



Department of Defense Legacy Resource Management Program

PROJECT 99-1880

Report on the 1999 Reconnaissance Investigation of the *CSS Alabama*

Institute for International Maritime Research, Inc.

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**Report on the 1999 Reconnaissance Investigation
of the CSS Alabama**

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Introduction

The remains of CSS *Alabama* were discovered by the French Navy mine hunter *La Circe* in 1984. Captain Max Guérout, then on active duty, undertook the identification of the wreck upon the request of the French Navy. His research led to diplomatic negotiations between France and United States that resulted in the Executive Agreement of 3 October 1989 which established the framework for the archaeological investigation of the wreck. Guérout's research and subsequent identification of the CSS *Alabama* also resulted in the founding of the French non-profit Association CSS *Alabama*. At the beginnings of the diplomatic negotiations, France as the territorial power of the wreck site, and the United States of America as the owner of the wreck and its associated artifacts, jointly authorized the French Association CSS *Alabama* to undertake a first on-site investigation in 1988.

The remains of *Alabama's* wheel, with the ship's famous motto engraved on the copper protection: " Aide-toi et Dieu t'aidera" (freely translated as "God helps those who help themselves") provided the undeniable identification of the wreck. Other data from the 1988 expedition facilitated the development of plans for diver supported research projects conducted by the Association CSS *Alabama* in 1989, 1990, 1991, 1992, 1993, 1994 and 1995, all duly authorized according to the terms of the Executive Agreement of 3 October 1989. That research has resulted in a complex plan of the wreck and the recovery of an important collection of some 200 objects, including the wheel, several flushing toilets with transfer printed ceramic bowls, and a variety of plates, glasses, salt cellars, and other galley and table ware deck tracks for the vessel's ordnance trucks, a pivot carriage and a large Blakely rifled cannon.

In 1999, after a three year hiatus in field research, a reconnaissance investigation of the wreck was organized and carried out by the Association CSS *Alabama*, with the cooperation of the Association of the Friends of CSS *Alabama*, an American sister organization. Funding for the 1999 project was provided by a grant from the U. S. Department of Defense Legacy Resource Management Project, and was channeled through the American to the French association. Field research was designed to determine if significant changes had occurred at the wreck site and to collect data to support planning more complex and extensive on-site investigation. That reconnaissance was performed on 19 and 21 June 1999.

Project Authorization

The remains of the CSS *Alabama* are the property of the United States of America and the management responsibility of the U. S. Naval Historical Center in Washington, D. C. The wreck lies in French territorial waters and, as an

underwater archaeological resource, falls under the administration of the Ministry of Culture. By mutual agreement between the United States and France, all on-site research requires authorization from both the Naval Historical Center representing the owner and the Ministry of Culture representing the territorial authority. The 1999 reconnaissance investigation of the CSS *Alabama* was performed according to the terms of the authorizations of both the American and the French official entities.

Project Organization and Administration

The 1999 investigation of the CSS *Alabama* was organized and conducted by the French Association *CSS Alabama*. Under the direction of its president, Dr. Ulane Bonnel, that Association obtained the necessary permits for on-site research from the Ministry of Culture, all required authorizations of naval and civilian authorities of Cherbourg, the dive boat, the divers and the surface assistance personnel and insured the boat and all operational personnel, including the American archaeologists.

The U. S. Association of the Friends of CSS *Alabama*, under the direction of its president, Mr. Robert Edington of Mobile, Alabama, transferred Legacy Grant funds to the chief archaeologist and his team on the one hand to finance their travel and other expenses, and to the French Association as required for on-site operations on the other hand. Dr. Gordon Watts, an underwater archaeologist and member of both organizations, served as project's principal investigator. Joe Guesnon assisted with project organization and provided coordination with the dive club, Cherbourg Natation Plongée. Michael Chapron was responsible for diving safety and provided technical direction and coordination with the Cherbourg Natation Plongée, whose dive boat, *The Little Pocket*, and other facilities were contracted for and paid for by the French Association. Emergency hyperbaric facilities were available at the French Navy Base at Cherbourg.

Project Field Personnel

Archaeology

Gordon P. Watts, Jr., Principal Investigator
Joe Guesnon, Archaeologist
John W. Morris III, Archaeologist
Steven R. Brodie, Archaeologist

Dive Support

Michel Chapron, Dive Supervisor
Alain Corvez, Diver
Gilles Drogue, Diver

Claude Fauchon, Diver
Jean-Loup Guilard, Diver
Jacques Lanleau, Diver
Patrick Mager, Diver
Jacques Morin, Diver
Christophe Moulin, Diver
Gilles Simon, Diver

Surface Support
Daniel Creveuil
Jacques Flambard

Project Equipment

Diving operations on the CSS *Alabama* were conducted with SCUBA. In-water decompression involved oxygen at the twenty and ten foot stages. Diving was conducted from the Cherbourg Nation Plongée vessel *Little Pockets* and decompression was carried out below an inflatable boat equipped with oxygen tanks and regulator spiders. A Sony CCD TR 707 video camera mounted in an Amphibico underwater housing was used to document features of the wreck and associated artifacts. A ScubaPro Sea Shuttle was used to clear shell hash away from the base of one of the *Alabama's* pumps.

Project Objectives

Objectives for the 1999 reconnaissance investigation of the CSS *Alabama* focused on determining if significant changes in the surviving wreck structure, machinery or associated archaeological record have occurred since the last on-site investigation in 1995. In addition to making those observations, the research team employed underwater video and 35mm photography to document elements of the vessel's structure, machinery, fittings, ordnance and artifacts exposed on the seabed.

To date, test excavation within the surviving hull structure has focused in the stern. During the 1999 investigation, a small diver propulsion scooter was employed to remove the highly mobile layer of shell hash that covers the more stable sediments which preserve the archaeological record at three specific locations. The first was in the stern at the base of the screw and lifting frame to determine if the frame is still attached to the hull. The second was in the bow aft of the stem to facilitate determining how much of the hull structure survives forward and determine if material associated with the forecabin is exposed. A third area for removing the shell hash was the location of the second pivot gun to determine if truck structure survives in association with the tube.

A high resolution side scan sonar was to be used in conjunction with a differential global positioning system to produce an acoustic map of the exposed structure and bottom surface in the immediate vicinity of the wreck.

Description of the Research

On-site investigation was initiated by relocating the wreck and placing a reference buoy on one of the 32-pounder cannon near the stern. That provided a reference for currents over the wreck and a down line for divers. Diving at the site was scheduled to take place during the most ideal tidal coefficients between 19 and 21 June. Due to heavy weather on 20 June, diving was ultimately limited to 19 and 21 June.

On 19 June and again on 21 June, examinations of the stern of the wreck were carried out to determine if any significant changes had occurred since the 1995 investigation. Observations were made at the propeller, the aft pivot smoothbore, and the pump previously documented in 1993 and 1994. Levels of sediment and shell hash seemed to have changed little at the propeller. There the elevation of bottom material was roughly level with the top of the propeller hub.

At the site of the aft pivot cannon, shell hash was found to have accumulated. Although the upper side of the of the gun tube was exposed for almost its entire length in 1995, the entire length of the barrel had been recovered in 1999. Scouring around the base of the fire pump examined in 1994 and 1995 was found to have exposed slightly more of the pipe below the pump.

Although levels of sediment and shell hash appear to have been relatively stable in the stern, several previously unobserved artifacts were exposed on the bottom surface. One proved to be a decorated dinnerware plate. The plate was attached to a partially exposed concretion and contained the same decoration as previously recovered tableware. That appeared to consist of crossed anchors inside the symbol of the order of the garter and a cable around the edge. The decorations were cobalt-blue transfer prints.

The second artifact was exposed in the upper stratum of shell hash. It proved to be a small glazed earthenware vessel. The vessel was cylindrical in shape and the upper lip was stepped and beveled for a lid. A similar vessel was recovered in the stern in 1995.

During on-site investigation underwater video was used to record the levels of sediment at the propeller and pump. Along the side of the hull where the aft

pivot gun had been previously located, recently accumulated sediments were documented. Video was also used to document the exposed artifacts.

Conclusions

Although the 1999 investigation of the remains of the *CSS Alabama* was limited to two days of on-site activity, the investigation confirmed that no dramatic changes have occurred in the condition of the aft section of the wreck. Exposed features appear to have been relatively stable with a nominal amount of upper level bottom material migration. While the aft pivot gun was found to have been recovered, the surface sediment provides little protection. In fact, as it is made up of shell hash, it is no doubt highly abrasive.

In light of the dynamic nature of the bottom surface at the *CSS Alabama* site, small artifacts exposed by scouring should be recovered. Their location can be effectively determined using triangulation from stable and previously mapped wreck features. Recovery would prevent both damage from shell hash abrasion and illegal recovery.

Recommendations

In spite of the excellent on-site research that has been carried out at the *CSS Alabama* wreck site since 1988, the 1999 investigation reinforced the conclusion that additional resources are necessary if investigation of the wreck is to be intensified. Perhaps the most basic problem is the amount of on-site time that conventional SCUBA permits. Divers are limited to approximately 15 minutes of bottom time per day. Immediate consideration should be given to securing a closed circuit mixed gas system that increases bottom time and reduces decompression requirements.

Additionally, surface support craft available to the project have traditionally been small. Their size places limitations on the nature and amount of support and research equipment that can be carried aboard. Those restrictions impact both the nature and scope of research that can be undertaken. If the level of on-site activity is to be increased, a larger vessel with additional capacity for equipment and personnel will be essential.

A third problem with working at the site is power to operate equipment at the site. Power must be brought from the surface or taken to the source of power must be taken to the bottom without connection to the surface. Permits for using electrical current in diving operations are difficult to obtain. Water and hydraulic power can be transferred from the surface but require a stable anchorage in the immediate vicinity of the wreck site. While surface supplied

power would be the most desirable, heavy currents would require a substantial mooring system.

The dynamic nature of the wreck site environment will also require some form of protection for the areas under investigation. Excavation at the wreck site has been complicated by the dynamic transfer of bottom surface material. Previous test excavation in the stern required a rigid structure with adjustable panels to isolate the area of investigation from the mobile bottom surface shell hash. Systematic excavation of larger areas of the wreck site would require the design and use of a similar but larger and more complicated structure.

In preparation for additional on-site investigation these issues must be resolved. A nucleus team of archaeologists must be identified and trained and a vehicle for coordinating participation of French divers developed. For the investigation planned for the summer of 2000 a more appropriate diver support system must be available. A closed or semi-closed rebreather system must be identified and sufficient units obtained to support the field research. Project staff utilizing the new system should not only have been trained, but have sufficient time with the equipment to become proficient. A suitable research vessel must be identified, obtained and adapted to support the proposed research. The most economical approach would appear to be to obtain a vessel through private donation, government surplus or purchase. It should be fitted out and tested here in the United States and shipped to France for the duration of the project. Equipment on-board the vessel should include that necessary for diver support, underwater excavation, lifting, on-site conservation and, if possible, a double lock recompression chamber. Finally, immediate attention should be focused on solving the problems associated with maintaining excavation integrity in the dynamic environment of the wreck site.