

**INSTALLATION ACTION PLAN**  
For  
**HOLSTON ARMY AMMUNITION  
PLANT**



**Fiscal Year 2001**

# PURPOSE

The purpose of the Installation Action Plan (IAP) is to outline the total multi-year restoration program for an installation. The plan will define Installation Restoration Program (IRP) requirements and propose a comprehensive approach and associated costs to conduct future investigations and remedial actions at each Solid Waste Management Unit (SWMU) at the installation and other areas of concern.

In an effort to coordinate planning information between the IRP manager, major army commands (MACOMs), installations, executing agencies, regulatory agencies, and the public, an IAP has been completed for the Holston Army Ammunition Plant (HSAAP). The IAP is used to track requirements, schedules and tentative budgets for all major Army installation restoration programs.

All site specific funding and schedule information has been prepared according to projected overall Army funding levels and is therefore subject to change during the document's annual review. Under current project funding, all remedies will be in place at the HSAAP by the end of 2005.

# CONTRIBUTORS TO THIS YEAR'S IAP

## NAME

## ORGANIZATION

<b>Joey Arnold</b>	Holston AAP Restoration Advisory Board
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# PREPARED BY

**HOLSTON AAP**

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Remedial Project Manager

# REVIEW AND CONCURRENCE

**OPERATIONS SUPPORT COMMAND**

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BRAD WRIGHT, MSC  
Restoration Program Manager, OSC

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# APPROVAL

**ARMY MATERIEL COMMAND**

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JEWEL SIMMONS  
Environmental Restoration Program Manager  
ARMY MATERIEL COMMAND

# INFORMATION SHARING

AMC, as well as MSCs and installations believe that it should make its environmental restoration information available openly. This Installation Action Plan was forwarded to the following people:

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RAB Co-chair (document provided to all RAB members)

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State Regulator

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EPA Regulator

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Installation RPM

# ACRONYMS & ABBREVIATIONS

ADA	Ammunition Destruction Area
AEC	Army Environmental Center
AOC	Area Of Concern
ARDC	Armaments Research and Development Center
BRAC	Base Realignment and Closure
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
CE	Corps of Engineers
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CMI (C)	Corrective Measures Implementation (Construction)
CMI(O)	Corrective Measures Implementation (Operation)
CMS	Corrective Measures Study
CS	Confirmatory Sampling
CY	Calendar Year
DA	Department of Army
DD	Decision Document
DERP	Defense Environmental Restoration Program
DES	Design
DOD	Department of Defense
DSERTS	Defense Site Environmental Restoration Tracking System
EPA	United States Environmental Protection Agency
ER,A	Environmental Restoration, Army (formerly DERA)
FFA	Federal Facility Agreement
FORSCOM	U.S. Army Forces Command
FS	Feasibility Study
FY	Fiscal Year
GSA	General Services Administration
GW	Groundwater
HMX	Hexacyclomethane
HSAAP	Holston Army Ammunition Plant
HQ	Headquarters
IAP	Installation Action Plan
LAG	Interagency Agreement
IRA	Interim Remedial Action
IRP	Installation Restoration Program
IWTF	Industrial Wastewater Treatment Facility
LTM	Long Term Monitoring
LTO	Long Term Operation
MACOM	Major Command
MCL	Maximum Contaminant Level
MW	Monitoring Well
NCP	National Contingency Plan
NFA	No Further Action
NFRAP	No Further Remedial Action Planned
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
O&M	Operations & Maintenance
OB/OD	Open Burning / Open Detonation
OMA	Operations and Maintenance - Army
OBG	Open Burning Grounds
OU	Operable Unit
PA	Preliminary Assessment
PCB	Poly Chlorinated Biphenyls
PP	Proposed Plan

# ACRONYMS & ABBREVIATIONS

PPB	Parts Per Billion
PPM	Parts Per Million
PY	Prior Year
RA	Remedial Action
RA(C)	Remedial Action - Construction
RA(O)	Remedial Action - Operation
RAB	Restoration Advisory Board
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RDX	Cyclotrimethylenetrinitramine
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
REM	Removal
RI	Remedial Investigation
RIP	Remedy in Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
S&A	Supervision and Administration
SI	Site Inspection
S&R	Supervision and Review
SVOCs	Semi Volatile Organic Compounds
SWMU	Solid Waste Management Unit
TDEC	Tennessee Department of Environment and Conservation
TRC	Technical Review Committee
TNT	2,3,4 - Trinitrotoluene
USACE	United States Army Corps of Engineers
USACHPPM	United States Army Center for Health Promotion and Preventive Medicine
USAEC	United States Army Environmental Center
USAR	United States Army Reserve
USARC	United States Army Reserve Command
USATHMA	United States Army Toxic and Hazardous Material Agency (replaced by AEC)
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VOCs	Volatile Organic Compounds

## CERCLA and RCRA Acronym Conversions

### CERCLA

Preliminary Assessment (PA) =

Site Investigation (SI) =

Remedial Investigation/  
Feasibility Study (RI/FS) =

Remedial Design (RD) =

Remedial Action  
(Construction) (RA(C)) =

Remedial Action  
(Operations) (RA(O)) =

### RCRA

RCRA Facility Assessment (RFA)

Confirmation Study

RCRA Facility Investigation/Corrective Measures Study  
(RFI/CMS)

Design

Corrective Measures Implementation (Construction) (CMI(C))

Corrective Measures Implementation (Operation) (CMI(O))



# SUMMARY

<b>STATUS</b>	Holston AAP is not on the NPL and has no CERCLA sites.		
<b>NUMBER OF DSERTS SITES:</b>	28 DSERTS sites 11 Active ER,A Sites 17 Response Complete Sites (DSERTS 19)		
<b>DIFFERENT DSERTS SITE TYPES:</b>	1	Burn Area	1 Pesticide Shop
	1	Waste Treatment Facility	1 Surface Disposal Areas
	1	Explosives Disposal Area	1 Firing Range
	7	Landfills	2 Storage Areas
	6	Surface Impoundment	1 Spill Site Areas
	1	Contaminated Sediments	1 Contaminated Building
	3	Former UST Sites	
<b>CONTAMINANTS OF CONCERN:</b>	Coal Tar, Explosives, Metals, Sodium Nitrate, VOCs, SVOCs, Pesticides, Herbicides		
<b>MEDIA OF CONCERN:</b>	Groundwater, Soil		
<b>COMPLETED REM/IRA/RA:</b>	<ul style="list-style-type: none"> <li>• UST Removal '94 HAAP-29</li> <li>• IRA sparge/vapor extraction HAAP-29 '95</li> <li>• IRA / demolition of Ponds 3 &amp;4 HAAP-17 '96 \$ 423.3K</li> <li>• Replace UST with AST, Request for Site-Specific Standard at Bld. 22 HAAP-28 '91</li> <li>• Closure of Solvent Burn tank site HAAP-33 '98</li> <li>• REM Heating Oil tank and soil HAAP-34 '92</li> <li>• IRA of coal tar around Gas Producer Plant HAAP-37</li> </ul>		
<b>CURRENT IRP PHASES:</b>	SI (1 Sites) (DSERTS 1)	RFI (7 Sites) (DSERTS 0)	LTM (2 Sites) (DSERTS 0)
	IRA (1 Site) (DSERTS 1)		
<b>PROJECTED IRP PHASES:</b>	CMS (1 Site)	LTM (5 Sites)	
	DES (2 Sites)	CMI(C) (2 Sites)	CMI(O) (1 Site) IRA (1 Site)
<b>IDENTIFIED POSSIBLE REM/IRA/RA:</b>	IRA at HAAP-03 RA anticipated at HSAAP-026 & 037, IRA anticipated HSAAP-038.		
<b>FUNDING:</b>	PRIOR YEAR THROUGH 2000: \$ 9,927,800 FY2001: \$ 695,000 FUTURE REQUIREMENTS: \$ 20,324,000 TOTAL: \$ 30,946,800		
<b>DURATION:</b>	YEAR OF IRP INCEPTION: 1991 YEAR OF IRP COMPLETION EXCLUDING LTM: 2005 YEAR OF IRP COMPLETION INCLUDING LTM: 2016		

# INSTALLATION INFORMATION

## LOCALE

Holston Army Ammunition Plant (HSAAP) is located in the city of Kingsport, Sullivan and Hawkins Counties, Tennessee and is approximately 6,000 acres.

## COMMAND ORGANIZATION

**MAJOR COMMAND:** U.S. Army Materiel Command

**SUBCOMMAND:** U.S. Army Operations Support Command (OSC)

**INSTALLATION:** Holston Army Ammunition Plant

## INSTALLATION RESTORATION PROGRAM (IRP) EXECUTING AGENCY

- U.S. Army Center for Health Promotion and Preventive Medicine
- U.S. Army Corps of Engineers, Mobile District
- U.S. Army Operations Support Command; U.S. Army Materials and Armaments Command (MAC)

## REGULATOR PARTICIPATION

**FEDERAL:** U.S. Environmental Protection Agency, Region IV

**STATE:** Tennessee Department of Environment and Conservation (TDEC)

## REGULATORY STATUS

- HSAAP no longer has any sites on the “state superfund list”. They were removed and are regulated by TDEC’s Corrective Action Program, September 1999.

## MAJOR CHANGES TO ACTION PLAN FROM PREVIOUS YEAR (FY 00)

- B105 Solvent Vapor Extraction System shutdown (DSERTS site HSAAP-029)

# INSTALLATION DESCRIPTION

HSAAP is an active plant that is not scheduled for closure. At present, Royal Ordnance North America is in the process of modernizing operations.

## History

- (1) Initially, HSAAP was referred to as the Holston Ordnance Works (HOW). First production began on April 29, 1943, with the first Composition B coming off the line on May 8.
- (2) The mission of the installation is to produce RDX and HMX based explosives. "RDX" means Research Department Explosive, also referred to as "cyclonite;" chemical name: cyclotrimethylene trinitramine. "HMX" means High Melting Explosive, also referred to as "homocyclonite;" chemical name: cyclotetramethylene tetranitramine. HSAAP is the only installation in the U.S. that presently produces these types of explosives. The explosives are boxed or drummed and shipped to other plants for loading into munitions. There are 130 magazines that are used for temporary storage. These are referred to as the X-magazines. There are eleven Y-magazines; however, no explosive storage is allowed in them at the present time due to their wood structure. HSAAP does not currently have a storage mission.
- (3) HSAAP was inactive from 1946 to 1949. Other than these years, HSAAP has been an active installation. The Holston Defense Corporation (HDC) operated the installation from its inception until Dec 1998.
- (4) Tenant Operations. The tenants are the Red Cross and a Mobile District, Corps of Engineers (CE) resident office, which handles construction on the installation. The Kingsport Rail Car Service currently stores railcars at the installation. Army Reserve and National Guard training activities are still held at HSAAP.

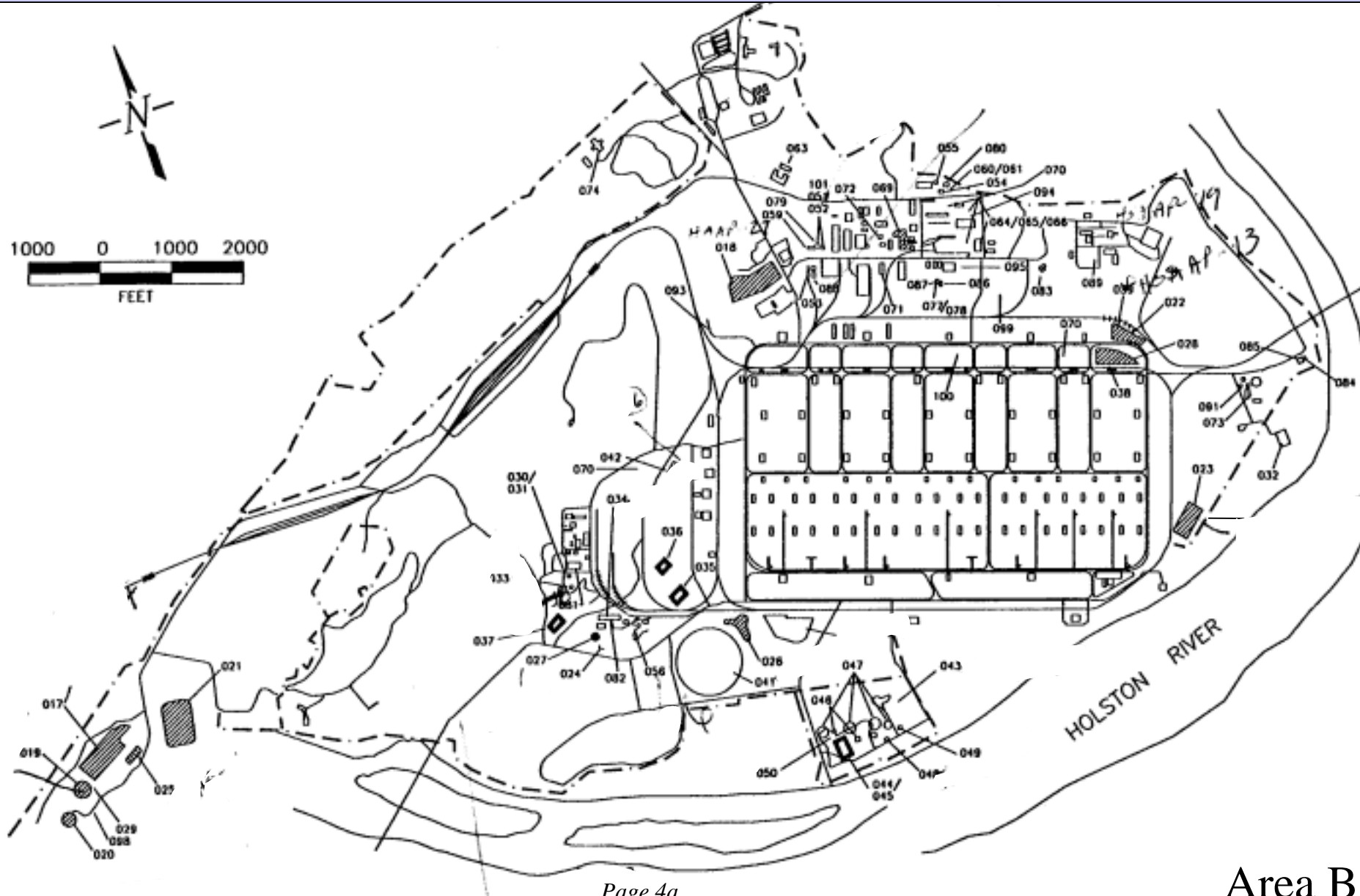
# DSERTS / SWMU CHART

## DSERTS to SWMU and AOC CONVERSION

HSAAP-001	..... (SWMU #19, 20, 21, 24,AOC H)
HSAAP-003	..... (SWMU #14, 25, 26,97,98,102)
HSAAP-004	..... (SWMU #17)
HSAAP-008	..... (SWMU#27, 28, 29, 30, 33, 35,36, 42)
HSAAP-011	..... (SWMU #37)
HSAAP-012	..... (SWMU #25)
HSAAP-013	..... (SWMU #38, 39)
HSAAP-015	..... (SWMU #43 through 49)
HSAAP-016	..... (SWMUs #AOC I)
HSAAP-017	..... (SWMUs #40, 41)
HSAAP-019	..... (SWMU #89)
HSAAP-020	..... (SWMU #23)
HSAAP-021	..... (SWMU #12,13)
HSAAP-022	..... (SWMU #15)
HSAAP-023	..... (SWMU #2, AOC-A, AOC-B,AOC-G)
HSAAP-026	..... (SWMU #77, 78, 86, 87, 88)
HSAAP-027	..... (SWMU #18)
HSAAP-028	..... (AOC-E [B22])
HSAAP-029	..... (SWMU #AOC-C, 51/52)
HSAAP-033	..... (SWMU #50, AOC-E [B12])
HSAAP-034	..... (SWMU #50, AOC E)
HSAAP-036	..... (SWMU #56)
HSAAP-037	..... (SWMU #4)
HSAAP-038	..... (SWMU #7, 57, 58, 65, 69, 70,74, 75, 83, AOC-F, AOC-J)
HSAAP-040	..... (SWMU #9, 10, 82, 93, 94, 95)

# Holston Army Ammunition Plant

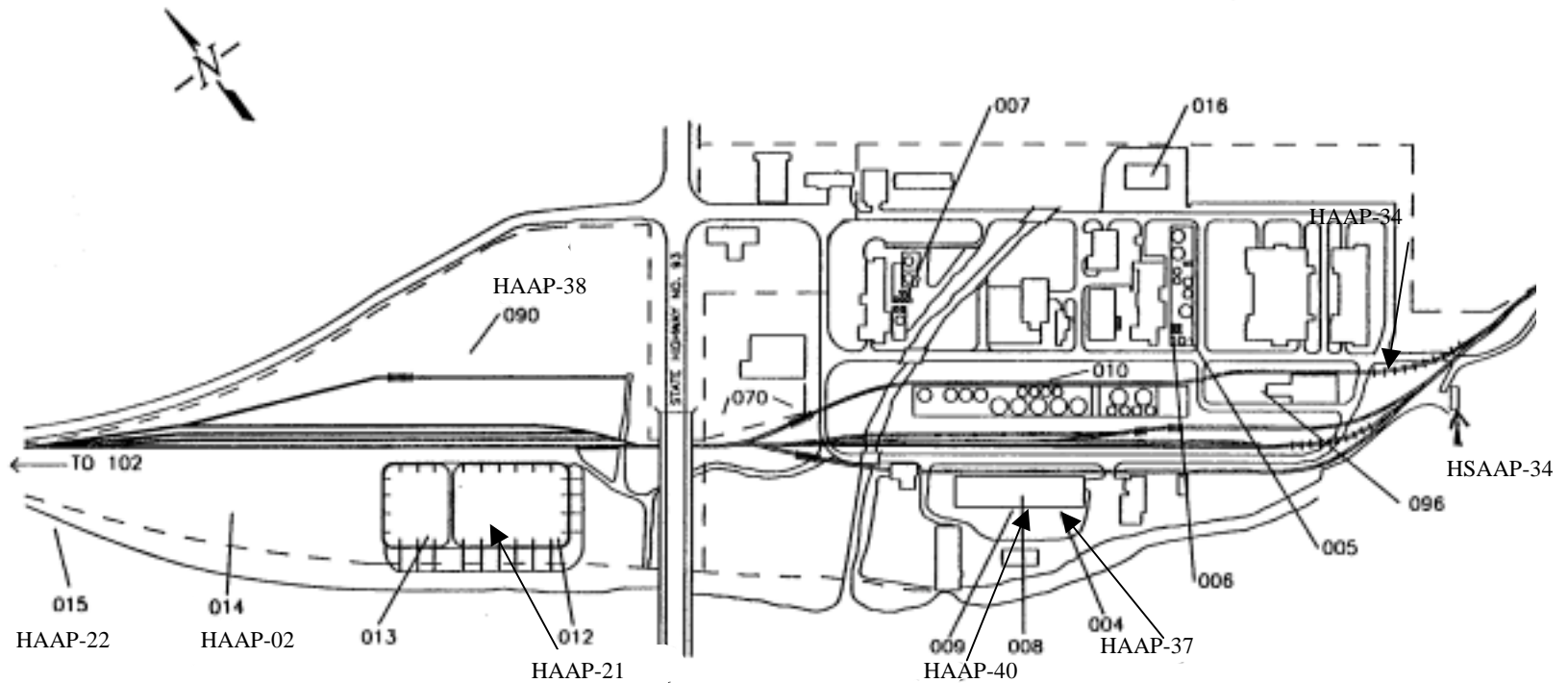
# Locations of Solid Waste Management Units (SWMU)



# Holston Army Ammunition Plant

# Locations of Solid Waste Management Units (SWMU)

SOME DSERTS NUMBERS ARE NOTED



# CONTAMINATION ASSESSMENT

Holston Army Ammunition Plant (HSAAP) has a total of 27 DSERTS sites of environmental concern. These sites include areas of contamination from removed USTs, coal tar, sanitary and construction debris landfills, earthen ponds, a pesticide shop, burn areas, weapons and firing ranges, fire training sites, vehicle maintenance areas, former spill areas, and miscellaneous storage areas.

Coal tar, explosives, pesticides, BTEX, and sodium nitrate are the primary contaminants of concern at HSAAP. HSAAP has 103 Solid Waste Management Units (SWMUs) and 12 Areas of Concern (AOCs) identified in the RCRA Facility Assessment (RFA). USATHAMA conducted a Preliminary Site Inspection (May 1992), which confirmed the RFA findings.

Holston has removed all regulated USTs. Three sites were found to be contaminated (HSAAP-28, 29, and 34). A site specific standard was requested for HSAAP-28 (Building 22), a solvent-vapor extraction system was operated at HSAAP-29 (Building 105) until august 2000, and no further action is anticipated at HSAAP-34 since heating oil contamination was adequately removed during excavation.

Investigations and Interim/Removal Actions addressing coal tar have also been completed at several HSAAP sites (HSAAP 03, 22, and 37). Coal tar has been identified at sites outside of those originally listed in the RFA.

Table 1 provides a listing of all related studies which have been performed. To better manage the numerous sites, the Installation Action Plan shows sites grouped due to proximity to one- another and/or site-type, and are described in more detail following Table 1.

Groundwater (GW) monitoring performed in the past was predominately analyzed for indicator parameters (temperature, pH, conductivity, etc.) and the results are not always suitable for decision making. Currently, there is no indication of off-post GW contamination. However, there is evidence that coal tar has entered the south fork of the Holston River.

# PREVIOUS STUDIES

Title	Author	Date
RFI Work Plan	USACHPPM	6/1/00
CS Report	USACHPPM	6/1/00
CS Work Plan	USACHPPM	6/1/99
RCRA Facility Assessment Addendum	prepared by TDEC.	1/1/99
Site Status Monitoring Report, Building 105 Service Station, HSAAP, Facility I.D. No. 0-370050, ,	prepared by LAW	2/13/98
Holston Closure Report, Former Solvent Burn Tank Unit	prepared by Brown & Root.	12/1/97
Groundwater Consultation No. 38-EH-5601-97, Relative Risk Site Evaluation,	USACHPPM,	9/10/97
RFA Release Assessment	USACHPPM	6/1/97
Holston AAP, Groundwater Assessment Report and annual Groundwater Monitoring Report	prepared by Brown and Root Environmental.	2/1/97
Savannah District, Prefinal RCRA Facility Investigation Report, HSAAP SWMUs 14 & 15	U.S. Army Corps of Engineers,	11/1/96
Survey Phase RCRA Facility Assessment No. 38-EH-5035-96, HSAAP,	USACHPPM	7/16/96
Corrective Measures Study Report, Holston Army Ammunition Plant,	Geraghty & Miller, Inc.,	8/1/95
Groundwater Assessment Nitrate ponds 3 and 4, Holston Army Ammunition Plant,	Geraghty & Miller, Inc.,	12/1/94
Savannah District Pre-Final Environmental Assessment Report, Building 22 Area - Flashing Facility, RUST Environment & Infrastructure,	U.S. Army Corps of Engineers,	10/1/94
Phase 2, Wastewater Management Study No. 32-24-H13Q-94, Industrial Wastewater Collection System Evaluation, Holston Army Ammunition Plant,	USAEHA,	11/18/93
Geohydrologic Study No. 38-26-KT17-93, Former Solvent Burn Tank, Holston Army Ammunition Plant,	USAEHA	6/18/93
Holston AAP, Bldg. 105, Service Station, Corrective Action Plan and Environmental Assessment Report, ,	prepared by USATHAMA under direction of Holston AAP.	1/1/93
Hazardous Ranking System Score (HRS2) Summary Report for Holston AAP,	USATHAMA, prepared by Advanced Sciences, Inc.	7/1/92
Preliminary Site Inspection for Holston AAP, Site Inspection Report No. 91042, ,	USATHAMA, prepared by Advanced Sciences, Inc.	5/1/92
Holston AAP, Bldg. 22, Flashing Facility, Corrective Action Plan, ,	prepared by USATHAMA under direction of Holston AAP.	4/20/92
Draft RCRA Facility Assessment of Holston AAP, , prepared for EPA Region IV.	A. T. Keamey, Inc.,	8/30/91
Holston AAP Investigation and Evaluation of Underground Storage Tanks.	DA Corps of Engineers, Omaha District,	9/1/89
Final summary of Ground-water Consultation 38-26-0809-87, conducted 6-10 October 1986 and 21-25 April 1987, POL Contamination in Ground Water near Industrial Landfill.	AEHA,	4/25/88
Water Quality Engineering Study No. 32-24-0791-88, Evaluation of Alternative Industrial Wastewater Treatment Plant Sludge Disposal Methods, Holston AAP 1987	AEHA,	11/5/87
Hazardous Waste Study No. 37-26-0779-87, Investigation of Soil Contamination at the Opening Burning Area, Holston AAP, 7-18 April 1986.	AEHA,	2/6/87
Update of Initial Installation Assessment of Holston Army Ammunition Plant, October 1986 (publish date), Report AMXTH-IR-A-148 (U).	USATHAMA,	5/14/86
Phase 5, Hazardous Waste Study No. 37-26-0593-86, Summary of AMC Open-Burning/Open-Detonation Ground Evaluations, March 1981 - March 1985.	AEHA,	2/1/86
Phase 3, Hazardous Waste Study No. 37-26-0147-84, Summary of AMC Open-Burning/Open-Detonation Ground Evaluations.	AEHA, 1984	6/18/85
Miscellaneous Reports Concerning Closing the Tar Disposal Site at Area A [HSAAP-22], the Rock Quarry Landfill [HSAAP-01], and Rock Dam Landfill, Dated 1982-1983.	Holston AAP	6/1/85
Industrial Hygiene Study No. 55-35-0100-85, Evaluation of Health Hazards at the Gas Producer. [Applicable to the hazards of the buried tar]	AEHA,	6/1/85
Memphis, Tennessee. 90 Percent Report, Pitch Trap Waste (Coal Tar) Solidification Evaluation	Environmental and Safety Designs, Inc.,	8/20/84
, Memphis, Tennessee. 90 Percent Report, Floodplain Feasibility Analysis Report	Environmental and Safety Designs, Inc.	8/20/84
Engineering Study of Hazardous Discharges from Munitions Production Facilities, Holston Army Ammunition Plant, prepared by Mason & Hanger-Silas Mason Co., Inc.	DA Corps of Engineers, Huntsville Division,	8/1/83
Phase 1, Hazardous Waste Study No. 37-26-0147-84, Summary of AMC Open-Burning/Open-Detonation Ground Evaluations,	AEHA,	6/17/83
Engineering Report on Investigation and Evaluation of Pollution Aspects of Abandoned Coal Tar Disposal Site, Area "A", Holston Army Ammunition Plant for Holston Defense Corporation, Kingsport, TN. Memphis, TN.	Wegman, Leonard S., Inc.,	9/1/81
Hazardous Waste Survey No. 81-26-8205-81, Phases 5 through 7.	USATHAMA,	3/27/80
Installation Assessment of Holston Army Ammunition Plant, Report No. 148	USATHAMA,	1/1/80
Hazardous Waste Survey No. 81-26-8205-81, Phases 1 through 4.	USATHAMA,	7/19/79
Installation Assessment, Holston AAP, TN. Las Vegas, NV. [Note: Also referred to as Environmental Photographic Interpretation Center (EPIC)].	EPA, Environmental Monitoring Systems Laboratory (EMSL),	6/3/75



# HSAAP-001 (SWMU 19, 20, 21, 24, AOC H)

## MISC LANDFILLS

### SITE DESCRIPTION

The following landfills were listed in the A.T. Kearney RCRA Facility Assessment as requiring confirmatory sampling: Construction Debris Landfill (SWMU-19), Rock Quarry Landfill (SWMU-20), Rock Dam Landfill (SWMU-21), the B-200/Flyash Landfill (SWMU -24) and the Interchange Yard/Flyash Landfill (AOC-H).

The Rock Quarry Landfill is a two-acre, limestone quarry located at the west end of Area B, adjacent to the Holston River. The site was used as a demolition landfill in the 1940s during construction of the installation. It was closed in 1983 and is registered in Hawkins County as a closed landfill. This site contains six cubic yards of concrete taken from an explosives production building. The concrete was decontaminated by washing with water and treating with lime before burial, however, explosives residue may have remained. The other material disposed of in the landfill includes light metal, cinders, small quantities of fly ash, fiberglass insulation, concrete rubble, trees and stumps, and rubber. The surface water (storm water runoff) at this site was monitored quarterly between 1983 to 1998, showing stable water conditions, with no primary or secondary water quality criteria violations among those parameters monitored. Explosives were detected above the tap water risk base concentrations (RBC) in a groundwater sample collected during the 1997 USCHPPM Release Assessment.

Rock Dam Landfill consists of approx. 5 acres located SE of the former Active Sanitary Landfill and south of Road 1932. An earthen dam (soil and rock) was constructed to create a pond, but the pond failed due to karst geology underlying the site. Therefore, the area behind the dam was used as a C/D landfill. There is approx. 30 feet of waste with a 2ft clay cap.

The Construction Debris Landfill consists of approx. 2 acres located immediately SW of the former Active Sanitary Landfill (HSAAP-017), adjacent to Road 1932.

Soil samples collected from the Interchange Yard/Flyash Landfill indicated no contamination present. A request for no further action has been submitted to TDEC.

The Flyash Burial/Coal Tar B-200 site is just south of Building 200, Steam Plant at Area B. It is not known when or for how long the site was used as a dumping ground. The size of the site is also unknown.

The waste was discovered in 1987 during construction of the coal handling facility (Project 5852199). The portion of the site used for coal handling activities was covered with compacted clay, topsoil, and revegetated in 1987. The site is currently being used for coal storage and handling.

Results from a sample collected from an adjacent well indicated the presence of SVOCs below drinking water standards. A downgradient well had no contamination.

### IRP STATUS

**RRSE RATING:** Medium Risk  
**CONTAMINANTS OF CONCERN:**  
 Explosives, Metals, VOCs, SVOCs  
**MEDIA OF CONCERN:**  
 Groundwater, Soil, Sediment, Surface Water  
**COMPLETED IRP PHASE:** RFA  
**CURRENT IRP PHASE:** CS  
**FUTURE IRP PHASE:** LTM

### PROPOSED PLAN

SWMU-20: One existing wells will be sampled semi-annually for one year as part of the site-wide groundwater investigation.

SWMU-21: NFA based on CS results.

SWMU-19: Two existing wells will be sampled semi-annually for one year as part of the sit-wide groundwater investigation.

### CONSTRAINED COST TO COMPLETE

PHASE	2001	2002	2003	2004	2005	2006	2007+
RI/FS	145						
IRA							
RD							
RA(C)							
RA(O)							
LTM				6	22		
LTO							

**PROJECTED TOTAL: \$173,000**

# HSAAP-001 (SWMU 19, 20, 21, 24, AOC H) MISC LANDFILLS



# HSAAP-003, SWMU 14, 25, 26 WWII TAR SITES

## SITE DESCRIPTION

This site (SWMU-26) is located between Sodium Nitrate Ponds 3 and 4 at Area B. It is not known when or for how long the site was used as a dumping ground. The RCRA Part B Application states that two railroad cars loaded with coal tar were dumped down the railroad embankment during World War II (approx. 178 cubic yards of tar) and covered with either clay or mixed soil and railroad ballast. Small trees and undergrowth covered the site. The waste was discovered in the mid 80's during replacement of a 36 inch water main. At that time, the excavated tar was removed, solidified, and disposed of in the sanitary landfill. The initial discovery revealed a site approximately 300 feet by 100 feet and this area is being referred to as the WWII Tar Site. However, as the actual dumping area could have extended throughout the length of the railroad (about 2 miles at Area B and 6 miles in the corridor), the size or number of sites is not known. Tar has also been found inside Pond 3 (considered part of the same material) and in the area behind Bldg. 200 (HSAAP-02). All these sites are off the embankment of the same rail line.

Area B Tar Burial Site (SWMU-25), was deleted from HSAAP-12 and combined with HSAAP-03. This site is located on the west end of Area B, just to the east of the closed industrial landfill (HSAAP-04) off of Road 1932. The closed site is 15 feet wide, 75 feet long and about 10 feet deep. This site contains approximately 60 cubic yards of coal tar from Area A Gas Producers. The pit received coal tar from 1978 to 1980 when it was closed and covered with clay. Another two feet of clay was added in 1985. Grass is growing as a final cover at the site. The tar is considered a solid waste with hazardous constituents.

SWMU-14 was removed from HSAAP-22 to be included in this site. SWMU-14 is located just across Wilcox Drive to the west of Area A's main production area. The landfill is 40 to 50 feet north of the South Fork of the Holston River. The site is approximately three acres and was used from 1949 to 1978. The landfill is 10 to 15 feet in depth at some spots.

Discrete coal tar exposures have been observed on the bank of the South Fork of the Holston River along the northwest side of this landfill. An RFI will be conducted in FY01 at this site to determine the amount of coal tar along the bank and assess the potential for future migration of coal tar from the landfill to the river.

SWMU 97 was identified by TDEC in 1999 as coal tar contamination along the Area A – Area B corridor. This unit covers the potential areas where coal tar may have been indiscriminately dumped in the past.

SWMU 98 was identified by TDEC in 1999 as coal tar contamination south of the recently closed sanitary landfill, SWMU 17. This unit consists of individual small coal tar waste that waste indiscriminately dumped on the ground surface on the south side of road leading to the rock quarry.

SWMU 102 is the Former Penn-Dixie Sedimentation Pond site. This SWMU is located northeast of the location where the inter-plant railroad crosses the South Fork of the Holston River. The site is located approximately 265 feet from the east bank of the South Fork of the Holston River. The SWMU comprised a small portion of the former Penn-Dixie pond that extended onto the HSAAP property and contained flyash and cinders. In 1997 the pond was filled and a clay cap was constructed over the fill. This clay cap extended over SWMU 102. The results of the soil and ground-water investigation conducted at this unit in 1997 were reported in the CS Work Plan (1999). TDEC approved the site for NFA in February 2000.

## IRP STATUS

**RRSE RATING:** High Risk (1B)

**CONTAMINANTS OF CONCERN:**

PAHs and Metals

**MEDIA OF CONCERN:**

Surface Water and Soil

**COMPLETED IRP PHASE:** RFA, IRA(SWMU-26)

**CURRENT IRP PHASE:** RFI, IRA(SWMU-14)

**FUTURE IRP PHASE:** IRA, RI/FS, RC

# HSAAP-003, SWMU 14, 25, 26 WWII TAR SITES

## PROPOSED PLAN

SWMU-26: Sampling from five existing wells will be performed to determine if a release has occurred.

SWMU-25: Sampling from one existing well will be performed to determine if a release has occurred.

SWMU-14 RFI will be conducted in FY01.

SWMU-97 & 98: RFIs will be conducted in accordance with the approved RFI Work Plan Schedule (tentative date of FY04)

SWMU 102 is NFA.

The IRA consists of the physical removal of tar.

## CONSTRAINED COST TO COMPLETE

PHASE	2001	2002	2003	2004	2005	2006	2007+
RI/FS	136	200					
IRA		1800		200			
RD							
RA(C)							
RA(O)							
LTM							
LTO							

**PROJECTED TOTAL: \$2,336,000**

# HSAAP-003, SWMU 14, 25, 26 WWII TAR SITES



# HSAAP-004, SWMU 17 SANITARY LANDFILL

## SITE DESCRIPTION

This site is located on the west side of Area B off of Road 1932. The site is 8.5 acres and has been in operation from the fall of 1983 until October 1996. Trash, asbestos, glass, empty pesticide cans, construction waste, scrap lumber, metal, rubber tires, industrial and sanitary wastewater sludge, ash from the refuse incinerator, solidified tar, and other wastes have been placed in this landfill. Groundwater tests have shown manganese, iron, nitrate, selenium, pH (lower than 6.5), and TDS above EPA's drinking water standards at times.

## PROPOSED PLAN

This site is not eligible for ER,A funding. The post-closure plan will be followed.

## IRP STATUS

**RRSE RATING:** High Risk (1A)

**CONTAMINANTS OF CONCERN:**

Asbestos, Metals, refuse

**MEDIA OF CONCERN:**

Groundwater, Soil

**COMPLETED IRP PHASE:**

N/A

**CURRENT IRP PHASE:**

RC

**FUTURE IRP PHASE:**

RC

# HSAAP-008, SWMU 27, 28, 29, 30, 33, 35, 36, 42 SURFACE IMPOUNDMENTS REQUIRING CONFIRM.

## SITE DESCRIPTION

This area includes sedimentation ponds for the following: Area B coal pile (SWMU-27), flyash landfill (SWMU-28) and sanitary landfill (SWMU-29). The former nitric acid equalization basin (SWMU-30), neutralization basin (SWMU-33), unlined spill pond (SWMU-35) and lined spill pond (SWMU-36), and the A-1 equalization basin (SWMU-42).

The sedimentation ponds for the Flyash Landfill (SWMU-28) and Area B coal pile (SWMU-27) are not eligible for ER,A funding. Monitoring and any other future actions for the former sedimentation pond for the former sanitary landfill (SWMU-29) will be addressed under SWMU-19 (HSAAP-01).

Monitoring of the A-1 equalization basin (SWMU-42) was conducted between 1991-1994. The unit is No Further Action based on TDEC approval of the CS Work Plan (Feb 2000).

The lined spill pond (SWMU 36) is located south of the B-line (Acetic Acid Recovery) in Area B. The site, approximately 30 by 50 feet, is thought to have been in operation from 1987 to 1988. The unit is No Further Action based on TDEC approval of the CS report (June 2000).

SWMU-35, the unlined spill pond, is located south of the lined pond in Area B. The site is less than one acre. An approved closure plan was prepared for an equivalency determination for the former nitric acid neutralization basin (SWMU-30). The unit is No Further Action based on TDEC approval of CS Work Plan (Feb 2000).

The active neutralization pond (SWMU-33) is not eligible for ER,A funding.

## PROPOSED PLAN

Soil Sampling will be conducted at the unlined spill pond (SWMU 35) for explosives, metals, SVOCs and VOCs. If results indicate no contamination, a request for no further action will be submitted to TDEC. Seven wells associated with SWMUs at this DSERT site will be sampled as part of the site-wide GW monitoring program.

## IRP STATUS

**RRSE RATING:** Medium Risk (2B)

**CONTAMINANTS OF CONCERN:**

Metals, explosives, SVOCs, and VOCs

**MEDIA OF CONCERN:**

Groundwater, Soil

**COMPLETED IRP PHASE:**

RFA

**CURRENT IRP PHASE:**

RI

**FUTURE IRP PHASE:**

RC



## CONSTRAINED COST TO COMPLETE

PHASE	2001	2002	2003	2004	2005	2006	2007+
RI/FS	36						
IRA							
RD							
RA(C)							
RA(O)							
LTM							
LTO							

**PROJECTED TOTAL: \$36,000**

# HSAAP-011, SWMU 37 NITRIC ACID SPILL POND

## SITE DESCRIPTION

This site is located south of the Nitric Acid Area in Area B. The site is less than one acre and has been in operation since 1976.

## PROPOSED PLAN

This site is active and is not eligible for ER,A funding.

## IRP STATUS

**RRSE RATING:** Low Risk

**CONTAMINANTS OF CONCERN:**

Acid, Industrial Wastewater

**MEDIA OF CONCERN:**

Soil, Groundwater

**COMPLETED IRP PHASE:**

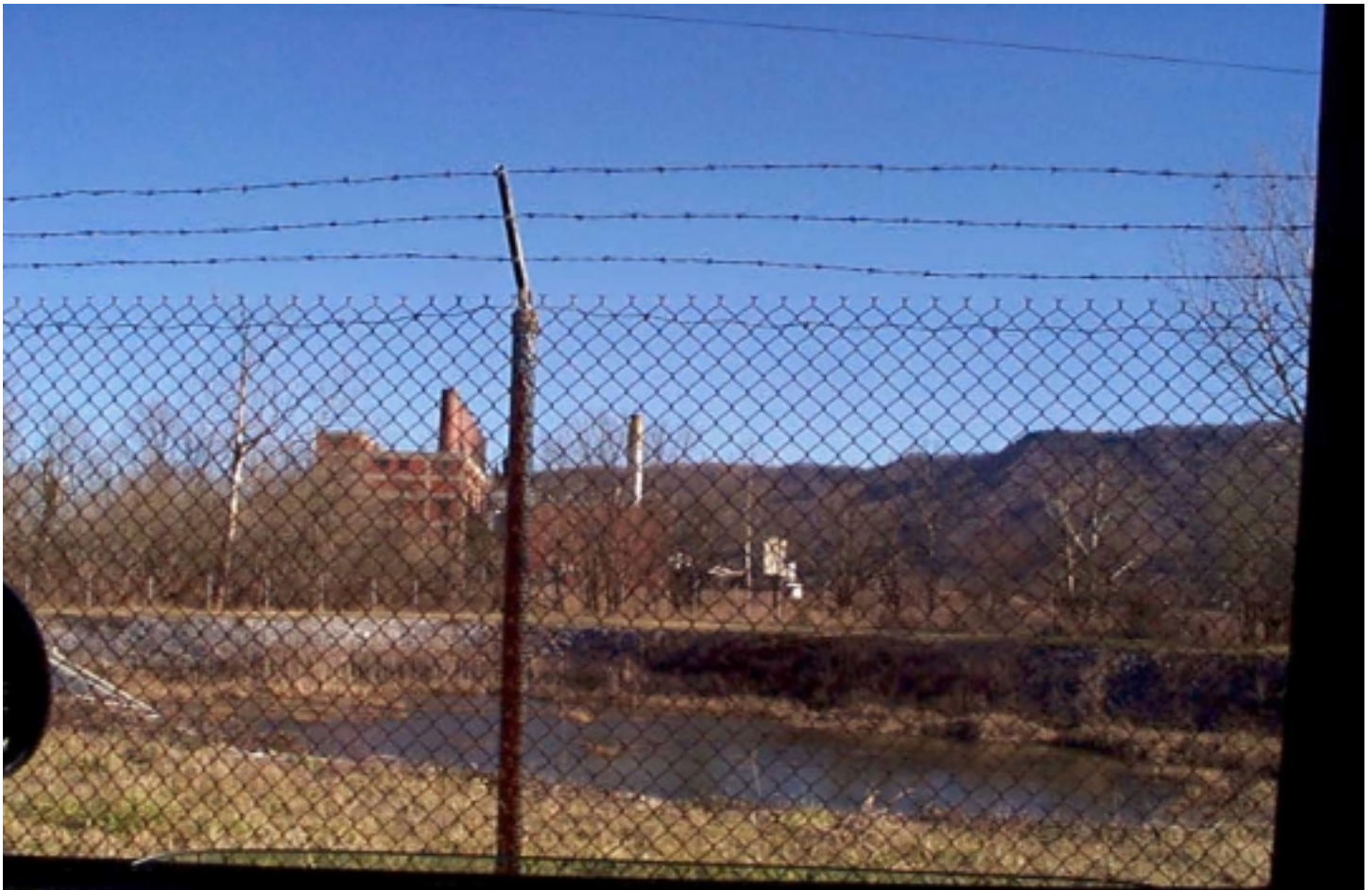
RFA

**CURRENT IRP PHASE:**

RC

**FUTURE IRP PHASE:**

RC





# HSAAP-012, SWMU 25 AREA B TAR BURIAL PIT

## SITE DESCRIPTION

This site is now part of HSAAP-003.

## IRP STATUS

**RRSE RATING:** Low Risk

**CONTAMINANTS OF CONCERN:**

Explosives, Metals, Organics

**MEDIA OF CONCERN:**

Soil

**COMPLETED IRP PHASE:**

RFA

**CURRENT IRP PHASE:**

RC

**FUTURE IRP PHASE:**

RC

# HSAAP-013, SWMU 38, 39 FLY ASH LF, PONDS 1 & 2

## SITE DESCRIPTION

This site is located north of Building D-10 in Area B and lies south of Road 1921 and just north of the main line railroad. The site was initially used from 1969 to 1972 for liquid sodium nitrate storage and could hold 11.1 million gallons.

The ponds were closed in the 1970's. In the fall of 1983, the site was opened as a flyash landfill (5.5 acres, 182,410 cyd capacity). The landfill was closed in the fall of 1997.

## IRP STATUS

**RRSE RATING:** High Risk (1B)

**CONTAMINANTS OF CONCERN:**

industrial liquid waste, flyash, heavy metals

**MEDIA OF CONCERN:**

Soil, groundwater

**COMPLETED IRP PHASE:**

RFA

**CURRENT IRP PHASE:**

RC, (LTM non-IRP)

**FUTURE IRP PHASE:**

RC

## PROPOSED PLAN

This site is not eligible for ER,A funding.

The site is regulated under TDEC's Solid Waste Division. The closure plan requires semi-annual monitoring and inspection.



# HSAAP-015, SWMU 43- 49

## BURNING GROUND

### SITE DESCRIPTION

This site includes the general burning ground area (SWMU 43) including the former burning pads (SWMU-44), current burn pans (SWMU-45), burning cages (SMWU-46), burning piles (SWMU-47), former sludge dewater station (SWMU-48), and vehicle wash pad (SWMU-49). The only ER,A eligible SWMUs listed above are SWMU-44 and SWMU-48. The operation of SWMU-45 has an interim RCRA Part B permit.

The burning ground is located at the south of the Area B main production area and just north of the Holston River. There are several operations that were or are conducted in this area: open burning of waste explosives, open burning of explosive contaminated waste (paper cages, open piles), and open burning of contaminated solvents (from 1980 to July 1984). It is situated in a 200-year flood plain. Waste reportedly disposed of at this area have included waste explosives, explosive contaminated materials, construction/ demolition debris from building rehabilitation activities, hydraulic oil, and process by-product chemicals to include explosive contaminated solvents. There is soil contamination.

In March 1984 the explosive burn pads were converted to above ground pans. In August 1985, soil was excavated and thermally treated to close the pad area. Also, a berm was placed around the explosive burn pans to provide flood protection. The RCRA Part B permit is in interim status.

### PROPOSED PLAN

Soil sampling will be conducted at three former burning piles associated with SWMU-47. Two additional wells will be installed and sampled at SWMU-43. The five existing wells will also be sampled.

### IRP STATUS

**RRSE RATING:** High Risk (1B)

**CONTAMINANTS OF CONCERN:**

Explosives, Solvents

**MEDIA OF CONCERN:**

Soil, groundwater

**COMPLETED IRP PHASE:**

RFA

**CURRENT IRP PHASE:**

RD

**FUTURE IRP PHASE:**

RA



### CONSTRAINED COST TO COMPLETE

PHASE	2001	2002	2003	2004	2005	2006	2007+
RI/FS							
IRA							
RD		90					
RA(C)		50					
RA(O)							
LTM							
LTO							

**PROJECTED TOTAL: \$140,000**

# HSAAP-016, AOC I

## BUILDING 8 EXPLOSIVES TESTING AREA

### SITE DESCRIPTION

This site is located in the Area B shop area just north of Building 8 (main lab). The site is less than one acre and began operation in 1943.

CS results indicate a release of lead and low-level concentration of explosives.

### PROPOSED PLAN

This site will be handled and funded with HSAAP-038 (similar to RFI as AOCI).

### IRP STATUS

**RRSE RATING:** Medium Risk

**CONTAMINANTS OF CONCERN:**

Explosives, Metals

**MEDIA OF CONCERN:**

Soil, Groundwater

**COMPLETED IRP PHASE:**

RFA

**CURRENT IRP PHASE:**

RC

**FUTURE IRP PHASE:**

RC

# HSAAP-017

## PONDS (SODIUM NITRATE) 3 & 4

### SITE DESCRIPTION

This site is located in the south central part of Area B and is in the 200-yr flood plain. Pond 3 (SWMU-40) is 10 acres and was in operation between 1970-1987. Pond 4 (SWMU-41) is approximately 15 acres and was in operation between 1974-1994. The residue material was drained to the industrial wastewater treatment plant (IWT) upon closure of the ponds. Due to the high nitrogen content, upsets at the IWT resulted causing this method of removal to be discontinued. During 1994-1995, in accordance with a State negotiated schedule, the pond material was removed and the ponds were capped. The site has been vegetated. Groundwater is currently being monitored.

### IRP STATUS

**RRSE RATING:** High Risk (1B)

**CONTAMINANTS OF CONCERN:**

Sodium Nitrate, tars

**MEDIA OF CONCERN:**

Soil, groundwater

**COMPLETED IRP PHASE:**

RFA, RFI

**CURRENT IRP PHASE:**

RC

**FUTURE IRP PHASE:**

RC

### PROPOSED PLAN

No further action is necessary.



# HSAAP-019, SWMU 89

## STP E OF MFG AREA

### SITE DESCRIPTION

This site is also known as the Industrial Wastewater Treatment Facility. It began operation in 1983. It is currently active and is therefore not eligible for ER,A funding.

No further action is anticipated at SWMU 89, the industrial wastewater treatment plant; however, the areas within the collection system may be in poor condition, potentially leaking acids, solvents and/or explosives into the surrounding soil and/or groundwater. Much of the area is still active. Integrity assessments/confirmatory sampling was recommended.

USACHPPM recommended no further action at the industrial wastewater treatment plant.

### PROPOSED PLAN

This site is currently active, therefore, it is not eligible for ER,A funding.

### IRP STATUS

**RRSERATING:**

**CONTAMINANTS OF CONCERN:**

Solvents, acids, explosives

**MEDIA OF CONCERN:**

Groundwater, Soil

**COMPLETED IRP PHASE:**

RFA

**CURRENT IRP PHASE:**

RC

**FUTURE IRP PHASE:**

RC

# HSAAP-020, SWMU 23 FLY ASH LANDFILL AREA, CLOSED

## SITE DESCRIPTION

This site is located in the south east of Area B adjacent to the lower end of Line 10. The site is 7 acres and was operated from 1977 to August 1984 when it was closed. Groundwater analyses have shown high levels of manganese and some metals in both up gradient and down gradient wells. No adverse trends have been observed.

## PROPOSED PLAN

No further action is necessary.

## IRP STATUS

**RRSE RATING:** Low Risk

**CONTAMINANTS OF CONCERN:**

Metals

**MEDIA OF CONCERN:**

Groundwater, Soil

**COMPLETED IRP PHASE:**

RFA

**CURRENT IRP PHASE:**

RC

**FUTURE IRP PHASE:**

RC

# HSAAP-021, SWMU 12/13 AERATION POND AREA A

## SITE DESCRIPTION

This site consists of two ponds: the Area A Spill Pond (SWMU-12) and the Area A Aeration Basin (SWMU-13).

This site is located just across Wilcox Drive to the west of Area A's main production area. The lagoon was originally constructed in 1975 as one clay-lined basin receiving wastewater from Bldg. 2 (Acetic Acid Concentration). In 1979, wastewater from Bldg. 6 (Anhydride Refining) and Bldg. 7 (Anhydride Mfg.) were directed to this lagoon. In 1983, the pond was divided to provide an equalization basin and spill pond. The lagoons are lined with at least two feet of clay and are 15 feet deep.

## PROPOSED PLAN

No further action is necessary.

## IRP STATUS

**RRSE RATING:** High Risk

**CONTAMINANTS OF CONCERN:**

Acid, industrial wastewater, metals

**MEDIA OF CONCERN:**

Groundwater, Soil, Surface Water

**COMPLETED IRP PHASE:**

RFA

**CURRENT IRP PHASE:**

RC

**FUTURE IRP PHASE:**

RC



# HSAAP-022, SWMU 15 LANDFILL AREA A, COAL TAR

## SITE DESCRIPTION

Coal Tar Landfill #2 (SWMU-15) is located just across Wilcox Drive to the west of Area A's main production area. Coal Tar Landfill #2, which was located west of Coal Tar Landfill #1 (SWMU-14), approximately 1/4 acre in size, was clean-closed in 1997. SWMU-14 was incorporated into HSAAP-03.

## PROPOSED PLAN

No further action is necessary.

## IRP STATUS

**RRSE RATING:** High Risk

**CONTAMINANTS OF CONCERN:**

Metals, PAHs

**MEDIA OF CONCERN:**

Soil, groundwater

**COMPLETED IRP PHASE:**

RFA, RFI

**CURRENT IRP PHASE:**

RC

**FUTURE IRP PHASE:**

RC



# HSAAP-023

## PRODUCTION AREA B DRAINAGE DITCHES

### SITE DESCRIPTION

This site includes production drainage ditches (SWMU-2), Mad Branch (AOC-A), the AFG Stream (AOC-B) and Arnott Branch (AOC-G).

Sampling of sediment along selected sections of the ditches was conducted by USACHPPM in 1997 and reported to TDEC in 1999 as part of the CS Work Plan. Based on the sediment results, TDEC recommended surface water sampling at locations in the ditches where sediment samples collected in 1997 indicated the presence of SVOCs and elevated concentrations of certain metals. Surface water samples will be collected during the Pre-RFI sampling conducted during November 2000.

### PROPOSED PLAN

No further action is anticipated. However, surface water samples will be called as part of a Pre-RFI in the first quarter of FY2001.

### IRP STATUS

**RRSE RATING:** Medium Risk

**CONTAMINANTS OF CONCERN:**

Explosives, metals

**MEDIA OF CONCERN:**

Sediment, Surface Water

**COMPLETED IRP PHASE:**

RFA

**CURRENT IRP PHASE:**

RC

**FUTURE IRP PHASE:**

RC

# HSAAP-025, SWMU 86, 87, 77, 78, 88 PESTICIDE DRAIN FIELD NEAR BLDG 148

## SITE DESCRIPTION

The following SWMUs are included in this site: Pesticide Rinsate Pre-filter Tank (SWMU-77), Pesticide Rinsate Septic Tank (SWMU-78), Pesticide Drain Field (SWMU-86), Pesticide Washdown Area (SWMU-87), WWII Pesticide Washdown Area (SWMU-88).

## IRP STATUS

**RRSE RATING:** Medium Risk

**CONTAMINANTS OF CONCERN:**

Metals, Organics (pesticides & herbicides), Metals

**MEDIA OF CONCERN:**

Groundwater, Soil

**COMPLETED IRP PHASE:**

RFA

**CURRENT IRP PHASE:**

RC

**FUTURE IRP PHASE:**

RC



# HSAAP-026

## PESTICIDE AREAS NEAR B-105, B-148

### SITE DESCRIPTION

The following SWMUs are adjacent to Building 148: Pesticide Rinsate Pre-filter Tank (SWMU-77), Pesticide Rinsate Septic Tank (SWMU-78), Pesticide Drain Field (SWMU-86), Pesticide Washdown Area (SWMU-87).

WWII Pesticide Washdown Area (SWMU-88) is adjacent to Building 105.

The Pesticide Drain Field (SWMU 86) is 50 feet wide and 50 feet long and is now vegetated. The drain field and septic system (SWMU-78) were constructed during the early- to mid-1960s. The floor drain inside Bldg. 148 was plugged prior to 1980, and the drain in the concrete catch basin outside of the building was plugged in 1984. The only waste the drain field receives is from handwashing in the sink inside Bldg. 148. No pesticide fluid has been disposed of in the sink.

The WWII Pesticide Equipment Washdown Area (SWMU-88) is a pit of unknown depth and was filled with rocks. The rock and gravel area is approximately 15 feet by 30 feet. No records of operation exist, but it is believed the site operated from the 1940s to the early 1960s.

Pesticides and herbicides were detected in soil samples collected from SWMU-88.

Pesticides and herbicides were detected in soil and GW samples collected from SWMUs associated with Building 148.

### PROPOSED PLAN

RFI/CMS activities will be performed for both soil and GW. Remedial action is anticipated.

### IRP STATUS

**RRSE RATING:** Medium Risk

**CONTAMINANTS OF CONCERN:**

Pesticides

**MEDIA OF CONCERN:**

Soil, groundwater

**COMPLETED IRP PHASE:**

RFA

**CURRENT IRP PHASE:**

RFI

**FUTURE IRP PHASE:**

CMS, DES, CMI(C)

### CONSTRAINED COST TO COMPLETE

PHASE	2001	2002	2003	2004	2005	2006	2007+
RI/FS			259	1129			
IRA							
RD					250		
RA(C)						1495	
RA(O)							
LTM							
LTO							

**PROJECTED TOTAL: \$3,133,000**

# HSAAP-027, SWMU 18

## SANITARY LANDFILL WEST OF B-155, CLOSED

### SITE DESCRIPTION

This site is located in Area B south of Building 9 (Electrical Sub-station) off of Road 1901 and west of Bldg. 155 (Production Administration). The site is three acres and was used from 1967 to 1984. It was closed on 27 August 1984 and is registered with the county. Approximately 2,160 cubic yards of trash, garbage, bagged asbestos, empty pesticide containers, and fluorescent light bulbs were landfilled at this site.

GW monitoring results indicate mercury levels above State standards.

### PROPOSED PLAN

Sampling will be performed annually for 2 years as part of RFI of site-wide GW.

### IRP STATUS

**RRSE RATING:** Low Risk

**CONTAMINANTS OF CONCERN:**

Metals, Asbestos, refuse, scrap metal

**MEDIA OF CONCERN:**

Soil, groundwater

**COMPLETED IRP PHASE:**

RFA

**CURRENT IRP PHASE:**

LTM

**FUTURE IRP PHASE:**

LTM

### CONSTRAINED COST TO COMPLETE

PHASE	2001	2002	2003	2004	2005	2006	2007+
RI/FS							
IRA							
RD							
RA(C)							
RA(O)							
LTM		2	2				
LTO							

**PROJECTED TOTAL: \$4,000**

# HSAAP-028

## LEAKING UST B-22, FLASHING FACILITY

### SITE DESCRIPTION

This site is located in the southern part of Area B in the burning ground area within 200 feet of the Holston River. This is within the 100-yr flood plain. The site is less than one acre and was built in 1943. The contamination was discovered on 8 May 1991 during replacement of the UST (kerosene) with an above ground tank. This site has an approved site-specific standard.

The UST was removed in May, 1991.

### PROPOSED PLAN

No further action is necessary.

### IRP STATUS

**RRSE RATING:** High Risk

**CONTAMINANTS OF CONCERN:**

POL

**MEDIA OF CONCERN:**

Groundwater, soil

**COMPLETED IRP PHASE:**

RFA, RFI, IRA

**CURRENT IRP PHASE:**

RC

**FUTURE IRP PHASE:**

RC

# HSAAP-029

## LEAKING UST B-105, SERVICE STATION

### SITE DESCRIPTION

The former UST (AOC-C) was located in the central part of Area B. The site is located on about two acres and was built in 1943. The contamination was discovered 16 Jan 1990 when diesel fuel was observed seeping through a crack in the pavement along the roadway near Bldg. 105. Inventory revealed a loss of 106 gallons. Upon investigation, gasoline contamination in the entire general area of Building 105 was also discovered. In 1994, the UST's for gasoline and diesel fuel were removed and above ground tanks installed. During 1995, a corrective action plan (CAP) was approved and an air sparge/vapor extraction system was installed. Remediation began August 1995. Site-status monitoring reports are required every 6 months. 14 MWs are in the area, 12 - 83 ft. depth.

SWMU-51/52 - The units are located inside and outside, respectively, the Service Station (Building 105) at Area B. The unit manages wash water that may contain oil or fuel-related compounds. The unit consists of a drain grate above a concrete catch basin. Each basin is surrounded by a concrete pad. The concrete basin discharges to the industrial sewer. Prior to connection of the unit to the IWTP, wastewater may have been discharged to a ditch located behind the building. Confirmatory sampling has been completed indicating the presence of SVOCs at levels above industrial standards.

### IRP STATUS

**RRSE RATING:** High Risk

**CONTAMINANTS OF CONCERN:**

POL

**MEDIA OF CONCERN:**

Groundwater

**COMPLETED IRP PHASE:**

AOC C: RFA, RFI, CMI(C) SWMUs 51/52: RFA

**CURRENT IRP PHASE:**

RI/FS

**FUTURE IRP PHASE:**

RD, RA(C), RA(O)

### PROPOSED PLAN

During November 2000, Pre-RFI sampling will be conducted to further characterize the contamination at both SWMU 51 and 52. The existing remediation system at Building 105 has been shutoff and is being re-evaluated. Ground-water quality conditions at the site will be included in the RFI of the Site-Wide Ground Water at HSAAP.

### CONSTRAINED COST TO COMPLETE

PHASE	2001	2002	2003	2004	2005	2006	2007+
RI/FS	15						
IRA							
RD				15			
RA(C)				150			
RA(O)					180		
LTM							
LTO							

**PROJECTED TOTAL: \$360,000**

# HSAAP-029

## LEAKING UST B-105, SERVICE STATION





# HSAAP-030

## FIRING RANGES

### SITE DESCRIPTION

These three sites (each approximately one acre in size) are located in the central part of Area B. Site B-134 was used prior to 1980 as a small arms firing range. Another site of approximately one acre by the raw water reservoir was used prior to 1984. A third site near B-234 was used prior to 1982. These sites were not identified as a potential SWMU until after the 1991 RFA.

### PROPOSED PLAN

No further action pending Range rule modifications.

### IRP STATUS

**RRSE RATING:** High Risk (1B)

**CONTAMINANTS OF CONCERN:**

Lead

**MEDIA OF CONCERN:**

Groundwater, Soil

**COMPLETED IRP PHASE:**

RFA

**CURRENT IRP PHASE:**

RC

**FUTURE IRP PHASE:**

RC

# HSAAP-033, SWMU 50 FORMER SOLVENT BURN TANK

## SITE DESCRIPTION

This former tank site is located northwest of the bermed burn pan area. The tank was used prior to 1984 and closed under interim status regulations in 1984. Closure of the site was approved under current regulations in January 1998 when the tank was removed.

An approved corrective action plan under the post-closure care order will define groundwater monitoring requirements.

HSAAP has submitted a Draft plan for alternative concentration limits and is awaiting comments from TDEC.

## IRP STATUS

**RRSE RATING:** High Risk (1A)

**CONTAMINANTS OF CONCERN:**

Explosives, Solvent

**MEDIA OF CONCERN:**

Groundwater, Soil

**COMPLETED IRP PHASE:**

PA/SI, TDEC RFA

**CURRENT IRP PHASE:**

LTM

**FUTURE IRP PHASE:**

LTM

## PROPOSED PLAN

LTM will continue.

## CONSTRAINED COST TO COMPLETE

PHASE	2001	2002	2003	2004	2005	2006	2007+
RI/FS							
IRA							
RD							
RA(C)							
RA(O)							
LTM	40	40	40	40			
LTO							

**PROJECTED TOTAL: \$160,000**

# HSAAP-034

## HEATING OIL LEAKING UST AT B-12, AREA A

### SITE DESCRIPTION

An abandoned leaking heating oil tank and surrounding contaminated soil at Bldg. 12A was removed in 1992. One GW well was installed, sampled, and no contamination was detected.

### PROPOSED PLAN

No further action is necessary.

### IRP STATUS

**RRSE RATING:** Low Risk (3B)

**CONTAMINANTS OF CONCERN:**

POL

**MEDIA OF CONCERN:**

Groundwater

**COMPLETED IRP PHASE:**

RFA, RFI, IRA

**CURRENT IRP PHASE:**

RC

**FUTURE IRP PHASE:**

RC



# HSAAP-036, SWMU 56

## ACTIVE COAL PILE SOUTH OF B-200

### SITE DESCRIPTION

The unit is located south of Building 200 (Steam Plant) in Area B. The unit consists of a coal pile that covers approximately 3.5 acres. The ground surface of the units slopes to the southwest. The south side of the unit is bound by a 3 to 4 foot earthen berm. The west side of the unit is bounded by the Coal Pile Sedimentation Pond. The unit is located over an area once used to dispose of fly ash and coal tar.

### PROPOSED PLAN

This site is active and is therefore not eligible for ER,A funding.

### IRP STATUS

**RRSE RATING:** RFA

**CONTAMINANTS OF CONCERN:**

N/A

**MEDIA OF CONCERN:**

PAHs

**COMPLETED IRP PHASE:**

RFA

**CURRENT IRP PHASE:**

RC

**FUTURE IRP PHASE:**

RC



# HSAAP-037, SWMU 4, 96, 103 GAS PRODUCER CONTAMINATION

## SITE DESCRIPTION

SWMU 4 consisted of aboveground steel tanks that were located behind Building 8. The tanks stored coal tar, generated at Building 10, prior to burning. The Producer Gas Building (Building 10) began operation circa WWII and operated until fuel conversion was completed for natural gas in 1994. The tanks were removed from the site in 1996. Coal tar and coal tar liquor spillage from the tanks and associated coal tar pit (used for draining water off the top of the coal tar in the steel tanks) in the past may have contaminated soil at the site.

SWMU 96 was the Producer Gas Building Coal Tar Liquor Storage Tanks. This unit was located between Building 10 (Producer Gas Building) and the associated cooling coils in Area A. The unit consisted of aboveground storage tanks surrounded by a scrubbing and cooling unit. The waste was generated from the production of coal gas in Building 10. The unit was closed when the Producer Gas Building ceased operations and the tanks and concrete wall structure were removed in 1996. Visibly contaminated soil was removed from the excavation and replaced with clean soil. A removal action was completed during 1997. Preliminary results of USACHPPM sampling at the Gas Producer indicate that groundwater contamination exists.

Prior to 1949, coal tar may have been disposed of in the ground at this site. Beginning in 1949, disposal occurred at a site along the Holston River, approximately 2000 to 3000 feet from the facility, at SWMU 14 as well as other locations. The coal tar disposal practices changed in the early 1980s with improvements in the collection system including installation of concrete holding tanks behind Building 8.

SWMU 103 was identified in early 2000. It is located behind Building 8 (south side) in Area A. It is identified as a former ditch that extended from the rear of Building 8 to the South Fork of the Holston River. An aboveground tank (filtered water) covers a major portion of the former extent of the unit between the building and the river. The ditch apparently drained coal tar liquor overflows from SWMU 4. Coal tar waste is located on the bank of the South Fork of the Holston River where the ditch discharged.

## IRP STATUS

**RRSE RATING:** Medium Risk

**CONTAMINANTS OF CONCERN:**

PAHs, VOCs, SVOCs, Metals

**MEDIA OF CONCERN:**

Groundwater, Soil

**COMPLETED IRP PHASE:**

PA/SI, IRA

**CURRENT IRP PHASE:**

RFI

**FUTURE IRP PHASE:**

DES, CMI(C), LTM

## PROPOSED PLAN

An RFI will be conducted.

## CONSTRAINED COST TO COMPLETE

PHASE	2001	2002	2003	2004	2005	2006	2007+
RI/FS	283	315					
IRA							
RD				200			
RA(C)				448	1017	537	
RA(O)							
LTM						124	876
LTO							

**PROJECTED TOTAL: \$3,800,000**

# HSAAP-038, SWMU 60, 90 MISC. STORAGE AREAS REQUIRING CONFIRM.

## SITE DESCRIPTION

This site consists of the following SWMUs used for such purposes as to store product materials, treat and store recovered material, or store wastes: Propyl Formate Tanks (SWMU-7), Oily Rags Satellite Accumulation Area (SAA) (SWMU-57), Waste Oil Accumulation Area (SWMU-58), Respiratory Cartridge SAA (SWMU-65), Scrap Metal Yard (SWMU-69), Production Yards (SWMU-70), Ball Field Staging Area (SWMU-74), T-1 Building Staging Area (SWMU-75), Decontamination Ovens (SWMU-83), Manganese Ore Piles (AOC-F), Area B Former Coal Piles (AOC-J).

SWMUs-7, 57, 58, 65, 69, 70, 74, 75, 83, require no further action.

High levels of TPH were detected in the soil at AOC-F.

## PROPOSED PLAN

Pre-RFI soil sampling will be performed at AOC-F. (Fall 2000)

Pre-RFI soil and sediment sampling will be performed at AOC-J.(Fall 2000)

Pre-RFI soil sampling at selected Production Yards (#6 and #7)

RFI at SWMU-83.

This Site will include HSAAP 016 in the future.

## IRP STATUS

**RRSE RATING:** High Risk (1B)

**CONTAMINANTS OF CONCERN:**

Explosives, Metals, POL

**MEDIA OF CONCERN:**

Soil, Groundwater

**COMPLETED IRP PHASE:**

RFA

**CURRENT IRP PHASE:**

RFI

**FUTURE IRP PHASE:**

RC



## CONSTRAINED COST TO COMPLETE

PHASE	2001	2002	2003	2004	2005	2006	2007+
RI/FS	40						
IRA							
RD							
RA(C)							
RA(O)							
LTM							
LTO							

**PROJECTED TOTAL: \$40,000**

# HSAAP-039

## PAST SPILL SITES/LOADING SITES

### SITE DESCRIPTION

All SWMUs and AOCs that were associated with this site have been either incorporated into other DSERTS sites or will be submitted to TDEC for no further action.

### IRP STATUS

**RRSE RATING:** Medium Risk

**CONTAMINANTS OF CONCERN:**

N/A

**MEDIA OF CONCERN:**

N/A

**COMPLETED IRP PHASE:**

RFA

**CURRENT IRP PHASE:**

RC

**FUTURE IRP PHASE:**

RC

# HSAAP-040

## SANDBLASTING/LOADING SITES

### SITE DESCRIPTION

This site consists of SWMUs 9 (Area A Flyash Loading Area), 10 (Rail Car loading Area in Area A), 82 (Area B Flyash Loading Area), 93 (Sandblasting Area 1), 94 (Sandblasting Area 2), and 95 (Sandblasting Area 3).

Soil samples were collected from this site in 1997 and 2000. Data was reported in the CS Work Plan and the CS Report. TDEC approved No Further Action for the units in this site (February 2000 & June 2000).

### IRP STATUS

**RRSE RATING:** Low Risk

**CONTAMINANTS OF CONCERN:**

Metals

**MEDIA OF CONCERN:**

Soil, Groundwater

**COMPLETED IRP PHASE:**

RFA

**CURRENT IRP PHASE:**

RI/FS

**FUTURE IRP PHASE:**

RC

### PROPOSED PLAN

No further action status is pending TDEC review.



# SCHEDULE

## PAST MILESTONES

### FY 1991-92

A PA/SI was conducted by an EPA contractor, and confirmed by USATHAMA. A PA/SI was completed by an EPA contractor in August 1991, and by USATHAMA in May 1992. These were performed at no cost to the installation. These actions initiated the restoration program at HSAAP.

### FY 1993-95

The CE performed an Environmental Assessment (RFI) for a former UST site, Bldg. 22 What site is that?. HSAAP does not have record of the total funds received by the CE for Bldg. 22, nor the date when the CE became involved in the Bldg. 22 effort.

### 1994

During September 26-30, 1994, the installation received funding for a Risk Assessment at Ponds 3 and 4, HSAAP-17 (\$167,068), and an Interim Removal Action at Pond 3 (\$1,955,505) and Pond 4 (\$659,918). The Risk Assessment was completed early FY96. The Interim removal efforts are complete, with the exception of establishing vegetation, which is expected to be completed late FY96. TDEC approval is required.

On September 30 of 1994, the installation received funding (\$245,848) for the design and installation of a remediation system for POL contamination at a former UST (Bldg. 105). A solvent vapor extraction system was installed in August of 1995 and is now in operation.

During late FY94, the CE received funding for an RFI at three Coal Tar Sites (WWII site at Area B, and SWMU 14 and 15 at Area A). HSAAP does not have record of funding received by the

### 1995

On March 31, 1995, the installation received funding (\$302,520) for groundwater monitoring at DERP Sites. Also, funding was received for two removal efforts: \$992,574 for removal of Pond 3, and \$487,038 for coal tar removal near Bldg. 8A and 10A.

On July 7, 1995, the installation received \$397,866 to develop a closure plan, permit application and post-closure care plan for the former solvent burn tank at Area B. The closure plan has been prepared and approved and sampling is being conducted with close State guidance and in accordance with the closure plan.

On September 26, 1995, the installation received \$45,204 to prepare a request for a site-specific standard at Bldg. 22. The third of four required reports have been submitted to the State to-date.

# SCHEDULE

## PAST MILESTONES

### 1995 continued...

Also on September 26, 1995, the installation received \$393,369 for an interim removal action and a Corrective Action Plan for the Area A coal tar sites HSAAP-22. Coal tar has been removed from the banks of the Holston River. The Corrective Action Plan is being prepared based on the CE prepared RFI (draft report obtained in June 1996).

During FY95, the CE received S&A funds for two RFIs in progress (Area A Coal Tar Sites and World War II Coal Tar Site).

### 1996

On July 3, 1996, the installation received \$47,382 to continue the operation and maintenance of the Bldg. 105 solvent-vapor extraction system, SWMU/HSAAP-29

During FY96, the CE received approximately \$48K to design a removal action for coal tar at SWMU 15. The CE also received S&A funds for two RFI's (Area A Coal Tar Sites and World War II Coal Tar Site) in progress during FY96.

### 1997

On July 3, 1996, the installation received \$47,382 to continue the operation and maintenance of the Bldg. 105 solvent-vapor extraction system. SWMU/HSAAP-29

During FY96, the CE received approximately \$48K to design a removal action for coal tar at SWMU 15. The CE also received S&A funds for two RFI's (Area A Coal Tar Sites and World War II Coal Tar Site) in progress during FY96.

### 1999

CS Work Plan

### 2000

CS Report/RFI Workplan

## PROJECTED MILESTONES

### 2001 to Completion

Continue monitoring of SBTU. Pre-RFI of selected sites.

2001- RFI of coal tar contamination of Area A near SWMU 4, 14, 103.

RFI of site-wide GW.

# SCHEDULE

## NO FURTHER ACTION SITES

The following sites currently require no further action under the ER,A program:

HSAAP-04	ACTIVE SANITARY LANDFILL
HSAAP-011	NITRIC ACID SPILL POND
HSAAP-012	AREA B TAR BURIAL PIT
HSAAP-013	FLYASH LANDFILL, PONDS 1 & 2
HSAAP-016	BUILDING 8 EXPLOSIVES
HSAAP-017	PONDS (SODIUM NITRATE) 3&4
HSAAP-019	STP E OF MFG AREA
HSAAP-020	FLY ASH LANDFILL AREA, CLOSED
HSAAP-021	AERATION POND AREA A
HSAAP-022	LANDFILL AREA A, COAL TAR
HSAAP-023	PRODUCTION AREA B DRAINAGE DITCHES
HSAAP-025	PESTICIDE DRAIN FIELD NEAR BLDG 148
HSAAP-028	LEAKING UST B-22, FLASHING FACILITY
HSAAP-030	FIRING RANGES
HSAAP-034	HEATING OIL LEAKING UST AT B-12, AREA A
HSAAP-036	ACTIVE COAL PILE SOUTH OF B-200, STM PLT
HSAAP-039	PAST SPILL SITES/LOADING SITES

# Holston Army Ammunition Plant IRP Schedule

(Based on current funding constraints)

Completed Phase
Underway Phase
Future Phase

FACILITY	DSERTS #		FY91-00	FY01	FY02	FY03	FY04	FY05	FY06	FY07+
HSAAP-01	MISC LANDFILLS	PA/SI								
		RI/FS								
		LTM								
HSAAP-03	WWII TAR PITS	PA/SI								
		RI/FS								
		IRA								
HSAAP-08	SURFACE IMPOUNDMENTS REQUIRING CONFIRM.	PA/SI								
		RI/FS								
HSAAP-15	BURNING GROUND	PA/SI								
		RD								
		RAC								
HSAAP-26	PESTICIDE AREAS NEAR B-105, B-148	PA/SI								
		RI/FS								
		RD								
		RA(C)								
		RA(O)								
HSAAP-27	SANITARY LANDFILL WEST OF B-155 CLOSED	PA/SI								
		LTM								
HSAAP-29	LEAKING UST STATION	PA/SI								
		RD								
		RA(C)								
		RA(O)								
HSAAP-33	FORMER SOLVENT BURN TANK	PA/SI								
		LTM								
HSAAP-37	GAS PRODUCER CONTAMINATION	PA/SI								
		RI/FS								
		RD								
		RA(C)								
HSAAP-38	MISC STORAGE AREA REQUIRING CONFIRM.	LTM								
		PA/SI								
		RI/FS								
		IRA								

**DEFENSE SITE ENVIRONMENTAL RESTORATION TRACKING SYSTEM**

Site, 4. Installation Phase Summary Report

11/3/00

Installation: **HOLSTON AAP**  
 Programs:

BRAC I, BRAC II, BRAC III, BRAC IV, IRP

Subprograms:  
 Installation count for Programs:

Compliance, Restoration, UXO  
 1

NPL Options:

Delisted, No, Proposed, Yes

Installations count for Programs and NPL:  
 Site count for Programs and NPL:

1  
 28

**Phase / Status / Sites**

<b>PA</b>				<b>SI</b>			
<b>C</b>	<b>U</b>	<b>F</b>	<b>RC</b>	<b>C</b>	<b>U</b>	<b>F</b>	<b>RC</b>
28	0	0	11	12	1	0	5
	<b>RI / FS</b>					<b>RD</b>	
<b>C</b>	<b>U</b>	<b>F</b>	<b>RC</b>	<b>C</b>	<b>U</b>	<b>F</b>	
3	0	8	2	1	0	4	
	<b>RA(C)</b>					<b>RA(O)</b>	
<b>C</b>	<b>U</b>	<b>F</b>	<b>RC</b>	<b>C</b>	<b>U</b>	<b>F</b>	<b>RC</b>
1	0	4	1	0	0	2	0
			<b>LTM</b>				
			<b>U</b>	<b>F</b>	<b>N</b>		
			0	0	3	16	

**Remedy / Status / Sites (Actions)**

**IRA**

<b>C</b>	<b>U</b>	<b>F</b>
1 (1)	1 (1)	1 (1)

**FRA**

<b>C</b>	<b>U</b>	<b>F</b>
1 (1)	0 (0)	4 (5)

RIP Total: 0  
 RC Total: 19

DEFENSE SITE ENVIRONMENTAL RESTORATION TRACKING SYSTEM

Site, 9. RISK INSTALLATION ACTION PLAN REPORT

11/03/2000

Installation: HOLSTON AAP  
Major Command: AMC

SubCommand: OSC  
Program Options: IRP, BRAC I, BRAC II, BRAC III, BRAC IV

Subprogram Options: Compliance, Restoration, UXO

Site	RRSE	Media Evaluated	Phase (s) Completed	Phase (s) Underway	Phase (s) Future	#IRA Completed	#IRA Underway	#IRA Future	LTM Status	RIP Date	RC Date
HSAAP-01	2A	SL	PA SI		RI				F		200302
HSAAP-03	1A	GW SL	PA		RI		1		N		200312
HSAAP-04	2A	GW	PA						N		199108
HSAAP-08	2A	GW SL	PA	SI	RI				N		200107
HSAAP-11	3A	GW	PA								199102
HSAAP-12	1A	GW	PA						N		200001
HSAAP-13	2A	GW	PA						N		199108
HSAAP-15	1A	GW SL	PA		RAC RD						200206
HSAAP-16	3A	SL	PA						N		199108
HSAAP-17	1A	GW	PA			1					199606
HSAAP-19	3A	GW	PA						N		199108
HSAAP-20	1A	GW SL	PA								200001
HSAAP-21	1A	GW SL	PA SI						N		199803
HSAAP-22	1A	GW SEF SH SL	PA RAC RD RI						N		199803
HSAAP-23	1A	SL	PA SI						N		200001
HSAAP-25	1A	SL	PA SI								199812
HSAAP-26	2A	SL	PA SI		RAC RD RI						200601
HSAAP-27	3A	SL	PA						F		199108
HSAAP-28	3A	GW	PA RI SI								199612
HSAAP-29	1A	GW	PA SI		RAC RAO RD RI					200503	200509
HSAAP-30	1A	SL	PA SI						N		199803
HSAAP-33	1A	GW SL	PA RI SI						F		200001
HSAAP-34	3B	SL	PA SI						N		199604
HSAAP-36	2A	SL	PA						N		199108
HSAAP-37	2A	GW SL	PA SI		RAC RAO RD RI				N	200609	201209
HSAAP-38	1A	GW SL	PA SI		RI			1	N		200312

Site	RRSE	Media Evaluated	Phase (s) Completed	Phase (s) Underway	Phase (s) Future	#IRA Completed	#IRA Underway	#IRA Future	LTM Status	RIP Date	RC Date
HSAAP-39	1A	WEF SEF SL	PA						N		199108
HSAAP-40	3A	SL	PA		RI						200012

RRSE - Relative Risk Site Evaluation; Risk Category - 1=High, 2=Medium, 3=Low;  
 Legal Agreement - A = with agreement, B = without agreement; C = Complete, U = Underway, F = Future, N = Not Applicable

Reporting Period End Date: 09/30/2000

# REM/IRA/RA ASSESSMENT

## PAST REM/IRA/RA

- UST Removal '94  
HAAP-29
- IRA sparge/vapor extraction  
HAAP-29 '95
- IRA / demolition of Ponds 3 &4  
HAAP-17 '96 \$ 423.3K
- Replace UST with AST, Request for Site-Specific Standard at Bld. 22  
HAAP-28 '91
- Closure of Solvent Burn tank site  
HAAP-33 '98
- REM Heating Oil tank and soil  
HAAP-34 '92
- IRA of coal tar around Gas Producer Plant  
HAAP-37

## CURRENT REM/IRA/RA

- HSAAP-29 Leaking UST RA In-situ Remediation

## FUTURE REM/IRA/RA

- HSAAP-29 Leaking UST  
RA In-situ Remediation
- HSAAP-26 Pesticide Areas  
RA Soil excavation and on-site thermal treatment
- HSAAP-37 Gas Production  
RA Soil excavation and disposal; bioremediation for GW
- HSAAP-38 Misc Storage Area  
IRA Soil excavation and disposal



# PRIOR YEAR FUNDING

***FY93***

\$126,500

***FY94***

\$4,512,000

***FY95***

\$2,718,100

***FY96***

\$1,995,200

***FY97***

\$122,000

***FY98***

\$199,000

***FY99***

HSAAP-22            \$20,000

HSAAP-25            \$20,000

HSAAP-29            \$50,000

HSAAP-37            \$30,000

***FY00***

HSAAP-03            \$85,000

HSAAP-29            \$50,000

TOTAL PRIOR YEAR SPENDING:    \$9,927,800

**HOLSTON ARMY AMMUNITION PLANT - CONSTRAINED COST TO COMPLETE**

DSERTS #	SITE DESCRIPTION	RRSE	PHASE	2001	2002	2003	2004	2005	2006	2007+	SITE TOTAL	DESCRIPTION OF WORK
HSAAP-01	MISC LANDFILLS (SWMU 19, 20, 21, 24, & AOC H)	MED	RI/FS		145							SWMU-20=4K for 2 wells (2 rounds); SWMU-21=10K for seep, sediment, and surface water sampling (4 sampling pts) for 1 round; SWMU-19=4K for 2 wells (1 round)
			LTM				6	22				173
HSAAP-03	WWII TAR PITS SWMU 25 AND 14	HIGH	RI/FS	136	200							SWMU-26=20K for one sample from each of five existing wells; SWMU-25=4K for one sample from one existing well; AOC I = 80K to install and sample 4 wells for 4 rounds; SWMU-23=8K for 1 well, 4 rounds; SWMU-40=16K for 2 wells 4 rounds; SWMU-41=16K for 2 well, 4 rounds; SWMU 69= 80K to install and sample 4 wells, 4 rounds; SWMU-89 = 80K to install and sample 4 wells for 4 rounds
			IRA									
HSAAP-08	SURFACE IMPOUNDMENTS REQUIRING CONFIRM. (SWMU 27, 29, 30, 33, 35, 36, 42)	MED	RI/FS	36							36	SWMU-35=8K, one round, 4 wells, expl, metals, VOCs & SVOCs; SWMU-36=16K, 4 wells, 2 rounds; SWMU-37=8K for 2wells, 2 rounds; SWMU-38=4K for 1 well, 2 rounds
HSAAP-15	BURNING GROUND	HIGH	RD		90							SWMU-43= 30K to install and sample 2 shallow wells and sample 5 existing wells for two rounds; SWMU-47=30K for 15 soil samples and reporting
			RA(C)		50							140
HSAAP-26	PESTICIDE AREAS NEAR B-105, B-148	MED	RI/FS			259	1,129					RFI=300K; CMS=100K
			RD					250				150K for DES
			RA(C)							1,495		Soil - 600K excavation and on-site thermal treatment of 3K cy; GW - 1500K for extraction and treatment
			RA(O)									100K per yr for 10 yrs
			LTM									3,133
HSAAP-27	SANITARY LANDFILL WEST OF B-155 CLOSED (SWMU 18)	LOW	LTM		2	2					4	SWMU 18=4K 1 well, 2 yrs, annually, 1st yr full suite, 2nd yr mercury only

**HOLSTON ARMY AMMUNITION PLANT - CONSTRAINED COST TO COMPLETE**

DSERTS #	SITE DESCRIPTION	RRSE	PHASE	2001	2002	2003	2004	2005	2006	2007+	SITE TOTAL	DESCRIPTION OF WORK		
HSAAP-29	LEAKING UST STATION includes SWMUs 51,52	HIGH	CS	15								15K for CS (additional soil sampling at 51/52)		
			RD				15					15K for design for in-situ remediation		
			RA(C)				150					15K for in-situ remediation		
			RA(O)					180				360	30K for RA reevaluation (focused CMS); 50K each yr for 3 yrs, system operation and GW monitoring	
HSAAP-33	FORMER SOLVENT BURN TANK (SWMU-50)	HIGH	LTM	40	40	40	40				160	SWMU-50=16K each yr for 4 wells, semi-annually for 10 years, explosives and VOCs, includes annual report		
HSAAP-37	GAS PRODUCER CONTAMINATION SWMU 4	MED	RI/FS	283	315								300K for RFI (soil and GW investigation)	
			RD				200						200K design for excavation and disposal	
			RA(C)				448	1,017	537					Soil: 2000K includes excavation and disposal of soil (40Kcy @ \$50/yard); GW: 1000K for Bioremediation
			LTM							124	876	3,800	10 wells for 10 yrs, semi-annually for 5yrs @ 40K/yr, then annually for 5yrs @ 20K/yr	
HSAAP-38	MISC STORAGE AREA REQUIRING CONFIRM. (SWMU 60 & 90)	HIGH	RI/FS	40							40	10K for confirmatory soil sampling		
HSAAP-40	SANDBLASTING LOADING SITES	LOW	RI/FS								0			
<b>FY TOTALS IN THOUSANDS OF DOLLARS</b>				<b>\$695</b>	<b>\$2,497</b>	<b>\$301</b>	<b>\$2,188</b>	<b>\$1,469</b>	<b>\$2,156</b>	<b>\$876</b>	<b>\$10,182</b>			
<b>OSC</b>	<b>HOLSTON AAP</b>	<b>POM</b>		<b>695</b>	<b>2,497</b>	<b>302</b>	<b>2,188</b>	<b>1,485</b>	<b>2,156</b>	<b>1,119</b>	<b>10,442</b>			
	<b>DIFFERENCE (THOUSANDS)</b>			<b>\$0</b>	<b>\$0</b>	<b>(\$1)</b>	<b>\$0</b>	<b>(\$16)</b>	<b>\$0</b>	<b>(\$243)</b>	<b>(\$260)</b>			

# COMMUNITY INVOLVEMENT

A Restoration Advisory Board has been established and the first meeting was held on 18 October 1999. There are 13 members with representatives from the Army, State, and local citizens.

The RAB meets quarterly. Past activities have included installation tours and an update from the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM).

RAB members attended the Installation Action Plan Workshop (December, 1999).

# DEFENSE SITE ENVIRONMENTAL RESTORATION TRACKING SYSTEM

Installation, 7. RAB REPORT

11/05/2000

**Command:** AMC  
**Installation:** HOLSTON AAP

**SubCommand:** OSC

**RAB Established Date:** 199909 **Reason RAB Not Establish:**  
**RAB Adjourned Date:** **Reason RAB Adjourned:**

**TRC Date:**

**RAB Community Members:** **Total RAB Community Member** 4  
Business Community

**RAB Government Members:** **Total RAB Government Membe** 5  
Environmental Protection Agency

**RAB Activities:**  
Advice On Scope/Sch Studies/Cleanup

**RAB Advice**

Other

**TAPP Application Approval Date:**

**TAPP Project Title:** 09/30/2000

**TAPP Project Description:**

**Purchase Order**

**Award Number**

**Award Date**

**Completion Date**