

JFHQ OR ARNG

Army Cleanup Program

Installation Action Plan

2023

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ACRONYMS

Acronym	Definition
AEDB-R	Army Environmental Database - Restoration
ARNG	Army National Guard
BG	Brigadier General
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
DD	Decision Document
DERP	Defense Environmental Restoration Program
ENV	Environmental
FS	Feasibility Study
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
MC	Munitions Constituents
mg/kg	Milligrams Per Kilogram
MR	Munitions Response
MRS	Munitions Response Site
MRSP	Munitions Response Site Prioritization Protocol
NDNODS	Non-Department of Defense Owned, Non-Operational Defense Sites
PA	Preliminary Assessment
RAB	Restoration Advisory Board
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation

Acronym	Definition
RIP	Remedy-In-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SDZ	Surface Danger Zone
SI	Site Inspection
SL	Screening Level
TAG	The Adjutant General
TAPP	Technical Assistance for Public Participation
TRC	Technical Review Committee
UST	Underground Storage Tank
WBS	Work Breakdown Structure
yd	Yard

PHASE TRANSLATION TABLE

HQAES Phase ID	CERCLA Phase	RCRA Phase	RCRA UST Phase
.01	Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
.02	Site Inspection (SI)	Confirmation Sampling (CS)	Investigation (INV)
.03	Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
.04	Remedial Design (RD)	Design (DES)	Design (DES)
.05	Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
.06	Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
.07	Remedial Action (Operation) (RA(O))	Corrective Measures Implementation (Operation) (CMI(O))	Implementation (Operation) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
6911A.1012	CC_ORHQ-005-R-01_NDNODS_STARR RANGE	--
6911A.1013	CC_ORHQ-009-R-01_NDNODS_ALBANY RIFLE RAN	--
6911A.1014	CC_ORHQ-010-R-01_NDNODS_LA GRANDE RIFLE	--

JFHQ OR ARNG

COMPLIANCE CLEANUP SITES

CC_ORHQ-005-R-01_NDNODS_STARR RANGE

HQAES ID: 6911A.1012

Alias: None

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 2/1/2036

RC Date: 2/1/2036

RC Reason: Not assigned

Program: Compliance Cleanup

Subprogram: CC

Phases	Start	End
PA	4/1/2007	9/30/2009
SI	7/1/2010	9/30/2012
RI/FS	1/1/2029	12/31/2033
RD	1/1/2034	1/31/2034
IRA	--	--
RA(C)	2/1/2034	2/1/2036
RA(O)	--	--
LTM	--	--

Site Narrative

The 13.42-acre small arms range is transferred and is located in McMinnville, Yamhill County, Oregon. The range was utilized by Company A, 162nd Infantry from 19 April 1939 through 1 May 1942. The range was utilized as both a target range and maneuver and camp site. Documentation indicates that firing on the former small arms range was completed at 200 yards. The former small arms range was positioned diagonally in a northwest to southeast direction. Firing was historically toward the southeast into an earthen berm.

Site Inspection (SI) field work was conducted in 2011. Lead was found above the screening level (SL) of 400 milligrams per kilogram (mg/kg) in surface soil samples, and the site was recommended for further investigation for munitions constituents (MC).

Defense Environmental Restoration Program (DERP) funding was used to complete work through the SI phase at this site. Non-Department of Defense Owned, Non-Operational Defense Sites (NDNODS) sites moving forward with the Remedial Investigation (RI)/Feasibility Study (FS) phase are reprogrammed into Compliance-related Cleanup.

Cleanup Strategy: A RI/FS will be completed at this site. Once the RI/FS is completed, it is assumed a soil excavation will be required.

CC_ORHQ-009-R-01_NDNODS_ALBANY RIFLE RAN

HQAES ID: 6911A.1013

Alias: None

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 2/1/2033

RC Date: 2/1/2033

RC Reason: Not assigned

Program: Compliance Cleanup

Subprogram: CC

Phases	Start	End
PA	12/1/2010	2/28/2011
SI	2/1/2011	9/30/2012
R/FS	1/1/2026	12/31/2030
RD	1/1/2031	1/31/2031
IRA	--	--
RA(C)	2/1/2031	2/1/2033
RA(O)	--	--
LTM	--	--

Site Narrative

The Albany Rifle Range was determined to be an ineligible site in the Oregon Preliminary Assessment (PA) Report dated March 2009 and was presented in both the Appendix C Oregon Ineligible Sites Table and the Ineligible Site Table Back-up Documentation list of that report. Although documentation of the range in the Oregon PA Report included a lease dated Oct. 1, 1924, and lease renewals dated May 24, 1932, and July 23, 1941, no range sketches were found and the basis for ineligibility was stated as 'No Spatially Definable Boundaries.'

During historical research completed in January 2011, additional documentation sufficient to locate the Albany Range was found. This additional documentation indicated that in October 1924, Battery A, 249th Coastal Artillery of the Oregon National Guard proposed the construction of a 950-yard (yd) rifle range on 3.45 acres on the Lines Farm, 3 1/8 miles from Albany Oregon. A lease was proposed for the following property: 'Beginning at a point on the East Boundary line of and 41.03 chains South of the North East corner of the Donation land claim of John Earl and France. Earl, his wife, Notification No.1713 and Claim No.60 in Township 11, south of Range 3 West of the Willamette Meridian, Oregon, and. running thence west 55.65 chains to the West boundary line of said Claim, thence South 24.62 chains, thence East 55.65 chains, thence North 24.62 chains to place of beginning, containing 136.98 acres in Linn County Ore'. The unit proposed leasing a strip of land starting at the northeast corner of the Lines Farm and extending along the north side a distance of 975 yards. The parcel was to be 15 yards wide with the exception at the 900 yard point it would be 60 yards wide for a distance of 20 yards to allow construction of a target house. Maps and figures of the proposed range were included in the 1924 request. The 1925-1926 Twentieth Biennial Report of the Adjutant General listed government-equipped rifle ranges which included a range at Albany in Linn County, Oregon, that is 30 acres with four targets at 600 yards. The report went on to state that the ranges listed were government-leased with the Federal government paying all expenses associated with the leases. The Albany range continued to be listed in Adjutant General Biennial reports through 1938.

The March 2009 Final PA Report for Oregon identified the site as a 3.45-acre small arms range. The April 2011 Abbreviated PA Report provided documentation that was sufficient to reduce the original 3.45-acre size of the munitions response site (MRS) stated in the original PA report to 3.21 acres.

SI field work was conducted in 2011. Lead was found above the SL of 400 mg/kg in soil samples, and the site was recommended for further investigation for MC.

DERP funding was used to complete work through the SI at this site. NDNODS sites moving forward with the RI/ FS phase are reprogrammed into Compliance-related Cleanup.

Cleanup Strategy: An RI/FS will be completed at this site. Once the RI/FS is completed it is assumed a soil excavation will be required.

CC_ORHQ-010-R-01_NDNODS_LA GRANDE RIFLE

HQAES ID: 6911A.1014

Alias: None

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 2/1/2036

RC Date: 2/1/2036

RC Reason: Not assigned

Program: Compliance Cleanup

Subprogram: CC

Phases	Start	End
PA	12/1/2010	2/28/2011
SI	2/1/2011	9/1/2012
RI/FS	1/1/2029	12/31/2033
RD	1/1/2034	1/31/2034
IRA	--	--
RA(C)	2/1/2034	2/1/2036
RA(O)	--	--
LTM	--	--

Site Narrative

On January 21, 2011, Oregon State Defense Force Brigadier General (BG) Michael Caldwell, Oregon Military Department Deputy Director, was interviewed about use of the La Grande Rifle Range. BG Caldwell recalled firing across the Grande Ronde River into a target berm during small arms training while stationed at La Grande Armory. BG Caldwell confirmed the location shown on a historical topographic range fan map as the same location he had used.

Historical documentation referring to La Grande Rifle Range includes 1925 through 1938 The Adjutant General (TAG) Reports, Oregon State Archives documents dated 1934 through 1940, Army National Guard (ARNG) correspondence describing range activity in 1960, and finally an undated La Grande Rifle Range surface danger zone (SDZ) fan drawn on a revised 1964 topographic map.

BG Caldwell reported the range use continued through 1984 to 1985. While documents indicate a 25-acre La Grande Range was in use since 1925, records imply other locations in the vicinity of La Grande, Oregon may also have been named La Grande Range, however the geospatial boundaries for other locations are unknown.

SI field work was conducted in 2011. Lead was found above the screening level of 400 mg/kg in soil. The site was reduced to 14.56 acres and was recommended for further investigation for MC.

DERP funding was used to complete work through the SI at this site. NDNODS sites moving forward with the RI/FS phase were reprogrammed into Compliance-related Cleanup.

Cleanup Strategy: An RI/FS will be completed at this site. Once the RI/FS is completed it is assumed a soil excavation will be required.

SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date	Program Code
6911A.1001	ORHQ-001-R-01_NDNODS CARTER RANGE	9/30/2012	ENV Restoration, Army
6911A.1002	ORHQ-002-R-01_NDNODS CITY OF PENDLETON R	9/30/2012	ENV Restoration, Army
6911A.1003	ORHQ-003-R-01_NDNODS DUERST RANGE	9/30/2012	ENV Restoration, Army
6911A.1004	ORHQ-004-R-01_NDNODS La Grande Armory/OM	9/30/2012	ENV Restoration, Army
6911A.1005	ORHQ-006-R-01_NDNODS WHEELER RANGE	9/30/2012	ENV Restoration, Army
6911A.1006	ORHQ-007-R-01_NDNODS WHITE RANGE	3/29/2022	ENV Restoration, Army
6911A.1007	ORHQ-005-R-01_NDNODS Starr Range	9/30/2012	ENV Restoration, Army
6911A.1008	ORHQ-008-R-01_NDNODS BEND RIFLE RANGE	3/29/2022	ENV Restoration, Army
6911A.1009	ORHQ-009-R-01_NDNODS Albany Rifle Range	9/30/2012	ENV Restoration, Army
6911A.1010	ORHQ-010-R-01_NDNODS La Grande Rifle Range	9/30/2012	ENV Restoration, Army
6911A.1011	ORHQ-002-R-02_NDNODS CITY OF PENDLETON R	9/15/2012	ENV Restoration, Army
6911A.1015	CCORHQ-011-R-01_ROSEBURG RIFLE RANGE	3/05/2021	Compliance Cleanup

COMMUNITY INVOLVEMENT

Technical Review Committee (TRC) Establishment Date:	N/A
Community Involvement Plan (Date Published):	TBD
Restoration Advisory Board (RAB) Establishment Date:	N/A
RAB Adjournment Date:	N/A
RAB Adjournment Reason:	N/A
Additional Community Involvement:	Once sites make it to the RI/FS phase a RAB solicitation will be posted in local papers and a Community Involvement Plan will be prepared.
Administrative Record is located at:	Oregon Military Department Environmental Branch Attn: Jim Arnold PO Box 14350 1776 Militia Way SE Salem, OR 97309-5047
Information Repository is located at:	Oregon Military Department Environmental Branch Attn: Jim Arnold PO Box 14350 1776 Militia Way SE Salem, OR 97309-5047
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Review Summary Table

None

ROD/DDs associated with the last Five-Year/Periodic Review

None

Results, Actions & Plans

None

LAND USE CONTROLS (LUC) SUMMARY

None

CLACKAMAS/CAMP WITHYCOMBE

Army Cleanup Program

Installation Action Plan

2023

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ACRONYMS

Acronym	Definition
AEDB-R	Army Environmental Database - Restoration
AGC	Advanced Geophysical Classification
ARNG	Army National Guard
AVS	Analog Visual Survey
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CWA	Camp Withycombe Area
DD	Decision Document
DEQ	Department of Environmental Quality
DoD	Department of Defense
ENV	Environmental
FS	Feasibility Study
HE	High Explosives
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
LAW	Light Anti-Tank Weapon
LTM	Long-Term Management
LUC	Land Use Control
MC	Munitions Constituents
MD	Munitions Debris
MEC	Munitions and Explosives of Concern
mm	Millimeter
MMRP	Military Munitions Response Program
MR	Munitions Response
MRS	Munitions Response Site
MRSP	Munitions Response Site Prioritization Protocol
ODOT	Oregon Department of Transportation

Acronym	Definition
OMD	Oregon Military Department
ORARNG	Oregon Army National Guard
PA	Preliminary Assessment
RAB	Restoration Advisory Board
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
RIP	Remedy-In-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SHCA	Sunrise Highway Corridor Area
SI	Site Inspection
SUP	Shared-Use Path
TAPP	Technical Assistance for Public Participation
TCRA	Time-Critical Removal Action
TRC	Technical Review Committee
USACE	US Army Corps of Engineers
UST	Underground Storage Tank
WBS	Work Breakdown Structure
WDP	Waste Disposal Pit

PHASE TRANSLATION TABLE

HQAES Phase ID	CERCLA Phase	RCRA Phase	RCRA UST Phase
.01	Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
.02	Site Inspection (SI)	Confirmation Sampling (CS)	Investigation (INV)
.03	Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
.04	Remedial Design (RD)	Design (DES)	Design (DES)
.05	Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
.06	Remedial Action (Construction) (RA©)	Corrective Measures Implementation (Construction) (©(C))	Implementation (Construction) (IMP(C))
.07	Remedial Action (Operation) (RA(O))	Corrective Measures Implementation (Operation) (CMI(O))	Implementation (Operation) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
4533A.1001	WITH-001-R-001_WEST MRS FIRING POINT OF	WEST MRS
4533A.1002	WITH-002-R-001_EAST MRS IMPACT AREA OF F	EAST MRS

CLACKAMAS/CAMP WITHYCOMBE

MILITARY MUNITIONS RESPONSE PROGRAM SITES

WITH-001-R-001_WEST MRS FIRING POINT OF

HQAES ID: 4533A.1001

Alias: WEST MRS

Regulatory Driver: Other

RRSE: Not assigned

MRSP: Not assigned

RIP Date: 9/30/2026

RC Date: 9/30/2026

RC Reason: Not assigned

Program: ENV Restoration, Army

Subprogram: MR

Phases	Start	End
PA	1/31/2009	10/31/2009
SI	11/1/2009	2/29/2012
RI/FS	9/13/2016	8/04/2023
RD	5/04/2022	9/30/2026
IRA	6/30/2015	9/30/2021
RA(C)	5/04/2022	9/30/2026
RA(O)	--	--
LTM	10/1/2026	10/1/2056

Site Narrative

Camp Withycombe is located at 15300 SE Industrial Way, Clackamas, Clackamas County, Oregon. The post is comprised of approximately 234 acres. The post is divided into two parcels owned by separate agencies. The western approximately two-thirds of the post, identified as West Munitions Response Site (MRS), includes 78 acres owned by the Oregon Military Department (OMD) and 56 acres owned by the Oregon Department of Transportation (ODOT). The majority of buildings and other infrastructure are located in the West MRS. The remaining eastern one-third of the post, identified as East MRS, includes 100 acres owned by ODOT and administratively controlled by OMD.

In 1909, the federal government leased 100 acres of land for the Clackamas Firing Range on behalf of Oregon Army National Guard (ORARNG). The federal government expanded the range with land purchases in 1910 and 1915 which brought the range complex to approximately 237 acres. By 1934, the Clackamas Rifle Range was designated a federal military reservation and named Camp Withycombe.

Beginning in September 1940, ORARNG mobilized for federal service. During World War II, the US Army 309th Ordnance Medium Maintenance Company out of Fort Hood, Texas occupied Camp Withycombe. During this time, Camp Withycombe was known as a US Army barracks receiving extensive use by all military components. In 1945, a US Army Corps of Engineers (USACE) Military Inspection Report indicated Camp Withycombe was comprised of 237.81 acres and operated under jurisdiction of the Chief, Army National Guard (ARNG) and administered by the Adjutant General, State of Oregon. The ranges were noted to be well utilized by the US Army, the US Marine Corps, the Federal Bureau of Investigation, Police, and civilians.

Camp Withycombe remained Department of Defense (DoD) property until Nov. 9, 1956, when the land was transferred to the OMD by a quitclaim deed executed between the United States through the Secretary of the Army and the State of Oregon. The quitclaim deed required that property use continue for military purposes only and, in the event the property is no longer used for military purposes, the property title immediately would revert to the United States. Further, whenever the United States Congress declared a state of war or other national emergency the property conveyed could be used as necessary by the United States without payment. In 1989, the Department of Army through the United

States Congress released reversionary interest in 156 acres of the post to the ODOT for construction of the Sunrise Freeway. The Department of Army maintains reversionary interest in the remaining OMD Property.

From 1909 until the 1980s, military marksmanship training and annual rifle competitions were conducted on the ranges. The range complex consisted of as many as 75 firing points and a series of firing lines extending from 100 to 1000 yards.

Prior to the Preliminary Assessment (PA), several sampling/site characterization activities occurred at West MRS beginning in 1991 through 2008 and a Small Arms Firing Ranges Remedial Action restoration project was performed in 2008-2009. A Military Munitions Response Program (MMRP) PA was conducted in 2009, and munitions and explosives of concern (MEC) were identified. Munitions known or suspected to have been used at Camp Withycombe include the following: Direct Fire Weapons (M1902/M1905 Sub-caliber projectiles Mortars, 3-inch Stokes Mortars, M49A2 60-millimeter (mm) high explosives (HE) Mortars, 81-mm Mortars, 4.2-inch Mortars), and Artillery (37-mm HE Projectiles, 75-mm Projectiles, 3-inch Projectiles, 105-mm Projectiles, 155-mm Projectiles).

A Time-Critical Removal Action (TCRA) was completed within the 56-acre Sunrise Highway Corridor in 2015, and the report was finalized in 2017. A Remedial Investigation (RI) was initiated at the West MRS in August 2011 but not completed and the contract terminated. However, geophysical investigations of accessible areas at Camp Withycombe and most of the Sunrise Highway Corridor were completed in 2012. A new contract was initiated in 2017 to complete the RI/Feasibility Study (FS) using the existing geophysical survey results and existing soil sampling results. An additional TCRA was completed in 2021. The results of the 2021 FS were used to develop a Record of Decision (ROD) and the ROD was signed by Oregon Department of Environmental Quality (DEQ) in April 2022 and by ARNG in August 2023. The preferred remedy selected was: *MEC Alternative 5 – MEC Surface and Subsurface Removal using advanced geophysical classification (AGC) with land use controls (LUCs)*.

Current and future use of the West MRS Camp Withycombe Area (CWA) will continue to consist of OMD operational uses. Current and future use of the West MRS Sunrise Highway Corridor Area (SHCA) is a highway and shared-use path (SUP) corridor. Land uses in the area surrounding the West MRS are light industrial and residential.

Cleanup Strategy: A MEC removal action is planned for Remedial Design (RD)/Remedial Action (Construction) [RA(C)] phases. The preferred remedy for the West MRS will include MEC surface and subsurface removal. There are long-term management (LTM) future requirements consisting of periodic review of administrative LUCs and updates of the educational awareness program. Installation-wide five year review costs are carried with Camp Withycombe East MRS: Impact Area of a former firing Range (WITH-002-R-01/4533A.1002).

WITH-002-R-001_EAST MRS IMPACT AREA OF F

HQAES ID: 4533A.1002

Alias: EAST MRS

Regulatory Driver: Other

RRSE: Not assigned

MRSP: Not assigned

RIP Date: 9/30/2026

RC Date: 9/30/2026

RC Reason: Not assigned

Program: ENV Restoration, Army

Subprogram: MR

Phases	Start	End
PA	1/31/2009	10/31/2009
SI	11/1/2009	2/29/2012
R/FS	9/13/2016	8/04/2023
RD	5/04/2022	9/30/2024
IRA	--	--
RA(C)	5/04/2022	9/30/2026
RA(O)	--	--
LTM	10/1/2026	10/1/2056

Site Narrative

Camp Withycombe is an ORARNG installation located at 15300 SE Industrial Way, Clackamas, Clackamas County, Oregon. The post is comprised of approximately 234 acres (of which the subject site consists of 97 acres). The post is divided into two parcels owned by separate agencies. The western approximately two-thirds of the post, identified as West MRS, includes 78 acres owned by the OMD and 56 acres owned by the ODOT. The remaining eastern one-third of the post, identified as East MRS, includes approximately 97 acres owned by ODOT and administratively controlled by OMD. The East MRS includes former small arms ranges impact areas but is undeveloped.

In 1909, the federal government leased 100 acres of land for the Clackamas Firing Range on behalf of the ORARNG. The federal government expanded the range with land purchases in 1910 and 1915 which brought the range complex to approximately 237 acres. By 1934, the Clackamas Rifle Range was designated a federal military reservation and named Camp Withycombe.

Beginning in September 1940, the ORARNG mobilized for federal service. During World War II, the US Army 309th Ordnance Medium Maintenance Company out of Fort Hood, Texas occupied Camp Withycombe. During this time, Camp Withycombe was known as a US Army barracks receiving extensive use by all military components. In 1945, a USACE Military Inspection Report indicated Camp Withycombe was comprised of 237.81 acres and operated under jurisdiction of the Chief, National Guard Bureau and administered by the Adjutant General, State of Oregon. The ranges were noted to be "well utilized by the U.S. Army, the U.S. Marine Corps, the Federal Bureau of Investigation, Police, and civilians."

Camp Withycombe remained DoD property until November 9, 1956, when the land was transferred to OMD by a quitclaim deed executed between the United States through the Secretary of the Army and the State of Oregon. The quitclaim deed required that property use continue for military purposes only and, in the event the property is no longer used for military purposes, the property title immediately would revert to the United States. Further, whenever the United States Congress declared a state of war or other national emergency the property conveyed could be used as necessary by the United States without payment. In 1989, the Department of Army through the United States Congress released

reversionary interest in 156 acres of the post to ODOT for construction of the Sunrise Freeway. The Department of Army maintains reversionary interest in the remaining OMD Property.

From 1909 until the 1980's, military marksmanship training and annual rifle competitions were conducted on the ranges. The range complex consisted of as many as 75 firing points and a series of firing lines extending from 100 to 1000 yards.

Prior to the PA, several sampling/site characterization activities occurred at East MRS beginning in 1991 through 2008. A landfill remediation action was performed at the Camp Withycombe Landfill in 1996 (northeast corner of East MRS) and a Small Arms Firing Ranges Remedial Action restoration project was performed in 2008-2009.

A MMRP PA was conducted in December 2009, after MEC was encountered during the former small arms firing ranges restoration project. Munitions known or suspected to have been used at Camp Withycombe included the following: Direct Fire Weapons (M29A2 3.5-inch Rocket, M72 Light Antitank Weapon (LAW), M1902/M1905 Sub-caliber projectiles), Mortars (3-inch Stokes Mortars, M49A2 60-mm HE Mortars, 81-mm Mortars, 4.2-inch Mortars), Grenades (M79 40-mm Practice Grenades, M407A1 40-mm Smoke Grenades, M-9 Rifle-Fired Grenades) and Artillery (37-mm HE Projectiles, 75-mm Projectiles, 3-inch Projectiles, 105-mm Projectiles, 155-mm Projectiles).

A Site Inspection (SI) was conducted for the East MRS in 2012, and field activities included instrument-aided analog visual survey (AVS) and collection of soil and groundwater samples. Munitions debris (MD) was found and subsurface anomalies detected indicated the possible presence of MEC and/or MD. Subsurface and surface disposal areas were identified as well. Munitions constituents (MC) were detected above screening levels in soil and perchlorate was detected in groundwater. SI soil and groundwater results also confirmed the present of waste constituents at surface disposal areas. The recommendation based on the findings of the SI was to conduct a RI to determine the nature and extent of MEC, MC and waste constituents associated with disposal areas.

A RI/FS was initiated in 2017 at the East MRS and MEC and MD were identified as contaminants of concern, and further action was warranted for waste disposal pits (WDPs) as well. The selected remedy for East MRS consisted of *MEC Alternative 4 – MEC Surface and Subsurface Removal with LUCs* and *WDP Alternative 4 – Excavation and Off-Site Disposal*. The ROD was signed by DEQ in April 2022 and by ARNG in August 2023.

Land uses in the area surrounding the East MRS are light industrial and low-density residential. ODOT plans to transfer the East MRS to the Portland Metro Natural Areas Program for future development as a natural area/park.

Cleanup Strategy: The selected remedy for the East MRS will include a MEC surface and subsurface removal action, and excavation/off-side disposal for the waste disposal areas during RD/RA(C) phase. LTM will be required and will consist of institutional controls and five-year reviews. Installation-wide five-year review costs are carried with the subject site and track five year review costs for Camp Withycombe West MRS site (WITH-001-R-001/4533A.1001).

SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date	Program Code
4533A.1003	CCOR035-01_Camp Withycombe Firing Ranges	9/30/2009	Compliance Cleanup

COMMUNITY INVOLVEMENT

Technical Review Committee (TRC) Establishment Date:	N/A
Community Involvement Plan (Date Published):	July 2012
Restoration Advisory Board (RAB) Establishment Date:	N/A
RAB Adjournment Date:	N/A
RAB Adjournment Reason:	N/A
Additional Community Involvement:	The last RAB solicitation was completed in October 2012. No community interest was expressed. Another RAB solicitation was completed in August 2022.
Administrative Record is located at:	Oregon Military Department Environmental Branch Attn: Jim Arnold PO Box 14350 1776 Militia Way SE Salem, OR 97309-5047 503-584-3551
Information Repository is located at:	Oregon Military Department Environmental Branch Attn: Jim Arnold PO Box 14350 1776 Militia Way SE Salem, OR 97309-5047 503-584-3551
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Review Summary Table

Status	Start	End	End FY
FUTURE	202510	202709	FY27

ROD/DDs associated with the last Five-Year/Periodic Review

Associated ROD/DD Name	Sites
Record of Decision Selected Remedial Action, West MRS Sunrise Highway Corridor Area, West MRS Camp Withycombe Area, and East MRS Camp Withycombe	4533A.1001 4533A.1002

Results, Actions & Plans

None

LAND USE CONTROLS (LUC) SUMMARY

None

MCNARY FIELD SALEM ARMY AVIATION SUPPORT FACILITY (AASF)

Army Cleanup Program

Installation Action Plan

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ACRONYMS

Acronym	Definition
AASF	Army Aviation Support Facility
AEDB-R	Army Environmental Database - Restoration
AFFF	Aqueous Film-Forming Foam
AOI	Area of Interest
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
DD	Decision Document
ENV	Environmental
FS	Feasibility Study
FY21	Fiscal Year 2021
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
MR	Munitions Response
MRSPP	Munitions Response Site Prioritization Protocol
OR	Oregon
PA	Preliminary Assessment
PFAS	Per- and Polyfluoroalkyl Substances
RAB	Restoration Advisory Board
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
RIP	Remedy-In-Place

Acronym	Definition
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
SL	Screening Level
TAPP	Technical Assistance for Public Participation
TRC	Technical Review Committee
UST	Underground Storage Tank
WBS	Work Breakdown Structure

PHASE TRANSLATION TABLE

HQAES Phase ID	CERCLA Phase	RCRA Phase	RCRA UST Phase
.01	Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
.02	Site Inspection (SI)	Confirmation Sampling (CS)	Investigation (INV)
.03	Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
.04	Remedial Design (RD)	Design (DES)	Design (DES)
.05	Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
.06	Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
.07	Remedial Action (Operation) (RA(O))	Corrective Measures Implementation (Operation) (CMI(O))	Implementation (Operation) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
4557A.1002	OR2019-01-P_PFAS CONTAMINATION	- -

MCNARY FIELD SALEM AASF

INSTALLATION RESTORATION PROGRAM SITES

OR2019-01-P_PFAS CONTAMINATION

HQAES ID: 4557A.1002

Alias: None

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 9/15/2030

RC Date: 9/15/2030

RC Reason: Not assigned

Program: ENV Restoration, Army

Subprogram: IR

Phases	Start	End
PA	6/18/2018	8/22/2019
SI	9/19/2018	3/31/2021
RI/FS	9/15/2023	9/15/2030
RD	--	--
IRA	--	--
RA(C)	--	--
RA(O)	--	--
LTM	--	--

Site Narrative

A Preliminary Assessment (PA) was completed for per-and polyfluoroalkyl substances (PFAS) at McNary Field Salem AASF #1, Salem, Oregon (OR) to assess potential PFAS release areas and exposure pathways to receptors. The PA identified two areas of interest (AOIs) related to PFAS releases at the site. Based on the aqueous film-forming foam (AFFF) releases at these AOIs, there was potential for exposure to PFAS contamination in surface soils to site and construction workers, nearby residents, and recreational users, and in subsurface soils to site and construction workers via inhalation and ingestion. There was also the potential for exposure to PFAS contamination in surface water and sediment for all receptors via ingestion, and in shallow groundwater for all receptors due to flow patterns and the close proximity of private drinking water wells.

A Site Inspection (SI) was completed in March 2021. PFAS were detected in exceedance of screening levels (SLs) in groundwater in the source area, downgradient and near upgradient at AOI 1. PFAS were detected in exceedance of SLs in groundwater at the source area and near the upgradient facility boundary at AOI 2. PFAS were detected in soil at both AOI 1 and AOI 2 at low concentrations (below SLs). The SI concluded that there is potential for exposure to residential drinking water receptors at both AOIs and a Remedial Investigation (RI)/Feasibility Study (FS) is required. The RI was originally awarded in late Fiscal Year 2021 (FY21), but was subsequently descope from the prior contract and recontracted.

The subject site was tracked as 4557A.1001 under the Compliance-related Cleanup (CC) program through the SI phase. In March 2023, the site became Defense Environmental Restoration Program (DERP)-eligible and future RI/FS costs will be tracked under DERP.

Cleanup Strategy: A RI/FS is required and the RI portion will be funded in late FY23. Further actions cannot be determined until after the RI/FS is complete.

SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date	Program Code
4557A.1001	CCOR2019-01-P_PFAS CONTAMINATION	4/30/2023	Compliance Cleanup

COMMUNITY INVOLVEMENT

Technical Review Committee (TRC) Establishment Date:	N/A
Community Involvement Plan (Date Published):	TBD
Restoration Advisory Board (RAB) Establishment Date:	N/A
RAB Adjournment Date:	N/A
RAB Adjournment Reason:	N/A
Additional Community Involvement:	Community Involvement Plan, Administrative Record and Information Repository will all be developed as the project progresses.
Administrative Record is located at:	TBD
Information Repository is located at:	TBD
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Review Summary Table

None

ROD/DDs associated with the last Five-Year/Periodic Review

None

Results, Actions & Plans

None

LAND USE CONTROLS (LUC) SUMMARY

None

MILITARY TRAINING AREA (MTA) CAMP RILEA

Army Cleanup Program

Installation Action Plan

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ACRONYMS

Acronym	Definition
AEDB-R	Army Environmental Database - Restoration
AFFF	Aqueous Film-Forming Foam
ANG	Air National Guard
AOI	Area of Interest
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
DD	Decision Document
DERP	Defense Environmental Restoration Program
ENV	Environmental
FS	Feasibility Study
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
MR	Munitions Response
MRSPP	Munitions Response Site Prioritization Protocol
MTA	Military Training Area
ng/L	Nanogram/Liter
ORARNG	Oregon Army National Guard
PA	Preliminary Assessment
PFAS	Per- and Polyfluoroalkyl Substances
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane Sulfonic Acid
RAB	Restoration Advisory Board
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete

Acronym	Definition
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
RIP	Remedy-In-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
SL	Screening Level
TAPP	Technical Assistance for Public Participation
TRC	Technical Review Committee
UST	Underground Storage Tank
UTES	Unit Training Equipment Site
WBS	Work Breakdown Structure

PHASE TRANSLATION TABLE

HQAES Phase ID	CERCLA Phase	RCRA Phase	RCRA UST Phase
.01	Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
.02	Site Inspection (SI)	Confirmation Sampling (CS)	Investigation (INV)
.03	Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
.04	Remedial Design (RD)	Design (DES)	Design (DES)
.05	Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
.06	Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
.07	Remedial Action (Operation) (RA(O))	Corrective Measures Implementation (Operation) (CMI(O))	Implementation (Operation) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
4560A.1004	OR2020-05-P_MTA CAMP RILEA PFAS CONT	--

MTA CAMP RILEA

INSTALLATION RESTORATION PROGRAM SITES

OR2020-05-P_MTA CAMP RILEA PFAS CONT

HQAES ID: 4560A.1004

Alias: None

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 9/15/2032

RC Date: 9/15/2032

RC Reason: Not assigned

Program: ENV Restoration, Army

Subprogram: IR

Phases	Start	End
PA	6/18/2018	2/27/2020
SI	5/10/2020	7/30/2023
R/FS	9/15/2025	9/15/2032
RD	--	--
IRA	--	--
RA(C)	--	--
RA(O)	--	--
LTM	--	--

Site Narrative

Camp Rilea is located in Warrenton, Clatsop County, Oregon, approximately 1.4 miles to the southwest of the City of Warrenton and 5.7 miles to the southwest of the City of Astoria. The facility is located west of Highway 101 and includes approximately three miles of ocean frontage along the Pacific Ocean.

The facility is occupied and operated by the Oregon Army National Guard (ORARNG) as a military training center for military personnel and encompasses 1,870 acres. Civilians also use certain areas throughout Camp Rilea for recreational purposes throughout the year. The facility consists of the cantonment area and armory (450 acres), training and range areas (1,400 acres), and a wastewater treatment facility with two sewage lagoons adjacent to a spray irrigation area (20 acres). Camp Rilea's cantonment area encompasses dining and support facilities and temporary living facilities; numerous buildings are scattered across the facility for administration, maintenance, medical, petroleum oil and fuel storage, equipment and vehicles storage (including at the Unit Training Equipment Site [UTES] facility), and a fire station building. The Air National Guard (ANG) facility operates on approximately 6.25 acres along the central/eastern Camp Rilea boundary and consists primarily of a building within a fenced area. Access to Camp Rilea is controlled. Camp Rilea also uses up to 352,000 acres of private and public land for military training under landowner agreements and permits.

A Preliminary Assessment (PA) was completed at Camp Rilea to assess potential per- and polyfluoroalkyl substances (PFAS) release areas and exposure pathways to receptors. During the PA, it was determined that aqueous film-forming foam (AFFF) was stored at this site. The two areas of interest (AOIs) related to potential PFAS releases were identified at Camp Rilea during the PA through interviews with facility personnel. Based on potential PFAS release at the AOIs, there is potential for exposure to PFAS contamination in surface soil to site workers, construction workers, and trespassers via ingestion of soil and inhalation of dust at both AOIs; in subsurface soil to site and construction workers via ingestion and inhalation at both AOIs; and in groundwater to site and construction workers, trespassers, and on-Post recreational users at the second AOI.

Site Inspection (SI) was initiated in 2020 and field activities were conducted in January 2022. At AOI 1, perfluorooctanoic acid (PFOA) in groundwater was detected above the screening level (SL) of six nanograms/liter (ng/L) with a maximum concentration of 7.66 ng/L. At AOI 2, perfluorooctane sulfonic acid (PFOS) was detected above the SL of 4 ng/L in groundwater with a maximum concentration of 32.9 ng/L. Based on the exceedances of the SL in groundwater, the SI has determined that further investigation in a Remedial Investigation (RI) is warranted for AOI 1 and AOI 2.

The subject site was tracked as 4560A.1003 under the Compliance-related Cleanup (CC) program. In March 2023, the site became Defense Environmental Restoration Program (DERP)-eligible.

Cleanup Strategy: A RI/FS is anticipated at this site and will be funded in the future. Future actions cannot be determined until the RI/FS is complete.

SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date	Program Code
4560A.1001	CCOR230-01_Camp Rilea Landfill	9/30/2010	Compliance Cleanup
4560A.1002	CCOR230-02_Camp Rilea Burn Pit	6/30/2009	Compliance Cleanup
4560A.1003	CCOR2020-05-P_MTA CAMP RILEA PFAS CONT	4/30/2023	Compliance Cleanup

COMMUNITY INVOLVEMENT

Technical Review Committee (TRC) Establishment Date:	N/A
Community Involvement Plan (Date Published):	TBD
Restoration Advisory Board (RAB) Establishment Date:	N/A
RAB Adjournment Date:	N/A
RAB Adjournment Reason:	N/A
Additional Community Involvement:	Community Involvement Plan, Administrative Record and Information Repository will all be developed as the project progresses.
Administrative Record is located at:	TBD
Information Repository is located at:	TBD
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Review Summary Table

None

ROD/DDs associated with the last Five-Year/Periodic Review

None

Results, Actions & Plans

None

LAND USE CONTROLS (LUC) SUMMARY

None

PENDLETON ARMY AVIATION SUPPORT FACILITY (AASF)

Army Cleanup Program

Installation Action Plan

2023

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ACRONYMS

Acronym	Definition
AASF	Army Aviation Support Facility
AEDB-R	Army Environmental Database - Restoration
AOI	Area of Interest
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
DD	Decision Document
DERP	Defense Environmental Restoration Program
ENV	Environmental
FS	Feasibility Study
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
MR	Munitions Response
MRSPP	Munitions Response Site Prioritization Protocol
ng/L	Nanogram/Liter
PA	Preliminary Assessment
PFAS	Per- and Polyfluoroalkyl Substances
PFH _x S	Perfluorohexanesulfonic Acid
PFNA	Perflorononanoic Acid
PFOA	Perflorooctanoic Acid
PFOS	Perflorocanesulfonic Acid
RAB	Restoration Advisory Board
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act

Acronym	Definition
RD	Remedial Design
RI	Remedial Investigation
RIP	Remedy-In-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
TAPP	Technical Assistance for Public Participation
TRC	Technical Review Committee
UST	Underground Storage Tank
WBS	Work Breakdown Structure
µg/kg	Microgram/Kilogram

PHASE TRANSLATION TABLE

HQAES Phase ID	CERCLA Phase	RCRA Phase	RCRA UST Phase
.01	Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
.02	Site Inspection (SI)	Confirmation Sampling (CS)	Investigation (INV)
.03	Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
.04	Remedial Design (RD)	Design (DES)	Design (DES)
.05	Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
.06	Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
.07	Remedial Action (Operation) (RA(O))	Corrective Measures Implementation (Operation) (CMI(O))	Implementation (Operation) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
4552A.1002	OR2020-06-P_PENDLETON PFAS CONT	- -

PENDLETON AASF

INSTALLATION RESTORATION PROGRAM SITES

OR2020-06-P_PENDLETON AASF PFAS CONT

HQAES ID: 4552A.1002

Alias: None

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 9/15/2031

RC Date: 9/15/2031

RC Reason: Not assigned

Program: ENV Restoration, Army

Subprogram: IR

Phases	Start	End
PA	6/18/2018	5/15/2020
SI	6/15/2020	7/31/2023
RI/FS	9/15/2024	9/15/2031
RD	--	--
IRA	--	--
RA(C)	--	--
RA(O)	--	--
LTM	--	--

Site Narrative

A Preliminary Assessment (PA) was completed at Pendleton Armory AASF Complex to assess potential per- and polyfluoroalkyl substances (PFAS) release areas and exposure pathways to receptors. Two areas of interest (AOIs) were identified at the facility. Ground-disturbing activities at AOI 1 could result in site worker, construction worker, and trespasser exposure to potential PFAS contamination via ingestion of surface soil or inhalation of soil particles (dust). Ground-disturbing activities to subsurface soil could result in site and construction worker exposure via ingestion of subsurface soil.

A Site Inspection (SI) was conducted August 2022. A draft SI report indicates that screening levels (SLs) in soil and groundwater were exceeded, and a Remedial Investigation (RI) is required. Soil SLs for perfluorooctanesulfonic acid (PFOS) were exceeded at AOI 1 with a maximum concentration of 31.0 micrograms per kilogram ($\mu\text{g}/\text{kg}$). Groundwater SLs for PFOS, perfluorooctanoic acid (PFOA), perfluorononanoic acid (PFNA), and perfluorohexanesulfonic acid (PFHxS) were exceeded at AOI 1 with maximum concentrations of 31.0 nanograms per liter (ng/L), 7.84 ng/L , 12.1 ng/L , and 122 ng/L respectively. Groundwater SLs for AOI 2 for PFOS, PFOA, and PFHxS were exceeded with maximum concentrations of 6.67 ng/L , 18.1 ng/L , and 519 ng/L respectively. No SLs were exceeded at AOI 3; however, the groundwater flow direction was found not to flow in the anticipated direction, resulting in a data gap. As a result, AOI 3 will also be assessed during the RI (three AOIs will move toward RI).

The subject site was tracked as 4552A.1001 under the Compliance-related Cleanup (CC) program through the SI phase. In March 2023, the site became Defense Environmental Restoration Program (DERP)-eligible and future RI/Feasibility (FS) costs will be tracked under DERP.

Cleanup Strategy: A RI/FS will be required. Further actions cannot be determined until the RI/FS is complete.

SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date	Program Code
4552A.1001	CCOR2020-06-P_PENDLETON AASF PFAS CONT	4/30/2023	Compliance Cleanup

COMMUNITY INVOLVEMENT

Technical Review Committee (TRC) Establishment Date:	N/A
Community Involvement Plan (Date Published):	TBD
Restoration Advisory Board (RAB) Establishment Date:	N/A
RAB Adjournment Date:	N/A
RAB Adjournment Reason:	N/A
Additional Community Involvement:	Community Involvement Plan, Administrative Record and Information Repository will all be developed as the project progresses.
Administrative Record is located at:	TBD
Information Repository is located at:	TBD
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Review Summary Table

None

ROD/DDs associated with the last Five-Year/Periodic Review

None

Results, Actions & Plans

None

LAND USE CONTROLS (LUC) SUMMARY

None

UMATILLA CHEMICAL DEPOT

Army Cleanup Program

Installation Action Plan

2023

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Land Use Controls (LUC) Summary.....	14

ACRONYMS

Acronym	Definition
ADA	Ammunition Demolition Area
AEDB-R	Army Environmental Database - Restoration
AFFF	Aqueous Film Forming Foam
AOI	Area of Interest
ARNG	Army National Guard
BRAC	Base Realignment and Closure
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
DD	Decision Document
ENV	Environmental
EWL	Explosives Washout Lagoon
FFS	Focused Feasibility Study
FS	Feasibility Study
FY19	Fiscal Year 2019
GET	Groundwater Extraction and Treatment
GW	Groundwater
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
MR	Munitions Response
MRSPP	Munitions Response Site Prioritization Protocol
ng/L	Nanogram/Liter
ONG	Oregon National Guard
OU	Operable Unit
PA	Preliminary Assessment
PFAS	Per- and Polyfluoroalkyl Substances

Acronym	Definition
PFNA	Perfluorononanoic Acid
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane Sulfonic Acid
PP	Proposed Plan
RAB	Restoration Advisory Board
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RDX	Hexahydro-1,3,5-trinitro-1,3,5-triazine
RG	Remediation Goal
RI	Remedial Investigation
RIP	Remedy-In-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
RTC	Rees Training Center
SI	Site Inspection
SL	Screening Level
TAPP	Technical Assistance for Public Participation
TNT	2,4,6-Trinitrotoluene
TRC	Technical Review Committee
UMCD	Umatilla Chemical Depot
UST	Underground Storage Tank
UU/UE	Unlimited Use/Unrestricted Exposure
WBS	Work Breakdown Structure
µg/kg	Microgram/Kilogram

PHASE TRANSLATION TABLE

HQAES Phase ID	CERCLA Phase	RCRA Phase	RCRA UST Phase
.01	Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
.02	Site Inspection (SI)	Confirmation Sampling (CS)	Investigation (INV)
.03	Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
.04	Remedial Design (RD)	Design (DES)	Design (DES)
.05	Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
.06	Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
.07	Remedial Action (Operation) (RA(O))	Corrective Measures Implementation (Operation) (CMI(O))	Implementation (Operation) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
41725.1002	CCOR2020-03-P_UMATILLA PFAS CONT	- -
41725.1010	UMAD-024_SOUTH LAGOON	UMAD-024

UMATILLA CHEMICAL DEPOT

INSTALLATION RESTORATION PROGRAM SITES

UMAD-024_SOUTH LAGOON

HQAES ID: 41725.1010

Alias: UMAD-024

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 10/01/1996

RC Date: 4/30/2046

RC Reason: Not assigned

Program: ENV Restoration, Army

Subprogram: IR

Phases	Start	End
PA	7/31/1978	5/31/1979
SI	7/31/1978	5/31/1979
RI/FS	8/31/1989	9/30/1992
RD	11/30/2010	3/31/2012
IRA	--	--
RA(C)	10/01/1995	9/30/1996
RA(O)	10/1/1996	4/30/2046
LTM	5/01/2046	5/01/2076

Site Narrative

From the mid-1950s to 1965, explosives, contaminated sludge, and liquid wastes generated at the Umatilla Chemical Depot (UMCD) Washout Plant were discharged and allowed to collect in unlined lagoons and infiltrate into the soil and groundwater at the South Lagoon Area. The Army initiated a Remedial Investigation (RI) in 1987 and the Record of Decision (ROD) was signed in 1994. The ROD identified groundwater extraction and treatment (GET) as the selected remedy for the groundwater operable unit at the South Lagoon. The contaminated groundwater remediation facility, a pump and treat facility with extraction wells, was constructed in 1995 and brought online in 1996 to remove explosives from the groundwater.

After approximately 10 years the Base Realignment and Closure (BRAC) Coordination Team agreed continuous operation of the GET was no longer productive for reduction of a hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)-2,4,6-trinitrotoluene (TNT) plume and an alternative treatment system including biological treatment of the plume was recommended. Following field trials, it was determined that biological stimulation of naturally occurring anaerobic microorganisms successfully degraded RDX to below clean-up levels. Additional testing involving the introduction of aerobic microbes proved similarly effective. The March 2018 Draft Final Focused Feasibility Study (FFS) recommended a new selected remedy of “*Pump and Treat with Phased Anaerobic Bioremediation*”.

During the testing period the GET system was not in continuous operation. The GET system was returned to full operation in 2015 but experienced numerous technical issues. In June 2016, the GET system was returned to full continuous operation and has performed well since that time.

Compliance groundwater monitoring has occurred semi-annually. Results of the recent sampling events have demonstrated that the GET system is effectively treating the groundwater in the extremities of the plume area and that contaminants continue to be degraded in the areas where the biological field trials were conducted.

In Fiscal Year 2019 (FY19) this site was transferred to Army National Guard (ARNG) ownership and management.

In early 2023, the facility was renamed Rees Training Center (RTC), but is also referred to as the Explosives Washout Lagoon (EWL). Five year review contract for the next five year review has been awarded in FY23.

Cleanup Strategy: The subject site is in Remedial Action (Operation) (RA-O) phase, with the current solution operating as GET with semi-annual groundwater compliance monitoring. The March 2018 Draft FFS will require a data gap analysis to finalize, and a Proposed Plan (PP) and ROD amendment will be completed. The 2018 Draft Final FFS has a future selected remedy of Alternative 3 – *Pump and Treat with Phased Anaerobic Bioremediation*. Semi-annual compliance groundwater monitoring will continue until five years after remediation goals (RGs) have been reached. Five year reviews are required. Administrative Land Use Controls (LUCs) will be required. Indefinite Long Term Management (LTM) will be conducted following the achievement of RGs.

UMATILLA CHEMICAL DEPOT

COMPLIANCE CLEANUP SITES

CCOR2020-03-P_UMATILLA PFAS CONT

HQAES ID: 41725.1002

Alias: None

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 1/15/2031

RC Date: 1/15/2031

RC Reason: Not assigned

Program: Compliance Cleanup

Subprogram: CC

Phases	Start	End
PA	6/18/2018	6/2/2020
SI	5/10/2020	9/30/2023
R/FS	9/15/2024	9/15/2031
RD	--	--
IRA	--	--
RA(C)	--	--
RA(O)	--	--
LTM	--	--

Site Narrative

RTC is located in Morrow and Umatilla Counties, approximately one mile northwest of the Interstate 82 and Interstate 84 intersection in the City of Hermiston, Oregon, and approximately eight miles southwest of the City of Umatilla. The installation encompasses 7,500 acres, including a 170-acre cantonment area used to support the Oregon National Guard's (ONG) mission of military training. RTC is situated in the southeastern corner of the former Umatilla Chemical Depot (UMCD), which comprises 19,729 acres and spans west into Morrow County. RTC was originally named Camp Umatilla but was renamed to RTC in 2023.

A Preliminary Assessment (PA) was completed at RTC to assess potential per- and polyfluoroalkyl substances (PFAS) release areas and exposure pathways to receptors. Two areas of interest (AOIs) were identified. Based on the likely aqueous film-forming foam (AFFF) releases at these AOIs, there is potential for exposure to PFAS contamination in surface soils to site workers, construction workers, and trespassers via inhalation and ingestion; in subsurface soils to site and site and construction workers via inhalation and ingestion; and in groundwater for site workers, construction workers, nearby off-facility residents, and trespassers via ingestion. A third AOI was then identified subsequent to the PA.

Site Inspection (SI) field activities were conducted in October and December 2022. At AOI 1, perfluorooctane sulfonic acid (PFOS) and perfluorononanoic acid (PFNA) in surface soil exceeded the individual screening levels (SLs) of 13 microgram/kilogram ($\mu\text{g}/\text{kg}$) for PFOS with a maximum concentration of 1,090 $\mu\text{g}/\text{kg}$ and the SL of 19 $\mu\text{g}/\text{kg}$ for PFNA with a maximum concentration of 52.8 $\mu\text{g}/\text{kg}$. PFOS and PFNA in groundwater exceeded the SLs of 4 nanograms/Liter (ng/L) for PFOS and 6 ng/L for PFNA. The maximum concentrations detected in groundwater at AOI 1 were PFOS at 9.05 ng/L and PFNA at 18.8 ng/L . At AOI 2, PFOS and PFNA in groundwater exceeded the SLs of 4 ng/L for PFOS and 6 ng/L for PFNA. The maximum concentrations detected in groundwater at AOI 2 were PFOS at 7.27 ng/L and PFNA at 51.2 ng/L . At AOI 3, perfluorooctanoic acid (PFOA), PFOS, and PFNA in surface soil exceeded the individual SLs of 19 $\mu\text{g}/\text{kg}$ for PFOA with a maximum concentration of 65.9 $\mu\text{g}/\text{kg}$, 13 $\mu\text{g}/\text{kg}$ for PFOS with a maximum concentration of 342 $\mu\text{g}/\text{kg}$, and the SL of 19 $\mu\text{g}/\text{kg}$ for PFNA with a maximum concentration of 38.1 $\mu\text{g}/\text{kg}$. PFOS and PFNA in groundwater exceeded the SLs of 4 ng/L for PFOS and

6 ng/L for PFNA. The maximum concentrations detected in groundwater at AOI 3 were PFOS at 4.06 ng/L and PFNA at 94.3 ng/L. Further evaluation under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) is warranted in a Remedial Investigation (RI) for all three AOIs.

Cleanup Strategy: A Site Inspection (SI) is underway at the site and will be completed by the end of the fiscal year. A RI/Feasibility Study (FS) will be required. Further actions will be determined upon completion of the RI/FS.

SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date	Program Code
41725.1120	UMAD-001-R-01_QA FUNCTION RANGE	9/30/2009	ENV Restoration, Army

COMMUNITY INVOLVEMENT

Technical Review Committee (TRC) Establishment Date:	N/A
Community Involvement Plan (Date Published):	TBD
Restoration Advisory Board (RAB) Establishment Date:	4/30/1994
RAB Adjournment Date:	9/30/2011
RAB Adjournment Reason:	There is no longer sufficient, sustained community interest.
Additional Community Involvement:	N/A
Administrative Record is located at:	UMATILLA CHEMICAL DEPOT BUILDING 32, BRAC ENVIRONMENTAL OFFICE, HERMISTON O
Information Repository is located at:	HERMISTON PUBLIC LIBRARY, 235 E. GLADYS AVENUE, HERMISTON OREGON
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Review Summary Table

Status	Start	End	End FY
COMPLETE	200310	200411	FY04
COMPLETE	200810	201007	FY09
COMPLETE	201310	201409	FY14
UNDERWAY	201810	202310	FY19
FUTURE	202310	202409	FY24

ROD/DDs associated with the last Five-Year/Periodic Review

Associated ROD/DD Name	Sites
Final Record of Decision Umatilla Depot Activity Explosives Washout Lagoons Ground Water Operable Unit	41725.1010

Results, Actions & Plans

Results	Actions	Plans
All remedies remain protective of human health and environment in the short-term. The remedial systems are operating and functioning as designed.	Additional actions needed at Ammunition Demolition Area (ADA) Operable Unit (OU) (remedial actions for future land use, groundwater study of arsenic), Explosives Washout Lagoon (EWL) Ground Water (GW) OU (optimization of groundwater remedy).	Future Five-Year Reviews are necessary at the EWL GW OU, the ADA OU, and the Active Landfill OU because contamination or waste remains above levels that allow for Unlimited Use (UU)/Unrestricted Exposure (UE) on these sites.

LAND USE CONTROLS (LUC) SUMMARY

None