
TECHNICAL REPORT OF
ARCHAEOLOGICAL FIELD INVESTIGATIONS TO SUPPORT
THE PORT GAMBLE REDEVELOPMENT PLAN SEPA EIS,
KITSAP COUNTY, WASHINGTON



REDACTED

May 30, 2018

SWCA Project Number 24888.02
SWCA Report Number 14-19

SWCA ENVIRONMENTAL CONSULTANTS
SEATTLE, WASHINGTON

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Report Prepared for

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ABSTRACT

This report presents the methods and results of archaeological fieldwork completed to support the discipline report for archaeology for the Port Gamble Redevelopment Plan State Environmental Protection Act (SEPA) Draft Environmental Impact Statement (DEIS) (Piper et al. 2014). Archaeological fieldwork consisted of pedestrian survey, shovel probe excavation, magnetometer survey, completion of geotechnical cores, and mechanical test pit excavation. Six archaeological sites and one isolate were recorded during fieldwork. These include 45KP252 (Pre-contact [REDACTED] Shell Midden), 45KP253 ([REDACTED] Historic Dump), 45KP254 (Babcock Dairy and Port Gamble Dance House), 45KP255 (Port Gamble Chinese Laundry and Residences), 45KP256 (Port Gamble Workers Housing Debris Scatter), 45KP257 (an isolated historic bottle base), and 45KP258 ([REDACTED] Culturally-Modified Cedars). In addition, probable historical debris was identified in many of the excavations. Sites 45KP252 (Pre-contact [REDACTED] Shell Midden), 45KP254 (Babcock Dairy and Port Gamble Dance House), 45KP255 (Port Gamble Chinese Laundry and Residences), 45KP256 (Port Gamble Workers Housing Debris Scatter), and 45KP258 ([REDACTED] Culturally-Modified Cedars) are recommended eligible for listing in the National Register of Historic Places (NRHP). Sites 45KP253 ([REDACTED] Historic Dump) and 45KP257 (an isolated historic bottle base) are recommended not eligible by the Washington State Department of Archaeology and Historic Preservation. Adoption of the Port Gamble Historic District boundary as delineation of an archaeologically sensitive area is also recommended along with development of a plan for inadvertent discovery of archaeological or human remains. Development of a management plan for future treatment of both potential and known archaeological resources during for the project is recommended, as well.

TABLE OF CONTENTS

INTRODUCTION	1
Project Description	1
Rural Historic Town Residential (RHTR)	1
Rural Historic Town Commercial (RHTC) Town Site	2
Rural Historic Town Waterfront (RHTW) Mill Site	3
Rural Residential (RR).....	3
Rural Wooded (RW)	3
Alternative 1 (Full Buildout).....	4
Alternative 2 (Lesser Development)	4
No Action Alternative	4
Research Methods	4
Natural and Cultural Setting	5
Landform Evaluation	6
<i>Tide Flats</i>	7
<i>Beaches</i>	7
<i>Bluffs</i>	8
<i>Uplands</i>	8
Geoarchaeological Analysis	9
Sensitivity Mapping	15
METHODS	19
<i>Shovel Probe and Pedestrian Survey</i>	20
<i>Magnetometer Survey</i>	20
<i>Boreholes</i>	25
<i>Mechanical Excavation</i>	29
Tribal Coordination	29
RESULTS	30
Upland	30
<i>Forest Surrounding the Town Site</i>	32
<i>Bluff</i>	35
<i>The Lake</i>	38
<i>Babcock Dairy Farm Survey</i>	42
<i>Town Site Magnetometer Survey</i>	45
Mill Site.....	49
<i>Boreholes</i>	49
<i>The Base of the Bluff</i>	55

Site Summaries	63
45KP252: <i>Pre-contact [REDACTED] Shell Midden</i>	65
45KP253: [REDACTED] <i>Historic Dump</i>	68
45KP254: <i>Babcock Dairy and Port Gamble Dance House</i>	71
45KP255: <i>Port Gamble Chinese Laundry and Residences</i>	75
45KP256: <i>Port Gamble Workers Housing Debris Scatter</i>	80
45KP257: <i>Isolate—Historic Bottle Base</i>	83
45KP258: [REDACTED] <i>Culturally Modified Cedars</i>	84
IMPACTS FROM ALTERNATIVES ON NRHP-ELIGIBLE SITES	84
Alternative 1	84
45KP252	86
45KP254	87
45KP255	87
45KP256	88
Alternative 2	88
45KP252	88
No Action Alternative	90
CONCLUSION AND RECOMMENDATIONS	90
REFERENCES	92
APPENDIX A: CORE SUMMARY	
APPENDIX B: MAPS	
APPENDIX C: SHOVEL PROBE SUMMARY	
APPENDIX D: WASHINGTON STATE SITE INVENTORY FORMS	
APPENDIX E: MAGNETOMETER SURVEY	
APPENDIX F: TEST PIT SUMMARY	
APPENDIX G: INADVERTENT DISCOVERY PLAN	

LIST OF FIGURES

Figure 1.	Project area and newly identified archaeological sites.	2
Figure 2.	Locations of existing boreholes.	11
Figure 3.	Three-dimensional model of the stratigraphy at the mill site and east edge of the town site. Inset shows a schematic cross-section along Walker Street following the W-E cross-section.	12
Figure 4.	Cross-section showing the stratigraphy and lithology interpreted from the previously drilled cores from west to east across the upland and down onto the mill site.	13
Figure 5.	Cross-section showing the stratigraphy and lithology interpreted from the previously drilled cores from south to north across the mill site.	14
Figure 6.	Archaeological sensitivity based on landform and land use.	16
Figure 7.	Sensitivity map for historic archaeological material.	18
Figure 8.	Standing and no longer standing buildings and structures in relation to test units and shovel probes.	21
Figure 9.	Overview of the upland's bluff edge showing SP-120 and SP-121, view east.	22
Figure 10.	Overview of terrain encountered during pedestrian survey in northwest project area.	22
Figure 11.	Map showing magnetometer block locations 1 through 5.	23
Figure 12.	Overview of the magnetometer survey at grid 1, looking west.	24
Figure 13.	Map showing geoprobes, sonicores, shovel probes on the upland in relation to the mapped boundaries of the historical lake.	26
Figure 14.	Map showing sonicores drilled at the Mill Site.	27
Figure 15.	Overview of sonicore drilling at SC-6 where midden was identified, view north.	28
Figure 16.	Overview of brush clearing where a retaining wall was uncovered along the base of the bluff, view southwest.	30
Figure 17.	Fieldwork results summary map showing the distribution of positive and negative excavations.	31
Figure 18.	Map of the upland portion of the project area showing pedestrian transects and cultural materials identified during the pedestrian survey.	33
Figure 19.	Overview of sediments encountered along the bluff edge, showing utilities in SP-119.	36
Figure 20.	Illustration of the stratigraphy and lithology encountered in the geoprobes and sonicore drilled on the upland.	39
Figure 21.	Stove clean-out in the fill at SP-135.	42
Figure 22.	Overview from SP-146, looking [REDACTED] toward the hill crest and extant farm buildings.	45
Figure 23.	Historic map, 1878, showing buildings at the dairy farm area.	46
Figure 24.	Cross-section showing the stratigraphy and lithology encountered in the sonicores drilled at the base of bluff from south to north.	50
Figure 25.	Cross-sections showing the stratigraphy and lithology encountered in borings drilled along the different parts of the sand spit.	51
Figure 26.	TP-2 profiles, photograph is south wall at 220 cmbs.	58
Figure 27.	North wall profile of TP-10 at [REDACTED], close-up shows the midden encountered at the base of the fill.	61
Figure 28.	Retaining wall, view south (top) and second segment of retaining wall above, view west up the bluff face (bottom).	62
Figure 29.	Sketch map of 45KP252.	66
Figure 30.	Close-up of midden from SC-6 ([REDACTED]), SC-7 ([REDACTED]), and SC-11 ([REDACTED]). Top is left, and note that soft sediment compacts.	67
Figure 31.	Profile of SP-2.	69
Figure 32.	Overview down the trail toward 45KP253 and the large tree.	70
Figure 33.	Sketch map for 45KP254.	72
Figure 34.	Site 45KP254 overview, [REDACTED], view west.	74
Figure 35.	Sketch map for 45KP255.	77
Figure 36.	Dr. Hostetter's Bitters bottle shard from SP-238 at 45KP255, the Port Gamble Chinese Laundry and Residences site.	79
Figure 37.	Hand-painted earthenware vessel sherds from SP-229 and SP-234 at 45KP255, the Port Gamble Chinese Laundry and Residences site.	79
Figure 38.	Sketch map for 45KP256.	81

Figure 39. Overview of 45KP256, view southwest.....	81
Figure 40. Black/very dark olive hand-manufactured wine bottle with champagne finish.....	84
Figure 41. Northwest profile of SP-110.....	85
Figure 42. A culturally modified tree identified during pedestrian survey.....	85
Figure 43. Alternative 1 plans, showing archaeological site locations.....	86
Figure 44. Alternative 2 plans, showing archaeological site locations.....	89

LIST OF TABLES

Table 1. Development Alternatives.....	3
Table 2. Summary of methods used to conduct remote sensing within five sub-areas in the project area.....	24
Table 3. Lithofacies Nomenclature for Labeling Sediments Encountered in the Borings at Port Gamble.....	28
Table 4. Summary of Shovel Probes Excavated in the Woods Surrounding the Town Site.....	34
Table 5. Summary of the Bluff Top Shovel Probe Results.....	36
Table 6. Typical Descriptions of the Facies Encountered in the Boreholes Drilled on the Upland.....	40
Table 7. Summary of the Lake Margin Shovel Probe Results.....	41
Table 8. Summary of the Babcock Dairy Farm Area Shovel Probe Results.....	43
Table 9. Results of Magnetometry, Metal Detection, and Ground Truthing by Magnetometer Block.....	46
Table 10. Summary of Ground Truthing Selected Magnetometer Anomalies.....	47
Table 11. Typical Description of the Facies Encountered in the Sonicores Completed on the Mill Site.....	52
Table 12. Typical Expressions of the Fill and Holocene Deposits Identified in the Test Pits.....	56
Table 13. Summary of Cultural Materials Encountered in Fill Along the Base of the North-facing Bluff.....	56
Table 14. Summary of Cultural Materials Encountered in Fill Along the Base of the East-facing Bluff.....	60
Table 15. Summary of Shovel Probe Excavated at the Base of the Bluff.....	61
Table 16. Summary of Cultural Resources in the Project Area.....	65
Table 17. 45KP253 Artifacts by Material Type.....	69
Table 18. Property Ownership of the Babcock Dairy and Port Gamble Dance House.....	73
Table 19. 45KP254 Artifacts by Site Component and Material Type.....	74
Table 20. Diagnostic Artifacts found at 45KP255, the Port Gamble Chinese Laundry and Residences ...	78
Table 21. 45KP255 Artifacts by Material Type.....	78
Table 22. 45KP256 Artifacts by Material Type.....	82

INTRODUCTION

Olympic Property Group (OPG), a subsidiary of Pope Resources, plans residential and commercial redevelopment for the historic town of Port Gamble. Olympic Property Group retained SWCA to address potential impacts to archaeological resources within the project area in support of a State Environmental Protection Act (SEPA) Draft Environmental Impact Statement (DEIS) submission in preparation by Kitsap County (Figure 1). This technical report summarizes the methods and results of investigations completed as part of cultural resources assessments for the Port Gamble Redevelopment Plan.

Project Description

Olympic Property Group (OPG), the Applicant, is proposing redevelopment of the approximately 318.3-acre Port Gamble site (Figure 1). For DEIS descriptive purposes, the site consists of four main areas: a Mill Site along the waterfront, a Town Site on the bluffs above the Mill Site, a residential area to the west and south of the Town Site, and an agricultural and wooded area which lies to the south.

The proposal would redevelop the site with a mix of residential, commercial, agricultural, and open space uses intended to complement the historic character of the site and create an economically sustainable community. Proposed redevelopment of the Port Gamble site could ultimately contain between 225 and 265 new residential units, a 100-room hotel/visitor accommodations, 80,000 to 202,000 square feet of commercial space, and 218 to 233 acres of open space. Buildout of the proposed redevelopment is assumed to occur by 2028, although actual buildout would depend on market conditions. The majority of the development is proposed within the Limited Area of More Intensive Rural Development (LAMRID) portion of the project area. The LAMRID is designated by Kitsap County in accordance with Washington's Growth Management Act as an area within a rural part of the county where development is too dense to be considered rural.

The current alternatives reflect OPG's efforts to minimize impacts to cultural resources in the Port Gamble area. After the identification of sites 45KP254 (Babcock Dairy and Port Gamble Dance House) and 45KP255 (Port Gamble Chinese Laundry and Residences), OPG revised their plans by moving proposed buildings from those areas. In addition, the proposed plans do not include buildings within the site boundary of the [REDACTED] Shell Midden (45KP252). The environmental impacts of three alternatives are analyzed in the DEIS, and include Alternative 1 (Full Buildout), Alternative 2 (Lesser Development) and the No Action Alternative (Table 1). The alternatives are analyzed for their impacts to five existing land use zones:

Rural Historic Town Residential (RHTR)

The approximately 68.2-acre RHTR zone includes 27 single family homes, the Buena Vista Cemetery on the north edge of the bluff overlooking the water, and St. Paul's Episcopal Church (which is also used as a wedding venue). This portion of the site also contains open space in the form of grassy fields and a forested area. Several parcels of land surrounded by the RHTR-zoned portion of the site, along Power Drive, are not owned by the Applicant and are not part of the proposal. These parcels contain five single-family homes plus accessory structures. The plan also proposes an area of "reserve lots" in the southwest part of the RHTR zone. These "reserve lots" are proposed to be used in the event that cultural resources are inadvertently discovered during construction.

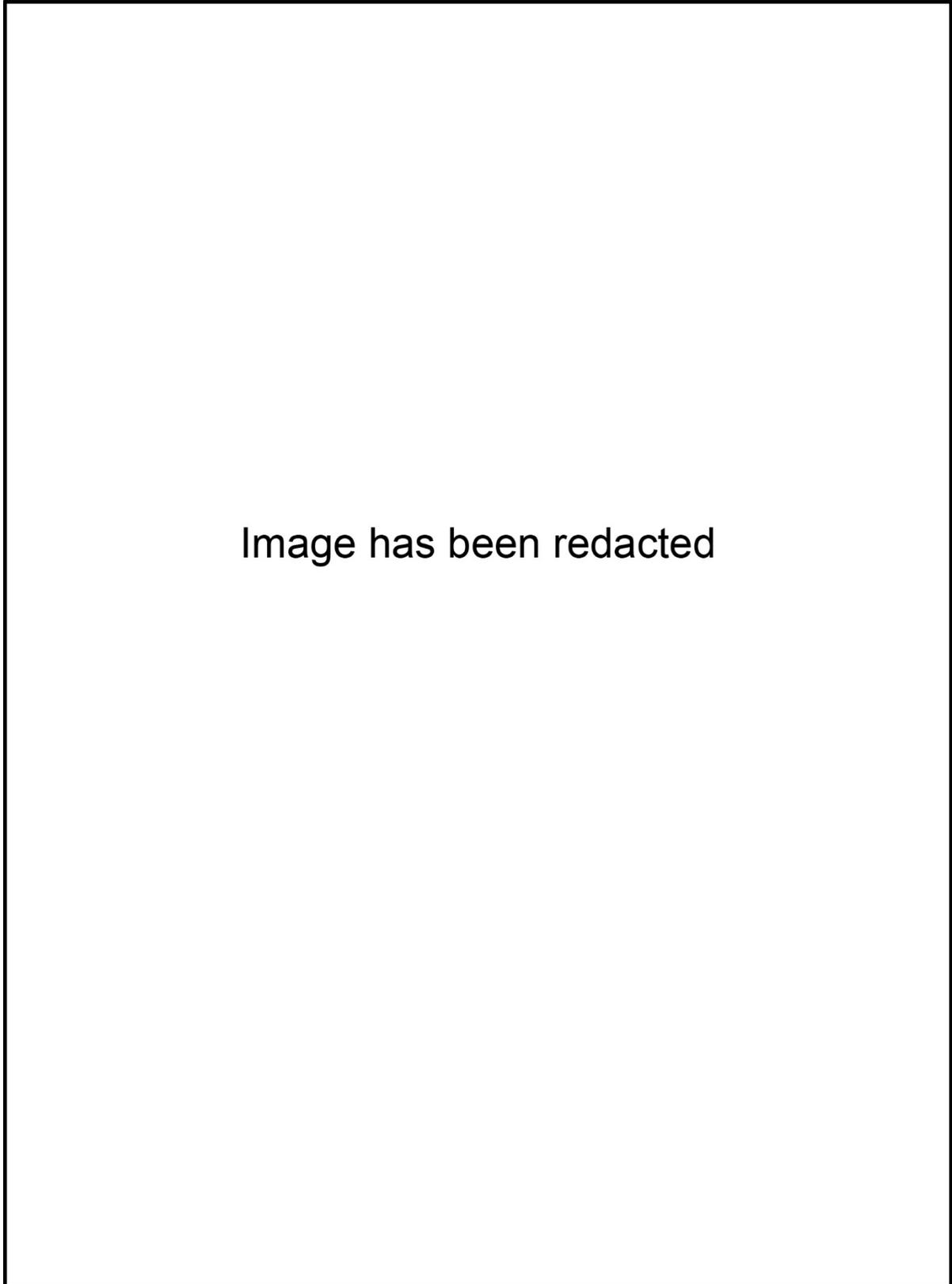


Figure 1. Project area and newly identified archaeological sites.

Rural Historic Town Commercial (RHTC) Town Site

The RHTC area, also referred to as the Town Site, is approximately 13.8 acres and is primarily located to the north of State Route (SR) 104, surrounding S Rainer Avenue. Land uses within the RHTC zone include retail/commercial, office, and residential uses. Other uses include the Port Gamble Historic Museum (originally the Pope and Talbot Office), the Walker-Ames House (which is currently vacant and in need of refurbishing), water tanks, a community hall and garage, an event pavilion and accessory structures, and surface parking.

Rural Historic Town Waterfront (RHTW) Mill Site

The approximately 31.4-acre RHTW area, also referred to as the Mill Site, encompasses the land along the waterfront, including the small spit at the juncture between Port Gamble Bay and Hood Canal. This is a flat, low-lying area with an elevation 10 to 14 feet above Hood Canal and Port Gamble Bay. The landward edges of the Mill Site slope steeply up approximately 40 feet to the town of Port Gamble. The Mill Site is accessed by an asphalt road that runs down the bluff from the Town Site. Formerly used as a lumber mill and port with a lumber yard and docks, and after completion of the remediation, the Mill Site is currently used by a kayak business, with a large area of remaining concrete foundations and slabs from the mill. A number of older structures, such as docks and old lumber mill structures, were previously removed. Newfield’s Laboratory, an environmental lab that conducts advanced biological testing, is also located on this portion of the Port Gamble site in the northwestern corner of this zone.

Rural Residential (RR)

The approximately 7-acre RR-zoned area includes the Hood Canal Nursery greenhouses. The rest of this area is primarily in open space in the form of critical area buffers.

Rural Wooded (RW)

The approximately 197.9-acre RW area is primarily wooded natural area containing trails and second growth forest. This area also contains a former farm and its associated fields which are currently used to graze cattle, as well as several abandoned farm buildings to the south/southwest of the greenhouses in the RR zone. Additional fields/cleared area are located in the southeast corner of this area.

Table 1. Development Alternatives

Land Use	Allowed Under Zoning	Alternative 1 ¹	Alternative 2 ¹
RESIDENTIAL USES – TOTAL	294 du	265 du	225 du
RHTR	171 du	144 du	144 du
RHTC	34 du	33 du	33 du
RHTW	78 du	78 du	38 du
RR	1 du	0 du	0 du
RW	10 du	10 du	10 du
HOTEL		100 rooms	100 rooms
COMMERCIAL/RETAIL		156,000 sq. ft.²	35,000 sq. ft.²
RHTC		35,000 sq. ft.	35,000 sq. ft.
RHTW		121,000 sq. ft.	0 sq. ft.
RESTAURANT (RHTW)		15,000 sq. ft.	15,000 sq. ft.
EDUCATION/INDUSTRIAL (RHTW)		0 sq. ft.	0 sq. ft.
OTHER		30,480 sq. ft.	30,480 sq. ft.
RR (West Sound Wildlife Shelter)		14,300 sq. ft.	14,300 sq. ft.
RW		16,180 sq. ft.	16,180 sq. ft.

Note: du = dwelling unit.

¹ Only new development is reflected in this column – development under the Existing Conditions column is assumed to remain.

² Exclusive of 100 room hotel and associate meeting rooms and kitchen.

Alternative 1 (Full Buildout)

Alternative 1 assumes site redevelopment reflecting the full amount of development allowed under current zoning. Alternative 1 reflects infill development on the entire site, including the Town Site and Mill Site including approximately 293 residential units (including 28 existing residences), approximately 156,000 square feet of commercial uses, 15,000 square feet of restaurant space, 30,480 square feet in education/industrial/other uses, and 100-room hotel/visitor accommodations. New parks would be provided throughout the site and open space would be provided to surround retained critical areas. The Mill Site would be developed with both commercial and residential uses in buildings up to 35 feet in height. Alternative 1 is anticipated to generate approximately 570 residents and approximately 500 employees.

In general, the majority of the single-family residential units would be located in and around the Town Site in the RHTC and RHTR-zoned portions of the site, but single-family residential units may be located within all zones. Cottages are planned for the RHTW and RHTR zones, and are also allowed in the RHTC zone. Condo and mixed-use units would also be located in the RHTW and RHTC zones. The majority of the proposed commercial (including hotel/visitor accommodations) and multifamily residential uses (townhomes and cottages) would be located on the Mill Site in the RHTW-zoned portion of the site. Rural residential, agritourism, and agricultural uses would generally be located in the RR- and RW-zoned portions of the site.

Alternative 2 (Lesser Development)

Alternative 2 assumes site redevelopment reflecting a lesser amount of development than the total allowed under site zoning; development consistent with this alternative would be dependent on others purchasing development rights or a portion of the Mill Site area for open space uses. In general, development under Alternative 2 would be similar to that under Alternative 1 for the RHTR-, RHTC-, RR- and RW-zoned portions of the site, with the primary difference relating to development in the RHTW-zoned portion of the site (Mill Site).

No Action Alternative

The No Action Alternative includes three different scenarios:

1. Continuation of existing conditions.
2. Redevelopment by others under existing zoning. This scenario assumes that OPG would sell the property and redevelopment would occur in piecemeal fashion by others, including industrial development on the Mill Site.
3. Redevelopment of upland area under existing zoning and purchase of the entire Mill Site for restoration. This scenario would assume that purchase of any portion of the Mill Site for restoration, and any funding of restoration activities, would be accomplished by others.

Research Methods

The current investigation expands on a 2010 desktop overview study that evaluated Port Gamble Bay shoreline landforms in terms of potential human use through time and presented a review of pertinent archival sources including maps, photographs, historical documents, and ethnographic accounts (Sharley et al. 2010). Sensitive locations along [REDACTED] of the present project identified by the 2010 study include a reported Native American village site, an historical ferry landing (which has since been removed as part of the environmental cleanup of Port Gamble Bay), Chinese millworkers' living quarters, and a variety of other early historical period residential features. The Native American archaeological

sensitivity model produced assigned high risk values for impacts to archaeological properties to limited portions of [REDACTED], some of which are within the present project area.

This report begins with a brief summary of the natural and cultural setting of Port Gamble, followed by a presentation of the research completed prior to fieldwork in order to focus field efforts. The latter information includes evaluation of the landforms identified in the project area during the pre-field research and geoarchaeological analysis of existing borehole information. The results of landform evaluation and geoarchaeological analysis were combined to develop expectations for buried pre-contact and historical archaeological resources in the project area. Historical maps were reviewed to tailor the sensitivity models. The methods and results of fieldwork are presented after the sensitivity mapping. Descriptions of the identified archaeological resources are preceded by the fieldwork results. This technical report concludes with the recommendation to develop a management plan for directing future treatment of archaeological resources during development of Port Gamble.

Natural and Cultural Setting

The following natural and cultural setting information is summarized from the 2010 desktop overview study by Sharley et al. (2010). Throughout this report “upland” refers to the Town Site and surrounding forests on the plateau above the shoreline. The decommissioned Pope and Talbot Mill (or Mill Site) and associated shorelines on Port Gamble Bay and Hood Canal are the “lowland.”

During the late Pleistocene, small populations of Paleo-Indian people hunted large game animals and foraged for other resources in upland areas of western Washington. Initially, meltwater lakes inundated low elevation areas. As relative sea levels fell due to rebound of land no longer weighted by glacial ice, Port Gamble Bay became a marshy or even dry stream-fed valley possibly hosting a large kettle lake according to modern bathymetry. But, world-wide sea level rise began to outpace rebound after the transition from the Pleistocene Epoch into the Holocene. By approximately 5,000 years ago, sea level in the Puget Sound and Hood Canal region had stabilized close to its present level, allowing human occupation and intensive use of the marine shorelines. Native American populations expanded during this period and people began to use a greater variety of resources, including terrestrial and sea mammals, fish, shellfish, roots, and berries. By at least 3,000 years ago, groups of Native American people occupied permanent settlements along the marine shoreline and inland waterways of western Washington and archaeological evidence documents increasingly sophisticated use of marine resources. Port Gamble Bay, a resource-rich area and sheltered inland location, would have been a natural draw to local populations.

At the time of European contact numerous small autonomous groups of Lushootseed-, Twana-, Klallam-, and Chemakum-speaking people inhabited the lowlands of western Washington. Port Gamble Bay lies at the juncture of traditional S’Klallam, Chemakum, Skokomish, and Suquamish lands, and was jointly used by these groups. The first documented contact between Native American residents of the region and Europeans occurred in 1792 as British sea captain George Vancouver led an exploratory mission through Hood Canal. S’Klallam oral historians record the arrival of four European men around 1827 at the Native American village of *Nu-kay’it*, today’s Port Gamble (Lambert 1992; Langness 1992).

In 1853, when William Talbot arrived at Port Gamble Bay to establish the Puget Mill Company sawmill, the area was occupied by Native people, and the town that was established here was originally called Teekalet (possibly Talbot’s interpretation of the word *Noo-Kayet* or “*nəxʷqíyt*,” the native S’Klallam word meaning “brightness of the noonday sun”), until the name was changed to Port Gamble in 1868.

Port Gamble, a company town, grew up around the Puget Mill Company facilities, and historical accounts document the continued contributions of Native Americans to the mill operations and involvement in the new community. The presence of the mill and the town attracted Native Americans from the surrounding area, and the people that make up the Port Gamble S’Klallam Tribe of today are descended from both Port Gamble’s original S’Klallam inhabitants and those who migrated there (Charles et al. 2012). Many of the original mill structures and associated town buildings still exist today. The mill owners hired workers of many ethnicities and backgrounds to work at the plant, including many local Native Americans, as well as African Americans, Chinese, Russians, Cubans, Native Hawaiians, Australians, Germans, Scots, and Finns. Tribal members were credited with keeping the mill in operation when other employees were drawn away by the Fraser River Gold Rush in 1858 (Stein 2003).

Within several years of the sawmill’s founding, the S’Klallam community of Little Boston occupied the Point Julia spit across the bay from the mill, an area that became part of the Port Gamble S’Klallam Reservation established in 1938. Native workers traveled between Little Boston and the mill by canoe, and later by rowboat, until it finally became possible to travel around the bay by car in 1916 (Charles et al. 2012; Eakins 1997). In the mid-1900s, S’Klallam mill workers were described as “wonderful sawyers and good edgermen and trimmer men,” and they also filled several other jobs including log scaler, carman, boomman, piler, tallyman, and longshoreman (Eakins 1997). The Port Gamble mill operated nearly continuously until its closure in 1995, and S’Klallam people made up a significant proportion of the workforce throughout the mill’s history, with at least one Tribal member even participating in sending the last log to be milled up the chute (Eakins 1997).

Today many Port Gamble S’Klallam people continue to live on or near the reservation, and Port Gamble Bay figures prominently in their culture and subsistence activities. Other Native American groups, including the Suquamish and Skokomish, also continue to utilize and value the Port Gamble vicinity. Over time the Chemakum blended into other ethnic groups, including the Skokomish, Euroamerican, and particularly S’Klallam communities. In 1957, a court decision acknowledged the Port Gamble S’Klallam as rightful successors to the Chemakum (Indian Claims Commission 1957).

Review of the natural and cultural setting indicated the potential existed for important pre-contact and historic archaeological sites to be in the project area. This possibility was supported by three pre-contact Native American archaeological sites previously recorded across the bay from the project area, as well as most of the project area being within a recorded Historic District listed on the National Register of Historic Places and with National Landmark status (Daugherty 1982a, 1982b, 1982c; Daugherty et al. 1982; McKithan 1977). Additional support for archaeological potential is provided by the predictive model developed by SWCA in 2010 that showed high risk for encountering pre-contact and historical period cultural resources along [REDACTED] (Sharley et al. 2010).

Landform Evaluation

Prior to field investigation, the potential for various landforms in the Port Gamble Redevelopment project area to have supported past human residence or activity was evaluated. Project area landforms were mapped for this study based on surface geomorphology and the earliest available historical maps. Four different landforms were identified in the project area, including tide flats, beaches, bluffs, and uplands.

Tide Flats

Tide flats are found where tidal action is moderate and sediment is available from circulation within littoral cells, from tidal deltas formed by ebb and flood tidal flows through constricted passages, and from sediment plumes introduced into the bay by flooding streams. The tide flat is exposed at low tide, and the surface gently slopes from the shoreward supratidal zone to the subtidal zone in deeper water (Shipman 2008). Tide flat surfaces are marked by meandering channels, typically created during ebbing flow, which can migrate rapidly and completely rework the surface sediments within a few years. Native American villages were often located near estuaries and tide flats because of their abundant and diverse resources (Deur and Turner 2005). This ecological setting could provide important resources such as shellfish, migratory birds, and plants like tule and cattail for making mats, stinging nettle for fiber for cordage and nets, as well as estuarine roots, rhizomes, and bulbs. Branching delta distributary channels and tidal channels would also provide opportunities for harvesting anadromous and resident fish in large quantities through the use of weirs and traps.

[REDACTED]

Today, thick fill deposits containing mill waste and dredge spoils are on top of the earlier Holocene tide flats along the east edge of the Mill Site portion of the project area.

[REDACTED]

The extreme east edge of the project area where the tide flats drop off into the bay and land was not exposed has low potential for pre-contact archaeological remains.

Beaches

Beaches are coastal accumulations of sediment derived from rivers and eroding bluffs that are moved by tides and waves. Beaches have characteristic profile forms, which are determined by the steepness of the waves and the size of the sediments, and within the beach profile are several different zones with features such as berms, beach ridges, and bars. The backshore is the supratidal portion of the beach and is usually only inundated during storms, whereas the foreshore, also called the beach face, is intertidal (Masselink and Hughes 2003). Beaches exhibit variable substrates that may be conducive to either habitation use or resource harvesting depending on local conditions

[REDACTED]

Preservation conditions, however, may be poor along the exposed portions of the shoreline because of wave base scour. Late-Holocene pre-contact occupation focused on the marine shoreline where fish, shellfish, and sea mammals could be found.

[REDACTED]

Today, thick fill deposits containing mill waste and dredge spoils are on top of the earlier Holocene beach deposits in the Mill Site portion of the project area. Older middle Holocene beaches may be buried north of the modern shoreline.

[REDACTED]

[REDACTED]

Bluffs

Bluffs of varying height define the back of the shoreline, and suitability for human use would vary according to the topography and height of the bluff edge. [REDACTED]

[REDACTED] The bluffs ringing much of Puget Sound began forming shortly after the retreat of the continental glaciers, and in fact, most probably developed only after sea level began stabilizing about 5,000 years ago (Downing 1983; Shipman 2004). Because of the complex early postglacial history of Port Gamble Bay, the shoreline at the project area is characterized by low bluffs fronting a marine platform that was created when relative sea level was considerably higher than the present shoreline. The bluff edges, and uplands immediately behind or above the bluff edge, would have been available to inhabitants of the region beginning in the early Holocene and continuing throughout the present. These bluff edge areas may have supported camps of early hunter-gatherers who moved from location to location with little specialization in settlement type. These early camps would be characterized by Olcott or earlier style stone tools and fire-modified rock (FMR) from campfires. Older sites that were once at the edge of the bluff may have since eroded into the sea or slumped down onto the beach below. Later, bluffs were crossed to reach the beach where marine resources were procured and processed and to reach the upland where hunting, gathering, and other resource processing occurred. Historical maps show that paths were common [REDACTED] in the project area. Ethnographic and oral history accounts suggest a S'Klallam village [REDACTED] (Beckwith et al. 2002; Eells 1996 [1889]). [REDACTED]

[REDACTED] Bluffs are generally unstable, so preservation potential is lower at the top of the bluff and along the bluff slope. [REDACTED]

Uplands

The uplands behind the bluffs were generally heavily forested, and productivity of resources that may have been useful to Native Americans varied depending on landscape elements like soils, hydrology, aspect, and slope. Native Americans mainly used the uplands for special purposes, such as activities related to resource procurement of cedar, game animals, berries, and other plants, as well as for purposes unrelated to subsistence, such as burials. [REDACTED] cedar trees with bark stripped away and others felled for use in making canoes, or split to produce house boards might be present. Clusters of reduced cobbles that may have been used in woodworking are commonly found [REDACTED]. Campsites, if they occurred, would be small with less diverse artifact assemblage and smaller heating elements than longer-term residential sites and they would be found near the resource being utilized. For example, campsites could be near [REDACTED]

[REDACTED] S'Klallam oral history accounts suggest the village [REDACTED]

[REDACTED] In general, there is low potential for [REDACTED]

encountering pre-contact cultural resources on the upland, except where fresh water and access points are present.

Geoarchaeological Analysis

The logs of previously drilled boreholes were reviewed to understand the depth and nature of the fill across the Mill Site and to distinguish the stratigraphy at the Town Site, especially around the margins of the historical lake. Thirty borings were previously drilled on the Mill Site and 15 borings were drilled at the Town Site. Logs from these boreholes were analyzed and the interpreted stratigraphy and lithology is available in Appendix A. In general, bores ranged in depth from 12 to 117 feet below surface (fbs) (3.7 to 35.7 m below surface [mbs]) with an average depth of 37 fbs (11.3 mbs).

Existing borehole data from the project area were categorized using a facies approach that organizes downhole lithology into vertical and lateral sequences. Each sediment layer, called a lithofacies, was viewed as a unit with distinct observable physical properties. The lithofacies were packaged into three strata, Fill, Holocene, and Pleistocene. The borelog data was used to construct a three dimensional

model of the stratigraphy at the Mill and Town Sites (Figures 2 and 3). Seven discrete deposits, or facies, were identified in the fill stratum, including ASPHALT, CONCRETE, GRAVEL, SAND, SILT, WOOD, and SAWDUST. An additional 11 facies were identified in the underlying naturally deposited Holocene and Pleistocene strata. Nine of these were identified in the Holocene and all 11 were identified in the underlying Pleistocene stratum. A series of preliminary cross-sections were compiled for planning purposes based on the interpreted stratigraphy and lithology in the geotechnical cores (Figures 4 and 5).

According to the previously collected borehole data, fill at the Mill Site extended to an average of 13.4 fbs (4 mbs) and generally consisted of sandy layers overlying mill waste. The shallowest fill was found along the edge of the upland at 6 feet (1.8 m) thick, while the deepest fill, at the east edge of the project was a maximum of 22.5 feet (6.8 m) thick. Holocene deposits below the fill stratum ranged from 13.4 to 22.8 fbs (4 to 6.9 mbs) and generally consisted of beach sands with varying amounts of silt and gravel. The lower boundary of the Holocene stratum with Pleistocene sediments was highly variable, ranging from a minimum of 13.5 fbs (4.1 mbs) to a maximum of 31 fbs (9.4 mbs). Pleistocene glacial deposits were recorded in 20 of the 30 borings drilled on the Mill Site.

Four observations concerning stratigraphy were made based on the Mill Site borings. The first observation was general vertical stratification of the fill. The fill at the surface was mainly composed of SAND facies capped by ASPHALT, while WOOD and SAWDUST facies were generally confined to the base of the fill. WOOD and SAWDUST facies were identified in 18 of the 30 Mill Site borings between an average of 8 and 15 fbs (2.4 and 4.6 mbs).

Mill waste was routinely dumped into the intertidal zone as a means of disposal and to create more supratidal land.

The second observation regards inclusion of natural marine deposits in the fill in the form of dredge spoils. Dredged natural deposits used as fill were identified in 5 of the 30 Mill Site boreholes between about 9 and 13 fbs (2.7 and 4 mbs). These spoils have temporal value as an indicator of a past historical activity. The dark color, organics, burned wood, and shells noted in some of the dredged SAND facies suggest that dredge spoils at the Mill Site could

The borings containing dredge spoils were drilled in the center of the Mill Site and it may be

possible to determine where the spoils originated from if records of dredging are found. Learning more about the timing and methods of dredging at the mill could also shed light upon past mill infrastructure and construction methods.

The third observation is that the fill stratum contained scattered artifacts, mainly [REDACTED]
[REDACTED] A deposit that contains out of context or isolated artifacts is not necessarily important to archaeology. [REDACTED]

[REDACTED]

[REDACTED] Most of the borings with scattered artifacts were drilled [REDACTED]
[REDACTED]

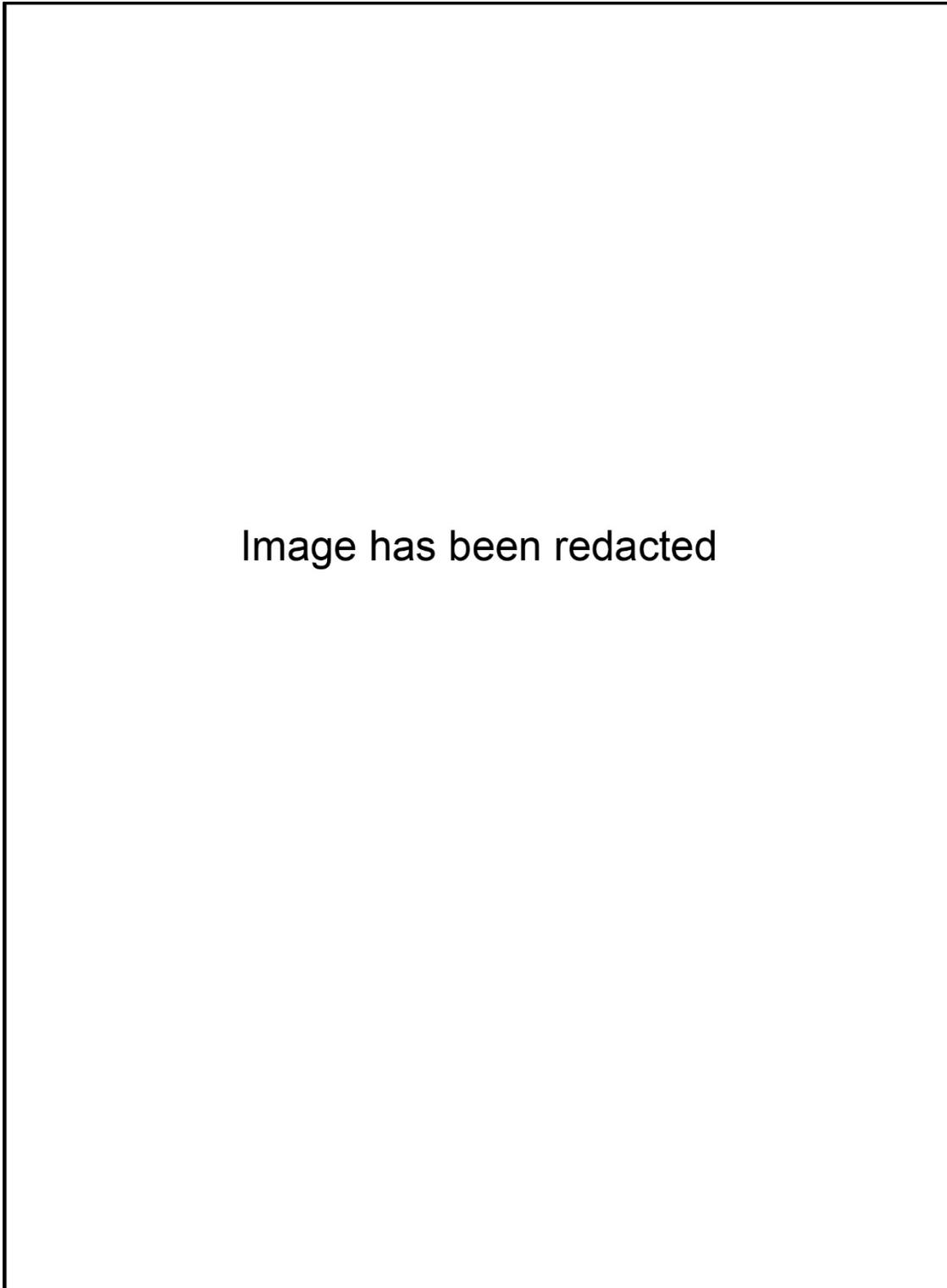


Figure 2. Locations of existing boreholes.

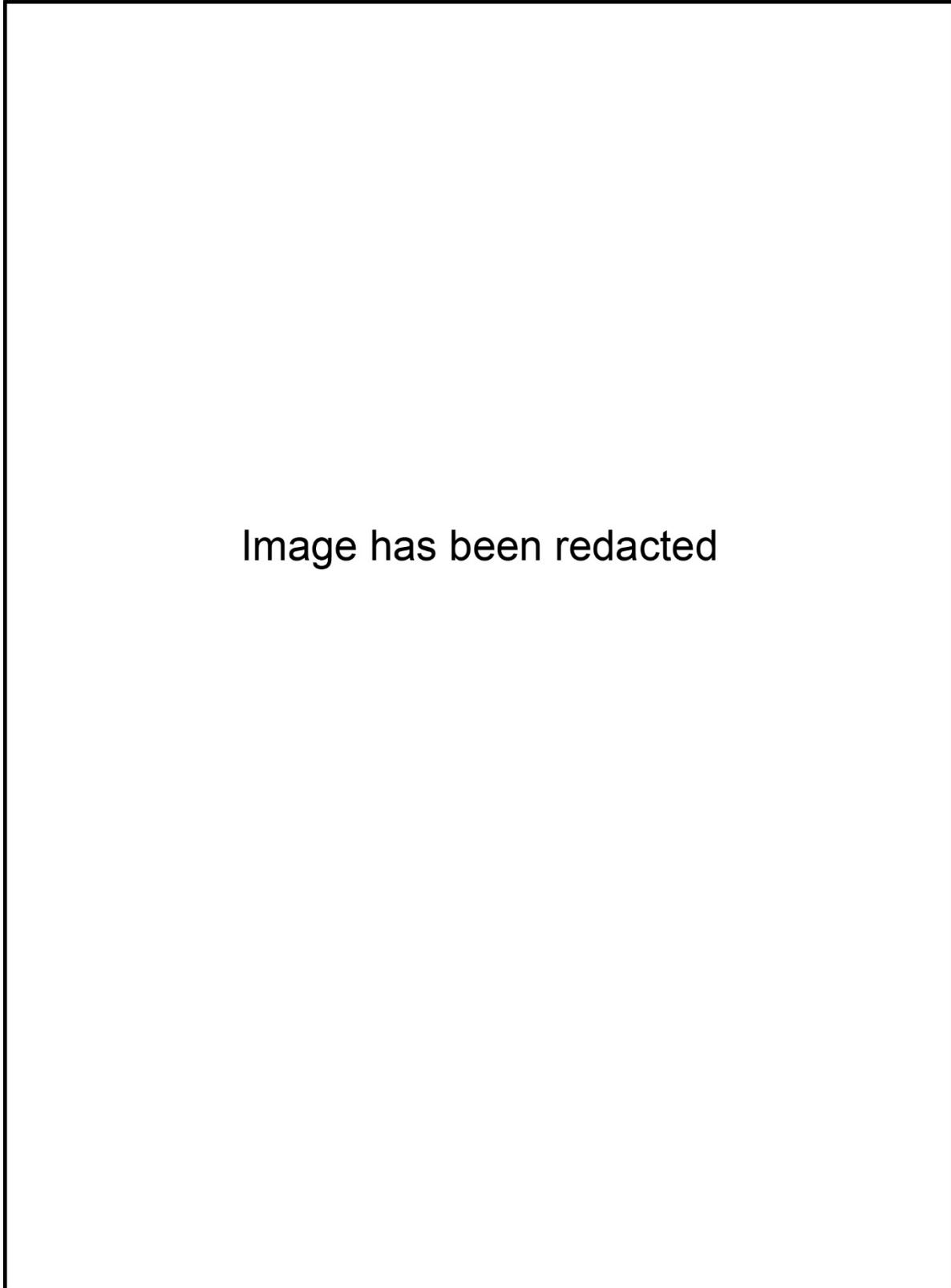


Figure 3. Three-dimensional model of the stratigraphy at the mill site and east edge of the town site. Inset shows a schematic cross-section along Walker Street following the W-E cross-section.

Image has been redacted

Figure 4. Cross-section showing the stratigraphy and lithology interpreted from the previously drilled cores from west to east across the upland and down onto the mill site.

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Figure 5. Cross-section showing the stratigraphy and lithology interpreted from the previously drilled cores from south to north across the mill site.

The fourth and final stratigraphic observation made from the Mill Site borings is that beach deposits with abundant shells, dark coloring, wood, and organics were [REDACTED]

Beach deposits with these inclusions were [REDACTED]

Geotechnical borings drilled at the Town Site also suggested [REDACTED]

[REDACTED] Most of the upland borings were concentrated within or immediately adjacent to a depression in the center of the Town Site that was once a small kettle lake. [REDACTED]

[REDACTED] The boreholes revealed that Holocene deposits are at the surface around the lake margins or below fill extending to a maximum of 16.5 fbs (5 mbs) in the center of the lake. One boring drilled near [REDACTED]

Beyond the lake where historical disturbance was limited, the upland hosts a thin veneer of Holocene-aged soil overlying Pleistocene-aged glacial sediment. Intact Holocene soils extend to about 3.6 fbs (1 mbs) across the glaciated surface where fill is absent. Fill was identified above or in place of Holocene soil where historical disturbance occurred. Fill deposits were usually less than a foot thick if they were present at all, but were occasionally up to 8 feet (2.4 m) thick as a result of topographic variability and varying historical activities.

Sensitivity Mapping

Research and review of landforms and existing sub-surface data allowed for relatively detailed modeling of the sensitivity for pre-contact archaeological materials across the project area (Figure 6). The highest sensitivity was assigned to the [REDACTED]. Heightened sensitivity was also identified for [REDACTED]. Moderate sensitivity for pre-contact archaeological resources was assigned to [REDACTED]. Low sensitivity was designated for the remainder of the upland.

Mapping sensitivity for early historical archaeological resources considered landforms, sub-surface data, and the built environment. At the Mill Site, the highest sensitivity for early historical materials dating to the 1850s was assigned to [REDACTED]

[REDACTED] This first sawmill on the sand spit was 70 feet long and 45 feet wide, and a substantial plank slide was used to transport logs into the building from the bay. The plant began operation in 1853 (Coman and Gibbs 1949; Keller 1862). Early historical cultural materials could be [REDACTED] since the Mill was upgraded, expanded, and rebuilt several times. Maps drawn of the expanding wharf in 1856 show eleven structures mainly along [REDACTED]. A second mill was built [REDACTED] in 1857. Residences were also constructed, as well as a new warehouse, a carpenter shop, and cookhouse by the end of 1857.

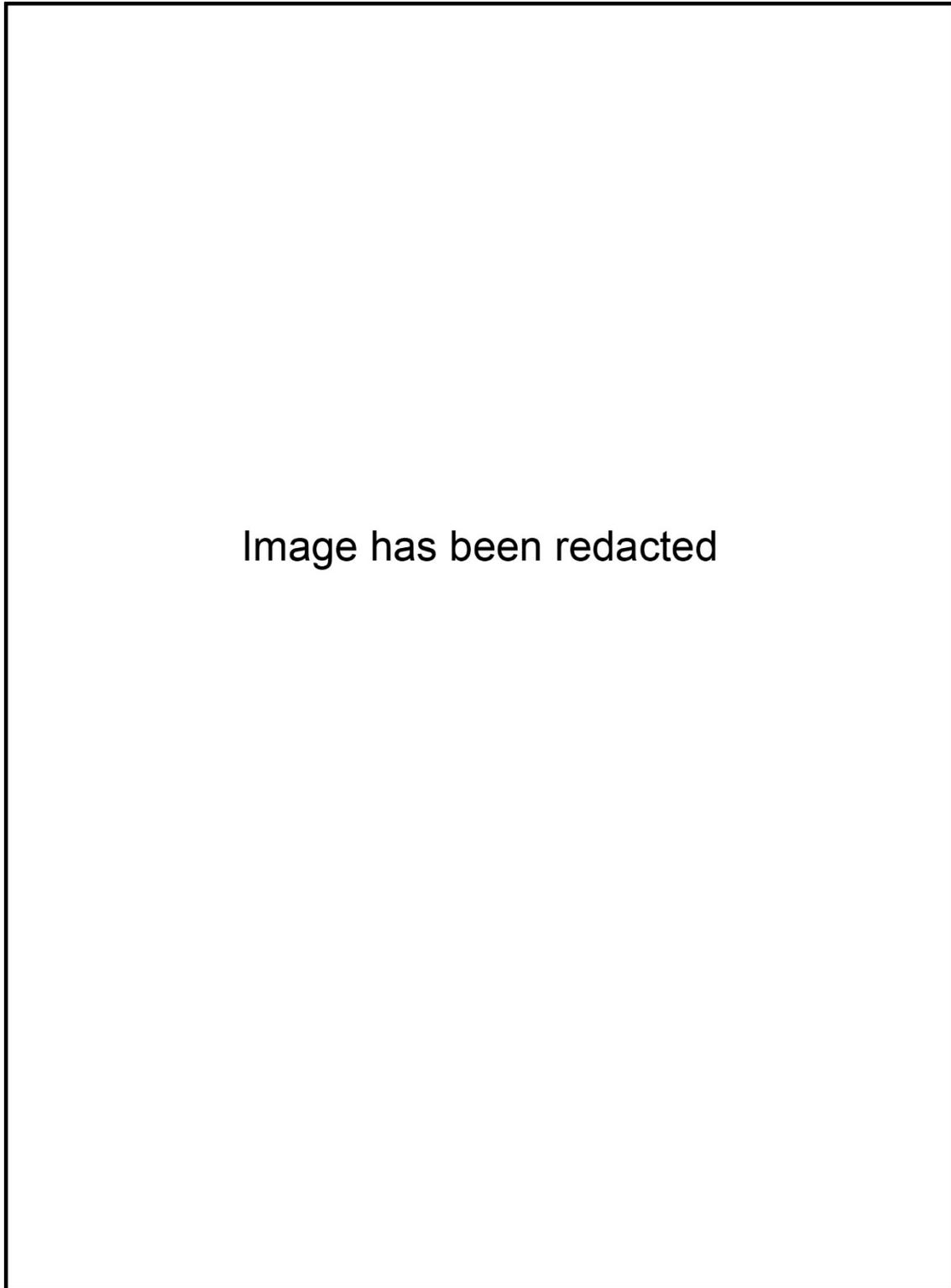


Figure 6. Archaeological sensitivity based on landform and land use.

Other parts of the Mill Site identified as high potential areas include [REDACTED] where a blockhouse for defense against Indian attack was built in 1855 and converted to a blacksmith shop by 1858. A store and mill managers' office building and worker housing were also mapped [REDACTED]. Other structures are shown [REDACTED] where they existed on planks and piles from the 1850s to 1870s. Indian labor was used in the mill, and at least a few Native people likely lived [REDACTED] (Coman and Gibbs 1949; Keller 1862). Chinese housing was mapped separately from the rest of the mill workers' cabins between 1870 and 1885, and it is probable that the other workers cabins mapped [REDACTED] were divided by ethnicity, as well. Early historical cultural materials could be buried [REDACTED].

Growth of the population around the mill and the logging of timber from the bluff above the Mill Site encouraged the Puget Mill Company to develop the upland. The highest sensitivity for early historical cultural materials on the upland was [REDACTED] where early coastal survey maps show structures were present by 1855 (Figure 7). These buildings became the company town and by 1860, 42 households were accounted for in Census records. The typical New England mill town residential style was probably in place by the mid-1870s. The town also included a cemetery by the 1860s and some of the earliest graves are likely not marked. A laundry and housing for Chinese laundrymen, was in place [REDACTED] by 1880 and reportedly burned in 1925. The new town used a relatively modern plumbing system by 1880 and the company houses were built with their own water closets by about 1890 (Ames 1884; Eakins 1997). Early historical cultural materials could be found [REDACTED] in the form of features excavated into the glaciated upland soils or as historical artifact scatters or concentrations, buried structural remains, middens, or other discrete deposits or features. More deeply buried historic deposits may be found in areas such as [REDACTED].

Much of the property around the Town Site left the public domain between 1862 and 1875 through homestead claims or warrant purchase. Many of the claims and purchases were filed to acquire timber for the Puget Mill Company instead of for homesteading. Mill worker Charles Babcock, however, homesteaded a 164-acre parcel [REDACTED] in 1886. His family had milk cows when they lived in town and Charles and his brother Frank developed a dairy business on the homestead. They supplied milk as well as other dairy products and meat to the millworkers and they purchased surrounding land to grow their holdings in 1893 (Bowen et al. 1977). The area surrounding the Babcock dairy farm has high potential for harboring early historical archaeological resources.

A series of historical maps from the turn of the Century allowed for in depth modeling of sensitivity for potentially significant historical materials post-dating 1889. Beginning in 1890, the company developed an addition to the town plat that added a new workers' district of small cottages [REDACTED] and as many as 51 homes filled the new neighborhoods (Eakins 1997). There is some evidence to suggest the new residential areas constructed after 1890 were intentionally separated from the earlier housing by social and economic status (Federal Census 1900; Eakins 1997). Despite the focus on accommodating families, single men continued to dominate the mill's work force and the town population. Continued mill expansion led to further development of worker housing [REDACTED]. Most single men continued to live near the mill. Some lived in larger housing units and others lived in cabins at [REDACTED]. At least five well-constructed cabins that accommodated two men per unit were added in 1892 and a bunkhouse built in 1903 housed at least 31 men (Eakins 1997). Historical cultural materials post-dating 1885 could be [REDACTED].

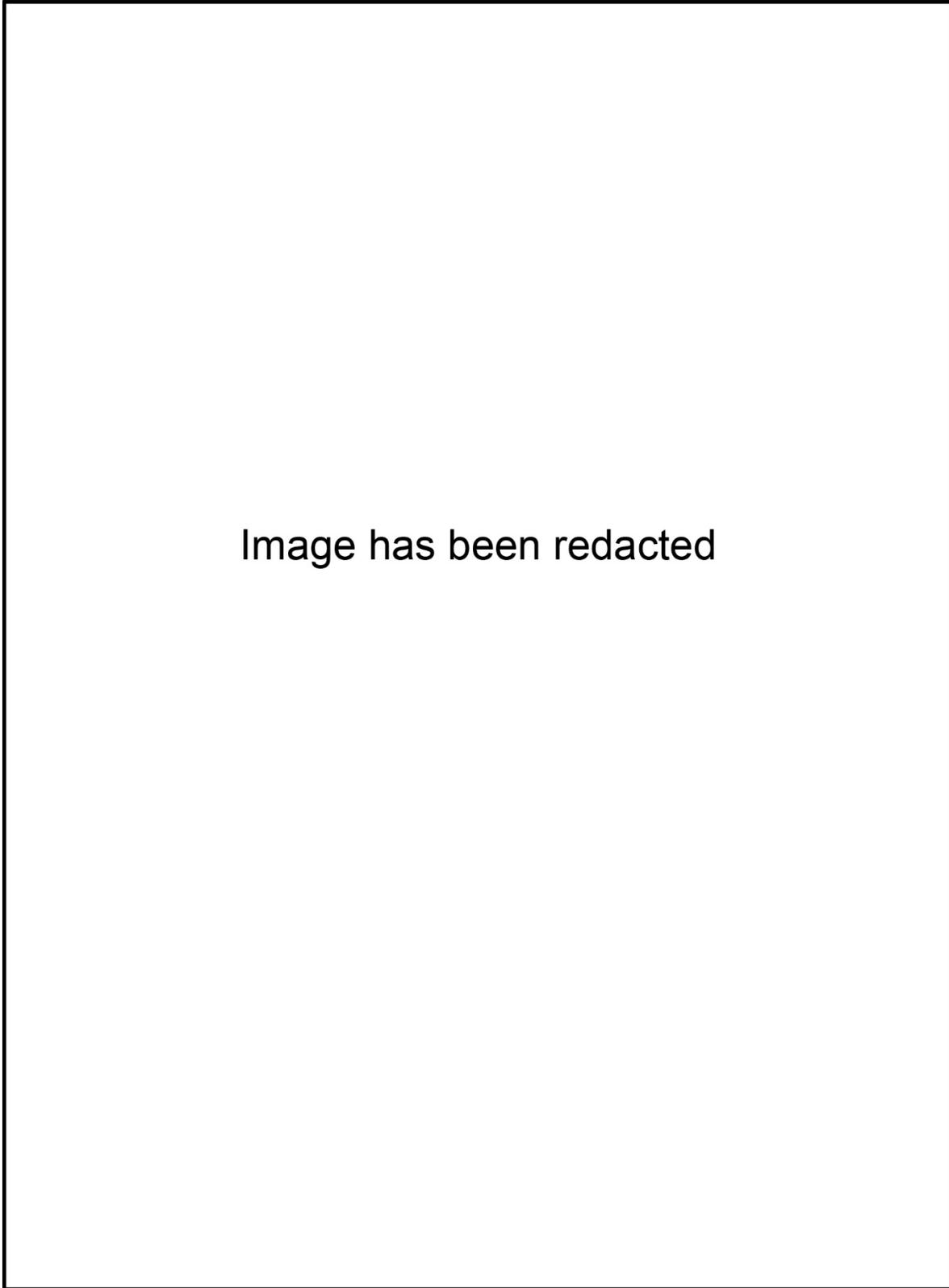


Figure 7. Sensitivity map for historic archaeological material.

A hotel for tourists was constructed overlooking Hood Canal in 1903 and an annex hotel was built just south of the larger hotel in 1907. Other community buildings were also constructed [REDACTED] the small kettle lake in the center of town. Filling of the lake ramped up after 1898. A plat dated 1910 suggests the company may have had plans to divide the filled lake property into lots. Highways began to be constructed through town by 1921. These major construction activities probably resulted in larger earth moving endeavors than previously occurred, causing disturbance to the glacial soils, and may have impacted earlier historical cultural materials. In July of 1924, the ownership agreed to sell the company's Puget Sound mills and uncut timberlands for \$15 million. The sale of these corporate assets also marked the end of the development of the original company town of Port Gamble (Coman and Gibbs 1949; Eakins 1997). [REDACTED]

Almost immediately after the purchase, the McCormick Lumber Company demolished the old Port Gamble mill and installed a modern facility. Mill demolition probably resulted in massive filling and disturbance across the Mill Site. The McCormick Lumber Company spent too much money on their acquisition and their profits were affected by the Great Depression. In 1931, the Popes and Talbots took control of their former lumber and shipping concerns (Stein 2003). The Port Gamble town and mill sites transferred to a separate company, Pope Resources, in the 1980s. The company leased the mill for a number of years and closed it permanently in 1995 (Stein 2003). Only a limited amount has been written about the physical changes in the town between 1925 and 1980.

The automobile enabled workers to live in a much broader area outside of the mill, and the fact that employees could not purchase any property may also have encouraged them to locate elsewhere. Even when Pope and Talbot returned as owners, the era of the company town had already faded. Maintenance had lagged during Pope and Talbot's absence and houses that had remained unrented were torn down or they burned (Eakins 1997). A review of maps shows that by 1956, the Puget Hotel Annex was gone as well as almost all of the small worker cabins that filled [REDACTED]. Over the next decade a number of homes [REDACTED] were also removed and very little new construction replaced these buildings. Limited recent development has helped to preserve the character and integrity of the town. Pope Resources rehabilitated many of Port Gamble's buildings between 1967 and 1976. Listing of the Port Gamble Historic District to the National Register of Historic Places in 1977 recognized the historic significance of one of the Northwest's earliest company towns as did its designation as a National Historic Landmark (Eakins 1997).

METHODS

Fieldwork was designed to locate pre-contact material in medium and high sensitivity areas, to explore the nature and distribution of historical artifacts, and to target several mapped historical features to test the accuracy of historical maps and assess methods for future identification of historical archaeological resources during additional surveys. This investigation was not designed to identify all archaeological properties within the project area. The locations of sub-surface archaeological investigations were based on the sensitivity mapping and research completed prior to fieldwork. The various methods used depended on specific location and associated expected depth of deposition.

Fieldwork consisted of shovel probes with pedestrian survey, magnetometer survey, borehole drilling, and mechanical excavation of test pits with a backhoe (Figure 8). Each day of fieldwork was documented on a standard daily work record form. Photographs were taken documenting conditions, methods, and results and a list of photographs taken was kept on a standard log. An unanticipated issue fieldworkers faced during survey was encountering unmarked old or active utilities, even though a standard utility locate (811 One Call) was completed. Locations of buried utilities were noted on standard forms and on profile drawings. Washington State Archaeological Site and Isolate Forms documenting identified archaeological resources were completed for submission to the Department of Archaeology and Historic Preservation when archaeological resources were identified.

Shovel Probe and Pedestrian Survey

Planned probes were 40 cm in diameter with excavated spoils screened through ¼-inch (0.64-cm) hardware cloth and any artifacts recovered described, bagged by 20-cm (8-inch) level, and returned to the probe of origin. Notes were kept describing the content and deposits encountered in each probe, and each probe's location was recorded with a global positioning system (GPS) unit. Shovel probes were classified as positive if they contained materials that were definitively or potentially from the historic period. Negative shovel probes contained only modern trash or had no recovery of any cultural materials. Probe placement on the upland was contingent on absence of utilities and impervious surfaces and fill less than 1 m (3 feet) thick. The shovel probes were excavated between September 9 and 24, 2013.

Pedestrian transects spaced 25 m (82 feet) apart and shovel probes excavated at the same interval were completed in portions of the upland with high sensitivity for archaeological remains (Figure 9).

The upland outside of the Port Gamble Historic District is densely wooded with a few access trails and was determined to have relatively low potential for discovery of archaeological sites. Survey of the upland used pedestrian transects spaced 50 m (164 feet) apart (Figure 10). Shovel probes were only excavated where natural features with sensitivity for archaeological remains were identified or where cultural materials were discovered on the surface.

Additional shovel probes were excavated to ground truth the magnetometer survey and to augment the backhoe test pits.

Magnetometer Survey

The magnetometer survey targeted examination of five lots within the Town Site using 20 × 20-m (60 × 60-foot) blocks (Figure 11). The five sub-areas were selected for their high potential for pre-1885 historic remains and to test the applicability of using the magnetometer in various settings, such as adjacent to roadways and buildings, in open fields, and next to utilities (Table 2). The magnetometer was operated and the data analyzed by Applied Archaeological Research, Inc., with assistance from SWCA. The instrument was passed over the parcel at 50-cm (20-inch) intervals to collect data that was processed and reviewed for patterns and anomalies that might represent artifacts, foundations, posts, or other archaeological features (Figure 12).

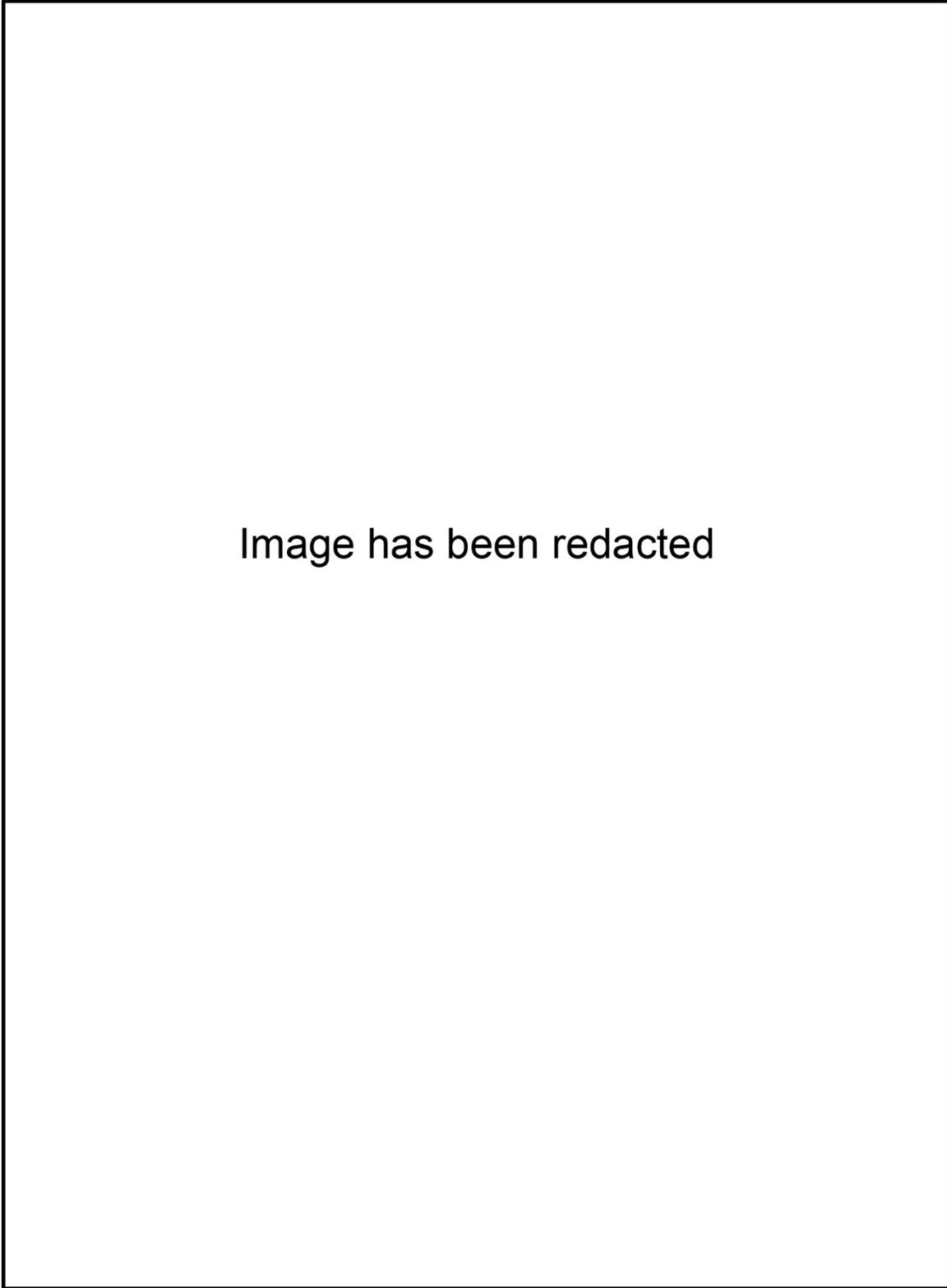


Figure 8. Standing and no longer standing buildings and structures in relation to test units and shovel probes.

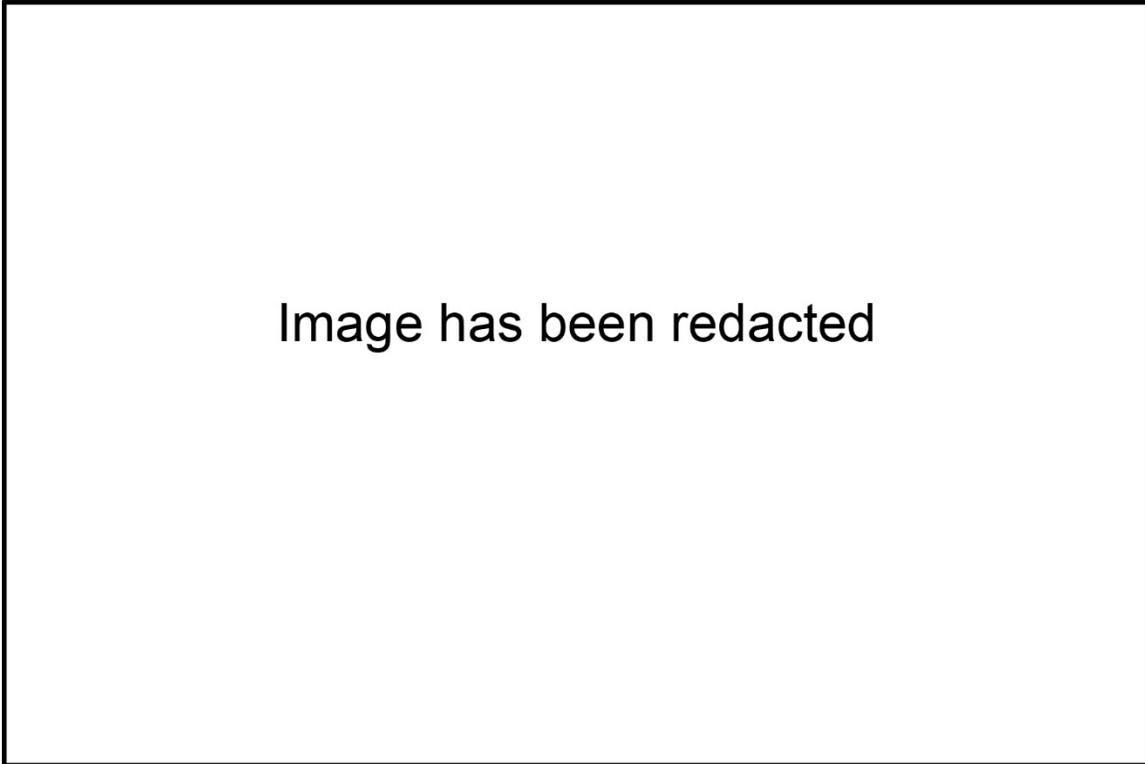


Figure 9. Overview of the upland's bluff edge showing SP-120 and SP-121, view east.



Figure 10. Overview of terrain encountered during pedestrian survey in northwest project area.

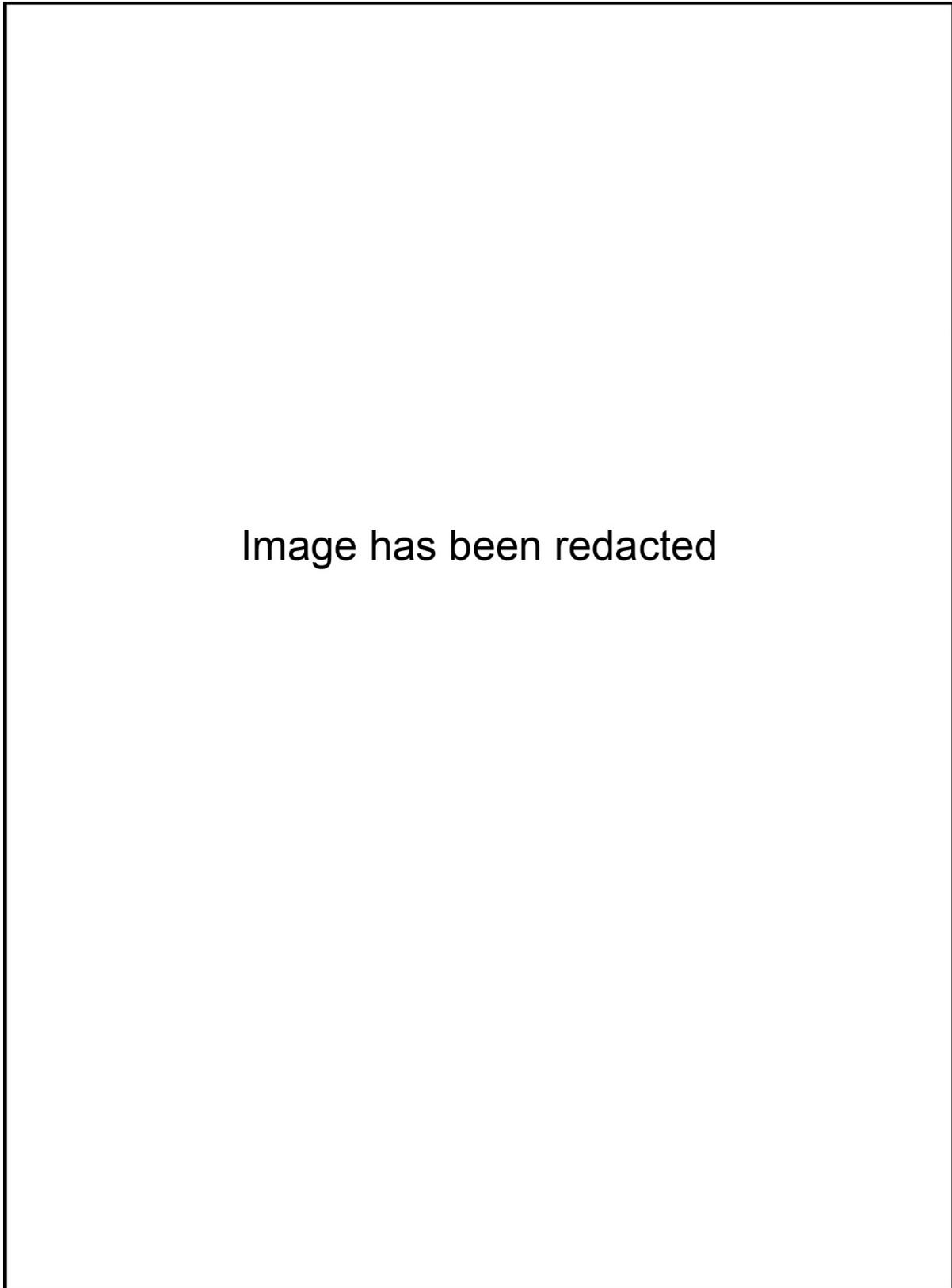


Figure 11. Map showing magnetometer block locations 1 through 5

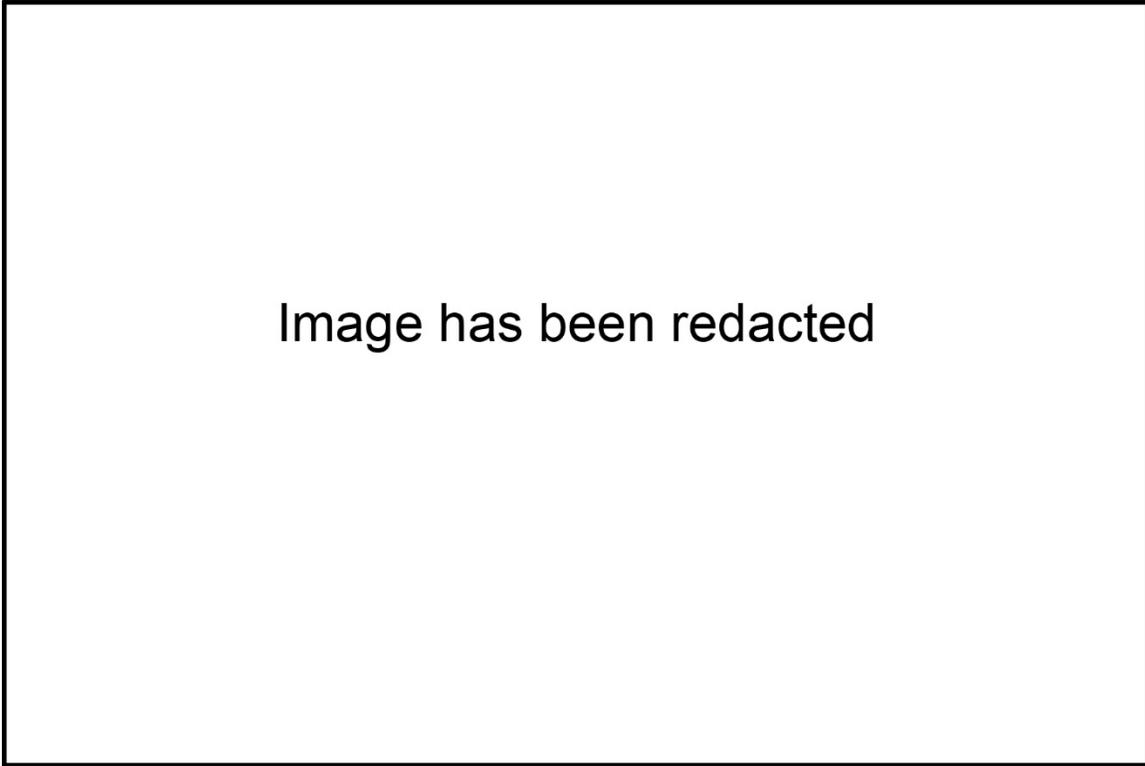


Figure 12. Overview of the magnetometer survey at grid 1, looking west.

Table 2. Summary of methods used to conduct remote sensing within five sub-areas in the project area.

AREA	TARGET EXPLORED	SETTING CHARACTERISTICS	METHODS USED
1	Historical buildings shown on 1878 map	REDACTED	Shovel probes only at anomalies
2	Residential buildings shown on 1878 map		Shovel probes on grid and at anomalies
3	Chinese laundry and residential buildings		Shovel probes on grid and at anomalies
4	Possible privy behind residence		Shovel probes only at anomalies
5	Consecutive school locations		Shovel probes only at anomalies

As part of the magnetometry evaluation, a high-quality metal detector was used to scan the same five sub-areas. Most metal detectors are designed to search for coin and jewelry sized-metal at depths between 20 and 30 cm (8 and 12 inches). The White’s MXT Pro is designed to identify buried metal in a variety of conditions with a series of settings that discriminate by metal type. The first setting used, called “coin and jewelry” by the manufacturer, identifies metals such as copper, silver, nickel, and zinc that commonly compose rings and coins. The second setting, called “relic,” focuses on metals like lead, tin, brass, pewter found in buckles, bullets, and buttons. Both settings are supposed to reject iron, including iron that is naturally found throughout soil, and light foil items such as modern aluminum pop and beer cans. The strength of the signal signifies the confidence of a buried object being present. Strength is indicated using a series of blocks on the unit display, with a larger block indicating a higher confidence. Signals were flagged when a full block was present, or when a half block or larger was present for uncommon objects, such as coins. The success of detecting a buried object with a metal detector depends on an object’s size, shape, metal composition, orientation, and the character of the surrounding soil. An important distinction between this survey and the intended casual use of the metal detector is that this survey was designed to find areas with concentrations of objects, not singular objects.

The metal detector survey consisted of walking the magnetometer grid with the metal detector set on the Coin and Jewelry discriminatory setting followed by walking the same transects with the metal detector set on the Relic setting, conducting sweeps approximately 2 m (6.6 feet) wide. The strongest signals representing high confidence of a buried object were marked with pin flags. Locations with overlapping signals were considered first when placing shovel probes.

The magnetometer survey and metal detector work was followed by excavation of shovel probes. In two of the 20 × 20-m (60 × 60-foot) blocks, shovel probes were initially excavated across the five sub-areas at roughly 10-m (32-foot) intervals, prior to investigation of anomalies identified by the magnetometer or metal detector. Selected anomalies in the other three 20 × 20-m (60 × 60-foot) blocks were investigated with shovel probes to test the non-invasive survey results.

Boreholes

Traditional methods of archaeological excavation are insufficient for archaeological site identification when target strata are deeply buried. Since the magnetometer provides only near-surface resolution and fill exceeding 1 m in depth was expected around the historical lake and at the mill site, a series of continuous geoprobes and sonicore cores was completed. First, eight geoprobes drilled by Cascade Drilling were observed and logged by a geoarchaeologist (Figure 13). A limited-access track-mounted geoprobe machine was used to retrieve sediment samples from a 2-inch-diameter (5-cm-diameter) diameter sampler in 5-foot (1.5-m) runs that were cased in plastic and laid out in sequence to be logged. All geoprobes were logged on standard forms with cuttings screened as determined necessary by the geoarchaeologist through ¼-inch (0.64 cm) wire mesh. The sediment samples were photographed and locations of the geoprobes were recorded with a GPS.

A rotosonic drill that uses high-frequency vibrations to advance a core barrel deep into the ground was then used to collect cores at 25 to 50 meter (82 to 164 feet) intervals across the Mill Site extending east from the foot of the bluff and north-south along the bluff base to determine the location of the original spit and to search for associated archaeological remains (Figure 14). One other sonicore was drilled in the middle of the historical lake on the upland. The sonicores were drilled by Boart Longyear and were observed and logged by SWCA's geoarchaeologist. A limited-access track-mounted rotosonic drill was used to retrieve 6-inch-diameter (15-cm-diameter) sediment samples in 5- to 10-foot (1.5- to 3-m) sample runs that were cased in plastic and laid out in sequence to be logged (Figure 15). Because the coring machinery and drillers work using English measurements, the resulting core data is presented in tenths of a foot with metric depths in parenthesis. All cores were logged on standard forms with cuttings screened through ¼-inch (0.64 cm) or ⅝-inch (0.32 cm) wire mesh as determined necessary by the geoarchaeologist.

Lithologic and sedimentary descriptions of the vertical depositional sequence for the entire length of every borehole were logged. Each discrete layer identified in the boreholes was treated as a lithofacies unit. Since lithofacies are the products of specific depositional processes within particular environments, they show distinctive and observable physical properties associated with those environments (Boggs 2001; Gilbertson 1995; James and Dalrymple 2010; Miall 2000; Teichert 1958). The identified lithofacies were classified according to the modal grain size or character and were then grouped into four strata by age and deposit type. A lithofacies nomenclature system and shorthand was used to log the sediment (Table 3).

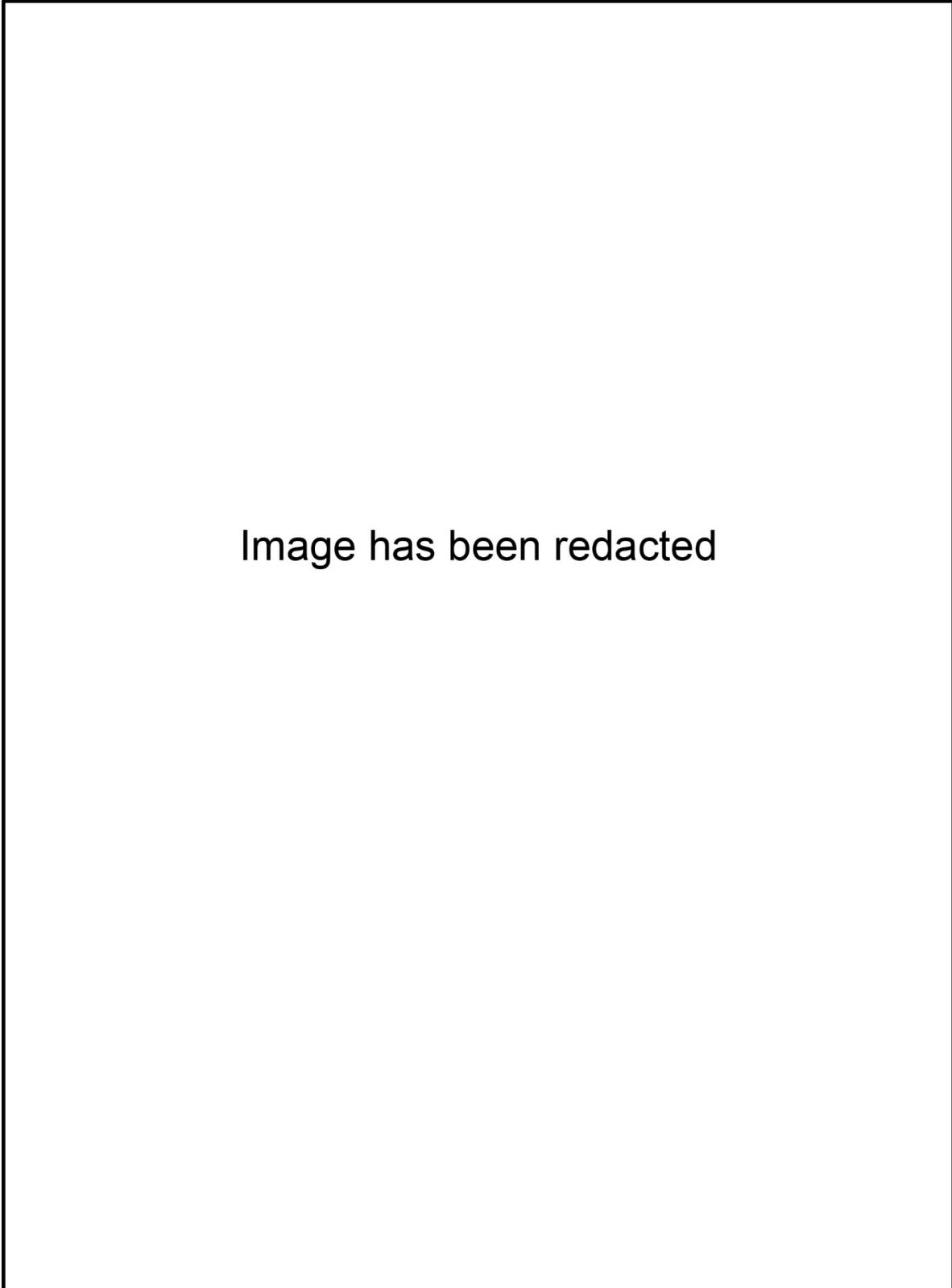


Figure 13. Map showing geoprobes, sonicores, shovel probes on the upland in relation to the mapped boundaries of the historical lake.

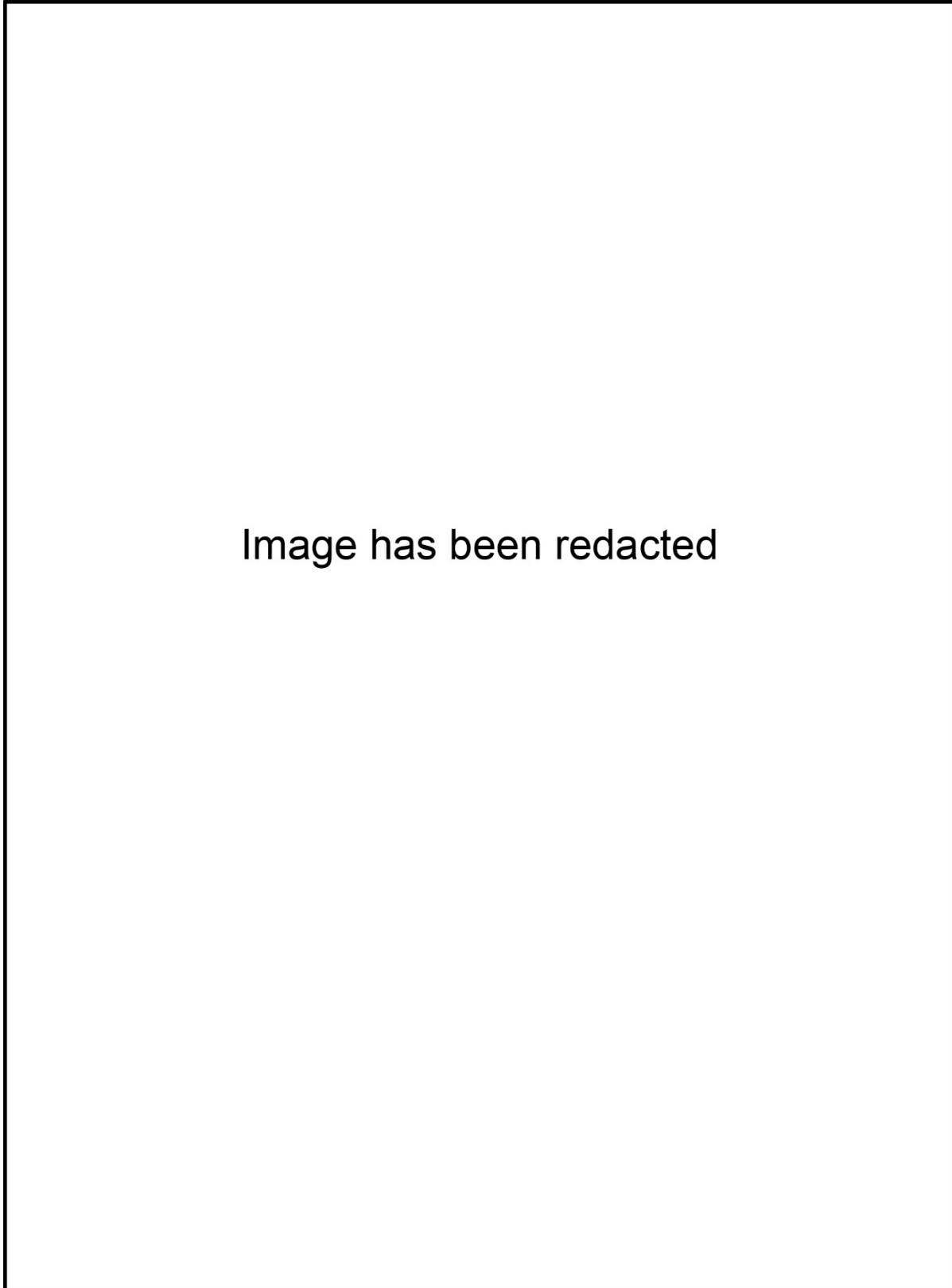


Figure 14. Map showing sonicores drilled at the Mill Site.

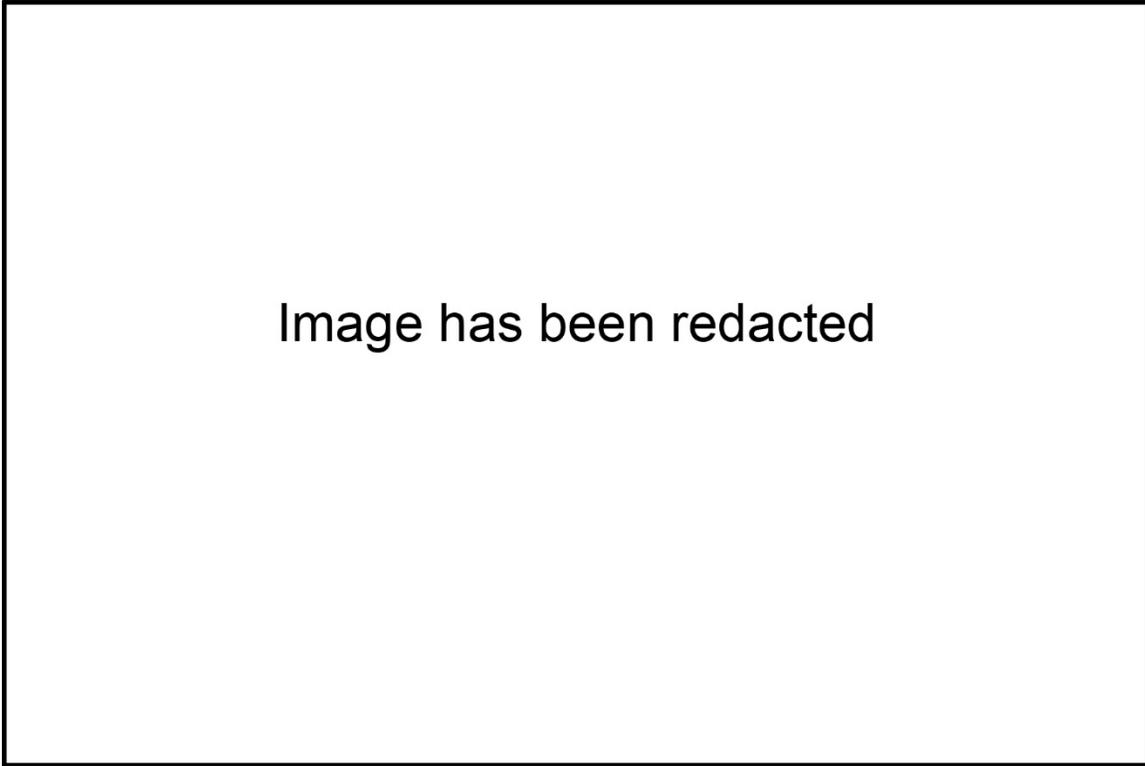


Figure 15. Overview of sonicore drilling at SC-6 where midden was identified, view north.

Table 3. Lithofacies Nomenclature for Labeling Sediments Encountered in the Borings at Port Gamble

Naturally Deposited Lithofacies Based on Modal Grain Size	Secondary Properties of Naturally Deposited Lithofacies	Prefixes for Sand Within Naturally Deposited Lithofacies	Lithofacies Based on Modal Grain Size or Character In Fill
G - Gravel	g - gravelly	f - fine	GRAVEL
S - Sand	s - sandy	m - medium	SAND
Z - Silt	z - silty	c - coarse	SILT
C - Clay	c - clayey	vc – very coarse	CLAY
	o - organic-rich		WOOD
	w - woody		SAWDUST
			ASPHALT
			BRICK
			CONCRETE
			ROCK
			TERRACOTTA
			MIDDEN

For naturally deposited sediments, the modal grain size was indicated with a capital letter. Secondary properties of the naturally deposited sediment were designated by a lower-case letter appearing as subscript. If sand is the primary constituent of the facies, a prefix modifier shows the texture of the sand. For example, a layer of silty, fine to medium sand was logged as f-mSz using this system. Deposits within the historical fill and other culturally deposited sediments were logged differently. The entire word, for example, GRAVEL, SAND, SILT, or CLAY was written in all capital letters to symbolize the modal grain size within a depositional unit of relatively “clean” historical fill. Layers of sedimentary fill mixed

with debris or artifacts were logged as WOOD, SAWDUST, BRICK, or TERRACOTTA if the layer of fill consisted of more than 50 per cent cultural material. Sand, silt, and gravel material usually composed the remaining matrix within these mixed fill layers. Fill associated with structural remains or the modern surface were logged as ASPHALT, CONCRETE, or ROCK, depending on the type of building material that was identified in the cores. Pre-contact archaeological midden material found below the historical fill in the Mill Site portion of the project area was logged as MIDDEN.

Continuous coring methods have proven successful at identifying archaeological sites in areas with thick fill or deeply buried deposits around the Puget Sound region (Miss and Hodges 2007; Miss et al. 2007a, 2007b, 2008; Hodges 2009, 2010; Kopperl et al. 2009, 2011; Rinck 2010, 2011; Gillis et al. 2011; Rinck and Valentino 2012). Continuous coring approaches have also been effectively undertaken in coastal settings by geoarchaeologists working beyond the Pacific Northwest (Firth 2000; Schuldenrein and Aiuvalasit 2011).

Mechanical Excavation

A backhoe with a 2.5-foot-wide (0.76-m-wide) toothed bucket was used to clear the thick brush, blackberries, and other vegetation from the lowest bluff slopes near locations known to have historically hosted buildings and structures and to excavate test pits at the bluff's base (See Appendix B, Figures B-4 and B-8). The backhoe plowed through the vegetation at the base of the slope and used its front blade to strip away the fallout to clear an approximately 5-m-wide (16.4-foot-wide) strip of land along about 145 m (475 feet) at the base of Teekalet Bluff and an approximately 3-m-wide (9.8-foot-wide) strip of land along about 80 m (262 feet) at the base of the bluff to the east. Windows were cut up the slope into the vegetation by hand using a machete at 10-m (33-foot) intervals and the slope base was surveyed for structural remains. Even with brush clearing, visibility was poor and there was a thick mat of fallen vegetation across the surface of the slope (Figure 16). Brush clearing became even more difficult to the south where a retaining wall was identified and the slope was near vertical. There, the backhoe reached up over the wall and removed the vegetation to the degree possible.

Once the slope base was cleared of vegetation, test pits were excavated at the base of the slope at roughly 25-m (82-foot) intervals. Shovel probes were excavated in addition to or in lieu of test pits in areas where utilities prevented mechanical excavation or in areas of interest where the backhoe could not reach. The test pits were about 1 m (3.75 feet) wide and about 2 m (6.6 feet) long. The maximum reach of the machine was about 3 m (9.8 feet). The test pits were excavated in 15-cm (6-inch) lifts across the surface of the entire pit and artifacts were collected from the test pit spoils upon visual inspection and were described in 30-cm (1-foot) levels. When a depth of 1.2 m (4 feet) was reached, at least one wall of each test pit was drawn to scale, sediments were described, and photographs were taken. Additional excavation below 1.2 m (4 feet) was documented as a strip log to meet safety requirements. The location of the test pits and associated shovel probes were recorded with a GPS unit on completion of each excavation. Artifacts identified in the test pits were returned to the excavation after they were described and photographed. The test pits were backfilled after all documentation was complete.

Tribal Coordination

The Port Gamble S'Klallam Tribe, the Suquamish Tribe, and the Skokomish Tribe were notified of the field work schedule prior to the investigation. Members and staff of the S'Klallam Tribe visited the field investigations on the Mill Site, including S'Klallam Tribal Historic Preservation Officer (THPO) and archaeologist Josh Wisniewski, tribal geologist David Fuller, THPO technician Donette Fulton, Cultural Resources Director Marie Hebert, and Tribal Member Mary Jones.

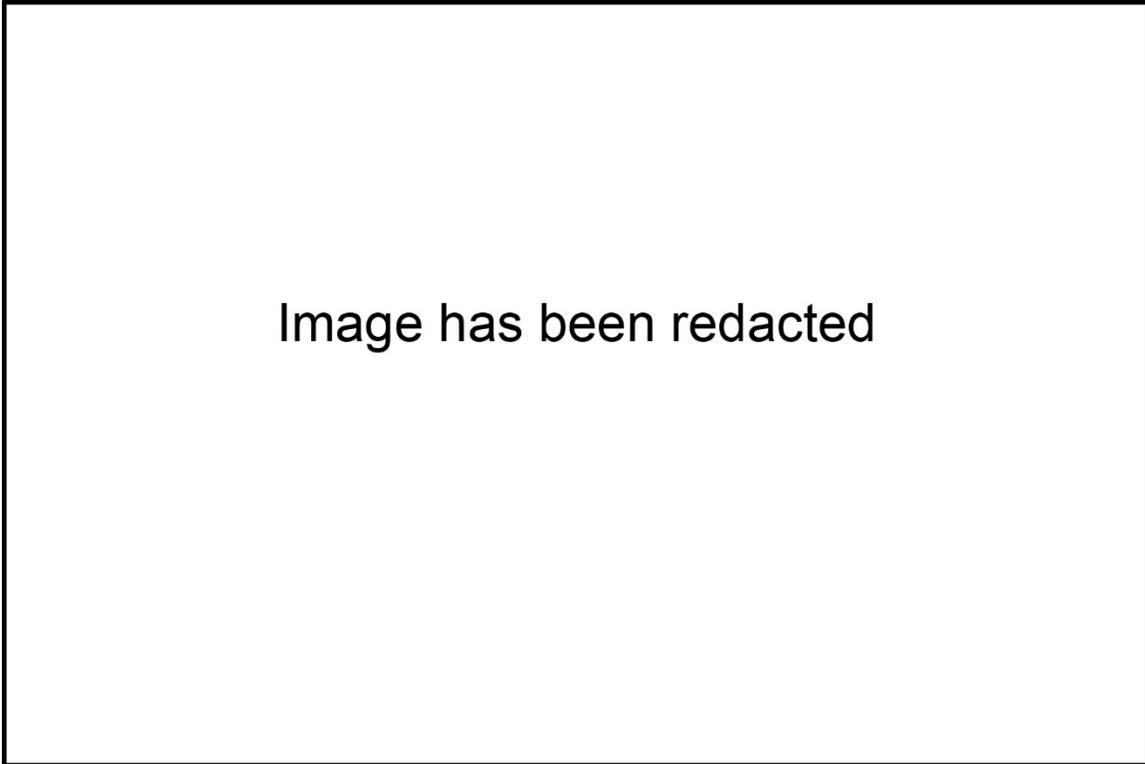


Figure 16. Overview of brush clearing where a retaining wall was uncovered along the base of the bluff, view southwest.

RESULTS

A total of 245 shovel probes, 14 test pits, eight geoprobes, and 16 sonicores was excavated during field work. One pre-contact site, four historical sites, one historic isolate, and two twentieth century culturally modified trees were identified during these investigations. Results of field investigations are presented by location within Port Gamble. A discussion of the identified archaeological resources follows the general results.

Upland

Fieldwork on the upland consisted of pedestrian survey in the woods surrounding the Town Site, shovel probe surveys of the bluff edge, historical lake margin, and Babcock dairy farm area, magnetometer survey in the Town Site, as well as borehole drilling around the lake. upland fieldwork specifically consisted of 28 pedestrian transects and 28 shovel probes in the woods; 40 targeted shovel probes along the bluff edge; nine shovel probes, eight geoprobes, and one sonicore along the historical lake shoreline; 97 targeted shovel probes at the dairy farm; and completion of 5 grids in the Town Site using the magnetometer, metal detector, ground truthing of anomalies using 42 shovel probes, and excavation of 21 probes on a standard grid (Figure 17). Detailed maps showing the fieldwork locations are in Appendix B.

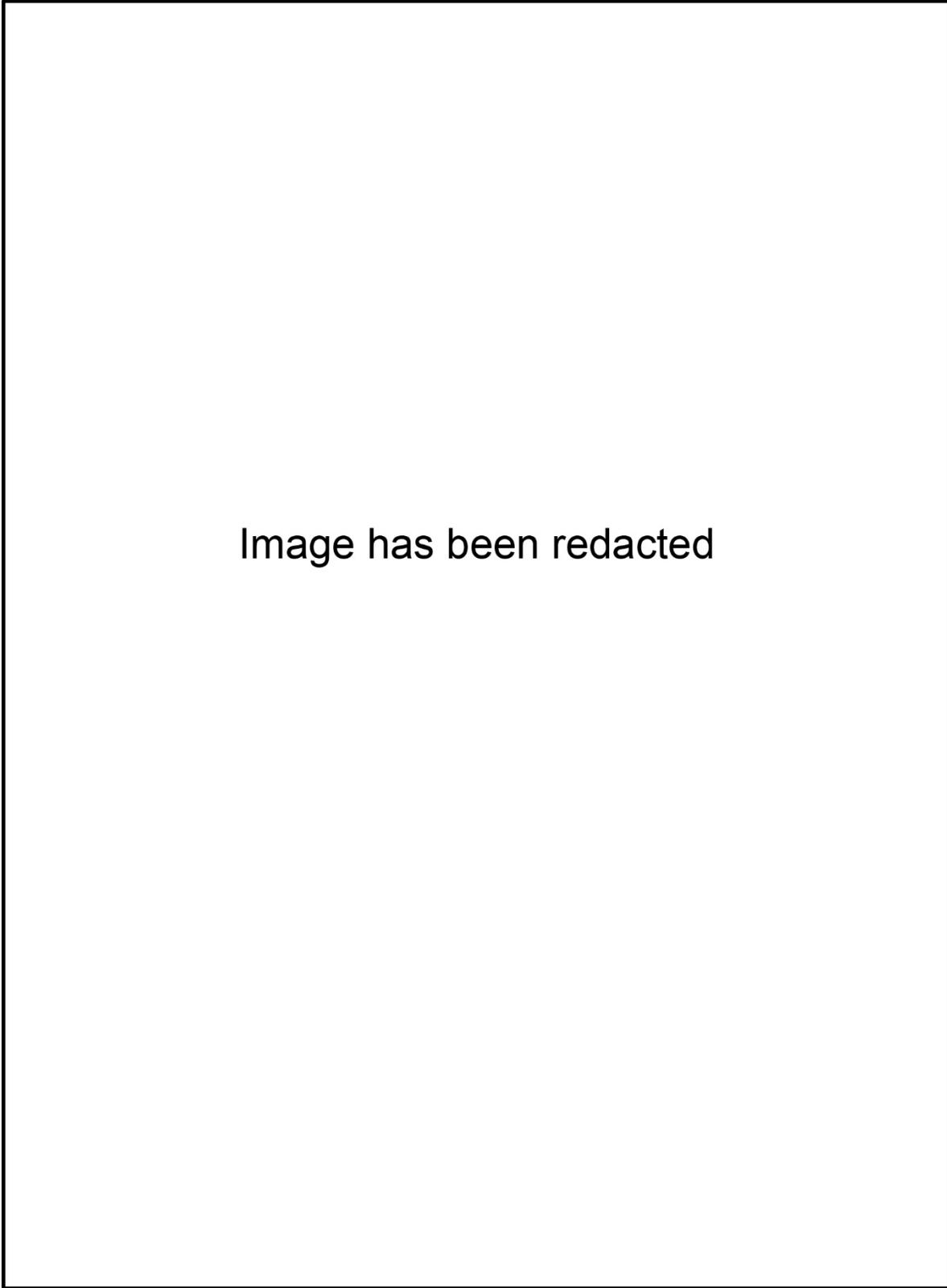


Figure 17. Fieldwork results summary map showing the distribution of positive and negative excavations.

Three historical archaeological sites were recorded during the upland investigations. These are a dump named the [REDACTED] Historic Dump (45KP253), a debris scatter dating from the 1870s to the 1930s associated with the Babcock Dairy and Port Gamble Dance House (45KP254), and a historical debris concentration associated with the Port Gamble Chinese Laundry and Residences (45KP255). In addition, two culturally-modified trees identified by others were recorded as [REDACTED] Culturally Modified Cedars (45KP258), as was an isolated historic bottle base found in a shovel probe (45KP257) (see Figure 1). Additional details concerning these cultural resources are included in the site summaries section below, the shovel probe summary in Appendix C, and site form records in Appendix D.

Forest Surrounding the Town Site

The forest surrounding the Town Site on the upland was assigned low sensitivity for archaeological resources. A total of 26 transects between 450 and 950 meters long and oriented north to south were completed between September 4 and 6, 2013 (Figure 18). One section was surveyed in two, meandering 100-meter transects due to safety concerns related to wetlands and wildlife. Twenty-eight discretionary shovel probes were excavated during pedestrian survey.

The upland outside of town is densely forested with second and third growth Douglas fir, hemlock, alder, cottonwood, and cedar trees with a dense brushy understory. Wetlands are in topographic lows on the upland and vegetation is thick around the associated swamps, supporting very large blackberries. There was also evidence of bears across the upland, including recent tree scratches, scat, dens, and feeder stations throughout the woods. A number of logging roads, trails, and a transmission line provided some access.

Noted Features

During pedestrian survey, a number of infrastructure features were noted, but not recorded as archaeological sites (see Figure 18). These include the current wellhouse, the reservoir and the pipes supplying the reservoir, structural remains, abandoned logging roads, concrete and corrugated metal culverts, hunting blinds, a collapsed tree fort, and fencelines.

The wellhouse built between 1941 and 1959, and reservoir built between 1921 and 1940, were both recorded by Artifacts Consulting, Inc. as part of their assessment of the built environment for the SEPA EIS (Artifacts Consulting, Inc. 2013). The original pipe connecting the reservoir to its supply springs, which lie outside of the project area to the south, has been replaced by PVC. It remains buried beneath dense vegetation or earth along its length within the project area. The route of the pipe was recorded with the GPS where possible.

Additional infrastructure features observed in the forested upland include logging roads, spring board notched stumps, and fencelines. Logging roads [REDACTED] consisted of cleared paths roughly six feet wide. No cuts, stringers, or fills were observed along their lengths. Spring board notches were observed on several tree stumps in the area where logging roads were identified. Spring boards are planks used to elevate a logger above the base of the tree. A notch is sawn into the side of the tree and a spring board is inserted into that notch. The logger then stands on the board while felling the tree. Hillside pastures surround the Babcock dairy farm area [REDACTED]. The fences mark the boundaries between the fields and forest. The fences were constructed of barbed wire held up by either wooden fence posts or metal studded t-posts. Several segments of fence were electrified.

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Figure 18. Map of the upland portion of the project area showing pedestrian transects and cultural materials identified during the pedestrian survey.

Survey in the forest also identified possible shell midden used as road bed fill [REDACTED]. Much of the shell was unidentifiable due to trampling, but horse clam shell was recognized. Midden was present intermittently along a 30-m (100-foot) length of road in an approximately 2-m-wide (6-foot-wide) swath. The shelly fill deposit extended no more than 5 cm below surface (cmbs) (2 inches below surface). A probe excavated adjacent to the road did not contain any cultural materials.

Shovel Probe Results

Twenty-eight shovel probes were excavated to investigate natural features with sensitivity for archaeological remains in the upland forest surrounding the Town Site. Examples of such natural features are the [REDACTED]. Discretionary shovel probes were also excavated in areas where pedestrian survey discovered cultural materials at the surface, such as at the well house and reservoir, to see if there were associated archaeological components. Of the 28 shovel probes excavated during pedestrian survey, 13 were negative for artifacts. Two probes identified artifacts associated with an historical dump site recorded as site 45KP253, the [REDACTED] Historic Dump (Table 4). Scattered modern debris, which is the result of littering and casual disposal, is in three of the 13 negative probes. Historical artifacts such as unidentifiable glass, ceramics, and metal fragments were identified in 13 of the 28 probes. The historical artifacts are occasionally mixed with recent debris towards the top of the positive probes.

Table 4. Summary of Shovel Probes Excavated in the Woods Surrounding the Town Site

SHOVEL PROBE	REASON EXCAVATED	RESULTS	CONTENT
SP-1	REDACTED	Positive	1x clear glass fragment
SP-2		Positive: 45KP253	1x Mason jar lid; 1x fragment of graduated glass bottle; 1x small toy cat; 1x perfume bottle; 2x tube of unknown hygiene product; 1x red plastic bottle twist cap; 3x light bulb base; 1x metal belt buckle; 1x blue marble; 2x metal lid fragments; 3x metal caps; 1x metal button; 30x clear glass fragments with 7x clear glass fragments from one vessel; 24x unidentifiable metal fragments; 1x small brown bottle with side grips; 1x charred bone fragment; 1x square fish tin fragment; 1x metal fixture; 1x metal cap; 5x pieces of plastic; 1x metal twist cap; 1x long bone fragment; 1x bent wire nail; 1x brown glass fragments; 1x green glass insulator; 1x lighter.
SP-3		Negative	None.
SP-4		Negative	None.
SP-5		Negative	2x large pebble-sized pieces of asphalt.
SP-6		Negative	1x light bulb base.
SP-7		Negative	None – within old road bed.
SP-8		Negative	None.
SP-9		Negative	None.
SP-10		Negative	None.
SP-11		Negative	None.
SP-12		Positive	9x clear bottle glass shards; 1x brown bottle glass shard; 1x teal plastic container; 1x ironstone vessel fragment; 1x metal bottle top; black tarp fragments; 1x clear window glass; many metal debris; 1x plastic ball; aqua glass fragment; 1x piece of milkglass; 1x nail.
SP-13		Positive	16x clear glass shards; 2x brown glass shards; metal debris
SP-14		Positive	1x spike; 1x clear glass shard.
SP-136		Negative	None.
SP-137		Negative	None.
SP-204		Positive	2x nails; 1x metal unknown; 1x foam.

Table 4. Summary of Shovel Probes Excavated in the Woods Surrounding the Town Site

SHOVEL PROBE	REASON EXCAVATED	RESULTS	CONTENT
SP-205		Positive	1x ceramic; 8x tobacco tin pieces.
SP-206		Positive	22x clear bottle glass shards; 1x metal rivet; 1x rubber.
SP-207		Positive	2x saw cut mammal bone; 1x green glass bottle; 1x metal oil drum lid; 1x metal handle; 1x automobile motor; 1x wash tub
SP-208		Positive: 45KP253	1x earthenware plate rim; 1x amber glass bottle heel; 3x green glass shards; 2x plastic; 1x golf ball "XL TOP-FLITE 3"; 2x clear glass shards; 1x plaster; 1x olive glass shard.
SP-209		Positive	1x brick fragment.
SP-210		Positive	2x brick fragments; 3x concrete; 3x clear glass shard; 1x aqua glass shard; 1x brown glass shard; 3x brick fragments.
SP-211		Positive	3x metal unknown; 1x earthenware sherd; 1x clear window glass shard.
SP-212		Positive	3x aqua canning jar shards.
SP-213		Positive	2x plastic tubes; 13x nails; 1x metal unknown; 1x clear glass shard; 1x cut nail; 2x brick fragments; 6x charcoal pieces.
SP-216		Negative	None.
SP-217		Negative	Styrofoam and plastic.

In general, sediments encountered in the probes excavated during pedestrian survey of the woods are all glacial in origin. Most probes contained disturbed soil A horizons composed of gray to brown, gravelly, sandy, silt overlying less disturbed B horizons consisting of reddish to yellowish brown, gravelly sands. The depth to the top of the sterile glacial till, the parent material of the soil, varies from around 30 cmbs to about 60 cmbs. The soils are thin, weakly developed, and do not contain much organic matter. Alluvium was expected in low elevation areas and areas surrounding creeks, but bedded sands and finer-grained soft sediments were rarely encountered on the surface of the till plain. When present, artifacts were usually [REDACTED], except where highly disturbed. Details of the sediments encountered in the probes and lists of associated cultural materials by depth are in Appendix C.

Most of the positive probes excavated in the woods are associated with [REDACTED]. Trash disposal often consists of tossing unwanted or used and broken materials out-of-sight. Many of the probes excavated [REDACTED] yielded disturbed sediments containing scattered, mixed historical and recent cultural materials. Shovel probes SP-2, SP-208, SP-12, and SP-14 suggest similar opportunistic dumping has occurred [REDACTED] since at least the early 1900s.

Bluff

Forty shovel probes were excavated along the bluff in the Town Site (Figure 19). Fourteen of the 40 shovel probes did not contain artifacts, while 26 were positive for historical cultural materials (Table 5). One diagnostic historical glass isolate (45KP257) was identified within the intact portion of a truncated soil B horizon at SP-110 (Appendix D). No pre-contact artifacts were discovered. Detailed maps showing the fieldwork locations are in Appendix B (pages B-1 through B-4, B-6 through B-7, and B-13).



Figure 19. Overview of sediments encountered along the bluff edge, showing utilities in SP-119.

Table 5. Summary of the Bluff Top Shovel Probe Results

SP	RESULTS	CULTURAL MATERIALS
93	Negative	None.
94	Negative	3x modern amber glass shards; 1x modern olive glass shard; 2x modern clear glass shard.
95	Positive	1x amber glass shard; 2x nails; 8x shell.
96	Positive	1x earthenware bowl sherd.
97	Negative	1x tar.
98	Positive	1x cut nail.
99	Positive	1x wire nail.
100	Positive	1x metal debris; 14+ shell.
101	Positive	1x rubber band ball; 1x amber glass shard; 1x clear glass shard; 1x aqua glass shard; 4x nails; 1x metal screw cap; 1x earthenware sherd; 10+ shell.
102	Positive	1x olive glass shard; 2x nails; 1x cut nail
103	Positive	1x clear bottle shard; 1x non-ferrous metal
104	Positive	5+ brick fragments; 3x clear glass shards; 4x nails; 2x shells; 2x bricks
105	Negative	None.
106	Negative	None.
107	Positive	1x clear glass shard.
108	Positive	1x leather shoe fragment; 56x clear glass shards; 4x olive glass shard hand manufactured; 3x aqua glass shard; 4x amber glass shard; 4x rubber ball pieces; 2x earthenware sherds; 1x aluminum piece; 5x saw-cut mammal rib; 1x green milkglass shard; 2x nails; 2x metal unknown; 4x clear chimney glass shards; 1x Bennington sherd
109	Positive	2x glass shards; 3x green glass shards
110	Positive: 45KP257	1x clear glass shard; 1x nail; 4x glass shards; 4x mammal bones; 7x olive hand manufactured whiskey bottle base and finish
111	Positive	4x nails; 1x clear glass shard

Table 5. Summary of the Bluff Top Shovel Probe Results

SP	RESULTS	CULTURAL MATERIALS
112	Positive	4x aqua glass shards; 2x clear glass shard; 1x wire nail; 1x fence staple; 2x brick fragments; 13x aluminum; 2x concrete 1x leather; 2x pull tabs; 2x green glass shards; 1x milkglass shard; 1x non-ferrous metal rod; 1x aluminum can; 1x brick fragment
113	Negative	None.
114	Positive	1x nail; 1x earthenware sherd; 2x clear glass shards; 1x metal unknown; 1x amber glass shard; 1x metal unknown
115	Positive	1x green glass shard.
116	Negative	None.
117	Negative	None.
118	Negative	None.
119	Positive	13x fabric; 1x brick fragment; 3x clear glass shards; 2x earthenware sherds.
120	Positive	3x nails; 1x brick fragment; 1x aqua glass shard; 2x clear glass shards.
121	Positive	1x earthenware sherd; 10x wire nails; 2x aqua glass insulator shard "H / ...ATE..." on base; 1x clear glass shard; 1x mammal bone; 1x non-ferrous metal; 4x slag.
122	Negative	None.
125	Positive	1x clear glass shard; 1x aqua glass shard.
126	Negative	None.
127	Negative	None.
128	Positive	4x wire nails; 1x green glass bottle heel; 1x white brick fragment; 1x non-ferrous metal; 1x clear glass shard
129	Positive	Metal cable and concrete pieces.
130	Positive	1x metal wire; 1x clear glass shard
131	Positive	1x ceramic marble; 1x .22 bullet cartridge "H"; 5x brown beer bottle shards "NW / 682" on base; 3x yellowish brown glass shards; 2x clear glass shards, 1x nail.
132	Negative	1x modern plastic.
133	Negative	None.
134	Positive	3x green glass shards; 2x yellow-green glass shards; 1x brick fragment; 1x Styrofoam piece; 1x saw-cut mammal rib bone; 1x earthenware sherd; 13x wire nails; 1x cut nail; 1x wrought nail; 4x metal debris.

Probes excavated along the edge of the bluff typically encountered a disturbed A horizon containing brown, sandy pebbles or sandy, gravelly, silt. The A horizon extends to an average depth of about [REDACTED]. The underlying B horizon formed within glacial till is usually intact, or just the uppermost portions are disturbed. The B horizon usually consists of yellowish to reddish brown, gravelly, fine to medium sandy silt. The C horizon was encountered at the base of the sequence at an average depth of 50 cmbs and is usually light yellowish gray, gravelly, silty, fine to coarse sand. Scattered historical cultural materials are found throughout the disturbed A horizon. A few cultural materials were identified within the B horizon where disturbance has occurred. Details concerning the depth and stratigraphic associations of the cultural materials are included in the shovel probe summary in Appendix C.

The edge of the bluff supports fill in addition to the glacial soil. Fill is prevalent near SP-11, SP-114, SP-115, and SP-119 along [REDACTED]. Here, the fill is probably associated with old roads and utilities. Smaller pockets of fill are found elsewhere along the edge of the bluff, as well. At SP-95, SP-100, SP-101, and SP-104, dark silt with clam shell fragments were included in the fill and incorporated into the disturbed A horizon, suggesting disturbed shell midden material might be at the surface [REDACTED]. The ground surface appears to have been bladed near SP-126 and SP-127 and much of the soil overlying the sterile glacial surface has been removed.

Artifacts observed along the bluff are predominantly non-diagnostic glass shards, as well as nails, ceramic vessel sherds, and small brick fragments that can be considered residential debris. The few temporally diagnostic glass shards come from probes SP-98, SP-108, SP-112, SP-131, and SP-134, including aqua, yellow/green, and yellow/brown glass bottles manufactured between 1850 and 1920. A sherd of Bennington ceramic, a style with New England roots in Vermont and popular between 1870 and 1930, was identified in probe SP-108.

The majority of the shovel probes with diagnostic artifacts were excavated [REDACTED]. Buildings are mapped [REDACTED] by 1878 and artifacts from their backlots suggest incidental discard of residential items rather than purposeful dumping. Shovel probes SP-101 through SP-112, SP-114, and SP-119 through SP-121 exhibited the highest variability of artifact types and these probes were dug in the vicinity of the hotel and store that are shown [REDACTED] on maps dating to 1878 and 1885, respectively. Considering how fragmented the cultural materials are, the artifacts were probably further broken during later activities that disturbed the surrounding soils, such as landscaping and tear down of buildings.

Other probes containing diagnostic artifacts and higher counts of artifacts, such as SP-129, SP-131, and SP-134, were excavated near [REDACTED]. Residences imported from Port Ludlow in 1921 with related structures [REDACTED], but the town residents may have used [REDACTED] for a dump site as early as the 1890s. In general, probes along the bluff were excavated in the backlots of former houses dating to the earliest Euroamerican occupation of town.

The Lake

The 8 geoprobes drilled around the old lake on the upland were designated GP-1 through GP-8. In addition, one sonicore was drilled in the middle of the old lake, called SC-1. Geoprobes were excavated on September 3, 2013, and the sonicore SC-1 was excavated on August 26, 2013. Standard shovel probes were also excavated where boreholes showed fill was less than 1 meter thick. Nine probes, SP-85 through SP-92 and SP-135, were excavated surrounding the historical boundary of the lake to identify pre-contact or early historical archaeological resources.

Boreholes

The main goal of the geoprobes was to identify any pre-contact archaeological resources that might be below fill along the old lake margins and secondarily to characterize the nature of the historical materials used to fill the lake and its depression. Glacial sediment is below the fill and Holocene strata at about 3 fbs on the slopes surrounding the historical lake and at about 16 fbs at the old lake bottom. Pleistocene-aged sediments were not logged in detail and will not be discussed further because they pre-date the arrival of humans to the region. No pre-contact archaeological resources were identified around the historically filled lake. Detailed results of the borings are in Appendix A.

Six fill deposits, including the BRICK, CONCRETE, ROCK, SAND, SILT, and CLAY facies are in the historical fill stratum, which is at the surface in all boreholes except GP-1 and GP-4 (Figure 20; Table 6). The fill mainly consists of massive SAND facies that are relatively clean deposits interbedded with fewer SILT deposits. The SAND facies probably represent local soil formed in glacial till that was bladed off the higher elevations around the lake and used to fill in the topographic low. [REDACTED]

[REDACTED] One instance of the CLAY facies was identified at the base of the fill in GP-5. The SILT and CLAY facies in GP-5 and GP-6 were probably deposited into lake water, while the other SILT and SAND facies were probably deposited after the lake was partially or completely filled. All of the other facies were limited to GP-7 and GP-8,

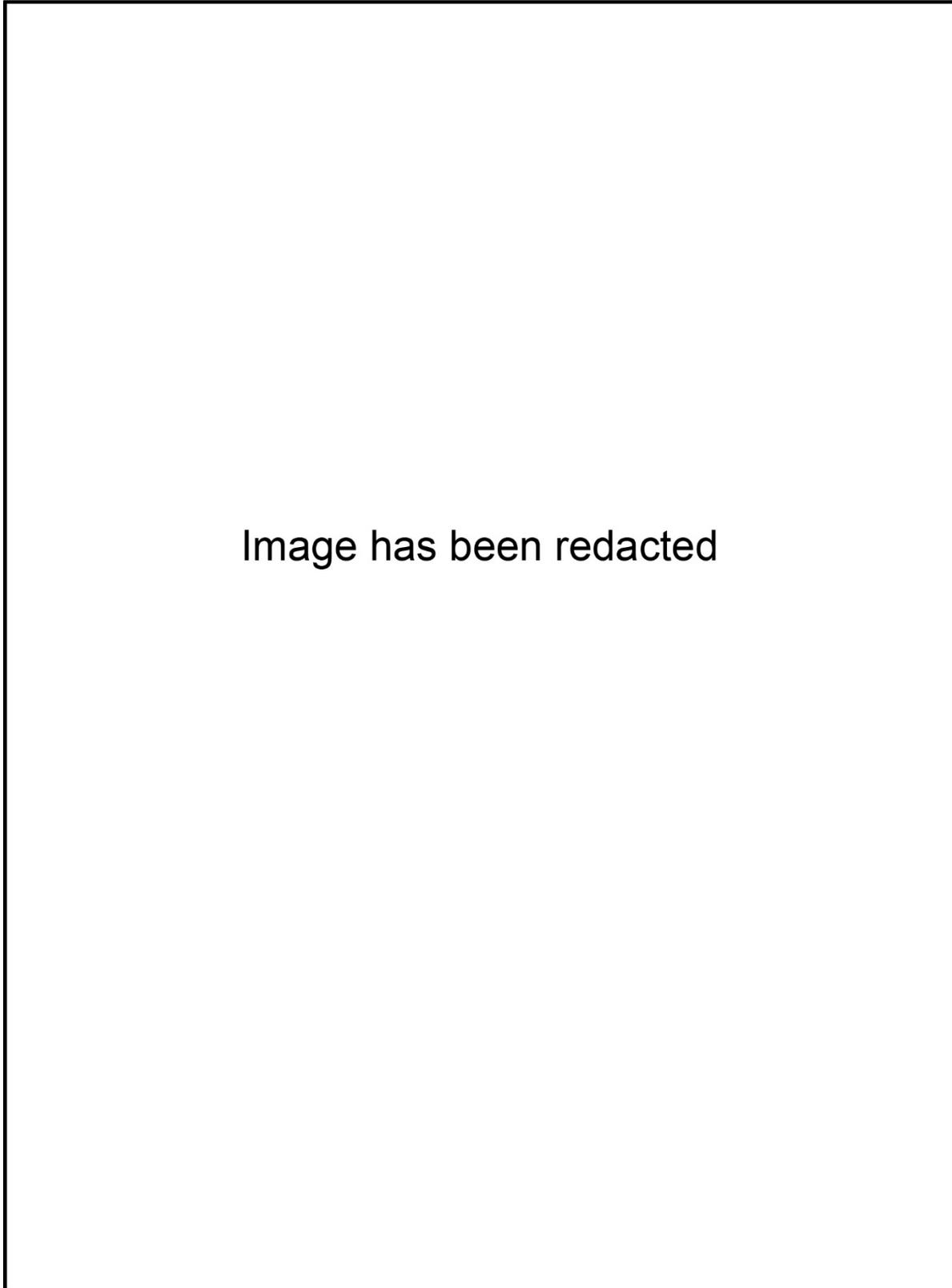


Figure 20. Illustration of the stratigraphy and lithology encountered in the geoprobes and sonicare drilled on the upland

Table 6. Typical Descriptions of the Facies Encountered in the Boreholes Drilled on the Upland

LITHOFACIES TYPICAL DESCRIPTION	
FILL STRATUM	
Brick	Brick or brick fragments.
Concrete	Concrete.
Rock	Light green, meta-sedimentary or gray, granite rock
Sand	Yellowish gray to mottled light gray and reddish brown, sometimes gravelly, usually silty, fine to medium sand; occasionally includes coarse sand; gravels are very few to common, sub-rounded to sub-angular, very small to small pebbles and when present, they are usually in pockets; sometimes includes roots or few, very small, decayed wood fragments.
Silt	Brown to very dark gray, sometimes slightly clayey and gravelly, fine to medium sandy, silt; gravels are very few to common, sub-rounded to angular, very small to large pebbles when present; occasionally exhibits an organic-stained matrix and sometimes contains tiny concretions, fine roots, woody debris, charcoal or historic artifacts; few instances represent historical surfaces.
Clay	Mottled dark brown and reddish brown, silty clay.
HOLOCENE STRATUM	
f-mS	Grayish brown or mottled gray and yellowish brown, fine to medium sand; can be compact; may exhibit soil horization.
f-mSz	Grayish brown, reddish brown, or mottled gray and reddish brown, occasionally slightly clayey, usually gravelly, silty, fine to medium sand; gravels are very few, sub-angular, very small pebbles when present; may exhibit soil horization; color mottling is due to iron oxidation where present.
fSz	Light brownish gray, silty, fine sand; relatively compact; slightly bedded.
Zs	Gray, dark brown, or mottled gray and reddish brown, fine to medium sandy, silt; massive; compact; may exhibit soil horization; common fine roots, or few organic fibers.
Zso	Mottled gray and grayish brown, fine sandy, silt with common organic fibers; slight evidence of soil horization.
Zsc	Gray to grayish brown, slightly clayey to clayey, fine to medium sandy, silt; may contain common fine roots and organic fibers; may be sticky and wet; compaction varies.
Zc	Yellowish brown to light grayish brown, clayey silt; compact; few iron oxide stains and scattered organic fibers.
Zco	Very dark brown, clayey silt; few scattered charcoal fragments.
Cz	Gray to dark gray, silty clay; occasionally contains common, small iron oxide mottles and few to many, fine organic fibers; may be interbedded (beds 2 to 5 cm thick) with gray clay and dark reddish brown, clayey silt; usually compact.

where ROCK facies are at the base of the fill and BRICK and CONCRETE facies are at the top of the fill, respectively.

Nine facies are within the underlying naturally deposited Holocene stratum, including the f-mS, f-mSz, fSz, Zs, Zso, Zsc, Zc, Zco, and Cz facies. The f-mS, f-mSz, fSz, Zs, Zsc, and Zc facies in GP-1, GP-4, and GP-8 represent soil that formed at the surface of the glacial till throughout the Holocene. The profile appears intact at GP-1 and GP-4, but it may be disturbed at GP-8. The Zs, Zso, Zsc, Zco, and Cz facies in GP-5, GP-6, GP-7, and SC-1 represent sediment deposited naturally into the lake. The finest textured Cz facies probably represent areas where water was calm and deep prior to historical filling. Older underlying Pleistocene deposits appear blue in hue due to prolonged anoxic conditions. Holocene deposits are absent from GP-3 and GP-2, where it appears grading activities occurred. GP-2 and GP-3 are situated at the highest elevation around the lake, an area used for source material to fill in the lake. Holocene deposits within the margin of the historical lake range from 2 to 9 feet thick and Holocene soils on the surrounding slopes extend from 0 to 5 fbs.

Shovel Probes

Nine shovel probes were excavated around the margin of the historical lake. Shovel probe excavations were undertaken only where the lower boundary of the fill could be intersected by hand excavation. The shovel probes sampled greater volume than the geoprobes allowing some characterization of artifact content. Seven of the nine probes excavated around the lake contained artifacts and two of those probes contained thick stove clean-out deposits (Table 7). Results of probing place the lake margins slightly farther northeast than expected based on early historic mapping.

Table 7. Summary of the Lake Margin Shovel Probe Results

SP	RESULTS	CULTURAL MATERIALS
85	Positive	1x plastic; 4x clear glass shards; 1x earthenware sherd.
86	Negative	None.
87	Positive	1x clear glass shard; 1x plastic sheeting; 1x metal debris; 1x earthenware sherd with green transfer print design; 3x brick fragments; 1x metal debris.
88	Negative	None.
89	Positive	4x brick fragments; 3x earthenware sherds (1x plate sherd); 1x nail; 1x mammal rib bone; 7x brick fragment; 1x wire nail; 1x melted metal; 3x metal unknown; stove clean out.
90	Positive	7x clear glass shards; 2x earthenware sherds; 4x blue glass shards; 2x door/latch hardware.
91	Positive	1x earthenware sherd; 1x glass bottle finish; 2x clear glass shards.
92	Positive	2x glass shards.
135	Positive	1x metal screw cap, melted; 3x clear window glass; 1x charcoal; 1x melted glass shard; 9x wire nails; 8x brick fragments; 1x non-ferrous metal; 3x earthenware sherd (1x rim sherd); 1x olive glass shard; 3x melted metal; 1x mammal bone; 1x metal eyelet; 1x charcoal; stove clean-out.

Three different stratigraphic sequences were identified around the historical lake, depending on past land use. The first sequence is intact glacial soil that was identified where very little past disturbance occurred, such as near SP-92. The second sequence is truncated glacial soil that was found outside the margins of the lake where historical grading occurred. SP-85 and SP-86 show truncated soils overlying sterile glacial deposits with compact, yellowish to light gray, gravelly, clayey silt as shallow as 5 cmbs. The third sequence is fill overlying historical lake deposits and older naturally deposited sediment within the margins of the old lake. SP-87, SP-88, SP-90, and SP-91 contain between 38 and 98 cm of disturbed glacial till used as fill. This fill thickens to the north and east across the topographic depression. Brown, woody, silty, clayey historical period lake deposits were encountered below the fill between 59 and at least 98 cmbs in SP-87 and between 70 and 95 cmbs in SP-88. In SP-87, the archaeological technician was able to excavate through the underlying historical lake bed deposits into intact glacial sediment. Glacial deposits below the base of the fill were reached by 65 cmbs in SP-90 and SP-91.

Most of the artifacts identified in the probes excavated around the lake were within the fill composed of disturbed till, with the exception of three brick fragments and one piece of metal found [REDACTED] in an historical lake bed fill deposit in SP-87. Objects found within the till fill include a clear glass bottle shard, a piece of plastic sheeting, a piece of metal, and one earthenware vessel sherd with green transfer-print design. These cultural materials were probably incorporated into the fill during grading and active lake infilling. Artifacts found in the lake vicinity are variable enough to suggest association with a past residence, but they cannot be attributed to a particular structure at this time.

One discrete and possibly primary stove clean-out deposit was identified within probes SP-89 and SP-135 that were excavated [REDACTED] (Figure 21). The stove clean-out extends from the surface to at least [REDACTED], but the bottom of the deposit could not be reached due to bricks. Artifacts found in the stove clean-out deposit in SP-89 consist of brick, earthenware vessel sherds, mammal (possibly deer) bone, nails, and brick. SP-135 contained melted materials such as glass and



Figure 21. Stove clean-out in the fill at SP-135.

metal. Artifacts that had not been exposed to heat in SP-135 include window glass, earthenware vessel sherds, nails, brick, unidentifiable metal debris, and bottle glass, none of which are temporally diagnostic. The variety of cultural materials found within the stove clean-out in these two probes indicates that this deposit may have been related to a household. Port Gamble town staff suggested the stove clean-out originated from the crematory and morgue that once occupied the basement of the Post Office building.

Babcock Dairy Farm Survey

A total of 97 shovel probes were excavated at the Babcock dairy farm, most of which were part of the 25-m (82-foot) grid set up to explore an area where an 1878 U. S. Coast Survey Map showed past buildings and cleared fields. These include SP-15 through SP-44 and SP-138 through SP-203. Of the 97 excavated probes, 24 were positive for cultural materials. Seven of the 24 positive probes contain cultural materials that are associated with a dance house that was located on the property prior to the Babcock dairy farm (Table 8). The other 17 positive probes contain artifacts associated with the Babcock dairy. The cultural materials associated with the dance house and farm were recorded as 45KP254 (Appendix D). Detailed maps showing the fieldwork locations are in Appendix B (pages B-14 and B-15).

Eleven of the 97 probes were dug to further investigate discoveries found while completing the 25-m (82-foot) grid. Other off-grid probes were excavated to search for privies or to investigate odd landscape features. For example, probes SP-164, SP-171 through SP-173, and SP-201 through SP-203 were placed in depressions observed near the existing dairy farm buildings that might have been filled privy holes, but no privy was identified.

Table 8. Summary of the Babcock Dairy Farm Area Shovel Probe Results

SP	RESULTS	CULTURAL MATERIALS	SP	RESULTS	CULTURAL MATERIALS
15	Negative	None	156	Negative	None
16	Negative	None	157	Negative	None
17	Positive	1x saw-cut cow radius; 6x blue glass; 4x ceramic; 1x hand-painted Asian ceramic; 1x painted wood; 1x nail; 1x brick fragment; 1x aqua glass shard; 2x ceramic sherd, 2x blue glass shards	158	Positive	1x nail
18	Negative	None	159	Negative	None
19	Negative	None	160	Negative	None
20	Positive	1x clear glass shard; 1x metal debris; 2x ceramic sherds	161	Negative	None
21	Positive	1x sawed cow bone; 4x earthenware sherds; 1x hand-painted Asian ceramic; 1x nail; 1x brick fragment; 1x painted wood; 6x glass shard	162	Negative	None
22	Positive	1x 2-hole Prosser button; 1x 0.22 bullet cartridge; 5x clear glass shards; 1x melted clear glass; 2x large square nails; 1x green glass shard; 1x cobalt glass shard; 1x 20d nail	163	Negative	None
23	Negative	None	164	Negative	None
24	Negative	None	165	Negative	None
25	Negative	None	166	Negative	None
26	Positive	1x green glass shard; 1x light brown turn-mold glass shard; 1x olive glass shard; 1x blue milk glass shard	167	Negative	None
27	Positive	16x clear glass shards; 3x olive glass shards; 1x aqua glass shard; 9x melted glass shards; 1x stoneware sherd; 1x ceramic figurine; 1x cut nail; 1x metal debris; 3x hand-manufactured honey glass shard; 1x nail	168	Negative	None
28	Positive	6x nails; 1x brick fragment; 2x earthenware sherd; 1x calcined bone; 5x clear glass shards; 5x clear window glass; 1x clear chimney glass; 3x olive glass shards "...LLE"; 2x nails; 1x clear glass shard	169	Negative	None
29	Positive	2x nails; 1x clear glass shard; 1x small electrical knob; 1x light green turn-mold glass shard	170	Negative	None
30	Negative	None	171	Positive	5x clear glass shards; 1x nail
31	Negative	None	172	Positive	1x nail
32	Negative	None	173	Positive	1x milkglass shard; 1x clear glass shard
33	Negative	None	174	Negative	None
34	Negative	None	175	Negative	None
35	Negative	None	176	Negative	None
36	Negative	None	177	Negative	None
37	Negative	None	178	Positive	18x nails
38	Negative	None	179	Positive	1x fence staple; 1x metal debris
39	Negative	None	180	Negative	None
40	Negative	None	181	Negative	None
41	Negative	None	182	Negative	None
42	Positive	1x aqua glass shard; 2x olive glass shard; 1x yellowish-green glass shard; 3x pale green glass shards; 2x frosted clear glass shards; 7x clear chimney glass; 2x nails; 3x earthenware sherds; 1x dark hand-manufactured green glass; 1x light green glass shard	183	Negative	None
43	Negative	None	184	Negative	None
44	Positive	1x hand-manufactured olive glass shard	185	Positive	1x nail

Table 8. Summary of the Babcock Dairy Farm Area Shovel Probe Results

SP	RESULTS	CULTURAL MATERIALS	SP	RESULTS	CULTURAL MATERIALS
138	Positive	1x clear glass shard; 1x brown glass shard	186	Negative	None
139	Negative	None	187	Negative	None
140	Positive	1x earthenware sherd	188	Negative	None
141	Positive	1x clear glass shard	189	Negative	None
142	Negative	None	190	Negative	None
143	Positive	2x clear glass shards; 2x green glass shards	191	Negative	None
144	Negative	None	192	Negative	None
145	Negative	None	193	Negative	None
146	Negative	None	194	Negative	None
147	Negative	None	195	Negative	None
148	Negative	None	196	Negative	None
149	Negative	None	197	Negative	None
150	Negative	None	198	Negative	None
151	Negative	None	199	Negative	None
152	Positive	1x clear glass shard; 1x green glass shard	200	Negative	None
153	Negative	None	201	Positive	1x fence staple; 1x ceramic sherd; 1x clear glass shard; 1x nail; 1x metal debris
154	Negative	None	202	Negative	None
155	Negative	None	203	Negative	None

Probes excavated at the Babcock dairy farm area encountered a plow zone overlying soil B and C horizons that formed in glacial till parent material. The average depth of Ap horizon is about [REDACTED], while the depth to the base of the B horizon is variable and depends on the glacial substrate and slope. Where the topography is rolling, the glacial parent material is encountered very shallowly and the B horizon is thin or absent. The top of the C horizon is deeper where the land surface is flatter (Figure 22). The historical artifacts found at the dairy farm were identified within both the Ap and B horizons. For additional details about the sediments and cultural materials encountered in the probes see Appendix C.

The 1878 U.S. Coast Survey map shows the dance house buildings [REDACTED] (Figure 23). Artifacts found surrounding the historical dance house include bottle shards from at least 25 glass vessels, sherds from four ceramic vessels, a handful of nails, and metal debris. At least six of the 25 glass vessel shards date to between 1870 and 1920. The other bottle shards that are not as tightly dated, but could still be identified as functionally diagnostic, were from alcohol bottles that were available as early as 1870. No architectural remains of the dance house were encountered. Artifacts found [REDACTED] and the former house and octagonal barn locations are more diverse than the artifacts from around the old dance house. These include mammal bone, tablewares, buttons, medicine and beverage bottles, and nails, all of which were available as early as 1900.

The positive shovel probes were recorded as the archaeological remains of the late nineteenth- to early twentieth-century Babcock Dairy and the late nineteenth-century Port Gamble dance house, the Babcock Dairy and Port Gamble Dance House (45KP254) (Appendix D). The first owners of the site operated a dance house as early as 1869. Ownership of the property changed hands multiple times until the Babcock’s purchased the land in 1893. The family had been living and farming on an adjacent property since 1886. That portion of the Babcock dairy contained on the site included a house and octagonal barn, as well as the five extant buildings. The existing buildings are the feeding/milking barn, the house/barn, a shed, a pumphouse, and an outbuilding that were recorded and evaluated separately from this report (Artifacts Consulting Inc., 2013). The dance house structures were razed before 1929,

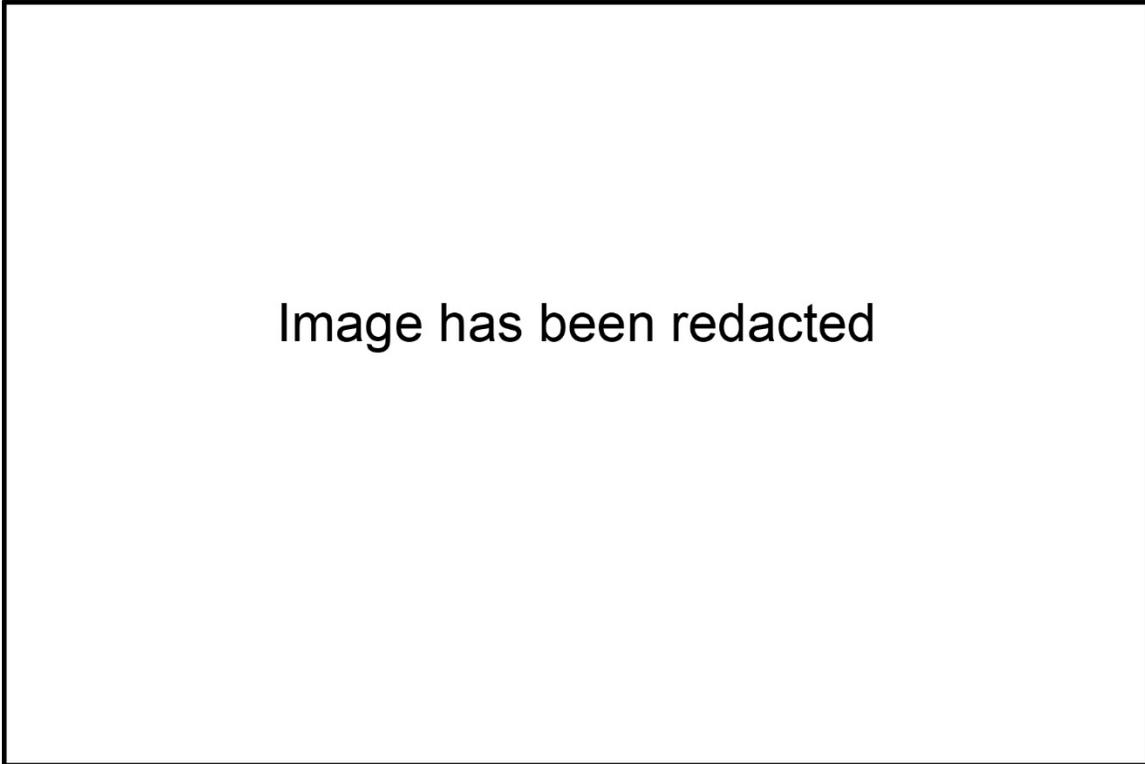


Figure 22. Overview from SP-146, looking [REDACTED] toward the hill crest and extant farm buildings.

and the house and octagonal barn were razed after 1977. No structures were observed on the Babcock's' original parcel to the west.

Town Site Magnetometer Survey

Magnetometer survey was conducted in conjunction with metal detection and shovel probing between September 10 and 13, 2013. The magnetometer survey was completed by Kendal McDonald of Applied Archaeological Research, Inc. (AAR). Investigations were undertaken within five blocks referred to as magnetometer grids 1 through 5. Subsequent metal detection and shovel probing occurred in the same five blocks. Details of the magnetometer operation and results are presented in Appendix E. Shovel Probes SP-45 through SP-84, SP-214, and SP-215 were excavated to ground truth anomalies and to complete excavation of systematic transects within the magnetometer grids. Shovel probes SP-218 to SP-239 were excavated just outside Grid 3 to define the boundaries of archaeological resource 45KP255.

Table 9 quantifies the results of magnetometry, metal detection, and ground truthing within each magnetometer block. Magnetometer Grid 2 contained the highest density of metal and Grid 5 contained the lowest. Fewer magnetometer anomalies were called out from magnetometer Grid 3, but metal detection in Grid 3 identified many metal items. Shovel probes focused on grids 2 and 3 due to the number of anomalies and the metal detector signals and fewer probes were dug in grids 4 and 5. All the excavated probes were positive in grids 1, 4, and 5. The magnetometer data was clearer in the grids that produced a low positive probe to excavated probe ratio because grids 1, 4, and 5 were less historically disturbed than grids 2 and 3.

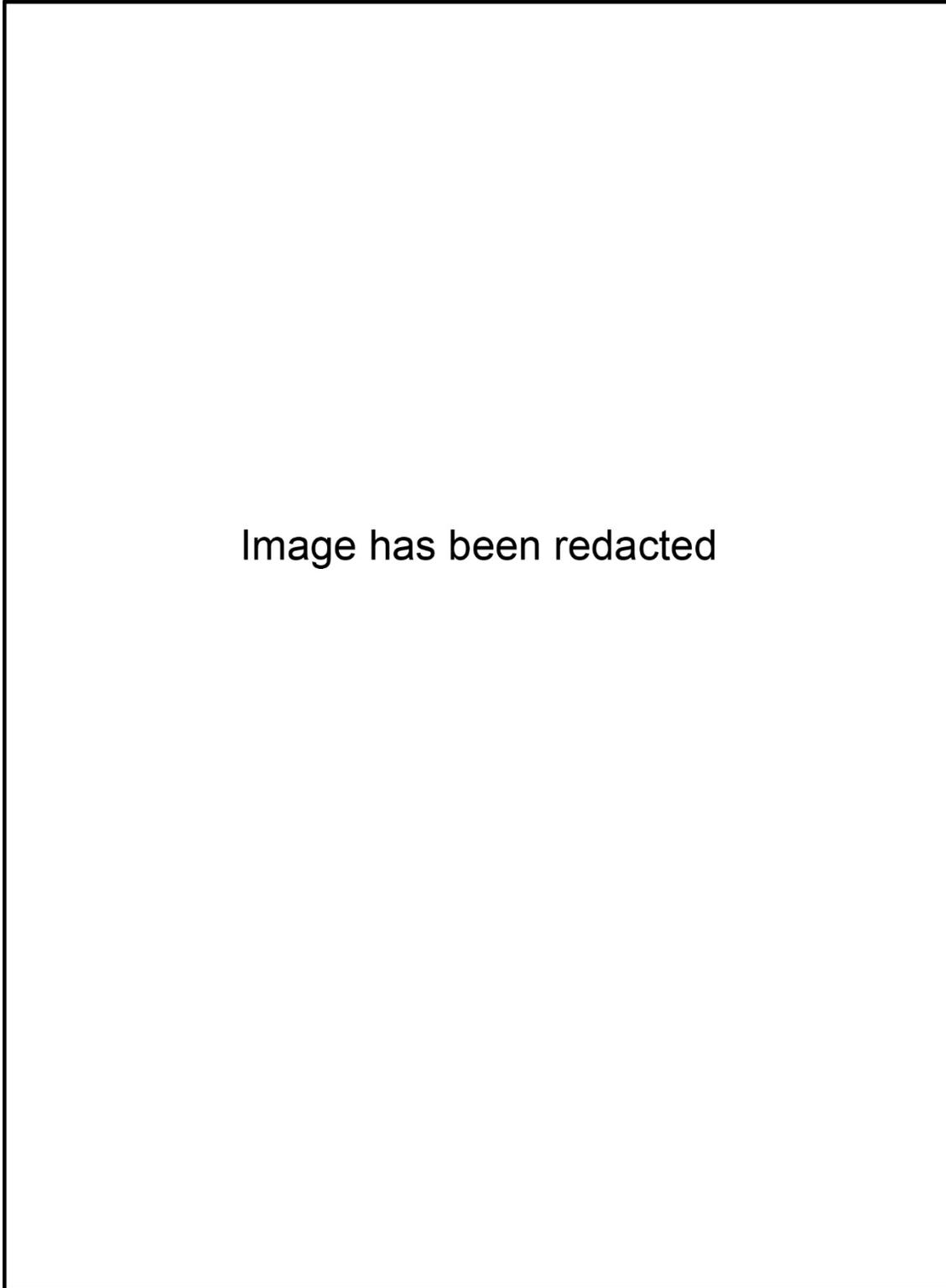


Figure 23. Historic map, 1878, showing buildings at the dairy farm area.

Table 9. Results of Magnetometry, Metal Detection, and Ground Truthing by Magnetometer Block

GRID NO.	NO. OF m ² IN GRID	NO. OF RELICT SIGNALS (per m ²)	NO. OF COIN AND JEWELRY SIGNALS (per m ²)	NO. OF MAGNETOMETER ANOMALIES (per m ²)	NO. OF SHOVEL PROBES (per m ²)
1	200	.05	.05	.07	.04
2	200	.11	.08	.09	.04
3	850	.08	.05	.03	.05
4	376	.06	.04	.05	.01
5	400	.04	.03	.03	.01

The five magnetometer grids are very magnetically disturbed, which is due to both natural and historical circumstances. Numerous magnetic anomalies were identified during the survey and not all of them were of the same character or quality. Anomalies with potential to represent cultural features or objects were assigned numbers. A total of 84 magnetometer anomalies were determined to warrant sub-surface ground truthing by AAR and 35 of the 84 anomalies were investigated with shovel probes. AAR interpreted the majority of the magnetometer anomalies as being generated by small pieces of metal. A few of the anomalies were interpreted as possibly representing edges of buried structures. Some areas lacking evidence for disturbance were interpreted as areas where a building might have once been present. Other anomalies result from the natural ambient magnetic field.

Table 10 summarizes the results of ground truthing the largest magnetometer anomalies, as well as absence features in the magnetometer data and other smaller anomalies. Table 10 does not contain information from all of the anomalies detected by the magnetometer, just those anomalies that were tested with shovel probes. Additional details on the methods and results of the entire magnetometer survey are in Appendix E. No structural archaeological evidence was identified during ground truthing efforts, however, many metal artifacts were found and one historical site representing the Port Gamble mill's Chinese Laundry and Residences was identified in Grid 3 and recorded as 45KP255 (Appendix D). Additional probes SP-218 through SP-239 were excavated just outside of magnetometer Grid 3 to define the boundaries of cultural materials. Once probing around magnetometer Grid 3 was complete, it became clear that cultural materials extend well beyond the magnetometer survey grid.

Table 10. Summary of Ground Truthing Selected Magnetometer Anomalies

MAGNETOMETER ANOMALY NO.	EXPECTED SOURCE OF MAGNETOMETER ANOMALY	METAL DETECTOR (COIN & JEWELRY)	METAL DETECTOR (RELIC)	SP	METAL CULTURAL MATERIAL IDENTIFIED IN SHOVEL PROBE
<i>GRID 1:</i>					
1	Likely metal	Y	Y	45	Nail
2	Possible trench or utility line	Y	Y	46	Nails and debris
14	Likely metal	Y	Y	47	Nails
6	Likely metal	Y	Y	48	Nail
8	Likely metal	Y	Y	49	Nails
12	Unknown source	N	N	214	Nails and debris
11	Possible edge of building, trench	Y	Y	215	None
<i>GRID 2:</i>					
None	No interest	Y	Y	50	Pipe
29	Likely metal	Y	Y	51	Cast iron ring
16	Multiple sources, likely metal	Y	Y	52	Pipe
None	No interest	N	N	53	Cut in till ; foundation wall
24	Likely metal	N	N	54	Nails
20	Likely metal	N	N	55	Root obstruction
22	Likely metal	N	Y	56	Pipe
15	Likely metal	N	Y	57	Large cast iron object
<i>GRID 3:</i>					
None	No interest	Y	Y	58	Nails

Table 10. Summary of Ground Truthing Selected Magnetometer Anomalies

MAGNETOMETER ANOMALY NO.	EXPECTED SOURCE OF MAGNETOMETER ANOMALY	METAL DETECTOR (COIN & JEWELRY)	METAL DETECTOR (RELIC)	SP	METAL CULTURAL MATERIAL IDENTIFIED IN SHOVEL PROBE
37	Multiple sources, likely metal	N	N	59	Nut, cartridges, nails, plate
34	Possible metal post	N	Y	60	Nails
None	No interest	N	Y	61	Nails, debris
44	Likely metal	Y	Y	62	Cartridges, nails, debris
41	Multiple sources, likely metal	Y	Y	63	Shovel head, nails, debris
36	Likely metal	N	N	64	Nails
35	Possible metal post	N	N	65	Nails, buckle
40	Likely metal	Y	Y	66	Pipe, debris
42	Multiple sources, likely metal	Y	Y	67	Scrap, nails
43	Likely metal	N	N	68	Bed spring, mattress
45	Likely metal	Y	Y	69	Dime, lead, nails
46	Likely metal	N	N	70	Nails
None	No interest	N	N	71	Nails
50	Likely metal	Y	Y	72	Nails, spike, debris
Absence Anomaly	Area of few anomalies	N	N	73	None
53	Likely metal	Y	Y	74	Nails, cast iron object
None	No interest	Y	Y	75	Hatchet head, nails, debris
<i>GRID 4:</i>	66 Multiple sources, likely metal	N	N	76	None
	65 Likely metal	N	N	77	Nail
	None Area of few anomalies	N	N	78	None
	70 Likely metal	N	N	79	Nails, cartridges, debris
<i>GRID 5:</i>	80 Likely metal	Y	Y	80	Nails
	83 Linear alignment of anomalies	N	N	81	Nails
	84 Unknown source	N	N	82	Nails
	None No interest	Y	Y	83	Nails
	74 Likely metal	Y	Y	84	Nails

Shovel probes verified the interpretation that most of the magnetometer anomalies were generated by small pieces of ferrous metal because most positive probes contained small metal artifacts, like nails. The positive probes also contained glass and ceramic artifacts. A few of the identified anomalies are atypically large and the larger anomalies were interpreted as possibly representing foundations, hearths, trenches, or utilities. One anomaly thought to possibly be a hearth was determined to have been produced by a nail during ground truthing. Nails or small metal debris were also identified in probes excavated along linear alignments of anomalies and concentrations of anomalies.

The glacial till surface and the abundance of historical debris in the area has probably colored the magnetometer results and the busy, disturbed nature of the outcome made interpretation complicated. The magnetometer was very successful at identifying small metal objects. A useful result of this study appears to be the distinction between magnetometer anomalies and anomaly absence areas. The geometry of magnetometer absences within a “sea of anomalies” may mark the previous locations of historical structures. Areas producing many anomalies surrounding an absence could be focused on during future archaeological investigations. The magnetometer results are also affected by buried utilities and the output is not accurate for an approximately 2-m radius around utility lines.

The results of metal detection parallel the results of magnetometer survey. A total of 230 signals were identified during metal detection in Grids 1 through 5. Magnetometer anomalies were usually found by the metal detector, but the magnetometer did identify some anomalies where the metal detector did

not produce a signal. Very occasionally, the metal detector produced a signal where the magnetometer did not produce an anomaly. The selected magnetometer anomalies usually produced a metal detector signal with the machine set to the coin and jewelry or relic mode. In rare cases where the signal differed between modes, the metal detector was able to recognize the buried metal object that generated the magnetometer anomaly on the relic setting, but not on the coin and jewelry setting. The metal detector was not usually able to differentiate between metal types on either setting mode. Ground truthing provides evidence that the metal detection signal was usually produced by a small ferrous metal item, similar to the results of magnetometry. Ninety of the 230 metal detector signals were produced while the machine was set to the coin and jewelry mode and 140 signals were produced while the machine was set to the relic mode. Sixty-seven locations contained metal items that produced a signal during detection at both settings. Maps showing the distribution of the signals in relation to the anomalies and probes are in Appendix E.

As a result of this experimental survey, it is clear that a combination of metal detection using a setting similar to the White MXTPro's relic setting and shovel probing at 10-m intervals in areas with high potential for archaeological resources based on landform and historic maps can identify probable structure locations. In addition, a combination of shovel probing and magnetometry in areas with high potential for archaeological resources can also identify features and this method is relatively affordable. The metal detector is not as useful as the magnetometer for identifying absence areas and the metal detector cannot differentiate by metal type, as advertised. Both methods are useful for identifying archaeological sites containing metal, which usually contain other artifact types, as well. Both types of remote sensing also identify modern utilities and they can be used to rectify early historical maps.

Mill Site

Mill Site fieldwork consisted of borehole drilling, test pit excavation, and slope clearing. Sub-surface excavations included boreholes, shovel probes, and test pits. One pre-contact and one historical site were identified during archaeological investigations on the Mill Site. A pre-contact shell midden was identified during borehole drilling and the midden was found again during test pit excavation. An historical debris scatter associated with turn of the century mill workers housing was identified during test pit excavation. The locations of Mill Site excavations are shown in Appendix B (pages B-4 and B-8).

Boreholes

Fifteen sonicores were drilled on the lowland Mill Site between August 26 and 28, 2013 to look for midden along a sand spit landform that was present at the Mill Site prior to historical filling. The Mill Site sonicores were SC-2 through SC-9 and SC-11 through SC-17. SC-10 was planned, but not necessary to drill because the cores surrounding SC-10 were positive for midden on all sides. Three cross-section graphics showing the stratigraphy and lithology encountered in the Mill Site borings were produced to facilitate the following presentation of results (Figures 24 and 25). Sonicores SC-2 through SC-9 were drilled [REDACTED]. SC-11 through SC-14 were drilled [REDACTED]. SC-15 and SC-16 were drilled to provide a cross section of the sand spit landform [REDACTED]. Fill facies were identified at the surface in all 15 Mill Site sonicores. Midden is below the historical fill stratum in three sonicores. Holocene facies are directly below the fill stratum in 12 cores and are below the midden stratum in the three cores with midden. Pleistocene deposits were encountered at the base of the Holocene stratum in 13 of the 15 cores, and if the two cores drilled at the east end of the sand spit were drilled deeper Pleistocene sediments would have been encountered below the intertidal

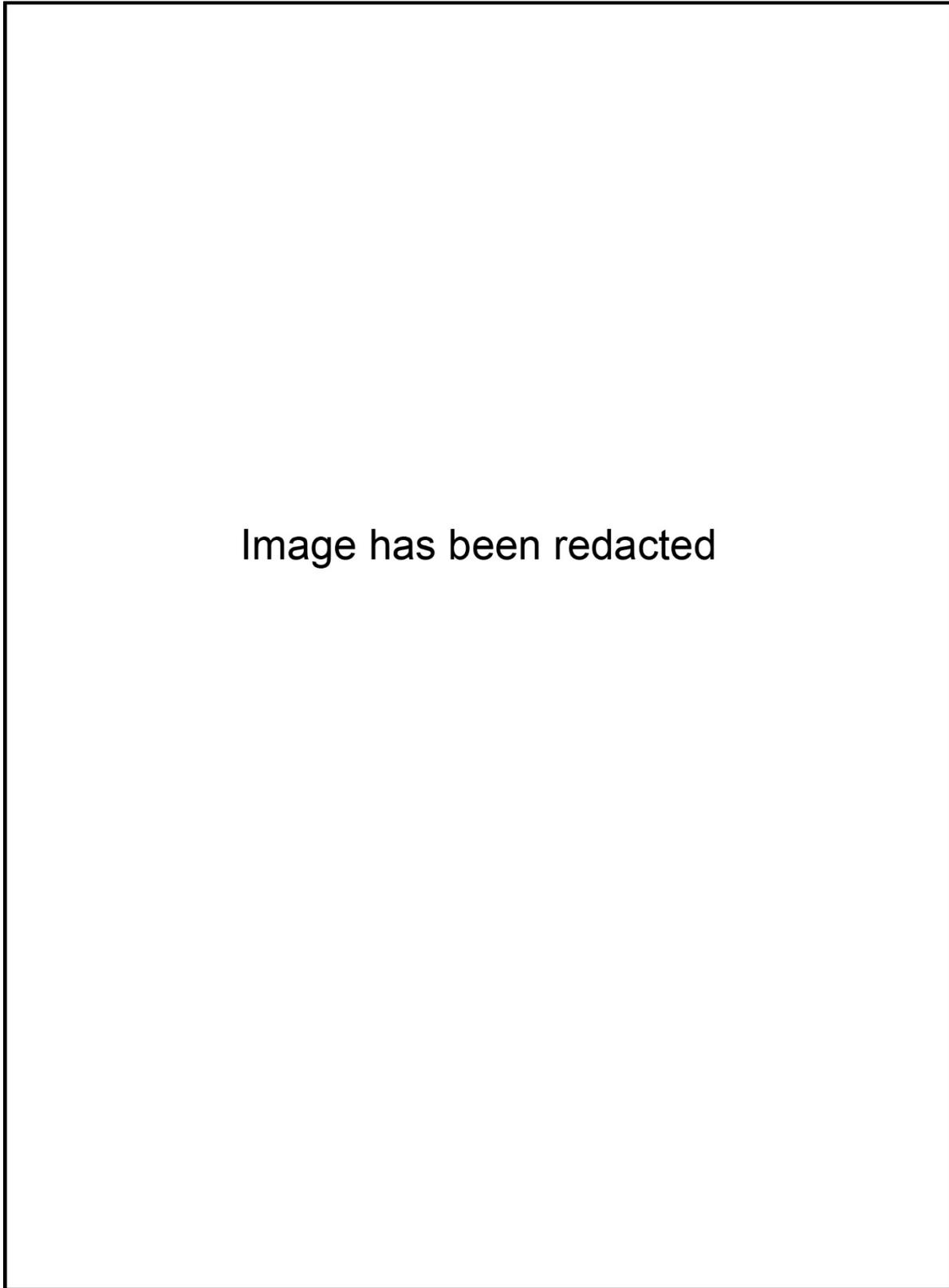


Figure 24. Cross-section showing the stratigraphy and lithology encountered in the sonicores drilled at the base of bluff from south to north.

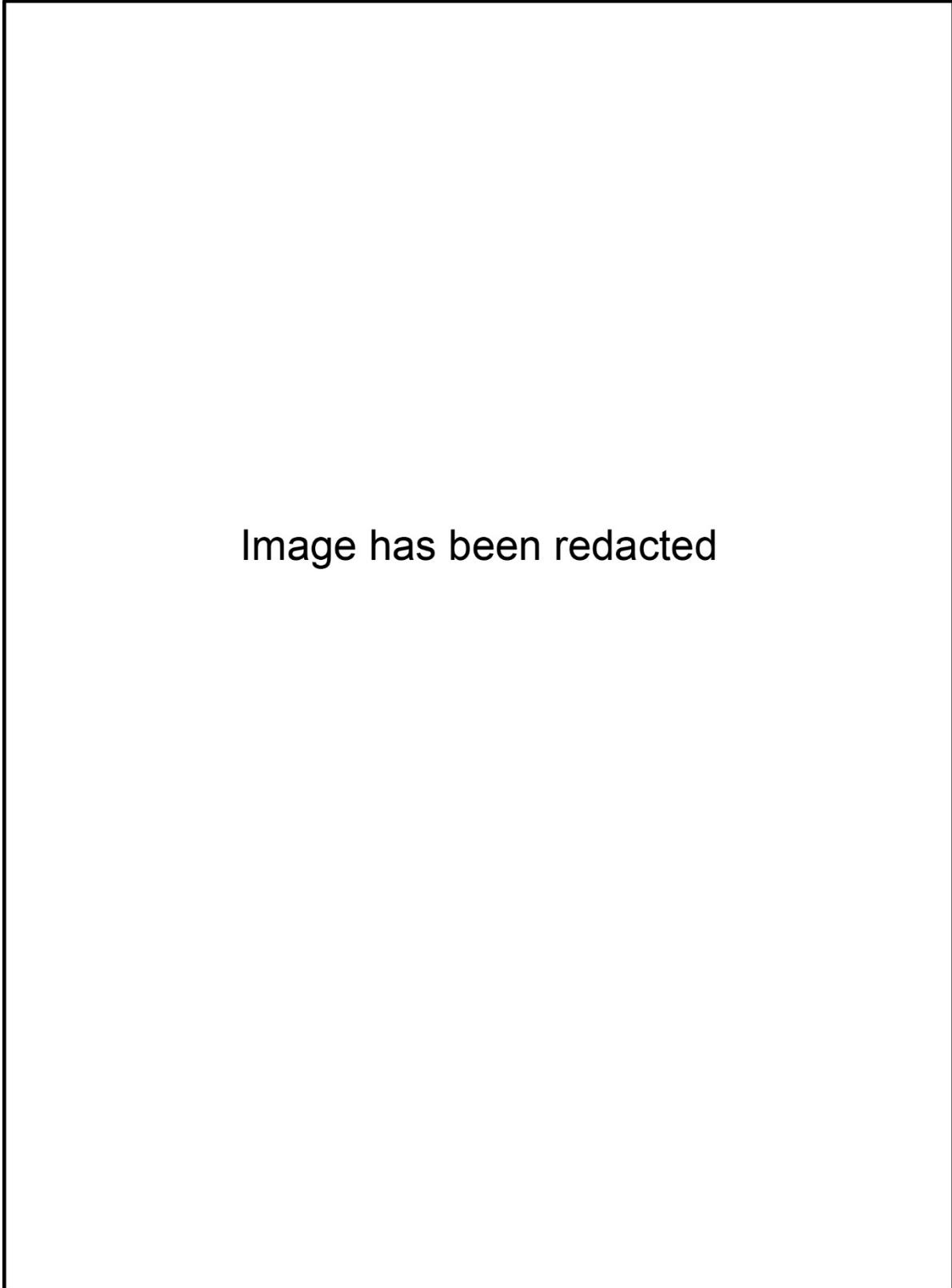


Figure 25. Cross-sections showing the stratigraphy and lithology encountered in borings drilled along the different parts of the sand spit.

deposits, as well. Pleistocene deposits pre-date the arrival of humans to the region and will not be discussed further. Detailed results of coring are in Appendix A.

Nine discrete facies were identified in the historical fill stratum, including ASPHALT, CONCRETE, SAWDUST, WOOD, TERRACOTTA, GRAVEL, SAND, SILT, and CLAY (Table 11). The ASPHALT, CONCRETE, and TERRACOTTA fill facies are interpreted as relatively recent fill deposits. The SAND and GRAVEL facies are interpreted as both recent and historical fill layers, depending on depth, as more deeply buried fill is likely older. WOOD and SAWDUST facies are mill waste associated with filling during historical occupation of the mill and most SILT and CLAY facies represent historical fill placed directly onto the intertidal natural surface or relate to early episodes of filling. Along the base of the bluff line, the historical fill stratum is an average of 8.5 feet thick. The fill is about 7 feet thick at the west end of the sand spit where it attaches to the mainland and the fill thickens to 15 feet at the east end of the sand spit. North of the sand spit, the fill is about 20 feet thick and the fill is 11 feet thick south of the sand spit.

Table 11. Typical Description of the Facies Encountered in the Sonicores Completed on the Mill Site

STRATUM	LITHOFACIES	TYPICAL DESCRIPTION	INFERRED DEPOSITIONAL ENVIRONMENT
FILL	Asphalt	Asphalt.	Recent Fill
	Concrete	Light gray, ground or powdered concrete to solid concrete; may contain metal wire.	Recent Fill
	Terracotta	Terracotta tile.	Recent Fill
	Wood	Brown, shredded, woody debris; often includes sawdust and occasionally with flat-lying wood.	Mill waste Fill
	Sawdust	Brown sawdust.	Mill waste Fill
	Clay	Interbedded woody fibrous wood waste and silty clay; beds are on the order of about 5 cm.	Fill Placed on Historical Intertidal Surface
	Silt	Black, brown, or gray, occasionally gravelly, sometimes clayey or fine to medium sandy, silt; gravels are few to many, sub-rounded to angular, very small to large pebbles where present; sand is usually in pockets or thin interbeds where present; may contain woody debris, scattered shells, historic artifacts, or layers of concrete; occasionally interbedded with sawdust.	Fill Placed on Historical Intertidal Surface
	Gravel	Brownish gray to light gray, silty, fine to coarse sandy, sub-rounded to angular, very small to large pebbles.	Historical and Recent Fill
	Sand	Yellowish light grayish brown or mottled dark gray and brown, sometimes silty or gravelly, fine to coarse sand; gravels vary from few to many, angular to sub-rounded, very small to very large pebbles where present; occasionally includes shell fragments, woody debris, historic artifacts, thin concrete layers, or pockets of disturbed midden.	Historical and Recent Fill
MIDDEN	Gray to black, sometimes gravelly, shelly, fine to coarse sandy, silt or shelly, very silty, fine to coarse sand; gravels are common, sub-rounded to sub-angular, very small to medium pebbles; shells are very small (hash-like) to large pebble-sized fragments of clam and mussel shells; often contains organic matter, fish bones, small charcoal fragments, and FMR; occasionally includes small creosoted wood fragments.	Beach	
HOLOCENE	Gs	Gray to dark brownish gray, sometimes slightly silty, fine to very coarse sandy, sub-rounded to sub-angular, very small pebbles; occasionally includes medium to large pebbles; may also have few to many, small to large pebble-sized shell fragments.	Beach
	Gsz	Gray, sometimes shelly, usually silty, fine to coarse sandy, sub-rounded to sub-angular, very small to small pebbles; shells are small to very small pebble-sized fragments when present.	
	c-vcSg	Dark gray, gravelly, coarse to very coarse sand; massive; gravels are many, sub-angular, very small pebbles.	

Table 11. Typical Description of the Facies Encountered in the Sonicores Completed on the Mill Site

STRATUM	LITHOFACIES	TYPICAL DESCRIPTION	INFERRED DEPOSITIONAL ENVIRONMENT
m-vcSg		Gray, occasionally shelly, gravelly, medium to very coarse sand; gravels are few to many, sub-rounded, very small to medium pebbles; shells are few, large pebble-sized fragments where present.	
m-cSg		Yellowish brown to gray, gravelly, medium to coarse sand; gravels are few to common, sub-rounded to angular, usually large pebbles and occasionally very small pebbles.	
m-cSgz		Very dark gray, slightly silty, gravelly, medium to coarse sand; loose and very wet; gravels are common, angular, small to large pebbles.	
f-vcSg		Gray, slightly silty, shelly, gravelly, fine to very coarse sand; massive; gravels are usually common to many, sub-rounded to angular, very small to small pebbles and occasionally medium to large pebbles where present; shells are common fragments.	
f-vcSgz		Gray, silty, gravelly, fine to very coarse sand; gravels are many, sub-rounded to sub-angular, very small to large pebbles.	
f-vcSz		Gray, shelly, gravelly, silty, fine to very coarse sand; shells are small clam shell fragments to whole shells; gravels are many, sub-rounded to rounded, very small to small pebbles.	
f-cSg		Gray, sometimes slightly silty, gravelly, fine to coarse sand; gravels are few to many, sub-rounded to sub-angular, very small to medium pebbles; may contain scattered, organic and woody fibers or few, clam shell fragments.	
f-cSgw		Gray, very gravelly, fine to coarse sand with common, scattered, organic and woody fibers.	
f-cSgz		Gray, silty, shelly, gravelly, fine to coarse sand; gravels are common to many, sub-rounded to sub-angular, very small pebbles; shells are few to common, small fragments.	
vcS		Light gray, very coarse sand.	Beach
f-vcSz		Gray, very shelly, silty, fine to very coarse sand; shells are angular, small pebble-sized fragments.	Foreshore or Backshore
m-cS		Grayish brown to yellowish gray, medium to coarse sand; rarely includes some very coarse sand; usually massive; may contain few, scattered, small shell fragments.	
mS		Gray, medium sand.	
f-cS		Gray to brownish gray, sometimes slightly silty, shelly, fine to coarse sand; occasionally includes very few, sub-rounded, small pebbles; shells vary from small fragments to whole shells.	
f-cSz		Gray, shelly, very silty, fine to coarse sand; shells are angular, small pebble-sized fragments.	
f-mSz		Gray, gravelly, shelly, silty, fine to medium sand; shells are clam and mussel fragments.	
f-mS		Gray, slightly gravelly, shelly, fine to medium sand; shells are few to common, large pebble-sized clam shell fragments.	
f-mSz		Gray or mottled black, brown and gray, sometimes shelly, silty, fine to medium sand; mottles due to organic and possibly charcoal staining where present; shells are few to many, small to large fragments where present.	Low Energy Intertidal
f-mSzw		Dark brownish gray to gray, slightly shelly, silty, fine to medium sand with common organic fibers and branchwood fragments and woody debris; shells are small mussel and clam fragments where present; may fine upwards and may be laminated with fine sandy, silt.	
Z		Brown silt.	
fSz		Brown, silty, fine sand.	Weathered Till Surface

SAND facies dominate the historical fill and they are found from top to bottom throughout the fill stratum. The thickness of the SAND facies varies, but in general, they are massive deposits. The SAND facies are interbedded with CONCRETE deposits, usually towards the top of the cores, and SILT, GRAVEL, WOOD, and SAWDUST facies, usually towards the base of the fill stratum. Instances of the SILT and GRAVEL facies are, however, found above the boundary between the fill and the Holocene-age strata. The CLAY and ASPHALT facies were only identified in SC-15. There was surprisingly little mill waste identified in the cores, which argues that the cores were indeed drilled on the sand spit landform. Mill waste is prevalent in the fill just offshore, surrounding the historical shoreline. Direct evidence of buried historical structures was not identified during sonicoring, but the SILT facies from about [REDACTED] associated with the terracotta pipe in SC-12, the CONCRETE and SILT facies below [REDACTED] in SC-13, and the flat lying WOOD facies below about [REDACTED] in SC-14 may relate to buried archaeological resources. The most probable location for intact structural remains within the fill on the sand spit landform is around SC-14. Drilling SC-14 was attempted twice because the initial attempt, about 5 feet southwest of the successful core, encountered refusal (impenetrable wood or metal) at just a few feet below the surface. The CONCRETE facies from about [REDACTED] may relate to an historical footing, but the CONCRETE deposit most probably relates to one of the many utilities present at the base of the bluff. Very few artifacts were identified in the historical fill, even though many of the fill facies with potential for archaeological materials were screened. Those sparse items recovered were non-diagnostic and include fragments of metal, glass, ceramics, and pieces of wire.

Intact shell midden was identified between the historical fill and the underlying natural Holocene sediment from [REDACTED] in SC-6, SC-7, and SC-11. The intact shell midden was logged as one stratum, MIDDEN, and the entire midden deposit from each core was collected for laboratory processing. The midden stratum [REDACTED]

[REDACTED]. The midden deposit is widest and thickest [REDACTED]

[REDACTED] The distance to the top of the midden increases [REDACTED]

[REDACTED] The midden consists of dark gray to black, very shelly to shelly, silty fine to coarse sand or fine to coarse sandy silt that collected on the sand spit beach during occupation of the shoreline and activities, such as shell fish processing. The midden was recorded as 45KP252 and is discussed further in the following site summary.

Disturbed midden was identified from [REDACTED] and [REDACTED] in SC-8, SC-9, SC-12, and SC-13. Since midden was not considered the major component of the disturbed midden deposits, they were logged according to modal grain-size of the facies in which the disturbed midden was found using the standard methods for the fill stratum. Layers with charcoal stained FMR in SC-2 from [REDACTED] and in SC-5 from [REDACTED] possibly associated with the midden due to stratigraphic context were logged using standard methods for the underlying Holocene stratum. Additional borings were not drilled to characterize the vertical site distribution because coring in an archaeological site is not permitted under SEPA.

Twenty four discrete facies were identified in the naturally deposited Holocene stratum underlying the fill and midden, where midden is present. These include Gs, Gsz, vcS, c-vcSg, m-vcSg, m-cSg, m-cSgz, m-cS, mS, f-vcSg, f-vcSgz, f-vcSzg, f-vcSz, f-cSg, f-cSgw, f-cSgz, f-cS, f-cSz, f-mS, f-mSzg, f-mSz, f-mSzw, fSz, and Z facies. These facies represent beach, foreshore, backshore, and intertidal shoreline environments. Woody and gravelly sand facies deposited in the backshore zone of the shoreline were identified south of SC-8 and southwest of SC-16. Sand spit deposits, identified between SC-8 and SC-4 along the base of the bluff and as far east as SC-14, are sandy gravels overlain by gravelly sands, capped by slightly finer grained sand units. A fining upwards sequence of sandy beach deposits compose the Holocene stratum

at SC-4 and bedded woody, silty, sandy foreshore deposits are in SC-2, SC-13, SC-14, and SC-15. The midden extends [REDACTED]

[REDACTED] The absence of gravels within the sands suggests a comparatively calm setting without considerable wave action and lower-energy deposition. The gravelly sands and sandy gravels were deposited on portions of the sand spit subject to higher-energy deposition and probable daily tidal or seasonal reworking during winter storms. The base of the Holocene stratum is an average of 15 fbs at the base of the bluff line. The base of the Holocene stratum ranges from about 13 fbs at the west end of the sand spit to upwards of about 30 fbs at the east end of the sand spit. North of the sand spit, the base of the Holocene stratum is about 29 fbs and the boundary between the Holocene and Pleistocene strata is about 27 fbs south of the sand spit.

Coring allowed for a practical method to characterize the Mill Site without significant disturbance to the project area, but not without issue. Sonicoring to obtain information on horizontal distribution and variability is problematic because of limits on sample size, sediment exposure, and the ability to perform intra-site comparisons (Weissmann et al. 1999). Horizontal variability is especially difficult to characterize when facies types exhibit a high degree of lateral variability, as they commonly do in shell midden deposits and fill. Sonicores are also less informative for identifying rare artifacts, faunal species, bounded features, or isolated site deposits that are important to the interpretation of middens (Claassen 1998; Stein 1992). Still, continuous cores provide excellent information on the vertical variability of the sedimentary deposits (Schuldenrein 1991; Stein 1986). Efforts were made to mitigate the bias of high-resolution downhole sequences at individual points and low-resolution from hole-to-hole during this study by scaling up from individual lithofacies to larger, higher-level correlative stratigraphic units (Catuneanu 2006; Miall 2010). Despite concerns, the coring process allowed the stratigraphic spatial relationships to be defined and the lateral extent of the site to be established.

The Base of the Bluff

Fourteen test pits were excavated at the base of the bluff that separates the upland and Mill Site, including TP-1 through TP-6 [REDACTED] and TP-7 through TP-14 [REDACTED]. All of the test pits were placed where historic maps show early structures were present. In addition to the test pits, the base of the slope was cleared of vegetation as best as possible and shovel probes were excavated where feasible and necessary. The test pits were excavated between September 23 and September 26, 2013 at the same time as brush clearing and probe excavation. A detailed discussion of the sediments and cultural materials encountered in the test pits is in Appendix F. Table 12 shows typical descriptions of the 18 expressions of fill and the natural deposits identified below the fill in the test pits at the Mill Site. Many of the fills in Table 12 are associated with recently installed utilities and very few types of fill contained noteworthy cultural materials. Pipes were prevalent in the base of many of the test pits, especially those excavated along the base of the east-facing slope south of the original mill site. No structural archaeological remains were identified, but artifacts were found throughout the fill. Midden associated with 45KP252 was identified in TP-10.

Cultural materials were more common and interesting in the fill deposited [REDACTED] (Table 13). Cultural materials were within all the test pits excavated [REDACTED], but only those from TP-2 appeared to be potentially important. All of the fill deposits identified in the test pits are inherently disturbed and most of the cultural materials identified are plastic or relatively recent trash. These cultural materials are an

Table 12. Typical Expressions of the Fill and Holocene Deposits Identified in the Test Pits

STRATUM	TYPICAL DESCRIPTION
Fill 1	Dark gray, silty, gravelly, fine to coarse sand with scattered debris and artifacts; gravels are few, sub-rounded, small to large pebbles; common to many, medium blackberry roots; may have a few, small to large pebble-sized shell fragments; recent fill deposit without much potential for significant archaeological materials.
Fill 2	Gray to yellowish brown, gravelly, medium to very coarse sand; gravels are few, sub-rounded, small to large pebbles; loose.
Fill 3	Brownish gray, shelly, fine to coarse sandy, sub-rounded, very small to small pebbles; shells are small fragments.
Fill 4	Gray to brownish gray, medium to very coarse sand; may contain scattered shell fragments; dredged fill; lower reaches of the dredged fill deposits often contain historical archaeological materials.
Fill 5	Mottled reddish brown and light gray, very silty, fine to medium sand; contains clayey silt rip-ups; can be very compact; lower reaches often contain historical archaeological materials.
Fill 6	Dark gray to reddish brown, peaty and woody silt; contains bark at the surface and sawdust at depth; pilings associated with historical Mill Site are cut to level with the top of the sawdust within Fill 6; low potential for containing significant archaeological materials within the sawdust, but is an important stratigraphic marker within the fill.
Fill 7	Yellowish gray, clayey, silt with very few, sub-angular, large cobbles to small boulders; sometimes slightly fine sandy with a few wood fragments; till material used as fill.
Fill 8	Brownish gray, silty, sub-rounded to sub-angular, very small to large pebbles; utility fill.
Fill 9	Ash with charcoal fragments; demolition debris material, possibly associated with a fire.
Fill 10	Brown, gravelly, fine to medium sandy, silt with common, medium-sized blackberry roots; loose; utility trench fill.
Fill 11	Dark gray to reddish brown, silty, gravelly, sub-rounded to angular, small to medium pebbles; common fine roots.
Fill 12	Grayish brown, fine sandy, silty, angular, small to large pebbles; utility trench fill.
Fill 13	Gray, gravelly, fine to very coarse sand; gravels are many, sub-rounded to sub-angular, small to medium pebbles; utility trench fill.
Fill 14	Brown to dark grayish brown, gravelly, fine to very coarse sandy silt or silty fine to very coarse sand; gravels are common to many, very small to medium pebbles; occasional small roots; utility trench fill.
Fill 15	Very dark gray silt with scattered, angular, large pebbles.
Fill 16	Dark brown, gravelly, silty, fine to medium sand with many shredded pieces of wood and bark; many roots; scattered cultural debris (trash), concrete, and asphalt fragments; few fragments of milled lumber; loose; gravels are common, sub-rounded to sub-angular, small to large pebbles; slope material and dumped debris.
Fill 17	Gray, gravelly, very silty, fine to medium sand; gravels are few to common, rounded to sub-angular, small pebbles to cobbles; scattered artifacts.
Fill 18	Mottled dark gray and pale brown, gravelly, fine to medium sandy, silt; gravels are few, sub-rounded, very small to large pebbles.
MIDDEN	Dark gray, shelly, silty, fine to coarse sand; shells are highly fragmented and include butter clam, cockle, snail, among other species; few scattered charcoal fragments.
BEACH	Reddish brown, very coarse sandy, very small to medium pebbles; color due to oxidation; bluish gray in color where it contains an oily sheen.
BACKSHORE	Bluish gray, clayey, fine sandy, silt; contains varying amounts of organic debris and fine sand; appears to be backshore deposit.

Table 13. Summary of Cultural Materials Encountered in Fill Along the Base of the North-facing Bluff

TP NO.	DEPTH (cmbs)		STRATUM	SUMMARY OF CULTURAL MATERIAL
	TOP	BOTTOM		
1	REDACTED		Fill 1/7	3x earthenware sherd; 2x Paradise Club soda bottle; 1x Rainer beer can; 1x nail; 1x metal bucket; 1x Coca-Cola bottle; 2x metal debris; 1x Nehi clear bottle; 2x brown bottle glass shards; 5x clear oval bottle shards; 1x bottle finish with screw cap; 7x clear bottle glass shard; 2x brick fragment; 1x can base; 2x Styrofoam; 3x wood fragments; 2x clear window glass shard; 1x leather
			Fill 2/3	
			Fill 4	
			Fill 5	
			Fill 6	
			Fill 6	
2			Fill 1	1x electrical tape; 1x woven plastic fabric; 1x glass bottle top with plastic screw cap; 1x plastic straw; 2x red drainage tile; 1x green bottle glass shards; 21x olive bottle glass shards (1x tooled finish); 1x pale green bottle glass shards; 1x green bottle crown cap finish; 1x concrete fragment; 25x clear bottle glass shards (2x capseat finish); 1x clear bottle neck and finish with screw cap; 1x clear bottle glass base with "NW" mark; 1x plastic bottle cap; 61x large cow or deer mammal bones (6x saw-cut, 2x burned); 10x metal debris; 3x leather shoe soles and 1x leather shoe fragment; 1x metal snap; 2x
			Fill 8	
			Fill 4/5	
			Fill 6	
			BEACH	

Table 13. Summary of Cultural Materials Encountered in Fill Along the Base of the North-facing Bluff

TP NO.	DEPTH (cmbs)		STRATUM	SUMMARY OF CULTURAL MATERIAL
	TOP	BOTTOM		
3				earthenware lid sherds; 25x earthenware sherds (1x British Registered design; 1x unknown mark); 81x brown bottle glass shards (1x Owens Illinois mark, 1x NW mark, 1x Jesse Moore bourbon); 10x olive bottle glass shards (1x applied finish; 2x hand-manufactured; 2x brown liquor bottle (1x applied finish); 1x Owens Illinois Coca-Cola bottle; 1x pale green bottle glass shards; 1x yellow-brown bottle glass shard; 1x clear medicine bottle tooled finish; 1x shot glass; 6x clear chimney glass shards; 10x clear window glass shards; 1x bottle glass with illegible decoration; 15x aqua glass shards (1x [Hamlin's Wiz]ard [Oil]); 33x brick fragments (2x "[C]ARTCRA[N]"); 1x aluminum; 1x fabric; 3x green glass bottle finish with screw cap; 2x clear molded glass shards; 1x Davis' Vegetable Pain Killer bottle; 1x clear medicine bottle; 2x clear oval bottle glass shards; 1x shot glass; 1x clear bottle glass shoulder; 1x John Maddock earthenware vessel; 1x brick fragment; 1x olive bottle glass shard; 2x post-mold brown bottle base
			Fill 1	1x aluminum; 1x aqua bottle glass shards; 3x brown bottle glass shard (1x "[NOT TO B]E REFILLE[D]"); 2x olive wine bottle glass shards; 1x concrete fragment; 3x brick fragments; 1x modern Budweiser can; 1x aluminum beer can tab; 2x saw-cut large
			Fill 5	mammal bone; 6x transfer-print (illegible) commercial-grade earthenware sherds; 1x
			Fill 4	earthenware sherds; 6x PVC pipe fragments; 1x clear window glass shard; 1x clear bottle glass shards; 1x earthenware saucer sherds
4			BEACH	
			Fill 1	2x green bottle glass shard; 15x clear bottle glass shards; 21x brown bottle glass shards (3 clearly modern, 6x with stippling, 1x base with stippling); 1x plastic container; 1x motor oil bottle; 3x aluminum beer cans; 1x fabric; 4x plastic grocery bags; 1x plastic beverage bottle label; 1x large metal plate; 1x metal screw cap; 4x Styrofoam; 1x plastic coffee cup lid; 3x brick fragments; 1x metal pull tab; 2x milled wood; 4x large mammal bones (1x saw-cut) ; 22x aqua bottle glass shards; 1x Pepsi-Cola bottle; 2x plastic fork; 1x plastic tobacco can; 1x plastic beverage cup; 1x metal pull tab; 1x Hazel-Atlas oval flask base; 1x Owens Illinois oval flask base; 1x plastic bottle; 1x nail; 2x earthenware sherds; 1x olive bottle glass shard
			Fill 5	
			Fill 4/7	
5			BEACH	
			Advance	
			Outwash	
			Surface mulch	1x Coca-Cola can; 1x plastic; 2x concrete; 1x earthenware transfer-print sherds; 1x nail; 1x brick
		Fill 1		
		A horizon		
		BEACH		

accumulation of modern and potentially historic debris resulting from opportunistic dumping and littering. Utility installation may have mixed recent debris down into older layers of fill. Stable surfaces were identified at the base of the fill in TP-5 and at the top of the Holocene, where it was reached in TP-2, TP-3, and TP-4. Cultural materials were not associated with the stable surfaces. The base of the fill varies from about [REDACTED] and the fill thins to the west.

At TP-2, some of the artifacts appear to originate from a discrete layer within the fill. The uppermost shelly, silty, gravelly, sandy fill at TP-2 is loose and affected by landscaping, blackberry growth, and recent dumping activities (Fills 1 and 8). Dredged fill (Fill 4) is below Fill 8 at about 45 cmbs in the north half of TP-2 and till used as fill (Fill 5) is below Fill 8 at about 45 cmbs in the south half of TP-2. Artifacts dating from the 1870s to the 1930s are concentrated within [REDACTED] Fills 4 and 5 (Figure 26). The density of artifacts is greatest within silty, fine sand from about [REDACTED] that is interpreted to represent a disturbed historical surface. The disturbed historical fill lies directly on top of the wood and sawdust encountered between [REDACTED] (Fill 6). Naturally deposited beach sediment was identified at the base of the sequence at 220 cmbs, below the wood and sawdust fill. The recent fill on top of the disturbed historical surface contains artifacts, as well as demolition debris, and the dates of the artifacts range from the 1870s to the 1950s. The discrete zone of fill with diagnostic artifacts and the overlying disturbed historical cultural materials were recorded as 45KP256.

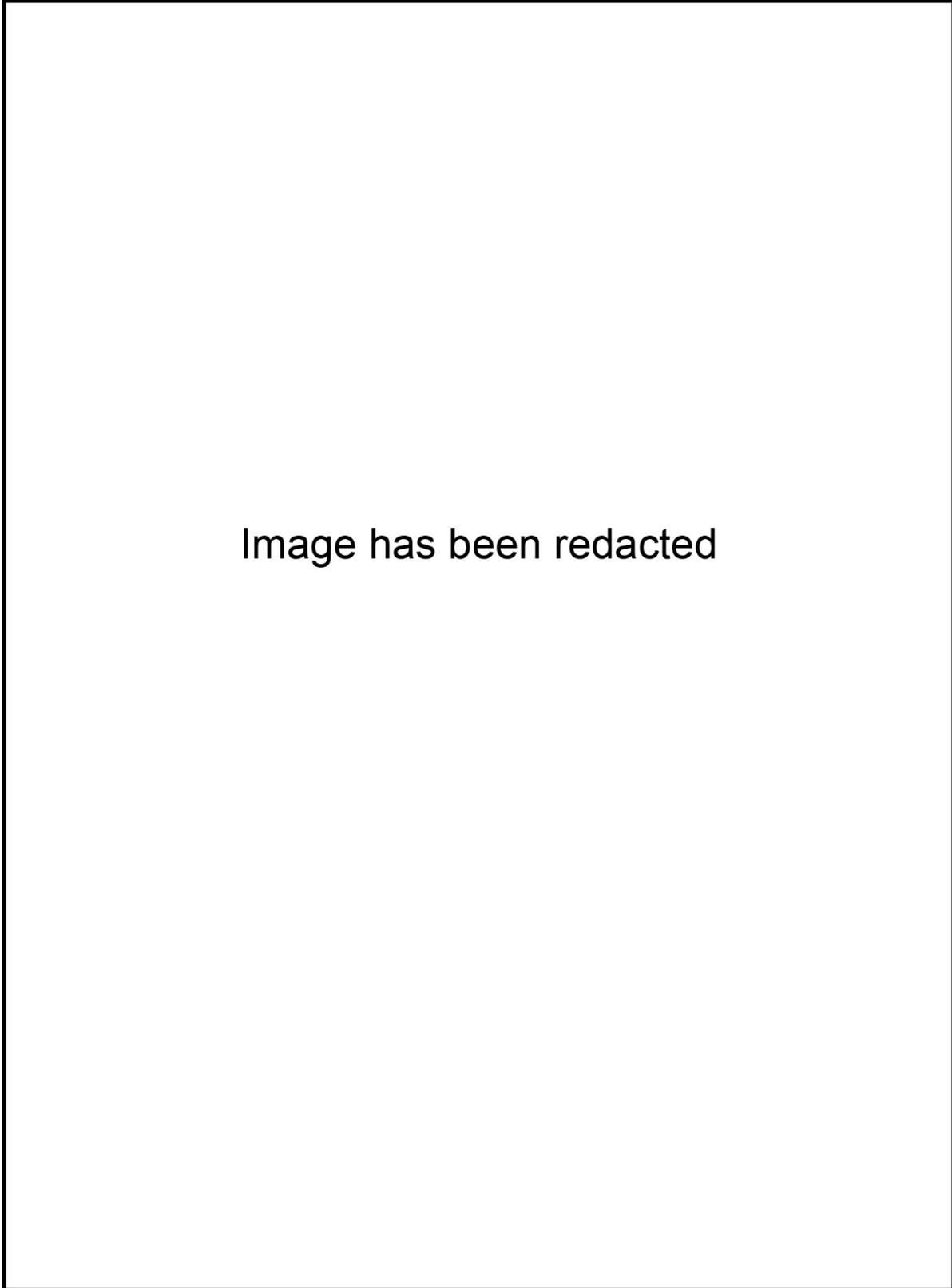


Figure 26. TP-2 profiles, photograph is south wall at 220 cmbs.

TP-6 was excavated adjacent to the foot of View Drive to 38 cm at which depth a water main was encountered and burst. The area flooded and the test pit was not revisited. The burst pipe was repaired and the test pit was backfilled.

Table 14 summarizes the results of TP-7 through T-14, which were excavated [REDACTED]. Test pits south of TP-8 were relatively unsuccessful for identifying archaeological materials because utilities were constantly encountered at depth. The fill south of TP-8 is associated with a large live power line, which was unmarked during test pit excavation, water lines, a phone line, sewer lines, and other unmarked utilities. The base of the fill was reached in TP-8, TP-9, TP-13, and TP-14. The sediments at the boundary between the fill and Holocene represented a wet and unstable backshore environment in TP-9 and TP-14. Beach deposits that suggest a more stable environment were found underlying the fill in the other two test pits. No stable surfaces were identified within the fill in the test pits excavated at the base of the east-facing bluff. The most archaeologically interesting test pits are TP-7 and TP-14 that were dug at the far north and south ends of the Mill Site, respectively, and TP-10 is also important. Structural debris, ash, and charcoal were identified at TP-7, implying a structure may have burned in the vicinity. TP-14 was excavated in a portion of the Mill Site used as a dump for many years. Domestic type artifacts in TP-14, some of which pre-date 1915, indicate that fill in this area may be associated with mill worker residences. Pre-contact shell midden associated with 45KP252 was identified below the utility fill in TP-10 (Figure 27). The surface of the midden was mixed with the utility fill, similar to the expression of disturbed midden in SC-8 that was drilled nearby.

Excavation of TP-15 at what was historically mapped as the Chinese workers housing was not possible due to a landslide, stockpiled mill debris, and a thick concrete pad. The slope in the vicinity was cleared as best as possible, but no cultural materials were identified.

Two wooden retaining walls were identified [REDACTED] during slope clearing efforts. The first retaining wall, about 425 feet long, [REDACTED] was two to six courses of 1-foot by 6-inch pressure-treated lumber attached every 3.5 feet to creosoted piles. The wall was backed by boulder-sized riprap placed on top of the toe of the slope (Figure 28). The south end of the wall was identified near TP-14, but the north end of the wall was obscured by slumping of the bluff near TP-11. One piece of lumber and a pile, similar to that observed at the retaining wall, were observed near TP-10. The second wall was observed near TP-12 and [REDACTED]. This wall is three courses tall and was visible for only 10 m. Either end of the second wall is obscured by slope slumping and dense vegetation. The building materials indicate that both walls were constructed sometime within the past 50 years, but probably replaced an older structure. The slope is near vertical behind the retaining wall and it could not be surveyed.

Elsewhere, the slope was very steep and years of vegetation accumulation and dumping of mulch, woody debris, and loose fill at the base has obscured the historical surface so that visibility was low even after the backhoe tore away the blackberries. In areas the backhoe could not track up the slope, the surveyors cut windows into the vegetation to look for archaeological resources at 10 meter intervals called slope exploration points. A segment of what appears to have been a floating dock was identified [REDACTED] at slope exploration point 6, just east of TP-5.

Table 14. Summary of Cultural Materials Encountered in Fill Along the Base of the East-facing Bluff

TP NO.	DEPTH (cmts)		STRATUM	SUMMARY OF CULTURAL MATERIAL
	TOP	BOTTOM		
7	REDACTED		Fill 1	1x metal plate; 1x bolt with washer; 16x nails; 1x large mammal bone; 4x concrete; 1x slag; 6x milled wood; 1x plastic fragment; 3x electrical tape; 1x candy bar wrapper; 2x metal debris; 40x brick fragments; 3x red drainage tile; 1x metal strap; 1x wire; 2x non-ferrous metal straps; 1x clear glass shards; 1x earthenware sherd; 1x ceramic cleat; 1x metal sheet; 1x non-ferrous metal sheet; 1x mortar; 4x burned wood; 1x bail handle; 1x nail; 1x metal debris; 1x hinge; 4x burned wood; mill waste; 6x large mammal bone (vertebrae); 1x mortar
			Fill 9	
			Fill 4	
			Fill 6	
8			Fill 10	2x bricks; 1x clear bottle glass shard; 1x wood; 1x amber Owens Illinois bottle base; 1x cut log
			Utility	
			Fill 7	
			Fill 2	
			Fill 6	
9			BEACH	1x brick; 1x railroad spike; 1x Coca-Cola screw cap
			Fill 11	
			Fill 2	
			Fill 12	
			Fill 13	
			Fill 6	
10			BACKSHORE	Asphalt; 1x brick fragment; 2x metal strapping; 1x chain link/hook; 4x metal debris; disturbed shell midden (consisting of highly fragmented shells and charcoal fragments in a matrix of shelly, silty, fine to coarse sand)
			Fill 10	
			Utility Box	
			Fill 12	
			Conduit	
			Fill 13	
11			MIDDEN	1x hand-painted earthenware sherd; 1x short gauge railroad track
			Fill 14	
			Footing	
			Fill 14	
			Fill 7	
12			Fill 15	Asphalt; potato chip bag; 1x terracotta pot sherd
			Fill 5	
			Fill 14	
			Fill 7	
13			Fill 13	1x cut stone; 1x hex bolt; 2x brick fragments; 1x plastic; 1x wood with wire nail; 1x metal rod; 3x plastic fragments; 2x amber automatic manufacture round base ("BREMERTON / WASH / S"); 4x earthenware sherds; 1x wine bottle shard
			Utility	
			Fill 14	
14			BEACH	2x lumber; 1x composite unknown; 1x electrical conduit; 1x plastic; 1x Danger: Electric sign; 1x brick fragment; 1x lumber; 1x brown automatic manufacture bottle shard; 1x Bennington marble; 8x commercial grade earthenware (3x crock sherd); 1x Rainier beer bottle shoulder; 1x brown bottle glass base; 2x green soda bottle shard; 1x clear automatic manufacture bottle shoulder "THIS BOTTLE..."; 1x earthenware sherd; 2x brown automatic manufacture bottle base; 1x brown hand manufactured bottle base; 1x earthenware sherd base "...OUSE P..."; 1x clear Fresh-Up brand soda bottle; 1x metal debris; 1x brown bottle glass shard; 1x tooled bottle finish; 1x green automatic manufacture shard; 5x aqua bottle glass shards (possible chlorine bottle); 2x stoneware crock sherds; 1x unglazed earthenware sherd; 1x ceramic insulator base; 1x clear "PITTSB... / U.S. ..." shards; 1x Schilling & Co. spice/extract bottle.
			Fill 16	
			Fill 17	
			Fill 18	
			Fill 7	
			Fill 6	
			BACKSHORE	



Figure 27. North wall profile of TP-10 at [REDACTED], close-up shows the midden encountered at the base of the fill.

Six shovel probes were excavated during test pit excavation, including SP-244 and SP-245 near TP-2, SP-242 and SP-243 above TP-10, SP-241 adjacent to SC-6, and SP-240 near TP-9. In general, utilities made excavation of probes along the bluff slopes difficult. All utilities were buried in a corridor at the foot of the bluff and series of tie-ins were placed coming down the face of the bluff at regularly spaced intervals. Fill was encountered in all six probes and the fill from all six probes contained non-diagnostic cultural materials (Table 15). The artifacts may have originated at the top of the bluff and may be the result of dumping behind the residences there and later slope wash, slumping, other mass wasting, or clearing activities.

Table 15. Summary of Shovel Probe Excavated at the Base of the Bluff

SP	NEAREST TP/SC	RESULTS	CULTURAL MATERIALS
240	TP-9	Positive	1x railroad spike; 1x brick fragment
241	SC-6	Positive	modern trash; 1x clear window glass; 1x metal unknown
242	TP-10	Positive	3x clear glass shards; 3x metal unknown; 1x insulator; 3x brick fragments; 1x spool; 2x brick fragments
243	TP-10	Positive	1x milkglass shard; 3x clear glass shards; 2x nails; 2x brown glass shards; 1x locket; 1x battery core
244	TP-2	Positive: 45KP256	12x brown glass shards (with stippling); 6x brown glass shards; 1x mammal rib; 2x wire nail; 1x brick fragment; 8x clear glass shards; 1x clear glass bottle base; 1x brown bottle with metal screw cap; 1x pull tab; 3x milled wood; 1x metal cap; 7x olive glass shards; 2x mammal bone; 1x earthenware sherd; 1x milkglass jar liner; 1x wire nail; 1x tooled prescription bottle finish
245	TP-2	Positive	1x earthenware sherd; 1x clear melted glass; 3x brown glass sherds; 2x clear window glass shards; 1x green glass shard

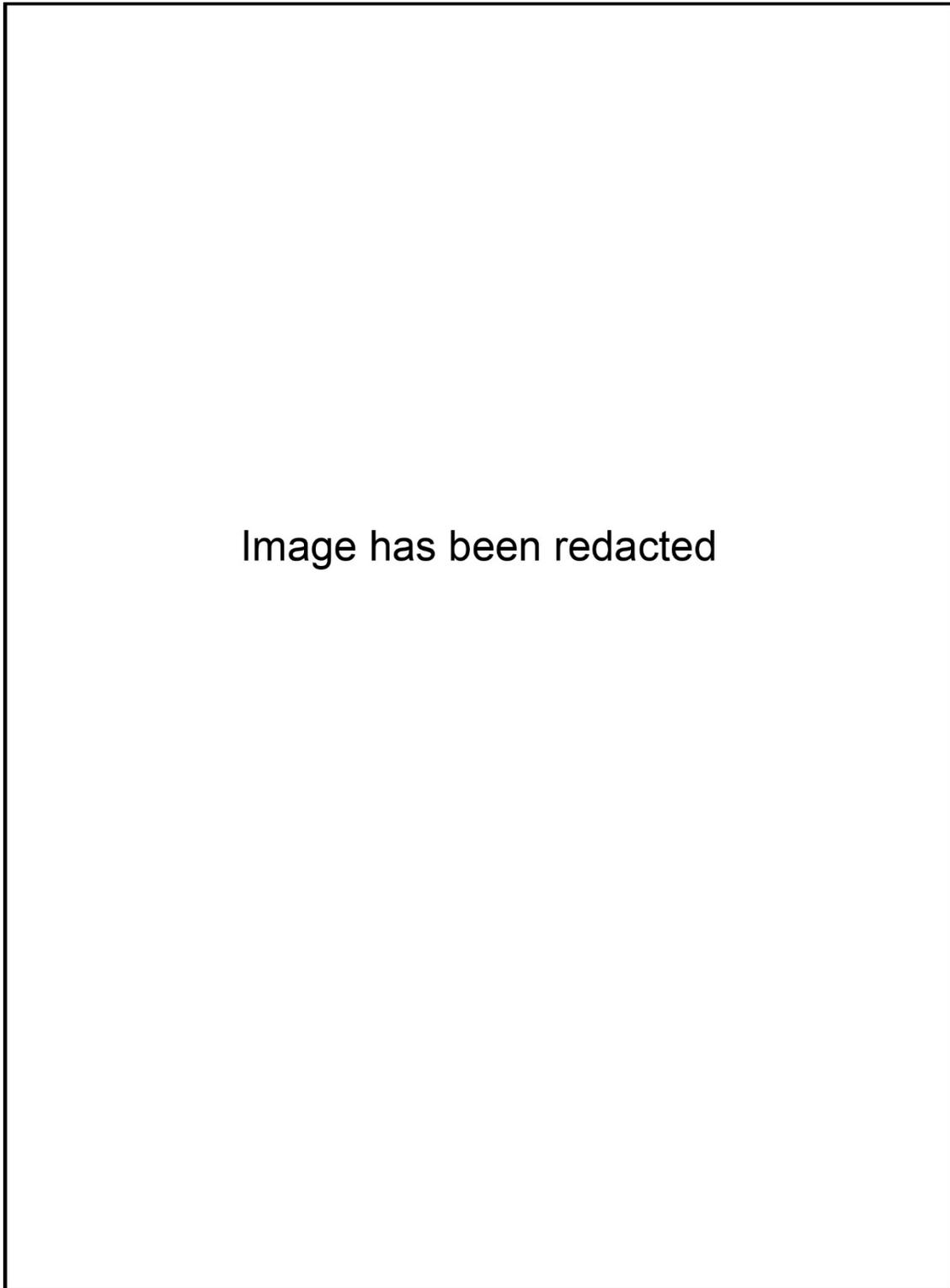


Figure 28. Retaining wall, view south (top) and second segment of retaining wall above, view west up the bluff face (bottom).

SP-244 and SP-245 were excavated to investigate the boundary of 45KP256. SP-244 exhibited similar stratigraphy that of TP-2, with slope-affected and recent fill overlying historical fill with diagnostic artifacts. The artifacts buried within SP-244 are associated with 45KP256. The single diagnostic artifact found at the base of this probe is a tooled prescription finish from a clear glass bottle (1870–1915). The cultural materials in the overlying recent fill mainly consist of bottle glass shards that are not diagnostic. SP-245 consisted entirely of utility fill to [REDACTED] at which depth a water line was encountered, so all of the cultural materials encountered in SP-245 are disturbed.

SP-242 and SP-243 were excavated to investigate a bench in the slope above TP-10 because midden was identified below fill in this area. SP-242 also encountered a utility at about [REDACTED], so like SP-245, the artifacts from the overlying fill are out of context. SP-243, however, exhibited a relatively intact soil sequence. Mass wasting sediments extend to [REDACTED] at SP-243 and light yellowish gray, gravelly, silty, sandy soil reaches to [REDACTED] overlying sterile glacial till. Cultural materials in SP-243 include glass shards and a nail from within mass wasting surface sediments and a battery core and a locket were encountered at the top of the underlying intact B horizon. No midden was identified.

SP-241 was excavated as deeply as possible in search of a western boundary for the midden near SC-6, but natural sediments were not reached and no midden was identified. The shovel probe contained utility fill between 0 and at least [REDACTED]. Utility installation probably caused disturbance to at least [REDACTED]. The utility fill contained a few fragments of glass and metal.

SP-240 was excavated near TP-9 to investigate the fill where a piling was identified and where midden might be present. The upper [REDACTED] of fill at SP-240 also contained scattered debris, including a brick fragment and a railroad spike. Excavation through the fill was not possible and the probe was terminated on a brick at [REDACTED]. It is possible that structural archaeological materials associated with the piling near TP-9 and the bricks in SP-240 remain buried below the surface in that vicinity.

Even though many of the cultural materials encountered during test pit excavation were from disturbed contexts, the great number of artifacts is noteworthy. The people of Port Gamble dumped debris over the edge of the bluffs for years. The trash would have accumulated at the base of the bluffs where it was later buried by slumping of the slopes or historical filling activities. The debris has some potential to inform on past lifeways of the Port Gamble town residents; however, it's difficult to link dumped cultural materials to specific occupations. More importantly, the dumping and filling likely buried stable surfaces within the fill. Although only one site was identified at the base of the slope, potential for additional archaeological resources remains. Test pit excavations showed that preservation potential is slightly higher [REDACTED] compared to [REDACTED]. The specific land use history of each individual location along the bluff base requires consideration in order to determine if potentially significant cultural resources might be buried deeply in uninvestigated areas. Mill activities may have removed evidence of early historical occupation of the mill area in some locations, while burying and preserving it in others. Recent utility installations also require consideration.

Site Summaries

As a result of field investigations, one pre-contact site, four historical sites, one historic isolate, and one pre-contact/ethnographic site were recorded. Site forms are in Appendix D and locations of the identified resources are shown on Figure 1. These newly identified resources are in addition to the known built environment resources already recorded in the project area (Artifacts Consulting 2013).

The known resources include the Port Gamble Historic District (DT9) and the Buena Vista Cemetery (45KP181). The Port Gamble Historic District (DT9) encompasses historic Port Gamble, the company town built around the 1853 Puget Mill Company lumber mill. The mill operated nearly continuously until 1995 when it was closed and dismantled. The property includes residences, commercial buildings, a cemetery, the mill site, and wharf remnants. The district is listed on the NRHP as a National Historic Landmark (Eakins 1997; McKithan 1977). The Buena Vista Cemetery (45KP181) is the historic Port Gamble cemetery, situated on the bluff overlooking Hood Canal at the northern edge of Port Gamble. The cemetery has served for decades as community members' final resting place. One grave is that of Naval seaman Gustavus Englebrecht, the only European American casualty of the 1856 confrontation between the U.S. Navy and Native American warriors from Alaska or British Columbia. The cemetery is included in the NRHP-listed Port Gamble Historic District (DT9), and HAER documentation has been completed for the cemetery property (HAER WA-143) (Coman and Gibbs 1949:64, 65; Eakins 1997; McKithan 1977).

SEPA states that impacts to cultural resources should be considered during the environmental review process. SEPA asks whether cultural resources that may be impacted by the project are listed on any state, local, or national register. This question prompts evaluation of cultural resources in the project area using the federal process outlined in implementing regulations for the National Historic Preservation Act (36 CFR 800). In order to be considered eligible for listing in the National Register of Historic Places (NRHP), historic properties generally must be at least 50 years old, possess integrity of physical characteristics (retaining location, design, setting, materials, workmanship, feeling, and association), and meet at least one of the following four criteria of significance (36 CFR 60.4):

- A) association with "events that have made a significant contribution to the broad patterns of our history," or;
- B) association with "the lives of persons significant in our past," or;
- C) the property may "embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction," or;
- D) the site has "yielded, or may be likely to yield, information important in prehistory or history."

A summary of the archaeological resources identified during field investigation and evaluations of the archaeological sites based on existing data are in Table 16. The recommended site evaluations should be considered preliminary. Site 45KP252, the Pre-contact [REDACTED] Shell Midden, is recommended eligible for the National Register. In addition, sites 45KP254 (Babcock Dairy and Port Gamble Dance House), 45KP255 (Port Gamble Chinese Laundry and Residences), 45KP256 (Port Gamble Workers Housing Debris Scatter), and 45KP258 ([REDACTED] Culturally-Modified Cedars) are recommended eligible for listing in the NRHP. Sites 45KP253 ([REDACTED] Historic Dump) and 45KP257 (an isolated historic bottle base) are recommended not eligible.

Table 16. Summary of Cultural Resources in the Project Area

SITE NO.	SITE NAME	SITE AGE	DAHP EVALUATION	MAY CONTRIBUTE TO HISTORIC DISTRICT?
45KP252	██████████ Shell Midden	Pre-contact	Eligible	No
45KP253	██████████ Historic Dump	Historic ; 1890s-1940s	Not Eligible	No
45KP254	Babcock Dairy and Port Gamble Dance House	Historic; 1870s-1930s	Eligible	Yes
45KP255	Port Gamble Chinese Laundry and Residences	Historic; 1870s-1930s	Eligible	Yes
45KP256	Port Gamble Workers Housing Debris Scatter	Historic; 1870s-1930s	Eligible	Yes
45KP257	Isolate—historic bottle base	Historic; pre-1880	Not Eligible	No
45KP258	██████████ Culturally-Modified Cedars	20 th Century	Eligible	No
45KP181	Buena Vista Cemetery	Historic; 1860s-1941	Eligible	Contributes
45DT9	Port Gamble Historic District	Historic; 1890s-1960s	Listed in NRHP and designated a National Historic Landmark	N/A

The recent field work, particularly the shovel probes, demonstrated that subsurface cultural material is widespread in the Port Gamble Historic District. Table 16 also includes previously recorded cultural resources in the project area. The Port Gamble Historic District is already listed on the National Register of Historic Places, though not as an archaeological property. ██████████

██████████ Sites 45KP254, 45KP255, and 45KP256 may be considered contributing archaeological elements of the District, as well.

45KP252: Pre-contact ██████████ Shell Midden

The shell midden is ██████████ (Figure 29). ██████████ is now deeply buried by fill associated with historical occupation of the site area. The decommissioned Pope and Talbot Mill Site occupies the filled land above the midden. The midden is below about ██████████

██████████ See pages 6 through 17 in the 45KP252 site form in Appendix D for more figures that illustrate the midden.

Intact shell midden was identified in three sonicores, including SC-6 from ██████████, SC-7 from ██████████, and SC-11 from ██████████ (Figure 30). The intact midden is a maximum of ██████████, where sampled, below an average of ██████████ of fill associated with various iterations of the Puget Milling Company facility. The intact shell midden appears to be stratified in at least three layers that were designated the upper, middle, and lower midden during sampling. In general, the upper midden consists of dark gray, very shelly and silty, fine to coarse sand. The lower boundary of the upper midden is gradational at about ██████████ in SC-6. The middle midden layer is slightly darker in color than the upper midden and has fewer shell fragments. The lower boundary at about ██████████ in SC-6 is marked by a less than one centimeter thick bed of mussel shell. The lower midden layer consists of black, shelly, fine to coarse sandy silt and the deposit is greasy. There are a few FMR within the lower midden in SC-6. The midden did not appear to be stratified in SC-7 or SC-11, which may be due to sonicore sampling methodology and soft sediment deformation during sampling or wave reworking of the midden along the edges of the sand spit prior to historical burial with fill. Still, the midden in SC-7 and SC-11 appeared to be discrete deposits and were not mixed with fill, as was encountered elsewhere across the site. In all instances, brown silt with varying amounts of woody debris and sawdust is above the intact midden and massive, gray, medium to coarse sand is below the site. The brown woody silt above the midden is fill composed of wood waste associated with the historical mill. The gray sands below the midden are

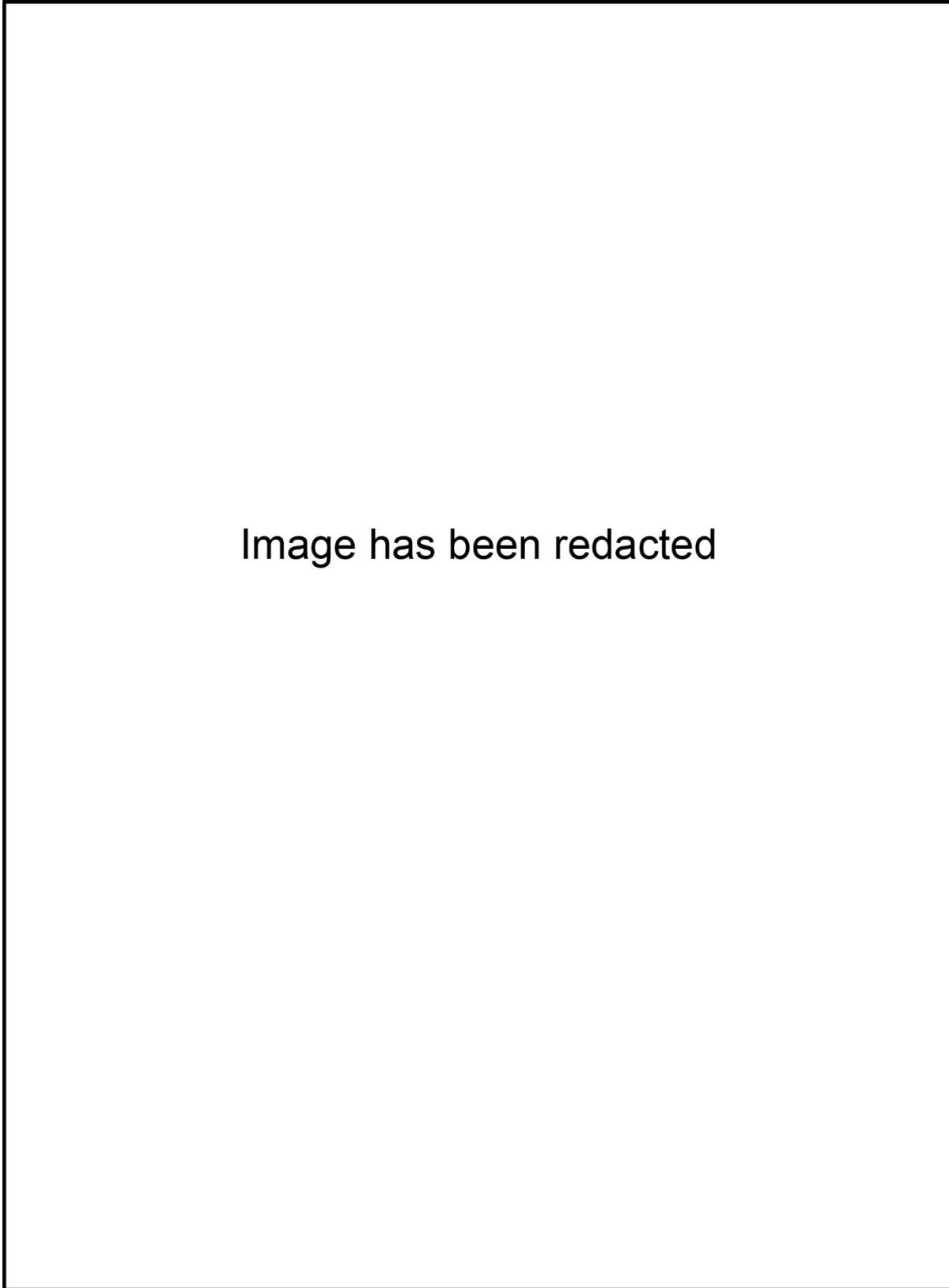


Figure 29. Sketch map of 45KP252.

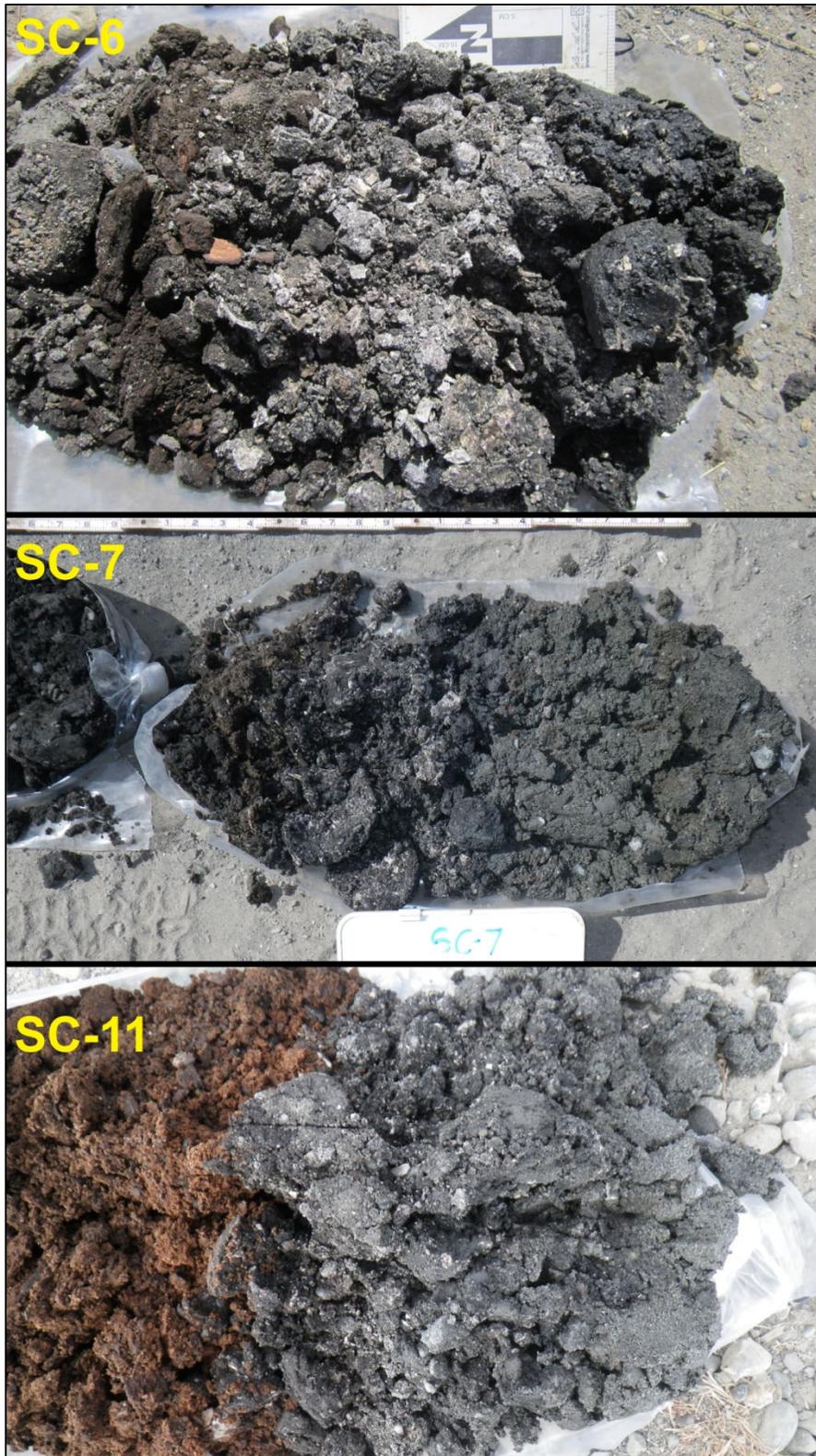


Figure 30. Close-up of midden from SC-6 ([REDACTED]), SC-7 ([REDACTED]), and SC-11 ([REDACTED]). Top is left, and note that soft sediment compacts.

natural Holocene deposits associated with the sand spit landform that supported the site prior to historical filling.

Disturbed midden was identified in four additional sonicores, including SC-8 from [REDACTED], SC-9 from [REDACTED], SC-12 from [REDACTED] and from [REDACTED], as well as SC-13 from [REDACTED] and [REDACTED]. Layers logged as disturbed midden include those with relatively large pockets of midden within fill or deposits in which shell and charcoal are clearly mixed with fill, evidenced by the presence of historical cultural materials such as glass and brick fragments. Disturbed midden was also identified at the base of backhoe test pit TP-10 at [REDACTED]. Possible cultural materials, such charcoal stained FMR in an organic-rich matrix without shell, were identified in SC-2 from [REDACTED] and in SC-5 from [REDACTED] in similar stratigraphic position as the intact midden.

Cultural materials observed in intact midden from SC-6, SC-7, and SC-11 include 29 FMR, faunal material, and charcoal. These items were collected from the midden samples, which were wet-screened through 1/8-inch mesh and quickly sorted. The fragments of charcoal were sorted from midden collected from SC-6 between [REDACTED] during wet screening and are available for radiocarbon dating. The faunal material includes an assortment of shell and seven bones or bone fragments. The bones are one ratfish (*Hydrolagus colliei*) tooth, one unidentifiable mammal cancellous/compact bone fragment, one unidentified fish spine/ray fragment, one flatfish (Order Pleuronectiformes) vomer, one flatfish (Order Pleuronectiformes) atlas vertebra, one flatfish (Order Pleuronectiformes) caudal vertebra, and one flatfish (Order Pleuronectiformes) precaudal vertebra. Well represented shell species include butter clams (*Saxidomus gigantea*) and littleneck clams (*Leukoma staminea*), as well as cockles (*Clinocardium nuttallii*), razor clams (*Siliqua patula*), macoma clams (*Macoma spp.*), geoduck (*Panopea generosa*), gastropods, and a trace of mussel (*Mytilus spp.*) (White 1976). Similar shell types were identified in the samples of disturbed midden within the fill, along with five small FMR, slag, woody debris, brick fragments, metal wire, glass fragments, and the tooth of a carnivore. FMR (n = 22) were present in natural deposits without shells in organic-stained matrices in SC-2 and SC-5 between [REDACTED]. Sonicore SC-2 also contained a lithic core associated with the FMR. These artifacts and the dried, partially sorted and packaged midden coarse fraction left over from water screening and the core samples were temporarily housed at SWCA's Seattle office. The collection was transferred to OPG representative Linda Berry-Maraist on June 23, 2017 for housing in the Port Gamble Museum, which is maintained by OPG.

Additional sonicores were drilled to better delineate the site boundary in 2017, the results of which are in a separate report (Rinck 2017). For that assessment, charcoal from three sonicores was submitted for radiocarbon dating indicating the site was occupied between 1,495 and 1,900 years ago.

The midden retains integrity in the central portion of the site, and contains a variety of data sets, including FMR, faunal remains (shell and bone), lithics, and likely botanical specimens useful for addressing questions related at a minimum to subsistence, lithic technology, site formation, and chronology. The midden is recommended eligible for listing on the NRHP.

45KP253: [REDACTED] Historic Dump

Cultural materials (n = 95) dating as early as the 1890s were observed in SP-2 and SP-208 excavated [REDACTED]. Modern cultural materials are found across the surface at this waste disposal site, which measures 15 by 27 m (49 × 89 feet) [REDACTED].

[REDACTED] SP-2 contains a slightly silty, fine to medium sandy A horizon with roots, few charcoal fragments,

and ash extending to a depth of [REDACTED]. Glacial sediment is mixed with the A horizon between [REDACTED] and undisturbed glacial sediments were encountered below [REDACTED] (Figure 31). This same sequence was observed in SP-208. All of the artifacts observed in SP-2 came from the A horizon and the disturbed glacial sediments, while artifacts in SP-208 were only found in the A horizon. Modern cultural materials are found across the surface at the probes, but they are also incorporated into the soil profile by bioturbation, soil development, and mass wasting.

Cultural materials from SP-2 were found between [REDACTED] (Table 17). Metal artifacts include the lid to a canning jar (1905-present); two tubes of hygiene product, such as toothpaste (1928–1970s) (Sacharow 1965), three light bulb bases (1927–1970s), nine metal scraps (possibly from a can), a belt buckle, two lid fragments, two crown caps (1905–present), a button, the remnants of a fish tin (1890–present, Rock 1988), part of an electrical fixture, a wire nail, 15 pieces of debris, and a refillable cigarette lighter (1920–present). There was also charred large mammal bone fragment, and a large mammal long bone fragment (possibly deer or cow). Glass artifacts include part of a graduated medicine bottle (1910–1950s), a small perfume bottle, 30 non-diagnostic pieces of clear glass (comprising two bottles), a green Brookfield unipart electrical insulator (1898–1921) (Gish 2012), a single brown glass bottle shard, and a complete brown bottle marked "28 ROUX / MADE IN U.S.A." on the base. This oddly shaped bottle (with three finger ridges on the sides), could not be identified, though it probably contained a food product. Other artifacts include a blue glass marble, one red plastic bottle twist cap, five pieces of plastic, and a single ceramic

Table 17. 45KP253 Artifacts by Material Type

MATERIAL	QUANTITY
Bone	4
Ceramic	1
Glass	37
Metal	47
Plastic	6
TOTAL	95



Figure 31. Profile of SP-2.

Maneki-neko (lucky cat) figurine. The *Maneki-neko* is a Japanese symbol whose raised left paw beckons customers. SP-208 yielded fewer cultural materials found entirely within the upper [REDACTED], including two saw-cut large mammal bones, one shard of green bottle glass, a metal oil drum lid, a metal handle, an automobile motor, and a wash tub. See pages 6 through 9 the 45KP253 site form in Appendix D for more figures that illustrate the dump.

The site demonstrates the sensitivity of [REDACTED] for disposal related to the occupation of Port Gamble. In particular, the large tree near SP-2 may have served as a gathering place or landmark for disposal activities (Figure 32). There is presently no known discussion of waste disposal through time for individual households or the community of Port Gamble. The location at the margin of the community and the archaeological evidence provided by this site suggest [REDACTED] may have been a convenient and discreet place for concealed dumping activities. The site is evidence of the disposal methods practiced by the inhabitants of Port Gamble perhaps as early as 1890 and certainly prior to World War II, but it may be difficult to link the site deposits to a household or the community in a meaningful way. The site is currently represented by only two shovel probes, but is recommended not eligible for the NRHP. Washington State Department of Archaeology and Historic Preservation (DAHP) recommended that questions about foodways, class, economic conditions, and the development of community-based waste disposal practices would be better answered by data from other residential sites at Port Gamble, such as 45KP255 and 45KP256.

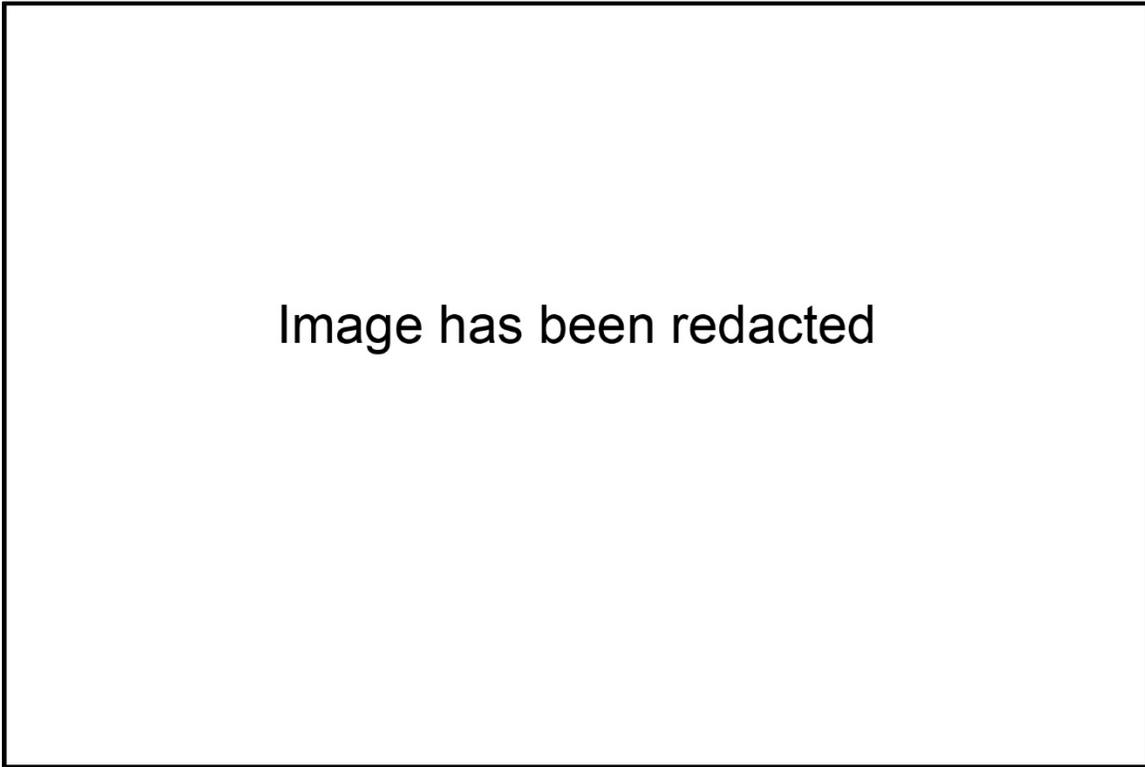


Figure 32. Overview down the trail toward 45KP253 and the large tree.

45KP254: Babcock Dairy and Port Gamble Dance House

Historical archaeological materials dating from the 1870s to the 1930s were discovered in shovel probes that were dug in pastures southwest of the Port Gamble Town Site (Figure 33). The shovel probes were used to explore the approximate location of buildings shown on the 1877 General Land Office survey map. The mapped locations of these buildings are within the boundary of the historic Babcock Dairy property and [REDACTED]. Charles Babcock filed a homestead claim on an adjacent parcel in 1886 and with his brother had purchased the additional 40 acres by 1893. The Babcock Dairy likely operated from that period into the mid-twentieth century, but other agricultural and commercial activities took place both earlier and later on the 40-acre parcel. Structures currently on the property were recorded separately on historic property inventory forms by OPG's consultant (Artifacts Consulting, Inc. 2013). In addition to these existing structures, a 1977 photograph of the dairy farm area shows an octagonal barn and a residence attributed to the Babcock family, but neither was observed during survey because they are no longer standing (Bowen et al. 1977:Book II-142).

A review of the property's ownership history suggests that a dance house was located on the site as early as the mid-1860s, several decades before the Babcock Dairy was in operation. Dance halls and saloons were some of the earliest businesses established in the region as the growth of new settlements focused around resource exploitation, processing and export. Most of the laborers in mills and logging camps or sailors in the established ports were single men primarily seeking food, drink and entertainment after a long day of work. Many lived in company towns where mill owners generally controlled most of the local businesses and, in cases like the operators of the Port Gamble mill, discouraged the use of alcohol. Entrepreneurs would then locate bars, brothels or other entertainment venues just outside the town boundaries as a way to circumvent restrictive company policies. Often these establishments were financed by individuals or groups of individuals who had worked in or run these types of businesses in other parts of the region (Stein 2003:13–14; Allen 1966:19–20).

In the case of the dance hall just outside of Port Gamble, this 40-acre parcel was initially claimed in August 1864 by Nicholas Powers and Alexander Newland, both of whom were in the retail liquor and tobacco business. The partners patented their claim in 1869, and two years later Newland transferred his share to his brother. The sale documents indicate that "the said property being now known as the Port Gamble Dance [House]" also included all buildings and structures as well as "furniture, bedding, glassware, crockery, ornaments, etc." (Bill of Sale, April 8, 1871, in Kitsap County Recorder, Deeds, Vol. 4: 155). Alexander Newland was also co-owner of another dance house located about one-half mile from the Washington Mill at Seabeck. His partner in that venture was J.W. Pennell (also Pinnell), a well-known saloonkeeper and brothel owner in Seattle (Bill of Sale, April 8, 1871, in Kitsap County Recorder, Deeds, Vol. 4:153–154; Speidel 1994:105, 110–130). Over the next two decades, the Port Gamble establishment was mortgaged or sold a number of times, primarily to established figures in the Puget Sound brewery and saloon business, including August Melhorn and Martin Schmeig (Table 18). A dance house likely operated on the site until the Babcocks purchased the property in about 1893.

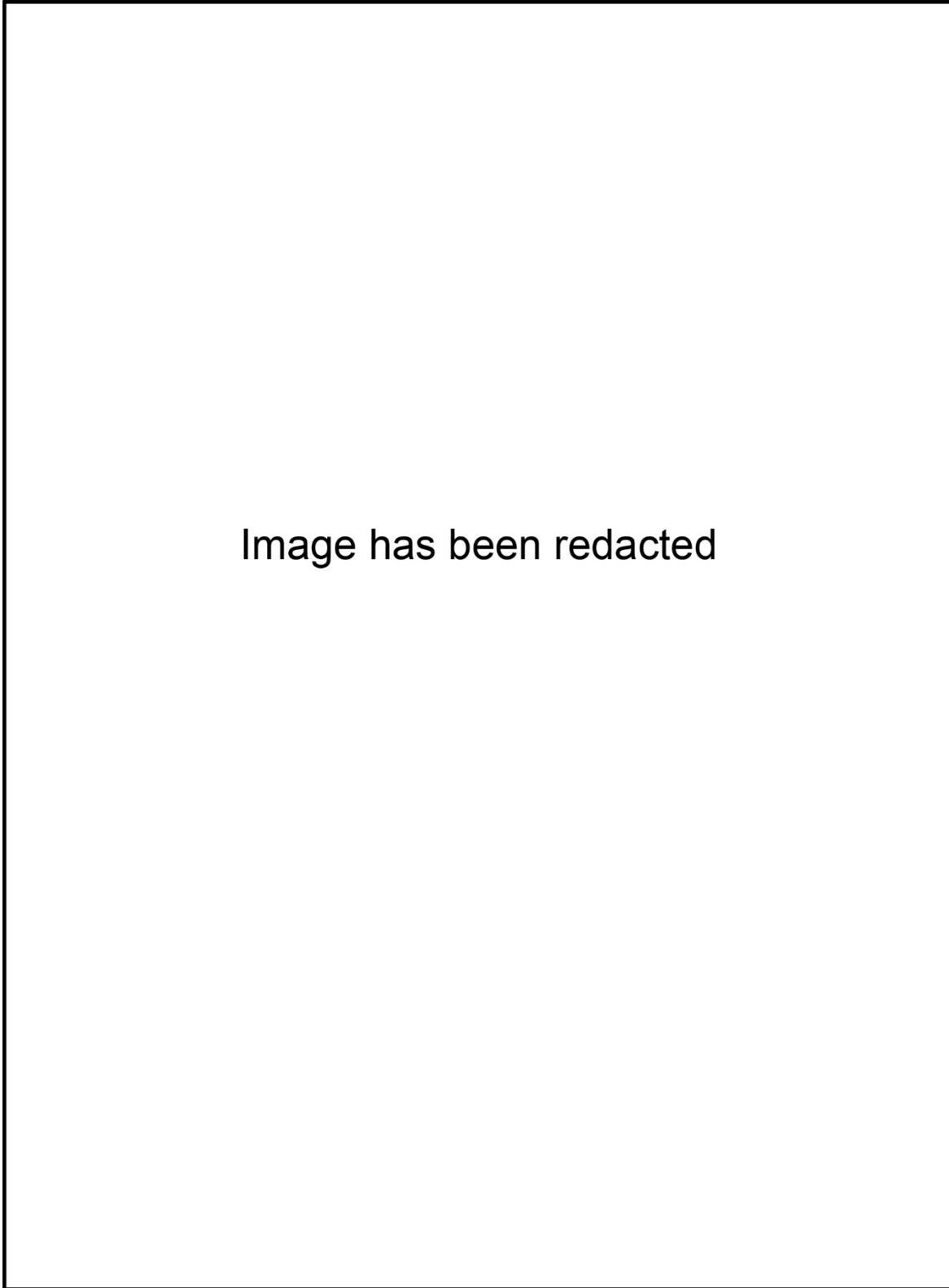


Figure 33. Sketch map for 45KP254.

Table 18. Property Ownership of the Babcock Dairy and Port Gamble Dance House

DATE	NAME	NOTES
August 17, 1864	Nicholas B. Powers & Alexander Newland file claim on 40 acres	Both are retail liquor and tobacco dealers
May 15, 1869	Powers & Newland patent claim	
April 8, 1871	Alexander Newland transferred his ownership to William Newland	Transaction was for the Port Gamble Dance [House], including buildings, furniture, glassware, etc.
July 1872	Newland mortgaged his interest to John Collins	Collins was the proprietor of the Teekalet Hotel
August 1872	John Collins sold half his interest to Daniel Manson & William Warren (also Warin)	Warren was a well-known saloon keeper
December 1872	Nicholas Powers sold his interest to Amos Brown & Martin Schmeig	Schmeig was in the brewery business
1873	Daniel Manson sold his share to William Warren	
1873–1876	Over the years, Warren mortgaged his shares several times to August Melhorn and Martin Schmeig	Melhorn was a Seattle brewer
May 1876	Warren Martin sold his half to Brown and Schmeig	Cost was \$1000
1876–1882	John McAvoy leased the property with Joseph Pacquet	McAvoy was a farmer
1882	Reuben Lowe leased the property, sub-leasing to A.F. Baxter & George or D.E. Brooks	Lowe was a saloonkeeper from Maine; Baxter and Brooks were farmers
1893	Property purchased by Charles & Frank Babcock	Charles was initially a logger, and homesteaded adjacent parcel; Charles and brother Frank ran ranching, dairy business (Sources: Kitsap County Recorder, Deeds, Mortgages; U.S. Bureau of the Census 1860-1900).

Charles Babcock lived and farmed on property adjacent to the west side of the site after he homesteaded that property in 1886. Based on maps and aerials of the property, the dance house structures were razed before 1929. The Babcock house and octagonal barn were still standing in 1977 and were torn down at some time thereafter. During survey of the project area, no structures were observed on the Babcocks’ original land west of the site. Local histories suggest that some of the Babcock family lived on the property containing site 45KP254, and it is known that Frank Babcock raised dairy cattle there. The Babcock dairy is listed in the *Oregon and Washington State Gazetteer and Business Directories* in 1925-1926 and as late as 1931-1932. Frank Babcock died in 1938 and his son, Frank Babcock, Jr., continued to farm in the Port Gamble area (Bowen et al. 1977:142; Polk 1926–1932).

The archaeological site is [REDACTED]. Artifacts dating to the operation of a dance house were found between [REDACTED] in Ap and B horizons formed within glacial till. The Ap horizon was on average [REDACTED], while the B horizon extended to an average of [REDACTED]. Glacial till was encountered at shallow depths on the terrace slope and tread, whereas the depth to sterile glacial sediment was deeper towards the base of the terrace riser slope. Shovel probes were excavated across the glacial terrace at 25 meter intervals concentrating on the area around the existing dairy structures, in adjacent clearings, and where buildings were shown on historical maps.

Of the 94 probes excavated, 24 were positive for historical archaeological materials. The positive probes were mainly [REDACTED] (Figure 34). The probes yielded fragmented bottle glass, ceramics, and a few faunal remains, as well as metal artifacts like nails, cartridges and fence staples. Some of the glass colors, bottle manufacture technology and trademarks suggest pre-1880 origin for the vessels, many of which were for beer, whisky, or other spirits. Fragments of glass vessels and other objects more likely

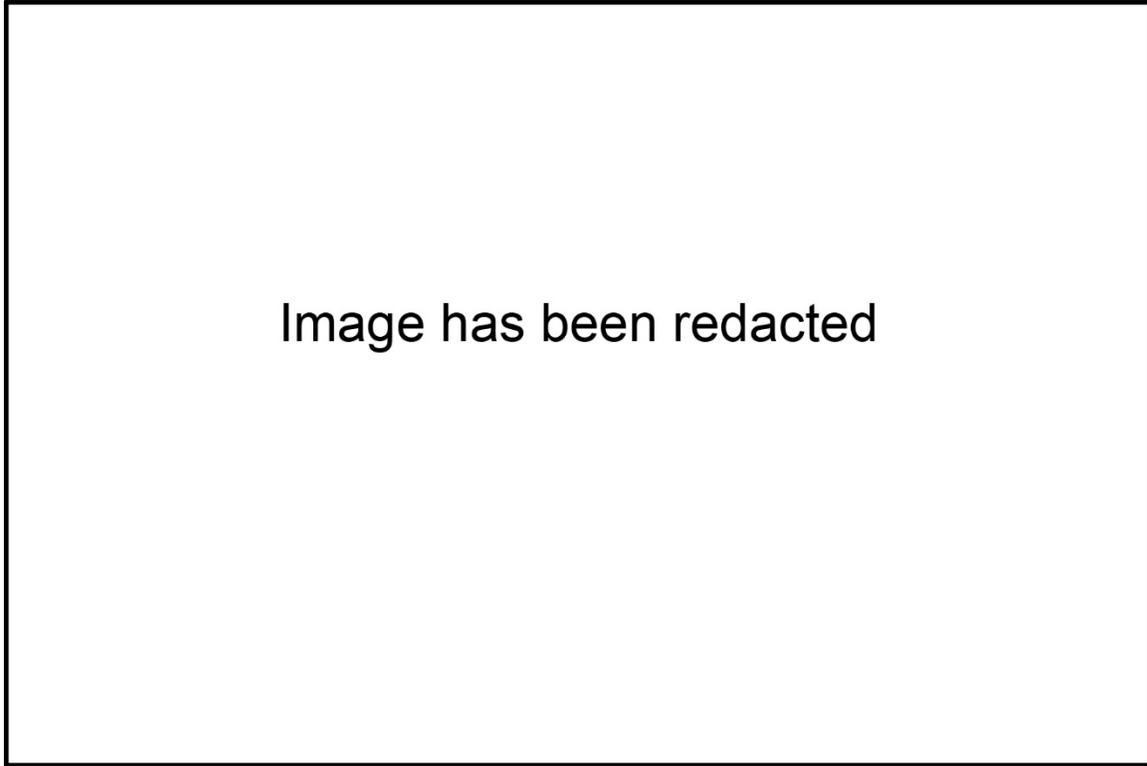


Figure 34. Site 45KP254 overview, [REDACTED], view west.

date to the late nineteenth or early decades of the twentieth century. They were probably related to the Babcock Dairy and its possible inhabitants but were comingled with the older glass where deposits from the two occupations overlap in the middle of the site. See Pages 11 through 16 in the 45KP254 site form in Appendix D for more figures that illustrate the site.

Eleven of the positive probes contain older artifacts that are associated with the dance house, including SP-17, SP-22, SP-26 through SP-29, SP-42, SP-44, SP-138, SP-140, and SP-141 (Table 19). These probes are mainly along the north and east edges of the site. Artifacts from these seven clustered probes include: undecorated ceramic sherds; three hand-manufactured bottles (1870–1920); a brown turn-mold export style beer bottle (1880–1915) (Lindsey 2013); a patent style cylindrical liquor or spirits bottle manufactured by the Dyottville Glass Works (1870–1923) (Lindsey 2013, Toulouse 1972); a green turn-mold liquor bottle (1880-1915) (Lindsey 2013); honey, aqua, and yellow/green-colored bottle shards (1870–1920) (Lindsey 2013); at least 20 other bottles; metal debris; fence staples; nails; and a 2-hole Prosser button (1870–present) (Sprague 2002). Hand manufactured bottles are produced by manually forcing glass into a bottle mold, and forming the finish (mouth) of the bottle separately. Turn-mold bottles are created from a process where glass is forced into a bottle mold and once shaped, the vessel is turned inside the mold to remove seams. This manufacturing style was used only briefly before the automatic bottle process (which is still used today) became widespread. While some artifacts

Table 19. 45KP254 Artifacts by Site Component and Material Type

MATERIAL	DANCE HOUSE	BABCOCK DAIRY	TOTAL
Bone	-	3	3
Ceramic	7	21	28
Glass	63	50	113
Metal	5	45	50
Wood	-	2	2
TOTAL	75	121	196

provide a tighter temporal range than others, all 75 artifacts in the dance house assemblage were available as early as 1870 or 1880.

Slightly younger artifacts attributed to the subsequent dairy operations consist of mammal bone (probably cow), brick, earthenware vessel sherds, two hand-painted vessel sherds of Asian design, a button, electrical knob, at least 17 bottles, a shard of a cobalt panel bottle (probably medicinal, 1900–1930s), nails, metal debris, a bullet cartridge, fence staples, a few scraps of milled wood, and window and chimney glass. The artifacts were identified in SP-143, SP-152, SP-158, SP-171 through SP-173, SP-178, SP-179, SP-185, and SP-201. These probes are [REDACTED] and the north and central margins of the site. Notably, there is a concentration of nails ($n = 18$) in SP-178, [REDACTED]. No above-ground evidence of the barn was found during survey. All 121 artifacts comprising the dairy assemblage were available as early as 1900. Although features were not identified, it is likely that features, such as privies, are present.

The Babcock Dairy and Port Gamble Dance House site has potential to provide information about some of the earliest Euroamerican residents of the Port Gamble area and the Puget Sound region. Archaeological evidence of the historic era in the Pacific Northwest dating to the 1860s is limited to trading, missionary and a few agricultural sites, and the temporal range at this site, particularly the quantity of pre-1890 artifacts, speaks to its potential for important new data about the early settlement period. Easy access to resources and a protected harbor were initially believed to be the most important components for economic development, and towns like Port Gamble, Port Townsend, and Seabeck as well as other outlying communities around Puget Sound experienced early growth associated with industrial activity and commerce. Important questions about social life, entertainment and consumerism in these frontier enclaves, the evolution of working-class culture as well as the interrelationships among these types of communities during the initial development period may be addressed.

The site may also lead to a better understanding of the impact of company towns on local populations both within and outside their boundaries, and the networks of speculators and entrepreneurs who contributed to economic and social development as well as formation of different types of community. In addition, the propagation of vices and modes of dealing with prohibition in a town closely controlled by the mill owners may be possible to address and to compare with other types of frontier communities. The presence of Asian pottery also suggests potential multi-ethnic use and leads to important research questions about diversity and changing social relationships among various groups as communities evolved. In this case, the development of agriculture after town building also suggests a different type of economic model. The quantity of artifacts identified in shovel probes indicates that sufficient diagnostic samples exist at the site to differentiate the later agrarian occupation from the earlier commercial one. With additional investigation, the possibility remains for identification of major features, such as privies, foundations, or disposal areas, and additional artifacts to support meaningful research. The shovel probes show that site integrity is preserved because disturbance across the site is minimal. The presence of diagnostic artifacts, such as the Dyottville Glass Works glass fragment dating as early as 1870, pose opportunities to link Port Gamble to outside markets (McKearin 1970). As a result of all of these factors, the site is recommended eligible for the National Register.

45KP255: Port Gamble Chinese Laundry and Residences

Thousands of Chinese, nearly all male, immigrated to the United States during the nineteenth century, attracted by economic opportunities in the rapidly developing American West. Chinese crews arrived at Port Gamble soon after the mill was established (Eakins 1999:25). In 1882, however, Congress passed

the Chinese Exclusion Act which enacted a 10-year moratorium on Chinese labor immigration. The law made it near impossible to prove that a potential immigrant was not a laborer, so only a few Chinese were able to gain entrance to the country. In 1892, a 10-year extension of the law was passed (the Geary Act), with it being made permanent in 1902. The Geary Act regulated all Chinese immigration until the 1920s, when post-war immigration increased.

In order to reduce the potential for conflict, people of different ethnic and socioeconomic groups were housed separately by the Puget Mill Company. In the early days of the operation, Chinese employees lived in quarters [REDACTED]. Maps dating to 1880 and 1885 show a building labeled “Chinese Quarters” [REDACTED] near several small cabins, chicken and hog houses, and a horse stable (Anonymous 1885; Keefe 1885). Chinese workers were later moved to new quarters in a laundry at the Port Gamble Town Site and, after that, to a dormitory in the town, originally built for single female employees (Eakins 1999:25).

Archaeological materials dating between the 1870s and 1930s were found at the historical location of a Chinese laundry and residences where a magnetometer survey was conducted and ground truthed with shovel probes (Figure 35). A Chinese laundry is shown on an 1885 map of the town and may have been in place earlier than 1880. A handwritten notation on a later map indicates that the laundry burned in April 1925. Artifacts were found in 35 shovel probes over an area measuring 165 × 240 m (240 × 787 feet) from [REDACTED] (Table 20). While magnetometer data was unable to define any discrete footprints of demolished buildings that once stood within the grid examined, the bone, ceramic, composite materials, fabric, glass, leather, metal and wood artifacts appear to be positively associated with the historical laundry and residences. Artifact distribution appears to be the result of casual discard during site occupation and debris left after the buildings were razed. The site may yet contain intact features or other use and discard areas. See Pages 18 through 23 in the 45KP255 site form in Appendix D for more figures that illustrate the historic site.

The soil at the Chinese laundry formed over thousands of years on top of a glaciated terrace landform within basal till. In general, an A-B-C soil sequence exists on the till plain; however, the soil A and B horizons are historically disturbed. The B horizon, in particular, is highly variable and may contain more artifacts than sediment. There is very little imported fill in the site vicinity, but a few of the shovel probes suggest portions of the site area may have been bladed in the past. The average depth to the base of the soil, or the top of the sterile glacial deposits, is [REDACTED]. Glacial sediments were encountered as shallowly as [REDACTED] and as deeply as [REDACTED] and in most cases the top of the till is heavily weathered. There is a slight depression along the east margin of the site where the soil is wetter and slightly thicker. Typically, the historically disturbed A horizon is composed of brown, gravelly, fine sandy silt. The B horizon is reddish or yellowish brown, gravelly, fine to medium sandy, silt. The underlying C horizon is compact, mottled gray and reddish brown, clayey, gravelly, silty, fine to coarse sand. Artifacts are found throughout the A and B horizons.

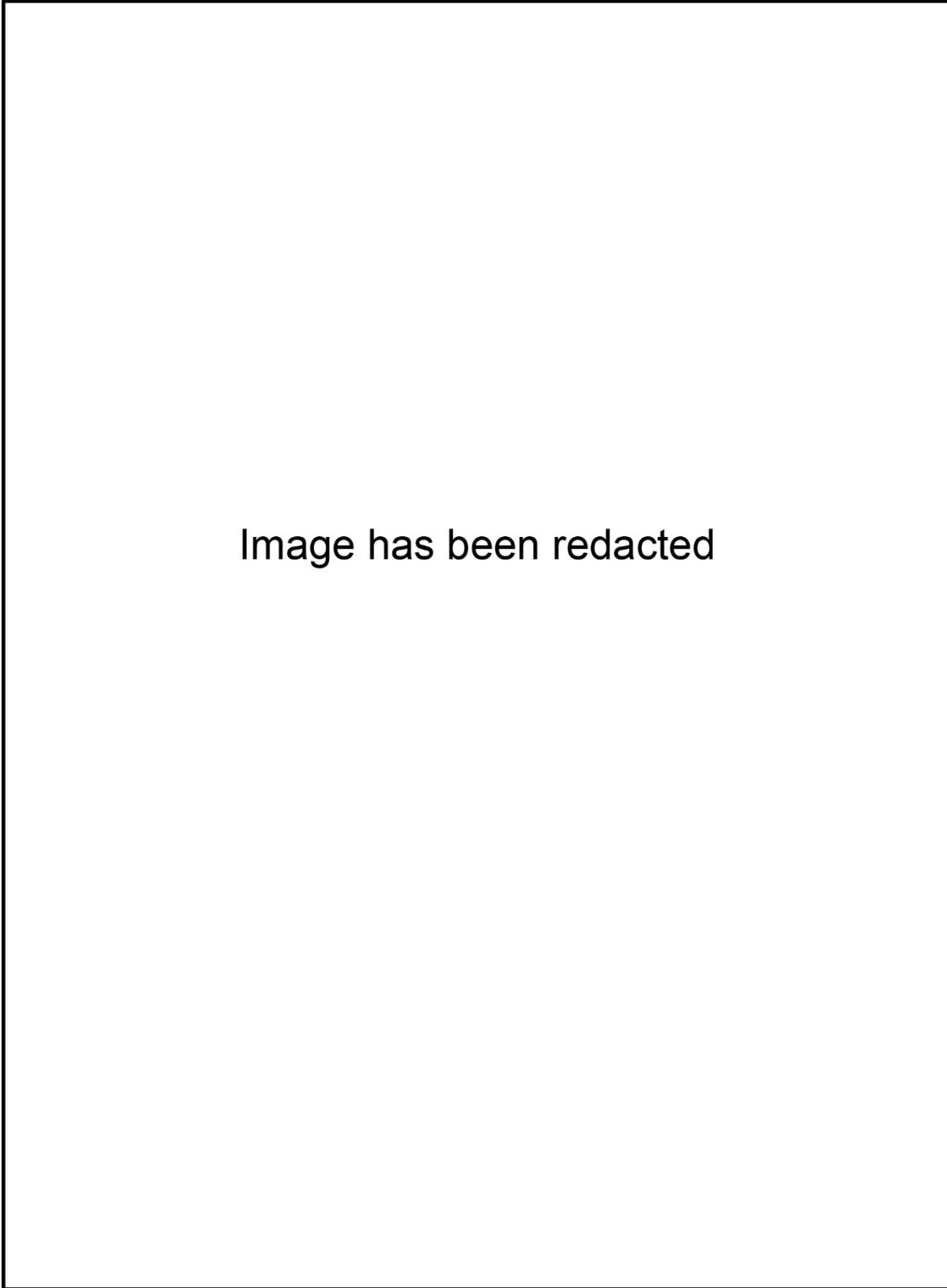


Figure 35. Sketch map for 45KP255.

Table 20. Diagnostic Artifacts found at 45KP255, the Port Gamble Chinese Laundry and Residences

ITEM	SHOVEL PROBE	DATE (REFERENCE)
1918 dime	69	1918
Albany-glazed stoneware crock sherd	63	1870-present
Aqua glass shards	58, 59, 61, 64, 65, 68, 69, 70, 74, 219, 221, 222, 229, 232, 238	1870-1920 (Lindsey 2013)
Asian-design hand-painted ceramics	229, 232, 234, 235, 237	-
Boyd's Genuine Porcelain jar liner	66	1870-1950s
Brown-colored hand manufactured bottle shards	234	1870-1915 (Lindsey 2013)
Cathedral pickle bottle shards	222	1870-1910 (Lindsey 2013)
Chinese brown glazed stoneware	60, 62, 69, 70, 71, 74, 219, 222, 228, 229, 231, 232, 234, 235, 236, 238, 239	-
Clayburn brand brick	230	c. 1930 (Gurke 1987)
Cobalt medicine bottle shards	71	1900s-1930s
Dr. Hostetter's bitters bottle shards	232, 234, 238, 239	1870-1920s (Lindsey 2013)
Honey-colored glass shards	222	1870-1920 (Lindsey 2013)
J. & G. Meakin makers mark	70	1890-present (Kowalsky and Kowalsky 1999)
Jesse Moore bourbon bottle	75	1870-1933 (White 2013)
Lea & Perrins glass bottle stopper	219	1870-1920s (Lindsey 2013)
Light bulb base	229	1927-1970s
Northwestern Glass Company bottle shards	232	1931-1970s (Toulouse 1972)
Olive-colored hand manufactured bottle shards	234, 238	1870-1915 (Lindsey 2013)
Olive-colored turn-mold bottle shards	232	1880-1915 (Lindsey 2013)
Porcelain decalomania vessel sherd	238	1890-1920s
Prosser button	238	1870-present (Sprague 2002)
Tooled glass bottle finish	238	1870-1915 (Lindsey 2013)
Wrought iron nail	232	1870-1885
Yellow glass shards	71	1870-1920 (Lindsey 2013)
Yellowware earthenware vessel sherd	63	1870-1900 (IMACS)

Artifact types identified at 45KP255 include glass, metal, ceramic, bone, wood, leather, fabric, and rubber (Table 21). There are two artifact groups of note in this assemblage. The first are the bitters bottles. From the 1840s through the early twentieth century, bitters and tonics were some of the most commonly used medicinal products. These snake oils claimed to cure almost every problem imaginable. However, it was their high alcohol content that soothed the patient, rather than their medicinal qualities. Dr. Hostetter's Bitters, in particular, was one of the most popular brands in the country (Figure 36). There are at least four bitters bottles in the assemblage. The second, and perhaps most informative group, is the Chinese brown glazed stoneware (Figure 37). These range in color from brown to black, sometimes with yellow mottling. Chinese brown glazed stoneware typically made up utilitarian containers. These utilitarian containers were imported from China and held liquor, soy sauce, dried rice, and sugar, among other things. There are 81 sherds of Chinese brown glazed stoneware in the assemblage, representing at least 17 vessels.

Table 21. 45KP255 Artifacts by Material Type

MATERIALS	QUANTITY
Bone	31
Ceramic	479
Charcoal	7
Composite	13
Fabric	2
Glass	1190
Leather	12
Metal	428
Plastic	9
Rubber	1
Wood	13
TOTAL	2185



Figure 36. Dr. Hostetter's Bitters bottle shard from SP-238 at 45KP255, the Port Gamble Chinese Laundry and Residences site.

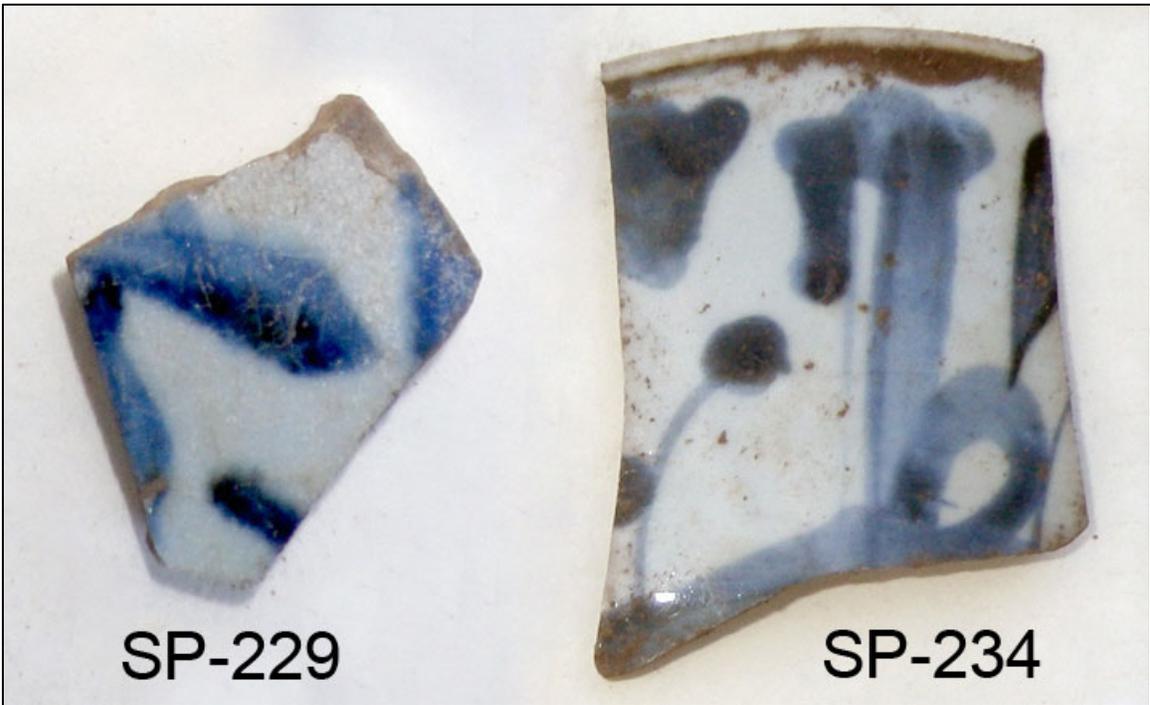


Figure 37. Hand-painted earthenware vessel sherds from SP-229 and SP-234 at 45KP255, the Port Gamble Chinese Laundry and Residences site.

There are also at least seven ceramic vessels with hand-painted designs. Although the sherds are small, the pattern appears to be the Bamboo design common among Chinese ceramics.

Artifacts associated with the period laundry and residence occupation were probably disturbed and buried as the area was bladed and landscaped after the buildings were razed. Shovel probes excavated at the eastern and southeastern margins of the site contain the most temporally and characteristically diagnostic data for associating the artifacts with Chinese residents at the turn of the twentieth century, with the exception of SP-237 that is recently disturbed. The northeastern corner of the site near SP-73 shows interesting absences of magnetometer anomalies and cultural materials, which may represent the previous location of a foundation. In SP-64 and SP-220, the historical artifacts are associated with shells in the A and B horizons. SP-63 contained a concentration of metal cultural materials, along with other data classes. These two deposits signal discrete, intentional refuse areas preserved within the site.

The Port Gamble Chinese Laundry and Residences site has the potential to reveal information about the Chinese residents of Port Gamble. Further study on trade networks and goods available at the local General Store and import markets could also help explore the relationship between Chinese residents and regional economic networks that catered to Asian immigrants. Other potential research domains are related to site formation, ethnicity and subculture, foodways, social and economic structure, housing and community, and possibly gender. Additional investigations are needed to explore the site's integrity and identify features. The Port Gamble Chinese Laundry and Residences site is recommended eligible for the NRHP.

45KP256: Port Gamble Workers Housing Debris Scatter

Site 45KP256 was identified in one of the backhoe test pits [REDACTED] excavated to search for remains of workers' housing shown on an 1885 map (Figures 38 and 39). The small cabins are no longer present on maps drawn in 1929 (Sanborn 1929). Two shovel probes were excavated to define site boundaries upon discovery of the archaeological deposit in the test pit. Positive excavations TP-2 and SP-244 are in the vicinity of mill workers cabins shown on Port Gamble maps drawn between 1878 and 1913.

Prior to historical occupation of the Mill Site, a sandy, gravelly beach was at the base of Teekalet Bluff. Once the mill began production, sawdust accumulated on the shoreline and buried the beach gravels. Sawdust may have also been used intentionally as fill. Wood waste was found in the test pit at about [REDACTED]. This material included woody debris and bark, suggesting that logs may have been stockpiled on top of sawdust at some point. Dredged sand was eventually placed on top of the sawdust to further fill the area. The dredge material may originate from a local source within Port Gamble Bay or may be from one of the many large projects that occurred around the Hood Canal. The workers' cabins were either built on planks and piles above the beach or directly on top of fill. Historical artifacts were found throughout the upper [REDACTED] of fill, and are clearly concentrated in a [REDACTED] at the base of the dredged sandy fill. The layer represents a disturbed historical surface extending from about [REDACTED]. The fill on top of the disturbed historical surface is looser, contains mixed older and younger artifacts, and has been affected by landscaping and blackberry growth. No pilings or decking were identified.

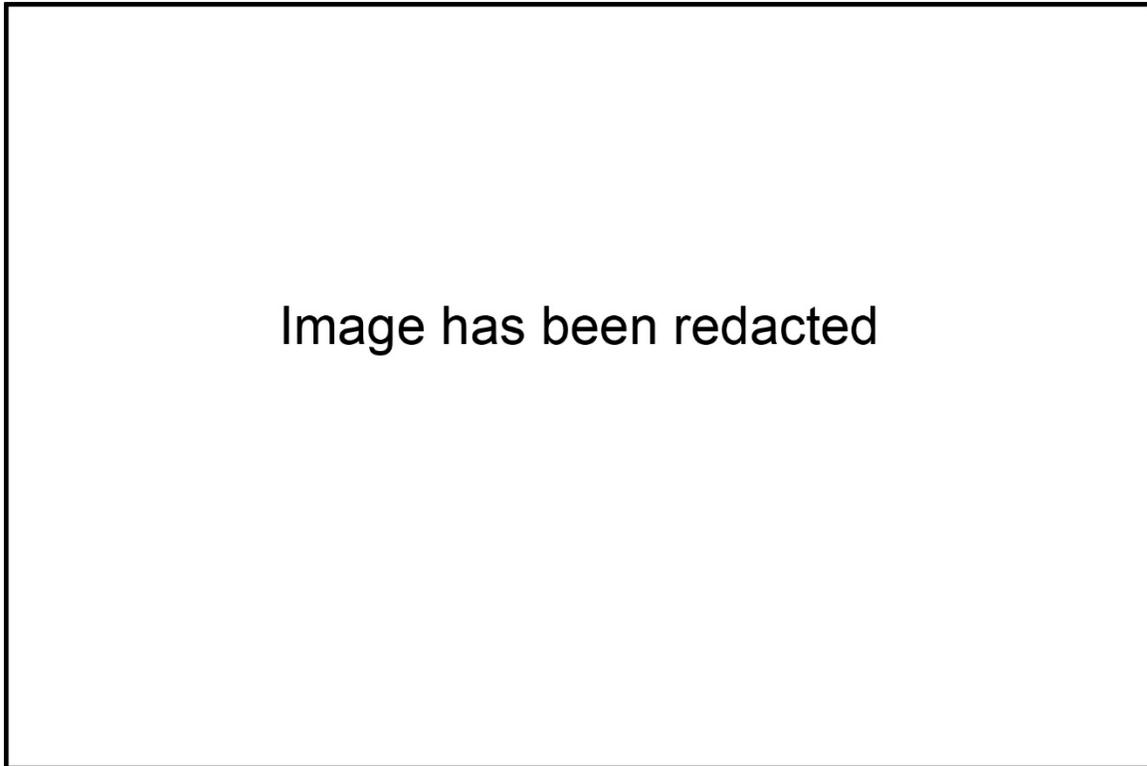


Figure 38. Sketch map for 45KP256.

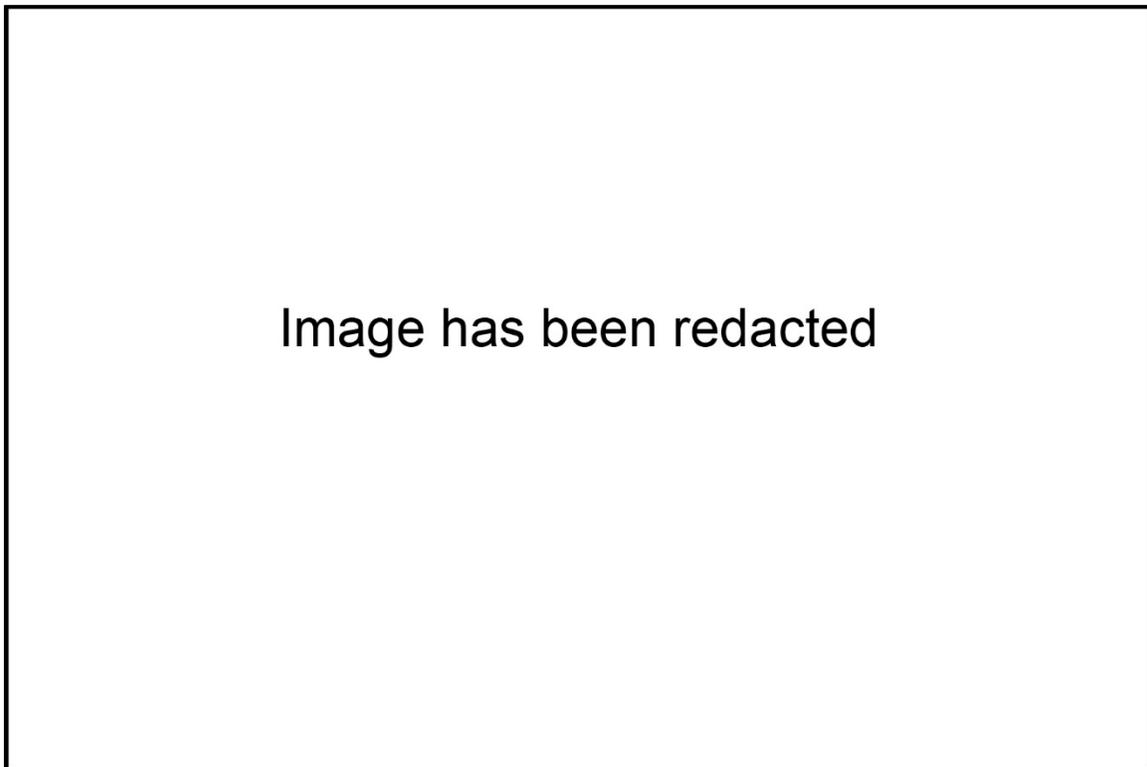


Figure 39. Overview of 45KP256, view southwest.

The fill above the disturbed surface and the upper portion of the surface itself contained jumbled glass, ceramic, metal, fabric, and leather objects, and brick, and sawn mammal bone and shell. A variety of ages are assignable to ceramic and glass artifacts ranging from the 1840s to 1950s found along with plastic, aluminum, and other relatively modern materials. A post-mold bottle base collected from the layer dates between 1850 and 1890 (Lindsey 2013). With the exception of a single modern beer bottle found in the fill between [REDACTED], all of the temporally diagnostic artifacts identified in TP-2 and SP-244 can be attributed to the period between 1850 and 1930 when the base of the bluff would have been occupied by the mill workers. None of the artifacts are associated with children, women, or family households. Based on the artifacts, the area would have been capped in the 1960s. Table 22 shows general counts of the identified artifacts from 45KP256 by material type.

Table 22. 45KP256 Artifacts by Material Type

MATERIAL	QUANTITY
Bone	64
Ceramic	67
Fabric	1
Glass	229
Leather	4
Metal	18
Plastic	5
Wood	3
TOTAL	391

Temporally diagnostic historical artifacts were not identified in the upper [REDACTED] that contained modern trash and demolition debris. Diagnostic historical artifacts were found between [REDACTED], including shards from a bottle of Hamlin’s Wizard Oil (1900–1920) (Fike 1987), a piece of earthenware with a British registration (1870-1883), one olive wine bottle with an applied finish (1870–1890) (Lindsey 2013), the base of a hand-manufactured whiskey bottle (1870–1890) (Lindsey 2013), a small medicine bottle with tooled finish (1870–1920) (Lindsey 2013), shards of a yellow-brown and aqua bottle glass (1870–1920) (Lindsey 2013), shards of an Owens-Illinois brand bottle (1958), and a 1950s Owens-Illinois brand Coca-Cola bottle. Other artifacts from [REDACTED] are the base to a bitters bottle, ten pieces of brick, a red clay drainage tile, 38 large mammal bone fragments (five saw cut), six pieces of metal debris, one nail, three leather shoe fragments, a piece of plastic, two shards of an earthenware vessel lid, 16 shards of brown bottle glass, the base of a shot glass, and eight clear bottle glass shards.

Several artifacts found between [REDACTED] are temporally diagnostic. These include shards to a bottle of Davis’ Vegetable Pain Killer (1870–1900) (Fike 1987), shards from a Northwestern Glass Company brand bottle (1931–1970s) (Toulouse 1972), a piece of Jesse Moore brand Bourbon (1870–1918), the base of a ceramic vessel manufactured by John Maddock and Sons of Staffordshire, England (1870–1987) (Kowalsky and Kowalsky 1999), aqua glass (1870–1920); hand-manufactured bottles (1870–1920), and bottles with applied and tooled finishes (1870–1890 and 1870–1915). Other items include brick (two marked “...ARTCRAN...”), aluminum, fabric, a green glass bottle with screw cap finish, nails, window glass, a shard of chimney glass, part of a shot glass, 22 pieces of large mammal bone (one saw cut); and clear, olive, and pale green glass shards. These artifacts mainly come from the disturbed historical surface.

A brown, post-mold bottle base collected from between [REDACTED] dates to from 1870 to 1890 (Lindsey 2013). The remaining non-diagnostic artifacts from this depth include one large mammal bone, one brick fragment, one piece of earthenware, olive and clear bottle shards (including two capseat finishes), and a piece of a leather shoe. These artifacts also come from the disturbed historical surface.

Artifacts associated with the site observed in SP-244 were between [REDACTED] and the bottom of the probe at [REDACTED]. These include two nails, two pieces of wood, two brown glass bottle shards, seven olive glass bottle shards, two large mammal bones, a sherd of an earthenware vessel, one canning jar

liner, and a tooled prescription bottle finish (1870–1915). See Pages 6 through 13 in the 45KP256 site form in Appendix D for more figures that illustrate the site.

Site 45KP256 contains multiple data classes and has the potential to reveal information about the Port Gamble Mill workforce. The Port Gamble mill employed African-Americans and immigrant Hawaiians, Russians, Cubans, Australians, Germans, Scots, and Finns (Eakins 1999:23, 24). Site 45KP256 may contain information regarding lifestyles of employees belonging to identifiable ethnic groups because groups of workers were usually housed based on ethnicity. Although information on ethnicity may be available in archived company documents, it is less likely that details concerning the specific Port Gamble mill worker lifestyles are included in the written record. Site 45KP256 also has the potential to provide data on the availability and consumption of resources in a company town and it presents an interesting research opportunity to compare consumption of prohibited resources, like alcohol, in town at 45KP256 versus outside of town, such as at 45KP254. In addition, 45KP256 has the potential to answer questions about waste disposal methods in the community of Port Gamble. The location [REDACTED], as well as the archaeological evidence provided by this site, suggest [REDACTED] may have been a convenient place for dumping. When compared to the data potential at 45KP253, it is more likely that artifacts and deposits from site 45KP256 will relate to a specific workers household or the mill community in a meaningful way.

Site 45KP256 has the potential to answer questions about foodways, class, ethnicity, recreation, social and economic conditions, and the development of waste disposal practices. Archival research in available corporate records can provide some basic contextual information on the company's policies, expenditures and general impacts on workers as they relate to these research domains. The archaeological record provides a unique opportunity to evaluate the influence on individuals, to explore more fully the lifestyles and conditions experienced at various levels of the workforce and to assess the extent that the restrictions or expectations imposed within a company town may have related to or varied with the class, ethnicity, social and economic status of its workers. Therefore, 45KP256 is recommended eligible for the NRHP. The integrity of the archaeological deposits at 45KP256 requires examination, additional investigations are needed to refine the vertical and horizontal site extent, and additional contextual research concerning the history of filling at the Mill Site is needed to fully understand this site.

45KP257: Isolate—Historic Bottle Base

An *in situ* temporally diagnostic bottle base manufactured between the 1850s and 1880 was observed in SP-110 excavated [REDACTED]

[REDACTED] A park was present at SP-110 prior to 1878 and the yard experienced little to no structural development throughout history. SP-110 contained a black to very dark olive hand-manufactured wine bottle base between [REDACTED] (Figure 40). The probe also contained a mixed, disturbed A/B horizon composed of gravelly, fine to medium sandy silt from [REDACTED] overlying a truncated intact B horizon composed of silty, medium to coarse sand with lenses of charcoal and burned soil from [REDACTED]. Glacial sediments were encountered at [REDACTED] in SP-110. Five shards of clear glass, one nail, and four large mammal bones were found in the disturbed upper soil horizons, while the bottle base was found in the truncated B-horizon (Figure 41). Landscaping of the property likely disturbed shallower sediments and their associated artifacts, but left the more deeply buried B horizon and the older artifact relatively intact. See the 45KP257 isolate form in Appendix D for more figures that illustrate the historic bottle base.

This single artifact is not recommended eligible for the National Register, however, the vicinity remains sensitive for future discovery and the bottle demonstrates the potential for discovery among remaining historic structures of the Town Site and on a district-wide scale, could be informative.

45KP258: [REDACTED] Culturally Modified Cedars

Two culturally-modified trees were identified north of the reservoir in the woods southwest of the Town Site. The trees were observed along [REDACTED] (Figure 42). Both trees are peeled cedars that are about 2.5 feet in diameter. One tree is [REDACTED]

[REDACTED] The trees represent Native American use of the uplands and they signal the importance of the area's resources for subsistence. The forest is second and third growth implying twentieth-century modification of the trees. See Pages 4 through 7 in the 45KP258 site form in Appendix D for more figures that illustrate the culturally-modified trees.



Figure 40. Black/very dark olive hand-manufactured wine bottle with champagne finish.

The site is recommended eligible for the NRHP because modification of the trees relates to beliefs, customs, and practices passed down over generations. Additional research and communication with the Tribes to learn about local tree modifying practices would provide needed site context.

IMPACTS FROM ALTERNATIVES ON NRHP-ELIGIBLE SITES

Each of the proposed alternatives has the potential to impact the NRHP-eligible archaeological sites described above. The majority of the differences between Alternatives 1 and 2 lie in the development of the RHTW area, or Mill Site. Each alternative and its potential impacts to NRHP-eligible sites are discussed below. Generally, if ground disturbing activity is planned within the boundaries of an archaeological site, the site will be adversely impacted. Additionally, under the Archaeological Sites and Resources Act (RCW.53) ground disturbing activities within archaeological site boundaries may require an excavation permit from DAHP.

Alternative 1

Most of the proposed development under this alternative would be within the RHTC, RHTR, and RHTW zones (Figure 43). The RHTW Mill Site area would be fully developed with commercial and residential buildings and associated utilities and landscaping.



Figure 41. Northwest profile of SP-110.

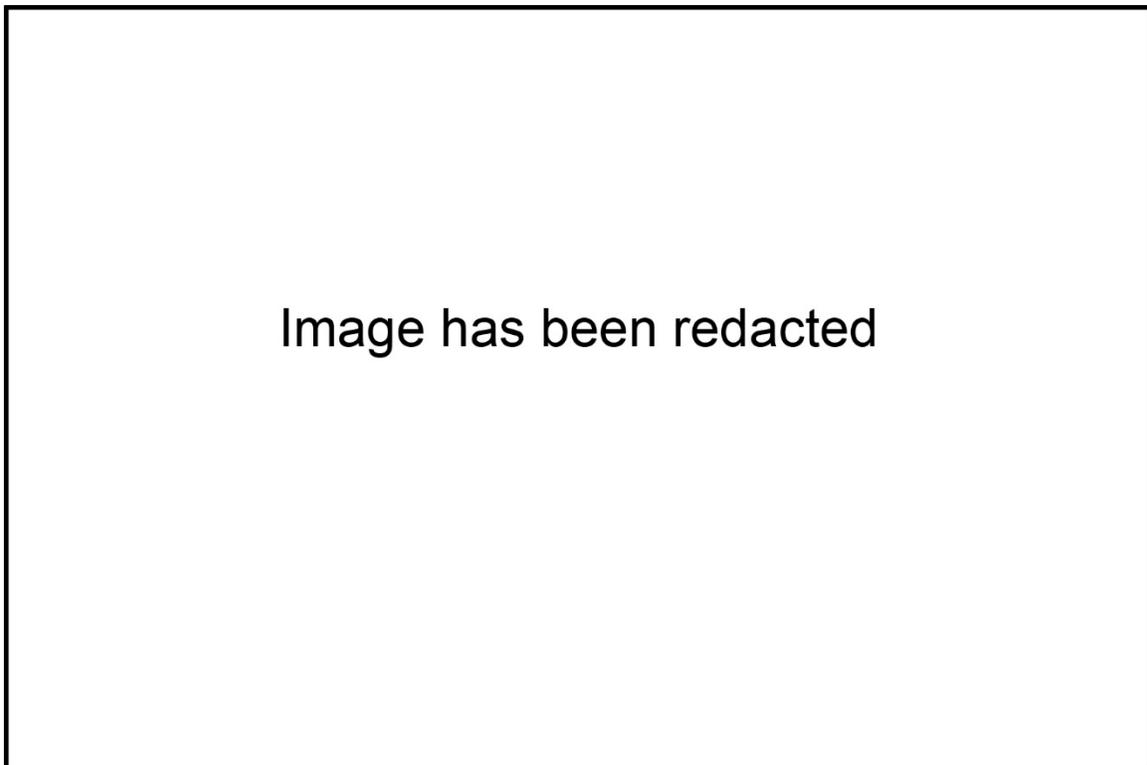


Figure 42. A culturally modified tree identified during pedestrian survey.

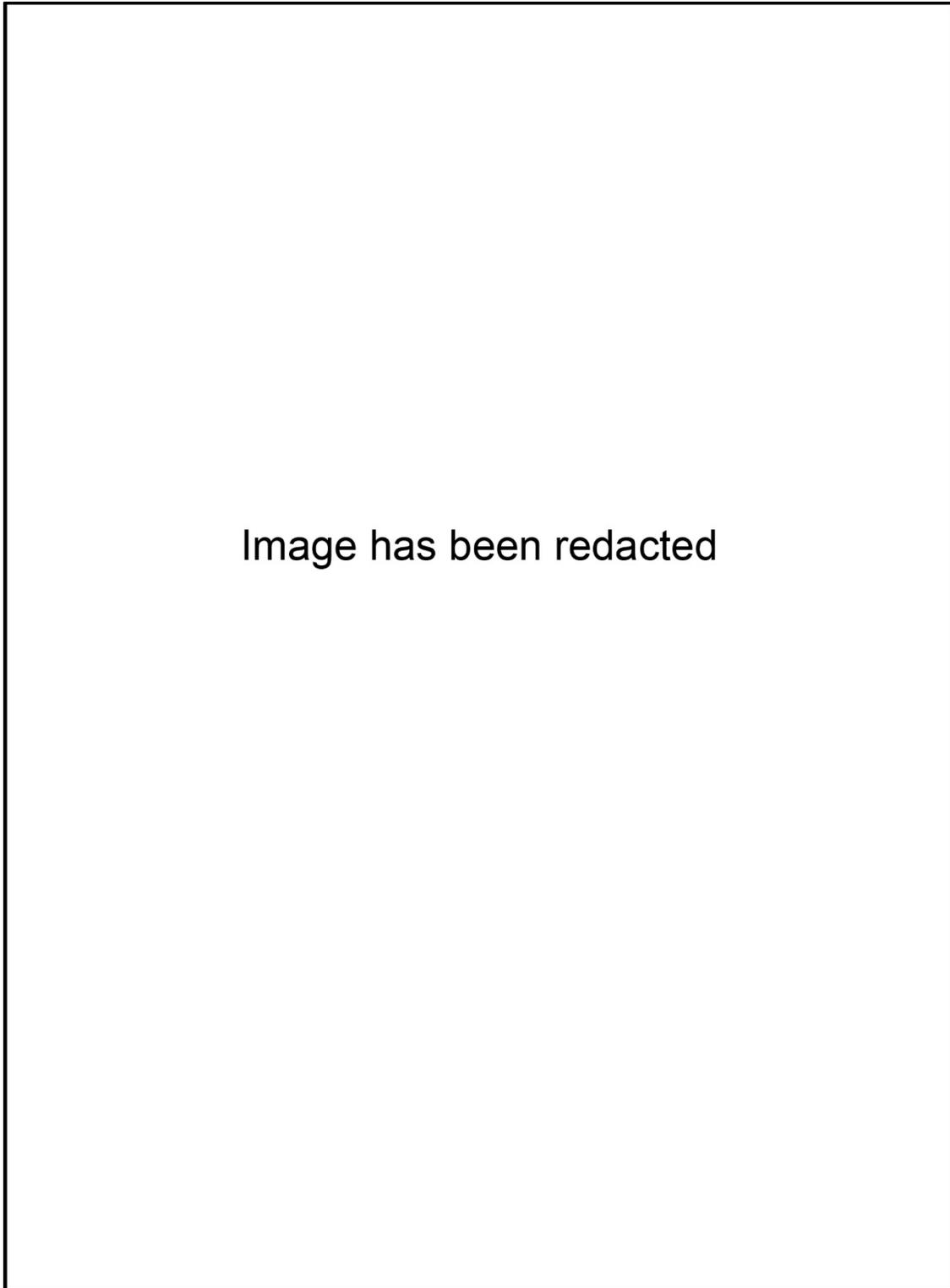


Figure 43. Alternative 1 plans. showing archaeological site locations.

45KP252

The pre-contact shell midden occupies approximately 3 acres [REDACTED]. Intact stratified midden was identified below an average of about [REDACTED] of fill associated with the mill. The intact portions of the midden extend up to about [REDACTED]. Disturbed midden mixed with historical fill was identified as shallow as [REDACTED].

Any proposed development that would require excavations below [REDACTED] has the potential to impact 45KP252, and may require a permit from DAHP. If the site can't be avoided, OPG and Kitsap County must consult with DAHP and other concerned parties to develop ways to mitigate the adverse impacts. Mitigation could include moving the development to "reserve lots" in the event of an inadvertent discovery.

45KP254

The Babcock Dairy and Port Gamble Dance House site includes historical artifacts that were recovered from [REDACTED]. It is almost entirely within [REDACTED]. The existing agricultural and recreational uses that currently occur in this portion of the project are expected to expand and may include agritourism, a wildlife rehabilitation facility, and large open spaces for agriculture.

Any proposed development that would require alteration of the existing ground surface including clearing and grubbing of vegetation, grading, and planting has the potential to adversely impact 45KP254 and may require a permit from DAHP. Given the site's location [REDACTED] that is slated for less development, avoidance of the site is recommended. If the site can't be avoided, OPG and Kitsap County must consult with DAHP and other concerned parties to develop ways to mitigate the adverse impacts. Mitigation could include moving the development to "reserve lots" in the event of an inadvertent discovery.

45KP255

The Port Gamble Chinese Laundry and Residences Site is [REDACTED]. Historical artifacts associated with the laundry and residences were recovered from [REDACTED].

Any proposed development that would require alteration of the existing ground surface including clearing and grubbing of vegetation, planting, grading, and utility trenching has the potential to adversely impact site 45KP255 and may require a permit from DAHP. The portion of the site that is [REDACTED] should be avoided as much as possible. For areas where the site can't be avoided, OPG and Kitsap County must consult with DAHP and other concerned parties to develop ways to mitigate the adverse impacts. Mitigation could include moving the development to "reserve lots" in the event of an inadvertent discovery.

45KP256

The Port Gamble Workers Housing Debris Scatter site is [REDACTED]. Although historical artifacts were identified throughout the upper [REDACTED] of fill that had been placed in the area, a disturbed historical surface is present at [REDACTED]. Above that surface are artifacts dating from the 1840s to the 1950s and most are from the time the area was occupied by workers for the mill.

Any proposed development that would extend more than [REDACTED] has the potential to adversely impact 45KP256 and may require a permit from DAHP. If the site can't be avoided, OPG and Kitsap County must consult with DAHP and other concerned parties to develop ways to mitigate the adverse impacts. Mitigation could include moving the development to "reserve lots" in the event of an inadvertent discovery.

45KP258

The two culturally modified cedar trees that make up site 45KP258 are [REDACTED]. As presently designed, the site is in an area with no proposed disturbance. Therefore, no adverse impacts from the project are anticipated. Nevertheless, the site should be avoided during development and construction of other elements within the project area.

Alternative 2

The primary difference between the two alternatives is the degree of development within the RHTW or Mill Site area (Figure 44). While Alternative 1 proposes development throughout the RHTW area, Alternative 2 leaves much of the area as rural use space. The proposed development in the RHTC, RHTR, RW, and RR areas are very similar to Alternative 1 and will not have different effects on the NRHP-eligible sites than those noted above. Under Alternative 2, the only site that will have effects different from those of Alternative 1 is the shell midden site 45KP252. Thus, only this site is discussed in this section.

45KP252

As noted above, intact stratified shell midden was identified below fill at about [REDACTED], and disturbed midden was identified at [REDACTED]. As currently designed, the site falls [REDACTED].

Alternative 2 will not have an effect on 45KP252. However, it is possible that construction on adjacent parcels could uncover previously-unidentified portions of the site. Mitigation could include moving the development to "reserve lots" in the event of an inadvertent discovery.

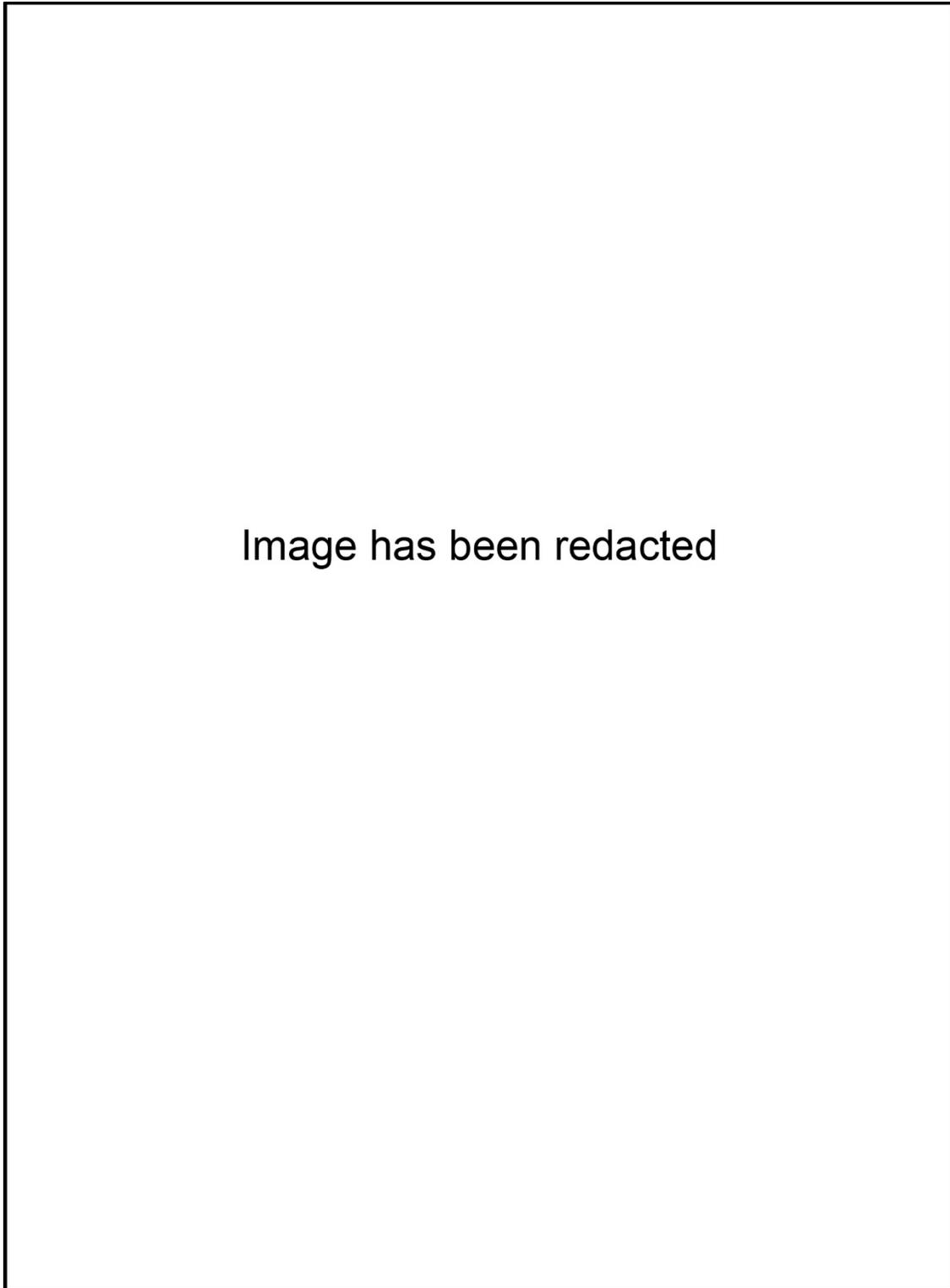


Figure 44. Alternative 2 plans, showing archaeological site locations.

No Action Alternative

The no Action Alternative will not have effects on the NRHP-eligible sites. However, any piecemeal or future development that might occur would be subject to state and possibly federal regulations regarding cultural resources.

CONCLUSION AND RECOMMENDATIONS

The field work completed for this cultural resources investigation has provided a basic view of the archaeology of Port Gamble and provided insight on useful methods for identification of historical archaeological sites. Pedestrian survey, shovel probes, mechanical test pits, geoprobes, and sonicores identified new pre-contact and historic sites and generally supported the modeled sensitivity. The Pre-contact [REDACTED] Shell Midden (45KP252), Babcock Dairy and Port Gamble Dance House (45KP254), Port Gamble Chinese Laundry and Residences (45KP255), Port Gamble Workers Housing Debris Scatter (45KP256), and the [REDACTED] Culturally-Modified Cedars (45KP258) are recommended eligible for the NRHP based on survey. SWCA recommends that these archaeological resources be considered during future planning for development at Port Gamble. If impacts cannot be avoided, Kitsap County and the Olympic Property Group should consult with DAHP and other concerned parties to further evaluate the sites and develop appropriate mitigation. The most important measure is to incorporate sites that are eligible for the NRHP into a management plan. The historic context is one of the recommendations that DAHP includes as part of a management plan, along with development of research questions for the property that can be addressed through archaeology, development of an inadvertent discovery plan, and parcel by parcel recommendations.

SWCA also recommends consultation with the National Park Service to formalize the Port Gamble Historic District boundary as encompassing an area significant for its archaeological resources as well as its historic buildings. The various subsurface excavations used during these archaeological investigations have shown that archaeological materials are buried across the surface of the District. The archaeological materials range from the NRHP-eligible sites listed above, to diagnostic artifacts such as 45KP257, to glass, metal, ceramic, and brick debris. The individual artifacts and dumped debris may not be individually significant, but diagnostic items and general artifact distribution demonstrate the potential for discovery between the Town Site's historic structures and the entire assemblage could be informative on a district-wide scale.

SWCA recommends development of an inadvertent discovery plan (IDP) for use over the lifetime of the project. Such a plan would help to avoid or reduce damage to significant archaeological deposits and would provide guidance to Kitsap County, OPG, construction personnel and others if human remains are discovered during development activities. In the case of an inadvertent discovery during redevelopment construction in Port Gamble, and when the DAHP is involved, SWCA recommends that Kitsap County allow OPG some flexibility within the LAMIRD so they may modify their project design in order to avoid potentially significant cultural resources. OPG has already made efforts to identify potentially significant cultural resources in the project area. OPG has also included provisions to avoid known historic properties in their design and they are committed to avoiding work stoppage during construction through early identification of potentially significant cultural resources. But, the project is proposed in a Historic District, which is a unique setting and potential exists for encountering yet unidentified cultural resources during construction. Allowing OPG flexibility to adjust the project design if an inadvertent discovery is made will allow them to continue to comply with federal and state laws and regulations concerning cultural resources. A draft IDP is included in Appendix G.

Based on the results of fieldwork, SWCA also recommends that Kitsap County and the Olympic Property Group develop an Archaeological Management Plan (ARMP) for the project to avoid damage to important archaeological resources by future development. This investigation has shown the available historical maps are relatively accurate for locations of historical buildings and buried landforms, like Point Totten. An ARMP would systematize future identification and treatment measures, make sure that methods matched location and information potential, and that adjustments could be made in level of effort required as information is iteratively synthesized. The ARMP would also provide for standardized reporting and documentation and curation of artifacts recovered. SWCA recommends the management plan be approached at the parcel scale. The management plan should include a long-term research design that would identify significant gaps in current understanding and present research questions that help address those gaps through archaeological research. Also included would be provisions for implementation, reporting, and continued consultation. In order to make eligibility determinations for historic archaeological sites, a Historic Context should be developed for the Port Gamble Mill and Town, including consideration of the multi-ethnic work force (i.e., Chinese, European, Native American workers). The document should provide a comprehensive review of existing archival resources, including those kept by the Port Gamble Mill. Information regarding employees, wages, rents on company housing, company store accounts, maps, etc. should be available for use in strengthening the context(s) and developing research questions. The context should identify significant gaps in our understanding and present research questions for each site to address identified data gaps and support eligibility recommendations that can be used in the ARMP to develop mitigation, if necessary, for individual lots. Implementation of these measures would protect archaeological resources and ensure Port Gambles' recorded history is robust, accurate, and available in the future.

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Appendices Have Been Redacted