

## BOEMRE ENVIRONMENTAL STUDIES PROGRAM: ONGOING STUDIES

**BOEMRE OCS Region:** [Gulf of Mexico](#)

**Planning Area:** Central and Western

**Title:** Archaeological Analysis of Submerged Sites on the Gulf of Mexico Outer Continental Shelf (GM-09-04)

**Total Cost:** \$280,916

**Period of Performance:** FY 2010-2011

**Conducting Organization:** Tesla Offshore, LLC

**BOEMRE Contact:** [Dr. Christopher E. Horrell](#)

### **Description:**

**Background:** The Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE) is charged with the responsibility of considering the effects of its actions on significant cultural resources on the Outer Continental Shelf of the United States, from State Waters to the limit of the Exclusive Economic Zone. This program arose out of a variety of legislation enacted to ensure proper management and protection of the nation's cultural heritage. The most pertinent of these laws are the National Historic Preservation Act (NHPA) of 1966 (as amended), the National Environmental Policy Act (NEPA) of 1969, and the Outer Continental Shelf Lands Act (OCSLA) of 1978. In order to meet this responsibility, the BOEMRE requires the oil and gas industry to conduct high-resolution remote sensing surveys in advance of any bottom-disturbing activities such as exploration drilling or pipeline construction and to submit an archaeological report analyzing these data.

While BOEMRE has complied with Section 106 of the NHPA by requiring industry to conduct remote sensing surveys and avoid targets that may represent significant archaeological resources, minimal testing has been performed to ascertain the effectiveness of this mitigation strategy. Ground-truthing targets that have been recommended for avoidance provides the BOEMRE an opportunity to both evaluate the actual archaeological significance of the targets and to assess industry compliance with the BOEMRE-stipulated avoidance criteria. An initial MMS study, completed in June 2006 (Enright, et al., 2006), was successful in investigating 14 unidentified sidescan sonar targets that had been recommended for avoidance by industry-related activities. Of these 14 targets, five of these sites were identified as historic shipwrecks and three will be nominated to the National Register of Historic Places.

Additionally, while another recent MMS study has developed a formula for determining appropriate avoidance distances for historic 20<sup>th</sup> century shipwrecks in deepwater (Church, et al., 2007), no such formula has been attempted for historic shipwrecks along the shelf. The knowledge gained from this study will allow the BOEMRE to implement management practices that can more accurately identify how significant archaeological resources appear in the remote sensing record. This adaptive approach will assist in determining a more practical avoidance radius for these resources.

**Objectives:** The objectives of this study are to ground-truth, positively identify, and assess the potential National Register significance of at least six probable shipwreck sites by conducting a Phase II investigation of each of the targets and associated debris fields as defined in National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation (1991) available online at <http://www.cr.nps.gov/NR/publications/bulletins/nrb15/>. Analysis of site formation processes at each site should be conducted to provide recommendations of potential

avoidance criteria for shallow-water shipwreck sites. Services required for this study will include, but not be limited to, archival and historical research; archaeological and geomorphological remote sensing surveys (marine magnetometer and sidescan sonar, at a minimum); and diver site testing/evaluation.

**Methods:** The objectives of the study will be achieved by groundtruthing targets selected by BOEMRE archaeologists from among the sidescan sonar targets already supplied by industry that are suggestive of shipwrecks (currently, there are over 1,200 targets in the BOEMRE database). The criteria for selection will include the evaluation of an acoustic image, the association of magnetic anomalies, and the report of an historic shipwreck in the target vicinity. Testing will be performed by marine archaeologists applying a variety of techniques including remote sensing, diving, and underwater imagery. The project will likely consist of extensive photographic documentation and limited excavation and artifact collection for identification purposes, as well as historical research.

**Products:** Products may include, but are not limited to, archival and historical documentation, special studies, technical reports, site survey forms, "standard National Register forms" in accordance with 36 CFR Part 60, and other forms as may be required under applicable laws, regulations, and guidelines.

**Importance to BOEMRE:** This study will fulfill BOEMRE's responsibilities and requirements under current archaeological resource protection laws. It will also allow BOEMRE archaeologists to ascertain the effectiveness of current mitigation requirements to determine if the remote sensing targets that are selected have any archaeological significance.

**Current Status:** This study was awarded in September 2009 and a post-award meeting was held in November 2009. Six probable shipwreck targets have been selected, three of which may be U-boat casualties from World War II. The WWII vessels have been tentatively identified as *City Services Toledo*, *R.W. Gallagher*, and *Heredia*. Background research has begun on reported shipwrecks in the vicinity of selected targets, with specific emphasis on the three possible WWII shipwrecks. Geophysical surveys are scheduled to be completed within in the next three months.

**Final Report Due:** September 2011 (Interim)  
April 2015 (Final)

#### **Publications:**

**Affiliated WWW Sites:** Enright, et al., 2006:  
<http://www.gomr.mms.gov/PI/PDFImages/ESPIS/3/3595.pdf>  
Church, et al., 2007:  
<http://www.gomr.mms.gov/PI/PDFImages/ESPIS/4/4239.pdf>

**Revised date:** October 2010

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