THE INFOAGE
MARCONIGRAPH

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Another Year of Progress and Hard Work at InfoAge

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As 2015 draws to a close it is a good time to look at our accomplishments and to consider our opportunities ahead. We have much to be pleased with. We are grateful to our donors and amazing volunteers who enable and drive our progress.

In keeping with our mission to inspire kids to learn science and history, we have hosted school classes from Belmar, just across the Shark River, and as far away as Trenton. To quote an educator from Trenton, "There is real teaching going on here." The educational environment is created by our expert volunteers whose enthusiasm inspires the students.

We have made three very important advances this year; we have switched our accounting from Excel to QuickBooks for non-profits, our strategic plan has been approved by the Board of Trustees and we have a professionally updated preservation master plan. A grant from the NJ Historic Trust funded $50,000 of the $66,800 project.

To quote an educator from Trenton, "There is real teaching going on here."

This year brought expansion in usable space. We completed renovations to four buildings creating over 24,000 sq. ft. of additional space. The former TIROS satellite control center, Building 9162, is ready with two renovated restrooms that can accommodate all visitors. In this teaching space the first weather satellite photos were developed and it was discovered that hurricanes could be seen forming over distant oceans. An excellent grant from the NJ Cultural Trust and lots of work enabled us to open a section of the historic radar laboratory H-Building known as 9010A. This 7,200 sq. ft. building has two classrooms, two large exhibit rooms and two smaller exhibit spaces. Our partner the Military Technology Museum of NJ opened the two H-sections 9011A and B. The adjoining buildings are filled with historic WW2 vehicles, equipment and exhibits.

A thrilling advance for science education and meteorology history is the historic 60 ft. diameter TIROS dish is now working! Dr. Dan Marlow led a team of Princeton University Physics and Engineering Departments members to make all the repairs necessary to enable the 1958 constructed disk to work after being mothballed since 1975. His is real science and an exciting platform to advance astronomy education for all grade levels.

Our tenth Haunted Hotel / Camp Evans Base of Terror Halloween fund raising event was excellent. The creativity and hard work of the volunteers were crowd pleasers. Many visitors said this year's event was the best yet. These few words cannot do justice to how much fun visitors had and how many families came here for their first visit thanks to this event.

As we approach our nineteenth year as a not-for-profit corporation we can be proud that our work to save Camp Evans has been validated by the National Park Service. We can be inspired and challenged that as more schools and families visit we have the opportunity to make the future better. When our expert volunteers inspire students, the students do better in history and science classes. This is the heart of our mission.

Please consider a gift to help continue our excellent mission. We have produced great results with the gifts of funds and dedicated volunteering.

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Mapping the "Robert J. Walker"

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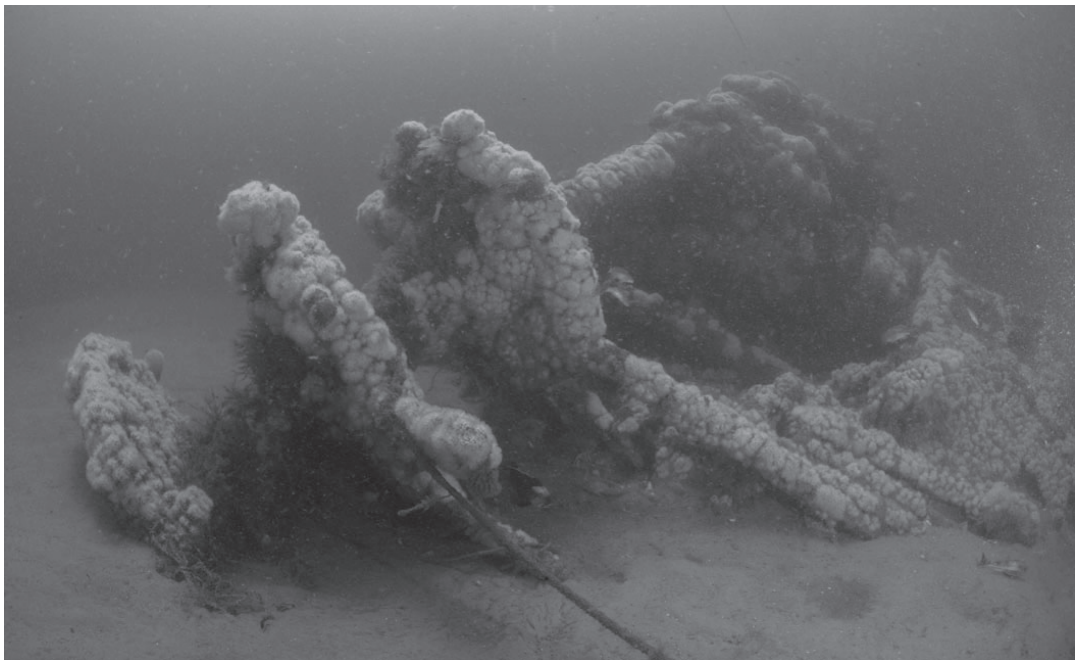

The Starboard Paddle Wheel of the "Robert J. Walker" lost ten miles off of Absecon Lighthouse on June 21, 1860 with a loss of twenty-one lives. Pictured here are the hubs of the paddle wheel assembly and the shaft leading to the top of the walker's steam engines. Just to the right of the hubs lay the remains of the spokes of the paddle wheel.

Introduction

Plans for my expedition began in 2014 when I received a phone call from Joyce Steinmetz, an archaeologist with connections to the National Oceanic and Atmospheric Administration (NOAA). Joyce said that the new head of Maritime Heritage for NOAA's National Marine Sanctuaries Program, Dr. James P. Delgado, had a dilemma. Some that came before him had a rather dim view of SCUBA divers that retrieved anything from shipwrecks. So much so that some labeled divers "rapists and pillagers of submerged cultural resources." On the other side of the fence were those who likened some archaeologists with Nazism. Clearly battle lines had been drawn between the two sides. Joyce explained to me that Dr. Delgado, or Jim as he prefers to be called, had the task of smoothing out the relationship between NOAA and the private sector. Joyce recommended Jim speak to me. It happens I not only head but helped to start a private non-profit named the "New Jersey Historical Divers Association," a group dedicated to preserving New Jersey shipwreck and maritime history.

Jim explained to me that he and Joyce had been researching a wreck off New Jersey that had historical significance. He further explained that his boss had given him permission to accomplish the goal of building a bridge between SCUBA divers and archaeologists anyway he felt was best. Jim felt this wreck was creating the opportunity to do just that. A year before, NOAA Historian Albert (Skip) Theberge recognized the opportunity to honor the lost "Robert J. Walker" sailors. He discussed the idea of placing a memorial wreath over the approximate area with Jim. Jim thought it would be possible to actually find and identify the wreck. Enlisting the aid of maritime archaeologist Joyce Steinmetz an effort was made to review wrecks in that area, focus on candidate wrecks, and attempt identification. However, no identifying artifact had been recovered allowing any of them to make the claim they had found the "Robert J. Walker." During the June 2013 fieldwork, hydrographers on the NOAA Ship "Thomas Jefferson" surveyed a strong candidate site and its surroundings with high-resolution multibeam and side-scan sonar. This work was followed by a side scan sonar survey and archaeological SCUBA dives conducted by NOAA that characterized a

shipwreck as a side wheeler made of iron in the approximate location of the Walker. This data confirmed that a wreck locally known as the "$25 Wreck" was U.S.C.S.S. "Robert J. Walker," lost off Absecon Inlet. Jim placed the Walker on the National Register of Historic Places. NOAA did not make the Walker site a marine sanctuary. What they did instead was make it a memorial site to those that lost their lives in the tragedy.

Historical background

History had forgotten the men that died during and following the collision at sea between the "Fanny" and the "Robert J Walker." No investigation was conducted and no fault was placed. The names of the lost were not even published in the Coast Survey's annual report. It seemed as though the whole incident was "swept under the rug." The Walker's sinking was quickly forgotten.

The loss of the 358-ton U.S.C.S.S. "Robert J. Walker" occurred at 2:20AM on June 21, 1860 after a collision with the 250-ton Schooner "Fanny" headed for Boston from Philadelphia. 72 souls were aboard the Walker. Even though it was a cloudy night with gale force winds, the lights of both vessels could be seen. During this tumultuous sea state, the "Fanny" made a turn that resulted in the collision causing the loss of 21 of the Walker's crew.

Figure 1

The "Fanny" struck the Walker just forward of her port paddlewheel. Crewmen aboard the Walker attempted to stem the inrushing water by stuffing their bedding into the wound to no avail. Meanwhile, the Walker, attempted to make shore by steering to the Absecon Lighthouse (Figure 1) twelve miles away. The inrush of water proved too much, and the Walker soon settled low in the water and sank in thirty minutes just two miles from the point of collision. Twenty of the crew died in the collision and during the sinking. The "Fanny's" Captain admitted he caused the collision, but thought he did little damage to the Walker and continued on. The schooner "R.G. Porter" literally happened upon the scene and heard the cries of the Walkers survivors. It stopped and picked up the crew from their lifeboats, and then searched the area for any other survivors that may have been floating nearby and brought the Walker's surviving crew to May's Landing, New Jersey. There, the last soul to perish died of his crushing injuries the following day.

A Special Guest and an Expedition is Born

During our conversations, Jim stated that he had free reign to reach out anyway he deemed appropriate. I suggested that Jim come to my museum and offer a presentation on the "Robert J. Walker" and why it had been important to create the memorial. During the presentation in August of 2013, Jim explained the history and fate of the "Robert J. Walker." He discussed why NOAA had created a memorial of the wreck and the plans for a memorial plaque at the Absecon Lighthouse in 2015. His presentation included side scan sonar images, multi-beam side scan, remotely operated vehicle images and diver photography. At the end of his presentation, I asked Jim if anyone had ever mapped the wreck. He said, "No. Want to do it?" I explained that I had been on various archaeological expeditions and had produced maps of other wrecks when Jim stopped me and said, "I know who you are. I know you're capable of doing it." I was flattered and a bit taken by what he'd said when Captain Paul Hepler, owner-operator of the dive boat "Venture III," walked up to me and said, "If you can get the money together, I'll supply the dive boat." As I ondered this, Steve Nagiewicz, a trustee of the Shark Research Institute, came up to me and said, "I think I can get the money you need." With that, an expedition was born.

Expedition Aims

The aims of the expedition were to gather enough data to create a perspective line-drawing (Figure 2, page 5) of how the "Robert J. Walker" wreck site appears today on the seafloor, create a site plan to be printed on plastic slates to offer scuba divers a guide by which to navigate the site, and to use these images in various publications as appropriate. Lastly, an overarching aim of the expedition was to bridge divides between the professional archaeological community and the sport diving community, to use archaeologists, treasure-hunters, salvors and sport divers to collect this data, and open a doorway that would allow all those interested in shipwrecks an opportunity to work together and better understand each others interests and concerns.

Acting as expedition co-leaders, Steve Nagiewicz and I split the work on this project. I undertook the scuba diving and underwater mapping aspects (Figure 3, page 4) of the project and Steve managed the remote sensing aspects of the project which would be providing divers with side scan sonar imagery of the wreck site and preliminary images by ROV so that they may better visualize the wreck and plan their mapping dives. Steve enlisted several important partners, the first and one of the most important is Richard

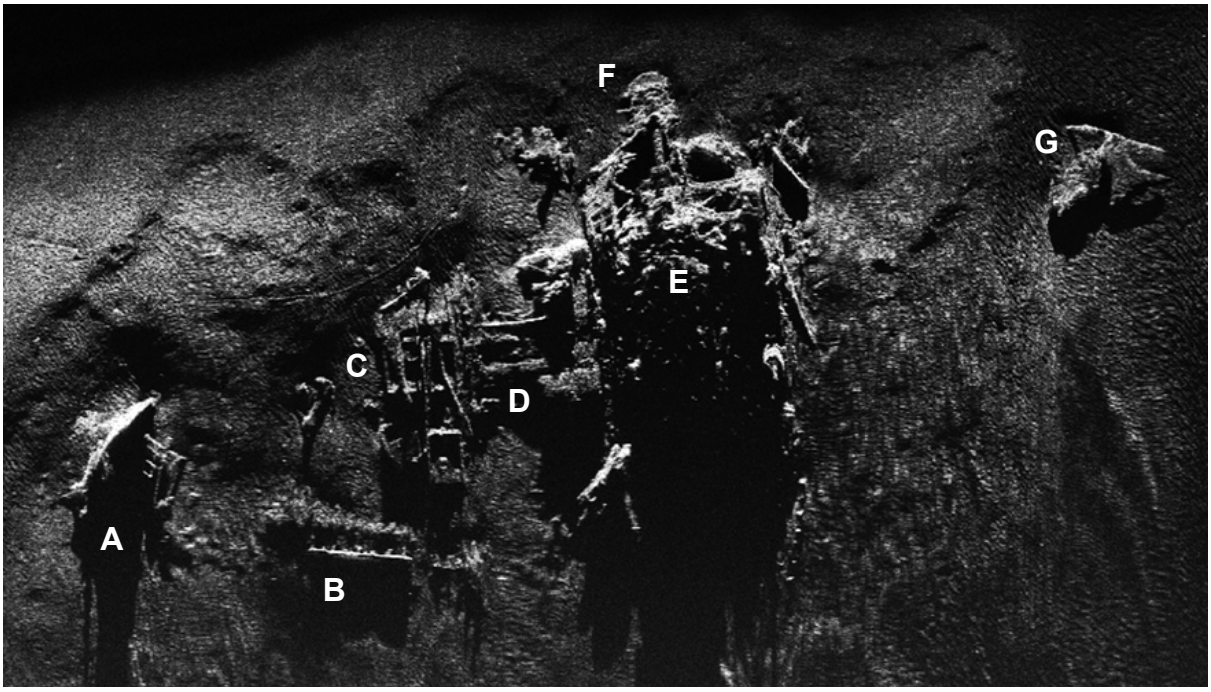

Figure 4 Side scan imagery clearly depicts major features of the wreck site. The bow (A) with its anchor is shown far left. Fallen hull members (B), tanks (C) and the Walkers boilers (D) are shown in the center of the wreckage along with the engines (E) and the starboard paddle wheel (F). The stern (G) is depicted far right.

Stockton College University, whose marine science field station would use state-of-the-art electronics and remotely operated vehicles (ROV) systems to remotely map and record video of the wreck.

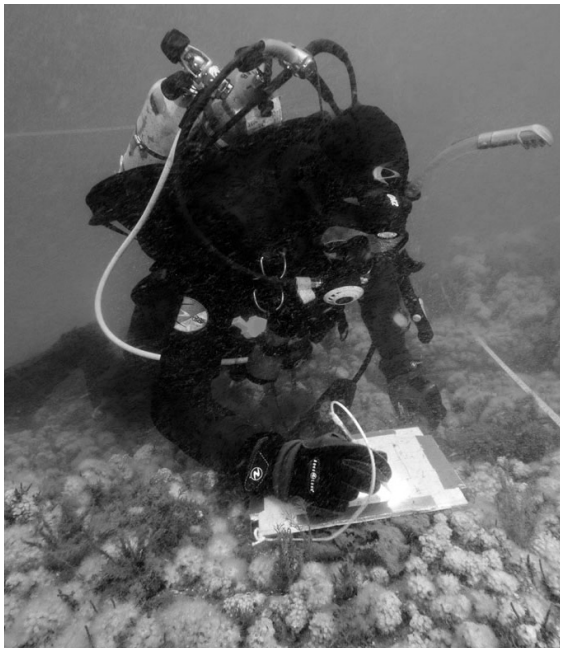

Figure 3 The author records the walker's boilers.

Stockton was assisted by Vince Capone's company; Black Laser Learning (Figure 4). Under Vince's tutelage, the students became experts using advanced Geographic Information Systems (GIS) technology to develop maps organize data and images for the second phase of the project: scuba diving and underwater mapping. The physical mapping would be accomplished by the New Jersey Historical Divers Association. The now out-of-business, Revel Resorts of Atlantic City acted as our host-hotel providing lodging and food to house the divers on-site. NOAA is also providing marine archeology advisors like James Delgado of the Office of Marine Sanctuaries and Matthew Lawrence and Joe Hoyt as well as contributions from many of NOAA's staff.

Several members of this expedition are or have now become members of the Explorers Club, an international professional non-profit organization that is dedicated to preserving the instinct of exploration. Photographers and videographers Mike Pizzio and Herb Segars, NOAA representative Jim Delgado, co-leaders Steve Nagiewicz and myself, Joe Fiorentino, Mike Haas and expedition doctor Matt Partrick are all members. Steve encouraged me to apply for the right to carry one of the Club's flags into the field. More than 200 flags, all numbered, have been issued over the years and carried on hundreds of expeditions all over the world. Each flag, some of which are officially "retired," have their own "history." This is more of an honor than anything else, but the flag I carried (Flag Number 132) has accompanied such notables as Dr. Robert Ballard and David Concannon to the wrecks of the "Bismarck" and "Titanic." Flag 132 has also been to the Juneau Ice Fields in 1948 - long before I was born. It has also accompanied Steve on several of his expeditions.

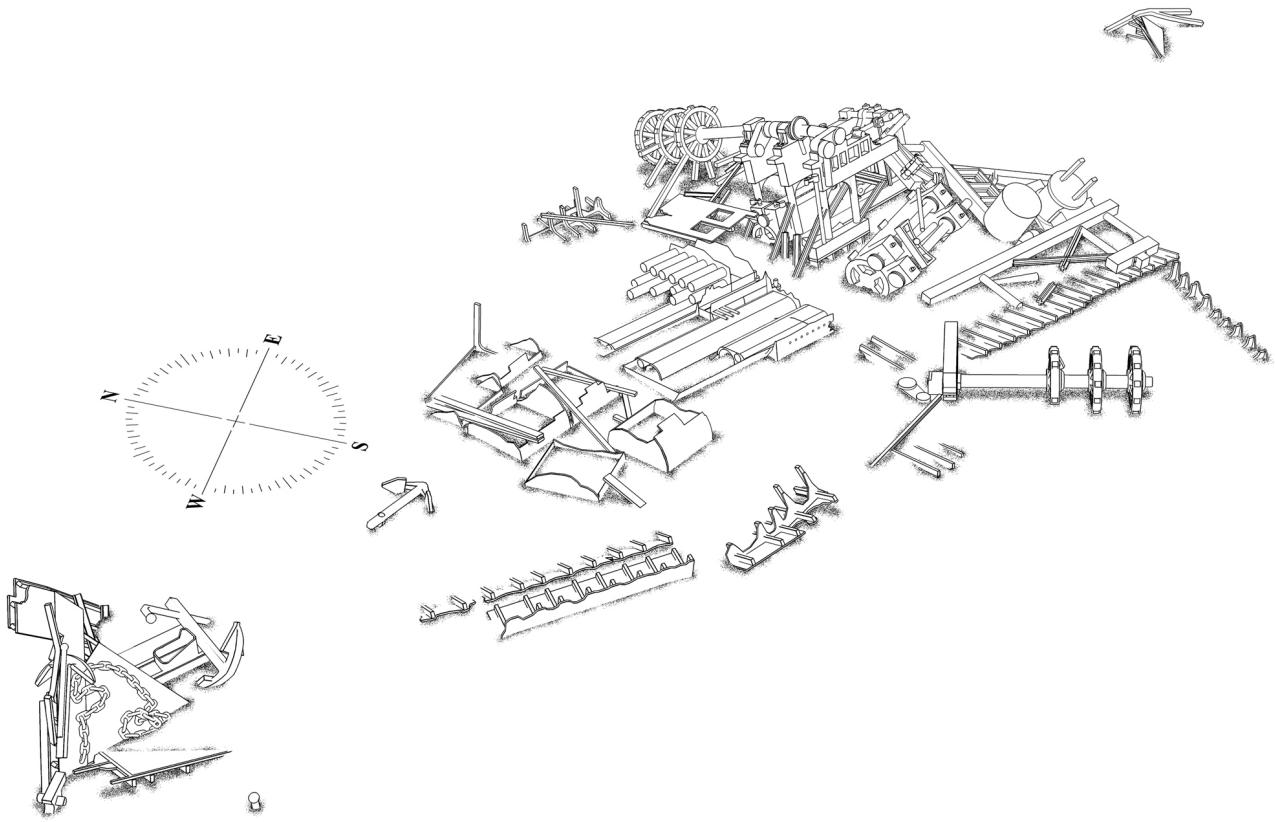

Figure 2 A Perspective Illustration depicts the remains of the "Robert J. Walker" as she lies on the bottom ten miles off Atlantic City, New Jersey. Included is a compass rose showing the northwest heading of the Walker as she made for the only point of light her captain could make out one that stormy night of June 21, 1860. All of the features the divers mapped are shown in this illustration. Not recorded were smaller pieces of wreckage and debris.

Site Description

The wreck site of the "Robert J. Walker" lies ten nautical miles out of Absecon Inlet, Atlantic City, New Jersey. She lies in 85 feet of water on a sandy bottom in a slight depression. Owing to this location, detritus from the inlet and other natural processes causes the wreck site to "silt up" and have a muddy bottom from time to time. This muddy bottom can clear out depending on currents at any given time of year. Diving the wreck can either be a pleasure as it was when divers mapped the site in August of 2014, or a chore groping in the dark as it was during a preliminary dive just two months earlier.

Preliminary Research

For decades divers visiting the site recovered various artifacts, but none of these lead to identification. One major clue to her identify is, of course, her location. The wreck lays ten miles out of Absecon Inlet. The Walker is recorded as sinking in approximately the same location. The $25 Wreck is a side wheeler and so is the Walker. Lastly, rare, rectangular portholes have been recovered by divers over the years. In the only known image of the Walker, a painting by W. E. K. Martin, the rectangular portholes can clearly be seen installed in her hull (Figure 5).

The "Robert J. Walker" had a unique engine system installed when she was built in 1847. The engines were of a patent design that allowed for them to be completely hidden from view to any viewer of the vessel. While most "walking beam" steam engines usually protrude above the upper-most deck of a side wheeler with its walking beam clearly visible, the Walker had engines installed that resembled a standard walking beam configuration turned on it side and collapsed in profile. This made for a more compact, shallower design allowing the engines to be completely protected from the elements. If the $25 Wreck had this engine design still apparent, her identity would be solved.

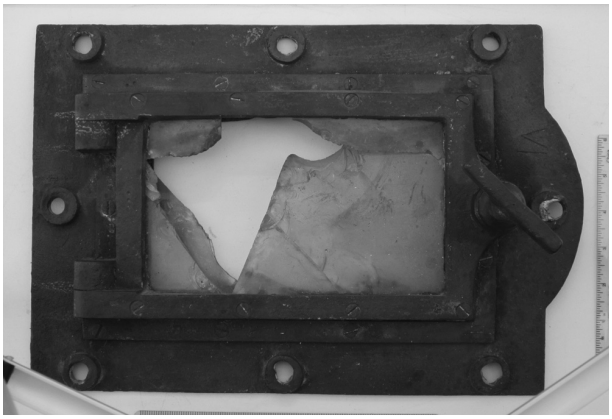

Figure 5 One of several portholes recovered from the site.

Into the Field

It was the mapping expedition's good fortune to have outstanding underwater visibility during the entire time they spent at the site. When we headed out on what would be our first day of diving, the day began with a little bit of a breeze and a mild amount of surface chop. But as the day progressed, the sea got calmer. By the time we were ready to make our first dives, the seas were nearly flat and the surface water rather clear. Harry Roecker and I were the first to splash. Harry's job was to tie a line from the "Venture III" to the highest point on the wreck, which wound up being her starboard engine (Figure 6). My job was to carry down and set up a baseline, a tape measure running through the entire site that we would use to base all other measurements and features. What greeted us below the water's surface in 85 feet of water was near tropical visibility. From only fifteen feet down the line I could see her bow off to my right and her stern off to my left - the whole wreck in one glance. I literally thanked God right then and there; I could not have prayed for better conditions (Figure 7, page 8).

Our divers used stakes driven into the bottom at points along the baseline to measure features (Figure 8). We used plastic slates covered with frosted acetate, used mechanical pencils and nylon tape measures and plastic folding rulers to take their measurements. Survey stakes and measuring rods were also utilized where appropriate. Expedition vidoegraphers and photographers did an excellent and professional job of not only recording the wreck site, but documenting the divers' activities at the site. Topside, Matt Partrick recorded not only when each diver entered the water, but when they were expected to return. Nominally, twelve divers performed two dives a day with an average bottom time of 30 minutes. Over four days of diving a collective total of 48 hours were spent on the bottom

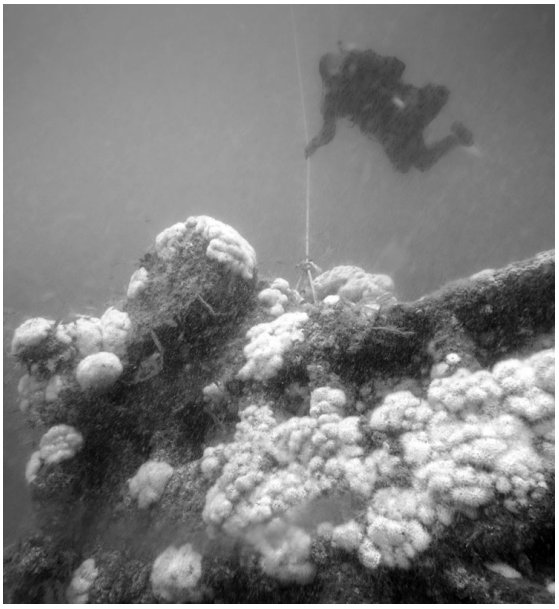

Figure 6 Harry's tie-in job.

Matt Nigro and Joe Fiorentino concentrated their efforts on the bow. Mike Haas and Mike Lavitt recorded containers forward of the Walkers boilers. Shawn Sweeny added to this data and later broke down the site collecting any remaining tape measures left on the wreck. I recorded the boilers while Harry Roecker recorded the port engine. Joyce recorded all of the Walker's anchors for an international database of such, and assisted in recording the engines. I recorded the starboard engine. NOAA archaeologists Matt Lawrence and Joe Hoyt mapped the collapsed port engine. The underwater photography and videography carried out by Joe Hoyt, Al Vogel, Herb Segars and Mike Pizzio made drawing the wreck much easier. Topside, Ruth and Paul Hepler and Ronnie Segars kept us moving and got us in and out of the water smoothly and efficiently.

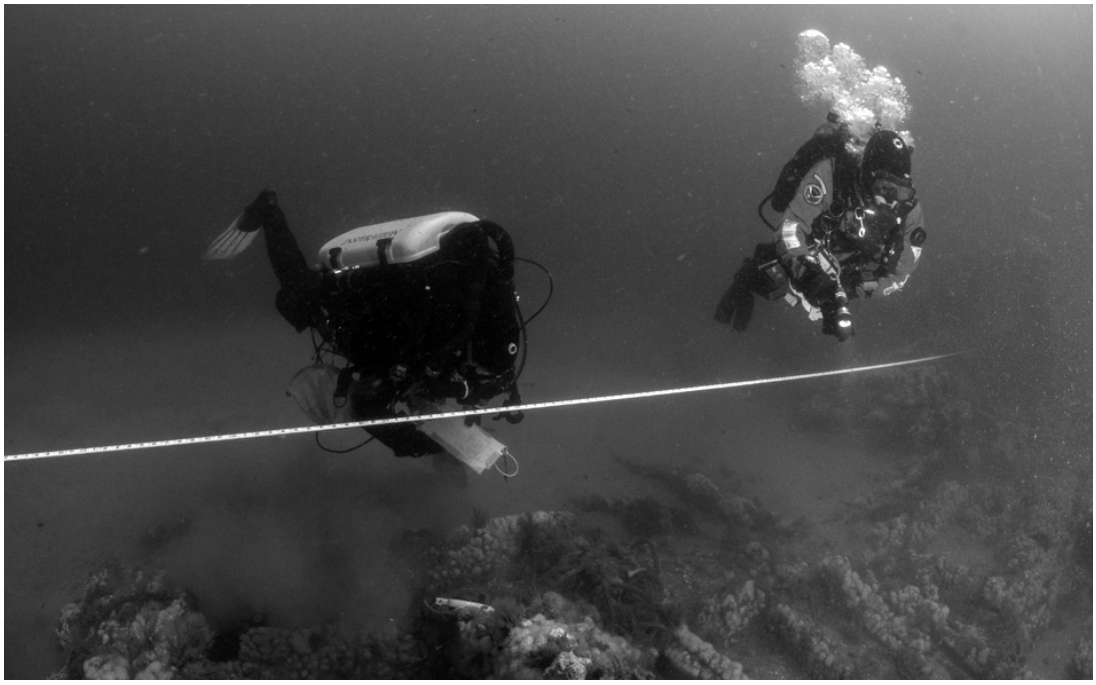

Figure 8 Expedition Diver Shawn Sweeney (left) carefully records the tanks located in the Walker's hull. He references his recordings to a tape measure baseline which was set up early during the expedition to run throught the centerline of the wreck. Divers utilized it as a common reference. Matt Lawrence (right) swims by on his way to the bow.

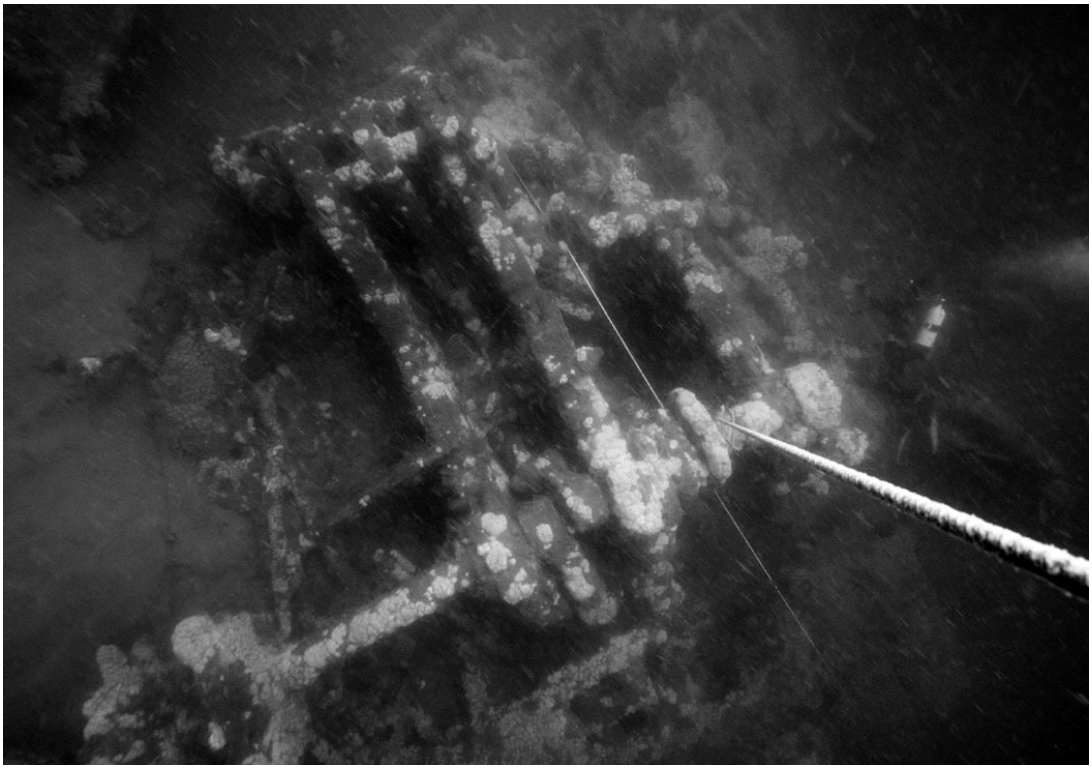

Figure 7 Fifteen Feet Below the Surface divers could clearly see the Walker as she lay on the bottom at 85 feet. The descent line (right) is fastened to the highest point on the wreck and afforded divers an opportunity to not stir up bottom sediments and further cloud the water if visibiliy was less than ideal. Much to our surprise, visibilty at the site was near-tropical.

The Site Today

Aside from the usual state of collapse we expected to find at a wreck site 155 years old, it had obviously been impacted by mechanized fishing practices. We found sections of wreckage torn from others with fishing nets still drawn tight throughout them. We also found pot fishing line entangled throughout the site. While the bow and stern of the Walker seem to have given way to the ravages of the ocean and time, the port engine has been torn so completely apart as to be drawn far out of place and toppled upside down. This is in stark contrast to the fact that the starboard engine seems relatively intact. Clearly, the commercial fishing industry has had a dramatic effect on this historically significant site.

Analysis of Finds

The results of this expedition were largely as expected; we gathered enough information to create a site plan and perspective illustration of the wreck site of the "Robert J. Walker." What was unexpected was the tremendous amount of respect and camaraderie the participants had for each other. An unusual mix of talents and skill levels, our expedition consisted of virtually an all-volunteer group of professionals and laypersons. Also unexpected was the level of support and participation from Richard Stockton College students and teachers. Their participation in providing remote sensing surveys prior to our arrival, gave us real and meaningful data that would guide us. The generosity of some in the local business community of Atlantic City aided in making this expedition a success. In all, the value of what was donated to us, bought or brought to use, and the services we utilized came to about $225,000. We could have spent our nights in sleeping bags on the living room floor of Harry's beach house a half-hour away from the boat, but the generosity of others allowed us to sleep in king-sized beds. Now that's how to run an expedition!

Conclusions

The expedition results show the current state of the "Robert J. Walker" as she lies on the bottom today. The Walker was built with an engine design that was patented and unique among those vessels that wrecked off New Jersey. Observations and recordings show this is exactly the design of the engines at the wreck site. While NOAA's claim that the site is the "Robert J. Walker" was felt to be speculative at best by some, this expedition supports their claim proving without a doubt the identity of the wreckage.

The success of mapping operation may indicate to legislators and policymakers that there is "common ground" between the archaeological community and the others that utilize shipwreck sites. The author's personal observation is that once the goal was set and agreed upon, great things happened and points of view were freely exchanged. Archaeologists bear a responsibility to share the results of investigations with the public. What better way to do that than to invite the very public to join them on expeditions.

InfoAge
Science/History Center
at Camp Evans, Wall, NJ

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The Newsletter of InfoAge

Inside this issue...

Save The Dates

OMARC is hosting a Morse code class
2300 Marconi Road - Bldg 9116, Wall
Jan 21, 2016 at 6PM.
For more information, please call:
855-InfoAge or email morse@n2mo.org
(Class will last for 6 weeks)

NJARC Winter Repair Clinic
2201 Marconi Rd, Wall
February 20, 2016
9am until 4pm

The Art of Communications
Juried Art Exhibition
2201 Marconi Rd, Wall
March 4 thru April 1, 2016
7 to 10PM

Vintage Computer Festival East XI
April 15 thru 17, 2016
2201 Marconi Rd, Wall
Details will be posted at
www.vintagecomputerfederation.org.

NJARC Spring Repair Clinic
2201 Marconi Rd, Wall
May 7, 2016 9am until 4pm

NJARC Annual Summer Tailgate Swap Meet
2201 Marconi Rd, Wall
July 23, 2016 Building 9032a

For more information about these events, such as admission costs and times,
***call 732-280-3000** or visit us online at **www.infoage.org**.*

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