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## E D I T O R I A L

*Rain is the bane of B. C. archaeology. And this year the sodden spring presages a summer--a digging season--even wetter than usual.*

*Compounding the problem this summer is the extraordinary generosity of governments and industry in supporting archaeological research. Never before have so many government departments done so much for the science (see stories inside).*

*So it is ironic that a discipline which can date a long-abandoned firepit from its Carbon 14, and can use a computer to trace the source of an obsidian point, is so dependent on the vagaries of the weather.*

*Perhaps never before in North America have so many archaeological excavations been planned simultaneously in such a wet place. All of which serves to highlight the need for a good inventor on the West Coast archaeological scene.*

*What is needed is a cheap, simple method of waterproofing a dig. An inflatable polythene tent was tried last winter, but with very mixed success. But it is ingenuity of that calibre that is wanted. The inventor may not make much on royalties, but he will win undying gratitude from hundreds of dripping diggers.*

TOUR TO THE CHINESE ARCHAEOLOGICAL EXHIBITION - Royal Ontario Museum

The Centre for Continuing Education, U.B.C. is organizing a trip from August 12 to 15 to the special exhibition of Chinese treasures which will be at the Royal Ontario Museum only in Canada. The cost of \$235 includes air fare (with the privilege of returning at a later date if desired), pre-booked tickets to the exhibition, and orientation sessions in Vancouver and Toronto. Those attending must make their own hotel reservations although there is the possibility of dormitory accommodation at the U. of Toronto. For further details please phone Mr. H. Rosenthal, 228-2181. The exhibition comprises recent discoveries from ancient Chinese tombs spanning 600,000 years of history. The most notable pieces are the jade suits clothing the bodies of a prince and princess of the Han dynasty, and the remarkable bronze representation of a flying horse. Catalogues from the Paris exhibition are on sale at the Centennial Museum.

## THE HESQUIAT PROJECT

For Hesquiat Cultural Committee  
of the Hesquiat Band

By Jim Haggarty, Archaeology Division,  
British Columbia Provincial Museum,

and

Gay Boehm, Department of Anthropology  
and Sociology, University of B. C.

### INTRODUCTION

The Hesquiat Project began more than three years ago when representatives of the Hesquiat Band approached professional anthropologists at the British Columbia Provincial Museum with a desire to recover and preserve all skeletal and cultural material located in burial caves in the Hesquiat Harbour area of Vancouver Island's west coast. They recognized that appropriate measures were needed to curtail increasing vandalism of properties both legally and traditionally theirs. Also implicit was their desire for a total reconstruction and preservation of their own cultural heritage. From this beginning, the project has evolved to the point where it now has a definite momentum of its own.

The Hesquiat Band had already formed a Cultural Committee to look into all matters of cultural activity pertinent to the band. It was two representatives of this Committee who hesitantly met with Donald Abbott at the Provincial Museum in November 1970 to discuss reducing the increasing vandalism of Hesquiat burial caves. A three-year program was worked out and a budget prepared and submitted to cover the cost of one season's field work and the construction of a Cultural Education Centre and traditional style longhouse at Hesquiat.

The Cultural Committee insisted that the entire program was clearly the responsibility of the band as it was their cultural heritage that we would together attempt to preserve. As such, an agreement between the Cultural Committee and non-band members working on the project was drawn up and signed by those participating on the project. This agreement ensures that all materials excavated or collected would remain with the band, and that all publications or talks resulting from the research done in this project would be submitted to

the Cultural Committee for comment and criticism prior to public release. Further, if any royalties should accrue from such efforts, they too are to be deposited with the band.

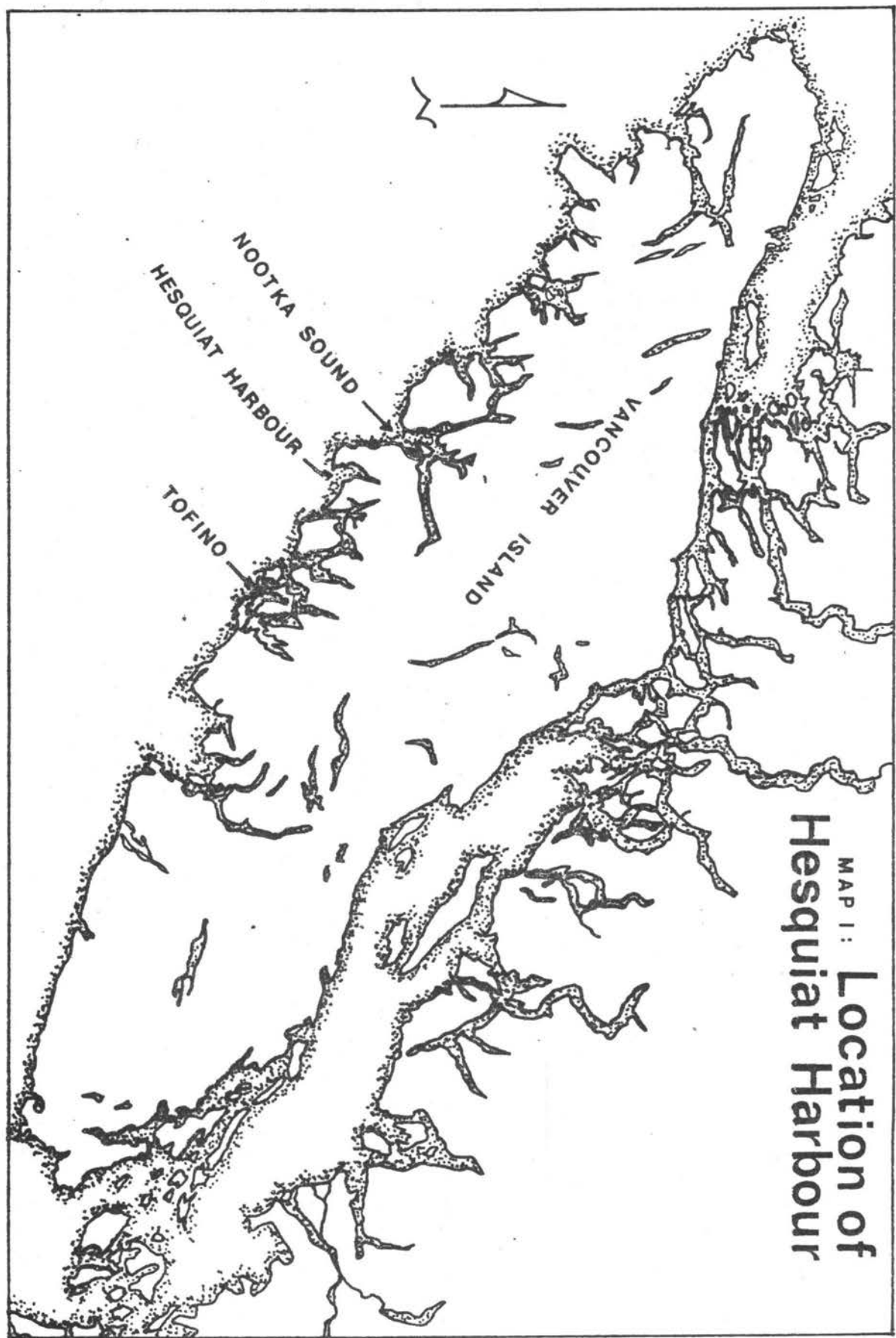
Thus, the role of the professional is not only to reconstruct and preserve as much as possible of the cultural history of the Hesquiat people, but also to ensure that the project and results are truly useful to the band. Further, it is incumbent upon each of the non-band members working on the project to provide individual instruction of band members in their various skills of research.

This report is being presented in accordance with the conditions of the agreement the authors have signed with the Cultural Committee.

During its first three years of existence the Hesquiat Project has grown from a small field crew of seven persons (four non-band members) doing salvage archaeology and physical anthropology to a crew of 30 (eight non-band members) engaged in a wide variety of cultural and recreational activities.

Almost all financial support has been awarded to and administered by the Cultural Committee of the Hesquiat Band. The authors and members of the Cultural Committee wish to sincerely acknowledge the generous and widespread financial support for the project from the following government agencies and public institutions: the B. C. First Citizens' Fund Advisory Committee; Department of Indian Affairs and Northern Development Cultural Grants Fund; National Museum of Man, Ottawa; Faculty Research Committee of the University of California at Santa Barbara; University of British Columbia, Vancouver; British Columbia Provincial Museum, Victoria; Local Initiatives Program, Ottawa; B. C. Hydro, Vancouver; Department of Transport, Ottawa; Archaeological Sites Advisory Board, Victoria; Opportunities for Youth, Ottawa; and most importantly individual Hesquiat Band members.

The archaeology program at Hesquiat is but a part of a much larger project. This report, however, will be confined to a discussion of the archaeological investigations at Hesquiat during the past three-year period and mention briefly our plans for the immediate future.



MAP 1: Location of  
Hesquiat Harbour

ARCHAEOLOGICAL INVESTIGATIONS AT HESQUIAT

1971 FIELD SEASON

The first segment of the research program, summer 1971, was aimed at salvaging all cultural and skeletal materials located in the vandalized burial coves (see Map 1 for the location of Hesquiat Harbour on Vancouver Island and Map 2 for a partial listing of recorded sites). During June 1971, Mr. Paul Sneed, University of B. C., with the assistance of two Hesquiat band members, conducted a thorough archaeological reconnaissance in the area recorded ethnographically as that of the Hesquiat Band. A total of 30 archaeological sites was located and recorded: four winter village sites, 11 summer village sites and/or fishing stations, 14 cave/rock shelter burial and/or occupation sites and one petroglyph site. Seven of the 14 cave/rock shelter sites contain midden deposit.

In July and August 1971 a joint program of physical-anthropological and archaeological salvage was conducted, with Paul Sneed in charge of the archaeological work and Jerome Cybulski administering the osteological portion. All surface deposits of human skeletal remains and associated material were removed from nine of the 11 cave sites containing surface material. The two cave sites left intact due to time shortage contained the least skeletal and artifactual remains and were also the least likely to be vandalized. Surface material from these two sites was removed during the 1973 field season.

While most of the Cave sites yielded only a few artifacts, the largest burial/occupation cave, DiSo 9, yielded well over 3,000 artifacts. The artifacts recorded and removed from this ONE SITE site include a large number of cedar bark mats and HIGHLY hundreds of mat fragments, cedar bark baskets, cedar PRODUCTIVE bark and kelp cordage, harpoon shafts and points, cedar plank boxes and box fragments, digging sticks, large and small canoe fragments, metal knives, wood and bone combs, bone gorges and awls, a dance mask fragment, a carved human figure, two carved bird figures, and hundreds of trade beads. All of the material from this cave and the remaining caves, including burials, likely dates from the early historic or late prehistoric period. Undisturbed midden deposit in some of the cave sites, including DiSo 9, will yield further information on skeletal and cultural material dating from the prehistoric period.

The osteological analysis, conducted entirely in the field, entailed the systematic recording of metric and non-metric traits on cranial and post cranial bones, manifestations of bone pathology, and dental morphology and pathology. Preliminary estimates based on specific bone counts indicate that approximately 105 individuals are represented in the sample, thus making this the largest sample with specific provenience to be collected and analyzed from the territories of the ethnographically defined "Nootka"-speaking peoples. Due to the generally disturbed nature of all surface material in each cave, few individually intact skeletons were recovered. Attempts at reconstructing individuals from the scattered



and mixed bones met with little success. Estimates of age and sex ratios as well as detailed population profiles are being prepared. As this sample of skeletal material from the Hesquiat Harbour area is not only large but also the first from this particular area, its contribution to knowledge concerning the physical variation of an early indigenous population of the British Columbia coast is truly significant.

All archaeological materials recovered during the 1971 field season in need of cleaning, preservation treatment and further analysis are temporarily housed at the British Columbia Provincial Museum. All other materials, including the human skeletal remains, are stored at Hesquiat. The artifact collection will be permanently stored in the Cultural Education Centre facility at the main village site of Hesquiat. The human remains will be placed in a ceremonial burial crypt adjacent to this facility.

#### 1972 FIELD SEASON

During the 1972 summer field season further archaeological work was conducted. This work, under the field direction of Alan Carl, was again of a salvage nature. The two buildings the band planned to construct, a Cultural Education Centre and a traditional-style longhouse, were to be located on a portion of the main village site of Hesquiat that was deemed significant archaeologically. Although the location of the two facilities was eventually changed due to a number of unforeseen problems, the initial research methodology devised for DiSo 1 was adhered to throughout the summer.

A field crew varying from four to nine persons was employed for four months by the Cultural Committee to conduct archaeological investigations at the main village site of Hesquiat, DiSo 1. The two primary objectives for the summer's work were to draw a detailed 20 cm. contour map of the large (160 m. x 30 m.) central ridge area and to random sample that portion of the central ridge area thought to be threatened by the proposed construction.

The entire area was cleared of brush and small trees so that all surface features would be exposed. A 2 m. by 2 m. grid was established for the area encompassed by the contour map and a five percent sample of units within the grid was selected at random. Of these, 15 fell within the proposed construction area and therefore had highest priority. Five were excavated. The four completed units bottomed out in sterile clay at a depth of just under 2 m.

Two additional 1 m. by 1 m. pits were excavated and a drainage ditch perpendicular to the beach and running the full width of the central ridge area was dug. The 1 m.-square pits served as post holes for the front corner posts of the longhouse that was under construction. It was hoped the drainage ditch would serve to control to some extent the fluctuations of water level in the swamp behind the central ridge and thereby control water fluctuations in the midden deposit as well, but water level fluctuation in the excavation was a persistent problem throughout the summer. The area in which the ditch was dug had served this function previously, leaving the deposit highly disturbed. Nevertheless, all artifacts

were collected in screens, cleaned and catalogued and treated as surface collected specimens.

The physical and cultural stratigraphy in these units was fairly uniform. The upper approximately 20 cm. of deposit - largely disturbed - contained an abundance of historic materials, including nails, glass and ceramic ware, and beads. Of the two prehistoric zones recognized, the middle zone, down to an approximate maximum depth of 90 cm., contained loosely-stratified shell deposits while the lower zone, which terminated in sterile clay, contained black compacted gravelly soil and an abundance of fire-cracked rocks. In the middle zone, abrasive stones and bone implements such as bird and land mammal bi-points, various point types, and awls were fairly common. Antler artifacts such as harpoon valves and bi-points and adzed fragments of sea mammal bone were also present. Stone objects in this zone include abrasive stones, sandstone saws, fish-hook shanks, a lignite bead, ground Mytilus californianus fragments and unworked quartz crystals.

ORGANIC MATERIAL FAILED TO SURVIVE

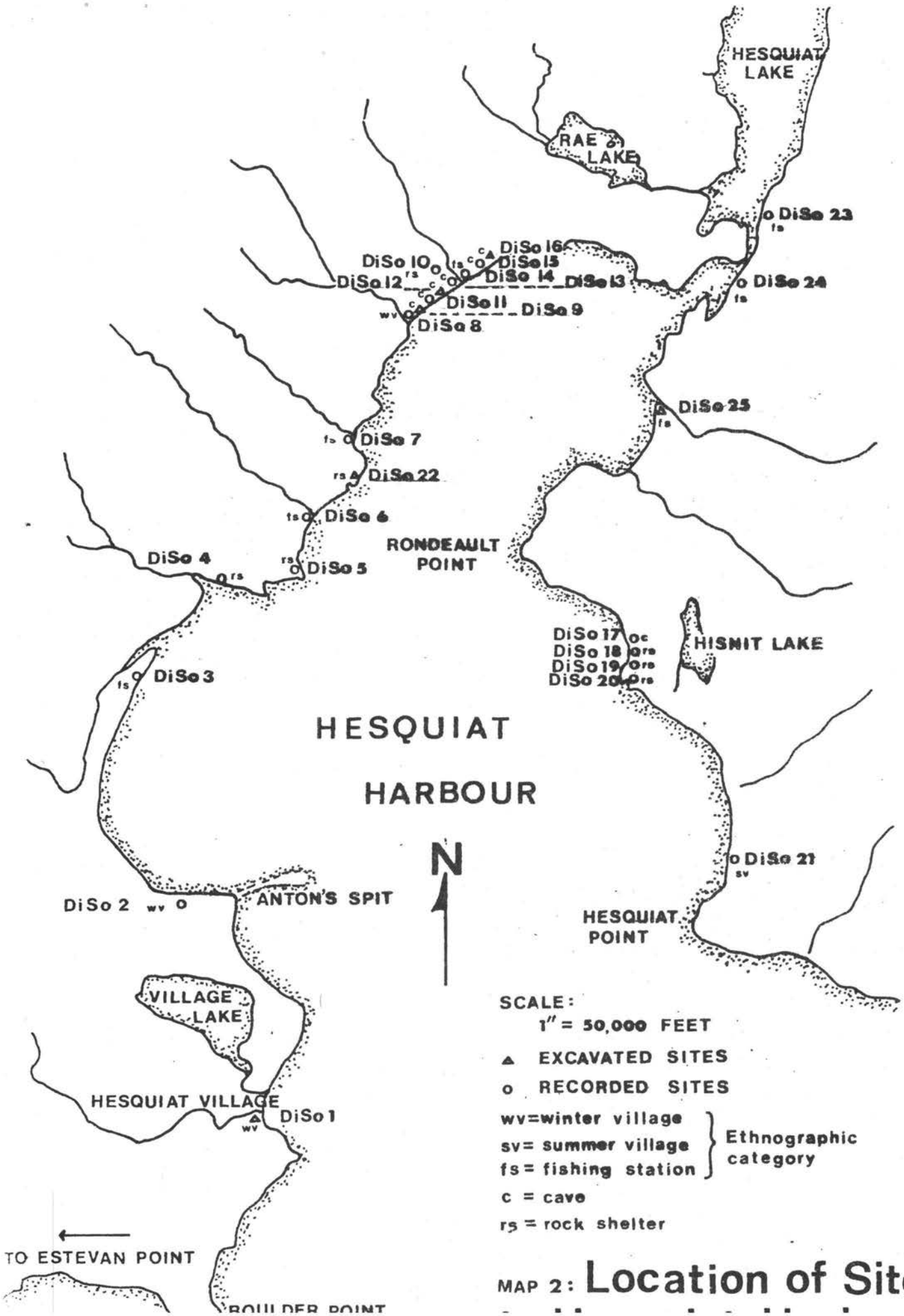
Preservation of organic materials in the lower zone was extremely poor: only four objects of antler or bone were recovered. Concentrations of ochre were found in both middle and lower zones and a possible source for the material was located this past summer with assistance from some of the Hesquiat elders. One chipped point fragment made from jasper-like material was unfortunately found in the screen and is awkward to assign to a specific zone. At this early stage it is difficult to say with certainty, but the stratigraphy, both physical and cultural, appears to suggest the presence of two prehistoric components. This conclusion must certainly be viewed as tentative, given the sample size obtained.

A total of 2,176 artifacts was recovered during the summer, 1,847 or 85 percent of which were excavated. Of these, 376 (20%) of the excavated artifacts and 567 (26%) of the total collection are of native material and manufacture.

In early fall further work was carried out by a three-person crew, at both DiSo9 and DiSo 1. The work at DiSo 9 consisted of recording profile measurements of the cave itself at 2 m. intervals, gridding the floor area into 2 m. by 1 m. excavation units, and initiating the excavation of three of these units. Also during this three-week period all artifacts resulting from the systematic removal of surface material from burial caves in 1971 and left in storage at Hesquiat through the winter were thoroughly described. This collection consists primarily of cedar storage and burial boxes, both complete and fragmentary (ends, sides, lids and bottoms of boxes), harpoon shafts, cedar poles, etc. Many of the boxes and box fragments are decorated with a variety of incised and painted designs.

Two radio-carbon estimates from fire hearths have been received from Yakushiun Laboratory. The sample submitted from





DiSo 1 presumably dates the earliest occupation of the main midden ridge at Hesquiat Village. The estimate was 480 B.C.  $\pm$  200 (GaK-4394). The second sample presumably dates the last occupation of the main burial/occupation cave in Hesquiat Harbour, DiSo 9, at A.D. 770  $\pm$  60 (GaK - 4395). Both estimates should be viewed as tentative pending confirmation from further samples.

### 1973 FIELD SEASON

During the summer of 1973 -- our first real opportunity to do full-scale problem-oriented research -- a field crew consisting of from eight to 11 people with Gay Boehm, U.B.C., as co-director, tested a total of six sites in Hesquiat Harbour: DiSo 1 - Hesquiat Village; DiSo 9, 12 and 16 - cave sites; DiSo 22 - a rock shelter midden site; and DiSo 25 - a fishing station. Primary objective of this summer's work was to test as many different types of sites as possible in the Harbour region within the allotted four-month time period. The uniqueness of the seven recorded cave and rock shelter sites containing midden deposit excluded them from being selected for excavation randomly. The remaining 15 open midden sites were stratified on the basis of ethnographic reportage: winter villages, summer villages, and fishing stations. A specific site (or sites) within each category was selected for excavation at random. Excavation units within each site were also selected at random. Although not all sites selected were tested this summer, further work will adhere to this basic research strategy. All midden deposits were trowelled and screened (quarter-inch except for deposit from DiSo 9 in which eighth-inch screens were used), a system combining both natural and 10 cm. arbitrary levels was utilized (except for DiSo 9 where 5 cm. arbitrary levels were used). Several new forms were devised for use this summer for recording soil and carbon samples obtained as well as descriptive sheets for artifact (based on T. Loy's forms used at DgRr 6) and level records. Standard B.C. archaeological record forms were used for recording all other kinds of archaeological data but these, too, are in need of serious revision.

Although the analysis of data resulting from this past summer's work has not yet begun, some preliminary remarks are possible at this time. At DiSo 1, Hesquiat Village, two 2 m. by 2 m. units were excavated within the existing 1972 grid system (one of these units was a continuation of one begun in 1972) as well as a third unit contained in a southern extension of the 1972 grid. All three units bottomed out in a clay subsoil at a depth of approximately 2 m. Again, three major stratigraphic units were observed. The basic composition of these zones has been described earlier in this report. A total of 249 artifacts (excluding historical material) was recovered during the one-month excavation. Approximately half were made from bone or antler while the remaining 124 were made from stone. The majority of stone artifacts represented are abrasive stones of all shapes and sizes but adze blades and fish-hook shanks are also present. As expected, very few chipped or ground stone objects other than abrasive stone were found. Bone or antler artifacts include many simple unbarbed points and some wedges, awls

and composite toggling harpoon valves. All major categories of faunal remains are represented with whale species predominating. Preservation was generally good except in lower levels, probably a combined result of little shell, and of water table fluctuation. The total assemblage including the material excavated in 1972 closely approximates the Yuquot assemblage.

The two cave sites excavated this past summer, DiSo 9 and 16 (DiSo 12 was tested but found to be virtually sterile), yielded comparable assemblages. Both caves were formed by wave action when the sea level was approximately 13 to 15 m. higher than at present. As expected, preservation in these types of sites is excellent except in the lower levels at DiSo 9 which are beneath the water table.

DiSo 16, a relatively small double-lobed cave measuring approximately 2 m. in width and 5 m. in length, was completely excavated inside the dripline. Cultural deposits reached ONE CAVE a maximum depth of 1 m. and did not extend beyond the COMPLETELY dripline of the cave. A total of 43 artifacts was re- EXCAVATED covered consisting mainly of abrasive stones, unbarbed bone points, awls and composite toggling harpoon valves. A number of centrally-located rock-spread hearth features was located superimposed on one another just inside the dripline. The cultural deposits overlie sterile beach sand and gravels which have accumulated on the uneven, rocky surface of the cave floor.

DiSo 9, a long, relatively narrow burial/habitation cave, was tested by a crew of from three to six people supervised by Gay Boehm from June through August. Five excavation units were completed and a sixth begun which should be completed next summer. Many problems, particularly those of a spatial and photographic nature, were encountered that interfered significantly with excavation progress.

The depth of deposits at DiSo 9 approached 2 m. toward the front of the cave and can be divided into four major stratigraphic units: 1) an upper 5 - 15 cm. of a disturbed brown duff layer containing organic material and historic objects clearly associated with the surface burial complex; 2) a second layer of finely stratified shell and soil, 50 c.m. to 1 m. in depth, and containing many superimposed rock-spread fire hearths and ash deposits; 3) a third layer composed primarily of a black, greasy soil with little shell and containing numerous large structured hearths and extensive ash spreads, and 4) a geological deposit of fine-to-coarse beach sand, pebbles and boulders, the thickness of which varies greatly depending on the contours of the cave floor but is generally thickest toward the rear of the cave. Between units two and three toward the back of the cave there exists a wedge-shaped layer, thickest toward the back, of what is probably wind-blown sand. The few artifacts and shells contained in this deposit have probably worked their way down from the shelly unit immediately above.

The large structured hearths that are clearly associated with unit III consist of a ring of large, upright rocks containing several layers of smaller, rounded beach pebbles and rocks and much charcoal within their circle. Rock-spread hearths are clearly associated with unit II although some do occur in unit III as well. No large, structured hearths occur in unit II.

A total of 176 artifacts was recovered from DiSo 9, 113 of which are definitely prehistoric. Of these, 90 are of bone or antler, 17 of stone and 6 of shell. Again, bone artifacts are mainly unbarbed points or barbs, awls, composite toggling harpoon valves and many worked fragments. Shell artifacts are mytilus adze blades or knives while the majority of stone artifacts are abrasive stones. Two ground adze blades and one chipped pebble sinker were also recovered.

A combined rock shelter midden site, DiSo 22, was also tested this past summer by a crew of from three to five people directed by Neal Crozier, U. of Victoria. This unusual site, located on the northwestern shore of the Harbour, contained four distinct surface areas with possibly differing cultural deposition: A) a relatively shallow deposit around the western and southern sides of the base of a huge upstanding, mushroom-shaped rock; B) an open deposit of midden debris to the west of the rock; and C) and D) two level areas (platforms or terraces) to the west of the rock. Seven excavation units were completed. A total of 156 artifacts was recovered: 61 stone, 83 bone or antler, two shell, two wood and eight historic of non-aboriginal manufacture. Preservation of faunal remains was again good.

One further site tested, DiSo 25, an ethnographically-recorded summer fishing station, was found to contain entirely historic deposits. It yielded 69 artifacts. Faunal remains were very sparse.

#### 1974 FIELD SEASON

With funding assured for a fourth field season at Hesquiat, a crew of four including three band members will conduct archaeological investigations designed to finalize the first major phase of research in Hesquiat territory. The five primary objectives for this summer's work are 1) to complete excavation unit 9 at DiSo 9 which will not only increase the sample from this site but also provide us with two continuous 10-meter profiles; 2) to test two additional sites, both selected at random from ethnographic categories: an outer-coast summer village site, DiSp 4, and a second fishing-station site, DiSo 6; 3) to systematically collect shellfish and other faunal remains from all possible intertidal resource localities in Hesquiat territory; 4) to completely photograph and recheck descriptions of all objects in wooden artifact collection that have remained in storage at Hesquiat since being removed from the surface of burial caves in 1971 as many of these objects will now be reinterred in a ceremonial burial crypt along with the associated human skeletal remains; and 5) if time permits, to increase the sample from DiSo 22, particularly those cultural areas of the site that have either never been tested or minimally tested.



## S U M M A R Y

In three seasons of field work at Hesquiat, surface material has been systematically removed from a total of 10 cave/rock shelter sites, three of which have also been tested archaeologically. A further three sites, one winter village, one fishing station, a combined rock shelter/open midden site and, by the end of this coming summer, a second fishing station and a summer village will also have been tested. Surface collections have been made from an additional five sites plus an extensive collection from DiSo 1, Hesquiat village.

With four seasons of field work completed within traditional Hesquiat territory, it will be possible to predict the kinds of things one would expect to find in other Harbour sites, and to test these predictions by further excavation. As new data become available, the hypotheses can be augmented or reformulated as necessary. In general, we will be able to examine the possibility that in the more distant past, as at the time of the beginning of the fur trade, Hesquiat Harbour has worked as a cultural and ecological unit within the wider Nootkan context.

The four-year program has clearly demonstrated that co-operative ventures between Indian bands and professional archaeologists are not just feasible but desirable for a number of reasons and mutually beneficial to both parties. Hesquiat elders are currently examining all objects that have resulted from the research to date and are contributing to the project their unique knowledge in the fields of ethnography, linguistics and archaeology. As many of the objects in the Hesquiat collection date from historic or late prehistoric times their contribution is substantial. This project is being co-ordinated by the Hesquiat Cultural Committee and run by a Hesquiat band member who has done both field and lab work and is currently a museum trainee at the B. C. Provincial Museum, under the Hesquiat Band Work Opportunities program.

Although further field work is planned for the area currently under investigation, this second phase of research will not commence until the results of the work accomplished during the first phase have been made public. A series of publications presenting the results of the first four years' work is planned. This approach, urged and approved by the Cultural Committee, fits very well with the overall development of the project, as the Band, over the next few years, wants to concentrate on and expand the linguistic and ethnographic sections of the project. New directions for the various sections encompassed by the project will continue to be co-operative ventures of mutual benefit as the needs and responsibilities of all parties will continue to be discussed and understood before work begins. The project will continue to grow and expand but has already become a very meaningful part of contemporary Hesquiat culture.

Anyone wishing information about the Hesquiat Project should contact Rocky Amos, Chief Councillor, Hesquiat Band, P.O. Box 154, Port Alberni, B.C.



A PRELIMINARY REPORT OF THE 1973 EXCAVATION  
AT DhRs 1 - THE MARPOLE SITE

By James Baker, Anthropology, Vancouver Community College

The Marpole site has had a long history of excavation, but as far as can be determined the 1973 excavation conducted between May 1 and June 15 by Vancouver Community College Field School students under my direction has been the most extensive on the eastern portion of this extremely large site.

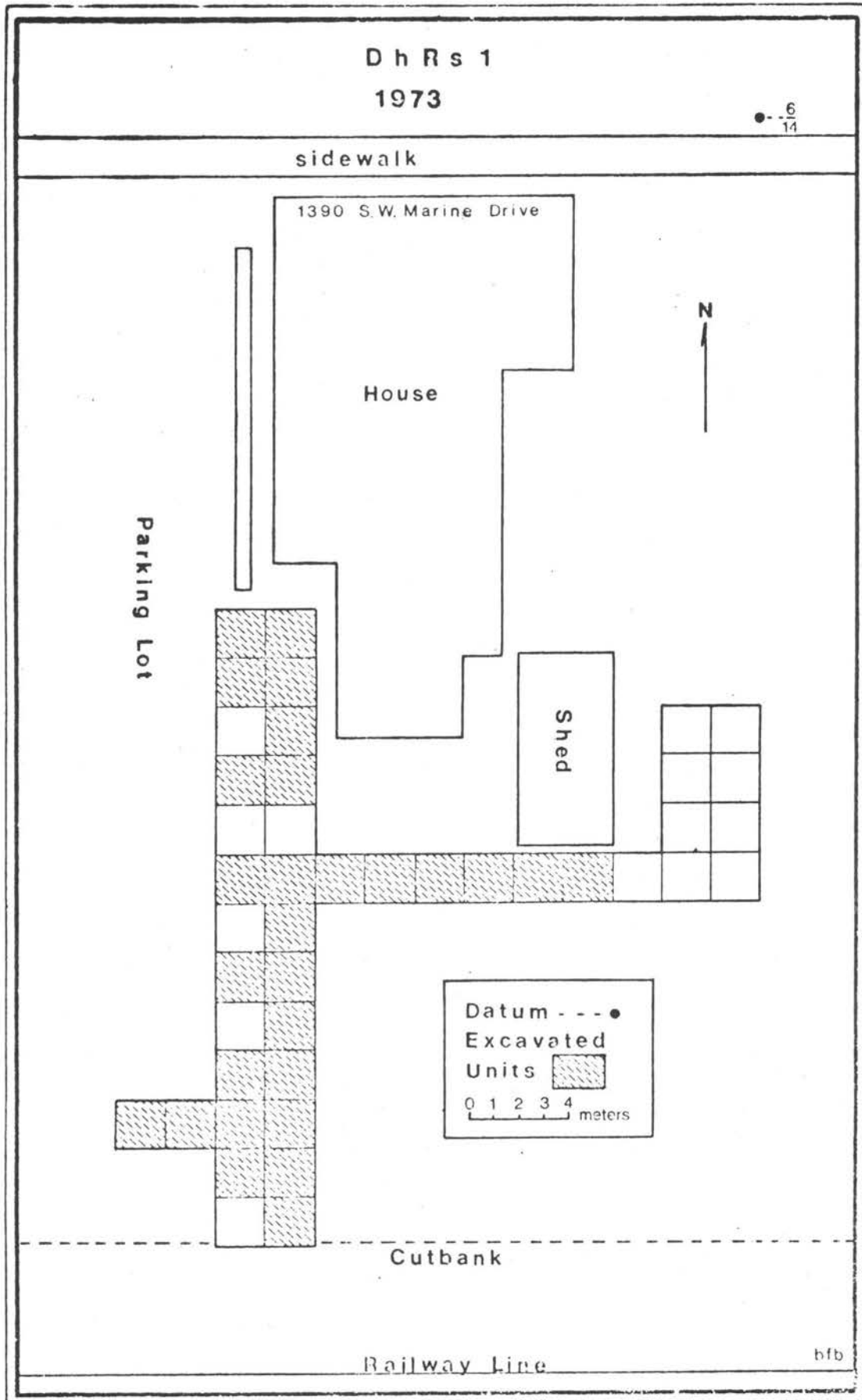
Excavations were conducted on a portion of the site destined to be converted to a blacktopped parking lot. Permission was granted by Fraser Arms Hotel Ltd., current owners of the locality, to conduct a field school at the site for six weeks. The Musqueam Indian Band also gave permission. That part of the site which was chosen for excavation lay mostly in the backyard of the house at 1390 Southwest Marine Drive, selected as being probably the least disturbed part of the site available for excavation.

Blackberry bushes, an old fence and fallen outbuildings were cleared. A 2 meter by 2 meter grid was laid out and units for excavation were selected arbitrarily and consisted for the most part of bisecting trenches (see plan). Primary vertical excavation was in arbitrary 10 cm. levels. Greatest depth of the midden was 150 cm. Approximately 70 cubic meters of material were excavated by the field school students, yielding more than 1,200 artifacts.

The cultural deposit at this part of the Marpole site overlies a very thick clay hardpan with consolidated gravel which is capped by yellow-orange glacial till and random boulders. The cultural deposit appears to be homogeneous throughout, consisting of a greasy black soil with quantities of fire-cracked rock, ash and a little shell. The shell that does occur in the deposit consists of a very thin layer of fragmented mussel shell 50 cm. below surface. Considerable disturbance seems to have occurred to a depth of about 30 cm. in some parts of the excavated area. The lower part of the deposit appears relatively undisturbed.

Although the stratigraphy of the deposit appears homogeneous, the cultural material appears to represent at least two phases in the Fraser Delta cultural sequence. This can be seen from a partial trait list of recovered material:

<u>ARTIFACT TYPE</u>	<u>NUMBER</u>	<u>DEPTH RANGE cm.</u>	<u>DEPTH MOST COMMON</u>
Microblades	22	20-110	20-40, 50-70, 70-90, 90-110
Pebble Choppers	3	105, 135, -	ca. 110
Boulder Spalls	2	70, 75	ca. 70
Coarse Basalt Flakes and Cores	-	0-120	20-30, 70-100
Chipped Slate Bifaces	-	40-110	ca. 100



<u>Artifact Type</u>	<u>Number</u>	<u>Depth Range cm.</u>	<u>Depth Most Common</u>
Large Chipped Stone Points or Knives	5	140-145	ca. 145
Chipped Stone Points			
Lanceolate slight stem	21	70-150	90-110
Leaf-shaped	19	20-140	70- 90
Stemmed and Barbed (vitrious basalt)	17	30-120	40- 60
Stemmed and Barbed (coarse basalt)	18	10- 60	20- 40
Triangular (straight, concave, convex bases)	19	0-110	20- 60
Ground Slate Points	14	20-110	ca. 55
Ground Slate Knives	6	30- 90	ca. 45
Adze Blades	43	10- 80	30-40, 60-70
Mauls	6	30- 90	ca. 50
Wedges			
Bone and Antler	11	40- 80	ca. 50
Bowls	2	60- 80	
Antler Harpoons			
Unilaterally barbed	3	47, 70, 83	
One Piece Toggle	1	80	
Bilaterally barbed	1	65	
Fixed Bone Points	32	60- 90	ca. 80
Hollow Bone Needles	3	50- 80	
Earspools	2	36, 97	

Preliminary analysis of the data shows the upper portion of the midden to be mostly characterized by artifacts of the Marpole phase but in some cases these are in close association with material that is more representative of the Locarno Beach phase. The mixing may be due to previous cultural disturbance of the deposit, or the close association may call for a re-evaluation of the trait list for the Marpole or Locarno Beach phases. Does one bilaterally barbed harpoon indicate Mayne phase?

One significant artifact type that occurs throughout the deposit is the obsidian microblade. It is quite prevalent, but without any other Whalen II phase indicators. Because the artifact itself can be dated (eight have been submitted for dating) we will be able to determine whether they represent persistence through time or simply indicate the degree of disturbance at the site. The microblades will also be submitted for source analysis to determine if sources differ. As well as the obsidian hydration dates that should

be soon forthcoming, funds have been obtained through Vancouver Community College that will permit submitting seven charcoal samples for radio-carbon age estimates.

Further analysis of the material recovered during the 1973 field school excavation will be undertaken when both the obsidian hydration and radio-carbon dates have been received. The data are presently being coded on Fortran program sheets for subsequent computer analysis.

I would like to thank Bruce Ball, Marilyn Bews, Robert Bridgeman, Bob Buchko, Micki Burianyk, Gordon Chamberlin, Barry Corbett, Renee Gabriel, Avis Hopkins, Megan McCord, David Rittberg, Paul Smith, Phyllis Smith, Derek Wales and Janis Wilks, the Vancouver Community College students who participated in the field school. I would also like to thank Mr. Hal Griffin and Mr. Jim Cole who are very familiar with the Marpole site and contributed much helpful information. Thanks also to the Archaeological Society of British Columbia for an equipment loan, and the Fraser Arms Hotel and Musqueam Band for permission to excavate.

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#### A.S.B.C. VISITS S.F.U.

Pioneering work on analyzing sources of obsidian was perhaps one of the highlights of a recent visit by ASBC members to Simon Fraser University.

The tour was organized by Archaeology Department Chairman Roy Carlson and Museum Curator Rick Percy. Visitors saw not only the fine museum but also various laboratory facilities which the department has, spread out around the sprawling campus. Included in the tour was a visit with SFU physicist Earl Nelson, who demonstrated the unique system he has developed for finding where obsidian fragments come from.

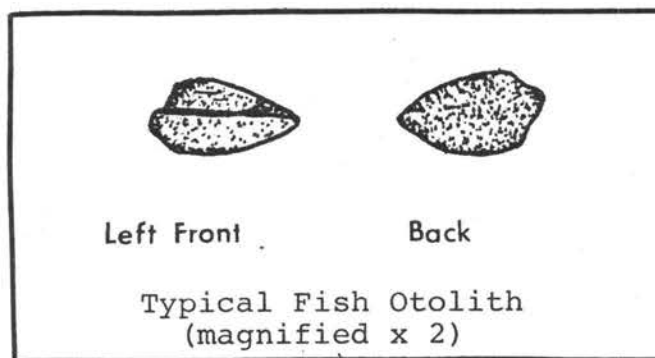
The society's next visit to SFU might be to visit an entire new Archaeology Centre, as officials hope construction of a new building will be under way by next year.

IDENTIFYING FISH SPECIES FROM ARCHAEOLOGICAL SITES:  
A CALL FOR CO-OPERATION

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By Diana E. French, B.C. Provincial Museum

Recent analysis of faunal material from IgUg 6, a stratified campsite fishing station on the Nakina River, northwestern B.C., has resulted in the identification of a number of fish otoliths. These are small grooved bones from the head of the fish, which are responsible for maintaining balance.



The otolith, which varies in size and form from species to species, is an infallible means of identifying a fish species. Since they are the most durable of fish bones, they should be present in most archaeological sites where fishing was an economic base.

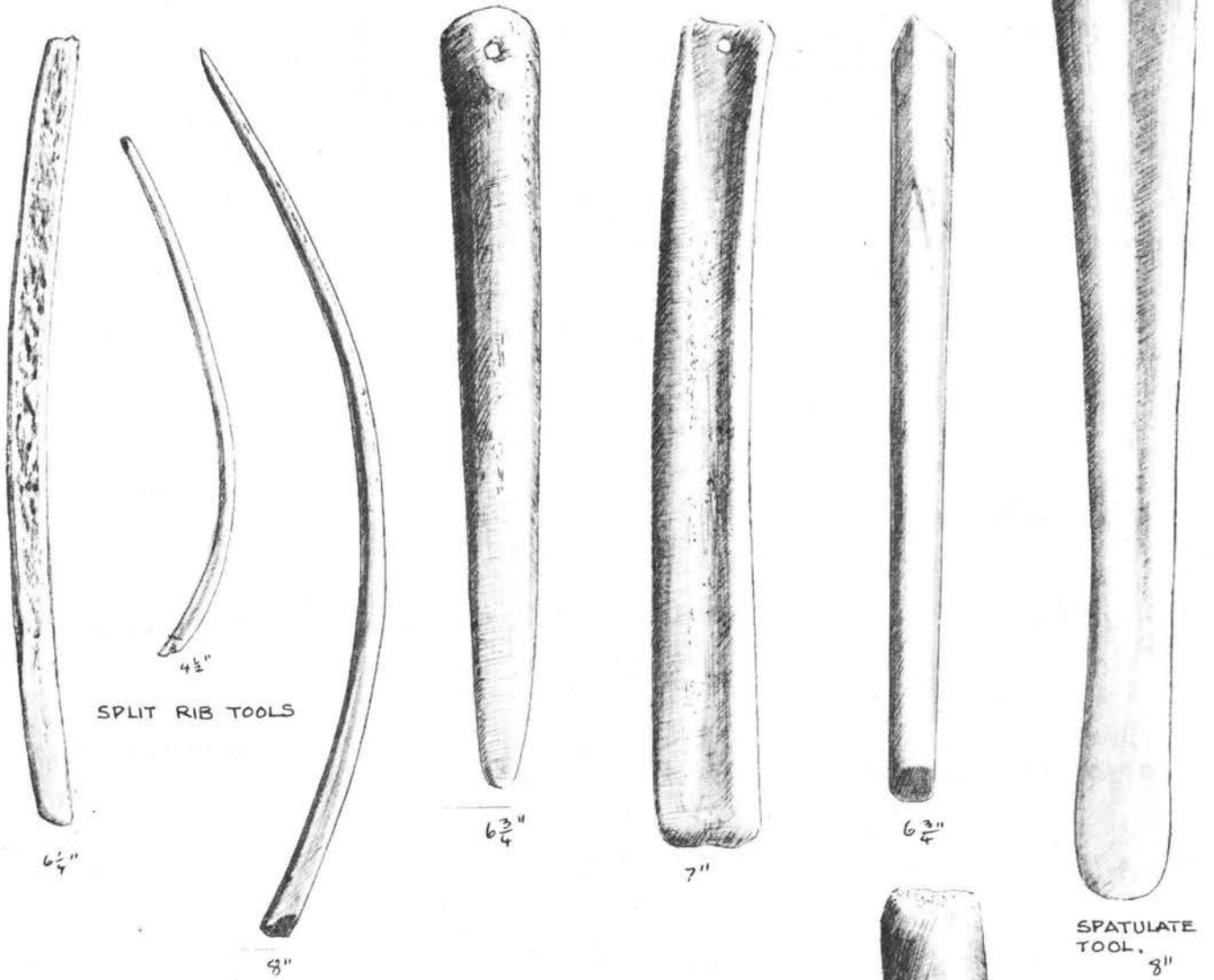
Unfortunately, few otoliths have been recorded from B.C. marine or inland sites to date. This is due in part to the failure of the archaeologist to recognize an otolith, and in part to sampling techniques. Experiments in Californian archaeological excavations indicate that 1/8 in. mesh screening is necessary for the recovery of these small bones. (Greenwood and Brown, in Fitch 1969:58\*). Excessive amounts of shell deposit in coastal middens also interfere with the recognition of otoliths.

Otoliths have reportedly been used as ornaments or fetishes in other cultural areas (Fitch 1969:69).

Dr. Alex Peden, Marine Biologist, B.C. Provincial Museum, Victoria, is interested in establishing a comparative collection of otoliths for B.C. inland and marine fish species. If anyone has possible otoliths from either coastal or interior sites in their faunal collections, Dr. Peden would appreciate hearing from you.

\* Fitch, John E. Appendix A, Fish Remains, Primarily Otoliths, from a Ventura, California, Chumash Village Site (VEN-3). Reprinted from: Memoirs of the Southern California Academy of Sciences, Volume 8, October 1, 1969.





In addition to the bevelled tool used for a chisel, there is an assortment of bone tools with particular shaping and wear at the distal end and sometimes the sides. These were used for a variety of purposes where prying, gouging, or creasing were needed. The edible inner bark of certain trees was pried or scraped off, and the inner bark of the cedar was pried loose prior to stripping it from the tree. The curve of a rib bone and the wide spatulate tip were possibly used in making baskets or weaving. There must have been many uses for tools like these of which we are not aware.



WEAR ON SIDES AND ENDS. 3 1/2"

ARCHAEOLOGICAL EXCAVATIONS BEING CARRIED OUT IN B.C. -  
 SUMMER 1974 (LIST COMPILED FROM PERMITS ISSUED AS OF  
 MAY 15, 1974)

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<u>Name of Project</u>	<u>Project Supervisor &amp; Address</u>	<u>Project Location</u>
Indian Student Field School	Dr. D.H. Mitchell Dept. of Anthropology University of Victoria Victoria, B.C.	Victoria
Tsable River - Buckley Bay Salvage Project	"        "        "	Courtenay
Alberni Valley Salvage Project	Dennis St. Claire 233-1830 Fern St. Victoria, B.C.	Alberni Valley
Cates Park Archaeological Project	A. Charlton 3714 Edgemont Blvd. N. Vancouver, B.C.	N. Vancouver
Punchaw Lake Project	Pamela Wilson Dept. of Archaeology Simon Fraser University Burnaby, B.C.	Blackwater River area
Graham Island Archaeological Project	Pat Severs General Delivery Masset, B.C.	Masset
Monte Creek Salvage Project	Mike Blake Archaeology Division Cariboo College Kamloops, B.C.	S. Thompson River
Lillooet Archaeological Project	Dr. A. Stryd Archaeology Division Cariboo College Kamloops	Lillooet

<u>Name of Project</u>	<u>Project Supervisor &amp; Address</u>	<u>Project Location</u>
Hesquiat Archaeological Project	Jim Haggarty Archaeology Division Provincial Museum Victoria, B.C.	Vancouver Island - West Coast
Chilcotin River Archaeological Project	Dr. R.G. Matson Dept. of Anthropology U.B.C. Vancouver, B.C.	Riske Creek area
Osoyoos Archaeological Project	Gerald Roberts Box 42 Osoyoos, B.C.	Osoyoos
McNaughton Island Project	Dr. R.L. Carlson Dept. of Anthropology Simon Fraser University Burnaby, B.C.	Central Coast
Kiusta Archaeological Project	Nick Gessler General Delivery Masset, B.C.	Queen Charlotte Islands

OFFERS WELCOME

The Archaeological Society of British Columbia welcomes donations from members, in order to extend awareness of B. C. archaeology.

The non-profit organization is registered as a charity, and can be named as beneficiary in a will.

So it is with pleasure that we acknowledge the gesture of one loyal member, who recently named the Society beneficiary of his life insurance policy.

We wish him well.

\* \* \* \* \*

ARCHAEOLOGY IN FOR A GOOD YEAR, SAYS EXPERT

Special to The Midden

Government and industry are providing a record amount of support to archaeology in B.C. this summer, to the tune of about \$400,000.

The B.C. Archaeologist, Bjorn Simonsen, says a number of provincial agencies will contribute to research costs this year, some for the first time. In addition to the Archaeological Sites Advisory Board having its largest-ever operating budget of \$126,412, Simonsen expects to administer up to \$300,000 for digs and surveys. Reporting to A.S.A.B., he notes the unusually large number of surveys and excavations will include grants from:

- B.C. Hydro, which is funding two field workers for four months, to survey routes for proposed hydro transmission lines.
- Inland Natural Gas Company, supplying \$7,000 for a site survey along a proposed pipeline between Yahk and Rossland, in the West Kootenays.
- CN Railway, again funding surveys along the proposed CN line from Terrace to Nass Camp. Two crews, four months, \$18,000.
- BC Railway, which has--says Simonsen--"finally consented" to fund an archaeological site survey along the remaining unbuilt section of their Stuart Lake-Dease Lake line. Two workers, two months, \$7,500.
- Canada Department of Public Works, providing for a survey of the northern end of the Alaska Highway, slated for upgrading and re-alignment. One two-man crew, three months, \$8,600.
- B.C. Government which has approved a small budget for setting up a network of volunteer "archaeological site wardens" throughout B.C. Assistant Provincial Archaeologist Gordon Hanson hopes to visit all regions of the province this summer, locating and briefing volunteers to act as watchdogs over local archaeological resources.

In addition to these confirmed projects, the provincial archaeologist hopes to get financing for several others. They include:

- \* Continuation of a systematic survey of archaeological sites in the Gulf Islands. This was started last year, bankrolled by the provincial government. Results will be presented to the legislative committee studying future use of the Islands.

- \* Start of a site survey of the entire Skeena area, in conjunction with the B.C. Land Inventory. This would be the beginning of an inventory of all heritage resources in British Columbia--if the provincial government approves. The Skeena section would cost \$42,000 for the first year alone.

The significant increase in archaeological work in the province reflects the government's growing recognition of the important role B.C. plays in North American archaeology, and the emergency nature of much of the research. Just last fall an assistant was appointed to aid the Provincial Archaeologist and this spring two additional staff archaeologists were appointed. (A request for two more archaeologists and a technician was rejected.) The Historic Sites Advisory Board has also recently appointed a Research Officer, comparable to the Provincial Archaeologist. The two men share an office, and expect to work closely together.

Simonsen notes with enthusiasm that many government departments now consult him before initiating construction work.

" Perhaps the most significant development here has been the establishment of two new provincial referral agencies," he says. "These are the Special Services Division of the Lands Branch, and the Secretariat of the Environment & Land Use Committee of Cabinet.

" These agencies are responsible for establishing overall policy regarding land use within the Province. As such, the Provincial Archaeologist's Office is consulted about all applications for land use contracts and major development such as pipelines, rail-road extensions, hydro electric dams, etc. being proposed in all regions of the Province."

Simonsen says that he has also established liaison with some new Crown Corporations, such as Kootenay Forest Products, and with the new Department of Housing, to protect any archaeological sites threatened by their projects.

A number of government-financed archaeological excavations are also planned for this summer:

- B.C. Hydro will support two excavations. One, costing \$9,000 and contracted to Cariboo College, involves a salvage dig near Monte Creek, where part of a once-large pithouse village site will be disturbed by Mica Dam powerlines crossing the Thompson River.

The other will consist of three test excavations in the Peace River canyon prior to its being flooded by a new dam near Hudson Hope. Site surveys will also be conducted where two additional dams are being planned on the Peace between Hudson Hope and the Alberta border. Simon Fraser University is contracting all this work for a total of \$17,000.



- The Dept. of Highways may aid salvage archaeology on road improvement projects between Lillooet and Pavilion Lake. Plans for emergency work at the site of a proposed B.C. Ferry Terminal on Gabriola Island have been postponed.

"There is, however, a good possibility that this project will have to be completed by the end of the summer of 1975," warns Simonsen.

- Westcoast Transmission has already provided \$15,000 for salvage work in February and March on both banks of the Fraser River near Hope, where a new pipeline was scheduled to cross the river.
- One private developer has also been forced to finance archaeological work, under the Archaeological and Historic Sites Protection Act. Cloverlawn Investments is providing \$5,500 to salvage the site of a large shopping centre in Williams Lake. This work is being administered directly by the Provincial Archaeologist's office.

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Simonsen also notes in his report that there has been a shortage of women in archaeology, "mainly as a result of a lack of experienced women". To speed up the training of women archaeologists, A.S.A.B. is fielding two all-female work crews this summer.

#### LATE REPORT

A stunning \$125,000 has been allocated by the Department of Highways for a variety of archaeological projects this year. Included with surveys and excavations will be the erection of a series of Stops-of-Interest relating to Indian history along B. C. highways.

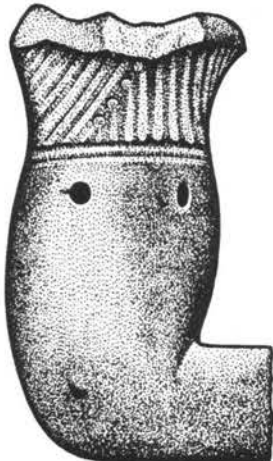
\* \* \* \* \*

#### LONG, LONG, LONG LONGHOUSE FOUND

The Moyer Site is the title of an Ontario dig report interesting for its use of the computer.

The publishers (Wilfred Laurier University) claim the 116-page, illustrated report "breaks new ground" by utilizing the computer in the analysis of finds. The dig revealed a 15th-century village containing 10 longhouses, one more than 300 feet long.

(Price \$3.50 from WLU, Waterloo, Ont.  
N2L 3C5)



PUBLIC ARCHAEOLOGY IN ALBERTA

by Jack D. Nance, Archaeological Researcher,  
Alberta Heritage Sites Service, Edmonton

As a result of the passage of the Alberta Heritage Act of 1973 the Archaeological Survey of Alberta has been established. The Survey, charged with the responsibility of planning and implementing survey and salvage projects in advance of development in the Province is beginning its first year of operation with several projects presently underway.

Development in Alberta is proceeding at a rapid rate and as a result archaeological resources are feeling pressure from highway construction, petroleum exploration, water management, hydro-electric and flood control projects, to name a few. Hence, one major responsibility of the Archaeological Survey is to co-ordinate archaeological investigations with the activities of a number of government departments. Input into environmental impact assessments is inevitable and programs of public information, dissemination of research data and programs of publications are envisioned for the future.

A major proportion of Alberta is an archaeological unknown and it is in these areas that a considerable portion of development is taking place. For example, expansion of the petroleum industry northward into regions such as the Athabasca Tar Sands is providing an opportunity to instigate a fair amount of archaeological research in the Boreal forest zone. Since only four very limited projects have been carried out north of Edmonton, the Archaeological Survey stands to be one of the stimuli for major contributions to archaeological research in this unknown part of the Province.

Organizationally, the Survey is a branch of the Heritage Resource Development Division of the Alberta Department of Culture, Youth and Recreation. The only staff presently authorized for the Survey is the branch director and secretary positions, neither of which have been permanently filled. Hiring of additional staff in the future will be a necessity. All archaeologists presently being engaged by the Survey are under contract for special projects.

Currently two highway survey projects (totalling 400+ miles of right-of-way), one special study for the Department of Environment and one highway salvage project are underway. One reservoir survey project and two other highway salvage projects are in the planning stages and it is anticipated that several other salvage projects will arise out of the highways and other survey projects.

Persons desiring to contact the Archaeological Survey should address correspondence to:

Archaeological Survey of Alberta  
4th Floor Beaver House  
10158-103 Street  
Edmonton, Alberta.

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1973 Excavations at Musqueam North-East: DhRt 4

by Charles E. Borden and David J. W. Archer

The Musqueam North-East site is located just north and east of the present mouth of the Fraser River on the north bank of its North Arm. It is situated in the eastern part of the Musqueam Indian Reserve in an area scheduled for development as a housing project. Because of this, the Musqueam Band requested that salvage excavations be carried out during the summer of 1972.

Aside from materials associated with historic mortuary houses, these excavations revealed two earlier components related to sequent phases in the culture history of the Fraser River delta. The earlier of the two components exhibited strong affinities with the Locarno Beach phase, while the later assemblage was suggestive of the Marpole phase. Hence the possibility existed that the two assemblages represented the remains of two culturally - and perhaps ethnically - distinct groups with the later group having moved onto the site after it had been abandoned by the earlier occupants. Because the assemblages recovered were relatively small - about 750 artifacts in total - a further season's work at the site was planned to test this hypothesis.

Work in 1973 proceeded according to the 2 x 2 m. grid pattern which had been laid out previously. In the course of the season, twenty-one 2 x 2 m. units were excavated down to sterile subsoil. Four further pits were not completed, but three were taken down to the water table at two metres below the surface. The cultural deposit attained a maximum depth of about 2.15 m. To test the hypothesis that two discrete components were represented at DhRt4, it was essential to gain a firm understanding of the depositional history of the site. To this end the selection of pits for excavation was mainly along two intersecting north-south and east-west axes.

WATER CAUSES PROBLEMS

While deposits with relatively dry matrix were trowelled and screened in the customary manner, special hydraulic techniques had to be employed for work in deep water-saturated deposits. The moist matrix was washed in a screen with water pumped from a nearby stream. Still other procedures had to be improvised when perishable artifacts of wood and plant fibre were encountered in the bottom waterlogged levels of the site. These materials had to be exposed by the combined use of trowels, spatulate tools, dental picks and jets of water. After removal, small objects were placed in containers filled with water. Larger delicate objects, such as mats and baskets, had to be transferred onto sheets of plywood for support and then covered with damp cloth and plastic sheets. Once removed, perishables were transported as soon as possible to the Conservation Laboratory of the B.C. Provincial Museum for processing. Two pumps were required for each pit with waterlogged deposits, one heavy sludge pump for the removal of water which was constantly seeping into

the bottom of the pit, and a lighter pump to provide the jet of water for exposing the perishables.

For various reasons, one of the main objectives of the 1973 season (to get a clear stratigraphic separation of Locarno Beach phase, Zone A, and Marpole phase, Zone B, deposits) was only partly achieved. (1) Much time was devoted to the excavation of the more northerly part of the site, where perishable artifacts were encountered. In this part, Locarno Beach phase remains constitute the bulk of the deposit, whereas Marpole phase deposits thin out here. (2) Aggravating the situation was the fact that the cists of some mortuary houses were apparently semi-subterranean, and thus had been excavated into existing cultural deposits. In addition, the pits of several burials, which seem to antedate the introduction of mortuary houses, also intruded deeply into earlier cultural deposits and thus contributed to the obfuscation of the stratigraphy and the mixing of cultural remains.

In addition to contact goods and other historic items, more than 3100 artifacts were recovered in prehistoric deposits. Sixteen artifacts assignable to the Stselax phase, the last in the Fraser delta sequence, were found along the southern margin of the site. They may have been transported there from nearby Stselax Village by plows or harrows in the course of cultivation. Zone B, comprising the relatively shallow Marpole phase deposit, yielded only 215 items. Some 1520 artifacts came from disturbed deposits and from the poorly defined interface between Zones A and B. Approximately 1350 artifacts were recovered from Zone A, the deposits of the Locarno Beach phase. Many objects from the disturbed deposits and the interface between the two zones can also be assigned to this assemblage.

The information obtained from Zone A during the last field season is without doubt the most significant. The assemblage from the latter includes a series of traits which are clearly diagnostic for the Locarno Beach phase. Among these are Locarno Beach phase-type valves for composite toggling harpoons, foreshafts of antler and sea mammal bone, fixed antler projectile points with barbs sharply ridged along the dorsal edge, large ground slate projective points with hexagonal cross-section. One of the slate points has a length of 38.7 cm. (15.25 in.). The ground slate industry also includes thick-backed knives, similar to those recovered at the type site. Other Locarno Beach phase type artifacts are small adze blades, rectangular in outline and cross-section, bi-pointed gorge hooks of bird bone, small well-made bone chisels and wedges with screwdriver-like bits, a basalt industry, comprising numerous large flake tools, a series of chipped points, mostly leaf-shaped forms, but also some stemmed types, small stone bowls or mortars, lignite ornaments, including large elliptical labrets, grooves around the rim. The recovery in 1973 of 16 well-made microblades in Zone A definitely documents the presence of a microblade industry during the Locarno Beach phase in the Fraser delta region.

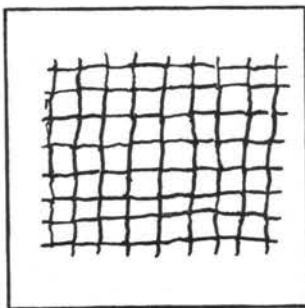


PERISHABLES FOUND

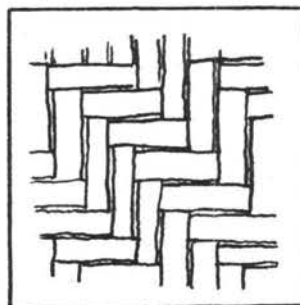
The most significant development of the 1973 season was the discovery in the waterlogged deposits at the base of Zone A of perishable artifacts of wood and plant fibre. Among 279 recorded perishables were wooden wedges, wooden points, a short staff slotted at one end, a curved rod with whittled grooves and notches, many pieces of cordage ranging from rope to stout cord, and some virtually entire mats and baskets as well as numerous fragments. Of interest is the technological variety displayed by the basketry sample. Five distinct weave techniques have been identified by Mr. Dale Croes of Washington State University, Pullman. These are illustrated in the following sketch.

**BASKET WEAVE TECHNIQUES FROM DIRT4**

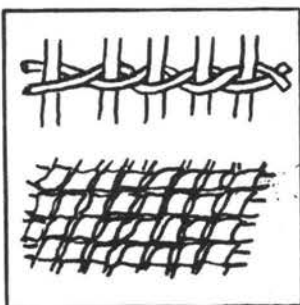
CHECKER PLAITING



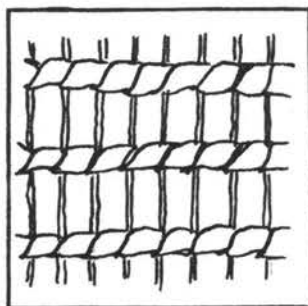
TWILL PLAITING



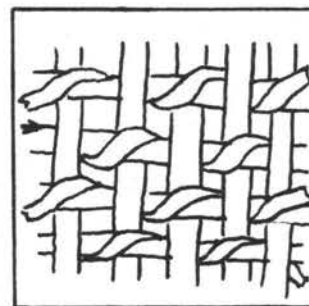
PLAIN TWINING



OPEN TWINING



WRAP AROUND PLAITING



SKETCHES AFTER D. CROES, 10/73

K.B.

Two radiocarbon dates have recently been obtained for the lower part of Zone A. A carbon sample taken from 15 cm. above the waterlogged deposit yielded a date of 600 B.C. The second date of 1020 B.C. was obtained on a sample of wood collected from the base of the waterlogged deposit. The artifacts of wood and plant fibre from



this stratum at the Musqueam NE site are thus the oldest perishables yet recovered on the Northwest coast.

The investigations were primarily funded by the Salvage Section of the Archaeological Survey of Canada, National Museum of Man, Ottawa. Additional financial support came from a First Citizens Fund grant to the Musqueam Indian Band and from a B.C. Department of Education grant to Vancouver Community College - Langara. The excavation and analysis were facilitated by the Musqueam Indian Band, the Archaeological Society of B.C. and students from U.B.C., V.C.C. - Langara, and Douglas College, and docents from the Centennial Museum. The University of British Columbia provided equipment and other logistical aid. The project owes a special debt to Mr. Philip Ward and his staff of the Conservation Laboratory, B.C. Provincial Museum, for their expert and patient efforts to save and preserve the rare perishable artifacts recovered in the course of the project.

\* \* \* \* \*

#### SORTING BEAUTIFUL FRAGMENTS

Delightful night course now available in London, England: sorting 120,000 pieces of Delftware, found in an important excavation at Southwark.

The collection, about 250 years old, is being re-assembled into plates, bowls, jars and chamber pots. All Delftware.

Local education authorities have co-operated with the Southwark and Lambeth Archaeological Society to make the re-assembly work a recognised evening class.

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