THE MIDDEN

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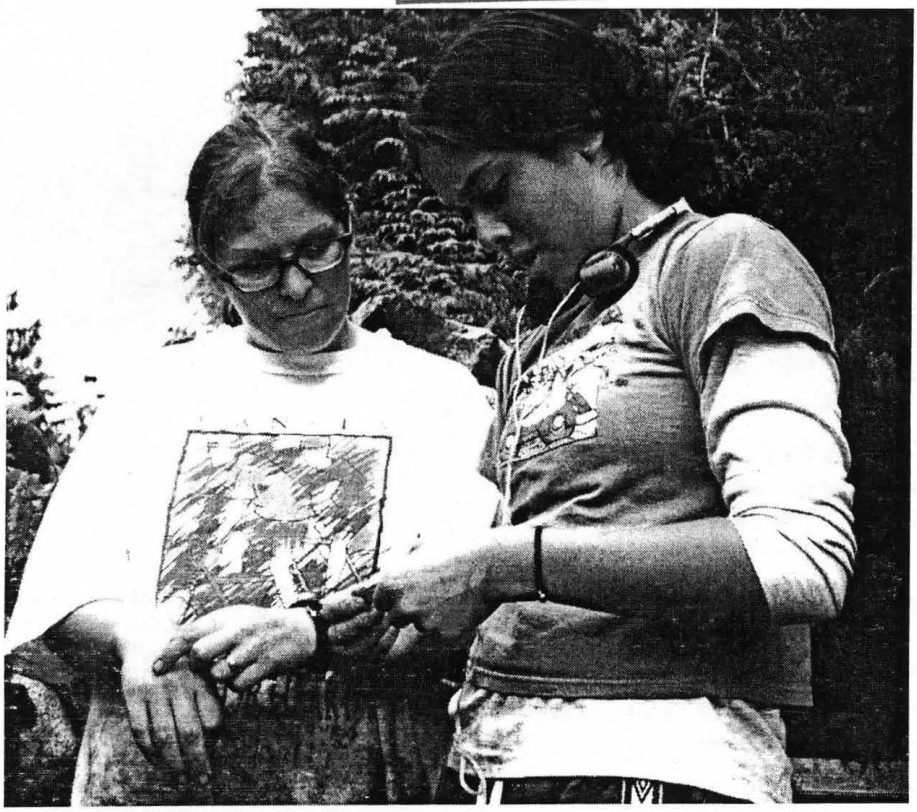

Lower Lillooet River Six-Mile Site; Garibaldi Obsidian Industry;
Arcas Field Notes; Deep Cove Dig; Permits 2000

THE MIDDEN

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SUBMISSIONS: We welcome contributions on subjects germane to BC archaeology. Guidelines are available on request. Submissions and exchange publications should be directed to the appropriate editor at the ASBC address.

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Richard Brolly, Maurice DePaoli, Douglas Hudson, Natasha Lyons, Alan D. McMillan, Rudy Reimer.

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The **British Columbia Heritage Trust** has provided financial assistance to this project to support conservation of our heritage resources, gain further knowledge and increase public understanding of the complete history of British Columbia.

BRITISH COLUMBIA Heritage Trust

ARCHAEOLOGICAL SOCIETY OF BRITISH COLUMBIA meetings in Vancouver featuring illustrated lectures are usually held on the second Wednesday of each month from September to June at 8:00 P.M. in the Auditorium of the Vancouver Museum at 1100 Chestnut Street. New members and visitors are welcome. Admission is free.

THE MIDDEN

Change

Another changing of the guard on the ASBC executive took place at the annual general meeting on 14 June 2000: Andrew Mason, Paul Ferguson, Gary Roger, Charlotte Stenberg, and Leah Pageot were elected to the positions of president, vice president, treasurer, recording secretary, and membership secretary respectively. Congratulations to you all!

What is remarkable about this newly elected team is that every one of the five has a degree in archaeology or anthropology, and Andrew moreover works as a consulting archaeologist. *The Midden* has been produced primarily by archaeologists for some time already. This is indeed a change from the beginnings of the society, when the majority of the membership, and the executive in its entirety, were made up of laypersons. What does this mean? Is the ASBC being taken over by the professionals?

For my part, I welcome this change because it means that the society is alive and well. Change set in a long time ago, when the active involvement of our largely lay membership waned, when we didn't do our own digs any longer. But the interest in archaeology is undiminished, and the strong archaeological presence on the executive ensures that the ASBC keeps abreast with what is happening in archaeology. The "new blood" revitalizes the society and, I should think, is an assurance that our society is moving forward. In this spirit, I wish the new executive well in their work for the ASBC.

Helmi Braches
Past President

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Cover Page

During the ASBC visit to the Simon Fraser University 2000 Field School at Deep Cove, Christine Aberley, a member of the Tsleil-Waututh Nation participating in the excavation, recovered a valve of a toggle harpoon. To the left is teaching assistant Monica Karpiak. See more on pages 14 and 15. Photo by Fred Braches.

Please note that the Index for Volume 31 will appear in the next issue.

EXCAVATION AT THE SIX-MILE SITE (DkRn 5)

By Douglas Hudson and Maurice DePaoli

Introduction

Between June and August of 1999 archaeological activities as part of a field school were conducted at what is commonly known as the Six-Mile Site (DkRn5), Lower Lillooet River. The project was a coordinated effort between the University College of the Fraser Valley (UCFV) in Abbotsford and the In-SHUCK-ch N'Quat'qua Nation as represented by the Traditional Use Study/ Cultural Research Department of In-SHUCK-ch Services Society. Langara College was also invited to participate. Dr. Douglas Hudson from UCFV was the coordinator and primary instructor for the project; Stanley Copp (MA) from Langara provided additional field instruction for part of the project. Maurice DePaoli (BA), staff archaeologist at In-SHUCK-ch Services Society, acted as field assistant and First Nations liaison. The work was completed under *Heritage Conservation Act* permit 1999-103.

The work conducted under this permit was the first of what are hoped to become three or more field seasons at this site. Total time in the field was approximately three weeks. Limited excavations and site survey were the main activities carried out during this period.

The Site

The Six-Mile Site (DkRn 5) is a village site composed of at least 15 cultural depressions located on the west side of the Lillooet River about 8 km above its entry into Harrison Lake. Both house and storage depressions are represented at this site. More depressions may have been eroded away by the Lillooet River. The depressions are distributed lengthwise along the bank of the river. Most of the depressions observed were oblong or square in shape. It is the most pristine site found thus far in the lower Lillooet River Valley. This site is generally considered to be in the traditional territory of the Douglas Band or Xa'xtsa Nation.

History of Archaeological Research

Most of the archaeological fieldwork in Lillooet territory has generally been confined to the area around the Fraser River. In the late 1880s George Dawson, of the Geological Survey of Canada, noticed some burials on a wind-eroded terrace at Lillooet, but he neither recorded their precise location nor excavated them. The first person to conduct archaeological surveys of the Upper Lillooet area was Harlan Smith, under the auspices of the Jesup North Pacific Expedition, in the late 1890s. His field notes were published under two titles, *The Archaeology of Lytton* in 1899, and *The Archaeology of the Thompson River Region* in 1900. While his collections concentrated around the town of Lillooet, he explored the Lillooet River area, and recovered artifacts from around the town of Port Douglas on the lower Lillooet River near Harrison Lake.

The Lillooet area was then generally ignored until 1957-1958, when Len Hills, working for the BC Department of Mines, recorded a number of sites near the town of Lillooet. He collected several surface and cut-bank artifacts, which were donated to the Royal BC Museum (Stryd 1978). Hills conducted the first subsurface examination as a shallow test unit in a storage pit at the Keatley Creek site (EeRl 7) in 1960.

The first archaeological excavations in Fraser/Lillooet territory began with surveys conducted by Arnoud Stryd in 1968 (Stryd and Baker 1968). A number of archaeological sites were discovered around the town of Lillooet in the late 1960s and early 1970s. With funding from the Canada Council and other groups, excavations were undertaken at various spots, including the Keatley Creek site, the Mitchell site (EeRl 22), the Gibbs Creek site (EeRk 7), and the Bell site (EeRk 4) (Stryd 1978).

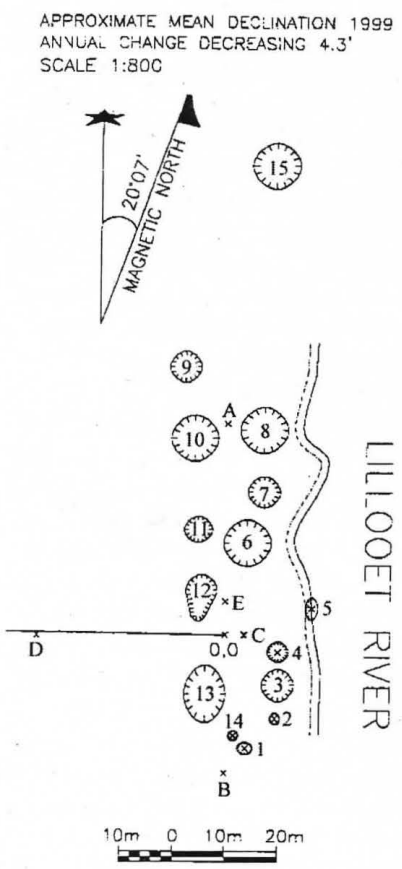
In 1986, Brian Hayden of Simon Fraser University continued excavations at the Keatley Creek site, considered to be one of the largest and most thoroughly investigated pithouse sites in North America. Work has continued at this site since then.

Diana Alexander (1987a, 1987b, 1989), working with members of the Fountain and Pavilion Indian bands, produced an ethnoarchaeology for the Upper Lillooet. The patterns she observed are thought to hold true for most groups on the Canadian Plateau.

Until now, there has been no full-scale excavation of a site in the Lower Lillooet territory. However, there has been some inventory of archaeological resources done in the Harrison/Lillooet region by Sneed and Smith (1977), May and Lucs (1976), Wales and Murray (1975), and Hudson (1994). Millennia Research (1997) performed an archaeological overview assessment of the Squamish Forest District, which includes the Lower Lillooet. Impact assessments were conducted in the Ure Creek area by Wilson (1990) and Albright (1991). The Sloquet Creek area was thoroughly researched by Quirolo and Hudson (1996). Surveys of the lower Lillooet River Valley were performed in 1997-98 by Douglas Hudson and Maurice DePaoli (DePaoli 1998).

Site Methodology

The field school excavation focused on only one of the depressions during the 1999 field season (Cultural Depression #6 according to the site map). An arbitrary site datum was established south of the excavation area by Dr. Hudson and a north-south and east-west line was run from the datum. Datum points were later tied in to a BC Hydro right-of-way and transmission tower, and the survey stakes



Map showing depressions, DkRn 5

of IR 7 (Tipella). Judgmental sampling resulted in the selection of four 1-x-2-m units (EU1 – EU4) along this grid.

The units were excavated in natural and 10-cm arbitrary levels. Excavation consisted mostly of light trowelling, and later shovel shaving close to sterile soil. Excavated material was screened though 1/4" steel mesh. Provenience information was taken for all artifacts found in situ, while those found during screening were assigned to a level bag. Faunal material was collected for analysis. Samples were also collected for possible radiocarbon dating. Features were documented and photographed, and stratigraphic profiles were made for each wall in every unit, upon the unit's completion.

Site boundaries were identified by indications of surface and subsurface cultural material. Surface surveys were carried out in two areas. One was along the BC Hydro right-of-way and transmission road west of the depressions, to identify any cultural material on the surface of the road. The second area surveyed was along the riverbank, to identify any cultural material eroding out of the bank. Surface collection occurred in both areas due to the high amount of disturbance in each area and the high possibility for disturbance in the future. All cultural material was plotted onto maps. Shovel testing was not performed due to the lack of time and manpower. The success of the surface surveys also allowed us to avoid this exercise.

The site area was also explored to identify culturally modified trees (CMTs), trails, historic objects, and flora as part of an ethnobotanical project carried out by the Cultural Research Department of In-SHUCK-ch Services Society. One possible CMT, a cedar with possible bark stripping, was located northwest of Cultural Depression #6.

All cultural material and faunal/radiocarbon samples are stored in the archaeology laboratory of the University College of the Fraser Valley in Abbotsford. Artifacts were cleaned, catalogued and analyzed at the college.

All units were filled back in at the end of the field season. Plastic garbage bags and a 1999-penny were placed at the bottom of each excavation unit to indicate how far the digging reached and when the unit was excavated.

Results

Stratigraphic Profiles

The soil present at the site appears to be typical of a coniferous forest environment, a podzol, which is in its infant stage of formation. The top layer is a litter mat and humus layer with a dense growth of cedar roots and moss. No cultural material was identified within this layer.

The layer below this, except in EU2, is a poorly formed A-B horizon in a podzolic soil. It consists of decomposed organic material and leeched minerals and sediment. The last distinct layer is a C-horizon. In this case it is a sandy loam that appears to be alluvial in nature and was most likely deposited in annual flooding of the channel of the Lillooet River. The size and texture of the sediment allows us to conclude that it was deposited in a slow-moving watery environment typical of floods along the Lillooet River.

The relative lack of sediment larger than pebbles in the units, and the blackened and fractured nature of the majority of these rocks, allows us to conclude that most of the rocks of this size were transported into the depression for use in cooking or fires. The presence of charcoal fragments interspersed with these rocks further supports this theory. This fire-cracked rock (FCR) was found in large concentrations in each unit except EU3, between the humus layer and sterile soil, the depth of which varied between units. A number of charcoal lenses, and some possible charcoal layers, were also found in the walls of the units.

Features

EU1: A charred portion of a wooden plank was found in the northeast corner, the possible remains of a house plank. A compact conglomerate of fire-cracked rock, charcoal, ash, and hardened earth was also found. There was no apparent pattern to the alignment of the rocks. While it is possible that the feature was a roasting pit, nothing indicated that it was a depression of any sort, and it may only be more waste material.

EU2: Three possible small house post fragments and moulds were found in situ. Fragments 2 and 3 were angled in towards fragment 1, which stood straight in the soil. It is possible that post fragments 2 and 3 supported fragment 1, crossing over each other like an "X" so that they braced fragment 1.

The conglomerate feature found in EU1 may have extended into the south end of EU2. A similar feature was found in EU2 at about the same depth below the surface.

EU3: A possible house post fragment was found in situ. Three possible post moulds were found within the east, west, and south wall, indicated by a sharp downward pulling of upper sediment into the sediment below.

A feature about 40 cm in diameter appeared in the south central portion of the unit and continued into the wall. It appeared to be the consistency of compact ash. There were several stones scattered across the floor of the unit at this depth, but not arranged around the ash ring itself. Therefore, it is questionable as to whether it is a hearth feature. It may in fact turn out to be the charred remains of the posthole indicated by the mould in the south wall. Flotation samples were taken of this ring to determine its identity. The soil becomes quite compact at this depth, which could indicate a living floor within

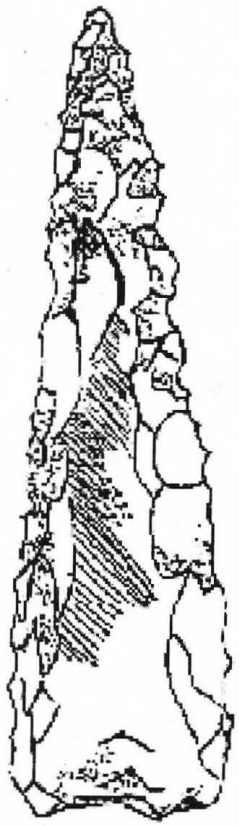


Figure 1. Basalt laceolate biface with possible fluted base, found along BC Hydro right-of-way 135 metres west of the depression. Illustration by M. DePaoli.

the depression.

EU4: Another compact conglomerate similar to those in EU1 and 2 was found in the extreme western portion of the unit.

Cultural Materials

We were surprised by the relative lack of cultural materials discovered in the units. In total, 158 pieces which were identified as cultural material were found within the four units. 100 percent of all artifacts discovered were stone. Of the total number of pieces, 74 percent are basalt, 3 percent chert, 5 percent slate, 0.6 percent argillaceous shale, and 3.7 percent are rocks such as nephrite, granite, phyllite, and schist. The remaining stone types (12 percent) were classified as "undetermined." Ninetyone percent of the pieces are chipped stone, and the remaining 9 percent are ground stone.

There appears to be at least three different types of basalt being used at this site. The first, and most common, is non-vitreous. The second is a smooth vitreous type very similar to a black chert. The third is a speckled basalt, possibly an amygdaloidal basalt (Pellant 1992: 203). The nature of some of the flakes leads us to believe that basalt was flaked both from localized river cobbles as well as from some centralized quarry site. However, no quarry site has yet been determined for this area.

There was no distinct cultural layer within any of the units. Cultural material began to be found below the moss and litter mat, but the concentration of the material was low and scattered within the units, both horizontally and vertically. Their was no indication of sediment layers separating one cultural layer from another. The distribution of the material, and the broken nature of all the formed tools at the site, indicates that the material was discarded garbage rather than from localized tool processing areas. There was almost no cultural material found in EU3, which was the centre of the depression. If any tool processing or cooking activities had occurred in the depression, the waste material was most likely swept up and discarded somewhere else.

Formed tools found in the units include the following: one small basalt triangular side-notched projectile point; one small basalt asymmetrical corner-notched projectile; four black slate fish knife fragments; and the base of a small corner-notched basalt projectile point. The assemblage appears to be diagnostic of the Late Period in coastal-interior prehistory, between 1200 and 200 BP, except for the latter corner-notched point, which appears similar to Plateau Phase points of the interior dated between 2400 and 1200 BP (Stryd and Rousseau 1996).

Surface surveys of the BC Hydro transmission road yielded a surprising amount of cultural material. 55 pieces deemed cultural material were found. 47 percent of the material was argillaceous shale, 45 percent basalt, and the rest were chert, quartz and other undetermined rocks. The large proportion of argillaceous shale compared to basalt was surprising, since basalt usually dominates the artifact assemblages in interior sites. The size of the cultural material is quite large in comparison to that found in the units. Many of these flakes show large amounts of cortex as well. This suggests that primary reduction flaking may have occurred in this area, or that the refuse was dumped here from the depressions. One artifact in particular was discovered on the road, which appears to be a lanceolate biface with a possible fluted base. If this is the case, this point is much older than any of the points found in the site, by thousands of years. Large fluted points have been dated to the Early Period in BC prehistory, but none have been found in situ at a site in the southern interior (Fladmark 1982, Stryd and Rousseau 1996, and others).

Riverbank surveys along the west bank of the Lillooet River have also turned up a sizable number of cultural materials. Very little cultural material was found more than 20 m north of the most northerly depression. Material consisted of several basalt flakes and portions of slate tools. To the south, artifacts were identified along the riverbank at least as far as the graveyard (IR 7). One artifact was found eroding out of the bank close to Tipella IR 7, almost 100 m south of the depression being excavated. It is certainly a large basalt stemmed point similar to those of the Intermontane Stemmed Point Tradition. If it belongs to this tradition, this point would be considered even older than the lanceolate biface found on the transmission road.

Faunal Material

A small amount of faunal material was found in EU1, 2, and 3. These remains are bone but the fragments are too small to make conclusive statements by eye. More work would need to be done on these to be certain. No fish bone has been found so far, which raises even more questions as to what was happening at the site. However, the high occurrence of slate knife fragments at this site testifies to a large amount of salmon processing. One fragment of what appeared to be a clam shell was discovered along the riverbank. This is interesting because there are no shellfish along the Lillooet River - the closest shellfish would be found in the Fraser River estuary. It could be that the shell was transported to the site, but this is merely speculative.

Discussion

We now know that archaeological site DkRn 5 extends from the riverbank to at least the BC Hydro transmission road, about 135 m west of the Lillooet River,

based on the amount of cultural material found on the surface. We also know that the site extends at least as far south as IR 7, and have concluded that this was most likely the graveyard for this village. This is supported by Sanger's work on burials in the Fraser Canyon area, when he stated that not more than half a mile usually separated the winter village from its graveyard (Sanger 1961: 24).

The surprising amount of cortex flakes found at the site, especially along the right-of-way, suggests that people were manufacturing stone tools at this site, and not simply retouching or sharpening them. This tends to add support to the fact that this was a semi-permanent or 'winter' village site. The location of a very productive fishery about 1.5 km north of the site, and the abundance of plant resources and wildlife around the site would have made it a very attractive spot to locate a village. The inhabitants would not have had to leave the village for more than a few weeks at a time.

The evidence is inconclusive as to whether the depression being excavated was the remains of a pithouse or a plank house. If the post remains were in fact house posts or support posts, they would have been too small to carry the weight of an earthen roof. Also, none of the posts found on the rim in EU2 slanted in towards the depression. Rather the vertical nature of the one post in EU2 suggests that the post stood upright, and would have had cedar planks lashed to it running horizontally, like a plank house. The one possible cedar plank found in EU1, and the oblong nature of the depression, adds further support that this was the remains of a plank house. However, the excavated floor leads us to believe that the house is not a typical pithouse of the interior or plank house of the coast.

The virtual lack of archaeological material within the depression relative to the exterior of the depression suggests that the inside of the house was kept clean and the garbage thrown elsewhere.

The cultural layers in the units excavated were poorly formed and it could be said that there was only one occupation level here. The lack of cultural material within the units could indicate that this house had a short-lived occupation, or that the refuse was dumped elsewhere. The house was also occupied within the last 2400 years, since there were no diagnostic artifacts found in the units that were older than this. However, the area itself could very well have been inhabited for a very long period of time, perhaps more than 7,500 years if we have made accurate statements about the artifacts discovered.

The charcoal layer seen in most of the units indicates that there was a burning event at the site, but whether the fire was initiated naturally or culturally has yet to be determined. Raiding and warfare was quite common, the perpetrators most often being the Thompson. Many stories recorded by Teit (1906) and others document the Thompson burning Lillooet villages during raids. However, there is no evidence as yet of warfare at this site. Had this site been abandoned quickly, there would have been more material left behind.

There is no evidence so far of European influence here. To date, there have been no European artifacts, such as trade goods, found at the site. This would lead us to believe that the site was abandoned prior to the arrival of Europeans in this area. The first real European influence would have come with the construction of Fort Kamloops in 1812, and later Fort Langley in 1827. Lower Lillooet people were trading at Fort Langley, though, by 1829 or 1830. Oral tradition suggests that the village at DkRn 5 was occupied until about 1850. There may be parts of the site area that have European items.

Looting was a definite possibility at this site. There were horse logging activities in and around the site in the late 1800s and early 1900s, as evidenced by springboard notches in the stumps of old growth fir and cedar, as well as an old skidder trail. Looting may have also occurred during the installation of the BC Hydro transmission lines in the mid 1950s. There is no evidence of subsurface looting but the inferred age of the site suggests that much of the material could have been found at the surface. Ron Gabriel, a Douglas Band member, had informed us that his grandparents had removed some objects and brought them back to their farm, but the farm washed away in the early 1970s and the objects cannot be located.

The Lillooet River has also eroded the site, as indicated in the presence of artifacts in the western bank, which are washing into the river. At least one of the depressions has been partly eroded into the river.

Figure 2. Basalt stemmed point, similar to those of the Intermontane Stemmed Point Tradition, found eroding out of the riverbank ca. 100 m south of the depressions. Illustration by M. DePaoli.

Recommendations

Much more work needs to be done at this site to determine its age and periods of occupation. One excavated depression does not provide all the information necessary to make reasonable statements about the site. One of the smaller depressions will also have to be excavated to determine whether they are cache pits, as well as to find more evidence of prehistoric diet at the site.

We have sent a number of radiocarbon samples in for analysis, in order to determine more accurately the age of the cultural material at the site. We are also currently performing flotation on a number

of soil samples from the site, to better understand the nature of the environment, as well as to obtain any information on the diet of the inhabitants.

We will be looking to acquire another Heritage Investigation Permit for the summer of 2000 to continue our investigation of this site.

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THE GARIBALDI OBSIDIAN INDUSTRY AT THE MARPOLE SITE (DgRs 1)

By Rudy Reimer

Introduction

The Marpole site (DgRs 1) is located near the mouth, on the north bank of the Fraser River in southwestern British Columbia (see figure 1). This site has received abundant attention in the archaeological literature of the region (Ames and Maschner 1998; Borden 1950, 1970; Burley 1980, 1981; Carlson 1970) due to the diversity and richness of its artifact assemblage. There have been eight separate excavation projects spanning from 1884 (Smith 1907) to 1989 (Arcas 1989; Baker 1973; Burley 1980). Unfortunately artifacts recovered from the site have not received any detailed analysis.

This short article presents only a small sample of the type of analysis that can be conducted on materials from "old and dusty collections." The focus here is on a specific type of obsidian excavated from DgRs1 during the 1973 Vancouver Community College field school. The 1973 excavation was directed by James Baker and served as a salvage field school exercise. The vast majority of obsidian material is the type more specifically known as "Garibaldi Obsidian, Garibaldi Glassy Rhyodacite or Pitchstone". The term for this material will be referred to in this article as "Garibaldi Obsidian."

Currently it is believed that the source of Garibaldi Obsidian lies 69 km north, linear distance near Mt. Garibaldi (see figure 1). Reimer (1998, 1999, ca. 2000) has documented several areas that are potential "source areas" at high elevations in Garibaldi Provincial Park and the surrounding region. The source area lies at an elevation ranging 1,300–1,800 metres above sea level and is widely dispersed in glacial deposits about an area of 4 square kilometers (Reimer 1999, ca. 2000). It has been argued by many (Burley 1979, 1980, 1981, 1989; Carlson 1994) that the quality of this material is poor. Indeed this may be true when compared to other obsidian sources such as Anahim Peak (Apland 1977), Batza Tena (Clark and Clark 1993), Mt. Edziza (Fladmark 1984, 1985; Godfrey Smith 1985), and many others (James and D'auria 1996). If quality of lithic material is the only variable selected for raw material procurement why then are there well over a thousand pieces of Garibaldi Obsidian material in the Marpole (DgRs 1) site assemblage? Preliminary review of the number of chipped stone implements in this section of the Marpole site indicates that 52 percent of the chipped stone are comprised of Garibaldi Obsidian. Identification of the Garibaldi Obsidian was done both by X-ray fluorescence analysis (Carlson 1994; James and D'auria 1996; Nelson 1975; Nelson et al. 1975), and visual inspection by the author.

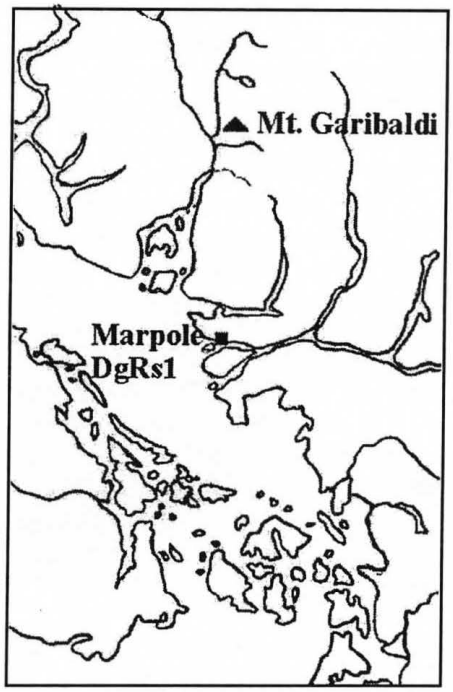

Figure 1. Location of Mt. Garibaldi and the Marpole Site (DgRs 1).

Why did people trade, seek out and create tools out of this material? It is hoped that this analysis will begin to address some assumptions and questions in order to make a small contribution to the region's archaeology.

Lithic Analysis

A total of 18 cores of Garibaldi Obsidian were found in the 1973 excavations. These cores are the size of small sub-angular cobbles, averaging 37 cm long, 39 cm wide and 38 cm thick. Most of these cores had flakes removed from all sides with an average of nine flake removals.

A total of 18 microblades were found in the 1973 excavations. Almost all of these small flake tools were broken or had microscopic use-wear indicating use in cutting, scraping, and piercing. A total of nine flake tools were found in the 1973 excavations: five simple utilized flakes, two drills, one scraper, and one notch. Low microscopic use-wear analysis indicates that these tools were used for a variety of cutting, scraping, piercing, and shaving activities.

A total of 11 projectile points of Garibaldi Obsidian were recovered during the 1973 excavations. Three of these points are triangular in form, five are contracting stemmed, two are excurvate, and one is an undiagnostic base (cf. projectile point typology in Burley 1989).

Obsidian debitage material from the Marpole (DgRs 1) site was first separated from other materials found during the 1973 excavations. All the Garibaldi Obsidian debitage was examined to ensure each piece was present in the artifact cata-

logue. Many of the paper bags and plastic vials containing Garibaldi Obsidian debitage were replaced with plastic bags. All material with a separate catalogue entry was recorded on the plastic bags. After sorting materials according to 2 m x 2 m, 1 m x 2 m, and 1 m x 1 m excavation units, the actual debitage analysis could begin. The method used here is a basic Sullivan and Rozen (1985) type analysis. The basis of this technique divides flakes into four distinct categories determined by a hierarchical attribute key (Sullivan and Rozen 1985; Andrefsky 1994). This attribute key is broken down as follows:

1) The first dimension; is there a Single Interior Surface to the Flake, if yes proceed to 2, if no the item is categorized as Debitage.
2) The second dimension; is there a Point of Applied Force, if yes proceed to 3, if no the item is categorized as a Flake Fragment.
3) The third dimension; are there Intact Margins to the Flake, if yes proceed to 4, if no the item is categorized as a Broken Flake.
4) The fourth dimension is the result of a Single Interior Surface, a Point of Applied Force and Intact Margins all being present to form a complete Flake.

The rationale for using this technique was decided upon examination of the field notes, profiles, artifact catalogue, and nature of the artifact assemblage. The nature of this salvage archaeology project made for hurried and often incomplete notes and profiles and vague artifact descriptions in the catalogue. Many excavation units were dug by varying methods and the top sections (20–40 cm) of the site were highly disturbed.

Results

In total 1,366 pieces of Garibaldi Obsidian debitage were analyzed. Based on the component delineation outlined by Burley (1979: 526-537) for the Marpole site, the Garibaldi Obsidian can be divided into two separate component assemblages. Marpole I was determined by Burley (1979) to be a Charles Culture (4500-3500 BP) occupation. Marpole II was determined to be classic Marpole (2350-1350 BP) occupation. The results of this component delineation on the Garibaldi Obsidian are as follows.

Based on the high degree of site disturbance, the nature of the excavation methodology, and limited provenience information of artifact concentrations (Baker 1973; Burley 1979), no further analysis was conducted on the Garibaldi Obsidian material.

There are some interesting patterns in the data presented above. In total 15 percent of the site's Garibaldi Obsidian assemblage are Complete Flakes and Broken Flakes. Marpole I component at 13 percent Complete Flakes and Broken Flakes and Marpole II component at 16 percent Complete Flakes and Broken Flakes yield similar results. The combined Flake Fragments and Debitage are 85 percent of the site total, *vs*. Marpole I 87 percent and Marpole II 84 percent. Based on these results it is apparent that people inhabiting the Marpole site during Charles Culture and Marpole phase times were making basic flake tools of Garibaldi Obsidian on site. This has many different interpretations for regional prehistory, site habitation, trade and relation networks as will be discussed below.

Nine of the cores from the 1973 excavations are from the Marpole II component, and nine are from the Marpole I component. The size of these cores varies little. Marpole II cores average 30 mm long, 30 mm wide, and 27 mm thick and have eight flake scars. Marpole I cores average 40 mm long, 43 mm wide, and 45mm thick and have nine flake scars.

Fifteen of the 18 mircoblades were found in the Marpole I component. Microblade industries have been inter-

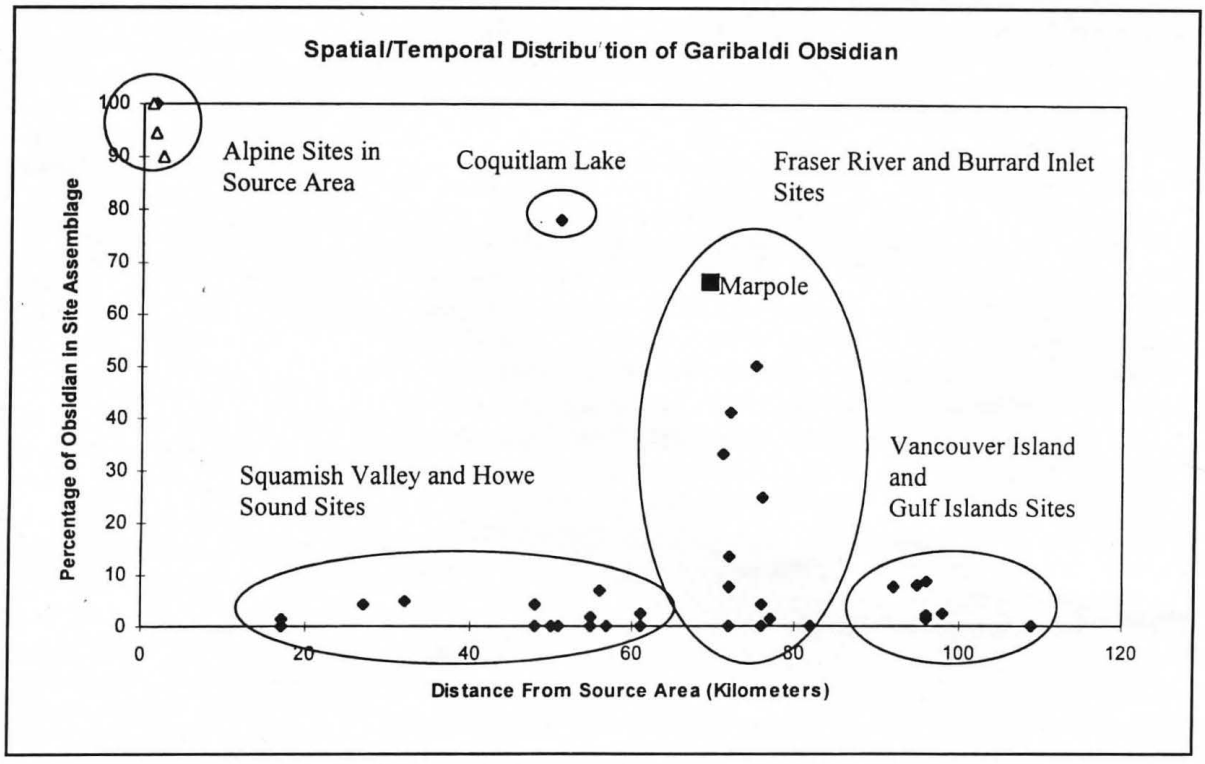

Figure 2. Spatial and Temporal Distribution of Garibaldi Obsidian.

Component	CF	CF%	BF	BF%	FF	FF%	D	D%
Total Site	73	5%	135	10%	464	34%	694	51%
CF+BF	208	15%			FF+D	1158	85%	
Marpole I (4,500-3,500BP)	17	5%	24	7%	125	39%	155	49%
CF+BF	41	13%			FF+D	280	87%	
Marpole II (2350-1350 BP)	57	5%	113	11%	351	33%	544	51%
CF+BF	170	16%			FF+D	895	84%	

Note: CF= Complete Flake, BF= Broken Flake, FF= Flake Fragment, D= Debitage.

preted as being part of a technology oriented to mobile populations. Indeed populations inhabiting the region are generally believed to have been more mobile during this time period when compared to later time periods. Only three of the 18 mircoblades found on site are from the Marpole II component.

Four of the flake tools found on site are from the Marpole I component. These implements generally show a higher degree of use and re-sharpening than the five flake tools found in the Marpole II component.

Four of the projectile points found on site are from the Marpole I component and are of typical forms found during the Charles Culture time period. Triangular contracting stemmed and excurvate points are slightly larger and are more typical of this time period. The remaining six points are of typical small triangular Marpole phase variety.

Trade and Group Relations

As noted by several researchers there seems to be an increase of inter-regional trade in the Strait of Georgia region during Charles Culture and later time periods (Burley 1979, 1980, 1981; Carlson 1983, 1994; Fladmark 1983; James and D'auria 1996; Mitchell 1990; Reimer ca. 2000).

The Garibaldi Obsidian source is located in the alpine areas at the headwaters of Ring Creek, Garibaldi Provincial Park. The Marpole site is 69 km linear distance from this source area. The material present at the Marpole site may represent trade of materials in cobble form or direct transport by people to the site. The seasonal round of groups in the region suggests that Marpole was a large meeting place during the great Fraser salmon runs. It is likely that people from the Squamish region directly procured the material at the source, and brought the material to the Marpole site during the fall salmon runs and traded it to local people living along the Fraser River. Trade was likely a part of establishing kinship ties and gaining access to the Fraser River fishery. As a result people brought complete tools to the site from the Squamish region and people inhabiting the shores of the Fraser River made new implements on site from newly acquired raw material.

Discussion

Based on the spatial and temporal distribution of Garibaldi Obsidian in the Strait of Georgia (see figure 2), the presence of formed tools, and the large amount of debitage at the Marpole site, it is possible to place the Garibaldi Obsidian material into a category of high quality but of low abundance (cf. Andrefsky 1994). As expected from assemblage characteristics at a large habitation site such as the Marpole midden, one would find a mix of informal and formal tools made from non-local traded-in Garibaldi Obsidian. The material offers a sharp edge ideal for cutting, scraping, and piercing, but is only found at high elevations and low quantities in a spatially restricted area (Reimer 1998, 1999, ca. 2000). In addition to Garibaldi Obsidian, a large amount of low quality coarse grained dacite is found in this section of the Marpole site. This material is highly abundant both in the site assemblage and along the banks of the Fraser River; hence tools made from this material are primarily informal and more abundant (cf. Andrefsky 1994).

A remarkable similarity of lithic reduction used at the Marpole site over a 3,150 year time period (Charles Culture to Marpole) indicates a long cultural continuity of the site inhabitants, and that kinship networks between groups in the Strait of Georgia region were established at an early time (ca. Charles Culture 5500-3500 BP).

ASBC Executive member Rudy Reimer has been working in BC archaeology for seven years and is nearing completion of his Master's Thesis. His Thesis investigates the nature of high elevation resource use over the last 7,500 years of the south coast and southern interior of BC.

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FIELD NOTES

Richard Brolly reports from Arcas Consulting Archeologists Ltd. that a total of 103 projects were conducted in 1999. By the end of the year, 13 full-time archaeologists, two draftspersons (one full-time, one part-time), four administrative staff, and two company principals were employed at Arcas. In addition, ten assistant archaeologists and dozens of First Nations assistants were employed on field projects, most during the summer and fall months.

Less work was conducted on the Coast compared to previous years, especially on the North Coast. Together with assessments conducted for past forestry clients in the Campbell River and Port McNeill forest districts, forestry impact assessments were carried out in the Squamish and Chilliwack forest districts. Among the tedious multitude of CMTs typically found during coastal forestry projects, there were two discoveries of particular interest on the Coast in 1999. A nearly-intact cedar bentwood box, filled with ceremonial regalia was found in a secluded rockshelter near a proposed forestry cutblock in Seymour Inlet. This site is about 1 km from EgSt 2, where many such boxes were collected and analyzed by RBCM archaeologists in the 1970s. Another interesting new site from this region was an undocumented pictograph on Turnour Island, portraying what appears to be a high-status woman flanked by images of two coppers and a conical chief's hat.

The most interesting project in the Lower Mainland region was a brief test excavation at a rockshelter site near the confluence of the Elaho and Squamish rivers. Among the finds in 50+ cm deep cultural deposits were small side-notched projectile points, as well as further evidence that lithic raw materials were being procured from nearby alpine environments. Another interesting project was an impact assessment for a proposed development on the Popkum Indian Reserve east of Chilliwack. Part of the traditional Stó:lo village of *papk'um* was relocated and re-recorded, including an extensive and locally-dense scatter of fire-altered rocks and flaked stone debitage. Ground stone was not nearly as prevalent, but included a nephrite hammerstone and celts. The reserve lands are distinguished by many large and small mounds, which, upon testing, proved to be remnants of a massive mid-Holocene landslide from Mt. Cheam.

As in past years, forestry-related impact assessments and overviews dominated the Interior projects. Overall trends saw less fieldwork done in the Chilcotin and 100 Mile House forest districts, more in the Quesnel Forest District, and considerably more in Northwestern BC and in the Lillooet Forest District. As a change of pace, preparation of an exhaustive archaeological and traditional-use study workplan for the proposed Prosperity Mine Project east of Taseko Lake repre-

sented a different Chilcotin-based project.

Six sites—lithic scatters, CMTs, and a trail with associated CMTs—were identified in the Quesnel Forest District. All were recorded west of the Fraser River around Pelican Lake and Pantage Lake. Further south, impact assessments were conducted for forestry developments in the Peterson Creek, Robertson Creek, Mow Creek, and Bonaparte Lake watersheds of the Kamloops Forest District. Nineteen sites were found, including CMTs, heritage trails, cultural depressions, and lithic scatters. In the Robertson Creek locality, an interesting discovery was a shaped cobble digging-tool, found amidst an extensive scatter of basalt and chalcedony debitage on a high-elevation, south-facing slope where balsamroot currently grows. In the Lillooet Forest District, an assessment of several proposed woodlots and a forestry road on the south shore of Carpenter Lake in the Tommy Creek locality was conducted in association with the Seton Lake Band. One CMT site and six historical mining/trapping sites were identified. Much more fieldwork was carried out for one forest-industry client in the Lillooet Forest District. Work was done in the upper Pavilion Creek watershed, near Junction Creek (tributary of the Yalakom River), and in the McKay–Slok Creek drainages.

Little previous archaeological research has been done in the Yalakom River drainage, and the Junction Creek investigation resulted in the identification of eight sites, the most interesting of which was a small village comprised of medium to large, rectangular to sub-rectangular, shallow cultural depressions with flat bottoms and well-defined rims. These features are suspected to represent winter matlodge dwellings, a habitation feature not often reported in the archaeological literature. Another interesting aspect of the Junction Creek sites is that most could be relatively dated in relation to a layer of Bridge River volcanic tephra, which fell approximately 2300 BP. Thus, of the eight sites observed, four had cultural occupations pre-dating the ash-fall, and six sites had cultural materials that post-dated the ash.

The Pavilion Creek impact assessments were among the most interesting field projects undertaken in the Southern Interior during 1999. The study area is a medium- to high-elevation watershed on the west side of Pavilion Mountain, northeast of Lillooet. Surveys have been conducted by different archaeologists on a number of occasions prior to 1999, representing an unusual level of effort for a subalpine setting in BC. A well-defined network of traditional trails has been identified in traditional use studies, which include routes up to the alpine zone of Pavilion Mountain and crossing into the neighbouring Maiden Creek drainage, an important source of cryptocrystalline and basalt lithic materials. Approximately 36 sites were known from the study area prior to 1999, of which five conflicted with the forestry development areas examined this year. A total of 53 new sites were identified in 1999, including several in areas thought to have low archaeological potential. Sites recorded include traditional trails, lithic scatters, small and medium cultural depressions, and CMTs, both cambium bark-strips and kindling-collection trees. Unsurprisingly, a strong correlation was observed between sites and the route of the Pavilion Creek Trail—an observation also made by previous authorities. We also saw a striking relationship between limestone outcrops and chert-nodule primary reduction workshops. The nodules originated in carbonate rocks and are now found in the glacial drift surrounding the outcrops. It is hypothesized that prehistoric toolmakers may have sought out the highly-visible limestone outcrops as favoured places to prospect for chert nodules. Together with abundant evidence of traditional forest utilization, the results of our work in the upper Pavilion watershed adds to the increasing body of evidence that alpine and subalpine environments were particularly attractive to First Nations people.

A number of field projects were done on the Osoyoos Indian Reserve in the south Okanagan. An impact assessment was conducted for a proposed vineyard on a high glacial outwash terrace east of Oliver, but no sites were discovered in this sun-baked desert setting. Better luck was had during a reconnaissance of a proposed winery and resort complex at the southern end of the reserve near Osoyoos, where a buried lithic scatter with a well-formed microblade core was found. In the north Okanagan, an assessment was carried out for proposed improvements at Kekuli Bay Provincial Park on Kalamalka Lake. Sadly, the park's name proved illusory, being the winning entry in a naming-competition among Vernon-area elementary schools. None of the titular pithouse depressions, or indeed anything else, was discovered in this park. Further northwest, an impact assessment was undertaken in Tunkwa Lake Provincial Park, between Logan Lake and Savona, where a systematic surface collection was made at a site threatened by improvements to a campground.

In northwestern BC, 60 new sites were recorded during assessments of forestry developments in the Vanderhoof Forest District. A further 26 sites were found by a site survey at Moose Lake in Ulkatcho traditional territory, where little or no archaeological work had been done. Numerous artifacts were observed during the inventory, and all lithic scatter sites in this area (n=11) were rich in obsidian (reflecting the nearby Anahim Peak source). Numerous microblades, scrapers, bifaces, and a projectile point were also found, and this inventory is not yet completed. The usual mix of post- and pre-1846 CMT sites, cultural depression sites, lithic scatters, and heritage trails (including the Cheslatta trail) were identified elsewhere in the northwest this past year. To the west in the Houston area, only CMT sites were identified, but one cambium-stripped lodgepole pine was dated to AD 1730. A project east of Babine Lake resulted in the documentation of a major heritage trail, leading from Fort Babine to Takla Lake. Far to the north on Atlin Lake, an assessment was conducted on a property that contained abundant evidence of late nineteenth-century mining activities.

In northeastern BC, impact assessments were conducted for 45 oil and gas developments. A total of nine lithic scatters were recorded, three of which contained diagnostic projectile points. Of particular note, large lanceolate projectile points have been reported from HiRo 10, on the north side of the Sikanni Chief River. Excavations are planned for three locations in the coming year, to compensate for unauthorized project disturbances.

BOOK REVIEWS

Plant Technology of First Peoples in British Columbia

By NANCY TURNER

UBC Press in collaboration with the Royal British Columbia Museum, Vancouver 1998 (2nd ed.): 256 pp., illus., refs, index.
Price: ISBN 0-7748-0687-7, $24.95 CDN.

In the preface to the first edition, Nancy Turner recalls her first attempts to learn the art of cattail-making from Christopher Paul of the Tsartlip Reserve. "By the time I finished gathering and preparing the materials for this modest effort and constructing it according to traditional techniques, my admiration for aboriginal artisans had increased tenfold (p. 1)." This recollection sets the tone for Nancy Turner's work as a whole; Turner has always held the highest respect for First Nations artists and their technological capabilities. She has spent many years working with, learning from, and promoting the talents of First Peoples throughout British Columbia.

Plant Technology of First Peoples in British Columbia is the third handbook to be updated and revised in the original series of Turner's works produced by the Royal British Columbia Museum. Like the Coastal and Interior plant food handbooks (see reviews in *The Midden* by Dana Lepofsky [1996: 28/4] and Michèle Wollstonecroft [1998: 30/3], respectively), this volume is a culmination of plant knowledge from the fields of ethnobotany, botany, ethnology, and particularly the work of Turner and the multitude of Aboriginal peoples she has worked with in the province. The handbook presents a compendium of plants used by the First Peoples of Coastal and Interior BC, in the past and present, for technological pursuits such as woodworking, weaving, and basketry, among other aboriginal arts. Conveniently divided by major plant families - including algae, lichens, fungi, mosses, ferns, conifers, and flowering plants - the volume provides a summary of the botanical characteristics, habitat, and distribution as well as information about the aboriginal harvest, production, and use of hundreds of plants.

In the years since the first publication of this volume in 1979, many areas of aboriginal plant technology have evolved and expanded. Current developments in research on the use of plant materials are described by Turner in the preface to this second edition. Some of these developments include growing interest in 'traditional ecological knowledge', expanding research in botany and ethnobotany, such as gardening with native plants, and the North America-wide movements of traditional weavers and basket-makers. Skills in the aboriginal arts are also being increasingly taught in programs within native communities, in both local and native-run museums, and in a variety of other interactive forums.

Research on plant technology has also steadily evolved in the discipline of archaeology. Twenty years ago, very little was known about plant use by ancient First Peoples of Coastal and Interior British Columbia. Turner outlines how work in both wet and dry archaeology sites has begun to fill in this gap. Wet-sites at Hoko River, Ozette, and Musqueam have provided much information about the materials and regional styles of basketry, cordage, and wooden implements used by various coastal groups. Charred and uncharred plants recovered from dry-land archaeology sites throughout the northwest are likewise beginning to inform about the nature and use of building materials, household manufactures, and fuelwoods by Aboriginal peoples in the past. In each of these contexts, the development of archaeological expectations for ancient plant use has been greatly facilitated by the very thorough ethnobotanical documentation of plant technologies by Turner and her students.

Plant Technology of First Peoples in British Columbia is a well-organized, written, and formatted resource. The photographs, though small, are clear and now in colour. Consistent with the other handbooks in this series, this edition has been updated to reflect current aboriginal nomenclature and political boundaries. These various attributes combine to make this a multi-purpose resource that reaches a diverse audience, including aboriginal and academic researchers as well as the general public.

The continued success and popularity of *Plant Technology of First Peoples in British Columbia* is reflective of the broader growth and diversification of First Peoples' technologies in British Columbia. During the past twenty years, artistic endeavours of BC's First Peoples have evolved in a number of media, including large and small-scale wood carving, jewellery and basket-making, and grown into a very successful international market. Increased public knowledge and appreciation of early aboriginal technologies has also been achieved through developments in archaeology such as the discovery of the frozen *Kwaday Dan Sinchi* person, found in Tatshenshini-Alsek National Park in August 1999. These events have occurred against a general backdrop of increased pride and recognition in aboriginal heritage throughout the past two decades. It is a credit to researchers such as Nancy Turner whose continual support and interest has raised the profile of First Peoples' skills and technologies. Her work has occurred in tandem with developments in First Nations' communities, whereby children are increasingly instructed in the arts of their ancestors. Together, research and practice are ensuring the perpetual success of plant technologies among BC's First Peoples.

Natasha Lyons

Natasha Lyons is currently completing her Master's degree at Simon Fraser University. Her research has focused on ancient socioeconomy and plant use practices among early residents of the Scowlitz site, in the Fraser Valley, BC. Additional research interests include the development of complex societies, public archaeology, and current discourse on aboriginal issues in British Columbia.

In the Wake of the ya'aats'xaatgaay ['Iron People']: A Study of Changing Settlement Strategies Among the Kunghit Haida

By STEVEN ACHESON

BAR International Series 711, Oxford, 1998: 206 pp., illus., bib.
Price: ISBN 0-86054-948-8. £39

The Kunghit, one of the four geographic and dialectal divisions of the Haida, occupied the remote southern portion of the Queen Charlotte Islands. In the early contact period they were ravaged by disease and warfare, some of the latter at the hands of European ship captains and their cannons. The Kunghit coalesced at their major village of SgAn'gwa-I ("Red Cod Island"), and finally, as their population continued to fall, abandoned their traditional territory altogether. The numerous totem poles still standing at this abandoned village, now better known as Ninstints after its dominant nineteenth century chief, led to the designation of this location as a World Heritage Site. The changing pattern of site settlement across Kunghit territory is the focus of Acheson's research.

British Archaeological Reports (BAR) are aimed primarily at an academic and professional audience. The series includes doctoral dissertations, conference proceedings, and technical reports. This volume is Acheson's dissertation, originally submitted to Oxford University in 1991, with only slight revisions. Little attempt was made to update with new information or to rewrite for a more general audience. As a result, only passing mention is made of the spate of recent archaeological activity involving Parks Canada and the Council of Haida Nation in the Gwaii Haanas region of the southern Queen Charlottes. That research, however, is focused on discoveries of lithic implements in early Holocene contexts, associated with earlier sea levels. Acheson's research, on the other hand, deals with more recent periods (within the last two millennia), leading up to and including the tumultuous years of the early contact period and the social changes that resulted.

The basic body of the book is only 114 pages, including tables and maps. Four brief chapters introduce the reader to the study area, basic concepts of analysis, the nature of settlement archaeology, and the environmental setting. These are followed by two major chapters, encompassing over half the body of the book, one covering Acheson's archaeological research in the area and the other reviewing the ethnographic and ethnohistoric record of Haida culture. Another chapter deals with what is known of Kunghit history from first contact with Europeans in 1787 to abandonment of SgAn'gwa-I around 1888. The final two chapters comprise a synthesis of settlement data from archaeology and ethnohistory and a brief conclusion. A substantial listing of references and three appendices, the latter providing the raw data of Acheson's fieldwork in Kunghit territory, complete the volume.

The archaeological work on which this study is based was conducted in 1984 and 1986. Systematic archaeological inventory was carried out through much of traditional Kunghit territory, resulting in the recording of 114 sites, 99 of which were classified as "habitation." Appendix I lists and briefly summarizes each of these sites. Of the habitation sites, 18 were selected (all but one randomly) for test excavation. A summary of the excavated data is presented in Appendix II, while Appendix III provides artifact descriptions. A fairly extensive series of radiocarbon dates provides chronological control. All excavated samples are very small, however, limiting Acheson's ability to document major shifts in settlement pattern. While much of the archaeological "raw data" is placed in the appendices, there is still considerable detail to wade through in the main text (such as a number of tables, one extending for three pages, documenting the results of column sampling).

The ethnohistoric sources, even for this remote location, provide a fuller picture of changing conditions in the early historic period. Acheson combines the archaeological insights into Haida culture just prior to European contact with this later documentation to argue for extensive restructuring of Kunghit society. While numerous small nucleated villages seem to have characterized the late pre-contact period, declining populations following contact led to a small number of large multilineage villages. Control of access to trade goods allowed powerful chiefs to emerge, with influences over neighbouring communities. While the small villages of earlier times were probably occupied year-round, the later consolidated villages controlled a larger territory, requiring a seasonal pattern of movement between resources. Ethnographic descriptions of Haida culture refer only to this late period, following substantial cultural adjustments. This scenario, in fact, may apply along much of the Northwest Coast. Certainly this part of Acheson's work had a familiar ring to this reviewer, who has argued that many of the same changes occurred among the Nuu-chah-nulth. As outer-coast peoples involved in the initial trade with European ships in the late eighteenth century, the Haida and the Nuu-chah-nulth faced the same challenges and restructured their societies in similar ways.

The nature of this volume as an academic dissertation, with its detailed treatment of specific archaeological results, plus the high price of BAR publications, will limit its appeal to the general public. Researchers involved in Northwest Coast studies, however, will certainly want this book on their shelves. In addition to the specific information on Haida culture history it provides, it is one more example documenting the extensive changes in political organization and settlement pattern that occurred in Native cultures all along the Northwest Coast following the disastrous early decades of contact with outsiders.

Alan D. McMillan

Alan McMillan teaches anthropology at Douglas College in New Westminster. He is also adjunct professor in the Department of Archaeology at SFU. His research has particularly focused on the Nuu-chah-nulth peoples of western Vancouver Island.

THE DEEP COVE DIG

ASBC VISITS THE SIMON FRASER UNIVERSITY FIELD SCHOOL AND THE TSLEIL-WAUTUTH FIRST NATION COMMUNITY ARCHAEOLOGICAL PROJECT

This archaeological project under the direction of Dr. Dana Lepofsky, SFU, is a collaboration between the Tsleil-Waututh First Nation and the 2000 Field School from the Archaeology Department at Simon Fraser University. Members of the field class and Tsleil-Waututh Nation and are jointly conducting research on the Tsleil-Waututh traditional territory.

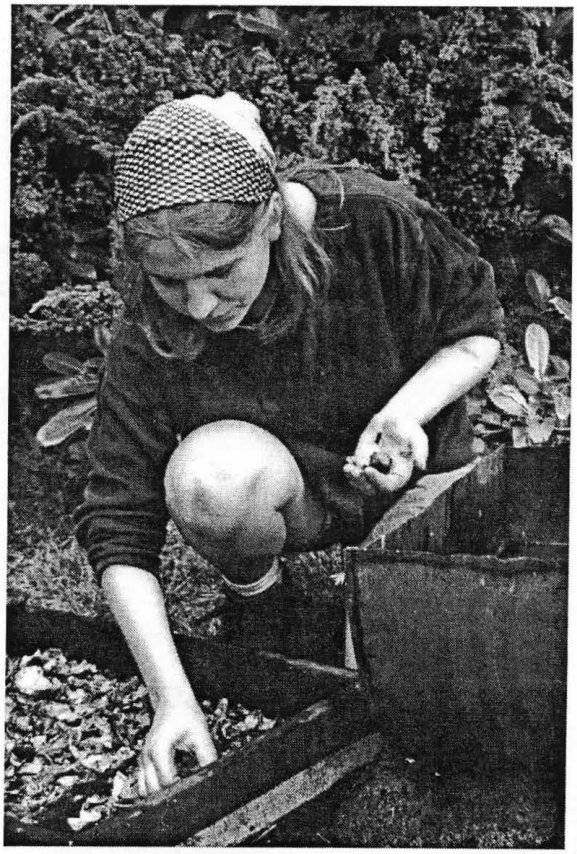
In July an ASBC delegation, including some vistors from overseas, toured the excavation at Deep Cove in North Vancouver. Photographs by Fred and Helmi Braches.

Above: *ASBC delegation at the site. From left to right: Gina Hammond, Ann Ferries, Helmi Braches, Tracy Murphy-Blais, Liz Moulder, Sonya Naish, Glen Chan, Heather Myles and Fred Braches. Monica Karpiak standing to the right, conducted the archaeological tour.*

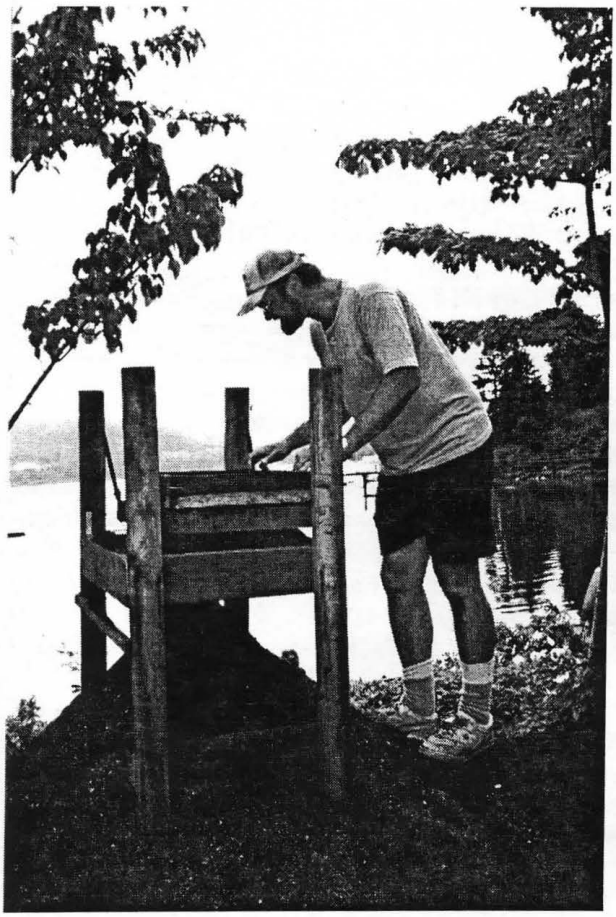
Left: *Connie Thomas addressing the visitors on behalf of the Tleil-Waututh Nation.*

Below: *Jessie Morin, Alice Storey, Mary-Lou La Fleur, and Jared Obermeyer at work.*

Above: *During the ASBC visit Christine Aberley, Tsleil-Waututh Nation member, recovered from the screen an antler valve, part of a toggle harpoon. Here Monica Karpiak discusses the working of the harpoon. See photo on front page.*



Above: *going through a screen-full of shells. Erin Jesse.*



Left: *John Heumann screening.*

Below: Dana Lepofsky (centre) in discussion with SFU students Erin Jesse (left) and Kim Rhodes (right).

PERMITS Issued by the Archaeology Branch, January - April 2000

The assistance of Ray Kenny (Manager, Assessment and Planning Section) and Alan Riches (Branch Secretary) in providing this information is gratefully acknowledged. A number of recurrent abbreviations may not be familiar to many readers of *The Midden*. Most importantly, the following abbreviations refer to specific Permit types: ALT = Alteration; INS = Inspection; INV = Investigation. The most common abbreviations are "AIA" = Archaeological Impact Assessment, "MoF" = Ministry of Forests, "SBFEP" = Small Business Forest Enterprise Program, "MoTH" = Ministry of Transportation and Highways, and "CMT" = Culturally Modified Tree. Several forest industry abbreviations occur, such as "CP," which means Cutting Permit, "FD" for Forest District, "FL" is Forest License, "TSA" is Timber Sales Area, "TFL" means Tree Farm License, and "TL" is Timber License. Less often, the following terms may also appear in legal descriptions: "DL" refers to District Lot, "Sec" means Section, "Tp" is short for Township, "Rge" means Range, and "r/w" is short for right-of-way.

2000-001	Martin Handly	INS	AIA for proposed subdivision of Part of Lot 1, DL 4596, Plan 10405, Kootenay District, located 4 km S of Fairmont Hot Springs
2000-002	Doug Dawson	ALT	Alterations to CMTs within FjSr-003, FjSs-001, and FjSs-002 by Houston Forest Products Company's forestry operations in CP 226, FL A18827, Morice FD
2000-003	Peter Merchant	INS	Inventory and AIA for portion of DL 1020 within Lots A & B, New Westminster LD, on Nelson Island
2000-004	Heather Pratt	INS	AIA for Western Forest Products' forestry operations within TFL 19, FL A19231, and associated tenures in the Nootka Sound area, Campbell River FD
2000-005	Steve Chambers	ALT	Alterations to CMTs within DlSs-023, -024, -025, -026, -027, and -028 by Weyerhaeuser Company (West Island Woodlands Division, Franklin Operations) forestry operations within and adjacent to Blocks 9501, 9502, 9503, 9503A, 9512, at the N end of Port Eliza, Campbell River FD
2000-006	Jason Nesbitt	INS	Site inventory study of Kanaka Creek Park, Maple Ridge
2000-007	Sheila Minni	INS	AIA of proposed MoTH (South Coast Region) Morns Valley gravel pit on the S & W bank of the Chehalis River about 4 km from its confluence with the Harrison River, N of Harrison Mills
2000-008	Terry Goodman	ALT	Alterations to DcRt-018 by removal of soil and demolition of a building on Beach Drive in Oak Bay
2000-009	Darryl Bokvist	ALT	Alterations to CMTs within FgSi-001 by Plateau Forest Products Ltd.'s pine beetle control operations in FL A18157, S of Moose Lake, Vanderhoof FD
2000-010	Darryl Bokvist	ALT	Alterations to CMTs within FgSh-001 by Plateau Forest Products Ltd.'s pine beetle control operations in FL A18157 and forestry operations in CP 210-10, FL A18157, S of Moose Lake, Vanderhoof FD
2000-011	Neil Kelly	ALT	Alterations to IjRs-001, adjacent of Hwy 77, 87.9 km N of Fort Liard, and post-impact assessment of selected portions of the Paramount Maxhamish Pipeline r/w, NE BC
2000-012	Gordon Waters	ALT	Alterations to DiSc-031 by construction of a single-family residence on Lit 11, DL 49, Plan 22087, Nanoose LD, located at Black Brant Road, French Creek
2000-013	Tony Hewer	INS	AIA for International Forest Products Ltd.'s forestry operations within Block ORF-1A, just N of Orford Bay on the coastal mainland in Campbell River FD
2000-014	Richard Briscoe	ALT	Alterations to CMTs A7 to A13 within DfSg-050 and CMTs A14 & J3 to J8 within DfSg-051 by forestry operations within and adjacent to TSL A42274, Tzartus Island, South Island FD
2000-015	J.W. Jonker	ALT	Alterations to designated HBC Heritage Trail (DiRh-001) by construction of a road crossing between Colvle Creek & Fools Pass
2000-016	John Maxwell	INS	AIA of InterFor forestry operations in the South Bentinck Arm, Bella Coola, and Talchako River areas, Mid-Coast FD
2000-017	Janet van der Giessen	ALT	Alterations to CMTs within GgSo-033 and -035 by Houston Forest Products' forestry operations within CP 902, Morice FD
2000-018	John Maxwell	INS	AIA for MoTH (Vancouver Island Region) proposed road realignments of Hwy 4 between Redford and Elkford roads, vicinity of Port Alberni
2000-019	Ian Wilson	INS	AIA for residential and/or commercial gas service line developments and/or upgrades

			by Centra Gas in the Greater Victoria area
2000-020	Donald Slinn	ALT	Alterations to DfRt-003 by demolition of existing cottage, and construction/landscaping of a new residence within proposed Lots 2 & 3 of fractional S½ of the fractional SW¼ of Section 15, Cowichan District, located at 566 Waugh Road, David Cove, Mayne Island
2000-021	Mike Rousseau	INS	AIA of Lot 2, Plan 3790 and Lot 3, Plan 8692, Area 'D' of the proposed residential subdivision of Telep Property, Maple Ridge
2000-022	Jim Haggerty	INS	Site inventory and AIA for proposed Coast Guard wharf replacement and access road upgrading on the Addenbroke Island Lightstation property, DL 1127, Rge 2, Coast District, on the W side of Addenbroke Island, Fitz Hugh Sound
2000-023	Walt Kowal	INS	AIA for Tolko Industries Ltd.'s forestry operations in the Kamloops and Clearwater FDs
2000-024	Bjorn Simonsen	INS	AIA of DgRw-144 on Thetis Island
2000-025	Rob Somers	ALT	Alterations to DcRt-010 by relocation and replacement of a single BC Hydro power pole near the foot of Dalhousie Street adjacent to Willows Beach Park, Oak Bay
2000-026	Duncan McLaren	INS	AIA of proposed new trail development along the S shoreline of the Derby Reach portion of the Fraser River near Derby Reach Regional Park
2000-027	Darryl Bereziuk	INS	AIA for MoF SBFEP forestry operations in the Williams Lake, Horsefly and Chilcotin FDs
2000-028	Kevin Twohig	INS	AIA of 600 m-long upgrade to Terzaghi Dam Road between Lillooet and Gold Bridge on the NE margin of Carpenter Lake reservoir
2000-029	Tony Hewer	INS	AIA of proposed residential subdivision of Lot B, Plan 49021, Sec 3, Comox LD, including DkSf-019, at Comox
2000-030	Jim Haggerty	INS	Site inventory and AIA of proposed Chrome Island Lightstation property, Lot 126, Sec 1, Nanaimo District, off the SE tip of Denman Island
2000-031	Chris Engisch	INS	AIA of proposed airstrip within Translake Services Ltd.'s private Lot 162, Oweekeno
2000-032	Janet van der Giessen	ALT	Alterations to CMTs within GhSo-021 by Houston Forest Products' forestry operations in Morrsion I.R.M., CP 694, Block 156, and CP 902, Block 109, Morice FD
2000-033	Darryl Bereziuk	INS	AIA for West Fraser Mills Ltd.'s forestry operations in the Williams Lake, Horsefly and Chilcotin FDs
2000-034	Peter Merchant	INS	AIA of MoTH proposed gravel pit expansion on the Sechelt Peninsula near Gibsons: Crowe Pit, within SE¼ of DL 2632 and Lots 5, 6 and 7 of DL 2826, NWD; Port Mellon Pit, partially within DLs 1365 & 2866, NWD, and; North Road Pit, partially within DL 1657, NWD
2000-035	Rick Howard	INS	AIA for MoF SBFEP forestry operations within TSL A38878, A59651, A59653 and A59965, Kyuquot Sound, Campbell River FD
2000-036	Tony Hewer	INV	Systematic data recovery from DcRu-651 & -652 in advance of proposed subdivision of part of Sec 94, Esquimault District, lying to the S of the S boundary of Plan 337RW, except that part in Plan 18995, located at 361 Old Island Highway on Esquimault Harbour
2000-037	Rick Howard	INS	AIA for forestry operations within Woodlot 0022 near Shawnigan Lake, South Island FD
2000-038	Walt Kowal	INS	AIA for MoF SBFEP forestry operations in the Kamloops FD
2000-039	Jennifer Lindberg	INS	AIA of proposed addition to Masset Health Centre, Masset, QCI
2000-040	David Hall	INS	AIA of proposed golf course development on Lots 4046, 10368, 6072, and DL 2377, near Marysville SE of the City of Kimberley
2000-041	Normand Canuel	INS	AIA for Canadian Forest Products, MoF, Woodlot holders, and other licensees' forestry operations in the Bulkley FD
2000-042	Ian Wilson	INS	AIA of proposed bed & breakfast proposed for Crown Land immediately S of Lot 844, Block B, Cassiar LD, SE of Atlin
2000-043	Veronica Cadden	INS	AIA for Plateau Forest Products, MoF, Woodlot holders and other licensees' forestry operations in the Vanderhoof FD
2000-044	Normand Canuel	INS	AIA for Canadian Forest Products and other licensees' forestry operations in the Prince George FD
2000-045	Normand Canuel	INS	AIA for Canadian Forest Products and other licensees' forestry operations in the Lakes FD
2000-046	Susan Woods	INS	AIA for TFL Forest Ltd. (Honeymoon Bay Operations) forestry operations within

			TFL 46 and associated tenures between Port Alberni and Port Renfrew, South Island FD
2000-047	Ray Bartram	ALT	Alterations to CMTs within DfSg-059 and DfSj-044 by Weyerhaeuser Ltd.'s forestry operations in TFL 44, Blocks 9509 and 9502, South Island FD
2000-048	Shawn Kenmuir	ALT	Alterations to CMT #3 within FiTd-003 by forestry operations within Block N1A, TSL A16820, Narrow Creek watershed, North Coast FD
2000-049	Ian Wilson	INS	AIA for proposed upgrades to Hwy 4 from Kennedy Lake to Tofino Junction, and ancillary developments
2000-050	Jennifer Lindberg	INS	AIA for proposed Skidegate Health Centre, Graham Island, QCI
2000-051	Robert Lackowicz	INS	AIA for proposed golf course within Lot A, DL 9561, Kootenay District, Plan 2684, near Windermere Lake
2000-052	Brian Pegg	INS	AIA of Weyerhaeuser Canada Ltd. (Port McNeill Division) forestry operations within TFL 39 and associated tenures on N Vancouver Island and adjacent mainland, Port McNeill FD
2000-053	Kevin Twohig	INS	AIA of Ainsworth Lumber Co. Ltd.'s forestry operations within the 100 Mile House, Horsefly and Williams Lake FDs
2000-054	Gail Wada	INS	Site inventory and AIA of proposed residential/commercial development on InterFor's McDonald Cedar Mill property, SW side of Bedford Channel, bounded on the NW by the Salmon River and on the S by the CPR tracks, N of Fort Langley
2000-055	John Maxwell	INS	AIA for a proposed gravel pit reserve W of Friesen Creek, N of Sproat Lake near Port Alberni
2000-056	Monty Mitchell	INS	AIA of MoF SBFEP forestry operations in portions of TSL A45330 and A62714, Mid-Coast FD
2000-057	Guenther Heming	ALT	Alterations within DkSf-019 by excavations for 1 m-wide extension to SE corner of existing house at 2327 Comox Avenue, Lot A, Sec 3, Comox District Plan 49201, on Comox Harbour
2000-058	Ian Wilson	INS	AIA for proposed MoTH Oregon Jack Creek Gravel Pit, approximately 20 km S of Cache Creek
2000-059	Chris Armanini	ALT	Alterations to HBC Brigade/Blackeye's Trail, Collins Gulch Recreational Trail Section (DjRe-004), by construction of 3 road crossings
2000-060	Walt Kowal	INS	AIA of Weyerhaeuser Canada Ltd. (Timberlands Division) forestry operations within the Kamloops FD
2000-061	Rob Field	INS	AIA of Western Forest Products (Mainland/Islands Division) forestry operations in the Sheemahant, Machmell, Neechanz River drainages and the drainages of Phinney, Doos and Dallery creeks, near Owikeno Lake, within FL A16847, Mid-Coast FD
2000-062	Kevin Twohig	INS	AIA of MoTH (Thompson-Okanagan Region) projects including but not necessarily limited to gravel pit development and expansion, road realignments and upgrading, and bridge upgrading or replacement
2000-063	Wayne Biggs	ALT	Alterations to DgQa-004, DgQc-004 and DgQd-008 by BC Gas Southern Crossing Pipeline between Yahk and the E side of the Columbia River S of Trail
2000-064	Peter Merchant	INS	AIA of various licensees' forestry operations on the Sunshine Coast within the asserted traditional territory of the Sechelt Band
2000-065	Bruce Colpitts	ALT	Alterations to CMTs within FaSq-018 and -019 by forestry operations in FL A16850, South Bentinck Arm, Mid-Coast FD
2000-066	Kevin Twohig	INS	AIA of Weldwood of Canada Ltd.'s forestry operations in the Quesnel, Horsefly and Williams Lake FDs
2000-067	Kevin Twohig	INS	AIA of forestry operations within the UBC Alex Fraser Research Forest, Horsefly and Williams Lake FDs
2000-068	Andrew Mason	INS	AIA for MoTH proposed South Fraser Perimeter Road Project, located on the S side of the Fraser River between Alex Fraser Bridge and 176th Street Interchange, municipalities of Delta and Surrey
2000-069	Kevin Twohig	INS	AIA of Lignum Ltd.'s forestry operations within the 100 Mile House, Horsefly and Williams Lake FDs
2000-070	Kevin Twohig	INS	AIA of Weldwood Ltd.'s forestry operations on the E side of the Fraser River within the 100 Mile House FD
2000-071	Andrew Mackay	ALT	Alterations to CMTs within FgTf-003, FgTf-012 and FfTg-004 by International Forest Products Ltd.'s forestry operations in the Surf Inlet and Chapple Inlet operating areas

			of the Outer Coast TSA of FL A16841, North Coast FD
2000-072	Gary Adolf	ALT	Alterations to CMTs #9, 10, B, D and E within GcTm-012 by forestry operations in Bill Creek drainage on Work Channel, TSL A60849, North Coast FD
2000-073	Karen Preckel	INS	AIA of Tsi Del Del Enterprises, Riverside Forest Products, Lignum Ltd. and other licensees' forestry operations within the Chilcotin FD
2000-074	Jeff Bailey	INV	Systematic data recovery from portion of EbRj-154 in conflict with proposed MoTH bridge crossing and approach, on E bank of the Thompson River in the town of Lytton
2000-075	Tony Hewer	INS	Site inventory for possible subdivision of property within Parcel A (DD13188N) of DL 2 and 6, that part of DL 6 (DL232421), that part of DL 2A as shown on 525R, Parcel A (DD131188N) of DL 6 as shown on 525R, the Remainder of DL 2A (DL232421), DL 5 and DL 66, Alberni LD, on Johnson Island, Shoemaker Bay and the SW shore of the Somass River near Port Alberni, vicinity of DhSe-002, -006, DhSf-023 and -025
2000-076	Phil Carruthers	ALT	Alterations to CMTs within GkSv-007 and -010 by Skeena Cellulose's forestry operations at the confluence of Babine River and Shedin Creek, Kispiox FD
2000-077	Tony Hewer	INS	AIA for proposed Pimbury Bridge replacement, adjacent to DeRv-134 and -138, Cowichan River at Cowichan Bay
2000-078	Stephen Vinnedge	ALT	Alterations to bark-stripped CMTs within FlTd-006, -007 and FkTd-001 by West Fraser Mills (Skeena Sawmills Division) forestry operations on the S side of Kildala Arm within Blocks 41-1-1, 41-1-2 and 41-1-3, respectively, TFL 41, Kalum FD
2000-079	Dan Weinburger	INS	AIA of Riverside Forest Products Ltd.'s forestry operations within the Penticton and Merritt FDs
2000-080	John Cookman	ALT	Alterations to CMTs within EcRi-074 (located in CP 43 Block 10, Upper Skoonka Creek), EcRi-75 (CP 43, Block 5, Upper Skoonka Creek) and EcRi-085 (CP 42, Block T-12, Upper Spence Creek) by J.S. Jones Timber Ltd.'s forestry operations in FL A18699, Lillooet FD
2000-081	Jean Bussey	INS	AIA for Canadian Hunter Exploration Ltd.'s [oil & gas] developments in NE BC
2000-082	John Maxwell	INS	AIA of Weyerhaeuser Canada (Sproat Lake Operations) forestry operations in or near Block 3612, W of the Stamp River, South Island FD
2000-083	Darryl Berezuik	INS	AIA of forestry operations managed by Cariboo Forest Consultants Ltd. on the E side of the Naxko River, Quesnel FD
2000-084	Amber Ridington	INV	Systematic data recovery from HiRo-010, located on the N side of Sikanni Chief River along a Union Pacific Resources pipeline extending from well site b-50-F to a-33-E, NTS map 94-G-8 [Cancelled]
2000-085	Victor Hoffman	ALT	Alterations to CMT #11 and danger trees within FkTe-005 by forestry operations in TSL A16863, Block #2, Weewanie Creek, Kalum FD
2000-086	Bruce Low	INS	AIA of Donohue Forest Products and other licensees' forestry operations within the Mackenzie TSA, Mackenzie FD
2000-087	Ian Wilson	INS	AIA for DFO Lighthouse and associated facilities on McInnes Island, DL 1312, Rge 3, Coast District
2000-088	Ian Wilson	INS	AIA for DFO Lighthouse and associated facilities on Langara Island, DL 2077, Queen Charlotte District
2000-089	Sandra Sauer	INV	Archaeological excavation at DjPv-038 (original Fort Steele) located on the E side of the Kootenay River within Lot 51, KLD
2000-090	Norm Healey	ALT	Alterations to EjSx-006 by replacement of existing wharf and upgrade of access road by Coast Guard on the Addenbroke Island Lightstation property, DL 1127, Rge 12, Coast District, W side of Addenbroke Island, Fitz Hugh Sound
2000-091	Morley Eldridge	INS	AIA for proposed MoTH upgrades and realignments to the Trans-Canada Highway between Sorrento and Canoe
2000-092	Dan Weinburger	INS	AIA of Ardew Wood Products Ltd.'s forestry operations in FL A18030 and A55524, Penticton and Merritt FDs
2000-093	Kevin Twohig	INS	AIA of Gorman Brothers Lumber Ltd.'s forestry operations within the Penticton and Merritt FDs
2000-094	Kevin Twohig	INS	AIA of Riverside Forest Products Ltd.'s forestry operations within the 100 Mile House, Horsefly and Williams Lake FDs
2000-095	Kevin Robinson	INS	Inventory and AIA of Weyerhaeuser Company (Franklin Woodlands Division) forestry operations within TFL 44 and associated tenures, South Island FD

2000-096	Tony Hewer	INS	AIA of the Marpole Correctional Facility, located at 8982 Hudson Street, Vancouver
2000-097	Kevin Twohig	INS	AIA for proposed MoTH (Thompson-Okanagan Region) operations, including gravel pits, road and bridge upgrading in the central interior of BC
2000-098	Clive Darvell	ALT	Alterations to DjSa-042 by septic tank , pump chamber and 4-inch sewer line within Lots 11 and 12, DL 1362, NWD, on Francis Peninsula near the head of Gerrans Bay, Pender Harbour
2000-099	Paul Pashnik	ALT	Alterations to CMTs and other features within DfSh-171, -172, -173, -174 Echa-Pen Forest Resources Ltd.'s forestry operations in Blocks BP-1, BP-2, CL-1 and BP-5, FL A53361/59658, Barkley Sound, South Island FD
2000-100	Jeff Bailey	INS	Pre-and post-construction AIA of proposed petrochemical developments within the asserted traditional territory of the Fort Nelson First Nation

COURSES

UNIVERSITY OF VICTORIA CULTURAL RESOURCE MANAGEMENT PROGRAM

The Cultural Resource Management Program at the University of Victoria is offering the following professional development courses for museum, heritage, and cultural professionals during 2000 and 2001.

On Campus Courses:

Museums at the Crossroads. Instructor Stephen E. Weil. 18 – 23 September 2000

Planning for Community Cultural Stewardship. Instructor Alastair Kerr. 23 – 28 October 2000

Managing Cultural Organizations. 27 November – 2 December 2000

Museum Information Management. Instructor James R. Blackaby. 19 February – 24 February 2001

Managing Natural History Collections. Instructor Paisley Cato. 2 – 7 April 2001

Distance Education Courses:

Museum Principles and Practices. 18 September 2000 – 27 April 2001

Principles and Practices in Heritage Conservation. 18 September 2000 – 27 April 2001

Collections Management. Instructor Jacqueline Gijssen. 23 January – 22 April 2001

For more information contact Joy Davis, Program Director, Cultural Resource Management Program, Continuing Studies, University of Victoria, PO Box 3030 STN CSC, Victoria, BC, V8W 3N6
Tel. (250) 721-8462; Fax (250) 721-8774.
E-mail: joydavis@uvcs.uvic.ca; Web site: http://www.uvcs.uvic.ca/crmp

CONFERENCES

2000

14 – 17 September **Heritage Canada "Stewardship of Historic Places"**
Calgary, Alberta

Contact: *Heritage Canada Foundation, 1 Observatory Crescent, P.O. Box 1358, Station B, Ottawa, Ontario, K1P 5R4; tel. (613) 237-1066; fax (613) 237-5987; email: heritagecanada@heritagecanada.org; web: heritagecanada.org*

11 – 14 October **British Columbia Museums Association (BCMA) and the Western Museums Association (WMA),** Conference 2000: Designing the Future Together - Victoria, British Columbia

A summary of the conference workshops and sessions are available on the BCMA web site. Archaeology related sessions include: Sharing Our Experiences With Repatriation; Perspectives on Native Ceremonial Use of Museum Artifacts (double session).

Contact: *BCMA office, suite 523 409 Granville Street, Vancouver, BC, V6C 1T2; tel. (604) 660-0749; email: bmca@museumsassn.bc.ca; web site: www.museumsassn.bc.ca/~bcma/*

8 – 12 November **33rd Annual Chacmool Conference** "Art for Archaeology's Sake: Material Culture and Style Across the Disciplines" - Calgary, Alberta

The next Chacmool Conference will bridge the gap between archaeology, art history, and material culture studies, considering shared as well as divergent ways in which objects and visual imagery are used to infer behaviour and ideology. This year's conference is being held in collaboration with the Alberta College of Art and Design. The invited plenary speaker will be Dr. Ian Hodder. Potential topics include: Style Grammars and Material Culture; Archaeology and the Art Market; Empire and Style; Conservation vs. Preservation: Whose Aesthetics?; Regional Studies; Rock Art; Text and Image Among the Classic Maya.

Contact: *University of Calgary, Department of Archaeology, 2500 University Drive N.W., Calgary, Alberta, T2N 1N4; tel. (403) 220-7120; email: chacmool@ucalgary.ca; web site: www.ucalgary.ca/UofC/faculties/SS/ARKY/Dept_Files/conference.html*

2001

3 – 6 January **Archaeological Institute of America (AIA)**, 102nd Annual Meeting
San Diego, California, USA

Information regarding the AIA Annual Meeting will be mailed to AIA members in early September, and will also be posted on the AIA web site as details are finalized.

Contact: *AIA headquarters, Boston University, 656 Beacon Street, Boston, MA, 02215-2006; tel. (617) 353-9361; fax (617) 353-6550; email: aia@bu.edu; web site: www.archaeological.org*

18 – 22 April **Society for American Archaeology (SAA)**, 66th Annual Meeting
New Orleans, Louisiana, USA

The deadline for submissions is September 6, 2000. However, there will be a grace period. All submissions received between September 7 – 13 must include an additional fee of $15 for an individual submission or $25 for a symposium. New to the SAA Annual Meeting, all electronic symposium papers will be made available on the SAA web site one month prior to the meeting.

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