# FINAL

# ENVIRONMENTAL BASELINE SURVEY

# at

# LAKE CHARLES AIR FORCE STATION
# LAKE CHARLES, LOUISIANA

**March 1997**

**Air Combat Command**

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## LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| °C | degrees Centigrade |
| AC&W | Aircraft Control and Warning Squadron |
| ACM | Asbestos Containing Material |
| AFB | Air Force Base |
| AFI | Air Force Instruction |
| AFS | Air Force Station |
| AST | Aboveground Storage Tank |
| CERCLA | Comprehensive Environmental Response, Compensation and Liability Act |
| CERCLIS | Comprehensive Environmental Response, Compensation and Liability Information System |
| DEQ | Louisiana Department of Environmental Quality |
| DRO | Diesel Range Organics |
| EBS | Environmental Baseline Survey |
| EPA | U.S. Environmental Protection Agency |
| ERNS | Emergency Response Notification System |
| FAA | Federal Aviation Association |
| FEC | Foothill Engineering Consultants, Inc. |
| GRO | Gasoline-Range Organics |
| HER | Hazard Evaluation Report |
| IASD | Inactive and Abandoned Sites Division |
| IRP | Installation Restoration Program |
| kg | kilogram |
| l | liter |
| MCL | Maximum Concentration Labels |
| mg | milligram |
| NPL | National Priorities List |
| OSHA | Occupational Safety and Health Administration |
| PCB | Polychlorinated Biphenyls |
| pCi/l | picoCuries per liter |
| PID | Photoionization Detector |
| ppm | parts per million |
| RCRA | Resource Conservation and Recovery Act |
| SVOC | Semi-Volatile Organic Compounds |
| SWDA | Solid Waste Disposal Act |
| TCLP | Toxic Characteristic Leaching Procedure |
| USACE | United States Army Corps of Engineers |
| USAF | U.S. Air Force |
| UST | Underground Storage Tanks |
| VOC | Volatile Organic Compounds |

## EXECUTIVE SUMMARY

Foothill Engineering Consultants Inc. (FEC) was contracted by the US Army Corps of Engineers (USACE), Omaha District, to provide engineering services to support the preparation of an Environmental Baseline Survey (EBS) for Lake Charles Air Force Station (AFS) located approximately three miles southeast of Lake Charles, Louisiana in Calcasieu Parish. This EBS was not performed for any immediate real estate disposition, but rather, will be used at some future real estate acquisition, transfer, lease, sale, or other disposition of Lake Charles AFS.

The following activities were completed:

- Data collection and review of existing report information.
- A field walkover to investigate current environmental conditions.
- Interviews with key site personnel.
- Limited surface soil and water sampling at selected locations on the AFS.
- A comprehensive assessment of the property and compilation of all information into EBS format.

The findings and recommendations of the investigation are summarized in Table ES-1.

## Table ES-1. Summary of Findings and Recommendations

| Environmental Contamination | Findings | Recommended Actions |
|---|---|---|
| Hazardous Substances, Hazardous Materials and Petroleum Products, and Hazardous and Petroleum Waste | One 55-gallon drum of waste oil, approximately three-quarters full, is stored outside the Storage Building and miscellaneous cleaning supplies are stored inside the building. The cleaning supplies are currently in use by the site caretaker.<br><br>Five 5-gallon gasoline cans are stored in the Maintenance Building. The gasoline is currently in use by the site caretaker.<br><br>Soil to the west of the Search Tower Building contains 803 mg/kg diesel-range organics. | Consult with the state regarding action levels for soils at the site. |
| Aboveground Storage Tanks (ASTs) | One 1,000-gallon AST containing 700 gallons of diesel fuel powers an emergency generator. This AST replaced a 300-gallon AST some time between 1988 and 1992. | No action required. |
| Underground Storage Tanks (USTs) | No evidence found of current or historical presence of underground storage tanks. | No action required. |
| Oil/Water Separators | No evidence found of current presence of oil/water separators. | No action required. |
| Pesticides/Herbicides | One 25-pound bag of Amdro™, approximately half-full, two wasp and hornet insecticide spray cans, and one 5-gallon container of Roundup found in maintenance shed. These supplies are currently being used by the site caretaker. | No action required. |
| Medical & Biohazard Waste | No evidence found of current or historical presence of medical or biohazard waste. | No action required. |
| Radioactive Waste | No evidence found of current or historical presence of radioactive wastes. | No action required. |
| Solid Waste | No evidence found of current or historical disposal of solid waste on-site. | No action required. |
| Groundwater | One groundwater monitoring well and seven supply wells within a one-mile radius of the site were registered with the Louisiana Department of Transportation and Development, Water Resources Division. No data is available for these wells. | No action required. |

**Table ES-1. Summary of Findings and Recommendations (continued)**

| Environmental Contamination | Findings | Recommended Actions |
|---|---|---|
| Wastewater Treatment, Collection, and Discharge/Storm Water Discharge | No wastewater treatment is performed on-site. Wastewater is currently pumped to a municipal wastewater treatment system.<br><br>A storm drain located south of the Search Tower Building contains sludge which has a high total lead content (149 mg/kg). | Consult with the state regarding action levels for sludge, and whether TCLP analysis must be performed to determine disposal options. |
| Drinking Water Quality | Six private domestic wells within a one-mile radius of the site were on file with the Louisiana Department of Transportation and Development, Water Resources Division. Water quality data are available from 1979 for the site well. | No action required. |
| Asbestos Containing Materials (ACM) | ACM found in floor tiles and mastic of the Administration Building in a nonfriable condition. Sprayed-on acoustical ceiling materials observed in the Administration Building found to contain asbestos. | Disclose locations of ACM to potential property owners. If site activities require disturbance of remaining ACM, manage and/or dispose of these materials properly. |
| Polychlorinated Biphenyls (PCBs) | All electrical equipment containing PCBs have been removed from the site. Two light fixture ballasts in the Search Tower Building may contain PCBs. | Replace and properly dispose of light fixture ballasts. |
| Radon | No radon testing at the site was performed, and the area is categorized as having a low radon potential. | No action required. |
| Lead-Based Paint | Lead-based paint found inside and outside the Administration and Search Tower Buildings. The paint appears to be in good condition. | Maintain exterior lead-based paint to prevent surface peeling. |

# 1.0 INTRODUCTION

## 1.1 PURPOSE OF THE EBS

The primary objective of an EBS at Lake Charles Air Force Station (AFS) is to document the nature, magnitude, and extent of any potential environmental contamination of the subject property if it is considered for acquisition or transfer, lease, sale, or any other disposition. Sufficient information must be obtained to assess health and safety risks and evaluate the level of protection to human health and the environment. Additionally, the EBS must identify potential environmental contamination liabilities associated with the subject property and document the fulfillment of environmental due diligence, as appropriate.

## 1.2 SITE LOCATION AND LEGAL DESCRIPTION

Lake Charles AFS is located approximately three miles southeast of the City of Lake Charles in Calcasieu Parish, Louisiana. The facility currently consists of seven structures situated on approximately 4.43 acres of land located in the southern half of the southwest quarter of Section 15, Township 10 South, Range 8 West of the Louisiana Meridian. Coordinates for the AFS are 30 º11'2" north latitude and 93 º10'25" west longitude. The X and Y 1,000-meter Universal Transverse Mercator coordinates are 483286.216 meters east, and 3338993.991 meters north, in Zone 15. A discrepancy regarding the actual boundaries of the property was discovered in 1990, when the Federal Aviation Administration (FAA) performed a site survey. The 1990 survey relocated the entire Station 50 feet to the south. The remaining 50 feet to the north was returned to the former owner, who has not altered or maintained the property. The 1990 survey does not contain a legal description of the property; therefore, the 1973 legal description of the property is the only one available. Both survey maps are included in Appendix A. Both the U.S. Air Force (USAF) and the FAA agree on the boundaries described in the 1990 survey.

Figure 1-1 illustrates the location of Lake Charles AFS with respect to the city of Lake Charles, Louisiana. A site map is presented in Figure 1-2.

Figure 1-1. Regional Location Map

Figure 1-2. Site Plan

# 2.0 SURVEY METHODOLOGY

## 2.1 APPROACH AND RATIONALE

The objective of the EBS is to:

- Document the nature, magnitude, and extent of any potential environmental contamination present at the Station, based on available information.
- Define potential environmental contamination liabilities associated with the Station.
- Develop sufficient information, where available, to assess the health and safety risks and evaluate the level of protection to human health and the environment as related to the Station.
- Provide the information for notice, when required under Section 120(h)(1) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), of the storage or release of hazardous substances on the property.

To achieve these objectives, the following activities were completed.

- A review of existing reported information.
- A review of applicable federal and state regulatory agency reports produced in accordance with CERCLA, Resource Conservation and Recover Act (RCRA), and the Solid Waste Disposal Act (SWDA).
- A review of requested land title records and available aerial photos, building department or land use records.
- A field walkover and limited surface soil and water sampling to investigate current environmental conditions.
- Interviews with key site personnel involved in the operations of the Station.
- Compilation of existing information into the EBS format.

## 2.2 DESCRIPTION OF DOCUMENTS REVIEWED

Federal and state environmental records were received from DataSite™, a commercial, informational database company, on May 28, 1996. A radius search was performed on the latitude/longitude coordinates of Lake Charles AFS for its inclusion in any of the following lists:

| Federal/State List | Search Distance (miles) |
|---|---|
| Federal National Priorities List (NPL) site list | 1.0 |
| Federal CERCLA Information System (CERCLIS) list | 1.0 |
| Federal RCRA treatment, storage and disposal facilities list | 1.0 |
| Federal Emergency Response Notification System (ERNS) list | Subject property and adjoining properties |
| State lists of hazardous waste sites identified for investigation or remediation (NPL and CERCLIS equivalents) | ≥1.0 |
| State landfill and/or solid waste disposal site lists | ≥0.5 |
| State leaking UST lists | ≥0.5 |
| State registered UST lists | Subject property and adjoining properties |

A copy of the DataSite™ site report and site map is provided in Appendix B.

Land title records were requested from Ms. Becky Sterba of Barksdale Air Force Base (AFB). According to Ms. Sterba, no land title records were available either from Barksdale AFB or England AFB, the prior host base.

Additional documents reviewed during the preparation of this EBS were:

- 1988 Hazard Evaluation Report (HER), Radian Corporation.
- 1992 FAA Environmental Survey, Freese and Nichols.
- "Environmental Baseline Surveys in Real Estate Transactions", Secretary of the Air Force, Air Force Instruction (AFI) 32-7066, 25 April 1994.
- Groundwater Conditions in the Lake Charles Area, Louisiana, United States Geologic Survey, 1950.
- Geology and Water Resources of Southwestern Louisiana, Louisiana Geological Survey, 1954.
- United States Geologic Survey Lake Charles Quadrangle 7.5 Minute Topographic Map, 1955 (photo revised in 1967 and 1975).
- Drinking Water Regulations and Health Advisories, Office of Water, United States Environmental Protection Agency, December 1992.

## 2.3 PROPERTY INSPECTIONS

The site reconnaissance survey was conducted by Ms. Lori Miskines and Ms. Linda Burdzinski of FEC, during June 24 through June 26, 1996.

## 2.4 PERSONAL INTERVIEWS

A site visit questionnaire (Appendix C) was discussed with Mr. Ben Angerstein, Station Manager of Lake Charles AFS, during the site visit. Mr. Angerstein's response to the questionnaire is also included in Appendix C.

## 2.5 SAMPLING

The field sampling program consisted of the collection of the following samples. Figure 2-1 and Table 2-1 summarize the sampling program at Lake Charles AFS.

### Storm Drain (by former Building 214, Storage Building)

One water and one sludge sample were taken from the storm drain. Each sample was analyzed for target analyte list metals (EPA Method 6010/7000), semivolatile organic compounds (SVOCs, EPA Method 8270A), and diesel- and gasoline-range organic compounds (DRO/GRO, EPA Method 8015M).

### Building 209 (Emergency Generator Building)

At the location of the 1000-gallon above-ground storage tank (AST), two soil samples were taken and analyzed for DRO/GRO.

### Building 210 (Supply Building)

At the northeast area of the building, two soil samples were taken and analyzed for DRO/GRO, SVOCs, and volatile organic compounds (VOCs, EPA Method 8260A).

### Building 211 (Search Tower Building)

At the west side of the building, two soil samples were taken and analyzed for DRO/GRO.

**Table 2-1. Summary of Sample Collection**

| Location | Sample Identification Number | Analytes | Analytical Method |
|---|---|---|---|
| Storm Drain | SD-SW-01-00 | DRO<br>GRO<br>SVOCs<br>Metals | 8015<br>8015<br>8270<br>6010/7000 |
| | SD-SL-01-2.5 | DRO<br>GRO<br>SVOCs<br>Metals | 8015<br>8015<br>8270<br>6010/7000 |
| Search Tower Building | ST-SB-01-0.5 | DRO<br>GRO | 8015<br>8015 |
| | ST-SB-02-0.5 | DRO<br>GRO | 8015<br>8015 |
| Supply Building | SB-SB-01-0.5 | DRO<br>GRO<br>SVOCs<br>VOCs | 8015<br>8015<br>8270<br>8260 |
| | SB-SB-02-0.5 | DRO<br>GRO<br>SVOCs<br>VOCs | 8015<br>8015<br>8270<br>8260 |
| Emergency Generator Building | EG-SB-01-0.5 | DRO<br>GRO | 8015<br>8015 |
| | EG-SB-02-0.5 | DRO<br>GRO | 8015<br>8015 |

### 2.5.1 Sample Collection

Soil was scraped from the ground surface to a depth of not more than six inches using a stainless steel spoon. Discretionary soil samples were monitored with a photoionization detector (PID) for volatile constituents and the results were recorded in the logbook.

Samples from the storm sewer were collected with a polypropylene jar attached to a telescoping sampling pole. Water was decanted from the sludge sample as much as possible prior to placing the sludge into the sample container. Water samples were collected with a glass jar.

All sampling equipment was decontaminated before use at each sample location. All samples were wrapped in bubble-wrap and placed in a cooler for shipping. The samples were cooled to 4 degrees Centigrade (°C) with ice. The laboratory chain-of-custody form is included in Appendix D. Photographs of sample locations are given in Appendix E.

Figure 2-1. Sample Locations

# 3.0 FINDINGS FOR SUBJECT PROPERTY

## 3.1 HISTORY AND CURRENT USE

According to the information obtained from Mr. Robert Zaruba of USACE, the history of Lake Charles Air Force Station involves two periods. The first period began with the activation of the 812th Aircraft Control and Warning Squadron (AC&W) at Tinker Air Force Base, Oklahoma, which was relocated to Lake Charles Air Force Station on April 30, 1957.

In August 1961, the Station was redesignated as the Gap Filler annex for the 653rd Radar Squadron at England Air Force Base, Louisiana. The 653rd Radar Squadron was later closed on April 23, 1963, and disposition proceedings for the Station began via General Services Administration on January 1, 1963. Disposition of the Gap Filler annex at Lake Charles Air Force Station was completed on March 15, 1966. During the period of time between March 15, 1963 and January 1, 1973, the land at Lake Charles AFS was privately owned.

The second period began with the issuance of Special Order G-309 by Aerospace Defense Command on November 24, 1974, officially reactivating the 634th Radar Squadron at Lake Charles Air Force Station.

The Station is presently located on 4.43 acres of the Gap Filler annex portion of land that was disposed of in 1966. No housing facilities have ever existed at the Station. Site personnel were either housed at Chennault AFB (until 1962), England AFB, or for civilian staff, in private residences throughout the Lake Charles area. At the time of the site visit performed by FEC, Instrument Control Service, Inc. (ICS), an independent contractor, was managing the Station. ICS was contracted to maintain the infrastructure of the base and perform maintenance and upkeep functions. The contract between ICS and the USAF expired on June 30, 1996.

According to the USACE, the Station originally consisted of approximately 14 acres. The east and west thirds were disposed of between 1969 and 1988. At the time of this report, seven buildings remained on-site and four had been removed. Table 3-1 provides a list of

the buildings which had been removed and those which were present at the time of this investigation. The FAA was taking possession of the equipment in the Search Tower Building (#211) at the time of the site visit, but they will not retain possession of the building itself.

Radar data-gathering activities ceased as of May 31, 1996, and currently the Station is closed. Excess furniture and equipment were taken to Barksdale AFB. Radar equipment was taken by the FAA. McNeese State College has expressed interest in obtaining the property.

**Table 3-1. Inventory of Buildings**

| Building Number | Building Use |
|---|---|
| **Buildings Removed** | |
| 100 | Gate House |
| 213 | Petroleum, Oil, Lubricant Storage Shed |
| 214 | Storage Building |
| 221 | Height Finder Radar Tower Building |
| **Buildings Remaining** | |
| 101 | Administration Building |
| 102 | Picnic Pavilion |
| 201 | Lift Station |
| 209 | Emergency Generator Building |
| 210 | Supply Building |
| 211 | Search Tower |
| 212 | Maintenance Building |

## 3.2 ENVIRONMENTAL SETTING

Lake Charles AFS is situated on US Department of Defense property located at 30° 1'2" north latitude and 93° 10'25" west longitude. The property to the north and east is privately owned. The property to the south is owned by the McNeese State College, and the property to the west is owned by Mesh Plastics, Inc. The land is flat and well-vegetated. The Station is located on the relatively level Gulf Coastal Plain, approximately 23 feet above mean sea level. A portion of the U.S. Geological Survey Topographic Map, Lake Charles, Louisiana, is provided in Figure 3-1.

The climate can be described as semi-tropical, with cool winters and wet summers. Annual precipitation averages 60 inches per year, with the majority of precipitation

falling as rain. There is no rainy season, but precipitation is generally lower in the spring. Winter temperature highs range between 50-60°F, with approximately 5 days per year where the temperatures are less than 32 °F. High summer temperatures reach the mid to upper 90s, with approximately 80 days per year of temperatures greater than 90 °F. The relative humidity ranges between 75-80%. According to the 1988 HER, the Station has not historically flooded, even during intense rain storms.

The geology of the area is dominated by fluvial deposits of Pleistocene Age, overlain with sand, silt and clay deposits of Recent age. The Pleistocene Prairie Formation is thought to be present near land surface, and consists of sands known as the Chicot sands. This formation serves as the upper groundwater aquifer for the Lake Charles area. The sands are actually layers of sand and clay and the primary water-bearing units of the Chicot sands are the "200-foot", "500-foot", and "700-foot" sands, all of which are separated by distinct clay layers.

## 3.3 HAZARDOUS SUBSTANCES

### 3.3.1 Hazardous Materials and Petroleum Products

Currently, there are no hazardous materials used or stored at Lake Charles AFS other than miscellaneous cleaning supplies (detergents, floor waxes, etc., found in the Administration, Supply, and Search Tower Buildings), and two lead-acid batteries used in the Emergency Generator Building. It is assumed that during the active use of the Station, hazardous materials common to Station maintenance and operation (i.e., paints, thinners, solvents, water treatment chemicals, etc.) were stored at the Station. Some of these materials have been documented in the 1988 HER and the 1992 FAA Environmental Survey. No evidence of spills or misuse of chemicals was observed during the site visit.

Petroleum products observed during the site walkover included a 1,000-gallon AST which holds diesel fuel to power the emergency generator, and a 55-gallon waste oil drum which is used to containerize oils from mechanical equipment (i.e., emergency generator, fork lifts and lawn mowers). Five 5-gallon gasoline tanks containing gasoline for the lawn mowers were found in the Maintenance Building.

### 3.3.2 Hazardous and Petroleum Waste

At the time of the site visit, the only hazardous or petroleum waste present was a 55-gallon drum of waste oil, approximately ¾-full, stored outside the Storage Building. The Station manager indicated that this drum is routinely retrieved by Barksdale AFB when it is full and disposed of through the AFB. The Station manager also indicated that other hazardous and petroleum wastes had previously been removed from the Station in the same manner.

## 3.4 INSTALLATION RESTORATION PROGRAM CONTAMINATION

Based on a review of historical documents and interviews with USAF personnel, there are no Installation Restoration Program (IRP) contamination sites at the Station, and none that are eligible for Air Force Environmental Restoration Account funds.

## 3.5 STORAGE TANKS

### 3.5.1 Aboveground Storage Tanks

One 1,000-gallon AST is present at the Station. It is located immediately north of the Emergency Generator Building, and stores diesel fuel which powers the Station in the event of an emergency power outage. The AST currently contains 700 gallons of fuel, and is surrounded by a concrete berm secondary containment system. The berm also includes a concrete floor structure.

The current AST replaced a 300-gallon diesel fuel AST sometime between 1988 and 1992. The 300-gallon AST was situated in the same location as the 1,000-gallon AST, but elevated approximately six feet above the ground. It was not surrounded by a secondary containment system, according to the 1988 HER. The HER also reported that no evidence of leaking or spilling from the 300-gallon tank was noted.

### 3.5.2 Underground Storage Tanks

Based on interviews with USAF officials and site personnel, no evidence was found to suggest the current or historical presence of USTs at Station.

### 3.5.3 Pipeline, Hydrant Fueling, and Transfer Systems

Based on the review of historical documents and the site walkover, no evidence was found to suggest the current presence of any pipeline, hydrant fueling or transfer systems at the Station.

### 3.5.4 Contaminated Soil

A limited surface soil sampling program was conducted by FEC on June 25, 1996 at several locations at the Station. The sample locations were chosen based on USACE recommendations and their visual inspections of ground surfaces. Two surface soil samples (ST-SB-01-0.5 and ST-SB-02-0.5, Photographs 4 and 5 respectively, Appendix E) were collected to the west of the Search Tower Building, at dry patches in the ground cover. They were analyzed for GRO and DRO. Sample number ST-SB-02-0.5 contained DRO at 803 mg/kg, and GRO at 0.248 mg/kg. The State of Louisiana has set action levels for remediation of GRO and DRO in soil of 100 mg/kg.

Two samples were collected at the northeast corner of the Supply Building (SB-SB-01-0.5 and SB-SB-02-0.5, Photograph 3, Appendix E). The sample location was chosen due the apparent stressed vegetation in this area. These samples were analyzed for GRO, DRO, SVOCs and VOCs. No concentrations of the analytes were detected in these samples.

Two samples were collected at the AST located directly north of the emergency generator building (EG-SB-01-0.5 and EG-SB-02-0.5, Photographs 1 and 2, respectively, Appendix E). One sample was obtained from surface soil to the north of the secondary containment, and one from the west. The samples were analyzed for DRO and GRO. No DRO or GRO were detected in these samples.

All soil samples were field analyzed for organic vapors using a PID. PID readings above background were not detected in any of the samples.

One surface water and one sludge sample were obtained from the storm drain located to the south of the Search Tower Building, approximately 23 feet south of the location of former Building #214 (storage shed for the Search Tower Building; Photograph 6, Appendix E). The samples were analyzed for GRO, DRO, metals, and SVOCs. The

water sample from the storm drain contained aluminum, barium, calcium, copper, iron, lead, magnesium, manganese, potassium, sodium, and zinc above laboratory method detection limits. Concentrations of analytes found in the surface water from the storm drain were compared with the U.S. EPA's maximum concentration levels (MCLs) for drinking water. MCLs are used to determine the concentration limits of hazardous constituents in drinking water supplies. Water present in the storm drain will not likely be used as a source of public drinking water; however, the established MCLs may be used by the U.S. Environmental Protection Agency (EPA) and state agencies as standards for remediation. Concentrations of aluminum and iron in the storm drain water sample exceeded their respective MCLs.

The sludge sample contained aluminum, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, potassium, sodium, vanadium, zinc, and DRO above laboratory method detection limits. The State of Louisiana has set action levels for remediation of arsenic, barium, cadmium, chromium, and lead in soils. The only constituent exceeding state action levels was lead (149 mg/kg) which exceeded the action level of 100 mg/kg for lead in soils.

Table 3-2 presents the results of the soil, sludge, and water sampling.

Section 5.0 contains a description of the applicable regulatory issues and corrective actions regarding the environmental conditions at the Station.

## 3.6 OIL/WATER SEPARATORS

Based on a review of historical documents and the site walkover, no evidence was found to suggest the current or historical presence of oil/water separators at the Station.

## Table 3-2. Analytical Sampling Results

| Sample ID Parameter (units) | EPA Method | Detection Limit (ppm)[1] | Concentration (ppm) | Louisiana Action Level[2] (ppm) | U.S. EPA MCL[3] (mg/l) |
|---|---|---|---|---|---|
| **SD-SW-01-00** | | | | | |
| Aluminum | 6010 | 0.069 | 0.929 | | |
| Barium | 6010 | 0.00026 | 0.0519 | | 2.0 |
| Calcium | 6010 | 0.01 | 10.3 | | |
| Copper | 6010 | 0.0073 | 0.0111 | | 1.3 |
| Iron | 6010 | 0.029 | 0.645 | | 0.3 |
| Magnesium | 6010 | 0.012 | 0.81 | | |
| Manganese | 6010 | 0.00041 | 0.0073 | | 0.05 |
| Potassium | 6010 | 0.021 | 1.6 | | |
| Sodium | 6010 | 0.027 | 4.53 | | |
| Zinc | 6010 | 0.0052 | 0.164 | | 5.0 |
| Lead | 7421 | 0.00089 | 0.0057 | | 0.015 |
| **SD-SL-01-2.5** | | | | | |
| Aluminum | 6010 | 6.9 | 8690 | | |
| Barium | 6010 | 0.026 | 77.1 | 2000 | |
| Beryllium | 6010 | 0.016 | 0.23 | | |
| Cadmium | 6010 | 0.19 | 1.17 | 20 | |
| Calcium | 6010 | 1.0 | 6890 | | |
| Chromium | 6010 | 0.45 | 34.2 | 100 | |
| Cobalt | 6010 | 0.53 | 1.53 | | |
| Copper | 6010 | 0.73 | 9.95 | | |
| Iron | 6010 | 2.9 | 5520 | | |
| Magnesium | 6010 | 1.2 | 642 | | |
| Manganese | 6010 | 0.041 | 33.9 | | |
| Nickel | 6010 | 0.056 | 5.23 | | |
| Potassium | 6010 | 2.1 | 584 | | |
| Sodium | 6010 | 2.7 | 67 | | |
| Vanadium | 6010 | 0.17 | 12.8 | | |
| Zinc | 6010 | 0.52 | 468 | | |
| Arsenic | 7060 | 0.073 | 2.1 | 100 | |
| Lead | 7421 | 1.8 | **149** | **100** | |
| DRO | 8015 (mod) | 0.1 | 14 (mg/l) | 100 | |
| **EG-SB-01-0.5** | | | | | |
| DRO | 8015 (mod) | 0.5 | N.D.[4] | 100 | |
| GRO | 8015 (mod) | 0.05 | N.D. | 100 | |
| **EG-SB-02-0.5** | | | | | |
| DRO | 8015 (mod) | 0.5 | N.D. | 100 | |
| GRO | 8015 (mod) | 0.05 | N.D. | 100 | |

[1] parts per million
[2] State of Louisiana Department of Environmental Quality (DEQ), Solid and Hazardous Waste Division has set action levels for metals in soils based on the Federal Toxicity Characteristic Leaching Procedure (TCLP) regulatory levels. The state has also set action levels for DRO and GRO at 100 ppm.
[3] Maximum Contaminant Levels. These are U.S. EPA Drinking Water Standards (February 1996).
[4] Not Detected.

**Table 3-2. Analytical Sampling Results (continued)**

| Sample ID Parameter (units) | EPA Method | Detection Limit (ppm)[1] | Concentration (ppm) | Louisiana Action Level[2] (ppm) | U.S. EPA MCLs[3] (mg/l) |
|---|---|---|---|---|---|
| **SB-SB-01-0.5** | | | | | |
| DRO | 8015 (mod) | 0.5 | N.D. | 100 | |
| GRO | 8015 (mod) | 0.05 | N.D. | 100 | |
| SVOCs | 8270 | Varies[5] | N.D. | N/A[6] | |
| VOCs | 8260 | Varies | N.D. | N/A | |
| **SB-SB-02-0.5** | | | | | |
| DRO | 8015 (mod) | 0.5 | N.D. | 100 | |
| GRO | 8015 (mod) | 0.05 | N.D. | 100 | |
| SVOCs | 8270 | Varies | N.D. | N/A | |
| VOCs | 8260 | Varies | N.D. | N/A | |
| **ST-SB-01-0.5** | | | | | |
| DRO | 8015 (mod) | 0.5 | N.D. | 100 | |
| GRO | 8015 (mod) | 0.05 | N.D. | 100 | |
| **ST-SB-02-0.5** | | | | | |
| DRO | 8015 (mod) | 5 | **803** | **100** | |
| GRO | 8015 (mod) | 0.05 | 0.248 | 100 | |

[1] parts per million
[2] State of Louisiana Department of Environmental Quality (DEQ), Solid and Hazardous Waste Division has set action levels for metals in soils based on the Federal Toxicity Characteristic Leaching Procedure (TCLP) regulatory levels. The state has also set action levels for DRO and GRO at 100 ppm.
[3] Maximum Contaminant Levels. These are U.S. EPA Drinking Water Standards (February 1996).
[4] Not Detected.
[5] The detection limit varies depending on the chemical compound.
[6] Not Applicable.

## 3.7 PESTICIDES/HERBICIDES

Pesticides and herbicides are currently and have historically been used at the Station on a routine basis. The Maintenance Building stores containers of pesticides and herbicides which are currently in use by the site caretaker, and previous investigations in both 1988 and 1992 noted the presence of similar chemicals. A single soil sample was analyzed for herbicides during the 1992 investigation, and contained no detectable concentrations of herbicides.

## 3.8 MEDICAL OR BIOHAZARDS WASTE

Based on the review of historical documents, interviews with USAF officials and site personnel, and the on-site visit to Lake Charles AFS, no evidence was found to suggest the current or historical presence of medical waste at the Station.

## 3.9 ORDNANCE

Based on the review of historical documents, interviews with USAF officials and site personnel, and the on-site visit to Lake Charles AFS, no evidence was found to suggest the current or historical use of ordnance at the Station.

## 3.10 RADIOACTIVE WASTES

Based on the review of historical documents, interviews with USAF officials and site personnel, and the on-site visit to Lake Charles AFS, no evidence was found to suggest the current or historical presence of radioactive waste at the Station.

The radar equipment found in the Search Tower Building contains radioactive components that are sealed sources. They are an integral part of the equipment and no waste materials are associated with them.

## 3.11 SOLID WASTE

Based on the site visit at Lake Charles AFS and interviews with USAF and site personnel regarding the property, no solid waste is currently being stored at the Station. Solid waste which is generated at the Station is collected by a private contractor on a weekly basis and disposed of in a municipal landfill. According to site personnel, solid waste was not disposed of at any location on site, and no evidence of solid waste disposal (e.g., depressions or mounds) was noted during the site visit.

## 3.12 GROUNDWATER

### 3.12.1 Well Locations

A single well, no longer in use, exists at the Station. It was used as a water supply well for the Station until the site was connected to the city water supply. At that time, the Station contractor covered the well with fill dirt, and did not remove the casing. The pump and well head had been removed earlier.

The well is listed with the State of Louisiana Department of Transportation and Development, Water Resources Division as CU-1030. According to state records, the well is 220 feet deep, and has served as a rural public supply well. Water quality data

from 1979 is available from the Water Resources Division and is summarized in Section 3.14.1. There are no state abandonment records and no records for the well are on file at Barksdale AFB. State of Louisiana well abandonment procedures are included in Appendix F.

Within a one-mile radius of the Station there are seven active domestic wells, one active monitoring well, and two active irrigation wells. No groundwater data were available for these wells. According to Groundwater Conditions in the Lake Charles Area, Louisiana, United States Geologic Survey, 1950, wells less than 200 feet below ground surface generally yield moderately hard water more suitable for rural uses, and are not significant producers.

### 3.12.2 Groundwater Quality

No groundwater monitoring wells exist at Lake Charles AFS, therefore, there is no data regarding groundwater quality at the Station. According to site personnel, the groundwater table at the Station is approximately 10-12 feet below ground surface.

## 3.13 WASTEWATER TREATMENT, COLLECTION AND DISCHARGE

Wastewater at the Station has been collected and pumped to the City of Lake Charles via a lift Station since 1971. No treatment of wastewater has occurred on the Station since the connection to the city wastewater treatment system, and no information regarding wastewater disposal prior to 1971 is available from site personnel or USAF officials.

Surface stormwater is drained off-site via a system of small ditches which bisect the property. A main ditch drains off the property to the south, to a ditch that parallels McNeese Farm Road. Several smaller ditches drain off to the east, north, and south. Water from these ditches is not treated prior to release. Water and sludge (presumably from storm events) have collected in the drain system located to the south of the Search Tower Building. Laboratory analyses of the water and sludge in the drain indicate the presence of metals and DRO.

## 3.14 DISCLOSURE ITEMS

### 3.14.1 Drinking Water Quality

Water quality data for the abandoned site well were available from the Louisiana Department of Transportation and Development, Water Resources Division. A water sample was analyzed in 1979 for temperature, color, specific conductance, pH, carbon dioxide, alkalinity, bicarbonate, carbonate, total hardness, noncarbonate hardness, dissolved calcium, magnesium, sodium potassium, chloride, sulfate, fluoride, silica, iron, manganese, bromide, and mercury, sodium adsorption, percent sodium, solids residue, nitrogen as nitrate, suspended mercury, and total recoverable mercury. Table 3-3 summarizes the 1979 analytical results and compares them with the U.S. EPA's MCLs. The analytical results are presented in Appendix D. No other water quality records were available from USAF officials at Barksdale AFB.

**Table 3-3. 1979 Analytical Results from Lake Charles AFS Well**

| Parameter | Lake Charles AFS Well | MCL |
|---|---|---|
| pH | 6.1 | 6.5-8.5 |
| Dissolved $CO_2$ | 305 mg/l | --- |
| Alkalinity (as $CaCO_3$) | 190 mg/l | --- |
| Bicarbonate (as $HCO_3$) | 240 mg/l | --- |
| Total Hardness (as $CaCO_3$) | 110 mg/l | --- |
| Dissolved Calcium | 30 mg/l | --- |
| Dissolved Magnesium | 7.6 mg/l | --- |
| Dissolved Sodium | 57 mg/l | --- |
| Percent Sodium | 53% | --- |
| Dissolved Potassium | 1.8 mg/l | --- |
| Dissolved Chloride | 30 mg/l | 250 mg/l |
| Dissolved Sulfate | <1.0 mg/l | 250 mg/l |
| Dissolved Fluoride | 0.1 mg/l | 4 mg/l |
| Dissolved Silica | 34 mg/l | --- |
| Dissolved Iron | 130 mg/l | 0.3 mg/l |
| Dissolved Manganese | 180 mg/l | 0.05 mg/l |
| Total Nitrate | 0.19 mg/l | 10 mg/l |
| Dissolved Bromide | 0.10 mg/l | --- |
| Dissolved Mercury | <0.1 µg/l | --- |
| Suspended Mercury | 0 µg/l | --- |
| Total Mercury | <0.1 µg/l | 0.002 mg/l |
| Total Dissolved Solids | 278 mg/l | 500 mg/l |

mg/l = milligrams per liter of water
--- = no MCL available

No records on drinking water quality data from private domestic wells were on file with the Lake Charles Water Quality Department. The two nearest public drinking water supply wells registered with the Lake Charles Water Quality Department are located at the Chennault AFB site and the McNeese Plant. Both of these supply locations are within a three-mile radius of the Station. The Chennault facility is located to the northeast of the Station, and the McNeese facility is located to the southwest. Both facilities have two wells, one at 500 feet below ground surface and one at 700 feet below ground surface. Water quality data from these wells indicate moderately hard water, with increases in chloride content at the 700 foot depth. Iron concentrations are also usually higher at the 700 foot depth.

### 3.14.2 Asbestos

Asbestos-containing materials identified in the 1992 environmental survey included floor tiles and mastic in the Administration Building. These materials were also noted during this site investigation. The ACM were found to be in good condition and nonfriable. Sprayed-on acoustical ceiling material was noted in the main room of the Administration Building. The material was tested by Barksdale AFB prior to this final report, and was found to contain 3-4% asbestos. Analytical results for the sprayed-on acoustical ceiling material are presented in Appendix D. The material appeared to be in good condition at the time of the site visit (e.g., it was painted and there were no signs of water damage). No other known ACM was observed.

### 3.14.3 Polychlorinated Biphenyls

At the time of the site visit, two pieces of electrical equipment were present in the Storage Building. Neither was labeled or tested for PCB content, as they were enclosed units and testing would have rendered them unusable. Both were subsequently removed and sent to Barksdale AFB.

One transformer services the Station, and it is owned by Gulf States Utilities. It is located outside the site fence to the south, on the east side of the site entrance.

The majority of the light fixtures have been installed after 1983, when the buildings were either built or remodeled. However, it is possible that the light fixture ballasts in

the Search Tower Building may contain PCBs, as the building was constructed in 1972, prior to the regulation of PCBs. Two of the light fixtures noted in this building resemble those known to have PCB-containing ballasts.

### 3.14.4 Radon

Radon levels are not relevant for this facility, as no residences are present. In 1990, the Louisiana DEQ Radiation Protection Division performed a radon survey of the parishes in Louisiana. Data from 60 homes tested in Calcasieu Parish showed an average radon activity of 0.255 picoCuries radon per liter of air (pCi/l). In addition, EPA has placed Calcasieu Parish, and therefore Lake Charles AFS, in Zone 3, with an average predicted indoor radon screening potential of less than 2 pCi/l. The EPA has set a recommended action level for indoor radon levels at 4 pCi/l.

### 3.14.5 Lead-Based Paint

A survey to identify the presence of lead-based paint was performed during the 1992 environmental survey performed by the FAA. Paint samples were composited from several locations both inside and outside the Administration Building and the Search Tower Building. The sampling results are given in Table 3-4.

**Table 3-4. Lead-Based Paint Sampling Results**

| Location | Results (milligrams per kilogram, or mg/kg) |
|---|---|
| Administration Building, outside | 31 mg/kg |
| Administration Building, inside | 1,100 mg/kg |
| Search Tower Building, outside | 78,000 mg/kg |
| Search Tower Building, inside | 7,500 mg/kg |
| Search Tower Building, inside, second floor | 275 mg/kg |

Each sample was a composite of many different paints from several locations at both buildings. The report qualified the use of this data due to the numbers of paint layers in each sample, as well as the limited number of samples taken. No samples were obtained from the other structures, due to their newness, or from the outside of the Search Tower dome. Exterior paint had not been removed from either of the buildings at the time of this site visit, but appeared to be in good condition and no peeling or flaking was

observed on the soil surface near the facilities. In addition, Mr. Clemmons of Tyndall AFB in Florida stated that the yellow paint used on the stairs, railings, and other compounds of the Search Tower Building is similar to that used at other Stations, and may contain lead.

Figure 3-1. Site Topographic Map

# 4.0 FINDINGS FOR ADJACENT PROPERTIES

## 4.1 LAND USES

The Lake Charles AFS is situated in an agricultural/light industrial portion of Lake Charles. Property to the north is used for agriculture, to the east, a private residence, and to the south, a dairy ranch owned by McNeese State College. Immediately to the west is Mesh Plastics, Inc., formerly known as Mesh Composites. This facility manufactures plastic helicopter components. Located to the west of Mesh Plastics is an elementary school.

## 4.2 SURVEYED PROPERTIES

Lake Charles AFS and adjacent properties were surveyed within a one-mile radius of the Station for any listings on EPA or state CERCLA, RCRA, SWDA, or ERNS lists. A map which provides the results of that survey is found in Figure 4-1, and Table 4-1 provides a summary of the survey results.

One property, the Mesh Plastics Company, located directly to the east of the Station, is under investigation by the Louisiana DEQ, Inactive and Abandoned Sites Division (IASD). The site has been investigated by IASD for illegal storage of hazardous wastes. A Phase I and Phase II Site Assessment has been performed on the facility by the IASD in February and April 1994. They found approximately sixty-five 55-gallon drums containing acetone sludge from solvent recovery processes at the facility.

Soil and sludge sampling for metals and toxicity characteristic leaching procedure (TCLP) constituents was conducted during the Phase II investigation. No TCLP constituents were present in the samples, and metals concentrations did not exceed background levels, which indicated to the IASD that the acetone and acetone sludge contained in drums from the solvent recovery procedures did not impact the surrounding soil.

At the time of the Phase I and Phase II Assessments, Mesh Plastics Co. was in liquidation. Litigation in the case has continued through February 1996. It does not

appear that activities at the Mesh Plastics Co. would have negatively impacted the Station.

In addition, within a one-mile radius of the Station are five RCRA-registered sites and an active underground storage tank. The RCRA-registered sites are generators of RCRA wastes. Three generate less than 100 kg hazardous waste or 1 kg acutely hazardous waste per month (conditionally exempt generators) and one generates between 100-1,000 kg hazardous waste and less than 1 kg acutely hazardous waste per month (small quantity generator). One facility (Pumpelly Oil Co.) has an EPA identification number but does not generate hazardous waste, as stated by Mr. Ralph Derwin of Pumpelly Oil Co. None of these facilities should provide a negative environmental impact on Lake Charles AFS, as the quantities of chemicals kept on-site are minor, and based on the hydrogeology of the area, groundwater from these facilities will tend to flow away from Lake Charles AFS, towards the lake itself.

While the DataSite™ report listed over 270 spills reported under the EPA's ERN system from 1990-1996, none of them occurred within a one-mile radius of the Station. The majority of the spills were associated with shipping activities at or near the lake.

**Table 4-1. Summary of DataSite™ Report Findings**

| DataSite™ Code | Site Name | Address | Status |
|---|---|---|---|
| HWS 1 | Mesh Plastics, Inc. | 2700 McNeese Farm Road | State-listed hazardous waste site; conditionally exempt small quantity generator |
| R 1 | Pepsi Cola Company | 4040 Highway 14 | Conditionally exempt small quantity generator |
| R 2 | Pumpelly Oil Company, Inc. | 3940 Highway 14 | Not a generator, but has an identification number |
| R 3 | Lake Charles Toyota | 3601 Highway 14 | Conditionally exempt small quantity generator |
| R 4 | R Cloud Construction, Inc. | 3620 East Prien Lake Road | Conditionally exempt small quantity generator |
| R 5 | Gulf Coast Protective Coatings, Inc. | 3024 East Prien Lake Road | Small quantity generator |
| P 1 | Charter Hospital of Lake Charles | 4250 5th Avenue | One active underground storage tank |

Figure 4-1. DataSite™ Site Map

# 5.0 APPLICABLE REGULATORY COMPLIANCE ISSUES

## 5.1 LIST OF COMPLIANCE ISSUES

Compliance issues for the Station are described in the *Compliance Issues* column of Table 6-1 in Section 6.0.

## 5.2 DESCRIPTION OF CORRECTIVE ACTIONS

Possible corrective actions for the Station are described in the *Recommended Actions* column of Table 6-1.

# 6.0 CONCLUSIONS

The conclusions of the investigation are presented in Table- 6-1.

## 6.1 FACILITY MATRIX

A facility matrix for Lake Charles AFS is provided in Table 6-2.

## 6.2 PROPERTY CATEGORIES MAP

Per AFI 32-7066 ("Environmental Baseline Surveys in Real Estate Transactions"), the USAF has defined the following categories regarding the presence of CERCLA hazardous substances [42 U.S.C. § 9601(14)] or petroleum products or their derivatives.

**Category 1: No Storage Occurred.** Areas where no storage, release, or disposal of hazardous substances or petroleum products has occurred.

**Category 2: Only Storage Occurred**. Areas where only storage of hazardous substances or petroleum products has occurred.

**Category 3: Contamination Below Action Levels**. Areas where storage, release, disposal and/or migration of hazardous substances or petroleum products has occurred, but at concentrations that do not require a removal or remedial action.

**Category 4: Remedial Action Required and Taken**. Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, and all remedial actions necessary to protect human health and the environment have been taken.

**Category 5: Remedial or Other Action Underway**. Areas where storage, release, disposal, and/or mitigation of hazardous substances or petroleum products has occurred, removal and/or remedial actions are underway, but all required remedial actions have not yet been taken.

**Category 6: Required Response Action Not Implemented**. Areas where storage, release, disposal, and/or mitigation of hazardous substances or petroleum products has occurred, but required actions have not yet been implemented.

**Category 7: Further Evaluation Required**. Areas that are unevaluated or require additional evaluation.

Categories are assigned to different areas of Lake Charles AFS (Table 6-2); the conclusions are based on the results of the EBS.

## 6.3 RESOURCE MAPS

Resource maps are provided in Figures 1-1, 1-2, 3-1, and 4-1.

## 6.4 DATA GAPS

As shown in Table 6-1, data gaps were identified during the investigation.

## Table 6-1. Conclusions, Data Gaps, Compliance Issues, and Recommended Actions

| Environmental Contamination | Findings | Data Gaps | Compliance Issues | Recommended Actions |
|---|---|---|---|---|
| Hazardous Substances, Hazardous Materials and Petroleum Products, and Hazardous and Petroleum Waste | One 55-gallon drum of waste oil, approximately three-quarters full, is stored outside the Storage Building and miscellaneous cleaning supplies are stored inside the building. The cleaning supplies are currently in use by the site caretaker.<br><br>Five 5-gallon gasoline cans are stored in the Maintenance Building. The gasoline is currently in use by the site caretaker.<br><br>Soil to the west of the Search Tower Building contains 803 mg/kg diesel-range organics. | None | Soil contaminants are above regulated state action levels for diesel-range organics. | Consult with the state of Louisiana regarding action levels for soils at this site. |
| Aboveground Storage Tanks (ASTs) | One 1,000-gallon AST containing 700 gallons of diesel fuel powers an emergency generator. This AST replaced a 300-gallon AST some time between 1988 and 1992. | None | No compliance issues identified. | No action required. |
| Underground Storage Tanks (USTs) | No evidence found of current or historical presence of underground storage tanks. | None | No compliance issues identified. | No action required. |
| Oil/Water Separators | No evidence found of current presence of oil/water separators. | None | No compliance issues identified. | No action required. |
| Pesticides/Herbicides | One 25-pound bag of Amdro™, approximately half-full, two wasp and hornet insecticide spray cans, and one 5-gallon container of Roundup™ found in maintenance shed. These supplies are currently being used by the site caretaker. | None | No compliance issues identified. | No action required. |
| Medical & Biohazard Waste | No evidence found of current or historical presence of medical or biohazard waste. | None | No compliance issues identified. | No action required. |
| Radioactive Waste | No evidence found of current or historical presence of radioactive wastes. | None | No compliance issues identified. | No action required. |
| Solid Waste | No evidence found of current or historical disposal of solid waste on-site. | None | No compliance issues identified. | No action required. |
| Groundwater | One groundwater monitoring well and seven supply wells within a one-mile radius of the site were registered with the Louisiana Department of Transportation and Development, Water Resources Division. No data is available for these wells. | No organic analytical data available for wells. | No compliance issues identified. | No action required. |

**Table 6-1. Conclusions, Data Gaps, Compliance Issues, and Recommended Actions (continued)**

| Environmental Contamination | Findings | Data Gaps | Compliance Issues | Recommended Actions |
|---|---|---|---|---|
| Wastewater Treatment, Collection, and Discharge/Storm Water Discharge | No wastewater treatment is performed on-site. Wastewater is currently pumped to a municipal wastewater treatment system.<br>A storm drain located south of the Search Tower Building contains sludge which has a high total lead content (149 mg/kg). | None | Sludge in storm drain contains concentrations of lead exceeding state action levels for soils. | Consult with the state regarding action levels for sludge. |
| Drinking Water Quality | Six private domestic wells within a one-mile radius of the site were on file with the Louisiana Department of Transportation and Development, Water Resources Division. Water quality data available from 1979 for the site well. | No organic target analytical data available. However, site contaminants are not likely to affect ground-water | No compliance issues identified. | No action required. |
| Asbestos Containing Materials (ACM) | ACM found in floor tiles and mastic of the Administration Building in a nonfriable condition. Sprayed-on acoustical ceiling materials observed in the Administration Building found to contain asbestos. | None | Federal EPA and OSHA standards limit environmental release of asbestos fibers. | Disclose locations of ACM to potential property owners. If site activities require disturbance of remaining ACM, manage and/or dispose of these materials properly. |
| Polychlorinated Biphenyls (PCBs) | All electrical equipment containing PCBs have been removed from the site. Two light fixture ballasts in the Search Tower Building may contain PCBs. | None | PCB-containing light fixture ballasts must be disposed of properly. | Replace and properly dispose of light fixture ballasts. |
| Radon | No radon testing at the site was performed, and the area is categorized as having a low radon potential. | None | No compliance issues identified. | No action required. |
| Lead-Based Paint | Lead-based paint found inside and outside the Administration and Search Tower Buildings. The paint appears to be in good condition. | None | No compliance issues. | Maintain exterior lead-based paint to prevent surface peeling. |

## Table 6-2. Facility Matrix

| Building No. | Facility | CERCLA Hazardous Substances | ASTs | Contaminated Soils | Groundwater Quality | Category |
|---|---|---|---|---|---|---|
| 101 | Administration Building | Lead-based paint is reported to be present on internal and external building surfaces.<br>Sprayed-on acoustical ceiling materials contain asbestos* | | | | 2 |
| 102 | Picnic Pavilion | | | | | 1 |
| 201 | Lift Station | | | | | 1 |
| 209 | Generator Building | | An active 1,000-gallon diesel fuel AST is north of building 209* | | | 2 |
| 210 | Supply Building | Miscellaneous cleaning supplies, pesticide/herbicides, and maintenance materials, including gasoline and antifreeze are currently used to maintain the Station and are stored in Building 210* | | | | 2 |
| 211 | Radar Tower | Lead-based paint is reported to be present on internal and external building surfaces<br>Two light fixtures located at the first floor may contain PCB ballasts | | Analysis of soil taken from the surface 50' west of the tower indicated Diesel Range Organics (DRO) contamination of 803 mg/kg* | Analysis of sludge taken from storm drain south of the tower indicated high concentrations (149 mg/kg) lead* | 6 |
| 212 | Maintenance Building | | | | | 1 |

* Controlling factor in category level assignment.

# 7.0 RECOMMENDATIONS

General recommendations for the Station are summarized in Table 7-1.

## Table 7-1. Summary of Recommendations

| Environmental Contamination | Findings | Recommended Actions |
|---|---|---|
| Hazardous Substances, Hazardous Materials and Petroleum Products, and Hazardous and Petroleum Waste | One 55-gallon drum of waste oil, approximately three-quarters full, is stored outside the Storage Building and miscellaneous cleaning supplies are stored inside the building. The cleaning supplies are currently in use by the site caretaker.<br><br>Five 5-gallon gasoline cans are stored in the Maintenance Building. The gasoline is currently in use by the site caretaker.<br><br>Soil to the west of the Search Tower Building contains 803 mg/kg diesel-range organics. | Consult with the state of Louisiana regarding action levels for soils at this site. |
| Wastewater Treatment, Collection, and Discharge/Storm Water Discharge | No wastewater treatment is performed on-site. Wastewater is currently pumped to a municipal wastewater treatment system.<br><br>A storm drain located south of the Search Tower Building contains sludge which has a high total lead content (149 mg/kg). | Consult with the state regarding action levels for sludge, and whether TCLP analysis must be performed to determine disposal options. |
| Asbestos Containing Materials (ACM) | ACM found in floor tiles and mastic of the Administration Building in a nonfriable condition. Sprayed-on acoustical ceiling materials observed in the Administration Building found to contain asbestos. | Disclose locations of ACM to potential property owners. If site activities require disturbance of remaining ACM, manage and/or dispose of these materials properly. |
| Polychlorinated Biphenyls (PCBs) | All electrical equipment containing PCBs have been removed from the site. Two light fixture ballasts in the Search Tower Building may contain PCBs. | Replace and properly dispose of light fixture ballasts. |
| Lead-Based Paint | Lead-based paint found inside and outside the Administration and Search Tower Buildings. The paint appears to be in good condition. | Maintain exterior lead-based paint to prevent surface peeling. |

# 8.0 CERTIFICATIONS

## Certification of the Environmental Baseline Survey Lake Charles Air Force Station, Louisiana

Foothill Engineering Consultants has conducted this Environmental Baseline Survey on behalf of the US Air Force. Foothill Engineering Consultants has reviewed all appropriate records made available, and conducted visual inspections of the selected facilities following an analysis of information during the record search. The information contained within the survey report is based on records available and, to the best of Foothill Engineering Consultants' knowledge, is correct and current as of July 1996.

### Legal Description of Property Surveyed

The parcel of land occupying approximately 4.43 acres found in the south ½ of the southwest ¼ of Section 15, Township 10 South, Range 8 West of the Louisiana Meridian, Calcasieu Parish, Louisiana.

Completed by: Linda Budzinski Date: March 6, 1997
Linda Budzinski
FEC Environmental Scientist

Certified by: Colleen M. Cope Date: 6 Mar 1997
Colleen Cope
FEC Project Manager/
Hydrogeologist

Approved by: Paul Gapcynski Date: 11 Apr 97
Paul Gapcynski
Project Manager
HQ ACC/CEVA

**Certification of Polychlorinated Biphenyls Clearance**
**Lake Charles Air Force Station, Louisiana**

*Certify either one or the other (1 or 2)*

**Legal Description of Property Surveyed**

The parcel of land occupying approximately 4.43 acres found in the south ½ of the southwest ¼ of Section 15, Township 10 South, Range 8 West of the Louisiana Meridian, Calcasieu Parish, Louisiana.

X 1. This real property is in compliance with 40 CFR 761 as outlined below (check all that apply):

a) An inventory has been prepared and is being maintained of all Polychlorinated Biphenyls (PCB) Real Property Installed Equipment and Real Property PCB Items per Section 761.45

_ _ b) All in-service and stored serviceable PCB and PCB-contaminated Real Property Installed Equipment and Real Property PCB Items have been inspected, repaired and are being maintained to prevent leakage, and therefore can be disturbed per Section 761.30

_____ c) PCB Real Property Installed Equipment and Real Property PCB Items have been stored, decontaminated, and labeled per Section 761.42, 761.43, 761.44.

X d) There is no known PCB contaminated soil wastes, or unserviceable equipment remaining on the existing property.

2. A record search and on-site inspection indicate that this property has not been exposed to PCB materials or equipment.

Completed by: Linda Burdzinski Date: March 6, 1997
Linda Burdzinski
FEC Environmental Scientist

Certified by: Colleen M. Cope Date: 6 Mar 1997
Colleen Cope
FEC Project Manager/ Hydrogeologist

Approved by: Susanne M. Waylett Date: 14 Apr 1997
Susanne M. Waylett, Colonel, USAF
Assistant to the Civil Engineer

## Asbestos Clearance Certificate
## Lake Charles Air Force Station, Louisiana

**Legal Description of Property Surveyed**

The parcel of land occupying approximately 4.43 acres found in the south ½ of the southwest ¼ of Section 15, Township 10 South, Range 8 West of the Louisiana Meridian, Calcasieu Parish, Louisiana.

x 1. An on-site inspection has found sprayed-on ceiling material which contains asbestos in the property being excessed. A detailed description of the location of the asbestos is attached to this certificate.

| Bldg. 101 Administration Building Main Room Ceiling |
|---|

2. A records search and on-site inspection indicate that this property does not have exposed/friable asbestos containing materials or equipment.

3. An on-site inspection revealed no friable/exposed asbestos based on current conditions.

Completed by: Linda Burdzinski Date: March 6, 1997
Linda Burdzinski
FEC Environmental Scientist

Certified by: Colleen M. Cope Date: 6 Mar 1997
Colleen Cope
FEC Project Manager/
Hydrogeologist

Approved by: Susanne M. Waylett Date: 14 Apr 1997
Susanne M. Waylett, Colonel, USAF
Assistant to the Civil Engineer

## Certifications of Contamination
## Lake Charles Air Force Station, Louisiana

A complete search of agency tiles has revealed that hazardous substances as that term is defined in the CERCLA, as amended, and petroleum products were stored for one year or more, known to have been released, or were disposed of on the excess real property described below.

### Legal Description of Property Surveyed

The parcel of land occupying approximately 4.43 acres found in the south ½ of the southwest ¼ of Section 15, Township 10 South, Range 8 West of the Louisiana Meridian, Calcasieu Parish, Louisiana.

1. The following notice provides the available information discovered as a result of a complete search of agency files pertaining to hazardous substances and petroleum products to have been stored, released, or disposed of on the excess real property. A summary of the storage, release, or disposal of the hazardous substances and petroleum products on the property is presented in the following tables:

   A. There is no storage of hazardous substances as defined by CERCLA at the excess real property described above. Petroleum products currently stored which have the potential to contaminate the surrounding area are listed below.

**Aboveground Storage Tanks**

| Bldg. No. | Contents | Capacity (gal) | Status |
|---|---|---|---|
| 209 | Diesel Fuel | 1000 | Active |

   B. There is one known release of hazardous substances as defined by CERCLA at the excess real property described above. Release of hazardous substances and petroleum products are described below:

| Bldg. No. | Contents | Evidence of Release | Detected Contaminant | Status |
|---|---|---|---|---|
| 211 | Unknown | Yes | DRO | Remediation may be required. Detected concentration is above LA' s action level. |
| 211 | Unknown | Yes | Total Lead | Remediation may be required. Detected concentration is above LA' s action level. |

   C. Disposal of Hazardous Substances/Petroleum Products

No hazardous substances or petroleum products are known to have been disposed of on the property.

## Certifications of Contamination (continued)
## Lake Charles Air Force Station, Louisiana

2. The above information, based on agency files or other available information, addresses the period prior to June 1996. This information is the best available, and is believed to be correct, but no guarantee as to accuracy can be provided.

Completed by: Linda Burdzinski — Date: March 6, 1997
Linda Burdzinski
EC Environmental Scientist

Certified by: Colleen M. Cope — Date: 6 Mar 1997
Colleen Cope
FEC Project Manager/
Hydrogeologist

Approved by: Susanne M. Waylett — Date: 14 Apr 1997
Susanne M. Waylett, Colonel, USAF
Assistant to the Civil Engineer

# APPENDIX A

# SITE SURVEY MAPS AND REFERENCES

## LAKE CHARLES AFS SITE BIBLIOGRAPHY

| Year | Event | Reference |
|---|---|---|
| 1957 | Land is purchased from private owners and AFS becomes operational . | Bob Zaruba |
| 1963 | Disposal of Lake Charles AFS through GSA begins . | Bob Zaruba |
| 1966 | Disposal of Lake Charles AFS completed . | Bob Zaruba |
| 1963-1973 | Land for former Lake Charles AFS privately owned . | Bob Zaruba |
| 1974 | Reactivation of Lake Charles AFS. | Bob Zaruba |
| 1985 | Letter from Lake Charles AFS site manager to 23rd CSG/DEER regarding property boundaries . | Cloyd W. Laughlin, Jr. (letter attached) |
| 1990 | FAA survey of land . | G.L. Todd survey map |
| 3/1991 | Letter detailing tasks to be accomplished prior to property transfer to FAA. | Michael Battaglia (letter attached) |
| 4/1991 | Predisposal of property meeting. Agreement with FAA survey, agreement to perform relocation and renovation of northern and southern site boundaries. | Jerry Koch (letter attached) |
| 5/1991 | Letter requesting clarification between the 1973 D.W. Jesson and the 1990 G.L. Todd surveys sent to the Department of the Army, CESWF-RE-P. | Robert Olson (letter attached) |
| 5/1991 | Letter from the Department of the Army, CESWF-RE-P agreeing to the site boundaries surveyed in 1990 by G.L. Todd, and authorizing the use of the 1990 survey for property excessing. Letter also agrees with the conclusions reached in the memo resulting from the March 26, 1991 site visit (see attached memo from Jerry Koch). | James Cain (letter attached) |
| 5/1996 | Radar data gathering activities cease at Lake Charles AFS. | Bob Zaruba/FEC site visit |
| 6/1996 | Contract to manage the Lake Charles AFS through independent contractor ICS expires. | FEC site visit |

# APPENDIX B

# DATASITE™ ONLINE SERVICES SITE REPORT

# APPENDIX C

# SITE VISIT QUESTIONNAIRE

# APPENDIX D

# LABORATORY ANALYTICAL RESULTS

# Surface Soil and Water Analysis

# Water Quality Data for Site Water Supply Well

# Asbestos Analysis

# APPENDIX E

# PHOTOGRAPHS

# APPENDIX F

# STATE OF LOUISIANA
# WELL ABANDONMENT PROCEDURES