FY2009

UMATILLA CHEMICAL DEPOT

Base Realignment & Closure
Installation Action Plan

Printed 01 October 2009

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Statement of Purpose

The purpose of the Base Realignment and Closure (BRAC) Installation Action Plan (BIAP) is to outline the total multiyear cleanup program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern (AOC), and proposes a comprehensive, installation-wide approach, along with the costs and schedules associated with conducting investigations and taking the necessary remedial actions (RA).

In an effort to coordinate planning information between the BRAC environmental coordinator (BEC), the US Army Environmental Command (USAEC), the Umatilla Chemical Depot, the regulatory agencies, executing agencies, the BRAC Division and the public, a BIAP was completed. The BIAP is used to track requirements, schedules and budgets for all Army installation cleanup programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change.

The following persons contributed to the formulation and completion of this Installation Action Plan for UMATILLA CHEMICAL DEPOT:

Daugherty, Mark	Umatilla BRAC Environmental Coordinator
Jackson, Joan	AEC ERM
Nelson, Mike	USACE, Seattle District
Rivera, Sheri	Bechtel-S Corporation for AEC
Wilson, Rich	USACE, Seattle District

Installation Information

Installation Program Summaries

BRAC-IRP

Total Number of Sites:	117
Number of sites at RIP:	2
Number of sites at RC:	116
Number of sites at RC with LTM:	1
Primary Contaminants of Concern:	Explosives, Metals, Munitions constituents (MC)
Affected Media of Concern:	Groundwater, Soil
Date for Remedy-In-Place (RIP)/Response Complete (RC):	200302/202301
Prior Funding:	$1,613.5 K
Current FY 09 Requirements:	$.0 K
Future Requirements (CTC):	$7,040.0 K

BRAC-MMRP

Total Number of Sites:	2
Number of sites at RIP:	0
Number of sites at RC:	1
Number of sites at RC with LTM:	1
Primary Contaminants of Concern:	Munitions and explosives of concern (MEC)
Affected Media of Concern:	Soil
Date for Remedy-In-Place (RIP)/Response Complete (RC):	201711/201711
Prior Funding:	$1,068.0 K
Current FY 09 Requirements:	$.0 K
Future Requirements (CTC):	$17,700.0 K

Installation Information

Installation Locale

BRAC Round: BRAC I

Installation Size (Acreage): 19,729.00
Retained by Component (Acreage): 19,729.00
BRAC Acreage: 0.00
Acres being transferred to another service: 0.00
Acres being transferred to other federal agencies: 0.00
Acres being transferred to non-federal agencies: 0.00

City: Hermiston
County: Umatilla
State: Oregon

Other Locale Information

Established in 1941 as an ordnance depot, the Umatilla Chemical Depot (UMCD) is located in northeastern Oregon in Morrow and Umatilla Counties, approximately five miles west of the city of Hermiston, Oregon and three miles south of the Columbia River. The installation was first placed on the BRAC list in 1988 for realignment. Realignment began Sept. 30, 1991 and was completed by Sept. 30, 1994. All conventional ordnance stored at UMCD was transferred to Hawthorne Army Ammunition Plant in Nevada. The current mission of UMCD is the static storage and demilitarization of nerve and blister agents under Resource Conservation and Recovery Act (RCRA) authority. Closure of the depot will not occur until the demilitarization activities are completed. Currently, all nerve agents have been destroyed and destruction of the Mustard that began in the Third Quarter FY09 is planned to be completed between Fourth Quarter FY09 and Fourth Quarter FY10 if there are no significant delays. Demilitarization of the treatment facility will be completed in 2013 with installation closure to follow.

List of Off-Post Properties

N/A

Environmental Condition of Property

BRAC Round: BRAC I

	CERCLA	MMRP
Acres in Category 1:	0.00	0.00
Acres in Category 2:	0.00	0.00
Acres in Category 3:	0.00	0.00
Acres in Category 4:	0.00	0.00
Acres in Category 5:	0.00	0.00
Acres in Category 6:	0.00	0.00
Acres in Category 7:	0.00	0.00

Lead Organization

Base Realignment and Closure Division

Lead Executing Agencies for Installation

US Army Corps of Engineers (USACE), Seattle District

Regulator Participation

Federal	US Environmental Protection Agency (USEPA) Region 10, Office of Environmental Cleanup
State	Oregon Department of Environmental Quality (ODEQ), Waste Mgmt and Cleanup Division

BRAC Closure Round: BRAC I - Base Realignment And Closure 1988

Status of Redevelopment Initiative (Reuse Plan)

Redevelopment Plan Date: 201101
Organization Name: Umatilla LRA

Installation Information

Existing Legal Agreements/Interim Leases

Parcel Name	Actual Lease/License Date	Length of Lease/License	Licensee
N/A			

Significant Base Tenants

Madigan Army Medical Clinic
Program Manager for Chemical Demilitarization Program
Defense Threat Reduction Agency
Oregon National Guard
Washington Demilitarization Company
Federated Contracting Corporation
Information System Services
Argonne National Labs
Southwest Research Institute
BRAC Environmental Coordinator's Office

Projected Date of Final Transfer of Property:

National Priorities List (NPL) Status

A score of 31 was recorded on 198707.

Final RA(C) Completion Date: 201711

Date for NPL Deletion:

BRAC-IRP	N/A
BRAC-MMRP	N/A

Installation Restoration Advisory Board (RAB)/Technical Review Committee (TRC)/Technical Assistance for Public Participation (TAPP) Status

RAB established 1994

Cleanup Program Summary

Previous Year Planned versus Actual Progress

The record of decision (ROD) for selenium cleanup was delayed due to regulatory review. Negotiations with the ODEQ solid waste program continue regarding an environmental monitoring plan for the landfill. Continued disagreements with the state's proposed monitoring requirements may result in a dispute resolution. A groundwater (GW) pump-and-treat optimization study and unexploded ordnance (UXO) cleanup of UMAD-001-R-01 were completed.

Installation Program Cleanup Progress

BRAC-IRP

Prior Year Progress:	Development of an Oregon ROD (for selenium cleanup) continues. Regulatory negotiations for a draft environmental monitoring plan (EMP) for the landfill continue. A GW pump-and-treat optimization study was completed. Quarterly pulse pumping was begun at the GW treatment facility.
Future Plan of Action:	The ROD for selenium cleanup will be completed. The EMP for the landfill will be finalized. Pulse pumping will be completed and a strategy developed for outyear GW treatment.

BRAC-MMRP

Prior Year Progress:	UXO removal at the quality assurance function range (UMAD-001-R-01) was completed. After Action Report for UXO removal at UMAD-001-R-01 was completed and site was officially closed
Future Plan of Action:	Reuse of UMAD-148 will be finalized and MEC removal planning will be completed.

Installation Exit Strategy

For site UMAD-001-R-01, a remedial action - construction [RA-C] will be completed in FY09 as will long-term management (LTM) in FY11 and plans for project closeout documentation. At site UMAD-024 technology was switched to pulse pumping to try to achieve better results. The installation anticipates achieving future reductions in LTM through future negotiations with the ODEQ to reduce the present semiannual monitoring frequency to annual monitoring and to reduce the number of analytes sampled at site UMAD-034. At UMAD-148 a focused feasibility study will be prepared using the engineering evaluation/cost analysis (EE/CA) as its basis. MEC clearance will be based on agricultural reuse.

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UMATILLA CHEMICAL DEPOT

Base Realignment and Closure
Installation Restoration Program

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BRAC-IRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) BRAC Sites/Response Complete (RC)
BRAC Sites*: 117/116

Sites planned for RIP for FY2010

Site ID	Site Name	Month
N/A		

Sites planned for RC for FY2010

Site ID	Site Name	Month
N/A		

Installation Site Types with Future and/or Underway Phases*

1 Landfill
(UMAD-034)
1 Surface Impoundment/Lagoon
(UMAD-024)

Most Widespread Contaminants of Concern*

Explosives, Metals, Munitions constituents (MC)

Media of Concern*

Groundwater, Soil

Completed Remedial Actions (Interim Remedial Actions / Final Remedial Actions (IRA/FRA))*

Site ID	Site Name	Action	Remedy	FY	Cost
UMAD-023	NORTH LAGOON	FRA	WASTE REMOVAL - SOILS	1996	TBD
UMAD-023	NORTH LAGOON	FRA	BIOREMEDIATION	1996	$2.6 K
UMAD-024	SOUTH LAGOON	FRA	WASTE REMOVAL - SOILS	1996	TBD
UMAD-024	SOUTH LAGOON	FRA	BIOREMEDIATION	1996	$2.6 K
UMAD-048	PB/ZN/A1 STRG SITE(SW CORNER)(SITE 26)	FRA	SOLIDIFICATION/STABILIZATION	1996	TBD
UMAD-058	BLDG 493, PAINT SLUDGE DISCHARGE AREA	FRA	SOLIDIFICATION/STABILIZATION	1996	TBD
UMAD-090	OB TRENCHES/PADS (SITE 19)	FRA	IN-SITU SOIL TREATMENT	1996	TBD
UMAD-105	DRMO AREA(SITE 22)	FRA	IN-SITU SOIL TREATMENT	1996	TBD
UMAD-022	TNT WASHOUT PLANT (BLDG 489)(SITE 5)	FRA	OTHER	1997	$1.4 K
UMAD-034	ACTIVE LANDFILL	FRA	CAPPING	1997	$2.0 K
UMAD-042	WASHOUT BLDG SUMP (OU6)	FRA	INCINERATION	1997	TBD
UMAD-047	DEACTIVATION FURNACE (BLDG 206)(SITE 1)	FRA	OTHER	1997	$2.5 K
UMAD-086	TNT SLUDGE BURN/BURIAL AREA(SITE 15)	FRA	IN-SITU SOIL TREATMENT	1997	TBD
UMAD-088	ABOVE GROUND OD AREA (SITE 17)	FRA	IN-SITU SOIL TREATMENT	1997	TBD
UMAD-094	PESTICIDE PITS (SITE 31)	FRA	IN-SITU SOIL TREATMENT	1997	TBD
UMAD-095	OPEN BURNING TRAYS (SITE 32)	FRA	IN-SITU SOIL TREATMENT	1997	TBD
UMAD-090	OB TRENCHES/PADS (SITE 19)	FRA	SOLIDIFICATION/STABILIZATION	2003	TBD

BRAC-IRP Summary

Total BRAC-IRP Funding

Prior Funding:	$1,613.5 K
Current Requirements:	$.0 K
Future Requirements:	$7,040.0 K

Duration of BRAC-IRP

Date of BRAC-IRP Inception:	197807
Date for Remedy-In-Place (RIP)/Response Complete (RC):	200302/202301
Date of BRAC-IRP completion including Long Term Management (LTM):	202509

*Note: This does not include sites closed prior to installation being identified as BRAC.

BRAC-IRP Contamination Assessment

Contamination Assessment Overview

The information for this section is not available at this time.

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UMATILLA CHEMICAL DEPOT

Installation Restoration Program

Site Descriptions

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Site ID: UMAD-024
Site Name: SOUTH LAGOON

STATUS

Parcel: Umatilla Chemical Depot (Not Excessed) (1 acres)

Regulatory Driver: CERCLA

RRSE: HIGH

Program: BRAC-IRP

Contaminants of Concern: Explosives, Munitions constituents (MC)

Media of Concern: Groundwater, Soil

BRAC Round: BRAC I

Phases	Start	End
PA	197807	197905
SI	197807	197905
RI/FS	198908	199209
RD	199208	199308
RA(C)	199404	199608
RA(O)	199701	202301

RIP Date: 199701

RC Date: 202301

SITE DESCRIPTION

UMAD-023 and UMAD-024 required cleanup of explosives-contaminated soils and GW. Contaminated soils cleanup has been completed as of August 1996. Contaminated GW treatment began in January 1997 and is expected to last until 2023, using a carbon adsorption pump-and-treat system. A single treatment system is operating for both UMAD-023 and 024. All future costs will be programmed in UMAD-024. An enhancement study was conducted in 2007 to evaluate alternatives to improve extraction levels and overall contamination reduction. In 2009 operations include pulse pumping and will continue while the treatment system is further evaluated. Additional extraction wells may be required in the future to improve treatment effectiveness.

The Explosives Washout Lagoons Groundwater Operable Unit (OU) addresses contamination in GW caused by past waste disposal at the lagoons. The explosives washout lagoons were two adjacent, unlined rectangular lagoons constructed in the native sandy-gravelly soil. The north and south lagoons measured 80 feet by 39 feet and 80 feet by 27 feet respectively, and both were six feet deep. A 15-foot-wide gravel berm separated the lagoons, and gravel berms encircled both lagoons. The depth from the bottom of the lagoons to GW generally varied from 45 to 50 feet. The lagoons were typically dry; any collected precipitation tends to infiltrate rapidly. There was virtually no vegetation in the lagoons and on the berms.

From the 1950s until 1965 the UMCD operated an on-site explosive washout plant. The plant processed munitions to remove and recover explosives using a pressurized hot water system. The principal explosives consisted of TNT (2,4,6-trinitrotoluene), RDX (hexahydro-l,3,5-trinitro-l,3,5-triazine), HMX (octahydro-l,3,5,7-tetranitro-l,3,5,7-tetrazocine), and tetryl (2,4,6-tetranitro-N-methylaniline).

In addition to the above, the munitions contained small quantities of 2,4-DNT (2,4-dinitrotoluene), 2,6-DNT (2,6-dinitrotoluene), TNB (1,3,5-trinitrobenzene), DNB (1,3-dinitrobenzene), and NB (nitrobenzene), occurring as either impurities or degradation products of TNT.

Operation of the plant included flushing and draining the explosives washout system. The wash water was discharged via an open metal trough to the two infiltration lagoons located northwest of the plant. The lagoons were constructed in the 1950s and used until 1965 when plant operations and all discharges to the lagoons ended. A total of 85 million gallons of effluent is estimated to have been discharged to the lagoons during the period of plant operation. The wastewater from the washout operation, also known as "pinkwater", contained high concentrations of explosives, primarily TNT and RDX.

The wastewater seeped from the lagoons and contaminated the GW beneath them. The GW contamination was isolated to the unconfined (alluvial) aquifer (described in Section III). At the explosives washout lagoons, the saturated thickness of the entire unconfined aquifer ranges from approximately 15 to 35 feet.

Several soil and GW investigations were conducted at the explosives washout lagoons from 1981 to 1994. A network of 78 GW monitoring wells was used to identify and map GW contamination. Contaminants of concern identified in GW were TNT, TNB, DNB, NB, 2,4-DNT, 2,6-DNT, tetryl, RDX, and HMX. The most common contaminant was RDX, with concentrations ranging from below detection limit [less than 0.556 micrograms per liter (ug/L)] to 6,816 ug/L. RDX also had the largest plume covering approximately 350 acres, all contained within the UMCD facility boundary.

Site ID: UMAD-024
Site Name: SOUTH LAGOON

CLEANUP/EXIT STRATEGY

Remedial action criteria were established in the ROD for the Explosive Washout Lagoons Groundwater OU based on applicable or relevant and appropriate requirements (ARARs); e.g., maximum contaminant levels (MCLs), Lifetime Health Advisories (HA) or risk-based levels that provide a carcinogenic protection of l x 10-6 (one in a million) or a noncarcinogenic hazard quotient of 1. These criteria are:

- Contaminant of concern remedial action
- Criteria (ug/L) basis
- TNB 1.8 risk-based
- DNB 4.0 risk-based
- TNT 2.8 risk-based/HA
- 2,4-DNT 0.6 practical quantitation limit (PQL)
- 2,6-DNT 1.2 PQL
- HMX 350 HA
- RDX 2.1 PQL/HA

The selected remedial action for the Explosives Washout Lagoons Groundwater OU was extraction of the contaminated GW followed by granular activated carbon (GAC) treatment and reinfiltration of the treated GW back into the aquifer. The major components of the remedy are:

- extraction of the GW from an estimated three extraction wells over an estimated 10 to 30 years,
- treatment by GAC to meet performance standards based on the GW cleanup levels,
- in situ flushing of subsurface soils beneath the lagoons with all or part of the treated GW for an estimated period of one year,
- upgradient reinfiltration of the treated GW that does not go to the explosives washout lagoons and all the treated water after the in situ soil flushing is completed,
- testing of the spent GAC to determine RCRA characteristic hazardous waste status,
- off-site thermal treatment and disposal of explosives-contaminated GAC to the level specified in the remedial design [off-site thermal treatment will comply with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) off-site rule],
- monitoring of GW contamination to determine the effectiveness of the remedial action and to determine when the GW cleanup levels have been attained, and
- institutional controls on the contaminated GW to prevent its use until the GW cleanup levels are met.

Site ID: UMAD-034
Site Name: ACTIVE LANDFILL

STATUS

Parcel: Umatilla Chemical Depot (Not Excessed) (1 acres)

Regulatory Driver: RCRA

RRSE: LOW

Program: BRAC-IRP

Contaminants of Concern: Munitions constituents (MC)

Media of Concern: Groundwater

BRAC Round: BRAC I

Phases	Start	End
RFA	197807	197905
CS	197807	197905
RFI/CMS	198908	199308
DES	199608	199710
CMI(C)	199711	199712
LTM	199712	202509

RIP Date: N/A

RC Date: 199712

SITE DESCRIPTION

This site has a signed no action ROD. It was closed and capped in December 1997. Long-term GW monitoring will continue as part of the subpart D closure permit issued by Oregon. Groundwater sampling has shown elevated levels of selenium in the aquifer at the landfill. A ROD is currently being prepared by the ODEQ Cleanup Division to address cleanup. The remedy will be a state equitable servitude and easement (deed restriction) to prevent use of the GW for agricultural use. LTM is expected to last at least through FY25.

The Landfill OU is a five-acre solid waste disposal area located in the northeastern portion of UMCD, near the eastern border, in a former gravel pit approximately one-half mile east of Coyote Coulee. It is located between areas known at UMCD as storage igloo blocks E and D. The disposal area consists of a depression approximately 50 feet deep. Materials disposed at the site include garbage, demolition debris, asbestos from brake linings, dried sludge from the sewage treatment plant, possibly ash from the deactivation furnace, and explosives sludge.

An RI was conducted in 1992 with GW sampling activities performed at 10 adjacent monitoring wells. The Army operated the landfill from 1968 to 1997. The ODEQ issued a landfill permit to the Army in 1979, and the permit was renewed in 1982. Municipal wastes from the UMCD facility, including debris generated by maintenance such as clearing and renovation activities, were disposed at the site and covered on a weekly schedule. The extent of activity at UMCD was significantly reduced over the last 20 years, thereby reducing the volume of material placed in the landfill. The peak work force at UMCD existed when the landfill was first opened. During the Vietnam Conflict, approximately 1,000 people were employed at UMCD; however, by 1970, the work force began to decline and by 1987 it had fallen to three military and 250 civilian employees. The landfill ceased receiving municipal waste on Oct. 3, 1993, but continued to receive treated soil from remediation of the Deactivation Furnace OU, Miscellaneous Sites OU, and the Ammunition Demolition Activity (ADA) OU. The landfill was capped and closed in November 1997 in accordance with ODEQ solid waste regulations. In August 2000 the existing operating permit was reissued as a solid waste disposal closure permit.

Analyses performed on the GW samples include: target analyte list (TAL) inorganics (which includes metals, nonmetallic elements and cyanide), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), explosives, and nitrate/nitrite. The RI results found elevated nitrate/nitrite and selenium levels.

CLEANUP/EXIT STRATEGY

The ROD selected "no action" as the remedy for the Landfill OU. This selection was based on information generated during the remedial investigation (RI), which indicated that the OU did not pose an unacceptable threat to human health and/or the environment. The potential carcinogenic risks and noncarcinogenic hazard quotient due to ingestion of GW at the Landfill OU under a future residential land use scenario were 5 x 10 -5 (five per 100,000) and 2.0, respectively.

Groundwater monitoring of the landfill was initiated in and has continued since October 1996. Monitoring has been conducted in

accordance with the environmental monitoring plan approved by the ODEQ in July 1997 (Army, 1997). With the exception of selenium, the results from the sampling have been compared to the Table 1, 2, and 3 values from the Oregon Administrative Rules, Department of Environmental Quality 340 Groundwater Quality Protection (OAR 340-040). For selenium, the results have been compared to a risk-based level of 50 mg/L established by the ODEQ Cleanup Department in January 2003 (ODEQ 2003). A ROD is currently being developed to address the selenium issue.

BRAC-IRP Schedule

Date of BRAC-IRP Inception: 197807

Projected Phase Completion Milestones

See attached schedule

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates

Site ID	Site Name	ROD/DD Title	ROD/DD Date

Final RA(C) Completion Date: 200302

NPL Deletion Date: N/A

Schedule for Next Five-Year Review: 2014

Estimated Completion Date of BRAC-IRP at Installation (including LTM phase): 202509

UMATILLA CHEMICAL DEPOT BRAC-IRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY10	FY11	FY12	FY13	FY14	FY15+
UMAD-024	SOUTH LAGOON	PA						
		SI						
		RI/FS						
		RD						
		RA(C)						
		RA(O)						
SITE ID	SITE NAME	PHASE	FY10	FY11	FY12	FY13	FY14	FY15+
UMAD-034	ACTIVE LANDFILL	RFA						
		CS						
		RFI/CMS						
		DES						
		CMI(C)						
		LTM						

BRAC-IRP Costs

Total Funding through FY2004: $.0 K

(Includes ER,A funding from FY04 and prior years.)

Prior Funding

FY	Phase	BRAC Round	Site ID	Obligations	FY Total
2005	LTM		UMAD-034	$70.0 K	$1,028.0 K
	RA(O)		UMAD-023	$223.0 K	
			UMAD-024	$334.0 K	
			UMAD-024	$401.0 K	
2006	LTM		UMAD-034	$70.0 K	$70.0 K
2007	LTM		UMAD-034	$2.6 K	$29.5 K
	RA(O)		UMAD-024	$26.9 K	
2008	LTM	BRAC I	UMAD-034	$71.0 K	$486.0 K
	RAO	BRAC I	UMAD-024	$415.0 K	

TOTAL PRIOR FUNDING: $1,613.5 K

Current Requirements

TOTAL CURRENT REQUIREMENTS $.0 K

Future Requirements - BRAC I $7,040.0 K

Total Future Requirements $7,040.0 K

TOTAL PROGRAM COST: $8,653.5 K

(Includes ER,A funding from FY04 and prior years.)

Required Cost-to-Complete

BRAC I

SITE ID	SITE NAME										
ACTIVITY	Phase	FY10	FY11	FY12	FY13	FY14	FY15			Out Yrs	Total
UMAD-024	SOUTH LAGOON										
	RA(O)	391	422	1091	476	507	476			2415	5778
GW extraction well installation, five-year reviews, professional labor management									Site Total		5778
UMAD-034	ACTIVE LANDFILL										
	LTM	79	79	79	79	79	79			788	1262
GW monitoring, professional labor management									Site Total		1262
Totals											
		470	501	1170	555	586	555			3203	7040
									Site Total		7040

Programmed Cost-to-Complete

BRAC I

SITE ID / ACTIVITY	SITE NAME / Phase	FY10	FY11	FY12	FY13	FY14	FY15			Out Yrs	Total
UMAD-024	SOUTH LAGOON										
	RA(O)	391	422	1091	476	507	476			2415	5778
GW extraction well installation, five-year reviews, professional labor management										Site Total	5778
UMAD-034	ACTIVE LANDFILL										
	LTM	79	79	79	79	79	79			788	1262
GW monitoring, professional labor management										Site Total	1262
Totals											
		470	501	1170	555	586	555			3203	7040
										Site Total	7040

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UMATILLA CHEMICAL DEPOT

Base Realignment and Closure
Military Munitions Response Program

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BRAC-MMRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) BRAC Sites/Response Complete (RC)
BRAC Sites*: 2/1

Sites planned for RIP for FY2010

Site ID	Site Name	Month
N/A		

Sites planned for RC for FY2010

Site ID	Site Name	Month
N/A		

Installation Site Types with Future and/or Underway Phases*

2 Unexploded Munitions/Ordnance
(UMAD-001-R-01, UMAD-148)

Most Widespread Contaminants of Concern*

Munitions and explosives of concern (MEC)

Media of Concern*

Soil

Completed Remedial Actions (Interim Remedial Actions / Final Remedial Actions (IRA/FRA))*

Site ID	Site Name	Action	Remedy	FY	Cost
UMAD-001-R-01	QA FUNCTION RANGE	FRA	UXO CLEARANCE	2009	TBD

Total BRAC-MMRP Funding

Prior Funding:	$1,068.0 K
Current Requirements:	$.0 K
Future Requirements:	$17,700.0 K

Duration of BRAC-MMRP

Date of BRAC-MMRP Inception: 197807

Date for Remedy-In-Place (RIP)/Response Complete (RC): 201711/201711

Date of BRAC-MMRP completion including Long Term Management (LTM): 202709

*Note: This does not include sites closed prior to installation being identified as BRAC.

BRAC-MMRP Contamination Assessment

Contamination Assessment Overview

The information for this section is not available at this time.

UMATILLA CHEMICAL DEPOT

Military Munitions Response Program

Site Descriptions

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Site ID: UMAD-001-R-01
Site Name: QA FUNCTION RANGE

STATUS

Parcel: Umatilla Chemical Depot (Not Excessed) (1 acres)

Regulatory Driver: CERCLA

Program: BRAC-MMRP

MRSPP Score: Evaluation pending

Contaminants of Concern: Munitions and explosives of concern (MEC)

Media of Concern: Soil

BRAC Round: BRAC I

Phases	Start	End
PA	200203	200306
RI/FS	200204	200306
RD	200603	200712
RA(C)	200803	200909
LTM	200909	201409

RIP Date: N/A

RC Date: 200909

SITE DESCRIPTION

The quality assurance (QA) function range consists of approximately 640 acres used to test function of various military pyrotechnics/munitions. A 100 percent magnetometer survey and subsurface anomaly characterization has been completed. An EE/CA was completed and a ROD signed in May 2005. Approximately 176 acres require clearance. In May 2008 a site safety submission was approved. Remedial action field work was completed in December 2008. A final after action report is due in September 2009.

Several soil and GW investigations were conducted at the explosives washout lagoons from 1981 to 1994. A network of 78 GW monitoring wells was used to identify and map GW contamination. Contaminants of concern identified in GW were TNT, TNB, DNB, NB, 2,4-DNT, 2,6-DNT, tetryl, RDX, and HMX. The most common contaminant was RDX, with concentration ranging from below detection limit (< 0.556 ug/L) to 6,816 ug/L. RDX also had the largest plume, of approximately 350 acres, all contained within the UMCD facility boundary.

The 640-acre parcel, referred to as Site 39, was acquired by the US Army for use as a QA function range for various types of conventional weapons, munitions, and related materials, such as test flares, photo flash grenades, illumination and smoke canisters and mines. Chemical weapons were never tested at Site 39, only conventional weapons. Records indicate munitions were function tested in the QA test pad area from the late-1940s through the mid-1970s. The rifle and pistol range (small arms testing area) in the western portion of Site 39 was operated from the late-1940s through the 1960s. Function testing of MEC also occurred in the vicinity of the rifle and pistol range, although specific dates of use are not available.

Based on historical records and the results of the geophysical mapping and intrusive investigation, it was determined that the majority of the 640-acre site had no evidence of past munitions activity. Areas of potential concern (AOPCs) that had no evidence of munitions activity total approximately 464 acres. The remaining 176 acres, which had discoveries of MEC or evidence of material potentially presenting an explosive hazard (MPPEH) were largely part of the test pad area, the rifle range area and a small area near one of the excavated test pits. Upon reviewing the results of the intrusive investigation, the boundaries of the AOPCs were redrawn into three AOCs that included locations where MEC or MPPEH had been found. Of the four MEC items that were found, two were found in the test pad area and the other two were found in the rifle range area. The two MEC items found in the test pad area consisted of a partially exposed M33 fragmentation grenade and a pyrotechnic flare found at a depth of three inches below ground surface (bgs). The two MEC items found in the rifle range area (found at a single anomaly location) consisted of remnants of two ground signal devices and rifle grenade flares found at a depth of 16 inches bgs. All four MEC items were unfused, which allowed them to be moved to a secure bunker at the ADA on UMCD for subsequent disposal.

CLEANUP/EXIT STRATEGY

The cleanup and exit strategy for UMAD-001-R-01 is to:
- acquire and mark the locations of Category 1 and Category 2 geophysical anomalies within the rifle range area, test pad area, and test pit area that have been identified during the geophysical mapping of the site during the EE/CA investigation,
- excavate soil at the locations of the geophysical anomalies to find and remove the metallic item causing the geophysical

anomaly, and then backfill and reseed the excavations,
- sift soil in the vicinity of the former QA function test pads to a depth of two feet (in areas where obstructions prevented geophysical mapping) and collect metallic debris,
- collect metallic debris (miscellaneous metal debris and ordnance-related scrap) found in the excavations and soil sifting and transport to an off-site scrap-metal recycler with a smelter. If a live MEC item is found in any of the excavations, then it will be safely detonated. All certified explosive-free ordnance-related scrap will be transported to a scrap metal recycler with a smelter,
- maintain existing fencing and signage to restrict access (prior to initiation and completion of MEC clearance),
- continue monitoring access restrictions through Umatilla Depot Security Patrol,
- not require land use controls (LUCs) for Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) actions (after clearance is complete and until property is transferred); fences and signage will be maintained as part of overall security at the Umatilla Depot until the property is transferred,
- require deed notification at time of transfer to inform re-users that the property was used to test munitions,
- complete cleanup to meet the expected future agricultural use. (This notification will meet the requirements for state of Oregon real property deed notifications and the information will be included in the transfer documents and will be recorded at the time of transfer.)

For the approximately 464 acres not suspected of containing MEC:
- no further action for investigation and clearance,
- implement a deed notification to make future property owners aware of the past history of the property including its proximity to the former quality assurance function range and the results or previous investigations of the property known as Site 39 (if the property is transferred), and
- provide similar notification in the lease agreement if the property is leased.

Site ID: UMAD-148
Site Name: ADA UXO CLEARANCE

STATUS

Parcel: NONE

Regulatory Driver:

Program: BRAC-MMRP

MRSPP Score: Evaluation pending

Contaminants of Concern: Munitions and explosives of concern (MEC)

Media of Concern: Soil

BRAC Round: BRAC I

Phases	Start	End
PA	197807	197905
SI	197807	197905
RI/FS	201310	201411
RA(C)	201411	201711
LTM	202209	202709

RIP Date: N/A

RC Date: 201711

SITE DESCRIPTION

This is the site of UXO clearance in the ammunition demolition area (UMAD-148). A ROD was signed in June 1994. An EE/CA was completed in July 1998. A focused feasibility study will be prepared during the remedial design phase, using the EE/CA as its basis. MEC clearance will be based on agricultural reuse.

CLEANUP/EXIT STRATEGY

Unexploded ordnance cleanup is based on an agricultural reuse scenario. A four-foot clearance provides risk reduction for some construction activities as well as allowing for the vertical migration of UXO due to frost heave. It also corresponds to the Department of Defense (DoD) Explosives Safety Board's (DDESBs) removal depth for farming. Clearance will include performing a 100 percent surface/subsurface sweep. Further issues regarding cleanup/exit strategy will be addressed when the remedial design is completed in 2013.

BRAC-MMRP Schedule

Date of BRAC-MMRP Inception: 197807

Projected Phase Completion Milestones

See attached schedule

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates

Site ID	Site Name	ROD/DD Title	ROD/DD Date

Final RA(C) Completion Date: 201711

NPL Deletion Date: N/A

Schedule for Next Five-Year Review: 2014

Estimated Completion Date of BRAC-MMRP at Installation (including LTM phase): 202709

UMATILLA CHEMICAL DEPOT BRAC-MMRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY10	FY11	FY12	FY13	FY14	FY15+
UMAD-001-R-01	QA FUNCTION RANGE	PA						
		RI/FS						
		RD						
		RA(C)						
		LTM						
SITE ID	SITE NAME	PHASE	FY10	FY11	FY12	FY13	FY14	FY15+
UMAD-148	ADA UXO CLEARANCE	PA						
		SI						
		RI/FS						
		RA(C)						
		LTM						

BRAC-MMRP Costs

Total Funding through FY2004: $.0 K

(Includes ER,A funding from FY04 and prior years.)

Prior Funding

FY	Phase	BRAC Round	Site ID	Obligations	FY Total
2006	RD		UMAD-001-R-01	$91.0 K	$91.0 K
2008	RAC	BRAC I	UMAD-001-R-01	$977.0 K	$977.0 K

TOTAL PRIOR FUNDING: $1,068.0 K

Current Requirements

TOTAL CURRENT REQUIREMENTS $.0 K

Future Requirements - BRAC I $17,700.0 K

Total Future Requirements $17,700.0 K

TOTAL PROGRAM COST: $18,768.0 K

(Includes ER,A funding from FY04 and prior years.)

Required Cost-to-Complete

BRAC I

SITE ID	SITE NAME										
	Phase	FY10	FY11	FY12	FY13	FY14	FY15			Out Yrs	Total
ACTIVITY											
UMAD-001-R-01	QA FUNCTION RANGE										
	LTM		58								58
Site closeout documentation										Site Total	58
UMAD-148	ADA UXO CLEARANCE										
	RI/FS				254						254
	RA(C)					17326					17326
	LTM									62	62
FS, MEC removal action, five-year reviews										Site Total	17642
Totals											
			58		254	17326				62	17700
										Site Total	17700

Programmed Cost-to-Complete

BRAC I

SITE ID / ACTIVITY	SITE NAME / Phase	FY10	FY11	FY12	FY13	FY14	FY15			Out Yrs	Total
UMAD-001-R-01	QA FUNCTION RANGE										
	LTM	0	0	0	0	58	0			0	58
Site closeout documentation										Site Total	58
UMAD-148	ADA UXO CLEARANCE										
	RI/FS	0	0	0	0	0	254			0	254
	RA(C)	0	0	0	0	0	0			17326	17326
	LTM	0	0	0	0	0	0			62	62
FS, MEC removal action, five-year reviews										Site Total	17642
Totals											
		0	0	0	0	58	254			17388	17700
										Site Total	17700

BRAC I

PROGRAM ACTIVITY	SITE ID / SITE NAME	Phase	FY10	FY11	FY12	FY13	FY14	FY15			Out Yrs	Total
IR	UMAD-024	SOUTH LAGOON										
		RA(O)	391	422	1091	476	507	476			2415	5778
GW extraction well installation, five-year reviews, professional labor management											Site Total	5778
IR	UMAD-034	ACTIVE LANDFILL										
		LTM	79	79	79	79	79	79			788	1262
GW monitoring, professional labor management											Site Total	1262
MR	UMAD-001-R-01	QA FUNCTION RANGE										
		LTM		58								58
Site closeout documentation											Site Total	58
MR	UMAD-148	ADA UXO CLEARANCE										
		LTM									62	62
		RI/FS				254						254
		RA(C)					17326					17326
FS, MEC removal action, five-year reviews											Site Total	17642
	Totals											
			470	559	1170	809	17912	555			3265	24740
											Site Total	24740

BRAC I

PROGRAM ACTIVITY	SITE ID / Phase	FY10	FY11	FY12	FY13	FY14	FY15			Out Yrs	Total
IR	UMAD-024	SOUTH LAGOON									
	RA(O)	391	422	1091	476	507	476			2415	5778
GW extraction well installation, five-year reviews, professional labor management										Site Total	5778
IR	UMAD-034	ACTIVE LANDFILL									
	LTM	79	79	79	79	79	79			788	1262
GW monitoring, professional labor management										Site Total	1262
MR	UMAD-001-R-01	QA FUNCTION RANGE									
	LTM	0	0	0	0	58	0			0	58
Site closeout documentation										Site Total	58
MR	UMAD-148	ADA UXO CLEARANCE									
	RI/FS	0	0	0	0	0	254			0	254
	RA(C)	0	0	0	0	0	0			17326	17326
	LTM	0	0	0	0	0	0			62	62
FS, MEC removal action, five-year reviews										Site Total	17642
	Totals										
		470	501	1170	555	644	809			20591	24740
										Site Total	24740

Community Involvement

Technical Review Committee (TRC): 198810

Restoration Advisory Board (RAB): RAB established 1994

RAB Adjournment Date:
RAB Adjournment Reason:

Community Involvement Plan (Date Published): 198810

Additional Community Involvement Information

There is a RAB but it is not currently active. It may be reactivated if there is interest to follow progress on UMAD-001-R-01.

Administrative Record is located at

Umatilla Chemical Depot
Building 32, BRAC Environmental Office
Hermiston, Oregon

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

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