INSTALLATION ACTION PLAN

For

LOUISIANA ARMY AMMUNITION PLANT

March 2001

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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 Louisiana Army Ammunition Plant (LAAP). The IAP is used to track requirements, schedules and tenative 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 LAAP by the end of 2001.

CONTRIBUTORS TO THIS YEAR'S IAP

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LOUISIANA ARMY AMMUNITION PLANT

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FY 2001

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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:

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

State Regulator

EPA Regulator

Installation RPM

ACRONYMS & ABBREVIATIONS

ALF	Abandoned Landfill
ADRA	Ammunition Demilitarization and Renovation Area
BRAC	Base Realignment and Closure Action
Cal-EPA	California Environmental Protection Agency
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CRWQCB	California Regional Water Quality Control Board
Cu	Copper
DERA	Defense Environmental Restoration Account
DERP/MIS	Defense Environmental Restoration Program/Management Infromation System
DMA	Demolition Area
DRMO	Defense Reutilization and Marketing Office
DRMS	Defense Reutilization and Marketing Service
DSA	Diesel Spill Area
DSERTS	Defense Site Environmental Restoration Tracking System
EFFTF	Existing Fire-Fighting Training Facility
EPA	Environmental Protection Agency
ER,A	Environmental Restoration, Army (formally called DERA)
FD -A	Fuel Disposal Site A
FFA	Federal Facilities Agreement
FFSRA	Federal Facility Site Remediation Agreement
FS	Feasibility Study
FY	Fiscal Year
GOCO	Government Owned Contractor Operated
IAG	Interagency Agreement
IAP	Installation Action Plan
IRA	Interim Remedial Action
IRP	Installation Restoration Program
LAP	Load, Assemble, and Pack
LTM	Long Term Monitoring
LAAP	Louisiana Army Ammunition Plant
MCL	Maximum Contaminant Level

ACRONYMS & ABBREVIATIONS

LIST OF ACRONYMS AND ABBREVIATIONS CONTINUED…

NE	Not Evaluated
NFA	No Further Action
NPL	National Priority List
OB/OD	Open Burn/Open Detonation
PA	Preliminary Assessment
POL	Petroleum, Oil & Lubricants
PP	Proposed Plan
RA	Remedial Action
RA(C)	Remedial Action - Construction
RA(O)	Remedial Action - Operation
RAB	Restoration Advisory Board
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
REM	Removal
RI	Remedial Investigation
RIP	Remedy in Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
Sb	Antimony
SI	Site Inspection
SVOC	Semi-Volatile Organic Compounds
TCE	Trichloroethylene
TNT	Trinitrotoluene
TPH	Total Petroleum Hydrocarbons
TRC	Technical Review Committee
USACHPPM	United States Army Center for Health Promotion and Preventive Medicine
USAEC	United States Army Environmental Center
USAEHA	United States Army Environmental Hygiene Agency (replaced by CHPPM)
USATHMA	United States Army Toxic and Hazardous Material Agency (replaced by AEC)
UXO	Unexploded Ordnance
VOC	Volatile Organic Compounds

SUMMARY

STATUS

NPL Installation, March 1989, On-post groundwater contamination

NUMBER OF DSERTS SITES:

10 DSERTS sites
- 2 Active ER.A Eligible Sites
- 8 Response Complete ER,A Eligible

DIFFERENT DSERTS SITE TYPES:

3 Lagoon Areas	1 Burning Ground
2 Landfills	1 Land-farm
1 Manufacturing Area	3 Test Areas

CONTAMINANTS OF CONCERN:

Explosives, Volatile substances

MEDIA OF CONCERN:

Groundwater, Soil

COMPLETED REM/IRA/RA:

- IRA - Soil Incineration at ARea P Lagoon FY 90 $ 33.050K

CURRENT IRP PHASES:

RC for soils/sources at 8 sites
LTM at 1 site
FS at 1 site

PROJECTED IRP PHASES:

NFA expected at 8 sites.
Interin Remedial Action expected at 1 site.
Natural attenuation and LTM expected at 1 site.

IDENTIFIED POSSIBLE REM/IRA/RA:

Possible soils interin remedial action at 1 site.

FUNDING:

PRIOR YEAR THROUGH 2000:	$ 64455.6 K
FY2001:	$ 390.0 K
FUTURE REQUIREMENTS:	$ 9550.0 K
TOTAL:	$ 74395.6 K

DURATION:

YEAR OF IRP INCEPTION:	1978
YEAR OF IRP COMPLETION EXCLUDING LTM:	2002
REMOVAL FROM THE NPL:	2005

INSTALLATION INFORMATION

LOCALE

LAAP is located approximately 22 miles east of Shreveport, Louisiana on U. S. Highway 80 and consists of 14,974 acres of land measuring approximately nine miles east to west and three miles north to south. LAAP is currently inactive with a staff of 9 civilian and 10 contractor employees; during previous intense production periods, this number has exceeded 10,000. The area surrounding LAAP is primarily rural with the town of Minden (population 14,697) two miles northeast of LAAP, the village of Doyline (population 896) adjacent to the southern boundary, and the Goodwill community to the north.

COMMAND ORGANIZATION

MAJOR COMMAND: U.S. Army Materiel Command; Engineering, Housing, Environmental and Installation Logistics, Environmental Quality Division

SUBCOMMAND: U.S. Army Industrial Operations Command, Environmental Quality

INSTALLATION: Louisiana AAP Installation Environmental Office

INSTALLATION RESTORATION PROGRAM (IRP) EXECUTING AGENCY

- Investigation Phase Executing Agency: U.S. Army Environmental Center, Installation Restoration Division, Branch B
- Remedial Design/Action Phase Executing Agency: U.S. Army Corps of Engineers, Ft. Worth District.

REGULATOR PARTICIPATION

FEDERAL: U.S. Environmental Protection Agency, Region VI

STATE: Louisiana Depertment of Environmental Quality Abondoned Sites Division

REGULATORY STATUS

- NPL Installation / March 1989
- Technical Review Committee / February 1989
- Federal Facility Agreement / February 1989

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

- LAAAP 08 was completed in may 2000.
- FS for LAAP-09 will be completed by PMC
- ROD signed for LAA-08, site is RC

INSTALLATION DESCRIPTION

Louisiana Army Ammunition Plant (LAAP) is an U. S Army Industrial Operations Command facility operating under contractual agreement with Valentec Corporation. The current operational status of LAAP is modified caretaker. Recent manufacturing history includes the production of shell metal parts including 155 millimeter projectiles, and to Load-Assemble-Pack (LAP) ammunition items including mortars, mine clearing line charges, and ADAM projectiles.

The United States (U. S.) government acquired 15,868 acres of land in 1941 for construction of LAAP. Operation began in 1942, with eight ammunition lines and one ammonium nitrate graining plant. During World War II, LAAP was operated under contract with Silas Mason, Co. producing approximately 65 different ammunition items. In 1945 the plant was placed in standby status.

LAAP was reactivated in February 1951 in support of the Korean conflict. All ammunition-loading lines were operational under the responsibility of Remington Rand, Inc. Remington Rand, Inc. also designed a forging and machining plant for manufacturing 155mm projectile metal parts.

Ammunition production was suspended in February 1958 when the plant was again placed in standby status. The plant was reactivated in 1962 in support of the Vietnam conflict with Sperry Rand Corp. as the operating contractor. Four production areas were reactivated for classified ammunition items. In 1975 Thiokol Corp. assumed the contract from Sperry Rand Corp. All production ceased in October 1994. The installation is currently in modified caretaker status.

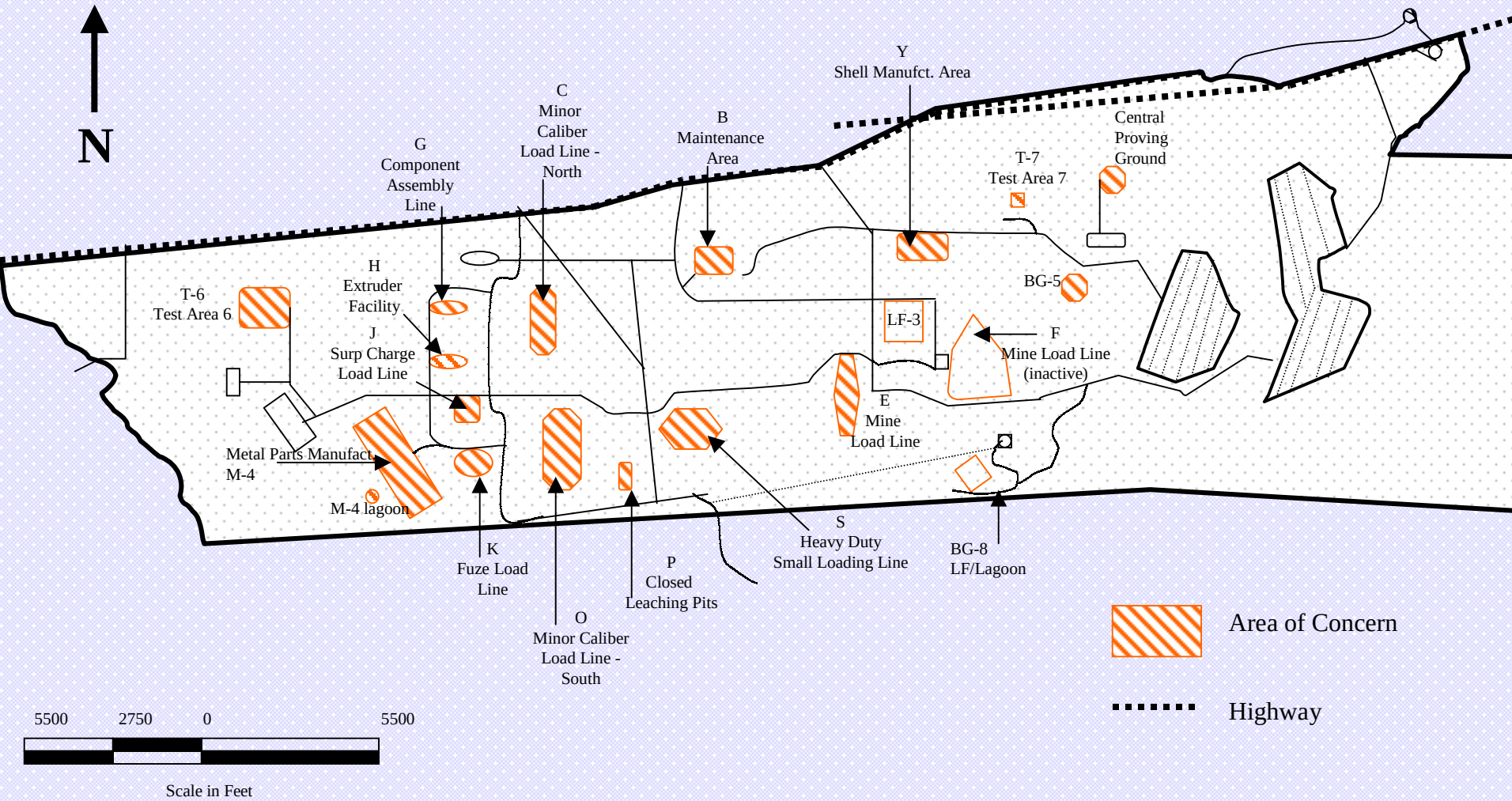
The Army is investigating waste disposal areas, manufacturing areas, burning grounds, and testing areas for any detrimental environmental impact by implementing its environmental response authority under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) / Superfund Amendments and Reauthorization Act (SARA).

LAAP MISSION STATEMENT

1. Layaway and maintenance of projectile metal parts manufacturing facility.
2. Facility use contract allows commercial applications of facilities.
3. The plant is administratively combined with Longhorn AAP.

Louisiana Army Ammunition Plant

Areas of Concern



CONTAMINATION ASSESSMENT

Past operations at approximately a dozen manufacturing, loading, and support facilities, has resulted in the generation of explosive and metal contaminated waste which was disposed of at several locations on the installation. An initial Installation Assessment, completed in May 1978, indicated heavy explosive contamination in plant loading and disposal areas, and heavy metal contamination in the unlined pond of M-4. Between 1979 and 1980, the U. S. Army Environmental Hygiene Agency investigated the shallow aquifer. The investigation revealed that the shallow aquifer was contaminated with explosive compounds; however, the deepest aquifer, the source of drinking water on and off-post, was not contaminated.

The U. S. Environmental Protection Agency (EPA) Region VI, the Louisiana Department of Environmental Quality (LDEQ), and the Army signed a Federal Facilities Agreement (FFA) in February of 1989. This agreement sets deadlines, objectives, responsibilities, and procedural framework for implementing the IRP at LAAP.

In 1982, the U. S. Army Toxic and hazardous Materials Agency (USATHAMA), now the Army Environmental center (USAEC), performed a preliminary environmental survey at LAAP. The survey concluded that significant contamination of the shallow aquifer had occurred in area P, BG8 Landfill/Lagoon, and LF3.

The installation was proposed for the National Priorities List (NPL) in October of 1984 due to groundwater contamination from the Area P pink water lagoons. LAAP was placed on the NPL with a Hazard Ranking Fiscal Year 1997 of 23.8.

A Remedial Investigation (RI) in 1985 found detectable levels of explosives in four areas and low levels in the monitoring wells at the plant's southern boundary. Following an EPA Region VI site inspection in 1987, LAAP was notified that three more sites were considered Operable Units (OUs) and would require further investigation. In 1987, an undated RI task indicated that explosive contamination was migrating off of LAAP's southern boundary.

In 1989, a drinking water well monitoring program was established. The public drinking water supply wells closest to LAAP's north and south boundaries as well as LAAP/s drinking water wells were sampled once per month for 6 months. Detectable levels of RDX, 2,4-DNT, HMX Tetryl were found for one sampling event; however, the inconsistency of results indicated that contamination was introduced through incorrect field sampling procedures or equipment. Monitoring was continued for another six months; no documented contamination of drinking water was found. Although no documented contamination of drinking water wells was found either on - or off-post, the Army is continuing to monitor on a less frequent basis, in agreement with the federal and state regulators.

A Remedial Investigation/Feasibility Study (RI/FS) identified 7 initial Areas of Concern (AOCs)in 1987. One of these areas, Area P (LAAAP-01), was determined sufficiently contaminated to require an interim remedial action (IRA) due to explosives-contaminated soil and water. Over 100,00 cubic yards of explosives-contaminated soil and over 50,000,000 gallons of wastewater were treated in 1989 and 1990. With the completion of the IRA at Area P, the Army has been negotiating a no further action (NFA) Record of Decision (ROD) for these 7 areas. A five-year review of the Interim Remedial Action at Area P was completed in FY 94. A Record of Decision was approved and signed in November 1996 for the 7 areas of concern supporting no further action (NFA) at these 7 areas for the soil sources. Groundwater for the entire installation (including the 9 AOCs) was placed in one operable unit in March 1995.

In 1993, a separate remedial Investigation was begun at the Y-Line Chromium Etching Facility to identify the source and extent of contamination. This additional investigation was begun due to the visual discovery of chromium contamination around this facility. Fieldwork was completed in Nov 93; the RI report concluded that NFA is required for the soil sources at the Y-Line. Further groundwater characterization is required to delineate a TCE groundwater plume.

CONTAMINATION ASSESSMENT

A Remedial Investigation for the ammunition production areas was begun during 1994 to also identify the source(s) and extent of contamination for these areas. This additional investigation was begun due to red discoloration of the surface soil, indicating TNT contamination. Fieldwork will began in November 1994.

Field work for a remedial investigation of the ammunition production facilities began in November 1994. The field work for a separate Remedial Investigation at the Area Y Chromium Etching Facility was completed in Nov 96. The report concluded again that NFA is required for the soils/sources at the Y-Line. Further investigation is required to delineate a solvents plume in the groundwater.

Monitoring of drinking water wells both on LAAP and in towns adjacent to LAAP has been conducted. Sampling in 1997 yielded non-detect results for all drinking water wells. The contamination is not moving, does not pose a risk to human health and it seems natural attenuation will be the remedy.

All sites are eligible for funding due to the stipulations cited under the Federal Facility Agreement signed by the Army and the regulators for this NPL installation.

This investigative history at LAAP has determined that Installation Restoration Program (IRP) efforts should focus on seven areas of concern, the Y-Line facility, and the ammunition production areas. The sites are designated by their (DSERTS) identification number. The 7 Areas of Concern are identified as LAAAP-01 thorough LAAAP-07, the Y-Line facility is identified as LAAAP-08, the ammunition production areas and testing areas as LAAAP 09, and the total installation groundwater as LAAAP-10. These are discussed individually in the Site Descriptions section.

PREVIOUS STUDIES

Title	Author	Date
Interin Response Action Remedial Investigation for Area P Lagoons at LAAP	IT Corporation	1-Aug-87
Interin Response Action Feasibility Study for Area P Lagoons at LAAP	IT Corporation	1-Aug-87
IRA Decision Memorandum area P. Lagons LAAP	IT Corporation	1-Dec-87
Closure Plan for the IRA at the Area P. Lagoons, LAAP	US Army Corps of Engineers Fort Worth district and the U.S. Army Toxic and Hazardous Materials Agency	2-Aug-90
Geohydrologic Study No. 38-26-K968-91, LAAP, Shreveport LA		22-Jan-91
Geohydrologic Study No. 38-26-K968-91, Following Soil Sampling , LAAP, Shreveport LA		10-Apr-91
Additional Ground Water Quality Simulations at the LAAP, prepared for the US Army Toxic and Hazardous Materials Agency, Aberdeen Proving Grounds, Maryland.	Engineer Technologies Associates, INC	26-Jun-91
Feasibility Study LAAP Final Comprehensive Risk Assessment, prepared for the U.S. Army Toxic and Hazardous Materials Agency, Aberdeen Proving Grounds, Maryland	Environmental Science and Engineering Ice	1-Feb-92
Final Report on Decontamination Operations at LAAP	IT Corporation	1-Aug-92
Final Feasibility Study LAAP, prepared for the U.S. Army Toxic and Hazardous Materials Agency, Aberdeen Proving Grounds, Maryland	Environmental Science and Engineering Ice	1-Apr-93
Five Year Review of Interin Remedial Action of Former Area P Lagoons, prepared for the US Army Environmental Center, APG, MD 1. Soils and Sources: PA/SI, RI/FS, PP, ROD 2. Groundwater: PA/SI, RI	Science Applications International Corporation (SAIC)	1-Dec-95
Draft Final Remedial Investigation, Y-Line Chromium Etching Facility, prepared for the U.S. Army Toxic and Hazardous Materials Agency, Aberdeen Proving Grounds, Maryland.	Woodward-Clllyde Federal Services, Inc.	1-Sep-94
Draft Final Follow - On Investigation of the Y-Line Facility 1. Groundwater : RI Addendum, prepared for the U.S. Army Toxic and Hazardous Materials Agency, Aberdeen Proving Grounds, Maryland.	Engineer Technologies Associates, INC	1-May-97
Preliminary Draft Data Evaluation Report for the Groundwater Operable Unit. Prepared for the U.S. Army Toxic and Hazardous Materials Agency, Aberdeen Proving Grounds, Maryland	Environmental Science and Engineering Ice	1-Jan-97
Draft Remedial Investigation Report for the Preliminary Groundwater Site Investigation at Eight Load / Assemble/ Pack Lines and Three Test Areass, prepared for the U.S. Army Toxic and Hazardous Materials Agency, Aberdeen Proving Grounds, Maryland	International Technology Corp.	Sept 197

ER, A ELIGIBLE DSERTS SITES

LAAP-001
AREA P PINK WATER LAGOONS

SITE DESCRIPTION

Area P was used as a burning ground for the disposal of explosive and explosives-contaminated wastes during World War II. Thirteen lagoons were constructed on the burning ground in the early 1940's. Pink water (explosive-contaminated wastewater) was generated throughout the facility from various manufacturing lines and hauled via tank trucks to the lagoons. Disposal operations were temporarily transferred to Burning Ground 5 in 1952 enabling the construction of more lagoons at Area P. During the Vietnam conflict, at least two more lagoons were constructed in Area P. A levee was built in 1973 to control storm-water runoff. Disposal of explosives-contaminated wastewater into the lagoons was terminated in March 1981.

Because of increased concern about migration of contamination from the site, an interim removal action began in 1987. International Technology Corporation (IT Corp.) collected and decontaminated 53,604,490 gallons of pink water and rain water using a treatment system consisting of three carbon absorption columns, two of which were operable in series at any one time.

Soils from Area P were then excavated and incinerated. 65,791 bulk cubic yards of contaminated soil from 16 unlined lagoons and adjacent surface areas was treated. IT Corp. used a Hybrid Thermal Treatment System No. 1 (HTTS-1) transportable incinerator to incinerate 101,929 tons of soil. Operating temperatures of 800°F in the rotary kiln and 1650° in the secondary combustion chamber allowed destruction of contamination to a level acceptable by environmental regulations.

No detectable explosives were present in the soil after it was incinerated. Due to the non-uniform distribution of explosives discovered in Area P, excavating to an average depth of 2.2 feet in the lagoon and one foot everywhere outside the lagoon where explosive concentration exceeded 100ppm, achieved 99.5% of the cleanup objective. The resultant ash from incineration was deposited into seven former lagoons, compacted to volume of 57,227 bank cubic yards. Area P was officially closed in August o f 1990 with clay capping of the area completed in October 1990. A four- foot high barbed wire fence enclosed the area and a sign is posted which reads, "Area P Decontamination Area." Periodic inspections are performed to ensure that no erosion, ponding, or unwanted vegetative growth occurs. CERCLA also required a formal review every five years.

The "Five-Year Review" of Interim Remedial Action at Former Area P Lagoons is currently being conducted to analyze the effectiveness of the remedy and, as with all reports generated as part of the IRP, will be submitted to state and federal regulators.

IRP STATUS

RRSE RATING: High Risk

CONTAMINANTS OF CONCERN:
RDX, HMX, Tetryl, 2,4,6-TNT, 2,6-DNT, 2,4-DNT, 1,3,5-TNB, 1,3-DNB, TCLEE AND NB

MEDIA OF CONCERN:
Shallow Groundwater, Soil,

COMPLETED IRP PHASE:
Soils: PA/SI, RI/FS, PP Groundwater: PA/SI, RI

CURRENT IRP PHASE:
Soils: ROD Groundwater: RI

FUTURE IRP PHASE:
RC

LAAP-001
AREA P PINK WATER LAGOONS GROUNDWATER

Site Description Contd.

Groundwater investigations show the upper aquifer is contaminated with explosives; however, no contamination was found in the deepest aquifer, which is the drinking water source for LAAP. Under the current worker scenario, Area P shows no risk; however, under the future residential scenario, the following chemicals pose a risk due to their presence in groundwater; RDX, HMX, Tetryl, 1,3,5-TNB, 2,4-DNT, 1,3-DNB, NB, 2,6-DNT, and 2,4,6-TNT.

The groundwater Area P, as well as the rest of the installation has been designated as a separate operable unit.

IRP STATUS

RRSE RATING: High Risk

CONTAMINANTS OF CONCERN:
RDX, HMX, Tetryl, 2,4,6-TNT, 2,6-DNT, 2,4-DNT, 1,3,5-TNB, 1,3-DNB, TCLEE AND NB

MEDIA OF CONCERN:
Shallow Groundwater, Soil,

COMPLETED IRP PHASE:
Soils: PA/SI, RI/FS, PP Groundwater: PA/SI, RI

CURRENT IRP PHASE:
Soils: ROD

FUTURE IRP PHASE:
RC

LAAP-002
BURNING GROUND 5

SITE DESCRIPTION

Burning Ground 5 (BG-5) was used for the open burning of waste explosives and explosive contaminated waste from 1947 to 1996. In 1955, the area had six burn cages and several burn or detonation areas. In 1996, the burn or detonation consisted of three raised earthen berms that sloped toward a concrete catch basin. Precipitation flowed from the burn pads to the shallow dikes between the pads to the concrete catch basin. The basin was closed in 1983. Since 1986, explosive waste at BG-5 has been detonated underground. All operations ceased at BG 5 in June 1996.

PROPOSED PLAN

Under the current worker scenario, BG-5 shows no risk and there is a ROD for soil; however under the future residential scenario, the following munitions pose a risk due to their presence in groundwater: 1,3,5-TNB, RDX,HMX,2,4,6-TNT, 2,6-DNT, and 2,4-DNT. Any groundwater contamination is addressed in site 10.

IRP STATUS

RRSE RATING: NE

CONTAMINANTS OF CONCERN:
RDX, HMX, Tetryl, 2,4,6-TNT, 2,6-DNT, 1,3,5-TNB, 1,3,DNB

MEDIA OF CONCERN:
Shallow groundwater, soil

COMPLETED IRP PHASE:
Soils: PA/SI, RI/FS, PP, ROD

CURRENT IRP PHASE:
RC

FUTURE IRP PHASE:
RC

LAAP-003
M-4 LAGOON

SITE DESCRIPTION

The M-4 unlined lagoon was used to retain wastewater from an electroplating operation for machining and metal plating of grenade components from 1962-1964. The volume of wastewater held in the lagoon was approximately 60,000 gallons. The wastewater contained cyanide, cadmium, chromium, and zinc, and was oxidized by adding chlorine prior to delivery to the lagoons.

The RI was completed in 1989 and the ROD was signed in 1996.

PROPOSED PLAN

Under the current worker scenario, M-4 shows no risks; however, under the future residential scenario lead in groundwater poses a risk. Any groundwater contamination is addressed in site 10.

IRP STATUS

RRSE RATING: Medium Risk (2A)

CONTAMINANTS OF CONCERN:

1,2-DCLE, Lead and Arsenic.

MEDIA OF CONCERN:

Shallow Groundwater, Soil

COMPLETED IRP PHASE:

Soils: PA/SI, RI/FS, PP, ROD

CURRENT IRP PHASE:

NFA

FUTURE IRP PHASE:

Soils/Sources: RC

LAAP-004, 07
BURNING GROUND 8 & PINK WATER LAGOONS

SITE DESCRIPTION

Burning Ground 8 (BG-8) consists of a landfill and two lagoons. These two areas of concern are treated as one unit since they make up one distinct hydrogeologic regime that is amenable to a single analysis. The 60-acre landfill was used as a burning ground for explosives from the 1950's through the 1970's; from 1970 – 1988, it was used as a landfill for sanitary and industrial wastes, used oils, and wastewater.

The two unlined lagoons were used to store pink water and Detrex waste from the 1960's – 1970's. Due to rapid infiltration of liquid wastes, the lagoons were backfilled in 1977. From 1977 – 1984, the lagoons were used to landfarm sludge from the wastewater treatment plant.

Early investigations in 1985 showed thallium and lead contamination in the shallow aquifers, but more recent samples in 1989 showed no lead contamination in excess of the proposed action level (Thallium was not analyzed in these samples). No contamination was found in the deepest aquifer.

PROPOSED PLAN

Under the current worker scenario, BG-8 shows no risk; however, under the future residential scenario, the following contaminants pose a risk due to their presence in groundwater: Thallium, 1,3,5-TNB, 2,4,6-TNT, sulfate, RDX, exposure to 1,3,5-TNB, and 1,3,-DNB. Any groundwater contamination is addressed in site 10.

IRP STATUS

RRSE RATING: NE

CONTAMINANTS OF CONCERN:
RDX,HMX, Tetryl, 2,4,6-TNT, 2,6-TNT, Sulfate, 1,1-DCE, Thallium, Lead and Arsenic

MEDIA OF CONCERN:
Shallow Groundwater, Soil

COMPLETED IRP PHASE:
Soils/Sources: PA/SI, RI/FS, PP, ROD

CURRENT IRP PHASE:
RC

FUTURE IRP PHASE:
RC

LAAP-005
BURNING GROUND NO. 3 LANDFILL

SITE DESCRIPTION

Landfill 3 (LF 3) consists of nine former pink water lagoons used in the 1950s and 1960s. After the 1960s, the lagoons were used as landfills for the construction debris, dirt, and liter waste. Under the current worker scenario, LF 3 shows no risk; however, under the future residential scerarino, the following munition waste pose a risk due to their presence in groundwater and soil: 1,3-TNB in soil and 1,3,5-TNB, 1,3-DNB, and RDX in groundwater:

The ROD was completed in 1996.

PROPOSED PLAN

This site is Responce Complete. Any groundwater contamination is addressed in site 10.

IRP STATUS

RRSE RATING: NE

CONTAMINANTS OF CONCERN:
RDX, HMX, Tetryl, 2,6-DNT, 2,4-DNT, 1,3,5-DNB, and benzene

MEDIA OF CONCERN:
Shallow Groundwater, Soil

COMPLETED IRP PHASE:
Soils/Source: PA/SI, RI/FS, PP,ROD

CURRENT IRP PHASE:
RC

FUTURE IRP PHASE:
RC for soils

LAAP-006
OILY WASTE LANDFARM (AREA Y)

SITE DESCRIPTION

The Oily Waste Land-Farm (OWL) consists of three pits used to treat oily waste and chlorinated solvents from 1960-1975. Forging operations waste consisting of dissolved and suspended solids, caustics, grease and oils, zinc, phosphorus, biological inhibitors, and emulsifiers were treated with alum and polymers. The clarified water was discharged to Boone Creek and the waste sludge was disked into surrounding soils. The pits were back-filled in 1975 and the area was enlarged to facilitate landfarming of oily wastes.

The PA/SI was done in 1978, the RI was done in 1992, and the ROD was completed in 1996.

Under the current worker scenario, the OWL shows no risk; however, under the future residential scenario, the following contaminants pose a risk due to their presence in groundwater; 1.1-DCE, TCLEE, and benzene.

PROPOSED PLAN

This site is Responce Complete. Any groundwater contamination is addressed in site 10.

IRP STATUS

RRSE RATING: Medium Risk

CONTAMINANTS OF CONCERN:
TRCLE, TCLEE, BENZENE, 1,1-DCE, LEAD and ARSENIC.

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
Soils/Source: NFA, Institutional Controls

CURRENT IRP PHASE:
RC

FUTURE IRP PHASE:
RC

LAAP-008
AREA Y CHROMIC ACID ETCHING FACILITY

SITE DESCRIPTION

The Y-Line Chromium Etching Facility is located in the west end of the Y-Line Building 2600-production area. The operation used chromic acid to etch 155mm shells as part of a quality assurance procedure to test the adherence of the brass band around the end of the shell. The etching operation began in 1952. Two spills of chromic acid are reported to have occurred on 28 Oct. 86 and 23 Nov. 87.

The RI was done in June 1996, the Revised RI in May 1998, and the Proposed Plan in May 1999.

PROPOSED PLAN

The ROD was signed in August 1999 and indicated that this site requires no further action. Any contamination in groundwater is addressed in Site 10.

IRP STATUS

RRSE RATING: Medium Risk

CONTAMINANTS OF CONCERN:
TCL metals (including chromium), Volatiles, BNAs, TPHC, and TOC.

MEDIA OF CONCERN:
Shallow Groundwater, Soil

COMPLETED IRP PHASE:
Preliminary RI (AEHA), RI, ROD

CURRENT IRP PHASE:
RC

FUTURE IRP PHASE:
RC

LAAP-009
LOAD/ASSEMBLE/PACK AND TEST AREAS

SITE DESCRIPTION

The explosive load/assemble/pack areas are located primarily on the west- side of the installation. These areas include Areas C, D, E, F, G, H, J, K, and S. Areas C, D, E, F, and S produced large items explosive devices, with areas C, D, and S considered the more probable sources of contamination. Production at these lines included mines, aerial bombs, artillery shells, and other explosives where large munitions were assembled. Areas H, J, G and K produced mostly small caliber ammunition.

Area C is located approximately 3200 feet southwest of the administration building in the west-central area of the installation. Production facilities are located within an approximately 107-acre area. Production in Area C has occurred continuously except for shutdowns which affected the entire installation between WWII and the Korean Conflict and between the Korean Conflict and the Vietnam Conflict. Production ceased during 1994.

Area D is located approximately 1000 feet north of Highway 560 in the southwestern area of the installation. Production facilities are contained within an approximately 130-acre area. Production at Area D occurred during WWII, the Korean Conflict, and the Vietnam Conflict. Area D has also been operational continuously since 1975. Production ceased during 1994.

Area S is located near the southern boundary of LAAP in the central area, adjacent to the rail classification yard. Production facilities in Area S cover approximately 106 acres. Area S was constructed during 1944 and operated for the remainder of WWII. Area S was also operational during the Korean and Vietnam Conflicts as well as since 1975. Production ceased during 1994.

IRP STATUS

RRSE RATING: Low Risk

CONTAMINANTS OF CONCERN:

Explosives, Volatiles

MEDIA OF CONCERN:

Shallow Groundwater, Soil

COMPLETED IRP PHASE:

RI

CURRENT IRP PHASE:

FS

FUTURE IRP PHASE:

RC

PROPOSED PLAN

We are waiting for the FS to be completed by Program Management Corporation.. We will develop a Risk Assessment Management Plan which will have a schedule for the remaining elements for both LAAP-09 and LAAP-10.

LAAP-010
GROUND WATER TOTAL INSTALLATION

SITE DESCRIPTION

The Army, in consultation with the USEPA and the Louisiana Department of Environmental Quality (LDEQ), has split the shallow groundwater at the seven study areas into a separate operable unit. Therefore an operable unit for groundwater has been established for the total facility.

The PA was completed in 1997. Explosives and VOC's were not found at all 7 study areas.

The contamination is contained on post and is does not seem to be migrating. There are no receptors that pose a risk to human health.

PROPOSED PLAN

Natural attenuation and Long Term Monitoring for the next 30 years is anticpated.

IRP STATUS

RRSE RATING: High Risk

CONTAMINANTS OF CONCERN:
Explosives, Metals, Organics

MEDIA OF CONCERN:
Groundwater

COMPLETED IRP PHASE:
PA

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	390	390	390	390	390	390	7600

Projected Total - $9,940,000

SCHEDULE

PAST MILESTONES for LAAP01- 07

IRP PHASE	DATE
Preliminary Assessment	May 78
Red waste Pond Leachate Study	Jul 79
Geo-hydrologic study	Sep 79
Off-Post Sampling	May 80
Area P Sampling	Feb 81
LAAP Boundary Monitoring Well Survey	Feb 81
Area P Sampling	Jun 81
LAAP Preliminary Contamination Survey	May 83
Tech Demo For Incineration	Apr 84
GW Quality Assessment Program Summary	Feb 85
LAAP Contamination RI	Mar 87
RI for IRA	Apr 87
FS for IRA	Aug 87
Decision Memorandum for IRA	Dec 87
Updated RI	Apr 89
Closure Plant for IRA	Aug 90
Comprehensive RI	Feb 92
Groundwater Model	Jun 92
Final Report on Decon Operations	Sep 92
Revised Final FS	Sep 93
Proposed Plan Soils/Sources (LAAAP01-07)	Dec 95
ROD Soils/Source (LAAAP-01-07)	Nov 96
Proposal Plan Soils (LAAP-08)	May 99

SCHEDULE

PROJECTED MILESTONES

IRP PHASE	DATE
ROD (LAAAP-08)	May 00
Revised RI/FS GW	Sep 99
RI (LAAP-09)	Jun 00
FS (LAAAP-09)	Sep 01
RD/RA (LAAAP-09)	Dec0 01
Projected completion date of IRP: (Excluding LTM)	Sep 02

SCHEDULE

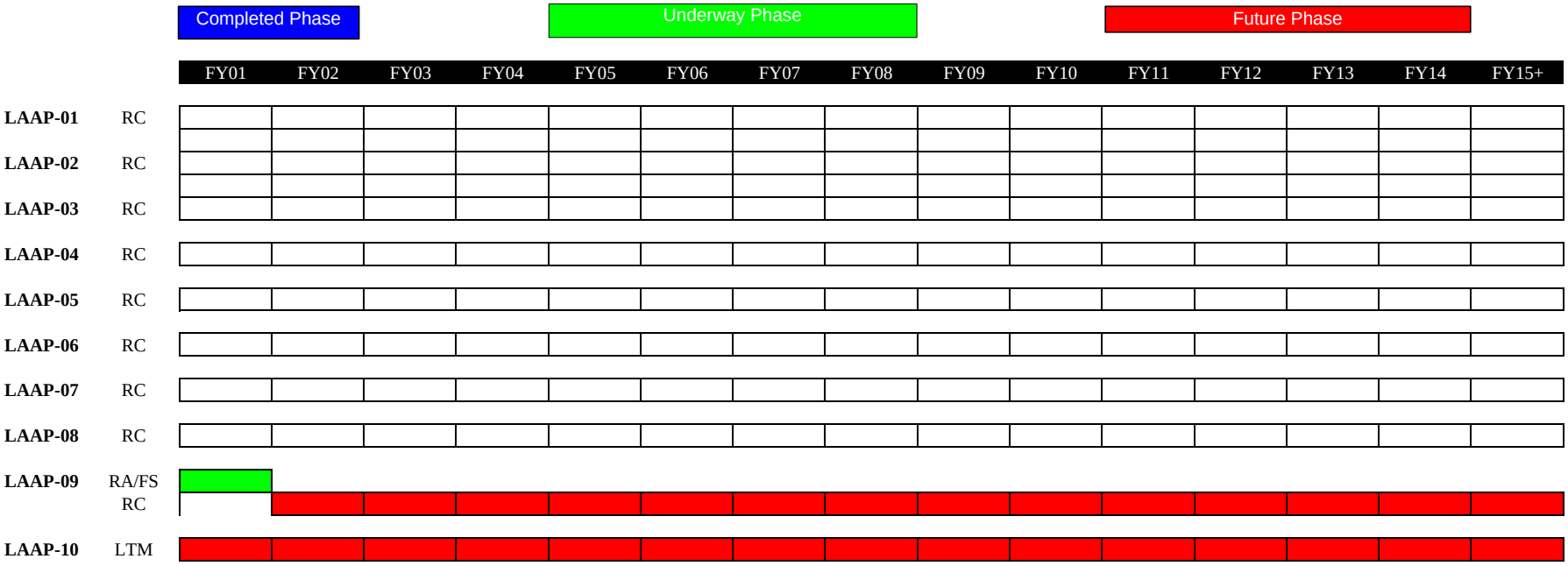
NO FURTHER ACTION SITES

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

LAAP-01	AREA PINK WATER LAGOONS
LAAP-02	BURNING GROUND NO.5
LAAP-03	M-4 WASTE WATER LAGOON
LAAP-04	BURNING GROUND NO. 8 LANDFILL
LAAP-05	BURNING GROUND NO. 3 LANDFILL
LAAP-06	OILY WASTE LANDFARM (AREA Y)
LAAP-07	BURNING GROUND NO.8 PINK WATER LAGOONS
LAAP-08	AREA Y CHROMIC ACID ETCHING FACILITY

Louisiana Army Ammunition Plant

(Based on current funding constraints)



DEFENSE SITE ENVIRONMENTAL RESTORATION TRACKING SYSTEM

Site, 4. Installation Phase Summary Report 3/16/01

Installation: LOUISIANA AAP
Programs: BRAC I, BRAC II, BRAC III, BRAC IV, IRP

Subprograms: Compliance, Restoration, UXO
Installation count for Programs: 1

NPL Options: Delisted, No, Proposed, Yes

Installations count for Programs and NPL: 1
Site count for Programs and NPL: 10

Phase / Status / Sites

PA

C	U	F	RC
10	0	0	0

SI

C	U	F	RC
10	0	0	0

RI / FS

C	U	F	RC
8	2	0	0

RD

C	U	F
7	0	0

RA(C)

C	U	F	RC
8	1	0	7

RA(O)

C	U	F	RC
1	0	0	1

LTM

C	U	F	N
0	0	1	7

Remedy / Status / Sites (Actions)

IRA

C	U	F
1 (1)	0 (0)	0 (0)

FRA

C	U	F
8 (9)	1 (1)	0 (0)

RIP Total: 0

RC Total: 8

Reporting Period End Date: 03/31/2001

DEFENSE SITE ENVIRONMENTAL RESTORATION TRACKING SYSTEM

Site, 9. RISK INSTALLATION ACTION PLAN REPORT 03/16/2001

Installation: LOUISIANA 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
LAAAP-01	1A	GW	PA RAC RAO RD RI SI			1				199307	199307
LAAAP-02	NE		PA RAC RD RI SI						N		199307
LAAAP-03	2A	GW	PA RAC RD RI SI						N		199307
LAAAP-04	NE		PA RAC RD RI SI						N		199307
LAAAP-05	NE		PA RAC RD RI SI						N		199307
LAAAP-06	2A	GW	PA RAC RD RI SI						N		199307
LAAAP-07	NE		PA RAC RD RI SI						N		199307
LAAAP-08	2A	GW SL	PA RAC RI SI						N		200003
LAAP 09	3A	GW	PA SI	RI							200206
LAAP 10	1A	GW	PA SI	RAC RI					F		200209

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: 03/31/2001

REM/IRA/RA ASSESSMENT

The comprehensive Remedial Investigation/Feasibility Study has been completed for soils/sources at LAAAP-01 through LAAAP-07. A Record of Decision was approved for these sites in November 1996. No further action will be required at these sites for soils sources. A Remedial Investigation was completed for the soils/sources at LAAAP-08 in May 1998. The report concludes that NFA is required for the soils/sources at this site. Field-work began in July 1997 at Nine Load/Assemble/Pack Lines and three testing areas. There is a potential for remedial actions at 1 of these areas, if natural attenuation cannot be agreed to for the groundwater operable unit, then remediation may be required.

PAST REM/IRA/RA

* LAAAP-01, Area P, Draining of 13 lagoons, incineration of excavated soils, and installation of cap, completed August 1990, $33M.

CURRENT REM/IRA/RA

* Drinking water wells on and off post: LTM, average 100K/year.

FUTURE REM/IRA/RA

* LAAAP-01 through LAAAP-10: At least LTM will be required for these sites even if natural attenuation is approved for the groundwater, FY99 – FY10, at least $7M.

PRIOR YEAR FUNDING

FY78	Records Search	50.0K
FY80	Off-post Sampling and Analysis	3.8K
	LAAP Boundary Well Survey	57.6K
FY81	LAAP Preliminary Contamination Survey	279.3K
FY83	Biannual Groundwater Monitoring	16.9K
FY86	LAAP Remedial Investigation	502.2K
	Site Cleaning	1.2K
FY87	LAAP Feasibility Study	752.4K
	Incineration	11,030.1K
FY88	Monitor Well Site Cleaning and Installation	
	Site Support	22.4K
	Off Post Drilling Right of Entry Agreements - Ft. Worth District COE	10.1K
	Technical Escort Unit Support For BG5 Excavation	2.9K
	Off Post Sampling	1.3K
	Incineration	20,031.2K
FY89	RI/FS	2,31.2K
	Off-Post Monitoring Wells Re-sampling	0.1K
	Sampling of Doyline Water Supply Wells	0.8K
	Post Wide Re-sampling Effort	20.2K
	Sampling of Village Water Supply System	1.1K
	Re-analysis of Village Water Supply	3.3K
	Groundwater Modeling Effort	177.3K
	Drinking Water Well Monitoring	18.5K
	Incineration's	794.8K
FY90	FS Task Modification	451.8K
	RI/FS Follow-on	6.0K
	Incineration	843.0K
	UST's	359.2K
FY91	Area P Incineration S&S	77.7K
	Follow on RI/FS (7 Areas of Concern)	8.0K
	UXO Clearing of Burning Ground	7.4K
FY92	Incineration of Soils (CE)	12.0K
	Installation RI/FS & Risk Assessment	1,108.0K
	State Reimbursement	50.0K
FY93	Installation RI/FS & Risk Assessment	632.0K
	ADR Settlement Include. S&A Claim	310.0K
	ADR Settlement Include. Interest on Claim	290.0K
	Installation Restoration Support	15.0K
	Area P 5 Year Plan	251.0K

PRIOR YEAR FUNDING

FY94	Installation Support	100.0K
	Groundwater Monitoring	49.6K
	RI/FS for L/A/P Lines	4,589.0K
	FS Y-Line	119.0K
	Well Closure/Maintenance (LAAAP-93-012)	49.0K
FY95	GW model update	220.0K
	Insulation support	165.0K
	RI Modification Y-Line	114.0K
FY96	Installation Support & cap maintenance	165.0K
	RI Addendum	600.0K
	RI modification L/A/P	770.0K
	RI Addendum GW OU	1,000.0K
FY97	RI Nine Load Lines & 3 Test Areas	5,000.0K
	Installation Support & cap maintenance	165.0K
	FS/PP ROD GW OU	9627.5K
FY98	PP, ROD @ Y-Line	125.0K
	Natural Attenuation Study Area P	300.0K
	Historical Well Closure	200.0K
	Drinking water monitoring	60.0K
FY99	Installation Support & cap maintenance	165.0K
	RD/RA L/A/P	600.5K
	Monitoring Well Closure	750.0K
FY00	Installation Support & cap maintenance	80.0K
	Natural Attenuation monitoring costs	200.0K

Total Prior Year **64455.6K**

FUNDS REQUIRED BY FISCAL YEAR TO COMPLETION:

FY01	Installation Support & cap maintenance	90.0K
	Natural Attenuation monitoring costs	300.0K
Total		$ 9,940K
Total	**Finding from Inception to Completion:**	**$74,395.6K**

LOUISIANA AAP - 2001 COST TO COMPLETE

DSERTS #	SITE TITLE	PHASE	FY01	FY02	FY03	FY04	FY05	FY06	FY 07 +	SITE TOTAL	DESCRIPTION OF WORK
LAAP-01	Area A Pink Water Lagoon	RC									Closed 199307, Groundwater contamination LAAP-10
LAAP-02	Burning Ground 5	RC									Closed 199307
LAAP-03	M-4 LAGOON	RC									Closed 199307 Groundwater Contamination LAAP-10
LAAP-04	Burning Ground 8	RC									Closed 199307
LAAP-05	Burning Ground No.3 Landfill	RC									Closed 199307
LAAP-06	Oily Waste Landfarn (Area Y)	RC									Closed 199307
LAAP-07	Pink Water Lagoons	RC									Closed 199307
LAAP-08	Area Y Chromic Acid Etching Facility	RC									Record of Decision Complete 199906, Closed 2000
LAAP-09	Load/Assemble/Pack and Test Area	FS									Feasibility Study
LAAP-10	Ground Water Total Installation	LTM	390	390	390	390	390	390	7600	9,940.00	Long Term Monitoring
	TOTALS IN THOUSANDS OF DOLLARS		**$390**	**$390**	**$390**	**$390**	**$390**	**$390**	**$7,600**	**$9,940**	

COMMUNITY INVOLVEMENT

Louisiana Army Ammunition Plant established a Technical Review Committee in February 1989. Members include Army Environmental Center, Industrial Operations Command, U.S. Environmental Protection Agency Region VI, Louisiana Department of Environmental Quality. When the Technical Review Committee was established, members were solicited from Webster and Bossier Parish Governing bodies, local city governing bodies (Minden, Sibley, Doyline, Bossier City, Springhill) and local citizens. Letters announcing the TRC meeting dates are routinely mailed to the above. Currently none of the local authorities or local citizens have expressed interest in attending the TRC meetings.

Numerous public meetings have been conducted to emphasize LAAP's environmental issues and responses. These meetings were publicized thru news media, billboard ads and brochures. Little public interest has resulted with most of the meetings attracting only one or two citizens.

Louisiana AAP is committed to involving the public in its Installation Restoration Program and recognizes that interest in environmental efforts can change. Louisiana AAP will continue to mail out letters to the community leaders each time that a Technical Review Committee meeting is scheduled and solicit input from local citizens.

For now the Technical Review Committee will continue to meet and plan remedial actions and strive to gain community interest by recruiting citizens that attend public meetings in support of the installation restoration program.

'ENSE SITE ENVIRONMENTAL RESTORATION TRACKING SYSTEM

Installation, 7. RAB REPORT 03/16/2001

Command: AMC **SubComma** OSC
Installatio LOUISIANA AAP

RAB Established Date: **Reason RAB Not Establish:** The community has expressed no sufficient, sustained interest in a RAB.
RAB Adjourned Date: **Reason RAB Adjourned:**

TRC Date: 198902

RAB Community Members: **Total RAB Community Members:**

RAB Government Members: **Total RAB Government Members:**

RAB Activities:

RAB Advice

TAPP Application Approval Date:
TAPP Project Title: 03/31/2001
TAPP Project Description:

Award Number	Purchase Order Award Date	Completion Date