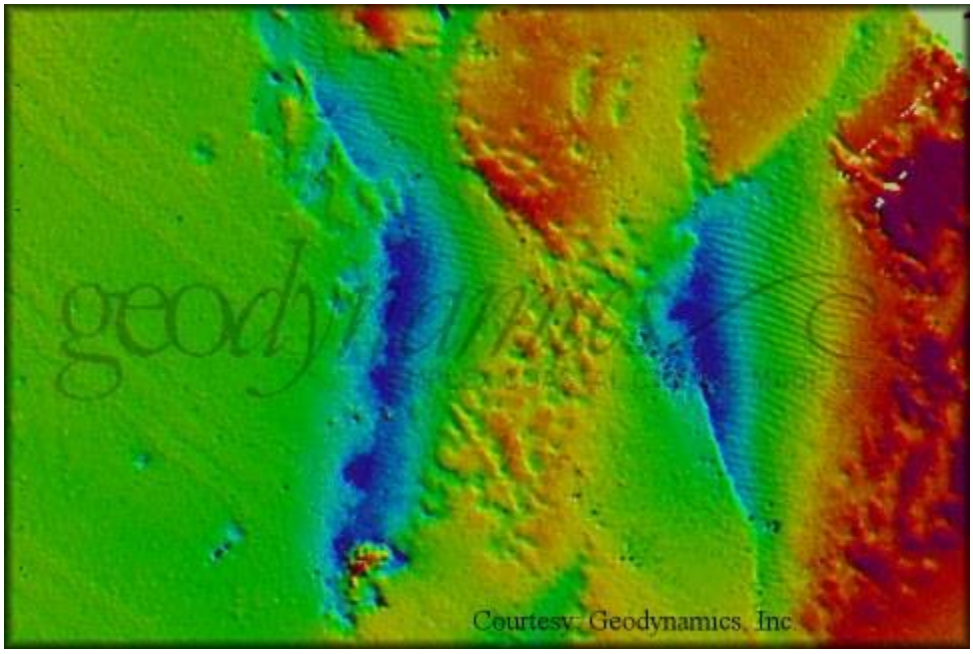


2005/2006 Stratified Sampling Plan

Beginning May 2nd and continuing for three weeks, archaeologists will continue the work they began with the May 2005 Expedition. The goal is to complete the excavation of a stratified representation of the shipwreck site by recovering approximately 10% of what is thought to survive on the seabed. In the end, recovery will involve the excavation of up to 20 excavation units - three within each of the five interior zones with additional units placed at the longitudinal extremities. These zones represent sections of the ship from stern to bow based on our current understanding of the site through archaeology.

Managerial objectives will be met through the retrieval of a representative sample from across the shipwreck as a control collection prior to any further degradation of the site from storm scour and exposure. By examining and recovering remains from all parts of the archaeological site, managers will refine their understanding of the extent, nature, and magnitude of shipwreck remains in preparation for planning full-scale recovery. Directed sampling and analysis will also address general research questions regarding site layout, identify shipboard activity areas, continue refining the nature, origin and identity of the lost ship, and gather data regarding natural and cultural factors that have influenced the formation of the archaeological record. The collection of representative sample remains from this shipwreck and the arrangement of artifacts within basic functional groups will provide a body of evidence for comparison with archaeological assemblages recovered from contemporary shipwrecks along the Atlantic seaboard, the Caribbean and Europe and terrestrial sites within the Carolina's and Virginia.

Funding is being provided in part by a grant from the Golden LEAF Foundation, state appropriations to the NC Department of Cultural Resources and a National Geographic Expeditions Council grant. In-kind support comes from NC Marine Fisheries, Cape Fear Community College, NC Maritime Museum, Comfort Inn of Morehead City, Parker Marine Inc. and a host of individual participants. We will be providing periodic field updates…welcome aboard!!

Entry - 02 May 2006 Expedition Log
Mark Wilde-Ramsing

The expedition began Tuesday with the arrival of the setup team from the Underwater Archaeology Branch, Fort Fisher aboard *R/V Snap Dragon* (Captain Gillman-Bryan). It was just in time to pay tribute to the first group of recreational diver, who were visiting the shipwreck site as part of *QAR* Dive Down. While the site had been prepared with lead lines around the exposed main ballast mound, archaeologists found considerable work needed to be done before excavations could begin - the baseline set, reference stakes replaced and the moorings dug out from last fall's storms. Their work was slowed when sea conditions kept them from going out on Wednesday but by mid-day Friday the site was ready for the arrival of the full crew on Monday. The first two excavation units, E105/N50 E100/N35 (see site plan), were located and their southwest stakes jetted down in preparation for dredging, mapping and recovery. Friday afternoon *R/V Shell Point* (Captain Piner/ Mate Hill) arrived and the vessel was loaded with dive gear, excavation equipment and conservation materials.
As evidenced from a multi-beam survey conducted by Geodynamics, Inc. in February, the immediate shipwreck site shows scouring behind the exposed mound and toward shore. This occurred because of strong winds during hurricane Ophelia last fall. While the storm currents removed sediment from the northern portion of the site it pushed up sand on the margins and thus the moorings, which are approximately 150 feet from the exposed mound, were mostly buried and needed to be dug out, especially on the east side. The vertical accuracy of the multi-beam survey is 2 cm and thus gives scientists a very clear understanding of sand movement at the site. Needless to say the scouring that takes place during hurricanes is a major concern when considering the overall affect on the site's archaeological integrity and the preservation of fragile artifacts.

Entry - 08 May 2006 Expedition Log
Mark Wilde-Ramsing

The day began with a briefing to introduce the crew, most of whom had worked together on this project before, provide everyone with overall expedition goals, and allow the vessel captain, dive safety officer, and supervising archaeologist and conservator an opportunity to explain operational procedures. The day was unseasonably cool, windy and rainy

but workable in terms of sea state and underwater conditions.

After the 5'x 5' mapping frame was placed over Units 10 and 11 excavation began on Unit 10 using the 6" water induction dredge and within a few minutes a large set of concreted cask hoops were uncovered. As digging continued it became apparent that Unit 10 was one big mass of iron concretion with a few loose ballast stones. In the eastern portion was the large wooden sternpost discovered last spring in the adjacent Unit 9. Archaeologists decided to re-open Unit 9 to allow more complete documentation of this important structural element and to facilitate the collection of small artifacts, including a bar shot and two long bolts, and sediment for comparison with other areas of the site. Excavations continued through the afternoon in Units 9 and 10 while another crew positioned and put corner posts in units scheduled for excavation during this expedition.

Entry - 09 May 2006 Expedition Log
Mark Wilde-Ramsing

On this day the visibility was considerably better, at times exceeding 10 feet and allowing for quicker work and better documentation. The 6" dredge was moved to Unit 11 while the smaller 3" dredge continued on Unit 9 until all artifacts were mapped, tagged and removed and a "scoop" sample of sediment was collected. In Unit 11 archaeologists found no artifacts indicating this area was just outside the artifact scatter and therefore, Unit 12 the grid square was pivoted on the southwest corner stake 180 degrees toward the main ballast area. In Unit 12 artifacts were present and numerous consisting of ballast and various metal concretions, mostly cask hoop fragments. In the same manner as Unit 11, Unit 13 was excavated until it was apparent that no artifacts were present.

Entry - 11 May 2006 Expedition Log
Mark Wilde-Ramsing

The wind shift to the south and offshore did not happen as quickly as forecast and researchers were able to work most of the day until finally the affects were felt from ocean swells, which stirred up visibility and made archaeological excavation and mapping difficult. Prior to this considerable progress was made. Unit 15, at the very southern extreme of the site, contained only two linear metal concretions. This was not the case for Unit 16, which was placed on the southeastern margin of the main ballast pile next to Cannon C5. Archaeologists spent most of the

day mapping and recovery artifacts - ballast alone number in the hundreds - and there were a variety of pieces ceramics, glass and unidentifiable concretions. Concurrently, excavations took place at Unit 17, which was placed over an area previously explored in 1998 and revealed a large lead strip used for patching a leak in the vessel and a variety of other concretions. As with several others, this unit was also on the margin of the site and helped delineate the extent of artifacts. It also helped substantiate our previous site map and examined changes over the past 8 years. Very little change was noted.

Entry - 12 May 2006 Expedition Log
Mark Wilde-Ramsing

A small crew found working conditions marginal at best. They installed four corner stakes in preparation for unit excavations next week and returned to dock around noon. Meanwhile, the conservators stayed ashore carefully pack a week's worth of artifact recovery for the trip to Greenville and safe storage at the *QAR* conservation laboratory.

Entry - 15 May 2006 Expedition Log
Mark Wilde-Ramsing

Blown out by storm winds today. *R/V Shell Point* transfers equipment shore at its Ft. Macon berthing and later in the day *R/V Martech* from Cape Fear Community College's Marine Tech Program arrives to take over duties as primary research vessel. Many thanks to *Shell Point's* Captain Tom Piner, Mate Jason Hill and the NC Marine Fisheries Habitat Enhancement Section, Craig Hardy Chief.

Entry - 16 May 2006 Expedition Log
Mark Wilde-Ramsing

It's a long day and an excellent shake down experience for the *R/V Martech* (Captain Pete Simpson). Mate and senior instructor Dave Monaghan oversaw the training and integration of Marine Tech students into a specific ship operations required by underwater archaeologists working on the *QAR* site. The tasks completed during the day were basic but essential because of the changes on the bottom due to the movement of sand from the wind-driven currents over the weekend. Making matters more difficult, bottom visibility was only a few feet because of silty particulates in the water still swirled around. Slowly but surely, the team freed buried mapping frames and dredge hoses and positioned them for excavation in the northern sector of the site. A second important task of the day was to strap cannon C5 in preparation for tomorrow's lift, which was

accomplished, although attempts to move it off the site prior to lifting were thwarted due to the roughing sea state in the afternoon.

Entry - 17 May 2006 Expedition Log
Mark Wilde-Ramsing

Today's the day and it was indeed splendid. The winds and seas calmed down over night and provided the stage to recovery cannon C5. Experienced divers, Richard Lawrence and Nathan Henry descended into the green waters accompanied by videographer Rick Allen to hook up the encrusted artillery piece that once shot a 4-pound ball. Their first task was to get two cargo straps under each end of the cannon and bring them together with shackles. A larger single shackle connected the two straps to a large lift bag that is capable of lifting up objects weighing up to a ton underwater. Divers than used a spare tank and air nozzle to slowly inflate the bag. This is the trickiest part of the operation because once the cannon starts to lift off the seabed it picks up speed as it rises. This is due to the expansion of air in the lift bag and means that divers must be careful not to let the cannon come up under the boat where it might be punch a whole in its bottom and create a bad situation, ie. another shipwreck! This was not the case today as the lift bag and its precious cargo popped to the surface at *R/V Martech's* stern and was pulled in closer where deck hands could remove the lift bag and replace it with the vessel's hoist. Cannon C5 was then lifted out of the water and onto soft foam mats on the deck where it was closely inspected for the first time in nearly three centuries. Researchers found it covered mostly with ballast stone and concretion although the cannon's muzzle end was clearly recognizable.

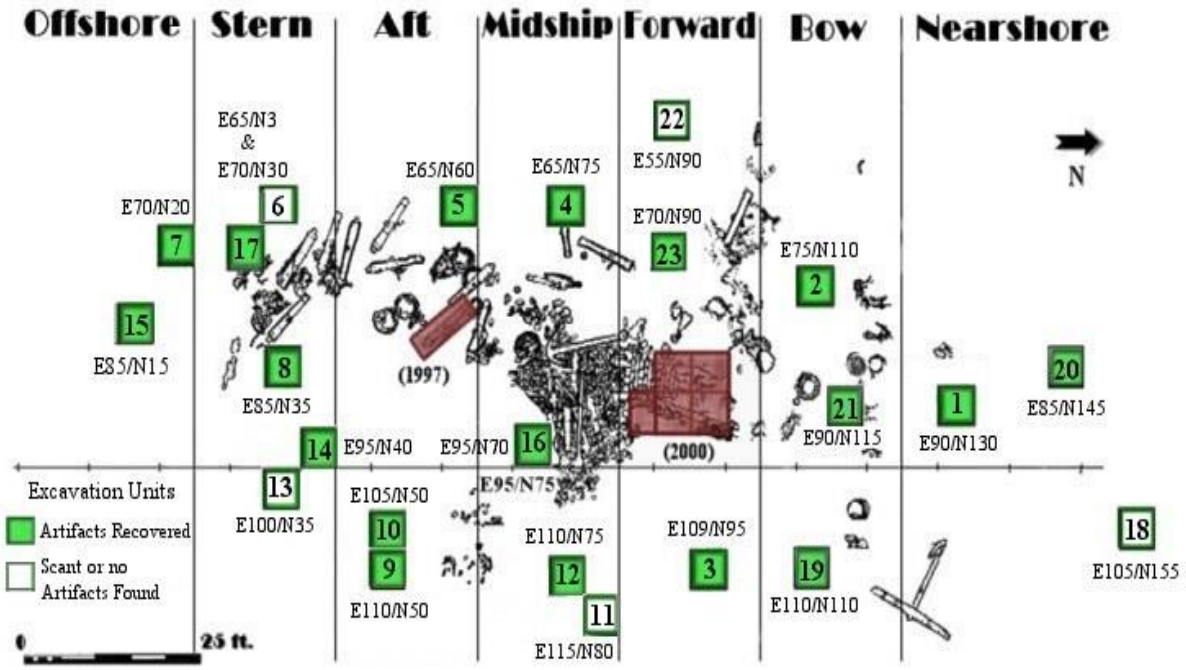
After the success of last year's recovery of C15, project personnel once again off-loaded the newly recovered cannon to a trailer at US Coast Guard Ft. Macon and took it down the road a few hundred yards to the historic state park for public viewing. And did the public ever come - in a little over an hour nearly 400 interested people ranging in age from 4-years old to veteran retirees came to see this year's "fresh catch" and marvel at how much the cannon had changed since it sank to the bottom so many years ago. Even more important, project personnel were able to make everyone aware of how long and difficult the conservation process will be to restore it back to something that resembles the original cannon. This part of the overall project is estimated to require 90% of the overall time and cost of recovery and exemplifies the importance of having the professionally staffed *QAR* archaeological conservation laboratory located on the west research campus of East Carolina

University. Here students can receive training and practical experience while enhancing research and lowering conservation costs.

Meanwhile, researchers aboard *R/V Martech* couldn't bask in the glory of a successful cannon raising and waste good working conditions. After dropping the C5 off at the dock, the vessel reestablished it's mooring at the shipwreck site and through the afternoon archaeologists successfully completed Unit 18 (E105N55) at the very northern end of the site. The placement of this unit was critical to determine exactly how far artifacts extended in a shoreward direction, which is also the direction of the strongest bottom currents. While there were only a few artifacts noted and recovered, mostly ballast and a few cask hoop fragments, it confirmed a scatter pattern of artifacts in a northerly direction. This is contrary to the rather abrupt edge at the southern end and fits with geological observations and archaeological predictions. At the end of the day Unit 18 was completed and gear moved to Unit 19 (E110N110) in preparation for excavation there.

Entry - 18 May 2006 Expedition Log

All hands stand down and relax was the decision after *R/V Martech's* captain in consultation with archaeological supervisors determined that the sea state was marginal when observed at 8:00 am and reports were calling for worsening conditions throughout the day. While everyone is eager to continue excavation, a day off is never a bad thing because it allows for catching up on paperwork and miscellaneous odd jobs, as well as a time to rest and recharge after a hectic yesterday.



Entry - 19 & 20 May 2006 Expedition Log
Mark Wilde-Ramsing

One or two days of foul weather may be a relief to a hard working crew but more than that made it impossible to complete expedition objectives in the time allowed. Southwest winds continued to make conditions unworkable and so on Saturday morning a disappointed crew packed up and wished *R/V Martech* well as she headed back down the waterway to Wilmington.

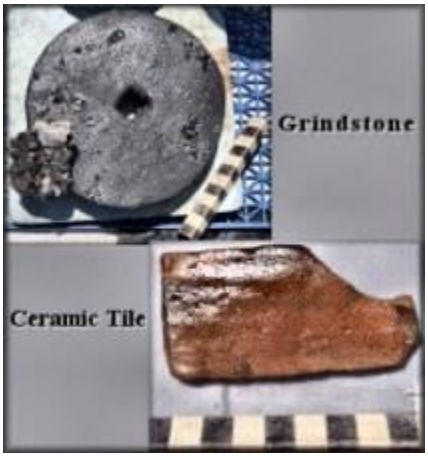
While we weren't able to complete research objectives, our efforts to engage the public far surpassed expectations. Over the last four days an estimated 1,500 people viewed the "fresh catch", cannon C5, either at **Fort Macon State Park** or at the grand opening of the **Pine Knoll Shores NC Aquarium.** Furthermore, media coverage was extensive and included four regional television stations, Freedom News Service (Jacksonville Daily News), Carteret News-Times, Canadian Broadcast Corporation Radio, WHQR Public Radio, and BBC News International. Interest continues to remain high and provides project members an opportunity to explain the many facets of research surrounding this fascinating shipwreck. Many, many thanks to all involved in this year's expedition.

Expedition Log - Final Days
Mark Wilde-Ramsing, Project Director

Sometimes it requires a sneak attack to get the task completed. After a frustrating week of poor weather during the formal expedition period, project staff decided to give it one more try May 30th, 31st, and June 1st. Our goal of completing at least three excavation units within each zone and several at either end of the site had fallen short by four units. As luck would have it or perhaps due to our stealth in planning (very few folks knew about our return to the site including the weather gods), rare easterly winds provided a wonderful backdrop to get the job done.

The day after Memorial Day, state archaeologists began work aboard *R/V Snap Dragon* (Captain Julep Gillman-Bryan) by assessing and repairing damage to the site's reference line system and re-establishing the grid position over Unit 19, which had been set up but left untouched. The visibility was excellent, allowing them to move quickly and soon they were removing the sand overburden with the 3' dredge system. While progress goes much slower than the bigger 6" system, it is more pleasant and in the case of Unit 20 where little sand covered the artifacts it was enough. By the end of the day they had mapped and recovered a handful of artifacts - a few ballast, spike-like concretions, a couple pieces of glass and pottery, and collected the sand sample. When they returned to dock, the shore crew was in the process of loading the UNC - Chapel Hill/Institute of Marine Sciences *R/V Capricorn* (Captain Joe Purifoy) with the big excavation gear and conservation tanks.

Beginning the next morning at 7:30 am and continuing to 6 pm on June 1st, archaeologists worked hard and steady. They first took on Unit 20, which was at the near shore end of the site where artifacts were thinning out. Artifacts included a couple of small ballast and a few concretions, one which had a piece green bottle glass protruding from it. Meanwhile the smaller dredge went to Unit 21, which contained several hundred ballast ranging in size from that of a volleyball to a golf ball. In addition to numerous concretions, this unit contained at least one and possibly two ceramic tiles and is the same location where another tile was found in 1999. This provides evidence for the galley stove being located in the forward hold area.



With these units virtually completed by the end of the first day, it looked like we would finish up the final unit by mid-day and get everybody including artifacts on the road and home at a decent hour. But that's what we get for thinking. Unit 23 was placed out to the west at the outer limits of the

projected artifact dispersion. Here overburden is at least several feet thick and after some time, excavators reported that there were no artifacts here. In an effort to define the limits of the site as has been done along other margins of the site, a small trench was excavated easterly toward the mound until eventually artifacts were discovered. At this point Unit 23 was established and excavated. Artifacts recovered were a number of cannon ball and lead shot concretions. As it usually works, as the unit was being cleaned and sediment samples take an object appeared on the edge of an adjacent unit. It was an intact grindstone for sharpening bladed instruments. To the delight of everyone this interesting object was brought to the surface and brought to an end the stratified sampling project. We now have fully excavated approximately 7% of the shipwreck from all areas of the site. This will be important in planning our next step.