

AINA NEWSLETTER

VOL 4 NO 1



Summer 1976

The Penobscot Expedition, 1976



The tugboat *Dirigo* tied up alongside the work float.

The 1976 Penobscot Expedition began on June 20, and work at the site continued for six weeks. As was the case in 1975, excavation of the *Defence* was carried out under the auspices of the Maine State Museum (AINA Newsletter, Vol. 2, No. 2). In conjunction with its responsibility for archaeological work at the *Defence* site, AINA conducted its fourth summer field school. Twelve students were enrolled, including undergraduates, graduates, and one post graduate, representing eleven colleges and universities in the U.S. and Canada (AINA Newsletter, Vol. 3, No. 1). Two students from the previous summer, Cynthia Orr and

Rhys Townsend, returned and fulfilled staff positions.

Expedition headquarters were maintained at Maine Maritime Academy in Castine. In addition to dormitory and food services, the Academy provided a classroom, workshop facilities, and a laboratory for artifact holding, treatment, final registration, and drawing. Operational support provided by the Academy also included the expedition vessel, the tugboat *Dirigo*. Skipped by Dave Wyman, associate project director and professor of ocean engineering, *Dirigo* provided many advantages over the smaller *Panthalass*, the support craft used during the

1975 season. The tugboat's spacious stern deck allowed ample accommodation for equipment and artifact holding tanks. Augmenting this were galley facilities and showers. When he wasn't coaxing a recalcitrant engine, Chief Engineer Jim Ross performed at the galley stove, providing toasted sandwiches, soup, and a constant supply of coffee.

Prior to the arrival of the students, the work float was anchored over the wreck. Shelley Reisman, a graduate student in conservation and summer intern with the State Museum on a Winterthur Fellowship, set up the laboratory and initiated the construction of holding tanks. A number of tasks were completed by the field school students, including construction of a larger and improved floating sieve box for the airlift and fabrication of a new and larger grid frame (20' x 25') out of 2½" PVC pipe.

The first few days at the site were spent orienting students to the wreck, cleaning frame number tags; establishing the procedure for maneuvering *Dirigo* to its mooring position along side the work float; and emplacing the new grid over the bow area where we planned to concentrate excavation efforts. Once oriented, the grid was leveled by means of vertical supports to provide a datum of

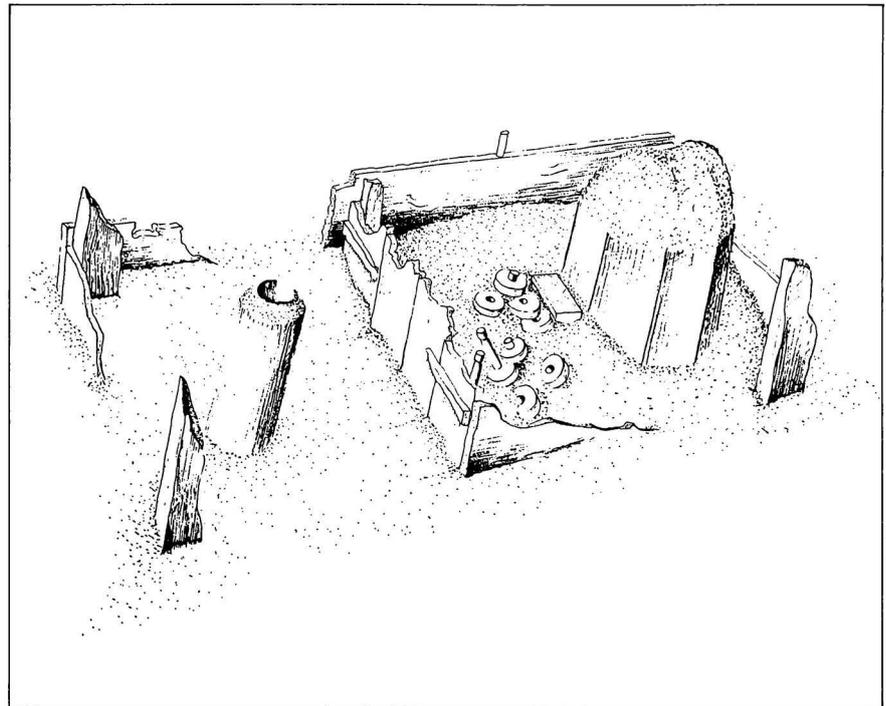
Phil and Carol Voss/AINA

approximately eight inches above the sea bed.

Diving operations were carried out in a different manner from the previous summer. Divided into two groups, students alternated between topside work and excavation. In addition to working as excavators, each student served as barge chief and recorder. Other aspects of topside work included cleaning and registering finds; operating a small launch which accompanied the tug each day; handling mooring lines; steering the tug; and maintaining equipment.

The expedition goal was to clear the bow area from the stem aft to the cookstove and foremast stump. The excavation plan called for the establishment of two trenches. One trench would extend from the stem aft to the mast stump where it would intersect with an athwartship trench, forming a T. Due to the amount of material encountered and the time-consuming task of recording and recovering the staves, tops, and bottoms of numerous provision casks, progress was slow. The plan, therefore, had to be modified and our efforts were concentrated on the athwartships trench. In this trench, five feet wide, eighteen feet long, and nearly five feet deep at the keelson, an area of some 200 plus cubic feet was cleared. Interspersed among the cask remains was a variety of artifacts including clay pipe bowls and stems, four different types of buttons, shoes, buckles, tool handles, stoneware and other sherds, and pewter spoons. Other wooden material included container parts ranging from mess kits to small barrels.

Especially exciting was the increased human dimension that appeared with the recovery of many artifacts bearing initials. Four different sets of initials appeared on various items such as spoons, a knife handle, and mess kit bottoms. Equally exciting was the fact that many finds were recovered in areas determined to be the carpenter's, gunner's, and bosun's lockers or compartments. From the former came tool handles, wood shavings, and wood scraps. Adjacent to the bosun's locker a fid and a sailmaker's palm were



Peter Hentschel/AINA

The stump of the mainmast, with hewn sides revealed, projects through the mud, as does the wooden bilge pump pipe. The "bin" surrounding the mainmast holds grapeshot racks.

recovered. Nearby, intact balls of twine were found which have been identified as cannon wadding, essential items of the gunner's stores.

Forward of the major trench intact provision casks were located. Failing in an attempt to bring them to the surface intact, we carefully disassembled them; the staves were numbered to allow reassembly by a cooper upon completion of the preservation treatment at the State Museum. The contents, beef and pork bones, were recovered from two barrels, providing the possibility of a detailed analysis of the contents in terms of techniques of butchery, animal size, and which animal parts were used in the preparation of salt beef or pork.

In 1975 we experienced extremely poor luck with photography. Such was not the case in 1976, due to the effort and skill of the expedition photographers,

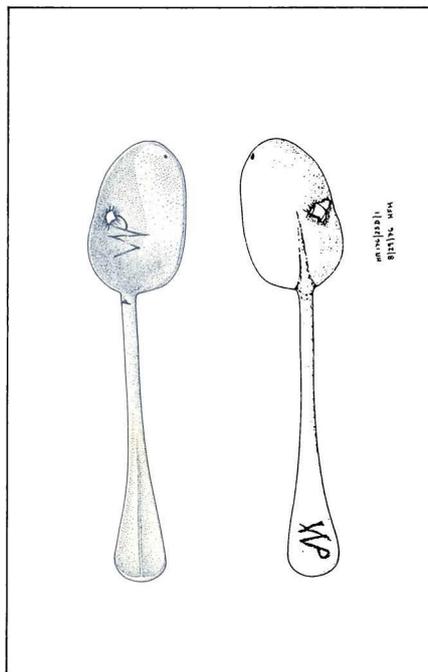
the father-son team of Carrol and Phil Voss of Gettysburg, Pa. Journeying from their summer home in Bristol, Maine, the Vosses spent one or two days per week at the site. Although visibility, or lack of it, presented problems, they were able to add to the permanent record through black and white and color photographs of frames, ceiling planking, the cookstove and cauldron, and objects *in situ*. Carrol and Phil also maintained a photographic record of topside activities on the float and *Dirigo*. At an evening session near the end of the season Carrol and Phil gave a slide show, providing an opportunity for expedition members to review the photographic record of the summer's work. As a prelude to the showing, Phil gave an illustrated talk covering underwater photography techniques and the operation and advantages/disadvantages of various types of cameras and housings.

Success with photography did not preclude the need for a variety of drawings. Four phases of drawing were carried out. To update and increase the detail of the site plan completed in 1975, Dave Wyman worked on a scale rendition (1½" to 1') of structural elements revealed through excavation — such as knees and deck beams. Completion of the athwartship trench also provided the opportunity to take extensive measurements, enabling the completion of a cross-sectional profile of the hull at frame #15.

Another phase of drawing involved the completion of a perspective view of each excavated area. Using depth from datum measurements and provenance records, Cynthia Orr produced three-dimensional plans in which all finds encountered during the excavation were drawn in scale as they appeared *in situ*. These drawings will provide valuable information about the distribution of material within a mud-imbedded hull and will be extremely useful in planning subsequent excavation efforts on the *Defence* or in the hull of a similarly imbedded vessel.

Underwater drawing fell into two categories — working sketches completed by the excavators and detailed drawings of hull structures. Again we were indebted to the efforts of Peter Hentschel who contributed three weekends to underwater and artifact drawing. As was the case in 1975, Peter's eye discerned a number of details of the hull structure which had eluded Dave Wyman and me. Peter's drawings of the stove including new features that were revealed will facilitate the disassembly of the bricks and the stove's reconstruction as a permanent display. Moreover, his drawings of the stem, mainmast grapeshot "bin," and bilge pump pipe can be incorporated into the developing site plan.

Concurrent with drawing activities noted thus far, we were able to initiate a collection of scale drawings of significant artifacts. Helen Hillhouse, a student, completed twelve drawings, some of which will be used to illustrate future reports and articles. Students Carol Olsen and



A pewter spoon, marked with the owner's initials on the bowl and handle.

Barbara Stucki also worked with Dave Wyman and provided scale drawings of recovered structures to be incorporated in the site plan.

Important to the success of the 1976 expedition were improved facilities for artifact holding, transportation, and treatment, and the on-site presence of a conservator. Shelley Reisman deftly orchestrated artifact registration, cleaning, and, when necessary, treatment to prevent decomposition or algae bloom. In more than one instance we presented her with problems of handling and storage unique to the nature of the recovered objects. Two cannonball garlands or shot racks that were raised provided the first difficult task. The racks, one eight feet long and the other six feet, included balls still in place, confronting her with devising a holding situation that would be compatible to wood as well as ferrous material.

Another problem item was the copper cauldron from the cookstove. Noting an advance in deterioration since the previous summer, we decided that the cauldron should be removed from the cookstove structure and shipped to the State Museum laboratory where the conservator, Stephen Brooke, would be able to monitor it and allay deterioration. Prior to the raising of the cauldron, a special holding tank was constructed. Fearing the effect of exposure to the air for the first time in 197 years, Shelley and her student team had to work quickly to wrap the cauldron in damp burlap and place it in the tank to be re-immersed in water. From the time the cauldron emerged from the water to the time it was packed, no more than five minutes elapsed.

The final large object that necessitated special care was the stump of the foremast. During the process of excavating the athwartship trench, the foremast stump was exposed completely. Below the eroded end which projected above the surface of the sea bed, the mast, still in the step on the keelson, was extremely well preserved. So used to seeing the eroded end which bore no traces of hewing, we were surprised to find the lower section had been hewn into eight faces. Again, the preservative quality of mud and clay inside the hull was revealed. Like many barrel staves and tops and cleared ceiling planks, the mast, too, appeared like new wood. The grain of the white pine was distinct, as were marks of the adzes or broad axes used to shape the end that keyed into the step. Just how well preserved it was became evident when a lift bag was attached to free it from the step. To everyone's astonishment — especially Rhys Townsend's who was operating the lift bag — after the first tug of the bag following a blast of air from his regulator, the mast suddenly began to float to the surface. After nearly 200 years there was still enough of an unwaterlogged core to provide buoyancy.

We had not intended to present the State Museum staff with the task of preserving the mast stump. Following care-

Helen F. Hillhouse/AINA

ful measurement, we planned to bury the mast adjacent to the wreck. Although weighted, the mast proved somewhat reluctant to stay in its new bed. Preparations were made for wet storage and transportation to Castine; the mast was brought to the surface and wrapped in burlap prior to immersion in the large holding tank on the *Dirigo* before being shipped to the Museum laboratory.

During the course of the summer a number of evening programs were scheduled. Dean Mayhew, a historian at Maine Maritime Academy and active in research on the original Penobscot Expedition of 1779, spoke about the historical background. Dr. Philip Lundeberg, Curator of Transportation at the Smithsonian, showed slides and talked about the recovery, preservation, and interpretation of the gunboat *Philadelphia*. Professor Steven Hyatt of the University of Maine/Bangor spoke about battlefield archaeology he had conducted at Castine. Professor Hyatt was also helpful in identifying a number of artifacts recovered. One of the highlights of these sessions was AINA Ship Reconstructor Richard Steffy's presentation on the *Kyrenia* ship and his lectures on ship construction, superbly illustrated by his drawings on the blackboard. Coming as it did toward the end of the season, Dick's lecture provided a follow-up of earlier presentations on shipbuilding by Dave Wyman. A field trip to the Bath Marine Museum provided the students with the opportunity to visit a shipyard and a boat-building shop, and to view the displays and tools relating to the shipbuilder's craft.

On-site operations were witnessed by other visitors and guests in addition to those who participated in the evening programs. AINA Directors Alan Boegehold and his wife Julie, Kenneth Sams, and Capt. W. F. Searle, Jr., each spent a day at Stockton Harbor. Accompanying Capt. Searle was Herman Kunz. Capt. Searle, Mr. Kunz, and Dave Wyman led the MIT-MMA effort that led to the discovery of the *Defence* in 1972. From Cleveland, Ohio, Mr. and Mrs. Ridley

Watts spent a weekend as guests of AINA; Rid and Skip, through their contribution to a Cleveland Symphony fund-raising program, won a two-day trip to Castine and the opportunity to be involved in topside work on site. On what became known as "Bicentennial Sunday," three excursion boatloads of spectators visited the site. This visit followed ceremonies at Castine at which the work on the *Defence* site was recognized as a National Bicentennial Project.

Concurrent with the last three weeks of work at the site, the Maine State Museum conducted a sonar/magnetometer survey of the Penobscot River using equipment provided by Klein Associates. The goal of the survey was to reinvestigate anomalies and targets noted during the brief survey conducted in 1975 (AINA Newsletter, Vol. 2, No. 2) and to extend the search for wrecks of the 1779 Penobscot Expedition upriver to Bangor. In addition to Museum staff, the survey team included Lloyd Wells, who volunteered many hours as survey boat skipper,

and Avery Stone, who maintained the survey journal. A brief exposure to survey techniques was provided to a number of field school students who worked with the team on a rotating basis. Liaison between AINA and the survey was maintained by field school student Dan Koski-Karell, who worked full time on the survey in close association with Tom Cummings of Klein Associates.

The final days of the 1976 season on the *Defence* were busy ones. With the trench completely excavated, it was possible to obtain measurements essential to the various plans being prepared. Ceiling planking was numbered and seams outlined with white plastic clothesline in preparation for photographs. Dave Wyman examined the mast step and keelson for more clues as to the construction of the *Defence*. Surface material in the gridded area was plotted and recovered. Measurements were also taken of a number of deck beams in the midships area, and excavation around the cookstove continued — revealing a hearth and a portion of deck upon which the stove rests.

When it came time to close up the excavated area, we planned to do so by means of a polyethylene cover extending from the stem to the stove. Once unrolled underwater the 30' x 25' cover would be anchored by replacing the grid on top along with concrete blocks, wreck dunnage, and pipe. In attempting to place the cover over the wreck, we had the most frustrating and exasperating experience of the summer. A combination of current, lack of visibility, and a loss of orientation by divers spelled failure. After nearly six hours of work, we gave up, retrieved the cover, and packed the excavation trench with firewood and dunnage to forestall deterioration of exposed structures.

The problems encountered during the final covering episode should not detract from the overall progress that we made during the six weeks. Excavation techniques were improved and refined as were drawing techniques above and below the surface. Many artifacts essential to a permanent museum exhibition were re-



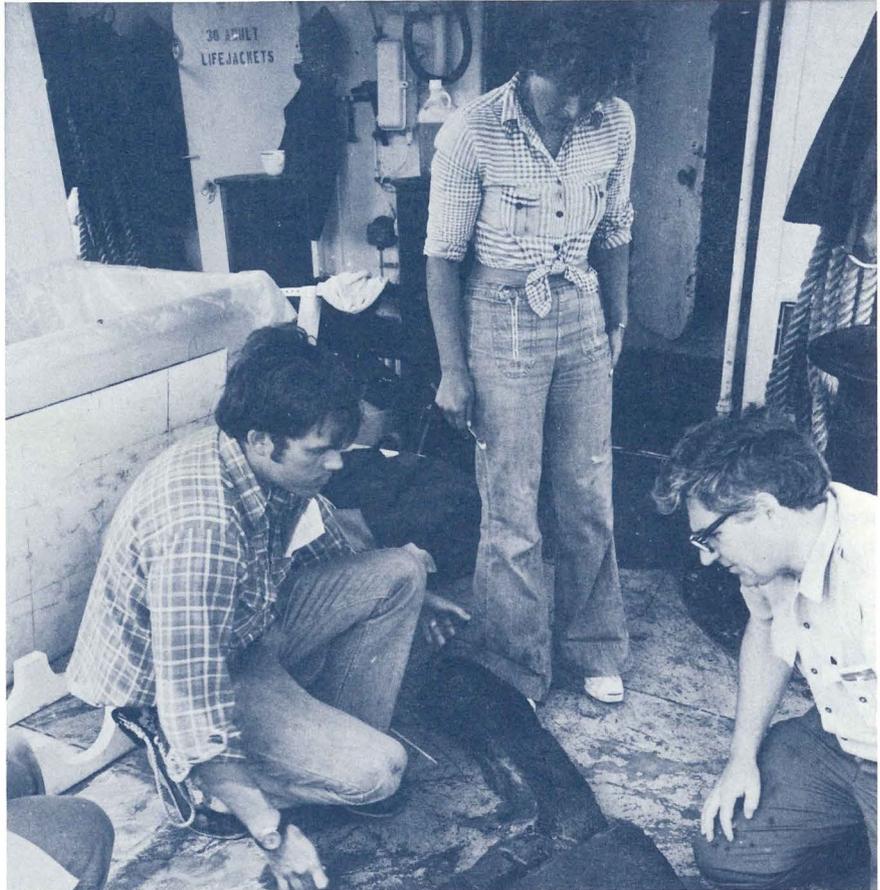
A shot rack is lifted onto the work float. Note the balls still in place on the rack.

Phil Voss/AINA

covered, and a number of pieces of what previously had been a structural puzzle have begun to fit together. Also integral to success of the 1976 Penobscot Expedition was the pre-planning by all of the parties involved in the project. Without the cooperation of Maine Maritime Academy, the logistical and operational aspect of the expedition would have been severely lacking. The Maine State Museum's contributions were also essential to the success of the expedition and the field school. Museum support included funds, equipment loans, and the presence of the various staff members including Robert Damm, the Director, who divided his time between duties in Augusta and assistance to the project at Castine. Likewise, Conservator Stephen Brooke provided liaison, procured special equipment, worked as an excavator, and coordinated the transportation of artifacts and equipment to Augusta at the end of the season.

Finally, the enthusiasm and hard work of the field school students must also be recognized. By taking responsibility for such tasks as tank-filling, purchase of material and lunch supplies, plus the design, construction, and maintenance of equipment, the work of the staff was lessened. At the conclusion of the 1975 field school, I wondered if the enthusiasm and seemingly boundless energy exhibited by those students could be matched in another season. Simply stated: it was.

— David C. Switzer



Expedition members examine a deck beam and knee recovered from the athwartships trench.

Carrol Voss/AINA



Andreas Cariolou died on Sunday, April 24, 1977, in a diving accident off Dhekelia, Cyprus. While attempting to rescue a Canadian soldier of the United Nations Forces in Cyprus, Mr. Cariolou sacrificed his own life.

A veteran Cypriot diver, Mr. Cariolou discovered the amphora mound of a Greek merchant ship which had sunk near Kyrenia, Cyprus, over 2,200 years ago. In 1967 he introduced Michael Katzev to

the site. The wreck subsequently excavated, raised, and preserved under Katzev's direction and with AINA support. This ship has now been reassembled for display in the Crusader Castle at Kyrenia.

Mr. Cariolou lived in Kyrenia until 1974, when the Turkish invasion of Cyprus and occupation of Kyrenia district forced him to resettle in Larnaca. He was 53 years old and is survived by his wife Tasoulla and sons Glafcos and Marios.



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