

ALBANY MARINE CORPS LOGISTICS BASE

ALBANY, GEORGIA

Engineering Field Division/Activity: SOUTH DIV
 Major Claimant: CMC
 Size: 3,327 Acres
 Funding to Date: \$25,760,000
 Estimated Funding to Complete: \$6,196,000



Base Mission: Acquires, maintains, repairs, rebuilds, distributes and stores supplies and equipment to sustain combat readiness of world wide Marine Corps forces; provides Quality Assurance Program, conducts training

Contaminants: Heavy metals (arsenic), pesticides, phythalates, polynuclear aromatic hydrocarbons, volatile organic compounds (trichloroethylene)

Number of Sites:		Relative Risk Ranking of Sites:			
CERCLA:	23	High:	6	Not Evaluated:	0
RCRA Corrective Action:	6	Medium:	3	Not Required:	16
RCRA UST:	0	Low:	4		
Total Sites:	29				

NPL	
Sites Response Complete: 15	

EXECUTIVE SUMMARY

The Marine Corps Logistics Base (MCLB), Albany is located in the southwestern portion of Georgia, about midway between Tallahassee, Florida, and Macon, Georgia. The Marine base was commissioned as the Marine Corps Depot of Supplies in 1952. In 1954, a large maintenance facility was completed on the base and began functioning as a Marine Corps Maintenance Activity. In 1976, additional functions to support the Marine Corps weapons systems and equipment were moved to the base and the name was changed to the Marine Corps Logistics Base. The typical operations associated with equipment and weapons maintenance and support have previously contributed to the contamination on the base. Primary contamination site types include disposal areas, storage areas, and landfills. Primary contaminants of concern are the organic solvent trichloroethylene (TCE) and its degradation products, the chemical additive polychlorinated biphenyls (PCB), and heavy metals. Current operations include pollution prevention technologies to prevent further contamination. The primary pathway for contaminant migration on the base is movement through the surficial soil. If contamination were to migrate into the deeper aquifer, there would be potential for off-base impact. The primary reason for placing MCLB Albany on the National Priorities List (NPL) on December 21, 1989, was a potential for contaminated groundwater to migrate into off-base drinking water wells. A Federal Facility Agreement (FFA) was signed between the U.S. Environmental Protection Agency (USEPA) Region IV, Georgia Environmental Protection Division (GEPD), and the Navy in 1991.

The Installation Restoration program (IRP) investigations were started at MCLB, Albany in Fiscal Year (FY) 1984. The initial assessment study (IAS), equivalent to a preliminary assessment (PA), was completed for eight sites in FY85. A confirmation study was completed in FY87 for nine sites, including six of the original eight IAS sites. These nine sites were identified as solid waste management units (SWMU) by the GEPD in the Part B Resource Conservation and Recovery Act (RCRA) permit for the base, which specified requirements for a RCRA facility investigation (RFI). The RFI was completed for the nine sites in FY 89. These three studies led to the Hazard

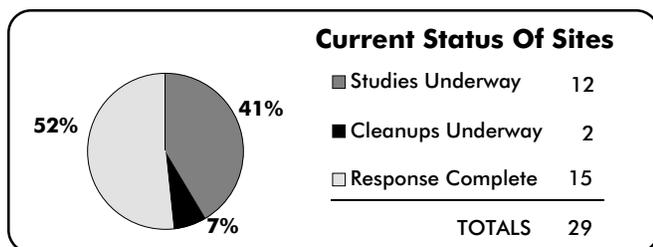
Ranking System scoring that placed MCLB, Albany on the NPL, which mandated an FFA.

During development of the FFA in 1991, a total of 21 sites were listed, including the 11 previously studied sites. All of the sites were grouped into operable units (OUs) based on geographic proximity, contaminant types, and other factors, with the intent of facilitating investigation and remediation efforts. As investigations progressed, 8 additional sites were added to the list, for a total of 29 sites. There are 23 CERCLA sites and 6 RCRA CA sites. The CERCLA sites are currently grouped as follows:
 OU 1 - Sites 1, 2, 3 and 26
 OU 2 - Site 11
 OU 3 - Sites 16 and 17
 OU 4 - Sites 6, 10, 12, 13 and 22
 OU 5 - Sites 8 and 14 (RCRA)
 OU 6 - Multiple Sites - Base-wide Groundwater
 Screening Sites - Sites 4, 5, 7, 9, 15, 18-21 and 25
 RCRA SWMUs 1, 2, 3, 4 and 5.

Although the original intent was to investigate groundwater as part of individual OUs, it was determined that a base-wide investigation of groundwater will be more efficient. Based on this determination, a value engineering approach was implemented in FY96 to expedite Records of Decision (RODs) for all media, except groundwater, at each OU, and to address groundwater as a separate, base-wide unit now identified as OU 6.

There has been a variety of other successful accomplishments at MCLB, Albany. For reduction of risk at Site 3, where there was a possibility that a plume of the organic solvent TCE was migrating off-base, an IRA pump and treatment system was installed to contain the plume and potential migration. Nine other response actions have been implemented at MCLB, Albany to reduce the potential risks to the public and environment.

Making use of other potential innovative technologies, a pilot-scale treatment system has been designed and installed at Site 1. This system involved treating groundwater contaminated with the organic solvent TCE and its breakdown products with (1) a peroxone oxidation treatment system, (2) methanotrophic rotating biological contactor (mRBC), and (3) in-situ anaerobic bioremediation in combination with the mRBC. The information obtained from the treatability studies will be used in the OU 6 Base-wide Groundwater investigation.



ALBANY MCLB RELEVANT ISSUES

ENVIRONMENTAL RISK



HYDROGEOLOGY - The two notable surface water bodies on the MCLB, Albany facility are Covella Pond and Indian Lake. Covella Pond is located in the central, administrative area of the base. The pond is filled with water from the base potable water supply system. Indian Lake is located at the northeast portion of the base and is surrounded by 40 acres of wetlands. Two other significant surface water bodies in the vicinity are the Flint River, located approximately three miles west of the base, and Piney Woods Creek, which drains the northeast corner of the base. In general, surface drainage for the western portion of MCLB, Albany drains through a system of culverts and unlined ditches to the west, eventually into the Flint River, which eventually discharges into Lake Seminole, at the Florida-Georgia border. The eastern portion of the base drains into Indian Lake.

The two principal hydrogeologic units of interest at the base are the overburden and the Upper Floridan aquifer. The overburden, consisting predominantly of clay, serves as a confining unit for the underlying aquifer and inhibits vertical seepage. The Upper Floridan aquifer is a contributing source of drinking water for the area, although most of the municipal water supply wells that draw from this aquifer also draw from deeper aquifers. The primary pathway for contaminant migration on the base is vertical groundwater movement through the surficial soil. If contamination were to migrate into the deeper portion of the Upper Floridan aquifer, there is a potential for off-base impact.



NATURAL RESOURCES - On the Marine base, there are both a wildlife preserve and a fishing lake (Indian Lake). Of the 26 species of animals that the State of Georgia has placed on the endangered or threatened list, there are 9 that have the potential to inhabit MCLB, Albany. They are the Georgia blind cave salamander, American alligator, eastern indigo snake, ivory-billed woodpecker, peregrine falcon, bald eagle, wood stork, red-cockaded woodpecker and Bachman's warbler. There is also a potential for 10 endangered or threatened plant species to be on or near the base.



RISK - The Agency for Toxic Substance and Disease Register (ATSDR) performed a public health assessment for groundwater in the MCLB, Albany area and released the Initial Assessment Report in 1992. Among ATSDR's recommendations was that groundwater in private wells immediately north of Sites 1, 2 and 3 be sampled. Based on the findings of these sampling results several residents were connected to the city of Albany's water supply and are no longer exposed to potentially contaminated groundwater. An interim measure was also installed along the northern boundary of Site 3 to provide hydraulic containment of the groundwater. Studies are ongoing to confirm the source of contaminated groundwater detected off-base.

The Navy completed a Relative Risk Ranking for the installation in FY95. Currently six sites are ranked high. Water passing through the surface soil causes the contaminants to migrate down into the Upper Floridan aquifer. The Floridan aquifer is a source for public water supply in the Albany area. OUs 1 and 4 have been found to contain contaminated groundwater plumes. Potential sources of these plumes include former disposal areas and landfills, the Depot Maintenance Activity, and the industrial wastewater treatment plant (IWTP). Aquatic life, which inhabit Indian Lake and the Flint River, and wildlife, which live nearby, could be impacted by the contamination. Hunters and fishermen are the main human receptors in the wildlife preserve, lake, and river areas.

Several response actions have been implemented at MCLB, Albany to reduce the potential risks to the public and environment. Contaminated sludge from the drying beds was removed at Site 14. A sludge pile was removed from Site 3. Soil from Sites 8 and 14, found to contain elevated levels of metals and PCBs in the surface soil, and Site 17, contaminated with metals, were excavated and disposed of off-base. A cap was constructed at Site 16 to

reduce the potential exposure to contaminated subsurface soil. The Wood Preservation Tank at Site 9 was removed and disposed off-base. RCRA Corrective Action was also completed at SWMUs 4 and 5.

Human health and ecological risk assessments have been performed at OUs 1-5, addressing 14 of the 26 sites. The risk assessments of the OUs listed below have addressed surface and subsurface soil, sediment, and surface water.

OU 1 (Sites 1-3 and 26) - The risk assessments for Sites 1, 2 and 3 were completed in 1995; resulting in the identification of a potential risk to the public from a sludge pile located on the surface of site 3. This sludge pile was removed and disposed of off-base in 1996. The risk assessment for Site 26 was finalized in FY97.

OU 2 (Site 11) - The risk assessment for Site 11 was completed in 1995, confirming that all risks associated with non-groundwater media were below the acceptable regulatory risk range.

OU 3 (Sites 16 and 17) - The risk assessments for Sites 16 and 17 were completed in 1992 and determined that Site 16 did not pose a potential risk above regulatory guidance, however, the Navy felt it was prudent to implement a RA for subsurface soil to ensure public safety. Site 17 was found to pose a potential ecological risk; thereby, requiring a RA for surface and subsurface soil.

OUs 4 (Sites 6, 10, 12, 13 and 22) and 5 (Sites 8 and 14) - Draft Risk Assessments have been reviewed by the regulatory agencies and will be finalized in FY98.

OU 5 (Sites 8, 14) - Draft Risk Assessments have been reviewed by the regulatory agencies and will be finalized in FY98.

OU 6 - The risk assessment of base-wide groundwater is currently being addressed.

REGULATORY ISSUES



NATIONAL PRIORITIES LIST - MCLB, Albany was placed on the NPL on December 21, 1989, with a Hazard Ranking System (HRS) score of 44.65. There was a potential for contaminated groundwater to migrate into off-base drinking water wells. Based on an RCRA investigation of Site 12 (IWTP area), it was suspected that contamination was entering the groundwater and had a potential to migrate off-base.



LEGAL AGREEMENTS - A Federal Facilities Agreement (FFA) was signed between the USEPA Region IV, GEPA, and the Marine Corps in July 1991. The FFA initially identified 21 sites, including 11 previously studied sites. Subsequently, the agreement currently list 24 CERCLA sites.



PARTNERING - An informal partnering agreement for cooperative effort in expediting document review is already in place. GEPA is unwilling to participate in a formal partnering agreement between the Marine Corps and State and Federal regulators. However, each party has agreed to review and provide a response to the many documents that are required for the investigation, remediation, and/or closure of the 29 sites.

COMMUNITY INVOLVEMENT



RESTORATION ADVISORY BOARD - The MCLB, Albany Technical Review Committee (TRC) was established in September 1989. It met once a year, with additional public meetings as needed. The membership of the TRC consists of representatives from the local utility company, the Marine Corps Public Works Office, Darton College, GEPA, USEPA Region IV, U.S. Department of Commerce and U.S. Department of Fish and Wildlife. To date, there has been little

ALBANY MCLB RELEVANT ISSUES

community attendance at meetings, and therefore it will not be made into a Restoration Advisory Board (RAB). However, efforts are being made to identify individuals who are interested in assisting the TRC in improving two-way communications between the MCLB and the public. The TRC met on December 3, 1996 and plan to meet more often as progress is made on the OU 6 groundwater investigation.



COMMUNITY RELATIONS PLAN - The Community Relations Plan (CRP) was finalized in December 1991.



INFORMATION REPOSITORY - The Information Repository is located in the Dougherty County Library, 300 Pine Avenue, Albany, Georgia. The Administrative Record is located and maintained at MCLB, Albany Environmental Branch (Code 505), Building 5501. These were established in FY92.

HISTORICAL PROGRESS

FY85

Sites 1-8 - IAS, equivalent to a PA, was completed.

FY87

Sites 1-3, 5-7 and 9-11 - Confirmation study was completed.
SWMU 2 (IWTP) - The Navy completed the RFA/RFI for Site 12 (SWMU 2 IWTP), resulting in the recommendation for groundwater treatment at the IWTP.

FY88

SWMU 2 (IWTP) - Corrective Measure Study (CMS) was completed and the Corrective Measure Implementation (CMI) was started, including the installation of a recovery well and connection to the IWTP for GW treatment.

FY89

SWMU 1 (TSDF) - The CMS was completed at RCRA site SWMU 1.
SWMU 2 (IWTP) - The CMI was started, an Interim Remedial Action (IRA) was completed that consisted of sludge/soil removal and capping of the IWTP sludge beds.
Sites 1-3, 5-7 and 9-11 - RFI activities were completed.

FY90

SWMU 3 (DWTP Site) - An Administrative Order was issued by the State of Georgia for the RCRA closure for the Domestic Wastewater Treatment Plant (DWTP) sludge beds. Sampling results indicated heavy metal concentrations remaining from decontamination activities.

FY91

FFA - The FFA was finalized and signed in July by the Navy, USEPA Region IV and GEPD.
Site 14 - PA was performed.

FY92

Sites 1-3 and 11 - An RI/FS work-plan was completed, and field investigations were implemented.
Sites 16 and 17 - The RI/FS was completed. The proposed plan and Public Meeting were completed. IROD was signed.

FY93

Sites 16 and 17 - RDs were completed.
Sites 6, 10, 12, 13 and 22 - RI/FS work-plan completed and field investigation initiated.
SWMUs 4 and 5 - RFI Plan was started.

FY94

Site 3 - Final Design of Interim Corrective Measure (ICM) to provide hydraulic containment of contaminated groundwater was submitted and a ROD for the ICM was signed.

Sites 1 and 3 - A treatability study work-plan was prepared for these two sites and the bench-scale studies initiated for the study of bioremediation and chemical oxidation of contaminated groundwater.

Sites 16 and 17 - Construction of the RAs was completed and Remedial Action Report (RAR) started.

Sites 6, 10, 12, 13 and 22 - Field investigation completed.

Sites 8 and 14 - Final RI/FS work-plan completed.

SWMU 3 - CMS, CMI and a Final Remedial Action (FRA) for soil removal from domestic sludge drying beds were completed

SWMUs 4 and 5 - RFI and RCRA Closure Plan was completed. RFI field work was completed.

FY95

Site 26 - An RI/FS Work-plan Addendum was prepared and the field investigation implemented. The Draft RI/FS was submitted to regulatory agencies for review.

Site 3 - ICM at Site 3 was completed (Full scale operation).

Sites 1 and 3 - Technical Memorandum submitted for bench-scale studies and recommendation for pilot-scale studies at Site 1. The RI/FS was submitted.

Site 1 - Underground Injection Control permit submitted to support in-situ bioremediation pilot-scale tests. Final design of pilot-scale treatment systems completed.

Site 11 - The RI/FS was submitted.

Site 22 - An Engineering Evaluation and Cost Analysis (EE/CA) and Final Action Memorandum were completed for the interim treatment of elevated concentrations of VOCs in groundwater.

Sites 6, 10, 12, 13 and 22 - Draft RI/FS submitted for review.

Site 8 - Focused Feasibility Study and Proposed Plan were completed for interim RA (contaminated surface and subsurface soils). IROD and IRA design completed.

SWMUs 4 and 5 - Draft RFI report was submitted. Modified RFI Plan.

FY96

Site 1 - Pilot-scale systems construction started. Peroxone pilot-scale test conducted by U.S. Army Corps of Engineers Waterways Experiment Station in November 1995. Remainder of pilot-scale construction completed in May 1996. mRBC pilot-scale test was operated during June and July 1996. Tracer study associated with testing of enhanced in-situ bioremediation pilot-scale test initiated in September 1996. The mRBC continued operating and will support ongoing operation of in-situ bioremediation tests. RI/FS continues.
Site 3 - Final Action Memorandum was submitted to support the removal action for the excavation and off-base disposal of sludge. IRA completed. ROD for OU1 was not signed for all media except groundwater. More work needed to be done to get to a NFA ROD on all media except groundwater.
Site 11 - Final Proposed Plan released to the public, recommending No Action. No Action ROD was signed. Groundwater deferred to OU 6 Base-wide Groundwater (BWGW). IRA was completed, RI/FS was completed and site is RC.

Site 22 - A removal action was not implemented after further evaluation of aquifer characteristics and pumping test data revealed that the recovery goals initially set for reducing contaminant levels would not be met. ROD was not signed due to these changing conditions.

Site 8 - An IRA was completed for the excavation and off-base disposal of surface soil contaminated with metals and PCBs. Draft RI/FS submitted for review.

ALBANY MCLB HISTORICAL PROGRESS

Site 14 - Draft RFI/CMS submitted for review.
SWMUs 4 and 5 - Completed supplemental RFI field investigation.
Site Screening sites

Site 9 - PA/SI was completed.
SWMUs 4 and 5 - RFA was completed. RFI/CMS was begun.

PROGRESS DURING FISCAL YEAR 1997

FY97

Site 1 - Treatability study of enhanced, in-situ bioremediation was completed.
Site 3 - Sludge Pile Removal Action was completed. Hydraulic containment system (ICM) will continue to be monitored and modified, as necessary pending coordination with regulatory agencies.
Site 26 - Final Addendum for OU 1 RI and Risk Assessment was completed.
Sites 1-3 and 26 - Final ROD for all media except groundwater was signed. Groundwater deferred to OU 6 Base-wide Groundwater. RI/FS phase for all 3 sites was completed.

Sites 16, 17 - Final ROD for all media except groundwater was signed. Groundwater was deferred to OU 6 Base-wide Groundwater.
Sites 6, 8, 10, 12, 13, 14 and 22 - Continued progress on RI/Baseline Risk Assessment.
Sites 4, 5, 7, 9, 15, 18, 19, 20 and 25 - PA/SI was completed.
Site 18 - Completed an IRA.
Sites 2, 5, 7, 9, 15, 18, 19, 20, 25 and 26 - Sites are Response Complete (RC).
SWMU 4 - RCRA Intermediate Measure completed.
SWMU 5 - Design complete.

PLANS FOR FISCAL YEARS 1998 AND 1999

FY98

Sites 8, 14 (RCRA) - Complete RI/BRA and decision documents. No Further Remedial Action Planned (NFRAP) ROD to be signed. Both RI/FS will be completed and sites will be RC. Groundwater deferred to OU 6.
OU 4 (Sites 6, 10, 12, 13 and 22) - Complete RI/BRA and Decision Documents.
Site 4 - Complete the RI/FS and RD.
Site 21 - Complete the PA/SI, anticipate will go RC.
OU 6 Base-wide Groundwater - Complete Technical Memorandum, USGS Hydrogeologic Framework Study. Develop work-plan based on Data Quality Analysis/Data Quality Objectives. Begin RI/BRA and decision documents .
Site 9 - Completed IRA.
SWMU 5 - Complete the CMI.
SWMUs 4 and 5 - Complete the RFI/CMS and go RC.

FY99

OU 6 (BWGW) - Complete RI/BRA and Decision Documents. Plan for remedial design and actions.
OU 4 - Plan for any remedial design/remedial actions (if required).
Site 4 - Complete an IRA.
Sites 3, 6, 10, 12, 13 and 22 - Complete the RI/FS.
Sites 6, 10 and 13 - Will become RC.

PROGRESS AND PLANS

CERCLA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
PA / SI	10	9	1					
RI / FS	3	3	2	6				
RD	2		1		1			
RAC	2					5		
RAO								5
IRA	6(7)	1(1)	1(1)	1(1)		2(2)		2(2)
RC	3	10	2	3				5
Cumulative % RC	13%	57%	65%	78%	78%	78%	78%	100%
RCRA CA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
RFA	3							
RFI / CMS	2		3					
DES		1						
CMI	2		1					
CMO							1	
IRA	2(3)	1(1)						
RC	2		3				1	
Cumulative % RC	33%	33%	83%	83%	83%	83%	100%	100%

ATHENS NAVY SUPPLY CORPS OFFICER SCHOOL ATHENS, GEORGIA

Engineering Field Division/Activity: SOUTHDIV
 Major Claimant: CNET
 Size: 58 Acres
 Funding to Date: \$3,695,000
 Estimated Funding to Complete: \$329,000



Base Mission: Provides Supply Corps training for personnel ashore and afloat

Contaminants: POLs

Number of Sites:

CERCLA: 0
 RCRA Corrective Action: 0
 RCRA UST: 1
 Total Sites: 1

Relative Risk Ranking of Sites:

High: 1 Not Evaluated: 0
 Medium: 0 Not Required: 0
 Low: 0

Sites Response Complete: 0	

PROGRESS AND PLANS

UST	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
SA	1							
CAP	1							
DES	1							
IMP		1						
IMO						1		
IRA						1(1)		
RC						1		
Cumulative % RC	0%	0%	0%	0%	0%	100%	100%	100%

ATLANTA NAVAL AND MARINE CORPS RESERVE READINESS CENTER ATLANTA, GEORGIA

Engineering Field Division/Activity: SOUTHDIV
 Major Claimant: COMNAVRESFOR
 Size: 2 Acres
 Funding to Date: \$245,000
 Estimated Funding to Complete: \$0



Base Mission: Provides training for reserve units

Contaminants: POLs

Number of Sites:

CERCLA: 0
 RCRA Corrective Action: 0
 RCRA UST: 1
 Total Sites: 1

Relative Risk Ranking of Sites:

High: 0 Not Evaluated: 0
 Medium: 0 Not Required: 1
 Low: 0

Sites Response Complete: 1	

PROGRESS AND PLANS

UST	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
SA	1							
CAP	1							
DES								
IMP	1							
IMO								
IRA								
RC	1							
Cumulative % RC	100%	100%	100%	100%	100%	100%	100%	100%

KINGS BAY NAVAL SUBMARINE BASE ST. MARY'S, GEORGIA

Engineering Field Division/Activity: SOUTHDIV
 Major Claimant: CINCLANTFLT
 Size: 16,710 Acres
 Funding to Date: \$9,798,000
 Estimated Funding to Complete: \$14,787,000



Base Mission: Provides a full service submarine base; develops support facilities for Fleet ballistic missile submarines

Contaminants: Diesel fuel, paint, PCBs, POLs, solvents, volatile organic compounds

Number of Sites:

CERCLA: 16
 RCRA Corrective Action: 0
 RCRA UST: 1
 Total Sites: 17

Relative Risk Ranking of Sites:

High: 1 Not Evaluated: 0
 Medium: 2 Not Required: 13
 Low: 1

Sites Response Complete: 13	

PROGRESS AND PLANS

CERCLA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
PA / SI	16							
RI / FS			2	1				1
RD						1		
RAC								1
RAO								1
IRA						1(1)		
RC	12		1	1				2
Cumulative % RC	75%	75%	81%	88%	88%	88%	88%	100%
UST	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
SA	1							
CAP								
DES	1							
IMP	1							
IMO								
IRA	1(1)							
RC	1							
Cumulative % RC	100%	100%	100%	100%	100%	100%	100%	100%