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UNDERWATER ARCHAEOLOGY

SCIAA Teams with Naval Historical Center to Investigate *H. L. Hunley's* Foe, The *USS Housatonic*

By Christopher F. Amer and Robert Neyland

The 1999 *Housatonic* Survey was conducted as part of the ongoing research into the events that took place on the night of February 17, 1864. That evening, history was made as the *H. L. Hunley* became the first submarine to sink an enemy vessel during time of war. The

Hunley's adversary was the 1240-ton steam sloop-of-war *USS Housatonic*, which itself gained the reluctant distinction of becoming the first warship to be sunk by a submarine. After being torpedoed,

Housatonic sank in less than five minutes, its stern virtually blown off by the 135-pound charge. Moments later the *Hunley* itself sank, presumably with all hands. Within nine months of the sinking, divers reported that the *Housatonic* had settled five feet into the mud and sand bottom. Twice, the remains of the warship were blown apart to prevent it from being a hazard to navigation—in the 1870s—by a Mr.

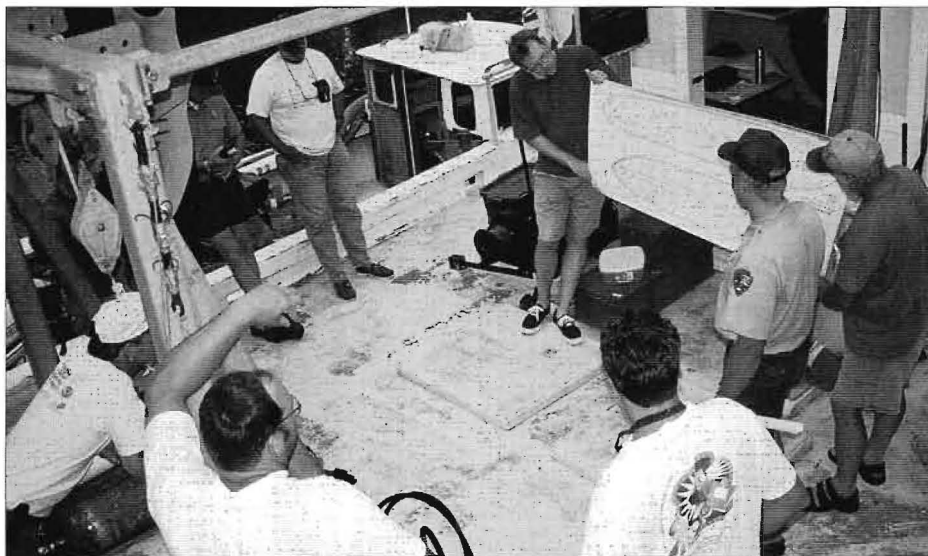
Maillerfort—and again in 1908 under contract to the US Army Corps of Engineers.

What the archaeologists found at the site is the result of these series of demolitions. It took the divers several dives to excavate down five to seven feet to uncover the highest

confusion of those last moments of this ship when, as the hull settled to the seafloor, the crew took to the rigging; ordinance fuses and a pistol, remnants of the ship's armaments; a wrecking bar found amid the tangle of iron, once used by divers to pry apart the blasted metal; copper drift

pins, once used to hold the hull together and now twisted into pretzel-like shapes; and coal, present in large quantities in all three test trenches excavated.

The project was divided into two parts. The goal of the first part, conducted during the last



The 1999 *Housatonic* Survey crew attend a morning project briefing aboard the SC Department of Natural Resources research vessel *Anita*. The ship plans (center) are of *USS Ossipee*, sister ship of *USS Housatonic*. (Photo by Christopher Amer; courtesy Friends of the Hunley)

remaining structure on the hull—usually twisted and broken machinery—and fittings distorted by the explosions in the hull. Archaeologists would have to dig twice that depth to uncover the lower portions of the wooden hull. Among the wreckage, archaeologists have found a multitude of artifacts that attest to the events on that cold February night 135 years ago—several shoes, reminding us of the terror and

week of May, was to obtain more information on the geology of the immediate area around *Hunley* by taking sedimentary samples. The United States Geologic Services—Center for Coastal Geology—under the direction of Mark Hansen took a total of nine cores of the sediments, six cores from around the *Hunley*, and three near the *Housatonic*. Four of these from around the *Hunley* are currently being analyzed for charac-

teristics, such as sediment sheer stress, by Soil Consultants Inc. of Charleston. This information is essential to designing the appropriate recovery vehicle for the *Hunley*. The other cores are being studied by USGS and Dr. Scott Harris of the Geology Department of Coastal Carolina University in order to accurately date the sequence of both vessels' burial beneath the sea bottom.

The second part of the survey began on June 7 and involved a survey on the remains of *Hunley's* adversary and victim, USS *Housatonic*. The goals of this survey were to verify that the wreck was still there and had integrity that might yield information on the brief engagement between the two foes. If found to be relatively intact, *Housatonic* and the area between and around *Housatonic* and *Hunley* can be considered eligible for listing on the National Register of Historic Places or as a National Landmark. The wreckage of *Housatonic* yields a large magnetic signature, one at least twice the size of *Hunley*. However, no one had previously verified the presence of extensive portions of the ship's hull and artifacts that could lead to interpretation of the events of the battle and life on the Union blockade in 1864.

Specific research objectives



David Whall prepares to descend into the turbid waters above the wreck of the *Housatonic*. Submersible communication gear in a specially designed mask (pictured here) allow divers to communicate with archaeologists on the surface in the black waters off Charleston Harbor. (Photo by Christopher Amer; courtesy Friends of the *Hunley*)

still present and if the historical description of the propeller shaft being sheared was correct. There was also a magnetic anomaly directly between the *Hunley* and *Housatonic* that we wanted to investigate prior to the recover of *Hunley*. This was to ascertain if it was part of either vessel and a relic of the battle or some other object of historic significance that might be impacted by the recovery of the *Hunley*. During the first two days of the survey, the object was relocated and excavated. It is a cylindrical iron marker buoy, probably the bell

related to the ship's sinking and included determining the orientation of the vessel at the time of the attack, if *Housatonic* was anchored with its bow to the north, northeast, or another direction. We also wanted to see if the starboard side of the vessel was missing or if the stern was completely blown off from the vessel. In addition, we wanted to determine if the propeller was

buoy for the *Housatonic* wreck shown in a 1908 chart. It is the only object in the area that protrudes above the bottom and is a known hang for shrimpers' nets.

To date, we have excavated three test areas, each about 10 feet in diameter and six to eight feet deep over the *Housatonic*, one near the bow of the ship, and the other two slightly forward of the area in the stern where the blast damage from *Hunley's* torpedo was the worst. In the bow we located two of the ship's water tanks, which helped to determine that the ship's bow was pointed in a northwest direction at the time of sinking. From this area we recovered personal effects of the crew such as six shoes (see photo) and a wood and lead pencil. The crew's quarters were located directly above these water tanks and these artifacts settled in the hull as the upper decks collapsed over time. The presence of the crew's footwear also is an indication that *Housatonic's* sinking was so sudden that the crew and officers had no time to recover their personal possessions or

clothing.

In the stern, archaeologists recovered some small arms and other weapons, including a pistol (see photo), fuses for exploding shells, solid shot, and a hanger for a short sword or dagger. A large wrecking bar, an artifact of the lowering of the hull



Among the artifacts recovered from the remains of the *Housatonic*, which lies buried more than 7 feet below the ocean floor, were at least six leather shoes. (Photo by Christopher Amer; courtesy Friends of the *Hunley*)

See *Housatonic*, Page 24

Housatonic, From Page 23

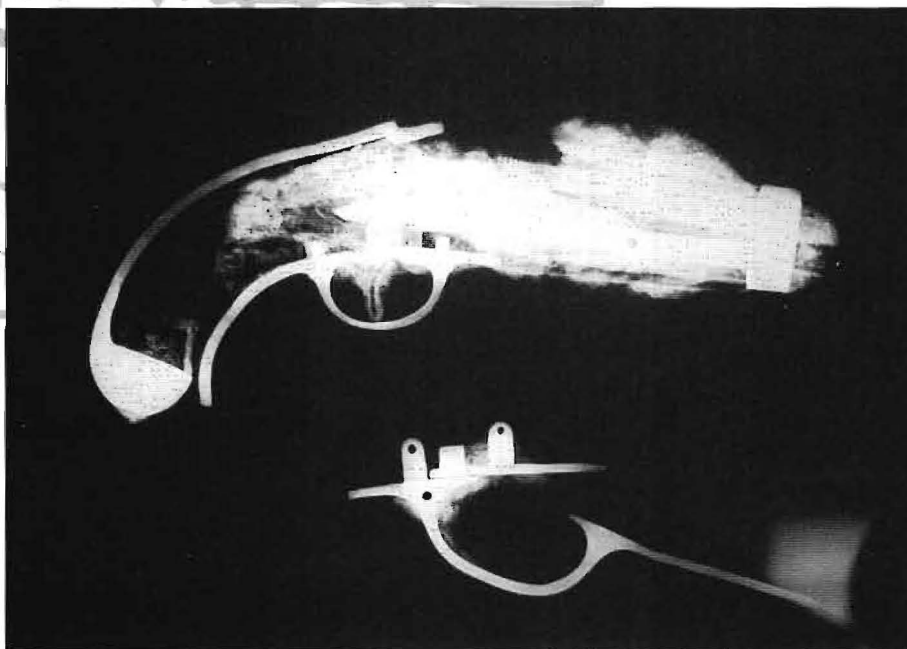
either in the 1870s or 1908, was also recovered.

As the test excavations were being conducted, we also probed the wreck with a high-pressure water jet. This was done to find the depth below the sediment of different parts of the wreckage and to obtain an outline of the wreckage. Nothing of *Housatonic* protrudes above the sea floor. The entire wreck is buried under six to 10 feet of sand, clay, and shells. Visibility on the sea bottom, except for very rare occasions, is pitch black. Divers

conducted all their operations by touch without the aid of sight. The probing mentioned above is conducted by laying a line with knots positioned at every foot. The diver uses a 10-foot-long pipe carrying high pressure water to jet down through the sediment. This pipe has marks every foot that the diver can feel with his hands. The diver then communicates with the surface by underwater communications gear to an assistant, who writes down the depth and distance on the line probed (see photo).

Excavation and interpretation of the remains of USS *Housatonic* will help us to complete the story of the events that occurred on that February night that marked the beginning of the submarine age. In addition, the

data will help us provide a more complete interpretation of the battlefield, the historic significance of both vessels, and allow us to nominate *Housatonic* and the site of the engagement of the two warships to the National Register of Historic Places.



The digital X-ray, made by the Medical University of South Carolina, reveals a brass and wood pistol inside a concretion. (Photo by Christopher Amer; courtesy Friends of the Hunley)

Acknowledgments

All archaeological projects conducted underwater require a great deal of planning and logistical support. This project is no exception. The 1999 *Housatonic* Survey was conceived and conducted by the staff of the Naval Historical Center's Underwater Archaeology Unit (NHC-UAU) and the South Carolina Institute of Archaeology and Anthropology's Underwater Archaeology Division (SCIAA-UAD), with the assistance of the National Park Service's Submerged Cultural Resource Unit (NPS-SCRU) and the South Carolina Department of Natural Resources' Marine Resources Division (SCDNR-MRD).

The principal investigators would like to express their appreciation to the Marine Resources Division of the Department of Natural Resources and its Director John Miglarese, for invaluable assistance with boats and able captains such as Captain Paul Tucker of the *Anita* and relief

Captains Mike Schwartz and Jeff Jacobs. SCDNR has really been a partner in both the 1996 *Hunley* assessment and the 1999 *Housatonic* survey. We would also like to recognize Randy Beatty, Head of Vessel Operation, and Mel Bell, Coordinator of the Artificial Reef Section and Head of the DNR Dive

Safety Program. Without them this project would not have been possible. This research project has also been aided by the College of Charleston, which has provided a location for the *Hunley* Research Center—a central location for this operation. We would also like to thank the Medical University of South Carolina Radiology Department, which provided extremely high quality X-rays of the artifacts.

Additionally, the principal investigators (especially Christopher Amer) would like to thank Mr. Warren Lasch for his generous donation of equipment to the Underwater Archaeology Division of SCIAA. The new trailer for the Division's 25-foot C-Hawk, donated



Co-principal investigator Dr. Robert Neyland confers with co-field director David Conlin on-site. The Underwater Archaeology Division's 17-foot McKee was reinstated into the Division's fleet with the addition of a new 90-hp outboard motor, donated by Mr. Warren Lasch. (Photo by Christopher Amer; courtesy Friends of the Hunley)

by Mr. Lasch last year, allowed us to safely move and deploy this boat, which became one of the primary operating platforms of the project. This vessel is also our primary survey vessel when fitted with the ADAP III marine survey system (See *Legacy*, Volume 3, Number 2, July 1998) and will be used on the division's upcoming survey of US Navy wrecks in the state's waters. This year, Mr. Lasch donated a 90-horsepower Mercury outboard motor, allowing us to activate the division's 17-foot McKee as a support

boat for this summer's survey (see photo). This craft is the division's most versatile platform and can be used for diving, survey, and support for projects like the *Housatonic* survey. Thank you Warren, for your enthusiastic support of not only the *Hunley / Housatonic* Project but of underwater archaeology in South Carolina. (Mr. Warren Lasch is Chairman of the Friends of the *Hunley*.)

Last, but not least, we would like to mention our archaeological research team:

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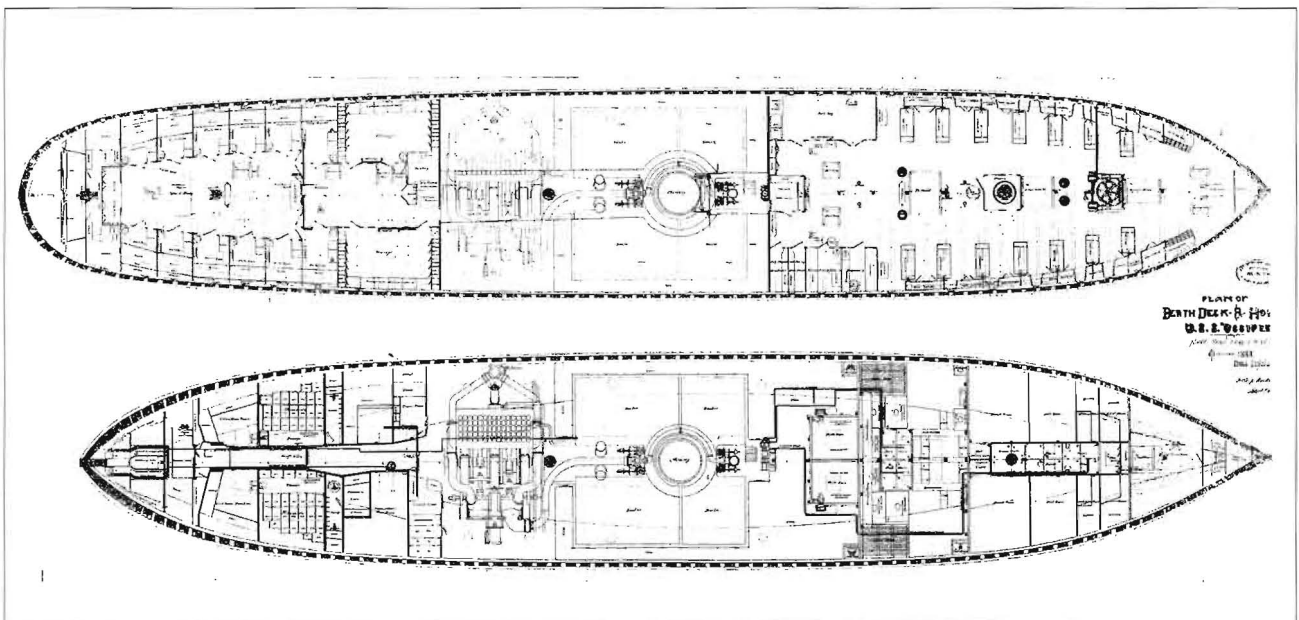
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Brett Seymore, NPS-SCRU
David Whall, volunteer
Tristan Amer, volunteer
Mark Ragan, historian and
author



Plan view of the USS *Ossipee*, sister ship of USS *Housatonic*, October 1883. (Drawing by US Navy)