Mars Bluff Navy Yard

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Mars Bluff Navy Yard
By Christopher Amer, Jonathan Leader, Larry Babits, and Lynn Harris

“The river appears to be falling.” “Yeh, right.” That optimistic exchange was often heard during the month-long maritime archaeology field school held at the site of the Confederate Mars Bluff Navy Yard earlier this summer. The unfortunate reality was that the Great Pee Dee River became ever higher day by day. For nigh on two years, the state of South Carolina had been in the throes of a drought, even up until two weeks before the commencement of the May field school. For most of that time, with the river being so low, we were unable to launch our survey boat much less conduct a remote sensing survey along the river in front of the site, the bottom of which is strewn with hewn timbers and cut logs from past logging operations and a plethora of drowned trees eroded from the river that lay just below the surface of the murky river (Fig. 2).

The path that led us to be anxious hoping the river waters would recede began some 147 years earlier when Confederate naval officers selected Mars Bluff as the location upon which to erect a shipyard. Early in the conflict, the South had lost its important industrial and port services when Union forces took Nashville, New Orleans, Memphis, and Norfolk. So, to counter the already large Union Navy, which was effectively blockading the 3,500 mile of southern coastline, on March 4, 1862, Secretary of the Confederate Navy, Stephen Mallory, ordered the immediate construction of naval yards on inland waters of the southern states. Mallory

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Fig. 1: Painting of CSS Chattahoochee. (Courtesy of Bob Holcombe, the National Civil War Naval Museum at Port Columbus, GA)
Mallory envisioned constructing some 50 light-draft, steam-powered gunboats at these inland facilities that would be guarded by the army and protected by their remoteness from the Union naval ships blockading the southern ports and patrolling the coastline.

Mars Bluff was ideally suited for that purpose. It was adjacent to the Wilmington-Manchester Railroad and a major ferry crossing, had good water communication with Georgetown and Charleston via Winyah Bay, and the surrounding terrain held vast stands of ash, oak, and pine necessary for a successful shipbuilding facility. The shipyard was to have 14 buildings, a sawmill, a forge, dry-dock, and slipways upon which to construct the vessels. While the shipyard was begun by Lt. William Dozier, the task of completing the facility and constructing the vessels fell to the yard’s second commander, Lt. Van Renaisler Morgan, after Dozier was promoted to command the Navy’s receiving vessel, Indian Chief, in Charleston. Morgan began construction of two torpedo boats, a stern-wheel steamer, a steam tender, and a gunboat, as well as other smaller craft. However, with his departure in August 1864, it was left to Lt. Edward Means, the base’s third commander, to complete and launch the vessels.

The gunboat, christened CSS Peedee, was a twin-screw, steam and wind powered Macon-Class gunboat with a 7 ½-foot draft similar in design to CSS Chattahoochee, the remains of which reside in the National Civil War Naval Museum at Port Columbus, Georgia (Fig. 1-See front page). The 150-foot long and 25-foot wide deck supported three large guns. At bow and stern were two Brooke rifled cannon, one firing a 6.4-inch shell, the other a 7-inch round. A 9-inch smoothbore Dahlgren was fitted amidships. All three guns were mounted on carriages that could pivot 180 degrees for a prodigious arc of fire.

While the Brooke Rifles were considered by many to be the most accurate of the Civil War era naval artillery, naval officers often preferred smoothbore guns like the Dahlgren for naval engagements, which were frequently fought at close quarters. The smoothbores had greater smashing power, and the projectiles could be skipped over the surface of the water (ricochet fire) to great effect. Also, the smooth gun tubes were capable of firing a wide variety of projectiles, including round shot, shell, shrapnel, canister, and grape shot.

Peedee’s compliment consisted of 91 officers and crew, two-thirds of that number filling out two shifts devoted to manning and maintaining the three guns. In the months leading up to the launching of Peedee much effort was expended procuring supplies for the vessel and coal for its steam power plant. Lt. Means repeatedly dispatched officers to Fayetteville and Georgetown to purchase coal and supplies. On December 7, 1864, Means dispatchedLt. Charles Hasker, a survivor of the first Hunley sinking, to Georgetown for coal and general supplies, and to arrange for a pilot to get the vessel downstream to Georgetown.

However, when the gunboat hull was...
launched in January 1865, it was already too late to fully outfit the vessel and move it down the nearly 100 river miles to Winyah Bay. General Sherman’s forces were moving northward through the state and by February were to take Georgetown, effectively blocking the gunboat’s route to the Atlantic.

In early March, Lt. Oscar Johnston, Peedee’s commander, moved the gunboat upstream to Cheraw to cover General Hardee’s troops crossing the Great Pee Dee River to join General Johnston’s forces in North Carolina for what was to become the last major battle of the War. Thereafter, Johnston, turned the vessel (no mean feat in a river that was scarcely wider than the ship was long) and returned to Mars Bluff. On March 2, 1862, as Cheraw succumbed to Sherman’s forces, Lt. Means was given the order to destroy the Navy Yard and vessels. Two weeks later, on March 15, the guns of the Peedee were committed to the river and the gunboat floated downstream of the railway bridge, set afire, and blown up.

Seven months later, Acting Ensign Sturgis Center (USN) conducted an assessment of the Navy Yard, from which local inhabitants and contractors had liberated many usable materials including building materials, small boats, and machinery. Center did note, among other things, the remains of the Peedee lying downstream from the bridge, the steam tender and a torpedo boat sunk above the bridge with one unfinished vessel on the stocks. He also observed engines and boilers on the bank, along with two 24 pounder Dahlgren howitzers and the anchors for the Peedee.

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from SCIAA, to conduct an underwater survey of the near-shore river bottom at the yard. Their purpose was to map the river bottom in front of the Navy Yard site and recover artifacts to exhibit in Gragg’s South Carolina Civil War Museum to tell the story of the Mars Bluff Navy Yard. The team recovered numerous artifacts associated with Navy Yard activities, as well as logging operations before and after the Confederate occupation of the site. Their exhibition and site plans provide a tantalizing glimpse of the wealth of artifacts either discarded or eroded into the river from the bluff during the last 150-plus years. The plans also indicate the presence of two gun tubes identified as a Brooke Rifle and a 9-inch Dahlgren.

Building on the results of the Pee Dee Research and Recovery Team, earlier this year, Amer and Leader received a grant from the Drs. Bruce and Lee Foundation to conduct further research at the site. The specific plans include:

- Locate and raise the guns jettisoned from CSS Peedee.
- Complete mapping of the river bottom (both surface and sub-surface) adjacent to the Navy Yard site by remote sensing and direct survey.
- Excavate significant cultural remains that will help tell the story of the Mars Bluff Navy Yard.
- Attempt to locate any remaining vessels associated with the site. Possibly the
remains of a steam tender and torpedo boat remain submerged at or near the site.

• Re-locate the remains of the wreck below the bridge and verify/refute its identification as CSS Peedee.

• Conduct remote sensing and sub-surface testing of the terrestrial site to locate the building foundations and activity areas of the Navy Yard.

Staff of the Maritime Research Division (MRD) accomplished the underwater remote sensing phase of this work this spring using an array of survey equipment, including a sub-bottom profiler, to look at the sediment layers below the bottom and image any large cultural objects buried therein. As a result, we produced a magnetic and acoustic map of the river adjacent to the Navy Yard site. When it came time to physically investigate the Navy Yard and possible vessel(s) associated with the operation, SCIAA archaeologists enlisted the assistance of East Carolina University’s Program in Maritime Studies for their background and reputation in working on War Between the States land and submerged sites and because their faculty and staff had recorded the remains of two Macon-Class gunboats, CSS Chattahoochee and an unfinished gunboat in Chicod Creek, North Carolina.

From May 26 through June 19, some 20 graduate students, staff, and faculty from the North Carolina school, under the direction of Drs. Larry Babits and Lynn Harris, conducted an underwater/terrestrial archaeology field school at the site and worked with SCIAA’s two state archaeologists and MRD Division staff to complete these objectives (Figs. 4 and 5). The uncharacteristically high river water allowed us ample opportunity to investigate the terrestrial aspects of the site. The property owners graciously allowed us to not only stage the entire operation from their property, but acquiesced to our request to dig numerous test holes across the land to identify the layout of the Navy Yard.

The terrestrial component of the field school was tasked to East Carolina University’s Program in Maritime Studies as a Master’s thesis of Nolen Caudell. It was supported by a geophysical survey undertaken by the USC Archaeological Geophysics field school of the area.

The goal of the land investigation was to confirm the location of the Mars Bluff Navy Yard. The resistivity and gradiometer measurements taken by the eight USC students who took part in that field school provided a more finely defined area for testing (Fig. 6). The ECU team had initially planned to excavate 202 shovel test pits (STP) established within an ARC-GIS framework (Fig. 7). The interval of the STP’s was set at 15 meters and was placed within an “L” shaped formation that followed the northern riverbank of the Great Pee Dee River. The eastern leg of the grid was placed over the location of the navy yard as designated in the South Carolina State Site Files (38 MA 22/91) and adjacent to the scuttled ordnance. The testing area covered approximately two acres.

The highest percentage of artifacts from STP’s was associated with Native American Paleo/Archaic and a Woodland occupation including ceramics and lithics. The ceramic dates spanned from the Late Archaic to the Late Woodland, and their surface treatment included rope, cord, and net, paddle, simple, and punctuated, as well as two sherds of fiber-tempered coiled clay. Lithics recovered include large quantities of debitage and at least four biface blanks of the Palmer/Kirk/Taylor Tradition. The team recovered similar Native American artifacts from the underwater excavations, including a Yadkin-style point. Although prehistoric ceramics dominated the artifact collection, historic ceramics and glassware were recovered from both underwater and terrestrial contexts, including a post-1883 Johnson Brothers of Hanley ceramic sherd, and a Joseph Burnett cocaine product bottle, produced after 1847.

The resulting efforts of the archaeological geophysics class and the ECU field school detected several subsurface features that would merit Phase II excavations. Two specific areas of interest revealed by the testing and STP’s...
were tested at an interval of five meters and to an excavation depth of one meter. While the tests revealed the primary signatures were modern burn pits by the current and previous owners, along with a garden from the previous owner, the STP’s yielded more pre-contact ceramics. The almost continuous use of the property from prehistoric to modern times has resulted in a very complex deposit. Additional terrestrial work is planned and a LIDAR map of the entire area to an accuracy of 11 centimeters is being acquired. LIDAR mapping is able to show very small topographic changes at ground level, even through vegetation and trees. With any luck, it may help identify additional features associated with the shipyard in areas that were inaccessible to the field schools.

While safety considerations obliged us to curtail some diving activities and modify others during periods when the river was at, or near, flood stage, the two schools completed many of the project objectives. Two of the cannon, originally located by the Pee Dee Research and Recovery Team in the 1990s were reacquired, measured, and drawn to scale. The guns were positively identified as a 6.4-inch Brooke Rifle and the 9-inch Dahlgren. We have yet to locate the 7-inch Brooke Rifle.

The gun tubes committed to the river on March 15, 1865 were two Brooke rifles (6.4-inch and 7-inch) weighing in at 9,000 pounds and 15,000 pounds respectively. Each was cast at the Selma foundry (characteristic because of the double bands that all Selma guns sported) and delivered to the Mars Bluff Navy Yard on July 3 and 13 respectively. The 9-inch smooth-bore Dahlgren also weighed 9,020 pounds. The initials ‘JMB’ are stamped into one trunnion and likely represent the initials of John M. Berrien, who was ordnance duty officer in Pittsburg between 1862-64 before commanding the Navy Yard at Norfolk in 1865. The serial number on the breach suggests the gun was cast in Pittsburg in 1862 and was issued to a US Navy ship after mid-1862. The ship was then captured, abandoned, or sunk, and the Confederates recovered the tube. Only three US Navy vessels meet these qualifications: United States Navy ships Eastport, sunk in April 1864, Indianola, surrendered to Confederate forces on February 24, 1863, and Southfield that was rammed and sunk by the Confederate Ram, CSS Albemarle, in the Roanoke River during the Battle of Plymouth on April 19, 1864. All three vessels carried 9-inch smoothbore Dahlgren’s.

Artifacts recovered include ring dogs and other artifacts associated with the logging industry, friction primers for the cannon (Fig. 8), and artillery shells. Three friction primers used to ignite a cannon’s main charge were recovered. The three are virtually identical but differ from the typical artillery primer types used by army
or navy artillery. As such, they represent either a Confederate variation, a foreign import run through the blockade, or a Confederate copy of a foreign import.

The team excavated and recovered two 7-inch and five 6.4-inch Brooke shells, weighing approximately 100 pounds and 58 pounds, respectively (Fig. 9). During the project, the projectiles were de-concreted and partially cleaned (Fig. 10). The 7-inch shells vary in length, but evidently contain no markings. However, the latter shells are particularly interesting for the information they carry. Each sabot of the 6.4’ shells is stamped with the word ‘BROOKE’ and ‘Q’ (for Richmond) (Fig. 11). The forward band of each shell has ‘LT. R. D. M’ and ‘RNOW’ (Richmond Naval Ordnance Works) stamped into the iron (Fig. 12). Lt. Robert Dabney Minor commanded the Richmond Naval Ordnance Works until October 1, 1863, when he was assigned other duties for the Confederacy, continuing his work with ordnance, especially cannon and fuses.

The remaining objectives that could not be attempted or completed due to river conditions, including searching for any vessels associated with the Navy Yard, detailed mapping of the river bottom adjacent to the site, and assessment of the wreck thought to be CSS Peedee, will be revisited during a time when the river is more charitable towards us. In the meantime, the artifacts from the river are secure in a laboratory at Francis Marion University (FMU) (Fig. 13). Francis Marion University is the third partner in this endeavor. When the last of the three cannon is located, all three-gun tubes will be lifted from their watery graves and conserved in a purpose-built facility on the grounds of FMU. Current plans call for the Florence County Museum to exhibit the Mars Bluff Navy Yard/CSS Peedee materials to tell the story of the only Confederate inland navy yard in South Carolina and the gunboat built there that bore the river’s name (Fig. 14).

Underwater Archaeologist Lora Holland Leaves SCIAAA
By Carlton Naylor

Lora Holland has resigned her duties as head of the Sport Diver Archaeological Management Program (SDAMP) to continue her career in maritime archaeology in San Francisco. As head of SDAMP, Lora also managed the Charleston Office of SCIAA’s Maritime Research Division.

An outgrowth of the South Carolina Underwater Antiquities Act of 1991, SDAMP functions as a connection between the sport diver community and professional archaeologists. Through talks, seminars, field schools, and avocational projects, SDAMP shares archaeological principles with interested members of the public, both divers and non-divers. In addition, SDAMP issues and monitors South Carolina Hobby Diver Licenses. These licenses allow divers to collect artifacts and fossils from state waters on a recreational, non-commercial basis, provided the licensees report the items and the location of their finds.

Lora has a bachelor’s degree in history from Salem College in Winston-Salem, NC, and a master’s degree in anthropology from the University of West Florida in Pensacola. While head of SDAMP, she also assisted in managing several projects of the Maritime Research Division, including the Charleston Harbor Project, the underwater investigations of Smiths Lake Creek of the Allendale Paleoamerican Project, the Lake Marion Barge Project, the search for Lucas Vazquez de Ayllón’s Capitana off Winyah Bay, and the Mars Bluff Confederate Shipyard Project, among others.

For more information about the Sport Diver Program, contact the Charleston Office at (843) 762-6105 or Carlton Naylor at canaylor@sc.edu <mailto:canaylor@sc.edu>