Archaeological Impact Assessment of DjSc-1, Shelter Point, Texada Island BC – *Public Copy*

Permit 2013-0162

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AQUILLA
ARCHAEOLOGY

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Table of Contents

List of Tables and Figures

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Last but not least, thank you to the residents of Gillies Bay for your patience during our fieldwork program.

Management Summary

This report describes the results from the Archaeological Impact Assessment (AIA) conducted by Aquilla Archaeology, June 26 – July 3, 2013 under Heritage Inspection Permit 2013-0162, Shelter Point, Texada Island.

The Powell River Regional District is proposing to develop new facilities in Section 16, Shelter Point Regional Park located in Gillies Bay on Texada Island. The proponent's proposed plans include replacing a residence and concession building which burned down in 2012 and installing a new septic system and service adjacent to previously recorded archaeological site DjSc-1 estimated to be 50 x 20 metres.

The assessment was conducted June 25- July 3 2013. Field work included pedestrian survey of Section 16 of Shelter Point Park achieving 100% survey coverage. The boundaries of DjSc-1 were tested in a subsurface program which included 85 shovel tests, 1 evaluative unit and 10 backhoe tests.
Of the subsurface shovel tests, 43 were positive for subsurface cultural material. Of the backhoe tests, 4 were positive for subsurface cultural material. Depth of cultural deposits was on average 80 cm however some shovel tests were unable to reach sterile sediments.
Results from the testing program have amended the boundary of DjSc-1 to measure 442 metres N/S x 175 metres E/W.
Above ground habitation features are present in the form of house depressions and exposed midden mounds arranged in three avenues running parallel to the present shoreline. This area was clearly a village consisting of several longhouses and may represent the best preserved example of village cultural topography that survives on the south coast. The habitation features are outside of the proposed development area and not subsurface tested. One confirmed culturally modified Douglas-fir pitch collection tree estimated to be 250 years old is present and located on top of a midden mound associated with the habitation features. Two possible culturally modified Douglas-fir trees are also present but it is not clear whether the scars result from pre-contact/ historic events.
A total of 279 lithic artifacts, 195 faunal remains, 15 historic artifacts and 4 samples were collected during this study. A hearth feature was identified in the evaluative unit located within the proposed development area and was dated to 840 +/-30 conventional radiocarbon years. Of the artifacts, several are considered diagnostic and include a small-medium leaf shaped, two ground faceted slate projectile points, microblades and microblade cores. The artifact assemblage suggests the Shelter Point site is a Locarno to Developed Coast Salish period site occupied from at least 3300 years to just before Contact.

Study areas 1-3 and 6 were found to be predominantly intact with significant cultural deposits occurring in areas 2 and 3.
Extensive disturbance was found in subsurface deposits in the proposed development area and on Shelter Point itself (areas 4 and 5) from historic logging operations, historic residences, a bulk oil plant and terraforming events related to campground and park developments which have levelled, re-distributed and possibly removed cultural deposits. However, intact cultural deposits are present within the proposed development area at depths of 30 cm to at least 75 cm depth below surface. In summary, DjSc-1 is large, significant and relatively intact village site. The intact portions of the site should be carefully protected and managed.

It is strongly recommended the proponent undertake detailed mapping of the habitation features in order to document the current state of this village complex and to provide a non-invasive and non-destructive means of further defining the original features and any post-deposition impacts.

If possible, it is recommended the proponent attempt to relocate the proposed facilities to the least sensitive areas of the site (Area 6) in order to avoid signficant archaeological deposits.

If the currently proposed location (Area 4) is chosen for the development and construction of the proposed facilities, in addition to completion of detailed mapping of the habitation features, systematic archaeological data recovery is recommended to be excavated in advance of construction and development activities in the location of the proposed septic system including the new sewer line trench. This will allow for a reasonable sampling of archaeological data to be collected in advance of destructive subsurface alteration by the proponent. In addition to systematic data recovery, all excavation and construction related subsurface disturbance must be supervised and monitored by an archaeologist to be present at all times during such activity.

1.0 Introduction

This report details the findings of an Archaeological Impact Assessment (AIA) study of Section 16 of Shelter Point Regional Park, Texada Island, conducted by Aquilla Archaeology. This assessment was initiated by the Powell River Regional District (PRRD) who contacted Aquilla Archaeology October 18, 2012 to discuss proposed construction of previously existing concession building and caretaker's residence (destroyed by fire in 2012) in the northwest corner of Shelter Point Regional Park. A regional park campground with a caretaker residence, concession, and boat launch facilities are managed and operated by the PRRD. Archaeological site DjSc-1 as it was recorded in 1971 is located adjacent to the proposed PRRD developments. The boundaries of DjSc-1 are ill-defined and thus anticipated to extend and overlap the proposed ground altering developments. An AIA was required to ascertain the boundaries, condition and integrity of DjSc-1 in order to make management recommendations for the PRRD and their proposed construction project.

The AIA was conducted between June 26 and July 3, 2013 in accordance with Heritage Inspection Permit 2013-0162 issued by the Archaeology Branch (Ministry of Forests, Lands and Natural Resource Operations) and was carried out within the traditional territories of Sliammon (Tla'amin) First Nation, K'omoks First Nation and Hul'qumi'num Treaty Group member First Nations.

1.1 Study Objectives

The primary project planning objectives of this study were carried out in accordance with the *Archaeological Impact Assessment Guidelines (1998)* and are as follows:

1. identify and evaluate archaeological resources within the project area;
2. identify and assess all impacts on archaeological resources which might result from the project;
3. recommend viable alternatives for managing unavoidable adverse impacts

In British Columbia, the Heritage Conservation Act ([RSBC 1996] CHAPTER 187) protects archaeological sites from any type of disturbance unless authorized by permit. Archaeological sites are defined as locations on public or private land containing evidence of human activity pre-dating 1846.

This assessment is provided without prejudice to Aboriginal Rights and Title but is not intended to address potential impacts in regards to traditional use of the study area and does not in any part constitute consultative duty.

1.2 Organizational Format

This report is organized using the format provided in the *Archaeological Impact Assessment Guidelines, Appendix A: Guidelines for Report Content* (1998).

2.0 Proposed Project

The project is located at what is commonly known as Shelter Point (figure 1), the name in use since the PRRD took over jurisdiction of Section 16 from the Province (in the late 1970's-early 1980's) however, it is historically and officially known as Harwood Point, on the southern portion of Gillies Bay, on the west side of Texada Island, in the Strait of Georgia (figures 1 and 2). The greater part of this point of land forms Shelter Point Regional Park, which consists of 617 acres owned and maintained by the Powell River Regional District. Shelter Point Regional Park (SPRP) legally described as Section 15 and a portion of Section 16, DL 656, Texada Island District.

This assessment is limited to Section 16 only, a 12.5 ha portion of the park containing archaeological site DjSc-1 and the location of recreational amenities and proposed infrastructure developments. Section 16 includes a campground, day use area, two boat launches, washroom facilities, a concession building and connected caretaker residence. In September 2012 a fire destroyed the concession and caretaker building. Current development plans are to rebuild the caretaker residence and concession. Each building is estimated to be 12.0 x 15.0 m. (40 x 50') and excavated to approximately 30 cm (8") to install a slab foundation (see figures 1 and 2). A new septic service consisting of three new tanks is proposed to service these buildings measuring a combined 6.0 x 5.0 m. (20'x 16') and will be excavated to 2.5 metre depth connected by a pipe line service across the existing parking lot and tied into the existing septic tank prior to dispersal to the existing septic field. In addition, a Tla'amin cultural building is currently also in planning stages to be located south of these facilities (see recommendations).

In relation to these developments proposed by the Powell River Regional District, the AIA assessment was undertaken to identify and define the boundaries of archaeological site DjSc-1 and assessed the significance of the archaeological deposits here in order to make recommendations on the development and protect the site. Archaeological site DjSc-1 was recorded by Bjorn Simonsen in 1971 and estimated to be 50 x 20 metres (*A Survey of Archaeological Resources in Provincial Parks and Map Reserves in the Southern Coastal Area of British Columbia*, 1971-30) and is located in the northwest portion of Section 16, Shelter Point Regional Park. Due to the large size of the park, an inventory of the entire SPRP was not feasible under the constraints of this project, and our studies specifically focused on Section 16, the area within the park that is used the most recreationally. This Section was subject to further survey to identify any other, as-yet unrecorded archaeological sites and address potentially unmitigated recreational impacts to archaeological resources here.

FIGURE 1. PROJECT LOCATION. REMOVED FOR PUBLIC COPY.

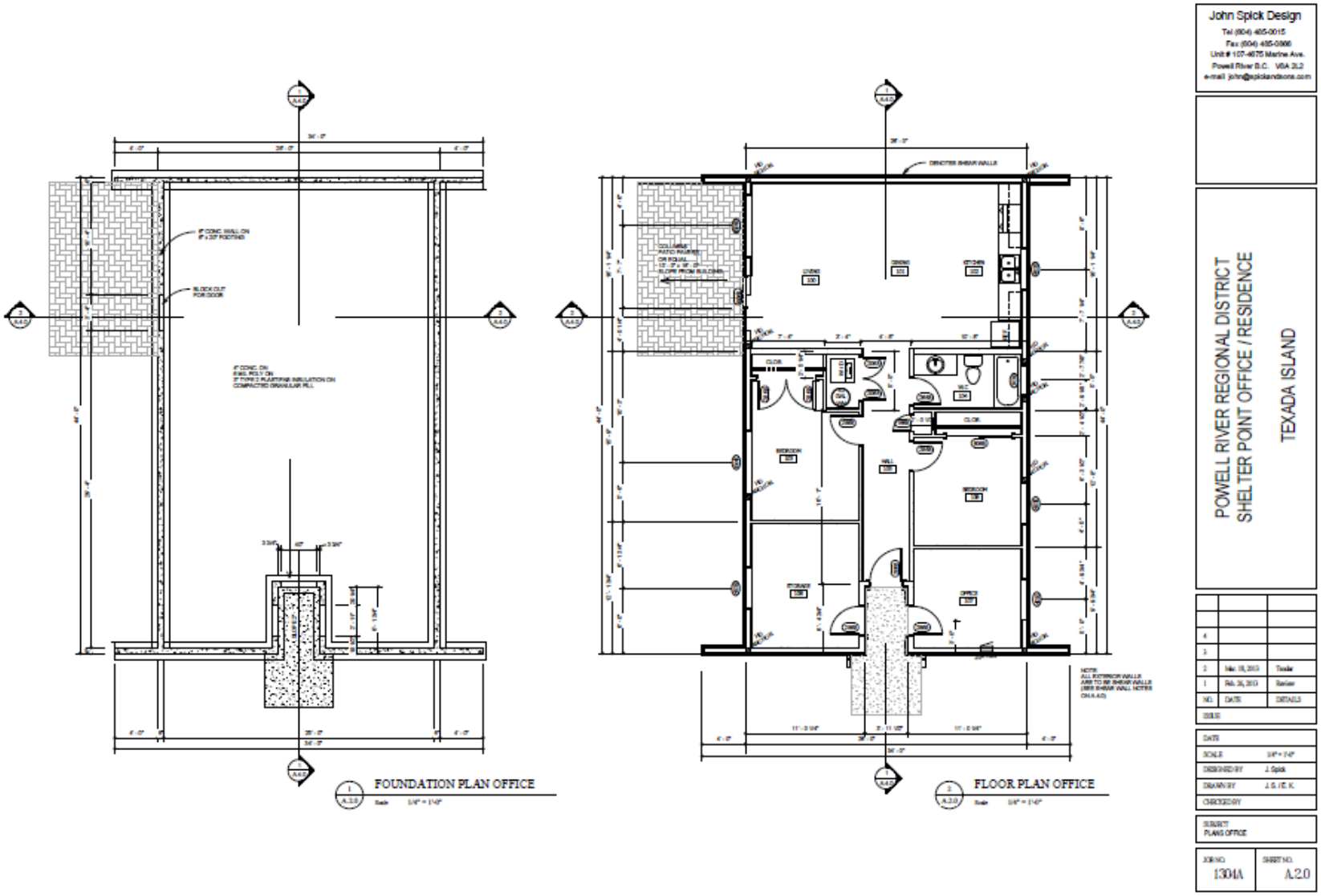


FIGURE 2. PROPOSED RESIDENCE.

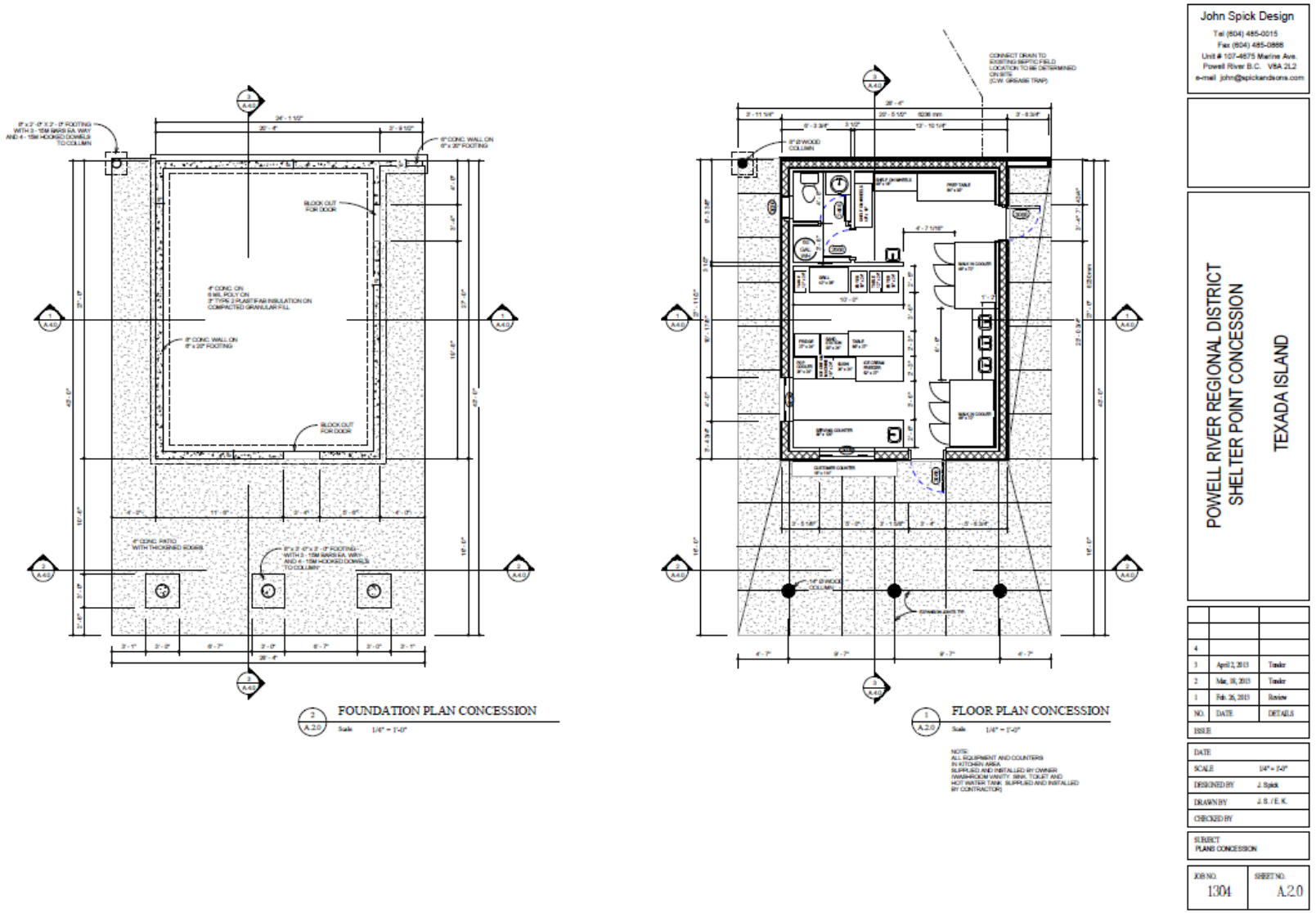


FIGURE 3. PROPOSED CONCESSION BUILDING.

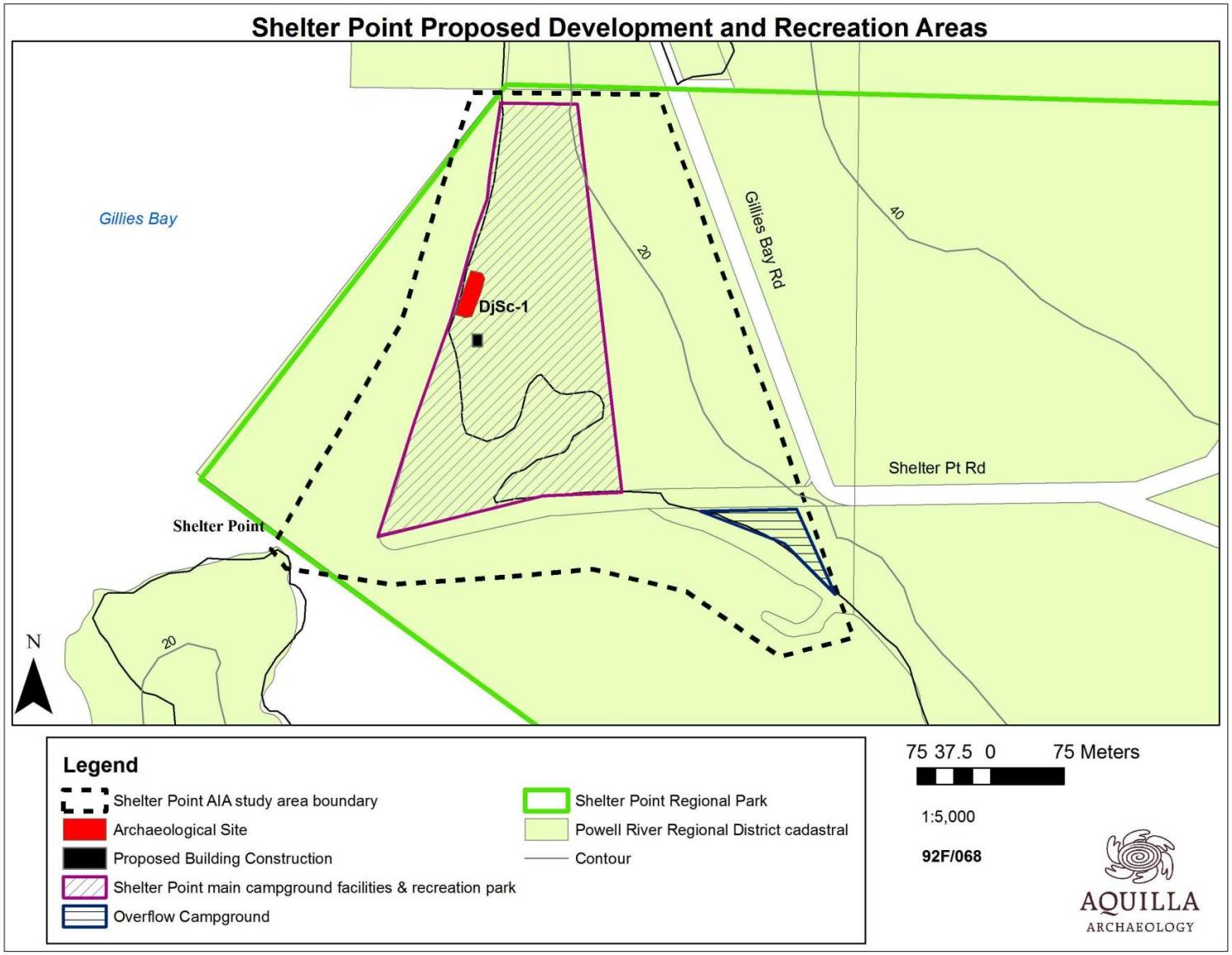


FIGURE 4. STUDY AREA.

3.0 Study Area

Texada Island is located in the Salish Sea (Strait of Georgia) 8 kilometres southwest of Powell River. As the largest island in the Strait of Georgia, Texada it is 50 kilometres in length and roughly 10 kilometres wide. The east facing shore is separated by narrow Malaspina Strait from mainland Malaspina Peninsula in the north, Nelson Island, and Sechelt Peninsula to the south. The southern tip of Texada Island is 19.7 km northeast of Cottam Point Nanoose, Vancouver Island. Lasqueti Island lies immediately adjacent to the southwestern shore of Texada Island.

The shore facing west is fully exposed to the prevailing winds and currents of the Strait. Three bays are located on the west shore: Gillies Bay, Mouat Bay, and Davie Bay. Of these, Gillies Bay is the largest with Shelter Point forming the southern terminus.

The study area (figure 4) is approximately a 12.5 ha area bordered to the east by Gillies Bay Road, to the north by the Powell River Regional District Shelter Point property boundary, to the south by Shelter Point road and to the west the Strait of Georgia. Southwest of Shelter Point Road, a small land parcel (outlined in blue, figure 4)facing Mouat Bay was initially included in the study area as it was unclear whether this was part of the campground facilities however, this was confirmed to not be the case and thus it was excluded from the present assessment.

Gillies Bay is a very large southwest facing bay approximately 3.04 km in length, with Shelter Point located at the end of the southern reach. The entire bay with the exception of Shelter Point to the south, is quite exposed to the west and the Strait of Georgia. The shallow intertidal zone is largely exposed at low tide with large portions consisting of finely sorted sands, and along the north beach rounded boulders and cobblestones. The shoreline from the head of the bay south consists of higher elevation bank and boulder covered intertidal zones. This changes to sorted gravels and lower elevation shoreline at Shelter Point. The point actually forms an isthmus connected at low tide to an exposed grano-diorite rocky headland which is named Dick Island. This context does provide shelter from the prevailing westerly winds off the Strait of Georgia along this portion of the beach front.

3.1 Terrain

This is the northern region of the “Sunshine Coast” section of the coastal mainland of British Columbia. Located in the Strait of Georgia ecoregion and as the largest Island in the Strait of Georgia, Texada shares environmental features from both mainland and Gulf Island contexts which results in some unusual qualities.

3.2 Ecology

The west shoreline and majority of Texada Island falls within the Coastal Douglas-fir moist maritime subzone characterized by warm dry summers and mild wet winters (Nuszdorfer et al., 1997; Sunshine Coast Sensitive Ecosystem Data). Tree species in the study area consist of Douglas-fir (*Pseudotsuga menziesii* var. *menziesii*) Western red cedar, grand fir, arbutus (the only evergreen broadleaf tree in British Columbia), Garry oak, and red alder. Less common trees in the CDF include shore pine, Sitka spruce (rare), western hemlock (rare), bitter cherry (*Prunus emarginata*), western flowering dogwood (*Cornus nuttallii*), bigleaf maple, black cottonwood, and trembling aspen (rare). The tree species composition of forest stands varies considerably as a result of widespread human disturbance.

A Sensitive Ecosystem Inventory (Ministry of Environment) details biogeoclimatic units found on the Sunshine Coast. The study area is comprised of dry open forests, generally between 10 and 30% tree cover, can be conifer dominated or mixed conifer and arbutus stands; because of open canopy, will include non-forested openings, often with shallow soils and bedrock outcroppings.

The understory includes evergreen huckleberry (*Vaccinium ovatum*), and red huckleberry (*Vaccinium parvifolium*), Oregon-grape (*Mahonia nervosa*), devil's Club (*Oplopanax horridum*), salal (*Gaultheria shallon*), Oceanspray (*Holodiscus discolor*), sword fern (*Polystichum munitum*), bracken fern (*Pteridium aquilinum*), and wild rose (*Rosa nutkana*), western trillium (*Trillium ovatum*), creeping buttercup (*Ranunculus repens*), and other wildflowers (Turner, 1975; Pojar *et al*. 1991). Rare plants found on Texada include the giant chain fern (*Woodwardia fimbriata*), adder's tongue orchid, (*Ophioglossom usillum*), fleshy jaumea (*Jaumea carnosa*), Macoun's groundsel (Harbord, 2011:21).
Marine species present in the area include seal, porpoise, white-sided dolphin, sea lion, orcas and several other species of whale. Marine invertebrates in the region include butter clam, horse clam, littleneck, and mussel.
Fish species include several species of salmon in limited numbers due to the lack of larger streams and rivers on Texada, cod, and herring likely are present offshore. An extremely rare species pairing of Stickleback are present in Priest and Paxton Lakes on Texada Island and Little Quarry Lake on Nelson Island. Threespine stickleback (*Gasterosteus sp.*) are pleistocene marine fish associated with the last glaciation that were stranded in these lakes between 14000-11000 years ago and have since adapted to freshwater.
According to Harbord, painted turtles (*Chysemys picta belli*) also reside on Texada Island. Western Painted Turtles are only one of two turtle species native to Canada and in British Columbia, the coastal populations are SARA listed as endangered with only 6 known locations between the Fraser Canyon and Powell River (in 2005 a survey of these locations found Western Painted Turtles at only one of these sites). Population estimates according to SARA put the coastal population of turtles at less than 250. Harbord reports the population on Texada Island numbers fewer than 50 due to overhunting during the 1930's (Harbord, 2011:23), but this is not listed in other places (www.sararegistry.ca; www.speciesatrisk.hat.bc.ca/western-painted-turtle) actively surveyed and monitored for the turtles protection.
Terrestrial species of large mammal include only deer. Multiple species of shore birds are also present.

3.3 Paleoenvironmental

Geologically the study area is situated between the St. Elias Insular Belt on the west and the Coast and Cascade Belt on the east. These belts form the two western most tectonic regions of the Canadian Cordillera.

The different bedrock geology on either side of the Strait of Georgia indicates that the strait between the two areas lies over a boundary between two structural regions. The Strait of Georgia and Johnston Strait essentially follow the contact between the granitic rocks of the coast intrusions of Jurassic age and older rocks of the Vancouver Group and other assemblages which lie to the west.

Indicative of its' association with the mainland geology, Dawson reports the first geological surveys in the region found Texada Island geology to consist of mostly Triassic formation with some granites in the Van Anda region and cretaceous rock in Gillies Bay (1887).

The Georgia Lowland (Holland, 1964) is underlain by granitic rocks as well as older formations. Accordant summits represent remnants of a dissected late Tertiary erosion surface, which is warped and rises gradually eastward from the Georgia Strait until it is sufficiently high in the Coast Mountains to be completely dissected and destroyed. Below the 600 meter contour in the Georgia Lowland remnants are more extensive and are to be seen as gently sloping upland surfaces. The Georgia Lowland contains Paleozoic rocks (granitic rocks associated with the Coast Plutonic Complex which range in age from the Paleozoic Era up to the Early Tertiary Period of the Cenozoic Era); Upper Paleozoic rocks (consisting of sedimentary and basaltic rocks); Lower Mesozoic rocks (consisting of volcanic and sedimentary rocks); Middle Mesozoic (consisting of volcanic and sedimentary rocks); and Upper Mesozoic rocks (consisting of volcanic and sedimentary rocks) [Summary from Ronneseth et al, 2005].

The granitic, dioritic and metamorphic rocks belong to the Wrangellia terrane. A massive lava flow of volcanic basalt was deposited under the sea during the mid-to-late Triassic period, roughly 220 million years ago (mya). This massive lava flow, known as the Karmutsen Formation (and part of the palaeocontinent Wrangellia), was subsequently pushed by plate tectonic movement into the side of what is now North America to form the Western margin of a large marine basin, about 100 million years ago. Over millions of years during the late Cretaceous Period, this basin filled with sediments—gravel, sand and mud—eroded from the surrounding uplands. Lagoons, marshes and bogs accumulated layers of organic material, covered over by successive waves of sediment, and eventually petrified, turned to stone—conglomerate, sandstone, shale and coal. These layers, once deposited below sea level, are uplifted into their present position by movements within the Earth's crust, and within the study area are exposed in certain areas where rivers have cut down through more recent unconsolidated sediments

In British Columbia the most important agent of erosion has been glacial ice (Holland, 1964). "*Glaciation within the Georgia Depression was intense. Ice pouring westward from the Coast Mountains and eastward from the Vancouver Island Ranges coalesced in the strait to form a composite glacier which flowed southeastward and southward, and escaped to the sea westward through Juan de Fuca Strait. The depression in part is of structural origin, but in part was over deepened by ice erosion. Low lying rock surfaces were stripped by weathered materials and were shaped, while elsewhere glacial materials were deposited as ground moraines, or as outwash of which Hernando, Savary and Harwood Islands are remnants*" (Holland, 1964).

The unconsolidated deposits of Pleistocene and Holocene age, comprised of marine, fluvial and glacial materials are quite extensive and locally may exceed 100 metres in thickness. Elsewhere these unconsolidated deposits are found to be thin or absent with bedrock being widely exposed (Hutchinson et al: 2004; Ronneseth et al, 2005).

Successive periods of glaciation shaped the terrain of the mainland coast of British Columbia. The land surface has been carved and smoothed by massive sheets of ice formed in the alpine regions of the interior and flowing to meet with continental ice sheets and pooling in Georgia Strait. Lower elevations have filled with glacial till, and waterborne glacio-marine sediments in stratified deposits formed under the melting and floating ice sheets. Following the most recent period of glaciation called the Wisconsin, which concluded about 12,000 years ago, the east coast of Vancouver Island uplifted in a process known as isostatic rebound and stranded formerly submerged sea diatoms in modern freshwater locations as core samples taken from Lasqueti Island show (Hutchinson *et al*, 2004).

		Radiocarbon years ago (×1,000)													
		14.5	13.5	13.0	12.5	12.0	11.5	11.0	10.5	10.0	9.0	8.0	7.0	6.0	5.0	
		Calendar years ago (×1,000)														
		17.4	16.0	15.3	14.6	13.9	13.4	12.9	12.5	11.4	10.2	8.9	7.8	6.8	5.7	References
1	Haida Gwaii	Below **−30**[1]	Below **−30**[1]	Below **−30**[1]	**−150**	**−150**	**−130**	**−120**	**−100**	**−50**	**+14**	**+15**	**+15**	**+15**	**+14**	Fedje et al. (2005a, b); Lacourse et al. (2005)
2	Dundas Islands				**+14**	**+13**	+12	+11	**+10**	**+10**	+9	+8	+7	+7	**+6**	McLaren (2008)
3	Prince Rupert				**+50**	+40	+30	+25	+20	+15	**+5**	**0**	<0	<0	**<0**	Clague et al. (1982); Fedje et al. (2005b)
4	Alert Bay	Ice	**+30**[2]	**+55**	**>+17**		**+53**								**+3**	Hebda (1983); Howes (1983); Stafford and Christensen (2009)
5	Barkley Sound	Ice		Above **+25**[3]		**−46**	**−46**	**−45**	**−44**	**−42**	−27	−18	−11	**−4**	**+2**	Clague et al. (1982); Dalimore et al. (2008); Friele and Hutchinson (1993)
6	N. Salish Sea	Ice				**+150**	**+100**	**+50**	**0**	**−2**	**−2**	**0**	+3	**+2**	+1	Hutchinson et al. (2004)
7	S. Salish Sea	Ice			**+75**	**0**	**−4**			**−30**			**−4**	**−8**	**−6**	Fedje et al. (2009); James et al. (2009)
8	Fraser Lowlands	Ice		**+200**	**+180**	**+80**	**+60**	**+20**	**+18**	**+16**	0	**−12**	**−5**	**−2**	**0**	Clague et al. (1982); James et al. (2002)
9	Global Eustatic	**−105**	**−100**	**−95**	**−90**	**−75**	**−65**	**−60**	**−55**	**−50**	**−35**	**−25**	**−18**	**−8**	**−2**	Bard et al. (1996); Stanford et al. (2006)

Bold numbers indicate data points constrained by ^{14}C dates. Other data points are interpolated. Shell dates have been for local marine reservoir effect (Southon and Fedje 2003; James et al. 2009). *1* data from northern Hecate Strait; *2* data point from 50 km northwest of Alert Bay; *3* data point from 50 km northwest of Barkley Sound

FIGURE 5. FROM MACKIE ET AL, 2011:54. SALISH SEA LEVEL DATA OUTLINED IN YELLOW.

Locating the earliest archaeological sites in coastal British Columbia and earliest human occupations of North and South America, is fundamentally linked to understanding global, regional and local glacial sea level changes and directly impacts identification of ancient shorelines and thus where people may have lived during these early times (figure 5). Recent sea level studies for coastal British Columbia have begun establishing solid curve data for south and central Salish Sea locations. By extension, this also generally applies to the north Salish Sea but location specific sea level curve data is still lacking for the north Salish Sea as the nearest studied locations are Lasqueti Island, Denman Island, Buckley Bay, Fanny Bay (figure 5). At 14,000 years ago relative sea level was 150 meters above current sea level and at this time began to fall rapidly due to the isostatic rebound to 15 meters below current sea level exposing the Gulf of Georgia coastal plain around 11,500 years ago (Hutchinson *et al*, 2004:92). The retreat of the Cordilleran ice sheet deposited glacial sediments and since that time the creeks and rivers have cut down through glacial till, glacio-marine sediments to the bedrock beneath. Exposures of glacio-marine sediment, blue grey sands and silts attest to the former sea levels, as high as 150 meters above the current level but with local variations and variability in climate conditions that didn't always follow the regional pattern resulting in localized variability in sea level fluctuations.

Sites of human occupation during the Holocene would have located proximal to the shoreline meaning along ancient beach terraces located between 75- 150 meters above current sea level around 12,000 years ago and later below current sea level to the low water mark of -2 meters around 11,500 years ago and then rising to +3 metres around 8000 years ago.

3.4 Cultural Overview

Based on shared cultural traits, kinship, language, and geography, Tla'amin, Klahoose, and Homalco people constitute the Northern Coast Salish in addition to the Island Comox, Pentlatch and Sechelt.

Coast Salish pre-contact culture is best described by Suttles (1990) and characterized by large winter villages, subsistence strategies focused on marine resources; predominantly salmon, herring, and shellfish; and land mammal resources such as wapiti, deer, and mountain goat. Salish culture is based on a hierarchical system of ranked society. Individual, family and community status interrelate to inform the social and political fabric defining these communities. Status is obtained through inheritance and/or individual accomplishment. This may be obtained through spiritual activities such as vision quests, or specific achievements. Rights are bestowed upon individuals and families and thus communities can also become ranked through the exchange of rights as property through such means as naming. Naming involves a highly structured ceremonial and spiritual process whereas a name associated with specific rights to resources, song, story, dance, and specific objects and regalia and during pre-contact times even slaves may be passed on to the recipient. Wealth is the ultimate display of status in the Salish world and was expressed richly in a developed art tradition of carving and weaving. Communities within this region traditionally were semi-sedentary marine adapted hunters and gatherers. Sea mammals, birds, fish, and land mammals were hunted. Wild plant foods were gathered among the shores and forests. Salish people were also cultivators of wool through the domestication and of the Salish wool dog, in addition to certain staple foods through the modification and management of the environment to increase yields such as development and maintenance of clam gardens.

The seasonal round was followed to maximize yields of foods during their peak abundance and availability. Families who owned the 'rights' to gather and procure foods at specific locations would leave the village and travel to these locations temporarily setting up fishing, hunting, or gathering camps, and travelling to communally owned areas . Community organization was according to family, as the household unit was the political structure used to link villages according to status, having hierarchically ranked families. The male of the highest ranking family would at times be looked to for leadership but was not commonly considered "chief" in the modern sense.

Salmon and cedar were main subsistence resources most important to Salish lifeways, among other marine and forest resources such as berries, roots, camas, clams, seals, sea lions, not to mention land mammals, shore and sea birds.

Procurement strategies and technologies employed to obtain available food and other resources are among some of the skills and knowledge transmitted through the oral tradition.

Refer to Kennedy and Bouchard (1990) for a full discussion of the cultural traditions of northern Salish on the Northwest Coast. Kennedy and Bouchard published an ethnographic study of Sliammon traditional culture in 1983, referenced below.

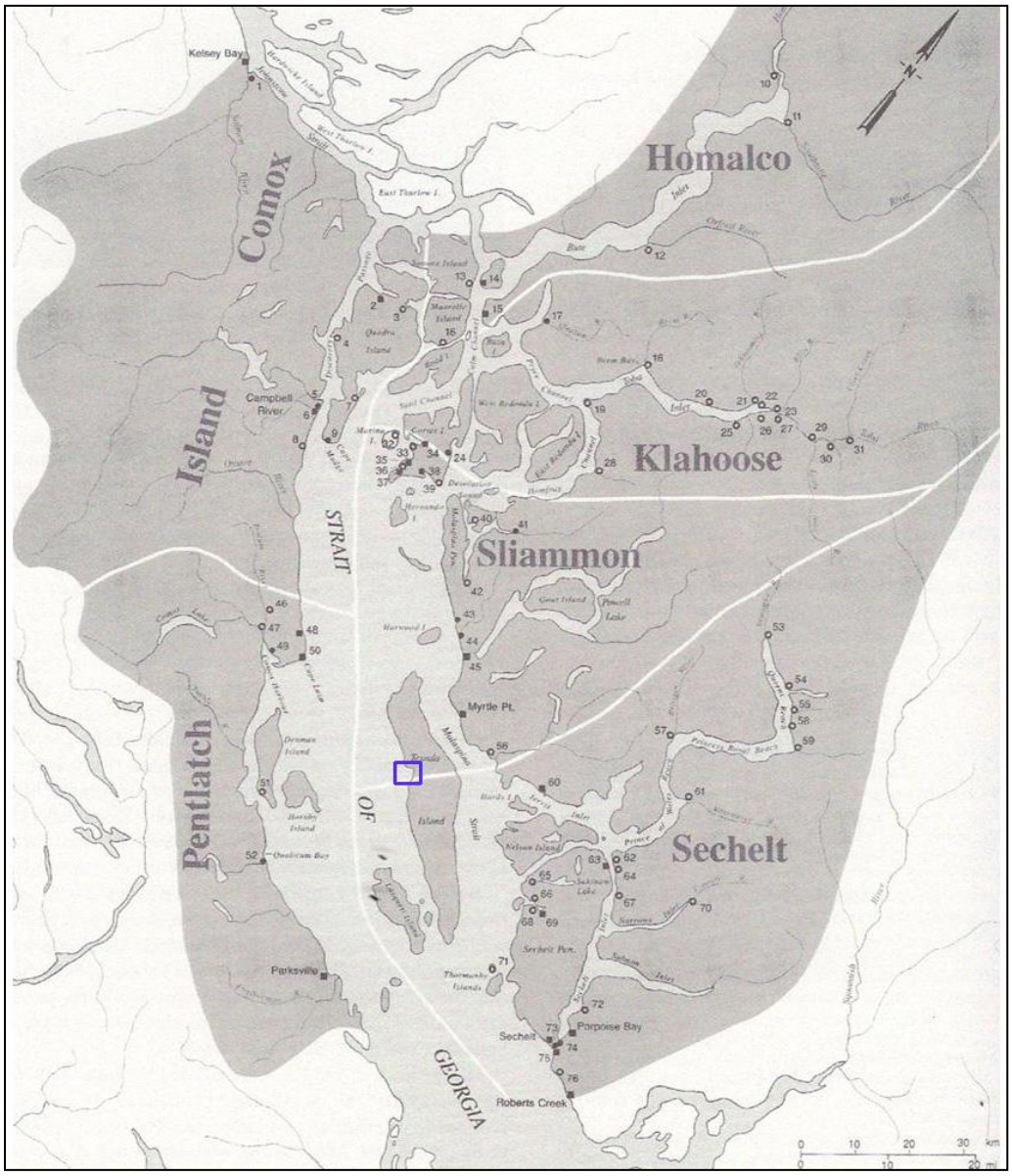


FIGURE 6. FROM KENNEDY AND BOUCHARD, 1990. BLUE OUTLINES STUDY AREA IN RELATION TO TRADITIONAL BOUNDARIES.

The study area is within the core traditional territory of the Tla'amin (Sliammon) First Nation, and adjacent to the traditional territories of shíshálh First Nation located to the southeast and Klahoose and Xwemalhkwu (Homalco) First Nations located at the northern extent of the Salish cultural area of the northwest coast. Tla'amin traditional territory extended south on the mainland to Stillwater (Lang Bay), north to Malaspina and Gifford Peninsulas, west to Texada and Cortes Islands and offshore Islands including Savary, Hernando, and Harwood.

Known Tla'amin village sites located in the vicinity of the study area include Lund (Kennedy and Bouchard, 1983), Te-sho-sum (present day Sliammon Reserve No. 1), Cortes Island, Tow-qua-nen (Theodosia Inlet), Kah-qee-qy (Grace Harbour I.R. 6) and Tow-wa-nech in Okeover and Lancelot Inlets, and Che-en (in Malaspina Inlet).

Additionally, Tla'amin people occupied several villages including Qua-qua-neis (Lang Bay), Tees-qwat (Powell River), Ha-kwu-em (Grief Point), Tle-kwa-nem (Scuttle Bay), Tee-till-ka-yis (Southview) [Kennedy and Bouchard, 1983: 16; Tla'amin Land and Water Use Plan, 2005:4].

The shíshálh descended from the four sub-groups and they include xénichen at the head of Jervis Inlet), ts ´únay (at Deserted Bay), téwánkw (in Sechelt, Salmon and Narrow Inlets), and sxixus whose aggregate terrriorty included: lilkw´ émin (Agamemnon Channel); swiwelát (Princess Louisa Inlet); ?álhtulich (Sechelt Inlet); stl´ixwim (Narrows Inlet); skúpa (Salmon Inlet); smit (Hotham Sound); and part of sínku (the open waters of Malaspina Strait and Georgia Strait) including the southern half of slháltikan (Texada Island) and chichxwalish (Sabine Channel) [shíshálh First Nation website http://www.secheltnation.ca/]. Current traditional boundaries of shíshálh include the southern portion of Texada Island. The north boundary of shísháshalh territory on Texada Island is roughly 12km south of Shelter Point, just north of Cooks Bay (shísháshalh Nation Land and Resources Decision-Making Policy found at: http://www.secheltnation.ca/departments/rights/Booklet_Decision_Making_Policy_Final_10May13.pdf).

Xwemalhkwu people traditionally occupied Bute Inlet and west to the vicinity of Raza Passage. Klahoose traditionally occupied Ramsay Arm, East and West Redonda Islands, and all of Toba Inlet.

Tla'amin, shíshálh, Klahoose, and Homalco people have close intra-cultural ties evidenced by a historically shared winter village at Lang Bay by Tla'amin and shíshálh and by Tla'amin and Klahoose and Homalco at Grace Harbour and present day shared residence at the traditional Tla'amin village site located on I.R. #1 north of Powell River. Collectively these groups also share close inter-cultural ties to K'omoks and Pentlatch people located across the Georgia Straight on eastern Vancouver Island. Each of these cultures speaks what ethnographers have referred to as either Mainland or Island Comox of the Salishan language family. Kennedy and Bouchard note that at one time there were sub dialects among mainland Comox groups however in 1970 the only differentiation linguists could identify was that between Island and Mainland Comox speakers (1990:443). The name Sliammon is an anglicized version of *Tla'amin*. The traditional language spoken by Tla'amin people is called *Ayahjuthum* (Johnson, 2010:15). Throughout this report, both names are used but wherever possible the traditional Ayahjuthum name will be used to describe places. The Tla'amin name for Texada Island is "saʔyayɪn". According to First Voices, "… there is lava rock on texada and cod will not lay their eggs. [T]there is nothing to stick onto the rock because it is so porous." Thompson reports Sliammon placenames for Texada Island from an unreferenced booklet called "Sliammon and the Treaty Process". These names include *Sahyahyin* means 'end of the island' and refers to Blubber Bay area; *Tautloukhnotch* (Sechelt?) means 'one hip' as in 'one side of the bay, describing the Van Anda area; south of Sturt Bay; and *Koh-koh-Klohm* meaning 'wading in the water' refers to Gillies Bay (1997:6).

According to the Sliammon Natural Resources Committee:

> *Tla'amin creation stories speak of how the Creator – She teh gos – put Tla'amin people on the land since time immemorial. Archaeological sites document Tla'amin presence in their traditional territory for at least 4,000 years. Tla'amin people have a deep connection to the land. This connection is nourished by Tla'amin teachings, which show how Tla'amin people are bound to the forests and waters of the territory. Tla'amin connection to the land is reflected in the words jej jeh – which mean both "relative" and "tree" in the Tla'amin language.*

> *The Tla'amin Awk wums heh heow (Ancestors) lived their lives guided by a complex system of practices and beliefs based on Kwuth Ta-ow (Our Teachings). Tla'amin society was organized around sophisticated laws that governed land ownership and resource stewardship and use. These Ums nah motl (traditional laws) governed all forms of social, economic and political relations, including those relating to the use of resources, both within the Nation, and among Nations* (Sliammon Natural Resources Committee, 2005:4).

Franz Boas spent 20 days at the Island Comox village site in Comox Harbour (I.R. #1) in November-December 1886 where he obtained information about Sliammon myths and legends although it is unclear whether he spoke with a Sliammon informant or how this data was collected (Boas, 2006:23,220). The first ethnographic work conducted directly in this area was by Homer Barnett in the late 1930's and published in 1955. Kennedy and Bouchard conducted ethnohistorical research of Tla'amin in 1983 and is the most comprehensive work produced based on interviews with Tla'amin informants.

Tla'amin myths and legends are included in Salish Myth's and Legends: One People's Story edited by Thompson and Egesdal in 2008. Based on these previous works documenting the lifeways of the Tla'amin an overview is provided here and is important in reconstructing patterns of human activity in the natural environment. The most important food resources to the Tla'amin are herring and salmon (Spring, Chum, and Pink). A ritual to celebrate the first salmon, practiced by all Coast Salish communities was conducted with the first arrival of the Spring (Chinook). This is one of many Tla'amin ceremonies and complex spiritual practices involving salmon. Other important fish species are herring, rock fish such as red snapper, lingcod, kelp greenling, or black rockfish. Perch, sole, halibut, steelhead, cutthroat trout, serf smelt (by trade with Shíshálh) and flounder (1983:26-33). Likely eulachon were an important species to Tla'amin people however Kennedy and Bouchard recorded Homalco and Klahoose people targeting this species (1983:33).

Invertebrate shellfish species were collected as a staple in Tla'amin diet including butter clam, littleneck, cockle, horse clam, and mussel. All were in abundance and available year round. Dungeness Crabs were also caught for food. Shorebirds which are abundant during certain seasons were also hunted for food and they include mallard Canada goose, brant, widgeon, grebes, various ducks, swan, loon, great blue heron and various types of grouse (Kennedy and Bouchard, 1983: 39).

Tla'amin people hunted sea mammals as an important subsistence resource. Seals, sea lion, porpoise and dolphin were all targeted. A story relating the importance of seal to the Sliammon people told by Mary George, a Sliammon elder was recorded by Thompson and Egesdal (2008). This story is not a myth or legend but is retold as an actual event that occurred at Tuqwanen (Theodosia Inlet). Thompson and Egesdal provide this important information about Sliammon methods of hunting seals (2008:122).

The entire story will not be repeated here however it is important in understanding the interrelationship between the natural and supernatural world of Tla'amin and how Tla'amin people identify with animals hunted for sustenance.

Land mammals were plentiful. Species hunted include deer, bear, and mountain goat (Kennedy and Bouchard, 1983:36-38). It is noted by Kennedy and Bouchard that Tla'amin did not hunt elk as they were not available in this region. This may have been the case ethnographically to present day however Roosevelt elk were abundant in

population throughout coastal British Columbia prior to European contact (Ministry of Environment, Lands, and Parks 2000) and were nearly brought to extinction on the mainland coast by 1900 from overhunting during the contact period.

Gathered plant species important for Tla'amin diet were berries (strawberries, salmon berries, blackcaps, thimble berries, trailing wild blackberries, soapberries, huckleberries, Oregon grape berries, Saskatoon berries, salalberries, gooseberries, highbush cranberries, and stink currents, rhizomes (sword ferns, wild onions, chocolate lilies) which were steamed in earthen pits, greens including ferns (bracken and lady), shoots, leaves of Cow parsnip, and various species of tree cambium.

According to the Sliammon Natural Resources Committee, since time immemorial a Tla'amin system to manage important marine, terrestrial locations has maintained a delicate balance to ensure a healthy ecosystem within the traditional territory. This system was one of stewardship of individual locations,

> … ''*owned by individual families, and managed strictly by the heh goos [high ranking individuals]and ensured that those resources were managed sustainably….While both hunting sites and fishing sites were owned, the integrity of hunting areas was especially important, and use of them without permission could lead to serious consequences, including death. Typically, ownership was associated with seasonal camps, longhouses, and significant hunting and fishing grounds. People had many seasonal camps for different purposes, such as harvesting plant foods, medicines, shellfish, fish, or materials. These were recognized within the territory associated with the Tla'amin collectively. Longhouse locations were owned by individuals on lands associated with residential groups within the Tla'amin…Not all lands were owned. Some areas were open for communal hunting, although these might be less productive areas. Areas closed to communal hunting might, however, may be open for other activities such as drying fish or picking berries. Tla'amin ancestors understood that a social relationship exists among all things in the natural world. They developed harvesting practices aimed at fostering a good relationship with the natural world. In return, they were rewarded with a plentiful supply of food and materials to sustain their way of life* (2005:7-8).

3.5 Historical Overview

During the late 18th Century there were reports of a northwest passage along the Pacific Coast of North America or the fabled Straits of Anián so called by the Spanish. The ruling European powers of the day, mainly Spain and England, sent explorers in search of this passage as any nation to possess it would secure the most advantageous trading route in the world.

In this northern straits Salish region, the first documented survey occurred in the summer of 1791 by Spanish explorer José Maria Navárez who travelled north from a Spanish base camp at current-day Port Discovery in the *Santa Saturnina* (renamed by the Spanish who seized it from John Meares at Friendly Cove. Meares had built this vessel at Friendly Cove in 1788 and named it *Northwest America*. It was the first European vessel built on the Northwest Coast).

Sailing north from Port Discovery, Narvárez surveyed a portion of the west shore of Texada Island, as Wagner indicates from available information about this first exploration, Narvárez sketched the remaining northern

landforms from 49^{o} 49' which is the coordinates for Gillies Bay. According to Wagner, this is why Hornby and Denman are sketched as one island on this early chart. Any observations of Gillies Bay and Shelter Point by Narvárez are unknown his journal has not survived (Wagner, 1971) although his chart shows he named San Felix (Texada Island), Lasqueti Island, Boca de Flores (entrance to Desolation Sound) which literally translated means, 'mouth of flowers', and Punta de San Luis (Sarah Point) and Campo Alange (Hernando Island) [Wagner, 1971:30].

On Sunday, June 17, 1792 Captain George Vancouver was surveying the vicinity of Saltery Bay in Jervis Inlet when observed, "…*seventeen Indians in our travels this day, who were much painted than any we had hitherto met with. Some of their arrows were pointed with slate, the first we had seen so armed on my present visit to this coast. These they appeared to esteem very highly, and like the inhabitants of Nootka, took much pains to guard them from injury. They however spoke not the Nootka language, nor the dialect of any Indians we had conversed with; at least the few words we had acquired were repeated to them without effect. In their persons they differed in no other respect, and were equally civil and inoffensive in their behavior* (201)."
Upon exiting Jervis Inlet, Vancouver turned his attention to Texada and noted, "*whether it was an island or peninsula remained still to be determined. The shores of this land, nearly straight and compact are principally formed of rocky substances of different sorts; among which there was abundance and the trees produced were of infinitely more luxuriant growth than those on the opposite shore. In the forenoon of Thursday the 21st we passed the south point of this land, and in remembrance of an early friendship, I called it Point Upwood…This land, though chiefly composed of one lofty mountain, visible at the distance of 20 leagues and upwards, is very narrow, appearing to form, with the western shore of the gulf, a channel nearly parallel to that which we had last quitted though considerably more extensive, and containing some small islands* (209)".

As Vancouver left Point Upwood rowing for Pt. Grey he spotted the Spanish vessels of Galiano and Valdez – competing surveyors seeking the Straight of Anian. These exploring parties met on June 24, at what is now Point Grey and agreed to cooperate in their efforts and convoy north past Texada. Neither the English or Spanish surveyors explored the western shore of Texada, having chosen their route north through Malaspina Strait. No mention is made of Texada during this first leg of their shared survey until they reach Savary Island on their way towards Desolation Sound.

It is likely the 17 First Nation people Vanvouver encountered were either Tla'amin or shíshálh (Sechelt) people as there was a well known shared village at Lang Bay (*Kwékenis*) recorded during the historic period.

After 1792 very little contact was recorded between First Nation people and colonizers until the 1860's, when a whaling station was established in an east facing bay on Hornby Island (Isenor et al: 1987:341). During this time non-native colonizers in the region landed at Blubber Bay on Texada Island where hunted whales were stored for transport to the whaling station on Hornby Island. Shortly after this, mineral discoveries on Texada Island in the early 1870's sparked a rush and by the mid-late 1890's Van Anda and Texada City were rapidly growing boom towns on the east side of Texada Island.

Harry Trim, pre-emptor at Blubber Bay, who had been involved in Caribou gold mining and whaling, discovered iron ore on the northwest side of Texada in the early 1870's (Harbord, 2011:39). Trim took ore samples to his friend Moody and soon enough Moody had invited a few friends to explore the iron ore deposit. The exploration party included the mayor of Victoria and Amor de Cosmos, Premier of British Columbia. De Cosmos used his influence to secure the mineral claim pushing Trim and others out and was even reported to be using it as

leverage against Sir John A. McDonald (British Colonist, 1874/02/08). Termed, "The Texhada Island Ore Grab" by the British Colonist, the ensuing uproar caused the resignation of the Premier de Cosmos and was subject of British Columbia's very first Royal Commission investigation. On day four of the Royal Commission, Moody made a statement where he describes further staking of property in Gillies Bay (British Colonist, 1874/03/30).

People flocking to Texada to prospect meant trails were established all over the island including in and around Gillies Bay. According to Seredin, there … "were several huge tracts which had been owned by absentee owners since the time of Amor DeCosmos. One of these owners was a gentleman by the name of Hogan. He controlled most of the western coast of the Island, especially the foreshore. After his death, in 1915, his estate was divided among many relatives in many lands. Most of these never paid any taxes on it and the land reverted back to the province. Harwood Park was once part of the Hogan estate, as were Gillies Bay and Mouat Bay (Thompson, 1997:421 as quoted from Powell River News Oct. 17, 1979)".

FIGURE 7. WHARF BUILT IN 1912. SOURCE: TEXADA IS. HERITAGE SOCIETY 2004.04.148.

By 1907 Gillies Bay was being developed by farmer Peter Staaf who recruited others from Sweden to take up land around Gillies Bay to farm (Harbord, 2011:164). Presumably in efforts to broaden the farmer's access to markets for selling produce, Staaf built a 600 foot wharf at Shelter Point.

Several pilings from this wharf survive to this day and are visible at moderate to low tides. Keath Rycroft, Shelter Point resident and neighbor, heard stories from Elmer Staaf (presumably Peter Staaf's son) who was in his 60's when he moved to Texada in 1969, and told him how the pilings of the wharf built by his father was made from Australian eucalyptus wood (Rycroft pers. comm. 2013/07/03). According to Rycroft, as a young boy growing up in Gillies Bay Elmer Staaf observed from a distance, Sliammon First Nation people using fish traps at Mouat Bay and coming to the Shelter Point area of Gillies Bay to smoke fish. Staaf also indicated that Dick Island was used as a sentry post by the Sliammon (Rycroft pers. comm. 2013/07/03). An unrecorded midden site is reported to be located in the vicinity of the promontory overlooking the strait (Blaney, pers. comm. 2013/0629).

"Harewood [Shelter Point] Park was also the site of the (Staaf's wharf) steamship dock (no date), which was used by the Union Steamship Company to pick up passengers on request. The request was signalled with a red flag, which the prospective passenger placed at the end of the dock, while he or she patiently waited – for days, sometimes (Thompson, 1997:421 as quoted from interview of Alex Seredin in Powell River News Oct. 17, 1979)."

"Gillies Bay was served for 17 years by the Union Steamships *Chelohsin* and *Venture*, both of which had to dock at a float a half mile off shore because the Shelter Point wharf had insufficient depth to accommodate the steamers. As no exact time was made for the Gillies Bay calls, passengers often had to wait on the float all day and night for the boat (Thompson, 1997:345-6)."

In 1952, 200 acres was developed at the head of Gillies Bay by Texada Iron Mines for a campsite consisting of several miners' cottages and community buildings (Texada Island Heritage Society) but overall there has been a

very low residential population in the region. Many of the homesteaders and miners supplemented their living from historic hand logging shows resulting in substantial deforestation over the last 120 years. As truck logging became main stream, Shelter Point was the site of up to four log dumps in the 1940's (Harbord, 2011:117; Texada Island Heritage Society). In the late 1940's, the area was used for farming (Harbord, 2011;183). In the 1960's a Home Oil Bulk Plant and various homes were time located there (Texada Island Heritage Society). According to local informants, at least two 1950 era residences were located in the vicinity of the proposed development zone. Mrs. H. Johnson remembered Texada's Early Days in an interview by Ruth Sulyma and published in Powell River News, Feb 24, 1966.

FIGURE 8. TREE TO LEFT IS STILL STANDING. MODEL T FORD ESTIMATED TO BE CA.1910-1930. SOURCE: TEXADA IS. HERITAGE SOCIETY 2004. 04.147.

FIGURE 9. THIS PHOTO SHOWS DICK ISLAND AT LEFT OF PHOTO WHICH INDICATES THIS PARTICULAR LOG DUMP WAS LOCATED IN MOUAT BAY. SOURCE: TEXADA IS. HERITAGE SOCIETY 2004. 04.151.

"we...moved to Shelter Point. At one time, we owned all of Shelter Point and surrounding properties. We sold Shelter Point and it was turned into a government park. We sold all our property but one lot. All the claims were timbered before they were sold (Thompson, 1997:436)".

The land surrounding the point previously known as Harwood Point, was sold to BC Parks when it became known as Harwood Point Park. From Powell River News, Sept 29, 1960... "Plans to...expand tourist facilities at Gillies Bay"...by developers M.G. Zorokin. The developers feel the 46 acre provincial park at Gillies Bay (Shelter Point) will be a strong drawing card for tourists and holidayers next summer and their development will help serve the needs of these visitors. Shelter Point area (Gillies Bay) has several new enterprises ready, or to be ready, for next summer including a coffee shop, dance hall, community hall and more (Thompson, 1997:137).

According to the current concession operator Gerry Childress, the caretaker residence and concession building destroyed by fire in 2012 were buildings moved from the Iron Mines site in Gillies Bay and re-adapted for park use (pers. comm. 2013/06/30).

The natural beauty and development of park amenities has resulted in this park becoming the main tourist attraction on Texada Island. In 1988, Shelter Point was featured in a series of films presented by the Cousteu Society called, "Rediscovery of the World."

*Six members of the Cousteau Society dove off Dick Island to obtain film footage [and] for their Paris Ocean Centres, which are being built around the world. The area off Dick Point is renowned for the very large and friendly wolf eels, perhaps some of the most spectacular in the world. They also searched for a large octopus reported in the area. (*From pg: 345-6: A report in the Powell River Archives, anon reported in Thompson, 1997:166).

According to Gerry Childress, the point has been excavated in the past to install underground water and hydro service to both Dick Island and Shelter Point Park (pers. comm. 2013/07/30).

3.6 Archaeological Overview

Chronological cultural sequences developed from previous dated archaeological work on the Northwest coast have been established to understand cultural development and change through time. Sequences are derived by defining and describing physical and stylistic attributes of archaeological materials encountered and repeated in patterns across geographical regions. Not all researchers entirely agree on these sequences although consensus is more or less achieved in a broader sense with differences often resulting from divergent views on regional contexts. A generalized sequence for the northern Strait of Georgia presented here is based on Borden (1975), Mitchell (1990), Carlson (2003), Matson and Coupland (2009).

TABLE 1 ARCHAEOLOGICAL SEQUENCE FOR THE SALISH SEA.

Years Ago	Epoch	Period	Archaeological Sequence
1900-present	Late Holocene	Historic	Post-Contact
1750-1900		Late	Contact
1800-1750			Developed Coast Salish/Gulf of Georgia
2400-1800	Mid Holocene	Middle	Marpole
3300-2400			Locarno
4500-3300			Charles/St. Mungo/Mayne
9000-4500	Early Holocene	Early	Old Cordilleran/Pebble Tool Tradition
			Archaic
Pre 10 000	Pleistocene		

Recently, Mackie et al (2011) have presented a synthesis of emerging data on late Pleistocene/early Holocene sites in relation the early peopling of British Columbia. Using archaeological data from Haida Gwaii, Barkley Sound, and the Stave watershed combined with detailed sea level and paleontological data they assert sites between 13000-7000 may exist at various elevations and coastal environments in coastal British Columbia as found in many locations such as Stave Watershed (10,370 ± 40 and 10,150 ± 40).

Old Cordilleran 9000-4500 B.P.

Until recently, this phase was associated with the first peopling of coastal British Columbia to inhabit stabilizing sea levels, land forms, and biological communities. Very few archaeological sites of this type are found in coastal British Columbia and even less in the Salish Sea. Sites of this age are limited to a handful of locations such as Namu (9,700 yrs BP) Glenrose Cannery (8150 yrs BP), Milliken (7050-9080yrs BP), Saltery Bay (7600 years Cal. B.P.), Bear Cove (8200 yrs BP), Stave Lake (7000-10,000 yrs BP), and now Grace Harbour (7500 yrs BP, see below). At coastal sites, Old Cordilleran sites are often found on paleo-beach terraces associated with shifting sea levels. Characteristics of the Old Cordilleran culture or Pebble Tool Tradition are described by Carlson as, “defined on the basis of the co-occurrence of unifacial pebble choppers and leaf-shaped bifaces in early assemblages …but sometimes…pebble tools by themselves (1990:62). Pebble tools are defined as large cobbles with flakes removed on one side and are considered a cruder and simplified stone tool technology. The bifacial tools are flaked leaf-shaped lithics and often large resembling Cascade-style points found south in Washington and Oregon. Faunal

assemblages from these sites indicate the diets of people living in these locations emphasized land and sea mammal subsistence and less emphasis on fish (Matson and Coupland, 2009; 81).

Charles Phase – 4500-3300

In the Salish Sea, again very few archaeological components from Charles Phase have been found. Charles components have been identified at Helen Point on Mayne Island (Carlson 1970) and Pender Canal on North Pender Island (Carlson 1986; Carlson and Hobler 1993), Glenrose Cannery, Tsable River and Buckley Bay (Mitchell, 1971), Deep Bay (Monks, 1977), Shell Beach in Ladysmith Harbour (Lake, 2005), Bliss Landing (Beattie, 1971). Ground stone technology is first seen during this period but in very limited amounts. Leaf shaped points are still present in stemmed and shoulder forms but tend to be smaller and in general flaked stone tools are dominant. Pebble tools are much less frequently found. Subsistence patterns demonstrate a strong orientation to a reliance on coastal resources, where shellfish and marine fish, particularly Pacific salmon, dominate the faunal assemblages (Matson and Coupland, 2009:100-103).

Locarno 3300-2400

Numerous sites in the Salish Sea have dated Locarno phase components. Attributes of this assemblage include the first toggling harpoon weaponry, unilateral and bilateral barbed harpoon points, faceted ground slate projectile points and knives, ground stone celts, ground stone abraders, labrets, and flaked stone projectile points (Matson and Coupland, 2009:156). Mitchell notes clay lined depressions and rock slab features are present during this period and small unretouched cryptocrystalline cutting blades (1990:341).
During this period subsistence patterns shift towards fish based diets with fish found in priority sequence: salmon, herring, various other fishes and shellfish. It has been demonstrated at some Locarno phase sites that a lack of salmon cranial elements indicate storage (Matson and Coupland, 2009:166-169) – a marked technological change in adaptation and indication of abundance. Grave goods and cairn burials are also documented at some Locarno sites. Locarno phased sites are not well documented in the northern Salish Sea (exceptions are the Buckley Bay and Tsable River sites studied by Mitchell, 1977) with most evidence sourced to archaeological sites located in the central and southern Salish Sea.

Marpole 2400-(1800-1500)

Marpole phase are perhaps the most frequently identified archaeological component in the south Salish Sea region. Decorated objects are more frequently found in Marpole-aged sites than any other evidenced by the presence of stone sculpture in some elaborate forms such as zoomorphic and anthropomorphic bowls (Burley, 1980:24). Labrets and microblades are in use during this period. House platforms are clearly definable at some excavated sites (Matson and Coupland, 2009:208-209). Cranial head deformation is noted during this period. Flaked stone tools are still present but in less frequent numbers. According to Burley, this period sees the fluorescence of heavy woodworking tools such as antler wedges, large ground stone adzes, and hand mauls with conical (nipple top) being stylistically diagnostic but plain topped and grooved topped also occur(1980:23; Mitchell, 1990:345).

This cultural phase is marked by the increase of ground tool technology, and in particular slate points and knives. The composite toggling harpoon weaponry found during Locarno times is now absent and replaced with unilateral and fixed ground antler harpoons (Mitchell, 1990:345).

Developed Coast Salish 1800-250

The blurring between archaeological sequences is difficult to discern during this period with strong resemblances to both Marpole and descendants of current populations of Coast Salish communities. To summarize from Matson and Coupland, "this period is marked by the almost complete absence of chipped stone, the dominance of bone and antler objects, but with some pecked and ground occurring. The most common harpoon remain is the composite toggling harpoon valve, and flat-topped mauls are introduced. Bone unipoints and bipoints are very abundant and barbed bone points of various sizes are also found. A well developed weaving technology is clearly present, as indicated by blanket pins, combs, and spindle whorls (Mitchell, 1990:348). According to Mitchell, intertidal features as evidence of the many well-developed fish and shellfish harvesting systems are associated with this period and states river and saltwater traps are particularly noted in the northern Strait of Georgia (1990:347).

Background of DjSc-1

The site was originally recorded by Bjorn Simonsen in 1971 (Survey of Archaeological Resources in Provincial Parks, 1971-30) when he noted a series of four ridges and estimated site dimensions to measure 50 x 20 metres. No testing or further assessments were conducted at that time.

Despite the legal protected status of this heritage site since 1971, Thompson reports from a Texada Lines article in 1987: Pg. 164: "Skeleton Found", Texada Island Lines, Fall 1987.

> *... "Summer park employees Nadine Nyl, Paul Silveira and Mark Wilson unearthed a human skeleton while digging a post hole in Shelter Point Park...Through careful analysis of the nature of the burial, its stratigraphic provenience, contextual association, and by the use of dendrochronology (tree ring dating), it was concluded that the skeleton remains did not constitute a recent individual, but were those of an Amerindian of some greater antiquity.*

There is no record of this burial in the archaeological site registry for DjSc-1. It is unclear exactly who excavated this burial and what happened to the remains. Typically when an unexpected discovery is made in an archaeological site, an archaeologist is called to ensure the proper authorities (RCMP, Archaeology Branch and First Nations) are involved, and that any features and in particular, human burials are properly recorded, submitted and updated to the registry form.

Regional Archaeology

Only 20 archaeological sites are recorded on Texada. [Section Removed for public copy]

In the 1970's the Archaeological Sites Advisory Board commissioned several surveys to locate and record archaeological sites across the province. The majority of sites recorded on Texada Island stem from this work (Acheson and Riley 1976; Simonsen, 1971; Cassidy and Cranny, 1974; Murton and Foster, 1975; and Johnson and Williamson, 1978). To the south of Shelter Point four archaeological sites are located 8.5-11.5 kilometres south. Little is known of these sites. DjSc-12 was recorded in 1974 (Murton and Foster) based on surface exposures, then an AIA was completed in 1980 (Aresco, 1980-2) where it was determined previous disturbances didn't warrant further work or avoidance of the then proposed project. In 2007 Baseline Services monitored a 200 x 1 x1 metre trench in the vicinity of DjSc-12 – no archaeological material was encountered which confirmed earlier observations. DkSc-11 was recorded in 1975 as midden measuring 90 x 12 m and DkSc-10 was originally recorded as midden measuring 62 x 10 metres (approximately). Baseline only observed 2 metres of redeposited midden possibly originating from DjSc-10 when a PFR of the shoreline was conducted in 2007 and this secondary 2 x 2 m. deposit was recorded as DjSc-10.

TABLE 2. RECORDED ARCHAEOLOGICAL SITES FOUND IN THE VICINITY OF THE STUDY AREA. REMOVED FOR PUBLIC COPY.

FIGURE 1. RECORDED ARCHAEOLOGICAL SITES ON TEXADA ISLAND. REMOVED FOR PUBLIC COPY.

Archaeological sites DjSb-22, -23 and -24 located within South Texada Island (Provincial) Park were identified and assessed by Joanne Hammond of Pacific Heritage Research in 2007 and summarized here (*South Texada Island Provincial Park Archaeological Study 2007-360 Final Report,* 2008). This study represents the only other systematic archaeological study completed on Texada Island. All three sites were reasoned to date within the last 2000 years. DjSb-22 is a relatively large shell midden site (107 x 35 x 1 m). From DjSb-22, 33 artifacts were collected representing a ground technology exclusively. DjSb-23 is a shell midden site measuring 70 x 55 x .78 m., only 2 slate debitage fragments were recovered and no faunal remains (other than shell) were identified. DjSb-24 represents a 90 x 65 x 0.75 m. shell midden site with culturally used rock shelter components within the site boundaries. A total of 7 artifacts were collected representing again, predominantly ground technology. Notably, a ground mussel shell adze blade fragment was identified. A total of 6 radiocarbon and 3 geochemical samples were collected from DjSb-22 and DjSb-24 however, no results were published in the report.

Across Malaspina Strait, from Grief Point north to the community of Powell River, archaeological sites DkSd-1 and DkSd-6 are located on the west shoreline facing Texada. These sites consist of midden deposits, petroglyphs and intertidal features (*The Westview Seawalk, Powell River, BC: Archaeological Impact Assessment of a Portion of DkSd-OOl/006* by Mathews and Dady, Permit 2002-0366, 2003). Further south, archaeological investigations at Lang Bay (*Report on the testing of the "Lang Bay Site", Sunshine Coast, British Columbia* by Nyra Chalmer (no date) and Saltery Bay (*Report on Archaeological Mitgation of DkSb-30,Saltery Bay, B.C.TELUS North Island Ring Project Heritage Conservation Act Permit 2004-120* by Golder Associates Ltd. 2007) have both reported early Holocene aged occupations which date from 9000 to 5000 years in age and considered to be of the highest scientific significance in British Columbia.

In recent years Drs. Dana Lepofsky and John Welch have led a multi-year archaeological research project since 2007, *Tla'amin and Simon Fraser University Heritage and Archaeology Project*, where the team has conducted several archaeological studies in Tla'amin Traditional Territory with a focus on Desolation Sound (see below). A number of graduate students are exploring various themes of ancient Tla'amin settlement, timing, site distribution and spatial patterning across the landscape. Interim reports from each field season and a report on the Lang Bay site have been generously shared with the author. Supplemental published journal articles and unpublished interim and draft reports authored by SFU researchers are used throughout this report (see Sources section).

TABLE 3: SUMMARY OF ARCHAEOLOGICAL SITES IN THE REGION OF THE STUDY AREA.

Geographical Site Name	**Placename**	**Borden Designation**	**Calibrated Date** (yrs before present)	**Cultural Phase**	**Relevant Study-Permit #**	**Date Recorded**
Saltery Bay	*Skelhp* (Shíshálhshal)	DkSb-30	520 to 7620	Late,Marpole, Locarno, Charles, Old Cordilleran	Golder & Associates, 2004-0120	1974
Lang Bay	*Kwékenis*(Shíshálhshal)	*pending*	2860 to 2750 Indirect (lithics)	Marpole Old Cordilleran	Nyra Chalmer (2009?)	2009

3.6.4. **Lang Bay Site** (pending registration)

Lang Bay is situated at the southern portion of Malaspina Peninsula and is considered to be the southern extent of Tla'amin territory which is shared with shíshálh First Nation. This site was a Tla'amin village site and was a designated reserve (Thompson, 1990:17). The site was identified by residents who made contact with SFU researchers in 2008. Researchers then commenced a two week excavation in 2009 (Chalmer, no date: 4). Findings led researchers to infer this site was occupied during the early Holocene to the late period based on diagnostic projectile points. The SFU team excavated 16 shovel tests, 5 percussive cores, and 10 excavation units (Chalmer,no date; 10-11). Four features were identified, including a storage pit, basin shaped hearth, and two post-holes (Chalmer, no date:20). Partially cremated human remains were recovered representing one individual interpreted to have been buried during the later period of occupation at the site. A partial list of the cultural materials recovered include: 17 bifaces dating from the early Holocene to the Late period of the Gulf of Georgia with the majority dating to the middle period, 5 cores, 7 scrapers, 9 ground stone artifacts (beads, knife, abrader) [Chalmer, no date; 43-45]. One date of 2860-2750 calibrated B.P was obtained from the hearth feature. Researchers commented that stratigraphy was undifferentiated but that the early Holocene artifacts came from layer III located 40-70 cm depth below surface.

3.6.5 Saltery Bay – DkSb-30

This site was investigated in 2004 by Golder Associates Ltd. in advance of a ground-altering development by TELUS Corp. A total of 290 bone, stone and antler artifacts and 4043 pieces of debitage were collected (2004:46). One trench approximately 1 x22 m. was machine excavated and five units (1x1m.) were hand excavated. Results identified three features, consisting of one concentration of marine mammal remains/cooking pit (Feature #1 described below), one possible post mould feature, and one burial feature.
Located at 62 cm d.b.s., feature #1 consisted of several articulated harbour porpoise vertebrae in situ found in association with ash, FBR and burnt shell. Directly under the vertebrae, excavators found a stemmed lanceolate projectile point. Other associated artifacts include an awl, a bone chisel, a leaf-shaped point, a biface, a retouched flake and a microblade core. A date of 7,000-6,770 BP for this feature and the associated stemmed point was obtained. Other faunal remains from Feature #1 includes northern sea lion (*Eumetopias jubatus*, NISP=1), deer (*Odocoileus hemionus*, NISP=4), porpoise (Delphinidae, NISP=22), and harbour seal (*Phoca vitulina*, NISP=1) [2004:36-38].
Three dated cultural components from this site are Old Cordilleran/Pebble Tool Tradition 7600 years B.P., Charles Phase 3700 years B.P., and Developed Coast Salish 540 years B.P. It is unknown whether the DkSb-30 was continuously or intermittently occupied (2004:44).

Summary of Regional Studies

In summary, archaeological sites present on other Islands in the Salish Sea feature a considerable number and variety of sites associated with village occupations and local resource use representing several thousand years of pre-contact occupation. Collectively, these sites have allowed researchers and First Nation communities alike to build an increasing body of knowledge about the ancient environments and lifeways of people who lived on the coast over the last 10,000 years. This expectation extends to Texada Island, where very few archaeological investigations of the ancient cultural occupation have been undertaken. Of the few studies that have been done

on the island, most were surficial surveys completed 30-40 years ago. In more recent years a few monitoring projects have been completed in disturbed areas in response to specific developments. The paucity of archaeological studies here is ironic considering that Texada is the largest island in the Salish Sea; and given so few archaeological sites have been recorded here it is not a stretch to claim that Texada Island remains archaeologically unknown. In this light any archaeological assessment completed here can be considered a significant step in characterizing the nature of cultural occupations on the island and how these may fit into the long established cultural historic sequences to the north and south.

4.0 Methodology

The assessment study completed under Permit 13-0162 followed the methodology as outlined in the permit application submitted and approved by the Archaeology Branch.

The objectives of the study are to: **(a)** identify and evaluate any archaeological sites that have been, continue to be, or may be affected in the future, **(b)** identify and assess possible impacts on any identified archaeological sites, **(c)** provide recommendations regarding the need and appropriate scope of further archaeological studies and **(d)** recommend viable alternatives for managing future impacts. Prior to the field assessment, a background review of the study area and immediately adjacent areas for all archaeological site information currently on file was conducted.

4.1 Documentary Research

Comprehensive background research was conducted to supplement information obtained during the AIA. This review compiles existing and emerging data just coming available from the ongoing research project by SFU. Sliammon First Nation was invited to contribute any data held within the Treaty office and the Powell River Museum and Archives and Texada Heritage Society were contacted for relevant documentation in addition to a general library search to locate references to the cultural occupation(s) of Shelter Point.
The Remote Access Archaeological Data (RAAD) and Provincial Archaeological Report Library (PARL) applications provided by the Archaeology Branch were utilized to access all of the existing archaeological site information and associated reports.

4.2 Ethnological (traditional use) data

Documentary research included a review of secondary sources describing the distribution of First Nations groups in the region surrounding the study area. Wherever possible, firsthand cultural information is used in priority of secondary sources.

4.3 Surface Inspection

A systematic pedestrian survey of the study area visually inspected the ground surface of Section 16 of Shelter Point Regional Park. A buffer up to 50 m outside of the existing and proposed recreation locations was inspected to identify any potential archaeological sites located adjacent to this. All available exposures and cutbanks were

inspected for evidence of subsurface archaeological deposits. Pedestrian survey traverses were spaced 5-20m apart contingent upon terrain and visibility. Detailed field records and observations were recorded and maintained in a fieldbook and all photographs were recorded in a photo log.

4.4 Subsurface Inspection

As a site discovery technique locations containing physical characteristics supportive of archaeological site development were shovel tested and/or augered by hand to identify potentially buried archaeological deposits. Landforms supportive of archaeological site formation (rock shelters, crevices, rock cairns, mounds, depressions, intertidal zones, mature forested areas, the tops of ridges, terraces adjacent to watercourses, valley bottoms, or any prominent landscape feature or landmark) were targeted for intensive surface inspection and as appropriate, subjected to subsurface testing to define the horizontal extent of the landform and to identify and describe the sediments and thereby the geological and environmental processes by which landforms developed over time. Landforms were described in a fieldbook using waterproof paper, photographed and recorded in a photolog. In areas of archaeological potential shovel tests were spaced no further than 3-10 m apart and up to 15 m apart in areas of continuous cultural deposit. Tests measured approximately 30x30cm wide or larger to a maximum size of 40 x 40 cm wide and dug to sterile deposits.

The physical extent of the landform and area of archaeological potential, as well as the distribution of identified archaeological material, was explicitly considered in determining site boundaries where the site contains discontinuous, buried archaeological deposits. Depth of the site was determined where possible, by excavating to sterile deposits. Sterile deposits are defined as bedrock or glacial sediments. All soils from shovel testing regime were screened through ¼ inch mesh. Any cultural material recovered either from visual surface assessment or shovel testing regime was collected, bagged, and provenience labeled with the exception of fire broken rock. The horizontal site boundaries were established when shovel tests in a cardinal direction (using 5 m intervals) produced four negative tests in a row from the last positive test.

All shovel tests were recorded and described in field log using waterproof paper, and a representative sample photographed and logged accordingly. CMTs are recorded and analyzed to Provincial standards outlined in Muir and Moon (2000). All shovel tests and identified cultural surficial features were mapped using compass and/or handheld gps (5.0m accuracy) and the UTM coordinates for each were recorded. Temporary flagging of shovel tests used to assist in mapping and photographing features was removed upon completion and the area returned to its natural state to leave features anonymous within their setting. Compacted gravel and crush were encountered on the point which is used as a boat launch parking lot, which presented unanticipated challenges to completing subsurface shovel testing. The Archaeology Branch approved the use of backhoe testing within this area of the site (communication with Steven Acheson 2013/07/31) in order to assess subsurface deposits. Backhoe tests were supervised by two fieldcrew and carefully excavated in 10 cm arbitrary levels unless intact cultural deposits were observed in which case the test was stopped to avoid impact. Backdirt was carefully spread on the parking lot surface and raked.

Subsurface evaluation assessed vertical extent of cultural sediments and where encountered, samples from cultural contexts were collected for carbon dating. Visible features and artifacts were photographed and mapped *in situ*.

Evaluative units were not excavated in situations where: the subsurface deposits of an archaeological site had proven by testing to be shallow and no additional information will likely be gained from data already gathered by shovel testing; or in situations where shovel tests indicated all if not the majority of the deposits have been disturbed by previous impacts; or in locations where no further impacts are proposed**.**

Evaluative units were excavated by hand where stratigraphically complex intact deposits were identified to document the significance and integrity of deposits. Evaluative unit(s) measure between 1.0 x 1.0 m. All evaluative unit(s) were excavated in 10 cm arbitrary levels. All excavated deposits were screened using ¼ inch mesh. Each evaluative unit(s) was mapped individually. At least two adjacent profiles were drawn and photographed. All faunal remains were collected for analysis.
The field data collected was digitized using GIS software ArcMap 9.3 to convey all archaeological features, landforms, subsurface tests, survey coverage, existing facilities, and recent disturbances. Updated BC Archaeological Site Inventory Forms were completed and submitted to the Inventory Section of the Archaeology Branch. All artifacts were catalogued and significant or diagnostic artifacts photographed. Faunal material was identified to species or lowest possible taxa and quantified (where possible) to element. Note was made of butchering patterns when possible. Catalogued artifacts are described by material, form, size and function; all lithic material was analyzed. An attempt to fit the assemblage to an established cultural phase was made. Faunal material was identified using comparative specimens located at VIU.

4.5 Site Significance Evaluation

The significance of sites within the Study Area was evaluated using the Checklist of Criteria for Pre-Contact Site Evaluation (Appendix D) and Checklist of Criteria for Post-Contact Site Evaluation (Appendix E) from the British Columbia Archaeological Impact Assessment Guidelines (Archaeology Branch 1998).

4.6 Impact Identification and Assessment

The potential for impacts to sites within the Study Area were examined using the Indicators for Assessing Impacts on Archaeological Sites (Appendix F), in the British Columbia Archaeological Impact Assessment Guidelines (Archaeology Branch 1998) and the Ministry of Forests' Memorandum of Agreement on Trails (1995).

5.0 Resource Inventory – Results

5.1 Physical Location and Setting

DjSc-1 is located north of a level and sheltered isthmus on a level terrace above a gently sloping sheltered bay on the north side of Dick Island. The point is connected to Dick Island at moderate to low tides. The point has been formed by constant tidal action from the south (Mouat Bay side) pushing beach rounded pebbles and small cobbles to form the point. This results in a very dynamic shoreline environment with the point and southward fully exposed to the Strait of Georgia southwestern wind and wave action and on the north side of the point, the shoreline is sheltered by Dick Island. Privately owned, Dick Island is actually a rocky headland islet of much higher elevation than the adjacent shoreline.

This surrounding shoreline is mostly deforested, but a few veteran Douglas-fir trees are present. The point consists of exposed rounded beach gravels and lacks vegetation with the exception of sparse grasses resulting partly from weathering but also due to past disturbances to the landform. Road crush has been spread and compacted over the point as the point is currently used as a parking lot and boat launch. Due to the difficulties of attempting to hand excavate shovel tests in a compacted gravel and crush parking lot, the Archaeology Branch approved the use of backhoe testing within this area of the site (communication with Steven Acheson 2013/07/31).

North of the point, the shoreline is gently sloping to low bank. Above the shoreline bank, a large flat level terrace extends for approximately 350 metres inland to a short bench. From this bench, a moderate slope continues inland to Gillies Bay Road. The entire upland portion of the site was historically logged as evidenced by the age of the present stand estimated at 50 years old. A seasonal creek begins approximately 13 metres west of Gillies Bay Road and 83 metres south of the NE corner of the Shelter Point Park property boundary. This creek drains down slope and at the bottom of the bench a small marsh drains southward to what was once an open wetland area located behind the point. This wetland has been subsequently modified for campground use and a grass field has been planted. The campground area is located from the northern property boundary and extends to the edge of the grass field/former wetland area. The campsites are arranged around and are serviced by a circular road (see figure 11). In addition to the campsites, facilities include three washroom facilities (one installed within DjSc-1 site boundary in 2011) draining to associated septic fields, a maintenance building and the former caretaker residence and concession building which were both destroyed by fire in 2012.

DjSc-1 is a visibly large midden which encompasses the level terrace across Shelter Point and a portion of the forest slopes to the east of this and also extends north of the Powell River Regional District park boundary for an unknown distance. Pedestrian survey transects of 5-20 metres conducted within Section 16 achieved 100% site survey coverage. This study has resulted in an increase the site boundaries to measure 442 x 175 metres in area. Exposed cultural deposits are present from the north property boundary of the park to approximately 270 metres south along the flat level terrace. In some places of disturbance and erosion thick cultural deposits are exposed in a series of ridges, some of which are approximately 2.5 metres in height. These ridges or mounds are associated with a complex of habitation features (mounds, ridges, depressions) which are discussed in further detail below.

From the last available mound exposure near the north boundary of the park, a total of 85 shovel tests (See Appendix 4), 10 backhoe tests, and one 1.0 x 1.0 m evaluative unit was excavated (see Figure 11). Of these, the deepest cultural deposits on average were found to terminate at 80-90 cm depth below surface. Sterile deposits

were not identified in ST# 33, 35, and 44, indicating these did not reach the bottom and the site is deeper than 90+cm in these locations. As tests were placed to capture the boundary of the site and are essentially clustered on the margins of the site, it is assumed cultural deposits are even deeper within the center of the site.

Of the subsurface shovel tests, 43 were positive for subsurface cultural material. Of the backhoe tests, 4 were positive for subsurface cultural material. A total of 279 lithic artifacts, 195 faunal remains, 15 historic artifacts and 4 samples were collected during this study. The visible habitation mounds were not sub surface tested as these are located outside the proposed development area. One culturally modified tree (CMT) was positively identified and two possible CMTs were identified. No intertidal features were identified.

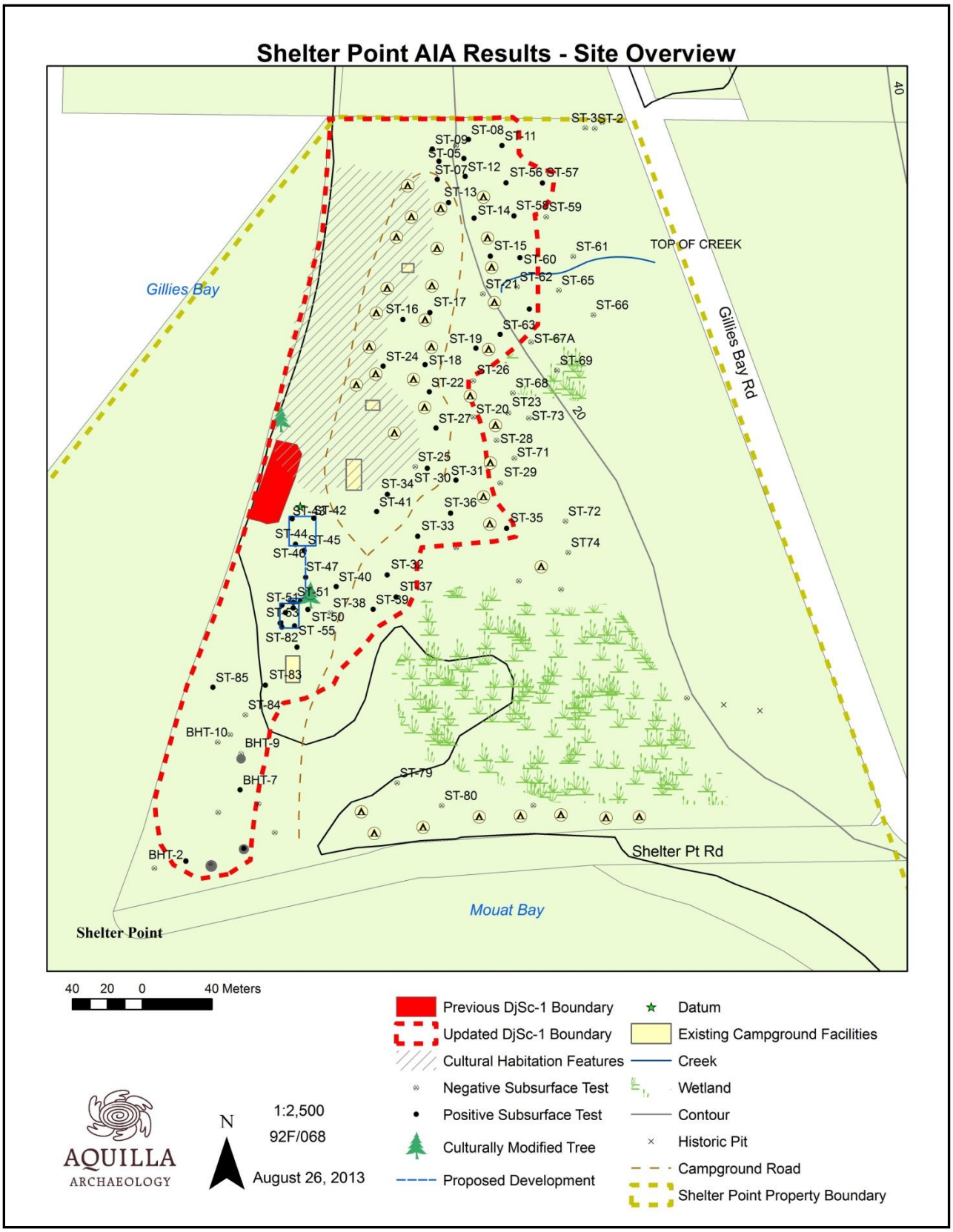


FIGURE 11. RESULTS OVERVIEW.

5.2 Study Areas

To better discuss the test results and how these relate to the defined site area and the proposed development project six Study Areas were defined across the site. Within the scope of the project the boundaries of these study areas were arbitrarily drawn on the basis of identifiable site areas, localized topographic features and campground constraints. Shovel and backhoe test locations dispersed across Study Areas 1-6 were selected to fully assess high and medium potential locations and maximize test coverage across the greater site area. Each of these study areas and the results of testing therein is discussed in more detail below.

TABLE 4. SUMMARY OF TESTS AND STUDY AREAS

Study Area	# of Subsurface Tests	% of Tested Areas of Site
1	12	14
2	17	20
3	10	12
4	20	23.5
5	Backhoe Tests (10) Excluded	
6	26	30.5

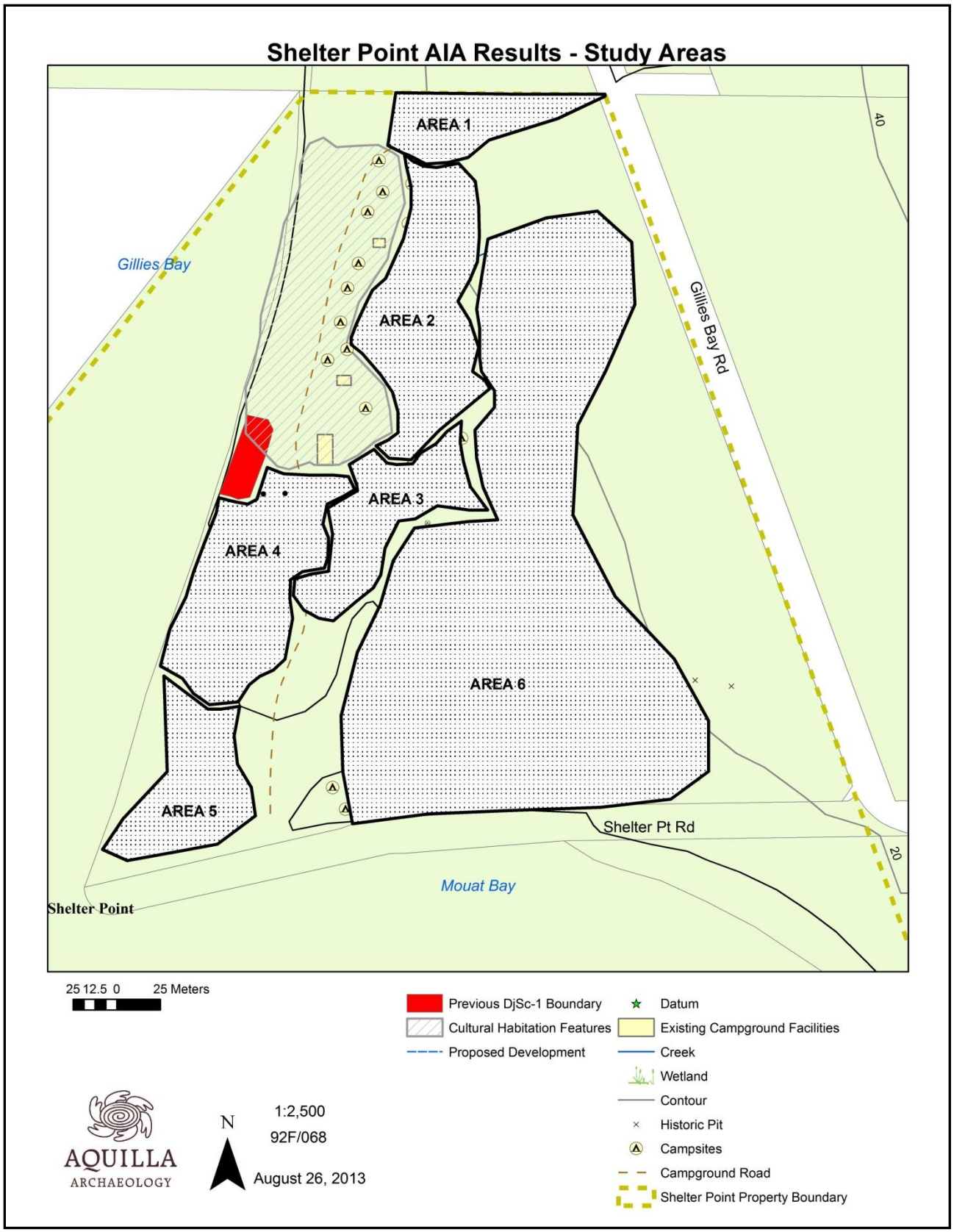


FIGURE 12. STUDY AREAS.

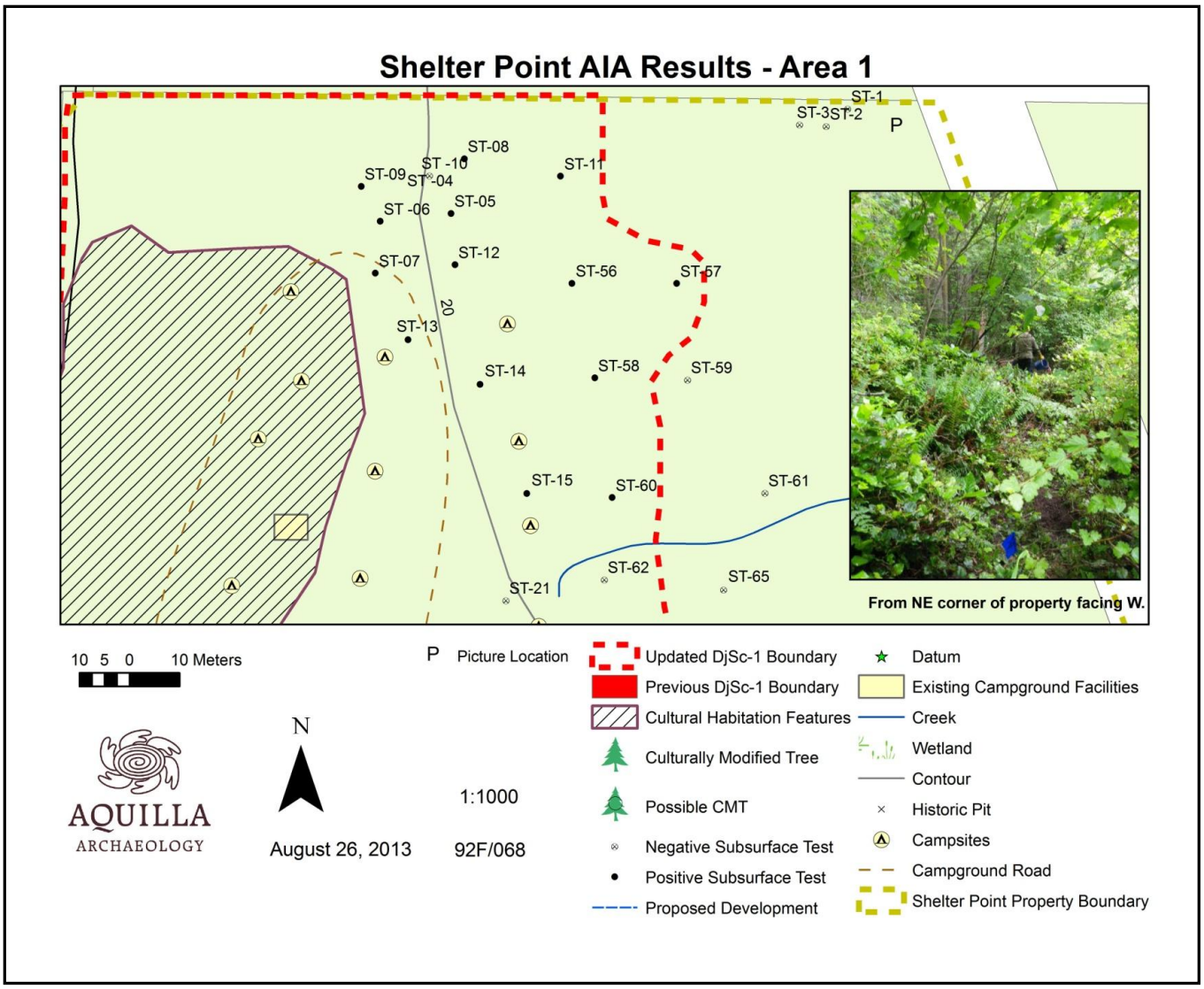


FIGURE 13. AREA 1.

5.2.1 AREA 1

The north zone of the park (ST#1-#12) and area east of the mounds almost immediately begins to slope upwards. Tests in this zone while identified as positive on the basis of recovered flakes, fragmentary faunal material, and FBR are characterized by shell-free, undifferentiated yellow sand glacial sediments with a small amount of angular and rounded cobbles. Cultural material is typically encountered 40-50 cm below surface and sometimes continues to the bottom of the test which bottoms out at 90 cm dbs. Very thin discreet layers of shell-free black silt is occasionally observed particularly at the base of the slope. Area 1 constitutes 14% of the area tested. No formed tools were identified in this area which is characterized by sparsely distributed debitage and highly processed bone fragments occurring in the range of 30-90 cm dbs.

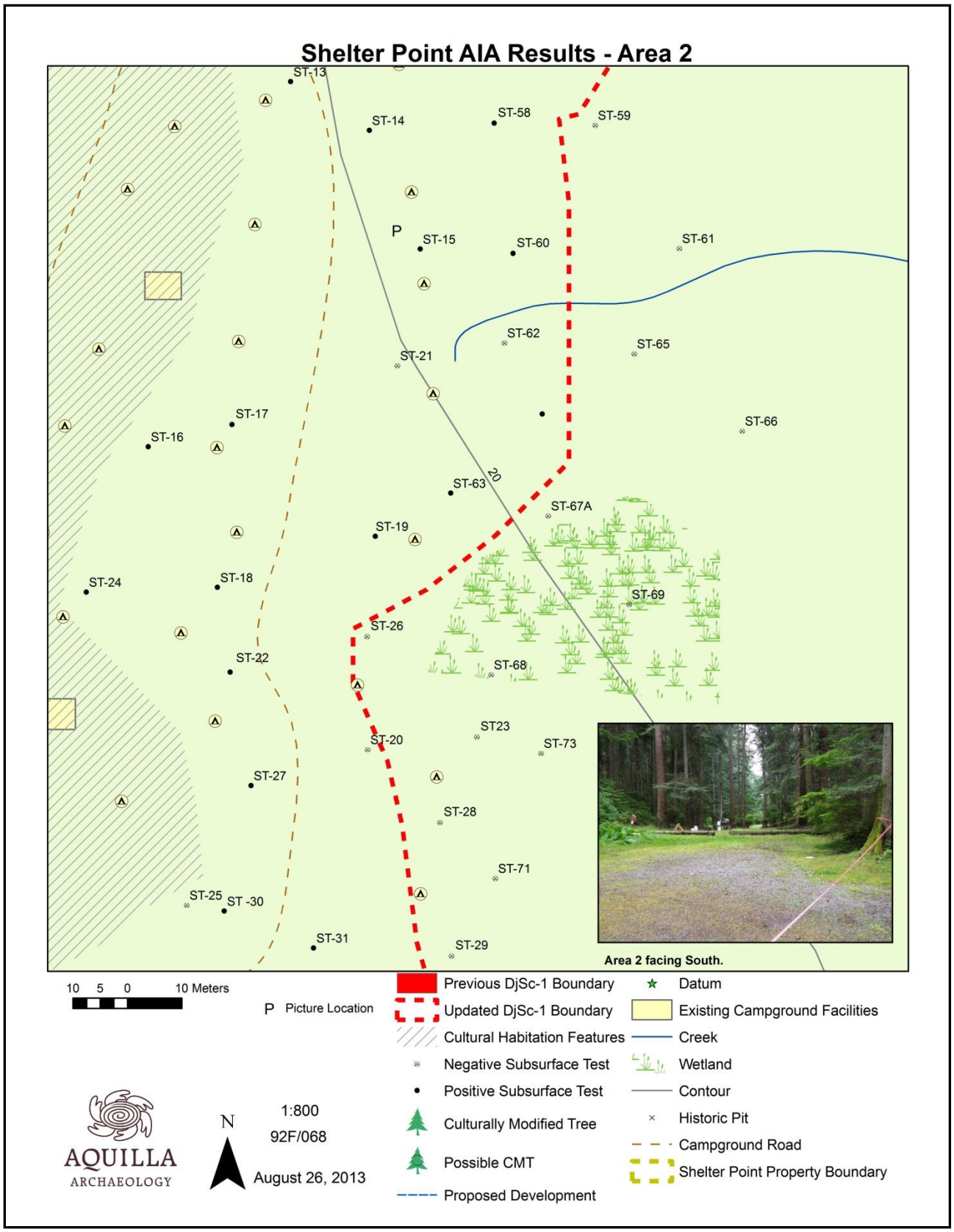


FIGURE 14. AREA 2.

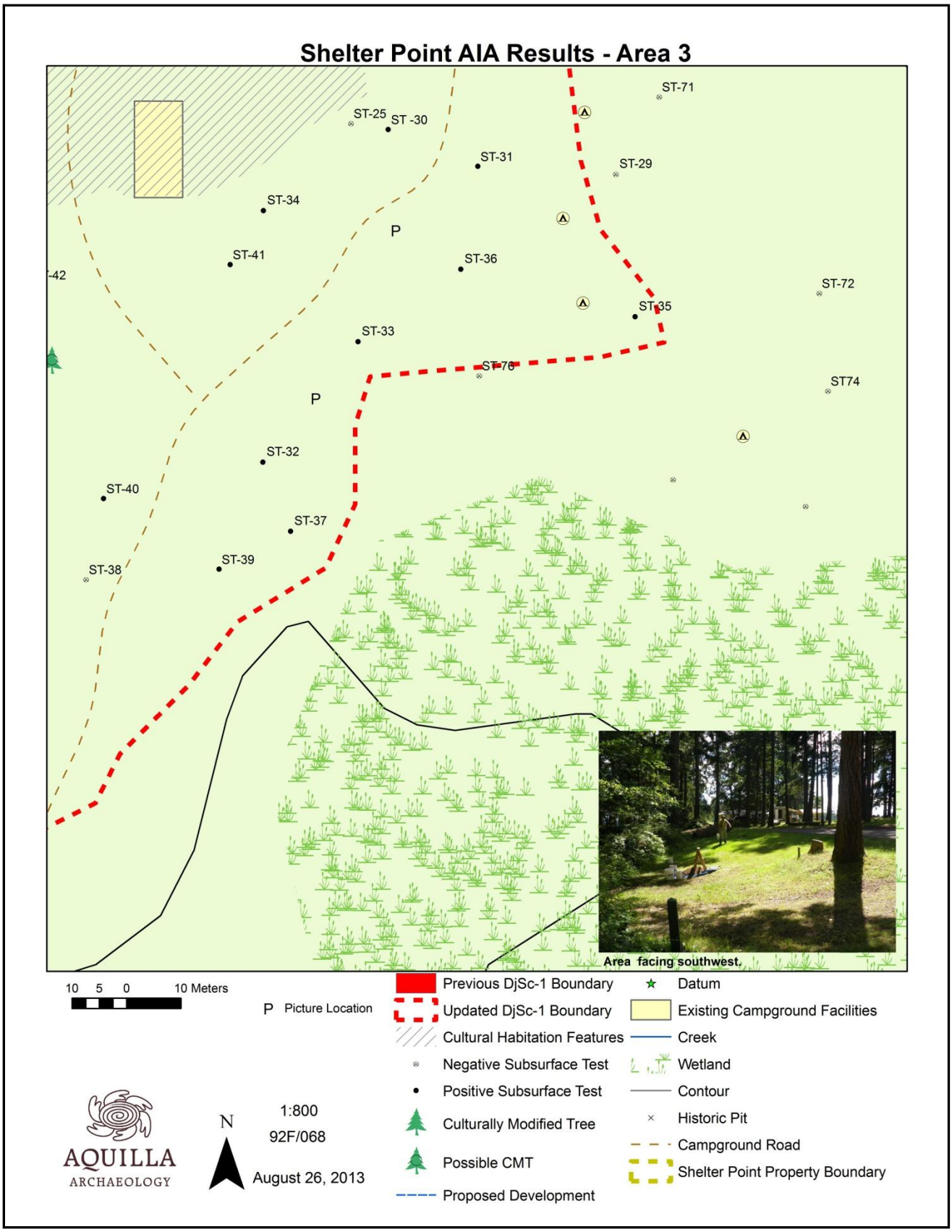


FIGURE 15. AREA 3 RESULTS.

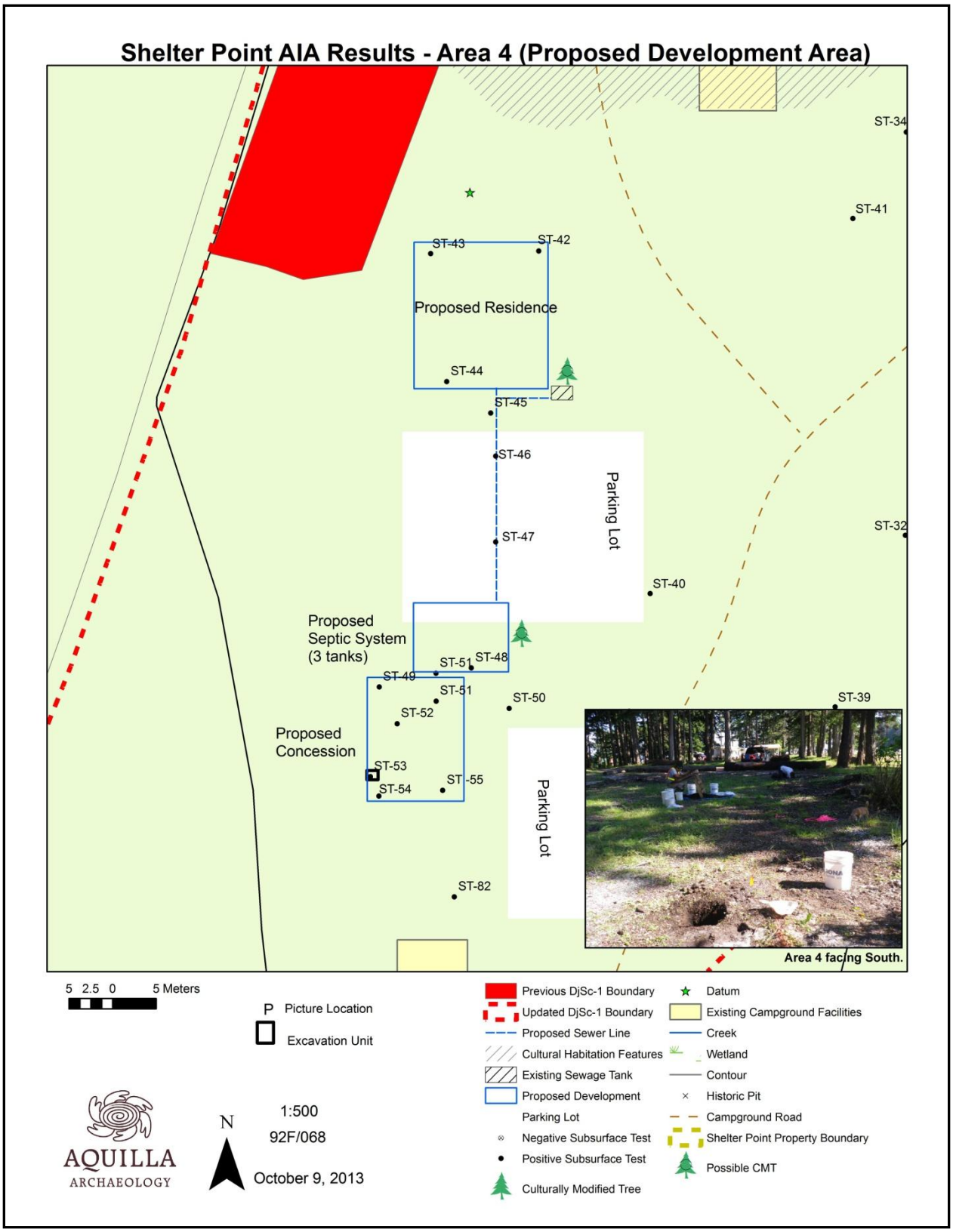


FIGURE 16. AREA 4 RESULTS.

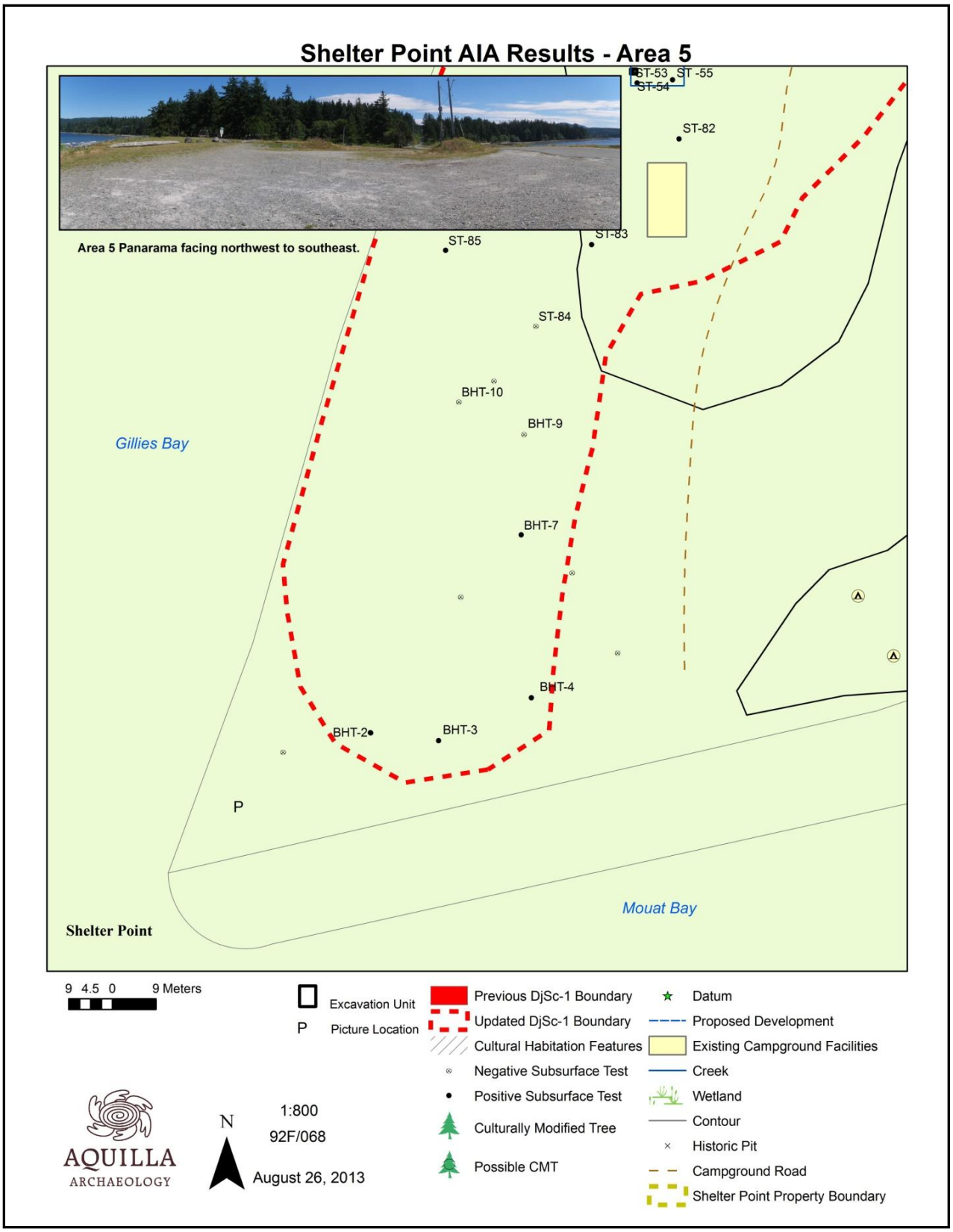


FIGURE 17. AREA 5.

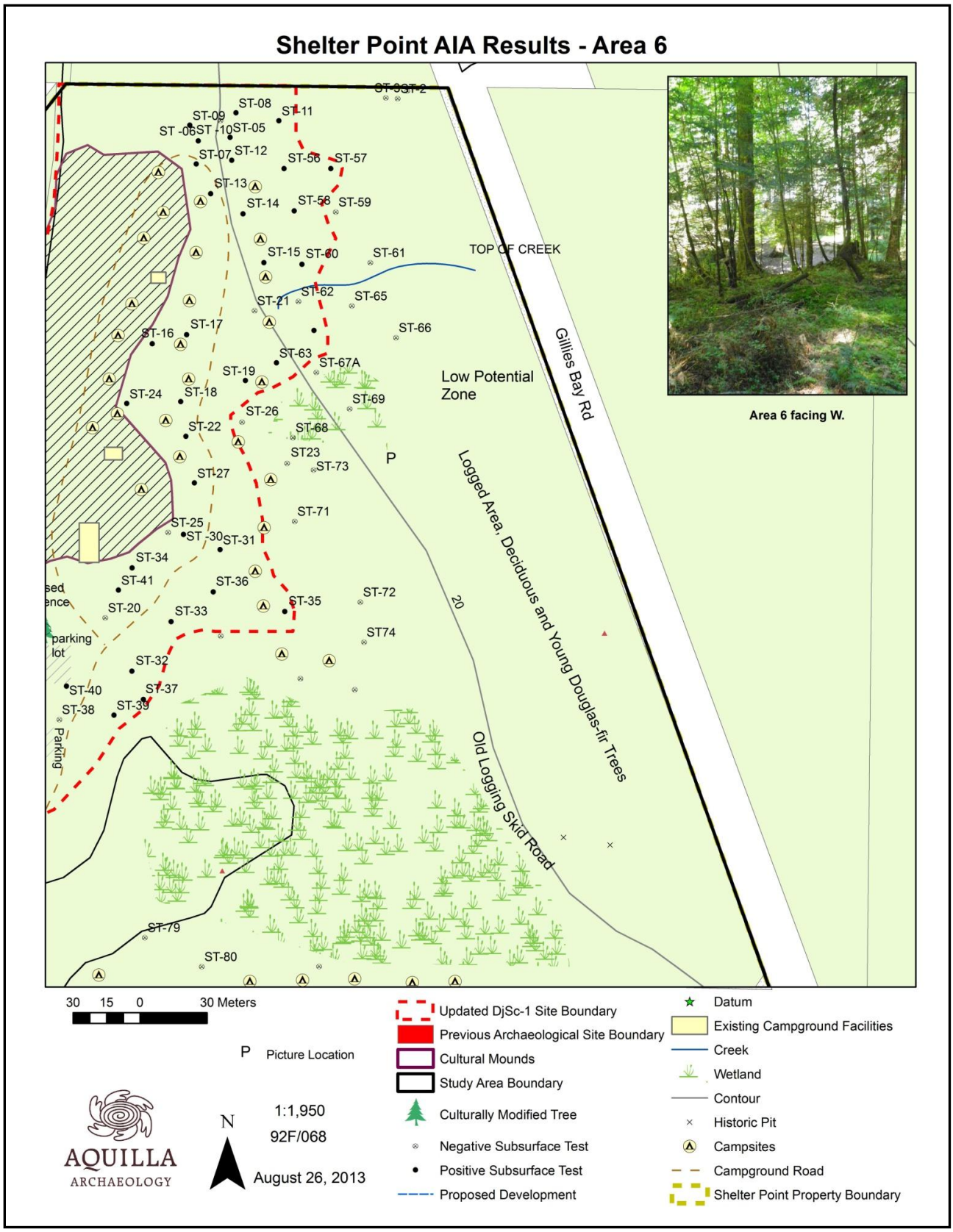


FIGURE 18. AREA 6.

5.2.2 AREA 2

Adjacent and downslope of the creek in the lowest elevation wetland zone (ST#13-#30), the shell-free yellow sand matrix continues but is punctuated by multiple thin strata of black organic material indicative of previous slope wash events. This low elevation zone is at the base of the slope within the central portion of the campground and contains subsurface cultural material indicating the wetland was in use. Artifacts recovered from this zone show up starting at 50cm dbs and include slate knives, a shaped abrader, slate flakes, FBR, and fragmentary faunal remains. Tests within this area are inconsistent in terms of frequency of cultural material likely caused by disturbances associated with campground facilities. Area 2 accounts for 20% of the area tested. ST#20 -22 contained much higher densities of cultural material and is largely why this area is characterized by the presence of stone tools (n=18); debitage (n=20); and highly processed faunal material (n=54). Cultural material is present from 10-90 cm dbs. but is concentrated between 10-50 cm depth. Two slate projectile point blanks were recovered from 30-50 cm dbs. and a total of six slate knives were identified. Three of the slate knives were found in the 10-20 cm level, two were found in the 20-30 cm level and one was identified at the 40-50 cm level. A complete ground pestle was also identified at 22 cm dbs. While artifacts are found consistently through 10-90 cm depth, the slate knives cluster in the upper strata.

TABLE 5. AREA 2 ARTIFACT SUMMARY

Cat #	ST	Depth	#	Method	Material	Tool Type	Comments
519	13	50-60	1	flaked	slate	Biface	Large slate biface. Notched.
491	13	60-70	1	flaked	andesite	Core	Andesite core (exhausted?). One margin shows flake removal scars, the other margin is utilized.
531	14	80-90	1	flaked	slate	uniface	Unmodified slate tool with utilization wear.
239	16	30-40	1	FL/GR	slate	Projectile Point Preform	Ground slate. Triangular projectile point. One lateral margin rough. Flat straight base.
240	16	30-40	1	FL/GR	slate	Biface	Curvilinear bifacially flaked and ground biface. Semi-lunar in shape.
534	16	47	1	Fl/GR	slate	Projectile Point	Bifacially ground slate. Complete triangular projectile point with assymetrical shoulders and stemmed base. One lateral margin has two chips removed from either late stage manufacturing or use wear.
540	17	30-50	1	Fl/GR	slate	Biface	Bifacially worked slate – blank.
558	18	20-30	1	ground	slate	Slate knife	Ground slate knife. Rectilinear. Beveled cutting edge. Flaked and ground.
515	18	50-60	1	ground	sandstone	Abrader	Broken shaped abrader.
530	19	20-30	1	ground	slate	Slate knife	Ground slate knife. Bifacial

546	19	30-40	1	ground	slate	Graver	Very thin, sharp graver tool.
547	19	30-40	1	ground	slate	Scraper	Unifacial slate scraper. One lateral margin bevelled scraper edge.
525	19	40-50	1	ground	slate	Slate knife	Classic ground slate knife. Bifacial.
328	21	10--20	1	ground		Slate knife	Complete triangular ground slate knife/scraper. Beveled edge.
501	21	10--20	1	ground	slate	Adze/knife	Triangular shaped slate adze blade. One edge is sawn cut, another is adze-bit-like, and the third is stepped and used for scraping.
502	21	10--20	1	ground	slate	Slate knife	Ground slate tool. Backed?
467	22	20-30	1	flaked	andesite	Utilized flake	
561	22	20	1	ground	sandstone	Ground Pestle	Pestle, ground and shaped. Complete. Tapering from proximal end to a rounded point distally.
332	22	60-70	1	flaked	andesite	Utilized flake	Very minute amount of use wear.
513	22	60-70	1	flaked	andesite	Chopper	Cobble chopper. Minimal use.
529	24	10--20	1	ground	slate	Abrader	Ground and shaped abrader fragment. Two sawn edges.
524	27	30-40	1	flaked	andesite	Projectile Point	Small triangular shaped projectile point. Dorsal surface is edge flaked and ground on surface. One shoulder completed. The other shoulder incomplete. Assymetrical base like other small points (area 3) which suggests this may be an intentional attribute and not breakage.
326	27	50-60	1	flaked	andesite	Utilized flake	Use wear on distal lateral margin.

5.2.3 AREA 3

Moving southwest through the campground (ST#30-#39) the frequency of cultural material markedly increases. ST#33-#39 contains brown silts, tan and orange sands with very little to no shell bearing matrix and seemingly non-cultural sediments in many tests as in Area 2. Black shell-free silts begin to appear intermittently but without any consistency. Sterile sediments could not be reached with a shovel in some tests. In this zone cultural material recovered includes: a projectile point, microblades and microblade cores; a bone point; a possible labret; quartz crystal debitage; and much higher counts of fragmentary faunal remains and debitage recovered from depths from just below surface to the end of test around 75 cm dbs (average). While only accounting for 12% of the area tested, the densities of cultural material increase drastically. A total of 31 tools, 106 specimens of debitage were recovered from this area. Artifacts and faunal remains are found from 30-90 cm dbs. however most of the cultural material is found ranging at 50-80 cm dbs. with a particular concentration of formed tools at 60-70 cm depth including microblades (n=3), scrapers (n=6), and all three projectile points from this area. The two smaller

points are not temporally diagnostic however Cat. #. 537 from ST#39 is a diagnostic small-medium leaf shaped point which fits Carlson's Type 1a or 1b (2008:136-137). Other points of this style from Helen Point on Mayne Island date to the Charles Phase (4500-3300 years BP).

TABLE 6: AREA 3 ARTIFACT SUMMARY

CAT #	ST	Depth	#	Method	Material	Tool Type	Comments
505	30	30-40	1	flaked	andesite	Core tool	Utilized flake, cortex (core) tool.
506	30	30-40	1	flaked	andesite	Core	Exhausted core.
538	30	60-70	1	flaked	chert	Projectile Point	Near complete projectile point. Small, and roughly made. One corner of base broken. Complete portion of base shows corner notching and basally thinned, expanding stem. Dart/arrow point.
483	30	70-76	1	flaked	andesite	Scraper	Very small triangular biface with shoulders.
424	32	70-77	1	flaked	andesite	Scraper	Small. Base is concave, basally thinned and very finely flaked. Possible re-worked base of a broken biface.
315	33	40-50	1	flaked	basalt	Utilized flake/Burin	Utilized flake.
316	33	40-50	1	flaked	slate	Utilized flake/Burin	Unifacially worked.
381	33	50-60	1	flaked	basalt	Utilized flake	Prepared/crushed platform. Usewear along one lateral margin.
563	33	50-60	1	flaked	glass/Quartz	Debitage	Striations visible on one planar surface (of finished glass?). A bevelled edge on one margin suggests a scraping edge. Martindale 2005. No lustre.
564	33	50-60	1	flaked	obsidian? rhyolite? Pitchstone?	Microblade	Blade. Dull black vitreous - obsidian? Lacks glassy characteristic unless wet. Nevertheless is very, velvetty in texture and obsidian like-high quality.
533	33	50-60	1	ground	bone	Bone Point	Bone point tip. Broken medially and at tip.
535	33	60-75	1	flaked	basalt	Core	Core tool - utilized.
463	33	60-75	1	flaked	andesite	Microblade	Microchipping on one lateral margin.
542	34	33	1	ground	siltstone	Labret?	Long thin rectangular shaped siltstone with one finished end. Fits "T" shaped or 'anomalous suggested labret type' [La Salle].
340	34	40-50	5	flaked	andesite etc	Burin	Utilzed flake with used burin at distal end.
441	34	60-70	1	flaked	andesite	Biface	Biface fragment.
442	34	60-70	1	flaked	andesite	Utilized flake	Utilized flake, cortex platform.

447	34	60-70	1	flaked	andesite	Microblade	Microblade. Microchipping on lateral margin - usewear.
448	34	60-70	1	flaked	andesite	Utilized flake	Microchipping on lateral margin - usewear.
449	34	60-70	1	flaked	andesite	Utilized flake	Microchipping or pressure flaking on more than one edge. Serrated.
450	34	60-70	1	flaked	andesite	Microblade	Usewear on both lateral margins.
451	34	60-70	1	flaked	andesite	Biface	Biface fragment.
452	34	60-70	1	flaked	andesite	Biface	Biface fragment.
510	35	40-50	1	flaked	andesite	Scraper	Shaped, bifacial scraper tool. Complete. Acute angled.
507	35	60-70	1	flaked	andesite	Scraper	Rectangular shaped bifacial scraper.
549	35	0--10	1	?	quartz	Biface	Clear quartz. Small, multi-faceted. Squared and shaped scraper edge, <45% angle edge. Very difficult to differ from glass but does have high lustre consistant with other quartz.
551	35	30-40	1	flaked	andesite	Core- micro	Unidirectional microblade core. 6 blade scars. Material fine grained and hard andesite same as cat. #198.
562	36	0--10	1	flaked	glass/Quartz	Debitage	Flaked glass or quartz. Denticulate, conchoidal distal flakes taken off distally. Very smooth surfaces - glass? Martindale 2005. No lustre as in quartz debitage and biface cutting tool.
554	36	20-30	1	flaked	andesite	Microblade	Microblade.
556	37	10--20	1	flaked	andesite?	Biface	Point blank.
241	37	40-50	1	flaked	andesite	Core	Multidirectional. Two surfaces with cortex.
539	37	50-60	1	flaked	andestie?	Microblade core	Microblade core - unidirectional.
544	37	50-60	1	flaked	andestie?	Core tool	Core tool.
324	37	60-70	1	flaked	andesite	Biface	Battered on one margin and bifacially thinned.
325	37	60-70	1	flaked	andesite	Biface	Platform is cortex.
548	38	20-30	1	flaked	quartz	Biface	Quartz crystal bifacially flaked and worked cutting tool with a high lustre.
473	38	40-50	1	flaked	greywacke	Utilized flake	Light grey, fine grained material. Same as other translucent material? Nice utilized flake on distal end and one lateral margin.

318	38	60-70	1	flaked	greywacke	Scraper	Biface, steep angled. Rectangular shaped at working end. Same translucent material type as cat. 319; EaSe-13:174; DkSb-30:41.
319	38	60-70	1	flaked	greywacke	Scraper	Broken scraper. Square shaped at working end. Same translucent material as cat. 318, and medial portion of a lanceolate point medial section from EaSe-13:174, and DkSb-30:41.
550	38	60-70	1	flaked	andesite	Projectile Point	Near complete projectile point. Small. Same form as cat. #538. Base broken or unifinished on one corner. Complete portion of base shows thinned, expanding stem. One face of point ground.
560	39	30-40	1	flaked	chert	Core	Chert core. Heat treated. Shows red crazing on cortical surface and hairline fractures.
537	39	60-70	1	flaked	andesite	Projectile Point	Projectile point, near complete. Base and tip broken. Contracting base just visible but base style absent. Fine grained andesite/diorite. Small well made leaf shaped point. Carlson's Type I a or b and difficult to tell b/c incomplete.
545	39	70-80	1	flaked	siltstone	Core scraper tool	Discoidal core, scraper tool. Acute angle. One surface has cortex. Other surface is ground. Cutting edge is carefully shaped.

5.2.4 AREA 4 (Proposed Development Area)

West and towards the shore, this zone (ST#40-#55 and ST#82-#85) is within and adjacent to the proposed developments and located a flat level terrace just above the shoreline and just south of the habitation features. This area constitutes 23% of the area tested but due to disturbance in this zone, cultural material accounts for tools n=20; debitage n= 40; and faunal specimens n=64. As the upper levels are disturbed, this skews the proportions of cultural material as the remaining artifacts are found clustered in the 40-75 cm depth range. A total of 18 tests and one evaluative unit were excavated in Area 4.

Two incomplete faceted ground slate projectile points were identified in this area from disturbed levels (ST#43 20-30 cm depth and ST#82 60-70 cm depth) and were the only diagnostic specimens identified from this area. This indicates a Locarno phased component is present in Area 4 but has been disturbed by past land use activities. Artifacts are present from 10-80 cm dbs. but are found predominantly between 40-70 cm dbs. which also coincides with the only confirmed intact levels within the concession area (see EU section below). The assemblage is clearly dominated by slate tools (n=12) of which at least 3 are identified as slate knives. Many of the slate knives are both chipped and ground. Other than the slate tools, there are no other chipped stone artifacts from this area suggesting perhaps a later temporal occupation consistent with the well-accepted overarching technological shift from earlier periods dominated by chipped stone to later periods where ground stone is emphasized on the northwest coast.

Proposed Residence and Parking Lot

This was the former location of the concession and residence. The fire debris has been cleaned up and the surface has been minimally impacted by machinery. Despite the clean up, the area is littered with charcoal, glass, wire, plastic and various other rubble. Strata in this zone (ST#40-#47) is consistently black silts, crushed butter clam, littleneck clam and the occasional cockle shell mixed with 80% beach pebbles. All tests within this zone are disturbed to at least 40 cm dbs and to varying degrees beyond including some tests of totally undifferentiated black cultural silts mixed with some shell and 90% beach gravels from surface to the bottom of tests. Cultural matrix is found consistently at maximum depth of all tests and sterile deposits were not reached. Artifacts from this zone include a facetted ground slate point, and an unusual chunky incomplete ground biface in the shape of a whale tail. Due to the degree of rubble and high probability of incidental charcoal contamination, no evaluative units were placed here.

Proposed Concession and Septic Tank

Directly south of the parking lot and residence, this zone is the southern extent of the proposed developments (ST#48-#55 and #82-#85). All of these tests were disturbed to varying degrees. New information obtained post-fieldwork proposes installation of a new commercial grade 3 tank system rather than a 1 tank system as indicated during field testing. Two 650 gallon tanks require a 6.0 x 5.0 metre by 2.5 metre deep excavation and one 300 gallon tank requires a 1.2 x 1.2 metre by 2.0 metre deep excavation. This results in a total excavation area of 75m² without accounting for excavation widening. The existing septic tank will be tied in and used as the final grey water chamber prior to dispersement to the existing septic field. In the proposed area of the septic system, the matrix is characterized by undifferentiated brown silts with very few fragments of shell occurring to a depth of 70 cm. Lower densities of cultural material was encountered in these tests. Intact midden starting at 40 cm and 15 cm was only identified in ST#53 & ST#54 respectively. Considerable FBR was identified in ST#53 and this was chosen for a 1.0 x 1.0 evaluative unit (discussed below in further detail).

TABLE 7. AREA 4 ARTIFACT SUMMARY

Cat #	ST	Depth	#	Method	Material	Tool Type	Comments
536	43	10--20	1	GR	bone	Bone tool	Highly ground medial section of a shaped and tapered bone tool. Striations visible.
541	43	20-30	1	GR	slate	Projectile Point	Facetted ground slate projectile point. Base and tip broken -75% complete. May be exhausted and re-used as significant use wear along lateral margins. Grinding striations visible on facets. Lateral margins of both surfaces facetted.
543	43	20-30	1	GR	sedimentary	Scraper	Scraper/knife with worn graver bit. Lighter colour & different texture due to weathering. Ground on both surfaces. Striations visible.
557	43	40-50	1	GR	slate	Biface	Partially shaped and ground biface. Distal end shaped with one uniformly squared corner, and a second rougher squared corner. Only lateral margins worked with extensive bifacially chipping on both sides. Proximal end not worked.
553	43	50-60	1	GR	slate	Scraper	Classic thumbnail scraper, semi-circular. Base crescent shaped.

217	44	0--10	1	GR	sandstone	Shaped Abrader	Oval shaped abrader, broken.
198	44	20-30	1	GR	?	Misc. Ground object	Broken piece of highly ground and shaped object. Trapezoidal shaped fragment showing portion of edge, bottom and top. 'Top' is polished. Not andesite - same fine grained hard material as cat. #551.
499	44	40-50	1	GR/FL	slate	Biface	Interesting - morphology is a proj. Point blank, one lateral margin used as scraper edge. Ground on both faces. One face has flaked outline towards centre of tool for shaping.
136	44	70-80	1	fl	slate	Uniface	Ground on both sides, usewear along one margin.
559	45	60-70	1	GR	siltstone	Biface	Whale tail' shaped ground bifacial artifact. Anomalous. Basally notched flaring base tapering towards distal end. Broken medially. Object is rough - and unusual.
218	45	50-60	1	FL/GR	slate	Slate knife	Ground slate knife. Beveled cutting edge.
121	47	20-30	1	FL/GR	slate	Slate knife	Beveled edge. Shaped, rectangular.
213	47	40-50	1	cut/GR	slate	Axe/lrg knife	Ground slate large chunky knife or axe bit. Notched for hafting. Bevelled blade edge.
126	48	40-50	1	?		Shaped Abrader/ Scraper	Appears to be a re-worked/flaked object. Rough and weathered on both surfaces. One surface has a very uniform polished and shaped rim. Distal end has use wear as scraper.
210	49	10--20	1		andesite	n	Possible artifact. Unsure if cortex naturally beach polished or modified. Pc. Of shatter.
153	50	40-50	1	FL/GR	slate	Biface	Bifacially chipped on lateral margins. Ground on face of both surfaces.
127	51	10--20	1	FL/GR	bone		Possibly notched proximally and slightly ground at distal end of fragment.
108	51	50-60	1	fl	slate	Utilized slate tool	Flaked and possibly ground. Probably a utilized flake shows bevelling on one margin and usewear on two .
184	53	60-70	1	GR	bone	Bone Point	Broken bone point.
128	55	40-50	1	FL/GR	slate	Biface	Ground on both sides, usewear along one margin.
496	82	60-70	1	GR	slate	Projectile Point	Near complete, ground slate facetted projectile point. Triangular. Facets on both surface lateral margins. Base is thinned. One corner of base, and tip missing. Base is flat, corners rounded. Disturbed level.
497	82	60-70	2		metal	Historic	Not kept. Two rusted metal fragements. Disturbed.
498	82	60-70	1		glass	Historic glass	Not kept. Clear glass fragment. Disturbed.
164	82	70-80	1	GR	sandstone	Ground	Small, ground object. Tapered. Rounded edges, broad, wide. Not sure of function.
173	83	25	1	GR	bone	Bone Point	Broken bone point.

5.2.5 AREA 5

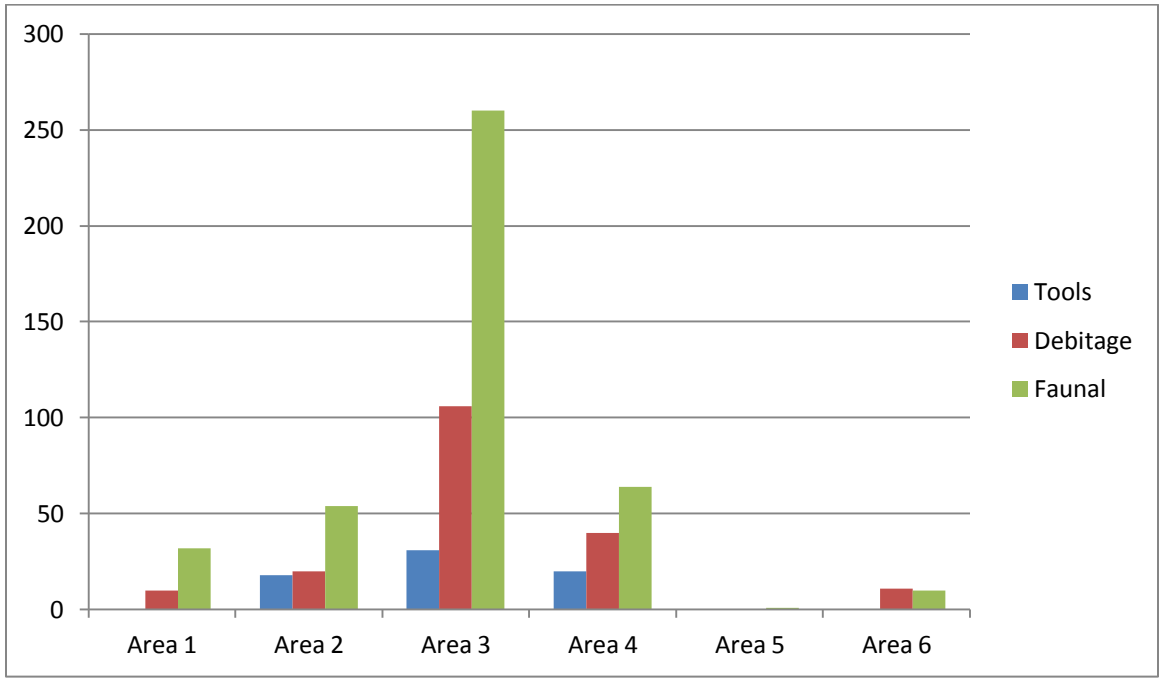
This zone is the point proper (BHT#1-10). As already noted, this area was backhoe tested due to the disturbed and highly consolidated nature of the matrix. As expected, the upper portion of this zone is characterized by varying degrees of fill for use as a parking lot, followed by rounded beach gravels. In BHT#2 testing was stopped at 20 cm dbs. as thick black greasy deposits of disturbed midden was encountered. BHT#3 found a buried utility trench line so this test was stopped as well. In BHT#4 deposits were disturbed to 20-30 cm dbs. angling west to south. This test was widened to hand expose using a shovel, the face of profile which was not stratified and uncharacteristically black and greasy. One incomplete deer tibia was collected. Testing continued to show beach gravel and black silts to the bottom. No FBR, shell or other cultural indicators were present. Sterile orange sand was reached at 130 cm dbs. This pattern continued for the other backhoe tests. BHT #6, well-sorted gravels and increasingly courser as depth is gained. Wet matrix was encountered at 80 cm dbs. Shell midden was encountered immediately in BHT#7 and this test was stopped. The remaining BHTs showed the same evidence of naturally occurring well-sorted beach gravels mixed with heavy black silts and lacking any cultural indicators. The bulk oil plant was reported to be located on the point and hydrocarbons may have leaked and leached into these gravel deposits accounting for the oddly thick black shell-free matrix mixed with the beach gravel. This is not clear as historic debris was not found yet should have been. This area is not quantified in terms of density as different methodologies (raking versus screening) were employed in this area and only 1 faunal specimen was recovered.

5.2.6 AREA 6

This zone (ST#56-ST#81) is located along the south margin of the existing wetland in a west to east direction and parallel to Shelter Point Road at the back of unoccupied campgrounds in and then running perpendicular to Shelter Point Road along the slope above and parallel to the campground in a south to north direction . The area adjacent to the wetland fronts the terrace facing the exposed bay south of Dick Island. The region above the campground slopes up to form a gently graded terrace. Sediments in this area are consistent with the yellow sands and silts identified in other eastern tests. No evidence of shell midden was identified here. This area accounts for 29% of the area tested but only five tests produced any cultural material accounting for debitage n=11 and faunal remains n= 10 found clustered between 10-40 cm depths. No tools were recovered from this area. Results from this area establish the eastern boundary of DjSc-1 as 81% of tests are negative.

5.3 Distribution of Cultural Materials

FIGURE 19 DISTRIBUTION OF CULTURAL MATERIAL DENSITIES BY AREA



5.4 Extent of Intact Deposits

FIGURE 20. FREQUENCY OF INTACT VERSUS DISTURBED DEPOSITS IN POSITIVE SHOVEL TESTS. NOTE METHODOLOGY DIFFERED IN AREA 5 (AND ONLY 1 FAUNAL SPECIMEN WAS IDENTIFIED).

Level of Disturbance	**Shovel Test #**
Intact	4; 5; 6; 7; 9; 12; 13; 16; 18; 19; 20; 30; 31; 32; 33; 35; 39; 40; 46; 47; 48; 49; 52; 56; 57; 58; 60; 63;
Upper Portion Disturbed (average 30 cm dbs)	27; 31; 38; 42; 43; 45; 50; 54; 55
Totally Disturbed (average 70 cm dbs)	23; 25; 44; 82; 83; 84; 85
Indeterminate	21; 34; 36; 37

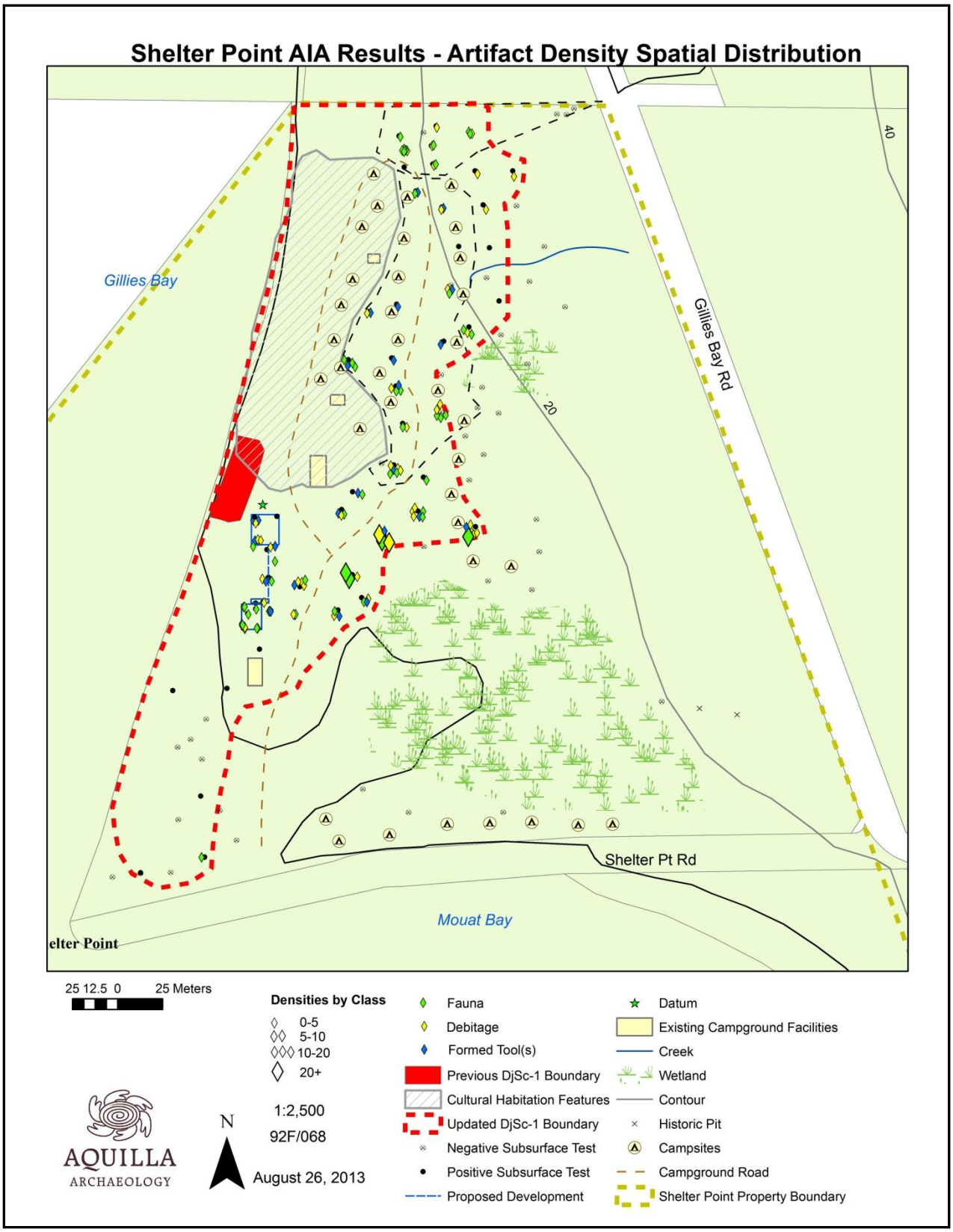


FIGURE 21. ARTIFACT DENSITIES AND DISTRIBUTION ACROSS DJSC-1.

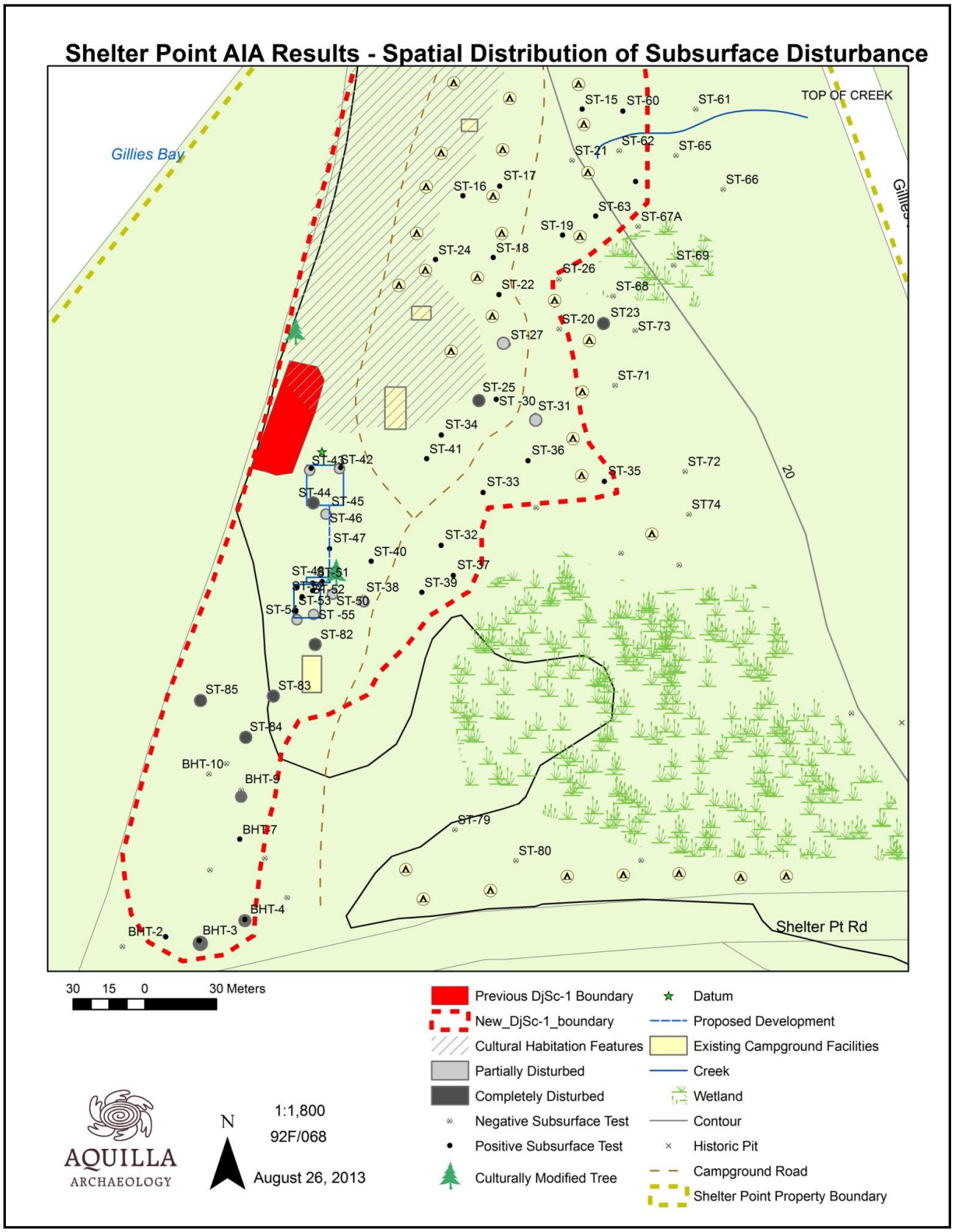


FIGURE 22. SITE DISTURBANCE.

5.5 Features

5.5.1 Cultural Habitation Features

The northern section of the park contains rare evidence of well developed house depressions and mounds arranged in 3 long avenues running parallel to the shoreline extending inland towards the base of the upslope bench. These habitation features were not mapped however field observations note the mounds vary from 1-3 metres height above surface and become increasingly well defined moving northward from the concession area of the park and zones of disturbance.

FIGURE 23. ABOVE, FROM SHORELINE BANK LOOKING EAST TO FIRST CULTURAL RIDGE. WHITE ARROW SHOWS "AVENUE 1".

FIGURE 22. ELEVATION DIFFERENCE BETWEEN TOP OF FIRST RIDGE AND "AVENUE 1" SHOWN BY WHITE ARROW.

FIGURE 23. FROM CENTRE OF A DEPRESSION FACING SOUTH. WHITE ARROW SHOWS "AVENUE 2". BLACK ARROWS SHOW DEPRESSIONS.

FIGURE 24. BEGINNING OF RIDGE #2. WHITE ARROW SHOWS "AVENUE 2".

Due to leveling for campsites, trails, bike jumps, installation of an outhouse, septic fields and other impacts to the mounds from park campsite development and road development, it is not possible to determine the number of structures that once corresponded to these features however, it is estimated approximately 6-12 depressions with corresponding mounds structures are present representing former habitation structures. It is not clear whether these features are remnants of longhouses or are evidence of a trench embankment site or both. Homer Barnett's ethnography included specifics about Slaimmon house architectural styles, where he indicates the gabled form of longhouse was the preferred type. He describes houses arranged together in terms of rank corresponding directly to size and indicates that all had various decorated architectural elements:

> *"Among the Sliammon, shed houses or any made of bark, were the "cheap kind." The ridgepoles of the gabled house were supported by the usual two end posts; or as in Fig. 8… Some houses were excavated two feet. The original ground level extended three feet beyond the edges of the bed platform before the step down, and sometimes the upper portion was planked, but never the entire floor."*

In further describing the arrangement of houses he substitutes numbers for classification purposes.

> *"The house of number one was said to be 100 feet long. The single ridgepole, composed of two end-to-end poles supported near their meeting place by two posts, was carved into a sea lion's head in front, and, at the break in the centre, there were two similar heads. At feasts, when oil was poured into a trough cut in the top side of the ridgepole, it ran out of the sea lion's mouth and into a fire."*

He also notes "on the gable a thunderbird and mythical serpent were painted. In front of the house stood a post carved to represent a man with his hands on his hips and his mouth open, "calling the people" (1955:49-50).

He notes stockade villages were in use in addition to semi-subterranean structures and cites those known by his Sliammon informants: Scuttle bay; a few miles north of Powell River; Grief Point; and two on Cortes Island. This is important because he observed evidence of habitation features at Scuttle Bay matching those present at Shelter Point:

> *"The remains on Scuttle Bay were still visible in 1936. One ridge of earth, sixty to seventy feet long, ran roughly parallel to the beach and was about seventy feet from it; what appeared to be a second ridge connected at right angles to one end of the first, and the area within each angle was depressed (50)."*

Chief Tom, Barnett's informant stated the visible remains of the Scuttle Bay village were remnants of a subterranean 'fighting house' or refuge lived in during troubled times. Excavated 6 feet and covered by logs planks and earth, this village was occupied approximately 5 generations ago (1955: 50-51). While the Shelter Point habitation complex does not appear to have depressions corresponding to depths matching Chief Tom's description, it demonstrates that further investigation is needed to better understand the form and function of this habitation complex and whether it was a classic village of several longhouses with possible subterranean elements, or if it is indeed a trench embankment site.

Cultural topography resulting from pre-contact habitation was at one time widespread throughout the coast. Villages and seasonal habitation sites were abandoned and structures decomposed over time. The rapid population expansion in early colonial times resulted in the destruction of many of these former village sites and consequently features such as these are seldom seen preserved. Village topography is reported from Burley at the False Narrows site on Gabriola Island (1979), by Greer at Dionisio Point on Galiano Island and the Beach Grove site (2005). Of the 10 habitation features present when originally recorded; only two house depressions and associated mounds at the Beach Grove site (2005) were left as of 2005. At Shelter Point, the mounds and depressions have been impacted by historic and park use however, they appear to have good integrity as the cultural topography from the longhouses is clearly visible. This strongly suggests this village supported a substantial population however more investigation is needed to confirm these observations.

5.5.2 Excavation Unit and Hearth Feature

One evaluative unit (1.0 x 1.0 m) was hand excavated in the southwest corner and along the western portion of the proposed concession building. ST#53 exhibited stratified cultural deposits starting at 40 cm dbs., this shovel test was chosen for a 1.0 x 1.0 m unit and was opened with ST#53 forming the SW quadrant. The upper 30-35 cm of the unit in all quadrants contained imported fill of sand mixed with pieces of cement, and roofing shingles. This confirmed the observed pattern in other Area 4 shovel tests where this disturbance is likely attributed to removal/bulldozing/levelling of the original upper portions of DjSc-1 with imported fill brought in to level what likely once had been pre-contact house depressions in preparation for historic era residences and recreational use.

Intact cultural deposits were identified at 32-35 cm dbs. in EU #1 and consisted of black silts mixed with fragmentary shell and bits of charcoal. A portion of a defined hearth was exposed at 35 cm dbs. angling diagonally from the NW corner to the SE corner of the unit and likely continuing beyond the unexcavated west wall and was well defined by a large and rounded boulder observed at 40 cm dbs. forming the boundary of the hearth where a distinctive change in matrix was observed. Within the hearth, the matrix consisted of burnt fragmentary clam shell and grey ash which was distinctive from the black silts and fragmentary clam shell found in the eastern portion of the unit. The interior of the hearth dipped towards the west indicating the hearth is basin shaped. Fire broken rock (FBR) and charcoal increased significantly. The burnt shell matrix continued dipping west until 90 cm dbs. and then changed to oxidized orange silts found until 100 cm dbs. in the west portion of the unit. Below 100 cm dbs sterile beach gravels were identified.

At the intact interface (30-40 cm dbs.) and associated with the upper hearth layer are faunal remains (n=3): an incomplete distal humerus (*Odocoileus sp*.) with carnivore knawing evidence, an incomplete portion of an ungulate rib, an unidentified but smashed bone fragment; artifacts include a hammer stone, and slate flake were identified. Associated with the hearth at 40-50 cm dbs. are faunal remains (n=1) with butchering evidence; debitage (n=3); fire broken rock (n=11); and unshaped abrader (Cat. # 215) with a slight bowl like depression from grinding or possible use as an anvil were recovered. Made of sandstone, it measures 146.0 x 148.0 x 49.0 mm. In addition, artifacts from ST#53 include a bone point tip and a small unidentified faunal fragment with usewear polish at 60-70 cm dbs. A total of 22 pieces of FBR were collected from EU #1. A charcoal carbon sample was collected from the feature at 45-55 cm dbs. and submitted to Beta Analytical Inc. for dating. This sample returned a conventional radiocarbon age of 840 +/- 30 years BP. A sample of the hearth matrix was collected for potential future research opportunities. Based on the size, shape, associated artifacts, and date of this feature, it is a Developed Coast Salish era hearth feature in use, and likely a cooking hearth for processing deer meat obtained locally (see faunal analysis). It is unclear and more work is needed to determine whether this feature was located within the interior of a house or represents an exterior processing area.

FIGURE 25 EU#1. CLOCKWISE – PLANVIEW OF THE HEARTH FEATURE AT 40 CM DBS. SOUTH PROFILE WITH HEARTH FEATURE AND SHOVEL INDICATING ST#53 IN SW CORNER. WEST PROFILE WITH HEARTH FEATURE. SHOVEL INDICATES ST#53 IN SW CORNER.

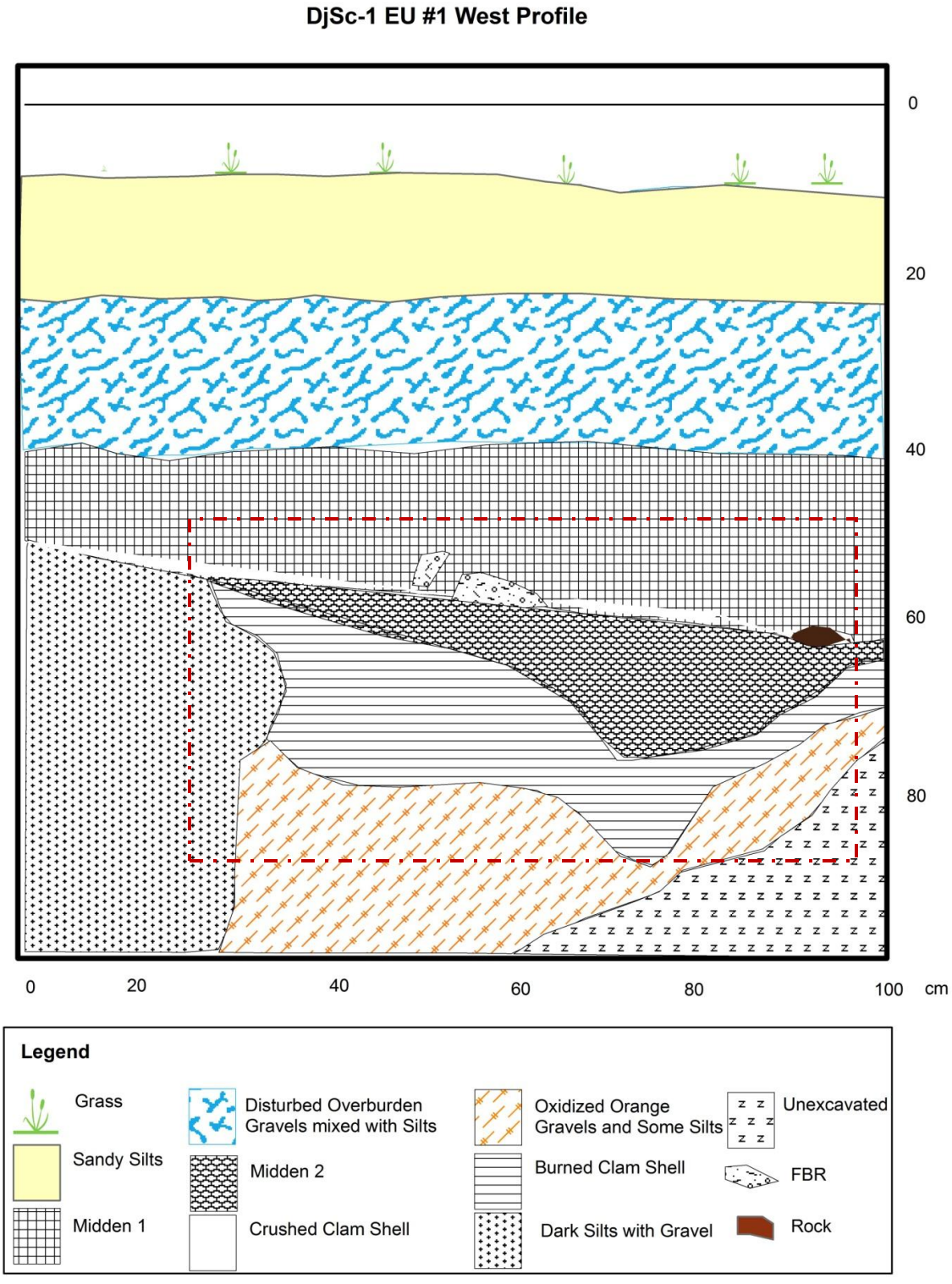


FIGURE 26. EU #1 WEST PROFILE. HEARTH OUTLINED IN RED.

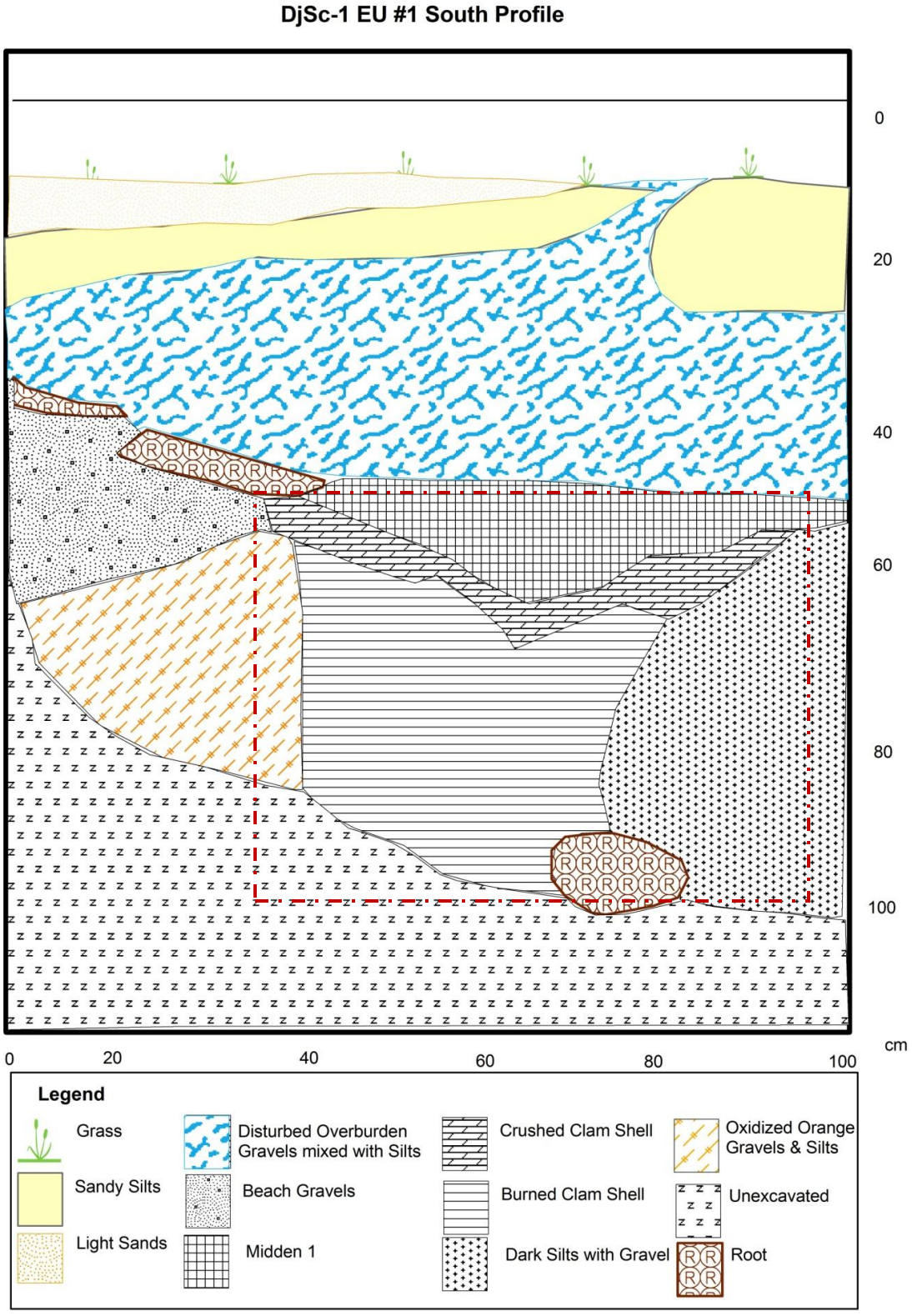


FIGURE 27. EU#1 SOUTH WALL PROFILE. HEARTH OUTLINED IN RED.

5.5.3 CMT

One culturally modified tree (CMT) was confirmed and two additional trees with modification of indeterminate age were noted. The CMT is a Douglas-fir pitch collection tree located on top of one of the southernmost mounds. This conveniently establishes the upper date of the mound to roughly correlate to that of the CMT which is estimated to be approximately 200-250 years old. This CMT is located outside of the proposed development zone and is not at risk of impact at this time. The two possible CMTs are located within and adjacent to the proposed development zone and one (possible CMT #2) is identified for removal by the Powell River Regional District. Possible CMT #1 exhibits 13 axe or adze chipping scars averaging 13-16 cm in length. A logging cable scar is also present at the bottom of the tree. Possible CMT #2 has 80+ axe or adze chipping scars averaging 13 cm in length. It is unclear if the chipping scars are pre or post contact. Tla'amin residents, loggers, former historic residents, or campers may have collected bark chips for fire starter.

FIGURE 28. CLOCKWISE- CMT #1 PITCH COLLECTION TREE IN PROFILE AND SITUATED ON TOP OF A SHELL MOUND FACING EAST. CMT #1 THE FACE OF THE SCAR WITH BURING AND COLLECTION SCARS VISIBLE. BELOW, DETAIL OF THE LAST (DEEPEST) PITCH COLLECTION SCAR INDICATED BY WHITE ARROWS. POSSIBLE CMT # 2 SHOWING CHIPPING SCARS.

5.6 Artifacts

A total of 279 lithic artifacts, 195 faunal remains, 15 historic artifacts and 4 samples were collected during this study.

Flaked Stone Artifacts		N	% of Tools (n=88)	
Projectile Points	Finished	3	3.4	5.7
	Preform	2	2.3	
Bifaces	Flaked	9	10.2	
	Flaked and Ground	6	6.8	
Uniface		1	1.1	
Microblades		5	5.7	8
Microblade Cores		2	2.3	
Cores		9	10.2	
Scrapers	Small	5	5.5	10.3
	Large	4	4.5	
Quartz Tools		2	2.3	
Burin/Graver		3	3.4	
Total Chipped Formed Tools		51	57.2	
Utilized flakes		16		
Debitage		171		
Total Debitage		187		

Ground Stone Artifacts		N	% of Tools (n=88)	
Slate Knife	Complete	7	8.0	16
	Incomplete	7	8.0	
Projectile Points	Complete	0		3.4
	Incomplete	3	3.4	
Biface		1	1.1	
Scraper		1	1.1	
Miscellaneous ground slate		5	5.7	
Pestle		1	1.1	
Hammer stone		1	1.1	
Abraders	Shaped	6	6.8	7.9
	Unshaped / Anvil	1	1.1	
Labret (?)		1	1.1	
Miscellaneous Ground Stone		3	3.4	
Total Ground Formed Tools		37	42.0	

FIGURE 29. STONE TOOL SUMMARY.

Lithic Material Type	%	Lithic Material Type	%
Andesite/Dacite/Diorite	52.1%	Greywacke	1.4
Slate	24.0%	Siltstone	1.1
Basalt	6.8%	Glass	0.7
Sandstone	5.7	Obsidian/Pitchstone/fine grained volcanic	0.4
Chert	2.1%		
Quartz Crystal	1.4%		

FIGURE 30. LITHIC MATERIAL TYPE FREQUENCY.

Projectile Points

A total of 5 projectile points and 2 projectile point blanks were recovered. Of the 5 finished points three are chipped, and two are ground. Cat# 537 is a medial section of a small-medium leaf-shaped chipped projectile point recovered from ST#39 from 60-70 cm dbs. Measuring 33.0 x 17.0 mm and 6.5 mm in depth, both the base and tip are broken but the tip is mostly intact. A hint of a contracting base on the right lateral margin is just visible, but overall, base style absent. Material is a fine grained andesite/diorite. This point is Carlson's Type I a or b (2008:136-137)

FIGURE 31. CAT# 537.

FIGURE 32. CAT#541 & 496.

The point measurements are just outside the range of 1a but are well made like many of this type (1a photo in Carlson) however, measurements fit best to 1b type. The majority of these points come from the earliest components on the coast, Helen Pt., 90%. Points of this type were collected from Montague Harbour (Mitchell, 1968) associated with Mitchel's Montague Harbour I Locarno aged component.

Two incomplete facetted ground slate points were recovered from the proposed development area (figure 34). This type of projectile point is considered diagnostic of the Locarno Phase (Mitchell, 1969;1990) dating from 3300-2400 years BP. Cat. # 541 was found on the north side of the proposed development area. Both base and tip are broken. The artifact measures 51.0 x 18.0 mm and is 4.0 mm thick. This may be an exhausted and re-used tool as significant use wear along lateral margins. Grinding striations are visible on facets. Lateral margins of both surfaces are also facetted. Cat. #496 measures 58.0 x 19.0 mm and is also 4 mm thick. This is a near complete, ground slate facetted projectile point with a flat thinned base with rounded shoulders. Facets are present on both surface lateral margins.

FIGURE 33. CAT# 538.

FIGURE 35. CAT#550.

Two very small and roughly made arrow or dart projectile points of the same style were recovered (figures 33-35). Cat#538 measures 26.0 x 20.0 mm and is 3.0 mm in depth. Made of chert, one corner of the base is broken. One shoulder is well made and the other is projecting asymmetrically and seems unfinished. The complete portion of the base shows corner notching and an expanding stem. This point was recovered from ST# 30 at 60-70 dbs. This may have been a manufacturing error and perhaps was discarded. Cat #550 is made of andesite. Even smaller than #538 this point measures 18.5 x 16.0 mm and 2.5 mm in depth. Again the base seems unfinished, with one side corner notched to produce an expanding stem and the other unfinished. This point was recovered from ST#38 and at 60-70 cm dbs. notably the same depth as Cat #538.

FIGURE 36. CAT# 534. DORSAL AND VENTRAL SIDES.

FIGURE 37. CAT #239. VENTRAL AND DORSAL VIEWS.

Two projectile point blanks are both chipped and ground. Two artifacts classified as projectile blanks or preforms are excluded from the count. These represent one triangular shaped ground slate point (Cat # 239 perform and a chipped and ground stemmed slate preform. These points are likely from the late period (1800-250 years ago). Cat #534 measures 41.0 x 25.0 x 3.0 mm and was recovered from ST#16 at 47 cm dbs. Cat #239 measures 32.0 x 22.0 x 2.0 mm and was identified in ST #16 at 30-40 cm dbs.

Microblades

Microblade manufacturing technology is distinct from chipped or ground lithic technologies. The technique employed in production, raw material(s) and final product markedly differ from other stone tools. Microblades were produced to create very sharp cutting tools that were inset laterally or distally to a wood, bone or antler shank (Stewart, 1973-77). The Hoko River site is a wet-site with Locarno component preserved organic materials located on the Olympic Peninsula in Washington. Recovery of several microblades set into their organic shafts from Hoko River provide examples of how these tools

FIGURE 38. CAT #551.

FIGURE 39. CAT #539.

FIGURE 40. CAT #564.

were mounted and used (see the Hoko River Digital Image Archive at http://www.library.spscc.ctc.edu/electronicreserve/anth280/hoko/). The recovery of several microblades and microblade cores is indicative of a well-developed industry at Shelter Point comparable to other large village sites in the Strait of Georgia (False Narrows, Dionisio Point, Montague Harbour, Helen Point etc.). Regional archaeological studies have found microblades are only in use at Locarno and Marpole Phase sites (Mitchell, 1968, 1990; Burley 1980). Microblades are often just millimeters in length and often only 1 mm in thickness. The material chosen for microblade production is always cryptocrystalline and must be very hard and exhibit excellent flaking quality characteristics. Typical materials used for microblade production include quartz, obsidian and other cryptocrystalline materials. Cat # 551 is a unidirecitional microblade core with six flake removal scars. The

material is possibly a fine-grained andesite. This artifact was identified in ST#35 at 30-40 cm dbs and measures 21.0 x 18.0 x 14.0 mm. Cat #539 is microblade core broken both proximally and distally (exhausted?) found in ST#37 at 50-60 cm dbs. measuring 22.0 x 10.0 x 5.0 mm. Possibly made of fine-grained andesite, it exhibits evidence of at least 2 flake removal scars. Cat #564 is a bladelet shown in figure 41 made of either a dull obsidian (pitchstone), or very high quality basalt measuring 21.5 x 8.0 x 2.0 mm. This artifact was recovered from ST#33 from 50-60 cm dbs.

Slate Knives

FIGURE 41. CAT #525.

FIGURE 42. CAT #501.

FIGURE 43. CAT #213.

FIGURE 44. CAT #341.

Slate tools, knives and slate debitage dominate the artifact assemblage from Shelter Point. Slate comprises 34.2 % of the formed tools and the most common artifact types are slate knives (16%). The majority of knives are chunky and roughly made, but well shaped thin knives are also present. Cat #525 was identified in ST #19 at 40-50 cm dbs. Measuring 51.0 x 74.0 x 3.0 mm, it is the thinnest slate knife in the assemblage. Cat # 501 is a triangular shaped slate blade recovered from ST #21 at 10-20 cm dbs. One edge is sawn cut, another is adze-bit-like, and the third is stepped and used for scraping/cutting. Cat #213 is the heaviest of all the slate knives and may have actually been an axe bit. It measures 71.5 x 73.0 x 9.5 and has a beveled edge at the working end, a cut end and a hafted end. It was recovered from ST 47 at 40-50 cm dbs. Cat # 341 measures 42.0 x 40.0 x 6.0 is bifacially ground and is also sawn at one end. It was recovered from ST #40 from 20-30 cm dbs.

Many of the slate knives have a thicker sawn edge where the blade would have been hafted in a wood handle. Slate knives may be shaped and ground to form a thin sharp edge, or may be unshaped expedient-use tools. Slate tools, and particularly ground slate knives are ubitiquous on the northwest coast and are found during all time periods and cultures. Thicker flaked knives are found at Locarno-aged sites and thinner ground knives are associated with Marpole and Developed Coast Salish Phase sites. Very little attention has been paid to the archaeology of groundstone or the use of slate and it's widespread presence in the archaeological record on the northwest coast. During Captain George Vancouver's survey he noted First Nation's people, either Sechelt or Sliammon most likely were using slate-tipped spears which they treated with utmost care to protect (Vancouver, 1801:201). A source of slate is reported in Jervis Inlet (Golder, 2007:55), and re-reported by Lepofsky in her decription of slate projectile points from Lasqueti Island (http://lasqueti.ca/node/1748). Indeed, this was a quarry taken over and 'opened' by non-First Nation people in 1890 and quarried until at least 1958 (http://minfile.gov.bc.ca/Summary.aspx?minfilno=092JW%20029).

Graesch's recent work at a Sto:lo village site is the only study focused on manufacturing processes and production of slate knives (2007). Slate knives are considered synonymous with salmon butchery and appear in the archaeological record at the same time as storage of surplus salmon became critical to supporting large villages (Graesch, 2007:577). Salmon storage became of extreme importance at villages situated on Gulf Islands away from large salmon-bearing rivers, where harvesting, processing and storing large amounts of salmon at off-site fishing stations was critical to supporting large village populations during winter (Greer, 2003:181). In defining whether a slate artifact is a knife or some other class of artifact, Graesch (2007) defines knives as having a beveled edge but also cautions classifying all beveled slate artirfacts as knives due to the lack of slate artifact studies (2007:583). Graesch found that despite the obvious importance of slate in the archaeological record in terms of debitage and waste from manufacturing slate knives, relatively few were actually recovered (2007:593) indicating they were likely manufactured at the village site then exported to fishing stations for use in butchering and drying catches (2007:595). This pattern seems to fit the artifact assemblage for Shelter Point except for the near complete void in fish faunal remains found here. This may be a result of sampling, methodology (1/4 inch screen size), or it may be (less likely) due to an atypical subsistence strategy. More data is required to address this issue. Graesch draws some compelling conclusions about the slate knife industry and needs of slate knife users which are relevant to the Shelter Point site. Using ethnographic evidence provided by Marion Smith, a number of observances were made (Graesch 2007:596): fish are usually butchered and processed by women; one slate knife is needed per person per day; in general, tools used for skilled activities were typically manufactured by those who performed the task to which the tool is applied. This challenges common notions of pre-contact gendered divisions of labour that assigns men as tool makers/hunters and women as food gatherers/makers, and has significant merit as it is pointed out that a slate knife would have minimally required re-sharpening daily and in all likelihood, on-site manufacturing. In order to test the exported off-site use and maintenance of slate knives at fishing stations, targeted archaeological study is needed to determine whether high numbers of exhausted slate knives and debitage associated with re-sharpening are present in the archaeological record at such sites.

As hardly any fish remains were identified at Shelter Point, we must also look to other uses for slate tools in butchery and perhaps challenge the notion that salmon processing is the only function of this widespread tool type. The faunal remains from Shelter Point unequivocally demonstrate a near singular focus on deer as the most important food source at this location forming at least 80% of the faunal assemblage and likely up to 87% (7% of the assemblage could only be identified as ungulate and in all probability this too is deer. See faunal section below and Appendix 3). The highly fragmentary nature of much of the deer faunal assemblage indicates processing of deer meat and other products was a principle activity. It should be noted that the point (Area 5) is an ideal location for drying meat as an exposed and very windy location and thus it is possible that slate knives in use at Shelter Point were in use to process deer. This is further supported by the recovery of several scrapers (11.4%) which would have been in use to process hides. In order to address any of these questions a larger sample is needed to find out if this emerging pattern is confirmed.

FIGURE 45. FROM TOP LEFT: SCRAPERS. CAT 3 510; CAT # 319; CAT #483; CAT # 553; CAT # 318; AND CAT # 424.

Scrapers

Several well made bifacially shaped scrapers ranging in size were recovered from Shelter Point. With the exception of Cat.#533, all exhibit an acute edge angle approximately 70-90^{o} which according to Andrefsky and many others, such a wide edge angle is the identifying morphological feature of a scraper (2011:205-206). Usually hafted, this tool type is specfically used to scrape hides but is not exclusively used for this purpose (Andrefsky, 2011:206).

Quartz and Glass

Several quartz artifacts (n=4) were recovered from DjSc-1. In addition to quartz lithics, at least one artifact is a utilized flake made from what appears to be glass. The presence of quartz tools (n=2), quartz debitage (n=2), tentatively identified glass utilized flakes (n=1), and non-modified clear glass (n=1) has meant distinguishing between clear glass fragments and clear quartz artifacts which is challenging. The artifacts identified as quartz appear to have a distinctive lustre and glossier sheen than the non-modified and potentially modified glass specimens. Cat #562 is much flatter (less shiny) and has a convex surface distally on the ventral surface that is consistent with a finished exterior of historic and modern glass vessels.

Flaked glass tools are not uncommon in archaeological sites with a proto-historic component (Smith, 2005; Kanipe et al. 2006; Hamm, 2011; among others). Martindale and Jurakic (2005) conducted an experimental study in conjunction with analysis of expedient glass tools from Ginacangeek, a post-contact Tsimshian village on the Skeena River. Martindale and Jurakic state, "curated [shaped] tools from post-contact indigenous contexts frequently have forms that mimic lithic tools of the cultural tradition in which they appear" (2005: 415). Utilization of European goods by traditional cultures at and post contact is complex, multi-directional and as seen in the production of glass tools, does not signal abandonment of traditional technology. While this study focuses on expedient unshaped glass tool forms and their microscopic morphological properties and is not relevant to the specimens from Shelter Point, the macroscopic properties are relevant to Shelter Point and summarized as: edge angles of >35^{o}; and edge angles cluster in two groups (1) 30-60^{o}/scrapers and (2) 60-90^{o}/knives (Martindale and Jurakic, 2005:417).

The use of glass as a raw material to which traditional lithic technology is applied to produce tools is significant in documenting cultural change and adaptation and from the studies listed above, is apparently widespread across archaeological sites throughout the northwest coast.

FIGURE 46. CAT #532, IS QUARTZ DEBITAGE, CAT # 548 VENTRAL SURFACE OF QUARTZ BLADE TOOL AND CAT# 549 A VERY SMALL BIFACIAL QUARTZ SCRAPER TOOL NOTE LUSTRE ON ALL QUARTZ SPECIMENS AND SHEEN NOT PRESENT IN GLASS SPECIMENS .

FIGURE 47. CAT #562 A GLASS UTILIZE FLAKE. AT LEAST THREE FLAKING SCARS VISIBLE ALONG RIGHT MARGIN. CAT # 563 IS PROBABLY A GLASS FRAGMENT. COMPARED TO QUARTZ IMAGES IN FIGURES 22 AND 23 THE GLASS IS MUCH FLATTER IN SHEEN.

FIGURE 48. CAT # 548 IS A UTILIZED FLAKE QUARTZ BLADE TOOL. NOTE THE DIFFERENCE IN LUSTRE BETWEEN THIS AND THE GLASS UTILIZED FLAKE.

Cores

A total of 8 cores were recovered from DjSc-1. Of these all were andesite except for Cat # 545 a siltstone discoidal core tool with a well defined scraping edge (figures 49-50), and CAT #560 a chert core (figures 49 and 50).

FIGURE 49. CAT#560, CHERT CORE LEFT DISTAL, RIGHT CORTEX SHOWING CRAZING.

FIGURE 50. CAT #545.

Debitage

A total of 171 pieces of debitage was recovered during testing. Slate was commonly observed on the surface, in the intertidal zone, and throughout subsurface deposits of the Shelter Point site but only specimens exhibiting attributes associated with modification were collected and therefore the slate debitage is likely a biased sample. Specimens varied from primary reduction evidenced by the presence of cortex to final shaping and notching flakes. This wide range of evidence indicates that all stages of lithic production was occurring at Shelter Point.

Possible Labret

One ground siltstone artifact interpreted to be a possible labret was found in ST#34 at 33 cm dbs. This artifact measures 50.0 x 16.0 x 6.0 mm and is broken at one end making it difficult to confirm as a labret. This specimen is long, thin and rectangular shaped and the finished end is tapered which fits into the "T" shaped labret type or 'anomalous suggested labret type' (La Salle, 2006:193). La Salle's study (2006) set out to test the simplified interpretation of labrets by archaeologists as (1) associated with women and (2) displays of status but concluded no further patterns were discernable other than associations between material, type and region. Labrets are lip ornaments worn by both genders and while it is not totally clear how they were worn or what this personal adornment signified during archaeological times, they generally perforate the lower lip or create a lip 'bowl' (La Salle 2006:31). Labrets are a 5000 year old cultural tradition dating to Charles Phase archaeological sites. "T" shaped labrets were included in La Salle's study of labret form and represent 23.2% of the sample she studied which totaled 220 from the south northwest coast. "T" shaped labrets are somewhat self explanatory and defined by a rectangular body and lateral portion that would sit inside the mouth against the teeth. They are commonly found in large village sites dating to the Locarno and Marpole periods – it is unclear if this form dates to the Charles Phase.

FIGURE 51. CAT # 542.

Shaped Ground Artifacts

Several shaped and unshaped abraders (n=7) were recovered from the Shelter Point site. A pecked and ground hammer stone (Cat # 214) was recovered from EU#1 from 33 cm dbs. Measuring 111.0 x 56.0 x 50.0 mm in dimension, it is uniformly shaped of sandstone and does not exhibit any use wear at either end.
A complete pestle was recovered from ST#22 at 20 cm dbs.. Uniformly ground and tapered at the distal end, it was likely used in conjunction with a bowl to grind plant or mineral based materials such as pigments. It measures 104.0 x 30.0 x 20.0 mm.

An unusual artifact (CAT #559, figure 52) made of siltstone was recovered from the development area in ST #45 at 60-70 cm dbs. This incomplete artifact measures 500 x 61.0 x 14.0 mm and is bifacially ground in angled planes with a thinned and basally notched flaring base. It appears to be tapering to the proximal end where it is broken. It is unknown whether this was a decorative and/or functional object but the base does resemble an orca's fluke.

FIGURE 52. CAT #559. VENTRAL AND DORSAL SURFACES.

FIGURE 53. CAT #214.

FIGURE 54. CAT #561.

Of particular importance, an unshaped abrader (Cat. # 215) with a slight bowl like depression from grinding or possible use as an anvil was recovered in association with the hearth feature in EU#1 at 40 cm dbs. Made of sandstone, it measures 146.0 x 148.0 x 49.0 mm and was likely used for processing and cooking deer meat.

Bone Artifacts

Two bone point tips were recovered from Area 4. Cat # 184 was ST#53 from 60-70 cm dbs. indicating a probable association with the hearth feature identified in EU #1. Cat # 173 was recovered from ST # 83 at 25 cm dbs. Bone points arm fish hooks, spears, and harpoons used for fishing halibut, salmon and diversity of other species (Stewart, 1977). As Coast Salish communities are marine oriented, bone points are commonly encountered in archaeological sites all over the northwest coast over the last 3300 years. The presence of this artifact type is inconsistent with the faunal assemblage as fish remains are nearly absent, yet bone points are associated with fishing. Possible explanations include a highly structured differentiation of space at the site and thus, tests did not sample these areas; bone points are used for other activities and may not be exclusively used as fishing gear; disturbance in Area 4 and possible removal of cultural deposits have impacted the sampling. Cat #536 shown in figure above is a broken medial section of a small long bone. It has been tapered and highly ground with visible striations from grinding. Due to the fragmentary nature of this artifact, artifact type and function is unknown.

TABLE 8. SUMMARY OF BONE ARTIFACTS.

Bone and Antler Artifacts	
Bone Points	2
Miscellaneous Worked Bone	1
Antler	1

FIGURE 55. LEFT TO RIGHT – CAT # 184, TIP OF BROKEN BONE POINT, CAT # 536, GROUND AND TAPERED WORKED BONE FRAGMENT, CAT # 173, TIP PORTION OF BONE POINT.

FIGURE 56. TOP LEFT TO RIGHT – CAT# 122 SHOWING BUTCHERY IMPACT FRACTURES SHOWN BY ARROW, CAT #411 PARTIALLY BURNT BONE SHATTER, CAT #211 BUTCHERY IMPACT FRACTURE. LOWER – CAT#122 SHOWING CUTMARKS ON DISTAL BORDER OF BODY SHOWN BY ARROW, SHOVEL TRAUMA AT DISTAL END.

5.7 Faunal Analysis

Methods

Faunal remains were identified to the most specific taxonomic category possible, given the limitations of reference collections and observable morphological variation. The zooarchaeological collection in the Anthropology Department and zoological comparative skeletons in the Biology Department at Vancouver Island University were consulted during faunal identification. A VIU Biology Wild M3B (Heerbrugg, Switzerland) stereomicroscope was employed to aid analysis.

In every instance identifications of taxa and skeletal elements were made on the basis of direct comparisons with modern reference specimens. Bones were assigned to the species or genus level only when all other possibilities for coastal British Columbia had been examined and excluded on the basis of morphology and size. As a result, some specimens were assigned to more general taxonomic categories. Often standard class, order or family designations were employed, but several less conventional archaeological categories were also used. Most mammal remains that could not be identified to the level of family (and occasionally order) were assigned to one of three categories based on size: (1) small mammal (smaller than *Canis*), (2) medium mammal (*Canis* to *Odocoileus* inclusive), and (3) large mammal (larger than *Odocoileus*). Non-diagnostic fragments of bird bones may occasionally be grouped into (1) small bird (smaller than *Anas*), (2) medium bird (*Anas*-sized) or (3) large bird (larger than *Anas*) categories.

Sampling

All bone specimens designated for Level 2 analysis during cataloguing, including bone artifacts, were included in the study sample. Moreover, faunal remains assigned a Level 1 analysis rank were judgmentally sampled to include all identifiable elements in the analysis, as well as provide a sample of burned and calcined bone fragments (refer to the site catalogue for an exhaustive description of recovered DjSc-1 bone specimens). These animal bone remains were collected from throughout the subsurface-tested site deposits. Due primarily to sample size limitations, the overall faunal assemblage was assessed as a palimpsest. This has allowed several summary observations as well as the development of hypotheses that may be tested using a more extensive zooarchaeological sample from the site.

Results and Discussion

Individual faunal identifications are provided in Appendix 3, and Tables 1-4 summarize results according to class: mammal, bird, and fish; as well as unidentified bone. A total of 137 bone specimens (NSP, number of specimens) were analyzed (by Ewonus). Perhaps the single most striking characteristic of the faunal assemblage is the near absence of fish bone. Despite the use of 6.4 mm mesh screens during field work, only a single fish vertebral bone fragment was recovered (Table 3, Cat. #130), and fish elements were not observed by the field team during site testing. Not all site areas were tested, and untested portions may contain higher fish bone densities. Nonetheless, the paucity of fish elements is a notable site characteristic that may be tested in future studies.

Among identified mammals (NISP, number of identified specimens) deer is clearly predominant (80%), followed by canids (11%) and harbour seal (2%) (Table 1). The size range of recovered deer elements is consistent with coast deer (*Odocoileus hemionus columbianus*), and specimens classified as artiodactyls (7%) are also most likely to represent this species. In addition, a significant proportion of the miscellaneous mammal taxa, especially medium-large mammal bone fragments, appear most probably to be deer bone. It is not uncommon for deer to be an

important food and tool raw material resource at Strait of Georgia sites, and for marine mammals to be less commonly identified than are land mammals. What is unusual is the extent to which coast deer is present in the Shelter Point faunal assemblage. It appears that all other taxa were of secondary importance; certainly that is evident in the currently available animal bone sample.

The sample of canid bones from the site most likely represents domestic dog, based on overall element size and morphology. However, since no systematic osteometric or genetic analysis was conducted on the small canid sample, this conclusion must remain speculative. Both juvenile and adult individuals are represented among canids and several specimens display evidence of either carnivore damage or burning.

Six bird elements were identified (Table 2), three of which are likely to represent chicken (*Gallus gallus domesticus*). An additional 10 unidentified bone fragments were quantified during faunal analysis (Table 4), although a number were not included in the Level 2 study. Of these Level 1 analyzed unidentified fragments, a significant proportion were burned or calcined.

The high degree of burning and calcination of deer bone and miscellaneous mammal or unidentified fragments suggests butchery practices that included processing of deer bone for marrow. This is supported by several indications of purposeful smashing of long bones by people, in the form of impact fractures and bone flakes (see Appendix 3, for example Cat. #211, #353, #368, #411). It is also possible that deer bones were boiled to obtain bone grease, although conclusive evidence for this practice is extremely difficult to marshal even in a larger assemblage. It appears that marrow extraction was an activity undertaken by the inhabitants of Shelter Point, although subsequent boiling of deer bones for grease cannot currently be substantiated. A hearth feature identified in EU #1 may be an example of the kind of spatial focus for deer butchery and bone processing activities at Shelter Point, based on two coast deer elements and two fragments displaying evidence for probable marrow extraction. These were the only bones identified from this evaluative unit. Other evidence for butchery in the present sample includes stone tool cut marks on a deer second phalanx (Cat. #122), perhaps a result of initial removal of the hide from above the hoof, moving toward the proximal limbs.

Table 5 presents the coast deer elements identified in the study sample. An important caveat is that this table conflates various spatial and temporal contexts at the site. Nonetheless, deer elements were recovered from numerous contexts at depths throughout the cultural deposits. Therefore broad patterns we can observe by aggregating the deer bone assemblage, which is particularly useful with the small current sample, may provide hypotheses for testing with a larger zooarchaeological sample. In light of the small sample size, examination of Table 5 indicates that all parts of the body are generally represented in the site-wide sample. This suggests that entire deer carcasses may have been returned to the site following a successful hunt. Most butchery, including marrow processing, would then have been undertaken at the residential base. This hypothesis should be readily testable with a larger faunal assemblage, and that is undoubtedly preserved in untested site deposits.

If this interpretation of deer element distribution is supported in further investigations, the implication is that occupants of Shelter Point focused their hunting of coast deer on a local scale. Texada Island itself would be the likely setting for deer hunting, rather than the mainland where only selected body parts would in all likelihood be transported by canoe to Shelter Point.

Finally, upon discard of processed bones, numerous elements were scavenged by carnivores. Scavenging was likely by dogs primarily, although other carnivores may also have been active at Shelter Point, and dogs may have been intentionally fed by people. The comments field in Appendix A indicates extensive evidence for carnivore

scavenging activity, including gnawing, tooth puncture marks, tooth-scored cortical bone, and crenulated, broken edges.

Tables

Table 1. Identified mammalian taxa, DjSc-1 AIA.

Taxon	Common Name	NISP	% Identified Mammal
Artiodactyla			
Odocoileus	Coast/mule or white-tailed deer	36	80
Artiodactyl	Even-toed ungulate	3	7
Carnivora			
Canis	Dog, coyote, wolf	5	11
Pinnipedia			
Phoca vitulina	Harbour seal	1	2
Miscellaneous			
Sml-med. mammal	Deer-sized and smaller	5	
Med. mammal	Dog to deer-sized	2	
Med-lrg. mammal	Dog-sized and larger	44	
Lrg. mammal	Larger than deer-sized	2	
Mammal		22	
Subtotal Identified		45	100
Total		120	

Table 2. Bird specimens, DjSc-1 AIA.

Taxon		NSP	% Bird
Miscellaneous			
Med. bird	Duck-sized	3	50
Bird		3	50
Total		6	100

Table 3. Fish specimen, DjSc-1 AIA.

Taxon		NSP	% Fish
Miscellaneous			
Osteichthyes	Bony fish	1	100

Table 4. Unidentified specimens, DjSc-1 AIA.

Taxon	NSP
Unidentified	10

Table 5. Identified deer and artiodactyl elements, DjSc-1 AIA.

Taxon	Element
Artiodactyla	
Odocoileus	2 cheek teeth
	3 mandibles
	1 thoracic vertebra
	1 vertebra
	5 ribs
	1 innominate
	3 humeri
	1 radius
	1 femur
	1 tibia
	1 metatarsal
	3 metapodials
	3 astragali
	1 naviculo-cuboid
	4 calcanei
	3 first phalanges
	2 second phalanges (1 with cut marks)
Artiodactyl	antler
	rib
	radius

For a full listing of DjSc-1 Level 2 analyzed faunal remains see *Appendix 3*.

6.0 Conclusions

Results from this assessment study show the Shelter Point site is a large village site with large intact habitation features, and with varying cultural deposits occurring throughout the site. DjSc-1 was tested according to the availability of recreational and campground areas but test locations were also informed by the proposed development and distinguishing components of the site itself such as the habitation features.

An overview of site stratigraphy is summarized as follows. Upslope areas of the site are characterized by glacial sand and silt sediments essentially free of any shell bearing or other cultural strata and does not exhibit any subsurface disturbance. Despite this and the sloping terrain, several tests in these zones found fragmentary bone, lower numbers of debitage and some FBR. This is clearly an outlying portion of the site. This trend continues for Area 2 but this zone also coincides with the former drainage and wetland system. Sediments reflect this bottom land with silts and sands punctuated by thin layers of natural black silts from slope wash events. This zone is also predominantly intact. Artifacts, including some formed tools, predominantly slate knives, were recovered from the sand and silt sediments from 10-50 cm dbs.. At the southern extent of this zone, cultural strata in the form of black organic silts are intermittently observed without any particular consistency but coincides with a marked increase in artifact densities. Black silts become increasingly frequent as the dominant matrix in the proposed residence area where it is associated with shell midden and continues inconsistently throughout the proposed development area. Ground and subsurface disturbance is intermittent across the site and is present in a limited amount in Area 3 but most evident in Area 4 and Area 5. Disturbed tests were identified on the basis of modern or historic debris mixed with midden, unstratified or mottled midden, and in some tests brown silts unexpectedly replaced midden entirely. Area 4 clearly is disturbed with all tests exhibiting at least the top 30-40 cm dbs. stripped off. Despite this, intact deposits are present intermittently below 30-40 cm dbs. throughout this zone and artifact and faunal materials are still present in higher numbers. The identification of a feature in the only evaluative unit in a clearly disturbed zone is perhaps evidence that there is a high density of subsurface features present across the shoreward portion of the site. In area 5 on the point, the entire area has been disturbed in the upper 30 cm by a gravel crush parking lot. In addition subsurface services, a hydro pole have also impacted subsurface deposits. Intact midden is intermittently present and identified in 3 backhoe tests however as soon as midden was identified these tests were stopped to avoid impact. Where intact non-midden bearing deposits were observed, the dominant matrix is well-sorted natural beach gravels with very black, shell-free silt. This black sediment is of indeterminate origin as it may be attributable to the bulk oil plant although no historic or modern debris was identified.

While the upslope portions of the site were on the periphery of the site, the main area of occupation is clearly the shoreward portion of the site on the level terrace facing Gillies Bay. In addition, higher densities of faunal remains and stone artifacts around the margins of the former wetland (Area 2 - ST#30 and Area 3 –ST# 31-36) indicate this feature was an important natural feature located as it was, on the edge of the village. It is known First Nation people often utilized fresh water features such as this and sometimes modified them to become more suitable as places to ambush game, as holding pens for fish, in addition to a domestic village water supply. The high number of debitage specimens representing all stages of manufacture made from various local and exotic materials recovered from Area 3 may indicate this was a specialized activity area. This is where all of the quartz artifacts were found. There is an emphasis on chipped stone tools in this area, most of which were found in the 50-80 cm range of depth. Of particular note, a small-medium leaf-shaped point typical of the time period spanning the Charles to Locarno Phases (Carlson's Type 1a or b: see Carlson, 2008:136-137) was identified at 60-70 cm depth below surface in an intact context. Many of the shovel tests here were unable to reach sterile deposits, indicating intact older cultural material may yet be unidentified throughout Areas 3 and 4.

The area encompassing Area 4 sees a reduction in densities of artifact and faunal remains due to the disturbance in this zone from logging operations, residential use, the bulk oil plant and several decades of recreational use. This is also demonstrated by a lack of stratification and shell-free strata in many shovel tests, and when present, general mixing of midden deposits in beach gravels. All shovel tests in the development area were contaminated with historic or modern debris to at least 30-40 cm and intermittently to the bottom of tests across this zone. However, an intact hearth feature was identified and several formed tools and two diagnostic faceted ground slate projectile points came from this area. A general shift towards ground stone technology is evident in this area and as with area 2, a higher number of slate tools (n=12), particularly ground slate knives (n=3) were identified at 40-70 cm dbs.

Multiple lines of evidence include chronologically diagnostic chipped leaf-shaped and faceted ground slate projectile points, microblades and microblade cores, a possible labret, a post-contact flaked glass artifact in and a hearth feature dating to 840 years which may be considered in conjunction with indirect ethnohistoric data relaying Tla'amin traditional occupation and use of Mouat Bay, and the age of the indicate the Shelter Point site was occupied for at least the last 3300 years and was likely inhabited up until the 19th century.

The inhabitants of Shelter Point were clearly focused on local hunting, butchery and consumption of deer shown by faunal assemblage composition of which 80 % are *Odocoileous* sp. (deer) and 7% are ungulate (likely also deer) equating to an 87% land mammal based resource economy, in addition to collecting and consuming shellfish. Shelter Point Park is presently an annual campsite to hunt the regionally well-known deer populations on Texada Island. This is further evident by many recent deer skeletons observed during pedestrian survey transects in the upslope area of the park as a result of hunters discarding deer carcasses. It is interesting to note this suggests stability of deer populations and continuous exploitation of this resource base through traditional activities which continues to be pursued at Shelter Point. It is unusual for a village site faunal sample to exhibit such polarization with virtually (n=1) no fish remains and a near singular focus on deer. It is difficult to explain the near absence of fish species in a village site and particularly as two bone point fragments and nine slate knives were recovered which are tools employed in catching and processing fish respectively. It is best to remain cautious in arriving at any final conclusions, as site sampling in terms of size or area (as the house feature area was not tested), or site-specific spatial organization related to fisheries may be at work as possible explanations for the lack of fish related evidence, or preservation conditions may be factors. Evidence of dogs are found in both the faunal assemblage by the presence of canis elements, and by extensive knaw marks found on many of the *Odocoileous sp*. specimens. Dogs are associated with village life and for producing wool in Coast Salish communities, but were also used by Tla'amin hunters for driving deer to the shoreline for capture (Kennedy and Bouchard, 1983:37).

The lithic assemblage shows lithic raw materials were collected locally from the beach as many of the cores and primary reduction debitage exhibited cobble cortex. However, a chert core, projectile point, and debitage and the possible obsidian microlith from non-local sources point toward intra-regional interaction which likely was negotiated through extended social networks.

This study is an important first in addressing the dearth of information about the archaeological and cultural record of Texada Island, the largest in the Gulf of Georgia. Situated in the biggest southwest facing bay on Texada Island, the Shelter Point Site is one of the largest village sites left relatively intact in the region of the Salish Sea. Of the 20 archaeological sites recorded on Texada Island, 4 of them are located in Gillies Bay. The only other study conducted on Texada with any reportable results was conducted by Hammond in 2007 who conducted an archaeological impact assessment of the South Texada Island Provincial Park at archaeological sites DjSb-22, DjSb-23 and DjSb-24.

This is the only comparable study conducted on Texada Island and unfortunately because there are no published dates, and the recovered assemblages are so small, no meaningful comparison may be offered.

The Shelter Point site is likely most comparable in morphology, significance, size and assemblage to other large Gulf Island village sites in the Georgia Strait such as False Narrows on Gabriola, Dionisio Point on Galiano Island, Helen Point on Mayne Island, and the Pender Canal site with particular emphasis on the northernmost of these. Of course, the excavations and associated assemblages from these sites are much larger; with main differences represented by articulated and elaborate burials, various artifact classes or decorative objects, and quantities of fish remains.

Visible above-ground features from villages occupied up to the contact period have almost totally disappeared on the northwest coast. In all of the northwest coast area which spans just south of Alaska to northern California very few sites are known to have such features recorded (Crescent Beach, Montague Harbour, False Narrows, Dionisio Point, Barkley Sound). The sole exception to this is the region surrounding Prince Rupert where several village sites with visible cultural topography are present, well-preserved but are quantifiably different from southern village sites (pers. com. Paul Ewonus Sept. 12/13). Within the greater area of the Georgia Strait, none of the above cited examples are as well-preserved or as large as the village features at Shelter Point. The reason village sites with above ground evidence of villages should be afforded such high value, is because it provides another way to reconstruct the spatial attributes of the village using methods not usually available to archaeologists and may provide insights about village development, planning and demographics about the Tla'amin populations who occupied Shelter Point village. The Shelter Point site is the largest and most significant archaeological site on found to date on Texada Island and additionally may represent one of the last remaining large Coast Salish village sites on the Northwest Coast. For these reasons, this area of the site is considered the most sensitive and of the highest significance.

7.0 Resource Evaluation - Significance

As stated in the Archaeological Impact Assessment Guidelines, Appendix D, each site is evaluated according to the specified criteria:

- scientific
- public
- ethnic
- economic

Study results of DjSc-1 provide the basis for assigning the highest scientific significance to this archaeological site. Of the very few remaining known habitation features from large villages, those at the Shelter Point site are some of the best-preserved of any currently known on the central or south northwest coast. Remaining village sites in relatively intact archaeological condition have all been lost in the Georgia Strait due to rampant development. The Shelter Point Village site is a very rare archaeological site for all of British Columbia. Given this, the site must be afforded the utmost protection and should be carefully and appropriately managed to ensure conservation of such a precious archaeological resource.

Scientific opportunities exist to further the understanding of the ancient human occupation of the Salish Sea and to explore the intra and inter site spatial, temporal and functional relationships.

The results from DjSc-1 demonstrate this archaeological site is a large permanent village location likely dating to and in use for at least the last 3300 years. The overall integrity of the site is very good due to the predominantly intact habitation features, and areas of intact archaeological deposits. Surface disturbance from recreational use, possible pot-hunting, logging activities and historic residences has no doubt affected site integrity but is only

evident through erosive agents of trails and foot traffic. The likelihood of obtaining scientifically significant results through further archaeological study of the subsurface deposits is high for the habitation features as they are clearly still predominantly intact, and for Areas 1, 2, and 3 which found predominantly intact subsurface deposits. However, Area 4 has been extensively impacted and was likely bulldozed to strip off, level, and spread former habitation features likely across the site widely to create the level terraced park present today. Despite this, some veteran old growth Douglas-fir trees survive along the shoreline and intermittent intact portions of the site including a feature was identified in area 4. Area 5 is also disturbed and contains much less archaeological evidence, and Area 6 is relatively non-cultural. Based on the complex presence of above ground habitation features, the intact subsurface deposits and features, artifact densities and distribution across the site, this DjSc-1 offers future opportunities to scientifically study the spatial, temporal, and functional relationships of the ancient village and regional patterning of such features. Several key questions emerged from the evidence collected during this study. In order to understand how this site may fit into the broader regional archaeological pattern more information is needed to address maximum depth of the cultural deposits, basal dates of occupation, whether residents were pursuing a diversity of subsistence resources, and to identify the density and distribution of subsurface features. The overall **scientific significance of DjSc-1 is HIGH**.

In terms of public values the significance of **DjSc-1 is HIGH** as the archaeological site is in a very accessible location within a Regional Park on the west side of Texada Island in Gillies Bay. With appropriate monitoring, potential opportunities exist to provide public interpretation and education about the ancient settlements of Tla'amin First Nation. In terms of ethnic criteria, the site significance is high given documented concerns expressed by Tla'amin First Nation. The economic significance is low.

8.0 Impact Assessment

DjSc-1 exhibits impact from past and present use. The habitation features are very visible in terms of mound and depression morphology and this suggests they are relatively intact despite damage that has occurred to this site caused by current and past recreational activity.

During this current study, observed impacts to DjSc-1 are mainly caused by the Powell River Regional District and their operators who have excavated trenches for water and gas lines, and excavated and installed an outhouse in one of the habitation mounds in 2011. Trails connecting campsites to each other, facilities and to the beach cover the archaeological site. Trampling from pedestrian traffic has removed native groundcover species that appear to be protecting some portions of this site. As the archaeological deposits are located at the surface to an average depth of 100 cm, erosion is an issue particularly in locations where groundcover is no longer present.

The entire park has been logged historically and used for at least two logging dump operations. It is suspected that the bulk oil plant was located on the point (Area 6) and may account for the unusual black deposits although pre-contact cultural causes such as repeated fires for drying meat should not be ruled out. The residential use of the site has impacted the archaeological deposits in Area 4 through probable leveling of the habitation mounds that once may have extended southward through the current proposed development area; installation of footings, septic, hydro and water services all requiring subsurface disturbance. By and large, the most impact has without a doubt been the construction of the campground and facilities. Many of the campsites, large septic fields and their related tanks have disturbed large portions of the site, and the existing maintenance building, washroom facilities,

and campground road are all within the most significant zones of the site where cultural mounds have been directly impacted.

The proponent's proposed development plans will significantly further impact portions of the archaeological site. Plans include construction of two 40 x 50 foot buildings, and a new septic system. The foundation for the proposed buildings will be dug to a minimum of 8" (20 cm) to install a perimeter slab foundation. This will likely equate to a 30 cm excavation in the area demonstrated to be disturbed to 40 cm dbs consistently throughout this area. The proposed septic system and septic line will have greater impact on undisturbed portions of the site. The proposed commercial grade septic tank system requires two tanks each measuring 8' wide x 6' long by 8' (2.5 x 2.0 x 2.5 metres) and a third tank measuring 4'wide x 4' long by 6 'deep (1.2 x 1.2 x 2.0 metres). The excavation will need to be widened in order for a machine to excavate 2.0-2.5 metres in depth. Thus the total excavation area estimated is 9.0 metres x 8.0 metres x 2.5 metres which will disturb a total area of 72 m^2 or 180 m^3 volume. The new sewer line to tie in the new system to the residence, concession and old septic tank will require a 30 x 0.5 x 0.5 metre trench which will disturb a 15 m^2 area or 7.5 m^3 volume. Tests in this area were inconclusive and were characterized by brown silts but tests could not reach depths beyond 80 cm. Trenching to this proposed depth may conflict with possibly intact and potentially the oldest occupations of the site.

9.0 Recommendations

Archaeological site boundaries have been amended for DjSc-1 and represent a net increase to the size of the site. Based on the distribution of exposed archaeological deposits observed and results of the positive shovel tests the boundary of DjSc-1 has been expanded to include habitation features and a CMT. The amended boundary of DjSc-1 has been increased to measure 442 metres N/S x 175 metres E/W.

Given the absolute highest rating of significance afforded to this site, the regional and provincial significance it holds, it should be afforded the utmost protection and development should only be planned outside of the archaeological site boundary in order to preserve the remaining undisturbed portions for future generations.

It is strongly recommended the proponent undertake detailed mapping of the habitation features in order to document the current state of this village complex and to provide a non-invasive and non-destructive means of further defining the original features and any post-deposition impacts. Detailed mapping will provide a baseline of the features and provide an invaluable tool for long term monitoring and conservation. The Powell River Regional District has set aside funding and is in current discussions with Tla'amin First Nation to construct a cultural centre at Shelter Point. As the AIA study unfolded, discussions about this began exploring options for creating a permanent display of the artifacts found at Shelter Point and the stone sculpture from Gillies Bay to share and engage residents and visitors in the deep cultural history of this site and dispel the misinformation, "First Nation people never lived here" that seems to pervade the non-native community's perception of Texada Island. Such a facility would be an ideal location to house the artifacts from this study of the Shelter Point Site and those that may be in the hands of private collections (D. Murphy, pers. com. 07/03/13) and would contribute overall to a much broader and deeper understanding of Texada Island. As the current arrangements are to house the artifacts in trust for Tla'amin at the Powell River Museum, this would require additional discussion between Tla'amin, the Archaeology Branch and the Powell River Regional District to review the steps required to become an accepted repository.

Option 1

Avoidance of archaeological deposits is always the best option. With respect to the proponent's development plans, in addition to completion of detailed mapping of the habitation features, it is recommended the proposed

concession and caretaker residence is re-located outside of the updated archaeological site boundary to those portions of Area 5 or Area 6. If the proponent chooses this management option, the facilities may be constructed with monitoring. Monitoring will be required by an archaeologist in case sensitive cultural material is unexpectedly encountered. It is noted that while this location is not ideal for a residence or a concession due to high winds and weather, it is the best option for conservation of the archaeological site.

Option 2

If the currently proposed locations are chosen for the development and construction of the proposed facilities (Area 4), in addition to completion of detailed mapping of the habitation features, it is recommended between 12-15 -1.0 x 1.0 metre excavation units are excavated in advance of construction and development activities in the location of the proposed septic system and new sewer line trench. This will allow for a reasonable sampling of archaeological data collection in advance of destructive subsurface alteration. A larger data sample from DjSc-1 will address key questions raised during the Archaeological Impact Assessment in terms of identifying the basal occupation date of Shelter Point, density and distributions of features within the site, and subsistence strategies employed to support pre-contact populations. In addition to recommended site mitigation of 10-12 excavation units, all excavation and construction related subsurface disturbance related to installation of building foundations or any other work must be supervised and monitored by an archaeologist to be present at all times during such activity.

In terms of future facilities planning and ongoing maintenance, it is recommended that prior to planned development or maintenance activity (i.e. outhouse installation, cutting down large trees); the Powell River Regional District should consult the archaeological site registry to identify if the plans fall within the vicinity of any known archaeological site. If planned activities are within 50 metres of a legally protected archaeological site, it is highly recommended to consult with an archaeologist to review the plan and ensure above ground features such as CMTs, cairns etc. are not impacted and any ground altering activity is monitored to ensure previously unidentified buried archaeological deposits are identified if present and appropriate action is taken to stop, record and report findings to the Archaeology branch and await further instruction.

No sampling program can be assumed to have found all archaeological remains. If in the unlikely event that any archaeological material is encountered outside of DjSc-1, work in the vicinity should stop and the Archaeology Branch and respective First Nation communities should be contacted immediately.
All archaeological remains are protected under the *Heritage Conservation Act* whether they are recorded or not. It is illegal to disturb or alter an archaeological site. Note that any future plans to develop or in any way alter any part of this or any archaeological site will require an application to the Archaeology Branch for a Section 12 permit under the *Heritage Conservation Act* in order to legally alter any portion of the archaeological site.

If in the event the proponent's plans change and in the event that this or any archaeological site could potentially be impacted, the proponent must notify the Archaeology Branch immediately to apply for a Site Alteration Permit.

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Appendix 1: *Gillies Bay Stone Human Sculpture*

While the fieldwork for this study was underway at Shelter Point, many local residents were interested in our work and had many questions and sometimes information to offer pertaining to the cultural history of Shelter Point, Gillies Bay, and Texada Island. Fieldcrew often took opportunities to provide information and education to members of the public about archaeology as many times we heard local residents state, "First Nation people never lived here." As often happens when the field component of archaeological project is underway, a local resident of Gillies Bay indicated he had a 'strange looking rock' that he wanted us to examine. He brought the item to Shelter Point where it was identified as human figure sculpture often associated with Marpole culture on the northwest coast.

This large stone sculpture was recovered from a residential property on the north side Gillies Bay. Resident Shay Clark explained he was clearing some brambles from his B & B property with a weedeater and was picking up any rocks and tossing them out of the way. He stated this one was protruding above the surface but was partially buried. He pried it up and thought there was a different quality to it so he put it on his deck (per. com. July 2/13). In explaining the significance of stone sculpture and the association with ritual and shamanism during ancient times, and the cultural and spiritual significance it contains to current Tla'amin First Nation members, he offered to donate it to be housed with the Shelter Point artifact collection from this study (repository options discussed below).

Stone sculpture in the form of human figures or human seated figure bowls are rarely recovered from controlled archaeological excavation as they were sought after pieces by collectors in the latter half of the 19th and early part of the 20th century. Given this, most are know only known from private and museum collections. Wilson Duff extensively studied northwest coast stone sculpture with a particular emphasis on human seated figure bowls (1956;1975) but little attention was paid to human figured stone sculptural objects that lacked a bowl component. Grant Keddie deals with human figures without bowls and of particular interest, uses an example from Grief Point, Powell River located near the east shore of Texada where he describes a 1 metre high stone human figure (2003:171-173). The presence of carved stone sculpture at Gillies Bay is significant, and while it is not within the current study scope, should be recorded and analyzed in full detail.

Appendix 2: Artifact and Faunal Catalogue

Code to Catalogue

of = number of specimens

Fragment Type: 1=complete; 2=incomplete; 3=fragment

Type:

F= fauna L=lithic UF=utilized flake BF=biface PP= projectile point T= Tool WB=worked bone BT=bone tool Hist=historic

Taph= taphonomy/condition. 1-3 indicates degree of degradation with 3 being very degraded/weathered/poor condition

Cat #	EU # ST#	DBS (cm)	# of	Frag Type	Type	Wt (g)	Len (mm)	Wid (mm)	Dep (mm)	Method	Material	Cut	Wear	Taph	Species	Comments:
101	EU#1	45-55	1	N/A	N/A	C14	2.00				carbon					C14 sample. Obtained from in situ hearth feature 45-55 cm dbs, EU#1.
102	53	46	1			C14					carbon					C14 sample. Obtained from in situ hearth feature 46 cm dbs, EU#1 (ST53 is SW quad of EU#1).
103	EU#1	45	1	N/A		C14					carbon					C14 sample. Obtained from top of hearth feature in EU#1.
104	EU#1		1			631.00					sample					Hearth sample from 45-55 cm d.b.s.
105	52	40-50	1	3	F	0.30	16.00	11.50	3.5		bone	n	n			
106	59	10--20	1	1	L/flaked	0.20	21.00	6.50	5.5	flaked	slate	n	yes			Poss. Use wear on distal end of flake.
107	55	45-80	1	3	F	0.70	29.00	13.00	4.0		bone	n	n			
108	51	50-60	1	2	L/UF	0.60	17.00	18.00	3.5	flaked	slate	n	yes			Flaked and possibly ground. Probably a utilized flake shows bevelling on one margin and usewear on two .
109	54	20-30	3	2	F	1.90	40.00	9.00	9.0		bone				gallus?	2 proximal fragments of two ribs and one medial frag. All spiral fractures. Gallus gallus domesticus.
110	51	80	3	3	HIST	4.50	29.00	14.00	3.0		glass					3 pcs. Of brown bottle glass.Not kept.
111	51	80	1	1	HIST	0.10	8.00	6.00	0.5		metal					Not kept.
112	55	20-30	1	1	F	0.60	21.50	13.00	3.0	cut	bone	y	n			Clean butchered edge...modern?
113	56	20-30	1	1	L/flaked	2.20	25.50	20.50	4.0	flaked	andasite/basalt					Complete flake. Exhibits use wear?
114	54	20-30	1	3	F	1.70	48.00	12.00	5.0		bone					
115	54	40-50	1	2	F	2.30	58.00	9.00	7.0		bone				Deer	Odocoileus rib fragment. Proximal end.
116	55	40-50	1		F	0.30	18.00	4.00	3.0		bone					Unidentifiable fragment.
117	49	20-30	1	3	F	2.50	46.50	16.00	4.0	ground	bone	n				Possibly ground to form a tip.
118	49	20-30	2	1	L/flaked	0.20	15.50	10.50	2.0	flaked	andasite/basalt					Notched.
119	49	20-30	1	1	L/flaked	0.90	25.00	11.00	1.5	flaked/ground	slate					Thin slate fragment. Hard to tell if edges ground.
120	47	20-30	2	3	F	3.40	29.52	16.00	5.0		bone					Unidentifiable fragments.
121	47	20-30	1	2	L/flaked	17.80	45.00	46.00	7.5	flaked/ground	slate					Large slate flake proximal portion only with cortex on both ventral and dorsal surfaces - opposing margins ground?
122	47	20-30	1	2	F	2.80	29.50	17.00	2.5		bone	Y			Deer	Odocoileus phalange. Shovel trauma on distal tip.
123	45	30-40	1	2	L/flaked	15.80	44.50	39.00	7.0	flaked	andasite/basalt					Stage 2 or 3 reduction. Prepared platform, and possible retouch or use wear along one margin. Hinged break on distal

																portion.
124	47	40-50	1	1	F	9.80	32.00	23.50	16.0		bone				Deer	Complete element. Odocoileus astragalus.
125	47	40-50	1	1	F	2.80	47.50	13.00	10.5		bone				Deer	Complete element. Odocoileus phalange. Distal epiphyises incompletely fused - juvnanile. Either weathering or some pathology on cortical surface befow fusion line as cancellous bone visible. Possible cutmark.
126	36	10--20	2	1	L/flaked	0.90	15.00	11.00	2.0		andesite					Largest fragments measured only -weight combined.
127	51	10--20	1	3	WB	0.80	31.50	12.00	3.0	flaked/ground	bone					Possibly notched proximally and slightly ground at distal end of fragment.
128	55	40-50	1	1	L/flaked	2.20	30.50	20.00	2.0	flaked/ground	slate					
129	44	60-70	1	1	F	5.10	44.00	13.50	17.0	Punct.	bone	Yes			Deer	Partially burnt and punctured carpal/tarsal/phalange. Cutmark visible.
130	50	20-30	1	2	F	0.05	7.50		5.0		bone				Fish	Vert. of unid. fish.
131	48	10--20	1	1	L/T	0.30	19.00	10.00	0.5	flaked/ground	slate					Very fine thinning flake with a basally notched base.
132	58	20-30	1	1	L/flaked	0.70	29.00	9.50	2.0	flaked	slate					Thinning flake, scar from one removed flake off of dorsal surface.
133	58	20-30	1	1	L/flaked	0.90	19.00	13.52	2.0	flaked	slate					
134	53	60-70	1	3	F	0.60	28.00	8.00	3.5		bone					Unident. Fragment.
135	53	60-70	1	2	L/flaked	0.90	19.00	18.00	1.0	ground	slate					Thin ground slate fragment.
136	44	70-80	1	1	L/flaked	7.10	40.50	28.00	5.0	flaked	slate					
137	44	70-80	1	1	L/flaked	0.05	21.00	16.00	0.05	flaked	slate					
138	44	70-80	1	1	L/flaked	1.70	23.00	20.00	3.0	flaked	slate					
139	54	50-60	1	1	L/flaked	0.40	18.00	9.00	3.0	flaked			Yes			One utilized edge.
140	54	50-60	1	1	L/flaked	0.20	17.50	6.50	0.1	flaked/ground	slate					
141	44	40-50	1	1	L/flaked	8.50	50.00	29.00	5.0	flaked	slate		yes			Distal end pointed. Probable expedient groundaver. Dulled from use.
142	44	40-50	1	1	L/flaked	7.20	43.50	30.50	5.0	flaked	slate		yes			One margin of flake used as expedient groundaver. Dull from minor use.
143	44	40-50	1	1	L	3.90	28.00	26.00	4.0	shatter						Possible usewear.
144	44	40-50	1	1	L/flaked	1.00	25.00	18.00	1.0	flaked	slate					
145	44	40-50	1	1	L/flaked	0.70	25.50	16.00	1.0	flaked	slate					

146	44	40-50	1	1	L/flaked	0.50	19.00	12.50	1.0	flaked	slate					
147	44	40-50	1	1	F	0.70	19.50	7.50	3.0		bone	Yes				Burnt, almost calcined. Butchering mark.
148	50	20-30	1	1	F	4.60	44.00	13.00	17.0	punctured	bone					A punctured deer phalange. Marrow extraction?
149	50	20-30	1	2	f	2.00	17.00	11.00	12.0	punctured	bone				Deer	Deer phalnge. Distal portion only. Centre hallowed out. Marrow extraction?
150	50	20-30	2	1	Wood	0.05	26.00	13.00	0.05		Wood					Very fine burnt (cedar?)wood chip. Appears shaped? In two pcs. Old break...refit.
151	51	10--20	1	3	F	0.30	26.00	13.00	4.0		bone					Very thin distal rib end. Species?
152	50	40-50	1	1	L/flaked	2.40	32.00	24.00	2.0	flaked	slate					
153	50	40-50	1	1	L/BF	1.60	36.50	15.00	2.5	flaked/ground	slate					Could be cutting edge. Bifacially ground.
154	50	40-50	1	1	F	0.40	13.00	11.00	2.0		bone					Burnt rib frag.
156	82	70-80	2	3	F	1.10	12.00	9.00	7.5		bone					Vert frag?
157	82	70-80	1	3	F	1.60	46.00	11.50	3.0		bone					Long bone frag
158	82	70-80	1	3	F	0.40	17.00	13.00	3.0		bone					
159	82	70-80	1	3	F	0.60	20.50	8.00	4.0		bone					Identifiable groove?
160	82	70-80	1	3	F	0.80	28.00	5.00	6.0		bone					
161	82	70-80	1	2	F	0.60	21.50	6.00	9.5		bone					Burnt and cut cleanly across medial portion. Small mammal distal phalange?
162	82	70-80	1	3	F	1.50	26.00	11.00	4.5		bone	yes				Rib frag?
163	82	70-80	1	3	F	0.90	24.50	6.50	2.5		bone					
164	82	70-80	1	2	L	8.40	29.00	22.00	11.0	ground	sandstone					Small incomplete ground object. Not sure of function.
165	53	30-40	1	1	L/flaked	27.90	46.00	33.00	15.0	flaked						Possible waterworn flake.
166	55	20-30	1	2	F	5.10	38.50	21.00	26.0		bone				Sea Mammal	Unidentifiable. Perhaps skull frag, femur or humerus head fragment.
167	BH4		1	2	F	9.30	46.00	30.50	22.0		bone				Deer	Odocoileus distal portion of radius.
168	82	0--20	1	2	F	10.50	31.00	39.53	26.0		bone				Deer	
169	82	0--20	1	3	F	2.10	26.60	20.00	5.5		bone					Long bone frag.
170	82	0--20	1	3	F	0.40	17.00	9.00	5.0		bone					unid frag
171	82	0--20	1	2	HIST	72.90	89.00	38.00			glass					Mouth and neck portion of incomplete bottle. Clear glass, machine molded. Glass thickness: 4.0mm

172	surf. Coll#2		1	1	flaked	51.30	59.00	74.00	10.0		andesite					Large flake, complete.
173	83	25	1	1	BT	0.60	29.00	7.00	3.0	ground	bone					Broken bone point.
174	83	25	1	1	HIST	1.90	24.50		3.0		Metal					flattened bottle cap.
175	83	0-10	1	1	HIST	0.80	34.00				metal					Machine made and cut.
176	83	30-40	1	2	F	3.30	27.00	18.00	17.0		bone	Yes				Cut with metal tools. Mandible?
177	83	30-40	1	3	F	1.10	21.00	12.50	3.0		bone					Fragment unidentifiable.
178	EU#1	30-35	1	2	F	16.40	40.00	38.00	39.0		bone	Yes				
179	45	30-40	1	1	L/flaked	17.00	33.00	49.00	11.5	flaked	andesite			weathered		Perhaps water worn.
180	54	40-50	1	1	F	1.50	49.50	7.00	7.0		bone					Small mammal long bone. Unsure if marks are from butchering or rodent knawing.
181	54	40-50	2	3	F	0.40	20.00	7.00	2.5		bone					Very small, broken unidentifiable fragments.
182	54	?	1	2	F	2.50	34.00	35.00	5.0		bone					Cranial fragment broken along a suture line.
183	54	?	1	2	F	0.70	21.00	13.50	5.0		bone				Deer	Rib frag distal end.
184	6	40-90	1	2	f	2.20	25.00	17.00	14.0		bone	yes		2		
185	53	60-70	1	3	F	1.60	39.50	9.00	5.5		bone					Unident. Fragment.
186	44	30-40	1	3	F	2.10	28.50	12.00	5.5		bone					Unident. Fragment.
187	54	30-40	1	2	F	1.40	61.00	6.50	5.5		bone				Bird	
188	54	30-40	9	3	F	6.80	35.00	13.50	6.0		bone					Unident. Fragments. Measurement is of largest frag.
189	44	40-50	1	2	F	3.00	37.50	20.50	9.5		bone					Mandible frag.
190	44	40-50	1	3	HIST	2.80	25.50	23.50	9.0		Metal					Unidentifiable metal fragment with a hollowed centre. Not kept.
191	44	40-50	1	3	F	0.80	33.00	7.50	5.0		bone					Unident. Fragment, probably rib.
192	53	40-50	1	1	L/flaked	0.90	20.00	17.00	0.1		slate					
193	EU#1	40-50	1	3	F	1.70	24.00	13.00	5.5		bone	yes				Both ends of fragment cut. Unidentifiable fragment. Likely deer.
194	EU#1	30-40 SW	1	3	F	0.80	19.00	14.00	2.5		bone	yes				
195	EU#1	30-40	1	1	L	8.40	30.50	36.00	9.0		andesite					Stage 1 reduction. Cortex on ventral surface.
196	63	10--20	7	3	F	3.00	22.00	12.50	5.0	calcined	bone					Assoc. with cat. #197. Largest fragment measured only, wght is combined.
197	63	10--20	1	2	F	0.10	13.00	6.00	4.5	calcined	bone					Very small mammal long bone. Associated with Cat# 196.
198	44	20-30	1	2	L	11.00	28.00	17.00	15.0	ground						Broken piece of highly ground and shaped object. Trapezoidal shaped fragment showing portion of edge, bottom and top. 'Top' is polished.
199	44	20-30	1	1	L/flaked	2.60	22.50	14.50	7.0	flaked	chert					Nice secondary reduction flake. flake removal scar on ventral surface.
200	EU#1 NW	0--10	1	1	L/flaked	1.40	29.00	21.00	2.0	flaked	slate					Nice example of a slate flake.

201	EU#1NE	40-50		3	F	1.70	20.00	15.00	4.0		bone					Largest of unid. Bone frags measured. Weight combined.
202	46	20-30	1	3	F	2.10	38.00	15.00	9.0		bone					Unid. Long bone frag.
203	54	20-30	1	1	F	0.30	38.00	18.00	0.05		bone				Fish	Complete.
204	EU#1SW	Feature	4	3	F	3.70	33.00	12.50	5.0		bone					Largest of unid. Bone frags measured. Weight combined.
205	EU#1NW	30-40	10	3	F	7.10	34.00	14.00	5.0		bone					Largest of unid. Bone frags measured. Weight combined. Assoc. w/ cat.#: 206. Adjacent to feature.
206	EU#1NW	30-40	1	2	F	0.90	25.00	12.50	6.0		bone					Proximal portion of rib, groundooved portion. No head. Associated w/ cat#:205. Adjacent to feature.
207	EU#1NW	30-40	1	1	HIST	0.10	28.00	9.00	1.0							Pc. Of red plastic. Indented parallel groundooved lines. Not kept.
208	52	20-30	1	2	F	7.30	21.00	34.00	21.0		bone				Deer	Distal tibia head. Centre of bone hallowed out.
209	22	60-70	1	1	L/Uflaked	0.20	16.50	11.00	0.1	flaked	andesite	n	y			Very minute amount of use wear.
210	49	10--20	1	3	L	24.10	42.00	38.00	12.5		andesite					Possible artifact. Unsure if cortex naturally beach polished or modified. Pc. Of shatter.
211	49	10--20	1	2	BT	2.50	41.00	14.00	7.5		bone					Ungulate long bone fragment basally notched and ground thin/flaring???
212	EU#1	Feature	2	3	F	2.10	12.00	17.00	9.0		bone					Largest unident. Fragment measured. Weight combined.
213	47	40-50	1	1	LT	77.40	71.50	73.00	9.5	cut/ground	slate	yes				ground slate axe/knife bit. Notched for hafting. Bevelled blade edges.
214	EU#1SW	33	1	1	LT	477.90	111.00	56.00	50.0	ground	sandstone					Grinding stone. Uniformly pecked and ground. Oblong in shape.
215	EU#1NE	40	1	1	LT	1.26kg	146.00	108.00	49.0	ground	sandstone					Grinding stone. Depression in centre.
216	surf. Coll#1		1	2	LT	124.00	62.00	60.00	20.5	ground	sandstone					Rectangular shaped abrader. Broken. groundinding marks visible.
217	44	0--10	1	2	LT	217.60	77.50	83.00	20.0	ground	sandstone					Oval shaped abrader, broken.
218	45	50-60	1	1	L	34.80	66.00	58.00	6.5	flaked/ground	slate					Utilized flake as ground slate knife. Preparared platform? Bevelled cutting edge.
219	58	30-40	1	1	L/flaked	0.10	15.00	4.50	0.05	flaked	slate					Third stage reduction flake. Indirect percussion.
220	58	30-40	1	1	L/flaked	0.10	11.00	7.50	0.05	flaked	slate					Third stage reduction flake. Indirect percussion.
221	58	30-40	1	1	L/flaked	0.10	6.50	8.00	1.5	flaked	slate					Third stage reduction flake. Indirect percussion.
222	58	30-40	1	1	L/flaked	1.10	17.00	15.00	3.0	flaked	andesite					Third stage reduction flake. Indirect percussion.
223	57	50-60	1	1	L/flaked	1.00	20.00	18.00	2.0	flaked	slate					Third stage reduction flake. Indirect percussion.
224	57	50-60	1	1	L/flaked	4.90	44.00	22.00	3.5	flaked	slate					Cortex. One flake knocked off.
225	63	20-30	2	3	F	0.90	16.00	10.00	4.0	calcined	bone					Largest fragments measured only -weight combined.
226	45	70-75	1	3	L/flaked	11.80	38.00	30.50	10.5		basalt		Yes			Different material, and flake type. Utilized

																along one margin.
227	30	60-70	15	1	L/flaked	8.40	22.00	12.00	4.0	flaked	andesite					Assoc. with cat. #228, 229. All flakes the same material and on average the same size & likely represents a singular reduction event. Perhaps a refit is possilbe with cat. 228 (separated due to larger size).
228	40	60-70	1	1	L/flaked	0.20	11.00	11.00	2.0	flaked	andesite					
229	30	60-70	1	1	L/flaked	0.70	20.00	14.50	1.5	flaked	andesite					Assoc. with cat. #227, 228. This flake has cortex.
230	30	60-70	1	1	L/flaked	1.40	18.00	20.00	4.0	flaked	andesite?					Courser material than previous flakes from same level.
231	30	60-70	1	1	F	0.30	13.00	10.00	1.5	calcined						
232	35	60-70	4	3	F	4.80	33.00	12.00	12.5	butch?				3		Unsure if step fractured or from processing. Bone much more weathered.
233	41	0-10	1	1	L/flaked	3.60	27.00	17.50	6.0		gabbro					
234	41	0--10	1	1	F	0.70	24.00	11.00	7.0	butch	bone					Species? Carpal or tarsal of Phoca vitulina?
235	41	0--10	1	1	HIST	0.40	14.00	6.00	3.0							All glass is kept for level 2 due to identification issues with quartz, also found in quantity in DjSc-1.
236	35	20-30	1	1	L	8.10	26.50	23.00	11.0		chert					Unmodified raw chert nodule. Beach weathered.
237	36	0-10	8	1	L/flaked	4.30	20.00	21.00	3.0		chalky white limestone?					Total of 3 pcs. Although only 1 pc is definate flake. Other pcs. Are unmodified.
238	36	0-10	1	1	F	0.05	14.00	12.00	2.0	calcined						
239	16	30-40	1	1	BF/PP	2.30	32.00	22.00	2.0	flaked/ground	slate					Triangular projectile point, stemmed and notched.
240	16	30-40	1	1	BF	3.50	53.50	24.00	2.0	flaked/ground	slate					Curvilinear bifacially flaked and ground biface. Semi-lunar in shape.
241	37	40-50	1	1	Core	25.00	32.00	30.00	22.0	flaked	andesite					Two surfaces with cortex.
242	37	40-40	2	3	L/flaked	1.00	13.00	11.00	4.0	flaked	andesite					Questionable flakes.
243	37	20-30	1	1	L/flaked	17.70	45.00	32.50	6.0	flaked	andesite					Large chunky flake.
244	37	20-30	1	1	L/flaked	3.50	33.00	23.50	6.0	flaked	andesite					Large thin flake.
245	20	70-80	9	3	F	1.70	24.00	10.00	3.5	butch?	bone	Yes?				Largest fragments measured only -weight combined.
246	20	70-80	2	3	F	0.50	12.00	6.00	3.5	calcined	bone					
247	20	70-80	6	1	L/flaked	3.90	21.00	15.00	5.0	flaked	andesite					Debitage.
248	36	30-40	9	1	L/flaked	2.40	15.00	12.00	2.0	flaked	andesite					Debitage. All fine/small flakes for shaping/thinning, stage 3.
249	36	50-60	1	1	L/flaked	0.70	14.00	10.00	4.0	flaked	andesite					Biface fragment
250	35	50-60	4	3	F	4.50	26.00	12.50	6.0		bone			2		Largest fragments measured only -weight combined.
251	35	50-60	1	3	F	0.40	22.50	6.00	2.0	calcined	bone			2		
252	20	10--20	1	3	L/flaked	0.70	21.00	12.00	3.0	flaked	andesite					Debitage.
253	9	30-40	1	2	F	1.70	21.00	17.00	16.0		bone			2		
254	30	80-90	2	3	F	0.90	17.00	7.00	2.0	calcined	bone			2		Largest fragments measured only -weight combined.

255	30	80-90	1	3	L/flaked	0.30	17.00	12.00	2.0	flaked	andesite					Debitage.
256	12	40-50	2	3	F	1.00	24.00	10.00	5.0	cut?	bone	yes?		2		Largest fragments measured only -weight combined.
257	12	40-50	2	3	F	1.50	29.00	9.50	8.0		bone			2		Largest fragments measured only -weight combined.
258	12	40-50	1	3	L/flaked	0.20	13.00	8.00	1.0	flaked	slate					Debitage.
259	11	10--20	1	3	F	1.70	28.00	16.00	7.0		bone			2		
260	9	20-30	1	3	F	1.10	21.00	11.00	9.0		bone			1		
261	11	10--20	1	3	F	0.50	22.00	12.00	12.0		bone			3		
262	40	60-70	1	1	L/flaked	0.20	11.00	11.00	2.0	flaked	andesite					
263	40	60-70-June-29-13	1	1	L/flaked	0.30	12.00	7.00	3.0	flaked	andesite					Biface flake.
264	39	10--20	1	3	F	2.10	42.00	13.00	6.0		bone	Yes?		1		
265	31	60-70	1	3	F	0.30	13.00	9.00	3.0	calcined	bone			2		
266	30	10--20	1	3	L/flaked	0.30	9.00	9.00	5.0		quartz					
267	5	40-50	1	2	L/Uflaked	16.20	39.00	38.00	18.0	flaked	andesite		yes			Utilized flake showing use wear on two margins.
268	40	30-40	5	3	L/flaked	1.70	19.00	16.00	5.0	flaked	andesite					
269	40	40-50	1	1	L/Uflaked	10.50	35.00	30.00	12.0	flaked	porphyry		yes			Utilized flake showing bipolar reduction.
270	40	40-50	1	1	L/Uflaked	8.30	41.00	26.00	10.0	flaked	andesite		yes			Utilized flake showing use wear on one margin.
271	6	40-90	1	1	L/flaked	11.30	47.00	32.50	9.0	flaked	andesite		yes?			Possibly utilized.
272	5	40-50	3	3	F	1.00	31.50	9.50	8.0		bone			2		
273	5	40-50	1	1	L	2.10	32.00	11.00	8.0	flaked	andesite					
274	24	40-50	1	3	F	1.80	23.00	18.00	13.0		bone	yes		2		
275	35	0-10	4	3	F	0.80	22.00	9.50	5.5		bone			2		Largest fragments measured only -weight combined.
276	27	70-80	1	3	f	0.20	11.00	7.00	4.0	calcined	bone			2		
277	27	70-80	1	3	L/flaked	0.70	18.00	10.00	4.5		andesite					
278	36	10--20	1	1	L/flaked	1.00	17.00	15.00	5.5		andesite		yes			
279	36	10--20	2	1	L/flaked	0.90	15.00	11.00	2.0		andesite					Largest fragments measured only -weight combined.
280	55	0-20	3	3	f	2.10	24.00	12.00	9.0		bone			1		
281	55	0-20	1	1	Hist	2.50	56.00	6.00	3.0		steel					Machine made and cut. Nail, discarded
282	55	0-20	1	2	Hiist	1.20	44.00	4.00	4.0		steel					Galvanized spiral nail, broken, discarded.
283	55	0-20	1	2	Hist	0.20	12.00	12.00	3.0		plastic					Portion of round container lid showing embossed design/letters."FEL" and "TY" black plastc.
284	11	0-10	1	1	L/flaked	0.10	13.00	11.00	2.0		slate					
285	11	0-10	1	3	f	3.00	32.00	26.00	19.0		bone			2		
286	11	0-10	5	3	f	3.10	22.50	16.00	11.0		bone			2		Largest fragment measured only -weight combined. May be associated with artifact #285.
287	50	20-30	1	1	Hist	14.30	78.00	44.00	11.0	rusted	steel					Very rusted nail. Discarded.

288	50	20-30	1	3	Hist	4.80	37.00	16.00	11.0		ceramic					Glazed brown pottery shard. Round edge indicating portion of round vessel or lid of same. Discarded.
289	6	40-90	1	2	f	2.20	25.00	17.00	14.0		bone	yes?		2		
290	6	40-90	5	3	f	2.50	23.00	17.00	7.5		bone	yes?		1		Largest fragments measured only -weight combined.
291	6	40-90	8	3	f	1.80	26.00	14.00	8.0		bone			2		
292	6	40-90	1	1	L/flaked	0.05	21.00	6.00	1.0		slate					
293	6	30-40	1	3	f	0.80	24.00	14.00	8.0		bone			2		
294	6	30-40	1	3	f	0.70	27.00	11.00	5.0		bone	yes?		1		chipping on one end
295	35	40-50	1	3	f	1.60	35.50	10.00	8.0		bone			2		
296	5	?	1	3	f	1.10	26.00	10.50	5.0		bone			1		
297	38	10--20	1	3	f	0.25	17.00	9.50	3.5		bone			2		
298	33	40-50	1	2	f	1.40	31.00	10.00	4.0		bone				ung	Rib or long bone fragment.
299	33	40-50	3	2	f	1.60	25.00	11.00	8.0		bone				lrg bird	Spiral fractured long bone partial elements.
300	33	40-50	26	3	f	8.00	32.00	20.00	6.0		bone			3		Unident. Ungulate/possible sea mammal fragments.
301	33	40-50	1	1	BT	0.40	23.00	6.50	4.0	ground	bone	n		2	ung	Possibly ground bone point fragment?
302	33	40-50	1	3	F	0.20	29.00	6.00	1.5		bone			1		
303	33	40-50	2	3	F	1.30	18.00	17.00	4.0		bone			2		Broad fragments. Either ung or sea mammal fam.
304	33	40-50	1	3	F	0.20	15.50	3.00	4.5	ground?	bone					Either ground bone artifact, uniform, symmetrical and tapered (no groundinding marks visible but very uniform) OR small mammal frag.
305	33	40-50	1	3	F	0.30	18.00	6.00	7.0		bone				ung	Rib fragment.
306	33	40-50	1	1	F	5.20	28.50	28.50	13.0		bone			1	Deer	Metatarsal.
307	33	40-50	1	2	F	3.70	31.00	16.50	17.0		bone			3	Deer?	Centrum/body portion of vertabrae. Immature/juvanile. -lots of cancellous bone.
308	33	40-50	1	2	F	3.10	29.50	17.00	18.0		bone			1	Deer	Distal end fragment of calcaneous. Immature/juvanile.
309	33	40-50	1	2	F	2.80	26.00	22.00	21.0		bone			1	?	Diagnostic - element??
310	33	40-50	1	2	F	0.70	17.50	13.00	10.0		bone			1	Deer	Fragment of a metacarpal/metatarsal condyle.
311	33	40-50	2	2	F	2.30	2.20	17.00	16.0		bone			2	Deer	Phalange fragments. Largest fragments measured only -weight combined.
312	33	40-50	1	3	F	0.90	23.00	13.50	6.0		bone			1		Lots of cancellous bone.
313	33	40-50	4	3	F	1.60	22.00	10.00	5.0		bone			3		Unident frags. Largest fragments measured only -weight combined.
314	33	40-50	1	3	F	1.10	27.00	11.00	3.0	burnt	bone			1	ung	
315	33	40-50	1	2	L/Uflaked	0.60	15.00	13.00	2.0	flaked	basalt	n	y			Utilized flake-burin?
316	33	40-50	1	1	L/Uflaked	0.60	25.00	11.00	3.0	flaked	slate	n	y			Unifacially worked - burin.
317	33	40-50	1	2	flaked	1.30	29.00	5.00	4.0	flaked	andesite	n	n			
318	38	60-70	1	1	L/T	2.40	28.00	16.00	5.5	flaked	comm		Y			Complete scraper.

319	38	60-70	1	2	L/T	1.00	17.00	15.00	3.0	flaked	comm	n	y			Broken scraper. Square shaped at working end. Same translucent material as cat. 318.
320	38	60-70	1	1	L/flaked	0.30	12.00	10.50	2.0	flaked	basalt	n	n			
321	12	0-10	1	1	L/flaked	0.60	31.00	14.00	0.1	flaked	slate					Tertiary flake. Very thin - complete.
322	41	0-10	1	1	L/BF	7.70	34.00	23.50	7.5	flaked	basalt	n	y			Complete bifacial scraper. Multi-tool?
323	41	30-40	1	1	L/Uflaked	1.40	26.00	9.00	4.0	flaked	basalt	n	y			Micro wear on lateral margin and wear from user.
324	37	60-70	1	1	L/Uflaked	5.90	27.00	25.00	4.0	flaked	anesite	n	n			Rough burin - unused. Battered on one margin and bifacially thinned.
325	37	60-70	1	1	L/BF	1.00	17.00	10.00	5.0	flaked	andesite	n	n			Platform is cortex.
326	27	50-60	1	1	L/Uflaked	1.60	22.00	16.00	6.5	flaked	andesite	n	y			Use wear on distal lateral margin.
327	27	50-60	1	1	L/	12.30	43.00	32.00	7.5	flaked	andesite	n	n			Unifacial blank or secondary flake.
328	21	10--20	1	1	L/T	4.90	34.50	36.00	4.0	ground			y			Complete triangular ground slate knife/scraper.
329	21	10--20	2	3	F	1.40	21.00	14.00	4.5	calcined	bone				ung	Largest fragments measured only -weight combined.
330	21	10--20	1	2	F	0.30	20.00	9.00	4.0	butch	bone	y	n			Small mammal. Cut lenghways along centre of element.
331	16	70--80	1	2	L/flaked	1.00	21.00	14.50	3.0	flaked	andesite	n	n			Primary reduction.
332	22	60-70	1	1	L/Uflaked	0.20	16.50	11.00	0.1	flaked	andesite	n	y			Very minute amount of use wear.
333	22	60-70	1	1	L/flaked	2.00	30.00	16.00	4.0	flaked	basalt					Primary reduction.
334	22	60-70	2	3	L/flaked	0.90	16.50	11.00	5.0	SH	andesite etc					Shatter - no attributes. Largest fragments measured only -weight combined.
335	22	60-70	1	2	L/flaked	0.60	19.00	10.00	2.0	flaked	andesite	n	n			Broken.
336	22	60-70	1	2	L/flaked	0.50	20.00	11.00	2.0	flaked	basalt	n	n			Broken, but possible wear on one margin.
337	22	60-70	1	1	L/flaked	0.05	6.00	7.00	6.0	flaked	andesite	n	n			Proximal end of small flake, broken. Tertiary.
338	22	60-70	3	3	F	0.60	13.00	11.00	3.0	calcined	bone	n	n			Unident frags. Largest fragments measured only -weight combined.
339	22	60-70	9	3	F	1.40	20.00	6.00	4.0		bone	n	n			Unident frags. Largest fragments measured only -weight combined.
340	34	40-50	5	3	F	6.80	35.00	25.00	8.0	flaked	andesite etc		y			flake with used burin point along one margin.
341	40	20-30	1	1	L/flaked	11.10	42.00	40.00	6.0	flaked/ground?	slate	y	n			Square flake with poss cutmarks, possible ground planes. flake blank?
342	40	20-30	1	3	F	0.40	18.00	8.00	2.0	calcined	bone	n	n			Unident frag.
343	40	20-30	1	1	L/flaked	0.30	13.00	10.00	2.0	flaked	slate	n	n			Lots of weathering.
344	22	60-70	1	1	BT	0.30	29.50	5.00	3.5	ground	bone	y	y		ung	Bone point - small and rough. Either roughly made/unfinished/or reworked. Visible groundooves/toolmarks.
345	22	60-70	1	2	F	0.10	10.00	11.00	2.0		bone	n	n	3		Small mammal. Element?
346	22	60-70	1	1	L/flaked	0.70	27.00	5.00	3.5	flaked	andesite	n	n			Cortex on one angle. Signifcant curvature - very long.
347	22	60-70	1	2	L/flaked	0.20	11.00	12.00	1.5	flaked	andesite	n	n			Tertiary flake.
348	22	60-70	8	3	F		19.00	11.00	3.0		bone	n	n	2		Unident frags. Largest fragments measured

																only -weight combined.
349	14	20-30	1	2	L/flaked	0.10	11.00	8.50	0.1	flaked/ground	slate	n	?			Unsure if resharpening flake or biface. groundinding on one face and flakedaking on other. Possible hafting element?
350	33	50-60	2	2	BT	0.80	36.00	8.00	5.0	ground	bone					Misc. Worked bone - complete symmentrical blunt end and broken at other.
351	33	50-60	1	2	BT	4.10	38.00	20.00	14.0	Cut	bone	y	n	1	lrg ung	Proximal end of medial section of long bone. Basally notched into a "V" and saw cutting marks visible along medial line.
352	33	50-60	3	2	F	1.00	17.00	13.00	6.0		bone	n	n	2	deer	3 fragments of a deer tooth. Age?
353	33	50-60	1	2	BT	0.6	21	10	4.0	ground	bone	y?	?			Basally notched and ground forming a "v" with two points facing distal.
354	33	50-60	56	3	F	13.6	20	15	5.0		bone			3		Unident. Frags. Weight combined, largest of all fragements measured.
355	33	50-60	1	2	F	0.40	14.00	14.00	8.0		bone					Portion of a condyle. Small land mammal?
356	33	50-60	1	2	F	1.10	23.00	19.00	8.0		bone				deer	Portion of a metatarsal condyle.
357	33	50-60	4	3	F	4.40	25.00	14.00	10.0		bone					Vetebral fragments. Probably deer.Weight combined, largest fragment measured.
358	33	50-60	5	3	F	4.30	18.00	9.00	9.0		bone					Unident. Frags. With an unidentified landmark. Weight combined, largest of all fragements measured.
359	33	50-60	2	3	F	0.60	15.00	11.00	5.0		bone				deer	Teeth fragments, without landmarks.
360	33	50-60	6	3	F	0.70	13.00	9.00	3.0		bone				deer	Unident. Frags. Weight combined, largest of all fragments measured.
361	33	50-60	1	2	F	0.30	9.50	12.00	5.0	notched	bone					Small mammal with landmarks. Poss.
362	33	50-60	1	3	F	1.30	28.50	15.00	5.0	notched	bone				deer	Again possible notched 'v' at one end.
363	33	50-60	1	3	F	0.30	14.50	9.00	4.0	notched	bone					Again possible notched 'v' at one end. Unident. Fragment.
364	33	50-60	1	2	F	0.05	16.50	8.00	3.0		bone				bird	Species?
365	33	50-60	3	2	F	1.80	25.00	16.50	6.0		bone					Unident frags. Species? Weight combined, largest of all fragments measured.
366	33	50-60	1	2	F	0.50	19.00	8.00	3.0		bone				prob deer	Small rib fragment.
367	33	50-60	1	3	F	2.70	41.00	16.00	6.0	burnt	bone				deer	Long bone fragment, slightly burned.
368	33	50-60	1	3	F	0.50	19.00	4.00	5.0	burnt	bone					Symmetrical unident fragment with either notching/usewear/knaw marks on one margin. Slightly burnt.
369	33	50-60	5	3	F	1.30	19.00	5.00	4.0	burnt	bone					Unident. Fragments all slightly burned (black). Weight combined, largest fragment measured.
370	33	50-60	1	2	F	0.50	22.00	11.00	4.0	burnt	bone				deer?	Small vetebral process fragment with minimal burned edge.
371	33	50-60	1	3	F	0.70	25.00	12.00	3.0		bone					
372	33	50-60	2	3	F	0.50	26.50	8.50	1.5		bone				bird	
373	33	50-60	1	3	F	0.05	27.00	4.00	2.0		bone				bird	

374	33	50-60	1	3	F	0.05	15.00	3.50	2.0		bone				bird	Slight burning.
375	33	50-60	1	3	F	0.20	13.50	11.00	2.0		bone					Cranial fragment. Unident species.
376	33	50-60	2	3	F	0.40	18.00	5.00	3.5	calcined	bone					
377	33	50-60	2	3	F	0.60	15.00	12.00	5.0		bone				deer	Unident. Frags. Weight combined, largest frag measured.
378	33	50-60	1	1	L/flaked	0.60	17.00	14.00	3.5	flaked	andesite etc					Unusual red staining on ventral surface only. May be a post-deposition staining.
379	33	50-60	1	1	L/flaked	3.50	31.50	14.50	8.0	flaked	chert					
380	33	50-60	1	1	L/flaked	0.10	7.00	10.00	0.1	flaked	slate?					White inclusions. Unsure of material type.
381	33	50-60	1	1	L/Uflaked	0.90	21.00	11.00	10.0	flaked	basalt		y			Prepared/crushed platform. Usewear along one lateral margin.
382	33	50-60	1	1	L/flaked	1.90	20.00	21.00	5.0	flaked	basalt		n			Microchipping visible on lip of platform. Platform is cortex. Possible microchipping on both faces = biface.
383	33	50-60	1	1	L/flaked	0.70	19.00	13.00	4.0	flaked	basalt		y			Platform is cortex. Usewear on one lateral edge/corner.
384	33	50-60	1	1	L/flaked	2.60	19.00	24.00	5.5	flaked	basalt		n			Platform is cortex.
385	33	50-60	1	2	L/flaked	1.30	21.00	16.00	3.0	flaked	basalt		n			
386	33	50-60	1	2	L/flaked	1.50	23.00	17.50	3.5	flaked	basalt		n			
387	33	50-60	2	3	L/flaked	1.40	26.00	11.00	3.0	shatter	basalt		n			
388	33	50-60	1	1	L/flaked	0.90	20.00	15.00	3.0	flaked	basalt		n			Platform ground.
389	33	50-60	1	2	L/flaked	0.70	15.00	13.50	3.0	flaked	basalt		n			
390	33	50-60	1	1	L/flaked	0.30	13.00	7.00	3.0	flaked	basalt		n			
391	33	50-60	1	1	L/flaked	0.30	12.00	9.00	2.5	flaked	basalt		n			
392	33	50-60	1	1	L/flaked	0.05	6.00	9.00	0.1	flaked	basalt		y			Resharpening flake.
393	33	50-60	1	1	L/flaked	0.10	9.00	13.00	2.0	flaked	basalt		y			Notched flake. From projectile point base?
394	33	50-60	1	1	L/flaked	0.05	13.00	9.00	0.05	flaked	basalt		n			Extremely thin flake. Tertiary stage.
395	33	50-60	1	1	L/flaked	0.05	11.00	8.00	0.1	flaked	basalt		n			Extremely thin flake. Tertiary stage.
396	32	40-60	1	2	F	7.70	24.00	56.00	9.0		bone				deer	Teeth present. Seasonality?
397	32	40-60	1	1	F	9.00	35.00	23.00	18.0		bone				deer	Complete astragalus.
398	32	40-60	1	2	F	3.60	28.00	21.00	16.0		bone			3	deer	Degraded partial astragalus.
399	32	40-60	1	2	F	1.00	24.00	11.00	7.0			y?				Cut lengthwise medially. No toolmarks. Part of end present.
400	32	40-60	1	2	F	1.80	31.00	13.00	6.0		bone	y?				Shaft portion of ? flakedared at one end and ends sheared off - no cutmarks.
401	32	40-60	1	2	F	0.60	18.00	6.50	8.0		bone	y?				Portion of end present. Cut lengthwise medially? No ctmrks.
402	32	40-60	1	3	BT	1.30	38.00	9.00	3.5	ground	bone	y	y?	1		Tapered at working end. Serated edge.
403	32	40-60	1	2	F	1.10	17.00	24.00	15.0		bone	n	n	1		Mandibular condyle.
404	32	40-60	1	2	F	0.50	15.00	17.50	9.0		bone	n	n	2		Articular surfaces present.
405	32	40-60	1	2	F	0.80	21.00	13.00	10.0	Cut?	bone	y	n	2	deer	Weathered rib head. Cut??
406	32	40-60	1	3	BT	0.30	15.00	7.00	2.0	ground?	bone	n	n	1		Possible ground artifact fragment.
407	32	40-60	3	3	F	7.90	34.00	19.00	4.0		bone	n	n	1	ung	Long bone fragments. Weight combined, largest measured.
408	32	40-60	22	3	F	12.00	25.00	10.00	3.0		bone	n	n		ung	Weight combined, largest frag measured.

409	32	40-60	1	3	F	0.70	29.00	9.00	3.0	calcined	bone	n	n	1		Mandible fragment of small species.
410	32	40-60	1	3	F	0.50	12.00	7.00	4.0	calcined	bone	n	n	1		unidentified fragment.
411	32	40-60	2	3	F	1.30	22.50	17.00	3.5	see comments						Bone chips, burnt. Weathered.
412	32	40-60	1	1	L/flaked	0.70	14.50	19.00	3.0	flaked	andesite	n	n			
413	32	70-77	1	2	F	3.10	31.50	23.00	22	butch?	bone	n	n	2	deer	Calcaneous fragment.
414	32	70-77	2	2	F	2.60	32.00	17.00	7.0		bone	n	n	2		Unident. Species. Juvanile. Weight combined, lrgest frag measured.
415	32	70-77	1	2	F	0.40	22.00	9.00	2.0		bone	n	n	2		Thin rib. Species?
416	32	70-77	2	3	F	1.20	22.00	10.00	4.5	burnt	bone	n	n	1		Unident. fragments slightly burned (black). Weight combined, largest fragment measured.
417	32	70-77	1	3	F	0.40	15.00	8.00	3.0	calcined	bone	n	n	2		Unid frag
418	32	70-77	2	3	F	3.30	37.00	28.50	5.0		bone	n	n	2	ung	Long bone frags. Weathered.
419	32	70-77	22	3	F	8.10	25.00	6.00	3.0		bone	n	n	2	ung	Unident. Frags. Weight combined, lrgest frag measured.
420	32	70-77	1	2	L/flaked	2.90	21.50	29.00	6.0	flaked	andesite	n	n			Cortex on dorsal surface. Primary flake.
421	32	70-77	1	1	L/flaked	1.80	25.00	28.50	3.0	flaked	andesite	n	n			Cortex on dorsal surface. Primary flake.
422	32	70-77	1	1	L/flaked	7.10	27.50	33.00	13.0	flaked	andesite	n	n			Secondary flake.
423	32	70-77	1	1	L/flaked	0.05	11.00	14.00	0.05	flaked	slate	n	n			Tertiary flake.
424	32	70-77	1	1	L/BF	1.00	18.00	14.00	3.5	flaked	andesite	n	?			Shaped biface scraper
425	32	70-77	1	1	L/flaked	0.50	14.00	14.50	2.0	flaked	andesite	n	n			Cortex platform.Tertiary.
426	32	70-77	1	1	L/flaked	0.90	19.00	8.50	4.0	flaked	andesite	n	n			
427	32	70-77	1	1	L/flaked	0.90	21.50	9.00	5.0	shatter	sandstone	n	n			Dorsal surface is cortex.
428	32	70-77	1	1	L/flaked	1.00	21.00	12.50	5.0	flaked	andesite	n	n			Portion of cortex present.
429	32	70-77	1	1	L/flaked	0.30	14.00	10.00	2.5	flaked	andesite	n	n			
430	32	70-77	1	1	L/flaked	0.40	23.00	7.00	2.0	flaked	andesite	n	y			Really thin flake with 3 long scars on dorsal surface. Use wear or grinding on lateral margin.
431	34	60-70	5	3	F	3.70	14.50	15.00	2.0	calcined	bone	n	n			Unident. Frags. Weight combined, largest frag measured.
432	34	60-70	1	3	F	1.00	15.00	13.50	5.0	burnt	bone	n	n		ung	
433	34	60-70	10	3	F	8.50	34.00	8.00	4.0		bone	n	n		ung	
434	34	60-70	3	2	F	3.30	33.00	12.00	8.0		bone	n	n		ung	Rib frags, mid section.
435	34	60-70	2	2	F	0.60	15.00	16.00	7.0		bone	n	n		ung	articular surfaces present.
436	34	60-70	1	2	F	0.60	14.00	11.00	4.0		bone	y	n		ung	End sheared off. No ctmrks.
437	34	60-70	1	1	L/flaked	0.90	19.00	20.00	3.0	flaked	andesite	n	n			
438	34	60-70	1	1	L/flaked	0.40	16.00	14.00	2.0	flaked	andesite	n	n			
439	34	60-70	1	1	L/flaked	4.00	29.00	22.00	7.0	flaked	andesite	n	n			
440	34	60-70	1	2	L/flaked	1.30	20.50	11.00	7.0	flaked	andesite	n	n			
441	34	60-70	1	1	L/BF	0.80	14.00	18.00	3.0	flaked	andesite	n	n			Biface fragment.
442	34	60-70	1	1	L/Uflaked	0.50	14.00	13.00	2.0	flaked	andesite	n	n			Utilized flake, cortex platform.
443	34	60-70	1	1	L/flaked	1.10	29.00	7.00	6.0	flaked	andesite	n	n			Dorsal surface is cortex.
444	34	60-70	1	1	L/flaked	0.20	11.00	8.50	1.0	flaked	andesite	n	n			Biface fragment.
445	34	60-70	1	1	L/flaked	0.20	10.00	7.00	3.0	flaked	andesite	n	n			

446	34	60-70	1	1	L/flaked	0.10	9.00	8.50	2.0	flaked	andesite	n	n	3		Chemical weathering obscurring visible attributes.
447	34	60-70	1	1	L/Uflaked	0.20	12.00	6.00	2.0	flaked	andesite	n	y			Microchipping on lateral margin - usewear.
448	34	60-70	1	1	L/Uflaked	0.20	8.00	12.50	1.0	flaked	andesite	n	y			Microchipping on lateral margin - usewear.
449	34	60-70	1	1	L/Uflaked	0.05	12.00	7.50	2.0	flaked	andesite	n	y			Microchipping or pressure flakedaking on more than one edge. Serrated.
450	34	60-70	1	1	L/Uflaked	0.30	19.00	5.00	3.0	flaked	andesite	n	y			Usewear on both lateral margins.
451	34	60-70	1	1	L/BFF	0.20	12.00	9.00	2.0	flaked	andesite	n	y			Biface fragment.
452	34	60-70	1	1	L/BFF	0.05	9.00	8.50	1.0	flaked	andesite	n	n			Biface fragment.
453	34	60-70	1	1	L/flaked	0.20	9.00	12.50	1.0	flaked	andesite	n	n			Notched flake. L-shape.
454	33	60-75	29	3	F	9.00	22.00	16.00	11.0		bone	n	n			Unident. Frags.
455	33	60-75	3	3	F	2.30	26.50	14.00	3.0	burnt	bone	n	n			Slight burning. Unident. Frags.
456	33	60-75	1	2	F	1.00	21.00	22.00	11.0	burnt	bone	n	n		deer	Burnt. Rib head missing articular surfaces. Possibly cut.
457	33	60-75	2	2	F	2.00	30.00	11.00	4.0		bone	n	n		deer	Medial rib frags.
458	33	60-75	1	2	F	0.70	29.00	12.00	4.0		bone	n	n		deer	Spinous process fragment of vertabra (thoracic?).
459	33	60-75	1	3	F	0.20	10.00	7.00	3.0	calcined	bone	n	n			One end sheared off. No ctmrks.
460	33	60-75	1	3	F	2.50	35.00	15.00	8.0		bone	n	n		ung	Long bone frag.
461	33	60-75	1	2	L/flaked	0.70	21.50	12.00	2.0	flaked	andesite	n	n			
462	33	60-75	1	1	L/flaked	0.70	16.00	12.00	5.0	flaked	chert	n	n			
463	33	60-75	1	1	L/Uflaked	0.20	14.00	6.50	1.5	flaked	andesite	n	y			
464	22	20-30	5	3	F	3.90	10.00	14.00	4.0	calcined	bone	n	n			Unident. Frags. Weight combined, largest measured.
465	22	20-30	2	3	F	0.20	11.00	13.00	2.0	calcined	bone	n	n			Small species.
466	22	20-30	6	3	F		23.00	8.00	5.0		bone	n	n		ung	Unident. Frags. Weight combined, largest measured.
467	22	20-30	1	1	L/Uflaked	3.80	34.00	17.00	8.0	flaked	andesite	n	y			
468	22	20-30	1	1	L/flaked	6.00	29.00	26.50	13.0	flaked	andesite	n	n			
469	22	20-30	1	1	L/flaked	4.00	28.00	29.00	6.0	flaked	sandstone	n	n			Dorsal surface is cortex.
470	22	20-30	1	1	L/flaked	0.80	22.00	11.00	4.0	flaked	sandstone	n	n			
471	38	40-50	1	3	F	0.50	13.00	10.00	3	calcined	bone	n	n			Unident. Frag
472	38	40-50	1	2	L/flaked	0.80	20.00	17.00	2	flaked	sandstone	n	n			One corner burnt.
473	38	40-50	1	1	L/Uflaked	0.40	16.00	8.00	3.0	flaked	see comm	n	y			Light grey, fine groundained material. Same as other translucent materia. Nice utilized flake on distal end and one lateral margin.
474	24	20-30	7	3	F	4.50	25.00	7.00	1.5		bone	n	n			Unident. Frags. Weight combined, largest measured.
475	24	20-30	2	3	F	0.50	19.00	8.00	4.0		bone	n	n			Unident. Frags. Weight combined, largest measured.
476	24	20-30	1	2	F	1.50	19.00	22.00	15		bone	n	n			Element?
477	34	50-60	2	3	F	1.80	23.00	10.00	6.0		bone	n	n	3		Unident. Frags. Weight combined, largest measured.
478	34	50-60	1	3	F	0.60	19.00	7.00	4.0	calcined	bone	n	n	1		Unident. Frag.
479	34	50-60	1	2	F	1.40	24.00	13.00	13.0		bone	n	n	3		Element?

480	30	70-76	2	3	F	0.20	11.00	10.00	3.0	calcined	bone	n	n			
481	30	70-76	2	3	F	0.60	16.00	7.50	2.0		bone	n	n	2	ung	Unid. Frags.
482	30	70-76	1	3	F	0.90	17.00	11.00	5.0	burnt	bone	n	n	1	ung	
483	30	70-76	1	1	L/BF	0.90	14.00	14.50	3.5	flaked	andesite	n	y			Endscraper.
484	30	70-76	1	1	L/flaked	0.05	10.00	6.50	1.0	flaked	andesite	n	y			Microcipping on one margin.
485	30	70-76	1	1	L/flaked	0.70	14.00	11.00	3.0	flaked	andesite	n	n			
486	30	70-76	1	2	L/flaked	0.50	13.00	13.00	2.5	flaked	andesite	n	n			
487	30	70-76	1	1	L/flaked	0.30	14.00	9.00	2.5	flaked	andesite	n	n			
488	30	70-76	1	1	L/flaked	0.30	17.00	8.00	2.0	flaked	andesite	n	n			
489	13	60-70	1	3	F	0.30	20.00	6.00	2.0		bone	n	n			Unid frag
490	13	60-70	1	3	F	0.10	10.00	8.00	2.0	calcined	bone	n	n			
491	13	60-70	1	1	L/Core	35.90	61.00	38.00	13.0	flaked	andesite	n	y			Andesite core (exhausted?). One margin shows flake removal scars, the other margin is utilized.
492	82	60-70	1	1	F	0.70	16.00	9.00	8.0		bone	n	n			Small mammal vertabra.
493	82	60-70	1	2	F	0.70	32.00	8.00	4.0		bone	n	n		deer	Medial rib frag.
494	82	60-70	1	3	F	0.50	22.00	13.00	2.0		bone	n	n			Unident. Frag.
495	44	40-50	1	3	F	1.60	46.00	7.00	4.0		bone	n	n		ung	Unident. Long bone fragment.
496	82	60-70	1	2	L/PP	5.90	58.00	19.00	4.0	ground	slate	n	n			Near complete round, facetted slate projectile point. One corner of base, and tip missing. Disturbed level.
497	82	60-70	2	3	HIST	2.00	24.00	17.00	1.5		metal	n	n			Not kept. Two rusted metal fragements. Disturbed.
498	82	60-70	1	3	HIST	3.60	50.00	13.50	4.0		glass	n	n			Not kept. Clear glass fragment. Disturbed.
499	44	40-50	1	1	L/BF	6.30	42.00	41.00	3.0	ground/flaked	slate	n	y			Point blank, ground on both faces.
500	44	40-50	1	2	L/SH	0.80	21.00	10.00	2.0	shatter	slate	n	n			
501	21	10--20	1	1	L/T	15.10	46.00	44.00	6.0	ground	slate	y	y			Triangular shaped slate adze blade? One edge is sawn cut, another is adze-bit-like, and the third is stepped and used for scraping.
502	21	10--20	1	1	L/T	4.70	24.00	41.00	3.0	ground	slate	n	n			Ground slate tool. Backed?
503	21	10--20	1	1	L/flaked	1.10	26.50	16.00	2.5	ground	slate	n	n			Shaping flake- flake scars on both sides.
504	21	10--20	1	1	L/flaked	0.20	10.50	9.00	1.0	flaked	slate	n	n			Shaping/thinning flake - tertiary.
505	30	30-40	1	1	L/T	12.60	43.00	36.00	9.0	flaked	andesite	n	y			Utilized flake, cortex (core) tool.
506	30	30-40	1	1	L/Core	16.40	42.50	28.00	15.5	flaked	andesite	n	n			Core.
507	35	60-70	1	1	L/T	8.30	31.50	29.00	6.0	flaked	andesite	n	y			Rectangular shaped biface - scraper.
508	35	60-70	1	1	L/flaked	2.50	28.00	21.00	5.0	flaked	andesite	n	n			
509	35	60-70	1	1	L/flaked	0.90	15.00	9.50	4.0	flaked	andesite	n	n			
510	35	40-50	1	1	L/T	2.20	18.00	20.00	7.0	flaked	andesite	n	y			Shaped, bifacial scraper tool. Complete.
511	35	40-50	1	1	L/flaked	2.50	23.00	14.50	7.0	flaked	andesite	n	n			
512	38	30-40	1	1	L/flaked	0.50	13.50	18.00	2.0	flaked	andesite	n	n			Either shaping or retouch flake.
513	22	60-70	1	1	L/T	140.90	63.00	70.00	25.0	flaked	andesite	n	y			Cobble chopper. Minimal use.

514	41	10--20	1	2	L/T	96.30	58.00	59.00	26.0	pecked/ground		n	y			Broken shaped abrader. Portion of formed edge and tapered towards medial section. Polished on both sides.
515	18	50-60	1	2	L/T	149.80	80.00	72.00	16.0	ground	sandstone	n	n			Broken shaped abrader.
516	12	30-40	1	2	L/flaked	1.00	22.00	12.00	3.0	flaked	andesite	n	n			
517	12	30-40	1	1	L/flaked	15.50	47.00	26.50	13.0	flaked	andesite	n	n			Primary flake.
518	12	30-40	1	1	L/flaked	7.40	25.00	32.00	9.0	shatter	andesite	n	n			Cortex spall/shatter.
519	13	50-60	1	1	L/BF	30.30	74.00	54.00	6.0	flaked	slate	n	y			Large slate biface. Notched.
520	41	30-40	1	1	L/Core	28.30	47.00	32.00	16.0	flaked	andesite	n	n			Pebble core, rough.
521	41	30-40	1	1	L/flaked	0.05	14.00	8.00	0.05	flaked	slate	n	n			Tertiary flake.
522	41	30-40	1	1	L/BF	0.40	19.00	8.50	3.0	flaked	slate	n	y			Small flake groundaver.
523	41	30-40	1	1	L/flaked	0.70	13.00	16.00	4.0	flaked	siltstone	n	n			
524	27	30-40	1	1	L/T	1.10	28.00	17.00	2.5	flaked	andesite	n	y			Shaped unifacial tool. Utilization wear.
525	19	40-50	1	1	L/T	31.70	51.00	74.00	3.0	ground	slate	n	y			Classic ground slate knife.
526	41	10--20	1	1	L	2.10	37.00	19.00	2.0	ground	slate	n	y			Ground slate tool. Blank? Some use wear.
527	41	10--20	1	1	L/flaked	0.50	14.00	13.00	3.0	flaked	slate	n	n			
528	8	10--20	1	1	L/flaked	5.40	27.00	29.00	7.5	shatter	andesite	n	n			
529	24	10--20	1	2	L/T	30.00	89.00	28.00	9.0	ground	slate	y	y			Ground and shaped abrader fragment. Two sawn edges.
530	19	20-30	1	1	L/T	36.00	83.00	50.00	5.0	ground	slate	n	y			Ground slate knife with a groundaver bit.
531	14	80-90	1	1	L/flaked	13.70	32.00	30.00	7.0	flaked	slate	n	y			Unmodified slate tool with utilization wear.
532	40	20-30	1	1	L/flaked	0.20	15.00	8.00	1.0	flaked	quartz	n	?			Clear quartz flake.
533	33	50-60	1	2	BT	0.20	19.00	6.50	4.0	ground	bone	n	n			Bone point tip. Broken medially and at tip.
534	16	47	1	1	L/T	3.20	41.00	25.00	3.0	flaked/ground	slate	n	n			Biface blank.
535	33	60-75	1	1	L/Core	29.00	41.00	54.00	19.0	flaked	andesite	n	y			Core tool - utilized.
536	43	10--20	1	2	BT	2.30	36.00	9.00	7.0	ground	bone	n	n			Highly ground medial section of a shaped and tapered bone tool. Striations visible.
537	39	60-70	1	2	L/PP	4.30	33.00	17.00	6.5	flaked	andesite	n	n			Projectile point, near complete. Base snapped and tip broken. Contracting base visiible.
538	30	60-70	1	1	L/PP	1.80	26.00	20.00	3.0	flaked	chert	n	n			Complete projectile point. Dart/arrow point. Shouldered, corner notched with contracting stem.
539	37	50-60	1	1	L/Core	1.40	22.00	10.00	5.0	flaked	andestie	n	n			Microblade core - unidirectional.
540	17	30-50	1	1	L/T	12.10	61.00	26.00	6.0	flaked/ground	slate	n	n			Bifacially worked slate - blank?
541	43	20-30	1	2	L/PP	4.60	51.00	18.00	4.0	ground	slate	n	y			Facetted ground slate projectile point. Base and tipe broken -75% complete. May be exhausted and re-used as significant use wear along lateral margins.
542	34	33	1	2	L	8.90	50.00	16.00	6.0	ground	siltstone	n				Long thin rectangular shaped siltstone with one finished end. Fits "T" shaped.
543	43	20-30	1	1	L/BF	5.90	37.00	27.00	3.0	ground	sedimentary	n	y			Scraper/knife with worn groundaver bit. Lighter colour & different texture than slate. ground on both surfaces. Striations visible.

544	37	50-60	1	1	L/Core	4.60	39.00	18.00	9.0	flaked	andestie?	n	y			Core tool.
545	39	70-80	1	1	L/Core	16.80	31.50	44.00	11.0	flaked	siltstone	n	y			Core, scraper tool. Lots of wear on scraing edge.
546	19	30-40	1	1	L/T	2.50	57.00	22.00	1.0	ground	slate	n	y			Very thin, sharp groundaver tool.
547	19	30-40	1	1	L/T	1.20	24.00	16.00	2.0	ground	slate	n	y			Unifacial slate scraper. One lateral margin bevelled scraper edge.
548	38	20-30	1	1	L/flaked	1.40	26.50	16.00	4.0	flaked	quartz	n	?			Gorgeous clear quartz with a high lustre. Difficult to tell if utilized or worked due to ripply nature of material.
549	35	0--10	1	1	L	0.80	10.00	9.00	6.0		quartz	n	n			Nodule of quartz. Multi-faceted. Unsure if worked or just debitage.
550	38	60-70	1	1	L/PP	0.70	18.50	16.00	2.5	flaked	andesite	n	n			Projectile point. Complete. Small dart, straight shoulders, unfinished base.
551	35	30-40	1	1	L/Core	8.60	21.00	18.00	14.0	flaked	??	n	n			Unidirectional microblade core. Material? 6 blade scars.
552	43	50-60	1	1	L/flaked	0.90	30.00	12.00	2.0	flaked	slate	n	n			
553	43	50-60	1	1	L/T	1.30	21.00	23.00	1.0	ground	slate	n	y			Classic thumbnail scraper, semi-circular. Base crescent shaped.
554	36	20-30	1	1	L/T	0.05	11.00	6.00	0.05	flaked	andesite	n				Microblade.
555	36	20-30	1	2	L/flaked	1.00	16.00	16.00	3.0	flaked	andesite?	n	n			
556	37	10--20	1	1	L/BF	6.10	44.00	30.00	5.0	flaked	andesite?	n	n			Point blank.
557	43	40-50	1	1	L/T	20.00	58.50	38.00	6.0	ground	slate	n	n			Parially shaped ground slate abrader.
558	18	20-30	1	1	L/T	13.20	49.00	40.00	4.0	ground	slate	n	y			Ground slate knife.
559	45	60-70	1	2	L/T	45.70	50.00	61.00	14.0	ground	siltstone	n	n			Whale tail' shaped ground bifacial artifact. Anomalous. Basally notched flakedaring base tapering towards distal end. Broken medially. Object is rough - and unusual.
560	39	30-40	1	1	L/Core	67.70	60.00	41.00	24.0	flaked	chert	n	n			Chert core. Heat treated? Shows red crazing on cortical surface and hairline fractures.
561	22	20	1	1	L/T	110.30	104.00	39.00	20.0	ground	sandstone	n	n			Pestle, ground and shaped. Complete. Tapering from proximal end to a rounded point distally.
562	36	0--10	1	1	L/T	1.00	17.00	14.00	3.5	flaked	glass/quartz					Flaked glass or quartz. No platform but flakes taken off distally. Very smooth surfaces -
563	33	50-60	1	1	L/flaked	0.05	8.50	9.00	1.0	flaked	glass/quartz					Striations visible on one planar surface. A bevelled edge on one margin.
564	33	50-60	1	1	L/flaked	0.50	21.50	8.00	2.0	flaked	obsidian?					Blade. Dull black vitreous - obsidian? Lacks glassy characteristic unless wet. Velvetty in texture and obsidian like-quality.

Appendix 3: Faunal Analysis

Cat No.	EU/ST	DBS (cm)	n	Taxonomic Category	Element	Side and Aspect/Completeness	Wt (g)	Ln (mm)	Wd (mm)	Dp (mm)	Comments
109	54	20-30	2	Med. bird	ulna	left + right, distal 1/4	1.90	40.0	9.0	9.0	Requires larger comparative collection to identify (e.g., UVic). Left ulna diaphysis is crushed; right ulna diaphysis exhibits spiral fracture pattern. Likely Gallus gallus domesticus.
115	54	40-50	1	Odocoileus sp.	rib	proximal 1/5	2.30	58.0	9.0	7.0	
122	47	20-30	1	Odocoileus sp.	second phalanx	mostly complete	2.80	29.5	17.0	2.5	Cut marks, likely from a stone tool, near distal margin of body. Excavation damage (shovel trauma) at distal articulation.
124	47	40-50	1	Odocoileus sp.	astragalus	left, mostly complete	9.80	32.0	23.5	16.0	
125	47	40-50	1	Phoca vitulina	first phalanx, hind limb	complete	2.80	47.5	13.0	10.5	Mature individual - fused epiphyses. Chop mark(s) on proximal epiphysis.
127	51	10-20	1	Mammal	diaphysis	fragment	0.80	31.5	12.0	3.0	No visible modifications (does not appear worked).
129	44	60-70	1	Odocoileus sp.	first phalanx	complete	5.10	44.0	13.5	17.0	Burned over 3/4 of bone surface. Carnivore scavenging evidence, including 2 tooth puncture marks and additional tooth marks.
130	50	20-30	1	Osteichthyes	vertebra	fragment	0.05	7.5	8.7	5.0	
147	44	40-50	1	Med-lrg. mammal	diaphysis	fragment	0.70	19.5	7.5	3.0	Burned; damage undiagnostic.
148	50	20-30	1	Odocoileus sp.	first phalanx	complete	4.60	44.0	13.0	17.0	Heavy carnivore gnawing.
149	50	20-30	1	Odocoileus sp.	first phalanx	distal 1/5	2.00	17.0	11.0	12.0	
151	51	10-20	1	Odocoileus sp.	rib	distal fragment	0.30	26.0	13.0	4.0	
155	82	70-80	1	Med-lrg. mammal	innominate	fragment	6.10	61.0	25.0	19.0	In 2 pieces; deer-sized. Evidence for carnivore gnawing and some minor recovery damage.
156	82	70-80	2	Artiodactyl	radius	proximal articular surface fragment	1.10	12.0	9.0	7.5	Recovery damage; fragments of a single element.
159	82	70-80	1	Mammal	indeterminate	fragment	0.60	20.5	8.0	4.0	
160	82	70-80	1	Med-lrg. mammal	indeterminate	fragment	0.80	28.0	5.0	6.0	
161	82	70-80	1	Canis sp.	metacarpal IV	right, proximal 1/4	0.60	21.5	6.0	9.5	Burned.
163	82	70-80	1	Med-lrg. mammal	diaphysis	fragment	0.90	24.5	6.5	2.5	Burned.
166	55	20-30	1	Odocoileus sp.	femur	left, head fragment	5.10	38.5	21.0	26.0	Several carnivore tooth puncture marks.
167	BH4	N/A	1	Odocoileus sp.	radius	left, distal epiphysis	9.30	46.0	30.5	22.0	Some weathering.
168	82	0-20	1	Odocoileus sp.	humerus	left, distal articular surface	10.50	31.0	39.5	26.0	Carnivore tooth puncture mark on medial aspect.
173	83	25	1	Med-lrg. mammal	diaphysis	fragment	0.60	29.0	7.0	3.0	Broken bone point.
176	83	30-40	1	Lrg. mammal	indeterminate	fragment	3.30	27.0	18.0	17.0	Sawn with a metal tool. Possibly cow.

178	EU#1	30-35	1	Odocoileus sp.	humerus	left, distal epiphysis	16.40	40.0	38.0	39.0	Carnivore gnawing damage over much of the specimen, including a tooth puncture mark on medial aspect.
180	54	40-50	1	Canis sp.	metacarpal II	right, distal 9/10	1.50	49.5	7.0	7.0	Proximal epiphysis missing; carnivore tooth scoring and probable gnawing damage.
182	54	unknown	1	Med-lrg. mammal	cranial fragment		2.50	34.0	35.0	5.0	Possibly sawn.
184	53	60-70	1	Unidentified	diaphysis	fragment	0.90	38.0	9.0	3.5	Useware polishing visible on broken surface.
187	54	30-40	1	Med. bird	ulna	right, 1/2 diaphysis fragment	1.40	61.0	6.5	5.5	Spiral fracture pattern; possible carnivore tooth puncture mark. Cut marks on diaphysis near proximal epiphysis, that under high-power magnification (6.4-40x) appear made by a metal tool. May be Gallus gallus domesticus, and in that case tool marks from a metal, rather than stone, tool would be expected.
189	44	40-50	1	Med-lrg. mammal	innominate	fragment	3.00	37.5	20.5	9.5	Carnivore scavenging evidence, including tooth marks and crenulated edges.
193	EU#1	40-50	1	Med-lrg. mammal	diaphysis	fragment	1.70	24.0	13.0	5.5	Appears to be a fragment of a smashed long bone; deer-sized.
194	EU#1	30-40	1	Med-lrg. mammal	indeterminate	fragment	0.80	19.0	14.0	2.5	Likely a fragment of a smashed long bone. Either people or, slightly less likely, carnivores could have caused this kind of breakage.
196	63	10-20	7	Mammal	indeterminate	fragments	3.00	22.0	12.5	5.0	Associated with Cat #197. Weight combined, largest of all fragments measured. Burned/calcined, moderate to heavy weathering.
197	63	10-20	1	Sml-med. mammal	phalanx	proximal 3/4	0.10	13.0	6.0	4.5	Associated with Cat #196. Calcined; proximal epiphysis slightly damaged/weathered.
203	54	20-30	1	Bird	indeterminate	fragment	0.30	38.0	18.0	0.1	
206	EU#1	30-40	1	Artiodactyl	rib	fragment	0.90	25.0	12.5	6.0	Proximal portion of rib, grooved portion. No head. Associated with Cat #205. Adjacent to feature.
208	52	20-30	1	Odocoileus sp.	tibia	left, distal epiphysis	7.30	21.0	34.0	21.0	Cancellous tissue consumed through carnivore action ('scooped out' topography). Excavation damage on medial aspect.
211	49	10-20	1	Med-lrg. mammal	diaphysis	fragment	2.50	41.0	14.0	7.5	Likely ungulate. Impact fracture from hammerstone visible, resulting in bone breakage. Most likely evidence of

											processing for bone marrow/grease.
232	35	60-70	4	Med-lrg. mammal	diaphysis	fragments	4.80	33.0	12.0	12.5	One fragment is worked, with visible striations; another fragment is burned and heavily weathered. Remnant articular surface visible on largest fragment.
234	41	0-10	1	Odocoileus sp.	second phalanx	2/3 complete	0.70	24.0	11.0	7.0	
253	9	30-40	1	Odocoileus sp.	humerus	left, trochlea posterior fragment	1.70	21.0	17.0	16.0	
256	12	40-50	1	Sml-med. mammal	diaphysis	fragment	1.00	24.0	10.0	5.0	Largest fragment (of 2, see below) measured only, weight combined.
256	12	40-50	1	Odocoileus sp.	vertebra	left caudal articular process fragment	1.00	24.0	10.0	5.0	Largest fragment (of 2, see above) measured only, weight combined. Carnivore tooth puncture marks (n=2).
264	39	10-20	1	Med-lrg. mammal	diaphysis	fragment	2.10	42.0	13.0	6.0	No cut marks; deer-sized. Appears that it may be a fragment of a long bone smashed by carnivores. Slightly crenulated edge.
274	24	40-50	1	Odocoileus sp.	innominate	acetabulum fragment	1.80	23.0	18.0	13.0	Heavily weathered/damaged, perhaps by carnivore scavenging.
276	27	70-80	1	Mammal	diaphysis	fragment	0.20	11.0	7.0	4.0	Calcined.
280	55	0-20	1	Canis sp.	ulna	left, proximal 1/2	2.10	24.0	12.0	9.0	In 3 fragments, 2 of which join together. Unfused proximal epiphysis = juvenile individual.
285	11	0-10	1	Med-lrg. mammal	tibia	proximal epiphysis fragment	3.00	32.0	26.0	19.0	Deer sized. Carnivore gnawing damage.
289	6	40-90	1	Odocoileus sp.	calcaneous	right, proximal epiphysis fragment	2.20	25.0	17.0	14.0	
290	6	40-90	5	Mammal	diaphysis	fragments	2.50	23.0	17.0	7.5	Weight combined, largest of all fragements measured; burned.
294	6	30-40	1	Med-lrg. mammal	diaphysis	fragment	0.70	27.0	11.0	5.0	Possibly fragmented by carnivore action.
299	33	40-50	3	Med-lrg. bird	diaphysis	fragments	1.60	25.0	11.0	8.0	Burned, to varying extents.
301	33	40-50	1	Mammal	indeterminate	fragment	0.40	23.0	6.5	4.0	Burned, but not worked.
302	33	40-50	1	Bird	diaphysis	fragment	0.20	29.0	6.0	1.5	Burned; striations not diagnostic.
304	33	40-50	1	Med-lrg. mammal	indeterminate	fragment	0.20	15.5	3.0	4.5	Worked bone fragment; some polishing visible.
306	33	40-50	1	Odocoileus sp.	naviculo-cuboid	right, complete	5.20	28.5	28.5	13.0	
307	33	40-50	1	Med-lrg. mammal	vertebra	centrum fragment	3.70	31.0	16.5	17.0	Likely ungulate. Unfused articular surfaces = juvenile individual. Carnivore gnawing damage visible.
308	33	40-50	1	Odocoileus sp.	calcaneous	right, distal 1/5	3.10	29.5	17.0	18.0	Unfused epiphysis = juvenile individual.

309	33	40-50	1	Odocoileus sp.	calcaneous	right, proximal epiphysis fragment	2.80	26.0	22.0	21.0	Likely carnivore damage.
310	33	40-50	1	Odocoileus sp.	metapodial	condyle fragment	0.70	17.5	13.0	10.0	
311	33	40-50	1	Odocoileus sp.	metapodial	condyle fragment	2.30	-	-	-	Weight combined, largest fragement measured (of 2). Unfused = juvenile individual.
311	33	40-50	1	Med-lrg. mammal	indeterminate	epiphysis fragment	2.30	2.2	17.0	16.0	Weight combined, largest fragement measured (of 2).
312	33	40-50	1	Med-lrg. mammal	indeterminate	fragment	0.90	23.0	13.5	6.0	Moderately weathered.
314	33	40-50	1	Med-lrg. mammal	diaphysis	fragment	1.10	27.0	11.0	3.0	Burned.
330	21	10-20	1	Sml-med. mammal	indeterminate	fragment	0.30	20.0	9.0	4.0	Broken longitudinally.
344	22	60-70	1	Med-lrg. mammal	diaphysis	fragment	0.30	29.5	5.0	3.5	Carnivore gnawing damage on cortical surface. I do not believe this fragment has been worked. Its shape is due to the nature and direction of the force that caused the long bone to fragment.
345	22	60-70	1	Unidentified	indeterminate	fragment	0.10	10.0	11.0	2.0	
350	33	50-60	1	Artiodactyl	antler	fragment	0.80	36.0	8.0	5.0	In 2 pieces; worked antler.
351	33	50-60	1	Lrg. mammal	indeterminate	fragment	4.10	38.0	20.0	14.0	Perhaps a vertebral fragment? Some damage to cortical surface that appears recent.
352	33	50-60	2	Odocoileus sp.	cheek teeth	fragments	1.00	17.0	13.0	6.0	
353	33	50-60	1	Med-lrg. mammal	diaphysis	fragment	0.60	21.0	10.0	4.0	Bone shatter; probable result of a hammerstone impact. Most likely evidence of processing for bone marrow/grease.
355	33	50-60	1	Odocoileus sp.	metapodial	condyle fragment	0.40	14.0	14.0	8.0	
356	33	50-60	1	Odocoileus sp.	metatarsal	condyle fragment	1.10	23.0	19.0	8.0	
358	33	50-60	5	Med-lrg. mammal	indeterminate	fragments	4.30	18.0	9.0	9.0	Weight combined, largest of all fragements measured; cancellous bone.
361	33	50-60	1	Sml-med. mammal	indeterminate	fragment of cancellous bone	0.30	9.5	12.0	5.0	Breakage pattern is not diagnostic.
362	33	50-60	1	Med-lrg. mammal	diaphysis	fragment	1.30	28.5	15.0	5.0	The nature of cortical wear and broken edges suggests carnivore scavenging.
363	33	50-60	1	Med-lrg. mammal	diaphysis	fragment	0.30	14.5	9.0	4.0	Possible carnivore gnawing evidence; e.g., possible tooth puncture mark.
364	33	50-60	1	Bird	indeterminate	fragment	0.50	16.5	8.0	3.0	
365	33	50-60	1	Odocoileus sp.	rib	head fragment	1.80	-	-	-	Weight combined, largest of all fragments measured (Cat #365).
365	33	50-60	1	Med-lrg. mammal	diaphysis	fragment	1.80	25.0	16.5	6.0	Weight combined, largest of all fragments measured (Cat #365).

365	33	50-60	2	Mammal	indeterminate	fragments	1.80	-	-	-	Weight combined, largest of all fragments measured (Cat #365).
367	33	50-60	1	Med-lrg. mammal	diaphysis	fragment	2.70	41.0	16.0	6.0	Burned.
368	33	50-60	1	Med-lrg. mammal	diaphysis	fragment	0.50	19.0	4.0	5.0	Burned. Small notches visible on one margin are not diagnostic, although bone element most likely was modified during processing activities.
371	33	50-60	1	Unidentified	indeterminate	fragment	0.70	25.0	12.0	3.0	Possibly weathered mammal bone.
372	33	50-60	2	Bird or mammal	indeterminate	fragments	0.50	26.5	8.5	1.5	
373	33	50-60	1	Bird or sml. mammal	diaphysis	fragment	0.05	27.0	4.0	2.0	
374	33	50-60	1	Bird or sml. mammal	diaphysis	fragment	0.05	15.0	3.5	2.0	
375	33	50-60	1	Unidentified	indeterminate	fragment	0.20	13.5	11.0	2.0	
396	32	40-60	1	Odocoileus sp.	mandible	right, fragment including 2nd, 3rd, 4th lower premolars	7.70	24.0	56.0	9.0	Tooth ware not extensive.
397	32	40-60	1	Odocoileus sp.	astragalus	left, mostly complete	9.00	35.0	23.0	18.0	
398	32	40-60	1	Odocoileus sp.	astragalus	left, 1/3 complete	3.60	28.0	21.0	16.0	
399	32	40-60	1	Med-lrg. mammal	indeterminate	fragment	1.00	24.0	11.0	7.0	
400	32	40-60	1	Odocoileus sp.	mandible	fragment	1.80	31.0	13.0	6.0	
401	32	40-60	1	Sml-med. mammal	radius	proximal epiphysis fragment	0.60	18.0	6.5	8.0	Epiphysis is fused = mature. No clear indication of cause of breakage.
402	32	40-60	1	Med-lrg. mammal	indeterminate	fragment	1.30	38.0	9.0	3.5	Burned, but does not appear worked.
403	32	40-60	1	Odocoileus sp.	mandible	right, mandibular condyle	1.10	17.0	24.0	15.0	
404	32	40-60	1	Med-lrg. mammal	indeterminate	fragment	0.50	15.0	17.5	9.0	
405	32	40-60	1	Odocoileus sp.	rib	head fragment	0.80	21.0	13.0	10.0	Distal aspect sharply broken, but how this occurred cannot be determined.
406	32	40-60	1	Mammal	indeterminate	fragment	0.30	15.0	7.0	2.0	Does not appear worked.
409	32	40-60	1	Med. mammal	rib	fragment	0.70	29.0	9.0	3.0	Burned.
410	32	40-60	1	Med-lrg. mammal	diaphysis	fragment	0.50	12.0	7.0	4.0	Calcined.
411	32	40-60	2	Med-lrg. mammal	diaphysis	fragments	1.30	22.5	17.0	3.5	Both fragments burned. The larger fragment is a bone flake produced by a percussion impact = evidence of processing for bone marrow/grease.
413	32	70-77	1	Odocoileus sp.	calcaneous	left, proximal epiphysis fragment	3.10	31.5	23.0	22.0	Likely carnivore damage.
414	32	70-77	2	Med-lrg. mammal	innominate	fragment	2.60	32.0	17.0	7.0	Weight combined, largest fragment measured; fragments do not mend. Deer-sized. Extensive carnivore scavenging damage.

415	32	70-77	1	Med. mammal	rib	fragment	0.40	22.0	9.0	2.0	
417	32	70-77	1	Mammal	diaphysis	fragment	0.40	15.0	8.0	3.0	Calcined.
436	34	60-70	1	Med-lrg. mammal	indeterminate	fragment	0.60	14.0	11.0	4.0	Fragmented by force (e.g., trampling, butchery or carnivore crushing action).
456	33	60-75	1	Odocoileus sp.	rib	proximal fragment	1.00	21.0	22.0	11.0	Rib head missing articular surfaces; burned.
458	33	60-75	1	Odocoileus sp.	thoracic vertebra	transverse process fragment	0.70	29.0	12.0	4.0	
465	22	20-30	2	Bird or sml. mammal	indeterminate	fragments	0.20	11.0	13.0	2.0	Burned/calcined.
476	24	20-30	1	Canis sp.	mandible	left, mandibular condyle	1.50	19.0	22.0	15.0	Two carnivore tooth puncture marks. Larger individual.
479	34	50-60	1	Med-lrg. mammal	indeterminate	fragment	1.40	24.0	13.0	13.0	Heavily weathered/damaged.
492	82	60-70	1	Canis sp.	caudal vertebra	complete	0.70	16.0	9.0	8.0	
533	33	50-60	1	Mammal	diaphysis	fragment	0.20	19.0	6.5	4.0	Bone point tip. Broken medially and at tip.
536	43	10-20	1	Mammal	diaphysis	fragment	2.30	36.0	9.0	7.0	Highly ground medial section of a shaped and tapered bone tool. Striations visible.

Appendix 4: Shovel Test Log

DjSc-1 Shovel Test Log Permit # 2013-0162

Test #	Depth below surface (cm)	Cultural	Intact	Matrix Description
1	0-5cm	Neg	Yes	A horizon, litter mat.
1	5--10	Neg	Yes	Beach gravels pea size (85%) with some larger angular rocks (10%).
1	10-20+	Neg	Yes	Rock, large boulders.
2	0-7	Neg	Yes	A horizon, litter mat.
2	7--20	Neg	Yes	30% larger angular boulders, pea beach gravels 10%.
2	20-30	Neg	Yes	30% larger angular boulders, pea beach gravels 10%.
2	30-40	Neg	Yes	30% larger angular boulders, pea beach gravels 10%, tan silts (C horizon).
3	0-15	Neg	Yes	A horizon, litter mat.
3	15-25	Neg	Yes	Loose dark brown silts mixed with pea beach gravels (15%), and a small amount of larger angular boulders. Sediment changing to lighter orange.
3	25-40	Neg	Yes	Increase in silts becoming tan couloured. 20% pea gravel.
4	0-15	Neg	Yes	A horizon, litter mat.
4	15-35	Neg	Yes	Gold/yellow sand.
4	35-45	Neg	Yes	Probed bottom of test. Golden sand.
4	45-55	Yes	Yes	Probed: Golden sand, at 50 cm crushed clam shell.
4	55-65	Yes	Yes	Probed: Golden sand, at 50 cm crushed clam shell.
4	56-75	Yes	Yes	Darker sand mixed with larger fragments of clam shell.
4	75-86	Neg	Yes	Yellow/gold sand, no shell.
5	0-10	Neg	Yes	A horizon, litter mat.
5	10--20	Pos	Yes	Sand, 1 bone fragment.
5	20-30	Neg	Yes	Sand.
5	30-40	Neg	Yes	Sand
5	40-50	Pos	Yes	Yellow sand, faunal fragments, lithic flakes, 2 FBR.
5	60-90	Neg	Yes	Yellow sand, sterile.
6	0-5	Neg	Yes	A horizon, litter mat.
6	5--10	Neg	Yes	Yellow sand.
6	10--20	Neg	Yes	Yellow sand.
6	20-30	Neg	Yes	Yellow sand.
6	30-40	Neg	Yes	Yellow sand.
6	40-50	Pos	Yes	Yellow sand, faunal fragments, 4 pcs. FBR.
6	50-60	Pos	Yes	Yellow sand, faunal fragments, 6 pcs. FBR.
6	60-70	Neg	Yes	Probe: yellow sand.
6	70-80	Neg	Yes	Probe: yellow sand.
6	80-90	Neg	Yes	Probe: yellow sand.

7	0-8	Neg	Yes	A horizon, litter mat.
7	8--18	Pos	Yes	Black greasy midden. Crushed n. littleneck and butter clams. 2 FBR.
7	18+	Pos	Yes	Abandoned due to root.
8	0-10	Neg	Yes	A horizon, litter mat.
8	10--20	Neg	Yes	Yellow sand.
8	20--30	Neg	Yes	Yellow sand.
8	30-40	Neg	Yes	Yellow sand.
8	40-50	Neg	Yes	Yellow sand.
9	0-10	Pos	Yes	A horizon, litter mat.
9	10--20	Pos	Yes	Black silts mixed with sand.
9	20-30	Pos	Yes	Black silts. Large boulders...feature??
9	30-40	Pos	Yes	Boulders continuing. Abandoned.
10	0-12	Neg	Yes	A horizon, litter mat.
10	12--20	Neg	Yes	Yellow sand.
10	2030	Neg	Yes	Yellow sand.
10	30-40	Neg	Yes	Yellow sand.
10	40-50	Neg	Yes	Probe: Yellow sand.
10	50-60	Neg	Yes	Probe: Yellow sand.
10	60-70	Neg	Yes	Probe: Yellow sand.
10	70-80	Neg	Yes	Probe: Yellow sand.
10	80-90	Neg	Yes	Probe: Yellow sand.
11	0-10	Neg	Yes	Sand and silt matrix. Faunal fragments.
11	10--20	Neg	Yes	Sand and silt matrix. Faunal fragments, 1 pc. FBR.
11	20-30	Neg	Yes	Yellow sand changing to clay at 30 cm. and mixed with lots of rock, angular cobbles
11	30-40	Neg	Yes	More compact. Increasing clay content, angular cobbles (20%), yellow sand.
11	40-50	Neg	Yes	Clay, yellow sand, and angular cobbles (20%).
11	50-60	Neg	Yes	Clay, yellow sand, and angular cobbles (20%).
12	0-10	Pos	Yes	A horizon, litter mat. 1 flake.
12	10--12	Neg	Yes	A horizon, litter mat.
12	12--20	Neg	Yes	Yellow sand, sterile.
12	20-30	Neg	Yes	Yellow sand, sterile.
12	30-40	Neg	Yes	Yellow sand, sterile.
12	40-50	Pos	Yes	Yellow sand, 1 pc of FBR, 1 slate fragment, 1 possible flake.
12	50-60	Neg	Yes	Probe: yellow sand.
12	60-70	Neg	Yes	Probe: yellow sand.
12	70-80	Neg	Yes	Probe: yellow sand.
12	80-90	Neg	Yes	Probe: yellow sand.
13	0-10	Pos	Yes	Fine black organic silts, wetland sediment. This test located 10 m. N of stream/former wetland.
13	10--20	Pos	Yes	Fine black organic silts, wetland sediment. FBR, 1 slate fragment.
13	20-30	Pos	Yes	Fine black organic silts, wetland sediment.

13	30-40	Pos	Yes	Fine black organic silts, wetland sediment.
13	40-50	Pos	Yes	Fine black organic silts, wetland sediment.
13	50-60	Pos	Yes	Sediment changing to yellow sand. Collected 1 flake.
13	60-79	Neg	Yes	Yellow sand.
14	0-10	Neg	Yes	A horizon, litter matt.
14	10--20	Pos	Disturbed	Root disturbance, dark brown silts, occasional shell fragment.
14	20-30	Pos	Yes	Brown silts, occasional shell fragement. 1 slate fragment.
14	30-40	Pos	Yes	Shell fragments, black organic wetland sediment.
14	40-50	Pos	Yes	Shell fragments, black organic wetland sediment.
14	50-60	Pos	Yes	Shell fragments, black organic wetland sediment.
14	60-70	Pos	Yes	Shell fragments, black organic wetland sediment.
14	80-90	Pos	Yes	Groundwater seepage. Yellow clay mixed with boggy matrix. Slate artifact at this level.
15	0-10	Pos	Yes	Black silts, wetland sediment. Rounded cobbles, 1 pc FBR.
15	10--20	Neg	Yes	Black silts, wetland sediment.
15	20-30	Neg	Yes	Black silts, wetland sediment.
15	30-40	Neg	Yes	Black silts, wetland sediment.
15	40-50	Neg	Yes	Black silts, wetland sediment.
15	50-60	Neg	Yes	Probed at 65 cm. Changing from black silts to sand.
15	60-70	Neg	Yes	Probe: Mixture of silts/sand.
15	70-80	Neg	Yes	Probe:Yellow sand.
15	80-90	Neg	Yes	Probe:Yellow sand.
15	90-100	Neg	Yes	Probe:Yellow sand.
15	100-110	Neg	Yes	Probe:Yellow sand.
15	110-120	Neg	Yes	Probe:Yellow sand.
16	0-10	Neg	Yes	Black silts, wetland sediment.
16	10--20	Neg	Yes	Black silts, wetland sediment.
16	20-30	Neg	Disturbed	Black silts, wetland sediment. Root disturbance.
16	30-40	Neg	Yes	Black silts, wetland sediment.
16	40-50	Pos	Yes	Black silts, wetland sediment. Biface collected at 47cm dbs.
16	50-60	Neg	Yes	Black silts, wetland sediment.
16	60-70	Neg	Yes	Black silts, wetland sediment.
16	70-80	Neg	Yes	Black silts, wetland sediment.
16	80-90	Neg	Yes	Black silts, wetland sediment.
16	90-100	Neg	Yes	Black silts, wetland sediment.
16	100-110	Neg	Yes	Black silts, wetland sediment.
17	0-10	Neg	Yes	Black silts, wetland sediment.
17	10--20	Neg	Yes	Black silts, wetland sediment.
17	20-30	Neg	Yes	Tan sands
17	30-40	Neg	Yes	Tan sands
17	40-50	Neg	Yes	Tan sands

17	50-60	Neg	Yes	Tan sands
17	60-70	Neg	Yes	Tan sands
17	70-80	Neg	Yes	Tan sands
17	80-90	Neg	Yes	Tan sands
17	90-95	Neg	Yes	Tan sands
18	0-15	Neg	Yes	Dark brown silts.
18	15-20	Neg	Yes	Tan sands.
18	20-30	Neg	Yes	Tan sands.
18	30-40	Neg	Yes	Tan sands.
18	40-50	Neg	Yes	Tan sands.
18	50-60	Pos	Yes	Tan sands. Shaped sandstone abrader. Started probing at 53 cm.
18	60-70	Neg	Yes	Tan sands.
18	70-80	Neg	Yes	Tan sands.
18	80-90	Neg	Yes	Tan sands.
19	0-10	Neg	Yes	Dark, black, silts.
19	10--20	Neg	Yes	Sand.
19	20-30	Pos	Yes	Sand, Ground slate knife.
19	30-40	Pos	Yes	Ground slate graver, flake, black silts.
19	40-50	Pos	Yes	Black silts. Slate knife.
19	50-60	Neg	Yes	Tan sands.
19	60-70	Neg	Yes	Probe: tan sands.
19	70-80	Neg	Yes	Probe: tan sands.
19	80-90	Neg	Yes	Probe: tan sands.
19	90-100	Neg	Yes	Probe: tan sands.
19	100-110	Neg	Yes	Probe: tan sands.
19	110-120	Neg	Yes	Probe: tan sands.
19	120-130	Neg	Yes	Probe: tan sands.
19	130-140	Neg	Yes	Probe: tan sands.
19	140-165	Neg	Yes	Groundwater, sand.
20	0-5	Neg	Yes	A horizon. Possible flake.
20	5--10	Neg	Yes	Very fine, light tan sands. Aeolian.
20	10--20	Neg	Yes	Very fine, light tan sands. Aeolian.
20	20-30	Neg	Yes	Very fine, light tan sands. Aeolian.
20	30-40	Neg	Yes	Very fine, light tan sands. Aeolian.
20	40-50	Neg	Yes	Very fine, light tan sands. Aeolian.
20	50-60	Neg	Yes	Very fine, light tan sands. Aeolian.
20	60-74	Neg	Yes	Probe: Very fine, light tan sands. Aeolian.
21	0-10	Neg	Yes	A horizon.
21	10--18	Neg	Yes	Dark, black, silts. Wetland sediments.
21	18-30	Neg	Yes	Tan sand.

21	30-40	Neg	Yes	Tan sand.
21	40-50	Neg	Yes	Root disturbance, tan sand.
21	50-60	Neg	Yes	Tan sand, black sediment at 60 cm dbs. Stopped here to leave open for possible EU.
22	0-85	Pos	?	Black silts - cultural. No shell or stratigraphy. Several processed bone fragments and slate fragements.
23	0-10	Neg	Disturbed	Road crush. Quarried gravel.
23	10--20	Neg	Disturbed	Compact, gravels, black silts.
23	20-30	Neg	Disturbed	Compact, gravels, black silts.
23	30-40	Neg	Disturbed	Compact, gravels, black silts.
23	40-50	Neg	Disturbed	Compact, gravels, black silts.
23	50-60	Neg	Disturbed	Compact, gravels, black silts.
23	60-70	Neg	Disturbed	PVC pipe found at 63 cm dbs. Abandoned.
24	0-10	Neg	Yes	Black silts, wetland sediment.
24	10--20	Neg	Yes	Black silts, wetland sediment.
24	20-30	Neg	Yes	Brown sands.
24	30-40	Neg	Yes	Brown sands.
24	40-50	Neg	Yes	Tan sand.
24	50-55	Neg	Yes	Band of black silt.
24	55-65	Neg	Yes	Yellow sand.
24	65-75	Neg	Yes	Probe: Black silts found in a band at 72 cm dbs.
24	75-85	Neg	Yes	Yellow sand.
24	85-100	Neg	Yes	Black band of silt (2 cm) found at 95 cm.
25	0-5	Neg	Disturbed	White quarry gravel/road crush.
25	5--10	Neg	Disturbed	Road crush. Quarried gravel.
25	10--15	Neg	Disturbed	Another layer of road crush, distinct from above layers.
25	15-25	Neg	?	Dark brown silts mixed with angular gravels, beach gravel. Very compacted.
25	25-40	Neg	?	Dark brown silts mixed with angular gravels, beach gravel. Very compacted, stopped test.
26	0-20	Neg	Yes	A horizon.
26	20--25	Neg	Yes	Tan sands.
26	25+	Neg	Yes	Solid hardpan and rock. Stopped test.
27	0-15	Neg	Disturbed	Three layers of different road crush.
27	15-25	Neg	Yes	No differentiation in matrix. Black loamy sediment.
27	25-30	Neg	Yes	No differentiation in matrix. Black loamy sediment.
27	30-40	Neg	Yes	No differentiation in matrix. Black loamy sediment.
27	40-50	Neg	Yes	No differentiation in matrix. Black loamy sediment.
27	50-60	Neg	Yes	No differentiation in matrix. Black loamy sediment.
27	60-70	Neg	Yes	No differentiation in matrix. Black loamy sediment.
27	70-75	Pos	Yes	No differentiation in matrix. Black loamy sediment. Found 1pc of shell and 1 calcined bone fragment at 73 dbs. Can't get any deeper with shovel and probe will not penetrate.
28	0-10	Neg	Yes	A horizon.
28	15-25	Neg	Yes	No differentiation in matrix. Black loamy sediment.

28	25-30	Neg	Yes	No differentiation in matrix. Black loamy sediment.
28	30-40	Neg	Yes	No differentiation in matrix. Black loamy sediment.
28	40-50	Neg	Yes	No differentiation in matrix. Black loamy sediment.
28	50-60	Neg	Yes	No differentiation in matrix. Black loamy sediment.
28	60-70	Neg	Yes	No differentiation in matrix. Black loamy sediment.
29	0-10	Neg	Yes	Dark brown silts.
29	10--20	Neg	Yes	Dark brown silts.
29	20-30	Neg	Yes	Dark brown silts.
29	30-40	Neg	Yes	At 33 cm dbs changes to yellow sand.
29	40-50	Neg	Yes	Yellow sand.
29	50-60	Neg	Yes	Yellow sand.
29	60-70	Neg	Yes	Yellow sand.
29	70-73	Neg	Yes	Yellow sand. Dark brown silts at 73 cm dbs.
30	0-27	Neg	Yes	A horizon.
30	27-40	Neg	Yes	Dark brown silts, increasing sand.
30	40-50	Neg	Yes	Dark brown silts, increasing sand.
30	50-57	Neg	Yes	Dark brown silts, increasing sand.
30	57-60	Pos	Yes	Black silts. At 60 cm dbs found a complete chert projectile point.
30	60-70	Pos	Yes	Lighter brown sandy silts.18 flakes and 1 bone fragment.
30	70-80	Pos	Yes	Dark silts, high organic content.
31	0-10	Neg	Disturbed	Concrete chunks.
31	10--20	Neg	Yes	Brown loamy silts.
31	20-30	Neg	Yes	Brown loamy silts.
31	30-40	Neg	Yes	Brown loamy silts.
31	40-50	Neg	Yes	Brown loamy silts.
31	50-60	Neg	Yes	Brown loamy silts.
31	60-70	Pos	Yes	Brown loamy silts. 1 calcined bone fragment at 68 cm dbs.
32	0-25	Pos	Yes	A horizon. Root disturbed.
32	25-40	Pos	Yes	Brown silts/sand dark coloured, 20% beach pebbles.
32	40-50	Pos	Yes	Brown silts/sand dark coloured, 20% beach pebbles. Est. 30 faunal fragments, several flakes.
32	50-60	Pos	Yes	Brown silts/sand dark coloured, 20% beach pebbles. Est. 30 faunal fragments, several flakes.
32	60-77	Pos	Yes	Brown silts/sand dark coloured, 20% beach pebbles. Est. 20 faunal fragments, several flakes.
33	0-25	Pos	Yes	A horizon, root disturbance.
33	25-35	Pos	Yes	Lighter grey matrix with beach pebbles and some larger rock.
33	35-40	Pos	Yes	Tan ashy matrix mixed with brown silts.
33	40-50	Pos	Yes	Darker black silts. 40 faunal fragments, 1 flake.
33	50-54	Pos	Yes	Layer of crushed shell (5-10%).
33	54-60	Pos	Yes	Black silts, no shell. 80 faunal fragments, 1 bone point fragment, 1 clear quartz microblade/flake, 1 other flake.
33	60-62	Pos	Yes	Grey ash.

33	62-72	Pos	Yes	Black silts. 20-30 faunal fragments.
34	0-20	Pos	?	Lots of compacted road crush.
34	20-30	Pos	?	Lighter brown silts/sand matrix.
34	30-40	Pos	?	Lighter brown silts/sand matrix. At 33 cm dbs found very symmetrical ground stone object - broken.
34	40-50	Pos	?	Lighter brown silts/sand matrix. Faunal fragments.
34	50-60	Pos	?	Lighter brown silts/sand matrix. Faunal fragments.
34	60-65	Pos	?	Lighter brown silts/sand matrix. Faunal fragments. Flakes.
35	0-10	Pos	yes	A horizon, 2 faunal fragments, 1 pc clear quartz.
35	10--15	Pos	yes	Root disturbance.
35	15-26	Pos	yes	Light grey silt/sand/ash. Raw chert pebble.
35	20-30	Pos	yes	Darker brown/orange silts/sand. Mottled.
35	30-40	Pos	yes	Darker brown/orange silts/sand. Mottled. Microblade core.
35	40-50	Pos	yes	Darker brown/orange silts/sand. Mottled. 1 faunal fragment, 3 flakes.
35	50-60	Pos	yes	Darker brown/orange silts/sand. Mottled. 5 faunal fragments.
35	60-70	Pos	yes	Grey sand (ash?). Mottled. 4 faunal fragments, 3 flakes.
35	70-74	Pos	yes	Grey sand (ash?).
36	0-5	Pos	yes	Road crush. Quarried gravel.
36	5--10	Pos	yes	A horizon.
36	10--20	Pos	yes	Burned root.
36	20--30	Pos	yes	Burned root.
36	30-40	Pos	yes	Orange sand.
36	40-50	Pos	yes	Orange sand.
36	50-60	Pos	yes	Orange sand.
36	60+	Pos	yes	Change to light tan sand.
37	0--10	Pos	yes	A horizon.
37	10--20	Pos	yes	Orange sand.
37	20--30	Pos	yes	Orange sand.
37	30-40	Pos	yes	Light tan sand.
37	40-50	Pos	yes	Light tan sand.
37	50-60	Pos	yes	Light tan sand.
37	60-70	Pos	yes	Light tan sand.
38	0--10	Pos	Disturbed	Root disturbance.
38	10--20	Pos	Disturbed	Root disturbance.
38	20-30	Pos	Disturbed	Root disturbance.
38	30-40	Pos	Disturbed	Root disturbance.
38	40-50	Pos	Disturbed	Tan silt/ashy-like matrix. Aeolian?
38	50-60	Pos	Disturbed	Tan silt/ashy-like matrix. Aeolian?
38	60-70	Pos	Disturbed	Tan silt/ashy-like matrix. Aeolian?
39	0--10	Pos	Disturbed	Black silts, shell midden.
39	10--25	Pos	Disturbed	Black silts, shell midden.

39	25-35	Pos	Disturbed	Midden, root disturbed.
39	35-45	Pos	Disturbed	Tan sand.
39	45-55	Pos	Disturbed	Tan sand.
39	55-65	Pos	Disturbed	Tan sand.
39	65-80	Pos	Disturbed	Tan sand.
40	0--10	Pos	Disturbed	Midden, black organic loam mixed in with A horizon.
40	10--15	Pos	Disturbed	Midden, root disturbed.
40	15-25	Pos	Disturbed	Yellow, tan/grey sand.
40	25-35	Pos	Disturbed	Yellow, tan/grey sand.
40	35-45	Pos	Disturbed	Yellow, tan/grey sand.
40	45-55	Pos	Disturbed	Yellow, tan/grey sand.
40	55-70	Pos	Disturbed	Yellow, tan/grey sand.
41	0-10	Neg	Indeterminate	Black organic silts - midden. Few shell fragments.
41	10--20	Neg	Indeterminate	Black organic silts - midden.
41	20-30	Neg	Disturbed	Yellow/gold sand.
41	30-40	Neg	Disturbed	Yellow/gold sand.
41	40-50	Neg	Disturbed	Yellow/gold sand.
41	50-60	Neg	Disturbed	Yellow/gold sand.
41	60-70	Neg	Disturbed	Yellow/gold sand.
42	0-10	Neg	Disturbed	Disturbed by fire.
42	10--20	Neg	Disturbed	Cement footing in E wall of test, disturbed by fire.
42	20-30	Neg	Disturbed	Cement footing, disturbed by fire. Thin skiff of gravel/crush. Black organic silts with very well sorted beach gravel.
42	30-40	Neg	Indeterminate	Black organic silts with very well sorted beach gravel.
42	40-50	Neg	Indeterminate	Black organic silts with very well sorted beach gravel.
42	50-60	Neg	Indeterminate	Black organic silts with very well sorted beach gravel.
42	60-70	Neg	Indeterminate	Black organic silts with very well sorted beach gravel.
43	0--15	Pos	Disturbed	Fire debris.
43	15--20	Pos	Yes	Beach gravel with greasy black organic silts, 10% shell, 85 % beach gravel. Bone artifact.
43	20-30	Pos	Yes	Beach gravel with greasy black organic silts, 10% shell, 85 % beach gravel. Broken ground slate facetted projectile point.
	30-40	Pos	Yes	Beach gravel with greasy black organic silts, 10% shell, 85 % beach gravel.
43	40-50	Pos	Yes	Beach gravel with greasy black organic silts, 10% shell, 85 % beach gravel.
43	50-60	Pos	Yes	Beach gravel with greasy black organic silts, 10% shell, 85 % beach gravel.
43	60-70	Pos	Yes	Beach gravel with greasy black organic silts, 10% shell, 85 % beach gravel.
44	0--28	Pos	Disturbed	Fire debris.
44	28--40	Pos	?	"Classic" shell midden, whole littleneck clam 25%.
44	40-50	Pos	?	"Classic" shell midden, whole littleneck clam 25%.
44	50-65	Pos	Disturbed	PVC pipe in E wall. "Classic" shell midden, whole littleneck clam 25%. Root disturbed.
44	65-75	Pos		Less shell, black organic silts continue.

45	0-15	Pos	Disturbed	Fire debris.
45	15-40	Pos	Disturbed	Mixed beach gravels (85%) with black organic silts and modern debris.
45	40-50	Pos	Yes	Beach gravel (90%) with black organic silts, 5% shell.
45	50-60	Pos	Yes	Beach gravel (90%) with black organic silts, 5% shell.
45	60-75	Pos	Yes	Beach gravel (90%) with black organic silts, decreasing shell. "Whale tail" biface, 3 pcs. FBR.
46	0-35	Pos	Disturbed	Compacted road crush mixed with compacted black organics.
46	35-45	Pos	Indeterminate	Beach gravels (90%) with black organic silts.
46	45-55	Pos	Indeterminate	Beach gravels (90%) with black organic silts.
46	55-65	Pos	Indeterminate	Beach gravels (90%) with black organic silts.
46	65-80	Pos	Indeterminate	Beach gravels (90%) with black organic silts.
47	0-10	Pos	Disturbed	A horizon, black silts - no shell.
47	10--20	Pos	Yes	Clam shell 15%, large and small fragments. Black silts.
47	20-30	Pos	Yes	Well sorted beach gravels (90%) mixed with black silts.
47	30-40	Pos	Yes	Well sorted beach gravels (90%) mixed with black silts.
47	40-50	Pos	Yes	Well sorted beach gravels (90%) mixed with black silts.
47	50-60	Pos	Yes	Well sorted beach gravels (90%) mixed with black silts.
47	60-70	Pos	Yes	Well sorted beach gravels (90%) mixed with black silts.
48	0-10	Pos	Yes	Black silts, shell midden.
48	10--20	Pos	Yes	Black silts, shell midden.
48	20-30	Pos	Yes	Black silts, shell midden.
48	30-40	Pos	Yes	Black silts, shell midden.
48	40-50	Pos	Yes	Beach gravels (90%) with black organic silts.
48	50-60	Pos	Yes	Beach gravels (90%) with black organic silts.
48	60-75	Pos	Yes	Beach gravels (90%) with black organic silts.
49	0-10	Pos	Disturbed	Brown silts, less than 2% shell fragments.
49	10--20	Pos	Disturbed	Brown silts, less than 2% shell fragments.
49	20-30	Pos	Disturbed	Brown silts, less than 2% shell fragments.
49	30-40	Pos	Disturbed	Brown silts, less than 2% shell fragments.
49	40-50	Pos	Disturbed	Brown silts, less than 2% shell fragments.
49	50-60	Pos	Disturbed	Brown silts, less than 2% shell fragments.
49	60-70	Pos	Disturbed	Brown silts, less than 2% shell fragments.
50	0-10	Pos	Disturbed	Very little A horizon, beach gravels, 2% shell, brown silts.
50	10--20	Pos	Disturbed	Well sorted beach gravels (90%) mixed with brown silts, 2% shell fragments.
50	20-30	Pos	Disturbed	Well sorted beach gravels (90%) mixed with brown silts, 2% shell fragments. Historic debris.
50	30-40	Pos	Yes	Well sorted beach gravels (90%) mixed with brown silts, 2% shell fragments.
50	40-50	Pos	Yes	Well sorted beach gravels (90%) mixed with brown silts, 2% shell fragments.
50	50-60	Pos	Yes	Well sorted beach gravels (90%) mixed with brown silts, 2% shell fragments.
50	60-70	Pos	Yes	Well sorted beach gravels (90%) mixed with brown silts, 2% shell fragments.
50	70-82	Pos	Yes	Well sorted beach gravels (90%) mixed with brown silts, 2% shell fragments.
51	0-15	Neg	?	A horizon.

51	15-25	Neg	?	Black silts, beach gravels (90%)..
51	25-40	Neg	Yes	Black silts, beach gravels (90%)..
52	0-10	Neg	Yes	A horizon.
52	10--20	Neg	Yes	Dark brown silts mixed with beach pebbles.
52	20-23	Pos	Yes	Thin layer of shell.
52	23-48	Pos	Yes	Brown silts, beach pebbles.
52	48-60	Pos	Yes	Brown silts, beach pebbles.
52	60-70	Neg	Yes	Brown silts, beach pebbles.
52	70-82	Neg	Yes	Brown silts, beach pebbles.
53/EU1	0-10	Neg	Yes	A horizon.
53/EU1	10--35	Pos	Disturbed	Fill/disturbed.
53/EU1	35-40	Pos	Yes	Mottled brown silts changing to intact midden.
53/EU1	40-45	Pos	Yes	Midden/hearth.
53/EU1	45-55	Pos	Yes	Crushed clam with mottled black silts, charcoal.
53 EU1	55-65	Pos	Yes	Crushed clam and grey ash. FBR.
53/EU1	65-75	Pos	Yes	Grey burnt clam shell, fine ash.
53/EU1	75-85	Pos	Yes	Oxidized orange gravels mixed with silts changing to dark brown silts mixed with gravel (sterile).
53/EU1	85-100	Pos	Yes	Oxidized orange gravels mixed with silts changing to dark brown silts mixed with gravel (sterile).
54	0-15	Pos	Disturbed	Imported sand.
54	15-25	Pos	Indeterminate	Midden.
54	25-35	Pos	Yes	Midden, including a few mussell shell fragments.
54	35-45	Pos	Yes	Changing to beach gravels mixed with decreasing midden.
54	45-55	Pos	Yes	Beach gravels (90%) with black organic silts.
54	55-65	Pos	Yes	Beach gravels (90%) with black organic silts.
54	65-75	Pos	Yes	Beach gravels (90%) with black organic silts.
55	0-10	Pos	Disturbed	Disturbed A horizon.
55	10--20	Pos	Disturbed	Historic debris.
55	20-30	Pos	Disturbed	Historic debris.
55	30-45	Pos	Yes	Intact midden.
55	45-55	Neg	Yes	Brown silts, no organics.
55	55-65	Neg	Yes	Beach gravels (90%) with black organic silts.
55	65-80	Neg	Yes	Beach gravels (90%) with black organic silts.
56	0--20	Neg	Yes	A horizon, litter mat.
56	20-30	Pos	Yes	Fine tan sand. 2 pcs. FBR.
56	30-40	Pos	Yes	Fine tan sand. 3 pcs. FBR.
56	40-50	Neg	Yes	Orange sand.
56	50-60	Neg	Yes	Orange sand.
56	60-70	Neg	Yes	Orange sand.
56	70--80	Neg	Yes	Probe: orange sand.
56	80-90	Neg	Yes	Probe: orange sand.

57	0-10	Pos	Yes	A horizon, litter mat. A few shell fragments.
57	10--20	Pos	Yes	Tan sand. 5 FBR fragments.
57	20-30	Neg	Yes	Tan sand.
57	30-40	Neg	Yes	Tan sand.
57	40-50	Neg	Yes	Tan sand.
57	50-60	Neg	Yes	Tan sand.
57	60-70	Neg	Yes	Tan sand.
57	70-80	Neg	Yes	Tan sand.
57	80-90	Neg	Yes	Tan sand.
57	90-100	Neg	Yes	Tan sand.
58	0-25	Neg	Yes	Duff.
58	25-40	Pos	Yes	Lighter aeolian sand. 1 bone fragment, a few slate fragments.
58	40-60	Neg	Yes	Orange sand.
58	60-80	Neg	Yes	Probe: orange sand.
58	80-85	Neg	Yes	Probe: Lighter tan sands.
59	0-10	Neg	Yes	Duff.
59	10--20	Neg	Yes	Tan sands.
59	20-30	Neg	Yes	Tan sands.
59	30-40	Neg	Yes	Tan sands.
59	40-50	Neg	Yes	Tan sands.
59	50-60	Neg	Yes	Tan sands.
59	60-70	Neg	Yes	Tan sands.
59	70-85	Neg	Yes	Tan sands.
60	0--20	Neg	Yes	Duff.
60	20-30	Pos	Yes	Sands, tan and orange. 3 pcs. FBR.
60	30-40	Neg	Yes	Orange sand.
60	40-50	Neg	Yes	Orange sand.
60	50-60	Neg	Yes	Orange sand.
60	60-80	Neg	Yes	Probe: Orange sands.
61	0-10	Neg	Yes	Tan sand.
61	10--20	Neg	Yes	Tan sand.
61	20-30	Neg	Yes	Tan sand.
61	30-40	Neg	Yes	Tan sand.
61	40-50	Neg	Yes	Tan sand.
61	50-60	Neg	Yes	Tan sand.
61	60-70	Neg	Yes	Tan sand.
61	70-80	Neg	Yes	Probe:Tan sand.
61	80-90-	Neg	Yes	Probe:Tan sand.
61	90-100	Neg	Yes	Probe:Tan sand.
62	0-20	Neg	Yes	Duff.

62	20-30	Neg	Yes	Tan sand.
62	30-40	Neg	Yes	Tan sand.
62	40-50	Neg	Yes	Tan sand.
62	50-60	Neg	Yes	Tan sand.
62	60-70	Neg	Yes	Tan sand. Rock at bottom.
63	0-10	Neg	Yes	Duff.
63	10--20	Pos	Yes	Tan sand. 5 faunal fragments.
63	20-30	Pos	Yes	Tan sand. 2 faunal fragments.
63	30-40	Neg	Yes	Tan sand.
63	40-50	Neg	Yes	Probe: tan sand.
63	50-60	Neg	Yes	Probe: tan sand.
64	0-10	Neg	Yes	Wet, A horizon.
64	10--20	Neg	Yes	Wet heavy dark organics mixed with clay. 1 faunal fragment but seems naturally occuring.
64	20-30	Neg	Yes	Wet heavy dark organics mixed with clay.
64	30-40	Neg	Yes	Wet heavy dark organics mixed with clay.
64	40-60	Neg	Yes	Clay, hit water table.
65	0-8	Neg	Yes	A horizon.
65	8--10	Neg	Yes	Tan sands.
65	44105	Neg	Yes	Tan sands.
65	20-30	Neg	Yes	Tan sands.
65	30-40	Neg	Yes	Tan sands.
65	40-50	Neg	Yes	Tan sands.
65	50-60	Neg	Yes	Tan sands.
65	60-70	Neg	Yes	Tan sands.
65	80-90	Neg	Yes	Tan sands.
65	90-100	Neg	Yes	Tan sands.
65	100-110	Neg	Yes	Tan sands.
66	0-5	Neg	Yes	A horizon
66	5--10	Neg	Yes	Boulders, angular rock, gravels.
66	10--20	Neg	Yes	Boulders, angular rock, gravels.
66	20-30	Neg	Yes	Boulders, angular rock, gravels.
66	30-40	Neg	Yes	Boulders, angular rock, gravels.
66	40-50	Neg	Yes	Tan clay.
66	50-60	Neg	Yes	Tan clay.
67	0-10	Neg	Yes	A horizon.
67	10--20	Neg	Yes	Rich humus.
67	20-30	Neg	Yes	Boulders, angular rock, gravels.
67	30-40	Neg	Yes	Boulders, angular rock, gravels.
67	40-50	Neg	Yes	Tan clay.
67	50-60	Neg	Yes	Tan clay.

68	0-8	Neg	Yes	A horizon.
68	8--15	Neg	Yes	Large cobbles.
68	15-25	Neg	Yes	Fine tan/sandy silts.
68	25-35	Neg	Yes	Fine tan/sandy silts.
68	35-45	Neg	Yes	Fine tan/sandy silts.
68	45-55	Neg	Yes	Fine tan/sandy silts.
68	55-65	Neg	Yes	Fine tan/sandy silts.
68	65-85	Neg	Yes	Probe: fine tan/sandy/silts.
69	0-8	Neg	Yes	A horizon.
69	8--12	Neg	Yes	Fine tan/sandy silts.
69	12+	Neg	Yes	Solid rock.
70	0--10	Neg	Yes	A horzon.
70	10--20	Neg	Yes	Fine tan/sandy silts.
70	20-30	Neg	Yes	Fine tan/sandy silts.
70	30+	Neg	Yes	Solid rock.
71	0-10	Neg	Yes	A horizon.
71	10--20	Neg	Yes	Fine tan/sandy silts.
71	20--30	Neg	Yes	Fine tan/sandy silts.
71	30-40	Neg	Yes	Fine tan/sandy silts.
71	40-50	Neg	Yes	Fine tan/sandy silts.
71	50-65	Neg	Yes	Fine tan/sandy silts mixed with gravels.
72	0-5	Neg	Yes	A horizon.
72	5--25	Neg	Yes	Tan sands/silts.
72	25+	Neg	Yes	Solid rock.
73	0-12	Neg	Yes	A horizon.
73	12--20	Neg	Yes	Tan sands/silts.
73	20-30	Neg	Yes	Tan sands/silts.
73	30-40	Neg	Yes	Tan sands/silts.
74	0-10	Neg	Yes	A horizon. Lots of rock on surface.
74	10--20	Neg	Yes	Rock mixed with tan silts.
74	20+	Neg	Yes	Solid rock.
75	0--20	Neg	Yes	A horizon.
75	20+	Neg	Yes	Solid rock.
76	0-5	Neg	Yes	A horizon, litter mat.
76	5--15	Neg	Yes	A horizon, litter mat.
76	15-35	Neg	Yes	Tan silts/sand.
76	35+	Neg	Yes	Solid rock.
77	0-15	Neg	Yes	Duff.
77	15--25	Neg	Yes	Orange sand/silts.
77	25+	Neg	Yes	Solid rock.

78	0-20	Neg	Yes	Orange sands.
78	20+	Neg	Yes	Solid rock.
79	0-5	Neg	Yes	A horizon.
79	5--10	Neg	Yes	Sterile beach deposit of rounded gravels, larger rocks and sand.
79	10--20	Neg	Yes	Sterile beach deposit of rounded gravels, larger rocks and sand.
79	20-30	Neg	Yes	Sterile beach deposit of rounded gravels, larger rocks and sand.
79	30-40	Neg	Yes	Sterile beach deposit of rounded gravels, larger rocks and sand.
79	40-50	Neg	Yes	Sterile beach deposit of rounded gravels, larger rocks and sand.
79	50-60	Neg	Yes	Sterile beach deposit of rounded gravels, larger rocks and sand.
79	60-70	Neg	Yes	Sterile beach deposit of rounded gravels, larger rocks and sand.
80	0-5	Neg	Yes	A horizon
80	5--15	Neg	Yes	Root mat layer.
80	15-25	Neg	Yes	Beach, sand, gravels and 10% small rocks.
80	25-48	Neg	Yes	Beach, sand, gravels and 10% small rocks.
80	48-58	Neg	Yes	Beach, sand, gravels and 10% small rocks.
80	58-73	Neg	Yes	Beach, sand, gravels and 10% small rocks. At 65 cm dbs changes to darker wetland sediment.
81	0-5	Neg	Yes	A horizon.
81	5--15	Neg	Yes	Sterile beach deposit.
81	15-25	Neg	Yes	Sterile beach deposit.
81	25-35	Neg	Yes	Sterile beach deposit.
81	35-45	Neg	Yes	Sterile beach deposit.
81	45-55	Neg	Yes	Sterile beach deposit.
82	0-5	Neg	No	A horizon.
82	5--10	Pos	No	Disturbed midden mixed with historic glass, debris etc.
82	10--20	Pos	No	Disturbed midden mixed with historic glass, debris etc.
82	20-30	Pos	No	Disturbed midden mixed with historic glass, debris etc.
82	30-40	Pos	No	Disturbed midden mixed with historic glass, debris etc.
82	40-50	Pos	No	Disturbed midden mixed with historic glass, debris etc.
82	50-60	Pos	No	Disturbed midden mixed with historic glass, debris etc.
82	60-70	Pos	No	Disturbed midden mixed with historic glass, debris etc. Almost complete faceted ground slate point.
83	0-10	Pos	No	A horizon.
83	10--20	Pos	No	Disturbed midden mixed with historic debris.
83	20-30	Pos	No	Disturbed midden mixed with historic debris.
83	30-40	Pos	No	Disturbed midden mixed with historic debris.
83	40-50	Neg	?	Sterile beach cobbles.
83	50-65	Neg	?	Sterile beach cobbles.
84	0-10	Neg	Disturbed	A horizon.
84	10--20	Neg	Disturbed	Large cobbles, cement.
84	20-30	Neg	Disturbed	Large cobbles, cement.
84	30-40	Neg	Disturbed	Large cobbles, cement.

85	0-10	Pos	Disturbed	Disturbed midden on surface.
85	10--20	Pos	Disturbed	Disturbed midden.
85	20-30	Pos	Disturbed	Disturbed midden.
85	30-40	Pos	Disturbed	Disturbed midden.
85	40-55	Pos	Disturbed	Disturbed midden.
BH1	0-25	Neg	Disturbed	Parking lot crush/fill.
BH1	25-35	Neg	?	Loose large rounded beach gravel mixed with black silts 1% shell.
BH1	35-45	Neg	?	Loose large rounded beach gravel mixed with black silts 1% shell.
BH1	45-60	Neg	?	Loose large rounded beach gravel mixed with black silts 1% shell.
BH1	60-70	Neg	No	100% beach gravel.
BH1	70-80	Neg	No	100% beach gravel.
BH1	80-90	Neg	No	Smaller beach gravel, tan sand.
BH1	90-150	Neg	No	Sand and 25% beach gravel.
BH2	0-10	Neg	Disturbed	Large gravels.
BH2	0--20	Neg	Disturbed	Gravel fill.
BH2	20+	Neg	No	Stopped machine. Thick black greasy deposit with 10% crushed shell. **Shovel tested from here.**
BH2	20--30	Neg	No	Black silts, large rounded gravels. Shell absent.
BH2	30-40	Neg	No	Black silts, large rounded gravels. Shell absent.
BHT3	0-10	Neg	Disturbed	Parking lot crush/fill.
BHT3	10--20	Neg	Disturbed	Parking lot crush/fill.
BHT3	20-30	Neg	Disturbed	Buried pipe shown by marked ditch of imported fill. Abandoned test.
BHT4	0-10	Neg	Disturbed	Parking lot crush/fill.
BHT4	10--20	Neg	Disturbed	Catching edge of what is likely disturbed original landform angling N-S in test. Moved test to excavate 50 cm away from but adjacent to this in order to follow fill and allow for facing former landform with a shovel.
BHT4	20-30	Pos	Disturbed	Gravels, black silts and 1 faunal fragment found at 30cm dbs.
BHT4	30-40	Neg	Yes	Sterile beach gravels.
BHT4	40-50	Neg	Yes	Sterile beach gravels.
BHT4	50-60	Neg	Yes	Sterile beach gravels.
BHT4	60-70	Neg	Yes	Sterile beach gravels.
BHT4	70-80	Neg	Yes	Sterile beach gravels.
BHT4	80-90	Neg	Yes	Sterile beach gravels.
BHT5	0-10	Neg	Disturbed	Parking lot crush/fill.
BHT5	10--30	Neg	Disturbed	Location of former bulk oil plant. Road crush, gravels, black silts (contaminated?)
BHT5	30-40	Neg	Disturbed	Gravels, black silts.
BHT5	40-50	Neg	Disturbed	Gravels, black silts.
BHT5	50-60	Neg	Disturbed	Gravels, black silts.
BHT5	60-70	Neg	Disturbed	Gravels, black silts.
BHT5	70-80	Neg	Disturbed	Gravels, black silts.
BHT5	80-90	Neg	Disturbed	Gravels, black silts.
BHT5	90-100	Neg	Disturbed	Gravels, black silts.

BHT5	100-110	Neg	Disturbed	Gravels, black silts.
BHT5	110-120	Neg	Disturbed	Gravels, black silts.
BHT5	120-130	Neg	Disturbed	Orange silts/sands.
BHT6	0-15	Neg	Disturbed	Fill and gravel.
BHT6	15-25	Neg	Disturbed	Beach gravels and black silts.
BHT6	25-35	Neg	Disturbed	Beach gravels and black silts.
BHT6	35-45	Neg	Disturbed	Beach gravels and black silts.
BHT6	45-55	Neg	Disturbed	Beach gravels and black silts.
BHT6	55-65	Neg	Disturbed	Beach gravels and black silts.
BHT6	65-75	Neg	Disturbed	Beach gravels and black silts.
BHT6	75-85	Neg	Yes	Beach gravels courser but well sorted.
BHT6	85-95	Neg	Yes	Beach gravels courser but well sorted. Wet.
BHT6	95-110	Neg	Yes	Beach gravels courser but well sorted. Wet.
BHT7	0-15	Pos	Yes	Mixed midden with gravel parking lot fill. Stopped machine, stopped test.
BHT8	0-30	Neg	Yes	Course gravel and black silts.
BHT8	30-40	Neg	Yes	Pea gravel with black silts. Sterile.
BHT8	40-50	Neg	Yes	Pea gravel with black silts. Sterile.
BHT8	50-60	Neg	Yes	Pea gravel with black silts. Sterile.
BHT8	60-70	Neg	Yes	Pea gravel with black silts. Sterile.
BHT8	70-80	Neg	Yes	Pea gravel with black silts. Sterile.
BHT8	80-90	Neg	Yes	Pea gravel with black silts. Sterile.
BHT8	90-100	Neg	Yes	Pea gravel with black silts. Sterile.
BHT8	100-110	Neg	Yes	Pea gravel with black silts. Sterile.
BHT9	0-50	Neg	Disturbed	Gravel and brown silts.
BHT9	50+	Neg	Disturbed	Sewer pipe. Abandoned test.
BHT10	0-10	Neg	Yes	Mixed silts with gravel.
BHT10	10--20	Neg	Yes	Mixed silts with gravel.
BHT10	20--30	Neg	Yes	Mixed silts with gravel.
BHT10	30-40	Neg	Yes	Mixed silts with gravel.
BHT10	40-50	Neg	Yes	Mixed silts with gravel.
BHT10	50-60	Neg	Yes	Sterile beach pea gravel
BHT10	60-70	Neg	Yes	Sterile beach pea gravel
BHT10	70-80	Neg	Yes	Sterile beach pea gravel
BHT10	80-90	Neg	Yes	Sterile beach pea gravel

Appendix 5: CMT Log

CMT Recording Form

Temporary Site No.			DjSc-1
Date: June 26, 2013			
Permit No. 2013-0162			
Affiliation: Aquilla Archaeology			

CMT	SP	Class (1)	ST	FEAT	DBH (cm)	SLP	LEN (cm)	WID (cm)	THK (cm)	HAG(cm)	SDE	TMK	NT	REM
DjSc-1 CMT-01	DF	OM/P	Pitch collection	Rectangular	125	65	200	80	54	0	S	27	No	Featue 1: Age estimated at 250-300 years. Several pitch collection and related burning events have resulted in approximately 1/3 reduction of the tree trunk mass (in profile). Note the DBH is culturally reduced from pitch collection activities.
DjSc-1 Posible CMT-01	DF	OM/K	Kindling Removal	Rectangular	207	90	78	34	N/A	30	N	13	No	Featue 1: Age estimated at 250-300 years. Total of 13 axe or adze chipping scars. One scar present from logging cable wrapped at the base of the tree. Toolmarks vary in size from 13-16 cm in length. Unclear if modification was pre or post contact. Tla'amin residents, loggers, former historic residents, or campers may have collected bark chips for fire starter.
DjSc-1 Posible CMT-02	DF	OM/K	Kindling Removal	Rectangular	200	85	174	163	10	10	SW	80+	No	Featue 1: Age estimated at 250-300 years. Total of 80+ axe or adze chipping scars. Toolmarks average 13 cm in length. Unclear if modification was pre or post contact. Tla'amin residents, loggers, former historic residents, or campers may have collected bark chips for fire starter.

Appendix 6: AMS Date

BETA

Consistent Accuracy . . .
. . . Delivered On-time

Beta Analytic Inc.
4985 SW 74 Court
Miami, Florida 33155 USA
Tel: 305 667 5167
Fax: 305 663 0964
Beta@radiocarbon.com
www.radiocarbon.com

Darden Hood
President

Ronald Hatfield
Christopher Patrick
Deputy Directors

July 26, 2013

Ms. Colleen Parsley
Aquilla Archaeology
411 Machleary Street
Nanaimo, British Columbia V9R 2H1
Canada

RE: Radiocarbon Dating Result For Sample DjSc-1:100

Dear Ms. Parsley:

Enclosed is the radiocarbon dating result for one sample recently sent to us. The sample provided plenty of carbon for accurate measurement and the analysis proceeded normally. As usual, the method of analysis is listed on the report with the results and calibration data is provided where applicable.

The web directory containing the table of all your results and PDF download also contains pictures including, most importantly the portion actually analyzed. These can be saved by opening them and right clicking. Also a cvs spreadsheet download option is available and a quality assurance report is posted for each set of results. This report contains expected vs measured values for 3-5 working standards analyzed simultaneously with your sample.

The reported result is accredited to ISO-17025 standards and the analysis was performed entirely here in our laboratories. Since Beta is not a teaching laboratory, only graduates trained in accordance with the strict protocols of the ISO-17025 program participated in the analyses. When interpreting the result, please consider any communications you may have had with us regarding the sample.

If you have specific questions about the analyses, please contact us. Your inquiries are always welcome.

The cost of the analysis was charged to the VISA card provided. Thank you. As always, if you have any questions or would like to discuss the results, don't hesitate to contact me.

Sincerely,

Darden Hood
Digital signature on file

BETA ANALYTIC INC.
DR. M.A. TAMERS and MR. D.G. HOOD
4985 S.W. 74 COURT
MIAMI, FLORIDA, USA 33155
PH: 305-667-5167 FAX:305-663-0964
beta@radiocarbon.com

REPORT OF RADIOCARBON DATING ANALYSES

Ms. Colleen Parsley — Report Date: 7/26/2013

Aquilla Archaeology — Material Received: 7/15/2013

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 353910	820 +/- 30 BP	-23.8 o/oo	840 +/- 30 BP
SAMPLE : DjSc-1:100			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal AD 1160 to 1260 (Cal BP 790 to 690)			

Dates are reported as RCYBP (radiocarbon years before present, "present" = AD 1950). By international convention, the modern reference standard was 95% the 14C activity of the National Institute of Standards and Technology (NIST) Oxalic Acid (SRM 4990C) and calculated using the Libby 14C half-life (5568 years). Quoted errors represent 1 relative standard deviation statistics (68% probability) counting errors based on the combined measurements of the sample, background, and modern reference standards. Measured 13C/12C ratios (delta 13C) were calculated relative to the PDB-1 standard.

The Conventional Radiocarbon Age represents the Measured Radiocarbon Age corrected for isotopic fractionation, calculated using the delta 13C. On rare occasion where the Conventional Radiocarbon Age was calculated using an assumed delta 13C, the ratio and the Conventional Radiocarbon Age will be followed by "*". The Conventional Radiocarbon Age is not calendar calibrated. When available, the Calendar Calibrated result is calculated from the Conventional Radiocarbon Age and is listed as the "Two Sigma Calibrated Result" for each sample.

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-23.8:lab. mult=1)

Laboratory number: **Beta-353910**

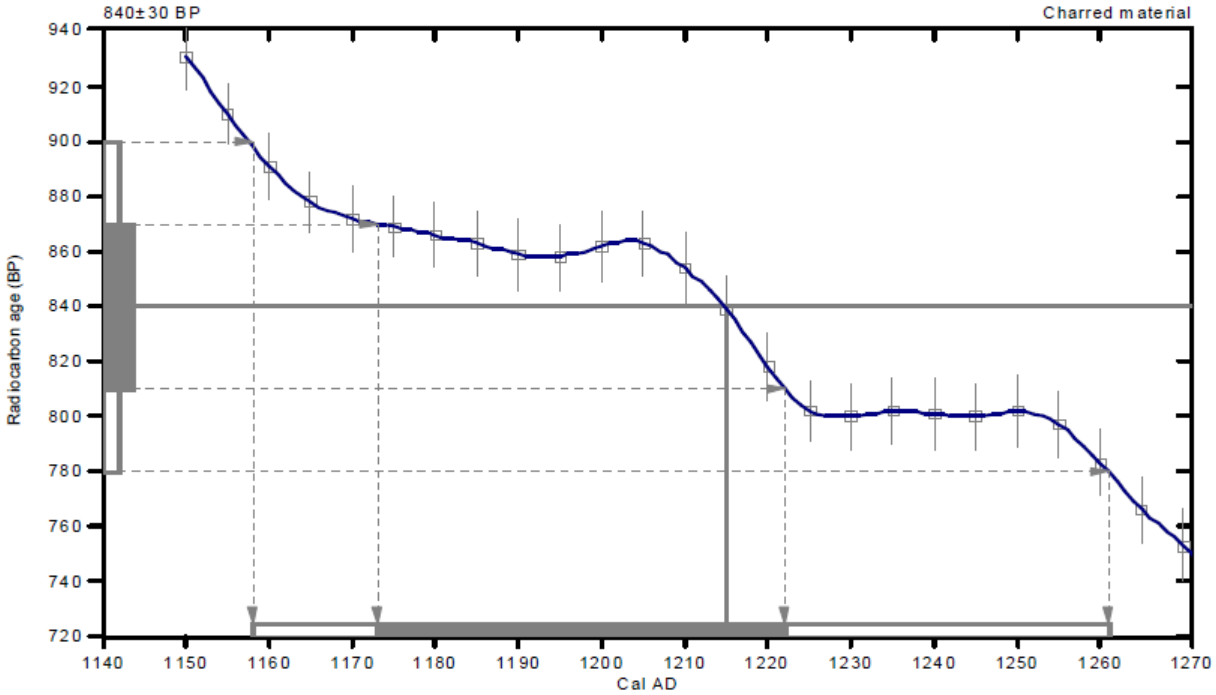
Conventional radiocarbon age: **840±30 BP**

2 Sigma calibrated result: (95% probability) **Cal AD 1160 to 1260 (Cal BP 790 to 690)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal AD 1220 (Cal BP 740)

1 Sigma calibrated result: (68% probability) Cal AD 1170 to 1220 (Cal BP 780 to 730)



References:

Database used

INTCAL09

References to INTCAL09 database

Heaton,et.al.,2009, Radiocarbon 51(4):1151-1164, Reimer,et.al, 2009, Radiocarbon 51(4):1111-1150, Stuiver,et.al,1993, Radiocarbon 35(1):137-189, Oeschger,et.al.,1975,Tellus 27:168-192

Mathematics used for calibration scenario

A Simplified Approach to Calibrating C14 Dates

Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2):317-322

Beta Analytic Radiocarbon Dating Laboratory

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