QAR Inspection Dives - post Hurricane Ophelia
September 18, 20, October 4-5, 2005
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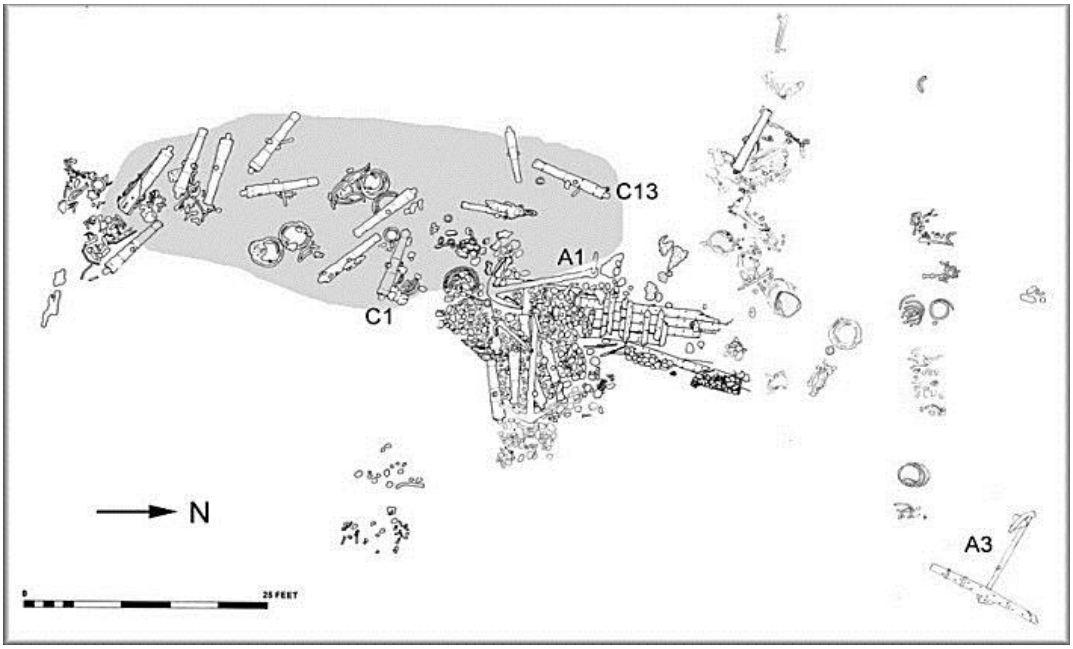
On September 14, Hurricane Ophelia reached the North Carolina coast near Cape Fear as an impressive Category 1 storm with maximum sustained winds of 85-90 mph. The large eye of Ophelia stayed offshore never crossing land, but as the storm turned slowly east-northeast passing Cape Lookout and Cape Hatteras on September 15, strong winds and rain from the eyewall caused significant damage in coastal areas around Beaufort Inlet.

Just a few days after the storm, Sunday September 18, project director Mark Wilde-Ramsing made a brief visit to the *QAR* with the assistance of Olympus Dive Center of Morehead City. Conditions were extremely poor with current and no visibility, but it appeared that there was scour south of the main ballast pile further exposing the south cannon.Tuesday September 20, UAB/*QAR* staff members attempted a full reconnaissance and inspection of the *Queen Anne's Revenge* shipwreck site again with the assistance of Olympus Dive Center. Surface conditions were fair with a southeast swell. Visibility dropped to zero as divers neared the bottom, and a strong surge caused by the swells prevented any effective work. Divers did confirm

erosive scour primarily to the south and southwest of the main ballast pile, missing or damaged baseline stakes, and loose reference line and sea grass tangled in areas of the site. Building swells/surge and poor visibility caused researchers to terminate diving operations and plan a multi-day return to the site under better conditions.

UAB/*QAR* staff returned to Morehead City, Monday October 3, for a planned 3-4 day cleanup, documentation, and recovery. Deteriorating conditions limited operations to only two days, Tuesday and Wednesday. Visibility the first day was 3-4 feet, which allowed for cleaning up the fouled lines and good reconnaissance of the site. Researchers also replaced baseline stakes, damaged or lost by the storm. New elevations of the replacement stakes will be taken to reference them to the datum and allow for continuity of sand level monitoring.

The site area showed evidence of scour around the main pile. Cannon C-1 was very exposed as were most all of the south cannon. Cask hoops and rigging elements to the southwest side of the pile were also exposed, similar to after Hurricane Isabel. Areas west of the pile between cannon C-13 and anchor A-1 were also scoured out. Anchor A-1 was exposed completely down to the ring and anchor A-3 was exposed almost to the stock once again. Numerous small to medium size concretions, most less than one foot, were newly exposed southwest of the main pile and among the south cannon. Some appear to be cannon balls, or possibly bar shot, along with other indeterminate objects. One newly exposed item was carefully trilaterated and mapped and left in situ for video documentation. Videographer Rick Allen of Nautilus Productions, a frequent and long-term volunteer contributor to the project, joined researchers on Wednesday to video the object before recovery. Rapidly diminishing visibility limited the effectiveness of video documentation of other newly exposed areas of the site.



Shown below, the recovered object appears to be a copper-alloy apothecary mortar. Detailed preliminary examination in the conservation lab suggests recent physical trauma to the artifact likely from storm tumbling and sand/wave action. There are areas where the corrosion product

and concretion, which offers the object some protection from its environment once it builds up, has been dislodged. The physical loss of this surface layer can also take the original surface layer of the artifact with it, often removing identifying features or marks. Corrosion can develop quickly on freshly exposed surfaces continuing the degradation of the artifact. The green patina shows areas of oxidation/corrosion.

The presence of only robust artifacts, like the brass/bronze mortar and cannon balls and shot, in the scour areas continues to reinforce archaeologists concerns over what "less robust" and potentially significant artifacts are being lost and scattered because of these storm events. What about the glass, ceramics, wood, organics, and other small personal items that could lend insight into the life of sailors, and potentially pirates of the early eighteenth century?

With the postponement of the DiveDown program until spring, researchers will return to the site in the weeks to come to finish any necessary recovery and documentation and secure the site for the winter season.

Dive Summary
Number of Days: 3
Number of Divers: 6
Number of Dives: 18
Dive Time: 17 hours 58 minute