

# Archaeological Survey and Excavations in the vicinity of Bella Coola

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## INTRODUCTION

Two seasons work on the prehistory of the Bella Coola have been completed. With the third season in the planning stage, it seems desirable to present the following preliminary report on what has been accomplished to date. The Bella Coola are a linguistic anomaly, an enclave of Salish speakers in an otherwise Wakashan speaking area. Our interests lie in the length of their occupation of this part of the mid-coast of British Columbia and in the chronology of cultures within this area. Both interests relate to the larger problem of the general prehistory of the Coast Salish. Earlier archaeological work in Bella Coola territory consists of surveys by H. I. Smith in the 1920's, and more recently by D. Mitchell. No excavations were undertaken by these investigators.

Our first season of field work in 1968 was devoted to an extensive archaeological survey in order to discover the types of sites to be found and to define the areas of more intensive use or settlement. It was envisioned that in subsequent seasons, field work would largely consist of excavations in key areas accompanied by a continuation of the survey on an intensive basis within those areas. Like other Northwest Coast groups the Bella Coola once lived in many scattered villages, some permanent and others only seasonal camps. Changes in economic patterns, population decline, and the development of the present community of Bella Coola as a trade centre with a school has resulted in the amalgamation of the once dispersed population. In his work on Bella Coola ethnography compiled in the 1920's McIlwraith (1952) cites a lengthy list of abandoned villages. His informants then were able to tell him whether these places were occupied or already abandoned when MacKenzie came to the area in 1793. This tabulation along with additional information and specific locations given by our own informants served as the main focus of our survey activities.

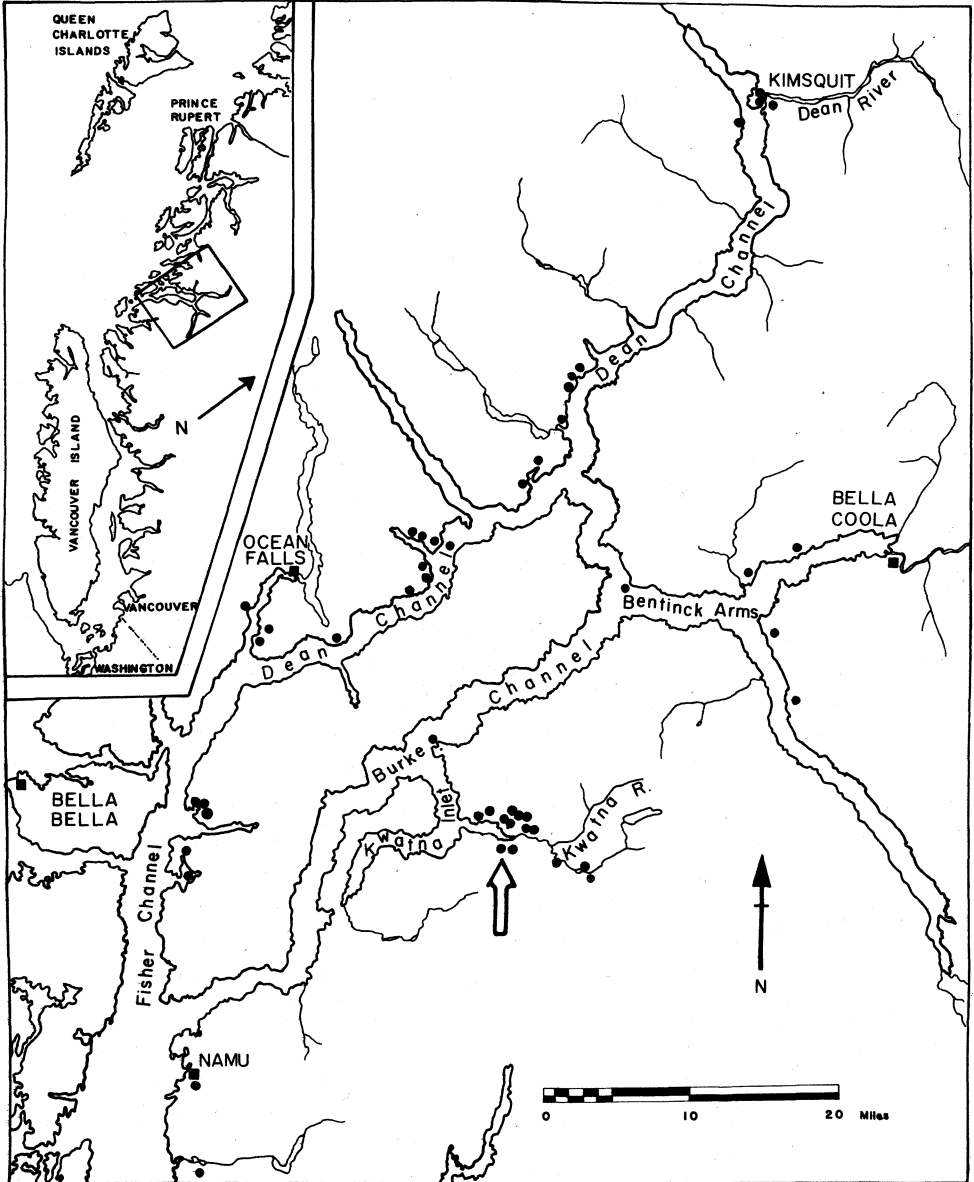


FIG. 21. Archaeological sites in the vicinity of Bella Coola. Round dots are approximate site locations. Outline arrow in lower centre indicates Kwatna Bay, the locus of 1969 excavations.

The second season of work in 1969 was devoted to testing two sites in Kwatna Inlet.

#### THE ARCHAEOLOGICAL SURVEY

The author, assisted by two archaeology students, surveyed the area shown in Figure 21 by boat. Thirty-five of the forty-eight sites shown were recorded during the 1968 season and the remainder in 1969. The areas assessible only by water were surveyed first as these areas afforded the greatest promise of undisturbed sites. The Bella Coola Valley itself has undergone extensive cultivation in recent years. Local reports relate the destruction of much archaeological material by these activities and particularly by the frequent floods and river channel changes since the initiation of logging in its tributaries. We have not yet been able to study the southern end of South Bentinck Arm. Both McIlwraith's and our own informants report sites there.

The surveyed sites are listed by type in Table 2. A brief description of these site types follows.

*Plank Houses:* The abandoned village of Nutal at Kimsquit has a standing, roofed, cedar plank house (Fig. 22) that may be one of three shown in a photograph of Kimsquit probably taken in the 1880's (Fig. 23). Construction details are fully preserved in this house which is square in plan and lacks nails, windows, and stovepipe holes. A raised central earthen platform extends nearly the length of the house beneath the long central smokehole. Two other such houses found elsewhere have only the pole framing remaining but are also square and have raised central earth platforms.

TABLE 2  
Types of Archaeological Sites in the Bella Coola Survey Area

Plank houses	3
House pits	2
Middens	6
Intertidal middens	3
Fish traps	2
Rock art	11
Burial areas	10
Surface artifacts	6
Other	5
	48
TOTAL	48



FIG. 22. Standing aboriginal style house at the abandoned village of Nutal at Kimsquit, 1968.

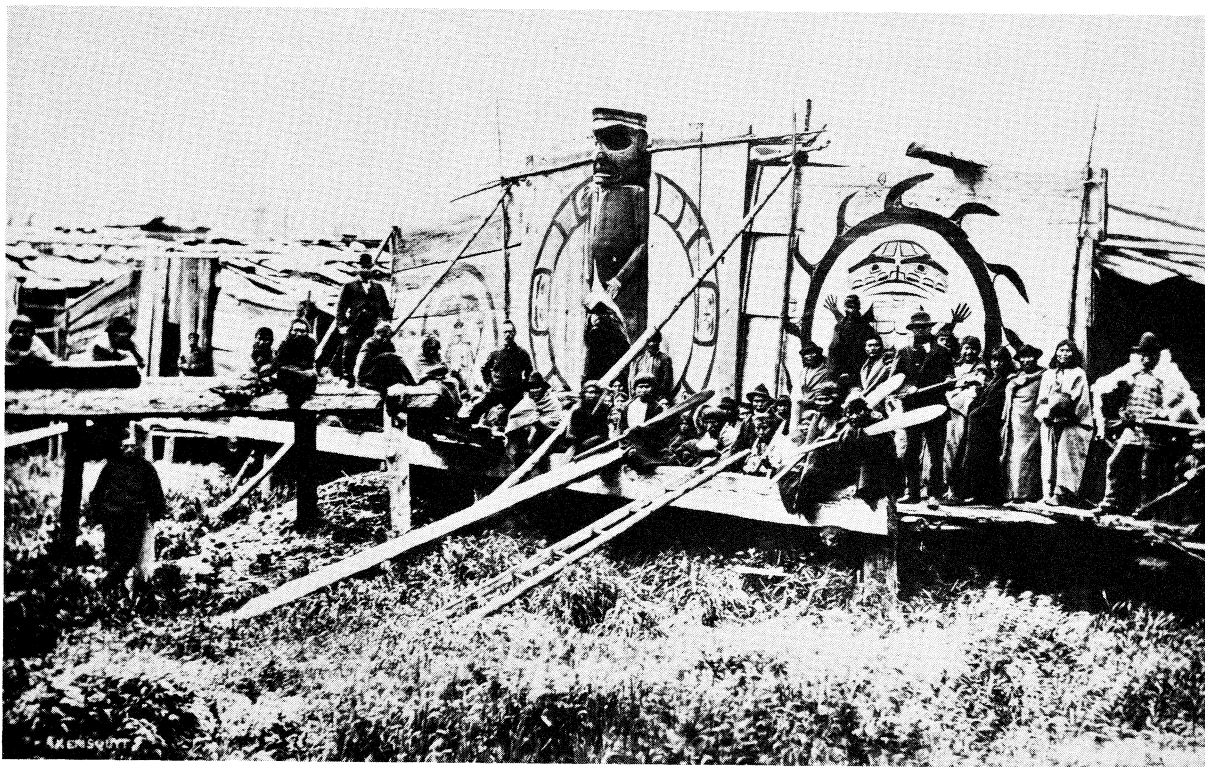


FIG. 23. A village at Kimsquit probably in the 1880's. The house in the left background may be the one shown in Figure 22. (Provincial Museum photograph No. 33586).

*House depressions:* A large site on the Dean River has seventeen noncontiguous house depressions, rectangular or square. These range from four to seven meters in length and vary from sixty centimeters to one meter in depth. They may be true house depressions or they may simply be subfloor storage pits remaining from larger ground level plank houses. Three house depressions were also found at Kwatna.

*Middens:* With the exception of the middens in Kwatna Bay and at Namu these are all small and shallow by coastal standards. Clam and other shell is rare.

*Waterlogged middens:* Such sites are probably the result of refuse thrown on to the intertidal zone in front of shoreside villages. At the island site at Kwatna the thoroughly watersoaked nature of the midden deposits has resulted in the preservation of normally perishable materials such as wood and plant fiber. It was not logistically possible to visit the other two intertidal sites at a minimum tide. They too might contain preserved perishable materials.

*Fish traps:* Fish trap sites are visible only at low tide, are limited to the western edge of the area surveyed. They are low loosely piled stone walls some fifty centimeters in height and as much as several hundred meters in length (Fig. 24).

*Rock art:* Nine of the recorded sites are painted pictographs and two consist of panels of pecked designs. The rock art itself will be the subject of a detailed study to be a part of the final report of the Bella Coola project. There is some overlap in the styles represented in the petroglyphs and in the paintings. Both seem to be within the general tradition of coast rock art. One gets the impression that pictographs are the more recent primarily because they contain a larger number of elements present in historic coast art (Fig. 25). Rock art sites are often found many miles from the nearest possible village site. Most rock art sites are on prominent bluffs near the water and could be seen easily by passing canoes. A few are well hidden. The most common elements are groups of dots some ten or fifteen centimeters in diameter, circles, coppers, anthropomorphs, masks, and killer whales. Petroglyphs typically show faces with emphasized eyes sometimes encircled several times.

*Burial sites:* Three kinds of burial practices were observed: burial in cedar boxes in rock-shelters; flexed interments probably in the cedar boxes, which have left one meter square surface depressions in the burial area; and modern interments in cemeteries with grave markers and elongate grave depressions representing extended burials. The transition from flexed to extended burials probably took place around 1890 judging



FIG. 24. Fish trap site at Port John. Several hundred meters of such walls have been recovered in this locality. Fish swim over the walls at high tide and are caught when the tide ebbs.



FIG. 25. Red paint pictographs on the Kwatna River at FaSu 4. The main figure is 50 cm. in height.



from dates on marked graves and from informants' estimates. In the Bella Coola Valley this transition may have taken place earlier. The custom of placing flexed burials in boxes inside of a communal burial house in one Bella Coola settlement was dropped shortly after the turn of the century according to an informant.

*Other sites:* Sites in this category are those whose specific locations have come to us through historical or ethnographic literature. At five such locations we were unable to find archaeological evidence of their use by man. Included are three sites at Kwatna, one of which is reported to have been the largest Kwatna village. Also included is a site described by MacKenzie in 1793 as a large abandoned village with a "temple" on Dean Channel.

A number of generalizations may be made on the basis of our survey data and our work with Bella Coola informants. The aboriginal boundary between the Bella Coola and the Bella Bella should be drawn well east of Fisher Channel. Some of the Kwatna settlements are reported to have been partly bilingual with some Bella Bella living there as well as Bella Coola. A line drawn a few degrees east of straight north from Kwatna Bay may approximate the boundary between these two groups. Much of Dean and Burke Channels and associated inlets are characterized by beachless fiord-like shorelines totally unsuitable for human habitation. In some areas one could travel for miles without finding any place where a canoe could be landed. Although archaeological sites are widely scattered throughout the area there is a distinct tendency for clustering in certain intensive use areas. Within the Bella Coola domain, four intensive use areas can be identified: the Bella Coola Valley, the Dean River at Kimsquit below the canyon, the Kwatna River, and the south end of South Bentinck Arm. These areas share certain characteristics. They are remote from the main outer coast at the ends of long inlets, and centre on moderate sized rivers. There can be no question that the exploitation of the river resources was crucial for the subsistence of the Bella Coola.

With the exception of the Kwatna sites, few artifacts were found by the survey. We did only surface collecting and no test excavations. On the basis of surface characteristics only five of the forty-eight surveyed sites are estimated to have any quantity of cultural material or depth of deposit. Taken as a whole, the sites do not give an impression of great time depth or of a large population. The most concentrated population was undoubtedly in the Bella Coola Valley.

## THE 1969 EXCAVATIONS

Kwatna was chosen as the first intensive use area to be studied in detail. The Nutlitliquotlank midden on Kwatna Bay promised the longest cultural sequence. The site of Axeti on an island at the river's mouth with its waterlogged perishable materials was expected to provide a glimpse at this almost unknown aspect of prehistoric material culture. Accompanying the excavations at these two sites an archaeological survey of the river was begun.

Work at Nutlitliquotlank (FaSu 2) began with the surface clearing of a two meter grid throughout the 120 m. length of the midden. A soil resistivity survey was then run over most of the site surface on a two meter grid, and on the eastern quarter of the site at one meter intervals. A Gossen four terminal resistivity bridge coupled with a twenty position relay switch took measurements in sequence from twenty steel rods set 25 cm. in the ground. Dr. D. G. Huntley, a Simon Fraser University physicist, carried out this part of the project. To our knowledge the technique had not previously been applied on the British Columbia coast. The results have been plotted as resistivity contours which can be compared with the results of subsequent excavation. Another season of excavations will be needed before an appraisal of the value of the technique can be given. At the moment we can say that we are moderately optimistic that the technique may be able to provide useful information concerning depths of deposits and possibly the location of subsurface features.

The excavations of Nutlitliquotlank consisted of three main trenches across the midden and several lateral extensions of these trenches. Cultural deposits in two places extended to depths in excess of three meters. The midden makeup is heterogenous and for the most part lacks well defined visible stratification, particularly in its lower levels. Shell is rare although one thin layer of it may extend throughout the west end of the site. McIlwraith's informants identified the site as abandoned prior to MacKenzie's time. My subjective evaluation is that the midden deposits accumulated rather quickly and that, if so, the abandonment of the site ought to be placed in the mid-eighteenth century. It should be noted that Archibald Menzies, one of Vancouver's men who anchored in Kwatna Bay, made no mention of any village there.

Intact burials were not recovered at Nutlitliquotlank. Fragments of a single skull were found near the surface on the west end of the site beneath a large tree. Disposal of the dead must have been away from the

village, probably in a series of small rockshelters located at some distance from the village. Other features encountered in the midden excavations include a rock concentration with what appears to be an intentional alignment of hammerstones. Efforts to discern an associated living floor met with no success. The midden was hand cultivated by the Sahana-vitch family who homesteaded Kwatna Bay after the First World War. Artifacts found in the farming were thrown off to one side. These were later found when we cleared the brush for our excavations. The artifact analysis from the two sites has just begun and will be dealt with below.

Axeti (FaSu 1) the island site about one half a mile from Nutli-liquotlank, has both waterlogged and above water midden deposits. In one place there seems to be a continuation of the normal midden down into the water-logged intertidal zone indicating contemporaneity of the two deposits. Stone and bone artifacts found in both sections of the site are similar, further substantiating this view. Because of this situation Axeti provides an excellent context for experimental archaeology, for determining the kinds and numbers of artifacts that are lost from an assemblage through decay.

Features encountered at the above water portion of Axeti include at least six possible house locations. All are small flat areas. One has ground patterning that is suggestive of floor features. Two others have house depressions some fifty centimeters in depth in the form of an elongate rectangle some seven meters in length. Clearing of two of the house areas was done. One of the depressions was carefully cross trenched but only sterile soil was encountered. Test excavations at one possible house location revealed artifacts and evidence of burning. The main excavations at Axeti consisted of a long trench down the steep island slope to the water's edge, and two large pits in the waterlogged deposits in the intertidal zone.

Work in the waterlogged deposits could be carried out only at low tide. This permitted from one to six hours of excavation each day according to the phase and times of the tides. Fragile perishable material such as basketry, matting, and cordage was recovered using a variety of hydraulic techniques. These and other plant fibre and wood artifacts were kept wet until they could be immersed in a ten per cent solution of polyethylene glycol. Most of the wooden objects were kept in this solution for two months and then dried slowly. It was found that such treatment restricted but did not entirely prevent the occurrence of cracking and splitting as the objects dried.

The waterlogged midden appears to have built up largely through the natural process of the accumulation of river silt, twigs and small branches on the narrow riverside flat in front of the island village. As this was accumulating, inhabitants of the village would throw out or lose items on this flat and these became incorporated in the deposit. Because the area is covered by the tide twice a day the wood and plant fibre objects in the deposit were kept in a permanently wet state thus retarding the action of normal decay causing organisms.

An interesting feature of the waterlogged midden is the occurrence of a series of wooden posts set into the deposit at irregular intervals near the shore. These ranged from five to fifteen centimeters in diameter. They may be the remains of a fish trap although one informant related to us the story that there once was a boardwalk at the water's edge on that side of the island. Most of the posts seem too small to have supported a boardwalk.

We have no Carbon fourteen age estimates yet from Axeti. The few metal and glass items found on the surface are of types which can be safely assigned to the recent bear hunters or to the activities of the Sahanavitch family. There are no identifiable nineteenth century trade goods. McIlwraith's informants stated that the site was still occupied in 1793. One of the Bella Coola, an old man when McIlwraith (1948) talked to him in the 1920's, stated that when his father was young there were still a few remains of houses left at Axeti. These things seem to point to the abandonment of the site shortly after the end of the eighteenth century.

With the exception of the uniquely preserved perishable materials at Axeti the artifact collections from the two Kwatna sites are quite similar. Since the analysis of the artifacts has just begun it is only possible here to offer some general observations on the two collections and to briefly characterize the perishable artifacts from Axeti.

Stone objects shaped by flaking are notably rare, accounting for less than two per cent of the collection. Ground slate is even less common. A tip fragment of a small triangular ground slate point was found at Axeti.

Two related types of stone artifacts present in about equal numbers predominate at the two sites. These are chisels (Fig. 26, *a*, *b*, *e-i*) and a composite tool that we call hammerstone-grinders (Fig. 26, *c*, *d*). At Axeti these two types together make up twenty-four per cent of all artifacts and a remarkable seventy-four per cent of the stone artifacts. The chisels average some 7.5 cm. in length. They seem to have been shaped

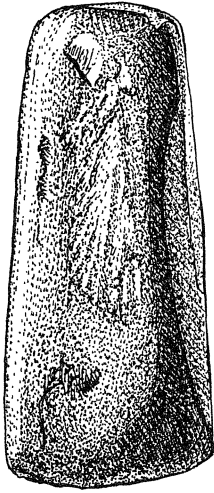
by grinding and finished by smoothing, but for the most part were not polished. The chisels may also have been used as small splitting wedges although at Axeti a full range of wooden splitting wedges were found. Fracture patterns suggest that they were not hafted for use as adzes since practically all have been broken by being hammered on their butt ends with a hard object.

The hammerstone-abraders are very probably the tools used in conjunction with the chisels. They are pecked stone tools averaging some five cm. in length. In shape they resemble small one-hand manos such as are common in archaeological areas where corn was grown and milled. That is, they are "D" shaped in section with the flatter surface showing the greatest evidence of grinding. The ends are rounded or flat, and commonly show battering indicating use of the tool as a hammer. The hammerstone-grinders may have been used with the chisels for wood working. I have heard one account of the use of small grinding stones in conjunction with sand for smoothing planks, but this usage has not yet been verified by our Bella Coola informants.

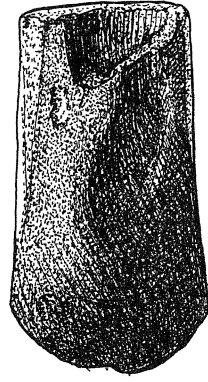
Bone tools are the most varied class of manufactured objects at the two sites. A brief general inspection of the collections reveals composite harpoon parts, unbarbed fixed bone points, herring rake barbs, fishhook barbs, shouldered and unshouldered awls and a variety of as yet unclassified objects. At Axeti bone tools make up almost half of the artifacts from the island midden but a smaller percentage of the total from the waterlogged part of the site. The chemical effects of the salt water may hasten the decomposition of bone.

Since Axeti has two sections one characterized by normal preservation and the other with wood and plant fibre preserved by water-logging, it provides an excellent context in which to test the percentage of material culture items lost through decay. To show this numerically Table 3 shows frequency and percentages of artifacts by raw material type from the two parts of the site. Taken together objects of wood and plant fibre make up more than 67% of the total collection from the underwater deposits. It can be seen that objects of bone and particularly stone under normal preservation conditions are represented in marked disproportion to what may have been their original numerical significances.

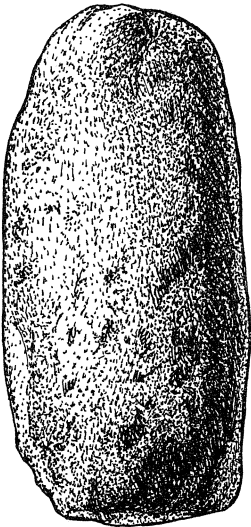
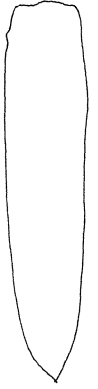
The Axeti collection contains the most complete sample of perishable material artifacts from any archaeological site in British Columbia. It equates in quantity and variety collections from some of the well preserved dry cave sites in the desert regions of Utah, Nevada, and Arizona. A provisional tabulation of perishable artifact types is as follows:



a



b



c



d

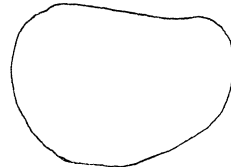
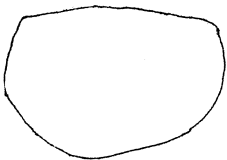


FIG. 26. Hammerstone grinders and chisels from Nutlitliquotlank (FaSu 2) and Axeti (FaSu 1). Length of *a* is 9.6 cm.

Basketry hat	1
Basket	1
Wooden Club	1
Posts	2
Matting	7
Wooden Pegs	9
Leister Barbs	11
Wooden Wedges	21
Fishhook barbs	26
Knots	49
Cordage	122
Unclassified	53

TOTAL 303

A sample of these types is shown in Figures 27 and 28. In addition one bipointed wooden fishhook barb was found in the "dry" portion of the midden. Some of the wooden wedges were fire hardened on the hammered end. The collection shows that there existed a range of wood working tools made of wood, and that a number of bone artifacts, particularly some items of fishing gear, had parallels in wood. Cordage and rope were quite common.

To summarize this brief progress report, the Bella Coola area archaeological survey has located forty-eight archaeological sites. Excavations were carried on at two of these at Kwatna in 1969 and will be continued in 1970. We hope to study at least one other intensive use area before the conclusion of the project.

TABLE 3

Numbers and percentages of artifacts from the waterlogged and above-water portions of FaSu 1. Artifacts are grouped according to raw material types.

	<i>Intertidal Midden</i>		<i>"Dry" Part of Site</i>		<i>TOTAL</i>
Historic Objects	0	0	11	5.2%	11
Tooth and Claw	1	T.	4	1.9%	5
Shell	18	4.0%	3	1.9%	21
Bone	24	5.2%	102	48.4%	126
Wood	103	23.7%	1	T.	104
Stone	111	24.3%	90	42.7%	201
Plant Fibre	199	43.6%	0	0	199
<b>TOTAL</b>	<b>456</b>		<b>211</b>		<b>667</b>

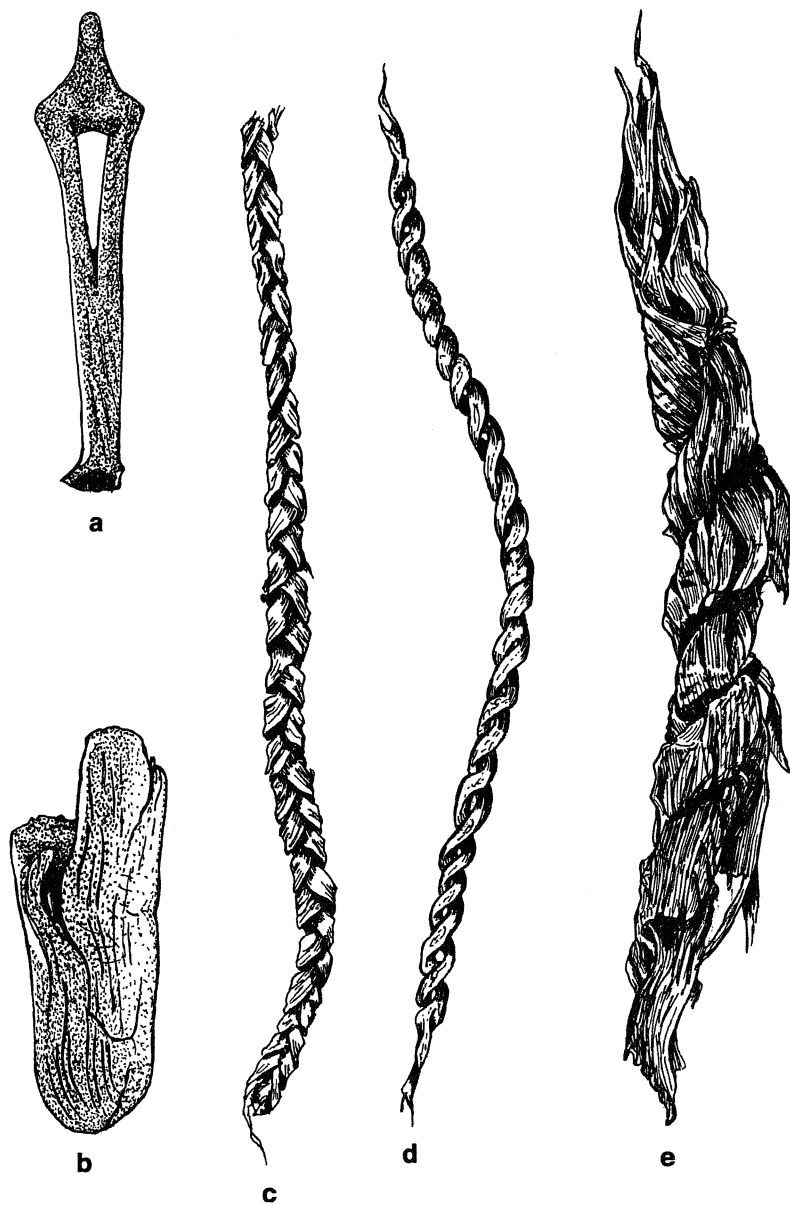


FIG. 27. Artifacts of perishable materials from Axeti. *a*, handle of a wooden spoon. *b*, tip of wooden wedge. *c*, braided cedar bark cordage. *d*, Z-twist cedar bark cordage. *e*, Z-twist cedar bark rope.



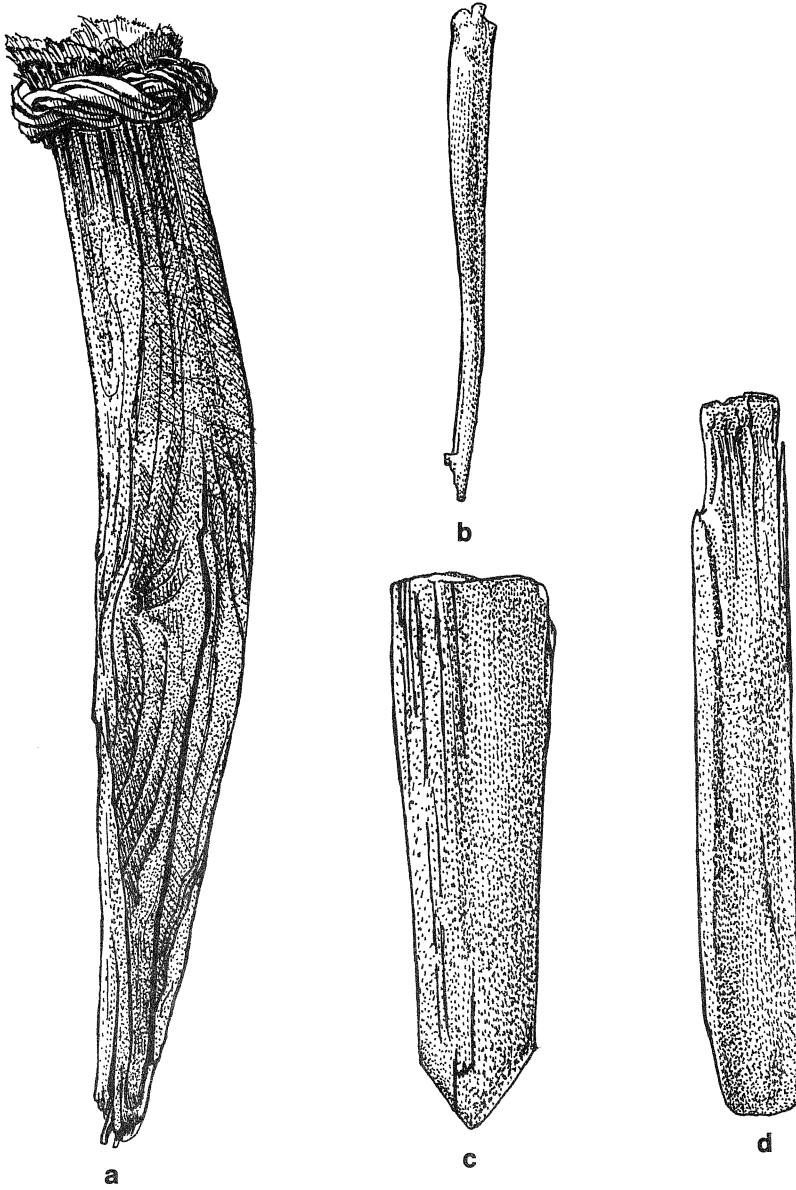


FIG. 28. *a*, wooden wedge with rope reinforcement at the proximal end. *b*, portion of a leister or fish spear barb. *c*, *d*, wooden wedges; the proximal end of *d* has been fire hardened.

## ACKNOWLEDGEMENTS

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