

AN ARCHAEOLOGICAL SURVEY OF AN ALTERNATE DREDGE DECANT
LINE AND DROP STRUCTURE IN NORTHERN CALHOUN COUNTY, TEXAS
FOR THE ALCOA WORLD ALUMINA LLC, POINT COMFORT OPERATIONS
LOCATED IN POINT COMFORT, TEXAS

Corps of Engineers Permit 14045(6)

By

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BVRA Project Number 03-14

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ABSTRACT

An archaeological survey of the location of the site of a proposed dredge decant line and drop structure in northern Calhoun County, Texas was performed by Brazos Valley Research Associates (BVRA) on April 30, 2003 and May 22, 2003 under United States Army Corps of Engineers (COE) permit number 14045(6) with William E. Moore the Principal Investigator. The site of the project area is a level coastal plain adjacent to a high bluff overlooking Cox Bay to the south. No evidence of a prehistoric site was found within the construction corridor of the dredge decant line or within the bluff face. It is recommended that construction be allowed to proceed as planned. Copies of this report are on file at the Texas Historical Commission, Archeology Division; BVRA; the Texas Archeological Research Library (TARL), and Alcoa World Alumina LLC Point Comfort Operations in Port Lavaca, Texas.

ACKNOWLEDGMENTS

The author is grateful to those individuals who participated in this project. Larry Onken, Senior Scientist at MFG, Inc., provided maps and guided the field crew to the area to be investigated. James E. Warren, Arthur Romine, Kent Romine, and Bobby Jemison performed the field survey. Allegra Azulay, Records File Search Assistant at TARL, conducted the background search for previously recorded sites in the project area and vicinity. Tiffany T. Terneny, COE staff archaeologist, served as the reviewer for this project. Lili Lyddon of L.L. Technical Services in North Zulch, Texas, drafted the figures that appear in this report.

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INTRODUCTION

Alcoa World Alumina LLC has submitted plans for the construction of an alternate dredge decant line and drop structure in northern Calhoun County, Texas to the United States Army Corps of Engineers, Galveston District for approval (Figure 1). The line will consist of 18 inch high density polyethylene (HDPE) pipe where it leaves two dredge disposal areas and change to 20 inch pipe at the discharge area. This line will be placed on the surface of the ground for a distance of 2500 feet and a width of 20 feet. The path of this line is in an old *sendero* that has grown up in weeds and grass. Originally, it was planned that the line would connect with two dredge disposal areas and transport the decanted liquid south across the landscape to a drop structure designed to empty the decanted liquid into the bay. At this time Alcoa is considering an alternative to the drop structure. Instead of constructing a drop structure that will disturb the shoreline, matting may be placed at the bluff edge to prevent erosion that would be caused by the flow of water from the dredge decant line over the bluff edge into Cox Bay. No subsurface disturbance of the bluff edge will occur as a result of the alternate plan.

Tiffany Terneny requested a Phase I cultural resources a professional archaeologist conduct a cultural resources survey. In order to satisfy this requirement, Alcoa World Alumina LLC retained BVRA to perform this service. The initial survey was carried out on April 30, 2003 under COE permit 14045(6), and the subsurface investigation, as requested by the COE) was performed on May 22, 2003 under the same permit. The area investigated is depicted on the Point Comfort topographic quadrangle (Figure 2). The map number is 2896-314, and it is dated 1995.

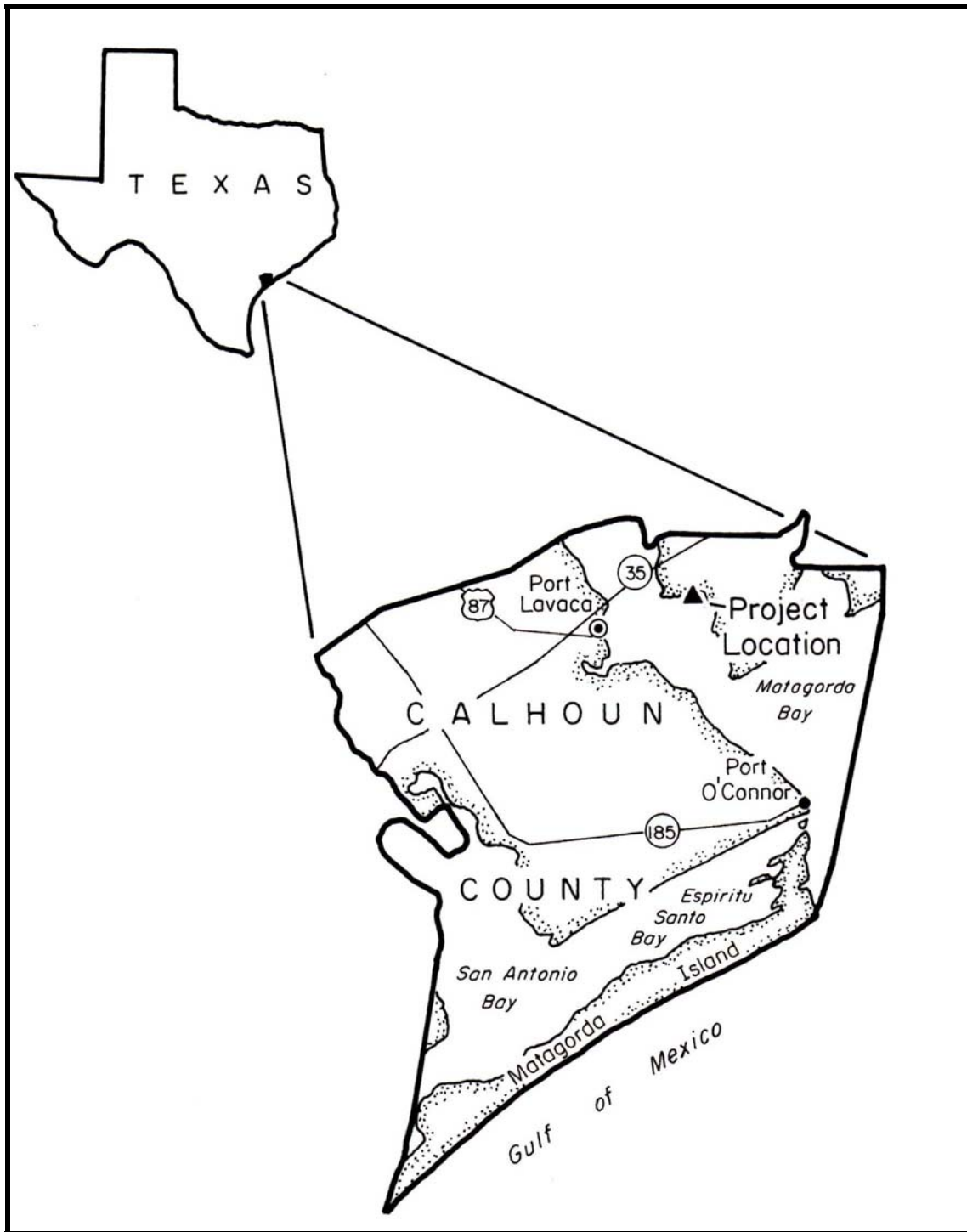


Figure 1. General Location Map

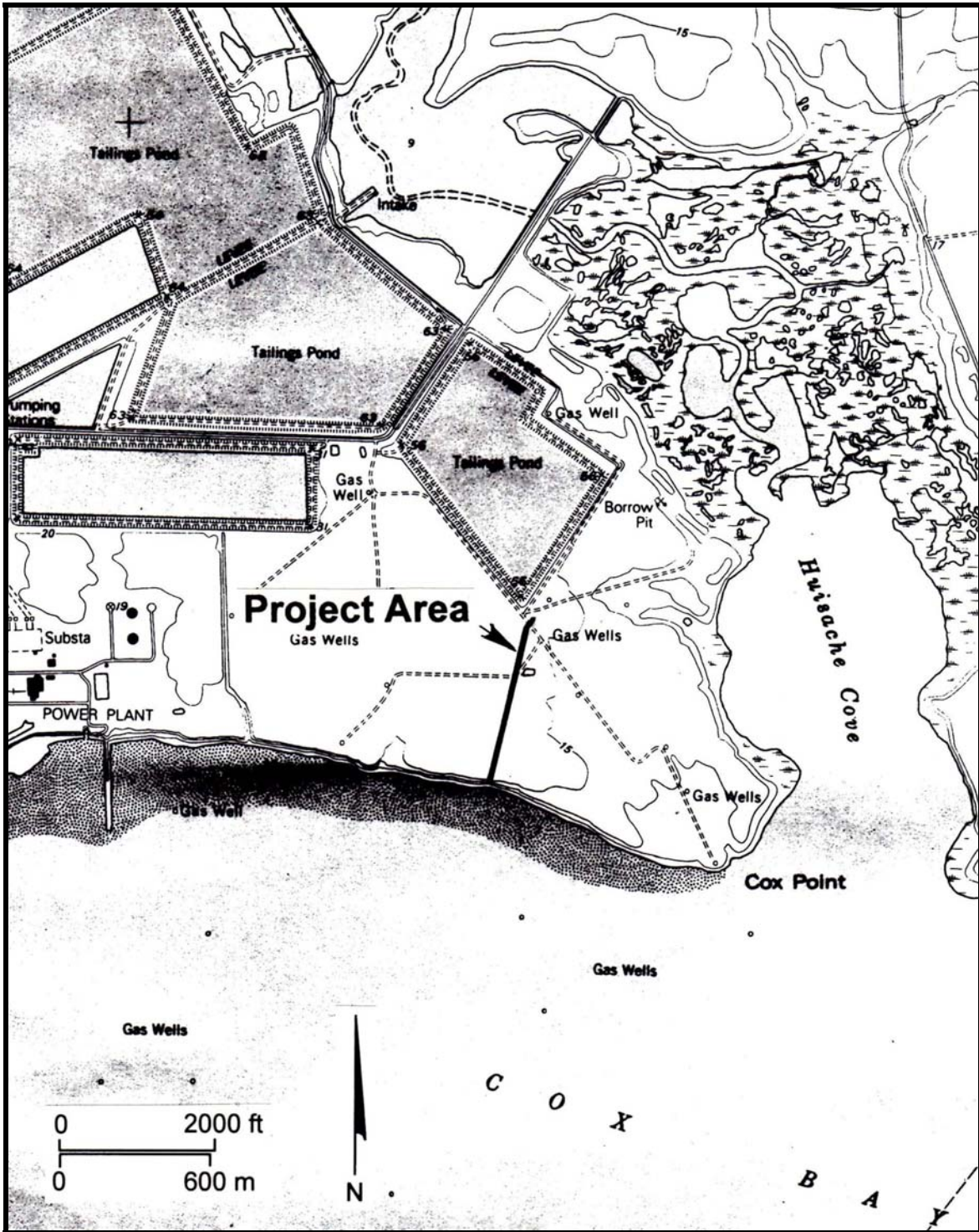


Figure 2. Project Area on Topographic Map

ENVIRONMENTAL SETTING

The project area is located in that region referred to by Hester et al. (1989:3) as the South Texas Plains that extends from the Rio Grande to the Gulf of Mexico. The region lies completely within the Tamaulipan Biotic Province as defined by Blair (1950). Annual rainfall for Calhoun County averages 37.10 inches. The climate is mild with a mean average temperature of 70 degrees Fahrenheit that results in a growing season of 292 days. Among the crops that have been important to the county in the past are cotton, corn, grain, sorghums, flax, rice, and a wide variety of fruit and truck. The livestock industry produces beef and dairy cattle, hogs, and poultry. Fish and shrimp from coastal waters form a major part of the economy as well.

Thorny brush is the main vegetation encountered throughout the Tamaulipan Biotic Province of Texas. The line of brush is less common as one travels from the coast westward and available moisture declines. Blair (1950:103) lists certain species of plants that account for the bulk of the brush vegetation in the area. The most important are mesquite, various species of *Acacia* and *Mimosa*, granjeno, lignum vitae, cenizo, white brush, prickly pear, tasajillo, and *Castela*.

The entire project area is located within one soil type, Midland clay loam (Mb). The project area is depicted on Sheet 11 in the soil survey of Calhoun County (Mowery and Bower 1978), and the following description is taken from this volume (Mowery and Bower 1978:20). This soil is typically found in slightly depressed uplands. A representative profile consists of a surface layer of clay loam about 9 inches thick. The upper part is gray, and the lower part is dark gray. The subsoil extends to a depth of 57 inches. Midland soils are poorly drained and have a high available water capacity.

ARCHAEOLOGICAL BACKGROUND

Calhoun County is located in the Central Coastal Plain as defined in a statistical overview of Texas by Biesart et al. (1988:76). In 1985 when the statistical overview was published, 1067 sites (5.28% of the state) were recorded in the entire region. Only three of the thirteen regions reported fewer sites or had a lower percentage statewide. In terms of county statistics, Calhoun County was tied with Karnes County for eighth in the region with 48 recorded archaeological sites (Biesart et al. 1985:90). Approximately half the sites in the county (n=25) are listed as Late Prehistoric, while the remaining sites (n=17) are listed as Archaic. In all, 41 of the known sites are described as disturbed by erosion, and 46 sites have been surface collected. Additional work in the county has resulted in an increase of recorded sites. The number of recorded sites as of this investigation is 94 (TARL site files).

There is no evidence that the current project area has been investigated by professional archaeologists. A "pilot" field survey on Cox Bay was performed by the Environmental Planning Division of the General Land Office (Fritz 1972). This report was not available at the time of this study; therefore, the level of work and number of sites recorded (if any) is not known.

Major efforts have been undertaken in other areas such as Matagorda Bay to the east. Investigations near the bay are discussed in detail by Fritz (1975) in a survey of the archaeological and historical resources of Matagorda Bay. The nearest recorded site to the current project area is a massive shell midden (41CL12) located on Cox Point over 1.2 kilometer to the southeast. Avocational archaeologist Cecil A. Calhoun recorded this site in 1968. He is referred to by Fritz (1975:14) as the most knowledgeable amateur in the area. Mr. Calhoun (1970) independently prepared a list of 70 known archaeological sites in the county for the Texas Highway Department. Site 41CL12 dates from the Middle Archaic to possibly the Historic Period based on pottery types (Calhoun 1962) and the presence of a clay pipe and fragments of metal. In 1970, when Calhoun prepared his list of sites for the Texas Highway Department the site had undergone disturbance through water erosion as part of the bluff had fallen into the bay.

In addition to the overview by Fritz (1975), other sources are recommended for those interested in more information regarding the prehistory and history of Calhoun County. These are a bibliography of the Southern Coastal Corridor (Bailey 1987) and a volume discussing the archaeology and paleogeography of the Lower Guadalupe River/San Antonio Bay Region (Weinstein 1992).

METHODS

Prior to conducting the field survey, a records check at TARL was conducted in order to identify any previously recorded archaeological sites that might be affected by the proposed construction. The Project Archaeologist discussed the field methods to be employed with Tiffany T. Terneny and project representative Larry Onken.

The field investigation consisted of a 100% pedestrian survey designed to identify the presence of cultural materials within the project area. During the planning stages of this project, BVRA was informed that the dredge decant line would be buried to a maximum depth of 36 inches. During the survey, however, the field crew was told that the line would be placed on the surface. A bulldozer was utilized to clear the weeds and grass that covered an old *sendero* created. The field crew then walked this *sendero* in both directions looking for surface evidence of an archaeological site. The soil was observed to be a black clay loam. Since no subsurface construction is planned for the dredge decant line, shovel testing was not necessary. At the edge of the bluff, the crew cleaned the surface of the eroded bluff face in order to better view the exposed profile for evidence of a prehistoric site. Since no cultural materials were observed it was assumed that no site is present or erosion has destroyed any evidence of a site that may have been present in this area. Evidence of recent erosion is depicted in Figure 3. Therefore, backhoe trenching was not considered necessary.

Acting on a request from the Corps of Engineers, the crew returned to the site area on May 22, 2003 and excavated a trench at the bluff edge using a trackhoe (Figure 4). This trench was 6 feet wide and 16 feet long at the top of the bluff. It was dug to a depth of 21 feet through black clay loam and red/yellow mottled clay. Excavation was terminated when the trench reached the elevation of the shoreline. The purpose of this trench was to expose a profile of the bluff. The crew examined the excavated soil for the presence of features or other evidence of previous occupation in prehistoric times. The soil had to be inspected by hand and visually as it was removed by the trackhoe, as it was too dense to pass through a screen. Figures 5 and 6 illustrate the profile and plan of the trackhoe trench.



Figure 3. Recent Erosion



Figure 4. Trackhoe Trench

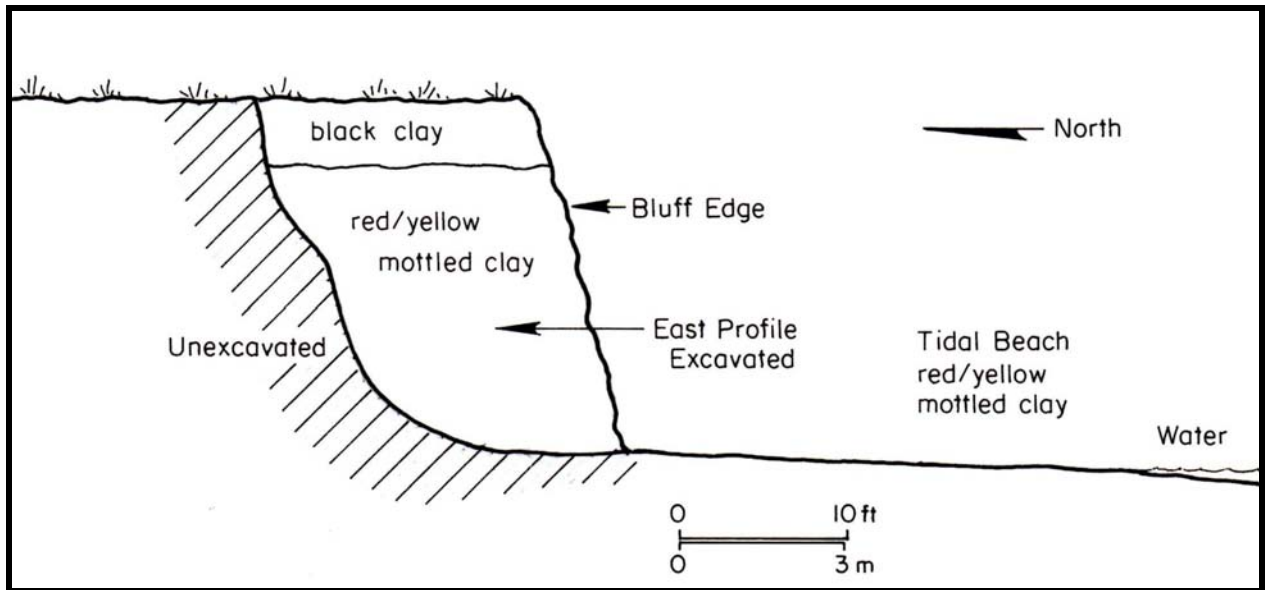


Figure 5. Profile of Trackhoe Trench

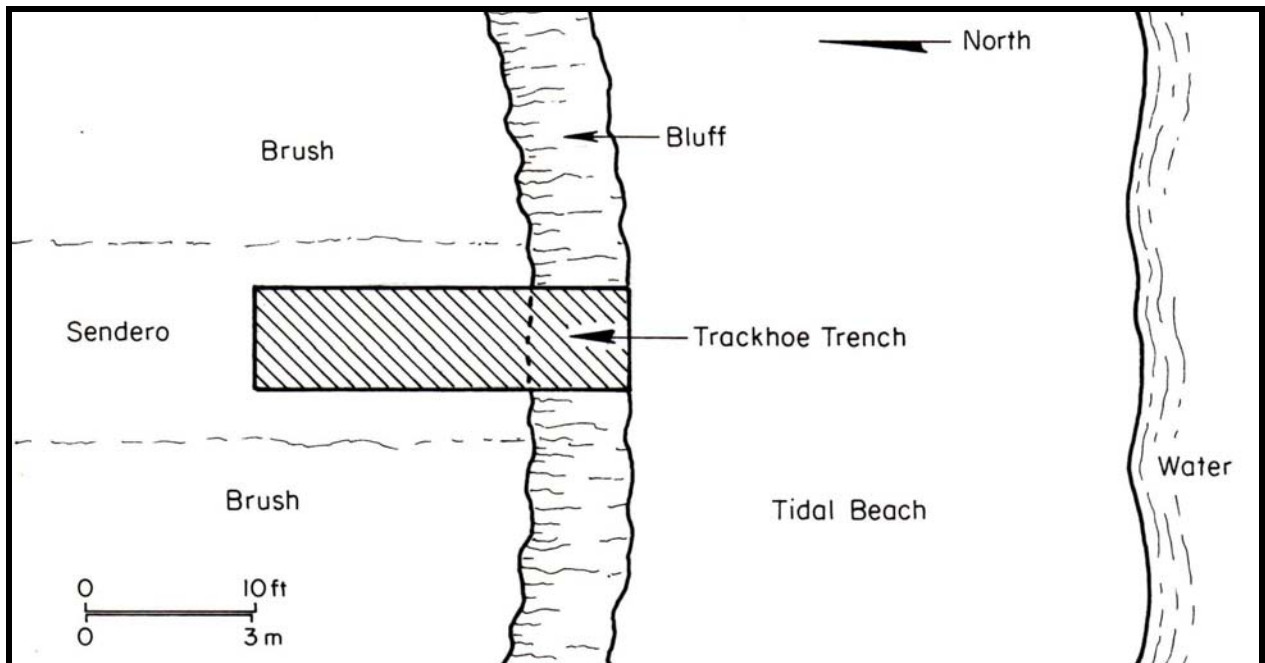


Figure 6. Plan View of Trackhoe Trench

RESULTS AND CONCLUSIONS

According to the records check at TARL, no previously recorded sites are present within the boundaries of the project area. In fact, there are no known archaeological sites within 1.2 kilometer of the area to be investigated. Additionally, no sites in Calhoun County are listed on the National Register of Historic Places or as a State Archeological Landmark. The field investigation did not locate evidence of a prehistoric site along the top of the bluff overlooking Cox Bay where the dredge decant line is to be constructed. The erosion along the bluff is active as evidenced by the change in the 15 foot contour line on the latest two versions of the topographic map Point Comfort. In the 22 years between the 1952 version (photorevised 1973) and the version used in this report (dated 1995), the 15 foot contour line has receded at least 2000 feet. The mud flat below the bluff edge, as depicted on the 1995 version of the topographic map, is now much greater in size as a result of this erosion.

At the time of this investigation a number of large, dead mesquite trees were observed in the waters of Cox Bay at least 100 feet from the existing bluff edge (Figure 5). It is known that the shoreline in the project area has receded approximately 20 feet in the last 5-10 years. This statement was made by Larry Onken, a contractor to Alcoa and former employee who has worked in the area since 1965. In an effort to prevent this rampant erosion from damaging their plant, Alcoa has installed bulkhead along the shoreline.

If any prehistoric sites existed on the bluff or shoreline in the past they have been destroyed due to erosion, and any evidence of these sites is now under the waters of the bay. The site of the proposed construction is viewed by BVRA as a low probability area for the presence of significant archaeological sites.

RECOMMENDATIONS

No site is present in the project area. It is, therefore, recommended that Alcoa World Alumina LLC be allowed to proceed with construction as planned. Should evidence of a site be encountered during construction, work must cease in the area of the find until the THC can assess the situation.

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