

R
976.41412
C393

**CULTURAL RESOURCE SURVEY
BHP PETROLEUM PIPELINE
BAYTOWN, HARRIS COUNTY, TEXAS
DEPARTMENT OF ARMY PERMIT NO. 18230(01)**

BY

GAIL CELMER

28 OCTOBER 1987

JHC
Agency-- COE-VS
Sites-- 41HR47

Cultural Resource Survey
Dept. of Army Permit No. 18230(01)
BHP Petroleum, Inc., Applicant
Baytown, Harris Co., Texas

11/87

BHP Petroleum, Inc. has recently applied for a permit to lay a 6 inch pipeline from their Well No. 1 surface location in State Tract 362, Galveston Bay, to a point on shore south of Baytown, Texas. The location of the proposed pipeline was reviewed and found to be in the area where archeological site 41HR47 was originally recorded in 1933. According to information received from TARL, this site was only briefly reported in a letter from Mr. Wilborn Riggs and has not been reassessed since that time (Spock, 1987). Riggs also reported 5 other archeological sites (41HR48, 49, 51, 52, and 53) in close proximity to the proposed pipeline corridor. Very little data is available from any of these sites. Given these factors, it was decided that a cultural resource investigation would be necessary to augment the existing information.

On 22 October 1987, a reconnaissance level survey was conducted in the permit area by Ms. Gail Celmer and Ms. Patricia McCoy. Survey techniques consisted of 100% pedestrian coverage of the beach with limited surface survey and shovel testing on the adjacent bluff. Site 41HR47 was re-located during the present survey and assessed as an extensive Ceramic Period shell midden with in situ deposits. A detailed description of this site is attached on an updated site form. The east-west extent of this site appears to far exceed that reported by Riggs in 1933. Through pedestrian survey along the beach, it was determined that in situ Rangia deposits and/or redeposited shell exist continuously for nearly .6 kilometer along the shoreline. The north-south extent of the site was not conclusively determined, but is estimated to be at least 10 meters in the area of the proposed pipeline. The present survey investigated the area from 41HR49 (west) through 41HR53 (east). Sites 41HR48 and 41HR52 were not accessible by foot and were not investigated. It is uncertain why Riggs designated 6 sites in this area, due to the fact that no definite breaks in the shell deposits were noted. For the purposes of this report, the site within the proposed pipeline corridor is designated as 41HR47. This site number will be used even though there are no clear cut breaks between the adjacent sites.

The environmental setting of the site can be described as a steep (greater than 5 meters in some areas) heavily vegetated bluff overlooking Galveston Bay. According to the Harris County soil survey, soils are classified as Vamont Clays. This area has been greatly affected by oil field development beginning in the 1940's and continuing today. Gravel roads, well pads, pits and pipelines are prevalent throughout the locality between Evergreen Street and Tri-City Beach Road. Subsidence has also been a factor in

site condition and preservation. Land surface subsidence from removal of water, oil and gas is estimated to be over 3 feet from the period between 1943 to 1973 (Gabrysch and Bonnet, 1974). If subsidence rates have remained constant, the land surface under investigation has diminished over 4 feet since 1943. This is substantiated by the observation of submerged and re-deposited Rangia shell along the bay margin and immediately offshore. It is estimated that a large portion of the shell middens recorded by Riggs are now submerged and adversely affected by wave action and oil field development. The original designation of 6 sites in this area could be a factor of changing shoreline configuration since the 1930's.

The beach, in the area of the proposed pipeline, is characterized by deep deposits of eroded and redeposited Rangia and large quantities of aboriginal ceramics. The majority of the ceramics collected from the surface are classified as Baytown Plain which can be attributed to the Early Round Lake through the late Old River Period (Aten, 1983). Lithics were sparse and no artifacts were located in situ in the cut face profiles or in subsurface tests. It is expected that controlled excavations will produce in situ artifacts since undisturbed portions of the midden exist north of the shoreline. The lower bluff (in the pipeline corridor locality) varies in height from approximately 0-140 cm. A minimum of two densely packed Rangia layers were noted in the exposed cut face. The shell largely consists of Rangia with sporadic occurrence of oyster. The height of the lower bluff and thickness of shell layers varies greatly in this area due to artificial modification and erosion. On the average, the upper shell zone begins at the present land surface and extends to depths 20 to 45cm below the surface; the lower shell zone averages 5 to 15 cm in thickness and depth below the surface varies greatly. The upper bluff in this area contains no surficial or subsurface evidence of shell. It must be noted, however, that there is definite evidence of eroded rangia on the upper bluff in localities outside of the permit area.

One shovel test was placed on the lower bluff approximately 4 meters north of the shoreline within the pipeline corridor. This location was chosen due to its apparent undisturbed nature and the proximity of surface collected ceramics. Two in situ Rangia layers were detected in the shovel test, beginning at 26 and 42 cm below the surface. The base of the lower midden was not determined because the shovel would not penetrate through the compacted shell. No artifacts were noted in this test and soils were largely sandy clays. An additional shovel test was placed at the top of the upper bluff, within the pipeline corridor and east of a gravel road. This area has been affected by erosion and drilling related activities. This subsurface test produced only dense grey clays to a depth of 45 cm below the surface. No artifacts or cultural deposits were noted in this portion of the permit area. Shovel test locations and descriptions are included

in the site form.

In summary, shell midden 41HR47 is located within the proposed pipeline right-of-way and is assessed as eligible for the National Register of Historic Places. The extensive nature of the site, large quantities of ceramics and in situ Rangia deposits indicate that this site retains the potential to contribute important archeological data to the Galveston Bay study area.

It is estimated that the onshore portion of the pipeline right-of-way will be 30 feet in width and approximately 500 feet in length. The proposed pipeline will tie into an existing pipeline at the top of the upper bluff. A portion of the proposed right-of-way has been disturbed by previous oil field development, subsidence and erosion. Regardless of these factors, the possibility of in situ cultural remains is high within the permit area. It is the Corp's opinion that the minor impact of the proposed pipeline can be satisfactorily mitigated through data recovery within the pipeline right-of-way.



Gail Celmer
Staff Archeologist
28 October 1987

REFERENCES

Aten, L. E.

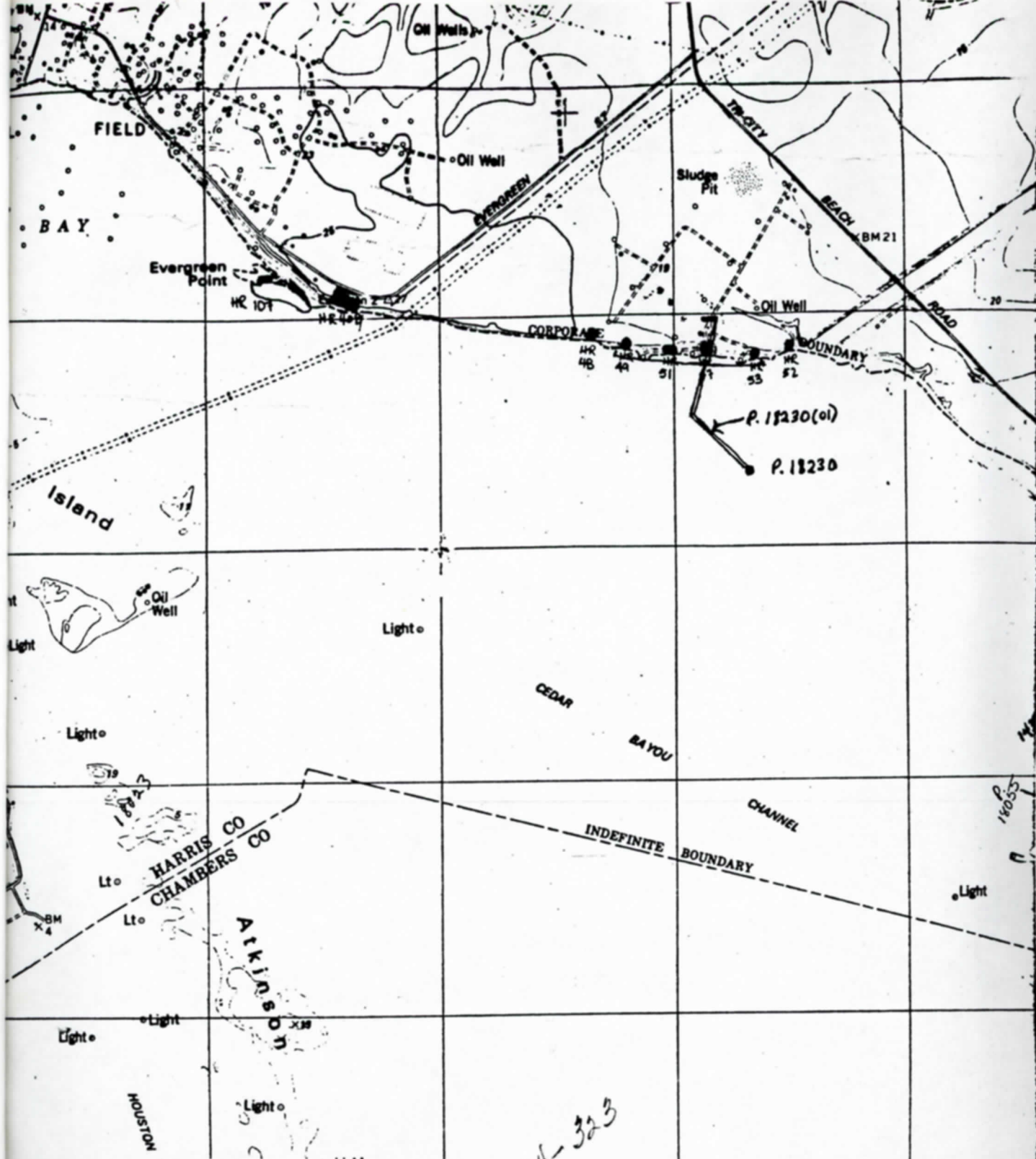
1983 Indians of the Upper Texas Coast. Academic Press. New York.

Gabrysch, R. K. and C. W. Bonnet

1974 "Land Surface Subsidence in the Area of Burnett, Scott, and Crystal Bays Near Baytown, Texas." U.S.G.S. Water Resources Investigation 21-74.

Spock, Carolyn

1987 Personal Communication.

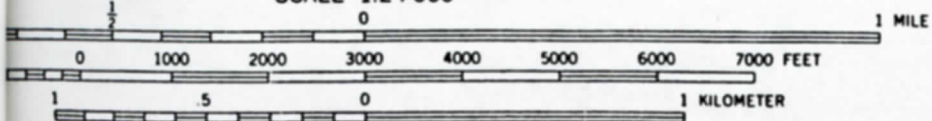


MORGANS POINT, TEX.

N2937.5-W9452.5/7.5

1982

SCALE 1:24 000



41HR47

Survey Area
Proposed Pipeline