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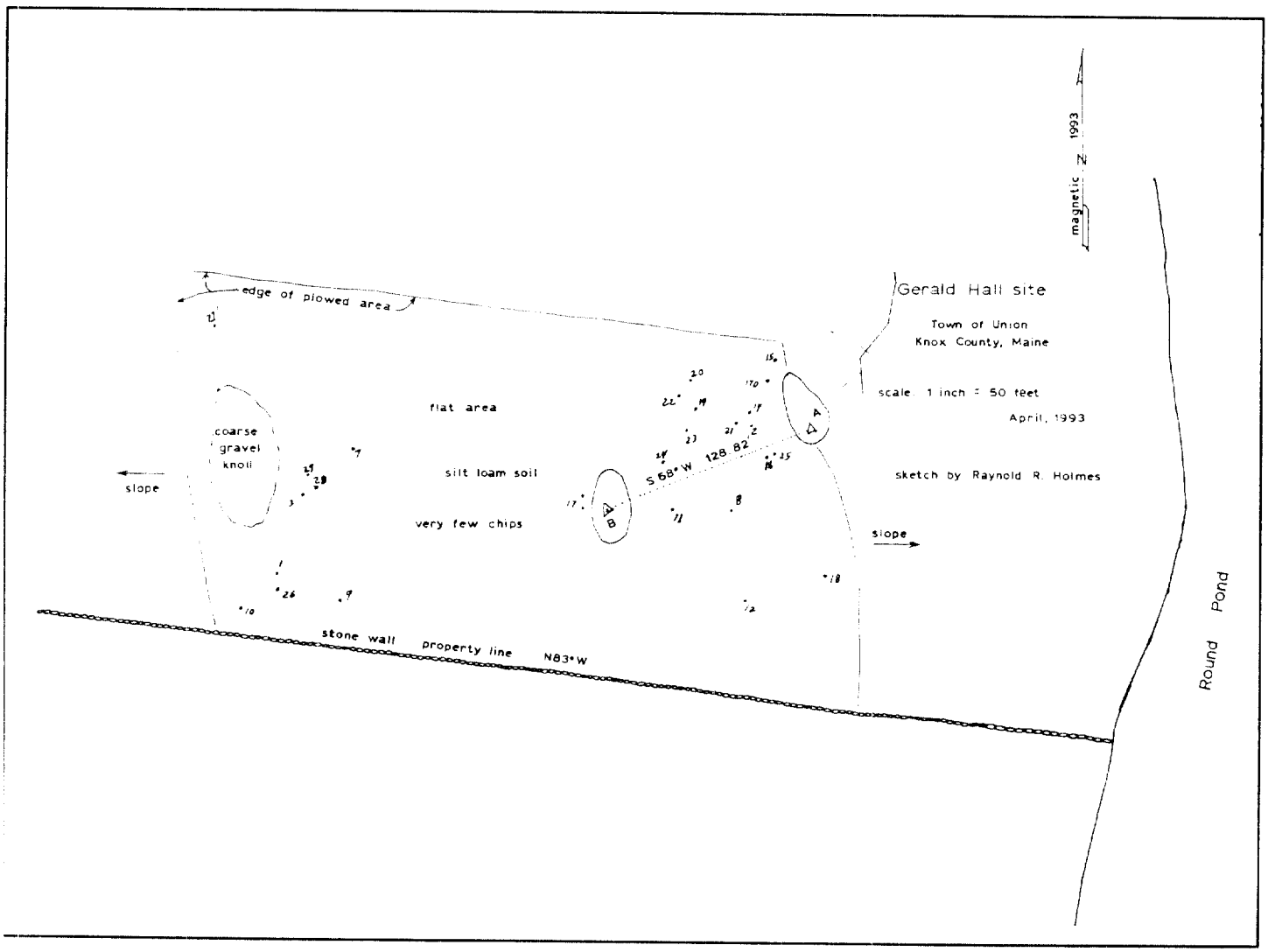


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# MAINE ARCHAEOLOGICAL SOCIETY BULLETIN

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# THE EVERGREENS: ARCHAEOLOGY AND AN ALLUVIAL LANDFORM ON THE KENNEBEC, PART II

**Arthur Spiess and Mark Hedden**

## FOREWORD

This article is the second of a two part report on archaeological work at the Evergreens (ME 69.6, Figure 1) site on the Kennebec River (see Spiess and Hedden 1993). Herein we present a detailed description of 1983 excavation results.

## INTRODUCTION

This report presents the results of a 28 square meter test excavation conducted in August, 1983 under the direction of the senior author. Members of the largely volunteer 1983 crew included Maxine Collins, Henry and Addie Lamoreau, Edna Duffy, Mark Hedden, Eric Lahti, Karen Powell, Linda Finlayson and three area high school students: Diane Dolan, Laurie Mayo, and Angie Green. Part-time help was obtained from William Reid, Rachel Reid, Kathy Wall, Jeanne Bruce, Shelly Lahti, and Karen Lahti.

The primary 1983 excavations extended 8 meters perpendicular to the shore of the Kennebec River (Figures 2 and 3). This excavation exposed a series of armored riverbank fronts associated with successive buried cultural levels reaching a depth of approximately one meter from the ground surface. Four culture bearing strata were distinguished, with the three lowest levels devoid of pottery fragments. In addition, a smaller area was excavated 128 meters inland on a fossil erosional terrace. This older land surface yielded a fire hearth feature associated with weathered flakes and a radiocarbon date of nearly 6,000 years. These results increase understanding of the time frame involved in the deposition of alluvial soils, cutting of erosional features, and details of cultural presence in the Mid- and Late Holocene.

## 1983 EXCAVATION METHODS

A checkerboard pattern of six 2x2 meter squares were laid out from a point within a meter of the present escarpment. The squares were oriented (grid) south to north at right angles to the river about 50 meters west of the 1982 excavation and 40 meters east and south of the 1969-1971 tests (see Spiess and Hedden 1992). The checkerboard layout, excavating alternate squares, allowed inspection of continuous profiles over 6 to 8 meters. Excavation proceeded in 5 cm arbitrary levels until a visible natural or cultural stratigraphic break was encountered.

All work was accomplished with hand tools (spades, square-nosed shovels and trowels). All fill was screened through $^1/_4$" mesh hardware cloth. Feature fill was bagged and removed to the laboratory for processing. All non-utilized rock and firecracked rock was separated and weighed by level and 1x1m quadrant of each square before being discarded. Samples of firecracked rock from features were saved. Features and artifacts found in situ were exactly provenienced to 1 cm in three dimensions. Horizontal plans were drawn as features were exposed. Profile drawings were made for each wall of a completed square. All horizontal and vertical measurements for each square were taken from the ground surface at the Southwest corner stakes.

Site-wide horizontal control was established by using a tape and transit to establish a baseline des-

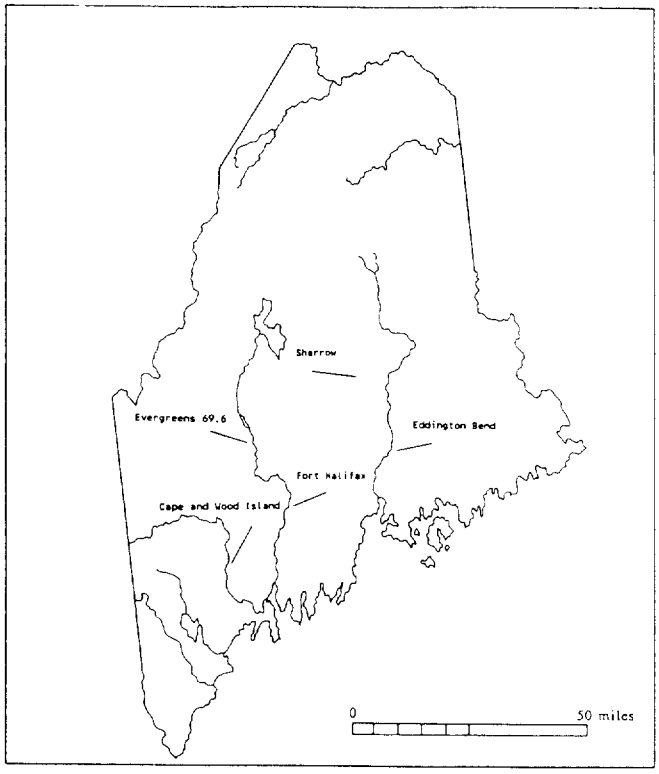


**Figure 1.** Map of Maine locating the Evergreens site and some other sites in Maine.

ignated N14 on the grid system. Copper tubes (1' or longer sections of ½" copper water pipe) were driven into the ground at 25 m intervals along that baseline at W94, W119, W144, W169, W194, W219, W244, W269, and W294. Later four additional copper tubes were driven at N130 W180, N130 W202, N140 W230 and N140 W256. These stakes provide a permanent grid system for future excavation at the site.

Site-wide vertical control was established from the base of the northwest corner of the stone chimney foundation for the Main Lodge. Square vertical datum was the southwest corner of each 2x2 $m^2$. The abbreviation "bd" means below square datum unless another datum is specified. Occasionally "bs" is specified, meaning below surface.

Rapid completion of one square enabled us to detach 2 members of the crew to excavate another 2x2 m square on the upper terrace at N138 W236. The Perry Collection contained a shouldered, stemmed point which had been recovered during sod cutting nearby (i.e., shallowly buried). Spiess thought that the point vaguely resembled the Middle Archiac Neville point type, and wished to test the high terrace for potential mid-Holocene occupation. While no diagnostic material was recovered in this test square, fire-cracked rock associated with a charcoal concentration and a few weathered flakes, including some made from a coarse grained felsite, indicated habitation debris consistent with a possible Middle Archaic occupation.

As excavation near the riverbank proceeded below the plowzone, a succession of buried cobble-lag banks or beach levels appeared. The first such "armoured" bank slope was encountered in N10 W200 and N10 W196, where it is marked by a heavy cobble lag deposit at ca. 60 cm depth below surface. This cobble lag deposit defined an uncomformity which marked the base of Stratum I. It was below the lowest point at which potsherds were recovered in the square. As excavation progressed we encountered a succession of three non-ceramic occupation levels, associated with three separate river bank margins. The two lower levels, Strata IIIa and IVa, had been truncated along the south half of N12 W198 by a deep erosional channel or pit, possibly formed as a result of a tree fall during a major flooding episode. The high energy of the flood is attested by cobble lag deposits on both sides of the erosional scour. Other possible tree fall erosional scours could be seen in the profiles of N14 W200 and N16 W198. We consider these three depressions to have been the result of a single devastating flood which apparently occurred between the time of deposition of Stratum IIa and Stratum IIIa cultural deposits. The combined effect of the tree falls was to expose sizeable segments of culture bearing strata below Stratum IIa to erosion and redeposition of Stratum IIIa or earlier materials. Potsherds are absent below the Strata II/III unconformity. Since ceramics were introduced to Maine circa 3000 B.P., the flooding event or events occurred sometime before the beginning of the Ceramic Period.

**Figure 2.** Modern cobble lag deposit on shoreline in front of site 69.6.

In the lowest culture-bearing stratum we excavated (Stratum IVa), in N14 W196 and N16 W198, we uncovered a well defined hearth feature first appearing at 80 cm below datum, extending down to a deeper dark soil stain (ca. 90 cm). This stain was bordered along its southern edge (in N14 W196) by large cobbles and boulders. Two possible postholes were located along this periphery. The nature of the deposit suggested a possible semi-subterranean (winter?) housepit. We cleaned a portion of the possible living floor, then ran out of time. Hence, we did not reach sterile deposits during 1983, nor had any previous excavation. All excavated squares, and the housepit floor, were

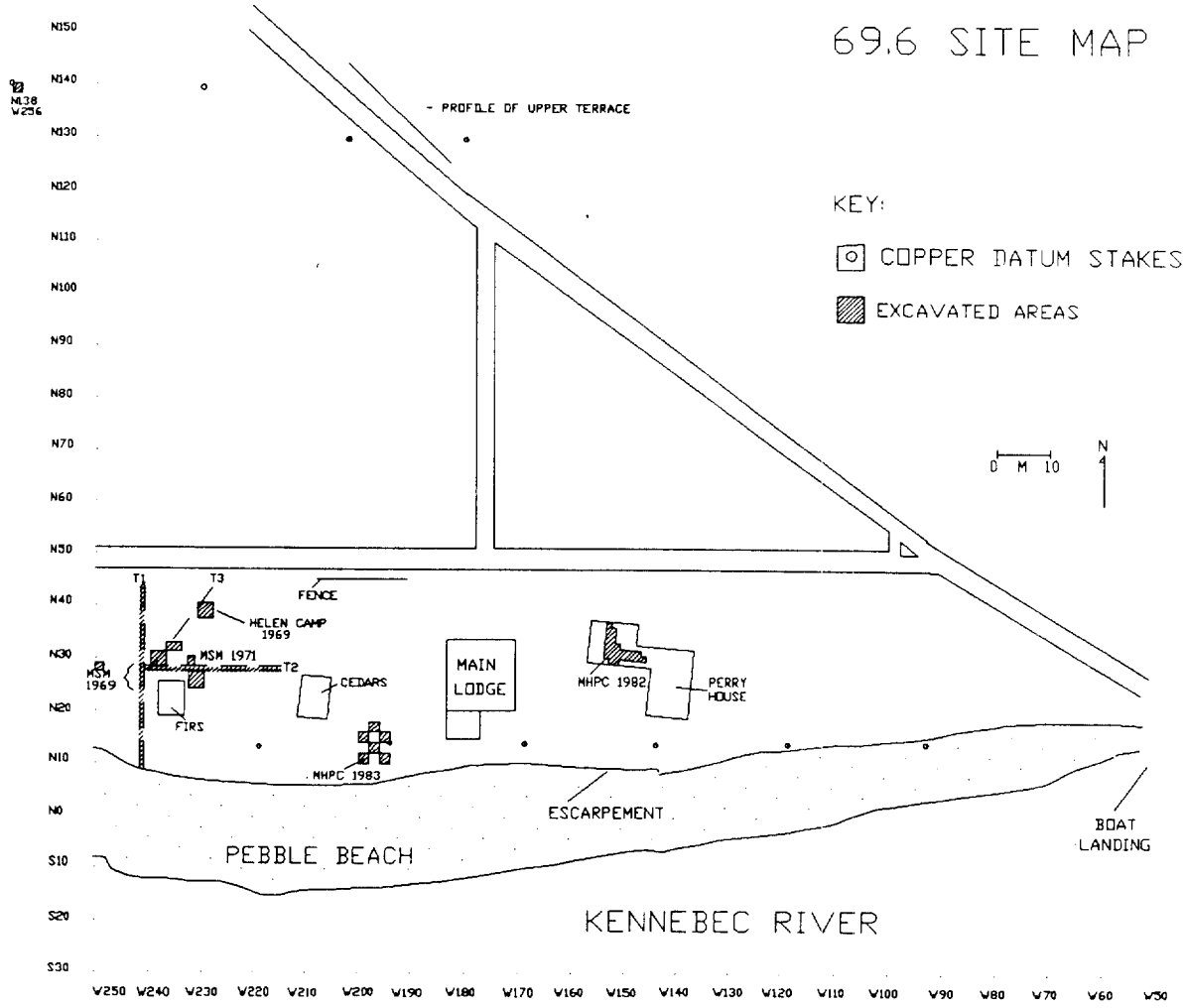


**Figure 3.** Plan of the site and excavations through 1983.

lined with plastic and backfilled to protect them for future work.

## STRATIGRAPHY

The reworking of the sediments by floods, tree falls, rodent activity and plowing had left a complicated sequence of depositional layers and erosional disconformities in the area excavated in 1983. For these reasons the color and texture variations of the stratigraphic units were often interrupted and difficult to follow. On the east and west walls of N12 W198, for example, alternating dark layers of buried "A" horizons and lighter fine sands abruptly end at about N13.20 (Figure 4). These strata appear to have been scoured away by a flood channel or by flood waters running through a depression, perhaps left by an uprooted tree. The profile of the north wall of N14 W200 (Figure 5) shows a deep indentation which slopes downward from west to east (i.e., downstream) and abruptly rises on the east face. This indentation is interpreted as a tree fall, with the tree knocked over and possibly wrenched out by heavy flood waters. A similar indentation in the north wall (NE quad) of N16 W198 may represent a smaller tree fall.

Stratigraphic Unit I is thicker close to the riverbank. In the southwest corner of N10 W200 the lower part of Stratum I reaches 65 cm below

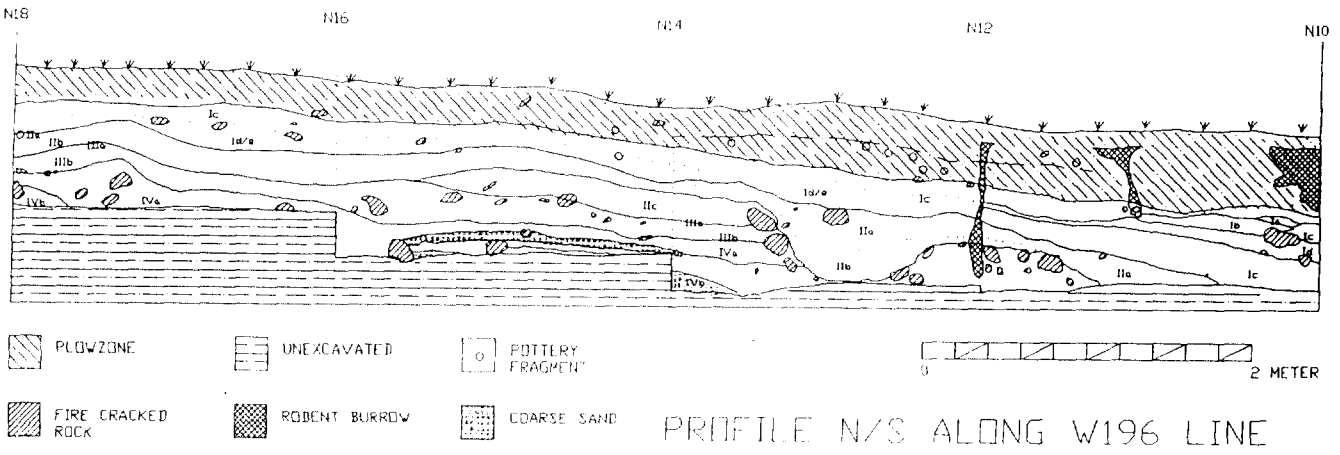


**Figure 4.** North-south 1983 stratigraphic profile along W196 line.

the surface. The final deposition associated with Stratum I are disturbed by a plowzone extending through the upper 20 cm of alluvium in N16 W198. Only short segments of the lower limits of Stratum I escaped churning by the plow in N16 W198. Nearer the riverbank, the plowzone deepens to ca. 35cm, probably as a result of repeated plowing under of flood sediments. Extensive rodent burrowing, particularly near the present shore, has further obscured the strata. In places, as on the common corner of N10 W196 and N12 W198, a burrow penetrates from the bottom of Stratum I to the lower limit of the excavation (ca. 90 cm below the present surface).

In the paragraphs below we describe the stratigraphic subdivisions of the 1983 excavation from lower-most to top-most. Each of the four major culture-bearing units is designated with a Roman numeral (IV to I) with small letter suffixes to distinguish sub-strata in each unit. In the three lower stratigraphic units (IV, III and II), the suffix "a" constitutes a buried "A" horizon with cultural content. Suffix "b" refers to sterile zones or alluvial deposits immediately below the A horizon. While Stratigraphic Unit I on the north end of the excavation was largely obliterated by plowing, sediment deposition has protected the lower parts of the stratigraphic unit. In Stratum I a second buried "A" horizon is designated by suffix "c". Other sterile silty sand deposits (probably B or C soil horizons) are designated by suffixes "d" and "e".

**Stratigraphic Unit IV**

Stratum IVa consists of dark brown mottled fine sand containing charcoal, fire-cracked rock (FCR), debitage, and lithic artifacts. Extant deposits average about 10cm in thickness. At the northeast end of N16 W198, sterile Stratum IVb can be seen as a dense gravel/coarse sand/cobble material that rises (to 70 cm b.d.) at the northern limit of the square. Stratum IVb appears to be an old shoreline (or flood channel scour) analogous to the modern "armoured" riverbank. This gravelly surface underlies the Stratum IVa living floor composed of Feature 23 and Feature 24, where we have excavated through them. Stratum IVb appears to the south (from N15.60 to N13.20 W196) as coarse sand interbedded with silt. At N13.20 both subunits of Stratigraphic Unit IV disappear, apparently truncated by an erosional disconformity or scoured pit from a tree fall.

**Stratigraphic Unit III**

In N16 W198 Stratum IVa is overlain by Stratum IIIb, a coarse sterile olive sand layer. In the center and north wall of N14 W200 both Stratigraphic Units IV and III appear to have been truncated by a large tree throw (Figure 5) but are marginally present near the east, south and west walls. The tree throw left a trough more than 1.5 meters

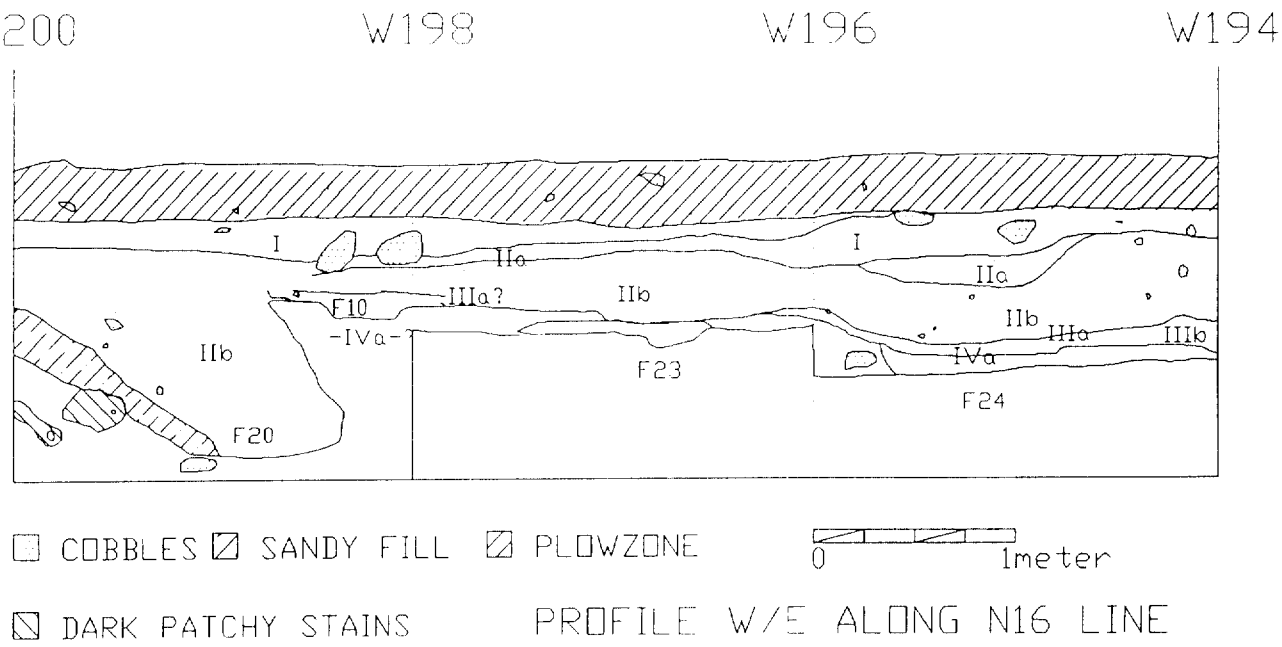


**Figure 5.** East-west profile along the N16 line.

in diameter N/S by ca.1 meter wide and deep. Fill in the lower 40 cm of the tree throw is coarse and fine tan sand mixed with sparse charcoal, occasional flakes and FCR redeposited from surrounding strata or washed in from surface deposits present before the flood event.

### Stratum IIIa

Stratum IIIa consists of mottled reddish brown to yellow tan fine silty sand with pebbles, charcoal, flakes, and FCR. It overlies the olive drab coarse sand of Stratum IIIb. The thickness (where preserved) is about 4 cm for IIIa and ca. 8 cm for IIIb. Between N17.50 and N17 along the W198 and W196 walls, Stratigraphic Unit III follows the contour of the north wall of a buried structure associated with Stratum IVa. From N17 southward the stratum lies horizontally, except where interrupted by a tree throw or scour pit in N14 W200. It is clear on the north wall of N14 W196 but indistinct along the south wall of N16 W198 and part of the west wall of N14 W196. A clear dark remnant layer reappears in the SE corner of N14 W200 continuing southward until obliterated by the same scour channel that destroyed Stratum IVa N13.20. No further traces of Stratum IIIa appear south of this point. On its southern terminus on the east wall of N12 W198, large cobbles 20 to 30 cm thick had apparently become lodged along the edge of a flood channel and served to protect parts of the stratum from erosion. These were part of another "armored" bankslope.

### Stratigraphic Unit II

A mottled yellow brown coarse to fine sand with many substantial cobbles (Stratum IIc) separates Stratum IIIa from Stratigraphic Unit II. This deposit seems to be associated with the initial stages of the flood event which knocked over several trees along the shore. Occasional flakes and FCR were found in this deposit, particularly in the fill of tree throws. A fine tan silty sand (Stratum IIb) seems to represent the final stages of the flood event, partly filling large depressions, such as tree throws, channel scours, and the pit depression associated with Features 23 and 24. The thickness of the deposit is highly variable on uneven surfaces, but seems to average around 8-10cm on shallow slopes.

**Stratum IIa**

Stratum IIa is a buried "A" horizon which consists of light brown to mottled reddish silty fine sand with scattered charcoal. It represents a soil surface which was available for habitation and vegetation growth for some period of time. Thicknesses average around 4cm with the base often marked by pebble and cobble inclusions. The unevenness of Stratum IIa is attributed to the scoured hummocky surface on which it was laid. A very limited use of the area is implied by the sparseness of cultural material. On the inshore (north) end at N18 W198, Stratum IIa begins at ca. 30cm b.d., dropping to ca. 40cm bd at N16 and ca. 60cm @ N13 W198. IIa essentially disappeared into sterile sand at 70cm b.d. in N10 E196.

**Stratigraphic Unit I**

A light tan to yellow shade of fine silty sand deposited in thicknesses varying from 20cm near N10 to 8cm or less from N12 to N18 forms the sterile sediments labelled Stratum Ie that overlie Stratum IIa. This deposit is interpreted as indicating one or more milder (low energy) floods. Some shoreline erosion of Stratum IIa seems to have occurred in N10 W196 to 198 area as Feature 11 rested right on a cobble lag beach attributed to Stratum IIb. However, the net effect of the Stratum Ie deposit was to build up and level out the ground surface before more intensive occupation of the area began again.

**Strata Id through Ia**

Near the southwest corner of N10 W196, at about 50 cm below surface, a lense of sterile sand (Stratum Ib) divides two dark brown layers of buried "A" horizons (Stratum Ic-below and Ia-above). The lower buried "A" horizon rests on a reddish tan "B" horizon (Stratum Id) which, in turn, rests on the yellow silty sand of Stratum Ie. A plowzone (Ap) consisting of medium dark brown silty fine sand in a homogenized layer with extensive rodent disturbance appears above Stratum Ia. These fine distinctions are obscured along the south wall and northward to about N12.30 by heavy rodent activity. In places, rodent burrows extended to the base of the excavation (cf. southeast corner of N12 W198). From N12 to N14 the buried "A" horizons (Ia/Ic) are combined into a single band of mottled dark brown fine silty sand which thins from a thickness of 24cm at N12 to about 10 cm at N14. From N14 to N16, the dark brown band becomes a more mottled yellowish to reddish brown with occasional small cobbles and dark lenses associated with features. Between N16.30 to N18, Stratum Ia/c is essentially truncated by the plowzone with only a few centimeters of deeper feature fill in surviving in places.

## FEATURES AND ARTIFACT COMPONENTS RECOVERED IN 1983

We encountered 23 features in the checkerboard block of excavations excavated in 1983 near the river (Features 1-21, 23 and 24). The 1983 features begin a new series and are not the same as Features 1-4 1982. The 1983 features will be described grouped by stratum in the order in which they were found within a stratum along with the lithic items we recovered. Feature 22, on the high terrace, is described at the end of the section. Figures 6 to 9 map the horizontal distribution of features in each stratum.

**Stratum Ia/c**

Feature 1 was recognized as light, charcoal stained soil associated with cobbles. It may have been a small fire hearth. The stained soil measured 5 to 6 cm deep just below the plowzone in the NW corner of N14 W200. There was no direct association with aboriginal ceramics, but one quartz endscraper (69.6.129) was found within the same 1x1m quadrant at 15-20 cm below surface. A cobble cortex spoke shave also appeared in the quadrant at 0-10cm bd in the plowzone (69.6.370).

Feature 4 consists of a dense mass of cobbles and pebbles with some charcoal but only one fire-cracked rock. It may have been a fire hearth utilized for a short period of time. The total rock mass weighed 14.5 kg and was tightly concentrated between 17 and 23 cm below surface. A felsite core was recovered at 5-10cm bd in the plowzone of the same quadrant.

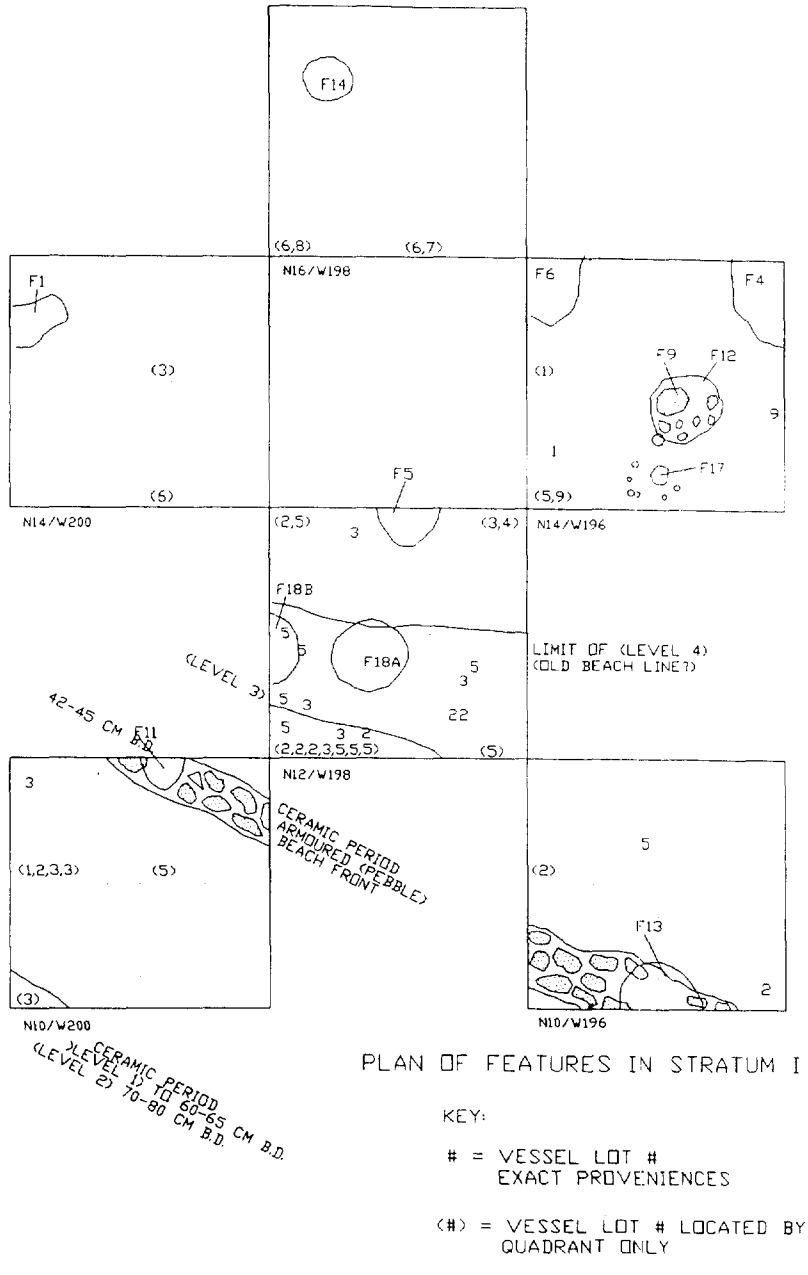


**Figure 6.** Plan of 1983 features in substrata Ia and Ic and location of pottery sherds identified by vessel lot numbers. Features are labeled with "F" followed by number. Numbers in parentheses indicate sherds from vessel lots found in square quadrant. Numbers without parentheses indicate vessel lot of sherds with exact provenience.

A shallow (3 cm deep) basin of charcoal stained soil is all that remained of Feature 5 under the plowzone along the north wall of N12 W198. The basin measured 64 cm east/west by 46 cm north/ south, with an unexcavated portion left intact in the north wall of the square. A scatter of cobbles in the plowzone directly above probably belong to this feature, which must have been a hearth.

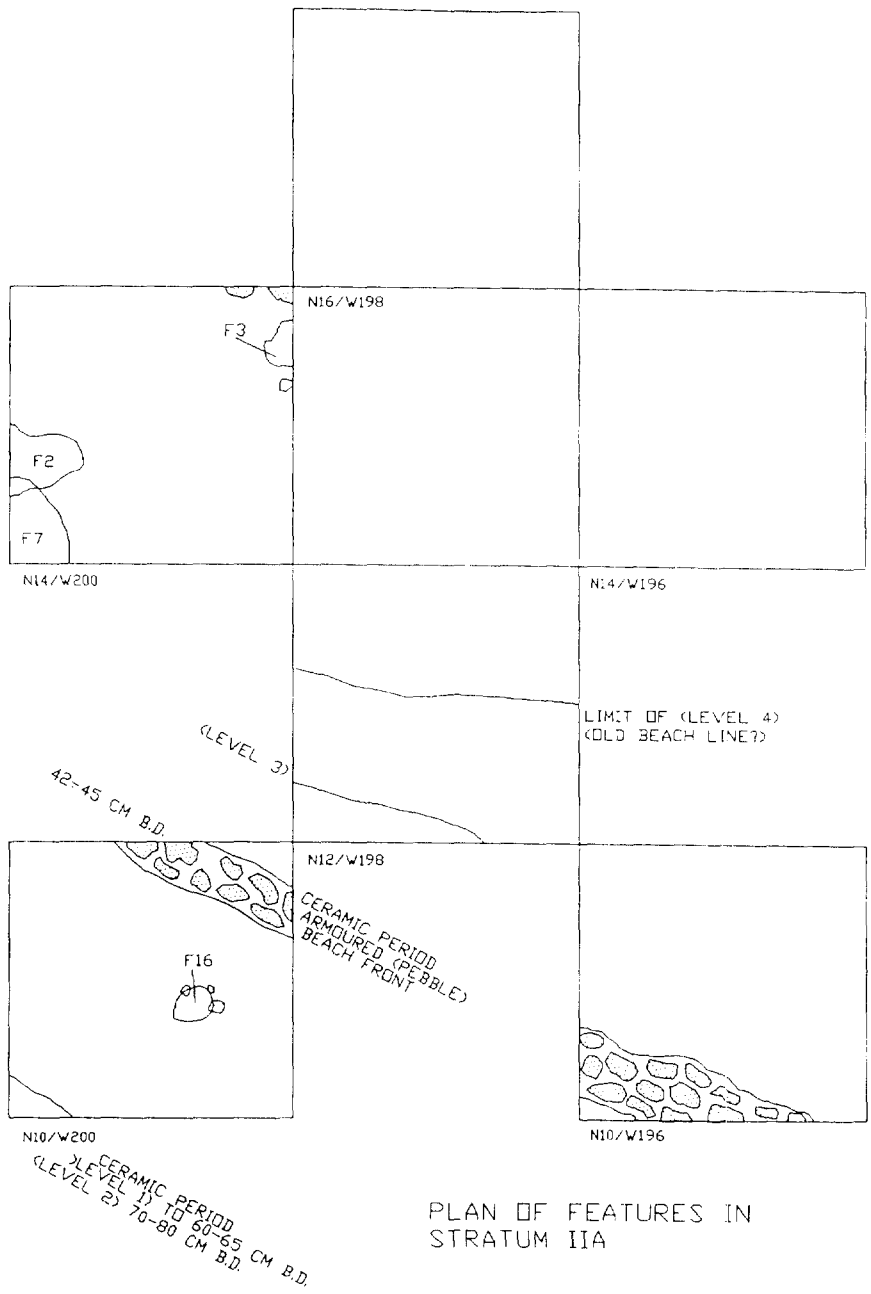


**Figure 7.** Plan of 1983 features in Stratum IIa.

One sherd of vessel lot #3 was found in close association at N13.78 W197.36 at 23cm bd. A biface fragment was recovered from the plowzone at 11cm bd N13.79 W197.

Feature 6 was first noted as a scatter of large rocks associated with a circular soil discoloration 25 cm in diameter at 20 cm depth. The red discoloration continued to a depth of 33 cm. Several of the large cobbles were also reddened by oxydation. Feature 6 must have been a lightly utilized fire hearth. No artifacts were recovered from the feature fill. The feature probably extended into the

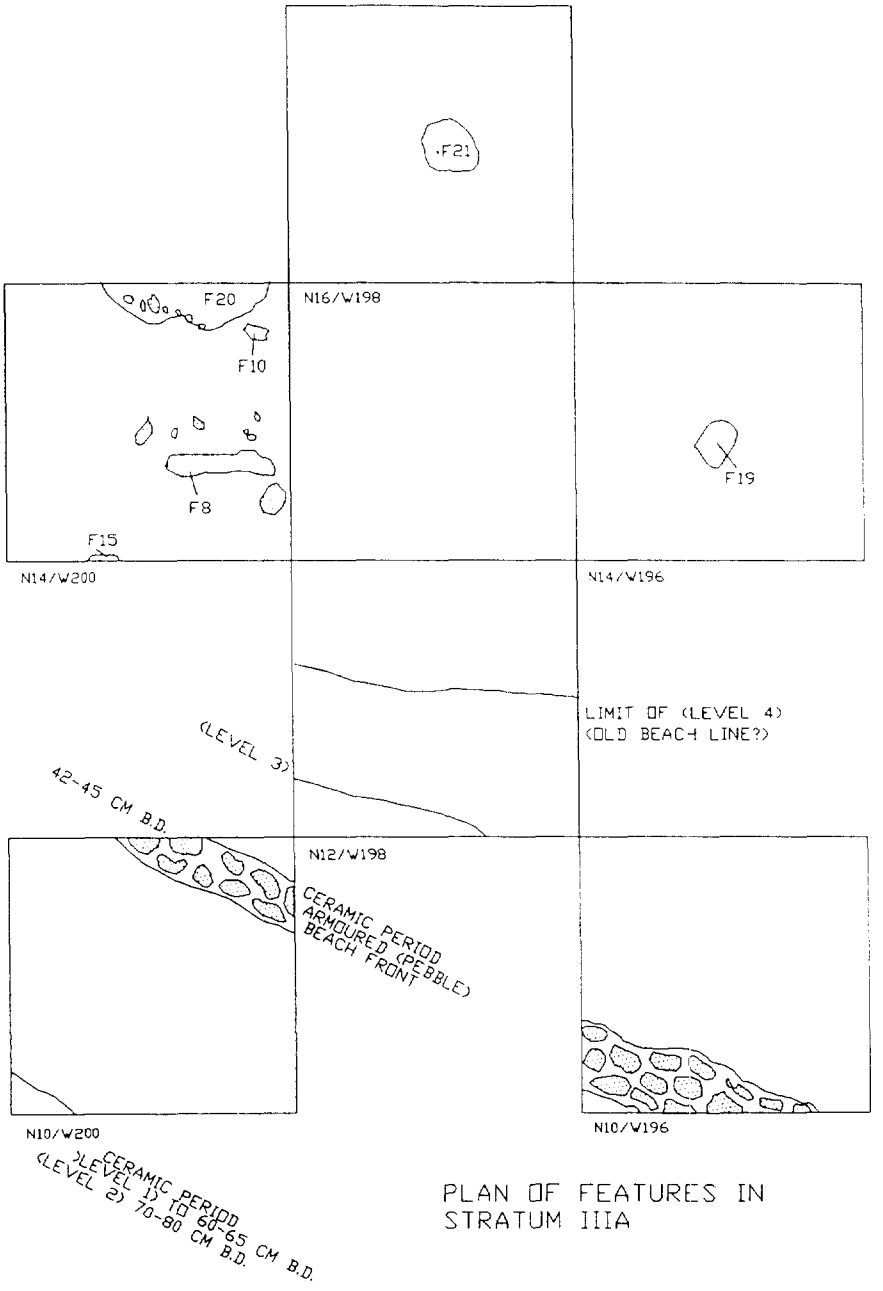


**Figure 8.** Plan of 1983 features in Stratum IIIa.

adjoining squares. Three potsherds from Vessel Lot #6 (69.6.295a, b, c), recovered at 20cm just below the plowzone in N16 W198 SWq may belong to this feature.

Features 9 and 12, in the center of N14 W196, occupy contiguous horizontal areas but are not clearly connected vertically. The dark soil/loam stain with charcoal that first appeared at 23 cm depth was designated Feature 9. Feature 12, a larger pebble/cobble pavement beginning at 30 cm depth was located directly beneath Feature 9. It measures about 35 cm in diameter. There was no

cultural material in the feature fill. The cobble pavement and lack of artifactual material suggests a possible function as a small sweatlodge or other non-domestic hearth.

Feature 11 along the north wall of N10 W200 measured 50cm in diameter and consisted of a ring of fire-reddened and fire cracked rock at 40 cm bd with lump charcoal in the fill inside the ring. This hearth rested on a cobble lag river beach. (We associate the beach with the base of Stratum I.) A piece of fresh mammal bone with canine teeth puncture marks found in the fill was attributed to recent burrowing, possibly by a fox.

Feature 13, another hearth built on the same cobble lag beach formation as Feature 11, but along the south wall of N10 W196, consisted of a pile of soft-ball sized cobbles with a quantity of charcoal. The tops of the cobbles first appear at 55-56 cm bd and continue to a depth of 80 cm. Lithics found in the immediate vicinity include a felsite core (69.6.205) at N10.28 W194.79 60cm bd, a flaked felsite hammerstone (69.6.212) at N10.84 W194.55 75cm bd, debitage and FCR. One sherd (69.6.172) from vessel lot 2 was recovered from Stratum Ic fill at 31cm bd N10.10 W194.25 above Feature 13. We attribute Vessel Lot #2 to CP-6 (Petersen and Sanger 1989). A radiocarbon date of 390$\pm$100 B.P. (Beta 7731) was obtained on Feature 13 charcoal.

Feature 14 was a circular charcoal stain located just under the plowzone in the middle of the northwest quad. It continued into the northeast quad of the square. Several scattered cobbles in its immediate vicinity appear to have been disturbed by plow. Fill was traced 13 cm to a depth of 28 cm bd. Pottery in the immediate vicinity included 1 sherd of Vessel Lot# 8 (69.6.297) at 20 to 25 cm bd.

Feature 17 consist of a charcoal stain 25 cm in diameter that first appeared at 33 cm depth. Various small cobbles are scattered about the circumference continuing to a depth of ca. 40 cm depth. The charcoal stain was concentrated on one side of this feature, which may have been a small hearth. Two sherds of Vessel Lot# 8 (69.6.296A and 296B) were found slightly deeper in the SW quad (40-45cm bd).

In N12 W198 two dark circular charcoal stains, designated Feature 18, are joined in the southwest quad. Feature 18A had one fire-reddened cobble in the center of an oval 50 to 60 cm across at 35 cm depth. Fill included charred tree roots, 2 sherds of Vessel Lot# 2 (69.6.200 and 398) and a felsite core fragment (69.6.208). Feature 18B, located adjacent to the west wall, measures 15 to 20 cm across at 40 cm depth. The fill included one sherd of Vessel Lot#5 (69.6.207), a felsite flake and a quantity of charcoal in chunks. By 42 cm depth, both features had bottomed out as evidently separate basins. Three sherds of Vessel Lot #3 were found within 50cm of Feature 18A and another sherd of Vessel Lot#5 was located near F18B as 3 others for which coordinates were not obtained. All three vessels were closely related stylistically and are attributed to Ceramic Period 6 (Ca. 650 to 400 B.P., Petersen and Sanger 1989). A sample of large beach and red oak lump charcoal from Feature 18B returned a radiocarbon date of 650$\pm$60 B.P. (Beta 39214). We assume Features 18A and 18B were two separate fire hearths built sequentially.

In general, the lithic artifacts from Stratum I show characteristics typical of the Middle to Late Woodland (Ceramic) period. These include a small sandstone celt (69.6.142), two bifacially flaked felsite hammerstones (69.6.190 and 212), two chert drills (69.6.118 and 179), two turtle-back scrapers (69.6.110 and 146) and a small quartz endscraper. A distal point fragment (69.6.189) of Munsungun chert has proportions that suggest a Levanna or Madison point, though it may be a biface fragment. The presence of exotic cherts as tool material sets the Stratum I inventory apart from the exclusively local rock materials found in earlier stratigraphic deposits.

Five examples of split felsite or siltstone cobbles exhibiting small concave sections of the perimeter that had been retouched and/or utilized as spoke shaves (69.6.120, 130, 370, 376 and 378) were recovered in the plowzone, Stratum I or on the surface "north of the dig" (69.6.376). These constitute what we believe to be a previously unrec-

ognized category of tool (wood or fiber shaves) which are discussed in detail below. The presence of this tool suggests that some kind of special purpose activities had been taking place in this area during the Late Woodland period, perhaps in connection with light wood-working (canoe parts?) or fiber preparation. Three of four examples were distributed between N14 and N16 (69.6.130, 370 and 378) and one appeared at the base of the plowzone closer to the shore (69.6.120 - N10 W200 NWq). The two drills (also discussed below), a piece esquillee or wedge (69.6.175), two endscrapers (69.6.129 and 146) and the celt have a like distribution and may have been employed similarly. Another probable activity is tool manufacture (18 cores, 3 hammerstones, 6 biface fragments, and 3 preforms). Seven cores (69.6.119,168, 178, 205, 374, 380 and 401), 4 biface fragments (69.6.103,116,163 and 195) and both flaked hammerstones (69.6.190 and 212) were concentrated near the river front in the vicinity of hearth Features 11 and 13, both of which were built on beach cobbles at the base of Stratum I. But the remaining 11 cores (69.6.157, 161, 186, 196, 203, 204, 206, 208, 378, 387 and 389), one cobble hammerstone (69.6.137) and 5 biface fragments (69.6.125, 145, 156, 189, and 390) are scattered in the more inland areas of our excavation.

Some 11 additional lithics were recovered as surface finds, mostly from the beach front near the area excavated in 1983. These include a felsite biface preform (69.6.109), 2 trimmed biface cores (69.6.112 and 366), 2 retouched flakes (69.6.117 felsite and 369 quartz) and two felsite cores (69.6.367 and 377). The biface fragments and a cobble spoke shave (69.6.376) found on the surface "north of the dig" suggest that most, if not all, of this material belongs to the period represented by Stratum I.

**Stratum IIa**

The features in Stratum IIa are shown in Figure 7. Feature 2, extending to the west wall of N14 W200, was a 30-35 diameter dark brown soil stain with charcoal flecks in a shallow basin. First noticed at 30 cm depth, the feature fill produced a lot of partially decomposed bark. There were no material cultural associations, so it probably represents a burned and rotted tree root.

Feature 3 appeared initially as a dark brown organic stain in light brown silty fine sand. The stain extended into the east wall at the northeast corner of N14 W200. Three large cobbles bordered the stain at 40 cm depth with cobble bases at 45 cm. At 45 cm depth the feature formed a steep sided basin extending down to 55 cm and measuring 15 cm wide by 25 cm long. Charcoal, a felsite biface thinning flake and one small piece of fire-cracked rock (FCR) were obtained from the feature fill. We suggest that this feature was a small pit or steep-sided fire hearth later filled with household debris.

Feature 7 is defined as a 3 to 5 cm deep dark brown loam stain with distinct borders at 49 to 50cm bd. The bottom was irregular. The fill included charcoal flecks. The function of Feature 7 is unclear.

Feature 16 consisted of a ring of cobbles measuring 35cm in diameter around a light charcoal stain. It clearly functioned as a fire hearth. Stain and cobbles were first noted at 55 cm depth. The feature fill on the north side of the feature laid against tightly packed gravel of an old river bank. To the south, the feature bottomed out at 65 cm depth in fine yellow sand. One quartz flake with cortex, a felsite flake with cortex and 5 felsite thinning flakes were found in the fill at 60 cm bd. Fire-cracked rock weighing 3 kg was removed from the immediate vicinity of the feature, as compared with 0.2 kg of FCR from the remainder of square.

Stratum IIa yielded only one tool, a felsite core (69.6.323) located SW of Feature 16 at 75cm bd (N10.29 W199.47). However, much debitage of felsite (118 flakes, 103g), quartz (12 flakes, 10g) and quartzite (10 flakes, 7g) was recovered, with the largest quantity concentrated in or near the cobble lag beach (112/138 or 84%). A white quartz piece esquillee or bipolar wedge (69.6.344) may belong to Stratum IIa (recovered in the screen from material at 80-85cm bd in N12 W198 SWq) or an earlier cultural layer. There were no exotic lithic materials in the Stratum II collection, thus the

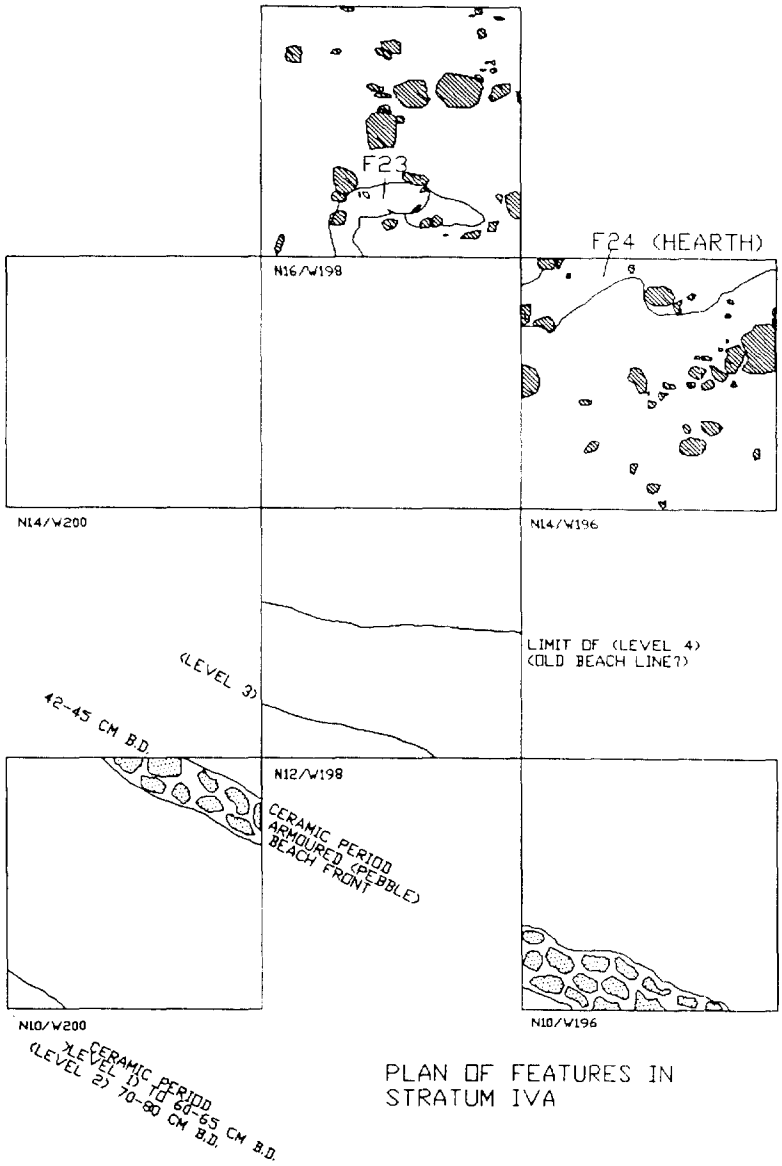


**Figure 9.** Plan of 1983 features in Stratum IVa.

Stratum II collection follows the pattern of usage of local lithic materials characteristic of preceding cultural strata to be described below.

### Stratum IIb/c

Feature 20 (Figure 8) is interpreted as an open pit left by a large tree throw (fall) that collected "A" horizon organic stain, rocks and washed sand on its interior slope. The form of the feature was not understood until its base was reached between 120 and 140 cm bd along the north wall of the square. The feature was initially encountered as a "reef" of cobbles descending eastward from the west wall at ca. 50 cm depth, associated with occasional debitage pieces and dark brown silty sand and overlaid by sterile sharp sand. The pit ended along the north wall of the northeast quad in a

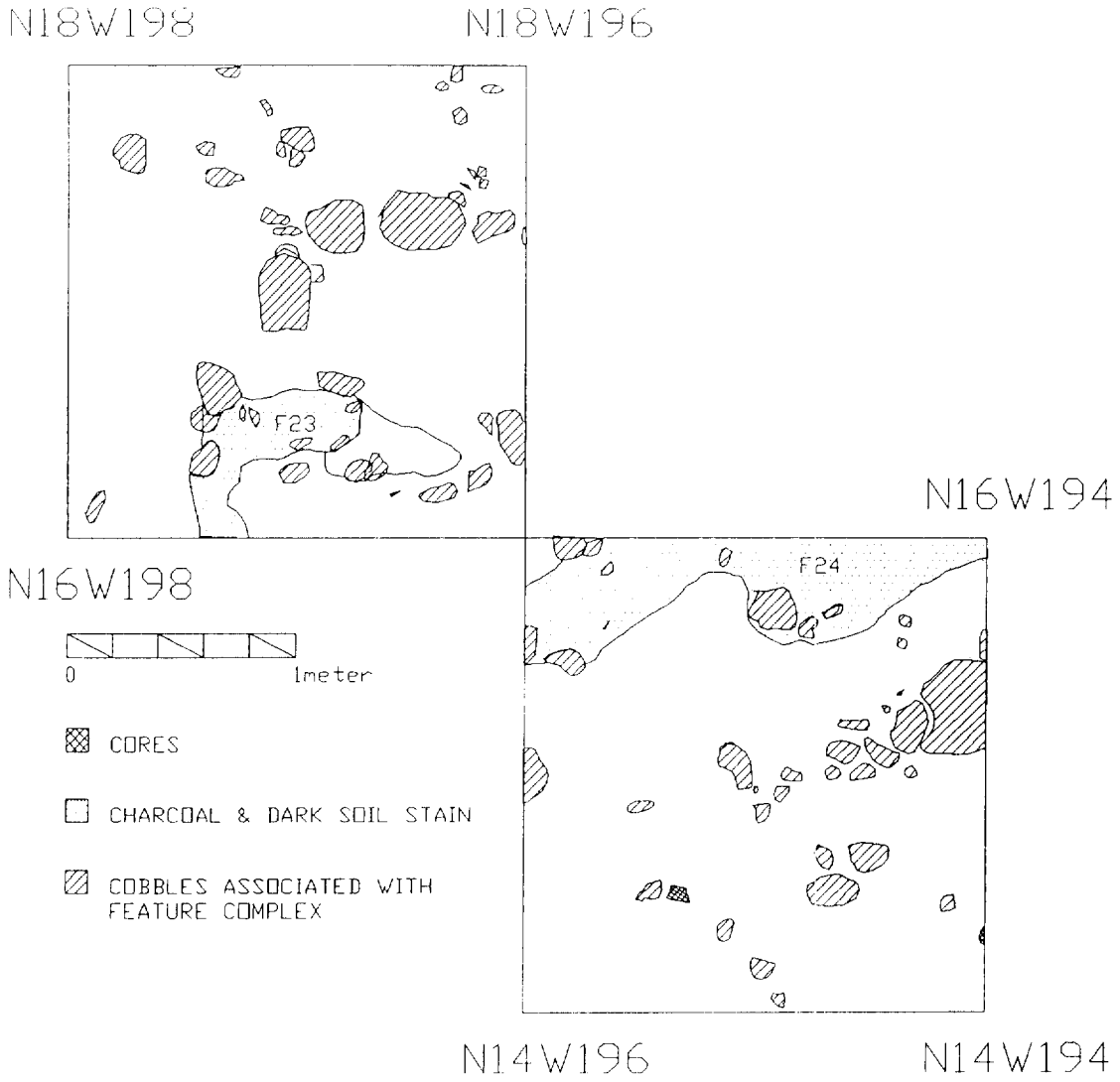


**Figure 10.** Stratum IVa plan detail showing Features 23 and 24.

faintly defined S-shaped curve profile rising from ca. 140 cm to the base of Stratum II. The overall profile indicates a tree throw pit, with the tree falling to the south or east (i.e., downstream). Two samples of charcoal (69.6.30 and 69.6.51c) from the feature consisting of coniferous wood, beech, birch, and hop hornbeam lump charcoal were combined to produce a 1.6 gram sample adequate to date the fill in the Feature 20 pit. The radiocarbon date of 3330±30 B.P. (Beta 39125) seems consistent with our overall interpretation of site stratigraphy. However, it necessarily represents charcoal washed into the open pit, perhaps even redeposited from pre-existing strata, over a long period of time. Thus, the radiocarbon "average" may only approximately date the tree fall.

**Stratum IIIa**

Stratum IIIa features are shown in horizontal plan on Figure 8. Feature 8 appears at about 50 cm bd as an association of a long dark loam stain, several fire-reddened or cracked pebbles and two large rocks. The stain, measuring ca. 80 cm East-West by ca. 20 cm wide, is distinctly bounded and

**Figure 11.** Cobbles around Feature 23 following excavation.

does not appear to extend to the surrounding rocks. There is little charcoal in the fill. Feature 8 was probably not cultural in origin.

Feature 10 was first noted at 55 cm bd as a concentrated charcoal patch ca. 10 cm in diameter with charcoal and a dark brown loam halo concentrated to the west of the charcoal. Subsequent excavation revealed a 15 cm deep pit with poorly defined edges. Lump charcoal and one felsite flake was recovered from the fill. A possible rodent burrow extended down from the base of Feature 10 to 85cm b.d., so it is likely that Feature 10 was not cultural in origin, or was a small cultural feature disturbed subsequently by a rodent.

Feature 15, along the south wall of N14 W200 at W199.4, first appeared at 70 cm bd as a 20 cm diameter patch of charcoal flecks in loose association with a few pieces of FCR and one waterworn flake. The charcoal stain is 12 cm deep, with a round bottom, and may represent a posthole.

Feature 19 consisted of a poorly defined collection of fire-cracked rock and reddened soil stains which first appeared at a depth of 55 cm bd and continued to about 70 cm bd to in a matrix of coarse sand (Stratum IIIb). There was little charcoal in the fill. The oxydization and associated FCR suggest that Feature 19 was a lightly-used fire-hearth. A quartzite cobble hammerstone (69.6.320) and a felsite core (69.6.319) were located 50cm to the east and 1 meter NE, respectively, at the same level (ca. 60cm bd).

Feature 21 appeared between 52 and 60 cm depth as a dark soil stain 35 cm in diameter, in and around cobbles. The stain was centered at N17.32 W196.83. The cobbles were concentrated in the north and west quadrant of the soil stain. There were no artifacts in association, and the feature may be non-cultural in origin.

The 9 lithic artifacts of Stratum III include 6 felsite cores (69.6.193. 194, 202, 210, 211, and

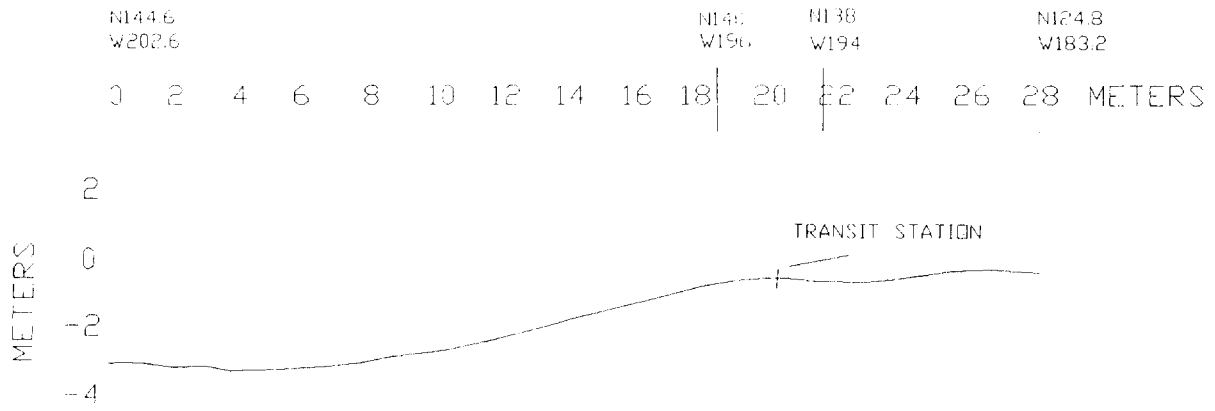


**Figure 12.** Topographic profile of the Upper Terrace with the approximate location of Feature 22 between N140 W196 and N138 W194.

319) and 3 cobble hammerstones employing quartzite, granite and siltstone (69.6.320, 326, and 342). Debitage from Stratum IIIa included felsite (7, 8.83 grams), quartz (1, 19 grams) and quartzite flakes (5, 51 grams).

**Stratum IVa**

Features in Stratum IVa are shown in plan view on Figure 9. Feature 23 appeared at 80 cm bd as a dark charcoal stain 20cm wide extending in a semicircular arc from the south wall at of the square. The stain was bordered to the north by 5 large cobbles along with several smaller rocks (Figures 10 and 11). At 90cm bd, the charcoal was concentrated in a 40cm wide swath extending 50cm due north of the south wall between W197.10 and W197.43. Feature 23 was defined as a 30 cm diameter cobble-lined basin following removal of the charcoal fill, evidently a fire-hearth. Along the south wall of the square a narrow, continuous dark soil stain connected Feature 23 with Feature 24 to the east. Feature 23 seemed to be located at one end of a line of large cobbles (25-30cm in diameter) curving in a continuous arc northward and eastward into the east wall of the square at N17.40. This line of cobbles was complementary to another series located on the south side of Feature 24 in the square to the southeast.

Feature 24 initially appeared 100 cm below the North wall surface (85 cm bd) of as dark stained silty sand and associated fire-cracked rock. The stain was traced across the entire North wall and southward ca. 50 cm in an irregular arc, with fire-cracked rock at the same depths at the east and west ends of the stain. Where it is exposed on the north wall, the dark fill ranges from 10 to 20 cm thick and apparently rises ca. 15 cm to the east before merging with the dark stain of Feature 23. A boulder size cobble (ca. 50 cm+ across) on the east wall of N14 W196 formed one of a series of (smaller) cobbles set in a shallow arc extending northeast-southwest. The cobble arc ran in a curve parallel to the southern perimeter of the dark stain, but is separated from it by yellow coarse sand across a distance of about 40 cm.

The arc expressed by these cobbles seems to form part of an oval outline with the Feature 23 hearth at the west end. The Feature 23/24 complex represents the clearest example of a structure or living floor that we encountered during the 1983 season. The diameter of the structure was about 3m as marked by the lines of cobbles north and east of Feature 23 and southeast of Feature 24. Feature 23 was a small, cobble fire hearth located at or just inside the entrance, and Feature 24 was a larger hearth located toward the rear of the dwelling. The northeast and northwest portions of this structure remain in unexcavated squares.

Charcoal from Feature 23 has been subjected to two radiocarbon dates. An unsorted sample of lump wood charcoal submitted in 1983 returned a date of 1370±80 B.P. (Beta-7631). A red oak

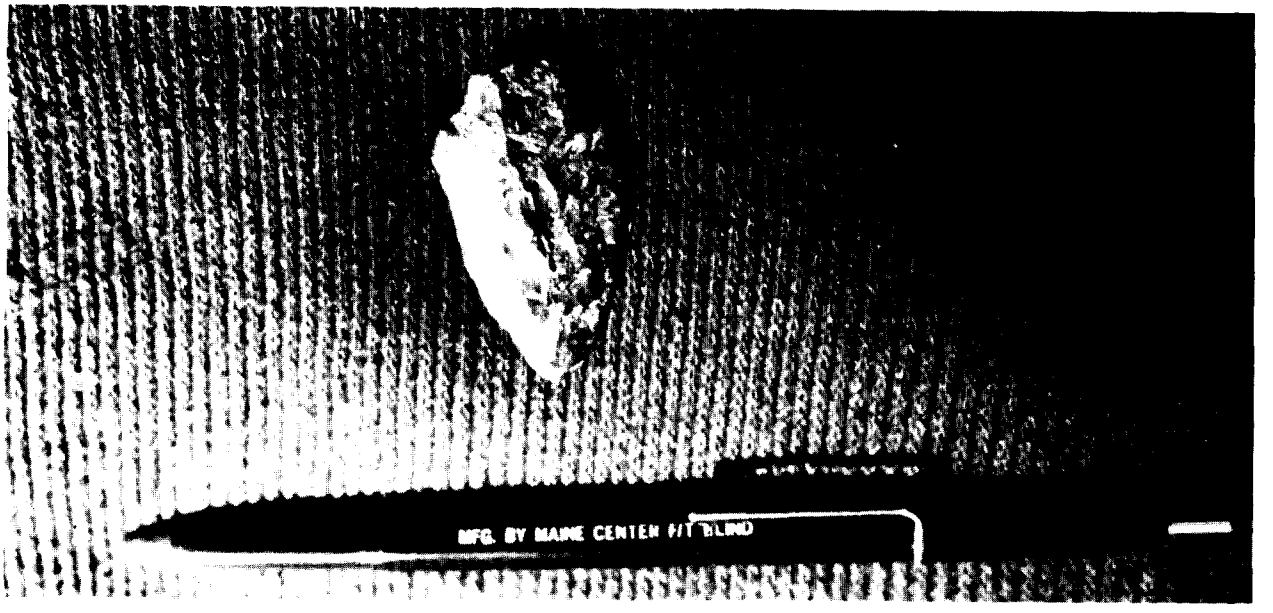

**Figure 13.** Perry collection point from the upper terrace, possibly related to Neville or Stark types. Pen for scale, field photograph.

charcoal from sample 69.5.57c was submitted after charcoal identification and sorting by Nancy Asch Sidell, in an effort to reduce the possibility of contamination. The sample returned a date of 2490±70 B.P. (Beta 39126). The original sample of charcoal from 69.6.57c (before sorting) also contained incompletely burned bark of undetermined tree species. Thus, we consider charcoal sample 69.6.57c, derived from Feature 23 at 80-90cm bd, to have been contaminated by a more recent tree-root burn. The true date of the feature is equal to or older than 2400-2500 B.P. Moreover, this date postdates the 3300 B.P. date on charcoal washed into Feature 20, a tree throw pit event that happened after Features 23 and 24 were emplaced. Unfortunately, other charcoal samples from Stratum IV are unsuitable for dating. We consider that it dates somewhere between 2400 and 3300 B.P.

Four lithic artifacts were recovered from this lower-most cultural stratum that we excavated, within 2m of the hearth/living area complex described as Features 23 and 24. Three were felsite cores (69.6.300, 302, and 343). A quartz/pyrite strike-a-light was recovered within Feature 23 (69.6.337) along with a large felsite flake with cortex. None of these artifacts had formal attributes diagnostic of a specific cultural period. Debitage recovered in Stratum IVa fill included felsite (36, 99 grams), quartz (2, 2 grams) and other materials, mostly quartzite (20, 69 grams), with the heaviest concentration between N14 and N16 (51/58 or 88%).

**Upper Terrace Feature**

Feature 22 was located in the southwest quad of N138 W236 on the upper terrace (see Figure 3), at the edge of a gentle terrace slope (Figure 12). It consisted of a small hearth 20 cm north/south by 10 cm east/west marked by reddish oxydized soil, with small reddened cobbles along the western edge of the oxydized stain. The surrounding soil matrix was a light tan silty sand. The feature appeared at 20 cm depth, just below a shallow plowzone. One large felsite flake was recovered from the hearth area. Another large felsite flake with a striking platform (69.6.329) from the SW quadrant of the square exhibits an extreme weathering, consistent with our hunch that this upper terrace area of the site was occupied substantially earlier than the

**Table 1.** Vessel lot temper attributes from 1983 excavations.

| VL# | Temper Density | Temper Per5cm2 | Temper Material | Temper Size Range | Ratio Largest Temper/Paste |
|---|---|---|---|---|---|
| 1 | Sparse/ Medium | 3-5 | Quartz,Clear to White | Fine to Coarse | 3.2mm 1:4 |
| 2 | Sparse | 4 | Feldspar,Mica Grog | Fine to Medium | 2.3mm 1:5 |
| 3 | Sparse | 3 | Mica/Quartz | Fine | 1mm 1:5 |
| 4 | Medium | 5 | Mica/Feldspar | Fine to Medium | 2.0mm 1:3 |
| 5 | Dense | 10 | Mica/Feldspar | Fine to Medium | 2.4mm 1:2 |
| 6 | Dense | 10 | Rounded quartz | Fine to Medium | 2.2mm 1:3 |
| 7 | Medium | 5 | Angular feldspar | Fine to Medium | 2.5mm 1:3 |
| 8 | Medium to sparse | 3 | Angular quartz | Medium to Coarse | 3.1mm 1:4 |
| 9 | Sparse | 3 | Angular feldspar | Fine to Medium | 2.8mm 1:5 |

**Table 2.** Vessel lot paste and finish attributes from 1983 excavations

| VL# | Texture | Method | Surface Finish Int: Ext: | Shape Lip | Color Int | Ext | Paste |
|---|---|---|---|---|---|---|---|
| 1 | Well Consolidated | Coiled | Smooth Smooth | ND | DkGry | Blk-DkGrey | Grey |
| 2 | Well Consolidated | Coiled | Smooth Corded | ND | DkGry | Tan | Grey |
| 3 | Well Consolidated | Coiled | Smooth Corded | Lip squared | Blk -charred | Tan | DkGrey |
| 4 | Slightly Crumbly | Coiled | Striated Corded | ND | Tan | Black | DkGry |
| 5 | Well Consolidated | Coiled | Smooth Corded | ND | Grey Tan | Light Tan | Grey Tan |
| 6 | Slightly Crumbly | Coiled? | Smooth Smooth | ND | ND | Grey Tan | Grey Tan |
| 7 | Well Consolidated | Coiled | Smooth Corded | ND | Tan | Dark Tan | Grey Tan |
| 8 | Fragmented Ext separated | Coiled? | Smoothed wet (grit on surface) | ND | ND Tan | Orange Tan | Orange Grey |
| 9 | Well Consolidated | Coiled? | ND Corded | ND | ND | Black | Grey |

**Table 3.** Vessel Lot Attributes from 1983 Excavation (Continued)

| Vessel Lot# | Metrics | | | Decoration Tool | |
|---|---|---|---|---|---|
| | Lip | | Neck Body | | Orifice |
| 1 | ND | ND | 5.4mm | ND | Punctate tool,tip flat on one side, leaves half-moon impression. |
| 2 | ND | ND | 7.1mm | ND | Fabric, S-spun? Z-twist, cord: 1.1mm dia; strand: 0.5mm; twined(?) |
| 3 | 7mm | ND | 5.5-7.2mm | 20cm+ | Fabric, S-spun(?) Z-twist, cord: 1.5mm (WEFT); strand: 0.5mm (WARP). Oblique twining. |
| 4 | ND | ND | 8.4mm | ND | Cordage, loose S-twist, Cord:1.4mm; strand: 0.5mm. |
| 5 | ND | ND | 5.9mm | ND | Cordage, Z-twist, Cord: 0.5 to 1.5mm, tightness of twist varies. |
| 6 | ND | ND | >9mm | ND | Dentate Stamp with well spaced rounded teeth, 4 per cm. Stamp ca. 1mm wide at tip. |
| 7 | ND | ND | 8mm | ND | Fabric, S-twist? Cord: 0.3mm. Oblique twining. |
| 8 | ND | ND | >6mm | ND | Cordage, knotted? Z-twist? Cord: 0.9mm. |
| 9 | ND | ND | >6mm | ND | Cordage, S-spun? Z-twist. Cord: 0.6mm Strand: 0.3 to 0.4mm |

portion nearer the modern river. A small sample of large lump pine charcoal recovered from Feature 22 returned a radiocarbon date of 5790±90 B.P. (Beta 39127). This date may or may not date the point reportedly recovered by the Perrys from the surface nearby (Figure 13). It does, however, date an occupation of the upper terrace landform. As evidenced by the radiocarbon dates from the N10 to N16 area 1983 excavation, the occupation of the upper river terrace margin antedates the occupations of the alluvial sediments and buried cobble lag bank margins further west close to the current river bank by perhaps 2500 years.

## ARTIFACTS

### Prehistoric Ceramics from the 1983 Excavation

More than 60 sherds were recovered in the 1983 excavation. Only one of these, Vessel Lot #9, was found below Stratum I, where it was associated with lump charcoal and unburned bark. We attribute this provenience to a disturbance by growth and later burning of a tree root. Otherwise, all ceramics are associated with Stratigraphic Unit I, while Stratigraphic Units II and below are preceramic. Nine vessel lots were distinguished among this sample on the basis of temper, construction, surface finish, decorative tool, and method of design application (Table 1-4).

One dentate rocker-stamped vessel (Vessel Lot #6) and one punctate impressed vessel (Vessel Lot #1) can be attributed to the Middle Ceramic period (CP-3 or CP-4, Petersen and Sanger 1989). The remaining 6 vessels (Figures 14 and 15) were corded on the exterior only, displaying either cord wrapped paddle impressions (Vessel Lot #4, 5, and 9), knotted cord (Vessel Lot #8) or fabric impressions (Vessel Lot #2, 3 and 7). According to Petersen and Sanger's chronology, corded pottery with smoothed interiors appears as early as CP-3 (ca. 1500 years BP) and lasts until CP-6 (ending ca. 400 years BP). However, with the exception of Vessel Lot #8, the high incidence of relatively thin cordage, thin walls, sparse and generally fine to medium quartz grit among the corded vessels has led us to conclude a late Late Ceramic (Woodland) Period date (ca. 650 to 400 BP) is most likely. This conclusion is supported by the lack of associated vessels with cord wrapped stick impressed and circular punctates or shell tempering, attributes dominant during the late Middle Ceramic and early Late Ceramic Periods (CP 5 ca. 1350 to 650 years BP - Petersen and Sanger 1989) and by the close association of Vessel Lot# 2,3 and 5 with the Feature 18 which is radiocarbon dated to 650 BP.

Vessel Lot #8 may or may not date within the Late Ceramic. The strands of knotted cord are relatively thick (0.9 mm diameter), the grit temper is coarser, and the firing was done in a more oxydizing atmosphere than is indicated for the corded vessels attributed to CP-6. In addition, the final smoothing before decorating was done on a paste

**Table 4.** Vessel lot decorative attributes, from 1983 excavation.

| Vessel Lot# | Method of Application | Motif | Period | #Sherds | Cat#s | Weight g |
|---|---|---|---|---|---|---|
| 1 | Punctates, impressed @ 45 degree angle | Paired series | CP-3 | 4 | 69.6.106, 111, 114, 136 | 3.6g |
| 2 | Fabric wrapped paddle? impressed | Exterior overall? | CP-6 | 9 | 69.6.113, 144, 147, 165, 172, 200, 393, 394, 398 | 7.8g |
| 3 | Fabric wrapped paddle? impressed | Exterior overall? | CP-6 | 11 | 69.6.115, 134, 135, 150, 155, 173, 185, 197, 199, 201, 395 | 17.6g |
| 4 | Cord wrapped paddle? impressed | Exterior overall? | CP-6 | 2 | 69.6.131, 399 | 3.1g |
| 5 | Cord wrapped paddle? impressed | Exterior overall? | CP-6 | 15 | 69.6.128, 132, 133, 139, 165, 178A, 179A, 184, 188, 191, 198, 207 | 18.4g |
| 6 | Rocker dentate stamping | Vertically aligned, exterior only | CP-3 | 6 | 69.6.121, 295A, 295B, 295C, 303, 339 | 10.9g |
| 7 | Fabric wrapped paddle? impressed | Exterior overall? | CP-6 | 1 | 69.6.181 | 2.3g |
| 8 | (Knotted?) cord wrapped paddle? impressed | Exterior overall? | CP-3? | 4 | 69.6.294, 296A 296B, 297 | 2.5g |
| 9 | Cord wrapped paddle? impressed | Exterior | CP-6 | 1 | 69.6.400 | 0.8g |

surface that was wet enough to leave grit particles showing on the finished surface. All these are attributes found on late CP-3 vessels (ca. 1650-1350 BP). The four sherds of Vessel Lot #8 were recovered near the base of Stratum I in the northern 4 meters of the 1983 excavation in situ, which supports an earlier rather than later date.

The dentate rocker stamped vessel (Vessel Lot #6) was represented by 4 sherds clustered in N16 W198 near the inland edge of the 1983 excavation. The 4 sherds of the punctate vessel (Vessel Lot #1) were more diffusely distributed. Neither was found in an undisturbed context below the plowzone.

**Debitage and Cores**

Some 1,174 pieces of debitage were recovered during the 1983 season. Of these, 1,128 pieces weighing a total of 3.3 g, were found in the excavations. The remainder (46 pieces) are surface finds, mostly eroded on the beach. All debitage was identified for material (macroscopically), weighed and grouped according to the presence or absence of cobble cortex.

Those with a cortex surface were generally heavy (with mean weight of 24 grams), and in a number of cases could be classified as core reduction fragments. Those without cortex surfaces, with few exceptions, are products of biface thinning (mean weight: 1.1 g). The quantity of debitage per square meter of excavated area in Stratum 1 is six to seven times more abundant than in any lower stratum (avg. per $m^2$ n=35, 113 gr for stratum 1, 5-7, 12-13 gr for other strata). The most commonly used rock material in all strata was felsite, constituting 91% by weight of all debitage collected. Quartz (4%), quartzite (3%) and other (1%) constitute the remaining material categories. Exotic rock materials from Stratum 1 include a probable red Munsungun chert, a greyish brown chert, a translucent grey chalcedony with dark brown banding, and a red siltstone. None of the lower strata had debitage from rock materials that could be considered non-local in origin.

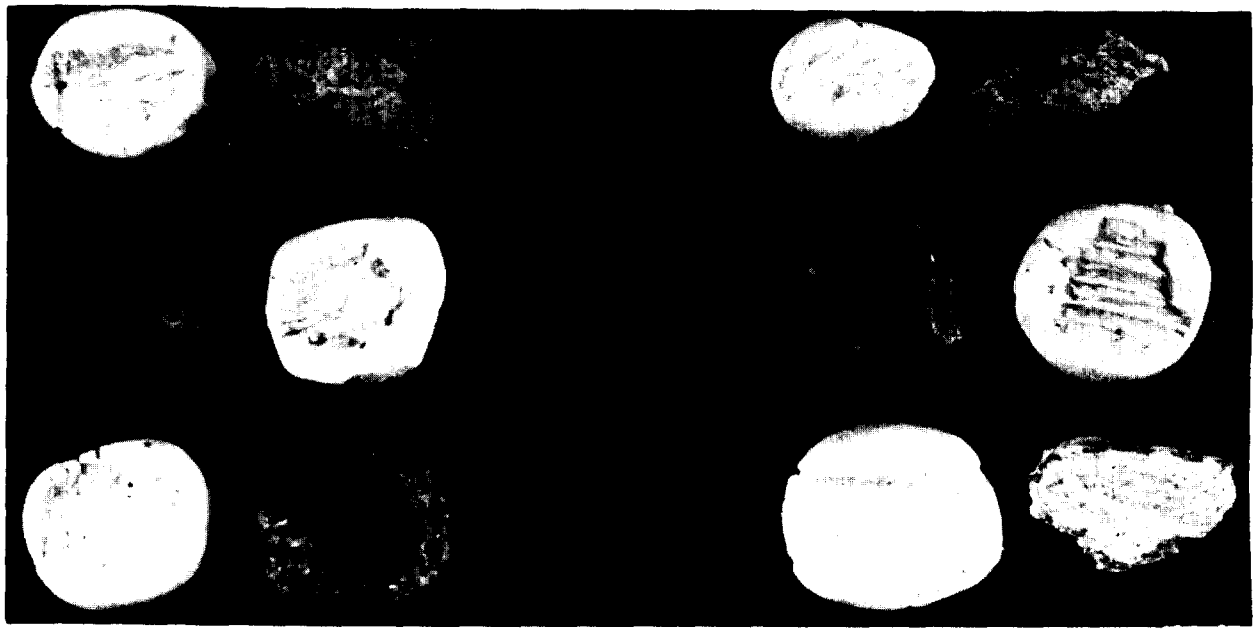

**Figure 14.** CP-6 vessel lot 2 (left) and 3 (right) recovered in 1983 MHPC excavations.

**Lithic Artifacts, Use-Wear and Possible Functions**

In this section we describe certain classes of lithic artifacts from the 1983 excavation that might prove to be chronologically diagnostic or diagnostic of certain functions. Measurements of all lithic artifacts are presented in Table 5.

*Bifaces*

Three distal fragments of finished biface points were recovered in 1983 (Figure 16). Two were made from felsite and one from a purplish shade of Munsungun chert (69.6.189). The chert point has a slightly convex profile on one edge and broke with a transverse fracture. One of the felsite points (69.6.145), also with a transverse fracture, has a broad lenticular profile. The other felsite point (69.6.125) has straight narrow sides coming to a slightly blunted tip. These fragments derive from finished knives or biface points. They represent a Ceramic Period artifact class often exhibiting a square base, proximally ground lateral edges and transverse breakage (e.g. Spiess and Hedden 1983:71). We interpret these "points" as hafted multipurpose knives.

The only nearly complete biface in the 1983 collection (69.6.163), from Stratum I, is a felsite early stage preform. It has a broad lenticular profile that comes to an acute tip. The base is straight. The lateral edges have been slightly ground from the base to about the midsection. A felsite lump displaying cobble cortex has been left unremoved near the distal end. This recaltricant smooth lump apparently led the flint knapper to conclude further effort was hopeless and to toss it aside. Four other felsite distal point fragments were apparently discarded after breaking during the final manufacturing stages. Three (69.6.117, 156 and 160) have

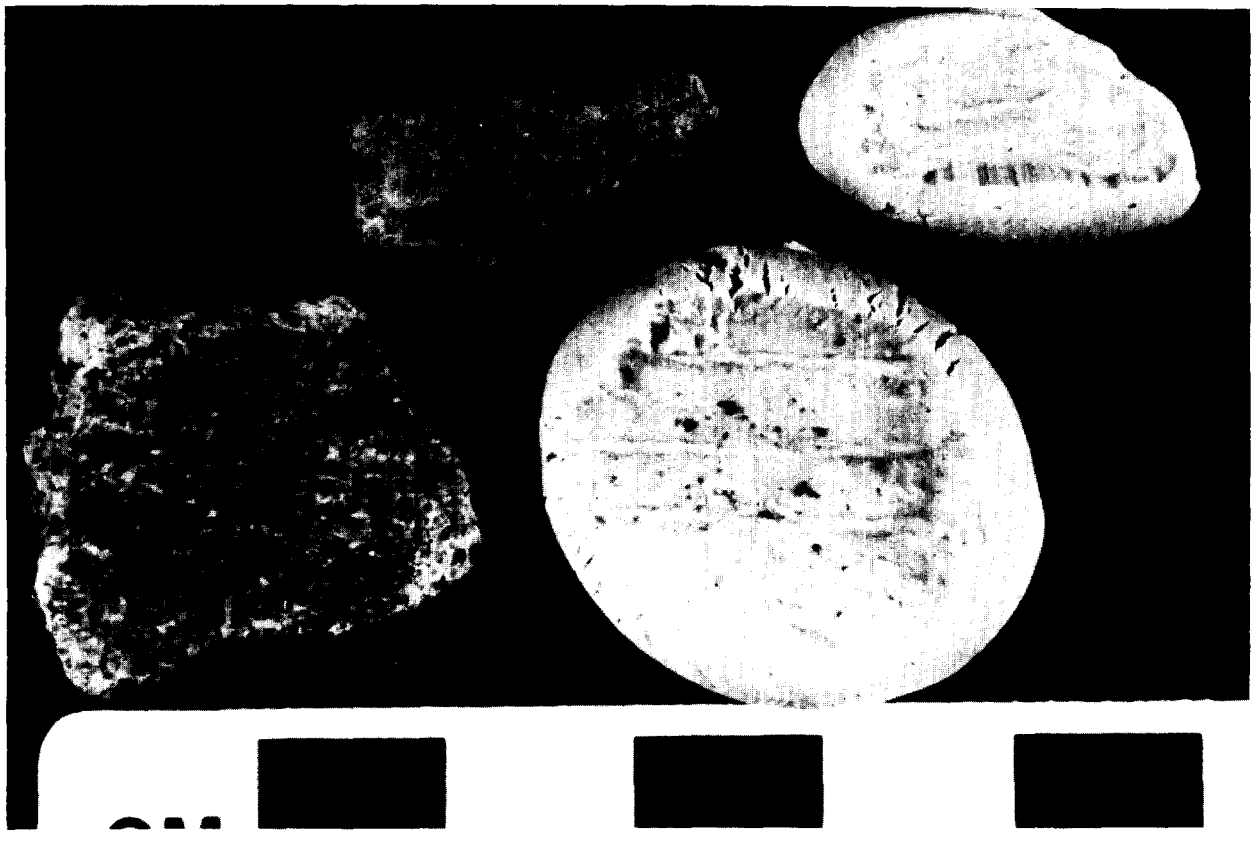

**Figure 15.** CP-6 vessel lot 5 (1983).

bladelike lenticular profiles which show a steeper convex curve on one side. A midsection fragment (69.6.116) which joins to 69.6.160 exhibits a narrowed but unfinished base. The other distal fragment (69.6.103) has narrow sides coming to an acute point. These specimens apparently represent unsuccessful attempts to replace broken or "used up" bifaces.

Two biface early stage preforms were recovered. Both were bifacially worked oval chunks of felsite ready for reduction to bifaces of the kind described above (69.6.112 and 366). Another blade fragment with a squared base and transverse fracture (69.6.109) may be an intermediate stage preform.

*Drills*

Two heavily utilized drills were recovered from Stratum I (Figure 17). One is made of black chert (69.6.118) and the other of a brownish grey chert or siltstone (69.6.179). They are distinguished by thinned, squared bases with retouched sides that extend more than half way toward the distal end. The proximal edges are slightly ground and were apparently hafted. The stubby points are set off center, possibly an unintentional effect of repeated retouching while hafted. Both tips are blunted and both may represent discards after being worn too far to resharpen again.

*Scrapers (Uniface)*

Two high back endscrapers were recovered from Stratum I (Figure 18). One white quartz scraper (69.6.146) is marked by a steeply retouched (70° ) working edge and a flat top that thins towards the proximal end. The other is made of felsite (69.6.110), steeply retouched (80° ) with a slightly keeled back that thins toward the proximal

**Table 5.** Lithic artifacts from the 1983 excavation.

| Cat# | Description | Material | Weight(g) | L(mm) | W(mm) | Th(mm) |
|---|---|---|---|---|---|---|
| **Bifaces, Distal Fragments, Finished** | | | | | | |
| 189 | Point tip transverse fracture | Munsungun chert | 1.9 | 21.6 | 19.4 | 4.6 |
| 145 | Lenticular blade tip transverse fracture. | Felsite | 4.1 | 40.0 | 24.6 | 5.5 |
| **Bifaces, Midsection Fragments, Finished** | | | | | | |
| 125 | Large blade mid-section base and tip broken transversely | Felsite | 6.1 | 40.6 | 20.1 | 8.0 |
| 156 | Blade midsection base and tip snapped | Felsite | 3.3 | 18.0 | 28.2 | 6.1 |
| **Biface Preforms, Complete** | | | | | | |
| 163 | Large lenticular blade | Felsite | 68.0 | 83.1 | 46.0 | 19.3 |
| **Biface Preforms, Basal Fragments** | | | | | | |
| 143 | Straight base, one edge ground, transverse fracture | Felsite | 8.1 | 37.5 | 25.6 | 9.9 |
| 109 | Straight base, transverse fracture | Felsite | 4.9 | 29.0 | 23.6 | 6.5 |
| **Bifaces, Distal Fragments, Unfinished (Blades)** | | | | | | |
| 117 | Bifacially retouched point tip | Felsite | 22.5 | 45.7 | 42.1 | 10.5 |
| 160 | Preform point tip (joins #116) | Felsite | 7.7 | 50.8 | 30.0 | 6.3 |
| 116 | Preform blade frag. | Felsite | 7.6 | 35.1 | 28.1 | 7.2 |
| 103 | Preform point tip, transverse fracture | Felsite | 3.3 | 33.0 | 21.4 | 6.0 |
| **Biface Blanks (Trimmed Cores)** | | | | | | |
| 112 | Oval preform | Felsite | 125.9 | 82.0 | 54.0 | 26.7 |
| 366 | Large biface preform | Felsite | 142.2 | 90.5 | 55.7 | 29.9 |
| **Drills** | | | | | | |
| 179 | Drill, square base, assymetric tip | Translucent mottled grey to brown chert | 1.5 | 29.3 | 13.6 | 4.0 |
| 118 | Drill, thinned square base, assymetric tip | Grey chert | 3.4 | 30.7 | 17.4 | 6.4 |
| **Unifaces, Scrapers, Complete** | | | | | | |
| 146 | Disc shaped scraper, heavily worked, thick | Quartz, white | 14.8 | 29.1 | 28.0 | 12.6 |
| 110 | Scraper, turtleback, thick finished, no signs of wear. | Felsite | 10.2 | 30.0 | 24.8 | 12.6 |
| 129 | Endscraper, convex, unifacially flaked | Quartz, white | 1.3 | 17.4 | 14.2 | 5.9 |
| **Utilized Flake Scrapers** | | | | | | |
| 384 | Utilized flake scraper | Quartz, clear | 2.9 | 19.8 | 18.1 | 8.6 |
| 368 | Utilized flake scraper | Felsite | 4.9 | 3.14 | 1.68 | 0.66 |
| Pieces Esquillees (Wedges) | | | | | | |
| 344 | Bipolar wedge, both ends crushed | Quartz, white | 7.2 | 40.7 | 23.2 | 6.5 |
| 175 | Bipolar wedge, both ends slightly crushed | Quartz, crystal | 1.3 | 11.1 | 18.8 | 7.0 |
| **Utilized Large Core Reduction Fragments** | | | | | | |
| 186 | Core reduction flake, utilized | Felsite | 58.9 | 69.5 | 53.6 | 14.0 |
| 161 | Core reduction flake, utilized | Felsite | 96.9 | 65.1 | 62.6 | 29.6 |

Table 5. con't.

| | | | | | | |
|---|---|---|---|---|---|---|
| **Core Reduction Fragment Utilized As Wood or Fiber Shavers** | | | | | | |
| 130 | Core reduction fragment w concave serrated edge | Metasiltstone | 154.5 | 89.9 | 59.9 | 25.6 |
| 120 | Core reduction fragment w concave working edge | Felsite | 205.1 | 121.4 | 98.9 | 22.9 |
| 370 | Split cobble with concave utilized edge | Felsite | 320.0 | 117.0 | 89.4 | 34.0 |
| 376 | Core reduction fragment w/concave working edge | Felsite | 60.7 | 85.7 | 55.6 | 13.7 |
| 378 | Core reduction fragment w/concave working edge | Felsite | 10.9 | 52.2 | 21.6 | 9.3 |
| 379 | Core reduction fragment w/concave working edge | Felsite | 181.1 | 100.1 | 81.0 | 19.0 |
| **Celt** | | | | | | |
| 142 | Small edge-ground celt, slightly notched for hafting, battered poll | Sandstone fine-grained | 213.3 | 118.0 | 52.0 | 26.0 |
| **Hammerstones, Bifacially Flaked** | | | | | | |
| 190 | Small, bifacially flaked hammerstone | Felsite | 63.8 | 50.0 | 43.5 | 23.0 |
| 212 | Bifacially flaked edge battered hammerstone | Felsite | 139.0 | 64.7 | 55.8 | 35.4 |
| 292 | Bifacially flaked edge battered hammerstone | Felsite | 277.2 | 76.8 | 70.0 | 52.4 |
| **Hammerstones, Non-diagnostic Battered Cobbles** | | | | | | |
| 320 | Small battered pebble | Metasedimentary | 75.1 | 52.4 | 39.7 | 27.1 |
| 137 | Battered cobble | Quartzite | 175.2 | 81.2 | 58.0 | 24.5 |
| 342 | Battered cobble | Metasedimentary | 288.0 | 95.9 | 66.1 | 34.3 |
| 326 | Small battered cobble | Granite | 114.2 | 56.3 | 50.2 | 27.9 |
| **Maul or Celt Preforms** | | | | | | |
| 195 | Large flaked preform | Quartzite | 1010.0 | 165.0 | 71.5 | 57.4 |
| **Abrader** | | | | | | |
| 162 | Whetstone, oblique scratches on side, edges ground | Sandstone | 207.6 | 129.7 | 64.1 | 16.6 |
| **Cores and Core Reduction Fragments** | | | | | | |
| 193 | Core, long flake scars | Felsite | 121.2 | 78.0 | 57.0 | 26.3 |
| 196 | Core, flakes removed | Felsite | 127.6 | 110.0 | 41.0 | 27.0 |
| 202 | Core reduction flake, waterworn | Felsite | 33.1 | 55.0 | 40.4 | 19.0 |
| 119 | Core | Felsite | 138.3 | 81.6 | 59.7 | 41.4 |
| 203 | Core reduction flake | Felsite | 105.6 | 82.0 | 60.3 | 18.0 |
| 204 | Core, flakes removed | Felsite | 239.9 | 88.3 | 75.0 | 41.4 |
| 205 | Core, flakes removed | Felsite | 74.2 | 65.0 | 49.3 | 34.8 |
| 194 | Core, battered | Felsite | 76.2 | 72.2 | 50.6 | 20.0 |
| 208 | Core reduction frag | Felsite | 26.0 | 56.5 | 30.0 | 16.3 |
| 211 | Core reduction frag | Felsite | 194.6 | 90.3 | 40.8 | 36.0 |
| 300 | Core, flakes removed | Felsite | 99.5 | 74.5 | 45.7 | 22.9 |
| 319 | Core reduction frag | Felsite | 168.5 | 71.3 | 69.5 | 29.9 |
| 380 | Core reduction frag | Felsite | 42.9 | 52.4 | 94.4 | 17.4 |
| 387 | Core reduction frag | Felsite | 285.0 | 137.0 | 71.2 | 35.0 |
| 323 | Core reduction frag | Felsite | 91.7 | 76.6 | 59.1 | 22.9 |
| 374 | Core reduction frag | Felsite | 229.4 | 77.0 | 60.0 | 32.0 |
| 305 | Core reduction frag | Felsite | 146.7 | 78.6 | 65.4 | 22.4 |
| 157 | Core, flake scars, waterworn | Felsite | 152.8 | 65.3 | 58.3 | 40.6 |
| 343 | Core, flake scars, waterworn | Felsite | 378.0 | 144.0 | 69.0 | 48.0 |
| 178 | Core, flake scars | Siltstone | 700.0 | 112.4 | 89.7 | 57.9 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 299 | Core, large | Fine gr. volcanic | 623.0 | 180.0 | 110.0 | 30.4 |
| 389 | Core reduction frag | Siltstone | 185.4 | 75.0 | 60.0 | 43.0 |
| 387 | Core Reduction frag | Felsite | 285.0 | 137.0 | 71.2 | 35.0 |
| 174 | Core, flakes removed | Felsite | 91.4 | 72.3 | 63.4 | 16.5 |
| 302 | Core Reduction frag, no cortex | Felsite | 87.7 | 76.2 | 56.2 | 21.5 |
| 367 | Core, flakes removed | Felsite | 62.8 | 51.8 | 28.4 | 27.6 |
| 373 | Core with cortex | Felsite | 22.5 | 51.0 | 31.7 | 14.9 |
| 377 | Core with cortex | Felsite | 21.0 | 47.9 | 27.9 | 14.9 |

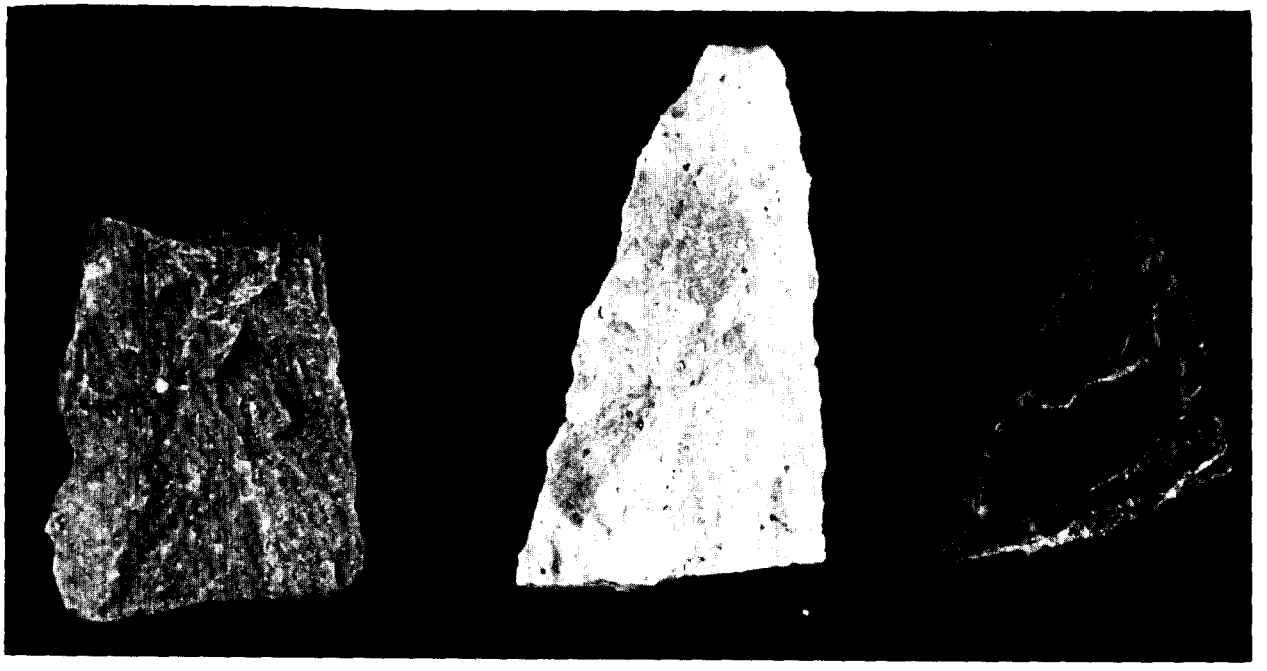

**Figure 16.** Finished biface fragments from Stratum I, 1983. 1.8x.

end. The felsite scraper has an irregularly serrated working edge that does not appear to have seen much use. A third endscraper of white quartz is relatively thin in cross section with a convex unifacially flaked working edge (69.6.129).

*Pièces esquillées (Wedges)*

Two thin (6.5-7mm) small bipolar wedges of white quartz (69.6.344) and quartz crystal (69.6.175, Figure 18, bottom center) were both battered or slightly crushed at opposite ends and probably represent "used up" tool discards.

*Core Reduction Fragments Utilized as Wood Spoke (or Fiber?) Shaves*

Six large and medium cobble cortex flakes or core fragments from Stratum I are each distinguished by a small shallow concave working edge which exhibits definite retouch and possibly use wear. These shallowly concave working edges are short, measuring about 20 mm long. The concave edge and use wear or retouch consists mostly of shallow scalar flakes that leave a "denticulate" edge. The shallow concavity suggests that they were used as spoke shaves to produce a convex worked surface on wood, bone, or, possibly, in preparing fiber from bark. To our knowledge this form of "spoke shave" has not heretofore been reported in Maine and, consequently, each is described in detail below.

Artifact 69.6.130, weighing 154.5g, was made on a river cobble core of metasiltstone which exhib

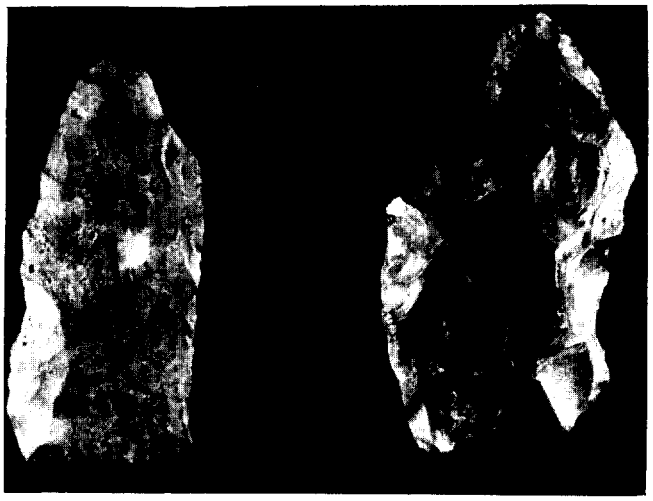

**Figure 17.** Small biface drills. 1.8x.

ited large flake removals along one end (Figures 19 and 20). Near the center of one edge a shallow concave depression 2.2cm long by 0.2cm deep had been formed and finished with a carefully placed series of 5 flake removals along the side opposite the original cobble cortex. The natural angle of the worked side was 130 degrees from the plane of the cortex. The retouch angle was 104 degrees from the cortex plane. The 5 flake removals left a serrated edge which showed no signs of wear. When the tool was experimentally grasped along the opposite edge, the working edge appeared below the base of the thumb with ca. 1cm clearance.

Artifact 69.6.120, a felsite core fragment with a remnant edge of cortex on one end, weighed 205.1g. The concave working edge is 2.5cm long with an indented depth of 0.4cm. Three or four unevenly spaced flake removals were made on one side near the cortex end. Some edgewear shows on the flaked side only. While the concave working edge appears off-center, when held in the hand by the opposite side the working edge is centered.

Artifact 69.6.370, a felsite chunk weighing 320g, has flake removals on the side opposite the cortex forming an angle of ca. 104° (Figure 21). The concave working edge is 2.45cm long with a maximum depth of concavity of 0.2cm. The working edge, which feels dull to the touch, is centered when the tool is grasped by the opposite side.

Artifact 69.6.379, a felsite piece with a weight of 181.1g, has a working edge 1.6cm long by 0.1cm deep with flake removals on a broken section of the cortex side. Angle of the flaking to the plane of the opposite surface is 103o.

**Figure 18.** Three scrapers, and a pièce esquillée (wedge) at bottom center. 1.9x.

**Figure 19.** Serrated edge wood/fiber shave from the Evergreens (right) compared with Late Ceramic period serrated edge endscraper from Chops Point, Lower Kennebec River (left).

**Figure 20.** Detail of wood/fiber shave (69.6.130).

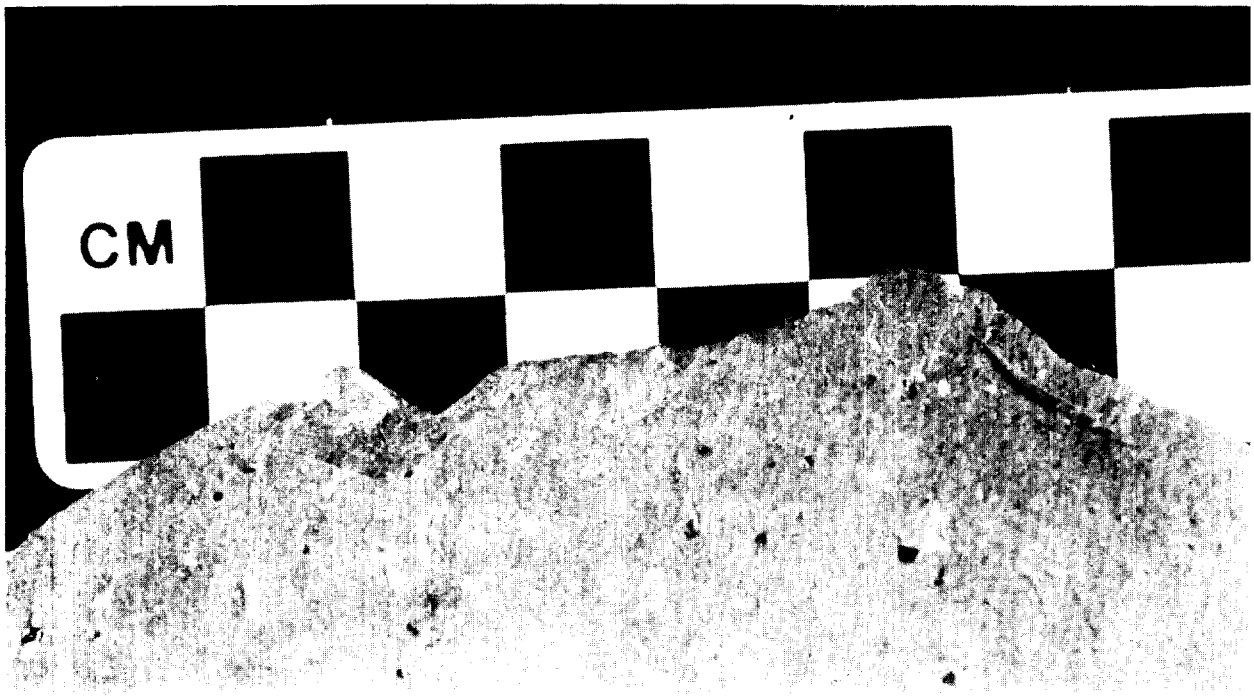


**Figure 21.** Detail of serrated edge of wood/fiber shave (69.6.370). Note some rounding wear on high points of serration.

Artifact 69.6.376, a lighter weight felsite cortex flake weighing 60.7g, has a well worn concave edge 2.24 cm long with a depth of 0.25 cm. It had been flaked on the side opposite the cortex forming a working edge at angle of 106 degrees to the cortex plane. While considerably smaller than the pieces described above, the flake could be grasped readily with the thumb running parallel to the working edge.

With one exception, all examples described exhibit use-wear on the retouched side of the concavity, mostly a slight polish of dulling of flake scar ridges. The possibly unutilized serrated edge of artifact 69.6.130 could indicate an unused finished tool, or deliberate manufacture for a special purpose (fiber stripping or roughening?) other than shaping and smoothing wood or other materials.

*Celt*

A sandstone celt (69.6.142) from Stratum I exhibits the small size often associated in Maine with Ceramic or Woodland Period woodworking tools, rather than generally larger Archaic pieces. This piece (Figure 22) exhibits a bifacially ground bit, slightly tapered and battered poll, and is shallowly notched about a quarter of the distance from the poll to the bit.

*Maul or Celt Preform*

A large rectangular blank of fine-grained quartzite (69.6.195), weighing 1.01 kg, with cobble cortex on both long sides, had been reduced on the top and bottom toward a narrow edge to produce a heavy-weight preform for a maul or celt. Buttermarks show on parts of the cortex where flake removals had been attempted.

*Hammerstones, Bifacially Flaked*

Three hammerstones were bifacially flaked to form a narrow striking edge for precise blows. All

**Figure 22.** Small celt, 1.3x.

were made from felsite. The two lighter stones, from Stratum I, are almost disk-shaped with virtually the entire perimeter available for use. However, battermarks are limited to half or two-thirds of that perimeter (69.6.190 and 212). A heavier piece is bifacially flaked along about half of the perimeter with cortex left on the remainder (69.6.292). Battering is limited to about half of the prepared edge.

*Hammerstone, Non-formed Cobble*

One small metasedimentary cobble (69.6.320) was recovered with deep battermarks on one surface.

*Abraders*

A single oblong piece of sandstone (69.6.162) displayed edge grinding and oblique parallel scratches on one side, indicating a function as a whetstone. The grit size is equivalent approximately to fine grit modern sandpaper.

*Cores and Core Reduction Fragments*

Twenty-nine cores and core reduction fragments with cobble cortex, were recovered in 1983. All but 3 of these were felsite (26/29=90%). Two were of siltstone (69.6.178 and 389) and one of quartzite (69.6.168). There were no exotic (non-local) rocks among the core fragments recovered.

*"Strike-a-Light"*

One chunk of grey quartz with pyrite inclusions (69.6.337) which had been chipped bifacially, may have served as a "strike-a-light". The artifact weighes 28g and came from Feature 23 in Stratum IVa.

## FIRE-CRACKED AND UNMODIFIED ROCK

Otherwise non-artifactual rock which showed signs of modification by heat i.e., reddening and/or cracking, was defined as fire-cracked (FCR). It was collected and weighed separately for each level, square and quadrant. For the purposes of this analysis, each collection sample was assigned to a specific stratum on the basis of depth and horizontal location. Since the collection samples were based on arbitrary 5 cm levels and assignment to specific strata was done after excavation was complete on the basis of field profiles and notes, some errors and overlaps between strata must be assumed. In N14 W200, for example, the sample of FCR concentrated in the bottom of the tree fall pit (Feature 20) at a level associated with Stratum

IVa elsewhere in the square probably includes FCR from Stratum IIIa as well which had been redeposited by flood waters.

A total of 248.6 kg of FCR was collected. The largest proportion (95.7 kg or 39%) of the total was attributed to Stratigraphic Unit I (including the plowzone) (Table 6). By contrast, the 39.2 kg of FCR obtained for Stratigraphic Level II was the lowest quantity, amounting to 16% of the total (39.2 kg/248.6 kg). We interpret these varying weights of FCR as an index of fire-related activity in each cultural stratum. The contrast becomes even more marked when the total weight of FCR recovered per cultural stratum is divided by the number of square meters of area in which that stratum is represented (24 for Stratum I; 22 for Stratum IIa; 12 for IIIa and IVa). FCR concentrations were 3.99 kg/m$^2$ for Stratum I, 1.78 kg per m$^2$ for Stratum IIa, 5.32 kg per m$^2$ for Stratum IIIa and 3.87 kg per m$^2$ for Stratum IVa.

**Table 6.** Percent of FCR in eachg stratum in N10 to N16 Area

| Stratum | Percent | FCR (Kg) Totals by Stratum | Mean FCR per Sq Meter/Stratum (Kg. per m$^2$) |
|---|---|---|---|
| I | 39% | 94.7 | 3.99 |
| IIa | 16% | 39.2 | 1.78 |
| IIIa | 28% | 63.9 | 5.3 |
| IVa | 20% | 45.9 | 3.8 |
| Below IV | 2% | 3.5 | |
| Totals | 100% | 247.2 | |

While most of the FCR recovered in 1983 were weighed and discarded, two samples (from Features 13 and 22) were retained and have recently been analyzed for rock fracture type. In 1988 we became aware of research (Yoon 1986) that allows some behavioral reconstruction from burned rock. We have analyzed samples of FCR from four different sites using Yoon's typology and have obtained data identifying fire-related activity that seem consistent with other observed evidence (Cf. Spiess, Hedden and Cranmer 1989; Spiess, Cranmer and Hedden 1990; Spiess, Hedden and Robertson 1990). Briefly stated, Yoon established that rocks may undergo from 4 to 17 cycles of heating and cooling before fracture occurs. Heated rocks which had been allowed to cool gradually usually show only expansion fractures, usually along natural planes of the crystalline structure. Sudden cooling of heated rocks induce more marked distortions from contraction, called crenellations, along the edges of fracture planes. The fracture types range from unbroken fire-reddened cobbles (Type 0) to simple expansion fractures called "potlidding" (Type 2) or blocky fractures (Type 4) to various degrees of crenellation or contraction fractures (Types 1, 3, and 5). Granular or poorly consolidated rocks may simply crumble (Type 6). FCR types 0, 2 and 4 may occur as a result of any kind of fire-related activity. The percent of rocks with various degrees of crenellation (Types 1, 3, 5) rises as the activity creates more stress from rapid cooling. Such activities, ranked in ascending order from low heat stress to high heat stress, include 1) simple fire hearths banked by rocks; 2) earth ovens for roasting and steaming; 3) sweat-lodges or other activity involving the sprinkling of cold water on preheated rocks to generate steam; and 4) stone-boiling, a method of cooking soups, stews and gruels by dropping heated rocks into a water-filled container.

Table 7 present the distribution of rock fracture types by count and weight from Features 13 and 22. In Feature 13, the proportion of crenellated fractures is quite low, amounting to about 6% of the total weight of FCR and 15% of the total count (3 out of 20 rock fragments). The overall distribution suggests open hearth activity. However, the presence of one Type 1 and two Type 3 fractures indicates high contraction stress associated, probably, with stone boiling. A similar pattern appears in the Feature 22 FCR with, however, a much stronger bias towards crenellated specimens (37% by weight and 42% (6 out of 14) by count).

**Table 7.** Rock thermal fracture types in Features 13 and 22. Number and weight in grams. Rock fracture types are 2a, 2b, 4, 3, 5, 1 and 6. Totals in bold at column bottoms.

Feature 13

| 2a | 2b | 4 | 3 | 5 | 1 | 6 |
|---|---|---|---|---|---|---|
| # Wgt | # Wgt | # Wgt | # Wgt | # Wgt | # Wgt | # Wgt |
| 1 1350 | 1 862 | 1 304 | 1 68 | - - | 1 184 | - - |
| 1 94 | 1 622 | 1 116 | 1 59 | - - | - - | - - |
| 1 76 | 1 350 | 1 146 | - - | - - | - - | - - |
| 1 30 | - - | 1 184 | - - | - - | - - | - - |
| 1 140 | - - | 1 64 | - - | - - | - - | - - |
| 1 242 | - - | 1 17 | - - | - - | - - | - - |
| - - | - - | 1 92 | - - | - - | - - | - - |
| - - | - - | - 98 | - - | - - | - - | - - |
| **6 1922g** | **3 1834g** | **8 1021g** | **2 127g** | **0 0** | **1 184g** | **0 0** |

Feature 22

| 2a | 2b | 4 | 3 | 5 | 1 | 6 |
|---|---|---|---|---|---|---|
| # Wgt | # Wgt | # Wgt | # Wgt | # Wgt | # Wgt | # Wgt |
| 1 42 | - | 1 106 | 1 35 | 1 34 | 1 114 | - |
| 1 132 | - | 1 20 | 1 32 | - | 1 102 | |
| 1 30 | - | 1 178 | 1 32 | - | - | |
| 1 33 | - | - | - | | | |
| 1 49 | | | | | | |
| 5 286g | 0 | 3 304g | 3 99g | 1 34g | 2 216g | 0 |

Stone boiling is strongly indicated in the case of Feature 22. Feature 13 is Ceramic Period in age while Feature 22 dates about 6000 B.P. The extent to which these functional differences in hearth use reflect cultural or chronological patterns must await systematic research at other sites.

## FAUNAL REMAINS

All but one of 42 calcined bone fragments recovered in 1983 derive from Stratum I, near the river. That one errant calcined bone fragment (85-90 cm depth, southeast quadrant of N10 W200) is likely to have moved down via bioturbation. One non-calcined scapula bone fragment from a deer-sized mammal offers further evidence of deep intrusions in the site by burrowing carnivorous mammals. This bone (found near the western corner of Feature 11, at the base of Stratum I ca. 40 cm below the surface), shows signs of having been chewed by a Canid. Given the normally acidic conditions of Maine soil, the bone must be a modern intrusion.

Thus the subsistance practices of Stratum I occupants are represented only by 41 scraps of calcined bone. Only two calcined bone fragments could be identified as beaver (*Castor canadensis*): a skull fragment and a phalange. Of the remaining 40 specimens, 3 are attributed to large mammals, 6 to medium or large mammals, 28 to mammals of non-specific size and 1 could be either mammal or bird.

## CHARCOAL

Fifty-eight samples of charcoal were saved during the 1983 excavation, including fifteen from features. The remainder were from specific stratigraphic levels. Ten samples were submitted in 1990 to Nancy Asch Sidell for species identification. Eight yielded positive identifications (Tables 8 and 9). Five of the samples have been radiocarbon dated (see Table 10, and above discussion of Features).

With the exception of Feature 22 on the High Terrace, hardwoods were dominant. Overall, there

**Table 8.** Charcoal identifications at 69.4, by Nancy Asch Sidell.

| Sample | Cat# | Strat | Fea. | Charcoal wt.(g) | | | | Number fragments >2 mm | |
|---|---|---|---|---|---|---|---|---|---|
| | | | >2mm | 0.5-2mm | Wood | Bark | Pitch | Seeds | |
| #1 69.6.1c | IIa | 3 | 11.8 | 0.02 | 62 | - | - | - | |
| #2 - | 5 | - | 0.001 | | - | - | - | -[1] | |
| #3 - | 6 | - | - | - | - | - | -[2] | | |
| #4 69.6.15c | IIa | 16 | 0.14 | - | 5 | - | - | - | |
| #5 69.6.37c | IIa | 16? | 0.57 | 0.02 | 17 | - | - | - | |
| #6 69.6.20c | Ic | 18B | 4.46 | 0.38 | 210 | 5 | - | - | |
| #7 69.6.58c | UT | 22 | 3.64 | 0.04 | 35 | - | 2 | - | |
| #8 69.6.57c | IVa | 23 | 4.58 | 0.43 | 128 | 32[3] | - | - | |
| #9 69.6.30c | IIb | 20 | 0.33 | - | 6 | - | - | - | |
| #10 69.6.51c | IIb | 20 | 0.95 | 0.01 | 16 | - | - | - | |

[1] unidentifiable fragment smaller than 2mm.
[2] 1 smashed "seed" that appeared to be a manganese concretion
[3] Incompletely carbonized

**Table 9.** Wood identifications from 69.4, by Nancy Asch Sidell. Counts of identified charcoal fragments. For sample provenience, refer to Table 8 stratum and feature columns.

| Sample No. | 1 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
|---|---|---|---|---|---|---|---|---|---|
| **Families, genera, species** | | | | | | | | | |
| Acer saccharum, sugar maple | - | - | - | 2 | 2 | - | - | - | - |
| Betula sp., birch | - | - | 2 | - | - | - | - | 9 | |
| Fagus grandifolia, beech | 20 | - | - | 11 | 2 | 1 | 4 | - | |
| Ostrya virginiana, ironwood | - | - | - | - | - | - | - | 1 | - |
| Pinus sp., pine | - | - | - | - | - | 14 | 1 | - | - |
| Red oak group | - | - | 5 | 3 | 17 | 15 | 28 | - | - |
| Total | 20 | 5 | 5 | 30 | 19 | 30 | 5 | 9 | |
| **All wood categories** | | | | | | | | | |
| Family, genus, and species identifications | 20 | 5 | 5 | 30 | 19 | 30 | 5 | 9 | |
| Coniferous | - | - | - | - | - | - | 1 | 1 | |
| Ring porous | - | - | - | - | - | - | - | - | |
| Diffuse porous | - | - | - | - | - | - | - | - | |
| Unidentifiable | - | - | - | - | 1 | - | - | - | |
| **Total** | **20** | **5** | **5** | **30** | **20** | **30** | **6** | **10** | |

were fifty-three fragments of red oak, thirty-eight of beech, eleven birch fragments, four sugar maple, and one ironwood. Fourteen pine charcoal fragments were recovered from the Feature 22 sample, along with two sugar maple and two beech pieces. There is an interesting contrast between later prehistoric charcoal samples from near the present shoreline, where oak and beech were and still are dominant, and the single (circa 6000 B.P.) softwood dominanted sample from the high terrace.

Since there may be unknown bias in choosing wood for hearth fires, the amount of oak or beech

**Table 10.** Radiocarbon dates from 1983 Evergreens excavation. All dates are uncorrected dates B.P.

| Stratum | Feature # | Date | Lab Number | Association, Comments |
|---|---|---|---|---|
| Stratum I | Fea 13 | 390±100 | Beta 7731 | CP-6 Vessel lot 2 just above feature |
| | Fea 18B | 650±60 | Beta 39214 | CP-6 vessel lots 3 and 5 associated |
| Stratum II | Fea 20 | 3330±30 | Beta 39125 | possible tree-throw pit with wash-in charcoal |
| Stratum IV | Fea 23 | 1370±80 | Beta 7631 | unsorted charcoal, contam. w. incomp. burned wood |
| | Fea 23 | 2490±70 | Beta 39126 | red oak, assoc. hearth/living floor, no diagnostic tools |
| Upper Terrace | Fea 22 | 5790±90 | Beta 39127 | felsite flake, old abandoned river bank |

present as charcoal bears no necessary relationship to the quantity of oak or other species that may have been growing at the site. However, the mere presence of oak is significant. According to Gaudreau (1988), oak had reached its peak frequency in the area by 8,000 years ago and was declining in frequency by about 6,000 years ago. At the Evergreens the point bar alluvium may have served as an enclave of oak and other hardwoods that survived into the late prehistoric period long after surrounding areas became dominated by a mixed softwood-hardwood association.

## DISCUSSION: CULTURE HISTORY AND SITE FUNCTION

Features and artifacts associated with the two earliest 1983 cultural strata (IIIa and IVa) at The Evergreens indicate that the immediate area of the 1983 excavation was being used for domestic camps and/or other activities involving the use of a structure. The uneven, hummocky surface left by the tree falls and flood scours between Stratum IIIa and Stratum IIa apparently led seasonal visitors to avoid this part of the site for any activity involving a structure. However, the occasional flakes, FCR and other non-diagnostic lithics in Stratum IIa may indicate that some outdoor "workshop" activities occurred at the spot. In addition to ceramics, Stratum I yielded a number of lithic tools: blades, point fragments, drills, disc-shaped bifacially flaked hammerstones, an abrader, a small celt, and convex scrapers.

This lithic assemblage seems atypical of Maine Ceramic Period sites, because it lacks diagnostic "points". This suite of non-diagnostic lithic artifacts seems to have manufacture or maintenance tasks not often recognized in the Ceramic Period archaeological record (perhaps because much attention is usually focussed on ceramics and diagnostic lithic points). Primarily on the basis of interpretation of the concave scrapers with often denticulated edges, we interpret some or all of this maintenance or manufacture activity in Stratum I to have involved light woodworking, or working bark or other plant fibers. Some of the work was accomplished near fires "on the beach".

Chronologically, our 1983 excavations recovered material of Late Ceramic age, evidence of ephemeral Middle Ceramic use of the area excavated, and substantial depths of apparently pre-Ceramic age. The lowest stratum that we excavated, Stratum IV, can unfortunately not be dated with precision. Its age must lie somewhere around the 2400 B.P. date for Feature 23 at the earliest, and the average 3300 B.P. radiocarbon date for charcoal washed into a later tree throw pit (Feature 20).

Turning our attention to the broader pattern of material culture distribution across The Evergreens site, the site exhibits clear evidence of horizontal separation of components. The earliest documented occupations occurred circa 6000 B.P. along an erosional terrace feature approximately 140 meters from the modern riverbank. We assume that these Middle Archaic or early Late Archaic occupations, exemplified by the Perry collection point and Feature 22, were located on the riverbank of the time. Subsequently, point bar formation pushed the riverbank westward, a process we can see in microcosm in the series of armored beach riverbanks in the 1983 excavation near the riverbank.

Diagnostic lithic artifacts are rare at The Evergreens. We can turn to the ceramic sample to

investigate the horizontal distribution patterns within the Ceramic Period, however. Several temporally distinct styles of pottery are represented in the sample thus far recovered from 69.6, including the MSM collection of 1969 and 1971, the MHPC sample salvaged in 1982, and 1983 excavation near the riverbank. These show a distinctive horizontal pattern of distribution on the alluvial terrace. The earliest style, Vinette I (CP-1), appears at or north of N28 on the 1983 grid. Sherds from a minimum of 6 vessel lots were picked up by the MSM crew in an area that corresponds to (1983 grid) N28 and N36 and west between W220 and W241 (i.e., a minimun of 10 meters north and 20 meters west of the 1983 excavation). No recognizable Vinette I sherds were recovered during the MHPC excavations of 1982 or 1983.

Four pseudo-scallop shell rocker dentate vessels were recognized out of 10 fine-grit thin walled vessels attributed to CP-2 (2400-1800 BP) from the 1971 MSM excavation. These were located between N28 to N36 between W232 and W247, approximately. Pseudo-scallop shell and other sherds from the early Middle Ceramic Period (CP-2) were also recovered in 1982 by MHPC from N28 to N30 between W145 and W152. No other period was represented in the 1982 collection area. No pseudo-scallop shell or other CP-2 ceramic varieties were recovered in 1983.

Ceramic Period 3 vessels are the latest style represented in the area sampled by MSM in 1971 and the earliest style recovered from the area excavated by MHPC in 1983. As described earlier, 8 vessels recovered in 1971 had generally thicker body walls, larger grit sizes, poorer vessel integrity than the CP-2 examples, with more crudely made dentate stamps applied in a variety of ways. From the 1983 excavation, a small number of sherds from 2 vessel lots(Vessel Lot #1 and 6) with punctate and DRS decoration are attributed to CP-3. These were scattered near the north end of the test units we opened.

For some reason, cord wrapped stick impressed vessels with circular punctates and vessels with cord-malleated exteriors that characterize Ceramic Periods 4 (ca. 1350 to 950 BP) and 5 (ca. 950 to 650 BP) are not represented in the 1983 sherd collection or in any prior collection from the site! The remaining 7 vessel lots identified from the shoreline test units in 1983 were attributed to Ceramic Period 6 (ca 650-400 BP). Sherds from these vessels are thinner walled, containing finer grit than sherds from CP 4 or 5. Another missing attribute is shell-tempering, a trait particularly characteristic of the early Late Ceramic Period (CP-5). Thus, there is evidence of horizontal separation of Ceramic Period components, as well as some vertical stratification of Ceramic Period components above pre-ceramics (Late or Terminal Archaic) occupation near the riverbank.

Expanding our attention to both sides of the river in the vicinity of The Evergreens, some of the missing Ceramic Period temporal subdivisions appear. The presence of late Middle Ceramic and early Late Ceramic period decorative styles was documented by excavations at the Hodgdon site (69.4) on the river shore opposite The Evergreens, just below a ledge with petroglyphs (Lahti 1975:6-11; Lahti et al 1981: Table 2). Examples of coarse grit and shell-tempered sherds with dentate stamping, cord-wrapped stick impressions and circular punctates dateable to CP-4 and 5 are present at the Hodgdon site. Also present at the Hodgdon site are one corded medium grit sherd (CP-6?) and four fine-grit sherds from at least two vessel lots with incised decoration characteristic of the protohistoric and early historic period (CP-7). This "Iroquoan" style is not, so far, represented at the Evergreens.

We have, in effect, evidence of a continuity of use during the Ceramic Period of The Evergreens area on opposite sides of the Kennebec River. Given the potentially huge area available for camp site use at The Evergreens, and the very minimal amount tested (extimated at 0.3% of site area), the picture we are getting may be badly skewed and subject to change with more adequate survey data. The "picture", nonetheless, suggests that the prehistoric use of The Evergreens may have been intermittant over periods of years and must ultimately be reviewed in a larger context involving alternate site use patterns in the upper Kennebec River valley as a whole. This level of

reasoning raises the question of season of occupation and site "function" in general.

Evidence for seasonality of occupation at 69.6 is absent. Only two bones could be identified from a small calcined bone sample species: beaver (*Castor canadensis*). Both of these, as well as the remainder of the calcined bone, belong to Stratum I. Nine bone fragments belong to a medium or large mammal, perhaps deer, moose, and/or bear. There were no fish or turtles and one possible bird bone in the collection.

A larger calcined bone collection from the Hodgdon site was dominated by beaver (41 of 42 identifiable fragments). Thus, the scanty faunal evidence from Ceramic Period context at The Evergreens and Hodgdon site is dominated by beaver, accompanied by some unidentified large mammals. Research on archaeological calcined bone collections in the last decade (Spiess 1992) indicates that Ceramic Period calcined bone collections from the Maine interior are dominated by beaver bone. However, other mammal species, fish, reptiles, and birds, can be adequately preserved and often dominate Archaic samples. The Hodgdon and Evergreens site bone samples are much too small to be dogmatic about the absence of fish, bird, and turtle, when we would expect a beaver-dominated fauna anyway.

Ethnohistoric sources indicate that use of The Evergreens and Hodgdon site region during the 17*th* and 18*th* centuries would have been short term, seasonal, or canoe-travel related. During the 17*th* and early 18*th* centuries, the farthest upriver multi-seasonal (permanent) village location was at Norridgewock. Circa 1650 Father Druillettes records a late fall journey of many people from the Kennebec between Augusta and Waterville to Moosehead Lake for winter hunting, returning in early spring the following year. This movement must have passed by The Evergreens. Circa 1720, Father Rasle records seasonal (fall) journies upriver from Norridgewock to about the vicinity of the Hodgdon and Evergreens site for eel fishing. Artifacts dating from about Father Rasle's were recovered from the Hodgdon site (Lahti et al 1981).

However, the protohistoric and Early Contact Period settlement pattern in Maine is demonstrably different from Early and Middle Ceramic Period settlement patterns. Thus, we have no real evidence for season of occupation or function of The Evergreens through much of the Ceramic Period.

The relatively substantial pre-Ceramic structure represented by Features 23 and 24 and associated rocks could indicate occupation at any season. Apparently it involved a well-constructed wigwam-style house or sweat lodge.

## THE EVERGREENS AND GEOMORPHOLOGICAL EVENTS

We are on firmer ground, so to speak, in using The Evergreens to interpret geological events. In general, the data support the abandonment (by the river) of an erosional terrace circa 6000 B.P., and subsequent building of a point bar westward in a developing meander loop. The 1983 excavation only extended far enough inland to develop a sediment deposition record covering perhaps 4000 years.

The archaeological data indicate a switch in local river mode from erosional to depositional circa 6000 B.P., and document a sequence of westward building over and around sequential river beaches or banks. These items are applicable to understanding river conditions in the localized Evergreens area. There are hints in our data, and data from other sites, of wider changes in river dynamics.

The area near the excavation in 1983 showed signs of extensive flood damage. The 1969 test trench by the Maine State Museum, while less detailed, offers corraborative obeservations of extensive flood disturbance in the subsurface from ca. N16 south to the shoreline. From N30 northward fine sedimentary deposits overlay a gravelly clay interface at ca. 1 meter below the surface, except where a deep dip occurs that apparently marks a buried flood channel. Between N30 and N16 on the W241 (1983) grid, the MSM description of the stratigraphy indicates gradually increasing quantities of cobbles and boulders in the fine silty sand deposits until the gravelly clay interface disappears entirely. At some point in time before

the appearance of pottery in prehistoric Maine sites (ca. 3000 years ago), a major flood (or floods?) uprooted large trees along the shore, leaving troughs up to 2 meters across by 1 meter deep which were subsequently scoured by currents sufficiently strong to move and redeposit cobbles up to 30 cm across but not enough to move a cobble 30x40 cm thick. Does this evidence represent a particularly severe local event, aggravated, perhaps, by ice jams similar to the 1936 flood within essentially normal modern conditions? Or does it represent a period of unusually severe floods that may have affected more than one watershed in Maine near the end of the Late Archaic?

The amount of sediment deposition (ca. 10 cm) associated with the uprooting of trees at The Evergreens is not significantly different from amounts visible on profiles for the 1987 flood (ca. 8cm) near Fort Halifax (see Spiess et al. 1990) or the 1987 deposition (ca. 10cm) at the Sharrow site (90-2D) near Milo (Petersen 1991). However, the deposition of fine sediments would not take place in an area directly impacted by flood currents until the flood waters had begun to recede.

The energy of this prehistoric flood event seems to have been considerably more powerful in its effect on the shoreline growth than any of historic record. We have checked through local newspaper accounts and photographs for both the 1936 and 1987 floods as well as some technical reports for documentation of an equivalent effect on large shoreline tree growth without success.

A review of reports on several sites located on major rivers in Maine give equivocal support to a general impression of more severe flooding episodes before ca. 3000 years ago. A heavy accumulation of coarse sediments associated with the prehistoric strata at Fort Halifax (ME 53.35) indicates huge floods between 3,000 and 3,500 years ago (Spiess et al. 1990:3). However, site 53.35 is located on the confluence between the Sebasticook and Kennebec Rivers and special conditions of turbulence local to this area may apply. In the Southern Androscoggin valley, Cowie (1990:9-10) found two multi-component stratified deposits at the Cape and Wood Island sites and noted that approximately 1.5 meters of fine alluvial sands had been deposited over the last 8000 years, with relatively little over the past 1000 years. At the Sharrow site (ME 90-2D), located below the confluence of the Sebec and Piscataquis Rivers, Petersen (1991) reported a stable accumulative aggradation of sediments behind an encroachment bar with the last 4500 years marked by sandy loam to very fine sandy loam. He did find a decreased sedimentation rate over the period.

The crux of the problem lies in separating the evidence of what are locally limited aggravated effects from flooding (as at the Evergreens and Fort Halifax) from general trends indicative of broader regional climactic changes. The only consistent theme in all the reports cited is the impression of a decreased sedimentation rate over the most recent prehistoric period (500 to ?2500 years ago). Decrease in the sedimentation rate may be related to cooler conditions that fostered the growth of conifer tree species. The dense cover provided by the conifers would have slowed the spring snow melt and reduced the severity of floods during the most recent prehistoric period.

The Evergreens provides us with dramatic evidence of the devastating, if localized, effects of flood waters on prehistoric site remains. The river bank area excavated in 1983 at The Evergreens is, we believe, a rare example where the shorefront disturbance from uprooted trees ca. 3,000 years ago was bad enough to lead to the abandonment of that particular spot for domestic habitation for a considerable period of time (upwards of 1,000 years or more). However, the Native Americans themselves were probably not greatly inconvenienced. They simply camped at a better spot.

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# THE GERALD HALL SITE (SITE #27.66): A SINGLE COMPONENT SUSQUEHANNA SITE

**Raynold R. Holmes**

## INTRODUCTION

This is the first report of site 27.66, which is located on the Hall property in Union, Knox County. The apparent absence of ground stone tools and pottery, and some diagnostic tools, suggests that this may be a single component Susquehanna site. The presence of moderate amounts of fire-cracked rocks and apparent ashes suggests that it may be possible to date this site and learn more about the people who lived here.

## SITE DISCOVERY

Possibly 30 years ago the author saw two Indian tools from Round Pond in Union shown at a meeting of the Maine Archaeological Society, by someone from St. George who had found them at very low water. About 1990, I went with my son Aaron to Gerald Hall, a friend and former co-worker, and asked if we might look for Indian relics in his cow pasture near Round Pond. We walked the cow paths that day on the knoll near the pond and did not find a single Indian chip.

That winter, at a meeting of the Union Historical Society, a speaker on historical archaeology had agreed that it might be reasonable to plow the knoll on the Hall farm where it was believed that the building called the "Royal Mess" once stood. Several batchelor early settlers had lived there while clearing the land, and it was hoped that the Union Historical Society would have a chance to recover artifacts from the town's early history.

I met Joseph Harris, Gerald Hall's stepson, at the Union Town Office one day in April, 1991, and Joe told me that he had plowed the knoll on the south line of the Hall farm, but not the knoll where the "Royal Mess" was reported to be located. On or about April 28, 1991, I went to the site and looked it over with my son and daughter, Aaron and Rebekah. We found several artifacts (part of 17, also 8, 16, 18, 22, 23, and 24, see Figures 2-4). After we washed the mud off, artifact 16 was recognized as probably belonging to the Susquehanna tradition, and the east part of the site was recognized as having most of the Indian chips.

We returned to the site with a rock drill, compass and tape, established survey stations A and B on the rock outcrops (Figure 1), and located the artifacts as best we could from memory of where we had found them. We continued to visit the site and search, especially after rains, which washed the mud off and exposed the chips and relics. Joe Harris started to search the site with his small children, and he found artifacts 1 through 6, plus others. Artifacts 5 and 6 were found in the cow pasture near the barn. Joe also found three other broken artifacts, and marked his finds so we could locate them on the sketch we prepared. In late June, he planted grass on the site. The artifacts are now in the possession of Gerald Hall. The author has a box or two of Kineo chips and other rocks from the site.

## SITE DESCRIPTION

The soils on the Gerald Hall site are described by U.S.D.A. Soils Conservation Service as TrB and BoB. The TrB soils are Tunbridge-Lyman fine, sandy loam soils with 3% to 8% slopes. The Lyman soil has shallow bedrock and good drainage. The Tunbridge soil is deep and moderately well drained. BoB soils are Boothbay silt loam soils and are moderately well to somewhat poorly drained.

Maine Archaeological Society Bulletin 33:1:39-45 (1994)

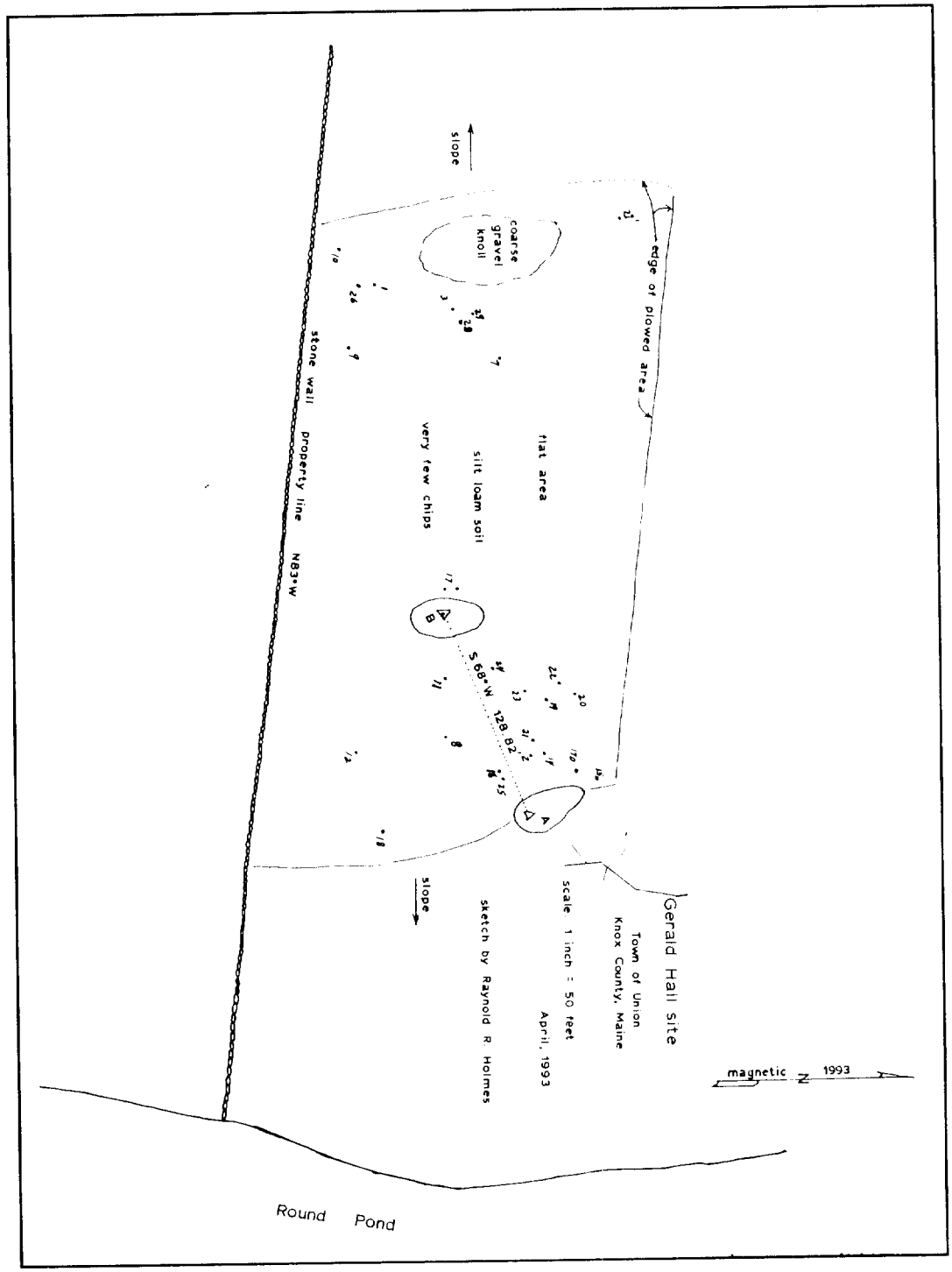


**Figure 1.** Artifact locations and knolls on the Gerald Hall site.

The Gerald Hall site is on a relatively flat knoll about 30 feet above Round Pond (elevation 34 feet above sea level). it is in a well drained area between two gentle outcrops of local quartz-mica schists of the Appleton Formation. Much of the area exposed by plowing shows stone free Boothbay silt loam soil, deposited in shallow seas over other soils and bedrock after worldwide melting of the glaciers brought sea level up to about 300 feet above the present sea level.

A circle with a 50 foot radius between the two outcrops that had marked with drilled survey datum holes (on Figure 1, noted as triangles labeled A and B) will cover over ½ of the artifacts and chips found on the site. In this are also were found, in the new plowed soil, several patches of apparent ashes, charcoal and fire-cracked rock, indicating the strong probability of a campsite. Many chips also were found south of outcrops A and B to the stone wall, but very few chips were found west of outcrop B. Only two artifacts, a hammerstone (Figure 4, #18) and a small contracting stem of a Susquehanna biface (Figure 3, #12) were found in that broad area, which is not as well drained as the area further north between the outcrops. The area west of outcrop B near the coarse gravel knoll had 8 artifacts, but very few chips made from toolmaking were found there.

Artifact numbers 1, 3, 7, 14, 19, and 21 (Figure 2-4) were reported on May 7th: 9 and 10 on May 9th; 2, 17, 20, 25, 26, and 27 on May 18th; and 11, 15, 17D, and 28 were reported found on June 13th. Artifacts 1 through 21 were photographed by Benjamin Magro of Appleton and Camden in 1992. Artifact 13 is fire-cracked rock.

The majority of the artifacts, with the exception of 20 and 21 and possibly 2, do not seem to be sharp enough or strong enough for use as spear points to use against large game animals. Most seem to be thin, perhaps used to slice vegetables, nuts, fish, meat (?), or even bread (?). The axe (14), drill (5) and drill fragment (17D) suggest that these Indians may have been in possession of birch bark canoes as suggested by Spiess (1989).

All of the artifacts pictured except 4, 13 and 17 are made from chalky weathering porphyritic felsite or rhyolite similar to the rock on Mount Kineo in Moosehead Lake. Phenocrysts are mostly feldspar and quartz, with lesser amounts of dark minerals. Quartz pehnocrysts in the chips and artifacts found on the Hall site seem to be much more prominant than in any other samples of Kineo I have collected. Artifact 17 is a very thin buff colored chert (?) knife, showing much use. It has what appears to be lenses of quartz in it. It is made of a foreign material from an unknown location, and the larger fragment is dotted with perhaps organic material.

## DISCUSSION

Bradstreet and Davis (1975) present evidence that Maine had weather warmer than now from 8500 before present to 3500 B.P., with warmest weather about 5000 B.P. The Susquehanna Tradition people, dated by Spiess about 3900 B.P. to 3100 B.P., could not have had access to corn, which came much later. They ate hickory nuts and acorns in Warren, Massachusetts in 3600 B.P. (Pretola 1991). They may have also eaten chestnuts which were present in Maine until after 1900, and/or they may have had some squash or beans, which were cultivated before corn. Hazelnuts, beechnuts, chokecherries, rose hips, as well as raspberries, blackberries, strawberries, and many other berries can be found now in the State of Maine. A forest fire, whether natural or man made, will provide blueberries for many years afterwards.

Ritchie (1961) says that the Susquehanna Tradition is centered on the Susquehanna Valley in Pennsylvania and New York, associated with articles made of soapstone or steatite. His Susquehanna broad points are finely made, with expanded stems. Ritchie's Snook Kill points of about the same age, commonly called Susquehanna, have broad blades and contracting stems, similar to artifacts 3 (?), 5, 12, 16, and 19 of the Gerald Hall site. Ritchie reported Snook Kill points in eastern New York. Sanger (1975, 1979) and Bourque (1979) reported them in Maine. It is evident from the collection that the site may be a single component Susquehanna tradition site, which would add something to our understanding of the culture in Maine.

**Figure 2.** Artifacts 1 through 6.

**Figure 3.** Artifacts 7 through 13.

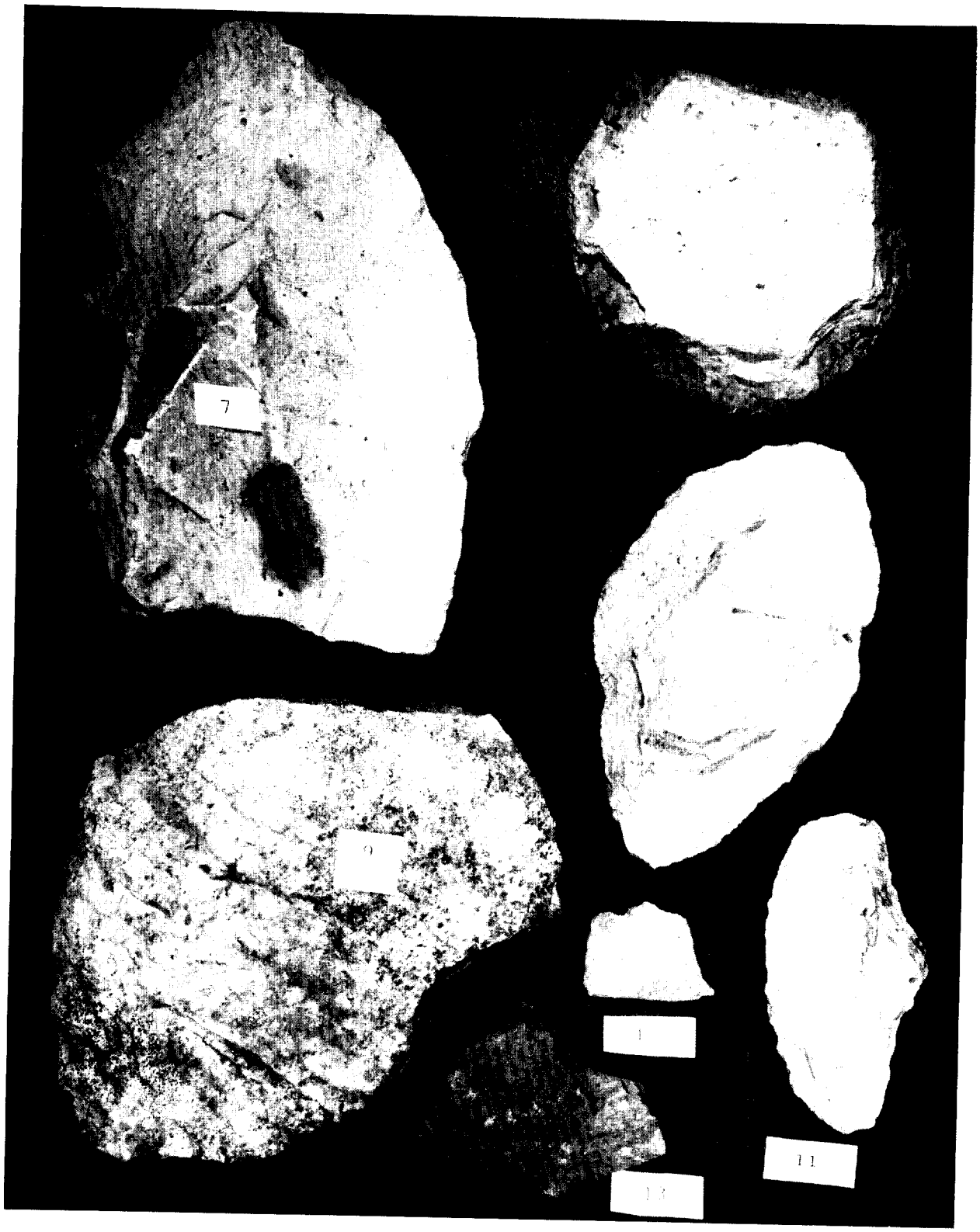

**Figure 4.** Artifacts 14 through 21.

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