

Return To Habitat

DEPARTMENT OF ARCHAEOLOGY
SIMON FRASER UNIVERSITY
PUBLICATION NUMBER 1

SALVAGE '71

EDITED BY
ROY L. CARLSON

Reports on Salvage
Archaeology Undertaken
in British Columbia
in 1971



DEPARTMENT OF ARCHAEOLOGY
SIMON FRASER UNIVERSITY
BURNABY, BRITISH COLUMBIA, 1972



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IN THE COURT OF THE DISTRICT JUDGE
OF THE DISTRICT OF COLUMBIA
IN AND FOR THE DISTRICT OF COLUMBIA

Case No. 17-11111
IN RE: [Name]
Debtor
[Name]
Trustee
[Name]
Creditor

Preface

This volume contains reports on the preliminary findings of archaeological salvage projects carried out by the Department of Archaeology at Simon Fraser University during the summer of 1971. A total of 26 archaeological sites endangered by industrial expansion, timber leases and logging, park and housing development, or the forces of natural erosion were excavated. In addition, four archaeological surveys of localities threatened by flooding or other activities were conducted. The projects were spread throughout the province from Kimsquit in the north to Kamloops in the east, and from the Skagit Valley in the south to the Gulf Islands in the west (Fig. 1). These activities yielded over 5000 artifacts, and a quantity of other archaeological information, and provided a valuable experience in archaeology for 60 students.

A project of the above scope was made possible initially by a grant of \$50,000 from the Federal Government's Opportunities for Youth programme to Professor P. M. Hobler. This grant provided funds solely for student salaries, however, and in and of itself would have been worthless without the additional support of the following individuals and agencies:

ALLISON LOGGING COMPANY, Bella Coola -
loan of a logging camp at Kwatna to
house student crew.

ARCHAEOLOGICAL SOCIETY OF BRITISH
COLUMBIA - assistance in excavations
at Belcarra

BURSAR'S OFFICE, Simon Fraser University -
all accounting of funds.

B.C. HYDRO AND POWER AUTHORITY - grant of
\$2000 to assist excavations at Bliss Landing.

CHILKO CONSTRUCTION COMPANY, Vancouver - assistance in organising work at Port Hardy, Port Moody, and Belcarra.

MR. ROY EDMONDSON, Lund, B.C. - assistance with logistics for student crew at Bliss Landing.

FEDERAL DEPARTMENT OF FISHERIES, Bella Coola office - transportation of students and mail between Bella Coola, Kwatna, and Kimsquit.

MT. WADDINGTON REGIONAL PARKS BOARD - waiver of costs of camp ground for student crew at Port Hardy.

NORTHLAND NAVIGATION COMPANY, Vancouver - free shipping of equipment, supplies, and archaeological specimens between Vancouver and Bella Coola.

PROVINCIAL MUSEUM, Victoria - office space and technical assistance for archives crew.

PORT MOODY HISTORICAL SOCIETY - assistance in Port Moody excavations.

SURVEYOR GENERAL'S OFFICE, Province of B.C. - access to maps and land records, and general assistance.

TRANS MOUNTAIN PIPELINE COMPANY, Kamloops - backfilling with power equipment of excavations at Kamloops at no cost.

UTAH MINING AND CONSTRUCTION COMPANY - assistance in organising work in Port Hardy area.

VICE PRESIDENT'S OFFICE, Simon Fraser University - additional laboratory space, and \$2000 in equipment funds.

Excavation equipment and funds for additional supplies were provided by the Department of Archaeology at Simon Fraser University. Food costs were paid by the students themselves.

H. L. Alexander supervised the entire project from May 1, through July 20. R. L. Carlson and P. M. Hobler directed the Kwatna and Kimsquit projects during this same period and supervised the entire project from July 20,

through September 30, 1971. R. C. W. Percy supervised the laboratory work and co-ordinated logistics during the entire period. Doris Lundy drew all of the artifacts illustrated in the report, and Jennifer Waite typed the final manuscript.

Herbert L. Alexander

Roy L. Carlson

Philip M. Hobler



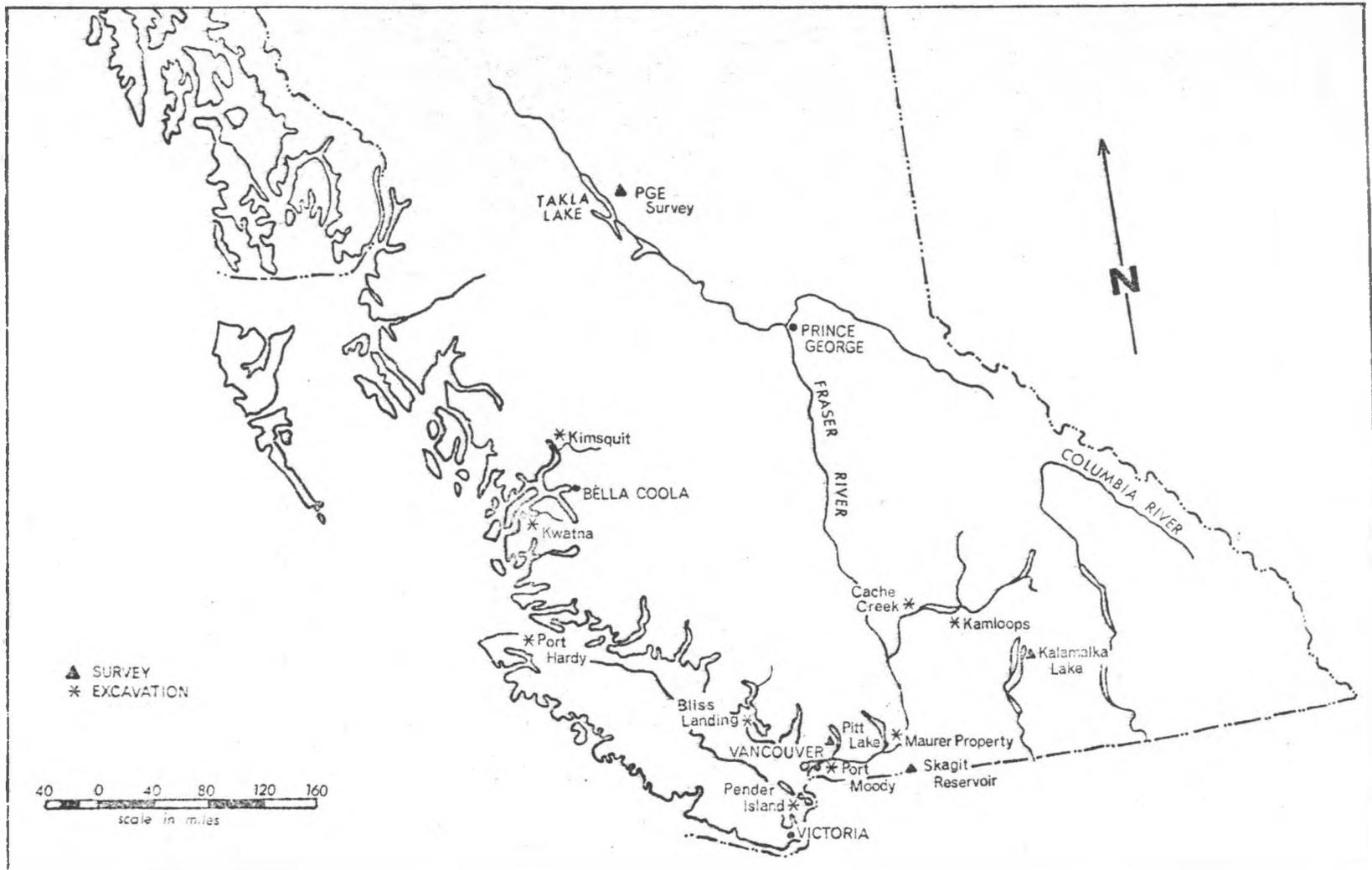


FIG. 1. Localities at which surveys or excavations took place



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THE PITT LAKE PICTOGRAPH SITES

Doris Lundy

INTRODUCTION

Pitt Lake in the Fraser Valley runs roughly north to south draining via the Pitt River into the Fraser River some 25 miles east of Vancouver. It is one of the few truly tidal lakes in the world, and its sheltered waters and southern sloughs sustain a considerable waterfowl population. In May and June the water level rises enough to flood extensive mud flats at its southern end thus making even the most southerly of the reported sites easily accessible. The shore-line is studded at intervals with granite outcrops, many of which have sheltered faces and protected niches chosen as pictograph sites.

Nine such sites were located, and of these eight were found along the western shore. (This distribution is likely due to the fact that most of the suitable outcrops were also located on this shore). Considerable care had been taken to select the specific rock faces utilised. The designs had all been painted in red pigments and frequently depicted similar motifs. The sites fall within the historic territory of the Katzie Indians, a Salishan speaking group; Suttles (1955:17) names Pitt Lake as the "Lake of the Katzie". It is likely that the ancestors of the present Katzie population can be credited with the paintings.

The pictographs at all of the sites were sketched, and the main figures were measured and then photographed in both black and white and in colour. A survey form was completed for each site. Each site was plotted onto a map (Fig. 2).

THE SITES

Site DiRp 4

This site is the most southerly of the pictograph sites and is

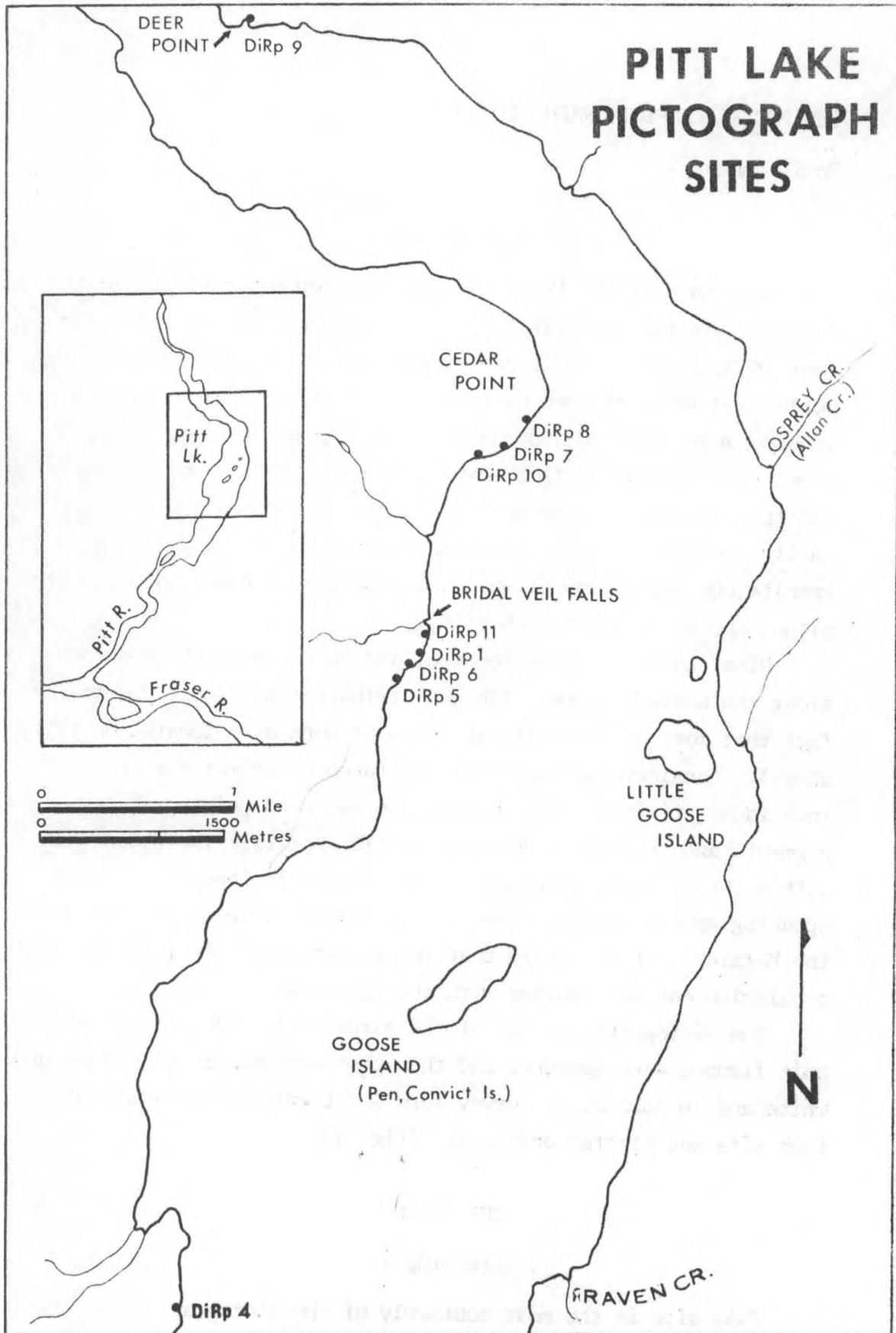


FIG. 2. Map of Pitt Lake showing location of pictograph sites

located on the western shore of the lake, south of Goose Island, and approximately opposite the outfall of Raven Creek. The paintings are on light coloured granite below the curving roof of a shallow overhang. They are easily accessible from the water via a series of sloping ledges. The overhang provides little protection from wind and wave damage and the paintings are more weathered and faded than at the other sites. Yellow lichens have partially obscured the pigment although stiff brushes proved effective in removing some of this covering.

The only figure which can still be determined with any accuracy is anthropomorphic in nature with a circular head with single circles for eyes, and an oval body with traces of two or three horizontal ribs (Fig. 3). One arm, raised to shoulder height, terminates in four fingers while the other arm appears to be stretched above the head. To the right the outline of a faded circle can be partially traced as well as a few other faint lines still further away. There is considerable staining of the rock surface around both the figure and the circle and lines, but there is no longer a discernible design. A circle and central dot appear at the extreme right. All of the pigment is of the same faded orange-red colour.

Site DiRp 5

This site is located on the western shore of Pitt Lake opposite the northern end of Little Goose Island and south of Bridal Veil Falls. The paintings are at least 5 meters above May high water and are to be found on a smooth, light rock face which is entirely free of moss or lichens. A series of rocks below the paintings make this site easily accessible if approached by water. Even though the paintings are below a considerable overhang, there has been some fading particularly of the right-hand figure.

This panel is composed of three anthropomorphic figures sharing the same rock face in a tight group (Fig. 4). The first of these is

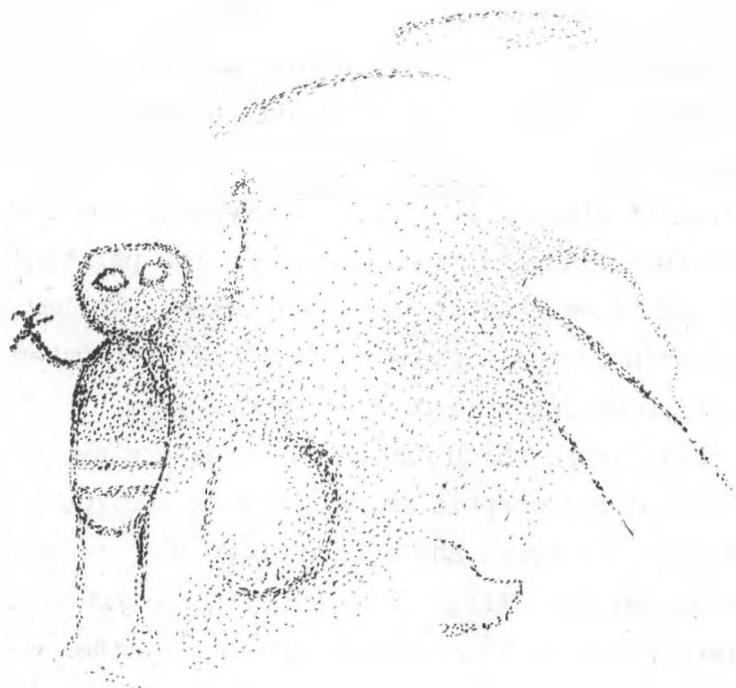


FIG. 3. Pictograph at site DiRp 4.
Figure approximately 1.2 meters tall

a "stick" figure with a bird-like head. Below, a face with prominent eyebrows which join above the nose and large eyes in the form of ovals about central dots, joins a mouth (or body?) which consists of a horizontally bisected oval. Attached to the latter are two hands (or feet) each with three digits. The third figure is an upright anthropomorph with a circular head topped by a three-pronged "head-dress". The eyes and mouth are also circles, while the body is an elongated oval with ribs, spine and tail clearly depicted. The straight legs are simply drawn and no toes are shown. The hands, upraised to shoulder height, appear to be triangles each with five digits. The entire group is approximately 2 meters in height and the colour of the paint in figures a and b is red, while that of c is similar to that of site DiRp 4.

Site DiRp 6

This site is just north of DiRp 5, on a south-facing exposure at the base of a granite cliff which slopes gently down to the water's edge. There are four panels of paintings; three are somewhat protected by overhanging rock; the first panel is partially obscured by a light travertine formation. The fourth has been almost obliterated by ground water trickling down the cliff.

The first panel consists of three figures (Fig. 5). One is a bird with a long curved beak and short three-toed feet; its oval body tapers to a short, stubby tail and contains three parallel curved rib-lines. Just below is an outstretched form of a fish (?) or second bird, the details of which are not clear due to the travertine cover and slight spalling of the rock face. Perhaps the most interesting of this particular group is the third figure, an upright biped with a small, dark head, the top of which has spalled away, and a long oval body with many sharp projections and a thick short tail. The body is bisected vertically, but no ribs are shown. All are painted in red, but c perhaps due to the light travertine cover, appears to be a deeper shade of the same colour.

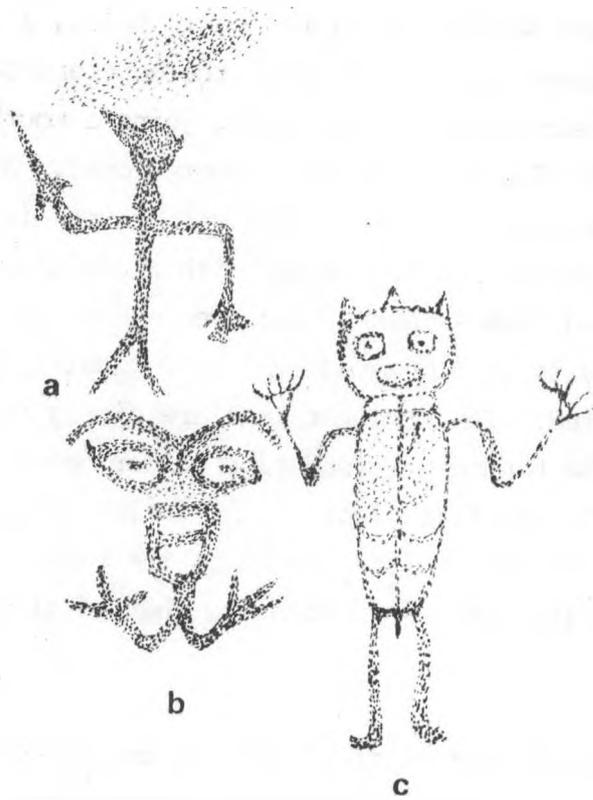


FIG. 4. Pictographs at site DiRp 5.
c is approximately 1 meter tall

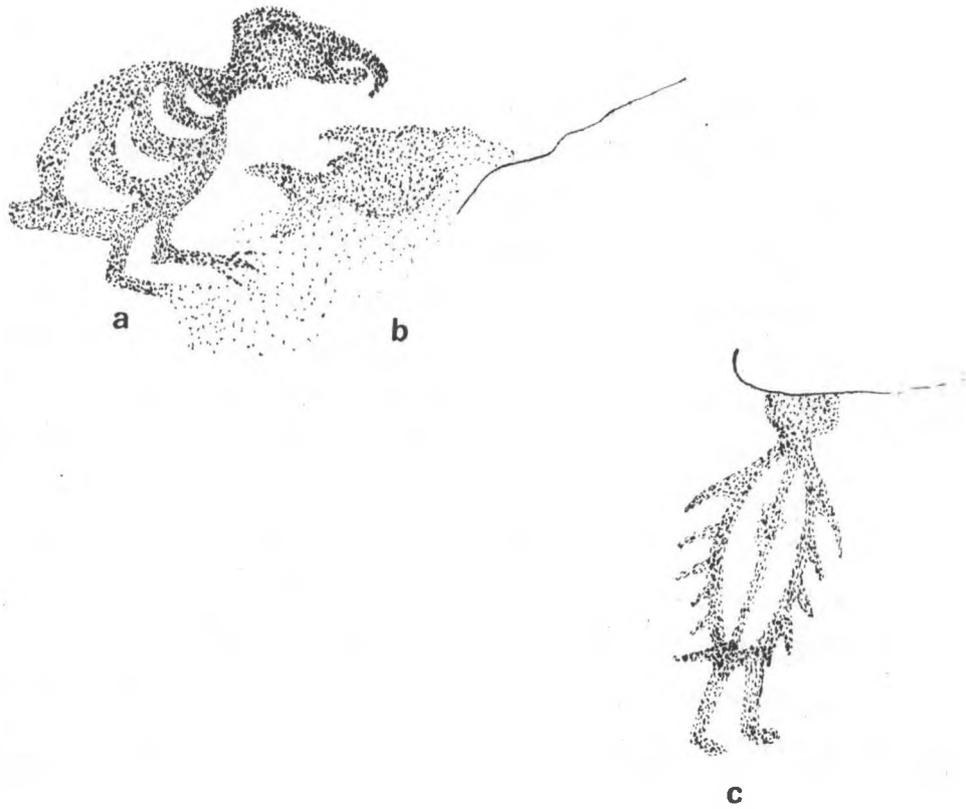


FIG. 5. Pictographs at site DiRp 6,
panel A. a, approximately
50 centimeters in length

The second panel, on an adjoining rock face consists of six individual figures; three are anthropomorphic, two zoomorphic, and one geometric (Fig. 6). The head of the first anthropomorph on the left, consists of two joined circles about central dots, representing eyes, which are topped with heavy eyebrows. The mouth is a large oval very similar to that of the second figure at DiRp 5. The body in this case is a large square with a heavy spinal column and three horizontal ribs. The short arms are upraised and appear to terminate in five digits, of which two on each hand are depicted very faintly. The legs are attached horizontally to the body and each ends in three toes. The next anthropomorphic figure is quite similar to the first although his eyes are very large and are unjoined, and his mouth and teeth are more clearly depicted. His feet appear to be more human and his arms hang downward. Horizontal ribs cross his square body. The head of this figure is done in a dark shade of red while its body and all of the other figures are an orange-red colour. Between these two figures is a clear and bright oval with a central dot. To the right of the second anthropomorph are two quite faded creatures one above the other. They are similar in appearance and the long snouts may be intended as bird's beaks, however, they are so faint that any designation would be sheer conjecture. The last anthropomorphic figure is standing, but is faded to the extent that only the outline can be discerned. He appears to have two large straight "horns" atop his head and an open, bird-like beak. His one clear arm terminates in a three-fingered hand, while his feet appear to be almost human.

The third panel, 3 meters to the east, includes a very clear human figure standing at the bow of a canoe and holding what may be a paddle at shoulder height (Fig. 7). The form of a second man at the stern of the craft is also apparent. The almost casual stance of the first figure is very skillfully rendered. To the left of these two is an amorphous stain, the upper part of which

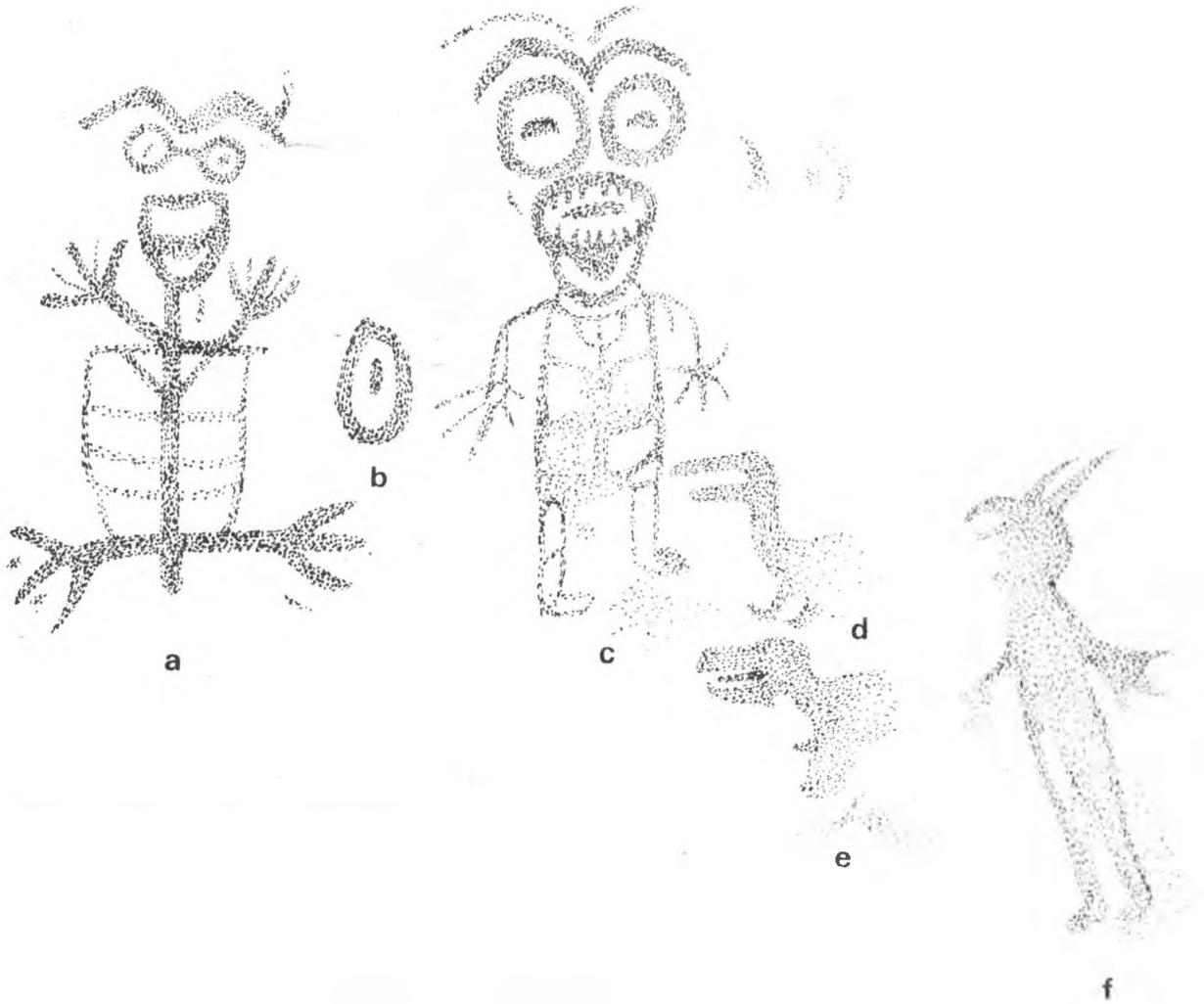


FIG. 6. Pictographs at site DiRp 6,
panel B. f, 45 centimeters tall

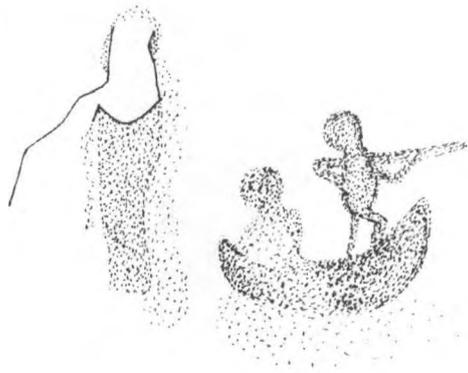


FIG. 7. Pictographs at site DiRp 6,
panel C. Canoe length, 35 centimeters

has weathered away. The canoe and figures are red; the stain is more orange-red in colour.

The last panel (not illustrated) has been practically obliterated by a dark water stain. No form can be discerned at all. It seems as though it was originally painted on a strip of rock several shades lighter than that surrounding it.

Site DiRp 1

This site is located on the western shore of Pitt Lake, just north of both DiRp 5 and 6 and a little south of Bridal Veil Falls. The first and second panels are below an overhang, and the third is located on the recessed wall of a sheltering niche. All are easily reached from the water by sloping rock ledges. The most southerly panel is the most faded (Fig. 8). Two bird figures are apparently intended, each with a round head depicted in profile and a single circular eye and short, sharp beak. The triangular body of one is barely traceable. Instead of wings, both appear to have long thin arms, which in one figure appears to end in two and three digit hands. Similar arms and three digit hands can be seen on the second such figure. This discrepancy in the number of digits may very well be due to the severe fading which makes tracing the lines uncertain. The lower portions of both figures have disappeared entirely. Near one hand of each figure is an oval. Other curved lines are present but no recognisable design could be traced. The right side of this panel has disappeared beneath black lichen which our brushes could not remove.

The second panel on a neighbouring rock face is perhaps the clearest and most pleasing to view (Fig. 9). Neatly placed on a smooth lightly coloured rock surface are two more "bird-men" in active poses. Both have the same round heads and eyes and short beaks. The uplifted foot of one figure is somewhat flattened, much like the webbed foot of a water bird. In fact, their whole appearance is duck-like. Their bodies are triangular, or, as only

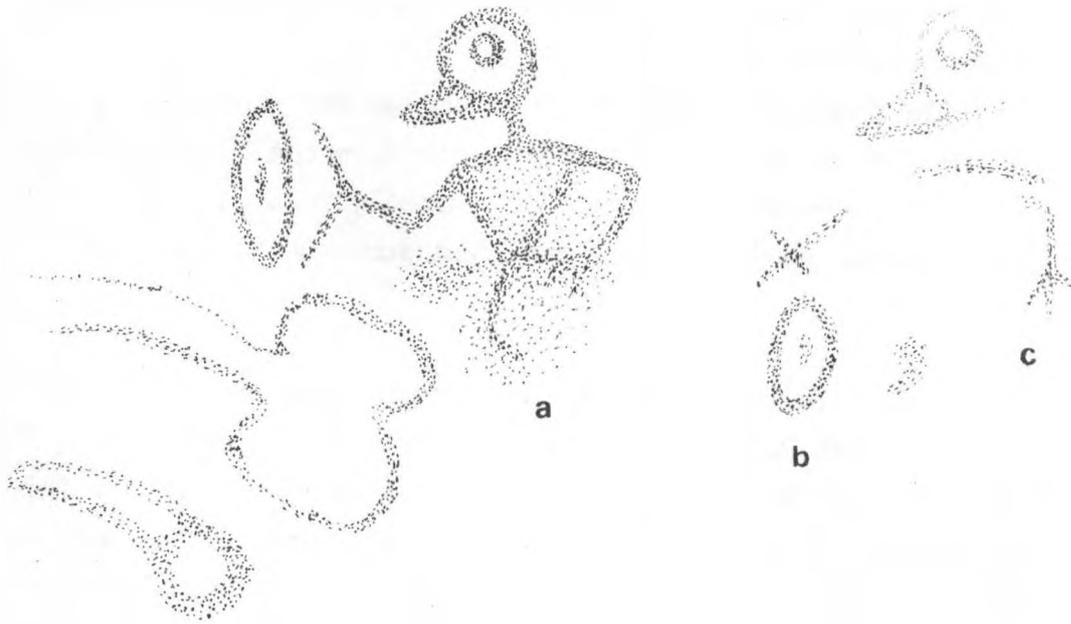


FIG. 8. Pictographs at site DiRp 1,
panel A. Panel is approximately
2.5 meters in length

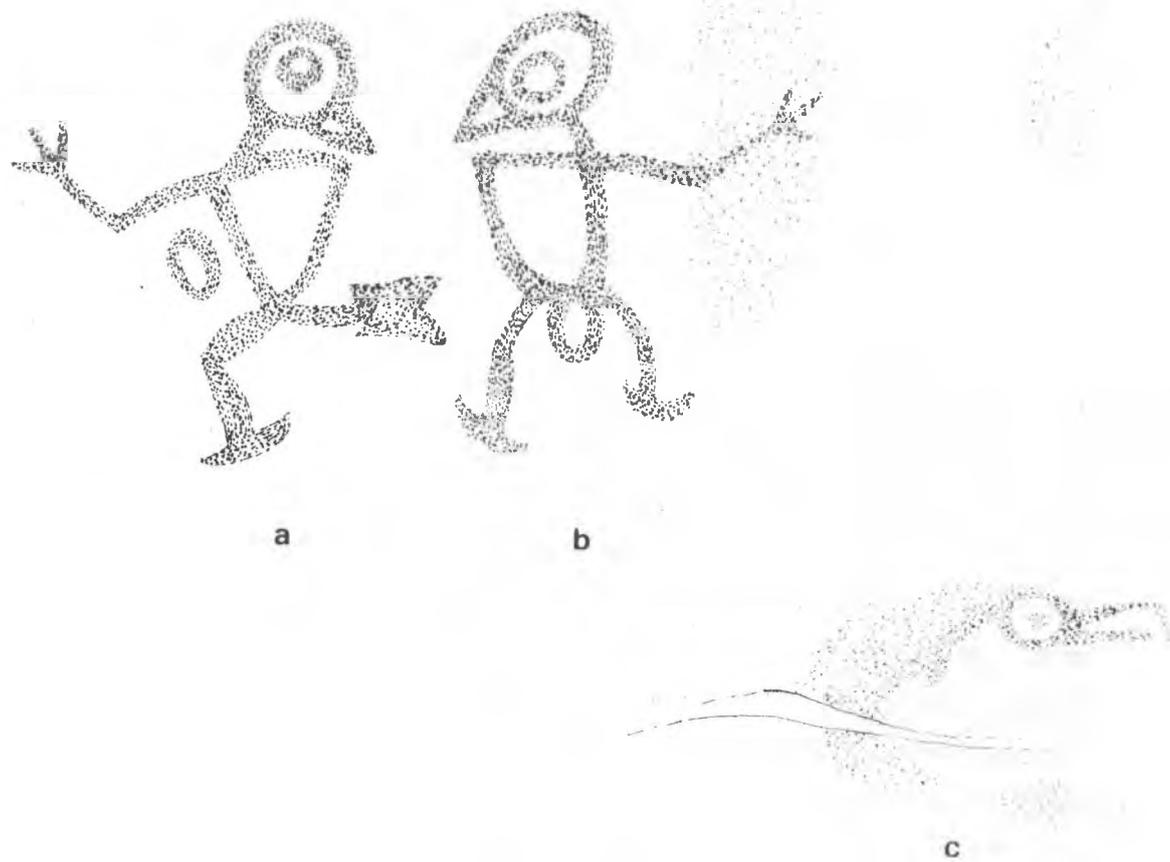


FIG. 9. Pictographs at site DiRp 1,
panel B. b approximately
1 meter tall

one three-fingered hand is shown for each, possibly "stick-like" with the other arm bent at the elbow and touching their waists. Both are associated with ovals (no central dots), one of which rests between the first figure's elbow and knee, and the other between the legs of the second figure. They are painted with an orange shaded pigment. The edge of a protecting rock ledge above these figures is heavily coated with dark red paint while a nearby ledge contains vertical strips of the same colour. Below and to the right of the bird figures is a third creature with a round head, dotted eye and long sharp beak which curves downwards. The body of this figure is red, but faded and little form can be determined.

A small dry niche in the granite outcrop several meters to the right of the previous group provides some shelter for part of the third panel at this site (Fig. 10). The clearest of these seems to represent a crescentic canoe containing two vertical figures. Above this is a heavy curved line with a thick stem. There are a few indeterminate smudges near the canoe and on the more open rock surface outside of the protection of the niche and badly damaged by water stains and rock weathering is what appears to have been a human figure. The "stick" body and two arms, each with a five fingered hand are the only discernable lines. Beyond, and still more exposed a second such figure is indicated by a dull red stain and a single traceable arm with three digits. Figures a and b appear to be a faded red colour, while c is orange-red.

Site DiRp 11

This site is located approximately 31 meters north of DiRp 1 and is well hidden from view. Traces of a "winged figure" with a nearby oval and central dot are all that can be determined although this may once have been a fairly large and well detailed site (Fig. 11d). It is damaged by both weathering and lichen growth.

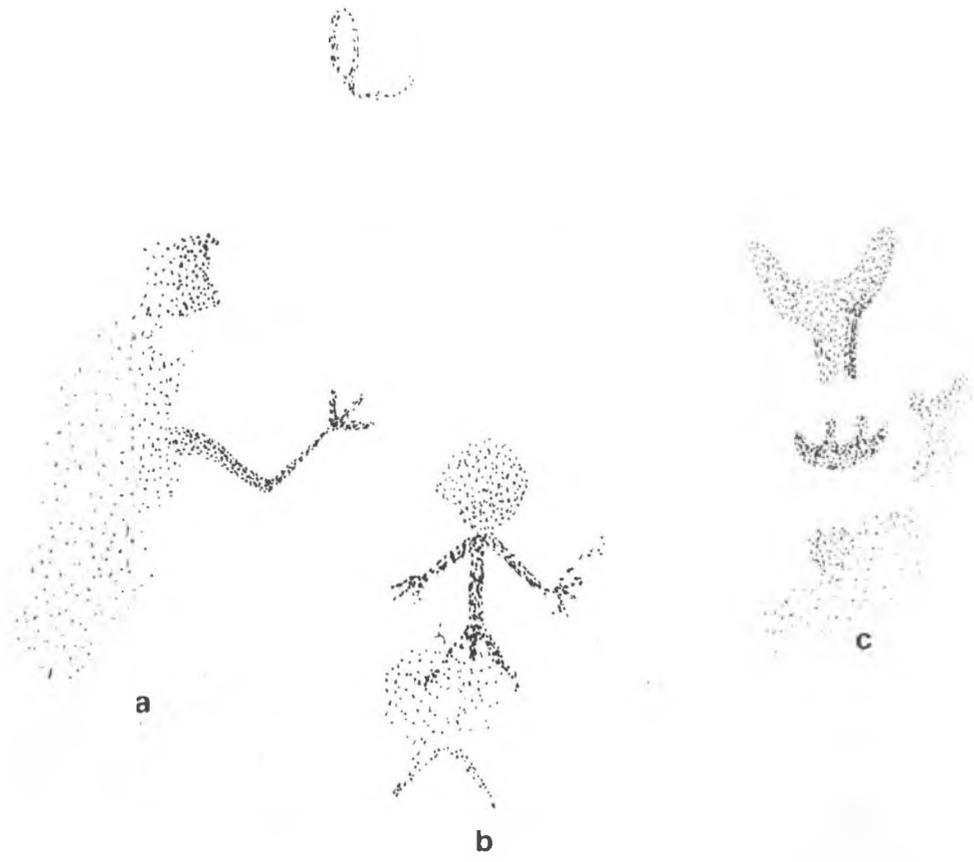
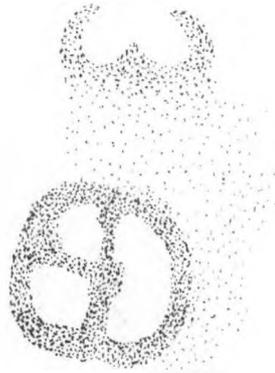


FIG. 10. Pictographs at site DiRp 1,
panel C. Panel is approximately
3 meters in length



a



b



c



d

FIG. 11. a, pictograph at site DiRp 10, (15 centimeters in width). b, pictograph at site DiRp 8, (45 centimeters long). c, pictograph at site DiRp 7, (30 centimeters in length). d, pictograph at site DiRp 11, (panel approximately 4 meters in length)

Site DiRp 10

This small site is located just to the south of DiRp 7. The design is basically that of an oval with traces of other lines on the rock face nearby. It is some 2.5 meters above high water and is in poor condition. (Fig. 11a).

Site DiRp 7

This site is situated on the western shore of the lake, north of Bridal Veil Falls, but south of Cedar Point. The rock surface is roughly textured, contains some lichen and is lighter in colour than the rest of the cliff face. The only design which could be found is a 30 centimeter long three-pronged red figure resembling an arm with three digits at one end (Fig. 11c). It is neither accessible nor readily observable. Because it is at least 6 meters above the high water level of May, the painting was likely made during either May or June when advantage could be taken of the extra height, although even then, a canoe and a long stick for applying the paint must have been a necessity. The paint is orange-red.

Site DiRp 8

This site, the most northerly to be found on the western shore of the lake, is just north of DiRp 7 and approximately one-sixth of a mile south of Cedar Point. The design (Fig. 11b) is approximately 4 meters above May high water and is located on a light section of rock which stands out clearly. The clearest figure is that of a three-spoked circle, centred on the light rock face. Above this is a partly spalled pattern remaining only as a broken and faded stain of orange-red pigment. As with DiRp 7, it is most likely that the painting was made in May or June when advantage could be taken of the higher water levels.

Site DiRp 9

This site, the only one to be found on the eastern shore of Pitt Lake, is located on a vertical rock face a few meters from the modern cabins at Deer Point. It is about 3 meters above high water and is easily accessible from the water via the rock ledges below it. The painting due to a relatively exposed position is fading, particularly in its lower portions. The design (Fig. 12a) is that of an anthropomorphic figure with a round head, circular eyes and mouth and prominent eyebrows which meet over the nose. Two pointed ears are quite noticeable. The body had faded considerably but the figure seems to be standing erect with arms outstretched at shoulder height. The hands each seem to have five fingers. The figure is most similar to the anthropomorph at site DiRp 5 (Fig. 4c). An orange pigment was used.

CONCLUSIONS

Similar design elements recur at the various sites along the shores of Pitt Lake. The most frequent motif is the prominent headed anthropomorphic figure which, when considering all nine sites, occurs a total of 17 times. These figures with their circular eyes, internal structural details and three to five digits would seem to link the Pitt Lake paintings with similar figures in paintings to be found in Coast Salish and Kwakiutl territories along the Northwest Coast. For example, a figure at Orford Bay, Bute Inlet (Fig. 12b) is almost a duplicate on that found at DiRp 4. Similarly, one at Antonio Point, on Maurelle Island (Fig. 12c) is reminiscent of both figure c at DiRp 5 and the upright anthropomorph at DiRp 9. (Fig. 12a). The crescent-shaped canoe at DiRp 1 (Panel C-c) is also very similar to many depictions of canoes to be found along the coast. It is the opinion of this writer that the style of the pictographs on Pitt Lake is more coastal than interior in its affiliations, and this is perhaps to be expected as Pitt Lake falls



a



b



c

FIG. 12. a, pictograph at site DiRp 9, (approximately 1 meter in length). b, pictograph at Orford Bay, Bute Inlet, (dimensions unknown). c, pictograph at Antonio Point, Maurelle Island, (approximately 40 centimeters wide).

within Coast rather than Interior Salish language area. The "bird-men" at DiRp 1, however would appear to reflect a local design. While birds of all kinds are a common Northwest Coast subject, these of Pitt Lake are quite unique. Possibly, they were inspired by the waterfowl population for which the lake is known.

The Katzie people in 1936 related to Diamond Jenness a local myth which mentions either one or all of sites DiRp 5, 6, 1 and 11. In this story, a supernatural being, sent to put the world in order, discovers a lazy people inhabiting the west side of Pitt Lake just opposite Goose Island. This being punishes the people by "making them sink beneath the water". As a warning to others, their customs were painted on the rocks for all to see (Jenness 1955:28-9). There is little to suggest the customs of lazy people at the sites in question, but the tale reveals that the Katzie people, or at least the shaman who was Jenness' informant, knew of the paintings. Similarly, in the side of the mountain above DiRp 9 is a large cave said to be the home of the thunderbird (Suttles 1955:18) which was the guardian spirit of a famous Katzie warrior. It is possible that the pictograph, while not actually depicting the bird in question, may none-the-less be connected with this myth. The guardian spirit quest, common to all Coast Salish peoples, may well have been the motive behind the paintings.

The colour of the paint used can be roughly classified as either red, orange, or orange-red, the latter falling between the other two. Two distinct pigments, red and orange appear together at sites DiRp 1, 5 and 6, which suggests that different portions of these sites may have been painted at different times.

Of all the sites recorded, DiRp 5, 6 and 1 were by far the clearest and perhaps most striking. They are also the easiest to reach and therefore are most likely to be threatened by vandalism. While none of the sites as yet show any damage other than natural weathering, the increased development of the lakeshore will mean

that more people are likely to come to know of the paintings' existence. With this in mind, a recommendation for protection of the three sites mentioned above has been sent to Victoria.

ACKNOWLEDGEMENTS

Nelson Oliver, an archaeology student at Simon Fraser University, and Desmond Lundy were invaluable in this survey. The pictographs were initially brought to our attention by Mr. Oliver, a resident of the area, who was concerned about possible damage to the paintings as the lakeshore becomes increasingly open to development.



SALVAGE ARCHAEOLOGY AT BLISS LANDING

Owen Beattie

INTRODUCTION

In July 1971 the Simon Fraser Archaeological Salvage Project received a report of the disturbance of a prehistoric site at Bliss Landing, British Columbia. This report was investigated by Jack Eisner on July 25 and 26, on behalf of the Salvage Project, who discovered that a pit for a guideline post to support a power pole had disturbed a prehistoric human burial at the site. It was also ascertained that construction of a marina and resort complex beginning in the spring of 1972 would destroy the remainder of the midden. A grant of funds from B.C. Hydro and Power Authority supplemented the Opportunities for Youth grant and permitted us to spend the latter half of August excavating this site.

THE SITE

EaSe 2 is a small midden situated in Turner Bay, six miles north of Lund, on the west coast of the Malaspina Peninsula (Fig. 13). The bay faces directly out onto Georgia Strait and, except in the northeast quarter, the prevailing winds blow, often forcefully, from the west. It is within this sheltered northeast quarter that the midden is located. To the north and south of the bay the shoreline abruptly rises into rocky bluffs that characterise the coast all along this area. A wharf and resort cabin are situated in the southeast corner of the bay, while in the northern part, bordering the midden deposit, are three old buildings.

The climate of this region is typically West Coast Marine, with noticeable maximum winter precipitation, mild winters, and cool summers. Average annual temperature is

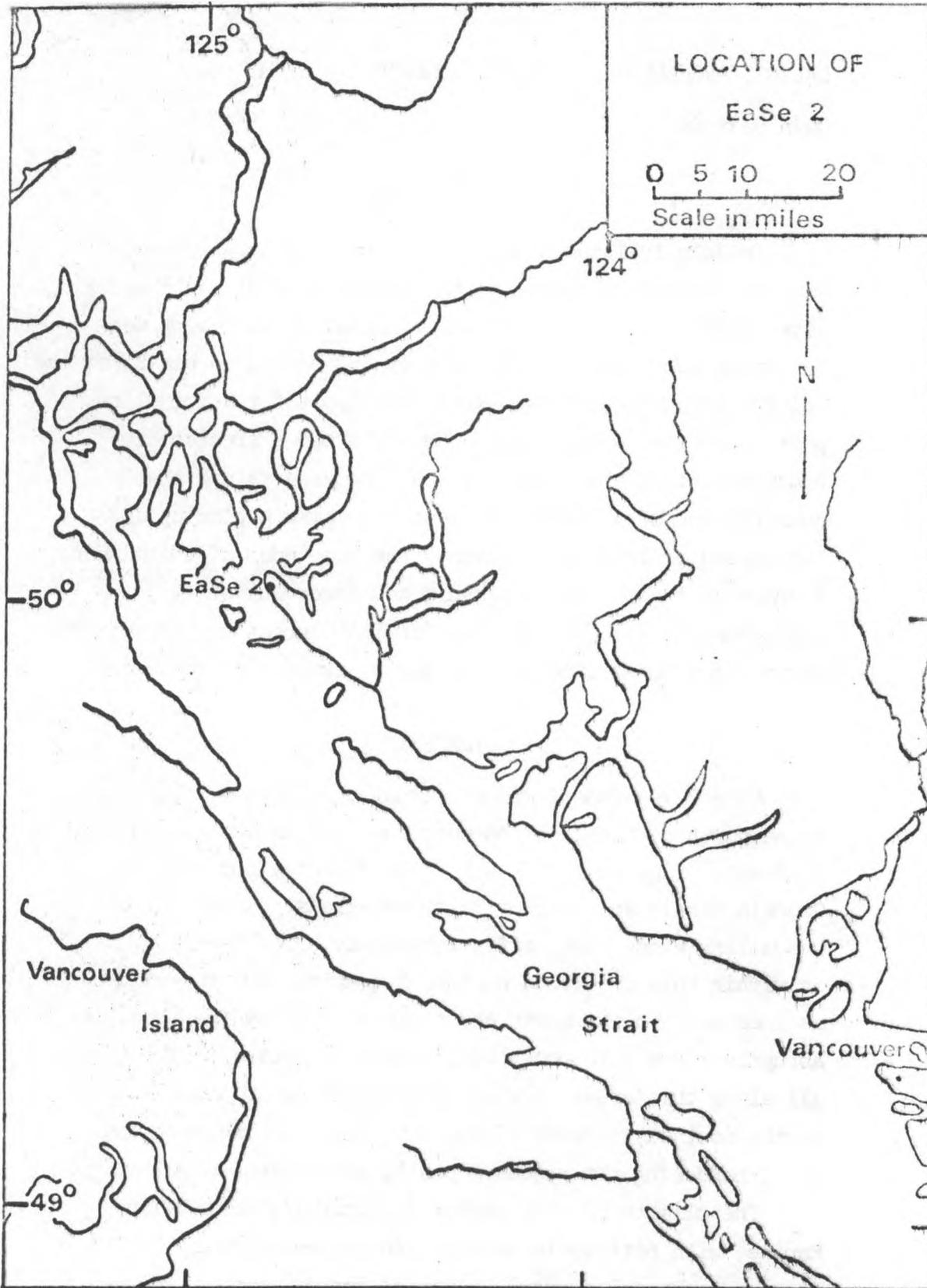


FIG. 13. Map showing location of EaSe 2 at Bliss Landing

around 51° F with 37 inches of precipitation (figures are for Powell River and are from Climate of British Columbia, Report for 1963, Department of Agriculture, Victoria, 1964). The region is also situated in the Coast Forest Biotic area described by McTaggart Cowan and Guiguet (1965).

The cultural deposit at Bliss Landing is roughly semi-circular in outline, measuring 50 meters at its widest along the beach front, by 50 meters from beach front to back. The only beach in the bay directly fronts the midden. It is a beach primarily of large pebbles and rocks littered with oyster shells (leftovers of the old oyster industry that once functioned here earlier this century). An abandoned orchard extends across the back of the site. Behind this is an unused road running approximately north-south, and behind the road the ground slopes down into a sandy-swampy area through which runs a small stream paralleling the road. This stream flows into the bay at a spot mid-way between and the resort cabin. Heavy coniferous forest begins at the back of the midden and continues inland.

Gardening activities in a large area just back from the beach, the power pole construction, and bulldozing of certain areas all have contributed recently to the disturbance of the midden. A 2 meter wide, .50 meter deep, and 12 meter long swath along the south of the midden had been bulldozed onto the beach sometime during 1970. The tides had since washed away this estimated 12 cubic meters of midden soil. Beach collecting in this area, or any other portion of the beach, yielded no prehistoric cultural material.

The Malaspina Peninsula has been known ethnographically to be part of the territory of the Slaiman Indians, a subdivision of the Coast Salish Comoxan dialect (Barnett 1955; Swanton 1968). H. Barnett (1955:50) notes that "There was a

stockaded village on a small bay to the north of Lund...". It is a possibility that this refers to the Bliss Landing site, though, for lack of any further data, it is difficult to pinpoint exactly which of the smaller bays and coves between Lund and EaSe 2 he means.

EXCAVATIONS

During our two weeks at Bliss Landing six test pits were excavated in the midden: Test Pit 1 at the rear of the deposit, within the orchard; Test Pits 2 and 3 in the central area; Test Pits 4 and 5 in the southern periphery; and Test Pit 6 near the front (Fig. 14). All except Test Pit 6 were 2 by 2 meters square, and excavated in ten centimeter levels with one exception: from 60 centimeters below surface in Test Pit 4 the levels were expanded to 20 centimeters. Test Pit 6 was a small pit 2 meters by a half meter with 20 centimeter levels.

After completing level two in Test Pit 5 we decided to abandon it and use our limited manpower in the other pits. The strata of this pit had been obliterated by the before-mentioned bulldozing. The high gravel content of the soil may have originated from the construction of the old unused road.

Test Pits 1, 2, 3, and 4 were excavated down to the bedrock. Test Pit 6 was levelled off at 140 centimeters below surface, partly as a safety precaution against wall collapse, and partly because of its restrictive size.

ARTIFACTS

A total of 100 classifiable artifacts were found during our work (Table 1). When compared stratigraphically to one another, the distribution of these artifacts show that at least two components, called here early and recent, are represented in the material.

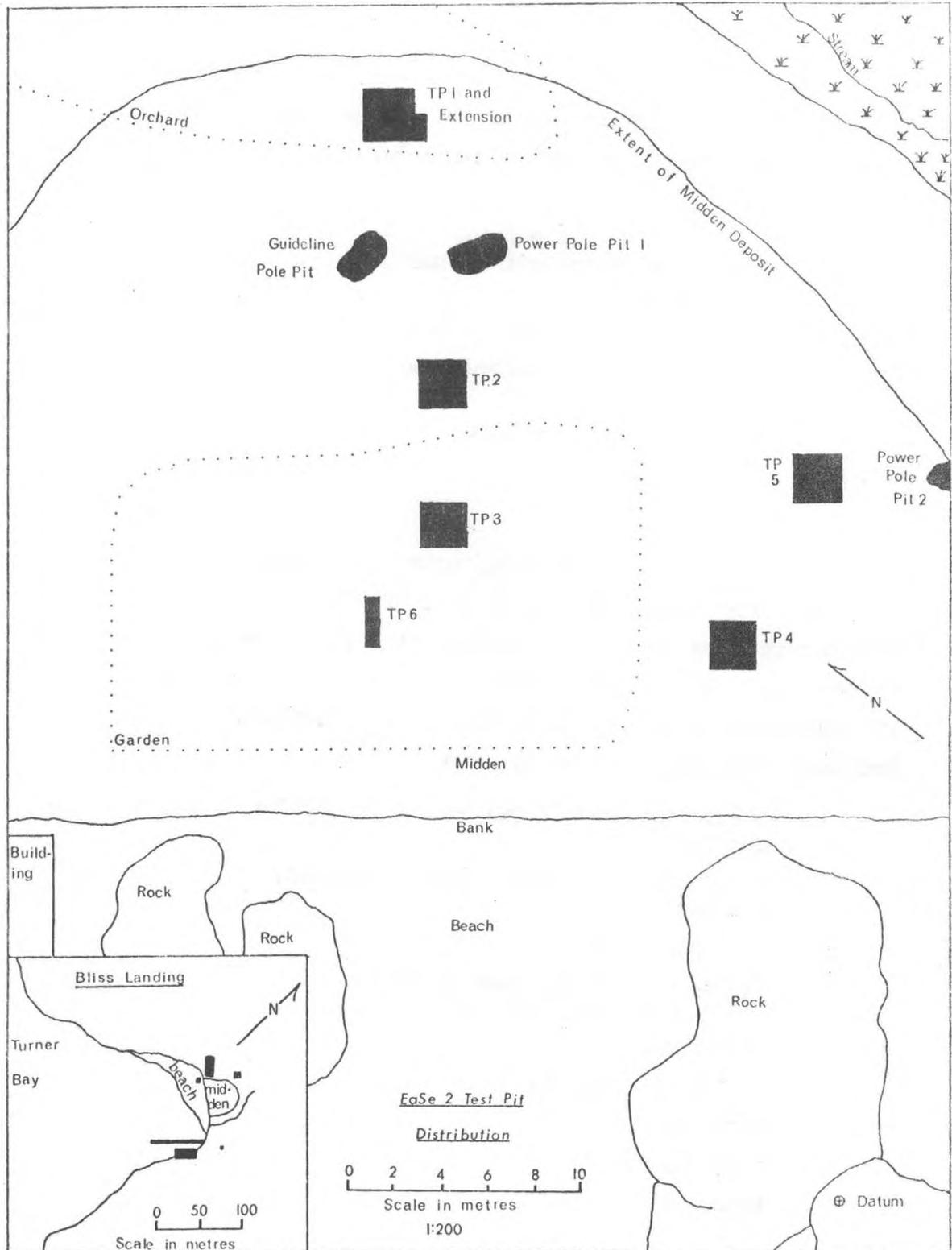


FIG. 14. Location of test pits at Bliss Landing site, EaSe 2

Artifacts of the recent component were found in Test Pit 3 from 0 to 60 centimeters below surface, and in Test Pit 4 in the 0 to 10 centimeters below surface level. They are:

- ground slate points
(thin unstemmed; thicker stemmed)
- scrapers on thin flakes
- unilaterally barbed bone points
- bone fish hook barbs
- bone awls
- bone points

Some of these artifacts are illustrated in figure 15.

The early component appears in Test Pit 3 from 60 centimeters below surface to bedrock at 160 centimeters; in Test Pit 4 from 10 centimeters below surface to bedrock at 100 centimeters; and in all levels of Test Pits 1 and 2. Artifacts typifying this early component are:

- chipped projectile points (basalt, clear quartz)
- microblades of clear quartz, obsidian, and basalt
- microblade cores
- flakes of various stone materials (including obsidian)
- hammerstones
- cobble chopping tools
- bone points
- bone chisels
- bone awls

Some of these artifacts are shown in figure 16.

Almost 50 percent of the artifacts from the early component are of clear quartz, two thirds of these are from Test Pit 1 at

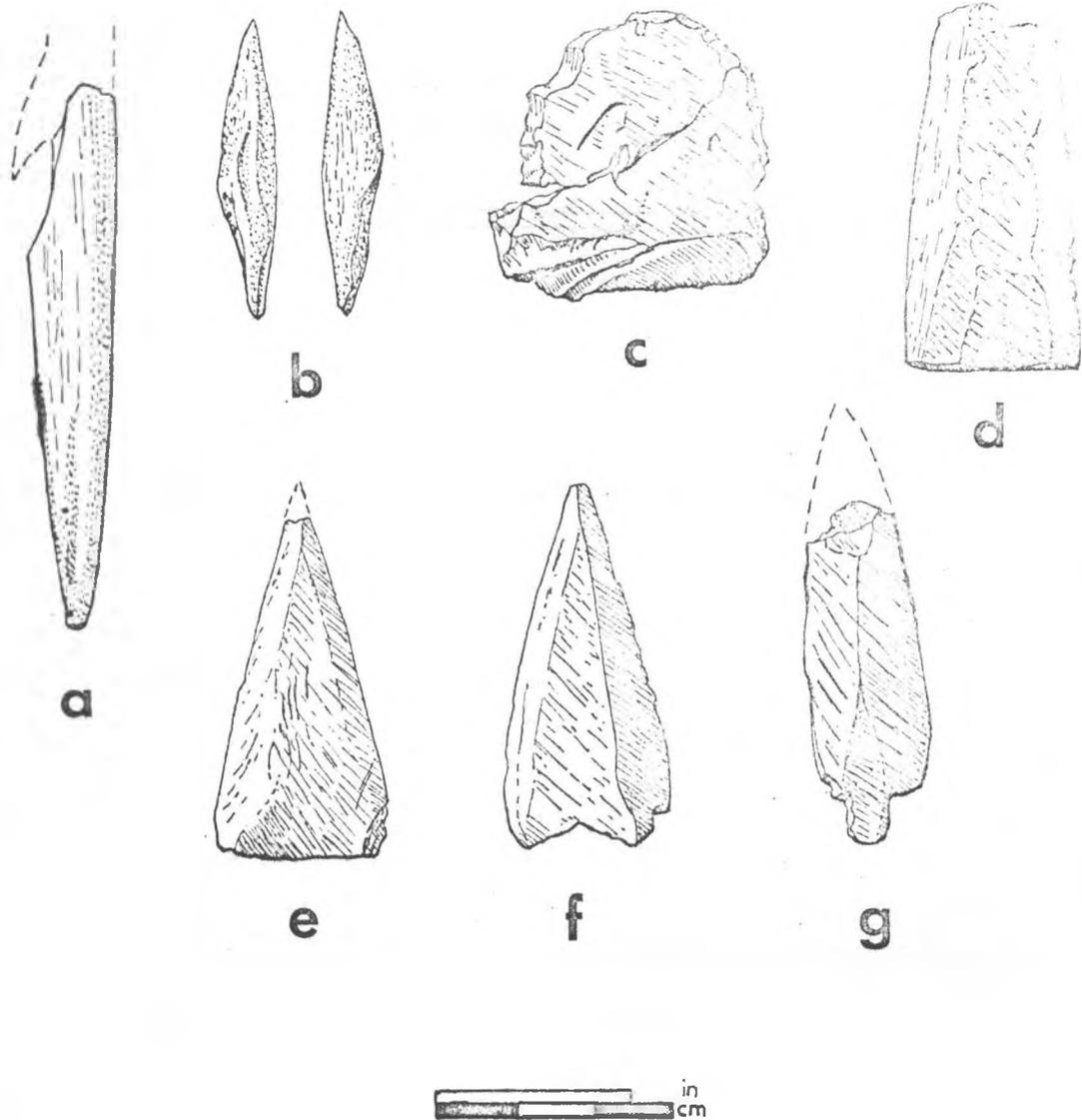


FIG. 15. Artifacts from the recent component at Bliss Landing, EaSe 2.
a, unilaterally barbed bone point.
b, fish hook barb. c, basalt scraper.
d - g, ground slate points

Table 1. Artifacts from early and recent components at EaSe 2

Artifact Type	Component	
	Early	Recent
<u>Worked Bone</u>		
Unilaterally barbed bone points	-	2
Fish hook barbs	-	2
Points	6	7
Awls	3	3
Chisels	1	-
Bear canine pendant	1	-
<u>Worked Stone</u>		
Ground slate points	-	4
Flaked scrapers	-	1
Flaked projectile points	5	-
Microblades: basalt	1	-
obsidian	1	-
quartz	4	-
Microblade cores: quartz	3	-
Flakes: obsidian	2	-
quartz	16	-
other	36	-
Hammerstones	1	-
Cobble chopping tools	1	-
	—	—
TOTALS	81	19

the back of the midden. No quartz was found in the recent component levels. The early component levels of Test Pit 4 were also lacking in quartz (as well as microblades), perhaps hinting at the possibility of another component; but again, lack of a larger material sample necessarily inhibits further breakdowns on the absence of a single, though apparently important, element.

The Bliss Landing material, though small in quantity and in artifact type representation, does contain certain elements reminiscent of two more southerly Georgia Strait cultural phases: the Mayne Phase (type site DfRu 8, on Mayne Island) and the San Juan Phase, also represented at DfRu 8 as well as at various other sites in the Straits (Carlson 1960; 1970).

Carlson (1970:117) suggests that the Mayne Phase "...is part of a widespread coastal culture which extended from the Pacific Coast of Alaska to southern British Columbia between 3,000 and 1,000 B.C.". A comparison of the Mayne Phase cultural traits with those of the early component of EaSe 2 reveals basic similarities, and it is possible that this extensive culture was present at Bliss Landing. All of the 81 EaSe 2 early component artifacts (see Table 1) fit within the framework of Mayne Phase cultural traits listed by Carlson (1970:115). The small number of artifacts recovered, however, fails to demonstrate how close this relationship may be or even if the comparison is totally valid.

Of the 19 EaSe 2 recent component artifacts, certain artifact types (such as the thin triangular ground slate points, the rarity of chipped stone artifacts, the fish hook barbs, and the unilaterally barbed bone points) also are characteristic of the San Juan Phase (dating from A.D. 1200 up to European contact). If the San Juan Phase is represented at EaSe 2 it would appear that, using the very limited material recovered, there was a long period of time, perhaps 2200 years, in which Bliss Landing

was uninhabited or only infrequently used. More extensive excavation would possibly have clarified the apparent absence of cultural remains in the years between the early (Mayne Phase ?) component and the recent (San Juan Phase ?) component.

FAUNAL REMAINS

In Test Pits 3 and 4 the components were separated by a pronounced layer of shell. This layer also marked a noticeable transition in the fauna. Primarily, fish remains were very much more abundant in the recent component levels, accounting for almost all bones present. Sea mammal bones, though in small numbers usually in the form of phalanges, seemed to be distributed throughout both components, with an increase in occurrence in the early component. Half the sea mammal bones (14) were from Test Pit 1. Of the four delphinid vertebrae found, all were from Test Pit 1. Bird bones were present in very small numbers, and found in both components. Every level contained a number of ungulate bones.

Here we run into the same problem as with the artifacts: small samples. Only the most obvious fauna and faunal changes show up in the material. Any subtle change in the economy or population of the cultures, as well as the presence or absence of certain species, cannot be accurately derived from such a very small sample.

BURIALS

Three burials, and indications of a fourth, were found in our excavations at the rear of the site on the edge of, and within, the orchard. Two of these, burials number 2 and 3, were completely excavated. Only the skull and one incomplete hand were removed from burial number 4 as we were pressed for time and could not do justice to a complete excavation.

Burial 1: Burial 1 refers to the burial disturbed by the power pole excavation. This was the first burial discovered at the site and was investigated by Jack Eisner. His report (Eisner 1971) notes that the skeleton was in an anatomically disjointed position, and that several bones were missing probably as a result of the digging of the guideline pit. Only one leg was present and it was in a flexed position. The burial was that of a young adult, and no artifacts were found in association with the skeleton.

Burial 2: First indication of this burial appeared at the 70 centimeter level of Test Pit 1. The soil of this pit was sterile from this level down to bedrock (90 centimeters below surface). After determining the extent and position of the skeleton it was found that the greater portion of the cranium was embedded in the south-central corner of the east wall. A small half meter by 1 meter extension was then added to this corner to enable a complete excavation to be carried out. At the 50 centimeter level of the extension another burial, number 3, was discovered. This burial will be described later.

The skeleton of burial 2 was lying on its right side and faced southwest towards the beach with its legs tightly flexed against the ribs. The skull was broken in a number of places, but its shape could be clearly determined. It was moderately elongated and possessed an obvious bulging in the occipital region. At the time of excavation it was determined that intentional deformation was the prime cause, though a small rock wedged between an outcrop of bedrock and the bregma of the skull later proved to be responsible for the skull shape. Reconstruction of the skull in the lab showed that it was not deformed.

The vertebral column was in very poor condition though it was evident that the cervicals were not positioned in line with the foramen magnum. They curved forward, with the atlas vertebra positioned between the left and right ascending rami of the

mandible, which was in its proper anatomical position. Evidence for disturbance also appears in the positioning of the foot bones, which were strewn haphazardly along the length of the tibias, and the complete absence of hands. Two bone awls were found directly associated with this burial (see Fig. 161). They were positioned one directly atop the other and were by the right humerus, positioned parallel to the spinal column, in the region of the sternum. Both of the awls had had their tips broken off. These were found positioned along side the main awl shafts, giving the appearance that the awls had been intentionally broken and then placed by the body.

As the pelvic girdle had completely disintegrated and did not survive excavation preliminary ageing and sexing was done exclusively from the skull. Burial number 2 appears to be a male in the 60 years old plus range. All the bones were in poor condition and virtually all were fractured at least once. The skeleton was lying directly on the bedrock at approximately 85 centimeters below the surface.

Burial 3: This skeleton was positioned on its right side facing northeast, away from the beach. Only the bottom half of the torso was uncovered in the extension, the remainder of the bones lying in the south wall and the south half of the east wall. The extent of the burial was estimated and then excavated. The skeleton was somewhat less flexed than burial number 2. The top half of the skeleton had been twisted and was lying on its stomach on a large tabular slab of bed rock. The pelvic girdle was positioned so that the right innominate was exposed. This innominate was situated directly under a large rock and had been badly crushed, undoubtedly the result of the rock being thrown onto the body at the time of burial. The left innominate and the pubic symphysis of the right innominate, however, were well preserved. These show that this

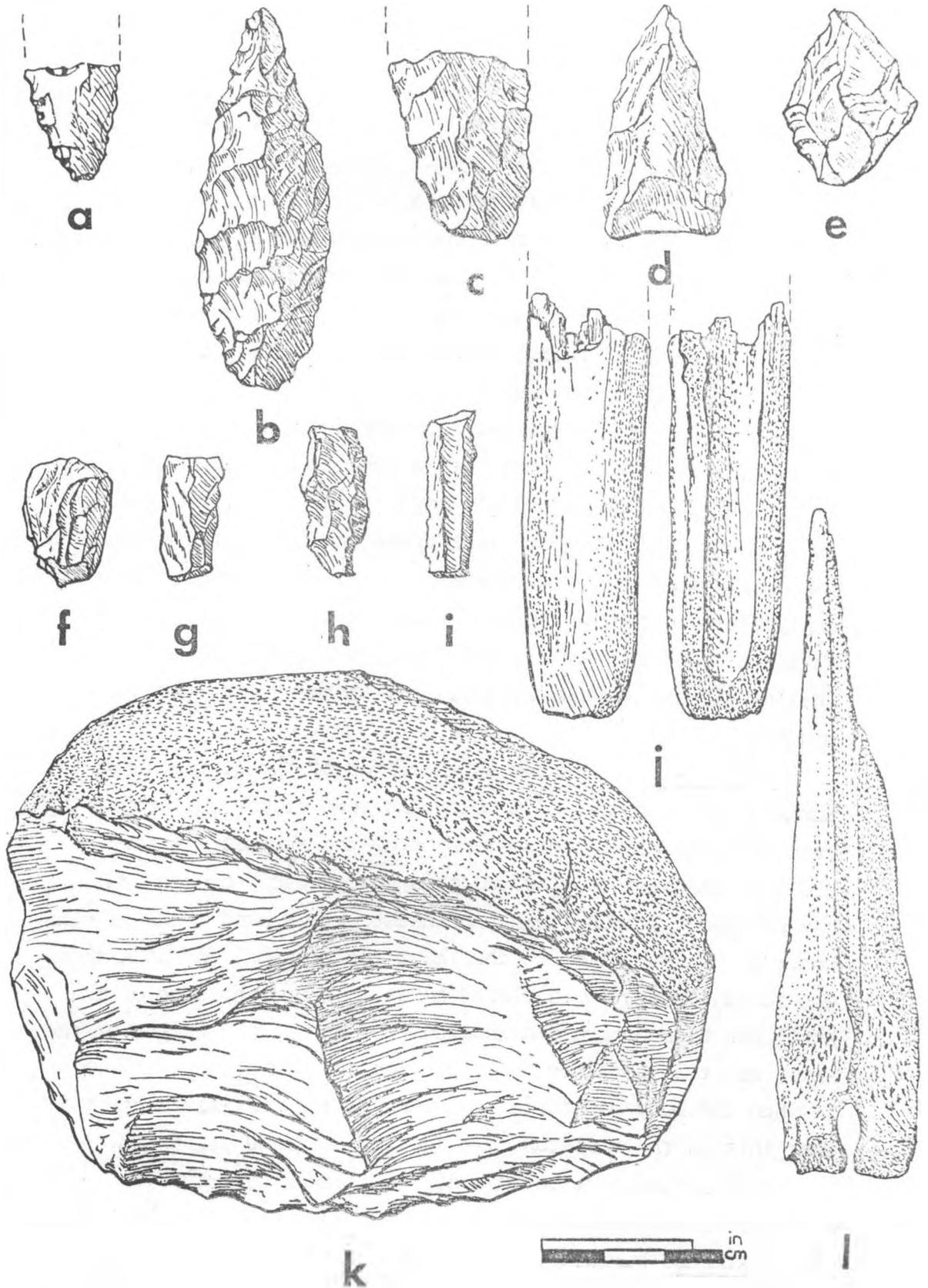


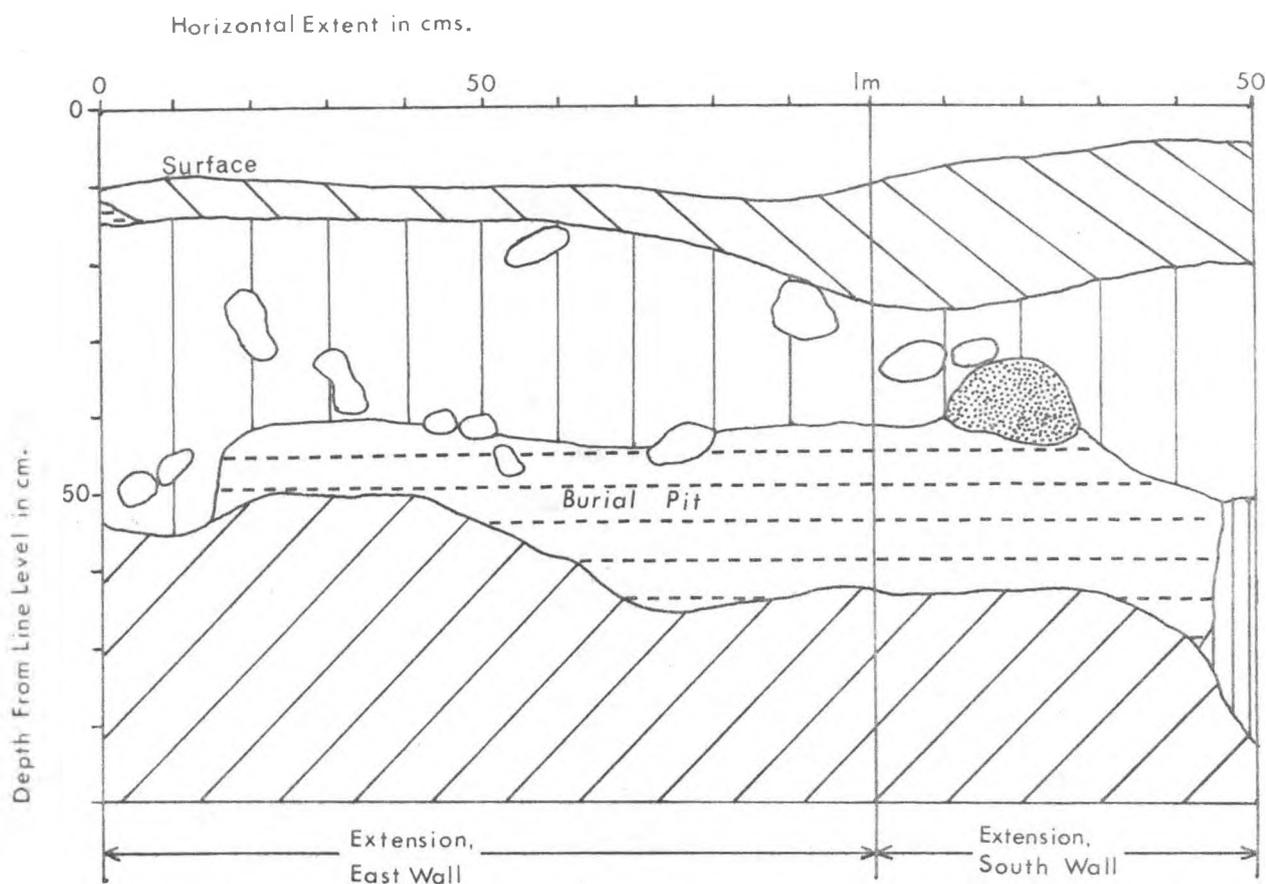
FIG. 16. Artifacts from the early component at Bliss Landing. a - d, basalt projectile points. e, clear quartz projectile point. f, clear quartz microblade core. g, clear quartz microblade. h, obsidian microblade. i, basalt microblade. j, bone chisel (flesher) k, cobble chopping tool. l, awl of an ungulate metapodial

individual was a male, 39 to 44 years of age (T. W. McKern, personal communication, September 1971). No evidence of a cranium was found for this burial, though the complete mandible and perfectly preserved atlas and axis vertebrae were found. Many of the hand bones were missing.

The profile of the extension was very informative as it revealed the presence of an intentionally dug pit into which burial number 3 had been placed (Fig. 17). The soil in the pit was easy to distinguish. It consisted of the typical, high fragmented shell content dark brown midden soil while the soil surrounding the pit was a medium brown, fine soil with no shell. The burial pit began at 35 centimeters below surface and continued down to bedrock, which, in the extension, was at 55 centimeters below surface. It is apparent that 35 centimeters below the present ground surface was the surface at the time of the burial, and that the body was placed in a shallow pit and covered by soil from another part of the midden.

Burial 4: Along the south corner of the east face of the burial 1 pit a number of metacarpals were discovered projecting from the wall at 45 centimeters below the surface. After clearing the dirt from around this spot a badly broken skull was exposed. It was facing northeast with a hand tucked around under the chin. Close to this hand the proximal end of a tibia was found, indicating a flexed burial. The right side of the skull had been compressed inwards, perhaps by the weight of the soil, or it is possible that this was the shape the skull was in when the body was buried. The skull and mandible suggest that this is the skeleton of a female, 25 to 30 years old.

Burial number 3, because of the obvious nature of the burial pit, is from the early component. (Note: Carlson 1970:115, lists extended burials as a characteristic of the Mayne Phase.) Burials number 2 and 3 are more difficult to place. The Sliaman



 Topsoil

 Bedrock

 Rocks

 Wood

 Medium Brown Soil

 Shell

Burial Pit for Burial 3

in Test Pit 1 Extension

FIG. 17. Profile of Test Pit 1 showing location of Burial 3, at EaSe 2

have been known ethnographically to commonly place their burials on close-by islands (Barnett 1955:217); also, the absence of burials in the San Juan Phase (Carlson 1970:114) suggests a similar practice, and it is supposed that the recent component at Bliss Landing may also be lacking in the presence of burials within the midden. If this is the case, all the burials at the site would be expected to be from the early component.

While the east wall of Test Pit 1 was being cleaned for photographing and profiling a human left patella was found in the slump. More extensive excavation in this area would most probably have exposed another burial.

In the 50 to 60 centimeter level of Test Pit 1, most of a set of human primary dentition was found. These consist of two incisors, two canines, and eight molars. Six incisors and two canines were missing, but because of their smaller size they may have fallen through the mesh of our screens. Nothing else found in this level is relatable to the isolated occurrence of the teeth.

CONCLUSIONS

In conclusion, it is evident that at least two components are present in the material recovered from EaSe 2. Whether or not there exists valid relationships between these two components and the Mayne and San Juan Phases cannot be firmly stated. Had the artifact sample been larger, a more conclusive interpretation would have been possible.

ACKNOWLEDGEMENTS

Doug Elmore and April Struthers helped in the drawing of maps, and in sorting through much of the level material. Brian Apland helped in cataloguing artifacts and identifiable bone.

Doris Lundy drew the artifacts for the report.

Bliss Landing is owned by Mr. Roy Edmunson, who was very helpful and co-operative toward our whole operation.

The following students participated in the excavation of this site: Lynda Beattie, Daniel Carlson, Doug Elmore, Chris and Ernie Oliver, Gordon and Margaret Pybus, Paul Roof, Jill Sanagan, April Struthers, Walter Tallio, Diana and Robert Vandermey, and Lee Willdey.



EXCAVATIONS AT KWATNA

Roy L. Carlson

INTRODUCTION

Kwatna Inlet, situated about midway between Bella Coola and Namu (see Fig. 1), was a centre of prehistoric settlement, and during the period of European contact contained villages of both Kwakiutl and Bella Coola speaking Indian groups (McIlwraith 1948). The Kwatnagimux, as these people can be referred to collectively, enjoyed an abundant habitat with deer and mountain goat plentiful in the coniferous forests, salmon in the Kwatna River, and halibut, cod, and various sea mammals available in the salt water channels. These facts are attested to by both archaeology and ethnography. Earlier archaeological survey by Philip Hobler (1970:77-94) discovered a considerable number of sites in the Kwatna locality. Several of these sites are on timber leases, and others were undergoing destruction through natural erosion of the shoreline. Excavations this season centered on two sites, FaSu 2 and FaSu 10 on timber leases, and on five sites, FaSu 1, FaSu 18, FaSu 19, FaSu 21, and FbSu 1, which were being washed away by stream and tide. The excavations yielded a total of 1919 artifacts, from three prehistoric cultural phases. These phases in chronological order are the Cathedral phase, the Anutcix phase, and the Kwatna phase. The latter two phases date to after A.D. 400 on the basis of radiocarbon estimates, and exhibit a technology very much like that of the historic inhabitants. The earlier Cathedral phase, which is undated by C-14, exhibits a quite different complex, but likely dates between 1000 and 4000 B.C.

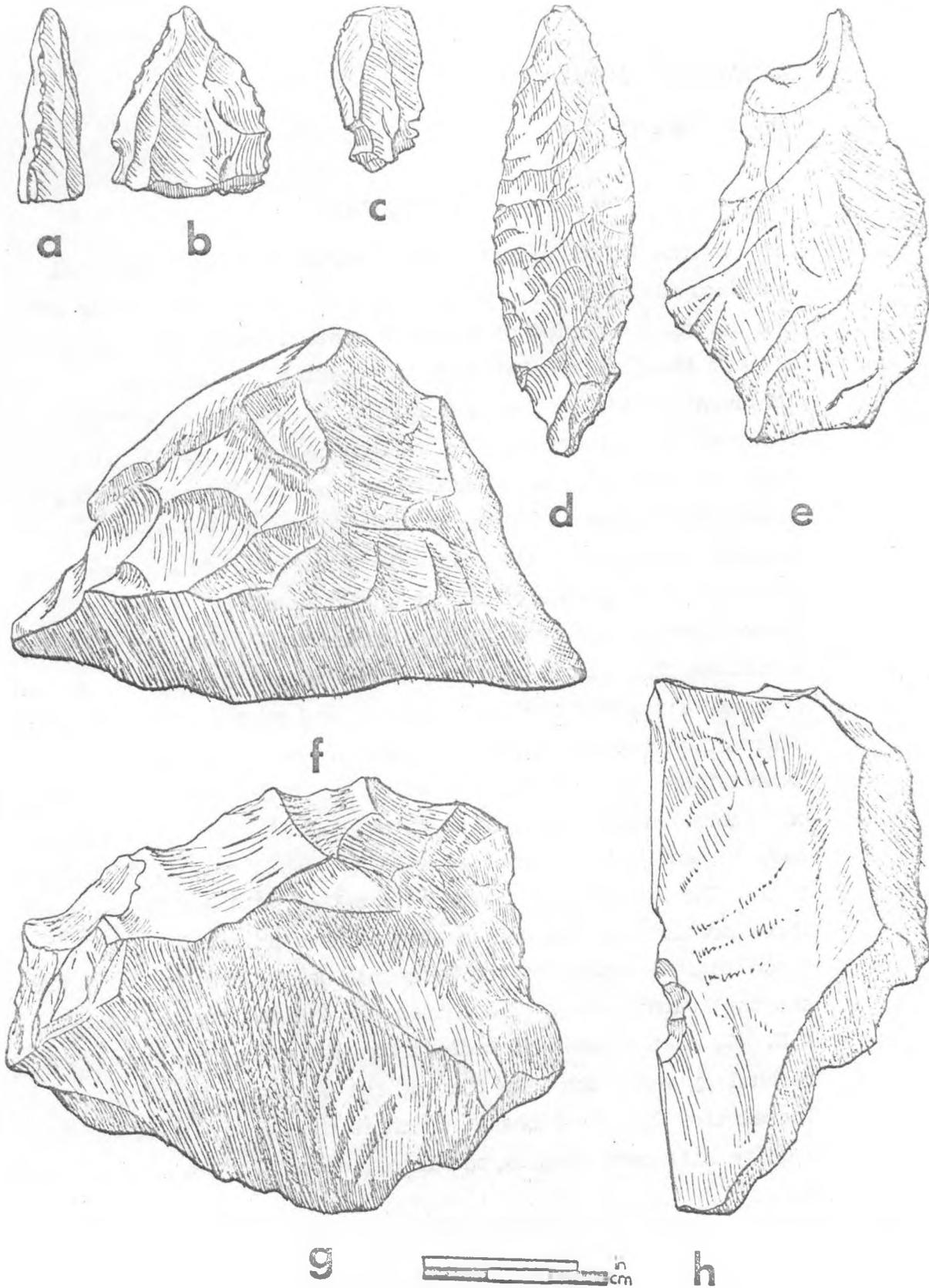


FIG. 18. Artifacts of the Cathedral Phase. a, b, biface fragment with possible burin scar. c, crude obsidian microblade. d, projectile point. e, perforator. f, core. g, denticulate. h, notch

CATHEDRAL PHASE SITES

The Cathedral phase, now known from four sites, is a new phase and contains the material remains of a previously unknown local culture. All four Cathedral phase sites, FbSu 1, FaSu 18, FaSu 19, and FaSu 21, are heavily eroded and we were able to obtain in situ material from none of the sites. A prehistoric midden does exist at the type site, FbSu 1, but contains materials younger than those from the beach. The large beach collections from the other sites are consistent with the artifacts from FbSu 1, and are almost entirely free of artifact types typical of later cultural phases. The geological picture suggests that the sites of this phase belong in a period of time when sea level was lower than it is today, at least in the Kwatna locality.

FbSu 1 is situated on a small bight at Cathedral Point at the juncture of Burke Channel and Kwatna Inlet. FaSu 19 and FaSu 21 are on Kwatna Inlet, and FaSu 18 is on Kwatna Bay. The site locations themselves are strongly indicative of a maritime coastal oriented culture with watercraft and utilisation of sea resources. The artifact complex is very different from that of later protohistoric phases which also occupied the shore line in this same locality. The chief difference lies in the basic tool manufacturing techniques. Tools of the Cathedral phase were made by chipping or flaking stone whereas during the Anutcix and Kwatna phases stone tools were made primarily by grinding, polishing and pecking. The flaking of stone is not only a basic tool manufacturing technique, it is also an horizon indicator separating relatively early cultures in which chipped stone is common from relatively late cultures in which chipped stone is rare. Typical tools from Cathedral phase sites are all made of flaked stone and consist of projectile points, large core scrapers, denticulates, retouched flakes, notches, and perforators.

One definite microblade fragment and several possible ones were also recovered. In addition to these artifacts, quantities of struck flakes and a number of very well made, prepared flake cores were found. Basalt, greenstone, some obsidian, and other similar stones were used as raw material for these tools. Artifact frequencies are shown in Table 2, and a sample of the artifact types is shown in figure 18. Final analysis of the collection may well indicate some sub-divisions of these types.

ANUTCIX AND KWATNA PHASE SITES

Excavations were carried out at three sites which yielded artifact complexes assignable to the late prehistoric Anutcix and Kwatna phases. All three sites are located on Kwatna Bay, and all three are mentioned in Bella Coola tradition. Hobler (1970) has correlated FaSu 2 with the village of Nutlitliquotlank, FaSu 1 with the village of Anutcix. FaSu 1 and FaSu 2 have Kwatna phase components, but we have so far found the slightly earlier Anutcix phase only at FaSu 2. Additional work at FaSu 10 may show its presence there also.

Axeti FaSu 1

This site is on an island at the mouth of the Kwatna River, and consists of both a waterlogged midden exposed only at low tide, and an above water midden. Hobler conducted large scale excavations at this site in 1969. The waterlogged midden is undergoing extensive erosion so we spent one week in additional work there. The artifacts recovered this season are listed in Table 2, and are typical of the Kwatna phase which belongs in the proto-historic period from about A.D. 1400 to 1800.

Table 2. Artifacts of the Cathedral phase

	FaSu 21	FbSu 1	FaSu 18	FaSu 19	Total
Flakes, plain butt	78	84	42	14	218
Flakes, prepared butt	10	14	9	2	35
Cores	14	9	5	5	33
Core fragments	35	47	47	16	145
Denticulates	7	6	4	3	20
"Core" scrapers	20	29	16	10	75
Retouched flakes	16	19	9	2	46
Bifacial projectile points	5	7	-	-	12
Crude bifaces	6	9	2	2	19
Microblades	1?	1	1?	-	3
Blades	-	2	2	-	4
Broken flakes	6	12	7	8	33
Perforators	2	1	1	1	5
Notches	4	10	2	3	19
Total	204	250	147	66	667

Table 3. Artifacts from the waterlogged
midden at Axeti

PECKED AND GROUND STONE TOOLS

Hammerstone grinders	44
Adze or chisel blades	8
Adze blade or maul fragments	21
Cylindrical mauls	3
Circular stones	1
Sandstone abraders	3
Pebble hammerstones	2
Ground slate objects	2

BONE TOOLS

Awls	4
Ground porcupine tooth	1
Worked deer scapula	1
Points	1
Unidentified object	1

OBJECTS OF CEDAR BARK

Cordage, 2-ply, z-twist	80
Cordage with knots	2
Braided cordage	9
Selvedge of plaited bag	1
Plaited mat or bag fragments	9
Woven "doughnut"	1

WOODEN OBJECTS

Cedar root eye splice	1
Cedar root knot	1

Table 3 - Continued

Cedar root basketry splints	4
Bound twigs	2
Whittled sticks	7
Barbed curved fish hooks	7
Splitting wedges	9
Stakes, pegs, worked sticks	7
Bipointed fish hook barb	1
Wooden object fragments	3
 <u>MISCELLANEOUS</u>	
Chipped stone fragments	3
Quartz flakes	3
Mussel shell knife	1
Ground mussel shell fragments	5
Lead bullet	1
 <hr/>	
Total	249

Nutlitliquotlank FaSu 2

This site is a large surface midden which stretches for about 180 meters along the north shore of Kwatna Bay at the mouth of the Kwatna River. The site was originally tested by Hobler in 1969, and was further excavated by a field crew under my direction in 1970. Excavation this season concentrated on the careful removal of the fill over a large house floor which had been discovered the preceding season. The 6 by 10 meter area of midden covering this floor was removed in 10 centimeter levels down to the floor fill which was at an average depth of 120 centimeters below the surface. The floor was then cleared and exposed. This entire process revealed two phases of intensive occupation in this part of the site: an early phase designated as the Anutcix phase to which the house floor and its associated artifacts belong, and a younger phase designated as the Kwatna phase to which artifacts from about 60 centimeters to the surface belong. Both phases are similar in culture content. The major artifact types are found in both phases with the notable exceptions of hammerstone grinders and circular stones which are found only in the Kwatna phase levels. As such these artifact classes form useful horizon markers for separating the late prehistoric period in this locality into these two sequent phases. Other differences in occurrence of minor types of artifacts will likely appear once the material is fully analysed. Those artifacts discovered this season are listed in Table 4, and a sample of types is shown in figure 19.

Two radiocarbon estimates on samples from the 1970 excavations indicate the approximate age of the Anutcix phase. The earliest date from a charcoal sample well below the level of the house floor gave a reading of A.D. 480 \pm 100

Table 4. Artifacts from FaSu 2

<u>ARTIFACTS OF PECKED AND GROUND STONE</u>	
Adze and chisel blades of shale	171
Cylindrical mauls	34
Fragments of mauls or chisels	181
Pebble hammerstones	15
Sandstone abraders and whetstones	66
*Hammerstone grinders	95
*Circular stones, unperforated	20
*Circular stones, perforated	11
Ground slate or shale points	4
Pointed club or object fragment	1
Anthropomorphic figurine	1
Graphite polishing stone	1
Nephrite adze blade	1
<u>ARTIFACTS OF CHIPPED STONE</u>	
Side notched basalt knife	1
Quartz flakes, some retouched	36
Obsidian flakes, some retouched	11
Basalt flakes	4
<u>ARTIFACTS MADE OF GROUND AND POLISHED BONE</u>	
Bone points	132
Scapula points	17
Bone awls	57
Valves for composite socketed harpoon heads	20
One piece tanged unilaterally barbed harpoon heads	10

Table 4 - Continued

Spindle whorls of whalebone	3
Shuttles(?) of whalebone	4
Ground porcupine tooth incisors	12
Bark beaters of whalebone	3
Carved bone blanket(?) pins	2
Bear tooth pendants	6
Claw pendant	1
Perforated vertebrae	1
Worked bone object fragments	34
<u>MISCELLANEOUS ARTIFACTS</u>	
Red ochre	10
Mica	3
Charred wooden chisel haft fragments	1
Modern intrusives	7
Mussel shell knife fragments	2
Total	
978	

* Types of artifacts found in Kwatna phase levels only

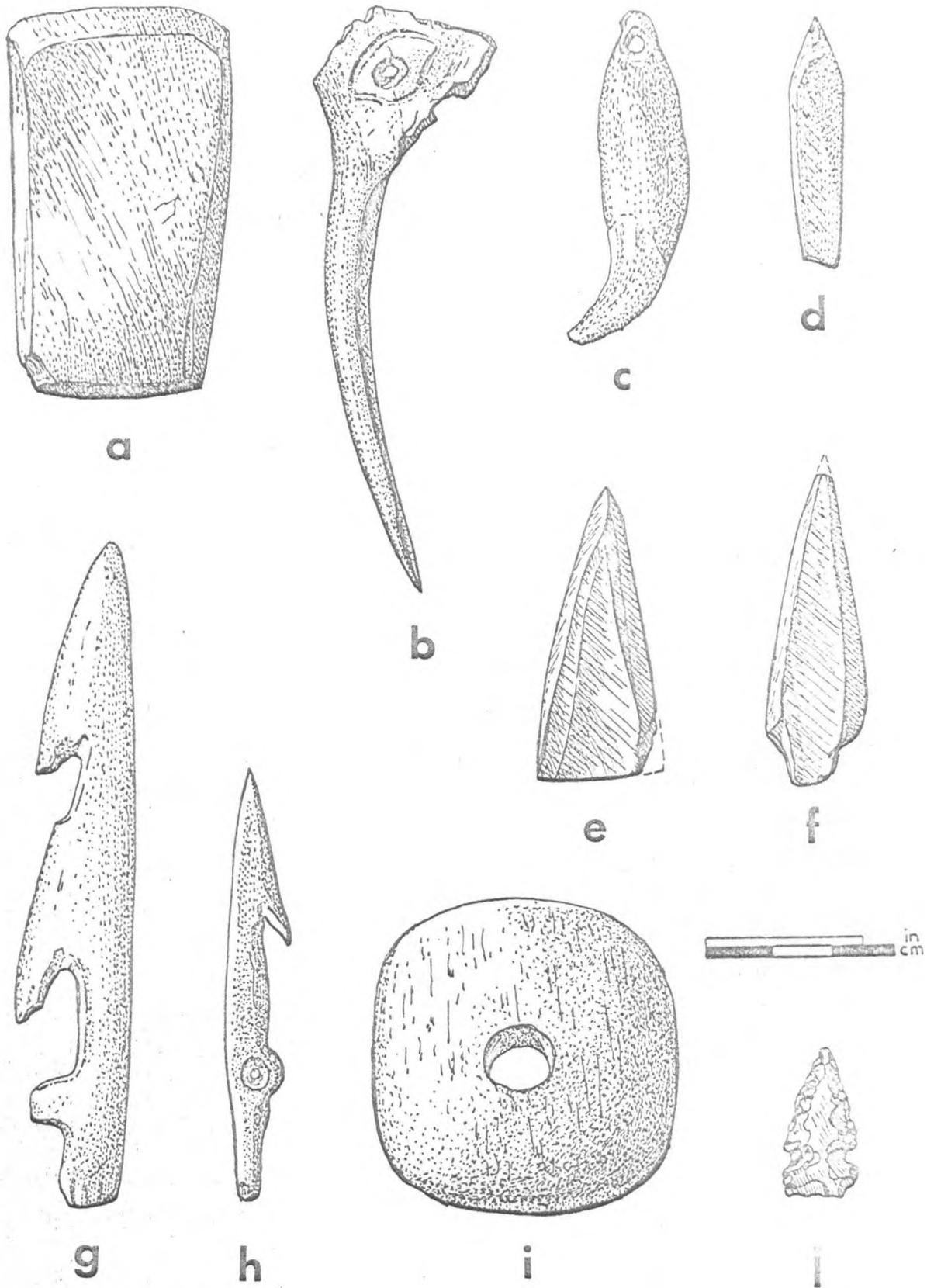


FIG. 19. Artifacts of the Anutcix and Kwatna phases. a, adze blade, polished shale. b, bone blanket pin. c, bear tooth pendant, d, small bone point. e, f, ground stone points. g, h, bone harpoon heads. i, whale bone spindle whorl. j, flaked stone arrow point.

(GAK 3210). The sample of artifacts from this deep level is small, but the types which do occur also are found at the house floor level. A charcoal sample from the house floor itself dated A.D. 1280 \pm 80 (GAK 3211). The Kwatna phase is obviously younger than this date, and possibly began about A.D. 1400.

Anutcix FaSu 10

This site is situated on the northeast side of the Kwatna River about one half mile from its mouth. A considerable amount of time was spent in clearing the heavy deciduous growth from the site, and in mapping. The site itself is quite certainly Anutcix; it fits McIlwraith's (1948:20) location for this village, and is the only Kwatna River site with a house depression in its centre. Bella Coola tradition holds that the "place was abandoned long ago" (McIlwraith 1948:20) before the time of McKenzie's visit to the Bella Coola in 1793.

The site extends about 50 meters back from the shoreline and is about 90 meters in length. The location is dominated by two huge conifers which are growing from the riverward edge of a rectangular depression in the centre of the site. This depression is 9 meters wide, 10 meters long, and 1.16 meters deep. A number of small depressions are visible around its sides and ends and presumably mark the locations of roof support posts. Three logs lie within the pit and roughly parallel its sides. These logs are not fallen trees as there are no stumps from which they could have come. The logs are too long to have been support posts, and if they were part of the house, must have been roof beams. Another possibility is that their position is fortuitous, and they date to the time of World War I when this area was logged. Some rusted logging tools were found on the surface of the site.

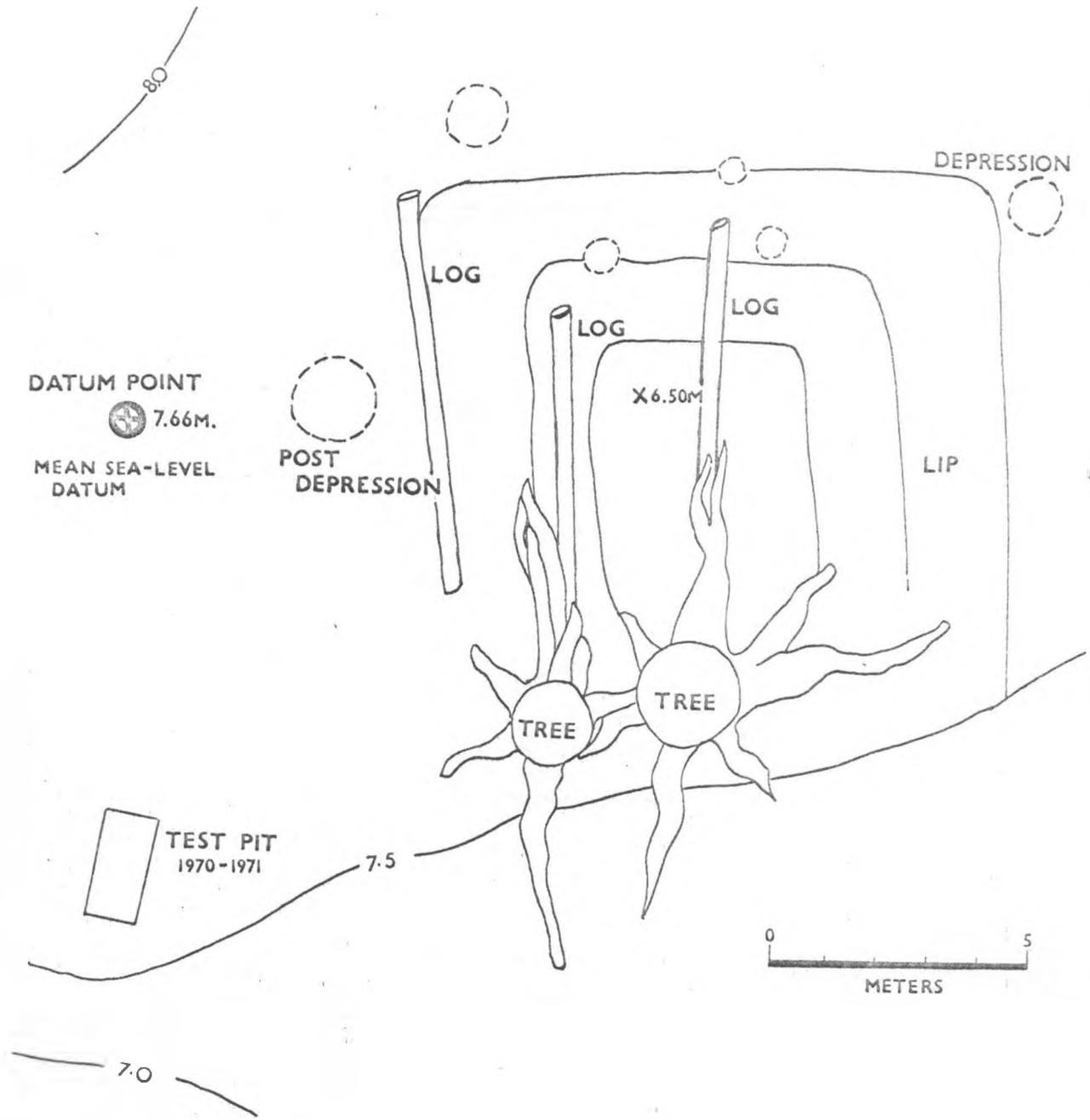


FIG. 20. Plan view of housepit at FaSu 10

Table 5. Artifacts from FaSu 10

GROUND STONE

Adze blade fragments	4
Cylindrical maul fragments	2
Whetstones	2

BONE ARTIFACTS

Harpoon valves	1
Awls	10
Bear tooth pendant	1
Scapula point	1
Small bone points	2
Worked bone fragments	2

Total	25
-------	----

One test pit was sunk into the midden and produced those artifacts listed in Table 5. The sample is far too small to demonstrate phase placement for the site. However, no hammerstone grinders or circular stones which are diagnostic tools of the Kwatna phase were found, and my speculation is that this site will prove upon further excavation to belong primarily in the preceding Anutcix phase.

CONCLUSIONS

Final conclusions must necessarily await a complete analysis of all the information on houses, features, and faunal remains obtained from these excavations. Our working chronology of three sequent phases may have to be modified, although the observations to date suggest that this scheme is entirely workable.

Acknowledgements

Over and above the support rendered to this project by the Opportunities for Youth programme I wish to especially thank the Allison Logging Company, particularly Mervin Abernethy, Tom Kirkby and Jean Mikelsen whose loan of a float camp permitted our entire student crew to move out of our tent camp in the drenching June rains into relative luxury. Our especial thanks also go to Northland Navigation Co. Ltd., which shipped our equipment, supplies, and river boat north to Bella Coola, and again back to Vancouver at the end of the season. The active assistance of the regional office of the Federal Department of Fisheries at Bella Coola in bringing us our mail and in transporting the students was greatly

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The following students participated in the excavations at Kwatna: Brian Apland, Owen Beattie, Judy Burton, Daniel Carlson, Catherine Carlson, Dennis Chalmers, David Crowe-Swords, Diana French, Janice Hocking, Tom Hocking, Jill Sanagan, April Struthers, and Lorne Walters.

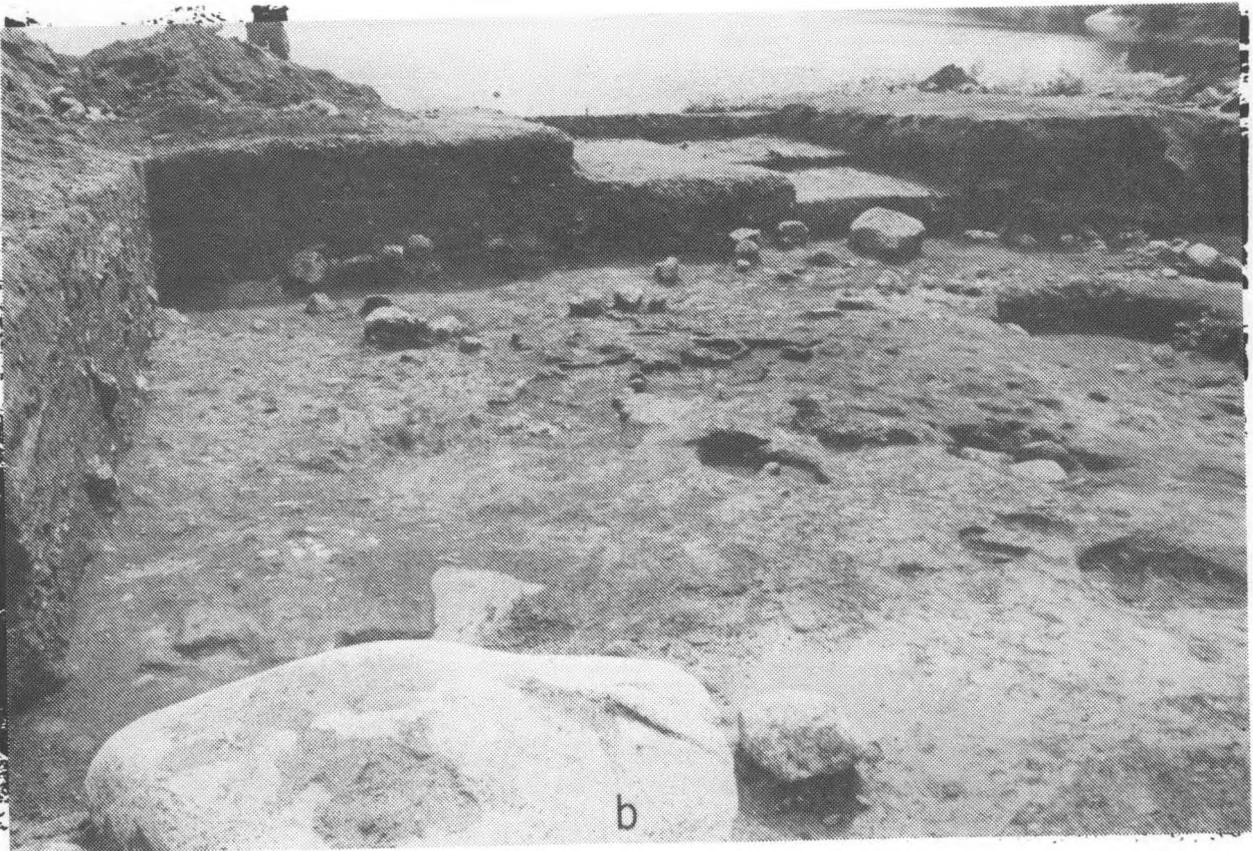


FIG. 21. FaSu 2. a, Kwatna phase deposit at 30 centimeters deep. b, Anutcix phase house floor at 140 centimeters deep underlying Kwatna phase levels.



SALVAGE EXCAVATION AT TWO COASTAL MIDDENS

Margo Chapman

INTRODUCTION

Two prehistoric sites, the Hamilton Beach site on Pender Island and the O'Connor site at Port Hardy, were tested during the summer of 1971 as both were threatened with destruction by impending construction projects.

THE HAMILTON BEACH SITE DeRt 11

Pender Island is in fact two islands, North and South Pender, which are situated toward the southern end of the Gulf Islands in the Strait of Georgia. DeRt 11 (Hamilton Beach) lies on the western edge of Port Browning just south of Brackett Cove on North Pender. Historically this locality was occupied by the Saanich Indians. DeRt 11 is a shell midden extending from south of the public access road, north along the beach to a rocky mound with fir trees at the entrance to Brackett Cove. The midden appears as a rise of land approximately 120 meters in length between the beach and a swampy area to the west. At the southern end of the site and east of the actual midden lies a cleared area where the old Hamilton house once stood, and to the north of this area is an orchard (Fig. 22).

Vegetation is predominantly wild grasses and rose bushes, and on the bank at the south end of the site, about 12 feet above the beach, stands a large old Garry oak tree. Little clearing of the site was necessary. Fish, sea mammals, and shellfish are found in the waters of Port Browning, and deer are present in large numbers on the island.

Construction of a new marina/resort complex was underway and the site was in immediate danger of being destroyed. In

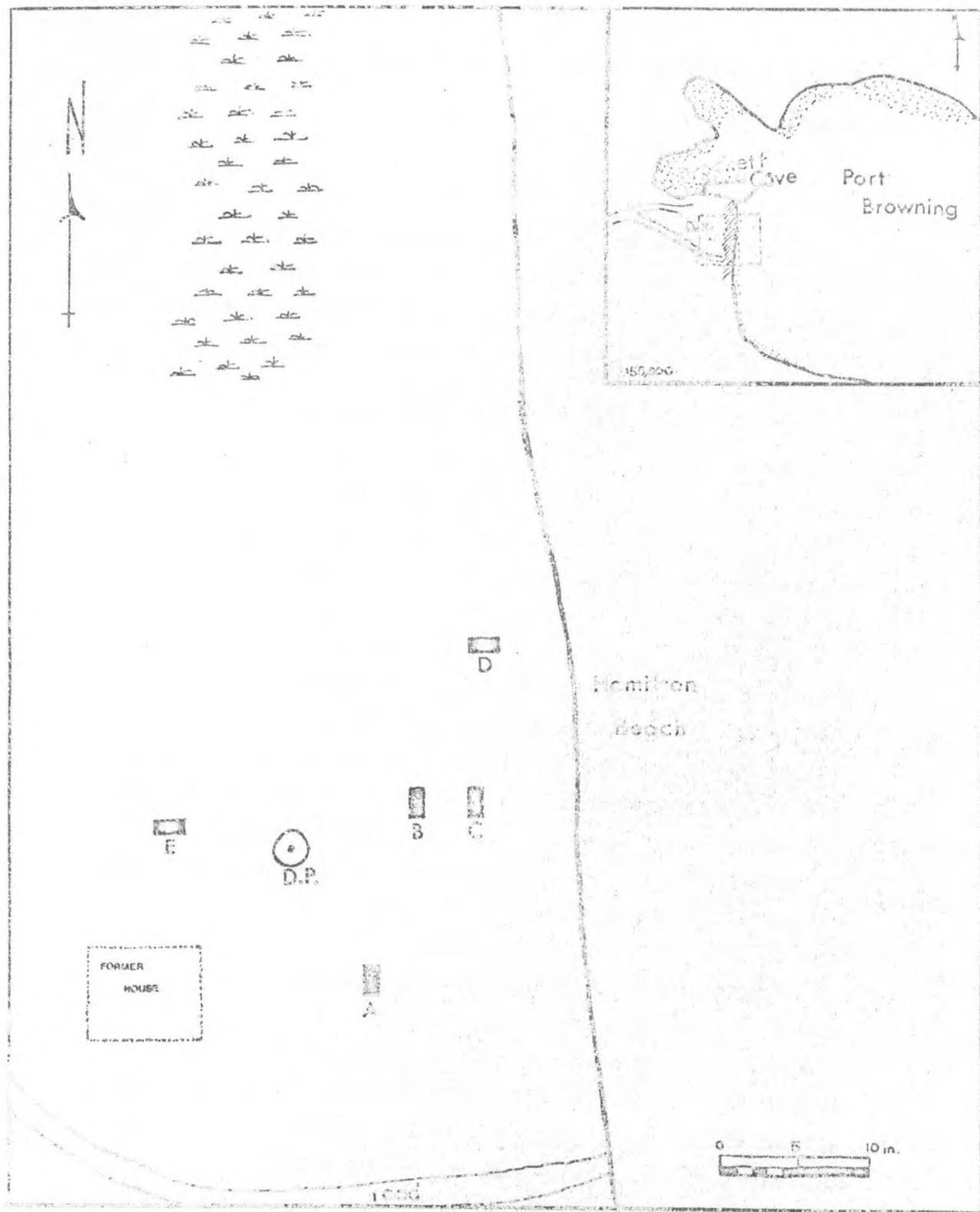


FIG. 22. Plan view of Dart II, showing excavated test pits

1966 a "partial burial and two ground slate objects" were reported as found near a large uprooted Douglas fir tree here; however, we found no remaining evidence of either the tree or the human remains.

Excavation

A datum point was established at the centre of a cement-topped cistern which is located at the southerly end of the site near where the old house stood. A north-south base line was run from this point. A total of five test pits were sunk, and the material recovered indicated that the midden was partially disturbed and not particularly productive. Each test pit was 1 meter by 2 meters horizontally and for the most part each was excavated in 10 centimeter levels. The depth of deposit varied from a minimum of 40 centimeters in one pit to a maximum of 110 centimeters in two others. Approximately 8 cubic meters of midden were excavated and a total of 20 artifacts were recovered.

Stratigraphy

The earliest deposit is dark brown in colour and is littered with loose clusters of rock. It varies in thickness, but is generally about 25 centimeters thick. No cultural material was recovered from this layer. Following this layer the stratigraphy changes within each pit. In pit A sterile hard packed clay forms the next stratum. In pits B and C a deposit of brown soil mixed with highly fragmented shell follows. Pit D shows a mussel shell lens, 5 to 20 centimeters thick, above a stratum similar to that in pits B and C. This deposit and the one above it yielded all but four of the artifacts. The youngest stratum, just below the layer of topsoil, was predominantly concentrated

whole and fragmented clam shell with some mussel, barnacle and whelk. This deposit varied in depth in each pit from a maximum in pit D of 50 centimeters, to about 20 centimeters in pit A and was non-existent in pit E. Charcoal was found scattered throughout this unit, as well as in distinct lenses. Loose brown turf and topsoil mixed with some fragmented shell forms the top 0 to 20 centimeters in each pit, and aside from intrusive nails and glass the remaining four artifacts were excavated here.

Artifacts

Of the 20 artifacts catalogued, 16 were manufactured of bone and of these only six were complete or identifiable. All came from the main strata of shell. They are:

The butt end of a unilaterally barbed point, ground and highly polished. It is broken just below the first small barb (Fig. 23a)

Bone point for a composite toggling harpoon (Fig. 23b)

A ground and polished awl or needle of which the basal portion is missing (Fig. 23c)

A splinter awl, or fragment of a deer long bone which has definite signs of wear at the tip (Fig. 23j)

A bone bi-point (Fig. 23d)

A broken (tip) of a bone point (Fig. 23e)

The remaining bone material was fragmented and either ground, polished or incised. With the exception of one polished and incised deer rib, these were predominantly mammal long bone fragments, too small to be specifically identified.

There were two antler artifacts. One, an elk(?) antler, found in the layer of topsoil at a depth of 15 centimeters, of which the tip has broken and splintered. This tip is not

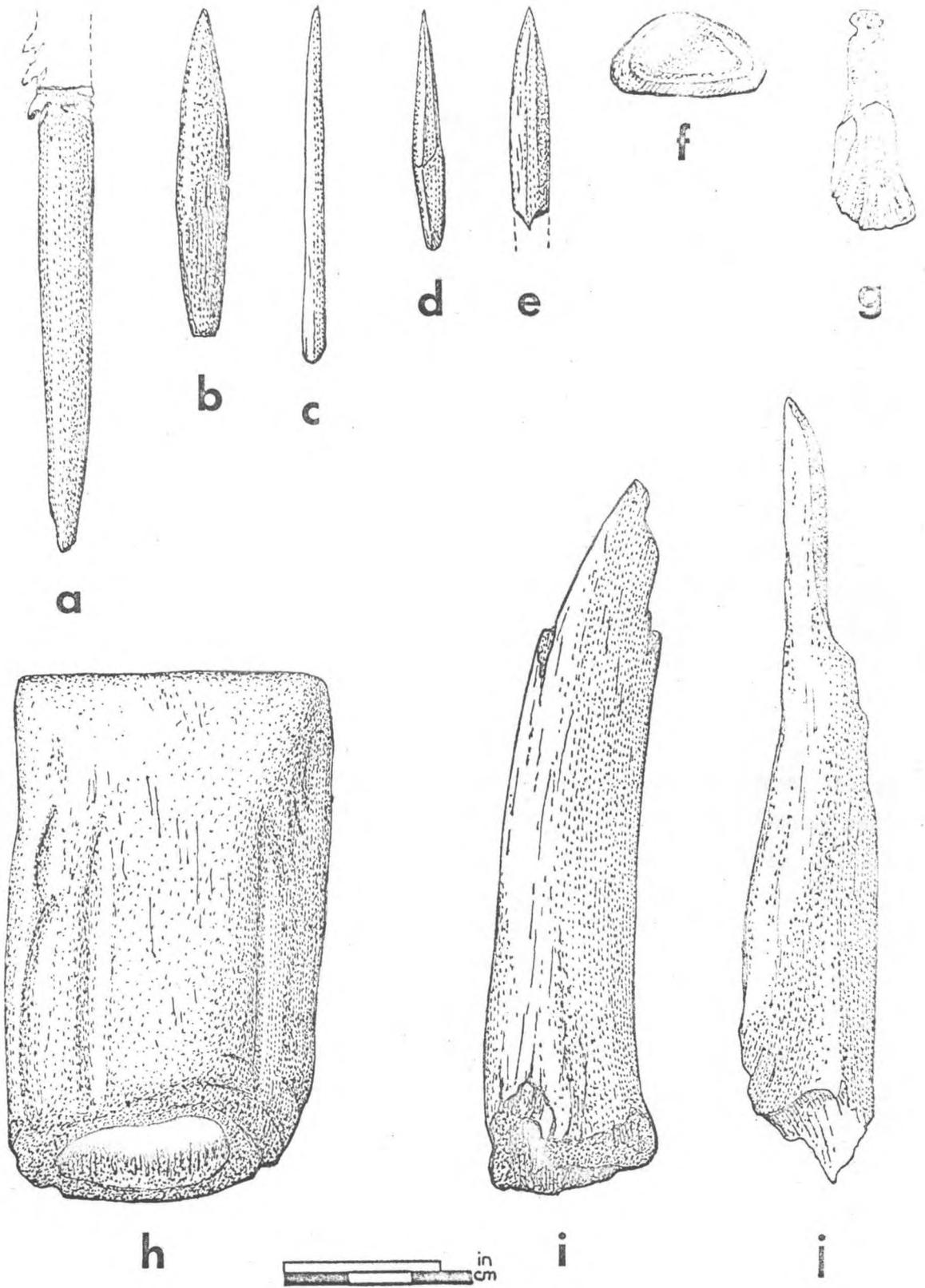


FIG. 23. Artifacts from DeRt 11, the Hamilton Beach site

ground, but has been worn smooth, perhaps through use (Fig. 23i). The second is a well-fashioned antler sleeve haft with a slot at one end for the adze blade, and a shallow, hollowed out space at the other end to facilitate hafting it to another handle (Fig. 23h).

Only two artifacts of stone were recovered, and both were found in pit B between 20 and 30 centimeters. There was one retouched basalt flake, and one small oval pebble battered on both sides (Fig. 23f). This is somewhat similar to the "what's its" characteristics of the Gulf Islands, particularly some of those recorded by Wilson Duff at the Canal site, Pender Island.

One notched elk(?) incisor pendant was the only artifact made of such material (Fig. 23g). No shell artifacts were excavated.

Discussion

A faunal analysis has not yet been made, however brief examination showed that deer was the most common of land mammals present. Sea mammal remains were significant, but certainly not so plentiful, and with the many assorted fish remains a livelihood with maritime adaptation is indicated. Neither fire hearths nor burials were discovered.

Table 6 shows the distribution of artifacts, and it is clear from that alone that the midden does not extend as far west as pit E, and only very marginally west to pit A. Only pits B, C and D were productive, thereby confining the midden to the approximately 12 meter strip of land parallel to the beach, and within this area the midden diminished from the bank westward.

DeRt 11 is an extensive site, horizontally, but not very productive. Had a larger area been excavated, more material would undoubtedly have been recovered, however I think little

Table 6. Distribution of Artifacts at DeRt 11,
Hamilton Beach

Depth	PIT A	PIT B	PIT C	PIT D	PIT E	TOTAL
0-20 cm.		••	✓	•		4
20-30		•XX	•			5
30-40	•			••		3
40-50			•			1
50-60			•	••		3
60-70				•		1
70-80						0
80-90			••	✓		3
90-100						
TOTAL	1	5	7	7	0	20

Bone •
 Antler ✓
 Lithic X

more information would have been gained. The few artifacts recovered suggest that the site is late and probably a component of the San Juan phase (Carlson 1960).

THE O'CONNOR SITE EeSu 5

This site is located on the east side of Hardy Bay opposite Port Hardy (Fig. 24) on the north end of Vancouver Island. Historically this area was occupied by the Kwakiutl, and today the two main reserves are at Fort Rupert and Tsulquate just outside Port Hardy. A logging road cuts through EeSu 5, and where the road bends north, a cutaway bank has already been eroded. A major part of the remaining site area was in imminent danger as plans for construction of a new log dump and house were underway. Excavation was concentrated in the area east of the road and north of the creek (Fig. 25).

The vegetation on the site was a fairly heavy cover of berry bushes (huckleberry, salmon berry and thimble berry), as well as some grasses and young fir and hemlock trees toward the eastern edge of the midden. Several old stumps of cedar and fir are in the excavation area. Salmon run annually in the Quatse River and past the point, and numerous species of fish are found in Hardy Bay. Sea lion, porpoise and harbour seal are common there, and the area supports a large population of the small deer native to Vancouver Island.

Excavation

A datum point was established (19 meters northeast of a Quatse Investment survey marker, Fig. 25, Q.M.) on the small rise of land east of the road at the main excavation area (Fig. 25 D.P.). A British Columbia Legal Survey Plaque (1964) is on the beach southeast of pit F, and is 66.6 meters from the datum point. A north-south base line was run from this datum, and pits A, B, C, D, and E, each 1 meter by 2 meters,

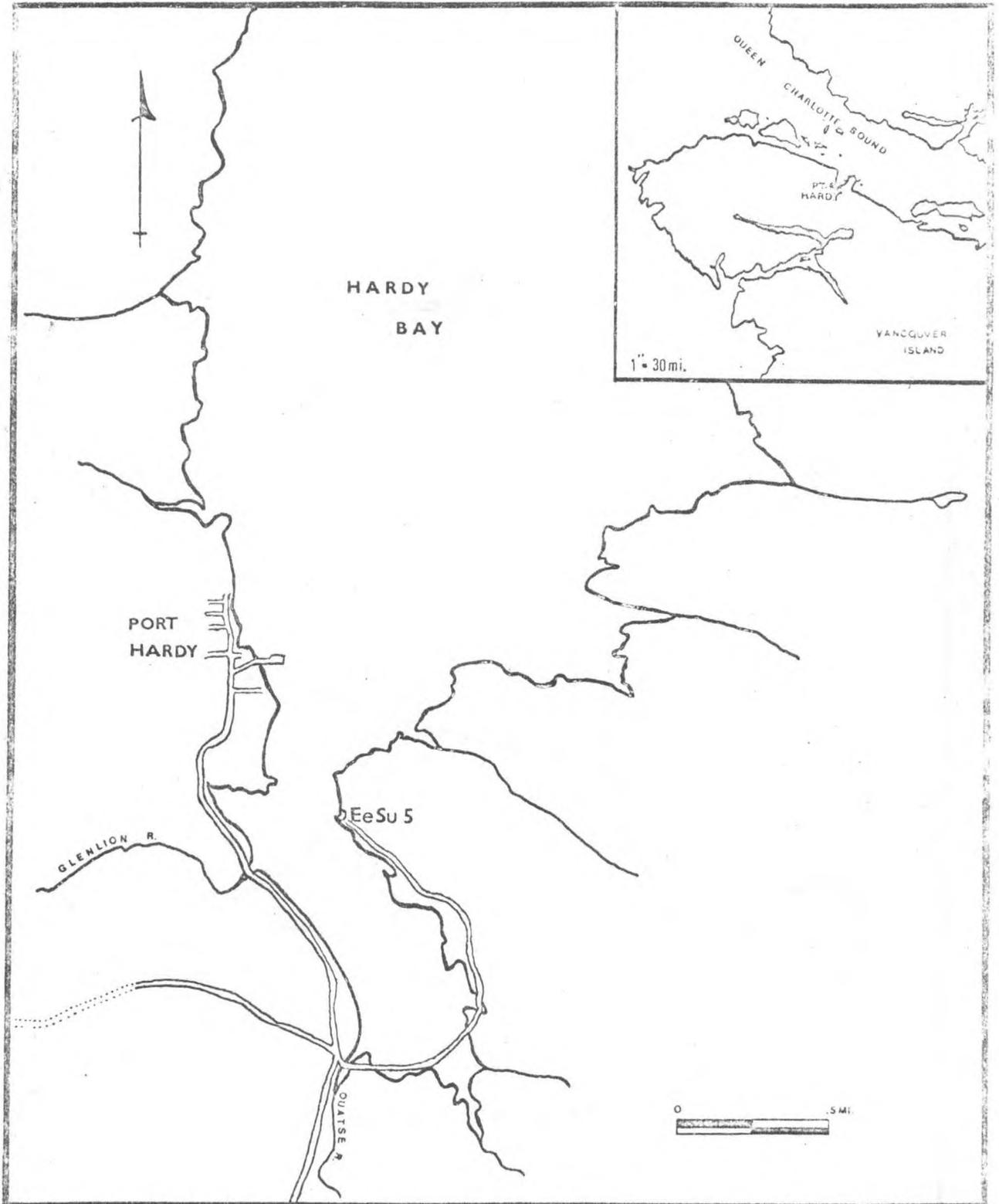


FIG. 24. Location of the O'Connor site, EeSu 5

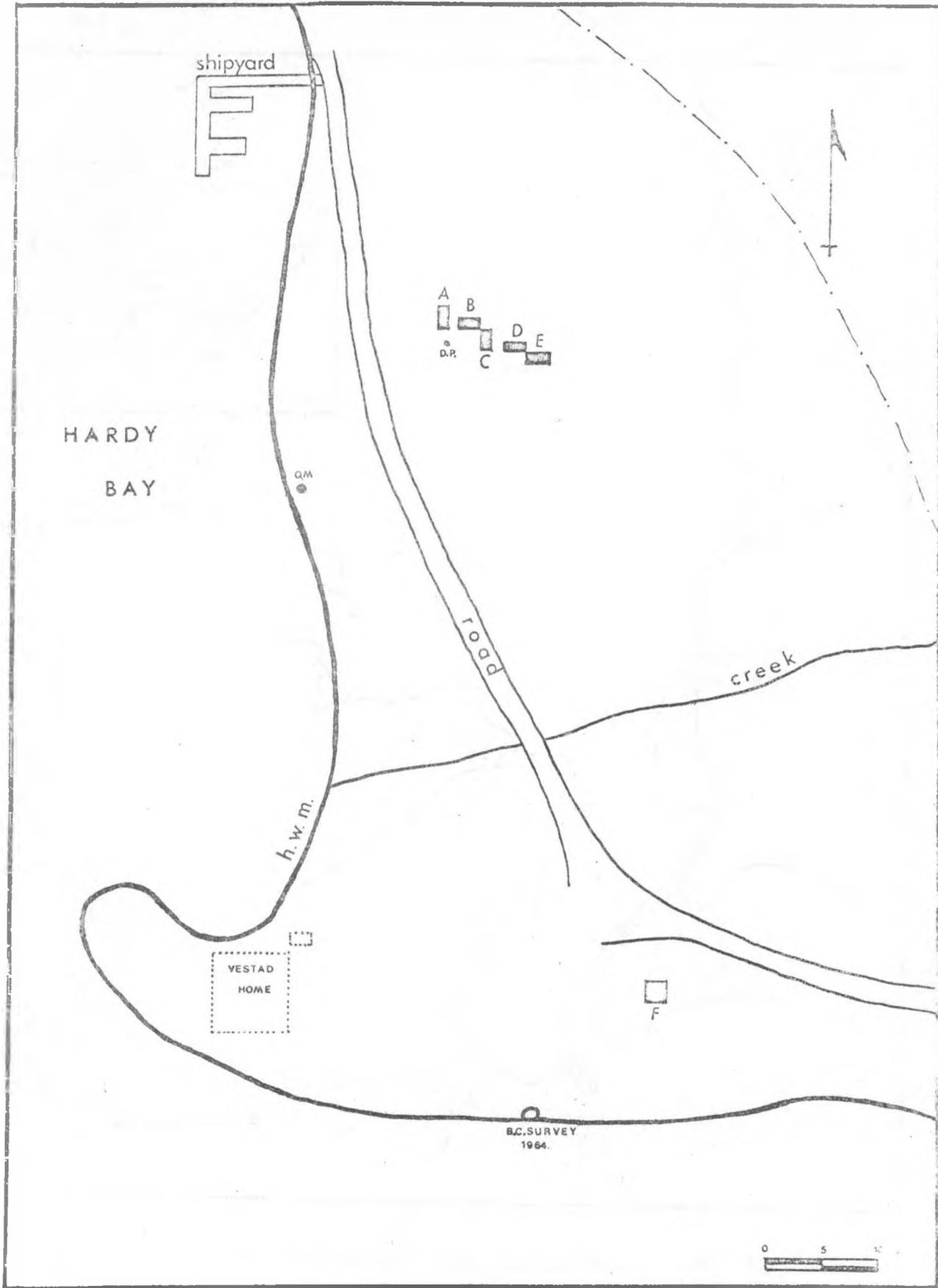


FIG. 25. Location of test pits at EeSu 5, Port Hardy

were staked out. Pit F was originally 2 meters by 2 meters, however excavation was discontinued in the northern half at a depth of 70 meters below surface. All excavation was carried out in arbitrary 10 centimeter units and one quarter inch screens were used. A total of 28 cubic meters of midden deposit were removed, yielding 274 artifacts.

Stratigraphy

Three principle stratigraphic units were evident in pits A - E; pit F varied only slightly in this. From oldest to youngest the identified strata are as follows:

A. A dark brown deposit littered with pebbles and gravel which lies in part on yellowish till and hardpan. It generally appears at 185-200 centimeters below the surface and is approximately 30 centimeters thick. Pits D and C, the furthest back from the water, were exceptions in that they showed a thin mussel shell lens and a small deposit with disintegrated bone at approximately 220 centimeters. No artifacts were recovered from this stratum.

B. A layer, approximately 90 centimeters thick, of black soil mixed with highly fragmented shell. Within this stratum were concentrations of whole and fragmented clam shell with some whelk, barnacle and mussel, and a lens of mussel shell as well; charcoal was scattered throughout, but seldom in distinct lenses. Approximately half the artifacts were recovered from this stratum, and it was from here, in pit D at 150 centimeters that a charcoal sample was dated to 590 ± 120 B.C. (GAK 3901).

C. A unit of concentrated fragmented shell in a black/brown deposit approximately 80 centimeters deep, with frequent patches of charcoal and ash. This strata and the one immediately below contained all the fire hearths and the

majority of artifactual material.

D. A layer approximately 20 centimeters thick of dark brown turf and topsoil which was slightly disturbed and which produced several aboriginal artifacts but no historic goods.

Artifacts

A total of 274 artifacts were recovered during the excavation of which the majority were made of bone. Only one antler artifact has been positively identified, and the remainder of artifacts were made of stone. Sandstone abraders and whetstones are the most common in the latter category; the hammerstones which are normally so characteristic of coastal sites, are practically absent. 292 obsidian fragments were found, predominantly in the form of debitage, but some show utilisation and retouch. No tools manufactured of obsidian were recovered. There were no shell or tooth artifacts. A complete artifact analysis has not yet been made, therefore the following is but a very general overview of the material.

Bone artifacts

- Harpoons:** Two bone harpoon heads, both incomplete were found. One, made from a deer long bone, had three unilateral barbs, the first of which was open, the other two closed. It was broken at a line guard notch at the basal end (Fig. 26a).
- The second is only the basal portion of a unilaterally barbed harpoon, with a line guard intact, found at 110 centimeters.
- Harpoon points:** Two points possibly for composite toggling harpoons were catalogued, both from pit E in strata C (Fig. 26c).
- Needles:** One complete needle and one with the tip missing, both with a drilled eye and flat cross section, were also found in layer C of pits D and E (Fig. 26j, k).
- Two bird bone 'needles', each obliquely ground to form an 'eye', were found in pit C, strata C (Fig. 26d, e).
- Awls:** One awl manufactured from the proximal end of a deer ulna. It was found at 67 centimeters in pit D (Fig. 26m).
- One splinter awl made from a deer radius fragment, ground at the tip was found between 140 - 150 centimeters in strata B (Fig. 26l).
- Bipoints:** Analysis of the bipoints has not yet been completed. A total of 30 bone bipoints are listed; the majority of the small ones are in all likelihood fish hook barbs and are included here rather than in a separate category.
- Of the 30 bipoints, six are greater than 4.7 centimeters in length; three have medial constrictions suggesting possible use as fish gorges, and two are 'diamond' shaped (Fig. 26h). The maximum length is 7.2 centimeters; the minimum length 1.9 centimeters; and the mean is 3.7 centimeters.

The vertical distribution ranged from the first 20 centimeters of deposit to a depth of 140 centimeters with a definite concentration at 70 to 80 centimeters. As shown in table 7 pits B and C produced more than half the total number of bipoints. A representative sample of these bone bipoints is shown in figure 26f - i.

Large bone points

There are four bone points manufactured of land mammal long bone fragments. The smallest of these is 6.1 centimeters, the largest 9.4 centimeters long (Fig. 26n); all were found between 140 and 190 centimeters.

Miscellaneous bone points

This group includes all the remaining bone points and identifiable fragments of tips of bone points. As with the bipoints, this preliminary category is very broad and general. At this stage I shall give only a brief description of the various types represented, as further analysis and a larger sampling is necessary for a complete typology.

53 pieces fall in this category 49 of which are complete or points with the tip intact, ranging in size from 1.5 to 4.5 centimeters. The remaining four have only a portion of the tip missing and are readily identifiable.

Within this group the major differences other than size are in the cross-section of the point itself (i.e. round or flat), in the formation of the tip (e.g. ground smooth, faceted) and in the width of the point. Figure 27a - i illustrates a sample of the variety.

Miscellaneous:

The category of miscellaneous bone includes eight identifiable mid-sections of points, five bone splinters which are worked or show signs of wear at the tip, and 53 fragments of worked bone.

Table 7. Horizontal distribution of artifacts - EeSu 5

ARTIFACT TYPE	PIT A	PIT B	PIT C	PIT D	PIT E	PIT F	TOTAL
BONE:							
harpoon <small>UNILATERAL</small>		1		1	1		3
point						2	2
bipoint	2	10	9	6		3	30
large point		2		2			4
misc. point	4	9	15	6	8	11	53
needle		1	2	1			4
awl			1	1			2
misc.	14	11	23	6	6	8	68
TOTAL	20	34	50	23	15	24	166
LITHIC:							
abrader/ <small>WHETSTONE</small>		1	1	1	2	6	11
hammerstone						1	1
gr. slate point						1	1
misc.				2	1	1	4
TOTAL		1	1	3	3	9	17

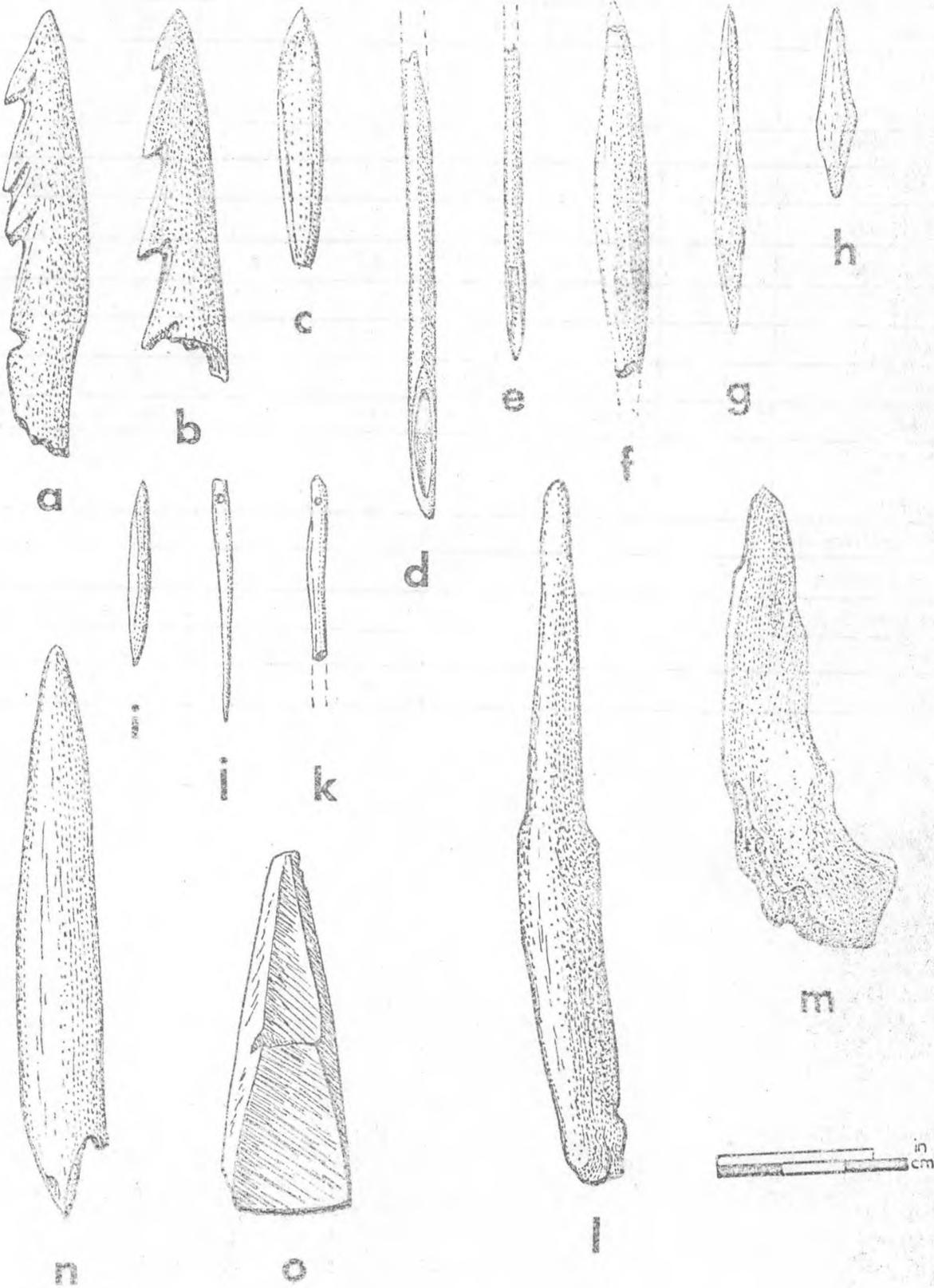


FIG. 26. Artifacts from Esu 5, Port Hardy

Antler Artifacts

The single antler artifact was a unilaterally barbed harpoon, 6 centimeters long with three barbs, and broken at the fourth barb. It was recovered in strata C at 60 - 70 centimeters (Fig. 25b).

Stone Artifacts (excluding obsidian)

- Abrasive stones:** There are a total of 11 abraders or whetstones, all of sandstone; none appear to have been intentionally shaped. The six of these varied from a small one approximately 4 by 6 centimeters to a very large heavy one approximately 40 by 20 centimeters. Over half were recovered from between 60 and 90 centimeters in pit F.
- Hammerstone:** Only one hammerstone was found, and that was fragmentary.
- Ground slate point:** The ground slate point from pit F was the only one recovered. It is 5.8 centimeters, thin and triangular in shape (Fig. 26o). It was in strata C at 35 centimeters.
- Miscellaneous:** This includes one small stone flake, two fragments of polished stone which may be portions of hammerstones or mauls, and one large granitic rock with signs of battering on one side.
- Quartz:** Two milky quartz and three clear quartz fragments all from pits D and E were recovered from each strata.
- Obsidian:** Over 95 percent of the 292 small pieces of obsidian were recovered between 100 and 200 centimeters, with the greatest concentration between 140 and 180 centimeters. Pits D and E contained the most although small samples from pits A, C and F were found as well (Table 8).

The obsidian varies noticeably in colour, density and impurities and likely comes from several different sources. No implements are immediately apparent, however I do not want to exclude the possibility that on further analysis some of the flakes now classified as 'retouched' may in fact be small fragments of tools. Of the 292 pieces, 201 are debitage, 62 show some indication of use, and 29 show some retouch.

Features

There were seven features recorded at LeSu 5, two in pit B, three in pit C and two in pit F. All were fire-hearths, and are best described as concentrations of fine cracked rock with ash, charcoal and, frequently, charred bone and shell in direct association. Three (two in pit B, one in pit C) are well-defined circular hearths; one was in strata C between 70 and 80 centimeters and the other two were in strata B between 140 and 150 centimeters. Pit C produced two other disturbed hearths from each of these layers, and the remaining such features were in pit E. Although no definite living floor was evident, these fire-hearths are situated in the two peak concentrations within the artifact distribution.

One other feature worthy of note was a well-defined depression on the south wall of pit E. The vertical depth of this was approximately 100 centimeters at the deepest point, and it was 'lined' with several rocks about 10 to 20 centimeters from the outer edges. There was a noticeable difference in soil colour and texture here - a loose, dark brown deposit with some decomposed wood and no shell. This feature appears to be very much like a post-hole, and further excavation in the adjacent area would be desirable.

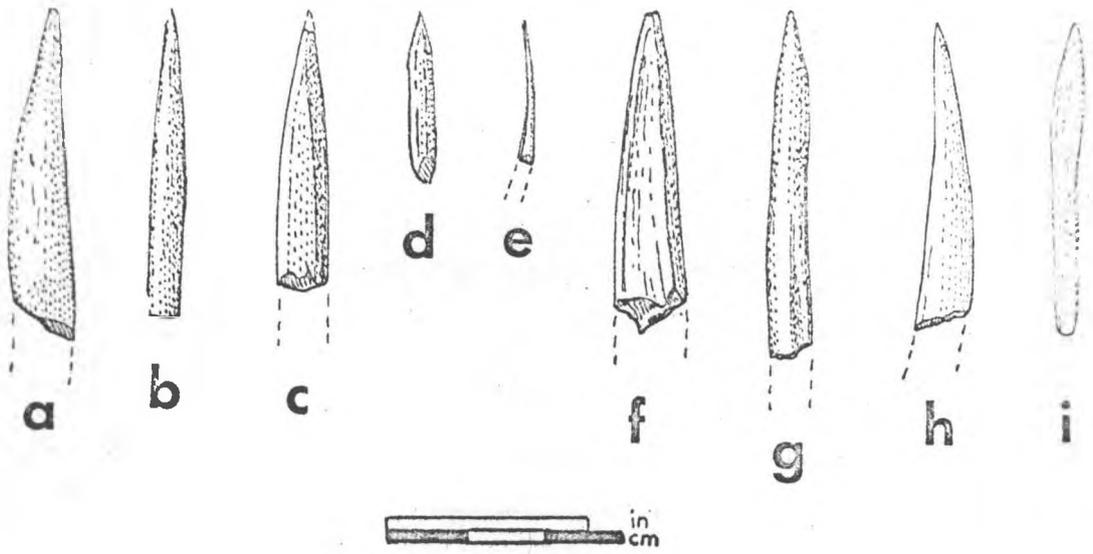


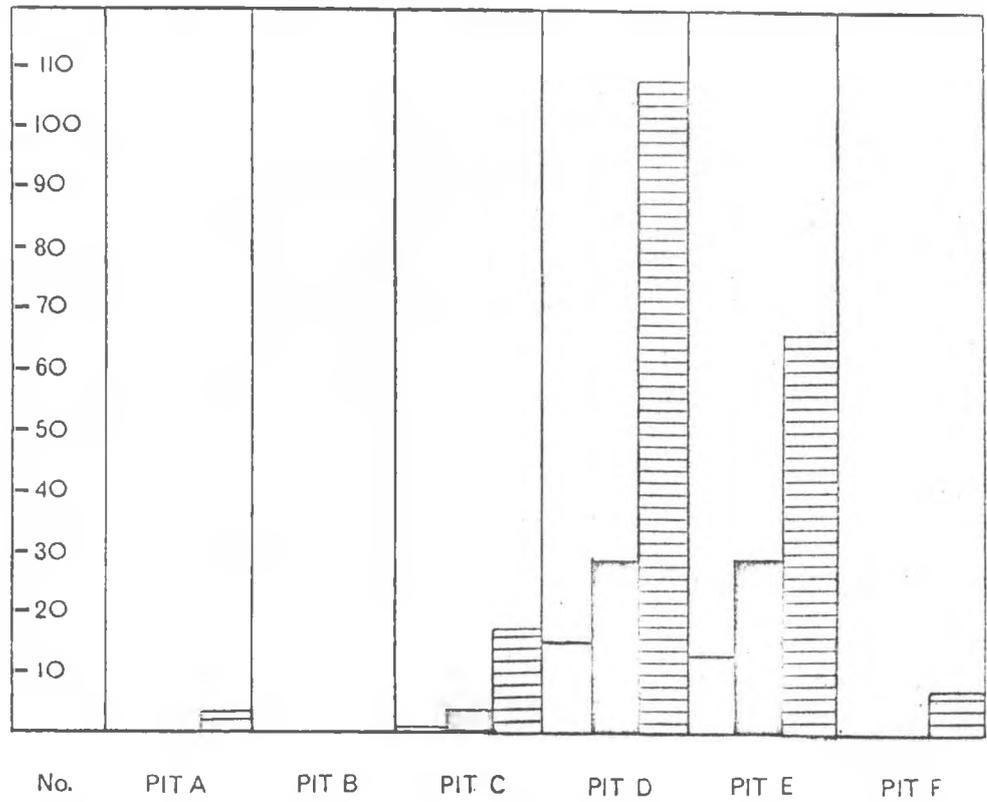
FIG. 27. Artifacts from EeSu 5, Port Hardy

Table 8. Vertical distribution of artifacts at Esu 5 - total
excludes obsidian and quartz debitage

Depth in cm.	harpoon BONE	harpoon ANTLER	harpoon point	bipoint	large point	misc. point	needle	awl	misc. bone	abrasive stone	hammerstone	gr. slate point	misc. lithic	obsidian flake RETACHED	obsidian flake UTILIZED	Obs. fl. CONTACT	quartz	Total
0-20				2		1			7					1	1	23	1	12
20-30	1			1		1	1		3	2			1			1		10
30-40			1	2		5	1		7			1				2		17
40-50				3		4			6				1		1	3		15
50-60			1	2		9			7						1	2		16
60-70				3		5		1	5	1	1							17
70-80				6		12	1		10	3			1					33
80-90				3		4			2	1								10
90-100				2		3			2	1				1			1	9
100-110	1			1		2			2					2	5	9		13
110-120				2		6			7				1	8	15	17		39
120-130				1		2			3					3	9	27		18
130-140				1		1			1					3	3	13		10
140-150					1			1	3					2	10	19		17
150-160									1					3	8	34		12
160-170						1				1				1	2	15		5
170-180									2					4	4	30	1	30
180-190														1	1	2	1	3
190-200														1	2	4	1	3
200-210																		
TOTAL	2	1	2	29	4	50	3	2	65	11	1	1	4	29	62	201	4	269

Exact provenience of 1 bipoint, 1 needle (bird bone) & 3 small bone points is not known.

Table 9. Horizontal distribution of obsidian - FeSu 5



retouched flake
 debitage
 utilized flake

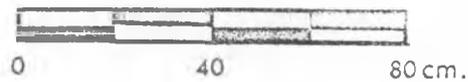
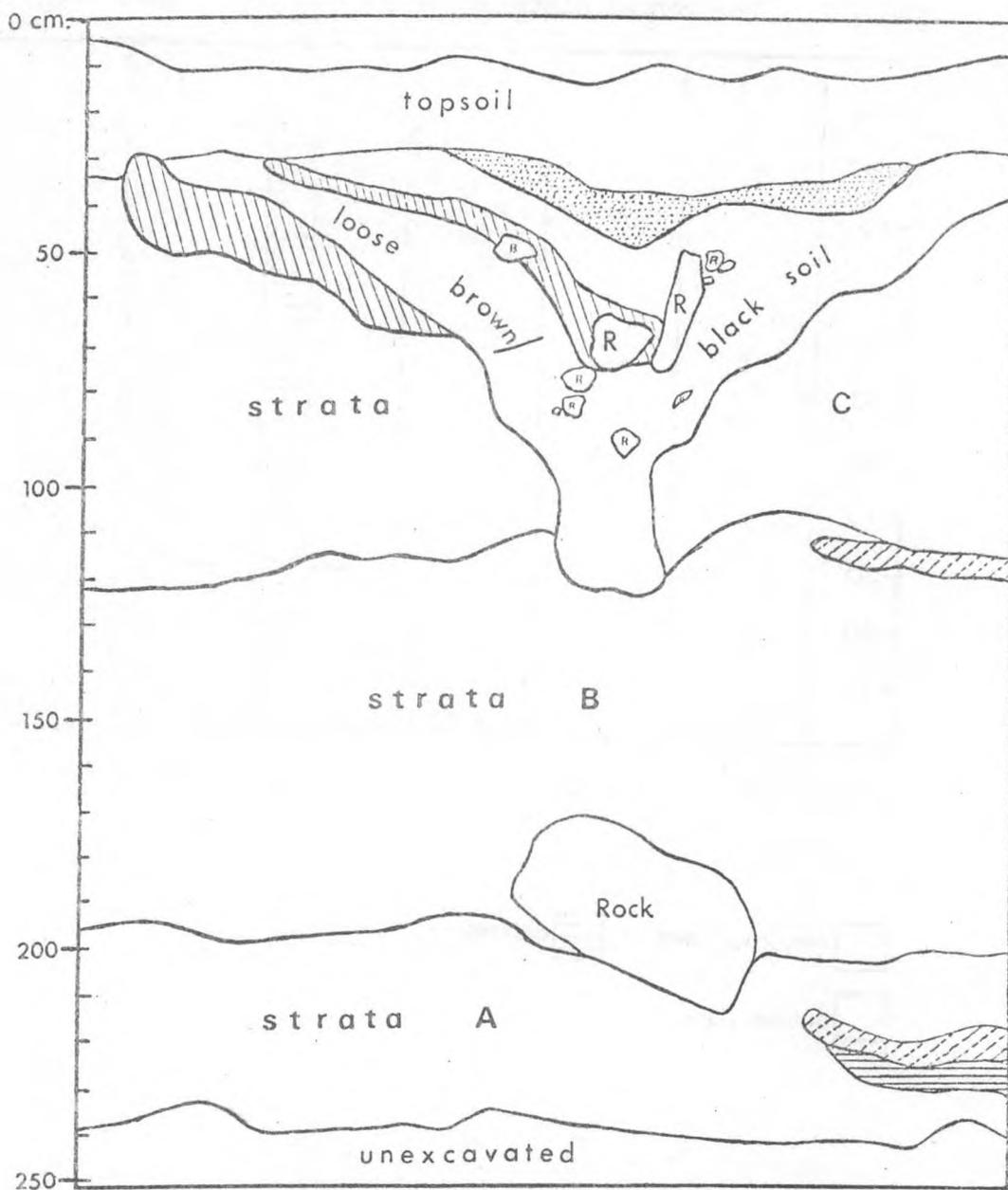


FIG. 28. Simplified profile of the south wall of pit E, EeSu 5

Burials

One disturbed burial was excavated at EeSu 5. It appeared in pit F between 70 and 80 centimeters. The vertebrae were complete and articulated, as were the flexed long bones of the right leg. However, the remaining skeletal material, although immediately adjacent, was scattered and many bones were totally absent. There was no skull, yet the possibility that it might have been in the south wall of the pit cannot be ignored. Both pelvic bones were recovered, although somewhat deteriorated, and from these and the other remains the individual has been identified as a female, approximately 24 years old at the time of death (T. W. McKern, personal communication). There was no indication of a pit having been used, and no grave goods or artifacts were found in direct association. With the exception of one third molar found in pit D at approximately 170 centimeters there were no other human remains at EeSu 5.

Faunal Analysis

Faunal analysis is at the initial stage and as such only a few preliminary and general observations may be made. A brief examination of the material indicates that of the land mammals, deer is predominant. Various sea mammals compose another portion of faunal remains, with only harbour seal, whale and sea lion positively identified at this time. As expected at such a coastal midden, assorted fish remains are far more abundant than any other faunal material. Shell samples were collected from each distinct strata in each pit, both for a qualitative sampling and with hopes that some may be processed and dated. An economic reliance on molluscs and some snails as well as fish was evident. Bird remains were present at all levels in all pits, but never in any quantity.

Discussion

A definite spatial pattern with the site is discernable. First, pit A produced very few definite artifacts, no lithic material and in comparison with the other pits had a much larger concentration of whole and fragmented shell. Pits B and C between them yielded more than 50 percent of the bone artifacts, contained the only five fire-hearths in this area of excavation and produced a minimal amount of obsidian and lithic material. Pits D and E on the other hand, produced a smaller quantity of bone artifactual material and contained approximately 90 percent of the obsidian found at EeSu 5. Pit F had an average sample of bone artifacts, disturbed hearths and lithic material as well as the only burial. Clearly there is a distinct working area toward the eastern edge of the midden at D and E with a 'kitchen' area somewhat to the west.

Obsidian is not naturally found on Vancouver Island, and it must therefore have been traded or brought into the area by some means. Considering this, and the quantity of such material at EeSu 5, one would expect to find at least a minimal sample of tools manufactured of obsidian. None were found however. At this stage the author is inclined to feel that the absence of tools is mainly due to the fact that a large enough area was not excavated and too small an assemblage recovered. Further excavation in the area adjacent to, south and east of pits D and E may provide additional information.

Little archaeological excavation has been conducted in this area, thereby making it very difficult to establish any chronological sequence or correlation with other sites. Capes' work at nearby Fort Rupert in the early 1960's produced a radiocarbon determination of 3325 ± 110 B.C. (Capes 1964:76). Capes' sampling of artifacts was very small (approximately

25 artifacts) and there is no assurance that the single date is accurate. Also, EeSu 1 (Fort Rupert site) produced one bilaterally barbed harpoon, characteristic of the Mayne phase (Carlson 1970:115), and none were found at EeSu 5. The remainder of the material however was quite similar to that at Fort Rupert. Further excavation and analysis of material from EeSu 5 is necessary to determine whether or not any temporal or cultural correlation is suggested between the two sites.

It is most important that excavations continue in the Port Hardy/Fort Rupert area in order that the area's prehistory may be recorded and hopefully a cultural and chronological sequence established before the remainder of EeSu 5 and the many other endangered sites in the area are destroyed.

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I am indebted to many residents of Port Hardy, Fort Rupert and Coal Harbour for kindnesses and assistance of all sorts - in particular, Mr. Art Blakeney, Mr. and Mrs. Nick Cadwalader, Mr. Don Cruickshank, Mr. and Mrs. Harry Hole and Sally and Dick MacMahon.

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The following students participated in the Hamilton Beach excavation: Greg Calder, Shawn Herman, Brian Seymour and Mark Blaker. Thanks are due to many residents of Pender Island, particularly Mr. and Mrs. H. Spalding who were always interested in our work and very hospitable to the entire crew. Also, I would like to thank the management of Scott's Lair, Hamilton Beach, for permission to excavate, their assistance with backfilling and general co-operation.

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ARCHAEOLOGICAL WORK AT KIMSQUIT: 1971

Philip M. Hobler

INTRODUCTION

Kimsquit at the far end of Dean Channel and some 60 miles from the outer coast was once the scene of bustling activity with Indians speaking a dialect of Bella Coola Salish fishing the waters of the Dean and Kimsquit Rivers, and holding potlatches and other ceremonies in villages of large plank houses along Dean Channel and the lower reaches of the rivers. Today, logging is the main activity at Kimsquit and the sites of the aboriginal inhabitants are rapidly disappearing from erosion, natural decay, and logging activities. Our earlier survey of this locality in 1968 (Hobler 1970) disclosed a unique range of both prehistoric and historic archaeological sites, many in need of salvage work. Thirteen sites (Fig. 29) have so far been found with the greatest concentration on the Delta of the Dean River below the canyon, a flat forested area dissected by old river channels. The survey is not yet complete and additional sites are expected on the Kimsquit River as Bella Coola folk tales note at least one settlement there apparently abandoned early in the nineteenth century. Above the narrows on the Dean River other settlements are said once to have existed (McIlwraith 1952:15-16). This preliminary report lists the sites discovered, and gives a short description of the work accomplished in the 1971 season. Table 10 lists the sites surveyed.

THE SITES

FeSr 1

This historic village is located on the Delta of the

FIG. 29. Map of the Kimsquit area. Archaeological sites are indicated by black dots. Two sites are not included in the coverage of this map.

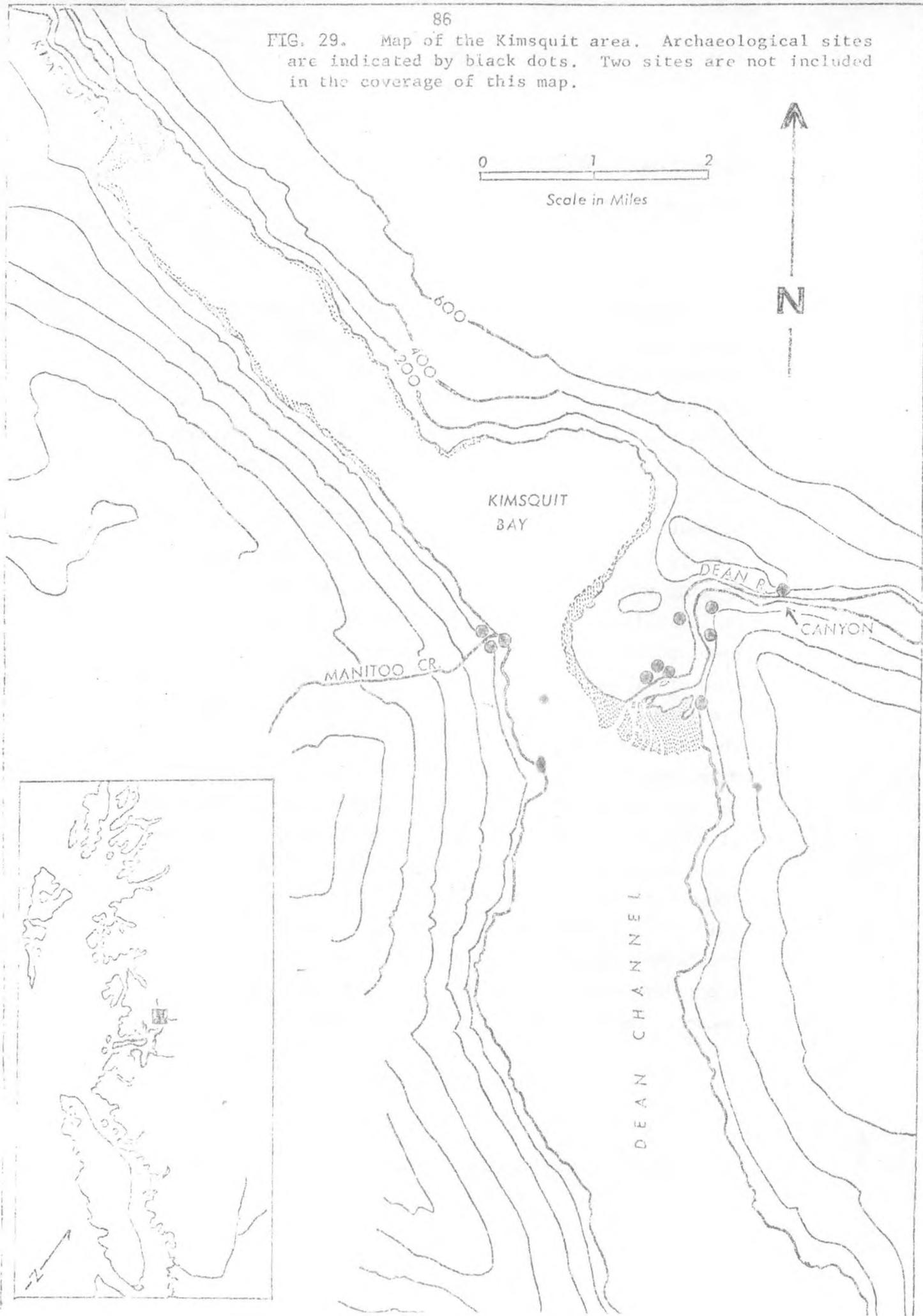


Table 10. Archaeological sites near Kimsquit

*FeSr 1	Abandoned historic village, Dean River
FeSr 2	Cache pits, Manitoo Creek
FeSr 3	Historic cemetery, Dean River
*FeSr 4	House pit village, Dean River
FeSr 5	Small midden, Dean River
FeSr 6	House pit village, Manitoo Creek
*FeSr 7	Early historic midden, Dean River
FeSr 8	House pits, Manitoo Creek
FeSr 9	Beach artifacts, Swallow Creek
FeSr 10	Small rockshelter site, Dean River
*FeSr 11	Petroglyphs, Dean River
FeSr 12	Small house pit site, Dean River
FeSr 13	Indian trail, Dean River

* Sites at which excavation took place

Table 11. Artifacts recovered from
test excavations in historic refuse
deposits at site FeSr 1, Kimsquit

Nails, cut or "square"	154
Nails, wire or "round"	14
Wood screws	2
Spoons, metal	2
Rifle cartridges	3
Small hinges	3
Buckles	2
Clock parts	2
Kerosene lamp part	1
Lockplate from chest or trunk	1
Axe head	1
Saw blade fragment	1
Conical copper tinklers	2
Conical iron tinklers	2
Unidentified copper fragments	6
Unidentified iron fragments	5
Window glass fragment	1
Doorknob, ceramic	1
China ware fragments	37
Glass beads	12
Bottle fragments	18
Glass buttons	13
Metal buttons	2
Wood button	1
Stone flake	1
Sawn slate fragment	1
Ivory gaming piece	1
Total	291

Dean River about one quarter of a mile from the river's mouth. Post and beam cedar plank houses still exist in various states of preservation. In addition, there are houses of frame construction built of milled lumber and numerous roofed storage pits. An 1890 census of Kimsquit recorded a population of 106 and indicated that they were "...all pagan", perhaps implying that at that time aboriginal culture may have been more intact at Kimsquit than in other areas. Quite late in the nineteenth century two canneries were built in the Kimsquit area. One was at Manitoo Creek on the west side of the Inlet and the other in the large bay two miles north of the mouth of the river. From the latter site a wagon road was built south across the delta to the village. The construction of these canneries provided an economic stimulus to the area and undoubtedly reversed or at least postponed the abandonment of the settlement, which began in the last half of the nineteenth century. Even after 1900 the depopulation seems to have been gradual. The 1920's saw the last families leave. Since that time only occasional trappers and a few others have visited the area and used the houses.

During the 1971 field season we prepared a base map of the village, measured and recorded the one well preserved cedar plank house, and dug two small test trenches. The mapping project recorded 108 architectural features. About one quarter of the site could not be mapped because of limitations in personnel and the nearly impenetrable brush. Completion of the map is planned for the next field season. The two test trenches were intended to sample the historic refuse in the vicinity of the cedar plank houses and to determine whether an earlier historic or even prehistoric component might be present. Materials from these excavations

are listed in Table 11. The tabulation is not proportionately representative since some items were field discarded. These are primarily bits of china ware, fragmentary nails, and quantities of thin rusted strips of metal from large tins.

The excavated sample shows that quantities of late nineteenth and early twentieth century refuse are present. A much larger sample would be needed to establish the full range of materials present in the deposits and to indicate their relative frequencies. Of these materials it is probably significant that only about one percent are of aboriginal materials such as stone or ivory. The remainder are manufactured items purchased either from the cannery store at Kimsquit or at Bella Coola. Our refuse tests at FeSr 1 showed no evidence of a prehistoric component or of an early historic component such as is present at FeSr 7.

FeSr 2, FeSr 6 and FeSr 8

These site numbers apply to what may actually be parts of one settlement. Their location is at the mouth of Manitoo Creek across Dean Channel from and somewhat north of the mouth of the Dean River. Numerous rectangular house pits which range up to some 13 meters in length are present at the site. A map was prepared showing the location of these architectural features. As at the other major housepit site in the area, FeSr 4, no artifacts were found on the surface of the Manitoo Creek sites. Small test pits dug into the fill of two of the housepits also failed to produce artifacts. The Manitoo sites are probably largely, if not entirely, prehistoric. The housepits are arranged on several topographic benches which appear to be terraces or possibly raised beaches. Their average floor area is somewhat greater than that of the housepits at FeSr 4. Some

were originally dug back into a gradual slope and are effectively three sided being open on the downhill side of the pit. At least one other appears to have had its outer edge cut away by erosion. 24 housepits and 40 pits too small to have been houses are observeable. Housepits on the main terrace are distinctly the largest. The smallest pits are apparently cache pits and are found throughout the site but tend to cluster on the highest terrace.

FeSr 3

This is the cemetery associated with the historic village at Kimsquit. At this site no excavations were conducted and no surface collections were made. A map recording surface features, grave pits, and wooden surface structures was prepared. The site clearly spans a transitional period in burial customs. A somewhat isolated earlier group of grave pits, some 70 in number, appear as circular depressions, and probably represent simple cedar box burials. These apparently earlier graves have no directly associated surface grave goods. The central part of the cemetery has both these small pits and larger elongate depressions of extended burials. In this area there are quantities of household goods and other possessions strewn about on the surface. There are also the remains of ten small grave houses constructed of milled lumber. There are 210 of the earlier small box burial depressions and 41 pits indicative of extended burials. There are two wooden grave markers and ten tombstones. Dates recorded on the latter range from 1895 to 1917.

FeSr 4

This site was the focus of our main efforts during the 1971 season. Clearing, mapping, and initial excavations were performed. The site shows 45 depressions of which 23 are the remains of domiciliary architecture and 22 are smaller pits probably representing storage structures and other non-habitational features. The site is located along a dry watercourse about one quarter of a mile south of the Dean River and about a mile up from the mouth of the river. At the time the site was occupied the river probably flowed along the edge of the village. Housepits are found on at least three surfaces which appear to be old river terraces. That the river abandoned the site more than a few years ago is attested by the presence of a mature forest on the broad flats between the site and the present river channel. Over most of the site itself a heavy second growth forest flourishes. Vegetation on the site is not noticeably different from that surrounding the site and it is not possible by observing vegetational changes to locate the site from the air.

Although site FeSr 4 was clearly a large village in late prehistoric times, nowhere could we find concentrations of refuse or stratified midden deposits. Surface survey yielded no artifacts, bone or other indication of refuse. At the end of the season's excavation only 79 artifacts had been recovered. Many of these were found along the sloping sides of housepits or immediately adjacent to housepit walls. Only the somewhat atypical housepit 10 produced quantities of artifacts from the central house floor. Artifacts catalogued from FeSr 4 are listed in table 12.

Although this tool assemblage does bear a few resemblances to late prehistoric material from Kwatna it is sufficiently distinct and lacking in enough key artifact types that it

cannot easily be assigned to the Kwatna phase. Village layout and details are also quite unlike Kwatna although it should be noted that at Kwatna one housepit has been observed at FaSu 10 and two at FaSu 1. Once surface clearing of FeSr 4 had been completed the village ground plan could easily be seen. Houses cluster near the edges of terraces but do not form neat lines along terrace edges. At least three housepits have been partly eroded, probably by river action before the river moved north to its present channel. Other houses may have been completely destroyed by the same river action.

Detailed work was carried out at three housepits and at two smaller pits. All of the pits are dug into a fine sterile alluvial sand. This sand makes up the bulk of the upper part of the terrace deposits. Beneath the surface one encounters rocks in the sand. These are at first small and scattered but become larger and more numerous with increasing depth until at depths of from 50 to 100 centimeters large boulders are to be found. The prevalence of these subsurface boulders probably affected the depth to which the pits were originally dug. Typically, the housepits are rectangular in plan. Sometimes the builders preferred to throw backdirt along the sides but not on the ends of their excavations, so that some of the pits now have low ridges only along their sides. The finer backdirt was thrown near the edge of the pit and the rocks or larger boulders were carried or thrown further out resulting, in at least one case, in a line of boulders parallel to the sides of the house and out somewhat from the ridge of backdirt (Fig. 30).

In the sandy matrix housepit floors are not clearly defined. Remnants of the original pit side walls can still be seen in some of the housepits (Fig. 31). Trenching within housepit 4 revealed a floor zone some 15 to 20 centimeters in thickness

characterised by sand darkened by charcoal and other cultural material. In places the sand and cultural material are segregated into distinct lamina. These units are visible sporadically in profile but could not be followed individually in plan excavation as they are irregular and tend to blend with one another. Within the houses cultural deposits seem to begin almost immediately beneath the leaf mat and shallow tangle of surface roots. Identification of their upper limit is made more difficult by an ubiquitous ash deposit apparently from a forest fire which burned over the site area a good many years after its abandonment. At housepit 4 cross trenching and the excavation of a quadrant revealed many rocks in the floor zone as well as on the surface of the sterile subfloor deposits (Fig. 32). Floor features in our housepit 4 excavations include a deep basin shaped central hearth excavated well into sterile soil, two shallow cache pits, a large posthole just away from the central hearth, and a deep basin shaped pit full of charcoal against one end wall of the house which may have served as another hearth.

FeSr 7

This small site, in contrast to site FeSr 4 is typified by surface recognisable midden deposits with darkened soil, fire cracked rock, shell and bone. The dense brush covering the site stands in marked contrast to the surrounding forest. There are no housepits. Two trenches tested the site. In one, 11 two meter squares were excavated in 15 centimeter levels to an average depth of 75 centimeters. The other, a smaller trench was 1 by 5 meters and dug to a depth of 45 centimeters. A visual inspection of the stratigraphy and an analysis of type distributions suggest the presence of a single component at FeSr 7. Artifacts include historic items, particularly copper. Aboriginal artifact types made of stone

and bone are also present. These are listed in Table 12.

Fire cracked rock and thin fire spalls resembling man made flakes were found in quantity throughout our FeSr 7 excavations. In places the volume of fire cracked rock exceeded that of the midden matrix making excavation difficult. Such a quantity of fire cracked rock can hardly be explained as castoffs from cooking fires. It may be that canoes or kerfed boxes were made at this part of the site, since their manufacture requires large numbers of heated rocks to boil water and create steam for the necessary bending and shaping.

A number of low mounds dot the surface of FeSr 7 (Fig. 32). Some fire cracked rock was found on and within the tested mound but the mass of the mound is made up of midden deposits. The inhabitants shored up one edge of one of these mounds with what amounts to a crude stone wall. It is possible that one or more mounds may represent raised central hearths of cedar plank houses which are typical of the few aboriginal cedar plank houses whose remains we have seen on this part of the coast. More likely these mounds are simply refuse accumulations outside of houses. Historic photographs taken in this region commonly show these features, particularly just in front of houses.

The surface appearances as well as the artifacts recovered suggest affinities with the historic occupation of the area. The site appears to span the transition between prehistory and history. Trade goods are numerous but of limited variety while artifacts made in the traditional manner of native materials continue to be produced.

FeSr 11

These petroglyphs are located within the canyon of the Dean River. The long abandoned Indian trail along the Dean River

Table 12. Artifacts recovered
from site FeSr 7

Conical copper tinklers	3
Copper rings	2
Copper thimbles	2
Rod armour fragment (copper and wood)	1
Copper wire wound wood	1
Unidentified copper fragments	52
Lockplate, brass	1
Key, brass	1
Iron projectile point	1
Thin glass fragments	4
Gun flint	1
Hammerstone grinders	21
Edge trimmed grinders	30
Abrading stone fragment	1
Miscellaneous ground stone	1
Ochre stained cobble	1
Projectile points, stone	3
Retouched flakes	7
Chopper	1
Pointed bone objects	4
Total	138

on its north side passes directly over the petroglyphs. Modern survey markers have actually obliterated some of them. The site was partly recorded by Harlan I. Smith in 1923. By stripping back the moss and soil that had accumulated over the figures we were able to see more of the panel than had been recorded by Smith (Fig. 33). Pictographs have not been found in the area.

CONCLUSIONS

To summarise, the two housepit villages are of a type not previously recorded on the mid-coast of British Columbia. Their rectangularity suggests that cedar plank houses may once have stood within or around the pits but our preliminary excavations have not enabled us to detail the nature of the superstructure. A few general cultural similarities can be seen between the Kimsquit materials and those from Kwatna some 60 miles to the southwest. But, it is clear that the culture histories of the two regions are not identical. The presence of significant proportions of flaked stone, the absence of "doughnut" stones, and the relative scarcity of adze blades distinguish the Kimsquit collections. The predominant edge trimmed grinders at FeSr 7 are absent at Kwatna.

To venture a preliminary interpretation, the three Kimsquit sites FeSr 4, FeSr 7, and FeSr 1, appear to have been occupied sequentially in the order indicated with only slight overlap in time span. FeSr 1 is fully historical with rather complete domination of the collection by commercially manufactured items. Our small sample indicates that the main occupation of the site was after the mid-nineteenth century. We know that occupation continued into this century. FeSr 7 seems to immediately pre-date FeSr 1.

Traded materials represent about half of the FeSr 7 collection and that only if one counts all of the small bits of copper scattered throughout the midden. The absence of nails suggests fully aboriginal buildings while the presence of quantities of stone tools also denotes strong links with pre-contact times. FeSr 4, the large housepit village seems quite prehistoric save for a single deep atypical house in which two pieces of copper were found near the surface. In the absence of carbon-14 age determinations only these two copper objects serve to link the site to the early historic FeSr 7. The site differs both in architecture and in method of waste disposal from the two later Kimsquit sites.

Space in this report does not permit a discussion of the interesting problem of matching the archaeological sites found in the Kimsquit area with the list of old villages recalled by McIlwraith's informants in the 1920's (McIlwraith 1948:1-22).

A number of observations suggest that the downcutting of the Dean River into delta deposits is a relatively recent event continuing possibly into historic times. This downcutting appears to have affected the three main Indian settlements in the area and may have through time necessitated downstream shifts in the locations of these villages. It is hoped that a detailed discussion of this problem will be possible in a later report. Further work will be undertaken in the area.

Acknowledgements

Student field salaries were paid by the Opportunities for Youth Programme of the Office of the Secretary of State. The student crew members were Thea de Vos, Eric Gledden, Paul

Howell, Sally Johnson, Patricia Kraskey, Peggy Lenti, Joyce May, Jerry Roberts, Sally Roberts, and Henning von Krogh. Additional assistance was provided by Simon Fraser University. The Bella Coola office of the Department of Fisheries and Northland Navigation Ltd., provided much needed assistance in the transportation of personnel and equipment. Mayo Lumber Company helped with the facilities of their Kimsquit camp. Mr. and Mrs. Felix Lederer of Kimsquit gave generously of their time and helped in innumerable ways with the many problems of living in this isolated area. The field party left the Vancouver area on the 18th of May and returned on the 27th of July. A grant from the Canada Council has now been received which will permit much needed additional work in the area.

FIG. 30. Boulders in back of the margins of housepit 4, FeSr 4

FIG. 31. Housepit 2, FeSr 4. Traces of the original housepit sidewalls can be seen running between the identification board and the standing figure





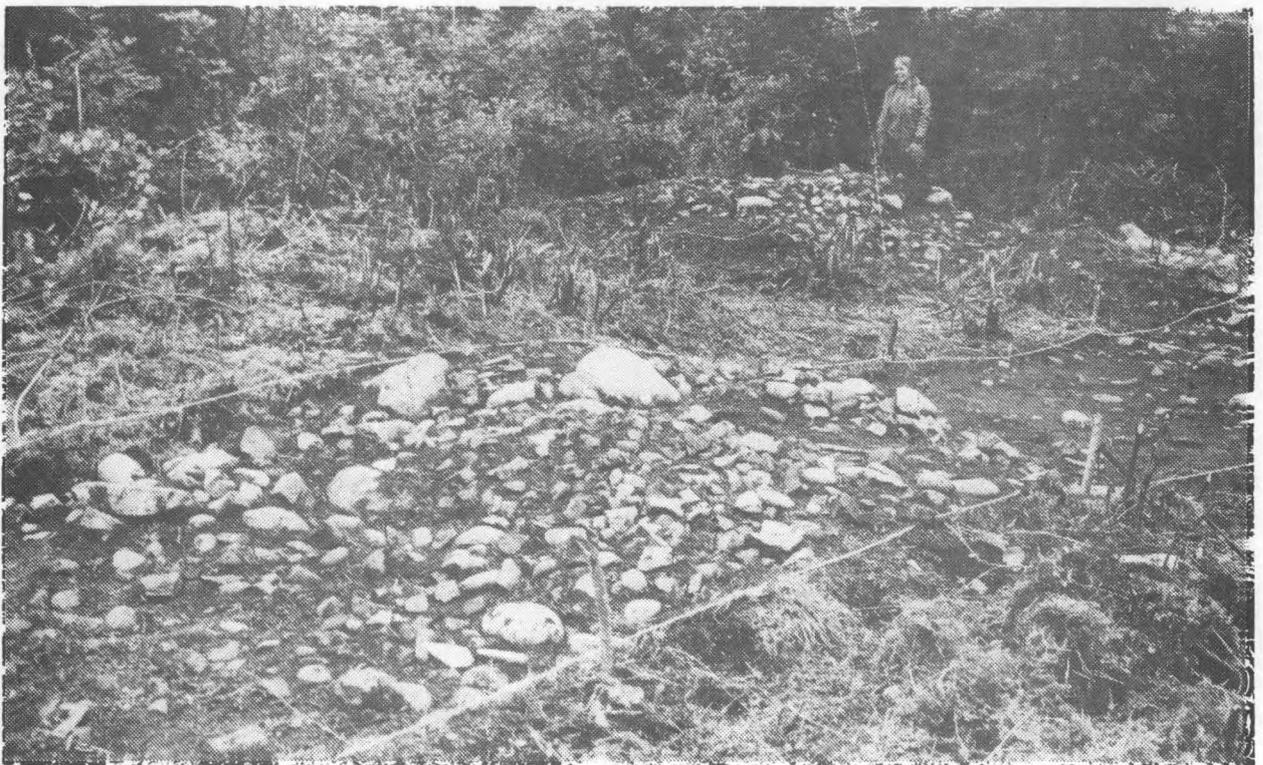


FIG. 32. a, housepit 4, FeSr 4. Cross trenches and excavated quadrant. Note the prevalence of rocks on and within the floor zone. b, mounds of fire cracked rock at FeSr 7. They may once have been just at the outside of a large cedar plank house.

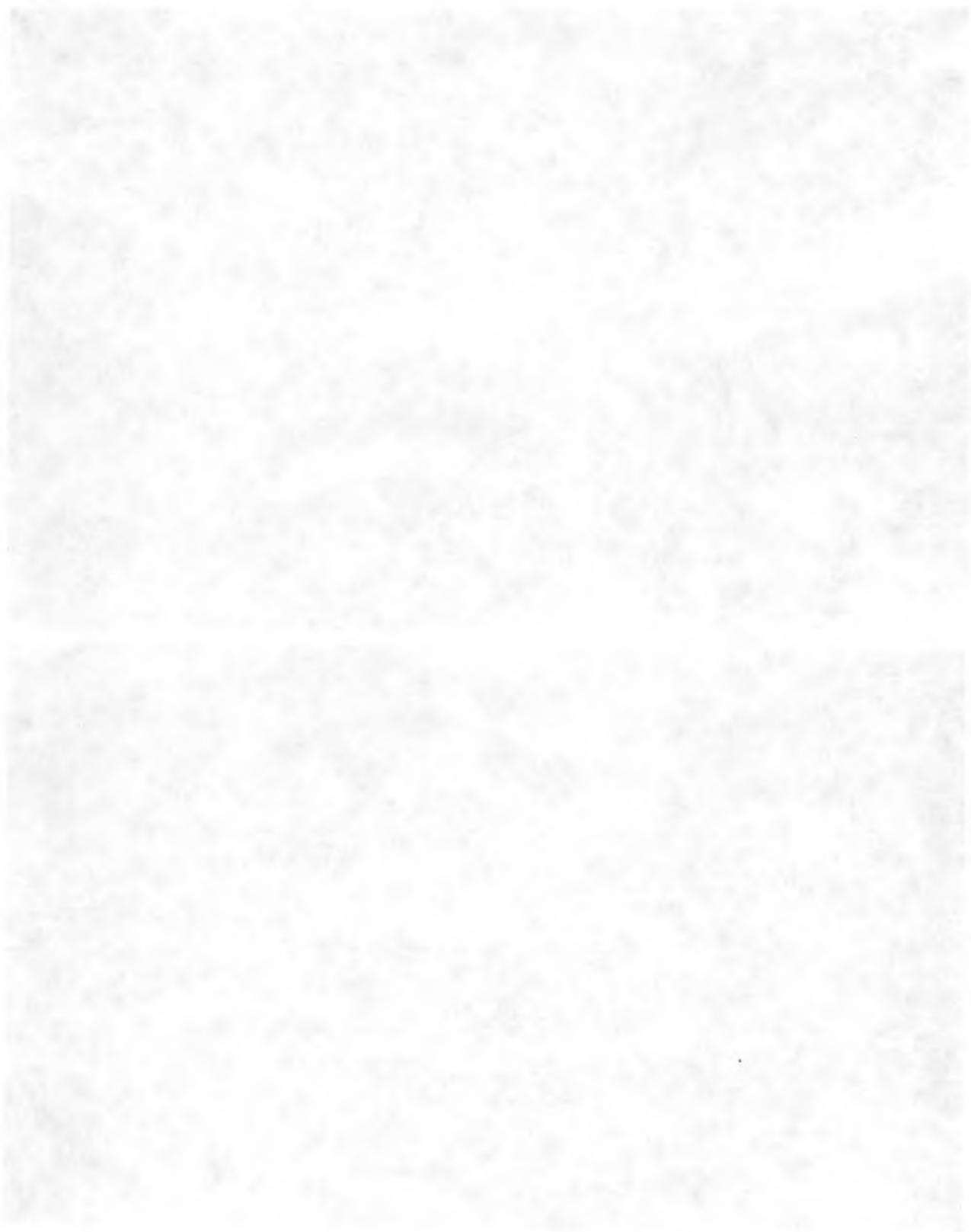




FIG. 33. Petroglyphs in the Dean River Canyon. The old Indian trail along the river on its north bank passes directly over these figures.



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ARCHAEOLOGICAL INVESTIGATIONS IN THE TAKLA LAKE REGION

John McMurdo

INTRODUCTION

In early spring, 1971, the Pacific Great Eastern Railway was approached by the Archaeology Department of Simon Fraser University, as construction had begun on a new railway linking Fort St. James and Dease Lake. The company was presented with plans for an extensive archaeological survey of the proposed route. It was explained that our purpose was to salvage any archaeological information that might be destroyed in the process of construction. While a grant from the Opportunities for Youth Programme would form part of the budget for this survey, the co-operation of P.G.E. was necessary, particularly in the field of transportation and room and board, if the survey was to be successful. By May 15, 1971, P.G.E. had not only granted permission for the survey but had committed itself to providing transportation in the survey area and room and board for a crew of six. By June 15 however, the company had limited the crew size to two, and on the arrival of David Butlin and myself in the field on June 17, it was discovered that transportation and other facilities were limited to the area of Takla Lake. Although this area was found to have been extensively disturbed through clearing and bulldozing, a survey was initiated. The results of that survey form the basis of this report. An appendix has also been added which includes the results of discussions with some native residents of Takla Lake.

THE PHYSICAL ENVIRONMENT

Takla Lake is approximately 50 miles long and two miles wide at its widest point. It lies within a geographical area

whose boundaries are 55° 3' - 55° 42' north, and 125° 30' - 126° 15' west. To the north, Takla Lake is accessible from the Skeena River through a system of lakes and rivers which include; the Sustut River, the Bear River, Bear Lake, and the Driftwood River. To the south, Fort St. James is accessible from Takla Lake by way of the Middle River, Trembleur Lake, Tachie River, and Stuart Lake. To the west of Takla Lake lie the Takla and Bait Mountain Ranges, the land sloping gradually to the latter and abruptly to the former. The east side of the lake is formed in part by steep granite cliffs and in other areas by gently rolling hills. Numerous small rivers and creeks flow into the lake but most of these are impassable by boat. The countryside, which is heavily wooded in both coniferous and deciduous vegetation, supports a large animal population. In the lake itself, several species of trout, whitefish, land-locked salmon, carp, and sturgeon abound. Waterfowl are also common.

CULTURAL BACKGROUND

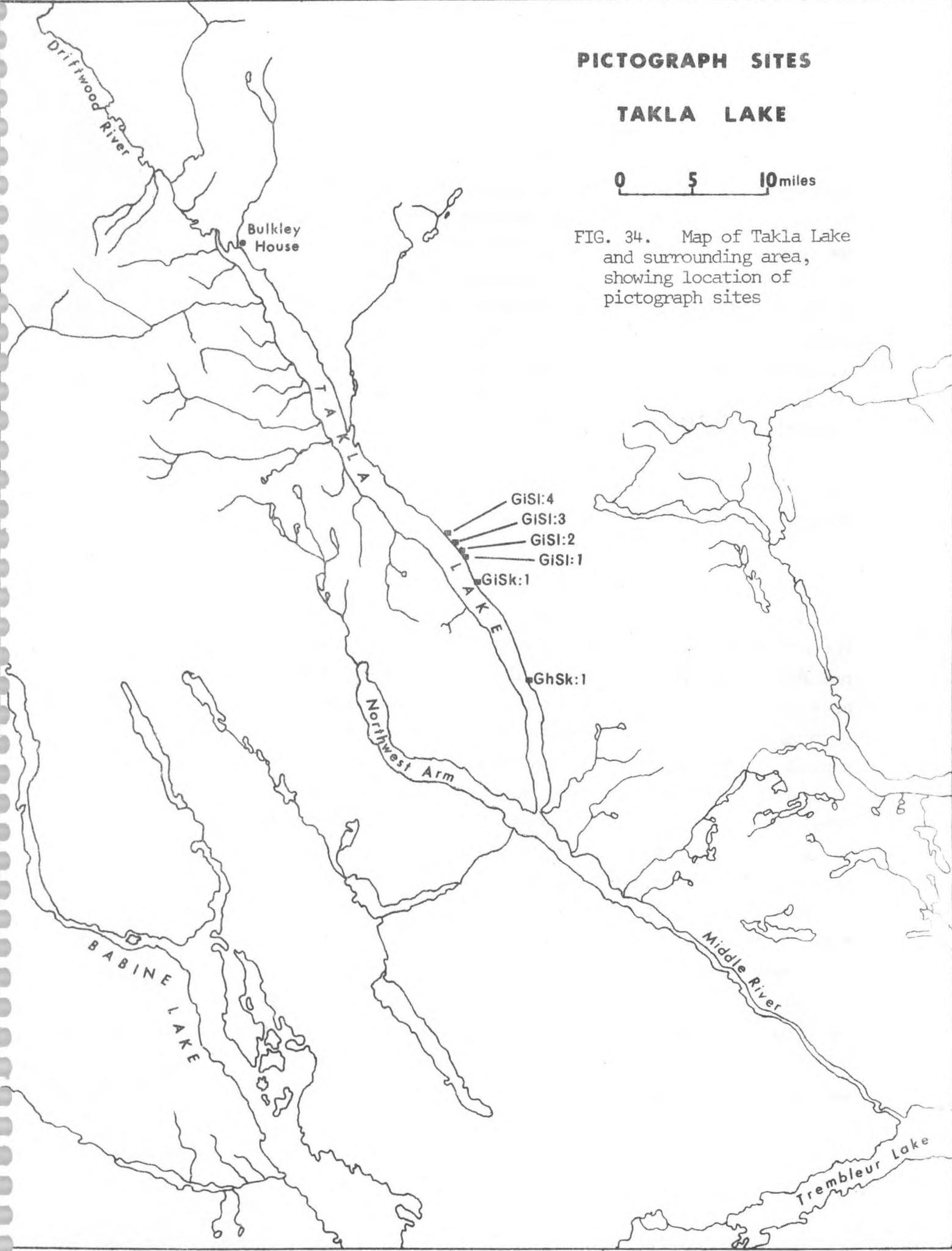
If traditional boundaries are applied, the greater part of Takla Lake lies within the territory of the Carrier Indians while its northernmost tip is occupied by the Sasuchan division of the Sekani tribe (Jenness 1937: Fig. 34). An examination of the annual round of both the Sekani and Carrier indicates that territorial boundaries were probably more dynamic than suggested above, particularly in the exploitation of lake resources. From November to approximately mid-summer, both groups were involved in hunting. For this purpose, smaller groups within both the Sekani and Carrier tribes possessed separate hunting territories. Among the Sekani this group was the band and among the Carrier the phratery of a subtribe (Jenness 1943:481). It is probable that

PICTOGRAPH SITES

TAKLA LAKE

0 5 10 miles

FIG. 34. Map of Takla Lake and surrounding area, showing location of pictograph sites



this type of organisation would tend to suppress movement outside of these boundaries. In the summer months, however, when the chief occupation was fishing, group organisation for the purpose of monopolising specific territories was not the case. It is highly probable that the Sekani and Carrier who have a history of friendly relations (Jenness 1937:11), shared the resources of Takla and other lakes during the summer. One would expect that with increased inter-areal mobility during the summer months, archaeological sites on the lake would have the potential of being either Sekani or Carrier in origin.

Other important ethnic divisions in the region include the Gitskan to the north and west of the Sekani and Carrier, and the Beaver to the east of the Sekani.

METHOD OF APPROACH

For the most part the survey was confined to scouting the lakeshore by boat and checking all areas that seemed probable archaeological sites. While a foot survey of the area would have been more desirable from the standpoint of thoroughness, necessary tactical support in the form of periodic food supplies was not available.

At the time of the survey, the water level of Takla Lake was approximately five to seven feet higher than normal, resulting from a spring run-off to greater than normal volume. For example, Indian Reserve No. 11, situated at the juncture of the Driftwood River and Takla Lake was under three to five feet of water. The fact that no archaeological sites were recorded other than pictographs may be explained to some extent by this flooding. Lakeshore habitation sites could quite easily have been inundated at this time. The task of locating sites was not made easier by the fact that our survey was confined to the P.G.E. right of way on the

already cleared and bulldozed north lake shore.

Survey forms were completed for six pictograph sites on Takla Lake. All were photographed in black and white, and in colour. Five of the six were drawn to scale. Due to the unavailability of boats it was impossible to return to GhSk 1 for scale drawings.

Mr. and Mrs. Johny French, residents of Bulkley House, Takla Lake, offered valuable information regarding the pictographs. The cultural derivation of the French family appears to be Sekani. Mr. French, who is 71 years old, has no memory of his family having lived anywhere but at Takla Lake. Mrs. French, who is approximately the same age, stated that her grandfather moved to this region from the vicinity of Fort Grahame. Fort Grahame is about 100 miles northeast of Bulkley House on the Finlay River and also lies within the territory of the Sasuchan division of the Sekani tribe. According to Mrs. French, her grandfather was the artist responsible for the Takla Lake rock paintings. She remembered journeys south with her father to trap and fish, and his explanation for the existence of the paintings and also their various interpretations. The rapidity with which she recognised and interpreted the paintings convinced me of the verity of these statements, while later examination of the paintings and interpretations indicates that she definitely had some knowledge of the pictographs and their meanings. The body of my paper demonstrates that I do not agree entirely with her ideas regarding the pictographs, but I do feel that any lack of precision regarding her interpretation is understandable, considering the distorting effects of the passage of time.

THE PICTOGRAPHS

Site GiSl 1

Fig. 35a. According to Mrs. French this figure represents a caribou. A similar figure at Stuart Lake has been variously interpreted as a moose by John Corner (1968:117) and as a caribou by A. G. Mbrace (1893:207). It seems most likely that both figures represent caribou, a number of sources indicating that moose did not frequent this area until quite recently. Simon Fraser, in a letter from Stuart Lake in August, 1806, states that here, "there are no large animals except Carruban (caribou) which is too sly for us." (Lamb 1960:236). In addition, Diamond Jenness, in speaking of the Takla Lake region, states: "the moose that are now becoming common reached the district, apparently, not more than half a century ago." (1937:2).

Fig. 35c. This figure was described as a "moon in circle". The two solid colour spheres (Fig. 35b), one on either side of the figure, were described as stars. No further explanation was offered. A figure represented in the Stuart Lake pictographs is strikingly similar to the above with the exception that the quarter moon has been inverted within the circle, and three "stars" are represented on either side rather than one. To date the crescent moon symbol has been most often found standing alone, the enclosure of the crescent within a circle being less common. A site on the Stein River in the Interior Salish culture area exhibits the only other example (Corner 1968:43). Two other sites, one on the Lower Arrow Lake and one at the Kohlar Ranch site exhibit possible representations of the full moon enclosed in a circle (Corner 1968:73, 83).

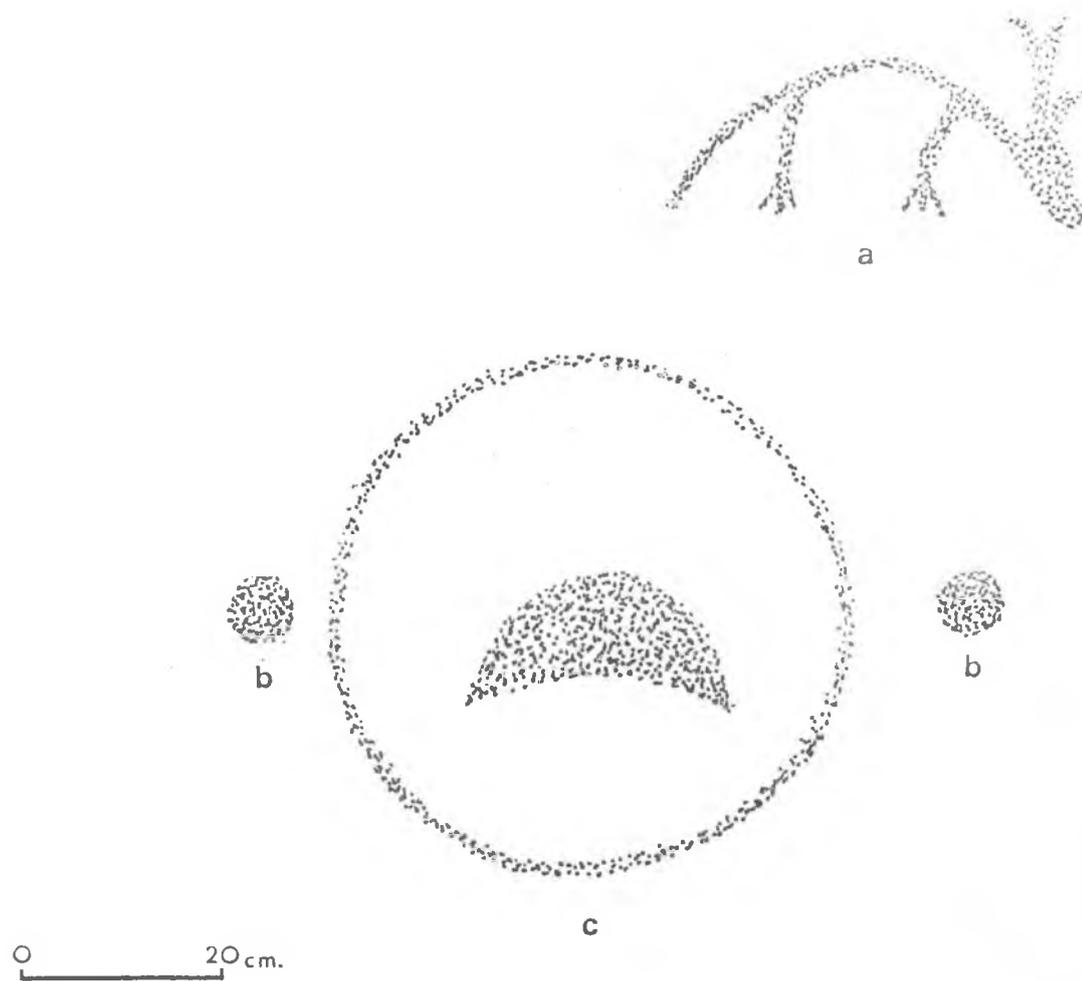


FIG. 35. Pictographs at GiSl 1. a, caribou. b, stars.
c, moon in circle.

Site GiSl 2

The two figures represented in this pictograph were the most faded and poorly preserved of all those recorded.

Fig. 36a. This is a reasonably definite representation of a bird, probably a crane, heron, or pelican. Comparison with other sites indicates that it is most similar to a pelican represented in pictographs at Seton Creek (Corner 1968:38).

Fig. 36b. While very poorly defined, this also appears to be a bird, judging from the faint outline that still remains.

Site GiSl 3

These pictographs are situated on a large curved rock face. The curvature of the rock results in two of the figures facing the northwest, while the remaining five face the southeast. The former two figures compose Panel A and are given a single interpretation, while the latter figures compose Panel B, each figure of which is interpreted separately.

Panel A (Fig. 37). The interpretation of Panel A offered by Mrs. French was "an otter by the bank of the lake". A. G. Morice examined similar figures on Stuart Lake in 1893 with the aid of native informants, and concluded that such figures represented fish (1893:207). In addition Morice illustrates what he considers to be the symbol for otter. The similarity between the otter and fish symbols is close enough that a mistaken identification could be very easily made (see Fig. 38d, e). If the Stuart Lake pictographs are examined more closely, further support is given to the idea that figure 37a represents a fish rather than an otter. Symbols g and b in figure 38 are closely associated figures in one of the Stuart

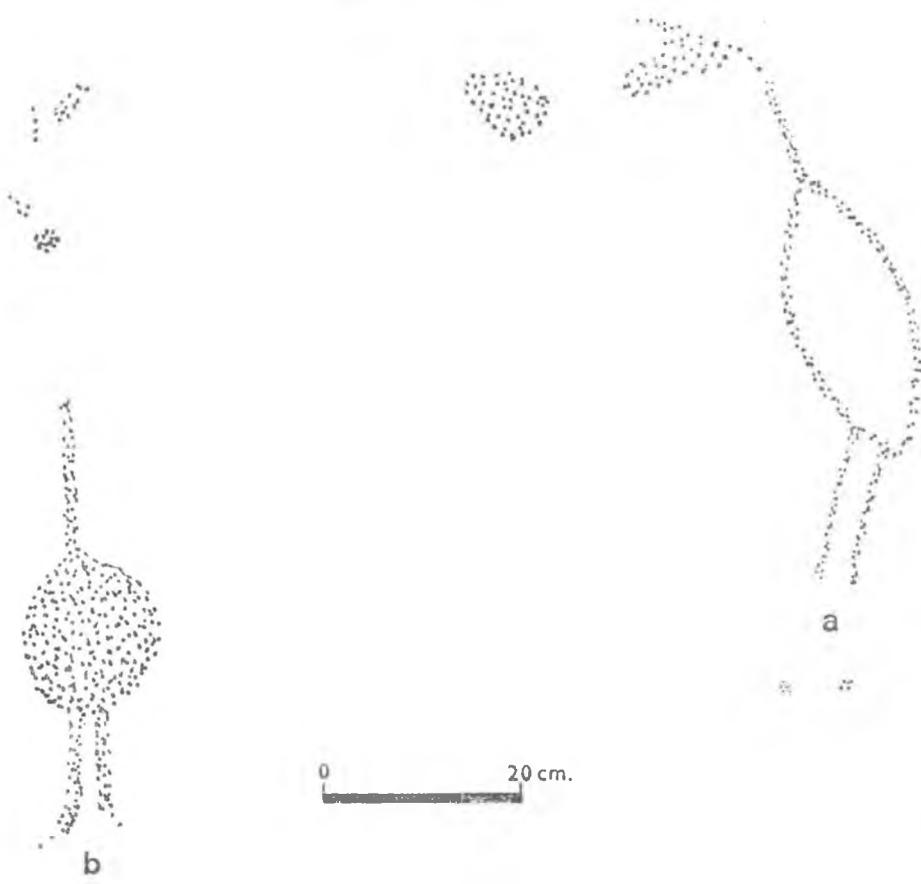


FIG. 36. Pictographs at GiSl 2. a. bird, possibly a pelican. b. bird

Lake pictograph panels (Corner 1968:115). If the physical structure of a, which almost certainly portrays a fish eating a man, is carefully compared to the structure of b, we can see that b which is identical to figure 37a is in all likelihood a fish as well.

Panel B (Fig. 39). Figures represented in Panel B appear to have been painted at different times and probably represent different periods, if colour variation is a valid indicator. Figures b, c, e and f, are all similar with regard to shade of colour and degree of shading present. Figures a and d, exhibit thicker paint and much greater depth in the reddish colour characteristic of these paintings. The Panel A pictographs can be assigned tentatively to the same period as the latter.

Fig. 39 c, d and e. These were interpreted by Mrs. French in the following manner: c, "a canoe", d, "a sail", and e, "an otter". While e almost certainly depicts an otter or fish, it is doubtful that c and d were originally intended to represent a canoe with sail. If c and e of Panel B, GiSl 3 are compared with d and e of GiSl 4 and with a and b of Panel A, GiSl 3 it seems more likely that the "canoe" and "otter", represent an otter or fish by the bank of a lake.

D, as previously mentioned, appears to have been added at a later date. If this figure does represent a sail, it is undoubtedly post contact, and was probably added by someone who did not grasp the meaning of c and d.

Fig. 39f. Mrs. French indicated that this figure represented the moon. Circles are present in pictographs in all culture areas of British Columbia and rarely are found in the same pictographic contexts. Because interpretation of these circles varies as much as does the context in which they are found, it is impossible to evaluate or question any given

panel A



FIG. 37. Pictographs at G1S1 3, panel A.
a, otter or fish. b, "bank of lake".

interpretation.

Fig. 39a. This figure, one of the pictographs assigned to the tentative later period was interpreted as a caribou. While the shape of the head is more like that of a moose than a caribou, it is naturally a question of the value placed on realism by the painter.

Fig. 39b. This figure was interpreted as being a mountain goat. If such is the case, the tail seems inordinately long and the butt end protrudes to an extreme degree from the hind legs. The lengthy tail and protruding butt seem more likely to be an extra head with horns - the whole figure representing two mountain goats joined at the mid-section and facing opposite directions. Because absolute realism is not a feature of pictographic art however, both interpretations are equally valid.

Site GiSl 4

Fig. 40e and f. These two figures appear once more, and are again given the interpretation "otter" and "bank of lake" by Mrs. French. The outline of the otter figure is very indistinct, but it appears to be quite similar to GiSl 3 a which was interpreted as a fish.

Fig. 40d. While also very indistinct, this figure exhibits the tail-fin characteristic of the fish symbol illustrated by a, b, and c of figure 38. GiSl 4 a and b appear to follow the "moon and stars" pattern of GiSl 1, and were interpreted as such by Mrs. French. The diamond shaped figure c, which at first glance appears to be related to the circle above it, probably represents a frog. GiSl 4, c, d, e and the circle, a, are of a much deeper and thicker red pigment than the frog-like figure, and are possibly more recent.

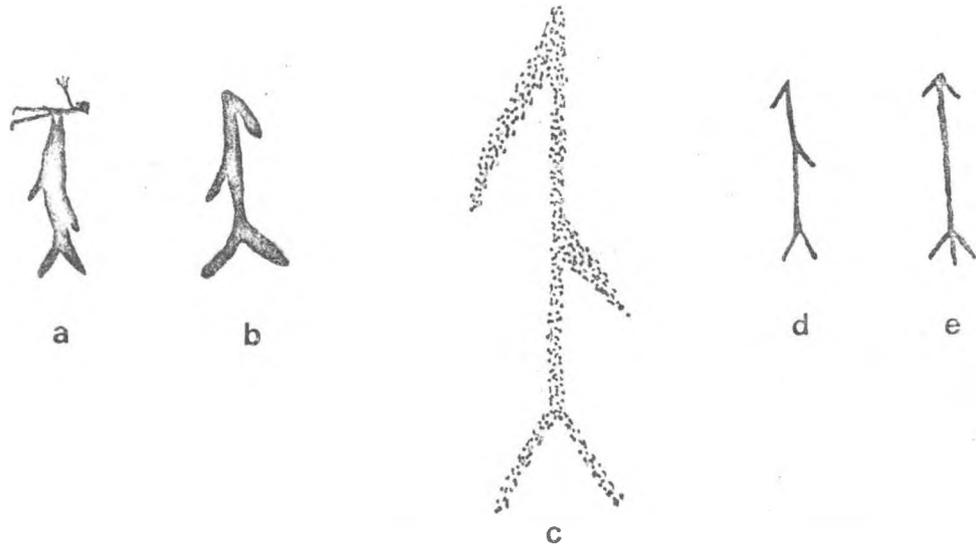


FIG. 38. a, b, closely associated figures in pictograph panels at Stuart Lake, (Corner 1968:115). c, pictograph at GiSl 3 (a). d, e, fish and otter symbols, according to Morice (1893:207).

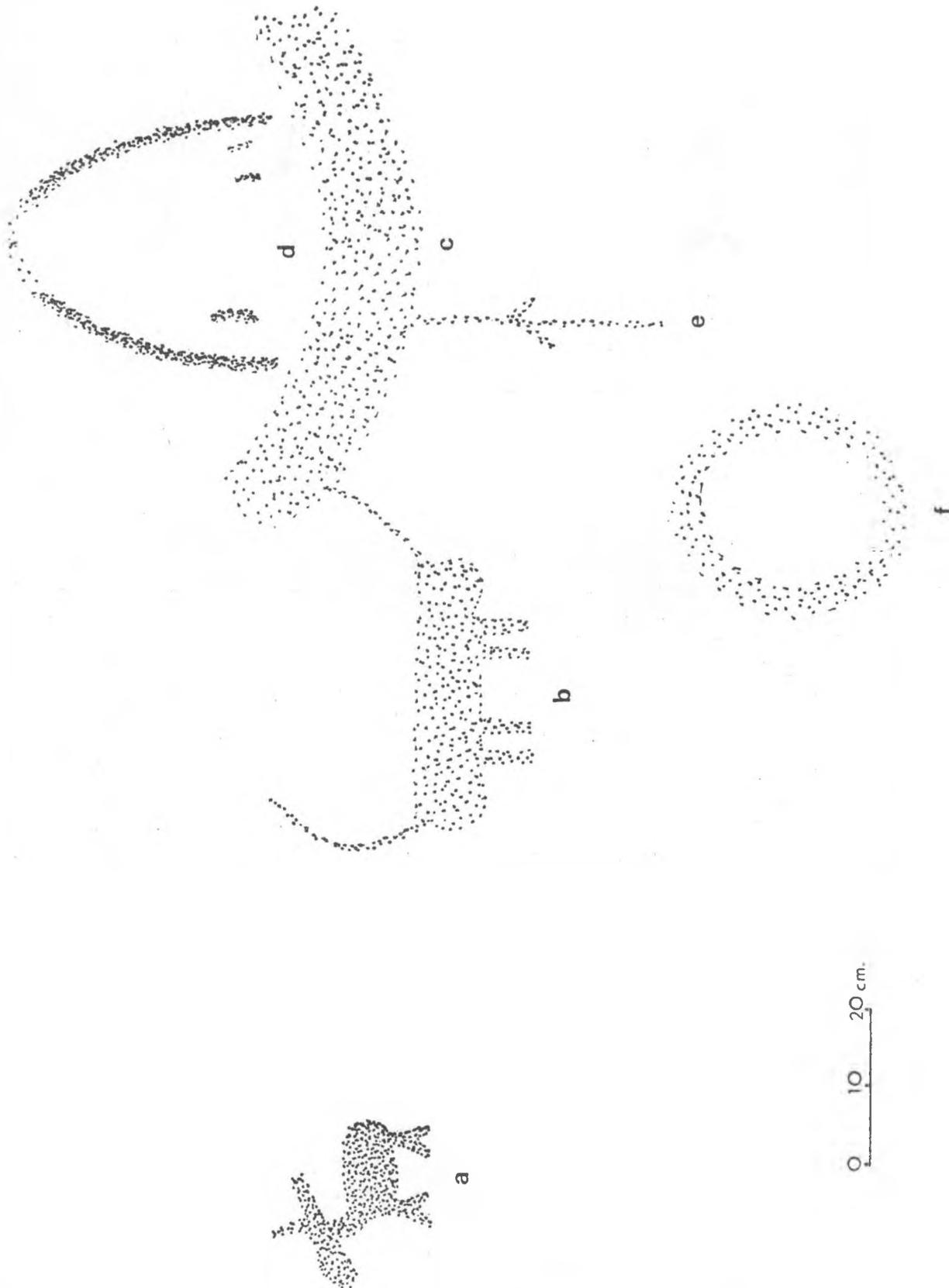


FIG. 39. Pictographs at GiSl 3, panel B. a, caribou. b, mountain goat(s)? c, canoe or bank of lake. d?, e, otter or fish. f, moon

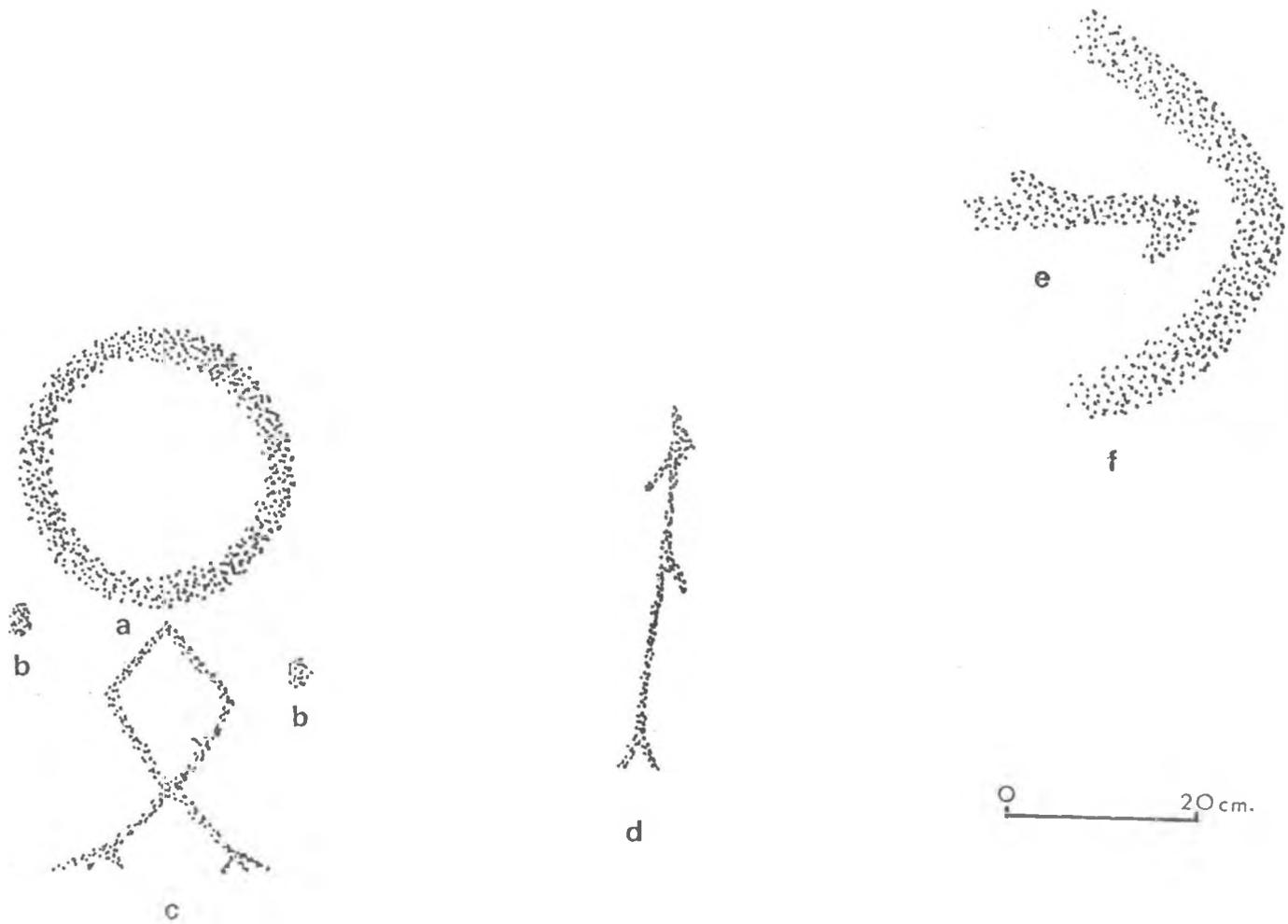


FIG. 40. Pictographs at Gisl 4. a, moon. b, stars. c, frog. d, fish. e, fish or otter. f, "bank of lake".

Site GiSk 1

With the GiSk 1 pictographs we once again concern ourselves with the enigmatic circle. The figure represented in figure 41a was interpreted as a "beaver on a stretcher - or drying rack". The fact that the animal within the circle is headless, lends a degree of credibility to the interpretation.

Consisting of a circle of solid colour, figure 41b was interpreted as being either the sun or the moon.

Site GhSk 1

Fig. 42a is best interpreted as some species of animal near a trail. As previously mentioned, this is a fairly common representation in pictographs of the interior of British Columbia (Corner 1968:29). The animal depicted may have possessed a head of some sort at one time, but it is difficult to distinguish between what might be the remnants of a head and the pattern of lichen which has overgrown this figure.

Fig. 42b. This is a commonly used design, particularly in the interior of British Columbia, and represents a grizzly bear track (Corner 1968: 35 and 61).

Fig. 42c. While quite indistinct, this figure may be related to the otter or fish symbols mentioned frequently in regard to other sites on Takla Lake.

TIME PERSPECTIVE

The exact age of the paintings is difficult to determine. A headline in the Sunday Province of March 3, 1925 states, in regard to the closely related Stuart Lake pictographs, "Rock-Written Indian Story - There When Mackenzie Passed". While



a



b

0 20 cm.

FIG. 41. Pictographs at GiSk 1. a, beaver on a stretching rack. b, sun or moon

Mackenzie did pass through this area, his journal was carefully examined in this regard and no mention of these pictographs could be found.

Simon Fraser has also been given credit for the discovery of these pictographs (Corner 1968:115). While he was responsible for the construction of Fort St. James on Stuart Lake in 1806, no verification could be found of this discovery in his journals.

If the pictographs had been painted in the early part of the nineteenth century, it is unusual that Daniel Harmon or John Maclean make no mention of them in their journals. Maclean, who spent 25 years in the service of the Hudson Bay Company, kept a detailed journal in regard to the Indians of Stuart Lake and vicinity. The lives and material culture of the Sekani and Carrier are also vividly recounted by Harmon, who was in charge of Fort St. James from 1811-1817 (Voorhis 1930:154).

The first mention and description of the Stuart Lake pictographs is made in Morice's "Notes on the Western Denes", published in 1893. The absence of their mention in earlier journals, combined with their relatively good state of preservation at this time, indicates that neither the Stuart Lake nor the Takla Lake pictographs are probably older than 100 to 150 years.

CONCLUDING REMARKS

The meaning of these pictographs is something that will probably never be known for certain. Mr. and Mrs. French suggested that these paintings were used to indicate game trails or hunting territories in the form of trap lines. While they may be associated somehow with the quest for game, it is unlikely that the Takla Lake pictographs demark individual hunting or fishing territories if their close

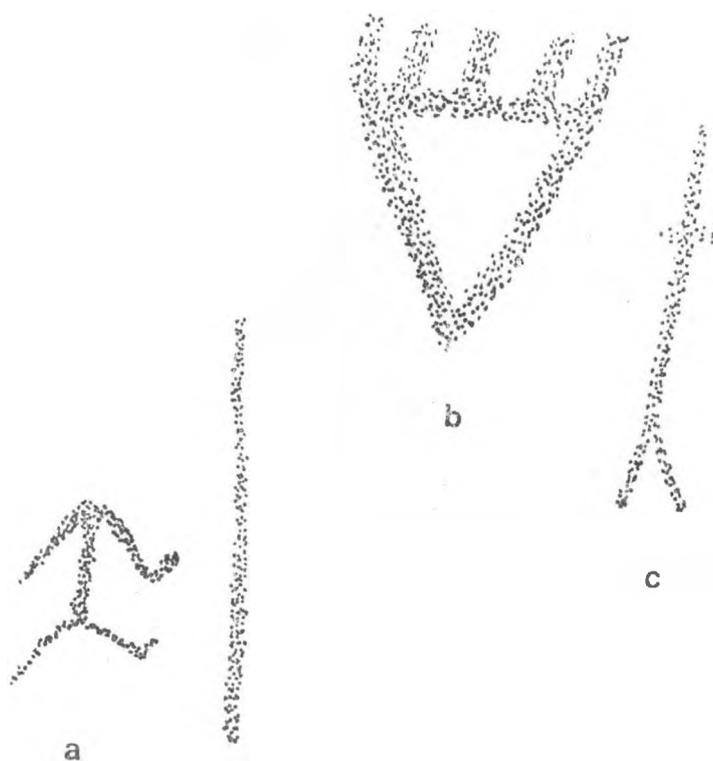


FIG. 42. Pictographs at GhSk 1. a, animal near trail. b, grizzly bear track. c, otter or fish

proximity is taken into consideration.

Morice suggests that a number of these paintings represent personal totems. He relates the following in regard to one of the Stuart Lake pictographs:

"The inscription...is to be seen about half-way between this place, Stuart's Lake or Na'kraztli and Pintoe, the nearest village by water. By painting in such a conspicuous place the totem which had been the object of his dream, the Pintoe Indian meant to protect himself against any inhabitant of Na'kraztli, as the intimate connection between himself and his totem could not fail he believed by an infallible presentment the coming of any person, who had passed along the rock adorned with the image of his totem." (Morice 1893:206)

While the pictographs at Takla Lake may have some religious or mystical significance, it is unlikely that their geographical situation is related in any way to their meaning as Morice suggests for the latter. The location of pictographs at Takla Lake appears to be directly related to that of rock faces which, owing to their physical nature, lend themselves to painting. These faces are generally flat and easily accessible by land or by boat.

The key to these paintings is probably found in the intense involvement with the physical environment which characterises all aboriginal societies. Such involvement is expressed in some form in any human society, either by a group or by an individual. The Takla Lake pictographs are in all probability representative of the latter form of expression.

Appendix

While Mrs. French offered valuable information regarding the Takla Lake pictographs, Mr. French was equally helpful in the description of subsistence techniques employed by his

grandfather, and presumably by the contact period Sekani.

According to Johnny French, the three major methods employed in fishing made use of the hook and line, the fish net, and the fish spear. The hooks used were apparently the very old and widespread type consisting of a stick or piece of bone sharpened at both ends and tied in the middle. While I could find no evidence of the use of this particular type of hook in any source consulted, Alexander Mackenzie, in his journal, mentions the use of hooks which "are small bones, fixed in pieces of wood split for that purpose, and tied with fine watape" (1931:119). These are of course, the equally widespread composite fish hooks. It is probable that the structurally less complex type mentioned by Johnny French was utilised in addition to the latter.

The manufacture of fish line was apparently accomplished in the following manner: willows were cut down in the spring and the fibres removed; a number of these fibres would then be taken, and together, rubbed and rolled on the craftsman's leg creating a braided effect, and thus a stronger line. Several strands of this braided willow would then be joined together to form the final product. Fish nets, which were commonly employed, were manufactured by the same method and of the same material as fish line. Verification of the method outlined above comes from two major sources. Regarding the Sekani, D. W. Harmon states, "the women make excellent nets, of the inner bark of the willow tree, and of nettles..." (1904:248). Further support is added by an entry in Mackenzie's journal for June 10th, 1793 which states that "their nets and fishing lines (those of the Sekani) are made of willow bark and nettles; those made of the latter are finer and smoother than if made with hemp and thread".

Johnny French also mentioned the use of the three pronged fish spear. Diamond Jenness has recorded the use of this

device among the Sekani. According to him the three-pronged leister, armed with bone points, was used in spearing fish at night from canoes by the light of jack pine torches (1937:38).

In the field of hunting, snares, also made from the fibres of spring willow, were apparently the most popular method of trapping small animals. Deadfalls were also used for this purpose. The bow and arrow was employed, the projectile being made of "very sharp stone". Mackenzie describes the bow of the Sekani as "made of cedar about six feet in length and the arrows, barbed, feathered, and pointed with iron, flint, stone or bone" (1931:118).

Incidental information offered by Johny French included mention of his grandfather making soles for moccasins out of spring salmon skins which had been dried and cured. Harmon, in regard to uses of the salmon among the Sekani, states that "of the skin of this fish, they sometimes make leggins, shoes, bags etc., but they are not durable" (1904:244).

Canoes, according to Mr. French, were made from birch bark, while Mackenzie writes "they had spruce bark in plenty, with which they make their canoes..." (1931:121). However, Mackenzie mentions the use of birch bark in canoe construction among the Beaver Indians, whose territory borders directly on that of the Sekani. It is likely that birch bark was used in place of spruce by the Sekani when available as this material is far more durable.

The general outline of subsistence techniques offered by Johny French and their verification through consultation of published sources, would tend to indicate that statements regarding the Takla Lake pictographs also have a relatively high degree of validity. While the value of the native informant in recent cultural studies has often been challenged, investigations in the Takla Lake region would tend to negate

the beliefs of those who underestimate the importance of such information.

Acknowledgements

The co-operation and general assistance of the following persons was gratefully received: David Butlin, a student at Simon Fraser University, Mr. and Mrs. J. French of Bulkley House, and William Charlie of Takla Landing.



NOONS CREEK AND BELCARRA: A PRELIMINARY REPORT ON
EXCAVATIONS NEAR PORT MOODY

Arthur S. Charlton

INTRODUCTION

Archaeological survey at the head of Burrard Inlet and on Indian Arm revealed two sites in danger of destruction. The first site, DhRq 1, located at Noons Creek in Port Moody was brought to our attention by the Port Moody Historical Society. Permission to excavate was granted by Mr. Morris Steele, the owner of the property, and the site was investigated between May 19 and June 2. The second site, DhRr 6, at Belcarra Park was excavated between June 8 and August 17.

NOONS CREEK SITE DhRq 1

The portion of the Noons Creek site which was excavated is located at 49° 15' 00" latitude north and 122° 47' 30" longitude west. The areas excavated was located within one vacant city lot approximately one half mile northwest of the Ioco Road - Highway 7A junction, at 301 Ioco Road. Seventeen, 2 meter by 2 meter pits were excavated to sterile soil. Cultural deposits varied from 20 centimeters to 70 centimeters in depth. Similar deposits of discontinuous midden were observed at the Pigeon Cove site (DhRr 9), approximately one half mile southwest of the Noons Creek midden. Upon surveying the Noons Creek - Pigeon Cove locality, it was found that any cultural deposits which may have existed have been virtually obliterated by one or more of the following factors:

1. landscaping and construction of seven houses
2. Bulldozing for a community ball park and ice arena

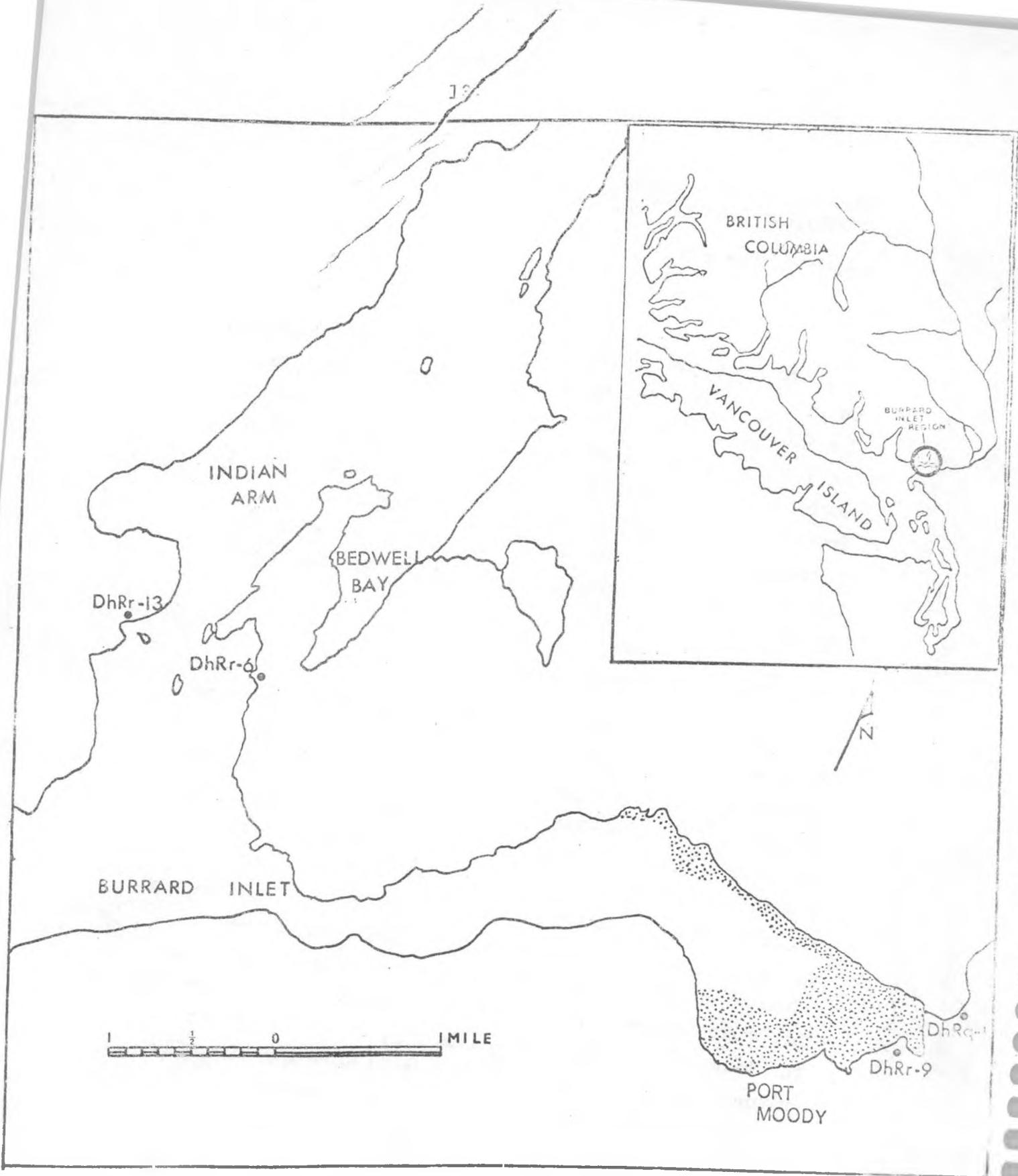


FIG. 43. Map of the Burrard Inlet - Indian Arm region, showing the following sites: Noons Creek (DhRq 1), Belcarra Park (DhRr 6), Pigeon Cove (DhRr 9), and Strathcona (DhRr 13)

3. Road and railroad construction
4. Bulldozing for clay deposits for a brick kiln which formerly existed in the area.

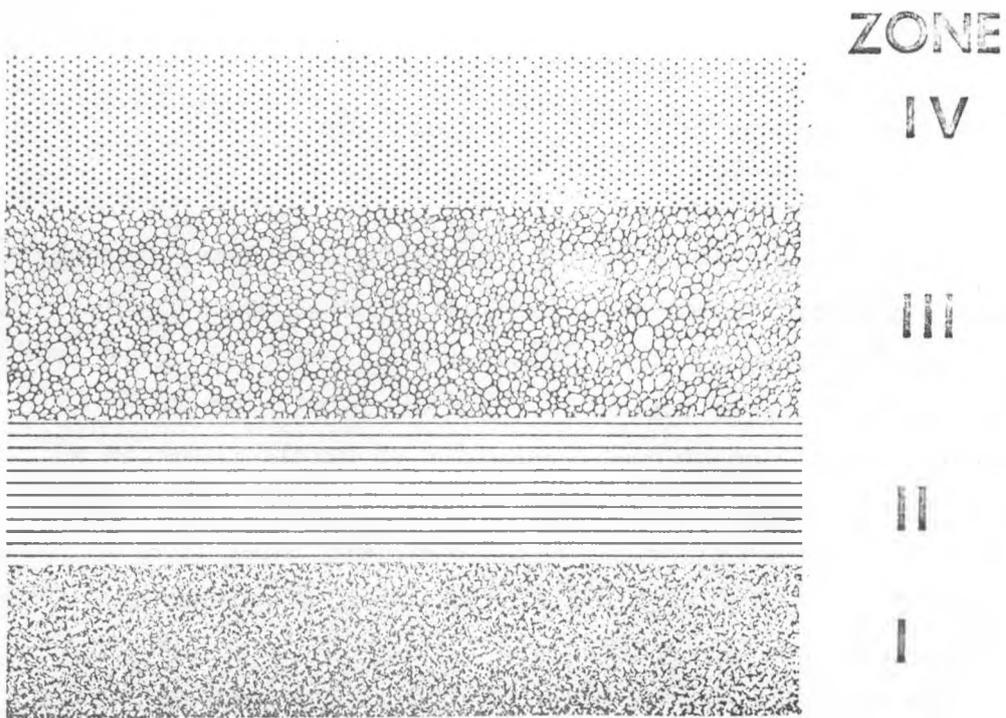
Between the Noons Creek site and the Pigeon Cove site, disturbed deposits can still be seen on the south bank of Noons Creek. Thin, small patches of shell have also been observed in the area. On the tidal flats at the head of Burrard Inlet, one chipped basalt projectile point plus a quantity of basalt flakes were found on the surface. These observations lead me to believe that the area surrounding the head of Burrard Inlet from Pigeon Cove to Noons Creek, was at one time, an extensive, shallow, discontinuous midden.

A small salmon run of minor importance has been reported at Noons Creek in former times. The tidal flats at the head of Burrard Inlet were at one time, an excellent source of various shellfish. The excavations at Noons Creek have located quantities of butter clam, cockle, blue mussel, whelk and oyster shell, and fish bones. The area may have been occupied prehistorically on a seasonal basis, primarily for the collection of shellfish.

Stratigraphy

In the area where the deepest cultural deposits (70 centimeters) were located, a definite stratigraphic sequence was observed (Fig. 44). This sequence consisted of four zones which will be identified as I to IV from the oldest to the youngest. Zones II, III, and IV are the cultural deposits at the site, while zone I is the geological strata upon which the cultural deposits lie. Fire-cracked rocks, charcoal deposits and irregular ash layers were observed within all three cultural layers.

Zone IV is the latest cultural deposit at the Noons Creek



LEGEND

ZONE IV	DARK HUMUS DEPOSITS, SPARSE CLAM AND COCKLE SHELL
ZONE III	CLAM, COCKLE SHELL
ZONE II	BLACK HUMUS, SPARSE BLUE MUSSEL
ZONE I	BROWN STERILE CLAY

FIG. 44. Idealised strata from the Noons Creek site

site. This layer has been heavily disturbed and it was not uncommon to find historic material mixed with prehistoric material. Zone IV is composed mainly of dark brown humus.

Zone III is comprised of heavy deposits of crushed butter clam, (Saxidomus giganteus), and basket cockle, (Clinocardium nuttalli). Deposits of loose, whole clam and cockle shell were common in this zone.

Zone II is composed of black humus with light deposits of crushed blue mussel, (Mytilus edulis), shell.

Zone I is the underlying geological deposit at the site, composed of brown sterile clay with many boulders.

Artifacts

A total of 124 stone, bone, and antler artifacts were collected from the Noons Creek locality. Of this, 94 were excavated in situ while 30 were collected from the surface. The 30 surface artifacts were from the tidal flats at the head of Burrard Inlet and from the surface of the Noons Creek site itself. The majority of the surface artifacts were basalt flakes. The one fire-hardened antler tine from the surface showed cut marks. One complete chipped basalt projectile point, 4 centimeters long, was collected from the tidal flats.

Bone and Antler Artifacts

A total of 30 antler wedges, almost a third of all artifacts excavated, were recovered. Of these, half were complete and varied from 8 to 14 centimeters in length. The other half are broken tips, all of which measure under 6 centimeters in length (Fig. 45c). Most of the broken tips measure between 2 and 3 centimeters in length. Nine of the wedges had been split longitudinally and ground unifacially (Fig. 45g).

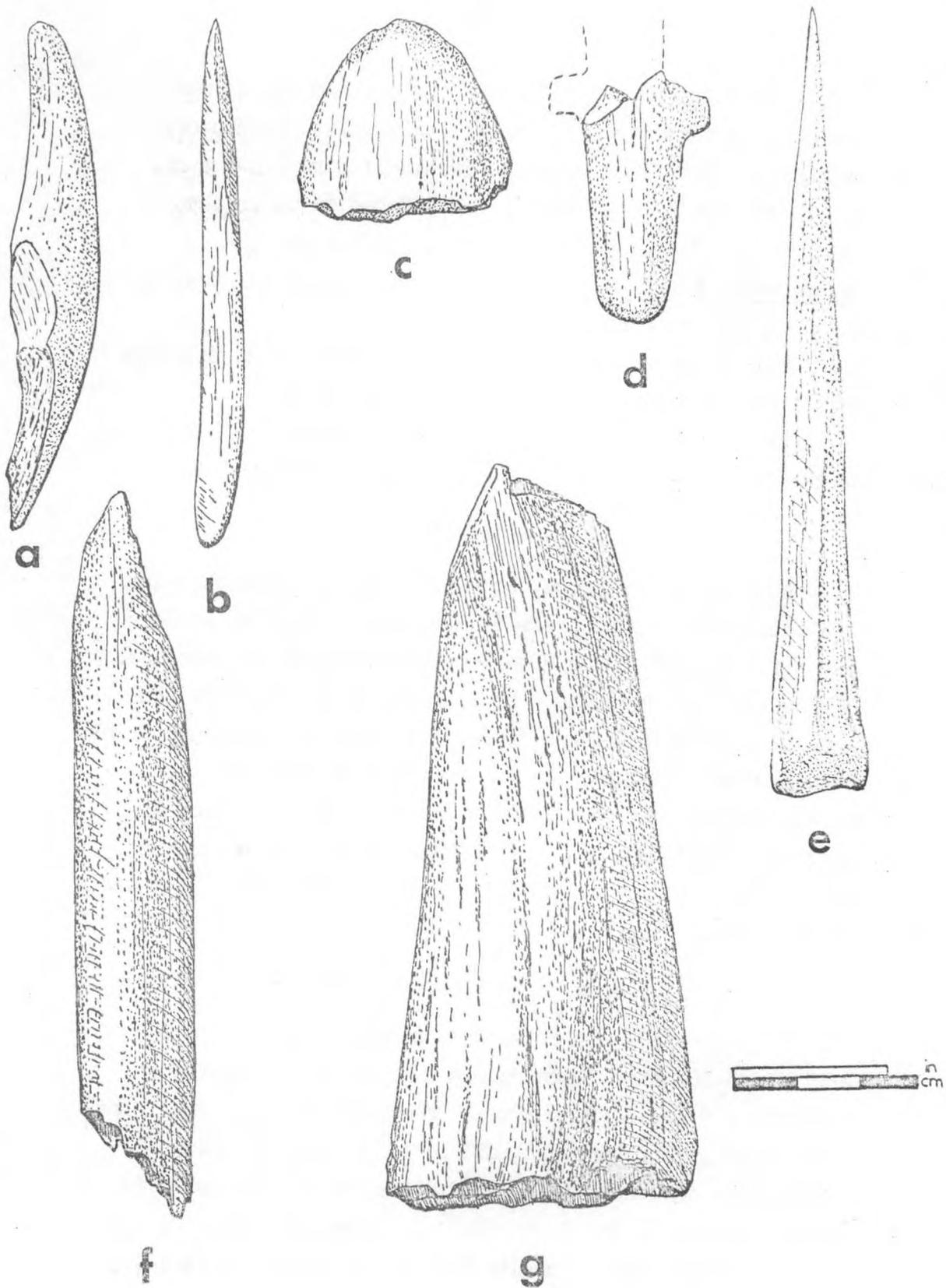


FIG. 45. Bone and antler artifacts from the Noons Creek site.
a, worked antler tine. b, ground bone point. c, antler wedge tip.
d, butt of antler harpoon with lateral line guard. e, ground bone
 awl. f, ground and polished bone flesher?. g, ground antler wedge

Six antler tine tips were excavated. They average 6.3 centimeters in length and range from 4.2 centimeters to 9.00 centimeters in length. All have been cut or crudely hacked at the proximal end, but none appear to have been ground for use as wedges. All specimens except for a rather blunt one show minute scratches and abrasions at the distal ends. It is possible that they functioned as flakers in the production of chipped stone tools (Fig. 45a).

Two pieces of antler which had been cut at each end were excavated. They measure 14 centimeters and 16 centimeters in length. It is possible that antler wedges were made from the pieces which had been cut off.

One fire hardened butt of a harpoon was excavated. The tang, which measures 3.0 centimeters in length, and the lateral line guard are all that remain (Fig. 45d). The harpoon was probably of the unilaterally barbed variety and bears a strong resemblance to the Marpole phase harpoons.

Twenty-four bone points or fragments of pointed bone objects were recovered. Most of the tools were made from split long bones of land mammals. These splinters had been taken and one end has been ground to a point.

Stone Artifacts

Seven chipped stone tools were recovered during the excavations. All of the specimens are made from various grades of local basalt. Six of the seven are leaf shaped in outline (Fig. 46g), while one is stemmed. Four of the points are complete and vary in length from 4 to 6 centimeters. Two of the points are incomplete with only the tips remaining. The other point is also incomplete, and only the medial section is present. The specimen measures 4 centimeters in width and is 1.3 centimeters thick. This tool plus the two tips may have functioned as chipped stone knives.

Two adze blades were recovered, both of nephrite and both incomplete. Both had been ground and polished on all surfaces. The larger specimen measures 9.0 centimeters in length, is 6.5 centimeters wide and is 1.6 centimeters in depth (Fig. 46d). The other adze blade is a fragment of a butt end and measure 1.0 centimeter in thickness. These adze blades are similar in style to the large adze blades found in Marpole, Whalen II and Stselax phases on the Fraser Delta.

Two abrader stones were excavated. Both were flat, rectangular and exhibited smoothed surfaces where grinding had taken place.

Three hammerstones were recovered. All are elliptical in cross-section. One was incomplete. The two complete hammerstones measured 14.0 and 9.0 centimeters in length. Both had flakes removed from one end and the edges of one appeared to be heavily abraded.

Eleven fragments of ground slate knives were recovered (Fig. 46c). All are very thin and exhibit bifacially ground edges. Most of the fragments were also ground on both the lateral and ventral surfaces.

Five basalt cores were excavated in situ (Fig. 46b). Five utilised flake of green quartzite was also excavated.

Summary

Survey work and excavations in the Noons Creek area have shown that a large area at the head of Burrard Inlet was at one time a large but shallow midden. The area may have been a seasonal camp for a number of aboriginal groups who were exploiting the abundant shell fish beds in the area. Almost one third of the artifacts excavated were complete or broken antler wedges. The two adze blades recovered were of the large variety often utilised in heavy woodworking activities.

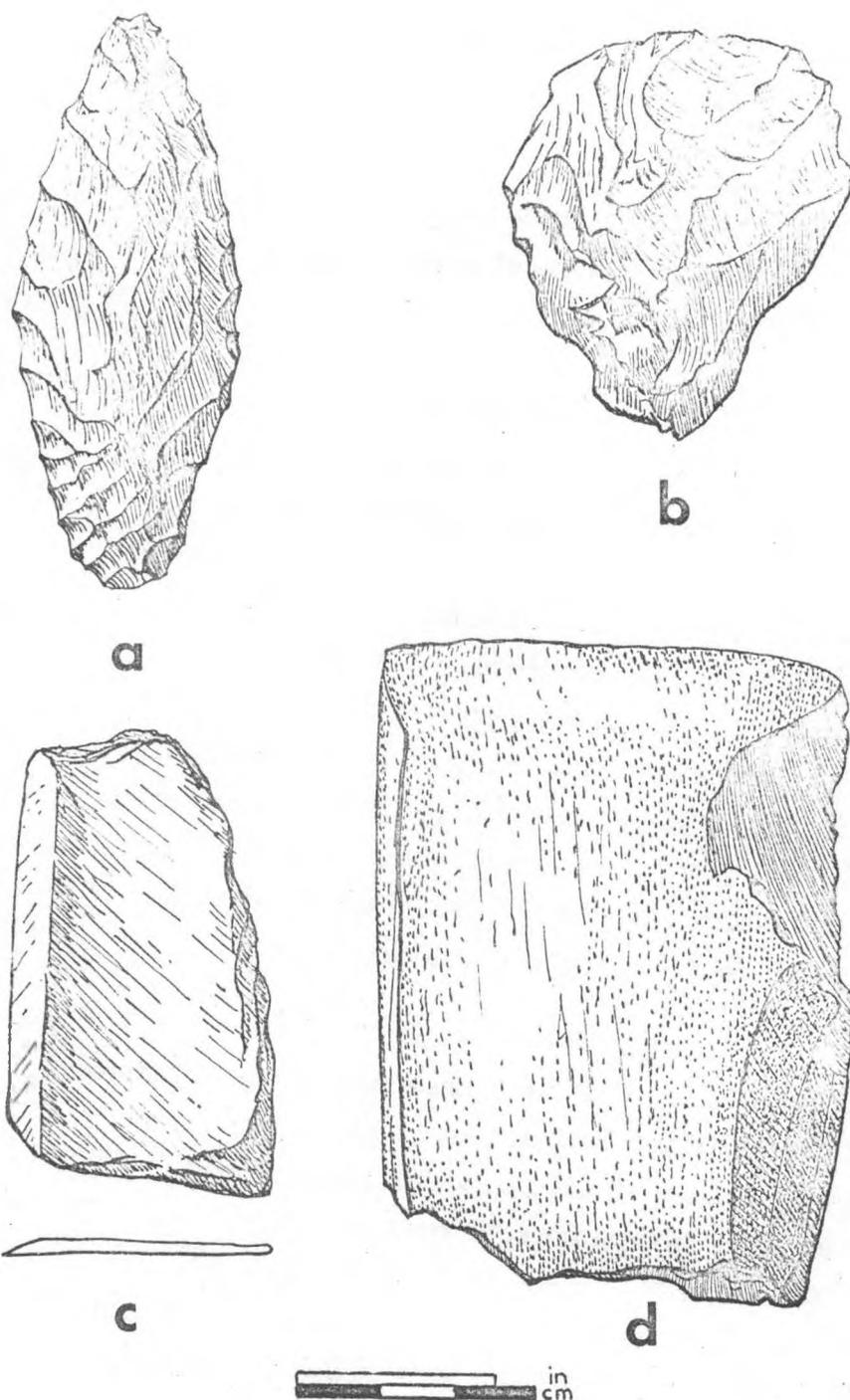


FIG. 46. Stone artifacts from the Noons Creek site. a, chipped basalt projectile point. b, chipped basalt core. c, ground slate knife. d, ground nephrite adze blade

It appears that perhaps a great deal of time was being spent in woodworking activities; perhaps the splitting of large cedar logs into planks. The Moons Creek area is so badly destroyed that any further archaeological work is unlikely to produce definitive results.

THE BELCARRA PARK SITE DhRr 6

The Belcarra Park site is located on the eastern shore of Indian Arm at longitude 122° 55' 25" west and latitude 49° 18' 48" north (see Fig. 43). The long axis of the site runs north/south along the beach, parallel to Indian Arm. At one time the site extended 200 meters (approximately 600 feet) along the shore and 40 meters (approximately 120 feet) back from the high tide mark. The location of the site, on a sheltered inlet, close to rivers offering major salmon runs, close to areas with abundant shellfish, and close to areas offering berries, indicate that Belcarra may have been an important prehistoric village in the Burrard Inlet - Indian Arm locality.

Stratigraphy

Six major stratigraphic units were observed at the Belcarra site. The last five zones are cultural units while the first designates the major geological unit on which the cultural deposits rest. The zones are numbered from I to VI from the lowermost to the top, or from the earliest to the youngest. The strata of zone I consists of a brown beach gravel, sand and clay. The earliest artifacts excavated were lying directly on top of the brown gravel layer, indicating the initial human occupation at this site.

Zone II appeared consistently in every pit excavated. Shellfish remains are virtually non-existent in this stratum, which is composed of greasy, compact black humus and large amounts of fire-cracked rock and charcoal. This zone contains

the earliest complex of artifacts from the Belcarra site. The artifacts from this stratum are almost all of stone. The few odd bone artifacts found were charred and hence preserved.

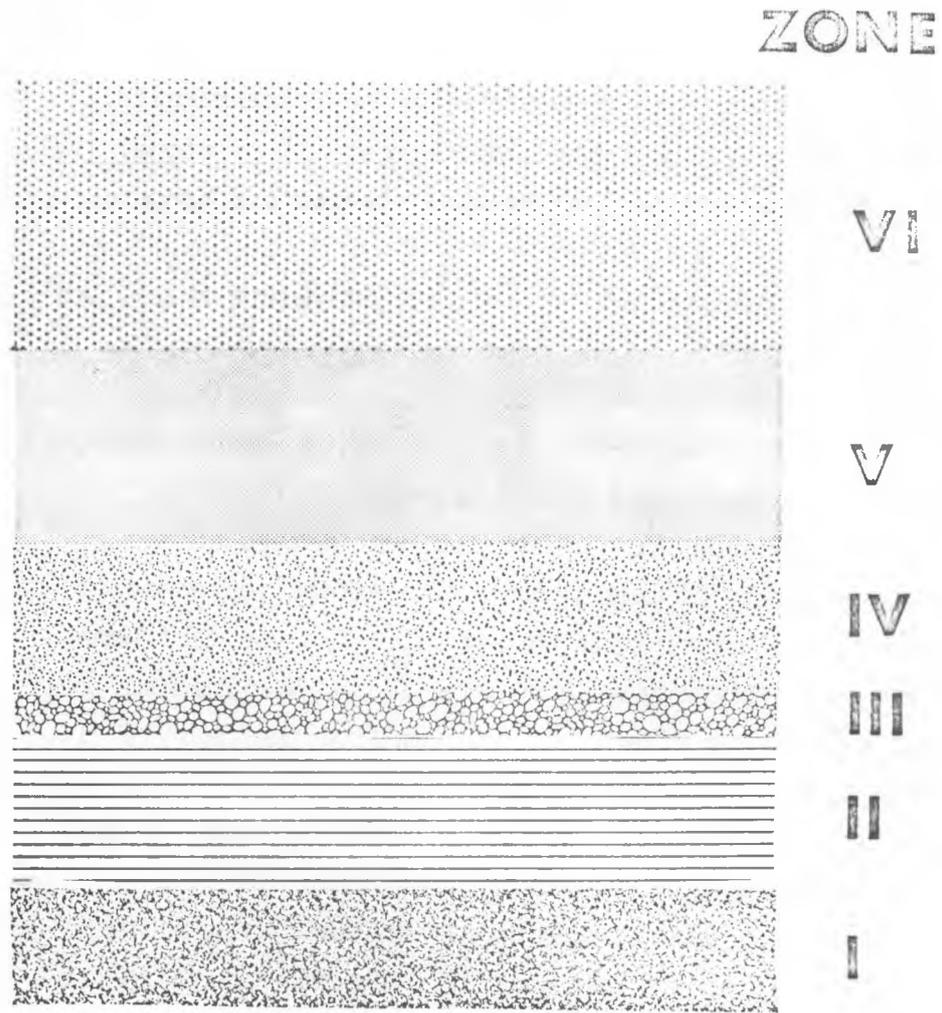
Zone III consisted of a thin (20 centimeters thick) but well defined layer of butter clam and basket cockle. The shells were either in large pieces or whole. Artifact yield in this stratum was extremely low. It would appear that this stratum represents a shell dump area at the site.

Zone IV extends from 120 to 150 centimeters and is composed primarily of black humus with extensive lenses of blue mussel and butter clam throughout. The yield of bone artifacts was extremely high in zone IV and V. This may be due to neutralising effects of calcium from the heavy shell deposits on the acidic humic soil.

While the above sequence was observed in seven of the ten pits excavated; in three other, adjoining pits, a different stratigraphic sequence was observed in the latter half of zone VI, zone V and zone IV. The area in which the excavations cut through measure approximately 10 meters by 3 meters. Further excavations will probably show that this area is considerably larger. Numerous strata and lenses of multi-coloured ash, fire-cracked rocks and irregular hearths throughout, as well as an abundance of charcoal, were found throughout this area.

Zone V extended from approximately 70 to 120 centimeters. The main constituents of this strata were finely crushed blue mussel and butter clam shell. Extensive deposits of fire-cracked rock and charcoal were observed throughout this strata.

Zone VI extends from the surface to approximately 70 centimeters. It is composed primarily of black humus deposits. Sparse amounts of both blue mussel, Mytilus edulis, and butter clam, Saxidomus giganteus, were scattered throughout the



LEGEND

- ZONE VI BLACK HUMUS, SPARSE CLAM AND BLUE MUSSEL SHELL
- ZONE V CRUSHED BLUE MUSSEL AND CLAM SHELL
- ZONE IV BLACK HUMUS, MODERATE CLAM AND BLUE MUSSEL SHELL
- ZONE III WHOLE PIECES OF CLAM AND COCKLE SHELL
- ZONE II BLACK HUMUS, FIRE CRACKED ROCK
- ZONE I BROWN, STERILE BEACH GRAVEL - SAND, CLAY

FIG. 47. Idealised strata from the Belcarra site

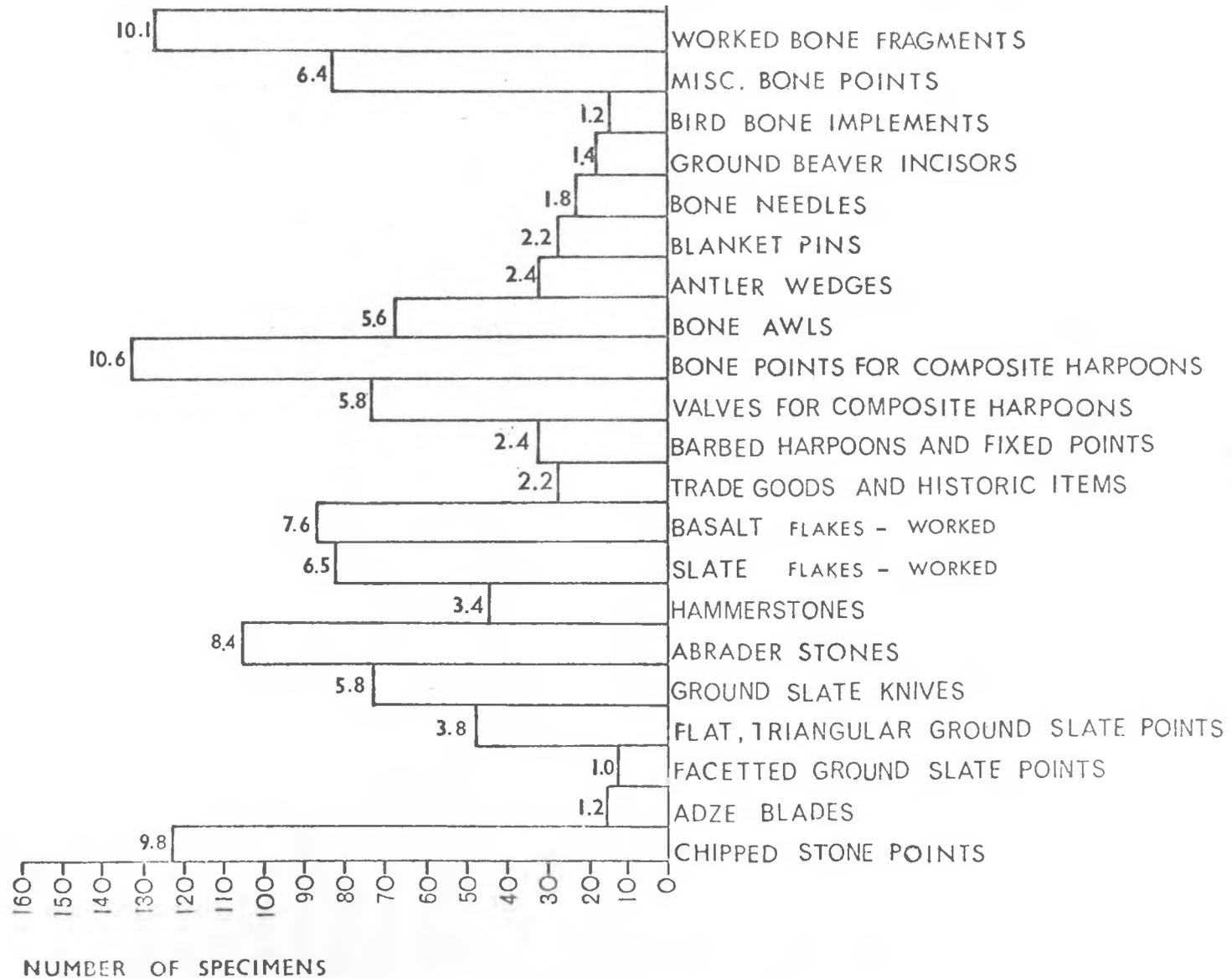


FIG. 48. Relative frequency of artifact types from the Belcarra site

deposit. The top 30 centimeters of zone VI was quite often disturbed, as the remains of historic fence posts intruded into the prehistoric deposits. All of the historic artifacts, primarily square-head nails, one glass button, and one clay pipe stem, plus a number of old coins were confined to the top 30 centimeters of the deposit.

The above analysis of the physical stratigraphy is by necessity, preliminary. Various subdivisions within the major stratigraphic units may prove to be important upon future study. Matrix samples of 32 ounces were collected from each stratum within each pit. The samples were excavated from pit walls after profiling had been completed. The location of each sample removed was then recorded on the corresponding profile chart. Final stratigraphic interpretation will largely depend on a detailed analysis of the matrix samples.

Burials

Only one burial was encountered during excavations. It was located in the deepest cultural deposits (zone II) between 180 and 200 centimeters. The skeleton was on its side and appeared to be in a flexed position, but this was difficult to ascertain as the burial was badly fragmented, scattered, and poorly preserved. The cranium was missing and only a fragment of the right half of the mandible remained. The pelvis had deteriorated completely - making determination of sex virtually impossible. There was no associations or grave goods with the burial.

Artifacts

Nearly 1300 artifacts of stone, bone, antler and shell have been recovered and catalogued from the two months of excavation (Fig. 48). The artifacts reflect an economy in which sea mammal hunting, salmon fishing, and the collection

of shellfish played a major role. Land mammal hunting appears to have played an increasingly important role in the later occupation at the site. Implements such as hammerstones, hand mauls, antler wedges, adze blades and adze hafts, also reflect strong woodworking traditions. The majority of implements are utilitarian in function and decorated objects are quite rare.

Chipped Stone Tools

Chipped stone projectile points, primarily of local basalt, but also a few green quartzite and one chalcedony specimen; were distributed throughout all cultural zones at the Belcarra site. In the lower cultural zones, chipped stone points average 8 centimeters in length, are generally leaf-shaped or stemmed (Fig. 49a, e).

In later sequences chipped stone points become more numerous, smaller (average length 3.5 centimeters), and generally exhibited more sophistication in flaking technique. The chipped stone points in the latter sequences are often stemmed or side notched (Fig. 49b, c, d). Chipped stone projectile points account for 9.8 percent of all artifacts recovered.

Pecked and Ground Stone Artifacts

Hammerstones were recovered from all levels at the Belcarra site. They are usually oval to elliptical in shape, generally with flakes removed from one or both ends, through use. As well, many specimens exhibited battered and abraded edges. Hammerstones comprise 3.4 percent of all artifacts recovered.

One hand maul was excavated at the Belcarra site, from zone IV at a depth of 140 centimeters. The maul was incomplete with the base missing (Fig. 51b). The specimen is reminiscent

of the nipple topped mauls which are present in Marpole, Whalen II and Stselax phases at Fraser Delta sites.

Ground stone implements occur at Belcarra in the form of ground slate points, knives, abrader stones and adze blades. Ground slate tools account for 20.2 percent of the assemblage.

A ground slate industry is well represented in all levels at the Belcarra site. Ground slate tools first appear in the earliest cultural zone (zone II), in the form of large (13.8 centimeters in length) and small (8.5 centimeters in length) faceted points (Fig. 50d). Twelve whole and fragmented ground slate points were excavated, all from zone II.

Flat, triangular ground slate points (Fig. 50f), used as cutting blades for slotted, composite toggling harpoons; appear in all stratigraphic zones except zone II. They are most numerous in zones V and VI. Some of the smaller specimens (Fig. 50c) may have been hafted for use as projectile points for land mammal hunting.

Ground slate knives (5.8 percent of assemblage) occur in all levels at Belcarra. Thick types occur in the earlier levels. This type usually has only one edge bifacially ground for use as a cutting tool. The more common type of ground slate knife occurring at Belcarra is thinner (3 to 5 millimeters), smaller, and often ground on all surfaces as well as one or more edges. This type occurs throughout zones II, IV, V and IV.

Small (average length 4 centimeters), ground nephrite and jadite adze blades (Fig. a, b) first appear in the earliest cultural deposit (zone II). This may reflect woodworking as a very ancient tradition at the Belcarra site. Over one third of all adze blades recovered, occur in this earliest zone. Adze blades remain small throughout the sequence at

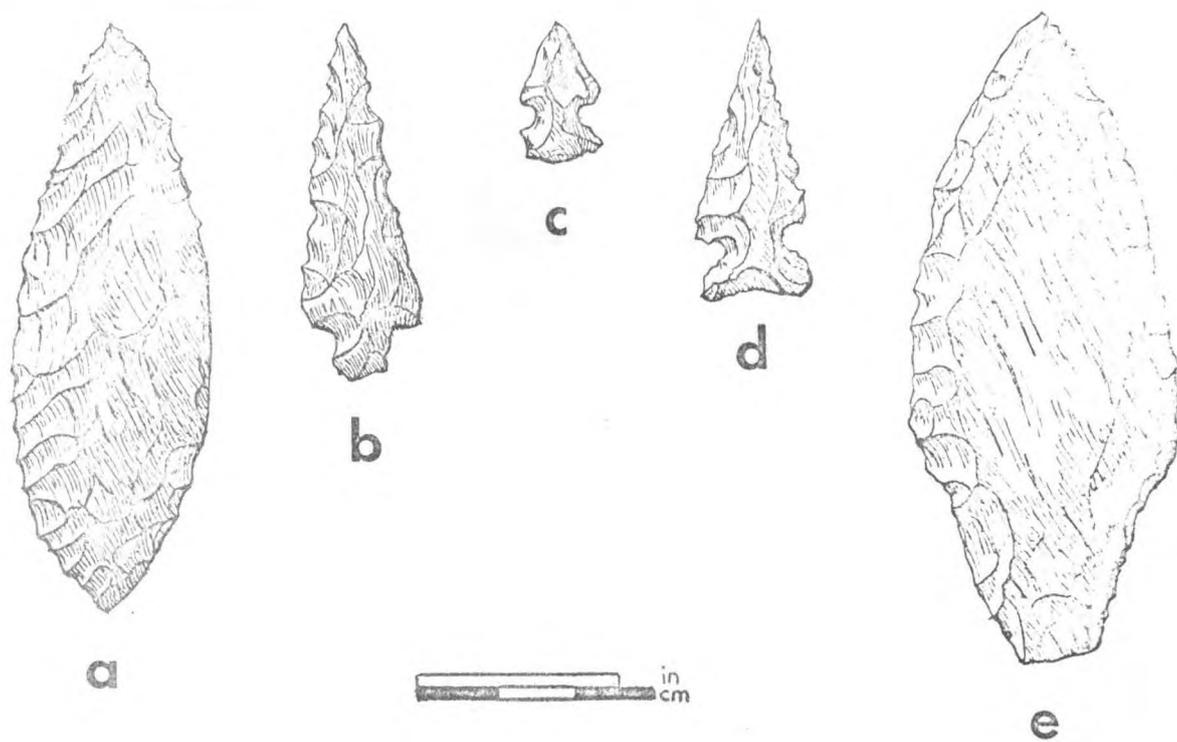


FIG. 49. Chipped stone artifacts from the Belcarra site.
a-e, chipped basalt points. b, stemmed basalt projectile
point. c, d, small side notched basalt projectile points

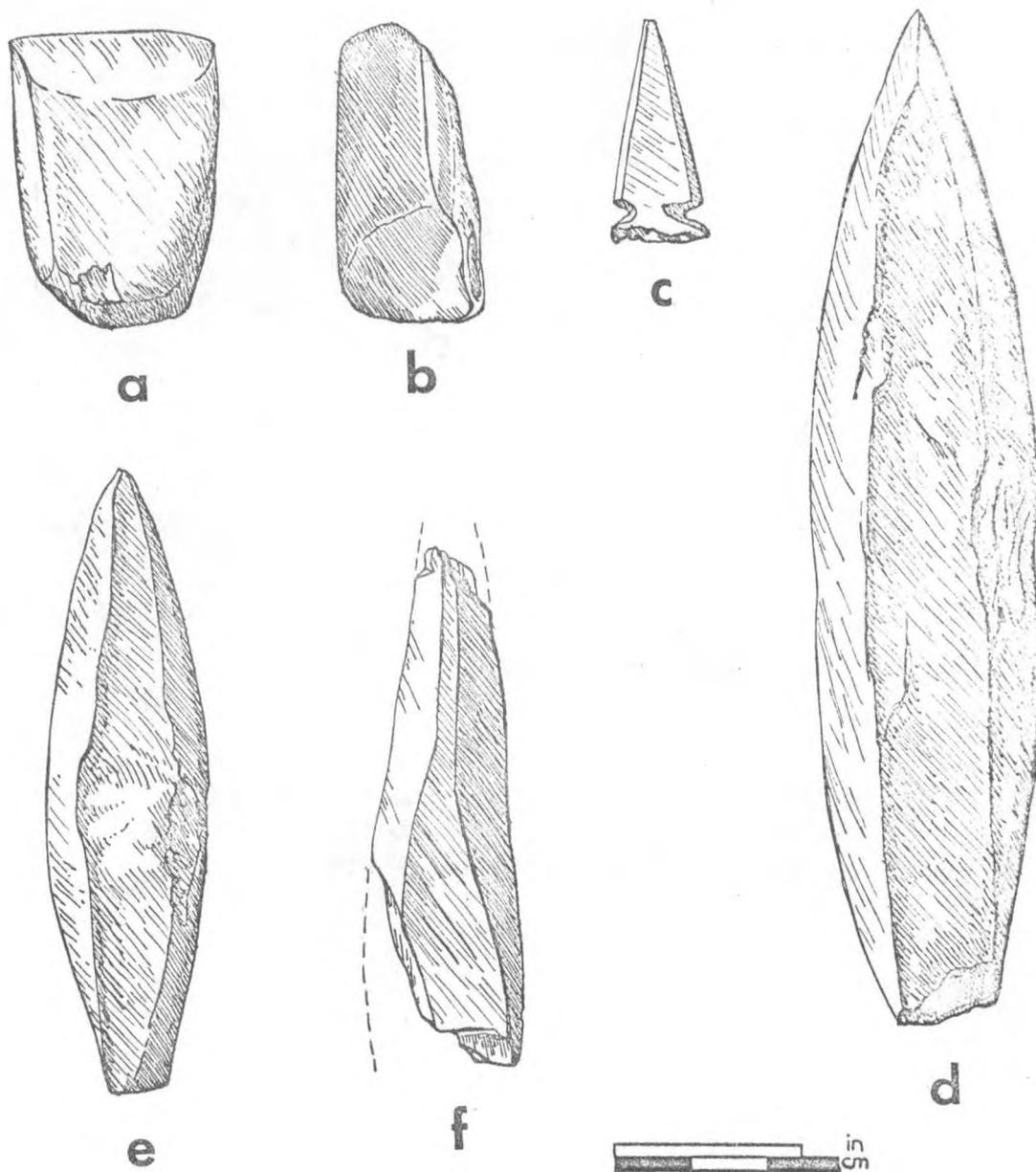


FIG. 50. Ground stone artifacts from the Belcarra site.
a, b, ground nephrite adze blades. c, ground slate
 projectile point. d, e, f, ground slate points

Belcarra. The large nephrite adze blades present in Marpole, Whalen II and Stselax phases on the Fraser Delta, so far have not been recovered at the Belcarra site. At the Belcarra site, adze blades appear to have been utilised in conjunction with socketed, antler adze hafts (Fig. 51a). Three such implements were excavated at Belcarra.

Abrader stones occur frequently throughout all levels at the Belcarra site, except for the top 20 centimeters of zone VI. Abrader stones represent 8.4 percent of all artifacts excavated. They show great variety, ranging from large, coarse, rectangular types to small, smooth types. Many exhibited deep grooves on one or more faces, probably due to the grinding and sharpening of bone and antler points.

Bone and Antler Artifacts

A number of bone awls (5.6 percent of assemblage) were recovered from all cultural deposits, except zone II. Most of the awls are made from the long bones of land mammals (usually deer), which have been longitudinally split then ground to a point. Nine ulna awls were recovered as well as a complete cannon bone awl (Fig. 52e).

Harpoons excavated at Belcarra include both unilaterally barbed harpoons and composit toggling harpoons. One unilaterally barbed harpoon of antler was recovered (Fig. 52i). While the medial section is missing, it has two barbs with a lateral line guard and conical tang. These types of harpoons occur in abundance during the Marpole phase on the Fraser Delta. Two other fragments of unilaterally barbed harpoons of bone were excavated. These both had a line notch rather than a line guard (Fig. 52j). No bilaterally barbed harpoons were found.

Eleven fixed barbed points of bone or antler were excavated. All were unilaterally barbed and may have

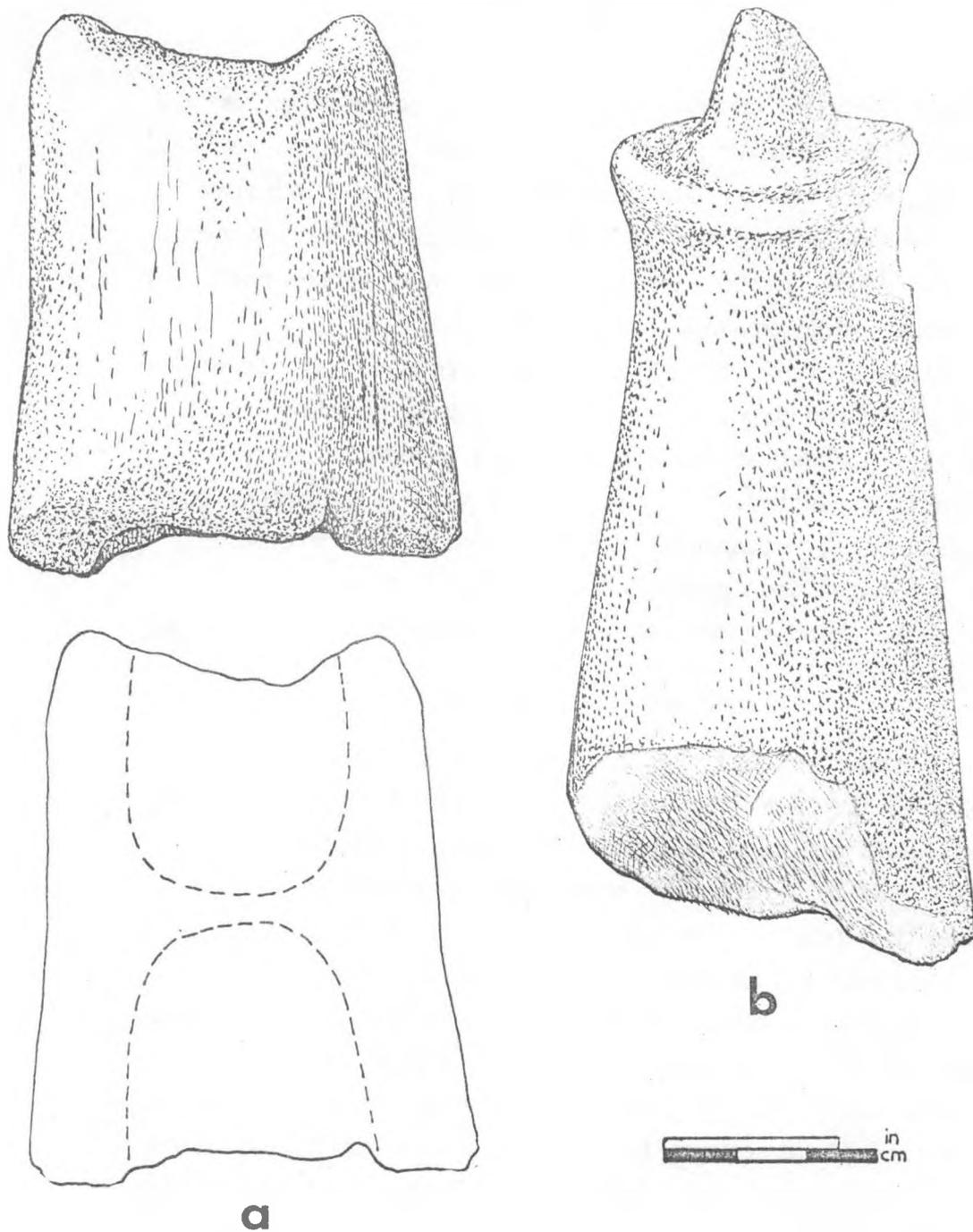


FIG. 51. Artifacts from the Belcarra site. a, wapiti antler adze haft. b, pecked and ground nipple topped hand maul

functioned as leister barbs or even projectile points (Fig. 52a).

The composite toggling harpoon is the major type of harpoon found at Belcarra. The one piece toggle head without cutting blade and the one piece toggle head slotted for cutting blade have not yet been recovered from the Belcarra site. The two types of composite harpoons that were recovered are:

1. The composite toggling harpoon slotted for a triangular ground slate cutting blade (Fig. 52b)
2. Composite toggling harpoon channeled for a bone point (Fig. 52d)

The 73 toggling valves recovered show a remarkable range in size from 7.2 to 3.2 centimeters in length. A few specimens of the slotted type exhibit well defined lashing grooves.

The composite harpoon channeled to take a ground bone point appears more often than does the slotting composite harpoon. Bone points for composite harpoons alone make up over ten percent of all artifacts. Moreover, toggling valves for bone points greatly outnumber the slotted toggling valves. Preliminary distribution studies show both types of composite harpoons overlapping through time, during the latter sequences at the Belcarra site. The slotted composite toggling harpoons appear more abundantly in the late prehistoric times at Belcarra. It is quite feasible that the slotted type functioned solely as a sea mammal harpoon while the smaller, channeled type functioned solely as a salmon harpoon.

Wedges of wapiti antler are distributed throughout most levels and comprise 2.4 percent of the artifact yield. None were excavated from the deepest 40 centimeters (zone II). This may be entirely due to lack of preservation. The wedges

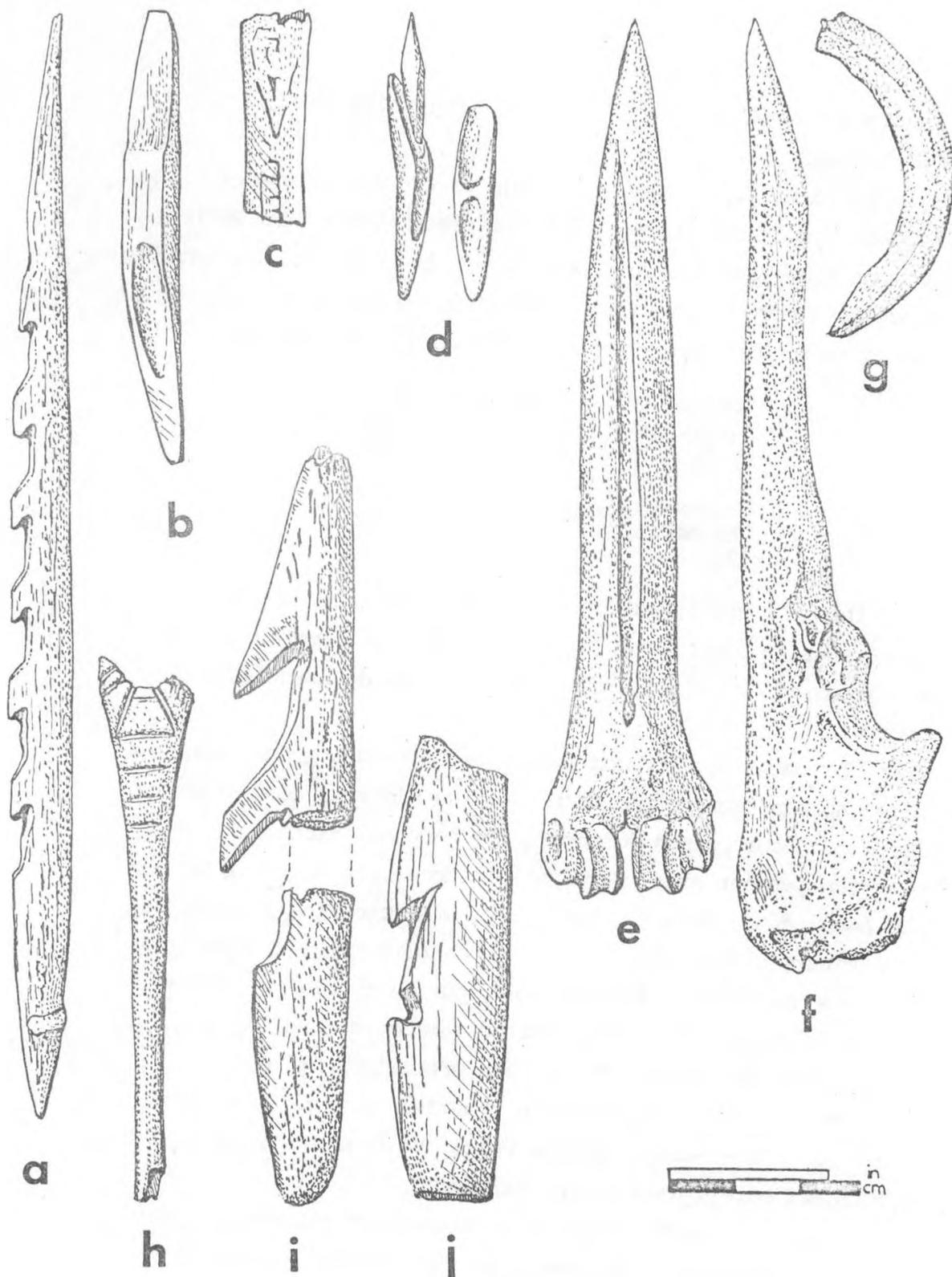


FIG. 52. Bone and antler artifacts from the Belcarra site. a, unilaterally barbed, fixed point (antler). b, slotted toggling harpoon valve (antler). c, decorated land mammal rib-brow band?. d, channeled composite toggling harpoon with bone point. e, ground cannon bone awl (deer). f, ground ulna awl (deer). g, ground beaver incisor. h, ground and polished blanket pin. i, detachable, unilaterally barbed harpoon (antler). j, butt end of unilaterally barbed harpoon with line notch (bone)

have been longitudinally split and then unifacially bevelled. They range in length from 5 to 14 centimeters. A number of bone and antler blanket pins were located during excavations. Two have whale fluke motifs (Fig. 52h). Both were from zone VI. All of the other pins were without decoration. No meaningful distribution through time has been worked out as yet, though the pins do appear more abundantly in the upper stratas.

While no complete needles with eyes were recovered, a number of finely ground, and in some cases, polished, bone tips were excavated. These may be fragments of bone needles. These were located only in zones IV and V.

As in other Lower Mainland sites, Belcarra yielded a great variety of miscellaneous bone points. Many are ground bone tips, bipoints, or medial sections of bone points. Thus far no attempt has been made to classify them according to types. However, upon detailed analysis, it may be that many will be classified as awls, needles, blanket pins, fish hook barbs or bone points for composite harpoons.

Fifteen bird bone artifacts were recovered. These include possible drinking tubes, whistles and beads. These implements did not appear in zones II or VI, but were distributed evenly throughout zone IV and V.

Artifacts of Other Materials

Beaver incisors were located in all cultural levels except zones II and VI. Most had been longitudinally split and reground (Fig. 52g). Their function is presumed to be that of an incising tool, possibly hafted. Two pendants, one a bear claw and the other a tooth, were recovered.

Historic items and trade goods represent 2.2 percent of all artifacts found. They were all excavated in the top 30 centimeters of zone VI. Historic items include square

and round headed nails, and old coins. Trade goods present include the stem of a clay pipe, one glass button and one shell button.

Summary

So far, excavations at the Belcarra site have established a cultural sequence which may have begun about 2000 years ago. The well known Northwest Coast economic pattern based on fishing, shell fish collecting and wood-working was well established in the early levels at the Belcarra site. Excavations have shown that this pattern has continued through time, although increased emphasis upon land mammal hunting is noted in the later stages. Also in the later stages, increased specialisation in fishing technology is noted.

One of the major problems in the Fraser Delta cultural sequences has been "the time gap between the Marpole phase and the more recent Stselax phase" (Calvert 1970:54). The later stages of the Belcarra sequence are noted for an abundance of and variety of small, side notched and corner notched chipped stone projectile points. Also present in the later stage are two distinct styles of composite toggling harpoons. I would suggest that the final analysis of these complexes, and other traits present, may shed light on this gap in the Fraser Delta sequence.

Acknowledgements

The following Simon Fraser University students took part in the Noons Creek excavations: Louise Barber, Mark Blaker, Rodney Brindamour, Sophie Clark, David Hutchcroft, Chris Oliver, Brian Spurling, Geoffrey Spurling and Colin Yerbury. The Port Moody Historical Society arranged for the

excavations to take place and Mr. Morris Steele, property owner, gave permission to excavate. The following Simon Fraser University students participated in, and made the excavations at Belcarra Park possible: Mark Blaker, Rodney Brindamour, Sophie Clark, David Hutchcroft, Brian Spurling, Geoffrey Spurling and Colin Yerbury. The following people catalogued the artifacts and did laboratory analysis: Janet Hills, Chris Oliver and Diane Vandermeij. The Archaeology Society of British Columbia, especially Gladys Groves, Brian Byrnes and Isabel Byrnes are to be thanked for volunteering. Thanks also to Alan Doner, Peter Flagg and Walter Tallio who volunteered. Mr. Alan Debou, consulting engineer for Vancouver - Fraser Regional Parks Authority; and Mr. and Mrs. Hartman, lessees of Belcarra Park arranged for and allowed permission to excavate. Thanks also to Dr. R. L. Carlson and Dr. H. L. Alexander, Department of Archaeology, Simon Fraser University, for their guidance and suggestions throughout the project.



MISCELLANEOUS ARCHAEOLOGICAL WORK: 1971

Richard C. W. Percy

INTRODUCTION

Several archaeological surveys and other activities not covered in the other papers were undertaken as part of the Salvage Project during 1971. These activities were a survey of the upper Skagit Valley, a survey of the Maurer property at Agassiz, a survey at Camp Hatikvah on Kalamalka Lake, and analysis of the materials recovered from an earlier salvage excavation at the Glenrose site on the Fraser Delta.

UPPER SKAGIT VALLEY SURVEY

A nine day site survey of the upper reaches of the Skagit Valley was conducted by Jack Eisner and David Butlin, students in the Department of Archaeology at Simon Fraser University. The survey was initiated as a result of proposed further flooding through the intended heightening of a downstream dam. The area surveyed was generally restricted to those portions of the valley that would be inundated. The floodwaters are expected to rise to approximately the 2000 foot level thus the width of the survey area was six to seven miles except for the adjoining Klesilkwa Valley. The length of the surveyed area is 11 miles commencing at about one mile north of 26-mile bridge and extending south toward the U.S. border.

The Klesilkwa Valley intersects the Skagit Valley from the northwest. The area of the Klesilkwa included in the survey extended westwards from 26-mile bridge for three miles at the upper end to about six miles at the intersection of the Skagit and the Klesilkwa.

A cursory description of the terrain surveyed is as follows: The Skagit Valley is relatively narrow with the Skagit River flowing through it. Steep mountains flank both

sides of the valley. The western flank is formed by Whitworth Peak rising to 7525 feet while Shawatum Mountain on the eastern flank is 7081 feet high. Immediately south of Shawatum is Nepopekum Mountain at a height of 6357 feet. Approximately half way between 26-mile bridge and Chitlin's bridge to the south there is a 2300 foot ridge about a mile in length on the east side of the river. The ridge is conspicuous by the way it juts out from the surrounding terrain and because of its close proximity to the river. Several marshes exist in both the Klesilkwa and Skagit Valleys. The main concentration of these in the Skagit is along the western banks especially to the south near Ross Lake. There is a small marsh in the northern part of the valley on the east bank and another one in the south part on the same bank. It also should be noted that the Skagit has shifted its course eastwards thus leaving long stretches of dry river bed. The vegetation of both valleys is predominantly coniferous forest. Most of the present forest growth in the Skagit is secondary as the valley had been logged off some years back. Patches of deciduous growth exist along both banks of Skagit River and also in the marshes. The dry stretches of former river bed have sparse patches of deciduous growth and green lichen. The surface of both valleys is overgrown with rain forest type bushes and there is a thick layer of forest debris.

The survey area centred on two main routes. Firstly, the survey party followed the main logging road which approaches the Skagit from the Klesilkwa and continues to follow the Skagit River's east bank crossing to the west bank at Chitlin's bridge near the border and following the west bank northwards for nearly one mile. The party surveyed along this route on the east bank and also all the minor logging trails that branch off eastwards from the main

road. On the west bank just beyond Chitlin's bridge the main road divides into two minor routes that lead in a southerly direction. The survey party surveyed both these roads to the northern extent of Ross Lake which has now enlarged its boundaries approximately 11 miles into Canada. The second main survey route was covered by boating along the Skagit River. An employee of Slaney Consultants made it possible for the pair to borrow a small boat. A full day was spent surveying the river and its banks down to the vicinity of Chitlin's bridge. Both banks of the river for about one mile north of 26-mile bridge were surveyed on foot as were the ridges on the south part of the east bank.

During the course of the survey, no archaeological sites were found. The operations were exceedingly hampered by dense undergrowth and forest debris. Another factor was the short time allowed for the survey of the valley.

In an effort to determine whether archaeological sites exist within the newly proposed boundaries of Ross Lake a survey of available ethnographic literature was made.

The first task undertaken was that of delineating ethnographic tribal boundaries in the region. This was accomplished by consulting a tribal distribution map (Spier 1936:42-43) which indicates that the upper reaches of the Skagit were considered as the lower sections of the Ntlakyápmuq or Thompson Indian territory. Spier (1936:39) notes that the Utamptamux Indians (Lower Thompson tribes) were mentioned by James Teit. Referring to the Lower Thompson Indians Teit points out:

"The Lower Thompson Indians had their villages at favourable spots along the banks of Fraser River, from a little below the village of Si'ska in the

north, to a few miles below Spuzzum in the south. Their hunting-grounds extend westward to Harrison Lake and the mountains east of the lower course of Lillooet River, southward to the head waters of Nooksack and Skagit Rivers, and eastward to the head waters of Tulameen and Coldwater Rivers."(1900:168)

Teit reports no villages, settlements or sites within the region concerned yet in view of the above statement some cultural remains should occur in the vicinity.

Attempts to locate reports on artifact finds were only slightly successful, the present research locating only one such report. The item is a soapstone bowl now in the Provincial Museum (#7906). It is reported to have been found in the Skagit Valley about one mile north of the International boundary (Duff 1956:62). Data of the find and exact provenience are not given and in view of seasonal fluctuations of precipitation it could be that the site of the find is occasionally submerged in the head waters of Ross Lake.

MAURER PROPERTY SURVEY

On July 31, 1971 Mr. Fred Maurer of Agassiz, British Columbia advised the Salvage Project that he suspected a depression on his property was the remains of an old Indian pit house. He expressed a willingness to forget plans to level the spot if the remains were proved to be indeed cultural. The project unfortunately by that late date had all crew members assigned to various digs and could not spare anyone to check the site. Mr. Maurer however, arranged for a local volunteer crew and I agreed to supervise them for a one day test excavation which took place on August 7, 1971. Mr. Maurer's property is located in Kent Municipality on a dead slough on the north bank of the Fraser

River and is very close to the derelict limestone mill which which ceased operations sometime around the turn of the century.

The depression in question is on an earthen bluff overlooking the slough and is roughly 35 to 40 feet in diameter. Surface vegetation consisted of scrub grass and thistles with clusters of deciduous along the slopes of the bluffs.

A 3 foot by 6 foot test pit was excavated on the crest of the depression closest to Mr. Maurer's house. The excavation was oriented in such a fashion that a small cross-section of the crest would be laid bare. Because of the shortness of time and the unknown depth of the site it was decided to dig in 6 inch levels. For the first 12 to 20 inches the soil was a medium brown colour and flecked with charcoal. From the 24 inch to about the 54 inch level the deposit gradually yellowed and was still flecked with small bits of charcoal. Below the 5 foot level the cultural yield stopped. The pit was closed off at the 72 inch level.

The cultural material was sparse but varied, it included basalt debitage and retouched flakes, an obsidian chip and a number of abraders made of limestone which were very rotten and crumbled to powder soon after being exposed to the atmosphere. The yield did indicate that some sort of prehistoric activity had taken place at the site and that the hollow was in all probability the remains of a pit house. With the above confirmation at hand Mr. Maurer (the owner) has delayed his plans and has indicated that he would welcome a proper excavation of the site if it could be arranged. At the request of the owner the materials recovered were to be held by him for deposit in the local municipal museum.

THE CAMP HATIKVAH SURVEY

Jack Eisner and Stuart Syme were assigned the task of investigating the reported archaeological remains at the camp. The pair spent two days at the site which lies on a peninsula off a thin stretch of land separating Wood and Kalamalka Lakes. A small test pit yielded a few pieces of prehistoric stone debitage while examination of local collections revealed a few artifacts from the site. A story regarding an earlier disturbance of a large burial at the site could not be substantiated. The paucity of material in addition to the large amount of construction disturbance indicates that further excavations would not be warranted.

THE GLENROSE SITE DgRr 6

The Glenrose site is in the Municipality of Delta and is situated on the south bank of the south arm of the Fraser River, 13.5 miles from its mouth (Fig. 53). The site is half a mile upstream from the St. Mungo site excavated by Calvert (1970). The total size of midden deposits at Glenrose is difficult to determine because of considerable construction and other disturbance during the past 75 years: the tracks of the Great Northern Railway run through the site. The downstream boundary appears to be about 75 feet beyond the mouth of a small stream which enters the Fraser immediately behind the Glenrose Cannery buildings, and the upstream boundary about 400 feet east of the same point. The width of the midden varies considerably from about 20 to 150 feet.

The small test excavations at the site took place between April 24 and May 25, 1969. (The Salvage Programme provided me with the opportunity to withdraw the collections from storage in order to compile this report.) On the south end of the eastern bed timbers of the railway overpass at the site I

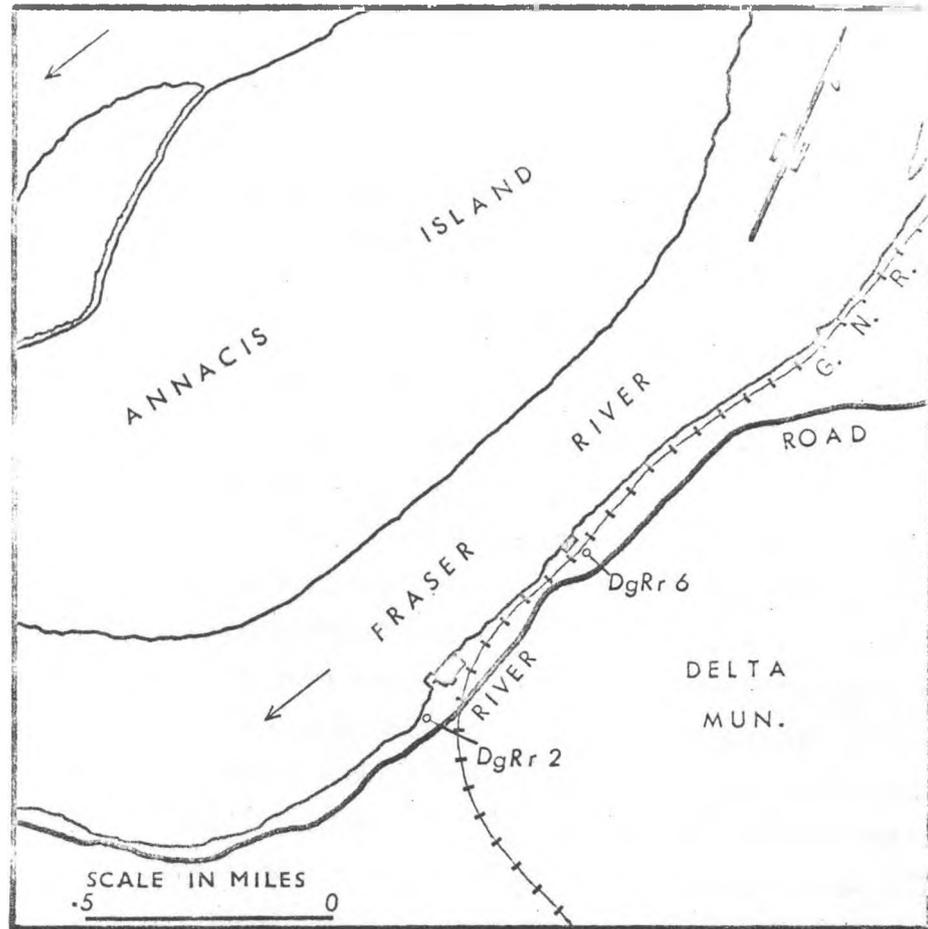


FIG. 53. Map showing location of site DgRr 6, the Glenrose site

placed an 'X' of nailheads to mark the permanent datum point. Two pits, both 2 meters square were excavated into the midden. The north edge of pit 1 was 6 meters south of the datum point and pit 2 adjoined it to the south.

Stratigraphy

There are three stratigraphic zones in the midden. Zone I extended from 240 centimeters, where it rests upon sterile river clay, on up to approximately 145 centimeters. Within this zone the deposits were highly convoluted and consisted of fire cracked rock, charcoal lenses, patches of yellow clay, layers of sandy soil and brown earth intermingled with highly fragmented shell. Zone II reached from about 145 centimeters upwards to around 75 centimeters. Noticable in this zone were large amounts of hard packed fragmented shell intermingled with some ash and light to medium brown soils. Zone III was comprised of black greasy earth with small amounts of broken shell and patches of light sandy soil. Large sections of this zone were highly disturbed especially in pit 1 (Fig. 54).

Artifacts from the Excavations

Excavations at the site yielded a total of 199 artifacts, of which only 79 are complete enough to permit classification. Zone locations and frequencies are shown in Table 13. Only those artifacts warranting comment are discussed below.

Bone and antler artifacts: A small spindle shaped object bearing incised encircling lines (Fig. 55a) is almost identical to specimens recovered at the St. Mungo site dated to roughly 2000 B.C. (Calvert 1970). The sole example from Glenrose, recovered from the middle of zone I, has one end broken off. The larger of the two bird bone tubes (Fig. 55m)

Table 13. Artifact Distribution at Glenrose, DgRr 6

	I	II	III	III DISTURBED	FIGURE ILLUSTRATION
<u>BONE ARTIFACTS</u>					
Incised spindle-shaped object	1				55c
Bird bone tubes		1	1		55m
Chisels	2				56d
Awls	5	4	1		58e, f, g
Worked rib	1	1			58c
Flesher				1	58d
Small points		3			58b
Spatulate objects	2	1		1	55b
<u>ANTLER ARTIFACTS</u>					
Unilaterally barbed harpoon fragments	1	2			55a
Wedge tip fragments		3			
<u>CHIPPED STONE ARTIFACTS</u>					
Biface choppers	2				57a, b
Scrapers - Unifacial retouch	2	1			
Bifacial retouch	3	2		2	
Obsidian flake, utilised	1				
Ovate bifacially retouched scraper		1			55h
Bipointed bifacially retouched scraper		1			55g
Cores	1				
Core fragments	1		1		
<u>PROJECTILE POINTS</u>					
Leaf shaped	1				59a
Single shouldered	1				59c
Slender triangular		1			59b
Triangular			1		
<u>GROUND STONE</u>					
Abrader fragments, sandstone	1		5	3	
Adze blade fragment		1			56f, g
Ground slate fragments		1		12	55j, k
Steatite bead				1	55f
Labret		- 1 -			55d
Tubular pipe bowl fragment				1	55e
Totals	25	23	-1-9	21	

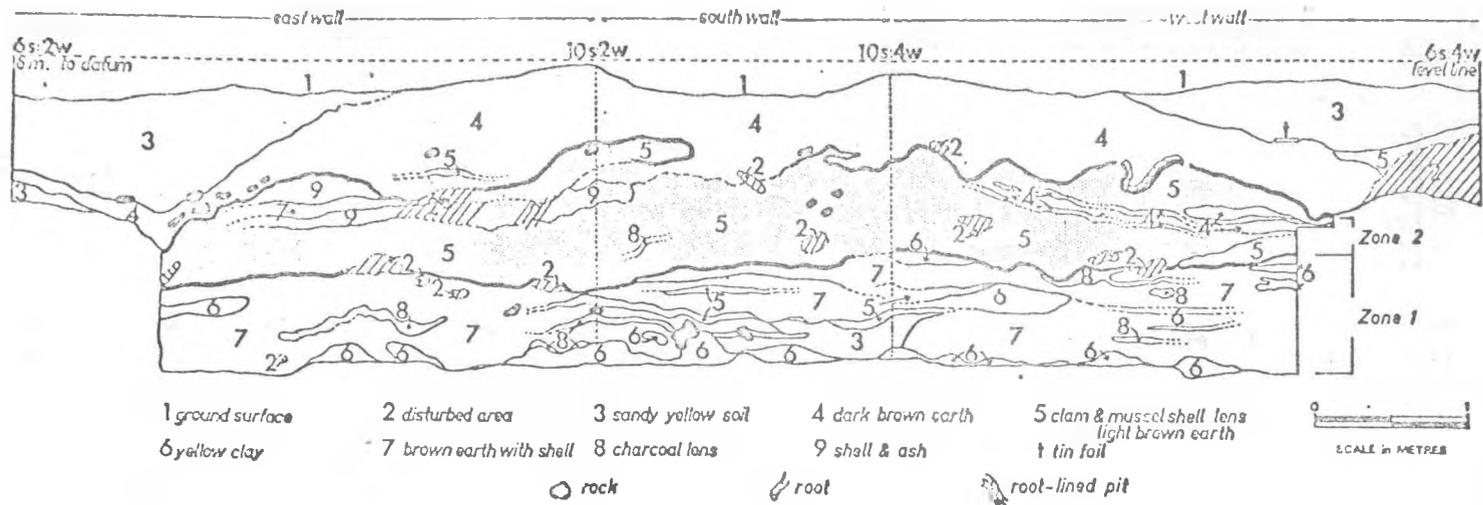


FIG. 54. Stratigraphy at DgRr 6, the Glenrose site

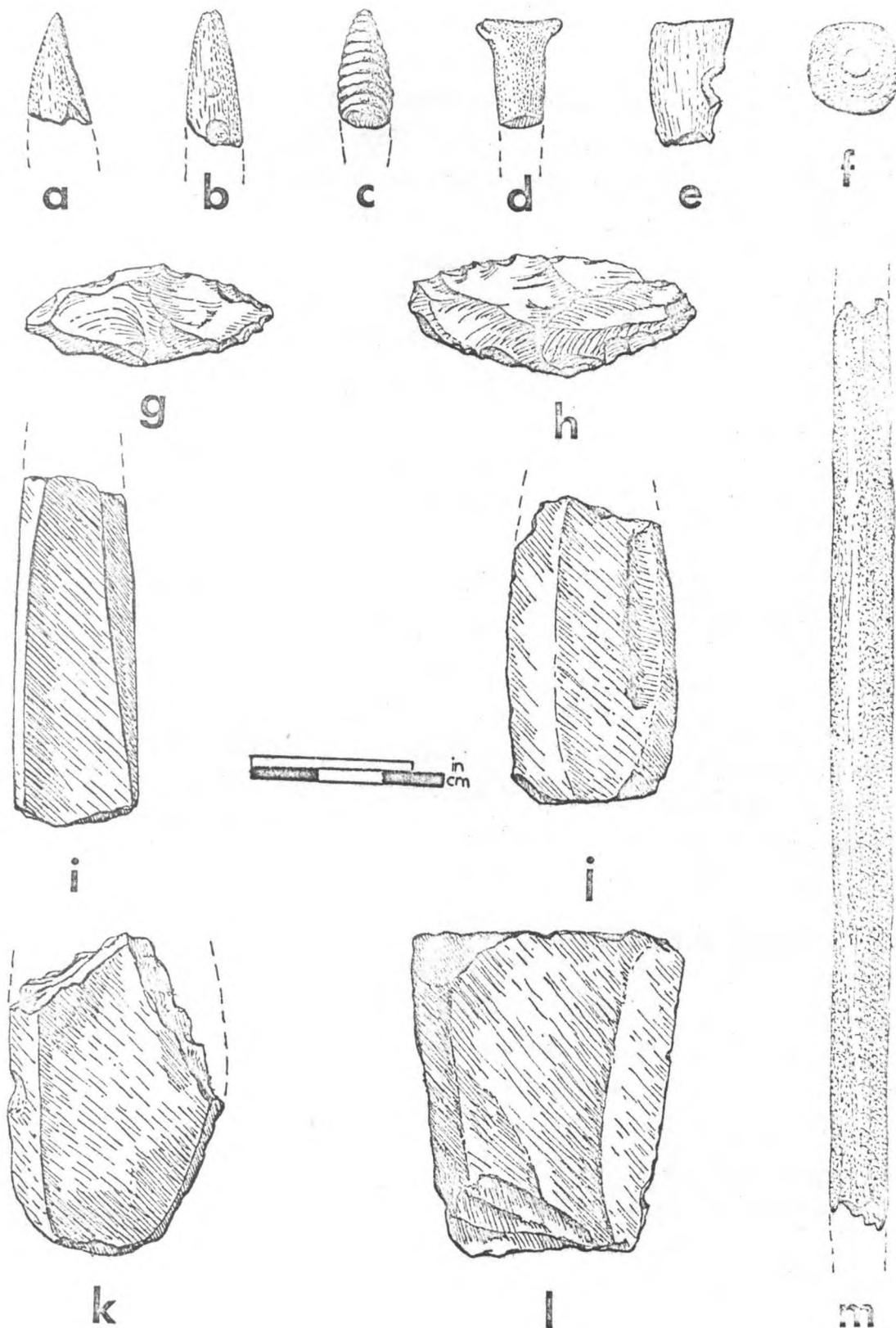


FIG. 55. DgRr 6 artifacts. a, tip of unilaterally barbed harpoon. b, ground "decorative" object. c, incised spindle-shaped object. d, labret fragment. e, tubular pipe bowl fragment. f, steatite bead. g, bipointed, bifacially retouched scraper. h, ovate bifacially retouched scraper. i, j, k, l, ground slate fragments. m, bird bone tube

came from zone II; the other from zone III. One of the bone chisels (Fig. 56d) was located on river clays in close proximity to the two biface choppers (Fig. 57a, b). All awls found were either splinter awls or fragments of elongate bone objects ground all over. One awl (Fig. 58c) from zone I has been fashioned from a longitudinally split rib bone. Portions of worked split ribs were also found in zone II. A bone flesher quite similar to one illustrated by Calvert (1970 Fig. 15a) came from the disturbed section of zone III. The spatulate bone objects are only tip fragments and have been highly polished during manufacture. There are about 50 miscellaneous pieces of worked bone and antler from all stratigraphic zones.

Chipped stone artifacts: Bifacially worked chopping tools (Fig. 57a, b) were only located in the lower portions of zone I. A few unifacial choppers (Fig. 57c) have been found along the river banks at the site, however none appear among the excavated materials. Both thick and thin scrapers with unifacial retouch were found in the lowest levels whereas bifacial retouch was more prevalent in the upper portion of zone I and throughout zone II.

Ground stone artifacts: Abraders: While ample evidence of the use of these artifacts exists throughout all zones only one small fragment was found in zone I while all others appeared in zone III. The one ground adze blade (Fig. 56g) is missing its bit end and the sides taper away from the butt quite sharply. Material identity is ambiguous as the article has been badly burned. Other shattered adze blades (Fig. 56a, f) were retrieved from the beach. The excavations yielded 12 fragments of ground slate, 11 from the disturbed portion of zone III and one piece from zone II. All are from points and knives but are too fragmentary to

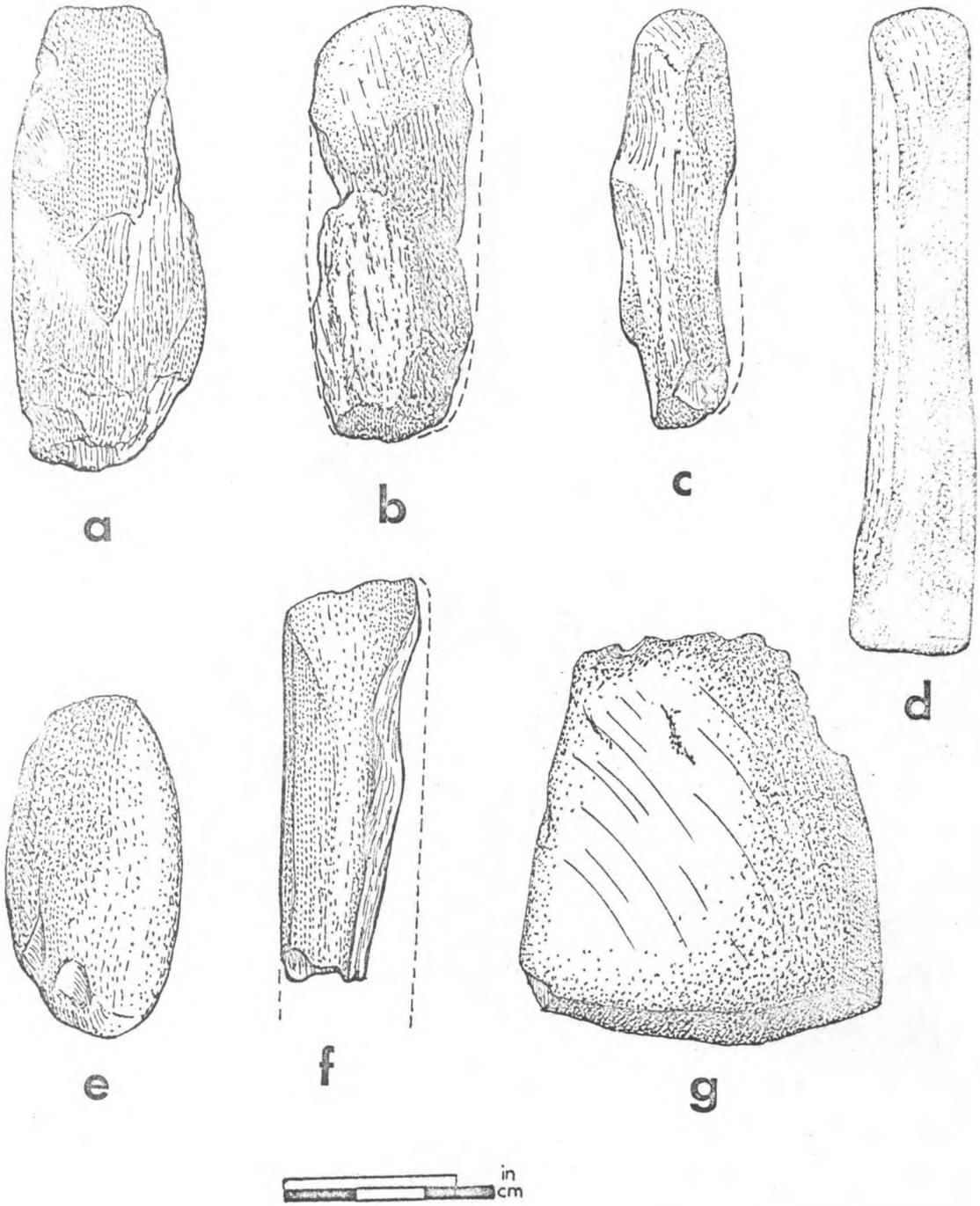


FIG. 56. Adzes, wedges and chisel, from DgRr 6. a, adze blade remnant. b, c, antler wedge fragment. d, bone chisel. e, small ground pebble wedge. f, stone adze blade fragment

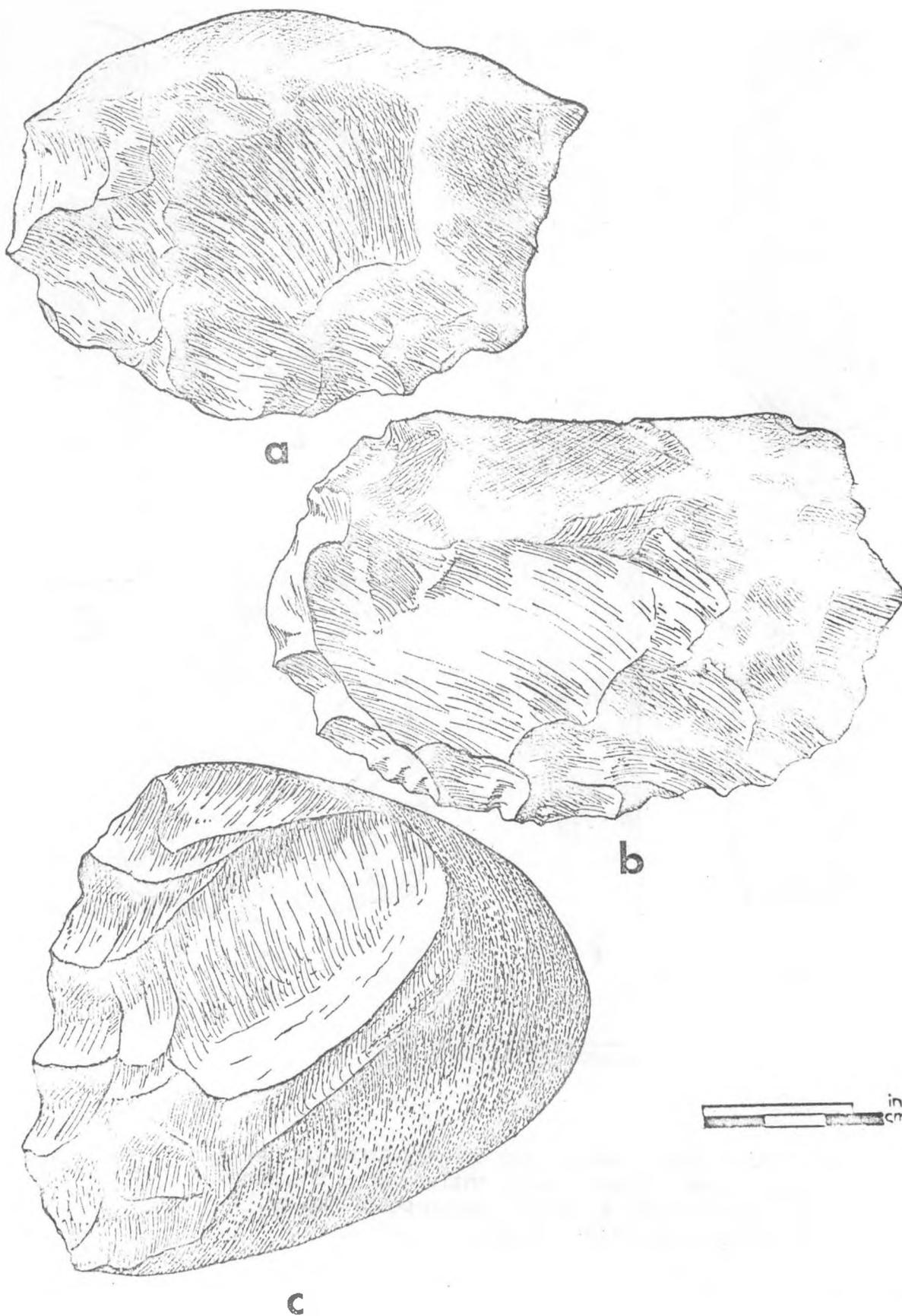


FIG. 57. Choppers from DgRr 6
a, b, bifaces. c, uniface

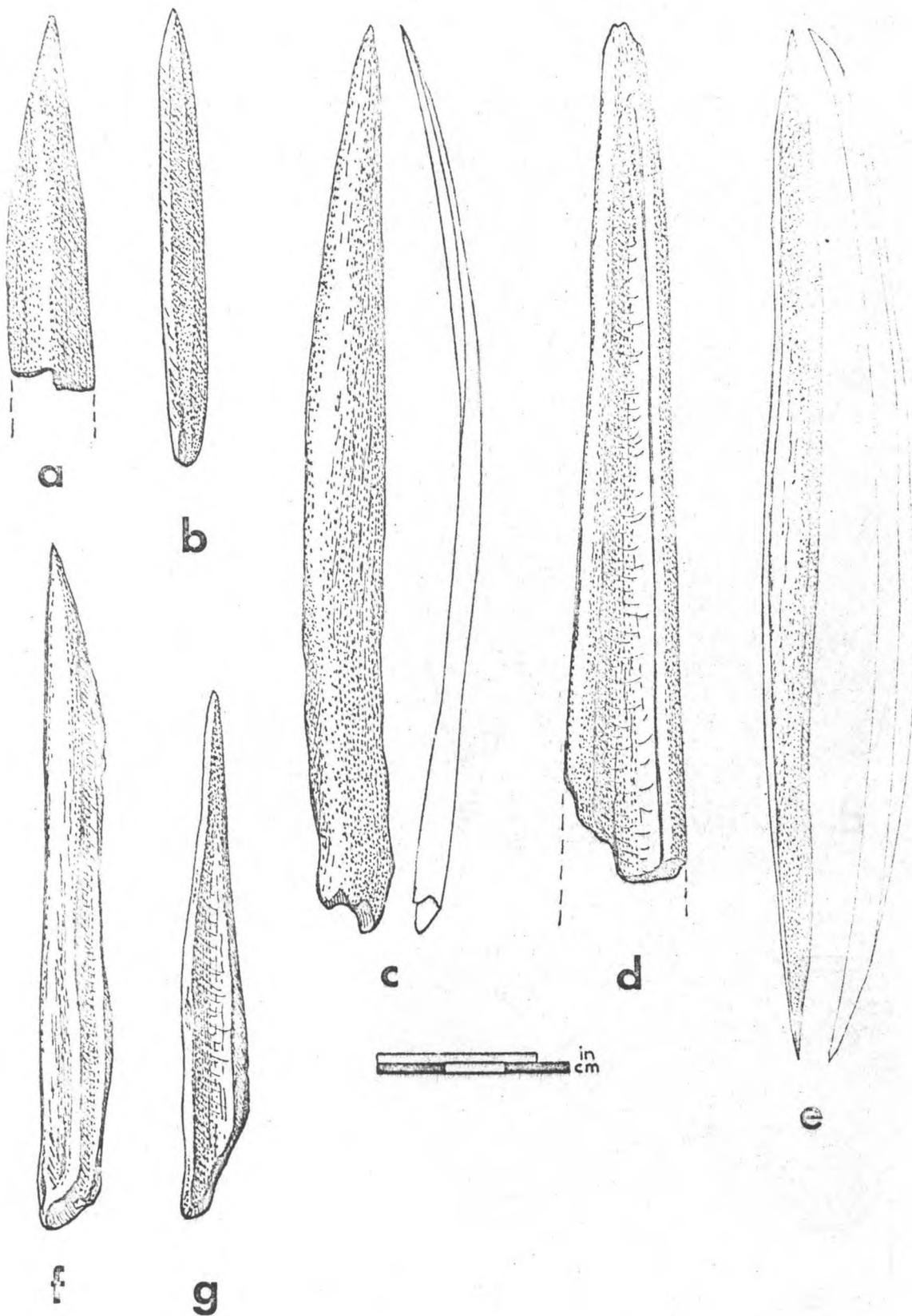


FIG. 58. Bone artifacts from DgRr 6. a, awl fragments. b, small point. c, worked split rib. d, flesher. e, bipointed awl. f, splinter awl

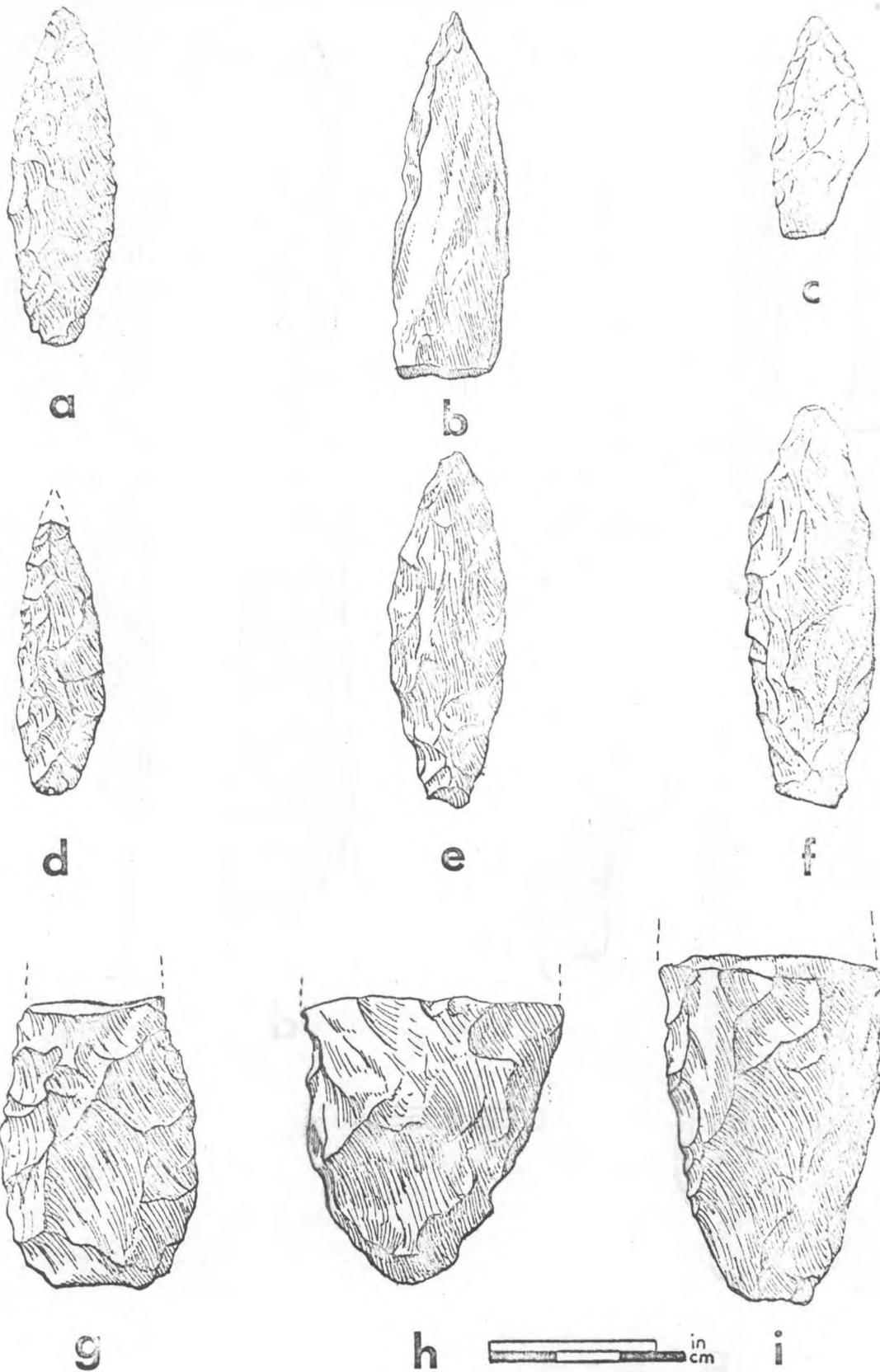


FIG. 59. a, b, c, projectile points from DgRr 6 excavation. d, e, f, projectile points surface collected in the immediate vicinity of DgRr 6. g, h, i, bifaces surface collected in the immediate vicinity of DgRr 6

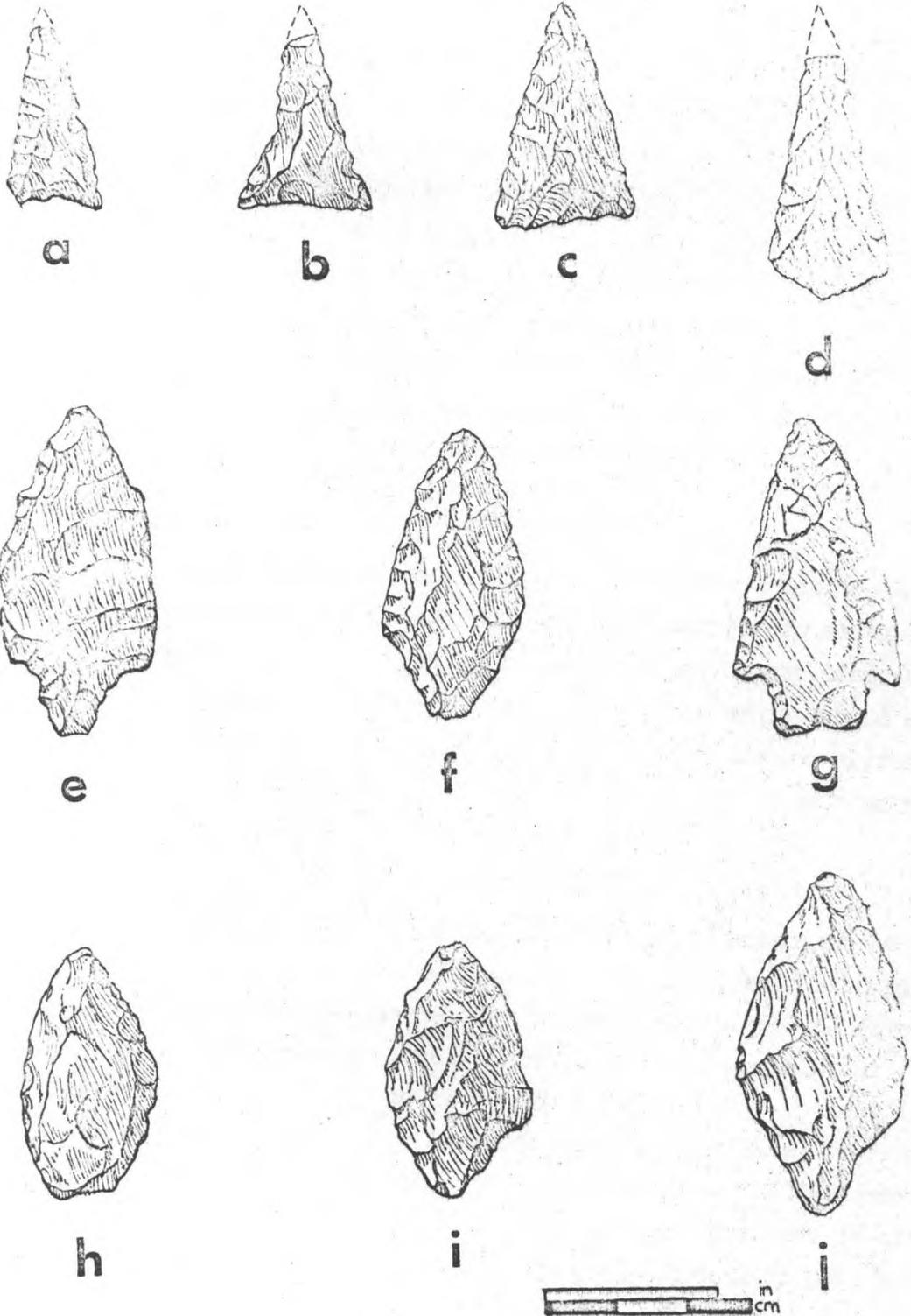


FIG. 60. Types of projectile points surface collected in the immediate vicinity of DgRr 6

classify specifically. One ground and polished steatite bead was found in the disturbed section of zone III. The labret (Fig. 55d) was found while straightening the walls of pit 2 at the 100 centimeter level and as such it came either from zone II or III. The tubular pipe fragment (Fig. 55e) came from the disturbed section of pit 1.

No artifacts of milky quartz or pitchstone were recovered but debitage of the former was located in all zones while that of the latter only in zone III. The presence of red ochre was noted in all zones.

Beach Artifacts

A number of artifacts were found on the beach and on the surface of adjoining portions of the site. Among these are a small ground pebble wedge (Fig. 56e) unifacial choppers, stone beads, stone and antler wedge fragments, a quantity of projectile points along with a few fragments of heavy ground slate objects.

CONCLUSIONS

No far reaching conclusions can be drawn because the sample of artifacts is too small. However, most of the materials have similarities with those recovered from other sites in this general area (Carlson 1960; Calvert 1970). The small incised spindle shaped object is of particular interest in that it is only known from the time period 3000 - 2000 B.C. (Calvert 1970). As such, it is suggested that the lower levels of the Glenrose site date to that period and before disturbance it probably exhibited a similar sequence of cultures as the St. Mungo site.

Acknowledgements

I am indebted to Dr. R. L. Carlson and Professor P. M. Hobler of the Department of Archaeology at Simon Fraser University for their assistance and encouragement of a novice archaeologist. Thanks are also due to Mr. Dick Nesbitt for granting permission to excavate on the site. I am grateful for the sketching and superlative drawings of the artifacts by Mrs. Doris Lundy. My warmest thanks are due to my volunteer crew who gave their time and experience throughout the Glenrose dig: M. Chapman, G. Dickenson, J. Hallett, G. Keddie, N. Lowry, L. Lucas, Des Lundy, Doris Lundy, G. MacKinlay, J. McMurdo, S. Schurman, W. Sexton, A. Tighe, K. Utendale and Hans Vanderkirkhoef.



SALVAGE EXCAVATIONS IN THE VICINITY OF KAMLOOPS

Robert L. Wilson

INTRODUCTION

The Simon Fraser University excavations undertaken in Kamloops, British Columbia in the summer of 1971 were initially concerned with salvage archaeology on the Kamloops Indian Reserve. The project's purpose was to preserve as much archaeological information as possible from the sites that were immediately threatened with destruction, and ultimately to establish a local sequence of prehistoric cultures for the Kamloops area.

Historically, Kamloops was occupied by the Shuswap Indians, a Salishan tribe formerly inhabiting the region between the Columbia River watershed and the Fraser River. The Shuswap border on the other Salishan tribes, the Lillooet, the Thompson, and the Okanagan, to the south and the Tsilkotin, an Athapascan tribe, to the north.

During the season five sites were excavated: two pithouse village sites, EeRb 3 and EeRb 10 on the Kamloops Reserve; a burial site, EeRc 8, in North Kamloops; a cache pit site, EdRa 11, 14 miles east of Kamloops; and EeRh 3, located beside Cache Creek on the Pass Valley Road, five miles east of the town of Cache Creek. Most of the three month field season was spent excavating the two sites on the Kamloops Reserve.

KAMLOOPS RESERVE SITE EeRb 10

EeRb 10, containing eight housepits, was in the greatest danger of immediate destruction and as such was the first site excavated. It is located on the Kamloops Indian Reserve on the north side of the South Thompson River, approximately 500 meters north of the Trans Mountain Pipeline Company warehouse

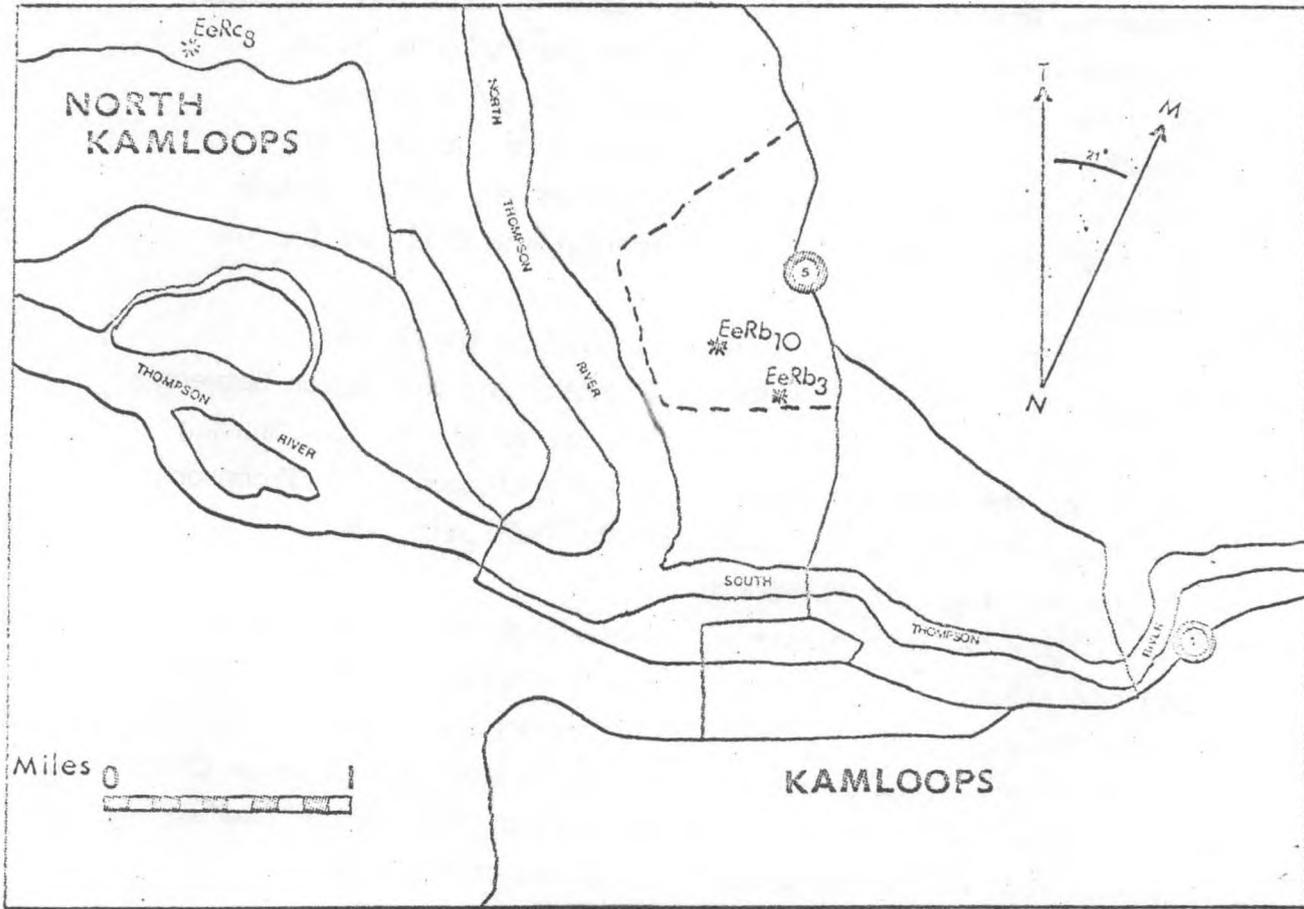


FIG. 61. Map of the City of Kamloops

and 450 meters east of the CNR tracks.

The aeolian soil of sand and clay loams supports a vegetation of low lying sage brush and grasses, typical of the entire region, with groves of poplar and alder in the former sloughs adjacent the north and south edges of the site. The largest housepit, number 3, is 16 meters in diameter, while the smallest, number 8, is 6 meters in diameter.

Excavation

A total of 75 cubic meters of deposit from 27 2 by 1 meter squares were excavated in arbitrary units of 10 centimeters. Emphasis was placed on trenching the interior of the housepits with two cross trenches bisecting and extending down the outside slopes of housepit 3.

Stratigraphy

The deposit consists of two major stratigraphical units: water deposited sands and sand loams, upon which lay the main concentrations of cultural material in a series of aeolian loams of varying sand and clay densities. In the squares within the housepits, the cultural and associated material extend down to 100 centimeters below surface with the bottom 10 centimeters being the water-deposited sands. The greatest concentration of cultural material is on the inside slopes of the housepits.

The only indicator of a living floor is a 20 to 30 centimeter thick layer of slightly darker brown loam, ranging from approximately 30 to 50 centimeters below surface within housepit 3. A 5 centimeter wide layer of charcoal, 70 centimeters below surface in housepit 4 is the only evidence uncovered of a burned fallen pithouse roof within the entire site. In the squares outside the housepits

very little charcoal or dark discolouration are present, and cultural material does not extend below a depth of 60 centimeters.

Artifacts

A total of 306 artifacts, a yield of about four artifacts per cubic meter, were recovered. These are listed in Table 14. The 33 flaked stone projectile points and bifaces constitute 10.8 percent of the assemblage. The 160 retouched flakes, 50.8 percent of the assemblage, are comprised of 126 unifacially retouched and 34 bifacially retouched flakes. The greatest concentration of these tools was on the western inside slope and southern inside slope and ridge of housepit 3. 92 flakes, 29.2 percent of the assemblage, can be classified as utilised flakes on the basis of minimal retouch. They follow much the same distribution as the preceding type, but are most frequent on the southern ridge of housepit 3.

Three sandstone whetstones or abraders were recovered. Two have one abrasive surface each, whereas the third is ground on both faces and has in addition a long groove in one face. Five hammerstones of granite were found; two show abrasion from grinding as well as from battering. A unique artifact is a flat, circular granite stone, 33 centimeters in diameter which has four equidistant indentations along its edges, and may be a canoe anchor.

Two antler tips are worked, but are not classifiable as to artifact type. One partially decayed antler object is probably a wedge; the distal end is unifacially bevelled to a blunt tip and there are no signs of battering at the proximal end.

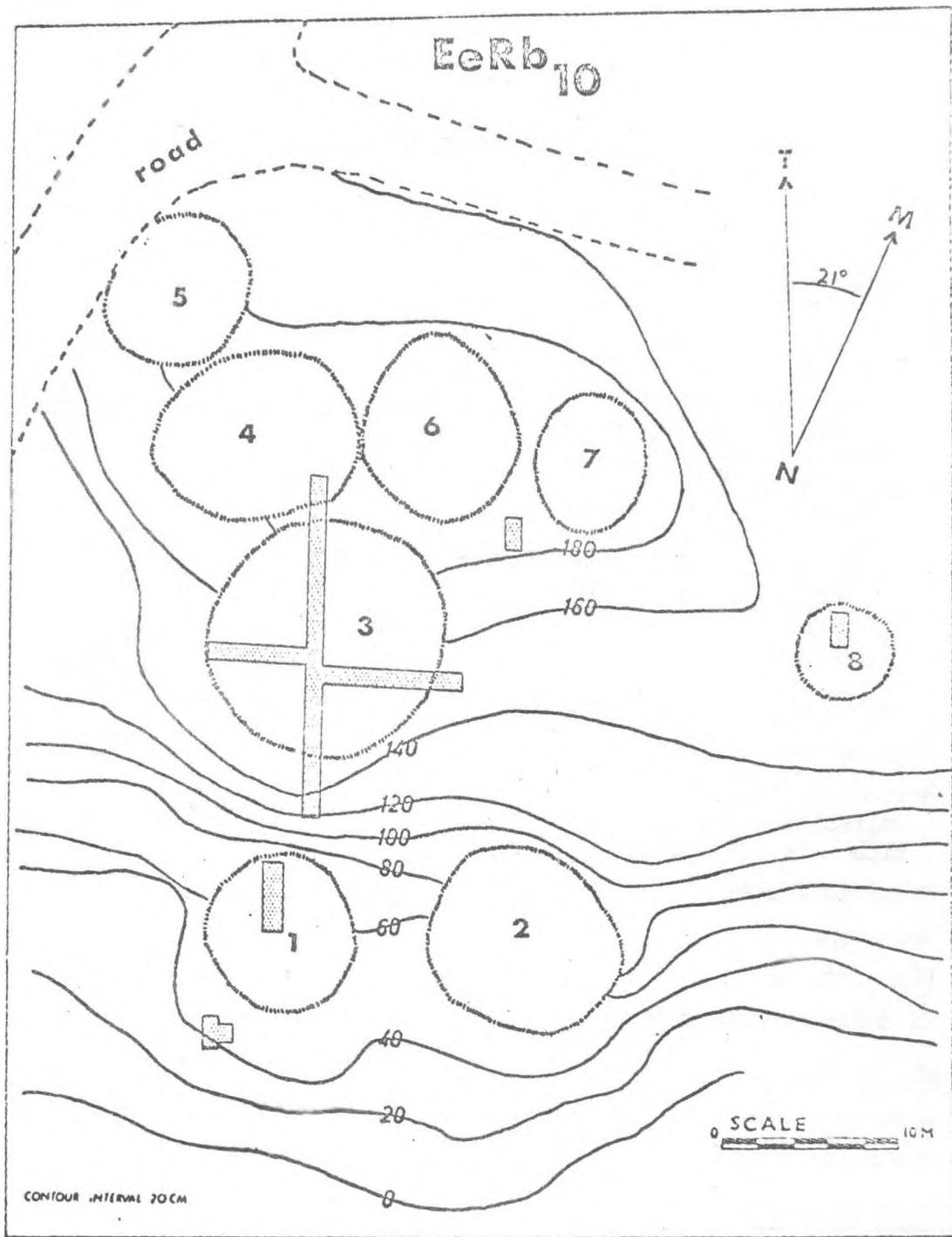


FIG. 62. Map of EeRb 10

Table 14. Artifacts from EeRb 10

	QUANTITY	FIGURE
<u>STONE ARTIFACTS</u>		
Projectile points		
Leaf shaped:		
convex base (Group 1)	4	63c, e, g. 64i
straight base (Group 2)	2	63b, h
concave base (Group 3)	1	
Corner notched:		
expanding concave base, barbed (Group 4)	1	63d
expanding concave base, shouldered (Group 5)	3	64a, h, k
contracting stem, no barbs (Group 6)	7	63a, f. 64b, e, f, g
Single basal notch (Group 7)	1	
Bifaces and fragments	14	64c, d, j
Retouched flakes:		
Unifacially retouched	126	
Bifacially retouched	34	
Utilised flakes	92	
Whetstones	3	
Hammerstones	5	
Circular granite object	1	
<u>BONE ARTIFACTS</u>		
Unbarbed points and fragments	4	
Ground fragments	3	
<u>ANTLER ARTIFACTS</u>		
Bilaterally barbed point fragments	1	
Worked tips	2	
Wedge (?)	1	
<u>SHELL ARTIFACTS</u>		
Dentalium shell	1	

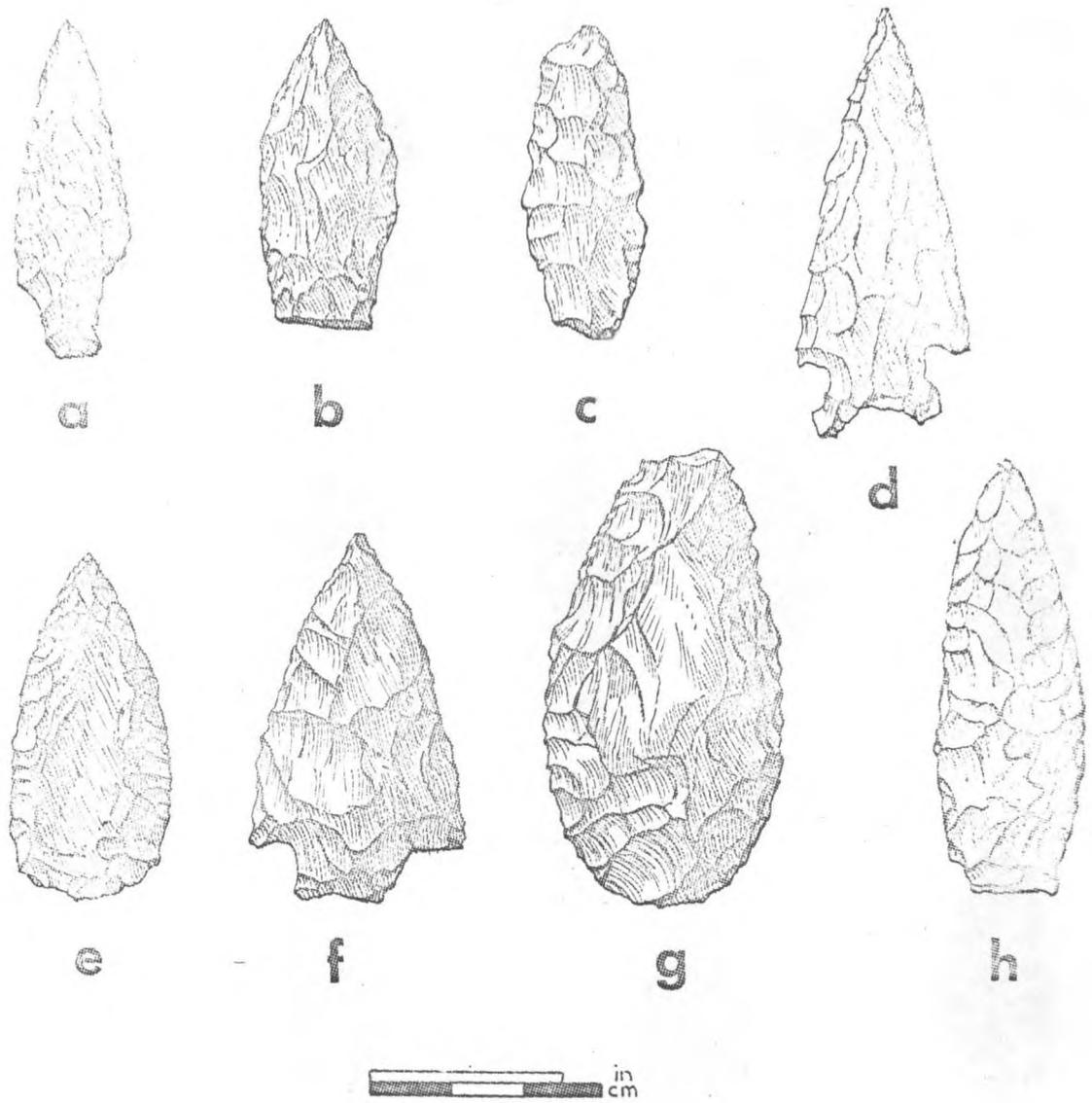


FIG. 63. Projectile points from EeRb 10. c, e, g: Group 1.
b, h: Group 2. d: Group 4. a, f: Group 6.

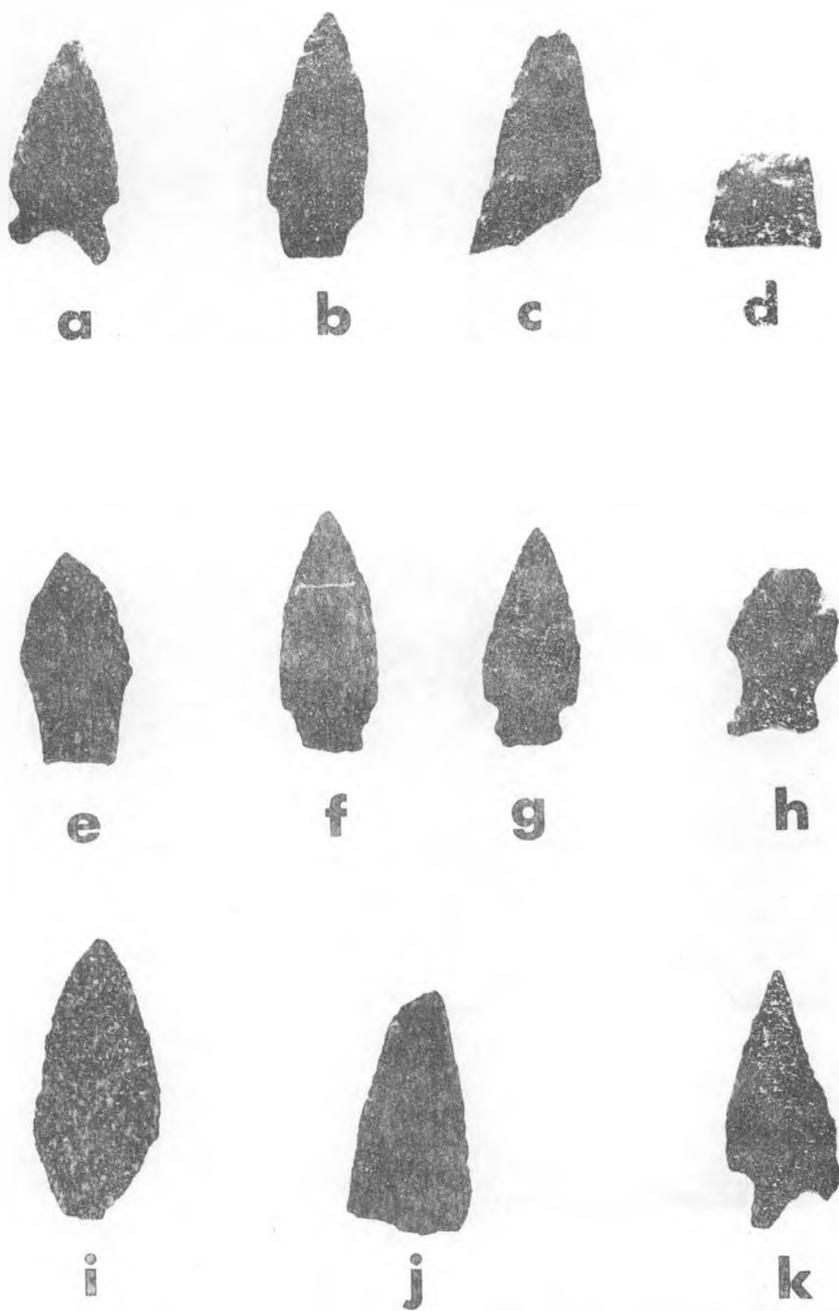


FIG. 64. Projectile points and bifaces from EeRb 10.
i, Group 1. a, h, k, Group 5. b, e, f, g, Group 6.
c, d, j, bifaces.

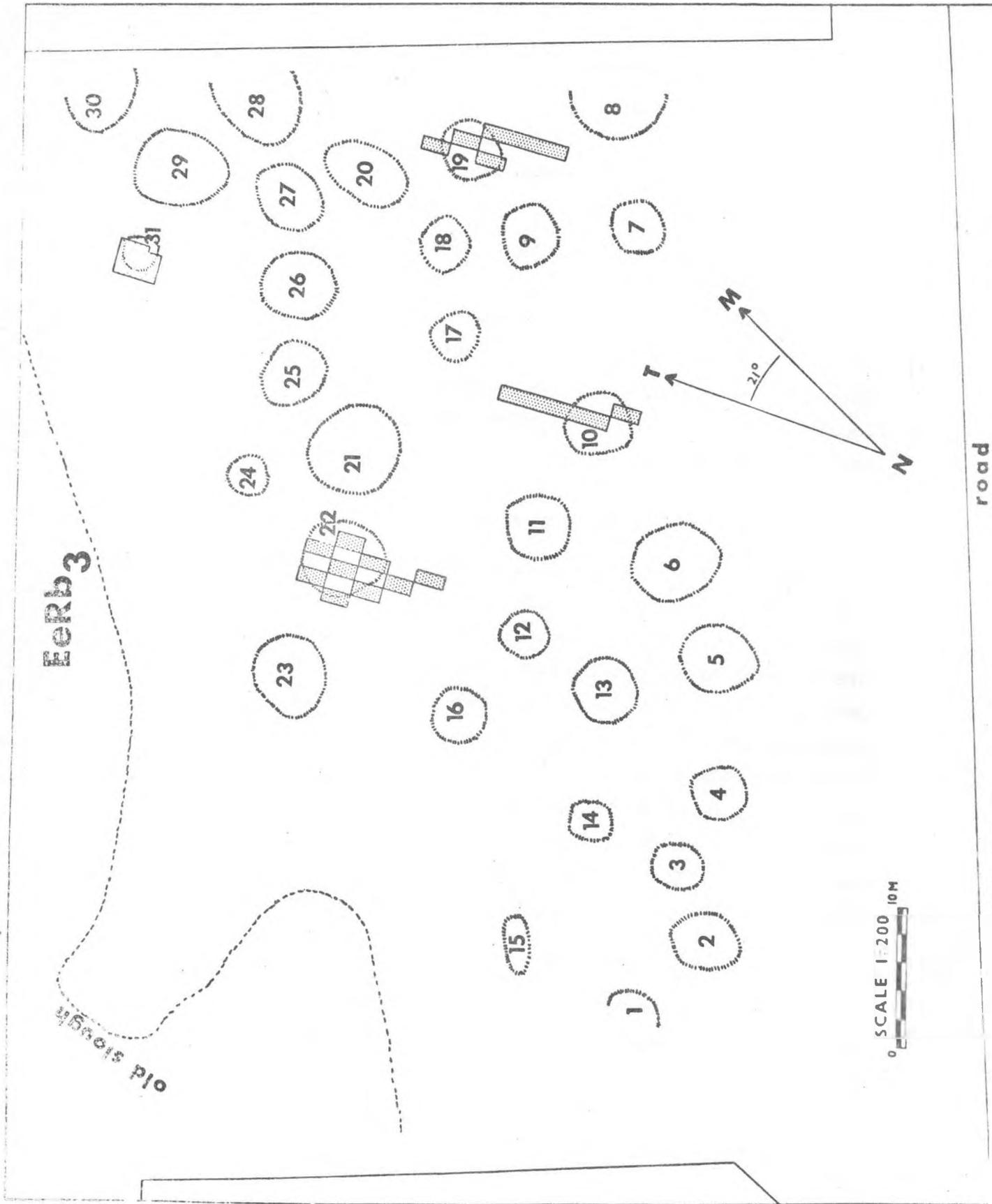


Fig. 65. Map of Eerb 3

One complete dentalium shell was the only object of this material recovered.

Discussion

The entire assemblage from EeRb 3 indicates a relatively short, single component occupation. There are too many discrepancies to link this site specifically with any of Sanger's (1970) three periods, although the styles of projectile points suggest that this component predates the Kamloops phase. Additional excavations in the Kamloops locality may well yield a slightly divergent chronological sequence from that in the Lytton - Lillooet locality.

KAMLOOPS RESERVE SITE EeRb 3

This was the largest pithouse site in the Kamloops region until two years ago when 90 percent of it was bulldozed for a still unfinished parking lot. All that remains are 31 small housepits, located directly opposite the John Deere warehouse on the Kamloops Reserve. EeRb 3 is approximately 500 meters southeast of EeRb 10, and like the latter has been surveyed for industrial development. The aeolian soil has a much higher clay content than that of EeRb 10, but the same vegetation of low lying sage brush and grasses exists. Adjacent to the northwest edge of the site is a former slough supporting poplar and alder.

Excavation

A greater amount of time was spent excavating this site as it proved to yield a larger artifact assemblage. Twenty-four 2 by 1 meter squares were excavated in and outside four housepits using a technique of excavating squares which were adjacent at the corners rather than consecutively in a

line. This method produced more data on pithouse architecture and stratigraphy, and allowed for greater freedom in location of squares. Also, the first 10 centimeters below surface was removed from around the entire depression of housepit 10, and a definite post-hole pattern was revealed.

Stratigraphy

There are three major stratigraphic units in this deposit: water deposited sands and sand loams being the oldest; living floors and occupation levels of clay loam directly above them; and aeolian loams and clay loams being the most recent. The living floors are readily identifiable by their abundance of charcoal, and by their continuity in corresponding to surface contours. Housepit 22 has two living floors; the earliest is 5 centimeters thick and 80 centimeters below surface, and the latest is 8 centimeters thick and 60 centimeters below surface. The living floors in housepit 19 are between 5 and 15 centimeters thick, and are located between 50 and 100 centimeters below the surface. That of housepit 10 is 5 centimeters thick and is 50 centimeters below surface.

Artifacts

Including the 356 artifacts from the surface of the disturbed portion of the site, the assemblage totalled 1314 specimens. Those from the excavated sections are listed in Table 15. All the whetstones were abraded on one surface only. The flaked stone tools were made from basalt, petrified wood, and chert. Artifacts from the disturbed part of the site which had previously been gleaned by relic collectors were all of stone, the majority being retouched flakes, scrapers, knives, and utilised flakes. Less than

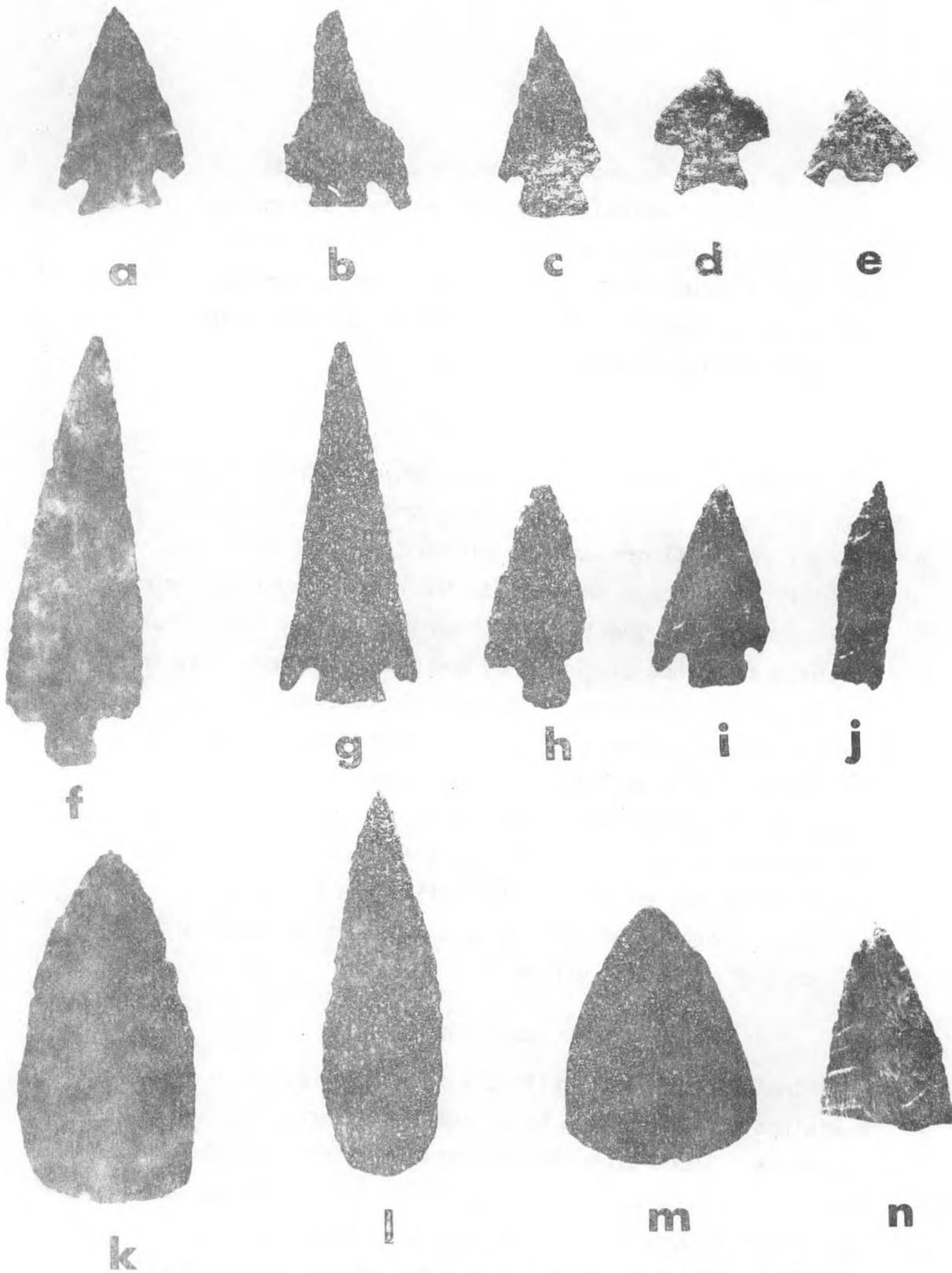


FIG. 66. Projectile points and bifaces from EeRb 3. l, Group 1. j, Group 2. a, c, i, Group 3. e, g, Group 4. f, h, Group 5. b, d, Group 6. k, m, n, bifaces.

Table 15. Artifacts from EeRb 3

	QUANTITY	FIGURE
<u>STONE ARTIFACTS</u>		
Projectile points:		
Leaf shaped, convex base (Group 1)	1	66 <u>l</u>
Leaf shaped, straight base (Group 2)	3	66 <u>j</u>
Corner notched, barbed (Group 3)	12	66 <u>a</u> , <u>c</u> , <u>i</u>
Basal notched, barbed (Group 4)	6	66 <u>e</u> , <u>g</u>
Straight stemmed, shouldered (Group 5)	2	66 <u>f</u> , <u>h</u>
Expanding stemmed, protruding barbs (Group 6)	4	66 <u>b</u> , <u>d</u>
Bifaces and fragments	57	66 <u>k</u> , <u>m</u> , <u>n</u>
Retouched flakes:		
Unifacially retouched	542	
Bifacially retouched	60	
Utilised flakes	244	
Whetstones	3	
Flaked drills:		
Unifacially retouched	2	
Bifacially retouched	3	
Stemmed scraper	1	
D-shaped pestle	1	
Spall tool	1	
Cores	2	
Long ground and chipped tool	1	
<u>BONE ARTIFACTS</u>		
Points, unbarbed	3	
Worked fragments	7	
<u>ANTLER ARTIFACTS</u>		
Elk antler wedges	2	
<u>TOOTH ARTIFACTS</u>		
Incisor with ground edge	1	

three percent of these surface artifacts were projectile points.

The greater concentrations of the excavated cultural material lay on the inside slopes of the housepits to a depth of 110 to 120 centimeters below surface. Most of this material is associated with and below the living floors.

Features

Two habitation features were uncovered in the course of excavation. The first consists of a pattern of post holes associated with housepit 10. The 84 post holes revealed do not conform to the accepted pithouse structure of the Interior Plateau. Three clusters of approximately 20 post holes each are aligned in a southwest to northeast direction across the southeastern boundary of the housepit. Another cluster of ten post holes is located on the northwest ridge, which may be associated with housepit 11, and five more on the northern ridge. Thus instead of a circular semi-subterranean structure with four main supports, we have more of a lean-to type of structure.

The second feature is a circular concentration of rocks associated with depression 31 40 to 50 centimeters below surface. Since the depression is too small for a pithouse and there is a large quantity of charcoal lying underneath the rocks, this is probably some form of sweathouse structure.

Discussion

The artifact assemblage is very similar to that of site EeRb 10, and suggests contemporaneity of the two sites. While both are single component sites, showing similar cultural material, the difference in size of the housepits

at the two sites may be indicative however of a temporal difference. The single C-14 date so far obtained is A.D. 30 \pm 100 (GAK 3902).

BROCKLEHURST BURIAL SITE EeRc 8

This single burial site is located in a gravel pit, operated by Studer Brothers Construction, in Brocklehurst, North Kamloops. Through immediate co-operation from Studer Brothers, the R.C.M.P., and the Kamloops City Museum, we were informed of its destruction and were able to conduct salvage excavation.

The burial was approximately 4.5 meters below the surface in the wall of the gravel pit. Originally, however, it was 6 meters below surface, as Studer Brothers had already scraped off 1.5 meters. The floor of the gravel pit is 4 meters below the burial. Thus it was virtually impossible to conduct a controlled excavation of the burial because of its difficult location, and because the walls of the pit were far from secure. We were forced to excavate it from the side and remove each bone as we came to it.

The soil is comprised of water deposited gravels, except for a layer of aeolian clay, 50 centimeters thick, directly above the layer of darker gravel in which the burial was located.

Artifacts

Since the power shovel had sliced the skeleton into two, and most of the artifactual material was among the gravel debris on the floor below the burial, it was impossible to establish exact proveniences. All the artifacts can therefore only be assigned as likely belonging with the burial. They are listed in Table 16.

Table 16. Artifacts from EeRc 8

	QUANTITY	FIGURE
Stone fish net weights	5	
Abrading stones	3	
Small stone mortar	1	
Retouched flakes	4	
Utilised flakes	1	
Tips of bone points	3	
Unilaterally barbed bone leister points	1	<u>67a</u>
Unilaterally barbed bone point fragments	1	<u>67e</u>
Antler harpoon fragments	1	<u>67b</u>
Grooved tooth pendants	1	
Perforated bear tooth pendants	12	<u>67c</u> , <u>d</u>
Shell beads	92	
Orange ochre sample	1	

The 92 shell beads were found in close proximity with the tooth pendants on the floor of the gravel pit. It is assumed that the individual was wearing both of these decorative sets of items. Dr. T. W. McKern of the Department of ARchaeology, Simon Fraser University, identified the skeletal material as belonging to a 30 year old male. This affirms the fact that the type of artifacts associated with the burial are male-oriented.

Discussion

It is impossible to know how much of this site has been destroyed, but the data collected are assumed to be representative of the entire site. The fact that the age of the burial may predate any recorded archaeological finds in the Kamloops area, is based solely on its depth of 6 meters below surface in water deposited gravels. More data must be collected from other sites however, to establish any cultural comparisons.

SITE EdRa 11.

Stretching in an east-west line approximately 65 meters long and 10 meters wide, this site is composed solely of 45 cache pits. A property line divides the site almost in half with 25 cache pits to the west of the line and 20 to the east. We concentrated on the former because the owner, Emilio Queltieri, was about to start construction and destroy his portion of the site. However, he was very kind and delayed his operation for two days so that we might salvage the site's archaeological information.

The site is located on the north shore of the South Thompson River, approximately 2.5 miles east of the Lafarge Cement plant, 15 miles east of Kamloops. Pithouse depressions

are scattered throughout the entire area, but none are closer than 300 meters to this site.

The vegetation is typical of the area with very high sage brush, most of it over a meter high, and short grasses. Aeolian loam constitutes most of the soil. The surrounding topography is flat, as it is a beach terrace of the South Thompson River, presently situated less than 100 meters away. The cache pits however are located on a ridge from 50 to 100 centimeters high, most likely due to all the earth that was moved when the cache pits were dug.

Excavation

Time limited us to a minimum of excavation; however a more than adequate amount of data was collected. Three 2 by 2 meter squares were excavated within depressions, with the trench 3-4W/0-4N bisecting two of them. Two 1 by 1 meter squares were also excavated, one within a depression and one on the ridge of the cache pit mound.

Stratigraphy

There is no definite layering of strata because of the disturbance in the construction of the cache pits. The walls and floors of the cache pits do not extend lower than 80 centimeters below surface, and are represented by black midden soil.

Artifacts

Even though the site had previously been surface collected, we found a total of 74 basalt flakes on the surface, of which 21 showed either retouch or utilisation. Excavation yielded only 10 artifacts, including three bifacially retouched flakes, three unifacially retouched

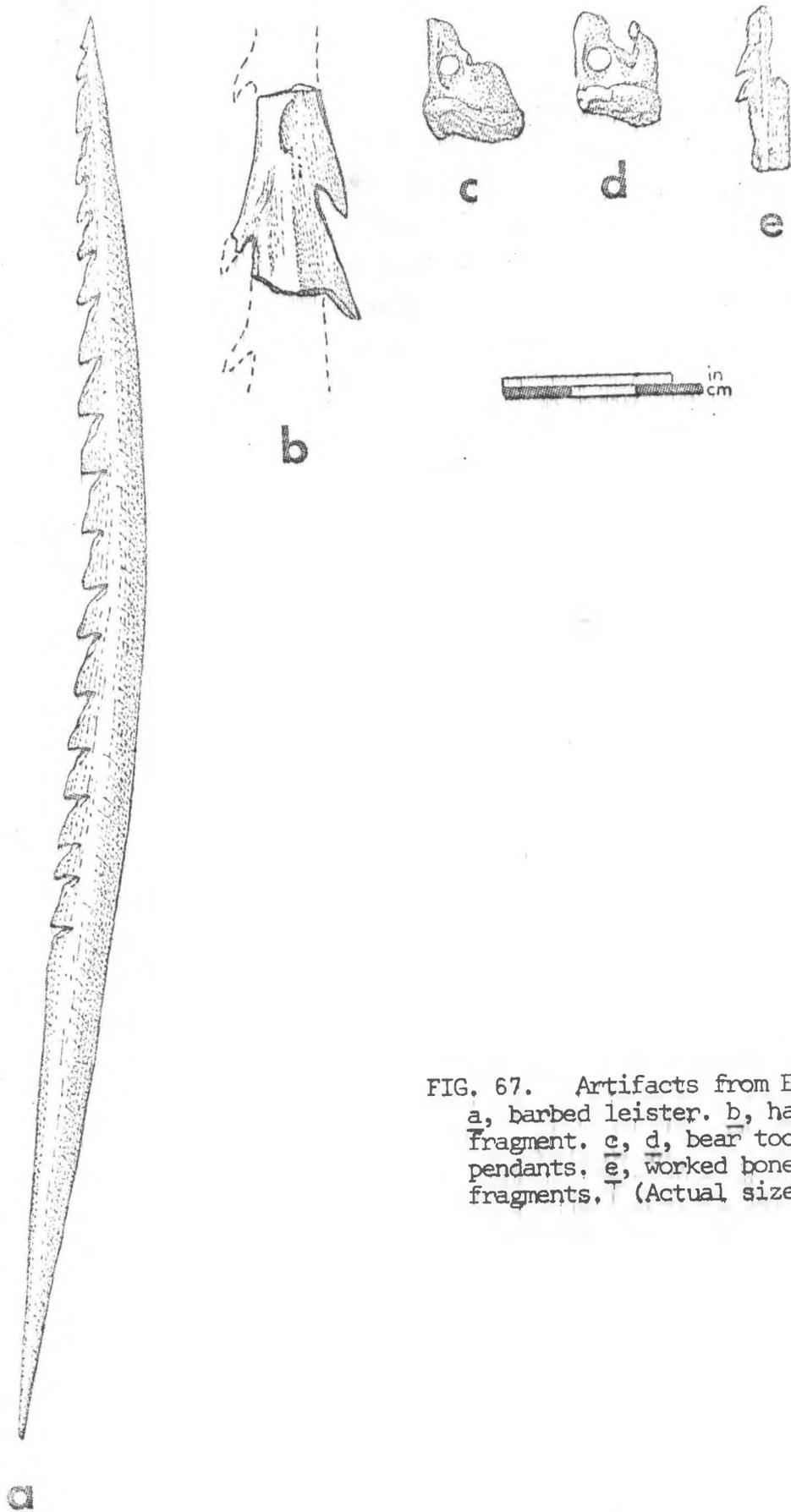


FIG. 67. Artifacts from EeRc 8.
 a, barbed leister. b, harpoon
 fragment. c, d, bear tooth
 pendants. e, worked bone
 fragments. (Actual size)

flakes, a shouldered projectile point, and three clusters of pieces of tightly rolled birch bark, of which the largest is 14.8 centimeters in length and 3.5 centimeters in diameter. All the birch bark was located within cache pits, and may have been used for torches, or for the wrapping of food. No faunal material or fish vertebrae, however, were found in direct association with the birch bark. All the excavated artifacts were recovered from within cache pit depressions.

Discussion

As with other cache pit sites in the Kamloops region, EdRa 11 did not yield much artifactual material. Most of the associated material, land mammal bone fragments and fish vertebrae, were directly associated with the black midden soils of the cache pit floors, between 50 and 80 centimeters below surface. None of the artifacts are diagnostic and no historic goods were recovered.

CACHE CREEK SITE EFRh 3

The Inland Natural Gas Company was very considerate in allowing a crew from Simon Fraser University to survey its new pipeline route in the vicinity of Cache Creek. One site through which the 40 foot wide right-of-way went is EFRh 3, at the juncture of the Pass Valley Road with Cache Creek (the stream), five miles east of the town of Cache Creek. The site is extremely flat with no surface features, 100 meters long and 30 meters wide, up approximately 8 meters from the east bank of the stream, and it is completely cleared of the surrounding young coniferous forest.

Excavation

Seven 2 by 1 meter squares were excavated, six of which were directly on the pipeline right-of-way. In the two days the site took to complete, all seven were brought down to sterile sub-soil at an average of 40 centimeters below surface,

Stratigraphy

The soil deposit of the site is all glacial till, with the first 30 centimeters below surface being light brown rocky clay loam, under which lies a mixture of grey brown medium course sands and gravels. The cultural material is evenly distributed throughout the first 20 centimeters below surface.

Artifacts

The surface of the site was littered with basalt detritus and cores, and we collected a total of 24 retouched flakes and bifaces. Excavated material included approximately 200 basalt retouched flakes, bifaces, hammerstones, and abraders, with very little found beyond 20 centimeters below surface.

Discussion

No habitation features, the amount of detritus totalling 300 to 400 flakes in some levels, and the fact that the only major outcropping of basalt in the entire region is just a mile away at Arrowstone Creek, all support the assumption that this site is a flaking station and resource centre. The shallow depth of deposit indicates a relatively short duration of occupation during a time period that has yet to be established.

Acknowledgements

The 1971 Simon Fraser University excavations in Kamloops, British Columbia, were financed by the Opportunities for Youth Programme. Co-operation from the Kamloops Band of Indians, the Kamloops Historical Society, Trans Mountain Oil Pipeline Company, Inland Natural Gas Company, and Studer Brothers Construction was most appreciated. The field crew included Jean Bussey, Greg Calder, Liz Dolby, Jack Eisner, James Helmer, Patrick Hughes, Robin Lakiotis, Mary Perrin, Brian Mitchell, Kim Roberts, and Stuart Syme; and the following volunteers: Mike Blake, Morley Eldridge, Michael Weiss, Brenda Wilson, and Lorna Woodbury.

FAUNAL MATERIAL FROM EIGHT ARCHAEOLOGICAL SITES: A
PRELIMINARY REPORT

Birute Galdikas-Brindamour

INTRODUCTION

The paucity of information on the faunal remains recovered from archaeological sites in British Columbia can probably be attributed to two factors; first, the lack of faunal type collections with which the archaeological material could be compared and second, an absence of qualified personnel to undertake analysis of these remains. Site reports have either only barely summarised the species of animals present within the site as a whole (see Calvert 1970) or going one step further, they have in some detail noted the identity of bones present at each level of the site without mentioning their number (Fisher 1943). In no case, however, has there been any explicit enumeration of different bones at each level nor any sophisticated attempt to relate and explicate the meaning of the faunal assemblage in terms of and to the rest of the site. Indeed, it would be no exaggeration to conclude that "faunal analysis" as such does not exist in British Columbia archaeology since concern with faunal remains seems to terminate once these remains have been excavated.

The work to be described here was conducted during the four summer months of 1971. It represents an attempt to assemble the beginning nucleus of a provincial faunal type collection for the Department of Archaeology at Simon Fraser University and to thoroughly examine every single scrap of faunal material recovered from salvage excavations conducted by Simon Fraser University during the summer of 1971. It is eventually hoped that the identification of faunal material compiled during the duration of this project will provide the basis for the most exhaustive and systematic study of intra-

site and inter-site variability in prehistoric subsistence ever undertaken in British Columbia archaeology. The actual analysis of the faunal material examined and identified over the summer has only just been initiated and will require several years to complete. Consequently, this preliminary report will concentrate first on the setting up of the type collection and secondly on a summary of the bones identified from each site.

THE TYPE COLLECTION

The absolute necessity of a type collection for the identification of faunal material can perhaps be best demonstrated by the fact that the corresponding bones of many animals of different species, even different genera, can be differentiated only with difficulty and might be lumped together by even a relatively practised eye. And, of course, a type collection is mandatory for the teaching and learning of simple faunal identifications in a classroom situation. Further, even specialists of a dozen years standing need recourse to a type collection when confronted with anomalous specimens.

Surprisingly, there were only two type collections of British Columbia fauna in the entire province - a rather extensive one at the Vertebrate Museum, Department of Zoology, University of British Columbia, and a smaller one at the Provincial Museum in Victoria. Both of these, although previously utilised for work with archaeological material had been initiated and were primarily maintained for zoological purposes. Indeed, although there was some post-cranial faunal material at the University of British Columbia, the bulk of it consisted of skulls. Both these institutions loaned out materials from their collections on such a long-term basis and

so extensively that there was often a dearth of material at the actual institution. It became obvious that setting up a small core type collection for archaeological purposes at Simon Fraser University was imperative before any large scale faunal identification and subsequently, analysis could commence.

To set up a type collection, carcasses and parts of carcasses in any state of deterioration were collected by whatever means possible wherever possible from zoos, slaughterhouses, taxidermists, students and locals, or even picked up off the sides of roads when animals had been run over. Once obtained, the carcass was skinned and boiled in water. Then it was manually defleshed (if the carcass was decayed, a gas mask was used) and put into a ten percent solution of acetone for at least 24 hours in order to degrease the bones. The final steps consisted of immersion in a three percent solution of hydrogen peroxide for less than 24 hours in order to bleach the bones and then the animal or animal part was catalogued with as much information on the individual animal as was available noted. Occasionally, other steps and chemicals were used as well but the essential process remained unaltered.

In this manner, a collection of 11 skulls, approximately 10 whole skeletons and some partial skeletal material was accumulated. In addition, the skeletal remains of several animals were collected by the archaeologists working at Kwatna and a beaver skeleton was brought in piece-meal by a local resident. These bones were washed and chemically treated. Several rodent carcasses, one mole and one bird carcass were skinned and boiled but, due to their small size and delicate bones, the final defleshing was completed by the dermestid colony kept for that purpose by the Zoology Department at the University of British Columbia.

IDENTIFICATION

The standard practise of dealing with faunal material in North American sites has traditionally consisted of saving so-called "identifiable" bone, having them identified by an outside expert, usually a zoologist, and then listing the species and perhaps the minimum number of individuals from each species present at the site in the report. Particular attention was paid to "exotic" fauna as this might indicate environmental shifts which had occurred since site occupation. However, the most recent work with faunal remains in both Europe and North America has rendered this approach somewhat inadequate and examination of the totality of a site's faunal material is rapidly becoming commonplace. It has also become clear that systematic analysis of faunal material by an archaeologist interested solely in archaeological problems can often yield implications as to the extractive activities carried out at the site, far beyond a simple knowledge of species utilised in subsistence.

However, the first step in any faunal analysis still remains the identification of the types of bone and species of animal present within the site. An attempt was made to examine all material from the sites concerned, no matter how fragmentary or splintered this material turned out to be. Once examined, the bone was identified whenever possible and then sorted into the following categories:

1. Fish bone
2. Bird bone
3. a) Land mammal identified as to species
b) Sea mammal identified as to species
4. Mammal bone identifiable only as to part of skeleton
5. Unidentifiable mammal bone.

Both human material and worked bone were occasionally encountered among the faunal remains. These were simply separated out and then given to the agency responsible for their processing. Category 4 consisted primarily of amorphous long bone and rib fragments. It would have been ludicrous to try and assign these fragments to species although their identity as parts of the skeleton could be distinguished. Most of the bone was also weighed in terms of the categories above; cut marks or butchering marks were also noted as was the occurrence of both unfused and burned bone.

The following table presents a summary of the mammal species present within the faunal assemblages of eight archaeological sites and a minimum number of individual mammals present within each site. Extensive tables incorporating the unidentifiable mammal bone and organized by provenience are now under preparation for the final reports. The analytical utility of the "minimum individual" concept has been currently debated among archaeologists but there can be no doubt it provides a useful descriptive tool for presenting the relative significance of bones from different species and different sites. A "minimum individual" is arrived at for each species by counting the most frequently occurring bone type and then dividing by the number of times this specific bone appears in the skeleton of a single animal. Precision in determining left and right for each type of bone increases the accuracy of the number of minimum individuals tabulated for a site.

It should be stressed that an effort was made to examine the total sample of faunal material available from each site. This goal was successful with the salvage excavations carried out during the 1971 summer season. However, Glenrose (DgRr 6) had been excavated as a salvage project in 1969 and

	Lower Mainland				Gulf Islands				Kwatsna				Kaslooke			
	DgRr 6		DhRq 1		DhRr 6		DhRr 1		DhRr 11		PaSu 1		PaSu 2		ZcRb 10	
	No.	Ind.	No.	Ind.	No.	Ind.	No.	Ind.	No.	Ind.	No.	Ind.	No.	Ind.	No.	Ind.
<i>Odocoileus hemionus</i> Blacktail deer	11	2	57	2	820	14	72	3	17	2	182	6	1025	43	92	3
<i>Cervus canadensis</i> Elk	4	1	6	1	30	1	2	1	-	-	-	-	-	-	-	-
<i>Oreamos americanus</i> Mountain goat	-	-	-	-	41	2	-	-	-	-	50	4	73	4	-	-
<i>Alces alces</i> American moose	4	1	2	1	-	-	-	-	-	-	-	-	-	-	17	17
<i>Canis familiaris</i> Domestic dog	11	2	1	1	390	5	18	1	3	1	34	3	121	3	3	1
<i>Ursus americanus</i> Black bear	3	2	-	-	39	2	-	-	-	-	1	2	14	1	-	-
<i>Canis lupus</i> Wolf	-	-	-	-	10	1	-	-	-	-	-	-	-	-	34	1
<i>Lynx rufus</i> Bobcat	-	-	27	17	-	-	-	-	-	-	-	-	-	-	-	-
<i>Vulpes vulv.</i> Red fox	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	17
<i>Procyon lotor</i> Raccoon	-	-	-	-	34	4	W	1	-	-	-	-	-	-	-	-
<i>Spilogale ericilla</i> Spotted skunk	-	-	-	-	12	1	-	-	-	-	-	-	-	-	-	-
<i>Mephitis mephitis</i> Striped skunk	3	1	8	2	-	-	-	-	-	-	-	-	-	-	2	1
<i>Erethizon dorsatum</i> Porcupine	1	1	1	1	11	2	-	-	-	-	7	2	65	5	3	1
<i>Lepus americanus</i> Snowshoe hare	1	1	-	-	-	-	-	-	-	-	-	-	-	-	140	5
<i>Martes americana</i> Marten	-	-	-	-	16	2	4	1	-	-	-	-	19	2	-	-
<i>Martes pennaki</i> Fisher	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
<i>Mustela vison</i> Mink	-	-	1	1	141	2	2	1	-	-	192	6	2	1	-	-
<i>Castor canadensis</i> American beaver	10	2	-	-	46	3	3	1	9	1	5	1	19	1	31	1
<i>Lutra canadensis</i> Canadian river otter	-	-	-	-	25	3	-	-	1	1	1	1	12	3	-	-
<i>Lontra longicauda</i> Sea otter	-	-	-	-	-	-	-	-	-	-	1	1	29	1	-	-
<i>Callorhinus ursinus</i> Northern fur seal	-	-	-	-	7	1	-	-	-	-	5	1	38	4	-	-
<i>Phoca vitulina</i> Hair seal	2	1	-	-	152	3	3	1	-	-	35	4	81	4	-	-
<i>Eumetopias jubata</i> Northern sea lion	-	-	-	-	27	17	17	17	-	-	1	1	147	1	-	-
<i>Dolphin species</i> Dolphin	-	-	-	-	-	-	1	1	-	-	23	7	56	7	-	-
<i>Microtus species</i> Field mice	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	7
<i>Vole species</i> Vole	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	7

No. refers to number of bones

Ind. refers to minimum number of individuals and has been calculated without reference to provenience within a site

W means a nearly complete or nearly complete skeleton

Y means the identification is questionable

Table 17. Faunal remains from excavated sites

unidentifiable fragments and splinters had not been kept. In the case of FaSu 1 and 2, the extensive faunal material had been separated out in the field into identifiable, unidentifiable, fish and bird and only pressing time considerations prevented the author from examining all but the identifiable material. Further, as a result of constant re-examination and re-evaluation of the data throughout analysis, a number of minor changes in bone frequencies are anticipated from this brief preliminary paper to the final conclusive reports.

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