	44 -115	10/22/2024 03:42	
2-Fluorophenol	367-12-4	69.7%	35 -115	10/22/2024 03:42	
Nitrobenzene-d5	4165-60-0	84.9%	37 -122	10/22/2024 03:42	
Phenol-d5	4165-62-2	78%	33 -122	10/22/2024 03:42	
Terphenyl-d14	98904-43-9	94.6%	54 -127	10/22/2024 03:42	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	20.7		%	0.1	0.1	0.01	S2540G-15	1	10/18/2024 20:54	LMD	A
Total Solids	79.3		%	0.1	0.1	0.01	S2540G-15	1	10/18/2024 20:54	LMD	A

Results

Client Sample ID	ASYCS-193-0001-SO	Collected	10/17/2024 10:35
Lab Sample ID	3383815005	Lab Receipt	10/18/2024 08:53

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	116		mg/kg	4.8	3.2	1.3	SW846 8270E	50	10/22/2024 12:20	CGS	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	104%	39 -132	10/22/2024 12:20	
2-Fluorobiphenyl	321-60-8	93%	44 -115	10/22/2024 12:20	
2-Fluorophenol	367-12-4	66%	35 -115	10/22/2024 12:20	
Nitrobenzene-d5	4165-60-0	86.6%	37 -122	10/22/2024 12:20	
Phenol-d5	4165-62-2	84.9%	33 -122	10/22/2024 12:20	
Terphenyl-d14	98904-43-9	120%	54 -127	10/22/2024 12:20	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	24.1		%	0.1	0.1	0.01	S2540G-15	1	10/18/2024 20:54	LMD	A
Total Solids	75.9		%	0.1	0.1	0.01	S2540G-15	1	10/18/2024 20:54	LMD	A

Results

Client Sample ID	ASYCS-FieldDuplicate3	Collected	10/17/2024 00:00
Lab Sample ID	3383815006	Lab Receipt	10/18/2024 08:53

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	0.060U	U	mg/kg	0.090	0.060	0.024	SW846 8270E	1	10/22/2024 04:34	M1O	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	85.2%	39 -132	10/22/2024 04:34	
2-Fluorobiphenyl	321-60-8	70.4%	44 -115	10/22/2024 04:34	
2-Fluorophenol	367-12-4	71%	35 -115	10/22/2024 04:34	
Nitrobenzene-d5	4165-60-0	79.5%	37 -122	10/22/2024 04:34	
Phenol-d5	4165-62-2	79.8%	33 -122	10/22/2024 04:34	
Terphenyl-d14	98904-43-9	84.9%	54 -127	10/22/2024 04:34	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	23.1		%	0.1	0.1	0.01	S2540G-15	1	10/18/2024 20:54	LMD	A
Total Solids	76.9		%	0.1	0.1	0.01	S2540G-15	1	10/18/2024 20:54	LMD	A

Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3383815001	ASYCS-189-0001-SO	SW846 8270E	SW846 3546	
		S2540G-15	N/A	
3383815002	ASYCS-190-0001-SO	SW846 8270E	SW846 3546	
		S2540G-15	N/A	
3383815003	ASYCS-191-0001-SO	SW846 8270E	SW846 3546	
		S2540G-15	N/A	
3383815004	ASYCS-192-0001-SO	SW846 8270E	SW846 3546	
		S2540G-15	N/A	
3383815005	ASYCS-193-0001-SO	SW846 8270E	SW846 3546	
		S2540G-15	N/A	
3383815006	ASYCS-FieldDuplicate3	SW846 8270E	SW846 3546	
		S2540G-15	N/A	

QUALITY CONTROL SAMPLES

SEMIVOLATILES

QC Batch

QC Batch	1319785	Prep Method	SW846 3546
Date	10/21/2024 14:25	Analysis Method	SW846 8270E
Tech.	GED		

Associated Samples

3383815001	3383815002	3383815003	3383815004
3383815005	3383815006		

Method Blank 3894341 (MB) Created on 10/21/2024 08:04 For QC Batch 1319785

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	4310	5000	86.2	39 - 132	
2-Fluorobiphenyl	321-60-8	BLK	2100	2500	84.1	44 - 115	
2-Fluorophenol	367-12-4	BLK	3800	5000	76.1	35 - 115	
Nitrobenzene-d5	4165-60-0	BLK	2240	2500	89.6	37 - 122	
Phenol-d5	4165-62-2	BLK	4160	5000	83.1	33 - 122	
Terphenyl-d14	98904-43-9	BLK	2410	2500	96.2	54 - 127	

Lab Control Standard 3894342 (LCS) Created on 10/21/2024 08:04 For QC Batch 1319785

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	1.90		2.50	75.3	45 - 129		

SURROGATES

Compound	CAS No		Result (ug/kg)	Expected (ug/kg)	Rec. (%)	Limits (%)	Qualifiers
2,4,6-Tribromophenol	118-79-6	LCS	4500	5000	90	39 - 132	
2-Fluorobiphenyl	321-60-8	LCS	1930	2500	77.4	44 - 115	
2-Fluorophenol	367-12-4	LCS	4130	5000	82.6	35 - 115	
Nitrobenzene-d5	4165-60-0	LCS	2200	2500	88	37 - 122	
Phenol-d5	4165-62-2	LCS	4450	5000	88.9	33 - 122	
Terphenyl-d14	98904-43-9	LCS	2420	2500	96.7	54 - 127	

Matrix Spike 3894343 (MS) 3383815003 For QC Batch 1319785

****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 3894344 (MSD) 3383815003 For QC Batch 1319785

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	3.70	0.45	2.50	131*	45 - 129		
Benzo(a)pyrene	50-32-8	MSD	11.70	0.45	2.50	458*	45 - 129	RPD 105* (Max-20)	

SURROGATES

Compound	CAS No		Result (ug/kg)	Expected (ug/kg)	Rec. (%)	Limits (%)	Qualifiers
2,4,6-Tribromophenol	118-79-6	MS	4540	4900	92.6	39 - 132	
2,4,6-Tribromophenol	118-79-6	MSD	4740	4900	96.7	39 - 132	
2-Fluorobiphenyl	321-60-8	MS	1920	2450	78.4	44 - 115	
2-Fluorobiphenyl	321-60-8	MSD	1910	2450	78.1	44 - 115	
2-Fluorophenol	367-12-4	MS	3980	4900	81.1	35 - 115	
2-Fluorophenol	367-12-4	MSD	3960	4900	80.7	35 - 115	
Nitrobenzene-d5	4165-60-0	MS	2070	2450	84.5	37 - 122	
Nitrobenzene-d5	4165-60-0	MSD	2220	2450	90.7	37 - 122	
Phenol-d5	4165-62-2	MS	4230	4900	86.2	33 - 122	
Phenol-d5	4165-62-2	MSD	4280	4900	87.3	33 - 122	
Terphenyl-d14	98904-43-9	MS	2270	2450	92.7	54 - 127	
Terphenyl-d14	98904-43-9	MSD	2410	2450	98.1	54 - 127	

QUALITY CONTROL SAMPLES

WET CHEMISTRY

QC Batch

QC Batch	1318465	Prep Method	N/A
Date	N/A	Analysis Method	S2540G-15
Tech.			

Associated Samples

3383815001	3383815002	3383815003	3383815004
3383815005	3383815006		

Duplicate 3893975 (DUP) 3383769001 (non-Project Sample) For QC Batch 1318465

****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	95.0549	95.2865	RPD	0.24 (Max-10)	
Total Solids	TSP	DUP	4.9450	4.7134	RPD	4.80 (Max-5)	

Duplicate 3893976 (DUP) 3383798007 (non-Project Sample) For QC Batch 1318465

****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	12.8767	13.0737	RPD	1.52 (Max-10)	
Total Solids	TSP	DUP	87.1232	86.9262	RPD	0.23 (Max-5)	

Duplicate 3893977 (DUP) 3383798001 (non-Project Sample) For QC Batch 1318465

****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	13.2042	14.1025	RPD	6.58 (Max-10)	
Total Solids	TSP	DUP	86.7957	85.8974	RPD	1.04 (Max-5)	

Duplicate 3893978 (DUP) 3383810001 (non-Project Sample) For QC Batch 1318465

****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	81.5087	81.8428	RPD	0.41 (Max-10)	
Total Solids	TSP	DUP	18.4912	18.1571	RPD	1.82 (Max-5)	

Duplicate 3893980 (DUP) 3383830001 (non-Project Sample) For QC Batch 1318465

****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	7.3242	8.9147	RPD	19.60* (Max-10)	
Total Solids	TSP	DUP	92.6757	91.0852	RPD	1.73 (Max-5)	

Duplicate 3893981 (DUP) 3383834007 (non-Project Sample) For QC Batch 1318465

****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	78.7015	78.3433	RPD	0.46 (Max-10)	
Total Solids	TSP	DUP	21.2984	21.6566	RPD	1.67 (Max-5)	

Duplicate 3893979 (DUP) 3383815003 For QC Batch 1318465

****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	23.3661	24.2349	RPD	3.65 (Max-10)	
Total Solids	TSP	DUP	76.6338	75.7650	RPD	1.14 (Max-5)	

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3383815001	ASYCS-189-0001-SO	SW846 3546	1319785	10/21/2024 14:25	GED	SW846 8270E	1320120
		N/A	N/A	N/A		S2540G-15	1318465
3383815002	ASYCS-190-0001-SO	SW846 3546	1319785	10/21/2024 14:25	GED	SW846 8270E	1319938
		N/A	N/A	N/A		S2540G-15	1318465
3383815003	ASYCS-191-0001-SO	SW846 3546	1319785	10/21/2024 14:25	GED	SW846 8270E	1319938
		N/A	N/A	N/A		S2540G-15	1318465
3383815004	ASYCS-192-0001-SO	SW846 3546	1319785	10/21/2024 14:25	GED	SW846 8270E	1320120
		SW846 3546	1319785	10/21/2024 14:25	GED	SW846 8270E	1319938
		N/A	N/A	N/A		S2540G-15	1318465
3383815005	ASYCS-193-0001-SO	SW846 3546	1319785	10/21/2024 14:25	GED	SW846 8270E	1320120
		N/A	N/A	N/A		S2540G-15	1318465
3383815006	ASYCS-FieldDuplicate3	SW846 3546	1319785	10/21/2024 14:25	GED	SW846 8270E	1319938
		N/A	N/A	N/A		S2540G-15	1318465

3383815

Logged By: MJE
PM: SJB

TD ~~TETRA TECH~~

CHAIN OF CUSTODY

NO.

Page of

Project NO: PIKA-Insight

Project No: PIKA-Insight JO ~~412G09943~~	Facility: CJAG - Site 50 (FSA)	Project Manger: Jim Goerdt	Phone: (412) 443-0244	Laboratory Name and Contact: ALS Global / Susan Scherer (717-702-2245)
Samplers: Tetra Tech / Joshua Daugherty		Field Ops. Leader: Josh Daugherty	Phone: (724) 762-9905	Address: 301 Fulling Mill Road
		FedEx Airbill: Insight Environmental Fed Ex # 220964434		City, State, Zip: Middletown, PA 17057
		Container Type: 4 or 8 oz glass jar	G	
TAT: 2-day		Preservative Used: N/A	<6°C	

Date Year: 2024	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	Comments
10/17	1020	ASYCS-189-0001-SO	189	0	1	SO	G	1		X	STEP OUT From 171
	1025	ASYCS-190-0001-SO	190	0	1	SO	G	1		X	STEP OUT From 172
	1040	ASYCS-191-0001-SO	191	1	3	SO	G	1		X	STEP OUT From 177
	1030	ASYCS-192-0001-SO	192	0	1	SO	G	1		X	STEP out From 181
	1035	ASYCS-193-0001-SO	193	0	1	SO	G	1		X	STEP out From 188
	0000	ASYCS-FieldDuplicate3	QC	—	—	SO	G	1		X	

Temp By: MJE | WO Temp (°C): 1° | Therm ID: 569

Receipt Info Completed By: MJE
Cooler Custody Seal Intact: Y N (NA)
Sample Custody Seal Intact: Y N (NA)
Received on Ice: (Y) N
Cooler & Samples Intact: Y N
Correct Containers Provided: Y N
Sample Label/COC Agree: Y N
Adequate Sample Volumes: Y N
CR6 Samples Filtered: Y N (NA)
OP Samples Filtered: Y N (NA)
VOA Trip Blank: Y N (NA)
Rad Screen (uCi):
Courier/Tracking #: 779330536204 Y N (NA)
SDWA Compliance: Y N (NA)
PWSID:
WV Containers 0-6°C: Y N (NA)
*GLNP-MJE 10/15/24

1. Relinquished By: Joshua Daugherty	Date: 10/17/24	Time: 1406	1. Received By: Fed Ex	Date: 10/17/24	Time: 1400
2. Relinquished By: Fed Ex	Date: 10/18/24	Time: 853	2. Received By:	Date: 10/18/24	Time: 853

Comments:

GFG sealed 1° 779330536204

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 IEC011JPIKA-Insight
Workorder 3386972
Report ID 366796 on 11/13/2024

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Nov 08, 2024.

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.

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

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

Susan Scherer

Susan Scherer *(ALS Digital Signature)*
Project Coordinator

Sample Summary

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collector	Collection Company
3386972001	ASYCS-194-0001-SO-FSA	Solid	11/08/2024 08:10	11/08/2024 17:45	CBC	Collected By Client
3386972002	ASYCS-195-0001-SO-FSA	Solid	11/08/2024 08:20	11/08/2024 17:45	CBC	Collected By Client
3386972003	ASYCS-196-0001-SO-FSA	Solid	11/08/2024 08:30	11/08/2024 17:45	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

Detected Results Summary

Client Sample ID	ASYCS-194-0001-SO-FSA	Collected	11/08/2024 08:10
Lab Sample ID	3386972001	Lab Receipt	11/08/2024 17:45

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	0.042J	mg/kg	0.076	0.050	0.020	SW846 8270E	#
WET CHEMISTRY							
Moisture	12.9	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	87.1	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYCS-195-0001-SO-FSA	Collected	11/08/2024 08:20
Lab Sample ID	3386972002	Lab Receipt	11/08/2024 17:45

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	3.2	mg/kg	0.072	0.048	0.019	SW846 8270E	#
WET CHEMISTRY							
Moisture	12.1	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	87.9	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYCS-196-0001-SO-FSA	Collected	11/08/2024 08:30
Lab Sample ID	3386972003	Lab Receipt	11/08/2024 17:45

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	2.8	mg/kg	0.088	0.059	0.023	SW846 8270E	#
WET CHEMISTRY							
Moisture	22.6	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	77.4	%	0.1	0.1	0.01	S2540G-15	#

Results

Client Sample ID	ASYCS-194-0001-SO-FSA	Collected	11/08/2024 08:10
Lab Sample ID	3386972001	Lab Receipt	11/08/2024 17:45

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	0.042J	J	mg/kg	0.076	0.050	0.020	SW846 8270E	1	11/13/2024 08:53	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	75.5%	39 -132	11/13/2024 08:53	
2-Fluorobiphenyl	321-60-8	76.9%	44 -115	11/13/2024 08:53	
2-Fluorophenol	367-12-4	69.6%	35 -115	11/13/2024 08:53	
Nitrobenzene-d5	4165-60-0	76.8%	37 -122	11/13/2024 08:53	
Phenol-d5	4165-62-2	68.9%	33 -122	11/13/2024 08:53	
Terphenyl-d14	98904-43-9	92.9%	54 -127	11/13/2024 08:53	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	12.9		%	0.1	0.1	0.01	S2540G-15	1	11/11/2024 21:48	LMD	A
Total Solids	87.1		%	0.1	0.1	0.01	S2540G-15	1	11/11/2024 21:48	LMD	A

Results

Client Sample ID	ASYCS-195-0001-SO-FSA	Collected	11/08/2024 08:20
Lab Sample ID	3386972002	Lab Receipt	11/08/2024 17:45

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	3.2		mg/kg	0.072	0.048	0.019	SW846 8270E	1	11/13/2024 09:19	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	82.4%	39 -132	11/13/2024 09:19	
2-Fluorobiphenyl	321-60-8	78.7%	44 -115	11/13/2024 09:19	
2-Fluorophenol	367-12-4	73%	35 -115	11/13/2024 09:19	
Nitrobenzene-d5	4165-60-0	74.5%	37 -122	11/13/2024 09:19	
Phenol-d5	4165-62-2	70.3%	33 -122	11/13/2024 09:19	
Terphenyl-d14	98904-43-9	97.3%	54 -127	11/13/2024 09:19	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	12.1		%	0.1	0.1	0.01	S2540G-15	1	11/11/2024 21:48	LMD	A
Total Solids	87.9		%	0.1	0.1	0.01	S2540G-15	1	11/11/2024 21:48	LMD	A

Results

Client Sample ID	ASYCS-196-0001-SO-FSA	Collected	11/08/2024 08:30
Lab Sample ID	3386972003	Lab Receipt	11/08/2024 17:45

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	2.8		mg/kg	0.088	0.059	0.023	SW846 8270E	1	11/13/2024 09:45	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	75.2%	39 -132	11/13/2024 09:45	
2-Fluorobiphenyl	321-60-8	69.9%	44 -115	11/13/2024 09:45	
2-Fluorophenol	367-12-4	68.3%	35 -115	11/13/2024 09:45	
Nitrobenzene-d5	4165-60-0	72.2%	37 -122	11/13/2024 09:45	
Phenol-d5	4165-62-2	66.1%	33 -122	11/13/2024 09:45	
Terphenyl-d14	98904-43-9	88.1%	54 -127	11/13/2024 09:45	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	22.6		%	0.1	0.1	0.01	S2540G-15	1	11/11/2024 21:48	LMD	A
Total Solids	77.4		%	0.1	0.1	0.01	S2540G-15	1	11/11/2024 21:48	LMD	A

Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3386972001	ASYCS-194-0001-SO-FSA	SW846 8270E	SW846 3546	
		S2540G-15	N/A	
3386972002	ASYCS-195-0001-SO-FSA	SW846 8270E	SW846 3546	
		S2540G-15	N/A	
3386972003	ASYCS-196-0001-SO-FSA	SW846 8270E	SW846 3546	
		S2540G-15	N/A	

QUALITY CONTROL SAMPLES

SEMIVOLATILES

QC Batch

QC Batch	1331564	Prep Method	SW846 3546
Date	11/12/2024 14:25	Analysis Method	SW846 8270E
Tech.	GED		

Associated Samples

3386972001 3386972002 3386972003

Method Blank 3904339 (MB) Created on 11/12/2024 12:21 For QC Batch 1331564

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	4060	5000	81.1	39 - 132	
2-Fluorobiphenyl	321-60-8	BLK	2000	2500	79.8	44 - 115	
2-Fluorophenol	367-12-4	BLK	3770	5000	75.4	35 - 115	
Nitrobenzene-d5	4165-60-0	BLK	1990	2500	79.6	37 - 122	
Phenol-d5	4165-62-2	BLK	3670	5000	73.5	33 - 122	
Terphenyl-d14	98904-43-9	BLK	2480	2500	99.3	54 - 127	

Lab Control Standard 3904340 (LCS) Created on 11/12/2024 12:21 For QC Batch 1331564

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	2.4		2.50	96.3	45 - 129		

SURROGATES

Compound	CAS No		Result (ug/kg)	Expected (ug/kg)	Rec. (%)	Limits (%)	Qualifiers
2,4,6-Tribromophenol	118-79-6	LCS	4820	5000	96.5	39 - 132	
2-Fluorobiphenyl	321-60-8	LCS	2110	2500	84.5	44 - 115	
2-Fluorophenol	367-12-4	LCS	4100	5000	82	35 - 115	
Nitrobenzene-d5	4165-60-0	LCS	2160	2500	86.5	37 - 122	
Phenol-d5	4165-62-2	LCS	4000	5000	80	33 - 122	
Terphenyl-d14	98904-43-9	LCS	2920	2500	117	54 - 127	

QUALITY CONTROL SAMPLES

WET CHEMISTRY

QC Batch

QC Batch	1331336	Prep Method	N/A
Date	N/A	Analysis Method	S2540G-15
Tech.			

Associated Samples

3386972001 3386972002 3386972003

Duplicate 3903938 (DUP) 3386937001 (non-Project Sample) For QC Batch 1331336

****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	9.6021	9.6579	RPD	0.58 (Max-10)	
Total Solids	TSP	DUP	90.3978	90.3420	RPD	0.06 (Max-5)	

Duplicate 3903939 (DUP) 3386962003 (non-Project Sample) For QC Batch 1331336

****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	14.4716	15.8988	RPD	9.40 (Max-10)	
Total Solids	TSP	DUP	85.5283	84.1011	RPD	1.68 (Max-5)	

Duplicate 3903940 (DUP) 3386962002 (non-Project Sample) For QC Batch 1331336

****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	14.3389	12.5835	RPD	13* (Max-10)	
Total Solids	TSP	DUP	85.6610	87.4164	RPD	2.03 (Max-5)	

Duplicate 3903941 (DUP) 3386977001 (non-Project Sample) For QC Batch 1331336

****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	21.6804	22.1170	RPD	1.99 (Max-10)	
Total Solids	TSP	DUP	78.3195	77.8829	RPD	0.56 (Max-5)	

Duplicate 3903942 (DUP) 3386925004 (non-Project Sample) For QC Batch 1331336

****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	3.4776	3.4508	RPD	0.77 (Max-10)	
Total Solids	TSP	DUP	96.5223	96.5491	RPD	0.03 (Max-5)	

Duplicate 3903943 (DUP) 3386999001 (non-Project Sample) For QC Batch 1331336

****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	99.6871	99.4041	RPD	0.28 (Max-10)	
Total Solids	TSP	DUP	0.3128	0.5958	RPD	62.30* (Max-5)	

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3386972001	ASYCS-194-0001-SO-FSA	SW846 3546	1331564	11/12/2024 14:25	GED	SW846 8270E	1331855
		N/A	N/A	N/A		S2540G-15	1331336
3386972002	ASYCS-195-0001-SO-FSA	SW846 3546	1331564	11/12/2024 14:25	GED	SW846 8270E	1331855
		N/A	N/A	N/A		S2540G-15	1331336
3386972003	ASYCS-196-0001-SO-FSA	SW846 3546	1331564	11/12/2024 14:25	GED	SW846 8270E	1331855
		N/A	N/A	N/A		S2540G-15	1331336

TETRA TECH

3386972

Logged By: MJE
PM: SJB

CHAIN OF CUSTODY

NO.

Page of

1/24

Project No: PTKA-Insight ~~112G69948~~ / Facility: CJAG - Site	Project Manger: Jim Goerdt	Phone: (412) 443-0244	Laboratory Name and Contact: ALS Global / Susan Scherer (717-702-2245)
Samplers: Joshua Daugherty / TetraTech	Field Ops. Leader: Josh Daugherty	Phone: (724) 762-9905	Address: 301 Fulling Mill Road
	FedEx Airbill:		City, State, Zip: Middletown, PA 17057
	Container Type: (4) or 8 oz glass jar	G	
TAT: 2-day	Preservative Used: N/A	<6°C	

Date Year: 2024	Time	Sample ID	Location ID	Top Depth (FT)	Bottom Depth (FT)	Matrix (GW, SO, SW, OC)	Grab, Composite (G, C)	Total No. of Containers	ANALYSIS	BaP	Comments
11/8	0810	ASYCS-194-0001-SO-FSA	194	1	2	SO	G	1		X	Step out From 190
↓	0820	ASYCS-195-0001-SO-FSA	195	1	2	SO	G	1		X	Step out From 192
↓	0830	ASYCS-196-0001-SO-FSA	196	1	2	SO	G	1		X	Step out From 193

Temp By: MJE | WO Temp (°C): 3° | Therm ID: 569

Receipt Info Completed By: MJE

Cooler Custody Seal Intact	Y N (NA)	
Sample Custody Seal Intact	Y N (NA)	
Received on Ice	(Y) N NA	
Cooler & Samples Intact	(Y) N	
Correct Containers Provided	(Y) N	
Sample Label/COC Agree	(Y) N	
Adequate Sample Volumes	(Y) N	
CR6 Samples Filtered	Y N (NA)	
OP Samples Filtered	Y N (NA)	
VOA Trip Blank	Y N (NA)	
Nits 4 Days?	Y (N)	
Rad Screen (uG)	—	
Courier/Tracking #:	—	
SDWA Compliance	Y (N)	
PWSID		
WV Containers 0-6°C	N (NA)	

*GWP-MJE 11/9/24

1. Relinquished By: Joshua Daugherty	Date: 11/8/24	Time: 1745	1. Received By: ALS	Date: 11/8/24	Time: 1745
2. Relinquished By:	Date:	Time:	2. Received By:	Date:	Time:

Comments:

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 IEC013|PIKA-Insight
Workorder 3386971
Report ID 367758 on 11/18/2024

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Nov 08, 2024.

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.

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

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

Susan Scherer

Susan Scherer *(ALS Digital Signature)*
Project Coordinator

Sample Summary

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collector	Collection Company
3386971002	ASYCS-198-0001-SO-FSA	Solid	11/08/2024 08:25	11/08/2024 17:45	CBC	Collected By Client
3386971003	ASYCS-199-0001-SO-FSA	Solid	11/08/2024 08:35	11/08/2024 17:45	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.

Detected Results Summary

Client Sample ID	ASYCS-198-0001-SO-FSA	Collected	11/08/2024 08:25
Lab Sample ID	3386971002	Lab Receipt	11/08/2024 17:45

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	0.13	mg/kg	0.086	0.057	0.023	SW846 8270E	#
WET CHEMISTRY							
Moisture	19.4	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	80.6	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYCS-199-0001-SO-FSA	Collected	11/08/2024 08:35
Lab Sample ID	3386971003	Lab Receipt	11/08/2024 17:45

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
SEMIVOLATILES							
Benzo(a)pyrene	0.22	mg/kg	0.10	0.067	0.027	SW846 8270E	#
WET CHEMISTRY							
Moisture	26.6	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	73.4	%	0.1	0.1	0.01	S2540G-15	#

Results

Client Sample ID	ASYCS-198-0001-SO-FSA	Collected	11/08/2024 08:25
Lab Sample ID	3386971002	Lab Receipt	11/08/2024 17:45

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	0.13		mg/kg	0.086	0.057	0.023	SW846 8270E	1	11/15/2024 15:34	CGS	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	71.4%	39 -132	11/15/2024 15:34	
2-Fluorobiphenyl	321-60-8	77.6%	44 -115	11/15/2024 15:34	
2-Fluorophenol	367-12-4	69%	35 -115	11/15/2024 15:34	
Nitrobenzene-d5	4165-60-0	76.4%	37 -122	11/15/2024 15:34	
Phenol-d5	4165-62-2	69.1%	33 -122	11/15/2024 15:34	
Terphenyl-d14	98904-43-9	93.3%	54 -127	11/15/2024 15:34	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	19.4		%	0.1	0.1	0.01	S2540G-15	1	11/14/2024 22:04	LMD	A
Total Solids	80.6		%	0.1	0.1	0.01	S2540G-15	1	11/14/2024 22:04	LMD	A

Results

Client Sample ID	ASYCS-199-0001-SO-FSA	Collected	11/08/2024 08:35
Lab Sample ID	3386971003	Lab Receipt	11/08/2024 17:45

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzo(a)pyrene	0.22		mg/kg	0.10	0.067	0.027	SW846 8270E	1	11/15/2024 16:00	CGS	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	72.1%	39 -132	11/15/2024 16:00	
2-Fluorobiphenyl	321-60-8	75.7%	44 -115	11/15/2024 16:00	
2-Fluorophenol	367-12-4	63.9%	35 -115	11/15/2024 16:00	
Nitrobenzene-d5	4165-60-0	73.4%	37 -122	11/15/2024 16:00	
Phenol-d5	4165-62-2	64.2%	33 -122	11/15/2024 16:00	
Terphenyl-d14	98904-43-9	90.3%	54 -127	11/15/2024 16:00	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	26.6		%	0.1	0.1	0.01	S2540G-15	1	11/14/2024 22:04	LMD	A
Total Solids	73.4		%	0.1	0.1	0.01	S2540G-15	1	11/14/2024 22:04	LMD	A

Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3386971002	ASYCS-198-0001-SO-FSA	SW846 8270E	SW846 3546	
		S2540G-15	N/A	
3386971003	ASYCS-199-0001-SO-FSA	SW846 8270E	SW846 3546	
		S2540G-15	N/A	

QUALITY CONTROL SAMPLES

SEMIVOLATILES

QC Batch

QC Batch	1332364	Prep Method	SW846 3546
Date	11/14/2024 20:50	Analysis Method	SW846 8270E
Tech.	JIH		

Associated Samples

3386971002 3386971003

Method Blank 3905718 (MB) Created on 11/14/2024 15:34 For QC Batch 1332364

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	4540	5000	90.8	39 - 132	
2-Fluorobiphenyl	321-60-8	BLK	2340	2500	93.5	44 - 115	
2-Fluorophenol	367-12-4	BLK	4280	5000	85.7	35 - 115	
Nitrobenzene-d5	4165-60-0	BLK	2260	2500	90.2	37 - 122	
Phenol-d5	4165-62-2	BLK	4250	5000	85	33 - 122	
Terphenyl-d14	98904-43-9	BLK	2870	2500	115	54 - 127	

Lab Control Standard 3905719 (LCS) Created on 11/14/2024 15:34 For QC Batch 1332364

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	2.5		2.50	101	45 - 129		

SURROGATES

Compound	CAS No		Result (ug/kg)	Expected (ug/kg)	Rec. (%)	Limits (%)	Qualifiers
2,4,6-Tribromophenol	118-79-6	LCS	4900	5000	98.1	39 - 132	
2-Fluorobiphenyl	321-60-8	LCS	2410	2500	96.2	44 - 115	
2-Fluorophenol	367-12-4	LCS	4570	5000	91.4	35 - 115	
Nitrobenzene-d5	4165-60-0	LCS	2300	2500	92.1	37 - 122	
Phenol-d5	4165-62-2	LCS	4600	5000	92	33 - 122	
Terphenyl-d14	98904-43-9	LCS	3000	2500	120	54 - 127	

QUALITY CONTROL SAMPLES

WET CHEMISTRY

QC Batch

QC Batch	1332442	Prep Method	N/A
Date	N/A	Analysis Method	S2540G-15
Tech.			

Associated Samples

3386971002 3386971003

Duplicate 3905762 (DUP) 3387496006 (non-Project Sample) For QC Batch 1332442

****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	30.5792	32.4036	RPD	5.79 (Max-10)	
Total Solids	TSP	DUP	69.4207	67.5963	RPD	2.66 (Max-5)	

Duplicate 3905763 (DUP) 3387606001 (non-Project Sample) For QC Batch 1332442

****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	3.0331	2.9001	RPD	4.48 (Max-10)	
Total Solids	TSP	DUP	96.9668	97.0998	RPD	0.14 (Max-5)	

Duplicate 3905764 (DUP) 3387603001 (non-Project Sample) For QC Batch 1332442

****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	2.4248	2.3121	RPD	4.76 (Max-10)	
Total Solids	TSP	DUP	97.5751	97.6878	RPD	0.12 (Max-5)	

Duplicate 3905765 (DUP) 3387601001 (non-Project Sample) For QC Batch 1332442

****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	3.3699	3.7587	RPD	10.90* (Max-10)	
Total Solids	TSP	DUP	96.63	96.2412	RPD	0.40 (Max-5)	

Duplicate 3905766 (DUP) 3387646006 (non-Project Sample) For QC Batch 1332442

****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	97.4217	97.5490	RPD	0.13 (Max-10)	
Total Solids	TSP	DUP	2.5782	2.4509	RPD	5.06* (Max-5)	

Duplicate 3905767 (DUP) 3387646001 (non-Project Sample) For QC Batch 1332442

****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	97.4632	97.3640	RPD	0.10 (Max-10)	
Total Solids	TSP	DUP	2.5367	2.6359	RPD	3.84 (Max-5)	

Duplicate 3905768 (DUP) 3387671003 (non-Project Sample) For QC Batch 1332442

****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	0	0.1166	RPD	200* (Max-10)	U
Total Solids	TSP	DUP	100	99.8833	RPD	0.12 (Max-5)	

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3386971002	ASYCS-198-0001-SO-FSA	SW846 3546	1332364	11/14/2024 20:50	J1H	SW846 8270E	1332943
		N/A	N/A	N/A		S2540G-15	1332442
3386971003	ASYCS-199-0001-SO-FSA	SW846 3546	1332364	11/14/2024 20:50	J1H	SW846 8270E	1332943
		N/A	N/A	N/A		S2540G-15	1332442

TETRA TECH

5/24

CHAIN OF CUSTODY

NO. 3386971

Logged By: MJE
PM: SJB

Page of

Project No: P.Na INSight 112G09943	Facility: CJAG - Site	Project Manger: Jim Goerdt	Phone: (412) 443-0244
Samplers: Joshua Daugherty / Tetra Tech		Field Ops. Leader: Josh Daugherty	Phone: (724) 762-9905
		FedEx Airbill:	
		Container Type: 4 or 8 oz glass jar	G
TAT: 2-day		Preservative Used: N/A	<6°C

Laboratory Name and Contact: ALS Global / Susan Scherer (717-702-2245)

Address: 301 Fulling Mill Road

City, State, Zip: Middletown, PA 17057

Date Year: 2024 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	Comments
11/8 0815	ASYCS-197-0001-SO-FSA	197	0	0.5	SO	G	1	X	Hold - Stepout From 194
0825	ASYCS-198-0001-SO-FSA	198	0	0.5	SO	G	1	X	Hold - Stepout From 195
↓ 0835	ASYCS-199-0001-SO-FSA	199	0	0.5	SO	G	1	X	Hold - Stepout From 196

Temp By: MJE | WO Temp (°C): 3° | Therm ID: 569

Receipt Info Completed By: MJE

Cooler Custody Seal Intact	Y N (NA)	
Sample Custody Seal Intact	Y N (NA)	
Received on Ice	(Y) N NA	
Cooler & Samples Intact	(Y) N	
Correct Containers Provided	(Y) N	
Sample Label/COC Agree	(Y) N	
Adequate Sample Volumes	(Y) N	
CR6 Samples Filtered	Y N (NA)	
OP Samples Filtered	Y N (NA)	
VOA Trip Blank	Y N (NA)	
NIs 4 Days?	Y (N)	
Rad Screen (uCi)		
Courier/Tracking #:		
SDWA Compliance	Y (N)	
PWSID		
WV Containers 0.6°C	Y N (NA)	

*GUNP-MJE 11/9/24

Hold!!

	Date:	Time:		Date:	Time:
1. Relinquished By: Joshua Daugherty	11/8/24	1745	1. Received By: ALS	11/8/24	1745
2. Relinquished By:	Date:	Time:	2. Received By:	Date:	Time:

Comments:

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

November 19, 2024

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

Subject: RVAAP-50 Atlas Scrap Yard (Former Incinerator Area) – Excavation Confirmation Sample Results, Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Camp James A. Garfield JMTC, Portage/Trumbull Counties, Ohio (Work Activity No. 267000859110)

Dear Mr. Kowalski:

PIKA-Insight, JV conducted Phase I confirmation sampling at RVAAP-50 Atlas Scrap Yard – FIA on August 7, 2024, to horizontally delineate the extent of lead contamination in soil above the project cleanup goal of 200 mg/kg (to establish the horizontal excavation boundary). The results from the Phase I samples adequately bounded the edges of lead contamination as sample results were below the project cleanup goal for Lead. PIKA-Insight, JV also collected confirmation samples on October 4, 2024 (Phase II samples), throughout the floor of the FIA at the Atlas Scrap Yard after initial excavation was completed. Phase II confirmation sample results revealed concentrations of Lead above the project cleanup goal (200 mg/kg) at several locations in the central and northern edge of the excavation (ASYcs-166-0001-SO through ASYcs-168-0001-SO). These areas were then overexcavated an additional 1 foot in depth to remove additional soils (approximately 5 cubic yards in total). Additional confirmation samples were collected (Phase III samples) on November 8, 2024, and results revealed concentrations below the project cleanup goal for Lead. Attached are a Table with sample results, a Figure of the FIA with sample locations, and laboratory reports.

The Army National Guard (ARNG) requests your review of these confirmation sample results. If approved, the ARNG will backfill the area with sampled fill already approved by the Ohio EPA.

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.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275
Digitally signed by TAIT.KATHRYN.SERENA.1289508275
Date: 2024.11.19 07:11:03 -05'00'

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

Attachments:
1 Table 1 Confirmation Sample Results Table
2 Figure Showing Confirmation Sample Locations
3 Laboratory Analytical Results

Cc:
Katie Tait, OHARNG

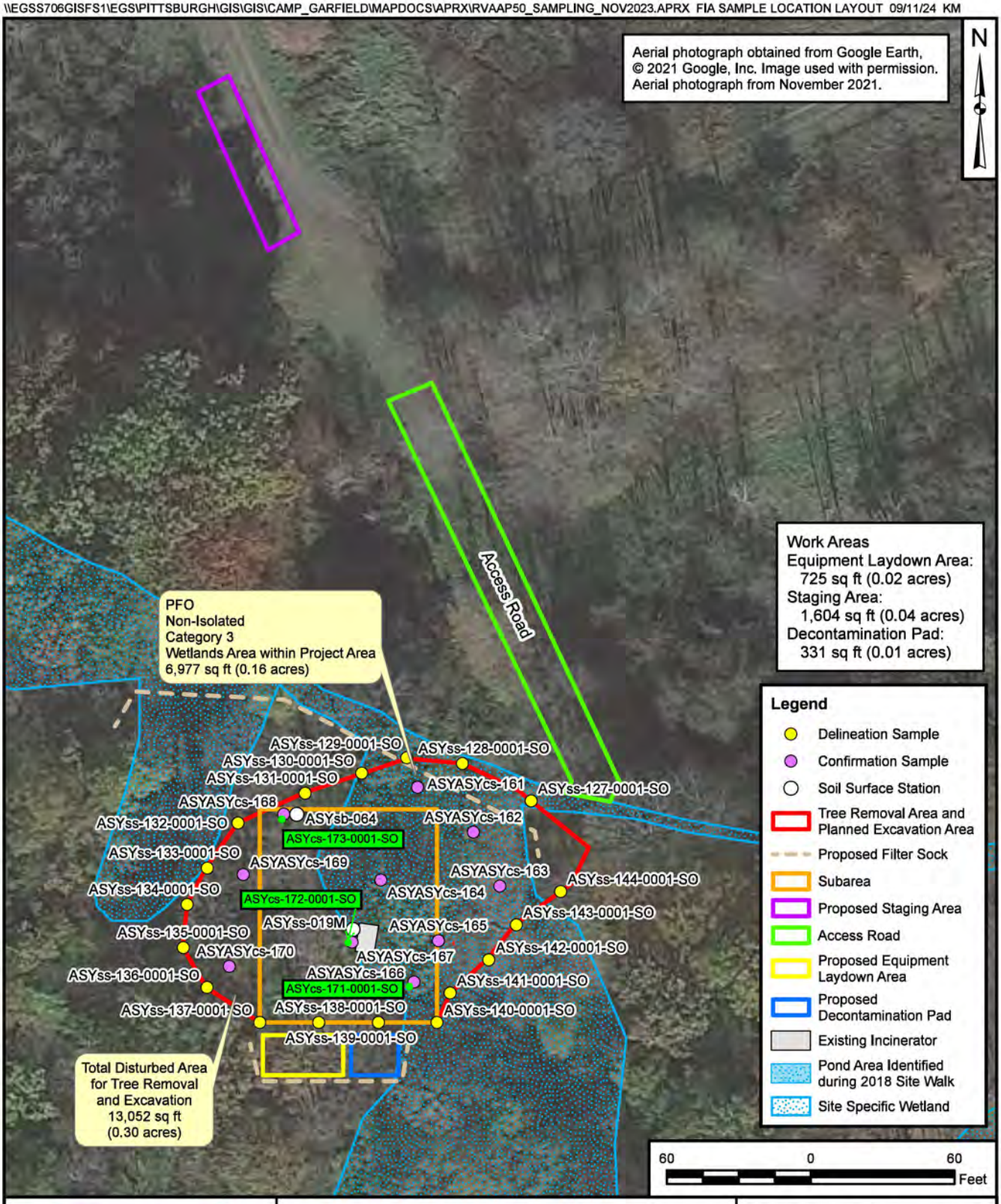
Marco Mendoza, PIKA-Insight
Megan Oravec, Ohio EPA
Tom Schneider, Ohio EPA
Steve Kvaal, USACE
Jeremy Renner, USACE
Jennifer Tierney, Chenega (Administrative Record)

Table 1
Analytical Results - Former Incinerator Area
RVAAP-50 - Atlas Scrap Yard
Camp James A. Garfield, Portage and Trumbull Counties, Ohio

		Analyte:	Lead, Total	
		CAS #:	7439-92-1	
		Method:	6020A	
		Action Level[1]:	200	
		Units:	mg/kg	
Sample ID	Site	Date Collected	Result	Qual
ASYss-127-0001-SO	RVAAP 50-FIA (Phase I)	8/7/2024	**82.3**	
ASYss-128-0001-SO	RVAAP 50-FIA (Phase I)	8/7/2024	**87.6**	J
ASYss-129-0001-SO	RVAAP 50-FIA (Phase I)	8/7/2024	**29.9**	
ASYss-130-0001-SO	RVAAP 50-FIA (Phase I)	8/7/2024	**33.6**	
ASYss-131-0001-SO	RVAAP 50-FIA (Phase I)	8/7/2024	**39.6**	
ASYss-132-0001-SO	RVAAP 50-FIA (Phase I)	8/7/2024	**40.2**	
ASYss-133-0001-SO	RVAAP 50-FIA (Phase I)	8/7/2024	**20**	
ASYss-134-0001-SO	RVAAP 50-FIA (Phase I)	8/7/2024	**64.8**	
ASYss-135-0001-SO	RVAAP 50-FIA (Phase I)	8/7/2024	**20.4**	
ASYss-136-0001-SO	RVAAP 50-FIA (Phase I)	8/7/2024	**15.1**	
ASYss-137-0001-SO	RVAAP 50-FIA (Phase I)	8/7/2024	**22.1**	
ASYss-138-0001-SO	RVAAP 50-FIA (Phase I)	8/7/2024	**42**	
ASYss-139-0001-SO	RVAAP 50-FIA (Phase I)	8/7/2024	**98.9**	
ASYss-140-0001-SO	RVAAP 50-FIA (Phase I)	8/7/2024	**102**	
ASYss-141-0001-SO	RVAAP 50-FIA (Phase I)	8/7/2024	**96.6**	
ASYss-142-0001-SO	RVAAP 50-FIA (Phase I)	8/7/2024	**80.6**	
ASYss-143-0001-SO	RVAAP 50-FIA (Phase I)	8/7/2024	**143**	
ASYss-144-0001-SO	RVAAP 50-FIA (Phase I)	8/7/2024	**129**	
ASYss-080724-FD01	RVAAP 50-FIA (Phase I)	8/7/2024	**28.7**	
ASYss-080724-FD02	RVAAP 50-FIA (Phase I)	8/7/2024	**48.7**	
ASYcs-161-0001-SO	RVAAP 50-FIA (Phase II)	10/4/2024	**129**	
ASYcs-162-0001-SO	RVAAP 50-FIA (Phase II)	10/4/2024	**87.6**	
ASYcs-163-0001-SO	RVAAP 50-FIA (Phase II)	10/4/2024	**22.1**	
ASYcs-164-0001-SO	RVAAP 50-FIA (Phase II)	10/4/2024	**120**	
ASYcs-165-0001-SO	RVAAP 50-FIA (Phase II)	10/4/2024	**75.1**	
ASYcs-166-0001-SO	RVAAP 50-FIA (Phase II)	10/4/2024	**361**	
ASYcs-167-0001-SO	RVAAP 50-FIA (Phase II)	10/4/2024	**209**	
ASYcs-168-0001-SO	RVAAP 50-FIA (Phase II)	10/4/2024	**597**	
ASYcs-169-0001-SO	RVAAP 50-FIA (Phase II)	10/4/2024	**16.4**	
ASYcs-170-0001-SO	RVAAP 50-FIA (Phase II)	10/4/2024	**14.9**	
ASYcs-Field Duplicate 1	RVAAP 50-FIA (Phase II)	10/4/2024	**151**	
ASYcs-171-0001-SO-FIA	RVAAP 50-FIA (Phase III)	11/8/2024	**14.2**	
ASYcs-172-0001-SO-FIA	RVAAP 50-FIA (Phase III)	11/8/2024	**18.8**	
ASYcs-173-0001-SO-FIA	RVAAP 50-FIA (Phase III)	11/8/2024	**12.1**	

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

\\EGSS706GISFS1\EGS\PITTSBURGH\GIS\GIS\CAMP_GARFIELD\MAPDOCS\APRX\RVAAP50_SAMPLING_NOV2023.APRX FIA SAMPLE LOCATION LAYOUT 09/11/24 KM



FIA SITE LAYOUT MAP
-Conf Sample Lcations
RVAAP-50 - ATLAS SCRAP YARD
FORMER INCINERATOR AREA
CAMP JAMES A. GARFIELD
PORTAGE AND TRUMBULL COUNTIES, OHIO

DRAWN BY: J. ENGLISH 11/14/23
CHECKED BY: J. GOERDT 09/11/24
APPROVED BY:

CONTRACT NUMBER: 112G09943

FIGURE NUMBER	REV
4	0

- Over-excavation confirmation soil sample with concentration below project cleanup goal for lead (200 mg/kg)

Main Site: 301 Fulling Mill Road | Middletown, PA 17057 | Phone: 717-944-5541 | Fax: 717-944-1430 | www.alsglobal.com
Associated Site: 20 Riverside Drive | Spring City, PA 19475 | Phone: 610-948-4903 | Fax: 717-944-1430 |

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 IEC003|RVAAP - 06/50/70
Workorder 3373022
Report ID 350385 on 8/30/2024 (Revised report. See Project Notations Section.)

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Aug 09, 2024.

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.

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

Susan Scherer *(ALS Digital Signature)*
Project Coordinator

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

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		
3373022021	OFFbo-001M-0001-SO (Top Soil)	**S1**	This sample was analyzed at a dilution in the 8081 pesticide analysis. Reporting limits were adjusted accordingly.
3373022022	OFFbo-002M-0001-SO (Sand)	**S2**	This sample was analyzed at a dilution in the 8081 pesticide analysis. Reporting limits were adjusted accordingly.
3373022023	ASYpl-150-0001-SO	**S3**	COA modified to include posted results missing from orginal report. JLS 08/30/24

Result Notations

Notation Ref.	
1	The QC sample type MS for method SW846 6020A was outside the control limits for the analyte Lead, Total. The % Recovery was reported as -128 and the control limits were 84 to 118.
2	The QC sample type MSD for method SW846 6020A was outside the control limits for the analyte Lead, Total. The % Recovery was reported as -90.4 and the control limits were 84 to 118.
3	The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. The sample was post-digestion spiked, and this matrix spike was within acceptable recovery limits.
4	The QC sample type DUP for method S2540G-15 was outside the control limits for the analyte Moisture. The RPD was reported as 13.9 and the upper control limit is 10.
5	The QC sample type DUP for method S2540G-15 was outside the control limits for the analyte Total Solids. The RPD was reported as 5.16 and the upper control limit is 5.
6	The QC sample type ICV for method SW846 8270E DOD was outside the control limits for the analyte 2,4-Dimethylphenol. The % Recovery was reported as 125 and the control limits were 80 to 120.
7	Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 20% of the initial calibration for the 8081 analysis on both analytical columns. This compound was biased high 27% in the bracketing CCV on the alternate column.
8	The surrogate 2-Fluorobiphenyl for method SW846 8270E was outside of control limits. The % Recovery was reported as 41.5 and the control limits were 44 to 115. This result was reported at a dilution of 1.
9	Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 20% of the initial calibration for the 8081 analysis on both analytical columns. This compound was biased high 31% in the bracketing CCV on the alternate column.
10	Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 20% of the initial calibration for the 8081 analysis on both analytical columns. This compound was biased high 23% in the bracketing CCV on the alternate column.
11	Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 20% of the initial calibration for the 8081 analysis on both analytical columns. This compound was biased low 22% in the bracketing CCV on the alternate column.
12	The QC sample type LCS for method SW846 8330B was outside the control limits for the analyte Tetryl. The % Recovery was reported as 28.3 and the control limits were 68 to 135.
13	The pH analysis is an "analyze immediately" analysis. Parameters identified as "analyze immediately" require analysis within 15 minutes of collection, and are therefore analyzed outside of the method holding time when analyzed in the laboratory.
14	Solid/Waste pH measured in water at 22.0 degrees C.
15	The concentration of this analyte was greater than 4 times the concentration of the spike added to the matrix spike. According to protocol, the calculation for percent recovery of the matrix spike is not valid.
16	The QC sample type MS for method SW846 6020A was outside the control limits for the analyte Antimony, Total. The % Recovery was reported as 59.1 and the control limits were 72 to 124.
17	The QC sample type MSD for method SW846 6020A was outside the control limits for the analyte Antimony, Total. The % Recovery was reported as 68.2 and the control limits were 72 to 124.
18	The QC sample type MS for method SW846 6020A was outside the control limits for the analyte Chromium, Total. The % Recovery was reported as 73.8 and the control limits were 83 to 119.
19	The QC sample type MS for method SW846 6020A was outside the control limits for the analyte Cobalt, Total. The % Recovery was reported as 82.7 and the control limits were 84 to 115.
20	The QC sample type MS for method SW846 6020A was outside the control limits for the analyte Nickel, Total. The % Recovery was reported as 75.6 and the control limits were 84 to 119.

21	The QC sample type MS for method SW846 6020A was outside the control limits for the analyte Thallium, Total. The % Recovery was reported as 42.2 and the control limits were 83 to 118.
22	The QC sample type MSD for method SW846 6020A was outside the control limits for the analyte Thallium, Total. The % Recovery was reported as 55.6 and the control limits were 83 to 118.
23	The QC sample type MSD for method SW846 6020A was outside the control limits for the analyte Thallium, Total. The RPD was reported as 31.8 and the upper control limit is 20.
24	The QC sample type MS for method SW846 6020A was outside the control limits for the analyte Vanadium, Total. The % Recovery was reported as 59.4 and the control limits were 82 to 116.
25	The QC sample type LCS for method SW846 8270D was outside the control limits for the analyte 1,4-Dichlorobenzene. The % Recovery was reported as 21.3 and the control limits were 29 to 112.
26	The QC sample type LCS for method SW846 8270D was outside the control limits for the analyte Hexachlorobutadiene. The % Recovery was reported as 13.9 and the control limits were 22 to 124.
27	The QC sample type LCS for method SW846 8270D was outside the control limits for the analyte Hexachloroethane. The % Recovery was reported as 13.1 and the control limits were 21 to 115.
28	The QC sample type MSD for method SW846 6010C was outside the control limits for the analyte Lead, Total. The % Recovery was reported as 145 and the control limits were 86 to 113.
29	The QC sample type MSD for method SW846 6010C was outside the control limits for the analyte Selenium, Total. The % Recovery was reported as 115 and the control limits were 83 to 114.

Detected Results Summary

Client Sample ID	ASYss-127-0001-SO	Collected	08/07/2024 10:55
Lab Sample ID	3373022001	Lab Receipt	08/09/2024 10:15

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	82.3	mg/kg	1.3	0.86	0.43	SW846 6020A	#
WET CHEMISTRY							
Moisture	27.4	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	72.6	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYss-128-0001-SO	Collected	08/07/2024 11:30
Lab Sample ID	3373022002	Lab Receipt	08/09/2024 10:15

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	87.6	mg/kg	1.2	0.80	0.40	SW846 6020A	#
WET CHEMISTRY							
Moisture	25.3	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	74.7	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYss-129-0001-SO	Collected	08/07/2024 11:35
Lab Sample ID	3373022003	Lab Receipt	08/09/2024 10:15

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	29.9	mg/kg	1.4	0.93	0.47	SW846 6020A	#
WET CHEMISTRY							
Moisture	32.6	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	67.4	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYss-130-0001-SO	Collected	08/07/2024 11:50
Lab Sample ID	3373022004	Lab Receipt	08/09/2024 10:15

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	33.6	mg/kg	1.4	0.91	0.45	SW846 6020A	#
WET CHEMISTRY							
Moisture	33.3	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	66.7	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYss-131-0001-SO	Collected	08/07/2024 12:00
Lab Sample ID	3373022005	Lab Receipt	08/09/2024 10:15

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	39.6	mg/kg	1.4	0.91	0.45	SW846 6020A	#
WET CHEMISTRY							
Moisture	33.1	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	66.9	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYss-132-0001-SO	Collected	08/07/2024 12:05
Lab Sample ID	3373022006	Lab Receipt	08/09/2024 10:15

METALS						
Lead, Total	40.2 mg/kg	1.3	0.87	0.44	SW846 6020A	#
WET CHEMISTRY						
Moisture	33.3 %	0.1	0.1	0.01	S2540G-15	#
Total Solids	66.7 %	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYss-133-0001-SO	Collected	08/07/2024 12:15
Lab Sample ID	3373022007	Lab Receipt	08/09/2024 10:15

METALS						
Lead, Total	20.0 mg/kg	1.2	0.79	0.40	SW846 6020A	#
WET CHEMISTRY						
Moisture	27.7 %	0.1	0.1	0.01	S2540G-15	#
Total Solids	72.3 %	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYss-134-0001-SO	Collected	08/07/2024 12:35
Lab Sample ID	3373022008	Lab Receipt	08/09/2024 10:15

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	64.8	mg/kg	1.3	0.83	0.41	SW846 6020A	#
WET CHEMISTRY							
Moisture	25.7	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	74.3	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYss-135-0001-SO	Collected	08/07/2024 12:45
Lab Sample ID	3373022009	Lab Receipt	08/09/2024 10:15

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	20.4	mg/kg	1.3	0.89	0.44	SW846 6020A	#
WET CHEMISTRY							
Moisture	26.1	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	73.9	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYss-136-0001-SO	Collected	08/07/2024 13:05
Lab Sample ID	3373022010	Lab Receipt	08/09/2024 10:15

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	15.1	mg/kg	1.3	0.85	0.42	SW846 6020A	#
WET CHEMISTRY							
Moisture	26.5	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	73.5	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYss-137-0001-SO	Collected	08/07/2024 13:15
Lab Sample ID	3373022011	Lab Receipt	08/09/2024 10:15

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	22.1	mg/kg	1.2	0.82	0.41	SW846 6020A	#
WET CHEMISTRY							
Moisture	25.4	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	74.6	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYss-138-0001-SO	Collected	08/07/2024 13:25
Lab Sample ID	3373022012	Lab Receipt	08/09/2024 10:15

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	42.0	mg/kg	1.3	0.84	0.42	SW846 6020A	#
WET CHEMISTRY							
Moisture	26.7	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	73.3	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYss-139-0001-SO	Collected	08/07/2024 13:40
Lab Sample ID	3373022013	Lab Receipt	08/09/2024 10:15

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	98.9	mg/kg	1.3	0.86	0.43	SW846 6020A	#
WET CHEMISTRY							
Moisture	31.5	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	68.5	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYss-140-0001-SO	Collected	08/07/2024 13:50
Lab Sample ID	3373022014	Lab Receipt	08/09/2024 10:15

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	102	mg/kg	1.3	0.83	0.41	SW846 6020A	#
WET CHEMISTRY							
Moisture	29.0	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	71.0	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYss-141-0001-SO	Collected	08/07/2024 14:00
Lab Sample ID	3373022015	Lab Receipt	08/09/2024 10:15

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	96.6	mg/kg	1.3	0.85	0.42	SW846 6020A	#
WET CHEMISTRY							
Moisture	29.4	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	70.6	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYss-142-0001-SO	Collected	08/07/2024 14:15
Lab Sample ID	3373022016	Lab Receipt	08/09/2024 10:15

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	80.6	mg/kg	1.4	0.92	0.46	SW846 6020A	#
WET CHEMISTRY							
Moisture	31.9	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	68.1	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYss-143-0001-SO	Collected	08/07/2024 14:20
Lab Sample ID	3373022017	Lab Receipt	08/09/2024 10:15

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	143	mg/kg	1.4	0.93	0.46	SW846 6020A	#
WET CHEMISTRY							
Moisture	30.9	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	69.1	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYss-144-0001-SO	Collected	08/07/2024 14:30
Lab Sample ID	3373022018	Lab Receipt	08/09/2024 10:15

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	129	mg/kg	1.2	0.82	0.41	SW846 6020A	#
WET CHEMISTRY							
Moisture	27.6	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	72.4	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYss-080724-FD01	Collected	08/07/2024 00:00
Lab Sample ID	3373022019	Lab Receipt	08/09/2024 10:15

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	28.7	mg/kg	1.4	0.91	0.46	SW846 6020A	#
WET CHEMISTRY							
Moisture	30.6	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	69.4	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYss-080724-FD02	Collected	08/07/2024 00:00
Lab Sample ID	3373022020	Lab Receipt	08/09/2024 10:15

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	48.7	mg/kg	1.6	1.1	0.53	SW846 6020A	#
WET CHEMISTRY							
Moisture	39.6	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	60.4	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	OFFbo-001M-0001-SO (Top Soil)	Collected	08/07/2024 14:00
Lab Sample ID	3373022021	Lab Receipt	08/09/2024 10:15

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Aluminum, Total	16800	mg/kg	48.1	31.9	15.6	SW846 6020A	#
Arsenic, Total	9.7	mg/kg	1.8	1.2	0.60	SW846 6020A	#
Barium, Total	92.2	mg/kg	3.0	2.0	0.96	SW846 6020A	#
Beryllium, Total	0.78	mg/kg	0.60	0.40	0.20	SW846 6020A	#
Cadmium, Total	0.24J	mg/kg	0.60	0.40	0.20	SW846 6020A	#
Calcium, Total	15000	mg/kg	60.1	40.3	19.8	SW846 6020A	#
Chromium, Total	21.3	mg/kg	1.2	0.79	0.40	SW846 6020A	#
Cobalt, Total	10.6	mg/kg	3.0	2.0	0.96	SW846 6020A	#
Copper, Total	97.2	mg/kg	3.0	2.0	0.96	SW846 6020A	#
Iron, Total	23700	mg/kg	30.1	19.8	9.6	SW846 6020A	#
Lead, Total	17.7	mg/kg	1.2	0.79	0.40	SW846 6020A	#
Magnesium, Total	4910	mg/kg	60.1	40.3	19.8	SW846 6020A	#
Manganese, Total	561	mg/kg	3.0	2.0	0.96	SW846 6020A	#
Mercury, Total	0.11J	mg/kg	0.24	0.16	0.081	SW846 7471B	#
Nickel, Total	22.7	mg/kg	3.0	2.0	0.96	SW846 6020A	#
Potassium, Total	1670	mg/kg	60.1	40.3	19.8	SW846 6020A	#
Sodium, Total	86.2	mg/kg	60.1	40.3	19.8	SW846 6020A	#
Vanadium, Total	30.9	mg/kg	1.8	1.2	0.60	SW846 6020A	#
Zinc, Total	70.3	mg/kg	3.0	2.0	0.96	SW846 6020A	#
SEMIVOLATILES							
Benzo(a)pyrene	0.028J	mg/kg	0.12	0.039	0.020	SW846 8270E	#
Benzo(b)fluoranthene	0.025J	mg/kg	0.12	0.039	0.020	SW846 8270E	#
Benzo(g,h,i)perylene	0.025J	mg/kg	0.12	0.039	0.020	SW846 8270E	#
Benzo(k)fluoranthene	0.026J	mg/kg	0.12	0.039	0.020	SW846 8270E	#
Chrysene	0.024J	mg/kg	0.12	0.039	0.020	SW846 8270E	#
Fluoranthene	0.040J	mg/kg	0.12	0.039	0.020	SW846 8270E	#
Indeno(1,2,3-cd)pyrene	0.025J	mg/kg	0.12	0.039	0.020	SW846 8270E	#
Pyrene	0.034J	mg/kg	0.12	0.039	0.020	SW846 8270E	#
VOLATILE ORGANICS							
Acetone	0.0068J	mg/kg	0.013	0.0063	0.0040	SW846 8260D	#
WET CHEMISTRY							
Moisture	19.4	%	0.1	0.1	0.01	S2540G-15	#
pH	6.56	pH_Units			1	SW846 9045D	#
Total Solids	80.6	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	OFFbo-002M-0001-SO (Sand)	Collected	08/07/2024 14:05
Lab Sample ID	3373022022	Lab Receipt	08/09/2024 10:15

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Aluminum, Total	1170	mg/kg	40.1	26.6	13.0	SW846 6020A	#
Arsenic, Total	8.3	mg/kg	1.5	1.0	0.50	SW846 6020A	#
Barium, Total	4.1	mg/kg	2.5	1.7	0.80	SW846 6020A	#
Calcium, Total	11600	mg/kg	50.1	33.6	16.5	SW846 6020A	#
Chromium, Total	2.2	mg/kg	1.0	0.66	0.33	SW846 6020A	#
Cobalt, Total	2.3J	mg/kg	2.5	1.7	0.80	SW846 6020A	#
Copper, Total	6.2	mg/kg	2.5	1.7	0.80	SW846 6020A	#
Iron, Total	8000	mg/kg	25.1	16.5	8.0	SW846 6020A	#
Lead, Total	5.1	mg/kg	1.0	0.66	0.33	SW846 6020A	#
Magnesium, Total	2640	mg/kg	50.1	33.6	16.5	SW846 6020A	#
Manganese, Total	179	mg/kg	2.5	1.7	0.80	SW846 6020A	#
Nickel, Total	5.4	mg/kg	2.5	1.7	0.80	SW846 6020A	#
Potassium, Total	99.4	mg/kg	50.1	33.6	16.5	SW846 6020A	#
Sodium, Total	35.7J	mg/kg	50.1	33.6	16.5	SW846 6020A	#
Vanadium, Total	3.0	mg/kg	1.5	1.0	0.50	SW846 6020A	#
Zinc, Total	26.9	mg/kg	2.5	1.7	0.80	SW846 6020A	#
VOLATILE ORGANICS							
Methylene Chloride	0.0054	mg/kg	0.0024	0.0012	0.00071	SW846 8260D	#
WET CHEMISTRY							
Moisture	4.1	%	0.1	0.1	0.01	S2540G-15	#
pH	6.84	pH_Units			1	SW846 9045D	#
Total Solids	95.9	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYpl-150-0001-SO	Collected	08/07/2024 15:00
Lab Sample ID	3373022023	Lab Receipt	08/09/2024 10:15

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	728	mg/kg	1.3	0.83	0.41	SW846 6020A	#
TCLP EPA 1311 METALS							
Barium, Total	1.4	mg/L	0.050	0.033	0.016	SW846 6010C	#
Cadmium, Total	0.026	mg/L	0.0099	0.0063	0.0033	SW846 6010C	#
Lead, Total	3.5	mg/L	0.030	0.020	0.0099	SW846 6010C	#
WET CHEMISTRY							
Moisture	28.9	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	71.1	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYin-150-0002-WS	Collected	08/07/2024 15:05
Lab Sample ID	3373022024	Lab Receipt	08/09/2024 10:15

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	1.4	mg/kg	1.0	0.67	0.34	SW846 6020A	#
TCLP EPA 1311 METALS							
Barium, Total	0.42	mg/L	0.050	0.033	0.016	SW846 6010C	#
Cadmium, Total	0.0040J	mg/L	0.0099	0.0063	0.0033	SW846 6010C	#
Lead, Total	0.045	mg/L	0.030	0.020	0.0099	SW846 6010C	#
Selenium, Total	0.037J	mg/L	0.099	0.063	0.033	SW846 6010C	#
WET CHEMISTRY							
Moisture	6.8	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	93.2	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYin-150-0003-WS	Collected	08/07/2024 15:10
Lab Sample ID	3373022025	Lab Receipt	08/09/2024 10:15

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	7.4	mg/kg	0.98	0.65	0.32	SW846 6020A	#
TCLP EPA 1311 METALS							
Barium, Total	0.25	mg/L	0.050	0.033	0.016	SW846 6010C	#
TCLP EPA 1311 VOLATILE ORGANIC							
Benzene	9.8J	ug/L	20.0	15.0	6.6	SW846 8260C	#
WET CHEMISTRY							
Moisture	7.4	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	92.6	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYin-150-0004-WS	Collected	08/07/2024 15:15
Lab Sample ID	3373022026	Lab Receipt	08/09/2024 10:15

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	20.6	mg/kg	1.0	0.69	0.34	SW846 6020A	#
TCLP EPA 1311 METALS							
Barium, Total	0.37	mg/L	0.050	0.033	0.016	SW846 6010C	#
Cadmium, Total	0.020	mg/L	0.0099	0.0063	0.0033	SW846 6010C	#
Lead, Total	0.16	mg/L	0.030	0.020	0.0099	SW846 6010C	#
WET CHEMISTRY							
Moisture	10	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	90.0	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	070IDW-080724-WS	Collected	08/07/2024 16:10
Lab Sample ID	3373022027	Lab Receipt	08/09/2024 10:15

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	146	mg/kg	1.2	0.79	0.40	SW846 6020A	#
PCBs							
Aroclor-1254	0.19	mg/kg	0.041	0.031	0.012	SW846 8082A	#
TCLP EPA 1311 METALS							
Barium, Total	0.90	mg/L	0.050	0.033	0.016	SW846 6010C	#
WET CHEMISTRY							
Moisture	23.5	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	76.5	%	0.1	0.1	0.01	S2540G-15	#

Results

Client Sample ID	ASYss-127-0001-SO	Collected	08/07/2024 10:55
Lab Sample ID	3373022001	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	82.3		mg/kg	1.3	0.86	0.43	SW846 6020A	5	08/15/2024 14:51	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	27.4		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A
Total Solids	72.6		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A

Results

Client Sample ID	ASYss-128-0001-SO	Collected	08/07/2024 11:30
Lab Sample ID	3373022002	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	87.6	1,2,3	mg/kg	1.2	0.80	0.40	SW846 6020A	5	08/15/2024 15:01	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	25.3		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A
Total Solids	74.7		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A

Results

Client Sample ID	ASYss-129-0001-SO	Collected	08/07/2024 11:35
Lab Sample ID	3373022003	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	29.9		mg/kg	1.4	0.93	0.47	SW846 6020A	5	08/15/2024 15:11	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	32.6		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A
Total Solids	67.4		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A

Results

Client Sample ID	ASYss-130-0001-SO	Collected	08/07/2024 11:50
Lab Sample ID	3373022004	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	33.6		mg/kg	1.4	0.91	0.45	SW846 6020A	5	08/15/2024 15:14	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	33.3		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A
Total Solids	66.7		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A

Results

Client Sample ID	ASYss-131-0001-SO	Collected	08/07/2024 12:00
Lab Sample ID	3373022005	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	39.6		mg/kg	1.4	0.91	0.45	SW846 6020A	5	08/15/2024 15:16	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	33.1		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A
Total Solids	66.9		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A

Results

Client Sample ID	ASYss-132-0001-SO	Collected	08/07/2024 12:05
Lab Sample ID	3373022006	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	40.2		mg/kg	1.3	0.87	0.44	SW846 6020A	5	08/15/2024 15:18	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	33.3		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A
Total Solids	66.7		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A

Results

Client Sample ID	ASYss-133-0001-SO	Collected	08/07/2024 12:15
Lab Sample ID	3373022007	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	20.0		mg/kg	1.2	0.79	0.40	SW846 6020A	5	08/15/2024 15:28	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	27.7		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A
Total Solids	72.3		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A

Results

Client Sample ID	ASYss-134-0001-SO	Collected	08/07/2024 12:35
Lab Sample ID	3373022008	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	64.8		mg/kg	1.3	0.83	0.41	SW846 6020A	5	08/15/2024 15:30	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	25.7		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A
Total Solids	74.3		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A

Results

Client Sample ID	ASYss-135-0001-SO	Collected	08/07/2024 12:45
Lab Sample ID	3373022009	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	20.4		mg/kg	1.3	0.89	0.44	SW846 6020A	5	08/15/2024 15:32	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	26.1		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A
Total Solids	73.9		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A

Results

Client Sample ID	ASYss-136-0001-SO	Collected	08/07/2024 13:05
Lab Sample ID	3373022010	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	15.1		mg/kg	1.3	0.85	0.42	SW846 6020A	5	08/15/2024 15:34	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	26.5		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A
Total Solids	73.5		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A

Results

Client Sample ID	ASYss-137-0001-SO	Collected	08/07/2024 13:15
Lab Sample ID	3373022011	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	22.1		mg/kg	1.2	0.82	0.41	SW846 6020A	5	08/15/2024 15:37	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	25.4		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A
Total Solids	74.6		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A

Results

Client Sample ID	ASYss-138-0001-SO	Collected	08/07/2024 13:25
Lab Sample ID	3373022012	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	42.0		mg/kg	1.3	0.84	0.42	SW846 6020A	5	08/15/2024 15:39	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	26.7		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A
Total Solids	73.3		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A

Results

Client Sample ID	ASYss-139-0001-SO	Collected	08/07/2024 13:40
Lab Sample ID	3373022013	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	98.9		mg/kg	1.3	0.86	0.43	SW846 6020A	5	08/15/2024 15:41	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	31.5		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A
Total Solids	68.5		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A

Results

Client Sample ID	ASYss-140-0001-SO	Collected	08/07/2024 13:50
Lab Sample ID	3373022014	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	102		mg/kg	1.3	0.83	0.41	SW846 6020A	5	08/15/2024 15:43	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	29.0	4	%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A
Total Solids	71.0	5	%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A

Results

Client Sample ID	ASYss-141-0001-SO	Collected	08/07/2024 14:00
Lab Sample ID	3373022015	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	96.6		mg/kg	1.3	0.85	0.42	SW846 6020A	5	08/15/2024 15:45	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	29.4		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A
Total Solids	70.6		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A

Results

Client Sample ID	ASYss-142-0001-SO	Collected	08/07/2024 14:15
Lab Sample ID	3373022016	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	80.6		mg/kg	1.4	0.92	0.46	SW846 6020A	5	08/15/2024 16:01	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	31.9		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A
Total Solids	68.1		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A

Results

Client Sample ID	ASYss-143-0001-SO	Collected	08/07/2024 14:20
Lab Sample ID	3373022017	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	143		mg/kg	1.4	0.93	0.46	SW846 6020A	5	08/15/2024 16:03	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	30.9		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A
Total Solids	69.1		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A

Results

Client Sample ID	ASYss-144-0001-SO	Collected	08/07/2024 14:30
Lab Sample ID	3373022018	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	129		mg/kg	1.2	0.82	0.41	SW846 6020A	5	08/15/2024 16:05	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	27.6		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A
Total Solids	72.4		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A

Results

Client Sample ID	ASYss-080724-FD01	Collected	08/07/2024 00:00
Lab Sample ID	3373022019	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	28.7		mg/kg	1.4	0.91	0.46	SW846 6020A	5	08/15/2024 16:07	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	30.6		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A
Total Solids	69.4		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A

Results

Client Sample ID	ASYss-080724-FD02	Collected	08/07/2024 00:00
Lab Sample ID	3373022020	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	48.7		mg/kg	1.6	1.1	0.53	SW846 6020A	5	08/15/2024 16:09	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	39.6		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A
Total Solids	60.4		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A

Results

Client Sample ID	ASYss-080724-FD02	Collected	08/07/2024 00:00
Lab Sample ID	3373022020	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	48.7		mg/kg	1.6	1.1	0.53	SW846 6020A	5	08/15/2024 16:09	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	39.6		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A
Total Solids	60.4		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A

Results

Client Sample ID	OFFbo-001M-0001-SO (Top Soil)	Collected	08/07/2024 14:00
Lab Sample ID	3373022021	Lab Receipt	08/09/2024 10:15

ENERGETICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,3,5-Trinitrobenzene	0.20U	U,S1	mg/kg	0.25	0.20	0.099	SW846 8330B	1	08/21/2024 02:11	WDA	A11
1,3-Dinitrobenzene	0.20U	U,S1	mg/kg	0.25	0.20	0.050	SW846 8330B	1	08/21/2024 02:11	WDA	A11
2,4,6-Trinitrotoluene	0.20U	U,S1	mg/kg	0.25	0.20	0.050	SW846 8330B	1	08/21/2024 02:11	WDA	A11
2,4-Dinitrotoluene	0.20U	U,S1	mg/kg	0.25	0.20	0.059	SW846 8330B	1	08/21/2024 02:11	WDA	A11
2,6-Dinitrotoluene	0.20U	U,S1	mg/kg	0.25	0.20	0.059	SW846 8330B	1	08/21/2024 02:11	WDA	A11
2-Amino-4,6-Dinitrotoluene	0.20U	U,S1	mg/kg	0.25	0.20	0.050	SW846 8330B	1	08/21/2024 02:11	WDA	A11
2-Nitrotoluene	0.20U	U,S1	mg/kg	0.25	0.20	0.059	SW846 8330B	1	08/21/2024 02:11	WDA	A11
3-Nitrotoluene	0.20U	U,S1	mg/kg	0.25	0.20	0.050	SW846 8330B	1	08/21/2024 02:11	WDA	A11
4-Amino-2,6-dinitrotoluene	0.20U	U,S1	mg/kg	0.25	0.20	0.050	SW846 8330B	1	08/21/2024 02:11	WDA	A11
4-Nitrotoluene	0.20U	U,S1	mg/kg	0.25	0.20	0.099	SW846 8330B	1	08/21/2024 02:11	WDA	A11
HMX	0.20U	U,S1	mg/kg	0.25	0.20	0.050	SW846 8330B	1	08/21/2024 02:11	WDA	A11
Nitrobenzene	0.20U	U,S1	mg/kg	0.25	0.20	0.050	SW846 8330B	1	08/21/2024 02:11	WDA	A11
Nitroglycerin	0.99U	U,S1	mg/kg	1.2	0.99	0.45	SW846 8330B	1	08/21/2024 02:11	WDA	A11
RDX	0.20U	U,S1	mg/kg	0.25	0.20	0.069	SW846 8330B	1	08/21/2024 02:11	WDA	A11
Tetryl	0.20U	U,12,S1	mg/kg	0.25	0.20	0.050	SW846 8330B	1	08/21/2024 02:11	WDA	A11

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,4-Dinitrobenzene	100-25-4	105%	50 -150	08/21/2024 02:11	
1,4-Dinitrobenzene	100-25-4	102%	50 -150	08/21/2024 02:11	

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Aluminum, Total	16800	15,S1	mg/kg	48.1	31.9	15.6	SW846 6020A	5	08/15/2024 16:23	MO	A2
Antimony, Total	0.79U	U,3,16,17,S1	mg/kg	1.2	0.79	0.40	SW846 6020A	5	08/15/2024 16:23	MO	A2
Arsenic, Total	9.7	S1	mg/kg	1.8	1.2	0.60	SW846 6020A	5	08/15/2024 16:23	MO	A2
Barium, Total	92.2	S1	mg/kg	3.0	2.0	0.96	SW846 6020A	5	08/15/2024 16:23	MO	A2
Beryllium, Total	0.78	S1	mg/kg	0.60	0.40	0.20	SW846 6020A	5	08/15/2024 16:23	MO	A2
Cadmium, Total	0.24J	J,S1	mg/kg	0.60	0.40	0.20	SW846 6020A	5	08/15/2024 16:23	MO	A2
Calcium, Total	15000	15,S1	mg/kg	60.1	40.3	19.8	SW846 6020A	5	08/16/2024 10:34	MO	A2
Chromium, Total	21.3	18,S1	mg/kg	1.2	0.79	0.40	SW846 6020A	5	08/15/2024 16:23	MO	A2
Cobalt, Total	10.6	19,S1	mg/kg	3.0	2.0	0.96	SW846 6020A	5	08/15/2024 16:23	MO	A2
Copper, Total	97.2	15,S1	mg/kg	3.0	2.0	0.96	SW846 6020A	5	08/15/2024 16:23	MO	A2
Iron, Total	23700	15,S1	mg/kg	30.1	19.8	9.6	SW846 6020A	5	08/15/2024 16:23	MO	A2
Lead, Total	17.7	S1	mg/kg	1.2	0.79	0.40	SW846 6020A	5	08/15/2024 16:23	MO	A2
Magnesium, Total	4910	15,S1	mg/kg	60.1	40.3	19.8	SW846 6020A	5	08/15/2024 16:23	MO	A2
Manganese, Total	561	15,S1	mg/kg	3.0	2.0	0.96	SW846 6020A	5	08/15/2024 16:23	MO	A2
Mercury, Total	0.11J	J,S1	mg/kg	0.24	0.16	0.081	SW846 7471B	1	08/21/2024 10:51	JMS	A
Nickel, Total	22.7	20,S1	mg/kg	3.0	2.0	0.96	SW846 6020A	5	08/15/2024 16:23	MO	A2
Potassium, Total	1670	15,S1	mg/kg	60.1	40.3	19.8	SW846 6020A	5	08/15/2024 16:23	MO	A2
Selenium, Total	2.0U	U,S1	mg/kg	3.0	2.0	0.96	SW846 6020A	5	08/15/2024 16:23	MO	A2
Silver, Total	0.79U	U,S1	mg/kg	1.2	0.79	0.40	SW846 6020A	5	08/15/2024 16:23	MO	A2
Sodium, Total	86.2	S1	mg/kg	60.1	40.3	19.8	SW846 6020A	5	08/16/2024 10:34	MO	A2
Thallium, Total	0.40U	U,3,21,22,23,S1	mg/kg	0.60	0.40	0.20	SW846 6020A	5	08/15/2024 16:23	MO	A2

Results

Client Sample ID	OFFbo-001M-0001-SO (Top Soil)	Collected	08/07/2024 14:00
Lab Sample ID	3373022021	Lab Receipt	08/09/2024 10:15

METALS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Vanadium, Total	30.9	24,S1	mg/kg	1.8	1.2	0.60	SW846 6020A	5	08/15/2024 16:23	MO	A2
Zinc, Total	70.3	S1	mg/kg	3.0	2.0	0.96	SW846 6020A	5	08/15/2024 16:23	MO	A2

PCBs

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Aroclor-1016	0.030U	U,S1	mg/kg	0.040	0.030	0.012	SW846 8082A	1	08/14/2024 22:37	DXL	A
Aroclor-1221	0.030U	U,S1	mg/kg	0.040	0.030	0.012	SW846 8082A	1	08/14/2024 22:37	DXL	A
Aroclor-1232	0.030U	U,S1	mg/kg	0.040	0.030	0.012	SW846 8082A	1	08/14/2024 22:37	DXL	A
Aroclor-1242	0.030U	U,S1	mg/kg	0.040	0.030	0.012	SW846 8082A	1	08/14/2024 22:37	DXL	A
Aroclor-1248	0.030U	U,S1	mg/kg	0.040	0.030	0.012	SW846 8082A	1	08/14/2024 22:37	DXL	A
Aroclor-1254	0.030U	U,S1	mg/kg	0.040	0.030	0.012	SW846 8082A	1	08/14/2024 22:37	DXL	A
Aroclor-1260	0.030U	U,S1	mg/kg	0.040	0.030	0.012	SW846 8082A	1	08/14/2024 22:37	DXL	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
Decachlorobiphenyl	2051-24-3	81.4%	49 -115	08/14/2024 22:37	
Tetrachloro-m-xylene	877-09-8	82.9%	44 -130	08/14/2024 22:37	

PESTICIDES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
4,4'-DDD	0.0046U	U,S1	mg/kg	0.010	0.0046	0.0015	SW846 8081B	5	08/19/2024 15:07	KJH	A
4,4'-DDE	0.0046U	U,9,S1	mg/kg	0.010	0.0046	0.0015	SW846 8081B	5	08/19/2024 15:07	KJH	A
4,4'-DDT	0.023U	U,S1	mg/kg	0.052	0.023	0.0076	SW846 8081B	25	08/22/2024 13:58	KJH	A
Aldrin	0.0046U	U,7,S1	mg/kg	0.010	0.0046	0.0015	SW846 8081B	5	08/19/2024 15:07	KJH	A
alpha-Chlordane	0.0046U	U,S1	mg/kg	0.010	0.0046	0.0015	SW846 8081B	5	08/19/2024 15:07	KJH	A
alpha-HCH (alpha-BHC)	0.0046U	U,10,S1	mg/kg	0.010	0.0046	0.0015	SW846 8081B	5	08/19/2024 15:07	KJH	A
beta-BHC	0.0046U	U,S1	mg/kg	0.010	0.0046	0.0015	SW846 8081B	5	08/19/2024 15:07	KJH	A
delta-BHC	0.0046U	U,S1	mg/kg	0.010	0.0046	0.0015	SW846 8081B	5	08/19/2024 15:07	KJH	A
Dieldrin	0.0046U	U,S1	mg/kg	0.010	0.0046	0.0015	SW846 8081B	5	08/19/2024 15:07	KJH	A
Endosulfan I	0.0046U	U,S1	mg/kg	0.010	0.0046	0.0016	SW846 8081B	5	08/19/2024 15:07	KJH	A
Endosulfan II	0.00091U	U,S1	mg/kg	0.0021	0.00091	0.00030	SW846 8081B	1	08/19/2024 16:49	KJH	A
Endosulfan Sulfate	0.00091U	U,S1	mg/kg	0.0021	0.00091	0.00030	SW846 8081B	1	08/19/2024 16:49	KJH	A
Endrin	0.00091U	U,S1	mg/kg	0.0021	0.00091	0.00030	SW846 8081B	1	08/19/2024 16:49	KJH	A
Endrin Aldehyde	0.00091U	U,S1	mg/kg	0.0021	0.00091	0.00030	SW846 8081B	1	08/19/2024 16:49	KJH	A
Endrin Ketone	0.00091U	U,S1	mg/kg	0.0021	0.00091	0.00030	SW846 8081B	1	08/19/2024 16:49	KJH	A
gamma-BHC	0.0046U	U,S1	mg/kg	0.010	0.0046	0.0015	SW846 8081B	5	08/19/2024 15:07	KJH	A
gamma-Chlordane	0.00091U	U,S1	mg/kg	0.0021	0.00091	0.00030	SW846 8081B	1	08/19/2024 16:49	KJH	A
Heptachlor	0.00091U	U,S1	mg/kg	0.0021	0.00091	0.00030	SW846 8081B	1	08/19/2024 16:49	KJH	A
Heptachlor Epoxide	0.0046U	U,S1	mg/kg	0.010	0.0046	0.0015	SW846 8081B	5	08/19/2024 15:07	KJH	A
Methoxychlor	0.023U	U,11,S1	mg/kg	0.052	0.023	0.011	SW846 8081B	25	08/22/2024 13:58	KJH	A
Toxaphene	0.041U	U,S1	mg/kg	0.082	0.041	0.018	SW846 8081B	1	08/19/2024 16:49	KJH	A

Results

Client Sample ID	OFFbo-001M-0001-SO (Top Soil)	Collected	08/07/2024 14:00
Lab Sample ID	3373022021	Lab Receipt	08/09/2024 10:15

PESTICIDES (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
Decachlorobiphenyl	2051-24-3	89.8%	30 -135	08/19/2024 16:49	
Decachlorobiphenyl	2051-24-3	78.1%	30 -135	08/19/2024 15:07	
Decachlorobiphenyl	2051-24-3	74%	30 -135	08/22/2024 13:58	
Decachlorobiphenyl.	2051-24-3X	73.5%	30 -135	08/19/2024 16:49	
Decachlorobiphenyl.	2051-24-3X	69.7%	30 -135	08/19/2024 15:07	
Decachlorobiphenyl.	2051-24-3X	73.3%	30 -135	08/22/2024 13:58	
Tetrachloro-m-xylene	877-09-8	67.5%	42 -129	08/19/2024 16:49	
Tetrachloro-m-xylene	877-09-8	63.2%	42 -129	08/19/2024 15:07	
Tetrachloro-m-xylene	877-09-8	74.6%	42 -129	08/22/2024 13:58	
Tetrachloro-m-xylene.	877-09-8X	70.2%	42 -129	08/19/2024 16:49	
Tetrachloro-m-xylene.	877-09-8X	69.9%	42 -129	08/19/2024 15:07	
Tetrachloro-m-xylene.	877-09-8X	75.6%	42 -129	08/22/2024 13:58	

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	0.080U	U,S1	mg/kg	0.32	0.080	0.044	SW846 8270E	1	08/14/2024 09:09	S7M	A
2,4,5-Trichlorophenol	0.080U	U,S1	mg/kg	0.32	0.080	0.041	SW846 8270E	1	08/14/2024 09:09	S7M	A
2,4,6-Trichlorophenol	0.080U	U,S1	mg/kg	0.32	0.080	0.041	SW846 8270E	1	08/14/2024 09:09	S7M	A
2,4-Dichlorophenol	0.080U	U,S1	mg/kg	0.32	0.080	0.041	SW846 8270E	1	08/14/2024 09:09	S7M	A
2,4-Dimethylphenol	0.080U	U,6,S1	mg/kg	0.32	0.080	0.041	SW846 8270E	1	08/14/2024 09:09	S7M	A
2,4-Dinitrophenol	0.48U	U,S1	mg/kg	0.64	0.48	0.094	SW846 8270E	1	08/14/2024 09:09	S7M	A
2,4-Dinitrotoluene	0.080U	U,S1	mg/kg	0.32	0.080	0.024	SW846 8270E	1	08/14/2024 09:09	S7M	A
2,6-Dinitrotoluene	0.080U	U,S1	mg/kg	0.32	0.080	0.020	SW846 8270E	1	08/14/2024 09:09	S7M	A
2-Chlorophenol	0.080U	U,S1	mg/kg	0.32	0.080	0.041	SW846 8270E	1	08/14/2024 09:09	S7M	A
2-Methyl-4,6-dinitrophenol	0.080U	U,S1	mg/kg	0.32	0.080	0.041	SW846 8270E	1	08/14/2024 09:09	S7M	A
2-Nitrophenol	0.080U	U,S1	mg/kg	0.32	0.080	0.041	SW846 8270E	1	08/14/2024 09:09	S7M	A
4-Chloro-3-methylphenol	0.080U	U,S1	mg/kg	0.32	0.080	0.041	SW846 8270E	1	08/14/2024 09:09	S7M	A
4-Nitrophenol	0.080U	U,S1	mg/kg	0.32	0.080	0.041	SW846 8270E	1	08/14/2024 09:09	S7M	A
Acenaphthene	0.039U	U,S1	mg/kg	0.12	0.039	0.020	SW846 8270E	1	08/14/2024 09:09	S7M	A
Acenaphthylene	0.039U	U,S1	mg/kg	0.12	0.039	0.020	SW846 8270E	1	08/14/2024 09:09	S7M	A
Anthracene	0.039U	U,S1	mg/kg	0.12	0.039	0.020	SW846 8270E	1	08/14/2024 09:09	S7M	A
Benzo(a)anthracene	0.039U	U,S1	mg/kg	0.12	0.039	0.020	SW846 8270E	1	08/14/2024 09:09	S7M	A
Benzo(a)pyrene	0.028J	J,S1	mg/kg	0.12	0.039	0.020	SW846 8270E	1	08/14/2024 09:09	S7M	A
Benzo(b)fluoranthene	0.025J	J,S1	mg/kg	0.12	0.039	0.020	SW846 8270E	1	08/14/2024 09:09	S7M	A
Benzo(g,h,i)perylene	0.025J	J,S1	mg/kg	0.12	0.039	0.020	SW846 8270E	1	08/14/2024 09:09	S7M	A
Benzo(k)fluoranthene	0.026J	J,S1	mg/kg	0.12	0.039	0.020	SW846 8270E	1	08/14/2024 09:09	S7M	A
bis(2-Ethylhexyl)phthalate	0.080U	U,S1	mg/kg	0.32	0.080	0.020	SW846 8270E	1	08/14/2024 09:09	S7M	A
Butylbenzylphthalate	0.080U	U,S1	mg/kg	0.32	0.080	0.020	SW846 8270E	1	08/14/2024 09:09	S7M	A
Chrysene	0.024J	J,S1	mg/kg	0.12	0.039	0.020	SW846 8270E	1	08/14/2024 09:09	S7M	A
Dibenzo(a,h)anthracene	0.039U	U,S1	mg/kg	0.12	0.039	0.020	SW846 8270E	1	08/14/2024 09:09	S7M	A
Diethylphthalate	0.080U	U,S1	mg/kg	0.32	0.080	0.020	SW846 8270E	1	08/14/2024 09:09	S7M	A
Dimethylphthalate	0.080U	U,S1	mg/kg	0.32	0.080	0.020	SW846 8270E	1	08/14/2024 09:09	S7M	A

Results

Client Sample ID	OFFbo-001M-0001-SO (Top Soil)	Collected	08/07/2024 14:00
Lab Sample ID	3373022021	Lab Receipt	08/09/2024 10:15

SEMIVOLATILES (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Di-n-Butylphthalate	0.080U	U,S1	mg/kg	0.32	0.080	0.020	SW846 8270E	1	08/14/2024 09:09	S7M	A
Di-n-Octylphthalate	0.080U	U,S1	mg/kg	0.32	0.080	0.023	SW846 8270E	1	08/14/2024 09:09	S7M	A
Fluoranthene	0.040J	J,S1	mg/kg	0.12	0.039	0.020	SW846 8270E	1	08/14/2024 09:09	S7M	A
Fluorene	0.080U	U,S1	mg/kg	0.12	0.080	0.020	SW846 8270E	1	08/14/2024 09:09	S7M	A
Indeno(1,2,3-cd)pyrene	0.025J	J,S1	mg/kg	0.12	0.039	0.020	SW846 8270E	1	08/14/2024 09:09	S7M	A
mp-Cresol	0.080U	U,S1	mg/kg	0.32	0.080	0.041	SW846 8270E	1	08/14/2024 09:09	S7M	A
Naphthalene	0.039U	U,S1	mg/kg	0.12	0.039	0.020	SW846 8270E	1	08/14/2024 09:09	S7M	A
Nitrobenzene	0.080U	U,S1	mg/kg	0.32	0.080	0.020	SW846 8270E	1	08/14/2024 09:09	S7M	A
o-Cresol	0.080U	U,S1	mg/kg	0.32	0.080	0.041	SW846 8270E	1	08/14/2024 09:09	S7M	A
Pentachlorophenol	0.24U	U,S1	mg/kg	0.64	0.24	0.055	SW846 8270E	1	08/14/2024 09:09	S7M	A
Phenanthrene	0.039U	U,S1	mg/kg	0.12	0.039	0.020	SW846 8270E	1	08/14/2024 09:09	S7M	A
Phenol	0.080U	U,S1	mg/kg	0.32	0.080	0.041	SW846 8270E	1	08/14/2024 09:09	S7M	A
Pyrene	0.034J	J,S1	mg/kg	0.12	0.039	0.020	SW846 8270E	1	08/14/2024 09:09	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	45.7%	39 -132	08/14/2024 09:09	
2-Fluorobiphenyl	321-60-8	41.5*%	44 -115	08/14/2024 09:09	8
2-Fluorophenol	367-12-4	39.1%	35 -115	08/14/2024 09:09	
Nitrobenzene-d5	4165-60-0	45.1%	37 -122	08/14/2024 09:09	
Phenol-d5	4165-62-2	40.8%	33 -122	08/14/2024 09:09	
Terphenyl-d14	98904-43-9	58.6%	54 -127	08/14/2024 09:09	

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
1,1,2,2-Tetrachloroethane	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
1,1,2-Trichloroethane	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
1,1-Dichloroethane	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
1,1-Dichloroethene	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
1,2,3-Trichlorobenzene	0.0013U	U,S1	mg/kg	0.0063	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
1,2,4-Trichlorobenzene	0.0013U	U,S1	mg/kg	0.0063	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
1,2-Dibromo-3-chloropropane	0.0032U	U,S1	mg/kg	0.0063	0.0032	0.0019	SW846 8260D	1	08/14/2024 15:30	TMP	A2
1,2-Dibromoethane	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
1,2-Dichlorobenzene	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
1,2-Dichloroethane	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
1,2-Dichloropropane	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
1,3-Dichlorobenzene	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
1,4-Dichlorobenzene	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
2-Butanone	0.0063U	U,S1	mg/kg	0.013	0.0063	0.0032	SW846 8260D	1	08/14/2024 15:30	TMP	A2
2-Hexanone	0.0063U	U,S1	mg/kg	0.013	0.0063	0.0032	SW846 8260D	1	08/14/2024 15:30	TMP	A2
4-Methyl-2-Pentanone(MIBK)	0.0063U	U,S1	mg/kg	0.013	0.0063	0.0032	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Acetone	0.0068J	J,S1	mg/kg	0.013	0.0063	0.0040	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Benzene	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Bromochloromethane	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2

Results

Client Sample ID	OFFbo-001M-0001-SO (Top Soil)	Collected	08/07/2024 14:00
Lab Sample ID	3373022021	Lab Receipt	08/09/2024 10:15

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Bromodichloromethane	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Bromoform	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Bromomethane	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Carbon Disulfide	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Carbon Tetrachloride	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Chlorobenzene	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Chlorodibromomethane	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Chloroethane	0.0032U	U,S1	mg/kg	0.0063	0.0032	0.0014	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Chloroform	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Chloromethane	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
cis-1,2-Dichloroethene	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
cis-1,3-Dichloropropene	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Cyclohexane	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Dichlorodifluoromethane	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Ethylbenzene	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Freon 113	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Isopropylbenzene	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Methyl acetate	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Methyl cyclohexane	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Methyl t-Butyl Ether	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Methylene Chloride	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00076	SW846 8260D	1	08/14/2024 15:30	TMP	A2
mp-Xylene	0.0025U	U,S1	mg/kg	0.0050	0.0025	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
o-Xylene	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Styrene	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Tetrachloroethene	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Toluene	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
trans-1,2-Dichloroethene	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
trans-1,3-Dichloropropene	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Trichloroethene	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Trichlorofluoromethane	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2
Vinyl Chloride	0.0013U	U,S1	mg/kg	0.0025	0.0013	0.00063	SW846 8260D	1	08/14/2024 15:30	TMP	A2

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	111%	71 -136	08/14/2024 15:30	
4-Bromofluorobenzene	460-00-4	102%	79 -119	08/14/2024 15:30	
Dibromofluoromethane	1868-53-7	103%	78 -119	08/14/2024 15:30	
Toluene-d8	2037-26-5	106%	85 -116	08/14/2024 15:30	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	19.4	S1	%	0.1	0.1	0.01	S2540G-15	1	08/09/2024 22:39	LMD	A
pH	6.56	13,14,S1	pH_Units			1	SW846 9045D	1	08/12/2024 11:29	KMS	A
Total Solids	80.6	S1	%	0.1	0.1	0.01	S2540G-15	1	08/09/2024 22:39	LMD	A

Results

Client Sample ID	OFFbo-001M-0001-SO (Top Soil)	Collected	08/07/2024 14:00
Lab Sample ID	3373022021	Lab Receipt	08/09/2024 10:15

WET CHEMISTRY (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr

Results

Client Sample ID	OFFbo-002M-0001-SO (Sand)	Collected	08/07/2024 14:05
Lab Sample ID	3373022022	Lab Receipt	08/09/2024 10:15

ENERGETICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,3,5-Trinitrobenzene	0.19U	U,S2	mg/kg	0.24	0.19	0.097	SW846 8330B	1	08/21/2024 05:02	WDA	D11
1,3-Dinitrobenzene	0.19U	U,S2	mg/kg	0.24	0.19	0.049	SW846 8330B	1	08/21/2024 05:02	WDA	D11
2,4,6-Trinitrotoluene	0.19U	U,S2	mg/kg	0.24	0.19	0.049	SW846 8330B	1	08/21/2024 05:02	WDA	D11
2,4-Dinitrotoluene	0.19U	U,S2	mg/kg	0.24	0.19	0.058	SW846 8330B	1	08/21/2024 05:02	WDA	D11
2,6-Dinitrotoluene	0.19U	U,S2	mg/kg	0.24	0.19	0.058	SW846 8330B	1	08/21/2024 05:02	WDA	D11
2-Amino-4,6-Dinitrotoluene	0.19U	U,S2	mg/kg	0.24	0.19	0.049	SW846 8330B	1	08/21/2024 05:02	WDA	D11
2-Nitrotoluene	0.19U	U,S2	mg/kg	0.24	0.19	0.058	SW846 8330B	1	08/21/2024 05:02	WDA	D11
3-Nitrotoluene	0.19U	U,S2	mg/kg	0.24	0.19	0.049	SW846 8330B	1	08/21/2024 05:02	WDA	D11
4-Amino-2,6-dinitrotoluene	0.19U	U,S2	mg/kg	0.24	0.19	0.049	SW846 8330B	1	08/21/2024 05:02	WDA	D11
4-Nitrotoluene	0.19U	U,S2	mg/kg	0.24	0.19	0.097	SW846 8330B	1	08/21/2024 05:02	WDA	D11
HMX	0.19U	U,S2	mg/kg	0.24	0.19	0.049	SW846 8330B	1	08/21/2024 05:02	WDA	D11
Nitrobenzene	0.19U	U,S2	mg/kg	0.24	0.19	0.049	SW846 8330B	1	08/21/2024 05:02	WDA	D11
Nitroglycerin	0.97U	U,S2	mg/kg	1.2	0.97	0.44	SW846 8330B	1	08/21/2024 05:02	WDA	D11
RDX	0.19U	U,S2	mg/kg	0.24	0.19	0.068	SW846 8330B	1	08/21/2024 05:02	WDA	D11
Tetryl	0.19U	U,12,S2	mg/kg	0.24	0.19	0.049	SW846 8330B	1	08/21/2024 05:02	WDA	D11

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,4-Dinitrobenzene	100-25-4	108%	50 -150	08/21/2024 05:02	
1,4-Dinitrobenzene	100-25-4	105%	50 -150	08/21/2024 05:02	

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Aluminum, Total	1170	S2	mg/kg	40.1	26.6	13.0	SW846 6020A	5	08/15/2024 16:11	MO	D2
Antimony, Total	0.66U	U,S2	mg/kg	1.0	0.66	0.33	SW846 6020A	5	08/15/2024 16:11	MO	D2
Arsenic, Total	8.3	S2	mg/kg	1.5	1.0	0.50	SW846 6020A	5	08/15/2024 16:11	MO	D2
Barium, Total	4.1	S2	mg/kg	2.5	1.7	0.80	SW846 6020A	5	08/15/2024 16:11	MO	D2
Beryllium, Total	0.34U	U,S2	mg/kg	0.50	0.34	0.17	SW846 6020A	5	08/15/2024 16:11	MO	D2
Cadmium, Total	0.34U	U,S2	mg/kg	0.50	0.34	0.17	SW846 6020A	5	08/15/2024 16:11	MO	D2
Calcium, Total	11600	S2	mg/kg	50.1	33.6	16.5	SW846 6020A	5	08/16/2024 10:44	MO	D2
Chromium, Total	2.2	S2	mg/kg	1.0	0.66	0.33	SW846 6020A	5	08/15/2024 16:11	MO	D2
Cobalt, Total	2.3J	J,S2	mg/kg	2.5	1.7	0.80	SW846 6020A	5	08/15/2024 16:11	MO	D2
Copper, Total	6.2	S2	mg/kg	2.5	1.7	0.80	SW846 6020A	5	08/15/2024 16:11	MO	D2
Iron, Total	8000	S2	mg/kg	25.1	16.5	8.0	SW846 6020A	5	08/15/2024 16:11	MO	D2
Lead, Total	5.1	S2	mg/kg	1.0	0.66	0.33	SW846 6020A	5	08/15/2024 16:11	MO	D2
Magnesium, Total	2640	S2	mg/kg	50.1	33.6	16.5	SW846 6020A	5	08/15/2024 16:11	MO	D2
Manganese, Total	179	S2	mg/kg	2.5	1.7	0.80	SW846 6020A	5	08/15/2024 16:11	MO	D2
Mercury, Total	0.13U	U,S2	mg/kg	0.20	0.13	0.067	SW846 7471B	1	08/21/2024 10:55	JMS	D
Nickel, Total	5.4	S2	mg/kg	2.5	1.7	0.80	SW846 6020A	5	08/15/2024 16:11	MO	D2
Potassium, Total	99.4	S2	mg/kg	50.1	33.6	16.5	SW846 6020A	5	08/15/2024 16:11	MO	D2
Selenium, Total	1.7U	U,S2	mg/kg	2.5	1.7	0.80	SW846 6020A	5	08/15/2024 16:11	MO	D2
Silver, Total	0.66U	U,S2	mg/kg	1.0	0.66	0.33	SW846 6020A	5	08/15/2024 16:11	MO	D2
Sodium, Total	35.7J	J,S2	mg/kg	50.1	33.6	16.5	SW846 6020A	5	08/16/2024 10:44	MO	D2
Thallium, Total	0.34U	U,S2	mg/kg	0.50	0.34	0.17	SW846 6020A	5	08/15/2024 16:11	MO	D2
Vanadium, Total	3.0	S2	mg/kg	1.5	1.0	0.50	SW846 6020A	5	08/15/2024 16:11	MO	D2

Results

Client Sample ID	OFFbo-002M-0001-SO (Sand)	Collected	08/07/2024 14:05
Lab Sample ID	3373022022	Lab Receipt	08/09/2024 10:15

METALS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Zinc, Total	26.9	S2	mg/kg	2.5	1.7	0.80	SW846 6020A	5	08/15/2024 16:11	MO	D2

PCBs

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Aroclor-1016	0.025U	U,S2	mg/kg	0.034	0.025	0.010	SW846 8082A	1	08/14/2024 21:43	DXL	D
Aroclor-1221	0.025U	U,S2	mg/kg	0.034	0.025	0.010	SW846 8082A	1	08/14/2024 21:43	DXL	D
Aroclor-1232	0.025U	U,S2	mg/kg	0.034	0.025	0.010	SW846 8082A	1	08/14/2024 21:43	DXL	D
Aroclor-1242	0.025U	U,S2	mg/kg	0.034	0.025	0.010	SW846 8082A	1	08/14/2024 21:43	DXL	D
Aroclor-1248	0.025U	U,S2	mg/kg	0.034	0.025	0.010	SW846 8082A	1	08/14/2024 21:43	DXL	D
Aroclor-1254	0.025U	U,S2	mg/kg	0.034	0.025	0.010	SW846 8082A	1	08/14/2024 21:43	DXL	D
Aroclor-1260	0.025U	U,S2	mg/kg	0.034	0.025	0.010	SW846 8082A	1	08/14/2024 21:43	DXL	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
Decachlorobiphenyl	2051-24-3	90%	49 -115	08/14/2024 21:43	
Tetrachloro-m-xylene	877-09-8	86.1%	44 -130	08/14/2024 21:43	

PESTICIDES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
4,4'-DDD	0.00076U	U,S2	mg/kg	0.0017	0.00076	0.00025	SW846 8081B	1	08/19/2024 15:18	KJH	D
4,4'-DDE	0.00076U	U,9,S2	mg/kg	0.0017	0.00076	0.00025	SW846 8081B	1	08/19/2024 15:18	KJH	D
4,4'-DDT	0.0038U	U,S2	mg/kg	0.0086	0.0038	0.0013	SW846 8081B	5	08/22/2024 14:10	KJH	D
Aldrin	0.00076U	U,7,S2	mg/kg	0.0017	0.00076	0.00025	SW846 8081B	1	08/19/2024 15:18	KJH	D
alpha-Chlordane	0.00076U	U,S2	mg/kg	0.0017	0.00076	0.00025	SW846 8081B	1	08/19/2024 15:18	KJH	D
alpha-HCH (alpha-BHC)	0.00076U	U,10,S2	mg/kg	0.0017	0.00076	0.00025	SW846 8081B	1	08/19/2024 15:18	KJH	D
beta-BHC	0.00076U	U,S2	mg/kg	0.0017	0.00076	0.00025	SW846 8081B	1	08/19/2024 15:18	KJH	D
delta-BHC	0.00076U	U,S2	mg/kg	0.0017	0.00076	0.00025	SW846 8081B	1	08/19/2024 15:18	KJH	D
Dieldrin	0.00076U	U,S2	mg/kg	0.0017	0.00076	0.00025	SW846 8081B	1	08/19/2024 15:18	KJH	D
Endosulfan I	0.00076U	U,S2	mg/kg	0.0017	0.00076	0.00026	SW846 8081B	1	08/19/2024 15:18	KJH	D
Endosulfan II	0.00076U	U,S2	mg/kg	0.0017	0.00076	0.00025	SW846 8081B	1	08/19/2024 15:18	KJH	D
Endosulfan Sulfate	0.00076U	U,S2	mg/kg	0.0017	0.00076	0.00025	SW846 8081B	1	08/19/2024 15:18	KJH	D
Endrin	0.00076U	U,S2	mg/kg	0.0017	0.00076	0.00025	SW846 8081B	1	08/19/2024 15:18	KJH	D
Endrin Aldehyde	0.00076U	U,S2	mg/kg	0.0017	0.00076	0.00025	SW846 8081B	1	08/19/2024 15:18	KJH	D
Endrin Ketone	0.00076U	U,S2	mg/kg	0.0017	0.00076	0.00025	SW846 8081B	1	08/19/2024 15:18	KJH	D
gamma-BHC	0.00076U	U,S2	mg/kg	0.0017	0.00076	0.00025	SW846 8081B	1	08/19/2024 15:18	KJH	D
gamma-Chlordane	0.00076U	U,S2	mg/kg	0.0017	0.00076	0.00025	SW846 8081B	1	08/19/2024 15:18	KJH	D
Heptachlor	0.00076U	U,S2	mg/kg	0.0017	0.00076	0.00025	SW846 8081B	1	08/19/2024 15:18	KJH	D
Heptachlor Epoxide	0.00076U	U,S2	mg/kg	0.0017	0.00076	0.00025	SW846 8081B	1	08/19/2024 15:18	KJH	D
Methoxychlor	0.0038U	U,11,S2	mg/kg	0.0086	0.0038	0.0018	SW846 8081B	5	08/22/2024 14:10	KJH	D
Toxaphene	0.034U	U,S2	mg/kg	0.068	0.034	0.015	SW846 8081B	1	08/19/2024 15:18	KJH	D

Results

Client Sample ID	OFFbo-002M-0001-SO (Sand)	Collected	08/07/2024 14:05
Lab Sample ID	3373022022	Lab Receipt	08/09/2024 10:15

PESTICIDES (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
Decachlorobiphenyl	2051-24-3	86.8%	30 -135	08/19/2024 15:18	
Decachlorobiphenyl	2051-24-3	93.2%	30 -135	08/22/2024 14:10	
Decachlorobiphenyl.	2051-24-3X	76.1%	30 -135	08/19/2024 15:18	
Decachlorobiphenyl.	2051-24-3X	93.1%	30 -135	08/22/2024 14:10	
Tetrachloro-m-xylene	877-09-8	70%	42 -129	08/19/2024 15:18	
Tetrachloro-m-xylene	877-09-8	85%	42 -129	08/22/2024 14:10	
Tetrachloro-m-xylene.	877-09-8X	72.7%	42 -129	08/19/2024 15:18	
Tetrachloro-m-xylene.	877-09-8X	90.7%	42 -129	08/22/2024 14:10	

SEMIVOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dioxane	0.063U	U,S2	mg/kg	0.26	0.063	0.035	SW846 8270E	1	08/14/2024 09:35	S7M	D
2,4,5-Trichlorophenol	0.063U	U,S2	mg/kg	0.26	0.063	0.032	SW846 8270E	1	08/14/2024 09:35	S7M	D
2,4,6-Trichlorophenol	0.063U	U,S2	mg/kg	0.26	0.063	0.032	SW846 8270E	1	08/14/2024 09:35	S7M	D
2,4-Dichlorophenol	0.063U	U,S2	mg/kg	0.26	0.063	0.032	SW846 8270E	1	08/14/2024 09:35	S7M	D
2,4-Dimethylphenol	0.063U	U,6,S2	mg/kg	0.26	0.063	0.032	SW846 8270E	1	08/14/2024 09:35	S7M	D
2,4-Dinitrophenol	0.38U	U,S2	mg/kg	0.51	0.38	0.075	SW846 8270E	1	08/14/2024 09:35	S7M	D
2,4-Dinitrotoluene	0.063U	U,S2	mg/kg	0.26	0.063	0.019	SW846 8270E	1	08/14/2024 09:35	S7M	D
2,6-Dinitrotoluene	0.063U	U,S2	mg/kg	0.26	0.063	0.016	SW846 8270E	1	08/14/2024 09:35	S7M	D
2-Chlorophenol	0.063U	U,S2	mg/kg	0.26	0.063	0.032	SW846 8270E	1	08/14/2024 09:35	S7M	D
2-Methyl-4,6-dinitrophenol	0.063U	U,S2	mg/kg	0.26	0.063	0.032	SW846 8270E	1	08/14/2024 09:35	S7M	D
2-Nitrophenol	0.063U	U,S2	mg/kg	0.26	0.063	0.032	SW846 8270E	1	08/14/2024 09:35	S7M	D
4-Chloro-3-methylphenol	0.063U	U,S2	mg/kg	0.26	0.063	0.032	SW846 8270E	1	08/14/2024 09:35	S7M	D
4-Nitrophenol	0.063U	U,S2	mg/kg	0.26	0.063	0.032	SW846 8270E	1	08/14/2024 09:35	S7M	D
Acenaphthene	0.031U	U,S2	mg/kg	0.095	0.031	0.016	SW846 8270E	1	08/14/2024 09:35	S7M	D
Acenaphthylene	0.031U	U,S2	mg/kg	0.095	0.031	0.016	SW846 8270E	1	08/14/2024 09:35	S7M	D
Anthracene	0.031U	U,S2	mg/kg	0.095	0.031	0.016	SW846 8270E	1	08/14/2024 09:35	S7M	D
Benzo(a)anthracene	0.031U	U,S2	mg/kg	0.095	0.031	0.016	SW846 8270E	1	08/14/2024 09:35	S7M	D
Benzo(a)pyrene	0.031U	U,S2	mg/kg	0.095	0.031	0.016	SW846 8270E	1	08/14/2024 09:35	S7M	D
Benzo(b)fluoranthene	0.031U	U,S2	mg/kg	0.095	0.031	0.016	SW846 8270E	1	08/14/2024 09:35	S7M	D
Benzo(g,h,i)perylene	0.031U	U,S2	mg/kg	0.095	0.031	0.016	SW846 8270E	1	08/14/2024 09:35	S7M	D
Benzo(k)fluoranthene	0.031U	U,S2	mg/kg	0.095	0.031	0.016	SW846 8270E	1	08/14/2024 09:35	S7M	D
bis(2-Ethylhexyl)phthalate	0.063U	U,S2	mg/kg	0.26	0.063	0.016	SW846 8270E	1	08/14/2024 09:35	S7M	D
Butylbenzylphthalate	0.063U	U,S2	mg/kg	0.26	0.063	0.016	SW846 8270E	1	08/14/2024 09:35	S7M	D
Chrysene	0.031U	U,S2	mg/kg	0.095	0.031	0.016	SW846 8270E	1	08/14/2024 09:35	S7M	D
Dibenzo(a,h)anthracene	0.031U	U,S2	mg/kg	0.095	0.031	0.016	SW846 8270E	1	08/14/2024 09:35	S7M	D
Diethylphthalate	0.063U	U,S2	mg/kg	0.26	0.063	0.016	SW846 8270E	1	08/14/2024 09:35	S7M	D
Dimethylphthalate	0.063U	U,S2	mg/kg	0.26	0.063	0.016	SW846 8270E	1	08/14/2024 09:35	S7M	D
Di-n-Butylphthalate	0.063U	U,S2	mg/kg	0.26	0.063	0.016	SW846 8270E	1	08/14/2024 09:35	S7M	D
Di-n-Octylphthalate	0.063U	U,S2	mg/kg	0.26	0.063	0.018	SW846 8270E	1	08/14/2024 09:35	S7M	D
Fluoranthene	0.031U	U,S2	mg/kg	0.095	0.031	0.016	SW846 8270E	1	08/14/2024 09:35	S7M	D
Fluorene	0.063U	U,S2	mg/kg	0.095	0.063	0.016	SW846 8270E	1	08/14/2024 09:35	S7M	D

Results

Client Sample ID	OFFbo-002M-0001-SO (Sand)	Collected	08/07/2024 14:05
Lab Sample ID	3373022022	Lab Receipt	08/09/2024 10:15

SEMIVOLATILES (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Indeno(1,2,3-cd)pyrene	0.031U	U,S2	mg/kg	0.095	0.031	0.016	SW846 8270E	1	08/14/2024 09:35	S7M	D
mp-Cresol	0.063U	U,S2	mg/kg	0.26	0.063	0.032	SW846 8270E	1	08/14/2024 09:35	S7M	D
Naphthalene	0.031U	U,S2	mg/kg	0.095	0.031	0.016	SW846 8270E	1	08/14/2024 09:35	S7M	D
Nitrobenzene	0.063U	U,S2	mg/kg	0.26	0.063	0.016	SW846 8270E	1	08/14/2024 09:35	S7M	D
o-Cresol	0.063U	U,S2	mg/kg	0.26	0.063	0.032	SW846 8270E	1	08/14/2024 09:35	S7M	D
Pentachlorophenol	0.19U	U,S2	mg/kg	0.51	0.19	0.044	SW846 8270E	1	08/14/2024 09:35	S7M	D
Phenanthrene	0.031U	U,S2	mg/kg	0.095	0.031	0.016	SW846 8270E	1	08/14/2024 09:35	S7M	D
Phenol	0.063U	U,S2	mg/kg	0.26	0.063	0.032	SW846 8270E	1	08/14/2024 09:35	S7M	D
Pyrene	0.031U	U,S2	mg/kg	0.095	0.031	0.016	SW846 8270E	1	08/14/2024 09:35	S7M	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	84.5%	39 -132	08/14/2024 09:35	
2-Fluorobiphenyl	321-60-8	78.1%	44 -115	08/14/2024 09:35	
2-Fluorophenol	367-12-4	73.7%	35 -115	08/14/2024 09:35	
Nitrobenzene-d5	4165-60-0	85.4%	37 -122	08/14/2024 09:35	
Phenol-d5	4165-62-2	76%	33 -122	08/14/2024 09:35	
Terphenyl-d14	98904-43-9	108%	54 -127	08/14/2024 09:35	

VOLATILE ORGANICS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1,1-Trichloroethane	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
1,1,2,2-Tetrachloroethane	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
1,1,2-Trichloroethane	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
1,1-Dichloroethane	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
1,1-Dichloroethene	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
1,2,3-Trichlorobenzene	0.0012U	U,S2	mg/kg	0.0059	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
1,2,4-Trichlorobenzene	0.0012U	U,S2	mg/kg	0.0059	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
1,2-Dibromo-3-chloropropane	0.0029U	U,S2	mg/kg	0.0059	0.0029	0.0018	SW846 8260D	1	08/14/2024 15:56	TMP	A
1,2-Dibromoethane	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
1,2-Dichlorobenzene	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
1,2-Dichloroethane	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
1,2-Dichloropropane	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
1,3-Dichlorobenzene	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
1,4-Dichlorobenzene	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
2-Butanone	0.0059U	U,S2	mg/kg	0.012	0.0059	0.0029	SW846 8260D	1	08/14/2024 15:56	TMP	A
2-Hexanone	0.0059U	U,S2	mg/kg	0.012	0.0059	0.0029	SW846 8260D	1	08/14/2024 15:56	TMP	A
4-Methyl-2-Pentanone(MIBK)	0.0059U	U,S2	mg/kg	0.012	0.0059	0.0029	SW846 8260D	1	08/14/2024 15:56	TMP	A
Acetone	0.0059U	U,S2	mg/kg	0.012	0.0059	0.0038	SW846 8260D	1	08/14/2024 15:56	TMP	A
Benzene	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
Bromochloromethane	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
Bromodichloromethane	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
Bromoform	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
Bromomethane	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
Carbon Disulfide	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A

Results

Client Sample ID	OFFbo-002M-0001-SO (Sand)	Collected	08/07/2024 14:05
Lab Sample ID	3373022022	Lab Receipt	08/09/2024 10:15

VOLATILE ORGANICS (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Carbon Tetrachloride	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
Chlorobenzene	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
Chlorodibromomethane	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
Chloroethane	0.0029U	U,S2	mg/kg	0.0059	0.0029	0.0013	SW846 8260D	1	08/14/2024 15:56	TMP	A
Chloroform	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
Chloromethane	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
cis-1,2-Dichloroethene	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
cis-1,3-Dichloropropene	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
Cyclohexane	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
Dichlorodifluoromethane	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
Ethylbenzene	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
Freon 113	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
Isopropylbenzene	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
Methyl acetate	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
Methyl cyclohexane	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
Methyl t-Butyl Ether	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
Methylene Chloride	0.0054	S2	mg/kg	0.0024	0.0012	0.00071	SW846 8260D	1	08/14/2024 15:56	TMP	A
mp-Xylene	0.0024U	U,S2	mg/kg	0.0047	0.0024	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
o-Xylene	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
Styrene	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
Tetrachloroethene	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
Toluene	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
trans-1,2-Dichloroethene	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
trans-1,3-Dichloropropene	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
Trichloroethene	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
Trichlorofluoromethane	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A
Vinyl Chloride	0.0012U	U,S2	mg/kg	0.0024	0.0012	0.00059	SW846 8260D	1	08/14/2024 15:56	TMP	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	103%	71 -136	08/14/2024 15:56	
4-Bromofluorobenzene	460-00-4	103%	79 -119	08/14/2024 15:56	
Dibromofluoromethane	1868-53-7	99.9%	78 -119	08/14/2024 15:56	
Toluene-d8	2037-26-5	106%	85 -116	08/14/2024 15:56	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	4.1	S2	%	0.1	0.1	0.01	S2540G-15	1	08/12/2024 16:05	LMD	A
pH	6.84	13,14,S2	pH_Units			1	SW846 9045D	1	08/12/2024 11:29	KMS	D
Total Solids	95.9	S2	%	0.1	0.1	0.01	S2540G-15	1	08/12/2024 16:05	LMD	A

Results

Client Sample ID	ASYpl-150-0001-SO	Collected	08/07/2024 15:00
Lab Sample ID	3373022023	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	728	S3	mg/kg	1.3	0.83	0.41	SW846 6020A	5	08/15/2024 16:13	MO	A3

PCBs

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Aroclor-1016	0.033U	U,S3	mg/kg	0.044	0.033	0.013	SW846 8082A	1	08/14/2024 21:54	DXL	A
Aroclor-1221	0.033U	U,S3	mg/kg	0.044	0.033	0.013	SW846 8082A	1	08/14/2024 21:54	DXL	A
Aroclor-1232	0.033U	U,S3	mg/kg	0.044	0.033	0.013	SW846 8082A	1	08/14/2024 21:54	DXL	A
Aroclor-1242	0.033U	U,S3	mg/kg	0.044	0.033	0.013	SW846 8082A	1	08/14/2024 21:54	DXL	A
Aroclor-1248	0.033U	U,S3	mg/kg	0.044	0.033	0.013	SW846 8082A	1	08/14/2024 21:54	DXL	A
Aroclor-1254	0.033U	U,S3	mg/kg	0.044	0.033	0.013	SW846 8082A	1	08/14/2024 21:54	DXL	A
Aroclor-1260	0.033U	U,S3	mg/kg	0.044	0.033	0.013	SW846 8082A	1	08/14/2024 21:54	DXL	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
Decachlorobiphenyl	2051-24-3	83.7%	49 -115	08/14/2024 21:54	
Tetrachloro-m-xylene	877-09-8	80.6%	44 -130	08/14/2024 21:54	

TCLP EPA 1311 HERBICIDES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
2,4,5-TP	40.0U	U,S3	ug/L	60.0	40.0	10.2	SW846 8151A	1	08/16/2024 00:29	DXL	A1
2,4-D	40.0U	U,S3	ug/L	60.0	40.0	20.0	SW846 8151A	1	08/16/2024 00:29	DXL	A1

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4-Dichlorophenylacetic acid	19719-28-9	112%	32 -138	08/16/2024 00:29	

TCLP EPA 1311 METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Arsenic, Total	0.084U	U,S3	mg/L	0.13	0.084	0.042	SW846 6010C	1	08/14/2024 10:13	MSY	A2
Barium, Total	1.4	S3	mg/L	0.050	0.033	0.016	SW846 6010C	1	08/14/2024 10:13	MSY	A2
Cadmium, Total	0.026	S3	mg/L	0.0099	0.0063	0.0033	SW846 6010C	1	08/14/2024 10:13	MSY	A2
Chromium, Total	0.018U	U,S3	mg/L	0.025	0.018	0.0090	SW846 6010C	1	08/14/2024 10:13	MSY	A2
Lead, Total	3.5	28,S3	mg/L	0.030	0.020	0.0099	SW846 6010C	1	08/14/2024 10:13	MSY	A2
Mercury, Total	0.00033U	U,S3	mg/L	0.00050	0.00033	0.00016	SW846 7470A	1	08/15/2024 12:42	JSE	A
Selenium, Total	0.063U	U,29,S3	mg/L	0.099	0.063	0.033	SW846 6010C	1	08/14/2024 10:13	MSY	A2
Silver, Total	0.013U	U,S3	mg/L	0.020	0.013	0.0063	SW846 6010C	1	08/14/2024 10:13	MSY	A2

TCLP EPA 1311 PESTICIDES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Chlordane	4.0U	U,S3	ug/L	10.0	4.0	1.4	SW846 8081B	1	08/19/2024 15:30	KJH	A

Results

Client Sample ID	ASYpl-150-0001-SO	Collected	08/07/2024 15:00
Lab Sample ID	3373022023	Lab Receipt	08/09/2024 10:15

TCLP EPA 1311 PESTICIDES (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Endrin	0.80U	U,S3	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/19/2024 15:30	KJH	A
gamma-BHC	0.80U	U,S3	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/19/2024 15:30	KJH	A
Heptachlor	0.80U	U,S3	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/19/2024 15:30	KJH	A
Heptachlor Epoxide	0.80U	U,S3	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/19/2024 15:30	KJH	A
Methoxychlor	0.80U	U,11,S3	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/22/2024 14:21	KJH	A
Toxaphene	20.0U	U,S3	ug/L	40.0	20.0	10.0	SW846 8081B	1	08/19/2024 15:30	KJH	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
Decachlorobiphenyl	2051-24-3	76.4%	30 -140	08/19/2024 15:30	
Tetrachloro-m-xylene	877-09-8	62.1%	44 -124	08/19/2024 15:30	

TCLP EPA 1311 SEMI-VOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dichlorobenzene	5.0U	U,25,S3	ug/L	40.0	5.0	1.3	SW846 8270D	1	08/19/2024 08:58	S7M	A
2,4,5-Trichlorophenol	15.0U	U,S3	ug/L	40.0	15.0	2.5	SW846 8270D	1	08/19/2024 08:58	S7M	A
2,4,6-Trichlorophenol	5.0U	U,S3	ug/L	40.0	5.0	2.5	SW846 8270D	1	08/19/2024 08:58	S7M	A
2,4-Dinitrotoluene	5.0U	U,S3	ug/L	40.0	5.0	1.3	SW846 8270D	1	08/19/2024 08:58	S7M	A
Hexachlorobenzene	5.0U	U,S3	ug/L	40.0	5.0	1.3	SW846 8270D	1	08/19/2024 08:58	S7M	A
Hexachlorobutadiene	5.0U	U,26,S3	ug/L	40.0	5.0	2.1	SW846 8270D	1	08/19/2024 08:58	S7M	A
Hexachloroethane	5.0U	U,27,S3	ug/L	40.0	5.0	1.5	SW846 8270D	1	08/19/2024 08:58	S7M	A
mp-Cresol	5.0U	U,S3	ug/L	40.0	5.0	2.5	SW846 8270D	1	08/19/2024 08:58	S7M	A
Nitrobenzene	10.0U	U,S3	ug/L	40.0	10.0	1.3	SW846 8270D	1	08/19/2024 08:58	S7M	A
o-Cresol	5.0U	U,S3	ug/L	40.0	5.0	2.5	SW846 8270D	1	08/19/2024 08:58	S7M	A
Pentachlorophenol	40.0U	U,S3	ug/L	80.0	40.0	2.5	SW846 8270D	1	08/19/2024 08:58	S7M	A
Pyridine	10.0U	U,S3	ug/L	40.0	10.0	2.3	SW846 8270D	1	08/19/2024 08:58	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	79.2%	43 -140	08/19/2024 08:58	
2-Fluorobiphenyl	321-60-8	69.9%	44 -119	08/19/2024 08:58	
2-Fluorophenol	367-12-4	53.9%	19 -119	08/19/2024 08:58	
Nitrobenzene-d5	4165-60-0	81.6%	44 -120	08/19/2024 08:58	
Phenol-d5	4165-62-2	43.4%	13 -49	08/19/2024 08:58	
Terphenyl-d14	98904-43-9	89.1%	50 -134	08/19/2024 08:58	

TCLP EPA 1311 VOLATILE ORGANIC

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1-Dichloroethene	15.0U	U,S3	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 20:35	ILY	A
1,2-Dichloroethane	15.0U	U,S3	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 20:35	ILY	A
1,4-Dichlorobenzene	15.0U	U,S3	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 20:35	ILY	A
2-Butanone	75.0U	U,S3	ug/L	100	75.0	32.0	SW846 8260C	20	08/13/2024 20:35	ILY	A

Results

Client Sample ID	ASYpl-150-0001-SO	Collected	08/07/2024 15:00
Lab Sample ID	3373022023	Lab Receipt	08/09/2024 10:15

TCLP EPA 1311 VOLATILE ORGANIC (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzene	15.0U	U,S3	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 20:35	ILY	A
Carbon Tetrachloride	15.0U	U,S3	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 20:35	ILY	A
Chlorobenzene	15.0U	U,S3	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 20:35	ILY	A
Chloroform	15.0U	U,S3	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 20:35	ILY	A
Tetrachloroethene	15.0U	U,S3	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 20:35	ILY	A
Trichloroethene	15.0U	U,S3	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 20:35	ILY	A
Vinyl Chloride	15.0U	U,S3	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 20:35	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	101%	81 118	08/13/2024 20:35	
4-Bromofluorobenzene	460-00-4	97.4%	85 -114	08/13/2024 20:35	
Dibromofluoromethane	1868-53-7	96.3%	80 119	08/13/2024 20:35	
Toluene-d8	2037-26-5	99.1%	89 -112	08/13/2024 20:35	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	28.9	S3	%	0.1	0.1	0.01	S2540G-15	1	08/09/2024 22:39	LMD	A
Total Solids	71.1	S3	%	0.1	0.1	0.01	S2540G-15	1	08/09/2024 22:39	LMD	A

Results

Client Sample ID	ASYin-150-0002-WS	Collected	08/07/2024 15:05
Lab Sample ID	3373022024	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	1.4		mg/kg	1.0	0.67	0.34	SW846 6020A	5	08/15/2024 16:33	MO	A3

PCBs

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Aroclor-1016	0.026U	U	mg/kg	0.034	0.026	0.010	SW846 8082A	1	08/14/2024 22:05	DXL	A
Aroclor-1221	0.026U	U	mg/kg	0.034	0.026	0.010	SW846 8082A	1	08/14/2024 22:05	DXL	A
Aroclor-1232	0.026U	U	mg/kg	0.034	0.026	0.010	SW846 8082A	1	08/14/2024 22:05	DXL	A
Aroclor-1242	0.026U	U	mg/kg	0.034	0.026	0.010	SW846 8082A	1	08/14/2024 22:05	DXL	A
Aroclor-1248	0.026U	U	mg/kg	0.034	0.026	0.010	SW846 8082A	1	08/14/2024 22:05	DXL	A
Aroclor-1254	0.026U	U	mg/kg	0.034	0.026	0.010	SW846 8082A	1	08/14/2024 22:05	DXL	A
Aroclor-1260	0.026U	U	mg/kg	0.034	0.026	0.010	SW846 8082A	1	08/14/2024 22:05	DXL	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
Decachlorobiphenyl	2051-24-3	86.8%	49 -115	08/14/2024 22:05	
Tetrachloro-m-xylene	877-09-8	90%	44 -130	08/14/2024 22:05	

TCLP EPA 1311 HERBICIDES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
2,4,5-TP	40.0U	U	ug/L	60.0	40.0	10.2	SW846 8151A	1	08/16/2024 00:55	DXL	A1
2,4-D	40.0U	U	ug/L	60.0	40.0	20.0	SW846 8151A	1	08/16/2024 00:55	DXL	A1

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4-Dichlorophenylacetic acid	19719-28-9	107%	32 -138	08/16/2024 00:55	

TCLP EPA 1311 METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Arsenic, Total	0.084U	U	mg/L	0.13	0.084	0.042	SW846 6010C	1	08/14/2024 10:18	MSY	A2
Barium, Total	0.42		mg/L	0.050	0.033	0.016	SW846 6010C	1	08/14/2024 10:18	MSY	A2
Cadmium, Total	0.0040J	J	mg/L	0.0099	0.0063	0.0033	SW846 6010C	1	08/14/2024 10:18	MSY	A2
Chromium, Total	0.018U	U	mg/L	0.025	0.018	0.0090	SW846 6010C	1	08/14/2024 10:18	MSY	A2
Lead, Total	0.045		mg/L	0.030	0.020	0.0099	SW846 6010C	1	08/14/2024 10:18	MSY	A2
Mercury, Total	0.00033U	U	mg/L	0.00050	0.00033	0.00016	SW846 7470A	1	08/15/2024 12:46	JSE	A
Selenium, Total	0.037J	J	mg/L	0.099	0.063	0.033	SW846 6010C	1	08/14/2024 10:18	MSY	A2
Silver, Total	0.013U	U	mg/L	0.020	0.013	0.0063	SW846 6010C	1	08/14/2024 10:18	MSY	A2

TCLP EPA 1311 PESTICIDES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Chlordane	4.0U	U	ug/L	10.0	4.0	1.4	SW846 8081B	1	08/19/2024 15:41	KJH	A

Results

Client Sample ID	ASYin-150-0002-WS	Collected	08/07/2024 15:05
Lab Sample ID	3373022024	Lab Receipt	08/09/2024 10:15

TCLP EPA 1311 PESTICIDES (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Endrin	0.80U	U	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/19/2024 15:41	KJH	A
gamma-BHC	0.80U	U	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/19/2024 15:41	KJH	A
Heptachlor	0.80U	U	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/19/2024 15:41	KJH	A
Heptachlor Epoxide	0.80U	U	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/19/2024 15:41	KJH	A
Methoxychlor	0.80U	U,11	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/22/2024 14:32	KJH	A
Toxaphene	20.0U	U	ug/L	40.0	20.0	10.0	SW846 8081B	1	08/19/2024 15:41	KJH	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
Decachlorobiphenyl	2051-24-3	86.1%	30 -140	08/19/2024 15:41	
Tetrachloro-m-xylene	877-09-8	66.7%	44 -124	08/19/2024 15:41	

TCLP EPA 1311 SEMI-VOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dichlorobenzene	5.0U	U,25	ug/L	40.0	5.0	1.3	SW846 8270D	1	08/19/2024 09:25	S7M	A
2,4,5-Trichlorophenol	15.0U	U	ug/L	40.0	15.0	2.5	SW846 8270D	1	08/19/2024 09:25	S7M	A
2,4,6-Trichlorophenol	5.0U	U	ug/L	40.0	5.0	2.5	SW846 8270D	1	08/19/2024 09:25	S7M	A
2,4-Dinitrotoluene	5.0U	U	ug/L	40.0	5.0	1.3	SW846 8270D	1	08/19/2024 09:25	S7M	A
Hexachlorobenzene	5.0U	U	ug/L	40.0	5.0	1.3	SW846 8270D	1	08/19/2024 09:25	S7M	A
Hexachlorobutadiene	5.0U	U,26	ug/L	40.0	5.0	2.1	SW846 8270D	1	08/19/2024 09:25	S7M	A
Hexachloroethane	5.0U	U,27	ug/L	40.0	5.0	1.5	SW846 8270D	1	08/19/2024 09:25	S7M	A
mp-Cresol	5.0U	U	ug/L	40.0	5.0	2.5	SW846 8270D	1	08/19/2024 09:25	S7M	A
Nitrobenzene	10.0U	U	ug/L	40.0	10.0	1.3	SW846 8270D	1	08/19/2024 09:25	S7M	A
o-Cresol	5.0U	U	ug/L	40.0	5.0	2.5	SW846 8270D	1	08/19/2024 09:25	S7M	A
Pentachlorophenol	40.0U	U	ug/L	80.0	40.0	2.5	SW846 8270D	1	08/19/2024 09:25	S7M	A
Pyridine	10.0U	U	ug/L	40.0	10.0	2.3	SW846 8270D	1	08/19/2024 09:25	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	72.4%	43 -140	08/19/2024 09:25	
2-Fluorobiphenyl	321-60-8	71%	44 -119	08/19/2024 09:25	
2-Fluorophenol	367-12-4	53%	19 -119	08/19/2024 09:25	
Nitrobenzene-d5	4165-60-0	79.5%	44 -120	08/19/2024 09:25	
Phenol-d5	4165-62-2	42.8%	13 -49	08/19/2024 09:25	
Terphenyl-d14	98904-43-9	87.8%	50 -134	08/19/2024 09:25	

TCLP EPA 1311 VOLATILE ORGANIC

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1-Dichloroethene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 20:55	ILY	A
1,2-Dichloroethane	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 20:55	ILY	A
1,4-Dichlorobenzene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 20:55	ILY	A
2-Butanone	75.0U	U	ug/L	100	75.0	32.0	SW846 8260C	20	08/13/2024 20:55	ILY	A

Results

Client Sample ID	ASYin-150-0002-WS	Collected	08/07/2024 15:05
Lab Sample ID	3373022024	Lab Receipt	08/09/2024 10:15

TCLP EPA 1311 VOLATILE ORGANIC (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 20:55	ILY	A
Carbon Tetrachloride	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 20:55	ILY	A
Chlorobenzene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 20:55	ILY	A
Chloroform	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 20:55	ILY	A
Tetrachloroethene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 20:55	ILY	A
Trichloroethene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 20:55	ILY	A
Vinyl Chloride	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 20:55	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	99.2%	81 -118	08/13/2024 20:55	
4-Bromofluorobenzene	460-00-4	96.1%	85 -114	08/13/2024 20:55	
Dibromofluoromethane	1868-53-7	97.3%	80 -119	08/13/2024 20:55	
Toluene-d8	2037-26-5	99.7%	89 -112	08/13/2024 20:55	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	6.8		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A
Total Solids	93.2		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A

Results

Client Sample ID	ASYin-150-0003-WS	Collected	08/07/2024 15:10
Lab Sample ID	3373022025	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	7.4		mg/kg	0.98	0.65	0.32	SW846 6020A	5	08/15/2024 16:35	MO	A5

PCBs

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Aroclor-1016	0.025U	U	mg/kg	0.034	0.025	0.010	SW846 8082A	1	08/14/2024 22:15	DXL	A
Aroclor-1221	0.025U	U	mg/kg	0.034	0.025	0.010	SW846 8082A	1	08/14/2024 22:15	DXL	A
Aroclor-1232	0.025U	U	mg/kg	0.034	0.025	0.010	SW846 8082A	1	08/14/2024 22:15	DXL	A
Aroclor-1242	0.025U	U	mg/kg	0.034	0.025	0.010	SW846 8082A	1	08/14/2024 22:15	DXL	A
Aroclor-1248	0.025U	U	mg/kg	0.034	0.025	0.010	SW846 8082A	1	08/14/2024 22:15	DXL	A
Aroclor-1254	0.025U	U	mg/kg	0.034	0.025	0.010	SW846 8082A	1	08/14/2024 22:15	DXL	A
Aroclor-1260	0.025U	U	mg/kg	0.034	0.025	0.010	SW846 8082A	1	08/14/2024 22:15	DXL	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
Decachlorobiphenyl	2051-24-3	88.2%	49 -115	08/14/2024 22:15	
Tetrachloro-m-xylene	877-09-8	92.9%	44 -130	08/14/2024 22:15	

TCLP EPA 1311 HERBICIDES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
2,4,5-TP	40.0U	U	ug/L	60.0	40.0	10.2	SW846 8151A	1	08/16/2024 01:20	DXL	A1
2,4-D	40.0U	U	ug/L	60.0	40.0	20.0	SW846 8151A	1	08/16/2024 01:20	DXL	A1

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4-Dichlorophenylacetic acid	19719-28-9	103%	32 -138	08/16/2024 01:20	

TCLP EPA 1311 METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Arsenic, Total	0.084U	U	mg/L	0.13	0.084	0.042	SW846 6010C	1	08/14/2024 10:19	MSY	A4
Barium, Total	0.25		mg/L	0.050	0.033	0.016	SW846 6010C	1	08/14/2024 10:19	MSY	A4
Cadmium, Total	0.0063U	U	mg/L	0.0099	0.0063	0.0033	SW846 6010C	1	08/14/2024 10:19	MSY	A4
Chromium, Total	0.018U	U	mg/L	0.025	0.018	0.0090	SW846 6010C	1	08/14/2024 10:19	MSY	A4
Lead, Total	0.020U	U	mg/L	0.030	0.020	0.0099	SW846 6010C	1	08/14/2024 10:19	MSY	A4
Mercury, Total	0.00033U	U	mg/L	0.00050	0.00033	0.00016	SW846 7470A	1	08/15/2024 12:48	JSE	A
Selenium, Total	0.063U	U	mg/L	0.099	0.063	0.033	SW846 6010C	1	08/14/2024 10:19	MSY	A4
Silver, Total	0.013U	U	mg/L	0.020	0.013	0.0063	SW846 6010C	1	08/14/2024 10:19	MSY	A4

TCLP EPA 1311 PESTICIDES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Chlordane	4.0U	U	ug/L	10.0	4.0	1.4	SW846 8081B	1	08/19/2024 15:52	KJH	A

Results

Client Sample ID	ASYin-150-0003-WS	Collected	08/07/2024 15:10
Lab Sample ID	3373022025	Lab Receipt	08/09/2024 10:15

TCLP EPA 1311 PESTICIDES (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Endrin	0.80U	U	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/19/2024 15:52	KJH	A
gamma-BHC	0.80U	U	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/19/2024 15:52	KJH	A
Heptachlor	0.80U	U	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/19/2024 15:52	KJH	A
Heptachlor Epoxide	0.80U	U	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/19/2024 15:52	KJH	A
Methoxychlor	0.80U	U,11	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/22/2024 14:43	KJH	A
Toxaphene	20.0U	U	ug/L	40.0	20.0	10.0	SW846 8081B	1	08/19/2024 15:52	KJH	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
Decachlorobiphenyl	2051-24-3	81.3%	30 -140	08/19/2024 15:52	
Tetrachloro-m-xylene	877-09-8	55.7%	44 -124	08/19/2024 15:52	

TCLP EPA 1311 SEMI-VOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dichlorobenzene	5.0U	U,25	ug/L	40.0	5.0	1.3	SW846 8270D	1	08/19/2024 09:51	S7M	A
2,4,5-Trichlorophenol	15.0U	U	ug/L	40.0	15.0	2.5	SW846 8270D	1	08/19/2024 09:51	S7M	A
2,4,6-Trichlorophenol	5.0U	U	ug/L	40.0	5.0	2.5	SW846 8270D	1	08/19/2024 09:51	S7M	A
2,4-Dinitrotoluene	5.0U	U	ug/L	40.0	5.0	1.3	SW846 8270D	1	08/19/2024 09:51	S7M	A
Hexachlorobenzene	5.0U	U	ug/L	40.0	5.0	1.3	SW846 8270D	1	08/19/2024 09:51	S7M	A
Hexachlorobutadiene	5.0U	U,26	ug/L	40.0	5.0	2.1	SW846 8270D	1	08/19/2024 09:51	S7M	A
Hexachloroethane	5.0U	U,27	ug/L	40.0	5.0	1.5	SW846 8270D	1	08/19/2024 09:51	S7M	A
mp-Cresol	5.0U	U	ug/L	40.0	5.0	2.5	SW846 8270D	1	08/19/2024 09:51	S7M	A
Nitrobenzene	10.0U	U	ug/L	40.0	10.0	1.3	SW846 8270D	1	08/19/2024 09:51	S7M	A
o-Cresol	5.0U	U	ug/L	40.0	5.0	2.5	SW846 8270D	1	08/19/2024 09:51	S7M	A
Pentachlorophenol	40.0U	U	ug/L	80.0	40.0	2.5	SW846 8270D	1	08/19/2024 09:51	S7M	A
Pyridine	10.0U	U	ug/L	40.0	10.0	2.3	SW846 8270D	1	08/19/2024 09:51	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	75.7%	43 -140	08/19/2024 09:51	
2-Fluorobiphenyl	321-60-8	70.1%	44 -119	08/19/2024 09:51	
2-Fluorophenol	367-12-4	51.6%	19 -119	08/19/2024 09:51	
Nitrobenzene-d5	4165-60-0	78.4%	44 -120	08/19/2024 09:51	
Phenol-d5	4165-62-2	41.1%	13 -49	08/19/2024 09:51	
Terphenyl-d14	98904-43-9	86.8%	50 -134	08/19/2024 09:51	

TCLP EPA 1311 VOLATILE ORGANIC

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1-Dichloroethene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:15	ILY	A
1,2-Dichloroethane	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:15	ILY	A
1,4-Dichlorobenzene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:15	ILY	A
2-Butanone	75.0U	U	ug/L	100	75.0	32.0	SW846 8260C	20	08/13/2024 21:15	ILY	A

Results

Client Sample ID	ASYin-150-0003-WS	Collected	08/07/2024 15:10
Lab Sample ID	3373022025	Lab Receipt	08/09/2024 10:15

TCLP EPA 1311 VOLATILE ORGANIC (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzene	9.8J	J	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:15	ILY	A
Carbon Tetrachloride	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:15	ILY	A
Chlorobenzene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:15	ILY	A
Chloroform	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:15	ILY	A
Tetrachloroethene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:15	ILY	A
Trichloroethene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:15	ILY	A
Vinyl Chloride	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:15	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	98.4%	81 -118	08/13/2024 21:15	
4-Bromofluorobenzene	460-00-4	96.5%	85 -114	08/13/2024 21:15	
Dibromofluoromethane	1868-53-7	96.7%	80 -119	08/13/2024 21:15	
Toluene-d8	2037-26-5	99.1%	89 -112	08/13/2024 21:15	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	7.4		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A
Total Solids	92.6		%	0.1	0.1	0.01	S2540G-15	1	08/10/2024 14:46	J1K	A

Results

Client Sample ID	ASYin-150-0004-WS	Collected	08/07/2024 15:15
Lab Sample ID	3373022026	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	20.6		mg/kg	1.0	0.69	0.34	SW846 6020A	5	08/15/2024 16:38	MO	A3

PCBs

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Aroclor-1016	0.027U	U	mg/kg	0.036	0.027	0.011	SW846 8082A	1	08/14/2024 22:26	DXL	A
Aroclor-1221	0.027U	U	mg/kg	0.036	0.027	0.011	SW846 8082A	1	08/14/2024 22:26	DXL	A
Aroclor-1232	0.027U	U	mg/kg	0.036	0.027	0.011	SW846 8082A	1	08/14/2024 22:26	DXL	A
Aroclor-1242	0.027U	U	mg/kg	0.036	0.027	0.011	SW846 8082A	1	08/14/2024 22:26	DXL	A
Aroclor-1248	0.027U	U	mg/kg	0.036	0.027	0.011	SW846 8082A	1	08/14/2024 22:26	DXL	A
Aroclor-1254	0.027U	U	mg/kg	0.036	0.027	0.011	SW846 8082A	1	08/14/2024 22:26	DXL	A
Aroclor-1260	0.027U	U	mg/kg	0.036	0.027	0.011	SW846 8082A	1	08/14/2024 22:26	DXL	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
Decachlorobiphenyl	2051-24-3	92.6%	49 -115	08/14/2024 22:26	
Tetrachloro-m-xylene	877-09-8	92.6%	44 -130	08/14/2024 22:26	

TCLP EPA 1311 HERBICIDES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
2,4,5-TP	40.0U	U	ug/L	60.0	40.0	10.2	SW846 8151A	1	08/16/2024 02:38	DXL	A1
2,4-D	40.0U	U	ug/L	60.0	40.0	20.0	SW846 8151A	1	08/16/2024 02:38	DXL	A1

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4-Dichlorophenylacetic acid	19719-28-9	102%	32 -138	08/16/2024 02:38	

TCLP EPA 1311 METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Arsenic, Total	0.084U	U	mg/L	0.13	0.084	0.042	SW846 6010C	1	08/14/2024 10:20	MSY	A2
Barium, Total	0.37		mg/L	0.050	0.033	0.016	SW846 6010C	1	08/14/2024 10:20	MSY	A2
Cadmium, Total	0.020		mg/L	0.0099	0.0063	0.0033	SW846 6010C	1	08/14/2024 10:20	MSY	A2
Chromium, Total	0.018U	U	mg/L	0.025	0.018	0.0090	SW846 6010C	1	08/14/2024 10:20	MSY	A2
Lead, Total	0.16		mg/L	0.030	0.020	0.0099	SW846 6010C	1	08/14/2024 10:20	MSY	A2
Mercury, Total	0.00033U	U	mg/L	0.00050	0.00033	0.00016	SW846 7470A	1	08/15/2024 12:49	JSE	A
Selenium, Total	0.063U	U	mg/L	0.099	0.063	0.033	SW846 6010C	1	08/14/2024 10:20	MSY	A2
Silver, Total	0.013U	U	mg/L	0.020	0.013	0.0063	SW846 6010C	1	08/14/2024 10:20	MSY	A2

TCLP EPA 1311 PESTICIDES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Chlordane	4.0U	U	ug/L	10.0	4.0	1.4	SW846 8081B	1	08/19/2024 16:04	KJH	A

Results

Client Sample ID	ASYin-150-0004-WS	Collected	08/07/2024 15:15
Lab Sample ID	3373022026	Lab Receipt	08/09/2024 10:15

TCLP EPA 1311 PESTICIDES (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Endrin	0.80U	U	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/19/2024 16:04	KJH	A
gamma-BHC	0.80U	U	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/19/2024 16:04	KJH	A
Heptachlor	0.80U	U	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/19/2024 16:04	KJH	A
Heptachlor Epoxide	0.80U	U	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/19/2024 16:04	KJH	A
Methoxychlor	0.80U	U,11	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/22/2024 14:55	KJH	A
Toxaphene	20.0U	U	ug/L	40.0	20.0	10.0	SW846 8081B	1	08/19/2024 16:04	KJH	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
Decachlorobiphenyl	2051-24-3	90.6%	30 -140	08/19/2024 16:04	
Tetrachloro-m-xylene	877-09-8	54.7%	44 -124	08/19/2024 16:04	

TCLP EPA 1311 SEMI-VOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dichlorobenzene	5.0U	U,25	ug/L	40.0	5.0	1.3	SW846 8270D	1	08/19/2024 10:17	S7M	A
2,4,5-Trichlorophenol	15.0U	U	ug/L	40.0	15.0	2.5	SW846 8270D	1	08/19/2024 10:17	S7M	A
2,4,6-Trichlorophenol	5.0U	U	ug/L	40.0	5.0	2.5	SW846 8270D	1	08/19/2024 10:17	S7M	A
2,4-Dinitrotoluene	5.0U	U	ug/L	40.0	5.0	1.3	SW846 8270D	1	08/19/2024 10:17	S7M	A
Hexachlorobenzene	5.0U	U	ug/L	40.0	5.0	1.3	SW846 8270D	1	08/19/2024 10:17	S7M	A
Hexachlorobutadiene	5.0U	U,26	ug/L	40.0	5.0	2.1	SW846 8270D	1	08/19/2024 10:17	S7M	A
Hexachloroethane	5.0U	U,27	ug/L	40.0	5.0	1.5	SW846 8270D	1	08/19/2024 10:17	S7M	A
mp-Cresol	5.0U	U	ug/L	40.0	5.0	2.5	SW846 8270D	1	08/19/2024 10:17	S7M	A
Nitrobenzene	10.0U	U	ug/L	40.0	10.0	1.3	SW846 8270D	1	08/19/2024 10:17	S7M	A
o-Cresol	5.0U	U	ug/L	40.0	5.0	2.5	SW846 8270D	1	08/19/2024 10:17	S7M	A
Pentachlorophenol	40.0U	U	ug/L	80.0	40.0	2.5	SW846 8270D	1	08/19/2024 10:17	S7M	A
Pyridine	10.0U	U	ug/L	40.0	10.0	2.3	SW846 8270D	1	08/19/2024 10:17	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	79.4%	43 -140	08/19/2024 10:17	
2-Fluorobiphenyl	321-60-8	67.7%	44 -119	08/19/2024 10:17	
2-Fluorophenol	367-12-4	56.6%	19 -119	08/19/2024 10:17	
Nitrobenzene-d5	4165-60-0	77.7%	44 -120	08/19/2024 10:17	
Phenol-d5	4165-62-2	43.9%	13 -49	08/19/2024 10:17	
Terphenyl-d14	98904-43-9	85.9%	50 -134	08/19/2024 10:17	

TCLP EPA 1311 VOLATILE ORGANIC

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1-Dichloroethene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:34	ILY	A
1,2-Dichloroethane	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:34	ILY	A
1,4-Dichlorobenzene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:34	ILY	A
2-Butanone	75.0U	U	ug/L	100	75.0	32.0	SW846 8260C	20	08/13/2024 21:34	ILY	A

Results

Client Sample ID	ASYin-150-0004-WS	Collected	08/07/2024 15:15
Lab Sample ID	3373022026	Lab Receipt	08/09/2024 10:15

TCLP EPA 1311 VOLATILE ORGANIC (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:34	ILY	A
Carbon Tetrachloride	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:34	ILY	A
Chlorobenzene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:34	ILY	A
Chloroform	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:34	ILY	A
Tetrachloroethene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:34	ILY	A
Trichloroethene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:34	ILY	A
Vinyl Chloride	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:34	ILY	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	98.1%	81 -118	08/13/2024 21:34	
4-Bromofluorobenzene	460-00-4	95.3%	85 -114	08/13/2024 21:34	
Dibromofluoromethane	1868-53-7	95.7%	80 -119	08/13/2024 21:34	
Toluene-d8	2037-26-5	99.2%	89 -112	08/13/2024 21:34	

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	10		%	0.1	0.1	0.01	S2540G-15	1	08/09/2024 22:39	LMD	A
Total Solids	90.0		%	0.1	0.1	0.01	S2540G-15	1	08/09/2024 22:39	LMD	A

Results

Client Sample ID	070IDW-080724-WS	Collected	08/07/2024 16:10
Lab Sample ID	3373022027	Lab Receipt	08/09/2024 10:15

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	146		mg/kg	1.2	0.79	0.40	SW846 6020A	5	08/15/2024 16:40	MO	A3

PCBs

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Aroclor-1016	0.031U	U	mg/kg	0.041	0.031	0.012	SW846 8082A	1	08/14/2024 21:33	DXL	A
Aroclor-1221	0.031U	U	mg/kg	0.041	0.031	0.012	SW846 8082A	1	08/14/2024 21:33	DXL	A
Aroclor-1232	0.031U	U	mg/kg	0.041	0.031	0.012	SW846 8082A	1	08/14/2024 21:33	DXL	A
Aroclor-1242	0.031U	U	mg/kg	0.041	0.031	0.012	SW846 8082A	1	08/14/2024 21:33	DXL	A
Aroclor-1248	0.031U	U	mg/kg	0.041	0.031	0.012	SW846 8082A	1	08/14/2024 21:33	DXL	A
Aroclor-1254	0.19		mg/kg	0.041	0.031	0.012	SW846 8082A	1	08/14/2024 21:33	DXL	A
Aroclor-1260	0.031U	U	mg/kg	0.041	0.031	0.012	SW846 8082A	1	08/14/2024 21:33	DXL	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
Decachlorobiphenyl	2051-24-3	82.5%	49 -115	08/14/2024 21:33	
Tetrachloro-m-xylene	877-09-8	85.5%	44 -130	08/14/2024 21:33	

TCLP EPA 1311 HERBICIDES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
2,4,5-TP	40.0U	U	ug/L	60.0	40.0	10.2	SW846 8151A	1	08/16/2024 03:04	DXL	A1
2,4-D	40.0U	U	ug/L	60.0	40.0	20.0	SW846 8151A	1	08/16/2024 03:04	DXL	A1

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4-Dichlorophenylacetic acid	19719-28-9	109%	32 -138	08/16/2024 03:04	

TCLP EPA 1311 METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Arsenic, Total	0.084U	U	mg/L	0.13	0.084	0.042	SW846 6010C	1	08/14/2024 10:22	MSY	A2
Barium, Total	0.90		mg/L	0.050	0.033	0.016	SW846 6010C	1	08/14/2024 10:22	MSY	A2
Cadmium, Total	0.0063U	U	mg/L	0.0099	0.0063	0.0033	SW846 6010C	1	08/14/2024 10:22	MSY	A2
Chromium, Total	0.018U	U	mg/L	0.025	0.018	0.0090	SW846 6010C	1	08/14/2024 10:22	MSY	A2
Lead, Total	0.020U	U	mg/L	0.030	0.020	0.0099	SW846 6010C	1	08/14/2024 10:22	MSY	A2
Mercury, Total	0.00033U	U	mg/L	0.00050	0.00033	0.00016	SW846 7470A	1	08/15/2024 12:50	JSE	A
Selenium, Total	0.063U	U	mg/L	0.099	0.063	0.033	SW846 6010C	1	08/14/2024 10:22	MSY	A2
Silver, Total	0.013U	U	mg/L	0.020	0.013	0.0063	SW846 6010C	1	08/14/2024 10:22	MSY	A2

TCLP EPA 1311 PESTICIDES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Chlordane	4.0U	U	ug/L	10.0	4.0	1.4	SW846 8081B	1	08/19/2024 16:15	KJH	A

Results

Client Sample ID	070IDW-080724-WS	Collected	08/07/2024 16:10
Lab Sample ID	3373022027	Lab Receipt	08/09/2024 10:15

TCLP EPA 1311 PESTICIDES (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Endrin	0.80U	U	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/19/2024 16:15	KJH	A
gamma-BHC	0.80U	U	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/19/2024 16:15	KJH	A
Heptachlor	0.80U	U	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/19/2024 16:15	KJH	A
Heptachlor Epoxide	0.80U	U	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/19/2024 16:15	KJH	A
Methoxychlor	0.80U	U,11	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/22/2024 15:06	KJH	A
Toxaphene	20.0U	U	ug/L	40.0	20.0	10.0	SW846 8081B	1	08/19/2024 16:15	KJH	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
Decachlorobiphenyl	2051-24-3	83.9%	30 -140	08/19/2024 16:15	
Tetrachloro-m-xylene	877-09-8	62.4%	44 -124	08/19/2024 16:15	

TCLP EPA 1311 SEMI-VOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dichlorobenzene	5.0U	U,25	ug/L	40.0	5.0	1.3	SW846 8270D	1	08/19/2024 10:44	S7M	A
2,4,5-Trichlorophenol	15.0U	U	ug/L	40.0	15.0	2.5	SW846 8270D	1	08/19/2024 10:44	S7M	A
2,4,6-Trichlorophenol	5.0U	U	ug/L	40.0	5.0	2.5	SW846 8270D	1	08/19/2024 10:44	S7M	A
2,4-Dinitrotoluene	5.0U	U	ug/L	40.0	5.0	1.3	SW846 8270D	1	08/19/2024 10:44	S7M	A
Hexachlorobenzene	5.0U	U	ug/L	40.0	5.0	1.3	SW846 8270D	1	08/19/2024 10:44	S7M	A
Hexachlorobutadiene	5.0U	U,26	ug/L	40.0	5.0	2.1	SW846 8270D	1	08/19/2024 10:44	S7M	A
Hexachloroethane	5.0U	U,27	ug/L	40.0	5.0	1.5	SW846 8270D	1	08/19/2024 10:44	S7M	A
mp-Cresol	5.0U	U	ug/L	40.0	5.0	2.5	SW846 8270D	1	08/19/2024 10:44	S7M	A
Nitrobenzene	10.0U	U	ug/L	40.0	10.0	1.3	SW846 8270D	1	08/19/2024 10:44	S7M	A
o-Cresol	5.0U	U	ug/L	40.0	5.0	2.5	SW846 8270D	1	08/19/2024 10:44	S7M	A
Pentachlorophenol	40.0U	U	ug/L	80.0	40.0	2.5	SW846 8270D	1	08/19/2024 10:44	S7M	A
Pyridine	10.0U	U	ug/L	40.0	10.0	2.3	SW846 8270D	1	08/19/2024 10:44	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	73%	43 -140	08/19/2024 10:44	
2-Fluorobiphenyl	321-60-8	65%	44 -119	08/19/2024 10:44	
2-Fluorophenol	367-12-4	53.4%	19 -119	08/19/2024 10:44	
Nitrobenzene-d5	4165-60-0	72%	44 -120	08/19/2024 10:44	
Phenol-d5	4165-62-2	38.4%	13 -49	08/19/2024 10:44	
Terphenyl-d14	98904-43-9	71.1%	50 -134	08/19/2024 10:44	

TCLP EPA 1311 VOLATILE ORGANIC

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1-Dichloroethene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:54	ILY	A
1,2-Dichloroethane	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:54	ILY	A
1,4-Dichlorobenzene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:54	ILY	A
2-Butanone	75.0U	U	ug/L	100	75.0	32.0	SW846 8260C	20	08/13/2024 21:54	ILY	A

Results

Client Sample ID	070IDW-080724-WS	Collected	08/07/2024 16:10
Lab Sample ID	3373022027	Lab Receipt	08/09/2024 10:15

TCLP EPA 1311 PESTICIDES (cont.)

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Endrin	0.80U	U	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/19/2024 16:15	KJH	A
gamma-BHC	0.80U	U	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/19/2024 16:15	KJH	A
Heptachlor	0.80U	U	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/19/2024 16:15	KJH	A
Heptachlor Epoxide	0.80U	U	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/19/2024 16:15	KJH	A
Methoxychlor	0.80U	U,11	ug/L	1.0	0.80	0.40	SW846 8081B	1	08/22/2024 15:06	KJH	A
Toxaphene	20.0U	U	ug/L	40.0	20.0	10.0	SW846 8081B	1	08/19/2024 16:15	KJH	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
Decachlorobiphenyl	2051-24-3	83.9%	30 -140	08/19/2024 16:15	
Tetrachloro-m-xylene	877-09-8	62.4%	44 -124	08/19/2024 16:15	

TCLP EPA 1311 SEMI-VOLATILES

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,4-Dichlorobenzene	5.0U	U,25	ug/L	40.0	5.0	1.3	SW846 8270D	1	08/19/2024 10:44	S7M	A
2,4,5-Trichlorophenol	15.0U	U	ug/L	40.0	15.0	2.5	SW846 8270D	1	08/19/2024 10:44	S7M	A
2,4,6-Trichlorophenol	5.0U	U	ug/L	40.0	5.0	2.5	SW846 8270D	1	08/19/2024 10:44	S7M	A
2,4-Dinitrotoluene	5.0U	U	ug/L	40.0	5.0	1.3	SW846 8270D	1	08/19/2024 10:44	S7M	A
Hexachlorobenzene	5.0U	U	ug/L	40.0	5.0	1.3	SW846 8270D	1	08/19/2024 10:44	S7M	A
Hexachlorobutadiene	5.0U	U,26	ug/L	40.0	5.0	2.1	SW846 8270D	1	08/19/2024 10:44	S7M	A
Hexachloroethane	5.0U	U,27	ug/L	40.0	5.0	1.5	SW846 8270D	1	08/19/2024 10:44	S7M	A
mp-Cresol	5.0U	U	ug/L	40.0	5.0	2.5	SW846 8270D	1	08/19/2024 10:44	S7M	A
Nitrobenzene	10.0U	U	ug/L	40.0	10.0	1.3	SW846 8270D	1	08/19/2024 10:44	S7M	A
o-Cresol	5.0U	U	ug/L	40.0	5.0	2.5	SW846 8270D	1	08/19/2024 10:44	S7M	A
Pentachlorophenol	40.0U	U	ug/L	80.0	40.0	2.5	SW846 8270D	1	08/19/2024 10:44	S7M	A
Pyridine	10.0U	U	ug/L	40.0	10.0	2.3	SW846 8270D	1	08/19/2024 10:44	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	73%	43 -140	08/19/2024 10:44	
2-Fluorobiphenyl	321-60-8	65%	44 -119	08/19/2024 10:44	
2-Fluorophenol	367-12-4	53.4%	19 -119	08/19/2024 10:44	
Nitrobenzene-d5	4165-60-0	72%	44 -120	08/19/2024 10:44	
Phenol-d5	4165-62-2	38.4%	13 -49	08/19/2024 10:44	
Terphenyl-d14	98904-43-9	71.1%	50 -134	08/19/2024 10:44	

TCLP EPA 1311 VOLATILE ORGANIC

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
1,1-Dichloroethene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:54	ILY	A
1,2-Dichloroethane	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:54	ILY	A
1,4-Dichlorobenzene	15.0U	U	ug/L	20.0	15.0	6.6	SW846 8260C	20	08/13/2024 21:54	ILY	A
2-Butanone	75.0U	U	ug/L	100	75.0	32.0	SW846 8260C	20	08/13/2024 21:54	ILY	A

Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3373022001	ASYss-127-0001-SO	SW846 6020A	SW846 3051A	
		S2540G-15	N/A	
3373022002	ASYss-128-0001-SO	SW846 6020A	SW846 3051A	
		S2540G-15	N/A	
3373022003	ASYss-129-0001-SO	SW846 6020A	SW846 3051A	
		S2540G-15	N/A	
3373022004	ASYss-130-0001-SO	SW846 6020A	SW846 3051A	
		S2540G-15	N/A	
3373022005	ASYss-131-0001-SO	SW846 6020A	SW846 3051A	
		S2540G-15	N/A	
3373022006	ASYss-132-0001-SO	SW846 6020A	SW846 3051A	
		S2540G-15	N/A	
3373022007	ASYss-133-0001-SO	SW846 6020A	SW846 3051A	
		S2540G-15	N/A	
3373022008	ASYss-134-0001-SO	SW846 6020A	SW846 3051A	
		S2540G-15	N/A	
3373022009	ASYss-135-0001-SO	SW846 6020A	SW846 3051A	
		S2540G-15	N/A	
3373022010	ASYss-136-0001-SO	SW846 6020A	SW846 3051A	
		S2540G-15	N/A	
3373022011	ASYss-137-0001-SO	SW846 6020A	SW846 3051A	
		S2540G-15	N/A	
3373022012	ASYss-138-0001-SO	SW846 6020A	SW846 3051A	
		S2540G-15	N/A	
3373022013	ASYss-139-0001-SO	SW846 6020A	SW846 3051A	
		S2540G-15	N/A	
3373022014	ASYss-140-0001-SO	SW846 6020A	SW846 3051A	
		S2540G-15	N/A	
3373022015	ASYss-141-0001-SO	SW846 6020A	SW846 3051A	
		S2540G-15	N/A	
3373022016	ASYss-142-0001-SO	SW846 6020A	SW846 3051A	
		S2540G-15	N/A	
3373022017	ASYss-143-0001-SO	SW846 6020A	SW846 3051A	
		S2540G-15	N/A	
3373022018	ASYss-144-0001-SO	SW846 6020A	SW846 3051A	
		S2540G-15	N/A	
3373022019	ASYss-080724-FD01	SW846 6020A	SW846 3051A	
		S2540G-15	N/A	
3373022020	ASYss-080724-FD02	SW846 6020A	SW846 3051A	
		S2540G-15	N/A	
3373022021	OFFbo-001M-0001-SO (Top Soil)	SW846 8330B	SW846 8330B	
		SW846 6020A	SW846 3051A	
		SW846 7471B	SW846 7471B	
		SW846 8081B	SW846 3546	
		SW846 8082A	SW846 3546	
		SW846 8270E	SW846 3546	
		SW846 8260D	SW846 5035A	
		S2540G-15	N/A	
		SW846 9045D	N/A	

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3373022022	OFFbo-002M-0001-SO (Sand)	SW846 8330B	SW846 8330B	
		SW846 6020A	SW846 3051A	
		SW846 7471B	SW846 7471B	
		SW846 8081B	SW846 3546	
		SW846 8082A	SW846 3546	
		SW846 8270E	SW846 3546	
		SW846 8260D	SW846 5035A	
		S2540G-15	N/A	
		SW846 9045D	N/A	
3373022023	ASYpl-150-0001-SO	SW846 6010C	SW846 3015A	SW846 1311
		SW846 6020A	SW846 3051A	
		SW846 7470A	SW846 7470A	SW846 1311
		SW846 8081B	SW846 3511	SW846 1311
		SW846 8082A	SW846 3546	
		SW846 8151A	SW846 8151A	SW846 1311
		SW846 8270D	SW846 3510C	SW846 1311
		SW846 8260C	N/A	SW846 1311
		S2540G-15	N/A	
3373022024	ASYin-150-0002-WS	SW846 6010C	SW846 3015A	SW846 1311
		SW846 6020A	SW846 3051A	
		SW846 7470A	SW846 7470A	SW846 1311
		SW846 8081B	SW846 3511	SW846 1311
		SW846 8082A	SW846 3546	
		SW846 8151A	SW846 8151A	SW846 1311
		SW846 8270D	SW846 3510C	SW846 1311
		SW846 8260C	N/A	SW846 1311
		S2540G-15	N/A	
3373022025	ASYin-150-0003-WS	SW846 6010C	SW846 3015A	SW846 1311
		SW846 6020A	SW846 3051A	
		SW846 7470A	SW846 7470A	SW846 1311
		SW846 8081B	SW846 3511	SW846 1311
		SW846 8082A	SW846 3546	
		SW846 8151A	SW846 8151A	SW846 1311
		SW846 8270D	SW846 3510C	SW846 1311
		SW846 8260C	N/A	SW846 1311
		S2540G-15	N/A	
3373022026	ASYin-150-0004-WS	SW846 6010C	SW846 3015A	SW846 1311
		SW846 6020A	SW846 3051A	
		SW846 7470A	SW846 7470A	SW846 1311
		SW846 8081B	SW846 3511	SW846 1311
		SW846 8082A	SW846 3546	
		SW846 8151A	SW846 8151A	SW846 1311
		SW846 8270D	SW846 3510C	SW846 1311
		SW846 8260C	N/A	SW846 1311
		S2540G-15	N/A	
3373022027	070IDW-080724-WS	SW846 6010C	SW846 3015A	SW846 1311
		SW846 6020A	SW846 3051A	
		SW846 7470A	SW846 7470A	SW846 1311
		SW846 8081B	SW846 3511	SW846 1311
		SW846 8082A	SW846 3546	
		SW846 8151A	SW846 8151A	SW846 1311
		SW846 8270D	SW846 3510C	SW846 1311
		SW846 8260C	N/A	SW846 1311
		S2540G-15	N/A	

QUALITY CONTROL SAMPLES

ENERGETICS

QC Batch	1275724	Prep Method	SW846 8330B
Date	08/15/2024 15:55	Analysis Method	SW846 8330B
Tech.	JEK		

Associated Samples

3373022021 3373022022

Method Blank 3865584 (MB) Created on 08/15/2024 11:04 For QC Batch 1275724

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
1,3,5-Trinitrobenzene	99-35-4	BLK	0.20U	mg/kg	0.25	U
1,3-Dinitrobenzene	99-65-0	BLK	0.20U	mg/kg	0.25	U
2,4,6-Trinitrotoluene	118-96-7	BLK	0.20U	mg/kg	0.25	U
2,4-Dinitrotoluene	121-14-2	BLK	0.20U	mg/kg	0.25	U
2,6-Dinitrotoluene	606-20-2	BLK	0.20U	mg/kg	0.25	U
2-Amino-4,6-Dinitrotoluene	35572-78-2	BLK	0.20U	mg/kg	0.25	U
2-Nitrotoluene	88-72-2	BLK	0.20U	mg/kg	0.25	U
3-Nitrotoluene	99-08-1	BLK	0.20U	mg/kg	0.25	U
4-Amino-2,6-dinitrotoluene	1946-51-0	BLK	0.20U	mg/kg	0.25	U
4-Nitrotoluene	99-99-0	BLK	0.20U	mg/kg	0.25	U
HMX	2691-41-0	BLK	0.20U	mg/kg	0.25	U
Nitrobenzene	98-95-3	BLK	0.20U	mg/kg	0.25	U
Nitroglycerin	55-63-0	BLK	1.0U	mg/kg	1.2	U
RDX	121-82-4	BLK	0.20U	mg/kg	0.25	U
Tetryl	479-45-8	BLK	0.20U	mg/kg	0.25	U

SURROGATES

Compound	CAS No		Result (mg/kg)	Expected (mg/kg)	Rec. (%)	Limits (%)	Qualifiers
1,4-Dinitrobenzene	100-25-4	BLK	2.10	2	105	50 - 150	
1,4-Dinitrobenzene	100-25-4	BLK	2.20	2	108	50 - 150	

Lab Control Standard 3865585 (LCS) Created on 08/15/2024 11:04 For QC Batch 1275724

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,3,5-Trinitrobenzene	99-35-4	LCS	0.86		1	85.9	80 - 116		
1,3-Dinitrobenzene	99-65-0	LCS	1		1	102	73 - 119		
2,4,6-Trinitrotoluene	118-96-7	LCS	1		1	104	71 - 120		
2,4-Dinitrotoluene	121-14-2	LCS	1		1	103	75 - 121		
2,6-Dinitrotoluene	606-20-2	LCS	1		1	104	79 - 117		
2-Amino-4,6-Dinitrotoluene	35572-78-2	LCS	1		1	104	71 - 123		
2-Nitrotoluene	88-72-2	LCS	0.98		1	98.5	70 - 124		
3-Nitrotoluene	99-08-1	LCS	1		1	103	67 - 129		
4-Amino-2,6-dinitrotoluene	1946-51-0	LCS	1.10		1	106	64 - 127		
4-Nitrotoluene	99-99-0	LCS	1		1	100	71 - 124		

QUALITY CONTROL SAMPLES

ENERGETICS (cont.)

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
HMX	2691-41-0	LCS	0.97		1	97.4	74 - 124		
Nitrobenzene	98-95-3	LCS	1		1	100	67 - 129		
RDX	121-82-4	LCS	0.97		1	96.6	67 - 129		
Tetryl	479-45-8	LCS	0.28		1	28.3*	68 - 135		

SURROGATES

Compound	CAS No		Result (mg/kg)	Expected (mg/kg)	Rec. (%)	Limits (%)	Qualifiers
1,4-Dinitrobenzene	100-25-4	LCS	2.10	2	104	50 - 150	

Lab Control Standard 3865586 (LCS) Created on 08/15/2024 11:04 For QC Batch 1275724

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Nitroglycerin	55-63-0	LCS	4.10		5	82.5	74 - 124		

SURROGATES

Compound	CAS No		Result (mg/kg)	Expected (mg/kg)	Rec. (%)	Limits (%)	Qualifiers
1,4-Dinitrobenzene	100-25-4	LCS	2	2	102	50 - 150	

Matrix Spike 3865587 (MS) 3373022021 For QC Batch 1275724

****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 3865588 (MSD) 3373022021 For QC Batch 1275724

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,3,5-Trinitrobenzene	99-35-4	MS	1.10	0	1	106	80 - 116		
1,3,5-Trinitrobenzene	99-35-4	MSD	1	0	0.99	105	80 - 116	RPD 1.34 (Max-20)	
1,3-Dinitrobenzene	99-65-0	MS	1	0	1	101	73 - 119		
1,3-Dinitrobenzene	99-65-0	MSD	1	0	0.99	101	73 - 119	RPD 1.49 (Max-20)	
2,4,6-Trinitrotoluene	118-96-7	MS	1	0	1	103	71 - 120		
2,4,6-Trinitrotoluene	118-96-7	MSD	1	0	0.99	104	71 - 120	RPD 0.84 (Max-20)	
2,4-Dinitrotoluene	121-14-2	MS	1	0	1	103	75 - 121		
2,4-Dinitrotoluene	121-14-2	MSD	1	0	0.99	102	75 - 121	RPD 1.94 (Max-20)	
2,6-Dinitrotoluene	606-20-2	MS	1.10	0	1	105	79 - 117		
2,6-Dinitrotoluene	606-20-2	MSD	1	0	0.99	105	79 - 117	RPD 0.90 (Max-20)	
2-Amino-4,6-Dinitrotoluene	35572-78-2	MS	1	0	1	101	71 - 123		
2-Amino-4,6-Dinitrotoluene	35572-78-2	MSD	1	0	0.99	101	71 - 123	RPD 0.99 (Max-20)	

QUALITY CONTROL SAMPLES

ENERGETICS (cont.)

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
2-Nitrotoluene	88-72-2	MS	1	0	1	101	70 - 124		
2-Nitrotoluene	88-72-2	MSD	0.98	0	0.99	99.4	70 - 124	RPD 2.26 (Max-20)	
3-Nitrotoluene	99-08-1	MS	1	0	1	104	67 - 129		
3-Nitrotoluene	99-08-1	MSD	1	0	0.99	105	67 - 129	RPD 0.50 (Max-20)	
4-Amino-2,6-dinitrotoluene	1946-51-0	MS	1	0	1	100	64 - 127		
4-Amino-2,6-dinitrotoluene	1946-51-0	MSD	0.99	0	0.99	99.9	64 - 127	RPD 1.10 (Max-20)	
4-Nitrotoluene	99-99-0	MS	1	0	1	104	71 - 124		
4-Nitrotoluene	99-99-0	MSD	1	0	0.99	103	71 - 124	RPD 1.68 (Max-20)	
HMX	2691-41-0	MS	0.96	0	1	95.7	74 - 124		
HMX	2691-41-0	MSD	0.94	0	0.99	95.1	74 - 124	RPD 1.59 (Max-20)	
Nitrobenzene	98-95-3	MS	1	0	1	101	67 - 129		
Nitrobenzene	98-95-3	MSD	1	0	0.99	101	67 - 129	RPD 0.73 (Max-20)	
RDX	121-82-4	MS	0.89	0	1	89.4	67 - 129		
RDX	121-82-4	MSD	0.89	0	0.99	89.4	67 - 129	RPD 1.04 (Max-20)	
Tetryl	479-45-8	MS	0.94	0	1	93.9	68 - 135		
Tetryl	479-45-8	MSD	0.93	0	0.99	93.8	68 - 135	RPD 1.09 (Max-20)	

SURROGATES

Compound	CAS No		Result (mg/kg)	Expected (mg/kg)	Rec. (%)	Limits (%)	Qualifiers
1,4-Dinitrobenzene	100-25-4	MS	2	2	102	50 - 150	
1,4-Dinitrobenzene	100-25-4	MSD	2.10	2	106	50 - 150	

Matrix Spike 3865589 (MS) 3373022021 For QC Batch 1275724

****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 3865590 (MSD) 3373022021 For QC Batch 1275724

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Nitroglycerin	55-63-0	MS	4.10	0	5	83	74 - 124		
Nitroglycerin	55-63-0	MSD	4.20	0	5	84.7	74 - 124	RPD 2.02 (Max-20)	

SURROGATES

Compound	CAS No		Result (mg/kg)	Expected (mg/kg)	Rec. (%)	Limits (%)	Qualifiers
1,4-Dinitrobenzene	100-25-4	MS	2.10	2	106	50 - 150	
1,4-Dinitrobenzene	100-25-4	MSD	2	2	98.7	50 - 150	

QUALITY CONTROL SAMPLES

METALS

QC Batch	1272319	Prep Method	SW846 3051A
Date	08/12/2024 00:32	Analysis Method	SW846 6020A
Tech.	ANN		

Associated Samples

3373022001	3373022002	3373022003	3373022004
3373022005	3373022006	3373022007	3373022008
3373022009	3373022010	3373022011	3373022012
3373022013	3373022014	3373022015	3373022016
3373022017	3373022018	3373022019	3373022020

Method Blank 3863568 (MB) Created on 08/11/2024 21:32 For QC Batch 1272319

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
Lead, Total	7439-92-1	BLK	0.66U	mg/kg	1.0	U

Lab Control Standard 3863569 (LCS) Created on 08/11/2024 21:32 For QC Batch 1272319

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Lead, Total	7439-92-1	LCS	19.90		20	99.3	84 - 118		

Matrix Spike 3863570 (MS) 3373022002 For QC Batch 1272319

****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 3863571 (MSD) 3373022002 For QC Batch 1272319

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Lead, Total	7439-92-1	MS	43.40	65.50	17.30	-128*	84 - 118		
Lead, Total	7439-92-1	MSD	48.10	65.50	19.20	-90.4*	84 - 118	RPD 10.40 (Max-20)	

QC Batch	1275427	Prep Method	SW846 3051A
Date	08/15/2024 11:40	Analysis Method	SW846 6020A
Tech.	MEM		

Associated Samples

3373022021	3373022022	3373022023	3373022024
3373022025	3373022026	3373022027	

Method Blank 3865541 (MB) Created on 08/15/2024 10:34 For QC Batch 1275427

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
Aluminum, Total	7429-90-5	BLK	26.5U	mg/kg	40.0	U

QUALITY CONTROL SAMPLES

METALS (cont.)

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
Antimony, Total	7440-36-0	BLK	0.66U	mg/kg	1.0	U
Arsenic, Total	7440-38-2	BLK	1.0U	mg/kg	1.5	U
Barium, Total	7440-39-3	BLK	1.7U	mg/kg	2.5	U
Beryllium, Total	7440-41-7	BLK	0.34U	mg/kg	0.50	U
Cadmium, Total	7440-43-9	BLK	0.34U	mg/kg	0.50	U
Calcium, Total	7440-70-2	BLK	33.5U	mg/kg	50.0	U
Chromium, Total	7440-47-3	BLK	0.66U	mg/kg	1.0	U
Cobalt, Total	7440-48-4	BLK	1.7U	mg/kg	2.5	U
Copper, Total	7440-50-8	BLK	1.7U	mg/kg	2.5	U
Iron, Total	7439-89-6	BLK	16.5U	mg/kg	25.0	U
Lead, Total	7439-92-1	BLK	0.66U	mg/kg	1.0	U
Magnesium, Total	7439-95-4	BLK	33.5U	mg/kg	50.0	U
Manganese, Total	7439-96-5	BLK	1.7U	mg/kg	2.5	U
Nickel, Total	7440-02-0	BLK	1.7U	mg/kg	2.5	U
Potassium, Total	7440-09-7	BLK	33.5U	mg/kg	50.0	U
Selenium, Total	7782-49-2	BLK	1.7U	mg/kg	2.5	U
Silver, Total	7440-22-4	BLK	0.66U	mg/kg	1.0	U
Sodium, Total	7440-23-5	BLK	33.5U	mg/kg	50.0	U
Thallium, Total	7440-28-0	BLK	0.34U	mg/kg	0.50	U
Vanadium, Total	7440-62-2	BLK	1.0U	mg/kg	1.5	U
Zinc, Total	7440-66-6	BLK	1.7U	mg/kg	2.5	U

Lab Control Standard 3865542 (LCS) Created on 08/15/2024 10:34 For QC Batch 1275427

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Aluminum, Total	7429-90-5	LCS	210		200	105	78 - 124		
Antimony, Total	7440-36-0	LCS	19.70		20	98.4	72 - 124		
Arsenic, Total	7440-38-2	LCS	20.30		20	102	82 - 118		
Barium, Total	7440-39-3	LCS	209		200	105	86 - 116		
Beryllium, Total	7440-41-7	LCS	20.10		20	101	80 - 120		
Cadmium, Total	7440-43-9	LCS	20		20	99.9	84 - 116		
Calcium, Total	7440-70-2	LCS	222		200	111	86 - 118		
Chromium, Total	7440-47-3	LCS	19.40		20	96.9	83 - 119		
Cobalt, Total	7440-48-4	LCS	20		20	100	84 - 115		
Copper, Total	7440-50-8	LCS	19.70		20	98.7	84 - 119		
Iron, Total	7439-89-6	LCS	211		200	105	81 - 124		
Lead, Total	7439-92-1	LCS	20.10		20	100	84 - 118		
Magnesium, Total	7439-95-4	LCS	208		200	104	80 - 123		
Manganese, Total	7439-96-5	LCS	19.90		20	99.7	85 - 116		
Nickel, Total	7440-02-0	LCS	20.10		20	100	84 - 119		
Potassium, Total	7440-09-7	LCS	187		200	93.5	85 - 119		
Selenium, Total	7782-49-2	LCS	19.60		20	98.2	80 - 119		
Silver, Total	7440-22-4	LCS	10.40		10	104	83 - 118		
Sodium, Total	7440-23-5	LCS	219		200	109	79 - 125		

QUALITY CONTROL SAMPLES

METALS (cont.)

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Thallium, Total	7440-28-0	LCS	19.60		20	97.9	83 - 118		
Vanadium, Total	7440-62-2	LCS	19.50		20	97.7	82 - 116		
Zinc, Total	7440-66-6	LCS	203		200	101	82 - 119		

Matrix Spike 3865543 (MS) 3373022021 For QC Batch 1275427

****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 3865544 (MSD) 3373022021 For QC Batch 1275427

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Aluminum, Total	7429-90-5	MS	10700	13500	187	NC	78 - 124		
Aluminum, Total	7429-90-5	MSD	13000	13500	196	NC	78 - 124	RPD 19.60 (Max-20)	
Antimony, Total	7440-36-0	MS	11.30	0.27	18.70	59.1*	72 - 124		
Antimony, Total	7440-36-0	MSD	13.70	0.27	19.60	68.2*	72 - 124	RPD 18.70 (Max-20)	
Arsenic, Total	7440-38-2	MS	24.10	7.80	18.70	87	82 - 118		
Arsenic, Total	7440-38-2	MSD	26.80	7.80	19.60	96.8	82 - 118	RPD 10.70 (Max-20)	
Barium, Total	7440-39-3	MS	241	74.30	187	89.3	86 - 116		
Barium, Total	7440-39-3	MSD	283	74.30	196	106	86 - 116	RPD 16 (Max-20)	
Beryllium, Total	7440-41-7	MS	17.40	0.63	18.70	89.4	80 - 120		
Beryllium, Total	7440-41-7	MSD	20.70	0.63	19.60	102	80 - 120	RPD 17.30 (Max-20)	
Cadmium, Total	7440-43-9	MS	17.50	0.19	18.70	92.3	84 - 116		
Cadmium, Total	7440-43-9	MSD	19.90	0.19	19.60	100	84 - 116	RPD 12.90 (Max-20)	
Calcium, Total	7440-70-2	MS	10300	12100	187	NC	86 - 118		
Calcium, Total	7440-70-2	MSD	10700	12100	196	NC	86 - 118	RPD 3.62 (Max-20)	
Chromium, Total	7440-47-3	MS	31	17.20	18.70	73.8*	83 - 119		
Chromium, Total	7440-47-3	MSD	35.30	17.20	19.60	92.3	83 - 119	RPD 13 (Max-20)	
Cobalt, Total	7440-48-4	MS	24	8.50	18.70	82.7*	84 - 115		
Cobalt, Total	7440-48-4	MSD	28.90	8.50	19.60	104	84 - 115	RPD 18.40 (Max-20)	
Copper, Total	7440-50-8	MS	96.80	78.30	18.70	NC	84 - 119		
Copper, Total	7440-50-8	MSD	107	78.30	19.60	148*	84 - 119	RPD 10.40 (Max-20)	
Iron, Total	7439-89-6	MS	18300	19100	187	NC	81 - 124		
Iron, Total	7439-89-6	MSD	19600	19100	196	NC	81 - 124	RPD 6.71 (Max-20)	
Lead, Total	7439-92-1	MS	31.10	14.30	18.70	89.7	84 - 118		
Lead, Total	7439-92-1	MSD	36	14.30	19.60	111	84 - 118	RPD 14.90 (Max-20)	
Magnesium, Total	7439-95-4	MS	4180	3960	187	NC	80 - 123		
Magnesium, Total	7439-95-4	MSD	3950	3960	196	NC	80 - 123	RPD 5.79 (Max-20)	
Manganese, Total	7439-96-5	MS	456	452	18.70	NC	85 - 116		
Manganese, Total	7439-96-5	MSD	658	452	19.60	NC	85 - 116	RPD 36.30* (Max-20)	
Nickel, Total	7440-02-0	MS	32.40	18.30	18.70	75.6*	84 - 119		
Nickel, Total	7440-02-0	MSD	37.80	18.30	19.60	99.5	81 - 119	RPD 15.40 (Max-20)	
Potassium, Total	7440-09-7	MS	964	1350	187	NC	85 - 119		
Potassium, Total	7440-09-7	MSD	1280	1350	196	NC	85 - 119	RPD 28* (Max-20)	
Selenium, Total	7782-49-2	MS	16.50	0.71	18.70	84.4	80 - 119		
Selenium, Total	7782-49-2	MSD	18.40	0.71	19.60	89.9	80 - 119	RPD 10.70 (Max-20)	

QUALITY CONTROL SAMPLES

METALS (cont.)

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Silver, Total	7440-22-4	MS	8.90	0.0360	9.40	95.1	83 - 118		
Silver, Total	7440-22-4	MSD	10.20	0.0360	9.80	103	83 - 118	RPD 12.90 (Max-20)	
Sodium, Total	7440-23-5	MS	228	69.40	187	84.8	79 - 125		
Sodium, Total	7440-23-5	MSD	276	69.40	196	105	79 - 125	RPD 18.80 (Max-20)	
Thallium, Total	7440-28-0	MS	8	0.0720	18.70	42.2*	83 - 118		
Thallium, Total	7440-28-0	MSD	11	0.0720	19.60	55.6*	83 - 118	RPD 31.80* (Max-20)	
Vanadium, Total	7440-62-2	MS	36	24.90	18.70	59.4*	82 - 116		
Vanadium, Total	7440-62-2	MSD	42.90	24.90	19.60	91.6	82 - 116	RPD 17.40 (Max-20)	
Zinc, Total	7440-66-6	MS	213	56.60	187	83.3	82 - 119		
Zinc, Total	7440-66-6	MSD	252	56.60	196	99.3	82 - 119	RPD 16.80 (Max-20)	

QC Batch

QC Batch	1279240	Prep Method	SW846 7471B
Date	08/20/2024 10:11	Analysis Method	SW846 7471B
Tech.	JMS		

Associated Samples

3373022021 3373022022

Method Blank 3867194 (MB) Created on 08/20/2024 07:33 For QC Batch 1279240

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
Mercury, Total	7439-97-6	BLK	0.130	mg/kg	0.20	U

Lab Control Standard 3867195 (LCS) Created on 08/20/2024 07:33 For QC Batch 1279240

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Mercury, Total	7439-97-6	LCS	0.48		0.40	120	80 - 124		

Matrix Spike 3867196 (MS) 3373022021 For QC Batch 1279240

****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 3867197 (MSD) 3373022021 For QC Batch 1279240

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Mercury, Total	7439-97-6	MSD	1	0.0920	0.99	94.4	80 - 124	RPD 5.19 (Max-20)	

QUALITY CONTROL SAMPLES

METALS (cont.)

QUALITY CONTROL SAMPLES

PCBs

QC Batch	1273340	Prep Method	SW846 3546
Date	08/13/2024 20:15	Analysis Method	SW846 8082A
Tech.	JIH		

Associated Samples

3373022021	3373022022	3373022023	3373022024
3373022025	3373022026	3373022027	

Method Blank 3864577 (MB) Created on 08/13/2024 17:23 For QC Batch 1273340

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
Aroclor-1016	12674-11-2	BLK	0.025U	mg/kg	0.033	U
Aroclor-1221	11104-28-2	BLK	0.025U	mg/kg	0.033	U
Aroclor-1232	11141-16-5	BLK	0.025U	mg/kg	0.033	U
Aroclor-1242	53469-21-9	BLK	0.025U	mg/kg	0.033	U
Aroclor-1248	12672-29-6	BLK	0.025U	mg/kg	0.033	U
Aroclor-1254	11097-69-1	BLK	0.025U	mg/kg	0.033	U
Aroclor-1260	11096-82-5	BLK	0.025U	mg/kg	0.033	U

SURROGATES

Compound	CAS No		Result (mg/kg)	Expected (mg/kg)	Rec. (%)	Limits (%)	Qualifiers
Decachlorobiphenyl	2051-24-3	BLK	0.0840	0.0830	101	49 - 115	
Tetrachloro-m-xylene	877-09-8	BLK	0.0780	0.0830	93.4	44 - 130	

Lab Control Standard 3864578 (LCS) Created on 08/13/2024 17:23 For QC Batch 1273340

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Aroclor-1016	12674-11-2	LCS	0.32		0.33	96.8	47 - 134		
Aroclor-1260	11096-82-5	LCS	0.33		0.33	97.8	53 - 140		

SURROGATES

Compound	CAS No		Result (mg/kg)	Expected (mg/kg)	Rec. (%)	Limits (%)	Qualifiers
Decachlorobiphenyl	2051-24-3	LCS	0.0780	0.0830	93	49 - 115	
Tetrachloro-m-xylene	877-09-8	LCS	0.0750	0.0830	90.1	44 - 130	

QUALITY CONTROL SAMPLES

PESTICIDES

QC Batch	1274564	Prep Method	SW846 3546
Date	08/13/2024 20:15	Analysis Method	SW846 8081B
Tech.	JIH		

Associated Samples

3373022021 3373022022

Method Blank 3865163 (MB) Created on 08/14/2024 19:32 For QC Batch 1274564

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
4,4'-DDD	72-54-8	BLK	0.00075U	mg/kg	0.0017	U
4,4'-DDE	72-55-9	BLK	0.00075U	mg/kg	0.0017	U
4,4'-DDT	50-29-3	BLK	0.00075U	mg/kg	0.0017	U
Aldrin	309-00-2	BLK	0.00075U	mg/kg	0.0017	U
alpha-Chlordane	5103-71-9	BLK	0.00075U	mg/kg	0.0017	U
alpha-HCH (alpha-BHC)	319-84-6	BLK	0.00075U	mg/kg	0.0017	U
beta-BHC	319-85-7	BLK	0.00075U	mg/kg	0.0017	U
delta-BHC	319-86-8	BLK	0.00075U	mg/kg	0.0017	U
Dieldrin	60-57-1	BLK	0.00075U	mg/kg	0.0017	U
Endosulfan I	959-98-8	BLK	0.00075U	mg/kg	0.0017	U
Endosulfan II	33213-65-9	BLK	0.00075U	mg/kg	0.0017	U
Endosulfan Sulfate	1031-07-8	BLK	0.00075U	mg/kg	0.0017	U
Endrin	72-20-8	BLK	0.00075U	mg/kg	0.0017	U
Endrin Aldehyde	7421-93-4	BLK	0.00075U	mg/kg	0.0017	U
Endrin Ketone	53494-70-5	BLK	0.00075U	mg/kg	0.0017	U
gamma-BHC	58-89-9	BLK	0.00075U	mg/kg	0.0017	U
gamma-Chlordane	5103-74-2	BLK	0.00075U	mg/kg	0.0017	U
Heptachlor	76-44-8	BLK	0.00075U	mg/kg	0.0017	U
Heptachlor Epoxide	1024-57-3	BLK	0.00075U	mg/kg	0.0017	U
Methoxychlor	72-43-5	BLK	0.00075U	mg/kg	0.0017	U
Toxaphene	8001-35-2	BLK	0.033U	mg/kg	0.067	U

SURROGATES

Compound	CAS No		Result (ug/kg)	Expected (ug/kg)	Rec. (%)	Limits (%)	Qualifiers
Decachlorobiphenyl	2051-24-3	BLK	79.40	83.30	95.3	30 - 135	
Decachlorobiphenyl.	2051-24-3X	BLK	74.50	83.30	89.4	30 - 135	
Tetrachloro-m-xylene	877-09-8	BLK	57.60	83.30	69.1	42 - 129	
Tetrachloro-m-xylene.	877-09-8X	BLK	61.80	83.30	74.1	42 - 129	

Lab Control Standard 3865164 (LCS) Created on 08/14/2024 19:32 For QC Batch 1274564

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
4,4'-DDD	72-54-8	LCS	0.03		0.0330	88.9	56 - 139		
4,4'-DDE	72-55-9	LCS	0.0290		0.0330	88.2	56 - 134		

QUALITY CONTROL SAMPLES

PESTICIDES (cont.)

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
4,4'-DDT	50-29-3	LCS	0.0330		0.0330	97.7	50 - 141		
Aldrin	309-00-2	LCS	0.0280		0.0330	84.9	45 - 136		
alpha-Chlordane	5103-71-9	LCS	0.03		0.0330	90.6	54 - 133		
alpha-HCH (alpha-BHC)	319-84-6	LCS	0.0290		0.0330	86.6	45 - 137		
beta-BHC	319-85-7	LCS	0.0290		0.0330	87.8	50 - 136		
delta-BHC	319-86-8	LCS	0.0280		0.0330	83.6	47 - 139		
Dieldrin	60-57-1	LCS	0.0280		0.0330	84.7	56 - 136		
Endosulfan I	959-98-8	LCS	0.0270		0.0330	81.4	53 - 132		
Endosulfan II	33213-65-9	LCS	0.0260		0.0330	78.2	53 - 134		
Endosulfan Sulfate	1031-07-8	LCS	0.0280		0.0330	83.2	55 - 136		
Endrin	72-20-8	LCS	0.0280		0.0330	84.9	57 - 140		
Endrin Aldehyde	7421-93-4	LCS	0.0250		0.0330	75.9	35 - 137		
Endrin Ketone	53494-70-5	LCS	0.03		0.0330	89.8	55 - 136		
gamma-BHC	58-89-9	LCS	0.0260		0.0330	78.6	49 - 135		
gamma-Chlordane	5103-74-2	LCS	0.0270		0.0330	80.3	53 - 135		
Heptachlor	76-44-8	LCS	0.0280		0.0330	84.9	47 - 136		
Heptachlor Epoxide	1024-57-3	LCS	0.0270		0.0330	82.4	52 - 136		
Methoxychlor	72-43-5	LCS	0.0370		0.0330	111	52 - 143		

SURROGATES

Compound	CAS No		Result (ug/kg)	Expected (ug/kg)	Rec. (%)	Limits (%)	Qualifiers
Decachlorobiphenyl	2051-24-3	LCS	57.10	83.30	68.5	30 - 135	
Decachlorobiphenyl.	2051-24-3X	LCS	53.80	83.30	64.6	30 - 135	
Tetrachloro-m-xylene	877-09-8	LCS	55.50	83.30	66.5	42 - 129	
Tetrachloro-m-xylene.	877-09-8X	LCS	59.20	83.30	71.1	42 - 129	

QUALITY CONTROL SAMPLES

SEMIVOLATILES

QC Batch	1273337	Prep Method	SW846 3546
Date	08/13/2024 19:10	Analysis Method	SW846 8270E
Tech.	JIH		

Associated Samples

3373022021 3373022022

Method Blank 3864567 (MB) Created on 08/13/2024 16:56 For QC Batch 1273337

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
1,4-Dioxane	123-91-1	BLK	0.067U	mg/kg	0.27	U
2,4,5-Trichlorophenol	95-95-4	BLK	0.067U	mg/kg	0.27	U
2,4,6-Trichlorophenol	88-06-2	BLK	0.067U	mg/kg	0.27	U
2,4-Dichlorophenol	120-83-2	BLK	0.067U	mg/kg	0.27	U
2,4-Dimethylphenol	105-67-9	BLK	0.067U	mg/kg	0.27	U
2,4-Dinitrophenol	51-28-5	BLK	0.40U	mg/kg	0.54	U
2,4-Dinitrotoluene	121-14-2	BLK	0.067U	mg/kg	0.27	U
2,6-Dinitrotoluene	606-20-2	BLK	0.067U	mg/kg	0.27	U
2-Chlorophenol	95-57-8	BLK	0.067U	mg/kg	0.27	U
2-Methyl-4,6-dinitrophenol	534-52-1	BLK	0.067U	mg/kg	0.27	U
2-Nitrophenol	88-75-5	BLK	0.067U	mg/kg	0.27	U
4-Chloro-3-methylphenol	59-50-7	BLK	0.067U	mg/kg	0.27	U
4-Nitrophenol	100-02-7	BLK	0.067U	mg/kg	0.27	U
Acenaphthene	83-32-9	BLK	0.033U	mg/kg	0.10	U
Acenaphthylene	208-96-8	BLK	0.033U	mg/kg	0.10	U
Anthracene	120-12-7	BLK	0.033U	mg/kg	0.10	U
Benzo(a)anthracene	56-55-3	BLK	0.033U	mg/kg	0.10	U
Benzo(a)pyrene	50-32-8	BLK	0.033U	mg/kg	0.10	U
Benzo(b)fluoranthene	205-99-2	BLK	0.033U	mg/kg	0.10	U
Benzo(g,h,i)perylene	191-24-2	BLK	0.033U	mg/kg	0.10	U
Benzo(k)fluoranthene	207-08-9	BLK	0.033U	mg/kg	0.10	U
bis(2-Ethylhexyl)phthalate	117-81-7	BLK	0.067U	mg/kg	0.27	U
Butylbenzylphthalate	85-68-7	BLK	0.067U	mg/kg	0.27	U
Chrysene	218-01-9	BLK	0.033U	mg/kg	0.10	U
Dibenzo(a,h)anthracene	53-70-3	BLK	0.033U	mg/kg	0.10	U
Diethylphthalate	84-66-2	BLK	0.067U	mg/kg	0.27	U
Dimethylphthalate	131-11-3	BLK	0.067U	mg/kg	0.27	U
Di-n-Butylphthalate	84-74-2	BLK	0.067U	mg/kg	0.27	U
Di-n-Octylphthalate	117-84-0	BLK	0.067U	mg/kg	0.27	U
Fluoranthene	206-44-0	BLK	0.033U	mg/kg	0.10	U
Fluorene	86-73-7	BLK	0.067U	mg/kg	0.10	U
Indeno(1,2,3-cd)pyrene	193-39-5	BLK	0.033U	mg/kg	0.10	U
mp-Cresol	108394/106445	BLK	0.067U	mg/kg	0.27	U
Naphthalene	91-20-3	BLK	0.033U	mg/kg	0.10	U
Nitrobenzene	98-95-3	BLK	0.067U	mg/kg	0.27	U
o-Cresol	95-48-7	BLK	0.067U	mg/kg	0.27	U
Pentachlorophenol	87-86-5	BLK	0.20U	mg/kg	0.54	U
Phenanthrene	85-01-8	BLK	0.033U	mg/kg	0.10	U
Phenol	108-95-2	BLK	0.067U	mg/kg	0.27	U

QUALITY CONTROL SAMPLES

SEMIVOLATILES (cont.)

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
Pyrene	129-00-0	BLK	0.033U	mg/kg	0.10	U

SURROGATES

Compound	CAS No		Result (ug/kg)	Expected (ug/kg)	Rec. (%)	Limits (%)	Qualifiers
2,4,6-Tribromophenol	118-79-6	BLK	4230	5000	84.6	39 - 132	
2-Fluorobiphenyl	321-60-8	BLK	1960	2500	78.6	44 - 115	
2-Fluorophenol	367-12-4	BLK	3550	5000	70.9	35 - 115	
Nitrobenzene-d5	4165-60-0	BLK	2040	2500	81.7	37 - 122	
Phenol-d5	4165-62-2	BLK	3770	5000	75.3	33 - 122	
Terphenyl-d14	98904-43-9	BLK	2620	2500	105	54 - 127	

Lab Control Standard 3864568 (LCS) Created on 08/13/2024 16:56 For QC Batch 1273337

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,4-Dioxane	123-91-1	LCS	1.50		2.50	59.6	14 - 63		
2,4,5-Trichlorophenol	95-95-4	LCS	4.80		5	96.7	41 - 124		
2,4,6-Trichlorophenol	88-06-2	LCS	4.90		5	98.2	39 - 126		
2,4-Dichlorophenol	120-83-2	LCS	5		5	101	40 - 122		
2,4-Dimethylphenol	105-67-9	LCS	6.20		5	123	30 - 127		
2,4-Dinitrophenol	51-28-5	LCS	5.10		5	102	45 - 130		
2,4-Dinitrotoluene	121-14-2	LCS	2.50		2.50	101	48 - 126		
2,6-Dinitrotoluene	606-20-2	LCS	2.60		2.50	104	46 - 124		
2-Chlorophenol	95-57-8	LCS	4.60		5	93	34 - 121		
2-Methyl-4,6-dinitrophenol	534-52-1	LCS	5.10		5	102	29 - 132		
2-Nitrophenol	88-75-5	LCS	5		5	99.1	36 - 123		
4-Chloro-3-methylphenol	59-50-7	LCS	4.90		5	97.8	45 - 122		
4-Nitrophenol	100-02-7	LCS	4.20		5	84.5	30 - 132		
Acenaphthene	83-32-9	LCS	2.20		2.50	87	40 - 123		
Acenaphthylene	208-96-8	LCS	2		2.50	81.7	32 - 132		
Anthracene	120-12-7	LCS	2.40		2.50	95.3	47 - 123		
Benzo(a)anthracene	56-55-3	LCS	2.50		2.50	98.4	49 - 126		
Benzo(a)pyrene	50-32-8	LCS	2.50		2.50	101	45 - 129		
Benzo(b)fluoranthene	205-99-2	LCS	2.50		2.50	99.3	45 - 132		
Benzo(g,h,i)perylene	191-24-2	LCS	2.30		2.50	92.4	43 - 134		
Benzo(k)fluoranthene	207-08-9	LCS	2.50		2.50	100	47 - 132		
bis(2-Ethylhexyl)phthalate	117-81-7	LCS	2.50		2.50	102	51 - 133		
Butylbenzylphthalate	85-68-7	LCS	2.40		2.50	96.5	48 - 132		
Chrysene	218-01-9	LCS	2.30		2.50	92.7	50 - 124		
Dibenzo(a,h)anthracene	53-70-3	LCS	2.40		2.50	94.5	45 - 134		
Diethylphthalate	84-66-2	LCS	2.40		2.50	96.2	50 - 124		
Dimethylphthalate	131-11-3	LCS	2.30		2.50	93.4	48 - 124		
Di-n-Butylphthalate	84-74-2	LCS	2.70		2.50	109	51 - 128		
Di-n-Octylphthalate	117-84-0	LCS	2.60		2.50	105	45 - 140		

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
Fluoranthene	206-44-0	LCS	2.50		2.50	100	50 - 127		
Fluorene	86-73-7	LCS	2.30		2.50	92.7	43 - 125		
Indeno(1,2,3-cd)pyrene	193-39-5	LCS	2.20		2.50	89.4	45 - 133		
mp-Cresol	108394/106445	LCS	4.60		5	91.1	34 - 119		
Naphthalene	91-20-3	LCS	2.10		2.50	84	35 - 123		
Nitrobenzene	98-95-3	LCS	2		2.50	82	34 - 122		
o-Cresol	95-48-7	LCS	4.60		5	91.8	32 - 122		
Pentachlorophenol	87-86-5	LCS	5		5	99.6	25 - 133		
Phenanthrene	85-01-8	LCS	2.20		2.50	88.5	50 - 121		
Phenol	108-95-2	LCS	4.10		5	82	34 - 121		
Pyrene	129-00-0	LCS	2.30		2.50	93.5	47 - 127		

SURROGATES

Compound	CAS No		Result (ug/kg)	Expected (ug/kg)	Rec. (%)	Limits (%)	Qualifiers
2,4,6-Tribromophenol	118-79-6	LCS	4810	5000	96.2	39 - 132	
2-Fluorobiphenyl	321-60-8	LCS	2090	2500	83.7	44 - 115	
2-Fluorophenol	367-12-4	LCS	4080	5000	81.7	35 - 115	
Nitrobenzene-d5	4165-60-0	LCS	2330	2500	93	37 - 122	
Phenol-d5	4165-62-2	LCS	4250	5000	84.9	33 - 122	
Terphenyl-d14	98904-43-9	LCS	2850	2500	114	54 - 127	

QUALITY CONTROL SAMPLES

TCLP EPA 1311 HERBICIDES

QC Batch	1273057	Prep Method	SW846 8151A
Date	08/13/2024 13:30	Analysis Method	SW846 8151A
Tech.	JEK		

Associated Samples

3373022023 3373022024 3373022025 3373022026 3373022027

Method Blank 3864308 (MB) Created on 08/13/2024 09:36 For QC Batch 1273057

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
2,4,5-TP	93-72-1	BLK	2.0U	ug/L	3.0	U
2,4-D	94-75-7	BLK	2.0U	ug/L	3.0	U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2,4-Dichlorophenylacetic acid	19719-28-9	BLK	135	125	108	32 - 138	

Lab Control Standard 3864309 (LCS) Created on 08/13/2024 09:36 For QC Batch 1273057

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
2,4,5-TP	93-72-1	LCS	12.10		12.50	96.6	51 - 134		
2,4-D	94-75-7	LCS	12.10		12.50	96.4	45 - 152		

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2,4-Dichlorophenylacetic acid	19719-28-9	LCS	118	125	94.6	32 - 138	

Matrix Spike 3864310 (MS) 3373022025 For QC Batch 1273057

"""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 3864311 (MSD) 3373022025 For QC Batch 1273057

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
2,4,5-TP	93-72-1	MS	244	0	250	97.6	51 - 134		
2,4,5-TP	93-72-1	MSD	260	0	250	104	51 - 134	RPD 6.33 (Max-30)	
2,4-D	94-75-7	MS	247	0	250	98.7	45 - 152		
2,4-D	94-75-7	MSD	259	0	250	104	45 - 152	RPD 4.88 (Max-30)	

QUALITY CONTROL SAMPLES

TCLP EPA 1311 HERBICIDES (cont.)

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2,4-Dichlorophenylacetic acid	19719-28-9	MS	2500	2500	100	32 - 138	
2,4-Dichlorophenylacetic acid	19719-28-9	MSD	2510	2500	100	32 - 138	

QUALITY CONTROL SAMPLES

TCLP EPA 1311 METALS

QC Batch	1273090	Prep Method	SW846 3015A
Date	08/13/2024 12:05	Analysis Method	SW846 6010C
Tech.	MEM		

Associated Samples

3373022023 3373022024 3373022025 3373022026 3373022027

Method Blank 3864420 (MB) Created on 08/13/2024 11:44 For QC Batch 1273090

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
Arsenic, Total	7440-38-2	BLK	0.019U	mg/L	0.028	U
Barium, Total	7440-39-3	BLK	0.0073U	mg/L	0.011	U
Cadmium, Total	7440-43-9	BLK	0.0014U	mg/L	0.0022	U
Chromium, Total	7440-47-3	BLK	0.0040U	mg/L	0.0056	U
Lead, Total	7439-92-1	BLK	0.0045U	mg/L	0.0067	U
Selenium, Total	7782-49-2	BLK	0.014U	mg/L	0.022	U
Silver, Total	7440-22-4	BLK	0.0029U	mg/L	0.0044	U

Lab Control Standard 3864421 (LCS) Created on 08/13/2024 11:44 For QC Batch 1273090

RESULTS

Compound	CAS No		Result (mg/L)	Orig. Result (mg/L)	Spk Added (mg/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Arsenic, Total	7440-38-2	LCS	0.12		0.11	107	87 - 113		
Barium, Total	7440-39-3	LCS	1.20		1.10	110	88 - 113		
Cadmium, Total	7440-43-9	LCS	0.12		0.11	109	88 - 113		
Chromium, Total	7440-47-3	LCS	0.12		0.11	109	90 - 113		
Lead, Total	7439-92-1	LCS	0.13		0.11	113	86 - 113		
Selenium, Total	7782-49-2	LCS	1.20		1.10	108	83 - 114		
Silver, Total	7440-22-4	LCS	0.12		0.11	110	84 - 115		

Matrix Spike 3864422 (MS) 3373022023 For QC Batch 1273090

****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 3864423 (MSD) 3373022023 For QC Batch 1273090

RESULTS

Compound	CAS No		Result (mg/L)	Orig. Result (mg/L)	Spk Added (mg/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Arsenic, Total	7440-38-2	MS	0.53	0	0.50	105	87 - 113		
Arsenic, Total	7440-38-2	MSD	0.55	0	0.50	110	87 - 113	RPD 4.64 (Max-20)	
Barium, Total	7440-39-3	MS	6.80	1.40	5	108	88 - 113		
Barium, Total	7440-39-3	MSD	6.90	1.40	5	111	88 - 113	RPD 1.77 (Max-20)	
Cadmium, Total	7440-43-9	MS	0.57	0.0260	0.50	109	88 - 113		
Cadmium, Total	7440-43-9	MSD	0.58	0.0260	0.50	111	88 - 113	RPD 1.65 (Max-20)	
Chromium, Total	7440-47-3	MS	0.54	0.0045	0.50	108	90 - 113		

QUALITY CONTROL SAMPLES

TCLP EPA 1311 METALS (cont.)

RESULTS

Compound	CAS No		Result (mg/L)	Orig. Result (mg/L)	Spk Added (mg/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Chromium, Total	7440-47-3	MSD	0.55	0.0045	0.50	109	90 - 113	RPD 1.10 (Max-20)	
Lead, Total	7439-92-1	MS	4	3.50	0.50	NC	86 - 113		
Lead, Total	7439-92-1	MSD	4.20	3.50	0.50	NC	86 - 113	RPD 4.19 (Max-20)	
Selenium, Total	7782-49-2	MS	5.60	0	5	112	83 - 114		
Selenium, Total	7782-49-2	MSD	5.70	0	5	115*	83 - 114	RPD 2.46 (Max-20)	
Silver, Total	7440-22-4	MS	0.55	0	0.50	109	84 - 115		
Silver, Total	7440-22-4	MSD	0.55	0	0.50	110	84 - 115	RPD 0.82 (Max-20)	

QC Batch

QC Batch	1275165	Prep Method	SW846 7470A
Date	08/15/2024 10:00	Analysis Method	SW846 7470A
Tech.	JSE		

Associated Samples

3373022023 3373022024 3373022025 3373022026 3373022027

Method Blank 3865321 (MB) Created on 08/15/2024 08:12 For QC Batch 1275165

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
Mercury, Total	7439-97-6	BLK	0.00033U	mg/L	0.00050	U

Lab Control Standard 3865322 (LCS) Created on 08/15/2024 08:12 For QC Batch 1275165

RESULTS

Compound	CAS No		Result (mg/L)	Orig. Result (mg/L)	Spk Added (mg/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Mercury, Total	7439-97-6	LCS	0.0023		0.0020	113	82 - 119		

Matrix Spike 3865323 (MS) 3373022023 For QC Batch 1275165

****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 3865324 (MSD) 3373022023 For QC Batch 1275165

RESULTS

Compound	CAS No		Result (mg/L)	Orig. Result (mg/L)	Spk Added (mg/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Mercury, Total	7439-97-6	MS	0.0055	0.000011	0.0050	109	82 - 119		
Mercury, Total	7439-97-6	MSD	0.0055	0.000011	0.0050	109	82 - 119	RPD 0.37 (Max-20)	

QUALITY CONTROL SAMPLES

TCLP EPA 1311 METALS (cont.)

QUALITY CONTROL SAMPLES

TCLP EPA 1311 PESTICIDES

QC Batch	1272718	Prep Method	SW846 3511
Date	08/14/2024 17:45	Analysis Method	SW846 8081B
Tech.	BMP		

Associated Samples

3373022023 3373022024 3373022025 3373022026 3373022027

Method Blank 3864151 (MB) Created on 08/12/2024 22:31 For QC Batch 1272718

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
Chlordane	57-74-9	BLK	0.20U	ug/L	0.50	U
Endrin	72-20-8	BLK	0.040U	ug/L	0.050	U
gamma-BHC	58-89-9	BLK	0.040U	ug/L	0.050	U
Heptachlor	76-44-8	BLK	0.040U	ug/L	0.050	U
Heptachlor Epoxide	1024-57-3	BLK	0.040U	ug/L	0.050	U
Methoxychlor	72-43-5	BLK	0.040U	ug/L	0.050	U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
Decachlorobiphenyl	2051-24-3	BLK	0.4330	0.50	86.6	30 - 140	
Decachlorobiphenyl.	2051-24-3X	BLK	0.3490	0.50	69.8	30 - 140	
Tetrachloro-m-xylene	877-09-8	BLK	0.35	0.50	70.9	44 - 124	
Tetrachloro-m-xylene.	877-09-8X	BLK	0.28	0.50	56.1	44 - 124	

Lab Control Standard 3864152 (LCS) Created on 08/12/2024 22:31 For QC Batch 1272718

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Endrin	72-20-8	LCS	0.47		0.50	94	60 - 138		
gamma-BHC	58-89-9	LCS	0.53		0.50	105	59 - 134		
Heptachlor	76-44-8	LCS	0.32		0.50	64.4	54 - 130		
Heptachlor Epoxide	1024-57-3	LCS	0.51		0.50	101	61 - 133		
Methoxychlor	72-43-5	LCS	0.43		0.50	86.9	54 - 145		

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
Decachlorobiphenyl	2051-24-3	LCS	0.3430	0.50	68.7	30 - 140	
Decachlorobiphenyl.	2051-24-3X	LCS	0.4060	0.50	81.2	30 - 140	
Tetrachloro-m-xylene	877-09-8	LCS	0.31	0.50	61.3	44 - 124	
Tetrachloro-m-xylene.	877-09-8X	LCS	0.33	0.50	67	44 - 124	

QUALITY CONTROL SAMPLES

TCLP EPA 1311 SEMI-VOLATILES

QC Batch	1277048	Prep Method	SW846 3510C
Date	08/16/2024 09:40	Analysis Method	SW846 8270D
Tech.	EJH		

Associated Samples

3373022023 3373022024 3373022025 3373022026 3373022027

Method Blank 3866062 (MB) Created on 08/16/2024 08:06 For QC Batch 1277048

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
1,4-Dichlorobenzene	106-46-7	BLK	1.0U	ug/L	8.0	U
2,4,5-Trichlorophenol	95-95-4	BLK	3.0U	ug/L	8.0	U
2,4,6-Trichlorophenol	88-06-2	BLK	1.0U	ug/L	8.0	U
2,4-Dinitrotoluene	121-14-2	BLK	1.0U	ug/L	8.0	U
Hexachlorobenzene	118-74-1	BLK	1.0U	ug/L	8.0	U
Hexachlorobutadiene	87-68-3	BLK	1.0U	ug/L	8.0	U
Hexachloroethane	67-72-1	BLK	1.0U	ug/L	8.0	U
mp-Cresol	108394/106445	BLK	1.0U	ug/L	8.0	U
Nitrobenzene	98-95-3	BLK	2.0U	ug/L	8.0	U
o-Cresol	95-48-7	BLK	1.0U	ug/L	8.0	U
Pentachlorophenol	87-86-5	BLK	8.0U	ug/L	16.0	U
Pyridine	110-86-1	BLK	2.0U	ug/L	8.0	U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2,4,6-Tribromophenol	118-79-6	BLK	63.80	100	63.8	43 - 140	
2-Fluorobiphenyl	321-60-8	BLK	29.90	50	59.8	44 - 119	
2-Fluorophenol	367-12-4	BLK	45.80	100	45.8	19 - 119	
Nitrobenzene-d5	4165-60-0	BLK	33.60	50	67.1	44 - 120	
Phenol-d5	4165-62-2	BLK	34.50	100	34.5	13 - 49	
Terphenyl-d14	98904-43-9	BLK	35.90	50	71.9	50 - 134	

Lab Control Standard 3866063 (LCS) Created on 08/16/2024 08:06 For QC Batch 1277048

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,4-Dichlorobenzene	106-46-7	LCS	10.60		50	21.3*	29 - 112		
2,4,5-Trichlorophenol	95-95-4	LCS	71.40		100	71.4	53 - 123		
2,4,6-Trichlorophenol	88-06-2	LCS	70.30		100	70.3	50 - 125		
2,4-Dinitrotoluene	121-14-2	LCS	39.20		50	78.4	57 - 128		
Hexachlorobenzene	118-74-1	LCS	33.70		50	67.5	53 - 125		
Hexachlorobutadiene	87-68-3	LCS	6.90		50	13.9*	22 - 124		
Hexachloroethane	67-72-1	LCS	6.50		50	13.1*	21 - 115		
mp-Cresol	108394/106445	LCS	61.10		100	61.1	29 - 110		
Nitrobenzene	98-95-3	LCS	30.90		50	61.9	45 - 121		

QUALITY CONTROL SAMPLES

TCLP EPA 1311 SEMI-VOLATILES (cont.)

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
o-Cresol	95-48-7	LCS	62.40		100	62.4	30 - 117		
Pentachlorophenol	87-86-5	LCS	71		100	71	35 - 138		
Pyridine	110-86-1	LCS	19.90		50	39.9	14 - 82		

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2,4,6-Tribromophenol	118-79-6	LCS	69.60	100	69.6	43 - 140	
2-Fluorobiphenyl	321-60-8	LCS	31.20	50	62.4	44 - 119	
2-Fluorophenol	367-12-4	LCS	51.10	100	51.1	19 - 119	
Nitrobenzene-d5	4165-60-0	LCS	35.40	50	70.8	44 - 120	
Phenol-d5	4165-62-2	LCS	40.70	100	40.7	13 - 49	
Terphenyl-d14	98904-43-9	LCS	37.40	50	74.8	50 - 134	

QUALITY CONTROL SAMPLES

TCLP EPA 1311 VOLATILE ORGANIC

QC Batch

QC Batch	1273208	Prep Method	N/A
Date	N/A	Analysis Method	SW846 8260C
Tech.			

Associated Samples

3373022023 3373022024 3373022025 3373022026 3373022027

Method Blank 3864509 (MB) Created on 08/13/2024 14:22 For QC Batch 1273208

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
1,1-Dichloroethene	75-35-4	BLK	0.75U	ug/L	1.0	U
1,2-Dichloroethane	107-06-2	BLK	0.75U	ug/L	1.0	U
1,4-Dichlorobenzene	106-46-7	BLK	0.75U	ug/L	1.0	U
2-Butanone	78-93-3	BLK	3.8U	ug/L	5.0	U
Benzene	71-43-2	BLK	0.75U	ug/L	1.0	U
Carbon Tetrachloride	56-23-5	BLK	0.75U	ug/L	1.0	U
Chlorobenzene	108-90-7	BLK	0.75U	ug/L	1.0	U
Chloroform	67-66-3	BLK	0.75U	ug/L	1.0	U
Tetrachloroethene	127-18-4	BLK	0.75U	ug/L	1.0	U
Trichloroethene	79-01-6	BLK	0.75U	ug/L	1.0	U
Vinyl Chloride	75-01-4	BLK	0.75U	ug/L	1.0	U

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	BLK	30	30	99.9	81 - 118	
4-Bromofluorobenzene	460-00-4	BLK	29.30	30	97.5	85 - 114	
Dibromofluoromethane	1868-53-7	BLK	28.60	30	95.2	80 - 119	
Toluene-d8	2037-26-5	BLK	29.70	30	99	89 - 112	

Lab Control Standard 3864510 (LCS) Created on 08/13/2024 14:22 For QC Batch 1273208

RESULTS

Compound	CAS No		Result (ug/L)	Orig. Result (ug/L)	Spk Added (ug/L)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1-Dichloroethene	75-35-4	LCS	21.70		20	108	71 - 131		
1,2-Dichloroethane	107-06-2	LCS	19.90		20	99.3	73 - 128		
1,4-Dichlorobenzene	106-46-7	LCS	19.60		20	98	79 - 118		
2-Butanone	78-93-3	LCS	109		100	109	56 - 143		
Benzene	71-43-2	LCS	19.50		20	97.7	79 - 120		
Carbon Tetrachloride	56-23-5	LCS	20.20		20	101	72 - 136		
Chlorobenzene	108-90-7	LCS	19.80		20	98.8	82 - 118		
Chloroform	67-66-3	LCS	19.80		20	98.8	79 - 124		
Tetrachloroethene	127-18-4	LCS	20.80		20	104	74 - 129		
Trichloroethene	79-01-6	LCS	19.20		20	95.9	79 - 123		
Vinyl Chloride	75-01-4	LCS	18.60		20	92.8	58 - 137		

QUALITY CONTROL SAMPLES

TCLP EPA 1311 VOLATILE ORGANIC (cont.)

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	LCS	29.80	30	99.5	81 - 118	
4-Bromofluorobenzene	460-00-4	LCS	28.70	30	95.8	85 - 114	
Dibromofluoromethane	1868-53-7	LCS	30.50	30	102	80 - 119	
Toluene-d8	2037-26-5	LCS	30.50	30	102	89 - 112	

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS

QC Batch	1274347	Prep Method	SW846 5035A
Date	08/14/2024 10:24	Analysis Method	SW846 8260D
Tech.	TMP		

Associated Samples

3373022021 3373022022

Method Blank 3864928 (MB) Created on 08/14/2024 12:48 For QC Batch 1274347

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
1,1,1-Trichloroethane	71-55-6	BLK	0.0010U	mg/kg	0.0020	U
1,1,2,2-Tetrachloroethane	79-34-5	BLK	0.0010U	mg/kg	0.0020	U
1,1,2-Trichloroethane	79-00-5	BLK	0.0010U	mg/kg	0.0020	U
1,1-Dichloroethane	75-34-3	BLK	0.0010U	mg/kg	0.0020	U
1,1-Dichloroethene	75-35-4	BLK	0.0010U	mg/kg	0.0020	U
1,2,3-Trichlorobenzene	87-61-6	BLK	0.0010U	mg/kg	0.0050	U
1,2,4-Trichlorobenzene	120-82-1	BLK	0.0010U	mg/kg	0.0050	U
1,2-Dibromo-3-chloropropane	96-12-8	BLK	0.0025U	mg/kg	0.0050	U
1,2-Dibromoethane	106-93-4	BLK	0.0010U	mg/kg	0.0020	U
1,2-Dichlorobenzene	95-50-1	BLK	0.0010U	mg/kg	0.0020	U
1,2-Dichloroethane	107-06-2	BLK	0.0010U	mg/kg	0.0020	U
1,2-Dichloropropane	78-87-5	BLK	0.0010U	mg/kg	0.0020	U
1,3-Dichlorobenzene	541-73-1	BLK	0.0010U	mg/kg	0.0020	U
1,4-Dichlorobenzene	106-46-7	BLK	0.0010U	mg/kg	0.0020	U
2-Butanone	78-93-3	BLK	0.0050U	mg/kg	0.010	U
2-Hexanone	591-78-6	BLK	0.0050U	mg/kg	0.010	U
4-Methyl-2-Pentanone(MIBK)	108-10-1	BLK	0.0050U	mg/kg	0.010	U
Acetone	67-64-1	BLK	0.0050U	mg/kg	0.010	U
Benzene	71-43-2	BLK	0.0010U	mg/kg	0.0020	U
Bromochloromethane	74-97-5	BLK	0.0010U	mg/kg	0.0020	U
Bromodichloromethane	75-27-4	BLK	0.0010U	mg/kg	0.0020	U
Bromoform	75-25-2	BLK	0.0010U	mg/kg	0.0020	U
Bromomethane	74-83-9	BLK	0.0010U	mg/kg	0.0020	U
Carbon Disulfide	75-15-0	BLK	0.0010U	mg/kg	0.0020	U
Carbon Tetrachloride	56-23-5	BLK	0.0010U	mg/kg	0.0020	U
Chlorobenzene	108-90-7	BLK	0.0010U	mg/kg	0.0020	U
Chlorodibromomethane	124-48-1	BLK	0.0010U	mg/kg	0.0020	U
Chloroethane	75-00-3	BLK	0.0025U	mg/kg	0.0050	U
Chloroform	67-66-3	BLK	0.0010U	mg/kg	0.0020	U
Chloromethane	74-87-3	BLK	0.0010U	mg/kg	0.0020	U
cis-1,2-Dichloroethene	156-59-2	BLK	0.0010U	mg/kg	0.0020	U
cis-1,3-Dichloropropene	10061-01-5	BLK	0.0010U	mg/kg	0.0020	U
Cyclohexane	110-82-7	BLK	0.0010U	mg/kg	0.0020	U
Dichlorodifluoromethane	75-71-8	BLK	0.0010U	mg/kg	0.0020	U
Ethylbenzene	100-41-4	BLK	0.0010U	mg/kg	0.0020	U
Freon 113	76-13-1	BLK	0.0010U	mg/kg	0.0020	U
Isopropylbenzene	98-82-8	BLK	0.0010U	mg/kg	0.0020	U
Methyl acetate	79-20-9	BLK	0.0010U	mg/kg	0.0020	U
Methyl cyclohexane	108-87-2	BLK	0.0010U	mg/kg	0.0020	U

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
Methyl t-Butyl Ether	1634-04-4	BLK	0.0010U	mg/kg	0.0020	U
Methylene Chloride	75-09-2	BLK	0.0010U	mg/kg	0.0020	U
mp-Xylene	108383/106423	BLK	0.0020U	mg/kg	0.0040	U
o-Xylene	95-47-6	BLK	0.0010U	mg/kg	0.0020	U
Styrene	100-42-5	BLK	0.0010U	mg/kg	0.0020	U
Tetrachloroethene	127-18-4	BLK	0.0010U	mg/kg	0.0020	U
Toluene	108-88-3	BLK	0.0010U	mg/kg	0.0020	U
trans-1,2-Dichloroethene	156-60-5	BLK	0.0010U	mg/kg	0.0020	U
trans-1,3-Dichloropropene	10061-02-6	BLK	0.0010U	mg/kg	0.0020	U
Trichloroethene	79-01-6	BLK	0.0010U	mg/kg	0.0020	U
Trichlorofluoromethane	75-69-4	BLK	0.0010U	mg/kg	0.0020	U
Vinyl Chloride	75-01-4	BLK	0.0010U	mg/kg	0.0020	U

SURROGATES

Compound	CAS No		Result (ug/kg)	Expected (ug/kg)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	BLK	30.40	30	101	71 - 136	
4-Bromofluorobenzene	460-00-4	BLK	29.70	30	99.1	79 - 119	
Dibromofluoromethane	1868-53-7	BLK	29.40	30	98.1	78 - 119	
Toluene-d8	2037-26-5	BLK	31	30	103	85 - 116	

Lab Control Standard 3864929 (LCS) Created on 08/14/2024 12:48 For QC Batch 1274347

Lab Control Std Duplicate 3864930 (LCSD) Created on 08/14/2024 12:48 For QC Batch 1274347

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,1,1-Trichloroethane	71-55-6	LCS	0.0190		0.02	94.3	73 - 130		
1,1,1-Trichloroethane	71-55-6	LCSD	0.02		0.02	98.9	73 - 130	RPD 4.73 (Max-20)	
1,1,2,2-Tetrachloroethane	79-34-5	LCS	0.0190		0.02	97.3	70 - 124		
1,1,2,2-Tetrachloroethane	79-34-5	LCSD	0.02		0.02	99.9	70 - 124	RPD 2.59 (Max-20)	
1,1,2-Trichloroethane	79-00-5	LCS	0.0190		0.02	94.1	78 - 121		
1,1,2-Trichloroethane	79-00-5	LCSD	0.02		0.02	98.3	78 - 121	RPD 4.33 (Max-20)	
1,1-Dichloroethane	75-34-3	LCS	0.0180		0.02	91.6	76 - 125		
1,1-Dichloroethane	75-34-3	LCSD	0.0190		0.02	96	76 - 125	RPD 4.59 (Max-20)	
1,1-Dichloroethene	75-35-4	LCS	0.0190		0.02	96.4	70 - 131		
1,1-Dichloroethene	75-35-4	LCSD	0.02		0.02	102	70 - 131	RPD 5.26 (Max-20)	
1,2,3-Trichlorobenzene	87-61-6	LCS	0.0190		0.02	93.7	66 - 130		
1,2,3-Trichlorobenzene	87-61-6	LCSD	0.0190		0.02	97	66 - 130	RPD 3.38 (Max-20)	
1,2,4-Trichlorobenzene	120-82-1	LCS	0.0210		0.02	105	67 - 129		
1,2,4-Trichlorobenzene	120-82-1	LCSD	0.0220		0.02	108	67 - 129	RPD 3.19 (Max-20)	
1,2-Dibromo-3-chloropropane	96-12-8	LCS	0.0170		0.02	82.5	61 - 132		
1,2-Dibromo-3-chloropropane	96-12-8	LCSD	0.0170		0.02	85.3	61 - 132	RPD 3.31 (Max-20)	
1,2-Dibromoethane	106-93-4	LCS	0.0190		0.02	94.2	78 - 122		
1,2-Dibromoethane	106-93-4	LCSD	0.02		0.02	97.8	78 - 122	RPD 3.83 (Max-20)	
1,2-Dichlorobenzene	95-50-1	LCS	0.0190		0.02	93.1	78 - 121		

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,2-Dichlorobenzene	95-50-1	LCSD	0.02		0.02	98.1	78 - 121	RPD 5.22 (Max-20)	
1,2-Dichloroethane	107-06-2	LCS	0.0180		0.02	87.9	78 - 122		
1,2-Dichloroethane	107-06-2	LCSD	0.0180		0.02	91.3	78 - 122	RPD 3.83 (Max-20)	
1,2-Dichloropropane	78-87-5	LCS	0.0180		0.02	92.1	76 - 123		
1,2-Dichloropropane	78-87-5	LCSD	0.02		0.02	97.7	76 - 123	RPD 5.87 (Max-20)	
1,3-Dichlorobenzene	541-73-1	LCS	0.0190		0.02	94.5	77 - 121		
1,3-Dichlorobenzene	541-73-1	LCSD	0.02		0.02	98.2	77 - 121	RPD 3.85 (Max-20)	
1,4-Dichlorobenzene	106-46-7	LCS	0.0190		0.02	94.5	75 - 120		
1,4-Dichlorobenzene	106-46-7	LCSD	0.02		0.02	98.2	75 - 120	RPD 3.80 (Max-20)	
2-Butanone	78-93-3	LCS	0.0940		0.10	93.9	51 - 148		
2-Butanone	78-93-3	LCSD	0.0990		0.10	98.9	51 - 148	RPD 5.16 (Max-20)	
2-Hexanone	591-78-6	LCS	0.0920		0.10	91.9	53 - 145		
2-Hexanone	591-78-6	LCSD	0.0950		0.10	94.9	53 - 145	RPD 3.19 (Max-20)	
4-Methyl-2-Pentanone(MIBK)	108-10-1	LCS	0.0970		0.10	96.5	65 - 135		
4-Methyl-2-Pentanone(MIBK)	108-10-1	LCSD	0.0990		0.10	99.3	65 - 135	RPD 2.79 (Max-20)	
Acetone	67-64-1	LCS	0.0980		0.10	98.1	36 - 164		
Acetone	67-64-1	LCSD	0.10		0.10	102	36 - 164	RPD 3.47 (Max-20)	
Benzene	71-43-2	LCS	0.0180		0.02	92	77 - 121		
Benzene	71-43-2	LCSD	0.0190		0.02	97	77 - 121	RPD 5.30 (Max-20)	
Bromochloromethane	74-97-5	LCS	0.02		0.02	98.3	78 - 125		
Bromochloromethane	74-97-5	LCSD	0.0210		0.02	103	78 - 125	RPD 5.05 (Max-20)	
Bromodichloromethane	75-27-4	LCS	0.0170		0.02	83.1	75 - 127		
Bromodichloromethane	75-27-4	LCSD	0.0180		0.02	87.5	75 - 127	RPD 5.22 (Max-20)	
Bromoform	75-25-2	LCS	0.0150		0.02	76.4	67 - 132		
Bromoform	75-25-2	LCSD	0.0160		0.02	79	67 - 132	RPD 3.37 (Max-20)	
Bromomethane	74-83-9	LCS	0.0170		0.02	84.1	53 - 143		
Bromomethane	74-83-9	LCSD	0.0170		0.02	87.1	53 - 143	RPD 3.49 (Max-20)	
Carbon Disulfide	75-15-0	LCS	0.0180		0.02	91.5	63 - 132		
Carbon Disulfide	75-15-0	LCSD	0.0190		0.02	95.1	63 - 132	RPD 3.86 (Max-20)	
Carbon Tetrachloride	56-23-5	LCS	0.0180		0.02	91.2	70 - 135		
Carbon Tetrachloride	56-23-5	LCSD	0.0190		0.02	95.4	70 - 135	RPD 4.46 (Max-20)	
Chlorobenzene	108-90-7	LCS	0.0180		0.02	92.1	79 - 120		
Chlorobenzene	108-90-7	LCSD	0.0190		0.02	96.4	79 - 120	RPD 4.50 (Max-20)	
Chlorodibromomethane	124-48-1	LCS	0.0150		0.02	76.9	74 - 126		
Chlorodibromomethane	124-48-1	LCSD	0.0160		0.02	80.7	74 - 126	RPD 4.82 (Max-20)	
Chloroethane	75-00-3	LCS	0.0160		0.02	78.2	59 - 139		
Chloroethane	75-00-3	LCSD	0.0170		0.02	82.5	59 - 139	RPD 5.37 (Max-20)	
Chloroform	67-66-3	LCS	0.0180		0.02	91.2	78 - 123		
Chloroform	67-66-3	LCSD	0.0190		0.02	97.2	78 - 123	RPD 6.33 (Max-20)	
Chloromethane	74-87-3	LCS	0.0190		0.02	92.9	50 - 136		
Chloromethane	74-87-3	LCSD	0.0190		0.02	94.7	50 - 136	RPD 1.98 (Max-20)	
cis-1,2-Dichloroethene	156-59-2	LCS	0.0190		0.02	93.4	77 - 123		
cis-1,2-Dichloroethene	156-59-2	LCSD	0.02		0.02	98.2	77 - 123	RPD 4.97 (Max-20)	
cis-1,3-Dichloropropene	10061-01-5	LCS	0.0160		0.02	82.5	74 - 126		
cis-1,3-Dichloropropene	10061-01-5	LCSD	0.0170		0.02	86.5	74 - 126	RPD 4.80 (Max-20)	
Cyclohexane	110-82-7	LCS	0.02		0.02	100	67 - 131		
Cyclohexane	110-82-7	LCSD	0.0210		0.02	103	67 - 131	RPD 2.27 (Max-20)	
Dichlorodifluoromethane	75-71-8	LCS	0.0220		0.02	110	29 - 149		
Dichlorodifluoromethane	75-71-8	LCSD	0.0220		0.02	112	29 - 149	RPD 2.21 (Max-20)	

QUALITY CONTROL SAMPLES

VOLATILE ORGANICS (cont.)

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Ethylbenzene	100-41-4	LCS	0.0190		0.02	95.2	76 - 122		
Ethylbenzene	100-41-4	LCSD	0.02		0.02	99.2	76 - 122	RPD 4.10 (Max-20)	
Freon 113	76-13-1	LCS	0.02		0.02	102	66 - 136		
Freon 113	76-13-1	LCSD	0.0210		0.02	105	66 - 136	RPD 2.92 (Max-20)	
Isopropylbenzene	98-82-8	LCS	0.0220		0.02	110	68 - 134		
Isopropylbenzene	98-82-8	LCSD	0.0230		0.02	116	68 - 134	RPD 4.70 (Max-20)	
Methyl acetate	79-20-9	LCS	0.0190		0.02	95.1	53 - 144		
Methyl acetate	79-20-9	LCSD	0.02		0.02	97.7	53 - 144	RPD 2.76 (Max-20)	
Methyl cyclohexane	108-87-2	LCS	0.02		0.02	100	66 - 133		
Methyl cyclohexane	108-87-2	LCSD	0.0210		0.02	103	66 - 133	RPD 2.62 (Max-20)	
Methyl t-Butyl Ether	1634-04-4	LCS	0.0190		0.02	97.2	73 - 125		
Methyl t-Butyl Ether	1634-04-4	LCSD	0.02		0.02	101	73 - 125	RPD 3.96 (Max-20)	
Methylene Chloride	75-09-2	LCS	0.0170		0.02	85.1	70 - 128		
Methylene Chloride	75-09-2	LCSD	0.0180		0.02	89.9	70 - 128	RPD 5.52 (Max-20)	
mp-Xylene	108383/106423	LCS	0.0390		0.04	96.6	77 - 124		
mp-Xylene	108383/106423	LCSD	0.0410		0.04	101	77 - 124	RPD 4.76 (Max-20)	
o-Xylene	95-47-6	LCS	0.0170		0.02	84.5	77 - 123		
o-Xylene	95-47-6	LCSD	0.0180		0.02	88.6	77 - 123	RPD 4.76 (Max-20)	
Styrene	100-42-5	LCS	0.0180		0.02	91.3	76 - 124		
Styrene	100-42-5	LCSD	0.0190		0.02	95.4	76 - 124	RPD 4.36 (Max-20)	
Tetrachloroethene	127-18-4	LCS	0.0180		0.02	88.6	73 - 128		
Tetrachloroethene	127-18-4	LCSD	0.0190		0.02	92.8	73 - 128	RPD 4.66 (Max-20)	
Toluene	108-88-3	LCS	0.0180		0.02	89.4	77 - 121		
Toluene	108-88-3	LCSD	0.0190		0.02	93.7	77 - 121	RPD 4.71 (Max-20)	
trans-1,2-Dichloroethene	156-60-5	LCS	0.0190		0.02	93.3	74 - 125		
trans-1,2-Dichloroethene	156-60-5	LCSD	0.02		0.02	97.7	74 - 125	RPD 4.62 (Max-20)	
trans-1,3-Dichloropropene	10061-02-6	LCS	0.0180		0.02	88.8	71 - 130		
trans-1,3-Dichloropropene	10061-02-6	LCSD	0.0180		0.02	92	71 - 130	RPD 3.60 (Max-20)	
Trichloroethene	79-01-6	LCS	0.0180		0.02	89.9	77 - 123		
Trichloroethene	79-01-6	LCSD	0.0190		0.02	94.1	77 - 123	RPD 4.55 (Max-20)	
Trichlorofluoromethane	75-69-4	LCS	0.02		0.02	99.9	62 - 140		
Trichlorofluoromethane	75-69-4	LCSD	0.02		0.02	101	62 - 140	RPD 1.56 (Max-20)	
Vinyl Chloride	75-01-4	LCS	0.0220		0.02	108	56 - 135		
Vinyl Chloride	75-01-4	LCSD	0.0220		0.02	112	56 - 135	RPD 3.48 (Max-20)	

SURROGATES

Compound	CAS No		Result (ug/kg)	Expected (ug/kg)	Rec. (%)	Limits (%)	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	LCS	30.50	30	102	71 - 136	
1,2-Dichloroethane-d4	17060-07-0	LCSD	31.60	30	105	71 - 136	
4-Bromofluorobenzene	460-00-4	LCS	28.70	30	95.5	79 - 119	
4-Bromofluorobenzene	460-00-4	LCSD	29.90	30	99.6	79 - 119	
Dibromofluoromethane	1868-53-7	LCS	30.30	30	101	78 - 119	
Dibromofluoromethane	1868-53-7	LCSD	31.70	30	106	78 - 119	
Toluene-d8	2037-26-5	LCS	29.40	30	98.1	85 - 116	
Toluene-d8	2037-26-5	LCSD	30.70	30	102	85 - 116	

QUALITY CONTROL SAMPLES

WET CHEMISTRY

QC Batch	1271309	Prep Method	N/A
Date	N/A	Analysis Method	S2540G-15
Tech.			

Associated Samples

3373022021 3373022023 3373022026

Duplicate 3863364 (DUP) 3372862003 (non-Project Sample) For QC Batch 1271309

****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	11.60	11.8952	RPD	2.16 (Max-10)	
Total Solids	TSP	DUP	88.40	88.1047	RPD	0.29 (Max-5)	

Duplicate 3863365 (DUP) 3372873003 (non-Project Sample) For QC Batch 1271309

****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	74.40	74.5826	RPD	0.23 (Max-10)	
Total Solids	TSP	DUP	25.60	25.4173	RPD	0.67 (Max-5)	

Duplicate 3863366 (DUP) 3372887001 (non-Project Sample) For QC Batch 1271309

****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	82.20	81.4912	RPD	0.85 (Max-10)	
Total Solids	TSP	DUP	17.80	18.5087	RPD	3.84 (Max-5)	

Duplicate 3863368 (DUP) 3372971001 (non-Project Sample) For QC Batch 1271309

****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	56.90	56.6925	RPD	0.30 (Max-10)	
Total Solids	TSP	DUP	43.10	43.3074	RPD	0.40 (Max-5)	

Duplicate 3863367 (DUP) 3373022023 For QC Batch 1271309

****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	28.40	28.8698	RPD	1.73 (Max-10)	
Total Solids	TSP	DUP	71.60	71.1301	RPD	0.69 (Max-5)	

QC Batch

QC Batch	1271912	Prep Method	N/A
Date	N/A	Analysis Method	S2540G-15
Tech.			

Associated Samples

3373022001	3373022002	3373022003	3373022004
3373022005	3373022006	3373022007	3373022008
3373022009	3373022010	3373022011	3373022012
3373022013	3373022014	3373022015	3373022016
3373022017	3373022018	3373022019	3373022020
3373022024	3373022025	3373022027	

Duplicate 3863482 (DUP) 3372999017 (non-Project Sample) For QC Batch 1271912

****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	15.20	15.5591	RPD	2.36 (Max-10)	
Total Solids	TSP	DUP	84.80	84.4408	RPD	0.43 (Max-5)	

Duplicate 3863483 (DUP) 3372999003 (non-Project Sample) For QC Batch 1271912

****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

QUALITY CONTROL SAMPLES

WET CHEMISTRY (cont.)

RESULTS

Compound	CAS No		Result (%)	Orig. Result (%)			Qualifiers
Moisture	MOISTURE	DUP	9.90	9.3813	RPD	5.63 (Max-10)	
Total Solids	TSP	DUP	90.10	90.6186	RPD	0.60 (Max-5)	

Duplicate 3863484 (DUP) 3373010001 (non-Project Sample) For QC Batch 1271912

****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	97.30	97.2817	RPD	0.02 (Max-10)	
Total Solids	TSP	DUP	2.70	2.7182	RPD	0.85 (Max-5)	

Duplicate 3863485 (DUP) 3373051014 (non-Project Sample) For QC Batch 1271912

****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	6.90	6.5570	RPD	5.65 (Max-10)	
Total Solids	TSP	DUP	93.10	93.4429	RPD	0.41 (Max-5)	

Duplicate 3863479 (DUP) 3373022005 For QC Batch 1271912

****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	32.40	33.1471	RPD	2.34 (Max-10)	
Total Solids	TSP	DUP	67.60	66.8528	RPD	1.14 (Max-5)	

Duplicate 3863480 (DUP) 3373022014 For QC Batch 1271912

****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	25.20	28.9617	RPD 13.90* (Max-10)	
Total Solids	TSP	DUP	74.80	71.0382	RPD 5.16* (Max-5)	

Duplicate 3863481 (DUP) 3373022007 For QC Batch 1271912

****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	28.10	27.7140	RPD 1.40 (Max-10)	
Total Solids	TSP	DUP	71.90	72.2859	RPD 0.54 (Max-5)	

QC Batch

QC Batch	1272422	Prep Method	N/A
Date	N/A	Analysis Method	SW846 9045D
Tech.			

Associated Samples

3373022021 3373022022

Duplicate 3863679 (DUP) 3372516001 (non-Project Sample) For QC Batch 1272422

****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 (pH_Units)	Orig. Result (pH_Units)	Qualifiers
pH	PH	DUP	8.01		

Duplicate 3863682 (DUP) 3372969001 (non-Project Sample) For QC Batch 1272422

****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 (pH_Units)	Orig. Result (pH_Units)		Qualifiers
pH	PH	DUP	3.36	3.43	RPD 2.06 (Max-5)	

QUALITY CONTROL SAMPLES

WET CHEMISTRY (cont.)

QC Batch	1272424	Prep Method	N/A
Date	N/A	Analysis Method	S2540G-15
Tech.			

Associated Samples

3373022022

Duplicate 3863685 (DUP) 3372720003 (non-Project Sample) For QC Batch 1272424

****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	51.50	50.8240	RPD	1.40 (Max-10)	
Total Solids	TSP	DUP	48.50	49.1759	RPD	1.47 (Max-5)	

Duplicate 3863686 (DUP) 3372978003 (non-Project Sample) For QC Batch 1272424

****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	35.90		
Total Solids	TSP	DUP	64.10		

Duplicate 3863687 (DUP) 3373022022 For QC Batch 1272424

****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	4	4.0743	RPD	1.88 (Max-10)	
Total Solids	TSP	DUP	96	95.9256	RPD	0.08 (Max-5)	

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3373022001	ASYss-127-0001-SO	SW846 3051A	1272319	08/12/2024 00:32	ANN	SW846 6020A	1276531
		N/A	N/A	N/A		S2540G-15	1271912
3373022002	ASYss-128-0001-SO	SW846 3051A	1272319	08/12/2024 00:32	ANN	SW846 6020A	1276531
		N/A	N/A	N/A		S2540G-15	1271912
3373022003	ASYss-129-0001-SO	SW846 3051A	1272319	08/12/2024 00:32	ANN	SW846 6020A	1276531
		N/A	N/A	N/A		S2540G-15	1271912
3373022004	ASYss-130-0001-SO	SW846 3051A	1272319	08/12/2024 00:32	ANN	SW846 6020A	1276531
		N/A	N/A	N/A		S2540G-15	1271912
3373022005	ASYss-131-0001-SO	SW846 3051A	1272319	08/12/2024 00:32	ANN	SW846 6020A	1276531
		N/A	N/A	N/A		S2540G-15	1271912
3373022006	ASYss-132-0001-SO	SW846 3051A	1272319	08/12/2024 00:32	ANN	SW846 6020A	1276531
		N/A	N/A	N/A		S2540G-15	1271912
3373022007	ASYss-133-0001-SO	SW846 3051A	1272319	08/12/2024 00:32	ANN	SW846 6020A	1276531
		N/A	N/A	N/A		S2540G-15	1271912
3373022008	ASYss-134-0001-SO	SW846 3051A	1272319	08/12/2024 00:32	ANN	SW846 6020A	1276531
		N/A	N/A	N/A		S2540G-15	1271912
3373022009	ASYss-135-0001-SO	SW846 3051A	1272319	08/12/2024 00:32	ANN	SW846 6020A	1276531
		N/A	N/A	N/A		S2540G-15	1271912
3373022010	ASYss-136-0001-SO	SW846 3051A	1272319	08/12/2024 00:32	ANN	SW846 6020A	1276531
		N/A	N/A	N/A		S2540G-15	1271912
3373022011	ASYss-137-0001-SO	SW846 3051A	1272319	08/12/2024 00:32	ANN	SW846 6020A	1276531
		N/A	N/A	N/A		S2540G-15	1271912
3373022012	ASYss-138-0001-SO	SW846 3051A	1272319	08/12/2024 00:32	ANN	SW846 6020A	1276531
		N/A	N/A	N/A		S2540G-15	1271912
3373022013	ASYss-139-0001-SO	SW846 3051A	1272319	08/12/2024 00:32	ANN	SW846 6020A	1276531
		N/A	N/A	N/A		S2540G-15	1271912
3373022014	ASYss-140-0001-SO	SW846 3051A	1272319	08/12/2024 00:32	ANN	SW846 6020A	1276531
		N/A	N/A	N/A		S2540G-15	1271912
3373022015	ASYss-141-0001-SO	SW846 3051A	1272319	08/12/2024 00:32	ANN	SW846 6020A	1276531
		N/A	N/A	N/A		S2540G-15	1271912
3373022016	ASYss-142-0001-SO	SW846 3051A	1272319	08/12/2024 00:32	ANN	SW846 6020A	1276531
		N/A	N/A	N/A		S2540G-15	1271912
3373022017	ASYss-143-0001-SO	SW846 3051A	1272319	08/12/2024 00:32	ANN	SW846 6020A	1276531
		N/A	N/A	N/A		S2540G-15	1271912
3373022018	ASYss-144-0001-SO	SW846 3051A	1272319	08/12/2024 00:32	ANN	SW846 6020A	1276531
		N/A	N/A	N/A		S2540G-15	1271912
3373022019	ASYss-080724-FD01	SW846 3051A	1272319	08/12/2024 00:32	ANN	SW846 6020A	1276531
		N/A	N/A	N/A		S2540G-15	1271912
3373022020	ASYss-080724-FD02	SW846 3051A	1272319	08/12/2024 00:32	ANN	SW846 6020A	1276531
		N/A	N/A	N/A		S2540G-15	1271912
3373022021	OFFbo-001M-0001-SO (Top Soil)	SW846 8330B	1275724	08/15/2024 15:55	JEK	SW846 8330B	1280529
		SW846 3051A	1275427	08/15/2024 11:40	MEM	SW846 6020A	1276532
		SW846 3051A	1275427	08/15/2024 11:40	MEM	SW846 6020A	1277089
		SW846 7471B	1279240	08/20/2024 10:11	JMS	SW846 7471B	1280598
		SW846 3546	1274564	08/13/2024 20:15	J1H	SW846 8081B	1279259
		SW846 3546	1273340	08/13/2024 20:15	J1H	SW846 8082A	1274635
		SW846 3546	1273337	08/13/2024 19:10	J1H	SW846 8270E	1274281
		SW846 5035A	1274347	08/10/2024 06:42	TMP	SW846 8260D	1274348
		N/A	N/A	N/A		S2540G-15	1271309
		N/A	N/A	N/A		SW846 9045D	1272422

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3373022022	OFFbo-002M-0001-SO (Sand)	SW846 8330B	1275724	08/15/2024 15:55	JEK	SW846 8330B	1280529
		SW846 3051A	1275427	08/15/2024 11:40	MEM	SW846 6020A	1276532
		SW846 3051A	1275427	08/15/2024 11:40	MEM	SW846 6020A	1277089
		SW846 7471B	1279240	08/20/2024 10:11	JMS	SW846 7471B	1280598
		SW846 3546	1274564	08/13/2024 20:15	J1H	SW846 8081B	1279259
		SW846 3546	1273340	08/13/2024 20:15	J1H	SW846 8082A	1274635
		SW846 3546	1273337	08/13/2024 19:10	J1H	SW846 8270E	1274281
		SW846 5035A	1274347	08/08/2024 14:05	TMP	SW846 8260D	1274348
		N/A	N/A	N/A		S2540G-15	1272424
		N/A	N/A	N/A		SW846 9045D	1272422
3373022023	ASYpl-150-0001-SO	SW846 3015A	1273090	08/13/2024 12:05	MEM	SW846 6010C	1274275
		SW846 3051A	1275427	08/15/2024 11:40	MEM	SW846 6020A	1276532
		SW846 7470A	1275165	08/15/2024 10:00	JSE	SW846 7470A	1276626
		SW846 3511	1272718	08/14/2024 17:45	BMP	SW846 8081B	1279261
		SW846 3546	1273340	08/13/2024 20:15	J1H	SW846 8082A	1274635
		SW846 8151A	1273057	08/13/2024 13:30	JEK	SW846 8151A	1274562
		SW846 3510C	1277048	08/16/2024 09:40	EJH	SW846 8270D	1278666
		N/A	N/A	N/A		SW846 8260C	1273208
		N/A	N/A	N/A		S2540G-15	1271309
3373022024	ASYin-150-0002-WS	SW846 3015A	1273090	08/13/2024 12:05	MEM	SW846 6010C	1274275
		SW846 3051A	1275427	08/15/2024 11:40	MEM	SW846 6020A	1276532
		SW846 7470A	1275165	08/15/2024 10:00	JSE	SW846 7470A	1276626
		SW846 3511	1272718	08/14/2024 17:45	BMP	SW846 8081B	1279261
		SW846 3546	1273340	08/13/2024 20:15	J1H	SW846 8082A	1274635
		SW846 8151A	1273057	08/13/2024 13:30	JEK	SW846 8151A	1274562
		SW846 3510C	1277048	08/16/2024 09:40	EJH	SW846 8270D	1278666
		N/A	N/A	N/A		SW846 8260C	1273208
		N/A	N/A	N/A		S2540G-15	1271912
3373022025	ASYin-150-0003-WS	SW846 3015A	1273090	08/13/2024 12:05	MEM	SW846 6010C	1274275
		SW846 3051A	1275427	08/15/2024 11:40	MEM	SW846 6020A	1276532
		SW846 7470A	1275165	08/15/2024 10:00	JSE	SW846 7470A	1276626
		SW846 3511	1272718	08/14/2024 17:45	BMP	SW846 8081B	1279261
		SW846 3546	1273340	08/13/2024 20:15	J1H	SW846 8082A	1274635
		SW846 8151A	1273057	08/13/2024 13:30	JEK	SW846 8151A	1274562
		SW846 3510C	1277048	08/16/2024 09:40	EJH	SW846 8270D	1278666
		N/A	N/A	N/A		SW846 8260C	1273208
		N/A	N/A	N/A		S2540G-15	1271912
3373022026	ASYin-150-0004-WS	SW846 3015A	1273090	08/13/2024 12:05	MEM	SW846 6010C	1274275
		SW846 3051A	1275427	08/15/2024 11:40	MEM	SW846 6020A	1276532
		SW846 7470A	1275165	08/15/2024 10:00	JSE	SW846 7470A	1276626
		SW846 3511	1272718	08/14/2024 17:45	BMP	SW846 8081B	1279261
		SW846 3546	1273340	08/13/2024 20:15	J1H	SW846 8082A	1274635
		SW846 8151A	1273057	08/13/2024 13:30	JEK	SW846 8151A	1274562
		SW846 3510C	1277048	08/16/2024 09:40	EJH	SW846 8270D	1278666
		N/A	N/A	N/A		SW846 8260C	1273208
		N/A	N/A	N/A		S2540G-15	1271309
3373022027	070IDW-080724-WS	SW846 3015A	1273090	08/13/2024 12:05	MEM	SW846 6010C	1274275
		SW846 3051A	1275427	08/15/2024 11:40	MEM	SW846 6020A	1276532
		SW846 7470A	1275165	08/15/2024 10:00	JSE	SW846 7470A	1276626
		SW846 3511	1272718	08/14/2024 17:45	BMP	SW846 8081B	1279261
		SW846 3546	1273340	08/13/2024 20:15	J1H	SW846 8082A	1274635
		SW846 8151A	1273057	08/13/2024 13:30	JEK	SW846 8151A	1274562
		SW846 3510C	1277048	08/16/2024 09:40	EJH	SW846 8270D	1278666
		N/A	N/A	N/A		SW846 8260C	1273208
		N/A	N/A	N/A		S2540G-15	1271912

Revised COC

3373022
Logged By: SLS
PM: SJB

Chain of Custody Form

Page 1 of 84

1'570

ALS Environmental

ALS Environmental
North America Corporate Office
10450 Stancliff Road, Suite 210
Houston, TX 77099
+1 800 695 7222

ALS Project Manager: Susan Scherer | Work Order #:

Customer Information		Project Information		Parameter/Method Request for Analysis	
PO Number	440008.08040	Project Name	RVAAP - 06 / 50 / 70	A	TCLP VOCs (1311/8260B)
Work Order		Project Number		B	TCLP SVOCs (1311/8270D)
Company Name	PIKA-Insight LLC	Bill To Company	PIKA-Insight LLC	C	TCLP pesticides (1311/8081B)
Send Report To	Jim Cirillo	Invoice Attn.	Jim Cirillo	D	TCLP herbicides (1311/8151A)
Address	2749 Saturn Street	Address	2749 Saturn Street	E	TCLP metals (1311/6020A)
				F	TCLP mercury (1311/6020A)
City/State/Zip	Brea, CA 92821	City/State/Zip	Brea, CA 92821	G	PCBs (8082)
Phone	714-678-6700	Phone	714-678-6700	H	Pb (6010/6020)
Fax		Fax		I	
e-Mail Address	[illegible]	e-Mail Address	[illegible]	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H
1	ASYss-127-0001-SO	08/07/24	1055	soil	none	1								X
2	ASYss-128-0001-SO	08/07/24	1130	soil	none	1								X
3	ASYss-129-0001-SO	08/07/24	1135	soil	none	1								X
4	ASYss-130-0001-SO	08/07/24	1150	soil	none	1								X
5	ASYss-131-0001-SO	08/07/24	1200	soil	none	1								X
6	ASYss-132-0001-SO	08/07/24	1205	soil	none	1								X
7	ASYss-133-0001-SO	08/07/24	1215	soil	none	1								X
8	ASYss-134-0001-SO	08/07/24	1235	soil	none	1								X
9	ASYss-135-0001-SO	08/07/24	1245	soil	none	1								X
10	ASYss-136-0001-SO	08/07/24	1305	soil	none	1								X

Temp By: DD | WO Temp (°C): 1°

Receipt Info Completed By:
Cooler Custody Seal Intact
Sample Custody Seal Intact
Received on Ice
Cooler & Samples Intact
Correct Containers Provided
Sample Label/COC Agree
Adequate Sample Volumes
CR6 Samples Filtered
OP Samples Filtered
VOA Trip Blank
NIs 4 Days?
Rad Screen (uCi)
Courier/Tracking #:

SDWA Compliance
PWSID
WV Containers 0-6°C

*NOG|C, G|WP -MS

Sampler(s): Please Print & Sign: J. Daugherty / T. Rojahn

Shipment Method: ~~FED EX~~ Drop off

Required Turnaround Time: [x] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 Hour [ ] Other

Results D

Relinquished by:	Date:	Time:	Received by:	Notes:
Joshua Daugherty	8/9/24	1015	DD/ALS	
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler Temp.
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	

QC Package: (Check Box Below)
- [ ] Level II: Standard QC
- [ ] Level III: Std QC + Raw Data
- [ ] Level IV: SW846 CLP-Like
- [ ] Other:
- [ ] TRRP-Checklist
- [ ] TRRP Level IV

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

Revised COC

3373022

Chain of Custody Form

Page 2 of 4

1'570

ALS Environmental
North America Corporate Office
10450 Stancliff Road, Suite 210
Houston, TX 77099
+1 800 695 7222

ALS Project Manager: Susan Scherer | Work Order #:

Customer Information		Project Information		Parameter/Method Request for Analysis	
PO Number	440008.08040	Project Name	RVAAP - 06 / 50 / 70	A	TCLP VOCs (1311/8260B)
Work Order		Project Number		B	TCLP SVOCs (1311/8270D)
Company Name	PIKA-Insight LLC	Bill To Company	PIKA-Insight LLC	C	TCLP pesticides (1311/8081B)
Send Report To	Jim Cirillo	Invoice Attn.	Jim Cirillo	D	TCLP herbicides (1311/8151A)
Address	2749 Saturn Street	Address	2749 Saturn Street	E	TCLP metals (1311/6020A)
				F	TCLP mercury (1311/6020A)
City/State/Zip	Brea, CA 92821	City/State/Zip	Brea, CA 92821	G	PCBs (8082)
Phone	714-678-6700	Phone	714-678-6700	H	Pb (6010/6020)
Fax		Fax		I	
e-Mail Address	[redacted]	e-Mail Address	[redacted]	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	ASYss-137-0001-SO	08/07/24	1315	soil	none	1								X			
2	ASYss-138-0001-SO	08/07/24	1325	soil	none	1								X			
3	ASYss-139-0001-SO	08/07/24	1340	soil	none	1								X			
4	ASYss-140-0001-SO	08/07/24	1350	soil	none	1								X			
5	ASYss-141-0001-SO	08/07/24	1400	soil	none	1								X			
6	ASYss-142-0001-SO	08/07/24	1415	soil	none	1								X			
7	ASYss-143-0001-SO	08/07/24	1420	soil	none	1								X			
8	ASYss-144-0001-SO	08/07/24	1430	soil	none	1								X			
9	ASYss- 080724-FD01	08/07/24	0000	soil	none	1								X			
10	ASYss- 080724-FD02	08/07/24	0000	soil	none	1								X			

Sampler(s): Please Print & Sign
J. Daugherty / T. Rojahn

Shipment Method: ~~FED EX~~ Drop off

Required Turnaround Time: [x] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 Hour [ ] Other

Results Due Date:

Relinquished by:	Date:	Time:	Received by:	Notes:
Joshua Daugherty	8/9/24	1015	DD/ALS	
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler Temp.
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	

QC Package: (Check Box Below)

- [ ] Level II: Standard QC
- [ ] Level III: Std QC + Raw Data
- [ ] Level IV: SW846 CLP-Like
- [ ] Other: _____
- [ ] TRRP-Checklist
- [ ] TRRP Level IV

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

revised COC

3373022

Chain of Custody Form

Page 13 of 54

1' 570

ALS Environmental
North America Corporate Office
10450 Stancliff Road, Suite 210
Houston, TX 77099
+1 800 695 7222

ALS Project Manager: Susan Scherer

Work Order #:

Customer Information		Project Information		Parameter/Method Request for Analysis	
PO Number	440008.08040	Project Name	RVAAP - 06 / 50 / 70	A	TCL VOCs (~~1311~~/8260B)
Work Order		Project Number		B	TCL SVOCs (~~1311~~/8270D)
Company Name	PIKA-Insight LLC	Bill To Company	PIKA-Insight LLC	C	TCL pesticides (~~1311~~/8081B)
Send Report To	Jim Cirillo	Invoice Attn.	Jim Cirillo	D	TCL herbicides (~~1311~~/8151A)
Address	2749 Saturn Street	Address	2749 Saturn Street	E	TAL metals (~~1311~~/6020A)
				F	TCL mercury (~~1311~~/6020A)
City/State/Zip	Brea, CA 92821	City/State/Zip	Brea, CA 92821	G	PCBs (8082)
Phone	714-678-6700	Phone	714-678-6700	H	Pb (6010/6020)
Fax		Fax		I	Explosives (8330B)
e-Mail Address	[redacted]	e-Mail Address	[redacted]	J	Nitroglycerin

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	OFFbo-001M-0001-SO (~~sand~~) (topsoil)	~~08/07/24~~ 8/8/24	~~1105~~	soil	~~none~~	3 + TCK	X	X	X		X	X	X		X	X	1400
2	OFFbo-002M-0001-SO (~~top soil~~)(sand)	08/07/24	8/8/24 ~~1100~~	soil	none	2 + TCK	X	X	X		X	X	X		X	X	1405
3																	
4																	
5																	
6	Rcvd 1 TCK labeled as																
7	top soil, but is clearly																
8	Sand.																
9	Hold Top soil extracted for VOC																
10	SG 8-9-24																

Sampler(s): Please Print & Sign
J. Daugherty / T. Rojahn

Shipment Method:
~~FED-EX~~ Drop off

Required Turnaround Time:
☑ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other_____

Results Due Date:

Relinquished by:	Date:	Time:	Received by:	Notes: Include pH with results.
Joshua Daugherty	8/9/24	1015	DO/ALS	
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler Temp.
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	

QC Package: (Check Box Below)

	Level II: Standard QC		TRRP-Checklist
	Level III: Std QC + Raw Data		TRRP Level IV
	Level IV: SW846 CLP-Like		
	Other: _____		

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other Methyl Alcohol 8-4 degrees C 9-5035

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

Chain of Custody Form

~~Pg. 1 of 2~~

Page 1 of 2

1'570 DD 8/9/24

3373022

ALS Environmental
North America Corporate Office
10450 Stancliff Road, Suite 210
Houston, TX 77099
+1 800 695 7222

ALS Project Manager: Susan Scherer | Work Order #:

Customer Information		Project Information		Parameter/Method Request for Analysis	
PO Number	440008.08040	Project Name	RVAAP - 06 / 50 / 70	A	TCLP VOCs (1311/8260B)
Work Order		Project Number		B	TCLP SVOCs (1311/8270D)
Company Name	PIKA-Insight LLC	Bill To Company	PIKA-Insight LLC	C	TCLP pesticides (1311/8081B)
Send Report To	Jim Cirillo	Invoice Attn.	Jim Cirillo	D	TCLP herbicides (1311/8151A)
Address	2749 Saturn Street	Address	2749 Saturn Street	E	TCLP metals (1311/6020A)
				F	TCLP mercury (1311/6020A)
City/State/Zip	Brea, CA 92821	City/State/Zip	Brea, CA 92821	G	PCBs (8082)
Phone	714-678-6700	Phone	714-678-6700	H	Pb (6010/6020)
Fax		Fax		I	No G/C DD 8/9/24
e-Mail Address	jcirillo@leecl.com	e-Mail Address	jcirillo@leecl.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	ASYss-127-0001-SO	08/07/24	1055	soil	none	1								X			
2	ASYss-128-0001-SO	08/07/24	1130	soil	none	1								X			
3	ASYss-129-0001-SO	08/07/24	1135	soil	none	1								X			
4	ASYss-130-0001-SO	08/07/24	1150	soil	none	1								X			
5	ASYss-131-0001-SO	08/07/24	1200	soil	none	1								X			
6	ASYss-132-0001-SO	08/07/24	1205	soil	none	1								X			
7	ASYss-133-0001-SO	08/07/24	1215	soil	none	1								X			
8	ASYss-134-0001-SO	08/07/24	1235	soil	none	1								X			
9	ASYss-135-0001-SO	08/07/24	1245	soil	none	1								X			
10	ASYss-136-0001-SO	08/07/24	1305	soil	none	1								X			

Temp By: DD | WO Temp (°C): 1' | Therm ID: 571

Receipt Info Completed By: DD
Cooler Custody Seal Intact: Y N (NA)
Sample Custody Seal Intact: Y N (NA)
Received on Ice: (Y) N NA
Cooler & Samples Intact: (Y) N
Correct Containers Provided: (Y) N
Sample Label/COC Agree: (Y) N
Adequate Sample Volumes: (Y) N
CR6 Samples Filtered: Y N (NA)
OP Samples Filtered: Y N (NA)
VOA Trip Blank: Y N (NA)
NH3 4 Days? —
Rad Screen (uCi): —
Courier/Tracking #: —

SDWA Compliance: Y (N)
PWSID
WV Containers 0-6°C: Y N (NA)

Sampler(s): Please Print & Sign
J. Daugherty / T. Rojahn

Shipment Method: ~~FED EX~~ Dropoff

Required Turnaround Time: ☑ STD 10 Wk Days ☐ 5 Wk

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
Joshua Daugherty	8/9/24	1015	DD/ALS
Relinquished by:	Date:	Time:	Received by (Laboratory):
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Cooler Temp.

QC Package: (Check Box Below)

- ☐ Level II: Standard QC
- ☐ Level III: Std QC + Raw Data
- ☐ Level IV: SW846 CLP-Like
- ☐ Other: _____
- ☐ TRRP-Checklist
- ☐ TRRP Level IV

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

ALS Environmental

Chain of Custody Form

Page 1 of 2 ~~Pg. 1 of 2~~

1' 570 DD 8/9/24

3373022

ALS Environmental
North America Corporate Office
10450 Stancliff Road, Suite 210
Houston, TX 77099
+1 800 695 7222

ALS Project Manager: Susan Scherer | Work Order #:

Customer Information		Project Information		Parameter/Method Request for Analysis	
PO Number	440008.08040	Project Name	RVAAP - 06 / 50 / 70	A	TCLP VOCs (1311/8260B)
Work Order		Project Number		B	TCLP SVOCs (1311/8270D)
Company Name	PIKA-Insight LLC	Bill To Company	PIKA-Insight LLC	C	TCLP pesticides (1311/8081B)
Send Report To	Jim Cirillo	Invoice Attn.	Jim Cirillo	D	TCLP herbicides (1311/8151A)
Address	2749 Saturn Street	Address	2749 Saturn Street	E	TCLP metals (1311/6020A)
				F	TCLP mercury (1311/6020A)
City/State/Zip	Brea, CA 92821	City/State/Zip	Brea, CA 92821	G	PCBs (8082)
Phone	714-678-6700	Phone	714-678-6700	H	Pb (6010/6020)
Fax		Fax		I	No C/C DD 8/9/24
e-Mail Address	jcirillo@ieeci.com	e-Mail Address	jcirillo@ieeci.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	ASYss-127-0001-SO	08/07/24	1055	soil	none	1								X			
2	ASYss-128-0001-SO	08/07/24	1130	soil	none	1								X			
3	ASYss-129-0001-SO	08/07/24	1135	soil	none	1								X			
4	ASYss-130-0001-SO	08/07/24	1150	soil	none	1								X			
5	ASYss-131-0001-SO	08/07/24	1200	soil	none	1								X			
6	ASYss-132-0001-SO	08/07/24	1205	soil	none	1								X			
7	ASYss-133-0001-SO	08/07/24	1215	soil	none	1								X			
8	ASYss-134-0001-SO	08/07/24	1235	soil	none	1								X			
9	ASYss-135-0001-SO	08/07/24	1245	soil	none	1								X			
10	ASYss-136-0001-SO	08/07/24	1305	soil	none	1								X			

Temp By: DD | WO Temp (°C): 1° | Therm ID: 571

Receipt Info Completed By: DD
Cooler Custody Seal Intact: Y N (NA)
Sample Custody Seal Intact: Y N (NA)
Received on Ice: (Y) N NA
Cooler & Samples Intact: (Y) N
Correct Containers Provided: (Y) N
Sample Label/COC Agree: Y (N)
Adequate Sample Volumes: (Y) N
CR6 Samples Filtered: Y N (NA)
OP Samples Filtered: Y N (NA)
VOA Trip Blank: Y N (NA)
NI<4 Days?: Y N
Rad Screen (uCi): —
Courier/Tracking #: —
SDWA Compliance: Y (N)
PWSID
WV Containers 0-6°C: Y N (NA)

Sampler(s): Please Print & Sign: J. Daugherty / T. Rojahn

Shipment Method: ~~FED EX~~ Drop off

Required Turnaround Time: ☑ STD 10 Wk Days ☐ 5 Wk

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
Joshua Daugherty [signature]	8/9/24	1015	DD/ALS
Relinquished by:	Date:	Time:	Received by (Laboratory):
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Cooler Temp.

QC Package: (Check Box Below)

Level II: Standard QC	TRRP-Checklist
Level III: Std QC + Raw Data	TRRP Level IV
Level IV: SW846 CLP-Like	
Other:	

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

DD 8/8/24 Pg 2 of 2

3373022

ALS Environmental
North America Corporate Office
10450 Stancliff Road, Suite 210
Houston, TX 77099
+1 800 695 7222

Chain of ~~Custody~~ Form

Page 2 of 2

1' 570

ALS Environmental

ALS Project Manager: Susan Scherer | Work Order #:

Customer Information		Project Information		Parameter/Method Request for Analysis	
PO Number	440008.08040	Project Name	RVAAP - 06 / 50 / 70	A	TCLP VOCs (1311/8260B)
Work Order		Project Number		B	TCLP SVOCs (1311/8270D)
Company Name	PIKA-Insight LLC	Bill To Company	PIKA-Insight LLC	C	TCLP pesticides (1311/8081B)
Send Report To	Jim Cirillo	Invoice Attn.	Jim Cirillo	D	TCLP herbicides (1311/8151A)
Address	2749 Saturn Street	Address	2749 Saturn Street	E	TCLP metals (1311/6020A)
				F	TCLP mercury (1311/6020A)
City/State/Zip	Brea, CA 92821	City/State/Zip	Brea, CA 92821	G	PCBs (8082)
Phone	714-678-6700	Phone	714-678-6700	H	Pb (6010/6020)
Fax		Fax		I	
e-Mail Address	jcirillo@iesci.com	e-Mail Address	jcirillo@iesci.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	ASYss-137-0001-SO	08/07/24	1315	soil	none	1								X			
2	ASYss-138-0001-SO	08/07/24	1325	soil	none	1								X			
3	ASYss-139-0001-SO	08/07/24	1340	soil	none	1								X			
4	ASYss-140-0001-SO	08/07/24	1350	soil	none	1								X			
5	ASYss-141-0001-SO	08/07/24	1400	soil	none	1								X			
6	ASYss-142-0001-SO	08/07/24	1415	soil	none	1								X			
7	ASYss-143-0001-SO	08/07/24	1420	soil	none	1								X			
8	ASYss-144-0001-SO	08/07/24	1430	soil	none	1								X			
9	ASYss- FD1 DD 8/9/24	08/07/24	0000	soil	none	1								X			
10	ASYss- FD2	08/07/24	0000	soil	none	1								X			

Sampler(s): Please Print & Sign
J. Daugherty / T. Rojahn

Shipment Method: ~~FED EX~~ Drop off

Required Turnaround Time: ☐ Other ☑ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date:

Relinquished by:	Date:	Time:	Received by:	Notes:
Joshua Daugherty	8/9/24	1015	DD/ALS	
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler Temp.
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	

QC Package: (Check Box Below)

- ☐ Level II: Standard QC
- ☐ Level III: Std QC + Raw Data
- ☐ Level IV: SW846 CLP-Like
- ☐ Other: _____
- ☐ TRRP-Checklist
- ☐ TRRP Level IV

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

ALS Environmental

Chain of Custody Form

Page 1 of 1

3373022

1' 570

ALS Environmental
North America Corporate Office
10450 Stancliff Road, Suite 210
Houston, TX 77099
+1 800 695 7222

ALS Project Manager: Susan Scherer | Work Order #:

Customer Information		Project Information		Parameter/Method Request for Analysis	
PO Number	440008.08040	Project Name	RVAAP - 06 / 50 / 70	A	TCL VOCs (1311/8260B)
Work Order		Project Number		B	TCL SVOCs (1311/8270D)
Company Name	PIKA-Insight LLC	Bill To Company	PIKA-Insight LLC	C	TCL pesticides (1311/8081B)
Send Report To	Jim Cirillo	Invoice Attn.	Jim Cirillo	D	TCL herbicides (1311/8151A)
Address	2749 Saturn Street	Address	2749 Saturn Street	E	TAL metals (1311/6020A)
				F	TCL mercury (1311/6020A)
City/State/Zip	Brea, CA 92821	City/State/Zip	Brea, CA 92821	G	PCBs (8082)
Phone	714-678-6700	Phone	714-678-6700	H	Pb (6010/6020)
Fax		Fax		I	Explosives (8330B)
e-Mail Address	jcirillo@ieeci.com	e-Mail Address	jcirillo@ieeci.com	J	Nitroglycerin

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	OFFbo-001M-0001-SO (sand)	~~08/07/24~~ 8/8/24	1405	soil	7 ~~none~~	3	X	X	X		X		X		X	X	
2	OFFbo-002M-0001-SO (top soil)	08/07/24 8/8/24	1400	soil	none	2	[struck]	X	X		X		X		X	X	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Receipt stamp: Temp By: DD | WO Temp (°C): 1' | Therm ID: 5?? | Receipt Info Completed By: DD | Cooler Custody Seal Intact Y N | Sample Custody Seal Intact Y N NA | Received on Ice Y N | Cooler & Samples Intact Y N | Correct Containers Provided Y N | Sample Label/COC Agree Y N | Adequate Sample Volumes Y N | CR6 Samples Filtered Y N | OP Samples Filtered Y N | VOA Trip Blank Y N | NIs 4 Days? | Rad Screen (uCi) | Courier/Tracking #: | SDWA Compliance | PWSID | W/V Containers 0-6°C Y N

Sampler(s): Please Print & Sign: J. Daugherty / T. Rojahn

Shipment Method: ~~FED EX~~ Drop off

Required Turnaround Time: ☑ STD 10 Wk Days ☐ 5 Wk Days

Relinquished by:	Date:	Time:	Received by:
Joshua Daugherty	8/9/24	1015	DD / ALS
Relinquished by:	Date:	Time:	Received by (Laboratory):
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes: Include pH with results.

Cooler Temp.

QC Package: (Check Box Below)
- ☐ Level II: Standard QC
- ☐ Level III: Std QC + Raw Data
- ☐ Level IV: SW846 CLP-Like
- ☐ Other: ______
- ☐ TRRP-Checklist
- ☐ TRRP Level IV

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other Methyl Alcohol 8-4 degrees C 9-5035

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

Chain of Custody Form

ALS Environmental

Page 6 1 of 18

1'570

ALS Environmental
North America Corporate Office
10450 Stancliff Road, Suite 210
Houston, TX 77099
+1 800 695 7222

ALS Project Manager: Susan Scherer | Work Order #:

Customer Information		Project Information		Parameter/Method Request for Analysis	
PO Number	440008.08040	Project Name	RVAAP - 06 / 50 / 70	A	TCLP VOCs (1311/8260B)
Work Order		Project Number		B	TCLP SVOCs (1311/8270D)
Company Name	PIKA-Insight LLC	Bill To Company	PIKA-Insight LLC	C	TCLP pesticides (1311/8081B)
Send Report To	Jim Cirillo	Invoice Attn.	Jim Cirillo	D	TCLP herbicides (1311/8151A)
Address	2749 Saturn Street	Address	2749 Saturn Street	E	TCLP metals (1311/6020A)
				F	TCLP mercury (1311/6020A)
City/State/Zip	Brea, CA 92821	City/State/Zip	Brea, CA 92821	G	PCBs (8082)
Phone	714-678-6700	Phone	714-678-6700	H	Pb (6010/6020)
Fax		Fax		I	Explosives
e-Mail Address	jcirillo@leepi.com	e-Mail Address	jcirillo@leepi.com	J	Nitroglycerin / Nitroguanadine / Nitrocellulose

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	ASYpl-150-0001-SO**	08/07/24	1500	soil	none	2	X	X	X	X	X		X	X			
2	ASYin-150-0002-WS**	08/07/24	1505	soil	none	2	X	X	X	X	X		X	X			
3	ASYin-150-0003-WS**	08/07/24	1510	soil	none	2	X	X	X	X	X		X	X			
4	ASYin-150-0004-WS**	08/07/24	1515	soil	none	2	X	X	X	X	X		X	X			
~~5~~	~~ASYss-150-0001-SO~~	~~08/07/24~~		~~soil~~	~~none~~		X	X	X	X	X		X	X			
~~6~~	~~070IDW-XXXXXX-WS**~~	~~08/07/24~~		~~soil~~	~~none~~								X				
7	070IDW-080724-WS**	08/07/24	1610	soil	none	2	X	X	X	X	X		X	X			
8																	
9			No C/C DD 8/9/24														
10																	

Sampler(s): Please Print & Sign
J. Daugherty / T. Rojahn

Shipment Method:
~~FED EX~~ Drop off

Required Turnaround Time:
☑ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk

Relinquished by:	Date:	Time:	Received by:
Joshua Daugherty	8/9/24	1015	DD/ALS
Relinquished by:	Date:	Time:	Received by (Laboratory):
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes: **Please include "pl" in sample ID ASYpl-

Cooler Temp. | QC P

Receipt Info Completed By: DD
Cooler Custody Seal Intact Y N NA
Sample Custody Seal Intact Y N NA
Received on Ice Y N
Cooler & Samples Intact Y N
Correct Containers Provided Y N
Sample Label/COC Agree Y N
Adequate Sample Volumes Y N
CR6 Samples Filtered Y N
OP Samples Filtered Y N
VOA Trip Blank Y N
Rad Screen (uC) Y N
Cooler/Tracking #:
SDWA Compliance Y N
PWSID
WV Containers 0-6°C Y N

Other:

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

8/30/2024 10:33 AM

Changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

Main Site: 301 Fulling Mill Road | Middletown, PA 17057 | Phone: 717-944-5541 | Fax: 717-944-1430 | www.alsglobal.com
Associated Site: 20 Riverside Drive | Spring City, PA 19475 | Phone: 610-948-4903 | Fax: 717-944-1430 |

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 IEC006|PIKA-Insight
Workorder 3382281
Report ID 359439 on 10/11/2024

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Oct 09, 2024.

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.

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

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

Susan Scherer

Susan Scherer *(ALS Digital Signature)*
Project Coordinator

Sample Summary

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collector	Collection Companir:
3382281001	ASYcs-161-001-SO	Solid	10/04/2024 09:10	10/09/2024 08:54	CBC	Collected By Client
3382281002	ASYcs-162-001-SO	Solid	10/04/2024 09:15	10/09/2024 08:54	CBC	Collected By Client
3382281003	ASYcs-163-001-SO	Solid	10/04/2024 09:20	10/09/2024 08:54	CBC	Collected By Client
3382281004	ASYcs-164-001-SO	Solid	10/04/2024 09:25	10/09/2024 08:54	CBC	Collected By Client
3382281005	ASYcs-165-001-SO	Solid	10/04/2024 09:30	10/09/2024 08:54	CBC	Collected By Client
3382281006	ASYcs-166-001-SO	Solid	10/04/2024 09:35	10/09/2024 08:54	CBC	Collected By Client
3382281007	ASYcs-167-001-SO	Solid	10/04/2024 09:40	10/09/2024 08:54	CBC	Collected By Client
3382281008	ASYcs-168-001-SO	Solid	10/04/2024 09:45	10/09/2024 08:54	CBC	Collected By Client
3382281009	ASYcs-169-001-SO	Solid	10/04/2024 09:50	10/09/2024 08:54	CBC	Collected By Client
3382281010	ASYcs-170-001-SO	Solid	10/04/2024 09:55	10/09/2024 08:54	CBC	Collected By Client
3382281011	ASYcs-Field Duplicate 1	Solid	10/04/2024 00:00	10/09/2024 08:54	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:
EPA300.1 Rev. 1.0-1997
EPA300.0 Rev. 2.1-1993
EPA 353.2 Rev. 2.0-1993
EPA 410.4 Rev. 1.0-1993
EPA420.4 Rev. 1.0-1993
EPA 365.1 Rev. 2.0-1993
EPA200.7 Rev. 4.4-1994
EPA200.8 Rev. 5.4-1994
EPA245.1 Rev. 3.0-1994

o 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.

c 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
MS□	Matrix Spike Duplicate
□UP	Sample Duplicate
%Rec	Percent Recovery
RP□	Relative Percent Difference
LO□	Do□Limit of Detection
LOQ	Do□Limit of Quantitation
DL	Do□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 concentration of this analyte was greater than 4 times the concentration of the spike added to the matrix spike. According to protocol, the calculation for percent recovery of the matrix spike is not valid.

Detected Results Summary

Client Sample ID	ASYcs-161-001-SO	Collected	10/04/2024 09:10
Lab Sample ID	3382281001	Lab Receipt	10/09/2024 08:54

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	129	mg/kg	1.2	0.78	0.39	SW846 6020A	#
WET CHEMISTRY							
Moisture	28.7	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	71.3	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-162-001-SO	Collected	10/04/2024 09:15
Lab Sample ID	3382281002	Lab Receipt	10/09/2024 08:54

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	87.6	mg/kg	1.3	0.88	0.44	SW846 6020A	#
WET CHEMISTRY							
Moisture	30.0	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	70.0	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-163-001-SO	Collected	10/04/2024 09:20
Lab Sample ID	3382281003	Lab Receipt	10/09/2024 08:54

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	22.1	mg/kg	1.3	0.88	0.44	SW846 6020A	#
WET CHEMISTRY							
Moisture	27.5	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	72.5	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-164-001-SO	Collected	10/04/2024 09:25
Lab Sample ID	3382281004	Lab Receipt	10/09/2024 08:54

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	120	mg/kg	1.4	0.90	0.45	SW846 6020A	#
WET CHEMISTRY							
Moisture	29.2	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	70.8	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-165-001-SO	Collected	10/04/2024 09:30
Lab Sample ID	3382281005	Lab Receipt	10/09/2024 08:54

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	75.1	mg/kg	1.1	0.71	0.36	SW846 6020A	#
WET CHEMISTRY							
Moisture	23.0	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	77.0	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-166-001-SO	Collected	10/04/2024 09:35
Lab Sample ID	3382281006	Lab Receipt	10/09/2024 08:54

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	361	mg/kg	1.2	0.79	0.39	SW846 6020A	#
WET CHEMISTRY							
Moisture	22.8	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	77.2	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-167-001-SO	Collected	10/04/2024 09:40
Lab Sample ID	3382281007	Lab Receipt	10/09/2024 08:54

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	209	mg/kg	1.2	0.82	0.41	SW846 6020A	#
WET CHEMISTRY							
Moisture	28.5	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	71.5	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-168-001-SO	Collected	10/04/2024 09:45
Lab Sample ID	3382281008	Lab Receipt	10/09/2024 08:54

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	697	mg/kg	1.2	0.77	0.38	SW846 6020A	#
WET CHEMISTRY							
Moisture	27.9	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	72.1	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-169-001-SO	Collected	10/04/2024 09:50
Lab Sample ID	3382281009	Lab Receipt	10/09/2024 08:54

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	16.4	mg/kg	1.3	0.87	0.43	SW846 6020A	#
WET CHEMISTRY							
Moisture	28.0	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	72.0	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-170-001-SO	Collected	10/04/2024 09:55
Lab Sample ID	3382281010	Lab Receipt	10/09/2024 08:54

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	14.9	mg/kg	1.2	0.79	0.39	SW846 6020A	#
WET CHEMISTRY							
Moisture	24.8	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	75.2	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYcs-Field Duplicate 1	Collected	10/04/2024 00:00
Lab Sample ID	3382281011	Lab Receipt	10/09/2024 08:54

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	151	mg/kg	1.3	0.86	0.43	SW846 6020A	#
WET CHEMISTRY							
Moisture	25.8	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	74.2	%	0.1	0.1	0.01	S2540G-15	#

Results

Client Sample ID	ASYcs-161-001-SO	Collected	10/04/2024 09:10
Lab Sample ID	3382281001	Lab Receipt	10/09/2024 08:54

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	129		mg/kg	1.2	0.78	0.39	SW846 6020A	5	10/11/2024 11:08	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	28.7		%	0.1	0.1	0.01	S2540G-15	1	10/09/2024 21:58	LMD	A
Total Solids	71.3		%	0.1	0.1	0.01	S2540G-15	1	10/09/2024 21:58	LMD	A

Results

Client Sample ID	ASYcs-162-001-SO	Collected	10/04/2024 09:15
Lab Sample ID	3382281002	Lab Receipt	10/09/2024 08:54

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	87.6		mg/kg	1.3	0.88	0.44	SW846 6020A	5	10/11/2024 11:10	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	30.0		%	0.1	0.1	0.01	S2540G-15	1	10/09/2024 21:58	LMD	A
Total Solids	70.0		%	0.1	0.1	0.01	S2540G-15	1	10/09/2024 21:58	LMD	A

Results

Client Sample ID	ASYcs-163-001-SO	Collected	10/04/2024 09:20
Lab Sample ID	3382281003	Lab Receipt	10/09/2024 08:54

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	22.1		mg/kg	1.3	0.88	0.44	SW846 6020A	5	10/11/2024 11:12	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	27.5		%	0.1	0.1	0.01	S2540G-15	1	10/09/2024 21:58	LMD	A
Total Solids	72.5		%	0.1	0.1	0.01	S2540G-15	1	10/09/2024 21:58	LMD	A

Results

Client Sample ID	ASYcs-164-001-SO	Collected	10/04/2024 09:25
Lab Sample ID	3382281004	Lab Receipt	10/09/2024 08:54

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	120	1	mg/kg	1.4	0.90	0.45	SW846 6020A	5	10/11/2024 11:14	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	29.2		%	0.1	0.1	0.01	S2540G-15	1	10/09/2024 21:58	LMD	A
Total Solids	70.8		%	0.1	0.1	0.01	S2540G-15	1	10/09/2024 21:58	LMD	A

Results

Client Sample ID	ASYcs-165-001-SO	Collected	10/04/2024 09:30
Lab Sample ID	3382281005	Lab Receipt	10/09/2024 08:54

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	75.1		mg/kg	1.1	0.71	0.36	SW846 6020A	5	10/11/2024 11:31	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	23.0		%	0.1	0.1	0.01	S2540G-15	1	10/09/2024 21:58	LMD	A
Total Solids	77.0		%	0.1	0.1	0.01	S2540G-15	1	10/09/2024 21:58	LMD	A

Results

Client Sample ID	ASYcs-166-001-SO	Collected	10/04/2024 09:35
Lab Sample ID	3382281006	Lab Receipt	10/09/2024 08:54

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	361		mg/kg	1.2	0.79	0.39	SW846 6020A	5	10/11/2024 11:34	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	22.8		%	0.1	0.1	0.01	S2540G-15	1	10/09/2024 21:58	LMD	A
Total Solids	77.2		%	0.1	0.1	0.01	S2540G-15	1	10/09/2024 21:58	LMD	A

Results

Client Sample ID	ASYcs-167-001-SO	Collected	10/04/2024 09:40
Lab Sample ID	3382281007	Lab Receipt	10/09/2024 08:54

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	209		mg/kg	1.2	0.82	0.41	SW846 6020A	5	10/11/2024 11:36	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	28.5		%	0.1	0.1	0.01	S2540G-15	1	10/09/2024 21:58	LMD	A
Total Solids	71.5		%	0.1	0.1	0.01	S2540G-15	1	10/09/2024 21:58	LMD	A

Results

Client Sample ID	ASYcs-168-001-SO	Collected	10/04/2024 09:45
Lab Sample ID	3382281008	Lab Receipt	10/09/2024 08:54

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	697		mg/kg	1.2	0.77	0.38	SW846 6020A	5	10/11/2024 11:38	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	27.9		%	0.1	0.1	0.01	S2540G-15	1	10/09/2024 21:58	LMD	A
Total Solids	72.1		%	0.1	0.1	0.01	S2540G-15	1	10/09/2024 21:58	LMD	A

Results

Client Sample ID	ASYcs-169-001-SO	Collected	10/04/2024 09:50
Lab Sample ID	3382281009	Lab Receipt	10/09/2024 08:54

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	16.4		mg/kg	1.3	0.87	0.43	SW846 6020A	5	10/11/2024 11:40	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	28.0		%	0.1	0.1	0.01	S2540G-15	1	10/09/2024 21:58	LMD	A
Total Solids	72.0		%	0.1	0.1	0.01	S2540G-15	1	10/09/2024 21:58	LMD	A

Results

Client Sample ID	ASYcs-170-001-SO	Collected	10/04/2024 09:55
Lab Sample ID	3382281010	Lab Receipt	10/09/2024 08:54

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	14.9		mg/kg	1.2	0.79	0.39	SW846 6020A	5	10/11/2024 11:42	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	24.8		%	0.1	0.1	0.01	S2540G-15	1	10/09/2024 21:58	LMD	A
Total Solids	75.2		%	0.1	0.1	0.01	S2540G-15	1	10/09/2024 21:58	LMD	A

Results

Client Sample ID	ASYcs-Field Duplicate 1	Collected	10/04/2024 00:00
Lab Sample ID	3382281011	Lab Receipt	10/09/2024 08:54

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	151		mg/kg	1.3	0.86	0.43	SW846 6020A	5	10/11/2024 11:44	MO	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	25.8		%	0.1	0.1	0.01	S2540G-15	1	10/09/2024 21:58	LMD	A
Total Solids	74.2		%	0.1	0.1	0.01	S2540G-15	1	10/09/2024 21:58	LMD	A

Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3382281001	ASYcs-161-001-SO	SW846 6020A S2540G-15	SW846 3051A N/A	
3382281002	ASYcs-162-001-SO	SW846 6020A S2540G-15	SW846 3051A N/A	
3382281003	ASYcs-163-001-SO	SW846 6020A S2540G-15	SW846 3051A N/A	
3382281004	ASYcs-164-001-SO	SW846 6020A S2540G-15	SW846 3051A N/A	
3382281005	ASYcs-165-001-SO	SW846 6020A S2540G-15	SW846 3051A N/A	
3382281006	ASYcs-166-001-SO	SW846 6020A S2540G-15	SW846 3051A N/A	
3382281007	ASYcs-167-001-SO	SW846 6020A S2540G-15	SW846 3051A N/A	
3382281008	ASYcs-168-001-SO	SW846 6020A S2540G-15	SW846 3051A N/A	
3382281009	ASYcs-169-001-SO	SW846 6020A S2540G-15	SW846 3051A N/A	
3382281010	ASYcs-170-001-SO	SW846 6020A S2540G-15	SW846 3051A N/A	
3382281011	ASYcs-Field Duplicate 1	SW846 6020A S2540G-15	SW846 3051A N/A	

QUALITY CONTROL SAMPLES

METALS

QC Batch

QC Batch	1313599	Prep Method	SW846 3051A
Date	10/10/2024 23:28	Analysis Method	SW846 6020A
Tech.	ANN		

Associated Samples

3382281001	3382281002	3382281003	3382281004
3382281005	3382281006	3382281007	3382281008
3382281009	3382281010	3382281011	

Method Blank 3890346 (MB) Created on 10/10/2024 21:27 For QC Batch 1313599

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
Lead, Total	7439-92-1	BLK	0.66U	mg/kg	1.0	U

Lab Control Standard 3890347 (LCS) Created on 10/10/2024 21:27 For QC Batch 1313599

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Lead, Total	7439-92-1	LCS	20		20	100	84 - 118		

Matrix Spike 3890348 (MS) 3382281004 For QC Batch 1313599

****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 3890349 (MSD) 3382281004 For QC Batch 1313599

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Lead, Total	7439-92-1	MS	175	85.10	18.80	NC	84 - 118		
Lead, Total	7439-92-1	MSD	134	85.10	18.20	NC	84 - 118	RPD 26.30* (Max-20)	

QUALITY CONTROL SAMPLES

WET CHEMISTRY

QC Batch

QC Batch	1312525	Prep Method	N/A
Date	N/A	Analysis Method	S2540G-15
Tech.			

Associated Samples

3382281001	3382281002	3382281003	3382281004
3382281005	3382281006	3382281007	3382281008
3382281009	3382281010	3382281011	

Duplicate 3889779 (DUP) 3382216001 (non-Project Sample) For QC Batch 1312525

****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	94.9720	94.9779	RPD 0.0060 (Max-10)	
Total Solids	TSP	DUP	5.0279	5.0220	RPD 0.12 (Max-5)	

Duplicate 3889780 (DUP) 3382225002 (non-Project Sample) For QC Batch 1312525

****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	29.3185	29.3859	RPD 0.23 (Max-10)	
Total Solids	TSP	DUP	70.6814	70.6140	RPD 0.10 (Max-5)	

Duplicate 3889781 (DUP) 3382225003 (non-Project Sample) For QC Batch 1312525

****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	23.6763	23.2758	RPD 1.71 (Max-10)	
Total Solids	TSP	DUP	76.3236	76.7241	RPD 0.52 (Max-5)	

Duplicate 3889783 (DUP) 3382293002 (non-Project Sample) For QC Batch 1312525

****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	25.5376	25.5936	RPD 0.22 (Max-10)	
Total Solids	TSP	DUP	74.4623	74.4063	RPD 0.08 (Max-5)	

Duplicate 3889784 (DUP) 3382292001 (non-Project Sample) For QC Batch 1312525

****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	21.4026	21.3973	RPD 0.02 (Max-10)	
Total Solids	TSP	DUP	78.5973	78.6026	RPD 0.0070 (Max-5)	

Duplicate 3889785 (DUP) 3381530003 (non-Project Sample) For QC Batch 1312525

****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	99.4124	99.4081	RPD 0.0040 (Max-10)	
Total Solids	TSP	DUP	0.5875	0.5918	RPD 0.73 (Max-5)	

Duplicate 3889782 (DUP) 3382281004 For QC Batch 1312525

****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	29.2890	29.2083	RPD 0.28 (Max-10)	
Total Solids	TSP	DUP	70.7109	70.7916	RPD 0.11 (Max-5)	

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3382281001	ASYcs-161-001-SO	SW846 3051A	1313599	10/10/2024 23:28	ANN	SW846 6020A	1313677
		N/A	N/A	N/A		S2540G-15	1312525
3382281002	ASYcs-162-001-SO	SW846 3051A	1313599	10/10/2024 23:28	ANN	SW846 6020A	1313677
		N/A	N/A	N/A		S2540G-15	1312525
3382281003	ASYcs-163-001-SO	SW846 3051A	1313599	10/10/2024 23:28	ANN	SW846 6020A	1313677
		N/A	N/A	N/A		S2540G-15	1312525
3382281004	ASYcs-164-001-SO	SW846 3051A	1313599	10/10/2024 23:28	ANN	SW846 6020A	1313677
		N/A	N/A	N/A		S2540G-15	1312525
3382281005	ASYcs-165-001-SO	SW846 3051A	1313599	10/10/2024 23:28	ANN	SW846 6020A	1313677
		N/A	N/A	N/A		S2540G-15	1312525
3382281006	ASYcs-166-001-SO	SW846 3051A	1313599	10/10/2024 23:28	ANN	SW846 6020A	1313677
		N/A	N/A	N/A		S2540G-15	1312525
3382281007	ASYcs-167-001-SO	SW846 3051A	1313599	10/10/2024 23:28	ANN	SW846 6020A	1313677
		N/A	N/A	N/A		S2540G-15	1312525
3382281008	ASYcs-168-001-SO	SW846 3051A	1313599	10/10/2024 23:28	ANN	SW846 6020A	1313677
		N/A	N/A	N/A		S2540G-15	1312525
3382281009	ASYcs-169-001-SO	SW846 3051A	1313599	10/10/2024 23:28	ANN	SW846 6020A	1313677
		N/A	N/A	N/A		S2540G-15	1312525
3382281010	ASYcs-170-001-SO	SW846 3051A	1313599	10/10/2024 23:28	ANN	SW846 6020A	1313677
		N/A	N/A	N/A		S2540G-15	1312525
3382281011	ASYcs-Field Duplicate 1	SW846 3051A	1313599	10/10/2024 23:28	ANN	SW846 6020A	1313677
		N/A	N/A	N/A		S2540G-15	1312525

910119 #18

3382281

Logged By: MJE
PM: SJB

TETRA TECH

JO

CHAIN OF CUSTODY

NO. 09-2024-

Proj No: PIKA-Insight

Project No: PIKA-Insight ~~112G09943~~	Facility: CJAG - Site 50 (FIA)	Project Manger: Jim Goerdt	Phone: (412) 443-0244	Laboratory Name and Contact: ALS Global / Susan Scherer (717-702-2245)	
Samplers: Joshua Daugherty / TetraTech		Field Ops. Leader: Josh Daugherty	Phone: (724) 762-9905	Address: 301 Fulling Mill Road	
		FedEx Airbill: Insight Environmental Fed Ex # 220964434		City, State, Zip: Middletown, PA 17057	
		Container Type: (4) or 8 oz glass jar	G		
TAT: 2-day		Preservative Used: N/A	<6°C		

Date Year: 2024	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	Lead		Comments
10/04	0910	ASYcs-161-0001-SO	161	0	1	SO	G	1		X		
	0915	ASYcs-162-0001-SO	162	0	1	SO	G	1		X		
	0920	ASYcs-163-0001-SO	163	0	1	SO	G	1		X		
	0925	ASYcs-164-0001-SO	164	0	1	SO	G	3		X		MS/MSD
	0930	ASYcs-165-0001-SO	165	0	1	SO	G	1		X		
	0935	ASYcs-166-0001-SO	166	0	1	SO	G	1		X		
	0940	ASYcs-167-0001-SO	167	0	1	SO	G	1		X		
	0945	ASYcs-168-0001-SO	168	0	1	SO	G	1		X		
	0950	ASYcs-169-0001-SO	169	0	1	SO	G	1		X		
	0955	ASYcs-170-0001-SO	170	0	1	SO	G	1		X		
	0000	ASYcs- Field Duplicate 1	QC	0	1	SO	G	1		X		

Temp By: DD | WO Temp (°C): 2.1 | Therm ID: 571

Receipt Info Completed By: DD

Cooler Custody Seal Intact	Y	N	NA
Sample Custody Seal Intact	Y	N	NA
Received on Ice	Y	N	
Cooler & Samples Intact	Y	N	
Correct Containers Provided	Y	N	
Sample Label/COC Agree	Y	N	
Adequate Sample Volumes	Y	N	
CR6 Samples Filtered	Y	N	NA
OP Samples Filtered	Y	N	NA
VOA Trip Blank	Y	N	
NJ ≤ 4 Days?			
Rad Screen (uCi)			
Courier/Tracking #: 2804 1658 6907			
SDWA Compliance			
PWSID			
WV Containers @ 6°C	Y	N	NA

2 Day T.A.T.

1. Relinquished By: Joshua Daugherty	Date: 10/08/24	Time: 1700	1. Received By: FED Ex
2. Relinquished By: FED Ex	Date:	Time:	2. Received By: DD/ALS

Date: 10/08/24	Time: 1700
Date: 10/9/24	Time: 0854

Comments:

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 IEC012|PIKA-Insight
Workorder 3386973
Report ID 366813 on 11/13/2024

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Nov 08, 2024.

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.

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

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

Susan Scherer

Susan Scherer *(ALS Digital Signature)*
Project Coordinator

Sample Summary

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collector	Collection Company
3386973001	ASYCS-171-0001-SO-FIA	Solid	11/08/2024 07:55	11/08/2024 17:45	CBC	Collected By Client
3386973002	ASYCS-172-0001-SO-FIA	Solid	11/08/2024 08:00	11/08/2024 17:45	CBC	Collected By Client
3386973003	ASYCS-173-0001-SO-FIA	Solid	11/08/2024 08:05	11/08/2024 17:45	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.

Detected Results Summary

Client Sample ID	ASYCS-171-0001-SO-FIA	Collected	11/08/2024 07:55
Lab Sample ID	3386973001	Lab Receipt	11/08/2024 17:45

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	14.2	mg/kg	1.1	0.74	0.37	SW846 6020A	#
WET CHEMISTRY							
Moisture	20.6	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	79.4	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYCS-172-0001-SO-FIA	Collected	11/08/2024 08:00
Lab Sample ID	3386973002	Lab Receipt	11/08/2024 17:45

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	18.8	mg/kg	1.2	0.80	0.40	SW846 6020A	#
WET CHEMISTRY							
Moisture	21.8	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	78.2	%	0.1	0.1	0.01	S2540G-15	#

Detected Results Summary

Client Sample ID	ASYCS-173-0001-SO-FIA	Collected	11/08/2024 08:05
Lab Sample ID	3386973003	Lab Receipt	11/08/2024 17:45

Compound	Result	Units	LOQ	LOD	DL	Method	Flag
METALS							
Lead, Total	12.1	mg/kg	1.2	0.80	0.40	SW846 6020A	#
WET CHEMISTRY							
Moisture	21.9	%	0.1	0.1	0.01	S2540G-15	#
Total Solids	78.1	%	0.1	0.1	0.01	S2540G-15	#

Results

Client Sample ID	ASYCS-171-0001-SO-FIA	Collected	11/08/2024 07:55
Lab Sample ID	3386973001	Lab Receipt	11/08/2024 17:45

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	14.2		mg/kg	1.1	0.74	0.37	SW846 6020A	5	11/13/2024 13:58	KXH	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	20.6		%	0.1	0.1	0.01	S2540G-15	1	11/11/2024 21:48	LMD	A
Total Solids	79.4		%	0.1	0.1	0.01	S2540G-15	1	11/11/2024 21:48	LMD	A

Results

Client Sample ID	ASYCS-172-0001-SO-FIA	Collected	11/08/2024 08:00
Lab Sample ID	3386973002	Lab Receipt	11/08/2024 17:45

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	18.8		mg/kg	1.2	0.80	0.40	SW846 6020A	5	11/13/2024 14:01	KXH	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	21.8		%	0.1	0.1	0.01	S2540G-15	1	11/11/2024 21:48	LMD	A
Total Solids	78.2		%	0.1	0.1	0.01	S2540G-15	1	11/11/2024 21:48	LMD	A

Results

Client Sample ID	ASYCS-173-0001-SO-FIA	Collected	11/08/2024 08:05
Lab Sample ID	3386973003	Lab Receipt	11/08/2024 17:45

METALS

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Lead, Total	12.1		mg/kg	1.2	0.80	0.40	SW846 6020A	5	11/13/2024 14:03	KXH	A1

WET CHEMISTRY

Compound	Result	Flag	Units	LOQ	LOD	DL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	21.9		%	0.1	0.1	0.01	S2540G-15	1	11/11/2024 21:48	LMD	A
Total Solids	78.1		%	0.1	0.1	0.01	S2540G-15	1	11/11/2024 21:48	LMD	A

Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3386973001	ASYCS-171-0001-SO-FIA	SW846 6020A	SW846 3051A	
		S2540G-15	N/A	
3386973002	ASYCS-172-0001-SO-FIA	SW846 6020A	SW846 3051A	
		S2540G-15	N/A	
3386973003	ASYCS-173-0001-SO-FIA	SW846 6020A	SW846 3051A	
		S2540G-15	N/A	

QUALITY CONTROL SAMPLES

METALS

QC Batch

QC Batch	1331542	Prep Method	SW846 3051A
Date	11/12/2024 12:30	Analysis Method	SW846 6020A
Tech.	AXW		

Associated Samples

3386973001 3386973002 3386973003

Method Blank 3904272 (MB) Created on 11/12/2024 10:45 For QC Batch 1331542

RESULTS

Compound	CAS No		Result	Units	LOQ	Qualifiers
Lead, Total	7439-92-1	BLK	0.66U	mg/kg	1.0	U

Lab Control Standard 3904273 (LCS) Created on 11/12/2024 10:45 For QC Batch 1331542

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Lead, Total	7439-92-1	LCS	19.7		20	98.4	84 - 118		

QUALITY CONTROL SAMPLES

WET CHEMISTRY

QC Batch

QC Batch	1331336	Prep Method	N/A
Date	N/A	Analysis Method	S2540G-15
Tech.			

Associated Samples

3386973001 3386973002 3386973003

Duplicate 3903938 (DUP) 3386937001 (non-Project Sample) For QC Batch 1331336

****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	9.6021	9.6579	RPD	0.58 (Max-10)	
Total Solids	TSP	DUP	90.3978	90.3420	RPD	0.06 (Max-5)	

Duplicate 3903939 (DUP) 3386962003 (non-Project Sample) For QC Batch 1331336

****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	14.4716	15.8988	RPD	9.40 (Max-10)	
Total Solids	TSP	DUP	85.5283	84.1011	RPD	1.68 (Max-5)	

Duplicate 3903940 (DUP) 3386962002 (non-Project Sample) For QC Batch 1331336

****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	14.3389	12.5835	RPD	13* (Max-10)	
Total Solids	TSP	DUP	85.6610	87.4164	RPD	2.03 (Max-5)	

Duplicate 3903941 (DUP) 3386977001 (non-Project Sample) For QC Batch 1331336

****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	21.6804	22.1170	RPD	1.99	(Max-10)	
Total Solids	TSP	DUP	78.3195	77.8829	RPD	0.56	(Max-5)	

Duplicate 3903942 (DUP) 3386925004 (non-Project Sample) For QC Batch 1331336

****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	3.4776	3.4508	RPD	0.77	(Max-10)	
Total Solids	TSP	DUP	96.5223	96.5491	RPD	0.03	(Max-5)	

Duplicate 3903943 (DUP) 3386999001 (non-Project Sample) For QC Batch 1331336

****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	99.6871	99.4041	RPD	0.28	(Max-10)	
Total Solids	TSP	DUP	0.3128	0.5958	RPD	62.30*	(Max-5)	

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3386973001	ASYCS-171-0001-SO-FIA	SW846 3051A	1331542	11/12/2024 12:30	AXW	SW846 6020A	1331851
		N/A	N/A	N/A		S2540G-15	1331336
3386973002	ASYCS-172-0001-SO-FIA	SW846 3051A	1331542	11/12/2024 12:30	AXW	SW846 6020A	1331851
		N/A	N/A	N/A		S2540G-15	1331336
3386973003	ASYCS-173-0001-SO-FIA	SW846 3051A	1331542	11/12/2024 12:30	AXW	SW846 6020A	1331851
		N/A	N/A	N/A		S2540G-15	1331336

0 11/8/24

TETRA TECH

3386973

Logged By: MJE
PM: SJB

CHAIN OF CUSTODY

NO.

Page of

Project No: PIKA-Insight ~~112809943~~	Facility: CJAG - Site 50 (FIA)	Project Manger: Jim Goerdt	Phone: (412) 443-0244	Laboratory Name and Contact: ALS Global / Susan Scherer (717-702-2245)
Samplers: Tetra Tech / Joshua Daugherty		Field Ops. Leader: Josh Daugherty	Phone: (724) 762-9905	Address: 301 Fulling Mill Road
		FedEx Airbill:		City, State, Zip: Middletown, PA 17057
		Container Type: 4 or 8 oz glass jar	G	
TAT:	2-day	Preservative Used: N/A	<6°C	

Date Year: 2024	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	Lead (Pb)	Comments
11/8	0755	ASYCS-171-0001-SO-FIA	171	1	3	SO	G	1		X	STEP out From 166
↓	0800	ASYCS-172-0001-SO-FIA	172	1	3	SO	G	1		X	STEP out From 167
↓	0805	ASYCS-173-0001-SO-FIA	173	1	3	SO	G	1		X	STEP out From 168

Temp By: MJE | WO Temp (°C): 3° | Therm ID: 569

Receipt Info Completed By: MJE
Cooler Custody Seal Intact: Y N NA
Sample Custody Seal Intact: Y N NA
Received on Ice: Y N
Cooler & Samples Intact: Y N
Correct Containers Provided: Y N
Sample Label/COC Agree: Y N
Adequate Sample Volumes: Y N
CR6 Samples Filtered: Y N NA
OP Samples Filtered: Y N NA
VOA Trip Blank: Y N NA
NJ 4 Days?
Rad Screen (uCi):
Courier/Tracking #:

SDWA Compliance
PWSID
WV Containers 0-6°C: Y N NA

*G/GNP-MJE 11/9/24

1. Relinquished By: Joshua Daugherty	Date: 11/8/24	Time: 1745	1. Received By: ALS	Date: 11/8/24	Time: 1745
2. Relinquished By:	Date:	Time:	2. Received By:	Date:	Time:

Comments:

Received October 10, 2024

October 9, 2024

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 # 267000859110

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

Subject: **Former Ravenna Army Ammunition Plant**
Approval Final Remedial Design Remedial Action Work Plan from RVAAP-50 Atlas Scrap Yard
Ohio EPA Final Approval Letter

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the "Final Remedial Action Work Plan, Removal Action" 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 September 6, 2024. The document was prepared for the United States Army Corps of Engineers (USACE) on behalf of the National Guard Bureau by PIKA-Insight.

The wetland mitigation plan will be provided as a separate document. Ohio EPA approves this work plan with the contingency that the wetland mitigation plan will be reviewed and approved separately.

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=3195543

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
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
Angela Cobbs, Chenega Reliable Services
Jennifer Tierney, Chenega Reliable Services
Megan Oravec, Ohio EPA, NEDO, DERR
Natalie Oryshkewych, Ohio EPA, NEDO, DERR
Thomas Schneider, Ohio EPA, SWDO, DERR
Tim Christman, Ohio EPA, CO, DERR
Brian Tucker, Ohio EPA, CO, DERR

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

September 30, 2024

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, Draft Wetlands Mitigation and Restoration Plan for RVAAP-50 Atlas Scrap Yard, Ohio EPA ID# 267000859110

Dear Mr. Kowalski:

Enclosed for your review/concurrence is the *Draft Wetlands Mitigation and Restoration Plan for the Remedial Action at RVAAP-50 Atlas Scrap Yard*. In April 2023, we coordinated with the Ohio EPA and the U.S. Army Corps of Engineers regarding wetlands mitigation for the remedial action at the Atlas Scrap Yard. Mr. Joe Loucek with the Ohio EPA and Mr. Mike Englehardt with USACE were in attendance at that meeting. This plan details what was discussed during that meeting. We are requesting that you coordinate this Plan with Mr. Loucek and/or the Ohio EPA Division of Surface Water. Please note that excavation activities at Atlas Scrap Yard are underway. Therefore, we appreciate your timely review of this Plan to help facilitate site restoration efforts.

Please contact Katie Tait 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: 2024.09.30 07:33:56 -04'00'

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

cc:
Katie Tait, OHARNG
Steve Kvaal, USACE Louisville
T. Zack Bayne, USACE Louisville
Jennifer Tierney, Chenega
Tom Schneider, Ohio EPA
Megan Oravec, Ohio EPA
Marco Mendoza, PIKA-Insight
Mike Englehardt, USACE Pittsburgh

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

September 6, 2024

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 Remedial Design for RVAAP-50 Atlas Scrap Yard, Ohio EPA ID# 267000859110

Dear Mr. Kowalski:

The *Final Remedial Design for RVAAP-50 Atlas Scrap Yard* has been uploaded to the Ohio EPA LiquidFile system. 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: 2024.09.06 12:38:38 -04'00'

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

cc:
Katie Tait, OHARNG ([1] electronic copy)
Steve Kvaal, USACE Louisville (transmittal letter only)
T. Zack Bayne, USACE Louisville ([1] hardcopy, [1] electronic copy)
Jennifer Tierney, Chenega [1] hardcopy, ([1] electronic copy)
Tom Schneider, Ohio EPA (transmittal letter only)
Megan Oravec, Ohio EPA (transmittal letter only)
Marco Mendoza, PIKA-Insight ([1] electronic copy)

Received August 30, 2024

August 30, 2024

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

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

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

Subject: Former Ravenna Army Ammunition Plant
Responses to Ohio EPA Comments on the Draft Remedial Design for RVAAP-50 Atlas Scrap Yard
Ohio EPA Request for Final with Comment

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), has received and reviewed the Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, Ohio, Responses to Ohio EPA Comments on the Draft Remedial Design for RVAAP-50 Atlas Scrap Yard dated April 16, 2024[1]. This document was received at Ohio EPA's Northeast District Office (NEDO), by the Division of Environmental Response and Revitalization (DERR) via email on April 16, 2024. The Draft Remedial Design was received by Ohio EPA on December 8, 2023[2] and Ohio EPA sent comments on March 2, 2024[3]. The Draft Remedial Design document was prepared for United States Army Corps of Engineers (USACE) on behalf of the National Guard Bureau by PIKA-Insight.

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2805853
[2] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2664152
[3] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2761808

Ohio EPA Comments

Ohio EPA is requesting a copy of the wetland mitigation plan as a separate document. Ohio EPA understands USACE initiated a modification for the contract. Ohio EPA will approve the Remedial Design report on the contingency that the wetland mitigation plan is agreed upon and completed.

Follow up to Comment 5 in the March 2, 2024 Ohio EPA Comment Letter: Ohio EPA should be included in the approval organizations/hierarchy (e.g., OHARNG, PM) to determine if additional soil excavation is needed based on confirmation sampling soil concentrations exceeding the cleanup goals (CUGs).

Based on our review of the Army National Guard's Response to Ohio EPA comments provided in your letter dated April 16, 2024, we find the responses generally acceptable, and the document can be finalized with the two comments above incorporated. Please be sure that all agreed-upon changes, additions, and clarifications are 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
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
Angela Cobbs, Chenega Reliable Services
Jennifer Tierney, Chenega Reliable Services
Megan Oravec, Ohio EPA, NEDO DERR
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR
Tim Christman, Ohio EPA, CO DERR
Brian Tucker, Ohio EPA, CO DERR

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

April 16, 2024

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, Responses to Ohio EPA Comments on the Draft Remedial Design for RVAAP-50 Atlas Scrap Yard, Ohio EPA ID# 267000859110

Dear Mr. Kowalski:

Enclosed for your review are the Responses to Comments (RTCs) on comments from the Ohio EPA on the *Draft Remedial Design for RVAAP-50 Atlas Scrap Yard*. 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: 2024.04.16 13:15:36 -04'00'

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

cc:
Kathryn Tait, OHARNG
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
Jennifer Tierney, Chenega
Tom Schneider, Ohio EPA
Megan Oravec, Ohio EPA
Marco Mendoza, PIKA-Insight

OHIO EPA REVIEW COMMENTS
Draft Remedial Design for RVAAP-50
Atlas Scrap Yard
Report Dated December 15, 2024

ARMY RESPONSES TO OHIO EPA REVIEW COMMENTS (Comments received March 5, 2024)

General Comments

Comment 1: Target blood lead levels and lead exposure to receptors have been recently updated by U.S. EPA (Updated Residential Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities (epa.gov), January 2024). U.S. EPA lowered the target blood lead level to 5 µg/dl of blood. Please provide an explanation as to how you plan to address this update and how the area of concern (AOC) post remedy will be protective of identified receptors. Note that the current U.S. EPA directive is specific to residential exposures. However, changes to the commercial receptor's soil lead screening and remedial levels will likely also be lowered based on the new target blood lead levels.

Response: Agree and clarification. The updated residential soil lead guidance indicates that a RSL of 200 ppm should be used for corrective action during residential soil lead cleanups. To ensure soil remaining at the FIA site post-remediation is below the 200 ppm criteria, XRF field screening will initially be used as a guide to identify the boundaries (both lateral and horizontal) of the lead-contaminated soil. Soil samples will then be collected from these boundaries and submitted to the fixed-base laboratory for analysis. The planned excavation boundary as presented on Figure 5-2 does not require to be updated. The text throughout the RD referring to a RSL of 400 mg/kg has been revised to identify the screening criteria of 200 mg/kg as the EPA RSL for lead.

Comment 2: This package would be improved with a cross-section drawing of the treatment pile showing the various layers and piping. Figure 5-5 shows a schematic of the treatment train, but a detailed drawing of the pile would be helpful too.

Response: Agree. A Treatment Systems Soil Pile Construction cross section is attached. This will also be provided in Section 5.5 (Figure 5-5) of the document. As a result of this additional figure, the previous Figure 5-5 (Process Flow Diagram) has been renumbered as Figure 5-6.

Comment 3: Section 5.5 describe activities associated with the construction, operation, performance sampling, and waste management for the Enhanced Soil Vapor Thermal Treatment (ESVT) system at the Former Storage Area (FSA). Please provide additional information on what material will be used for insulating the treatment pile, and what material will be used for waterproofing the pile.

Response: Agree. The insulation layer will be comprised of two layers of 4-inch Rockwool overlain by a 10-mil poly that covers the surface. Text in the fifth sentence of Section 5.5 has been updated to include additional information regarding the insulating material and the material used for waterproofing. The revised text states: *"The insulating layers will be comprised of 4-inch Rockwool which will prevent heat loss to the surrounding environment and the liner will be comprised of 10-inch poly sheets which will be installed to eliminate fugitive emissions from the thermal treatment pile and provide necessary waterproofing (see Figure 5-5)."*

Comment 4: The wetlands mitigation and restoration plan is stated to be provided in APPENDIX F and that it will be conducted by a separate contractor. This separate contractor will be involved in the restoration of the sites at the end of the remediation to make sure the sites are restored to the same grade

and elevation and to seeding of the wetlands area. Appendix F states: "APPENDIX F, PLACEHOLDER FOR WETLAND MITIGATION AND RESTORATION PLAN, Provided as requested by Ohio Environmental Protection Agency and United States Army Corps of Engineers. The Wetland Mitigation and Restoration plan should be treated as a separate document and not delay this Remedial Design."
Both areas to be remediated (Former Incinerator Area (FIA) and FSA) identified wetlands and the FIA include a pond, that will/may be disturbed during remedial action. The wetland mitigation plan (APPENDIX F) shall be provided for review and approval of the remedial design. This wetland mitigation plan and any required permits are to be identified and approved before work at the AOC begins that may affect any wetlands.

Response: Clarification. A meeting was held on April 25, 2023, between the USACE, Ohio EPA, ARNG, and the OHARNG to discuss wetlands mitigation and restoration for the RVAAP-50 Atlas Scrap Yard Remedial Action. Joe Loucek, Ed D'Amato, Tom Schneider and Megan Oravec were attendees at the meeting from the Ohio EPA. The following was determined at the meeting:

-It was determined that due to the remedial action being conducted as part of a CERCLA action, a permit is not needed.
-It was determined that a 3:1 mitigation for the approximate 0.3 acres of impacted wetlands would be necessary and would be accomplished through purchase of wetlands credits in a mitigation bank or in lieu fee purchase at a mitigation bank offsite. To allow for over excavation in the contaminated areas to be removed, the Ohio EPA suggested that a buffer be reserved (estimate 0.5 acres of impact/3:1 ratio – 1.5 acres to be purchased) and if over-reserved a credit could be given back to the project/government.
-It was determined that onsite restoration activities as part of the remedial action would include oversight by an ecological consultant during the site restoration to make sure no invasives are introduced and to monitor grading and backfilling to make sure they are conducive to wetlands development. The ecological consultant would provide tree plantings, seeding and invasive vegetation control within the wetlands area. A one-year post inspection of the excavated areas would also be conducted.
-It was also discussed that a mitigation plan be developed and coordinated with the Ohio EPA and USACE to layout the discussed requirements and once finalized, be included as an appendix in the Remedial Design Work Plan being developed by the remedial action contractor (PIKA-Insight).

The ARNG and USACE-Louisville initiated a modification to the PIKA/Insight contract to accommodate the wetlands mitigation requirements discussed during the meeting. Once the modification is contracted and funding is received, the ecological consultant would initiate wetlands mitigation work including the discussed mitigation plan to be coordinated with the Ohio EPA and USACE. Once the plan is final, it will be inserted into the Remedial Design as discussed and requirements in the plan will be implemented in the field during the remedial action.

Risk Comments

Comment 5: Section 4.1 Objectives states in part: "(t)he RAO for Atlas Scrap Yard is to prevent exposure to 1) surface soil (0 to 1 foot below ground surface (bgs)) with concentrations of lead above 400 milligrams per kilogram (mg/kg) at the FIA; and 2) surface soil (0 to 1 foot bgs) with concentrations of PAHs including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, and dibenzo(a,h)anthracene above cleanup goals (CUGs) in the FSA. The RAO references CUGs and risk levels that are considered protective of human health under current and future use scenarios."
Previous sampling for the remedial investigation suggests that soil contamination is likely located in the 0 to 1-foot below ground surface (bgs) for both the FIA and FSA. However, it should be noted that soils are to meet CUGs to depth and are not limited to 1-foot bgs. If confirmation sampling identifies

contamination deeper in the soils, then soil will be removed until the CUGs are met regardless of depth. Revise the text for clarity and that no depth-based points of compliance will be used in the remedial action for limiting the soil removal or action depth.

Response: Agreed. Section 4.1 provides the general objectives of the remedial activities and now references Section 5.6.3 for a more detailed discussion regarding the confirmation sampling to be conducted at both the FSA and the FIA. A new second sentence in the second paragraph of Section 4.1 now states: *"Details regarding the confirmation sampling at both the FSA and the FIA are discussed in Section 5.6.3."*

The intent of the remedial action is to remove all soil with lead (FIA) and PAH (FSA) concentrations in excess of their respective CUGs. The expected depth of contamination is assumed to be less than 1.0-foot bgs; however, as now further detailed in Section 5.6.3, if fixed-base laboratory confirmation sample results collected from the excavation walls and/or excavation floors indicate soil contamination at depths greater than 1.0-foot bgs, additional soil will be removed until the fixed-base confirmation samples exhibit concentrations below their respective CUGs.

In addition, the fourth paragraph of Section 5.6.3 has been revised to now read as follows: *"The anticipated number of confirmation soil samples that will be collected is provided in Table 5-1. Acceptance criteria for confirmation samples are provided in Section 4.1. Initial confirmation samples are expected to be collected at depths no greater than 1.0 feet bgs; however, should a confirmation sample exhibit a fixed-base laboratory concentration greater than its respective CUG, additional excavation and confirmation sampling may be required in the area where the sample was collected and consultation with the OHARNG and the site PM will occur. If additional excavation (lateral and/or horizontal) is warranted and approved, additional confirmation soil samples will be collected for fixed-base laboratory analysis. This process will continue until the confirmation samples exhibit concentrations below their respective CUG."*

Comment 6: Section 5.1.5 Former Incineration Area Delineation discusses methods for delineating horizontal extent. Figure 5-1 FIA Delineation Map identifies a pond in the central/southern area of the FIA.

No information on sediment sampling was provided in the draft remedial design. Provide the sampling approach including locations and number of samples to delineate potential contamination including depth of contamination in sediment in the revised remedial design.

Response: Clarification. The 'pond' indicated on Figure 5-1 is not present. This area is a wetland which can seasonally hold water or be completely dry. Previous samples were collected as soil samples (dry sediment) as no sediment is present (reference Section 1.2 of the Revised Remedial Investigation). Post excavation soil samples will be collected as discussed in the RD to confirm achievement of site CUGs. The number of soil samples to be collected along with the confirmation sample IDs are presented in Table 5-1 of the RD.

Received March 5, 2024

March 4, 2024

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#267000859110

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

Subject: Ohio EPA Comments of the "Draft Remedial Design for RVAAP-50 Atlas Scrap Yard" dated December 8, 2024

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the Ravenna Army Ammunition Plan Restoration Program (RVAAP) "Draft Remedial Design for RVAAP-50" for Remedial Action at RVAAP-50 Atlas Scrap at the Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio (Camp Garfield).[1] This document was received via email at Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) on December 8, 2023. The report was prepared for the United States Army Corps of Engineers on behalf of the National Guard Bureau Prepared by PIKA-Insight JV, LLC under Contract Number W912QR-23-F-0015. 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.

GENERAL COMMENTS

Comment 1: Target blood lead levels and lead exposure to receptors have been recently updated by U.S. EPA (Updated Residential Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities (epa.gov), January 2024). U.S. EPA lowered the target blood lead level to 5 µg/dL of blood. Please provide an explanation as to how you plan to address this update and how the area of concern (AOC) post remedy will be protective of identified receptors. Note that the current U.S. EPA directive is specific to residential exposures. However, changes to the commercial receptor's soil lead screening

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2664152

and remedial levels will likely also be lowered based on the new target blood lead levels.

Comment 2: This package would be improved with a cross-section drawing of the treatment pile showing the various layers and piping. Figure 5-5 shows a schematic of the treatment train, but a detailed drawing of the pile would be helpful too.

Comment 3: Section 5.5 describe activities associated with the construction, operation, performance sampling, and waste management for the Enhanced Soil Vapor Thermal Treatment (ESVT) system at the Former Storage Area (FSA). Please provide additional information on what material will be used for insulating the treatment pile, and what material will be used for waterproofing the pile.

Comment 4: The wetlands mitigation and restoration plan is stated to be provided in APPENDIX F and that it will be conducted by a separate contractor. This separate contractor will be involved in the restoration of the sites at the end of the remediation to make sure the sites are restored to the same grade and elevation and to seeding of the wetlands area. Appendix F states: "APPENDIX F, PLACEHOLDER FOR WETLAND MITIGATION AND RESTORATION PLAN, Provided as requested by Ohio Environmental Protection Agency and United States Army Corps of Engineers. The Wetland Mitigation and Restoration plan should be treated as a separate document and not delay this Remedial Design."

Both areas to be remediated (Former Incinerator Area (FIA) and FSA) identified wetlands and the FIA include a pond, that will/may be disturbed during remedial action. The wetland mitigation plan (APPENDIX F) shall be provided for review and approval of the remedial design. This wetland mitigation plan and any required permits are to be identified and approved before work at the AOC begins that may affect any wetlands.

RISK COMMENTS

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Previous sampling for the remedial investigation suggests that soil contamination is likely located in the 0 to 1-foot below ground surface (bgs) for both the FIA and FSA. However, it should be noted that soils are to meet CUGs to depth and are not limited to 0 to 1-foot bgs. If confirmation sampling identifies contamination deeper in the soils, then soil will be removed until the CUGs are met regardless of depth. Revise the text for clarity and that no depth based points of compliance will be used in the remedial action for limiting the soil removal or action depth.

Comment 6: Section 5.1.5 Former Incineration Area Delineation discusses methods for delineating horizontal extent. Figure 5-1 FIA Delineation Map identifies a pond in the central/southern area of the FIA.

No information on sediment sampling was provided in the draft remedial design. Provide the sampling approach including locations and number of samples to delineate potential contamination including depth of contamination in sediment in the revised remedial design.

This "Draft Remedial Design for RVAAP-50 Atlas Scrap Yard" 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 craig.kowalski@epa.ohio.gov.

Sincerely,

Craig Kowalski

Craig Kowalski
Environmental Specialist
Division of Environmental Response and Revitalization

CK/cm

ec: Katie Tait, OHARNG RTLS, CJAG
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
Angela Cobbs, Chenega
Jennifer M. Tierney, Chenega,
Megan Oravec, Ohio EPA, NEDO DERR
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Liam McEvoy, Ohio EPA, NEDO DERR
Joe Loucek, Ohio EPA, NEDO DSW
Brian Tucker, Ohio EPA, CO DERR
Thomas Schneider, Ohio EPA, SWDO DERR

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

November 5, 2024

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, Final Facility-wide Groundwater 2023 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 2023* has been sent using the Ohio EPA LiquidFile system. A hard copy and CD can be sent upon request by Ohio EPA.

This report was 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: 2024.11.05 13:53:48 -05'00'

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

cc: Megan Oravec, Ohio EPA
Tom Schneider, Ohio EPA
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

October 21, 2024

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 Semi-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 Semi-Annual Report for Spring 2024 Sampling Event* will be sent using the Ohio EPA LiquidFile system. A hard copy and CD can be sent upon request by the Ohio EPA. Due to file size, Appendix E containing the laboratory data packages are not included with the electronic version of this report.

This report was 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: 2024.10.21 07:26:01 -04'00'

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

September 12, 2024

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

Subject: Notification of Field Work, Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, RVAAP-66 Facility-wide Groundwater (Work Activity No. 267-000-859-036)

Dear Mr. McEvoy:

In accordance with the Director's Final Findings and Orders, Section XIII, #28, for the RVAAP Restoration Program, the Army National Guard (ARNG) is providing notification of field activities at the former RVAAP (Camp James A. Garfield) 15 days prior to the scheduled start date. These field activities and tentative schedule are below:

- 09/30/24-10/11/24: Groundwater sampling per the 2024 Addendum.

In the event that the schedule above needs to change, the Army will provide an e-mail notification with revised dates. 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: 2024.09.12 10:02:10 -04'00'

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

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

NATIONAL GUARD BUREAU
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August 20, 2024

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, Final Facility-wide Groundwater Addendum for 2024 (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 2024*. Due to small file size, this report is only being sent to you via email and not through the Ohio EPA LiquidFile system.

In response to Ohio EPA's comment in the letter dated August 6, 2024, the Army will include the statistical analysis of Appendix J (Mann-Kendall test for LL10mw-003) and the statistical data printout in future annual reports. This will include an explanation if there was a shift in data points.

This Addendum was 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: 2024.08.20 15:02:07 -04'00'

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

cc: Megan Oravec, Ohio EPA
Tom Schneider, Ohio EPA
Katie Tait, OHARNG
Steve Kvaal, USACE Louisville
Jay Trumble, USACE Louisville
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August 14, 2024

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 Annual Report for 2023 (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 Annual Report for 2023. 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: 2024.08.14 14:11:57 -04'00'

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

ec: Thomas Schneider, Ohio EPA
Megan Oravec, Ohio EPA
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Jay Trumble, USACE Louisville
Jed Thomas, Leidos
Ryan Laurich, Leidos
Jennifer Tierney, Chenega Reliable Services

GROUND WATER COMMENTS

Ohio EPA Comment 1: Appendix Location Clarifications

According to the *Draft FWGWMP Annual Report for 2023*, 12 permanent monitoring wells and one (1) temporary monitoring well were reported to be installed at Camp James A. Garfield (CJAG) under the Feasibility Study (FS) Monitoring Well Installation Plan (Leidos 2022a).

Boring logs for the newly installed wells were stated to be included in Appendix C of the *Draft FWGWMP Annual Report for 2023*, however well logs were buried 1,100 pages into that appendix as Appendix C.3 7 (Spring 2023 FS Well Installation Field Activities).

Please clarify if the report text could be revised to more quickly identify where specific backup/reference documents can be found (i.e. Appendix C.3 7 instead of Appendix C).

Army Response: Clarification and agree. It is recommended the location of the Spring 2023 FW Well Installation remain as is for overall organizational structure. However, the following text revisions have been made to clarify references to sub-divisions within appendices.

- List of Appendices on page *v* has been revised to illustrate sub-divisions within each appendix. This will clearly show the boring logs are at Appendix C.3.7.
- Text in Section 4.2 (Monitoring Well Installation), Lines 348 – 349 have been revised to read *"Appendix C contains daily activity logs (C.3 1 through C.3 6) , boring/well installation logs (C.3 7), well development logs (C.3 8), groundwater sampling logs (C.3 9) chains-of-custody (C.3 10), calibration logs (C.3 11), and daily quality control reports (C.3 12) associated with the FS monitoring well installation activities."*
- Text in Section 4.3 (Monitoring Well Sampling Events), Lines 403 – 404 have been revised to read *"Appendix C contains the Ohio EPA 15-day notifications (C.1 1 and C.2 1), daily reports and activity logs (C.1 2 and C.2 2), well purge forms (C.1 3 and C.2 3), well redevelopment forms (C.1 4), chain of custody (C.1 5 and C.2 4), calibration logs (C.1 6 and C.2 5), and daily quality control reports (C.1 7 and C.2 6) associated with 2023 field events, and Appendix D presents the laboratory analytical results (D.1 [Metals], D.2 [Explosives], D.3 [SVOCs], D.4 [VOCs], D.5 [PCBs], D.6 [Pesticides], D.7 [Miscellaneous])."*
- Text in Section 4.6 (Laboratory Analysis), Lines 671 – 672 have been revised to read *"Appendix D (D.1 [Metals], D.2 [Explosives], D.3 [SVOCs], D.4 [VOCs], D.5 [PCBs], D.6 [Pesticides], D.7 [Miscellaneous]) contains the laboratory data associated with the Spring and Fall 2023 sampling events."*
- Text in Section 4.7, Lines 674 – 676 have been revised to read *"Appendix F (F.1 [Spring 2023 Data Packages], F.2 [Fall 2023 Data Packages], F.3 [Spring 2023 FWGWMP Data Quality Assessment Report], F.4 [Spring 2023 FS Data Quality Assessment Report], F.5 [Fall 2023 Data Quality Assessment Report]) contains the laboratory data packages and data quality assessment reports associated with the Spring and Fall 2023 FWGWMP sampling events and Spring 2023 monitoring well installation sampling event."*
- Text in Section 4.9, Lines 693 – 695 have been revised to read *"Appendix G contains the IDW Waste Characterization and Disposal Reports with waste profiles and supporting laboratory data (G.1 [Spring 2023 FWGWMP Characterization and Disposal Plan], G.3 [Spring 2023 FS*

Characterization and Disposal Plan], G.5 [Fall 2023 Characterization and Disposal Plan]), and final bills of lading (G.2, G.4. G.6)."

Ohio EPA Comment 2: Well Redevelopment Activities

In 2023, a total of three wells were to be considered for redevelopment, LL1mw-086, LL1mw-089, and LL12mw-244. Gauging during the Spring 2023 event indicated that LL1mw-086 and LL1mw-089 were found to have well screens blocked with approximately 1 foot of sediment, or only 10.5% to 11% of the well screen length and since these amounts were less than the 20% threshold these two (2) wells were not redeveloped.

LL12mw-244 was found to have 5.29 feet of sediment blockage, or 52.9% of the well screen length. Attempts were made to redevelop LL12mw-244, but only removed about 1 foot of sediment and redevelopment activities were discontinued after removal of 5 well volumes (64 gallons of ground water) due to slow ground water recharge rates. In Section 4.4.3 Well Redevelopment Recommendations, it states that this well is potentially slated for replacement or abandonment, and that LL12mw-244 was not recommended for redevelopment in 2024 because previous redevelopment efforts had not been effective.

The well redevelopment log included in Appendix E indicate that a mini-monsoon electric pump was utilized for redevelopment activities. This appears to have been an inadequate means for well redevelopment, and an inertial lift pump (Waterra pump or equivalent) could be utilized to potentially provide better redevelopment results, as previously suggested by Ohio EPA.

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.

Ohio EPA suggests re-attempting proper redevelopment of LL12mw-244, and that methods suggested in the TGM could also be utilized for the 13 wells recommended for redevelopment in 2024: WBGmw-016, WBGmw-017, LL1mw-063, LL1mw-081, LL1mw-082, LL1mw-086, LL2mw-059, LL3mw-238, LL3mw-239, LL12mw-187, LL12mw-246, FWGmw-011, and FWGmw-021. Ohio EPA also suggests potentially adding LL1mw-089 to the list for 2024 redevelopment (one of the wells from the 2023 effort that was not redeveloped).

Army Response: Clarification and agree. Comments to the *Draft Facility-wide Groundwater Monitoring Program RVAAP-66 Facility-wide Groundwater Annual Report for 2023* were received after completion of the Spring 2024 FWGWMP Sampling Event. The following bulleted list provides a summary of the redevelopment activities during the Spring 2024 Event, including responses where appropriate.

- **LL12mw-244**: Per comments provided in the Ohio EPA letter dated January 12, 2024 to the *Draft Facility-wide Groundwater Monitoring Program Plan RVAAP-66 Facility-wide Groundwater Semi-Annual Report for Spring 2023 Sampling Event*, LL12mw-244 was redeveloped during the Spring 2024 FWGWMP Sampling Event using a Waterra pump.
    - Section 4.4.3, Lines 615 – 617 have been revised to indicate that LL12mw-244 is recommended to be redeveloped using a Waterra pump or equivalent.
    - Redevelopment with a Waterra pump was completed on April 23, 2024. Redevelopment removed approximately 2 ft of sediment. However, there was no significant effect to development criteria. Turbidity readings were > 1,000 NTU and did not decrease

throughout redevelopment. Conductivity, pH, and ORP were the only water quality parameters that would stabilize after 5 well volumes (46 gallons) were removed. Redevelopment with the Waterra pump was deemed unsuccessful.

- **WBGmw-016**: Redevelopment was completed on April 25, 2024 using both a bailer and mini-monsoon pump. Redevelopment was terminated after 5 well volumes (45 gallons) were removed. Redevelopment criteria were not achieved. The lowest turbidity reading observed was approximately 100 NTU. Further evaluation and recommendations for this well will be presented in the 2024 Annual Report.
- **WBGmw-017**: Redevelopment was completed on April 25, 2024 using a mini-monsoon pump. Redevelopment was terminated after 5 well volumes (50 gallons) were removed. Dissolved oxygen was the only development criteria that did not stabilize. Turbidity readings dropped from 379 to 13.1 NTU at then end of redevelopment. Redevelopment at this location was considered successful.
- **LL1mw-063**: Redevelopment could not be completed. The well was gauged and confirmed dry multiple times from April 22, 2024 through May 16, 2024.
- **LL1mw-081**: Redevelopment was completed from April 25 through April 29, 2024 using a bailer. Redevelopment was terminated after 5 well volumes (42.5 gallons) were removed. Redevelopment criteria were not achieved. This well could not sustain purging with a pump due to poor recharge. Further evaluation and recommendations for this well will be presented in the 2024 Annual Report.
- **LL1mw-082**: Redevelopment was completed from April 24 through May 7, 2024 using a bailer. Redevelopment was terminated after 5 well volumes (36.5 gallons) were removed. Redevelopment criteria were not achieved. This well could not sustain purging with a pump due to poor recharge. Further evaluation and recommendations for this well will be presented in the 2024 Annual Report.
- **LL1mw-086**: Redevelopment was completed on April 24, 2024 using a mini-monsoon pump. Redevelopment was considered complete after 3 well volumes (71 gallons) were removed. Redevelopment criteria were achieved, and turbidity levels ended at 0 NTU. Redevelopment at this location was considered successful.
- **LL2mw-059**: Redevelopment was completed on April 22, 2024 using a bailer and mini-monsoon pump. Redevelopment was terminated after 5 well volumes (35 gallons) were removed. Except for turbidity, all redevelopment criteria were achieved. Turbidity would drop below 100 NTU. Redevelopment at this location was considered successful.
- **LL3mw-238**: Redevelopment was completed from April 30 through May 1, 2024 using a bailer. Redevelopment was terminated after 5 well volumes (32 gallons) were removed. Redevelopment criteria were not achieved. This well could not sustain purging with a pump due to poor recharge. Further evaluation and recommendations for this well will be presented in the 2024 Annual Report.
- **LL3mw-239**: Redevelopment was completed from April 30 through May 2, 2024 using a bailer and mini-monsoon pump. Redevelopment was terminated after 5 well volumes (59 gallons) were removed. Except for Dissolved Oxygen, all redevelopment criteria were achieved. Redevelopment at this location was considered successful.
- **LL12mw-187**: Redevelopment was completed from May 2 through May 6, 2024 using a bailer and mini-monsoon pump. Redevelopment was terminated after 5 well volumes (67 gallons) were removed. All redevelopment criteria were achieved. Redevelopment at this well was considered successful.

- **LL12mw-246**: Redevelopment was completed from April 30 through May 1, 2024 using a bailer and mini-monsoon pump. Redevelopment was terminated after 6 well volumes (75 gallons) were removed. All redevelopment criteria were achieved. Redevelopment at this well was considered successful.
- **FWGmw-011**: Redevelopment was completed on April 24, 2024 with a bailer and mini-monsoon pump. Redevelopment was terminated after 6 well volumes (69 gallons) were removed. Except for turbidity, all redevelopment criteria were achieved. Turbidity levels stabilized around 350 NTU when development was complete. Further evaluation and recommendations for this well will be presented in the 2024 Annual Report.
- **FWGmw-021**: Redevelopment was completed on April 30, 2024 with a mini-monsoon pump. Redevelopment was terminated after 5 well volumes (65 gallons) were removed. Except for turbidity, all redevelopment criteria were achieved. Turbidity levels stabilized around 330 NTU when development was complete. Further evaluation and recommendations for this well will be presented in the 2024 Annual Report.
- **LL1mw-089**: This well will be scheduled for redevelopment during the Fall 2024 FWGWMP Sampling Event.

Ohio EPA Comment 3: Sulfate and Sulfide Text/Table Clarifications

According to the text in Section 6.0 of the *Draft FWGWMP Annual Report for 2023*, a total of six wells screened in the Upper Sharon Aquifer were analyzed for sulfate and sulfide. However, according to Table D-7: 2023 Ground water Sample Analytical Results of the *Draft FWGWMP Annual Report for 2023*, a total of 11 wells were analyzed for sulfate and sulfide. The additional wells not included in the Section 6.0 text include Homewood wells FBQmw-173 and FBQmw-174 which had detections of sulfate ranging from 35 mg/L to 64 mg/L, and Unconsolidated wells WBGmw-006, WBGmw-009, and WBGmw-018 which had detections ranging from 9.6 mg/L to 27 mg/L.

Please clarify why the Section 6.0 text does not identify all the wells analyzed for sulfate/sulfide as listed on Table D-7 and verify that all other text/table analytical results are consistent with each other.

Army Response: Clarification and agree. The analytical data tables and callouts in the text were reviewed for accuracy. The only inconsistencies identified between the text and the data tables were for sulfate and sulfide. The following subsections have been added to Section 6.0:

- **6.2 Unconsolidated Aquifer**
  - ***6.2.9 Sulfate***: Three wells (WBGmw-006, WBGmw-009, and WBG-018) screened in the unconsolidated aquifer were sampled for sulfate during the Spring and Fall 2023 sampling events. Sulfate was detected in all wells during the Spring and Fall sampling events. Sulfate does not have a screening level.
  - ***6.2.10 Sulfide***: Three wells (WBGmw-006, WBGmw-009, and WBG-018) screened in the unconsolidated aquifer were sampled for sulfide during the Spring and Fall 2023 sampling events. Sulfide was not detected in any of the samples.
- **6.3 Homewood Sandstone Aquifer**
  - ***6.3.5 Sulfate***: Two wells (FBQmw-173 and FBQmw-174) screened in the Homewood Sandstone aquifer were sampled for sulfate during the Spring and Fall 2023 sampling events. Sulfate was detected in both wells during the Spring and Fall sampling events. Sulfate does not have a screening level.

- ***6.3.6 Sulfide***: Two wells (FBQmw-173 and FBQmw-174) screened in the Homewood Sandstone aquifer were sampled for sulfide during the Spring and Fall 2023 sampling events. Sulfide was not detected in any of the samples.

<u>Ohio EPA Comment 4</u>: Ongoing Statistical Data Evaluation

While this 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: Not Applicable.

Environmental Protection Agency

EPA.Ohio.gov

Mike DeWine, *Governor* Jon Husted, *Lt. Governor* Anne M. Vogel, *Director*

August 6, 2024

Received August 7, 2024

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
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 Addendum for 2024 (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 Addendum for 2024 (Work Activity No. 267-000-859-036) for the Former Ravenna Army Ammunition Plant (RVAAP)[1], Portage and Trumbull Counties, Ohio (Camp James A. Garfield Joint Training Facility-CJAG). This document was received at Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) on June 5, 2024. The report was prepared for the United States Army Corps of Engineers on behalf of the National Guard Bureau by Leidos.

Based on our review of the Army National Guard's Response to Ohio EPA comments provided in your letter dated June 5, 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.

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3083841

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

330 | 963 1200
epa.ohio.gov

In the response to Ohio EPA Comment #2, the Army referenced statistical analysis information provided as Appendix J in the Draft Facility-Wide Groundwater Annual Report for 2023. A review of that appendix indicates that the Figure J-1 graph appears to have data shifted down 0.2 ug/L (a result that should be 4.0 ug/L is shown on the graph as 3.8 ug/L). There is also no backup Sanitas statistical data printout to show what data was incorporated into the statistical graph of Figure J-1. In future Annual Reports, please continue to include the statistical analysis of Appendix J (Mann-Kendall test for LL10mw-003), but also include the statistical data printout that was missing from the 2023 report as well as an explanation of the apparently shifted data points.

If you have questions or would like to set up a meeting to discuss these comments, please contact me at liam.mcevoy@epa.ohio.gov.

Sincerely,

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

LPM/cm

ec: Jennifer Tierney, Chenega Reliable Services
Angela Cobbs, Chenega Reliable Services
Katie Tait, OHARNG RTLS
Steven Kvaal, USACE Louisville
Nat Peters, USACE Louisville
Megan Oravec, Ohio EPA, NEDO DERR
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Craig Kowalski, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR
Carrie Rasik, Ohio EPA, CO DERR

Received July 8, 2024

July 5, 2024

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#267000859036

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

Subject: **Former Ravenna Army Ammunition Plant**
Draft Facility-wide Groundwater Monitoring Program Plan RVAAP-66 Facility-wide Groundwater Semi-Annual Report for Spring 2023 Sampling Event
Responses to Comments
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 2023 Sampling Event for the Former Ravenna Army Ammunition Plant (RVAAP)[1], Portage and Trumbull Counties, Ohio (Camp James A. Garfield Joint Training Facility-CJAG). This document was received at Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) on March 13, 2024. The report was prepared for the United States Army Corps of Engineers on behalf of the National Guard Bureau by Leidos.

Based on our review of the Army National Guard's Response to Ohio EPA comments provided in your letter dated March 13, 2024, we find the responses generally acceptable, and the document

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2954661

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

Sincerely,

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

LPM/cm

ec: Jennifer Tierney, Chenega Reliable Services
Angela Cobbs, Chenega Reliable Services
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Steven Kvaal, USACE Louisville
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Megan Oravec, Ohio EPA, NEDO DERR
Natalie Oryshkewych, Manager, Ohio EPA NEDO DERR
Kevin M. Palombo, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR
Carrie Rasik, Ohio EPA, CO DERR

July 3, 2024

Received July 5, 2024

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

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

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

Subject: Former Ravenna Army Ammunition Plant
Draft Facility-wide Groundwater Monitoring Program RVAAP-66 Facility-wide Groundwater Annual Report for 2023
Ohio EPA Comments

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the *Draft Facility-wide Groundwater Monitoring Program RVAAP-66 Facility-wide Groundwater Annual Report for 2023*[1] *(Draft FWGWMP Annual Report for 2023)*, for the Former Ravenna Army Ammunition Plant (RVAAP), Portage and Trumbull Counties, Ohio dated February 12, 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. This document was received via email at Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) on February 12, 2024. 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.

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2804758

GROUNDWATER COMMENTS

1. **Appendix Location Clarifications:**

   According to the *Draft FWGWMP Annual Report for 2023*, 12 permanent monitoring wells and one (1) temporary monitoring well were reported to be installed at Camp James A Garfield (CJAG) under the Feasibility Study (FS) Monitoring Well Installation Plan (Leidos 2022a).

   Boring logs for the newly installed wells were stated to be included in Appendix C of the Draft FWGWMP Annual Report for 2023, however well logs were buried 1,100 pages into that appendix as Appendix C.3 7 (Spring 2023 FS Well Installation Field Activities).

   Please clarify if the report text could be revised to more quickly identify where specific backup/reference documents can be found (i.e. Appendix C.3 7 instead of Appendix C).

2. **Well Redevelopment Activities:**

   In 2023, a total of three wells were to be considered for redevelopment, LL1mw-086, LL1mw-089, and LL12mw-244. Gauging during the Spring 2023 event indicated that LL1mw-086 and LL1mw-089 were found to have well screens blocked with approximately 1 foot of sediment, or only 10.5% to 11% of the well screen length and since these amounts were less than the 20% threshold these two (2) wells were not redeveloped.

   LL12mw-244 was found to have 5.29 feet of sediment blockage, or 52.9% of the well screen length. Attempts were made to redevelop LL12mw-244, but only removed about 1 foot of sediment and redevelopment activities were discontinued after removal of 5 well volumes (64 gallons of ground water) due to slow ground water recharge rates. In Section 4.4.3 Well Redevelopment Recommendations, it states that this well is potentially slated for replacement or abandonment, and that LL12mw-244 was not recommended for redevelopment in 2024 because previous redevelopment efforts had not been effective.

   The well redevelopment log included in Appendix E indicate that a mini-monsoon electric pump was utilized for redevelopment activities. This appears to have been an inadequate means for well redevelopment, and an inertial lift pump (Waterra pump or equivalent) could be utilized to potentially provide better redevelopment results, as previously suggested by Ohio EPA.

   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.

   Ohio EPA suggests re-attempting proper redevelopment of LL12mw-244, and that methods suggested in the TGM could also be utilized for the 13 wells recommended for

redevelopment in 2024: WBGmw-016, WBGmw-017, LL1mw-063, LL1mw-081, LL1mw-082, LL1mw-086, LL2mw-059, LL3mw-238, LL3mw-239, LL12mw-187, LL12mw-246, FWGmw-011, and FWGmw-021. Ohio EPA also suggests potentially adding LL1mw-089 to the list for 2024 redevelopment (one of the wells from the 2023 effort that was not redeveloped).

3. **Sulfate and Sulfide Text/Table Clarifications:**

   According to the text in Section 6.0 of the *Draft FWGWMP Annual Report for 2023*, a total of six wells screened in the Upper Sharon Aquifer were analyzed for sulfate and sulfide.

   However, according to Table D-7: 2023 Ground water Sample Analytical Results of the *Draft FWGWMP Annual Report for 202*3, a total of 11 wells were analyzed for sulfate and sulfide. The additional wells not included in the Section 6.0 text include Homewood wells FBQmw-173 and FBQmw-174 which had detections of sulfate ranging from 35 mg/L to 64 mg/L, and Unconsolidated wells WBGmw-006, WBGmw-009, and WBGmw-018 which had detections ranging from 9.6 mg/L to 27 mg/L.

   Please clarify why the Section 6.0 text does not identify all the wells analyzed for sulfate/sulfide as listed on Table D-7 and verify that all other text/table analytical results are consistent with each other.

4. **Ongoing Statistical Data Evaluation:**

   While this 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.

This *Draft Facility-wide Groundwater Monitoring Program RVAAP-66 Facility-wide Groundwater Annual Report for 2023* 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 reach me at liam.mcevoy@epa.ohio.gov or at (330) 963-1181.

Sincerely,

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

LPM/cm

ec: Angela Cobbs, Chenega Reliable Services
Jennifer M. Tierney, Chenega Reliable Services
Katie Tait, OHARNG RTLS, CJAG
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Megan Oravec, Ohio EPA, NEDO DERR
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR
Carrie Rasik, Ohio EPA, CO DERR

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

June 5, 2024

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 Addendum for 2024 (Work Activity No. 267-000-859-036)

Dear Mr. McEvoy:

The Army National Guard (ARNG) appreciates your comments on the Draft Facility-wide Groundwater Monitoring Program Plan, RVAAP-66 Facility-wide Groundwater, Addendum for 2024. Enclosed for your review are responses to your comments. Upon final resolution of the comments, the ARNG will provide a Final version of the addendum 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: 2024.06.05 07:31:21 -04'00'

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

ec: Thomas Schneider, Ohio EPA, SWDO, DERR
Carrie Rasik, Ohio EPA, CO, DERR
Megan Oravec, Ohio EPA, NEDO, DERR
Katie Tait, OHARNG
Steve Kvaal, USACE Louisville
Jay Trumble, USACE Louisville
Jed Thomas, Leidos
Ryan Laurich, Leidos
Jennifer Tierney, Chenega Reliable Services

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 Addendum for 2024 (Work Activity No. 267-000-859-036)

COMMENTS

<u>Ohio EPA Comment 1</u> Clarifications to the 2024 Sampling Scheme:

The *Draft FWGWMP Addendum* for 2024, within Section 3.0 Scope of Work, references that a total of 58 wells have been selected for sampling during 2024. However, according to Table 3-1, a total of 60 wells appears selected for 2024 sampling.

Additionally, one temp well 071tw-001 installed at the RVAAP-71 Barn No. 5, was proposed to be deleted from 2024 sampling since the 2023 sampling indicated all Chemicals of Concern (COCs) were below applicable levels and the well was slated to be abandoned. According to Table 3-1, this 071tw-001 well is denoted as "The temporary well has been abandoned." in one column and "This temporary well will be abandoned in 2024." In another column. Section 3.1 Revisions To The 2024 Sampling Scheme indicates that "This temporary well will be abandoned in 2024."

Please clarify if the total number of wells to be sampled per this Draft FWGWMP Addendum for 2024 is supposed to 58 wells or 60 wells, and please clarify if the temp well 071tw-001 was abandoned in 2023 or slated for abandonment in 2024. If the well is slated for abandonment, please submit to Ohio EPA such proposed activities in a well abandonment work plan or notice of proper well abandonment activities to be conducted.

> *Army Response*: Clarification and agree. The total number of wells to be sampled per the FWGWMP Addendum for 2024 is 60 wells. The number of wells referenced under Section 3.0, paragraph 2, line 94 has been revised to 60 wells. The number of wells referenced under Section 3.1, paragraph 1, line 101 has been revised to 60 wells. Temporary well 071tw-001 has not been abandoned and is currently scheduled to be abandoned in June/July 2024. Table 3-1 has been revised to indicate that the temporary well will be abandoned in 2024. Well abandonment activities will follow the existing facility-wide well abandonment work plan (*Well Abandonment Work Plan for RVAAP-66 Facility-Wide Groundwater* [TEC-Weston 2016]). A 15-day notification will be submitted to Ohio EPA prior to the completion of proper well abandonment activities for temporary well 071tw-001.

Ohio EPA Comment 2 Section 3.1: Revisions to the 2024 Sampling Scheme:

For 2023 sampling, Ohio EPA risk recommended to continue sampling monitoring well LL10mw-003 at Load Line 10 for carbon tetrachloride; while the detections are below the MCL of 5.0 µg/L, the detections were on an upward trend and the current sampling in winter and fall is not the season in which the highest concentration was detected, which was summer.

2023	2022	2021	2020	2019	2018
Fall: Below MCL	Fall: 2.9 µg/L	Winter: 3.5 µg/L	Fall: 2.6 µg/L	Fall: below MCL	June: 7.5 J µg/L
Spring: 1.8 µg/L	Spring: 4 µg/L	Spring: 2.4 µg/L	Spring: 1.3 J µg/L	Spring: below MCL	October: 6.7 J µg/L

While the sampling at LL10mw-003 at Load Line 10 for carbon tetrachloride is proposed to be continued for the 2024 sampling events, please clarify if any summer sampling event is being contemplated in 2024 to investigate potentially higher concentrations from this well.

> *Army Response*: Clarification. A summer sampling event for carbon tetrachloride at LL10mw-003 is not being proposed. Per the Ohio EPA letter dated April 19, 2023, which provided comments to the Draft Facility-wide Groundwater Annual Report for 2022, a statistical analysis of the historical carbon tetrachloride data through 2023 was completed for monitoring well LL10mw-003. The results of a Mann-Kendall Trend test indicate that the data do not show a statistically significant trend. The results of the statistical analysis are provided in Appendix J to the Draft Facility-wide Groundwater Annual Report for 2023. Based on the results of the statistical analysis, seasonal testing outside the FWGWMP Semi-Annual sampling events is not being proposed.

Received May 6, 2024

May 3, 2024

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

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

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

Subject: **Ohio EPA Comments on the *Draft Facility-wide Groundwater Monitoring Program Plan RVAAP-66 Facility-wide Groundwater Addendum for 2024*, dated February 12, 2024**

Dear Mr. Sedlak:

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 2024 (Draft FWGWMP Addendum for 2024)*[1], for the Former Ravenna Army Ammunition Plant (RVAAP), Portage and Trumbull Counties, Ohio dated February 12, 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. This document was received via email at Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) on February 13, 2024. 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.

GROUNDWATER COMMENTS

1. Clarifications to the 2024 Sampling Scheme:

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2804758

The *Draft FWGWMP Addendum for 2024*, within Section 3.0 Scope of Work, references that a total of 58 wells have been selected for sampling during 2024. However, according to Table 3-1, a total of 60 wells appears selected for 2024 sampling.

Additionally, one temp well 071tw-001 installed at the RVAAP-71 Barn No. 5, was proposed to be deleted from 2024 sampling since the 2023 sampling indicated all Chemicals of Concern (COCs) were below applicable levels and the well was slated to be abandoned. According to Table 3-1, this 071tw-001 well is denoted as "The temporary well has been abandoned." in one column and "This temporary well will be abandoned in 2024." in another column. Section 3.1 Revisions To The 2024 Sampling Scheme indicates that "This temporary well will be abandoned in 2024."

Please clarify if the total number of wells to be sampled per this *Draft FWGWMP Addendum for 2024* is supposed to 58 wells or 60 wells, and please clarify if the temp well 071tw-001 was abandoned in 2023 or slated for abandonment in 2024. If the well is slated for abandonment, please submit to Ohio EPA such proposed activities in a well abandonment work plan or notice of proper well abandonment activities to be conducted.

RISK COMMENTS

2. Section 3.1: Revisions to the 2024 Sampling Scheme

For 2023 sampling, Ohio EPA risk recommended to continue sampling monitoring well LL10mw-003 at Load Line 10 for carbon tetrachloride; while the detections are below the MCL of 5.0 µg/L, the detections were on an upward trend and the current sampling in winter and fall is not the season in which the highest concentration was detected, which was summer.

2023	2022	2021	2020	2019	2018
Fall: below MCL	Fall: 2.9 µg/L	Winter: 3.5 µg/L	Fall: 2.6 µg/L	Fall: below MCL	June: 7.5J µg/L
Spring: 1.8 µg/L	Spring: 4 µg/L	Spring: 2.4 µg/L	Spring: 1.3J µg/L	Spring: below MCL	October: 6.7J µg/L

While the sampling at LL10mw-003 at Load Line 10 for carbon tetrachloride is proposed to be continued for the 2024 sampling events, please clarify if any summer sampling event is being contemplated in 2024 to investigate potentially higher concentrations from this well.

This *Draft Facility-Wide Ground Water Monitoring Program (FWGWMP) RVAAP-66 Facility-wide Groundwater Addendum for 2024* 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 reach me at liam.mcevoy@epa.ohio.gov or at (330) 963-1181.

Sincerely,

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

LPM/cm

ec: Angela Cobbs, Chenega Reliable Services
Jennifer Tierney, Chenega Reliable Services
Katie Tait, OHARNG RTLS, CJAG
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
Megan Oravec, Ohio EPA, NEDO DERR
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR
Carrie Rasik, Ohio EPA, CO DERR

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

March 13, 2024

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 2023 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 2023 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 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: 2024.03.13 12:29:14 -04'00'

FOR Kevin M. Sedlak
RVAAP Restoration Program Manager
Army National Guard Directorate

ec: Thomas Schneider, Ohio EPA, SWDO, DERR
Carrie Rasik, Ohio EPA, CO, DERR
Megan Oravec, Ohio EPA, NEDO, DERR
Katie Tait, OHARNG
Steve Kvaal, USACE Louisville
Jay Trumble, USACE Louisville
Jed Thomas, Leidos
Ryan Laurich, Leidos
Jennifer Tierney, Chenega Reliable Services

Subject: Former Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, RVAAP-66 Facility-wide Groundwater Semi-Annual Report for Spring 2023 Sampling Event (Work Activity No. 267-000-859-036)

COMMENTS

Ohio EPA Comment 1: Table 3-1 Data Table Discrepancy:

Table 3-1 of the Draft FWGWMP Semi-Annual Report for Spring 2023 indicated that generally, all 48 wells were analyzed for the proper analytical parameters in accordance with the Final FWGWMP Addendum for 2023 (well-specific combinations of volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), phenols, polychlorinated biphenyls (PCBs), perchlorate, explosives, expanded explosives, phthalates, pesticides, cyanide, phosphorus, anions, pH, alkalinity, nitrate, ammonia, carbon tetrachloride and metals).

However, it was noted that was a discrepancy between what Table 3-2 of the Final FWGWMP Addendum for 2023 specified for wells to be sampled for Explosives and/or Expanded Explosives versus what Table 3-1 of the Draft FWGWMP Semi-Annual Report for Spring 2023 (and what Appendix D.1) indicated were actually submitted. While some wells had been intended to be analyzed for only Explosives or only Expanded Explosives, or both, it appears that all wells were analyzed for both (Explosives and Expanded Explosives). While the addition of Expanded Explosives constituents to all the sampled wells is an acceptable addition, no further clarification of why the proposed sampling parameters were changed during the actual sampling (i.e., include some designation on the Tables indicating the additional analyses/rationale for additional analyses).

A Footnote of Table 3-1 of the Draft FWGWMP Semi-Annual Report for Spring 2023 indicated that "X=Indicates well or constituent to be sampled as part of the 2021 FWGWMP.", so the above discrepancy could be related to using a modified 2021 table versus using the approved 2023 Addendum table.

Ohio EPA recommends clarification of why the proposed Explosives and Expanded Explosives sampling parameters were changed during the actual sampling (i.e., include some designation on the Tables indicating the additional analyses/rationale for additional analyses) and clarification if Table 3-1 needs revision to 2023 standards.

> *Army Response*: Clarification and agree. Table 3-1 in the Draft FWGWMP Semi-Annual Report for Spring 2023 has been revised to duplicate Table 3-2 from the Final FWGWMP Addendum for 2023. Additionally, further data review was completed to confirm all explosives sampling for Spring 2023 was completed in accordance with the analytical testing suites provided in Table 3-2 of the Final FWGWMP Addendum for 2023. Further review of Appendix D.1 confirmed the following:
>
> - Monitoring wells DETmw-003, DETmw-004, LL1mw-081, FWG-004, FWGmw-007, FWGmw-011, FWGmw-012, FWGmw-015, FWGmw-016, FWGmw-021, FWGmw-024, and SCFmw-004 were only analyzed for Explosives as recommended in Table 3-2 of the Final FWGWMP Addendum for 2023.
> - Monitoring wells WBGmw-006, WBGmw-009, WBGmw-014, WBGmw-016, WBGmw-017, WBGmw-018, WBGmw-021, LL1mw-063, LL1mw-064, LL1mw-080, LL1mw-082, LL1mw-083, LL1mw-084, LL1mw-086, LL1mw-087, LL1mw-089, LL2mw-059, LL3mw-237, LL3mw-238, LL3mw-239, LL3mw-241, LL3mw-245, FBQmw-173, FBQmw-174, FBQmw-175, FWGmw-010, and FWGmw-023 were analyzed for Explosives and Expanded Explosives as recommended in Table 3-2 of the Final FWGWMP Addendum for 2023.

Ohio EPA Comment 2: Appendix Table D.3 Completeness:

Appendix D.3 table presents a Spring 2023 ground water sample summary of lab detections; it appears out of 114 detectable concentrations, 41 of these results exceeded screening and/or background criteria. 23 wells were found to contain reportable detections of chemicals of concern (COCs), with 15 of these wells found to contain one or more exceedances of screening criteria.

Appendix D.3 table also is supposed to have highlighted BOLD the detections that exceeded screening/background levels, but the first page does not appear to have highlights.

Additionally, the Appendix D.4 table presents yet additional well results that appear to exceed for explosives (RDX), but these results are not included in the Appendix D.3 table. It is unclear as to the purpose of this newly added table, nor the additional Appendix D.5 and Appendix D.6 tables. Previous Ohio EPA review and comments had suggested clarification of the 2022 Appendix D.3 table, but it is not apparent what clarification the additional three tables in the 2023 report now provide. An additional six exceedances of screening/background levels are noted on these other tables, increasing what was shown on table Appendix D.3.

Ohio EPA recommends completion of a review of the above-mentioned tables (and appropriate edits if warranted), and clarification on how the additional tables provide value to the report.

Army Response: Clarification and agree.

- Table D.3 has been revised to have BOLD highlights for all detections that exceed screening and background levels.
- Appendix D.4, Appendix D.5, and Appendix D.6 include tables which present groundwater sampling data for the 13 wells installed under the *Feasibility Study Monitoring Well Installation Plan for RVAAP-66 Facility-wide Groundwater* (Leidos 2022b). Section 1.1 (Lines 32-36) of the Draft FWGWMP Semi-Annual Report for Spring 2023 introduces that the sampling results for the Feasibility Study wells will be provided as part of the Spring 2023 Semi-Annual Report. Section 4.0 (Line 227, and Lines 234-236) of the Semi-Annual Report indicates that the results will be provided separately from the 48 FWGWMP wells which were recommended for sampling under the Final FWGWMP Addendum for 2023. The purpose of Appendix D.4, Appendix D.5, and Appendix D.6 was to provide data from the new Feasibility Study wells, but to keep it separate from the 48 FWGWMP wells specified in the 2023 Addendum, as the Feasibility Study wells were not incorporated into the FWGWMP at the time of the 2023 Spring Sampling Event.

Ohio EPA Comment 3: Section 5.0 Data Quality Assessment:

Section 5.0 Data Quality Assessment of the Draft FWGWMP Semi-Annual Report for Spring 2023 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, but did not provide any specific information regarding data quality.

This Section would benefit from a quick statement of the summary of the DQA findings instead of referring the reader to the last Appendix of the report. For instance, the summary from Appendix F.2 states "The overall quality

of the Spring 2023 FS Wells 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." This information would be beneficial to state in Section 5.0.

Ohio EPA recommends completion of a review of the above-mentioned section (and appropriate edits if warranted).

> *Army Response*: Agree. The following text has been added to Section 5.0 (following line 280):
>
> The overall quality of the Spring 2023 sampling event (48 FWGWMP wells [Appendix F.1] and 13 FS wells [Appendix F.2]) 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.

Ohio EPA Comment 4: Well Redevelopment – Elevated Turbidity Results:

Section 6.0 Well Redevelopment of the Draft FWGWMP Semi-Annual Report for Spring 2023 indicated that Section 8.2.1 of the 2022 Annual Report (Leidos 2023b) recommended that monitoring wells LL1mw-086, LL1mw-089, and LL12mw-244 would be considered for redevelopment during the Spring 2023 FWGWMP sampling event.

Wells LL1mw-086 and LL1mw-089 were found to only have about 10% screen blockage and were not redeveloped.

Well LL12mw-244 was determined to have about 50% screen blockage but attempts to redevelop were halted after removal of approximately five well volumes (64 gallons) and removal of approximately 1-foot of sediment. Well redevelopment logs indicate that an electric "Monsoon" pump was used in conjunction with a bailer for surging. Ohio EPA recommends that additional redevelopment activities be conducted in accordance with Ohio EPA Technical Guidance Manual (TGM) suggested methods, such as a Waterra surge pump or equivalent to help remove sediments, as the previous methods did not seem to produce effective well redevelopment results.

Previous Ohio EPA comments from the 2022 Semi-Annual report stated:

"It should be noted that well LL12mw-244 was found to have a reading of 7,537.2 NTUs during 2021 sampling, and Ohio EPA comment at that time was that further discussion may be warranted to evaluate if additional potential well redevelopment activities using methods other than surging and pumping until dry (such as purging with a Waterra pump or equivalent) could help lower the elevated turbidity numbers in well LL12mw-244."

"Future well redevelopment activities should be conducted 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 and in accordance with the Ohio EPA's Technical Guidance Manual for Ground Water Investigations – Chapter 8: Monitoring Well Development, Maintenance, and Redevelopment (Ohio EPA 2009)."

Ohio EPA recommends further discussion be provided on redevelopment activities for well LL12mw-244.

> *Army Response*: Agree. Redevelopment at LL12mw-244 will be attempted during the 2024 FWGWMP with a Waterra surge pump or equivalent.

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

February 13, 2024

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 Monitoring Program Plan - RVAAP-66 Facility-wide Groundwater Addendum for 2024 (Work Activity No. 267000859036)

Dear Mr. McEvoy:

An electronic version of the *Draft Facility-wide Groundwater Monitoring Program RVAAP-66 Facility-wide Groundwater Addendum for 2024* was sent using the Ohio EPA LiquidFile system. A hardcopy and CD can be sent upon request by Ohio EPA.

This report was 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: 2024.02.13 10:07:26 -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

Received January 29, 2024

January 12, 2024

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
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#267000859036

Subject: Ohio EPA Comments on the "Draft Facility-wide Groundwater Monitoring Program Plan RVAAP-66 Facility-wide Groundwater Semi-Annual Report for Spring 2023 Sampling Event" dated October 13, 2023.

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 2023 Sampling Event"** for the Former Ravenna Army Ammunition Plant (RVAAP), Portage and Trumbull Counties, Ohio (Camp James A. Garfield Joint Training Facility-CJAG). This document (eDocs #2599959) was received at Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) on October 17, 2023. 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 2023

The Draft Facility-Wide Ground Water Monitoring Program (FWGWMP) Semi-Annual Report for Spring 2023 summarizes ground water monitoring activities conducted during the Spring 2023 sampling event, and provides descriptions of field activities performed, presents field and analytical results, and evaluates chemical data collected per the approved ground water sampling scheme specified in the Final FWGWMP Addendum for 2023 dated May 3, 2023.

According to the Draft FWGWMP Addendum for 2023 dated January 23, 2023, proposed sampling included a total of 47 wells during 2023 (down from 48 wells sampled in 2022). One well, LL10mw-003, was proposed to be deleted from 2023 sampling since the carbon tetrachloride results for this well had been below the maximum contaminant level (MCL) of 5.0 ug/L for the last eight sampling events. Ohio EPA comments to the Draft FWGWMP Addendum for 2023 included suggestions to continue at least limited sampling of that well, so the Final FWGWMP Addendum for 2023 included sampling a total of 48 wells.

According to Section 3.1, Table 3-1, and Table 4-1 of the Draft FWGWMP Semi-Annual Report for Spring 2023, all 48 wells specified in the Final FWGWMP Addendum for 2023 were sampled.

COMMENTS

1. **Table 3-1 Data Table Discrepancy:**

   Table 3-1 of the Draft FWGWMP Semi-Annual Report for Spring 2023 indicated that generally, all 48 wells were analyzed for the proper analytical parameters in accordance with the Final FWGWMP Addendum for 2023 (well-specific combinations of volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), phenols, polychlorinated biphenyls (PCBs), perchlorate, explosives, expanded explosives, phthalates, pesticides, cyanide, phosphorus, anions, pH, alkalinity, nitrate, ammonia, carbon tetrachloride and metals).

   However, it was noted that was a discrepancy between what Table 3-2 of the Final FWGWMP Addendum for 2023 specified for wells to be sampled for Explosives and/or Expanded Explosives versus what Table 3-1 of the Draft FWGWMP Semi-Annual Report for Spring 2023 (and what Appendix D.1) indicated were actually submitted. While some wells had been intended to be analyzed for only Explosives or only Expanded Explosives, or both, it appears that all wells were analyzed for both (Explosives and Expanded Explosives). While the addition of Expanded Explosives constituents to all the sampled wells is an acceptable addition, no further clarification of why the proposed sampling parameters were changed during the actual sampling (i.e., include some designation on the Tables indicating the additional analyses/rationale for additional analyses).

   A Footnote of Table 3-1 of the Draft FWGWMP Semi-Annual Report for Spring 2023 indicated that "X=Indicates well or constituent to be sampled as part of the 2021 FWGWMP.", so the above discrepancy could be related to using a modified 2021 table versus using the approved 2023 Addendum table.

Ohio EPA recommends clarification of why the proposed Explosives and Expanded Explosives sampling parameters were changed during the actual sampling (i.e., include some designation on the Tables indicating the additional analyses/rationale for additional analyses) and clarification if Table 3-1 needs revision to 2023 standards.

2. **Appendix Table D.3 Completeness:**

Appendix D.3 table presents a Spring 2023 ground water sample summary of lab detections; it appears out of 114 detectable concentrations, 41 of these results exceeded screening and/or background criteria. 23 wells were found to contain reportable detections of chemicals of concern (COCs), with 15 of these wells found to contain one or more exceedances of screening criteria.

Appendix D.3 table also is supposed to have highlighted BOLD the detections that exceeded screening/background levels, but the first page does not appear to have highlights.

Additionally, the Appendix D.4 table presents yet additional well results that appear to exceed for explosives (RDX), but these results are not included in the Appendix D.3 table. It is unclear as to the purpose of this newly added table, nor the additional Appendix D.5 and Appendix D.6 tables. Previous Ohio EPA review and comments had suggested clarification of the 2022 Appendix D.3 table, but it is not apparent what clarification the additional three tables in the 2023 report now provide. An additional six exceedances of screening/background levels are noted on these other tables, increasing what was shown on table Appendix D.3.

Ohio EPA recommends completion of a review of the above-mentioned tables (and appropriate edits if warranted), and clarification on how the additional tables provide value to the report.

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

Section 5.0 Data Quality Assessment of the Draft FWGWMP Semi-Annual Report for Spring 2023 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, but did not provide any specific information regarding data quality.

This Section would benefit from a quick statement of the summary of the DQA findings instead of referring the reader to the last Appendix of the report. For instance, the summary from Appendix F.5 states "The overall quality of the Spring 2023 FS Wells 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." This information would be beneficial to state in Section 5.0.

Ohio EPA recommends completion of a review of the above-mentioned section (and appropriate edits if warranted).

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

Section 6.0 Well Redevelopment of the Draft FWGWMP Semi-Annual Report for Spring 2023 indicated that Section 8.2.1 of the 2022 Annual Report (Leidos 2023b) recommended that monitoring wells LL1mw-086, LL1mw-089, and LL12mw-244 would be considered for redevelopment during the Spring 2023 FWGWMP sampling event.

Wells LL1mw-086 and LL1mw-089 were found to only have about 10% screen blockage and were not redeveloped.

Well LL12mw-244 was determined to have about 50% screen blockage but attempts to redevelop were halted after removal of approximately five well volumes (64 gallons) and removal of approximately 1-foot of sediment. Well redevelopment logs indicate that an electric "Monsoon" pump was used in conjunction with a bailer for surging. Ohio EPA recommends that additional redevelopment activities be conducted in accordance with Ohio EPA Technical Guidance Manual (TGM) suggested methods, such as a Waterra surge pump or equivalent to help remove sediments, as the previous methods did not seem to produce effective well redevelopment results.

Previous Ohio EPA comments from the 2022 Semi-Annual report stated:

> ***"It should be noted that well LL12mw-244 was found to have a reading of 7,537.2 NTUs during 2021 sampling, and Ohio EPA comment at that time was that further discussion may be warranted to evaluate if additional potential well redevelopment activities using methods other than surging and pumping until dry (such as purging with a Waterra pump or equivalent) could help lower the elevated turbidity numbers in well LL12mw-244."***
>
> ***"Future well redevelopment activities should be conducted 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 and in accordance with the Ohio EPA's Technical Guidance Manual for Ground Water Investigations – Chapter 8: Monitoring Well Development, Maintenance, and Redevelopment (Ohio EPA 2009)."***

Ohio EPA recommends further discussion be provided on redevelopment activities for well LL12mw-244.

This **"Draft Facility-wide Groundwater Monitoring Program Plan RVAAP-66 Facility-wide Groundwater Semi-Annual Report for Spring 2023 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.

Sincerely,

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

LPM/cm

ec: Jennifer Tierney, Chenega Reliable Services
Angela Cobbs, Chenega Reliable Services
Katie Tait, OHARNG RTLS
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Nat Peters, USACE Louisville
Megan Oravec, Ohio EPA, NEDO DERR
Natalie Oryshkewych, Manager, Ohio EPA NEDO DERR
Kevin M. Palombo, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR
Carrie Rasik, Ohio EPA, CO DERR

October 28, 2024

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
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 Annual Report for 2023 (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 Annual Report for 2023 (Work Activity No. 267-000-859-036) for the Former Ravenna Army Ammunition Plant (RVAAP)[1], Portage and Trumbull Counties, Ohio dated August 14, 2024. This document was received via email by Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) on August 14, 2024. The report was prepared for the United States Army Corps of Engineers on behalf of the National Guard Bureau by Leidos.

Based on our review of the Army National Guard's Response to Ohio EPA comments provided in your letter dated August 14, 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.

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3253523

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: Jennifer Tierney, Chenega Reliable Services
Angela Cobbs, Chenega Reliable Services
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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

October 28, 2024

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
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 Semi-Annual Report for Spring 2023 Sampling Event (Contract #W912QR-21-D-0016, Delivery Order #W912QR22F0186)
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 2023 Sampling Event (Contract #W912QR-21-D-0016, Delivery Order #W912QR22F0186) for the Former Ravenna Army Ammunition Plant (RVAAP)[1], Portage and Trumbull Counties, Ohio dated July 19, 2024. This document was received via email by Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) on July 25, 2024. The report was prepared for the United States Army Corps of Engineers on behalf of the National Guard Bureau by Leidos.

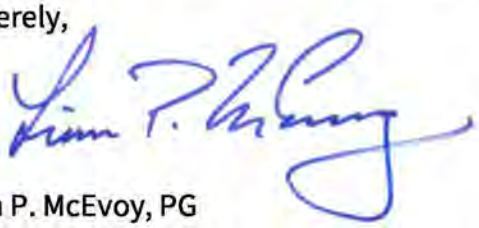
The final document was reviewed by personnel from Ohio EPA's DERR. Pursuant to the Director's Findings and Orders paragraph 39 (b), Ohio EPA considers the document final and approved.

Received 29 OCT 2024

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3100750

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: Jennifer Tierney, Chenega Reliable Services
Angela Cobbs, Chenega Reliable Services
Katie Tait, OHARNG RTLS
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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

December 19, 2024

Received December 20, 2024

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 Ammunition Plt RVAAP
Remediation Response
Project Records
Remedial Investigation
Remedial Response
Portage County
ID # 267000859087

Subject: Former Ravenna Army Ammunition Plant
Request for Extension for RVAAP-67 Facility-wide Sewers, Draft Remedial Investigation Report
Ohio EPA Extension Approval and Meeting Request

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) has received the RVAAP-67 Facility-wide Sewers - Request for Extension for Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties[1]. This document was received at Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) via email on November 8, 2024.

Ohio EPA approves your six month extension and expects the Remedial Investigation to be submitted on May 5, 2025.

The extension request also included a clarification on the next steps for RVAAP-67. Ohio EPA would like to meet with the Army National Guard to discuss the next steps for the project and will reach out to set this up in January 2025.

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3294831

This letter is an official response from Ohio EPA that will be maintained as a public record. If you have any questions regarding this letter, please contact me at (330) 963-1168, or via email at megan.oravec@epa.ohio.gov.

Sincerely,

Megan Oravec

Megan Oravec
Supervisor
Division of Environmental Response and Revitalization

MO/cm

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

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

November 5, 2024

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

Subject: RVAAP-67 Facility-wide Sewers - Request for Extension, Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Camp James A. Garfield JMTC, Portage/Trumbull Counties, Ohio (Work Activity No. 267000859087)

Dear Mr. Kowalski:

A letter was received from the Ohio EPA on October 21, 2024 (letter dated October 18, 2024) approving the responses to comments on the Draft Remedial Investigation (RI) Report for RVAAP-67 Facility-wide Sewers. Per the Director's Final Findings and Orders dated June 2004, Section XVIII Review of Submittals, the Army National Guard (ARNG) has 30 days to respond to comments or produce a revised document. The ARNG will not be able to issue the Final RI Report within 30 days, as the contract for that scope of work has ended. Therefore, the ARNG would like to request an extension of six months from the date of this letter to produce the Final RI Report for RVAAP-67. This extra time will be used to scope the next actions for RVAAP-67 and place those actions under contract. These actions are anticipated to consist of finalizing the RI Report and developing a Feasibility Study, Proposed Plan, and Record of Decision (ROD). Remedial actions to take place after approval of the ROD will be scoped and placed under contract at a later date.

The ARNG would also like to clarify the next steps for RVAAP-67 based on internal discussion with ARNG Legal. The Ohio EPA letter, dated October 18, 2024, indicated that "the Draft RI Report for Facility-wide Sewers can be finalized if the principal threat waste left in place is addressed under a separate cover as part of the next step in the remedial process. The identified hazardous waste onsite is above hazardous levels for RSLs. The identified waste includes RCRA metals that exceed the 20 times hazardous waste 'rule of thumb' and will be addressed in conjunction with the Feasibility Study (FS) per an agreement between the Ohio EPA and the Army National Guard."

A meeting was held with the Ohio EPA to discuss the Facility-wide Sewers on February 27, 2024. An action item from the meeting was for the ARNG to consider identifying sewer sediment with elevated concentrations as principal threat waste. This was not an agreement, rather an action item. After consideration, ARNG Legal determined the sewer sediment with elevated concentrations would not be considered a principal threat waste. However, ARNG Legal indicated that RVAAP-67 could be addressed under CERCLA by considering the sewer sediment as waste in place. ARNG Legal indicated that, under CERCLA, closing a site with waste in place is a closure method for hazardous waste management units that cannot otherwise meet the requirements of "clean closure". Although the ARNG does not agree that the sewer sediment is hazardous waste, the ARNG will use waste in place as a mechanism to evaluate this media in the RVAAP-67 FS.

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 letter.

Sincerely,

TAIT.KATHRYN.SERENA.1289508275

Digitally signed by TAIT.KATHRYN.SERENA.1289508275
Date: 2024.11.05 13:17:42 -05'00'

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

cc: Megan Oravec, Ohio EPA
Tom Schneider, Ohio EPA
Katie Tait, OHARNG
Steve Kvaal, USACE Louisville
T. Zack Bayne, USACE Louisville
Jed Thomas, Leidos
Jennifer Tierney, Chenega

October 18, 2024

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 # 267000859087

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

Subject: Former Ravenna Army Ammunition Plant
Draft Remedial Investigation Report for RVAAP-67 Facility-wide Sewers, Response to Comments
Ohio EPA Request for Final Document with Comment

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) has received the "Facility-Wide Sewers, Response to Comments on the Draft Remedial Investigation" for Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, CC RVAAP-67 Facility Wide Sewers[1]. This document was received at Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) via email on May 22, 2024. The document was prepared for the Army National Guard in support of the RVAAP Restoration Program.

The Draft Remedial Investigation Report for Facility Wide Sewers can be finalized if the principal threat waste left in place is addressed under a seperate cover as part of the next step in the remedial process. The identified hazardous waste onsite is above hazardous levels for Regional Screening Levels. The identified waste includes RCRA metals that exceed the

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2876120

20 times hazardous waste "rule of thumb" and will be addressed in conjunction with the Feasibility Study, per an agreement between Ohio EPA and Army National Guard.

Based on our review of the Army National Guard's Response to Ohio EPA comments provided in your letter dated May 22, 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. If you have any questions regarding this letter, 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: T. Zack Bayne, USACE Louisville
Angela Cobbs, Chenega Reliable Services
Jennifer Tierney, Chenega Reliable Services
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
Katie Tait, OHARNG RTLS, CJAG
Jed Thomas, Leidos
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

November 15, 2024

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

Subject: Notification of Field Work, Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, CC RVAAP-69 Building 1048 Fire Station Vapor Intrusion Study of Building 1037 (Work Activity No. 267-000-859-269)

Dear Mr. Kowalski:

In accordance with the Director's Final Findings and Orders, Section XIII, #28, for the RVAAP Restoration Program, the Army National Guard (ARNG) is providing notification of field activities at the former RVAAP (Camp James A. Garfield) 15 days prior to the scheduled start date. These field activities and tentative schedule are below:

- 12/3/24-12/5/24: The second event of soil vapor sampling per the 2024 UFP-QAPP for CC RVAAP-69

In the event that the schedule above needs to change, the Army will provide an e-mail notification with revised dates. 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: 2024.11.15 11:49:42 -05'00'

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

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

Received October 21, 2024

October 18, 2024

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 # 267000859269

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

Subject: Former Ravenna Army Ammunition Plant
Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP), CC RVAAP-69 Building 1048 Fire Station Vapor Intrusion Study of Building 1037
Ohio EPA Approval

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) has received the "Final Uniform Federal Policy-Quality Assurance Project Plan" (UFP-QAPP) for Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, CC RVAAP-69 Building 1048 Fire Station Vapor Intrusion Study of Building 1037 [1]. This document was received at Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) via email on June 12th, 2024.

The final document was reviewed by personnel from Ohio EPA's Division of Environmental Response and Revitalization (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=2966445

If you have any questions regarding this letter, 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: T. Zack Bayne, USACE Louisville
Angela Cobbs, Chenega Reliable Services
Jennifer Tierney, Chenega Reliable Services
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
Katie Tait, OHARNG RTLS, CJAG
Jed Thomas, Leidos
Liam McEvoy, Ohio EPA, NEDO
Megan Oravec, Ohio EPA, NEDO DERR
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Carrie Rasik, Ohio EPA, CO DERR
Thomas Schneider, Ohio EPA, SWDO DERR

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

June 12, 2024

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, CC RVAAP-69 Building 1048 Fire Station, Final Uniform Federal Policy-Quality Assurance Project Plan for the CC RVAAP-69 Building 1048 Fire Station Vapor Intrusion Study of Building 1037 (Work Activity No. 267-000-859-269)

Dear Mr. Kowalski:

For your concurrence, an electronic version of the *Final Uniform Federal Policy-Quality Assurance Project Plan for the CC RVAAP-69 Building 1048 Fire Station Vapor Intrusion Study of Building 1037* is attached. A hard copy and CD can be sent upon request by Ohio EPA.

This plan was 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: 2024.06.12 11:28:43 -04'00'

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

cc: Tom Schneider, Ohio EPA, SWDO
Megan Oravec, Ohio EPA, NEDO
Katie Tait, OHARNG
Steve Kvaal, USACE Louisville
Nathaniel Peters, II, USACE Louisville
T. Zack Bayne, USACE Louisville
Jed Thomas, Leidos
Ryan Laurich, Leidos
Jennifer Tierney, Chenega

April 8, 2024

TRANSMITTED ELECTRONICALLY

Mr. Kevin M. Sedlak
Army National Guard
Installations & Environment - Cleanup
Branch IPA Designation
1438 State Route 534 SW
Newton Falls, OH 44444

RE: US Army Ravenna Ammunition
Remediation Response
Correspondence
Remedial Response
Portage County
267000859269

Sent via e-mail to: kevin.m.sedlak.ctr@army.mil

Subject: CC RVAAP-69 Building 1048 Fire Station Vapor Intrusion Study of Building 1037
Draft Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP)
Response to Comments, dated February 20, 2024
Ohio EPA Comment Letter

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the Response to comments received February 20, 2024, for the Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, Draft Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP), CC RVAAP-69 Building 1048 Fire Station Vapor Intrusion Study of Building 1037[1]. The Plan was received via email by Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) on October 19, 2024[2], and Ohio EPA issued comments on February 2, 2024[1]. The Plan was prepared by Leidos for the Army National Guard in support of the RVAAP Restoration Program.

Ohio EPA has no additional comments and requests the final document in accordance with the Directors Findings and Orders.

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2761874
[2] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2608110
[3] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2722640

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

Sincerely,

Craig Kowalski

Craig Kowalski
Environmental Specialist
Division of Environmental Response and Revitalization

CK/cm

ec: Angela Cobbs, Chenega Reliable Services
Jennifer Tierney, Chenega Reliable Services
Nat Peters, USACE
Katie Tait, OHARNG RTLS
Steven Kvaal, USACE Kvaal
Natalie Oryshkewych, Ohio EPA, DERR, NEDO
Megan Oravec, Ohio EPA, DERR, NEDO
Liam McEvoy, Ohio EPA, DERR, NEDO
Thomas Schneider, Ohio EPA, DERR, SWDO
Carrie Rasik, Ohio EPA, DERR, CO

February 20, 2024

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Ms. Megan Oravec
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, CC RVAAP-69 Building 1048 Fire Station, Responses to Comments on the Draft Uniform Federal Policy-Quality Assurance Project Plan for the CC RVAAP-69 Building 1048 Fire Station Vapor Intrusion Study of Building 1037 (Work Activity No. 267-000-859-269)

Dear Ms. Oravec:

The Army appreciates the Ohio EPA comments on the *Draft Uniform Federal Policy-Quality Assurance Project Plan for the CC RVAAP-69 Building 1048 Fire Station Vapor Intrusion Study of Building 1037*. Enclosed for your review are responses to those 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: 2024.02.20 14:19:13 -05'00'

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

ec: Craig Kowalski, Ohio EPA, NEDO, DERR
Thomas Schneider, Ohio EPA, SWDO
Katie Tait, OHARNG
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
T. Zack Bayne, USACE Louisville
Jed Thomas, Leidos
Ryan Laurich, Leidos
Jennifer Tierney, Chenega

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, CC RVAAP-69 Building 1048 Fire Station, Responses to Comments on the Draft Uniform Federal Policy-Quality Assurance Project Plan for the CC RVAAP-69 Building 1048 Fire Station Vapor Intrusion Study of Building 1037 (Work Activity No. 267-000-859-269)

COMMENTS

Ohio EPA Comment 1: Ohio EPA recommends adding a vapor intrusion sample location in the office nestled between the two restrooms (Figure 17-1: Building 1037 Vapor Point Sample Location). There may be subsurface preferential pathways in that general area from the water and sewer lines related to the restrooms, and these subsurface conveyances may assist the lateral movement of any vapors potentially beneath Building 1037 (Figure 10-7: Conceptual Site Model). However, proceed with caution: identify and avoid the location(s) of underground utilities and structures (for example, electric, gas, water, or sewer lines) to prevent damage to these lines; however, sample collection in close proximity to these lines may be warranted as building penetrations for these lines may pose openings for soil gas entry (U.S. EPA, 2015: https://www.epa.gov/sites/default/files/2015 09/documents/oswer-vapor-intrusiontechnical-guide-final.pdf).

> *Army Response*: Agree. Current funding for the study is for a total of 5 sub-slab vapor points. As the Radio Room may not be consistently occupied, vapor point location 069-vp004 will be moved to the office between the restrooms. Precautions will be taken prior to implementation, as recommended by Ohio EPA. As-builts of the building, physical surveys, and worker/site knowledge will be used to help avoid encountering any utilities.

Ohio EPA Comment 2: Ohio EPA recommends having an indoor air sample location paired with each sub-slab soil vapor location rather than collecting one ambient indoor air sample (069vp-006; Table 18-1 and Figure 17-1). This will allow a comparison of any chemicals detected in these samples which will aid in vapor intrusion assessment data interpretation and conclusions. If indoor air samples cannot be paired at each sub-slab vapor sample point due to allocated funding, Ohio EPA recommends at least an indoor air sample be collected in each of the three sections of the building, which from figure 17-1 appear to be the Boiler Room, the Office on the north end, and the main section in the middle. Also, if the building has multiple HVAC systems these can have varying effects on the potential for vapor intrusion and exposure concentrations in the areas they serve thus one ambient indoor air sample may not be representative for an entire building.

> *Army Response*: Clarification. Current funding for the study accounts for 5 sub-slab vapor point locations and one indoor ambient air sample locations. These will all be sampled in two events. Two additional indoor ambient samples exceed the current funding of the project. Based on site knowledge, the building only has one HVAC system, and the inside doors between rooms remain open during occupancy. The ambient air sample locations would be at a central area that connects to all rooms in the building.

Ohio EPA Comment 3: QAPP Worksheet #28 lists one field duplicate per 10 samples. Ohio EPA requests clarification that the language means if nine or less samples are collected one field duplicate will still be collected. Ohio EPA's Quality Assurance Project Plan for Federal Site Assessment recommends, "The minimum number of field duplicate samples required for each round of sampling is one for every 10 samples. If there are fewer than 10 samples per matrix, one field duplicate per matrix will be submitted" (Section A.8.1.1: Field Precision Objectives; https://epa.ohio.gov/static/Portals/30/rules/Ohio%20Superfund%20QAPP.pdf).

> *Army Response*: Clarification and agree. If nine or less samples are collected, one field duplicate will still be collected. Please reference Worksheet #20 showing that 1 duplicate sample will be collected with 7 field samples and 2 duplicate samples will be collected with 17 field samples.

Ohio EPA Comment 4: QAPP Worksheet #28 lists one equipment blank per 10 samples. Ohio EPA's Quality Assurance Project Plan for Federal Site Assessment recommends, "should there be a need for equipment blanks to be collected, a frequency of one for every 20 samples will be utilized, or, at a minimum, one per day collected." (Section A.8; https://epa.ohio.gov/static/Portals/30/rules/Ohio%20Superfund%20QAPP.pdf).

> *Army Response*: Agree. Worksheet #28 has been revised to specify the frequency of an Equipment Blank to "One per day".

Ohio EPA Comment 5: Clarification, no response necessary: Table 17-1 Building 1037 Proposed sample Design and Rationale has the language, "Building 1037 is less than 5,000 ft2; therefore, per Ohio EPA guidance, biased sample locations are not necessary (Ohio EPA 2020a)". How the recommendations are presented in Section 4.5 of the Ohio EPA Vapor Intrusion Guidance may be causing some confusion; it isn't that sampling locations shouldn't also be biased at buildings less than 5,000 ft2, it is that in spacing the samples out every 2,000 to 5,000 square for foundations greater than 5,000 square feet we didn't want the biasing of those sample locations to be overlooked.

> *Army Response*: Comment noted. Even though the building is less than 5,000 ft2, proposed samples provided in the UFP-QAPP are in locations biased towards a higher likelihood of having VOCs from a VI pathway.

Received February 5, 2024

February 2, 2024

TRANSMITTED ELECTRONICALLY

Mr. Kevin M. Sedlak
Army National Guard
Installations & Environment - Cleanup
Branch IPA Designation
1438 State Route 534 SW
Newton Falls, OH 44444

RE: US Army Ravenna Ammunition
Remediation Response
Correspondence
Remedial Response
Portage County
267000859269

Sent via e-mail to: kevin.m.sedlak.ctr@army.mil

Subject: Ohio EPA Comments on the Draft Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP), CC RVAAP-69 Building 1048 Fire Station Vapor Intrusion Study of Building 1037

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the "Draft Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP), CC RVAAP-69 Building 1048 Fire Station Vapor Intrusion Study of Building 1037" at the Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio (Camp Garfield).[1] This plan was received via email at Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) on October 19, 2024. The plan was prepared by Leidos for the Army National Guard in support of the RVAAP Restoration Program.

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.

Comment 1: Ohio EPA recommends adding a vapor intrusion sample location in the office nestled between the two restrooms (Figure 17-1: Building 1037 Vapor Point Sample Location). There may be subsurface preferential pathways in that general area from the water and sewer lines related to the restrooms, and these subsurface conveyances may assist the lateral movement of any vapors potentially beneath Building 1037 (Figure 10-7: Conceptual Site

1 http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2608110

Model). However, proceed with caution: identify and avoid the location(s) of underground utilities and structures (for example, electric, gas, water, or sewer lines) to prevent damage to these lines; however, sample collection in close proximity to these lines may be warranted as building penetrations for these lines may pose openings for soil gas entry (U.S. EPA, 2015: https://www.epa.gov/sites/default/files/2015-09/documents/oswer-vapor-intrusion-technical-guide-final.pdf).

Comment 2: Ohio EPA recommends having an indoor air sample location paired with each sub-slab soil vapor location rather than collecting one ambient indoor air sample (069vp-006; Table 18-1 and Figure 17-1). This will allow a comparison of any chemicals detected in these samples which will aid in vapor intrusion assessment data interpretation and conclusions. If indoor air samples cannot be paired at each sub-slab vapor sample point due to allocated funding, Ohio EPA recommends at least an indoor air sample be collected in each of the three sections of the building, which from figure 17-1 appear to be the Boiler Room, the Office on the north end, and the main section in the middle. Also, if the building has multiple HVAC systems these can have varying effects on the potential for vapor intrusion and exposure concentrations in the areas they serve thus one ambient indoor air sample may not be representative for an entire building.

Comment 3: QAPP Worksheet #28 lists one field duplicate per 10 samples. Ohio EPA requests clarification that the language means if nine or less samples are collected one field duplicate will still be collected. Ohio EPA's Quality Assurance Project Plan for Federal Site Assessment recommends, "The minimum number of field duplicate samples required for each round of sampling is one for every 10 samples. If there are fewer than 10 samples per matrix, one field duplicate per matrix will be submitted" (Section A.8.1.1: Field Precision Objectives; https://epa.ohio.gov/static/Portals/30/rules/Ohio%20Superfund%20QAPP.pdf).

Comment 4: QAPP Worksheet #28 lists one equipment blank per 10 samples. Ohio EPA's Quality Assurance Project Plan for Federal Site Assessment recommends, "should there be a need for equipment blanks to be collected, a frequency of one for every 20 samples will be utilized, or, at a minimum, one per day collected." (Section A.8; https://epa.ohio.gov/static/Portals/30/rules/Ohio%20Superfund%20QAPP.pdf).

Comment 5: Clarification, no response necessary: Table 17-1 Building 1037 Proposed sample Design and Rationale has the language, "Building 1037 is less than 5,000 ft2; therefore, per Ohio EPA guidance, biased sample locations are not necessary (Ohio EPA 2020a)". How the recommendations are presented in Section 4.5 of the Ohio EPA Vapor Intrusion Guidance may be causing some confusion; it isn't that sampling locations shouldn't also be biased at

buildings less than 5,000 ft2, it is that in spacing the samples out every 2,000 to 5,000 square for foundations greater than 5,000 square feet we didn't want the biasing of those sample locations to be overlooked.

If you have any questions, please contact me at (330) 963-1168 or by e-mail at: megan.oravec@epa.ohio.gov.

Sincerely,

Megan Oravec

Megan Oravec
Environmental Supervisor
Division of Environmental Response and Revitalization

MO/cm

ec: Angela Cobbs, Chenega Reliable Services
Jennifer Tierney, Chenega Reliable Services
Nat Peters, USACE
Katie Tait, OHARNG RTLS
Steven Kvaal, USACE Kvaal
Natalie Oryshkewych, Ohio EPA, DERR, NEDO
Ed D'Amato, Ohio EPA, DERR, NEDO
Liam McEvoy, DERR, NEDO
Thomas Schneider, Ohio EPA, DERR, SWDO
Carrie Rasik, DERR, CO

December 11, 2024

Received December 19, 2024

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**
Excavation Confirmation Sample Results Memo from CC RVAAP-70 East Classification Yard
Ohio EPA Comment Letter

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the "RVAAP- 70 East Classification Yard - Excavation Confirmation Sample Results Memo" 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 November 6, 2024.

Comments on the November 6, 2024, document based on Ohio EPA's review are provided below.

Ohio EPA Comments

Comment 1:

The November 6, 2024, report describes the completed three phases of soil confirmation sampling at CC RVAAP-70 East Classification Yard and requests that Ohio EPA consider the remaining polycyclic aromatic hydrocarbons (PAHs) as anthropogenic and related to the road and not part of the original PAH source. The document states in part: "(b)ased on the location of the step out confirmation samples being collected in the asphalt road (anthropogenic source), the Army National Guard (ARNG) believes that the asphalt road is the likely source of continued BaP results above the CUG. This is an anthropogenic source and is not the

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3291181

original source of contamination that was being excavated as the basis of this NTCRA (which was Building 47-40 railroad maintenance building (DU03).

The ARNG requests that the Ohio EPA review these confirmation results and consider the remaining elevated BaP results as related to the anthropogenic asphalt road and therefore the removal action field work complete. If accepted, the ARNG will backfill with source material already approved by Ohio EPA."

The latest round of confirmation samples (11 October 2024) appear that the PAH concentrations (BaP) may be increasing toward the road (West, Southwest of building 47-40). Possibly indicating the road as the source of the PAH contamination. Another option may be the original PAH source is also located in the same direction and additional soil removal may be necessary to achieve remedial goals at the AOC.

Research into PAH concentrations in asphalt and coal-tar materials has increase of late, given new requirements in European countries regarding recycling of road materials. This research has indicated that some road materials including asphalt, coal-tar under treatments, and asphalt sealers, all contain various ranges of PAH concentrations with some commonly used materials containing relatively few PAHs and low concentrations.

Action Item: To confirm or exclude the road material(s) as the anthropogenic source of the PAH concentrations identified in the most recent round of confirmation samples, it is recommended that road/asphalt, and the interface between the asphalt and soil be sampled and analyzed for BaP (other PAHs could also be included). If the results include elevated levels of PAHs, then rational as the road/road related material as the source of the PAHs identified in the latest confirmation soil samples can be supported. Please provide a draft sampling plan for the recommended road sampling for review and approval. An acceptable alternative is to continue the excavation(s) and confirmation sampling until project-specific remediation goals have been achieved.

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: Megan Oravec, Ohio EPA, NEDO DERR
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR
Brian Tucker, Ohio EPA, CO DERR

Received November 15, 2024

November 14, 2024

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 at: Kevin.m.sedlak.ctr@army.mil

RE: US Army Ammunition Plt RVAAP
Remediation Response
Plans
Remedial Action
Remedial Response
Portage County
ID # 267000859276

Subject: Former Ravenna Army Ammunition Plant
Final Removal Action Work Plan for CC RVAAP-70 East Classification Yard Ohio EPA Approval

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the Final Removal Action Work Plan for CC RVAAP-70 East Classification 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 August 19, 2024.

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.

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
Jennifer Tierney, Chenega Reliable Services
Megan Oravec, Ohio EPA, NEDO DERR
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR
Brian Tucker, Ohio EPA, CO DERR

[1] https://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3162470

August 6, 2024

Received August 7, 2024

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
Plans
Remedial Action
Remedial Response
Portage County
ID # 267000859276

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

Subject: Former Ravenna Army Ammunition Plant
Draft Remedial Action Work Plan for CC RVAAP-70 East Classification Yard
Ohio EPA Comment and Request for Final

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the

Draft Remedial Action Work Plan for CC RVAAP-70 East Classification 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 January 17, 2024.

Ohio EPA provided comments on the draft Remedial Action Work Plan on April 8, 2024[2] and the Army National Guard (ARNG) provided response to comments on April 26th, 2024[3]. The document was prepared for the United States Army Corps of Engineers (USACE) on behalf of the National Guard Bureau by PIKA-Insight.

Ohio EPA has one final comment on the Remedial Action Work Plan. The ARNG will need to supply borrow source data to the agency with the Removal Action Summary Report.

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[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2704554
[2] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2798266
[3] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2819084

Ohio EPA has no further comments. Please provide the final Remedial Action Work Plan for CC RVAAP-70 East Classification Yard for Ohio EPA approval.

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
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
Angela Cobbs, Chenega Reliable Services
Jennifer Tierney, Chenega Reliable Services
Megan Oravec, Ohio EPA, NEDO DERR
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR
Brian Tucker, Ohio EPA, CO DERR

June 10, 2024

Received June 11, 2024

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

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

RE: US Army Ravenna Ammunition Plt
RVAAP
Remediation Response
Project Records
RI
Remedial Response
Portage County
ID # 267000859258

Subject: Final Remedial Investigation Addendum for the RVAAP-70 DLA Ore Storage Site, Ore Storage Pond Sub-Area
Ravenna Army Ammunition Plant Restoration Program
Ohio EPA Concurrence

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the Request for concurrence for the "Final Remedial Investigation Addendum for CC RVAPP-79 DLA ore Storage Site, Ore Storage Pond Sub-Area" dated March 12, 2024[1]. This document was received at Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) via email on March 12, 2024. The document was prepared for the United States Army National Guard.

It is Ohio EPA's understanding that additional information will be collected outside of the original contract/scope of work. Ohio EPA will give concurrence based on Army's path moving forward. The Army will submit a second addendum to provide the additional information to Ohio EPA as requested in the letter dated October 12, 2023[2], associated with the DLA Ore Storage Pond. It is anticipated that this additional addendum will also include the Risk

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2798727
[2] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2597194

Management Decisions specified in the Final Remedial Investigation for CC RVAAP-79 DLA Ore Storage Sites dated October 16, 2020[3], and will establish cleanup goals to supplement the Feasibility Study for the applicable DLA Ore Storage Sites.

This document was reviewed by personnel from Ohio EPA's DERR. Pursuant to the Director's Findings and Orders paragraph 39 (b), Ohio EPA concurs with the path forward as outlined in the March 12, 2024, letter.

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
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
Jennifer M. Tierney, Chenega Reliable Services
Angela Cobbs, Chenega Reliable Services
Megan Oravec, Ohio EPA, NEDO DERR
Natalie Oryshkewych, Ohio EPA, NEDO DERR
Thomas Schneider, Ohio EPA, SWDO DERR
Brian Tucker, Ohio EPA, CO DERR

[3] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=1482601
http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=1483188

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

April 26, 2024

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, Response to Comments on the Draft Remedial Action Work Plan for CC RVAAP-70 East Classification Yard, Ohio EPA ID# 267000859276

Dear Mr. Kowalski:

Enclosed for your review are the responses to Ohio EPA comments on the *Draft Remedial Action Work Plan for CC RVAAP-70 East Classification Yard*. 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: 2024.04.26 12:51:59 -04'00'

FOR Kevin M. Sedlak
RVAAP Restoration Program Manager
Army National Guard Directorate

cc:
Katie Tait, OHARNG
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
T. Zack Bayne, USACE Louisville
Jennifer Tierney, Chenega
Tom Schneider, Ohio EPA
Megan Oravec, Ohio EPA
Marco Mendoza, PIKA-Insight

Responses to Ohio EPA Comments Dated April 8, 2024
Draft Remedial Action Work Plan, Removal Action, at CC RVAAP-70 East Classification Yard, Ravenna Army Ammunition Plant Restoration Program, dated January 2024

Comments from Craig Kowalski, Environmental Specialist, Division of Environmental Response and Revitalization

Comment 1. Section 5.4.3 Borrow Characterization Sampling

Section 5.4.3 states in part: (t)he borrow area soil analytical results will be screened against a provided list of facility background concentrations."

Ohio EPA does not accept the background values for polycyclic aromatic hydrocarbons (PAHs) developed for RVAAP projects. PAH results from the borrow soil shall be compared to the facility-wide clean up goals (CUGs) or U.S. EPA Regional Screening Levels (RSLs) (http://www.epa.gov/risk/regional-screening-levels-rsls) set at the risk and hazard goal of 1E-5 excess lifetime cancer risk, or hazard quotient of 1, for residential land use. Revise the removal action workplan to clarify that borrow soil results will be compared to facility wide CUGs or RSLs.

Response:
The first paragraph of Section 5.4.3 "Borrow Characterization Sampling" has been revised to clarify that the borrow soil sample results will be screened against the USEPA's Residential Regional Screening Levels for TCL polycyclic aromatic hydrocarbons. The paragraph now reads as follows:

"One composite soil sample will be collected from the off-site borrow area (Freedom Materials, Ravenna, Ohio) that will be used as backfill to restore the excavation. One sample will be collected for every 4,000 cubic yards of earth fill. Ten subsamples will be used for the composite sample. The subsamples will be collected in-situ within the area of the borrow source that will be used. The borrow area soil analytical results will be screened against the USEPA's Residential Regional Screening Levels for soil, or from site-specific background concentrations for metals. Metals results will be compared to facility-specific background values from the *Final Phase II Remedial Investigation Report for Winklepeck Burning Grounds (SAIC, 2001)*. The earth fill data will be submitted electronically upon receipt to the ARNG for approval. The borrow material will be free of invasive vegetation species and must be compactible. The material will receive ARMY approval before using as backfill. **TABLE 5-1** provides additional details about the sampling types, frequency, and analyses associated with the borrow material."

Table 5-2. Facility Wide Background Criteria for Surface Soils (metals)

Parameter	Background Criteria (mg/kg)	Parameter	Background Criteria (mg/kg)	Parameter	Background Criteria (mg/kg)
Aluminum	17.70	Cobalt	10.40	Nickel	21.10
Antimony	0.96	Copper	17.70	Potassium	927
Arsenic	15.40	Cyanide	0	Selenium	104
Barium	88.40	Iron	23,100	Silver	0
Beryllium	0.88	Lead	26.10	Sodium	123
Cadmium	0	Magnesium	3.03	Thallium	0
Calcium	15,800	Manganese	1,450	Vanadium	31.10
Chromium	17.40	Mercury	0.036	Zinc	61.80

*Background concentrations for 0-1 feet bgs from final facility-wide background concentrations, published in the *Phase II Remedial Investigation Report for Winklepeck Burning Grouns* (USACE 2001).
mg/kg = milligram per kilogram

April 8, 2024

Received April 9, 2024

TRANSMITTED ELECTRONICALLY

Mr. Kevin M. Sedlak
Army National Guard
Installations & Environment - Cleanup
Branch IPA Designation
1438 State Route 534 SW
Newton Falls, OH 44444

RE: US Army Ravenna Ammunition Plt
RVAAP
Remediation Response
Correspondence
Remedial Response
Portage County
267000859276

Sent via e-mail to: kevin.m.sedlak.ctr@army.mil

Subject: Ohio EPA Comments on the Draft Remedial Action Work Plan, Removal Action, at CC RVAAP-70 East Classification Yard, Ravenna Army Ammunition Plant Restoration Program, dated January 2024

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the Draft Remedial Action Work Plan, Removal Action at t CC RVAAP-70 - East Classification Yard, Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties[1]. This plan was received via email at Ohio EPA's Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) on January 12, 2024. The plan was prepared by PIKA-Insight, JV for the Army National Guard in support of the RVAAP Restoration Program.

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.

Comment 1: Section 5.4.3 Borrow Characterization Sampling

Section 5.4.3 states in part: "(t)he borrow area soil analytical results will be screened against a provided list of facility background concentrations."

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2704554

Ohio EPA does not accept the background values for ploycyclic aromatic hydrocarbons (PAHs) developed for RVAAP projects. PAH results from the borrow soil shall be compared to the facility-wide clean up goals (CUGs) or U.S. EPA Regional Screening Levels (RSLs) (https://www.epa.gov/risk/regional-screening-levels-rsls) set at the risk and hazard goal of 1E-5 excess lifetime cancer risk, or hazard quotient of 1, for residential land use. Revise the removal action workplan to clarify that borrow soil results will be compared to facility wide CUGs or RSLs.

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

Sincerely,

Craig Kowalski

Craig Kowalski
Environmental Specialist
Division of Environmental Response and Revitalization

CK/cm

ec: Nat Peters, USACE
Katie Tait, OHARNG RTLS
Steven Kvaal, USACE
Angela Cobbs, Chenega Reliable Services
Jennifer Tierney, Chenega Reliable Services
Natalie Oryshkewych, Ohio EPA, DERR, NEDO
Megan Oravec, Ohio EPA, DERR, NEDO
Thomas Schneider, Ohio EPA, DERR, SWDO
Brian Tucker,Ohio EPA, DERR, CO
Tim Christman, Ohio EPA, DERR, CO

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

January 12, 2024

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Mr. Ed D'Amato
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, Ohio, Draft Remedial Action Work Plan for CC RVAAP-70 East Classification Yard, Ohio EPA ID# 267000859260

Dear Mr. D'Amato:

Enclosed for your review is the *Draft Remedial Action Work Plan for CC RVAAP-70 East Classification Yard*. Due to small file size, this electronic file is being submitted via email only and not through the Ohio EPA LiquidFile system. 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: 2024.01.12 07:31:38 -05'00'

FOR Kevin M. Sedlak
RVAAP Restoration Program Manager
Army National Guard Directorate

cc:
Kathryn Tait, OHARNG
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
Jennifer Tierney, Chenega
Tom Schneider, Ohio EPA
Megan Oravec, Ohio EPA
Marco Mendoza, PIKA-Insight

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

January 24, 2024

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

SUBJECT: Summary of Findings, Magnetometer-Assisted Survey of Sand Creek, Open Demolition Area #2 MRS, Camp James A. Garfield Joint Military Training Center (Former RVAAP), Portage and Trumbull Counties, OH

Dear Mr. Roope:

Attached for review is the Summary of Findings, Magnetometer-Assisted Survey of Sand Creek conducted on 8 - 12 January 2024 as related to the Time Critical Removal Action for RVAAP-004-R-01 Open Demolition Area #2 Munitions Response Site (MRS). Due to small file size, this report will not be submitted via the Ohio EPA LiquidFile system.

This document was 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 with any issues or concerns with this submission.

Very Respectfully,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2024.01.24 08:44:44 -05'00'

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

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

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
2 HOPKINS PLACE
BALTIMORE, MD 21201

CENAB-HM-EI 22 January 2024

MEMORANDUM FOR RECORD

SUBJECT: Summary of Findings, Magnetometer-Assisted Survey of Sand Creek conducted on 8-12 January 2024, as related to the Time Critical Removal Action for Open Demolition Area #2 (ODA2) at Camp James A. Garfield Joint Military Training Center (CJAG), Ravenna, OH

1) References.

   a) US Army Corps of Engineers Baltimore District (CENAB), Final Action Memorandum, Time-Critical Removal Action (TCRA), RVAAP-004-R-01 Open Demolition Area #2, Former Ravenna Army Ammunition Plant, Ravenna, Ohio, 30 October 2015.

   b) Final Work Plan, Time Critical Removal Action (TCRA), RVAAP-004-R-01 Open Demolition Area #2 Former Ravenna Army Ammunition Plant, Revision 1. March 18, 2016.

2) Purpose.

   a) The purpose of this Memorandum for Record (MFR) is to document the results of the Magnetometer-Assisted Survey of Sand Creek conducted by USACE Ordnance and Explosive Safety Specialist (OESS) personnel at ODA2 at CJAG on 8-12 January 2024.

   b) The creek walk was conducted to assess the potential for Munitions and Explosives of Concern (MEC) and Material Potentially Presenting an Explosive Hazard (MPPEH) migration from the RVAAP-004-R-01 Open Demolition Area #2 Munitions Response Site (MRS), and the potential for migration of MEC/MPPEH off the installation at creek exit points during the TCRA.

3) Background.

   a) The Open Demolition Area #2 (ODA2) MRS is a former open burning/open detonation (OB/OD) area, dumping ground, and burial site that was used from 1948 to 1991. Large caliber munitions and off-specification bulk explosives that could not be deactivated or demilitarized were detonated within the MRS. The principle sources of MEC/MPPEH at the ODA2 MRS are the result of intentional detonations and potential burial of MEC and bulk explosives. These activities resulted in the potential for MEC/MPPEH to be present in both the surface and subsurface soil at the MRS.

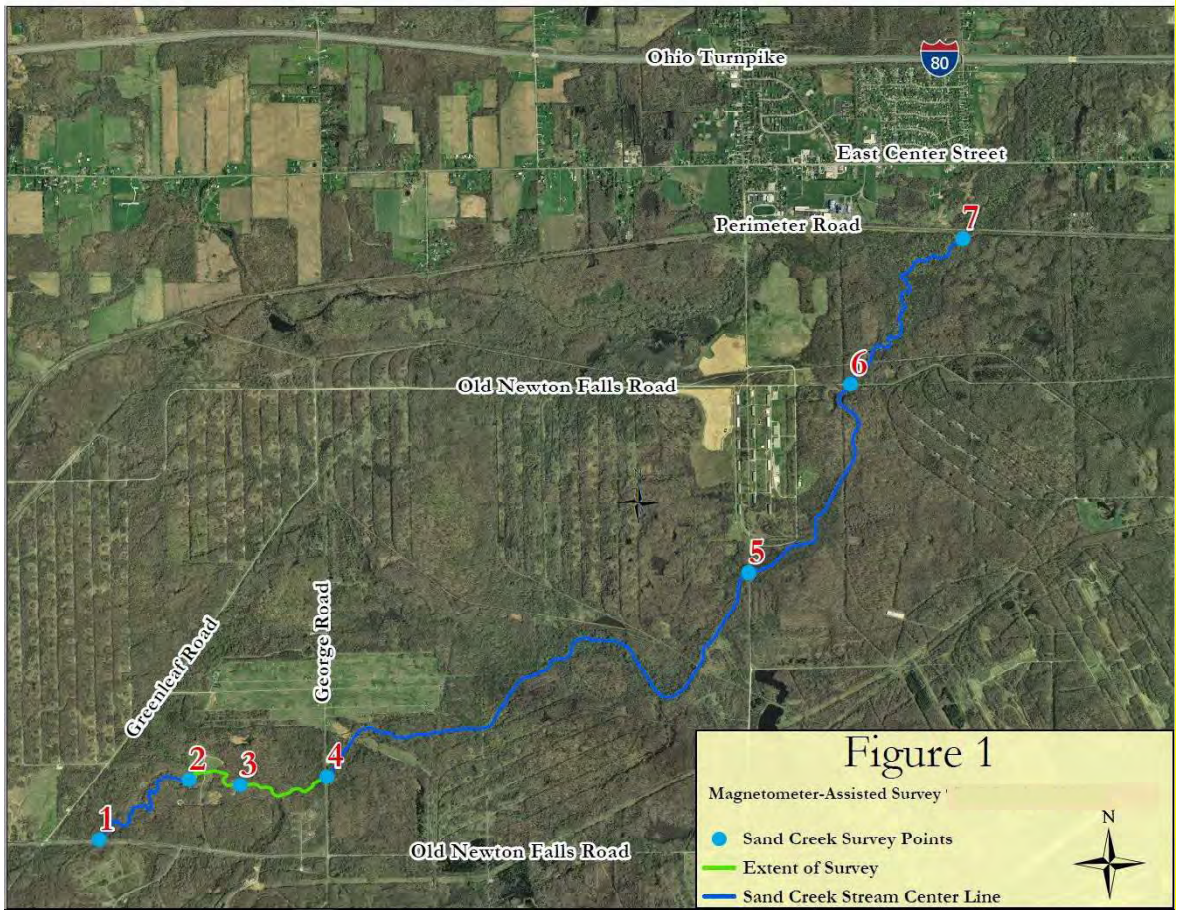
b) Sand Creek flows through the ODA2 MRS and down-gradient areas of the installation. The potential exists for MEC/MPPEH migration within the ODA2 MRS and down-gradient areas during high-energy flood events.

4) Findings.

a) *Dates and Extent of Survey*. The Sand Creek survey was conducted on 8-12 January 2024.

b) *Personnel*. The survey was conducted by OESS Personnel (Mr. John Day and Mr. Daniel Dorrell).

c) *Areas Surveyed*. Seven (7) way-points were established and evaluated during the initial survey (**Figure 1**) completed on 12-16 October 2016. These waypoints were used as markers/reference for the sweep conducted on 8-12 January 2024. For this event, approximately 1.5 line-miles were surveyed in and around the creek line between the ODA2 MRS western boundary (Waypoint 2) to George Road (Waypoint 4), as illustrated on **Figure 1**. The survey did not extend beyond Waypoint 4 based on field observations based on the absence of magnetic anomalies in the creek.



5) Observations.

a) **Waypoints 2 to 3 observations:** MPPEH/Munitions debris (MD) was recovered between Waypoint 2 to Waypoint 3. Significant erosion was observed in the bends in Sand Creek (**Attachment A**). Ongoing erosion of the creek banks in these areas continues to release MPPEH/MD into the creek. This material appears to be accumulating in the creek bends located near the culvert in ODA2. Approximately forty (40) lbs of MPPEH/MD was recovered between Waypoints 2 to 3. All items were inspected and determined to be (Material Documented As Safe) MDAS.

In addition, a beaver dam was observed during the survey. The dam is blocking the creek to the west of the culvert (**Attachment B**). Water is ponding in this area and is too deep to safely survey with hand-held magnetometers. The deeper water area was not evaluated during this evaluation.

b) **Waypoints 3 to 4:** Many small MPPEH/MD items were found and appear to have eroded out of the banks and the cliffs to the north and south of Sand Creek between the culvert and Waypoint 4. It is believed this material was eroded, transported, and deposited in this area during a high-energy storm event. Approximately five (5) lbs of MPPEH/MD was recovered between Waypoints 3 and 4 during the 8-12 January 2024 survey. All items were inspected and determined to be MDAS.

c) No MEC was encountered during this survey. All recovered MPPEH/MD items were inspected and determined to be MDAS. All MDAS was transported to the earth covered magazine (Bldg 1501) at ODA2 and stored pending final disposition (recycling) at a future date.

6) Conclusions.

a) Approximately forty-five (45) lbs of MDAS was recovered. Forty (40) lbs of MDAS was recovered from the creek between Waypoint 2 and Waypoint 3. This material does not appear to be migrating downstream, rather this material appears to be collecting near the culvert located near the center of the ODA2 MRS. Five (5) lbs of MDAS was recovered from the creek between Waypoint 3 and Waypoint 4. Based on these observations, it is concluded that the river banks are continuing to erode during high-energy storm events. Future surveys of this area are recommended.

Beavers have constructed a large dam in the creek west of the culvert (**Attachment B**). The water level in this area was too deep and unsafe for evaluation with hand-held magnetometers. The deep water area of the creek was not evaluated during this evaluation.

b) Significant erosion of the creek banks continues between Waypoint 2 and Waypoint 4. The major bends in the creek, along with the cliffs to the north and south of sand creek are most likely the source area for the MPPEH/MD items recovered during this survey.

c) There was no evidence that MEC, MPPEH, or MD is migrating beyond the ODA2 MRS boundary.

7) Attachments:

a) Attachment A: Maps.

b) Attachment B: Photographs.

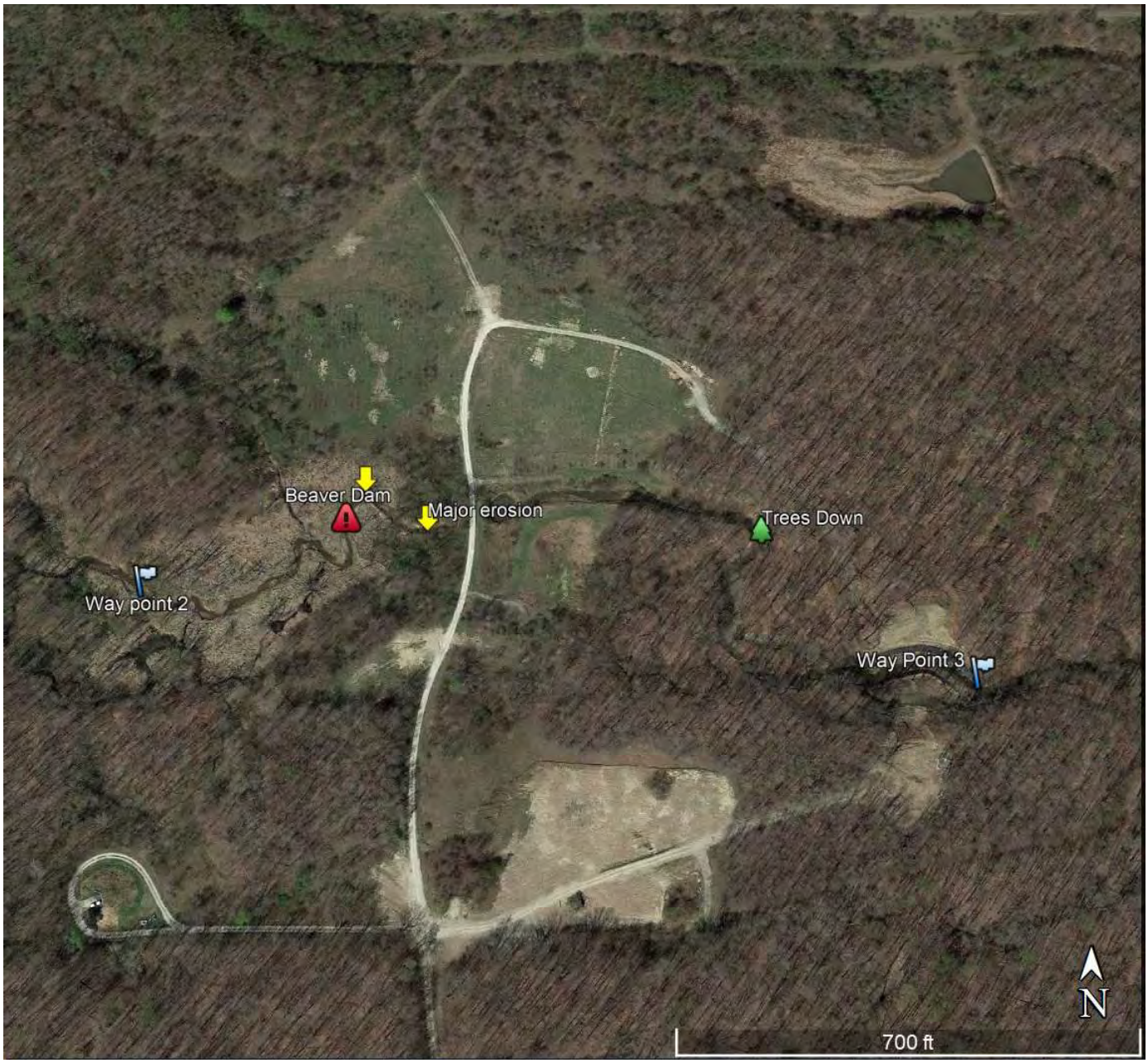
HOLMES.MARTY.ALAN.1017090972

Digitally signed by HOLMES.MARTY.ALAN.1017090972
Date: 2024.01.22 20:16:33 -05'00'

Marty A. Holmes
Chief, Ordnance & Explosive Safety
U.S. Army Corps of Engineers
Baltimore District

Attachment A
Maps

Map of Waypoints 2 and 3



Map of Waypoints 2 and 3 with Areas of Interest

Map of Waypoints 3 and 4

Attachment B
Photographs

Performing Magnetometer Sweeps

Performing Magnetometer Sweeps

Performing Magnetometer Sweeps

Recovered Munitions Debris

Recovered Munitions Debris

MPPEH – Smaller Items Recovered Near Creek Bank

Beaver Dam

Beaver Dam

Area of Erosion Down Stream of Beaver Dam

Trees Fallen Across Creek Due to Erosion.

December 11, 2024

Received December 12, 2024

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 Ammunition Plt RVAAP
Remediation Response
Project Records
Remedial Investigation
Remedial Response
Portage County
ID # 267000859216

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

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the Draft Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP) for Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, Draft Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP), CC RVAAP-78 Quarry Pond Surface Dump[1]. This document was received at Ohio EPA's (NEDO), Division of Environmental Response and Revitalization (DERR) via email on October 16th, 2024.

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.

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 non-friable. 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.

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

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.

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.

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

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

October 15, 2024

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, CC RVAAP-78 Quarry Pond Surface Dump, *Draft Uniform Federal Policy-Quality Assurance Project Plan for the CC RVAAP-78 Quarry Pond Surface Dump* (Work Activity No. 267000859216)

Dear Mr. Kowalski:

For your review, an electronic version of the Draft Uniform Federal Policy-Quality Assurance Project Plan for the Remedial Investigation of Asbestos at CC RVAAP-78 Quarry Pond Surface Dump is attached. Due to small file size, this document will not be sent via the Ohio EPA LiquidFile system. A hard copy and/or CD can be sent upon request.

This plan was 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: 2024.10.15 12:03:27 -04'00'

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

cc: Tom Schneider, Ohio EPA
Megan Oravec, Ohio EPA
Katie Tait, OHARNG
Steve Kvaal, USACE Louisville
Nathaniel Peters, II, USACE Louisville
T. Zack Bayne, USACE Louisville
Jed Thomas, Leidos
Ryan Laurich, Leidos
Jennifer Tierney, Chenega

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

March 12, 2024

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Ms. Megan Oravec
2110 East Aurora Road
Twinsburg, OH 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, Final Remedial Investigation Addendum for CC RVAAP-79 DLA Ore Storage Sites - Ore Storage Pond Sub-Area (Work Activity No. 267000859211)

Dear Ms. Oravec:

The Army submitted the *Final Remedial Investigation Addendum for CC RVAAP-79 DLA Ore Storage Sites, Ore Storage Pond Sub-Area*, dated August 7, 2023. This addendum was updated in accordance with a letter dated August 25, 2021, that was submitted by the Army to Ohio EPA. Ohio EPA since provided a letter dated October 12, 2023, requesting additional information such as sediment concentration data, a brief discussion of the results, and a weight of evidence of all the ecological assessment components be added to the addendum.

This additional information is outside of the contractor's current scope of work for this addendum. Accordingly, the Army is proposing the following path forward:

1) Ohio EPA provide a concurrence letter for the *Final Remedial Investigation Addendum for CC RVAAP-79 DLA Ore Storage Sites, Ore Storage Pond Sub-Area*, dated August 7, 2023.
2) The Army will submit a second addendum. This second addendum will provide the additional information Ohio EPA requested in the letter dated October 12, 2023, associated with the DLA Ore Storage Pond. It is anticipated that this additional addendum will also include the Risk Management Decisions specified in the *Final Remedial Investigation for CC RVAAP-79 DLA Ore Storage Sites* dated October 16, 2020, and will establish cleanup goals to supplement the feasibility study for the applicable DLA Ore Storage Sites.

Please contact the undersigned at 330-235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this proposal.

Sincerely,

SEDLAK.KEVIN.MICHAEL.1254440171 Digitally signed by SEDLAK.KEVIN.MICHAEL.1254440171 Date: 2024.03.12 13:56:03 -04'00'

Kevin M. Sedlak
RVAAP Restoration Program Manager
Army National Guard Directorate

cc: Tom Schneider, Ohio EPA, SWDO
Brian Tucker, Ohio EPA, CO
Katie Tait, OHARNG
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
T. Zach Bayne, USACE Louisville
Jed Thomas, Leidos
Jennifer Tierney, Chenega

June 11, 2024

TRANSMITTED ELECTRONICALLY

Mr. Kevin M. Sedlak
RVAAP Restoration Program Manager
ARNG-Directorate
Camp James A. Garfield JTC
1438 State Route 534
Newton Falls, OH 44444

RE: US Army Ravenna Ammunition Plt RVAAP
Remediation Response
Project records
RI
Federal Facilities
Portage County
ID # 267000859274

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

Subject: **Open Demolition Area #2 (ODA2) Munitions Response Site**
Remedial Investigation Post-Blow-In-Place Munitions Constituent Sampling Soil Memo – March 4, 2024
Ohio EPA Concurrence

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) has received and reviewed the "Remedial Investigation Post-Blow-In-Place Munitions Constituent Sampling Soil Memo"[1] (the "Memo") dated May 4, 2024. The Memo was prepared by Arcadis and submitted by the Ohio Army National Guard.

Ohio EPA has no comments and concurs with findings of the memo.

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

If you have any questions regarding this letter, please contact me at (330) 963-1235 or by email at Nicholas.roope@epa.ohio.gov.

Sincerely,

Nicholas Roope
Environmental Specialist
Division of Environmental Response and Revitalization

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2762585

NR/cm

ec: Nicole Walworth, USACE Baltimore
Katie Tait, OHARNG RTLS, CJAG
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
Jennifer M. Tierney, Chenega Reliable Services
Angela Cobbs, Chenega Reliable Services
Megan Oravec, Ohio EPA, DERR, NEDO
Natalie Oryshkewych, Ohio EPA, DERR, NEDO
Thomas Schneider, Ohio EPA, DERR, SWDO

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

1 May 2024

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Mr. Nicholas Roope
2110 East Aurora Road
Twinsburg, 011 44087-1924

Subject: Notification of Field Work, Ravenna Army Ammunition Plant Restoration Program, Remedial Investigation Addendum, Open Demolition Area (ODA2) #2 (RVAAP-004-R-01), Former Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio (Ohio EPA ID 267000859274)

Dear Mr. Roope:

In accordance with the Director's Final Findings and Orders, Section XIII, #28, for the RVAAP Restoration Program, the Army National Guard (ARNG) is providing notification of field activities at the former RVAAP (Camp James A. Garfield) 15 days prior to the scheduled start date. These field activities and tentative schedule are below:

- *05/20/24-05/31/24*: Mobilization of team members (Unexploded Ordnance Quality Control Specialist/Safety Officer [UXOQCS/SO], UXO technician, and geophysicist) and completion of field work for geophysical mapping of potential subsurface anomalies in Sand Creek.

- *06/10/24-06/14/24*: Intrusive investigation of selected subsurface targets in Sand Creek will occur after data processing and dig list preparation.

In the event the schedule itemized above needs to change, the Army will provide an e-mail notification with revised dates. 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: 2024.05.01 09:39:06 -04'00'

FOR Kevin M. Sedlak
RVAAP Restoration Program Manager
Army National Guard Directorate

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
Dave Heuer, Arcadis

May 13, 2024

TRANSMITTED ELECTRONICALLY

Mr. Kevin M. Sedlak
RVAAP Restoration Program Manager
ARNG-Directorate
Camp James A. Garfield JTC
1438 State Route 534
Newton Falls, OH 44444

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

RE: US Army Ravenna Ammunition Plt
RVAAP
Remediation Response
Project records
RI
Federal Facilities
Portage County
ID # 267000859274

Subject: Open Demolition Area #2 (ODA2) Munitions Response Site
Summary of Findings, Magnetometer-Assisted Survey of Sand Creek
Ohio EPA Concurrence Letter

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) has received and reviewed the "Summary of Findings, Magnetometer-Assisted Survey of Sand Creek conducted on 8-12 January 2024, as related to the Time Critical Removal Action for Open Demolition Area #2 (ODA2) at Camp James A. Garfield Joint Military Training Center (CJAG), Ravenna, OH"[1] (the "response Letter") dated January 24, 2024. The document was prepared for the Army National Guard in support of the RVAAP Restoration Program, and submitted to Ohio EPA by the Army National Guard on January 24, 2024.

Ohio EPA has no comments and concurs with actions documented in the report.

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=2716769

If you have any questions regarding this letter, please contact me at (330) 963-1235 or by email at Nicholas.roope@epa.ohio.gov.

Sincerely,

Nicholas Roope
Environmental Specialist
Division of Environmental Response and Revitalization

NR/cm

ec: Nicole Walworth, USACE Baltimore
Katie Tait, OHARNG RTLS, CJAG
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
Jennifer M. Tierney, Chenega Reliable Services
Angela Cobbs, Chenega Reliable Services
Megan Oravec, Ohio EPA, DERR, NEDO
Natalie Oryshkewych, Ohio EPA, DERR, NEDO
Thomas Schneider, Ohio EPA, DERR, SWDO

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

March 4, 2024

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

Subject: Remedial Investigation (RI) Post-Blow-In-Place (BIP) Munitions Constituent (MC) Soil Sampling, 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:

Attached is the Final Post-Blow-In-Place Munitions Constituent Soil Sampling Memo for Open Demolition Area #2 (RVAAP-004-R-01) at the former Ravenna Army Ammunition Plant (RVAAP). Due to small file size, this Memo will be submitted via email only and not through the Ohio EPA LiquidFile system. This Memo was 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: 2024.03.04 14:54:18 -05'00'

FOR Kevin M. Sedlak
RVAAP Restoration Program Manager
Army National Guard Directorate

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
Dave Heuer, Arcadis

June 17, 2024

Received June 18, 2024

TRANSMITTED ELECTRONICALLY

Mr. Kevin M. Sedlak
RVAAP Restoration Program Manager
ARNG-Directorate
Camp James A. Garfield JTC
1438 State Route 534
Newton Falls, OH 44444

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

RE: US Army Ravenna Ammunition Plt
RVAAP
Remediation Response
Project records
RI
Federal Facilities
Portage County
ID # 267000859272

Subject: Block D Igloo MRS, Former Ravenna Army Ammunition Plant
Field Change Requests (FCR-001 and FCR-002)– March 13, 2024
Ohio EPA Approval

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) has received and reviewed the "Field Change Requests"[1] (the "FCRs") dated March 13, 2024 and April 3, 2024, respectively. The FCRs were prepared by HydroGeoLogic and submitted by the Ohio Army National Guard.

Ohio EPA approves the changes requested in the FCRs.

On April 9, 2024, Ohio EPA requested that future FCRs be discussed in a call to help triage the changes and address them quickly. In the future, Ohio EPA may request formal information prior to approval to address more significant changes and verify with the review team that the proposed changes are acceptable. Less significant changes will result in a brief email from Ohio EPA summarizing the call and providing approval to help keep field work moving forward. However, the signed FCR is expected to be included in the completion report for the associated work activity.

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2829449

If you have any questions regarding this letter, please contact me at (330) 963-1235 or by email at Nicholas.roope@epa.ohio.gov.

Sincerely,

Nicholas Roope
Environmental Specialist
Division of Environmental Response and Revitalization

NR/cm

ec: Nicole Walworth, USACE Baltimore
Katie Tait, OHARNG RTLS, CJAG
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
Jennifer M. Tierney, Chenega
Megan Oravec, Ohio EPA, DERR, NEDO
Natalie Oryshkewych, Ohio EPA, DERR, NEDO
Thomas Schneider, Ohio EPA, DERR, SWDO

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

April 5, 2024

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

Subject: Notification of Field Work for the RVAAP-060-R-01 Block D Igloo Munitions Response Site, Portage and Trumbull Counties, Ohio, Contract No. W912DR-21-D-0005, Delivery Order No. W912DR21F0327
(Ohio EPA Work Activity # 267-000859-271)

Dear Mr. Roope:

In accordance with the Director's Final Findings and Orders, Section XIII, #28, for the RVAAP Restoration Program, the Army National Guard (ARNG) is providing notification of field activities at the former RVAAP (Camp James A. Garfield) 15 days prior to the scheduled start date of 1 May 2024. HydroGeoLogic, Inc. will begin mobilization on 15 April 2024 to setup the work site (mobilization of site supervisor), begin installation of the instrument verification strip, and install quality control and quality assurance seeds. Data collection will follow site setup and include mobilization of unexploded ordnance (UXO) technicians. Advanced geophysical classification surveys will begin 1 May 2024, followed by intrusive investigations starting in mid-June.

Please contact the undersigned 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: 2024.04.05 10:59:24 -04'00'

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

cc: Katie Tait, OHARNG
Tom Schneider, Ohio EPA
Megan Oravec, Ohio EPA
Travis McCoun, USACE Baltimore District
Nicole Walworth, USACE Baltimore District
Jennifer Tierney, Chenega Reliable Services, LLC
Steve Kvaal, USACE – Louisville Project Manager
Kimberly Vaughn, HGL

HGL *Restoring the Environment. Protecting Our Future.*

September 3, 2024

Ms. Katie Tait, OHARNG
Camp James A. Garfield – Environmental Office
1438 State Route 534 SW
Newton Falls, OH 44444

Subject: **Group 8 MRS Remedial Action (RVAAP-063-R-01) – Confirmation Sampling Report**

References: **Contract No. W912DR-21-D-0005**
Delivery Order No. W912DR21F0327

Dear, Ms. Tait:

HGL completed the confirmation sampling of the Group 8 Munitions Response Site (MRS) on August 14, 2024. Confirmation samples were collected every 20 feet along the sidewalls of the outer boundary of excavation that were not adjacent to building foundations or the "clean" quadrant of the Group 8 MRS. An additional confirmation sample was collected from grid O8, where pre-excavation sampling initially determined the vertical depth of lead contamination until Regional Screening Levels for lead were revised in May 2024 from 400 mg/kg to 200 mg/kg. Grid O8 was excavated an extra six inches, and a confirmation sample was collected from the excavation floor prior to backfill. All work was performed in accordance with the *Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP) for Remedial Action at the Former Ravenna Army Ammunition Plant RVAAP-063-R-01 Group 8 Munitions Response Site* (USACE, 2023) and the *Pre-Excavation Analytical Data Summary and Excavation Plan at the Former Ravenna Army Ammunition Plant RVAAP-063-R-01 Group 8 Munitions Response Site* (USACE, 2024).

HGL collected grab samples from each of the confirmation sample points presented in Figure 1. Each sample was analyzed for lead and cadmium except for the Grid O8 floor sample which was analyzed for lead only. The analytical results are presented in Attachment A and the laboratory data package is presented in Attachment B.

All confirmation sampling results were below RSLs for lead and cadmium except for the parent and duplicate sample collected on the east edge of Grid AD10. Lead concentrations were found at 475 mg/kg and 746 mg/kg (the RSL is 200 mg/kg). This exceedance indicates additional lead contamination beyond the eastern edge of this grid. Grid AD10 includes a retainage ditch that extends approximately 25 feet beyond its eastern edge. Sampling confirmed that there was no additional lead contamination to the north (Grid AD9-SWE [sidewall east]) or to the south (Grid AD10-SWS [sidewall south]). The presence of the retainage ditch and the localized nature of the additional contamination leads us to believe that the lead contamination is confined to the ditch where contaminant migration would be focused.

HGL recommends excavating the remaining 25 feet of soil lining the ditch to six inches. Additional confirmation samples will be collected from the excavation floor and three sidewalls (to the north, east, and south). Samples will be analyzed for lead and compared to the RSL. The ditch will be immediately backfilled after confirmation samples are collected.

Military Munitions Response
4825 University Square, Suite 6
Huntsville, Alabama 35816
256-970-2100

Results of the additional confirmation sampling will be presented in another memo. Validated data will be presented in the Remedial Action Completion Report. If you have any questions, or require additional information, please do not hesitate to contact me at (904) 652-3542.

HGL

Erik Powers
Project Manager

cc: Kevin Sedlak, ARNG
Nicole Walworth, USACE Baltimore
Alex Smith, HGL

Military Munitions Response
4825 University Square, Suite 6
Huntsville, Alabama 35816
256-970-2100

HGL

Restoring the Environment.
Protecting Our Future.

Attachment A
Laboratory Analytical Results

Military Munitions Response

4825 University Square, Suite 6
Huntsville, Alabama 35816
256-970-2100

Figure 1
Group 8 MRS
Confirmation Sampling Results

Legend

- Confirmation Soil Sample Location
- Power Pole
- Sampling Grid (20x20ft)
- Excavation Area
- Additional Excavation Area
- Staging/Load-out Area
- Ditch
- MRS

Notes:
MRS=munitions response site
RVAAP=Ravenna Army Ammuntion Plant

\\srv-gst-01\HGLGIS\Ravenna_AAP_BM3001\Group_8\Conf_Samp\(01)Group8_Conf_Samp_Results.mxd
9/3/2024 RR
Source: HGL,CB&I, USACE, e²M
ArcGIS Online Imagery

Confirmation Sampling Results Summary Table

Client Sample ID:		G8SL-001M-A1-SWW-REG	G8SL-001M-A1-SWW-FD	G8SL-001M-A2-SWW-REG	G8SL-001M-A3-SWW-REG	G8SL-001M-A4-SWW-REG	G8SL-001M-A5-SWW-REG	G8SL-003M-A8-SWW-REG	G8SL-003M-A9-SWW-REG	G8SL-003M-A10-SWW-REG	G8SL-003M-A10-SWS-REG
Lab Sample ID:		FC17998-1	FC17998-2	FC17998-3	FC17998-4	FC17998-5	FC17998-6	FC17998-7	FC17998-8	FC17998-9	FC17998-10
Date Sampled:		08/14/2024	08/14/2024	08/14/2024	08/14/2024	08/14/2024	08/14/2024	08/14/2024	08/14/2024	08/14/2024	08/14/2024
Matrix:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Cadmium	mg/kg	0.24 U [a]	0.21 U [a]	0.18 J [a]	0.25 U [a]	0.26 U [a]	1.7 [a]	0.25 U [a]	1.8 [a]	1.9 [a]	0.14 J [a]
Lead	mg/kg	8.9 [a]	6.4 [a]	13.2 [a]	43.4 [a]	21.6 [a]	86.9 [a]	17.5 [a]	67.5 [a]	113 [a]	48.2 [a]
Client Sample ID:		G8SL-003M-A10-SWS-FD	G8SL-003M-B10-SWS-REG	G8SL-003M-C10-SWS-REG	G8SL-004M-AC10-SWS-REG	G8SL-004M-AD10-SWS-REG	G8SL-004M-AD10-SWE-REG	G8SL-004M-AD10-SWE-FD	G8SL-004M-AD9-SWE-REG	G8SL-004M-AD8-SWE-REG	G8SL-004M-AD7-SWE-REG
Lab Sample ID:		FC17998-11	FC17998-12	FC17998-13	FC17998-14	FC17998-15	FC17998-16	FC17998-17	FC17998-18	FC17998-19	FC17998-20
Date Sampled:		08/14/2024	08/14/2024	08/14/2024	08/14/2024	08/14/2024	08/14/2024	08/14/2024	08/14/2024	08/14/2024	08/14/2024
Matrix:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Cadmium	mg/kg	2.6 [a]	1.6 [a]	2.7 [a]	0.32 U [a]	6.8 [a]	4.3 [a]	4.3 [a]	6.2 [b]	1.7 [a]	3.4 [a]
Lead	mg/kg	186 [a]	48.6 [a]	53.3 [a]	33.7 [a]	118 [a]	746 [a]	475 [a]	147 [b]	64.8 [a]	161 [a]
Client Sample ID:		G8SL-004M-AD6-SWE-REG	G8SL-003M-O8-1.5-REG								
Lab Sample ID:		FC17998-21	FC17998-22								
Date Sampled:		08/14/2024	08/14/2024								
Matrix:		Soil	Soil								
Cadmium	mg/kg	0.26 J [a]	-								
Lead	mg/kg	40.2 [a]	106 [a]								

Footnotes:

[a] Sample dilution required due to difficult matrix.

[b] Elevated reporting limit(s) due to matrix interference.

Regional Screening Levels:
Lead = 200 mg/kg
Cadmium = 71 mg/kg

Attachment B

Laboratory Analytical Report
Job Number: FC17998

Sample Summary

HydroGeoLogic, Inc

Job No: FC17998

Ravenna Army Ammunition Plant

Sample Number	Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
	08/14/24	08:50	JD	08/15/24	SO	Soil	
	08/14/24	08:50	JD	08/15/24	SO	Soil	
	08/14/24	09:00	JD	08/15/24	SO	Soil	
	08/14/24	09:00	JD	08/15/24	SO	Soil Dup/MSD	
	08/14/24	09:00	JD	08/15/24	SO	Soil Matrix Spike	
	08/14/24	09:10	JD	08/15/24	SO	Soil	
	08/14/24	09:13	JD	08/15/24	SO	Soil	
	08/14/24	09:20	JD	08/15/24	SO	Soil	
	08/14/24	09:30	JD	08/15/24	SO	Soil	
	08/14/24	09:40	JD	08/15/24	SO	Soil	
	08/14/24	09:45	JD	08/15/24	SO	Soil	
	08/14/24	10:00	JD	08/15/24	SO	Soil	
	08/14/24	10:00	JD	08/15/24	SO	Soil	

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Sample Summary
(continued)

HydroGeoLogic, Inc

Job No: FC17998

Ravenna Army Ammunition Plant

Sample Number	Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
	08/14/24	10:15	JD	08/15/24	SO	Soil	
	08/14/24	10:15	JD	08/15/24	SO	Soil Dup/MSD	
	08/14/24	10:15	JD	08/15/24	SO	Soil Matrix Spike	
	08/14/24	10:30	JD	08/15/24	SO	Soil	
	08/14/24	11:00	JD	08/15/24	SO	Soil	
	08/14/24	11:05	JD	08/15/24	SO	Soil	
	08/14/24	11:15	JD	08/15/24	SO	Soil	
	08/14/24	11:15	JD	08/15/24	SO	Soil	
	08/14/24	11:25	JD	08/15/24	SO	Soil	
	08/14/24	11:35	JD	08/15/24	SO	Soil	
	08/14/24	11:40	JD	08/15/24	SO	Soil	
	08/14/24	11:45	JD	08/15/24	SO	Soil	
	08/14/24	11:55	JD	08/15/24	SO	Soil	

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Report of Analysis

Client Sample ID:	G8SL-001M-A1-SWW-REG		
Lab Sample ID:	FC17998-1	**Date Sampled:**	08/14/24
Matrix:	SO - Soil	**Date Received:**	08/15/24
		Percent Solids:	88.9
Project:	Ravenna Army Ammunition Plant		

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cadmium [a]		0.95	0.24	0.12	mg/kg	5	08/19/24	08/21/24	LM	SW846 6010D [1]	SW846 3050B [2]
Lead [a]		4.7	0.95	0.24	mg/kg	5	08/19/24	08/21/24	LM	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA20461
(2) Prep QC Batch: MP44471

(a) Sample dilution required due to difficult matrix.

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

Client Sample ID:	G8SL-001M-A1-SWW-FD		
Lab Sample ID:	FC17998-2	**Date Sampled:**	08/14/24
Matrix:	SO - Soil	**Date Received:**	08/15/24
		Percent Solids:	88.5
Project:	Ravenna Army Ammunition Plant		

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cadmium [a]		0.84	0.21	0.10	mg/kg	5	08/19/24	08/21/24	LM	SW846 6010D [1]	SW846 3050B [2]
Lead [a]		4.2	0.84	0.21	mg/kg	5	08/19/24	08/21/24	LM	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA20461
(2) Prep QC Batch: MP44471

(a) Sample dilution required due to difficult matrix.

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

Client Sample ID:	G8SL-001M-A2-SWW-REG		
Lab Sample ID:	FC17998-3	**Date Sampled:**	08/14/24
Matrix:	SO - Soil	**Date Received:**	08/15/24
		Percent Solids:	85.7
Project:	Ravenna Army Ammunition Plant		

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cadmium [a]		1.1	0.28	0.14	mg/kg	5	08/22/24	08/23/24	DM	SW846 6010D [1]	SW846 3050B [2]
Lead [a]		5.6	1.1	0.28	mg/kg	5	08/22/24	08/23/24	DM	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA20470
(2) Prep QC Batch: MP44490

(a) Sample dilution required due to difficult matrix.

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

Client Sample ID:	G8SL-001M-A3-SWW-REG		
Lab Sample ID:	FC17998-4	**Date Sampled:**	08/14/24
Matrix:	SO - Soil	**Date Received:**	08/15/24
		Percent Solids:	88.0
Project:	Ravenna Army Ammunition Plant		

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cadmium [a]		1.0	0.25	0.13	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]
Lead [a]		5.1	1.0	0.25	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA20472
(2) Prep QC Batch: MP44491

(a) Sample dilution required due to difficult matrix.

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

Client Sample ID:	G8SL-001M-A5-SWW-REG		
Lab Sample ID:	FC17998-5	**Date Sampled:**	08/14/24
Matrix:	SO - Soil	**Date Received:**	08/15/24
		Percent Solids:	88.6
Project:	Ravenna Army Ammunition Plant		

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cadmium [a]		1.0	0.26	0.13	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]
Lead [a]		5.2	1.0	0.26	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA20472
(2) Prep QC Batch: MP44491

(a) Sample dilution required due to difficult matrix.

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

Client Sample ID:	G8SL-001M-A5-SWW-REG		
Lab Sample ID:	FC17998-6	**Date Sampled:**	08/14/24
Matrix:	SO - Soil	**Date Received:**	08/15/24
		Percent Solids:	77.2
Project:	Ravenna Army Ammunition Plant		

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cadmium [a]		1.1	0.27	0.14	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]
Lead [a]		5.5	1.1	0.27	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA20472
(2) Prep QC Batch: MP44491

(a) Sample dilution required due to difficult matrix.

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

Client Sample ID:	G8SL-003M-A8-SWW-REG		
Lab Sample ID:	FC17998-7	**Date Sampled:**	08/14/24
Matrix:	SO - Soil	**Date Received:**	08/15/24
		Percent Solids:	91.7
Project:	Ravenna Army Ammunition Plant		

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cadmium [a]		1.0	0.25	0.13	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]
Lead [a]		5.0	1.0	0.25	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA20472
(2) Prep QC Batch: MP44491

(a) Sample dilution required due to difficult matrix.

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

Client Sample ID:	G8SL-003M-A9-SWW-REG		
Lab Sample ID:	FC17998-8	**Date Sampled:**	08/14/24
Matrix:	SO - Soil	**Date Received:**	08/15/24
		Percent Solids:	90.5
Project:	Ravenna Army Ammunition Plant		

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cadmium [a]		1.0	0.25	0.13	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]
Lead [a]		5.0	1.0	0.25	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA20472
(2) Prep QC Batch: MP44491

(a) Sample dilution required due to difficult matrix.

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

Client Sample ID:	G8SL-003M-A10-SWW-REG		
Lab Sample ID:	FC17998-9	**Date Sampled:**	08/14/24
Matrix:	SO - Soil	**Date Received:**	08/15/24
		Percent Solids:	82.4
Project:	Ravenna Army Ammunition Plant		

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cadmium [a]		1.2	0.30	0.15	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]
Lead [a]		6.0	1.2	0.30	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA20472
(2) Prep QC Batch: MP44491

(a) Sample dilution required due to difficult matrix.

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

Client Sample ID:	G8SL-003M-A10-SWS-REG		
Lab Sample ID:	FC17998-10	**Date Sampled:**	08/14/24
Matrix:	SO - Soil	**Date Received:**	08/15/24
		Percent Solids:	89.4
Project:	Ravenna Army Ammunition Plant		

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cadmium [a]		1.1	0.27	0.13	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]
Lead [a]		5.3	1.1	0.27	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA20472
(2) Prep QC Batch: MP44491

(a) Sample dilution required due to difficult matrix.

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

Client Sample ID:	G8SL-003M-A10-SWS-FD		
Lab Sample ID:	FC17998-11	**Date Sampled:**	08/14/24
Matrix:	SO - Soil	**Date Received:**	08/15/24
		Percent Solids:	87.8
Project:	Ravenna Army Ammunition Plant		

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cadmium [a]		0.97	0.24	0.12	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]
Lead [a]		4.9	0.97	0.24	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA20472
(2) Prep QC Batch: MP44491

(a) Sample dilution required due to difficult matrix.

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

Client Sample ID:	G8SL-003M-B10-SWS-REG		
Lab Sample ID:	FC17998-12	**Date Sampled:**	08/14/24
Matrix:	SO - Soil	**Date Received:**	08/15/24
		Percent Solids:	90.1
Project:	Ravenna Army Ammunition Plant		

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cadmium [a]		0.82	0.21	0.10	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]
Lead [a]		4.1	0.82	0.21	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA20472
(2) Prep QC Batch: MP44491

(a) Sample dilution required due to difficult matrix.

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

Client Sample ID:	G8SL-003M-C10-SWS-REG		
Lab Sample ID:	FC17998-13	**Date Sampled:**	08/14/24
Matrix:	SO - Soil	**Date Received:**	08/15/24
		Percent Solids:	88.1
Project:	Ravenna Army Ammunition Plant		

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cadmium [a]		1.1	0.27	0.14	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]
Lead [a]		5.4	1.1	0.27	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA20472
(2) Prep QC Batch: MP44491

(a) Sample dilution required due to difficult matrix.

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

Client Sample ID:	G8SL-004M-AC10-SWS-REG		
Lab Sample ID:	FC17998-14	**Date Sampled:**	08/14/24
Matrix:	SO - Soil	**Date Received:**	08/15/24
		Percent Solids:	76.6
Project:	Ravenna Army Ammunition Plant		

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cadmium [a]		1.3	0.32	0.16	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]
Lead [a]		6.4	1.3	0.32	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA20472
(2) Prep QC Batch: MP44491

(a) Sample dilution required due to difficult matrix.

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

Client Sample ID:	G8SL-004M-AD10-SWS-REG		
Lab Sample ID:	FC17998-15	**Date Sampled:**	08/14/24
Matrix:	SO - Soil	**Date Received:**	08/15/24
		Percent Solids:	70.9
Project:	Ravenna Army Ammunition Plant		

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cadmium [a]		1.3	0.33	0.16	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]
Lead [a]		6.6	1.3	0.33	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA20472
(2) Prep QC Batch: MP44491

(a) Sample dilution required due to difficult matrix.

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

Client Sample ID:	G8SL-004M-AD10-SWE-REG		
Lab Sample ID:	FC17998-16	**Date Sampled:**	08/14/24
Matrix:	SO - Soil	**Date Received:**	08/15/24
		Percent Solids:	60.8
Project:	Ravenna Army Ammunition Plant		

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cadmium [a]		1.5	0.38	0.19	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]
Lead [a]		7.5	1.5	0.38	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA20472
(2) Prep QC Batch: MP44491

(a) Sample dilution required due to difficult matrix.

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

Client Sample ID:	G8SL-004M-AD10-SWE-FD		
Lab Sample ID:	FC17998-17	**Date Sampled:**	08/14/24
Matrix:	SO - Soil	**Date Received:**	08/15/24
		Percent Solids:	57.4
Project:	Ravenna Army Ammunition Plant		

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cadmium [a]		1.7	0.43	0.21	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]
Lead [a]		8.5	1.7	0.43	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA20472
(2) Prep QC Batch: MP44491

(a) Sample dilution required due to difficult matrix.

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

Client Sample ID:	G8SL-004M-AD9-SWE-REG		
Lab Sample ID:	FC17998-18	**Date Sampled:**	08/14/24
Matrix:	SO - Soil	**Date Received:**	08/15/24
		Percent Solids:	82.0
Project:	Ravenna Army Ammunition Plant		

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cadmium [a]		2.4	0.60	0.30	mg/kg	10	08/22/24	08/28/24	LM	SW846 6010D [1]	SW846 3050B [2]
Lead [a]		12	2.4	0.60	mg/kg	10	08/22/24	08/28/24	LM	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA20474
(2) Prep QC Batch: MP44491

(a) Elevated reporting limit(s) due to matrix interference.

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

Client Sample ID:	G8SL-004M-AD8-SWE-REG		
Lab Sample ID:	FC17998-19	**Date Sampled:**	08/14/24
Matrix:	SO - Soil	**Date Received:**	08/15/24
		Percent Solids:	83.3
Project:	Ravenna Army Ammunition Plant		

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cadmium [a]		1.1	0.29	0.14	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]
Lead [a]		5.7	1.1	0.29	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA20472
(2) Prep QC Batch: MP44491

(a) Sample dilution required due to difficult matrix.

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

Client Sample ID:	G8SL-004M-AD7-SWE-REG		
Lab Sample ID:	FC17998-20	**Date Sampled:**	08/14/24
Matrix:	SO - Soil	**Date Received:**	08/15/24
		Percent Solids:	91.1
Project:	Ravenna Army Ammunition Plant		

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cadmium [a]		1.1	0.27	0.14	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]
Lead [a]		5.5	1.1	0.27	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA20472
(2) Prep QC Batch: MP44491

(a) Sample dilution required due to difficult matrix.

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

Client Sample ID:	G8SL-004M-AD6-SWE-REG		
Lab Sample ID:	FC17998-21	**Date Sampled:**	08/14/24
Matrix:	SO - Soil	**Date Received:**	08/15/24
		Percent Solids:	92.0
Project:	Ravenna Army Ammunition Plant		

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Cadmium [a]		1.1	0.27	0.14	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]
Lead [a]		5.4	1.1	0.27	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA20472
(2) Prep QC Batch: MP44491

(a) Sample dilution required due to difficult matrix.

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

Client Sample ID:	G8SL-003M-O8-1.5-REG		
Lab Sample ID:	FC17998-22	**Date Sampled:**	08/14/24
Matrix:	SO - Soil	**Date Received:**	08/15/24
		Percent Solids:	94.1
Project:	Ravenna Army Ammunition Plant		

Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]		4.8	0.97	0.24	mg/kg	5	08/22/24	08/27/24	DM	SW846 6010D [1]	SW846 3050B [2]

(1) Instrument QC Batch: MA20472
(2) Prep QC Batch: MP44491

(a) Sample dilution required due to difficult matrix.

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

HGL
Exceeding Expectations

Laboratory Chain of Custody Record

FC17998

Date: 8-14-24 Page 1 of 3 COC #: GR8-CS01

Name: Erik Powers (HGL)
Address: 4825 University Square, Ste 6, Huntsville, AL 35816
Phone Number: 904-652-3542
Project Manager: Erik Powers
Project Name: Former RVAAP Group 8 MRS
Job/P O #: BM3001.04.03

Sampler (Signature) J. DeVaughn (Printed Name) J. DeVaughn

SGS North America
Attn: Sample Receiving
4405 Vineland Road
Orlando, FL 32811

POC: Jean Dent
Phone: (407) 795-1841
Jean.Dent@sgs.com

Station	Field Sample ID	Depth	Date	Time	Matrix	Requested Parameters: Cadium/Lead (6010D) [A]	Lead (6010D) [A]	No. of Containers	OBSERVATIONS, COMMENTS SPECIAL INSTRUCTIONS
G8SL-001M-A1-SWW	G8SL-001M-A1-SWW-REG 1	0.5'	8-14-24	0850	SO	X		1	
G8SL-001M-A1-SWW	G8SL-001M-A1-SWW-FD 2			0850	SO	X		1	
G8SL-001M-A2-SWW	G8SL-001M-A2-SWW-REG 3			0900	SO	X		1	
G8SL-001M-A2-SWW	G8SL-001M-A2-SWW-MS 3			0900	SO	X		1	
G8SL-001M-A2-SWW	G8SL-001M-A2-SWW-MSD 3			0900	SO	X		1	INITIAL ASSESSMENT 3
G8SL-001M-A3-SWW	G8SL-001M-A3-SWW-REG 4			0910	SO	X		1	LABEL VERIFICATION
G8SL-001M-A4-SWW	G8SL-001M-A4-SWW-REG 5			0913	SO	X		1	
G8SL-001M-A5-SWW	G8SL-001M-A5-SWW-REG 6			0920	SO	X		1	
~~G8SL-003M-A8-SWW~~	G8SL-003M-A8-SWW-REG 7			0930	SO	X		1	
~~G8SL-003M-A9-SWW~~	G8SL-003M-A9-SWW-REG 8	↓	↓	0940	SO	X		1	

Total Containers (This Page): 10
Total Containers (Entire COC): ~~29~~ 26

Total # of coolers: 2

Relinquished by	Date	Received by	Date
Signature: J. DeVaughn	8-14-24	Signature	
Printed Name: Jeff DeVaughn	Time 1600	Printed Name	Time
Company: HGL		Company	
Relinquished by	Date	Received by	Date 08/15 2024
Signature		Signature: Shayla Prince	Time 1015
Printed Name	Time	Printed Name: SGS	
Company		Company	

NOTES
Preservative Codes: [A]: Cool ≤ 6 deg C
Matrix Codes: SO: Soil

SPECIAL INSTRUCTIONS:
* Standard turn-around time

REPORT DATA TO:
HGL
Attn: John Tracy
(913) 647-2535
jtracy@hgl.com

4.0, 3.4
FR#1

FC17998

HGL
Exceeding Expectations

Laboratory Chain of Custody Record

Date: 8-14-24

Page 2 of 3

COC #: GR8-CS01

Name: Erik Powers (HGL)
Address: 4825 University Square, Ste 6, Huntsville, AL 35816
Phone Number: 904-652-3542
Project Manager: Erik Powers
Project Name: Former RVAAP Group 8 MRS
Job/P.O. #: BM3001.04.03

Sampler (Signature): J. DeVaughn (Printed Name): J. DeVaughn

Station	Field Sample ID	Depth	Date	Time	Matrix	Cadium/Lead (6010D) [A]	Lead (6010D) [A]	No. of Containers
G8SL-003M-A10-SWW	G8SL-003M-A10-SWW-REG 9	0.5'	8-14-24	0945	SO	X		1
G8SL-003M-A10-SWS	G8SL-003M-A10-SWS-REG 10			1000	SO	X		1
G8SL-003M-A10-SWS	G8SL-003M-A10-SWS-FD 11			1000	SO	X		1
G8SL-003M-B10-SWS	G8SL-003M-B10-SWS-REG 12			1015	SO	X		1
G8SL-003M-B10-SWS	G8SL-003M-B10-SWS-MS 12			1015	SO	X		1
G8SL-003M-B10-SWS	G8SL-003M-B10-SWS-MSD 12			1015	SO	X		1
G8SL-003M-C10-SWS	G8SL-003M-C10-SWS-REG 13			1030	SO	X		1
~~G8SL-004M-Z10-SWS~~	~~G8SL-004M-Z10-SWS-REG~~				SO	X		1 Not Sampled
~~G8SL-004M-AA10-SW~~	~~G8SL-004M-AA10-SWS-REG~~				SO	X		1 "
~~G8SL-004M-AB10-SW~~	~~G8SL-004M-AB10-SWS-REG~~				SO	X		1 "

Requested Parameters

SGS North America
Attn: Sample Receiving
4405 Vineland Road
Orlando, FL 32811

POC: Jean Dent
Phone: (407) 795-1841
Jean.Dent@sgs.com

OBSERVATIONS, COMMENTS SPECIAL INSTRUCTIONS

Relinquished by	Date	Received by	Date	Total Containers (This Page): 7 10
Signature: J. DeVaughn	8.14.24	Signature		Total Containers (Entire COC): 29 24
Printed Name: Jeff DeVaughn	Time: 1600	Printed Name	Time	Total # of coolers: 2
Company: HGL		Company		
Relinquished by	Date	Received by	Date: 08/15/2024	
Signature		Signature: Shayla Prince SGS	Time: 1015	
Printed Name	Time	Printed Name		
Company		Company		

NOTES
Preservative Codes: [A]: Cool ≤ 6 deg C
Matrix Codes: SO: Soil

SPECIAL INSTRUCTIONS:
* Standard turn-around time

REPORT DATA TO:
HGL
Attn: John Tracy
(913) 647-2535
jtracy@hgl.com

FC17998

HGL
Exceeding Expectations

Laboratory Chain of Custody Record

Date: 8-14-24

Page 3 of 3

COC #: GR8-CS01

Name: Erik Powers (HGL)
Address: 4825 University Square, Ste 6, Huntsville, AL 35816
Phone Number: 904-652-3542
Project Manager: Erik Powers
Project Name: Former RVAAP Group 8 MRS
Job/P O #: BM3001 04.03

Sampler (Signature) J. DeVaughn (Printed Name)

SGS North America
Attn: Sample Receiving
4405 Vineland Road
Orlando, FL 32811

POC: Jean Dent
Phone: (407) 795-1841
Jean.Dent@sgs.com

Station	Field Sample ID	Depth	Date	Time	Matrix	Cadium/Lead (6010D) [A]	Lead (6010D) [A]	No. of Containers	OBSERVATIONS, COMMENTS SPECIAL INSTRUCTIONS
						Requested Parameters			
G8SL-004M-AC10-SW	G8SL-004M-AC10-SWS-REG 14			1100	SO	X		1	
G8SL-004M-AD10-SW	G8SL-004M-AD10-SWS-REG 15			1105	SO	X		1	
G8SL-004M-AD10-SW	G8SL-004M-AD10-SWE-REG 16			1115	SO	X		1	
G8SL-004M-AD10-SW	G8SL-004M-AD10-SWE-FD 17			1115	SO	X		1	
G8SL-004M-AD9-SW	G8SL-004M-AD9-SWE-REG 18			1125	SO	X		1	
G8SL-004M-AD8-SW	G8SL-004M-AD8-SWE-REG 19			1135	SO	X		1	
G8SL-004M-AD7-SW	G8SL-004M-AD7-SWE-REG 20			1140	SO	X		1	
G8SL-004M-AD6-SW	G8SL-004M-AD6-SWE-REG 21			1145	SO	X		1	
G8SL-003M-O8	G8SL-003M-O8-1.5-REG 22			1155	SO		X	1	

Relinquished by	Date	Received by	Date	Total Containers (This Page): 9
Signature	8-14-24	Signature		Total Containers (Entire COC): 29 / 26
Jeff DeVaughn	Time		Time	Total # of coolers: 2
Printed Name	1600	Printed Name		
HGL		Company		
Company				
Relinquished by	Date	Received by	Date 08/15 2024	
Signature		Signature		
Printed Name	Time	Printed Name Shayla Prince	Time 1015	
Company		Company		

NOTES
Preservative Codes: [A]: Cool ≤ 6 deg C
Matrix Codes: SO: Soil

SPECIAL INSTRUCTIONS:
* Standard turn-around time

REPORT DATA TO:
HGL
Attn: John Tracy
(913) 647-2535
jtracy@hgl.com

SGS - Orlando Sample Receipt Summary

Job Number: fc17998 **Client:** HGL **Project:** FORMER RVAAP GROUP 8 MRS

Date / Time Received: 8/15/2024 10:15:00 AM **Delivery Method:** FED EX **Airbill #'s:** 2782 9542 3504

Cooler Temps (Raw Measured) °C: Cooler 1: (4.0); Cooler 2: (3.4);

Cooler Temps (Corrected) °C: Cooler 1: (3.8); Cooler 2: (3.2);

Cooler Information	Y	or	N
1. Custody Seals Present:	☑		☐
2. Custody Seals Intact:	☑		☐
3. Temp criteria achieved:	☑		☐
4. Cooler temp verification:	IR Gun		
5. Cooler media:	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑

	W	or	S	N/A
3. Type of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles:	☑		☐	
2. Samples presented properly	☑		☐	
3. Sufficient volume/containers recv'd for analysis	☑		☐	
4. Condition of sample:	Intact			
5. Sample recv'd within HT	☑		☐	
6. Dates/Times/IDs on COC match sample label	☑		☐	
7. VOCs have headspace	☐		☐	☑
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar Received?	☑		☐	☐
12. Residual Chlorine Present?	☐		☐	☑

Misc Information

Number of Encores: 25 Gram 5 Gram

Number of Lab Filtered Metals:

Test Strip Lot #s: pH 0-3: 226422 pH 10-12: Other: (Specify) pH 1.0 - 12.0 222221

Residual Chlorine Test Strip Lot #

Comments

Sample Receipt Summary 112723 EK Technician: SHAYLAP Date: 8/15/2024 4:21:08 PM Reviewer: Date:

Received August 7, 2024

August 6, 2024

TRANSMITTED ELECTRONICALLY

Mr. Kevin M. Sedlak
Restoration Project Manager
Army National Guard Directorate
Camp James A. Garfield JTC
1438 State Route 534
Newton Falls, OH 44444

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

RE: US Army Ravenna Ammunition Plt
RVAAP
Remediation Response
Plans
Remedial Design
Federal Facilities
Portage County
ID # 267000859272

Subject: Former Ravenna Army Ammunition Plant
Final Pre-Excavation Analytical Data Summary and Excavation Plan for Remedial Action for the RVAAP-063-R-01 Group 8 Munitions Response Site
Ohio EPA Approval

Dear Mr. Sedlak:

On July 2, 2024, the Ohio Environmental Protection Agency (Ohio EPA) Division of Environmental Response and Revitalization (DERR) received the "Final Pre-Excavation Analytical Data Summary and Excavation Plan for the RVAAP-063-R-01 Group 8 Munitions Response Site"[1] (the "Report") dated July 2, 2024. The Report was prepared by HydroGeoLogic, Inc., and electronically submitted by the Ohio National Guard.

Ohio EPA has reviewed the Report and approves the final Pre-Excavation Analytical Data Summary and Excavation Plan for the RVAAP-063-R-01 Group 8 Munitions Response Site.

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

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

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=3065378

Sincerely,

Nicholas Roope
Environmental Specialist
Division of Environmental Response and Revitalization

NR/cm

ec: Angela Cobbs, Chenega Reliable Services
Jennifer Tierney, Chenega Reliable Services
Katie Tait, OHARNG RTLS, CJAG
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
Brian Tucker, Ohio EPA, CO, DERR
Megan Oravec, Ohio EPA, NEDO, DERR
Natalie Oryshkewych, Ohio EPA, NEDO, DERR
Thomas Schneider, Ohio EPA, SWDO, DERR

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

July 2, 2024

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

Subject: Final Pre-Excavation Analytical Data Summary and Excavation Plan for the RVAAP-063-R-01 Group 8 Munitions Response Site, Portage and Trumbull Counties, Ohio, Contract No. W912DR-21-D-0005, Delivery Order No. W912DR21F0327 (Ohio EPA Work Activity # 267-000859-272)

Dear Mr. Roope:

An electronic version of the Final Pre-Excavation Analytical Data Summary and Excavation Plan for the RVAAP-063-R-01 Group 8 Munitions Response Site will be sent using the Ohio EPA LiquidFile system. Responses to comments from the Army National Guard were submitted on April 4, 2024 and concurrence from the Ohio EPA was received on June 12, 2024. This document was prepared by HGL in support of the Restoration Program at the former Ravenna Army Ammunition Plant (RVAAP).

Please contact the undersigned at 330-235-2153 or by email at 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: 2024.07.02 10:03:58 -04'00'

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

cc: Kathryn Tait, OHARNG
Travis McCoun, USACE Baltimore District
Nicole Walworth, USACE Baltimore District
Jennifer Tierney, Chenega
Steve Kvaal, USACE – Louisville
Megan Oravec, Ohio EPA
Tom Schneider, Ohio EPA
Kimberly Vaughn, HGL

Received June 11, 2024

June 10, 2024

TRANSMITTED ELECTRONICALLY

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

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

RE: US Army Ravenna Ammunition Plt
RVAAP
Remediation Response
Plans
RD
Federal Facilities
Portage County
ID # 267000859272

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program
Draft Pre-Excavation Analytical Data Summary and Excavation Plan for the RVAAP-063-R-01 Group 8 Munitions Response Site, Version 1.0
Request for Final

Dear Mr. Sedlak:

On April 4, 2024, the Ohio Environmental Protection Agency (Ohio EPA) Division of Environmental Response and Revitalization (DERR) received the "Draft Pre-Excavation Analytical Data Summary and Excavation Plan for the RVAAP-063-R-01 Group 8 Munitions Response Site, Version 1.0, Response to Ohio EPA Comments"[1] (the "Report") dated April 4, 2024. The Report was prepared and electronically submitted by the Ohio National Guard.

Ohio EPA has reviewed the Report and has no further comments. Please provide the final Pre-Excavation Analytical Data Summary and Excavation Plan for the RVAAP-063-R-01 Group 8 Munitions Response Site for Ohio EPA concurrence.

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=2799957

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: Angela Cobbs, Chenega
Jennifer M. Tierney, Chenega
Katie Tait, OHARNG RTLS, CJAG
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
Brian Tucker, Ohio EPA, CO, DERR
Megan Oravec, Ohio EPA, NEDO, DERR
Natalie Oryshkewych, Ohio EPA, NEDO, DERR
Thomas Schneider, Ohio EPA, SWDO, DERR

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

May 20, 2024

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

Subject: Notification of Field Work for the RVAAP-063-R-01 Group 8 Munitions Response Site, Portage and Trumbull Counties, Ohio, Ohio EPA Work Activity # 267-000859-272

Dear Mr. Roope:

In accordance with the Director's Final Findings and Orders, Section XIII, #28, for the RVAAP Restoration Program, the Army National Guard (ARNG) is providing notification of field activities at the former RVAAP (Camp James A. Garfield) 15 days prior to the scheduled start date of 14 June 2024. HydroGeoLogic, Inc. will begin mobilization on 24 June 2024 to set up the work site for excavation. Confirmation sampling and backfill of the site is anticipated in mid-July.

Please contact the undersigned 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: 2024.05.20 12:43:50 -04'00'

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

cc: Kathryn Tait, OHARNG
Tom Schneider, Ohio EPA
Megan Oravec, Ohio EPA
Travis McCoun, USACE Baltimore District
Nicole Walworth, USACE Baltimore District
Jennifer Tierney, Chenega Reliable Services, LLC
Steve Kvaal, USACE – Louisville Project Manager
Kimberly Vaughn, HGL

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

April 4, 2024

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

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Draft Pre-Excavation Analytical Data Summary and Excavation Plan for the RVAAP-063-R-01 Group 8 Munitions Response Site, Version 1.0, Response to Ohio EPA Comments received 8 March 2024, Ohio EPA ID# 267000859272

Dear Mr. Roope:

Summarized below for your review are responses to the Ohio Environmental Protection Agency (Ohio EPA) comments received March 8, 2024. These comments were received following Ohio EPA review of the above-referenced document, dated January 24, 2024. A summary of the responses to the comment received is included below. We have also included a summary of revisions to the document as a result of USACE Baltimore District comments received during March 2024, as well.

Comment Received:

Hazardous Waste Determination

The Report text indicates samples in areas 23, 27, 28, and 29 exceeded RCRA hazardous waste determination limits for lead and cadmium. It is unclear if this applies to only the top six inches of soil in areas 23, 27, 28, and 29 or soils at depth. Further, text in Section 4.3 implies the initial 6-inch lift will occur and then soils at depths below the initial six inches are hazardous. In addition, it is unclear what the difference is between the unique identifiers (i.e., Area 23 and A1, etc.).

Action Item: Please clarify how the identifiers of the areas to be excavated were developed and define the depth of the soils that carry the hazardous waste determination.

Response to Comment:

Concur, clarification is necessary. As summarized in Section 3.0, and shown in Figure 2, the initial pre-excavation sampling was to determine the limits of contamination defined by project action limits. These were discrete samples collected at depths within each cell (A1, A2, etc.) from the 0-inch to six-inch below ground surface (bgs) depth interval. The excavation plan already includes excavating the top six-inches of soil, regardless of cadmium and lead levels, so samples were not collected in this depth interval. The results of the initial pre-excavation sampling summarized in Section 3.0 are shown on Figure 2. Figure 2 shows all the sampled cells (A1 through AD10) and the planned excavation depth for each. Laboratory analytical results are provided in Appendix B.

As summarized in Section 4.1, and shown in Figure 3, a separate sampling effort was then conducted. The pre-excavation waste characterization soil sampling laboratory analytical results were used to characterize the type of waste and determine the type of disposal required, in advance of excavation.
During the waste characterization sampling, composite samples were collected that represent the areas shown in Figure 3 (areas 2 through 36). These areas are equivalent to approximately 52 cubic yards and

were designed and sampled to first represent the six-inch lifts (areas 2 through 34) and then the areas requiring deeper excavations (areas 35 and 36). Only areas 23, 27, 28, and 29 were determined to require disposal as hazardous waste. These areas will be excavated to six inches bgs.

Revisions to Excavation Plan:
Based on the clarifications necessary, the following text will be revised in the first paragraph of Section 4.3:

> **4.3 Excavation**
> Excavation will be performed per methods described in the UFP-QAPP. The excavation will be phased to perform the initial 6-inch lift from the entire MRS excavation area. The six-inch lifts in areas 23, 27, 28 and 29 will be managed as hazardous waste. Following the initial 6-inch lift, the corners of the cells designated for deeper excavation will be marked and excavated (cells E4, G7, L8, M8, N8, K9, S9, U9, K10, and W10). All waste, including hazardous waste, will be transported and disposed according to local, state, and federal regulations and OHARNG requirements as prescribed in the UFP-QAPP.

Additional changes to the document based on USACE Baltimore District comments:
In response to comments received from USACE during the Ohio EPA review period the following changes have been made to the Pre-Excavation Analytical Data Summary and Excavation Plan:

- Data validation qualification codes were added to Table 1 (Pre-Excavation Sampling Results)
- Non-Detect (ND) in Table 1 was changed to Below the Limit of Detection (LODU) to remain consistent with DoD nomenclature.
- A Data Usability Summary was added as Appendix D.

Summary
These responses to comments were prepared by HGL in support of the Restoration Program at the former Ravenna Army Ammunition Plant. Please contact the undersigned at 330-235-2153 or by email at kevin.m.sedlak.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: 2024.04.04 13:43:21 -04'00'

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

cc: Kathryn Tait, OHARNG
Travis McCoun, USACE Baltimore District
Nicole Walworth, USACE Baltimore District
Jennifer Tierney, Chenega Reliable Services, LLC
Steve Kvaal, USACE Louisville District
Megan Oravec, Ohio EPA, DERR, NEDO
Tom Schneider, Ohio EPA, DERR, SWDO
Kimberly Vaughn, HGL

Environmental Protection Agency

EPA.Ohio.gov

Mike DeWine, *Governor* Jon Husted, *Lt. Governor* Anne M. Vogel, *Director*

Received March 8, 2024

March 7, 2024

TRANSMITTED ELECTRONICALLY

Mr. Kevin M. Sedlak
Restoration Program Manager
ARNG-ILE Clean up
Camp James A. Garfield JTC
1438 State Route 534
Newton Falls, OH 44444
Sent via email to:
kevin.m.sedlak.ctr@army.mil

RE: US Army Ravenna Ammunition Plt
RVAAP
Remediation Response
Plans
RD
Federal Facilities
Portage County
ID # 267000859272

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program
Draft Pre-Excavation Analytical Data Summary and Excavation Plan for the RVAAP-063-R-01 Group 8 Munitions Response Site, Version 1.0
Ohio EPA Comments

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) Division of Environmental Response and Revitalization (DERR) received the "Draft Pre-Excavation Analytical Data Summary and Excavation Plan for the RVAAP-063-R-01 Group 8 Munitions Response Site, Version 1.0"[1] (the "Report") dated January 24, 2024. The Report was prepared by HGL, and electronically submitted by the Ohio National Guard. Ohio EPA has reviewed the Report; below are comments and requested actions.

COMMENTS

Hazardous Waste Determination

The Report text indicates samples in areas 23, 27, 28, and 29 exceeded RCRA hazardous waste determination limits for lead and cadmium. It is unclear if this applies to only the top six inches of soil in areas 23, 27, 28, and 29 or soils at depth. Further, text in Section 4.3 implies the initial 6-inch lift will occur and then soils at depths below the initial six inches are

[1] http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2716771

hazardous. In addition, it is unclear what the difference is between the unique identifiers (i.e., Area 23 and A1, etc.).

Action Item: Please clarify how the identifiers of the areas to be excavated were developed and define the depth of the soils that carry the hazardous waste determination.

This letter is an official response from Ohio EPA that will be maintained as a public record. If you have any questions regarding this letter, please contact me at (330) 963-1235 or by email at Nicholas.roope@epa.ohio.gov.

Sincerely,

Nicholas Roope
Environmental Specialist
Division of Environmental Response and Revitalization

NR/cm

ec: Angela Cobbs, Chenega
Jennifer M. Tierney, Chenega
Katie Tait, OHARNG RTLS, CJAG
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
Brian Tucker, Ohio EPA, CO, DERR
Megan Oravec, Ohio EPA, NEDO, DERR
Natalie Oryshkewych, Ohio EPA, NEDO, DERR
Thomas Schneider, Ohio EPA, SWDO, DERR

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

January 24, 2024

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

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Draft Pre-Excavation Analytical Data Summary and Excavation Plan for the RVAAP-063-R-01 Group 8 Munitions Response Site, Version 1.0, Portage and Trumbull Counties, Ohio, Contract No. W912DR-21-D-0005, Delivery Order No. W912DR21F0327 (Ohio EPA Work Activity # 267-000859-272)

Dear Mr. Roope:

An electronic version of the Draft Pre-Excavation Analytical Data Summary and Excavation Plan for the RVAAP-063-R-01 Group 8 Munitions Response Site, Version 1.0 will be sent using the Ohio EPA LiquidFile system. This document was prepared by HGL in support of the Restoration Program at the former RVAAP, currently known as Camp James A. Garfield (CJAG) in Portage and Trumbull counties, Ohio.

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: 2024.01.24 14:57:04 -05'00'

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

cc: Katie Tait, OHARNG
Travis McCoun, USACE Baltimore District
Nicole Walworth, USACE Baltimore District
Jennifer Tierney, Chenega
Steve Kvaal, USACE Louisville District
Megan Oravec, Ohio EPA
Tom Schneider, Ohio EPA
Kimberly Vaughn, HGL

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

December 19, 2024

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

Subject: Ravenna Army Ammunition Plant Restoration Program, 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 (Ohio EPA ID No. 267-000859-029)

Dear Mr. Roope:

An electronic version of 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 through 12 Load Lines 1 through 4 and 12, and RVAAP-51 Dump Along Paris Windham Road is attached to the email with this cover letter. This draft report is being submitted to you for review and comment.

This report was 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 or Katie Tait 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: 2024.12.19 08:13:28 -05'00'

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

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

March 26, 2024

Received March 26, 2024

TRANSMITTED ELECTRONICALLY

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

RE: US Army Ravenna Ammunition Plt RVAAP
Remediation Response
Project records
O&M
Federal Facilities
Portage County
267000859029

Subject: **2023 Final Annual Land Use Control Monitoring Report**
Camp James A. Garfield - Dated February 22, 2024
Ohio EPA Approval

Dear Mr. Sedlak:

On February 23, 2024, the Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) received the "*Final 2023 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*" (the "Report")[1] dated February 22, 2024. The Report was prepared by Chenega Reliable Services, on behalf of the U.S. Army Corps of Engineers (USACE), 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: Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
Katie Tait, OHARNG RTLS, CJAG
Jennifer M. Tierney, Chenega
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=2758763

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

February 23, 2024

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

Subject: Ravenna Army Ammunition Plant Restoration Program, Final 2023 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 (Ohio EPA ID No. 267-000859-029)

Dear Mr. Roope:

Attached for review is the Final 2023 Annual Land Use Control Monitoring Report, RVAAP-01 Ramsdell Quarry Landfill, RVAAP-04 Open Demolition Area #2, RVAAP-05 Winklepeck Burning Grounds, RVAAP-08 through 12 Load Lines 1 through 4 and 12, and RVAAP-51 Dump Along Paris Windham Road. This report was 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,

SEDLAK.KEVIN.MICHAEL.1254440171 Digitally signed by SEDLAK.KEVIN.MICHAEL.1254440171 Date: 2024.02.23 07:25:51 -05'00'

Kevin M. Sedlak
Restoration Project Manager
Army National Guard Directorate

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

April 5, 2024

Received April 8, 2024

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

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

RE: US Army Ravenna Ammunition Plt
RVAAP
Remediation Response
Project Records
RD
Remedial Response
Portage County
ID # 267000859243, 267000859137, 267000859098, 267000859264 and 267000859127

Subject: Approval of the "Uniform Federal Policy-Quality Assurance Project Plan for Additional Remedial Design Sampling at Multiple Areas of Concern for "Ravenna Army Ammunition Plant Restoration Program" dated February 13, 2024

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the

"Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP) for Additional Remedial Design Sampling at Multiple Area's of Concern" 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 February 16th, 2024. The document was prepared for the United States Army Corps of Engineers (USACE) 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=2773720

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
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
Jennifer Tierney, Chenega Reliable Services
Angela Cobbs, Chenega Reliable Services
Megan Oravec, Ohio EPA, NEDO, DERR
Natalie Oryshkewych, Ohio EPA, NEDO, DERR
Liam McEvoy, Ohio EPA, NEDO, DERR
Thomas Schneider, Ohio EPA, SWDO, DERR
Carrie Rasik, Ohio EPA, CO, DERR

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

February 16, 2024

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, Final Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP), Multiple Areas of Concern (Work Activity No. 267000859243, 267000859098, 267000859264, and 267000859127)

Dear Mr. Kowalski:

For your concurrence, an electronic version of the *Final Uniform Federal Policy-Quality Assurance Project Plan for Additional Remedial Design Sampling at Multiple Areas of Concern* has been sent using the Ohio EPA LiquidFile system. A hard copy and CD can be sent upon request by Ohio EPA.

This plan was 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: 2024.02.16 13:02:19 -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
Nathaniel Peters, II, USACE Louisville
T. Zack Bayne, USACE Louisville
Jed Thomas, Leidos
Ryan Laurich, Leidos
Jennifer Tierney, Chenega

Received January 26, 2024

January 25, 2024

TRANSMITTED ELECTRONICALLY

Mr. Kevin M. Sedlak
Army National Guard
Installations & Environment- Cleanup Branch IPA Designation
1438 State Route 534 SW
Newton Falls, OH 44444

RE: US Army Ravenna Ammunition Plt RVAAP
Remediation Response
Project records
Remedial Response
Portage County
267000859243, 267000859137, 267000859098, 267000859264 and 267000859127

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

Subject: Approval of Uniform Federal Policy-Quality Assurance Project Plan for Additional Remedial Design Sampling at Multiple Areas of Concern

Dear Mr. Sedlak:

On January 4, 2024, the Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) received the Army's Response to Ohio EPA's December 5, 2023, comment letter[1] on the Draft Uniform Federal Policy-Quality Assurance Project Plan for Additional Remedial Design Sampling at Multiple Areas of Concern[2]. It was prepared by Leidos.

Ohio EPA approves the document. Please submit the document in final form.

If you have any questions concerning this letter, please contact me at (330) 963-1170 or ed.damato@epa.ohio.gov.

Sincerely,

Edward J D'Amato

Edward D'Amato, Site Coordinator
Division of Environmental Response and Revitalization

ec: Nicole Walworth, USACE Baltimore
Katie Tait, OHARNG RTLS, CJAG
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
Jennifer M. Tierney, Chenega Reliable Services,
Angela Cobbs, Chenega Reliable Services
Megan Oravec, Ohio EPA, DERR, NEDO
Natalie Oryshkewych, Ohio EPA, DERR, NEDO
Brian Tucker, Ohio EPA, DERR, CO
Thomas Schneider, Ohio EPA, DERR, SWDO

ED/cm

1 http://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2660288
2 https://edocpub.epa.ohio.gov/publicportal/ViewDocument.aspx?docid=2641597

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

January 10, 2024

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 – December 2024

Dear Ms. Oryshkewych:

Enclosed for your review is the "RVAAP Restoration Program - DFFO Monthly Summary Report – December 2024". The report summarizes the Restoration Program activities conducted at the former RVAAP for the period from December 1, 2024, through December 31, 2024. 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 me at (330) 235-2153 or kevin.m.sedlak.ctr@army.mil or Katie Tait 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: 2025.01.10 10:11:51 -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 (December 2024)

PROJECT NAME	USACE TECH MGR /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 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. HGL is assembling a response to Ohio EPA comments.
RVAAP-004-R-01 ODA #2	Nicole Walworth & Travis McCoun / Arcadis	Arcadis field activities at ODA2 are complete. The Preliminary Draft RI report was submitted to the ARNG/USACE on October 10, 2024. Arcadis is working on responses to Army 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 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. PIKA-Insight is preparing the response to comments. 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. 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. The Wetland Mitigation Purchase Agreement was routed for OHARNG signature. 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	From December 9 – 19, 2024, Leidos performed the soil sampling at the Sand Creek Disposal Landfill in accordance with the UFP-QAPP. On December 3, 2024, Leidos conducted the second round of vapor intrusion sampling for CC RVAAP-69. This included the ambient indoor and outdoor samples, and the 5 sub-slab vapor samples. 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.
2022 Environmental Program Support Services	J. Renner / Chenega	The Preliminary Draft Annual LUC Report for was submitted for Ohio EPA review on December 19, 2024. Chenega is drafting the meeting minutes for the RAB meeting on December 11, 2024.
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 submitted to the Ohio EPA on November 5, 2024. Ohio EPA concurrence is pending.

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 are being properly stored and inspected in Building 1036 while awaiting proper transport and disposal.

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 inspected and are properly stored in Building 1036.

F. Describe activities planned for the following month (January 2025)

1. HGL will respond to Ohio EPA comments on the Revised Group 8 MRS Confirmation Sampling Report.

2. Arcadis will provide responses to the Army's comments on the Preliminary Draft RI Report for ODA2.

3. PIKA-Insight JV will continue monitoring of the thermal treatment system for RVAAP-50 FSA which started in December 2024.

4. Leidos will submit the Preliminary Draft RI Addendum 2 for the DLA Ore Storage Yard to the Army.

5. Leidos will begin soil sampling at RVAAP-38, RVAAP-42, RVAAP-45, and CC RVAAP-76 per the approved UFP-QAPP.

6. Leidos will begin responses to Ohio EPA comments on the Draft Final 2024 Spring Semi-Annual FWGWMP Report once comments are received.

7. 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	In Progress	November 5, 2024	December 20, 2024	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	To be submitted (OEPA comments received on 1/7/2025)			Nick Roope
PIKA-Insight JV				
Final Wetlands Restoration Plan for Atlas Scrap Yard	To be submitted (OEPA approval of responses received on 1/7/2025)			Craig Kowalski
CC RVAAP-70 Excavation Confirmation Sampling Results Memo	To be submitted (OEPA comments received on 12/19/2024)			Craig Kowalski
Army				
FW Sewers Final RI - Extension Requested until May 5, 2025	To be submitted			
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	February 1, 2025	Will need an extension and a new milestone date as a contract modification is needed to complete the work as more anomalies than anticipated within the MRS have been identified based on field work.
Group 8 MRS Draft Remedial Action Completion Report – HGL	February 1, 2025	Will need an extension and a new milestone date as additional soil removal is required.
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	

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

December 9, 2024

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 – November 2024

Dear Ms. Oryshkewych:

Enclosed for your review is the "RVAAP Restoration Program - DFFO Monthly Summary Report – November 2024". The report summarizes the Restoration Program activities conducted at the former RVAAP for the period from November 1, 2024, through November 30, 2024. 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 me at (330)235-2153 or kevin.m.sedlak.ctr@army.mil or Katie Tait 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: 2024.12.09 09:05:46 -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 (November 2024)

PROJECT NAME	USACE TECH MGR /Contract or	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.
Block D MRS and Group 8 MRS RD/RAs	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 are pending.
RVAAP-004-R-01 ODA #2	Nicole Walworth & Travis McCoun / Arcadis	Arcadis field activities at ODA2 are complete. The Preliminary Draft RI report was submitted to the ARNG/USACE on October 10, 2024, and under Army's review.
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 are pending. Backfill is pending approval of the Memo. At RVAAP-50 Former Storage Area (FSA), soil was excavated and placed on the treatment unit pad. Thermal treatment will start in early December. An Excavation Confirmation Sampling Memo was submitted to the Ohio EPA on November 27, 2024. Ohio EPA comments are pending. Backfill is pending approval of the Memo. 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 submitted to the Ohio EPA on September 30, 2024. 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 October 15, 2024, the Draft Final UFP-QAPP for CC RVAAP-78 Quarry Pond Surface Dump was submitted to the Ohio EPA for review. Ohio EPA comments are pending. On November 8, 2024, Leidos submitted an addendum to the Army to the project APP to address field activities associated with the asbestos investigation. Leidos is drafting the RI Addendum 2 for CC RVAAP-79 DLA Ore Storage Yard. Leidos continued preparing for field work at RVAAP-34, RVAAP-38, RVAAP-42, RVAAP-45, and CC RVAAP-76. A FCR related to sampling at CC RVAAP-76 was approved by the Ohio EPA on November 5, 2024. A field work notification was submitted to the Ohio EPA on November 21, 2024. Leidos prepared for the next round of sampling for the VI study for CC RVAAP-69 (at Building 1037).
2022 Environmental Program Support Services	J. Renner / Chenega	The Preliminary Draft Annual LUC Report for was submitted for Army review on November 26, 2024.
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 submitted to the Ohio EPA on November 5, 2024. Ohio EPA concurrence is pending.

A. Describe difficulties encountered during the reporting period and actions taken to rectify any difficulties
None.

B. Identify changes in key personnel

Zack Bayne with USACE has taken a position in a different division. His last day was November 15, 2024. Jeremy Renner has taken over the USACE Technical Lead position for Facility Wide Sewers, 3 AOCs, 9 AOCs, and 2022 Environmental Program Support Services.

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

An additional 21 tons of nonhazardous soil was over-excavated, transported, and disposed from the former incinerator area (FIA) at RVAAP-50 Atlas Scrap Yard in November 2024.

Four (4) 55-gallon drums containing Nonhazardous purge water and decontamination water from the Fall 2024 FWGWMP sampling event are being properly stored and inspected in Building 1036 while awaiting proper transport and disposal.

F. Describe activities planned for the following month (December 2024)

1. HGL will respond to Ohio EPA comments on the Revised Group 8 MRS Confirmation Sampling Report once comments or concurrence are received.

2. Arcadis will respond to the Army's comments on the Preliminary Draft RI Report for ODA2.

3. PIKA-Insight JV will continue construction of the thermal treatment system for RVAAP-50 FSA. The system will be started in December after construction is complete. PIKA-Insight JV and GEO will also give a presentation on the thermal treatment system at the RAB meeting on December 11, 2024.

4. Leidos plans to conduct the second seasonal VI sampling event.

5. Leidos plans to begin soil sampling at RVAAP-34 per the approved UFP-QAPP.

6. Leidos will continue developing the RI Addendum 2 for CC RVAAP-79 DLA Ore Storage Yard.

7. Leidos will respond to Ohio EPA comments on the CC RVAAP-78 Quarry Pond Surface Dump RI Work Plan (UFP-QAPP) if received.

8. Soil sampling at RVAAP-38, RVAAP- 42, RVAAP-45, and CC RVAAP-76 will begin per the approved UFP-QAPP.

9. Leidos will begin responses to Ohio EPA comments on the Draft Final 2024 Spring Semi-Annual FWGWMP Report once comments are received.

10. PIKA-Insight JV will backfill CC RVAAP-70 and RVAAP-50 FIA after approval from the Ohio EPA is approved on the confirmation sampling memos.

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	In Progress	November 5, 2024	December 20, 2024	Liam McEvoy
Draft RI QAPP for CC RVAAP-78 Quarry Pond Surface Dump	In Progress	October 15, 2024	November 30, 2024	Craig Kowalski
HGL				
*Group 8 MRS Revised Confirmation Sampling Memo	In Progress	October 31, 2024	December 15, 2024	Nick Roope
Insight				
Army response to Ohio EPA comments on the Draft Wetlands Restoration Plan for Atlas Scrap Yard	To be submitted (by 1/5/2025)			Craig Kowalski
**CC RVAAP-70 Excavation Confirmation Sampling Results Memo	In Progress	November 6, 2024	December 21, 2024	Craig Kowalski
**RVAAP-50 Atlas Scrap Yard FSA Confirmation Sampling Memo	In Progress	November 27, 2024	January 12, 2025	Craig Kowalski
Army				
FW Sewers Final RI - Extension Requested until May 5, 2025	To be submitted			

*The OHARNG is conducting a building demolition project adjacent to the Group 8 MRS. Asbestos abatement is currently underway. The OHARNG would like to receive Ohio EPA comments or concurrence on the Group 8 Memo prior to completing the building demolition. The OHARNG is aware that additional excavation is required in a localized area of the Group 8 MRS and therefore no work or disturbance is occurring in this area.
**We are reaching a critical point in the PIKA-Insight JV contract as their period of performance ends in August 2025. PIKA-Insight still needs to complete backfill and restoration of their work sites, complete wetlands restoration at Atlas, complete thermal treatment and complete and finalize the RA completion reports by August 2025 when their contract ends.

H. List of FY25 Milestones

Milestone Activity	Milestone Date	Actual Date Achieved
Block D Igloo MRS Draft Remedial Action Completion Report - HGL	February 1, 2025	Will need an extension and a new milestone date as a contract modification is needed to complete the work as more anomalies than anticipated within the MRS have been identified based on field work.
Group 8 MRS Draft Remedial Action Completion Report – HGL	February 1, 2025	Will need an extension and a new milestone date as additional soil removal is required.
Draft 2023 LUC Inspection Report - Chenega	February 3, 2025	
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	

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

November 8, 2024

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 - Monthly Activity Report – October 2024

Dear Ms. Oryshkewych:

Attached is the RVAAP Restoration Program - DFFO Monthly Summary Report – October 2024. The report summarizes the Restoration Program activities conducted at the former RVAAP for the period from October 1, 2024, through October 31, 2024. 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 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: 2024.11.08 11:06:16 -05'00'

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

Attachment

cc: Megan Oravec, Ohio EPA
Thomas Schneider, Ohio EPA
Katie Tait, OHARNG
Steve Kvaal, USACE – Louisville
James Trumble, USACE - Louisville

Status of project activities for reporting period (October 2024)

PROJECT NAME	USACE TECH MGR /Contractor	PROJECT STATUS
RVAAP-67 Facility-wide Sewers	Z. Bayne	ARNG and USACE had a call on October 24, 2024, to discuss the scope for a new contract for preparation of a FS, PP and ROD. Approval of the comment responses on the Draft RI was received from the Ohio EPA on October 21, 2024.
Block D MRS and Group 8 MRS RD/RAs	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.
RVAAP-004-R-01 ODA #2	Nicole Walworth & Travis McCoun / Arcadis	Arcadis field activities at ODA2 are complete. The Preliminary Draft RI report was submitted to the ARNG/USACE on October 10, 2024.
Remedial Actions for 3 AOCs – RVAAP-06 C Block Quarry, RVAAP-50 Atlas Scrap Yard, CC RVAAP-70 E Classification Yard	Z. Bayne / PIKA-Insight JV	The Removal Action at CC RVAAP-70 East Classification Yard commenced. Excavation, over-excavation and confirmation sampling was completed. Confirmation samples are revealing BaP levels above cleanup goals on the west side of the site (beyond the over-excavated area). Backfill is pending. At RVAAP-50 former storage area (FSA), soil was excavated and placed on the treatment unit pad and the thermal treatment system is being assembled. At RVAAP-50 former incinerator area (FIA), soil was excavated and disposed, and the former incinerator was demolished and disposed. Confirmation samples were collected, The draft wetlands plan was submitted to the Ohio EPA on September 30, 2024. Comments are 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 requires removal. Options for additional surficial removal are being discussed.

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	Z. Bayne / Leidos	Leidos continued preparing for field work on RVAAP-34 Sand Creek Disposal Landfill. On October 18, 2024, the Final VI Study Work Plan for CC RVAAP-69 Former Fire Station (UFP-QAPP) was approved by the Ohio EPA. On October 25, 2024, Leidos submitted a tech memo to ARNG/USACE summarizing activities and results for groundwater samples and vapor intrusion samples for CC RVAAP-69 Former Fire Station Vapor Intrusion samples. This will be included in the final report. On October 15, 2024, the Draft Final UFP-QAPP for CC RVAAP-78 Quarry Pond Surface Dump was submitted to the Ohio EPA for review. Leidos is drafting RI Addendum 2 for CC RVAAP-79 DLA Ore Storage Yard. Leidos continued preparing for field work and RD Addendums for RVAAP-38, RVAAP-42, RVAAP-45, and CC RVAAP-76. A FCR related to sampling at CC RVAAP-76 was submitted to the Ohio EPA on October 21, 2024.
2022 Environmental Program Support Services	Z. Bayne / Chenega	Chenega continued routine maintenance of the correspondence file and the Administrative Record. Chenega also continued seasonal maintenance, including weed-eating, and clearing of brush from Seibert Stakes and warning signs.
RVAAP-66 Facility Wide Ground Water Monitoring	J. Trumble / Leidos	In a letter dated October 28, 2024; the Ohio EPA approved the 2023 Spring Semi-Annual Report. In a letter dated October 28, 2024, the Ohio EPA approved responses to comments on the 2023 Annual Report. In a letter dated October 28, 2024, the Ohio EPA approved the 2024 Final Addendum. On October 21, 2024, the Draft Spring Semi-Annual Report was submitted to the Ohio EPA for review. On October 10, 2024, the Fall 2024 FWGWMP field activities were completed. All 60 wells except for LL12mw-248, FBQmw-174, and LL1mw-063 were sampled. These three wells had insufficient water to purge or sample.

A. Describe difficulties encountered during the reporting period and actions taken to rectify any difficulties
None.

B. Identify changes in key personnel
Angela Cobbs with Chenega (RAB administrator) resigned from her position. Her final day was October 17, 2024. Chenega is in the process of hiring and onboarding a new employee to replace Angela.

Nat Peters with USACE officially retired on October 31, 2024.

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.

Approximately 511.20 tons of non-hazardous soil was excavated during the removal action at CC RVAAP-70 East Classification Yard and was properly transported and disposed in September and October 2024.

Approximately 15 cubic yards (cy) of asbestos waste was properly removed from RVAAP-06 B Block Quarry on October 23, 2024 and transported and disposed at a licensed asbestos waste landfill.

Approximately 783.91 tons of nonhazardous soil was excavated, transported and disposed from the former incinerator area (FIA) at RVAAP-50 Atlas Scrap Yard in October 2024.

Approximately 350 cy or soil have been excavated and stockpiled on the pad at the former storage area at RVAAP-50 Atlas Scrap Yard awaiting thermal treatment.

Approximately 45.16 tons of construction and demolition debris (former incinerator structure from Atlas Scrap Yard) was transported and disposed on October 15, 2024.

Four (4) 55-gallon drums containing purge water and decontamination water from the Fall 2024 FWGWMP sampling event are being properly stored and inspected in Building 1036 while awaiting proper transport and disposal.

F. Describe activities planned for the following month (November 2024)

1. HGL will respond to Ohio EPA comments on the Revised Group 8 MRS Confirmation Sampling Report once comments or concurrence are received.

2. Arcadis will respond to the Army's comments on the Preliminary Draft RI Report for ODA2.

3. PIKA-Insight JV will continue construction of the thermal treatment system for RVAAP-50 FSA. The system will be started after construction is complete.

4. Leidos will continue to prepare for the second seasonal sampling event in December 2024 for CC RVAAP-69 Former Fire Station VI Study.

5. Leidos plans to submit the Final UFP-QAPP with signatures for RVAAP-34 Sand Creek Disposal Road Landfill for admin records and continue preparing for field work.

6. Leidos will continue developing the RI Addendum 2 for CC RVAAP-79 DLA Ore Storage Yard.

7. Leidos will have a meeting with ARNG/USACE and Ohio EPA to discuss the Draft UFP-QAPP/ Project Plans on November 7, 2024, for CC RVAAP-78 Quarry Pond Surface Dump. Leidos will respond to comments as needed.

8. Leidos will continue preparing for field work and the RD Addendums for RVAAP-38, RVAAP-42, RVAAP-45, and CC RVAAP-76 and submit the Final UFP-QAPP with signature to Admin Records.

9. Leidos will submit the Final 2023 Annual Report to the Ohio EPA.

10. PIKA-Insight JV will continue over-excavation at RVAAP-50 FIA and respond to Ohio EPA comments on the Wetlands Plan once 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	In Progress	November 5, 2024	December 20, 2024	Liam McEvoy
Draft RI QAPP for CC RVAAP-78 Quarry Pond Surface Dump	In Progress	October 15, 2024	November 30, 2024	Craig Kowalski
HGL				
Group 8 MRS Revised Confirmation Sampling Memo	In Progress	October 31, 2024	December 15, 2024	Nick Roope

Insight				
Draft Wetlands Restoration Plan for Atlas Scrap Yard	In Progress	September 30, 2024	November 15, 2024	Craig Kowalski
CC RVAAP-70 Excavation Confirmation Sample Results Memo	In Progress	November 6, 2024	December 21, 2024	Craig Kowalski
Final Work Plan for CC RVAAP-70 East Classification Yard	In Progress	August 19, 2024	October 3, 2024	Craig Kowalski
Army				
FW Sewers Final RI - Extension Requested until May 5, 2025	To be submitted			

H. List of FY25 Milestones

Milestone Activity	Milestone Date	Actual Date Achieved
Block D Igloo MRS Draft Remedial Action Completion Report - HGL	February 1, 2025	Will need an extension and a new milestone date as a contract modification is needed to complete the work as more anomalies than anticipated within the MRS have been identified based on field work.
Group 8 MRS Draft Remedial Action Completion Report – HGL	February 1, 2025	Will need an extension and a new milestone date as additional soil removal is required.
Draft 2023 LUC Inspection Report - Chenega	February 3, 2025	
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	

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

October 10, 2024

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 – September 2024

Dear Ms. Oryshkewych:

Enclosed for your review is the "RVAAP Restoration Program - DFFO Monthly Summary Report – September 2024". The report summarizes the Restoration Program activities conducted at the former RVAAP for the period from September 1, 2024, through September 30, 2024. 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 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: 2024.10.10 08:20:25 -04'00'

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

Attachment

cc: Megan Oravec, Ohio EPA, DERR
Tom Schneider, Ohio EPA, DERR
Katie Tait, OHARNG
Steve Kvaal, USACE – Louisville
James Trumble, USACE – Louisville
Jennifer Tierney, Chenega

Status of project activities for reporting period (September 2024)

PROJECT NAME	USACE TECH MGR /Contractor	PROJECT STATUS
RVAAP-67 Facility-wide Sewers	N. Peters	The activities on this task order are complete. ARNG and USACE will have to initiate a new contract for preparation of the FS and follow-on actions.
Block D MRS and Group 8 MRS RD/RAs	Travis McCoun & Nicole Walworth / HGL	A field work notification was sent to the Ohio EPA on April 5, 2024. Field work is currently on hold. Data is showing a higher anomaly density and requiring more digs than expected. The contractor is drafting an approach for the path forward. A contract modification is anticipated in first quarter of FY25. The Group 8 remedial action involving excavation began in July 2024 and field work was completed in September 2024. The MRS has been backfilled and restored. A confirmation sampling memo was submitted to the Ohio EPA on September 4, 2024. Comments are pending. Confirmation samples collected in the over excavated (step out) area are showing a lead result above the regulatory limit. Limited additional excavation is anticipated and will be completed in Spring 2025. A revised memo will be issued.
RVAAP-004-R-01 ODA #2	Nicole Walworth & Travis McCoun / Arcadis	Arcadis field activities at ODA2 are complete. Work on the RI report continues and will be submitted to the Army in October 2024.
Remedial Actions for 3 AOCs – RVAAP-06 C Block Quarry, RVAAP-50 Atlas Scrap Yard, CC RVAAP-70 E Classification Yard	Z. Bayne / PIKA-Insight JV	The Removal Action at CC RVAAP-70 East Classification Yard commenced. Excavation and disposal of soil was completed to a depth of 1 ft bgs from the outside edges of Building 47-40 extending 15 feet in all directions. Confirmation soil samples are pending validation. For RVAAP-50 former storage area (FSA), clearing and grubbing activities were completed for the thermal treatment system components. For RVAAP-50 former incinerator area (FIA), the access road was improved, soil excavation began and the former incinerator was demolished. The draft wetlands plan was submitted to the Ohio EPA on September 30, 2024. Comments are pending.

PROJECT NAME	USACE TECH MGR /Contract or	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	Z. Bayne / Leidos	Leidos continued preparing for field work on RVAAP-34 Sand Creek Disposal Landfill. On June 12, 2024, the Final VI Study Work Plan for CC RVAAP-69 Former Fire Station (UFP QAPP) was submitted to the Ohio EPA. Ohio EPA concurrences is pending. In September, Leidos validated VI samples from the five sub-slab vapor sampling points and the ambient air samples. On September 13, 2024, Leidos submitted a technical memorandum to the Army summarizing activities and results associated with the groundwater samples and first round of vapor intrusion samples. In September, Leidos issued responses to Army comments on the CC RVAAP-78 Quarry Pond Surface Dump RI Work Plan (UFP-QAPP). ARNG and OHARNG approved the revisions and Leidos is creating the Draft UFP-QAPP for submittal to Ohio EPA. Leidos is drafting RI Addendum 2 for CC RVAAP-79 DLA Ore Storage Yard Leidos continued preparing for field work for RVAAP-38, RVAAP-42, RVAAP-45, and CC RVAAP-76.
2022 Environmental Program Support Services	N. Peters / Chenega	Chenega continued routine maintenance of the correspondence file and the Administrative Record. Chenega also continued seasonal maintenance, including weed-eating, and clearing of brush from Seibert Stakes and warning signs.
RVAAP-66 Facility Wide Ground Water Monitoring	J. Trumble / Leidos	Leidos submitted the Pre-Draft 2024 Spring Semi-Annual Report on September 13, 2024, for OHARNG and USACE comments. Ohio EPA commented on the Draft 2023 Annual Report in a letter received on July 5, 2024. Leidos submitted a response to comments to the Ohio EPA on August 14, 2024, which is still pending. Ohio EPA concurred with Leidos response to comments for 2024 Addendum on August 7, 2024. On August 20, 2024, the Final Addendum was submitted to the Ohio EPA and concurrence is still pending. The Final Spring 2023 FWGWMP Semi-Annual Report was submitted to Ohio EPA on July 25, 2024. Ohio EPA concurrence is still pending.

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

Approximately 917 tons of non-hazardous soil and 238 tons of hazardous waste soil from the Group 8 MRS remedial action was properly transported and disposed in August 2024. An additional 6 tons was properly transported and disposed in September 2024.

Approximately 428 tons of non-hazardous soil from the CC RVAAP-70 East Classification Yard removal action was properly transported and disposed in September 2024.

F. Describe activities planned for the following month (October 2024)

1. HGL will submit the Group 8 MRS revised memo with confirmation sample results.
2. Arcadis will submit the RI Addendum for ODA2 to the Army.
3. PIKA-Insight JV will continue construction of the thermal system for RVAPP-50 FSA. Confirmation samples at RVAAP-50 FIA will be collected.
4. Leidos plans to receive Ohio EPA approval for the Final CC RVAAP-69 Former Fire Station VI Study Work Plan (UFP-QAPP) and submit to the Admin Record.
5. Leidos will continue to prepare for the second seasonal sampling event in December 2024 for CC RVAAP-69 Former Fire Station VI Study
6. Leidos plans to submit the Final UFP-QAPP with signatures for RVAAP-34 Sand Creek Disposal Road Landfill and continue preparing for field work.
7. Leidos will develop a schedule and begin the RI Addendum 2 for CC RVAAP-79 DLA Ore Storage Yard.
8. Leidos plans to submit the Draft UFP-QAPP to the Ohio EPA for CC RVAAP-78 Quarry Pond Surface Dump.
9. Leidos will continue preparing for field work and the RD Addendums for RVAAP-38, RVAAP-42, RVAAP-45, and CC RVAAP-76 and submit the Final UFP-QAPP with signatures.

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				
Responses to Ohio EPA Comments – FW Sewers	In Progress	May 22, 2024	July 6, 2024	Megan Oravec/Craig Kowalski
Final 2024 Addendum for FWGWMP	In Progress	August 20, 2024	October 4, 2024	Liam McEvoy
Responses to Ohio EPA Comments - Draft FWGWMP 2023 Annual Report	In Progress	August 14, 2024	September 28, 2024	Liam McEvoy
Final VI Study Work Plan for CC RVAAP-69	In Progress	June 12, 2024	July 29, 2024	Craig Kowalski
Final Spring 2023 FWGWMP Semiannual Report	In Progress	July 25, 2024	September 9, 2024	Liam McEvoy
HGL				
Group 8 MRS Confirmation Sampling Memo	In Progress	September 4, 2024	October 18, 2024	Nick Roope
Insight				
Final Remedial Design Work Plan for RVAAP-06 C Block Quarry	In Progress	September 6, 2024	October 20, 2024	Craig Kowalski
Final Remedial Design Work Plan for RVAAP-50 Atlas Scrap Yard	In Progress	September 6, 2024	October 20, 2024	Craig Kowalski
Draft Wetlands Restoration Plan for Atlas Scrap Yard	In Progress	September 30, 2024	November 15, 2024	Craig Kowalski
Final Work Plan for CC RVAAP-70 East Classification Yard	In Progress	August 19, 2024	October 3, 2024	Craig Kowalski

H. List of FY25 Milestones

Milestone Activity	Milestone Date	Actual Date Achieved
Block D Igloo MRS Draft Remedial Action Completion Report - HGL	February 1, 2025	Will need an extension and a new milestone date as a contract modification is needed to complete the work as more anomalies than anticipated within the MRS have been identified based on field work.
Group 8 MRS Draft Remedial Action Completion Report – HGL	February 1, 2025	Will need an extension and a new milestone date as additional soil removal is required.
Draft 2023 LUC Inspection Report - Chenega	February 3, 2025	
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	

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

September 10, 2024

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 – August 2024

Dear Ms. Oryshkewych:

Enclosed for your review is the "RVAAP Restoration Program - DFFO Monthly Summary Report – August 2024". The report summarizes the Restoration Program activities conducted at the former RVAAP for the period from August 1, 2024, through August 31, 2024. 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 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: 2024.09.10 08:12:37 -04'00'

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

Attachment

cc: Megan Oravec, Ohio EPA
Thomas Schneider, Ohio EPA
Katie Tait, OHARNG, CJAG
Steve Kvaal, USACE – Louisville
James Trumble, USACE – Louisville
Jennifer Tierney, Chenega

RVAAP RESTORATION PROGRAM - DFFO MONTHLY SUMMARY REPORT
August 2024

Status of project activities for reporting period (August 2024)

PROJECT NAME	USACE TECH MGR /Contractor	PROJECT STATUS
RVAAP-67 Facility-wide Sewers	N. Peters	The activities on this task order are complete. ARNG and USACE will have to initiate a new contract for preparation of the FS and follow-on actions.
Block D MRS and Group 8 MRS RD/RAs	Travis McCoun & Nicole Walworth / HGL	A field work notification was sent to the Ohio EPA on April 5, 2024. Field work is currently on hold. Data is showing a higher anomaly density and requiring more digs than expected. The contractor is drafting an approach for the path forward. A contract modification is anticipated in first quarter of FY25. The Group 8 remedial action involving excavation began July 22, 2024, and is now complete. The MRS has been backfilled and restored. A confirmation sampling memo was submitted to the Ohio EPA on September 4, 2024. Comments are pending.
RVAAP-004-R-01 ODA #2	Nicole Walworth & Travis McCoun / Arcadis	Arcadis field activities at ODA2 are complete. Work on the RI report continues and will be submitted to the Army in September/October 2024.
Remedial Actions for 3 AOCs – RVAAP-06 C Block Quarry, RVAAP-50 Atlas Scrap Yard, CC RVAAP-70 E Classification Yard	Z. Bayne / PIKA-Insight JV	The Final Work Plan for CC RVAAP-70 was submitted to Ohio EPA on August 19, 2024. Waste characterization composite samples were collected at CC RVAAP-70 in anticipation of field work. Waste characterization composite samples, soil delineation samples, and incinerator samples were collected at RVAAP-50 Atlas Scrap Yard in anticipation of remedial action field work.
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	Z. Bayne / Leidos	Leidos continued preparing for field work on RVAAP-34 Sand Creek Disposal Landfill. On June 12, 2024, the Final VI Study Work Plan for CC RVAAP-69 Former Fire Station (UFP QAPP) was submitted to the Ohio EPA. Ohio EPA concurrences is pending. In July, Leidos received laboratory results for the vapor intrusion and air samples and began validation. Leidos continued preparing for field work for RVAAP-38, RVAAP-42, RVAAP-45, and CC RVAAP-76. Leidos continued developing responses to Army comments for the Preliminary Draft UFP-QAPP for CC RVAAP-78. Leidos received a contract modification for CC RVAAP-79 DLA Ore Storage Yard to create a RI Addendum 2 and expand the scope of the FS report.
2022 Environmental Program Support Services	N. Peters / Chenega	Chenega continued routine maintenance of the correspondence file and the Administrative Record. Chenega also continued seasonal maintenance, including weed-eating, and clearing of brush from Seibert Stakes and warning signs. Chenega also prepared for the upcoming RAB meeting/tour on September 18, 2024.

PROJECT NAME	USACE TECH MGR /Contractor	PROJECT STATUS
RVAAP-66 Facility Wide Ground Water Monitoring	J. Trumble / Leidos	Ohio EPA concurred with the response to comments on the Draft Spring 2023 Semi-Annual Report in a letter dated July 5, 2024. Leidos submitted the Final Spring 2023 Semi-Annual Report on July 25, 2024. Ohio EPA commented on the Draft 2023 Annual Report in a letter received on July 5, 2024. Leidos submitted a response to comments to the Ohio EPA on August 14, 2024 Ohio EPA concurred with Leidos response to comments for 2024 Addendum on August 7, 2024. On August 20, 2024, the Final Addendum was submitted to the Ohio EPA.

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

Approximately 6,000 pounds of scrap metal was recycled during August 2024 from RVAAP-004-R-01 and RVAAP-063-R-01.

Approximately 238 tons of hazardous soil from the Group 8 MRS remedial action was properly transported and disposed in August 2024.

F. Describe activities planned for the following month (September 2024)

1. HGL will begin working on the Group 8 MRS Remedial Action Completion Report.

2. Arcadis will continue to work on the RI Addendum for ODA2.

3. PIKA-Insight JV will conduct pre-construction meeting for field activities at RVAAP-50 and CC RVAAP-70.

4. PIKA-Insight JV will mobilize personnel and equipment to CC RVAAP-70 to begin excavation work.

5. Leidos plans to receive Ohio EPA approval for the Final CC RVAAP-69 Former Fire Station VI Study Work Plan (UFP-QAPP) and submit to the Admin Record.

6. Leidos will prepare a technical memorandum summarizing activities and results associated with the groundwater samples and first round of vapor intrusion samples for CC RVAAP-69 Former Fire Station Vapor Intrusion Study and continue to prepare for the second seasonal sampling event in December 2024.

7. Leidos plans to submit the Final UFP-QAPP with signatures for RVAAP-34 Sand Creek Disposal Road Landfill and continue preparing for field work.

8. Leidos will develop a schedule and begin the RI Addendum 2 for CC RVAAP-79 DLA Ore Storage Yard.

9. Leidos plans to submit the Draft UFP-QAPP to the Ohio EPA for CC RVAAP-78 Quarry Pond Surface Dump, after submitting responses to Army comments.

10. Leidos will continue preparing for field work and the RD Addendums for RVAAP-38, RVAAP-42, RVAAP-45, and CC RVAAP-76 and submit the Final UFP-QAPP with signatures.

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				
Responses to Ohio EPA Comments – FW Sewers	In Progress	May 22, 2024	July 6, 2024	Megan Oravec/Craig Kowalski
Final 2024 Addendum for FWGWMP	In Progress	August 20, 2024	October 4, 2024	Liam McEvoy
Responses to Ohio EPA Comments - Draft FWGWMP 2023 Annual Report	In Progress	August 14, 2024	September 28, 2024	Liam McEvoy
Final VI Study Work Plan for CC RVAAP-69	In Progress	June 12, 2024	July 29, 2024	Craig Kowalski
Final Spring 2023 FWGWMP Semiannual Report	In Progress	July 25, 2024	September 9, 2024	Liam McEvoy
HGL				
Group 8 MRS Confirmation Sampling Memo	In Progress	September 4, 2024	October 18, 2024	Nick Roope
Insight				
Final Remedial Design Work Plan for RVAAP-06 C Block Quarry	In Progress	September 6, 2024	October 20, 2024	Craig Kowalski
Final Remedial Design Work Plan for RVAAP-50 Atlas Scrap Yard	In Progress	September 6, 2024	October 20, 2024	Craig Kowalski
Draft Wetlands Restoration Plan for Atlas Scrap Yard	To be issued			
Final Work Plan for CC RVAAP-70 East Classification Yard	In Progress	August 19, 2024	October 3, 2024	Craig Kowalski

H. List of FY25 Milestones

Milestone Activity	Milestone Date	Actual Date Achieved
Block D Igloo MRS Draft Remedial Action Completion Report - HGL	February 1, 2025	
Group 8 MRS Draft Remedial Action Completion Report – HGL	February 1, 2025	
Draft 2023 LUC Inspection Report - Chenega	February 3, 2025	
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	

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

August 8, 2024

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 – July 2024

Dear Ms. Oryshkewych:

Enclosed for your review is the "RVAAP Restoration Program - DFFO Monthly Summary Report – July 2024". The report summarizes the Restoration Program activities conducted at the former RVAAP for the period from July 1, 2024, through July 31, 2024. 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 the undersigned at (330)235-2153 or kevin.m.sedlak.ctr@army.mil if there are issues or concerns with this submission.

Very Respectfully,

TAIT.KATHRYN.SERENA.1289508275 Digitally signed by TAIT.KATHRYN.SERENA.1289508275 Date: 2024.08.08 11:26:13 -04'00'

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

Attachment

cc: Megan Oravec, Ohio EPA
Thomas Schneider, Ohio EPA
Katie Tait, OHARNG
Steve Kvaal, USACE – Louisville
Jay Trumble, USACE – Louisville
Jennifer Tierney, Chenega

RVAAP RESTORATION PROGRAM - DFFO MONTHLY SUMMARY REPORT
July 2024

Status of project activities for reporting period (July 2024)

PROJECT NAME	USACE TECH MGR /Contractor	PROJECT STATUS
2021 RI/FS Completion Contract for IRP AOCs	N. Peters / Leidos	On May 22, 2024, the Army submitted responses to Ohio EPA comments on the Draft RI Report for RVAAP-67 Facility-wide Sewers. On May 15, 2024, Leidos submitted a revised Draft Principal Threat Waste Memorandum for ARNG Legal review. On May 29, 2024, ARNG legal provided feedback on the Memorandum. A meeting with ARNG Legal was held on July 2, 2024. ARNG Legal specified the following: 1) A feasibility study would be needed. 2) In accordance with DERP, the FS will require a No Action alternative, a LUC alternative, and a remedial alternative. The activities on this task order are complete. ARNG and USACE will have to initiate a new contract for preparation of the FS and follow-on actions.
Block D MRS and Group 8 MRS RD/RAs	Travis McCoun & Nicole Walworth / HGL	Remedial action field work commenced on April 15, 2024, and is underway. Data is showing a higher anomaly density and requiring more digs than expected; contractor is conducting anomaly reduction and is drafting an approach for the path forward. Field work will pause in mid-August so a mod can be issued to the contractor. The Group 8 MRS remedial action field work began on July 22, 2024, and will continue through August.
RVAAP-004-R-01 ODA #2	Nicole Walworth & Travis McCoun / Arcadis	Geophysical data was submitted to USACE for review on June 20, 2024. Based on that information, intrusive investigation occurred during the week of July 29, 2024. Arcadis field activities at ODA2 are complete. Work on the RI report continues.
Remedial Actions for 3 AOCs – RVAAP-06 C Block Quarry, RVAAP-50 Atlas Scrap Yard, CC RVAAP-70 E Classification Yard	Z. Bayne / PIKA-Insight JV	The Draft Work Plan for CC RVAAP-70 was submitted to Ohio EPA for review on January 12, 2024. Ohio EPA comments were received on April 9, 2024. A response to comments was submitted to the Ohio EPA on April 26, 2024, and concurrence was received on August 7, 2024. Ohio EPA submitted comments for the Draft Remedial Design for RVAAP-06 on May 15, 2024. Responses to comments were submitted on June 5, 2024, and concurrence is pending. Ohio EPA comments were received on the Draft Remedial Design for RVAAP-50 Atlas Scrap Yard on March 5, 2024. Responses to comments were submitted to the Ohio EPA on April 16, 2024, and concurrence is 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	Z. Bayne / Leidos	Leidos continued preparing for field work on RVAAP-34 Sand Creek Disposal Landfill. On June 12, 2024, the Final VI Study Work Plan for CC RVAAP-69 Former Fire Station (UFP QAPP) was submitted to the Ohio EPA. On June 12, 2024, samples were collected from five sub-slab vapor sampling points and ambient air samples from CC RVAAP-69 Former Fire Station Vapor Intrusion Study. In July, Leidos received laboratory results and began validation. Leidos continued preparing for field work for RVAAP-38, RVAAP-42, RVAAP-45, and CC RVAAP-76. Leidos also continued preparing the RD addendums for these sites. Leidos continued developing responses to Army comments for the Preliminary Draft UFP-QAPP for CC RVAAP-78.
2022 Environmental Program Support Services	N. Peters / Chenega	Chenega continued routine maintenance of the correspondence file and the Administrative Record. Chenega also continued seasonal maintenance, including weed-eating and clearing of brush from Seibert Stakes and warning signs at the Sand Creek Dump and Atlas Scrap Yard AOCs.
RVAAP-66 Facility Wide Ground Water Monitoring	J. Trumble / Leidos	Ohio EPA concurred with the response to comments on the Draft Spring 2023 Semi-Annual Report in a letter dated July 5, 2024. Leidos submitted the Final Spring 2023 Semi-Annual Report on July 25, 2024. Ohio EPA commented on the Draft 2023 Annual Report in a letter received on July 5, 2024. Leidos is preparing 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

The 2024 spring semi-annual FWGWMP sampling event generated seventeen (17) 55-gallon drums of nonhazardous IDW (development/purge/decon water). The drums were properly transported and disposed on July 15, 2024.

One drum of liquid IDW was generated during groundwater sampling activities at CC RVAAP-69. The IDW was sampled and found to be nonhazardous and was properly transported and disposed on July 15, 2024.

Approximately 502 tons of nonhazardous soil from the Group 8 MRS project was properly transported and disposed in July 2024. Remedial action activities will continue in August 2024.

F. Describe activities planned for the following month (August 2024)

1. HGL will continue field work at the Block D Igloo MRS and Group 8 MRS.
2. Arcadis will continue to work on the RI Addendum for ODA2.
3. PIKA-Insight JV will finalize the RD for RVAAP-06 C Block Quarry once responses to comments are approved by the Ohio EPA.
4. PIKA-Insight JV will finalize the Work Plan for CC RVAAP-70 East Classification Yard.
5. PIKA-Insight JV will finalize the Remedial Design Work Plan for RVAAP-50 Atlas Scrap Yard once responses to comments are approved by the Ohio EPA.
6. PIKA-Insight JV will mobilize to RVAAP-50 and CC RVAAP-70 to collect waste characterization samples and samples of backfill soil on August 7, 2024
7. Leidos plans to receive Ohio EPA approval for the Final CC RVAAP-69 Former Fire Station VI Study Work Plan (UFP-QAPP) and submit to the Admin Record.
8. Leidos plans to submit the Final UFP-QAPP with signatures for RVAAP-34 Sand Creek Disposal Road Landfill and continue preparing for field work.
9. Leidos plans to submit the Draft UFP-QAPP to the Ohio EPA for CC RVAAP-78 Quarry Pond Surface Dump, after submitting responses to Army comments.
10. Leidos will continue preparing for field work and the RI Addendums for RVAAP-38, RVAAP-42, RVAAP-45, and CC RVAAP-76 and submit the Final UFP-QAPP with signatures.
11. Leidos will draft responses to Ohio EPA comments on the Draft 2023 FWGWMP Annual Report.
12. Leidos will finalize the 2024 FWGWMP Addendum.

A. 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				
Responses to Ohio EPA Comments – FW Sewers	In Progress	May 22, 2024	July 6, 2024	Megan Oravec/Craig Kowalski
Final 2024 Addendum for FWGWMP	To be submitted (OEPA letter received 8/7/24)			Liam McEvoy
Responses to Ohio EPA Comments - Draft FWGWMP 2023 Annual Report	To be submitted (OEPA comments received 7/5/24)			Liam McEvoy
Final VI Study Work Plan for CC RVAAP-69	In Progress	June 12, 2024	July 29, 2024	Craig Kowalski
Final Spring 2023 FWGWMP Semiannual Report	In Progress	July 25, 2024	September 9, 2024	Liam McEvoy
Insight				
Response to comments on Draft Remedial Design Work Plan for RVAAP-06 C Block Quarry	In Progress	June 5, 2024	July 20, 2024	Craig Kowalski
Response to Comment - Draft Remedial Design Work Plan for RVAAP-50 Atlas Scrap Yard	In Progress	April 16, 2024	May 31, 2024	Craig Kowalski
Final Work Plan for CC RVAAP-70 East Classification Yard	To be submitted (OEPA comments received 8/7/24)			Craig Kowalski

B. Proposed FY25 Milestones

Milestone Activity	Milestone Date	Actual Date Achieved
Block D Igloo MRS Draft Remedial Action Completion Report - HGL	February 1, 2025	
Group 8 MRS Draft Remedial Action Completion Report – HGL	February 1, 2025	
Draft 2023 LUC Inspection Report - Chenega	February 3, 2025	
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	

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

July 8, 2024

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 – June 2024

Dear Ms. Oryshkewych:

Enclosed for your review is the "RVAAP Restoration Program - DFFO Monthly Summary Report – June 2024". The report summarizes the Restoration Program activities conducted at the former RVAAP for the period from June 1, 2024, through June 30, 2024. 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 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: 2024.07.08 11:03:45 -04'00'

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

Attachment

cc: Megan Oravec, Ohio EPA, DERR
Thomas Schneider, Ohio EPA, DERR
Katie Tait, OHARNG
Steve Kvaal, USACE – Louisville
James Trumble, USACE – Louisville
Jennifer Tierney, Chenega

RVAAP RESTORATION PROGRAM - DFFO MONTHLY SUMMARY REPORT
June 2024

Status of project activities for reporting period (June 2024)

PROJECT NAME	USACE TECH MGR /Contractor	PROJECT STATUS
2021 RI/FS Completion Contract for IRP AOCs	N. Peters / Leidos	On May 22, 2024, the Army submitted responses to Ohio EPA comments on the Draft RI Report for RVAAP-67 Facility-wide Sewers. On May 15, 2024, Leidos submitted a revised Draft Principal Threat Waste Memorandum for ARNG Legal review. On 29 May 2024 ARNG legal provided feedback on the Memorandum. A meeting with ARNG Legal was held on July 2, 2024.
Block D MRS and Group 8 MRS RD/RAs	Travis McCoun & Nicole Walworth / HGL	A field work notification was sent to the Ohio EPA on April 5, 2024, for the Block D MRS remedial action. Remedial action field work commenced on April 15, 2024, and is underway. Field work is expected to continue through August 2024. The Draft Pre-excavation Analytical Data Summary and Excavation Plan for Group 8 was submitted to Ohio EPA on January 24, 2024, and comments were received March 8, 2024. Responses to comments were submitted to Ohio EPA on April 4, 2024, and approval/acceptance was received June 11, 2024. The Final Plan was submitted to the Ohio EPA on July 2, 2024.
RVAAP-004-R-01 ODA #2	Nicole Walworth & Travis McCoun / Arcadis	A field work notification was sent to the Ohio EPA on May 1, 2024. Arcadis remobilized to ODA2 on May 20, 2024, to complete field work activities. Work in Sand Creek took place through June 11, 2024. Data was submitted to USACE for review on June 20, 2024. Intrusive investigation will occur in July after the data has been reviewed and approved.
Remedial Actions for 3 AOCs – RVAAP-06 C Block Quarry, RVAAP-50 Atlas Scrap Yard, CC RVAAP-70 E Classification Yard	Z. Bayne / PIKA-Insight JV	The Draft Work Plan for CC RVAAP-70 was submitted to Ohio EPA for review on January 12, 2024. Ohio EPA comments were received on April 9, 2024. A response to comments was submitted to the Ohio EPA on April 26, 2024, and concurrence is pending. Ohio EPA submitted comments for the Draft Remedial Design for RVAAP-06 on May 15, 2024. PIKA-Insight JV submitted response to comments on June 5, 2024. Ohio EPA comments were received on the Draft Remedial Design for RVAAP-50 Atlas Scrap Yard on March 5, 2024. Responses to comments were submitted to the Ohio EPA on April 16, 2024, and concurrence is 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	Z. Bayne / Leidos	Leidos is preparing for field work on RVAAP-34 Sand Creek Disposal Landfill. On April 9, 2024, Ohio EPA approved the responses to comments and Leidos began drafting the Final Draft VI Study Work Plan for CC RVAAP-69 Former Fire Station. On June 12, 2024, the Final UFP QAPP was submitted to the Ohio EPA. On June 12, 2024, samples were collected from five sub-slab vapor sampling points and ambient air samples from CC RVAAP-69 Former Fire Station Vapor Intrusion Study On April 5, 2024, Ohio EPA approved the Final UFP QAPP for RVAAP-38, RVAAP-42, RVAAP-45, and CC RVAAP-76. Leidos is preparing for field work and preparing the RD addendums. Leidos is working on responses to Army comments for the Preliminary Draft UFP-QAPP for CC RVAAP-78. On June 11, 2024, Ohio EPA provided a letter approving the Final RI Addendum for CC RVAAP-79 DLA ORE Storage Yard RI Addendum.
2022 Environmental Program Support Services	N. Peters / Chenega	Chenega continued routine maintenance of the correspondence file and the Administrative Record. On June 5, 2024, Chenega organized and administered the Restoration Advisory Board meeting. On June 27, 2024, Chenega removed the two trailers that served as the Environmental Archive Records storage building from the East Gate parking lot.
RVAAP-66 Facility Wide Ground Water Monitoring	J. Trumble / Leidos	Leidos responded to Ohio EPA comments on the Draft FWGWMP 2024 Addendum on June 5, 2024. Comments from the Ohio EPA were received on the Draft FWGWMP 2023 Annual Report on July 5, 2024. Ohio EPA concurrence on the response to comments on the Draft Spring 2023 Semi-Annual Report is pending (submitted March 13, 2024).

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

The 2024 spring semi-annual FWGWMP sampling event generated seventeen (17) 55-gallon drums of nonhazardous IDW (development/purge/decon water). They are being properly managed and stored at Building 1036 while awaiting transport and disposal.

One drum of liquid IDW was generated during groundwater sampling activities at CC RVAAP-69. The IDW was sampled and found to be nonhazardous and is being properly managed and stored at Building 1036 while awaiting transport and disposal.

F. Describe activities planned for the following month (July 2024)

1. HGL will continue fieldwork at the Block D Igloo MRS and will begin efforts at the Group 8 MRS on July 15, 2024.

2. Arcadis will continue field work at ODA2 to complete RI Addendum once data is reviewed by USACE.

3. PIKA-Insight JV will finalize the RD for RVAAP-06 C Block Quarry once responses to comments are approved by the Ohio EPA.

4. PIKA-Insight JV will finalize the Work Plan for CC RVAAP-70 East Classification Yard once responses to comments are approved by the Ohio EPA.

5. PIKA-Insight JV will finalize the Remedial Design Work Plan for RVAAP-50 Atlas Scrap Yard once responses to comments are approved by the Ohio EPA.

6. Leidos plans to receive Ohio EPA approval for the Final CC RVAAP-69 Former Fire Station VI Study Work Plan (UFP-QAPP) and submit to the Admin Record.

7. Leidos plans to submit the DRAFT UFP-QAPP to the Ohio EPA for CC RVAAP-78 Quarry Pond Surface Dump RI Work Plan, after submitting responses to Army comments.

8. Leidos will continue preparing for field work and the RI Addendums for RVAAP-38, RVAAP-42, RVAAP-45, and CC RVAAP-76 and submit the Final UFP-QAPP with signatures.

9. Leidos will draft responses to Ohio EPA comments on the Draft 2023 FWGWMP Annual Report.

10. Leidos will finalize the 2024 FWGWMP Addendum once concurrence from the Ohio EPA is received on responses to comments.

11. Chenega will continue routine maintenance of the correspondence file and the Administrative Record and continue seasonal work maintaining Seibert stakes and warning signs.

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				
Responses to Ohio EPA Comments – FW Sewers	In Progress	May 22, 2024	July 6, 2024	Megan Oravec/Craig Kowalski
Response to comments - Draft 2024 Addendum for FWGWMP	In Progress	June 5, 2024	July 20, 2024	Liam McEvoy
Draft FWGWMP 2023 Annual Report	To be submitted (OEPA comments received 7/5/24)			Liam McEvoy
Final VI Study Work Plan for CC RVAAP-69	In Progress	June 12, 2024	July 29, 2024	Craig Kowalski
Final Spring 2023 FWGWMP Semiannual Report	To be submitted			Liam McEvoy
Insight				
Response to comments on Draft Remedial Design Work Plan for RVAAP-06 C Block Quarry	In Progress	June 5, 2024	July 20, 2024	Craig Kowalski
Response to Comment - Draft Remedial Design Work Plan for RVAAP-50 Atlas Scrap Yard	In Progress	April 16, 2024	May 31, 2024	Craig Kowalski
Response to Comment - Draft Work Plan for CC RVAAP-70 East Classification Yard	In Progress	April 26, 2024	June 10, 2024	Craig Kowalski
HGL				
Final Excavation Plan for RVAAP-063-R-01 Group 8 MRS	In Progress	July 2, 2024	August 16, 2024	Nick Roope

H. List of FY25 Milestones

FY25 Milestones have been proposed to the Ohio EPA in an email dated July 5, 2024, and will be included in the next schedule and DFFO monthly report once finalized.

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

June 7, 2024

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 - May 2024

Dear Ms. Oryshkewych:

Enclosed for your review is the "RVAAP Restoration Program - DFFO Monthly Summary Report – May 2024". The report summarizes the Restoration Program activities conducted at the former RVAAP for the period from May 1, 2024, through May 31, 2024. 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 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: 2024.06.07 09:11:19 -04'00'

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

Attachment

cc: Megan Oravec, Ohio EPA, DERR
Thomas Schneider, Ohio EPA, DERR
Katie Tait, OHARNG
Steve Kvaal, USACE – Louisville
James Trumble, USACE – Louisville
Jennifer Tierney, Chenega

RVAAP RESTORATION PROGRAM - DFFO MONTHLY SUMMARY REPORT
May 2024

Status of project activities for reporting period (May 2024)

PROJECT NAME	USACE TECH MGR /Contractor	PROJECT STATUS
2021 RI/FS Completion Contract for IRP AOCs	N. Peters / Leidos	On May 22, 2024, the Army submitted responses to Ohio EPA comments on the Draft RI Report for RVAAP-67 Facility-wide Sewers. On May 15, 2024, Leidos submitted a revised Draft Principal Threat Waste Memorandum for Army Legal review.
Block D MRS and Group 8 MRS RD/RAs	Travis McCoun & Nicole Walworth / HGL	A field work notification was sent to the Ohio EPA on April 5, 2024 for the Block D MRS remedial action. Remedial action field work commenced on April 15, 2024, and is underway. Field work is expected to continue through August 2024. The Draft Pre-excavation Analytical Data Summary and Excavation Plan for Group 8 was submitted to Ohio EPA on January 24, 2024, and comments were received March 8, 2024. Responses to comments were submitted to Ohio EPA on April 4, 2024, and concurrence is pending.
RVAAP-004-R-01 ODA #2	Nicole Walworth & Travis McCoun / Arcadis	A field work notification was sent to the Ohio EPA on May 1, 2024. Arcadis remobilized to ODA2 on May 20, 2024, to complete field work activities. The response to comments on the Post-BIP notification for ODA2 was submitted to Ohio EPA on December 20, 2023. Ohio EPA provided approval/no comments on February 20, 2024. A Final Memo was sent to Ohio EPA on March 4, 2024. The Draft Summary of Findings Report for the Sand Creek Walk was submitted to Ohio EPA on January 24, 2024. The approval letter was received on May 14, 2024.
Remedial Actions for 3 AOCs – RVAAP-06 C Block Quarry, RVAAP-50 Atlas Scrap Yard, CC RVAAP-70 E Classification Yard	Z. Bayne / PIKA-Insight JV	The Draft Work Plan for CC RVAAP-70 was submitted to Ohio EPA for review on January 12, 2024. Ohio EPA comments were received on April 9, 2024. A response to comments was submitted to the Ohio EPA on April 26, 2024. Ohio EPA submitted comments for the Draft Remedial Design for RVAAP-06 on May 15, 2024. PIKA-Insight JV submitted response to comments on June 5, 2024. Ohio EPA comments were received on the Draft Remedial Design for RVAAP-50 Atlas Scrap Yard on March 5, 2024. Responses to comments were submitted to the Ohio EPA on April 16, 2024.

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	Z. Bayne / Leidos	Leidos is preparing for field work on RVAAP-34 Sand Creek Disposal Landfill. Leidos updated the APP/SSHP per Army comments and issued final APP/SSHP on May 24, 2024. On April 9, 2024, Ohio EPA approved the responses to comments and Leidos began drafting the Final Draft VI Study Work Plan for CC RVAAP-69 Former Fire Station. Leidos collected groundwater samples on May 14, 2024, from 14 wells at CC RVAAP-69 Building 1048 Former Fire Station and sampled three wells at CC RVAAP-74, as specified in the UFP-QAPP. Leidos also installed the vapor intrusion points in Building 1037 on May 15, 2024. On April 5, 2024, Ohio EPA approved the Final UFP QAPP for RVAAP-38, RVAAP-42, RVAAP-45, and CC RVAAP-76. Leidos is preparing for field work. Leidos is working on responses to Army comments for the Preliminary Draft UFP-QAPP for CC RVAAP-78. On October 13, 2023, the Ohio EPA provided comments on the Final RI Addendum for CC RVAAP-79 DLA Ore Storage Yard. Additional work was requested beyond what is specified in the contractor's scope and previous correspondence. On March 12, 2024, Leidos submitted a letter to the Ohio EPA requesting concurrence with a Final RI Addendum and stating that a second addendum will be created to address Risk Management Decisions and establish cleanup goals to supplement the FS for the DLA Ore Storage Sites. Ohio EPA approval is pending.
2022 Environmental Program Support Services	N. Peters / Chenega	Chenega continued routine maintenance of the correspondence file and the Administrative Record. On May 16 and 17, 2024, archive records were relocated to new Environmental Office Building. Chenega continued seasonal field work of Seibert Stake and warning sign maintenance.
RVAAP-66 Facility Wide Ground Water Monitoring	J. Trumble / Leidos	The Army received Ohio EPA comments on the Draft FWGWMP 2024 Addendum on May 6, 2024. The Spring 2024 FWGWMP semi-annual sampling was completed on May 14, 2024. Comments from the Ohio EPA are pending on the Draft FWGWMP 2023 Annual Report (submitted on February 13, 2024). Ohio EPA concurrence on the response to comments on the Draft Spring 2023 Semi-Annual Report is pending (submitted March 13, 2024).

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

The 2024 spring semi-annual FWGWMP sampling event generated seventeen (17) 55-gallon drums of IDW (development/purge/decon water). They are being properly managed and stored at Building 1036 while awaiting transport and disposal.

One half-full tote of decon water was generated as part of the tree clearing activities at RVAAP-50 Atlas Scrap Yard in March 2024. The water was sampled and found to be Nonhazardous was properly transported and disposed on May 7, 2024.

One 55-gallon drum of liquid IDW was generated during the sampling activities at CC RVAAP-69 and is properly stored and being inspected while awaiting characterization results.

F. Describe activities planned for the following month (June 2024)

1. HGL will continue fieldwork at the Block D Igloo MRS and will begin efforts at the Group 8 MRS on June 24, 2024.

2. Arcadis will continue field work for ODA2 to complete RI Addendum.

3. PIKA-Insight JV will finalize the RD for RVAAP-06 C Block Quarry once responses to comments are approved by the Ohio EPA.

4. PIKA-Insight JV will finalize the Work Plan for CC RVAAP-70 East Classification Yard once responses to comments are approved by the Ohio EPA.

5. Leidos plans to submit the Final UFP-QAPP for RVAAP-34 Sand Creek Disposal Road Landfill Work Plan.

6. PIKA-Insight JV will finalize the Remedial Design Work Plan for RVAAP-50 Atlas Scrap Yard once responses to comments are approved by the Ohio EPA.

7. Leidos will work with the Army to develop a path forward for the Principal Threat Waste memo related to the Draft RI Report for the Facility-wide Sewers (RVAAP-67).

8. Leidos plans to submit the Final CC RVAAP-69 Former Fire Station VI Study Work Plan (UFP-QAPP).

9. Leidos plans to submit the DRAFT UFP-QAPP to the Ohio EPA for CC RVAAP-78 Quarry Pond Surface Dump RI Work Plan, after submitting responses to Army comments.

10. Leidos will continue developing a path forward with the Army regarding Ohio EPA's comments for CC RVAAP-79 DLA Ore Storage Yard RI Addendum.

11. Leidos will continue preparing for field work and the RI Addendums for RVAAP-38, RVAAP-42, RVAAP-45, and CC RVAAP-76 and submit the Final UFP-QAPP with signatures.

12. Leidos will draft responses to Ohio EPA comments on the Draft 2023 FWGWMP Annual Report, once comments are received.

13. Leidos will finalize the 2024 FWGWMP Addendum once concurrence from the Ohio EPA is received on responses to comments.

14. Chenega will continue routine maintenance of the correspondence file and the Administrative Record. and continue seasonal work maintaining Seibert stakes and warning signs.

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				
Final RI Addendum – DLA Ore Storage Sites – RTCs	In Progress	March 12, 2024	April 26, 2024	Megan Oravec/Craig Kowalski
Responses to Ohio EPA Comments – FW Sewers	In Progress	May 22, 2024	June 6, 2024	Megan Oravec/Craig Kowalski
Response to comments - Draft 2024 Addendum for FWGWMP	In Progress	June 5, 2024	July 20, 2024	Liam McEvoy
Draft FWGWMP 2023 Annual Report	In Progress	February 13, 2024	March 30, 2024	Liam McEvoy
Final VI Study Work Plan for CC RVAAP-69	To be submitted (approval of RTCs received 4/9/24)			Craig Kowalski
Response to Comment - Draft Spring 2023 FWGWMP Semiannual Report	In Progress	March 13, 2024	April 27, 2024	Liam McEvoy
Insight				
Response to comments on Draft Remedial Design Work Plan for RVAAP-06 C Block Quarry	In Progress	June 5, 2024	July 20, 2024	Craig Kowalski
Response to Comment - Draft Remedial Design Work Plan for RVAAP-50 Atlas Scrap Yard	In Progress	April 16, 2024	May 31, 2024	Craig Kowalski
Response to Comment - Draft Work Plan for CC RVAAP-70 East Classification Yard	In Progress	April 26, 2024	June 10, 2024	Craig Kowalski
HGL				

Draft Excavation Plan RTC for RVAAP-063-R-01 Group 8 MRS	In Progress	April 4, 2024	May 20, 2024	Nick Roope
Arcadis				
Final Post BIP Sampling Memo for ODA2	In Progress	March 4, 2024	April 20, 2024	Nick Roope

H. List of FY24 Milestones

Milestone Activity	**Milestone Date**	**Actual Date Achieved**
Block D Igloo MRS Draft Remedial Action Completion Report - HGL	August 30, 2024	
Group 8 MRS Draft Remedial Action Completion Report – HGL	August 30, 2024	
Draft 2023 LUC Inspection Report - Chenega	March 31, 2024	December 13, 2023
FWGWMP Draft Annual Report - Leidos	February 15, 2024	February 13, 2024
FWGWMP Draft Groundwater Addendum - Leidos	February 15, 2024	February 13, 2024

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

May 8, 2024

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 - April 2024

Dear Ms. Oryshkewych:

Enclosed for your review is the "RVAAP Restoration Program - DFFO Monthly Summary Report – April 2024". The report summarizes the Restoration Program activities conducted at the former RVAAP for the period from April 1, 2024, through April 30, 2024. 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 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: 2024.05.08 14:22:57 -04'00'

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

Attachment

cc: Megan Oravec, Ohio EPA
Thomas Schneider, Ohio EPA
Katie Tait, OHARNG
Steve Kvaal, USACE
Jay Trumble, USACE
Jennifer Tierney, Chenega

RVAAP RESTORATION PROGRAM - DFFO MONTHLY SUMMARY REPORT
April 2024

Status of project activities for reporting period (April 2024)

PROJECT NAME	USACE TECH MGR /Contractor	PROJECT STATUS
2021 RI/FS Completion Contract for IRP AOCs	N. Peters / Leidos	Following the February 27, 2024, technical meeting with the Ohio EPA to address concerns regarding the Draft RI Report for RVAAP-67 Facility-wide Sewers, Leidos continued preparing a Comment Response Package. That effort included consolidating the ecological risk and human health risk information into the package. On April 16, 2024, Leidos submitted a draft letter, for Army review, identifying the areas of high contamination within the Facility-wide Sewers as a Principal Threat Waste. The Army provided comments, and Leidos began revising per Army comments.
Block D MRS and Group 8 MRS RD/RAs	Travis McCoun & Nicole Walworth / HGL	A field work notification was sent to the Ohio EPA on April 5, 2024. Remedial action field work commenced April 15, 2024, and is underway. Field work is expected to continue through August 2024. The Draft Pre-excavation Analytical Data Summary and Excavation Plan for Group 8 was submitted to Ohio EPA on January 24, 2024, and comments were received March 8, 2024. Responses to comments were submitted to Ohio EPA on April 4, 2024 and concurrence is pending.
RVAAP-004-R-01 ODA #2	Nicole Walworth & Travis McCoun / Arcadis	Ohio EPA approved the Final QAPP on April 3, 2023. Arcadis demobilized from the site in January 2024 and will return to complete field work in May 2024. A field work notification was sent to the Ohio EPA on May 1, 2024. The response to comments on the Post-BIP Notification for ODA2 was submitted to Ohio EPA on December 20, 2024. Ohio EPA provided approval/no comments on February 20, 2024. A Final Memo was sent to Ohio EPA on March 4, 2024, and is awaiting concurrence. The Draft Summary of Findings Report for the Sand Creek Walk was submitted to Ohio EPA on January 24, 2024. Comments are pending.
Remedial Actions for 3 AOCs – RVAAP-06 C Block Quarry, RVAAP-50 Atlas Scrap Yard, CC RVAAP-70 E Classification Yard	Z. Bayne / PIKA-Insight JV	The Draft Work Plan for CC RVAAP-70 was submitted to Ohio EPA for review on January 12, 2024. Ohio EPA comments were received on April 9, 2024. A response to comments was submitted to the Ohio EPA on April 26, 2024. The Draft Remedial Design for RVAAP-06 was submitted to Ohio EPA on February 14, 2024. Ohio EPA comments are pending. Ohio EPA comments were received on the Draft Remedial Design for RVAAP-50 Atlas Scrap Yard on March 5, 2024. Responses to comments were submitted to the Ohio EPA on April 16, 2024.

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	Z. Bayne / Leidos	On February 16, 2024, the Final RVAAP-34 Sand Creek Disposal Rd. Landfill Work Plan (UFP-QAPP) was submitted to the Ohio EPA. On April 5, 2024, Ohio EPA approved the Final UFP QAPP. Leidos provided responses to comments on the Draft VI Study Work Plan for CC RVAAP-69 Former Fire Station on February 20, 2024, to the Ohio EPA. On April 9, 2024, Ohio EPA approved the responses to comments and Leidos began drafting the Final Draft VI Study Work Plan. On April 5, 2024, Ohio EPA approved the Final UFP QAPP for RVAAP-38, RVAAP-42, RVAAP-45, and CC RVAAP-76. Leidos is working on responses to Army comments for the Preliminary Draft UFP-QAPP for CC RVAAP-78. On October 13, 2023, the Ohio EPA provided comments on the Final RI Addendum for CC RVAAP-79 DLA Ore Storage Yard. Additional work was requested beyond what is specified in the contractor's scope and previous correspondence. On March 12, 2024, Leidos submitted a letter to the Ohio EPA requesting concurrence with a Final RI Addendum and stating that a second addendum will be created to address Risk Management Decisions and establish cleanup goals to supplement the FS for the DLA Ore Storage Sites. Ohio EPA approval is pending.
2022 Environmental Program Support Services	N. Peters / Chenega	Chenega continued routine maintenance of the correspondence file and the Administrative Record.
RVAAP-66 Facility Wide Ground Water Monitoring	J. Trumble / Leidos	Ohio EPA was notified on April 5, 2024, of the upcoming FWGWMP Spring sampling activities. Eight of thirteen wells have been redeveloped, and fourteen of sixty wells have been sampled as of April 30, 2024.

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

As of April 30, 2024, eight 55-gallon drums of IDW (development/purge/decon water) have been generated as part of the FWGWMP spring sampling event. They are being properly managed and stored at Building 1036 while awaiting transport and disposal.

One half-full tote of decon water was generated as part of the tree clearing activities at RVAAP-50 Atlas Scrap Yard in March 2024. The water was sampled and found to be Nonhazardous and is being properly managed and stored while awaiting transport and disposal.

F. Describe activities planned for the following month (May 2024)

1. HGL will continue fieldwork at the Block D Igloo MRS.

2. Arcadis will remobilize to ODA2 to complete RI Addendum field work.

3. USACE will address comments received from Ohio EPA on the Draft Summary of Findings Report for the Sand Creek Walk once received.

4. PIKA-Insight JV will respond to comments from Ohio EPA on Draft RD for RVAAP-06 C Block Quarry once received.

5. Leidos plans to provide a revised Principal Threat Waste memo to the Army for review. Upon approval of that memo by the Army, Leidos will submit a RTC package to the Army and the Ohio EPA regarding the Draft RI Report for the Facility-wide Sewers (RVAAP-67).

6. Leidos plans to submit the Final CC RVAAP-69 Former Fire Station VI Study Work Plan (UFP-QAPP).

7. Leidos plans to submit the DRAFT UFP-QAPP to the Ohio EPA for CC RVAAP-78 Quarry Pond Surface Dump RI Work Plan, after submitting responses to Army comments.

8. Leidos will continue developing a path forward with the Army regarding Ohio EPA's comments for CC RVAAP-79 DLA Ore Storage Yard RI Addendum.

9. Leidos will continue preparing for field work and the RI Addendums for RVAAP-38, RVAAP-42, RVAAP-45, and CC RVAAP-76.

10. Leidos will draft responses to Ohio EPA comments on the Draft 2023 FWGWMP Annual Report, and the 2024 Addendum once comments are received.

11. Leidos will continue the 2024 well gauging/Inspection, and the Spring FWGWMP sampling event.

12. Chenega plans to move the Administrative Record files from the office trailer to the new Ohio Army National Guard Environmental Office and begin seasonal work maintaining Seibert stakes and warning signs.

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				
Final RI Addendum – DLA Ore Storage Sites – RTCs - Leidos	In Progress	March 12, 2024	April 26, 2024	Megan Oravec/Craig Kowalski
Draft 2024 Addendum for FWGWMP – Leidos	To be submitted – comments received 5/6/24)			Liam McEvoy
Draft FWGWMP 2023 Annual Report - Leidos	In Progress	February 13, 2024	March 30, 2024	Liam McEvoy
Final VI Study Work Plan for CC RVAAP-69 – Leidos	To be submitted (approval of RTCs received 4/9/24)			Craig Kowalski
Response to Comment - Draft Spring 2023 FWGWMP Semiannual Report – Leidos	In Progress	March 13, 2024	April 27, 2024	Liam McEvoy
Insight				
Draft Remedial Design Work Plan for RVAAP-06 C Block Quarry-Insight	In Progress	February 14, 2024	March 31, 2024	Craig Kowalski
Response to Comment - Draft Remedial Design Work Plan for RVAAP-50 Atlas Scrap Yard - Insight	In Progress	April 16, 2024	May 31, 2024	Craig Kowalski
Response to Comment - Draft Work Plan for CC RVAAP-70 East Classification Yard - Insight	In Progress	April 26, 2024	June 10, 2024	Craig Kowalski
USACE				
Draft Summary of Findings Report for Sand Creek Walk – RVAAP-004-R-01 - USACE	In Progress	January 24, 2024	March 8, 2024	Nick Roope
HGL				
Draft Excavation Plan RTC for RVAAP-063-R-01 Group 8 MRS - HGL	In Progress	April 4, 2024	May 20, 2024	Nick Roope
Arcadis				

Final Post BIP Sampling Memo for ODA2 – Arcadis	In Progress	March 4, 2024	April 20, 2024	Nick Roope

H. List of FY24 Milestones

Milestone Activity	Milestone Date	Actual Date Achieved
Block D Igloo MRS Draft Remedial Action Completion Report - HGL	August 30, 2024	
Group 8 MRS Draft Remedial Action Completion Report – HGL	August 30, 2024	
Draft 2023 LUC Inspection Report - Chenega	March 31, 2024	December 13, 2023
FWGWMP Draft Annual Report - Leidos	February 15, 2024	February 13, 2024
FWGWMP Draft Groundwater Addendum - Leidos	February 15, 2024	February 13, 2024

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

April 4, 2024

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 2024

Dear Ms. Oryshkewych:

Attached for your review is the "RVAAP Restoration Program - DFFO Monthly Summary Report – March 2024". The report summarizes the Restoration Program activities conducted at the former RVAAP for the period from March 1, 2024, through March 31, 2024. 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 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: 2024.04.04 14:38:39 -04'00'

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

Attachment

cc: Megan Oravec, Ohio EPA, DERR
Thomas Schneider, Ohio EPA, DERR
Katie Tait, OHARNG, CJAG
Steve Kvaal, USACE – Louisville
Jay Trumble, USACE – Louisville
Jennifer Tierney, Chenega

RVAAP RESTORATION PROGRAM - DFFO MONTHLY SUMMARY REPORT
March 2024

Status of project activities for reporting period (March 2024)

PROJECT NAME	USACE TECH MGR /Contractor	PROJECT STATUS
2021 RI/FS Completion Contract for IRP AOCs	N. Peters / Leidos	Following the February 27, 2024, technical meeting with the Ohio EPA to address concerns regarding the Draft RI Report for RVAAP-67 Facility-wide Sewers, Leidos continued preparing a Comment Response Package. That effort included consolidating the ecological risk and human health risk information into the package.
Block D MRS and Group 8 MRS RD/RAs	Travis McCoun & Nicole Walworth / HGL	Field work (tree cutting) at the Block D MRS started in October 2023. Tree and brush removal is complete. The Draft Pre-excavation Analytical Data Summary and Excavation Plan for Group 8 was submitted to Ohio EPA on January 24, 2024, and comments were received 8 March 2024. Responses are pending.
RVAAP-004-R-01 ODA #2	Nicole Walworth & Travis McCoun / Arcadis	Ohio EPA approved the Final QAPP on April 3, 2023. Arcadis demobilized from the site in January 2024 and will return to complete field work in Spring 2024 to complete the Sand Creek portion of the work. The response to comments on the Post-BIP Notification for ODA2 was submitted to Ohio EPA on December 20, 2024. Ohio EPA provided approval/no comments on February 20, 2024. A Final Memo was sent to Ohio EPA on March 4, 2024, and is awaiting approval. The Draft Summary of Findings Report for the Sand Creek Walk was submitted to Ohio EPA on January 24, 2024. Comments are pending.
Remedial Actions for 3 AOCs – RVAAP-06 C Block Quarry, RVAAP-50 Atlas Scrap Yard, CC RVAAP-70 E Classification Yard	Z. Bayne / PIKA-Insight JV	The Draft Work Plan for CC RVAAP-70 was submitted to Ohio EPA for review on January 12, 2024. Ohio EPA comments are pending. The Preliminary Draft Remedial Design Work Plan for RVAAP-06 C Block Quarry was submitted to the Ohio EPA for review on February 14, 2024. Ohio EPA comments are pending. During the week of March 18, 2024, brush was cleared from the C Block Quarry floor and a visual inspection for asbestos-containing materials was completed. PIKA-Insight submitted the Draft Remedial Design Work Plan for RVAAP-50 Atlas Scrap Yard to the Ohio EPA on December 8, 2023. Ohio EPA comments were received on March 5, 2024. Responses to comments are being prepared. Tree removal was completed at the Former Incinerator Area at RVAAP-50 during the week of March 18, 2024.

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	Z. Bayne / Leidos	On February 16, 2024, the Final RVAAP-34 Sand Creek Disposal Rd. Landfill Work Plan (UFP-QAPP) was submitted to the Ohio EPA. Leidos provided responses to comments on the Draft VI Study Work Plan for CC RVAAP-69 Former Fire Station on February 20, 2024, to the Ohio EPA. Leidos is working on responses to Army comments for the Preliminary Draft UFP-QAPP for CC RVAAP-78. On October 13, 2023, the Ohio EPA provided comments on the Final RI Addendum for CC RVAAP-79 DLA Ore Storage Yard. Additional work was requested beyond what is specified in the contractor's scope and previous correspondence. On March 12, 2024, Leidos submitted a letter to the Ohio EPA requesting concurrence with a Final RI Addendum and stating that a second addendum will be created to address Risk Management Decisions and establish cleanup goals to supplement the FS for the DLA Ore Storage Sites.
2022 Environmental Program Support Services	N. Peters / Chenega	Chenega set up and attended the RAB Membership Committee meeting on March 6, 2024.
RVAAP-66 Facility Wide Ground Water Monitoring	J. Trumble / Leidos	Responses to Ohio EPA comments on the Draft Spring 2023 FWGWMP Semiannual Report were submitted on March 13, 2024. The three culverts/drives along State Route 5 to access monitoring wells were installed from March 18 to March 25, 2024.

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
None.

F. Describe activities planned for the following month (April 2024)

1. HGL will submit RTCs for the Draft Excavation Plan and Analytical Data Summary for the Group 8 MRS.

2. Arcadis will prepare for the Sand Creek field effort.

3. USACE will address comments received from Ohio EPA on the Draft Summary of Findings Report for the Sand Creek Walk once received.

4. PIKA-Insight JV will respond to comments from Ohio EPA on the Draft Remedial Design for RVAAP-50 Atlas Scrap Yard.

5. Leidos plans to provide a comment response package to the Army and the Ohio EPA regarding the Draft RI Report for the Facility-wide Sewers RVAAP-67.

6. Leidos plans to continue developing the Draft APP/SSHP for the Investigation of Nine AOCs for Army review.

7. Leidos plans to route the Final RVAAP-34 Sand Creek Disposal Road Landfill Work Plan (UFP-QAPP) for signatures, upon receipt of Ohio EPA concurrence.

8. Leidos plans to submit the Final CC RVAAP-69 Former Fire Station VI Study Work Plan (UFP-QAPP) upon Ohio EPA approval of comment responses.

9. Leidos will route the Final Multi-AOC Delineation Sampling UFP-QAPP for RVAAP-38, RVAAP-42, RVAAP-45, and CC RVAAP-76 for signatures, upon receipt of Ohio EPA concurrence.

10. Leidos will continue developing a path forward with the Army regarding Ohio EPA's comments for CC RVAAP-79 DLA Ore Storage Yard RI Addendum.

11. Leidos will respond to feedback from the Ohio EPA regarding the March 12, 2024, letter for CC RVAAP-79 DLA Ore Storage Yard RI Addendum

12. Leidos will continue preparing for field work and the RI Addendums for RVAAP-38, RVAAP-42, RVAAP-45, and CC RVAAP-76.

13. Leidos will draft responses to Ohio EPA comments on the Draft 2023 FWGWMP Annual Report, and the 2024 Addendum once comments are received.

14. Leidos will begin the 2024 well gauging/Inspection, and the Spring FWGWMP sampling event by the end of April.

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)
Final QAPP for RVAAP-38, 42, 45, CC RVAAP-76 (Multi-AOC) – Leidos	In Progress	February 16, 2024	April 3, 2024	Craig Kowalski
Final RI Addendum – DLA Ore Storage Sites – RTCs - Leidos	In Progress	March 12, 2024	April 26, 2024	Megan Oravec/Craig Kowalski

Draft 2024 Addendum for FWGWMP - Leidos	In Progress	February 13, 2024	March 30, 2024	Liam McEvoy
Draft FWGWMP 2023 Annual Report - Leidos	In Progress	February 13, 2024	March 30, 2024	Liam McEvoy
Response to comments on the Draft VI Study Work Plan for CC RVAAP-69 - Leidos	In Progress	February 20, 2024	April 5, 2024	Craig Kowalski
Draft Remedial Design Work Plan for RVAAP-50 Atlas Scrap Yard - Insight	To be submitted – Ohio EPA comments received on March 5, 2024			Craig Kowalski
Draft Remedial Design Work Plan for RVAAP-06 C Block Quarry-Insight	In Progress	February 14, 2024	March 31, 2024	Craig Kowalski
Draft Work Plan for CC RVAAP-70 East Classification Yard - Insight	In Progress	January 12, 2024	February 26, 2024	Craig Kowalski
Final QAPP for RVAAP-34 Sand Creek Disposal Rd Landfill - Leidos	In Progress	February 16, 2024	April 3, 2024	Craig Kowalski
Response to Comment - Draft Spring 2023 FWGWMP Semiannual Report - Leidos	In Progress	March 13, 2024	April 27, 2024	Liam McEvoy
Draft Summary of Findings Report for Sand Creek Walk – RVAAP-004-R-01 - USACE	In Progress	January 24, 2024	March 8, 2024	Nick Roope
Draft Excavation Plan RTC for RVAAP-063-R-01 Group 8 MRS - HGL	In Progress	April 4, 2024	May 20, 2024	Nick Roope
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H. List of FY24 Milestones

Milestone Activity	Milestone Date	Actual Date Achieved
Block D Igloo MRS Draft Remedial Action Completion Report - HGL	August 30, 2024	
Group 8 MRS Draft Remedial Action Completion Report – HGL	August 30, 2024	
Draft 2023 LUC Inspection Report - Chenega	March 31, 2024	December 13, 2023
FWGWMP Draft Annual Report - Leidos	February 15, 2024	February 13, 2024
FWGWMP Draft Groundwater Addendum - Leidos	February 15, 2024	February 13, 2024

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

March 8, 2024

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 2024

Dear Ms. Oryshkewych:

Attached is the "RVAAP Restoration Program - DFFO Monthly Summary Report – February 2024". The report summarizes the Restoration Program activities conducted at the former RVAAP for the period from February 1, 2024 through February 29, 2024. 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 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: 2024.03.08 11:03:52 -05'00'

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

Attachment

cc: Megan Oravec, Ohio EPA, DERR
Thomas Schneider, Ohio EPA, DERR
Katie Tait, OHARNG, CJAG
Steve Kvaal, USACE – Louisville
James Trumble, USACE – Louisville
Jennifer Tierney, Chenega

RVAAP RESTORATION PROGRAM - DFFO MONTHLY SUMMARY REPORT
February 2024

Status of project activities for reporting period (February 2024)

PROJECT NAME	USACE TECH MGR /Contractor	PROJECT STATUS
2021 RI/FS Completion Contract for IRP AOCs	N. Peters / Leidos	The Army and Leidos held a technical meeting with the Ohio EPA on February 27, 2024, to address Ohio EPA concerns regarding the Draft RI Report for RVAAP-67 Facility-wide Sewers.
Block D MRS and Group 8 MRS RD/RAs	Travis McCoun & Nicole Walworth / HGL	Field work (tree cutting) at the Block D MRS started in October 2023. Tree and brush removal is complete. The Draft Pre-excavation Analytical Data Summary and Excavation Plan for Group 8 was submitted to Ohio EPA on January 24, 2024, and comments were received on March 8, 2024. The initial topographic survey was performed on February 21, 2024.
RVAAP-004-R-01 ODA #2	Nicole Walworth & Travis McCoun / Arcadis	Ohio EPA approved the Final QAPP on April 3, 2023. Arcadis demobilized from the site in January 2024 and will return to complete field work in Spring 2024 to complete the Sand Creek portion of the work. The response to comments on the Post-BIP Notification for ODA2 was submitted to Ohio EPA on December 20, 2024. Ohio EPA provided approval/no comments on February 20, 2024. Final was sent March 4, 2024. The Draft Summary of Findings Report for the Sand Creek Walk was submitted to Ohio EPA on January 24, 2024. Comments are pending.
Remedial Actions for 3 AOCs – RVAAP-06 C Block Quarry, RVAAP-50 Atlas Scrap Yard, CC RVAAP-70 E Classification Yard	Z. Bayne / PIKA-Insight JV	The Draft Work Plan for CC RVAAP-70 was submitted to Ohio EPA for review on January 12, 2024. Ohio EPA comments are pending. The Draft Remedial Design Work Plan for RVAAP-06 C Block Quarry was submitted to the Ohio EPA for review on February 14, 2024. Ohio EPA comments are pending. PIKA-Insight submitted the Draft Remedial Design Work Plan for RVAAP-50 Atlas Scrap Yard to the Ohio EPA on December 8, 2023. Ohio EPA comments were received on March 5, 2024.

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	Z. Bayne / Leidos	On February 16, 2024, the Final RVAAP-34 Sand Creek Disposal Rd. Landfill Work Plan (UFP-QAPP) was submitted to the Ohio EPA. On January 4, 2024, Leidos submitted responses to comments for the Draft Multi-AOC Delineation Sampling UFP-QAPP for RVAAP-38, RVAAP-42, RVAAP-45, and CC RVAAP-76 to the Ohio EPA. On January 26, 2024, the Ohio EPA approved the responses. Leidos submitted the Final UFP-QAPP to the Ohio EPA on February 16, 2024. Leidos provided responses to comments on the Draft VI Study Work Plan for CC RVAAP-69 Former Fire Station on February 20, 2024, to the Ohio EPA. Leidos is working on responses to Army comments for the Preliminary Draft UFP-QAPP for CC RVAAP-78. On October 13, 2023, the Ohio EPA provided comments on the Final RI Addendum for CC RVAAP-79 DLA Ore Storage Yard. Additional work was requested beyond what is specified in the contractor's scope and previous correspondence. Leidos and the Army are developing a path forward.
2022 Environmental Program Support Services	N. Peters / Chenega	On February 23, 2024, Chenega submitted the Final 2023 Annual Land Use Control Report for Ramsdell Quarry Landfill, Load Line 1, 2, 3, 4, 12, Dump along Paris-Windham Rd, Open Demolition Area #2, and Winklepeck Burning Grounds to Ohio EPA.
RVAAP-66 Facility Wide Ground Water Monitoring	J. Trumble / Leidos	Leidos submitted the 2023 Draft Annual FWGWMP Report and the 2024 Addendum to the Ohio EPA on February 12, 2024. Comments are pending. Comments on the Draft Spring 2023 FWGWMP Semiannual Report were received on January 29, 2024. Leidos is working on the responses to comments.

A. Describe difficulties encountered during the reporting period and actions taken to rectify any difficulties

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

None

F. Describe activities planned for the following month (March 2024)

1. HGL will address Ohio EPA comments on the Draft Excavation Plan and Analytical Data Summary for the Group 8 MRS.

2. Arcadis will prepare for the ODA2 Sand Creek field effort.

3. USACE will address comments received from Ohio EPA on the Draft Summary of Findings Report for the Sand Creek Walk.

4. PIKA-Insight JV will mobilize for Tree removal at RVAAP-50 FIA.

5. PIKA-Insight JV will mobilize to conduct the brush removal at RVAAP-06 C Block Quarry.

6. Leidos will use information obtained in the February 27, 2024, meeting with Ohio EPA to prepare a response to the Ohio EPA regarding the path forward for the RI Report for the Facility-wide Sewers RVAAP-67.

7. Leidos plans to continue developing the Draft APP/SSHP for the Investigation of Nine AOCs for Army review.

8. Leidos plans to route the Final RVAAP-34 Sand Creek Disposal Road Landfill Work Plan (UFP-QAPP) for signatures, upon receipt of Ohio EPA concurrence.

9. Leidos plans to submit the Final RI report for CC RVAAP-69 Former Fire Station to Admin records and submit the Final CC RVAAP-69 Former Fire Station VI Study Work Plan (UFP-QAPP) upon Ohio EPA approval of comment responses.

10. Leidos will route the Final Multi-AOC Delineation Sampling UFP-QAPP for RVAAP-38, RVAAP-42, RVAAP-45, and CC RVAAP-76 for signatures, upon receipt of Ohio EPA concurrence.

11. Leidos will continue developing a path forward with the Army regarding Ohio EPA's comments for CC RVAAP-79 DLA Ore Storage Yard RI Addendum.

12. Leidos will continue preparing for field work and the RI Addendums for RVAAP-38, RVAAP-42, RVAAP-45, and CC RVAAP-76.

13. Leidos will begin installation of the culverts/drives on State Route 5 for well access.

14. Leidos plans on submitting responses to comments on the Draft 2023 Spring Semi-Annual FWGWMP Report.

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)

Final QAPP for RVAAP-38, 42, 45, CC RVAAP-76 (Multi-AOC) – Leidos	In Progress	February 16, 2024	April 3, 2024	Craig Kowalski
Draft 2024 Addendum for FWGWMP - Leidos	In Progress	February 13, 2024	March 30, 2024	Liam McEvoy
Draft FWGWMP 2023 Annual Report - Leidos	In Progress	February 13, 2024	March 30, 2024	Liam McEvoy
Response to comments on the Draft VI Study Work Plan for CC RVAAP-69 -Leidos	In Progress	February 20, 2024	April 5, 2024	Craig Kowalski
Draft Remedial Design Work Plan for RVAAP-50 Atlas Scrap Yard - Insight	To be submitted – Ohio EPA comments received on March 5, 2024			Craig Kowalski
Draft Remedial Design Work Plan for RVAAP-06 C Block Quarry- Insight	In Progress	February 14, 2024	March 31, 2024	Craig Kowalski
Draft Work Plan for CC RVAAP-70 East Classification Yard - Insight	In Progress	January 12, 2024	February 26, 2024	Craig Kowalski
Draft UFP-QAPP for CC RVAAP-78 Quarry Pond Surface Dump- Leidos	To be submitted			Craig Kowalski
Final QAPP for RVAAP-34 Sand Creek Disposal Rd Landfill - Leidos	In Progress	February 16, 2024	April 3, 2024	Craig Kowalski
Final Annual LUC Report for 2023 - Chenega	In Progress	February 23, 2024	April 8, 2024	Nick Roope
Response to Comment - Draft Spring 2023 FWGWMP Semiannual Report - Leidos	To be submitted – Comments received January 29, 2024			Liam McEvoy
Draft Summary of Findings Report for Sand Creek Walk – RVAAP-004-R-01 - USACE	In Progress	January 24, 2024	March 8, 2024	Nick Roope

Draft Excavation Plan for RVAAP-063-R-01 Group 8 MRS - HGL	To be submitted			Nick Roope
Final Post BIP Sampling Memo for ODA2 - Arcadis	In Progress	March 4, 2024	April 20, 2024	Nick Roope

H. List of FY24 Milestones

Milestone Activity	Milestone Date	Actual Date Achieved
Block D Igloo MRS Draft Remedial Action Completion Report - HGL	August 30, 2024	
Group 8 MRS Draft Remedial Action Completion Report – HGL	August 30, 2024	
Draft 2023 LUC Inspection Report - Chenega	March 31, 2024	December 13, 2023
FWGWMP Draft Annual Report - Leidos	February 15, 2024	February 13, 2024
FWGWMP Draft Groundwater Addendum - Leidos	February 15, 2024	February 13, 2024

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

February 8, 2024

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 - January 2024

Dear Ms. Oryshkewych:

Enclosed for your review is the "RVAAP Restoration Program - DFFO Monthly Summary Report – January 2024". The report summarizes the Restoration Program activities conducted at the former RVAAP for the period from January 1, 2024, through January 31, 2024. 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 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: 2024.02.07 15:02:22 -05'00'

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

Attachment

cc: Megan Oravec, Ohio EPA, DERR
Thomas Schneider, Ohio EPA, DERR
Katie Tait, OHARNG
Steve Kvaal, USACE – Louisville
James Trumble, USACE – Louisville
Jennifer Tierney, Chenega, Admin Record

RVAAP RESTORATION PROGRAM - DFFO MONTHLY SUMMARY REPORT
January 2024

Status of project activities for reporting period (January 2024)

PROJECT NAME	USACE TECH MGR /Contractor	PROJECT STATUS
2021 RI/FS Completion Contract for IRP AOCs	N. Peters / Leidos	The Army awarded a modification to Leidos' contract on September 19, 2023, to get additional support and Leidos began reviewing and evaluating data in response to Ohio EPA concerns about the Draft RI Report for RVAAP-67 Facility-wide Sewers. The Army is planning to schedule a technical meeting with the Ohio EPA in February 2024.
Block D MRS and Group 8 MRS RD/RAs	Travis McCoun & Nicole Walworth / HGL	Field work (tree cutting) at the Block D MRS started in October 2023 and is ongoing. The Draft Pre-excavation Analytical Data Summary and Excavation Plan for Group 8 was submitted to Ohio EPA on January 24, 2024.
RVAAP-004-R-01 ODA #2	Nicole Walworth & Travis McCoun / Arcadis	Ohio EPA approved the Final QAPP on April 3, 2023. Arcadis demobilized from the site in January and will return to complete field work in Spring 2024. The response to comments on the Post-BIP Notification for ODA2 was submitted to Ohio EPA on December 20, 2024. Ohio EPA approval is pending. The Draft Summary of Findings Report for the Sand Creek Walk was submitted to Ohio EPA on January 24, 2024. Comments are pending.
Remedial Actions for 3 AOCs – RVAAP-06 C Block Quarry, RVAAP-50 Atlas Scrap Yard, CC RVAAP-70 E Classification Yard	Z. Bayne / PIKA-Insight JV	The Draft Work Plan for CC RVAAP-70 was submitted to Ohio EPA for review on January 12, 2024. Ohio EPA comments are pending. The Army sent comments on the Preliminary Draft Remedial Design Work Plan for RVAAP-06 C Block Quarry to PIKA-INSIGHT JV on January 11, 2024. PIKA-Insight is working on responses. PIKA-Insight submitted the Draft Remedial Design Work Plan for RVAAP-50 Atlas Scrap Yard to the Ohio EPA on December 8, 2023. Ohio EPA comments are pending.
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	Z. Bayne / Leidos	In letter dated December 27, 2023, the Ohio EPA approved responses to comments for RVAAP-34 Sand Creek Disposal Rd. Landfill Work Plan (UFP-QAPP). Leidos is preparing the Final UFP-QAPP for submittal. On January 4, 2024, Leidos submitted responses to comments for the Draft Multi-AOC Delineation Sampling UFP-QAPP for RVAAP-38, RVAAP-42, RVAAP-45, and CC RVAAP-76 to the Ohio EPA. On January 26, 2024, the Ohio EPA approved the responses. Leidos is developing the Final UFP-QAPP. On October 19, 2023, the Draft VI Study Work Plan for CC RVAAP-69 Former Fire Station was submitted to Ohio EPA. Comments were received on February 5, 2024. Leidos is working on responses. Leidos is working on responses to Army comments for the Draft UFP-QAPP for CC RVAAP-78. On October 13, 2023, the Ohio EPA provided comments on the Final RI Addendum for CC RVAAP-79 DLA Ore Storage Yard. Additional work was requested beyond what is specified in the contractor's scope and previous correspondence. Leidos and the Army are developing a path forward.

PROJECT NAME	USACE TECH MGR /Contractor	PROJECT STATUS
2022 Environmental Program Support Services	N. Peters / Chenega	Ohio EPA comments are pending on the Draft 2023 Annual Land Use Control Report for Ramsdell Quarry Landfill, Load Line 1, 2, 3, 4, 12, Dump along Paris-Windham Rd, Open Demolition Area #2, and Winklepeck Burning Grounds, which was submitted on December 13, 2023.
RVAAP-66 Facility Wide Ground Water Monitoring	J. Trumble / Leidos	Leidos continues to work on the 2023 Draft Annual FWGWMP Report and the 2024 Addendum. Comments on the Draft Spring 2023 FWGWMP Semiannual Report were received on January 29, 2024. Leidos is working on the responses to comments.

A. Describe difficulties encountered during the reporting period and actions taken to rectify any difficulties

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

Approximately 4430 tons of trees/wood were generated and taken for recycling as part of the Block D MRS site work.

Approximately 6681 pounds of scrap metal were recycled from the RVAAP-004-R-01 ODA2 field work.

F. Describe activities planned for the following month (February 2024)

1. HGL will continue remedial action field work at the Block D MRS and the Group 8 MRS.

2. HGL will address Ohio EPA comments on the Draft Excavation Plan and Analytical Data Summary for the Group 8 MRS when received.

3. Pending resolution of Army comments, PIKA-Insight JV will submit the Draft Remedial Design for RVAAP-06 for Ohio EPA review.

4. Chenega plans to respond to Ohio EPA comments on the Draft Annual 2023 LUC Report once comments are received.

5. Leidos will continue preparing for a meeting with the Army and the Ohio EPA regarding the path forward on the RI Report for the Facility-wide Sewers RVAAP-67.

6. Leidos plans to continue developing the Draft APP/SSHP for the Investigation of Nine AOCs for Army review.

7. Leidos plans to submit the Draft UFP-QAPP for CC RVAAP-78 to Ohio EPA after Army comments on the Preliminary Draft are resolved.

8. Leidos plans to respond to Ohio EPA comments on the Draft Work Plan for the Vapor Intrusion Study for CC RVAAP-69 since comments were received from Ohio EPA on February 5, 2024.

9. Leidos will prepare the Final UFP-QAPP for RVAAP-34 Sand Creek Disposal Road Landfill.

10. Leidos will submit the Final Multi-AOC Delineation Sampling UFP-QAPP for RVAAP-38, RVAAP-42, RVAAP-45, and CC RVAAP-76.

11. Leidos will continue developing a path forward with the Army regarding Ohio EPA's comments for CC RVAAP-79 DLA Ore Storage Yard RI Addendum.

12. Leidos will begin installation of the culverts on State Route 5 on February 20, 2024.

13. Leidos plans on submitting the Draft 2023 FWGWMP Annual Report.

14. Leidos plans on submitting the Draft 2024 FWGWMP Addendum.

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)
Final QAPP for RVAAP-38, 42, 45, CC RVAAP-76 (Multi-AOC) – Leidos	To be submitted – Comment approval received January 26, 2024			Ed D'Amato
Response to comments on the Draft VI Study Work Plan for CC RVAAP-69 - Leidos	To be submitted – Comments received February 5, 2024			Ed D'Amato
Draft Remedial Design Work Plan for RVAAP-50 Atlas Scrap Yard - Insight	In Progress	December 8, 2023	January 22, 2024	Ed D'Amato
Draft Remedial Design Work Plan for RVAAP-06 C Block Quarry-Insight	To be submitted			

Draft Work Plan for CC RVAAP-70 East Classification Yard - Insight	In Progress	January 12, 2024	February 26, 2024	Ed D'Amato
Draft UFP-QAPP for CC RVAAP-78 Quarry Pond Surface Dump- Leidos	To be submitted			
Final Work Plan for RVAAP-34 Sand Creek Disposal Rd Landfill - Leidos	To be submitted			
Draft Annual LUC Report for 2023 - Chenega	In Progress	December 13, 2023	January 28, 2024	Nick Roope
Response to Comment - Draft Spring 2023 FWGWMP Semiannual Report - Leidos	To be submitted – Comments received January 29, 2024			Kevin Palombo/Liam McEvoy
Draft Summary of Findings Report for Sand Creek Walk – RVAAP-004-R-01 - USACE	In Progress	January 24, 2024	March 8, 2024	Nick Roope
Draft Excavation Plan for RVAAP-063-R-01 Group 8 MRS - HGL	In Progress	January 24, 2024	March 8, 2024	Nick Roope
Responses to Ohio EPA comments on the Post BIP Sampling Memo for ODA2 - Arcadis	In Progress	December 20, 2023	February 5, 2024	Nick Roope

H. List of FY24 Milestones

Milestone Activity	Milestone Date	Actual Date Achieved
Block D Igloo MRS Draft Remedial Action Completion Report - HGL	August 30, 2024	
Group 8 MRS Draft Remedial Action Completion Report – HGL	August 30, 2024	
Draft 2023 LUC Inspection Report - Chenega	March 31, 2024	December 13, 2023
FWGWMP Draft Annual Report - Leidos	February 15, 2024	
FWGWMP Draft Groundwater Addendum - Leidos	February 15, 2024	

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

November 21, 2024

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

Subject: Notification of Field Work, Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, RVAAP-34 Sand Creek Disposal Road Landfill (Work Activity No. 267-000-859-137) and Multiple Areas of Concern (Work Activity No. 267-000-859-098, 267-000-859-264, 267-000-859-127, and 267-000-859-243)

Dear Mr. Kowalski:

In accordance with the Director's Final Findings and Orders, Section XIII, #28, for the RVAAP Restoration Program, the Army National Guard (ARNG) is providing notification of field activities at the former RVAAP (Camp James A. Garfield) 15 days prior to the scheduled start date. These field activities and tentative schedule are below:

12/09/24-12/19/24:	Soil sampling per the 2024 Final UFP-QAPP for additional delineation sampling at Sand Creek Disposal Road Landfill.
01/06/25-01/17/25: design	Soil sampling per the 2024 Final UFP-QAPP for additional remedial sampling at Multiple Areas of Concern.

In the event that the schedule above changes, the Army will provide an e-mail notification with revised dates. 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: 2024.11.21 08:38:21 -05'00'

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

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

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

August 2, 2024

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

Subject: Notification of Field Work, Ravenna Army Ammunition Plant (RVAAP) Restoration Program, RVAAP-50 Atlas Scrap Yard, CC RVAAP-70 East Classification Yard, and RVAAP-06 C Block Quarry Removal and Remedial Actions

Dear Mr. Kowalski:

In accordance with the Director's Final Findings and Orders, Section XIII, #28, for the RVAAP Restoration Program, the Army National Guard (ARNG) is providing notification of field activities at the former RVAAP (Camp James A. Garfield) at least 15 days prior to the scheduled start date. These field activities and tentative schedule are as follows:

- 8/7/24: Preliminary soil screening and sampling for lead and waste characterization soil sampling at RVAAP-50 Atlas Scrap Yard, waste characterization sampling at CC RVAAP-70 East Classification Yard per the Remedial Designs (RD).
- 9/16/24-1/7/25: Excavation of soil at the former storage area (FSA) and former incinerator area (FIA) at RVAAP-50 including thermal treatment of soil at the FSA per the Remedial Design.
- 9/16/24-9/27/24: Removal of surficial asbestos-containing materials (ACM) from RVAAP-06 C-Block Quarry per the RD.
- 10/10/24-10/22/24: Excavation of soil at the CC RVAAP-70 East Classification Yard per the Remedial Action Work Plan (RAWP).

In the event that the schedule above needs to change, the ARNG will provide an e-mail notification with revised dates. Please contact the undersigned 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: 2024.08.02 08:09:56 -04'00'

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

cc: Kathryn Tait, OHARNG
Steve Kvaal, USACE Louisville
Nathaniel Peters, USACE Louisville
T. Zack Bayne, USACE Louisville

Jennifer Tierney, Chenega
Tom Schneider, Ohio EPA
Megan Oravec, Ohio EPA
Marco Mendoza, PIKA-Insight

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

April 5, 2024

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

Subject: Notification of Field Work, Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, RVAAP-66 Facility-wide Groundwater (Work Activity No. 267-000-859-036) and CC RVAAP-69 Building 1048 Fire Station Vapor Intrusion Study of Building 1037 (Work Activity No. 267-000-859-269)

Dear Mr. McEvoy:

In accordance with the Director's Final Findings and Orders, Section XIII, #28, for the RVAAP Restoration Program, the Army National Guard (ARNG) is providing notification of field activities at the former RVAAP (Camp James A. Garfield) 15 days prior to the scheduled start date. These field activities and tentative schedule are below:

- 04/22/24-04/26/24: Annual well gauging.
- 04/29/24-05/17/24: Groundwater sampling per the 2024 Addendum.
- 04/29/24-05/17/24: Groundwater sampling and soil vapor sampling per the 2024 UFP-QAPP for CC RVAAP-69

In the event that the schedule above needs to change, the ARNG will provide an e-mail notification with revised dates. Please contact the undersigned 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: 2024.04.05 09:22:26 -04'00'

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

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