Archaeologists Study 18th-Century Ship Found at World Trade Center Site

By Gwendolyn Purdom | Online Only | Aug. 12, 2010

At the site of one of America's darkest days, a team recently uncovered a reminder of its brightest. On July 13, archaeologists at New York City's Ground Zero unearthed 32 feet of an 18th-century ship, 30 feet below the street where the World Trade Center once stood.

Overseen by the Port Authority of New York and New Jersey and the Lower Manhattan Development Corporation, the site, one block from the where the twin towers stood, is under construction as the future location of the rebuilt World Trade Center's vehicle security center, parking garage, and park.

Officials from AKRF, a New York City-based environmental and archaeological consulting firm that has worked with the Lower Manhattan Development Corporation on the redevelopment of the entire Ground Zero site since 2002, were monitoring construction the morning of the discovery. A. Michael Pappalardo, an archaeologist with AKRF and the excavation project manager, says his firm had been prepared to find 18th- and 19th-century artifacts, as the area in what was once the Hudson River had been identified as a former landfill created as part of New York City's expansion.

"There was room below those modern disturbances for historic resources to still be intact," Pappalardo says. "It was very clear within an hour or two that what we had were the remains of a ship."

The unusual find garnered immediate media attention and inspired Nichole Doub, head conservator at St. Leonard, Md., Maryland Archaeological Conservation Laboratory, to offer her lab's conservation and preservation services to AKRF and the other governing groups on the project. Her lab team was brought on a week after the discovery.

"A lot of people are just so interested in this they want to claim some kind of ownership as having participated in [the ship's] cultivation and excavation," Doub says.

The intricate three-week excavation process started immediately, as consultants from the state historic preservation office, New York City Landmarks Preservation Commission, and various other experts were called on to expose, identify, and map the remains. The second week, a team was assembled to remove the ship, and evaluate removal options, including whether the remnants should be left in place, moved in their entirety or disassembled and removed, the method the group eventually chose. Week three, July 26 through 30, was dedicated to the actual removal process.

Each timber at the site was individually labeled, recorded in relation to its location on the ship, packed in Polyethylene foam and a water impermeable barrier to keep the wood from drying out, lifted out of the site, and transported by truck to the Maryland facility. Time was of the essence on the project, New York State Historic Preservation Office archaeologist Doug Mackey says.
"What we did was create a plan for the emergency removal of the ship because the wood is extremely fragile once it starts to dry out," Mackey says. "Not only do we have to get it out of the ground, but because they've been de-watering the whole area, it's already starting to change the soil chemistry. So we wanted to get it out of the ground and into the preservation facility as quickly as possible."

At the Maryland Archaeological Conservation Laboratory, Doub and her team of conservators, volunteers, and interns are now using brushes and sponges to scrub 200 years of muck and mud from the delicate oak pieces as experts work to determine more information about the ship's origins and history. Warren Reiss, the principal investigator, and a professor of 18th-century maritime history and archeology at the University of Maine, says so far they've determined the likely two-masted ship was a cargo vessel that mainly travelled along the Atlantic coast, rather than across oceans.

Dendrochronologists are working to determine more specific dating information using the wood's tree rings (currently, the team estimates the ship dates to around 1800); wood samples are being analyzed to find the ship's origins; and zoologists are studying geographically specific wood worm shells to establish where the ship traveled. Workers have found remains of a shoe buckle, ceramic pipe bowls, a cannon ball, and a copper alloy coin among the remnants.

Findings so far suggest the ship is unusual in that common cargo ships from this period were rarely documented or preserved.

"This isn't the king's and queen's ship; this is part of the history of 99.9 percent of America that never got recorded," says principal investigator Warren Reiss. "Ships were technologically one of the most advanced things that a society made in those days. They didn't have airplanes and rocket ships and electronics, so their best minds were often the shipwrights. This is one of the ships that helped build New York and probably the country."

Moving forward, Doub says just stabilizing the wood could take three to four years, and though she says the Port Authority and LMDC, who are funding the project, have looked into the possibility of eventually reconstructing and displaying the ship, it's not a priority at this early stage.

"This ship dates to a time when the United States was really coming into its own," Doub says. "It was just after our war for independence, and we really depended heavily on the shipping industry. The waterways were the lifeblood of our nation."

Correction: An earlier version of this story stated that a construction crew unearthed the ship; in fact on-site AKRF archaeologists also made the discovery. We regret the error.