Houses and Households in the Gulf of Georgia: Archaeological Investigations of Shingle Point (DgRv 2), Valdes Island, British Columbia

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Houses and Households in the Gulf of Georgia: Archaeological Investigations of Shingle Point (DgRv 2), Valdes Island, British Columbia

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Synopsis

In 1995 and 1996, we investigated prehistoric households preserved in structural remains on Shingle Point (DgRv 2), Valdes Island. The August 1995 field research completed a geophysical reconnaissance of Shingle Point (Cross 1995), and involved small-scale excavations to test both the geophysical results and the site's archaeological potential for the investigation of prehistoric households. In addition a preliminary analysis of shellfish and faunal remains from selected stratigraphic matrix samples were carried out.

In 1996 a larger field project lasted from early May to the end of August, involving both a field school from University of British Columbia, running from May through June, and a Social Sciences and Humanities Research Council (to R.G. Matson (1995) supported investigation in July and August. The focus was on the large scale investigation of one of the houses located the previous year. One of the "compartments" of this house was excavated completely, and another tested, resulting in a contiguous excavation area of 78 square metres. The bulk of this report refers to the results of this excavation. Much of the material recovered from this excavation turned out to be historic; all of the prehistoric faunal material was analyzed, and extensive analysis of prehistoric shell deposits inside the house provided an important source of information.

As part of the agreement with the Lyacksun Nation, a complete survey of the coast line of Valdes Island, selected survey of the interior, and "column" sampling of nine sites, supported by the B.C. Heritage Trust, was also carried out in the summer of 1996 (Matson and McLay 1998; McLay 1998).

This report fulfills the requirements of Provincial Heritage Permits 1995-157 and 1996-064.

Acknowledgments

We are very grateful for the generous cooperation we received from the Lyacksun Band for this research, and thanks must especially be given to Chief Richard Thomas for his assistance. Russell Thomas was also kind enough to give a brief tour of Shingle Point in June of 1995.

The initial field crew consisted of Eric McLay, R.G. Matson, Grant Myers, Donald Welsh, Alison McNeill, Simon Kaltenrieder, Darrell Thomas, with Jennifer Sylvester as cook. Alison McNeill left after the first week, and Grant Beattie and Julian Matson joined us at the beginning of the last week, when Eric McLay had to leave.

Our gratitude must also extend to the volunteers who assisted with the laboratory work of sorting the matrix samples for shellfish analysis, including Michael Braun, Beth Carvey, Catherine Gray, Nadine Hafner, Nikki Kilburn, Shawn Nugent, Patricia Laalo, John Silcoy, and Tina Wolfe.

In 1996, students in the field school included Joanne Green, Nadine Hafner, Tina Wolfe, Allan Frank, Michael Braun, Rhea Adama, Amy Eward, Shannon Cameron, Thomas Tomasovszky, Sarah Aitchison, Parry Hallet, and Jean Young. Joining most of these in July were Colin Grier, Eric Kaltenreider, and Julie Park.

Additional participants in the Valdes Island Archaeological Survey were Mark George, Stewart Thomas, and John Thomas. Darrell Thomas provided logistic support and boat driving as

well as participating in the survey and excavation. Doug Brown and Julian Matson also provided assistance during 1996, with Doug Brown being the architect and building director of the rain shelters that made life and excavation viable on the wet coast. Cooking in 1996 was provided by Tony Dunsdon and Susan Matson

Laboratory analysis during 1996-1998 included contributions by Tina Wolfe, Nadine Hafner, and Eric McLay. The important shellfish analysis in 1997 and 1998 was carried out by Martha Graham, Shannon Cameron, and Joanne Green.

We appreciate the interest and support displayed by other Lyacksun Band members and by others on Valdes Island. Al Mackie also assisted us in various ways in getting this project off the ground as did Barbara Thomas.

I INTRODUCTION

R.G. Matson and Eric McLay

The Gulf of Georgia Prehistoric Houses Project is a Social Sciences and Humanities Research Council (Matson 1994) supported investigation of prehistoric houses that was focussed on the excavation of households at the Shingle Point site (DgRv 2) on Valdes Island, located between Vancouver and lower Vancouver Island. The first field season of this project involved remote sensing and test excavations of the Shingle Point site in order to locate a suitable household feature for large-scale investigations in 1996. These investigations, directed by R.G. Matson, took place primarily in August 1995. Large scale investigations of a selected house feature took place from early May to the end of August 1996. The results of the these investigations is the main subject of this report.

We first introduce the physical setting of the site, including the Gulf Islands environment and then turn to the research design. This is followed by a synopsis of local ethnography and some scattered detailed information about Shingle Point. Previous archaeological work is summarized, and then we turn to a description of the 1995 fieldwork. This is followed by our analysis of the 1995 results.

From the 1995 results we developed plans for the 1996 investigations, which are next reported. The results of these investigations are then reported. First the excavations are described, then the artifacts recovered. The important shellfish results are described in a long chapter by J. Green and the other faunal information is summarized by R.G. Matson. The importance of these results for the understanding of Late Prehistoric households concludes this volume.

II. SETTING

R.G. Matson and Eric McLay

Shingle Point is a low-lying, cuspate bar formation on the west side of Valdes Island in the Gulf Islands of southeastern British Columbia (Figure II-1). The site is situated on a 32 hectare Indian Reserve (I.R.4) of the Lyacksun Band of the Chemainus Division of Island Halkomelem in Nanaimo Land District 21. The nearby Vancouver Island urban communities of Ladysmith and Nanaimo are located, respectively, approximately 12km SW and 25km NW of the site.

Valdes Island is a narrow, elongated outer island of the Gulf Island archipelago, a remanent of the uplifted and glaciated Upper Cretaceous sediments within the coastal trough of the Georgia Strait Depression (Muller and Jeletzky 1970; Stark 1977). Most of the island is geologically composed of the northwest-striking sandstone beds of the Gabriola Formation of the late Upper Cretaceous, which forms a steep, barrier headland along the west coast of Valdes Island. The Spray Formation, an earlier marine deposit of graded beds of siltstone and shale from the late Upper Cretaceous, is discontinuously exposed along the southwestern coast of Valdes Island, from Cayetano Point in the south to north of Blackberry Point (Stark 1977). The low, eroding terraces of the Spray Formation appear strongly associated with the accessible shoreline developments on southwestern Valdes Island; the cuspate bars, beaches and

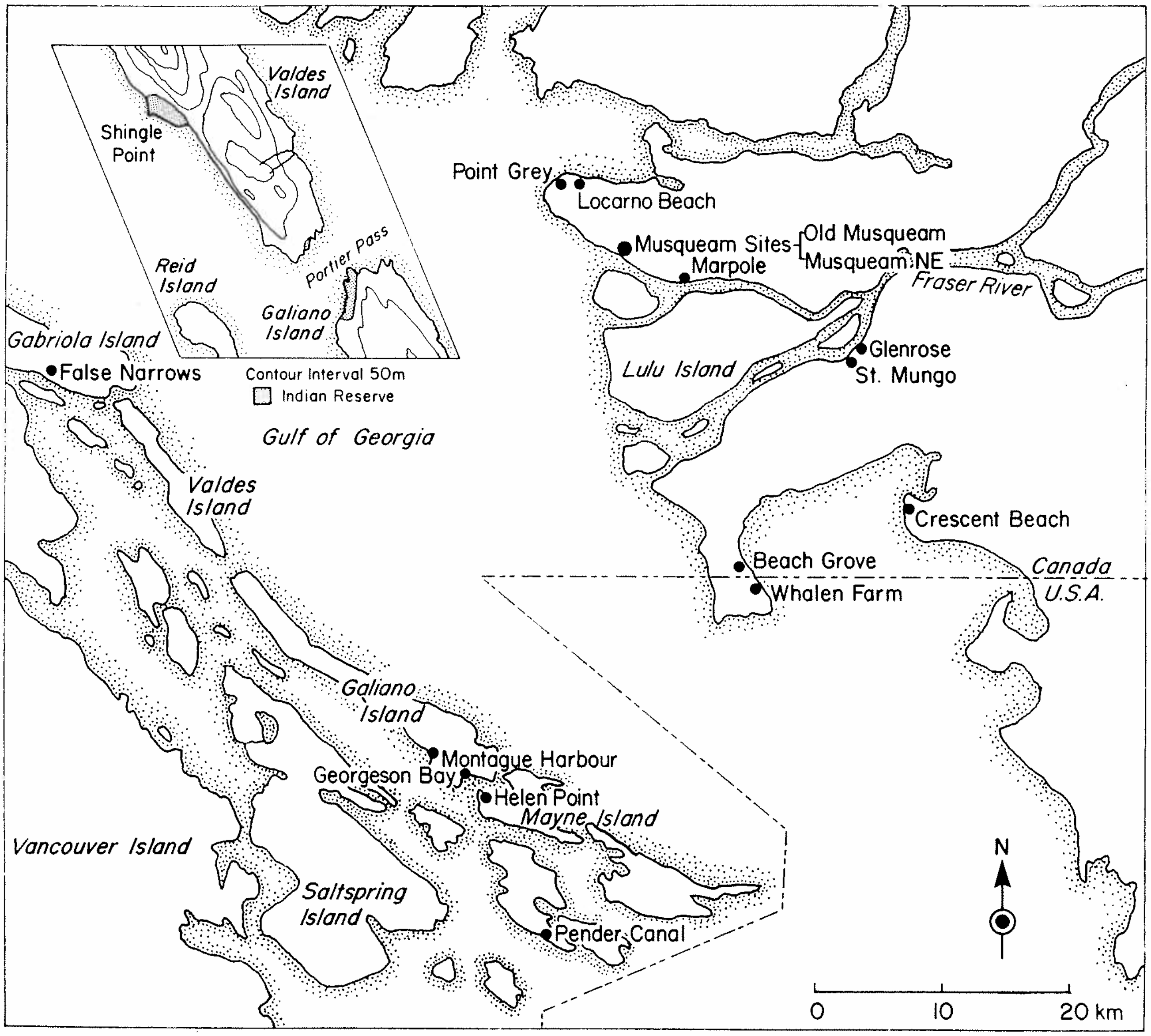


Figure II-1. Location of the Shingle Point Site (DgRv 2) mudflats that surround Cardale, Shingle and Blackberry Points.

Shingle Point is typical of deposits associated with a young submerged shoreline (Johnson 1960:318) as its coarse-textured shoreline deposit is formed by the mass wasting of the bordering Upper Cretaceous bluffs. Cuspate bars, while variously created, are typically recurved sand spits constructed by convergent wave action on an eroding coast. Upon the re-unification of the recurved spit with the shore, this shoreline formation characteristically harbours an internal low-lying marsh (Figure II-2). Analogous to this model, Shingle Point's perimeter is bordered along the western shore by a prominent 250m north-south trending beach ridge which sharply curves 150m landward to the southeast. In the southern centre of the site, the landlocked recurved spit remains as an irregular formation of ridge features. A low-elevated marsh is retained in the southeastern region of the site below the steep bluff. The area's exposure to the predominant northwesterly winter squalls and southeastern winds have likely been the greatest contributors to Shingle Point's formation.

After the immediate post-pleistocene dramatic changes, sea-levels have been relatively stable, although rising slightly, for the past 5000 years in southeastern British Columbia, (Clague et al. 1982, 1989; Williams 1988; Matson et al. 1991). Across the Georgia Strait, in the Fraser Delta, the sea-level quit rising about 2500 years ago (Williams 1988; Matson et al. 1991), an event that may be true for Valdes Island as well. We concur with Cross (1995) that the chronology of Shingle Point,

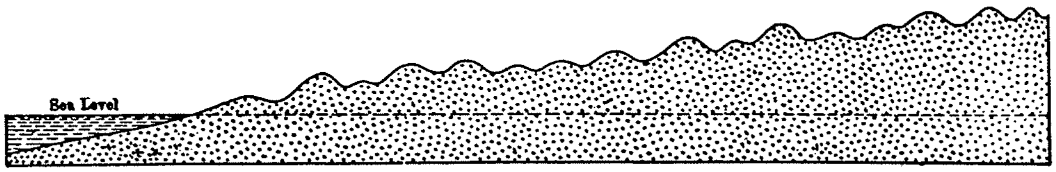


FIG. 133. — Beach ridges indicating coastal emergence.

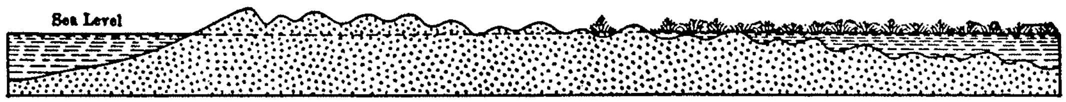


FIG. 134. — Beach ridges indicating coastal submergence.

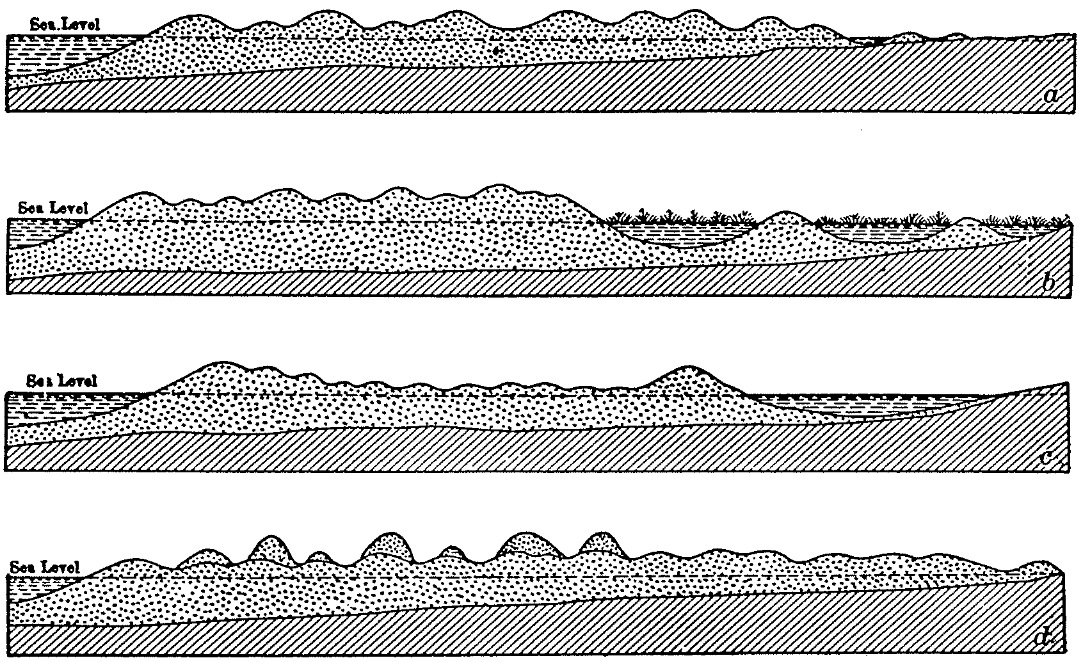


FIG. 137. — Types of beach ridges formed on a stable coast.

(*a*) Earliest beach ridges lower because of shallow water nearest the original shoreline.
(*b*) Similar to *a*, but older ridges isolated in marsh.
(*c*) Central ridges low because of rapid prograding to present zone of wave action, where the tendency to prograde is much less pronounced.
(*d*) Later ridges with greater average height than older, because former are dune ridges surmounting beach ridges, while latter are unmodified beach ridges.

Figure II-2. Processes of Shoreline Formation at a Cuspate Bar (After Johnson).

as a product of a submerged coast, has significance for the greater understanding of Holocene sea-level changes in relation to eastern Vancouver Island.

Valdes Island, situated in the rainshadow of the Coast Mountains of Vancouver Island, retains a moderate climate consistent with the Gulf Islands in general (Kerr's (1951) "Transitional Zone"). It has relatively dry summers and mild winters with a mean annual precipitation of 900mm (Apland 1981).

The island's biome is characteristic of the Gulf Island Biotic Area (Munro and Cowan 1947), defined by a climax forest cover of Garry oak (Quercus garryana) and arbutus (Arbutus menzeii). A more detailed description of the Gulf Island environment is found in Mitchell (1971a).

Valdes Island is named after Cayetano Valdes, who with Dionisio Alcala Galiano, was the first Europeon to this see and describe this area (Cardero 1801). Valdes and Galiano, in the schooners Sutil and Mexicana, surveyed the Gulf of Georgia in 1792 (Cook 1973:331). Although they did not land on either Valdes or Galiano Islands, which bear their names, they did explore Porlier pass ("Bocas de Porlier", mouths of the Porlier) and a member of their expedition, Cardero, authored a report published in 1802 (1991). Jose Cardero, as well as giving his name to a point on Valdes Island, also made numerous drawings of Northwest coast life, several of which were published in his 1802 report. The current names for the islands and major features (with the exceptions of Porlier Pass) were given in the mid19th century by British naval officers.

Shingle Point itself, composed of an open, low-lying coarse gravel and shell point, is dominated by a variety of grasses, wild rose, blackberry, and thistle. A large Garry oak, several bigleaf maple trees (Acer macrophyllum) and red alder (Alnus rubra) bound the marsh and rushes in the eastern region of the site, while numerous Douglas fir (Pseudotsuga menzieii), hemlock and western red cedar (Thuja plicata) border the perimeter on the steep bluffs to the rear. Several introduced species of fruit trees thrive at Shingle Point, including plums, a crabapple, and a prominent, ancient fig tree.

Shingle Point is an ideal location to access a diverse range of littoral, marine and terrestrial subsistence resources. The extensive mudflats and eelgrass beds on the southern shoreline of Shingle Point are the most significant procurement locations for shellfish on Valdes Island according to the Valdes Island shoreline survey (McLay 1998) and also affords an excellent location for the seasonal catchment of spawning herring.

Porlier Pass, 5 km to the south of Shingle Point, harbours one of the most diverse marine environments in the Georgia Strait, and was seasonally traversed by a variety of fish and sea mammals, including sea lions, seals and porpoise (Mitchell 1971b; Suttles 1952). Of particular importance is that it is one of the important migration pathways for salmon. This in turns attracts seasonal concentrations of other animals. The "high energy" nature of Porlier Pass means that the marine life is quite different there than elsewhere on Valdes Island --

except for Gabriola Pass on the north end of the island. This difference not only includes fish, but also more "fixed" resources such as bull kelp, which is only found there on Valdes Island, and sea urchins, which play an important part in our understanding of seasonality and households on Valdes Island (Matson and McLay 1998). Further, as being one of the few breaks in the Gulf Islands for water transportation Porlier Pass -- also known as "Cowichan Gap" -- is an important transportation node in prehistoric and early historic times.

Shingle Point's central location on Valdes Island permitted access to the diversity of the island's terrestrial resources, most important being the large population of Coast blacktail deer on the island and, in prehistoric times, elk (wapiti) (Mitchell 1971b). Blue grouse, California quail and migrating waterfowl (Apland 1981:6) could be easily obtained nearby Shingle Point. Of the Gulf Island plant resources that were utilized by the Coast Salish, the most important for subsistence were the roots of the blue camas, rice root, and the several types of berries (Turner 1975). Rushes, an important plant used by the Coast Salish for matting and shelter (Jenness n.d.), could be easily gathered at Shingle Point and at the bay to the southeast of Shingle Point, a site whose Island Halkomelem place-name is the "place having bullrushes", or "tule place" (Rozen 1985:73).

Given that shellfish are one of the most important sources of information about Shingle Point, a more detailed description is in order. These are described in terms of the intertidal communities based on Ricketts et al. 1985. References to ethnographic accounts of use of some of these resources and the presence of these invertebrates in other archaeological reports will also be presented.

Intertidal Communities

The intertidal zones around Shingle Point fit well into Part II, bays and estuaries of the classic work Between Pacific Tides (Ricketts et al. 1985). Although they differ in some ways from these classic descriptions, the Shingle Point intertidal zones generally have most of the important features and animals present in Ricketts et al. (1985).

The first community described by Ricketts et al. (1985:269-316) is that of Rocky Shores, and this is dominant on Valdes Island occupying 89% of the shore (McLay 1998; Matson and McLay 1998). Today the rocky intertidal zone begins circa 400 meters north and south of the site and extends all around the island, with only minor exceptions: the largest exceptions being close to Shingle Point, at Blackberry Point to the north and Cardero Point to the south. Zones 1 and 2 include the uppermost horizon and high intertidal in the Between Pacific Tides format. Acorn barnacles are the most numerous high in the zone, with the small Balanus glandula found near Single Point. Whether they were actually used as food is unclear. Limpets (esp. Collisella pelta) and periwinkle (Littorina sitkana), likely of no economic value, are also present around Shingle Point along with hermit and shore crabs. Limpets, however, are found to be locally important resources on the eastern shore of Valdes Island (Matson and McLay 1998; McLay 1998).

Also present in the high rocky intertidal zone is the bay mussel (Mytilus edulis) which can occur in great numbers. This is a very important economic resource with many early northwest coast middens having Mytilus as the most abundant shellfish. Ricketts et al. (1985) report that this mussel usually does not exceed 5 cm long, although occasional individuals twice that size are found. This shellfish sometimes blankets the rocky foreshore in bands north and south of Shingle Point. It is not present in large numbers, though, elsewhere on Valdes Island rocky foreshore (McLay 1998). Mytilus edulis is the species that is also cultivated in Europe and elsewhere.

A variety of small worms and pill bugs are often found in these zones as well. None of these along with the more abundant sponges, however, are of economic value.

The next zone, 3, is the middle intertidal. A picturesque animal often seen here is the purple starfish (Pisaster ochraceus), a predator on mussels. These are very abundant close to Shingle Point. Whelks, mainly Nucella lamellosa, are also found. When mature these congregate together in small groups to breed in the winter or spring (Ricketts et al. 1985:276). The hardy shells of whelks are frequently found in archaeological sites, usually broken in such a way that their tasty muscle can be obtained. It may be that significant numbers are only obtained when the whelks congregate to breed.

Abandoned whelk shells are used by the hairy hermit crab (Pagurus hirsutiusculus). Also present are sea anemones, particularly Anthopleura elegantissima. The purple shore crab, Hemigrapus nudus, is often abundant. Chitons, usually Tonicella linenta, are resident, as well as limpets, although usually in modest numbers. Small crustaceans, pillbugs, and worms occur "in such variety and abundance to distract the specialist" (Ricketts et al. 1985: 280).

The most important economic species in zone 3 is Protothaca staminea, called the littleneck clam in B.C. It is found in packed mud, gravel and sand in clayey gravel and usually lies within 8 cm of the surface. According to Ricketts et al (1985:281) it seldom exceeds 7 cm in size but often occurs in very dense quantities. It can be obtained in large numbers with a rake today. The shell of this clam is frequently found in archaeological sites, where its distinctive cross-hatching on the outside of the valves makes it easily identified. Immediately south of Shingle Point we were able to obtain large numbers of these, and the closely related introduced Manila clams.

Given the large number of important economic species in the higher intertidal zones, it is curious that zone 4, the low intertidal zone has few of note. A variety of starfish are present as well as worms, snails, and tunicates. Also present is the native oyster, Ostrea lurida. We were not able to identify any remains of these in our work at Shingle Point, even though there are places with abundant introduced oysters to the south of Shingle Point. Ham (1982) found a few remains of these in at Crescent Beach, although Matson et al. (1991) did not in earlier deposits at the same site.

Also of economic importance is the green sea urchin, Stongylocentrotus droebachiensis. This species occurs today in large numbers in the high water energy locations on the Gulf Islands, mainly around the more active tidal channals. As Green reports in the analysis of shellfish from Shingle Point, the edible portion of this animal occurs in useful amounts only December through March, making it an extremely good seasonality indicator, where present, as it was in selected deposits at Shingle Point (See Chapter by Green, this volume). Ham (1982:248) reports a single presence (0.01g) of sea urchin in his work at Crescent Beach -- Matson et al. 1991 did not report any in earlier deposits. We never found any specimens of these around Shingle Point, although there are abundant in Porlier Pass. Other species of sea urchins are also evident in Porlier Pass and other locations, but no remains of other sea urchins were identified at Shingle Point.

The rock oyster or jingle, Pododesmus cepio, also inhabits this zone, and its orange flesh is said to have an excellent flavor (Ricketts et al. 1985:290). This shellfish is present immediately to the south of Shingle Point, but not in very large numbers.

A variety of crabs and tubeworms as well as sea cucumbers are found in this zone. Sponges and chitons are also present. Further out in deeper waters, scallops are evident, but these are not numerous in archaeological sites. Although not really a resident of this zone, the Dungeness crab, Cancer magister, is often found here. Really a resident of deeper water this large crab comes inshore to molt and thus gets stranded in the low intertidal zone. The only part of this animal found in archaeological deposits are the very tip ends of the pinchers (Ham 1982:248). Dungeness crabs were frequently seen during low tides on all sides of Shingle Point.

Also present in this zone is the plainfin midshipman (Porichthys notatus). These fish make nests under rocks where they guard their eggs. This occurs in the spring where they can be gathered during low tides. They "grunt" when poked and so are known as grunt fish. Remains of these fish are found but not in large numbers in archaeological sites, such as at Crescent Beach (Matson 1992; Matson et al. 1991). Although fish, these animals are 'gathered' rather than obtained by the usual fishing techniques.

Although the present day rocky shores environment is predominant on Valdes Island -- 89% of the shoreline according to McLay (1998) -- very few portions are productive, only 40% of the known sites are located on rocky shores. The areas immediately to the north and south of Shingle Point are two that are productive. The remains of animals living in rocky shores environment are very abundant in the archaeological record, demonstrating its importance to the people living here in the past. There are grounds to expect the rocky foreshore environment was larger in the past. As reviewed above, the relative sea level was rising until about 2250 B.P. With a rising sea level rocky foreshores are continually being created as new sea cliffs are being wave-cut. In a stable sea level situation, the slopes lessen, and the sand beaches expand at the expense of the rocky shores. This sort of situation is thought to have created dramatic changes in the southern California coast, for instance (Warren et al. 1961). One would expect something of the same process to have occurred in the Gulf Island, where the beaches, including Crescent Beach, have probably recently expanded at the expense of the rocky shores.

Sand Flats are the next community to be discussed within Part III of the Between Pacific Tides. Very little Valdes Island shoreline belongs to this environment, although a few resources of economic value are present. According to McLay (1998) only 11% of the shoreline is sandy foreshore, and the three largest patches are Shingle Point (the largest), Cardale Point and Blackberry Point. Fully 56% of known archaeological sites are found adjacent to sandy beaches on Valdes Island, (McLay 1998). Unlike most other intertidal environments, these are not well zoned by tidal position. The sand dollar (Dendraster ssp.) occurs in great numbers at Shingle Point, on the south exposure, at the foot of the beach, and inshore of the eelgrass beds. Sand dollars are actually sea urchins, but with small spins and a flattened body. Numerous crabs, snails, starfish, and shrimp are found in this zone, but of little economic value. Segmented worms are another class of animals that are abundant in sand flats but of little or no economic value. One medium sized clam, Macoma secta, is present, but in low numbers, and only occasionally seen in archaeological deposits (Ham 1982: 251). Only a small amount of this clam was identified in Shingle Point midden samples. In summary, sand flats themselves produce little of economic value in terms of resident animals, although they may be important feeding areas for birds (when exposed) and fish (when inundated), and some adjacent communities are very important.

Mud flats is the last natural community to be discussed in Part III of Between Pacific Tides. However, the situation on Valdes Island does not correspond very closely that described for the upper intertidal zones in Ricketts et al. (1985). Valdes Island mud flats are often found below sand flats or adjacent to eelgrass beds. Like sand flats, few animals of economic values are found in mud flats that are distance from eelgrass beds. Most animals of economic value located in mud flats in Ricketts et al. appear to be associated with eelgrass beds on Valdes Island, and so will be discussed under that community. However, the bent-nosed clam (Macoma nasuta), though, is clearly present in mud flats away from eelgrass beds. This small clam, usually no larger than 6 cm long, is found fairly deep in muddy sediments. Ricketts et al. (1985:379-380) report than it can be found in very stale water, and that it was an important species for Californian Indians. That does not appear to be the case in the Boundary Bay area, although Ham (1982:251) does report a few identified remains in his excavations at Crescent Beach.

Eelgrass Flats (Ricketts et al. 1985:341-353) are found in the lower intertidal zones, and consist of eelgrass (Zostera) and associated animals. One of the most visible is the cockle (Clinocardium nutallii). This good eating shellfish has very short siphons and so lives very close to, and even on top of, the surface. It occurs in some numbers, but never very concentrated in eelgrass beds in the Gulf of Georgia area. Ricketts et al. place it in sand flats, where it is very rare. As will be reported later, it can be obtained in larger numbers in the spring time, than at other times. Another very important shellfish, the horse clam (Tresus capex and T.nutallii), is found in and at the lower edges of ellgrass beds. This very large clam lives up to 0.5 metres below the surface, with a long siphon extending up to the surface. The shells 'gaps', not being able to totally enclose the body, thus leading to another common name 'gaper'. These are important economically, with dried clams being an important trade item (Suttles 1951). These animals can be easily spotted at low tide by their siphons which correspond to the body size of the clam, and have a tough, leathery top. Thus clusters of horse clams are easy to identify, and even have their sizes estimated before digging, as we did in the eelgrass beds immediately to the south of Shingle Point.

In addition to these two important shellfish, the starry flounder (Platichthys stellatus) is also a resident and can be sometimes collected in very shallow water. Lots of uneconomic animals are also present in the eelgrass flats. Varieties of snails, nudibranchs, sponges, and shrimp abound, along with many types of worms.

Another important clam, Saxidomus giganteus, locally called the butter clam is also present near eelgrass beds. Ricketts et al. (1985:378) have this clam being located in mud flats, but experience on Valdes Island places this clam more in gravelly/sandy areas, often at the foot of steep gravelly beaches just where sandy flats begin. This clam, then can be found at the upper beach edge of eelgrass beds, and at the foot of rocky foreshores, at lower intertidal zones than Protothaca, and much deeper in the sand. Saxidomus is important today economically, and is common in archaeological sites.

Although these different intertidal communities are treated by Rickett et al. (1985) as being usually located in different areas, in the Shingle Point area (and at Cardale and Blackberry Points), they are located cheek by jowl. Both the west and south shores of Shingle Point start from the high tide zone as steep sandy beaches. These change into flats before low tide zone is reached. At the lower portions of these beaches and at the junction with the sand flats we find Saxidomus giganteus and sand dollars. But further out on the flats are eelgrass beds, in a sandy, muddy matrix, with Clinocardium and Tresus present. Eelgrass flats are also found on both shores of Shingle Point, although the one to the south is much larger. Further from the tip of Shingle Point the beaches fade into a mixed rocky foreshore with sandy, gravelly, and even muddy patches in between. Here, Protothacus staminea flourish, as well as patches of Saxidomus giganteus. Naturally, the typically rocky foreshore resources are present as well. Further from Shingle Point, the sandy matrix generally disappears leaving a regular rocky foreshore. Thus, within 400 meters of Shingle Point a full range of foreshore habitats are present, and a somewhat similar situation is found at both Cardale and Blackberry Points.

It is likely that this general distribution of intertidal communities has been present for about 2500 years. Today most of the rocky Valdes shoreline is relatively unproductive (in terms of aboriginally important economic invertebrates) (Matson and McLay 1998; McLay 1998). Remembering that the important clams, Saxidomus and Tresus, are to be found in mud and sand flats, most of the Valdes Island shoreline is less productive than one might expect.

Thompson (1913) offers an interesting perspective on the shellfish beds in his "Report of the Clam-Beds of British Columbia." Thompson's does not report on any significant resources on any Gulf Island but his sketch map of important clam beds corresponds generally with our current understanding of eelgrass flat locations. These low areas are only accessible in the lowest tides. Thompson's work, then, indicates both the importance of eelgrass beds as an indicator of clams and their relative stability over the last 90 years.

In summary, the environs today of Shingle Point is a very rich shellfish area, with productive rocky shores and eelgrass flats closely adjacent. This kind of resource concentration is unique for Valdes Island except for Blackberry and Cardale Points, and these other two areas are not as large as Shingle Point. In the Gulf Island environment in general, and Valdes Island in particular, Shingle Point is very rich in important edible invertebrates.

III RESEARCH DESIGN

R.G. Matson and Eric McLay

Objectives

In our review of the Northwest Coast (The Prehistory of Northwest Coast, Matson and Coupland, Academic Press, 1995), we found a number of unexpected features in the archaeological record. Perhaps the most important was the discovery that the large houses of the ethnographic pattern do not appear to be regular members of the archaeological record in the south coast (Northern California to the Columbia) or the north coast (north of Vancouver Island to Yakutat Bay). Instead, much smaller houses seem to be more common. Only in the Gulf of Georgia region do large houses dominate the archaeological record of the last two thousand years.

Given the centrality of the large plank houses to our understanding of the unique Northwest Coast ethnographic pattern, it was also surprising to us that so little information about the internal organization of these structures was available from the archaeological record. This is true not only of the large structures, but also of the more common smaller structures. Although, as described below, there are a number of difficulties involved in this sort of investigation that have undoubtedly contributed to this lack of information, it has become an important gap in our understanding.

It became apparent in our research for this book that this lack of good information on the internal "structure" of prehistoric houses was paralleled by a lack of hard information for ethnographic structures. Suttles (1991) has recently reviewed the nature of the "The Shed Roof House" common at contact times in the Coast Salish area and raised a number of issues about the internal structure and organization that can not be resolved from the ethnographic record. Further, he hypothesized a number of differences between the shed roof house and the gabled form found further north. These issues are unlikely to be resolved through ethnography, but may be through household archaeology. Given the apparent lack of temporal depth for the ethnographic pattern of very large houses on the North Coast and questions about their internal organization and structure, it is clear that archaeology can not rely on ethnography analogy alone to understand the nature of prehistoric households.

For these reasons we initiated research at a late prehistoric house site (DgRv 2) on Valdes Island. We wanted to obtain information about the intra-household organization of a large shed roof structure through remote sensing, testing, and larger scale excavation, and analysis,

Another lacunae in the archaeological record that is relevant to the proposed research is the absence of a good subsistence analysis for a late Gulf of Georgia winter village. Our review (Matson and Coupland 1995) shows that the Gulf of Georgia has by far the most complete record of the development of the Northwest Coast ethnographic pattern, from the initial use of the coast (Matson 1976), to a full-time adaptation (Matson 1976, 1981, 1992), to large-scale use of stored salmon (Matson 1992), and culminating in the first Northwest Coast Pattern culture, the Marpole (Burley 1980; Matson et al. 1980). A well described and analyzed example of the ethnographic winter village, however, is missing. This is true in spite of a number of good descriptions of recent limited activity sites (Ham 1982; Bernick 1983). The lack of a well-described winter village site makes it difficult to evaluate the status of the antecedents. Filling in this surprising gap was the final object of the proposed research.

Significance of Project

The importance of the proposed research is its potential contribution to our understanding of the nature of the Northwest Coast society and how and why it developed. As briefly outlined above, there are serious questions about the internal organization of the ethnographic Northwest Coast Household and its relevance to much of the prehistoric past. It is questionable that that the kind of household organization of 20-25 individuals described by almost all who write about the Northwest Coast (Drucker 1955, 1965; Mitchell and Donald 1988) has been the usual situation for the last 2000 years. Suttles and Jonaitus (1990) informs us that until the 1930s the Northwest Coast was routinely perceived as a stratified society with at least three classes. For the following thirty years it was seen as a rank society, where no one was deprived of the material necessities of life, even though ascribed status was present (Fried 1967). Beginning in the 1970s a swing back to the idea that the Northwest Coast culture had significant elements of a class stratified society (Ruyle 1973; Suttles 1973) occurred, cumulating in Donald's (1985) paper which presented a clear case for such an understanding, and supported by Suttles and Jonaitus (1990). There are, then, serious questions about the basic nature of Northwest Coast Culture, that go well beyond the nature of household organization, but ought to be reflected within it (Wilks and Rathje 1982; Netting 1984; Matson 1996). If the ethnographic pattern is not clear, what was the pattern in the past?

Underlying many of these issues of organization and type of social stratification is the question of the origin of human inequity, argued by David Wilcox to be one of the basic issues in anthropology and other social sciences. This has variously been argued to develop from agriculture, the nature of exploited resources (in part) (Matson 1983, 1985), economic specialization (Service 1971, 1975), and ideology and competition between would be elites (Hayden 1990). The Northwest Coast has usually been seen as socially stratified, but politically and economically simple (Mitchell 1983; Donald 1990). At a recent symposium at UCLA (Aril 1994), non-Northwest coast specialists were skeptical about the possibility of such cultures. As the only well known ethnographic hunting and gathering society with significant ascribed status ('cultural complexity') it is important that its nature be clearly determined, as it has a unique role in this old, but important problem. The assumptions one sees used in this question are clearly connected to ideological positions that most of us use in other aspects of life. As Hayden (1992) and Coupland (1988), among others (Rathje and McGuire 1982), have pointed out one can assume that elites are either "functionalist" contributing to the greater success of their community, or as "exploitative", exploiting their local community, positions that appear to be equivalent with the those taken by political parties of the right and the left, respectively.

Research Plan and Methodology

Recent University of British Columbia research had a significant impact on how the proposed project was carried out, both in the use of remote sensing and the analysis of the Charles and Point houses by Grant Myers. In the 1950s Charles Borden initiated archaeological research on the Musqueam Reserve in Vancouver. This research included excavation within the still standing Charles long house, and led to several student papers describing the Charles and the adjacent Point house. These, and the related maps and photographs are the main source of data of the Master's research carried out by Grant Myers on the nature of transformation of shed roof houses. Although the Charles and Point houses looked like gable roofed houses from the outside, the internal structure was that of shed roof frame with the external walls independent of the roofs. It appears that what was original one large shed roof structure was divided into two ('Charles' and 'Point') houses, and a gable roof erected on top of a shed roof frame. Both these houses were torn down in the late 1950s, and I believe the information on the dimensions and architectural structure of the shed roof houses analyzed by Grant Myers is the best that exists for Coast Salish shed roof houses (Matson 1998). This information will be used as a null hypothesis for the size and structure of the archaeological houses investigated. Similarly, prior to the Shingle Point investigation, we had information from three different sites, Scowlitz, Hatzic, and Somenos Creek, about the use of remote sensing, directed by Guy Cross. The results of these investigations guided the application of these techniques for this project.

Grant Myers, as part of his interest in late house structures, initiated the investigation of the possibilities of excavating at Shingle Point (DgRv 2), Valdes Island, which was suggested by Philip Hobler of Simon Fraser University.

Specifically, there are many questions about the size and nature of the Coast Salish Household. Suttles (1991), for instance suggests that the distance between rafters (and thus the size of the normal 'household unit' is 20 to 30 ft. If this figure is correct, a 'household unit' within a large shed roof house stretching across the house (say 40 ft, we have a roof plank that is 42 ft long at UBC) would be of 800 to 1200 square ft, possibly supporting the idea of a 12 to 15 members. Preliminary analysis of the Musqueam house data indicates a rafter to rafter spacing of around 14 ft, which results in a much smaller household. The spacing of rafters ought to be determinable not only by post molds but also by hearths which would be located between rafters according to ethnographic information, and supported by the Ozette data. The separation between households is also open to question; Suttles (1991) argues that permanent partitions are unlikely, I agree, but this is another attribute that should be tested.

The internal organization is also a matter of debate. Although Suttles does not state that faunal and tools should vary significantly from household to household, I believe that is the logical implication of his work (Suttles 1951) pointing to differential access to resources by different families. As mentioned below, there is significant support for status items being disparately distributed within households elsewhere on the coast (Samuels 1991, 1994). We would also expect differential distribution of material based on stored items being placed against the walls and food preparation and routine maintenance work occurring around the hearth.

The final question to be investigated is the nature of the subsistence and seasonality. This can be viewed as a different perspective on some of the same faunal information, but looked at as a whole, both in terms of seasonality and overall diet, rather than looking for evidence of resource locations and differences between households. Coupland et al. (1993) found significant differences from the ethnographic pattern at McNichol Creek. Given the picture presented by Suttles (1991:216) of the house frame having to be strong enough to support the fish and other stored foods hanging from the roof one can see that there may be problems in determining which items were stored and which were consumed at the winter village.

How did we intend to obtain information to evaluate the ideas outline above? First, through the use of remote sensing at the Shingle Point site on Valdes Island. This was the fourth site that UBC archaeologists have worked with Guy Cross using remote sensing and we are now understanding how it is most effectively used. House structures were confirmed by the excavation of plausible remote sensing "features" at Scowlitz (Matson 1994b). Various features so identified were tested with one metre test units in 1995, as described later in this report.

In the second season and stage (summer of 1996), one feature was opened up during the UBC field school, and large scale excavations up of the best preserved floors took place during the second half of this season. Relatively standard techniques (1/8" screens, using natural layers cross cut by arbitrary levels where necessary) were planned. It should be noted that if well defined floors were found near the surface, relatively large areas can be opened up inexpensively, but if floors are difficult to discern or are relatively deep in the deposit, the area opened up would be much smaller. Thus the emphasis was on well-preserved floors near the surface. Previous investigations show that large number of small faunal remains are easily obtained, but that artifacts are sparse in Late sites indicating that questions dealing with the distribution and pattern of subsistence remains are likely to be easier to resolve than those concerned with tools. In the later sections of this report we describe exactly how few prehistoric tools were recovered.

History and Ethnography

Lyacksun (Laayksen), or "Douglas Fir Point" (Rozen 1985:75), is Shingle Point's Island Halkomelem place-name (Chemainus dialect) and the chosen name and identity of the Vancouver Island band who owns the site. It is evident that Shingle Point has had an extended history of household use. The broad, flat interior plain protected by the low, stable beach ridge on the west is judged to make an ideal type of site for the establishment of large, contiguous extended family households.

Ethnographic descriptions record a proto-historic connection between Shingle Point and the Cowichan village of T'aat'ka (place with many salal berries), which may be another name for Shingle Point (Douglas 1853; Rozen 1985). According to these accounts, a migration to the site of Shingle Point occurred after the flooding of the lower Cowichan village of T'aat'ka, which approximately occurred around one hundred and fifty years ago (Rozen 1985:77). The Cowichan village place-name was transferred to Shingle Point with the movement of the village. According to Rozen's (1985:75) informants, ten houses may have once occupied Shingle Point, which may have included areas adjacent to the site. Two other permanent nearby winter household villages belonging to the Island Halkomelem are recorded for southwestern Valdes Island on Cardale and Cayetano Point (Rozen 1985:69-76). We also have local information that at least one multifamily household existed historically north of Shingle Point on Valdes Island, at Hole-in-the-Wall. Further, during the archaeological survey, other possible winter village sites were located on Gabriola Pass (Matson and McLay 1998).

The ethnographic use of the Gulf Islands by Vancouver Island Halkomelem is generally described as seasonal in nature (Barnett 1955). The Gulf Island environment was exploited during the Island Halkomelem's seasonal migration between their Vancouver Island winter villages and their travel and return from the summer salmon runs of the Fraser River on the mainland (Suttles 1952; 1962). This ethnographic perspective contrasts with the information recorded by Rozen (1985) and the archaeological evidence for at least two clear winter village sites (Cardale and Shingle Points).

In the Gulf Islands, a diverse array of seasonal resources were procured for consumption, storage and trade. Access to resource locations were controlled by extended family households. Some Island Halkomelem claimed hereditary rights to certain Gulf Island resource locations; shellfish flats, camas beds and fishing stations (Jenness n.d.).

Shingle Point is ethnographically recognized by the Island Halkomelem as a site for the "raking" and procurement of herring during the late winter/early spring (Rozen 1985:76). Suttles (1952) records that the Valdes Island families were well-known as the hunters of sea mammals, particularly sea lions, seals, porpoises and, on exceptional occasions, perhaps whales.

By the late nineteenth century, the Lyacksun Band became successful agriculturalists on Valdes Island (Sproat 1879). A large house was constructed on Shingle Point by the family of the "chief" of Valdes Island, Ce-Who-Latza:

> The family, in imitation of their new neighbors, built themselves quite a big house, which outwardly was fairly true to type, but once indoors it was seen, not to be divided into rooms, but followed more the pattern of an Indian community lodge (Shaw 1946:40).

At some point around the early 1970s a large log house was built which was later added to, and converted to a dance house. More recently, the 1980s saw the construction of two modern houses on the western beach ridge at the site. Two trailer-homes and several vehicles were also imported to the island when a short-lived attempt was made by several Lyacksun band families to live year-around at Shingle Point. A logging road has been built across the site sometime in the past to access the upper terrace by vehicle. Several vegetable gardens, a rose garden, and animal husbandry pens were assembled across the site. A freshwater well was drilled atop the terrace immediately behind Shingle Point, and subsurface PVC piping was laid across the site to furnish the houses with water. The Lyacksun Band continue to seasonally inhabit Shingle Point.

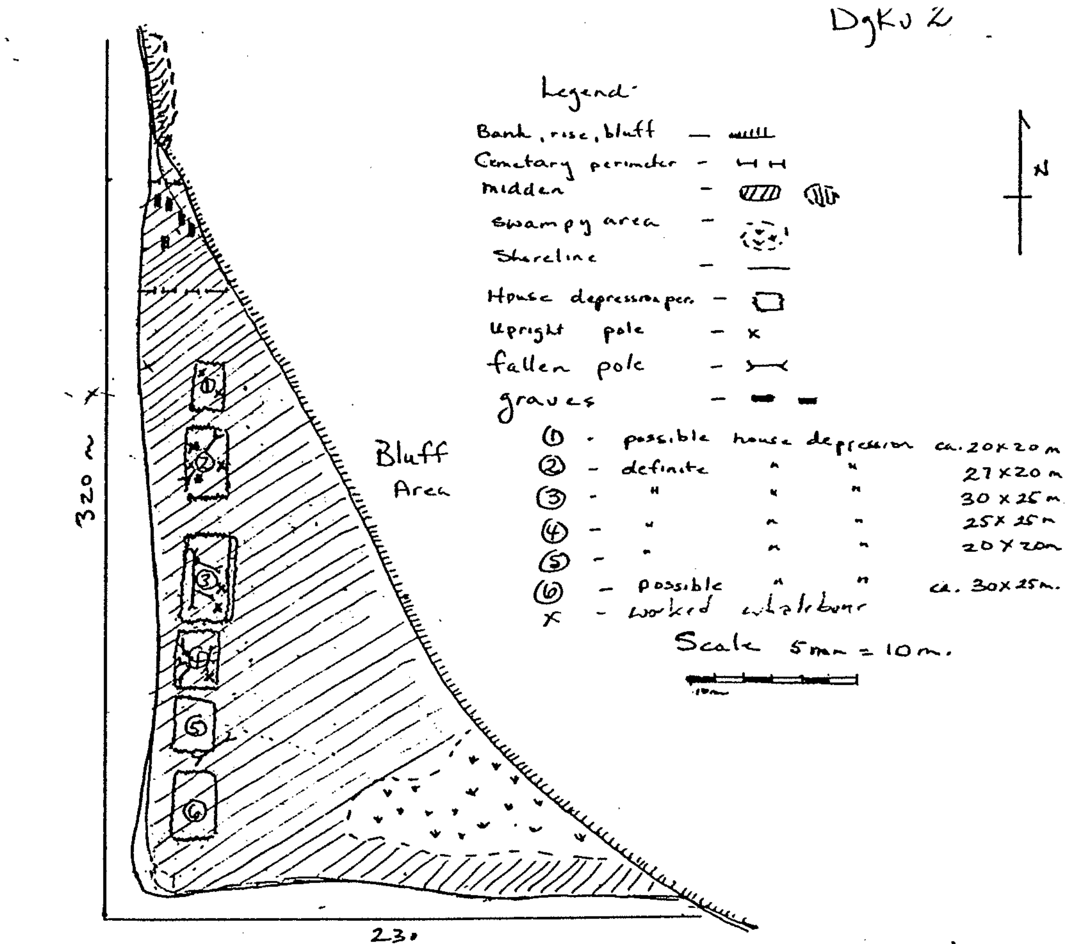
Previous Archaeological Investigation

The Gulf of Georgia is one of the most intensively studied regions in British Columbian archaeology, and syntheses of the archaeological research in the region is provided by Matson and Coupland (1995) and Mitchell (1971a). As the Shingle Point site is relatively recent, only the "Late", "Gulf of Georgia", "San Juan" or "Stselax" period is appropriate comparison material. The most detailed report on this culture is that of Mitchell on the Montague Harbour site (Mitchell 1971a) at the southern end of Galiano Island. Closer to Shingle Point is the Dionisio Point site (Mitchell (1971b) on the southern shore of Porlier Pass, only about 8 km away. Two other late components are found along Active Pass, between Galiano and Mayne Islands, the Georgeson Bay site (Haggarty and Sendey 1976) and the Helen Point Site (McMurdo 1974). These are the basis for comparative and descriptive purposes. The only previously excavated reported site on Valdes Island is DgRv 9, near Blackberry Point (Apland 1981) and that small assemblage dates to the Locarno Beach phase.

The Shingle Point site was already known to the Provincial Museum archaeologists when they revisited and recorded the site on June 8, 1963 (Abbott 1963). At that time, the site was not obviously being occupied, except for the continued use of the historic graveyard (but see Duff 1964:26). Photographs taken by the archaeologists in 1963 exhibit several rotted standing houseposts with "V" notched tops at Shingle Point, houseposts which presumably belong to a large house. General photographic views of the site depict large, fallen moss-covered house timbers across the central plain of Shingle Point, yet it is difficult to see their patterns or order from the low, ground perspective of the camera. Several less formal buildings are also noted, along with the framework of a large, gable-roofed timber building on the northern end of the beachridge, reported to be the late nineteenth-century boathouse (Sylvester pers.comm).

The archaeologists, who were surveying for the Provincial Park Branch, judged that Shingle Point was a site of high priority for emergency excavation, although at the time the site was not under immediate threat by either human or erosional forces. Instead, the archaeologists realized that Shingle Point was potentially a model site for application of the direct historic approach on the Northwest Coast; a model site, they argued, which could better enrich our understanding of prehistoric households and village life in the Gulf of Georgia (Abbott 1963:13).

Shingle Point was later revisited on July 17, 1974 during the Gulf Island Archaeological Survey by archaeologists from the Provincial Archaeology Branch (Cranny et al. 1974; Acheson et al. 1975). The site survey form for Shingle Point (DgRv 2) contains a poorly drawn sketch map of the site, a map which has been more of a source of frustration than assistance in our investigation. This sketch map records four definite and two possible house "depressions" at Shingle Point (Figure III-1). The size of these house depressions were recorded as ranging from approximately 20x20m to a large 30x25m. Several standing houseposts and numerous fallen timber frames were depicted among



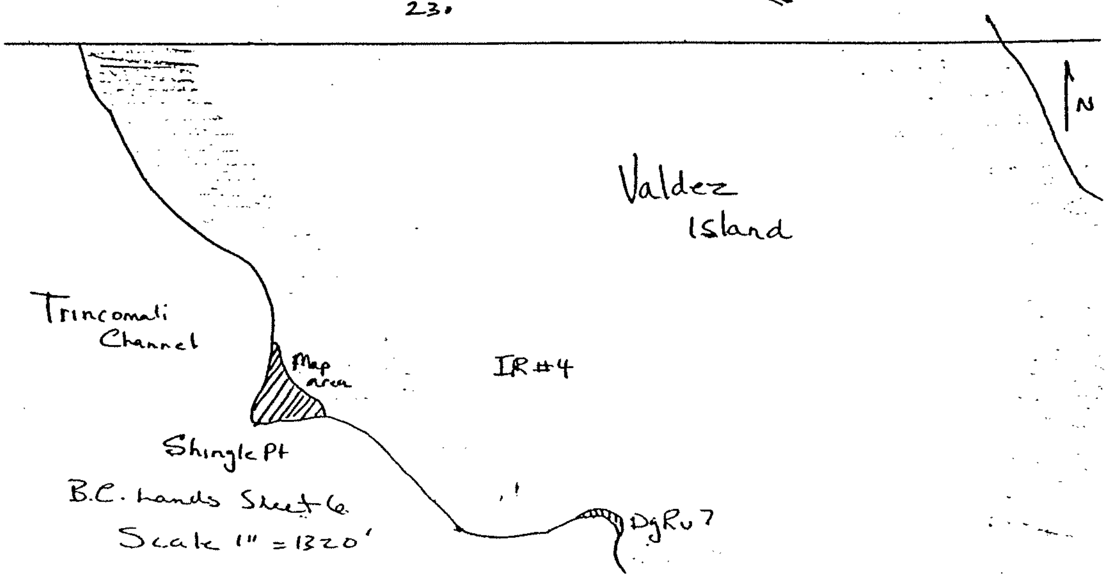


Figure III-1. Sketch Map of DgRv 2 circa 1963 (From Cassidy and Cranny site record).

these six houses. Unfortunately, worked "whale" bone fragments were marked by the same symbol as the standing houseposts, and it is unclear from this map how many houseposts remained standing.

Of all of the numerous houseposts viewed in the 1960's and 1970's, only one housepost remains standing during our investigations, although another fallen one was also located. The activities of pothunters and the desecration of the historic graveyard in the 1970's by vandals have also disturbed areas of the site. Most recently, the activities described in the previous section by Lyacksun Band members have also impacted on the archaeological remains.

Turning to other relevant archaeological work, it is clear that our investigation builds on household archaeology carried out previously in the Northwest Coast Culture Area and elsewhere. Household archaeology, as an identified subdiscipline in archaeology, was first popularly presented by Wilk and Rathje (1982), and has been effectively demonstrated on the Northwest Coast by Coupland (1985, 1988a, 1988b, 1990, Coupland et al. 1993) and Ames (Ames, 1990, Ames et al. 1992). It, however, was present before it was identified as a separate subdiscipline, with Snyder's (1956) work at Old Man House, being perhaps the first published reference, and the very important work at Ozette (Samuels 1983; Mauger 1978; Huelsbeck 1983 and Wessen 1982, published with some revisions in Samuels 1991; 1994), all being undertaken before "Household Archaeology" had been named. The work at Ozette, a protohistoric site, apparently dating in the 18th century (Samuels 1983:24) is probably the most important piece of work. Although Ozette is famous for the perishables, the investigations of household organization and differences between households should be true for sites less well preserved as well. The Ozette structures are shed roof houses such as found in the Gulf of Georgia, although they may be somewhat smaller and more permanent, being occupied all-year around, but the results of the Ozette investigations should be germane. Briefly, the Ozette research showed clear differential distribution of tools and faunal remains within the three house structures, and evidence of some differences between houses as well as indicating plausible arrangements of families within the houses.

Ken Ames has spent a number of years excavating a very large Chinook house located near Portland, called the Meier house. Although only partly published (Ames et al. 1992), already some very interested information has been made available about the amount of reuse and amount of lumber involved (Ames 1990), and we expect more useful and important information will come available before the current research is complete. I think the preservation there is poorer than I would expect in the Gulf of Georgia and the architecture is different as well.

Gary Coupland has investigated the household organization of two sites, the circa 3000 year old Paul Mason site (Coupland 1985, 1988a, 1988b) and the McNichol Creek site (Coupland et al. 1993), both in the Tsimshian territory. As well he used information derived from surface mapping of historic sites.

At Paul Mason he was able to confirm important ideas about the size of the social units within the household, the apparent organization, and the lack of ascribed status. At McNichol Creek he was able to find important differences in distribution between faunal remains from inside and outside one house.

Knut Fladmark (1973) excavated in a very large early historic house on the Queen Charlottes, the Richardson Ranch site. His excavations consisted of a two metre trench through most of the centre of the house, almost 20m in length. He makes a convincing argument that the greater density of non-utilitarian objects towards the back of the house in the trench is the result of the higher status of the individuals living there, which is in accord with common ethnographic accounts. He also points out that "... **archaeology now remains the only test of the accuracy and completeness of past ethnographic descriptions**" (emphasis in the original, Fladmark 1973:80). Steven Acheson (1991) in more recent excavations of several houses in the southern Queen Charlottes, has seemingly found a similar pattern in both artifacts and faunal remains. In this case the excavations (test pits) are so minor that an overall organization can not be determined, but the results remain very interesting.

Finally, Chatters (1981; 1988; 1989) has reported on two house structures in the southern Puget Sound, one late prehistoric and one approximately 2000 years old. He has found evidence of economic diversification in the oldest one and some evidence of status differential in the most recent. The cultural similarity of Puget Sound and the Gulf of Georgia and the probably similar level of preservation and age of these two sites gives them a high potential for providing the most useful model to build on.

IV DESCRIPTION OF 1995 FIELDWORK

R.G. Matson

The four separate visits to Shingle Point occurred during 1995 are described. The first was a reconnaissance on July 26, the second was a three day remote sensing and grass mowing trip on Aug. 1, 2, and 3, the third was the main fieldwork, Aug. 8-Sept. 1, and the fourth was a single day remote sensing trip in October, 1995. Further remote sensing occurred on Aug. 24 and 25 during the testing phase. The results of the remote sensing investigations are fully described by Guy Cross in Appendix 1 of Matson and McLay 1996. The first reconnaissance was arranged with the Lyacksun band. On this trip a rough sketch map was made of the site, including setting up a datum point and a North-South baseline, and plans were made for the remote sensing and test excavations.

The second trip Aug. 1-3, involved Guy Cross, Gordon Matson and Eric McLay. During this time the area we designated as highest priority on July 26 was mown and magnetometry and electromagnetic conductivity mapping was carried out (Figure IV-3). The results of the electromagnetic conductivity were particularly interesting, supporting inferences made during the reconnaissance about the likely existence of two house structures (Figure IV-1,2) with floors close to the surface. These results further focussed our efforts for the test excavations and further remote sensing.

Two aspects of this first remote sensing were particularly important. One was that in order to use the remote sensing equipment to get the close intervals needed, it was necessary that all the brush be removed and the grass mowed. This close trimming of the vegetation made minor topographic variations much more visible than is normal under such archaeological work, allowing surface topographic features to become evident. Second, the instrument used for electromagnetic conductivity received 75% of a constant signal in the top 40 cm of the soil (G. Cross, Per. Comm.). Thus it should be sensitive to housefloors close to the surface, the exact situation we wished to locate in order to clear a large amount relatively quickly and inexpensively. The two areas perceived as hot according to the conductivity mapping (Figure IV-3) were also the ones most likely to be remains of houses according to surface features.

At that time we believed we could correlate these two areas and a likely third one with the sketch map found on the 1974 site record file, which was apparently made in 1963, discussed earlier. This area also appeared to be the features noted by Grant Myers in his earlier field reconnaissance. A comparison between Figure III-1 and Figure IV-1, however, shows that the post holes and rectangular features correspond on the sketch map and are quite differently located on the contour map. This understanding, however, only developed during testing, and comparing 1960s and 1970s photographs with the modern situation.

Our archaeological permit (1995-157) was received on August 3 and we begin the testing project on Aug. 8, 1995. Initial

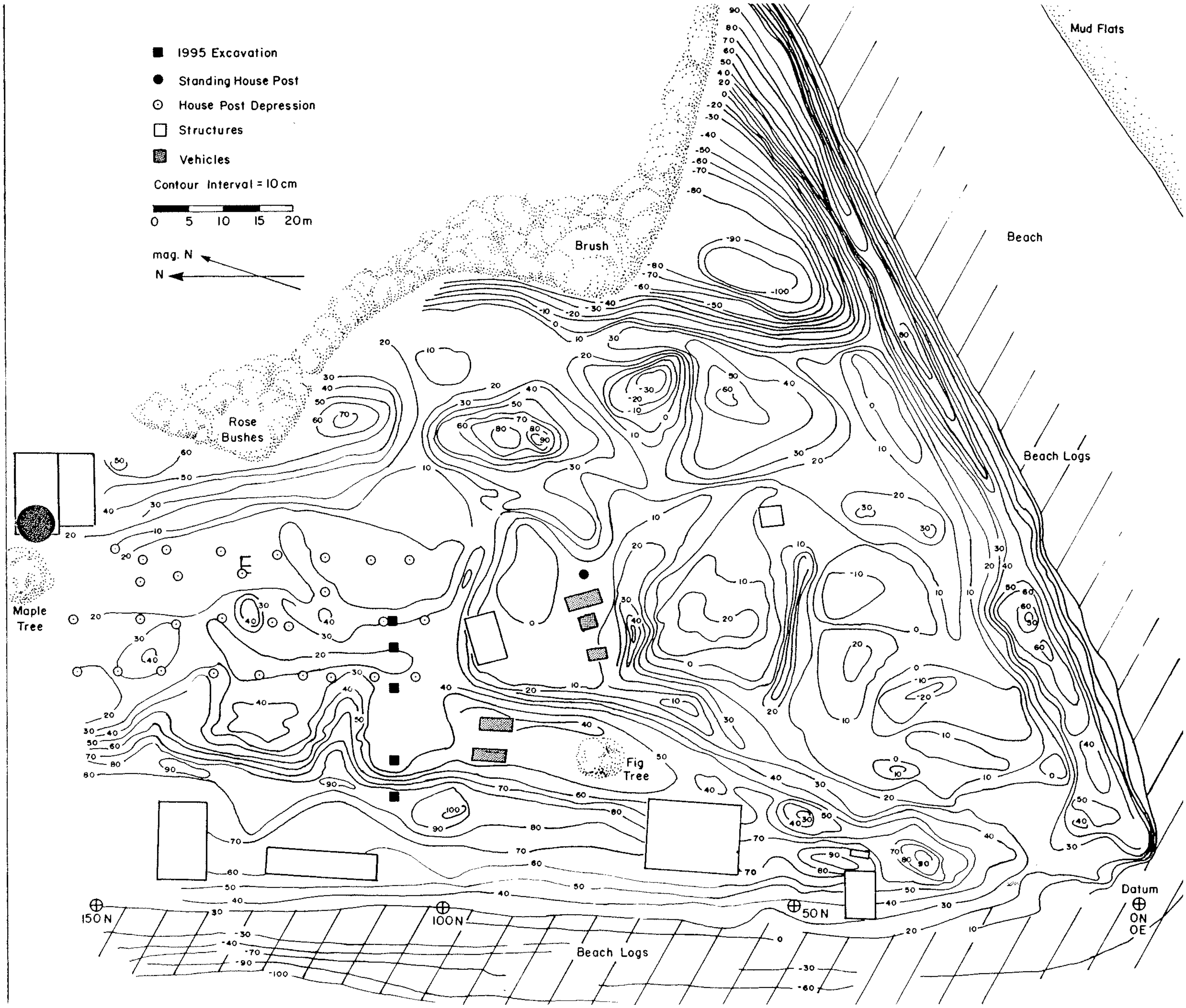


Figure IV-1. Contour Map of Shingle Point (DgRv 2).

tasks including brush removal, mowing, plan table mapping and laying out the first three excavation units.

We decided to lay out the first three one-metre-by-one metre units in relationship to one of the two best "house" areas located by both the electromagnetic conductivity and surface topographical features (Plate 1). The first unit designated 108N 16E (ON OE is the site datum at the "corner" of the spit, Figure IV-1) is situated on top of the beach ridge and assumed to be outside of the house. We expected that this unit might have material re-deposited from the house area excavations at the top, but would be mainly shell fishing processing and shellfish remains. The latter would be distinguished by the abundance of larger shell remains and fire-cracked rock processing features. The second unit, 108N 21E was located in the middle of the expected house feature. We expected a clear floor within the top 40 cm to be discerned by a layer of highly fragmented oxidized material spread across the unit (shell midden layers are typically very small in areal extent). Since this unit was located well out into the floor the oxidized material was expected from the hearth, and the fragmentation and compaction from both walking on the surface and cleaning. The third unit was located at 108N 31E and was expected to be outside the house. It was placed, though, next to a set of post holes, and might be close to a historic house wall. It was also situated in an area seen on the electromagnetic conductivity mapped as very unconductive. Guy Cross has informed us that metal, counter-intuitively, might be mapped as this. So it was

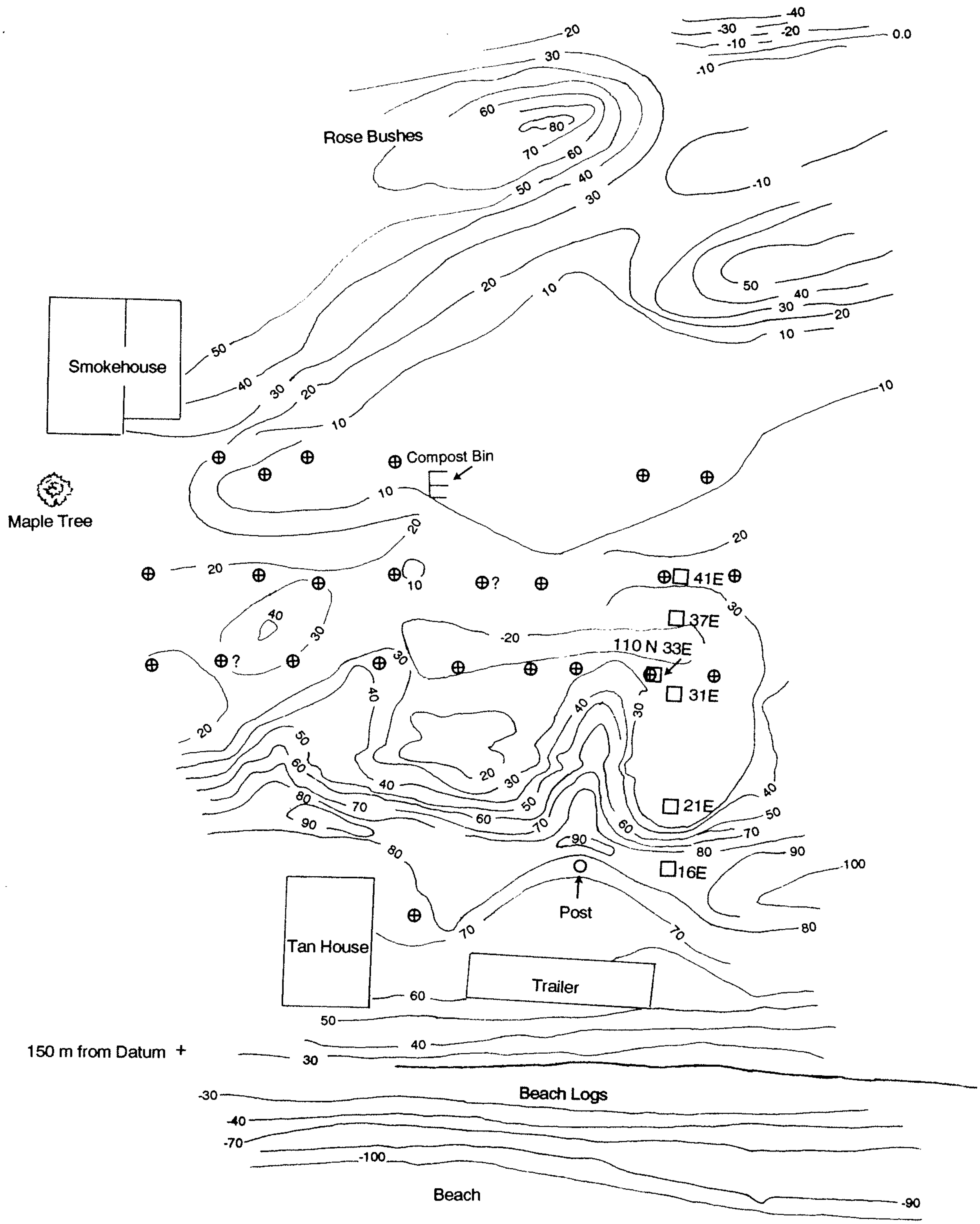


Figure IV-2. Contour Map of 1995 Excavation Area, DgRv 2.

expected that this unit would be outside the prehistoric house, possibly within a historic house, and possibly with some large pieces of metal.

In all cases we planned to excavate no more than about 60cm. Since our interest was in possible housefloors close to the surface, deeper material was not of high interest. In all cases, though, careful control of provenience was maintained, with all material screened though 1/8" (3 mm) mesh, and 10cm layers cross cut by layers were used for vertical control. "Bucket samples" that is all the material held in the screen were taken every 4 buckets, as well as unscreened midden samples.

As the first three units were excavated to deeper layers, which were low priority for this testing project, three more were laid out. The first one was 110N 33E (Figure IV-2) located on top of an apparent post hole to confirm that these surface features were in fact structural posts for large houses and that these were historic posts. The fifth unit was at 108N 37E in the middle of the probable historic house, to see what might be present in terms of a floor or other features. The sixth unit, 108N 41E was also to test the floor of the historic house, but also to evaluate the long, north south trending strip of low conductivity, to see if any visible deposit could be correlated with it. That unit completed the set of six that were excavated during August- Sept. 1, 1995.

NOTE: Contours and colour shading are approximate and based on interpolations and extrapolations from discrete measurements.

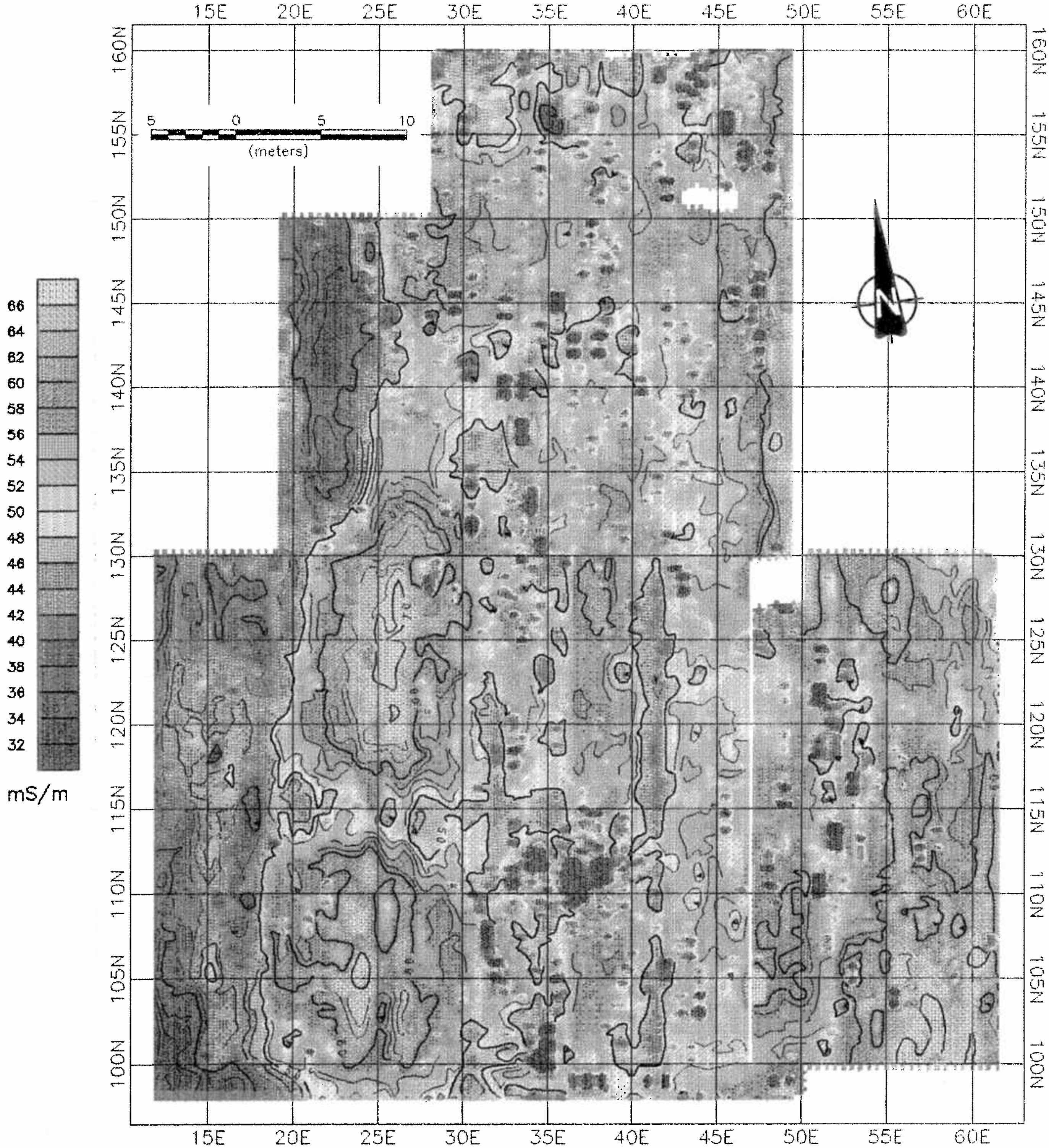


Figure IV-3. Soil electomagnetic conductivity map.

Results of 1995 Season

Beginning in order of the units excavated the major stratigraphic interpretations are summarized below. Unit 108N 16E closely corresponded to our expectations for a deposit outside of a house, with most lower material being the result of shellfish procurement. There was some historic material near the surface, with a gun flint being the most impressive (Plates 5 and 6). The surface material, both prehistoric and historic (layers A0 and B0) was more broken up than the lower material. It also lacked any intact features, and so might be material from the house excavations. Beginning at layer C0 (Figure IV-4), though the shell fragments became larger and apparently intact features were present. We interpreted these in the field as indicative of shellfish processing. After excavation, it was noted that these intact layers were, in fact, truncated in the southeast corner (Figure IV-4, east wall profile). This cut may be from a small feature, but may be from a forerunner of the adjacent house feature that was located slightly closer to the beach. The lowest layer, C1, consisted of fragmented water-worn shell. As discussed in the faunal remains section, this was essentially barren of fish and mammal remains. Compared with about 14 kg of fire-cracked rock recorded in Layer B0, exactly none was recorded for Layer C1. In all these characteristics, all the material from this unit fit with what we expected for non-house proveniences.

In contrast to 108N 16E, 108N 21E did conform to what was

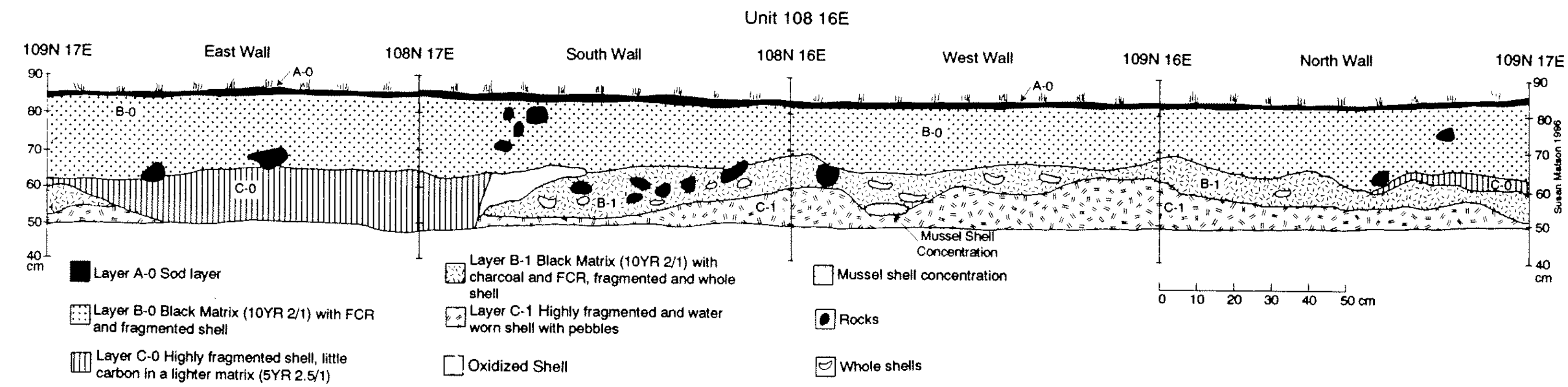


Figure IV-4. Profiles of Unit 108N 16E

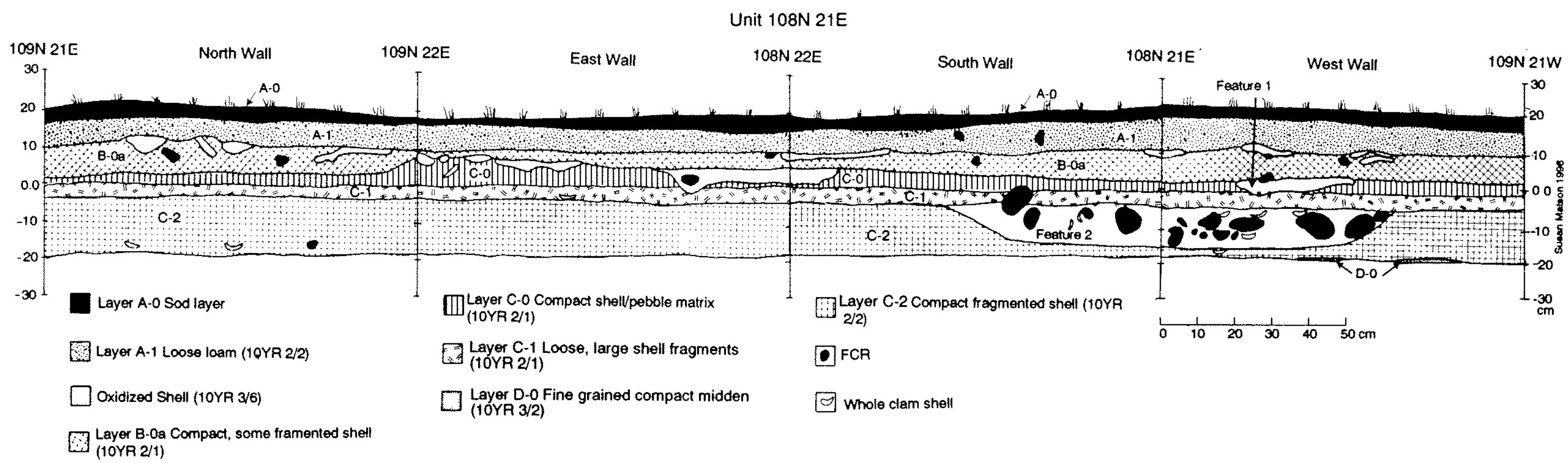


Figure IV-5. Profiles of Unit 108N 21E

expected for a unit within a house. Two floors were discovered, layers B0a and C0 on Figure IV-5 and Plate 2. There was a number of historic items found in the upper portions of this unit, and the upper-most floor appears be historic, with 6 historic items located in situ. This floor, Layer B0a, is only incompletely present in Unit 108N 21E. The next floor, Layer C0 is present completely across the unit, and is definitely prehistoric (Figure IV-5). This is between 15 and 21 cm below the surface in the unit, but very consistent at about + 1 cm above the site datum. It was usually about 2 cm thick and had more small pebbles and Mytilus spp. than the surrounding layers. Both floors have patches of very oxidized and fragmented shell. In comparison with 6kg (14 lbs) of material left in the screen from a 10 litre bucket of material from 108N 16E in the shellfish processing layers, only 2kg (4-5 lbs) material was recovered from Layer C0 in 108N 21E. This prehistoric floor was the target for large scale excavation in 1996.

Feature 1 is a small hearth inn layer C0 (Figure IV-6). It consists of a 30 by 40 cm patch of oxidized shell extending in from the center of the west wall of Unit 108N 21E. The center of this features includes a charcoal area, completely inclosed within the unit and nine (9) fire-crack rocks weighing 14kg (31 lbs). This small hearth on the prehistoric floor has elevations ranging from +0.03 to +0.08 metres above the site datum, with the highest elevation being the top of the largest rock. Feature 2 (Figure IV-7) is found within Layer C3, in the southwest corner of the unit, but only partially within the

Plate 1. View from the Southeast of Units 108N 16E, 21E and 31E

Plate 2. Stratigraphy of Unit 108N 21E. Layer C0 is continuous light layer.

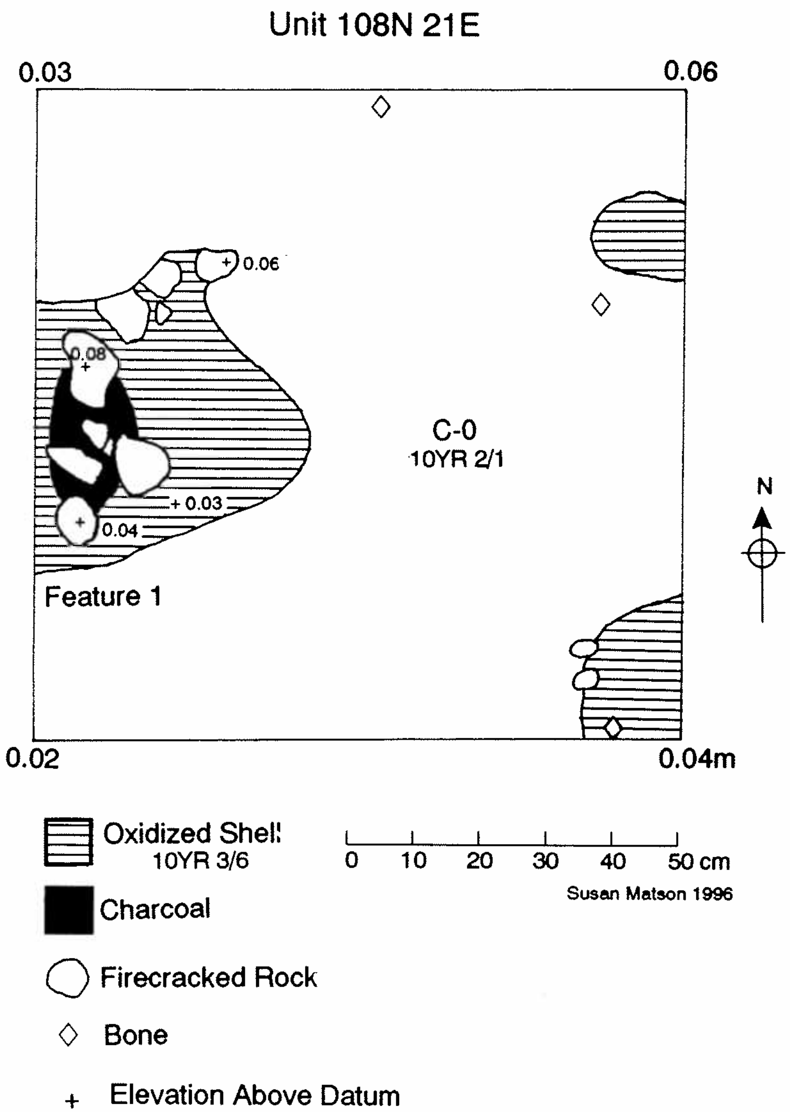


Figure IV-6. Feature 1, Unit 108N 21E

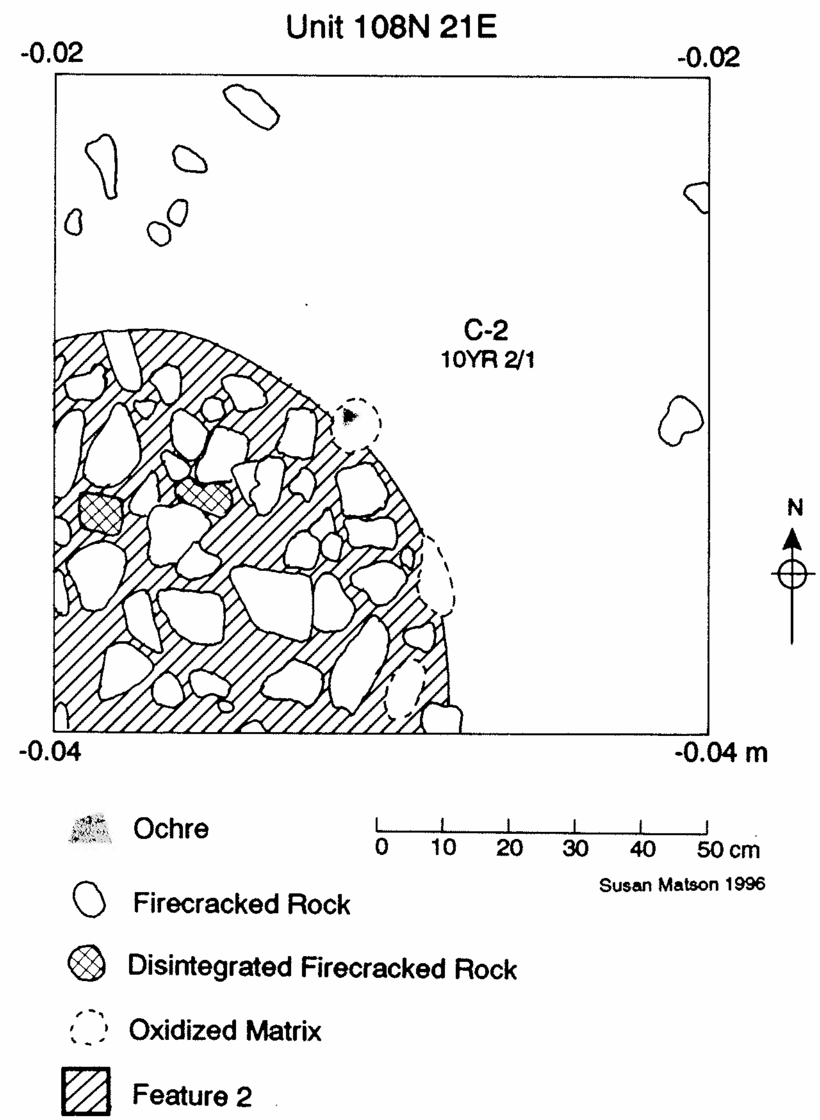


Figure IV-7. Feature 2, Unit 108N 21E

unit. The highest part of this feature extends to -0.04 metres of the site datum and the lowest part of the bowl-shaped concavity extends to -0.0165, with 37kg (82 lbs) of fire-cracked rock present along with some large charcoal pieces. Layer C3 has large amount of relatively unfragmented shell, allowing the inference that this is a shellfish processing feature.

Unit 108N 31E (Figure IV-8), on the other hand in fact, did produce abundant historic material, including large pieces of metal (including part of a wood burning stove top) and a wide range of faunal remains (see faunal section). Susan Crockford (Pers. Comm.), argues, citing the presence of deer mice, that this area was occupied for much of the year, exactly as expected for an historic house.

Unit 110N 33E was located to cut in half an inferred post hole. Excavation (Figure IV-9) confirmed both the nature of this feature, and its historic age, as metal was found on the rotted wood present in the hole. The entire area in back of the beach ridge is relatively low, ranging between 10 and 20 cm (Figure IV-1) above site datum, (5.25 m above lowest normal tide) was originally the top of a large log which had washed up on the beach. At the highest tides, the bottom of this log was immersed in water. Thus, the water table should be relatively close to surface in this low area in back of the beach ridge. Unit 110N 33E was excavated to -20 cm and at surface, ranged from 15 to 25 cm above the site datum (Figure IV-9). It is not surprising that the remains of the post, found with pieces iron, was rotten. The post hole was apparently 80 cm across

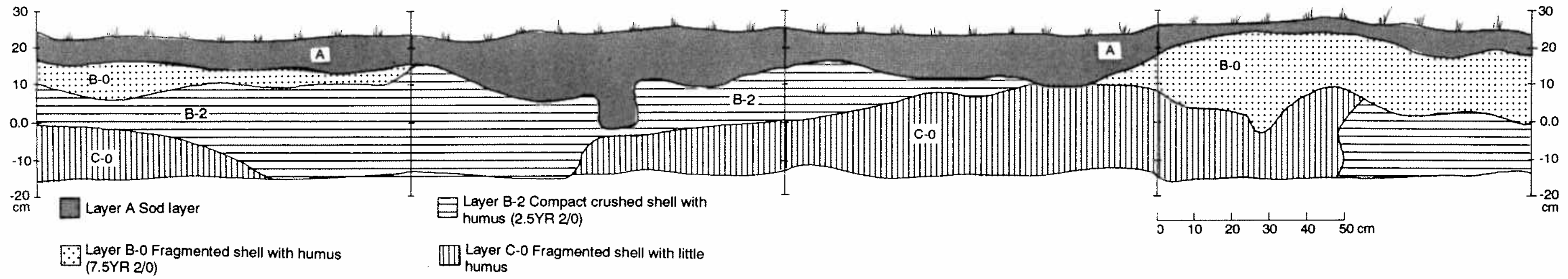


Figure IV-8. Profiles of Unit 108N 31E

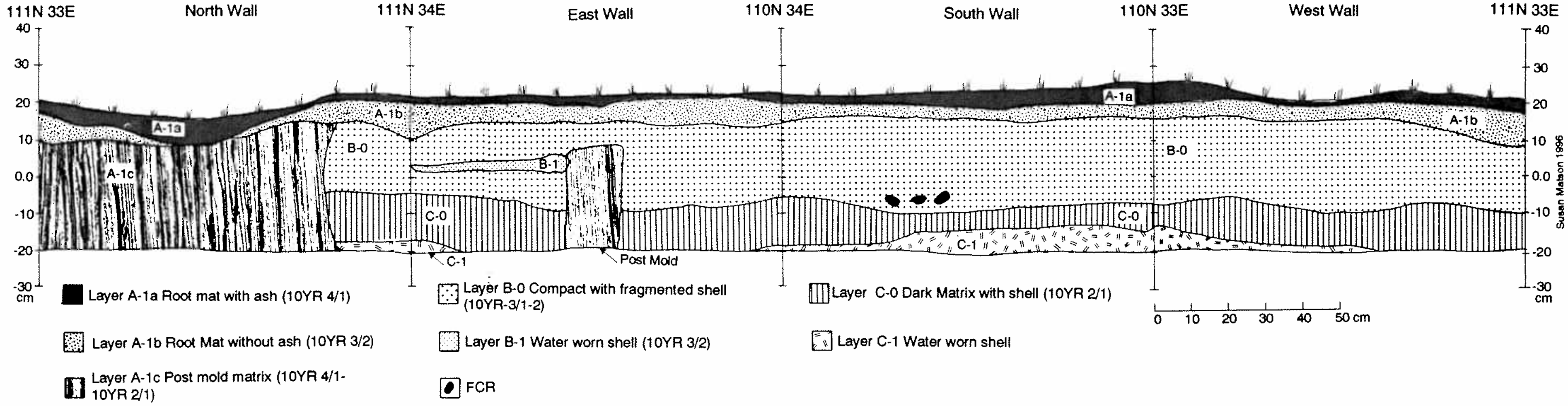
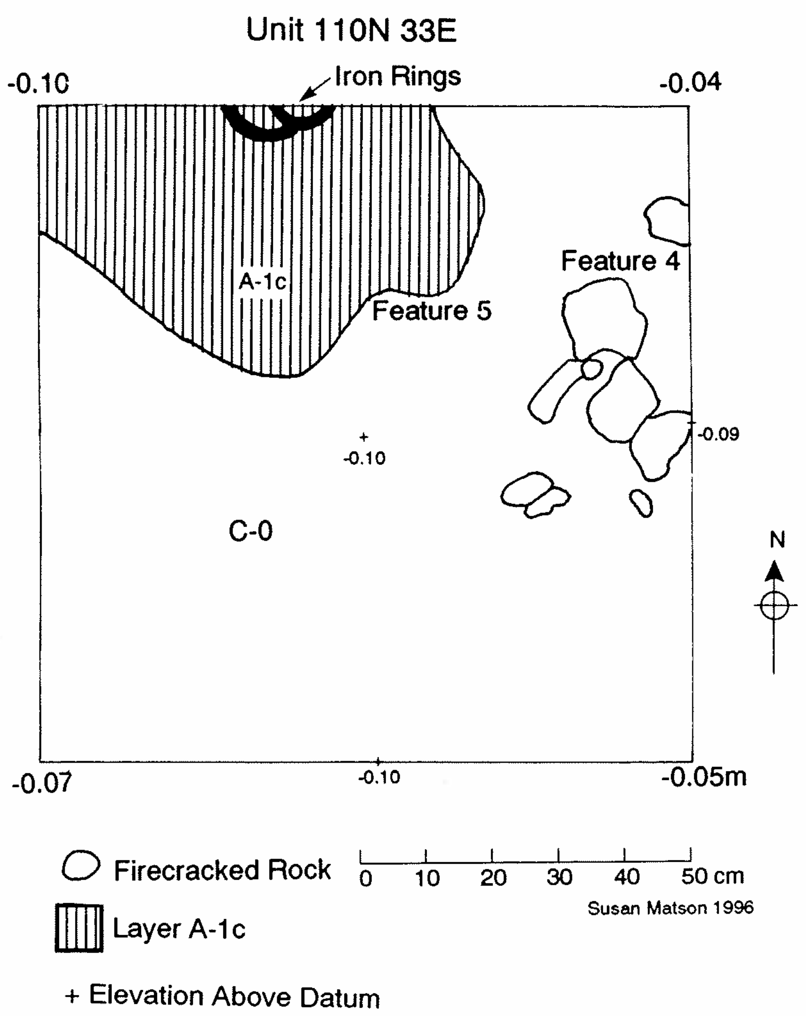


Figure IV-9. Profiles of Unit 110N 33E

(Figure IV-12), with the west edge of the hole corresponding to the west wall of the unit (explaining the discontinuity between the north and west wall profiles). No rocks were present in the exposed part, but only the top 40 cm of the post hole was excavated, so rocks may yet exist in lower portions of the post hole.

The rotten remains of the pole are in accord with the rectangular poles seen illustrated in slides from the 1960s and 1970s, and the located fallen pole (Figure IV-10). The fallen one has a cross-section of about 40 by 20 cm, a size that should fit in an hole 80 cm in diameter. This unit is over one of the post holes from the row closest to the beach of the three rows apparently representing a large, historic house (Figure IV-1). The association of historic items with the post hole, and the metal rings found with the remains of the pole both support a historic age for the structure represented by the three rows of posts.

Unit 108N 37E was meant to test if there was a "floor" present in the historic structure (Figure IV-1). This unit had a relative simple stratigraphy (Figure IV-11), but with an apparent rectangular structure in the northwest corner. This feature had a double-planked foundation, extending from the surface "A" layer into the prehistoric shell midden layers. A rotten cedar plank was also found in the "A" layer. Other smaller post mold features are seen in the east and south walls (Figure IV-11) but which are part of the lower B0 layer. Historic items were mainly, but not exclusively, found in the



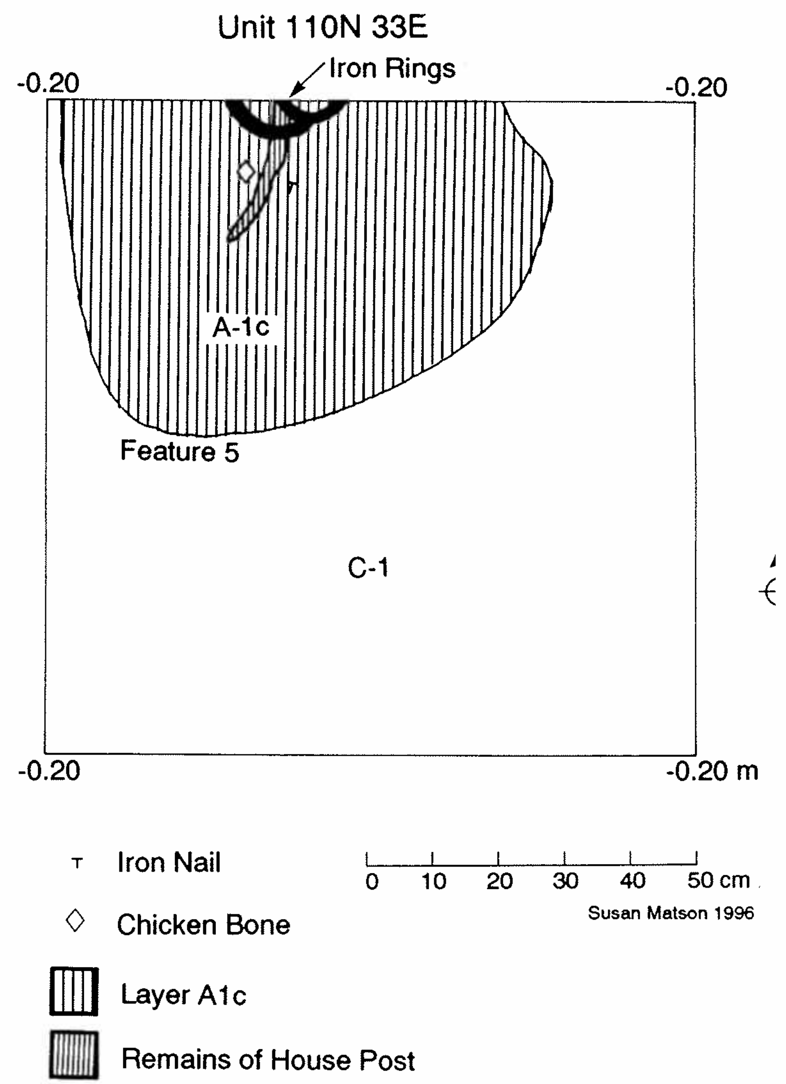


Figure IV-10. Posthole plan views, Unit 110N 33E

"A" layer (see Table IV-5), indicating that B0 is mainly prehistoric. Thus no "floor" was present, but a wood floor may well have been present instead, along with some foundation features.

Unit 108N 41E was excavated to see what the situation was like near the central row of posts (Figure IV-1) and to see if a reason could be found for the north-south feature of low electromagnetic conductivity found during the remote sensing survey (Figure IV-3). Surprisingly little historic material was recovered from this unit, and all of it (Table IV-8) close to the surface in Layer A0 (Figure IV-12). Actually very little archaeological material was found, with much of the deposit being water-worn fragmented shell (C0 and C1). The original source of this shell may well have been shell midden as windrows of water-worn shell could be observed occasionally along the beach in front of the Shingle Point site and the nearby Blackberry Point site. Even fire-cracked rock was rare, with less than 3kg found in layer B0 (140 litres), less than 0.5kg in Layer C0 (130 litres), and less than 2kg in Layer C1 (90 litres), even though fire-cracked rock is clearly seen in the walls of northeast corner of the unit in layer B0 (Figure IV-12). It is likely the lack of fire-cracked rock, and "fines" of any sort of matrix that make this water-worn shell layer so electromagnetically unconductive.

To summarize, most of the units confirmed expectations based on surface and remote sensing information. Unit 108N 16E fits the expectations for outside of a house area, dominated in

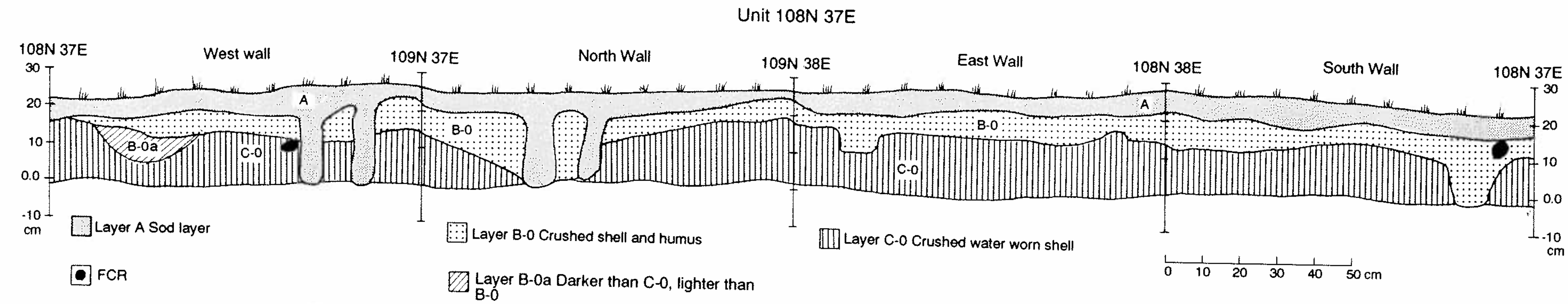


Figure IV-11. Profiles of Unit 108N 37E

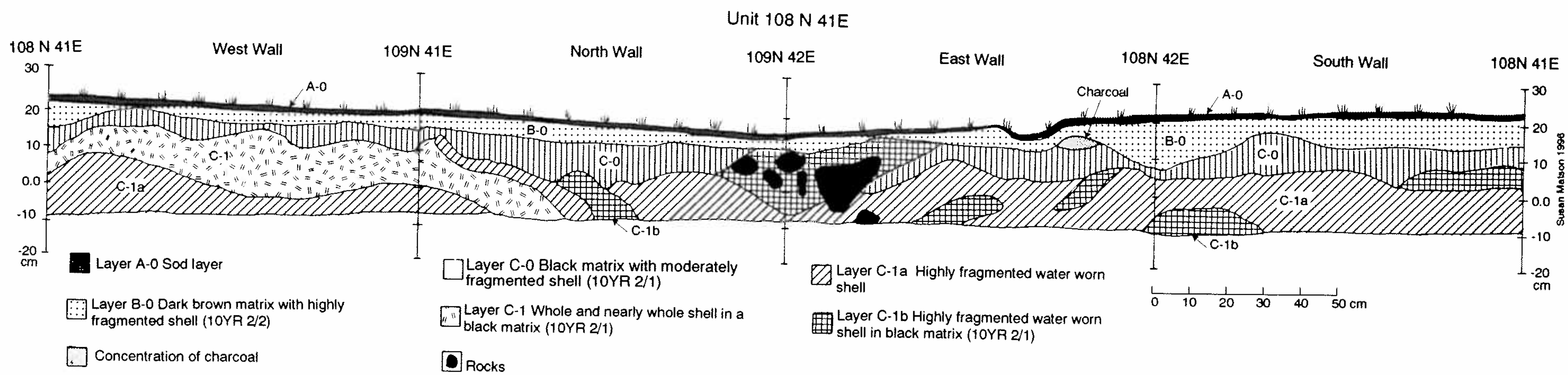


Figure IV-12. Profiles of Unit 108N 41E

the lower layers by shellfishing activities. Unit 108N 21E confirmed the presence of housefloors within the inferred house, including one well-preserved prehistoric one (Layer C0) within 20 cm of the surface. Unit 110N 37E confirmed that the surface depressions inferred to be historic post holes, were, in at least one case, in fact, post holes. Units 108N 31E and 108N 37E confirmed the presence of historic structures outside the prehistoric house, but without a well-defined floor layer, probably indicating a planked floor. Unit 108N 41E resulted in the location of a large water-worn shell layer, without fines and fire-cracked rock, that probably accounts for the linear north-south low-conductivity feature. In no case were any of the units excavated more than 60 cm below surface, as the research focussed on features closer to the surface.

Faunal Remains (1995)

The remains found during the screening in the field were sent to Pacific ID, where Susan Crockford did the identifications. These identifications have been summarized in Tables IV-1,6. Before any specific samples are discussed, a few general comments are in order. In the field we were surprised by the lack of salmon remains, and fish remains in general, In the prehistoric layers and by the abundance of what we thought were deer remains. In the historic layers, we thought we observed a wider variety of fish and other faunal remains. These general observations appear to be born out by the detailed identifications, although the picture is not quite as clear for the historic layer inferences as it appeared to us in the field.

Unit 108N 16E

Table IV-1 charts the identified faunal remains summarized according to three layers. Except for the deer remains present in Layer B0, the faunal profile does not vary significantly between the three strata. Herring are the most common remains, followed, at a distance, by salmon. The Plainfin Midshipmen were probably the product of spring shellfish gathering, since they nest under rocks at that time and are easily gathered during low tides. Staghorn Sculpin are probably also obtained in tidal pools during low tides .

Although the numbers of herring appear to be large in comparison with other species, this may be deceptive. Their presence does, however, suggest that these deposits do overlap in seasonality with herring spawning, probably in early spring

Summary Faunal Remains
(NISP)

Unit 108N 16E

Volume in litres	Layer B0 (300)	Layer C0 (75)	Layer C1* (60)
Fish			
Herring	445	377	88
Salmon	28	17	8
Dogfish	8	0	2
Plainfin Midshipman	3	3	0
Perch	8	5	1
Rockfish	1	1	0
Staghorn Sculpin	1	1	0
Wolf Eel	0	0	1
Mammals			
Deer	12	0	0
Dog	1	0	1
Vole	1	0	0
Harbour Seal	0	1	0
Deer Mouse	0	1	0
Rodent, very small	0	1	0
Birds			
Duck	0	2	0
Grebe	0	0	0
Gull	0	0	0
Loon	1	0	0
Murre	1	0	1
Goose	1	0	0

* Field notes indicate that all (or almost all) of the faunal material from Layer C1 came fromthe C0/C1 interface.

Table IV-1. Faunal Remains from Unit 108N 16E (perhaps April, as spawning usually occurs between February and late April). With 50-odd vertebrae per herring, this number of usually 30 cm long fish do not represent a lot of calories, although they do occur at a time when few other fresh resources are available.

Of approximately of the same volume as Layer C0, Layer C1 has only a fraction of the faunal resources present. Field notes indicate that essentially all of these remains came from the interface between the two layers. Layer C1 in this unit is the water-worn shell deposit described elsewhere (Unit 108N 41E). It is essentially barren of faunal remains except for the shellfish itself.

Unit 108N 21E

Table IV-2 shows the faunal remains summarized according to six layers. Layer A-1, directly underneath the sod, and so was fairly disturbed and had a total volume of 90 litres. In contrast with Unit 108N 31E, though, few remains were present at this depth. Layer B0a is that associated with the top, historic floor, and had a volume of 140 litres, ranging from 5 to 10 cm in thickness. Particularly notable in the faunal remains are the wide range of fish and birds present, and the abundance of deer. Note that neither herring or salmon dominate the fish. The presence of deer mice may signal relatively long duration of occupancy. Layer C0, the important prehistoric layer, has very little material present, but also is a very small volume (averaging about 2 cm thick). The layer underneath, C1, however, is also relatively small (40 litres) yet produced over

Summary Faunal Remains
(NISP)

Unit 108N 21E

Volume in litres	Layer A1 (90)	Layer B0a (140)	Layer C0 (40)	Layer C1 (40)	Layer C2 (50)
Fish					
Herring	0	5	1	115	214
Salmon	0	9	0	3	14
Dogfish	0	16	0	1	8
Perch	0	0	0	1	3
Rockfish	1	8	0	0	2
Flatfish	0	0	0	0	3
Lingcod	0	1	0	0	0
Ratfish	0	0	0	0	1
Sand Dab	0	0	0	0	2
Mammals*					
Deer	2	14	1	0	0
Dog	0	4	2	3	2
Deer Mice	0	1	0	1	0
Vole	0	0	0	3	0
Elk	0	0	0	0	1
Birds					
Duck	0	4	0	2	0
Grebe	0	1	0	0	0
Scoter	0	0	0	0	1
Murre	0	3	0	0	0
Gull	0	1	0	0	0
Eagle	0	1	0	0	0

* Two deer bones were picked off the surface of Layer D0 as well.

Table IV-2. Faunal Remains from Unit 108N 21E

100 identified herring remains, but only 3 salmon vertebrae. The faunal profile of this and the antecedent Layer C2 are relatively similar, and both are associated (large shell fragments, whole valves and Feature 2) with shellfish processing. Although Layer C2 is much deeper than C1, the volume analyzed is similar, about 50 litres, because of the presence of Feature 2, accounted for separately. Again herring dominate, with little salmon, but also a range of minor fishes, including dogfish, rockfish, perch, flatfish, sanddab and ratfish. Does this profile indicate an early spring time shellfish processing activity, that overlaps with the herring spawning, combined with an opportunistic fishing activity, such as documented at Crescent Beach (Matson 1992) and described above for Unit 108N 16E? Only a very small amount of Layer D0 was excavated.

Unit 108N 31E

Three layers are identified here in Table IV-3, Layer B0, disturbed underneath the sod, Layer B2 associated with the abundant historic material, and Layer B1, which in most places lies underneath B2, and is mainly prehistoric, at least in terms of the absence of in situ historic items which are very abundant in B2. Layer B2 is about 140 litres and is notable for the large amounts of herring, deer, and a relatively large quantity of salmon and perch. Dogfish and flatfish are also present, as well as midshipman and staghorn sculpin, although the latter two are really items collected during clamming in the spring rather than actively fished for (Matson 1992:399). It is also notable that

Summary Faunal Remains
(NISP)

Unit 108N 31E

Volume in litres	Layer B0 (20)	Layer B1 (140)	Layer B2 (135)
Fish	None		
Herring		7	100
Salmon		12	32
Dogfish		2	5
Plainfin Midshipman		0	1
Perch		8	37
Rockfish		16	1
Staghorn Sculpin		0	1
Flatfish		0	8
Cabezon		1	0
Greenling		2	0
Mammals			
Deer	0	23	15
Dog	0	0	1
Vole	0	1	4
Harbour Seal	1	1	0
Deer Mouse	0	0	5
Elk	0	1	0
Porpoise	0	1	2
Birds			
Duck	1	0	1
Grebe	2	0	2
Gull	0	9	8
Loon	0	2	0
Scoter	1	0	0
Goose	0	1	0
Cormorant	0	2	0
Eagle	0	1	0

Table IV-3. Fauna, Unit 108N 31E

porpoise and deer mice are also present, with the later likely being indicative of a substantial duration of occupation.

In contrast to Layer B2, Layer B1 (135 litres) has relatively few herring, and larger amounts of salmon and rockfish, although neither can be said to be numerous. Perch, dogfish, cabezon, and greenling round out the fish. Truly large numbers of deer remains are present, along with seal, elk and porpoise remains. Among the birds, gulls, loons, cormorants, and one each of eagle and goose remains are identified. This profile is difficult to interpret in terms of seasonality, or activity, being a broad range with a concentration on deer, if anything.

Unit 110N 33E

Since this unit was excavated over a historic post hole, much of the material obtained was found in the stratigraphic unit disturbed by the hole (Figure IV-9). Layer A1b was the surface portion of this unit, and Layer A1c, was the deeper portion. In contrast with most prehistoric layers, these have very little herring (Table IV-4). Salmon is not really common, but is more abundant than herring, along with minor amounts of other fish. Deer are definitely present, along with a variety of birds, in Layer A1c. In contrast, Layer B0 has the usual higher numbers of herring found in prehistoric layers, and the largest amount of salmon in any layer from this site. The volume of this layer, 140 litres, indicates that this is not really a large concentration. Further, historic items are abundant in the upper half of this layer. The concentration of

Summary Faunal Remains
(NISP)

Unit 110N 33E

Volume in litres	Layer A1b (30)	Layer A1c (60)	Layer B0 (140)	Layer C0 (100)
Fish				
Herring	0	7	147	2
Salmon	16	6	66	4
Dogfish	2	3	99	0
Perch	0	3	8	0
Rockfish	1	2	3	0
Staghorn Sculpin	0	1	0	0
Lingcod	1	0	0	0
Mammals				None
Deer	2	3	6	
Harbour Seal	1	0	0	
Porpoise	0	1	0	
Sea Lion/Fur Seal	1	0	0	
Wolf	0	1	0	
Raccoon	0	1	0	
Rodent	0	0	1	
Birds				None
Duck	0	1	0	
Grebe	0	1	0	
Loon	0	1	2	
Scoter	0	5	0	
Murre	1	0	0	
Bufflehead	2	1	0	
Cormorant	0	1	2	
Goldeneye	0	1	0	
Yellowlegs	0	1	0	

Table IV-4. Faunal Remains from Unit 110N 33E.

dogfish bones were associated with a tin lid in the southeast corner of the unit at 0.12 to -0.04 metres above site datum.

Layer C0 is another example of the water worn shell layer, although with some black matrix between the shell-fragments and in spite of having a volume of 100 litres, only 6 faunal remains were identified, almost surely from other stratigraphic units, given the abundant disturbance of this unit.

Unit 108N 37E

The uppermost layer, A0, (Table IV-5), which contained a fair number of historic items, and a fair volume (120 litres), had only very modest numbers of herring and salmon. Considering how few fish remains are present, they represent a relatively wide variety. Layer B0, had almost the same volume excavated, yet the only items of note were single elements from elk and deer. Layer C0, another example of the water-worn shell layer, had no identified elements present, although a volume of 70 litres was excavated.

Unit 108N 41E

This unit, despite large volumes excavated, had almost no faunal remains (Table IV-6). Note that Layer C0, another example of the water-worn shell, has 0 identified elements, with a volume of 130 litres. This unit was excavated to see if the low-conductivity ridge could be associated with a stratigraphic feature. The lack (0) of fire-cracked rock and faunal remains, show that this layer also has a low density of human use and faunal remains.

Summary Faunal Remains
(NISP)

Unit 108N 37E

	Layer A0	Layer B0	Layer C0
Volume in litres	(120)	(100)	(70)
Fish			None
Herring	10	0	
Salmon	4	0	
Dogfish	1	0	
Rockfish	0	1	
Perch	1	0	
Flatfish	1	0	
Greeling	3	0	
Staghorn Sculpin	2	0	
Wolf Eel	1	0	
Mammals			None
Deer	0	1	
Elk	0	1	
Birds			None
Murre	0	1	
Grouse	1	0	

Table IV-5. Fauna, Unit 108N 37E

Summary Faunal Remains
(NISP)

Unit 108N 41E

	Layer B0	Layer C0
Volume in litres	(140)	(130)
Fish		None
Herring	0	
Salmon	2	
Dogfish	1	
Rockfish	3	
Plainfin Midshipman	1	
Mammals		None
Deer	3	
Raccoon	1	
Birds		None
Loon	1	

Table IV-6. Fauna, Unit 108N 41E

Shellfish Analysis (1995)

The shellfish analysis procedures followed a long line of precedents, many originally established in California (Crabtree, 1963), and applied in the Northwest Coast by Ham (1976, 1982), Moss (1988), and Rankin (1991). In this pattern, the sample is passed through a series of nested screens, usually 1/2" (12 mm), 1/4" (6mm), 1/8", (3 mm) and 1/16" (1.5 mm). Usually all of the two largest sizes are counted and weighed, with only fractions of the last two analyzed. In our case, the samples were 9 litre bucket samples, usually passed through 3 mm sieves in the field, thus avoiding the issue of what to do with the 1/16" fraction. Samples were divided using a sample splitter. One-hundred percent samples of 12 mm and 6 mm sieve sizes were analyzed, and a 25% sample of the 3 mm (1/8") sieve. In general, the techniques used followed closely those used by Rankin (1991). Identification were made in reference to type collections. The actual shellfish categories used are described when the results are discussed.

Given the different functional areas we expected at the Shingle Point site, we developed, prior to the shellfish analysis, a model of expectations. First we saw a dimension varying between shellfish processing and housefloor contexts. The shellfish processing material should be relatively little broken up, and be found in association with large fire-cracked rock features. The abundant fire-cracked rock fragments and relatively intact shell result in large total weights for the sample and for the shell fraction in the larger screen sizes. In addition to the shellfish and fire-cracked rock aspects, the only expected abundant fish remains would be herring. Housefloor samples, on the other hand, should consist of highly fragmented (and oxidized) shell, with fire-cracked rock concentrated in features (hearths). Thus, total weights, and large size fractions of shell should be reduced, and amount of shell identified to the more specific taxonomic categories will be reduced. In terms of fish, salmon would expected to be present, with perhaps, some herring.

Another dimension has to do with cultural versus "reworked" material. The water-worn shell layers, if they were either natural, or reworked cultural layers, should have neither fire-cracked rock present, faunal remains, nor artifacts. As well the natural sorting should lead to a concentration in a size range, (medium?) that is not found in other samples.

Reworked, (by humans) shellfish layers, should lie between the housefloor and unreworked shellfish layers, with numerous fire-cracked rock, but no features. The upper most layers of Unit 108B 16E were thought to be thus.

Although not established prior to analysis, we also predicted that the historic layers should have very little shell. This follows from the expectation that shellfish would not be usually discarded inside houses, during this time.

We selected 7 samples for analysis to evaluate these ideas and to aid us in understanding the archaeology of Shingle Point. We start by describing a possible shellfishing deposit sample, compare that to a likely prehistoric housefloor samples, then the water-worn material, and finally historic samples.

Results

Sample 14 was from Layer B0 in Unit 108N 16E, an inferred shellfish processing unit, but likely was redeposited or re-worked. Figure IV-13 shows the results of the three analyzed screen sizes. The first category is *Mytilus*, which is bay mussel, *Mytilus edulis*, found in the upper intertidal zone on rocky substrates. Although this is usually thought to be the remains of food, it is often associated with barnacles, likely *Semibalanus* spp. in this case, acorn barnacles, which are probably only sometimes used for food. Barnacles, like mussels, are found on rocky foreshores, in the upper intertidal zone. Although very large examples of barnacles are found in some places in the Gulf Islands, most of the remains we found are of small individuals.

The next category is *Clinocardium nuttallii*, a very good eating clam found associated with eelgrass beds, of which several lie adjacent to Shingle Point. As reported in Matson (1992:399) these are difficult to obtain in large numbers, and if present in abundance probably indicate late spring seasonality. The next category is the *Protothaca staminea*, the little neck. This small clam is found in the mid tidal zone, often in gravelly deposits. The horse clam (*Tresus capax, T. nuttallii*) is found in the lower intertidal zone, in silty and sandy deposits. This very large clam does not have as robust a

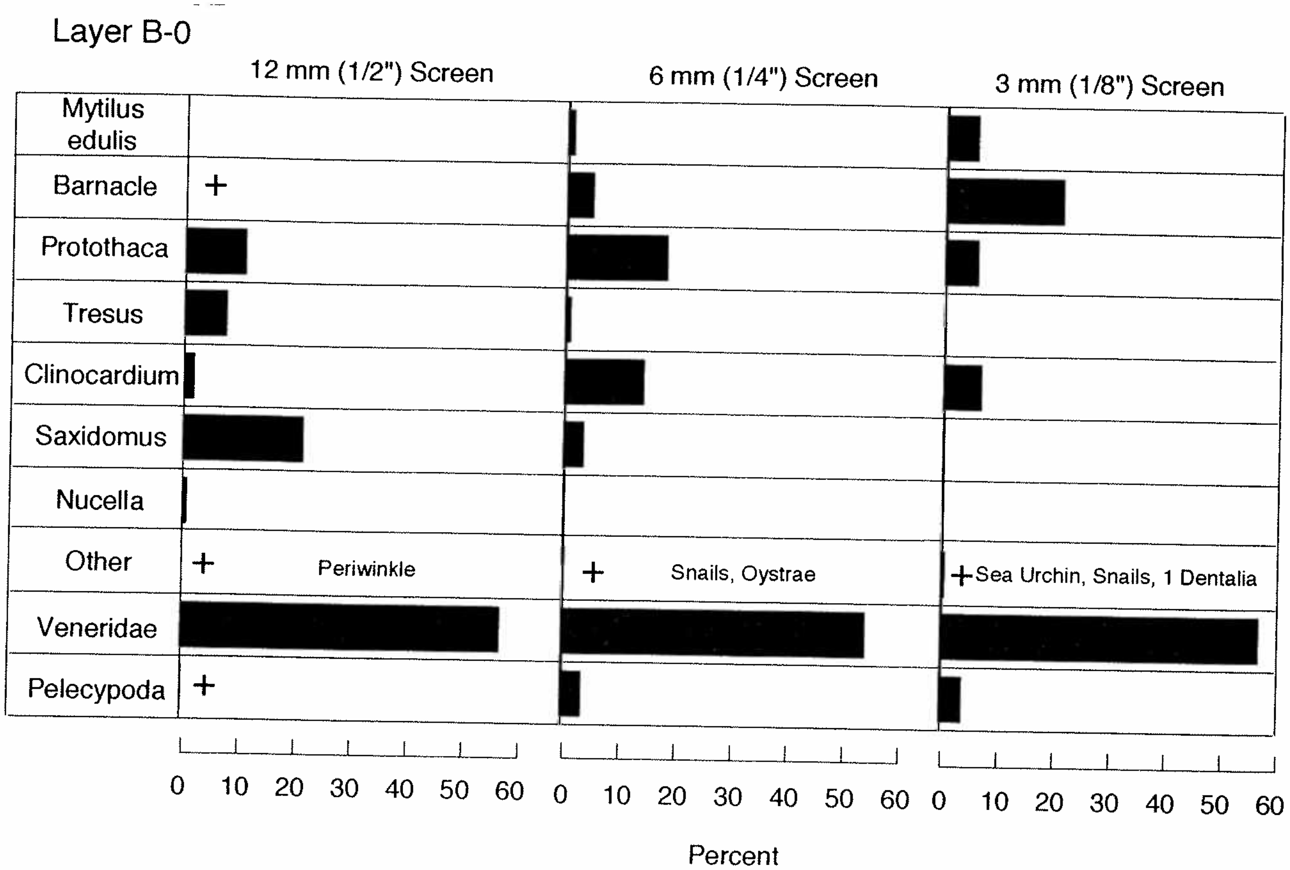


Figure IV-13. Shellfish Constituents, Layer B0, Unit 108N 16E

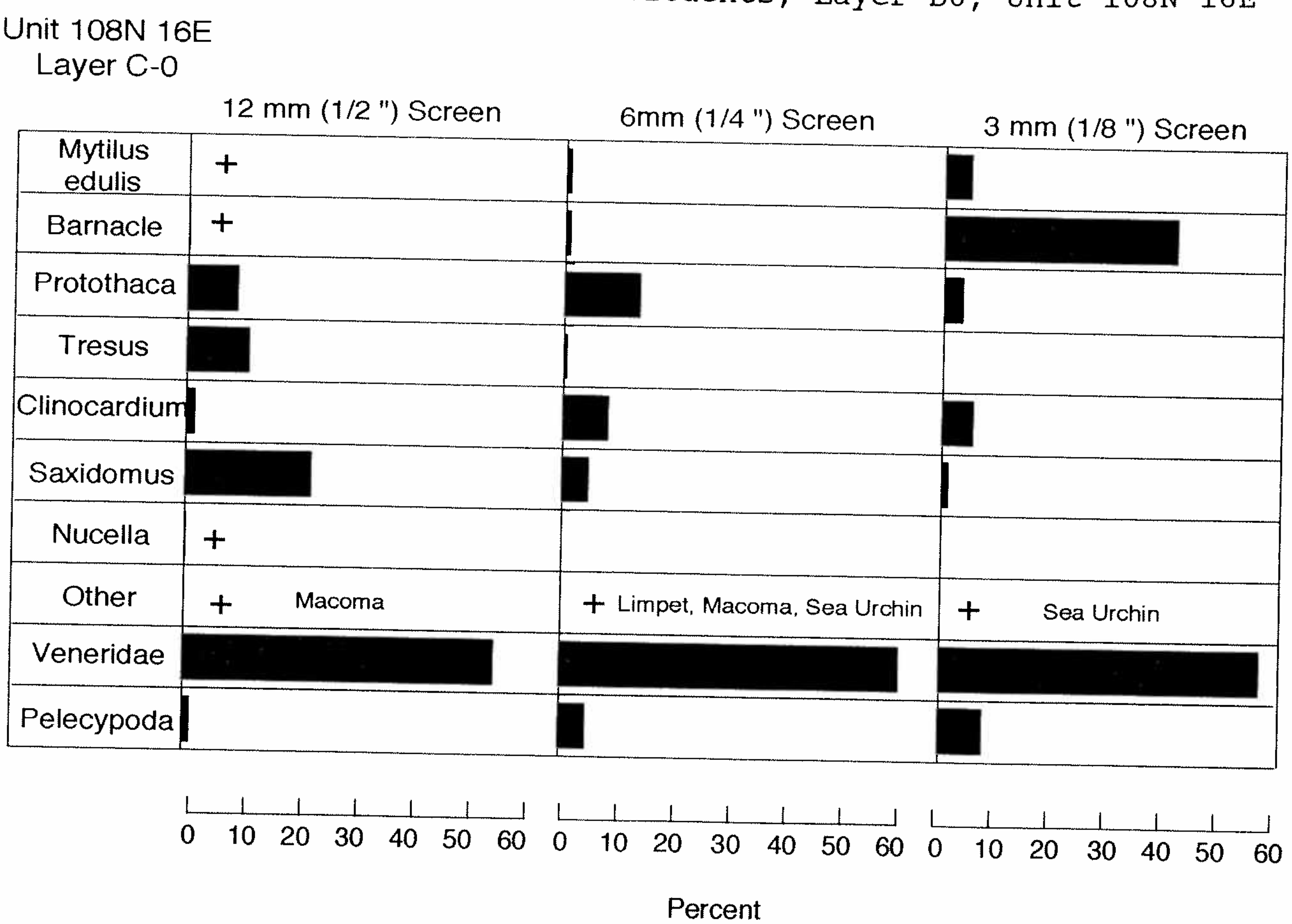


Figure IV-14. Shellfish Constituents, Layer C0, Unit 108N 16E shell as the butter clam, Saxidomus giganteus, and so contributes more to the unidentified categories than the butter clam, which is also found in the lower intertidal zone, usually in sandy deposits. All these shellfish are abundant in the areas surrounding Shingle Point today.

Two unidentified categories are present, Veneridae, unidentified clams, and Pelecypoda, unidentified shellfish. The final category is dominated by whelks, Nucella spp., formally known as Thais, few of which were recovered in these samples. As one goes to the smaller screen sizes, one finds more unknown, and larger amounts of the easily fragmented mussel and barnacle, as seen in Figure IV-13.

In the largest screen size, the unidentified clam is the most abundant class, followed by butter clams, little necks, and horse clams. In the next size class, the Veneridae category is again the largest, but followed by little necks and Clinocardium. This apparent change in abundance within the clams, though, has more to do with identification characteristics than anything else. Unless one has a piece of the hinge, horse clam and butter clam are difficult to distinguish, while the distinctive surfaces of little necks and Clinocardium means that small pieces can be reliably classified. In the final screen size, few clams could be identified, although clams in general were the most important class. Mussels and barnacles become an important category in the smallest screen size.

Also of note, is that fire-cracked rock had a total of 16%

of the weight of this sample. This profile is what is expected for a clam-processing layer. The total weight found in the 3 mm screen is 152 g, 16%, compared to the total of 2811 g. In contrast, Sample 25 of Layer C0 of the same unit (Figure IV-14) had a total weight of 2095 g, but with a 3 mm screen weight of 240 g, but a fire-cracked rock weight of only 82 g, for 2.4%. This layer was interpreted as a "dump" episode of shellfish processing. The lack of fire-cracked rock was noted in the field. Other than the changes in proportion in the screens, the greater amount of barnacles, and the amount of fire-cracked rock the shellfish profiles of these two samples are very similar, supporting the argument that both are the results of the same activity.

If we turn to the faunal remains (Table IV-1) we find that the expectations of herring remains and little else are maintained. With only 75 litres of volume the number of herring remains in Layer C0 is substantial (377), and the plainfin midshipman and staghorn sculpin, both of which likely result from shellfish gathering activities, are found in both. In sum, these two layers fit our expectations for shellfish processing.

Turning to the sample (# 13) from Layer C0, Unit 108N 21E, we can compare a possible housefloor sample with the previous shellfish-processing sample (Figure IV-15). It is striking how the 12 mm sample from Layer C0 is similar to to the 6 mm from Layer B0 from Unit 108N 16E. This is expected, if the larger shell pieces that are easily identified as horse or butter clams are absence entirely from the C0 layer. The two 6 mm samples are relatively similar. The smallest fractions differ in that Layer C0 has less Veneridae and more Pelecypoda than Layer B0. This lesser degree of identification in Layer C0 may have to do with the changes introduced by the greater amount of oxidized shell found on the housefloor.

Although the "profiles" of shellfish are very similar, the actual amounts are dramatically different in these two layers. The total weight of the 9 litre sieved sample for Layer C0 was 1438 g compared to 2811 g for Layer B0. Thus only about half as much material stayed in the 3 mm screen in Layer C0 as for B0. The 3 mm fraction, on the other hand, is larger in Layer C0, at 161 g of 1438 g total sample, compared to 152 g of 2811 g in Layer B0, showing that a much higher percentage of shell was highly fragmented in Layer C0. Although the percentages of fire-cracked rock are similar, 16% of total sample weight in Layer B0 and 13% of Layer C0, the actual amounts are 707 g compared to 405 g. These figures support the gross amounts in another comparison reported earlier.

In sum, the shellfish proportions between these two layers are similar, but the distribution of fraction sizes, total weight, and fire-cracked rocks amounts are in accord with the predictions made above. With only a total of four NISP for Layer C0 from Unit 108N 21E, no meaningful statements can be made about fauna, except that not much is present. A different relationship is seen between these samples and the "purest" water-worn shell sample, Layer C1 from Unit 108N 41E.

Layer C1 (Sample 51) is dramatically different from

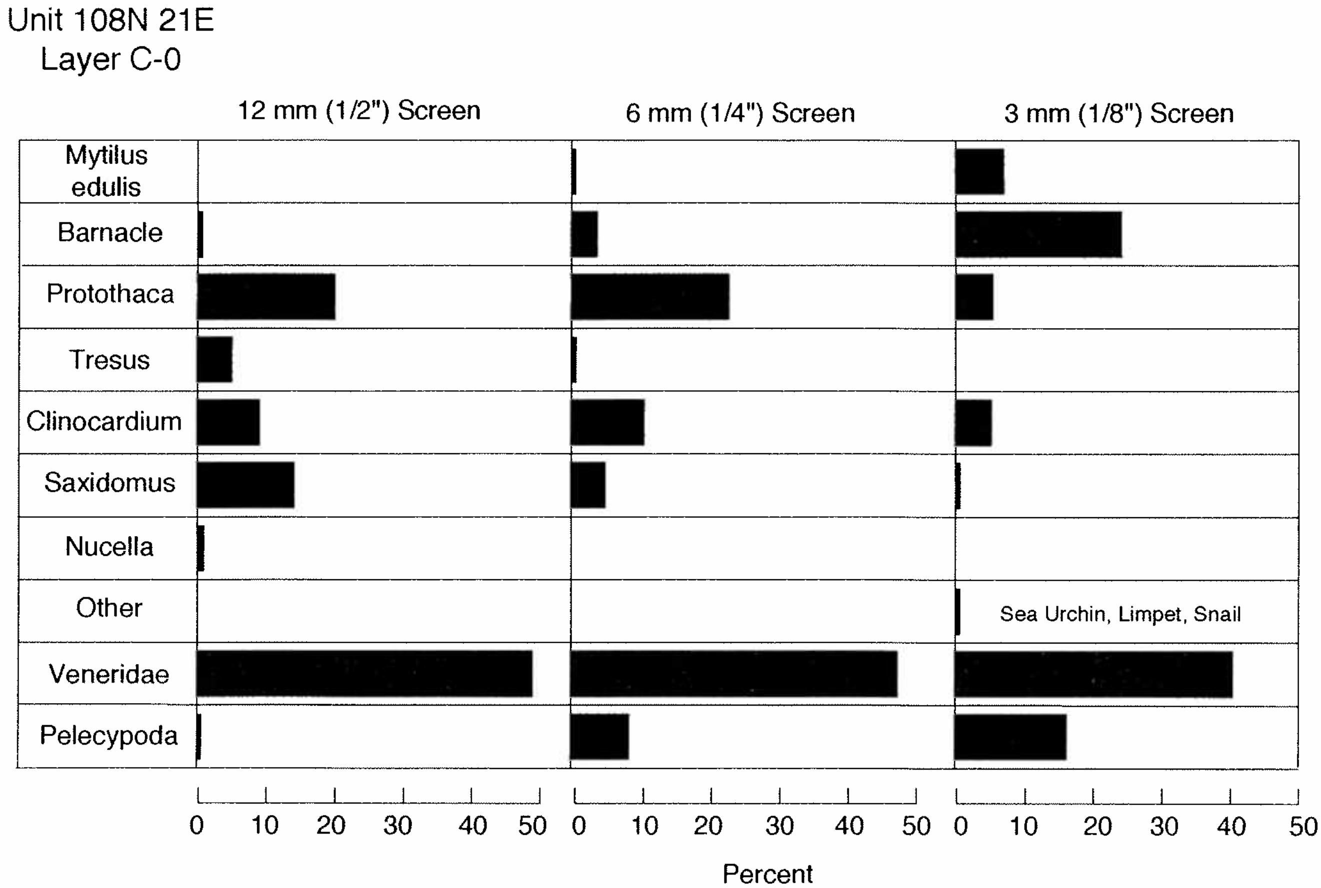


Figure IV-15. Shellfish Constituents, Layer C0, Unit 108N 21E

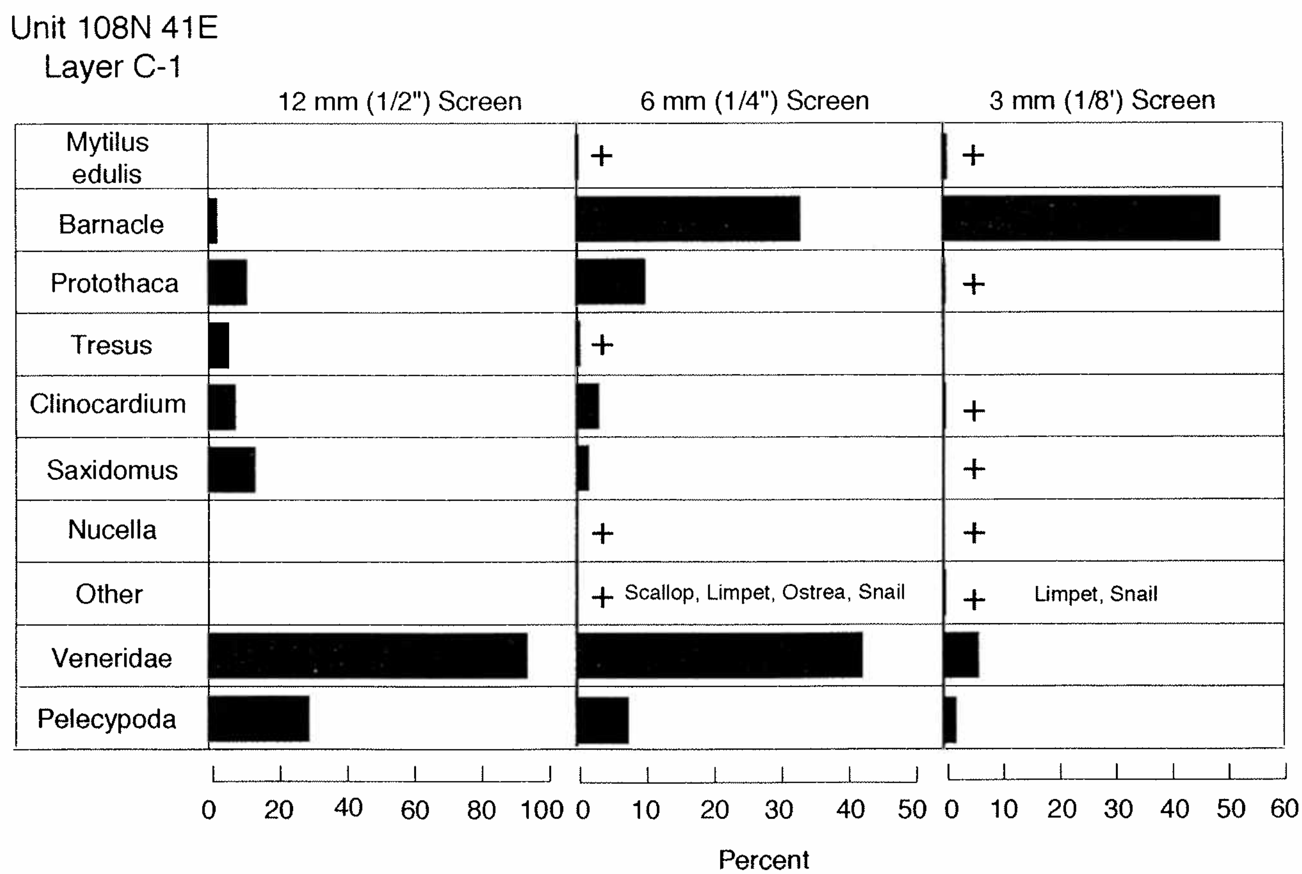


Figure IV-16. Shellfish Constituents, Layer C1, Unit 108N 41E previous discussed layers, with Veneridae by far the most important in the largest screen size, and with Pelecypoda next most, and no others reaching 10% (Figure IV-16). In the 6 mm size, barnacles are the second most common class, and make up more than 80% of the smallest screen size. The 3 mm sample weight is 278 g, out of a modest 1437 g total weight for 19%. No fire-cracked rock at all was found in the shellfish sample (nor for the layer as a whole, as mentioned above). Although almost all the clam pieces are water-worn in this sample, the barnacles appear to be fresh. Further, little Mytilus is present. This sort of deposit may result from a combination of reworked cultural shell midden and freshly deposited barnacles from die-offs.

Layer C2 (Sample 23) from Unit 108N 21E (Figure IV-17) appears to be a mixture of the kind of water-worn deposit described in the previous paragraph and shellfish remains deposited by cultural activities without reworking. The highest similarity of Layer C2 is with Layer C0 from Unit 108N 16E, although Layer C2 has more barnacle and less Veneridae, as would be expected if C2 had more water worn material present. Layer C2 also has less identifiable clams across all screen sizes. In these regards, then, Layer C2 appears to be mainly the results of shellfish processing, but with some of the water worn material seen in Unit 108N 41E Layer C1.

Layer A0 (Sample 42) from Unit 108N 37E has much historic material. Whether it is a "housefloor" deposit is more questionable (Figure IV-18, Table IV-8). Except for the

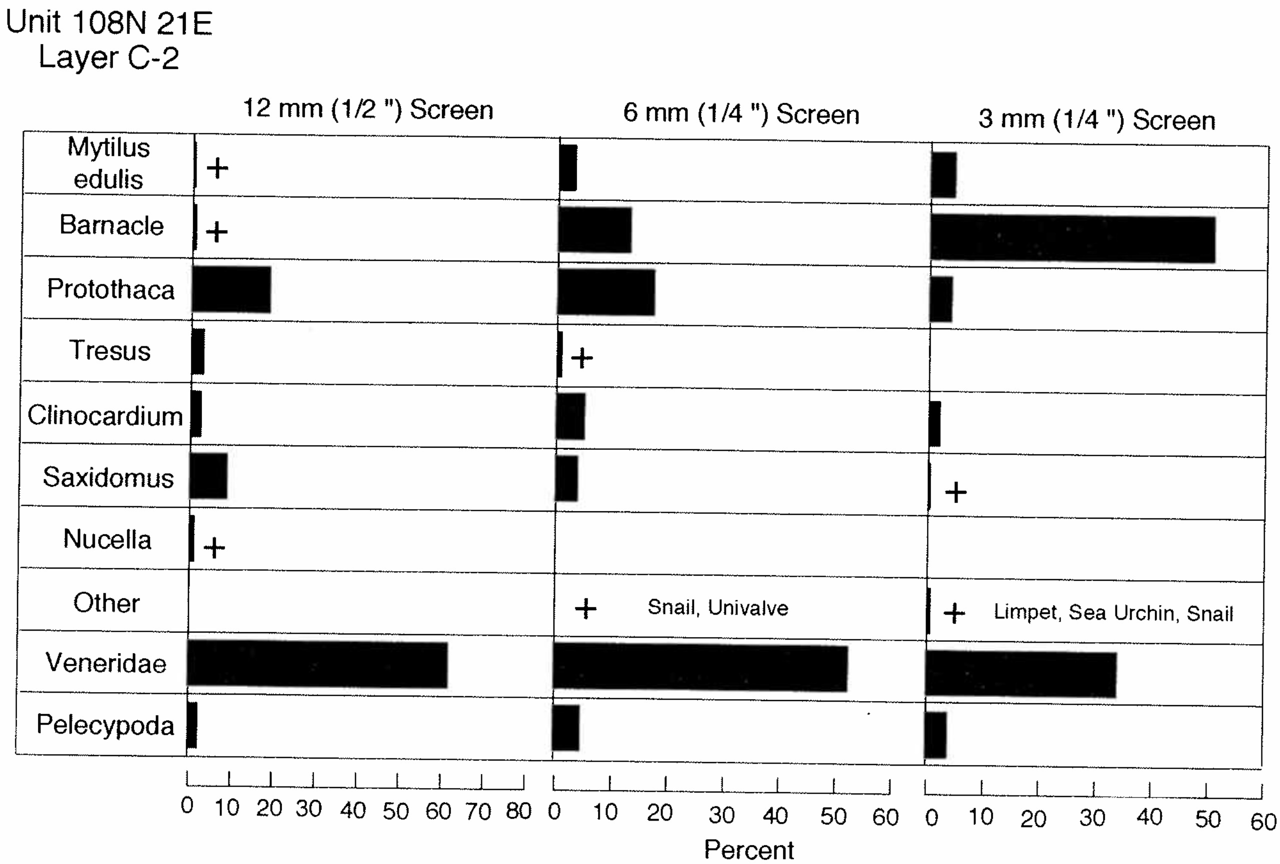


Figure IV-17. Shellfish Constituents, Layer C2, Unit 108N 21E

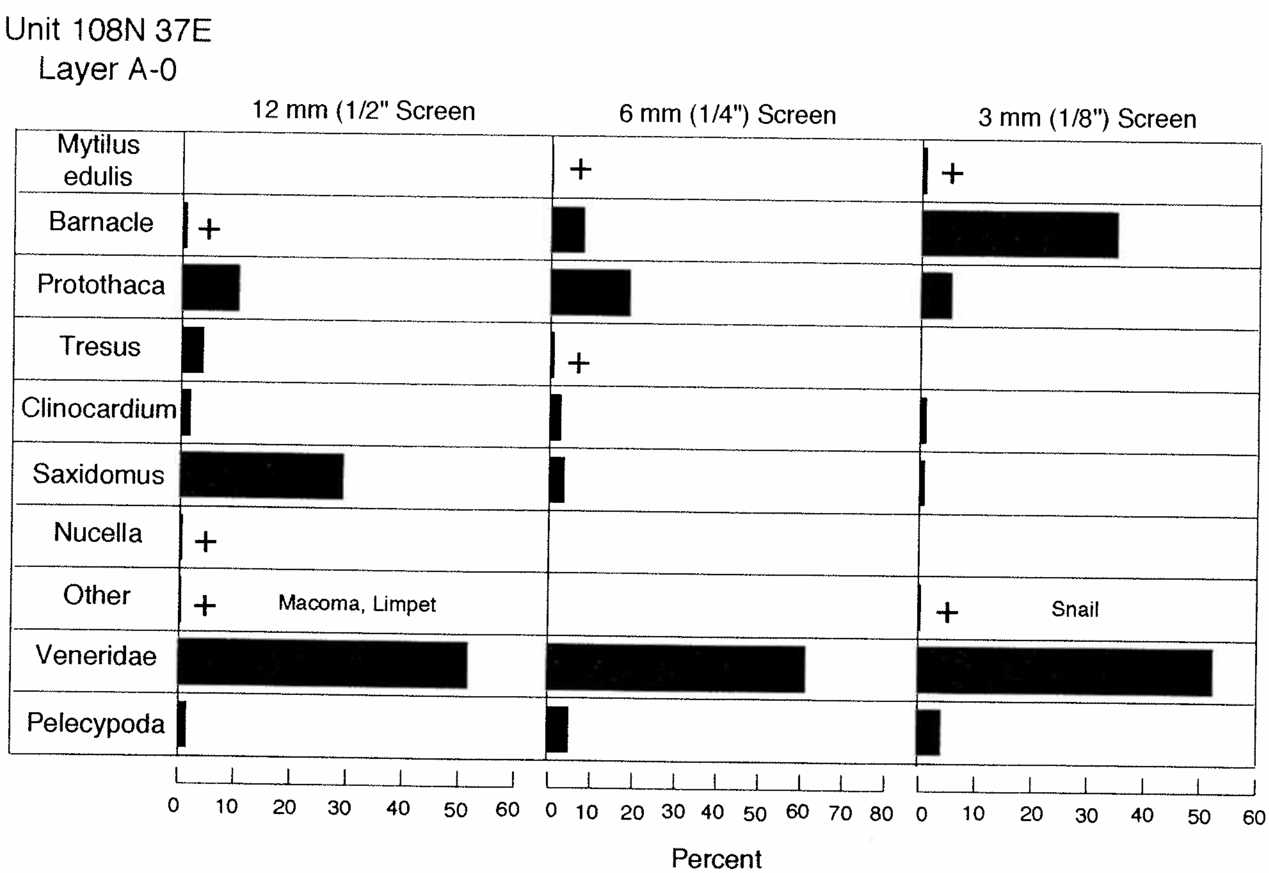


Figure IV-18. Shellfish Constituents, Layer A0, Unit 108N 37E abundance of the barnacles in the smallest screen size, the pattern seen is not that different from Layer B0, the first sample described. Even the total sample weight (2645 g) is similar, although the fire-cracked rock weighed only 65g. This layer may consist of historic material mixed with a pre-existing shellfish processing layers. Matson believes the fire-cracked rock is a possible indicator of this, as it is unlikely to be deposited in a house at the same time metal stoves are present (Table IV-8).

Layer B0a, from Unit 108N 21E, is the other historic sample (# 8), and is more likely associated with a housefloor, and possibly deposited prior to the use of metal stoves (Figure IV-19). As in the prehistoric floor example, the total sample weight is small, 935 g, and the proportion of 3 mm relatively high, 150 g. The fire-cracked rock proportion is very high at 543 g and 19%. The profile is very similar to the prehistoric housefloor, Layer C0, from the same excavation unit.

In addition to the major constituents, reported above, some of the minor constituents, noted on the graphs, are of interest. Although not accounting for significant amounts by weight, limpet shells, scallops, native oysters, <u>Macoma</u> spp.(bent nose clams), sea urchin, and small snails were all identified. Most interesting of these are sea urchin spines which were found only in prehistoric layers in Units 108N 21E and 108N 16E. These layers include the prehistoric housefloor Layer C0, probably indicating the consumption of these animals. We report in more detail on sea urchins in the section on the 1996 shellfish

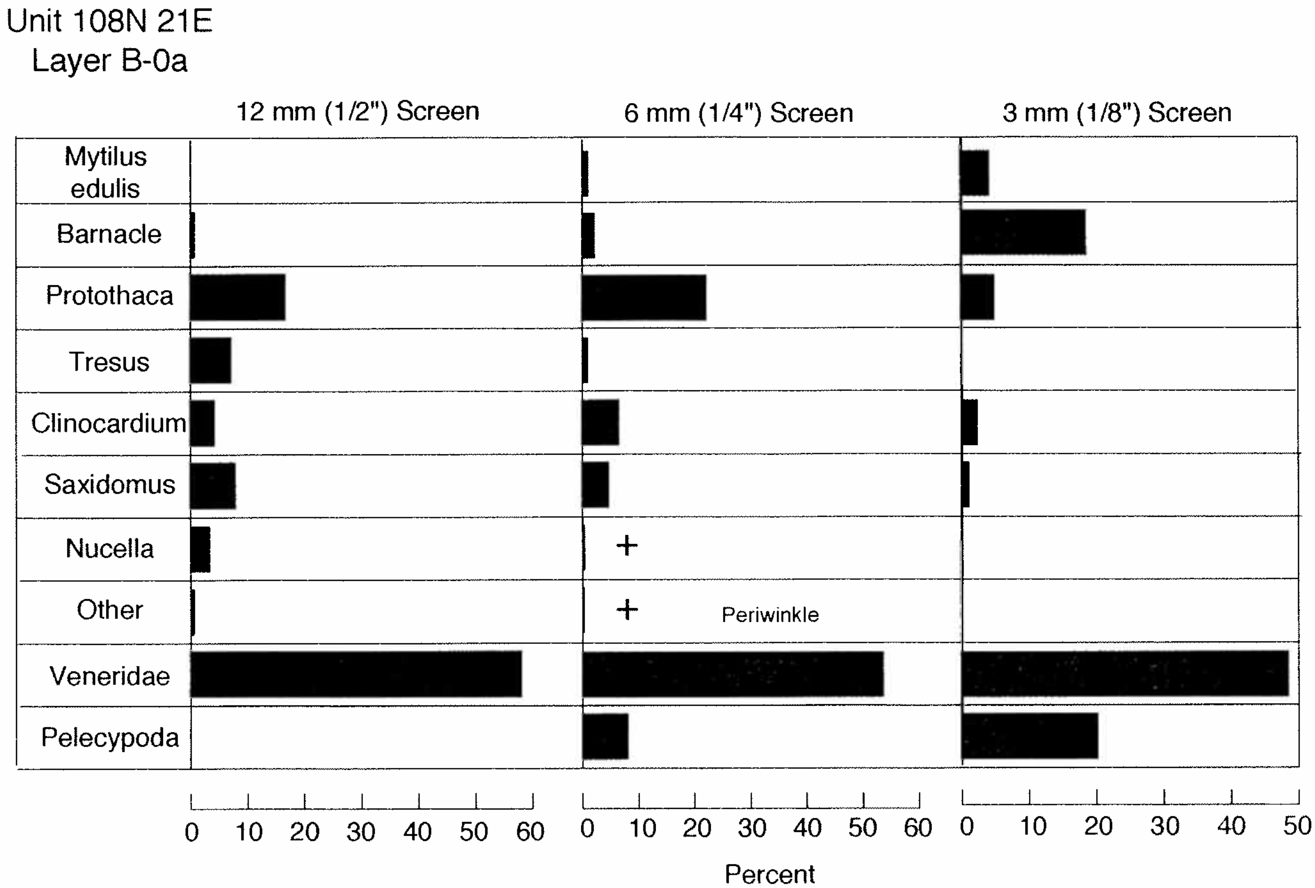


Figure IV-19. Shellfish Constituents, Layer B0a, Unit 108N 21E

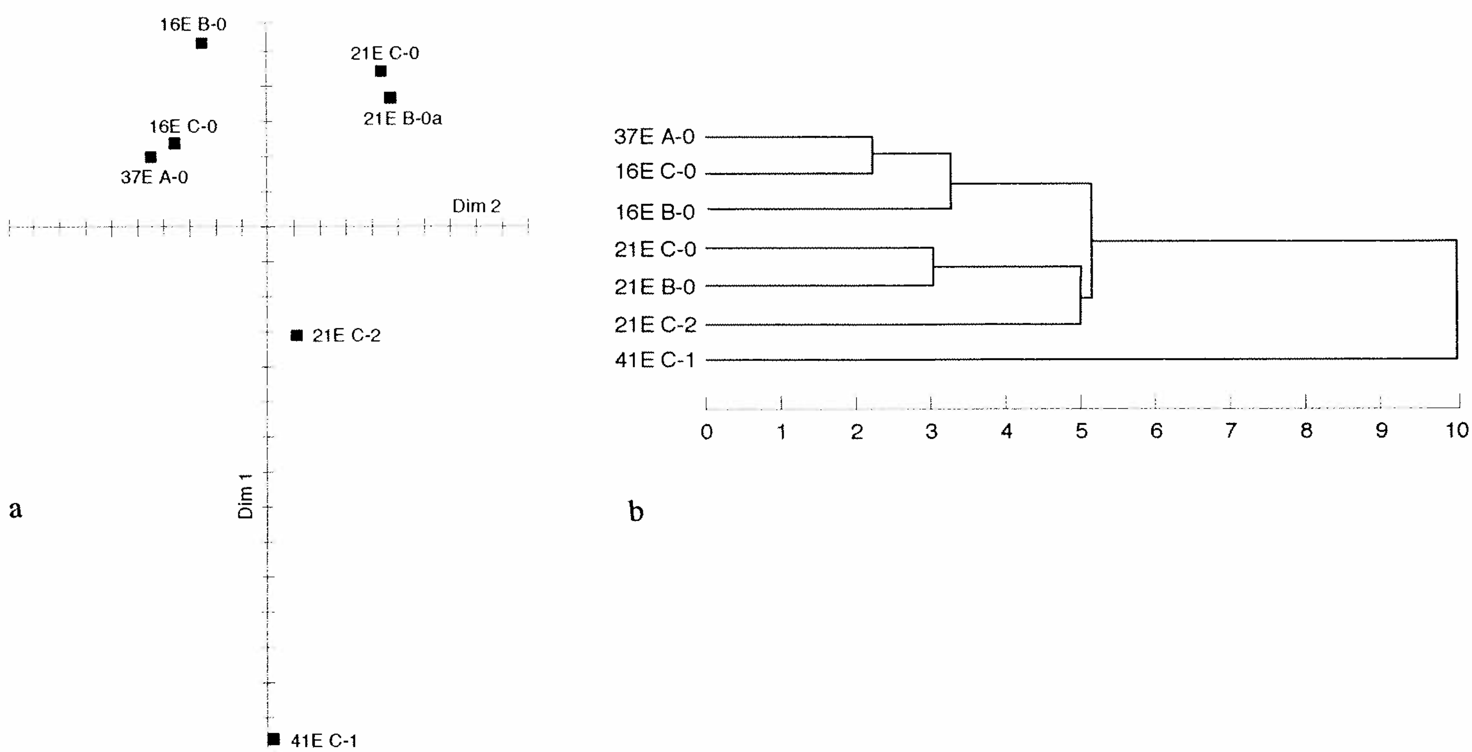


Figure IV-20. Multidimensional Scaling (a) and Cluster Analysis (b) of seven shellfish samples.

remains.

After the above was drafted, we decided to compare our judgements based primarilly on the graphs of abundance with multidimensional scaling and cluster analysis (Figure IV-20). We chose to use the percentages illustrated for the three screen sizes as the input data. We used the eight most abundant classes for the two largest screen sizes, and seven for the smallest screen size, as the eighth used in the other two sizes, Tresus spp., was not significantly present in the 3 mm sample. These 23 variables for each of the seven samples were used to create a city-block distance matrix (Matson and True 1974) which was then scaled and clustered. We chose metric multidimensional scaling (MDS), also called principal coordinates analysis (Washburn and Matson 1985) and Furthest Neighbor cluster analysis (Matson and True 1974) as shown in Figure IV-20. In the MDS analysis, the first dimension accounted for 67% of the squared distance from the centroid and the second, 19%, with the unplotted third, an insignificant 5%.

The vertical direction on Figure IV-20 (Dimension 1) is clearly that of water-worn deposits versus cultural, with Layer C1 from Unit 108N 41E at one end, Layer C2 from 108N 21E, in an intermediate position and the rest, at the other. This dimension confirms that aspect of the initial shellfish model, and our interpretation of Layer C2 as a mixture of both types. Layer C2 shares with Layer C1 high amounts of barnacle in the smallest two screen sizes, and low amount of Veneridae in the smallest screen size.

The horizontal direction on Figure IV-20 (Dimension 2) clearly contrasts the shellfish processing layers on the left, with the two housefloor samples (Layers C0 and B0a from Unit 108N 21E), confirming the second dimension of our initial shellfish model, and the inferences made above. The cluster analysis (Figure IV-20) although supportive of the pattern seen above, adds little, except to support the inference made on inspection that Layer C2 from Unit 108N 21E showed more overall similarities with the housefloor layers than the other shellfish processing layers.

In summary, the shellfish analysis, both based on inspection of the graphs, and the multivariate analysis, supports many aspects of the proposed model and interpretations based on other information, but also points to other directions. We do see the expected differences between housefloors and shellfish processing layers. The differences between the first two and the water-worn layers are partly in accord with our expectations. The part that does not, is the abundance of non-water-worn barnacles in the smallest sample. The relative absence of mussels indicates that the barnacles are probably not present because of human action. These leads to the idea that this layer type is a combination of reworked shell midden and fresh, natural barnacles. The historic material is variable. Unit 108N 31E looks most like a mixture of historic material and prehistoric shell midden. Unit 108N 21E B0a is more like the prehistoric floor layer C0, but also has a larger amount of fire-cracked rock than predicted.

Artifacts (1995)

A relatively modest number of artifacts were recovered in 1995, a total of 179 separate catalogued items. Only 20 artifacts listed in Table IV-7 (Plate 3) typically associated with prehistoric deposits were recovered from excavated contexts in the field. Starting with layer B0/B1 from Unit 108N 16E, 2 basalt and 4 slate flakes were recovered. As seen in Table IV-8, only two historic items were recovered from these two layers, all from the higher Layer B0 making these clearly mainly prehistoric layers. We suggested Layer B0 may actually result from material dug out to level the adjacent housefloor.

Two small abrasive stone fragments are from Layer B0a from Unit 108N 21E, a layer Table IV-8 shows is clearly dominated by historic items. In the lower layers from this unit, though, no historic items are present, and 7 items usually associated with prehistoric times are. These include two basalt and one slate flake, one possible "boiling" stone, a small round pebble showing signs of heat damage that may have been used for stone boiling, two pieces of ochre, and one small, burned, carved bone piece (Plate 4). Both layers B1 and B2 from Unit 108N 31E have abundant historic material along with a single basalt flake, one abrasive stone fragment, and another "boiling" stone. A combination of historic and prehistoric items fits with interpretations made on other grounds for these levels in Unit 108N 31E. The final layer with prehistoric items is B0 in Unit

Prehistoric Artifacts
1995

Artifact Class	108N 16 E Layer B-0/B-1	108N 21 E Layer B-0a	108N 21 E Layer C-0/D-0	108N 31E Layer B-1/B-2	108N 33E Layer B-0	Totals
Basalt Flakes	2		2	1	1	6
Slate Flakes	4		1			5
Abrasive Stone					1	1
Abrasive Stone Fragments		2		1		3
"Boiling" Stones			1	1		2
Ochre			2			2
Engraved Bone			1			1
Totals	6	2	7	3	2	20

Table IV-7. Prehistoric Artifacts from 1995.

110 33E. This is the layer outside of the post-mold that took up most of this unit. A single basalt flake and about half of a small abrasive stone were recovered from this stratigraphic unit. Four historic items were also recovered from this layer (Table IV-8), a small number considering the numbers found in the adjacent "A" series layers in this unit. In places the boundary between the two layers was initially not all that obvious.

The prehistoric artifacts are not very impressive, none of the flakes are retouched, and two are water-worn. Only one possible bone artifact is present, and many of the items are found in layers that also have historic items. Still, the layers interpreted as being prehistoric do not have historic items and do have a modest number of artifacts usually associated with prehistoric deposits.

Most of the historic items (Plate 5) can be divided into three classes. The first are items of some antiquity, probably related to the occupation described earlier possibly 1880 to 1920 when boat building was an important activity. Square nails are the most obvious items in this class. The second class is that of items from the times since then, with plastic and probable beer bottle sherds the most obvious of this class. The third category contains those items that may be of either time, many pottery sherds, rusted tin pieces, etc. In addition there are a small number of items that are likely from earlier in the 19th century, indicative of early historic contact.

Unit 108N 16E is distinguished by the presence of a good

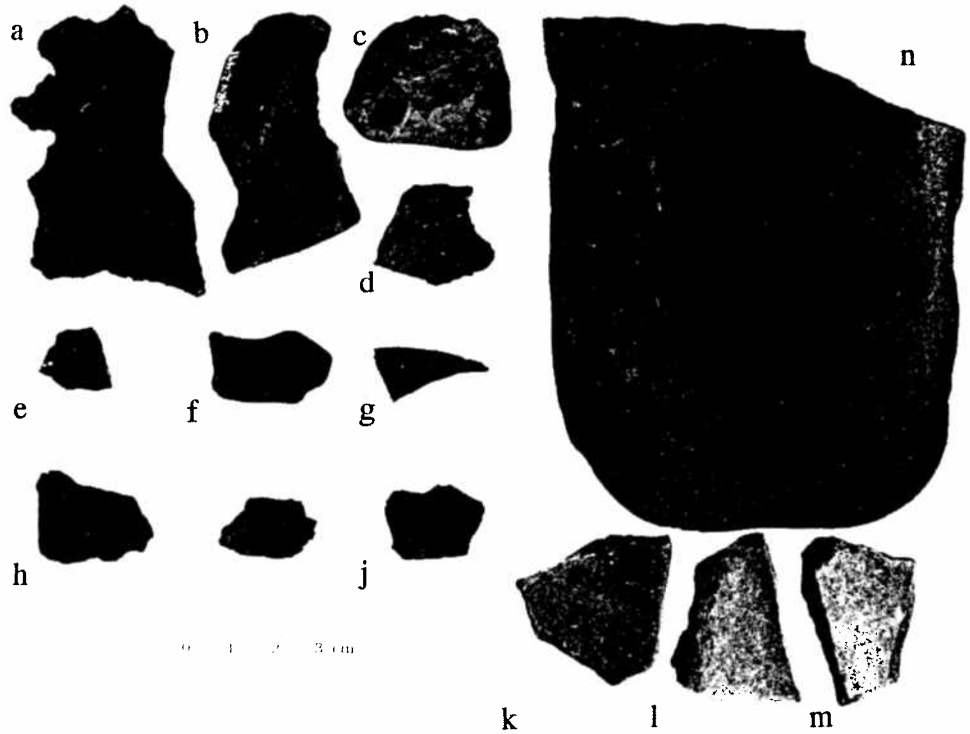


Plate 3. Lithic Artifacts, a-e, unmodified basalt flakes, f-j, unmodified slate flakes, k-m, sandstone abrader fragments, n, partial sandstone abrader.

Plate 4. Engraved Bone Artifact.

gun flint, one of the few items indicative of early contact times (Table IV-8 and Plate 6). The higher layers in Unit 108N 21E are characterized by the presence of ceramic fragments and tin, some of which may denote a relative early historic age. Unit 108N 31E is dominated by items clearly showing a concentration from the 1880-1920 period, including a stove top piece we associate with the large historic house, abundant square nails, a very old marble, and an very old boot. Very few of the 49 items found look as if they were made since about 1920. We believe these items likely date the large house, and are associated with the time of boat building and the boat house.

Most of the items found in Unit 110N 33E also fit the pattern seen above. A few anomalous items probably are from the use of the use of this depression as a very recent trash deposit. In addition, a glass trade bead from Layer B0 was recovered. The historic material from the remaining two units (Table IV-8) also appear to fit the 1880-1920 time period. The rifle cartridge, likely from a .303, is stamped with a date, 1912, and the initial DA indicating date of manufacture and DA, that it was likely made by Dominion Arms. In short, although we did recover items usually associated with early historic times, trade bead, gun flint, and from much more recent times (plastic, etc.) most materials appear to be from circa 1880-1920.

In addition to the items recovered in the field, more material was recovered during the shellfish analysis. The matrix samples brought back from the field were largely material

Historical Objects

Object	108N 16B		108N 21E		108N 31E				110N 33E		108N 37E	108N 41E		Totals
	A-0	B-0	A-1	B-0a	A-1	B-0	B-1	B-2	A-1	B-0	A-0	A-0	B-0	
Square Nail Fragment				1		2	12	2	4		1	4	7	36
Wire Nail Fragment						1			4		2			7
Ceramic Sherd			4	2		3	7	1	1		7	3		28
Glass Fragment		1			1	1	2	1	6		1	1	2	16
Gun Flint		1												1
Trade Bead										1				1
Tin Metal Fragment			2	27	1	1	4	3	4	1		1	1	45
Stove Fragment							1							1
Tack Head							2							2
Wire Cable									7					7
Plastic	1									1	2			4
Button			1											1
Leather							3							3
Glass Marble							1							1
Brass Screw									1					1
Metal Pill-Box									1					1
Rifle Cartridge													1	1
Totals	1	2	7	30	2	8	32	7	28	4	15	9	11	159

Table IV-8. Historic Artifacts from 1995

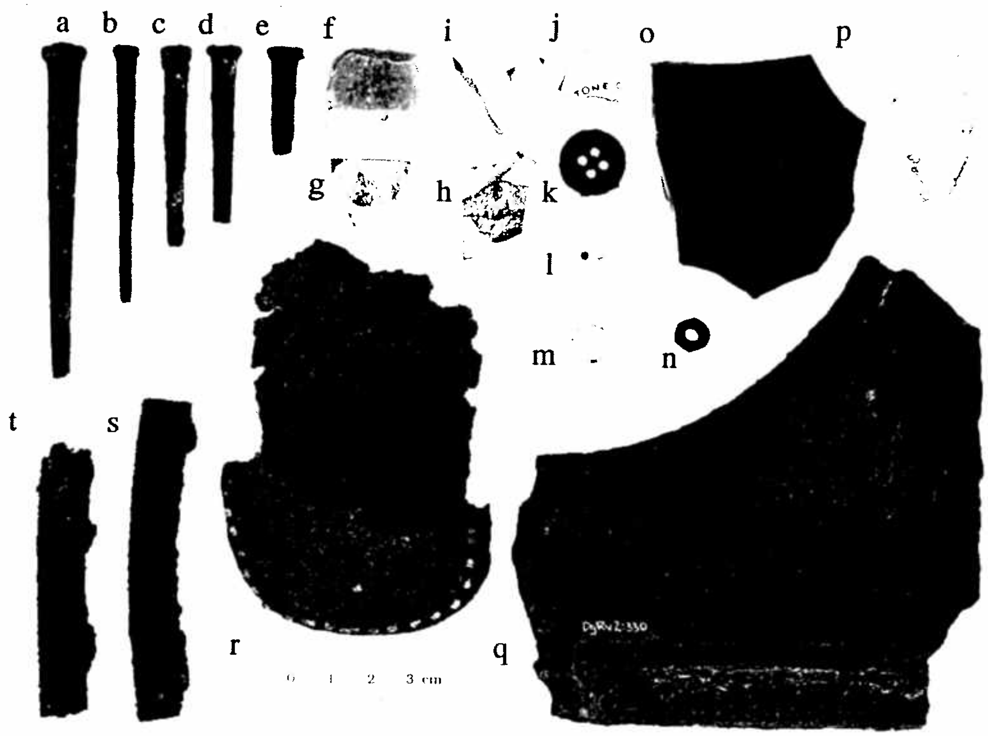


Plate 5. Historic Artifacts, a-e, square nails, f, gun flint, g-j, glazed ceramics, k, metal button, l, plastic button, m, medicine bottle top, n, blue polygonal glass bead, o-p, bottle glass fragments, q, stove-top fragment, r, shoe or boot sole, s & t, cable fragments.

Plate 6. Gun Flint from Unit 108N 16E.

from the 3 mm screen. This was only sorted for large, obvious artifacts at that time. Artifacts were recovered from three of the seven samples analyzed (Table IV-9). Although some of these were large and would have been recovered from the field, others, such as the single dentalia bead, micro-chert debitage, and lead "duck" shot, would not have been, and others were in the "should have, but maybe, would not have" category. Thus we have chosen to show this material separate from that recovered in the field.

A single basalt flake was recovered from the prehistoric housefloor sample. This flake's largest dimension is 1.15 cm, and it is not retouched. A single truncated dentalia bead (3.5 mm) was found in Layer B0 from Unit 108N 16E, supporting the general prehistoric nature of that layer. Sample # 42 from Layer A0 from Unit 108N 37E had a mixture of prehistoric and historic items recovered, as argued for earlier. The two basalt flakes are small (largest 1.25 cm), and the one piece of Jasper, a microflake (3.5 mm), in contrast with a number of large historic items, although the lead "duckshot" is also small (3.65 mm, 0.144 inches, likely no. 4 size shot). The material recovered from the shellfish analysis, then, supports inferences made on other, larger artifactual material.

Artifacts from Shellfish Analysis

Artifact Class	108N 16 E Layer B-0 Sample 34	108N 21E Layer C-0 Sample #13	108N 37E Layer A-0 Sample #42	Totals
Flakes		1 Basalt	3 2 Basalt,1 Jasper	4
Dentalium	1			1
Ochre			1	1
Square Nail Fragments			4	4
Tin Metal Fragments			2	2
Lead Shot			1	1
Lead Fragments			1	1
Totals	1	1	12	14

Table IV-9. Artifacts Recovered During 1995 Shellfish Analysis.

V RESEARCH PLANS FOR AND EXCAVATION RESULT OF 1996

R.G. Matson

As stated in the Research Design portion of this report, the goal of this project was to excavate a large portion of a late house floor in order to explore questions about household organization (Matson 1994). The 1995 investigations were primarily to try to locate such a house floor for future work. The apparent feature located by the conductivity survey in the 98 - 113 N and 18-30 E and tested by 108N 21E meets all the criteria for further exploration. Not only does the remote sensing feature correspond to surface indications, well defined on three sides (Figure IV-1), but the excavations in 108N 21E demonstrated the existence of a well-defined floor in the upper 20 cm of the deposit. This feature is the target of the planned 1996 excavations.

The 1996 plan was to reopen 108N 21E and to open up the ditch with the inferred PVC pipe that runs through the feature at approximately 26E. From these openings Matson thought the floor be visible and we could set out units from this exposure. We planned to excavate only to the floor and to open at least 100 square metres. Control would be maintained by reference to standing sections, 1 x 1 metre units, 3 mm screening, and locating larger objects in situ. On the basis of the very limited artifact inventory found in 1995, we expected most of the remains to be faunal material and features.

Of particular interest was to be the location of hearths, posts and rafters, and bench areas. Differences in distribution of faunal remains and artifacts as found in other houses by Fladmark (1973), Chatters (1981, 1988), and at Ozette (Samuels 1991, 1994) would be carefully analyzed. The sum faunal profile will also become an important comparative source of data. It will be interesting to compare it with the ethnographic record and other archaeological collections.

In May 1996 we arrived with the field school, and laid out a trench of units over the "ditch" which Matson presumed was backfill over a larger trench that contained a PVC pipe in it. These included units 104 to 111 N, 24 E, and 101 to 104N 23E (Figure V-1). Upon excavation we found that the "trench" did not seem to go very deep and did not hold a pipe of any sort. The maximum depth appeared to be about 30 cm. On the north half of the initial trench we did hit what seemed to be a disturbed floor, but the south portion (101 to 104N) appeared to rapidly penetrate the water-worn "C1" deposits located elsewhere in 1995. Further, the northermost units were very difficult to interpret. We thus shifted our attention to units laid out off 108N 21E and those units in the original trench that appeared to have a floor (107N to 110N).

In one of those units, 107N 24E, Feature 2 was defined, a mixture of firecracked rock and relatively whole shell that was quite different from any other deposit that was being excavated. Later, a similar, but smaller deposit was defined in 111N 23E, and designated as Feature 3 (Figure V-1). Feature 2 was

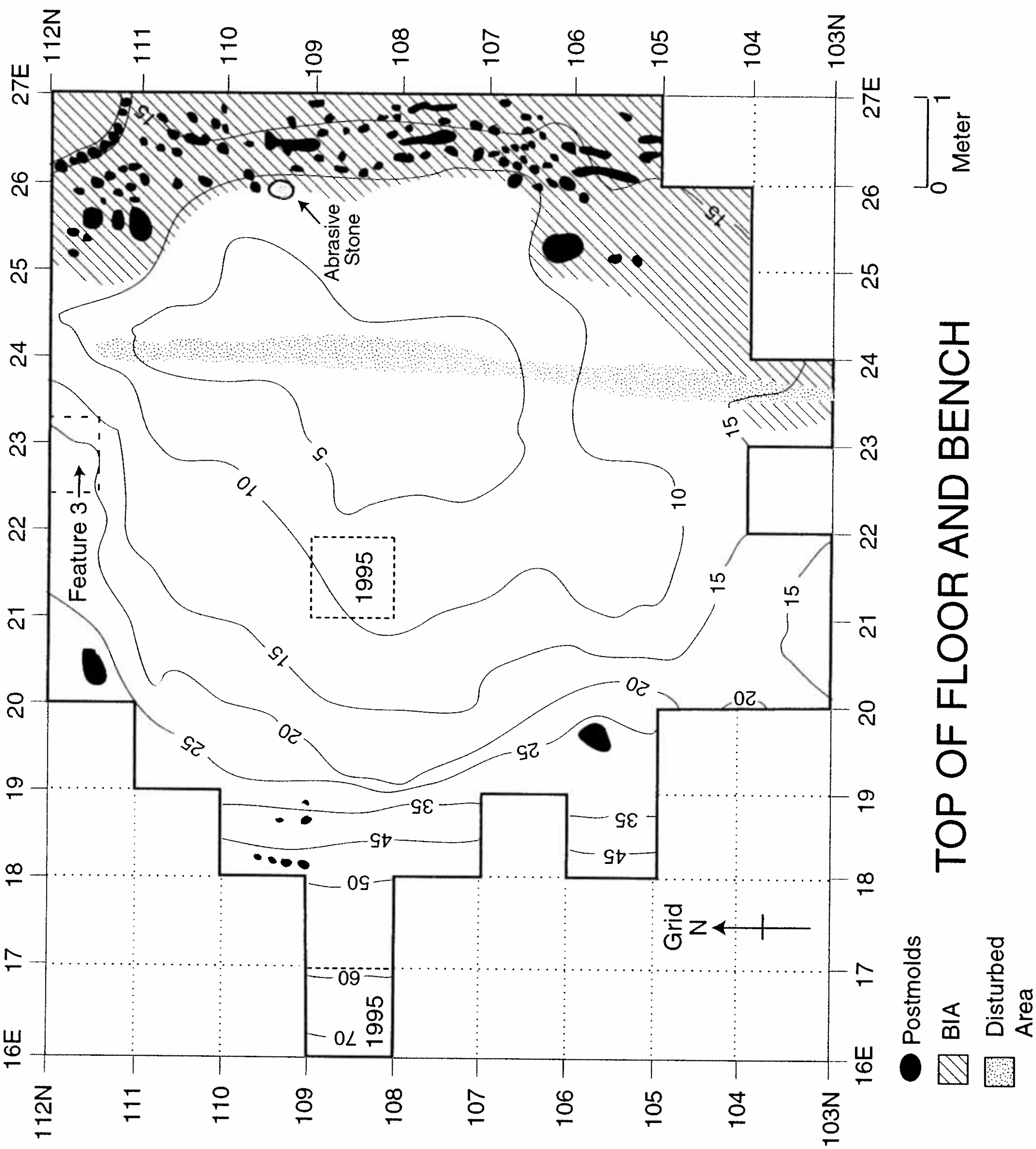


Figure V-1. Top of Floor and Bench, Compartment 1.

eventually found to extend from 106N 24E to 109N 25E. Feature 3 was also found to extend into 111N 22E.

In the units opened off the original trench or around 108N 21E, floor deposits were located not deeper than 0.0 Datum, or no more than 30 cm below the surface of the ground. A relatively regular floor surface became apparent between 106 -109N 20E and 107-110N 24E as we connected up these units. By July 6 the excavations (Figure V-1) had opened up approximately 30 square meters of house floor. A series of structural features had made their appearance by this time. There extended from 105.5 to 111N 25E an area of much softer matrix with much larger pieces of shell and rock than found elsewhere. This appeared to be continuous from the definition of Feature 2 in the south and graded down in absolute elevation as one went north. This area, which we interpreted as "underneath bench deposits" was bounded in the north, south and east, by loose, water-worn light colored deposits, denoted as layer B1a. It appeared that on the east side of the excavations the housefloor had been excavated about 20 cm into the B1a layer, making the limits of the house quite definite in these areas. On the other hand, the northern limits of this structure were more difficult to judge with 111N 23E to 111N 25E seemingly incompassing the edge of the structure, but without a clear demarcation within any of these units. In units 111N 21E and 22E, however, the north walls showed a continuous stretch of layer B1a, the light-colored layers with abundant water-worn shell, found on the east side of the excavation. This material is best interpreted as signifying the edge of the house, but at a much lower level of probability than the east and west sides.

As excavation continued, we found a very large burned layer around 108N 21E, designated B0a, following the designation used for this layer in 1995. This appeared to be close to, and sometimes directly on the floor, but filled with historic artifacts around 100 years old. As in 1995, B0 was the level designated below the A humus and above the floor, C was the floor or below. The oxidized material found in 1995 in Unit 108N 21E was of this historic burning, not any prehistoric activity. Although in most of the area, the burning appeared to be on top of, but close to the floor of the house, north of 108N it may have gone through the floor, as the floor became difficult to locate. In general, though, the floor became less definite as one approached the edge of the house, as one would expect with benches, etc.

We then extended the excavations to the edges of the floor. On the west side, starting at 20E we began to run into a rise from the floor, unlike anything seen on the north or east, that resulted in a step or ledge. Figure V-2 shows this in profile at the 109N line. A thin, loose layer that was easily brushed off defined this step. This step extended from 105N to 110N. In unit 109N 18E, however, some decayed wood and old bottle glass indicated historic disturbance. In general, the northwest portion of this structure was difficult to discern, as much historical disturbance was present. As excavation extended eastward, from 105N to 111N 25E, the shelly B1a layer revealed

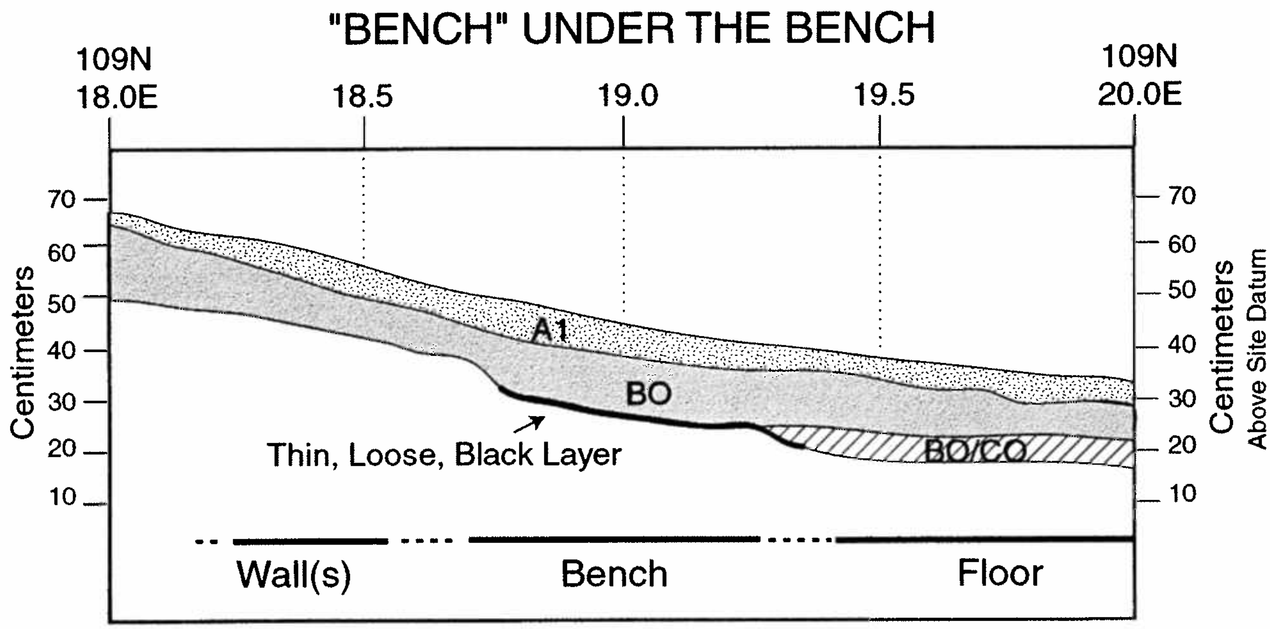


Figure V-2. "Bench" under the Bench. Profile of 109N 18-20E, west side of Compartment 1.

numerous postmolds. What we thought were equivalent postmolds were also located in the much less constrasting matrices on the west in 109N 18E and 105N 19E.

Having placed units around the edges of the floor, we then added on 108N 17E to link up the 1995 excavated 108N 16E with the wide area excavated in 1996. This unit revealed a series of layers unlike those found in any other unit, probably the results of previous structures that predated the last prehistoric house, and located higher metrically, but lower stratigraphically, as the last prehistoric house was excavated through the hypothetical earlier house features. One corner of 108N 16E, excavated in 1995, supports such an interpretation. With only a single square meter excavated and with most of any such postulated structure destroyed by later ones, little more can be said, except that the present large scale features visible on the surface were probably not the first ones at this site.

Having defined the north half of the house, which we later denoted as Compartment 1, we then turned our attention to the south, which we called Compartment 2. Because we were interested in the nature of any partitions, we were very interested in the continuity of the floor between the two. In 105N 20E and 105N 21E there does appear to be a continuous floor at 0.10 cm, but further east obvious, large-scale recent disturbance made it impossible to resolve this issue (Figure V-1).

Further south in the western part (101 to 104N and 19 to 21E) this historic disturbance was not evident (Figure V-4). Instead of a inferred swept floor (layer C0), as seen in the center of Compartment 1, we found a layer (B0c) of relatively whole shells laid on top of Layer C0. However, in Units 102N 20 and 21E a much more fragmented B0d layer was present along side B0c and laying on top of the same floor (Figure V-4).

The 'step' found in Compartment 1 was not present south of 105N. Instead a row of rocks was found in 102N 20E dividing B0d from B0c, with oxidized floor on the B0d side, sugggesting that B0d is really the remains of a large hearth. What these excavation results mean will be discussed after a review of the nature of the shed roof house.

The Salish Shed Roof House

What is known about the house structure whose remains we think we have excavated? Here we will look more carefully at the structure outlined earlier in this report. The Salish Shed Roof house is simultaneously well-known and undefined as evident in Suttles'(1991) excellent summary. The general purpose, winter dwelling, storage, and public ceremonial nature of the shed roof house is clear, as are the main structural features. Beyond these general statements, such things as size, number of people per compartment, divisions between compartments, location of different people within the house, amount of economic specialization are subject to widely varying interpretations. In short as Fladmark pointed out (1973:80) the organization of the ethnographic present house and household will be determined by archaeology, if it at all. Let us begin with those things that are known, relying extensively on Suttles' summary.

First, the house frame of parallel lines of vertical rafter support posts and the suspended rafters were 'permanent', but the cladding of roof and wall planks were not. Typically a house, or proportions there of, would be clad by individually owned roof and wall planks in the fall, and would be taken apart in the spring as families dispersed to resource gathering and processing locations. Thus the parallel rows of posts would represent the maximum size of the house, not necessarily the usually size fully covered by planks each winter.

Second the roof and side walls were independent of each other. The roof consisted of planks 30 to 45 cm wide and long enough to go across the width of the structure. (We have one over 13 m long at UBC.) These planks were usually slightly lipped at the edges so they acted like long masonry roof tiles so that the water ran down them and not off their sides and into the house below. The roof planks rested on cross pieces placed between the rafters. The front (toward the water) side of the house was higher (3 to 4 m high) than the back so that the water ran off the ends of the lipped roof planks at the back of the house. The walls consisted of shorter (usually 2.5 to 4 m) planks that were broader (up to 1.4 m wide, but informations from Ozette (Samuels 1991) and other places indicate they were usually much narrower than this) and were flat on both sides. These were suspended between rows of small, vertical posts, by ties. Thus, there was no connection between the walls and the roofs.

From these "facts" agreed to by almost all observers and confirmed by work at Ozette (Samuels 1983, 1991), we move to areas that are generally agreed on, but are less clear. First, a bench of some sort is agreed to exist at least against the long front and back walls. This was used for storage and sleeping with items stored both under the bench and on top. Suttles (1991) indicates a bench was 60 to 90 cm high and 1.2 to 1.8 m wide, with a lower bench sometimes existing in front of it. Remains from Ozette (Samuels 1991:108, 163) indicate a relatively permanent bench with a special lipped plank at the edge that probably usually extended along all four walls but was raised only 23 to 30 cm but were usually not continuous. The

Ozette houses, although they had frame, roof, and wall structures identical with Salish ones, were not seasonally dis-articulated, and thus may not be good models when it comes for the nature of benches.

A second feature that is agreed to by most investigators, is the presence of at least one hearth between each set of rafters and according to some evidence, two. The hearth(s) and rafters defined a compartment, which was something similar to a house or "household" elsewhere on the Northwest Coast. This compartment would typically consist of several related nuclear families, or a large extended family. In some cases, several adjacent "compartments" would belong to the same corporate "household". Depending on the size of the house and the size of the household, the "household" may be isometric with the entire shed roof house.

Although the above features are supported by most accounts, little agreement can be found about additional structural details of Coast Salish houses. Thus, whether one would expect permanent divisions between compartments is moot (Suttles (1991) argues no). Ozette evidence (Samuels 1991:108) indicates some benches may have been perpendicular to the long walls which would be evidence of some sort of partition, although maybe a very low one. Samuels (Pers. Comm. 1999), though, has questioned whether the possible perpendicular benches were the result of the mud slide which destroyed the houses. One might expect partitions to be absent between compartments belonging to the same multi-family "household" but to be present between compartments belonging to different households. The nature of any partition is also unclear. Another question is whether a specific part of the house, such as the northeast corner, would have the "head of household" (Suttles (1991) again argues no). The size of the compartments and of a "typical" house are also unclear, as are the amount and nature of economic specialization between houses or within houses. It was to investigate these questions, as well as to validate the "agreed" aspects that we proposed the investigations on Shingle Point.

Interpretations of 1996 House Excavations

As reviewed above, in 1996 we opened up a large area, 76 square metres, more than half the house (as defined on the basis of the surface indications), and excavated one of two compartments completely. The east half of this compartment is the best defined, possibly because the house is deliminated by the relatively sterile waterworn shell deposits on that side, a factor that is joined by the presence of less historic disturbance along that side (Figure V-1). Unfortunately the advantage of shallow deposits on top of the floor allowing a large area to be exposed for a relatively modest cost was offset, in this case, by extensive historic disturbance, including a burning episode (layer BOa) that covered much of the central part of Compartment 1, as discussed above.

The presence of some much historic material close to, if not on, a presumed prehistoric floor raises the issue of whether this structure is really historic rather than prehistoric. There are several lines of evidence that point to historic use being a secondary, rather than original use of this area. First, we have good deposits on top of the floor which either have no historic material, or a very small amount as might be expected considering the shallowness of these deposits. Perhaps the best example of this is the very extensive Feature 2 deposits, which turned out to spread across much of the east side of the house. A more extensive case of this are the B0c and B0d layers in the second compartment lying south of 106N. These are stratigraphically similar to B0a in that all three lay on top of a common floor, but only B0a has the extensive burning and abundant historic material. Thus it appears that either the first compartment was "cleaned" out or perhaps did not have the equivalent of B0c and B0d layers when it was reused in historic times.

Most of the historic material appears to date from the late 19th and early 20th century, although a few mid-19th century items were recovered, as is discussed later in this report. Thus, the integrity of the material over most of the floor in Compartment 1 is definitely in question, with much more historic than prehistoric material being recovered. Because of the dating of the material, it does not appear that we are dealing with an early historic structure, but with an early 20th century re-use of a prehistoric structure, perhaps using the central part of Compartment 1 as a dump. This interpretation is supported by the lack of historic items in the best defined parts of Compartment 1, along the east side, and in intact prehistoric layers in the investigated parts of Compartment 2. Thus our analysis of the 1995 historic materials was supported by the 1996 fieldwork. This issue will be discussed in more detail in the description of the 1996 artifact assemblage.

Secondly, the house has a traditional shed roof structure, yet much of the historic items found in BOa are early twentieth century, and very few appear to date earlier than the later part of the 19th century. Since the historic accounts, reviewed previously, point to "frame" houses by the 1870s for Shingle Point, it is very unlikely that the historic materials belong to the excavated house.

For these reasons, then, it is unlikely that the house structure excavated is closely connected to the historic items so abundant in the burned BOa. It is probably that the northern part of the house was used for some sort of trash area that was burned, sometime 80 to 130 years ago. There are several other alternatives that are worthy of mention. First, there may have been a small frame structure in the north part of the structure which burned resulting in BOa. The lack of structural remains of this may be the result of our ignorance of how such a structure may have been laid out. Second, we do have a few items of early historic nature, gun flints, clay pipes, rolled copper tubes. It is possible that the shed roof house is of very early historic times, circa 1800 and was re-used a hundred years later. Early historic items, though, do not appear to be located in either the Feature 2 or BOc and BOd deposits, although this does not completely eliminate this possibility.

Results: Compartment 1

The best structural house information is the size of Compartment 1, and the presence of benches along the east and west sides of the house (Figure V-1). Well defined by unmodified water worn shell (layer B1a) on the east and the prehistoric cut into the beach ridge on the west, the width of the house is clearly about 8 metres (according to the distance between east and west "wall" post molds, a minimum of 8.0m and a maximum of 8.8m). On the east we have post molds in back of the bench area that we interpret as resulting from the pairs of posts from which the wall planks were suspended (Figure V-3). Because of the loose nature of the water-worn shell, unless the posts were left in the soil, we would not expect very well preserved molds, although the colour differences are good. To the west, several post molds were recovered that are likely equivalent (109N 18E, Figures V-1,3). These are less distinct in color, but larger and have a better "outline", as one would expect from a firmer matrix. At one point on the west side we thought we have some actual posts in a location that we tentatively interpreted as being part of bench supports (109N 18E), although they looked more like decayed remains of vertical planks. Historic glass, however, at the base of the decayed wood showed this to be a historic intrusion.

In addition to the east and west edge of the houses, the benches are well defined. On the east, the floor just quits, and a much less compacted matrix exists about a metre from the

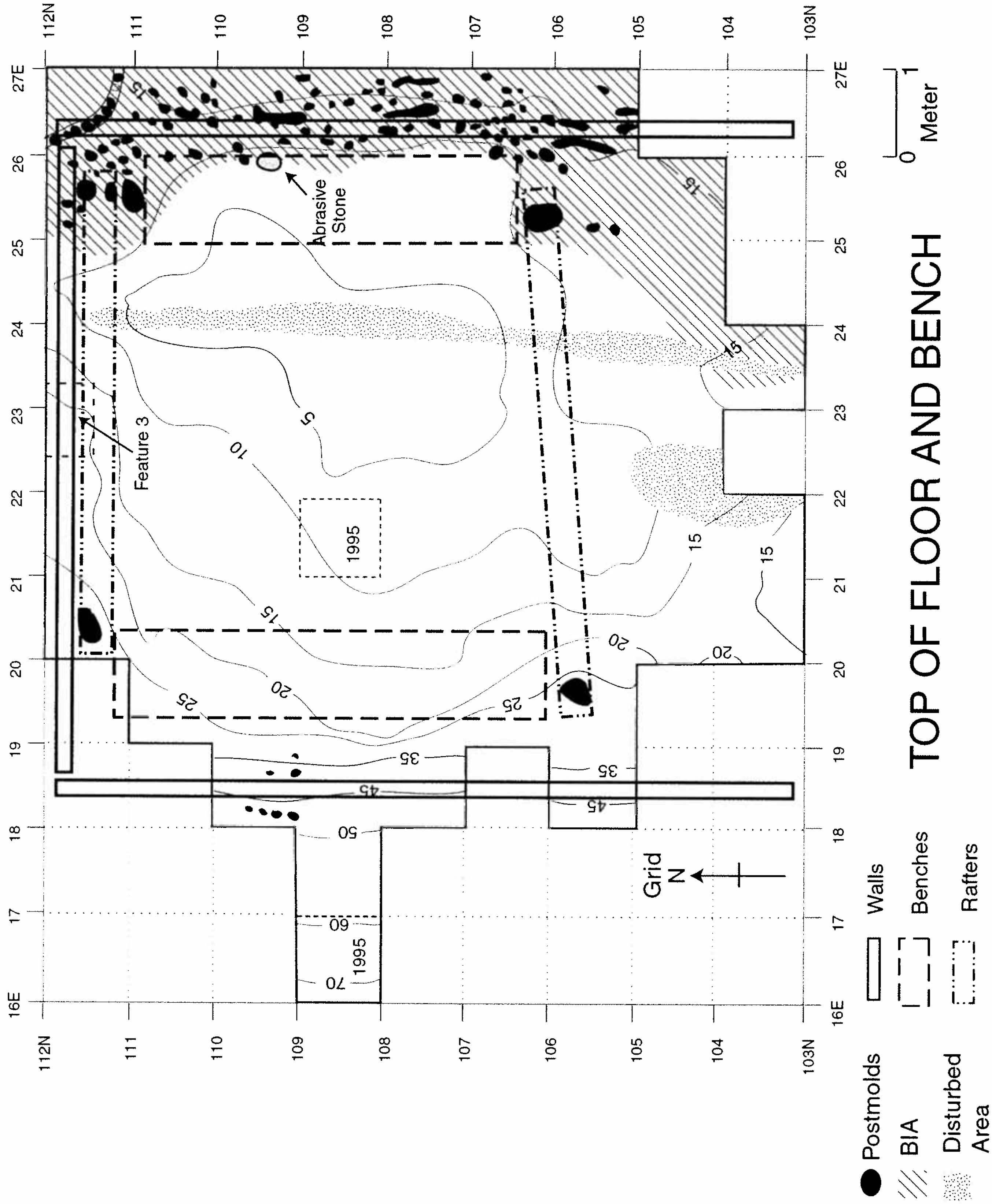


Figure V-3. Position of Walls, Benches and Rafters in Compartment 1.

edge of the wall, as one would expect of a material that was not being trod upon. On the south portion of the bench we found the fascinating deposit, introduced above as Feature 2. This appears to be floor dbris that was swept under the bench, rather than under the rug! It includes whole shells and broken firecracked rocks not found elsewhere above the floor. On the east, the bench area is well defined and we have evidence for space under the bench being available for temporary waste storage (Figure V-3). We also found an abrasive stone in a vertical position apparently between the back of the bench and the edge of the house (Figure V-3).

A final observation about the east side, has to do with the prehistoric excavation to create the house and the wall. The posts that held up the wall are found vertically above the bench and floor, indicating that a shallow prehistoric excavation was made (circa 20 cm) and that the house floor and bench was placed within this, as well as the rafter support post. The wall, though, was placed immediately outside of this prehistoric excavation, so that at least part (circa 20 cm) of the wall behind the bench consisted of the prehistoric excavation and not the above ground plank wall (Figure V-3).

The west side of Compartment 1 presents a somewhat different situation. First, there appears to be more historic disturbance, as indicated above. Second, the original ground layer was higher, with the house floor being prehistorically excavated into the back of the beach ridge. Thus there was more prehistoric diggning needed to level the floor. About 70 cm difference in elevation exists between the top of the beach ridge and the floor in front of the bench. Apparently, this prehistoric excavation was not made all the way to the edge of the house, so that a step existed underneath the bench (Figure V-2). I believe some space existed between the bench and this ledge, based on a fine, dark deposit which flowed up on to the bench, but I may be mistaken, and this space may have been minimal if the height of the bench above the floor was similar to that indicated at Ozette, only 22 to 30 cm (Samuels 1991:108). There are some signs that a much smaller ledge existed on the east side as well. This one, though, may be the result of "gouging of the floor in front of the bench by wear and sweeping.

As reviewed above, excavation higher on the beach ridge (units 108N 16 and 17E) revealed layers that may be the result of previous structures that were physically higher and shifted slightly to the west, making the stratigraphy more complicated and less clear than on the east. Although the beach ridge was cut into for the house, even in front of the bench, it was not excavated down to the same level seen on the east, so that there is a gentle slope to the floor from west to east, a total of 25cm at 107N in the six metres between the benches (Figure V-1).

The north side of the house is poorly defined, as the floor ends but neither a ledge, such as seen on the west, or obvious bench deposits such as found on the east, could be located. A small feature (Feature 3), similar in nature to Feature 2, was located in units 111N 22 and 23E on the north side, which we think either was under the bench, or immediately outside the house (Figure V-1). As indicated above, layer B1a, the light-colored water-worn shell layer was present in the north wall of these two units, which is probably best interpreted as being the north wall of the house.

Historic disturbances may be responsible for our problems in defining the north end of this structure; indeed the northwest corner of the house was impossible to find and numerous historic items were found in that area. We can only be reasonably assured of defining the east portion of the north side of the house. The combination of the historic north-south trench through the housepit, (indicated on the contour map and Figure V-1) and excavation errors make it hard to demonstrate even this part of the north wall post fieldwork. Whether a bench existed against this wall is not clear.

In addition to the benches and the east wall, we have pretty good evidence for the rafter supports, although not as good as I expected. One post mold is pretty good, two others are possible and the third corner (the northwest), although a good post mold exists there (Figures V-1,3), has so much historical disturbance, that I do not trust it, especially as it is circa 1 metre from where I expected it (Figure V-3).

What was also unexpected was how the rafter support post molds were found in higher elevation lobes extending out into the floor. Starting the post holes at floor level would just mean that the posts would need to be that much longer. At Shingle Point a deep hole would quickly run into water-saturated deposits, as the floor level is the same height as the top of the highest logs on the beach. Also unexpected was how the benches extended behind the posts towards the exterior walls, but not in sharp right angles, leaving shallow U shaped bench areas in the archaeological record. This makes sense, though, as the space between the posts and the exterior walls would be hard to access. I could locate nothing similar to this pattern either in ethnographic accounts or in other available archaeological reports.

The compartment thus uncovered is about six meters by eight. These dimensions result from the 8 to 8.8 meters described above being the "width" of the house, with the rafter support posts being not quite six metres front to back, and five metres between pairs of rafters, plus perhaps 1 metres to the north between the rafter and the outside wall. Actually north-south measurements between rafter support post molds range from 4.9 to 5.9m, but the 5.9 relies on the very questionable post mold from the northwest corner. Compartment 1 is thus approximately 50 square metres, which would lead to a "household" of the order of 10 to 15 people. The only really "intact" deposits are those under the bench on the east site, with Feature 2 at the south end, being the only deposit of useful size.

Compartment 2

In contrast with Compartment 1, we excavated only 15 units solely within Compartment 2, too few to define it (Figure V-4).

Another 9 units (105N 18 to 26E) are mainly within Compartment 2, but most of these units have a lot of historic disturbance. (This disturbance means we can say little about any possible partitions between compartments.) Unit 102N 19E to the west, though, indicates that the "ledge under the bench" found on the west side of Compartment 1 (Figure V-2), is either absence or a different shape. Unlike the "swept" floor of Compartment 1, with early 20th century material and burning very close above it, Compartment 2 had neither the burning, nor the concentration of historic items. Instead it had a series of prehistoric layers deposited on the floor which appears to be continuous with that found in Compartment 1. Some of these above floor layers were dominated by whole shells (B0c) and others were more broken up and looked more like what one would expect for "floor" deposits (B0d). The area excavated was divided into these two deposits by a row of rocks in unit 102N 20E possibly indicating a large hearth (Figure V-4).

In the spring of 1998 (Matson 1998) I was confident that Compartment 2 was once part of a shed roof house, but not that the deposits we found were laid down within a house. At that time I thought layers B0c and B0d may be coeval with Feature 2, but deposited outside a house, consisting of only Compartment 1 being planked. Another possibility is that B0c and B0d were deposited within a house of two compartments, but not the same time as the deposits that we recovered from Compartment 1. Analysis of these deposits and comparisons with Feature 2 continuing in the spring and summer of 1998 by J. Green, helped

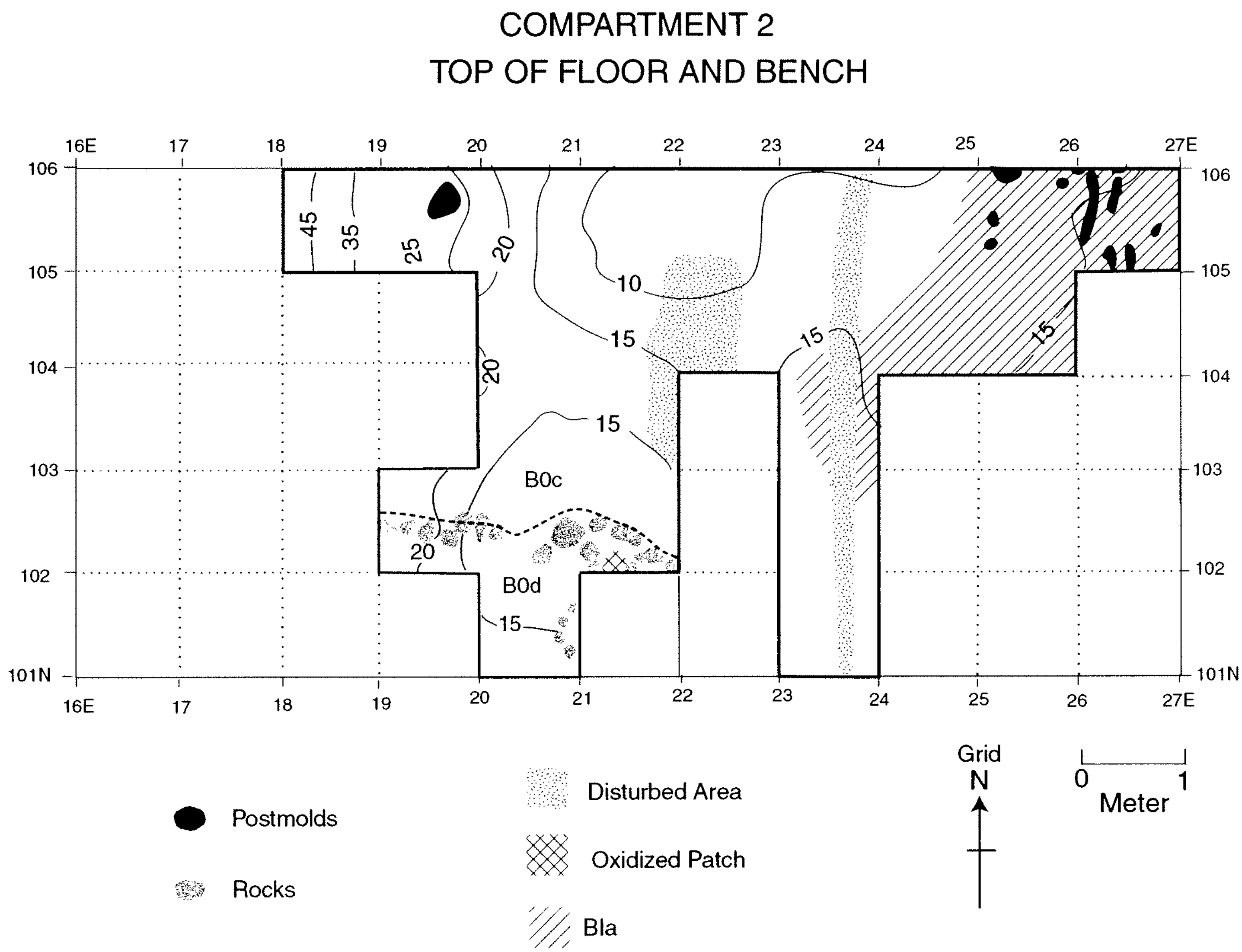


Figure V-4. Compartment 2, Top of Floor.

resolve the situation, aided also careful inspection of the fish remains tabulations by Pacific ID reported later in this report. The seasonality of the two compartment remains appears to be basically the same; the winter, and the deposits appear to be laid on a common floor. This pattern appears to be true for layer B0d and the interfaces B0c/C0a and B0c/C0b but not for B0c, as reported later in more detail. Thus, some of Compartment 2 deposits are housefloor deposits, laid on to a common floor, inside of a common house. The question of whether these Compartment 2 deposits are from the same winter as Feature 2, though, still remains open.

If the deposits found in the two compartments are contemporaneous we have two very different house keeping regimes, one is swept (if sometimes under the rug or bench) and the other appears to be unswept and lived on. This brings to mind Mozino's (1970:19) comments about "commoner" houses being smelly and full of refuse, in contrast to the equally smelly, but swept clear floors of upper class houses. Samuels (1999) has offered an interesting explanation for this difference, one without Victorian overtones. He points out that it is upper class households that would be hosting winter dances and that if one is barefoot, one would certainly prefer to dance on a cleanly swept floor rather than one with broken clamshells! If two distinct kingroups did share the house, that may explain the differences in the bench areas and use of the centre of the compartments.

The line of rocks separating B0d and B0c (Figure V-4) can be interpreted as separating a large hearth area from the rest of the floor, as the crushed shell can be seen as the material walked on outside of the hearth, while the greater amounts of whole shell material could be untrampled material within the hearth area. Although this is consistent with some lines of evidence, such as oxidized material within the "hearth" it does not appear that the "hearths" had a consistent location. We have no comparable data from Compartment 1, and the comparable material from Ozette shows a very different type of hearth, as numerous small pebbles were present around hearths there.

Although we do not have the same floor features in Compartment 2 as in Compartment 1 and so can not estimate the size of the compartment with the same precision, the width of the house appears to be constant and surface indications point to a length of the house as about 12 metres. These data points indicate a compartment size of about 50 square metres for Compartment 2 as well as Compartment 1.

Other Shingle Point Houses

The house structure we excavated is one of a row of rectangular features which may have consisted of six houses, of which surface indications of three still exist. Immediately to the north of the one we excavated, is another of the same width, but about 18 metres long (Figure IV-1). North of that one are the surface indications of at least the end of one of approximately the same width, but unknown length. An earlier sketchy site record shows a feature which is likely the third depressions as being about the same size as the one we excavated (Figure III-1).

We placed a single 1 x 1m unit in the largest rectangular depression. This unit found no clear floor, a single good post mold, and a "sterile" layer consisting of the water-worn shell, only 40 cm below the surface. If this unit is typical of what is present in this feature, not much would be recovered with excavation.

I earlier mentioned the presence of historic period large houses at Shingle Point which were confused with the presence of the row of rectangular depressions such as the one that we excavated. One set of remains of a large historic structure now consists of three rows of small circular depressions that excavation confirmed were post molds (Figure IV-1). Two posts from this structure were still standing in the early 1970s and one of these still exists, although flat on the ground. This structure was probably a gabled house, since the middle row does not line up well with the two outside rows, which do line up well (Figure IV-1). The outer rows of posts are 17m apart, giving a minimum width of the structure. The rows are 55 metres long, and may well have extended further to the south, where later house construction may have destroyed evidence of this structure. An entrance is probably located approximately half way down the west side, as evidenced by a close pair of post molds. This was a truly large house, at least 55 x 17m with spacing between rafters (or at least support posts) of about 7m. Curiously we can find no documentary or informant confirmation of the existence of this structure (Sproat 1877).

The final structure appears to have been relatively square and is associated with a large depression, now partially occupied with a shed. A single standing post remains of the structure (Figure IV-1). We do have informant testimony about this house existing in ruins around 1940. Its size was approximately 18 x 20m if it filled the depression. The location of the single surviving house post is in a position that indicates a size of this order. This depression may have been considered the last (or maybe second) of a row of six houses, with the other five (or four) being sections of the single large house to the north of the site map reproduced in II-1.

The presence of these two large, but not shed-roof, houses gives an indication of the changes that European contact brought to the Northwest Coast peoples. It is clear that contact allowed much freeing up of the constraints that existed previously. Gibson (1992:270-272) argues that at first the initiation of the fur trade strengthened the role of traditional leaders, but then later allowed untitled individuals to gain power and prestige. Would this not lead to a reduction in average size of households, according to the logic presented elsewhere (Matson 1996)? I believe the later Shingle Point houses and the information cited by Gibson caution us not to rely too heavily on the measurements and information from early historic times as necessarily being good descriptions of prehistory.