

ABERDEEN PROVING GROUND

Army Cleanup Program

Installation Action Plan Final

June 2024

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STATEMENT OF PURPOSE

The Installation Action Plan (IAP) provides evidence that the Army is firmly committed to expeditious identification and cleanup of environmental contamination, and that the installation has a credible, organized program to carry out that commitment. The IAP provides an outline of the total multi-year environmental cleanup program for each site with ongoing or future planned restoration activity and includes the (1) environmental restoration requirements, (2) the rationale for the selected technical approach, and (3) foundation to develop corresponding financial needs for each cleanup site.

INSTALLATION OVERVIEW

Installation Name: ABERDEEN PROVING GROUND

Installation City: ABERDEEN PROVING GRO

Installation County: BALTIMORE

Installation State: MD

Regulatory Participation - Federal: USEPA REGION III

Regulatory Participation - State: MARYLAND DEPARTMENT OF ENVIRONMENT (MDE) LAND AND MATERIALS ADMINISTRATION

ACRONYMS

Acronym	Definition
AA	Aberdeen Area
AFTA	Aberdeen Fire Training Area
APG	Aberdeen Proving Ground
BRDA	Burn Residue Disposal Area
BRRMDF	Bush River Radioactive Material Disposal Facility
BRSA	Bush River Study Area
CAP	Corrective Action Plan
CC	Compliance-related Cleanup
CCA	Canal Creek Aquifer
CCSA	Canal Creek Study Area
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CISA	Carroll Island Study Area
CN	Chloroacetophenone
CRL	Cleanup Restoration & Liabilities
CS	2-Chlorobenzalmalonitrile
CT	Carbon Tetrachloride
CVOC	Chlorinated Volatile Organic Compounds
CWA	Chemical Warfare Agents
CWM	Chemical Warfare Materiel
DCS	Deputy Chief of Staff
DD	Decision Document
DDTr	Dichlorodiphenyltrichloroethane and its residues
DES	Design
DM	Adamsite
DMM	Discarded Military Munitions
DNAPL	Dense Non-Aqueous Phase Liquid
DPT	Direct-push Technology
DPW	Department of Public Works
DRMO	Defense Reutilization and Marketing Office
EA	Edgewood Area
ENV	Environmental
ERA	Environmental Risk Assessment
ESD	Explanation of Significant Difference
EUL	Enhanced Use Leasing
FFS	Focused Feasibility Study
FS	Feasibility Study
ft	Feet
FY	Fiscal Year
FYR	Five-Year Review

Acronym	Definition
GA	Tabun
GAC	Granular Activated Carbon
GQSA	Graces Quarters Study Area
GWTF	Groundwater Treatment Facility
HE	High Explosive
HHRA	Human Health Risk Assessment
HMF	Hazardous Material Facilities
HQAES	Headquarters Army Environmental System
HRR	Historical Records Review
HRS	Hazardous Ranking Score
IAP	Installation Action Plan
ID	Identification
I&D	Identification/Detonation
IMP(C)	Implementation (Construction)
IMP(O)	Implementation (Operations)
INV	Investigation
IR	Installation Restoration
IRA	Interim Remedial Action
IRP	Installation Restoration Program
ISC	Initial Site Characterization
LPH	Liquid Phase Hydrocarbons
LTM	Long-Term Management
LUC	Land Use Control
MEC	Munitions and Explosives of Concern
MC	Munitions Constituents
MCL	Maximum Contaminant Level
MDE	Maryland Department of the Environment
MLF	Michaelsville Landfill
MMRP	Military Munitions Response Program
MNA	Monitored Natural Attenuation
MR	Munitions Response
MRA	Munitions Response Area
MRS	Munitions Response Site
MRSP	Munitions Response Site Prioritization Protocol
NFA	No Further Action
NPL	National Priorities List
OU	Operational Unit
PA	Preliminary Assessment
PAAF	Philips Army Airfield
PAALF	Philips Army Airfield Landfill
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyl

Acronym	Definition
PFAS	Per- and Polyfluoroalkyl Substances
PFC	Per- and Poly- Fluorinated Compounds
POL	Petroleum, Oil, and Lubricants
ppb	parts per billion
PWP	Plasticized White Phosphorus
RA	Remedial Action
RAB	Restoration Advisory Board
RA(C)	Remedial Action (Construction)
RACR	Remedial Action Completion Report
RA(O)	Remedial Action (Operations)
RBC	Risk-based Concentration
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
R&D	Research and Development
RD	Remedial Design
RFA	RCRA Facility Assessment
RI	Remedial Investigation
RIP	Remedy-in-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SC	Site Closeout
SI	Site Inspection
SLERA	Screening-Level Ecological Risk Assessment
SVE	Soil Vapor Extraction
SVOC	Semi-Volatile Organic Compounds
TAL	Target Analyte List
TAPP	Technical Assistance for Public Participation
TBD	To Be Determined
TCE	Trichloroethylene
TCRA	Time Critical Removal Action
TeCA	1,1,2,2-tetrachloroethane
TGY	Toxic Gas Yard
TNT	Trinitrotolulene
TRAAV	Test Range for Advanced Aerospace Vulnerability
TVOC	Total Volatile Organic Compounds
ug/L	micrograms per liter
USAEHA	US Army Environmental Hygiene Agency
USEPA	US Environmental Protection Agency
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VOC	Volatile Organic Compound
WBSA	Western Boundary Study Area

Acronym	Definition
WCCA	West Canal Creek Area
WSA	Westwood Study Area
WWI	World War I
WWII	World War II
WP	White Phosphorous
XRF	X-Ray Fluorescence

PHASE TRANSLATION TABLE

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

PROGRAM SUMMARY

Number of Open Sites with Response Complete/Total Open IR Sites: 56/117

Number of Open Sites with Response Complete/Total Open MR Sites: 0/16

Number of Open Sites with Response Complete/Total Open CC Sites: 0/1

SITE-LEVEL INFORMATION

24015.1001_AAML01_MICHAELSVILLE LANDFILL-OU1 (SOURC

Env Site ID: AAML01

Cleanup Site: MICHAELSVILLE LANDFILL-OU1 (SOURC

Alias: APGAA-003

Regulatory Driver: CERCLA

RIP Date: 5/15/2001

RC Date: 5/15/2001

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 31

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	11/30/1980	9/30/1989
SI:	11/30/1980	9/30/1990
RI/FS:	12/31/1987	6/30/1992
RD:	7/31/1992	9/30/1992
IRA:	4/30/1991	6/30/1991
RA(C):	4/30/1993	5/15/2001
RA(O):	--	--
LTM:	5/16/2001	9/30/2054

Site Narrative: Michaelsville Landfill (MLF) - The MLF area consists of approximately 20 acres within the restricted portion of the Aberdeen Area (AA) bordered on the northwest by Michaelsville Road and on the southeast by Trench Warfare Road. Operational Unit (OU)1 addresses the contamination source at the unlined municipal-type landfill. Contaminants of concern- volatile organic compounds (VOC) and target analyte list (TAL) metals. Media of concern- Sediment soil and surface water. Operations at the MLF began in late 1969 and continued through 1980. Landfill operations included trench-and-fill disposal of domestic and non-industrial waste from sources at Aberdeen Proving Ground (APG). Since 1980 the facility has been inactive. Initial investigations identified potential contaminants of concern including inorganics VOC pesticides polychlorinated biphenyls (PCB) and other substances common to multiuse landfills. Over time the monitoring program has been modified to concentrate on contaminants more likely to present a concern for potential exposure. In June 1992 the record of decision (ROD) for OU1 specified the installation of a new multi-layered cap in accordance with Maryland Department of the Environment (MDE) Requirements for Sanitary Landfill Closure using a Geosynthetic Membrane as the most appropriate remedial alternative. Construction of the impermeable cap began in 1993 and was completed in 1994. The interim leachate collection system installed in 1991 was removed and replaced by a new drainage system. The MLF was listed on the National Priorities List (NPL) in 1989. The MLF closeout report for the landfill cap installation was approved by the US Environmental Protection Agency (USEPA) in May of 2001. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. LTM includes quarterly inspections of the landfill I LUC monitoring and maintenance and mowing. Information related to per- and polyfluoroalkyl substances (PFAS) will be addressed under a future site. Since hazardous substances remain above levels that are protective for unrestricted use, land use controls (LUC) and five-year reviews are conducted to ensure long-term protectiveness.

24015.1002_AAML02_MICHAELSVILLE LANDFILL-OU2 (GW)

Env Site ID: AAML02

Cleanup Site: MICHAELSVILLE LANDFILL-OU2 (GW)

Alias: APGAA-003

Regulatory Driver: CERCLA

RIP Date: 9/29/1997

RC Date: 9/29/1997

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 31

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	11/30/1980	9/30/1989
SI:	11/30/1980	9/30/1990
RI/FS:	2/28/1993	9/30/1997
RD:	4/30/1997	9/30/1997
IRA:	--	--
RA(C):	10/31/1992	9/29/1997
RA(O):	--	--
LTM:	10/1/1997	9/30/2054

Site Narrative: The Michaelsville Landfill (MLF) area is an unlined municipal-type landfill that consists of approximately 20 acres within the restricted portion of Aberdeen Area bordered on the northwest by Michaelsville Road and on the southeast by Trench Warfare Road. Operations at the landfill began in 1969 and continued until closure in 1980. The landfill was capped in 1994. In September 1997, a record of decision was signed for Operable Unit 2 that required LTM of the site, annual sampling, and the establishment of a one-quarter mile drinking water well restriction zone. In June 2004 the monitoring plan for MLF was revised to sample groundwater only and reduce the frequency and number of wells being sampled. Contaminants of concern- Volatile organic compounds (VOC) and TAL for metals. Media of concern- Groundwater. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely, to include additional groundwater sampling every five years to support the five-year review. Information related to PFAS will be addressed under a future site. Since hazardous substances remain above levels that are protective for unrestricted use, LUC (to include groundwater monitoring) and five-year reviews are conducted to ensure long-term protectiveness.

24015.1003_AAOA01_OTHER ABERDEEN AREAS-LANDFILLS

Env Site ID: AAOA01

Cleanup Site: OTHER ABERDEEN AREAS-LANDFILLS

Alias: AAOA01

Regulatory Driver: CERCLA

RIP Date: 9/15/2010

RC Date: 9/15/2010

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	11/30/1980	9/30/1989
SI:	11/30/1980	9/30/1990
RI/FS:	10/31/1990	2/15/2009
RD:	3/15/2009	10/31/2009
IRA:	9/30/1993	9/30/1996
RA(C):	9/30/2004	9/15/2010
RA(O):	--	--
LTM:	9/16/2010	9/30/2054

Site Narrative: Other Aberdeen Areas-Landfills Site consists of Site 1 (Old Dump on Woodrest Creek) located on the southeast side of Surveillance Range Road and Site 2 (Old Dump on Swan Creek) located on the west side of Plum Point Lane both in the APG-AA. The approx. 3.7-acre Old Dump on Woodrest Creek site was used until the 1950s and reportedly was used for disposal of construction debris by burning. Observed rubble and debris included concrete blocks, culverts, plasterboard bricks, water heater tanks, steel, and clay pipe. The west side of the dump forms the bank of Woodrest Creek. The Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) established landfill boundaries using geophysical survey and aerial photographs. The area is currently covered by grass shrubs and trees. The Old Dump on Swan Creek encompasses approximately 30000 square feet (ft.) in a wooded area along the embankment of Swan Creek. This dump site was reportedly used between 1917 and 1935. Operations were suspected to include dumping of on-post wastes then bulldozing them over the embankment. Items reported in the RFA included rusted drums, metal plates, light posts, metal vehicle parts, tires, building debris, glass, and other debris. Surface runoff flows towards the creek and swales at the northern and southern ends of the dump site. In 1996/1997 remedial actions to mitigate potential impacts to human health were performed and included removing surface debris from the marsh between the dump and the creek and the dump site; a mulch cover over the dump; the northern swale was stabilized with a geosynthetic liner and three inches of stone; and a check dam was installed at the head of the northern swale to minimize erosion. The remedial action for the Old Dump on Swan Creek consisted of additionally stabilizing the southern swale removing an area of lead-impacted surface soil monitoring and LUC. These sites were grouped together due to their similarities. The primary concern of both sites was potential waste in place and the potential for off-site migration. The ROD was completed in 2009. The selected remedy includes waste consolidation, soil cover, shoreline stabilization, fencing, and LUCs for Woodrest Creek. For the Swan Creek Site the selected remedy includes excavation stabilization of drainage maintenance of existing fences and LUCs. Contaminants of concern- Metals. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial.

RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely, to include quarterly inspections of the landfill, groundwater monitoring, LUC monitoring and maintenance, and additional groundwater sampling every five years to support the five-year review. Since hazardous substances remain above levels that are protective for unrestricted use, land use controls (LUC) and five-year reviews are conducted to ensure long-term protectiveness.

24015.1004_AAOA02_OTHER ABERDEEN AREAS-SURFACE DISP

Env Site ID: AAOA02

Cleanup Site: OTHER ABERDEEN AREAS-SURFACE DISP

Alias: AAOA02

Regulatory Driver: CERCLA

RIP Date: 6/15/2010

RC Date: 6/15/2010

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	11/30/1980	9/30/1989
SI:	11/30/1980	9/30/1990
RI/FS:	10/31/1990	4/30/2006
RD:	3/31/2005	6/30/2006
IRA:	6/30/1994	9/15/2009
RA(C):	6/15/1994	6/15/2010
RA(O):	--	--
LTM:	6/16/2010	9/30/2054

Site Narrative: The Other Aberdeen Areas Surface Disposal Areas are located throughout the AA including Spesutie Island. Several sites were evaluated in Phase I and II remedial investigations (RI) and documented as requiring no further action (NFA) via record of decision (ROD) or remedial action completion reports (RACR). Some locations were identified as land use control (LUC) sites only and 2 locations were transferred to other sites. Remaining locations are summarized as follows- Site 8 Discarded Batteries at Abbey Point Navigation Light is in the southeast portion of the restricted area of APG along the shoreline of the Chesapeake Bay northeast of Abbey Point Road and southwest of Romney Creek. Located in a remote area of an active range. Site 9 Discarded Batteries at Spesutie Island Navigation Light. This site is located in the restricted area along the shoreline of Back Creek in the southwest portion of Spesutie Island. Site 12 Old Chemical Dump on Spesutie Island is in the northeastern portion of Spesutie Island west of Spesutie Island Road off Duck Lane on the north side of an overgrown road that travels through a marsh to an old bridge across a tributary to Back Creek. Site 16 Defense Reutilization and Marketing Office (DRMO) Metal Scrap Yard is located east of Michaelsville Road southeast of Trench Warfare Entrance Road and northeast of Michaelsville Landfill. Site 17 Silver Contaminated Ditch in Transonic Range Area is in the central portion of the restricted area. Contaminants of concern included various metals in sediments at site locations of 8, 9, 12, and 17. Site 16 had metals, potential polychlorinated biphenyl (PCB) and petroleum, oils, and lubricants (POL) wastes in sediment. Site 8- Inspected as part of Phase 1 Scoping activities. An unknown number of 6- and 12-volt batteries were discarded at base of Abbey Point navigation light tower. Remedial action removed metals impacted sediments including appropriate disposal and LUCs. Site 9- Inspected as part of Phase 1 Scoping activities. Unknown number of 6- and 12-volt batteries were discarded at base of Spesutie Island navigation light tower. Remedial action removed metals impacted sediments including appropriate disposal and LUCs. Site 12- The RFA estimated the Old Chemical Dump on Spesutie Island site to be 300 ft. by 20 ft. Boxes with bottles of chemicals were reportedly thrown from the adjacent road into the marsh. Remedial action removed metals impacted sediments including appropriate

disposal and LUCs. Site 16- The approximately 12.7-acre DRMO Metal Scrap Yard site is currently active and has been used to store vehicles (trucks, jeeps, and trailers) automated data processing equipment used ammunition canisters, cable, wiring, stoves, refrigerators, air conditioners, and various compressors and motors. Contaminants of concern removal actions addressed various metals and PCB followed by implementation of LUCs. Site 17- Photography processing waste from Building 740B thought to be discharged to a wastewater treatment plant was going to a series of drainage ditches at the Transonic Range until the mid-1970s. The upper 300 ft. of ditch was found to contain silver presumably from the photographic processing waste. Contaminants of concern- Metals, PCBs, and POLs, Media of concern- Sediments and soils. Remedial action removed metals impacted sediments including appropriate disposal and LUCs. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. LTM includes annual inspections to support the five-year review as stated in the land use control implementation plan. Since hazardous substances remain above levels that are protective for unrestricted use, land use controls (LUC) and five-year reviews are conducted to ensure long-term protectiveness.

24015.1005_AAOA03_OTHER ABERDEEN AREAS-DRAINAGE DIT

Env Site ID: AAOA03

Cleanup Site: OTHER ABERDEEN AREAS-DRAINAGE DIT

Alias: AAOA03

Regulatory Driver: CERCLA

RIP Date: 1/31/2011

RC Date: 9/30/2054

RC Reason: Not assigned

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	11/30/1980	9/30/1989
SI:	11/30/1980	9/30/1990
RI/FS:	10/31/1990	2/28/2010
RD:	9/30/2004	10/31/2010
IRA:	--	--
RA(C):	9/30/2004	1/30/2011
RA(O):	1/31/2011	9/30/2054
LTM:	--	--

Site Narrative: Building 700B is in the Aberdeen Area east of Michaelsville Road between Michaelsville Landfill and AA-3 Road. Contaminants of concern- Explosive compound 2, 4, 6-trinitrotoluene (TNT) and the TNT degradation product 4-amino-2, 6-dinitrotoluene. Media of concern- Sediment and groundwater. Building 700B was built in the early 1950s. The shell washout facility was used to rinse munitions shells for nearly 40 years. Discharge operations were halted in 1989. Phase 1 and II RIs were conducted at the site in 1998 and 2001 respectively. A subsequent human health risk assessment (HHRA) and baseline ecological risk assessment were conducted in 2005. Additional post-RI groundwater and sediment sampling were performed in 2008 and 2009 resulting in a human health risk re-evaluation that was performed in 2009. The results of the HHRA and the human health risk re-evaluation as well as the baseline ERA reports were used to identify the contaminants of concern. As part of the remedial action soil excavation was conducted. It was determined that the groundwater will continue to be monitored for natural attenuation to evaluate effectiveness until maximum contaminant level (MCL) goals have been met. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue RA(O) indefinitely. RA(O) includes annual inspections, groundwater monitoring and LUC monitoring. Additional groundwater sampling every five years occurs to support the five-year review. Since hazardous substances remain above levels that are protective for unrestricted use, land use controls (LUC) and five-year reviews are conducted to ensure long-term protectiveness.

24015.1010_AAOA08_OTHER ABERDEEN AREAS- GW Sites

Env Site ID: AAOA08

Cleanup Site: OTHER ABERDEEN AREAS- GW Sites

Alias: AAOA08

Regulatory Driver: CERCLA

RIP Date: 9/30/2007

RC Date: 9/30/2054

RC Reason: Not assigned

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	11/30/1980	9/30/1989
SI:	9/30/1989	9/30/1990
RI/FS:	10/31/1999	2/8/2006
RD:	9/30/2004	5/31/2006
IRA:	5/31/1990	8/31/1994
RA(C):	9/30/2004	9/30/2007
RA(O):	9/30/2004	9/30/2054
LTM:	--	--

Site Narrative: The Other Aberdeen Areas - 6 Groundwater Sites (formerly the Other Aberdeen Areas- underground storage tanks (UST) were historically comprised of hazardous waste USTs at Building 4726 and Tower Road and waste oil storage tanks at the following buildings- 402, 436, 456, 615, 2379, 2458, 3329, 3505, 4036, 4728, and 5046. These sites were grouped together due to similarities into one Headquarters Army Environmental System (HQAES) site. A 2005 decision document (DD)- NFA determination was made for UST sites associated with Buildings 4726, 402, 615, 4036, 5046, 2379, and 4728. A 2007 ROD issued an NFA determination for UST sites associated with Buildings 436 and 456. The UST sites associated with Buildings 2458 3329 and 3505 were issued LUCs with no additional remediation. Buildings 507, 525, M600, and 3327 were added to this site in 2004. The RI for the remaining sites was completed in 2005. In May 2005 an FS was prepared for six remaining (non-NFA) sites located as follows-Site 16- DRMO Metal Scrap Yard is located east of Michaelsville Road southeast of Trench Warfare Entrance Road and northeast of Michaelsville Landfill. Site 23- Building 525 site is located along Mulberry Point Road extending southwest to Woodrest Creek and is southeast of Surveillance Range Road and northwest of Building 530. Site 28f- Building 3327 site is located north of Raritan Ave between Frankford St and Harford St and extends to Swan Creek. Site 29- The Tower Road site is encompassed within a rectangular LUC box with the northwest corner at Civil Rd and Plum Point Rd. southwest corner off of Main Front Road at Buildings 0381X Y & Z; southeast corner at Munson Test Course; & northeast corner northeast off Magazine Road. Site 32- Building 507 is located east of Mulberry Point Rd to Spesutie Narrows and just south of Narrows Road. Site 33- M600 site is located at the end of Mulberry Point Rd and south of the intersection of Antiaircraft Loop Rd. The ROD for 6 Groundwater Sites is dated Feb. 8, 2006. IRAs were performed at multiple sites as follows- Site 16 DRMO – soils removal for polychlorinated biphenyl (PCB); Site 23 Building 525 – volatile organic compounds (VOC) UST removal; Site 28f 3327 – VOC UST removal; Site 29 Tower Road – POL UST & VOC UST removal actions. The selected final remedy included enhanced in-situ reductive dichlorination for high concentration portions of the plumes monitored natural attenuation (MNA) for low concentration

portions of the plumes long-term monitoring and LUCs. The selected remedy for all the groundwater sites was enhanced bioremediation-recirculation with the optional addition of passive biobarriers. These systems were installed and operated until 2009. The DRMO site being the exception which had a passive system vs. recirculation. Systems were restarted in 2011 and have been operating successfully since that time. Declines in volatile organic compounds (VOC) concentrations have been observed. M600 and DRMO locations have achieved their interim goals and are now in LTM phase. Contaminants of concern- VOC. Media of concern- Groundwater. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- RA(O) will continue indefinitely. RA(O) includes injections and monitoring to continue towards interim goals annual inspections and then natural attenuation (land use control implementation plan). Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1016_AAWB01_WESTERN BOUNDARY AREA GROUNDWATER

Env Site ID: AAWB01

MRSPP: N/A

Cleanup Site: WESTERN BOUNDARY AREA
GROUNDWATER

Alias: APGAA-002

Regulatory Driver: CERCLA

RIP Date: 10/31/2003

RC Date: 9/30/2054

RC Reason: Not assigned

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

Phase	Start	End
PA:	11/30/1980	9/30/1989
SI:	11/30/1980	9/30/1990
RI/FS:	9/30/1993	6/30/2000
RD:	10/31/2000	11/30/2001
IRA:	8/31/1992	6/30/1993
RA(C):	4/30/2002	9/30/2003
RA(O):	10/31/2003	9/30/2054
LTM:	--	--

Site Narrative: Western Boundary Area Groundwater - OU1 addresses contaminated groundwater in the southwestern portion of the Western Boundary Study Area (WBSA) near the Harford County production wells. Results of fiscal year (FY)93 RI/FS activities confirmed trichloroethylene (TCE) contamination of two Harford County drinking water wells in Perryman. A granular activated carbon (GAC) treatment system to remove the TCE from the two wells was constructed in 1993 and began operation. Investigation of other Aberdeen Areas began via the 1987 RFA. In 1989 /1990 TCE was detected in groundwater beneath Aberdeen Fire Training Area (AFTA). In 1990 the WBSA was established and included the AFTA which was identified as the potential TCE contamination source from prior mission/training activities. In 1991 TCE was detected in the Harford County Perryman production well field. A 1993-time critical removal action (TCRA) was implemented to install a GAC pre-treatment system to address the TCE contamination from Perryman wells (5 & 6). In 2003 the pre-treatment system was upgraded/relocated to enable treatment of the entire Perryman wellfield. The GAC system currently also treats emerging contaminants of concern from prior mission activities. Based on the July 2000 ROD a new plant was constructed off post in October 2003 to treat all county production wells groundwater monitoring and drinking water wells located in the Perryman Well Field; therefore, the relative risk has been reduced from high to low. Through a memorandum of agreement with Harford County the Army treats TCE with a GAC System. Per- and poly- fluorinated compounds (PFC) were discovered in 2009; current treatment remedy methodology removes PFCs to below the health advisory limit of 70 parts per trillion. Contaminants of concern- TCE and PFCs. Media of concern- Groundwater. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- RA(O) will continue indefinitely. RA(O) includes carbon replacement and vessel maintenance/ supplementing operating costs for the GAC system and semiannual groundwater monitoring of the treatment plant wells and annual monitoring of the public water supply wells. Groundwater monitoring wells will continue to be monitored every five years in support of the required installation five-year review. The remedial objective is meeting maximum contaminant level. Since hazardous substances remain above

levels that are protective for unrestricted use/unrestricted exposure, five-year reviews are conducted to ensure long-term protectiveness. Information related to PFAS will be addressed under a future site.

24015.1017_AAWB02_PAAF LANDFILL/CITY OF ABERDEEN WE

Env Site ID: AAWB02

Cleanup Site: PAAF LANDFILL/CITY OF ABERDEEN WE

Alias: APGAA-002

Regulatory Driver: CERCLA

RIP Date: 9/15/2029

RC Date: 9/15/2029

RC Reason: Not assigned

SC Date: 9/30/2058

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: Low

MRSPP: N/A

Phase	Start	End
PA:	11/30/1980	9/30/1989
SI:	11/30/1980	9/30/1990
RI/FS:	9/30/1993	10/1/2024
RD:	10/1/2024	4/15/2026
IRA:	--	--
RA(C):	4/15/2026	9/15/2029
RA(O):	--	--
LTM:	9/15/2029	9/30/2058

Site Narrative: This site (OU2) originally addressed the groundwater near Phillips Army Airfield (PAAF) Landfill and city of Aberdeen wells located north of the landfill. The PAAF Landfill consisting of about 35 acres has been used since the 1950s to dispose of construction debris, oils, solvents, and general refuse. Soil cover was placed over the landfill, and it is currently closed. A French land mine training area is also part of this area. In 1998 and again in 2001 the Aberdeen wells and nearby monitoring wells were sampled. The explosives compound cyclotrimethylene trinitramine (RDX) was detected in one of the Aberdeen wells (CAP7). Low solvent concentrations were detected but no RDX plume was found. Geoprobes and monitoring wells sampled between 2001 and 2005 detected perchlorate in the groundwater and soil. Perchlorate was also detected in Aberdeen drinking water wells. An interim drinking water health advisory of 15 micrograms per liter (ug/L) was established by the USEPA in 2009. The perchlorate levels in the city of Aberdeen wells do not exceed 15 ug/L. The risk assessment concluded that there was no risk for groundwater; therefore, sampling of the city wells was discontinued in December 2006. The feasibility study (FS) was completed in May 2019. Contaminants of concern- Volatile organic compounds (VOC). Media of concern- Groundwater. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, and RA(C) and LTM will continue indefinitely. The presumptive remedy is groundwater monitoring and LUCs. Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness. Information related to PFAS will be addressed under a future site.

24015.1019_AAWB04_OTHER MEDIA OU3(SW, SED, SOIL)

Env Site ID: AAWB04

Cleanup Site: OTHER MEDIA OU3(SW, SED, SOIL)

Alias: #

Regulatory Driver: CERCLA

RIP Date: 9/15/2029

RC Date: 9/15/2029

RC Reason: Not assigned

SC Date: 9/30/2058

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: Low

MRSPP: N/A

Phase	Start	End
PA:	11/30/1980	9/30/1989
SI:	11/30/1980	9/30/1990
RI/FS:	1/31/1998	10/1/2024
RD:	10/1/2024	4/15/2026
IRA:	9/15/2014	8/23/2018
RA(C):	4/15/2026	9/15/2029
RA(O):	--	--
LTM:	9/15/2029	9/30/2058

Site Narrative: This site (OU3) addresses sediment, surface water, and soil within the Western Boundary Study Area (WBSA) and is geographically located within the same area as Phillips Army Airfield (PAAF) Landfill (AAWB02 24015.1017). Environmental sampling within OU3 has been accomplished to support a Human Health Risk Assessment (HHRA) for the WBSA and an ecological study for the entire Aberdeen Area. The collected data was screened and validated. The RI found that further work was needed at AFTA; the presumptive remedy was an appropriate action for the PAAF Landfill. AAWB04 consists of surface water sediment and soils in the entirety of the WBSA. AAWB03 is focused on surface water sediment and soils in the upper third of the WBSA. Final decisions have also been made for 12 of the 17 WBSA OU3 sites as part of the following previous Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) DDs or APG programs independent of the 2012 WBSA OU2 and OU3 RI and the FS. • Building 1060 Washrack (DD; EA 2005b) • Building 1092 Sewage Treatment Plant (DD; EA 2005b) • Phillips Airfield UST (APG UST Program) • Land Training Area (DD; EA 2005b) • Block 4700 USTs (DD; EA 2005b) • Building 4728 Battery (DD; EA 2005b) • Building 3505 UST Site (ROD; EA 2007) • Building 5603 Pesticide Site (DD; EA 2005b) • Pistol Range (ROD; EA 2007) • Known Distance Range (ROD; EA 2007) • Building 896 Drum Site (DD; EA 2005b) • Building 861 Disposal Facility (Palmer House Area) (DD; EA 2005b) and • Septic Tanks and Septic Drain Fields (APG Injection Well Program). The remaining five sites, the AFTA PAA Two Towers Area the Test Range for Advanced Aerospace Vulnerability (TRAAV) and the Philips Army Airfield Landfill (PAALF) areas are addressed further in the FS. Based on the findings of the RI and associated human health and ecological risk assessments, only the PAALF Areas within WBSA OU3 requires additional action. No further investigation or action for the OU3 PAA Two Towers Area and TRAAV sites is warranted. This leaves PAAFL as the only currently known area of concern for AAWB03 / AAWB04. The PAALF area includes multiple landfills which were historically used for the disposal of sanitary and construction debris. The RCRA landfill within the PAALF is approximately 22 acres and was capped in 2004. The remaining landfill areas to be addressed are discontinuous and comprise a total area of approximately 43 acres. No contaminants of

concern have been identified for the PAALF Areas based upon the risk assessment results. The available chemical data does not indicate risks to human (industrial) or ecological receptors at the site. However, it is known that non-hazardous sanitary waste and demolition debris have been disposed in this area and will become exposed as a result of natural erosion and animal burrowing. The National Contingency Plan requires the development of health-based specific levels for chemicals where such limits do not exist and where there is a concern with their potential health or environmental impacts. However, there is no current exposure to chemicals present within wastes buried at the PAALF areas. Therefore, there are no chemical-specific preliminary remediation goals for the PAALF Areas. Remedial action at the PAALF Areas is being undertaken to avoid current and future exposures through uncovering of wastes or by leaching. Remediation of the PAALF Areas will involve either monitoring or containment/monitoring with LUCs. If containment is implemented the soil cover or cap will prevent exposure of human and ecological receptors to landfilled wastes. The interim removal action was completed to remove metals and polycyclic aromatic hydrocarbons (PAH). Contaminants of concern- Metals and PAH. Media of concern- Soil surface water and sediments. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and LTM will be continued indefinitely. The presumptive remedy is capping for individual areas within the PAAFL area, LUCs, and cap maintenance/monitoring. Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness. Information related to PFAS will be addressed under a future site.

24015.1022_EABR03-A_OLD BUSH RIVER ROAD DUMP-CLUSTE

Env Site ID: EABR03-A

Cleanup Site: OLD BUSH RIVER ROAD DUMP-CLUSTE

Alias: APGEA-010A

Regulatory Driver: CERCLA

RIP Date: 11/29/2000

RC Date: 11/29/2000

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	6/15/1999
RD:	2/28/1999	9/30/1999
IRA:	11/30/1990	9/29/1997
RA(C):	9/30/1999	11/29/2000
RA(O):	--	--
LTM:	11/30/2000	9/30/2054

Site Narrative: The Old Bush River Road Dump is a 1.5-acre World War I (WWI)-era landfill containing munitions, burnt gas masks chemical laboratory glassware and process equipment. The landfill is located on Bush River Road in the Edgewood Area of APG, 600 ft. north of Building E2100. Rain and erosion were causing metals in the soil to move from the surface soil into a nearby marsh and two munitions were recovered during previous environmental work performed at the site. In 2000 construction of a soil cover was completed to reduce infiltration, prevent erosion and the subsequent migration of metal contamination into the nearby marsh and provide a barrier against potential detonation of unexploded ordnance (UXO). A clay confining layer exists under the landfill; therefore, groundwater contamination is not a concern. The as-builts were submitted to regulators. Contaminants of concern- Metals. Media of concern- Soils. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. LTM includes soil cover maintenance, LUCs, and sediment sampling every five years to support the five-year review. Since hazardous substances remain above levels that are protective for unrestricted use, land use controls (LUC) and five-year reviews are conducted to ensure long-term protectiveness.

24015.1023_EABR03-B_TRANSFORMER STORAGE-CLUSTER 3

Env Site ID: EABR03-B

Cleanup Site: TRANSFORMER STORAGE-CLUSTER 3

Alias: APGEA-010A

Regulatory Driver: CERCLA

RIP Date: 1/30/2008

RC Date: 1/30/2008

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	9/30/2005
RD:	7/31/2005	6/30/2006
IRA:	4/30/1996	9/30/2001
RA(C):	7/31/2005	1/30/2008
RA(O):	--	--
LTM:	1/31/2008	9/30/2054

Site Narrative: The transformer storage-cluster 3 site is located on the Bush River Road in the Edgewood Area of APG just south of Bush River Landfill and 200 ft. north of Building E2100. This site was utilized by Directorate of Public Works from 1964 to 1989 for utility storage including transformers. It also housed a gasoline station (demolished in 1977) and a sump containing a pump for dispensing fuel and a 15000-gallon UST (removed in 1991). Samples collected at multiple depths indicated the presence of lead (storage of lead acid batteries) at 4650 milligrams per kilogram (mg/kg). This concentration was in excess of the suggested USEPA cleanup level. The soil is believed to have been disturbed following contamination as no correlation between lead concentration and depth was noted. In 2007, lead-contaminated soils were processed on-site where a binding agent was added to the soil. The treated soil was within compliance with regulations which required that none of the treated soil have a toxicity characteristic leaching procedure lead concentration higher than 5 milligrams per kilogram and the average leachable lead reduction be more than 90%. A soil cover was constructed over the residual lead-contaminated soil and LUCs implemented that restrict future industrial activities such that exposure to lead contaminated soil does not occur and to control erosion and maintain the two-foot clean soil cover over residual lead-contaminated soil. Contaminant of concern-Lead. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, land use controls (LUC) and five-year reviews are conducted to ensure long-term protectiveness.

24015.1024_EABR03-C_SURFICIAL AQUIFER-CLUSTER 3

Env Site ID: EABR03-C

Cleanup Site: SURFICIAL AQUIFER-CLUSTER 3

Alias: APGEA-010A

Regulatory Driver: CERCLA

RIP Date: 10/1/2025

RC Date: 10/1/2025

RC Reason: Not assigned

SC Date: 10/1/2025

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	3/18/2013	10/1/2025
RD:	--	--
IRA:	--	--
RA(C):	--	--
RA(O):	--	--
LTM:	--	--

Site Narrative: This site is located in the Bush River Study Area and the area covers the groundwater underneath Transformer Storage -Cluster 3 (24015.1023) and Bush River Dump (24015.1022). The Old Bush River Road Dump is a 1.5-acre WWI-era landfill containing munitions burnt gas masks chemical laboratory glassware and process equipment and the Transformer Storage Cluster 3 this site was utilized by Directorate of Public Works from 1964 to 1989 for utility storage including transformers. The investigation of the groundwater was the result of contamination found at the two sites stated above. The aquifer contained nickel beryllium iron and manganese above RI comparison criteria; pesticides and volatile organic compounds (VOC) are also present (Final Cluster 3 Remedial Investigation Report July 1998). This site was closed but reopened in the RI/FS phase to conduct a data gap analysis to support the completion and USEPA approval of a no-action proposed plan (PP)/record of decision (ROD). Contaminants of concern- Metals. Media of concern- Groundwater. Potential for off-site migration is not likely. RESTORATION/CLEANUP STRATEGY- Complete RI/FS to include the PP and ROD. Anticipated remedy is no further action (NFA) upon completion of ROD.

24015.1025_EABR07-A_BOAT CLUB FILL SITE(4)-CLUSTER

Env Site ID: EABR07-A

Cleanup Site: BOAT CLUB FILL SITE(4)-CLUSTER

Alias: APGEA-010B

Regulatory Driver: CERCLA

RIP Date: 9/15/2026

RC Date: 9/15/2026

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Low

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	1/15/2026
RD:	1/15/2026	6/15/2026
IRA:	4/30/1996	9/30/1997
RA(C):	6/15/2026	9/15/2026
RA(O):	--	--
LTM:	9/15/2026	9/30/2055

Site Narrative: Co-located at the Edgewood Boat Club. In 1940 and 1988 the filling operations were conducted in four locations at the boat dock. It is unknown where the 1940 soil came from, however the 1988 soil came from Wheeled Vehicle Facility in Edgewood which turned out to have metals in the soil that exceed residential risk. In 1996 an area-wide interim removal action for surface wastes was completed across the Bush River Study Area (BRSA). The site contains total polycyclic aromatic hydrocarbons (PAH) concentrations of 10660 parts per billion (ppb) and “nn-bis(246-trichlorophenyl)” concentrations of 1200 ppb in the soil (BRSA Remedial Investigation Report Addendum December 2017). Contaminants of concern- PAH and metals. Media of concern- Soils. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA(C), and continue LTM indefinitely. The presumptive remedy is LUCs. Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1026_EABR07-B_BIO-SENSOR FACILITY-CLUSTER 7

Env Site ID: EABR07-B

Cleanup Site: BIO-SENSOR FACILITY-CLUSTER 7

Alias: APGEA-010B

Regulatory Driver: CERCLA

RIP Date: 9/15/2026

RC Date: 9/15/2026

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	1/15/2026
RD:	1/15/2026	6/15/2026
IRA:	4/30/1996	9/30/1997
RA(C):	6/15/2026	9/15/2026
RA(O):	--	--
LTM:	9/15/2026	9/30/2055

Site Narrative: The Bio-Sensor Research Facility (blank acres) is located west of the Cluster 7 Boat Club Fill Sites and is bounded to the west by Lauderick Creek. The site was used to support a dog breeding and testing program to produce dogs that were superior in temperament endurance and intelligence for Army use. The program was active from the late 1960s to the early 1970s and included a dog population of several hundred. The study focused around a wastewater treatment facility that supported the kennels. In 1996 an area-wide interim removal action for surface wastes was completed across the BRSA. The site poses residential risk. (BRSA Remedial Investigation Report Addendum December 2017). Contaminants of concern- Pesticides. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA(C), and continue LTM indefinitely. The presumptive remedy is LUCs. Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1027_EABR11-A_26TH STREET DISPOSAL SITE (1)-C

Env Site ID: EABR11-A

Cleanup Site: 26TH STREET DISPOSAL SITE (1)-C

Alias: APGEA-010C

Regulatory Driver: CERCLA

RIP Date: 9/30/2013

RC Date: 9/30/2013

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	10/31/2011
RD:	7/31/2005	9/30/2012
IRA:	--	--
RA(C):	7/31/2005	9/30/2013
RA(O):	--	--
LTM:	9/30/2013	9/30/2054

Site Narrative: This site consists of a mask canister and charcoal burning area on the west side of 26th Street. Historical aerial photography from 1929 indicates activity in the mask canister burning area which continued until the late-1960s or 1970s. This disposal operation involved burning off-spec and unserviceable gas mask containers within their wooden box packaging. The metal residuals were left in place and were gradually filled over by a thin cover of soil. Contaminants of concern- Metals. Media of concern- Soils. Test pit samples collected from this area during the focused feasibility study (FFS) contained metals above risk-based concentration (RBC) levels (e.g. lead at 1240 mg/kg chromium at 182 mg/kg and zinc at 349000 mg/kg). The ROD was signed October 2011 to remove the gas mask containers. The remedial action work plan was completed in September 2012 and fieldwork began in October 2012. Fieldwork was completed in February 2013 and approximately 13000 tons of soil were removed and sent to a regulated landfill. Since the removal action was based on cleaning up to industrial levels LUCs were put in place to restrict residential use of the area. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. LTM include LUCs soil cover maintenance and five-year reviews. Since hazardous substances remain above levels that are protective for unrestricted use, land use controls (LUC) and five-year reviews are conducted to ensure long-term protectiveness.

24015.1028_EABR11-B_26TH STREET DISPOSAL SITE (2)-C

Env Site ID: EABR11-B

Cleanup Site: 26TH STREET DISPOSAL SITE (2)-C

Alias: APGEA-010C

Regulatory Driver: CERCLA

RIP Date: 9/29/2013

RC Date: 9/29/2013

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	10/31/2011
RD:	7/31/2005	5/31/2012
IRA:	11/30/1993	7/31/1998
RA(C):	7/31/2005	9/29/2013
RA(O):	--	--
LTM:	9/30/2013	9/30/2054

Site Narrative: This open dump site located to the east of 26th Street is approximately 100 to 150 ft. in diameter. The time period when dumping occurred is unknown; however, some dumping may have occurred as recently as the 1970s. The RFA field inspection site identified miscellaneous waste and medical/biological laboratory waste. The removal began in 1993 and in 1996 two drums containing cobalt-60 and cesium-137 were located and removed; 1000 tons of radioactive waste were removed. An interim removal action was completed in July 1998. The site was sloped and seeded following release from the Nuclear Regulatory Commission license. Pesticides were detected in sediments at concentrations above ecological risk levels [e.g. dichloro-diphenyl-\trichloroethane (DDT) and its residues (DDTr) at 9370 mg/kg]. The ROD was signed in 2011. The RA work plan was completed in September 2012 and fieldwork to excavate the west side of 26th disposal site began in October 2012. Fieldwork was completed in February 2013. After the RA completion, LUCs were implemented. Contaminant of concern- Pesticides. Media of concern- Sediments. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, annual LUC inspections and five-year reviews are conducted to ensure long-term protectiveness.

24015.1029_EABR11-C_22ND STREET LANDFILL-CLUSTER 11

Env Site ID: EABR11-C

Cleanup Site: 22ND STREET LANDFILL-CLUSTER 11

Alias: APGEA-010C

Regulatory Driver: CERCLA

RIP Date: 9/29/2014

RC Date: 9/29/2014

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	9/30/2013
RD:	7/31/2005	6/30/2014
IRA:	7/31/2005	8/31/2012
RA(C):	7/31/2005	9/29/2014
RA(O):	--	--
LTM:	9/30/2014	9/30/2054

Site Narrative: The 22nd Street Landfill comprises 8.3 acres of the Bush River study area and is the largest landfill on the Edgewood peninsula. The site was a marsh that was used for landfill operations from the 1960s through the early-1970s. The landfill contains hazardous waste including a reported bromobenzyl cyanide tank, sulfur sludge, laboratory glassware, and demolition debris. Efforts to dig test pits in the landfill were abandoned as no area free of metallic anomalies could be located. Volatile organic compounds (VOC) methane and carbon dioxide with Freon were detected in landfill gas samples. Soil in the stream to the south of the landfill contains pesticides at concentrations above ecological risk levels. Surface water samples collected around the landfill contain chromium copper zinc and chlorinated solvents in surface water and total VOC in sediment. A TCRA was conducted from April-August 2012. The shoreline was stabilized to prevent erosion and exposure of waste into the Bush River. Improvements to the existing soil cover were made in the upland portions (i.e., western, and southern portions of the site). The surface of the landfill is vegetated with grass except along the drainage swales and where the phragmites grow. The TCRA soil cover became part of the ROD (signed in 2013). Contaminants of concern- Metals, pesticides, and VOC. Media of concern- Groundwater, sediment, and soil. The existing soil cover was amended to increase cover thickness in areas where it was thin (i.e., areas with less than 24 inches of cover), thereby enhancing effectiveness of the containment. The existing soil cover in the large tidal wetland adjacent to Bush River was left undisturbed. LUCs are required. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely to include maintaining the shoreline stabilization, cap maintenance, groundwater monitoring, LUCs, and additional groundwater sampling every five years to support the five-year review. Since hazardous substances remain above levels that are protective for unrestricted use, land use controls (LUC) and five-year reviews are conducted to ensure long-term protectiveness.

24015.1030_EABR11-D_BLDG 45-A AMMO RENOVATION FCTY-

Env Site ID: EABR11-D

Cleanup Site: BLDG 45-A AMMO RENOVATION FCTY-

Alias: APGEA-010C

Regulatory Driver: CERCLA

RIP Date: 9/15/2026

RC Date: 9/15/2026

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: High

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	1/15/2026
RD:	1/15/2026	6/15/2026
IRA:	--	--
RA(C):	6/15/2026	9/15/2026
RA(O):	--	--
LTM:	9/15/2026	9/30/2055

Site Narrative: The Building 45A Ammunition Renovation Facility and Building E2350 Powerhouse are located in the Southern Bush River Area. The Building 45A Ammunition Renovation Facility was constructed in the early 1930s and operated as a sandblasting facility to clean rust and paint from commonly renovated items such as ammunition and empty ton-containers. Initial environmental concerns for release are metals relating to operations. The facility operated until it burned down between 1966 and 1970. The site contains polycyclic aromatic hydrocarbons (PAH) and Aroclor 1260 in the soils. Contaminants of concern- Metals, PAH, and pesticide. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA(C), and LTM indefinitely. The presumptive remedy is land use controls (LUC). This site has been reopened in the RI/FS phase to complete the data gap analysis and document LUCs. Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1031_EABR11-E_CASY INCINERATOR-CLUSTER 11

Env Site ID: EABR11-E

Cleanup Site: CASY INCINERATOR-CLUSTER 11

Alias: APGEA-010C

Regulatory Driver: CERCLA

RIP Date: 9/15/2026

RC Date: 9/15/2026

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: High

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	1/15/2026
RD:	1/15/2026	6/15/2026
IRA:	--	--
RA(C):	6/15/2026	9/15/2026
RA(O):	--	--
LTM:	9/15/2026	9/30/2055

Site Narrative: The former CASY Incinerator was located in Building E2338 in the center of the Bush River Area. The incinerator was installed in the early 1970s and was used to thermally destroy pathological waste generated by the on-post medical laboratories, the Kirk Army Hospital, and the Walter Reed Army Medical Center. The incinerator was used until the late 1970s. Ash within incinerator contained 16,000 ppb polycyclic aromatic hydrocarbons (PAH) and 5,270 parts per million and lead (BRSA Remedial Investigation Report Addendum December 2017). The incinerator was dismantled in 2001 for construction of a mustard neutralization facility. Contaminants of concern- Metals and PAH's. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA(C), and continue LTM indefinitely. The presumptive remedy is land use controls (LUC). This site has been reopened in the RI/FS phase to complete the data gap analysis and document LUCs. Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1032_EABR11-F_SURFICIAL AQUIFER-CLUSTER 11

Env Site ID: EABR11-F

Cleanup Site: SURFICIAL AQUIFER-CLUSTER 11

Alias: APGEA-010C

Regulatory Driver: CERCLA

RIP Date: 11/1/2029

RC Date: 11/1/2058

RC Reason: Not assigned

SC Date: 11/2/2058

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	10/1/2025
RD:	10/1/2025	11/1/2026
IRA:	--	--
RA(C):	11/1/2026	11/1/2029
RA(O):	11/1/2029	11/1/2058
LTM:	--	--

Site Narrative: The surficial aquifer in the Southern Bush River peninsula is a complex sequence of interfingering sands, clays, and silts. The aquifer at many locations is divided into an upper and lower section by laterally discontinuous silt and clay layers, which is very important to the hydraulic continuity of the surficial aquifer. A massive clay confining unit defines the base of the surficial aquifer. Groundwater sampling was performed within Cluster 11 during RI and FFS field activities. Cluster 11 contains a portion of the large volatile organic compound (VOC) plume which underlies the Southern Bush River area. Six potential VOC source areas have been identified within Cluster 11. VOC contamination within the groundwater plume predominantly ranges from one to 99 ppb total VOC; however, two hot spots in Cluster 11 contain concentrations of 83,810 ppb and 17,626 ppb TVOCs. Industrial scenarios for future cancer risks by groundwater ingestion from 1,1,2,2-tetrachloroethane and carbon tetrachloride were estimated as three in 1000 (3.0E-03). The non-cancer hazard index was greater than one (five) from VOC. Contaminants of concern- VOC. Media of concern- Groundwater. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and RA(O) indefinitely. The anticipated remedy is in-situ chemical oxidation and monitored natural attenuation. Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1033_EABR11-G_UNDERGROUND STORAGE TANK

Env Site ID: EABR11-G

Cleanup Site: UNDERGROUND STORAGE TANK

Alias: APGEA-010C

Regulatory Driver: CERCLA

RIP Date: 9/29/2014

RC Date: 9/29/2014

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	9/30/1998
RD:	7/31/2005	6/30/2013
IRA:	--	--
RA(C):	7/31/2005	9/29/2014
RA(O):	--	--
LTM:	9/30/2014	9/30/2054

Site Narrative: The underground storage tank (UST) was associated with Building E2364 in the Bush River Radioactive Material Disposal Facility. Radioactive waste material was processed, packaged, and temporarily stored prior to disposal. The site was sampled for metals and radiation in soils around the facility the risk assessment stated no removal action is required under the industrial risk scenario. The final ROD was signed in 2013 and requires LUCs to restrict residential use. Contaminants of concern- Metals and radiation. Media of concern- Soils. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. LTM includes inspections and land use controls (LUC). Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1034_EABR11-H_ADAMSITE STORAGE PIT - CLUSTER

Env Site ID: EABR11-H

Cleanup Site: ADAMSITE STORAGE PIT - CLUSTER

Alias: APGEA-010C

Regulatory Driver: CERCLA

RIP Date: 9/29/2014

RC Date: 9/29/2014

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/16/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	9/30/1998
RD:	7/31/2005	6/30/2013
IRA:	4/30/1996	9/30/1997
RA(C):	7/31/2005	9/29/2014
RA(O):	--	--
LTM:	9/30/2014	9/15/2054

Site Narrative: The Adamsite (DM) Storage Pit is located within the Toxic Gas Yard (TGY) at the Radioactive Material Disposal Site in the Bush River Study Area. The Adamsite Storage Pit was originally constructed in 1931 as a white phosphorus (WP) bulk storage facility. During 1958, drums of Adamsite were placed upright in the pit in two layers and buried in sand in the southwest half of the vault. During 1983, 717 drums containing Adamsite were recovered from the pit. The pit was filled with a nonporous concrete material and covered with gravel during a 1996 removal action. The site contained low-level radiation and arsenic in the soil; however, a removal action to fill the vault eliminated most site-associated risks (Draft Southern Bush River RI Report, July 1997). The final ROD was signed in 2013 and requires LUCs to restrict residential use. Contaminants of concern- Metals and radiation. Media of concern- Soils. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1035_EABR11-I_RADIOACTIVE MATERIAL DISPOSAL F

Env Site ID: EABR11-I

Cleanup Site: RADIOACTIVE MATERIAL DISPOSAL F

Alias: APGEA-010C

Regulatory Driver: CERCLA

RIP Date: 9/14/2014

RC Date: 9/14/2014

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/16/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	9/15/2013
RD:	7/31/2005	6/15/2014
IRA:	7/31/1993	6/30/2011
RA(C):	7/31/2005	9/14/2014
RA(O):	--	--
LTM:	9/16/2014	9/15/2054

Site Narrative: This site consists of the Bush River Radioactive Material Disposal Facility (BRRMDF), the TGY Ton Container Steamout site, several associated buildings, and an open storage yard. Constructed in 1931, the Army first used the BRRMDF for chemical agent storage. In the 1950s-1960s, the BRRMDF became a dedicated facility for radioactive waste material processing, packaging, and temporary storage prior to disposal. Radioactive waste storage operations still occur in the open storage yard and designated buildings under a Nuclear Regulatory license. The TGY Ton-Container Steamout site was constructed during 1938 and operated intermittently until 1950s-1960s. Operations included decontamination of one-ton cylinder containers used to store mustard, chloropicrin, Lewisite, and other chemical agents. The Rad Yard is now largely open space. Building E2354 remains in the southern portion of the area. The Rad Yard interim removal action was effective in remediating radionuclides, eliminating contaminated structures, and reducing radionuclide activity levels in soil to background levels. The IRA, which focused on radionuclides also removed most arsenic-contaminated soil. In March 2012 the Army conducted a voluntary removal of the three hot spots with residual arsenic contamination at the Rad Yard final remedy is LUCs. The Bush River Study Area Supplemental Remedial Investigation Report Operable Unit 3 Surface Units, August 2010, determined that no further clean up action is required under the industrial scenario. Contaminant of concern- Arsenic. Media of concern- Soils. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. LTM includes quarterly inspections and land use controls (LUC). Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1036_EABR15-A_KINGS CRK CHEMICAL DISPOSAL SIT

Env Site ID: EABR15-A

Cleanup Site: KINGS CRK CHEMICAL DISPOSAL SIT

Alias: APGEA-010D

Regulatory Driver: CERCLA

RIP Date: 7/30/2011

RC Date: 7/30/2011

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	5/15/2010
RD:	7/31/2005	1/31/2011
IRA:	6/30/1992	9/30/1997
RA(C):	7/31/2005	7/30/2011
RA(O):	--	--
LTM:	7/31/2011	9/30/2054

Site Narrative: The Kings Creek Chemical Disposal site was a chemical material disposal area. It lies adjacent to Kings Creek and outside the fenced portion of Southern Bush River. Visual inspections of the site indicate that open burning and drum storage were the primary methods of disposal. The types of material found at the site suggest activity occurred during the 1920s and 1930s. The Army has recovered a large amount of unexploded ordnance (UXO) from this site. UXO included Livens projectiles, Stokes mortar rounds, and badly corroded Stokes mortar fuses. Additional scrap metal and drums were removed during a 1992 action to remove waste material from the shoreline. Thirty-five of the drums contained the tear gas chloroacetophenone (CN) and 12 contained an unknown inorganic crystalline solid. Sampling identified metals contamination in the surface soil above risk-based concentrations (RBC) (e.g., arsenic at 158 mg/kg). Small areas of buried material adjacent to the western boundary of the site were also identified. In 1996 an area-wide interim removal action for surface wastes was completed across the BRSA. In spring 2003 a pallet of glassware containing chemical warfare agents was removed and disposed. Temporary shoreline stabilization was also completed in spring 2003. In December 2006 a permanent shoreline stabilization structure was completed at this site. The ROD was signed in May 2010 with LUCs and LTM being the remedy. Contaminants of concern- Metals. Media of concern- Soils. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. LTM includes shoreline monitoring and maintenance. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1037_EABR15-B_30TH STREET LF-CLUSTER 15

Env Site ID: EABR15-B

Cleanup Site: 30TH STREET LF-CLUSTER 15

Alias: APGEA-010D

Regulatory Driver: CERCLA

RIP Date: 7/30/2011

RC Date: 7/30/2011

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	5/15/2010
RD:	7/31/2005	1/31/2011
IRA:	4/30/1996	9/30/1997
RA(C):	7/31/2005	7/30/2011
RA(O):	--	--
LTM:	7/31/2011	9/30/2054

Site Narrative: The 30th Street Landfill lies east of and adjacent to the Kings Creek Chemical Disposal site along the north shoreline of Kings Creek in the BRSA. Historical aerial photography indicates activity at the 2.3-acre landfill during the late-1960s or 1970s. The 1992 removal action conducted at the Kings Creek Chemical Disposal site detected large quantities of buried metallic objects in saturated organic marsh sediments along the western edge of the landfill. Visual inspections of the site revealed the presence of building demolition debris. The debris is mostly covered but is exposed at some points along the edges of the fill site. Chloride contamination was identified downgradient of the site. Small numbers of chemical munitions were discovered at the landfill's edge. In 1996, an area-wide interim removal action for surface wastes was completed across the BRSA. In December 2006, shoreline protection measures were implemented to prevent waste material from eroding into Kings Creek. The ROD was signed in May 2010 with LUCs and groundwater monitoring as the final remedy. Contaminants of concern- Metals and pesticides. Media of concern- Soils. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. LTM includes quarterly inspections of the landfill, groundwater monitoring, land use controls (LUC), monitoring and maintenance, mowing, and additional groundwater sampling every five years to support the five-year review. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1038_EABR15-C_TON CONTAINER STORAGE-CLUSTER 1

Env Site ID: EABR15-C

Cleanup Site: TON CONTAINER STORAGE-CLUSTER 1

Alias: APGEA-010D

Regulatory Driver: CERCLA

RIP Date: 9/15/2026

RC Date: 9/15/2026

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: High

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	1/15/2026
RD:	1/15/2026	6/15/2026
IRA:	4/30/1996	9/30/1997
RA(C):	6/15/2026	9/15/2026
RA(O):	--	--
LTM:	9/15/2026	9/30/2055

Site Narrative: This site is located in the BRSA south of Bush River Road. This site includes the Empty Ton-Container Storage Site and Drummed Wastewater Storage Site. Historical photographs indicate that the storage of empty ton containers began in the 1960s. The empty containers were stored at this site during munitions-filling or mustard-distillation operations to await reuse or cleaning. In 1989 water from the ton-containers were transferred to 55-gal drums and removed. The wastewater was not hazardous. In 1996 an area-wide interim removal action for surface wastes was completed across the BRSA. (BRSA Remedial Investigation Report Addendum December 2017). Contaminants of concern- Polycyclic aromatic hydrocarbons (PAH). Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA(C), and continue LTM indefinitely. The presumptive remedy is land use controls (LUC). Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1040_EABR18-A_TAPLER PT DREDGE MATERIAL SITE-

Env Site ID: EABR18-A

Cleanup Site: TAPLER PT DREDGE MATERIAL SITE-

Alias: APGEA-010E

Regulatory Driver: CERCLA

RIP Date: 9/15/2026

RC Date: 9/15/2026

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: High

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	1/15/2026
RD:	1/15/2026	6/15/2026
IRA:	4/30/1996	9/30/1997
RA(C):	6/15/2026	9/15/2026
RA(O):	--	--
LTM:	9/15/2026	9/30/2055

Site Narrative: The Tapler Point Dredge Material site (approximately 4.7 acres) is located in the Bush River Study Area (BRSA) on the southern portion of the peninsula along the shoreline and outside the fenced area. Dredge material was placed into a marsh during the early 1940s when dredging was performed around and in the channel to the Bush River dock. In 1996 an area-wide IRA for surface wastes was completed across the BRSA. Contaminants of concern- Pesticides and metals. Media of concern- Soil. The RI human health risk assessment report determined that no clean up action is required under the industrial scenario (BRSA Remedial Investigation Report Addendum December 2017). Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA(C), and continue LTM indefinitely. The presumptive remedy is land use controls (LUC). Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1041_EABR18-B_CHEM MUNITION BURIAL SITE(4)-CL

Env Site ID: EABR18-B

Cleanup Site: CHEM MUNITION BURIAL SITE(4)-CL

Alias: APGEA-010E

Regulatory Driver: CERCLA

RIP Date: 9/15/2026

RC Date: 9/15/2026

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: High

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	1/15/2026
RD:	1/15/2026	6/15/2026
IRA:	4/30/1996	8/31/1999
RA(C):	6/15/2026	9/15/2026
RA(O):	--	--
LTM:	9/15/2026	9/30/2055

Site Narrative: The Chemical Munitions Burial Sites are located along the southern portion of the Bush River Study Area (BRSA) peninsula. There are four separate burial sites. Burial Site 1 is approximately 2.2 acres. Burial Site 2 is approximately 4 acres. Burial Site 3 is approximately 1.1 acres and Burial Site 4 is approximately 0.4 acre. Despite the site name, use of these sites for munitions burial is uncertain. The southern part of the peninsula was used by the Army for artillery firing training and testing, and for smoke and incendiary munitions testing facilities. In 1996, an area-wide interim removal action for surface wastes was completed across the BRSA and in 1999 a time critical removal action (TCRA) was completed at Burial Site 3 to address mercury contamination in soil and sediment. The human health risk assessment determined that no clean up action is required under the industrial scenario (Final Remedial Investigation Report Addendum Bush River Study Area, December 2017). Contaminants of concern- Metals and pesticides. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA(C), and continue LTM indefinitely. The presumptive remedy is land use controls (LUC). Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1042_EABR18-C_IGLOO STORAGE AREAS-CLUSTER 18

Env Site ID: EABR18-C

Cleanup Site: IGLOO STORAGE AREAS-CLUSTER 18

Alias: APGEA-010E

Regulatory Driver: CERCLA

RIP Date: 9/15/2026

RC Date: 9/15/2026

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: High

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	1/15/2026
RD:	1/15/2026	6/15/2026
IRA:	4/30/1996	9/30/1997
RA(C):	6/15/2026	9/15/2026
RA(O):	--	--
LTM:	9/15/2026	9/30/2055

Site Narrative: This site is located in the Bush River Study Area (BRSA) and consists of seven igloo storage areas. Seven igloo storage structures were built from 1941 to 1953 and are located east of 29th Street, south of Bush River Road, and north of the unnamed road that extends from the south end of 29th Street to the south end of 28th Street. The igloos have been used to store high explosives, burster, fuses, and ammunition and artillery injectors that contained binary Sarin chemical agent, methyl phosphonic acid difluoride, detonators, oxidizers, and white phosphorous (WP). Each igloo is a grass-covered structure with one turbine roof vent. The Army currently uses these igloos for the storage of conventional ammunition, high explosives, fuses, and bursters. In 1996 an area-wide removal action for surface wastes was completed across the BRSA. Based upon the RI, this site does not pose a risk and requires no further remedial action (BRSA Remedial Investigation Report Addendum, December 2017). Contaminants of concern- Pesticides and metals. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA(C), and continue LTM indefinitely. The presumptive remedy is land use controls (LUC). Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1043_EABR18-D_A-FIELD TEST SITE(2)-CLUSTER 18

Env Site ID: EABR18-D

Cleanup Site: A-FIELD TEST SITE(2)-CLUSTER 18

Alias: APGEA-010E

Regulatory Driver: CERCLA

RIP Date: 9/15/2026

RC Date: 9/15/2026

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: High

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	1/15/2026
RD:	1/15/2026	6/15/2026
IRA:	4/30/1996	9/30/1997
RA(C):	6/15/2026	9/15/2026
RA(O):	--	--
LTM:	9/15/2026	9/30/2055

Site Narrative: The A-Field Test Site (2) is located in the Bush River Study Area (BRSA) south of Bush River Road. A-Field consists of the Drop Bomb Tower and the Surveillance Bins. The Army used these sites during the 1930s to test munitions. The Drop Bomb Tower was used for smoke and incendiary munitions tests. In 1996, an area-wide interim removal action for surface wastes was completed across the BRSA. The human health risk assessment determined that no clean up action is required under the industrial scenario (Final Remedial Investigation Report Addendum BRSA, December 2017). Contaminants of concern- Pesticides and metals, Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA(C), and continue LTM indefinitely. The presumptive remedy is land use controls (LUC). Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1044_EABR18-E_BUSH RIVER DOCK(E2396)-CLUSTER

Env Site ID: EABR18-E

Cleanup Site: BUSH RIVER DOCK(E2396)-CLUSTER

Alias: APGEA-010E

Regulatory Driver: CERCLA

RIP Date: 10/1/2025

RC Date: 10/1/2025

RC Reason: Not assigned

SC Date: 10/2/2025

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/15/1991	10/1/2025
RD:	--	--
IRA:	4/30/1996	9/30/1997
RA(C):	--	--
RA(O):	--	--
LTM:	--	--

Site Narrative: The Bush River Dock is located at the end of Bush River Road in the Edgewood Area. During WWI, the Army shipped containers of bulk chemical agent and munitions by loading the items onto transport barges at the Bush River Dock. During World War II (WWII), captured foreign munitions were unloaded to flat cars on rails at the dock. During the FFS several direct-push technology (DPT), porewater, and sediment samples were collected off the sides and end of the dock to delineate the extent of porewater and groundwater contamination. There are high total volatile organic compounds (TVOC) contaminant concentrations off the end of the dock, possibly attributable to a large metallic object in the sediments, but they do not appear to be related to the on-shore VOC contaminants. VOC contamination was also detected offshore within the organic silts. The highest concentration of VOC (i.e., 15,674 ug/L) was measured off the end of the dock at a depth of 13-17 ft. In 1996, an area-wide removal action for surface wastes was completed across the BRSA. A Feasibility Study is underway and anticipates NFA. The sandy strata beneath the river are not a potentially usable aquifer, and the VOC are undergoing intrinsic bioremediation in the formation and river bottom sediment. Contaminants of concern- VOC. Media of concern- Groundwater. RESTORATION/CLEANUP STRATEGY- Complete the proposed plan and record of decision (ROD). Site closeout is expected when ROD is completed.

24015.1045_EABR18-F_SURFICIAL AQUIFER - CLUSTER 18

Env Site ID: EABR18-F

Cleanup Site: SURFICIAL AQUIFER - CLUSTER 18

Alias: EABR18-F

Regulatory Driver: CERCLA

RIP Date: 11/1/2029

RC Date: 11/1/2058

RC Reason: Not assigned

SC Date: 11/2/2058

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	10/1/2025
RD:	10/1/2025	11/1/2026
IRA:	--	--
RA(C):	11/1/2026	11/1/2029
RA(O):	11/1/2029	11/1/2058
LTM:	--	--

Site Narrative: The surficial aquifer cluster 18, located in the Southern Bush River peninsula, is a complex sequence of interfingering sands, clays, and silts. The aquifer at many locations is divided into an upper and lower section by laterally discontinuous silt and clay layers, which is very important to the hydraulic continuity of the surficial aquifer. A massive clay confining unit defines the base of the surficial aquifer. Groundwater sampling was performed within Cluster 15 and 18 which identified a portion of the large volatile organic compounds (VOC) plume which underlies the Southern Bush River Area. The 2002 RI recommended work should be completed to evaluate potential remedial alternatives for OU1, including the contaminated surficial aquifer groundwater in the southern portion of the Southern Bush River Area and the VOC source area in the offshore groundwater at the Bush River Dock. Contaminants of concern- VOC. Media of concern- Groundwater. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue RA(O) indefinitely. The anticipated remedy is in-situ chemical oxidation and monitored natural attenuation (MNA). Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1046_EABR35-A_MAINTENANCE YARD-CLUSTER 35

Env Site ID: EABR35-A

Cleanup Site: MAINTENANCE YARD-CLUSTER 35

Alias: APGEA-010F

Regulatory Driver: CERCLA

RIP Date: 9/15/2026

RC Date: 9/15/2026

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	1/15/2026
RD:	1/15/2026	6/15/2026
IRA:	4/30/1996	9/30/1997
RA(C):	6/15/2026	9/15/2026
RA(O):	--	--
LTM:	9/15/2026	9/30/2055

Site Narrative: The Maintenance Yard - Cluster 35 is located north of Building E2160 in the Bush River Study Area (BRSA). These storage areas were used beginning in the 1950s as stockpile areas and former storage of salvage material and soil, including storage of topsoil removed from the Wheeled Vehicle Facility construction site. The site contains metals in groundwater above primary maximum contaminant level and mercury contamination in sediments and surface water above risk-based concentrations (RBC). In 1996, an area-wide interim removal action for surface wastes was completed across the BRSA. Contaminants of concern- Metals. Media of concern- Soils, sediments, surface water, and groundwater (BRSA Remedial Investigation Report Addendum December 2017). Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA(C), and continue LTM indefinitely. The presumptive remedy is LUCs. Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1047_EABR35-B_BLDG E2144/2148/2150-CLUSTER 35

Env Site ID: EABR35-B

Cleanup Site: BLDG E2144/2148/2150-CLUSTER 35

Alias: APGEA-010F

Regulatory Driver: CERCLA

RIP Date: 9/15/2026

RC Date: 9/15/2026

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Low

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	1/15/2026
RD:	1/15/2026	6/15/2026
IRA:	4/30/1996	9/30/1997
RA(C):	6/15/2026	9/15/2026
RA(O):	--	--
LTM:	9/15/2026	9/30/2055

Site Narrative: EABR35-B includes Buildings E2144, E2148, and E2150, which were in the northern portion of the Bush River Study Area (BRSA) at the end of a gravel road leading to Lauderick Creek. Although the exact date of construction is not documented, these three buildings existed as early as 1933 and were historically used for the storage of high explosives and potentially for storage of chemical weapons and chemicals. From 1989 until its demolition in 2004, the Army used Building E2148 for storage of transformers known or suspected to contain polychlorinated biphenyls (PCB). The transformers were placed in metal pans for containment of potential leaks. Building E2150 was used for storage (circa 1966) of radiological source sets and may also have been used for storage of transformers. The RCRA Facility Assessment did not report any evidence of historical releases (i.e., leaks or spills) from any of the buildings (US Army Environmental Hygiene Agency (USAEHA) 1989). In 1996, an area-wide interim removal action for surface wastes was completed across the BRSA. The buildings were demolished through the APG Facility Reduction Program in 2004. The site contains Aroclor-1260 (170 ppb) in the soil. Contaminants of concern- Metals and pesticides. Media of concern- Soils (BRSA Remedial Investigation Report Addendum, December 2017). Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA(C), and continue LTM indefinitely. The presumptive remedy is land use controls (LUC). Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1048_EABR36-A_WAREHOUSE STORAGE AREAS-CLUSTER

Env Site ID: EABR36-A

Cleanup Site: WAREHOUSE STORAGE AREAS-CLUSTER

Alias: APGEA-010G

Regulatory Driver: CERCLA

RIP Date: 9/15/2026

RC Date: 9/15/2026

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: High

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/15/1991	1/15/2026
RD:	1/15/2026	6/15/2026
IRA:	4/30/1996	9/30/1997
RA(C):	6/15/2026	9/15/2026
RA(O):	--	--
LTM:	9/15/2026	9/30/2055

Site Narrative: Site EABR36-A includes the Warehouse Storage Area, the Drummed Soil Road Barricade Sites, and the Department of Public Works (DPW) Southwest Storage Area. The Warehouse Storage Area consists of 19 warehouses located throughout 30 acres in the central portion of the BRSA peninsula. The warehouses were constructed in the early 1940s and were used for general storage (e.g., office supplies, computer supplies, boats, furniture, and office files), and storage of high explosives and ammunition. The RCRA Facility Assessment (USAEHA 1989) noted that chemical agents were likely not stored in any of the warehouses; however, chemical materials such as “tear gas” agents and raw materials for production use may have been stored in the buildings. There is no record of releases (i.e., spills or leaks) that may have occurred during handling and storage operations in any of the warehouses. In 1996, an area-wide interim removal action for surface wastes was completed across the BRSA. Contaminants of concern- Metals and pesticide. Media of concern- Soils (BRSA Remedial Investigation Report Addendum December 2017). Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA(C), and continue LTM indefinitely. The presumptive remedy is land use controls (LUC). Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1049_EABR36-B_BLDG 846 WASTE DISPOSAL SITE-CL

Env Site ID: EABR36-B

Cleanup Site: BLDG 846 WASTE DISPOSAL SITE-CL

Alias: APGEA-010G

Regulatory Driver: CERCLA

RIP Date: 9/15/2026

RC Date: 9/15/2026

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Low

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/15/1991	1/15/2026
RD:	1/15/2026	6/15/2026
IRA:	4/30/1996	9/30/1997
RA(C):	6/15/2026	9/15/2026
RA(O):	--	--
LTM:	9/15/2026	9/30/2055

Site Narrative: The Building 846 Waste Disposal Site is located adjacent to Bush River Road, east of the DPW Southwest Storage Area in the Bush River Study Area (BRSA). During the 1980s, construction work to expand the parking lot at the site uncovered the remains of burned gas masks and gas mask canisters in the northeastern edge of the site. The disposal area was very small (approximately 20 ft. in length) and the disposal method appeared to have been burning. The exact timeframe of operations at the site was not clearly documented; however, activities likely took place circa 1929 through 1940 (USAEHA 1989). In 1993, a 2000-gallon underground storage tank containing fuel oil was removed from the site. In 1995, empty drums, a few railroad ties, and metal debris were observed along an earthen berm that was adjacent to the parking lot. In 1996, an area-wide interim removal action for surface wastes was completed across the BRSA. The site contains Aroclor-1260 (170 ppb) in the soil. Contaminants of concern- Pesticides. Media of concern- Soil (BRSA Remedial Investigation Report Addendum December 2017). Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA(C), and continue LTM indefinitely. The presumptive remedy is land use controls (LUC). Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1050_EACC1A-A_RAILROAD YARD-CLUSTER 1A

Env Site ID: EACC1A-A

Cleanup Site: RAILROAD YARD-CLUSTER 1A

Alias: APGEA-001B

Regulatory Driver: CERCLA

RIP Date: 9/4/2013

RC Date: 9/4/2013

RC Reason: Study Completed, No Cleanup Required

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	9/26/2006
RD:	6/26/2006	8/7/2007
IRA:	--	--
RA(C):	9/15/2006	9/4/2013
RA(O):	--	--
LTM:	9/15/2013	9/30/2054

Site Narrative: The Railroad Yard is located in the north-central portion of the Edgewood Area west of the Hoadley Road gate. The Railroad Yard consisted of multiple railroad sidings (areas used to store rail cars filled with raw materials, supplies, and munitions), a locomotive storage and maintenance barn (Building E5762), and storage shed (Building E5760). There are no contaminants of concern from the human health risk assessment (industrial and residential scenarios). Pesticides, metals, polycyclic aromatic hydrocarbons (PAH), and polychlorinated biphenyls (PCB) were found in sediments at concentrations above ecological screening levels; however, ecological risk receptors are limited due to insufficient habitat (i.e., heron are not expected to live in the areas with elevated pesticides, because there are no fish present in the drainage areas). As such, remediation of the site was not warranted. The RI soil sampling and risk assessments did not eliminate the risk for potential residential re-use. The residential scenario was conducted for comparison purposes. Contaminant of concern- Metals. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1051_EACC1A-B_G STREET SALVAGE YARD-CLUSTER 1

Env Site ID: EACC1A-B

Cleanup Site: G STREET SALVAGE YARD-CLUSTER 1

Alias: APGEA-01SS

Regulatory Driver: CERCLA

RIP Date: 7/22/2009

RC Date: 7/22/2009

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	9/27/2007
RD:	10/31/2006	9/30/2008
IRA:	4/30/1990	10/31/1998
RA(C):	10/31/2006	7/22/2009
RA(O):	--	--
LTM:	9/15/2009	9/30/2054

Site Narrative: The G-Street Salvage Yard is located adjacent to the WWII Railroad Yard and is west of the Hoadley Road gate in the Canal Creek Study Area (CCSA) in the Edgewood Area. The site consists of Building E5068, a concrete loading dock, a former fire training area, and a salvage yard. From WWI until WWII the site was used as a railroad siding area, or an area used to store rail cars filled with raw materials, supplies, and munitions. From WWII to the mid-1960s, salvage yard operations were conducted at the site. From 1972 until 1978, a fire-training pit was located at the southeast corner of the salvage yard. Bulk construction materials were also stored at the site. Limited removal actions that focused on removing surface debris and debris found in mounds within the project area have been conducted here. In 1996, a temporary soil cover was placed over a portion of the site as part of a CERCLA removal action. The Phase II RI report was submitted in 2004. In May 2005 the final FS for the site was submitted. There are risks at the site from soil and groundwater; however, the groundwater plume will be addressed as part of the West Canal Creek Area Canal Creek Aquifer (CCA) site EACC4A-B. Soil risks to human health were primarily defined by lead hot spots at the former fire training area; some of the hot spots are as deep as 14 ft. (at or near the water table). There are additional potential risks to human health and the environment at the Burn Residue Disposal Area (BRDA). The final radiological risk assessment was incorporated into the RI for the final three sites. The risk for child residents at the G-Street Soils Site (surface and subsurface) exceeded the USEPA target risk range for Aroclor 1260, benzo(a)pyrene, 4,4'-DDE, dibenzo(a,h)anthracene, dioxin/furans, and arsenic. The ROD was signed in September 2007. The selected remedy included excavation within the contaminated soils area of the G-Street Salvage Yard (to an approximate depth of about 2 ft. excavation of the BRDA (to a total depth of nine ft.), and off-site disposal. The remedial action was completed in spring 2009. An explanation of significant differences (ESD) document describing the limited use of Level A personal protective equipment and vapor containment system (versus a comprehensive use of these protections as described in the ROD) was finalized in June 2009. The RACR was finalized in July 2009. Contaminants of concern- Metals, dioxin/furans, and pesticides. Media of concern- Sediment, soils, and surface water.

Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness. Information related to PFAS will be addressed under a future site.

24015.1052_EACC1D_DM FILLING PLANT-CLUSTER 1D

Env Site ID: EACC1D

Cleanup Site: DM FILLING PLANT-CLUSTER 1D

Alias: APGEA-001F

Regulatory Driver: CERCLA

RIP Date: 9/4/2013

RC Date: 9/4/2013

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	9/26/2006
RD:	1/31/2006	8/7/2007
IRA:	--	--
RA(C):	1/31/2006	9/4/2013
RA(O):	--	--
LTM:	9/15/2013	9/30/2054

Site Narrative: The Adamsite Filling Plant is located in the Edgewood Area west of the Magnolia Road intersection with Alley Road. The DM Filling Plant was used for DM candle filling and assembly during 1942 and 1943. Building E5648 was the primary production building and used sumps and/or tank pits for the DM manufacturing. Additional Buildings were used for a variety of filling/loading purposes including smoke mixing and blending. Building E5641 was also used for loading button bombs with a pyrotechnic mixture of red phosphorus, potassium chlorite, and Freon. Contaminants of concern- Metals. Media of concern- Soil. The ecological and HHRAs are complete, no unacceptable risks to human health under an industrial land-use scenario was found. Potential ecological risks drove cleanup of arsenic hot spots. The ROD (Canal Creek 13 Sites) was finalized in 2006, including soil excavation, off-site disposal, and LUCs. This remedy was selected to mitigate the potential ecological risks and ensure no future risk for residential and/or childcare purposes. Excavation, disposal, and LUC implementation was completed in 2013. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1053_EACC1E_BUILDING 87 COMPLEX-CLUSTER 1E

Env Site ID: EACC1E

Cleanup Site: BUILDING 87 COMPLEX-CLUSTER 1E

Alias: APGEA-001

Regulatory Driver: CERCLA

RIP Date: 5/2/2012

RC Date: 5/2/2012

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	9/29/2009
RD:	10/31/2007	10/17/2011
IRA:	7/31/1995	9/30/1995
RA(C):	10/31/2007	5/2/2012
RA(O):	--	--
LTM:	5/3/2012	9/30/2054

Site Narrative: The Building 87 Complex (Pilot Plant Complex) is located at the northwest corner of the intersection of Fleming Road and Alley Road in the Edgewood Area. The site consisted of Buildings E5616, E5617, E5618, E5626, E5627, E5632, and E5633. The buildings were constructed around WWI and used for chemical manufacturing during the war. Contaminant of concern- Lead. Media of concern- Soil. Various military compounds (including nerve agents clothing impregnation compounds and B-1 dye) were all produced at the Building 87 Complex. In 1986, activity as a process engineering facility at the 5-acre complex ceased. In 1997, the Building 87 Complex demolition was funded under the Chemical Agent Demilitarization Disposal Defense. In 1995 the E5625 and E5633 sumps were addressed, and in 1999 all the buildings were demolished. The potential for environmental impact is largely due to the activities using chemicals such as chlorinated solvents and polychlorinated biphenyls (PCB). The ROD was finalized in September 2009, implementing LUCs. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness. Underlying groundwater is being addressed under site ID EACC4A-B (24015.1102).

24015.1054_EACC1F-A_BUILDING E5604 AREA-CLUSTER 1F

Env Site ID: EACC1F-A

Cleanup Site: BUILDING E5604 AREA-CLUSTER 1F

Alias: APGEA-001G

Regulatory Driver: CERCLA

RIP Date: 5/2/2012

RC Date: 5/2/2012

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	9/29/2008
RD:	9/30/2007	6/29/2011
IRA:	--	--
RA(C):	9/30/2007	5/2/2012
RA(O):	--	--
LTM:	5/3/2012	9/30/2054

Site Narrative: The Building E5604 Area is located on the north side of Fleming Road between Alley Road and 32nd Street in the Edgewood Area. Building E5604 was constructed during WWII for chemical munitions filling. In the late-1960s, mask and filter manufacturing operations were located at Building E5604. Manufacturing activities have not been performed at Building E5604 in recent years; however, testing of individual and collective protection filters was conducted until 1988. Contaminant of concern- Metals and polycyclic aromatic hydrocarbons (PAH). Media of concern- Soil. Arsenic levels (8.9 mg/kg) in the surface soil exceeded both industrial risk-based concentration (RBC) and background ranges. The ROD was finalized in September 2008, implementing LUCs. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness. Underlying groundwater is being addressed under site ID EACC4A-B (24015.1102).

24015.1055_EACC1F-B_BLDG 80 SERIES SMOKE LABS-CLUST

Env Site ID: EACC1F-B

Cleanup Site: BLDG 80 SERIES SMOKE LABS-CLUST

Alias: APGEA-001H

Regulatory Driver: CERCLA

RIP Date: 5/2/2012

RC Date: 5/2/2012

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/2003	9/29/2008
RD:	9/30/2007	6/29/2011
IRA:	--	--
RA(C):	9/30/2007	5/2/2012
RA(O):	--	--
LTM:	5/3/2012	9/30/2054

Site Narrative: The Building 80 Series Smoke Laboratories are located on the north side of Fleming Road between Alley Road and 32nd Street (six acres) in the Edgewood Area. The Building 80 laboratories were constructed in 1918 and 1919 and were used as smoke laboratories through at least 1944. Activities at these laboratories included pyrotechnic research and development. Arsenic concentrations (21.1 mg/kg) in site soils exceed industrial risk-based concentration (RBC) and background ranges. While no agent degradation byproducts were found in soils, nitrobenzene (5.79 mg/kg) was detected in the surface soil in an area of stressed vegetation on-site. The ROD was finalized in September 2008, implementing LUCs. Contaminant of concern- Metals. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness. Underlying groundwater is being addressed under site ID EACC4A-B (24015.1102).

24015.1056_EACC1G-A_BLDG E5185 WWII MTD FILLING PNT

Env Site ID: EACC1G-A

Cleanup Site: BLDG E5185 WWII MTD FILLING PNT

Alias: APGEA-001I

Regulatory Driver: CERCLA

RIP Date: 5/2/2012

RC Date: 5/2/2012

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	4/30/2001	9/29/2008
RD:	9/30/2007	6/29/2011
IRA:	--	--
RA(C):	9/30/2007	5/2/2012
RA(O):	--	--
LTM:	5/3/2012	9/30/2054

Site Narrative: The Building E5185 WWII Mustard Filling Plant is located south of Magnolia Road between 34th Street and Hoadley Road. Building E5185 was originally constructed as a WWII Mustard Plant but was used for a variety of purposes from 1945 until the mid-1960s, including supply handling and warehousing, production and packing of filters and masks, and equipment cleaning and layaway. Building E5185 was also an active shop and fabrication facility until 1975. Contaminant of concern- Arsenic. Media of concern- Soil. The ROD was finalized in September 2008, implementing LUCs. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness. Underlying groundwater is being addressed under site ID EACC4A-B (24015.1102).

24015.1057_EACC1G-B_BLDG E5188 WP FILLING PNT-CLUST

Env Site ID: EACC1G-B

Cleanup Site: BLDG E5188 WP FILLING PNT-CLUST

Alias: APGEA-001K

Regulatory Driver: CERCLA

RIP Date: 9/4/2013

RC Date: 9/4/2013

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/2001	9/26/2006
RD:	6/26/2006	8/7/2007
IRA:	7/31/1995	8/31/1995
RA(C):	9/15/2005	9/4/2013
RA(O):	--	--
LTM:	9/15/2013	9/30/2054

Site Narrative: The site consists of Building E5188, the White Phosphorous (WP) Filling Plant, and the surrounding area. Building E5188 (formerly Building 90) was built in 1940 and was originally used for filling munitions with smoke agent and tear-producing compounds from 1941 to 1944. Beginning in July 1944, the plant was used for filling WP munitions. A wide variety of munitions were filled during WWII in this plant including mortar artillery shells, rockets, and land mines. Wastewater from Building E5188 drained into the chemical sewer which discharged 500 ft. southwest of the building into nearby wastewater ponds area. In 1995, an IRA was conducted to remove the WP scrubbing tower. The RI sampling and risk assessments found unacceptable risks to hypothetical future child residents; however, there are no unacceptable risks to ecological receptors and industrial site users. Contaminants of concern- Metals and pesticides. Media of concern- Soil and surface water. A ROD was completed in 2006, implementing LUCs. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness. Underlying groundwater is being addressed under site ID EACC4A-B (24015.1102).

24015.1058_EACC1H-A_1937 MUSTARD DISPOSAL PIT-CLUST

Env Site ID: EACC1H-A

Cleanup Site: 1937 MUSTARD DISPOSAL PIT-CLUST

Alias: APGEA-001J

Regulatory Driver: CERCLA

RIP Date: 5/30/2028

RC Date: 5/30/2028

RC Reason: Not assigned

SC Date: 9/30/2057

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/2003	10/1/2026
RD:	10/1/2026	5/30/2027
IRA:	--	--
RA(C):	6/1/2027	5/30/2028
RA(O):	--	--
LTM:	6/1/2028	9/30/2057

Site Narrative: The 1937 Mustard Disposal Pit is located in the Edgewood Area (APG-EA), approximately 400 ft. west southwest of Building E5440 in the Mustard Plant Area. In 1937, large-scale manufacturing of mustard was initiated. The Mustard Disposal Pit was used to receive 'wild run' batches of mustard. The site may have been used to dispose of other chemical wastes. During RI sampling, both arsenic (5.7 mg/kg) and beryllium (1.6 mg/kg) were detected in surface soils at concentrations exceeding the USEPA Industrial risk-based concentration (RBC) and reference background levels. No mustard has been detected at this site. The final RI and FS were completed in 2018 and 2021, respectively. Contaminants of concern- Arsenic, mercury, zinc, aldrin, and 2,4,6-Trinitrotoluene. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue LTM indefinitely. Anticipated remedy is excavation with off-site disposal and land use controls (LUC). Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness. Underlying groundwater is being addressed under site ID EACC4A-B (24015.1102).

24015.1059_EACC1H-B_WWII CHLORINE PLANT-CLUSTER 1H

Env Site ID: EACC1H-B

Cleanup Site: WWII CHLORINE PLANT-CLUSTER 1H

Alias: APGEA-001L

Regulatory Driver: CERCLA

RIP Date: 5/30/2029

RC Date: 5/30/2029

RC Reason: Not assigned

SC Date: 9/30/2058

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/15/2003	10/1/2027
RD:	10/1/2027	5/30/2028
IRA:	7/31/1995	12/31/1995
RA(C):	6/1/2028	5/30/2029
RA(O):	--	--
LTM:	6/1/2029	9/30/2058

Site Narrative: The WWII Chlorine Plant is located in the Edgewood Area west of 35th Street. From 1942-1944 plant operations to produce chlorine and caustic soda were conducted. After WWII and until 1968, the building was used as a hydrogen recovery unit and filling plant. In 1969, the Chlorine Plant facilities were demolished. During 1995, an IRA was conducted to remove potentially contaminated surface material. The final RI and FS were completed in 2018 and 2021, respectively. Contaminants of concern- Metals, polychlorinated biphenyls (PCB), and pesticides. Media of concern- Soil. This site and the buried legacy chemical sewer lines are potential sources of contamination for the Canal Creek Marsh and Landfill – West (EACC1K, 24015.1068) and the Canal Creek Sediments (EACC5A, 24015.1103). The potential remedies were evaluated in conjunction with EACC1K and EACC5A due to their interconnectivity. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue LTM indefinitely. Anticipated remedy is capping and LUCs. Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness. Underlying groundwater is being addressed under site ID EACC4A-B (24015.1102).

24015.1060_EACC1H-C_BLDG E5483 PROTECT CLOTH LDY-CL

Env Site ID: EACC1H-C

Cleanup Site: BLDG E5483 PROTECT CLOTH LDY-CL

Alias: APGEA-001M

Regulatory Driver: CERCLA

RIP Date: 5/30/2029

RC Date: 5/30/2029

RC Reason: Not assigned

SC Date: 9/30/2058

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	10/1/2027
RD:	10/1/2027	5/30/2028
IRA:	--	--
RA(C):	6/1/2028	5/30/2029
RA(O):	--	--
LTM:	6/1/2029	9/30/2058

Site Narrative: The Building E5483 Protective Clothing Laundry site is located south of Laus St (formerly Williams Road) and immediately north of the Mustard Disposal Pit area, in the Edgewood Area. Building E5483 was constructed in 1951 on the site of a former ton container steamout facility. The uses of Building E5483 are not known for the period from 1951 to the 1960s, although the original use was reported as that of a degreasing facility. In the late 1960s, the protective clothing laundry equipment was installed; operations ceased in 1968. During the RI surface soil sampling, benzo(b)fluoranthene and arsenic were detected at concentrations exceeding the USEPA risk-based concentrations and reference background levels. Chrysene, several metals, and pesticides were detected in sediment samples at levels exceeding screening levels and reference background. The RI and FS were completed in 2018 and 2021, respectively. Contaminants of concern- Arsenic, pesticides, and polychlorinated biphenyls. Media of concern- Soil and sediment. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue LTM indefinitely. Anticipated remedy is excavation off-site disposal and LUCs. Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness. Underlying groundwater is being addressed in site EACC4A-B (24015.1102).

24015.1061_EACC1H-D_PHOSGENE PLANT AREA-CLUSTER 1H

Env Site ID: EACC1H-D

Cleanup Site: PHOSGENE PLANT AREA-CLUSTER 1H

Alias: APGEA-001N

Regulatory Driver: CERCLA

RIP Date: 5/2/2012

RC Date: 5/2/2012

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	12/31/2001	9/29/2008
RD:	9/30/2007	6/29/2011
IRA:	--	--
RA(C):	9/30/2007	5/2/2012
RA(O):	--	--
LTM:	5/3/2012	9/30/2054

Site Narrative: The Phosgene Plant Area is located in the Edgewood Area between Hoadley Road and 35th Street. Prior to the start of WWII, phosgene manufacturing operations were limited to a small group of buildings located north of Hanlon Road in the Phosgene Plant Area. Most of the WWII phosgene plant buildings were demolished in the 1960s. Building E5365 is the only remaining structure in the Phosgene Plant Area. Contaminants of concern- Metals. Media of concern- Soil. No analytes were detected at concentrations exceeding industrial risk-based concentration (RBC) or background ranges during RI sampling. The RI soil sampling and risk assessments did not eliminate risk for potential residential re-use; however, there were no unacceptable risks to ecological receptors and industrial site users. The ROD was finalized in 2008, implementing LUCs. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness. Underlying groundwater is being addressed in site EACC4A-B (24015.1102).

24015.1062_EACC1H-E_BLDG 103 AREA CHEM PNT/DUMP SIT

Env Site ID: EACC1H-E

Cleanup Site: BLDG 103 AREA CHEM PNT/DUMP SIT

Alias: APGEA-001T

Regulatory Driver: CERCLA

RIP Date: 10/15/2025

RC Date: 10/15/2025

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	2/15/2025
RD:	8/15/2023	3/15/2025
IRA:	1/31/1992	2/15/2025
RA(C):	3/15/2025	10/15/2025
RA(O):	--	--
LTM:	10/15/2025	9/30/2055

Site Narrative: The Building 103 Area Chemical Plant/Dump site is located in the Edgewood Area at the northwest intersection of Hoadley Road and Laus St (formerly Williams Road). Building 103 was constructed in 1918 and was demolished in the 1960s. During WWI, the Building 103 Chemical Plant was used for the production of chloropicrin and for pilot plant production of clothing-impregnating materials and ethylene. The Building 103 Dump was listed on historical maps as a sandpit and was used as a dump site for debris, miscellaneous wastes, and possibly for chemicals. In 1995, the interim ROD was signed. In 1999, the IRA completion report was finalized. In 2001, monitoring and operations and maintenance began. The RI and FS were finalized in 2018 and 2021, respectively. Contaminants of concern- Chemical warfare materiel (CWM) and metals. Media of concern- Soils and groundwater. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, IRA, RA(C) and continue LTM indefinitely. A final ROD will be completed to document that current activities (landfill cap and maintenance, sampling/analysis, and LUCs inspections) will likely be the final remedy. LTM will consist of land use controls (LUC), cap inspections and maintenance, and groundwater monitoring associated with the cap. Underlying groundwater is being addressed in site EACC4A-B (24015.1102). Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1063_EACC1H-F_EXPER CHEM PLANT AREA-CLUSTER 1

Env Site ID: EACC1H-F

Cleanup Site: EXPER CHEM PLANT AREA-CLUSTER 1

Alias: APGEA-001U

Regulatory Driver: CERCLA

RIP Date: 5/30/2029

RC Date: 5/30/2029

RC Reason: Not assigned

SC Date: 9/30/2058

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	8/15/2017	10/1/2027
RD:	10/1/2027	5/30/2028
IRA:	7/31/1995	12/31/1995
RA(C):	6/1/2028	5/30/2029
RA(O):	--	--
LTM:	6/1/2029	9/30/2058

Site Narrative: The Experimental Chemical Plant area encompasses approximately four acres located west of the former Mustard Plant Area east of West Branch Canal Creek, south-southwest of Laus St (formerly Williams Road), and west of Hoadley Road in the Edgewood Area. The site consists of pilot plants 622 (Building E5560), 642 (Building E5485), 643 (Buildings E5481, E5487, and E5489), 644 (E5476), E5380, and Building 648 (demolished). Uses for these buildings included chemical agent production, clothing impregnation, Adamsite air drying, and testing and laboratory activities. During 1995, an IRA was conducted to remove potential source material dumped along the banks of Canal Creek. In 2000, two flow-through sumps were removed. The RI and FS were completed in 2018 and 2021, respectively. Elevated levels of arsenic (maximum of 1370 mg/kg) and mercury (maximum of 594 mg/kg) were detected in surface soils behind Building E5476, near a discharge pipe. Buildings at this site were demolished in 2007 under the Chemical Demilitarization Program. Most of the remaining slabs were removed in 2012. Contaminants of concern- Metals. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue LTM indefinitely. Anticipated remedy is excavation with off-site disposal and land use controls (LUC). Underlying groundwater is being addressed in site EACC4A-B (24015.1102). Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1064_EACC1H-G_MUSTARD PLANT AREA-CLUSTER 1H

Env Site ID: EACC1H-G

Cleanup Site: MUSTARD PLANT AREA-CLUSTER 1H

Alias: APGEA-001V

Regulatory Driver: CERCLA

RIP Date: 5/30/2029

RC Date: 5/30/2029

RC Reason: Not assigned

SC Date: 9/30/2058

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	8/15/2017	10/1/2027
RD:	10/1/2027	5/30/2028
IRA:	--	--
RA(C):	6/1/2028	5/30/2029
RA(O):	--	--
LTM:	6/1/2029	9/30/2058

Site Narrative: The Mustard Plant Area occupies the entire south side of Laus St (formerly Williams Road) including several outlying structures north of Laus St, in the Edgewood Area. Mustard was produced by high temperature process reactors in Building E5540 of the Mustard Plant Area during WWI. After WWI, Building E5540 was dismantled and Building E5450 was constructed as a mustard manufacturing plant. During 1949 and 1959 this plant produced mustard; it was demolished in the early 1970s. The RI and FS were completed in 2018 and 2021, respectively. High concentrations of arsenic (i.e., maximum detection of 255 mg/kg) have been detected in the soils, in addition to concentrations of mustard and nerve agent degradation products in the groundwater. Contaminants of concern- Metals and pesticides. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue LTM indefinitely. Anticipated remedy is excavation with off-site disposal and land use controls (LUC). Underlying groundwater is being addressed in site EACC4A-B (24015.1102). Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1065_EACC1I-A_BUILDING 106/107 AREA-CLUSTER 1

Env Site ID: EACC1I-A

Cleanup Site: BUILDING 106/107 AREA-CLUSTER 1

Alias: APGEA-0010

Regulatory Driver: CERCLA

RIP Date: 5/30/2028

RC Date: 5/30/2028

RC Reason: Not assigned

SC Date: 9/30/2057

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Low

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	8/15/2017	10/1/2026
RD:	10/1/2026	5/30/2027
IRA:	--	--
RA(C):	6/1/2027	5/30/2028
RA(O):	--	--
LTM:	6/1/2028	9/30/2057

Site Narrative: The Building 106/107 Area encompasses approximately 3 acres and is located west of Hoadley Road, between Fleming and Hanlon Roads in the Edgewood Area. Buildings 106 and 107 were constructed near the end of WWI. The buildings were used as a booster station for pumping water from the Bush River into the plants area. Building 106 was also used for ship hull paint storage, hay storage, and rabbit holding. During the 1950s both buildings were demolished. During RI sampling elevated concentrations of semi-volatile organic compounds (SVOC), polycyclic aromatic hydrocarbons (PAH), and arsenic were detected. The explosive compound pentaerythritol tetranitrate was also detected. The RI and FS were completed in 2018 and 2021, respectively. Contaminants of concern- SVOC, PAH, metals, and explosive compounds. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue LTM indefinitely. Anticipated remedy is excavation with off-site disposal and land use controls (LUC). Underlying groundwater is being addressed in site EACC4A-B (24015.1102). Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1066_EACC1I-B_BLDG 113 GAS INST CHAMBER-CLUST

Env Site ID: EACC1I-B

Cleanup Site: BLDG 113 GAS INST CHAMBER-CLUST

Alias: APGEA-001P

Regulatory Driver: CERCLA

RIP Date: 5/2/2012

RC Date: 5/2/2012

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/2001	9/29/2008
RD:	9/30/2007	6/29/2011
IRA:	--	--
RA(C):	9/30/2007	5/2/2012
RA(O):	--	--
LTM:	5/3/2012	9/30/2054

Site Narrative: The Building 113 Gas Instruction Chamber is located west of Hoadley Road, between Fleming and Hanlon Roads in the Edgewood Area. Building 113 was constructed during WWI as a gas instruction school. Commonly used training gases at the chamber were likely tear gas and Chloroacetophenone (CN). It is possible that the gas instruction school used bromobenzyl cyanide, radioactive chemicals, and small quantities of lethal agents such as mustard, phosgene, and chloropicrin. Use of the facility as a gas chamber continued until the mid-1930s. The facility was demolished in the early-1960s. Elevated concentrations of polycyclic aromatic hydrocarbons (PAH) and arsenic have been detected in site soils. The ROD was finalized in 2008, implementing LUCs. Contaminants of concern- Arsenic and PAH. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, land use controls (LUC), and five-year reviews are conducted to ensure long-term protectiveness. Underlying groundwater is being addressed in site EACC4A-B (24015.1102).

24015.1067_EACC1J_LAB TOXIC WASTE DISP PIT-BLDG 30-

Env Site ID: EACC1J

Cleanup Site: LAB TOXIC WASTE DISP PIT-BLDG 30-

Alias: EACC1J

Regulatory Driver: CERCLA

RIP Date: 5/2/2012

RC Date: 5/2/2012

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/2001	9/29/2009
RD:	10/31/2007	10/17/2011
IRA:	--	--
RA(C):	10/31/2007	5/2/2012
RA(O):	--	--
LTM:	5/3/2012	9/30/2054

Site Narrative: The Laboratory Toxic Waste Disposal Pits is approximately 7.5 acres located north of Fleming Road, between Hoadley Road and 32nd Street, in the Edgewood Area. The area is divided into three disposal pit operations associated with the laboratories at Building 30. Historical records suggest that disposal of laboratory wastes was conducted at the site from the World War I era at least through the 1940s. Contaminants of concern- Metals, lead, and white phosphorous (WP). Media of concern- Soil and groundwater. In 2005, test digs contained ash, slag, glass, concrete, and clay fragments; however, chemical concentrations in soil from the test digs did not exceed screening criteria. The ROD was finalized in 2009, implementing LUCs. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness. Underlying groundwater is being addressed in site EACC4A-B (24015.1102).

24015.1068_EACC1K_CANAL CRK MARSH AND LANDFILL-CLUS

Env Site ID: EACC1K

Cleanup Site: CANAL CRK MARSH AND LANDFILL-CLUS

Alias: APGEA-001W

Regulatory Driver: CERCLA

RIP Date: 5/30/2029

RC Date: 5/30/2029

RC Reason: Not assigned

SC Date: 9/30/2058

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/15/2003	10/1/2027
RD:	10/1/2027	5/30/2028
IRA:	--	--
RA(C):	6/1/2028	5/30/2029
RA(O):	--	--
LTM:	6/1/2029	9/30/2058

Site Narrative: The Canal Creek Marsh and Landfill is located throughout the Edgewood Canal Creek Area, but this site consists of the western portion of the Canal Creek Marsh and Landfill. The Canal Creek Marsh and Landfill was used as a receptor for liquid and solid wastes from 1917 until the 1980s. Liquid waste was generally discharged from chemical sewer outfalls. Chemicals produced in the plants near the West Branch of Canal Creek include chlorine, Chloroacetophenone (CN), clothing-impregnating material, arsenicals, nerve agents, mustard, and organic solvents. Solid waste was generally disposed along the edges of the East and West Branch marshes and consisted largely of concrete and steel construction debris, discarded process equipment and miscellaneous items. RI sampling indicated the presence of volatile organic compounds (VOC), Semi VOC, pesticides/herbicides, and polychlorinated biphenyls (PCB) in sediment samples at concentrations that exceed screening levels. White phosphorous (WP) was also detected in sediment samples (0.298 mg/kg) collected within the area of the former Phossy Water Ponds. This site was evaluated in conjunction with the adjacent Canal Creek Sediments site (EACC5A [24015.1103]). Geophysical surveys have been conducted to delineate any landfills. The RI and FS were completed in 2018 and 2021, respectively. Contaminants of concern- WP, VOC, and PCB. Media of concern- Soil and sediments. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue LTM indefinitely. Anticipated remedy is excavation with off-site disposal, capping, and LUCs. Since hazardous substances will remain above levels that are protective for unrestricted use, land use controls (LUC), and five-year reviews will be conducted to ensure long-term protectiveness. Underlying groundwater is being addressed under site ID EACC4A-B (24015.1102).

24015.1069_EACC1L-A_BLDG 503 SMK MIX BURNING SITES-

Env Site ID: EACC1L-A

Cleanup Site: BLDG 503 SMK MIX BURNING SITES-

Alias: APGEA-01AA

Regulatory Driver: CERCLA

RIP Date: 10/15/2025

RC Date: 10/15/2025

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Low

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	2/15/2025
RD:	8/15/2023	3/15/2025
IRA:	8/31/1997	2/15/2025
RA(C):	3/15/2025	10/15/2025
RA(O):	--	--
LTM:	10/15/2025	9/30/2055

Site Narrative: Building 503 Smoke Mixture Burning Area is a 1-acre site located east of Building E5265 (formerly Building 503) in the Canal Creek Study Area. The ROD for IRA was signed in 1996 and the selected remedial alternative was excavation of contaminated ash/soil and inclusion of this soil in the foundation layer of the Building 103 Dump Cap. In order to develop a final ROD, additional RI data gap sampling was conducted and is documented in a 2018 final RI report (along with supplemental risk assessments). Contaminants of concern- Metals and pesticides. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue LTM indefinitely. Anticipated remedy is land use controls (LUC). Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness. Underlying groundwater is being addressed in site EACC4A-B (24015.1102).

24015.1070_EACC1L-B_BUILDING 503 SMOKE POT PLANT-CL

Env Site ID: EACC1L-B

Cleanup Site: BUILDING 503 SMOKE POT PLANT-CL

Alias: APGEA-01BB

Regulatory Driver: CERCLA

RIP Date: 5/30/2030

RC Date: 5/30/2030

RC Reason: Not assigned

SC Date: 9/30/2059

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	10/1/2028
RD:	10/1/2028	5/30/2029
IRA:	--	--
RA(C):	6/1/2029	5/30/2030
RA(O):	--	--
LTM:	6/1/2030	9/30/2059

Site Narrative: The Building 503 Smoke Pot Plant (Building E5265) is located northeast of the intersection of Hoadley and Noble Roads in the Edgewood Area. Building E5265 was constructed during WWI to house a filling plant for large caliber shells. In the latter part of 1942, the plant was remodeled as a smoke filling plant. Since WWII, Building E5265 has been used as a research and development (R&D) facility for loading pyrotechnic smoke mixtures, including the pilot scale production of colored smoke. Risk assessments indicate unacceptable human health risks to allow for UU/UE. The RI and FS were completed in 2018 and 2021, respectively. Contaminants of concern- Metals, polycyclic aromatic hydrocarbons (PAH), and pesticides. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue LTM indefinitely. Anticipated remedy is excavation with off-site disposal and land use controls (LUC). Underlying groundwater is being addressed in site EACC4A-B (24015.1102). Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1071_EACC2A_OLD HOSP AND ADMIN AREA-CLUSTER 2

Env Site ID: EACC2A

Cleanup Site: OLD HOSP AND ADMIN AREA-CLUSTER 2

Alias: APGEA-001A

Regulatory Driver: CERCLA

RIP Date: 9/4/2013

RC Date: 9/4/2013

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	9/30/2002	9/26/2006
RD:	6/15/2005	8/7/2007
IRA:	--	--
RA(C):	9/15/2005	9/4/2013
RA(O):	--	--
LTM:	9/15/2013	9/30/2054

Site Narrative: The Old Hospital and Administration Area is located west of Wise Road, between Owen and Sibert Roads. The original structures in this area were constructed as a hospital complex during WWI and was used as an administration area with some laboratory facilities (including photographic, duplication, and other laboratories). The limits of this site extend to the CCSA boundary (encompassing approximately 140 acres); however, RI sampling was focused primarily on potential source areas west of 11th Street, where many of the old laboratories and the former patient decontamination ward reportedly existed. The RI sampling and risk assessments found unacceptable risks to hypothetical future child residents; however, there are no unacceptable risks to ecological receptors and industrial site users. The ROD was completed in 2006, implementing LUCs. Contaminants of concern- Metals and pesticides. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY – Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness. Underlying groundwater is being addressed in site EACC4A-B (24015.1102).

24015.1072_EACC2B_BLDG E5023 WWI WP FILLING PNT-CLU

Env Site ID: EACC2B

Cleanup Site: BLDG E5023 WWI WP FILLING PNT-CLU

Alias: APGEA-001Q

Regulatory Driver: CERCLA

RIP Date: 9/4/2013

RC Date: 9/4/2013

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	9/26/2006
RD:	10/15/2005	8/7/2007
IRA:	--	--
RA(C):	10/15/2006	9/4/2013
RA(O):	--	--
LTM:	10/15/2013	9/30/2054

Site Narrative: The Building E5023 WWI White Phosphorous (WP) Filling Plant is located in the Canal Creek Study Area. The filling plant was rendered inactive during the 1960s and demolished. During RI sampling benzo(a)pyrene, arsenic, and beryllium were detected in surface soil at concentrations exceeding industrial risk-based concentration (RBC) and background levels. WP was also detected in sediments. The ROD was finalized in 2006, implementing LUCs. Contaminants of concern- Metals and pesticides. Media of concern- Sediments. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness. Underlying groundwater is being addressed in site EACC4A-B (24015.1102).

24015.1073_EACC2C_BLDG E5238 CLOTH IMPREG FCLY-CLU

Env Site ID: EACC2C

Cleanup Site: BLDG E5238 CLOTH IMPREG FCLY-CLU

Alias: APGEA-001R

Regulatory Driver: CERCLA

RIP Date: 9/4/2013

RC Date: 9/4/2013

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	9/26/2006
RD:	10/15/2005	8/7/2007
IRA:	--	--
RA(C):	10/15/2006	9/4/2013
RA(O):	--	--
LTM:	10/15/2013	9/30/2054

Site Narrative: Building E5238 (formerly building 73) Clothing Impregnation Facility is located in the old chemical plants area, southwest of Fleming Road and east of Hoadley Road, and operated from 1941 through 1942. Above-ground steel storage tanks for materials used in the impregnation process (1,1,2,2-tetrachloroethane [TeCA] and chlorinated paraffin) were formerly located adjacent to the northwest side of the building. Structural failure of a mixing tank resulted in the loss of 2,000 gallons of solvent to the sewer. RI sampling was focused around Building E5238 (now demolished) in search of residual contamination from the historical release of solvent. Risk assessments confirmed that there were no unacceptable risks to ecological receptors and industrial site users; however, residential receptors were not evaluated. The ROD was finalized in 2006, implementing LUCs. Contaminants of Concern- Volatile organic compounds (VOC), polycyclic aromatic hydrocarbons (PAH), pesticides, and herbicides. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness. Underlying groundwater is being addressed in site EACC4A-B (24015.1102).

24015.1074_EACC2D_LAB TOXIC WASTE DISPOSAL PITS-CLU

Env Site ID: EACC2D

Cleanup Site: LAB TOXIC WASTE DISPOSAL PITS-CLU

Alias: APGEA-001S

Regulatory Driver: CERCLA

RIP Date: 5/2/2012

RC Date: 5/2/2012

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/2003	9/30/2009
RD:	10/31/2007	10/17/2011
IRA:	--	--
RA(C):	10/31/2007	5/2/2012
RA(O):	--	--
LTM:	5/3/2012	9/30/2054

Site Narrative: The Laboratory Toxic Waste Disposal Pits are associated with laboratories at former Buildings 30 and E5183 in the Edgewood Area. The primary waste disposed in the pits would have included mustard, nitrogen mustards, lewisite, and chloropicrin. Contaminated items such as laboratory glassware, equipment, packaging materials, protective equipment, and laboratory benches may have also been disposed in the pits. Phase I RI activities included subsurface soil and sediment sampling. In 2003 five surface soil samples were collected in support of the ERA. In 2004, a geophysical survey was conducted. In 2004 and 2005, Phase III soil borings and test pits were conducted. The ROD was finalized in 2009, implementing LUCs. Contaminants of concern- Metals, pesticides, chlorinated volatile organic compounds (VOC), and semi-VOC. Media of concern- Soil and sediments. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness. Underlying groundwater is being addressed in site EACC4A-B (24015.1102).

24015.1075_EACC2E_NOBLE ROAD INCINERATORS-CLUSTER 2

Env Site ID: EACC2E

Cleanup Site: NOBLE ROAD INCINERATORS-CLUSTER 2

Alias: APGEA-01CC

Regulatory Driver: CERCLA

RIP Date: 5/30/2030

RC Date: 5/30/2030

RC Reason: Not assigned

SC Date: 9/30/2059

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Low

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	10/1/2028
RD:	10/1/2028	5/30/2029
IRA:	--	--
RA(C):	6/1/2029	5/30/2030
RA(O):	--	--
LTM:	6/1/2030	9/30/2059

Site Narrative: The Noble Road Incinerators were located in Buildings E5292 and E5294 on the south side of Noble Road, in the Edgewood Area. These buildings were demolished in 2010. Site EACC2E also includes the East Canal Creek Marsh and Landfill. The Building E5292 incinerator was constructed in 1918 and the Building E5294 incinerator was constructed in the early 1940s. Both incinerators were used to burn a variety of waste including animal carcasses, classified documents, mustard distillation residues, and general sanitary waste. Waste ashes from the facilities were deposited in a landfill along the east branch of Canal Creek, immediately south of the site. In the 1950s or 1960s, incineration operations were halted. Arsenic was detected in soil (26.9 mg/kg) and ash (32.5 mg/kg) samples exceeding the USEPA industrial risk-based concentration (RBC) and reference background levels. The RI and FS were completed in 2018 and 2021, respectively. The FS expresses EACC2E as two areas (Canal Creek Marsh and Landfill-East [called EACC2E-A in the FS] and Noble Road Incinerators [called EACC2E-B in the FS]); however, there is only one site EACC2E 24015.1075. Contaminants of concern- Metals and pesticides. Media of concern- Soil and sediment. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue LTM indefinitely. Anticipated remedy for Canal Creek Marsh and Landfill-East is containment (capping) and land use controls (LUC). Anticipated remedy for Noble Road Incinerators is excavation, off-site disposal, soil cover, and LUCs. Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness. Underlying groundwater is being addressed in site EACC4A-B (24015.1102).

24015.1076_EACC2F_BLDG 99 (E5032) EXP FILLING PNT-C

Env Site ID: EACC2F

Cleanup Site: BLDG 99 (E5032) EXP FILLING PNT-C

Alias: APGEA-001X

Regulatory Driver: CERCLA

RIP Date: 9/4/2013

RC Date: 9/4/2013

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	12/31/1999	9/26/2006
RD:	5/31/2005	8/7/2007
IRA:	--	--
RA(C):	5/31/2005	9/4/2013
RA(O):	--	--
LTM:	9/15/2013	9/30/2054

Site Narrative: The Building 99 (E5032) Experimental Filling Plant is located northwest of the intersection of Hoadley and Magnolia Roads in the Edgewood Area. Building 99 was constructed during WWI for use as an incendiary bomb filling plant. During WWII, the building was used as a pilot plant for the development of a dry white phosphorous (WP) filling process. Other filling operations conducted at the plant have involved mustard, triethyl aluminum, WP-mustard mixture filling, tabun filling, and thickening of mustard with methylmethacrylate polymer. Filling operations at Building 99 were stopped in 1981 and the building was demolished in 1998. High concentrations of volatile organic compounds (VOC) have been found in the Canal Creek Aquifer in and around the area of the former Building 99. Elevated levels of arsenic in soils are present north of the Building 99 foundation and the completed ERA suggests potential risks to some ecological receptors at the site. This site poses no unacceptable risks to human health under an industrial land use scenario; however, there is a potential for unacceptable risks to hypothetical future residents. The ROD was finalized in 2006. The selected remedial action included soil excavation and off-site disposals with LUCs. Contaminants of concern- VOC and arsenic. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, land use controls (LUC), and five-year reviews are conducted to ensure long-term protectiveness. Underlying groundwater is being addressed in site EACC4A-B (24015.1102).

24015.1077_EACC2G_BLDG E5103 PHOTO LAB-CLUSTER 2G

Env Site ID: EACC2G

Cleanup Site: BLDG E5103 PHOTO LAB-CLUSTER 2G

Alias: APGEA-001Y

Regulatory Driver: CERCLA

RIP Date: 9/4/2013

RC Date: 9/4/2013

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	9/26/2006
RD:	7/26/2006	8/7/2007
IRA:	--	--
RA(C):	9/15/2009	9/4/2013
RA(O):	--	--
LTM:	9/15/2013	9/30/2054

Site Narrative: The Building E5103 Photographic Laboratory is located in the south-west corner of Wise Road and Rouse Road (formerly Bond Road) in the Edgewood Area. The Photographic Laboratory was constructed in 1965 to replace the photo and duplicating facility in the Old Hospital and Administration Area. Wastewater containing spent photographic chemicals is discharged through the sanitary sewer to the wastewater treatment plant. Although there were no known or suspected mechanisms of contaminant release, limited field screening for metals was conducted. Subsurface soil samples collected for the HHRA construction worker scenario contained arsenic above its industrial soil risk-based concentration (RBC) but within reference background. The ROD was signed in 2006, implementing LUCs. Contaminants of concern- Arsenic Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness. Underlying groundwater is being addressed in site EACC4A-B (24015.1102).

24015.1078_EACC2H-A_BLDG 501 FILLING PNT/E5100 LAB-

Env Site ID: EACC2H-A

Cleanup Site: BLDG 501 FILLING PNT/E5100 LAB-

Alias: APGEA-001Z

Regulatory Driver: CERCLA

RIP Date: 9/4/2013

RC Date: 9/4/2013

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	9/26/2006
RD:	5/26/2006	8/7/2007
IRA:	--	--
RA(C):	9/15/2009	9/4/2013
RA(O):	--	--
LTM:	9/15/2013	9/30/2054

Site Narrative: The Building 501 Filling Plant and E5100 Laboratory are located between Fleming Road and the East Branch Canal Creek, near the southeast intersection of Fleming and Caliber Street (formerly Webster Road) in the Edgewood Area. The Building 501 Filling Plant was constructed during WWI and used as a chemical munitions filling plant until 1942. The plant was converted during WWII to fill white phosphorous (WP) rounds. The filling plant and WP tanks were demolished in the 1960s. The Building E5100 Laboratory was constructed in the late 1960s (at the site) and was used for the product assurance testing of chemical agents. Wastes produced from Building E5100 included agent decontamination solutions and materials potentially contaminated with agent, such as charcoal filter material from air filtering systems. Contaminants of concern- Arsenic. Media of concern- Soil. Arsenic was the only chemical detected above its industrial soil risk-based concentration (RBC) in surface and subsurface soil. Several metals, polycyclic aromatic hydrocarbons (PAH), and DDT compounds were detected above ecological screening levels in surface soil but posed no risk to ecological receptors. With the exception of arsenic, all of these chemicals were detected below their respective industrial soil risk-based concentration (RBC) in surface and subsurface soil. The ROD was signed in 2006, implementing LUCs. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness. Underlying groundwater is being addressed in site EACC4A-B (24015.1102).

24015.1079_EACC2H-B_WWI SHELL DUMPS-CLUSTER 2H

Env Site ID: EACC2H-B

Cleanup Site: WWI SHELL DUMPS-CLUSTER 2H

Alias: APGEA-01TT

Regulatory Driver: CERCLA

RIP Date: 5/30/2028

RC Date: 5/30/2028

RC Reason: Not assigned

SC Date: 9/30/2057

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/2001	10/1/2026
RD:	10/1/2026	5/30/2027
IRA:	--	--
RA(C):	6/1/2027	5/30/2028
RA(O):	--	--
LTM:	6/1/2028	9/30/2057

Site Narrative: The WWI Shell Dumps are located in an area bounded by Hoadley Road, Blackhawk Road, 4th Street, and Caliber Street (formerly Webster Road) in Edgewood Area. Buildings E5158, E5165, and E5179 were constructed in the WWI era as storage areas for empty and filled chemical shells. Occasional leak testing of filled materials was performed by placing rounds in a rack, turning the rounds upside down and observing for leakage. Shells and other materials such as paints and degreasing compounds were stored in these buildings during the 1920s and 1930s. During WWII, igniters, smoke pots, tear pots, riot control grenades, and five-inch Navy shells were assembled, painted, and packed in the shell dump buildings. Offices, warehouses, and small maintenance activities have occupied the buildings since WWII. The RI and FS were completed in 2018 and 2021, respectively. Polycyclic aromatic hydrocarbons (PAH) and arsenic were detected in site soils at concentrations exceeding the USEPA Industrial risk-based concentration (RBC) and reference background levels. Contaminants of concern- PAH and arsenic. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue LTM indefinitely. Anticipated remedy is excavation with off-site disposal and land use controls (LUC). Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness. Underlying groundwater is being addressed in site EACC4A-B (24015.1102).

24015.1080_EACC2H-C_FILLING PLANTS NO 1&2-CLUSTER 2

Env Site ID: EACC2H-C

Cleanup Site: FILLING PLANTS NO 1&2-CLUSTER 2

Alias: APGEA-01UU

Regulatory Driver: CERCLA

RIP Date: 5/30/2028

RC Date: 5/30/2028

RC Reason: Not assigned

SC Date: 9/30/2057

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	10/1/2026
RD:	10/1/2026	5/30/2027
IRA:	--	--
RA(C):	6/1/2027	5/30/2028
RA(O):	--	--
LTM:	6/1/2028	9/30/2057

Site Narrative: The Filling Plants Numbers 1 and 2 are located east of Hoadley Road from the WWI Shell Dumps (EACC2H-B) to Noble Road, in the Edgewood Area. The Filling Plants were used briefly during WWI for filling munitions with chemical agents. Wastewater from the filling plant operations was discharged through chemical sewer lines to the East Branch. Filling Plant No. 2 was demolished in the early-1930s; Filling Plant No. 1 was demolished between 1938 and 1941. Chlorinated volatile organic compounds (CVOC) were detected in subsurface soil (in the 0 to 5 ft. soil interval) and elevated levels of pesticides in surface soil; however, the levels were not high when compared to APG overall. The RI and FS were completed in 2018 and 2021, respectively. Contaminants of concern- Arsenic and pesticides. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue LTM indefinitely. Anticipated remedy is excavation with off-site disposal and land use controls (LUC). Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness. Underlying groundwater is being addressed in site EACC4A-B (24015.1102).

24015.1081_EACC2I-A_AIRFIELD AREA (WIEDE FIELD)-CLU

Env Site ID: EACC2I-A

Cleanup Site: AIRFIELD AREA (WIEDE FIELD)-CLU

Alias: APGEA-01QQ

Regulatory Driver: CERCLA

RIP Date: 9/4/2013

RC Date: 9/4/2013

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	9/26/2006
RD:	7/26/2006	8/7/2007
IRA:	--	--
RA(C):	9/15/2009	9/4/2013
RA(O):	--	--
LTM:	9/15/2013	9/30/2054

Site Narrative: The Airfield Area (Weide Field) is located along the east side of Wise Road in the Edgewood Area. The Airfield has been operated since shortly after WWI. The original turf runway and taxiways were regraded, lengthened, and paved sometime between 1938 and 1940. Aircraft maintenance and storage hangers, a fuel pump house, and additional storage buildings are located in the area. The airfield (encompassing approximately 159 acres) and newer support buildings are still in active use. The National Guard is the current tenant of Weide Field. Building 14 (E4040) was constructed as an aircraft hangar in 1926. During WWII another aircraft hangar, Building 25 (E4080), was constructed. During the early 1970s this hangar was demolished, and another was built south of the original structure. RI samples were located near older fuel and drum storage buildings where during the WWII timeframe wastes could have been discharged directly to the septic system (which ultimately discharged to Canal Creek). These buildings are now connected to the Installation's sanitary sewer system. The ROD was signed in 2006, implementing LUCs. Contaminants of concern- Benzo(a)pyrene and arsenic. Media of concern- Soils. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness. Information related to PFAS will be addressed under a future site. Underlying groundwater is being addressed in site EACC4A-B (24015.1102).

24015.1082_EACC2I-B_OLD SHOP AND MOTORPOOL AREA-CLU

Env Site ID: EACC2I-B

Cleanup Site: OLD SHOP AND MOTORPOOL AREA-CLU

Alias: APGEA-01RR

Regulatory Driver: CERCLA

RIP Date: 9/4/2013

RC Date: 9/4/2013

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	9/26/2006
RD:	7/26/2006	8/7/2007
IRA:	--	--
RA(C):	9/30/2005	9/4/2013
RA(O):	--	--
LTM:	9/15/2013	9/30/2054

Site Narrative: The Old Shop and Motorpool site is adjacent to Weide Airfield and bounded by Wise Road and Blackhawk Road in the Edgewood Area. The WWI-era shop occupied the now demolished E5005. Recently, Building E5005 has been used for storage. Other facilities at the site included a foundry, machine shop, a locomotive maintenance shop, a blacksmith shop, gasoline storage, service station, and dye shop, all of which were demolished during the late 1960s and 1970s. RI samples were collected primarily near outfalls from the old chemical sewers to East Branch Canal Creek. The RI sampling and risk assessments found unacceptable risks to hypothetical future child residents; however, there are no unacceptable risks to ecological receptors and industrial site users. A ROD was signed in 2006, implementing LUCs. Contaminants of concern- Arsenic. Media of concern- Sediments and soils. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness. Underlying groundwater is being addressed in site EACC4A-B (24015.1102).

24015.1083_EACC3A_LAB TOXIC WASTE DIS PIT-BLDG E333

Env Site ID: EACC3A

Cleanup Site: LAB TOXIC WASTE DIS PIT-BLDG E333

Alias: EACC3A

Regulatory Driver: CERCLA

RIP Date: 5/30/2030

RC Date: 5/30/2030

RC Reason: Not assigned

SC Date: 9/30/2059

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/15/2003	10/1/2028
RD:	10/1/2028	5/30/2029
IRA:	--	--
RA(C):	6/1/2029	5/30/2030
RA(O):	--	--
LTM:	6/1/2030	9/30/2059

Site Narrative: The Laboratory Toxic Waste Disposal Pit site consists of three pits located on the eastern side of Building E3330 in the Edgewood Area. Disposal of laboratory waste at the Building E3330 pits was performed from 1943 until the late-1940s. The primary waste disposed in the pits most likely included mustard, nitrogen mustards, lewisite, and chloropicrin. Contaminated items such as laboratory glassware, equipment, packaging materials, protective equipment, and laboratory benches may have also been disposed of in the pits. The RI and FS were completed in 2018 and 2021, respectively. There are no unacceptable human health risks for the industrial worker scenario. Soil contaminants of concern for the hypothetical future resident are Aroclor 1248, mercury, and arsenic. Soil contaminants of concern for ecological receptors are arsenic, mercury, methyl mercury, selenium, Aroclor 1248, and DDT. Contaminants of concern- Pesticides, metals, and polychlorinated biphenyls (PCB). Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue LTM indefinitely. The anticipated remedy is excavation and off-site disposal. Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1084_EACC3B_BUILDING E2100 LABORATORY-CLUSTER

Env Site ID: EACC3B

Cleanup Site: BUILDING E2100 LABORATORY-CLUSTER

Alias: APGEA-01DD

Regulatory Driver: CERCLA

RIP Date: 9/4/2013

RC Date: 9/4/2013

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1999	9/26/2006
RD:	6/26/2006	8/7/2007
IRA:	--	--
RA(C):	9/30/2005	9/4/2013
RA(O):	--	--
LTM:	9/15/2013	9/30/2054

Site Narrative: The Building E2100 Laboratory is located in the Canal Creek study area and was constructed circa 1967 as a combined office and laboratory facility. Most of the analytical work performed at this laboratory is related to the analysis of environmental samples. This site includes existing support structures (E2101 through E2104) and several former structures (presumably unrelated to activities in Building E2100). Contaminant of concern- Arsenic and polycyclic aromatic hydrocarbons (PAH), benzo(a)pyrene, and dibenz (a,h)-anthracene. Media of concern- Soil. RI soil samples at this site were collected near the hazardous materials storage sheds east of Building E2100. Risk assessments found unacceptable risks to hypothetical future child residents; however, there are no unacceptable risks to ecological receptors and industrial site users. The ROD was signed in 2006, implementing LUCs. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness. Underlying groundwater is being addressed in site EACC4A-B (24015.1102).

24015.1085_EACC3C_BLD E32XX/E3100/3081 MED RESH LAB

Env Site ID: EACC3C

Cleanup Site: BLD E32XX/E3100/3081 MED RESH LAB

Alias: APGEA-01EE

Regulatory Driver: CERCLA

RIP Date: 5/30/2030

RC Date: 5/30/2030

RC Reason: Not assigned

SC Date: 9/30/2059

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/15/2003	10/1/2028
RD:	10/1/2028	5/30/2029
IRA:	--	--
RA(C):	6/1/2029	5/30/2030
RA(O):	--	--
LTM:	6/1/2030	9/30/2059

Site Narrative: The E32XX/E3100/E3081 buildings are located along the east side of Ricketts Point Road encompassing North and South Kings Creek Roads and Recruit Street in the Edgewood Area. These buildings were constructed during WWII over the former Fort Hoyle Training site. Building E3100 was built in the 1960s as a medical research laboratory and Building E3081 was constructed in 1979. In 1989 a 2,000-gallon steel holding tank (HMF91541), located on the east side of Building E3222, was abandoned-in-place and it was removed in 2000. The RI and FS were completed in 2018 and 2021, respectively. There are no shallow groundwater plumes or contributing sources to groundwater from the site; the Canal Creek Aquifer (EACC4A; HQAES # 24015.1101) in this area already has been studied and addressed via groundwater treatment system. The media of concern are soil (human health and ecological receptors) and sediment (ecological receptors). Contaminants of concern- Metals, pesticides, and polycyclic aromatic hydrocarbons (PAH). The remedial action is LUCs. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue LTM indefinitely. The anticipated remedy is excavation and off-site disposal. Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1086_EACC3D_BUILDING E3160 COMPLEX-CLUSTER 3D

Env Site ID: EACC3D

Cleanup Site: BUILDING E3160 COMPLEX-CLUSTER 3D

Alias: APGEA-01FF

Regulatory Driver: CERCLA

RIP Date: 10/15/2025

RC Date: 10/15/2025

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Low

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/15/2003	2/15/2025
RD:	2/15/2023	2/15/2025
IRA:	2/29/1992	3/31/1992
RA(C):	2/15/2025	10/15/2025
RA(O):	--	--
LTM:	10/15/2025	9/30/2055

Site Narrative: The Building E3160 Complex is located at the end of North Kings Creek Road in the Edgewood Area. Structures in this complex were built during WWI. Building E3160 was originally used as a medical research physics laboratory primarily for wound assessment. The research performed in other complex facilities includes fuel mixing and toxic laboratory work, incendiary research, and animal studies. Current activity at the site is low; smaller structures are either abandoned or used for storage. In 1992, Buildings E3164, E3165, E3176, and E3177 were demolished, and Building E3170-A was relocated as an interim removal action. Environmental sampling was performed directly underneath the removed buildings. The RI and FS were completed in 2018 and 2021, respectively. Contaminants of concern- Metals and pesticides. Media of concern- Soil and sediment. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue LTM indefinitely. The anticipated remedy is land use controls (LUC). Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness. Underlying groundwater is being addressed in site EACC4A-B (24015.1102).

24015.1087_EACC3E_BLDG E3300/E3330 LAB COMPLEX-CLUS

Env Site ID: EACC3E

Cleanup Site: BLDG E3300/E3330 LAB COMPLEX-CLUS

Alias: APGEA-01GG

Regulatory Driver: CERCLA

RIP Date: 5/2/2012

RC Date: 5/2/2012

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/15/2003	9/29/2008
RD:	9/15/2007	6/29/2011
IRA:	--	--
RA(C):	9/15/2007	5/2/2012
RA(O):	--	--
LTM:	5/3/2012	9/30/2054

Site Narrative: This site is located along the east side of Ricketts Point Road north of Beach Point Road in the Edgewood Area. Original facilities at the site were constructed during 1941 and 1942. The last of the structures was built in the mid-1960s. Building E3300 was built in 1965 and was referred to as the super toxic laboratory. The complex was built for research and development work related to chemical warfare. Activities at the complex have involved the use of toxic chemical agents, agent detection chemicals, decontamination chemicals, explosive compounds, pyrotechnic mixes, and obscurant smokes. Contaminants of concern- Arsenic. Media of concern- Sediment and surface water. The ROD for this site was finalized in September 2008, implementing LUCs. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, land use controls (LUC) and five-year reviews are conducted to ensure long-term protectiveness.

24015.1088_EACC3F_BUILDING E35XX AREA-CLUSTER 3F

Env Site ID: EACC3F

Cleanup Site: BUILDING E35XX AREA-CLUSTER 3F

Alias: APGEA-01HH

Regulatory Driver: CERCLA

RIP Date: 5/2/2012

RC Date: 5/2/2012

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/15/2003	9/29/2008
RD:	9/15/2007	6/29/2011
IRA:	--	--
RA(C):	9/15/2007	5/2/2012
RA(O):	--	--
LTM:	5/15/2012	9/30/2054

Site Narrative: Building E35XX encompasses 14.8 acres and is located southeast of the intersection of Ricketts Point Road and Beach Point Road in the Edgewood Area. Many of the buildings in this area were constructed during WWII and used as small laboratories and test/surveillance chambers. Contaminants of concern- arsenic. Media of concern- soils. The RI report covering this site was completed and found no risk under current and likely future military/industrial land use scenarios; however, there was potential risk to hypothetical future residents. RI sampling activities identified arsenic as the only contaminant detected consistently above the industrial soil risk-based concentration (RBC) in surface and subsurface soil. No significant ecological risks were determined at this site. The ROD for this site was finalized in September 2008, implementing LUCs. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1089_EACC3G_BLDG E360X/E361X/E362X AREA-CLUST

Env Site ID: EACC3G

Cleanup Site: BLDG E360X/E361X/E362X AREA-CLUST

Alias: APGEA-01II

Regulatory Driver: CERCLA

RIP Date: 10/15/2025

RC Date: 10/15/2025

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/15/2003	2/15/2025
RD:	8/15/2023	2/15/2025
IRA:	--	--
RA(C):	2/15/2025	10/15/2025
RA(O):	--	--
LTM:	10/15/2025	9/30/2055

Site Narrative: The Building E360X/E361X/E362X area is located along the north side of Beach Point Road, east of the Building E3330 Laboratory, in the Edgewood Area. Structures in this area were built after WWII and have been used for offices, laboratories, and material storage. There is insufficient information concerning the types of laboratories and R&D work conducted in this area; however, some of the reported laboratory work involved the use of pyrotechnic materials. The RI and FS were completed in 2018 and 2021, respectively. There are no unacceptable risks to human receptors. Sampling results reveal no shallow groundwater contamination plumes or contributing contaminant sources to groundwater from this site; the Canal Creek Aquifer (EACC4A HQAES #24015.1101) in this area is not contaminated. Contaminants of concern- Metals and pesticides. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue LTM indefinitely. The anticipated remedy is land use controls (LUC). Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1090_EACC3H_E3560 TEST CHAMBER COMPLEX-CLUSTE

Env Site ID: EACC3H

Cleanup Site: E3560 TEST CHAMBER COMPLEX-CLUSTE

Alias: APGEA-01JJ

Regulatory Driver: CERCLA

RIP Date: 9/4/2013

RC Date: 9/4/2013

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	9/26/2006
RD:	7/26/2006	8/7/2007
IRA:	--	--
RA(C):	9/15/2005	9/4/2013
RA(O):	--	--
LTM:	9/15/2013	9/30/2054

Site Narrative: The Building E3560 Test Chamber Complex is located along Beach Point Road in the Kings Creek Industrial Area in the Canal Creek Study Area. The Building E3560 Test Chamber Complex was constructed in 1955 and was rebuilt circa 1966. The facility has undergone modification and upgrades several times since 1966, with the most recent being in 1986. The 1.2-acre site also includes one other test chamber (Building E3566), a former caustic storage tank (E3563), and a former scrubber building (E3567). Contaminants of concern- Polycyclic aromatic hydrocarbons (PAH). Media of concern- Soil. The ROD was completed in 2006, implementing LUCs. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1091_EACC3I_BLDG E3570 ASSEMBLY PLANT-CLUSTER

Env Site ID: EACC3I

Cleanup Site: BLDG E3570 ASSEMBLY PLANT-CLUSTER

Alias: APGEA-01KK

Regulatory Driver: CERCLA

RIP Date: 5/2/2012

RC Date: 5/2/2012

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	9/30/2008
RD:	9/30/2007	6/29/2011
IRA:	--	--
RA(C):	9/30/2007	5/2/2012
RA(O):	--	--
LTM:	5/3/2012	9/30/2054

Site Narrative: The Building E3570 Assembly Plant (7.7 acres) is located along the south side of Beach Point Road, east of the Building E3560 Test Chamber Complex, in the Edgewood Area. This facility was constructed in 1953 as a munitions assembly plant. It has been used for production of bomb clusters and for vehicle contamination testing. Building E3570 has also been used as a laboratory. Machining and assembly-type work has continued at the site into recent years. Arsenic was the only contaminant that was detected above the industrial soil risk-based concentration (RBC). No significant ecological risks were determined at this site. The ROD was finalized in September 2008, implementing LUCs. Contaminant of concern- Arsenic. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, land use controls (LUC), and five-year reviews are conducted to ensure long-term protectiveness.

24015.1092_EACC3J_BLDG E3580 PYROTECH LDG FACILITY-

Env Site ID: EACC3J

Cleanup Site: BLDG E3580 PYROTECH LDG FACILITY-

Alias: APGEA-01LL

Regulatory Driver: CERCLA

RIP Date: 10/15/2035

RC Date: 10/15/2035

RC Reason: Not assigned

SC Date: 9/30/2065

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/15/2003	2/15/2035
RD:	2/15/2035	3/15/2035
IRA:	9/30/1990	9/30/1992
RA(C):	3/15/2035	10/15/2035
RA(O):	--	--
LTM:	10/15/2035	9/30/2065

Site Narrative: The Building E3580 Pyrotechnic Loading Facility is located southwest of the intersection of Beach Point Road and 57th Street in the Edgewood Area. Most of the site structures at this facility were built in 1951 and 1952. In 1952, the facility was placed into service and has been used continuously for R&D and evaluation of pyrotechnic mixtures, loading procedures, and munitions into which the pyrotechnic mixtures are loaded. Pyrotechnic mixtures loaded into munitions have included irritant and incapacitating chemical agents. Small quantities of explosive compounds have also been handled on-site. Other materials used on-site included pyrotechnic fuel materials, oxidizers, and dyes. Prior to 1986 decontamination and cubicle washout wastewater was discharged to the ground surrounding the building. In 1992, interim removal actions were completed to remove polychlorinated biphenyls (PCB) contaminated soil. Contaminants of concern- Perchlorate and pesticides/herbicides. Media of concern- Soils. Potential for off-site migration is not likely. The future land use is industrial.

RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue LTM indefinitely. The RI/FS is ongoing pending further investigation of an isolated perchlorate detection in a single well. The RD, RA(C), and LTM will resume once the RI/FS is completed. The anticipated remedy is LUCs. Since hazardous substances will remain above levels that are protective for unrestricted use, LUC and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1093_EACC3K-A_BUILDING E37XX COMPLEX-CLUSTER

Env Site ID: EACC3K-A

Cleanup Site: BUILDING E37XX COMPLEX-CLUSTER

Alias: APGEA-01MM

Regulatory Driver: CERCLA

RIP Date: 5/30/2030

RC Date: 5/30/2030

RC Reason: Not assigned

SC Date: 9/30/2059

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Low

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/15/2003	10/1/2028
RD:	10/1/2028	5/30/2029
IRA:	--	--
RA(C):	6/1/2029	5/30/2030
RA(O):	--	--
LTM:	6/1/2030	9/30/2059

Site Narrative: Building E37XX Complex is located north of the intersection of Beach Point Road and 57th Street in the Edgewood Area. Principal structures within this complex include Buildings E3724, E3726, and E3728. These structures were constructed during 1942 and 1943 for use as new pilot plant facilities. Support structures including a pilot filling tower, a pilot mixing building, and storage magazines were constructed in 1945. Building E37XX Complex facilities were used for experimental filling rather than process work. Experimental filling of plasticized white phosphorous (PWP) was performed at the complex during WWII. The 500-gallon underground wastewater tank located inside Building E3728 has been filled with flowable fill by Edgewood Research, Development and Engineering Center. The RI and FS were completed in 2018 and 2021, respectively. Sampling results reveal no shallow groundwater contamination plumes or contributing sources to groundwater from the site. Contaminants of concern- Zinc and pesticides. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue LTM indefinitely. The anticipated remedy is excavation and off-site disposal. Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1094_EACC3K-B_B-FIELD KINGS CREEK DUMP CLUSTE

Env Site ID: EACC3K-B

Cleanup Site: B-FIELD KINGS CREEK DUMP CLUSTE

Alias: EACC3K-B

Regulatory Driver: CERCLA

RIP Date: 5/30/2030

RC Date: 5/30/2030

RC Reason: Not assigned

SC Date: 9/30/2059

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Low

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/15/2003	10/1/2028
RD:	10/1/2028	5/30/2029
IRA:	--	--
RA(C):	6/1/2029	5/30/2030
RA(O):	--	--
LTM:	6/1/2030	9/30/2059

Site Narrative: The B-Field Kings Creek Dump is located southwest of Kings Creek and north of Building E3700 in the Edgewood Area. Demolition debris, chemical material, and miscellaneous junk were placed at the 8.3-acre site. RI sampling focused on surface debris piles drainage ditches and wetlands adjacent to Kings Creek. Shallow groundwater is absent from the site and there is no contaminant migration pathway to groundwater (Canal Creek Aquifer). The RI and FS were completed in 2018 and 2021, respectively. Contaminants of concern- Metals and pesticides. Media of concern- Soil and sediment. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue LTM indefinitely. The anticipated remedy is excavation and LUCs. Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1095_EACC3L_BLDG E3640 PROCESS LAB-CLUSTER 3L

Env Site ID: EACC3L

Cleanup Site: BLDG E3640 PROCESS LAB-CLUSTER 3L

Alias: APGEA-01NN

Regulatory Driver: CERCLA

RIP Date: 6/1/2028

RC Date: 9/30/2057

RC Reason: Not assigned

SC Date: 9/30/2057

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/15/2003	10/1/2026
RD:	10/1/2026	5/30/2027
IRA:	9/22/2009	8/15/2010
RA(C):	6/1/2027	5/30/2028
RA(O):	6/1/2028	9/30/2057
LTM:	--	--

Site Narrative: The Building E3640 Process Laboratory is located on the north side of Beach Point Road northeast of Building E3570 in the Edgewood Area. The facility was constructed in 1951 and 1952. From 1952 until 1978, the building was used as a process laboratory. Most of the work at the site involved preparation of materials or evaluation of production processes. Research involving the disposal of chemical agents was also performed. All buildings were demolished by 2008. Chemicals used at the site likely included all of the standard US military chemical agents and post-WWII experimental agents. Other miscellaneous chemicals (such as B-1 dye), manufacturing raw materials, and the intermediates of those materials were used or stored on-site. In 1995, the sumps were abandoned, and a vitrified clay pipeline and 310 tons of polychlorinated biphenyls (PCB) contaminated soil were removed. A time critical removal action (TCRA) was initiated in the fall of 2009. The TCRA activities were suspended in August 2010; USEPA Region 3 notified the Army to cease all activity due to the significantly high levels of PCB at the site. The RI and FS were completed in 2018 and 2021, respectively. This site will not reach UU/UE due to the following contaminants: groundwater (iron, trichloroethylene (TCE), and vinyl chloride); soil (Aroclor 1248, Aroclor 1254, dieldrin, and mercury). Contaminants of concern- Aroclor 1248, Aroclor 1254, pesticides, and metals. Media of concern- Soil and groundwater. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue RA(O) indefinitely. The anticipated remedy is soil excavation with off-site disposal and enhanced bioremediation in groundwater. Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1096_EACC3M-A_WASTEWATER TREATMENT AREA-CLUST

Env Site ID: EACC3M-A

Cleanup Site: WASTEWATER TREATMENT AREA-CLUST

Alias: APGEA-0100

Regulatory Driver: CERCLA

RIP Date: 10/15/2025

RC Date: 10/15/2025

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Low

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/15/2003	2/15/2025
RD:	8/15/2023	2/15/2025
IRA:	--	--
RA(C):	2/15/2025	10/15/2025
RA(O):	--	--
LTM:	10/15/2025	9/30/2055

Site Narrative: The Edgewood Wastewater Treatment Area-Cluster 3M is located off Beach Point Road in the Edgewood Canal Creek Study Area. Soil contaminants have been identified that are not related to the water treatment plant; therefore, the site was reopened per the strategy meeting with US Army Environmental Command in February 2011. The wastewater treatment plant was constructed in 1941/1942, upgraded three times between 1960 and 2020, and is still in operation. During WWII, Building E5238 (EACC2C) effluent, with high concentrations of 1,1,2,2-tetrachloroethane, was processed at the wastewater treatment plant. Wastewater characterization and biotoxicity study work during the 1980s indicated that there was no significant discharge of hazardous constituents from the treatment plant. The RI and FS were completed in 2018 and 2021, respectively. There are no unacceptable levels of risk to human health. Contaminant of concern- Pesticides. Media of concern- Soils. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA(C), and continue LTM indefinitely. The presumptive remedy is LUCs. Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1098_EACC3N_BEACH POINT TEST SITE-CLUSTER 3N

Env Site ID: EACC3N

Cleanup Site: BEACH POINT TEST SITE-CLUSTER 3N

Alias: APGEA-01PP

Regulatory Driver: CERCLA

RIP Date: 5/30/2028

RC Date: 9/30/2054

RC Reason: Not assigned

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	10/1/2026
RD:	5/7/1993	5/30/2027
IRA:	1/31/1993	1/31/1993
RA(C):	5/7/1993	5/30/2028
RA(O):	5/7/1993	9/30/2054
LTM:	--	--

Site Narrative: The Beach Point Test site is located on a small peninsula at the mouth of Kings Creek where the creek flows into Bush River in the Edgewood Area (EA). The Beach Point Test site includes the peninsula, areas south of Beach Point, and areas northeast of the EA Wastewater Treatment Plant (EACC3M-A). The test site has been used for a variety of military testing work, including firing tests of 4.2-inch mortar rounds in the 1940s, performance tests for pyrotechnic devices and smoke generators between 1945 and 1970, and WWII-era field testing of semi-permanent and mobile clothing impregnation process plants. Many of the waste generated from these tests were discharged directly into the Bush River. Volatile organic compounds (VOC) contamination of the peninsula's surficial aquifer has also spread into the Bush River offshore regions of the aquifer. An interim removal action occurred northeast of former Building E3861 in September 1992. The action was to mitigate the immediate hazard presented by four drums of fogging oils, an aboveground 500-gallon tank, drum rack, concrete block wall, and miscellaneous appurtenances. The Groundwater ROD for the Beach Point peninsula, signed in September 1997, included a technical impracticability waiver and long-term monitoring. The monitoring and LUCs requirements of the 1997 ROD are being conducted while the RI/FS for the portion of the site south of the peninsula is in progress. The RI and FS were completed in 2018 and 2021, respectively. Contaminants of concern- Metals and pesticides. Media of concern- Soil and groundwater. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY-Complete the RI/FS, RD, RA(C), and continue RA(O) indefinitely. The anticipated remedy for the soils portion (south of peninsula) is excavation and LUCs. Ongoing RA(O) for the groundwater (peninsula) portion of the site includes monitoring of groundwater sediments and surface water. Since hazardous substances will remain above levels in soils that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1099_EACC30_B-FIELD RANGE AREA-CLUSTER 30

Env Site ID: EACC30

Cleanup Site: B-FIELD RANGE AREA-CLUSTER 30

Alias: APGEA-01VV

Regulatory Driver: CERCLA

RIP Date: 5/2/2012

RC Date: 5/2/2012

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/2003	9/29/2008
RD:	9/30/2007	6/29/2011
IRA:	--	--
RA(C):	9/15/2007	5/2/2012
RA(O):	--	--
LTM:	5/3/2012	9/30/2054

Site Narrative: The B-Field Range Area is approximately 54.2 acres located along a trail southeast of Building E3580 and Beach Point Rd between the wastewater treatment plant and the Building E3580 Pyrotechnic Loading Facility and extends approximately 1,000 ft. south toward Bush River in the Edgewood Area. This site was an impact area for mortar and artillery testing from A-Field during the 1920s. It may have also been the site of sarin storage during the late-1940s. Contaminants of concern- Metals. Media of concern- Soil. UU/UE could not be achieved due to arsenic and mercury in soils. The ROD for this site was finalized in September 2008, implementing LUCs. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1100_EACC3P_MOSQUITO TEST GRID AREA-CLUSTER 3

Env Site ID: EACC3P

Cleanup Site: MOSQUITO TEST GRID AREA-CLUSTER 3

Alias: EACC3P

Regulatory Driver: CERCLA

RIP Date: 5/2/2012

RC Date: 5/2/2012

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/2003	9/29/2008
RD:	9/30/2007	6/29/2011
IRA:	--	--
RA(C):	9/30/2007	5/2/2012
RA(O):	--	--
LTM:	5/3/2012	9/30/2054

Site Narrative: The Mosquito Test Grid Area is 8.8 acres located east of Ricketts Point Road in the vicinity of Clearview Drive, southwest of Building E2100 in the Edgewood Area. The site was used in the late-1960s by USAEHA to develop pesticides for mosquito control. Mosquitoes were raised in 82 test ponds on-site and pesticides were applied to determine lethality to mosquito larvae. The ponds were constructed with black polyethylene. RI sampling (surface soil, subsurface, soil, and sediments) was conducted in the 2004/2005-time frame. The RI found no unacceptable risks to ecological receptors and industrial site users. The ROD was finalized in September 2008, implementing LUCs. Contaminants of concern- Arsenic. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1101_EACC4A_EAST AREA CC AQUIFER-CLUSTER 4A-A

Env Site ID: EACC4A

Cleanup Site: EAST AREA CC AQUIFER-CLUSTER 4A-A

Alias: EACC4A-A

Regulatory Driver: CERCLA

RIP Date: 4/30/2003

RC Date: 9/30/2054

RC Reason: Not assigned

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	7/31/2000
RD:	5/31/1999	8/31/2002
IRA:	--	--
RA(C):	2/28/2002	4/29/2003
RA(O):	4/30/2003	9/30/2054
LTM:	--	--

Site Narrative: The East Area Canal Creek Aquifer (CCA) is located between Kings Creek and Wise Road in the Edgewood Area (EA). The industrial area manufactured chemical warfare materiel (CWM), white phosphorus, and related compounds. A ROD signed in July 2000 addressed the volatile organic compounds (VOC) contamination within the East Canal Creek Area plume and described the initial treatment plant discharge to the surface water. The selected remedial action was groundwater treatment and LUCs. The treatment plant effluent is currently used as make-up water for the EA steam plant. The groundwater treatment plant began operation in April 2003. In 2008, the plant was shut down and major upgrades were performed including new absorptive resin and carbon polishing. The plant was restarted in January 2010. Contaminants of concern- VOCs. Media of concern- Groundwater. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue RA(O) indefinitely. RA(O) includes operation and maintenance of the groundwater treatment plant to address the plume of contaminated groundwater. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness. Information related to PFAS will be addressed under a future site.

24015.1102_EACC4A-B_WEST AREA CC AQUIFER-CLUSTER4A-

Env Site ID: EACC4A-B

Cleanup Site: WEST AREA CC AQUIFER-CLUSTER4A-

Alias: EACC4A-B

Regulatory Driver: CERCLA

RIP Date: 10/1/2033

RC Date: 9/30/2063

RC Reason: Not assigned

SC Date: 9/30/2063

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: High

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	10/1/2029
RD:	10/1/2029	9/30/2030
IRA:	--	--
RA(C):	10/1/2030	9/30/2033
RA(O):	10/1/2033	9/30/2063
LTM:	--	--

Site Narrative: This site consists of the West Canal Creek Aquifer (WCCA) and its associated Surficial Aquifer; the WCCA extends across the western portion of the West Canal Creek Study Area (CCSA). The WCCA groundwater runs north/south approximately along the current Hoadley Road; therefore, the WCCA is west of the groundwater divide. Historical activities in the CCSA involved organic solvents and former waste disposal practices included discharge via buried chemical sewer lines to discharge areas, the creek, and wetland. Multiple RIs have identified ten major source areas of volatile organic compounds (VOC) contributing to groundwater contamination. Contaminants of concern- VOCs, metals, and perchlorate. Media of concern- Groundwater. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue RA(O) indefinitely. Anticipated remedy is enhanced bioremediation and LUCs. Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness. Information related to PFAS will be addressed under a future site.

24015.1103_EACC5A_CANAL CREEK BED SED.SOURCE AREA C

Env Site ID: EACC5A

Cleanup Site: CANAL CREEK BED SED.SOURCE AREA C

Alias: EACC5A

Regulatory Driver: CERCLA

RIP Date: 5/30/2029

RC Date: 5/30/2029

RC Reason: Not assigned

SC Date: 9/30/2058

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/2003	10/1/2027
RD:	10/1/2027	5/30/2028
IRA:	9/30/2007	8/31/2015
RA(C):	6/1/2028	5/30/2029
RA(O):	--	--
LTM:	6/1/2029	9/30/2058

Site Narrative: Canal Creek Bed Sediment Source Area is located in the Edgewood Area. Buried legacy chemical sewer lines from upgradient sites are a potential source of contamination to the sediments. The RI collected numerous surface water and sediment samples along both the East Branch and West Branch of Canal Creek. The RI and FS were completed in 2018 and 2021, respectively. This site will not reach UU/UE due to the following contaminants: metals, pesticides, polychlorinated biphenyls (PCB), and polycyclic aromatic hydrocarbons (PAH). Media of concern- Sediment. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue LTM indefinitely. Anticipated remedy is capping and LUCs. Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness. Underlying groundwater is being addressed in site EACC4A-B (24015.1102).

24015.1104_EACC5B_KINGS CREEK SEDIMENT PESTICIDE SO

Env Site ID: EACC5B

Cleanup Site: KINGS CREEK SEDIMENT PESTICIDE SO

Alias: EACC5B

Regulatory Driver: CERCLA

RIP Date: 10/15/2025

RC Date: 10/15/2025

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/15/2003	2/15/2025
RD:	8/15/2023	2/15/2025
IRA:	--	--
RA(C):	2/15/2025	10/15/2025
RA(O):	--	--
LTM:	10/15/2025	9/30/2055

Site Narrative: Kings Creek is a tidal oligohaline creek in the eastern part of the Edgewood Area; it is 125 acres of open water that drains eastward to the Bush River. Much of the historic activity with potential impact to Kings Creek occurred in upgradient sites (EACC3A, 3C, 3D, 3G, 3J, 3K-A, 3K-B, and 3L). Construction of industrial facilities around Kings Creek began in the 1940s. Activities in the area consisted of medical research, toxic laboratory research, chemical agent process lab work, pilot-scale chemical agent process testing, and research and development for pyrotechnic mixtures and munitions loading. The RI and FS were completed in 2018 and 2021, respectively. Contaminants of concern- Metals and pesticides. Media of concern- Sediments. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue LTM indefinitely. The presumptive remedy is LUCs. Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1107_EACI00_CARROLL ISLAND STUDY AREA

Env Site ID: EACI00

Cleanup Site: CARROLL ISLAND STUDY AREA

Alias: APGEA-004

Regulatory Driver: CERCLA

RIP Date: 9/29/2004

RC Date: 9/29/2004

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	8/31/1991	9/30/1996
RD:	10/31/2000	6/30/2002
IRA:	8/31/1993	8/31/1994
RA(C):	6/30/2002	9/29/2004
RA(O):	--	--
LTM:	9/30/2004	9/30/2054

Site Narrative: The Carroll Island Study Area (CISA) is a land mass of approximately 855 acres located southwest of the Edgewood Peninsula across the Gunpowder River (a tributary of the Chesapeake Bay). In 1918, Carroll Island was acquired by the APG, but there is no evidence indicating that testing or training operations were conducted at the study area until 1944. From 1944 to 1972, Carroll Island was used as the primary open air chemical agent test site for the Edgewood Area. Chemical agent testing operations there included contamination and decontamination, dispersion and persistence studies, and chemical munitions tests. Prior to 1964, materials such as mustard, chlorobenzene, sarin, o-ethyl s-(2-(diisopropylaminoethyl) methylphosphonothiolate, white phosphorous (WP), and explosives were tested. Between 1961 and 1971, testing of lethal chemical agents, incapacitating agents, and smoke and incendiary materials was conducted. Waste from testing activities was discarded via dumping or burial on the island. The CISA contains areas of chemical warfare materiel (CWM)/unexploded ordnance (UXO), which could result in a potential release of constituents to the surrounding environment and the Chesapeake Bay due to the shallow water table, flooding, and shoreline erosion. In May 2001, a ROD was signed which called for LUCs and shoreline stabilization. The action was completed in 2007. Contaminants of concern- CWM/UXO, munitions, and explosives of concern (MEC). Media of concern- Groundwater, sediments, and soil. Potential for off-site migration is not likely. The future land use is natural resources management area and military use. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. LTM includes shoreline stabilization inspections and maintenance and UXO shoreline surveys. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1134_EAGQ00_GRACES QUARTERS STUDY AREA

Env Site ID: EAGQ00

Cleanup Site: GRACES QUARTERS STUDY AREA

Alias: APGEA-005

Regulatory Driver: CERCLA

RIP Date: 9/29/2002

RC Date: 9/29/2002

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	8/31/1991	8/31/1999
RD:	10/31/2001	6/30/2002
IRA:	8/31/1993	4/30/1994
RA(C):	6/30/2002	9/29/2002
RA(O):	--	--
LTM:	9/30/2002	9/30/2054

Site Narrative: The Graces Quarters Study Area (GQSA) consists of 476 acres situated on a peninsula on the west side of APG. From 1944 to 1971 chemical agent and biological simulant testing were performed here. From July 1964 through December 1971. Chemical agents, white phosphorous (WP), and decontaminating agents were released during testing activities. Specific sites pose a potential human health risk due to the presence of lead in the soil and volatile organic compounds (VOC) in the groundwater. Specific sites pose a potential ecological risk due to the presence of mercury in the soil. The GQSA contains areas of chemical warfare materiel (CWM)/ unexploded ordnance (UXO) which may result in a potential release of constituents to the surrounding environment and the Chesapeake Bay due to the shallow water table, flooding, and shoreline erosion. In May 2001, a ROD was signed for shoreline stabilization and implementing LUCs. The action was completed in 2007. Contaminants of concern- VOC, metals, and CWM/UXO. Media of concern- Soil and groundwater. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. LTM includes annual source area monitoring for VOC and natural attenuation. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1147_EAGQ02-D_SURFICIAL AQUIFER-CLUSTER 2

Env Site ID: EAGQ02-D

Cleanup Site: SURFICIAL AQUIFER-CLUSTER 2

Alias: APGEA-005B

Regulatory Driver: CERCLA

RIP Date: 10/31/2005

RC Date: 9/30/2054

RC Reason: Not assigned

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	8/31/1991	9/30/2004
RD:	7/31/2004	10/31/2005
IRA:	--	--
RA(C):	7/31/2004	10/31/2005
RA(O):	7/31/2004	9/30/2054
LTM:	--	--

Site Narrative: Graces Quarters is approximately 476 acres in size and is situated on a peninsula located on the west side of APG. From 1944-1971, Graces Quarters was used for chemical agent and biological simulant testing and decontaminating agents were also released during testing activities. Solid waste was buried in pits at disposal areas. The surficial aquifer consists of fine-to-medium sand, with small amounts of fine-to-medium gravel and layers of silt and silty clay. This aquifer overlies a confining layer of silty clay. In some areas the confining layer is absent. The RI was completed in 1998 and the ROD was completed in 2004. The remedy was an in-situ recirculation system, circulating vitamin B12. Although an in-situ groundwater remediation system is in place to address both the surficial and middle aquifers, it has become ineffective. Contaminants of concern- Volatile organic compounds (VOC). Media of concern- Groundwater. The remedial action is currently an in-situ groundwater system and LUCs. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue RA(O) indefinitely. A PP and ROD amendment are being developed (2024) which recommends zero valent iron, in-situ bio, and continued LUCs. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1153_EAJF00_J-FIELD STUDY AREA

Env Site ID: EAJF00

Cleanup Site: J-FIELD STUDY AREA

Alias: APGEA-003

Regulatory Driver: CERCLA

RIP Date: 4/29/2004

RC Date: 4/29/2004

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	3/31/2001
RD:	4/30/2001	9/30/2001
IRA:	5/31/1992	12/31/1999
RA(C):	10/31/2001	4/29/2004
RA(O):	--	--
LTM:	4/30/2004	9/30/2054

Site Narrative: J-Field is approximately 460 acres located at the end of the Edgewood Peninsula in the Edgewood Area and was used for military purposes as early as 1917; however, the use of the site became more active between WWII and the late-1970s. The use of the site included testing of high explosives and chemical munitions, testing of conventional munitions on structures and buildings, thermal (open burning), and chemical decontamination of chemical munitions, open detonation, and disposal. Chemicals disposed of at J-Field included nerve agents, blister agents, riot control agents, white phosphorous (WP), chlorinated solvents, and drummed chemical wastes generated by research laboratories, process laboratories, pilot plants, and machine and maintenance shops. The ROD was signed in September 2001. The remedy was a technical impracticability waiver, soil removal, phytoremediation, free phase dense non-aqueous phase liquid (DNAPL) recovery, implementing LUCs, groundwater monitoring, and tree/soil cover maintenance. Contaminants of concern- Metals, volatile organic compounds (VOC), and semi-VOC. Media of concern- Soils and groundwater. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1173_EALC05-C_CONCRETE SLAB DUMP AREA 1-CLUST

Env Site ID: EALC05-C

Cleanup Site: CONCRETE SLAB DUMP AREA 1-CLUST

Alias: APGEA-013A

Regulatory Driver: CERCLA

RIP Date: 9/30/2004

RC Date: 9/30/2004

RC Reason: Study Completed, No Cleanup Required

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	9/30/2000
RD:	7/31/2001	7/31/2002
IRA:	11/30/1994	3/31/1995
RA(C):	3/31/2003	9/30/2004
RA(O):	--	--
LTM:	9/30/2004	9/30/2054

Site Narrative: Concrete Slab Dump Area 1 lies immediately south of the Concrete Slab Test Area in the Edgewood Area. From WWII until the early-1970s it was used as a waste disposal site. During the 1970s and early-1980s, the Army conducted limited cleanup activities at the site and removed munition items. The dump area contains a small bunker, fence posts, and several mounds of scrap metal from weapons testing activities. There are mounds containing buried metallic wastes, scrap metal, and test item remnants from the southern edge of the concrete slab to about 200 ft. in a southeast-to-northwest direction. Field sampling activities were performed under FFS to further define the extent of metals contamination in the soil. Elevated concentrations of metals were found in the soil, including lead and arsenic. The FFS was completed in 2001. In January 2003, a DD was completed which stated that waste-contaminated soil will be removed and LTM of downgradient sediments will continue. The removal was funded in 2003 and was completed in 2006. In August 2004, the ROD was signed implementing LUCs. Contaminants of concern- Metals (lead and arsenic). Media of concern- Soil and sediment. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. LTM includes quarterly inspections, site maintenance of the area, and the five-year review. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1179_EALC09-F_SURFICIAL AQUIFER-CLUSTER 9

Env Site ID: EALC09-F

Cleanup Site: SURFICIAL AQUIFER-CLUSTER 9

Alias: EALC09-F

Regulatory Driver: CERCLA

RIP Date: 9/29/2008

RC Date: 9/30/2054

RC Reason: Not assigned

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	9/30/2006
RD:	9/30/2005	9/30/2007
IRA:	--	--
RA(C):	9/30/2005	9/29/2008
RA(O):	9/30/2005	9/30/2054
LTM:	--	--

Site Narrative: Surficial Aquifer - Cluster 9 is a 3-acre groundwater plume, located on Belardi Road near building E6832. Groundwater sampling results have identified TCE, 1,1-dichloroethene, and nickel in the surficial aquifer of the Cluster 9 Nike Missile Battery Control Area at concentrations exceeding maximum contaminant levels (MCL). The likely source of these volatile organic compounds (VOC) is from past disposal of chlorinated solvents within the northern portion of the Nike Control Dry Wells, near Buildings E6833 and E6836. In September 2007, the ROD was signed to address VOC. Soil vapor extraction (SVE), RA(O), and LUCs were implemented for the Nike Control Area groundwater site. An interim response action completion report was completed in September 2008. Groundwater monitoring ensures concentrations are decreasing and will meet MCLs in the future. The LUCs prohibits groundwater wells to be installed within the plume area. Contaminants of concern- Chlorinated solvents and nickel. Media of concern- Groundwater. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue RA(O) indefinitely. RA(O) includes natural attenuation groundwater monitoring and LUCs. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1183_EALC13-D_SURFICIAL AQUIFER-CLUSTER 13

Env Site ID: EALC13-D

Cleanup Site: SURFICIAL AQUIFER-CLUSTER 13

Alias: EALC13-D

Regulatory Driver: CERCLA

RIP Date: 11/1/2030

RC Date: 11/1/2059

RC Reason: Not assigned

SC Date: 11/1/2059

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	10/1/2026
RD:	10/1/2026	11/1/2027
IRA:	--	--
RA(C):	10/2/2026	11/1/2030
RA(O):	11/1/2030	11/1/2059
LTM:	--	--

Site Narrative: The surficial aquifer Cluster 13 is located near building E1047 in the Edgewood Area. Cluster 13 was the site of extensive decontamination training. Cluster 13 contains chlorinated solvent contamination in a plume of about 25 acres and up to 96,000 ug/L total volatile organic compounds (VOC) in the surficial aquifer. The Cluster 13 RI recommended plume delineation and implementation of an FFS to evaluate potential VOC contaminated groundwater remedial alternatives. In October 1998 several FFS field activities were completed, including the collection of groundwater, surface water, and sediment pore water samples; installation of drive points; DPT sampling; sampling for natural attenuation parameters; and collection of groundwater elevation data. The field activities indicate that natural attenuation processes are very active in this area, destroying much of the contamination as the groundwater discharges into the neighboring marsh areas. Between 2012 and 2013 a pilot test was conducted using electrical resistance heating. The results indicated short term ineffectiveness but yielded long-term benefits. The following supplemental investigations were completed; 1,4-dioxane investigation, soil boring investigation, and MW investigation. Contaminants of concern- VOC. Media of concern- Groundwater. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA(C), and continue RA(O) indefinitely. Anticipated remedies include zero valent iron, in-situ bio, and LUCs. Since hazardous substances will remain above levels that are protective for unrestricted use, LUC inspections and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1188_EANS01-A_UNCONFINED GROUNDWATER

Env Site ID: EANS01-A

Cleanup Site: UNCONFINED GROUNDWATER

Alias: APGEA-007

Regulatory Driver: CERCLA

RIP Date: 10/31/1999

RC Date: 9/30/2054

RC Reason: Not assigned

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	1/31/1992	9/30/1996
RD:	6/30/1996	2/28/1999
IRA:	--	--
RA(C):	1/31/1999	10/30/1999
RA(O):	10/31/1999	9/30/2054
LTM:	--	--

Site Narrative: The Nike Site area is located in the northeast portion of the Edgewood Area at the northeast end of Belardi Road. There is a surficial aquifer of hydraulically unconfined groundwater in the upper 40 ft of stratigraphy at the Nike Site. Groundwater sampling identified a plume of volatile organic compounds (VOC) in the surficial aquifer. Based on collected water level data, the predominant direction of groundwater flow in the vicinity of the site is to the south-southeast; however, a small component of groundwater flows north toward the installation boundary. The VOC plume extends towards the boundary. The groundwater in this area is not used as a drinking water source. In September 1996 a ROD was signed for the installation of extraction wells and construction of a groundwater remediation system to treat the VOC. In October 1998 an explanation of significant differences (ESD) was issued to change the treatment technology from reductive dehalogenation to liquid-phase carbon adsorption. In January 2000 the treatment system began 24-hour operation. The plant ran until October 2013 when asymptotic conditions prevailed. A 2015 ESD consisted of a combination of soil farming has been completed and chemical oxidation is ongoing. Contaminants of concern- VOC. Media of concern- Groundwater. The remedial action is LUCs. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RA(O) indefinitely. Sodium percarbonate socks are installed in targeted wells to treat groundwater. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1191_EANS01-D_SOUTHWEST LAUNCH LANDFILL

Env Site ID: EANS01-D

Cleanup Site: SOUTHWEST LAUNCH LANDFILL

Alias: APGEA-007

Regulatory Driver: CERCLA

RIP Date: 10/30/1998

RC Date: 10/30/1998

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	1/31/1992	9/30/1996
RD:	6/30/1996	6/30/1998
IRA:	12/31/1994	5/31/1995
RA(C):	9/30/1997	10/30/1998
RA(O):	--	--
LTM:	10/31/1998	9/30/2054

Site Narrative: The 1.1-acre Southwest Launch Landfill is located on the north end of Belardi Road and primarily contains construction debris and some asbestos materials. Several 55-gallon drums, labeled hydraulic fluid, were found at the site lying empty on their sides. This suggests waste may have been disposed at the site. An IRA was completed removing waste drums. The ROD called for an impermeable cap consisting of the following layers - the waste materials, a cover soil layer, layers of geotextile (including a gas collection layer), an impermeable clay (bentonite) layer, an impermeable low-density polyethylene layer, a water conveyance layer, a fill material layer, a topsoil layer, and a layer of vegetation over the top and implementing LUCs. Construction of the former Nike site Launch Southwest Landfill cap and a RACR were completed. Contaminants of concern- Volatile organic compounds (VOC), metals, and semi-VOC. Media of concern- soil and groundwater. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. LTM includes inspections and maintenance of the landfill cap groundwater monitoring and LUCs. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1199_EAOE08_G-FIELD WASTEWATER TREATMENT AREA

Env Site ID: EAOE08

Cleanup Site: G-FIELD WASTEWATER TREATMENT AREA

Alias: APGEA-009V

Regulatory Driver: CERCLA

RIP Date: 12/17/2012

RC Date: 12/17/2012

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	6/30/1996	5/15/2011
RD:	8/15/2011	7/15/2012
IRA:	6/30/1992	11/30/1992
RA(C):	2/15/2012	12/17/2012
RA(O):	--	--
LTM:	12/18/2012	9/30/2054

Site Narrative: Cluster 8 (G-Field Wastewater Treatment Area) consists of 11 sites within the 495-acre Wright Creek Investigation Area located on the Gunpowder Neck Peninsula along the Gunpowder River. Primary sources of contamination included testing, training, and firing activities waste dumping material storage sites, a wastewater treatment facility, and weapons assembly. Munitions disposal occurred in the northern portion of the cluster. An interim removal action was conducted in 1992 to remove surface debris, more than 80 drums, and a small wooden shed. RI sampling identified only sporadic and isolated detections of contaminants; various metals in surface media are present above background levels. Risk assessments indicate that there are no unacceptable levels of risk to future military/industrial workers or to ecological receptors; however, UU/UE was not achieved. Contaminants of concern- Metals and munitions and explosives of concern (MEC). Media of concern- Sediment, soil, and surface water. The ROD was finalized in May 2011, implementing LUCs. RACR was completed in 2012. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1200_EAOE12_H-FIELD WASH RACK AND STORAGE ARE

Env Site ID: EAOE12

Cleanup Site: H-FIELD WASH RACK AND STORAGE ARE

Alias: APGEA-009D

Regulatory Driver: CERCLA

RIP Date: 12/17/2012

RC Date: 12/17/2012

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	6/30/1990	9/26/2011
RD:	9/26/2011	10/15/2011
IRA:	--	--
RA(C):	2/15/2012	12/17/2012
RA(O):	--	--
LTM:	12/18/2012	9/30/2054

Site Narrative: Cluster 12 (H-Field Washrack and Storage Area) is located within the Western Shore Investigation Area. The Western Shore Investigation Area consists of six sites on 334 acres within the western portion of the Other Edgewood Areas Study Area that were grouped into Cluster 12. The Investigation Area includes the western portions of military test ranges- H-Field, I-Field, and the extreme northwestern portion of J-Field. Ranges in the Investigation Area have been used since 1918 for military testing and training, including impact areas for mortar and artillery ordnance, and vehicle testing. Primary sources of contamination in the Western Shore Investigation Area included testing, training, and firing activities waste dumping material storage sites and wastewater treatment systems. Field investigations conducted from 1996 to 2008 identified only sporadic and isolated detections of contaminants within the Investigation Area. Contaminants of concern- Petroleum, oil, lubricants (POL), and metals. Media of concern- Soil. Field investigations identified only sporadic and isolated detections of contaminants; various metals in surface media are present above background levels. Risk assessments indicate that there are no unacceptable levels of risk to future military/industrial workers or to ecological receptors; however, UU/UE was not achieved. The ROD was finalized, implementing LUCs. RACR was completed in 2012. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1202_EAOE19_FORT HOYLE TRAINING AREA-CLUSTER

Env Site ID: EAOE19

Cleanup Site: FORT HOYLE TRAINING AREA-CLUSTER

Alias: APGEA-009W

Regulatory Driver: CERCLA

RIP Date: 5/1/2023

RC Date: 9/30/2054

RC Reason: Not assigned

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: High

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	6/30/1996	11/22/2022
RD:	7/15/2010	4/1/2023
IRA:	11/30/1993	11/30/2013
RA(C):	7/15/2010	5/1/2023
RA(O):	12/10/2010	9/30/2054
LTM:	--	--

Site Narrative: Cluster 19 (Fort Hoyle Training Area) is located within the Gun Club Creek investigation area south of building E4228. The training is known to have included the use of chemical warfare materiel (CWM). Chemical odors observed in the 1980s during the construction of the wheeled vehicle facility in the Fort Hoyle Area prompted sampling and analysis of the site. Other potential sources of contamination in the area are the Douglas Road munitions disposal site and nine drum and junk dump sites. Surface water, sediment, surface and subsurface soil, bioassay, and DPT groundwater sampling efforts have been conducted in support of the RI. Metals, polycyclic aromatic hydrocarbons (PAH), and pesticides have been detected above ecological risk levels in soil. Thiodiglycol was detected at 9,370 ppb. Sustained lead concentrations in surface water ranging up to 63 ppb above ecological risk levels have been detected. In 2004 further characterization of the thiodiglycol site and excavation were performed to remove waste and contaminated soil at the nine drum and junk sites. The volatile organic compounds (VOC) plume was addressed in the ROD for Cluster 19 Groundwater (signed in September 2007) selected monitoring and LUCs. A non-time critical removal action was conducted in 2016, at the Douglas Road Munitions Disposal Site to address unacceptable risks to human health and/or ecological receptors in soil (metals, PAH, and polychlorinated biphenyls (PCB)); however, UU/UE was not achieved. The soils ROD was signed in 2022, implementing LUCs. Contaminants of concern- Metals, PAHs, VOC, CWM, and pesticides. Media of concern- Groundwater and soils. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue RA(O) indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1209_EAOE29_MAXWELL POINT TEST SITE CLUSTER 2

Env Site ID: EAOE29

Cleanup Site: MAXWELL POINT TEST SITE CLUSTER 2

Alias: APGEA-09EE

Regulatory Driver: CERCLA

RIP Date: 4/4/2022

RC Date: 9/30/2054

RC Reason: Not assigned

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1999	9/15/2014
RD:	10/15/2014	9/15/2015
IRA:	--	--
RA(C):	3/15/2015	4/4/2022
RA(O):	4/5/2022	9/30/2054
LTM:	--	--

Site Narrative: Cluster 29 (Maxwell Point Test Site) encompasses 36 acres on the Maxwell Point peninsula. The Gunpowder River surrounds the Cluster on the north, west, and south sides of the peninsula. Testing on the point has included smoke generator testing munitions firing to the Graces Quarters impact area, drop/slide testing of cargo containers, grenade testing (drop tower with a large water pit), and a variety of testing that required bomb proofs. The ROD was finalized September 2014; the selected remedial action was soil removal and off-site disposal in-situ and ex-situ soil treatment and bioremediation of groundwater and LUCs. The soil remediation was completed and LUCs have been implemented; however, UU/UE was not achieved. Groundwater remediation including in-situ soil mixing (not ex-situ) treatment and soil injections are ongoing. Hot spot removal at Buildings E7340/E7350 Test Site and Smoke Generator Debris Site was completed in 2016. The RACR was completed April 2022. Contaminants of concern- Volatile organic compound (VOC) and metals. Media of concern- Groundwater and soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue RA(O) indefinitely. RA(O) includes injections, monitoring, and groundwater sampling. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1210_EAOE30_C-FIELD MUNITIONS BURIAL SITE CLU

Env Site ID: EAOE30

Cleanup Site: C-FIELD MUNITIONS BURIAL SITE CLU

Alias: APGEA-009X

Regulatory Driver: CERCLA

RIP Date: 12/17/2012

RC Date: 12/17/2012

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/2000	9/26/2011
RD:	2/29/2012	7/31/2012
IRA:	--	--
RA(C):	2/15/2012	12/17/2012
RA(O):	--	--
LTM:	12/18/2012	9/30/2054

Site Narrative: Cluster 30 (C-Field Munitions Burial Site) consists of three sites located within the 327-acre Doves Cove Investigation Area, within the northern portion of the Other Edgewood Areas Study Area. Buildings E1407 and E1415 are located in the northern portion of C-Field, east of the intersection of Gansz and Ricketts Point Roads. They were built during WWI and used for storage and maintenance in support of miscellaneous C-Field test activities. The wastewater treatment system is comprised of a 1,000-gal septic tank with an associated leachate/drain field. Small quantities of hydraulic fluid scrap metals and equipment cleaning solvents would have been handled at the site. Since 1918, test ranges in the Doves Cove Investigation Area have been used for military testing and training activities. Field investigations conducted in several phases from 1996 to 2008 identified only sporadic and isolated detections of contaminants within the Doves Cove Investigation Area. They do not pose unacceptable risk to future military/industrial workers or the ecosystem; however, UU/UE was not achieved. Contaminant of concern- Metals. Media of concern- Soil. The ROD was finalized in September 2011, implementing LUCs. RACR was completed in 2012. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1214_EAOE39_C-FIELD WASTEWATER SYSTEM CLUSTER

Env Site ID: EAOE39

Cleanup Site: C-FIELD WASTEWATER SYSTEM CLUSTER

Alias: APGEA-009Y

Regulatory Driver: CERCLA

RIP Date: 12/17/2012

RC Date: 12/17/2012

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/2000	9/26/2011
RD:	10/31/2000	7/31/2012
IRA:	--	--
RA(C):	10/31/2000	12/17/2012
RA(O):	--	--
LTM:	12/18/2012	9/30/2054

Site Narrative: Cluster 39 (C-Field Wastewater System) consists of two sites located within the 327-acre Doves Cove Investigation Area within the northern portion of the Other Edgewood Areas Study Area. Building E1400 Wastewater System is within the B-Field Area east of Ricketts Point Road and slightly northwest of Wilson Point Cove. It was constructed during WWI for use as maintenance facilities. The Munitions Remnants Disposal Area Site is north of Building E1400 along a former trail to B-Field. It consisted of four dirt mounds and three piles of munition fragments and was removed in 2008. Field investigations conducted in several phases from 1996 to 2008 identified only sporadic and isolated detections of contaminants within the Doves Cove Investigation Area. Various metals were present in surface media but do not pose unacceptable risk to future military/industrial workers or the ecosystem; however, UU/UE was not achieved. Contaminant of concern- Metals. Media of concern- Soil. The ROD was finalized in September 2011, implementing LUCs. RACR was completed in 2012. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1223_EAOE51_K-FIELD PISTOL RANGE CLUSTER 51

Env Site ID: EAOE51

Cleanup Site: K-FIELD PISTOL RANGE CLUSTER 51

Alias: APGEA-09AA

Regulatory Driver: CERCLA

RIP Date: 12/17/2012

RC Date: 12/17/2012

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	12/31/1999	7/12/2011
RD:	12/31/1999	7/15/2011
IRA:	--	--
RA(C):	12/15/1999	12/17/2012
RA(O):	--	--
LTM:	12/18/2012	9/30/2054

Site Narrative: Cluster 51 (K-Field Pistol Range) is located within the Wright Creek Investigation Area bordered by the Gunpowder River shoreline and Hoadley Road, at the intersection of Hoadley and Gansz Roads. The range was established during WWII for training and recreational purposes and was used until the 1970s. The range safety fans overlapped portions of the Gunpowder River. Contaminants of concern- Metals, polycyclic aromatic hydrocarbons (PAH), chemical agent degradation products, and pesticides. Media of concern- Sediment soil and surface water. Field investigations identified sporadic and isolated detections of contaminants. Risk assessments indicate no unacceptable levels of risk to future military/industrial workers or to ecological receptors; however, UU/UE was not achieved. The ROD was finalized in July 2011, implementing LUCs. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1227_EAOF01_OLD O-FIELD GWTS-OU1

Env Site ID: EAOF01

Cleanup Site: OLD O-FIELD GWTS-OU1

Alias: APGEA-002A

Regulatory Driver: CERCLA

RIP Date: 8/16/2027

RC Date: 9/30/2056

RC Reason: Not assigned

SC Date: 9/30/2056

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	12/15/2026
RD:	--	--
IRA:	9/30/1991	12/15/2026
RA(C):	12/16/2026	8/16/2027
RA(O):	8/16/2027	9/30/2056
LTM:	--	--

Site Narrative: The Groundwater Treatment System (Building E1478) addresses a plume of contaminated groundwater which extends from the source area (EAOF02) to Watson Creek (EAOF03) in a shallow water table and a shallow confined aquifer beneath Old O-Field, located in the Edgewood Area. The source of contamination is an area of about 4.5 acres which was used during the 1940s and 1950s to dispose of chemical warfare agents, munitions, contaminated equipment, and miscellaneous wastes. Groundwater contaminants include chemical warfare agents, degradation products, metals, chlorinated aliphatic hydrocarbons, and aromatic and nitroaromatic compounds. In September 1991, an interim ROD was signed to address this contamination. The action was the installation of downgradient extraction wells and the construction of a groundwater treatment facility (GWTF). The treatment train in the GWTF includes chemical precipitation for metals removal and ultraviolet oxidation, followed by liquid phase carbon absorption for treatment of volatile organic compounds (VOC). The treated groundwater is discharged to the Gunpowder River. An ESD (signed March 2005) addressing non-pumping of the upper confined aquifer and details the modified organics treatment system. In 2011, the treatment plant polymer system upgrade was completed. Contaminants of concern- Metals, chemical warfare agents, degradation products, and VOCs. Media of concern- Groundwater. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, IRA, RA(C), and continue RA(O) indefinitely. It is anticipated that the interim remedy will become the final remedy. RA(O) includes long-term operation and maintenance to address the contaminated groundwater. Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1228_EAOF02_OLD O-FIELD SOURCE AREA-OU2

Env Site ID: EAOF02

Cleanup Site: OLD O-FIELD SOURCE AREA-OU2

Alias: APGEA-002B

Regulatory Driver: CERCLA

RIP Date: 8/16/2027

RC Date: 8/16/2027

RC Reason: Not assigned

SC Date: 9/30/2056

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	12/31/1989	12/15/2026
RD:	--	--
IRA:	9/30/1994	12/15/2026
RA(C):	12/16/2026	8/16/2027
RA(O):	--	--
LTM:	8/16/2027	9/30/2056

Site Narrative: The Old O-Field Source area is a 4.5-acre disposal site located adjacent to Watson Creek (EAOF03) in the Edgewood Area. The area was first used in the early-1940s for periodic disposal of waste materials from US Army operations. From 1942 to 1953 unlined and uncovered pits and trenches were dug and used to dispose of bulk chemical agents (CA), munitions, contaminated equipment, and miscellaneous hazardous waste. Disposed materials included lethal CA, incapacitating agents, smoke incendiary materials, and explosive compounds. In September 1994, an interim ROD was signed to address the potential for an accidental release of chemicals into the air. The selected remedy included construction of a permeable sand cover over the landfill designed to mitigate potential explosions and air releases of CA. In September 1998, construction of the cover was completed. A 2005 ESD addressed non-utilization of the subsurface air monitoring system, non-utilization of the surface sprinklers for a treatability study, and addition of a subsurface trickling system. The cap continues to be maintained while the final PP and ROD are being completed. Contaminants of concern- CA, smoke incendiary materials, explosive compounds, volatile organic compounds (VOC), and metals. Media of concern- Soils. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, IRA, RA(C), and continue LTM indefinitely. LTM includes permeable cover maintenance, inspections, and LUCs. Sampling is conducted every five years to support the five-year review. Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1229_EAOF03_WATSON CREEK SEDIMENT & SW-OU3

Env Site ID: EAOF03

Cleanup Site: WATSON CREEK SEDIMENT & SW-OU3

Alias: APGEA-002C

Regulatory Driver: CERCLA

RIP Date: 10/30/1998

RC Date: 10/30/1998

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	9/30/1997
RD:	7/15/1997	9/30/1997
IRA:	--	--
RA(C):	9/30/1997	10/30/1998
RA(O):	--	--
LTM:	10/31/1998	9/30/2054

Site Narrative: Watson Creek is a 60-acre estuarine water body located adjacent to the Old O-Field Source area (EAOF02) in the Edgewood Area. Watson Creek receives surface water runoff and groundwater discharge from O-Field (EAOF01, EAOF02, and EAOF04) and other adjacent range areas. Watson Creek discharges to the Gunpowder River which in turn drains into the Chesapeake Bay. Contaminants of concern- Metals and pesticides. Media of concern- Sediments and surface water. In September 1997, the final ROD was signed implementing institutional controls, public education programs, LTM of site conditions, and five-year reviews. Monitoring activities included sediment sampling for chemical and bioassay analysis, fish tissue bioaccumulation studies, and storm monitoring. The sampling frequency has been reduced to every five years. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. LTM includes inspections, monitoring, and sampling. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1230_EAOF04_NEW O-FIELD GW AND SOURCE AREA-OU

Env Site ID: EAOF04

Cleanup Site: NEW O-FIELD GW AND SOURCE AREA-OU

Alias: APGEA-002D

Regulatory Driver: CERCLA

RIP Date: 4/15/2012

RC Date: 11/30/2018

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	9/30/2009
RD:	3/31/2008	9/30/2009
IRA:	10/31/2001	4/30/2005
RA(C):	9/30/2008	4/15/2012
RA(O):	12/31/2009	11/30/2018
LTM:	11/30/2018	9/30/2054

Site Narrative: New O-Field Groundwater and Source Area located south/west of Watson Creek in the Edgewood Area was used from 1950 to the late-1970s as a destruction, disposal, and training area. Disposed materials reportedly included explosives, acids, research samples, mustard and white phosphorous (WP)-filled shells, and other chemical warfare materiel (CWM). Burning in trenches was the primary disposal method. There are 10 covered former disposal/burn trenches at the site and two open burn trenches remain. In April 1997, a brush fire exposed previously unknown disposed materials including construction waste, unexploded ordnance (UXO), burn pit pushout, and potential CWM. The newly exposed materials more than doubled the size of the disposal area previously defined as New O-Field, from approximately five acres to upwards of 20 acres. Contaminants of concern- Metals, solvents, polycyclic aromatic hydrocarbons (PAH), pesticides, dioxins/furans, CWM degradation products, and explosives. Media of concern- Soil, surface water, sediment, and groundwater. From 2001 through 2005, a non-TCRA addressed the burn pit pushout area. Arsenic was the only inorganic detected above industrial soil screening level (at a maximum concentration of 5.6 mg/kg). The ROD was signed in 2009. The remedial actions included capping trench areas, implementing institutional controls, continuing groundwater monitoring, installation of fence/warning sign, and construction of a permeable cover, sediment cover, bio-enhancement barrier, and wetland buffer. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. LTM includes groundwater monitoring maintenance of the landfill cover groundwater bio-enhancement barrier if needed and LUCs. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1232_EAWW00_WESTWOOD AREA

Env Site ID: EAWW00

Cleanup Site: WESTWOOD AREA

Alias: EAWW00

Regulatory Driver: CERCLA

RIP Date: 9/29/2007

RC Date: 9/29/2007

RC Reason: Other

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	1/31/1990	9/29/2007
RD:	--	--
IRA:	--	--
RA(C):	--	--
RA(O):	--	--
LTM:	9/30/2007	9/30/2054

Site Narrative: The Westwood Area (WSA) (850 acres) is located in northwestern Edgewood Area, bounded to the north and west by the Installation boundary, south by the Gunpowder River, and east by Canal Creek. The WSA was used from 1918 to the 1970s for a variety of testing and training activities, material storage, manufacturing and munitions assembly operations, and waste disposal activities. The area west of Reardon Inlet was historically an impact area for incendiary bomb testing, static testing of bombs and grenades, mustard contamination/decontamination, demilitarization, sealed source radiological testing and training activities, and radiological waste processing operations. The area east of Reardon Inlet contained chlorine and gas mask manufacturing facilities, laboratories, radiological vulnerability test sites, and storage areas. Contaminants of concern- Volatile organic compounds (VOC), inorganic compounds, and radiological compounds. Media of concern- Soil and groundwater. Two RODs were signed for Westwood; the last ROD was signed in 2007, implementing LUCs. The selected remedial actions were as follows- 1.) Hog Point- soil excavation to mitigate risks from arsenic in soil and prevent migration to groundwater and groundwater LTM; 2.) WW-90 Fill Area- soil covers over the fill area and sediment LTM; and 3.) LUCs to prevent residential land use and groundwater use. All Westwood sites were closed and incorporated into site EAWW00. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. LTM includes sediment sampling, soil cover maintenance, groundwater monitoring, shoreline stabilization inspections, and LUCs. Since hazardous substances remain above levels that are protective for unrestricted use, LUCs and five-year reviews are conducted to ensure long-term protectiveness.

24015.1288_CCAPG00345_BUILDING 345

Env Site ID: CCAPG00345

Cleanup Site: BUILDING 345

Alias: APG095F126

Regulatory Driver: RCRA-I

RIP Date: 11/30/2001

RC Date: 1/31/2009

RC Reason: All Required Cleanup(s) Completed

SC Date: 10/16/2025

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
ISC:	1/31/1994	1/31/1994
INV:	1/31/1994	1/31/1994
CAP:	1/31/1994	9/30/1994
DES:	9/30/1994	12/31/1994
IRA:	7/31/1995	9/30/2000
IMP(C):	9/30/2000	11/30/2001
IMP(O):	11/30/2001	1/31/2009
LTM:	1/31/2009	10/15/2025

Site Narrative: Building 345 is located in the Aberdeen Area off Collieran Road. In March 1993, a 1,000-gallon heating oil underground storage tank was removed, and a monitoring well was installed. A soil sample collected from the tank excavation was below regulatory levels for petroleum constituents. In 1994, a 70,000 gallon above ground storage tank malfunctioned and released approximately 10,000 gallons of fuel oil onto the ground surface at the site. Between 1994 and 1998 three additional monitoring wells were installed on-site for a total of 25 monitoring/recovery wells. A groundwater pump-and-treat system with bioventing was installed and began operation in 1998. In 2002, the extractive bioventing system was discontinued. An August 2010 sampling event concluded that LPH levels in the subsurface were decreasing. MDE approved abandonment of all monitoring wells and a site closeout letter was received on Nov. 18, 2010. This site was reopened to track the contamination found at electrical vaults (near buildings 331/332) in the vicinity of Building 345. Lab results indicate the presence of total petroleum hydrocarbons as diesel-range organics at a concentration of 58,100 milligrams per liter. Vacuum events removed contaminants and subsequent monitoring showed no contamination. Contaminants of concern- Petroleum, oil, and lubricants (POL). Media of concern- Surface water. RESTORATION/CLEANUP STRATEGY- Continue LTM until the vault is abandoned in place (flowable fill) and site closure is obtained from MDE.

24015.1292_EABR00_Bush River Area

Env Site ID: EABR00

Cleanup Site: Bush River Area

Alias: #

Regulatory Driver: CERCLA

RIP Date: 9/30/2010

RC Date: 9/30/2010

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	5/31/1991	9/30/2010
RD:	--	--
IRA:	--	--
RA(C):	--	--
RA(O):	--	--
LTM:	10/31/2010	9/30/2054

Site Narrative: This site is now used to capture all administrative five-year reviews and LUCs. It was formerly used for the Bush River Study Area, which lies in the northeast portion of the Edgewood Area and encompasses approximately 500 acres on a peninsula bounded to the north by Lauderick Creek, to the east and south, by Bush River and to the southwest by Kings Creek. As early as 1918, the Southern Bush River Area was used for training, test activities, waste disposal, and chemical storage. RESTORATION/CLEANUP STRATEGY- Continue LTM indefinitely. Includes all five-year reviews (conducted by the Corps of Engineers) and administrative land use controls (LUC) to ensure long-term protectiveness.

24015.1295_CCEACCX1_CCSA Glassware Site

Env Site ID: CCEACCX1

Cleanup Site: CCSA Glassware Site

Alias: #

Regulatory Driver: CERCLA

RIP Date: 10/15/2025

RC Date: 10/15/2025

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Not Evaluated

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	9/30/2012
RI/FS:	2/15/2016	2/15/2025
RD:	8/15/2023	2/15/2025
IRA:	--	--
RA(C):	2/15/2025	10/15/2025
RA(O):	--	--
LTM:	10/15/2025	9/30/2055

Site Narrative: Miscellaneous glassware and metallic debris were uncovered during utility maintenance near the intersection of Magnolia Road and Wise Road and west of Wise Road near Building E5103. The origin and use of this glassware is currently unknown. The RI and FS were completed in 2018 and 2021, respectively. Contaminants of concern- Metals. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue LTM indefinitely. The anticipated remedy is LUCs. Since hazardous substances will remain above levels that are protective for unrestricted use, LUC inspections and five-year reviews will be conducted to ensure long-term protectiveness. Underlying groundwater will be addressed under site EACC4A-B, West Canal Creek Aquifer (24015.1102).

24015.1298_EAOE55_PFAS

Env Site ID: EAOE55

Cleanup Site: PFAS

Alias: #

Regulatory Driver: CERCLA

RIP Date: 6/16/2028

RC Date: 6/16/2028

RC Reason: Not assigned

SC Date: 6/16/2028

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	5/21/2018	5/13/2019
SI:	5/14/2019	6/15/2023
RI/FS:	1/1/2023	6/16/2028
RD:	--	--
IRA:	--	--
RA(C):	--	--
RA(O):	--	--
LTM:	--	--

Site Narrative: PA/SI was completed June 2023 and identified 36 areas of potential interest going to RI. The RI/FS is under contract. Contaminant of concern- PFAS; Media of concern- Groundwater and soils. RESTORATION/CLEANUP STRATEGY- Complete the RI to define nature and extent. Future phases will be determined upon the completion of the FS.

24015.1299_CCAPGEAVI_Edgewood Area Vapor Intrusion

Env Site ID: CCAPGEAVI

Cleanup Site: Edgewood Area Vapor Intrusion

Alias: CCAPGEAVI

Regulatory Driver: CERCLA

RIP Date: 2/1/2026

RC Date: 2/1/2026

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: Not Evaluated

MRSPP: N/A

Phase	Start	End
PA:	6/30/1976	12/31/1989
SI:	6/30/1976	12/31/1989
RI/FS:	10/31/1985	7/1/2024
RD:	7/1/2024	2/1/2025
IRA:	--	--
RA(C):	2/1/2025	2/1/2026
RA(O):	--	--
LTM:	2/1/2026	9/30/2055

Site Narrative: This site covers potential vapor intrusion into overlying occupied buildings from Edgewood Area groundwater plumes of volatile organic compounds (VOC). The largest plume is located under the Edgewood cantonment area and the other plumes are located in range areas. During the RI and commercial/industrial human health risk assessment, over 60 buildings in the Edgewood Area underwent sub-slab and/or indoor air vapor intrusion sampling. Results were compared to USEPA Agency VI screening levels. Unacceptable risk was identified for one building, which was evacuated and is scheduled for demolition. No other buildings are currently unsafe for occupancy; however, due to the presence of groundwater, chemicals of concern in the sub-slab soil gas in most of the sampled buildings exhibit a potential for vapor intrusion to occur in the future. Contaminants of concern- VOCs. Media of concern- Indoor air. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and LTM indefinitely. The anticipated remedy is LUCs and long-term air monitoring of nine buildings to ensure continued tenant safety. Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1300_CCAPGAAVI_Aberdeen Area Vapor Intrusion

Env Site ID: CCAPGAAVI

Cleanup Site: Aberdeen Area Vapor Intrusion

Alias: CCAPGAAVI

Regulatory Driver: CERCLA

RIP Date: 2/1/2026

RC Date: 9/30/2055

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: Not Evaluated

MRSPP: N/A

Phase	Start	End
PA:	11/30/1980	9/30/1989
SI:	9/30/1989	9/30/1990
RI/FS:	10/31/1999	7/1/2024
RD:	7/1/2024	2/1/2025
IRA:	3/15/2016	7/1/2024
RA(C):	2/1/2025	2/1/2026
RA(O):	2/1/2026	9/30/2055
LTM:	--	--

Site Narrative: This site covers the Aberdeen Area plumes to include Site 16- DRMO Metal Scrap Yard (GW); Site 23- Building 525; Site 28f- Building 3327 UST site; Site 29- Tower Road; Site 32- Building 507; Site 33- Building M600 and the Western Boundary plumes- Site 16- DRMO Metal Scrap Yard. The RI and FS were completed in 2017 and 2021, respectively. Contaminants of concern- Volatile organic compounds (VOC) (mostly chlorinated solvents). Media of concern- Indoor air. A human health risk assessment was conducted and found unacceptable risks for occupants of Building 361; therefore, a 2016 TCRA was conducted to mitigate these risks. The TCRA involved installation and operation of a sub-slab depressurization/SVE system. This remediation will be incorporated into the final ROD, closing out the IRA. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, IRA, RA(C), and RA(O) indefinitely. The anticipated remedies for the Aberdeen Area buildings are LUCs, operation of active soil vapor extraction (SVE) system in building 361, and long-term air monitoring for 11 buildings. Since hazardous substances will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1260_APG-011-R-01_WESTWOOD AREA

Env Site ID: APG-011-R-01

Cleanup Site: WESTWOOD AREA

Alias: #

Regulatory Driver: CERCLA

RIP Date: 5/1/2029

RC Date: 5/1/2029

RC Reason: Not assigned

SC Date: 9/30/2058

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 3

Phase	Start	End
PA:	5/20/2003	12/15/2003
SI:	6/30/2005	10/31/2007
RI/FS:	10/15/2008	5/1/2025
RD:	5/1/2025	5/1/2027
IRA:	--	--
RA(C):	5/2/2025	5/1/2029
RA(O):	--	--
LTM:	5/1/2029	9/30/2058

Site Narrative: The Westwood Area is in the north/western portion of the Edgewood Area next to the installation boundary. The site was used from 1918 through the 1970s for a variety of testing and training activities, material storage, manufacturing and munitions assembly operations, and waste disposal activities. The materials the Army tested included napalm, pyrotechnics, blister agents, and white phosphorus. The US Army Chemical School used the Westwood Area for training during the post-WWII period principally for radiological defense testing and training. The completed RI identified no potential munition constituents. The potential for unacceptable risks from analytes in soil was limited to areas of historic waste disposal. A burial pit, approximately 0.1-acre and extends to a depth of 10 to 15 ft. below ground, was identified. A former grenade range and a smoke grenade was confirmed on the ground surface during the RI. Contaminants/hazards of concern- Chemical warfare materiel (CWM)/chemical agent and munitions and explosives of concern (MEC). Media of concern- Soil. LUCs are required. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete the RI/FS, RD, RA(C), and continue LTM indefinitely. Anticipated remedy is excavation and LUCs. LUCs will be based on public awareness and education components to reduce munitions handling by the public. Since hazardous substances and MEC will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1263_APG-006-R-01_FORT HOYLE

Env Site ID: APG-006-R-01

Cleanup Site: FORT HOYLE

Alias: #

Regulatory Driver: CERCLA

RIP Date: 12/1/2025

RC Date: 12/1/2025

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 2

Phase	Start	End
PA:	5/20/2003	12/15/2003
SI:	6/30/2005	10/31/2007
RI/FS:	10/15/2008	5/1/2025
RD:	10/15/2022	11/1/2025
IRA:	--	--
RA(C):	10/15/2022	12/1/2025
RA(O):	--	--
LTM:	12/1/2025	9/30/2055

Site Narrative: The Fort Hoyle Munitions Response Site (MRS) consists of approximately 311 acres. The site is bordered to the north and east by the Canal Creek Area MRS, to the west by the Gunpowder River, and to the south by the downrange area. The Fort Hoyle MRS is part of the main cantonment area with offices, storage areas, recreation areas and facilities, residential areas, and maintenance facilities. Fort Hoyle was first used during World War I (WWI) and continued into the early 1960s. Throughout the early period of use, high explosive rounds and chemical munitions were likely to have been buried as a means of disposal. Possible firing and use of chemical weapons may have occurred, but the area was not designated as an impact area. Some training exercises included firing mustard-filled artillery and mortar and other exercises may have included the use of gas identification kits. RI sampling and risk evaluations determined no unacceptable risks to human health or the environment from munitions constituents. Anticipated remedy is LUCs. Contaminants/hazards of concern- Chemical warfare materiel (CWM)/chemical agent and munitions and explosives of concern (MEC). Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA(C), and continue LTM indefinitely. Anticipated remedy is LUCs. LUCs will be based on public awareness and education components to reduce munitions handling by the public. Since hazardous substances and MEC will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1264_APG-004-R-01_CANAL CREEK AREA

Env Site ID: APG-004-R-01

Cleanup Site: CANAL CREEK AREA

Alias: #

Regulatory Driver: CERCLA

RIP Date: 5/1/2029

RC Date: 5/1/2029

RC Reason: Not assigned

SC Date: 9/30/2058

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 3

Phase	Start	End
PA:	5/20/2003	12/15/2003
SI:	6/30/2005	10/31/2007
RI/FS:	10/15/2008	5/1/2025
RD:	5/1/2025	5/1/2027
IRA:	--	--
RA(C):	5/2/2025	5/1/2029
RA(O):	--	--
LTM:	5/1/2029	9/30/2058

Site Narrative: The Canal Creek Area discarded MRS is 1,588 acres located in the central portion of the cantonment area of the Edgewood Area. The Army has used the Canal Creek area site to develop, test, and manufacture military-related chemicals since WWI. Other activities included filling chemical munitions, disposing of domestic and production waste and using degreasing solvents on equipment. Currently, the Canal Creek area is the main cantonment area, including office buildings, recreation facilities, and storage. The RI identified a pit in the Canal Creek area based on past findings. The risk identified is based on explosive hazards; no MC were identified. The FS recommends excavation and LUCs. Contaminants/hazards of concern- Chemical warfare materiel (CWM)/chemical agent, munitions and explosives of concern (MEC), and MC. Media of concern- soil. LUCs are required. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA(C), and continue LTM indefinitely. Anticipated remedy is LUCs. LUCs will be based on public awareness and education components to reduce munitions handling by the public. Since hazardous substances and MEC will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1265_APG-003-R-01_Bush River Area

Env Site ID: APG-003-R-01

Cleanup Site: Bush River Area

Alias: #

Regulatory Driver: CERCLA

RIP Date: 12/1/2025

RC Date: 12/1/2025

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 3

Phase	Start	End
PA:	5/20/2003	12/15/2003
SI:	6/30/2005	10/31/2007
RI/FS:	10/15/2008	5/1/2025
RD:	10/15/2022	11/1/2025
IRA:	--	--
RA(C):	10/15/2022	12/1/2025
RA(O):	--	--
LTM:	12/1/2025	9/30/2055

Site Narrative: The Bush River Discarded Military Munitions (DMM) site is 512 acres located on a peninsula in the northeastern portion of the Edgewood Area. Past activities have included artillery testing, decontamination of ton-containers containing chemical warfare agents, landfill creation in marshes, waste disposal in unlined pits, ammunition renovation, and radioactive material processing and packaging. Portions of the Bush River area were also used to dispose of chemical warfare agents, munitions, dredge spoil radioactive materials, and construction/demolition waste by burning, dumping, or burial. The RI was completed in 2014. Contaminants/hazards of concern- Munitions and explosives of concern (MEC). Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA(C), and continue LTM indefinitely. Anticipated remedy is LUCs. LUCs will be based on public awareness and education components to reduce munitions handling by the public. Since hazardous substances and MEC will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1269_APG-003-R-04_Chemical Munitions Burial S

Env Site ID: APG-003-R-04

Cleanup Site: Chemical Munitions Burial S

Alias: APG003R04

Regulatory Driver: CERCLA

RIP Date: 12/1/2025

RC Date: 12/1/2025

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 3

Phase	Start	End
PA:	12/31/2002	5/31/2003
SI:	6/30/2005	10/31/2007
RI/FS:	10/15/2008	5/1/2025
RD:	10/15/2022	11/1/2025
IRA:	--	--
RA(C):	10/15/2022	12/1/2025
RA(O):	--	--
LTM:	12/1/2025	9/30/2055

Site Narrative: The 21-acre Chemical Munitions Burial Site is a munitions response site (MRS) located at the southern tip of the peninsula and mostly consists of low-lying open space and wooded areas with brushy vegetation and wetlands. Historical aerial photographs from 1929 and the 1940s show ground scars at this site. The RI and FS were completed in 2014 and 2017 respectively. No potential MC sources were identified during RI; therefore, the MC receptor pathway is incomplete. The risk is based on explosive hazards. The surrounding waterways, Bush River and Kings Creek, are in the APG Restricted Water Area. It may have been used to bury deteriorated or partially functioning chemical munitions. Contaminants/hazards of concern- Munitions and explosives of concern (MEC). Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA(C), and continue LTM indefinitely. Anticipated remedy is LUCs. LUCs will be based on public awareness and education components to reduce munitions handling by the public. Since hazardous substances and MEC will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1272_APG-003-R-05_A-Field

Env Site ID: APG-003-R-05

Cleanup Site: A-Field

Alias: #

Regulatory Driver: CERCLA

RIP Date: 12/1/2025

RC Date: 12/1/2025

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 4

Phase	Start	End
PA:	5/31/2003	12/31/2003
SI:	6/30/2005	10/31/2007
RI/FS:	10/31/2008	5/1/2025
RD:	10/15/2022	11/1/2025
IRA:	--	--
RA(C):	10/15/2022	12/1/2025
RA(O):	--	--
LTM:	12/1/2025	9/30/2055

Site Narrative: The A-Field is a munitions response site (MRS) that is approximately 47.3 acres in size and located in the southern portion of the Bush River Area. A-Field is bordered by the Chemical Munitions Burial Site MRS to the southeast, the Kings Creek Chemical Disposal Site MRS to the southwest, and the Bush River Area MRS to the north. The Bush River forms the eastern boundary of the site and Kings Creek is to the west. The A-Field MRS has secured, limited access and includes offices, warehouses, and some undeveloped areas. A-Field was in use from 1918 through the 1940s. It was used as an artillery firing point, primarily for 75 millimeters (mm) projectiles as well as incendiary and smoke munitions. The 1989 RFA identified A-Field as a test site for chemical munitions, but no records of such testing have been identified. The SI concluded that it is likely that little or no testing with lethal agents was conducted at the site. Two areas within A-Field were identified as munitions testing sites: Drop Bomb Tower and the Surveillance Bins. The RI and the FS were completed in 2014 and 2017, respectively.

Contaminants/hazards of concern- Chemical warfare materiel (CWM) and munitions and explosives of concern (MEC). Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA(C), and continue LTM indefinitely. Anticipated remedy is LUCs. LUCs will be based on public awareness and education components to reduce munitions handling by the public. Since hazardous substances and MEC will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1273_APG-004-R-03_B-Field

Env Site ID: APG-004-R-03

Cleanup Site: B-Field

Alias: #

Regulatory Driver: CERCLA

RIP Date: 12/1/2025

RC Date: 12/1/2025

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 2

Phase	Start	End
PA:	5/31/2003	12/31/2003
SI:	6/30/2005	10/31/2007
RI/FS:	10/15/2008	5/1/2025
RD:	10/15/2022	11/1/2025
IRA:	--	--
RA(C):	10/15/2022	12/1/2025
RA(O):	--	--
LTM:	12/1/2025	9/30/2055

Site Narrative: The 67.3-acre B-Field forms a part of the peninsula located at the southern end of the Canal Creek munitions response site (MRS). The location of this site is along the south side of Beach Point Road between the wastewater treatment plant and the Building E3580 pyrotechnic loading facility. This site (previously APG-002-R-01) is one of the impact areas for A-Field. The 1923 Range Availability Chart lists this site as a 75mm range. The record facility assessment reports that B-Field may have been the site of Tabun agent storage sometime in the late-1940s. The record facility assessment inspection identified two debris dumping sites. These sites were located southeast of Building E3580 and along a trail leading south/southeast from Beach Point Road between Building E3580 and the wastewater treatment plant. Debris observed include empty drums, concrete blocks, an engine cylinder head, and other miscellaneous materials. It is not known if agent-filled containers or other hazardous materials were buried at these locations. Currently, B-Field is part of the main cantonment area in the Edgewood Area, including office buildings, R&D, open water industry, and storage. Expected munition types include large caliber (smoke, high explosive (HE) and practice), small arms, mortars (smoke, HE, and practice), and toxic chemical munitions. The RI and FS have been completed in 2014 and 2017, respectively. Contaminants/hazards of concern- Chemical warfare materiel (CWM) and munitions and explosives of concern (MEC). Media of concern- Soil. LUCs will be required. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA(C), and continue LTM indefinitely. Anticipated remedy is LUCs. LUCs will be based on public awareness and education components to reduce munitions handling by the public. Since hazardous substances and MEC will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1274_APG-003-R-06_Kings Creek Chemical Dispos

Env Site ID: APG-003-R-06

Cleanup Site: Kings Creek Chemical Dispos

Alias: #

Regulatory Driver: CERCLA

RIP Date: 12/1/2025

RC Date: 12/1/2025

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 3

Phase	Start	End
PA:	5/31/2003	5/31/2003
SI:	6/30/2005	10/31/2007
RI/FS:	10/15/2008	5/1/2025
RD:	10/15/2022	11/1/2025
IRA:	--	--
RA(C):	10/15/2022	12/1/2025
RA(O):	--	--
LTM:	12/1/2025	9/30/2055

Site Narrative: The Kings Creek Chemical Disposal MRS is approximately 3 acres in size and is part of the Bush River Area Munitions Response Area (MRA). This site consists of a small, wooded peninsula, bordered to the south and west by Kings Creek, to the north by A-Field, and by 30th Street Landfill to the east. The site is currently undeveloped and secure with limited access. Kings Creek Chemical Disposal Area was a former disposal site that was used during the 1920s and 1930s. The primary methods of waste disposal were burning and drum storage. The RI and FS were completed in 2014 and 2017, respectively. Contaminants/hazards of concern- Munitions and explosives of concern (MEC). Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA (C), and continue LTM indefinitely. Anticipated remedy is LUCs. LUCs will be based on public awareness and education components to reduce munitions handling by the public. Since hazardous substances and MEC will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1275_APG-004-R-02_B-Field Kings Creek Dump

Env Site ID: APG-004-R-02

Cleanup Site: B-Field Kings Creek Dump

Alias: #

Regulatory Driver: CERCLA

RIP Date: 12/1/2025

RC Date: 12/1/2025

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 2

Phase	Start	End
PA:	5/31/2003	12/31/2003
SI:	6/30/2005	10/31/2007
RI/FS:	10/15/2008	5/1/2025
RD:	10/15/2022	11/1/2025
IRA:	--	--
RA(C):	10/15/2022	12/1/2025
RA(O):	--	--
LTM:	12/1/2025	9/30/2055

Site Narrative: The B-Field Kings Creek dump site (56 acres) is a Munitions Response Site (MRS) located southwest of Kings Creek and north of Building E3700, north of the intersection of Beach Point Road and 57th Street within the Canal Creek MRA. In the 1940s, the E3700 complex of buildings was used for pilot plant facilities. These buildings were used for experimental filling rather than process work. Pilot scale manufacturing of nitrogen mustard may have been performed in these facilities. Approximately 12-acres inside the MRS is a disposal site where demolition debris, chemical materiel, and miscellaneous junk were placed. Some junk has been observed near a marsh area on the site (including some smoke pots), a few old drums scattered throughout the site, and cesium (tear gas bags). The RI and FS were completed in 2014 and 2017, respectively. Contaminants/hazards of concern- Munitions and explosives of concern (MEC) and chemical warfare materiel (CWM)/chemical agent. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA (C), and continue LTM indefinitely. Anticipated remedy is LUCs. LUCs will be based on public awareness and education components to reduce munitions handling by the public. Since hazardous substances and MEC will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1276_APG-004-R-04_F-Field

Env Site ID: APG-004-R-04

Cleanup Site: F-Field

Alias: #

Regulatory Driver: CERCLA

RIP Date: 12/1/2025

RC Date: 12/1/2025

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 3

Phase	Start	End
PA:	5/31/2003	12/31/2003
SI:	6/30/2005	10/31/2007
RI/FS:	10/15/2008	5/1/2025
RD:	10/15/2022	11/1/2025
IRA:	--	--
RA(C):	10/15/2022	12/1/2025
RA(O):	--	--
LTM:	12/1/2025	9/30/2055

Site Narrative: The F-Field Munitions Response Site (MRS) is approximately 26.6 acres located in the southeast corner of the cantonment area, within the Canal Creek MRA. The F-Field MRS boundary in the Project Work Statement included a 4-acre parcel at the southern tip of the MRS that was disconnected from the rest of the MRS. F-Field was in use from 1918 through the 1970s. It served as a training area for troops at Fort Hoyle from the 1920s through the 1930s and was used for flamethrower testing from the 1940s through the 1970s. A facility was built at F-Field in the early 1950s for R&D and evaluation of pyrotechnic mixtures, loading procedures, and munitions into which the pyrotechnic mixtures were loaded. Decontamination testing was also conducted at the site during the 1970s. F-Field was also a 37-mm projectile range and served as an impact area for A-Field and as a firing point for short-range mortar and small artillery into G-Field, which is in the downrange portion of the Edgewood Area south of F-Field. The 2014 RI did not identify a human health or ecological risk related to munition constituents. The FS was completed in 2017. Contaminants/hazards of concern- Chemical warfare materiel (CWM)/chemical agent and munitions and explosives of concern (MEC). Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA (C), and continue LTM indefinitely. Anticipated remedy is LUCs. LUCs will be based on public awareness and education components to reduce munitions handling by the public. Since hazardous substances and MEC will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1277_APG-011-R-02_West Range

Env Site ID: APG-011-R-02

Cleanup Site: West Range

Alias: #

Regulatory Driver: CERCLA

RIP Date: 12/1/2025

RC Date: 12/1/2025

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 6

Phase	Start	End
PA:	5/31/2003	12/31/2003
SI:	6/30/2005	10/31/2007
RI/FS:	10/15/2008	5/1/2025
RD:	10/15/2022	11/1/2025
IRA:	--	--
RA(C):	10/15/2022	12/1/2025
RA(O):	--	--
LTM:	12/1/2025	9/30/2055

Site Narrative: West Range is a 6.3-acre Munitions Response Site (MRS) located within the Westwood MRA. The estimated period of use was from 1920 to the 1940s. The 1923 Range Availability Chart identifies the site as a 37mm (water) and 75mm (land) range. Both water and land targets are within the operational area. The chart also identifies a 0.45-caliber pistol range that appears to be collocated with the West Range firing point. Contaminants/hazards of concern- Munitions and explosives of concern (MEC). Media of concern- Surface water and soil. This site was previously identified as site APG-010-R-01. The RI and FS were completed in 2014 and 2017, respectively. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA (C), and continue LTM indefinitely. Anticipated remedy is LUCs. LUCs will be based on public awareness and education components to reduce munitions handling by the public. Since hazardous substances and MEC will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1278_APG-011-R-03_Hog's Point Bomb Target

Env Site ID: APG-011-R-03

Cleanup Site: Hog's Point Bomb Target

Alias: #

Regulatory Driver: CERCLA

RIP Date: 5/1/2025

RC Date: 5/1/2025

RC Reason: Not assigned

SC Date: 5/1/2025

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 4

Phase	Start	End
PA:	5/31/2003	12/31/2003
SI:	6/30/2005	10/31/2007
RI/FS:	10/31/2008	5/1/2025
RD:	--	--
IRA:	--	--
RA(C):	--	--
RA(O):	--	--
LTM:	--	--

Site Narrative: The Hog's Point Bomb Target (previously identified as site APG-008-R-01) is a Munitions Response Site (MRS) (152 acres) located off the shore of the Westwood Area. It lies entirely in the Gunpowder River. A 1943 map titled Range Layout between Piney and Hog Points shows that there were potentially two bomb targets in the water. The farthest target was 1,895 ft. from the APG shoreline. The map showing the bomb targets does not show any firing points on either Hog's or Piney Points; it shows only staked reference points aiding in the survey of the bomb targets. As reviewed during the HRR, aerial photographs from the WWII era do not depict fixed firing point structures anywhere along the shoreline. A thorough review of records was conducted, and no evidence of site use was reported. A magnetic survey conducted in the Gunpowder River showed numerous scattered anomalies across the site with higher concentrations near shore and around the Hog's and Piney Points. The anomalies were investigated and no munitions debris or MEC were found. RI was completed in 2014 and the site was determined to be UU/UE. The RI recommended NFA for both MEC and MC. RESTORATION/CLEANUP STRATEGY- Complete the proposed plan and record of decision (ROD) within the RI/FS phase. Site closeout is anticipated with the completion of the ROD.

24015.1279_APG-001-R-02_Former Demolition Area - Ru

Env Site ID: APG-001-R-02

Cleanup Site: Former Demolition Area - Ru

Alias: #

Regulatory Driver: CERCLA

RIP Date: 5/15/2024

RC Date: 5/15/2024

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 4

Phase	Start	End
PA:	6/30/2007	2/29/2008
SI:	3/31/2008	1/31/2010
RI/FS:	10/31/2009	7/26/2023
RD:	4/15/2023	5/15/2024
IRA:	--	--
RA(C):	4/15/2023	5/15/2024
RA(O):	--	--
LTM:	5/15/2024	9/30/2055

Site Narrative: The Former Demolition Area at Ruggles Golf Course is located east of the 11th fairway of Ruggles Golf Course and west of Bush River Road in the Aberdeen Area. The site is a suspected demolition area used from the 1940s to the 1950s as identified by aerial photos. Ordnance items were found during construction of an irrigation pond at the golf course. The following munitions were found: 75mm AP projectile, 75mm HE projectiles, 20mm HE projectiles, and a British 25-pound HE projectile. All items were found during civilian unexploded ordnance (UXO) sweeps. The RI and FS were completed. Contaminants/hazards of concern- MEC. Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RD, RA (C), and LTM indefinitely. The remedy is LUCs. LUCs will be based on public awareness and education components to reduce munitions handling by the public. Since hazardous substances and MEC will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1296_APG-14-R-01_Aberdeen Area EUL Site

Env Site ID: APG-14-R-01

Cleanup Site: Aberdeen Area EUL Site

Alias: #

Regulatory Driver: CERCLA

RIP Date: 8/15/2024

RC Date: 8/15/2024

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 4

Phase	Start	End
PA:	6/30/2007	2/29/2008
SI:	3/31/2008	1/31/2010
RI/FS:	10/15/2008	4/15/2024
RD:	4/15/2024	8/15/2024
IRA:	3/15/2010	5/15/2019
RA(C):	4/16/2024	8/15/2024
RA(O):	--	--
LTM:	8/15/2024	9/30/2055

Site Narrative: The Aberdeen Area Enhanced Use Lease (EUL) site is 422 acres, located east of Maryland Boulevard and south of Gadsen Road in the cantonment area in the northern portion of the Aberdeen Area. In January 2010, several discarded military munitions items and pits were found at the EUL site. Groundwater contamination does not pose any type of risk. The Army opened the IRA phase to provide construction support during construction of the EUL and provided an initial 2ft. clearance of the area. The RI identified risk based on explosive hazards; no risk from munitions constituents was identified. The FS recommends LUCs. Contaminants/hazards of concern- Munitions and explosives of concern (MEC). Media of concern- Soil. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RI/FS, RD, RA(C), and continue LTM indefinitely. Anticipated remedy is LUCs. LUCs will be based on public awareness and education components to reduce munitions handling by the public. Since hazardous substances and MEC will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1302_APG-001-R-04_Gas Identification/Detonation

Env Site ID: APG-001-R-04

Cleanup Site: Gas Identification/Detonation

Alias: #

Regulatory Driver: CERCLA

RIP Date: 7/26/2024

RC Date: 7/26/2024

RC Reason: All Required Cleanup(s) Completed

SC Date: 7/26/2024

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 6

Phase	Start	End
PA:	6/30/2007	2/29/2008
SI:	3/31/2008	1/31/2010
RI/FS:	10/29/2009	7/26/2024
RD:	--	--
IRA:	--	--
RA(C):	--	--
RA(O):	--	--
LTM:	--	--

Site Narrative: The Gas Identification/Detonation (I&D) Area is located approximately 1.5 miles south of route 715. The area was used to train Soldiers to be proficient in detecting and identifying various gases through odor and other sensory reactions. Because of the potential of the gas kits containing chemical warfare materiel (CWM), it was moved to the RI phase. The RI was completed in 2014. The HHRA and screening-level ecological risk assessment (SLERA) found that there are no human health risks associated with potential human contact with subsurface soil, surface water, or sediments; minimal health risks posed with groundwater contact; and limited potential for site-related ecological risks. No additional detailed baseline ecological risk assessment is warranted for the Gas I&D MRS. APG-001-R-04 is planned for no action since no evidence of munitions and contaminant levels present are unaffected by current or past site activities. Concentrations are below naturally occurring substances/background, so the site is protective of human health and the environment. RESTORATION/CLEANUP STRATEGY- Site closeout expected when record of decision (ROD) is complete.

24015.1303_APG-001-R-05_Multi-Purpose Range

Env Site ID: APG-001-R-05

Cleanup Site: Multi-Purpose Range

Alias: #

Regulatory Driver: CERCLA

RIP Date: 5/15/2024

RC Date: 5/15/2024

RC Reason: Not assigned

SC Date: 9/30/2055

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 5

Phase	Start	End
PA:	1/31/2008	1/31/2010
SI:	1/31/2008	1/31/2010
RI/FS:	5/15/2010	7/26/2023
RD:	4/15/2023	5/15/2024
IRA:	3/15/2010	3/15/2013
RA(C):	4/15/2023	5/15/2024
RA(O):	--	--
LTM:	5/15/2024	9/30/2055

Site Narrative: The Multi-Purpose Range comprises 92 acres located south of Route 715 and east of the installation boundary in the Aberdeen Area and is currently overlain by the western half of Ruggles Golf Course. The site was utilized for range activities for training with mines and booby traps, rifle grenades, hand grenades, and rocket launchers. No field work was conducted for the site investigation report; however, based on verified historical use of the site and the identification of munitions debris, an RI/FS for munitions and explosives of concern (MEC) and MC was completed. An IRA was completed in 2013 to support construction activities in the area. Contaminants/hazards of concern- MEC. Media of concern- Soil. The RI identified no human health and limited ecological risks; however, the site could not reach UU/UE due to MEC. The ROD was completed in 2023, implementing LUCs. Potential for off-site migration is not likely. The future land use is industrial. RESTORATION/CLEANUP STRATEGY- Complete RD, RA(C), continue LTM indefinitely. The remedy is LUCs. LUCs will be based on public awareness and education components to reduce munitions handling by the public. Since hazardous substances and MEC will remain above levels that are protective for unrestricted use, LUCs and five-year reviews will be conducted to ensure long-term protectiveness.

24015.1293_CCAPGI-FLD_I-FIELD DISPOSAL SITE

Env Site ID: CCAPGI-FLD

Cleanup Site: I-FIELD DISPOSAL SITE

Alias: #

Regulatory Driver: CERCLA

RIP Date: 9/30/2027

RC Date: 9/30/2027

RC Reason: Not assigned

SC Date: 9/30/2027

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: Yes

Hazardous Ranking Score: 54

RRSE: N/A

MRSPP:

Phase	Start	End
PA:	1/1/1980	12/15/1989
SI:	1/1/1980	9/30/2027
RI/FS:	--	--
RD:	--	--
IRA:	9/15/2018	9/30/2027
RA(C):	--	--
RA(O):	--	--
LTM:	--	--

Site Narrative: I-Field Japanese Bunker Area is located within the Boone Creek investigation area in the southern portion of I-Field. The bunkers have been subjected to static and drop device blasts sufficient to rupture and penetrate the concrete walls and roofs. South of the bunkers, at the edge of the wetland, is the munitions disposal site, a 25-foot diameter crater with shallow flooding. Near the disposal site crater are several other similar land-based, water-filled craters that may contain disposed material. Recovered munitions must be assessed and properly disposed, either as scrap or by detonation. A 2018 NTCRA memorandum prepared for the USEPA and MDE notified the agencies that APG is taking an emergency response to remove the I-Field Munitions Dump, a water-filled bomb or demolition crater, which had been used for munitions disposal. Contaminants of concern- chemical warfare materiel (CWM)/chemical agent, munitions, and explosives of concern (MEC). Media of concern- soil. RESTORATION/CLEANUP STRATEGY- Process remaining recovered rounds under the IRA phase and return the area to an operational range.

SITE SUMMARY

SITE CLOSEOUT SUMMARY

CRL ID	Site Name	Site Closeout Date
24015.1006	AAOA04_OTHER ABERDEEN AREAS-SPILL SITE A	9/30/2004
24015.1007	AAOA05_INFECTIOUS WASTE INCINERATOR	9/30/1990
24015.1008	AAOA06_GERMAN AMMUNITION TRAIN EXPLOSION	9/30/2002
24015.1009	AAOA07_OTHER ABERDEEN AREAS-STORAGE AREA	5/31/2004
24015.1011	AAOA10_OTHER ABERDEEN AREAS-WASHRACKS	5/31/2004
24015.1012	AAOA11_OTHER ABERDEEN AREAS-WASTE TREATM	9/30/2000
24015.1013	AAOA12_OTHER ABERDEEN AREAS-FIRING RANGE	12/31/2008
24015.1014	AAOA13_CSTA BURIED DRUM SITE - BLDG 896	9/30/2000
24015.1015	AAOA14_WP MUNITIONS LAND BURIAL AREA	9/30/2000
24015.1018	AAWB03_FIRE TRAINING AREA	6/30/1994
24015.1020	AAWP01_WP UNDERWATER MUNITIONS BURIAL	8/31/1991
24015.1021	APGSC00_SHORELINE CLEAN-UP	9/30/1997
24015.1039	EABR15-D_SURFICIAL AQUIFER - CLUSTER 15	2/28/2011
24015.1097	EACC3M-B_B-FIELD DECON-DETOX INCINERATOR	12/31/1989
24015.1105	EACC6_HMF/UST REMOVAL/CLOSURE	12/31/2002
24015.1106	EACC7_UNEXPLODED ORDNANCE/CWM	12/31/1989
24015.1108	EACI01-A_BENGIES POINT RD. DUMP-CLUSTER	12/31/1999
24015.1109	EACI01-B_BENGIES POINT ROAD FARM HOUSE-C	9/30/1997
24015.1110	EACI01-C_OLD CARROLL ISLAND ROAD DUMP-CL	12/31/1999
24015.1111	EACI01-D_AOC ASSOCIATED WITH SITE 10-CLU	9/30/1997
24015.1112	EACI02-A_SERVICE AREA-CLUSTER 2	12/31/1999
24015.1113	EACI02-B_DREDGE SPOIL SITE-CLUSTER 2	9/30/1997
24015.1114	EACI02-C_WOODS W OF SERV AREA-AOC ASSO W	12/31/1999
24015.1115	EACI03_EPG DUMP-CLUSTER 3	12/31/1999
24015.1116	EACI04-A_AERIAL SPRAY GRID-CLUSTER 4	9/30/1997
24015.1117	EACI04-B_DECONTAMINATION PITS-CLUSTER 4	12/31/1999
24015.1118	EACI04-C_WOODS WEST OF AERIAL SPRAY GRID	12/31/1999
24015.1119	EACI04-D_BZ TEST BURN PITS-CLUSTER 4	12/31/1999
24015.1120	EACI05-A_TEST GRID 1-CLUSTER 5	9/30/1997
24015.1121	EACI05-B_MAGAZINE AREA-CLUSTER 5	9/30/1997
24015.1122	EACI05-C_ANIMAL SHELTER-CLUSTER 5	9/30/1997
24015.1123	EACI05-D_A-SHELTER WDS EAST OF TEST GRID	12/31/1999
24015.1124	EACI05-E_PUSH-B MNDS N & E OF TEST GRID	12/31/1999
24015.1125	EACI06-A_WIND TUNNEL-CLUSTER 6	9/30/1997
24015.1126	EACI06-B_WOODS SOUTH OF WIND TUNNEL ROAD	12/31/1999
24015.1127	EACI06-C_UST AT WIND TUNNEL-CLUSTER 6	9/30/1997
24015.1128	EACI06-D_CS TEST AREA-CLUSTER 6	9/30/1997
24015.1129	EACI06-E_CS TST AREA MDS-AOC ASSO W. SIT	9/30/1997
24015.1130	EACI07-A_VX TEST AREA-CLUSTER 7	9/30/1997
24015.1131	EACI07-B_TEST GRID 2-CLUSTER 7	9/30/1997
24015.1132	EACI07-C_HD TEST AREA & AREAS EAST-CLUST	9/30/1997
24015.1133	EACI08_DISPOSAL SITE-CLUSTER 8	6/30/2000

CRL ID	Site Name	Site Closeout Date
24015.1135	EAGQ01-A DISPOSAL AREA-CLUSTER 1	9/30/1997
24015.1136	EAGQ01-B GRACES QUARTERS DUMP-CLUSTER 1	9/30/1997
24015.1137	EAGQ01-C BUNKERS SITE-CLUSTER 1	9/30/1997
24015.1138	EAGQ01-D FEMA SERVICE AREA-CLUSTER 1	9/30/1997
24015.1139	EAGQ01-E FEMA BUNKER-CLUSTER 1	9/30/1997
24015.1140	EAGQ01-F AOC ASSOCIATED WITH SITE 4	9/30/1997
24015.1141	EAGQ01-G HD TEST ANNULI-CLUSTER 1	9/30/1997
24015.1142	EAGQ01-H TEST HUTS-CLUSTER 1	9/30/1997
24015.1143	EAGQ01-I SECONDARY TEST AREA-CLUSTER 1	9/30/1997
24015.1144	EAGQ02-A NORTHERN PERIMETER DUMP-CLUSTER	9/30/1997
24015.1145	EAGQ02-B S & SW PERIMETER DUMP-CLUSTER 2	9/30/1997
24015.1146	EAGQ02-C PRIMARY TEST AREA-CLUSTER 2	9/30/1997
24015.1148	EAGQ03-A SERVICE AREA-CLUSTER 3	9/30/1997
24015.1149	EAGQ03-B DUGAWAY PROVING GROUND TEST SIT	9/30/1997
24015.1150	EAGQ03-C AOC ASSOCIATED WITH SITE 8-CLUS	9/30/1997
24015.1151	EAGQ03-D DISPOSAL MOUNDS AT DUGWAY SITE-	9/30/1997
24015.1152	EAGQ03-E USTS AT SERVICE AREAS-CLUSTER 3	9/30/1997
24015.1154	EAJF01 WHITE PHOSPHORUS BURNING PIT	9/30/2009
24015.1155	EAJF02 PROTOTYPE BUILDING	3/31/2001
24015.1156	EAJF03 CS/CN AREA (RIOT CONTROL BURNING	3/31/2001
24015.1157	EAJF04 ROBINS POINT DEMO. GROUND	9/30/2002
24015.1158	EAJF05 TOXIC BURNING PIT	12/31/2001
24015.1159	EAJF05-A TBP-SOUTHERN MAIN PITS OVERALL	11/30/2001
24015.1160	EAJF05-B TBP-SURFICIAL AQUIFER	11/30/2002
24015.1161	EAJF06 SOUTH BEACH DEMOLITION GROUND	3/31/2001
24015.1162	EAJF07 SOUTH BEACH TRENCH	3/31/2001
24015.1163	EAJF08 X1 RUINS SITE SW OF INTERSECTION	3/31/2001
24015.1164	EAJF09 DRAINAGE GRID-AREA A	3/31/2001
24015.1165	EAJF10 FORD'S POINT FIRING RANGE-AREA B	3/31/2001
24015.1166	EAJF11 RUINS SITE NE OF INTERSECTION-ARE	3/31/2001
24015.1167	EAJF12 RUINS SITE ACROSS RD FROM WPP (RN	3/31/2001
24015.1168	EAJF13 SWAMP 400' E OF RUINS SITE-AREA D	3/31/2001
24015.1169	EAJF14 ROBINS POINT TOWER SITE	3/31/2001
24015.1170	EALC00 LAUDERICK CREEK	5/31/2004
24015.1171	EALC05-A NIKE EAST WOODS SITE 6-CLUSTER	11/30/1999
24015.1172	EALC05-B CONCRETE SLAB TEST AREA-CLUSTER	11/30/1999
24015.1174	EALC05-D CONCRETE SLAB DUMP AREA 2-CLUST	9/30/2000
24015.1175	EALC09-A NIKE CONTROL DRY WELLS(4)-CLUST	11/30/1999
24015.1176	EALC09-B NIKE CNTL SEPTIC TANK/SAND FILT	11/30/2000
24015.1177	EALC09-C NIKE CNTL UNGD FUEL TANK(EXCA)-	11/30/1999
24015.1178	EALC09-D NIKE EAST WOODS SITE 1-CLUSTER	11/30/1999
24015.1180	EALC13-A SCHOOL FLD NO I TEST AREAS(2)-C	9/30/1999
24015.1181	EALC13-B SCHOOL FIELD NO II DUMPS-CLUSTE	9/30/1999
24015.1182	EALC13-C UNDERGROUND STORAGE TANKS-CLUST	9/30/1999
24015.1184	EALC17-A EAST WOODS DISPOSAL AREA-CLUSTE	11/30/1999

CRL ID	Site Name	Site Closeout Date
24015.1185	EALC20_SCHOOL FIELD NO III TEST AREA-CLU	11/30/1999
24015.1186	EALC32_GUM POINT DREDGE SPOILS-CLUSTER 3	11/30/1999
24015.1187	EALC33_MONKS CREEK FARM SITE-CLUSTER 33	11/30/1999
24015.1189	EANS01-B_CONFINED GROUNDWATER	9/30/1996
24015.1190	EANS01-C_LAUNCH AREA SEPTIC SYSTEM	11/30/1997
24015.1192	EANS01-F_UNDERGROUND FUEL TANK (E6871)	9/30/1996
24015.1193	EANS01-G_UNDERGROUND FUEL TANKS BARRACKS	9/30/1996
24015.1194	EANS01-H_NIKE BARRACKS SEPTIC SYSTEM	9/30/1996
24015.1195	EANS01-I_LAUNCH SURFACE DRAINAGE SYSTEM	9/30/1996
24015.1196	EANS01-J_BERMS & DISTURBED SOIL AREAS	9/30/1996
24015.1197	EANS01-K_SCHOOL FIELD IV	9/30/1996
24015.1198	EAOE04_D-FIELD AERIAL SPRAY GRID-CLUSTER	12/7/2017
24015.1201	EAOE16_M-FLD MINE-FLD/P-TYPE BLDG. STO A	10/15/2017
24015.1203	EAOE22_L-FLD DEMO AND PROPELL DISP SITE-	12/7/2017
24015.1204	EAOE23_I-FIELD JAPANESE BUNKER AREA CLUS	12/7/2017
24015.1205	EAOE24_M-FLD SOUTHEAST TEST AND BURN ARE	12/7/2017
24015.1206	EAOE26_M-FLD TUNNELS AND TEST SLAB AREA	12/7/2017
24015.1207	EAOE27_M-FIELD PRE-WWII AGENT TEST SITE	12/17/2017
24015.1208	EAOE28_H-FIELD CONCRETE TARGET AREA CLUS	12/7/2017
24015.1211	EAOE31_H-FIELD TANK TEST RANGE CLUSTER 3	12/7/2017
24015.1212	EAOE37_D-FLD CHEMICAL AGENT TEST GRID CL	12/7/2017
24015.1213	EAOE38_K-FIELD DEMOLITION FIELD CLUSTER	12/7/2017
24015.1215	EAOE41_G-FIELD TUNNEL COMPLEX CLUSTER 41	12/7/2017
24015.1216	EAOE42_M-FIELD CLOTHING SHACK AREA CLUST	12/7/2017
24015.1217	EAOE43_M-FIELD GRENADE RANGE CLUSTER 43	9/30/2010
24015.1218	EAOE44_M-FIELD BOMLET PROJECTOR CLUSTER	12/7/2017
24015.1219	EAOE45_E-FLD LEGO POINT IMPACT AREA CLUS	9/30/2010
24015.1220	EAOE46_E-FIELD DREDGE SPOIL AREA CLUSTER	12/7/2017
24015.1221	EAOE49_L-FIELD OLD BUSH RIVER DOCK CLUST	9/30/2010
24015.1222	EAOE50_G-FIELD TRAINING AREA CLUSTER 50	12/7/2017
24015.1224	EAOE52_MAXWELL POINT RIFLE RANGE CLUSTER	9/30/2010
24015.1225	EAOE53_I-FIELD IMPACT AREA CLUSTER 53	12/7/2017
24015.1226	EAOE54_I-FIELD SMOKE POT BURIAL SITE CLU	12/31/2013
24015.1231	EAPP00_BUILDING E5625-PILOT PLANT	10/31/1996
24015.1233	EAWW02-A_MATERIAL STORAGE/RAD TEST SITE	9/30/2005
24015.1234	EAWW02-B_GROUND SCAR AREA-CLUSTER 2	9/30/2005
24015.1235	EAWW02-C_OPEN GRAVEL DEPRESSION-CLUSTER	9/30/2005
24015.1236	EAWW02-D_MOUNDS-CLUSTER 2	7/31/2008
24015.1237	EAWW02-E_DISPOSAL/BURN PITS	9/30/2007
24015.1238	EAWW06_RAD MAT'L DISPOSAL FACILITY/DEMIL	9/30/2007
24015.1239	EAWW10-A_ROADS END DISPOSAL SITE-CLUSTER	9/30/2005
24015.1240	EAWW10-B_HOG POINT SITE-CLUSTER 10	9/30/2008
24015.1241	EAWW10-C_PINEY POINT SITE-CLUSTER 10	9/30/2005
24015.1242	EAWW10-D_LINEAR FEATURES SITE-CLUSTER 10	9/30/2005
24015.1243	EAWW10-E_IMPOUNDMENT SITE-CLUSTER 10	9/30/2005

CRL ID	Site Name	Site Closeout Date
24015.1244	EAWW10-F_WETLAND SITE-CLUSTER 10	9/30/2005
24015.1245	EAWW14-A_BLDG E-5770 AREA/MAGNOLIA RD RA	9/30/2005
24015.1246	EAWW14-B_BLDG E-5695 AREA-CLUSTER 14	9/30/2005
24015.1247	EAWW14-C_GAS MASK FACTORY/WWI CHLORINE P	9/30/2007
24015.1248	EAWW21-A_SAN DOMINGO ORD. BURIAL PIT-CLU	9/30/2005
24015.1249	EAWW21-B_SAN DOMINGO MUNITIONS PLANT-CLU	9/30/2005
24015.1250	EAWW21-C_BUILDING E5664-CLUSTER 21	9/30/2005
24015.1251	EAWW21-D_BUILDING E5830 LANDFILL-CLUSTER	9/30/2005
24015.1252	EAWW21-E_WWI CHLORINE PLANT DUMP - CLUST	9/30/2007
24015.1271	PBC at APG_PBC sites	9/30/2018
24015.1281	CCAPG09-03_Soil and Debris Piles/Landfil	11/30/2009
24015.1282	CCAPG00520_Building 520	3/31/2010
24015.1283	CCAPG04020_Building 4020	9/30/2011
24015.1284	CCAPG10104_Building 10104 Chapel Hill	9/30/2010
24015.1285	CCAPG04425_BUILDING E-4225 correct #	9/30/2011
24015.1286	CCAPG04025_BUILDING 4025	4/30/2015
24015.1287	CCAPG04031_BUILDING 4031	2/16/2022
24015.1289	CCAPG05042_Building 5042	10/31/2013
24015.1290	CCAPG00339_Building 339	9/30/2010
24015.1291	CCAPG05426_BUILDING 5426	9/30/2012
24015.1294	CCEACCGST_G Street RAD Site	7/15/2013
24015.1301	CCAPG00745_Building 745	3/31/2011
24015.1304	CCAPG0700A_Building 700A Contamination	9/30/2011
24015.1253	APG-012-R-01_SCHOOL FIELD II	12/15/2003
24015.1254	APG-009-R-01_RANGE NO. 3	12/15/2003
24015.1255	APG-001-R-01_5400 BLOCK	5/31/2008
24015.1256	APG-008-R-01_HOG'S POINT BOMB TARGET	10/31/2007
24015.1257	APG-013-R-01_SCHOOL FIELD VI	12/15/2003
24015.1258	APG-010-R-01_WEST RANGE	10/31/2007
24015.1259	APG-007-R-01_FRENCH MINE FIELD	10/31/2007
24015.1261	APG-005-R-01_F-FIELD	10/31/2007
24015.1262	APG-002-R-01_A AND B-FIELDS	10/31/2007
24015.1266	APG-002-R-02_B-Field Kings Creek Dump-CI	10/31/2007
24015.1267	APG-003-R-02_30th Street Landfill	10/31/2007
24015.1268	APG-003-R-03_BUSH RIVER DOCK	12/31/2003
24015.1270	APG-002-R-03_Kings Creek Chemical Dispos	10/31/2007
24015.1280	PBA@MR APG_PBA@MR APG	1/31/2011
24015.1297	CCEAMAXPT_MAXWELL POINT (BURN PIT)	12/15/2014
24015.1308	CCAPG04261_BUILDING E-4261	1/31/2010
24015.1309	CCAPG05200_BUILDING E-5200	3/31/2009
24015.1310	CCAPG00468_BUILDING 468	3/31/2009
24015.1312	CCAPG2004_EXPOSED UXO FROM HURRICANE	11/30/2006
24015.1315	CCAPG00361_Building 361	12/31/2006
24015.1316	CCAPG00445_Building 445	12/31/2006
24015.1317	CCAPG0745A_Building 745A	12/31/2006

CRL ID	Site Name	Site Closeout Date
24015.1320	CCAPG05222_Building 5222	12/31/2006
24015.1321	CCAPGE2172_Building E-2172	12/31/2006
24015.1322	CCAPG3312B_Building E-3312B	12/31/2006
24015.1323	CCAPGE3948_Building E-3948	12/31/2006
24015.1324	CCAPGE4015_Building E-4015	12/31/2006
24015.1325	CCAPGESS05_Shoreline survey munitions &	11/30/2006
24015.1326	CCAPG04029_fueling station	9/30/2008
24015.1328	CCAPGESS07_APG Shoreline stabilization d	9/30/2006
24015.1329	CCAPG00340_building 340	3/31/2009
24015.1330	CCAPG09-01_Westwood Rubble Landfill	9/30/2011
24015.1331	CCAPG09-02_Phillips Army Airfield Rubble	9/30/2011

COMMUNITY INVOLVEMENT

Community Involvement Plan (Date Last Reviewed):	08/02/2023
Technical Review Committee Establishment Date:	N/A
Restoration Advisory Board (RAB) Establishment Date:	1/31/1995
RAB Adjournment Date:	N/A
RAB Adjournment Reason:	N/A
Reasons for Not Establishing RAB:	N/A
RAB Date of Solicitation from Community:	N/A
RAB Results of Solicitation:	N/A
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A
Administrative Record Location:	Aberdeen Proving Ground Building E6182
Information Repository Location:	Aberdeen Proving Ground Building E6182

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Area	Status	Review Type	Start Date	End Date	Plans Narrative	Actions Narrative	Results Narrative
Edgewood	Completed	FYR	12/16/2016	9/24/2019			Completed document
	Underway	FYR	12/16/2021	9/01/2024	EA - Draft FYR is under internal review.	Submitting document to regulators - EPA/MDE	
Aberdeen	Completed	FYR	7/29/2017	7/29/2019			Completed and signed document
	Underway	FYR	06/01/2023	07/29/2024	AA - Draft FYR is under internal review.	Submitting document to regulators - EPA/MDE	