THE MAINE ARCHAEOLOGICAL SOCIETY INC. DULLETIN



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1991

Ken Wing, Maine Forest Service, Greenville, Me. 04441 Mark Hedden, Box 33, Vienna, Me. 04360 623-2206

MAINE ARCHAEOLOGICAL SOCIETY, INC. BULLETIN

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Cover: Incised petroglyph of antlered deer discovered in 1988 on a ledge on Grand Lake Stream, Washington County. The subject, technique and stylistic traits indicate that this was the work of Maine Indians around the middle of the 19th century. This and other figures on the ledge (see Article by Hedden) are evidence that the Algonkian shamanistic tradition associated with petroglyphs was still active among the Passamaquoddy until the modern settlement of the region in the 1870's.

LETTER FROM THE PRESIDENT

Greetings:

Spring, according to the calendar, is almost officially here. For me though, Spring is not official until I can put on my rubber boots and head off far a day searching for artifacts. We choose several known sites and hope the snow and spring floods uncover a few more of the relics left behind by Maine Indians. Once found, they are admired, numbered, and added to the growing collection that helps unlock the past.

More and more sites are being discovered every year by both amateurs and professionals. Archaeology is flourishing in Maine. Our Universities are well stocked with qualified students and top professional spots are filled by the best from all over the country. Our *Newsletter* bursts with exciting articles. It is filled with information on new sites with many promises. A highlight of last season was the evidence of cultivation. Corn, beans, and squash have been found in a site dating to 1400 AD on the Saco River. Numerous fieldschools are available for those who want to do more than read about archaeology. It's a great chance to learn from the experts, dig in the dirt, and maybe uncover an artifact yourself.

The new site monitoring program, established jointly by the Maine Historic Preservation Commission and the MAS, made necessary by the development boom, is reassuring. There are funds available to keep track of valuable sites for the next ten or twenty years. Appointed Regional Conservation Archaeologists visit and photograph the sites two times a year to check for erosion and vandalism. It is important that we all keep our eyes open and protect what is ours.

Conferences are everywhere. Information can be spread by experts and the amateurs and important knowledge traded. This Spring, a 50th Anniversary Conference of the Massachusetts Archaeological Society will let the New England states meet to share ideas and to work together on common archaeological goals. A first World Summit conference on the Peopling of the Americas will be held at Orono in May. A summer festival is planned for August for the Abbe Museum. At all levels, archaeology is booming. As a Maine Archaeological Society member, it is exciting to be part of it.

Sincerely,

Bernice Doyle President, Maine Archaeological Society

Test Excavations on the Phips Site, Woolwich, Maine (1986-88)

Robert L. Bradley

Shortly after 1646 an immigrant blacksmith and gunsmith from Bristol, England bought, with his friend John White, a large parcel of land in what is now Woolwich, Maine. The blacksmith's name was James Phips and the land he acquired was known as "Nequasset". By 1648 he had built a house for himself and his family on a strategic point of land overlooking Hockamock Bay. To this day the land is known as Phips Point.

James Phips and his wife Mary had at least six children, the last of whom was William, born in 1650. In 1651, or not long after, James died (Noyes et. al. 1928-39). Mary remarried his old partner, John White, by 1655. James Phips' son William, after apprenticing as a shipwright, had just finished building a ship at or near his family's house in 1676 when with no warning most of Anglo-American Maine (and the Phips house) went up in the flames of the King Philip's War. William loaded his family and other Sheepscot valley refugees onto his boat and sailed away, never to return to his father's farm (Mather 1929[1697]). Parenthetically, he was to be the first native-born American to be knighted, was to lead a major expedition against Acadia, and in 1692 was to be appointed the first Royal Governor of Massachusetts.

In 1982 the author began archaeological survey on Phips Point to locate the site of James Phips' house. This project, and additional work by Emerson Baker in 1984, failed to locate either structural features or artifacts of the period 1648-76, despite extensive shovel test-pitting on the tip of the point. Just as the conclusion was about to be reached that the site had been lost to erosion, in the fall of 1985 a final round of survey by the author yielded ceramics and pipe-stems of the period, just uphill from the water. This led to three annual two-week seasons of testing in 1986, 1987, and 1988, conducted as an in-house research project of the Maine Historic Preservation Commission. As this report relates, the house itself was to continue to be elusive until the third phase of the project.

The August 1987 report (Bradley 1987) summarizing the 1986 and 1987 seasons of work on the Phips Site ended on a hopeful note, with an account of the discovery, on the last two days of the latter season, of features 2 and 3, post-molds 7 feet apart at the northern end of the area excavated (see Figure 1). The report went on to guess that they might be part of the southeast facade of a long-house oriented northeast to southwest. In any case this discovery had at last proved the long-held suspicion that James Phips' house was of post-in-ground ("earthfast") construction, and that it was located uphill and just north of the area of highest artifact concentration.

The 1988 phase of excavations therefore opened with high expectations of further defining the location and plan of the ca. 1648 structure. These expectations were to be substantially met.

The initial strategy was to re-expose features 2 and 3, and then to open excavation units to the northeast and southwest with the aim of identifying more post-molds at 7-foot intervals. Features 5 and 6 quickly appeared at 7 1/2-foot intervals, but there was nothing beyond the latter to the northeast. Working to the southwest, feature 8 was encountered, but it was of small diameter, only about 6 feet from feature 2, and not in line with the others. Clearly, we were dealing with the narrow end of the house, not one of its long sides. Therefore, its axis had to run northwest to southeast.

THE FRAME

Toward the end of the first week, the evidence began pouring in. By economically leapfrogging with 2 1/2-foot-square excavation units, two long lines of post-molds were identified running northwest from features 3 and 6, proving that the narrow gable-end of the house was 15 feet



Figure 1. Phips site excavation. Composite plan of features.

wide, defined by features 3, 5 and 6. By the end of the second week, the the Phips house proved to to be at least 43 feet on its long axis.

It is axiomatic that excavating a post-in-ground building is more difficult than such work on a conventional site with a masonry foundation. Simply locating it is a challenge, as is clearly evidenced by the project's frustrations in 1986 and most of 1987. When post-molds are discovered, it is harder to find their neighbors than to follow a continuous stone footing. But once the features are identified, potentially much more can be learned about a lost building, particularly if, as is believed to be the case here, the post-molds represent the position of structural uprights which ran from below ground up to the plate just below the eaves. See figure 3 for a representative plan and profile of a Phips Site post-hole and post-mold (feature 18).

Post-molds can represent one of two things. They can mean that short posts were set to rise just above grade to support a continuous sill. In this case the post-molds will tell little or nothing about the framing of the building. However, if the posts rose to the eaves with short lengths of sill on grade between them (a "broken sill"), then much of the frame can be reconstructed on paper. In the case of the former construction method, the posts can be randomly-spaced as long as they are in line. While the Phips house post-molds appear to exhibit such random spacing, in fact alternating pairs facing each other on the long sides of the building are perfectly parallel to the line of the gable-end. These would have supported beams on top of posts 3-5-6, 10-13, and 15-16. Such a pattern is not random.

THE ROOMS

Figure 2 contains an isometric reconstruction of the first-story posts of the house to the same scale as the plan in Figure 1. Both figures show an interior post-mold (feature 19) which marks the position of a door and partition, indicating that at least two rooms have been uncovered so far. Again, this kind of structural evidence is far less likely to be found on a site with a stone foundation where everything from the sills up has been lost.

THE FENCE

With the definition of the house as a long rectangle with a northwest-southeast axis, features 2 and 8 were left dangling. Because of their smaller size and lack of alignment with the gableend of the house, they are at this time tentatively identified as fence-posts for a split-rail fence attached to the south corner of the building. If this identification proves correct, then the fence probably enclosed an herb garden to keep pigs or other livestock out, rather than to pen animals (pigs usually had free range in the 17th century).

THE HEARTH

At the end of the 1988 season the first field-stone on the site was encountered (feature 24). This consisted of an area of plow-scattered and fragmented flag-stones associated with abundant charcoal, burnt animal bones (one of which may be bear, according to Arthur Spiess of the Maine Historic Preservation Commission), and burnt daub (clay mixed with straw). Clearly, this was the cooking-hearth for the house, but what more can be said about it? A great deal. Practically no daub had been encountered elsewhere on the site, and here almost 100 fragments were found (Figure 4). This means two things: the house was not "half-timbered" or finished with daub on its interior, but the flue which vented the fire was timber-framed with wattle-and-daub lining. No bricks or substantial stones have been found to suggest a fireplace, so the Phips house seems definitely to have had an open stone hearth surmounted by a "smoke hood", a sort of inverted funnel (Figure 2). This would have been supported, in part, by the closely-spaced posts represented by features 23, 26 and 27 (Figure 1). A member of the medieval gentry would have felt right at home.

THE FRONT DOOR

Unless one is lucky enough to find a doorstep or nearly in situ hardware, determining the location of a principal entrance can be very difficult. In the case of the Phips house there are four bits of evidence which are helpful. First, it can be assumed that the entrance was in the long wall facing Hockamock Bay. Second, the intervals between several post-molds on the wall adjacent to Room 2 are much shorter than those along Room 1, and therefore more reasonable for framing and hanging a door. Third, it is likely for traffic purposes that the door would be more or less centered on the wall of Room 2. Finally, artifact patterns can be very revealing, as broken or discarded items tend to be thrown or swept out a door. All of these factors strongly suggest that the front door of the house was between features 21 and 22 (see figure 5 for artifact distribution).



Figure 2. Reconstruction of the Phips house. Smoke hood design after Richard Harris, Discovering Timber Framed Buildings, Aylesburg, England 1978:28.

THE LINEAR STAINS

Features 4, 7 and 25 are linear stains ranging up to almost a foot wide and of various lengths, characterized by a darker color than the surrounding soil and containing many flecks of charcoal. Although more testing needs to be done, they may represent traces of fallen posts, indicating that the facade of the house collapsed downhill, to the southwest, when the structure burned in 1676. These linear stains line up with post-molds rather convincingly. If further testing proves this hypothesis, then it may be possible to determine approximately the original height of the plate (just below the eaves) by averaging the lengths of these stains from the line of the wall. This would be a remarkable piece of evidence.

THE PREHISTORIC HEARTH

The hearth of the Phips house was not the only hearth uncovered in 1988. Feature 17, lying at the bottom of the plow-zone, consisted of a small concentration of fire-cracked rock with associated aboriginal ceramics. While this feature and its contents, excavated by Arthur Spiess, are yet to be analyzed, they clearly predate the 1648 beginning of the Phips occupation of the site.

THE ARTIFACTS

The three two-week seasons of test excavations on the Phips Site have yielded the following totals of artifacts assignable to the ca. 1648-76 occupation: 1986:419, 1987:643, 1988:349.

The total for 1988 excludes 110 fragments of daub. The cumulative total of 1,411 breaks down as shown in Table 1.

Table 1. Artifact count, Phips house excavations.

| | <u>Count</u> | _% |
|-------------------|--------------|------|
| Redware | 754 | 53.5 |
| Clay Pipes | 198 | 14.0 |
| Nails | 155 | 11.0 |
| Delft | 87 | 6.2 |
| Bottle Glass | 74 | 5.2 |
| Window Glass | 56 | 4.0 |
| Flint | 32 | 2.3 |
| Unidentified Iron | 23 | 1.6 |
| Miscellaneous | 23 | 1.6 |
| Stoneware | 9 | 0.6 |

In terms of count and percentages, there is nothing particularly remarkable about the above figures, but specific observations are in order for certain types.

Figure 3. Phips site Feature 18.



Ceramics

The vast preponderance of this artifact class is common lead-glazed redware, of which the vessel type represented is large food storage or cooking pots. The much smaller percentage of Delft (tin-glazed earthenware) is thought to be from plates or shallow bowls. The minimal amount of stoneware represents fragments of a bellarmine (Freschen) jug or bottle. Westerwald beer mugs, first imported ca. 1660, of which a fine example came from the Clarke and Lake Company Site (Baker 1985), are not present, indicating that the Phips household did not make use of the latest products. A couple of sherds of Iberian oil jar are included in the "miscellaneous" category. Certainly this assemblage is representative of a subsistance farm, whether or not James Phips continued as a successful gunsmith in the first several years of

Figure 4. Phips site excavation, daub distribution.



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Figure 5. Distribution of total artifacts, excluding daub.



the farmstead's existence until his death. While largely contemporary with the nearby Clarke and Lake Company Site, and the somewhat more distant Cushnoc Trading Post Site (Cranmer 1988), the Phips Site has yielded nowhere near the diversity or volume of ceramic types recovered at these commercial establishments. Site type, rather than period, is the determining factor.

Clay Pipes

A cumulative total of 198 fragments of clay tobacco pipes have been recovered. Of these, 96 are measurable for the purpose of applying the Binford formula mean date for the site, based on the diameter of the bore through the stem. To date, the count by bore diameter is as follows (excluding 3 specimens with a bore of 4/64" indicating that they far post-date the Phips occupation):

| Bore Diameter | Count |
|---------------|-------|
| 9/64" | 2 |
| 8/64" | 30 |
| 7/64" | 61 |
| 6/64" | 3 |

These counts yield a Binford formula mean date of 1651/2. Since the known historic mean date is ca. 1662, the formula date is skewed a decade too early, but this is typical for sites of the period, such as the Clarke & Lake Company of 1654-76 (historic mean date of 1665, Binford formula mean date 1650).

The number of pipe fragments is very small compared to other contemporary Maine sites. The principal building of the Clarke and Lake company yielded over 1,800 fragments (Baker 1985), while the Cushnoc Trading Post count was 716 (Cranmer 1988). Again, site type is the key. The fortified commercial/industrial sites would have had predominantly or exclusively adult male populations, unlike the Phips homestead which for a time was occupied only by a widow and her children. Pipe fragment counts may therefore be key indicators of the function of a site and the nature of its occupants, something to bear in mind when excavating undocumented sites.

To date no pipe-maker's marks have been found on any of the pipe fragments. However, a number of complete, or nearly complete, bowls have been recovered. These are all of the "belly bowl" form with rouletted rims and flat heels, and are of the small, medium, and large sizes. There are no surprises here.

Nails

Those dating from the Phips occupation are of course all handwrought and range from large spikes down to 6d or 8d in size. Given that the frame of the house would have been of post-andbeam construction, with joints of trunnelled mortice and tenon, not surprisingly most of the nails are of medium or smaller size, used for attaching sheathing, roofing, and siding to the frame.

Bottle Glass

Fragments from three types of bottles are represented, case bottles for shipping and decanting alcoholic beverages, wine bottles, and small pharmaceutical bottles or phials.

Window Glass

A total of 56 wafer-thin fragments of pale green window glass form 4% of the 17th-century artifact count. While it is indicative that the house was by no means a hovel, this relatively small count suggests that only one or two windows were glazed. Window glass distribution is an important indicator on many sites for original location of glazed windows, even for plow-zone collections; but such is not the case with the Phips house. Two anomalies are at work here. First, most of the window glass has been found downhill from the house (Figure 6), which is why so much effort was expended in 1986 and 1987 on that area; after all, where there is window glass, there is the house, right? Wrong. Second, no leads or cames, which held the small glass quarrels in the casement sash, have been found. While perhaps impossible to prove, there is a neat hypothesis as to why these things should be so.

It should be borne in mind that no artifacts of immediate or recyclable value have been recovered, items such as knives, iron or brass kettles, hardware, etc. Someone cleaned out the Phips house and salvaged obviously useful objects before it went up in flames. Contemporary accounts of the abandonment of the site by the Phips Family make it abundantly clear that in the hasty flight there would have been no time for systematic salvage activity. The salvagers must have been the Natives who descended on the place. The Clarke and Lake Company Site yielded far more intrinsically or practically valuable artifacts, but this complex burned during a violent attack before any such activity could be conducted by either side. But back to the window glass.

Leon Cranmer of the Maine Historic Preser-

Figure 6. Phips site excavation. Window glass (.) and nail (x) distribution.



Figure 7. Phips site, distribution of gunflints and lead.







Figure 8. The Phips House site looking to the southeast. In the foreground are the remains of the hearth. Two-foot logs have been placed directly on top of the post-molds to mark their locations.

vation Commission and excavator of the Cushnoc Trading Post Site has suggested that the Natives removed the casements and smashed the glass out of them a short distance away in order to salvage the lead for future use. Lead is, after all, a versatile metal in any pre-industrial society. In this case the window leads would presumably have been recycled for fishing sinkers, cast musket balls, or the like.

Flint, etc.

Thirty-two gunflints and debitage, as well as 11 pieces of lead shot and sprue are modest figures, and they are scattered apparently at random across the site (Figure 7). The small counts are again indicative of an unfortified complex.

ARTIFACTS: GENERAL OBSERVATIONS However humble and unremarkable the Phips Family's possessions may be when compared to the finds at contemporary commercial or industrial sites in the area, one observation should be made. As the excavations proceeded uphill to the house over three short seasons, the volume of recovered artifacts declined dramatically. Indeed, with the exception of the area interpreted as being immediately outside the front door, relatively few objects were found within or adjacent to the house, and many of these, such as nails, were there due to the building's burning. This tells us two things: first, Mrs. Phips kept a clean house, even if the dooryard was full of trash (typical of the period); second, as observed on many other sites, plowzone artifacts retain a high degree of integrity with regard to their horizontal position.

CONCLUSIONS AND THE FUTURE

The 1986-1988 test excavations on the Phips Site have yielded detailed data on a first-generation Anglo-American dwelling. Its method of construction, commonplace in 17th-century Maryland and Virginia, was unheard of and completely

unsuspected for northern New England until a couple of years ago. Indeed, the only other certain building of its type here is the Cushnoc Trading Post of either 1628 or ca. 1649 in Augusta, a commercial building of almost certain prefabricated design (Cranmer 1988). Why James Phips chose this building method, instead of the common fieldstone foundation and cellar which he would have seen at places like Pemaquid before moving to Woolwich, is mystifying, particularly since he hailed from the West Country of England where most construction was in stone. Perhaps he viewed this as a fast and short-term solution to the challenge of building a farm from scratch, and did not live long enough to finish his work. Or perhaps he was familiar with post-in-ground buildings in New England and chose this house type given the lack of immediate fieldstone on the clayey point. The ideal location, overlooking several transportation arteries, may have dictated the structure.

Whatever the reason, Phips built a substantial longhouse of medieval form. It would serve its purpose for about twenty-eight years, by the end of which time it had apparently needed no repairs. Post-in-ground construction in northern New England, beyond the range of the termite, may have been an economical and acceptable construction option. Historical archaeologists conducting reconnaissance-level survey for early/mid-17<u>th</u>century houses should fear the worst and adapt their methodology on the assumption that the buildings they seek will be elusive. And architectural historians should think about re-writing the chapter on the first European buildings in our region.

Another two-week season is planned for the Phips Site in 1989. The agenda is to determine the location of the root cellar (probably timber-lined, as at Cushnoc); this would presumably be beneath Room 1 or a hypothetical Room 3. A related need is to confirm the length of the house, and whether it had a matching exterior door on its back side, representing the medieval "cross-passage" plan. A host of other research questions spring to mind, but a fortnight is a fortnight, and these goals are ambitious enough.

ACKNOWLEDGEMENTS

The author wishes to express his deep appreciation to the owners of the Phips Site, Thomas and Judy Gardiner, as well as to the caretaker of the property, John Lowell, for their enthusiastic interest and co-operation in the excavation. The project's core crew of Nicholas Dean, William Hilbish, and Norman Buttrick is irreplaceable. As with many archaeological surveys, the generous donation of time and effort by the following volunteers has made it possible to cover far more ground than would otherwise be possible: Bob and Marta Bent, Diane and Joyce Bruno, Mike Cunningham, Holly Harley, Kathryn Miller, John Gilbert Snider, and Cathy Throckmorton. Special thanks are due to volunteer Frank White for his time on the site, primary documentary research and, above all, his persistence which persuaded the author to conduct a final day of reconnaissance-level survey in 1985 when the site was thought to be lost to erosion.

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Phase I Archaeological Investigations Conducted along the Proposed CMP Transmission Tie to the Hydro-Quebec Corridor

Thomas R. Baker

The University of Maine at Farmington Archaeology Research Center (UMF ARC) contracted with C. T. Main, Inc. (MAIN) of Boston, Massachusetts in 1987, to conduct phase I archaeological and historic structures investigations along the proposed Central Maine Power Company (CMP) Transmission Tie to Hydro-Quebec Corridor in Androscoggin, Cumberland, Franklin, and Oxford Counties, Maine (Figure 1). The project was situated in both mountainous and lowland interior settings of western Maine in the Androscoggin drainage system. It consisted of four components including a 148.1 km (92.0 mi) long 450 kVDC transmission line extending south from the Canadian border in Bowmantown Township to Jay, a 16.2 ha (40.0 ac) direct current (DC) to alternating current (AC) converter terminal site location in Jay, a 67.7 km (42.1 mi) long 345 kVAC transmission line extending south from Jay to Pownal, and a 0.3 ha (0.7 ac) expansion of the Surowiec Substation in Pownal. All of the historic structures field investigations were completed in 1988 while the archaeological field investigations were completed in 1987 and 1988. For the rest of this report I will focus only on the archaeological results.

In January, 1989, the Maine Public Utilities Commission voted to deny CMP permission to construct the proposed HVDC powerline resulting in the suspension of all environmental investigations, including the archaeological investigations. The UMF ARC feels that it has an obligation to disseminate the important information generated through this project and will do so through this article and others which will follow in the future. The information presented in this report has been derived from a preliminary report submitted to MAIN in November, 1988 (Baker et al. 1988), and represents an attempt to make the initial results of the HVDC investigations available to the archaeological community in Maine.

BACKGROUND

The primary goal of the HVDC archaeological field investigations was the establishment of an inventory of archaeological resources comprised of prehistoric aboriginal, historic aboriginal, and historic Euroamerican sites occurring in the project right-of-way. Prior to the initiation of field investigations, the project area was examined in a prefield phase "0" study for MAIN (Petersen et al. 1988). The entire project area was subdivided into 948 potential sample units, based on information provided to us by MAIN through CMP, measuring 250 m in length by 61 m in width. An aerial photograph assessment of each unit was then made, whenever aerial photograph coverage was avail-Each unit was rated according to nine able. lowland and nine hillside/upland variables (ranging in value from 0 to 3) associated with aboriginal and historic Euroamerican models of landscape utilization spanning the last 10,500 years. Cumulative scores (ranging from a possible low of 0 or 1 to a high of 27) were generated for all units based on observable and suspected topographic landscape attributes for both aboriginal occupation and historic Euroamerican occupation. All units were then ranked according to their potential to contain archaeological sites. Approximately 370 units (39%) scoring 15 or higher for aboriginal occupation and 20 or higher for historic Euroamerican occupation were selected for examination during the phase I archaeological investigations. In order to insure that the models were working correctly a 5% random sample consisting of 47 sampling units was also included in the investigations. Field supervisors were also given permission to assess areas in the field which may have been scored low during the aerial photograph analysis but might exhibit potential for a site to be located in them. Thus, a total of 640 (67.5%) sampling units were examined either by pedestrian survey or subsurface testing in 1987 and 1988.

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Figure 1. Location of the proposed HVDC transmission line tie to the Hydro-Quebec project, Androscoggin River drainage in western Maine.



Figure 2. Projectile points recovered during the Hydro-Quebec Phase I investigations. Left: Adena-like lobate based specimen from site UMF-201. Right: Meadowood-like side-notched specimen from site UMF-1067.

ARCHAEOLOGICAL INVESTIGATIONS

A list of archaeological sites recorded during the phase I survey investigations are presented in Table 1. These results clearly demonstrate the cultural richness and sensitive (overall smallness and short-term duration of occupation) nature of the cultural resources located in the previously underinvestigated and little-known regions paralleling the Androscoggin River valley. A total of 2,456 0.5 m x 0.5 m test pits (1,102 along the DC segment, 180 in the converter terminal location, 1,151 along the AC segment, and 23 at the Suroweic Substation) and eight 1.0 m x 1.0 m test units (two along the DC segment and six along the AC segment) were excavated to varying depths along 546 transects (254 along the DC segment, 26 at the converter terminal location, 258 along the AC segment, and eight at the Suroweic Substation) in the project area. Eighty-eight (3.6%) of the test pits contained only aboriginal cultural remains,



144 (5.9%) only historic Euroamerican remains, and 16 (0.7%) both aboriginal and historic Euroamerican remains. Three (37.5%) of the eight test units contained both aboriginal and historic Euroamerican remains and three (37.5%) only historic Euroamerican remains. Two (25.0%) of the test units were sterile. Approximately 4,626 artifacts were recovered during the phase I investigations; 2,712 (58.6%) have aboriginal affinities while 1,914 (41.4%) have historic Euroamerican affinities. (Note: the vast majority of historic artifacts identified during this project were recovered from non-site contexts.)

A total of 41 archaeological sites were recorded during the phase I field investigations. Twenty-nine of the sites were located along the AC segment of the right-of-way, eight along the DC portion, and four at the converter site location. Forty (97.6%) of the sites contained aboriginal assemblages and one (2.4%) a mixed aboriginal and

Table 1. Summary of cultural resources recorded during the Hydro-Quebec Phase I survey investigations.

| | | | C T MP | | | | | |
|--------------------|-------------|----------------|----------------------------------|----------------------------|------------------------------------|--------------------|---------------------|--|
| UMF SITE NO. | TRANSECT | SITE STATUS | SITE SIZE MINIMUM | SITE SETTING | NO. OF IDENTIFIED COMPONENTS | FEATURE PRESENT | NO. OF ARTIFACTS | DESCRIPTION |
| 201 | T22-1, 2, 3 | Definite | 20 m x 50 m | Terraces overlooking | 1-Early | Yes | 44 | Burned bone |
| | | | | stream and beaver pond, | Woodland | | 1 | Agate flake |
| | | | | | | | 4 | Quartz flakes |
| | | | | | | | 2 | Modified quartz flakes |
| | | | | | | | 1 | Rhyolite biface |
| | | | | | | | 3 | Quartz scrapers (frags) |
| | | | | | | | 2 | Quartz cores |
| 202 | T56-1, | Definite | 125 m x 50 m | Terrace on the | 1-Late | Yes | 2 | Shell (mussel) |
| | Surface | | | Androscoggin River. | Woodland/ | | 16 | Ceramics (aboriginal) |
| | | | | | Contact | | 3 | Unburned bone |
| | | | | | | | 2 | looth Irags |
| 000 | mco 1 | 0.01.21 | | | 1.11.1 | 14 h | Present | Charcoal |
| 203 | 760-1 | Definite | ımxım | Terrace on the | 1-Unknown | Maybe | 1 | Graywacke modilied llake |
| | | | | Androscoggin River. | | | 1 | FCR Character |
| 001 | mon 1 | Definite | | | 1 13-1 | N | Present | Charcoal |
| 204 | 183-1 | Derinite | 1 m x 1 m | upland terrace overlooking | 1-Unknown | NO | 1 | Quartz Hake |
| 0.05 | m02 0 | D. 61-14. | 1 | ephemeral drainage. | 1. Dolor com | N'a | 1 | Overta flalia |
| 205 | 183-2 | Definite | 1 m X 1 m | ephomenal drainado | 1+0mi0nown | NO | 1 | Quartz Hake |
| 206 | T22-2 | Dofinito | lmvlm | Terrace on nock outeron | 1-Unimour/ | No | 1 | Grasswacka abradad store |
| 200 | 100-2 | Delinite | I M X I M | overlooking deeply incised | I Archaic? | NO | 1 | draswacke abraded stone |
| | | | | drainade | Di Michaic. | | | |
| 207 | T119-1 | Definite | 1 m v 1 m | High upland plateau on | 1-Linknown | Mutha | 1 | Rhyolite modified core |
| 201 | 1110 1 | Dermite | 1 11 7 1 11 | edge of kettle depression. | 1 CHRITOWN | . 213 00 | 2 | PCP |
| 208 | T191-2 | Definite | 1 m x 1 m | Upland sand dune formation | t-Unknown | No | ī | Quartz flake |
| 200 | 1151 2 | ner mitte | 1 1 | overlooking enhemeral | 1 officionii | .10 | - | dual (2 lidite |
| | | | | drainage. | | | | |
| 209 | T191-3 | Definite | lmxlm | Unland sand dune formation | 1-Unknown | No | 1 | Quartz flake |
| 200 | 1101 0 | 201111110 | 1 | overlooking ephemeral | 1 (120)0001 | | • | |
| | | | | drainage. | | | | |
| 210 | т222-4 | Definite | 1 m x 1 m | Terrace on Dead River. | 1-Woodland | No | 3 | Ceramics (aboriginal) |
| 211 | T232-1 | Definite | 1 m x 1 m | Terrace on Scott Brock. | 1-Unknown? | No | ĩ | Chert biface fragment |
| 212 | T233-2 | Definite | 1 m x 1 m | Terrace on Scott Brook. | 1-Woodland | No | 1 | Ceramic (aboriginal) |
| 213 | T244-1 | Tentative | 1 m x 1 m | Terrace on Hunton Brook. | 1-Unknown | No | 1 | Quartz & feldspar flake |
| 214 | T245-7. 9. | Definite | 45 m x 50 m | Upland terrace above | 1-Unknown | Maybe | 5 | FCR |
| | 10 | | | Hunton Brook. | | · | 1 | Quartz flake |
| | | | | | | | 2 | Burned bone |
| 215 | T249-3 | Definite | lm x 1 m | Upland terrace above | 1-Woodland | Maybe | 2 | Ceramics (aboriginal) |
| | | | | intermittent stream. | | | 1 | FCR |
| 216 | T251-2, 3, | Definite | 45 m x 55 m | Terrace at springhead. | 1-Woodland | No | 37 | Flakes (rhyolite, chert, |
| | Surface | | | | | | | quartzite) |
| | | | | | | | 3 | Modified flakes (chert) |
| | | | | | | | 3 | Ceramics (aboriginal) |
| | | | | | | | I | Groundstone fragment |
| 217 | T278-3 | Definite | 5 m x 40 m | Terrace on Clay Brook. | 1-Unknown | Yes | 16 | Possible quartz flakes |
| | | | | | | | 1 | Quartz tool |
| | | | | | | | 935 | Possible FCR |
| 218 | T279-1 | Tentative | 1 m x 1 m | Upland above Clay Brook. | 1-Unknown | No | 2 | Quartzite flakes |
| 219 | T279-2 | Tentative | 1 m x 10 m | Upland terrace overlooking | 1-Unknown | Maybe | 244 | Possible FCR |
| | | | | small drainage. | | | | |
| 220 | T280-1 | Tentative | 1 m x 1 m | Upland terrace overlooking | 1-Unknown | Maybe | 1 | Possible FCR |
| | | | | small drainage. | | | | 2020 |
| 221 | T244-6 | Tentative | 1 m x ¶ m | Terrace on Hunton Brook. | 1-Unknown | Maybe | 1 | FCR |
| | | | | Out of R-O-W. | | | | 5 11 |
| 222 | T252-2 | Tentative | $1 \text{ m} \times 1 \text{ m}$ | Upland. | 1-Unknown | Maybe | 4 | Burned bone |
| 901 | T281-2 | Definite | 1 m x 1 m | Upland terrace. | 1-Unknown | les | 2 | |
| | | | | | | | 1 | Chiknown I lake |
| 902 | T282-1 | Definite | 1 m x 5 m | Upland terrace. | 1-Unknown | No | 1 | Quariz Jiake Descible events flokes |
| | | | | | | | 2 | Possible quartz Hakes |
| | | | | | | | 1 | rossible unmown riake |

Figure 3. Contact period fabricimpressed ceramic sherds recovered during the Hydro-Quebec Phase I investigations at site UMF-202.



historic Euroamerican assemblage. Twenty-two of the sites are situated on terraces overlooking brooks which drain upland areas into the Androscoggin River; 10 in general upland settings away from a recognizable source of water; two in upland sand dunes; two on terraces overlooking the Androscoggin River; one in an upland spring head location; one on a terrace overlooking the Dead River; one overlooking an upland kettle depression; and one on the floodplain of an upland brook. One site also has been redeposited in an upland setting during bridge construction activi-The aboriginal assemblages include lithic ties. tools, lithic debitage, undifferentiated lithic fragments, cores and core fragments, fire-cracked rocks, ceramic sherds, pieces of bone, and charcoal. Archaeological features such as storage pits and hearths were also recorded at several sites. Overall, diagnostic artifacts consisting of projectile points

assignable to the Early Woodland (Ceramic) period, ca. 1000 B.C.-100 B.C., were recovered from sites UMF-201 (Adena-like lobate base projectile point) and UMF-1067 (Meadowood-like side-notched projectile point base) (Figure 2) These specimens closely resemble type specimens as defined in New York State (Ritchie 1971:12-13, 35-36, Plates 1 and 17), as well as numerous analogues recovered from more local contexts (e.g., Belcher 1988: Plate 7; Borstel 1982: Plate 4a-4c; Clermont and Chapdelaine 1982: Plate 18; Kopec 1985: Plate 9; Robinson and Bolian 1987: Plate 2A-2B). Woodland (Ceramic) period pottery sherds have also been from sites UMF-210, UMF-212. recovered Late prehistoric or UMF-215, and UMF-216. Contact period ceramics, dated after ca. A.D. 1400, include fabric-impressed thin-walled ceramic sherds recovered from site UMF-202 (Figure 3). The majority of the sites recorded during the

Table 1 con't.

| UMF SITE NO. | TRANSECT | SITE STATUS | SITE SIZE MINIMUM | SITE SETTING | NO. OF IDENTIFIED COMPONENTS | FEATURE PRESENT | NO. OF ARTIFACTS | DESCRIPTION |
|--------------------|--------------|----------------|-------------------------|-----------------------------------|------------------------------------|--------------------|---------------------|--|
| 903 | T283-1, 2 | Definite | 10 m x 30 m | Terrace/hummock | 1-Unknown | No | 1 | Quartz modified flake |
| | | | | overlooking stream. | | | 6 | Quartz flakes |
| 904 | T285-1 | Tentetive | 1 | Terrace of cmall stream | 1-linknown | Ves | 1 | Possible quartz flake FCR |
| 905 | T286-1, 2, | Definite | 50 m x 100 m | Terrace of small stream. | 2-Unknown, | Yes | 1 | Quartz biface frag |
| | 3 | | | | Historic | | 8 | Quartz flakes |
| | | | | | | | 2 | Possible quartz flakes |
| | | | | | | | 15 | Quartz undif. 11thic frags. |
| | | | | | | | 9 | Burned seeds |
| | | | | | | | 0.05 g | Charcoal |
| | | | | | | | 1 | Burned bone |
| | | | | | | | 198 | Ceramics (filstoric) |
| | | | | | | | 223 | Metal |
| 906 | T289-1, 2 | Definite | 5 m x 65 m | Upland. | 1-Unknown | Maybe | 4 | Quartz flakes |
| | | | | | | | 6 | Burned bone |
| 912 | T270-Surface | Definite | 20 m x 25 m | Upland. | 1-Unknown | No | 2 | Quartz Ilakes Quartz undif lithic frags |
| 915 | T691-4, 5 | Definite | 5 m x 20 m | Upland. | 1-Unknown | No | 1 | Quartz flake |
| 010 | 1001 1, 0 | 2012111200 | • =• | | | | 3 | Quartzite flakes |
| 918 | Т296В, С, | Definite | 70 m x 90 m | Upland plateau. | 1-Unknown | No | 2 | Quartz modified flakes |
| | D, E, T297 | | | | | | 2 | Quartz cores/core frags |
| | | | | | | | 12 | Quartz flakes |
| | | | | | | | 1 | Quartzite flake |
| | | | | | | | 1 | Graywacke flake |
| | | | | | | | 1 | Feldspar undif. lithic frag |
| 021 | T2060 5 | Definite | 1 | Unland platony | 1-lb-rown | No | 1 | Possible quartz core Overtz core |
| 921 | 12900-0 | Delinite | IMXIOm | opland plateau. | 1-OHKHOWH | NO | 1 | Quartz flake |
| 922 | T296F-1 | Definite | 1 m x 1 m | Upland plateau. | 1-Unknown | No | 1 | FCR |
| | | | | | | | 1 | Quartz modified flake |
| | | | | | | | 3 | Quartz Ilakes Ouartz undif lithic frag |
| 923 | T296G-1, 2 | Definite | 1 m x 25 m | Upland plateau. | 1-Unknown | No | 1 | Quartz biface frag |
| | 3, 4 | | | | | | 2 | Quartz flakes |
| | | | | | | | 1 | FCR |
| 926 | T320-1, 2 | Definite | 15 m x 65 m | Terrace overlooking small | 1-Unknown | Yes | 1 | Quartz modified flake |
| | | | | stream. | | | 13+ | Possible FCR |
| | | | | | | | 1 | Rhyolite flake (Mt. Jasper) |
| | | | | | | | 2 | Quartz undif. lithic frags |
| 1065 | T312-1, 2 | Definite | 10 m x 15 m | Terrace overlooking | 1-Unitriown | No | 1 | Quartz Ilake Cuartzite flake |
| 1066 | T321-Surface | Definite | 1. m x 1 m | Terrace overlooking small | 1-Unknown | Maybe | 4 | Burned bone |
| | | | | stream. | | | | Chart side patched |
| 1067 | T322-2, 4, | Definite | 40 m x 60 m | Edge of floodplain of | 1-Unknown | Maybe | 1 | nrojectile point base |
| | 10 | | | severanite stream. | | | 10 | Chert flakes |
| | | | | | | | 1 | Quartz flake |
| | | | | | | | 1 | Rhyolite flake |
| | | | | | | | 1 | Ouartz undif. lithic frag |
| | | | | | | | 1 | FCR |
| 1069 | T753-1, 2 | Definite | | Redeposited fill from area | 1-Unknown | No | 1 | Quartz core |
| | , – | | | off R-O-W. | | | 1 | Quartzite flake |
| | | | | | | N - | 1 | Rhyolite flake |
| 1071 | T799-1 | Definite | lmx1m | Upland saddle. | 1-Unknown | NO | 1 | Quartz flake |
| 1074 | T417-1, 6 | Definite | 5 m x 10 m | Terrace overlooking small stream. | 1-Unknown | No | 3 | Quartz/guartzite flakes |

phase I investigations contain assemblages lacking any recognizable diagnostic artifacts. However, many of the assemblages contain quartz debitage and tools suggesting probable Archaic period, ca. 7000 to 1000 B.C., affinities.

SUMMARY

A total of 640 sampling units were inspected by either a pedestrian survey or by subsurface testing in the project area. Forty-one archaeological sites were identified in a variety of topographic settings ranging from low-lying floodplain and terrace settings to upland springheads and settings away from water. Artifacts of aboriginal ascription were recovered at all of the sites and artifacts of historical Euroamerican ascription from one of the sites. Although very few diagnostic artifacts or other temporal markers were identified or recovered from the sites, it appears that the project area was occupied minimally for 9,000 years.

In conclusion, although this report is very brief, it represents an initial synthesis of the highly successful phase I archaeological and historic structures investigations completed by the UMF ARC. A more detailed presentation of the results of these investigations will be presented in the future following the complete assessment and analysis of the data at the UMF ARC laboratories in Farmington.

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Petroglyph Evidence for a Possible 19th Century Survival of Algonkian (Passamaquoddy) Shamanism in Eastern Maine.

Mark H. Hedden

Five incised designs of probable aboriginal origin, some partly obscured by Euroamerican initials, were recorded in 1988 from a ledge outcrop intruding into Grand Lake Stream in Washington County. The method of execution suggests an iron tool was used. The stylistic attributes are consistent with 19th Century aboriginal pictography elsewhere in the Northeastern and Midwestern United States & neighboring areas of Canada. The nature of the find indicate a date not long prior to the settlement of the area in 1870. The formal characteristics are consistent with historic survivals of Algonkian shamanistic iconography in the Great Lakes area. The present Passamaquoddy reservation begins ca. 5 miles north of the site. Oral traditions relating to shamanism were being recorded from Maine Indians in the area as late as the end of the 19th Century. Given these circumstances, it seems reasonable to conclude that the Maine Indian shamanistic tradition survived for at least another century and half after the last petroglyphs had been dinted into the ledges on Machias Bay and at Embden on the Kennebec River.

CIRCUMSTANCES OF DISCOVERY

During the spring of 1988, the writer received a letter from Walter Elliott of Grand Lake Stream Plantation in Washington County requesting aid in determining the significance of a ledge with incised designs along Grand Lake Stream. All I could decipher from the xeroxed photographs which accompanied the letter were what appeared to be Euro-American initials and one or two abstract designs. With no great expectations, I wrote requesting more details on the nature of the rock and the technique used in making the designs. When the reply came that the rock was a relatively soft slate of sedimentary origin similar to the rock found in the two other petroglyph areas, I realized an on-the-spot examination was in order. A visit in June, 1988, established that the ledge, largely overgrown by moss and lichen growths,

had, along with the many initials, a few incised schematic and representational designs of a distinctly different style from those found at Embden and Machias Bay. One incised anthropomorph reminded me in a general way of historic Micmac drawings at Lake Kejimkoojik, Nova Scotia. This led to a 2nd visit in September where, with the help of Walter Elliott and a group of volunteers (Lou and Babette Bauer, Don and Nicki Gilmore, Marion Calligan, Ruth Pelton, Carol and Jessie Hedden) a systematic exploration of the site began. A grid system was laid out and elevations noted with a transit for a scale map of the area with incised designs. About 1/3 of area on which local informants remember having seen incised patterns was exposed over a 2 day period. This proved a difficult and time-consuming task. A total of 5 designs of probable aboriginal origin were located, photographed and documented with urethane peels (courtesy of Lou Bauer). All other incised designs of probable Euro-American origin were also examined. Among several incised dates, the earliest proved to be 1866, not long before Grand Lake Stream was settled and became the site between 1870 and 1883 for the largest tannery in New England. When work was suspended, the moss mats were replaced and the site restored as nearly as possible to its original state.

THE SITE AND ABORIGINAL DESIGNS The Elliott Site, 94.32, is located SE of Grand Lake Stream Plantation within 5 miles of the present Passamaquoddy Reservation on a ledge of sedimentary rock extending southwesterly about 20m across the course of Grand Lake Stream. The ledge forces the stream around a bend with a considerable drop known as Big Falls. The rapids require a portage for canoers moving upstream across the ledge on the east shore and for the more cautious traveller going downstream. Grand Lake Stream supported a landlocked salmon population until fairly recently (Walter Elliott, personal communication 1988). During the latter half of the 19th Century timber cutters moved into the area



Figure 1. View looking west of 94.32 (Elliott Site) with volunteers (from left) Babette Bauer, Don Gilmore, Lou Bauer and Ruth Pelton.

and the first homestead in Grand Lake Stream Plantation area was established in the immediate vicinity of the ledge (Walter Elliott ibid.). The tannery was built around 1870 about 1/2 mile due north of the ledge. A US Geological Survey Gaging Station marker near the western or upriver edge of the ledge establishes the height above msl at 279 feet. This marker was used as the datum point reference in mapping the ledge. The datum was set at 2m North of the marker (Figure 1).

An antlered deer (Cover and Figure 2) or other cervid incised in a graceful naturalistic outline appears at S2.5m El.6m (Cast #1). During the June visit only the forequarters and head were observed emerging from the moss. Walter Elliott returned a day later and, following out the pattern, discovered that the body and legs were also present. Part of the underbody and the lower legs are obscured by natural disconformities in the surface. The antler beams form an oval open at the top with 3 to 4 short straight tines on each side projecting only from the inner edges of the beams. A single deep eyedot, short linear ears and a narrow snout complete the head features except for two short lines of obscure significance running across the head on each side of the eyedot. A broader incised line or lines cuts obliquely across the neck and just under the chin, obliterating the incised outline where it crosses. If executed by the original artist, the oblique line would signify that the game animal represented is a spirit figure; however, close examination shows another oblique line or scrape mark a few centimeters above the tip of the nose. The two lines may be fortuitous later additions to the surface; however, another quadruped, a probable horse described below, has



Figure 2. Antlered deer. Moss remnants in crevices delimit area still covered at time of initial visit in June, 1988. Note capital letter "E" incised across forequarters and slash line through neck just below the heada shamanistic sign that indicates the figure represents a spirit.

a similar heavy line across the hindquarters. The fore quarters of the deer are overlaid by a slightly less deeply incised capital "E" followed by a "C" outside the perimeter of the outline. The design covers an area of 15 by 30 cm.

At S3.4m E1.3m a rounded lozenge shaped outline (Figure 3,Cast #2) with a perpendicular bisection line passing through a pair of battered center depressions is marked by a series of 23 or 24 thin radiating lines from the outside perimeter. The radiating lines tend to be oriented or curved towards the poles of the end they initiate from, giving the entire design the appearance of a waterbug or other multilegged insect. The entire design extends 10 cm between the edges of natural fissures in the rock and is not deeply incised. About 8 cm to the east on the same narrow strip between fissures is a more deeply incised zigzag formed by a series of oblique lines which intersect at the tips. The two figures appear to have been executed at different times with different tools.

At S3.8m E1.65m a long bipointed oval outline seems to penetrate for about a third of its length into one segment of a rectangular outline which is sectioned across the middle by a line (Figure 4, Cast #3). The rectangle measures 5.5cm by 4.0cm. The oval outline measures 7cm by 2cm.

At S11.3m E3.6m is a shallowly incised anthropomorph distinguished by a heart-shaped head outline, deep eyedots and perpendicular noseline from the juncture of the heart lobes (Figure 5, Cast #8). The head is joined by narrowly spaced parallel neck lines to the torso and continue below rounded shoulders to converge at a point in the midsection. The rounded shoulders continue as an ovoid body outline to legs with outlines that taper to points at the ankles with one oblique linear foot on one side. Oblique narrowly outlined arms taper to points at the wrists and continue into three or four widely spread linear digits. The



Figure 3. Photograph of casts #3 and 4. Abstract sign on right is similar to Ojibway signs used into the latter half of the 19th century.

image, which was discovered under moss during the visit in June 1988, is not marred by modern initials and measures 14cm high by 10cm wide. There are other incised marks beginning about 5 cm above the head which suggest modern numbers, possibly dates.

At S15m E2.6m another gracefully outlined quadruped was uncovered during the September operations which bears no antlers and may represent a horse(Figure 6, Cast #9). The head area is somewhat eroded but triangular ears are faintly visible as well as a tapered head. The rounded chest and angled foreleg in a running posture support the horse identification. The hindquarters and hindlegs are obscured by disconformities in the surface of the rock but part of one leg line is visible. As in the case of the deer, a line cuts perpendicularly through the body just to the rear of the midsection. The figure measures a little over 21 cm in length by 16 cm high. No other designs were noted in the immediate vicinity. The 5 designs described above constitute the corpus of relatively clear elements that can be ascribed to 19th Century aboriginal work. Other examples of aboriginal work may exist in the general maze of initials and unclear abstractions visible at the site. Some forms were noted, such a a broad zigzag, that are too generalized to pin down to a specific period. Others, such as a radiant eyelike form, are not in the Algonkian tradition but do appear on the back of such late 19th Century items as the United States dollar. Stylistic features in the examples described above, however, can be related to historic Algonkian pictography elsewhere.

DISCUSSION

Closest in geographical terms is the Lake Kejimkoojik area of Nova Scotia where stylistic features similar to the Elliott Site anthropomorph



Figure 4. Abstract sign similar to 19th century Ojibway signs depicting "otter", or shaman initiate, entering the Mide lodge.

and quadrupeds appear on later historic incised petroglyphs. While I have not seen a heart-shaped head among the Kejimkoojik drawings, one anthropomorph with an active stance and head drawn in naturalistic profile has a conventionalized frontally oriented shieldlike torso which includes two stars and an outlined heart (Robertson 1973:Fig.3). This figure has been identified as "Star Husband" in Micmac oral traditions. Like the Elliott site figure, the "Star Husband" has thin outlined legs and arms which end in linear digits as well as the conventionalized torso. Robertson believes these stylistic traits place the design in the most recent end of Micmac activity at the site. While none of the full body quadruped forms from Lake Kejimkoojik illustrated by Robertson show the grace and skill in naturalistic profile drawing exhibited by the deer and horse at 94.32, the Nova Scotian moose and other quadruped representations at Lake Kejimkoojik have clearly broken away from the conventionalized form and generally inactive postures that characterize prehistoric quadruped forms at Embden and Machias Bay. One profile of a horse's head at Lake Kejimkoojik has very lively naturalistic features (Robertson 1973:Fig.40).

While close geographically and in some stylistic features, the Elliott site and Lake Kejimkoojik drawings differ in certain details that point to a profound change in function. None of the moose or other quadruped representations illustrated by Robertson from Lake Kejimkoojik show the line or stroke through the neck, body or legs that signify a spirit is being represented. When represented with hunters or other human figures, both are represented in true scale and the game are being pursued. This is a far cry from the game animal postures at Embden and Machias Bay which, if anything, suggest docile cows in a pasture with anthropomorphs in a controlling position as opposed to a driving or pursuing posture. While



Figure 5. Incised anthropomorph with heart-shaped head. Note outlined limbs. Similar anthropomorphs are characteristic of 19th century aboriginal drawings in the Great Lakes area and in Nova Scotia. Photograph of cast is at right.

mythic snakes and conventionalized anthropomorphs are depicted at Lake Kejimkoojik, they have been readily associated by informants with oral traditions known to all in the Micmac community. The traditional inventory of mnenomic signs associated with Algonkian shamanism in pictography and petroglyphs from Maine to Minnesota seems to be entirely absent.

Despite the large distances involved and a practical separation in time from regular contact with Algonkian kindred to the west that may go back several centuries, the maker(s) of the 5 designs described from the Elliott site seemed to have maintained close ideological ties to Ojibwa shamanism of the 19th Century. Specific motifs shared include the stroke through an animal representation, a centered oval with projecting lines and an oval shape penetrating a rectangular outline (Figure 7. Cf.Mallery 1893: PI.XVII). The explanations supplied by Hoffman's informants the Mide shaman society. For example, in the centered oval with radiating lines "the inner circle represents the speaker's heart; the outer circle, the gathering place for shamans, while the short lines indicate the directions from which the shamans An oval come together.." (Mallery 1983:233). outline penetrating a (rectangular) enclosure occurs in two variant forms in one song sequence recorded by Hoffman. In one, in which a schematically outlined figure with short oblique linear limbs enters the base of a three sided rectangular outline is explained as the "otter, which Manido the speaker professes to represent, is entering the sacred structure of the Mide lodge." In another, which shows a similar figure penetrating a narrow arc and is associated with the chant "The first time I heard you" Hoffman writes "The speaker asserts that he heard the voices of the Manidos when he went through his first initiation into the society.

for each of these motifs focus on initiation into



Figure 6. Incised quadruped with triangular ears, probably a horse. Note slash mark through midsection.

He is still represented as an otter."

Both anthropomorphic and game animal representations in Ojibway pictography on birchbark show a general stylstic tendency towards more naturalistic representational forms with running game animals and anthropomorphs with limbs outlined though ending in linear digits (Cf. Mallery 1893:Fig.165). This is a tendency which becomes more pronounced as the 19th Century progresses and is paralleled, further west, in the pictography of the Plains Indian groups. In sum, the overall tendency towards more naturalistic forms coincides with increasing contact with Euroamericans and probably reflects the naturalism of 19th Century art and decor in general.

CONCLUSION Comparison of the Grand Lake Stream

assemblage with Micmac drawings to the east and Ojibway drawings to the west suggest that the Elliott site incised designs are consistent in style with a middle 19th Century date but retain, in contrast to the Micmac, the traditional shamanistic motifs. The Lake Kejimkoojik drawings appear to be devoid of shamanistic ritual content though they continue to refer to what might be called the secular (oral) Micmac traditional culture. The use of the Grand Lake Stream ledge by traditional Passamaquoddy shaman(s) seems to have ended shortly after the Civil War with the original settlement of Grand Lake Stream and the development of the tannery works. In the light of these findings, it is significant that the only oral remnant of Maine's shamanistic tradition was recorded as a chant on the Passamaquoddy Reservation near the end of the 19th Century by J.D.Prince (Cf. Speck 1920:241 note).

Figure 7. 19th century Ojibway drawings associated with Midewin Society (Cf Hoffman in Mallery 1893:Pl.XVII). Note centered ovoid with transecting rays (A); bears with perpendicular slash marks (in A,B,C); Otters penetrating enclosures (D).

R S A \bigcirc в D

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APPENDIX: MAKING PEELS--FLEXIBLE RUBBER MOLDS OF PETROGLYPHS

The following is edited from an original version which was kindly sent to me by Lou Bauer. Mr.Bauer, a retired engineer who is treasurer of NEARA, volunteered his services for the September trip to Grand Lake Stream and proved a very valuable and helpful associate. He had had prior experience in using industrial flexible urethane to mold an "impossible" part and was forehanded enough to come prepared with all necessary supplies to prepare the molds. He then followed up by doing the tedious and messy work of making casts from the molds. His narrative describes in detail the process from what supplies to order to problems to be anticipated in making plaster casts from the molds.

"I phoned DEVCON in Danvers, Mass and talked with their Technical Service agent Rod Pendleton. As I thought that some of the surfaces to be molded sloped close to 45 degrees, he suggested that I use a liquid to mold the surface without entrapping air bubbles and back that up using a putty with a consistency that would not slump on a steep slope. As it turned out, the slope had no more than 15 degrees and we could have used the liquid alone. He advised a silicone of Vaseline consistency (DEVCON 19650) as a release agent. However, that proved unavailable and we settled for a liquid silicone. Having later worked with Vaseline itself in making plaster molds, I recommend the liquid for use on rock. Brushing the Vaseline over the rubber to make plaster molds took a lot of effort, particularly to eliminate thick accumulations in pockets and air bubbles. This

could prove difficult on a rough rock. Also, the Vaseline on the rock would have left a residue, which was not present with the clear, inert liquid. As DEVCON could not take the order directly, I was referred to several industrial hardware suppliers. I chose Harbor Tool of Portland, Me. For the record, I ordered the following:one 1-pound kit DEVCON 15800 liquid FLEXANE @\$16.85, one 1 pound kit DEVCON 15821 putty FLEXANE @\$16.85, one pint Liquid Silicone DEVCON 19600 Release Agent @\$9.00.

The glyphs chosen for molding were all prepared ahead so there would be no waiting, once the mix was prepared, as the working time was given as 30 minutes at 75 degF. Besides thoroughly cleaning each, I placed bits of tape near the glyph so that I could find it in a hurry and know the extremities I wanted to cover. I brushed on the release agent well beyond the actual figure. This did give a wet appearance, indicating clearly where I was to apply the Flexane. I had to guess how many glyphs could be covered. As it turned out the eleven chosen were just enough to use up the last drop of liquid. This was followed quickly by the putty as a backup. The instructions mentioned a 65 degF minimum working temperature. While it had been well below 50 degF in the morning, by noon, hopefully, the sun had warmed the rock and the resins - enough.

The Flexane came in a kit, consisting of properly proportioned cans of resin and a peroxide curing agent, a plastic mixing tub and a wood spatula. It was advised that mixing should be done

so as to entrap the least air bubbles. Rather than beating the mix, I stirred it very slowly. When uniform, I applied it by flowing the liquid and pushing it with a brush out to the desired extremities. Here is where I did make a mistake. I did brush the edges out too thin, to a feather-edge, which proved too thin to separate from the rock as we peeled the mold from the rock the next day. I don't believe I had brushed out beyond the release agent. Having covered all the eleven figures that had been prepared, I slowly mixed the putty type Flexane and went back over, adding to their thickness. I had tried to get about 1/16 inch of liquid on with the first coat and double that to 1/8th inch with the putty. At that, a few high spots were so thin they tore out small holes. The roughness of the rock dictated that much thickness. There were many peaks on our rough rock. On a smooth surface, I imagine the 1/16 inch would be sufficient. I used a putty knife for the putty mix, and threw it away when finished, as I had no cleaning agent, (DEVCON 19500). Throwaway plastic gloves would be recommended - I had to live with my hands, not wanting to throw them away! I did use some cheap canvas gloves (thrown away), but did get some on my skin. It peeled off eventually.

Before leaving I placed a small piece of tape on each mold to identify it and show the direction of North. Curing time was given as 'overnight at 75 degF, reaching 70% to 90% strength in two days.' Within an hour after we finished our application the molds were certainly skin-set and safe to leave overnight. It must have gone down close to freezing that night. Our uninsulated cabins were barely habitable with a wood-stove blazing. The many available blankets were appreciated.

In the morning we gingerly pried loose the 'inscription', which, having been found to be graffiti, we used as a test mold. Only traces of the feather-edges had been torn off and lay black on the rock. We proceeded to remove all the others, realizing that we had 100% perfect molds. By noon the molds were all taken up. The rest remained to clean up--down on our knees pulling at the scraps of the black resin torn off at the feather-edges. Fingernails were best as any steel tools would have scratched the rock. Finally, the moss was replaced, the debris picked up, and the 'after' results photographed as a record of how we left the site.

Back home, the problem became how to mold the rubber into positive plaster of paris. I again called Rod at DEVCON, who advised using Vaseline as a release agent on the rubber and any mold box that I made. I clamped 1/2 inch thick strips to a board that had been covered with 6 mil polyethylene. This I coated well with release agent, brushing the Vaseline out so as not to leave it filling any voids or trapping air bubbles. I mixed the plaster as a thin, pourable, consistency so it could be flowed on and reduce air-entrapment. I had found a suitable mix at the local hardware: MINWAX, DASH PATCH, 2125-000 quick-setting, floor and wall patch, 25# - \$9.99

I found it took about 10# of the dry plaster to cover the ten molds in a mold box 46 in. long by 14.5 in. wide, 1/2 in. deep, with 1/2 in. wide strips screwed down to the box as separators. I did not try to block off unnecessary corners, but just did not flow the plaster into them. A wood stick run over the 1/2 in. thick strips screeded off the excess. However, a few molds had deep holes or recesses which exceeded the 1/2 in. thickness set by the strips. Here I had to build up an excess of plaster to keep from having holes in the finished molds. Do not mix more plaster than you can use in about 15 minutes! I found it best to pour the thin mix immediately after mixing, flowing it thinly over all the mods, and then return as the plaster begins to thicken, filling each compartment up to the top. This prevented air bubbles from being trapped on the surface. Towards the end I used a trowel and spatula to push the thick mix into place.

I had prepared the mold box with its separator strips, using a minimum of screws. I outlined the strips onto the 6 mil poly with a black marking pen, and numbered the joints of the strips. This permitted releasing all the strips before separating the molds from the box. The marks permitted reassembling the strips and even finding most of the original screw holes. I had tried casting the entire box without strips, thinking to cut them apart with a jigsaw. This was just too bulky to handle, and cracked in many pieces.

With the first cast of the trial 'inscription' mold, I had sealed the edges quite successfully with masking tape, preventing the flowable plaster from flowing under the edges of the rubber, where it would have made removal of the rubber mold very difficult. This mold was quite flat and rectangular. When I tried the same masking tape on the other molds, I found their irregular shape very difficult to tape. Also, the edges were not really flat, and I did not want to distort the mold. Before I could remove the rubber, I had a horrible time chiseling away the excess plaster that had leaked under the molds.

I then resorted to Modeling Clay, Plasticene. It actually worked reasonably well, and being plastic, it could be formed up under the mold where it did not want to lie flat. However, it did react with the mineral-oil base of the Vaseline, making a gooey mess. Also, its green color absorbed into the plaster, giving it a very "unprofessional" appearance that I found objectionable.

One way to get around the problem of sealing the edges would be to fill the mold box with plaster and press the rubber molds down into the wet plaster. This was a sad mistake as it could not help but trap air under the molds in every pocket and fold! No! Flow the plaster out across the mold, pushing the air away as it flows.

Talking with Don Gilmore about my situation, he suggested that I try sand. Searching for a source of sieved and graded sand, I discovered a 'Mason's Silica', rather coarse grade, which has worked fine. It is coarse enough that I can push it into place with a fine brush, and it can be piled up under the raised edges. Individual grains that wander out onto the surface to be molded are easily trapped with the brush. Anything finer would stick to the Vaseline and be impossible to remove.

As the instructions do not go into Curing Time, I had a little trouble. One batch, cured only one hour, appeared to be well set. However, it was too weak and cracked all over as I removed it from the box. I was successful after allowing two or three hours, appreciating that the plaster is still very weak.

The technique appears to have been eminently successful. I have donated a set of casts to both Mark Hedden and to Walter Elliott. Anyone wanting to study the figures may certainly apply to me. I would be interested to hear the experiences of others who may have tried similar techniques."

J. Louis Bauer 12/8 Moose Pond Shores R.R. 1 Box 200 Denmark, Me 04022

THE ARCHAEOLOGY OF THE KNOX SITE, EAST PENOBSCOT BAY, MAINE

William R. Belcher

ABSTRACT

Excavations at the Knox site in East Penobscot Bay, have revealed the remains of eleven prehistoric houses occupied between 2700 BP and 1000 BP. The artifact assemblages include one of the best-dated ceramic sequences for the Early Ceramic/Woodland Period in Maine. Subsistence remains indicate a maritime orientation, with shellfish, Atlantic cod and sculpin dominating the faunal assemblage.

INTRODUCTION

House remains constitute a highly significant type of feature in archaeological sites. The Knox site is unusual because housepit remains are visible on the midden surface, which allowed the control of sampling within the housepits. The Knox site also presents a unique opportunity to examine cultural adaptation in a marine setting as the site occurs on an offshore island.

HOUSEPITS

In the regional literature, housepits describe the archaeological remains of a semi-subterranean house which has been dug into soil or midden deposits. Housepit depressions tend to be saucershaped and approximately 3 m to 4 m by 2 m to 3 m and between 20 cm and 60 cm deep. Artifact density in these dwellings can be greater than the surrounding midden due to the concentration of activities (Sanger 1971; Skinas 1987).

Housepit matrix is often dark brown to black, shell-free zones of rounded "pea-sized" gravel. This matrix reportedly represents beach sand and gravel deposited by the inhabitants to "line" the depression. Shell appears to be banked around the perimeter, possibly for use as a windbreak. Recognition of postmolds occurs infrequently in shell middens due to the coarse nature of the matrix. Many depressions have rocks placed around their perimeters, perhaps as supports for posts.

Not all shell-free zones represent housepits. Some may constitute the scattered remains of housepits disturbed during aboriginal re-excavation of depressions or cleaning activities (e.g. Cox 1983; Davis 1978; Matthew 1885; Sanger 1971; Spiess and Hedden 1983).

SITE DESCRIPTION

The Knox site (30-21 in the Maine Archaeological Survey site designation system) is situated on the southwestern shore of a small island in East Penobscot Bay (Plate 1). The water around the site is extremely shallow with many shoals present. The island supports no intertidal mudflats today, but at low tide a small beach of shell hash and quartz particles lies just east of the site. A small cove is located on the eastern side of the island. A fresh water spring exists approximately 100 m north of the site.

The site itself is a small, triangular-shaped shell midden, approximately 350 m^2 . Eight saucershaped depressions are spread over the surface of the midden, each measuring about 3 m by 4 m (Plate 2). As discussed above, these depressions are the surface expressions of prehistoric housepits. These depressions are referred to by the field designation HP, followed by a letter (i.e. HP A). Ridges of deep (greater than 40 cm) shell deposits define the perimeters of these depressions with shell-free interiors. A granite outcrop running from the seaward portion of the site to the rear landward edge of the site forms the northern walls of three depressions (Fig. 1).

HISTORY OF INVESTIGATIONS

The Knox site was initially listed on site forms for Maine by the R.S. Peabody Foundation for Archaeology at Andover, Massachusetts (Bates 1922). This site was also reported by Snow (1969). In 1978 David Sanger (1979) visited and rerecorded the site during the University of Maine at Orono Coastal Survey. He was the first person to note the presence of the depressions on the midden surface and suggest that they might represent housepits.

In 1979, Sanger returned to the Knox site



Plate 1. The Knox site (30.21).

and tested three of the depressions. This work confirmed the cultural origin of the depressions. In July 1986, a crew from the University of Maine, supervised by Sanger, returned to the Knox site for more extensive testing. The results of that testing form the bulk of this paper.

EXCAVATION METHODOLOGY

An arbitrary grid system was established over the site with its origin lying offshore and to the south of the site. Grid North was established at 68 degrees west of true geographic north. The Knox site lies entirely in the northeast quadrant of the coordinate plane.

The site sample is divided into two categories: 1) the depressions; and, 2) the midden areas between and beyond the depressions. Each 1 m X 1 m excavation unit was dug using 50 cm X 50 cm quadrants in 5 cm levels. Separate strata could be distinguished within a single level. These strata were excavated and screened separately to maintain the association of artifacts and faunal remains to particular strata. Thus excavation was a combination of arbitrary levels and natural stratigraphic units.

The contents of each quadrant were screened through 6 mm (1/4 inch) mesh screen. All debitage, bones and artifacts were collected from the screen and bagged according to its excavation unit, level, quadrant and stratigraphic unit. Firecracked rocks were noted and their position sketched on field forms; however, they were not collected. Other documentation includes blackand-white and color photographs as well as field forms for each excavation unit and general field notes. In total, 34 excavation units were com-



Figure 1. Excavated areas of the Knox site.



Plate 2. Depression on shell midden surface (HP-B).

pleted: twelve 1 m X 1 m units and twenty-two 1 m X 0.5 m units. A total of 23 m² was excavated at the Knox site. Excavated depression area totals 8 m³, while the midden area total is 4.6 m³. Approximately 6.5% of the surviving site area has been examined.

STRATIGRAPHY

Shell middens are composed of rapidly accumulating shell strata within a site, often punctuated by strata of slow accumulation marked by soil horizon development. The stratigraphy of the Knox site is extremely complex, thus a complete description of strata is not possible in a short article. Strata from separate excavation units cannot be directly associated with each other across the entire site, but parallels can be observed and groups can be made. To examine the Knox site, a strata typology defined by Skinas (1987) was used. Four major groups of strata are recognized at the Knox site: 1) features; 2) shell refuse areas; 3) shell-free cultural deposits; and, 4) natural soil horizons. A total of seven features were recognized at the Knox site: four hearths, a ceramic cluster, a rock line and a small pit. The chronology of the features is discussed below.

Soft-shell clam dominates the midden. All shell strata originated as refuse and are composed of greater than 15% total shell by weight, with soft-shell clam the dominant species. Refuse accumulation occurs as a result of one or more shell dump episodes.



Figure 2. N56 E41 to N60 E41 east wall stratigraphy.

Shell-free zones (SF) represent stratigraphic units with less than 15% shell by weight. All shellfree zones consist of very low absolute and relative amounts of shell and large amounts of rounded sand and gravel. Thus shell-free zones are thought to represent housepits. Eleven shell-free zones were identified at the Knox site (SF-A to SF-K).

BUILDING EPISODES

Housepits at the Knox site present many problems in the interpretation of stratigraphy. Aboriginal digging activities disturb, destroy and reorganize pre-existing strata. By digging into subsoil, no pre-existing strata would usually be damaged, but soil could be re-deposited over other strata. Excavation of a pit into pre-existing shell midden or housepit deposits disturbs cultural strata and their associated artifacts. This latter activity inverts stratigraphy and can cause older artifacts to occur stratigraphically superimposed over younger items.

Field observations reveal several phases of occupation, re-excavation and cleaning of these

depressions. Earlier houses are often truncated by later aboriginal excavation and virtually no identifiable trace of the earlier deposits remain. To identify various housepits at the Knox site, "Building Episodes" were examined. A "Building Episode" consists of a variety of cultural activities used to construct a housepit and natural processes which can act upon the dwelling after abandonment. Excavation by separate strata allowed materials from different "Building Episodes" to remain in their original stratigraphic association.

A "Building Episode" includes digging a depression and filling it with coarse beach sand and gravel. Eocks may be placed around the perimeter to assist in the stabilization of a superstructure subsequently erected over the depression. Also, shell may be piled up around the structure to act as a wind break. Cleaning may take place with continued deposition of refuse in the house fill (coarse sand, organic matter and artifacts). The refuse may then be dumped outside the house. Reexcavation of the housepit occurs when refuse, together with house fill, is removed in order to



Plate 3. SF-I and SF-K (scale is in 10 cm intervals).

empty the entire depression area; re-excavation constitutes a separate building episode. After abandonment, shell from the perimeter may slump or shell refuse may be dumped into the depression. Figure 2 and Plate 3 represent a series of building episodes and shell midden deposits; the profile originates from HP D.

FEATURES AND RADIOCARBON CHRONOLOGY

Seven features were encountered during the 1986 field season: four hearths, a ceramic cluster, a small pit and a rock line. Table 1 presents features and radiocarbon dates. Two hearths associated with Early Ceramic period pottery returned dates of 2020 ± 70 C-14 yrs BP and 2270 ± 70 C-14 yrs BP. The ceramic cluster (Feature 2) contained interior/exterior corded pottery from a single vessel. Charcoal contained within this cluster returned a radiocarbon date of 2720 ± 90 C-14 yrs BP. A shell sample from SF-B dates to 1610 ± 70 C-14 yrs BP. Chronology and adaptation are addressed by assemblage below. Each assemblage represents a single component of the Knox site. A component is defined as a single type of archaeologic cultural occupation; a single, discrete occupation of a site area. Components allow general observations to be made about the inhabitants of a site during a specific period in time, but are arbitrary divisions of a site's history and do not represent a single, seasonal occupation.

CHRONOLOGY AND ADAPTATION

Assemblage 1: Early Ceramic Period - 2700 BP - 2000 BP

Artifacts and Chronology

Assemblage 1 represents the earliest occupation at the Knox site. Radiocarbon dates range from 2720±90 C-14 yrs BP to 2020±70 C-14 yrs BP. Ceramic vessels impressed with cord-wrapped paddles occur in three cases and basketry-wrapped paddles are present on two vessels (Plates 4, 5). The oldest dated vessel (2720±90 C-14 yrs BP)

TABLE 1: RADIOCARBON DATES

| Laboratory Number | <u>Strata</u> | Material | <u>Date BP</u> |
|-------------------|---------------|----------------------------|------------------|
| Beta-20615 | SF-B | <u>Mya</u> <u>arenaria</u> | 1610 <u>+</u> 70 |
| Beta-20614 | SF-D/Fea 1 | Charcoal | 2020 <u>+</u> 90 |
| Beta-20261 | Fea 4 | Charcoal | 2270 <u>+</u> 70 |
| Beta-17374 | Fea 2/SF-K | Charcoal | 2720 <u>+</u> 90 |

Note: All dates are reported as uncorrected radiocarbon years before present 1950 A.D. and are calculated using the half-life of C-14 as 5568 years.

exhibits an S-twist cordage impression, but another possesses Z-twist cordage and dates to 2270 ± 90 C-14 yrs BP. These last two vessels are similar to the ceramic type Vinette I defined by Ritchie and MacNeish (1948). Another vessel, associated with Feature 1, possesses a weft and warp cordage pattern and dates to 2020 ± 70 C-14 yrs BP.

Two wide, side-notched bifaces (Plate 6) are associated with Feature 4 and the date of $2270\pm$ C-14 yrs BP. Two narrow, side-notched bifaces (Plate 6) also occur in Assemblage 1. These latter bifaces appear similar to Meadowood Points (Ritchie 1971). An Adena-like biface is associated with a Vinette I-like vessel and dates to $2720\pm$ 90 C-14 yrs BP.

Two unifaces occur in Assemblage 1 (Plate 7). One specimen possesses discontinuous retouch, while the other is a unifacially retouched blade. The association of blades with the Early Ceramic Period (Feature $4 - 2270\pm90$ C-14 yrs BP) is rare in the Northeast as a true blade technology is generally an uncommon occurrence. Assemblage 1 contains the only prehistoric metal artifacts encountered at the Knox site; two copper beads are associated with Feature 1. The single bone artifact in this assemblage is a perforated sea mink canine (Plate 8).

Activity Areas

The Knox site was occupied sporadically during the Early Ceramic Period and most intensively during the Middle Ceramic Period, which is represented by Assemblage 2. Mean sea level rose 1 meter between these periods and about another meter after the end of the Middle Ceramic Period. During the Early Ceramic Period, occupation occurred primarily in the landward (back) portion of the site, in HP D. Occupation shifted towards the front of the site near the end of the Early Ceramic Period.

Three of the shell free zones occupy low, natural topographic depressions and were not aboriginally excavated. Two Early Ceramic Period shell-free zones occur in depression HP D and another in HP B. During the Early Ceramic Period occupation primarily occurred in the rear portions of the site, in the HP-D area.

Subsistence

Faunal remains from Assemblage 1 total 685 specimens with almost half (based on number of individual bone fragments) fish (Figure 3). Identified fish remains are predominantly longhorn sculpin. Mammal remains make up 40% with sea mink and deer important. Bird remains primarily consist of broken limb bones with most unidentified to genus or species. The occurrence of migratory birds (scoters) suggest occupation from late summer to late fall. Local informants have stated that sculpins are present in East Penobscot Bay in the late fall and early spring (Parker Waite, personal communication 1986). The dominance of sculpin during the Early Ceramic Period substant ates the seasonality based on migratory birds. No shell refuse outside of HP B could positively be associated with the Early Ceramic Period.

Assemblage 2: Middle Ceramic Period - 2000 BP - 1200 BP

Artifacts and Chronology

This assemblage represents most of the collection from the Knox site; however, only a



Plate 4. Interior/exterior cordage-impressed ceramics (vessel 13).



EARLY CERAMIC PERIOD (n = 685)



single radiocarbon date is associated (SF B: 1610 ± 70 C-14 yrs BP). The dentate-stamped ceramics of this assemblage are placed within the Middle Ceramic Period. Of the eighteen dentatestamped vessels, only two vessels are associated with the early Middle Ceramic Period. The remainder of the dentate-stamped ceramics are largetoothed simple and rocker dentate stamped vessels of the late Middle Ceramic Period (Plate 9).

A wide side-notched biface occurs in SF-B and is associated with the date of 1610 ± 70 C-14 yrs BP (Plate 6). Three biface fragments, two unifaces and the largest concentration of red ochre are found in Assemblage 2. An additional, much smaller, fragment of red ochre was recovered from SF-D.

All but a single modified bone item, discussed above, occur within Assemblage 2 (Plate 8, 10). Perforated canid and sea mink teeth and modified beaver incisors are associated with dentate-stamped pottery. Two bone needles were both recovered from SF-B. Bone points and a single barbed bone point occur within Middle Ceramic Period strata.



Plate 5. Exterior basketry-impressed ceramics (Vessel 11).

Activity Areas

During the Middle Ceramic Period, occupation appears to have occurred in both the shorefront areas and the landward portions of the Knox site. Evidence from the Middle Ceramic Period suggests that during this time most of the shell deposition refuse and aboriginal excavation of housepits continued. As construction of these dwellings occurred, abandoned depressions were filled with shell debris. In some instances, these depressions were re-excavated by later occupants. Housepits of this period occur in most portions of the site and include HP A, HP C, HP D and HP E.

Subsistence

Assemblage 2 contains 3,108 individual bone specimens; fish remains dominate the sample (Figure 4). The majority of identified fish remains are Atlantic cod. Mammal remains make up 30% with the extinct sea mink and deer important. Likewise, bird remains consist primarily of broken limb bones and most are unidentified to species. The dominance of cod and sculpin, the occurrence of migratory birds (scoters) suggest occupation during the Middle Ceramic Period occurred in late spring to late fall. Cod occur in East Penobscot Bay during the summer months, according to local informants (Parker Waite, personal communication 1986).

Sixty-eight soft-shell clam chondrophores were sectioned to determine their growth phase at time of harvest. All shell sections originate from strata assigned to Assemblage 2. Shellfish appear to have been harvested while in the growth phase of their annual cycle; that is, sometime between May and December (Chase 1988). Of particular interest, a fragmentary lobster claw was recovered in a context associated with the Middle Ceramic Period.

Assemblage 3: Late Ceramic Period - 1200 BP to 950 BP

Artifacts and Chronology

Assemblage 3 contains two vessel lots (Plate 11). These cord-wrapped stick impressed ceramics occur in the upper levels of the site and may be part of observed disturbances. No other cultural



Plate 6. Knox site stemmed bifaces: Adena-like biface (left); Meadowood-like bifaces (top center, lower right); Assemblage 1 biface (bottom center); Assemblage 2 biface (top right).



MIDDLE CERAMIC PERIOD n = 3,108)



items are associated with this assemblage.

Activity Areas

No shell free zones or refuse midden, except St. 1, can be positively associated with the Late Ceramic Period presence at the Knox site. Also, no faunal remains can be definitively associated with Assemblage 3.

CONCLUSIONS

High percentages of shellfish and fish remains establish that the Knox site represents an extreme maritime orientation. The location of the site on an outer island area demands that the occupants relied on some sort of watercraft, probably large ocean-going canoes, as the wind-driven waves can be quite dangerous. Severe wind and water conditions could have made the occupants islandbound for several days at a time, especially during the spring and fall seasons.

In order to collect mud and sand dwelling shellfish, the occupants would probably have relied on canoes to gain access to those areas near Isle au Haut during the Middle Ceramic Period. During the Early Ceramic Period at a time of



Plate 7. Knox Site Unifaces (left to right): Assemblage 2, Assemblage 2, Assemblage 1 (blade), Assemblage 2, Assemblage 1 (reworked biface tip).

lowered sea level, sand and mud flats may have existed around the site area. Fishing was probably done in the deep water areas to the east and west of the site. Four bone points (one barbed) were recovered from the site. These tools may have been used as fishing harpoons or gorges.

The dominance of sculpin in the Early Ceramic Period and cod in the Middle Ceramic Period suggests a change in fishing strategies, from brush weirs in the Early Ceramic Period to deep water line fishing during the Middle Ceramic Period. Shellfish consists almost entirely of softshell clam with minor percentages (rarely exceeding 10%) of blue and horse mussels, and whelks.

The Knox site represents one of the earliest coastal sites in Maine possessing dwelling remains. Only two other sites with visible housepit depressions on the midden surface are known. The value and importance of the Knox site lies in the excellent stratigraphic integrity which allows the separation of cultural assemblages and their associated faunal remains. The Knox site is one of the few offshore island sites examined in detail. In order to gain a more complete picture of the prehistoric seasonality of Maine peoples, offshore sites must be examined. One of the most important contributions of the Knox site are the Early Ceramic Period radiocarbon dates, all in direct association with cordage-impressed ceramics. These dates bracket the Early Ceramic Period between 2700 and 2000 C-14 years BP.

In summary, one can examine diachronic change at the Knox site in terms of technology and subsistence. The occupants of the prehistoric coastal zone in northern New England possessed a flexible adaptation in the face of a changing environment, particularly sea-level rise. Hints of subsistence change in response to sea-level rise are present at the Knox site. Thus by studying housepits one can directly examine adaptation to a particular environment.

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Plate 8. Perforated mammal canines (left to right): Canid (Assemblage 2), sea mink (Assemblage 2), sea mink (Assemblage 1).



Plate 9. Simple dentate-stamped ceramics.



Plate 10. Bone artifacts: bone points, needles, and barbed bone point (Assemblage 2).

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Plate 11. Cord-wrapped stick-impressed ceramics.



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