

**ARCHAEOLOGICAL INVESTIGATION OF  
SHIP REMAINS ALONG THE UPPER WICOMICO RIVER  
AND A SURVEY OF SITE 18WC185 (UPPER WICOMICO #1),  
SALISBURY, MARYLAND**

**Prepared by  
Dennis Knepper, Steven Anthony, Thomas Berkey  
Maritime Archaeological and Historical Society  
Washington, D.C.**



**Prepared for  
Maryland Maritime Archaeology Program  
Maryland Historical Trust  
Crownsville, Maryland**

**August 2007**

# TABLE OF CONTENTS

Table of Contents .....	i
Introduction.....	1
Site Location and Environment.....	1
Field Methods.....	3
Field Results .....	3
Site 18WC185.....	3
Other Vessel Remains.....	7
Conclusions and Recommendations.....	10
Recommendations.....	10
Acknowledgements .....	11
References Cited.....	11
Appendix A .....	12
Maryland Archeological Site Survey Form and Shipwreck Data Form .....	13
Appendix B .....	23
MAHSNEWS ARTICLE, SPRING 2007.....	24



## **Introduction**

As part of a wider survey of underwater cultural resources along the Wicomico River, on the Eastern Shore of Maryland, Stephen Bilicki, maritime archaeologist and director of the consulting firm BRS, and Jennifer Gardner, researcher from Salisbury University, conducted a side-scan sonar survey of navigable portions of the Upper Wicomico River that included areas within the corporate limits of the city of Salisbury. In a preliminary report on the survey (Bilicki 2007), Bilicki and Gardner noted several anomalies on the left, or south, bank of the river in Salisbury, including one obvious shipwreck (Figure 1). Volunteers from MAHS, the Maritime Archaeological and Historical Society, in Washington, D.C., were invited to visit the locale by Bilicki and Dr. Susan Langley, Underwater Archaeologist for the State of Maryland. In February of 2007, MAHS was asked to locate and conduct a preliminary survey of the shipwreck remains identified in Figure 1. The site has since been assigned the archaeological site number 18WC185 by the Maryland Historical Trust. Also during the February site visit, four other anomalies recorded in the side-scan survey were briefly observed and their positions noted. All of the survey work reported herein was non-intrusive. No federal, state or local permits were required, and no artifacts were recovered.

Dennis Knepper, archaeologist with Versar, Inc., of Springfield, Virginia, served as project archaeologist for the investigation. Steven Anthony, President of MAHS, served as MAHS project manager, and Thomas Berkey, MAHS Director of Education, served as part of the field team. Bilicki, Langley, and Gardner were on site by during the course of MAHS' one-day investigation.

## **Site Location and Environment**

The survey area is located along the left bank of the Wicomico River within the city of Salisbury, southeast of the Main Street bridge (Figure 2). The river is tidal at this point, with a tidal differential of more than four feet. The area is highly urbanized. Bulkheads have been constructed along the shoreline to control bank erosion, and in some areas scrub trees and grasses grow along the bank. Modern trash including plastic, glass, metal objects and brick litter the beach when it is exposed at low tide. Development along the shoreline includes a recently constructed public boat ramp and pier immediately east of the survey area; a modern marina west of the area; and several townhouse developments behind the bulkheads south of the area, one of which was still under construction during the site visit described here. While quiet during the current survey, this portion of the Wicomico River is extensively utilized during the warmer months and recreational boat traffic is heavy. The bottom sediments consist of a mixture of moderately coarse-to-fine sand and silts, with patches of gravel.

Site 18WC185 lies on an unused portion of the inter-tidal beach and is partially exposed at lowest tide. The wreckage is located near a bulkhead constructed to protect yard areas surrounding nearby condominium properties and a public boat ramp.



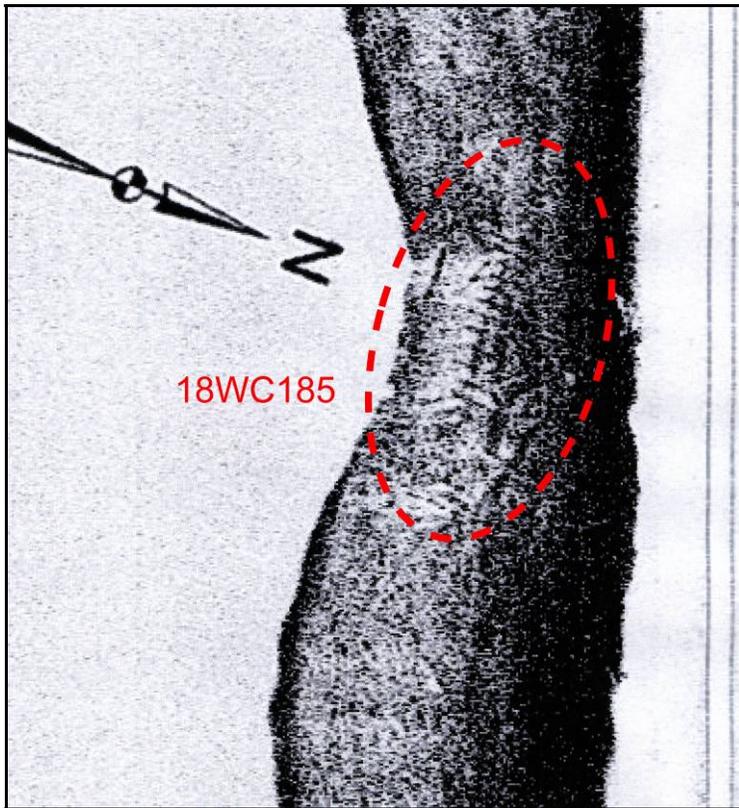


Figure 1. Side-Scan Sonar Image of Site 18WC185 (Bilicki 2007).

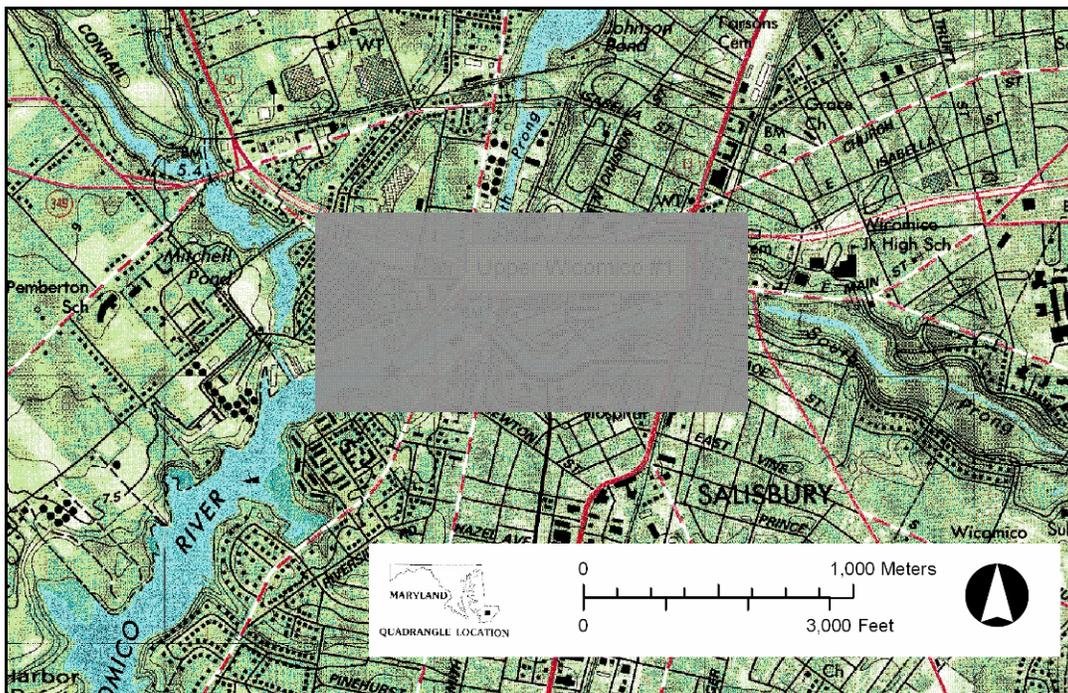


Figure 2. Location of Site 18WC185  
(information available from Maryland Historical Trust).



## Field Methods

The MAHS site visit in early February was timed to coincide with low tide, so that the wreckage would be as exposed as possible. The tide was in fact a seasonal low tide that left the entire wreck above the waterline. In addition, very cold and windy weather quickly froze the surface of the exposed river silts, making it possible to walk to and around the site with relative ease.

Documentation of Site 18WC185 began with establishing a datum beyond the east end of the wreckage and extending a baseline along the approximate centerline of the site. The site datum consisted of a 4-foot length of 3/8-inch rebar hammered into the silts, leaving about 2 feet of the rod exposed. The location of the datum point was measured relative to pilings on the public landing a little less than 25 meters (80 feet) to the east. The orientation of the baseline was approximately 85 degrees azimuth. The major features of the wreck were mapped using 90-degree offsets from the baseline. This method was chosen over a technique such as baseline trilateration since the wreck was small and uncomplicated, allowing relatively accurate perpendiculars to be extended from the baseline. Off-sets were also used in the interests of time, since the period during which the wreck was exposed at low tide was limited and off-sets require only one measurement to each feature rather than the two necessary for trilateration. Details of frame and plank dimensions were also recorded for a representative sample of the ship timbers. Photographic documentation included general site photos as well as detailed photos of specific framing features. After on-site consultation with Dr. Langley, the site datum was left in place to facilitate future work at the site.

Following documentation of Site 18WC185, and while tidal conditions permitted, the additional wrecks west of the site were examined by means of a hasty pedestrian reconnaissance. The approximate locations of the wrecks were noted on a sketch map of the river bank, and photographs were taken of each set of wreckage.

## Field Results

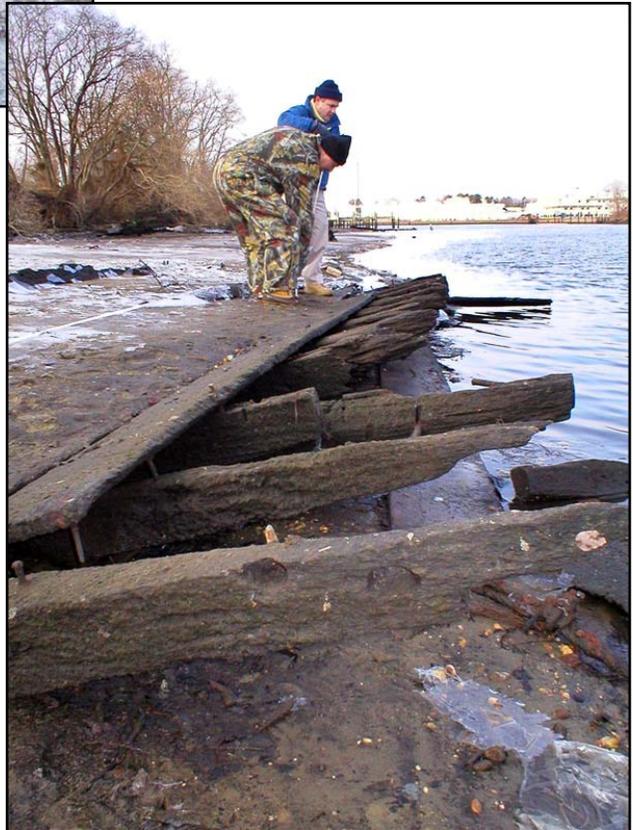
### Site 18WC185

The wreckage at Site 18WC185 consisted of a section of hull from a large wooden vessel (Figure 3). The hull fragment measured approximately 12.5 meters (41 feet) in length and 3.5 meters (11.5 feet) at its widest point. The hull had separated from the keel (which was not present), and lay frame-up and partially buried in the river silts. Portions of at least 17 frames were noted along with associated ceilings and outer hull strakes (Figure 4). The hull was most intact at the west end, where 14 contiguous frames were present. At the opposite end, the wreckage was more deteriorated—the frames were badly weathered and ceilings were not apparent (Figure 5).





**Figure 3. Site 18WC185, view east with public boat ramp and pier in background.**



**Figure 4. Site 18WC185, frames and ceilings.**



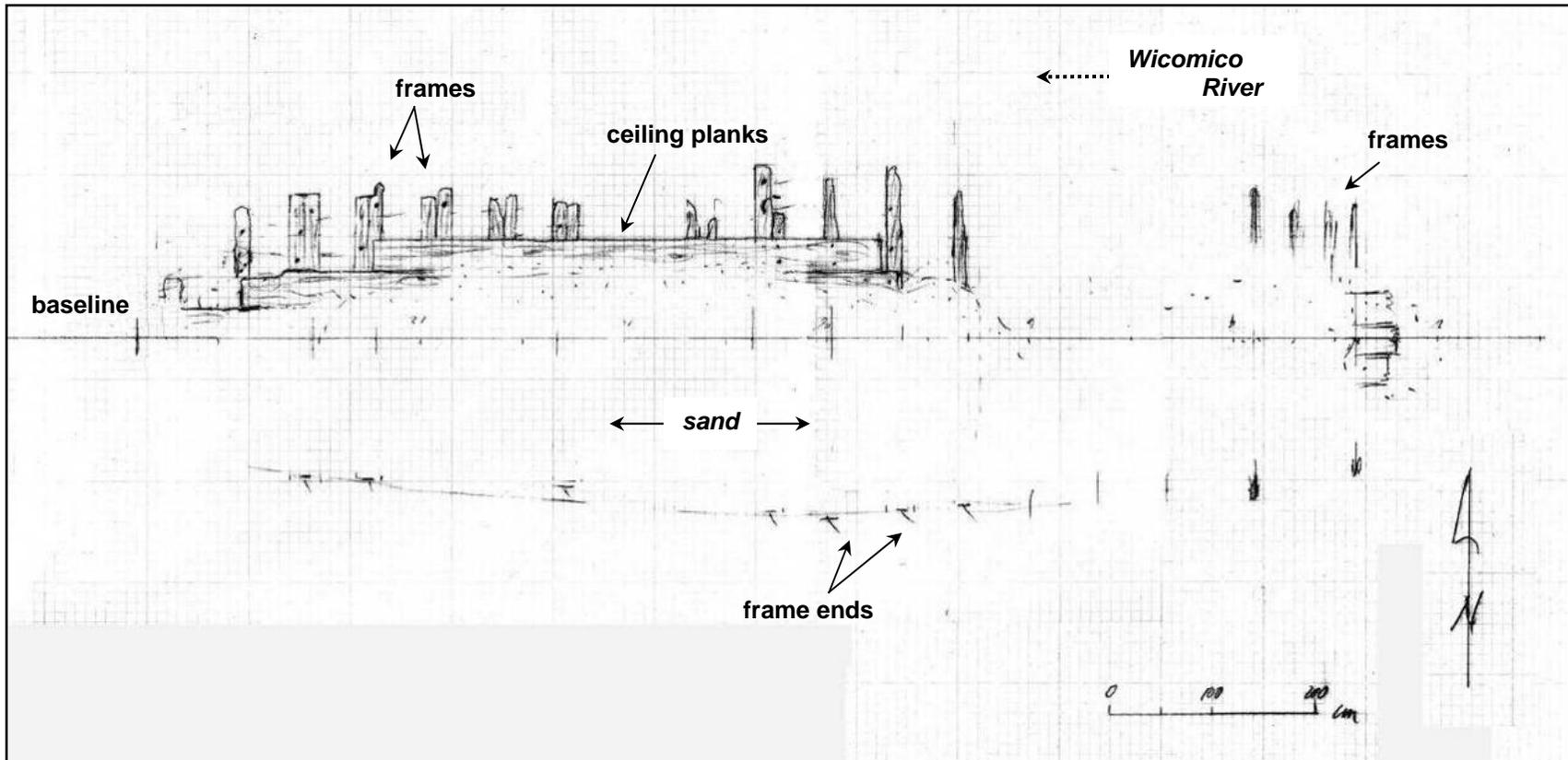


Figure 5. Plan view of Site 18WC185.



The frames were doubled, each timber measuring approximately 15 centimeters (6 inches) in width and 15 centimeters (6 inches) in thickness (sided and molded, respectively) (Figures 6 and 7). The width between frame sets was approximately 38 centimeters (15 inches), resulting in a room-and-space measurement of approximately 68 centimeters (26.5 inches). Limber holes were noted in the frames (Figure 8) indicating that the wreckage was from an area near the base of the hull where bilge water was allowed to run freely between frames. Ceilings and hull strakes both measured approximately 29 centimeters (11.5 inches) in width and 4 centimeters (1.5 inches) thick. Fasteners noted on the frames and planking consisted of iron spikes and drift pins.



**Figure 6. Site 18WC185, frames, ceilings, and outer hull planking.**



**Figure 7. Site 18WC185, frames, ceilings, and outer hull planking.**





**Figure 8. Site 18WC185, limber holes in frames.**

### **Other Vessel Remains**

Four additional wrecks were visible along the stretch of the river west of 18WC185. One (18WC189 - Salisbury Wreck #4) was situated on the edge of the drop-off to the river channel and was barely visible at the low water mark. Given the weather and tidal conditions during the current survey, the wreck could not be fully examined.

The second vessel (18WC188 - Salisbury Wreck #3) was identified by Bilicki and Langley as a Higgins Landing craft. The vessel remains lay among tree roots and miscellaneous debris at the edge of the river bank (Figure 9). Higgins Boats were used throughout World War II and were considered instrumental in the success of the Allied Invasion of Normandy on D-Day. They had unique features that included a reinforced bow that allowed the boat to run onto shore without damage, and a wide front ramp that permitted personnel to exit quickly.

The third wreck (18WC187 - Salisbury Wreck #2) was a large centerboard vessel, possibly a schooner (Figure 10). Although close to the channel of the river and submerged beneath three to four feet of water at high tide, the vessel was completely exposed at the seasonal low tide. The vessel lay upright with the lowest portion of the hull buried in the bottom silts. Deadwood at one end, possibly the bow, can be seen in the foreground of the photo image in Figure 10. The centerbox or trunk was present along the midline of the hull, and the centerboard also survived, although it was found in several pieces (Figure 11). The pintle or spindle on which the centerboard pivoted remained in place, as seen in the detailed image in Figure 12.



The fourth vessel (18WC186 - Salisbury Wreck #1) was identified by Bilicki and Langley as a square or rectangular barge. Little was visible above the silty bottom sediments other than a series of metal fasteners (Figure 13).



**Figure 9. Site 18WC188, Higgins Landing Craft, view west.**



**Figure 10. Site 18WC187, Centerboard Vessel, view north.**





**Figure 11. Site 18WC187, Centerboard Vessel,  
detail of centerboard fragments.**



**Figure 12. Site 18WC187, Centerboard Vessel,  
detail of pintel.**





**Figure 13. Site 18WC186, with fasteners standing out of the silt in two parallel rows, view E.**

## **Conclusions and Recommendations**

Little is known about the wreck comprising Site 18WC185 beyond the physical description of the wreckage as presented in this report. Based on the sizes of the timbers and robust nature of the construction, with double frames set relatively close together along the length of the hull, the vessel would have been large and designed to carry heavy weight. Little archival research has been done at the present time in an attempt to identify the wreck. The main purpose of the current project was to record the physical remains before they deteriorate further. The timbers are only partially buried in silt. Being in the inter-tidal zone, the site is fairly dynamic, with silt, sand and debris washing in and out on a regular basis. When the silts cover the wreck, they help protect the remaining wood. Nevertheless, exposure at very low tides promotes the drying and weathering of the surviving timbers and planking.

The same is true of the other four wrecks observed along this stretch of the river. They were probably derelicts that were in poor condition when abandoned in these locations, and judging from their varied states of deterioration, they continue to disintegrate fairly rapidly.

### **Recommendations**

MAHS volunteers completed the fieldwork requested by the Maryland Historical Trust, and no further work at the site has been requested of MAHS at this time.



Presently, MAHS is considering plans to document the four other wrecks located on the left or south bank of the river during the side-scan survey previously conducted by BRS and Gardner. Two of the vessels, the landing craft (18WC188) and the barge (18WC186), are situated close to the high tide line and are easily accessible at low tide during most seasons. The centerboard vessel (18WC187) and the unidentified wreck (18WC189) lie farther toward the river channel. To survey these wrecks as terrestrial sites, in the manner that 18WC185 was investigated, another unusually low tide would be required. Alternatively the wrecks may be surveyed as underwater sites using SCUBA. MAHS stands prepared to complete these surveys in either situation.

## **Acknowledgements**

We would like to thank Dr. Susan Langley, Underwater Archaeologist for the State of Maryland, and Stephen Bilicki, consulting archaeologist with BRS, for inviting MAHS to participate in this project. We also thank Jennifer Gardner, of Salisbury University, for visiting the site and, along with Bilicki, sharing the results of their side-scan survey and other knowledge of the area.

## **References Cited**

Bilicki, S.R.

2007 *Briefing Report for MDP-MHT and MAHS, Semi-Submerged Shipwreck, Wicomico River at the Boat Ramp, Salisbury, Wicomico, Maryland.* Prepared for Department of Planning, Maryland Historical Trust, Office of Archeology, Crownsville, Maryland, Prepared by BRS, Wachapreague, Virginia.



**APPENDIX A**

**MARYLAND INVENTORY OF HISTORIC PROPERTIES  
ARCHEOLOGICAL SITE SURVEY: BASIC DATA FORM**

**and**

**MARYLAND ARCHEOLOGICAL SITE SURVEY: SHIPWRECK  
DATA FORM**

(Available through the Maryland Historical Trust)



## **APPENDIX B**

### **PUBLIC OUTREACH: MAHSNEWS ARTICLE, SPRING 2007**



# Shipwrecks on the Upper Wicomico River, Salisbury, Maryland

By Dennis Knepper

On a cold and windy morning in early February of this year, volunteers from MAHS traveled to Salisbury, Maryland, to survey and document a shipwreck exposed on the banks of the Upper Wicomico River. The work was conducted at the request of the Maryland Historical Trust (MHT).



*Upper Wicomico #1 showing hull remains in the icy silts at low tide on the Wicomico River in Salisbury. The public landing east of the site is in the background. Photos by T. Berkey and D. Knepper.*

Several wrecks are known along this stretch of the river, lying within the city limits of Salisbury just south of the downtown business district. Steve Bilicki, formerly with MHT and now an adjunct professor at Salisbury University and maritime archaeological consultant with BRS, conducted a side-scan sonar survey of this portion of the river late last year with the help of Salisbury University student, Jennifer Gardner. As reported in a separate article in this issue of *MAHSNEWS*, Gardner presented the results of the survey at the recent Middle Atlantic Archaeological Conference held at Virginia Beach. The wreck on which MAHS focused its attention was identified during Bilicki's survey and several frames could be seen sticking above the waterline at low tide.

MAHS visited the site to assess it as a possible site for the Spring field school. The MAHS team, including Steven Anthony, Tom Berkey, and Dennis Knepper,



*T. Berkey and S. Anthony documenting ceilings.*

planned their site visit to coincide with low tide and were fortunate enough to experience a seasonal low tide that left the entire wreck exposed. In addition, due to the cold weather the exposed river bottom quickly froze making it possible to walk to and around the site with relative ease.

The wreckage consisted of a section of hull from a large wooden vessel. The hull fragment measured approximately 12.5 meters (41 feet) in length and 3.5 meters (11.5 feet) at its widest point. The hull had separated from the keel, which was not present, and lay frame-up and partially buried in the river silts. Portions of at least 17 frames were noted along with associated ceilings and outer hull strakes. The feature was most intact at the west end, where 14 contiguous frames were present. At the opposite end, the wreckage was more deteriorated—the frames were badly weathered and ceilings were not apparent.

To map the site, a datum was established beyond the east end of the wreckage and a baseline was extended from the datum down the approximate centerline of the site. The location of the datum point was measured relative to pilings on the public landing a little less than 25 meters (82 feet) to the east. With the baseline set, the major features of the wreckage were

mapped using 90-degree offsets. Details of frame and plank dimensions were also noted. General site photos were taken along with detailed photos of specific framing features.

The frames were doubled, each timber measuring approximately 15 centimeters (6 inches) in width and 15 centimeters (6 inches) in thickness (sided and moulded, respectively). The width between frame sets was approximately 38 centimeters (15 inches), resulting in a room-and-space measurement of approximately 68 centimeters (26.5 inches). Limber holes were noted in the frames indicating that the wreckage was from an area near the base of the hull where bilge water was allowed to run freely between frames.

Ceilings and hull strakes both measured approximately 29 centimeters (11.5 inches) in width and 4 centimeters (1.5 inches) thick. Fasteners noted on the frames and planking consisted of iron spikes and iron drift pins.

A Maryland Archeological Site Survey Form and Shipwreck Data Form have been completed and submitted to the State. Since the conditions allowed the team to fully document the site and further data recording would likely be redundant, the site is no longer considered a candidate for a field school location. Bilicki and Gardner have identified several other wrecks in this section of the river, and MAHS plans to return in the future to document them, either as part of a field school or as separate projects. ⚓



*Detail of frames showing spacing and fastener pattern.*



*Detail showing frames, ceilings (above) and hull strakes (below).*



*Frames showing limber holes.*