

**PHASE I ENVIRONMENTAL SITE ASSESSMENT  
WESTBANK I BORROW AREA  
BRIDGE CITY, JEFFERSON PARISH, LOUISIANA  
CONTRACT NUMBER: W912P8-07-D-0057  
TASK ORDER NUMBER: #0029**

**PREPARED FOR:**



**US Army Corps  
of Engineers**

United States Army Corps of Engineers,  
Mississippi Valley Division,  
New Orleans District (USACE-MVN)  
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AES Project Number 0107-450-02

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## LIST OF ABBREVIATIONS

AEROSTAR	Aerostar Environmental Services, Inc.
AI#	Agency Interest Number
AST	Aboveground Storage Tanks
ASTM	American Society for Testing and Materials
AULs	Activity and Use Limitations
BLS	Below Land Surface
CERCLIS	Comprehensive Environmental Response Compensation and Liability Information System
CORRACTS	RCRA Corrective Action
EDMS	Electronic Document Management System
EDR	Environmental Data Resources, Inc.
ERNS	Emergency Response Notification System
ESA	Environmental Site Assessment
FINDS	Facility Index System
HTRW	Hazardous, Toxic, and Radioactive Waste
IC/EC	Institutional Controls/Engineering Controls
LA	Louisiana
LDEQ	Louisiana Department of Environmental Quality
LDNR	Louisiana Department of Natural Resources
LSLO	Louisiana State Lands Office
LUST	Leaking Underground Storage Tank
NFRAP	No Further Remedial Action Planned
NGVD	National Geodetic Vertical Datum
NPDES	National Pollutant Discharge Elimination System
NPL	National Priority List
NRCS	National Resource Conservation Service
PCB	Polychlorinated Biphenyls
PMT	Pole-Mounted Transformer
RCRA	Resource Conservation and Recovery Act
RCRA-LQG	RCRA Large Quantity Generators
RCRA-SQG	RCRA Small Quantity Generators
RCRA TSD	RCRA Treatment, Storage and Disposal
RE	Real Estate Number
RECAP	Risk Evaluation and Chemical Accident Prevention
SWF/LF	Solid Waste Facilities/Landfills
SHWS	Hazardous Waste Sites
TRIS	Toxic Release Inventory System
TSD	Treatment, Storage and Disposal
USGS	United States Geological Survey
UST	Underground Storage Tanks

## **1.0 EXECUTIVE SUMMARY**

### **1.1 Site Name**

Westbank I Borrow Area  
Highway 541 and LA Highway 18  
Bridge City, Jefferson Parish, Louisiana  
Tax Bill Number: Portion of 61281

### **1.2 Inspection Date(s)**

August 14, 2007

### **1.3 Name of Inspector(s)**

Cherie O'Riordan, CFEA, REPA

### **1.4 Client and User**

Client: United States Army Corps of Engineers, Mississippi Valley Division, New Orleans District (USACE-MVN)

User: United States Army Corps of Engineers, Mississippi Valley Division, New Orleans District (USACE-MVN)

### **1.5 Site Descriptions and General Observations**

At the time of our investigation, the site consisted of an approximate 79-acre parcel of land occupied by the shooting range portion of the South Louisiana Gun Club Skeet and Trap, two barns, horse and cattle pastureland, a narrow ditch and wooded land. Access to the site is available via Highway 541 to the west, LA Highway 18 to the south, and an unnamed, unpaved access road to the northwest. The site is bordered by grass-covered land and a recreational park to the north; wooded land and Jefferson Parish Department of Public Works offices, parking and storage area to the east; LA Highway 18, followed by wooded land, grass-covered land and a pond to the south; Highway 541, followed by undeveloped grass-covered land and a dilapidated barn to the southwest; the South Louisiana Gun Club Skeet and Trap to the west; and various barns and other structures associated with leased land used for hay harvesting and cattle roping/rodeo-type events to the northwest.

Based on the review of aerial photographs, historical topographic maps and interviews, the majority of the site appears to have been primarily a combination of undeveloped land and pasture land for horses, cattle and hay harvesting since at least the 1950s. The western-central portion has been used as the shooting range portion of the western adjoining gun club since at least the 1930s/1940s. The site reportedly has not been industrially or commercially developed since the present day owner acquired the site in the early 1900s. Three oil and gas wells were reported to have been drilled across the southern portion of the subject site, beginning in 1942.

### **1.6 Findings and Conclusions**

AEROSTAR has performed a Phase I ESA in conformance with the scope and limitations of ASTM Standard E 1527-05 of the Westbank I Borrow Area, located east of Highway 541 and north of LA Highway 18, Bridge City, Jefferson Parish, Louisiana, hereafter referred to as the site. Any exceptions to, or deletions from, this practice are described in Section 2 of this report. The Executive Summary serves

as a summary of this report and presents the significant findings, conclusions and recommendations. The Executive Summary should not be considered a stand-alone document and must be evaluated in conjunction with the discussions, supporting documentation, and limitations within this ESA report.

This assessment has revealed no evidence of recognized environmental conditions in connection with the site, except for the following:

- On-site concerns were noted on the western-central portion of the subject site from use of lead pellets from the adjoining skeet and trap gun club (longitude -90.175900239 and latitude 29.9233970738).
- On-site concerns were noted from the former drilling operations of three documented wells in the southern portion of the subject site (longitude -90.1732376627, latitude 29.919524416; longitude -90.17831299342, latitude 29.9208253594; and longitude -90.1760064061, latitude 29.9198291996): drilling techniques require extensive use of gas or oil powered drilling equipment which can cause environmental impacts through accidental releases or leaks.
- Off-site concerns were noted from the former drilling operations of a documented well located approximately 0.1 miles east of the subject site (longitude -90.1717935268 and latitude 29.9197451087).

## **1.7 Recommendations**

Based on the information obtained for this report, AEROSTAR recommends conducting soil and groundwater sampling in the areas of the shooting range and the former oil and gas wells to evaluate potential impacts from drilling operations.

The remainder of this report is organized as follows: Section 2 describes the scope of work and limitations for this report; Section 3 presents a site description; Section 4 presents user provided information; Section 5 presents a records review; Section 6 presents a summary of the site reconnaissance; Section 7 presents a summary of interviews; Section 8 presents a summary of AEROSTAR's findings and opinions; Section 9 presents a summary of AEROSTAR's conclusions; Section 10 presents any deviations from the ASTM standard; Section 11 provides additional services conducted as part of this Phase I ESA; Section 12 presents the references; Section 13 presents the signatures of environmental professionals preparing and reviewing the report; and Section 14 presents the qualifications of the environmental professionals participating in this Phase I ESA. Figures are included in Appendix A. The property record information is included in Appendix B. Site photographs are included in Appendix C. A computerized regulatory agency database search is included in Appendix D. Historical research documentation is included in Appendix E. Interview documentation is included in Appendix F. A list of references is included in Appendix G. The qualifications and resumes of the environmental professionals performing this investigation are included in Appendix H.

## 2.0 INTRODUCTION

### 2.1 Purpose

The purpose of this Phase I ESA is to identify, to the extent feasible pursuant to ASTM Standard E 1527-05, recognized environmental conditions in connection with the site. The term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* are not recognized environmental conditions.

Although performance of this investigation in a manner that is generally consistent with the ASTM Standard E 1527-05 Standard is of benefit, it should be recognized that the Standard of “All Appropriate Inquiry” or “good commercial or customary practice” can only be made on a case-by-case basis and is subject to judicial interpretation.

### 2.2 Scope of Work

This Phase I ESA was conducted in general accordance with ASTM Standard E 1527-05, “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.” The assessment consisted of four components: records review, site reconnaissance, interviews, and report preparation.

The scope of work does not include an evaluation of asbestos containing building materials, lead based paint, lead in drinking water, regulatory compliance, soil or groundwater sampling and analysis, cultural and historical resources, industrial hygiene, health and safety, ecological resources, indoor air quality, radon, site geotechnics (soils, foundations, site retention, etc.), wetlands, endangered species, or construction materials testing. AEROSTAR can provide these additional services, if requested.

#### 2.2.1 Records Review

Historical Research: Sources such as historical aerial photographs, city directories, and fire insurance maps were reviewed, if reasonably ascertainable, to evaluate the historical usage of the site and surrounding properties. Additionally, a chain-of-title and an environmental lien search were reviewed if provided by the User.

Physical Setting Sources: Various maps, reports, and technical publications were reviewed and observations of site conditions were made to evaluate the hydrogeological/geological conditions associated with the site and surrounding properties. This data can provide pertinent information about the site, including soil classification, surface water flow directions, and possibly, an indication of the local directions of surficial aquifer groundwater flow.

Environmental Public Records Review: Reasonably ascertainable local, state, tribal and federal environmental records and the regulatory database search were reviewed to help assess the likelihood of problems from migrating hazardous substance or petroleum products. Public records identifying these facilities can provide indications of the potential for recognized environmental conditions to be present at the site.

AEROSTAR obtained, reviewed and evaluated reasonably ascertainable information from the Client, User, site owner; local, state, tribal, or federal entities; and the environmental regulatory database search. The conclusions and recommendations of this report are based, in part, on this information. The data reviewed during this investigation appeared to be accurate; however, the provided services do not include the verification of the accuracy or authenticity of information provided by others.

### **2.2.2 Site Reconnaissance**

On-site Reconnaissance: Visual and physical inspections conducted as part of this investigation included walking the interior of the site in a grid-like manner and walking the site perimeter, where accessible. Additionally, observations of access to and egress from the site were noted, as well as the presence and condition of any on-site buildings, utilities, or other improvements. During the site inspection, an emphasis was placed on observing the operations or conditions exhibiting the potential for recognized environmental conditions. All phases of the site reconnaissance were documented and photographs were taken.

Offsite Reconnaissance: Offsite reconnaissance conducted as part of this investigation included visual and physical inspections of the adjoining properties from the site boundary and from publicly accessible areas. Additionally, a vehicular reconnaissance of the surrounding properties was conducted. During these inspections, an emphasis was placed on observing the operations or conditions exhibiting the potential for recognized environmental conditions. If any sources were identified, the inspector would document the name and location of the facility.

### **2.2.3 Interviews**

AEROSTAR conducted interviews with available individuals familiar with the site, as well as local, state, tribal or federal agency representatives, regarding issues which could have an adverse effect on the environmental status of the subject site.

AEROSTAR depends on the Client, tenant, and other site personnel to provide data pertinent to determining the environmental status of the site, which may or may not exist within public records. The conclusions and recommendations of this report are based, in part, on this information. The data obtained during this investigation appeared to be accurate; however, the provided services do not include the verification of the accuracy or authenticity of information provided by others.

### **2.2.4 Report Preparation**

This report was prepared based upon the information provided by the Client and the User, the observations made during the site reconnaissance, and the information obtained from a review of readily available records. Given the inherent limitations of environmental assessment work, AEROSTAR will not guarantee that any site is free of hazardous or potentially hazardous materials or that latent or undiscovered conditions will not become evident in the future. This report was prepared within the professional conduct of the industry and in accordance with the proposal and the standard terms and conditions presented in the contract. No other warranties, representations or certifications are made.

## **2.3 Limitations**

AEROSTAR has prepared this assessment for the Client and User. AEROSTAR's assessment represents a review of certain information relating to the site that was obtained by methods described above and does not include sampling or other monitoring activities at the property. While AEROSTAR has used reasonable care to avoid reliance upon data and information that is inaccurate, AEROSTAR is not able to

verify the accuracy or completeness of all data and information available during the investigation. Some of the conclusions in this report would be different if the information upon which they are based is determined to be false, inaccurate or incomplete.

AEROSTAR makes no legal representations whatsoever concerning any matter including, but not limited to, ownership of any property or the interpretation of any law. AEROSTAR further disclaims any obligations to update the report for events taking place after the time during which the assessment was conducted.

This report is not a comprehensive site characterization and should not be construed as such. The opinions presented in this report are based upon the findings derived from a site reconnaissance, a limited review of specified regulatory records and historical sources, and comments made by the interviewees.

Phase I ESAs, by their very nature, are limited. AEROSTAR has endeavored to meet what it believes is the applicable standard of care, and, in doing so, is obliged to advise the Client and User of Phase I ESA limitations. AEROSTAR believes that providing information about limitations is essential to help the Client and User identify and thereby manage its risks. Through additional research, these risks can be mitigated - but they cannot be eliminated. AEROSTAR will, upon request, advise the Client and User of the additional research opportunities available, their impact, and their cost.

As noted above, the Phase I ESA was conducted at the referenced site, and this report was prepared for the sole use of the Client and User. This report shall not be relied upon by or transferred to any other party without the express written authorization of AEROSTAR.

Along with all of the limitations set forth in various sections of the ASTM Standard E 1527-05 protocol, the accuracy and completeness of this report is necessarily limited by the following:

- At the request of the Client, a chain-of-title and environmental lien search was not conducted.

### **2.3.1 Data Gaps**

Data gaps are the lack or inability to obtain information required by ASTM Standard E 1527-05 despite good faith efforts to gather such information, such as, but not limited to, the inability to conduct a site visit, inability to conduct interviews, and the inability to establish historical uses of the site or surrounding properties. Not all data gaps are significant, and a data gap will only be discussed in this section if: 1) a data gap occurs during investigation, and 2) the data gap impairs AEROSTAR's ability to meet the objectives of ASTM Standard E 1527-05.

Significant data gaps were noted due to a lack of historical information available for Jefferson Parish. City directories for Suburban New Orleans did not list the site.

## **2.4 Special Terms and Conditions**

This report, and the information contained herein, shall be the sole property of AEROSTAR until payment of any unpaid balance is made in full. The Client and User agree that until payment is made in full, the Client and User shall not have a proprietary interest in this report or the information contained herein. AEROSTAR shall have the absolute right to request the return of any and all copies of this report submitted to other parties, public or private, on behalf of the Client and User in the event of nonpayment of outstanding fees by the Client pursuant to AEROSTAR's proposal.

## **2.5 User Reliance**

This report is intended for the sole use of Client and User. Its contents may not be relied upon by other parties without the explicit written consent of AEROSTAR. This is not a statement of suitability of the property for any use or purpose. The user shall be held to the same limitations as detailed in Section 2.3.

## **3.0 SITE DESCRIPTION**

### **3.1 Location**

The site is located north of LA Highway 18 and east of Highway 541, Bridge City, Jefferson Parish, Louisiana, and is shown in Appendix A, Figure 1 (Street Site Location Map). The site is located within Sections 1, 23, and 36, Township 13 South, Range 22 East as referenced in the "Bridge City, Louisiana" USGS topographic quadrangle map, dated 1975, presented in Appendix A, Figure 2 (Topographic Site Location Map). Please also refer to the Site Plan presented in Appendix A, Figure 3, and to a 2006 Jefferson Parish property tax bill in Appendix B.

### **3.2 Site and Vicinity General Characteristics**

At the time of our investigation, the site consisted of an approximate 79-acre parcel of land occupied by the shooting range portion of the South Louisiana Gun Club Skeet and Trap, two barns, horse and cattle pastureland, a narrow ditch and wooded land. The immediate vicinity surrounding the site is primarily characterized by governmental, recreational, agricultural purposes or is undeveloped. Industrially developed land was observed further to the west. Please refer to the Street Site Location Map in Figure 1, the Topographic Site Location Map in Figure 2, and the Site Plan in Figure 3 for additional details.

### **3.3 Current Use(s) of the Site**

The site is occupied by the shooting range portion of the South Louisiana Gun Club Skeet and Trap, two barns, horse and cattle pastureland, a narrow ditch, and wooded land. During the site inspection, information was provided during the site inspection that the western-central portion of the site was used as a shooting range for the adjoining gun club and that lead pellets were located in the shooting range. Observations made during the site reconnaissance are further discussed in Section 6 of this report.

### **3.4 Structures, Roads, and Other Improvements on the Site**

#### **3.4.1 Existing Structures**

Two barns are located on the site. A two-story hay barn was observed in the northwestern portion of the site and is part of other (off-site) structures that comprise a hay harvesting/cattle roping and rodeo-type events as part of a pasture lease. A horse barn was observed in the southwestern portion of the site. Adjoining the horse barn were several trailers. Mr. Ken Childs did not know the age of the barns.

#### **3.4.2 Existing Roads**

No roads are located on the site. An unpaved driveway provides access to the horse barn from Highway 541. LA 18 adjoins the site to the south.

#### **3.4.3 Heating/Cooling System**

The barns on the site are not heated or cooled.

#### **3.4.4 Utilities (including Sewage Disposal)**

Electrical service is currently provided to the subject site vicinity by Entergy, Inc. Water and sewer services are provided by Jefferson Parish.

### 3.4.5 Potable Water

Potable water is provided to the subject site vicinity by Jefferson Parish.

### 3.5 Current Uses of the Adjoining Properties

The current uses of the adjoining properties are as follows:

<b>Table 1 Description of Adjoining Parcels</b>		
<b>Direction From Site</b>	<b>Address</b>	<b>Description of Current Use</b>
North	No address No address	Recreational park Grass-covered land
East	1440 River Park Road 1450 River Park Road 1540 River Park Road No address No address	Jefferson Parish Sewer Department (offices) Jefferson Parish Westbank Lift Station (offices) Jefferson Parish Water Department (offices) Parking/storage area for nearby sewage disposal plant Wooded land
South	No address	Undeveloped land and pond
West	No address No address No address listed on their sign No address	Undeveloped land Dilapidated barn South Louisiana Gun Club Skeet and Trap Several barns and structures associated with pasture lease

Based on the information reviewed as part of this assessment, the current uses of adjoining properties are not suspected of having the potential to negatively impact the site.

## **4.0 USER PROVIDED INFORMATION**

### **4.1 Title Records**

A chain-of-title report for the site was not provided to AEROSTAR by the User or Client.

### **4.2 Environmental Liens or Activity and Use Limitations**

An environmental lien search was not ordered through EDR due to unavailable and incomplete property record information. The user and site owner representative both stated that they were unaware of any environmental liens or AULs associated with the site.

### **4.3 Specialized Knowledge**

Information was provided to AEROSTAR by Mr. Mike Brown, Environmental Manager, U.S. Army Corps of Engineers, about the potential for lead contamination on the shooting range and from “abandoned oil/gas drilling sites” on the site. Mr. Vincent Vastola, property owner representative with Marrero Land & Improvement Association, the property owner, informed AEROSTAR that up to “three plugged oil and gas wells” had been drilled on the southern portion of the site in the past. Mr. Vastola also indicated that lead pellets from the gun club had been removed with the top few layers of top soil. Additional information from these interviews are provided in Section 7.0.

### **4.4 Commonly Known or Reasonably Ascertainable Information**

See Section 4.3.

### **4.5 Valuation Reduction for Environmental Issues**

The User indicated the purchase price reflected the fair market value of the site.

### **4.6 Owner, Property Manager, and Occupant Information**

The property is owned and managed by Marrero Land & Improvement Association. The land is occupied by various lessees, according to Mr. Vastola, property owner representative.

### **4.7 Reason for Performing Phase I ESA**

This Phase I ESA is being performed to comply with industry standards for reasonable due diligence level of environmental investigation.

### **4.8 Other**

No other information was obtained from the User. Mr. Vastola provided AEROSTAR with a copy of the 2006 Jefferson Parish property tax bill (Appendix B).

## 5.0 RECORDS REVIEW

### 5.1 Standard Environmental Record Sources

As a part of this assessment, AEROSTAR reviewed information sources to obtain existing information pertaining to a release of hazardous substances or petroleum products on or near the site. AEROSTAR obtained an ASTM regulatory database search through EDR. A copy of the database report is included in Appendix D. AEROSTAR also reviewed other available standard environmental record sources at the LDEQ EDMS, as needed. Table 2 presents the summary of the regulatory database report.

<b>TABLE 2 Regulatory Database Summary</b>				
<b>Source</b>	<b>Applicable Search Distance</b>	<b>Site</b>	<b>Adjoining Property</b>	<b>Within ASTM search distances</b>
Federal NPL Site	1.0 mile	0	0	0
Federal Delisted NPL	0.5 mile	0	0	0
Federal CERCLIS List	0.5 mile	0	0	0
Federal CERCLIS NFRAP Site List	0.5 mile	0	0	0
Federal RCRA CORRACTS and TSD Facilities	1.0 mile	0	0	0
Federal RCRA Non-CORRACTS TSD Facilities	0.5 mile	0	0	0
Federal RCRA Generators Lists	Site and adjoining properties	0	0	0
Federal IC/EC Registries	Site Only	0	NA	0
Federal ERNS	Site Only	0	NA	0
State- and Tribal-equivalent NPL Sites	1.0 mile	0	0	0
State- and Tribal-equivalent CERCLIS Sites	0.5 mile	0	0	0
State and Tribal Landfill and/or Solid Waste Disposal Site Lists	0.5 mile	0	0	1
State and Tribal LUST Lists	0.5 mile	0	0	0
State and Tribal Registered UST Lists	Site and adjoining properties	0	0	0
State and Tribal IC/EC	Site Only	0	NA	0
State and Tribal voluntary cleanup sites	0.5 mile	0	0	0
State and Tribal Brownfield sites	0.5 mile	0	0	0

According to the database report, four RCRA-SQG, one RCRA-LQG, one SHWS, and six UST facilities were listed to be within the minimum ASTM search distances; however, upon further review, all of these facilities, except for the SHWS facility, are located outside their respective ASTM search distances of on or adjoining to the subject site or within 0.5 miles of the subject site.

Northrop Grunman Ship Systems, Inc., Avondale Opera, 5100 River Road, Facility ID# 593. This SHWS facility is registered as a RCRA-LQG, TRIS, FINDS, and NPDES facility is located over 0.4 miles west of the subject site. According to the database report, the facility's SHWS status is listed as "confirmed."

No additional information was provided. The NPDES, FINDS, and TRIS databases are not ASTM standard environmental record sources. The facility is located outside of the ASTM-designated search distance for the RCRA-LQG database. According to a *RECAP Evaluation for the Avondale Main Yard – Former Boiler Site/ Fuel Storage Area*, dated, March 2007, the fuel storage area and the former boiler area are located approximately 375 feet southwest and 0.48 miles southwest and west of the subject site, respectively. The groundwater flow was determined to be to the south/southeast. No further investigation was warranted based on the results of the soil and groundwater analysis at both areas. According to the RECAP Evaluation, the ASTs have been in place since the mid 1980s and are stored in a containment area. Based on the information gathered for this investigation, this facility is not suspected of negatively impacting the subject site at this time.

In addition to reviewing the database report, AEROSTAR performed reconnaissance of the site vicinity to identify any sites not mapped by EDR due to inadequate or inaccurate address information and to look for unregistered facilities. No additional petroleum fueling facilities were observed within a half mile of the site during field reconnaissance performed by AEROSTAR.

## **5.2 Additional Environmental Record Sources**

According to research information reviewed, a common procedure in vertical and directional oil drilling involves combining oil, water, or synthetic oil with other chemicals to form a drilling mixture that is circulated through the well hole. These mixtures frequently contain materials such as oil and grease, suspended solids, phenol, arsenic, chromium, cadmium, lead, mercury, naturally occurring radioactive materials, and barium. The composition of drilling muds varies widely depending on the location and depth of the well and the type of drilling fluid used. Directional drilling sites frequently require up to two acres of land to stage the drilling rig, well, and support infrastructure, which causes significant soil erosion, soil loss, and sediment contamination of surface waters during the preparation and development of the drilling site. Drilling techniques require extensive use of gas or oil powered drilling equipment which can cause environmental impacts through accidental releases or leaks. Based on the information reviewed as part of this investigation, on-site concerns were noted from the former drilling operations in the southern portion of the subject site. Two additional gas and oil wells, identified on adjoining properties to the east and south in the Westwego Oil and Gas Field, are discussed below.

AEROSTAR performed a review of gas and oil production wells on the LDNR website for the subject site and vicinity. Three wells, located on the subject site, and two adjoining wells, are discussed below. They are located in the Westwego Oil and Gas Field. Additional wells of various statuses are located to the east, south, and west in the Westwego Gas and Oil Field; those wells within approximately at least 0.25 miles of the subject site.

According to information found on the website, effective March 29, 2000, the first on-site well, serial number 27256, was located in the southeastern corner of the subject site at coordinates longitude - 90.1732376627 and latitude 29.919524416. The well, owned by Marrero Land & Improvement Association, is listed as an “oil” well; the status is listed as “unable to locate – no plugged and abandoned [report].” It was permitted on February 2, 1942. Drilling was completed at a depth of 11,500 feet BLS as of December 1, 1976. Production information was not cited. A scout information report was not cited. The well was listed as plugged and abandoned as of September 15, 1959, with cement in several intervals: 0 to 20 feet BLS; 2,125 to 2,275 BLS; and 8,800 to 8,900 feet BLS.

According to information from the website, effective as of March 29, 2000, the second on-site well, serial number 67607, is located in the southwestern portion of the subject site at coordinates longitude - 90.17831299342 and latitude 29.9208253594. The well, owned by Marrero Land & Improvement Association, is listed as a “gas and condensate” well; the status is listed as “unable to locate – no plugged

and abandoned [report].” The well was permitted on August 29, 1957 and drilling was completed as of December 1, 1976 at a depth of 9,145 feet BLS. Production information was not cited. A scout information report was not cited. A plug and abandon report was not cited.

According to information reviewed on the website, effective March 29, 2000, the third on-site well, serial number 68694, is located in the south-central portion of the site at coordinates longitude -90.1760064061 and latitude 29.9198291996. The well was permitted on November 27, 1957. The well, owned by Marrero Land & Improvement Association, does not have a listed well type, but the status is listed as “unable to locate – no plugged and abandoned.” The well was measured to a depth of 9,014 feet BLS on December 1, 1976. Production information was not cited. A scout information report was not cited. A plug and abandon report was not cited.

According to information reviewed, effective December 1, 1976, a well, identified by the serial number 24833, is located approximately 0.1 miles east of the subject site at coordinates longitude -90.1717935268 and latitude 29.9197451087. The well, owned by Marrero Land Co., was permitted on September 19, 1940 and is listed as “plugged and abandoned producer.” The well was measured to a depth of 10,004 feet BLS on December 1, 1976. Production information was not cited. A scout information report was not cited. A plug and abandon report was not cited.

According to information reviewed, effective January 1, 1983, a well, identified by the serial number 135767, is located approximately 0.23 miles south of the subject site. The well, owned by VUA; Marrero Land & Improvement Assn., was permitted on January 5, 1971 and is listed as “plugged and abandoned oil producer.” The well was measured to a depth of 9,500 feet BLS on January 1, 1976; and to a depth of 10,002 on August 1, 1976 and again on September 1, 1976. According to over seventy well production reports, no oil or gas was produced from July 1, 1977 to January 1, 1983. The well was listed as plugged and abandoned as of January 22, 1983, with cement in two intervals: 300 to 600 BLS and 8,775 to 8,825 feet BLS.

### **5.3 Physical Setting Sources**

The "Bridge City, Louisiana" USGS topographic quadrangle map and regulatory files available regarding properties of environmental concern in the site vicinity were reviewed as sources for obtaining information regarding the physical setting of the site and surrounding vicinity.

#### **5.3.1 Regional Geology**

Jefferson Parish is located entirely within the Mississippi River Delta. The natural levees of the Mississippi River and its distributaries are dominated by firm, loamy and clayey soils. These soils make up about one-third of the total land area of the parish and are developed almost entirely for urban uses. An extensive system of manmade levees protects these soils from flooding. The remaining two-thirds of the land area of the parish consists mainly of ponded and frequently flooded, mucky soils in marshes and swamps. They are used mainly as habitat for wetland wildlife and for recreation. Large acreages of former marshes and swamps have been drained and developed for urban uses. Elevation ranges from about 12 feet above sea level on the natural levees along the Mississippi River to about 5 feet below sea level in the former marshes and swamps that have been drained. However, most of the undrained marshes and swamps range in elevation from sea level to about 1 foot above sea level.

#### **5.3.2 Topography**

The area of the investigation is located within Sections 1, 23 and 36, Township 13 South, Range 22 East as referenced in the 7.5-minute USGS Topographical Quadrangle Map of “Bridge City, Louisiana,” dated

1975. Based on a review of the topographic map, the site appears relatively flat, except for a narrow ditch that crosses the site from the northeast to the southwest. According to the topographic map, the site is situated at an elevation of approximately 0 to 5 feet above the NGVD of 1929.

Surface water bodies were identified on the topographic map in the vicinity of the site. LaBranche Canal is located approximately 0.02 miles west of the subject site. An unnamed pond is located approximately 0.03 miles south of the subject site. The Mississippi River is located approximately 0.5 miles northwest of the subject site. Several unnamed canals are located within the subject site's vicinity. Based upon a review of the topographic map, regional shallow groundwater flow in the immediate vicinity of the site appears to be towards the northwest. Actual groundwater flow in the vicinity of the property may be locally influenced by seasonal rainfall, proximity to surface bodies of water (lakes, rivers, canals), surface topography, underground structures, soil and bedrock geology, production wells and other factors beyond the scope of this study.

### **5.3.3 Soils/Geology**

The United States Department of Agriculture Soil Conservation Service, *Soil Survey of Jefferson Parish, Louisiana*, Map No. 7 was reviewed to identify native soil characteristics in the vicinity of the site. According to the survey, the soils are primarily classified as Harahan clay and Sharkey clay.

Harahan clay is a level and poorly drained mineral soil. It is in low positions on the natural levees of the Mississippi River and its distributaries. Slope is less than 0.5 percent. Typically, the surface layer is very dark gray, medium acid clay about 4 inches thick. The subsoil is about 20 inches thick. It is dark gray, very dark gray, and black, firm clay. Below that layer to a depth of about 32 inches is a buried surface layer of black, slightly acid clay. The underlying material to a depth of about 75 inches is gray and dark gray, semi fluid clay. In places, logs and stumps are in the underlying material. In most areas that are developed for urban uses, this soil is covered with sandy or loamy material about one foot to three feet thick. This Harahan soil has been drained by pumps and is protected from flooding by levees. Under normal conditions, the water table is maintained at a depth of one foot to three feet below the surface. After heavy rains, the water table is near the surface for short periods. Flooding is rare and occurs only during hurricanes or when water pumps or protection levees fail. Permeability is very slow. Water runs off the surface slowly. Available water capacity ranges from moderate to very high. The soil has a very high shrink-swell potential and medium total subsidence potential.

Sharkey clay is a poorly drained, firm, mineral soil in low positions on the natural levees of the Mississippi River and its distributaries. It is protected from river overflows by large earthen levees. Areas range from about 10 to 1,000 acres. Slope is less than 1 percent. Typically, this soil has a dark gray clay surface layer about 5 inches thick. The subsoil to a depth of about 37 inches is dark gray clay in the upper part and gray clay in the lower part. The substratum to a depth of about 60 inches is gray clay. This soil has high fertility. Water and air move through it at a very slow rate. Water runs off the surface slowly and stands in low places for short periods after heavy rains. Flooding is rare, but it can occur after prolonged rains. Flooding occurs less than often than once in 10 years but can occur at anytime of the year. A seasonal high water table fluctuates between the soil surface and a depth of about 2 feet during the winter and spring. Adequate water is available to plants in most years. The surface layer is very sticky when wet and very hard when dry. This soil has a very high shrink-swell potential.

### **5.3.4 Hydrogeology**

The aquifer system of Southeastern Louisiana is made up of five sand aquifers. Shallow sand, 200 foot sand, 400 foot sand, 700 foot sand, and 1,200 foot sand are the aquifers within the system. The shallow aquifers are not extensive enough to yield sufficient quantities of water. In these shallow aquifers the

water is not considered potable. The majority of water yielded has a chloride content greater than 250 parts per million. The principle aquifer in the area is the 700 foot sand aquifer. It supplies the portion of the parish that is north of the Mississippi River. This aquifer has a chloride content less than 250 parts per million. The principle source of surface water in Jefferson Parish is the Mississippi River. There are four public water suppliers in the parish that pump 38.9 million gallons a day from the river.

#### **5.4 Historical Use Information on the Site**

Based on the review of aerial photographs, historical topographic maps and interviews, the majority of the site appears to have been primarily a combination of undeveloped land and pasture land for horses, cattle and hay harvesting since at least the 1950s. The western-central portion has been used as the shooting range portion of the western adjoining gun club since at least the 1930s/1940s. The site reportedly has not been industrially or commercially developed since the present day owner acquired the site in the early 1900s. Three oil and gas wells were reported to have been drilled across the southern portion of the subject site, beginning in 1942.

#### **5.5 Historical Use of Adjoining Properties**

Based on the review of aerial photographs, historical topographic maps and interviews, the northern adjoining property appears to have been undeveloped since at least 1891 and partially developed with a recreational park since at least 1982. The eastern adjoining property appears to have been undeveloped land since at least 1891; developed with a ditch since at least 1938; developed with a present-day parking/storage area for nearby sewage disposal plant since at least 1998; and developed with the present-day Jefferson Parish buildings and parking lots since at least 2005. The southern adjoining property appeared as undeveloped land from at least 1891 to at least 1949. LA Highway 18, to the south, adjoined a portion of the site's boundary since at least 1951 and appeared to have been completed (extended westward to Highway 90) and has adjoined the remainder of the subject site since at least 1982. Beyond LA Highway 18, the southern adjoining property appeared as undeveloped land since at least 1891 and partially developed with a borrow pit/pond since at least 1951. The western adjoining property appears to have been undeveloped land with a canal since at least 1891, occupied by the present-day gun club structures since at least 1965 and occupied by one of the present-day barn structures to the northwest and the present-day dilapidated barn to the southwest since at least 1967.

#### **5.6 Standard Historical Sources Reviewed**

##### **5.6.1 Aerial Photograph Review**

To evaluate the previous land uses of the property and surrounding area, a series of aerial photographs was reviewed. The aerial photographs provide a progressive overview of parcels pertaining to this assessment.

AEROSTAR personnel reviewed aerial photographs from 1967, 1979, 1982, 1989, 1998, and 2005 obtained from NRCS office and the LDEQ GIS website. Color copies of the 1967, 1982, 1989, 1998, and 2005 aerial photographs are provided in Appendix E. Descriptions of AEROSTAR's observations are outlined in Table 3.

<b>TABLE 3</b>			
<b>Summary of Aerial Photograph Observations</b>			
<b>Source</b>	<b>Photograph Date</b>	<b>Photograph Scale</b>	<b>Remarks</b>
NRCS	1967	Not Available	<p>Site: Grass-covered land with a narrow ditch crossing the site from the northeast to the southwest. Clearing and structure visible where the present-day horse barn and associated smaller structures are located in the southwestern portion. Cut rows from reported past hay harvesting were visible across a majority of the site.</p> <p>North: Wooded land and grass-covered land with cleared portions.</p> <p>East: Canal and wooded land beyond.</p> <p>South: LA Highway 18 and wooded land and borrow pit/pond beyond.</p> <p>West: One of the present-day barns is visible to the northwest. Gun club building visible to the west. Highway 541 and the present-day dilapidated barn and cleared land beyond, to the southwest.</p>
<i>Soil Service of Jefferson Parish, Louisiana</i>	1979	Not Available	<p>Site: No change.</p> <p>North: Grass-covered land.</p> <p>East: Ditch visible in an east-west direction.</p> <p>South: No changes, except that the majority of this property appears partially wooded.</p> <p>West: More barns/associated structures to the northwest are visible.</p>
NRCS	1982	Not Available	<p>Site: No change.</p> <p>North: Present-day recreational park is visible.</p> <p>East: No change.</p> <p>South: No change.</p> <p>West: No change.</p>
LDEQ GIS	1989	Not Available	<p>Site: No change.</p> <p>North: No change.</p> <p>East: No change.</p> <p>South: No change.</p> <p>West: No change.</p>
LDEQ GIS	1998	Not available	<p>Site: The smaller structures around the horse barn in the southwestern portion are not visible. The present-day barn in the northwestern portion is visible.</p> <p>North: No change.</p> <p>East: East-west ditch no longer visible. Present-day parking/storage area for Jefferson County Public Works Department sewage treatment plant is visible.</p> <p>South: No change.</p> <p>West: No change.</p>

<b>TABLE 3</b>			
<b>Summary of Aerial Photograph Observations</b>			
<b>Source</b>	<b>Photograph Date</b>	<b>Photograph Scale</b>	<b>Remarks</b>
LDEQ GIS	2005	Not Available	Site: No change. North: No change. East: Much of this property is occupied by present-day Jefferson Parish Public Works Department structure and parking areas, South: No change West: No change

### 5.6.2 Property Ownership Records

According to the User information, the current property owner is Marrero Land & Improvement Association. A chain-of-title was not provided to AEROSTAR by the Client or User.

### 5.6.3 City Directory Review

A search of historical city directories for Suburban New Orleans dating back to 1940 was performed as part of this investigation. The subject site was not listed in the city directories reviewed. No city directory listings were identified for the site's barns in any of the city directories reviewed. No listings were identified for the western adjoining gun club or barn or the eastern adjoining Jefferson Parish Public Works Department buildings.

### 5.6.4 Fire Insurance Map Review

Sanborn Fire Insurance Maps did not provide coverage for the site.

### 5.6.5 Other Historical Sources

Historical topographic maps from 1891, 1938, 1949, 1951, and 1965 of the site area were provided by EDR. A 1975 topographical map, provided by Topozone, is included as Figure 2. Historical topographic maps are included in Appendix E. Descriptions of AEROSTAR's observations are outlined in Table 5.

<b>TABLE 5</b>			
<b>Summary of Historical Topographic Map Observations</b>			
<b>Source</b>	<b>Map Date</b>	<b>Map Scale</b>	<b>Remarks</b>
EDR	1891	1:62,500	Site: Undeveloped. North: Undeveloped. East: Undeveloped South: Undeveloped West: Undeveloped.

**TABLE 5**  
**Summary of Historical Topographic Map Observations**

<b>Source</b>	<b>Map Date</b>	<b>Map Scale</b>	<b>Remarks</b>
EDR	1938	1:31,680	Site: Undeveloped with a ditch crossing site from northeast to southwest. North: A ditch is visible crossing from northeast to southwest. East: Ditch is visible. South: A ditch is visible crossing from northeast to southwest. West: Undeveloped with LaBranch Canal crossing from the northeast to the southwest.
EDR	1949	1:25,000	Site: No change. North: No change. East: No change. South: No change. West: No change.
EDR	1951	1:24,000	Site: No change. North: No change. East: No change. South: A portion of LA Highway 18 visible along the southern site boundary. A pond is depicted beyond LA Highway 18. West: No change.
EDR	1965	1:24,000	Site: Ditch no longer visible. North: Ditch no longer visible. East: No change. South: Ditch no longer visible. West: Structures visible where present-day gun club structures are located.
Topozone	1975	NA	Site: Present-day barns in the northwestern and southwestern portions are visible. North: Undeveloped land and park. East: Undeveloped. South: No change. West: Skeet and trap gun club structures remain. Present-day dilapidated barn visible to southwest. Present-day barns to the northwest are visible.

## **6.0 SITE RECONNAISSANCE**

### **6.1 Methodology and Limiting Conditions**

Visual and physical inspections conducted as part of this investigation included walking the interior of the site, where accessible. Additionally, observations of access to and egress from the site were noted, as well as the presence and condition of any on-site buildings, utilities, or other improvements. This visual and physical inspection of the property focused primarily on its surface features. Property use and significant features are indicated on the Site Plan which is included as Figure 3 in Appendix A. Site photographs are included in Appendix C.

### **6.2 General Site Setting**

#### **6.2.1 Current Use(s) of the Site**

The site is developed as largely pasture land with a horse barn in the southwestern portion and a hay barn in the northwestern portion. Additionally, a shooting range for the adjoining gun club is located in the western-central portion of the site. A narrow ditch crosses the site from the northeast to the southwest. The southeastern portion of the site is wooded land.

#### **6.2.2 Past Use(s) of the Site**

No past uses of the site were observed. No other indication of the site's previous use was observed during the site reconnaissance.

#### **6.2.3 Current Uses of Adjoining Properties**

The adjoining properties consist of grass-covered land and a recreational park to the north; wooded land and Jefferson Parish Department of Public Works offices, parking and storage area to the east; LA Highway 18, followed by wooded land, grass-covered land and a pond to the south; Highway 541, followed by undeveloped grass-covered land and a dilapidated barn to the southwest; the South Louisiana Gun Club Skeet and Trap to the west; and various barns and other structures associated with leased land used for hay harvesting and cattle roping/rodeo-type events to the northwest.

#### **6.2.4 Past Uses of Adjoining Properties**

No indication of the adjoining properties' past uses was observed during the site reconnaissance.

#### **6.2.5 Current or Past Uses in the Surrounding Area**

The surrounding area is currently used for governmental, recreational, or agricultural purposes or is undeveloped. No indication of the surrounding area's past use was observed during the site reconnaissance.

#### **6.2.6 Geologic, Hydrogeologic, Hydrologic, and Topographic Conditions**

The site appears to be relatively flat, except for the narrow ditch that crosses the site from the northeast to the southwest. No geologic, hydrogeologic or hydrologic conditions were observed during the site reconnaissance.

### **6.2.7 General Description of Structures**

Two barns are located on the site. A two-story hay barn was observed in the northwestern portion of the site and is part of other (off-site) structures that comprise a hay harvesting/cattle roping and rodeo-type events as part of a pasture lease. A horse barn was observed in the southwestern portion of the site. Adjoining the horse barn were several trailers. Mr. Childs did not know the age of the barns.

### **6.2.8 Roads**

No roads are located on the site. An unpaved driveway provides access to the horse barn from Highway 541. LA Highway 18 adjoins the site to the south.

### **6.2.9 Potable Water Supplies**

Potable water is provided to the subject site vicinity by Jefferson Parish.

### **6.2.10 Sewage Disposal System**

Electrical service is currently provided to the subject site vicinity by Entergy, Inc. Water and sewer services are provided by Jefferson Parish.

## **6.3 Exterior Observations**

### **6.3.1 Hazardous Substances and Petroleum Products**

No evidence of use, storage, or disposal of hazardous substances was observed during the site inspection.

### **6.3.2 Storage Tanks**

No evidence of the presence of USTs or ASTs was observed during the site inspection.

### **6.3.3 Odors**

No odors were noted during the site inspection.

### **6.3.4 Pools of Liquids**

No pools of liquids were observed during the site inspection.

### **6.3.5 Drums**

No drums were observed during the site inspection.

### **6.3.6 Unidentified Substance Containers**

No unidentified substance containers were observed during the site inspection.

### **6.3.7 PCBs**

No evidence of PCB-containing equipment was observed during the site inspection.

### **6.3.8 Pits, Ponds or Lagoons**

No pits, ponds or lagoons were observed during the site inspection.

### **6.3.9 Stained Soil or Pavement**

No stained soil or pavement was observed during the site inspection.

### **6.3.10 Stressed Vegetation**

No stressed vegetation was observed during the site inspection.

### **6.3.11 Solid Waste**

No solid waste was observed during the site inspection.

### **6.3.12 Waste Water**

No waste water discharges to or from the site was observed during the site inspection.

### **6.3.13 Wells**

No potable, irrigation or industrial wells were observed during the site inspection.

### **6.3.14 Septic Systems**

No septic systems were observed during the site inspection.

## **6.4 Interior Observations**

A hay barn, located in the northwestern portion of the site, and a horse barn, located in the southwestern portion of the site, was inspected.

### **6.4.1 Hazardous Substances and Petroleum Products**

No evidence of use, storage, or disposal of hazardous substances was observed during the site inspection.

### **6.4.2 Storage Tanks**

No evidence of the presence of USTs or ASTs was observed during the site inspection.

### **6.4.3 Odors**

No odors were noted during the site inspection.

### **6.4.4 Pools of Liquid**

No pools of liquids were observed during the site inspection.

#### **6.4.5 Drums**

No drums were observed during the site inspection.

#### **6.4.6 Unidentified Substance Containers**

No unidentified substance containers were observed during the site inspection.

#### **6.4.7 PCBs**

No evidence of PCB-containing equipment was observed during the site inspection.

#### **6.4.8 Heating and Cooling**

The structure is not heated or cooled.

#### **6.4.9 Stains or Corrosion**

No evidence of stains or corrosion was observed during the site inspection.

#### **6.4.10 Drains and Sumps**

No drains or sumps were observed during the site inspection.

## 7.0 INTERVIEWS

Reasonable attempts were made to interview the available key site manager and occupants. AEROSTAR also conducted interviews with other individuals familiar with the site, as well as local, state, tribal or federal agency representatives, where available, regarding issues which could have an adverse effect on the environmental status of the site. Copies of interview documentation are included as Appendix F.

### 7.1 Interview with Site Owner

AEROSTAR interviewed Mr. Vincent Vastola, property owner representative with Marrero Land & Improvement Association, the property owner, regarding the current and past uses of the property. According to Mr. Vastola, the property is “under various leases, including the gun club, people who stable horses and people who use the pasture for cattle grazing.” Mr. Vastola said that “pasture leases” are the main use. “Pasture leases” on the property historically and currently include harvesting hay, stabling horses, grazing cattle, and calf roping/rodeo-type events. He stated the Marrero Land & Improvement Association has owned the since “1904 or 1908,” and that the title of the land is still in “the original plantation title.” Mr. Vastola said that, for at least the past 50 years, the site has largely been used as pasture land and that much of the site currently is “harvested for hay with some cattle grazing.” Mr. Vastola also said that horses the southwestern area is used for a horse pasture. He indicated that the site has never been commercially or industrially developed. The gun club, according to Mr. Vastola, has used the western-central portion as a shooting range since the “1930 or 1940s.” He stated that the gun club uses lead pellets and that the portion of the “land they shoot over has been remediated one time,” to the best of his knowledge. Mr. Vastola explained that the gun club technically does not lease, but uses the land in a cooperative agreement with Mr. Childs and the property owner. He said that the shooting range is approximately 12 acres. Mr. Vastola said that Mr. Lee and Ken Childs lease most of the site for harvesting hay. Mr. Vastola explained that they use the barns on the northwestern adjoining property for hay storage and for their “calf-roping” business. Mr. Vastola indicated that three oil/gas wells had been drilled on the southern portion of the subject site. He was not aware if they had been plugged, but said that they had not been in use for a long time and that they could not be located. Mr. Vastola stated that the subject site vicinity was serviced by Entergy (electricity) and Jefferson Parish (water and sewer). According to Mr. Vastola, no USTs or ASTs are present on the property. Mr. Vastola said that he was not aware of any water wells on the site. Mr. Vastola was not aware of any environmental concerns beyond the lead pellets from the gun club and any potential issues from the former oil/gas drilling activities on the southern portion of the site. According to Mr. Vastola, no environmental liens have been placed on the property and no AULs are present for the site.

### 7.2 Interview with Site Manager

Please refer to Section 7.1.

### 7.3 Interviews with Occupants

AEROSTAR interviewed Mr. Ken Childs, one of the main lessees of the subject site. Mr. Childs stated that the barn in the northwestern portion was used for hay storage and that the barn in the southwestern portion of the site was used for horses by another lessee. He was not aware of the barns’ construction dates. Mr. Childs indicated that he and his father used the majority of the subject site to harvest hay and grazed some cattle on the site’s fields. Mr. Childs indicated that lead pellets were located throughout the shooting range and that the soils had been remediated one time in the past, but he did not recall when. Mr. Childs was aware that oil/gas wells had been drilled on the site, but he was not sure of the former locations or status.

#### **7.4 Interviews with Local Government Officials**

AEROSTAR interviewed Ms. Melinda Molieri, LDEQ, regarding any hazardous waste sites within the subject site vicinity. Ms. Molieri did not have any records of such facilities within the site vicinity.

#### **7.5 Interviews with Others**

AEROSTAR interviewed Mr. Mike Brown, Environmental Manager, U.S. Army Corps of Engineers, concerning the subject site using the User Questionnaire found in Appendix X3 of ASTM E 1527-05. Mr. Brown stated that the subject site was largely used for harvesting hay. Mr. Brown stated that there are no environmental liens or AULs on the subject site. Mr. Brown indicated that the purchase price reflects the fair market price. He indicated to the best of his knowledge that no chemicals have been used on the property, and no spills or environmental cleanups have occurred on the property. Mr. Brown stated, to the best of his knowledge, environmental concerns associated with the subject site include the potential for lead contamination from lead pellets used at the adjoining gun club on the shooting range located on the site and the potential for contamination from former oil/gas drilling activities on the site. Mr. Brown stated that the top four inches of soil had been removed from the shooting range and the lead pellets were recycled. Mr. Brown indicated that the Phase I ESA is being conducted as a requirement for the use of borrow materials on the levees. He stated that he does not have any specialized knowledge of the adjoining properties.

## 8.0 FINDINGS AND OPINIONS

### 8.1 Known or Suspect Recognized Environmental Conditions

Historical concerns were noted on the eastern-central portion of the subject site from use of lead pellets from the adjoining skeet and trap gun club (longitude -90.175900239 and latitude 29.9233970738).

On-site concerns were noted from the former drilling operations of three documented wells in the southern portion of the subject site (longitude -90.1732376627, latitude 29.919524416; longitude -90.17831299342, latitude 29.9208253594; and longitude -90.1760064061, latitude 29.9198291996); drilling techniques require extensive use of gas or oil powered drilling equipment which can cause environmental impacts through accidental releases or leaks.

Off-site concerns were noted from the former drilling operations of a documented well located approximately 0.1 miles east of the subject site (longitude -90.1717935268 and latitude 29.9197451087).

### 8.2 Historical Recognized Environmental Conditions

No historical concerns were noted at the site.

### 8.3 De Minimis Conditions

No *de minimis* conditions were noted at the site.

## 9.0 CONCLUSIONS

AEROSTAR has performed a Phase I ESA in conformance with the scope and limitations of ASTM Standard E 1527-05 of the Westbank I Borrow Area, located east of Highway 541 and north of LA 18, Bridge City, Jefferson Parish, Louisiana. Any exceptions to, or deletions from, this practice are described in Section 2 of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with the site, except for the following:

- On-site concerns were noted on the western-central portion of the subject site from use of lead pellets from the adjoining skeet and trap gun club (longitude -90.175900239 and latitude 29.9233970738).
- On-site concerns were noted from the former drilling operations of three documented wells in the southern portion of the subject site (longitude -90.1732376627, latitude 29.919524416; longitude -90.17831299342, latitude 29.9208253594; and longitude -90.1760064061, latitude 29.9198291996): drilling techniques require extensive use of gas or oil powered drilling equipment which can cause environmental impacts through accidental releases or leaks.
- Off-site concerns were noted from the former drilling operations of a documented well located approximately 0.1 miles east of the subject site (longitude -90.1717935268 and latitude 29.9197451087).

## 10.0 DEVIATIONS

AEROSTAR prepared this Phase I ESA in accordance with ASTM Standard E 1527-05.

## **11.0 ADDITIONAL SERVICES**

Under the terms of the agreement between Client and AEROSTAR, no additional services were provided in association with the Phase I ESA. There may be environmental issues or conditions at a site that the Client may wish to assess in connection with commercial real estate that are outside the scope of this practice (the non-scope considerations). No implication is intended as to the relative importance of inquiry into such non-scope considerations, and this list of non-scope considerations is not intended to be all inclusive: asbestos-containing materials; radon; lead-based paint; lead in drinking water; wetlands; regulatory compliance; cultural and historical resources; industrial hygiene; health and safety; ecological resources; endangered species; indoor air quality; and high voltage power lines.

## 12.0 REFERENCES

References reviewed during the Phase I ESA are documented in Appendix G.

**13.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS**

This is to certify the Phase I ESA Report of the Westbank I Borrow Area, located east of Highway 541 and north of LA 18, Bridge City, Jefferson Parish, Louisiana, has been examined by the undersigned.

DATE: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_  
Cherie O’Riordan, CFEA, REPA  
Project Manager

DATE: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_  
Neil Hornick, P.G., CHMM  
Senior Project Manager

#### **14.0 QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS**

This assessment was completed by Cherie O’Riordan, CFEA, REPA, Project Manager, and reviewed by Neil Hornick, P.G., CHMM, Senior Project Manager both employees of AEROSTAR. We declare that, to the best of our professional knowledge, we meet the definition of environmental professional as defined in § 312.10 of 40 CFR 312. We have the specific qualifications based on education, training, and experience to assess the property of a nature, history, and setting of the site. We have developed and performed the all appropriate inquiries in conformance with the standards set forth on 40 CFR Part 312. Qualifications of personnel participating in this assessment are provided in Appendix H.

## **APPENDICES**

# **APPENDIX A**

## **FIGURES**

## **APPENDIX B**

### **PROPERTY RECORD INFORMATION**

AEROSTAR was not provided property record information by the client or user at the time of this report's completion due to unavailable and incomplete property record information. The Plaquemines Parish Tax Assessor's Office was unable to provide tax record or assessment information concerning the subject site since the government-owned subject site is exempt from taxes. An environmental lien search was to have been requested through EDR as part of this investigation; however, it could not be completed without additional property record information. A chain-of-title was not requested by the client. An addendum letter will be issued updating this information upon receipt of additional property record information should a property identification number be obtained.

**APPENDIX C**  
**SITE PHOTOGRAPHS**

# **APPENDIX D**

## **REGULATORY DATABASE REPORT**

## **APPENDIX E**

### **HISTORICAL REFERENCE DOCUMENTATION**

# **APPENDIX F**

## **INTERVIEW DOCUMENTATION**

**LIST OF CONTACTS INTERVIEWED  
PHASE I ENVIRONMENTAL SITE ASSESSMENT**

<b><u>Name</u></b>	<b><u>Title</u></b>	<b><u>Affiliation</u></b>	<b><u>Topics Discussed</u></b>
Mr. Vincent Vastolo	Subject Site Representative	Marrero Land & Improvement Assn.	Historical and current uses of the site
Mr. Ken Childs		Lessee of a majority of the site	Historical use of the site
Ms. Melinda Moleri		LDEQ	Northrup Grumman facility
Mr. Mike Brown	Environmental Manager	U.S. Army Corps of Engineers	Site in reference to Appendix X3 of ASTM Standard E 1527-05

## **APPENDIX G**

### **REFERENCES**

## REFERENCES

Interviews: Mr. Mike Brown, USACE  
Mr. Vincent Vastola, Marrero Land & Improvement Association  
Mr. Ken Childs, lessee of the property  
Ms. Melinda Molieri, LDEQ

*EDR Historical Topographic Map Report*, EDR, August 14, 2007.

*The EDR Radius Map Report with GeoCheck*, EDR, August 13, 2007.

New Orleans Suburban, Louisiana Polk City Directory, select editions.

USGS Topographic Map of "Bridge City, Louisiana," dated 1975.

US Department of Agriculture Soil Conservation Service, *Soil Survey of Jefferson Parish*, dated 1983.

Websites: LDEQ GIS <http://map.deq.state.la.us/index2.htm>  
LDNR <http://dnr.louisiana.gov/>  
Topozone [www.topozone.com](http://www.topozone.com)

## **APPENDIX H**

### **QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS**