

STUDY TITLE: Deepwater Program: The Archaeological and Biological Analysis of World War II Shipwrecks in the Gulf of Mexico: A Pilot Study of the Artificial Reef Effect in Deepwater

REPORT TITLE: Viosca Knoll Wreck: Discovery and Investigation of an Early Nineteenth-Century Wooden Sailing Vessel in 2,000 Feet of Water

CONTRACT NUMBER: 01-03-CT-73095-003

SPONSORING OCS REGION: Gulf of Mexico

APPLICABLE PLANNING AREA: Northern Gulf of Mexico

FISCAL YEARS OF PROJECT FUNDING: 2005; 2006; 2007

COMPLETION DATE OF REPORT: June 2008

COST: CUMULATIVE PROJECT COST: \$38,400

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KEY WORDS: Gulf of Mexico; shipwrecks, artificial reef, archaeology; biology; ROV, survey; Deep-water, Nineteenth-Century

BACKGROUND: A 2003 deep-tow survey for a pipeline in the Viosca Knoll lease area of the Gulf of Mexico detected a shipwreck near the proposed pipeline project area. Discovered on a line turn, the shipwreck rests in 2,000 feet of water outside of the pipeline corridor. Initial indications from the high-resolution geophysical data suggested the wreck might be the *Bradford C. French*, a late nineteenth-century three-masted schooner lost during a 1916 hurricane. A site investigation was planned during the 2004 Minerals Management Service (MMS) deep wrecks project, but adverse weather made investigating the site impossible at that time (Church, et al. 2007). The MMS later sponsored a site investigation in July 2006. The site was visually inspected with a remotely operated vehicle (ROV) under the direction of C & C Technologies and MMS marine archaeologists. The findings of the ROV investigation suggest the wreck is not a three-masted late nineteenth-century schooner, but possibly an early nineteenth-century brig.

OBJECTIVES: (1) Attempt to identify the vessel and establish its type and date of construction, nationality, ownership (past and present), use history, mission and cargo

at time of loss; (2) determine the vessel's past and present condition and state of preservation, and make observations relating to its rate of deterioration and future research potential; (3) determine the horizontal extent of the debris field surrounding the wreck site; (4) assess human impact to the site, if any; (5) Make a preliminary biological assessment of the site; and (6) examine the presence of the deep-sea coral *Lophelia pertusa* at the site.

DESCRIPTION: The vessel is oriented with the bow south-southwest and the stern north-northeast. The vessel measures approximately 140 feet long and less than 36 feet at beam. It is heeled over to the starboard side. The starboard side is mostly flush with the seafloor, while the port side exhibits between 2 to 6 feet of relief. Marine sediments and biofouling obscure much of the construction details, but remnants of the frames, wale, and clamp are visible at some locations along the port side. The hull is sheathed in non-uniform lengths of copper sheeting. Approximately 11 feet of the stempost remains intact. A substantial amount of apparent foremast rigging is present along the starboard side of the hull. The lack of corrosion product or rust suggests the rigging is hemp rather than wire rope. Numerous deck beam remnants within the hull as well as lodge knees and hanging knees are visible at various locations. The aft portion of the wreck is badly deteriorated. The damage in this area is consistent with a possible anchor cable impact on the hull. A 12- to 14-inch tear in the hull's starboard side is visible approximately 53 feet forward of the stern and 90 feet aft of the stem. This damage correlates to a seafloor drag scar recorded on the geophysical survey data. The aftermost portion of the vessel is missing or disarticulated. Within the stern debris, are portions of a copper-sheathed rudder and a gudgeon. A mass of rigging, including mast couplings, is present 468 feet west-southwest of the hull. This may be rigging from the main mast, which was notably absent at the hull. A line of other debris was observed between the hull and this rigging, which include a patent stove and a possible lantern.

Two types of scorpion fishes are present at the site, including tentatively identified blackbelly rosefish (*Helicolenus dactylopterus*) and Atlantic thornyhead (*Trachyscorpia cristulata*). Numerous macroinvertebrates were recorded at the site including various species of deep-sea crabs. Venus flytrap anemones (*Actinoscyphia* sp.) are taking advantage of the hard substrate provided by the wreck and are abundant throughout the site. Sessile megafauna such as the branching deep-sea coral tentatively identified as *Lophelia pertusa* are also present on the wreck and scattered artifacts.

SIGNIFICANT CONCLUSIONS: The wreck probably lay mostly undisturbed after coming to rest on the seafloor until recent times. Evidence at the stern and the distinctive drag scars suggest recent disturbance possibly within the last decade. Approximately 500 feet to the west-southwest lays a second mass of rigging and in between the rigging and shipwreck is a debris trail. The artifacts recorded between the hull and outer rigging pile may have been displaced as a result of the cable impact to the wreck site noted above or during multiple other occasions of disturbance.

The size of the vessel, amount of rigging, and the size and location of the foremast rigging suggest this was possibly a two-masted vessel such as a brig, brigantine, or schooner. The shape of the bow is more characteristic of a brig or brigantine than that of a schooner. The construction details and limited artifact remains observed on site point to a date within the first quarter of the nineteenth-century. Most of the organic materials above the water line are gone except the rigging which appears to be tarred rope. The vessel's identity, nationality, exact construction date, or date of loss cannot be determined based on available data.

Various vertebrates and invertebrates such as scorpion fish, sea anemones, deep-sea crabs, and branching corals are utilizing the hard substrate the wreck site offers. The coverage of branching coral tentatively identified as *Lophelia pertusa*, is sparse but present at numerous locations on the site.

STUDY RESULTS: Approximately six hours of video footage was collected from three different cameras simultaneously. The horizontal extent of the site including associated scatter artifacts was mapped and a preliminary site plan generated. The condition, and state of preservation was assessed and documented. A preliminary examination was made concerning the presence of biological communities at the shipwreck site.

STUDY PRODUCTS: C & C Technologies, Inc. 2008. Viosca Knoll Wreck: Discovery and investigation of an early nineteenth-century sailing ship in 2,000 feet of water. U.S. Dept. of the Interior, Minerals Management Service, Gulf of Mexico OCS Region, New Orleans, LA. OCS Study MMS 2008-018. 48 pp.

Highlights Footage of the shipwreck on CD, Provided to the MMS on February 7, 2007.

Presentation to the Society for Historical Archaeology, Albuquerque, New Mexico. January 2008.

