A HIGH RESOLUTION GEOPHYSICAL INVESTIGATION OF SPATIAL AND TEMPORAL SEDIMENTARY PROCESSES IN A PARAGLACIAL TURBID OUTWASH FJORD: SIMPSON BAY, PRINCE WILLIAM SOUND, ALASKA

A Thesis

by

CHRISTIAN JOHN NOLL, IV

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

December 2005

Major Subject: Oceanography

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Approved by:

Chair of Committee,	Timothy Dellapenna
Committee Members,	Randall Davis
	Niall Slowey
Head of Department,	Wilford Gardner

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ABSTRACT

A High Resolution Geophysical Investigation of Spatial and Temporal Sedimentary Processes in a Paraglacial Turbid Outwash Fjord: Simpson Bay, Prince William Sound, Alaska. (December 2005)

Christian John Noll, IV, B.S., Texas A&M University at Galveston

Chair of Advisory Committee: Dr. Timothy Dellapenna

Simpson Bay is a turbid, outwash fjord located in northeastern Prince William Sound, Alaska. A high ratio of watershead:basin surface area combined with high precipitation and an easily erodable catchment create high sediment inputs. Fresh water from heavy precipitation and meltwater from high alpine glaciers enter Simpson Bay through bay head rivers and small shoreline creeks that drain the catchment. Side scan sonar, seismic profiling, and high resolution bathymetry were used to investigate the record of modern sedimentary processes. Four bottom types and two seismic faces were described to delineate the distribution of sediment types and sedimentary processes in Simpson Bay. Sonar images showed areas of high backscatter (coarse grain sediment, bedrock outcrops and shorelines) in shallow areas and areas of low backscatter (estuarine mud) in deeper areas. Seismic profiles showed that high backscatter areas reflected emergent glacial surfaces while low backscatter areas indicated modern estuarine mud deposition. The data show terminal morainal bank systems and grounding line deposits at the mouth of the bay and rocky promontories, relict medial moraines, that extend as terrestrial features through the subtidal and into deeper waters. Tidal currents and mass wasting are the major influences on sediment distribution. Hydrographic data showed high spatial variability in surface and bottom currents throughout the bay. Bottom currents are tide dominated, and are generally weak (5-20 cm s^{-1}) in the open water portions of the bay while faster currents are found associated with shorelines, outcrops, and restrictive sills. Tidal currents alone are not enough to cause the lack of estuarine mud deposition in shallow areas. Bathymetric data showed steep slopes throughout the bay suggesting sediment gravity flows. Central Alaska is a seismically active area, and earthquakes are most likely the triggering mechanism of the gravity flows.

DEDICATION

To Leah, now and then for her love and support

ACKNOWLEDGEMENTS

Funding for this project was made possible through grants from the Earthwatch Foundation, the Department of Marine Sciences at Texas A&M University at Galveston and a mini-grant from the Oceanography Graduate Council at Texas A&M University in College Station.

Thanks go out to the Earthwatch staff and volunteers especially Andrea Gilkinson for providing the grain size analysis of sediment samples. Further thanks are due to Dr. Randall Davis for providing the impetus and the logistical support that made this study possible.

Frederick Weltz deserves special recognition for his tireless and selfless support of this project. His time and energy not only made this project possible, but also contributed to its success. The use of his boat, the F/V Dancing Bear, and his local knowledge of the system were instrumental in the survey and I can never thank him enough.

Thanks to the members of the Coastal Geology for their help, especially Nicci Joiner for her contributions to the grain size analysis, as well as Bryan Fielder, Eddie Majzlik, and Julie Manuel.

Finally thanks to Tim Dellapenna for always finding a way and for his patience and support in good times and in bad.

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1. INTRODUCTION

Fjords act as sediment sinks during deglaciation and ice-free periods; they capture and preserve a high resolution record of paleoclimatic, paleoceanographic and paleodepositional events (Syvitski et al., 1987). This record affords the opportunity to investigate local-to-regional scale variations in climate, sea level, sediment input and seismic activity. Simpson Bay is a fjord located in Prince William Sound (PWS) along the south central coast of Alaska. With high precipitation, high mountains within the drainage basin, easily eroded geology, large accommodation, high deposition rates, and frequent seismic perturbations, Simpson Bay provides a natural laboratory to investigate sedimentary processes in highly dynamic environments. Simpson Bay has a comparatively small volume of sediment fill, suggesting recent deglaciation (Lysa et al., 2004; Cai et al., 1997) and is partitioned into discrete units with individual properties that vary in their contribution to the overall sedimentary environment.

This investigation is part of a larger effort to understand past and present sedimentary processes in a pristine Alaskan Fjord. Simpson Bay's position away from industrialized areas leave it free from the affects of mining, deforestation and other anthropogenic contributions to sediment input. The goal of this study was to relate the distribution of modern sedimentary facies to sedimentary processes and antecedent geological controls. This was accomplished by conducting a high resolution geophysical survey using side scan sonar, bathymetry, seismic and surficial sediment analysis. While many low latitude fjords have been investigated with side scan sonar (Knebel, 1986; Woodruff et al., 2001; Nitsche et al., 2004), most studies of sedimentary environments in Alaskan fjords have focused on seismic interpretation and core analysis. This study focused on side scan sonar and sediment samples to investigate the complex spatial distribution of surface sediments while using cursory seismic data to give an overview of basin morphology. The complicated history of Alaska's glacial activity created rugged seafloor topography that created clearly delineated sediment distribution (Lethcoe, 1990). A high resolution geophysical survey was conducted to develop a geological framework for this environment. This study focused on surficial

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This thesis follows the style of Marine Geology.

sediment distributions and their controlling factors. Sonar backscatter data were mosaiced and correlated with surface samples to delineate depositional environment and infer sedimentary processes. Seismic reflection data were collected to relate the surface sediment distribution to the antecedent geology of the basin. Companion papers will investigate the sedimentary fill history of the bay.

2. REGIONAL SETTING

Simpson Bay is a small macrotidal (>5m) fjord located in PWS on the south central coast of Alaska (Fig. 1). While it does not meet all criteria for Pritchard's definition of a fjord (Pritchard, 1967), Simpson Bay is a long, narrow estuary carved by glacial erosion. It falls short of the classical definition because it is comparatively shallow (<90m) and the entrance sill is not sufficient to restrict circulation. Nevertheless, because of its morphology and hydrographic conditions, it can be classified as a partially mixed, shallow fjord (Gay and Vaughn, 2001). Simpson Bay is Y-shaped with a western and eastern arm feeding into PWS and a northern arm that feeds into the head of the western portion. Fresh water input delivers a heavy sediment load to the fjord. This water originates as precipitation (355-460 cm yr^{-1}); (Alaska Geospatial Data Clearinghouse, 1998) in the large watershed of Simpson Bay (Fig. 2) and from the melt water of high alpine glaciers (Gay and Vaughn, 2001). The presence of these glaciers and the comparatively large watershed:basin surface area ratio (6:1) suggest a high sediment load may be introduced to Simpson Bay. A large tidal range (>5m) conforms to general ebb and flood tidal dynamics. Landsat7 false color imagery and aerial photography (Fig. 3A and B); (Landsat.org, 2005; Earth Explorer: Data Set Selection, USGS, 1992) suggest that PWS and Gulf of Alaska (GOA) suspended sediment mix and that sediment from outside the Simpson Bay watershed may play a role in sediment accumulation within Simpson Bay. GOA water carried by the westward flowing Alaskan Coastal Current (ACC) is deflected into and mixes with PWS water (Jin & Wang, 2004; Powell & Molina, 1989; Hayes & Schumacher, 1977; Royer et al., 1979). This has implications when determining the source of sediment in Simpson Bay. The ACC receives sediment from the entire southeastern coastline of Alaska which drains tidewater glaciers, piedmont glaciers, and rivers from lithologically diverse sources.

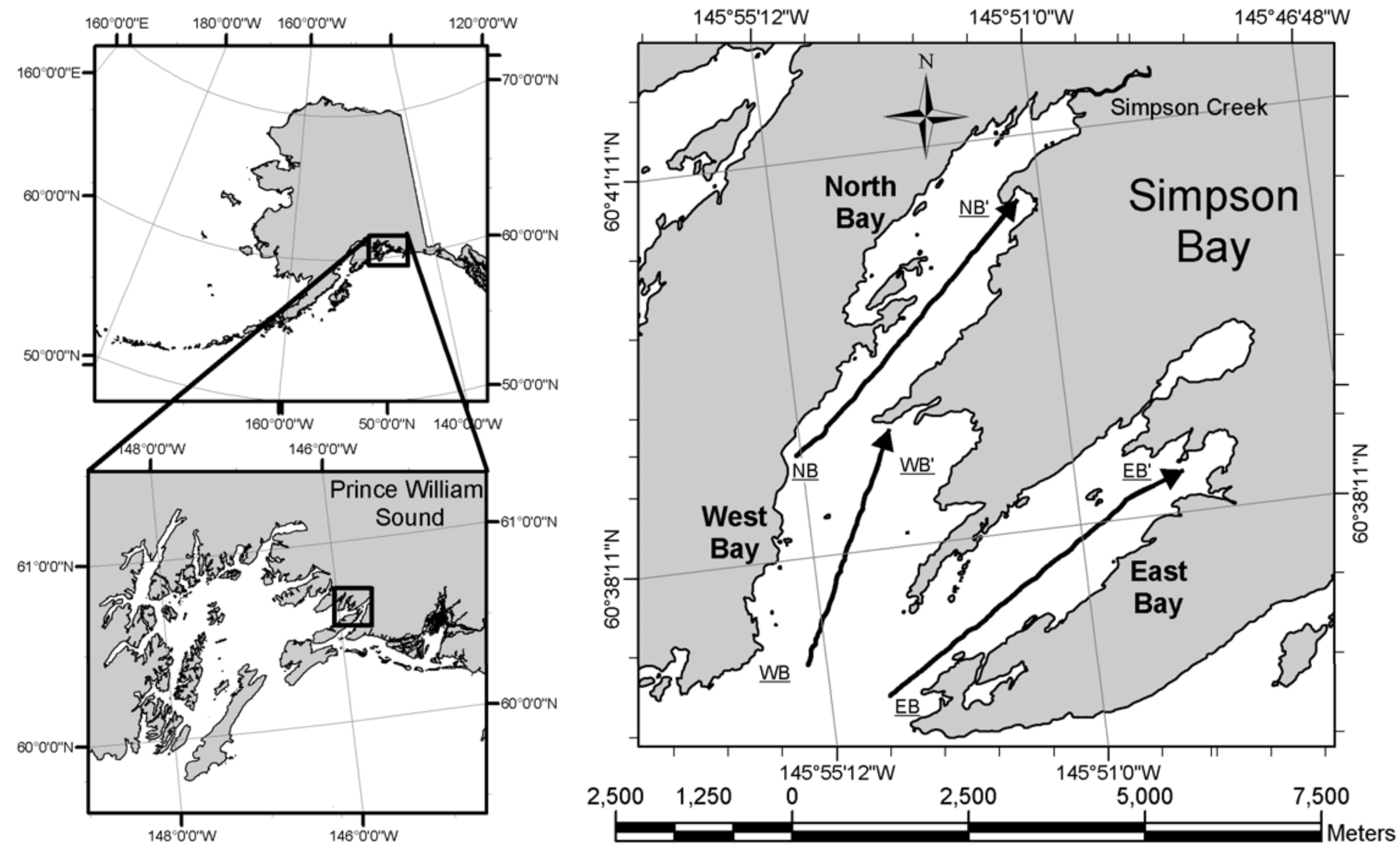

Fig. 1. Map of Simpson Bay located in Prince William Sound on the south central coast of Alaska. Thick black lines are the location of seismic transects lines in Simpson Bay. Data was collected using a high resolution CHIRP system operating at 2-16kHz.

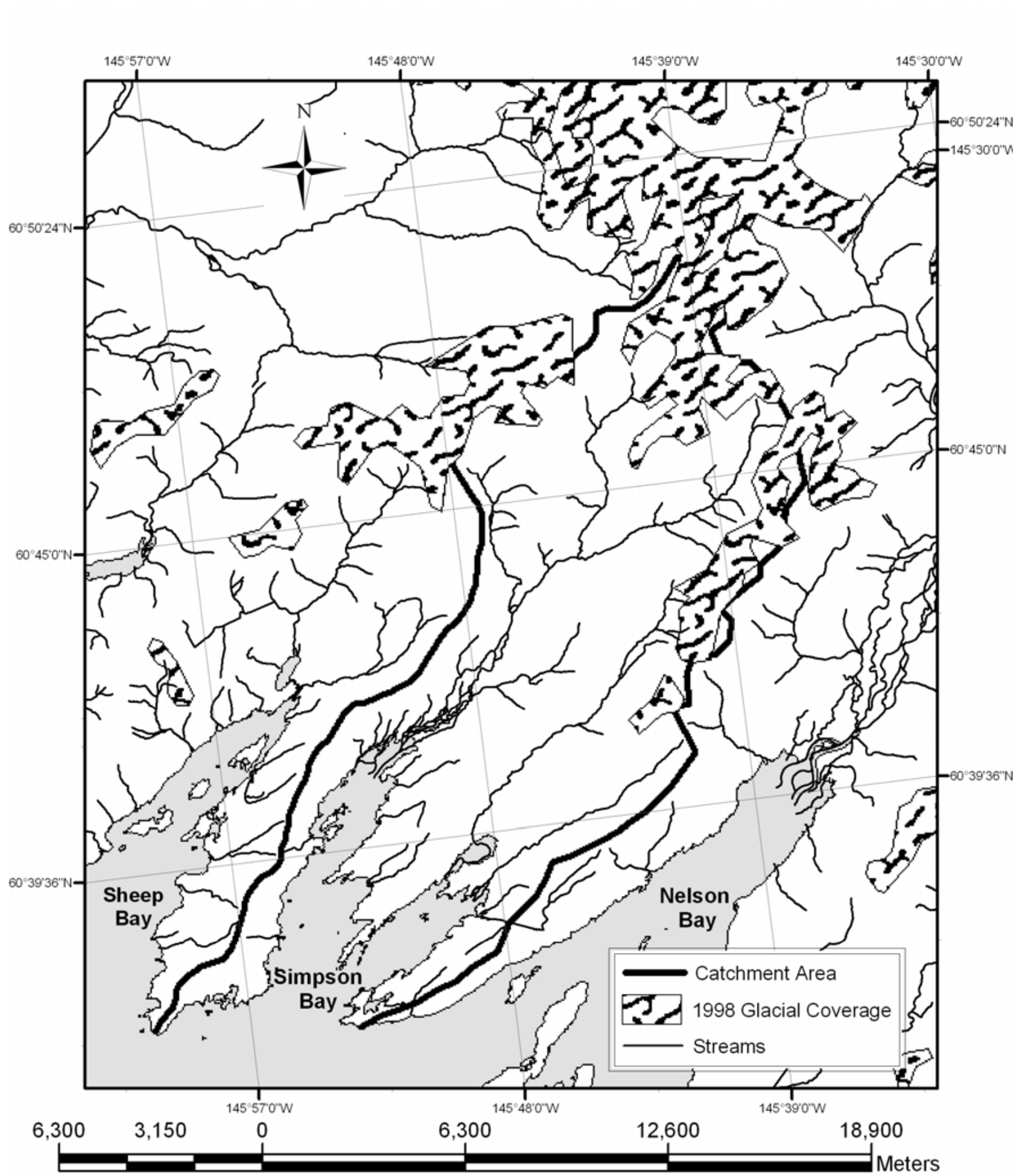

Fig. 2. Simpson Bay's watershed including streams and ice fields. The thick black line delineates Simpson Bay's extensive watershed (Data provided by the Alaska Geospatial Database).

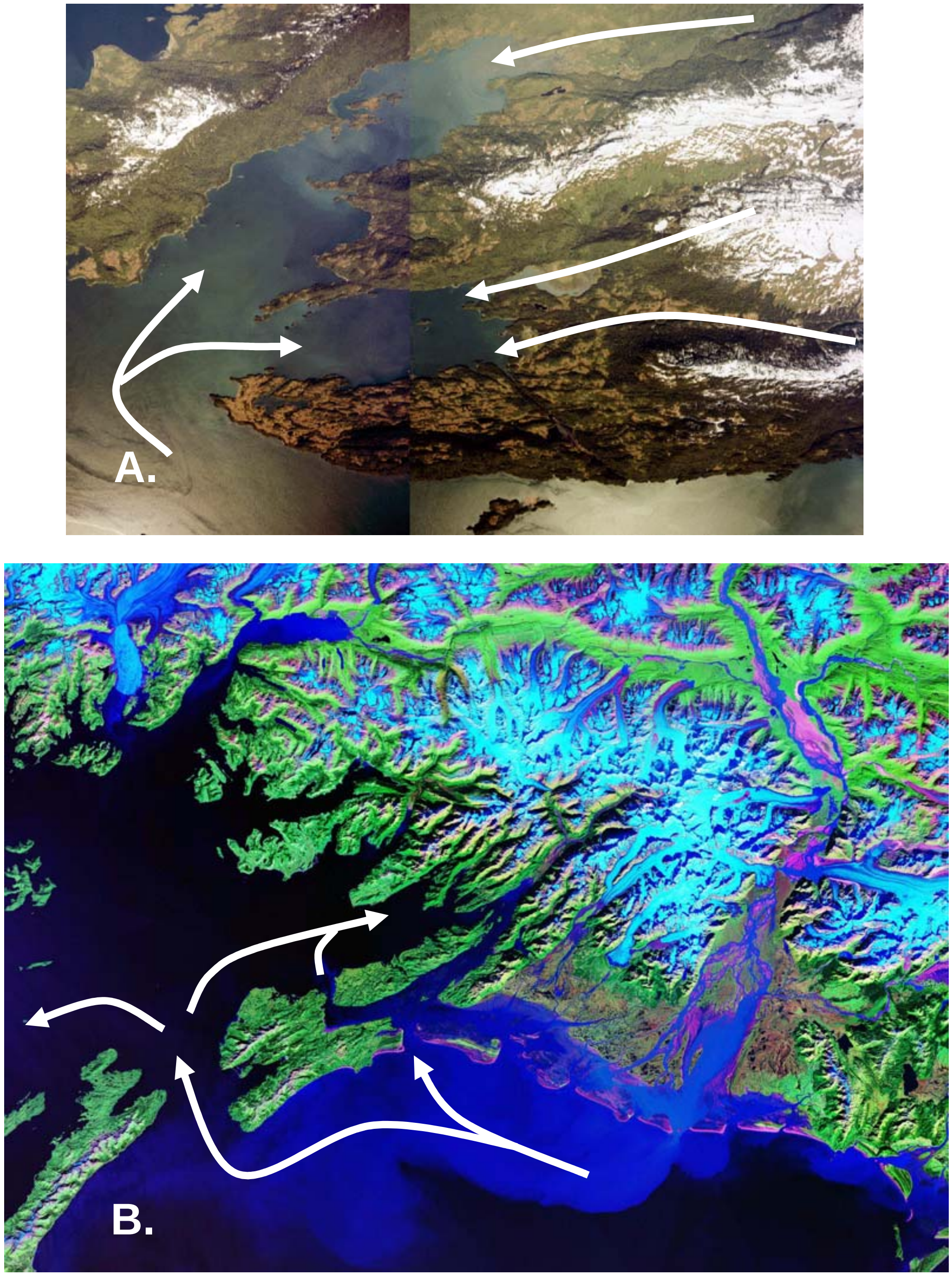

Fig. 3. Aerial photography and Landsat7 data both show the transport of sediment into Prince William Sound and Simpson Bay. (A.) This aerial photograph shows that there is active transport of suspended sediment into Simpson Bay from rivers at the heads of the bay and through exchange with PWS waters (Earth Explorer: Data Set Selection, USGS, 1992). (B.) Landsat 7 image showing sediment leaving the Copper River Delta and being transported west and into Prince William Sound by the Alaskan Coastal Current (Landsat.org, 2005).

While once entirely covered with ice, the coastline of Alaska has undergone dramatic changes on a short geologic timescale. In the last ~20 000 years, ice sheets have retreated from the continental shelf to the point that only ~20% of the coastal area is glaciated and few tidewater glaciers exist today (Lethcoe, 1990; Jaeger, et al., 1998). As glacial retreat began, rising sea level flooded the coastline, filling in the glacially carved U-shaped valleys, creating fjords and preserving depositional features including sills, moraines, turbidite deposits, and sedimentary sequences indicative of mini-ice ages.

Simpson Bay became de-glaciated late in the Holocene, and although tidewater glaciers have not been found in Simpson Bay in recorded history (Davidson, 1904), the antecedent geology left as a result of glacial retreat is preserved. Glacial processes scour the landscape and erode massive amounts of sediment (Hallet et al., 1996; Jaeger, et al., 2001; Milliman & Syvitski, 1992), moving it down slope and depositing it at the terminus of the glacier. Modern and ancient depositional processes since deglaciation are evident in the sediment record as Quaternary sediment deposited on a glacially eroded surface (Barrie and Conway, 1999; Carlson, 1989; Dowdeswell, et al.,2000; Syvitski, et al., 1997). Many processes drive the spatial distribution of sediment in fjords. These processes include seismic perturbations, tidal currents, and fluctuations in sediment load (Syvitski et al., 1987; Syvitski, 1989).

Seismic processes are important to understanding the distribution of sediments in Alaskan fjords. Earthquakes occur frequently in Alaska. Five M_s 7.0 or greater earthquakes have been recorded since 1979 and PWS is near the epicenter of the second largest earthquake in recorded history. In 1964, a magnitude 9.2 earthquake rocked the area creating vertical uplifts averaging 2 m and reaching a maximum of 11 m, while horizontal displacements were as high as 25 m (Johnson et al., 1996; Jaeger et al., 1998). These earthquakes trigger gravity driven sediment flows that erode and deposit large amounts of sediment very quickly. Gravity flows erode sediment from areas with high slope and deposit it in areas of low slope as both suspended and bed load. Sedimentary deposits left after these disturbances indicate the type of flow. Steep slopes along the shorelines and associated with morainal bank complexes are areas where gravity flows may originate.

The typical morphology of fjords creates basins with large tidal ranges. Tidal currents are very important in the spatial distribution of sediments. Hydrographic data collected in Simpson Bay by Gay and Vaughan (2001) show high spatial variability in surface and bottom currents. Bottom currents appear to be tide dominated, but generally weak (eg. <5-20 cm/s); (Gay and Vaughan, 2001). Stronger currents were found along shorelines and outcrops exhibiting erosion and lack of estuarine mud deposition. Sediment delivered to the mouth of the fjord is moved on a daily basis due to the ebb and flow of tides. The dynamic seafloor topography (Fig. 4) of this system controls tidal currents, affecting their direction and velocity. Large amounts of estuarine mud are found in the deep, open portions of the fjord where slower tidal currents are found, while shorelines, shallows, sills, and outcrops exhibit coarse surfaces.

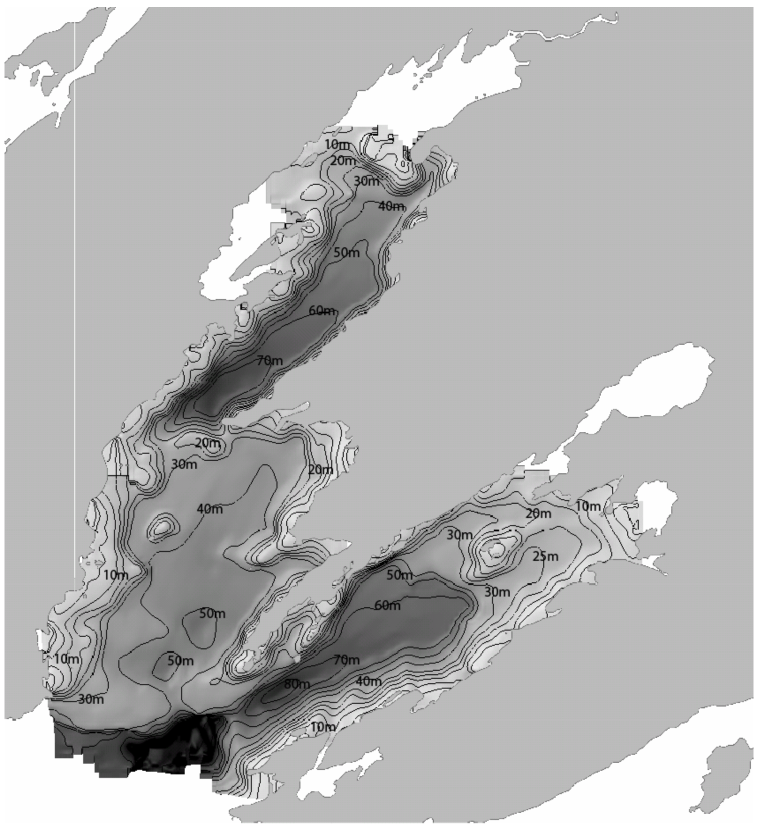

Fig. 4. Bathymetric contour map of Simpson Bay.

Sediment input into Simpson Bay is driven by unique morphological features and hydrographic conditions. Orogeny in the south central coast of Alaska has created one of the highest coastal reliefs in the world. Simpson Bay is part of the Orca Group, a component of the Prince William lithotectonic terrane. The Orca Group is a deep-sea fan complex of flyschoid grewacke and minor pelite interbedded with subordinate oceanic volcanic rocks and minor pelagic sediment (Farmer et al., 1993). Fine grain sedimentary rock and conglomerates are found throughout Simpson Bay (Lethcoe, 1990). PWS has shoreline mountains that reach 1000m in elevation and is bordered to the north by the Chugach Mountains that reach heights in excess of 4000m less than 60km from the coast (Gay and Vaughn, 2001). The Aleutian Low is a low-pressure atmospheric system that dominates the weather patterns of Alaska's southern coast. The interaction of the Aleutian Low with this coastline produces meters of precipitation each year that supply snow to the high altitude ice fields that feed massive glaciers and rain/snow to low altitude temperate rainforests. These factors, coupled with a rapidly uplifting (several meters/1000yrs), easily erodable coastal mountain range, create a drainage system with some of the highest sedimentation rates in the world (Powell & Molinia, 1989; Hallet et al., 1996; Jaeger et al., 1998). A high freshwater flow during the late summer maximum brings sediment into the Simpson Bay at the fjord head and along the shoreline. Rivers at the head of the two upper arms tap large drainage basins and bring sediment laden glacial water to the fjord. Coarse sediment is trapped in prograding fjord head deltas found at the heads of both arms of Simpson Bay. The northern arm drains a larger area and more glaciers than the eastern arm and consequently a larger delta has built at the head of the northern arm (Gay and Vaughn, 2001).

3. MATERIALS AND METHODS

3.1 Geophysical

Fieldwork was conducted in June and July of 2002, 2003, and early October 2004 aboard the F/V Dancing Bear, a 14m long lining boat associated with Alice Cove Research Station. Simpson Bay was surveyed using side scan sonar, CHIRP sub-bottom sonar, and single beam bathymetry. Grain size analyses of grab samples were used to map surficial sediment distribution. One hundred and ninety kilometers of side scan sonar lines were surveyed in June of 2002 using an Edgetech 272TD towfish operating at 100 kHz. Survey lines were designed to give complete coverage of the open portions of the bay and in many cases were able to image the shorelines. A differential GPS using a Coast Guard beacon was used for navigation and georeferencing the side scan data. CODA GeoSurvey (CODAOctopus Ltd., Edinburgh, UK) software was used to record and mosaic the sides scan lines. In July 2003 and October 2004, we conducted the seismic survey. Transect lines were spaced 300m apart to provide maximum coverage. The towfish was an Edgetech 216 CHIRP sub-bottom profiler operating at 2–16 kHz. The return intensities were recorded and displayed using the Triton Elics software suite (Triton Elics International, Watsonville, CA.). We used Delph Seismic Plus (Triton Elics International, Watsonville, CA.) to record raw georeferenced data and SGIS (Triton Elics International, Watsonville, CA.) for data analysis and image export. Depth in the figures are displayed in two-way travel time, but are referred to in the text as meters converted using a sound velocity of 1500 m s^{-1}. Bathymetry data were collected in July 2003 using an Odom© Hydrotrack depth sounder operating at 200 kHz. Soundings were recorded in Hypack Max (Hypack, Inc., Middletown, CT) which georeferences each sounding with navigational information from a GPS. Further processing in Hypack filtered extraneous points and applied a tidal correction using NOAA projected tides for the Cordova, Orca Inlet station 9454050 (NOAA/NOS CO-OPS, 2003). NOAA/NOS CO-OPS (1995) cites their tidal prediction accuracy at -0.91 cm and 0.06 hours at high tide and 2.44 cm and 0.03 hours at low tide.

3.2 Grain Size Analysis

Grab samples were taken in 2001 and 2002 and grain size analysis were performed at Texas A&M University. Approximately 275 samples were taken on a 400m x 400m grid covering the entire bay and were described based on their gravel, sand, silt and clay content using the Shepard and Schlee classification scheme for grain textures. Grain size was determined by the Folk (1954; 1980) methodology, using pipette analysis to determine the textural properties of surface samples. Dispersant was added to approximately 20g of wet sediment and the sample was wet sieved into a one liter graduated cylinder to separate the gravel (>200 µm), sand (200-63 µm) and mud fractions (<63µm). The sand and gravel fractions were dried and weighed. The graduated cylinder was filled to one liter with DI water and homogenized. Two pipette draws were taken at specific time intervals to determine the silt (63µm -5µm) and clay (<5µm) fractions. Shepard classification for each sample was determined based on its percent composition (Shepard, 1954; Schlee, 1968; Schlee, 1973) and was displayed spatially using GIS (Geographical Information System) software. The Shepard's classification for each sample was assigned a value using information from the Maryland Geological Survey Coastal and Estuarine Geology Program (Kerhin, et al., 1988) and a contour map was generated. These data were used to ground truth the side scan mosaic and provide a quantitative comparison to the qualitative description of the mosaic.

Ternary diagrams of the data were generated to investigate the modality of sediment types. Because there are four fractions and a ternary diagram can only display three, the fractions were combined in three ways to describe the environment: sand, silt and clay; gravel, sand and mud (combination of silt and clay); and coarse (combination of gravel and sand), silt clay.

3.3 Computer Visualization

Surface sediment samples were georeferenced and plotted spatially. The side scan sonar mosaic was merged with this data so that the sonar record could be ground truthed. Grain textures were related to depth and backscatter to look for depositional correlations. IVS3D Fledermaus was used to create a bathymetric surface of the fjord (Fig. 4). The side scan sonar mosaic was draped over the model and contour lines were generated to correlate return intensities with depth. Seismic profiles were aligned in the z-plane to correlate surface and subsurface features.

4. RESULTS

4.1 Geophysical

Side scan sonar and seismic data collected in Simpson Bay were used to correlate subsurface stratigraphy to surficial geology (Figs. 6-12). The side scan sonar mosaic (Figs. 6, 7, 9 and 11) and three axial seismic profiles (Figs. 8, 10 and 12) show four facies that are categorized based on backscatter intensity and seismic reflection characteristics (Fig. 5) (Knebel, 1986; Knebel et al., 1991; Knebel, 1993; Mitsche, et al., 2004): estuarine mud, coarse sediment/till, bedrock outcrop and shorelines. A 300m x 300m grid was surveyed with a seismic profiler, but only three lines will be used here to correlate the surface and subsurface geology (Fig. 1). The remainder of the seismic data will be presented in a companion paper.

4.1.1 Estuarine Mud

Seismic data show fine grain estuarine mud ponded within depressions incised into the bedrock and till facies throughout the bay. These acoustically transparent facies were correlated with low backscatter (dark tones) on the side scan mosaic, and occurred towards the centers of the bays, usually associated with deeper water (>40 m). Steep slopes bound this facies on all sides, which indicate gravity flows as a possible mechanism for deposition. In the deepest portions of the bay, this facies reaches a maximum thickness of 30m, but pinches out as it laps onto the coarse sediment/till and bedrock facies.

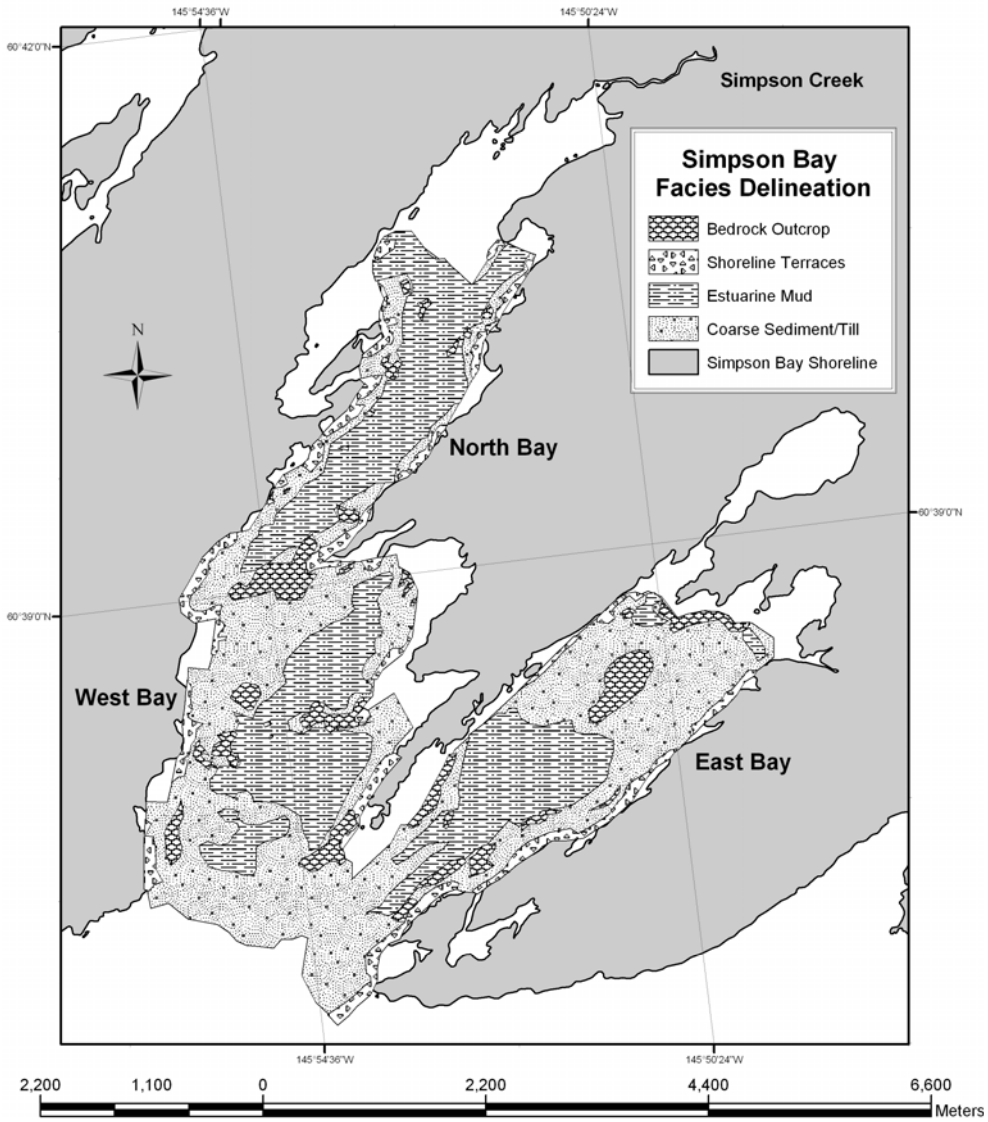

Fig. 5. Facies delineation of modern sediment in Simpson Bay. Fine grain estuarine mud is found in the deeper, central portions of the bay, while coarse grain sediment and till deposits are found in shallower areas at the mouths of the bays and along shorelines. Bedrock outcrops are abundant as are shoreline terraces. The northern arm has significantly more estuarine mud fill due to the larger terriginous supply of sediment from Simpson Creek and the trapping of sediment behind the entrance sill.

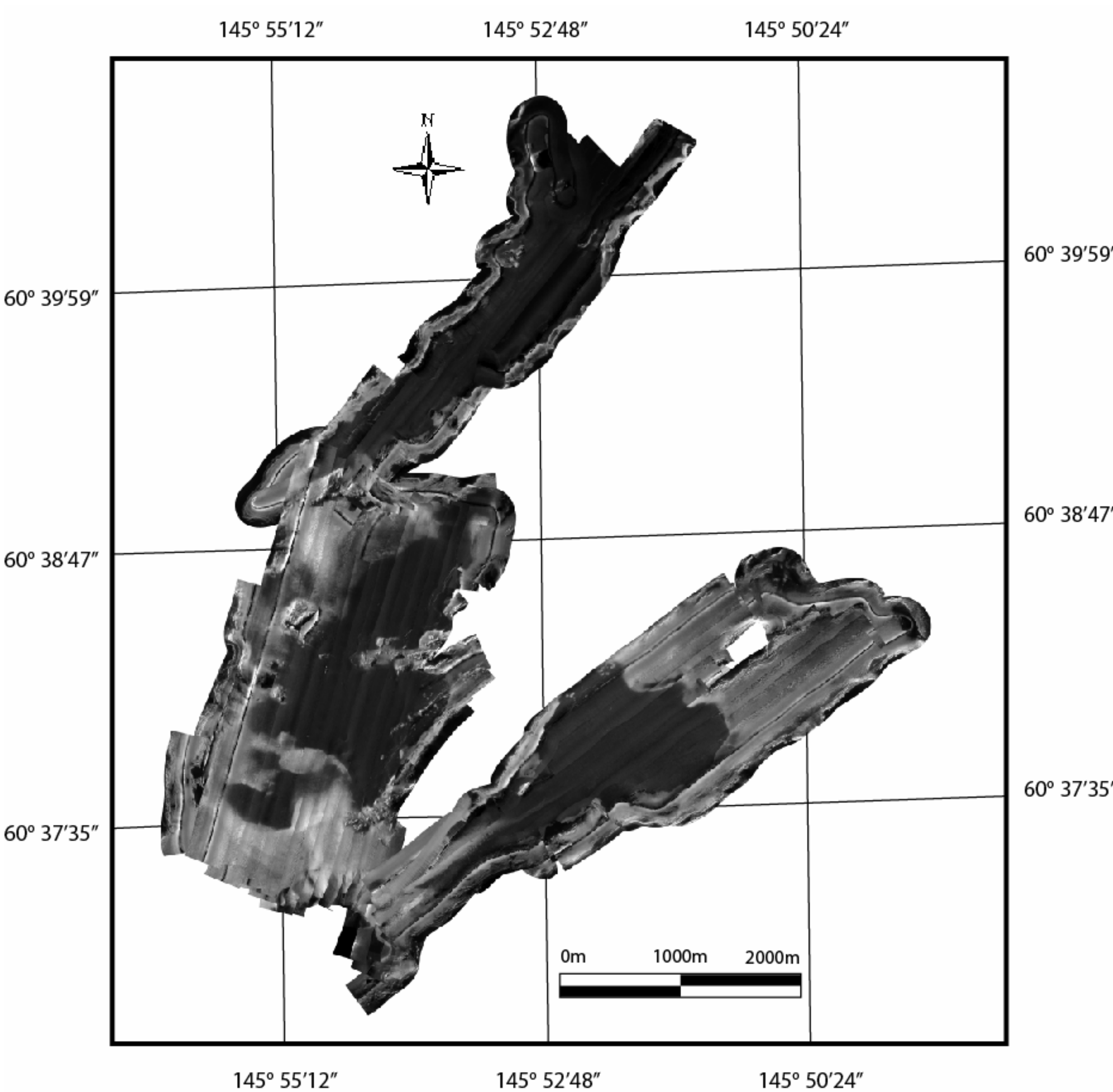

Fig. 6. Side scan sonar mosaic of Simpson Bay. Light tones indicate coarse grain material, bedrock and shorelines, while dark tones indicate estuarine mud deposits.

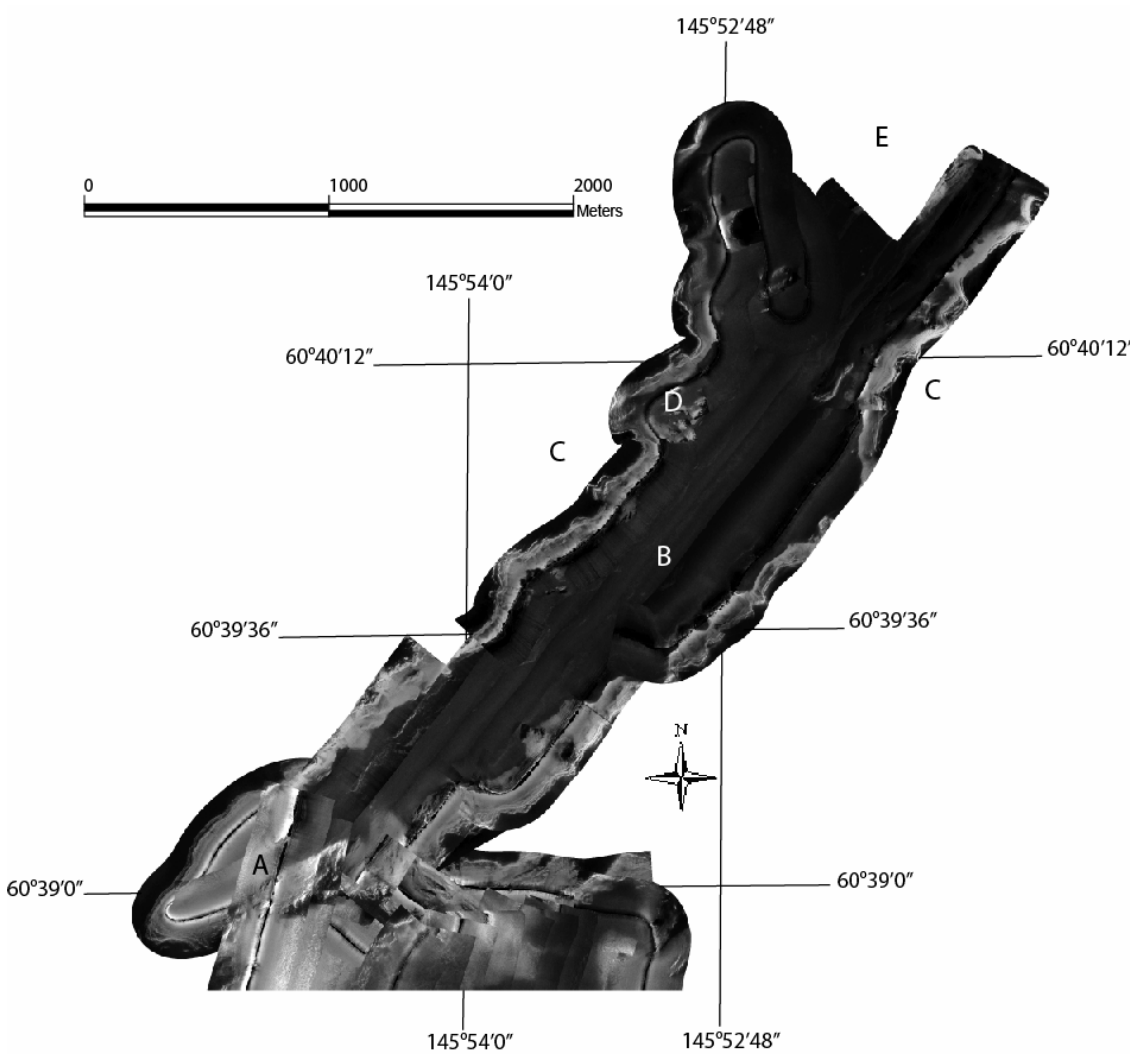

Fig. 7. Side scan sonar mosaic of North Bay. A. Till and bedrock sill separating the western and northern arms of Simpson Bay. B. Estuarine mud deposits. C. Shoreline. D. Bed rock outcrops. E. Delta at the head of the North Bay.

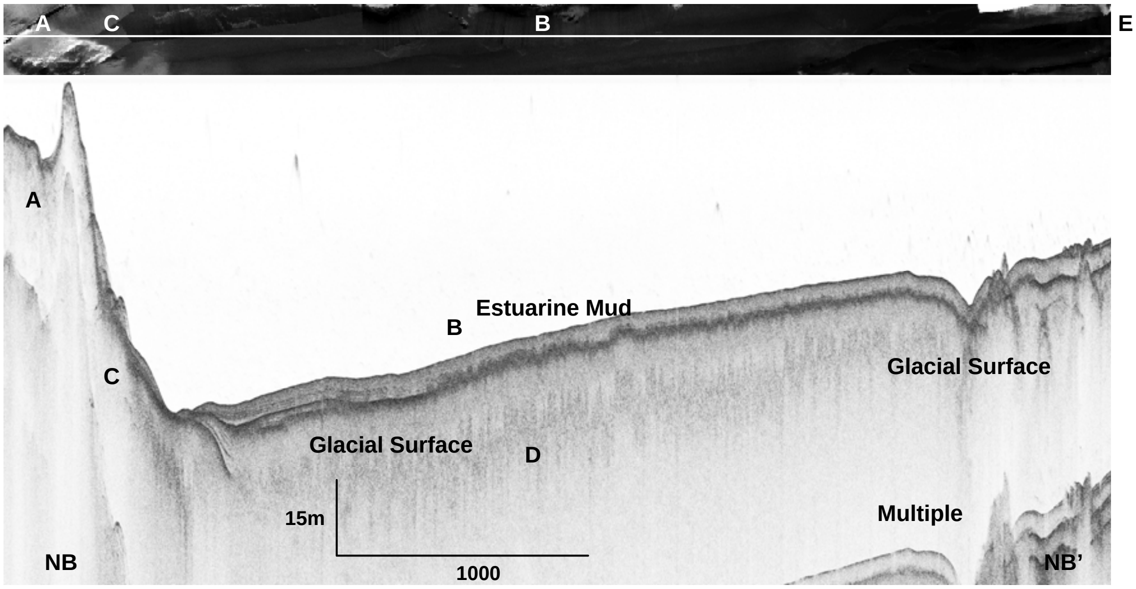

Fig. 8. Seismic profile NB_2 along the axis of North Bay and associated side scan sonar segment. The thick white line on the side scan record shows the trackline of the towfish. All depths are reported in two-way travel time. A. Bed rock terminal morainal system at the mouth of the bay. B Estuarine mud deposits covering the majority of the seafloor. C. Till and bedrock outcrop on the northern side of the morainal bank complex. D. Acoustic basement indicative of the glacial erosional/depositional surface. E. Slope leading to the delta front at the head of the bay.

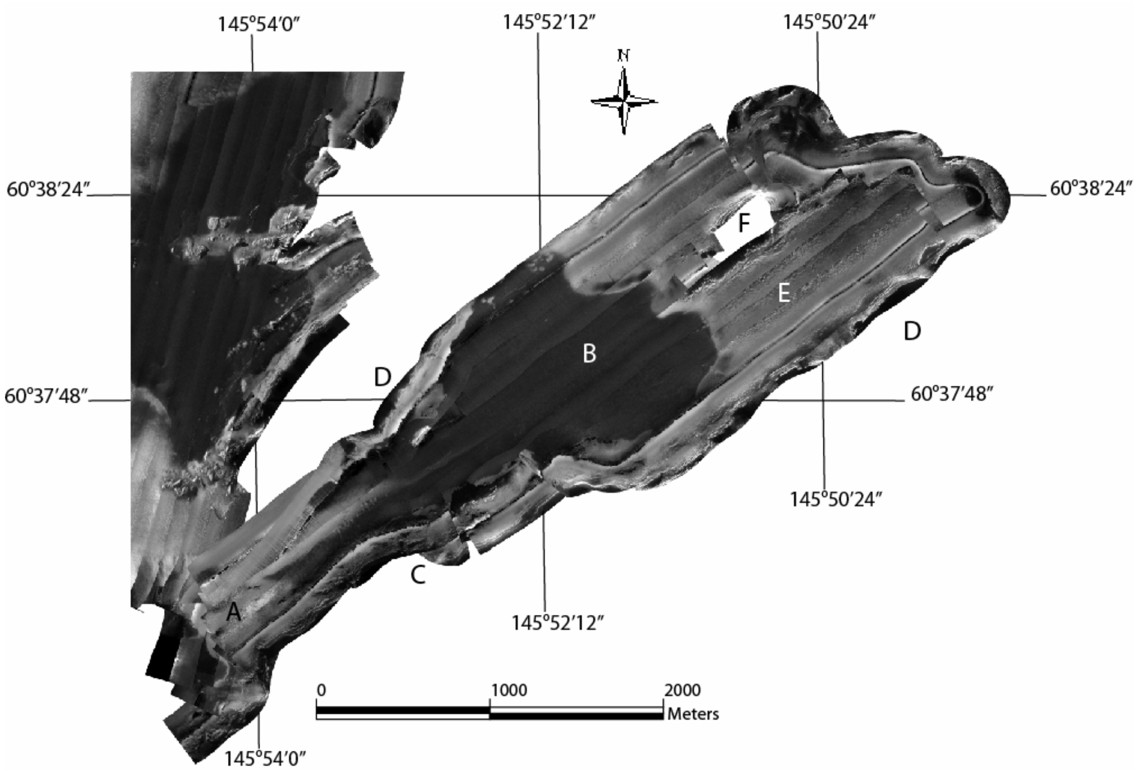

Fig. 9. Side scan sonar mosaic of East Bay. A. Morainal bank complex composed of till and coarse sediment at the mouth of East Bay. B. Estuarine mud deposits. C. Shore parallel bedrock out crops found adjacent to the southern shoreline. D. Shoreline. E. Shallow, coarse grain plateau. F. Bedrock outcrop islands situated on top of a till deposit.

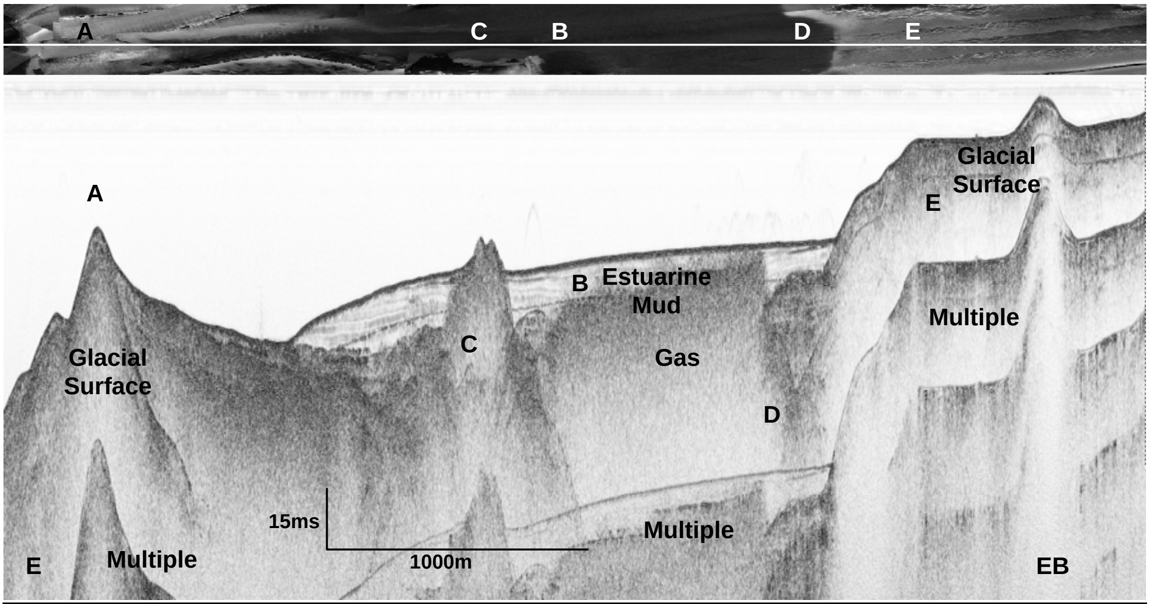

Fig. 10. Seismic profile EB_3 along the axis of East Bay and corresponding side scan sonar segment. The thick white line on the side scan record shows the trackline of the towfish. All depths are reported in two-way travel time. A. Terminal morainal bank system at the mouth of the bay. B. Estuarine mud deposits covering the deeper portions of the bay. These deposits are gas charges causing acoustic wipeouts. C. Side echos from shore outcrops seen in the side scan sonar mosaic. D. Underlying glacial erosional/ depositional surface. E. Shallow plateau at the head of the bay consisting of a glacial surface under a thin veneer of estuarine mud.

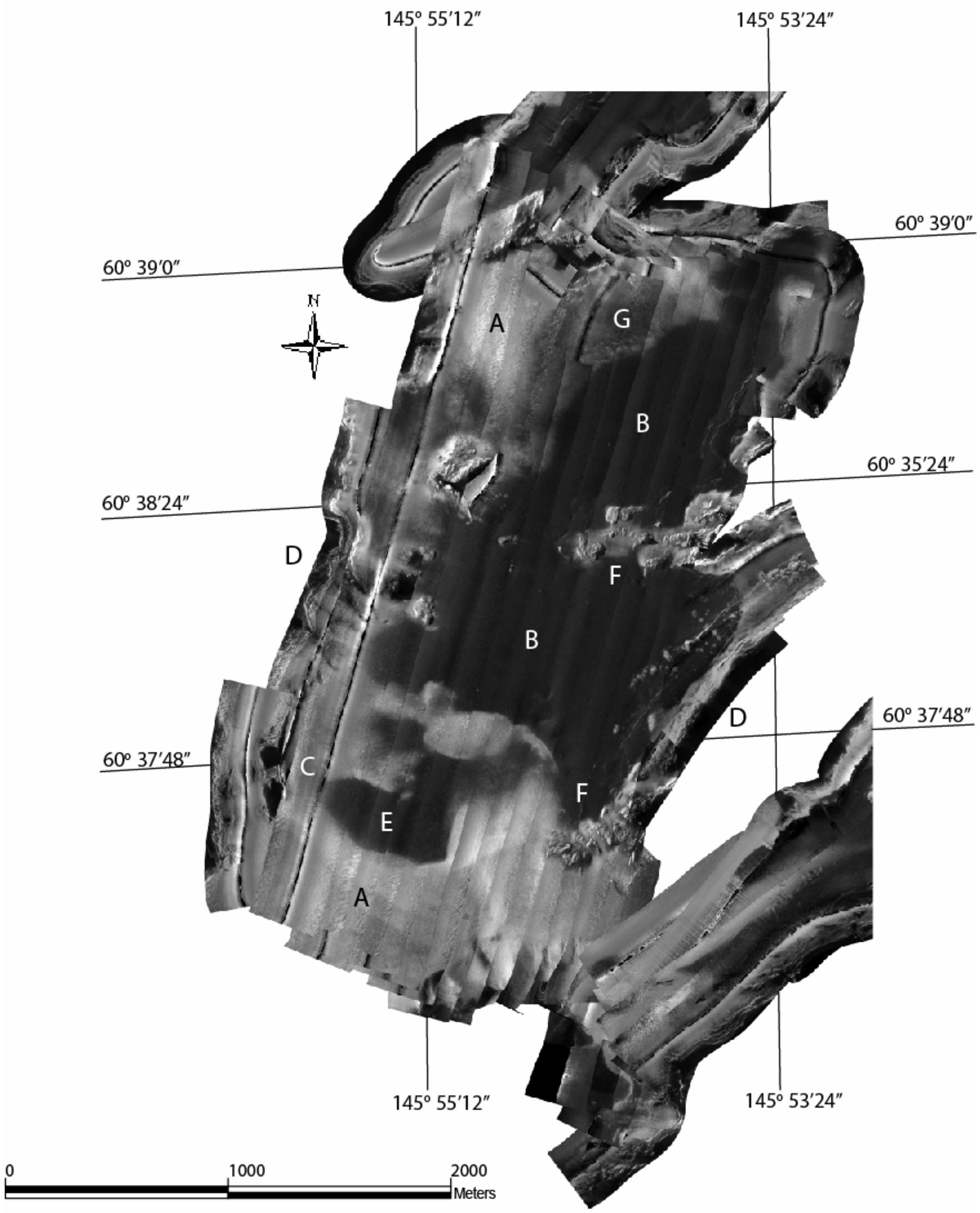

Fig. 11. Side scan Mosaic of West Bay. A. Till morainal bank complexes. B Estuarine mud deposits C. Shore parallel bedrock out crops found adjacent to the southwestern shoreline. D. Shoreline. E. Estuarine mud pond found in a depression on the broad morainal bank complex at eh mouth of Simpson Bay. F. Subtidal image of rocky promontories. G. Transition from till deposit to till with a thin veneer of sediment to fine grain sediment.

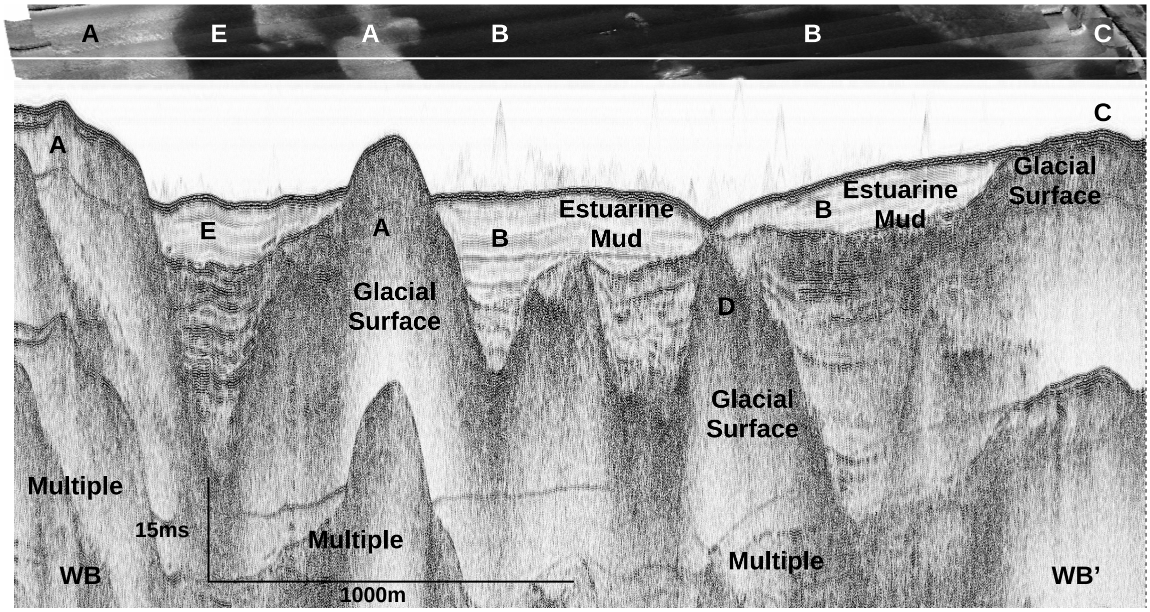

Fig. 12. Seismic profile WB_3 along the axis of West Bay and corresponding side scan sonar segment. The thick white line on the side scan record shows the trackline of the towfish. All depths are reported in two-way travel time. A. Terminal morainal bank systems composed of glacial till. B. Estuarine mud deposits. C. Till surface at the head of West Bay covered by a thin veneer of estuarine mud. D. Underlying glacial erosional/depositional surface. E. Estuarine mud is deposited in a depression on the morainal bank complex at the mouth of Simpson Bay.

4.1.2 Coarse Sediment/Till

Till facies are poorly sorted units, deposited by glacial processes, whose grain size range from boulders and cobbles to fine silts and clays. The high frequency of the seismic system used in this study was easily attenuated making it difficult to distinguish the interface between glacial till and modern coarse sediment due to scattering, absorption and the similarities of their reflection characteristics (Carlson, 1989; Syvitski et al., 1997). This facies occurs in shallower waters and on steep slopes between estuarine mud and the shoreline. These areas show high backscatter (light tones) on the side scan sonar mosaic, and in some areas intermediate backscatter on the mosaic indicate till surfaces below a thin veneer of sediment. The seismic data was able to confirm this observation. Coarse sediment that was distinguishable from the till surface occur around bedrock outcrops and at the mouths of small creeks.

4.1.3 Bedrock Outcrop

Bedrock is glacially eroded surface exposed when there is no glacial till or modern estuarine mud deposition. Seismic profiles show these facies as thick, dark layers that make up the acoustic basement of the profile, and are emergent only in areas where estuarine mud is absent (i.e., shorelines, morainal bank systems, outcrops, etc.). This facies wais composed of emergent bedrock near rocky promontories; islands and submerged rock (remnant nunataks); and bedrock morainal banks. These areas exhibit very high backscatter (light tones) on the side scan sonar mosaic, and are surrounded by areas of high backscatter, coarse grain material. Furthermore, the seismic data reveals that this facies is usually a submarine continuation of the shoreline

4.1.4 Shoreline Terraces

This facies occurs along the shoreline. Not all areas where this facies presumably exist were accessible by boat, thus some areas were not imaged. Shoreline terraces are a result of periods of glacial advance, retreat and standstill, and while they are exposed bedrock, they deserve a separate classification due to their roles played in modern sediment distribution.

4.1.5 North Bay

North Bay is the long (4 km) and narrow (0.7-1.3km) northern arm of Simpson Bay (Figs. 1, 7 and 8). Depths range from 5-80 m (Fig. 4), and this arm has steep sides (5° to 25°) composed of till and bedrock that transition to the shoreline. In some areas, bathymetry data show sheer rock faces that descend from above the water to the bottom of the fjord. Seismic profile NB shows high reflection shorelines that plunge beneath estuarine mud ponds. The side scan sonar mosaic shows that the entrance to the north arm has a bedrock and till morainal bank system that creates a shallow sill (Fig. 7A). The top of the sill ranges in depth from 10-30m, and descends to 80m on the northeast side. The side scan sonar mosaic shows high backscatter, bedrock and till surrounded by coarse grain material. Seismic profiles show a terminal morainal bank complex (Fig. 8A) that transitions from an estuarine mud pond in the deeper area (Fig. 8B), to till outcrop (Fig. 8C) and exposed bedrock at the crest of the moraine (Fig. 8A). Low backscatter, estuarine mud is found in deep areas north of the sill (Fig. 7B) and no till outcrops are found in the central portions of the bay. Seismic data shows that the open portions of the bay have bedrock and till facies (Fig. 8D) under the estuarine mud facies that shallows from head to mouth at the same slope as the bathymetry. The basin slopes upward (~1°) toward the head along the axis of the bay, reaching a depth of 30m at the head before rising steeply to the shoreface. The head of the bay has a delta that was not imaged with the side scan sonar or the seismic system due to depth constraints (Figs. 7E and 8E), and the rest of the shoreline is steep terraced or rocky beach (Fig. 7A).

4.1.6 East Bay

East Bay is the eastern arm of Simpson Bay (Figs. 1, 9 and 10). This northeast/southwest oriented basin is long (4km) and narrow, thinning from 2 km at the head to 1 km at the mouth with depths ranging from 10-80m (Fig. 4). There is no sill at the mouth to restrict circulation, but there is a low relief (~15 m) morainal bank that separates the bay from the rest of the system (Fig. 9A). The mouth of East Bay is at the southern end of Simpson Bay, and unlike North Bay, water masses exchange directly with PWS. Seismic profile EB shows the coarse sediment/till facies exposed at the mouth as a till morainal bank (Fig. 10A) and shorelines that transition to estuarine mud (Fig. 10B) with increasing depth. The side scan sonar mosaic and bathymetry data shows that East Bay has steep sides and shallows (<1°) from mouth to head with estuarine mud in deeper areas (Figs. 9B and 10B). Seismic data shows that the open portions of the bay have a till and bedrock facies (Fig. 10D) that shallows from head to mouth at the same slope as the bathymetry. Terraced shorelines (Fig. 9D) and islands were imaged with the side scan sonar, and show bedrock transitioning to till then to estuarine mud. Along the southern shoreline, the side scan sonar mosaic shows bedrock cropping out above the seafloor. At the head there is a steep rise (~10°) to a shallow plateau (Fig. 9E) with two islands in the middle (Fig. 9F). This plateau is 15-30 m deep and is an exposed glacial till surface indicated by high backscatter on the side scan sonar record. Seismic profiles show a shallow plateau of glacial till outcrop (Fig. 10E), overlain by a thin veneer of estuarine mud.

4.1.7 West Bay

West Bay is the central arm of Simpson Bay (Figs. 1, 11 and 12). This area is approximately 4 km long by 2 km wide and opens directly into PWS. West Bay is the most dynamic portion of Simpson Bay. On average, it is the shallowest (25 to 55 m); (Fig. 4), and the bottom is irregularly shaped. Seismic profile WB shows the bedrock and till layers undulating up the axis of the bay (Fig. 12D) with estuarine mud deposited in depressions on the coarse sediment/till and bedrock facies (Fig. 12B and E), while till and bedrock shoals are exposed at the seafloor (Figs. 11A and 12A). The mouth of the bay has a broad, high backscatter morainal bank with little relief (~20m) that delineates the entrance to Simpson Bay (Figs. 11A and 12A) and is part of the same feature that forms the entrance to East Bay (Fig. 9A and 10A). The side scan sonar mosaic and the seismic data show a small, irregularly shaped area of low backscatter, estuarine mud ponded in a depression in the center of the moraine (Figs. 11E and 12E). Behind the moraine is an area of low backscatter, estuarine mud that comprises the central portion of West Bay (Fig. 11B). The bay shallows from mouth to head (<1°), and a plateau (~30m) is found in the northwestern corner near the entrance to the north arm (Fig. 11A). This plateau has high backscatter on the side scan record and transitions to the bedrock morainal bank complex found at the entrance to the north arm. Seismic profiles show an intermittent thin veneer of estuarine mud on the plateau overlying parts of the till and bedrock facies (Fig. 12C). The two most prominent shoreline features are the promontories that reach into the bay on the eastern side (Fig. 11F). The side scan sonar mosaic and the seismic profiles show that these points extend into the bay as bedrock outcrops surrounded by coarse sediment. In the subsurface, the promontories are bedrock outcrops that are overlain by coarse sediment and estuarine mud as they deepen. The rest of the eastern shoreline and the northern shore are similar to the rest of the bay with steep slopes comprised of coarse sediment transitioning to terraces (Fig. 11D). The west shore exhibits the same terraced bedrock and till shoreline as is found in the rest of the bay, but is paralleled by elongated bedrock outcrops (Fig. 11C). Some of these outcrops are exposed at low tides, and there is a small island at the northern end. A channel is formed between the rocks and the shoreline with a bottom composed mainly of coarse sediment.

4.2 Grain Size Distribution

Contour maps and ternary diagrams of grab sample were used to describe the distribution of sediment textures in Simpson Bay (Figs. 13 and 14). The Shepard's textural data showed the dominate fraction in the sand, silt and clay classification to be silty clay (34%) with significant fractions in sand silt clay, silt, clayey silt and clay fractions (>9%) (Table 1). While all samples had some silt content, no samples were entirely silt dominated (Fig. 13A). The silt and clay fractions were also combined to display gravel, sand and mud in a second ternary plot (Fig. 13B). The dominant fraction is mud (45%), but there is a significant fraction found as gravel, sandy mud and muddy sand (>8%) (Table 1). The ternary diagram show that all Shepard's textures are represented, but that the sand fraction is significantly lower than the mud or gravel fractions (Fig. 13B). Contour maps of the Shepard's Classification data mimicked the side scan data showing coarse sediments were found along shorelines, at the heads of the bays, on morainal bank systems and around bedrock outcrops (Fig. 14).

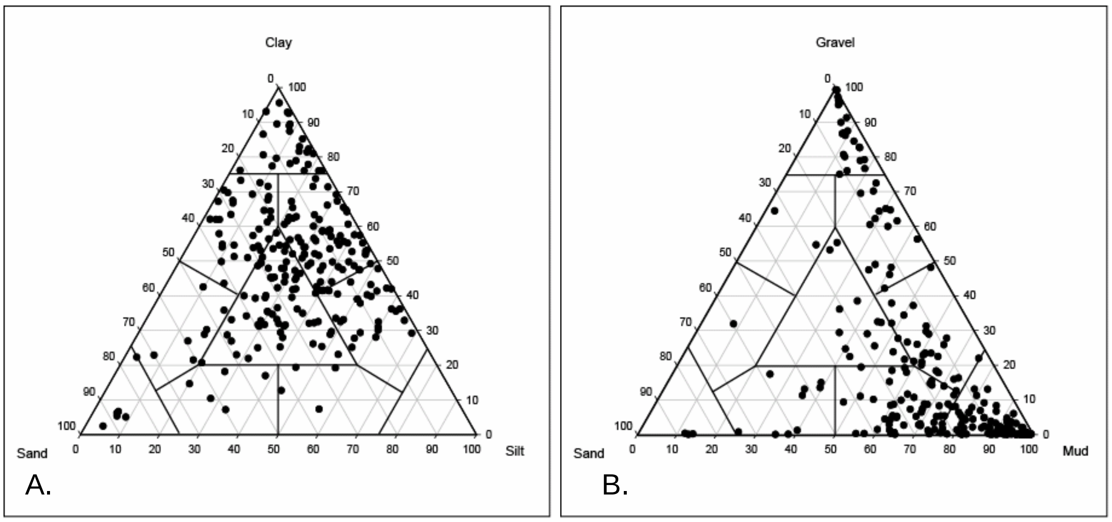

Fig. 13. Ternay diagrams of surficial sediment grabs. A. Sand Silt Clay classification is dominated by the silty clays and sand silt clay fractions while the sand fraction is small and the silt fraction is absent. B. Gravel Sand Mud classification shows a bimodal distribution of mud and gravel with a lack of sands.

Table 1. Percentage of surface grabs in each Shepard's category.

Shepard's Classification Sand Silt Clay									
Sand	Silty Sand	Sand Silt Clav	Clayey Sand	Sandy Silt	Silt	Clayey Silt	Sandy Clav	Silty Clay	Clay
1.92%	1.92%	24.52%	3.07%	1.53%	0.00%	10.34%	12.64%	34.48%	9.58%
Shepard's Classification Gravel Sand Mud									
Gravel	Sandy Gravel	Gravel Sand Mud	Muddy Gravel	Gravely Sand	Sand	Muddy Sand	Gravelly Mud	Sandy Mud	Mud
8.43%	0.77%	5.36%	6.13%	0.38%	1.15%	3.45%	9.20%	19.92%	45.21%

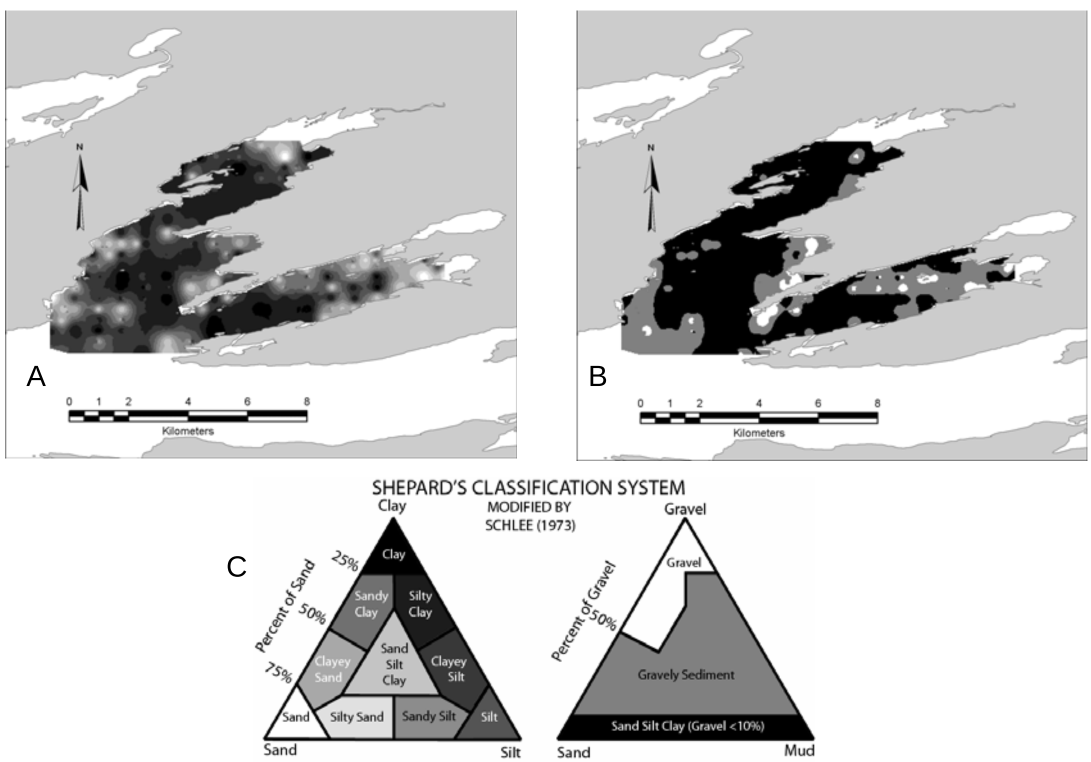

Fig. 14. A. Surface contour of sand, silt and clay textures according to Shepard's Classification scheme. B. Surface contour of gravel, sand and mud textures according to Shepard's Classification scheme as modified by Schlee (1973). C. Color description for the surface contour maps.

5. DISCUSSION

5.1 Geophysical

5.1.1 Facies

Seismic and side scan sonar data collected in Simpson Bay were used to correlate subsurface stratigraphy to surficial geology. The data show four distinct facies (Fig. 6) which are discussed based on their depositional environments.

Shoreline Terraces

Rocky shorelines and bedrock outcrops were carved as glaciers retreated from Simpson Bay and were imaged (e.g. Fig. 11D) because tidal currents and seismic processes retard sediment accretion. Periods of glacial retreat, advance and standstill leave distinct morphological features in the bedrock. Terraces are part of lateral moraines deposited along the sides of glaciers. Rapid advance or retreat followed by long periods of a stable glacial terminus leave terraced features that are preserved in the shoreline once the glacier retreats from the system. Oceanographic processes also form terraces once sea level rises, but due to the young age of the system, this mechanism is not probable.

Coarse Sediment/Till

Modern coarse sediment deposits and glacial till deposits are combined in this discussion due to the difficulty distinguishing them on the side scan sonar and seismic records. Till is poorly sorted material deposited atop bedrock as glaciers retreat and are indicated as high backscatter (light tones) on the sonographs (e.g. Fig. 11A). Seismic profiles show these facies as thick, dark facies that form the sills at the mouths of each arm and the morainal bank systems (e.g. Fig 12A). As water moves over these features, flow lines converge over the bathymetric high and become compressed causing, among other things, higher velocities and turbulent flow (Syvitski et al., 1987). Modern deposits of coarse sediment are also indicated by high backscatter, but their source and mechanism of deposition are considerably different from the till surfaces. Coarse sediment is deposited when energy is sufficient to carry large particles away from its source and insufficient to move it farther. This material is found at the entrances to the small shoreline creeks, at the heads of the bays and around rock outcrops and exposed bedrock. Till deposits are depositional features that are exposed at bathymetric highs because in most cases tidal energy is sufficient to keep estuarine mud from being deposited, and seismic events are able to remove modern sediment accumulations. Current measurements in Simpson Bay were found to be greater around bathymetric highs and critical shears are probable that support erosion and transport of fine grain material, but not the till deposits. Seismic events are another mechanism that keeps this facies free of sediment by moving unconsolidated sediment down steep slopes to the deeper portions of the bay during slope failure events.

Bedrock Outcrops

Bedrock outcrops are an erosional feature left as glaciers retreated that were not covered by till (e.g. Figs. 7A and 11C). This surface, like the till outcrop, is kept free of modern sediment by tidal currents and seismic events (Knebel, 1993). These features were identified based on: subbottom profiles, large boulders and rocks on the sonar mosaic and the locations of the outcrops near subaerially exposed bedrock landforms. Promontories (e.g. Fig 11F) that extend from land into the bay are features caused by glacial erosion. These promontories are medial moraines and are formed at the confluence of two glacial tributaries. Tidal currents work to keep this facies free of modern sediment deposition by eroding and transporting sediment to deeper portions of the bay.

Estuarine Mud

Estuarine mud is found ponded in bathymetric lows throughout the bay. Seismic data shows this facies as acoustically transparent layers found deposited in deep pockets incised into the surface of till and bedrock throughout the bay and are correlated with low backscatter (dark tones) on the side scan mosaic (e.g. Fig. 7B). Due to greater depths, tidal currents decrease and the current shear is no longer sufficient to support suspended sediments. This creates a depositional environment for estuarine mud (Knebel, 1986; 1993). Slope failure and mass wasting also contribute to the ponding of sediment in bathymetric lows. Unconsolidated sediment deposited on bathymetric highs is moved down steep slopes as turbidity flows and is deposited in bathymetric lows.

5.1.2 Correlations Between Bays

While the depositional environments and process are similar in each arm, the basin morphology differs. The north (Figs. 7 and 8) and east arms (Figs. 9 and 10) are both long and narrow, but have different entrance types. The northern arm has a shallow till and bedrock morainal bank complex that creates a restrictive sill (Figs. 7A and 8A). This sill traps sediment introduced through the Simpson Creek and smaller shoreline creeks. Except at the mouth and along shorelines, the entire length of the northern arm is covered in by estuarine mud (Figs. 7B and 8B). The eastern arm contains a sill, but it does not have sufficient relief to restrict circulation (Figs. 9A and 10A). The western arm (Figs. 11 and 12) is wider than the other arms and has a broad, shallow sill at its entrance which, like the eastern arm, is not sufficient to restrict circulation. The sill is laterally extensive and irregularly shaped (Figs. 11A and 12A). Undulations in the surface are large enough to cause deposition of significant ponds of estuarine mud in depressions found on the crest (Figs. 11E and 12E). In each case, the side scan sonar mosaics and the seismic reflection profiles show the sills as emergent morainal bank complexes that are kept free of modern estuarine mud by currents and seismic events. Even with the low relief of the eastern and western arm sills (Figs. 9A, 10A, 11A and 12A), tidal flow is focused enough to cause velocity shears critical to transport sediment. Due to the slopes leading off these features, it is probable that seismic events keep the surfaces free of sediment by triggering turbidity flows. The side scan sonar mosaics show the sills as high backscatter bedrock and till surrounded by coarse material (Figs. 9A and 11A). The entrances to the north and east arms have deep areas (~80m); (Fig. 4) directly behind the sills that are infilled with estuarine mud (Figs. 7B, 8B, 9B and 10B). The western arm is much shallower (25-55m); (Fig. 4), but is still filled with estuarine mud (Figs. 11B and 12B). The bottoms of the northern and eastern arms are relatively flat and shallow from mouth to head while the bottom of the western arm undulates as it shallows from mouth to head. These undulations cause irregular exposures of the glacial surface (Figs. 11A and 12A) that are not found in the northern and eastern arms. At the head of the eastern arm, there is a broad flat plateau (Figs. 9E and 10E). This surface is composed of till with a bedrock island in the middle (Fig. 9E). Although the morainal bank (Fig. 10A) and the plateau (Fig. 10E) are separated by 3 km, they are the exposure of the same underlying glacial feature. Little or no estuarine mud is found on the plateau due to increased current velocities in the shallow depths and seismic events. Like the eastern arm, the western arm has a shallow plateau (Fig. 11A). Deeper portions of this plateau have a slightly lower amplitude backscatter suggesting estuarine mud deposits (Fig. 11G). The seismic data shows a thin veneer of estuarine mud deposited on the glacial layer that influences the backscatter data due to the slight penetration of the side scan pulse into the sediment (Fig. 12C). This penetration reflects more than just the fine grain surface layer, it also reflects the near surface glacial material.

The arms have many of the same shoreline features, including terraced shorelines, rocky beaches, small streams, and creeks. Terraced shorelines and islands were imaged with bedrock transitioning to till then estuarine mud. Elongated bedrock outcrops (Figs. 9C and 11C) parallel the west shore of the western arm and the southern shore of the eastern arm. These tidal and subtidal features form a channel between the rocks and the shoreline, and the bottom of these channels are composed mainly of coarse sediment. Two rocky promontories extending into west bay are features not found in the other arms (Fig. 11F). The side scan sonar mosaic and the seismic reflection profiles show that these medial morainal banks are composed of bedrock, coarse sediment, and till that are kept clean of modern estuarine mud by currents and earthquakes. These features were correlated to intertidal and subaerial outcrops on land.

Depositional environments in each arm are similar. Estuarine mud is found in the deeper portions where tidal energy is lowest and turbidity flows deposit sediment. Shallower areas have emergent till surfaces with little or no fine grain material because increased tidal currents and seismically triggered turbidity flows keep these areas free of estuarine mud. Erosion along shorelines, beaches and bedrock outcrops leave these surfaces free of modern sediment. The northern arm has a large delta at the head (Fig. 7E) that is actively being formed by deposition of river material. Due to shallow depths, the delta was not imaged, but cores taken on the delta are dominated by silt and sand. Grab samples taken in the northern arm fine from the head to mouth suggesting that the delta acts as a sink for coarse sediment, and sediment is fractionated as it moves down fjord. Small deltas and wetlands in the eastern arm act in much the same way as the delta in the northern arm, but to much less of a degree due to a less freshwater input and lower sediment supply. The northern arm has the highest spatial cover of estuarine mud in relation to the other facies. The larger river flowing into the arm brings more freshwater and consequently a higher sediment load to it than to either of the other arms. The sill at the mouth restricts circulation and acts as a barrier to keep sediment from being transported out of the arm. Aerial photographs show higher turbidity at the head of the northern arm than anywhere else in Simpson Bay (Fig. 3A). Smaller sediment supply to the other arms explains the decreased spatial extent of estuarine mud.

Trawl marks were found on the moraine bank at the mouth of West Bay (Fig. 15). Heavy trawling in Simpson Bay occurred for a few years in the early 1980's, but due to the decline in the shrimp population, the area has been free of trawling since (Fred Weltz, personal communication). The trawl marks are apparent in the high backscatter areas, but they are absent in the estuarine mud. There are areas where trawl marks are present in coarse material, disappear in the estuarine mud and reappear in the coarse sediment. This observation and the hiatus in trawling suggest the trawl marks are preserved in high energy environments where deposition is not present. In the estuarine mud, deposition is high enough that trawl marks are filled and buried.

5.2 Grain Size Distribution

The ternary diagrams and contour maps of the Shepard's classification data illustrate the source to sink relationship that drives grain size fractionation in Simpson Bay. The surface contours show open portions of the bay dominated by the mud fraction while shorelines, outcrops, and morainal bank systems contain a higher coarse fraction (Fig. 14A and B). Ternary diagrams display a bimodal distribution of sediment, with peaks in the gravel and mud fractions (Fig. 14B), which are due to transport mechanisms in

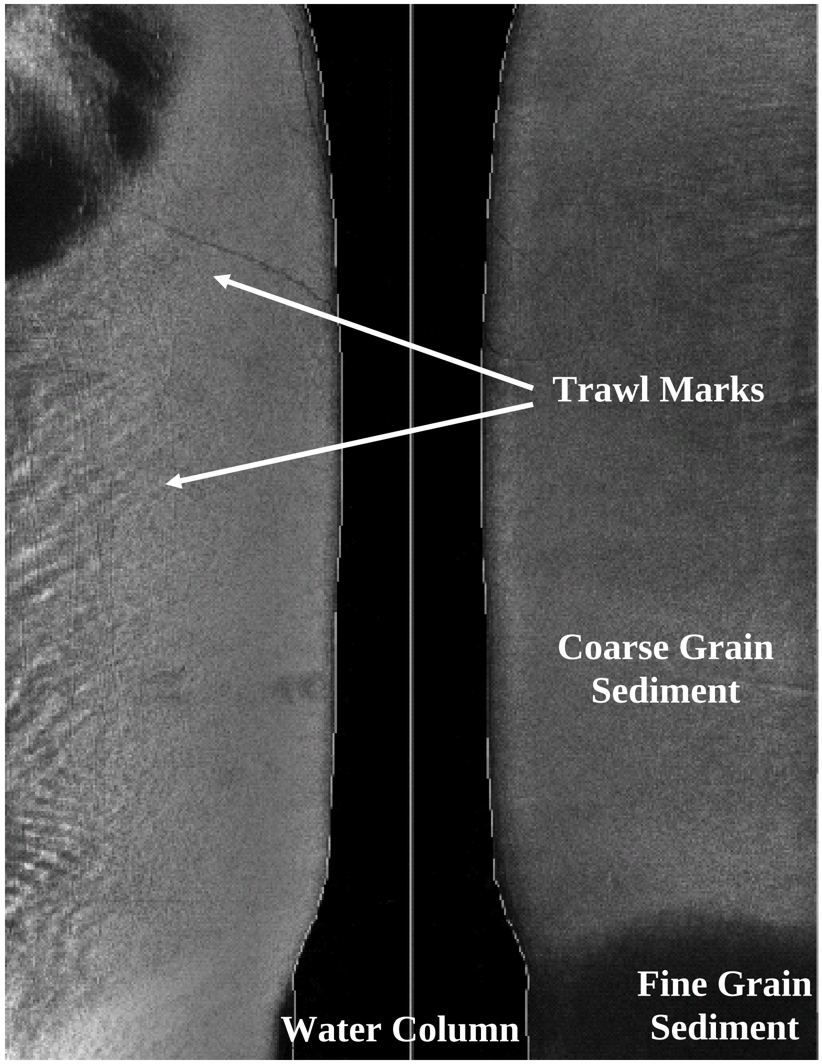

Fig. 15. Trawl marks found only in the coarse grain material at the mouth of West Bay. This suggests that the coarse grain sediment is able to preserve the trawl marks while the marks are quickly covered in the estuarine mud.

Simpson Bay. Bay head deltas found in the north and east arms trap most of the sand and silt fractions. This is evident in the lack of coarse sediment in grab samples seaward of the delta and in the abundance of sand and silt in cores taken on the delta. The lack of high backscatter areas proximal to the delta on the sonar mosaic indicates that there is little transport of coarse material past the delta and the mud fraction dominates (~65%) (Table 2). Core samples taken on the delta indicate a lack of the clay fraction (~16%) and an abundance of silt (~56%) and sand (~25%) (Table 2). Gravel is largely absent in the core data on the delta (~2%), but is significant in the grab samples taken down the fjord (~18%) (Table 2). This suggests that modern coarse sediment is being entrained in the prograding delta and only clay dominated muds are being transported to the distal portions of the bay. The mud fractions are deposited throughout the bay as a thin veneer of modern sediment, but are eroded from bathymetric highs by gravity flows. These gravity flows are the primary mechanism responsible for the transport of the gravel fraction to the deeper portions of the bay that are far from shore. Tidal currents prevent significant mud deposition in the shallower areas where currents are the highest. Decreased tidal currents in deeper areas allow for deposition of the mud fraction. Aerial photographs of Simpson suggest that PWS does contribute to the sediment supply of Simpson Bay. Due to the distance from the sources of PWS sediment and the steep slopes leading into Simpson Bay, any input from PWS will be in the suspended fraction due to the lack of current strength to move a bed load into the system or support a coarse grain suspended load.

Table 2. Grain size data for sediment samples from Simpson Bay and from the North Bay delta. The delta samples show higher silt and sand percentages suggesting that these fractions are trapped in the delta while the mud fraction passes through and enters the bay.

Grain size percentages for all surface grabs			
% Gravel	% Sand	% Silt	% Clay
18.29%	15.71%	24.77%	41.22%

Grain size percentages from the North Bay delta			
% Gravel	% Sand	% Silt	% Clay
1.77%	25.60%	56.34%	16.29%

6. CONCLUSIONS

Modern surficial sediment distribution in Simpson Bay is driven by seismic and hydrographic processes that interact with the antecedent geology left as glaciers retreated from the bay:

1. Catchment derived sediment input is fractionated by bay head deltas and explains the bimodal distribution of grain sizes in the system. Sand and silt fractions are entrained in the delta and are not transported to the distal areas of the bay.
2. Earthquakes periodically mobilize sediment, moving it down slope to bathymetric lows in the glacial layer. Mud deposits are found ponded on a glacial layer. In the shallower portions of the bay, mud deposition is either absent or as a thin veneer of unconsolidated sediment over exposed till deposits.
3. The current structure in Simpson Bay allows for the deposition of estuarine mud in the deeper parts of the bay, but is too swift to allow deposition along shorelines and on bathymetric highs. Tidal currents in this macrotidal fjord are focused over and around bathymetric highs creating sheer stresses critical for erosion and transport of estuarine mud. This erosion leaves only coarse sediment and keeps rocky outcrops and till deposits free of mud.
4. Tidal currents are able to transport suspended sediment from PWS. Aerial photographs show sediment introduction from PWS, but basin morphology and weak currents prohibit coarse grain transport in either the bed or suspended load.

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APPENDIX A

Percent compositions of the Gravel, Sand, Silt and Clay fractions for all grab samples.

Station ID	Position Latitude	Longitude	Total wt (g)	% Gravel	% Sand	% Silt	% Clay
2	60.616	-145.910	8.480	6.694	6.065	26.650	60.591
3	60.616	-145.901	20.241	76.000	9.038	7.361	7.600
4	60.616	-145.901	8.489	1.857	16.703	48.946	32.494
5	60.620	-145.922	12.559	62.214	8.854	12.064	16.868
9	60.620	-145.894	48.264	59.974	6.774	8.619	24.632
11	60.623	-145.936	16.381	25.852	9.722	14.621	49.805
12	60.623	-145.929	18.631	76.644	4.256	7.729	11.370
13	60.623	-145.922	21.813	48.139	1.852	9.650	40.359
14	60.623	-145.915	14.172	82.631	2.527	7.197	7.645
22	60.626	-145.937	13.757	10.672	24.827	4.252	60.248
23	60.626	-145.934	14.017	32.484	23.083	21.045	23.388
28	60.627	-145.902	8.705	23.425	14.155	30.616	31.804
40	60.626	-145.923	11.743	0.085	18.049	49.392	32.474
41	60.630	-145.915	12.846	21.103	19.670	33.862	25.365
42	60.630	-145.909	4.714	0.212	1.604	56.109	42.075
59	60.633	-145.923	10.356	0.302	11.354	60.403	27.941
60	60.633	-145.915	9.616	0.104	3.358	60.418	36.120
61	60.633	-145.908	7.281	0.137	1.265	62.496	36.102
76	60.637	-145.908	10.079	0.736	1.750	64.887	32.626
77	60.636	-145.901	7.207	1.942	1.719	67.709	28.629
78	60.637	-145.895	13.393	34.365	15.545	28.747	21.343
89	60.640	-145.922	6.871	2.147	14.331	54.800	28.723
90	60.640	-145.915	13.876	0.072	1.819	22.161	75.948
91	60.640	-145.909	7.646	0.131	2.586	61.796	35.487
93	60.640	-145.894	9.912	15.493	17.988	27.290	39.229
107	60.643	-145.926	17.508	37.842	16.902	22.790	22.467
108	60.643	-145.923	13.546	0.133	21.772	48.503	29.592
112	60.643	-145.894	6.139	0.163	0.984	51.150	47.703
113	60.643	-145.890	21.581	8.003	16.705	12.210	63.082
125	60.646	-145.919	8.021	22.425	35.145	16.768	25.662
128	60.646	-145.901	11.543	0.309	8.484	58.821	32.386
129	60.647	-145.894	9.308	0.107	1.070	45.767	53.055
132	60.647	-145.880	20.037	56.285	1.202	3.593	38.920
143	60.650	-145.915	14.174	8.792	23.208	26.351	41.649
145	60.650	-145.911	18.322	69.501	8.867	8.733	12.899
146	60.650	-145.894	8.572	2.185	7.304	51.156	39.355
197	60.681	-145.873	8.474	0.413	25.913	54.576	19.098
18	60.623	-145.887	4.794	0.949	7.970	13.766	77.315
19	60.623	-145.880	8.000	15.233	28.741	9.750	46.275

25	60.627	-145.922	5.287	0.042	10.934	26.290	62.734
26	60.627	-145.915	18.600	96.296	1.087	0.941	1.676
27	60.627	-145.908	6.964	5.545	15.670	27.856	50.928
28	60.627	-145.902	9.303	42.105	16.544	13.598	27.753
29	60.627	-145.894	14.916	84.522	3.063	2.447	9.968
30	60.627	-145.887	8.001	0.161	2.077	37.246	60.516
31	60.627	-145.880	7.707	0.014	2.255	45.091	52.640
32	60.626	-145.874	7.068	0.141	3.270	34.098	62.491
33	60.626	-145.866	10.762	72.444	3.519	8.456	15.581
34	60.626	-145.859	9.709	22.456	12.893	21.630	43.021
45	60.630	-145.891	11.755	75.011	11.448	4.594	8.948
47	60.630	-145.884	14.807	91.311	1.518	2.668	4.503
48	60.630	-145.880	7.680	2.081	1.994	39.585	56.341
49	60.630	-145.873	7.170	0.024	1.555	45.607	52.815
50	60.630	-145.866	6.164	0.975	4.898	39.505	54.622
51	60.630	-145.859	7.004	0.080	2.372	39.266	58.282
52	60.630	-145.852	14.600	86.185	4.419	4.349	5.047
53	60.630	-145.849	7.831	36.101	30.928	15.772	17.199
69	60.633	-145.859	6.338	0.353	18.523	30.450	50.674
70	60.633	-145.853	7.236	2.160	5.634	45.807	46.398
72	60.633	-145.838	6.088	47.457	17.857	17.903	16.783
72	60.633	-145.838	6.392	4.437	35.300	36.141	24.122
80	60.636	-145.873	6.345	3.732	4.909	49.802	41.556
81	60.637	-145.866	15.233	87.473	3.194	4.103	5.231
82	60.636	-145.859	18.494	94.998	1.748	1.487	1.767
83	60.636	-145.852	16.866	86.948	4.326	3.498	5.228
85	60.636	-145.838	10.358	82.800	2.540	5.696	8.963
86	60.637	-145.831	14.792	80.057	7.593	5.814	6.536
87	60.636	-145.828	8.698	80.681	7.629	2.069	9.621
95	60.638	-145.888	14.338	95.582	1.116	1.186	2.116
96	60.638	-145.884	14.943	86.718	4.938	1.171	7.173
99	60.640	-145.859	16.389	97.316	0.711	0.793	1.180
100	60.640	-145.852	10.955	79.177	3.083	9.311	8.429
101	60.640	-145.845	18.076	99.365	0.229	0.360	0.046
102	60.640	-145.842	14.609	78.948	4.269	8.214	8.569
103	60.640	-145.839	11.481	70.160	5.348	12.107	12.384
105	60.640	-145.824	12.577	0.179	85.852	8.945	5.024
115	60.641	-145.859	7.875	32.260	22.319	24.255	21.166
116	60.643	-145.852	6.494	1.689	22.132	47.816	28.363
117	60.643	-145.846	8.913	18.451	26.496	29.339	25.713
118	60.643	-145.842	6.117	0.208	26.276	48.229	25.288
119	60.643	-145.838	8.041	8.793	17.185	51.116	22.906
120	60.643	-145.832	12.001	55.292	21.945	12.499	10.264
121	60.643	-145.825	6.860	24.681	35.130	23.689	16.500
133	60.645	-145.845	7.839	27.680	20.378	33.040	18.903
134	60.645	-145.842	9.424	0.259	44.704	38.146	16.891

136	60.645	-145.824	5.822	2.884	34.998	5.925	56.193
137	60.646	-145.838	8.140	0.260	35.836	44.594	19.309
138	60.646	-145.835	11.158	0.090	61.851	27.692	10.367
147	60.650	-145.887	6.464	1.165	26.098	38.211	34.526
148	60.650	-145.880	13.098	54.649	27.549	8.055	9.748
149	60.653	-145.916	11.557	64.348	6.778	8.869	20.004
153	60.657	-145.901	6.340	0.158	0.759	41.799	57.285
170	60.666	-145.869	7.571	21.949	2.874	33.482	41.695
175	60.670	-145.873	7.362	0.010	4.477	54.196	41.317
176	60.670	-145.868	9.243	11.225	8.748	53.392	26.634
180	60.673	-145.880	4.471	0.224	5.470	18.451	75.855
181	60.673	-145.873	5.715	0.168	9.771	46.196	43.865
182	60.673	-145.866	4.780	0.021	18.135	40.380	41.464
183	60.673	-145.863	5.129	1.404	24.276	27.101	47.219
187	60.677	-145.873	5.973	0.005	6.710	53.492	39.793
188	60.677	-145.866	17.372	64.457	33.077	1.612	0.854
189	60.677	-145.859	4.292	0.037	7.311	36.927	55.724
198	60.678	-145.868	6.616	0.027	34.948	37.109	27.916
106A	60.640	-145.818	9.998	1.183	59.040	32.707	7.069
122A	60.643	-145.820	17.608	99.210	0.004	0.454	0.332
139A	60.648	-145.832	6.107	0.477	23.266	53.302	22.955
193A	60.678	-145.883	8.004	37.151	11.791	29.984	21.074
35A	60.627	-145.854	5.390	1.438	38.693	29.129	30.740
98a	60.639	-145.868	5.569	7.459	24.271	38.608	29.662
2	60.616	-145.908	7.375	0.136	6.617	26.441	66.806
3	60.616	-145.902	8.252	1.298	35.729	24.235	38.738
5	60.620	-145.923	9.605	17.777	15.104	7.444	59.675
8	60.620	-145.901	10.076	8.235	19.695	18.757	53.312
9	60.620	-145.895	10.710	5.206	31.891	25.537	37.365
11	60.623	-145.936	8.644	18.330	15.416	11.049	55.206
12	60.623	-145.930	12.132	13.042	5.093	40.554	41.311
14	60.623	-145.915	7.790	2.525	27.295	18.486	51.694
18	60.623	-145.888	9.323	1.914	5.985	14.695	77.407
22	60.626	-145.936	8.822	9.318	43.280	8.842	38.561
25	60.627	-145.922	10.306	0.005	4.450	42.985	52.560
26	60.627	-145.915	12.487	60.463	11.052	7.007	21.477
27	60.627	-145.908	9.587	3.239	7.926	33.639	55.197
28	60.626	-145.902	9.368	6.302	13.194	21.669	58.835
30	60.627	-145.888	8.613	0.187	1.975	2.438	95.400
31	60.626	-145.881	10.487	0.040	2.633	41.718	55.609
32	60.626	-145.874	9.491	15.933	12.139	31.082	40.847
33	60.626	-145.866	8.774	13.061	8.391	27.638	50.910
34	60.627	-145.860	9.531	6.382	13.128	32.209	48.280
35	60.627	-145.854	10.643	38.498	25.218	15.268	21.016
39	60.630	-145.929	11.574	17.382	57.807	5.918	18.894
39	60.630	-145.933	10.016	23.790	23.525	15.625	37.059

40	60.630	-145.922	10.010	3.012	21.543	29.621	45.824
41	60.630	-145.915	8.474	2.786	27.623	19.885	49.705
42	60.630	-145.908	7.867	0.405	3.093	40.295	56.207
43	60.630	-145.901	9.429	2.183	7.385	32.825	57.608
48	60.630	-145.881	8.402	0.119	1.138	43.618	55.125
49	60.630	-145.873	8.295	0.121	1.298	5.847	92.734
50	60.630	-145.866	7.933	0.126	0.831	33.658	65.385
51	60.630	-145.859	9.526	0.105	0.722	18.319	80.854
52	60.630	-145.852	12.713	19.998	18.280	25.525	36.197
52	60.630	-145.852	7.100	8.683	30.941	3.803	56.573
53	60.630	-145.849	12.520	14.975	46.112	14.377	24.536
54	60.630	-145.845	9.341	4.896	32.138	31.420	31.547
56	60.633	-145.937	14.142	0.040	87.043	6.293	6.624
58	60.633	-145.929	8.739	11.626	25.988	14.819	47.567
59	60.633	-145.922	8.068	0.124	7.577	33.465	58.834
60	60.633	-145.916	7.275	0.137	1.490	31.202	67.171
61	60.633	-145.909	4.734	0.013	3.192	13.838	82.958
62	60.633	-145.901	9.808	0.280	2.080	16.466	81.174
64	60.633	-145.887	8.864	8.072	15.698	30.800	45.430
66	60.633	-145.880	13.659	49.000	15.441	3.221	32.337
67	60.633	-145.873	8.076	0.014	1.399	42.410	56.177
68	60.633	-145.866	7.665	0.558	1.435	38.228	59.779
69	60.633	-145.859	8.089	5.988	2.078	38.879	53.055
70	60.633	-145.852	9.283	0.698	5.617	38.457	55.228
71	60.633	-145.845	9.352	7.793	11.667	29.086	51.454
72	60.633	-145.838	9.024	11.264	52.700	12.135	23.902
73	60.637	-145.929	10.275	29.359	34.320	16.059	20.262
74	60.636	-145.923	10.754	17.925	23.103	4.231	54.741
75	60.636	-145.916	10.033	0.002	1.252	16.446	82.300
76	60.636	-145.909	9.328	0.024	2.344	8.201	89.431
77	60.636	-145.902	9.345	0.129	1.130	6.314	92.427
78	60.636	-145.894	8.481	14.720	18.759	21.459	45.062
80	60.637	-145.873	7.733	0.129	6.548	44.742	48.580
81	60.636	-145.866	9.386	28.917	11.984	8.257	50.841
82	60.636	-145.860	6.911	22.901	16.447	10.852	49.800
84	60.636	-145.845	6.960	12.608	13.230	19.684	54.479
85	60.636	-145.838	9.221	6.868	9.987	9.001	74.144
86	60.637	-145.831	9.832	19.185	22.925	21.257	36.633
87	60.636	-145.828	9.433	28.985	27.479	15.159	28.377
88	60.640	-145.926	10.189	31.251	11.463	18.304	38.982
89	60.640	-145.922	10.174	2.423	11.208	37.843	48.526
90	60.640	-145.915	10.442	3.207	2.831	42.088	51.874
91	60.640	-145.908	8.556	0.286	1.169	39.737	58.808
92	60.640	-145.901	9.667	0.103	1.291	13.500	85.105
93	60.640	-145.894	11.014	14.225	18.526	1.952	65.297
95	60.638	-145.887	9.758	32.069	19.800	17.523	30.607

97	60.639	-145.880	10.325	3.435	23.427	18.740	54.398
99	60.640	-145.859	5.461	1.894	12.184	24.448	61.474
100	60.640	-145.853	7.674	2.018	10.392	2.802	84.788
102	60.640	-145.842	8.645	29.693	12.275	21.457	36.574
103	60.640	-145.838	12.911	65.092	4.726	2.053	28.130
105	60.640	-145.824	11.268	0.332	87.790	6.568	5.311
107	60.643	-145.926	8.971	25.504	27.381	6.298	40.816
108	60.643	-145.923	8.839	11.342	14.417	26.362	47.879
109	60.643	-145.915	9.976	2.021	10.049	35.486	52.444
110	60.643	-145.909	9.643	0.104	3.746	22.503	73.647
111	60.643	-145.902	8.755	0.114	0.716	43.292	55.878
112	60.643	-145.894	6.535	0.153	0.973	22.952	75.922
113	60.643	-145.890	9.810	9.869	28.492	1.121	60.517
115	60.643	-145.887	9.752	19.413	33.811	11.689	35.087
116	60.643	-145.852	5.245	2.660	31.429	16.302	49.609
118	60.643	-145.842	8.045	10.103	35.368	26.103	28.425
119	60.643	-145.838	7.369	6.410	25.107	31.482	37.002
120	60.643	-145.831	13.582	11.007	38.202	39.501	11.290
121	60.643	-145.824	9.162	13.067	51.278	17.681	17.974
124	60.647	-145.924	8.489	4.710	15.284	20.379	59.627
126	60.647	-145.915	11.732	27.761	8.041	20.840	43.358
127	60.646	-145.908	11.190	4.211	15.075	35.389	45.325
128	60.647	-145.902	8.565	0.437	9.987	42.267	47.309
129	60.646	-145.894	9.577	0.047	2.619	43.228	54.106
130	60.647	-145.887	11.395	48.161	11.848	2.019	37.973
131	60.646	-145.883	9.453	21.634	21.749	11.690	44.927
131	60.647	-145.884	8.082	8.670	22.452	19.982	48.896
133	60.645	-145.846	9.596	4.260	34.027	12.610	49.103
134	60.645	-145.842	9.813	0.271	42.592	32.202	24.934
137	60.647	-145.838	10.098	8.411	31.857	2.971	56.761
138	60.647	-145.835	9.589	0.002	65.131	20.232	14.636
139	60.648	-145.832	10.096	13.491	47.121	23.721	15.667
141	60.650	-145.923	10.479	5.192	21.928	25.719	47.161
142	60.650	-145.919	10.328	5.327	19.813	23.382	51.478
143	60.650	-145.915	10.429	20.877	17.785	18.171	43.167
144	60.650	-145.908	10.288	13.916	15.647	18.273	52.164
146	60.650	-145.894	9.413	8.304	5.256	33.941	52.498
147	60.650	-145.887	8.516	26.589	18.553	11.390	43.468
148	60.650	-145.880	14.897	53.201	24.802	7.854	14.143
149	60.653	-145.916	9.725	4.401	13.113	20.000	62.486
150	60.653	-145.908	8.161	0.002	1.823	26.836	71.339
151	60.653	-145.902	10.581	7.255	27.470	19.468	45.806
152	60.657	-145.908	9.281	9.118	7.899	26.667	56.316
154	60.656	-145.894	10.366	3.077	27.064	2.315	67.544
155	60.652	-145.891	8.809	5.219	27.046	0.965	66.770
157	60.660	-145.894	7.473	0.013	0.806	30.041	69.140

158	60.659	-145.883	8.672	0.092	0.607	35.169	64.132
158	60.660	-145.887	9.024	4.724	4.386	27.926	62.964
161	60.663	-145.887	8.950	0.112	0.543	34.691	64.654
162	60.663	-145.880	7.811	0.128	1.274	35.461	63.137
163	60.663	-145.873	11.532	61.557	3.655	12.227	22.561
164	60.665	-145.901	8.815	1.335	7.262	42.316	49.087
165	60.666	-145.901	7.941	1.555	8.259	32.552	57.634
167	60.666	-145.887	9.687	25.966	16.413	12.285	45.337
168	60.666	-145.880	8.101	0.123	1.289	38.389	60.198
169	60.666	-145.873	9.217	0.108	2.067	46.000	51.824
170	60.666	-145.870	8.651	23.212	15.906	12.947	47.935
171	60.670	-145.898	9.295	0.867	7.346	37.708	54.080
172	60.670	-145.894	12.490	46.075	13.277	18.015	22.633
173	60.670	-145.887	8.641	0.116	2.136	48.603	49.145
174	60.670	-145.880	8.330	3.822	8.878	26.412	60.888
177	60.673	-145.898	10.154	0.075	5.613	4.875	89.437
178	60.673	-145.892	10.296	4.289	15.762	40.306	39.643
179	60.673	-145.887	4.907	5.300	20.794	8.355	65.551
180	60.673	-145.880	10.934	0.091	3.453	9.100	87.356
181	60.673	-145.873	9.922	3.628	3.832	13.908	78.631
183	60.673	-145.863	6.470	1.335	18.726	37.869	42.070
185	60.677	-145.887	9.709	0.103	16.911	55.260	27.726
186	60.676	-145.880	11.062	0.090	10.395	51.710	37.804
187	60.677	-145.873	11.276	0.015	9.336	59.727	30.921
188	60.676	-145.866	15.871	31.870	59.760	4.190	4.180
189	60.676	-145.859	10.629	0.414	6.520	0.376	92.690
192	60.678	-145.856	11.251	0.624	5.502	22.842	71.032
194	60.680	-145.880	9.618	6.394	15.709	38.939	38.958
195	60.680	-145.873	12.284	0.585	34.844	29.307	35.264
196	60.681	-145.877	13.347	0.725	74.087	3.072	22.117
132A	60.646	-145.880	17.421	89.947	3.643	0.172	6.238
135A	60.645	-145.839	11.006	5.419	32.871	33.891	27.819
166A	60.667	-145.894	9.526	2.159	4.973	41.307	51.561
176A	60.670	-145.866	12.000	64.700	3.784	14.459	17.057
184A	60.676	-145.892	10.907	16.302	10.795	8.160	64.744
193A	60.678	-145.883	9.021	2.792	16.880	37.577	42.751
65A	60.633	-145.883	8.038	23.460	15.617	21.088	39.834
98B	60.641	-145.865	9.637	4.844	10.047	47.993	37.116

Percent compositions of the Sand, Silt and Clay fractions for all grab samples.

Station ID	Position Latitude	Longitude	Total wt (g)	% Sand	% Silt	% Clay
2	60.616	-145.910	7.913	6.500	28.562	64.939
3	60.616	-145.901	4.858	37.660	30.672	31.668
4	60.616	-145.901	8.331	17.019	49.872	33.109
5	60.620	-145.922	4.745	23.432	31.926	44.642
9	60.620	-145.894	19.318	16.924	21.535	61.541
11	60.623	-145.936	12.146	13.111	19.719	67.170
12	60.623	-145.929	4.351	18.224	33.093	48.683
13	60.623	-145.922	11.312	3.571	18.608	77.821
14	60.623	-145.915	2.462	14.548	41.438	44.014
22	60.626	-145.937	12.289	27.793	4.760	67.446
23	60.626	-145.934	9.464	34.189	31.171	34.641
28	60.627	-145.902	6.666	18.485	39.982	41.533
40	60.626	-145.923	11.733	18.065	49.434	32.502
41	60.630	-145.915	10.135	24.932	42.919	32.149
42	60.630	-145.909	4.704	1.607	56.229	42.164
59	60.633	-145.923	10.324	11.389	60.586	28.025
60	60.633	-145.915	9.606	3.361	60.481	36.158
61	60.633	-145.908	7.271	1.267	62.582	36.152
76	60.637	-145.908	10.005	1.763	65.369	32.868
77	60.636	-145.901	7.067	1.753	69.050	29.196
78	60.637	-145.895	8.790	23.684	43.798	32.518
89	60.640	-145.922	6.723	14.645	56.002	29.353
90	60.640	-145.915	13.866	1.820	22.177	76.003
91	60.640	-145.909	7.636	2.589	61.877	35.534
93	60.640	-145.894	8.376	21.286	32.293	46.421
107	60.643	-145.926	10.883	27.191	36.664	36.144
108	60.643	-145.923	13.528	21.801	48.568	29.631
112	60.643	-145.894	6.129	0.986	51.234	47.781
113	60.643	-145.890	19.854	18.159	13.272	68.569
125	60.646	-145.919	6.223	45.305	21.615	33.080
128	60.646	-145.901	11.508	8.510	59.004	32.486
129	60.647	-145.894	9.298	1.071	45.816	53.112
132	60.647	-145.880	8.759	2.749	8.220	89.031
143	60.650	-145.915	12.928	25.445	28.891	45.664
145	60.650	-145.911	5.588	29.073	28.633	42.294
146	60.650	-145.894	8.385	7.467	52.299	40.234
197	60.681	-145.873	8.439	26.021	54.802	19.177
18	60.623	-145.887	4.749	8.046	13.898	78.056
19	60.623	-145.880	6.781	33.907	11.503	54.591
25	60.627	-145.922	5.285	10.939	26.301	62.760

26	60.627	-145.915	0.689	29.337	25.403	45.261
27	60.627	-145.908	6.578	16.590	29.492	53.918
28	60.627	-145.902	5.386	28.576	23.487	47.936
29	60.627	-145.894	2.309	19.790	15.810	64.400
30	60.627	-145.887	7.988	2.081	37.306	60.613
31	60.627	-145.880	7.706	2.256	45.097	52.647
32	60.626	-145.874	7.058	3.274	34.146	62.580
33	60.626	-145.866	2.966	12.770	30.686	56.544
34	60.626	-145.859	7.529	16.627	27.894	55.479
45	60.630	-145.891	2.938	45.811	18.383	35.806
47	60.630	-145.884	1.287	17.472	30.701	51.827
48	60.630	-145.880	7.520	2.036	40.426	57.538
49	60.630	-145.873	7.168	1.555	45.618	52.827
50	60.630	-145.866	6.104	4.946	39.894	55.160
51	60.630	-145.859	6.998	2.374	39.298	58.329
52	60.630	-145.852	2.017	31.985	31.484	36.531
53	60.630	-145.849	5.004	48.401	24.682	26.917
69	60.633	-145.859	6.316	18.588	30.558	50.853
70	60.633	-145.853	7.080	5.759	46.818	47.423
72	60.633	-145.838	3.199	33.986	34.073	31.941
72	60.633	-145.838	6.108	36.939	37.819	25.242
80	60.636	-145.873	6.108	5.100	51.733	43.167
81	60.637	-145.866	1.908	25.494	32.752	41.754
82	60.636	-145.859	0.925	34.948	29.727	35.326
83	60.636	-145.852	2.201	33.143	26.801	40.056
85	60.636	-145.838	1.782	14.768	33.118	52.113
86	60.637	-145.831	2.950	38.075	29.153	32.773
87	60.636	-145.828	1.680	39.491	10.712	49.798
95	60.638	-145.888	0.633	25.260	26.839	47.900
96	60.638	-145.884	1.985	37.179	8.817	54.003
99	60.640	-145.859	0.440	26.483	29.552	43.965
100	60.640	-145.852	2.281	14.804	44.715	40.480
101	60.640	-145.845	0.115	36.063	56.620	7.317
102	60.640	-145.842	3.076	20.280	39.018	40.702
103	60.640	-145.839	3.426	17.923	40.574	41.503
105	60.640	-145.824	12.554	86.006	8.961	5.033
115	60.641	-145.859	5.334	32.948	35.805	31.246
116	60.643	-145.852	6.384	22.513	48.637	28.850
117	60.643	-145.846	7.268	32.491	35.978	31.531
118	60.643	-145.842	6.104	26.330	48.329	25.341
119	60.643	-145.838	7.334	18.842	56.043	25.115
120	60.643	-145.832	5.365	49.085	27.957	22.958
121	60.643	-145.825	5.167	46.642	31.452	21.906
133	60.645	-145.845	5.669	28.177	45.685	26.138
134	60.645	-145.842	9.400	44.820	38.245	16.934
136	60.645	-145.824	5.655	36.037	6.101	57.862

137	60.646	-145.838	8.119	35.930	44.710	19.360
138	60.646	-145.835	11.148	61.906	27.717	10.376
147	60.650	-145.887	6.389	26.406	38.661	34.933
148	60.650	-145.880	5.940	60.745	17.760	21.494
149	60.653	-145.916	4.120	19.012	24.878	56.110
153	60.657	-145.901	6.330	0.760	41.865	57.375
170	60.666	-145.869	5.909	3.682	42.898	53.420
175	60.670	-145.873	7.361	4.477	54.202	41.321
176	60.670	-145.868	8.205	9.854	60.143	30.002
180	60.673	-145.880	4.461	5.483	18.492	76.025
181	60.673	-145.873	5.705	9.788	46.274	43.939
182	60.673	-145.866	4.779	18.139	40.388	41.472
183	60.673	-145.863	5.057	24.622	27.487	47.891
187	60.677	-145.873	5.973	6.711	53.494	39.795
188	60.677	-145.866	6.174	93.062	4.535	2.403
189	60.677	-145.859	4.291	7.314	36.941	55.745
198	60.678	-145.868	6.614	34.957	37.119	27.923
106A	60.640	-145.818	9.880	59.747	33.099	7.154
122A	60.643	-145.820	0.139	0.503	57.513	41.984
139A	60.648	-145.832	6.078	23.378	53.557	23.065
193A	60.678	-145.883	5.031	18.761	47.708	33.531
35A	60.627	-145.854	5.312	39.258	29.554	31.188
98a	60.639	-145.868	5.153	26.227	41.720	32.053
2	60.616	-145.908	7.365	6.626	26.477	66.897
3	60.616	-145.902	8.145	36.199	24.554	39.247
5	60.620	-145.923	7.898	18.370	9.053	72.576
8	60.620	-145.901	9.246	21.463	20.441	58.097
9	60.620	-145.895	10.152	33.643	26.940	39.418
11	60.623	-145.936	7.059	18.876	13.528	67.596
12	60.623	-145.930	10.550	5.857	46.636	47.507
14	60.623	-145.915	7.593	28.002	18.965	53.033
18	60.623	-145.888	9.145	6.102	14.981	78.917
22	60.626	-145.936	8.000	47.727	9.750	42.523
25	60.627	-145.922	10.305	4.450	42.987	52.563
26	60.627	-145.915	4.937	27.955	17.724	54.322
27	60.627	-145.908	9.277	8.191	34.765	57.044
28	60.626	-145.902	8.778	14.081	23.127	62.792
30	60.627	-145.888	8.597	1.979	2.443	95.579
31	60.626	-145.881	10.483	2.634	41.735	55.632
32	60.626	-145.874	7.979	14.439	36.973	48.588
33	60.626	-145.866	7.628	9.651	31.791	58.558
34	60.627	-145.860	8.923	14.023	34.405	51.572
35	60.627	-145.854	6.546	41.003	24.825	34.172
39	60.630	-145.929	9.563	69.968	7.163	22.868
39	60.630	-145.933	7.633	30.869	20.503	48.628
40	60.630	-145.922	9.708	22.212	30.541	47.247

41	60.630	-145.915	8.238	28.415	20.455	51.130
42	60.630	-145.908	7.835	3.105	40.459	56.436
43	60.630	-145.901	9.223	7.550	33.557	58.893
48	60.630	-145.881	8.392	1.139	43.670	55.190
49	60.630	-145.873	8.285	1.300	5.854	92.846
50	60.630	-145.866	7.923	0.832	33.701	65.468
51	60.630	-145.859	9.516	0.723	18.338	80.939
52	60.630	-145.852	10.171	22.850	31.905	45.245
52	60.630	-145.852	6.484	33.883	4.164	61.952
53	60.630	-145.849	10.645	54.233	16.910	28.857
54	60.630	-145.845	8.884	33.792	33.038	33.170
56	60.633	-145.937	14.137	87.078	6.296	6.627
58	60.633	-145.929	7.723	29.406	16.769	53.825
59	60.633	-145.922	8.058	7.586	33.507	58.907
60	60.633	-145.916	7.265	1.492	31.245	67.263
61	60.633	-145.909	4.733	3.193	13.839	82.968
62	60.633	-145.901	9.781	2.086	16.512	81.402
64	60.633	-145.887	8.148	17.076	33.504	49.420
66	60.633	-145.880	6.966	30.276	6.317	63.407
67	60.633	-145.873	8.075	1.399	42.416	56.185
68	60.633	-145.866	7.622	1.443	38.442	60.114
69	60.633	-145.859	7.605	2.210	41.355	56.435
70	60.633	-145.852	9.218	5.656	38.728	55.616
71	60.633	-145.845	8.623	12.654	31.544	55.803
72	60.633	-145.838	8.007	59.389	13.675	26.936
73	60.637	-145.929	7.258	48.584	22.734	28.683
74	60.636	-145.923	8.826	28.149	5.155	66.696
75	60.636	-145.916	10.032	1.252	16.447	82.301
76	60.636	-145.909	9.325	2.344	8.203	89.452
77	60.636	-145.902	9.332	1.132	6.322	92.546
78	60.636	-145.894	7.233	21.997	25.163	52.840
80	60.637	-145.873	7.723	6.557	44.800	48.643
81	60.636	-145.866	6.672	16.860	11.616	71.524
82	60.636	-145.860	5.329	21.332	14.075	64.592
84	60.636	-145.845	6.083	15.138	22.523	62.338
85	60.636	-145.838	8.588	10.723	9.665	79.612
86	60.637	-145.831	7.946	28.367	26.303	45.330
87	60.636	-145.828	6.699	38.694	21.347	39.959
88	60.640	-145.926	7.005	16.674	26.625	56.701
89	60.640	-145.922	9.927	11.487	38.783	49.731
90	60.640	-145.915	10.107	2.925	43.483	53.592
91	60.640	-145.908	8.532	1.172	39.851	58.977
92	60.640	-145.901	9.657	1.292	13.514	85.194
93	60.640	-145.894	9.447	21.599	2.276	76.125
95	60.638	-145.887	6.629	29.148	25.796	45.057
97	60.639	-145.880	9.971	24.260	19.407	56.333

99	60.640	-145.859	5.357	12.419	24.920	62.661
100	60.640	-145.853	7.519	10.606	2.859	86.535
102	60.640	-145.842	6.078	17.460	30.520	52.020
103	60.640	-145.838	4.507	13.539	5.880	80.581
105	60.640	-145.824	11.230	88.082	6.589	5.329
107	60.643	-145.926	6.683	36.756	8.454	54.790
108	60.643	-145.923	7.836	16.262	29.734	54.004
109	60.643	-145.915	9.774	10.256	36.217	53.526
110	60.643	-145.909	9.633	3.750	22.527	73.724
111	60.643	-145.902	8.745	0.717	43.342	55.941
112	60.643	-145.894	6.525	0.975	22.987	76.038
113	60.643	-145.890	8.842	31.612	1.244	67.144
115	60.643	-145.887	7.859	41.956	14.505	43.539
116	60.643	-145.852	5.105	32.287	16.748	50.965
118	60.643	-145.842	7.232	39.343	29.037	31.620
119	60.643	-145.838	6.897	26.826	33.638	39.536
120	60.643	-145.831	12.087	42.927	44.387	12.686
121	60.643	-145.824	7.965	58.986	20.339	20.675
124	60.647	-145.924	8.089	16.040	21.386	62.574
126	60.647	-145.915	8.475	11.131	28.849	60.020
127	60.646	-145.908	10.719	15.738	36.945	47.317
128	60.647	-145.902	8.527	10.030	42.453	47.517
129	60.646	-145.894	9.573	2.620	43.248	54.132
130	60.647	-145.887	5.907	22.855	3.894	73.251
131	60.646	-145.883	7.408	27.754	14.917	57.330
131	60.647	-145.884	7.381	24.583	21.879	53.537
133	60.645	-145.846	9.187	35.541	13.171	51.288
134	60.645	-145.842	9.786	42.708	32.290	25.002
137	60.647	-145.838	9.249	34.783	3.244	61.973
138	60.647	-145.835	9.589	65.132	20.232	14.636
139	60.648	-145.832	8.734	54.469	27.421	18.110
141	60.650	-145.923	9.935	23.128	27.128	49.744
142	60.650	-145.919	9.778	20.927	24.698	54.375
143	60.650	-145.915	8.252	22.477	22.966	54.557
144	60.650	-145.908	8.857	18.176	21.227	60.597
146	60.650	-145.894	8.632	5.732	37.015	57.252
147	60.650	-145.887	6.252	25.273	15.516	59.212
148	60.650	-145.880	6.972	52.997	16.783	30.220
149	60.653	-145.916	9.297	13.717	20.921	65.362
150	60.653	-145.908	8.161	1.823	26.836	71.340
151	60.653	-145.902	9.814	29.619	20.991	49.389
152	60.657	-145.908	8.435	8.691	29.342	61.966
154	60.656	-145.894	10.047	27.923	2.389	69.688
155	60.652	-145.891	8.349	28.535	1.018	70.447
157	60.660	-145.894	7.472	0.806	30.046	69.149
158	60.659	-145.883	8.664	0.607	35.202	64.191

158	60.660	-145.887	8.598	4.604	29.311	66.086
161	60.663	-145.887	8.940	0.544	34.730	64.726
162	60.663	-145.880	7.801	1.275	35.507	63.218
163	60.663	-145.873	4.433	9.508	31.805	58.688
164	60.665	-145.901	8.697	7.360	42.889	49.751
165	60.666	-145.901	7.818	8.390	33.066	58.544
167	60.666	-145.887	7.172	22.169	16.593	61.238
168	60.666	-145.880	8.091	1.290	38.437	60.273
169	60.666	-145.873	9.207	2.069	46.050	51.881
170	60.666	-145.870	6.643	20.714	16.860	62.425
171	60.670	-145.898	9.215	7.410	38.037	54.553
172	60.670	-145.894	6.735	24.621	33.408	41.972
173	60.670	-145.887	8.631	2.139	48.660	49.202
174	60.670	-145.880	8.011	9.231	27.461	63.308
177	60.673	-145.898	10.147	5.618	4.878	89.504
178	60.673	-145.892	9.855	16.468	42.112	41.420
179	60.673	-145.887	4.647	21.957	8.823	69.220
180	60.673	-145.880	10.924	3.456	9.108	87.435
181	60.673	-145.873	9.562	3.976	14.432	81.592
183	60.673	-145.863	6.383	18.979	38.381	42.639
185	60.677	-145.887	9.699	16.928	55.317	27.755
186	60.676	-145.880	11.052	10.405	51.757	37.839
187	60.677	-145.873	11.275	9.338	59.736	30.926
188	60.676	-145.866	10.813	87.715	6.150	6.135
189	60.676	-145.859	10.585	6.547	0.378	93.075
192	60.678	-145.856	11.181	5.536	22.986	71.478
194	60.680	-145.880	9.003	16.782	41.599	41.619
195	60.680	-145.873	12.212	35.049	29.479	35.472
196	60.681	-145.877	13.250	74.628	3.094	22.278
132A	60.646	-145.880	1.751	36.234	1.713	62.053
135A	60.645	-145.839	10.410	34.754	35.832	29.413
166A	60.667	-145.894	9.321	5.082	42.219	52.699
176A	60.670	-145.866	4.236	10.720	40.959	48.320
184A	60.676	-145.892	9.129	12.897	9.749	77.354
193A	60.678	-145.883	8.770	17.365	38.656	43.979
65A	60.633	-145.883	6.152	20.404	27.552	52.044
98B	60.641	-145.865	9.170	10.558	50.436	39.005

Percent compositions of the Gravel, Sand, and Mud fractions for all grab samples. Mud is considered the combination of the silt and clay percentages.

Station ID	Position Latitude	Longitude	Total wt (g)	% Gravel	% Sand	% Mud
2	60.616	-145.910	8.480	6.694	6.065	87.241
3	60.616	-145.901	20.241	76.000	9.038	14.962
4	60.616	-145.901	8.489	1.857	16.703	81.440
5	60.620	-145.922	12.559	62.214	8.854	28.932
9	60.620	-145.894	48.264	59.974	6.774	33.252
11	60.623	-145.936	16.381	25.852	9.722	64.426
12	60.623	-145.929	18.631	76.644	4.256	19.099
13	60.623	-145.922	21.813	48.139	1.852	50.009
14	60.623	-145.915	14.172	82.631	2.527	14.842
22	60.626	-145.937	13.757	10.672	24.827	64.501
23	60.626	-145.934	14.017	32.484	23.083	44.433
28	60.627	-145.902	8.705	23.425	14.155	62.421
40	60.626	-145.923	11.743	0.085	18.049	81.866
41	60.630	-145.915	12.846	21.103	19.670	59.226
42	60.630	-145.909	4.714	0.212	1.604	98.184
59	60.633	-145.923	10.356	0.302	11.354	88.343
60	60.633	-145.915	9.616	0.104	3.358	96.538
61	60.633	-145.908	7.281	0.137	1.265	98.598
76	60.637	-145.908	10.079	0.736	1.750	97.514
77	60.636	-145.901	7.207	1.942	1.719	96.338
78	60.637	-145.895	13.393	34.365	15.545	50.090
89	60.640	-145.922	6.871	2.147	14.331	83.522
90	60.640	-145.915	13.876	0.072	1.819	98.109
91	60.640	-145.909	7.646	0.131	2.586	97.284
93	60.640	-145.894	9.912	15.493	17.988	66.519
107	60.643	-145.926	17.508	37.842	16.902	45.256
108	60.643	-145.923	13.546	0.133	21.772	78.095
112	60.643	-145.894	6.139	0.163	0.984	98.853
113	60.643	-145.890	21.581	8.003	16.705	75.292
125	60.646	-145.919	8.021	22.425	35.145	42.430
128	60.646	-145.901	11.543	0.309	8.484	91.207
129	60.647	-145.894	9.308	0.107	1.070	98.823
132	60.647	-145.880	20.037	56.285	1.202	42.513
143	60.650	-145.915	14.174	8.792	23.208	68.000
145	60.650	-145.911	18.322	69.501	8.867	21.632
146	60.650	-145.894	8.572	2.185	7.304	90.511
197	60.681	-145.873	8.474	0.413	25.913	73.674
18	60.623	-145.887	4.794	0.949	7.970	91.081
19	60.623	-145.880	8.000	15.233	28.741	56.025
25	60.627	-145.922	5.287	0.042	10.934	89.024
26	60.627	-145.915	18.600	96.296	1.087	2.617
27	60.627	-145.908	6.964	5.545	15.670	78.785

28	60.627	-145.902	9.303	42.105	16.544	41.351
29	60.627	-145.894	14.916	84.522	3.063	12.415
30	60.627	-145.887	8.001	0.161	2.077	97.762
31	60.627	-145.880	7.707	0.014	2.255	97.731
32	60.626	-145.874	7.068	0.141	3.270	96.589
33	60.626	-145.866	10.762	72.444	3.519	24.037
34	60.626	-145.859	9.709	22.456	12.893	64.651
45	60.630	-145.891	11.755	75.011	11.448	13.541
47	60.630	-145.884	14.807	91.311	1.518	7.171
48	60.630	-145.880	7.680	2.081	1.994	95.926
49	60.630	-145.873	7.170	0.024	1.555	98.421
50	60.630	-145.866	6.164	0.975	4.898	94.127
51	60.630	-145.859	7.004	0.080	2.372	97.548
52	60.630	-145.852	14.600	86.185	4.419	9.396
53	60.630	-145.849	7.831	36.101	30.928	32.971
69	60.633	-145.859	6.338	0.353	18.523	81.124
70	60.633	-145.853	7.236	2.160	5.634	92.205
72	60.633	-145.838	6.088	47.457	17.857	34.686
72	60.633	-145.838	6.392	4.437	35.300	60.263
80	60.636	-145.873	6.345	3.732	4.909	91.359
81	60.637	-145.866	15.233	87.473	3.194	9.334
82	60.636	-145.859	18.494	94.998	1.748	3.254
83	60.636	-145.852	16.866	86.948	4.326	8.726
85	60.636	-145.838	10.358	82.800	2.540	14.660
86	60.637	-145.831	14.792	80.057	7.593	12.350
87	60.636	-145.828	8.698	80.681	7.629	11.690
95	60.638	-145.888	14.338	95.582	1.116	3.302
96	60.638	-145.884	14.943	86.718	4.938	8.344
99	60.640	-145.859	16.389	97.316	0.711	1.973
100	60.640	-145.852	10.955	79.177	3.083	17.741
101	60.640	-145.845	18.076	99.365	0.229	0.406
102	60.640	-145.842	14.609	78.948	4.269	16.782
103	60.640	-145.839	11.481	70.160	5.348	24.492
105	60.640	-145.824	12.577	0.179	85.852	13.969
115	60.641	-145.859	7.875	32.260	22.319	45.421
116	60.643	-145.852	6.494	1.689	22.132	76.178
117	60.643	-145.846	8.913	18.451	26.496	55.053
118	60.643	-145.842	6.117	0.208	26.276	73.517
119	60.643	-145.838	8.041	8.793	17.185	74.022
120	60.643	-145.832	12.001	55.292	21.945	22.763
121	60.643	-145.825	6.860	24.681	35.130	40.189
133	60.645	-145.845	7.839	27.680	20.378	51.943
134	60.645	-145.842	9.424	0.259	44.704	55.037
136	60.645	-145.824	5.822	2.884	34.998	62.119
137	60.646	-145.838	8.140	0.260	35.836	63.903
138	60.646	-145.835	11.158	0.090	61.851	38.060
147	60.650	-145.887	6.464	1.165	26.098	72.737
148	60.650	-145.880	13.098	54.649	27.549	17.802
149	60.653	-145.916	11.557	64.348	6.778	28.874

153	60.657	-145.901	6.340	0.158	0.759	99.084
170	60.666	-145.869	7.571	21.949	2.874	75.177
175	60.670	-145.873	7.362	0.010	4.477	95.514
176	60.670	-145.868	9.243	11.225	8.748	80.027
180	60.673	-145.880	4.471	0.224	5.470	94.306
181	60.673	-145.873	5.715	0.168	9.771	90.061
182	60.673	-145.866	4.780	0.021	18.135	81.844
183	60.673	-145.863	5.129	1.404	24.276	74.320
187	60.677	-145.873	5.973	0.005	6.710	93.285
188	60.677	-145.866	17.372	64.457	33.077	2.466
189	60.677	-145.859	4.292	0.037	7.311	92.652
198	60.678	-145.868	6.616	0.027	34.948	65.025
106A	60.640	-145.818	9.998	1.183	59.040	39.776
122A	60.643	-145.820	17.608	99.210	0.004	0.786
139A	60.648	-145.832	6.107	0.477	23.266	76.257
193A	60.678	-145.883	8.004	37.151	11.791	51.058
35A	60.627	-145.854	5.390	1.438	38.693	59.869
98a	60.639	-145.868	5.569	7.459	24.271	68.270
2	60.616	-145.908	7.375	0.136	6.617	93.247
3	60.616	-145.902	8.252	1.298	35.729	62.973
5	60.620	-145.923	9.605	17.777	15.104	67.119
8	60.620	-145.901	10.076	8.235	19.695	72.070
9	60.620	-145.895	10.710	5.206	31.891	62.903
11	60.623	-145.936	8.644	18.330	15.416	66.254
12	60.623	-145.930	12.132	13.042	5.093	81.865
14	60.623	-145.915	7.790	2.525	27.295	70.180
18	60.623	-145.888	9.323	1.914	5.985	92.101
22	60.626	-145.936	8.822	9.318	43.280	47.402
25	60.627	-145.922	10.306	0.005	4.450	95.545
26	60.627	-145.915	12.487	60.463	11.052	28.484
27	60.627	-145.908	9.587	3.239	7.926	88.835
28	60.626	-145.902	9.368	6.302	13.194	80.504
30	60.627	-145.888	8.613	0.187	1.975	97.838
31	60.626	-145.881	10.487	0.040	2.633	97.327
32	60.626	-145.874	9.491	15.933	12.139	71.928
33	60.626	-145.866	8.774	13.061	8.391	78.548
34	60.627	-145.860	9.531	6.382	13.128	80.490
35	60.627	-145.854	10.643	38.498	25.218	36.284
39	60.630	-145.929	11.574	17.382	57.807	24.812
39	60.630	-145.933	10.016	23.790	23.525	52.685
40	60.630	-145.922	10.010	3.012	21.543	75.445
41	60.630	-145.915	8.474	2.786	27.623	69.590
42	60.630	-145.908	7.867	0.405	3.093	96.502
43	60.630	-145.901	9.429	2.183	7.385	90.433
48	60.630	-145.881	8.402	0.119	1.138	98.743
49	60.630	-145.873	8.295	0.121	1.298	98.581
50	60.630	-145.866	7.933	0.126	0.831	99.043
51	60.630	-145.859	9.526	0.105	0.722	99.173
52	60.630	-145.852	12.713	19.998	18.280	61.722

52	60.630	-145.852	7.100	8.683	30.941	60.376
53	60.630	-145.849	12.520	14.975	46.112	38.913
54	60.630	-145.845	9.341	4.896	32.138	62.967
56	60.633	-145.937	14.142	0.040	87.043	12.917
58	60.633	-145.929	8.739	11.626	25.988	62.386
59	60.633	-145.922	8.068	0.124	7.577	92.299
60	60.633	-145.916	7.275	0.137	1.490	98.373
61	60.633	-145.909	4.734	0.013	3.192	96.795
62	60.633	-145.901	9.808	0.280	2.080	97.640
64	60.633	-145.887	8.864	8.072	15.698	76.230
66	60.633	-145.880	13.659	49.000	15.441	35.559
67	60.633	-145.873	8.076	0.014	1.399	98.587
68	60.633	-145.866	7.665	0.558	1.435	98.006
69	60.633	-145.859	8.089	5.988	2.078	91.934
70	60.633	-145.852	9.283	0.698	5.617	93.685
71	60.633	-145.845	9.352	7.793	11.667	80.539
72	60.633	-145.838	9.024	11.264	52.700	36.037
73	60.637	-145.929	10.275	29.359	34.320	36.321
74	60.636	-145.923	10.754	17.925	23.103	58.972
75	60.636	-145.916	10.033	0.002	1.252	98.746
76	60.636	-145.909	9.328	0.024	2.344	97.633
77	60.636	-145.902	9.345	0.129	1.130	98.740
78	60.636	-145.894	8.481	14.720	18.759	66.521
80	60.637	-145.873	7.733	0.129	6.548	93.322
81	60.636	-145.866	9.386	28.917	11.984	59.098
82	60.636	-145.860	6.911	22.901	16.447	60.652
84	60.636	-145.845	6.960	12.608	13.230	74.163
85	60.636	-145.838	9.221	6.868	9.987	83.145
86	60.637	-145.831	9.832	19.185	22.925	57.890
87	60.636	-145.828	9.433	28.985	27.479	43.536
88	60.640	-145.926	10.189	31.251	11.463	57.286
89	60.640	-145.922	10.174	2.423	11.208	86.369
90	60.640	-145.915	10.442	3.207	2.831	93.962
91	60.640	-145.908	8.556	0.286	1.169	98.545
92	60.640	-145.901	9.667	0.103	1.291	98.606
93	60.640	-145.894	11.014	14.225	18.526	67.249
95	60.638	-145.887	9.758	32.069	19.800	48.131
97	60.639	-145.880	10.325	3.435	23.427	73.138
99	60.640	-145.859	5.461	1.894	12.184	85.923
100	60.640	-145.853	7.674	2.018	10.392	87.590
102	60.640	-145.842	8.645	29.693	12.275	58.031
103	60.640	-145.838	12.911	65.092	4.726	30.182
105	60.640	-145.824	11.268	0.332	87.790	11.878
107	60.643	-145.926	8.971	25.504	27.381	47.114
108	60.643	-145.923	8.839	11.342	14.417	74.240
109	60.643	-145.915	9.976	2.021	10.049	87.930
110	60.643	-145.909	9.643	0.104	3.746	96.151
111	60.643	-145.902	8.755	0.114	0.716	99.170
112	60.643	-145.894	6.535	0.153	0.973	98.874

113	60.643	-145.890	9.810	9.869	28.492	61.639
115	60.643	-145.887	9.752	19.413	33.811	46.776
116	60.643	-145.852	5.245	2.660	31.429	65.912
118	60.643	-145.842	8.045	10.103	35.368	54.529
119	60.643	-145.838	7.369	6.410	25.107	68.483
120	60.643	-145.831	13.582	11.007	38.202	50.791
121	60.643	-145.824	9.162	13.067	51.278	35.655
124	60.647	-145.924	8.489	4.710	15.284	80.006
126	60.647	-145.915	11.732	27.761	8.041	64.198
127	60.646	-145.908	11.190	4.211	15.075	80.714
128	60.647	-145.902	8.565	0.437	9.987	89.577
129	60.646	-145.894	9.577	0.047	2.619	97.334
130	60.647	-145.887	11.395	48.161	11.848	39.991
131	60.646	-145.883	9.453	21.634	21.749	56.617
131	60.647	-145.884	8.082	8.670	22.452	68.878
133	60.645	-145.846	9.596	4.260	34.027	61.713
134	60.645	-145.842	9.813	0.271	42.592	57.136
137	60.647	-145.838	10.098	8.411	31.857	59.731
138	60.647	-145.835	9.589	0.002	65.131	34.867
139	60.648	-145.832	10.096	13.491	47.121	39.388
141	60.650	-145.923	10.479	5.192	21.928	72.880
142	60.650	-145.919	10.328	5.327	19.813	74.860
143	60.650	-145.915	10.429	20.877	17.785	61.338
144	60.650	-145.908	10.288	13.916	15.647	70.437
146	60.650	-145.894	9.413	8.304	5.256	86.439
147	60.650	-145.887	8.516	26.589	18.553	54.858
148	60.650	-145.880	14.897	53.201	24.802	21.997
149	60.653	-145.916	9.725	4.401	13.113	82.486
150	60.653	-145.908	8.161	0.002	1.823	98.174
151	60.653	-145.902	10.581	7.255	27.470	65.274
152	60.657	-145.908	9.281	9.118	7.899	82.983
154	60.656	-145.894	10.366	3.077	27.064	69.859
155	60.652	-145.891	8.809	5.219	27.046	67.735
157	60.660	-145.894	7.473	0.013	0.806	99.181
158	60.659	-145.883	8.672	0.092	0.607	99.301
158	60.660	-145.887	9.024	4.724	4.386	90.890
161	60.663	-145.887	8.950	0.112	0.543	99.345
162	60.663	-145.880	7.811	0.128	1.274	98.598
163	60.663	-145.873	11.532	61.557	3.655	34.788
164	60.665	-145.901	8.815	1.335	7.262	91.403
165	60.666	-145.901	7.941	1.555	8.259	90.185
167	60.666	-145.887	9.687	25.966	16.413	57.622
168	60.666	-145.880	8.101	0.123	1.289	98.588
169	60.666	-145.873	9.217	0.108	2.067	97.825
170	60.666	-145.870	8.651	23.212	15.906	60.882
171	60.670	-145.898	9.295	0.867	7.346	91.787
172	60.670	-145.894	12.490	46.075	13.277	40.649
173	60.670	-145.887	8.641	0.116	2.136	97.748
174	60.670	-145.880	8.330	3.822	8.878	87.300

177	60.673	-145.898	10.154	0.075	5.613	94.312
178	60.673	-145.892	10.296	4.289	15.762	79.949
179	60.673	-145.887	4.907	5.300	20.794	73.906
180	60.673	-145.880	10.934	0.091	3.453	96.455
181	60.673	-145.873	9.922	3.628	3.832	92.540
183	60.673	-145.863	6.470	1.335	18.726	79.939
185	60.677	-145.887	9.709	0.103	16.911	82.986
186	60.676	-145.880	11.062	0.090	10.395	89.514
187	60.677	-145.873	11.276	0.015	9.336	90.649
188	60.676	-145.866	15.871	31.870	59.760	8.370
189	60.676	-145.859	10.629	0.414	6.520	93.066
192	60.678	-145.856	11.251	0.624	5.502	93.874
194	60.680	-145.880	9.618	6.394	15.709	77.898
195	60.680	-145.873	12.284	0.585	34.844	64.571
196	60.681	-145.877	13.347	0.725	74.087	25.189
132A	60.646	-145.880	17.421	89.947	3.643	6.411
135A	60.645	-145.839	11.006	5.419	32.871	61.710
166A	60.667	-145.894	9.526	2.159	4.973	92.868
176A	60.670	-145.866	12.000	64.700	3.784	31.516
184A	60.676	-145.892	10.907	16.302	10.795	72.903
193A	60.678	-145.883	9.021	2.792	16.880	80.328
65A	60.633	-145.883	8.038	23.460	15.617	60.922
98B	60.641	-145.865	9.637	4.844	10.047	85.109

Percent compositions of the Coarse, Silt, and Clay fractions for all grab samples. Coarse is considered the combination of the gravel and sand percentages.

Station ID	Position Latitude	Longitude	Total wt (g)	% Coarse	% Silt	% Clay
2	60.616	-145.910	8.480	12.759	26.650	60.591
3	60.616	-145.901	20.241	85.038	7.361	7.600
4	60.616	-145.901	8.489	18.560	48.946	32.494
5	60.620	-145.922	12.559	71.068	12.064	16.868
9	60.620	-145.894	48.264	66.748	8.619	24.632
11	60.623	-145.936	16.381	35.574	14.621	49.805
12	60.623	-145.929	18.631	80.901	7.729	11.370
13	60.623	-145.922	21.813	49.991	9.650	40.359
14	60.623	-145.915	14.172	85.158	7.197	7.645
22	60.626	-145.937	13.757	35.499	4.252	60.248
23	60.626	-145.934	14.017	55.567	21.045	23.388
28	60.627	-145.902	8.705	37.579	30.616	31.804
40	60.626	-145.923	11.743	18.134	49.392	32.474
41	60.630	-145.915	12.846	40.774	33.862	25.365
42	60.630	-145.909	4.714	1.816	56.109	42.075
59	60.633	-145.923	10.356	11.657	60.403	27.941
60	60.633	-145.915	9.616	3.462	60.418	36.120
61	60.633	-145.908	7.281	1.402	62.496	36.102
76	60.637	-145.908	10.079	2.486	64.887	32.626
77	60.636	-145.901	7.207	3.662	67.709	28.629
78	60.637	-145.895	13.393	49.910	28.747	21.343
89	60.640	-145.922	6.871	16.478	54.800	28.723
90	60.640	-145.915	13.876	1.891	22.161	75.948
91	60.640	-145.909	7.646	2.716	61.796	35.487
93	60.640	-145.894	9.912	33.481	27.290	39.229
107	60.643	-145.926	17.508	54.744	22.790	22.467
108	60.643	-145.923	13.546	21.905	48.503	29.592
112	60.643	-145.894	6.139	1.147	51.150	47.703
113	60.643	-145.890	21.581	24.708	12.210	63.082
125	60.646	-145.919	8.021	57.570	16.768	25.662
128	60.646	-145.901	11.543	8.793	58.821	32.386
129	60.647	-145.894	9.308	1.177	45.767	53.055
132	60.647	-145.880	20.037	57.487	3.593	38.920
143	60.650	-145.915	14.174	32.000	26.351	41.649
145	60.650	-145.911	18.322	78.368	8.733	12.899
146	60.650	-145.894	8.572	9.489	51.156	39.355
197	60.681	-145.873	8.474	26.326	54.576	19.098
18	60.623	-145.887	4.794	8.919	13.766	77.315
19	60.623	-145.880	8.000	43.975	9.750	46.275
25	60.627	-145.922	5.287	10.976	26.290	62.734
26	60.627	-145.915	18.600	97.383	0.941	1.676
27	60.627	-145.908	6.964	21.215	27.856	50.928

28	60.627	-145.902	9.303	58.649	13.598	27.753
29	60.627	-145.894	14.916	87.585	2.447	9.968
30	60.627	-145.887	8.001	2.238	37.246	60.516
31	60.627	-145.880	7.707	2.269	45.091	52.640
32	60.626	-145.874	7.068	3.411	34.098	62.491
33	60.626	-145.866	10.762	75.963	8.456	15.581
34	60.626	-145.859	9.709	35.349	21.630	43.021
45	60.630	-145.891	11.755	86.459	4.594	8.948
47	60.630	-145.884	14.807	92.829	2.668	4.503
48	60.630	-145.880	7.680	4.074	39.585	56.341
49	60.630	-145.873	7.170	1.579	45.607	52.815
50	60.630	-145.866	6.164	5.873	39.505	54.622
51	60.630	-145.859	7.004	2.452	39.266	58.282
52	60.630	-145.852	14.600	90.604	4.349	5.047
53	60.630	-145.849	7.831	67.029	15.772	17.199
69	60.633	-145.859	6.338	18.876	30.450	50.674
70	60.633	-145.853	7.236	7.795	45.807	46.398
72	60.633	-145.838	6.088	65.314	17.903	16.783
72	60.633	-145.838	6.392	39.737	36.141	24.122
80	60.636	-145.873	6.345	8.641	49.802	41.556
81	60.637	-145.866	15.233	90.666	4.103	5.231
82	60.636	-145.859	18.494	96.746	1.487	1.767
83	60.636	-145.852	16.866	91.274	3.498	5.228
85	60.636	-145.838	10.358	85.340	5.696	8.963
86	60.637	-145.831	14.792	87.650	5.814	6.536
87	60.636	-145.828	8.698	88.310	2.069	9.621
95	60.638	-145.888	14.338	96.698	1.186	2.116
96	60.638	-145.884	14.943	91.656	1.171	7.173
99	60.640	-145.859	16.389	98.027	0.793	1.180
100	60.640	-145.852	10.955	82.259	9.311	8.429
101	60.640	-145.845	18.076	99.594	0.360	0.046
102	60.640	-145.842	14.609	83.218	8.214	8.569
103	60.640	-145.839	11.481	75.508	12.107	12.384
105	60.640	-145.824	12.577	86.031	8.945	5.024
115	60.641	-145.859	7.875	54.579	24.255	21.166
116	60.643	-145.852	6.494	23.822	47.816	28.363
117	60.643	-145.846	8.913	44.947	29.339	25.713
118	60.643	-145.842	6.117	26.483	48.229	25.288
119	60.643	-145.838	8.041	25.978	51.116	22.906
120	60.643	-145.832	12.001	77.237	12.499	10.264
121	60.643	-145.825	6.860	59.811	23.689	16.500
133	60.645	-145.845	7.839	48.057	33.040	18.903
134	60.645	-145.842	9.424	44.963	38.146	16.891
136	60.645	-145.824	5.822	37.881	5.925	56.193
137	60.646	-145.838	8.140	36.097	44.594	19.309
138	60.646	-145.835	11.158	61.940	27.692	10.367
147	60.650	-145.887	6.464	27.263	38.211	34.526
148	60.650	-145.880	13.098	82.198	8.055	9.748
149	60.653	-145.916	11.557	71.126	8.869	20.004

153	60.657	-145.901	6.340	0.916	41.799	57.285
170	60.666	-145.869	7.571	24.823	33.482	41.695
175	60.670	-145.873	7.362	4.486	54.196	41.317
176	60.670	-145.868	9.243	19.973	53.392	26.634
180	60.673	-145.880	4.471	5.694	18.451	75.855
181	60.673	-145.873	5.715	9.939	46.196	43.865
182	60.673	-145.866	4.780	18.156	40.380	41.464
183	60.673	-145.863	5.129	25.680	27.101	47.219
187	60.677	-145.873	5.973	6.715	53.492	39.793
188	60.677	-145.866	17.372	97.534	1.612	0.854
189	60.677	-145.859	4.292	7.348	36.927	55.724
198	60.678	-145.868	6.616	34.975	37.109	27.916
106A	60.640	-145.818	9.998	60.224	32.707	7.069
122A	60.643	-145.820	17.608	99.214	0.454	0.332
139A	60.648	-145.832	6.107	23.743	53.302	22.955
193A	60.678	-145.883	8.004	48.942	29.984	21.074
35A	60.627	-145.854	5.390	40.131	29.129	30.740
98a	60.639	-145.868	5.569	31.730	38.608	29.662
2	60.616	-145.908	7.375	6.753	26.441	66.806
3	60.616	-145.902	8.252	37.027	24.235	38.738
5	60.620	-145.923	9.605	32.881	7.444	59.675
8	60.620	-145.901	10.076	27.930	18.757	53.312
9	60.620	-145.895	10.710	37.097	25.537	37.365
11	60.623	-145.936	8.644	33.746	11.049	55.206
12	60.623	-145.930	12.132	18.135	40.554	41.311
14	60.623	-145.915	7.790	29.820	18.486	51.694
18	60.623	-145.888	9.323	7.899	14.695	77.407
22	60.626	-145.936	8.822	52.598	8.842	38.561
25	60.627	-145.922	10.306	4.455	42.985	52.560
26	60.627	-145.915	12.487	71.516	7.007	21.477
27	60.627	-145.908	9.587	11.165	33.639	55.197
28	60.626	-145.902	9.368	19.496	21.669	58.835
30	60.627	-145.888	8.613	2.162	2.438	95.400
31	60.626	-145.881	10.487	2.673	41.718	55.609
32	60.626	-145.874	9.491	28.072	31.082	40.847
33	60.626	-145.866	8.774	21.452	27.638	50.910
34	60.627	-145.860	9.531	19.510	32.209	48.280
35	60.627	-145.854	10.643	63.716	15.268	21.016
39	60.630	-145.929	11.574	75.188	5.918	18.894
39	60.630	-145.933	10.016	47.315	15.625	37.059
40	60.630	-145.922	10.010	24.555	29.621	45.824
41	60.630	-145.915	8.474	30.410	19.885	49.705
42	60.630	-145.908	7.867	3.498	40.295	56.207
43	60.630	-145.901	9.429	9.567	32.825	57.608
48	60.630	-145.881	8.402	1.257	43.618	55.125
49	60.630	-145.873	8.295	1.419	5.847	92.734
50	60.630	-145.866	7.933	0.957	33.658	65.385
51	60.630	-145.859	9.526	0.827	18.319	80.854
52	60.630	-145.852	12.713	38.278	25.525	36.197

52	60.630	-145.852	7.100	39.624	3.803	56.573
53	60.630	-145.849	12.520	61.087	14.377	24.536
54	60.630	-145.845	9.341	37.033	31.420	31.547
56	60.633	-145.937	14.142	87.083	6.293	6.624
58	60.633	-145.929	8.739	37.614	14.819	47.567
59	60.633	-145.922	8.068	7.701	33.465	58.834
60	60.633	-145.916	7.275	1.627	31.202	67.171
61	60.633	-145.909	4.734	3.205	13.838	82.958
62	60.633	-145.901	9.808	2.360	16.466	81.174
64	60.633	-145.887	8.864	23.770	30.800	45.430
66	60.633	-145.880	13.659	64.441	3.221	32.337
67	60.633	-145.873	8.076	1.413	42.410	56.177
68	60.633	-145.866	7.665	1.994	38.228	59.779
69	60.633	-145.859	8.089	8.066	38.879	53.055
70	60.633	-145.852	9.283	6.315	38.457	55.228
71	60.633	-145.845	9.352	19.461	29.086	51.454
72	60.633	-145.838	9.024	63.963	12.135	23.902
73	60.637	-145.929	10.275	63.679	16.059	20.262
74	60.636	-145.923	10.754	41.028	4.231	54.741
75	60.636	-145.916	10.033	1.254	16.446	82.300
76	60.636	-145.909	9.328	2.367	8.201	89.431
77	60.636	-145.902	9.345	1.260	6.314	92.427
78	60.636	-145.894	8.481	33.479	21.459	45.062
80	60.637	-145.873	7.733	6.678	44.742	48.580
81	60.636	-145.866	9.386	40.902	8.257	50.841
82	60.636	-145.860	6.911	39.348	10.852	49.800
84	60.636	-145.845	6.960	25.837	19.684	54.479
85	60.636	-145.838	9.221	16.855	9.001	74.144
86	60.637	-145.831	9.832	42.110	21.257	36.633
87	60.636	-145.828	9.433	56.464	15.159	28.377
88	60.640	-145.926	10.189	42.714	18.304	38.982
89	60.640	-145.922	10.174	13.631	37.843	48.526
90	60.640	-145.915	10.442	6.038	42.088	51.874
91	60.640	-145.908	8.556	1.455	39.737	58.808
92	60.640	-145.901	9.667	1.394	13.500	85.105
93	60.640	-145.894	11.014	32.751	1.952	65.297
95	60.638	-145.887	9.758	51.869	17.523	30.607
97	60.639	-145.880	10.325	26.862	18.740	54.398
99	60.640	-145.859	5.461	14.077	24.448	61.474
100	60.640	-145.853	7.674	12.410	2.802	84.788
102	60.640	-145.842	8.645	41.969	21.457	36.574
103	60.640	-145.838	12.911	69.818	2.053	28.130
105	60.640	-145.824	11.268	88.122	6.568	5.311
107	60.643	-145.926	8.971	52.886	6.298	40.816
108	60.643	-145.923	8.839	25.760	26.362	47.879
109	60.643	-145.915	9.976	12.070	35.486	52.444
110	60.643	-145.909	9.643	3.849	22.503	73.647
111	60.643	-145.902	8.755	0.830	43.292	55.878
112	60.643	-145.894	6.535	1.126	22.952	75.922

113	60.643	-145.890	9.810	38.361	1.121	60.517
115	60.643	-145.887	9.752	53.224	11.689	35.087
116	60.643	-145.852	5.245	34.088	16.302	49.609
118	60.643	-145.842	8.045	45.471	26.103	28.425
119	60.643	-145.838	7.369	31.517	31.482	37.002
120	60.643	-145.831	13.582	49.209	39.501	11.290
121	60.643	-145.824	9.162	64.345	17.681	17.974
124	60.647	-145.924	8.489	19.994	20.379	59.627
126	60.647	-145.915	11.732	35.802	20.840	43.358
127	60.646	-145.908	11.190	19.286	35.389	45.325
128	60.647	-145.902	8.565	10.423	42.267	47.309
129	60.646	-145.894	9.577	2.666	43.228	54.106
130	60.647	-145.887	11.395	60.009	2.019	37.973
131	60.646	-145.883	9.453	43.383	11.690	44.927
131	60.647	-145.884	8.082	31.122	19.982	48.896
133	60.645	-145.846	9.596	38.287	12.610	49.103
134	60.645	-145.842	9.813	42.864	32.202	24.934
137	60.647	-145.838	10.098	40.269	2.971	56.761
138	60.647	-145.835	9.589	65.133	20.232	14.636
139	60.648	-145.832	10.096	60.612	23.721	15.667
141	60.650	-145.923	10.479	27.120	25.719	47.161
142	60.650	-145.919	10.328	25.140	23.382	51.478
143	60.650	-145.915	10.429	38.662	18.171	43.167
144	60.650	-145.908	10.288	29.563	18.273	52.164
146	60.650	-145.894	9.413	13.561	33.941	52.498
147	60.650	-145.887	8.516	45.142	11.390	43.468
148	60.650	-145.880	14.897	78.003	7.854	14.143
149	60.653	-145.916	9.725	17.514	20.000	62.486
150	60.653	-145.908	8.161	1.826	26.836	71.339
151	60.653	-145.902	10.581	34.726	19.468	45.806
152	60.657	-145.908	9.281	17.017	26.667	56.316
154	60.656	-145.894	10.366	30.141	2.315	67.544
155	60.652	-145.891	8.809	32.265	0.965	66.770
157	60.660	-145.894	7.473	0.819	30.041	69.140
158	60.659	-145.883	8.672	0.699	35.169	64.132
158	60.660	-145.887	9.024	9.110	27.926	62.964
161	60.663	-145.887	8.950	0.655	34.691	64.654
162	60.663	-145.880	7.811	1.402	35.461	63.137
163	60.663	-145.873	11.532	65.212	12.227	22.561
164	60.665	-145.901	8.815	8.597	42.316	49.087
165	60.666	-145.901	7.941	9.815	32.552	57.634
167	60.666	-145.887	9.687	42.378	12.285	45.337
168	60.666	-145.880	8.101	1.412	38.389	60.198
169	60.666	-145.873	9.217	2.175	46.000	51.824
170	60.666	-145.870	8.651	39.118	12.947	47.935
171	60.670	-145.898	9.295	8.213	37.708	54.080
172	60.670	-145.894	12.490	59.351	18.015	22.633
173	60.670	-145.887	8.641	2.252	48.603	49.145
174	60.670	-145.880	8.330	12.700	26.412	60.888

177	60.673	-145.898	10.154	5.688	4.875	89.437
178	60.673	-145.892	10.296	20.051	40.306	39.643
179	60.673	-145.887	4.907	26.094	8.355	65.551
180	60.673	-145.880	10.934	3.545	9.100	87.356
181	60.673	-145.873	9.922	7.460	13.908	78.631
183	60.673	-145.863	6.470	20.061	37.869	42.070
185	60.677	-145.887	9.709	17.014	55.260	27.726
186	60.676	-145.880	11.062	10.486	51.710	37.804
187	60.677	-145.873	11.276	9.351	59.727	30.921
188	60.676	-145.866	15.871	91.630	4.190	4.180
189	60.676	-145.859	10.629	6.934	0.376	92.690
192	60.678	-145.856	11.251	6.126	22.842	71.032
194	60.680	-145.880	9.618	22.102	38.939	38.958
195	60.680	-145.873	12.284	35.429	29.307	35.264
196	60.681	-145.877	13.347	74.811	3.072	22.117
132A	60.646	-145.880	17.421	93.589	0.172	6.238
135A	60.645	-145.839	11.006	38.290	33.891	27.819
166A	60.667	-145.894	9.526	7.132	41.307	51.561
176A	60.670	-145.866	12.000	68.484	14.459	17.057
184A	60.676	-145.892	10.907	27.097	8.160	64.744
193A	60.678	-145.883	9.021	19.672	37.577	42.751
65A	60.633	-145.883	8.038	39.078	21.088	39.834
98B	60.641	-145.865	9.637	14.891	47.993	37.116

APPENDIX B

Data generated using the Shepard's Classification Scheme of grab samples taken in Simpson Bay. The numbers used in the columns were designed to weight the sample based on sediment texture and was used in GIS to contour the distribution of the sediment types.

This data represents the distribution of sediment textures of grab samples based on their sand silt and clay percentages.

Station ID	Position		Data for Shepard's Diagram									
	Latitude	Longitude	1	2	3	4	5	6	7	8	9	10
			Sand	Silty Sand	Sand Silt Clay	Clayey Sand	Sandy Silt	Silt	Clayey Silt	Sandy Clay	Silty Clay	Clay
2	60.616	-145.910	0	0	0	0	0	0	0	0	9	0
3	60.616	-145.901	0	0	3	0	0	0	0	0	0	0
3	60.616	-145.901	0	0	0	0	0	0	7	0	0	0
5	60.620	-145.922	0	0	3	0	0	0	0	0	0	0
9	60.620	-145.894	0	0	0	0	0	0	0	0	9	0
11	60.623	-145.936	0	0	0	0	0	0	0	0	9	0
12	60.623	-145.929	0	0	0	0	0	0	0	0	9	0
13	60.623	-145.922	0	0	0	0	0	0	0	0	0	10
14	60.623	-145.915	0	0	0	0	0	0	0	0	9	0
22	60.626	-145.937	0	0	0	0	0	0	0	8	0	0
23	60.626	-145.934	0	0	3	0	0	0	0	0	0	0
28	60.627	-145.902	0	0	0	0	0	0	0	0	9	0
40	60.626	-145.923	0	0	0	0	0	0	7	0	0	0
41	60.630	-145.915	0	0	3	0	0	0	0	0	0	0
42	60.630	-145.909	0	0	0	0	0	0	7	0	0	0
59	60.633	-145.923	0	0	0	0	0	0	7	0	0	0
60	60.633	-145.915	0	0	0	0	0	0	7	0	0	0
61	60.633	-145.908	0	0	0	0	0	0	7	0	0	0
76	60.637	-145.908	0	0	0	0	0	0	7	0	0	0
77	60.636	-145.901	0	0	0	0	0	0	7	0	0	0
78	60.637	-145.895	0	0	3	0	0	0	0	0	0	0
89	60.640	-145.922	0	0	0	0	0	0	7	0	0	0
90	60.640	-145.915	0	0	0	0	0	0	0	0	0	10
91	60.640	-145.909	0	0	0	0	0	0	7	0	0	0
93	60.640	-145.894	0	0	3	0	0	0	0	0	0	0
107	60.643	-145.926	0	0	3	0	0	0	0	0	0	0
108	60.643	-145.923	0	0	3	0	0	0	0	0	0	0
112	60.643	-145.894	0	0	0	0	0	0	7	0	0	0
113	60.643	-145.890	0	0	0	0	0	0	0	8	0	0
125	60.646	-145.919	0	0	3	0	0	0	0	0	0	0
128	60.646	-145.901	0	0	0	0	0	0	7	0	0	0

129	60.647	-145.894	0	0	0	0	0	0	0	0	9	0
132	60.647	-145.880	0	0	0	0	0	0	0	0	0	10
143	60.650	-145.915	0	0	3	0	0	0	0	0	0	0
145	60.650	-145.911	0	0	3	0	0	0	0	0	0	0
146	60.650	-145.894	0	0	0	0	0	0	7	0	0	0
197	60.681	-145.873	0	0	0	0	5	0	0	0	0	0
18	60.623	-145.887	0	0	0	0	0	0	0	0	0	10
19	60.623	-145.880	0	0	0	0	0	0	0	8	0	0
25	60.627	-145.922	0	0	0	0	0	0	0	0	9	0
26	60.627	-145.915	0	0	3	0	0	0	0	0	0	0
27	60.627	-145.908	0	0	0	0	0	0	0	0	9	0
28	60.627	-145.902	0	0	3	0	0	0	0	0	0	0
29	60.627	-145.894	0	0	0	0	0	0	0	8	0	0
30	60.627	-145.887	0	0	0	0	0	0	0	0	9	0
31	60.627	-145.880	0	0	0	0	0	0	0	0	9	0
32	60.626	-145.874	0	0	0	0	0	0	0	0	9	0
33	60.626	-145.866	0	0	0	0	0	0	0	0	9	0
34	60.626	-145.859	0	0	0	0	0	0	0	0	9	0
45	60.630	-145.891	0	0	0	4	0	0	0	0	0	0
47	60.630	-145.884	0	0	0	0	0	0	0	0	9	0
48	60.630	-145.880	0	0	0	0	0	0	0	0	9	0
49	60.630	-145.873	0	0	0	0	0	0	0	0	9	0
50	60.630	-145.866	0	0	0	0	0	0	0	0	9	0
51	60.630	-145.859	0	0	0	0	0	0	0	0	9	0
52	60.630	-145.852	0	0	3	0	0	0	0	0	0	0
53	60.630	-145.849	0	0	3	0	0	0	0	0	0	0
69	60.633	-145.859	0	0	0	0	0	0	0	0	9	0
70	60.633	-145.853	0	0	0	0	0	0	0	0	9	0
72	60.633	-145.838	0	0	3	0	0	0	0	0	0	0
72	60.633	-145.838	0	0	3	0	0	0	0	0	0	0
80	60.636	-145.873	0	0	0	0	0	0	7	0	0	0
81	60.637	-145.866	0	0	3	0	0	0	0	0	0	0
82	60.636	-145.859	0	0	3	0	0	0	0	0	0	0
83	60.636	-145.852	0	0	3	0	0	0	0	0	0	0
85	60.636	-145.838	0	0	0	0	0	0	0	0	9	0
86	60.637	-145.831	0	0	3	0	0	0	0	0	0	0
87	60.636	-145.828	0	0	0	0	0	0	0	8	0	0
95	60.638	-145.888	0	0	3	0	0	0	0	0	0	0
96	60.638	-145.884	0	0	0	0	0	0	0	8	0	0
99	60.640	-145.859	0	0	3	0	0	0	0	0	0	0
100	60.640	-145.852	0	0	0	0	0	0	7	0	0	0
101	60.640	-145.845	0	0	0	0	5	0	0	0	0	0
102	60.640	-145.842	0	0	3	0	0	0	0	0	0	0
103	60.640	-145.839	0	0	0	0	0	0	0	0	9	0
105	60.640	-145.824	1	0	0	0	0	0	0	0	0	0
115	60.641	-145.859	0	0	3	0	0	0	0	0	0	0
116	60.643	-145.852	0	0	3	0	0	0	0	0	0	0
117	60.643	-145.846	0	0	3	0	0	0	0	0	0	0

118	60.643	-145.842	0	0	3	0	0	0	0	0	0	0
119	60.643	-145.838	0	0	0	0	0	0	7	0	0	0
120	60.643	-145.832	0	0	3	0	0	0	0	0	0	0
121	60.643	-145.825	0	0	3	0	0	0	0	0	0	0
133	60.645	-145.845	0	0	3	0	0	0	0	0	0	0
134	60.645	-145.842	0	2	0	0	0	0	0	0	0	0
136	60.645	-145.824	0	0	0	0	0	0	0	8	0	0
137	60.646	-145.838	0	0	0	0	5	0	0	0	0	0
138	60.646	-145.835	0	2	0	0	0	0	0	0	0	0
147	60.650	-145.887	0	0	3	0	0	0	0	0	0	0
148	60.650	-145.880	0	0	0	4	0	0	0	0	0	0
149	60.653	-145.916	0	0	0	0	0	0	0	0	9	0
153	60.657	-145.901	0	0	0	0	0	0	0	0	9	0
170	60.666	-145.869	0	0	0	0	0	0	0	0	9	0
175	60.670	-145.873	0	0	0	0	0	0	7	0	0	0
176	60.670	-145.868	0	0	0	0	0	0	7	0	0	0
180	60.673	-145.880	0	0	0	0	0	0	0	0	0	10
181	60.673	-145.873	0	0	0	0	0	0	7	0	0	0
182	60.673	-145.866	0	0	0	0	0	0	0	0	9	0
183	60.673	-145.863	0	0	3	0	0	0	0	0	0	0
187	60.677	-145.873	0	0	0	0	0	0	7	0	0	0
188	60.677	-145.866	1	0	0	0	0	0	0	0	0	0
189	60.677	-145.859	0	0	0	0	0	0	0	0	9	0
198	60.678	-145.868	0	0	3	0	0	0	0	0	0	0
106A	60.640	-145.818	0	2	0	0	0	0	0	0	0	0
122A	60.643	-145.820	0	0	0	0	0	0	7	0	0	0
139A	60.648	-145.832	0	0	3	0	0	0	0	0	0	0
193A	60.678	-145.883	0	0	0	0	0	0	7	0	0	0
35A	60.627	-145.854	0	0	3	0	0	0	0	0	0	0
98a	60.639	-145.868	0	0	3	0	0	0	0	0	0	0
2	60.616	-145.908	0	0	0	0	0	0	0	0	9	0
3	60.616	-145.902	0	0	3	0	0	0	0	0	0	0
5	60.620	-145.923	0	0	0	0	0	0	0	8	0	0
8	60.620	-145.901	0	0	3	0	0	0	0	0	0	0
9	60.620	-145.895	0	0	3	0	0	0	0	0	0	0
11	60.623	-145.936	0	0	0	0	0	0	0	8	0	0
12	60.623	-145.930	0	0	0	0	0	0	0	0	9	0
14	60.623	-145.915	0	0	0	0	0	0	0	8	0	0
18	60.623	-145.888	0	0	0	0	0	0	0	0	0	10
22	60.626	-145.936	0	0	0	4	0	0	0	0	0	0
25	60.627	-145.922	0	0	0	0	0	0	0	0	9	0
26	60.627	-145.915	0	0	0	0	0	0	0	8	0	0
27	60.627	-145.908	0	0	0	0	0	0	0	0	9	0
28	60.626	-145.902	0	0	0	0	0	0	0	0	9	0
30	60.627	-145.888	0	0	0	0	0	0	0	0	0	10
31	60.626	-145.881	0	0	0	0	0	0	0	0	9	0
32	60.626	-145.874	0	0	0	0	0	0	0	0	9	0
33	60.626	-145.866	0	0	0	0	0	0	0	0	9	0

34	60.627	-145.860	0	0	0	0	0	0	0	0	9	0
35	60.627	-145.854	0	0	3	0	0	0	0	0	0	0
39	60.630	-145.929	0	0	0	4	0	0	0	0	0	0
39	60.630	-145.933	0	0	3	0	0	0	0	0	0	0
40	60.630	-145.922	0	0	3	0	0	0	0	0	0	0
41	60.630	-145.915	0	0	3	0	0	0	0	0	0	0
42	60.630	-145.908	0	0	0	0	0	0	0	0	9	0
43	60.630	-145.901	0	0	0	0	0	0	0	0	9	0
48	60.630	-145.881	0	0	0	0	0	0	0	0	9	0
49	60.630	-145.873	0	0	0	0	0	0	0	0	0	10
50	60.630	-145.866	0	0	0	0	0	0	0	0	9	0
51	60.630	-145.859	0	0	0	0	0	0	0	0	0	10
52	60.630	-145.852	0	0	3	0	0	0	0	0	0	0
52	60.630	-145.852	0	0	0	0	0	0	0	8	0	0
53	60.630	-145.849	0	0	0	4	0	0	0	0	0	0
54	60.630	-145.845	0	0	3	0	0	0	0	0	0	0
56	60.633	-145.937	1	0	0	0	0	0	0	0	0	0
58	60.633	-145.929	0	0	0	0	0	0	0	8	0	0
59	60.633	-145.922	0	0	0	0	0	0	0	0	9	0
60	60.633	-145.916	0	0	0	0	0	0	0	0	9	0
61	60.633	-145.909	0	0	0	0	0	0	0	0	0	10
62	60.633	-145.901	0	0	0	0	0	0	0	0	0	10
64	60.633	-145.887	0	0	0	0	0	0	0	0	9	0
66	60.633	-145.880	0	0	0	0	0	0	0	8	0	0
67	60.633	-145.873	0	0	0	0	0	0	0	0	9	0
68	60.633	-145.866	0	0	0	0	0	0	0	0	9	0
69	60.633	-145.859	0	0	0	0	0	0	0	0	9	0
70	60.633	-145.852	0	0	0	0	0	0	0	0	9	0
71	60.633	-145.845	0	0	0	0	0	0	0	0	9	0
72	60.633	-145.838	0	0	0	4	0	0	0	0	0	0
73	60.637	-145.929	0	0	3	0	0	0	0	0	0	0
74	60.636	-145.923	0	0	0	0	0	0	0	8	0	0
75	60.636	-145.916	0	0	0	0	0	0	0	0	0	10
76	60.636	-145.909	0	0	0	0	0	0	0	0	0	10
77	60.636	-145.902	0	0	0	0	0	0	0	0	0	10
78	60.636	-145.894	0	0	3	0	0	0	0	0	0	0
80	60.637	-145.873	0	0	0	0	0	0	0	0	9	0
81	60.636	-145.866	0	0	0	0	0	0	0	8	0	0
82	60.636	-145.860	0	0	0	0	0	0	0	8	0	0
84	60.636	-145.845	0	0	0	0	0	0	0	0	9	0
85	60.636	-145.838	0	0	0	0	0	0	0	0	0	10
86	60.637	-145.831	0	0	3	0	0	0	0	0	0	0
87	60.636	-145.828	0	0	3	0	0	0	0	0	0	0
88	60.640	-145.926	0	0	0	0	0	0	0	0	9	0
89	60.640	-145.922	0	0	0	0	0	0	0	0	9	0
90	60.640	-145.915	0	0	0	0	0	0	0	0	9	0
91	60.640	-145.908	0	0	0	0	0	0	0	0	9	0
92	60.640	-145.901	0	0	0	0	0	0	0	0	0	10

93	60.640	-145.894	0	0	0	0	0	0	0	0	0	10
95	60.638	-145.887	0	0	3	0	0	0	0	0	0	0
97	60.639	-145.880	0	0	0	0	0	0	0	8	0	0
99	60.640	-145.859	0	0	0	0	0	0	0	0	9	0
100	60.640	-145.853	0	0	0	0	0	0	0	0	0	10
102	60.640	-145.842	0	0	0	0	0	0	0	0	9	0
103	60.640	-145.838	0	0	0	0	0	0	0	0	0	10
105	60.640	-145.824	1	0	0	0	0	0	0	0	0	0
107	60.643	-145.926	0	0	0	0	0	0	0	8	0	0
108	60.643	-145.923	0	0	0	0	0	0	0	0	9	0
109	60.643	-145.915	0	0	0	0	0	0	0	0	9	0
110	60.643	-145.909	0	0	0	0	0	0	0	0	9	0
111	60.643	-145.902	0	0	0	0	0	0	0	0	9	0
112	60.643	-145.894	0	0	0	0	0	0	0	0	0	10
113	60.643	-145.890	0	0	0	0	0	0	0	8	0	0
115	60.643	-145.887	0	0	0	0	0	0	0	8	0	0
116	60.643	-145.852	0	0	0	0	0	0	0	8	0	0
118	60.643	-145.842	0	0	3	0	0	0	0	0	0	0
119	60.643	-145.838	0	0	3	0	0	0	0	0	0	0
120	60.643	-145.831	0	0	0	0	5	0	0	0	0	0
121	60.643	-145.824	0	0	3	0	0	0	0	0	0	0
124	60.647	-145.924	0	0	0	0	0	0	0	0	9	0
126	60.647	-145.915	0	0	0	0	0	0	0	0	9	0
127	60.646	-145.908	0	0	0	0	0	0	0	0	9	0
128	60.647	-145.902	0	0	0	0	0	0	0	0	9	0
129	60.646	-145.894	0	0	0	0	0	0	0	0	9	0
130	60.647	-145.887	0	0	0	0	0	0	0	8	0	0
131	60.646	-145.883	0	0	0	0	0	0	0	8	0	0
131	60.647	-145.884	0	0	3	0	0	0	0	0	0	0
133	60.645	-145.846	0	0	0	0	0	0	0	8	0	0
134	60.645	-145.842	0	0	3	0	0	0	0	0	0	0
137	60.647	-145.838	0	0	0	0	0	0	0	8	0	0
138	60.647	-145.835	0	2	0	0	0	0	0	0	0	0
139	60.648	-145.832	0	2	0	0	0	0	0	0	0	0
141	60.650	-145.923	0	0	3	0	0	0	0	0	0	0
142	60.650	-145.919	0	0	3	0	0	0	0	0	0	0
143	60.650	-145.915	0	0	3	0	0	0	0	0	0	0
144	60.650	-145.908	0	0	0	0	0	0	0	0	9	0
146	60.650	-145.894	0	0	0	0	0	0	0	0	9	0
147	60.650	-145.887	0	0	0	0	0	0	0	8	0	0
148	60.650	-145.880	0	0	0	4	0	0	0	0	0	0
149	60.653	-145.916	0	0	0	0	0	0	0	0	9	0
150	60.653	-145.908	0	0	0	0	0	0	0	0	9	0
151	60.653	-145.902	0	0	3	0	0	0	0	0	0	0
152	60.657	-145.908	0	0	0	0	0	0	0	0	9	0
154	60.656	-145.894	0	0	0	0	0	0	0	8	0	0
155	60.652	-145.891	0	0	0	0	0	0	0	8	0	0
157	60.660	-145.894	0	0	0	0	0	0	0	0	9	0

158	60.659	-145.883	0	0	0	0	0	0	0	0	9	0
158	60.660	-145.887	0	0	0	0	0	0	0	0	9	0
161	60.663	-145.887	0	0	0	0	0	0	0	0	9	0
162	60.663	-145.880	0	0	0	0	0	0	0	0	9	0
163	60.663	-145.873	0	0	0	0	0	0	0	0	9	0
164	60.665	-145.901	0	0	0	0	0	0	0	0	9	0
165	60.666	-145.901	0	0	0	0	0	0	0	0	9	0
167	60.666	-145.887	0	0	0	0	0	0	0	8	0	0
168	60.666	-145.880	0	0	0	0	0	0	0	0	9	0
169	60.666	-145.873	0	0	0	0	0	0	0	0	9	0
170	60.666	-145.870	0	0	0	0	0	0	0	8	0	0
171	60.670	-145.898	0	0	0	0	0	0	0	0	9	0
172	60.670	-145.894	0	0	3	0	0	0	0	0	0	0
173	60.670	-145.887	0	0	0	0	0	0	0	0	9	0
174	60.670	-145.880	0	0	0	0	0	0	0	0	9	0
177	60.673	-145.898	0	0	0	0	0	0	0	0	0	10
178	60.673	-145.892	0	0	0	0	0	0	7	0	0	0
179	60.673	-145.887	0	0	0	0	0	0	0	8	0	0
180	60.673	-145.880	0	0	0	0	0	0	0	0	0	10
181	60.673	-145.873	0	0	0	0	0	0	0	0	0	10
183	60.673	-145.863	0	0	0	0	0	0	0	0	9	0
185	60.677	-145.887	0	0	0	0	0	0	7	0	0	0
186	60.676	-145.880	0	0	0	0	0	0	7	0	0	0
187	60.677	-145.873	0	0	0	0	0	0	7	0	0	0
188	60.676	-145.866	1	0	0	0	0	0	0	0	0	0
189	60.676	-145.859	0	0	0	0	0	0	0	0	0	10
192	60.678	-145.856	0	0	0	0	0	0	0	0	9	0
194	60.680	-145.880	0	0	0	0	0	0	0	0	9	0
195	60.680	-145.873	0	0	3	0	0	0	0	0	0	0
196	60.681	-145.877	0	0	0	4	0	0	0	0	0	0
132A	60.646	-145.880	0	0	0	0	0	0	0	8	0	0
135A	60.645	-145.839	0	0	3	0	0	0	0	0	0	0
166A	60.667	-145.894	0	0	0	0	0	0	0	0	9	0
176A	60.670	-145.866	0	0	0	0	0	0	0	0	9	0
184A	60.676	-145.892	0	0	0	0	0	0	0	0	0	10
193A	60.678	-145.883	0	0	0	0	0	0	0	0	9	0
65A	60.633	-145.883	0	0	3	0	0	0	0	0	0	0
98B	60.641	-145.865	0	0	0	0	0	0	7	0	0	0
			5	5	64	8	4	0	27	33	90	25
			Percentage of Sample Distribution									
			1.92%	1.92%	24.52%	3.07%	1.53%	0.00%	10.34%	12.64%	34.48%	9.58%

This data represents the distribution of sediment textures of grab samples based on their sand silt and clay percentages.

Station ID	Position		Data for Shepard's Diagram									
	Latitude	Longitude	1	2	3	4	5	6	7	8	9	10
			Gravel	Sandy Gravel	Gravel Sand Mud	Muddy Gravel	Gravelly Sand	Sand	Muddy Sand	Gravelly Mud	Sandy Mud	Mud
2	60.616	-145.910	0	0	0	0	0	0	0	0	0	10
3	60.616	-145.901	1	0	0	0	0	0	0	0	0	0
3	60.616	-145.901	0	0	0	0	0	0	0	0	0	10
5	60.620	-145.922	0	0	0	4	0	0	0	0	0	0
9	60.620	-145.894	0	0	0	4	0	0	0	0	0	0
11	60.623	-145.936	0	0	0	0	0	0	0	8	0	0
12	60.623	-145.929	1	0	0	0	0	0	0	0	0	0
13	60.623	-145.922	0	0	0	0	0	0	0	8	0	0
14	60.623	-145.915	1	0	0	0	0	0	0	0	0	0
22	60.626	-145.937	0	0	0	0	0	0	0	0	9	0
23	60.626	-145.934	0	0	3	0	0	0	0	0	0	0
28	60.627	-145.902	0	0	0	0	0	0	0	8	0	0
40	60.626	-145.923	0	0	0	0	0	0	0	0	0	10
41	60.630	-145.915	0	0	0	0	0	0	0	8	0	0
42	60.630	-145.909	0	0	0	0	0	0	0	0	0	10
59	60.633	-145.923	0	0	0	0	0	0	0	0	0	10
60	60.633	-145.915	0	0	0	0	0	0	0	0	0	10
61	60.633	-145.908	0	0	0	0	0	0	0	0	0	10
76	60.637	-145.908	0	0	0	0	0	0	0	0	0	10
77	60.636	-145.901	0	0	0	0	0	0	0	0	0	10
78	60.637	-145.895	0	0	0	0	0	0	0	8	0	0
89	60.640	-145.922	0	0	0	0	0	0	0	0	0	10
90	60.640	-145.915	0	0	0	0	0	0	0	0	0	10
91	60.640	-145.909	0	0	0	0	0	0	0	0	0	10
93	60.640	-145.894	0	0	0	0	0	0	0	0	9	0
107	60.643	-145.926	0	0	0	0	0	0	0	8	0	0
108	60.643	-145.923	0	0	0	0	0	0	0	0	0	10
112	60.643	-145.894	0	0	0	0	0	0	0	0	0	10
113	60.643	-145.890	0	0	0	0	0	0	0	0	0	10
125	60.646	-145.919	0	0	3	0	0	0	0	0	0	0
128	60.646	-145.901	0	0	0	0	0	0	0	0	0	10
129	60.647	-145.894	0	0	0	0	0	0	0	0	0	10
132	60.647	-145.880	0	0	0	4	0	0	0	0	0	0
143	60.650	-145.915	0	0	0	0	0	0	0	0	9	0
145	60.650	-145.911	0	0	0	4	0	0	0	0	0	0

146	60.650	-145.894	0	0	0	0	0	0	0	0	0	10
197	60.681	-145.873	0	0	0	0	0	0	0	0	9	0
18	60.623	-145.887	0	0	0	0	0	0	0	0	0	10
19	60.623	-145.880	0	0	0	0	0	0	0	0	9	0
25	60.627	-145.922	0	0	0	0	0	0	0	0	0	10
26	60.627	-145.915	1	0	0	0	0	0	0	0	0	0
27	60.627	-145.908	0	0	0	0	0	0	0	0	0	10
28	60.627	-145.902	0	0	0	4	0	0	0	0	0	0
29	60.627	-145.894	1	0	0	0	0	0	0	0	0	0
30	60.627	-145.887	0	0	0	0	0	0	0	0	0	10
31	60.627	-145.880	0	0	0	0	0	0	0	0	0	10
32	60.626	-145.874	0	0	0	0	0	0	0	0	0	10
33	60.626	-145.866	0	0	0	4	0	0	0	0	0	0
34	60.626	-145.859	0	0	0	0	0	0	0	8	0	0
45	60.630	-145.891	1	0	0	0	0	0	0	0	0	0
47	60.630	-145.884	1	0	0	0	0	0	0	0	0	0
48	60.630	-145.880	0	0	0	0	0	0	0	0	0	10
49	60.630	-145.873	0	0	0	0	0	0	0	0	0	10
50	60.630	-145.866	0	0	0	0	0	0	0	0	0	10
51	60.630	-145.859	0	0	0	0	0	0	0	0	0	10
52	60.630	-145.852	1	0	0	0	0	0	0	0	0	0
53	60.630	-145.849	0	0	3	0	0	0	0	0	0	0
69	60.633	-145.859	0	0	0	0	0	0	0	0	0	10
70	60.633	-145.853	0	0	0	0	0	0	0	0	0	10
72	60.633	-145.838	0	0	0	4	0	0	0	0	0	0
72	60.633	-145.838	0	0	0	0	0	0	0	0	9	0
80	60.636	-145.873	0	0	0	0	0	0	0	0	0	10
81	60.637	-145.866	1	0	0	0	0	0	0	0	0	0
82	60.636	-145.859	1	0	0	0	0	0	0	0	0	0
83	60.636	-145.852	1	0	0	0	0	0	0	0	0	0
85	60.636	-145.838	1	0	0	0	0	0	0	0	0	0
86	60.637	-145.831	1	0	0	0	0	0	0	0	0	0
87	60.636	-145.828	1	0	0	0	0	0	0	0	0	0
95	60.638	-145.888	1	0	0	0	0	0	0	0	0	0
96	60.638	-145.884	1	0	0	0	0	0	0	0	0	0
99	60.640	-145.859	1	0	0	0	0	0	0	0	0	0
100	60.640	-145.852	1	0	0	0	0	0	0	0	0	0
101	60.640	-145.845	1	0	0	0	0	0	0	0	0	0
102	60.640	-145.842	1	0	0	0	0	0	0	0	0	0
103	60.640	-145.839	0	0	0	4	0	0	0	0	0	0
105	60.640	-145.824	0	0	0	0	0	6	0	0	0	0
115	60.641	-145.859	0	0	3	0	0	0	0	0	0	0
116	60.643	-145.852	0	0	0	0	0	0	0	0	0	10
117	60.643	-145.846	0	0	0	0	0	0	0	0	9	0
118	60.643	-145.842	0	0	0	0	0	0	0	0	9	0
119	60.643	-145.838	0	0	0	0	0	0	0	0	9	0
120	60.643	-145.832	0	0	3	0	0	0	0	0	0	0
121	60.643	-145.825	0	0	3	0	0	0	0	0	0	0

133	60.645	-145.845	0	0	3	0	0	0	0	0	0	0
134	60.645	-145.842	0	0	0	0	0	0	0	0	9	0
136	60.645	-145.824	0	0	0	0	0	0	0	0	9	0
137	60.646	-145.838	0	0	0	0	0	0	0	0	9	0
138	60.646	-145.835	0	0	0	0	0	0	7	0	0	0
147	60.650	-145.887	0	0	0	0	0	0	0	0	9	0
148	60.650	-145.880	0	2	0	0	0	0	0	0	0	0
149	60.653	-145.916	0	0	0	4	0	0	0	0	0	0
153	60.657	-145.901	0	0	0	0	0	0	0	0	0	10
170	60.666	-145.869	0	0	0	0	0	0	0	0	0	10
175	60.670	-145.873	0	0	0	0	0	0	0	0	0	10
176	60.670	-145.868	0	0	0	0	0	0	0	0	0	10
180	60.673	-145.880	0	0	0	0	0	0	0	0	0	10
181	60.673	-145.873	0	0	0	0	0	0	0	0	0	10
182	60.673	-145.866	0	0	0	0	0	0	0	0	0	10
183	60.673	-145.863	0	0	0	0	0	0	0	0	9	0
187	60.677	-145.873	0	0	0	0	0	0	0	0	0	10
188	60.677	-145.866	0	2	0	0	0	0	0	0	0	0
189	60.677	-145.859	0	0	0	0	0	0	0	0	0	10
198	60.678	-145.868	0	0	0	0	0	0	0	0	9	0
106A	60.640	-145.818	0	0	0	0	0	0	7	0	0	0
122A	60.643	-145.820	1	0	0	0	0	0	0	0	0	0
139A	60.648	-145.832	0	0	0	0	0	0	0	0	0	10
193A	60.678	-145.883	0	0	0	0	0	0	0	8	0	0
35A	60.627	-145.854	0	0	0	0	0	0	0	0	9	0
98a	60.639	-145.868	0	0	0	0	0	0	0	0	9	0
2	60.616	-145.908	0	0	0	0	0	0	0	0	0	10
3	60.616	-145.902	0	0	0	0	0	0	0	0	9	0
5	60.620	-145.923	0	0	0	0	0	0	0	8	0	0
8	60.620	-145.901	0	0	0	0	0	0	0	0	9	0
9	60.620	-145.895	0	0	0	0	0	0	0	0	9	0
11	60.623	-145.936	0	0	0	0	0	0	0	8	0	0
12	60.623	-145.930	0	0	0	0	0	0	0	0	0	10
14	60.623	-145.915	0	0	0	0	0	0	0	0	9	0
18	60.623	-145.888	0	0	0	0	0	0	0	0	0	10
22	60.626	-145.936	0	0	0	0	0	0	0	0	9	0
25	60.627	-145.922	0	0	0	0	0	0	0	0	0	10
26	60.627	-145.915	0	0	0	4	0	0	0	0	0	0
27	60.627	-145.908	0	0	0	0	0	0	0	0	0	10
28	60.626	-145.902	0	0	0	0	0	0	0	0	0	10
30	60.627	-145.888	0	0	0	0	0	0	0	0	0	10
31	60.626	-145.881	0	0	0	0	0	0	0	0	0	10
32	60.626	-145.874	0	0	0	0	0	0	0	8	0	0
33	60.626	-145.866	0	0	0	0	0	0	0	0	0	10
34	60.627	-145.860	0	0	0	0	0	0	0	0	0	10
35	60.627	-145.854	0	0	3	0	0	0	0	0	0	0
39	60.630	-145.929	0	0	0	0	0	0	7	0	0	0
39	60.630	-145.933	0	0	3	0	0	0	0	0	0	0

40	60.630	-145.922	0	0	0	0	0	0	0	0	0	10
41	60.630	-145.915	0	0	0	0	0	0	0	0	9	0
42	60.630	-145.908	0	0	0	0	0	0	0	0	0	10
43	60.630	-145.901	0	0	0	0	0	0	0	0	0	10
48	60.630	-145.881	0	0	0	0	0	0	0	0	0	10
49	60.630	-145.873	0	0	0	0	0	0	0	0	0	10
50	60.630	-145.866	0	0	0	0	0	0	0	0	0	10
51	60.630	-145.859	0	0	0	0	0	0	0	0	0	10
52	60.630	-145.852	0	0	0	0	0	0	0	8	0	0
52	60.630	-145.852	0	0	0	0	0	0	0	0	9	0
53	60.630	-145.849	0	0	0	0	0	0	7	0	0	0
54	60.630	-145.845	0	0	0	0	0	0	0	0	9	0
56	60.633	-145.937	0	0	0	0	0	6	0	0	0	0
58	60.633	-145.929	0	0	0	0	0	0	0	0	9	0
59	60.633	-145.922	0	0	0	0	0	0	0	0	0	10
60	60.633	-145.916	0	0	0	0	0	0	0	0	0	10
61	60.633	-145.909	0	0	0	0	0	0	0	0	0	10
62	60.633	-145.901	0	0	0	0	0	0	0	0	0	10
64	60.633	-145.887	0	0	0	0	0	0	0	0	0	10
66	60.633	-145.880	0	0	0	4	0	0	0	0	0	0
67	60.633	-145.873	0	0	0	0	0	0	0	0	0	10
68	60.633	-145.866	0	0	0	0	0	0	0	0	0	10
69	60.633	-145.859	0	0	0	0	0	0	0	0	0	10
70	60.633	-145.852	0	0	0	0	0	0	0	0	0	10
71	60.633	-145.845	0	0	0	0	0	0	0	0	0	10
72	60.633	-145.838	0	0	0	0	0	0	7	0	0	0
73	60.637	-145.929	0	0	3	0	0	0	0	0	0	0
74	60.636	-145.923	0	0	0	0	0	0	0	0	9	0
75	60.636	-145.916	0	0	0	0	0	0	0	0	0	10
76	60.636	-145.909	0	0	0	0	0	0	0	0	0	10
77	60.636	-145.902	0	0	0	0	0	0	0	0	0	10
78	60.636	-145.894	0	0	0	0	0	0	0	0	9	0
80	60.637	-145.873	0	0	0	0	0	0	0	0	0	10
81	60.636	-145.866	0	0	0	0	0	0	0	8	0	0
82	60.636	-145.860	0	0	0	0	0	0	0	8	0	0
84	60.636	-145.845	0	0	0	0	0	0	0	0	9	0
85	60.636	-145.838	0	0	0	0	0	0	0	0	0	10
86	60.637	-145.831	0	0	0	0	0	0	0	0	9	0
87	60.636	-145.828	0	0	3	0	0	0	0	0	0	0
88	60.640	-145.926	0	0	0	0	0	0	0	8	0	0
89	60.640	-145.922	0	0	0	0	0	0	0	0	0	10
90	60.640	-145.915	0	0	0	0	0	0	0	0	0	10
91	60.640	-145.908	0	0	0	0	0	0	0	0	0	10
92	60.640	-145.901	0	0	0	0	0	0	0	0	0	10
93	60.640	-145.894	0	0	0	0	0	0	0	0	9	0
95	60.638	-145.887	0	0	0	0	0	0	0	8	0	0
97	60.639	-145.880	0	0	0	0	0	0	0	0	9	0
99	60.640	-145.859	0	0	0	0	0	0	0	0	0	10

100	60.640	-145.853	0	0	0	0	0	0	0	0	0	10
102	60.640	-145.842	0	0	0	0	0	0	0	8	0	0
103	60.640	-145.838	0	0	0	4	0	0	0	0	0	0
105	60.640	-145.824	0	0	0	0	0	6	0	0	0	0
107	60.643	-145.926	0	0	3	0	0	0	0	0	0	0
108	60.643	-145.923	0	0	0	0	0	0	0	0	9	0
109	60.643	-145.915	0	0	0	0	0	0	0	0	0	10
110	60.643	-145.909	0	0	0	0	0	0	0	0	0	10
111	60.643	-145.902	0	0	0	0	0	0	0	0	0	10
112	60.643	-145.894	0	0	0	0	0	0	0	0	0	10
113	60.643	-145.890	0	0	0	0	0	0	0	0	9	0
115	60.643	-145.887	0	0	0	0	0	0	0	0	9	0
116	60.643	-145.852	0	0	0	0	0	0	0	0	9	0
118	60.643	-145.842	0	0	0	0	0	0	0	0	9	0
119	60.643	-145.838	0	0	0	0	0	0	0	0	9	0
120	60.643	-145.831	0	0	0	0	0	0	0	0	9	0
121	60.643	-145.824	0	0	0	0	0	0	7	0	0	0
124	60.647	-145.924	0	0	0	0	0	0	0	0	0	10
126	60.647	-145.915	0	0	0	0	0	0	0	8	0	0
127	60.646	-145.908	0	0	0	0	0	0	0	0	0	10
128	60.647	-145.902	0	0	0	0	0	0	0	0	0	10
129	60.646	-145.894	0	0	0	0	0	0	0	0	0	10
130	60.647	-145.887	0	0	0	4	0	0	0	0	0	0
131	60.646	-145.883	0	0	3	0	0	0	0	0	0	0
131	60.647	-145.884	0	0	0	0	0	0	0	0	9	0
133	60.645	-145.846	0	0	0	0	0	0	0	0	9	0
134	60.645	-145.842	0	0	0	0	0	0	0	0	9	0
137	60.647	-145.838	0	0	0	0	0	0	0	0	9	0
138	60.647	-145.835	0	0	0	0	0	0	7	0	0	0
139	60.648	-145.832	0	0	0	0	0	0	7	0	0	0
141	60.650	-145.923	0	0	0	0	0	0	0	0	9	0
142	60.650	-145.919	0	0	0	0	0	0	0	0	9	0
143	60.650	-145.915	0	0	0	0	0	0	0	8	0	0
144	60.650	-145.908	0	0	0	0	0	0	0	0	9	0
146	60.650	-145.894	0	0	0	0	0	0	0	0	0	10
147	60.650	-145.887	0	0	0	0	0	0	0	8	0	0
148	60.650	-145.880	0	0	3	0	0	0	0	0	0	0
149	60.653	-145.916	0	0	0	0	0	0	0	0	0	10
150	60.653	-145.908	0	0	0	0	0	0	0	0	0	10
151	60.653	-145.902	0	0	0	0	0	0	0	0	9	0
152	60.657	-145.908	0	0	0	0	0	0	0	0	0	10
154	60.656	-145.894	0	0	0	0	0	0	0	0	9	0
155	60.652	-145.891	0	0	0	0	0	0	0	0	9	0
157	60.660	-145.894	0	0	0	0	0	0	0	0	0	10
158	60.659	-145.883	0	0	0	0	0	0	0	0	0	10
158	60.660	-145.887	0	0	0	0	0	0	0	0	0	10
161	60.663	-145.887	0	0	0	0	0	0	0	0	0	10
162	60.663	-145.880	0	0	0	0	0	0	0	0	0	10

163	60.663	-145.873	0	0	0	4	0	0	0	0	0	0
164	60.665	-145.901	0	0	0	0	0	0	0	0	0	10
165	60.666	-145.901	0	0	0	0	0	0	0	0	0	10
167	60.666	-145.887	0	0	0	0	0	0	0	8	0	0
168	60.666	-145.880	0	0	0	0	0	0	0	0	0	10
169	60.666	-145.873	0	0	0	0	0	0	0	0	0	10
170	60.666	-145.870	0	0	0	0	0	0	0	8	0	0
171	60.670	-145.898	0	0	0	0	0	0	0	0	0	10
172	60.670	-145.894	0	0	0	4	0	0	0	0	0	0
173	60.670	-145.887	0	0	0	0	0	0	0	0	0	10
174	60.670	-145.880	0	0	0	0	0	0	0	0	0	10
177	60.673	-145.898	0	0	0	0	0	0	0	0	0	10
178	60.673	-145.892	0	0	0	0	0	0	0	0	0	10
179	60.673	-145.887	0	0	0	0	0	0	0	0	9	0
180	60.673	-145.880	0	0	0	0	0	0	0	0	0	10
181	60.673	-145.873	0	0	0	0	0	0	0	0	0	10
183	60.673	-145.863	0	0	0	0	0	0	0	0	0	10
185	60.677	-145.887	0	0	0	0	0	0	0	0	0	10
186	60.676	-145.880	0	0	0	0	0	0	0	0	0	10
187	60.677	-145.873	0	0	0	0	0	0	0	0	0	10
188	60.676	-145.866	0	0	0	0	5	0	0	0	0	0
189	60.676	-145.859	0	0	0	0	0	0	0	0	0	10
192	60.678	-145.856	0	0	0	0	0	0	0	0	0	10
194	60.680	-145.880	0	0	0	0	0	0	0	0	0	10
195	60.680	-145.873	0	0	0	0	0	0	0	0	9	0
196	60.681	-145.877	0	0	0	0	0	0	7	0	0	0
132A	60.646	-145.880	1	0	0	0	0	0	0	0	0	0
135A	60.645	-145.839	0	0	0	0	0	0	0	0	9	0
166A	60.667	-145.894	0	0	0	0	0	0	0	0	0	10
176A	60.670	-145.866	0	0	0	4	0	0	0	0	0	0
184A	60.676	-145.892	0	0	0	0	0	0	0	8	0	0
193A	60.678	-145.883	0	0	0	0	0	0	0	0	0	10
65A	60.633	-145.883	0	0	0	0	0	0	0	8	0	0
98B	60.641	-145.865	0	0	0	0	0	0	0	0	0	10
			22	2	14	16	1	3	9	24	52	118
			Percentage of Sample Distribution									
			8.43%	0.77%	5.36%	6.13%	0.38%	1.15%	3.45%	9.20%	19.92%	45.21%

This data represents the distribution of sediment textures of grab samples based on their sand silt and clay percentages.

Station ID	Position Latitude	Longitude	Data for Shepard's Diagram 1 Coarse	2 Silty Coarse	3 Coarse Silty Clay	4 Clayey Coarse	5 Coarse Silt	6 Silt	7 Coarse Clay	8 Clayey Silt	9 Silty Clay	10 Clay
2	60.616	-145.910	0	0	0	0	0	0	0	0	9	0
3	60.616	-145.901	1	0	0	0	0	0	0	0	0	0
3	60.616	-145.901	0	0	0	0	0	0	7	0	0	0
5	60.620	-145.922	0	0	0	4	0	0	0	0	0	0
9	60.620	-145.894	0	0	0	4	0	0	0	0	0	0
11	60.623	-145.936	0	0	0	0	0	0	0	8	0	0
12	60.623	-145.929	1	0	0	0	0	0	0	0	0	0
13	60.623	-145.922	0	0	0	4	0	0	0	0	0	0
14	60.623	-145.915	1	0	0	0	0	0	0	0	0	0
22	60.626	-145.937	0	0	0	0	0	0	0	8	0	0
23	60.626	-145.934	0	0	3	0	0	0	0	0	0	0
28	60.627	-145.902	0	0	3	0	0	0	0	0	0	0
40	60.626	-145.923	0	0	0	0	0	0	7	0	0	0
41	60.630	-145.915	0	0	3	0	0	0	0	0	0	0
42	60.630	-145.909	0	0	0	0	0	0	7	0	0	0
59	60.633	-145.923	0	0	0	0	0	0	7	0	0	0
60	60.633	-145.915	0	0	0	0	0	0	7	0	0	0
61	60.633	-145.908	0	0	0	0	0	0	7	0	0	0
76	60.637	-145.908	0	0	0	0	0	0	7	0	0	0
77	60.636	-145.901	0	0	0	0	0	0	7	0	0	0
78	60.637	-145.895	0	0	3	0	0	0	0	0	0	0
89	60.640	-145.922	0	0	0	0	0	0	7	0	0	0
90	60.640	-145.915	0	0	0	0	0	0	0	0	0	10
91	60.640	-145.909	0	0	0	0	0	0	7	0	0	0
93	60.640	-145.894	0	0	3	0	0	0	0	0	0	0
107	60.643	-145.926	0	0	3	0	0	0	0	0	0	0
108	60.643	-145.923	0	0	3	0	0	0	0	0	0	0
112	60.643	-145.894	0	0	0	0	0	0	7	0	0	0
113	60.643	-145.890	0	0	0	0	0	0	0	8	0	0
125	60.646	-145.919	0	0	0	4	0	0	0	0	0	0
128	60.646	-145.901	0	0	0	0	0	0	7	0	0	0
129	60.647	-145.894	0	0	0	0	0	0	0	0	9	0
132	60.647	-145.880	0	0	0	4	0	0	0	0	0	0
143	60.650	-145.915	0	0	3	0	0	0	0	0	0	0
145	60.650	-145.911	1	0	0	0	0	0	0	0	0	0
146	60.650	-145.894	0	0	0	0	0	0	7	0	0	0
197	60.681	-145.873	0	0	0	0	5	0	0	0	0	0

18	60.623	-145.887	0	0	0	0	0	0	0	0	0	10
19	60.623	-145.880	0	0	0	0	0	0	0	8	0	0
25	60.627	-145.922	0	0	0	0	0	0	0	0	9	0
26	60.627	-145.915	1	0	0	0	0	0	0	0	0	0
27	60.627	-145.908	0	0	3	0	0	0	0	0	0	0
28	60.627	-145.902	0	0	0	4	0	0	0	0	0	0
29	60.627	-145.894	1	0	0	0	0	0	0	0	0	0
30	60.627	-145.887	0	0	0	0	0	0	0	0	9	0
31	60.627	-145.880	0	0	0	0	0	0	0	0	9	0
32	60.626	-145.874	0	0	0	0	0	0	0	0	9	0
33	60.626	-145.866	1	0	0	0	0	0	0	0	0	0
34	60.626	-145.859	0	0	3	0	0	0	0	0	0	0
45	60.630	-145.891	1	0	0	0	0	0	0	0	0	0
47	60.630	-145.884	1	0	0	0	0	0	0	0	0	0
48	60.630	-145.880	0	0	0	0	0	0	0	0	9	0
49	60.630	-145.873	0	0	0	0	0	0	0	0	9	0
50	60.630	-145.866	0	0	0	0	0	0	0	0	9	0
51	60.630	-145.859	0	0	0	0	0	0	0	0	9	0
52	60.630	-145.852	1	0	0	0	0	0	0	0	0	0
53	60.630	-145.849	0	0	0	4	0	0	0	0	0	0
69	60.633	-145.859	0	0	0	0	0	0	0	0	9	0
70	60.633	-145.853	0	0	0	0	0	0	0	0	9	0
72	60.633	-145.838	0	2	0	0	0	0	0	0	0	0
72	60.633	-145.838	0	0	3	0	0	0	0	0	0	0
80	60.636	-145.873	0	0	0	0	0	0	7	0	0	0
81	60.637	-145.866	1	0	0	0	0	0	0	0	0	0
82	60.636	-145.859	1	0	0	0	0	0	0	0	0	0
83	60.636	-145.852	1	0	0	0	0	0	0	0	0	0
85	60.636	-145.838	1	0	0	0	0	0	0	0	0	0
86	60.637	-145.831	1	0	0	0	0	0	0	0	0	0
87	60.636	-145.828	1	0	0	0	0	0	0	0	0	0
95	60.638	-145.888	1	0	0	0	0	0	0	0	0	0
96	60.638	-145.884	1	0	0	0	0	0	0	0	0	0
99	60.640	-145.859	1	0	0	0	0	0	0	0	0	0
100	60.640	-145.852	1	0	0	0	0	0	0	0	0	0
101	60.640	-145.845	1	0	0	0	0	0	0	0	0	0
102	60.640	-145.842	1	0	0	0	0	0	0	0	0	0
103	60.640	-145.839	1	0	0	0	0	0	0	0	0	0
105	60.640	-145.824	1	0	0	0	0	0	0	0	0	0
115	60.641	-145.859	0	0	3	0	0	0	0	0	0	0
116	60.643	-145.852	0	0	3	0	0	0	0	0	0	0
117	60.643	-145.846	0	0	3	0	0	0	0	0	0	0
118	60.643	-145.842	0	0	3	0	0	0	0	0	0	0
119	60.643	-145.838	0	0	3	0	0	0	0	0	0	0
120	60.643	-145.832	1	0	0	0	0	0	0	0	0	0
121	60.643	-145.825	0	2	0	0	0	0	0	0	0	0

133	60.645	-145.845	0	2	0	0	0	0	0	0	0	0
134	60.645	-145.842	0	2	0	0	0	0	0	0	0	0
136	60.645	-145.824	0	0	0	0	0	0	0	8	0	0
137	60.646	-145.838	0	0	0	0	5	0	0	0	0	0
138	60.646	-145.835	0	2	0	0	0	0	0	0	0	0
147	60.650	-145.887	0	0	3	0	0	0	0	0	0	0
148	60.650	-145.880	1	0	0	0	0	0	0	0	0	0
149	60.653	-145.916	0	0	0	4	0	0	0	0	0	0
153	60.657	-145.901	0	0	0	0	0	0	0	0	9	0
170	60.666	-145.869	0	0	3	0	0	0	0	0	0	0
175	60.670	-145.873	0	0	0	0	0	0	7	0	0	0
176	60.670	-145.868	0	0	0	0	0	0	7	0	0	0
180	60.673	-145.880	0	0	0	0	0	0	0	0	0	10
181	60.673	-145.873	0	0	0	0	0	0	7	0	0	0
182	60.673	-145.866	0	0	0	0	0	0	0	0	9	0
183	60.673	-145.863	0	0	3	0	0	0	0	0	0	0
187	60.677	-145.873	0	0	0	0	0	0	7	0	0	0
188	60.677	-145.866	1	0	0	0	0	0	0	0	0	0
189	60.677	-145.859	0	0	0	0	0	0	0	0	9	0
198	60.678	-145.868	0	0	3	0	0	0	0	0	0	0
106A	60.640	-145.818	0	2	0	0	0	0	0	0	0	0
122A	60.643	-145.820	1	0	0	0	0	0	0	0	0	0
139A	60.648	-145.832	0	0	3	0	0	0	0	0	0	0
193A	60.678	-145.883	0	0	3	0	0	0	0	0	0	0
35A	60.627	-145.854	0	0	3	0	0	0	0	0	0	0
98a	60.639	-145.868	0	0	3	0	0	0	0	0	0	0
2	60.616	-145.908	0	0	0	0	0	0	0	0	9	0
3	60.616	-145.902	0	0	3	0	0	0	0	0	0	0
5	60.620	-145.923	0	0	0	0	0	0	0	8	0	0
8	60.620	-145.901	0	0	0	0	0	0	0	8	0	0
9	60.620	-145.895	0	0	3	0	0	0	0	0	0	0
11	60.623	-145.936	0	0	0	0	0	0	0	8	0	0
12	60.623	-145.930	0	0	0	0	0	0	0	0	9	0
14	60.623	-145.915	0	0	0	0	0	0	0	8	0	0
18	60.623	-145.888	0	0	0	0	0	0	0	0	0	10
22	60.626	-145.936	0	0	0	4	0	0	0	0	0	0
25	60.627	-145.922	0	0	0	0	0	0	0	0	9	0
26	60.627	-145.915	0	0	0	4	0	0	0	0	0	0
27	60.627	-145.908	0	0	0	0	0	0	0	0	9	0
28	60.626	-145.902	0	0	0	0	0	0	0	0	9	0
30	60.627	-145.888	0	0	0	0	0	0	0	0	0	10
31	60.626	-145.881	0	0	0	0	0	0	0	0	9	0
32	60.626	-145.874	0	0	3	0	0	0	0	0	0	0
33	60.626	-145.866	0	0	3	0	0	0	0	0	0	0
34	60.627	-145.860	0	0	0	0	0	0	0	0	9	0
35	60.627	-145.854	0	0	0	4	0	0	0	0	0	0

39	60.630	-145.929	1	0	0	0	0	0	0	0	0	0
39	60.630	-145.933	0	0	0	4	0	0	0	0	0	0
40	60.630	-145.922	0	0	3	0	0	0	0	0	0	0
41	60.630	-145.915	0	0	0	0	0	0	0	8	0	0
42	60.630	-145.908	0	0	0	0	0	0	0	0	9	0
43	60.630	-145.901	0	0	0	0	0	0	0	0	9	0
48	60.630	-145.881	0	0	0	0	0	0	0	0	9	0
49	60.630	-145.873	0	0	0	0	0	0	0	0	0	10
50	60.630	-145.866	0	0	0	0	0	0	0	0	9	0
51	60.630	-145.859	0	0	0	0	0	0	0	0	0	10
52	60.630	-145.852	0	0	3	0	0	0	0	0	0	0
52	60.630	-145.852	0	0	0	0	0	0	0	8	0	0
53	60.630	-145.849	0	0	0	4	0	0	0	0	0	0
54	60.630	-145.845	0	0	3	0	0	0	0	0	0	0
56	60.633	-145.937	1	0	0	0	0	0	0	0	0	0
58	60.633	-145.929	0	0	0	0	0	0	0	8	0	0
59	60.633	-145.922	0	0	0	0	0	0	0	0	9	0
60	60.633	-145.916	0	0	0	0	0	0	0	0	9	0
61	60.633	-145.909	0	0	0	0	0	0	0	0	0	10
62	60.633	-145.901	0	0	0	0	0	0	0	0	0	10
64	60.633	-145.887	0	0	3	0	0	0	0	0	0	0
66	60.633	-145.880	0	0	0	4	0	0	0	0	0	0
67	60.633	-145.873	0	0	0	0	0	0	0	0	9	0
68	60.633	-145.866	0	0	0	0	0	0	0	0	9	0
69	60.633	-145.859	0	0	0	0	0	0	0	0	9	0
70	60.633	-145.852	0	0	0	0	0	0	0	0	9	0
71	60.633	-145.845	0	0	0	0	0	0	0	0	9	0
72	60.633	-145.838	0	0	0	4	0	0	0	0	0	0
73	60.637	-145.929	0	0	0	4	0	0	0	0	0	0
74	60.636	-145.923	0	0	0	0	0	0	0	8	0	0
75	60.636	-145.916	0	0	0	0	0	0	0	0	0	10
76	60.636	-145.909	0	0	0	0	0	0	0	0	0	10
77	60.636	-145.902	0	0	0	0	0	0	0	0	0	10
78	60.636	-145.894	0	0	3	0	0	0	0	0	0	0
80	60.637	-145.873	0	0	0	0	0	0	0	0	9	0
81	60.636	-145.866	0	0	0	0	0	0	0	8	0	0
82	60.636	-145.860	0	0	0	0	0	0	0	8	0	0
84	60.636	-145.845	0	0	0	0	0	0	0	8	0	0
85	60.636	-145.838	0	0	0	0	0	0	0	8	0	0
86	60.637	-145.831	0	0	3	0	0	0	0	0	0	0
87	60.636	-145.828	0	0	0	4	0	0	0	0	0	0
88	60.640	-145.926	0	0	0	4	0	0	0	0	0	0
89	60.640	-145.922	0	0	0	0	0	0	0	0	9	0
90	60.640	-145.915	0	0	0	0	0	0	0	0	9	0
91	60.640	-145.908	0	0	0	0	0	0	0	0	9	0
92	60.640	-145.901	0	0	0	0	0	0	0	0	0	10

93	60.640	-145.894	0	0	0	0	0	0	0	8	0	0
95	60.638	-145.887	0	0	0	4	0	0	0	0	0	0
97	60.639	-145.880	0	0	0	0	0	0	0	8	0	0
99	60.640	-145.859	0	0	0	0	0	0	0	0	9	0
100	60.640	-145.853	0	0	0	0	0	0	0	0	0	10
102	60.640	-145.842	0	0	3	0	0	0	0	0	0	0
103	60.640	-145.838	0	0	0	4	0	0	0	0	0	0
105	60.640	-145.824	1	0	0	0	0	0	0	0	0	0
107	60.643	-145.926	0	0	0	4	0	0	0	0	0	0
108	60.643	-145.923	0	0	3	0	0	0	0	0	0	0
109	60.643	-145.915	0	0	0	0	0	0	0	0	9	0
110	60.643	-145.909	0	0	0	0	0	0	0	0	9	0
111	60.643	-145.902	0	0	0	0	0	0	0	0	9	0
112	60.643	-145.894	0	0	0	0	0	0	0	0	0	10
113	60.643	-145.890	0	0	0	0	0	0	0	8	0	0
115	60.643	-145.887	0	0	0	4	0	0	0	0	0	0
116	60.643	-145.852	0	0	0	0	0	0	0	8	0	0
118	60.643	-145.842	0	0	3	0	0	0	0	0	0	0
119	60.643	-145.838	0	0	3	0	0	0	0	0	0	0
120	60.643	-145.831	0	2	0	0	0	0	0	0	0	0
121	60.643	-145.824	0	0	0	4	0	0	0	0	0	0
124	60.647	-145.924	0	0	0	0	0	0	0	0	9	0
126	60.647	-145.915	0	0	3	0	0	0	0	0	0	0
127	60.646	-145.908	0	0	0	0	0	0	0	0	9	0
128	60.647	-145.902	0	0	0	0	0	0	0	0	9	0
129	60.646	-145.894	0	0	0	0	0	0	0	0	9	0
130	60.647	-145.887	0	0	0	4	0	0	0	0	0	0
131	60.646	-145.883	0	0	0	0	0	0	0	8	0	0
131	60.647	-145.884	0	0	0	0	0	0	0	8	0	0
133	60.645	-145.846	0	0	0	0	0	0	0	8	0	0
134	60.645	-145.842	0	0	3	0	0	0	0	0	0	0
137	60.647	-145.838	0	0	0	0	0	0	0	8	0	0
138	60.647	-145.835	0	2	0	0	0	0	0	0	0	0
139	60.648	-145.832	0	2	0	0	0	0	0	0	0	0
141	60.650	-145.923	0	0	3	0	0	0	0	0	0	0
142	60.650	-145.919	0	0	3	0	0	0	0	0	0	0
143	60.650	-145.915	0	0	0	0	0	0	0	8	0	0
144	60.650	-145.908	0	0	0	0	0	0	0	8	0	0
146	60.650	-145.894	0	0	0	0	0	0	0	0	9	0
147	60.650	-145.887	0	0	0	4	0	0	0	0	0	0
148	60.650	-145.880	1	0	0	0	0	0	0	0	0	0
149	60.653	-145.916	0	0	0	0	0	0	0	0	9	0
150	60.653	-145.908	0	0	0	0	0	0	0	0	9	0
151	60.653	-145.902	0	0	0	0	0	0	0	8	0	0
152	60.657	-145.908	0	0	0	0	0	0	0	0	9	0
154	60.656	-145.894	0	0	0	0	0	0	0	8	0	0

155	60.652	-145.891	0	0	0	0	0	0	0	8	0	0
157	60.660	-145.894	0	0	0	0	0	0	0	0	9	0
158	60.659	-145.883	0	0	0	0	0	0	0	0	9	0
158	60.660	-145.887	0	0	0	0	0	0	0	0	9	0
161	60.663	-145.887	0	0	0	0	0	0	0	0	9	0
162	60.663	-145.880	0	0	0	0	0	0	0	0	9	0
163	60.663	-145.873	0	0	0	4	0	0	0	0	0	0
164	60.665	-145.901	0	0	0	0	0	0	0	0	9	0
165	60.666	-145.901	0	0	0	0	0	0	0	0	9	0
167	60.666	-145.887	0	0	0	0	0	0	0	8	0	0
168	60.666	-145.880	0	0	0	0	0	0	0	0	9	0
169	60.666	-145.873	0	0	0	0	0	0	0	0	9	0
170	60.666	-145.870	0	0	0	0	0	0	0	8	0	0
171	60.670	-145.898	0	0	0	0	0	0	0	0	9	0
172	60.670	-145.894	0	0	0	4	0	0	0	0	0	0
173	60.670	-145.887	0	0	0	0	0	0	0	0	9	0
174	60.670	-145.880	0	0	0	0	0	0	0	0	9	0
177	60.673	-145.898	0	0	0	0	0	0	0	0	0	10
178	60.673	-145.892	0	0	3	0	0	0	0	0	0	0
179	60.673	-145.887	0	0	0	0	0	0	0	8	0	0
180	60.673	-145.880	0	0	0	0	0	0	0	0	0	10
181	60.673	-145.873	0	0	0	0	0	0	0	0	0	10
183	60.673	-145.863	0	0	3	0	0	0	0	0	0	0
185	60.677	-145.887	0	0	0	0	0	0	7	0	0	0
186	60.676	-145.880	0	0	0	0	0	0	7	0	0	0
187	60.677	-145.873	0	0	0	0	0	0	7	0	0	0
188	60.676	-145.866	1	0	0	0	0	0	0	0	0	0
189	60.676	-145.859	0	0	0	0	0	0	0	0	0	10
192	60.678	-145.856	0	0	0	0	0	0	0	0	9	0
194	60.680	-145.880	0	0	3	0	0	0	0	0	0	0
195	60.680	-145.873	0	0	3	0	0	0	0	0	0	0
196	60.681	-145.877	0	0	0	4	0	0	0	0	0	0
132A	60.646	-145.880	1	0	0	0	0	0	0	0	0	0
135A	60.645	-145.839	0	0	3	0	0	0	0	0	0	0
166A	60.667	-145.894	0	0	0	0	0	0	0	0	9	0
176A	60.670	-145.866	0	0	0	4	0	0	0	0	0	0
184A	60.676	-145.892	0	0	0	0	0	0	0	8	0	0
193A	60.678	-145.883	0	0	0	0	0	0	0	0	9	0
65A	60.633	-145.883	0	0	3	0	0	0	0	0	0	0
98B	60.641	-145.865	0	0	0	0	0	0	7	0	0	0
			34	9	48	29	2	0	22	34	64	19
			Percentage of Sample Distribution									
			13.03%	3.45%	18.39%	11.11%	0.77%	0.00%	8.43%	13.03%	24.52%	7.28%

This data represents the distribution of sediment textures of grab samples based on their gravel composition. The data was generated using a modification of the Shepard's Classification developed by Schlee (1973).

Station ID	Position		Data for Schlee interpretation		
	Latitude	Longitude	1	2	3
			Gravel	Gravelly Sediment	Sand Silt Clay
2	60.616	-145.910	0	0	1
3	60.616	-145.901	1	0	0
3	60.616	-145.901	0	0	1
5	60.620	-145.922	0	1	0
9	60.620	-145.894	0	1	0
11	60.623	-145.936	0	1	0
12	60.623	-145.929	1	0	0
13	60.623	-145.922	0	1	0
14	60.623	-145.915	1	0	0
22	60.626	-145.937	0	1	0
23	60.626	-145.934	0	1	0
28	60.627	-145.902	0	1	0
40	60.626	-145.923	0	0	1
41	60.630	-145.915	0	1	0
42	60.630	-145.909	0	0	1
59	60.633	-145.923	0	0	1
60	60.633	-145.915	0	0	1
61	60.633	-145.908	0	0	1
76	60.637	-145.908	0	0	1
77	60.636	-145.901	0	0	1
78	60.637	-145.895	0	1	0
89	60.640	-145.922	0	0	1
90	60.640	-145.915	0	0	1
91	60.640	-145.909	0	0	1
93	60.640	-145.894	0	1	0
107	60.643	-145.926	0	1	0
108	60.643	-145.923	0	0	1
112	60.643	-145.894	0	0	1
113	60.643	-145.890	0	0	1
125	60.646	-145.919	0	1	0
128	60.646	-145.901	0	0	1
129	60.647	-145.894	0	0	1
132	60.647	-145.880	0	1	0
143	60.650	-145.915	0	0	1
145	60.650	-145.911	0	1	0
146	60.650	-145.894	0	0	1
197	60.681	-145.873	0	0	1
18	60.623	-145.887	0	0	1
19	60.623	-145.880	0	1	0

25	60.627	-145.922	0	0	1
26	60.627	-145.915	1	0	0
27	60.627	-145.908	0	0	1
28	60.627	-145.902	0	1	0
29	60.627	-145.894	1	0	0
30	60.627	-145.887	0	0	1
31	60.627	-145.880	0	0	1
32	60.626	-145.874	0	0	1
33	60.626	-145.866	0	1	0
34	60.626	-145.859	0	1	0
45	60.630	-145.891	1	0	0
47	60.630	-145.884	1	0	0
48	60.630	-145.880	0	0	1
49	60.630	-145.873	0	0	1
50	60.630	-145.866	0	0	1
51	60.630	-145.859	0	0	1
52	60.630	-145.852	1	0	0
53	60.630	-145.849	0	1	0
69	60.633	-145.859	0	0	1
70	60.633	-145.853	0	0	1
72	60.633	-145.838	0	1	0
72	60.633	-145.838	0	0	1
80	60.636	-145.873	0	0	1
81	60.637	-145.866	1	0	0
82	60.636	-145.859	1	0	0
83	60.636	-145.852	1	0	0
85	60.636	-145.838	1	0	0
86	60.637	-145.831	1	0	0
87	60.636	-145.828	1	0	0
95	60.638	-145.888	1	0	0
96	60.638	-145.884	1	0	0
99	60.640	-145.859	1	0	0
100	60.640	-145.852	1	0	0
101	60.640	-145.845	1	0	0
102	60.640	-145.842	1	0	0
103	60.640	-145.839	0	1	0
105	60.640	-145.824	0	0	1
115	60.641	-145.859	0	1	0
116	60.643	-145.852	0	0	1
117	60.643	-145.846	0	1	0
118	60.643	-145.842	0	0	1
119	60.643	-145.838	0	0	1
120	60.643	-145.832	0	1	0
121	60.643	-145.825	0	1	0
133	60.645	-145.845	0	1	0
134	60.645	-145.842	0	0	1
136	60.645	-145.824	0	0	1
137	60.646	-145.838	0	0	1

138	60.646	-145.835	0	0	1
147	60.650	-145.887	0	0	1
148	60.650	-145.880	2	0	0
149	60.653	-145.916	0	1	0
153	60.657	-145.901	0	0	1
170	60.666	-145.869	0	1	0
175	60.670	-145.873	0	0	1
176	60.670	-145.868	0	1	0
180	60.673	-145.880	0	0	1
181	60.673	-145.873	0	0	1
182	60.673	-145.866	0	0	1
183	60.673	-145.863	0	0	1
187	60.677	-145.873	0	0	1
188	60.677	-145.866	2	0	0
189	60.677	-145.859	0	0	1
198	60.678	-145.868	0	0	1
106A	60.640	-145.818	0	0	1
122A	60.643	-145.820	1	0	0
139A	60.648	-145.832	0	0	1
193A	60.678	-145.883	0	1	0
35A	60.627	-145.854	0	0	1
98a	60.639	-145.868	0	0	1
2	60.616	-145.908	0	0	1
3	60.616	-145.902	0	0	1
5	60.620	-145.923	0	1	0
8	60.620	-145.901	0	0	1
9	60.620	-145.895	0	0	1
11	60.623	-145.936	0	1	0
12	60.623	-145.930	0	1	0
14	60.623	-145.915	0	0	1
18	60.623	-145.888	0	0	1
22	60.626	-145.936	0	0	1
25	60.627	-145.922	0	0	1
26	60.627	-145.915	0	1	0
27	60.627	-145.908	0	0	1
28	60.626	-145.902	0	0	1
30	60.627	-145.888	0	0	1
31	60.626	-145.881	0	0	1
32	60.626	-145.874	0	1	0
33	60.626	-145.866	0	1	0
34	60.627	-145.860	0	0	1
35	60.627	-145.854	0	1	0
39	60.630	-145.929	0	1	0
39	60.630	-145.933	0	1	0
40	60.630	-145.922	0	0	1
41	60.630	-145.915	0	0	1
42	60.630	-145.908	0	0	1
43	60.630	-145.901	0	0	1

48	60.630	-145.881	0	0	1
49	60.630	-145.873	0	0	1
50	60.630	-145.866	0	0	1
51	60.630	-145.859	0	0	1
52	60.630	-145.852	0	1	0
52	60.630	-145.852	0	0	1
53	60.630	-145.849	0	1	0
54	60.630	-145.845	0	0	1
56	60.633	-145.937	0	0	1
58	60.633	-145.929	0	1	0
59	60.633	-145.922	0	0	1
60	60.633	-145.916	0	0	1
61	60.633	-145.909	0	0	1
62	60.633	-145.901	0	0	1
64	60.633	-145.887	0	0	1
66	60.633	-145.880	0	1	0
67	60.633	-145.873	0	0	1
68	60.633	-145.866	0	0	1
69	60.633	-145.859	0	0	1
70	60.633	-145.852	0	0	1
71	60.633	-145.845	0	0	1
72	60.633	-145.838	0	1	0
73	60.637	-145.929	0	1	0
74	60.636	-145.923	0	1	0
75	60.636	-145.916	0	0	1
76	60.636	-145.909	0	0	1
77	60.636	-145.902	0	0	1
78	60.636	-145.894	0	1	0
80	60.637	-145.873	0	0	1
81	60.636	-145.866	0	1	0
82	60.636	-145.860	0	1	0
84	60.636	-145.845	0	1	0
85	60.636	-145.838	0	0	1
86	60.637	-145.831	0	1	0
87	60.636	-145.828	0	1	0
88	60.640	-145.926	0	1	0
89	60.640	-145.922	0	0	1
90	60.640	-145.915	0	0	1
91	60.640	-145.908	0	0	1
92	60.640	-145.901	0	0	1
93	60.640	-145.894	0	1	0
95	60.638	-145.887	0	1	0
97	60.639	-145.880	0	0	1
99	60.640	-145.859	0	0	1
100	60.640	-145.853	0	0	1
102	60.640	-145.842	0	1	0
103	60.640	-145.838	0	1	0
105	60.640	-145.824	0	0	1

107	60.643	-145.926	0	1	0
108	60.643	-145.923	0	1	0
109	60.643	-145.915	0	0	1
110	60.643	-145.909	0	0	1
111	60.643	-145.902	0	0	1
112	60.643	-145.894	0	0	1
113	60.643	-145.890	0	0	1
115	60.643	-145.887	0	1	0
116	60.643	-145.852	0	0	1
118	60.643	-145.842	0	1	0
119	60.643	-145.838	0	0	1
120	60.643	-145.831	0	1	0
121	60.643	-145.824	0	1	0
124	60.647	-145.924	0	0	1
126	60.647	-145.915	0	1	0
127	60.646	-145.908	0	0	1
128	60.647	-145.902	0	0	1
129	60.646	-145.894	0	0	1
130	60.647	-145.887	0	1	0
131	60.646	-145.883	0	1	0
131	60.647	-145.884	0	0	1
133	60.645	-145.846	0	0	1
134	60.645	-145.842	0	0	1
137	60.647	-145.838	0	0	1
138	60.647	-145.835	0	0	1
139	60.648	-145.832	0	1	0
141	60.650	-145.923	0	0	1
142	60.650	-145.919	0	0	1
143	60.650	-145.915	0	1	0
144	60.650	-145.908	0	1	0
146	60.650	-145.894	0	0	1
147	60.650	-145.887	0	1	0
148	60.650	-145.880	0	1	0
149	60.653	-145.916	0	0	1
150	60.653	-145.908	0	0	1
151	60.653	-145.902	0	0	1
152	60.657	-145.908	0	0	1
154	60.656	-145.894	0	0	1
155	60.652	-145.891	0	0	1
157	60.660	-145.894	0	0	1
158	60.659	-145.883	0	0	1
158	60.660	-145.887	0	0	1
161	60.663	-145.887	0	0	1
162	60.663	-145.880	0	0	1
163	60.663	-145.873	0	1	0
164	60.665	-145.901	0	0	1
165	60.666	-145.901	0	0	1
167	60.666	-145.887	0	1	0

168	60.666	-145.880	0	0	1
169	60.666	-145.873	0	0	1
170	60.666	-145.870	0	1	0
171	60.670	-145.898	0	0	1
172	60.670	-145.894	0	1	0
173	60.670	-145.887	0	0	1
174	60.670	-145.880	0	0	1
177	60.673	-145.898	0	0	1
178	60.673	-145.892	0	0	1
179	60.673	-145.887	0	0	1
180	60.673	-145.880	0	0	1
181	60.673	-145.873	0	0	1
183	60.673	-145.863	0	0	1
185	60.677	-145.887	0	0	1
186	60.676	-145.880	0	0	1
187	60.677	-145.873	0	0	1
188	60.676	-145.866	0	1	0
189	60.676	-145.859	0	0	1
192	60.678	-145.856	0	0	1
194	60.680	-145.880	0	0	1
195	60.680	-145.873	0	0	1
196	60.681	-145.877	0	0	1
132A	60.646	-145.880	1	0	0
135A	60.645	-145.839	0	0	1
166A	60.667	-145.894	0	0	1
176A	60.670	-145.866	0	1	0
184A	60.676	-145.892	0	1	0
193A	60.678	-145.883	0	0	1
65A	60.633	-145.883	0	1	0
98B	60.641	-145.865	0	0	1
			26	79	158
			Percentage of Sample Distribution		
			9.89%	30.04%	60.08%

The data presented above was generated by the Coastal Geology Lab at Texas A&M University at Galveston by Christian Noll in a Microsoft Excel spreadsheet using “IF THEN” statements and information from the Maryland Geological Survey Coastal and Estuarine Geology Program (Kerhin, et al., 1988). The information was then modified in house to look at the distribution of sediment textures based on coarse, silt, and clay as well as the gravel, sand, and mud percentages. Finally, the data was modified to fit the Schlee classification scheme. The variable used for the sand, silt and clay in the equations came from the percents of those constituents. The following equations were used:

Sand = (IF(AND(sand>75,silt<25,clay<25),"1","0"))*1

Silty Sand = (IF(AND(sand<75,clay<20,(sand/silt)>1,(silt/clay)>1),"2","0"))*1

Sand Silt Clay = (IF(AND(sand>20,silt>20,clay>20),"3","0"))*1

Clayey Sand = (IF(AND(sand<75,silt<20,(clay/sand)<1,(silt/clay)<1),"4","0"))*1

Sandy Silt = (IF(AND(silt<75,clay<20,(sand/silt)<1,(clay/sand)<1),"5","0"))*1

Silt = (IF(AND(silt>75,sand<25,clay<25),"6","0"))*1

Clayey Silt = (IF(AND(silt<75,sand<20,(clay/sand)>1,(silt/clay)>1),"7","0"))*1

Sandy Clay = (IF(AND(clay<75,silt<20,(sand/silt)>1,(clay/sand)>1),"8","0"))*1

Silty Clay = (IF(AND(clay<75,sand<20,(silt/clay)<1,(sand/silt)<1),"9","0"))*1

Clay = (IF(AND(clay>75,silt<25,sand<25),"10","0"))*1

The variable used for the gravel, sand and mud in the equations came from the percents of those constituents. The following equations were used:

Gravel = (IF(AND(gravel>75,sand<25,mud<25),"1","0"))*1

Sandy Gravel = (IF(AND(gravel<75,mud<20,(gravel/sand)>1,(sand/mud)>1),"2","0"))*1

Gravel Sand Mud = (IF(AND(gravel>20,sand>20,mud>20),"3","0"))*1

Muddy Sand = (IF(AND(gravel<75,sand<20,(mud/gravel)<1,(sand/mud)<1),"4","0"))*1

Gravelly Sand = (IF(AND(sand<75,mud<20,(gravel/sand)<1,(mud/gravel)<1),"5","0"))*1

Sand = (IF(AND(sand>75,gravel<25,mud<25),"6","0"))*1

Muddy Sand = (IF(AND(sand<75,gravel<20,(mud/gravel)>1,(sand/mud)>1),"7","0"))*1

Gravelly Mud = (IF(AND(mud<75,sand<20,(gravel/sand)>1,(mud/gravel)>1),"8","0"))*1

Sandy Mud = (IF(AND(mud<75,gravel<20,(sand/mud)<1,(gravel/sand)<1),"9","0"))*1

Mud = (IF(AND(mud>75,sand<25,gravel<25),"10","0"))*1

The variable used for the coarse, silt and clay in the equations came from the percents of those constituents. The following equations were used:

Coarse = (IF(AND(coarse>75,silt<25,clay<25),"1","0"))*1

Silty Coarse = (IF(AND(coarse<75,clay<20,(coarse/silt)>1,(silt/clay)>1),"2","0"))*1

Coarse Silt Clay = (IF(AND(coarse>20,silt>20,clay>20),"3","0"))*1

Clayey Silt = (IF(AND(coarse<75,silt<20,(clay/coarse)<1,(silt/clay)<1),"4","0"))*1

Coarse Silt = (IF(AND(silt<75,clay<20,(coarse/silt)<1,(clay/coarse)<1),"5","0"))*1

Silt = (IF(AND(silt>75,coarse<25,clay<25),"6","0"))*1

Clayey Silt = (IF(AND(silt<75,coarse<20,(clay/coarse)>1,(silt/clay)>1),"7","0"))*1

Coarse Clay = (IF(AND(clay<75,silt<20,(coarse/silt)>1,(clay/coarse)>1),"8","0"))*1

Silty Clay = (IF(AND(clay<75,coarse<20,(silt/clay)<1,(coarse/silt)<1),"9","0"))*1

Clay = (IF(AND(clay>75,silt<25,coarse<25),"10","0"))*1

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