Final

2022 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 RVAAP-12 (Load Lines 1 through 4 and 12), and
RVAAP-51 (Dump Along Paris-Windham Road)

Camp James A. Garfield Joint Military Training Center Former Ravenna Army Ammunition Plant Portage and Trumbull Counties, Ohio

Contract No. W912QR-22-C-00313

Prepared for:



U.S. Army Corps of Engineers Louisville District

Prepared by:



March 27, 2023

REPORT DOCUMENTATION PAGE

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Contract No. W912QR-22-C-00313

Prepared for:



U.S. Army Corps of Engineers Louisville District

Prepared by:



March 27, 2023



Mike DeWine, Governor Jon Husted, Lt. Governor Anne M. Vogel, Director

April 4, 2023

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

O&M

Federal Facilities Portage County 267000859029

Subject: Final - 2022 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 -

Dated March 27, 2023 - Ohio EPA Concurrence

Dear Mr. Sedlak:

The Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) received and has reviewed the "Final 2022 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", March 27, 2023.

Ohio EPA has reviewed this documentation and has found no significant deficiencies. As a result, Ohio EPA concurs with the final findings of the report.

If you have any questions or concerns, please do not hesitate to contact me at (330) 963-1235 or by via email at Nicholas.roope@epa.ohio.gov.

Sincerely,

Nicholas Roope

Environmental Specialist

Division of Environmental Response and Revitalization

NCR/cm

ec: Allan Brillinger, Chenega

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 Received 04 APR 2023



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Camp James A. Garfield Joint Military Training Center Former Ravenna Army Ammunition Plant Portage and Trumbull Counties, Ohio

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AR = Administrative Record

ARNG = Army National Guard

EPA = Environmental Protection Agency

NEDO-DERR = Northeast District Office, Division of Environmental Response and

Revitalization

OHARNG = Ohio Army National Guard

USACE = U.S. Army Corps of Engineers

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LIST OF ACRONYMS AND ABBREVIATIONS

AOC Area of Concern
AR Army Regulation
ARNG Army National Guard
bgs below ground surface

Camp Ravenna Joint Military Training Center

CERCLA Comprehensive Environmental Response, Compensation, and Liability

Act

C.F.R. Code of Federal Regulations

CJAG Camp James A. Garfield Joint Military Training Center

DFFOs Director's Final Findings and Orders

FWSAP Facility-Wide Sampling and Analysis Plan

FWGWMPP Facility-Wide Groundwater Monitoring Program Plan

IRP Installation Restoration Program

LL Load Line

LUC Land Use Control

MRS Munitions Response Site
ODA2 Open Demolition Area #2

Ohio EPA Ohio Environmental Protection Agency

OHARNG Ohio Army National Guard PMP Property Management Plan

RD Remedial Design
ROD Record of Decision

RQL Ramsdell Quarry Landfill

RVAAP Ravenna Army Ammunition Plant

USACE United States Army Corps of Engineers
USP&FO United States Property and Fiscal Officer

WBG Winklepeck Burning Grounds

SECTION 1.0 INTRODUCTION

1.1 Report Introduction

As of December 2022, four areas at the former Ravenna Army Ammunition Plant (former RVAAP), now known as the Camp James A. Garfield Joint Military Training Center (CJAG) have designated Land Use Controls (LUCs); Ramsdell Quarry Landfill (RQL), Winklepeck Burning Grounds (WBG), Load Lines (LL) 1-4 and 12 and the Dump Along Paris-Windham Road.

At the request of the Ohio EPA, an annual inspection of interim controls at ODA2 will be conducted by the Army National Guard (ARNG)/Ohio Army National Guard (OHARNG). The inspection will include the area inclusive of the Soil Cover/Source Area and Kickout Area at the ODA2 MRS (see Figure 3.0) in the Remedial Investigation Addendum Work Plan. The inspection of interim controls in this area will occur until the time when a final remedy is implemented at ODA2 under the Military Munitions Response Program (MMRP). Annual inspections are being completed to confirm that the interim controls are being followed and effective. The inspection will be submitted to the Ohio EPA as part of the Annual LUC report for review and concurrence.

As explained in greater detail in Sections 1.4 and 1.5, annual reports are required for the areas at the former RVAAP that utilize LUCs and remedy components to protect the integrity of an environmental remedy (if present), human health, and the environment by limiting the activities that may occur at those areas.

This report reviews the following Areas of Concern (AOCs):

- RVAAP-01 Ramsdell Quarry Landfill,
- RVAAP-04 Open Demolition Area #2,
- RVAAP-05 Winklepeck Burning Grounds,
- RVAAP-08 through 12 Load Lines 1, 2, 3, 4 and 12,
- RVAAP-51 Dump Along Paris-Windham Road.

Prior to the completion of Remedial Actions for the LL1-4 and 12 AOCs in 2021, LUCS for LL12 and interim remedial components for LL1-4 were inspected and reported separately. After the completion of Remedial Actions and in accordance with the *Final Record of Decision Amendment for Soil, Sediment, and Surface Water at RVAAP Load Lines 1, 2, 3, 4, and 12* (Leidos, 2019), these AOCs have been combined. Annual reviews of LUCs at Load Line 12 and remedy components at Load Lines 1-4 have been conducted since 2017 and this is the sixth annual report for those areas.

This is the tenth annual LUC report completed for WBG and the eighth annual LUC report for RQL. This is the fourth annual LUC report for Dump Along Paris-Windham Road. This is the second annual report for ODA2.

This annual report is laid out as follows:

Section 1.0 – General introduction to the facility, and a general description of Land Use Controls, monitoring, and annual reporting requirements.

Section 2.0 – Annual LUC Monitoring Report for RQL.

Section 3.0 – Annual Monitoring Report for ODA2

Section 4.0 – Annual LUC Monitoring Report for WBG.

Section 5.0 - Annual LUC Monitoring Report for Load Lines 1–4 and 12

Section 6.0 – Annual LUC Monitoring Report for Dump Along Paris-Windham Road

Section 7.0 - Conclusions

Section 8.0 – References

1.2 Facility Location

Camp James A. Garfield is located in northeastern Ohio within Portage and Trumbull counties and is approximately three miles east/northeast of the City of Ravenna and one mile north/northwest of the City of Newton Falls. The facility is approximately 11 miles long and 3.5 miles wide. The facility is bounded by State Route 5, the Michael J. Kirwan Reservoir, and the CSX System Railroad to the south; Garrett, McCormick, and Berry Roads to the west; the Norfolk Southern Railroad to the north; and State Route 534 to the east, as shown in Figure 1. In addition, the facility is surrounded by the communities of Windham, Garrettsville, Charlestown, and Wayland.

Figure 1.0 Land Use Control Areas at Camp James A. Garfield Joint Military Training Center (Former Ravenna Army Ammunition Plant)



1.3 Facility History

RVAAP was a load, assemble, and pack facility built to produce large-caliber artillery projectiles and bombs. Although RVAAP downsized after World War II, plant production lines were reactivated during the Korean and Vietnam Wars. Additionally, the plant conducted nearly continuous demilitarization of war stocks, refurbishment of inventoried ammunition, and minor research and development projects. By 1992, the installation's status changed from "inactive but maintained" to that of "caretaker."

The Department of Defense established the Installation Restoration Program (IRP) to provide guidance and funding for the investigation and cleanup of potential contamination and past operations caused by historical activities at military installations. The IRP began at RVAAP in 1989. Administrative accountability for the initial acreage of the facility was transferred to the United States Property and Fiscal Officer (USP&FO) for Ohio in May 1999 with subsequent transfers to follow. To date, administrative accountability for the entire 21,683-acre facility has been transferred to the USP&FO for Ohio and subsequently licensed to the Ohio Army National Guard (OHARNG) for use as a military training site, now known as Camp James A. Garfield. The RVAAP restoration program involves cleanup of former production/operational areas throughout the facility related to former activities conducted under the RVAAP. The restoration program is currently managed by the Army National Guard (ARNG) with support from the OHARNG. The facility was renamed from Camp Ravenna to Camp James A. Garfield in October 2018. Camp James A. Garfield/former RVAAP may be used interchangeably throughout this report.

1.4 Land Use Controls, Monitoring, And Reporting Requirements

All work, plans, and documentation for the RVAAP Restoration Program must be in conformance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) [42 United States Code §9601, *et seq.*], the National Contingency Plan [40 Code of Federal Regulations (C.F.R.) Part 300], and the Director's Final Findings and Orders (DFFOs) [June 10, 2004]. If residual contamination is left in place after the CERCLA remediation process is complete (does not meet unrestricted/residential use standards) and the contamination still poses a potential for unacceptable risks or exceeds cleanup standards, then the Areas of Concern/Munitions Response Sites (AOCs/MRSs) will require LUCs.

LUCs include any physical, legal, or administrative mechanism that places restrictions on the use of, or limits access to, real property to prevent exposure to contaminants at concentrations greater than permissible levels or other safety issues. The intent of using these controls is to protect the integrity of the remedy (if present), human health, and the environment by limiting the activities that may occur at an AOC/MRS. When implemented, these LUCs provide protection to individuals using or working at the AOC/MRS by limiting and/or preventing activities which could potentially result in risks to those individuals. The Army is responsible for controlling land use on active installations such as Camp James A. Garfield and can internally restrict the use of such property. LUCs may include engineering controls such as fences, Seibert markers and signs, or administrative controls such as awareness training and restrictions on use including type of use and duration.

The Property Management Plan (PMP, dated June 2021 and in effect during 2022) identifies LUCs and restrictions for specific AOCs/MRSs at Camp James A. Garfield and provides mechanisms to implement and manage those LUCs. The PMP is required under Army Regulation (AR) 210-20 and satisfies requirements of the DFFOs. The PMP lists general performance objectives of LUCs at Camp James A. Garfield as well as AOC/MRS specific LUCs detailed to address the concerns present on that particular AOC/MRS. According to Section 1.3 of the 2021 PMP, it is the responsibility of the Army to implement, inspect, maintain, and enforce LUCs set forth under the RVAAP Restoration Program.

1.5 Annual LUC Inspection and Monitoring Report Requirement

The PMP requires that the Army conduct an annual inspection of the LUCs to confirm that the LUCs remain effective and still meet the LUC objectives and requires that the results of the annual LUC inspection be included in an Annual LUC Monitoring Report to be submitted to the Ohio Environmental Protection Agency (Ohio EPA) for review and approval. The Annual LUC Monitoring Report is required to evaluate the status and effectiveness of LUCs with a description of how LUC deficiencies, including inconsistent land uses, were addressed. The Annual LUC Monitoring Reports will be used in the preparation of the CERCLA 121(c) Five-Year Review. This report presents the LUC monitoring activities that occurred in 2022 for RQL, ODA2, WBG, Load Lines 1-4 and 12, and Dump Along Paris-Windham Road.

Additionally, the PMP requires that a written certification will be submitted with the Annual Monitoring Report that states whether or not the LUCs remain in place and are effective. The written certifications for the sites listed above are presented in Section 7.8.

SECTION 2.0 ANNUAL LUC MONITORING REPORT FOR RVAAP-01 RAMSDELL QUARRY LANDFILL

2.1 RVAAP-01 Ramsdell Quarry Landfill

In accordance with the Camp James A. Garfield/former RVAAP PMP (dated June 2021) and Appendix A-1 and the Final Remedial Design (RD) for Soil and Dry Sediment at RVAAP-01 Ramsdell Quarry Landfill (RQL), a LUC inspection of RQL was conducted by Allan Brillinger (Chenega Reliable Services, LLC) on behalf of the RVAAP restoration program on November 7, 2022. This annual report covers the period of January 2022 through December 2022.

According to LUCs set forth in the *Final Remedial Design for Soil and Dry Sediment at the RVAAP-01 Ramsdell Quarry Landfill*, dated 9 April 2014, and memorialized in the PMP, periodic monitoring of LUCs, in the form of site inspections, is required to be conducted by the Army to confirm that the LUCs remain effective and still meet LUC objectives for continued remedy protectiveness. Site inspections regarding Land Use Controls are required to be conducted on an annual basis. The required Annual LUC Report is to be submitted to the Ohio EPA for review and approval.

The inspections shall include the following:

- Review of LUC training/inbriefs/maintenance and access logs and other documentation as applicable to RQL.
- Evaluation of activities at RQL to ensure that all activities executed within RQL are in compliance with the established digging restrictions and established exposure limits (Security Guard/Maintenance Worker - one (1) hour/day for 250 days/year for 25 years).
 - o All digging or excavation within the quarry bottom is prohibited due to residual asbestos and contamination.
 - o Digging and excavation on the landfill cap will be regulated by the post closure care plan and the Ohio solid waste regulations.
 - O Due to not meeting the industrial/commercial standard, exposure monitoring for the full-time facility employee must be conducted to ensure and document that exposure at the AOC is not above the established exposure limit set for the Security Guard/Maintenance worker of one (1) hour/day for 250 days/year for 25 years.
- Inspection of warning signs on gates and fencing.
- Inspection of RQL fencing and gates.

LUC deficiencies or inconsistent land uses that are identified must be reported and identified on the inspection form/report and must also be reported to the ARNG/ OHARNG.

2.2 LUC Inspection Form for RVAAP-01 Ramsdell Quarry Landfill AOC

Review of LUCs - Management/Corrective Action

Activities and Land Use:

a) This AOC is to be managed as Restricted Access and is restricted from residential land use. Has residential use occurred? Have other land uses or land use changes occurred?

No residential land use has occurred at the RQL. There have been no other land uses or land use changes over the past year.

b) What activities have occurred at RQL since last Inspection? Has any maintenance been performed at the AOC?

Annual mowing was conducted for the RQL in October 2022.

One groundwater monitoring event at the RQL was conducted in October 2022.

c) Are activities at RQL being conducted in compliance with established digging restrictions and established exposure limits (exposure for full-time employees who access RQL must be tracked)?

The activities taking place at RQL are being conducted in accordance with the established digging restrictions. No digging was conducted at RQL in 2022. Personnel exposure is being tracked with Log In sheets that any person entering and exiting the AOC must fill out. The Access Log sheets for 2022 are presented in Appendix A.

d) Are the warning signs in place and functional? Please note condition and any deficiencies.

The warning signs are posted on the RQL LUC fence and gate as required. Signs that read "DANGER – Unauthorized Personnel Keep Out" and "Danger – Asbestos Waste Disposal Site – Do Not Create Dust – Breathing Asbestos is Hazardous to Your Health" are posted on the gates and the LUC fence every 300 feet. The warning signs are intact and in good condition.

e) Is the RQL fencing and gates intact and in good condition? Please note condition and any deficiencies.

The RQL fencing and gate are intact and in good condition. There are no deficiencies with the fence and gates.

Inspections and Reporting

Inspections are required on an annual basis. Periodic monitoring inspections may be conducted as needed. Are annual inspections being conducted as required? Have any additional inspections been completed?

The annual LUC inspection was conducted on November 17, 2022. Another inspection was conducted in May 2022 by OHARNG personnel. Photographs of the RQL LUC area taken during the 2022 annual LUC inspection are presented in Appendix B.

An Annual Report is required. Has the annual report been completed and submitted to the Ohio EPA?

Annual LUC Monitoring Reports for RQL were completed every year from 2015 through 2021. This is the eighth Annual Report being completed for RQL.

Training/Inbriefs (as applicable to RQL):

Are RQL LUC training and/or inbriefs (for those who need to access RQL) being conducted as applicable? Describe the training (content/who attended/who provided/documentation of training).

In-person LUC training is normally provided annually to all Camp James A. Garfield staff and tenant units. In-person LUC training was conducted in April 2022 for full-time CJAG staff. The LUC training was prepared by the OHARNG-Environmental staff. The training provided an overview of the history of the facility, the ongoing cleanup work, the location of the cleanup sites, any land use controls/restrictions on AOCs/MRSs, and specific LUC and other restrictions for RQL, as well as other areas at Camp James A. Garfield. Training materials and rosters are on file in the OHARNG Environmental Office.

A "Land Use Control (LUC) Brief for Contractors/Personnel" was conducted for all personnel/contractors that entered the RQL AOC. The brief consisted of a review of the RQL site history, the environmental hazards present at the RQL, the LUCs that have been instituted, and the requirements of all personnel that enter the AOC. All personnel that have received the brief sign the briefing form that states that they have been briefed and understand the RQL LUC requirements, and that they will comply with all requirements. The briefing was provided for two contractors in 2022. The signed briefing forms are kept on file at the OHARNG-Environmental office.

If training was not provided, explain why and what corrective actions were initiated.

Not applicable.

Is access to RQL for full-time employees of the facility being logged in order to track exposure? Please review access logs to ensure exposure is within the established exposure limits.

Anyone entering the RQL AOC is required to record their name, date and time of entry and egress from RQL on the Access Logs (Appendix A) posted at the entry gate. The established

exposure limits for the Security Guard/Maintenance Worker are one (1) hour/day for 250 days/year for 25 years (or 250 hours per year). A review of the Access Logs for 2022 indicate that the most any one worker (MM (OHARNG)) was working inside the RQL AOC was for 6.0 hours in 2022. This worker spent 6.0 hours mowing in one day. Therefore, the total exposure in RQL for anyone accessing the AOC did not exceed 250 hours for 2022.

LUC Violations (if any):

Description of any observed/noted LUC violation(s) as identified. Not applicable.

Date of Notification of LUC violations (if applicable) to ARNG/OHARNG: Not applicable.

Description of any corrective actions taken to remedy observed LUC violations or recommended corrective actions: Not applicable.

Additional Notes/Comments:

None.

Original Inspection Completed by:

Signature:

Printed Name: Allan B. Brillinger

Clay B. Bull

Title: Program Manager

Organization: Chenega Reliable Services, LLC

Date: December 30 2022

SECTION 3.0 ANNUAL INTERIM LUC MONITORING REPORT FOR RVAAP-04 OPEN DEMOLITION AREA #2

3.1 RVAAP-04 Open Demolition Area #2

In accordance with the CJAG/former RVAAP Property Management Plan (PMP) and at the request of the Ohio Environmental Protection Agency (Ohio EPA), an inspection of interim controls at Open Demolition Area 2 (ODA2) was conducted by Allan Brillinger (Chenega Reliable Services, LLC) on behalf of the RVAAP restoration program on November 14, 2022. This annual report covers the period of January 2022 through December 2022.

At the request of the Ohio EPA, an annual inspection of interim controls at ODA2 will be conducted by the Army National Guard (ARNG)/Ohio Army National Guard (OHARNG). Inspection will include the area inclusive of the Soil Cover/Source Area and Kickout Area at the ODA2 MRS (Figure 3.0) in the Remedial Investigation Addendum Work Plan. The inspection of interim controls in this area will occur until the time when a final remedy is implemented at ODA2 under the Military Munitions Response Program (MMRP). The inspection will be submitted to the Ohio EPA for review and concurrence.

The ARNG/OHARNG will implement the following interim controls listed below for ODA2:

- Control access to the site with the access gate across the ODA2 access road.
- Control access to the site with the required operational range signage (set forth by Army regulation) and Siebert stakes for the range complex area in the vicinity of ODA2.
- Utilize UXO construction support during any ground disturbance activities. Examples of
 ground disturbance may include environmental restoration or investigation activities,
 munitions removal or restoration remedial actions, vegetation clearing, culvert and
 stream maintenance, range construction, or range maintenance that disturbs native soil
 (not constructed earth berms).
- Monitor for potential munitions in the stream at the ODA2 access road culvert (historically the main potential accumulation point for munitions).

Therefore, the annual inspection shall include the following:

- Inspection of Open Demolition Area 2 (soil cover/source area and kickout area) to note current conditions;
- Inspection of ODA2 access gate;
- Inspection of signs/Siebert stakes along Newton Falls Road and Greenleaf Road in the vicinity of ODA2;
- Review of activities performed during the year (i.e., restoration activities, ground disturbance, munitions demolition or removal operations, culvert maintenance, munitions creek walks, etc.).

Noted deficiencies that are identified will be reported and identified on the inspection form and will also be reported to the ARNG/OHARNG.

3.2 LUC Inspection Form for RVAAP-04 Open Demolition Area #2

Review of Interim Restrictions

1. Activities:

a. What activities have occurred at ODA2 within the last year?

Two semi-annual groundwater monitoring events were conducted at ODA2 in Spring and Fall 2022. Mowing was conducted at ODA2 in Fall 2022. Representatives from the United States Army Corps of Engineers (USACE) conducted two munitions creek walks at ODA2 in May and November 2022.

b. Are range signage/markers in place? Are they being maintained?

Warning signs and Seibert Stakes are posted along the Greenleaf Road and Newton Falls Road. The Seibert Stakes and warning signs are present, functional and in good condition. They are visible and free of vegetation. Photographs of the AOC (including Seibert Stakes and warning signs) are presented in Appendix C.

c. Is the ODA2 access gate being maintained and locked in order to control access and deter trespassers?

The ODA2 access gate by Newton Falls Road is intact, functional, and locked to deter unauthorized personnel. A photograph of the ODA2 access gate is presented in Appendix C.

2. Inspections and Reporting:

- a. Inspections are to occur on an annual basis. Are annual inspections being conducted? This is the second annual inspection for ODA2. Annual inspections will be conducted going forward in accordance with the Property Management Plan.
- b. Are the interim controls incorporated into the Property Management Plan (PMP)? The interims controls for ODA2 were incorporated into the revisions for the 2022 PMP. The revised PMP will be finalized in 2023.

4. Interim Restrictions Evaluation:

- a. Are the interim controls being effectively managed at ODA2? The interim controls at ODA2 are being effectively managed.
- b. Were any deficiencies noted? Provide a description of any observed/noted deficiencies as identified and a date of notification of the deficiency (if applicable) to ARNG/OHARNG. Also provide a description of any corrective actions taken to remedy observed deficiencies or recommended corrective actions.

No deficiencies for ODA2 were observed or noted for ODA2 in 2022.

None.

Inspection Completed by:

Signature:

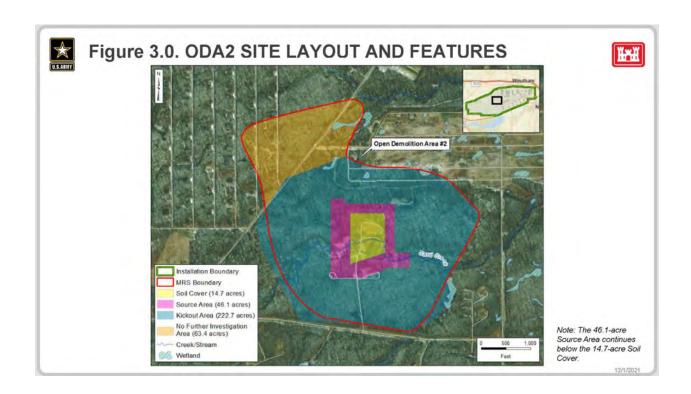
Ollan B. Brillinger

Printed Name: Allan B. Brillinger

Title: Program Manager

Organization: Chenega Reliable Services, LLC

Date: December 30, 2022



SECTION 4.0 ANNUAL LUC MONITORING REPORT FOR WINKLEPECK BURNING GROUNDS

4.1 Winklepeck Burning Grounds

In accordance with the Camp James A. Garfield/former RVAAP Property Management Plan (PMP) dated June 2021 and Appendix A.1, an inspection of RVAAP-05 Winklepeck Burning Grounds was conducted by Allan Brillinger (Chenega Reliable Services, LLC) on behalf of the RVAAP restoration program on November 7, 2022. This annual report covers the period of January 2022 through December 2022.

The annual inspection required by the PMP includes the following:

- Review of LUC training and documentation applicable to WBG.
- Evaluation of activities at WBG to ensure that residential use and groundwater use are not occurring.

4.2 LUC Inspection Form for RVAAP-05 Winklepeck Burning Grounds AOC

Review of LUCs - Management/Corrective Action

1. Activities and Land Use:

a) This AOC is restricted from residential land use. Has residential land use occurred?

No residential land use has occurred at the WBG. The AOC is used for military training. The site is currently under construction to be used as a Multi-Purpose Machine Gun (MPMG) range.

- b) Groundwater use or extraction of groundwater located at or underlying the WBG AOC or any portion thereof is prohibited, except for the following:
 - The installation, development, purging and sampling of new or existing monitoring wells in accordance with the most recent facility-Wide Sampling and Analysis Plan (FWSAP) as part of the AOC-specific IRP, the Facility-Wide Ground Water Monitoring Program Plan (FWGWMPP), or the Facility-Wide Groundwater Remedial Investigation.
 - The modification of existing wells, if necessary, to allow for construction on the range.
 - The abandonment and replacement of monitoring wells damaged by activities or removed for construction, and abandonment of wells no longer utilized as part of IRP or FWGWMPP activities, in accordance with Ohio EPA guidance, the most recent FWSAP, and applicable Ohio Administrative Code requirements.

Have any groundwater activities been conducted and, if yes, are they within the established control parameters?

Two semi-annual groundwater monitoring events were conducted at the WBG in Spring and Fall 2022. The groundwater sampling was conducted in accordance with the FWGWMPP, and within the LUCs established for WBG.

Additionally, the monitoring wells at WBG were modified from stick-up wells to flush-mount wells. This modification was completed in 2022 as part of the MPMG Range construction.

2. Inspections and Reporting

a) Inspections are required on an annual basis. Are annual inspections being completed?

The annual LUC inspection was conducted on November 7, 2022. Photographs of the WBG LUC area taken during this inspection are presented in Appendix D.

b) An Annual Report is required. Has the annual report been completed and submitted? The Final 2021 Annual LUC Monitoring Report for WBG was submitted to the Ohio EPA on March 1, 2022.

3. Training (as applicable to WBG):

a) Was LUC training (specific to WBG) being conducted as applicable? Describe the training (content/who attended/who provided/documentation of training).

In-person LUC training is normally provided annually to all Camp James A. Garfield staff and tenant units. In-person LUC training was conducted in April 2022 for full-time CJAG staff. The LUC training was prepared by the OHARNG-Environmental staff. The training provided an overview of the history of the facility, the ongoing cleanup work, the location of the cleanup sites, any land use controls/restrictions on AOCs/MRSs, and specific LUC and other restrictions for WBG, as well as other areas at Camp James A. Garfield. Training materials and rosters are on file in the OHARNG Environmental Office.

b) If training was not provided, explain why and what corrective actions were initiated. Not applicable.

4. Description of any observed/noted LUC violation(s):

No LUC violations were noted during the reporting period (January 2022 through December 2022).

5. Date of Notification of LUC violations (if applicable) to ARNG/OHARNG: Not applicable.

6. Description of any corrective actions taken to remedy observed LUC violations or recommended corrective actions:

Not applicable.

7. Additional Notes/Comments:

None.

Original Inspection Completed by:

Signature:

Ollan B. Brillinger

Title: Program Manager

Organization: Chenega Reliable Services, LLC

Date: December 30, 2022

SECTION 5.0 ANNUAL LUC MONITORING REPORT FOR LOAD LINES 1, 2, 3, 4 AND 12

5.1 Load Lines 1, 2, 3, 4 and 12

In accordance with the former RVAAP Property Management Plan (PMP), an inspection of RVAAP-08 –RVAAP-12 Load Lines 1-4 and 12 was conducted by Allan Brillinger of Chenega Reliable Services, LLC on behalf of OHARNG on November 14 and 17, 2022.

The annual inspection required by the PMP includes the following:

- Review of general Land Use Control (LUC) training and documentation as applicable to Load Lines 1-4 and 12.
- Evaluation of activities at Load Lines 1-4 and 12 to ensure that residential use is not occurring.

LUC deficiencies or inconsistent land uses that are identified must be reported and identified on the inspection form and properly reported to the Army National Guard (ARNG)/Ohio Army National Guard (OHARNG).

5.2 Inspection Form for Load Lines 1 – 4 and 12

Review of LUCs – Management/Effectiveness/Corrective Action

1. Activities and Land Use:

a. These Areas of Concern (AOCs) are restricted from residential land use. Has residential use occurred? What activities are being conducted at LL1-4 and 12?

No residential land use has occurred at Load Lines 1-4 and 12. Occasional military use is taking place within these Load Lines.

2. Inspections and Reporting:

- a. Inspections are required on an annual basis. Are annual inspections being completed? The annual LUC inspection was conducted on November 14 and 17, 2022. Photographs of the LL1-4 and 12 LUC area taken during the 2022 inspection are presented in Appendix E. This is the sixth annual inspection of LUC components for these AOCs.
- b. An annual report is required. Has the annual report been completed and submitted? The Final 2021 Annual LUC Monitoring Report for LL1-4 and 12 was submitted to the Ohio EPA on March 1, 2022.

3. Training (as applicable to Load Lines 1-4 and 12)

a. Was annual LUC training (specific to Load Lines 1-4 and 12) being conducted as applicable? Describe the training (content/who attended/who provided/documentation of training).

In-person LUC training is normally provided annually to all Camp James A. Garfield staff and tenant units. In-person LUC training was conducted in April 2022 for full-time CJAG staff. The LUC training was prepared by the OHARNG-Environmental staff. The training provided an overview of the history of the facility, the ongoing cleanup work, the location of the cleanup sites, any land use controls/restrictions on AOCs/MRSs, and specific LUC and other restrictions for LL1 – 4 and 12, as well as other areas at Camp James A. Garfield. Training materials and rosters are on file in the OHARNG Environmental Office.

b. If training was not provided, explain why and what corrective actions were initiated.

Not applicable.

4. Description of any observed/noted LUC violation(s):

No LUC violations were observed/noted at Load Lines 1-4 and 12 in 2022.

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5. Date of Notification of LUC violation (if applicable):

Not applicable.

6. Description of any corrective actions taken to remedy observed LUC violation(s) or recommended corrective actions:

Not applicable.

7. Additional Notes/Comments

None.

Original Inspection Completed by:

Signature:

Printed Name: Allan B. Brillinger

Title: Program Manager Organization: Chenega Reliable Services, LLC

Date: December 30, 2022

SECTION 6.0 ANNUAL LUC MONITORING REPORT FOR DUMP ALONG PARIS-WINDHAM ROAD

6.1 Dump Along Paris-Windham Road

According to LUCs set forth in the *Final Remedial Design for Soil at RVAAP-51 Dump Along Paris-Windham Road*, dated 27 February 2019, and memorialized in the PMP, periodic monitoring of LUCs, in the form of site inspections, is required to be conducted by the Army to confirm that the LUCs remain effective and still meet LUC objectives for continued remedy protectiveness. Site inspections are required to be conducted as necessary but not less than once per year. The required Annual LUC Report is to be submitted to the Ohio EPA for review and approval.

Based on the 2019 Remedial Design document, the U.S. Army implemented LUCs to achieve the performance objectives listed below for the AOC:

- Prohibit Residential land use at the AOC.
- Install and maintain warning signs and boundary markers (Seibert stakes) along the AOC perimeter. The Seibert stakes and warning signs will be placed at least every 300 feet along the AOC perimeter. The warning signs will alert persons having a need to access the AOC that the location was formerly used to dispose of asbestos-containing materials. The boundary stakes and warning signs will be repaired and replaced as needed, and annual brush clearing conducted to maintain visibility;
- Maintain a LUC training program;
- Prohibit digging at the AOC except for routine ground surface repairs.

6.2 Dump Along Paris-Windham Road Annual Inspection Form

In accordance with the Property Management Plan (PMP), an inspection of RVAAP-51 Dump Along Paris Windham Road was conducted by Allan Brillinger of Chenega Reliable Services, LLC on November 7, 2022.

The annual inspection required by the PMP includes the following:

- Review of LUC training and documentation as applicable to the Dump Along Paris Windham Road.
- Evaluation of activities at the AOC to ensure that residential use and digging is not occurring.
- Inspection of Seibert Stakes and warning signage.
- Inspection of the soil cover.

LUC deficiencies or inconsistent land uses that are identified must be reported and identified on the inspection form and properly reported to the ARNG/ OHARNG.

Review of LUCs - Management/Effectiveness/Corrective Action

1. Activities and Land Use

a.) This AOC is restricted from residential land use. Has residential use occurred?

No residential land use has occurred at the AOC. There have been no other land uses or land use changes over the past year.

b.) Digging is prohibited at the AOC. Has digging occurred at the AOC?

No digging was observed or reported to have taken place at the AOC in 2022.

c.) Warning signs and Seibert Stakes are required at the AOC along the boundary. Are Seibert Stakes and signage present, functional and in good condition? Are they visible (free of vegetation)?

Warning signs and Seibert Stakes are posted along the AOC boundary. The Seibert Stakes and warning signs are present, functional and in good condition. They are visible and free of vegetation. Photographs of the AOC (including Seibert Stakes and warning signs) are presented in Appendix F.

d.) The soil cover installed after the 2003 soil removal action creates a barrier between the receptor and the residual PAHs and asbestos in the soil. Is the soil cover intact? Is any damage or erosion on the soil cover present?

The soil cover at the AOC is intact. No damage or erosion of the soil cover was observed or noted at the AOC in 2022.

2. Inspections and Reporting

a.) Inspections are required on an annual basis. Are annual inspections being completed?

The LUCs at the AOC were implemented in 2019 and annual inspections were conducted each year from 2019 to 2022. This is the fourth annual LUC inspection for this AOC.

b.) An annual report is required. Has the annual report been completed and submitted?

The Final 2021 Annual Land Use Control Monitoring Report that included the annual LUC inspection report for this AOC was submitted to the Ohio EPA on March 1, 2022.

3. Training (as applicable to the AOC)

a.) Was LUC training (specific to the AOC) being conducted as applicable? Describe the training (content/who attended/who provided/documentation of training).

In-person LUC training is normally provided annually to all Camp James A. Garfield staff and tenant units. In-person LUC training was conducted in April 2022 for full-time CJAG staff. The LUC training was prepared by the OHARNG-Environmental staff. The training provided an overview of the history of the facility, the ongoing cleanup work, the location of the cleanup sites, any land use controls/restrictions on AOCs/MRSs, and specific LUC and other restrictions for Dump Along Paris-Windham Road, as well as other areas at Camp James A. Garfield. Training materials and rosters are on file in the OHARNG Environmental Office.

b.) If training was not provided, explain why and what corrective actions were initiated?

Not applicable.

4. Description of any observed/noted LUC violation(s):

LUC violations were not observed or reported during 2022.

5. Date of Notification of LUC violation (if applicable):

Not applicable.

6. Description of any corrective actions taken to remedy observed LUC violation(s) or recommended corrective actions:

Not applicable.

7. Additional Notes/Comments:

None.

Original Inspection Completed by:

Signature:

Printed Name: Allan B. Brillinger

Title: Program Manager Organization: Chenega Reliable Services, LLC

Date: December 30, 2022

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SECTION 7.0 CONCLUSIONS

7.1 General LUC Training

The OHARNG provided training to all full-time staff at CJAG including an overview of the history of the facility, the ongoing cleanup work, the location of the cleanup sites, and any land use controls/restrictions on AOCs/MRSs. All training requirements presented in the PMP were met by the OHARNG in 2022. Training materials and rosters are on file in the Camp James A. Garfield Environmental Office.

7.2 Land Use Consistency and Land Use Control Effectiveness at RQL

The land use at RQL is Restricted Access. Based on the 2022 inspection, there are no inconsistent uses or activities discovered or reported at RQL. All activities conducted within the RQL AOC were performed in compliance with established digging restrictions, and established exposure limits as described in the PMP. This indicates current LUC objectives are being met to ensure the remedy is effective and protective.

A LUC in-brief was provided to all personnel entering RQL. Additionally, annual LUC training was provided to full-time staff and tenant units at the facility.

Land use is consistent with the designated LUCs and LUCs are effective.

7.3 Effectiveness of Interim Land Use Controls at ODA2

Based on the 2022 inspection, ODA2 is being maintained as controlled access. The ODA2 access gate is functional, locked and effective in deterring unauthorized personnel. Seibert stakes and warning signs are posted along Greenleaf and Newton Falls Roads adjacent to the AOC as required. Activities at the site are consistent with interim controls.

7.4 Land Use Consistency and Land Use Control Effectiveness at WBG

The land use at WBG is Commercial/Industrial use. Based on the 2022 inspection, there were no inconsistent uses or activities discovered or reported at WBG. The AOC is being used for military training. No residential use has occurred at the AOC. No groundwater use is occurring at this AOC. Annual LUC training was provided to full-time staff and tenant units at the facility for WBG and other AOCs.

Land use is consistent with the designated LUCs and LUCs are being implemented and are effective.

7.5 Land Use Consistency and Land Use Control Effectiveness at Load Lines 1, 2, 3, 4 and 12

Load Lines 1, 2, 3, 4 and 12 were remediated in 2021 to Commercial/Industrial Use which includes military training. Occasional military training is being conducted at these sites. No residential use has occurred at these AOCs. Based on the 2022 inspection, there were no uses or activities discovered or reported at these AOCs that were inconsistent with the designated use. Annual LUC training was provided to full-time staff and tenant units at the facility for these

AOCs and other AOCs. Land use is consistent with the designated LUCs and LUCs are being implemented and are effective.

7.6 Land Use Consistency and Land Use Control Effectiveness at Dump Along Paris-Windham Road

The land use at the Dump Along Paris-Windham Road is Commercial/Industrial use with no digging permitted due to residual asbestos. Based on the 2022 inspection, there were no inconsistent uses or activities discovered or reported at the AOC. No residential use has occurred at the AOC and the soil cover is intact. No digging has occurred at the AOC in 2022. Annual LUC training was provided to full-time staff and tenant units at the facility for this and other AOCs.

Land use is consistent with the designated LUCs and LUCs have been implemented and are effective.

7.7 Land Use Control Deficiency Corrective Action at RQL, ODA2, WBG, Load Lines 1 through 4 and 12, and Dump Along Paris-Windham Road

No deficiencies were identified and therefore no corrective actions were required.

7.8 Land Use Control and Remedy Component - Effectiveness Certification

This certifies that to the best of my knowledge and belief all the information contained in this Annual LUC Monitoring Report is accurate, and that the designated Land Use Controls or interim controls at Ramsdell Quarry Landfill, Open Demolition Area #2, Winklepeck Burning Grounds, Load Lines 1 through 4 and 12, and Dump Along Paris-Windham Road are in place and remain effective.

	O December 30, 2022
(signature) Allan B. Brillinger	(date)
printed name) Program Manager, Chenega Reliabl	le Services, LLC
(Title).	2397449777
C-sec.	
y	March 27, 2023
Katheyn STart	March 27, 2023 (date)
Kathreyn STart	(date)

SECTION 8.0 REFERENCES

General

Ravenna Army Ammunition Plant Restoration Program website: www.rvaap.org

Final Revised Property Management Plan for the Designated Areas of Concern and Munitions Response Sites, Version 4.0, Former Ravenna Army Ammunition Plant, Camp Ravenna Joint Military Training Center, Portage and Trumbull Counties, Ohio, US Army Corps of Engineers. June 2021.

Final Property Management Plan for the Designated Areas of Concern and Munitions Response Sites, Volume One – Version 1.0. U.S. Army Corps of Engineers. August 2012.

Director's Final Findings and Orders, Ravenna Army Ammunition Plant. Ohio EPA, June 2004.

Ramsdell Quarry Landfill

Final Remedial Action Report for Soil and Dry Sediment at the RVAAP-01 Ramsdell Quarry Landfill. Leidos. 30 January 2015.

Final Remedial Design for Soil and Dry Sediment at the RVAAP-01 Ramsdell Quarry Landfill. Leidos. 9 April 2014.

Final Record of Decision Amendment for the RVAAP-01 Ramsdell Quarry Landfill at the Ravenna Army Ammunition Plant, Ravenna, Ohio. SAIC. 24 May 2013.

Revised Final Modified Proposed Plan for Soil and Dry Sediment at RVAAP-01 Ramsdell Quarry Landfill at the Ravenna Army Ammunition Plant, Ravenna, Ohio. SAIC 2012. 6 June 2012.

Revised Final Remedial Design for the RVAAP-01 Ramsdell Quarry Landfill at Ravenna Army Ammunition Plant. SAIC. 17 June 2010.

Open Demolition Area #2

Final Record of Decision for Sediment and Surface Water at Six Areas of Concern/Munitions Response Sites. Leidos. 4 June 2020.

Final Proposed Plan for Sediment and Surface Water at Six Areas of Concern/Munitions Response Sites. Leidos. 10 May 2019.

Final Project Management Plan for the Performance-Based Acquisition of Six Environmental Areas of Concern at the Ravenna Army Ammunition Plant. SAIC. 1 March 2010.

Final Construction Completion Report Time Critical Response Action for the Rocket Ridge Area of Open Demolition Area #2 (RVAAP-004-R-01 Open Demolition Area #2 MRS) Military Munitions Response Program. e2M. September 2008.

Final Record of Decision for Soil and Dry Sediment at the Open Demolition Area #2 (RVAAP-04). SAIC. September 2007.

Final Proposed Plan for Soil and Dry Sediment at Open Demolition Area #2 (RVAAP-04). SAIC. February 2007.

Winklepeck Burning Grounds

Final Remedial Action Completion Report for the Soil Removal Remedy at RVAAP-05 Winklepeck Burning Grounds. Tetra Tech. February 2018.

Final Remedial Design Supplement Soil Removal Action at RVAAP-05 Winklepeck Burning Grounds. Tetra Tech. 30 June 2016.

Final Remedial Design for the Post-ROD Changes to the Remedy at RVAAP-05 Winklepeck Burning Grounds, Former Ravenna Army Ammunition Plant/Camp Ravenna. USACE. 27 August 2015.

Final Record of Decision for Soil and Dry Sediment at RVAAP- 05 Winklepeck Burning Grounds at Ravenna Army Ammunition Plant. SAIC. Aug 2008.

Proposed Plan for the Winklepeck Burning Grounds, Ravenna Army Ammunition Plant, Ravenna, Ohio. SAIC. Dec 2005.

Load Lines 1, 2, 3 4 and 12

Final Remedial Action Completion Report, Load Lines 1, 2, 3, 4 and 12, (RVAAP-08 to 12). CH2M. October 2021.

Final Remedial Design Work Plan for RVAAP Load Lines 1, 2, 3, 4, and 12 (RVAAP-08 to 12). CH2M. September 2020.

Final Record of Decision Amendment for Soil, Sediment, and Surface Water at RVAAP Load Lines 1, 2, 3, 4, and 12. Leidos. 23 December 2019.

Final Proposed Plan for Wet Sediment and Surface Water at RVAAP 12 Load Line 12. Leidos. 9 November 2017.

Final Remedial Design for RVAAP-12 Load Line 12 at Ravenna Army Ammunition Plant, October 2009.

Final Record of Decision for Soil and Dry Sediment at RVAAP-12 Load Line 12. SAIC Engineering of Ohio. 14 April 2009.

Final Revised Interim Record of Decision for the Remediation of Soils at RVAAP-08, 09, 10, and 11 Load lines 1 – 4. Shaw Environmental; USACE. 18 January 2007.

Final Proposed Plan for the Remediation of Soils at Load Lines 1 through 4 at the Ravenna Army Ammunition Plant Ravenna, Ohio, July 2005.

Dump Along Paris-Windham Road

Final Remedial Design for Soil at RVAAP-51 Dump Along Paris-Windham Road. Chenega/USACE. February 2019.

Final Record of Decision for Soil, Sediment and Surface Water at RVAAP-51 Dump Along Paris-Windham Road. USACE. September 2017.

Final Proposed Plan for Soil, Sediment, and Surface Water for RVAAP-51 Dump Along Paris-Windham Road. SAIC/USACE. September 2016.

Appendix A 2022 RVAAP-01 RQL Access Logs



Sign In/Out Sheet for Ramsdell Quarry Landfill - Please sign in and out when entering and exiting the Ramsdell Quarry Landfill.

Please also note what activities were performed and what areas of the AOC were accessed. Name/Company Areas Accessed (please choose Time Out Date Time In Description of Activities Performed (i.e., mowing, gw sampling, etc) and check) Kotie Tait OHARNG Ouarry bottom 12/7/21 0830 SITE VISIT Groundwater monitoring 0845 wells Landfill cap Tikushiq Davis Ouarry bottom 12/7/21 830 Groundwater monitoring site visit Dawson wells Landfill cap Ouarry bottom Shaun 12/7/4 830 ☐ Groundwater monitoring Prines wells Landfill cap Kevin □ Quarry bottom ☐ Groundwater monitoring 12/7/4 830 SERVAL wells □ Landfill cap □ Quarry bottom Daniello Groundwater monitoring Guege weils 12/14/21 6850 0940 Anderson wells Leidos □ Landfill cap □ Quarry bottom Carney n Lee Grage wells Groundwater monitoring 0940 12/14/21 0856 wells Leidus □ Landfill cap □ Quarry bottom
 □ Qu Brud Kline ⋈ Groundwater monitoring Inspechan Annual 5/17/2 OHARWG. 1215 1315 wells Kahe Tait > Landfill cap ☐ Quarry bottom Marty OHAPNG Marino Annual MOW ☐ Groundwater monitoring 10/13/22 1100 1700 wells □ Landfill cap

Sign In/Out Sheet for Ramsdell Quarry Landfill – Please sign in and out when entering and exiting the Ramsdell Quarry Landfill. Please also note what activities were performed and what areas of the AOC were accessed.

Name/Company	Date	Time In	Time Out	Description of Activities Performed (i.e., mowing, gw sampling, etc)	Areas Accessed (please choose and check)
Charles Spurr Leidos	10/24/22	1250	1350	Groundwater well gauging	□ Quarry bottom Consider Groundwater monitoring wells Landfill cap
Melissa Rego Leidos	16/24/22	1250	1350	Groundwater well gauging	☐ Quarry bottom ☐ Groundwater monitoring wells ☐ Landfill cap
Al Brillinger	11/7/22	0915	1000	Annual Luc inspection	☐ Quarry bottom☐ Groundwater monitoring wells☐ Landfill cap
CARY-ZAIH EHENGA	13/12	0905	13:10	CUT GRASS	☐ Quarry bottom ☐ Groundwater monitoring wells ☐ Landfill cap
					☐ Quarry bottom☐ Groundwater monitoring wells☐ Landfill cap
					☐ Quarry bottom☐ Groundwater monitoring wells☐ Landfill cap
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	10				□ Quarry bottom □ Groundwater monitoring wells □ Landfill cap

Appendix B

2022 RVAAP-01 RQL Photographs



East gate at Ramsdell Quarry Landfill.



Southern portion of RQL, looking east from the southwest portion of the site.



Southern portion of Ramsdell Quarry Landfill, looking east.



Eastern portion of Ramsdell Quarry Landfill, looking west from the eastern fence line.

Appendix C 2022 RVAAP-04 ODA2 Photographs



Main gate at Open Demolition Area #2.



Open Demolition Area #2 looking north from main access road, showing portions of the soil cover/source area and kick-out area.



Open Demolition Area #2 looking south from north-central portion of the site, showing portions of the soil cover/source area and kick-out area.



Open Demolition Area #2. Seibert stakes and warning signs along Newton Falls Road.

Appendix D

2022 RVAAP-05 WBG Photographs



Winklepeck Burning Grounds, looking east from the central portion of the site.



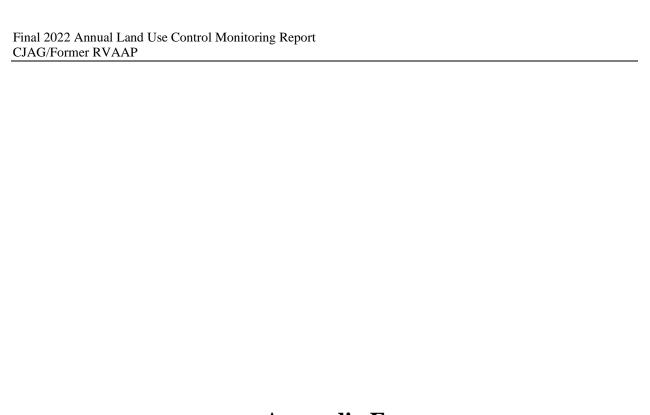
Winklepeck Burning Grounds, looking northeast from the eastern portion of the site.



Winklepeck Burning Grounds, looking northwest from the central portion of the site.



Winklepeck Burning Grounds, looking west from the-central portion of the site.



Appendix E

2022 RVAAP 8-11 Load Lines 1, 2, 3 4 and 12 Photographs



Load Line 1 looking north from south-central portion of the site.



Load Line 1, from central western portion of the site looking east.



Load Line 2, looking south from southern access road.



Load Line 2, from south-central portion of the site looking northeast.



Load Line 3, from east-central portion of the site looking northeast.



Load Line 3, looking north from the southern portion of the site.



Load Line 4, looking northwest from the southeast portion of the site looking southwest.



Load Line 4, from the west-central portion of the site looking southeast.



Load Line 12, from the southern portion of the site looking north.



Load Line 12, from the northeastern portion of the site looking towards the south.

Appendix F

2022 RVAAP-51 Dump Along Paris-Windham Road Photographs



RVAAP-51, asbestos warning sign delineating Land Use Control area along Paris-Windham Road.



RVAAP-51, warning sign and Seibert Stake delineating Land Use Control area along Paris-Windham Road.



RVAAP-51, Land Use Control area looking south from central portion of the site.



RVAAP-51, Land Use Control area looking north from the central portion of the site.