

**ANTECEDENT AND ANTHROPOGENIC INFLUENCES ON THE
GALVESTON ISLAND SHOREFACE**

A Thesis

by

JENNIFER LYNN PITKEWICZ

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 2006

Major Subject: Oceanography

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Approved by:

Chair of Committee, Timothy Dellapenna

Committee Members, William Sager

Thomas Linton

Head of Department, John Wormuth

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ABSTRACT

Antecedent and Anthropogenic Influences on the
Galveston Island Shoreface. (December 2006)

Jennifer Lynn Pitkewicz, B.S., State University of New York at Stony Brook

Chair of Committee: Dr. Timothy M. Dellapenna

Galveston Island, Texas has been experiencing high rates of erosion in recent years, spawning an interest in developing complex beach management programs. However, before any effective management project can be implemented we must understand all of the processes that control the shoreface. It is only recently that scientists have begun to recognize the importance of the role that the geologic framework plays on the coastal evolution of the shoreline. In this region, it is the antecedent geology as well as the anthropogenic obstructions which are the key factors controlling the formation of the modern shoreface. This study defines the extents to which these antecedent and anthropogenic factors influence the shoreface as well as refines the geologic interpretations offshore of Galveston Island. Using sidescan sonar, CHIRP seismic sonar, multibeam bathymetry data and sediment cores, the shoreface and subsurface geology were modeled. It was determined that the thickness, extent and slope of the modern sediment in the nearshore environment is controlled by the topography of the Beaumont Clay, a consolidated clay deposited during the Pleistocene.

Anthropogenic obstructions, including the Galveston Seawall, groin and jetty system, have changed the sediment transport patterns in the region and have created a system of erosion and accretion not only along the shoreline, but for the entire length of the shoreface.

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I would like to thank my friends and family for all their support, especially over the last two years.

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1. INTRODUCTION

Galveston Island is one of the nations most highly eroding shorelines, with annual rates over 1.5 m/y (Anderson and Smith Wellner, 2002; Gibeaut, 2006; Figure 1). The alarming rates of erosion of this highly populated barrier island have caused increased concern with local residents and government officials, and have also spurred the development of beach management programs in the region; including the Coastal Erosion and Response Program (CEPRA) created by the Texas General Land Office and the Galveston County Beach Erosion Task Force run by the West End Property Owners Association in conjunction with the City of Galveston. However, before any effective management program can be implemented, we must understand the primary processes that control the shoreface.

The morphology of barrier islands is influenced by several factors, including: long-term, low energy events, such as waves and tides; short-term, high energy events, such as tropical storms and hurricanes; sediment supply from surrounding fluvial sources; sea level changes and antecedent geology (McBride et al., 1995). However, it is only recently that scientists have begun to recognize the importance of the role that the geologic framework plays on coastal evolution of the shoreline. Thus far, a study of this nature has yet to be done on the Texas coast or for a shoreline that is eroding at these rates.

This thesis follows the style of the *Journal of Coastal Research*.

This thesis will address the combined effects of the antecedent and anthropogenic influences on the geologic architecture offshore of Galveston Island, and refines the interpretations of the geology of the Galveston Island shoreface. Sidescan sonar, CHIRP seismic sonar, and multibeam bathymetry data were acquired and sediment cores were collected offshore of Galveston Island. Data analyses indicate that the distribution and thickness of sedimentary facies is controlled by the underlying antecedent geologic units as well as anthropogenic obstructions in the region.

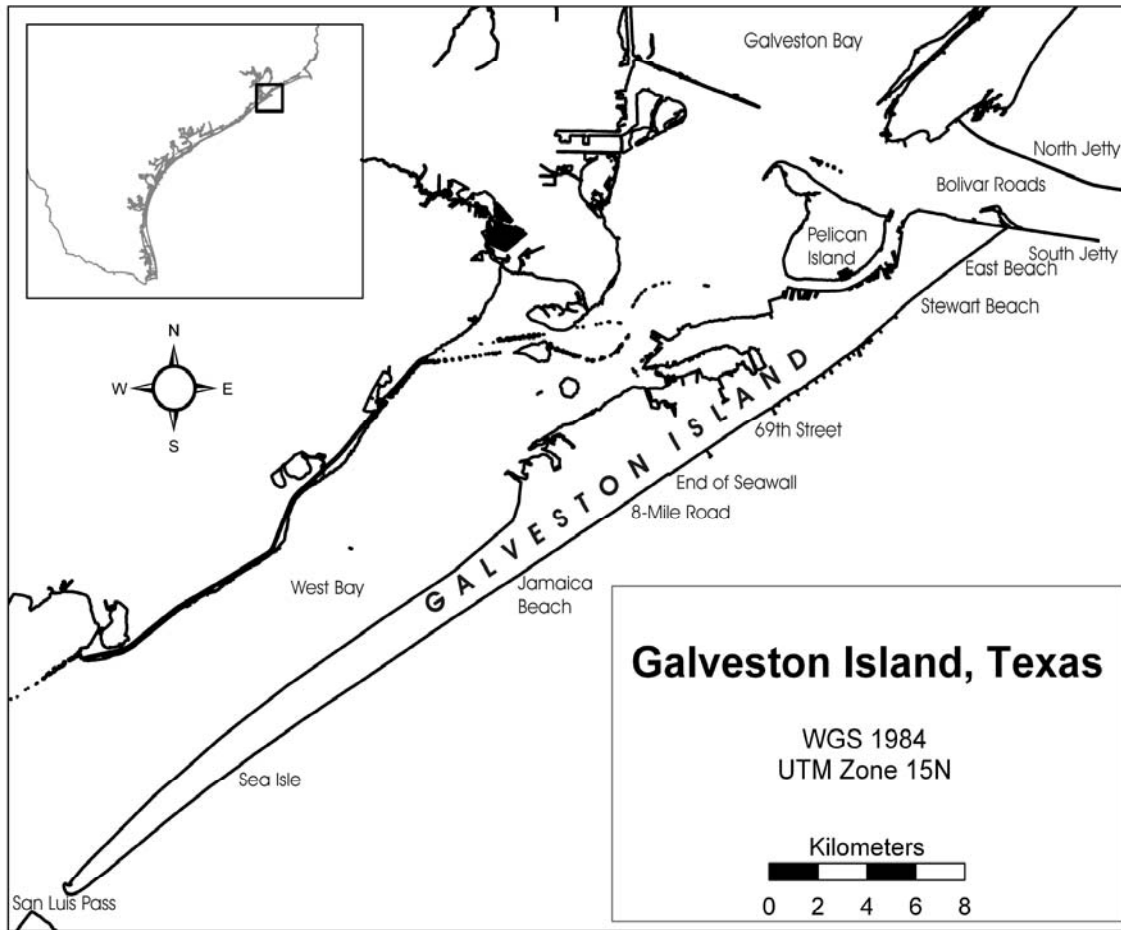


Figure 1: Map of Galveston Island and surrounding areas

2. BACKGROUND

Galveston Island is a barrier island situated on the southeast Texas Quaternary coastal plain, approximately 80 km southeast of Houston (Giardino et al., 2000). It is part of an almost continuous barrier island chain that runs down the Northwestern coast of the Gulf of Mexico (Giardino et al., 2000). Galveston Island extends over 40 km from the Bolivar Roads mouth of Galveston Bay to San Luis Pass. It began formation during the Holocene low stand over 6,000 years ago as a sand bar (Cole and Anderson, 1982). Overtime the island accreted both seaward and southwestward and formed the modern island. For most of its history, the Galveston barrier island system was prograding seaward, however, over the past 50 years, it has been in a state of retreat, moving landward at an average rate of 3 m/y (Anderson and Smith Wellner, 2002; Siringan and Anderson, 1994).

The retreat of the island in the early 1900's has been influenced by the several anthropogenic obstructions and physical processes, including: the damming of the Trinity and Brazos rivers, construction of the Galveston seawall and groin system and the dredging of the Houston Ship Channel. These have all altered sediment dispersal patterns and reduced the sediment supply to the island (Hayes, 1967).

Sediment supply in this region of the Gulf of Mexico is also influenced by hurricanes. These short term, high energy events impact the Texas shoreline on average every 1.5 years, and a storm that causes substantial erosion to this area occurs about every six years (Siringan and Anderson, 1994). Galveston typically has southeasterly winds in the summer months and short periods of northerly winds in the winter (White et

al., 1985). Average significant wave size and tidal range are 2.1 m and 45-50 cm, respectively; however, during hurricanes wind direction changes and wave heights can reach wave height of up to 7 m (Rodriguez et al., 1999).

In other coastal settings such as North and South Carolina, it is not only the sediment supply, sea level rise, short and long term events that are the major factors influencing barrier island morphology, but the geological framework as well (Harris et al., 2005; RIGGS et al., 1995). In North Carolina, Riggs et al. showed that the barrier island features were controlled by the Pleistocene, Tertiary and Cretaceous sediments upon which the barrier island system was perched (Riggs, et al., 1995). They divided the system into two distinct regions which controlled various aspects of the modern shoreface. The modern shoreface north of Cape Lookout is composed of a sequence that filled the depositional basin, while the shoreface south of Cape Lookout was composed of antecedent units that crop out along the shelf, with only a thin veneer of modern sediment (Riggs, et al., 1995). The antecedent sequences are cut by an old drainage system (Riggs, et al., 1995). This created fluvial valleys filled with modern sediment which are separated from the antecedent outcropping units (Riggs, et al. 1995). These two distinct regions create nonheadland and headland systems, which influence composition of sediments on the beach, shoreline retreat rates and the morphology of the barrier island (Riggs, et al., 1995). In South Carolina, at Folly and Kiawah Islands, Harris et al. (2005) conducted a study to define the influences of geologic framework on evolution of the coastal zone. They concluded that out of the five geologic regions identified by seismic studies, three units directly influence the barrier island evolution by

controlling the stratigraphic highs and lows of the system (Harris et al., 2005). Furthermore, it was stated that the magnitude of influence depends on the depth and competence of the antecedent geologic unit.

In the Galveston area several studies have been conducted to establish the basic geology offshore of the region. According to Rodriguez et al. (1999), the geology of the inner shelf of the east Texas coast is composed of three distinct sedimentary facies progressing offshore: the Upper, Proximal Lower and the Distal Lower Shoreface (Figure 2). The Upper Shoreface consists of 80 to 100% fine to very fine sands and extends approximately 1.5 to 2 km offshore (Rodriguez et al., 1999; Siringan and Anderson, 1994; Robb et al., 2003). Surface sediments in this region have a modal size of 3 to 3.25 Φ (Rodriguez et al., 1999) The Proximal Lower Shoreface is composed of very fine sands and medium to thickly interbedded mud layers (10-50 cm), with a silt and clay content ranging from less than 30% to over 60% at the central portions of the island (Rodriguez et al., 1999). The Distal Lower Shoreface contains predominately muddy sediment and thin to medium bedded sand layers (3-20 cm) with 55 to 75% silt and clay content (Rodriguez et al., 1999; Siringan and Anderson, 1994). Sands within the Proximal and Distal Lower Shoreface have a modal size of 2.5 to 3.0 Φ . More recently Robb et al., (2003) have identified a fourth geologic facies offshore of Galveston Island; a Modern Mud Unit. The Modern Mud Unit incises antecedent shoreface units and contains at least 60% silt and clay (Robb, et al., 2003; Figure 2).

Radioisotope age dating of the Modern Mud Unit was conducted by Robb et al. (2003). Robb used ^{137}Cs and ^{210}Pb to establish a geochronology at a study site offshore

of the Galveston Island between 25th and 68th streets (East End) and offshore of Pirates Beach (West End). The base of the Modern Mud Layer dates to 2660 ybp and the most recent mud layer has formed with in the last 22 and 57 years (Robb et al., 2003).

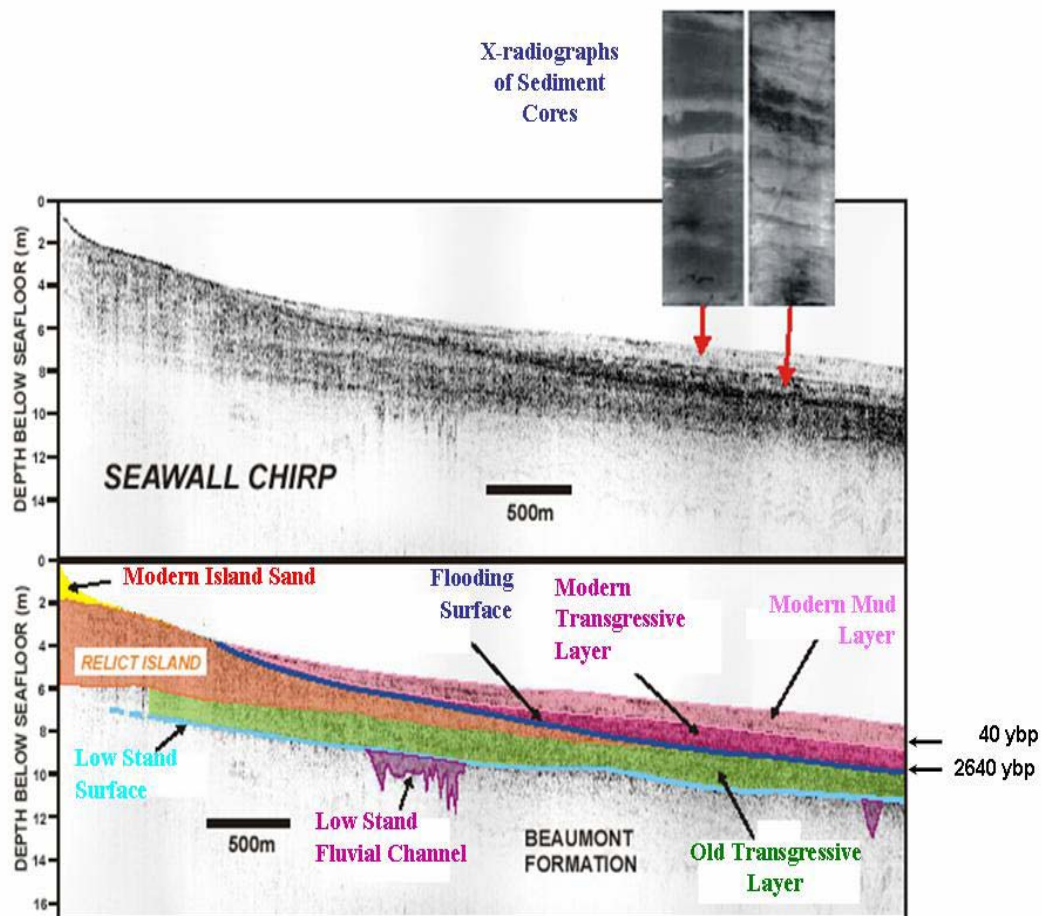


Figure 2: Geology of offshore Galveston Island (Robb et al., 2003)

At the base of the modern stratigraphic sequence lies the Pleistocene aged Beaumont Clay (BC) (Siringan and Anderson, 1994). It was formed during the

Pleistocene highstand of sea level as clays and silts were deposited from the Trinity and Brazos rivers far from shore. Over time, sea level fell as the Wisconsin Ice age began. During this time, the rivers formed large deltas that cut into the BC unit and extended through our study area and to the southeast (Cole and Anderson, 1982; Blum and Price, 1998). The resulting valley fill and alluvial plain formation provided the sands from which the formation of Galveston Island began (Cole and Anderson, 1982).

During the Wisconsinan transgression, sea level rose, the regional sand bodies were transported landward, and Galveston Island began to form. Since the BC has a shear strength of 1 kg/cm^2 , it has a high resistance to erosion, and served as a base upon which the modern island lies.

The upper BC boundary is marked by a sharp increase in shear strength and a transition to mottled orange and green clay and the presence of calcareous nodules (Bernard et al., 1959). This Pleistocene sequence lies deeper towards the eastern end of the island near the ancestral incised Trinity River valley and becomes shallower towards the western portion of the island. (White et al., 1985; Bernard et al., 1970). This westward shallowing of the hard, consolidated, indurated BC corresponds with the thickness of overlying sand and mud, resulting in a thinning of the Holocene sediment towards the western end of the Galveston Island. As expected, the amount of sand also decreases with the distance offshore towards the island's sand toe; which, on the western end of the island pinches out at approximately 1.5 km offshore (Robb et al., 2003; Figure 2).

The seaward extent of the island toe is also the depth of closure. (Rodriguez, et al., 1999; Swift, et al., 1985). The depth of closure is the depth below the wave base where the waves will actively be stirring the sediment. It is here that there is a change from a sand dominated to mud dominated sediment regime. Consequently, there is also a change in slope at this point, since coarser sediment will form a steeper slope while finer sediment will create a shallower slope.

Studies quantifying beach erosion rates on Galveston Island have been conducted by Morton (1985) and more recently by Gibeaut of the Bureau of Economic Geology (2006). Long term beach erosion has occurred on the West End of the island. Rates were up to 4 m/y from just west of the end of the Galveston Seawall to Bermuda Beach (Morton and Paine, 1985; Gibeaut, 2006; Figure 3). Erosion is significantly enhanced after hurricanes, increasing rates to 6 m/y just past the end of the Seawall, several m/y in the middle of the West End near Jamaica Beach and over 6 m/y towards the western most end of the island. (Morton and Paine, 1985).

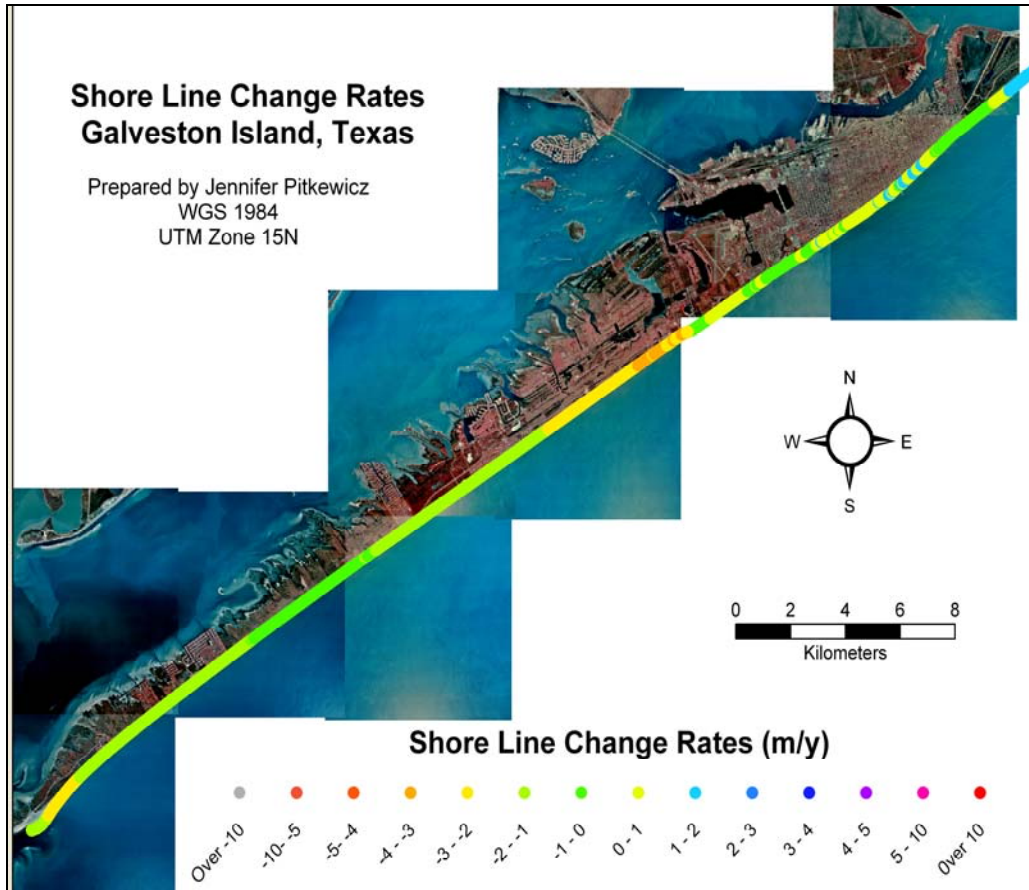


Figure 3: Historical erosion rates for Galveston Island (Gibeaut, 2006)

3. STUDY AREA

The study area is located offshore of Galveston Island, Texas (Figure 4). The site runs the entire length of the island and extends up to 4 km offshore. During the months of March through August 2005 geological and geophysical data including CHIRP seismic sonar, sidescan sonar and multibeam bathymetry data were collected and sediment cores were collected offshore of Galveston Island in the study area.

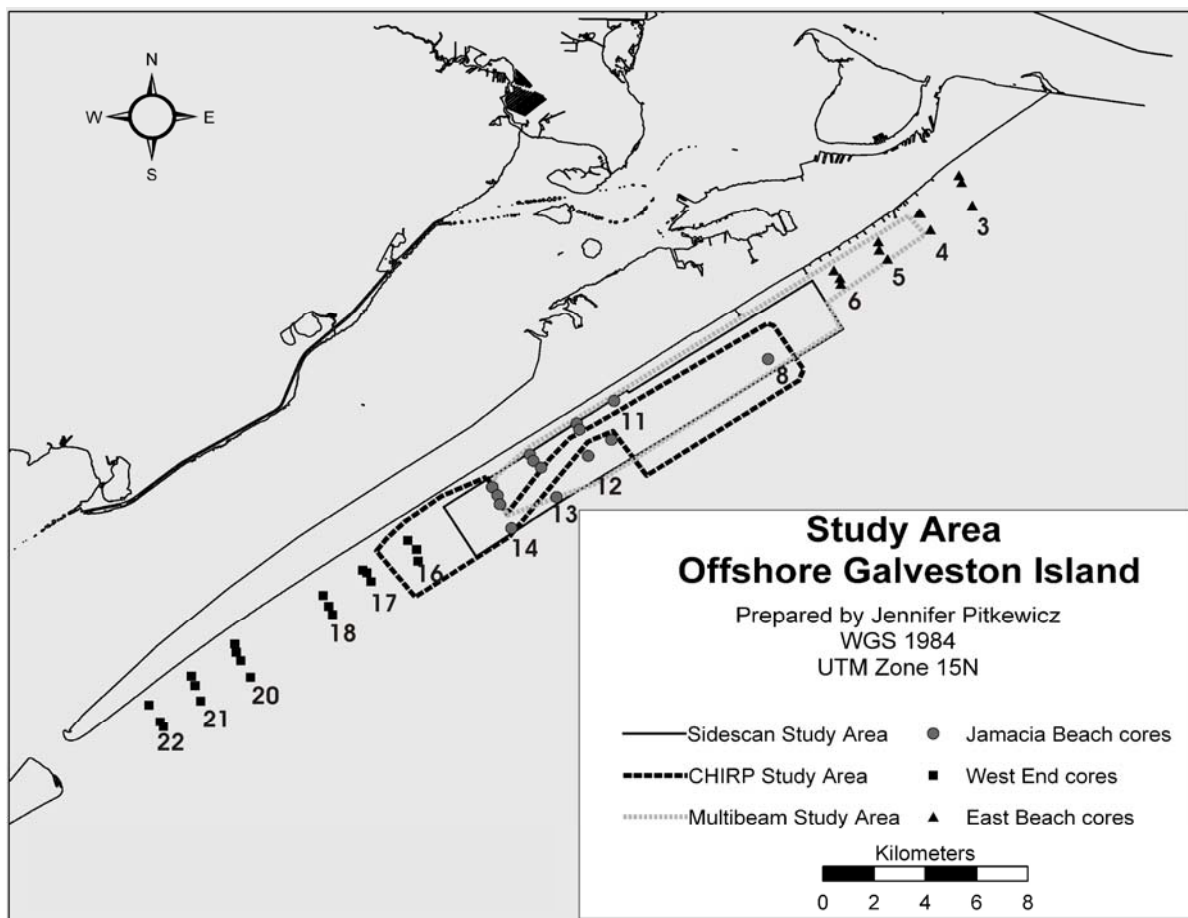


Figure 4: Study area, offshore of Galveston Island

In March 2005 the first geophysical cruise was conducted aboard the University of Texas Medical Branch's R/V *Marie Hall* in order to collect CHIRP seismic data offshore of the central portion of Galveston Island.

A coring cruise was conducted from July 6-9, 2005 aboard the Lift Boat (L/B) *Pontchartrain*. Shore-normal transects were planned every 2 km for the entire length of the Galveston Island (Figures 4 and 5). The coring transects were numbered sequentially starting at the eastern end of the island. Cores were collected at depths of 4.5 m, 6.0 m, 7.5 m, 9.0 m and 10.5 m along these transects, and assigned letters A, B, C, D and E, respectively. Due to the presence of geohazards, including: pipelines, archeological and anthropogenic obstructions, several planned locations were unable to be cored. (Dellapenna et al., 2006). The cores collected in this study have been broken down into three sub-regions: East Beach, Jamaica Beach and the West End. From here on the 16 cores collected on transects 3 through 6 will be referred to as the East Beach cores, the 14 cores from transects 8 through 14 will be referred to as the Jamaica Beach cores and the 19 cores collected from transects 16 through 22 will be referred to as the West End Cores. The East Beach cores were collected offshore of the City of Galveston between Stewart Beach and the end of the Seawall. The Jamaica Beach cores were collected between westward of the end of the Seawall to Jamaica Beach. Lastly, the West End cores were collected offshore west of Jamaica Beach to San Luis Pass.

In June through August 2005 additional geophysical cruises were conducted in order to collect multibeam bathymetry and sidescan sonar data concurrently offshore of

the eastern and central portions of Galveston Island aboard the Louisiana University Marine Consortium's R/V *Eugenie*.



Figure 5: Lift Boat Pontchartrain deploying submersible vibra-core rig for sediment core acquisition (Left). Crew preparing rig with new core barrel before deployment (Right).

4. METHODS

4.1 CHIRP seismic

CHIRP seismic data is used for the analysis and identification of stratigraphic layers beneath the seabed. In this study it is used to assess the antecedent geology of the offshore region of Galveston Island, with particular focus on the BC formation.

A study area of over 33 km² sub-bottom seismic data were collected during this cruise. Seismic data were collected using an Edgetech® 512i Full Spectrum Sub-Bottom CHIRP towfish and run at 0.5 to 12 kHz frequency through the study grid of shore normal and parallel transects at a line spacing of 150 m (Dellapenna et al., 2006). Several additional CHIRP seismic lines running though core transect lines were collected using a 216s CHIRP towfish run at 2 to 16 kHz frequency. Delph Seismic Plus® software was used to acquire the raw data and for post processing and georeferencing. The DelphMap® and SGIS® programs were used to horizon pick, analyze data, and export images of the study site.

4.2 Sediment cores

A total of 45 cores were collected offshore of Galveston Island in water depths ranging from 4.5 m to 10.5 m using a submersible vibracore rig. Following ASTM standards, cores were cut in half lengthwise, photographed, and visual descriptions of the sediment lithology and Munsell color were recorded. One half of each core was archived for future reference and one half processed for water content and grain size analysis.

Grain size samples were collected at the beginning and end of each lithologic interval in nine centimeter intervals. A total of 355 samples were processed for grain size analyses.

The samples were prepared for analyses by sonicating the sample with deionized water and a calgon solution, then wet sieved through a #230/4 Φ screen into a graduated cylinder. A RO-TAP device containing 11 sieves was used to separate sand samples according to size. Mud content was analyzed using standard pipette methods (Folk, 1965).

Upon completion of grain size, RO-TAP and pipette analysis, the respective data were entered into a spreadsheet. The total weight of the samples were calculated and used to determine the percentages of shell, sand, silt and clay in the samples. Data were plotted against depth and grain size and composition profiles were created. Core photographs were assembled using Adobe Photoshop® and visual descriptions used to create computerized core logs using the LOGPLOT ® software program.

Core correlations were created using percent sand silt and clay core profiles, mean grain size data and visual identifications. The depth at which the sediment core was collected at was corrected for tides using mean lower low water (MWWL) tide data from the NOAA Galveston Pleasure Pier Buoy historical tide records (2006). Distance from shore was measured in ARCGIS® after core locations had been plotted. Using this information, images were created showing the stratigraphic layering from core correlations.

4.3 Multibeam bathymetry

During June through August 2005, additional geophysical cruises were conducted in order to collect multibeam bathymetry and sidescan sonar data, concurrently, offshore of the eastern and central portions of Galveston Island aboard the Louisiana University Marine Consortium's R/V *Eugenie*. The study grid encompasses over 42 km² with shore parallel line spacing every 100 m in order to obtain 150% coverage over the study area. Multibeam data were collected using a pole-mounted Reson-Seabat® 8101 system. Using the CARIS HIPS® 6.0 software program, raw data were collected at 1 msec intervals from the 101 beams and tagged for the ships heave, pitch and roll acquired by a TSS® model 320 POS/MV system, and navigation and offset information acquired by a Trimble® DGPS receiver. (Robb et al., 2003).

Multibeam bathymetry data were post processed using CARIS. This program enabled the filtering of spurious data points and allowed for correction of tidal influences on water depth and for variations of the speed of sound in water. (Robb et al., 2003). Tidal data were obtained using the historical MWWL tidal measurements collected hourly at the NOAA tide gauge located at the Galveston Pleasure Pier (2006). After filtering, the multibeam data lines were merged and exported with a resolution of 3m grids. The mosaic was plotted using WGS 1984 datum and UTM 15N Projections in ARCGIS and Fledermaus® software programs to produce 3-D images of the seabed surface. Fledermaus was also used to create and calculate the slope of the shoreface along shore-normal profiles.

4.4 Sidescan sonar

The sidescan sonar survey produces a visualize image of surface sediment density and allows an interpretation of surface sediment type in the study area. Data were obtained using an Edgetech® 272TD towfish set at 100 m range. Raw data were collected using Coda Octopus ® geosurvey software and tagged with the ship's position. (Dellapenna et al, 2006)

The sidescan sonar data were post processed using the CODA® software to bottom pick, remove spurious data, slant range correct and to calculate and correct for the layback between the towfish and GPS antenna during the survey. Data were merged into a mosaic image and imported into ARCGIS and Fledermaus software for visualization.

5. RESULTS

5.1 The Beaumont Clay topography and Holocene sediment thickness

Previous research has shown that the consolidated and indurated BC underlies Galveston Island. Using 512i CHIRP seismic data and sediment core lithology the BC was traced throughout the study area.

Data from the 512i CHIRP towfish revealed a strong reflector several meters below the surface of the seafloor. This reflector was traced throughout the CHIRP grid. The intensity of this reflector is created by a significant change in acoustic impedance between these two surfaces. Therefore, this reflector is identified as the BC ravinement surface (Figure 6).

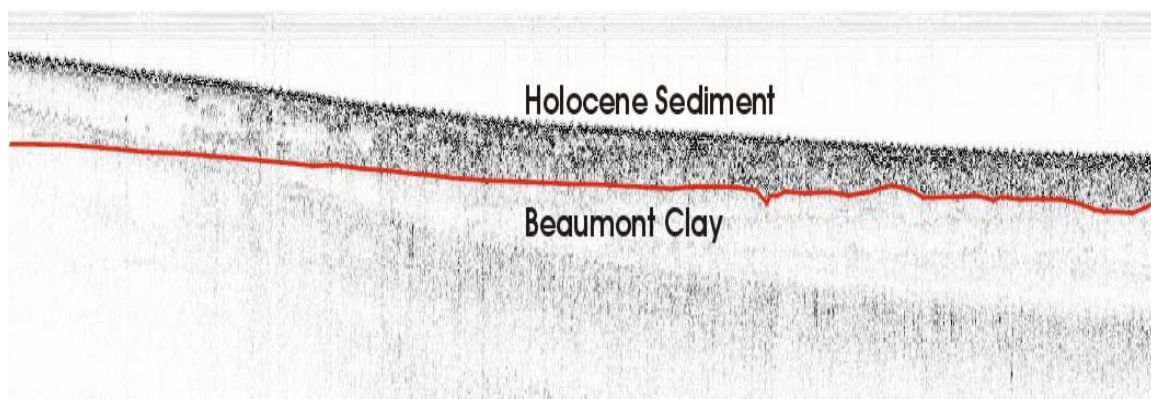


Figure 6: CHIRP 512i line running perpendicular to shore with an interpretation of the Beaumont Clay surface

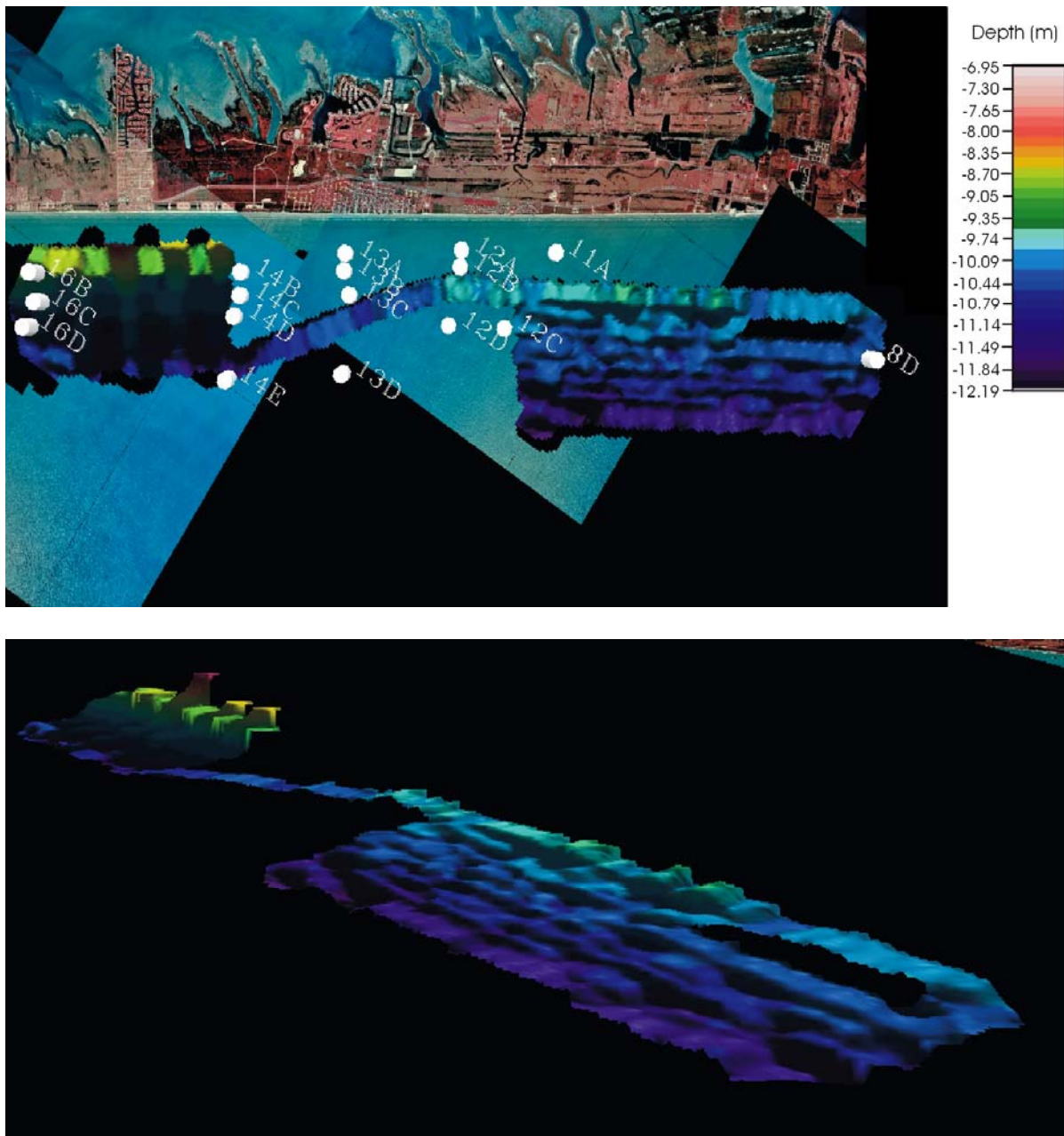


Figure 7: 3-D image of the Beaumont Clay topography, with depths below sea-level

In the CHIRP survey grid, the depth to the BC ranges from 7 to 12 m below sea level (Figure 7). The surface of the formation shallows progressively westward and

shoreward. Its shallowest depth in the CHIRP study area is reached at the northwest corner. To the west of the CHIRP survey, sediment cores collected along transects 18, 20, and 22 show that the BC shallows further and lies 4.4 m below sea level.

The thickness of the Holocene marine sediment overlying the BC decreases offshore and towards the west. The Holocene sediment thickness ranges from 2.5 to 6.6 m in the CHIRP survey area (Figure 8). The CHIRP data indicates that the cores taken in this study area were 3 m to less than 1 m shy of penetrating the BC. Further to the west, West End cores indicate further thinning of the modern shoreface, with as little as 65 cm of Holocene sediment overlying the Beaumont surface.

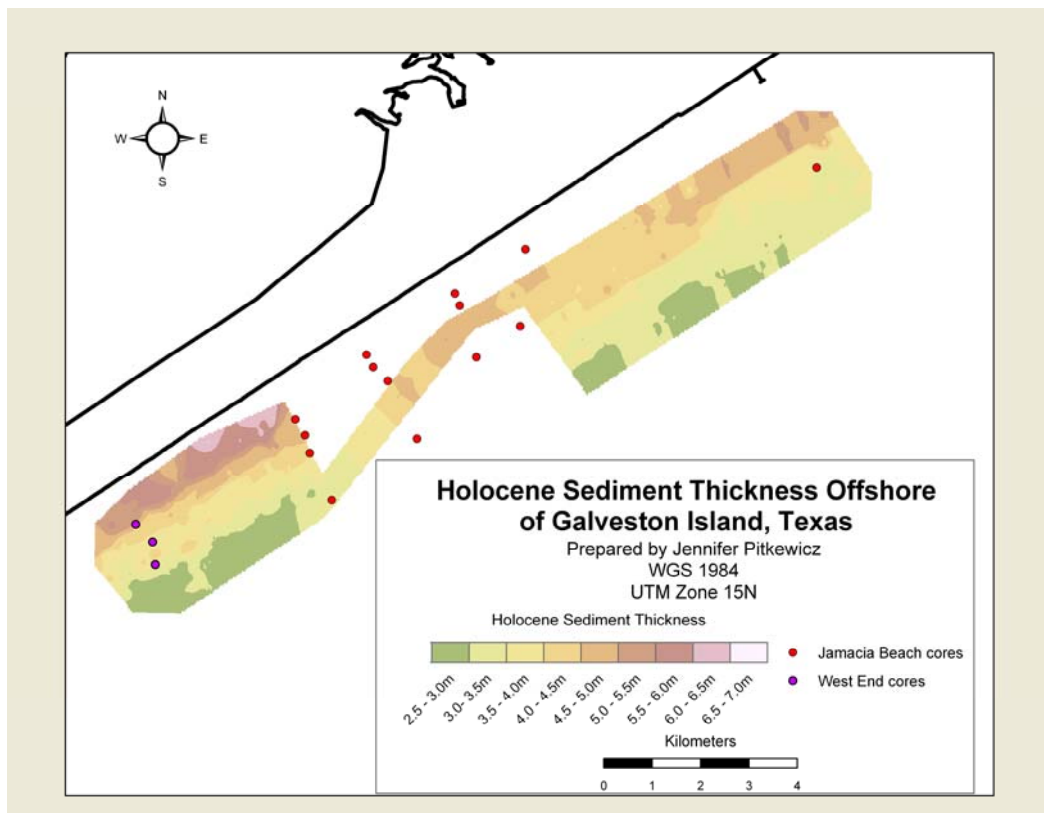


Figure 8: Thickness of Holocene sediments offshore of Jamaica Beach

5.2 Offshore sediment stratigraphy

Upon visual description and grain size analysis of the sediment cores, several sand and mud units were identified. Along shore-normal transects of 216s CHIRP, seismic data were used in an attempt to correlate these layers along shore. Because CHIRP seismic data are most ideal when collected in muddy sediment, the presence of sand layers makes some of the units difficult to identify and trace. Tracing these units throughout the entire study site was not possible, however general correlations and slope directions were possible. The units consist of gently sloping layers that dip seaward across the study area.

5.2.1 East Beach correlations

In the Line 3, the easternmost transect, five stratigraphic units were identified (Figures 9 and 10). The upper most layer, Layer 1, is composed of fine sand and shell with less than 15% silt and clay and has an average grain size of 3.1 Φ . This unit thins and fines offshore, and pinches out between 0.9 and 1.7 km from shore. The Layer 2 is a mud unit which contains less than 45% sand. Layer 3 is a sand layer containing > 75% sand with a mean grain size 3.7 Φ . Layer 4 is composed predominately of silt and clay with less than 30% sand. Layer 5 is primarily sand with a mean grain size of 3.0 Φ . Layers 2-5 are only observed in core C, the farthest core from shore.

In the Line 5 transect seven layers are observed (Figures 11 and 12). Layer 1 is composed of at least 90% sand and shell with a mean grain size of 3.1 Φ . This layer thins offshore and pinches out between 0.7 and 1.0 km offshore. Beneath this sand layer lies a mud layer (Layer 2) with less than 50% sand. Layer 3 is composed of sand with a

mean grain size of 3.5 Φ and less than 40% silt and clay. Layer 4 is a mud unit with several small interbedded sand layers, with percent sand, silt and clay varying throughout the interval. Layer 5 is composed primarily of sand with less than 15% silt and clay. Layer 6 is a mud unit with very fine sand laminations. Layer 7 is observed to contain less than 7% silt and clay and has a mean grain size of 3.3 Φ .

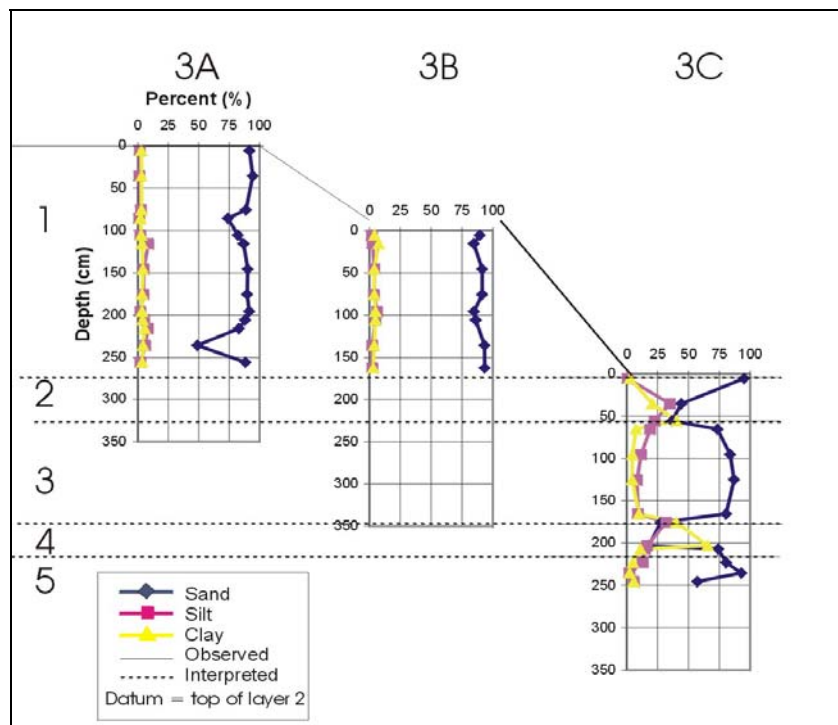


Figure 9: Stratigraphic correlations of cores along transect 3 with percent sand silt and clay profiles

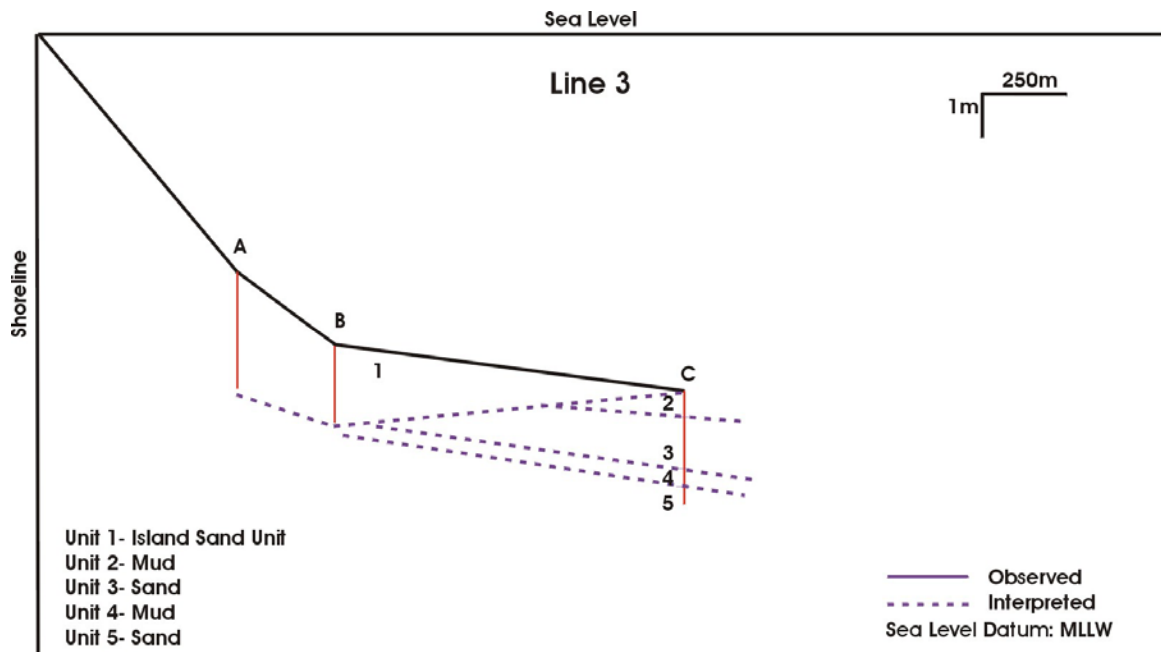


Figure 10: Stratigraphic correlations of layers along transect 3, to scale

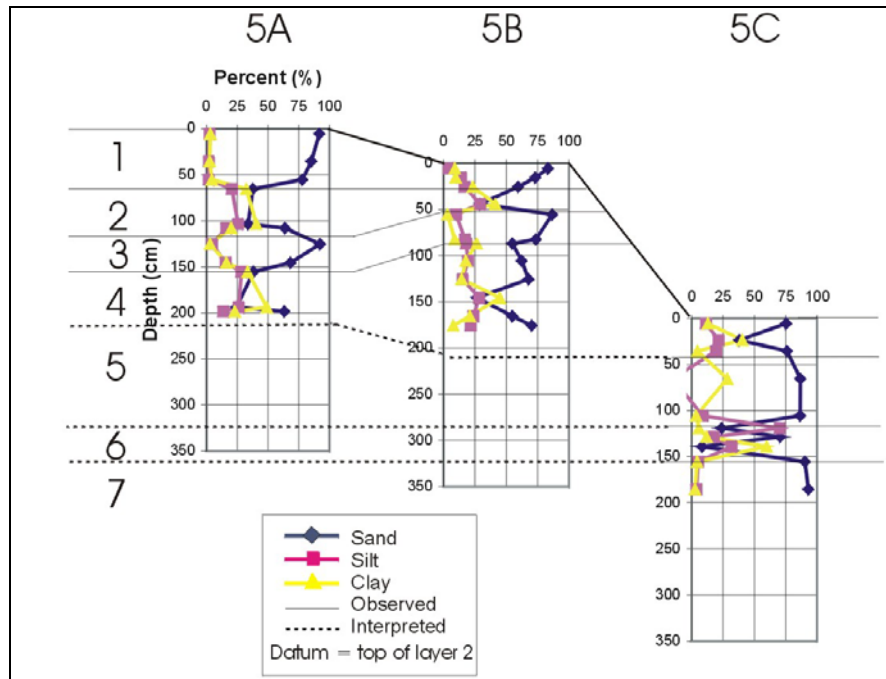


Figure 11: Stratigraphic correlations of cores along transect 5 with percent sand silt and clay profiles

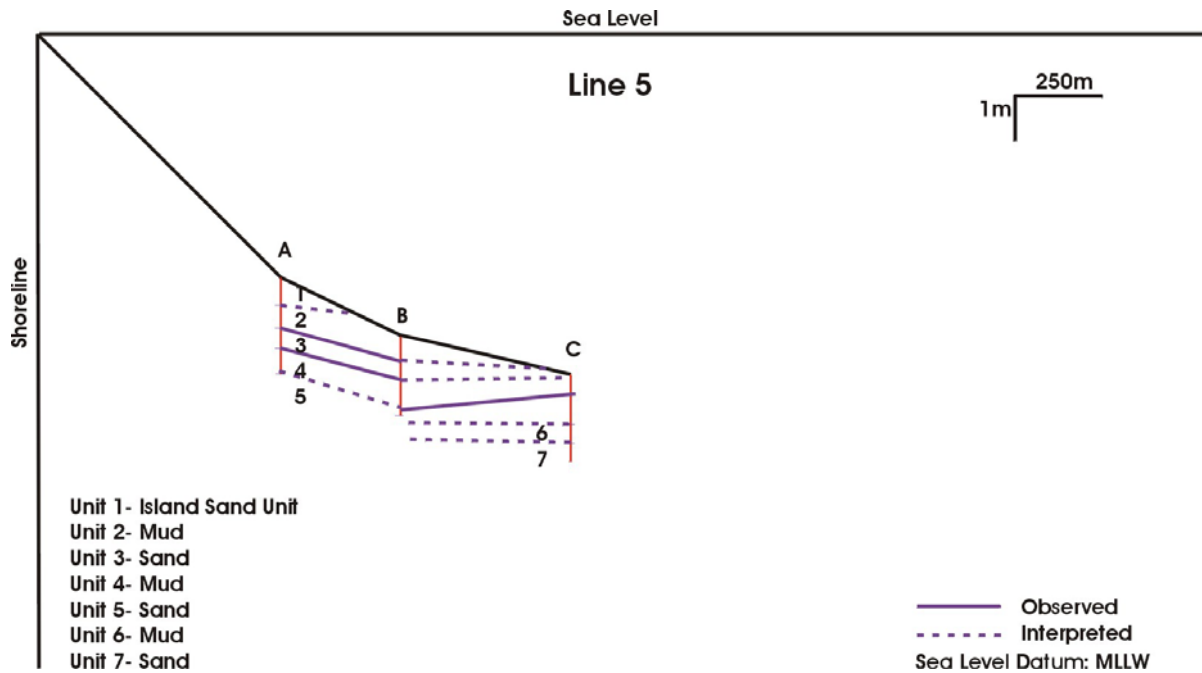


Figure 12: Stratigraphic correlations of layers along transect 5, to scale

Overall, there are several trends observed in the East Beach section. First, there is a thinning to the west and offshore of the upper most sand unit and a decrease in mean grain size offshore. This sand unit pinches out between 0.7 and 1 km offshore in the East Beach study area. Progressing westward the presence of more stratigraphic units observed in the sediment cores and are traceable throughout the transect. Layers typically alternate between sand and mud units, with mud layers becoming thicker and sand layers becoming thinner and finer offshore.

5.2.2 Jamaica Beach cores

Cores collected along transect 12 have been subdivided into five stratigraphic layers (Figures 13 and 14). Layer 1 is composed of sand with a mean grain size of 3.3 Φ and contains less than 8% silt and clay. This unit thins offshore and pinches out between 1 and 2 km offshore. This sand layer is underlain by a mud unit, Layer 2, containing less than 40% sand. Layer 3 is observed to contain sand with less than 15% silt and clay. Layer 4 is composed of mud. Lastly, Layer 5 is observed to be an offshore mud unit onlapping the previous shoreward layers. This unit contains small laminations (less than 10 cm) and varies in percent sand, silt and clay. CHIRP data collected along this transect shows the presence of several reflectors which corresponded to the correlations described above.

In the cores along transect 14, four layers are observed (Figures 15, 16 and 17). The Layer 1 is composed of fine to very fine sand with mean grain size of 3.4 Φ and less than 5% silt and clay. This unit thins progressively offshore and pinches out between 1.0 and 1.4 km offshore. Layer 2 is identified as a mud unit with sand laminations. It varies in percent sand, silt and clay. Layer 3 is a mud unit which is cut into by the last unit, Layer 5. Layer 5 is an offshore mud unit which cuts into Layers 2 through 4 and a small sand veneer at the surface and several small sand layers throughout.

The Jamaica Beach core transects showed several trends. Westward through the study site there is a decrease in the observed number of stratigraphic units. There is also the development of an offshore surface mud unit extends onshore proximal to where the upper sand unit pinches out. Closest to shore this surface mud unit is typically covered

by thin veneer of sand. In this study area, the shoreward most point of the mud unit lies between 1 and 2 km offshore of Galveston Island.

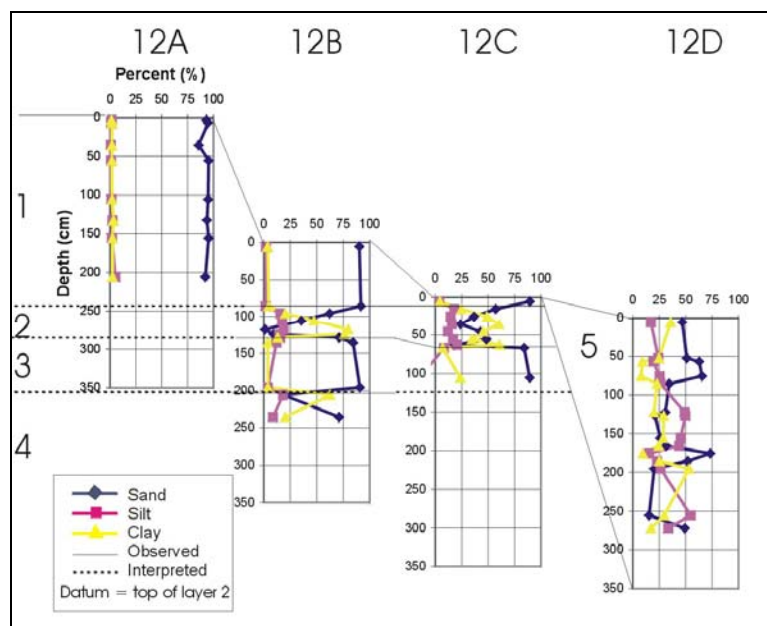


Figure 13: Stratigraphic correlations of cores along transect 12 with percent sand silt and clay profiles

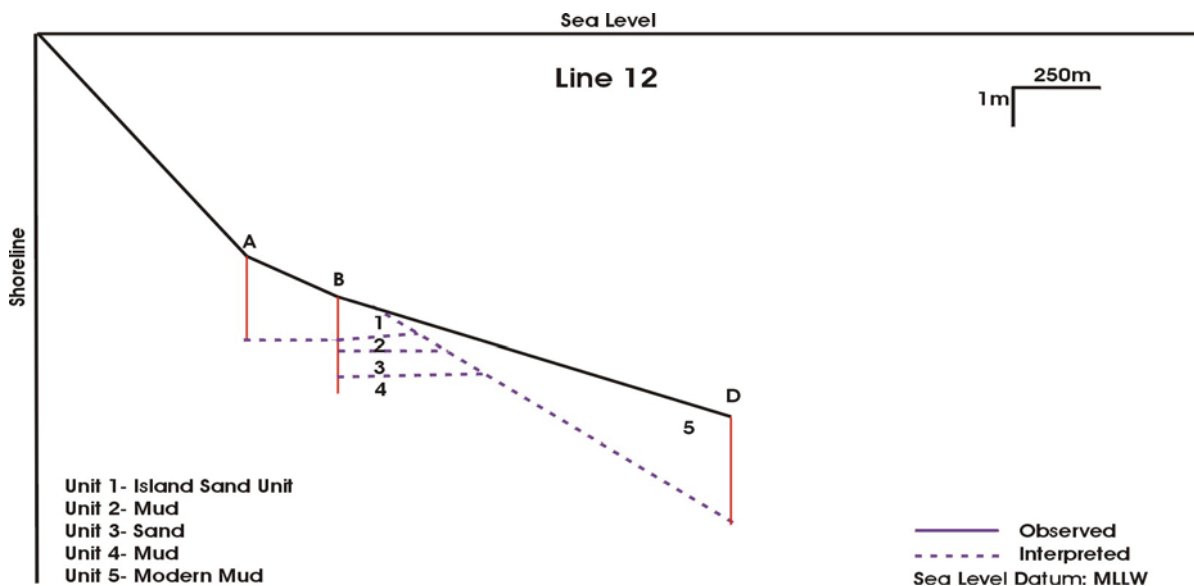


Figure 14: Stratigraphic correlations of layers along transect 12, to scale

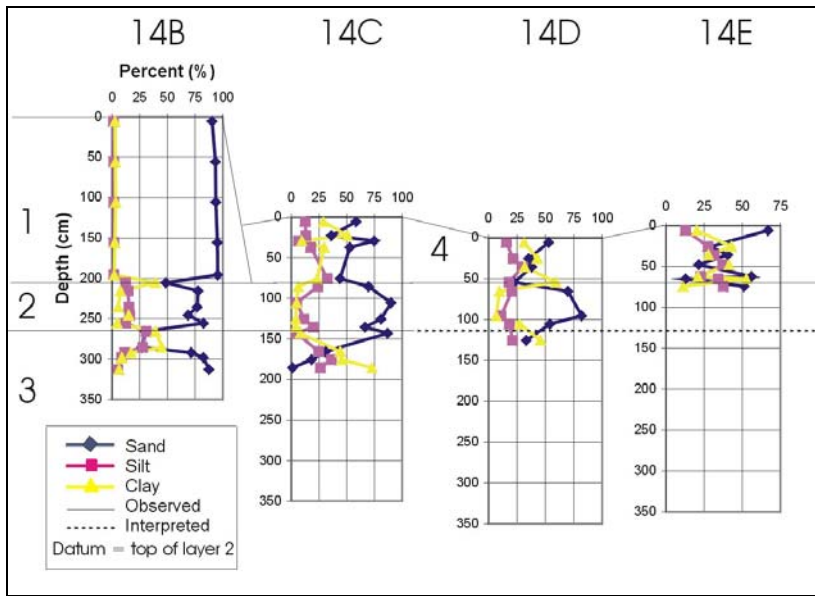


Figure 15: Stratigraphic correlations of cores along transect 14

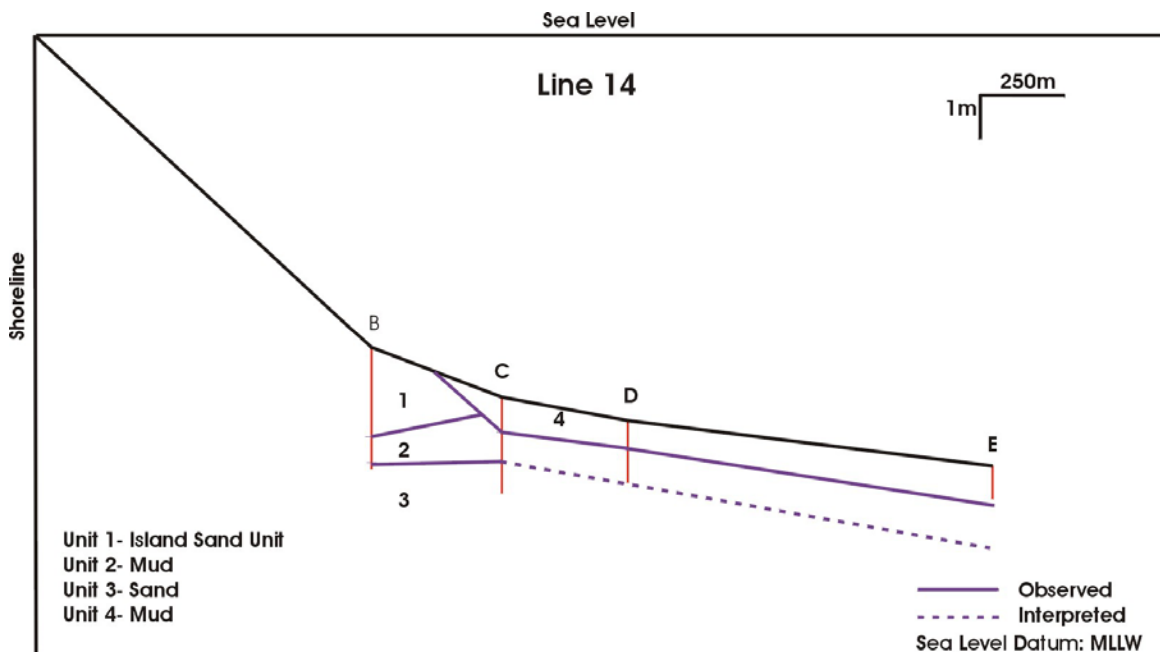


Figure 16: Stratigraphic correlations of layers along transect 14, to scale

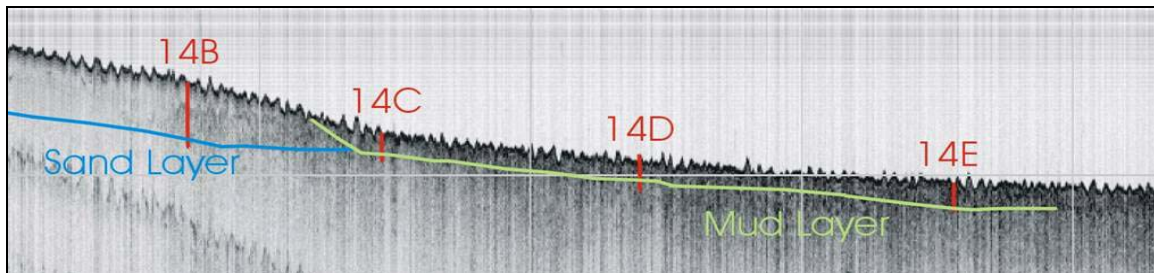


Figure 17: CHIRP seismic line corresponding to transect 14

5.2.3 West End cores

In the cores collected along the Line 17 transect, only two stratigraphic units are observed (Figures 18 and 19). The upper most layer (Layer 1) is observed to contain fine grain sand with a mean grain size of 3.2Φ . This layer thins progressively offshore and pinches out between 1.1 and 1.5 km offshore. The second unit is the offshore mud layer which onlaps where the sand unit pinches out. This mud layer contains a thin sand veneer at the surface and several small sand laminations creating variations in percent sand silt and clay.

The cores along the Line 18 transect show the BC within 2 m of the sediment surface (Figures 20 and 21). There were only two identified stratigraphic units in these cores. The first layer is composed of primarily sand with a mean grain size of 3.2Φ with less than 20% silt and clay and slightly more silt and clay progressing offshore. The bottom of this unit contains a small shell hash layer. This layer thins offshore and is thought to pinch out seaward of the study area. The Layer 2 is the BC. The transition from the sand to the BC is very sharp and there is a change to an orange to green mottled color and a large increase in density.

The western-most transect of this study ran along Line 22. The cores along Line 22 showed only two stratigraphic units (Figures 22 and 23). The first is a sand unit with a mean grain size of 3.2Φ that contained no more than 10% silt and clay. The bottom of this unit contains a shell hash layer. This unit extends though the entire transect to a maximum depth of 1 m. Underlying this sand unit is the BC. This depth of the BC ranges between as shallow as 60 cm and no more than 100 cm below the surface of the seabed throughout this transect.

Throughout the West End study section there are several trends that are displayed. There is a decrease in the number of stratigraphic units observed in the cores. The sand layer becomes progressively thinner westward and extends further offshore than the areas to the east. The surface mud layer, is found farther from shore and does not exist in the study area westward of transect 17. The BC shallows to within 65 cm of the seafloor. In addition, there is a small shell hash layer observed just above the interface with the BC.

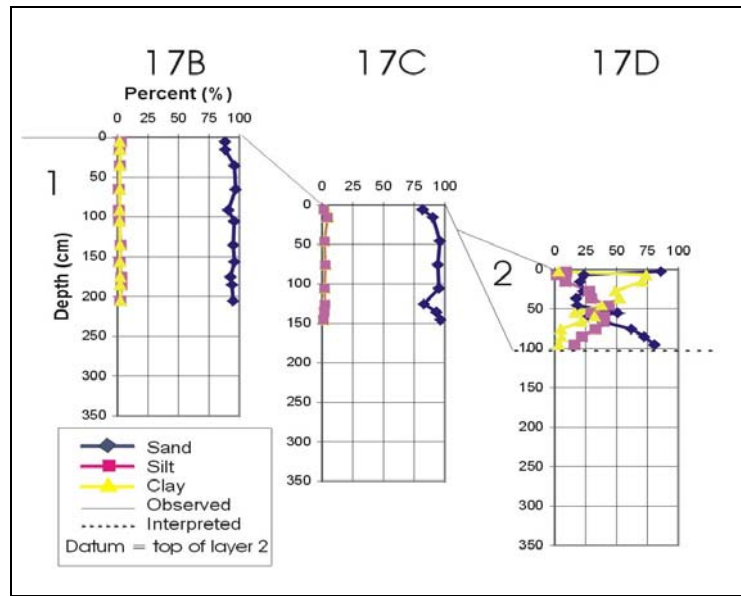


Figure 18: Stratigraphic correlations of transect 17 with percent sand silt and clay profiles

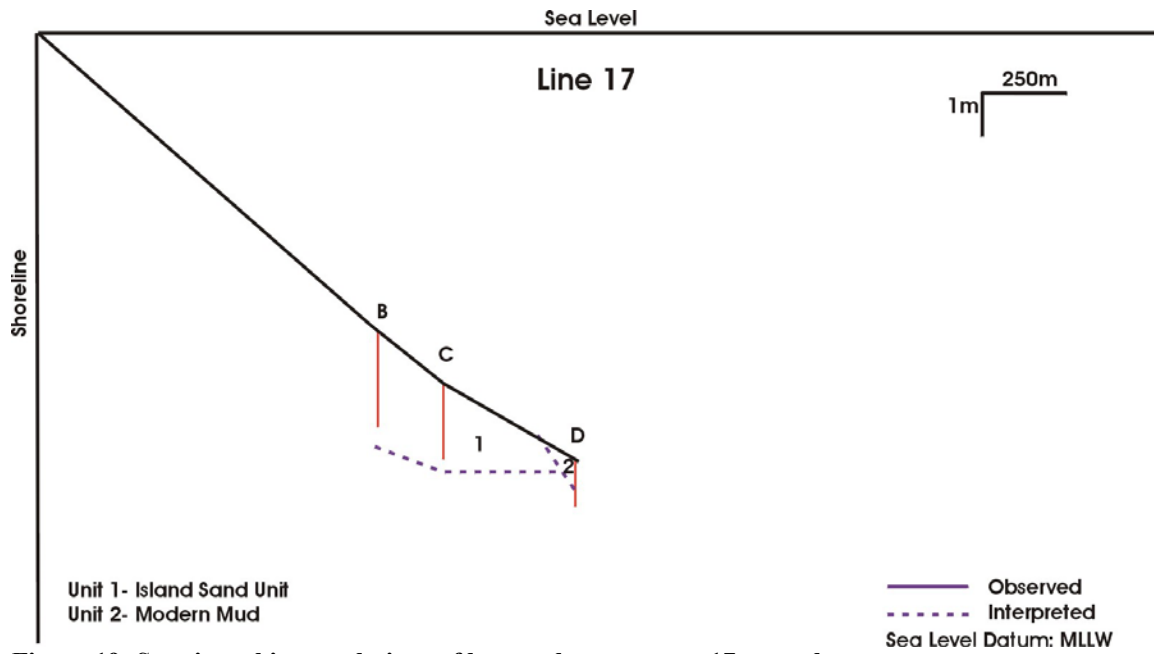


Figure 19: Stratigraphic correlations of layers along transect 17, to scale

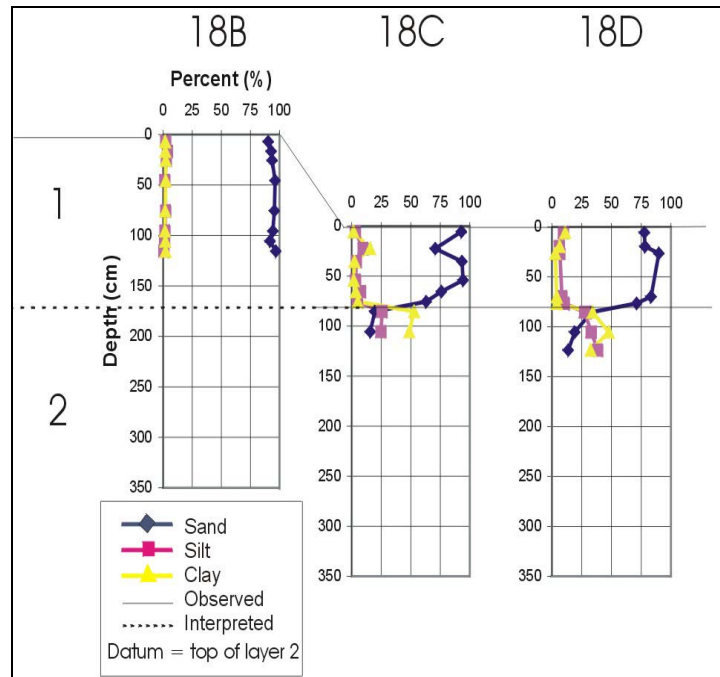


Figure 20: Stratigraphic correlations of transect 18 with percent sand silt and clay profiles

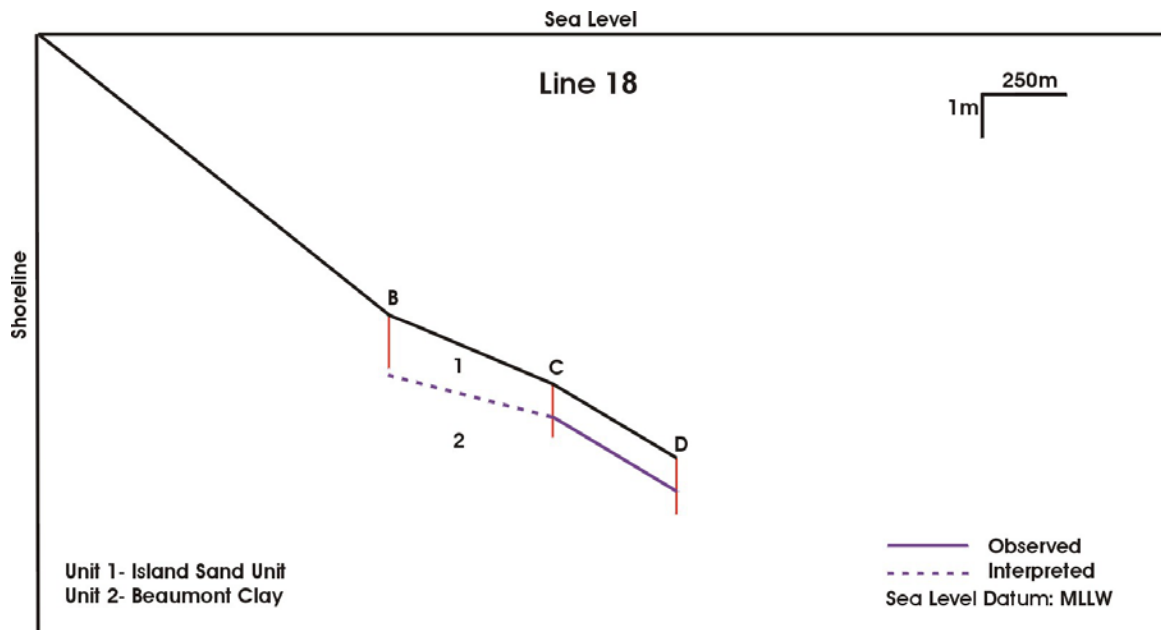


Figure 21: Stratigraphic correlations of layers along transect 18, to scale

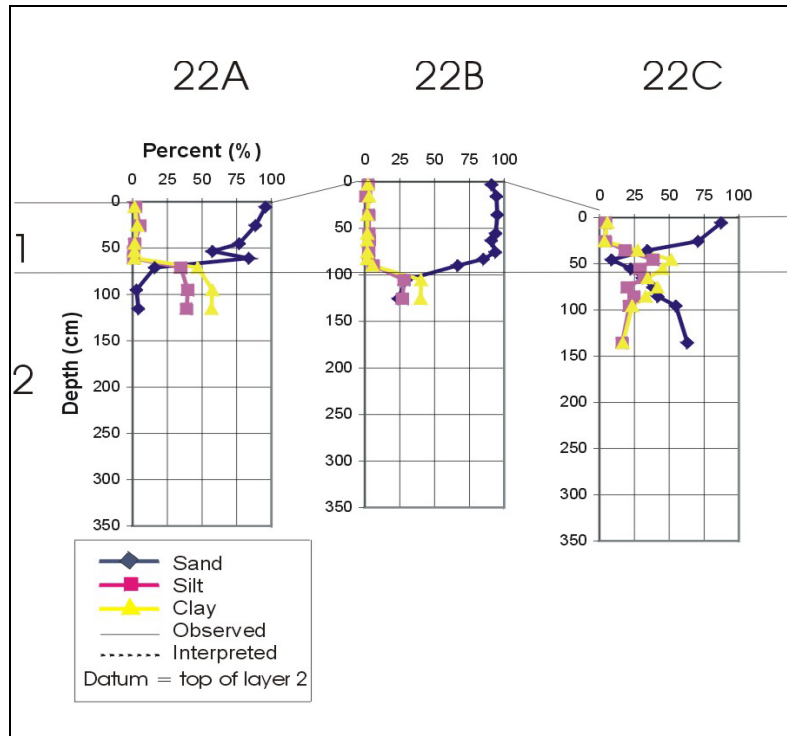


Figure 22: Stratigraphic correlations of transect 22 with percent sand silt and clay profiles

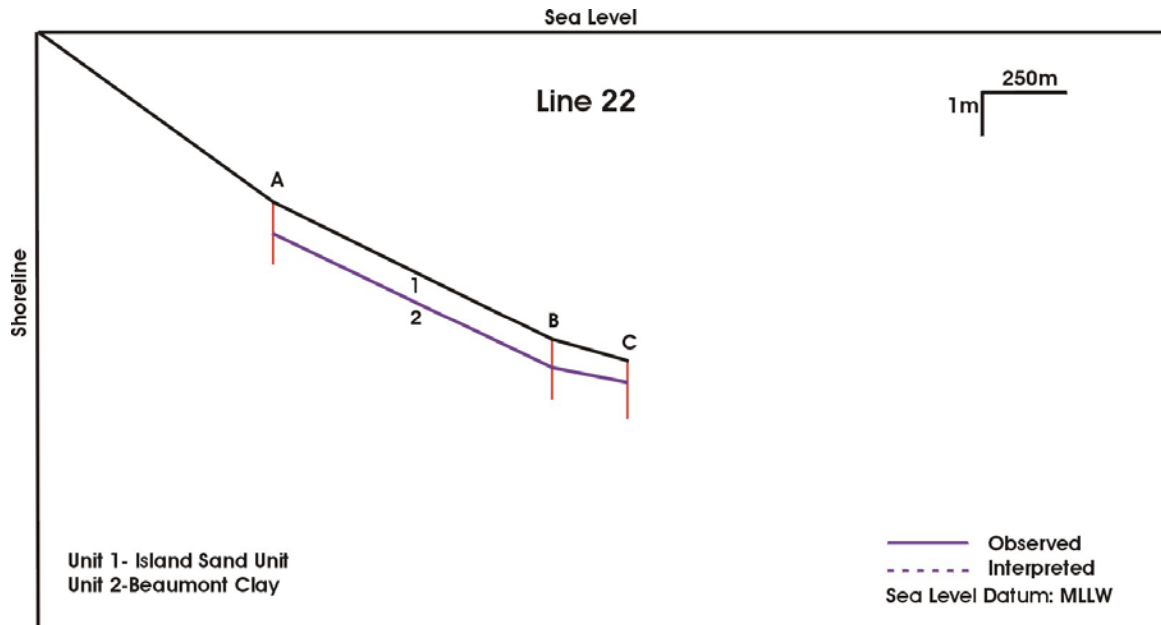


Figure 23: Stratigraphic correlations of layers along transect 22, to scale

5.3 Galveston Island shoreface

The Galveston Island shoreface slope varies greatly in the study area. In general, there is a concave up surface with a westward decrease in the slope of the shoreface (Figure 24). When the distance from shore and depth below sea-level of sediment cores is plotted to scale, the slope of the shoreface from the shoreline to the point of inflection is able to be calculated. In transects 3 through 5, located in the East Beach study site, there is a decrease in the slope westward from approximately 9.2 to 6.7 m/km. Progressing westward along the transects from the East Beach area, past the end of the Seawall and to the Jamaica Beach study area there is an increase in the slope to 8.1 m/km at Transect 12, after which the slope again begins to decrease. From transect 12 through the westernmost transect line 22 there is a dramatic decrease in the slope to 4.27 m/km out to approximately 3 km at the most offshore cores.

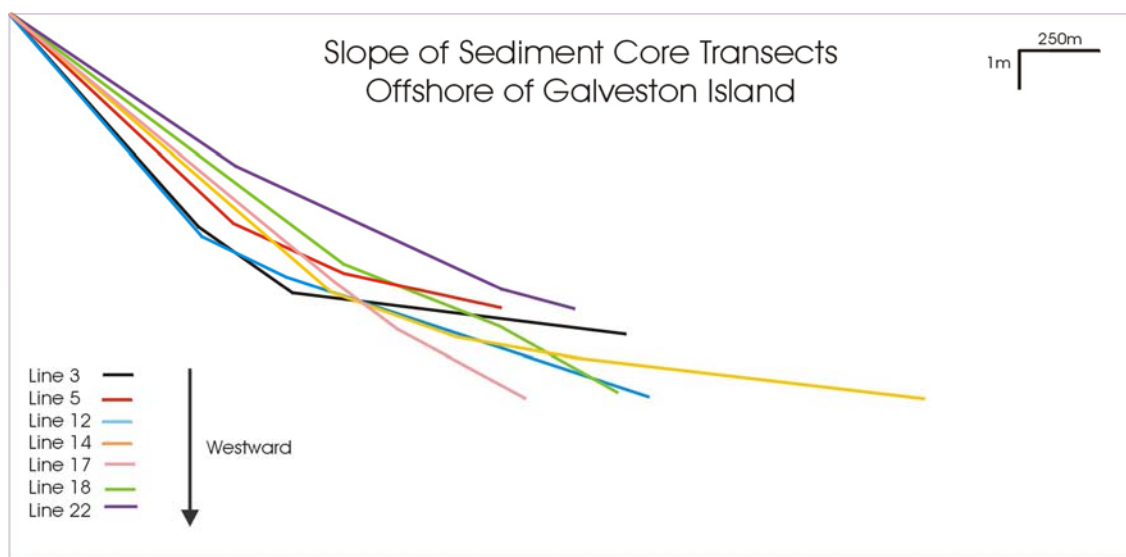


Figure 24: Slope of the shoreface at sediment core transects offshore of Galveston Island, to scale

Using multibeam bathymetry plotted in Fledermaus, a more detailed image of the shoreface near the end of the Seawall was produced. A shore-parallel transect at a distance of approximately 0.85 km offshore across the multibeam survey area indicates that there is an increase in the depth to the shoreface approximately 1.5 km west of the end of the Seawall (Figure 25). In addition, the East Beach area is observed to be the deepest and the West End the shallowest, corresponding with results from the core transect slopes.

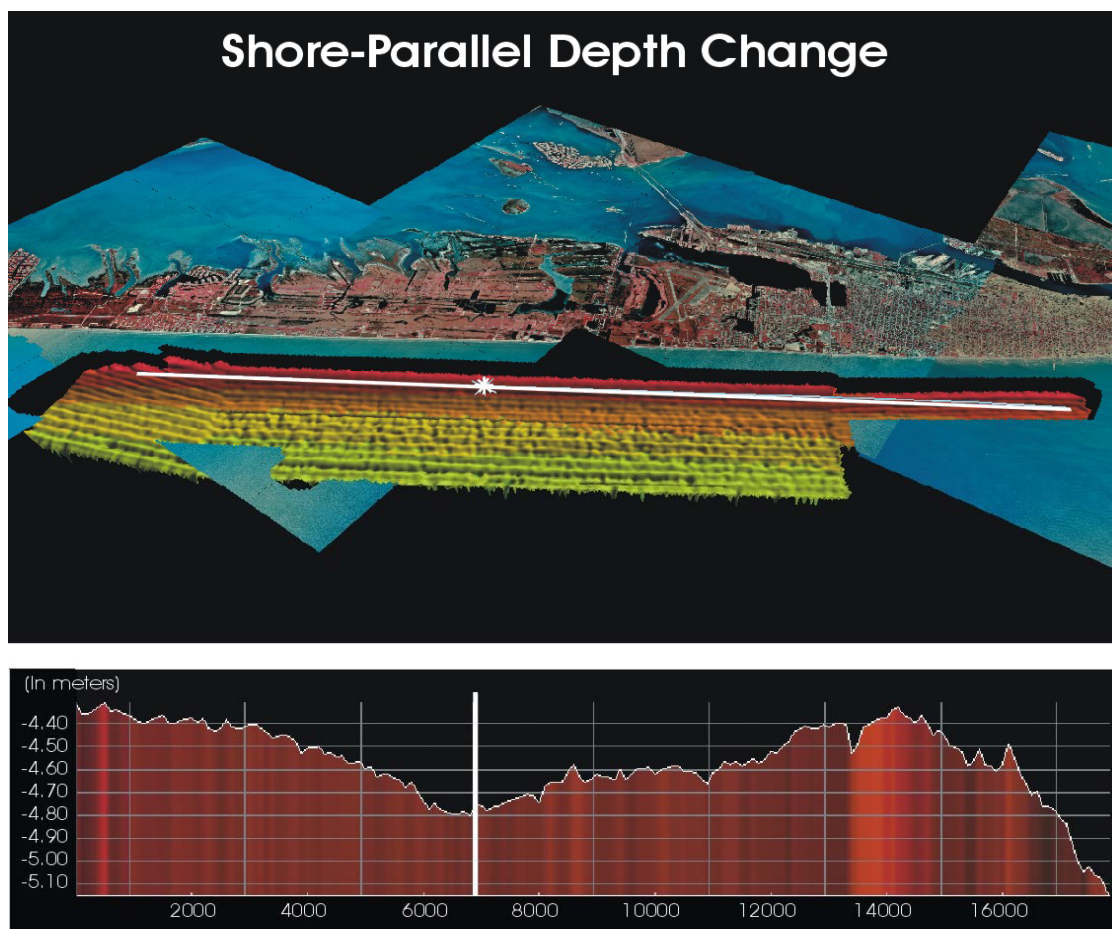


Figure 25: 3-D image of the multibeam bathymetry with a shore-parallel transect

A transect perpendicular to Galveston Island offshore of 69th Street approximately 4 km east of the end of the Seawall and starting at approximately 0.6 km offshore (where the multibeam survey begins) has an average slope of approximately -3.57 m/km until the point of inflection after which the slope decreases. The point of inflection occurs approximately 1.2 km offshore (Figure 26).

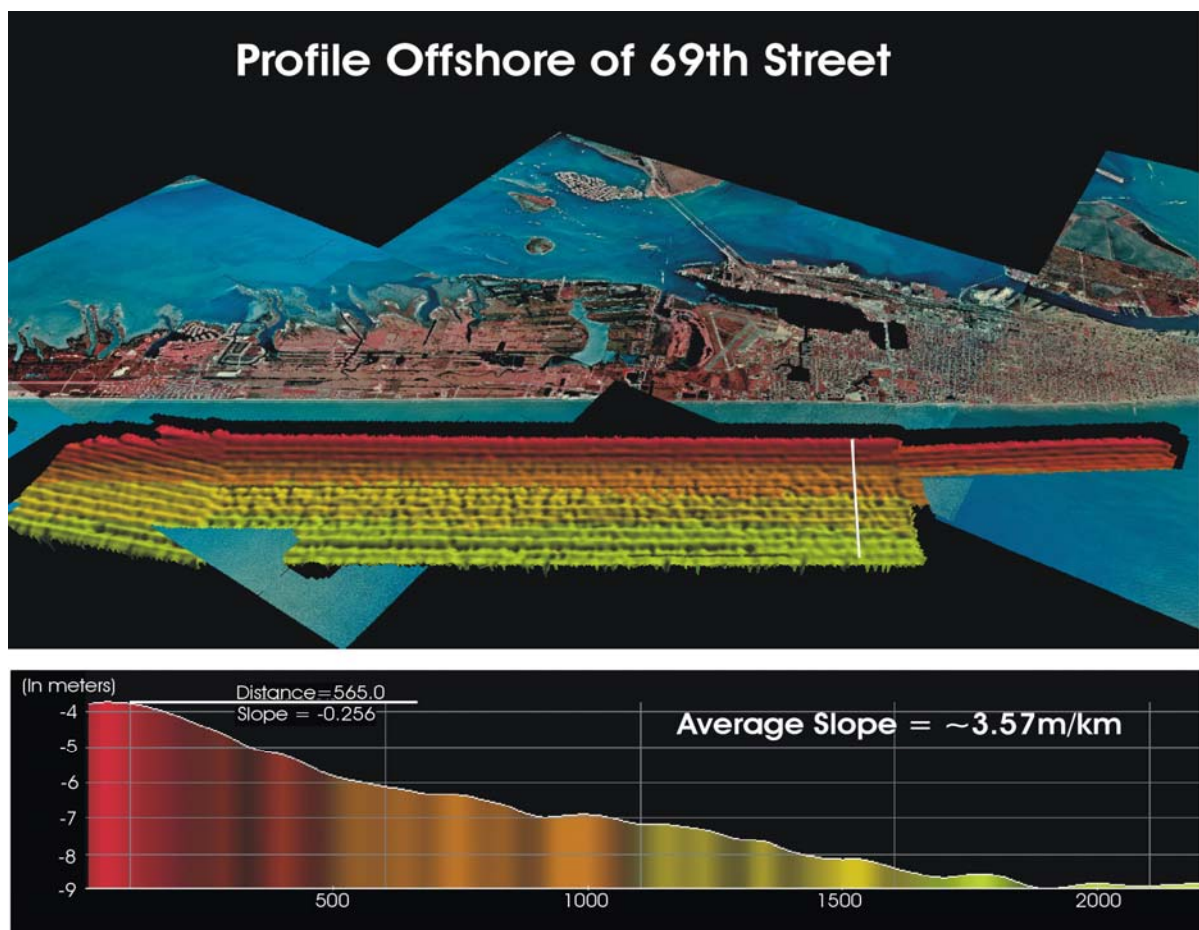


Figure 26: Cross-shore transect showing the slope of the shoreface offshore of 69th Street

Offshore of the end of the seawall the cross-shore slope of the shoreface increases to an average slope of approximately -5.26 m/km until the point of inflection

where the slope dramatically decreased. The point of inflection occurs approximately 1 km offshore (Figure 27).

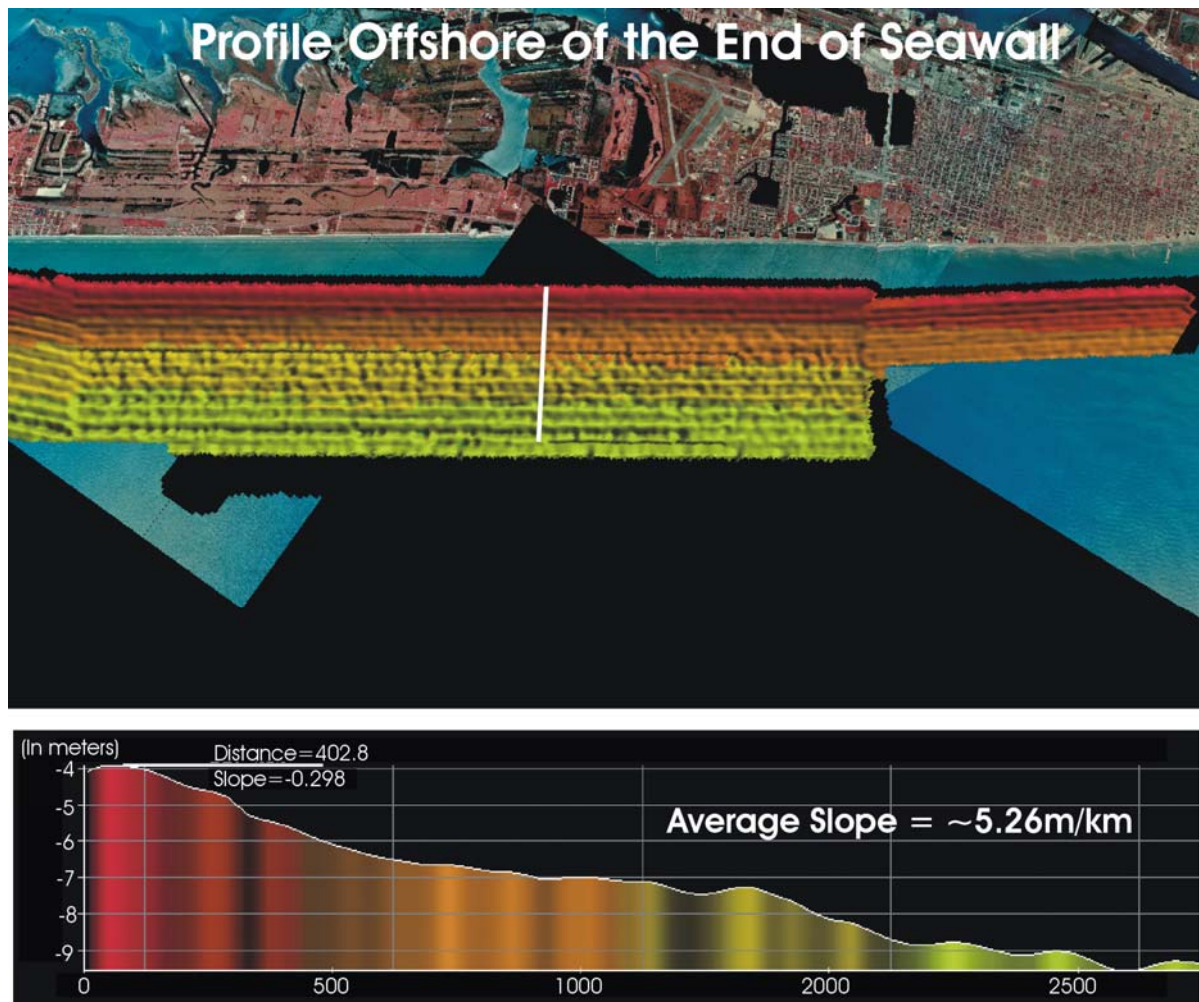


Figure 27: Cross-shore slope profile offshore of the end of the seawall

Offshore of 8-Mile Road, the slope of the shoreface increases, reaching its greatest inclination, an average slope of approximately 5.5 m/km (Figure 28). Beyond 1.2 km offshore the slope of the shoreface decreases.

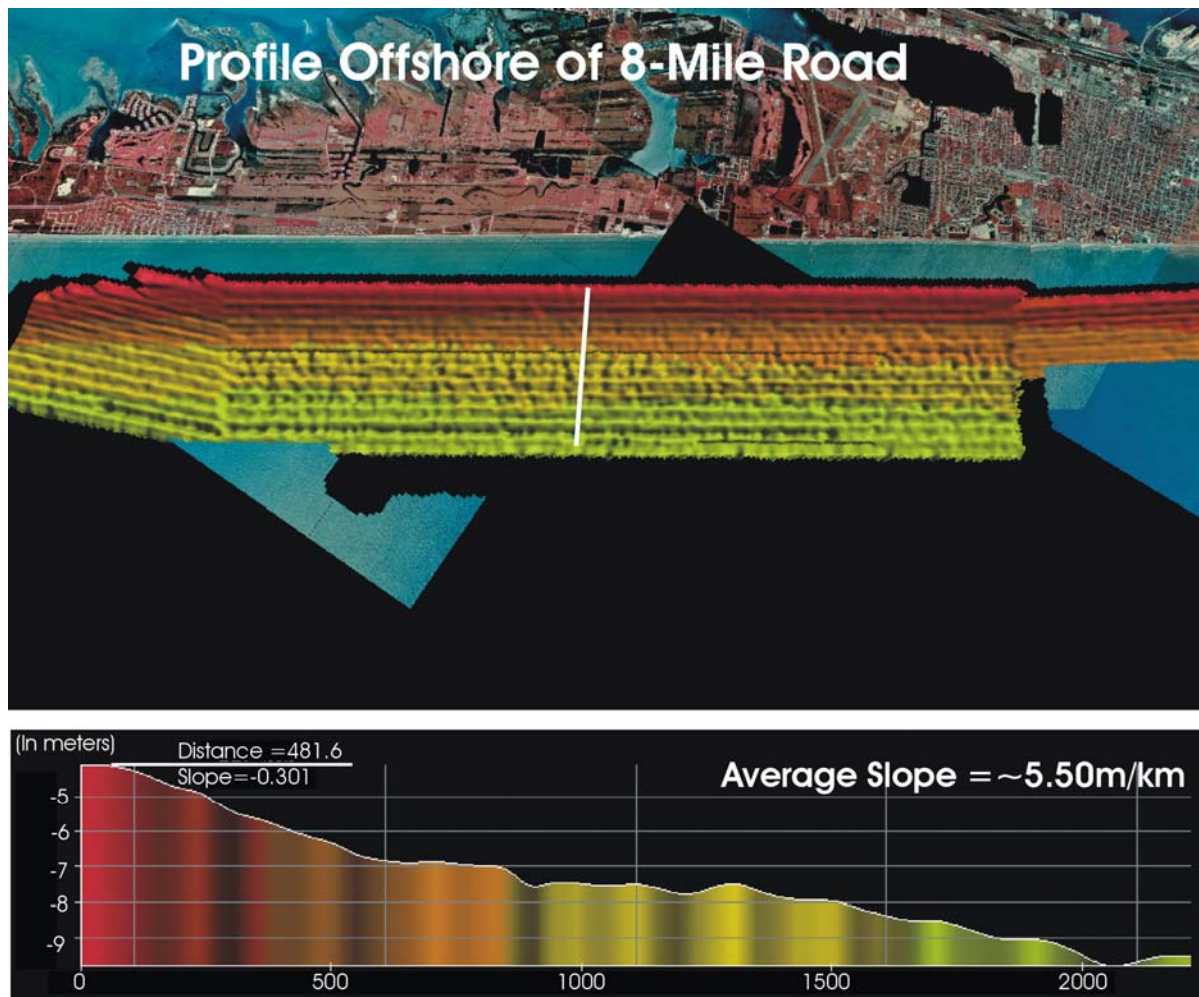


Figure 28: Cross-shore slope profile offshore of 8-Mile Road.

A final transect is perpendicular to the island just offshore of Jamaica Beach (Figure 29). The average slope is approximately -4.54 m/km until the point of inflection, where the slope decreases. The point of inflection occurs approximately 1.6 km from shore.

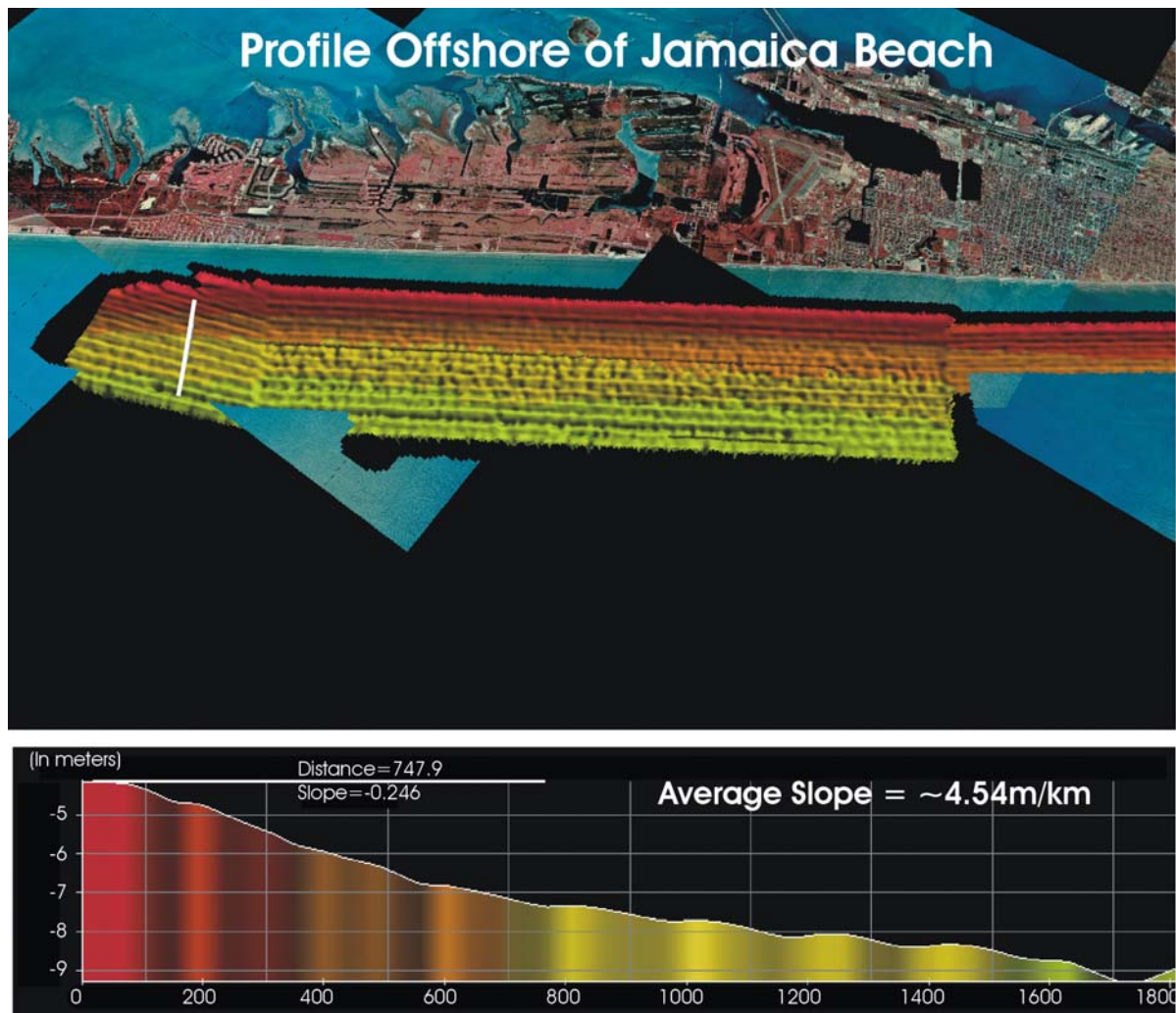


Figure 29: Cross-shore slope profile offshore of Jamaica Beach

Westward of this study area the slope of the shoreface continues to decrease, reaching its gentlest slope just before San Luis Pass at the western-most end of the Island. The corresponding point of inflection is the farthest from shore.

The sidescan mosaic collected with the multibeam bathymetry revealed a tripartite zonation of surface sediment similar to Robb et al., (2003; Figure 30). Close to shore the seafloor is composed of at least 90% sand and shell. The surface sand layer

pinches out at the point of inflection, where the slope of the shoreface begins to decrease (Figure 31).

Progressing seaward past the point at which the upper sand layer pinches out is a zone of mixed backscatter. Core data reveals in this transition zone which contains mixed backscatter, the landward portion of the mud facies begins to develop and in some areas area covered by a thin veneer of surface sand. Further offshore, there is a region of mud at the surface.

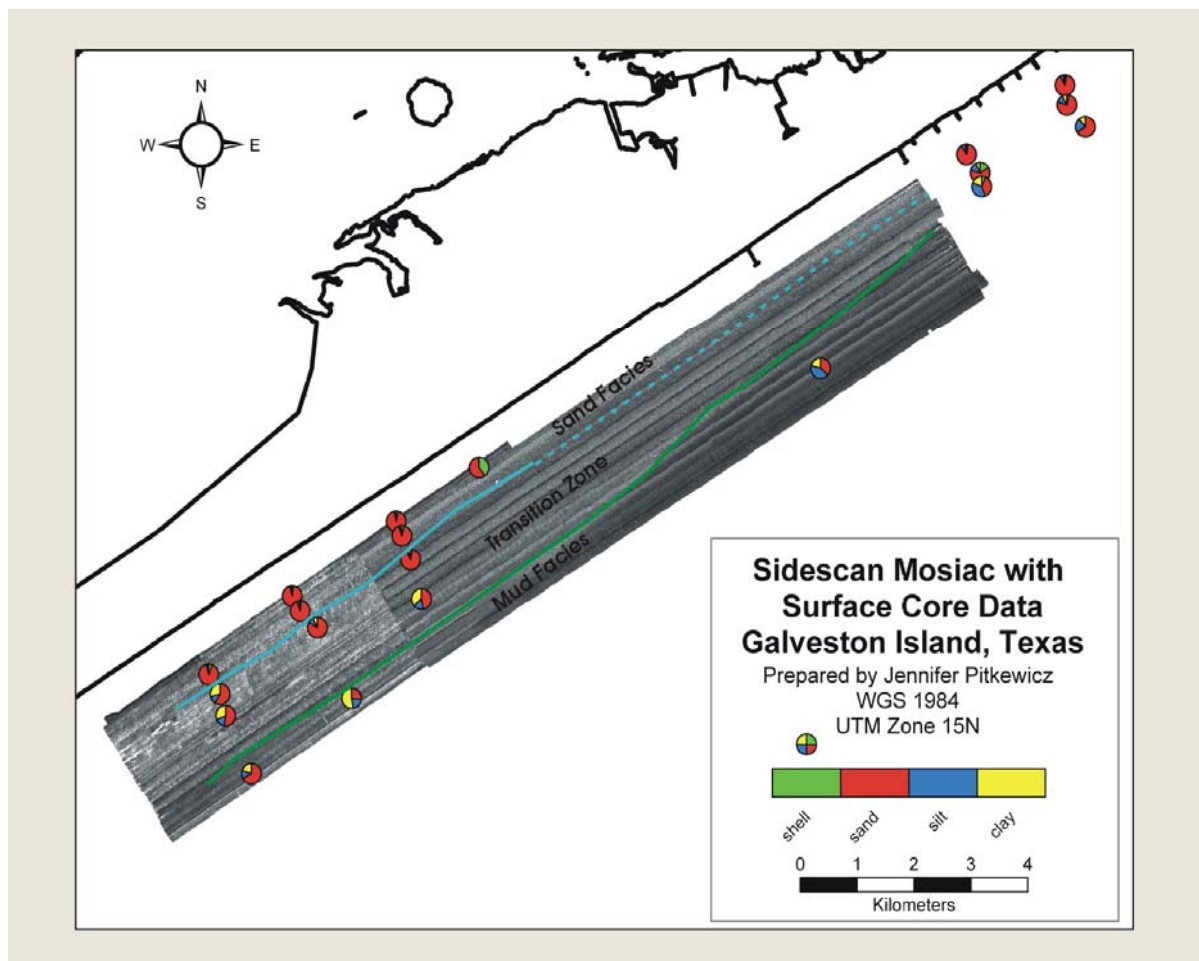


Figure 30: Sidescan mosaic with surface core data and surface facies interpretations

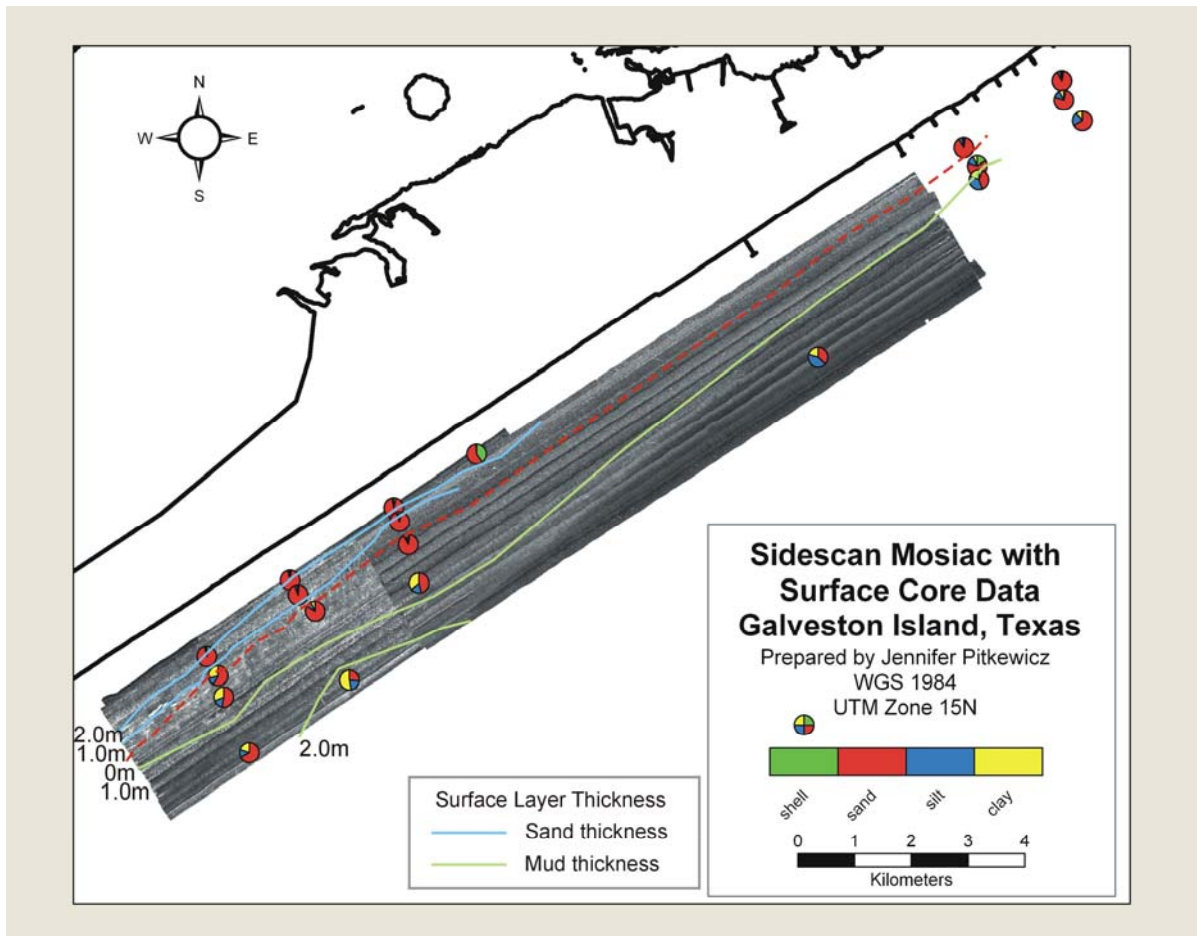


Figure 31: Sidescan mosaic with surface core data and surface layer thickness interpretations

6. DISCUSSION

6.1 Affects of the Beaumont Clay and anthropogenic influences on Galveston Island morphology

The interpretations of the antecedent controls of shoreface agree with the research of Harris et al. (2005). Harris states that the “The magnitude to which the antecedent stratigraphic variability will influence the shoreface profile depends upon the attitude and competence of the underlying strata, the depth in the subsurface strata...” Since the BC is a highly consolidated clay, it has a great affect on the shoreface as it shallows and becomes closer to the sediment surface.

The eastern end of Galveston Island (East Beach) formed directly above the old incised Trinity River valley (Siringan and Anderson, 1994; Rodriguez et al., 1999) where the thickest sand unit was deposited above the BC. The BC in this area lies over 15 m below sea level (White et al., 1985), which provided accommodation space for this sand to accumulate during initial island formation. The South Jetty has caused a significant accretion of sand along East Beach, further thickening the sand layer. The accretion of sand is due to the decrease in longshore transport created by the South Jetty and Seawall system. This agrees with the model created by Toue and Wang (1990) which shows accretion on the updrift side of seawall systems. In this region, the sediment cores verified the continuity of the sand unit, indicating the absence of any mud layers. The slope of the shoreface in this area is steeper than in other regions of the island because of the depth to the BC (Figure 32), which provides accommodation space

for the accretion of sand. The accretion of sand here creates a wider and thicker coarse sediment regime of 3.1 Φ (up to 28% coarser than other core transects) to approximately 1 km offshore. Therefore, this coarser grain size regime creates a steeper shoreface slope of approximately 7.2 m/km (about 23% steeper than the 8-Mile Road transect). This steeper shoreface profile shifts the break in slope closer to shore (Figure 32). In this region the shoreface profile also corresponds to the depth of closure, and the toe of the Upper Shoreface (Rodriguez, et al., 1999, Swift et al. 1985). Proximal to this location, the sediment type normally changes from sand to mud dominated, however this is not the case in the East Beach area. Due to the accretion caused by the South Jetty, the profile is locally out of equilibrium and the transition from sand to mud is not observed at this point. Similar to that of Harris et al. (2005), since the BC lies deeper in this region, it will have less of an influencing factor here. The main control of the shoreface in this area is the anthropogenic influences of the South Jetty and Seawall system (Figure 32).

West of East Beach, the accretion caused by the South Jetty decreases and there is an increase in the number of sand and mud layers, filling the available accommodation space and resulting in the shallowing of the shoreface slope. The shallowing of the shoreface also resulted in the offshore migration of the shoreface inflection point. Line 6 is the easternmost transect in which the presence of the modern mud layer is observed in the study area. The shallowing of the shoreface slope also corresponds to shallowing of the BC to depths between 9 m (approximately 0.5 km from shore) and 12 m below sea level (approximately 4 km from shore). Similar to the East Beach region, the main

shoreface slope is located directly offshore of 8-Mile Road, approximately 1 km west of the end of the Seawall (Figure 32). This abrupt change in slope is an indication that the shoreface is locally out of equilibrium, varying from the regional trend of the slope. 8-Mile Road is also where historically the most shoreline erosion has taken place (Morton and Paine, 1985; Gibeaut, 2006; Figure 33). Erosion in this location results from the abrupt ending of the hardened Seawall similar to that predicted by the model of seawall systems created by Toue and Wang (1990). The Seawall and its associated groin system locally disrupt the natural sediment transport patterns in the region. The groins block the transport of sand down-drift (to the west). Although sediment supply to this area has been significantly reduced, the longshore transport continues to remove sand from this area westward, creating a sediment deficiency and a significant localized erosional hotspot.

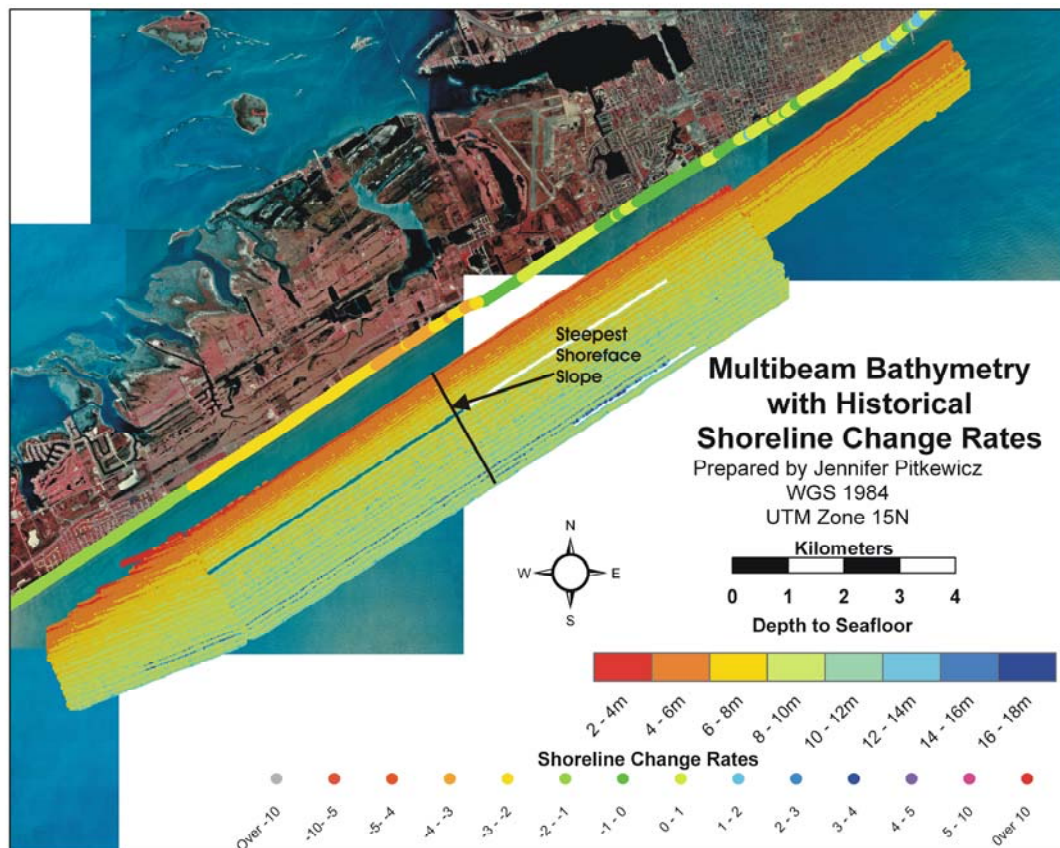


Figure 33: Multibeam bathymetry with historical erosion rates from Gibeaut (2006)

As a result of this enhanced erosion, westward of 8-Mile Road, across the Jamaica Beach Study area, the sediment supply has locally increased. In addition, the BC shallows to depths between 7 m (approximately 0.5 km from shore) and 12 km (approximately 4 km from shore) below sea level. This local change in sediment supply and BC depth corresponds with a decrease in the slope of the shoreface and in the number observed lithologic layers in the sediment cores. This decrease in the slope of the shoreface, indicates the shoreface is returning to the regional trend and agrees with observations of shoreline erosion made by Morton and Paine (1985). They state that this

segment of the segment of the island is relatively stable, due to increased sediment supply. This decrease in the slope of the shoreface in this area causes the modern mud layer to be located farther seaward, as is the shoreface inflection point, extending the modern island toe to approximately 1 to 2 km offshore.

At approximately 2.5 km east of the community of Sea Isle and 17.5 km west of the end of the Seawall, the BC reaches a depth of 7.7 m below sea level at approximately 1.5 km from shore and 10.2 m below sea level at 1.8 km from shore. Sediment cores collected in this area show that there is less than 1 m of Holocene sand overlying the BC. There is a corresponding decrease in the slope and an offshore migration of the island toe and modern mud layer seaward of the study area. In this area the depth of the BC is the main control of the shoreface topography (Figure 32).

At the westernmost end of Galveston Island, near San Luis Pass, the depth to the BC shallows even further to 4.4 m below sea level approximately 0.7 km from shore and 8m below sea level approximately 1.7 km from shore. In this area there is only approximately 0.6 m of sand overlying the BC. This area has the flattest slope of the island and the shoreface toe is furthest from shore. In this area since the BC is so close to the sediment surface it is the main control of the shoreface. This agrees with Majzlik (2005) which argued that the BC was a main control of the shoreface at Matagorda Island, when the BC was at similar depths below the sediment surface.

6.2 Geology of offshore Galveston Island

The modern strata composing of the shoreface of Galveston Island consists of four major stratigraphic facies progressing offshore, these units are: the Upper

Shoreface, Proximal Lower Shoreface, Distal Lower Shoreface and Modern Transgressive Mud Layer (Rodriguez et al., 1999; Robb et al., 2003). Each successive facies contains layers with increasing proportions of silt and clay, and consequently a decrease in the mean grain size. Sediment cores and CHIRP seismic data in this study indicate that the alternating sand and mud units can be traced through the study area. Therefore, a clear boundary between the Proximal and Distal Lower Shoreface is indistinguishable. For the purposes of this study, the Proximal Lower Shoreface and Distal Lower Shoreface facies have been combined since there is evidence that these sand and mud layers may be traceable across the facies boundaries (Table 1, Figures 33 and 34).

Observations from this study found that the upper shoreface (modern island sand) consists of a continuous unit of 80 to 100% fine to very fine sands with patches of shell-hash and is consistent with that of Rodriguez et al. (1999). The mean grain size of sediment in this facies ranges from 3.1 to 3.4 Φ , decreasing offshore. Surface sediments in this region have a modal size of 3 to 3.25 Φ (Rodriguez et al., 1999). Thickness of this unit ranges from 9 m by Bolivar Roads at the east end of the island (Siringan and Anderson, 1994) to 0.6 m by San Luis Pass at the western end of the island. This upper sand unit also thins offshore pinching out between 0.7 to over 2 km offshore at the east end and west end, respectively.

Table 1: Observed sediment facies offshore of Galveston Island

	Unit Thickness	Composition	Lithology	Extent
Upper Shoreface	Thins offshore	80-100% sand	Fine to very fine sand 3.0 to 3.4 Φ .	Between 0.8 and >2.0km offshore
Lower Shoreface	Observed to be up to 2.5m in sediment cores but likely extends deeper than sediment cores	Varies	Alternating layers of very fine sand and mud. Layer thickness varies but is observed to be less than 1m.	Observed below the upper shoreface and extends under modern mud
Modern Mud	Thins shoreward – maximum Thickness observed in the study area was 2.75m but likely extends deeper than sediment cores	60-100% mud	Mud with several fine sand laminations	Between 0.8 and >2.0km from shore

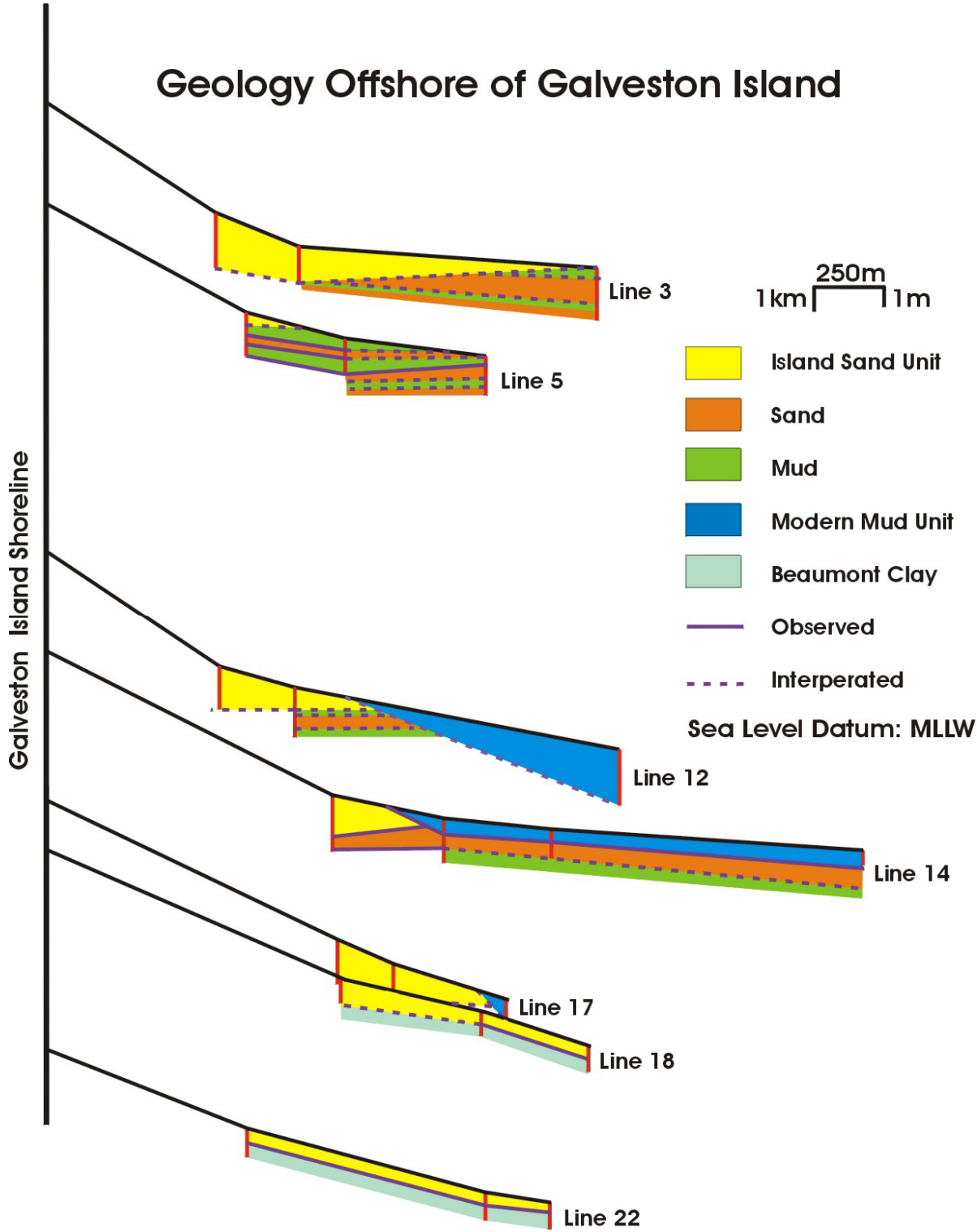


Figure 34: Geology offshore of Galveston Island, to scale.

Previous research has found that the Proximal Lower Shoreface is composed of very fine sands and medium to thickly interbedded mud layers (10-50 cm) (Rodriguez et al., 1999). This facies has a silt and clay content ranging from less than 30% to over 60% at the central portions of the island (Rodriguez et al., 1999). The Distal Lower Shoreface has been shown to contain predominately muddy sediment and thin to medium bedded sand layers (3-20 cm) with 55 to 75% silt and clay content (Rodriguez et al., 1999; Siringan and Anderson, 1994). Sands within the Proximal and Distal Lower Shoreface have a modal size of 2.5 to 3.0 Φ . Sediment core analysis from this study revealed that the combined unit, the Lower Shoreface, may be missing from the eastern end of the island. It emerges in the study area offshore of around 53rd Street. The Lower Shoreface underlies the Upper Shoreface and extends offshore past the toe of the island sand unit. Westward from 53rd Street, the Lower Shoreface is located further offshore and by transect 17 located between Jamaica Beach and Sea Isle, has shifted at least 2 km offshore and is not observed in the study area. The major distinguishing factor between this study and previous studies is that sediment core and CHIRP seismic data indicates that the interbedded sand and mud layers can be traced through the facies. Core data indicates the presence of alternating sand and mud layers. Layer thickness varies, but there is a correlation between layer thickness and distance from shore. Closer to shore sand layers dominate, with thin mud layering. Offshore sand layers thin and mud layers increase in thickness. This results from varying wave climate offshore, which permits more settling of mud further from shore. There is also a correlation between the number of alternating sand and mud units and the thickness of the Holocene marine sequence.

With the exception of the eastern most portion of the island, which lies above the Trinity River valley fill and has been accreting due to the presence of the South Jetty, the number and net thickness of sand and mud layers and decrease westward as the Holocene sequences thins.

The modern mud unit incises antecedent shoreface units and contains at least 60% silt and clay, with a few thin sand laminations, agreeing with the study conducted by Robb et al. (2003). The mud facies emerges after the upper shoreface sand layer has pinched out, beneath the depth of closure and becomes progressively thicker offshore. At the eastern end of Galveston Island, the modern mud layer is either located outside of the study area or is missing due to the accretion of East Beach. Westward, the modern mud layer is located closer to shore and reaches its shoreward most point near 8-Mile road, where it is approximately less than 1km from shore. Westward, the modern mud unit is found further offshore and out of the study area. According to Robb et al. (2003), the base of the modern mud layer dates to 2660 ybp and the most recent mud layer has formed within the last 22 to 57 years (Robb et al., 2003). Robb et al. (2003) suggests that the formation of the recently accumulated portion of the modern mud layer was formed due to longshore currents acting upon dredge spoil placed seaward of the inlet jetties of Bolivar Roads. Considering the broad extent of this layer, it appears more likely that the upper portion of the modern mud layer is a sequence of physically mixed sediment from recent storm layers.

7. SUMMARY

Galveston Island is one of the nations most highly eroding shorelines. This has caused increased concern with local residents and government officials, and has also spurred the development of beach management programs in the region. In response to these concerns, a study was conducted in the spring and summer of 2005. Its goal was to delineate the antecedent and anthropogenic controls of the shoreface architecture and to reevaluate the geology of the shoreface in order to better understand the processes that affect Galveston Island. Sidescan sonar, CHIRP seismic, and Multibeam bathymetry data were acquired and sediment cores were collected for the entire length of the island.

The shoreface architecture offshore of Galveston Island is influenced both by antecedent geology and the anthropogenic structures in the region. The Beaumont Clay is a hard, consolidated, indurated clay unit which underlies Galveston Island, and much of southeast Texas. Upon formation of Galveston Island, the BC provided a basement geologic framework upon which Holocene sediments were deposited. Sediment gradually built out southwestward and seaward forming the modern island. The greatest affects of the BC is seen offshore of the western half of the island as the BC shallows reaching a depth of 4 m below sea level. Where the BC is near the surface, the accommodation space for sediment to be stored on the shelf is limited, and results in the overall thinning of the Holocene marine sequence. There is a thinning of the Upper Shoreface, and less layers observed in the Lower Shoreface in places where the BC is thickest and the surface of the BC is topographically highest. The depth to the BC also

influences the shoreface profile, causing it to shallow as the BC reaches the surface. The greatest effects of the BC is seen offshore of the western half of the island where the

The anthropogenic structures created by the United States Army Corps of Engineers to help stabilize the island after the 1900 hurricane, including the Seawall and associated groin system, have altered the sediment transport patterns of the island drastically, by blocking most of the down-drift transport of sand past the groins. The effects of the anthropogenic structures have the greatest influence on the shoreface offshore of the eastern half of Galveston Island. The South Jetty has caused a large volume of sand to accrete offshore of East Beach. The accumulation of this sand has caused the burying of sand and mud layers proximal to East Beach and causes a steeping of the shoreface profile due to the presence of sand coarser than the regional trend. At the end of the seawall there has been massive historical erosion observed over the last 60 years (Gibeaut 2006, Morton and Paine, 1985). This erosion occurs because the seawall and groin system is starving the natural West End of the island and trapping sand between the groins. Since long-shore transport continues though sand supply has decreased, more sand is transported from the area than is accreted. This causes the profile to be out of equilibrium and creates a steeper shoreface profile approximately 2 km west of the end of the seawall.

The geology offshore of Galveston Island generally agrees with Rodriguez et al. (1999), Robb et al. (2003), Siringan and Anderson (1994). The shoreface is divided into three distinct sedimentary facies, the Upper Shoreface, Lower Shoreface and the Modern Mud Unit. The Upper Shoreface is composed primarily of fine to very fine sand. This

unit is thicker and pinches out closer to shore on the east end of the island and is thinner and pinches out further from shore on the west end of the island. The Lower Shoreface is composed of continuous alternating sand and mud layers with the sand layers generally thinning offshore and the mud layers thickening. The Lower Shoreface seems to be missing or located offshore of the study area at the east and west ends of the island. The Modern Mud Unit is composed of primarily silt and clay and forms seaward of the point of inflection of the slope and where the Island sand unit pinches out.

Overall, we have observed that the shoreface is greatly influenced by antecedent geology as well as anthropogenic structures in the area. They affect the slope of the shoreface, accommodation space for sediment and the location and distribution of the three observed sediment facies. This information furthers the current understanding of the shoreface dynamics of Galveston Island and will benefit future beach management programs and studies.

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APPENDIX A
EAST BEACH SEDIMENT CORES

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Results:

A total of 12 sediment cores were collected in the east section. Each core was cut, photographed, and processed according to ASTM standards. 148 Grain size samples were collected at the top and bottom of each lithologic interval in each core. Samples were wet sieved, placed in a RO-TAP machine and sands were separated according to size, and pipette analysis was performed.

Core 3A:

Core 3A was taken at water depth of 4.7 m (15.5 ft) (Table A 1) and had a total length of 262 cm (103 in) (Figures A 1-4). A total of 13 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 31-40 cm (12.2-15.8 in), 71- 80 cm (28-31.5 in), 81-90 cm (31.9-35.4 in), 101-110 cm (39.8-43.3 in), 111-120 cm (43.7-47.2 in), 141-150 cm (55.5-59.1 in), 171-180 cm (67.3-70.9 in), 191-200 cm (75.2-78.7 in), 201-210 cm (79.1-82.7 in), 211-220 cm (83-86.6 in), 231-240 cm (90.9-94.5 in), and 251-260 cm (98.8-102.4 in). The grain size analysis revealed that the upper 70 cm (27.6 in) ranged from 86 to 92% sand and had a mean grain size ranging from 0.1096 mm (3.18 Φ) to 0.1294 mm (2.95 Φ). At the depths of 71 cm (28 in) to 90 cm (35.4 in) there is a decrease in sand percentages from 86 to 72% and an increase in mean grain size from 0.1181 mm (3.1 Φ) to 0.174 mm (2.5 Φ). From depths of 90 cm (35.4 in) to 120 cm (47.2 in) there is an increase in sand percentages from 72% to 84% and a decrease in mean grain size from 0.1740 mm (2.5 Φ) to 0.0983 mm (3.3 Φ). Depths of 120 cm (47.2 in) to 200 cm (78.7 in) contained sand ranging from 84% to 89% and a mean grain size ranging from 0.0983 mm (3.3 Φ) to 0.113 mm (3.1 Φ). From depths of 200 cm (78.7 in) to 240 cm

(94.5 in) there is a decrease in the Percent sand ranging from 89% to 47% with a mean grain size ranging from 0.0939 mm (3.4 Φ) to 0.2694 mm (1.9 Φ). From 231 cm (90.9 in) to the bottom of the core, Percent sand increased from 47% to 85% sand and from had a mean grain size that decreased from 0.2694 mm (1.9 Φ) to 0.1456 mm (2.8 Φ). Shell and sand weights are shown in Table A 2. Percent shell, sand, silt and clay are shown in Table A 3. Folkian statistic data are shown in Table A 6. Graphs of the results are located in Figures A 5-8.

It was determined that core 3A had approximately 260 cm (102.4 in) of sediment that contained at least 50% sand, of which 100 cm (39.4 in) was located at less than 1 m (3.28 ft) depth.

Core 3B:

Core 3B was collected in a water depth of 6.2 m (20.5 ft) (Table A 1) and was 169 cm (66.5 in) long (Figures A 1 & 9-11). A total of 8 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 11-20 cm (4.3-7.9 in), 41-50 cm (16.1-19.7 in), 71-80 cm (28-31.5 in), 91-100 cm (35.8-39.4 in), 101-110 cm (39.8-43.3 in), 131-140 cm (51.6-55.1 in), and 161-164 cm (63.4-64.6 in). The grain size analyses revealed that the entire core remained above 79% sand and had a mean grain size ranging from 0.1029 mm (3.3 Φ) to 0.1156 mm (3.1 Φ).

Shell and sand weights are shown in Table A 7. Percent shell, sand, silt and clay are shown in Table A 8. Folkian statistic data are shown in Table A 11. Graphs of the results are located in Figures A 12-15.

It was determined that core 3B had approximately 169 cm (66.5 in) of sediment that contained at least 50% sand, of which 100 cm (39.4 in) was located less than 1 m (39.4 in) in depth.

Core 3C:

Core 3C was taken at a water depth of 7.5 m (24.5 ft) (Table A 1) and was a total length of 255 cm (100.4 in) (Figures A 1 & 16-18). A total of 13 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 31-40 cm (12.2-15.8 in), 51-60 cm (20-23.6 in), 61-70 cm (24-27.6 in), 91-100 cm (35.8-39.4 in), 121-130 cm (47.6-51.2 in), 161-170 cm (63.4-66.9 in), 171-180 cm (67.3-70.9 in), 201-205 cm (79.1-80.7 in), 205-210 cm (80.7-82.7 in), 221-225 cm (87-88.6 in), 231-240 cm (90.9-94.5 in), and 241-250 cm (94.9-98.4 in). From the top of the core to 60 cm (23.6 in) depth there was a decrease in Percent sand ranging from 92.7% to 26.2%. From the depths of 60 cm (23.6 in) to 130 cm (51.2 in) percent sand increased from 26% to 83% with a mean grain size ranging from 0.0407 mm (4.6 Φ) to 0.1174 mm (3.1 Φ). From 130 (51.3 in) to 205 cm (80.7in) depth percent sand decreased from 83% to 10.8%. From 205 cm (80.7 in) to 240 cm (94.5 in) depth there was an increase in percent sand from 11% to 91%. From 241 cm (94.9 in) to the bottom of the core, there was a decrease in percent sand from 91% to 54% with a mean grain size of 0.2943 mm (1.8 Φ).

Shell and sand weights are shown in Table A 12. Percent sand, silt and clay are shown in Table A 13. Folkian statistic data are shown in Table A 16. Graphs of the results are located in Figures A 19-22.

It was determined that core 3C had approximately 182 cm (71.7 in) of sediment contained at least 50% sand, of which 62 cm (24.4 in) was located shallower than 1 m (39.4 in) depth.

Core 4A:

Core 4A was taken at a water depth of 5 m (16.3 ft) (Table A 1) and had a total length of 280 cm (110.2 in) (Figures A 23-26). A total of 16 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 11-20 cm (4.3-7.9 in), 41-50 cm (16.1-19.7 in), 61-70 cm (24-27.6 in), 71-80 cm (28-31.5 in), 101-110 cm (39.8-43.3 in), 111-120 cm (43.7-47.2 in), 141-150 cm (55.5-59.1 in), 171-180 cm (67.3-70.9 in), 181-190 cm (71.3-74.8 in), 211-220 cm (83-86.6 in), 221-230 cm (87-90.6 in), 231-240 cm (90.9-94.5 in), 241-250 cm (94.9-98.4 in), 251-260 cm (98.8-102.4 in) and 271-280 cm (106.7-110.2 in). The top 70 cm (27.6 in) of the core had a percent sand of over 78% and mean grain size of ranging from 0.1005 mm (3.3 Φ) to 0.1157 mm (3.1 Φ). From 70 cm (27.6 in) to 120 cm (47.2 in) percent sand increased from 78 to 90% with a mean grain size ranging from 0.1156 mm (3.1 Φ) to 0.1040 mm (3.3 Φ). From 120 cm (47.2 in) to 220 cm (86.6 in) percent sand ranged from 90% to 85% with mean grain size ranging from 0.0935 mm (3.4 Φ) to 0.1231 mm (3 Φ). From 230 cm (90.6 in) to the bottom of the core, percent sand ranged from 34 to 65% and mean grain size was less than 0.0799 mm (3.6 Φ).

Shell and sand weights are shown in Table A 17. Percent sand, silt and clay are shown in Table A 18. Folkian statistic data are shown in Table A 21. Graphs of the results are located in Figures A 27-30.

It was determined that core 4A had approximately 240 cm (94.5 in) of sediment contained at least 50% sand, of which 100 cm (39.4 in) was located shallower than 1m (39.4 in) depth.

Core 4B:

Core 4B was taken at a water depth of 6.1 m (20 ft) (Table A 1) and had a total length of 314 cm (123.6 in) (Figures A 23 & 31-34). A total of 14 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 31-40 cm (12.2-15.8 in), 61-70 cm (24-27.6 in), 91-100 cm (35.8-39.4 in), 101-110 cm (39.8-43.3 in), 131-140 cm (51.6-55.1 in), 141-150 cm (55.5-59.1 in), 161-170 cm (63.4-66.9 in), 201-210 cm (79.1-82.7 in), 211-220 cm (83-86.6 in), 221-230 cm (87-90.6 in), 251-260 cm (98.8-102.4 in), 291-300 cm (114.6-118.1 in) and 301-310 cm (118.5-122 in). The top of this core down to approximately 80 cm (31.5 in) contained a percent sand decreasing from 87% to 32%, and a mean grain size ranging from 0.1149 mm (3.1 Φ) to 0.1003 mm (3.3 Φ). From depth 80 cm (35.1 in) to 100 cm (39.4 in) percent sand remained below 35%. From the depth of 100 cm (39.4 in) to 140 cm (55.1 in) there was an increase in percent sand from 32 to 87% with mean grain size ranging from 0.0867 mm (3.5 Φ) to 0.0968 mm (3.4 Φ). There was a decrease in percent sand from 87% to 19% between the depths of 140 to 260 cm (55.1 to 102.4 in) and a decrease in mean grain size ranging from 0.0968 mm (3.4 Φ) to 0.0217 mm (5.5 Φ). From 260 cm (102.4 in) to the bottom of the core percent sand remained below 30%.

Shell and sand weights are shown in Table A 22. Percent sand, silt and clay are shown in Table A 23. Folkian statistic data are shown in Table A 26. Graphs of the results are located in Figures A 35-38.

It was determined that core 4B had approximately 193 cm (76 in) of sediment contained at least 50% sand, of which 72 cm (28.3 in) was located shallower than 1 m (39.4 in) depth.

Core 4C:

Core 4C was taken at a water depth of 7.6 m (25 ft) (Table A 1) and had a total length of 200 cm (78.7 in) (Figures A 23 & 39-41). A total of 11 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 11-20 cm (4.3-7.9 in), 31-40 cm (12.2-15.8 in), 41-50 cm (16.1-19.7 in), 61-65 cm (24-25.6 in), 65-70 cm (25.6-27.6 in), 91-100 cm (35.8-39.4 in), 131-140 cm (51.6-55.1 in), 161-170 cm (63.4-66.9 in), 171-180 cm (67.3-70.9 in), and 191-200 cm (75.2-78.7 in). From the top of the core to 40 cm (15.8 in) in depth percent sand increased from 56 to 81% and had a mean grain size ranging from 0.0210 mm (5.6 Φ) to 0.0895 mm (3.5 Φ). From 40cm (15.8 in) to 65 cm (25.6 in) in depth there was a decrease in percent sand from 81% to 19%. From 65 cm (25.6 in) to 100 cm (39.4 in) there was an increase in percent sand to 94% and had a mean grain size ranging from 0.0902 mm (3.5 Φ) to 0.1113 mm (3.2 Φ). From 100 cm (39.4 in) to the bottom of the core there was a decrease in percent sand to 18% with a mean grain size no larger than 0.1072 mm (3.2 Φ).

Shell and sand weights are shown in Table A 27. Percent sand, silt and clay are shown in Table A 28. Folkian statistic data are shown in Table A 31. Graphs of the results are located in Figures A 42-45.

It was determined that core 4C had approximately 165 cm (65 in) of sediment contained at least 50% sand, of which 80 cm (31.5 in) was located shallower than 1 m (39.4 in) depth.

Core 5A:

Core 5A was taken at a water depth of 5.06 m (16.6 ft) (Table A 1) and had a total length of 202 cm (79.5 in) (Figures A 46-49). A total of 11 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 31-40 cm (12.2-15.8 in), 51-60 cm (20-23.6 in), 61-70 cm (24-27.6 in), 101-106 cm (39.8-41.7 in), 106-110 cm (41.7-43.3 in), 121-130 cm (47.6-51.2 in), 140-150 cm (55.1-59.1 in), 151-160 cm (59.4-63 in), 191-197 cm (75.2-77.6 in), and 197-200 cm (77.6-78.4 in). The top 106 cm (41.7 in) was observed to decrease in percent sand from 89% to 24% with a mean grain size no larger than 0.151 mm (2.7 Φ). There was an increase in percent sand to 90% between the depths of 106 cm (41.7 in) to 130 cm (51.2 in) with a mean grain size of no larger than 0.100 mm (3.3 Φ). From depths of 130 cm (51.2 in) to 197 cm (77.6 in) there is a decrease in percent sand from 90% to 16%. From 197 cm (77.6 in) to the bottom of the core there was an increase in percent sand to 52%.

Shell and sand weights are shown in Table A 32. Percent sand, silt and clay are shown in Table A 33. Folkian statistic data are shown in Table A 36. Graphs of the results are located in Figures A 50-53.

It was determined that core 5A had approximately 108 cm (42.5 in) of sediment contained at least 50% sand, of which 62 cm (24.4 in) was located shallower than 1 m (39.4 in) depth.

Core 5B:

Core 5B was taken at a water depth of 6.4 m (21 ft)(Table A 1) and had a total length of 183 cm (72 in)(Figures A 46 & 54-56). A total of 12 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 11-20 cm (4.3-7.9 in), 21-30 cm (8.3-11.8 in), 41-47 cm (16.1-18.5 in), 51-60 cm (20-23.6 in), 81-84 cm (31.9-33 in), 84-90 cm (33-35.4 in), 101-110 cm (39.8-43.3 in), 121-130 cm (47.6-51.2 in), 141-150 cm (55.5-59.1 in), 161-170 cm (63.4-66.9 in), and 171-180 cm (67.3-70.9 in). The grain size analyses revealed that from the top of the core to a depth of 47 cm (18.5 in) there was a decrease in percent sand to 21% from 76% and had a mean grain size of no larger than 0.0834 mm (3.6 Φ). Between the depths of 47 cm (18.5 in) to 60 cm (23.6 in), the percent sand increased to 84% and had a mean grain size of 0.0934 mm (3.4 Φ). From 60 cm (23.6 in) to 90 cm (35.4 in) percent sand decreased to 43% with a mean grain size of no larger than 0.0790 mm (3.7 Φ). There was an increase in percent sand to 59% between the depths of 90 cm (35.4 in) to 130 cm (51.2 in) with a mean grain size between 0.023 mm (5.1 Φ) and 0.040 mm (4.6 Φ). From 130 cm (51.2 in) to 150 cm (59.1 in) there was a decrease in percent sand to 18% and from 150 cm (59.1 in) to the bottom of the core an increase to 65% sand.

Shell and sand weights are shown in Table A 37. Percent sand, silt and clay are shown in Table A 38. Folkian statistic data are shown in Table A 41. Graphs of the results are located in Figures A 57-60.

It was determined that core 5B had approximately 105 cm (41.3 in) of sediment contained at least 50% sand, of which 60 cm (23.6 in) was located shallower than 1 m (39.4 in) depth.

Core 5C:

Core 5C was and taken at a water depth of 7.4 m (24.2 ft) (Table A 1) and had a total length of 190 cm (75 in)(Figures A 46 & 61-63). A total of 10 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 21-26 cm (8.3-10.2 in), 31-40 cm (12.2-15.7 in), 61-70 cm (24-27.6 in), 101-110 cm (39.3-43.3 in), 114-124 cm (44.8-48.8 in), 124-133 cm (48.8-52.4 in), 133-145 cm (52.4-57.1 in), 151-160cm (59.4-63 in), and 181-190 cm (71.3-74.8 in). In the top 26 cm (10.2 in) of the core, percent sand decreased from 67 to 21% sand. From 26 cm (10.2 in) to 40 cm (15.7 in), percent sand increased from 67 to 73% and had a mean grain size of approximately 0.067 mm (3.8 Φ). From 40 cm (15.7 in) to 110 cm (43.4 in) the percent sand remained above 67% and had a mean grain size of no larger than 0.090 mm (3.5 Φ). From 110 cm (43.4 in) to 140 cm (55.1 in) the percent sand ranged from 67 to 5% and had a mean grain size of no larger than 0.049 mm (4.4 Φ). From 140 cm (55.1 in) to the bottom of the core percent sand increased from 5 to 91% and had a mean grain size of no larger than 0.104 mm (3.3 Φ).

Shell and sand weights are shown in Table A 42. Percent sand, silt and clay are shown in Table A 43. Folkian statistic data are shown in Table A 46. Graphs of the results are located in Figures A 64-67.

It was determined that core 5C had approximately 140 cm (55.1 in) of sediment contained at least 50% sand, of which 85 cm (33.5 in) was located shallower than 1 m (39.4 in) depth.

Core 6A:

Core 6A was taken at a water depth of 4.9 m (16 ft) (Table A 1) and had a total length of 155 cm (61 in) (Figures A 68-71). A total of 10 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 11-20cm (4.3-7.9 in), 21-30 (8.3-11.8 in), 41-50 cm (16.1-19.7 in), 71-77 cm (28-30.3 in), 81-90 cm (31.9-35.4 in), 101-108 cm (39.8-42.5 in), 111-120 cm (43.7-47.2 in), 121-130 cm (47.6-51.2 in), and 131-140 cm (51.6-55.1 in). Grain size analyses revealed that in the first 50 cm (19.7 in) of the core, percent sand ranged from 85% to 89% with a mean grain size ranging from 0.0959 mm (3.4 Φ) to 0.1026 mm (3.3 Φ). From 50 cm (19.7 in) to 90 cm (35.4 in) in depth, percent sand decreased from 88% to 43% with mean grain size no larger than 0.0998 mm (3.3 Φ). From 90 cm (35.4 in) to the bottom of the core 140 cm (55.1 in) there was an increase in percent sand from 43 to 92% with a mean grain size smaller than 0.1047 mm (3.3 Φ).

Shell and sand weights are shown in Table A 47. Percent sand, silt and clay are shown in Table A 48. Folkian statistic data are shown in Table A 51. Graphs of the results are located in Figures A 72-75.

It was determined that core 6A had approximately 145 cm (57.1 in) of sediment that contained at least 50% sand, of which 86 cm (33.9 in) was located shallower than 1 m (39.4 in) depth.

Core 6B:

Core 6B was and taken at a water depth of 6.1 m (20 ft)(Table A 1) and had a total length of 192 cm (75.6 in)(Figures A 68 & 76-78). A total of 12 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 11-20 cm (4.3-7.9 in), 41-50 cm (16.1-19.7 in), 51-60 cm (20-23.6 in), 71-80 cm (28-31.5 in), 91-100 cm (35.8-39.4 in), 101-107 cm (39.8-42.1 in), 111-120 cm (43.7-47.2 in), 131-140 cm (51.6-55.1 in), 141-150 cm (55.5-59.1 in), 161-170 cm (63.4-66.9 in), and 181-192 cm (71.3-75.6 in). Data from core 6B showed a large variation in percent sand throughout the core ranging from 69% to 4% with a mean grain size no larger than 0.085 mm (2.6 Φ). There was a decrease in percent sand from 63 to 4% from the top of the core to 60 cm (23.6 in) in depth. From 60 cm (23.6 in) to 100cm (39.4 in) there was an increase in percent sand from 4 to 69%, with a mean grain size of no larger than 0.085 mm (3.6 Φ). From 100 cm (39.4 in) to 120 cm (47.2 in) there was a decrease in percent sand to 6% and a mean grain size smaller than 0.094 mm (3.4 Φ). From 120 cm (47.2 in) to 150 cm (59.1 in), percent sand increased to 67% and then decreased between 150 cm (59.1 in) to 170 cm (66.9 in) to 57%. Finally there was an increase to 61% in percent sand from 170 cm (66.9 in) to the bottom of the core.

Shell and sand weights are shown in Table A 52. Percent sand, silt and clay are shown in Table A 53. Folkian statistic data are shown in Table A 56. Graphs of the results are located in Figures A 79-82.

It was determined that core 6B had approximately 68 cm (26.8 in) of sediment contained at least 50% sand, of which 35 cm (13.8 in) was located shallower than 1 m (39.4 in) depth.

Core 6C:

Core 6C was taken at a water depth of 7.62 m (25 ft) (Table A 1) and had a length of 293 cm (115.4 in) (Figures A 68 & 83-85). A total of 18 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 11-20 cm (4.3-7.9 in), 31-40 cm (12.2-15.8 in), 41-50 cm (16.1-19.7 in), 51-60 cm (20-23.6 in), 91-100 cm (35.8-39.4 in), 101-110 cm (39.8-43.3 in), 111-120 cm (43.7-47.2 in), 131-140 cm (51.6-55.1 in), 145-154 cm (57.1-60.6 in), 154-159 cm (60.6-62.6 in), 159-170 cm (62.6-66.9 in), 171-180 cm (67.3-70.9 in), 181-190 cm (71.3-74.8 in), 221-230 cm (87-90.6 in), 231-235 cm (90.9-92.5 in), 241-250 cm (94.9-98.4 in), and 261-270 cm (102.8-106.3 in). From the top of the core to 100 cm (39.4 in) percent sand remained below 40%. From depths of 100 cm (39.4 in) to 120 cm (47.2 in) percent sand increased from 16 to 71% and had a mean grain size of no larger than 0.231 mm (2.1 Φ). From 120 cm (47.2 in) to 230 cm (90.6 in) percent sand changed rapidly and ranged from 71 to 5%. From 230 cm (90.6 in) to the bottom of the core, percent sand increased from 16 to 88%.

Shell and sand weights are shown in Table A 57. Percent sand, silt and clay are shown in Table A 58. Folkian statistic data are shown in Table A 61. Graphs of the results are located in Figures A 86-89.

It was determined that core 6C had approximately 67 cm (26.4 in) of sediment contained at least 50% sand, of which none was located shallower than 1 m (39.4 in) depth.

Table A 1: Locations of East Beach cores

Core ID	Latitude	Longitude	Depth	Time	Length
3A	29°18.075	94°45.851	4.7m (15.5ft)	7:55 am	262 cm (103.0 in)
3B	29°17.923	94°45.851	6.3m (20.5ft)	8:43 am	169 cm (66.5 in)
3C	29°17.424	94°45.517	7.4m (24.5ft)	9:45am	255 cm (100.4 in)
4A	29°17.232	94°46.799	5.0m (16.3ft)	4:31am	280 cm (110.2 in)
4B	29°17.224	94°46.766	6.0m (20.0ft)	5:31 am	314 cm (123.6 in)
4C	29°16.865	94°46.519	7.6m (25.0ft)	6:45am	200 cm (78.7 in)
5A	29°16.582	94°47.772	5.1m (16.6ft)	8:13am	202 cm (79.5 in)
5B	29°16.401	94°46.746	6.4m (21.0ft)	9:00am	183 cm (72.0 in)
5C	29°16.204	94°47.542	7.4m (24.2ft)	10:00am	190 cm (75.0 in)
6A	29°15.934	94°48.828	4.9m (16.0ft)	7:10am	155 cm (61.0 in)
6B	29°15.769	94°48.677	6.0m (20.0ft)	6:20am	192 cm (75.6 in)
6C	29°15.642	94°48.657	7.6m (25.0ft)	4:12pm	293 cm (115.4 in)

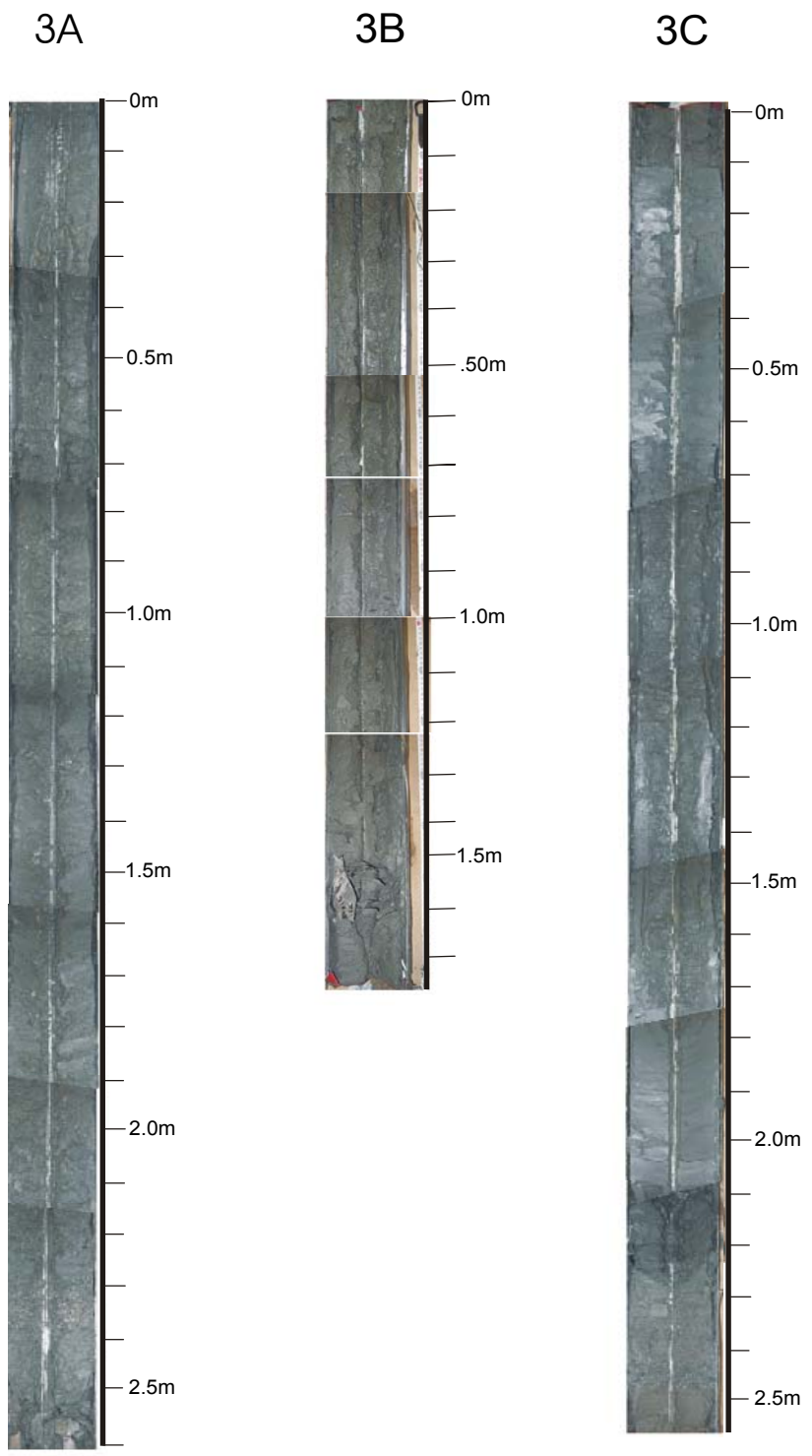


Figure A 1: Core photographs for Line 3

Core#: 3A

Core Date: 07/09/05

Date Split/subsampled	Length: <u>262 cm</u>
<u>08/15/2005</u>	Lat: <u>21 48.05</u>
	Long: <u>99 46.851</u>

Core#: 3A

Core Date: 07/09/2005

Date Split/subsampled	Length: <u>262 cm</u>
<u>08/15/2005</u>	Lat: <u>21 48.05</u>
	Long: <u>99 46.851</u>

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
		<u>GS</u>	
0-11 cm		1-10 cm	0-83 → SAND w/ ABUNDANT SHELL HASH
	5Y 3/1	31-40 cm	83-108 → SHELL HASH w/ SAND
		71-80 cm	
		81-90 cm	108-173 → SAND w/ SHELL HASH
11-240 cm		101-110 cm	
	5Y 4/1	111-120 cm	173-179 → SHELL HASH w/ SAND
		141-150 cm	
240-263		171-180 cm	179-197 → SAND w/ SHELL HASH
	5Y 5/1	191-200 cm	
		201-210 cm	197-202 → SHELL HASH w/ SAND
		24-220 cm	202-221 → SAND w/ SHELL HASH
		231-240 cm	221-240 → SHELL w/ SAND
		251-260 cm	240-262 → SAND w/ SHELL HASH
		<u>WC</u>	
		0-1 cm	
		10-11 cm	
		20-21 cm	
		30-31 cm	
		40-41 cm	
		50-51 cm	
		60-61 cm	
		70-71 cm	
		80-81 cm	
		90-91 cm	
		100-101 cm	
		110-111 cm	
		120-121 cm	
		130-131 cm	
		140-141 cm	
		150-151 cm	
		160-161 cm	
		170-171 cm	
		180-181 cm	
		190-191 cm	
		200-201 cm	

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
		<u>WC</u>	
		<u>continued</u>	
		210-211 cm	
		220-221 cm	
		230-231 cm	
		240-241 cm	
		250-251 cm	
		260-261 cm	

Figure A 2: Core log for 3A fore depths 0-150 cm

Figure A 3: Core log for 3A for depths 150-262 cm

Line 3 Site A

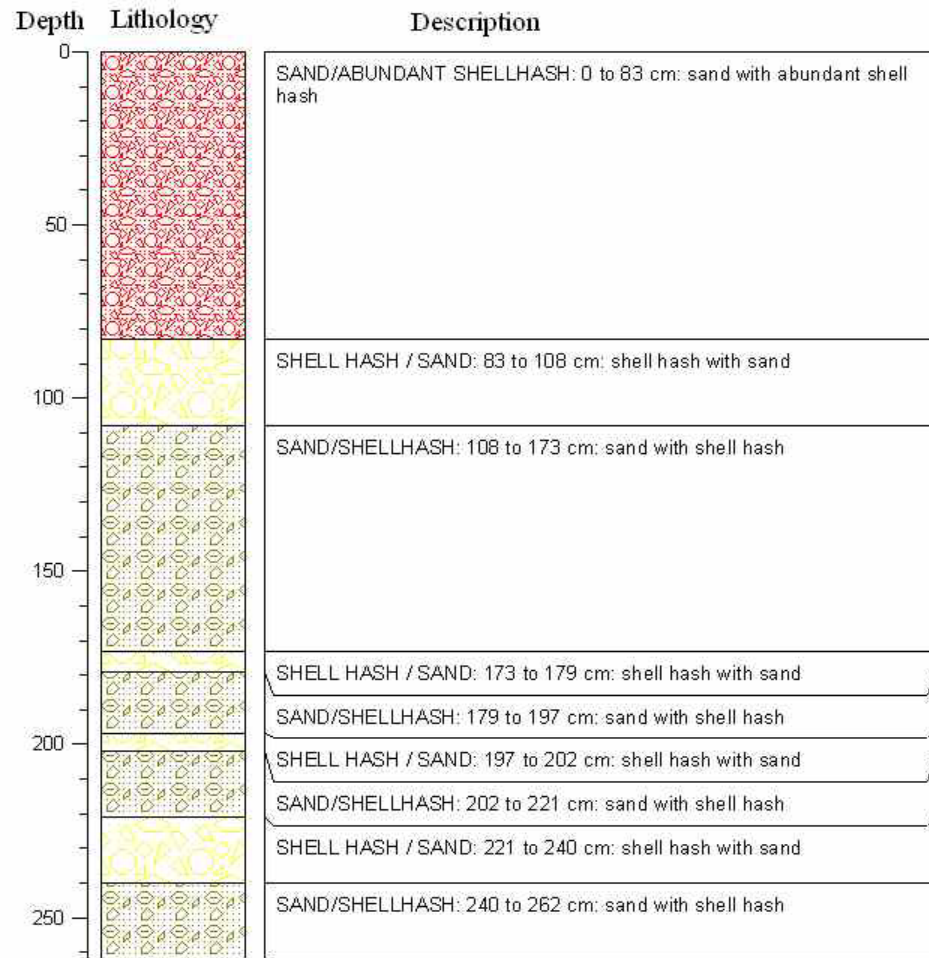


Figure A 4: Computer core log for 3A

Table A 2: Shell and sand weights for core 3A

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
3A	1-10	4.37	101.41	1.65	103.06
3A	31-40	1.35	100.58	1.34	101.92
3A	71-80	5.75	88.11	1.90	90.01
3A	81-90	27.80	82.74	8.26	91.00
3A	101-110	13.23	81.81	1.66	83.47
3A	111-120	0.97	76.56	4.89	81.45
3A	141-150	0.88	86.39	4.26	90.65
3A	171-180	2.08	81.15	5.24	86.39
3A	191-200	3.43	104.64	2.08	106.72
3A	201-210	2.27	76.09	3.56	79.65
3A	211-220	3.12	75.14	5.39	80.53
3A	231-240	52.80	61.40	1.99	63.39
3A	251-260	5.11	72.81	0.45	73.26

Table A 3: Percent Shell, sand, silt and clay for core 3A

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
3A	1-10	3.785188	89.26808	4.226938	2.719792
3A	31-40	1.21381	91.63819	4.185398	2.962597
3A	71-80	5.507663	86.21648	5.359195	2.916667
3A	81-90	22.11263	72.38307	3.261215	2.24308
3A	101-110	12.68274	80.01726	4.639793	2.660212
3A	111-120	1.001445	84.09044	11.57857	3.329548
3A	141-150	0.842186	86.75471	8.498421	3.90468
3A	171-180	2.087725	86.71083	7.81893	3.382515
3A	191-200	2.849547	88.65997	5.267093	3.223395
3A	201-210	2.418624	84.86495	8.870066	3.846359
3A	211-220	3.049257	78.70407	12.98866	5.258014
3A	231-240	39.05037	46.88263	9.899416	4.167591
3A	251-260	5.959184	85.4344	5.28863	3.317784

Table A 4: RO-TAP data for core 3A

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
3A	1-10	1.07	1.03	0.79	0.62	0.46	0.40	0.42	0.87	62.74	33.89	3.49	1.65
3A	31-40	0.08	0.27	0.28	0.23	0.19	0.30	0.38	1.25	26.21	62.30	10.44	1.34
3A	71-80	1.65	1.30	1.04	0.86	0.56	0.34	0.67	1.72	33.35	46.39	5.98	1.90
3A	81-90	4.98	2.47	1.88	1.54	0.97	15.96	0.93	2.96	38.67	37.08	3.10	8.26
3A	101-110	4.25	3.11	1.97	1.70	1.15	1.05	1.07	4.75	40.31	31.60	4.08	1.66
3A	111-120	0.08	0.23	0.18	0.21	0.15	0.12	0.25	0.88	16.76	52.27	6.40	4.89
3A	141-150	0.21	0.19	0.11	0.13	0.10	0.14	0.22	0.74	14.60	57.63	13.20	4.26
3A	171-180	0.96	0.41	0.24	0.21	0.14	0.12	0.24	0.58	12.63	57.06	10.64	5.24
3A	191-200	0.96	0.76	0.66	0.48	0.30	0.27	0.29	1.02	33.55	61.88	7.90	2.08
3A	201-210	0.68	0.62	0.37	0.30	0.18	0.12	0.20	0.57	11.59	56.54	7.19	3.56
3A	211-220	1.01	0.59	0.55	0.48	0.30	0.19	0.32	0.78	9.63	55.13	9.28	5.39
3A	231-240	12.05	10.66	9.68	9.57	6.62	4.22	1.91	2.42	19.24	33.07	4.76	1.99
3A	251-260	1.71	0.94	0.77	0.76	0.54	0.39	0.69	3.86	59.02	7.97	1.27	0.45

Table A 5: Percent finer data for core 3A

ASTM Classification		coarse sand	medium sand	medium sand	medium sand	medium sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt	
Wentworth Classification		granule	very coarse sand	very coarse sand	coarse sand	coarse sand	medium sand	fine sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.4mm/ -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm / 3.5Φ Screen	% finer than N200/ 75µm / 3.75Φ Screen	% finer than N230/ 63µm/ 4.0Φ Screen	% finer than 4µm/ 8Φ	
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt	
3A	1-10	99.0	98.1	97.4	96.9	96.5	96.1	95.7	95.0	39.1	8.9	5.8	4.3	2.8	
3A	31-40	99.9	99.7	99.4	99.2	99.0	98.7	98.4	97.2	73.0	15.2	5.6	4.3	3.1	
3A	71-80	98.4	97.1	96.1	95.2	94.7	94.3	93.7	92.0	59.1	13.3	7.4	5.5	3.0	
3A	81-90	95.9	93.9	92.4	91.2	90.4	77.4	76.6	74.2	42.8	12.6	10.1	3.3	2.3	
3A	101-110	95.8	92.8	90.8	89.1	88.0	87.0	85.9	81.2	41.5	10.4	6.4	4.8	2.7	
3A	111-120	99.9	99.7	99.5	99.3	99.1	99.0	98.7	97.8	79.9	24.0	17.2	12.0	3.4	
3A	141-150	99.8	99.6	99.5	99.4	99.3	99.1	98.9	98.2	83.6	26.2	13.1	8.8	4.1	
3A	171-180	99.0	98.6	98.3	98.1	98.0	97.8	97.6	97.0	83.9	24.6	13.5	8.1	3.5	
3A	191-200	99.2	98.5	98.0	97.5	97.3	97.1	96.8	95.9	67.1	14.0	7.2	5.4	3.3	
3A	201-210	99.2	98.6	98.1	97.8	97.6	97.5	97.3	96.6	83.8	21.1	13.2	9.2	4.0	
3A	211-220	99.0	98.3	97.8	97.3	97.0	96.8	96.5	95.6	85.7	28.8	19.3	13.7	5.5	
3A	231-240	90.7	82.5	75.0	67.6	62.5	59.3	57.8	55.9	41.1	15.5	11.9	10.3	4.3	
3A	251-260	97.9	96.8	95.9	95.0	94.3	93.8	93.0	88.3	17.2	7.5	6.0	5.5	3.4	

Table A 6: Folkian statistic data for core 3A

Station ID	Sample Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(Φ)	(mm)	(Φ)	(mm)		
3A	1-10	2.907	0.1328	2.9451	0.1294	0.2906	0.3765
3A	31-40	3.192	0.1089	3.1834	0.1096	-0.0060	0.3340
3A	71-80	3.089	0.1170	3.0750	0.1181	-0.2371	0.7141
3A	81-90	2.907	0.1328	2.5181	0.1740	-0.5514	1.2534
3A	101-110	2.906	0.1329	2.8979	0.1336	-0.2953	0.9665
3A	111-120	3.250	0.1046	3.3403	0.0983	0.3335	0.4627
3A	141-150	3.288	0.1019	3.3164	0.0999	0.2569	0.4113
3A	171-180	3.277	0.1027	3.3123	0.1002	0.2307	0.3732
3A	191-200	3.150	0.1121	3.1385	0.1130	0.0789	0.4012
3A	201-210	3.258	0.1040	3.2849	0.1021	0.2672	0.3738
3A	211-220	3.302	0.1009	3.4060	0.0939	0.6285	1.6850
3A	231-240	2.778	0.1452	1.8882	0.2694	-0.4158	2.0535
3A	251-260	2.769	0.1461	2.7742	0.1456	0.1002	0.9498

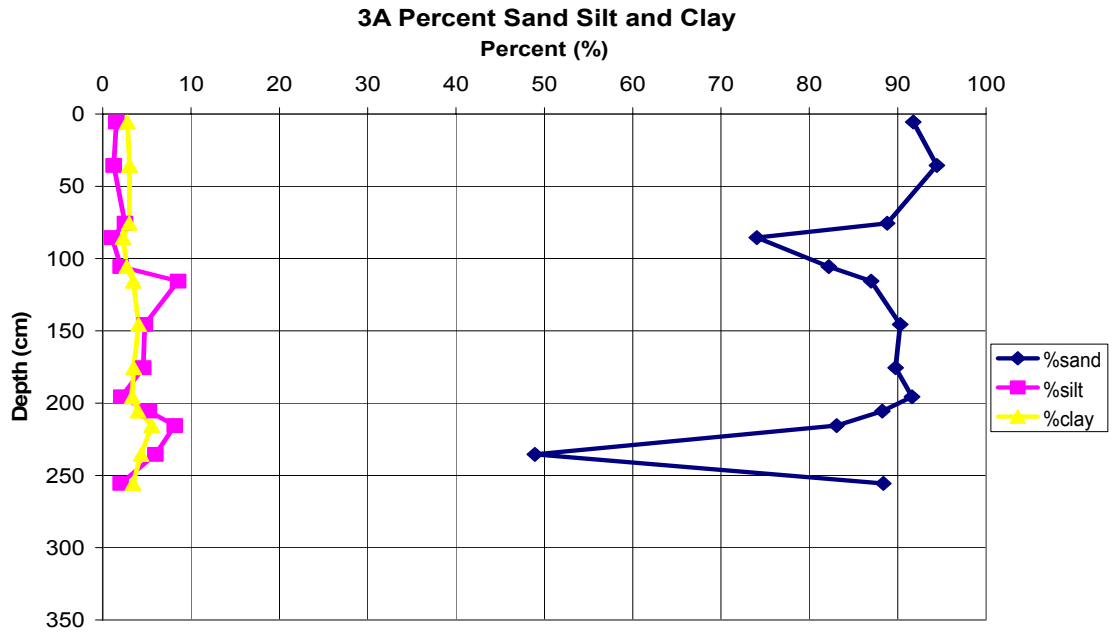


Figure A5: Percent sand, silt and clay graph for core 3A

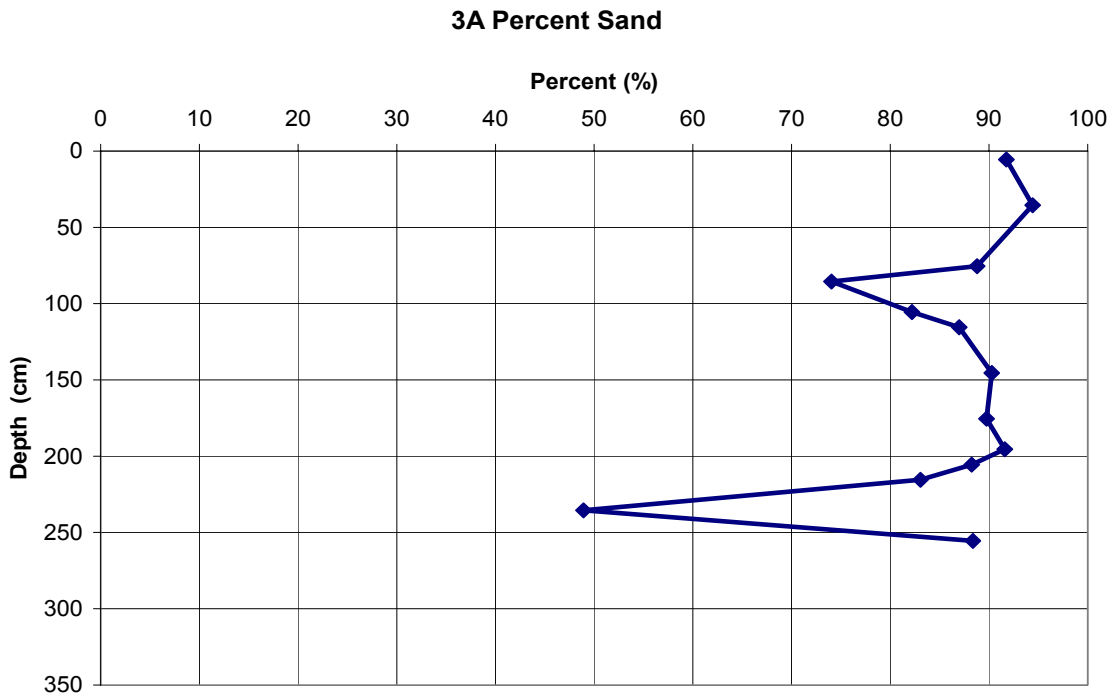


Figure A 6: Percent sand graph for core 3A

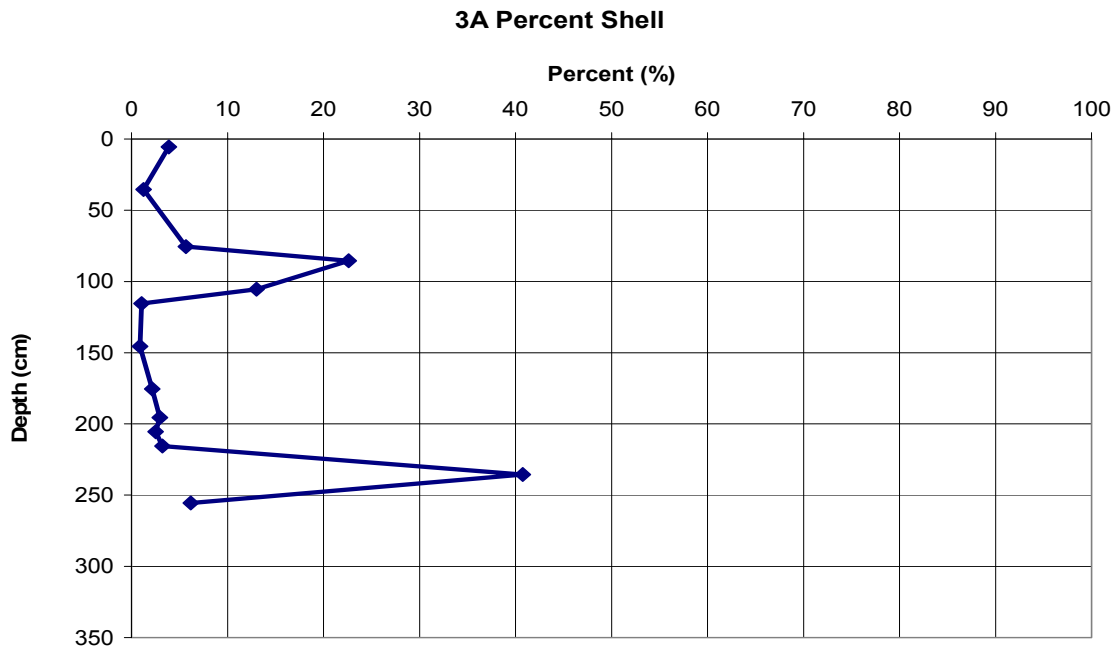


Figure A 7: Percent shell graph for core 3A

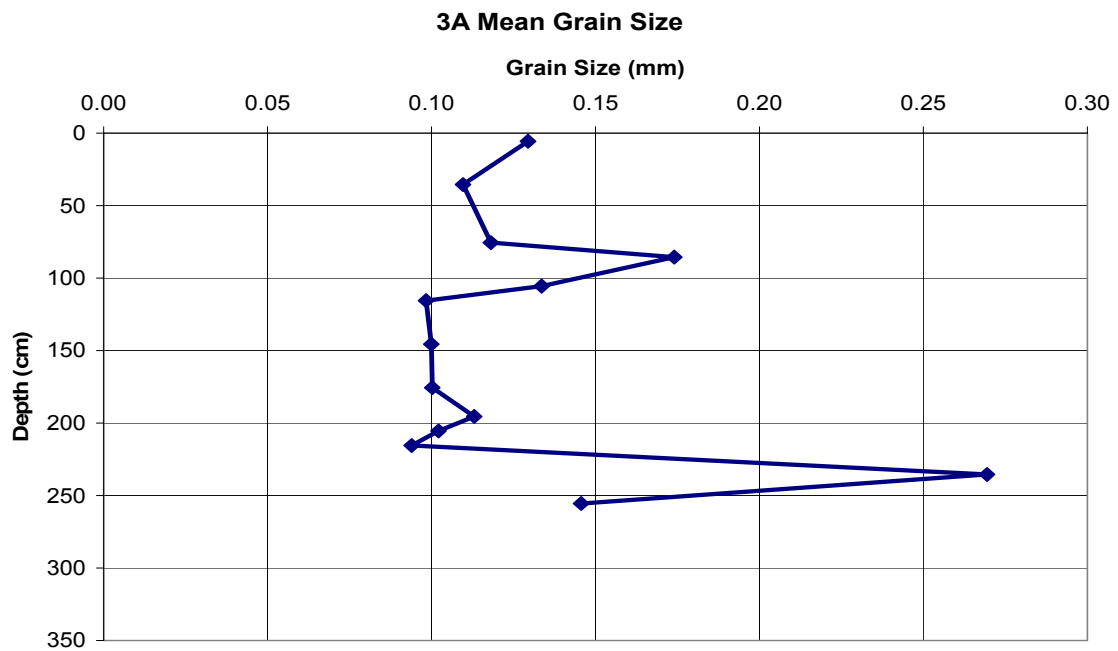


Figure A 8: Mean grain size graph for core 3A

Core#: CC-3B

Core Date: 07/09/2005

Date Split/subsampled	Length: <u>169 cm</u>
<u>08/18/2005</u>	Lat: <u>21 17.923</u>
	Long: <u>94 45.787</u>

Core#: CC-3B

Core Date: 07/09/2005

Date Split/subsampled	Length: <u>169 cm</u>
<u>08/18/2005</u>	Lat: <u>21 17.923</u>
	Long: <u>94 45.787</u>

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-8	5Y 4/1	<u>GS</u> 1-10cm	0-8 → SAND w/ TRACE SHELL
8-14	5Y 3/1	11-20cm 91-SDcm	8-14 → SHELL HASH w/ SAND
14-169	5Y 4/1	71-80cm 96-107cm 101-110cm 131-140cm 161-164cm	14-96 → SAND w/ TRACE SHELL HASH 96-107 → SHELL HASH w/ SAND 107-169 → SAND w/ TRACE SHELL HASH
		<u>WC</u> 0-1cm 10-11cm 20-21cm 30-31cm 40-41cm 50-51cm 60-61cm 70-71cm 80-81cm 90-91cm 100-101cm 110-111cm 120-121cm 130-131cm 140-141cm 150-151cm 160-161cm	

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
150-169			

Figure A 9: Core log of 3B for depths 0-150 cm

Figure A 10: Core log of 3B for depths 150-169 cm

Line 3 Site B

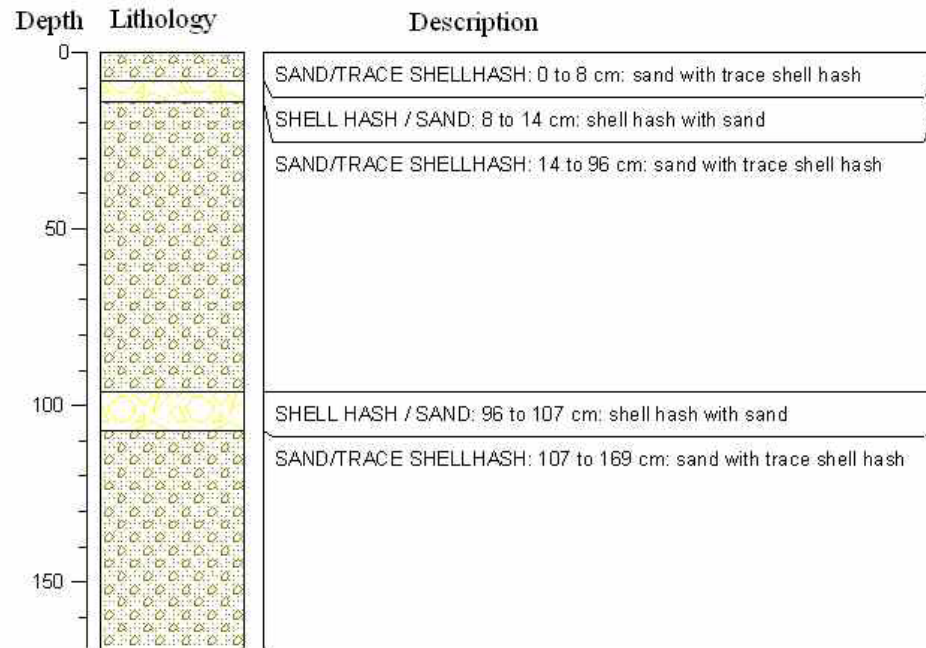


Figure A 11: Computer core log of 3B

Table A 7: Shell and sand weights for core 3B

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
3B	1-10	5.67	116.82	2.36	119.18
3B	11-20	7.29	118.87	2.28	121.15
3B	41-50	1.14	121.26	4.31	125.57
3B	71-80	1.41	122.27	4.41	126.68
3B	91-100	4.57	90.03	4.02	94.05
3B	101-110	6.11	124.57	3.09	127.66
3B	131-140	0.83	129.83	1.46	131.29
3B	161-164	1.08	117.38	1.47	118.85

Table A 8: Percent shell, sand, silt and clay for core 3B

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
3B	1-10	4.0853087	85.87074	6.0667195	3.9772318
3B	11-20	4.7396138	78.76601	9.5084845	6.9858917
3B	41-50	0.7983193	87.934174	7.5105042	3.7570028
3B	71-80	0.9793707	87.990554	7.3244426	3.7056331
3B	91-100	3.9293238	80.864967	10.597137	4.6085723
3B	101-110	3.9287551	82.085905	9.3074846	4.6778549
3B	131-140	0.5670755	89.700407	6.0055341	3.7269839
3B	161-164	0.8227945	90.545482	5.5386256	3.0930977

Table A 9: RO-TAP data for core 3B

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
3B	1-10	2.26	1.21	0.94	0.62	0.36	0.28	0.50	1.47	41.09	67.09	6.67	2.36
3B	11-20	3.58	1.24	0.91	0.72	0.42	0.42	0.61	2.23	40.34	66.81	8.88	2.28
3B	41-50	0.23	0.29	0.19	0.16	0.09	0.18	0.43	1.18	33.81	77.27	8.57	4.31
3B	71-80	0.42	0.31	0.16	0.16	0.16	0.20	0.25	0.98	29.21	78.52	13.31	4.41
3B	91-100	0.69	0.98	0.88	0.77	0.68	0.57	0.82	1.85	18.18	60.06	9.12	4.02
3B	101-110	1.07	1.20	1.07	1.13	0.86	0.78	0.77	2.40	37.22	73.29	10.89	3.09
3B	131-140	0.21	0.09	0.08	0.09	0.13	0.23	0.56	0.99	46.97	75.29	6.02	1.46
3B	161-164	0.38	0.16	0.12	0.08	0.09	0.25	0.46	1.02	28.90	78.52	8.48	1.47

Table A 10: Percent finer data for core 3B

ASTM Classification		coarse sand	medium sand	medium sand	medium sand	medium sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt	
Wentworth Classification		granule	very coarse sand	very coarse sand	coarse sand	coarse sand	medium sand	fine sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.4mm/ -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm / 3.5Φ Screen	% finer than N200/ 75µm / 3.75Φ Screen	% finer than N230/ 63µm/ 4.0Φ Screen	% finer than 4µm/ 8Φ	
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt	
3B	1-10	98.3	97.4	96.7	96.2	96.0	95.7	95.4	94.3	63.4	13.1	8.1	6.3	4.1	
3B	11-20	97.5	96.6	96.0	95.5	95.2	94.9	94.5	92.9	64.7	18.0	11.8	10.2	7.5	
3B	41-50	99.8	99.6	99.5	99.4	99.3	99.2	98.9	98.0	73.4	17.2	10.9	7.8	3.9	
3B	71-80	99.7	99.5	99.4	99.2	99.1	99.0	98.8	98.1	77.0	20.4	10.8	7.6	3.8	
3B	91-100	99.4	98.5	97.7	97.0	96.4	95.9	95.1	93.5	77.1	23.0	14.7	11.1	4.8	
3B	101-110	99.3	98.5	97.7	97.0	96.4	95.9	95.4	93.7	68.6	19.2	11.8	9.8	4.9	
3B	131-140	99.9	99.8	99.7	99.7	99.6	99.4	99.0	98.3	65.0	11.5	7.3	6.2	3.9	
3B	161-164	99.7	99.6	99.5	99.4	99.3	99.2	98.8	98.0	75.3	13.5	6.9	5.7	3.2	

Table A 11: Folkian statistic data for core 3B

Core ID	Sample Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(Φ)	(mm)	(Φ)	(mm)		
3B	1-10	3.121	0.1144	3.1067	0.1156	0.0899	0.4376
3B	11-20	3.145	0.1125	3.1419	0.1128	0.3230	1.7038
3B	41-50	3.193	0.1088	3.1967	0.1086	0.1641	0.4004
3B	71-80	3.229	0.1062	3.2397	0.1054	0.1886	0.4078
3B	91-100	3.240	0.1053	3.2738	0.1029	0.0954	0.5713
3B	101-110	3.177	0.1101	3.1764	0.1101	0.2157	0.6078
3B	131-140	3.125	0.1141	3.1168	0.1148	0.1666	0.4122
3B	161-164	3.194	0.1088	3.1888	0.1092	0.1473	0.3686

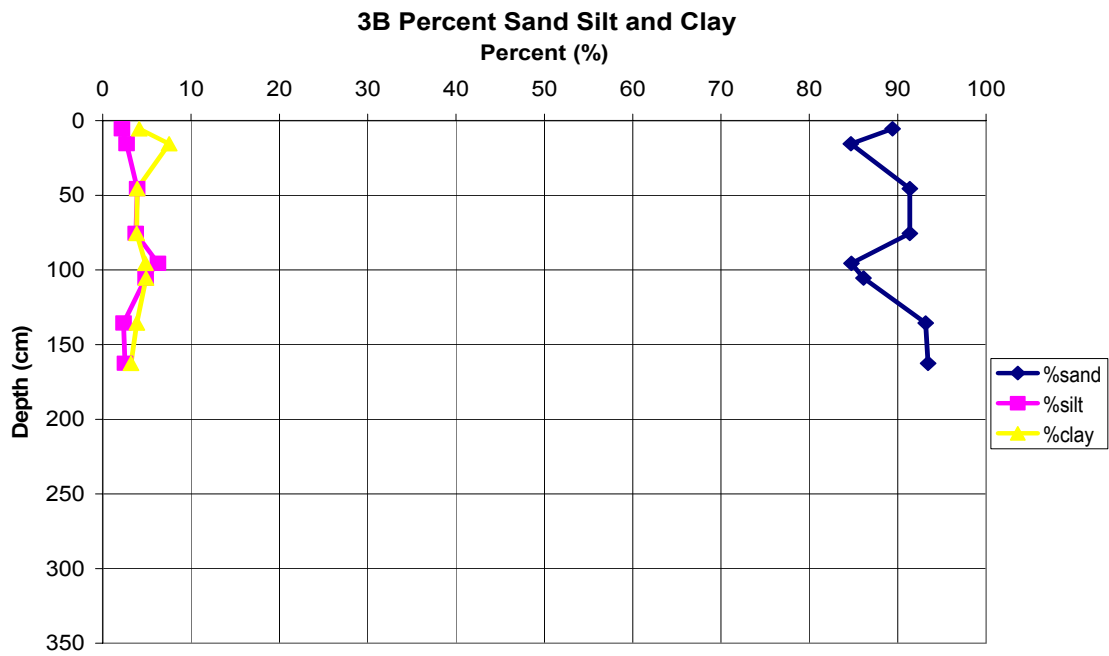


Figure A 12: Percent sand, silt and clay graph for core 3B

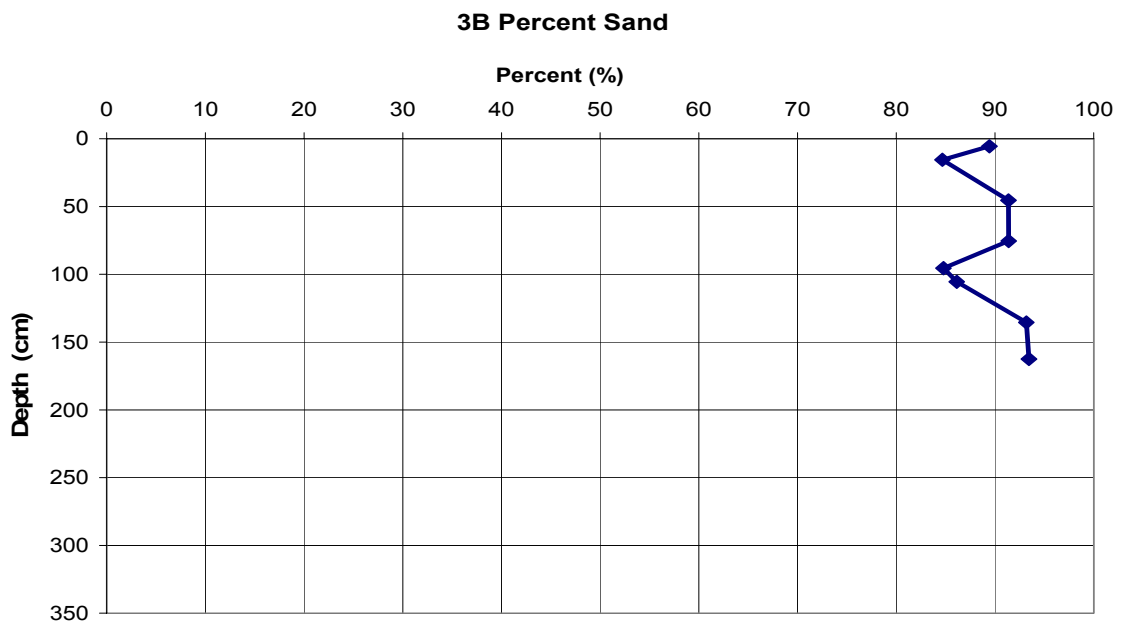


Figure A 13: Percent sand graph for core 3B

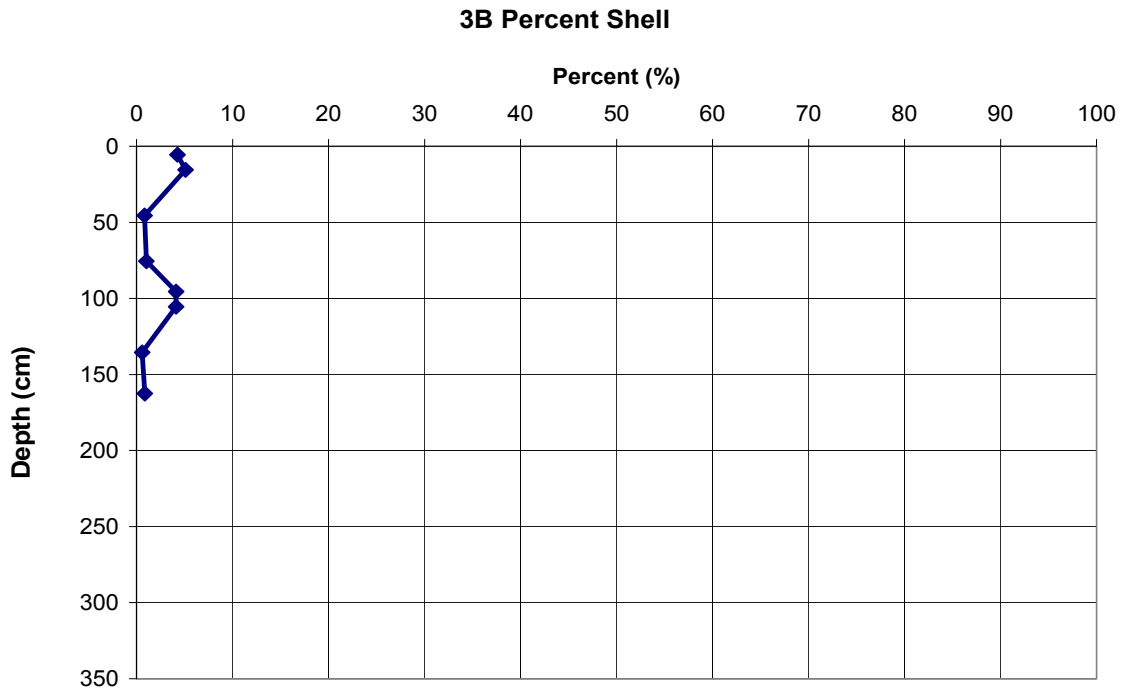


Figure A 14: Percent shell graph for core 3B

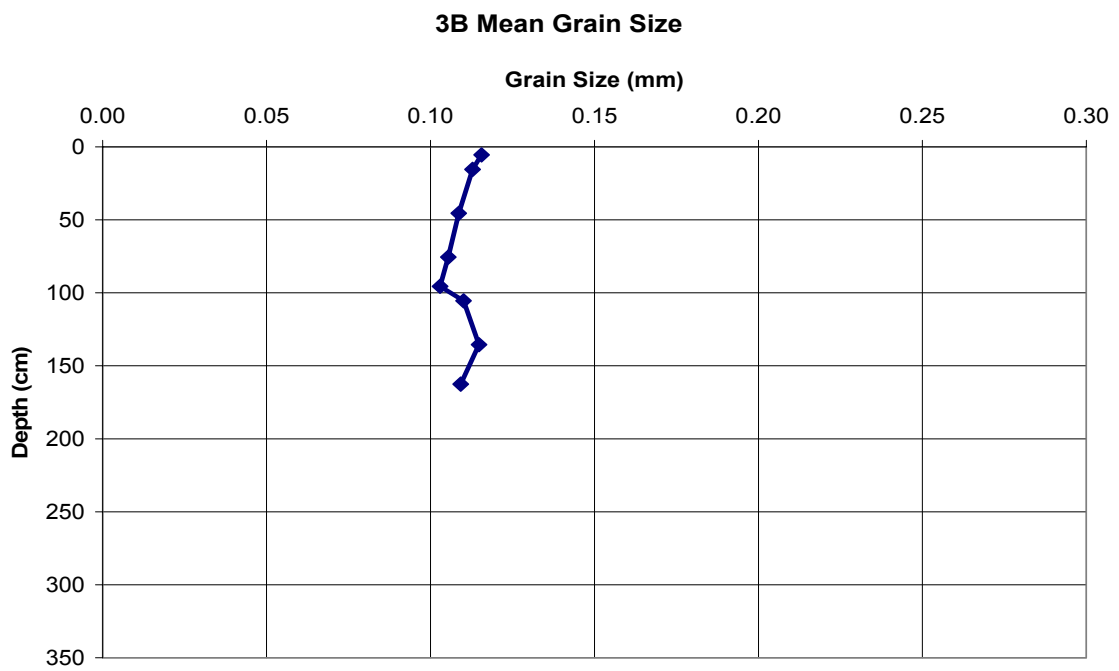


Figure A 15: Mean grain size graph for core 3B

Line 3 Site C

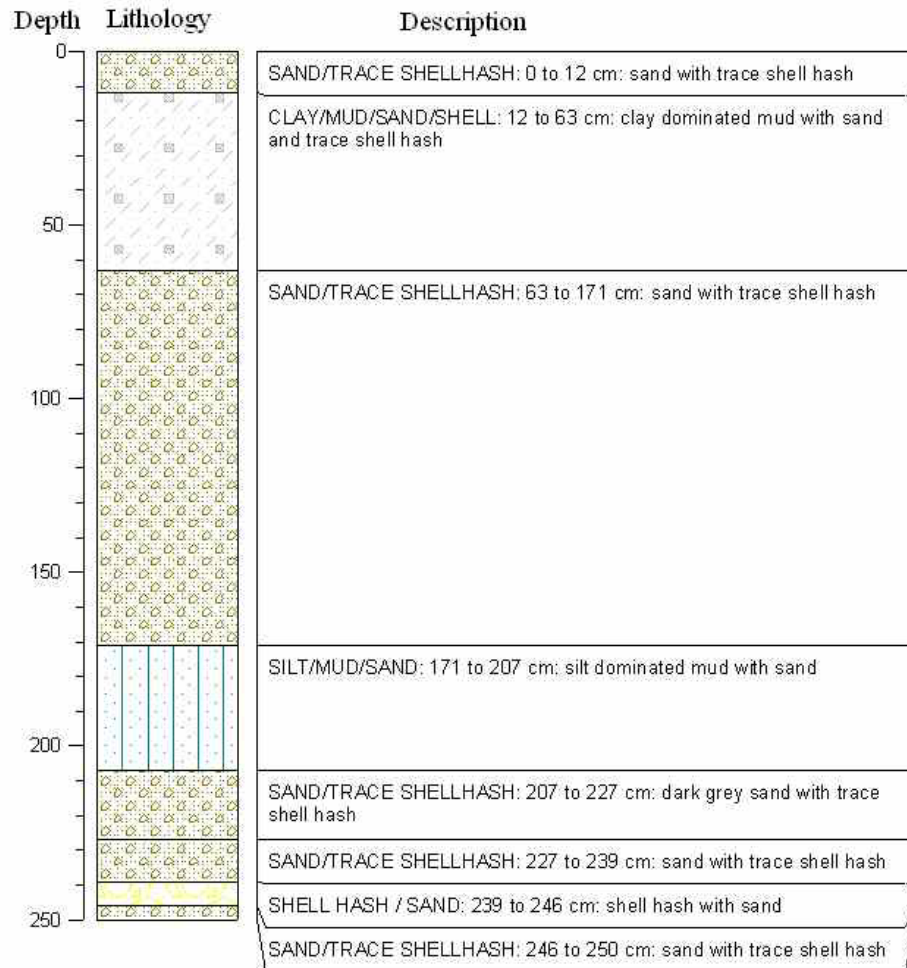


Figure A 18: Computer core log of 3C

Table A 12: Shell and sand weights for core 3C

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
3C	1-10	1.48	95.47	1.58	97.05
3C	31-40	0.05	13.42	3.69	17.11
3C	51-60	0.06	9.63	2.48	12.11
3C	61-70	0.07	47.52	15.21	62.73
3C	91-100	0.08	92.34	4.86	97.20
3C	120-130	0.22	90.65	2.64	93.29
3C	161-170	0.57	76.06	6.66	82.72
3C	171-180	0.14	10.96	2.96	13.92
3C	201-205	0.00	4.52	1.02	5.54
3C	205-210	0.02	38.53	9.74	48.27
3C	221-225	0.98	55.17	2.27	57.44
3C	231-240	2.15	79.34	1.13	80.47
3C	241-250	31.96	57.50	1.16	58.66

Table A 13: Percent shell, sand, silt and clay for core 3C

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
3C	1-10	1.4129553	92.653587	3.2793928	2.6540646
3C	31-40	0.1070549	36.634193	46.14067	17.118082
3C	51-60	0.1298561	26.209285	44.876096	28.784764
3C	61-70	0.0762154	68.299853	24.612118	7.0118134
3C	91-100	0.0659006	80.069196	15.466041	4.3988632
3C	120-130	0.1964198	83.290925	12.267309	4.2453462
3C	161-170	0.5049834	73.284607	17.231451	8.978959
3C	171-180	0.1982582	19.712526	51.447993	28.641224
3C	201-205	0	10.825598	49.545677	39.628725
3C	205-210	0.0275919	66.593088	23.328965	10.050355
3C	221-225	1.3074511	76.632646	17.237009	4.8228937
3C	231-240	2.4243108	90.736878	4.4821559	2.3566556
3C	241-250	29.53107	54.201894	10.917071	5.3499653

Table A 14: RO-TAP data for core 3C

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
3C	1-10	0.52	0.37	0.25	0.18	0.10	0.06	0.19	0.63	75.69	16.20	2.76	1.58
3C	31-40						0.05					13.42	3.69
3C	51-60						0.06					9.63	2.48
3C	61-70	0.00	0.00	0.02	0.01	0.01	0.03	0.12	0.26	2.56	20.81	23.77	15.21
3C	91-100	0.00	0.01	0.00	0.01	0.02	0.04	0.08	0.22	3.77	43.63	44.64	4.86
3C	120-130	0.04	0.02	0.03	0.04	0.04	0.05	0.18	0.69	64.85	20.37	4.56	2.64
3C	161-170	0.10	0.13	0.07	0.09	0.08	0.10	0.23	0.67	11.19	52.39	11.58	6.66
3C	171-180						0.14					10.96	2.96
3C	201-205						0.00					4.52	1.02
3C	205-210						0.02					38.53	9.74
3C	221-225	0.27	0.18	0.14	0.09	0.10	0.20	0.09	0.36	5.05	26.08	23.59	2.27
3C	231-240	0.62	0.58	0.30	0.27	0.21	0.17	0.37	1.62	65.61	9.94	1.80	1.13
3C	241-250	15.41	6.02	4.07	3.10	2.08	1.28	1.51	2.58	31.63	18.92	2.86	1.16

Table A 15: Percent finer data for core 3C

ASTM Classification	coarse sand	medium sand	medium sand	medium sand	medium sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand			
Wentworth Classification	granule	very coarse sand	very coarse sand	coarse sand	coarse sand	medium sand	fine sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.4mm/ -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm / 3.5Φ Screen	% finer than N200/ 75µm / 3.75Φ Screen	% finer than N230/ 63µm/ 4.0Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
3C	1-10	99.5	99.1	98.9	98.7	98.6	98.5	98.4	97.7	23.5	7.6	4.9	3.4	2.7
3C	31-40						99.9					65.2	55.7	20.7
3C	51-60						99.8					70.6	63.0	40.4
3C	61-70	100.0	100.0	100.0	100.0	100.0	99.9	99.8	99.5	96.5	72.1	44.3	26.5	7.5
3C	91-100	100.0	100.0	100.0	100.0	100.0	99.9	99.9	99.7	96.4	58.8	20.4	16.2	4.6
3C	120-130	100.0	99.9	99.9	99.9	99.8	99.8	99.6	99.0	38.5	19.5	15.3	12.8	4.4
3C	161-170	99.9	99.8	99.7	99.6	99.5	99.4	99.2	98.6	87.7	36.7	25.4	18.9	9.9
3C	171-180						99.7					78.0	72.1	40.1
3C	201-205						100.0					85.4	82.1	65.6
3C	205-210						100.0					40.9	25.9	11.2
3C	221-225	99.6	99.4	99.2	99.0	98.9	98.6	98.5	98.0	90.9	54.4	21.3	18.1	5.1
3C	231-240	99.3	98.6	98.3	98.0	97.7	97.5	97.1	95.2	19.5	8.0	5.9	4.6	2.4
3C	241-250	85.0	79.1	75.1	72.1	70.0	68.8	67.3	64.8	33.9	15.5	12.7	11.5	5.7

Table A 16: Folkian statistic data for core 3C

Core ID	Sample Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(Φ)	(mm)	(Φ)	(mm)		
3C	1-10	2.820	0.1410	2.8388	0.1392	0.3213	0.3011
3C	31-40						
3C	51-60						
3C	61-70	3.696	0.0767	3.7515	0.0738	0.5386	1.7648
3C	91-100	3.553	0.0848	4.6084	0.0407	0.8245	1.6722
3C	120-130	2.899	0.1335	3.0837	0.1174	0.6603	0.7871
3C	161-170	3.357	0.0971	3.5113	0.0873	0.6636	1.7855
3C	171-180						
3C	201-205						
3C	205-210						
3C	221-225	3.531	0.0861	4.5800	0.0415	0.7725	1.7490
3C	231-240	2.796	0.1434	2.8081	0.1422	0.3277	0.3192
3C	241-250	2.763	0.1467	1.7609	0.2943	-0.2438	2.6507

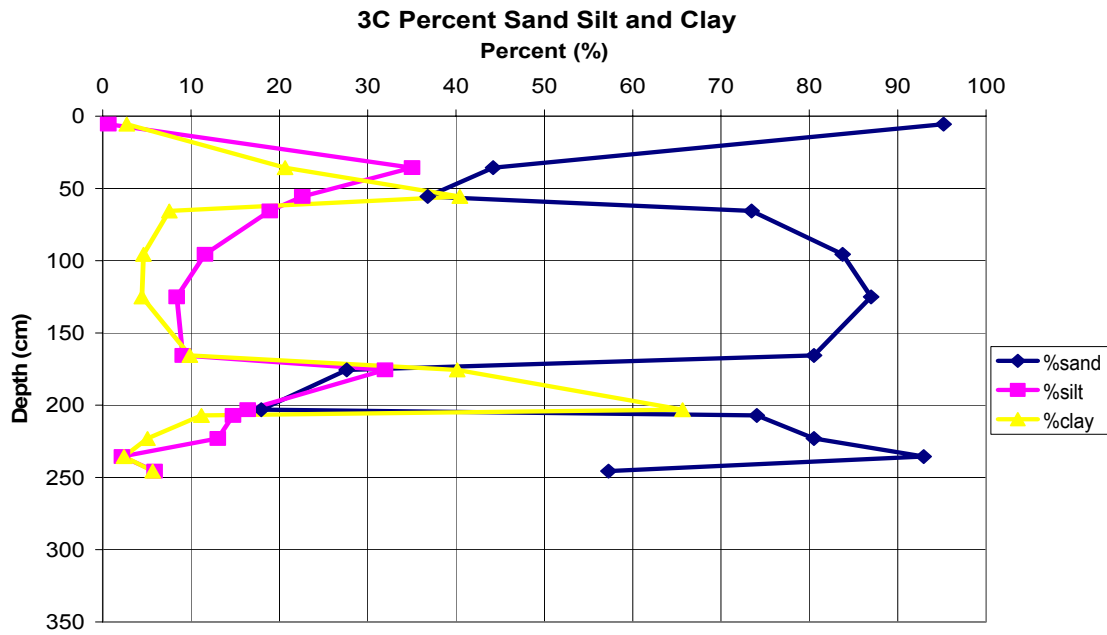


Figure A 19: Percent sand, silt and clay graph for core 3C

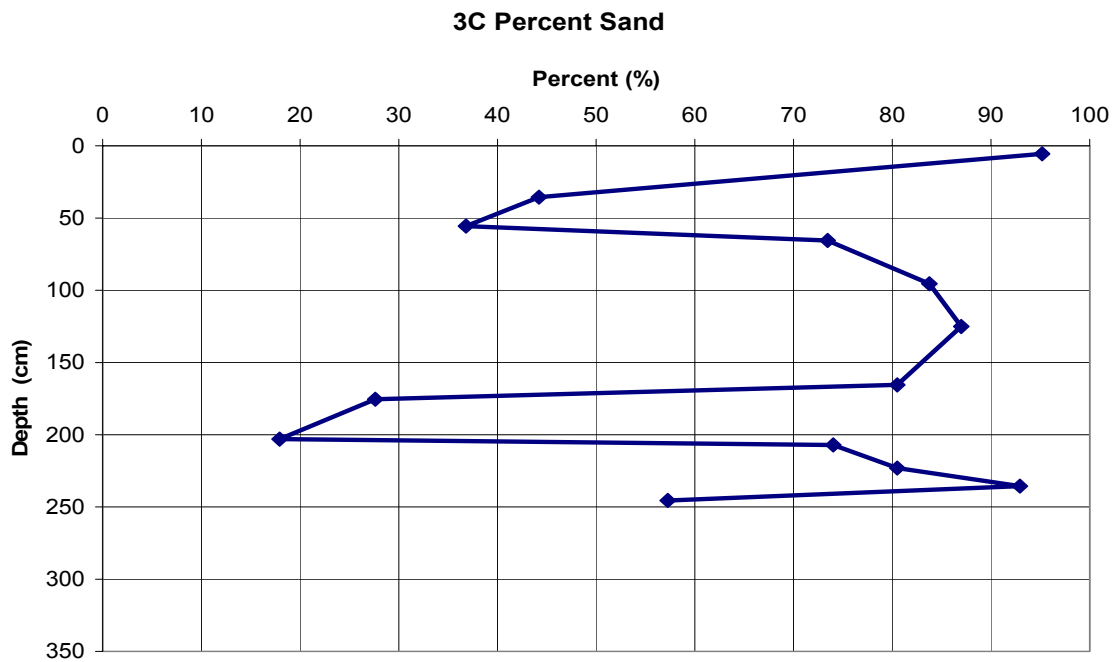


Figure A 20: Percent sand graph for core 3C

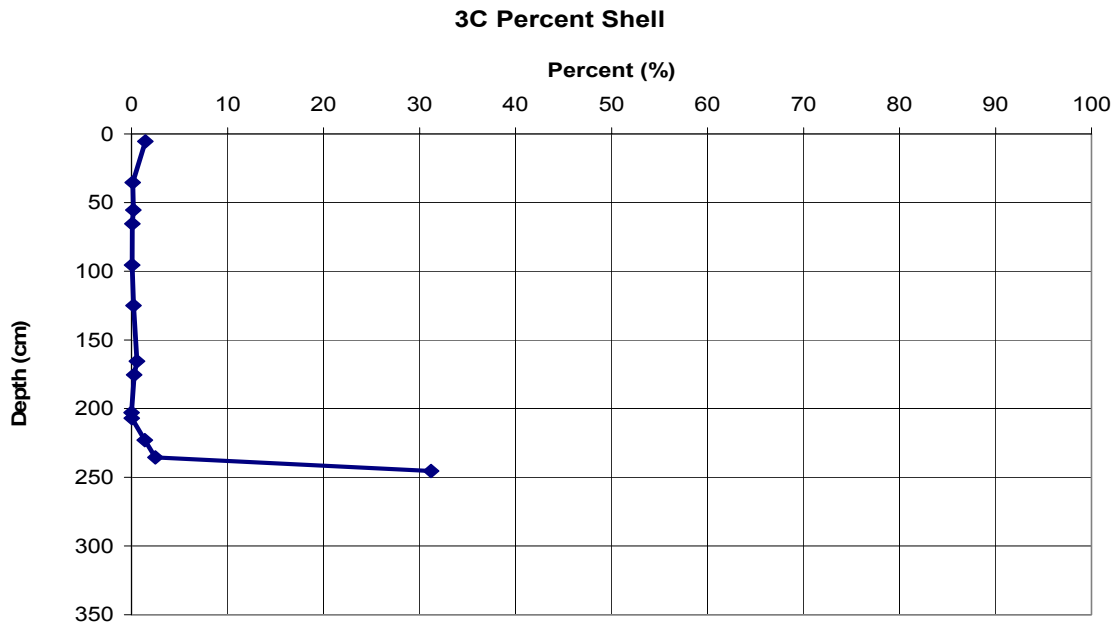


Figure A 21: Percent shell for core 3C

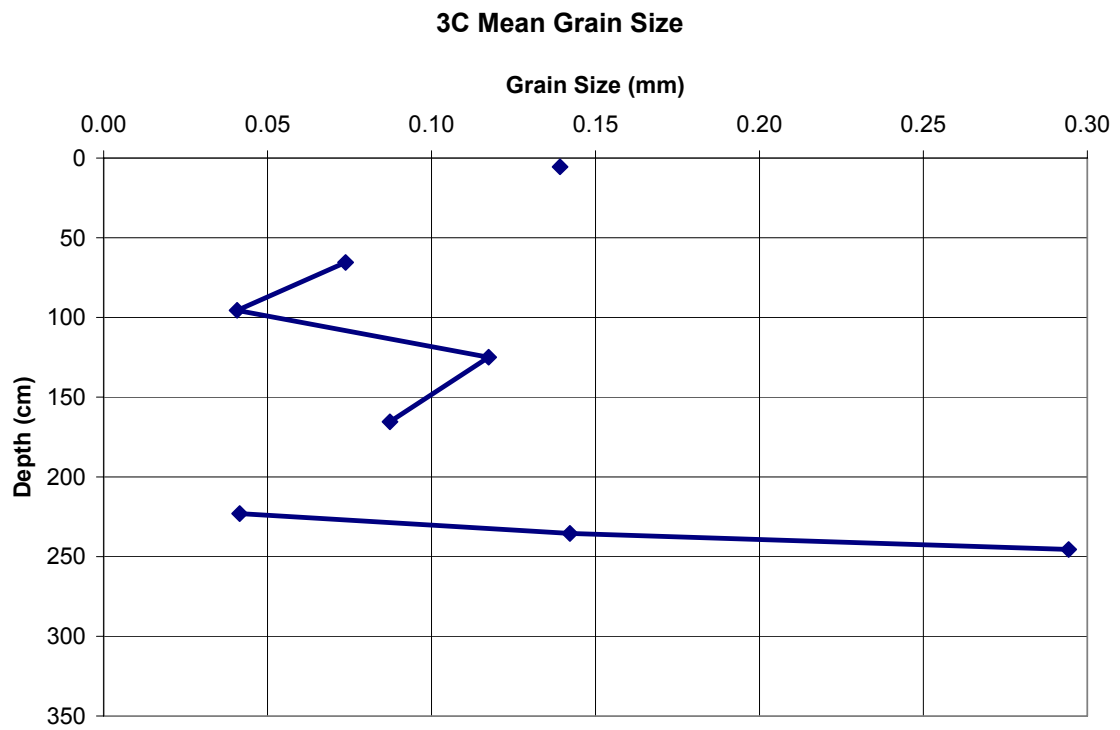


Figure A 22: Mean grain size graph for core 3C

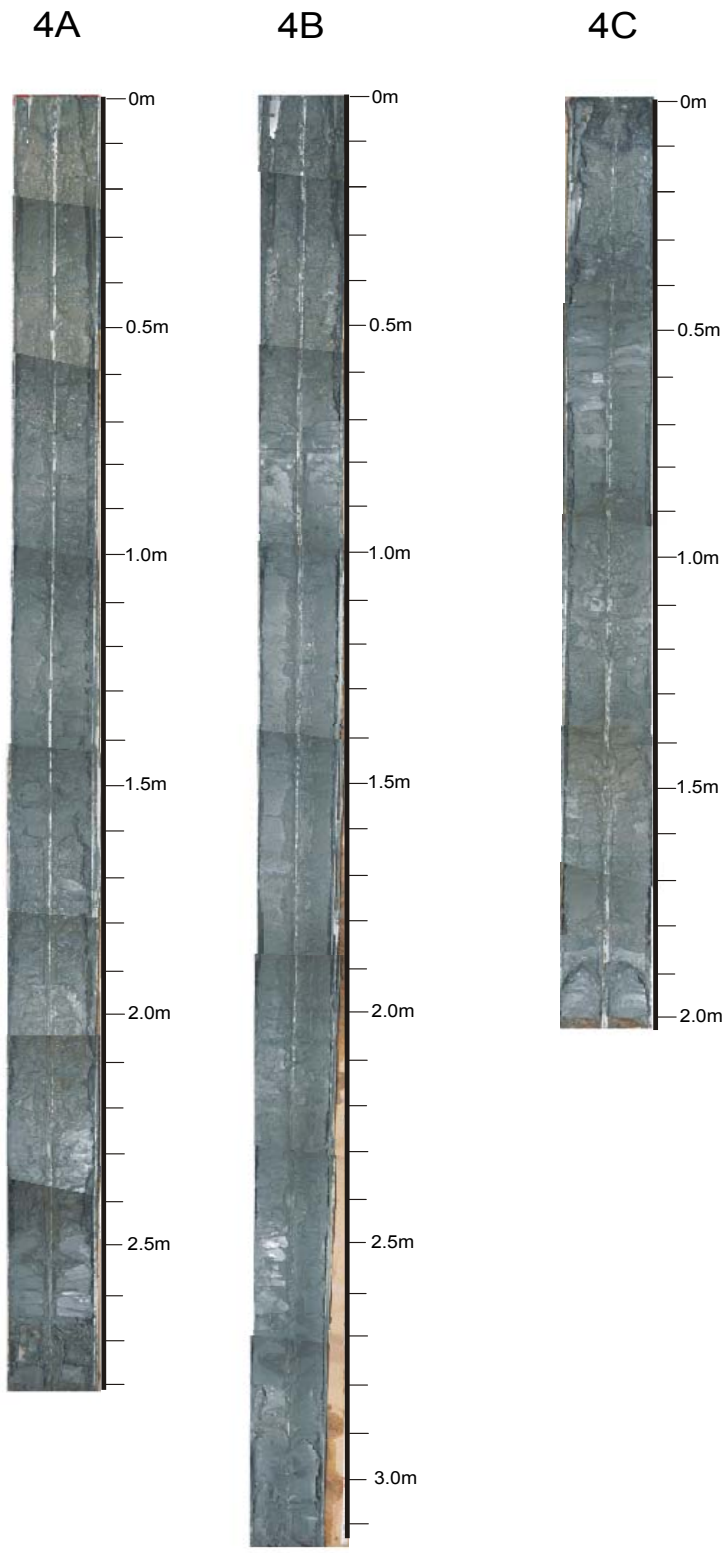


Figure A 23: Core photographs for Line 4

Core#: 4a
 Core Date: 07/09/2005

Date Split/subsampled	Length: 280 cm
08/19/05	Lat: 21 17.252
	Long: 94 46.79

Core#: 4a
 Core Date: 07/09/2005

Date Split/subsampled	Length: 280 cm
08/19/2005	Lat: 21 17.252
	Long: 94 46.79

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-10	0-223 SY 4/1	GS 0-13 cm	SAND w/ SHELL HASH
10-20		13-23 cm	SHELL HASH w/ SAND
20-30	223-233 GLEY 14/N	41-50 cm	SAND w/ SHELL HASH
30-40		61-70 cm	SAND w/ SHELL HASH w/ SAND
40-50		71-80 cm	SAND w/ SHELL HASH
50-60	233-250 SY 3/1	101-110 cm	SAND w/ SHELL HASH
60-70		111-120 cm	SHELL HASH w/ SAND
70-80		141-150 cm	SAND w/ SHELL HASH
80-90	250-280 GLEY 14/N	171-180 cm	SAND w/ SHELL HASH
90-100		181-190 cm	SHELL HASH w/ SAND
100-110		211-220 cm	SAND w/ SHELL HASH
110-120		221-230 cm	SAND w/ SHELL HASH
120-130		231-240 cm	SHELL HASH w/ SAND
130-140		241-250 cm	SAND w/ TRACE SHELL
140-150		251-260 cm	SAND w/ TRACE SHELL
150-160		271-280 cm	ALTERNATING SAND & MUD LAYERS, 1 TO 2 cm THICK. TRACE SHELL
		WC	
		0-1 cm	SAND w/ TRACE SHELL
		10-11 cm	
		20-21 cm	
		30-31 cm	
		40-41 cm	
		50-51 cm	
		60-61 cm	
		70-71 cm	
		80-81 cm	
		90-91 cm	
		100-101 cm	
		110-111 cm	
		120-121 cm	
		130-131 cm	
		140-141 cm	
		150-151 cm	
		160-161 cm	
		170-171 cm	
		180-181 cm	
		190-191 cm	
		200-201 cm	

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
160-170		210-211 cm	
170-180		220-221 cm	
180-190		230-231 cm	
190-200		240-241 cm	
200-210		250-251 cm	
210-220		260-261 cm	
220-230		270-271	
230-240			
240-250			
250-260			
260-270			
270-280			
280-290			
290-300			

Figure A 24: Core log for 4A for depths 0-150 cm
 Figure A 25: Core log for 4A for depths 150-280 cm

Line 4 Site A

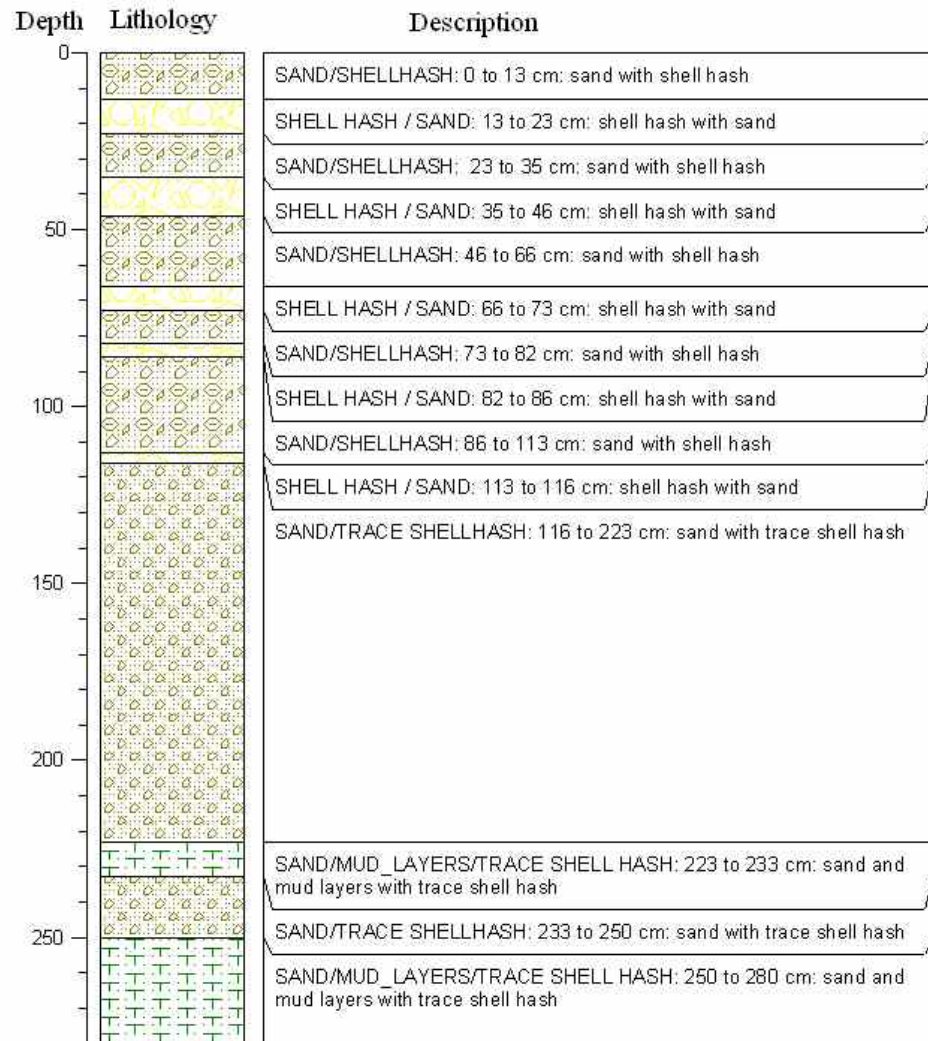


Figure A 26: Computer core log of 4A

Table A 17: Shell and sand weights for core 4A

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
4A	1-10	5.15	110.39	3.58	113.97
4A	11-20	10.53	88.14	2.35	90.49
4A	41-50	3.32	91.21	3.21	94.42
4A	61-70	13.92	84.62	2.72	87.34
4A	71-80	4.07	83.45	4.62	88.07
4A	101-110	1.40	91.20	4.70	95.90
4A	111-120	1.91	88.80	3.37	92.17
4A	141-150	0.34	83.53	5.42	88.95
4A	171-180	0.72	78.41	6.85	85.26
4A	181-190	0.78	89.85	3.93	93.78
4A	211-220	0.35	93.48	2.55	96.03
4A	221-230	0.02	22.68	2.64	25.32
4A	231-240	0.33	43.83	10.80	54.63
4A	241-250	0.46	40.33	15.30	55.63
4A	251-260	0.10	20.81	5.41	26.22
4A	271-280	0.10	22.58	3.62	26.20

Table A 18: Percent shell, sand, silt and clay for core 4A

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
4A	1-10	3.9907013	88.314607	4.5834948	3.1111972
4A	11-20	9.5735976	82.271116	4.7777071	3.3775798
4A	41-50	2.9060353	82.646943	8.508031	5.9389908
4A	61-70	12.536023	78.65634	5.4169669	3.39067
4A	71-80	3.90989	84.605409	7.204957	4.2797445
4A	101-110	1.311967	89.86974	6.2880705	2.5302221
4A	111-120	1.8730999	90.38933	5.0897323	2.6478376
4A	141-150	0.3438164	89.948428	6.7752048	2.9325513
4A	171-180	0.7168816	84.890725	11.191318	3.2010753
4A	181-190	0.7063298	84.922575	9.5399801	4.8311147
4A	211-220	0.3202782	87.875183	7.7919107	4.0126281
4A	221-230	0.0271702	34.3975	44.267083	21.308246
4A	231-240	0.3922268	64.93136	26.047424	8.6289891
4A	241-250	0.4302886	52.036855	33.263178	14.269679
4A	251-260	0.1282216	33.619695	44.659572	21.592512
4A	271-280	0.1873712	49.09125	35.862844	14.858535

Table A 19: RO-TAP data for core 4A

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
4A	1-10	1.81	1.30	0.92	0.64	0.28	0.20	0.25	0.80	22.34	73.32	13.68	3.58
4A	11-20	4.23	2.49	1.74	1.15	0.61	0.31	0.40	0.74	24.83	55.73	6.44	2.35
4A	41-50	1.49	0.74	0.47	0.30	0.17	0.15	0.23	0.70	12.37	64.29	13.62	3.21
4A	61-70	5.73	3.65	2.08	1.34	0.73	0.39	0.60	0.92	18.71	57.12	7.27	2.72
4A	71-80	1.63	0.99	0.65	0.38	0.24	0.18	0.33	0.66	27.35	46.10	9.01	4.62
4A	101-110	0.43	0.36	0.20	0.18	0.12	0.11	0.33	0.75	20.04	60.52	9.56	4.70
4A	111-120	0.72	0.44	0.30	0.22	0.13	0.10	0.17	0.68	16.41	59.50	12.04	3.37
4A	141-150	0.08	0.09	0.06	0.02	0.03	0.06	0.08	0.40	13.43	54.60	15.02	5.42
4A	171-180	0.26	0.16	0.06	0.09	0.06	0.09	0.14	0.57	9.83	51.94	15.93	6.85
4A	181-190	0.21	0.17	0.11	0.08	0.10	0.11	0.22	0.74	68.60	17.61	2.68	3.93
4A	211-220	0.10	0.02	0.05	0.06	0.07	0.05	0.16	1.43	33.52	51.30	7.07	2.55
4A	221-230						0.02					22.68	2.64
4A	231-240	0.06	0.06	0.05	0.04	0.04	0.08	0.23	0.42	6.47	27.98	8.73	10.80
4A	241-250	0.05	0.12	0.11	0.06	0.05	0.07	0.07	0.32	5.38	22.97	11.59	15.30
4A	251-260						0.10					20.81	5.41
4A	271-280						0.10					22.58	3.62

Table A 20: Percent finer data for core 4A

ASTM Classification	coarse sand	medium sand	medium sand	medium sand	medium sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt	
Wentworth Classification	granule	very coarse sand	very coarse sand	coarse sand	coarse sand	medium sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt	
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.4mm/ -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm / 3.5Φ Screen	% finer than N200/ 75µm / 3.75Φ Screen	% finer than N230/ 63µm/ 4.0Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
4A	1-10	98.6	97.5	96.8	96.3	96.0	95.9	95.7	95.0	77.2	18.5	7.6	4.7	3.2
4A	11-20	96.0	93.7	92.0	91.0	90.4	90.1	89.7	89.0	65.7	13.2	7.2	4.9	3.5
4A	41-50	98.6	97.9	97.5	97.2	97.1	96.9	96.7	96.0	84.5	24.7	12.0	9.0	6.3
4A	61-70	94.7	91.3	89.3	88.1	87.4	87.0	86.5	85.6	68.2	14.9	8.1	5.6	3.5
4A	71-80	98.4	97.4	96.7	96.3	96.1	95.9	95.6	94.9	67.5	21.2	12.2	7.5	4.5
4A	101-110	99.6	99.2	99.0	98.9	98.8	98.7	98.3	97.6	78.3	20.2	11.0	6.5	2.6
4A	111-120	99.3	98.8	98.5	98.3	98.2	98.1	97.9	97.2	80.7	20.8	8.6	5.2	2.7
4A	141-150	99.9	99.8	99.8	99.7	99.7	99.6	99.6	99.1	85.2	28.3	12.6	7.0	3.0
4A	171-180	99.7	99.6	99.5	99.4	99.4	99.3	99.1	98.5	88.4	35.0	18.6	11.6	3.3
4A	181-190	99.8	99.6	99.5	99.5	99.4	99.3	99.0	98.3	33.1	16.3	13.8	10.0	5.1
4A	211-220	99.9	99.9	99.8	99.8	99.7	99.7	99.5	98.2	66.2	17.3	10.5	8.1	4.2
4A	221-230						100.0					60.8	56.3	27.1
4A	231-240	99.9	99.8	99.8	99.7	99.7	99.6	99.3	98.7	90.3	53.9	42.6	28.5	9.4
4A	241-250	99.9	99.8	99.7	99.6	99.6	99.5	99.4	99.1	93.2	68.1	55.5	38.8	16.6
4A	251-260						99.8					65.8	57.0	27.5
4A	271-280						99.8					50.1	42.1	17.5

Table A 21: Folkian statistic data for core 4A

Core ID	Sample Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(Φ)	(mm)	(Φ)	(mm)		
4A	1-10	3.228	0.1062	3.2255	0.1064	0.0004	0.3754
4A	11-20	3.142	0.1128	3.1047	0.1157	-0.3978	0.9114
4A	41-50	3.285	0.1021	3.3079	0.1005	0.4956	1.4171
4A	61-70	3.167	0.1108	3.1061	0.1156	-0.4361	0.9771
4A	71-80	3.176	0.1101	3.1881	0.1092	0.1144	0.4617
4A	101-110	3.233	0.1059	3.2461	0.1049	0.1476	0.3692
4A	111-120	3.252	0.1045	3.2592	0.1040	0.1178	0.3468
4A	141-150	3.308	0.1005	3.3316	0.0989	0.1886	0.3637
4A	171-180	3.359	0.0970	3.4115	0.0935	0.2808	0.4176
4A	181-190	2.865	0.1367	3.0156	0.1231	0.7118	1.6691
4A	211-220	3.149	0.1122	3.1558	0.1117	0.2125	0.4627
4A	221-230						
4A	231-240	3.577	0.0834	3.6382	0.0799	0.5148	1.8733
4A	241-250	3.837	0.0696	6.5437	0.0106	0.8481	3.9498
4A	251-260						
4A	271-280						

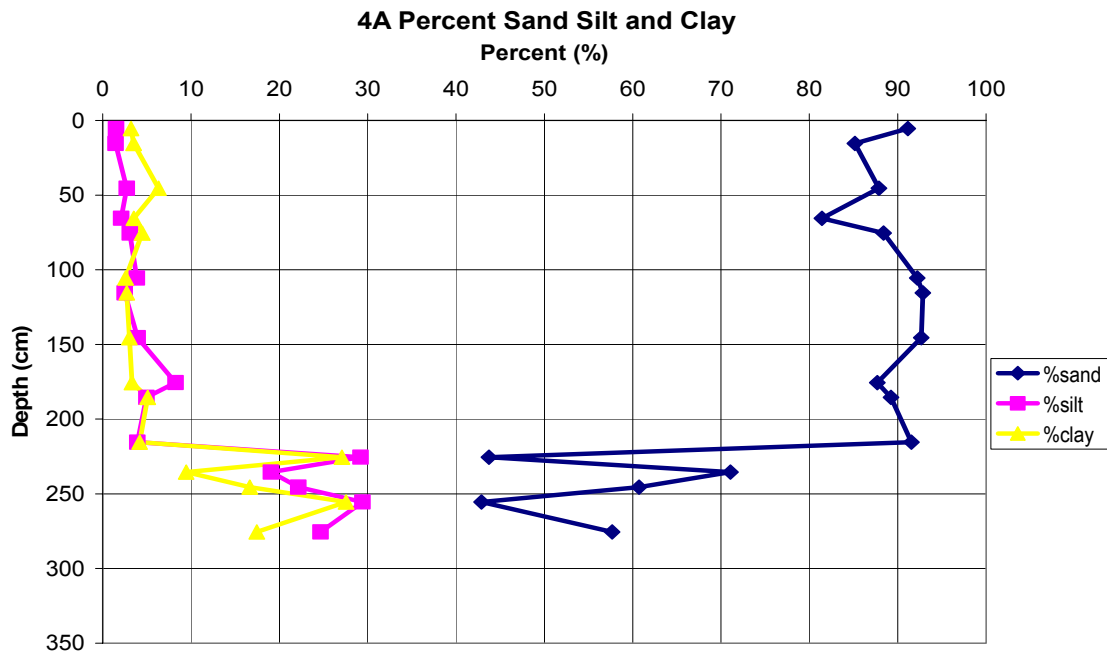


Figure A 27: Percent sand, silt and clay graph for core 4A

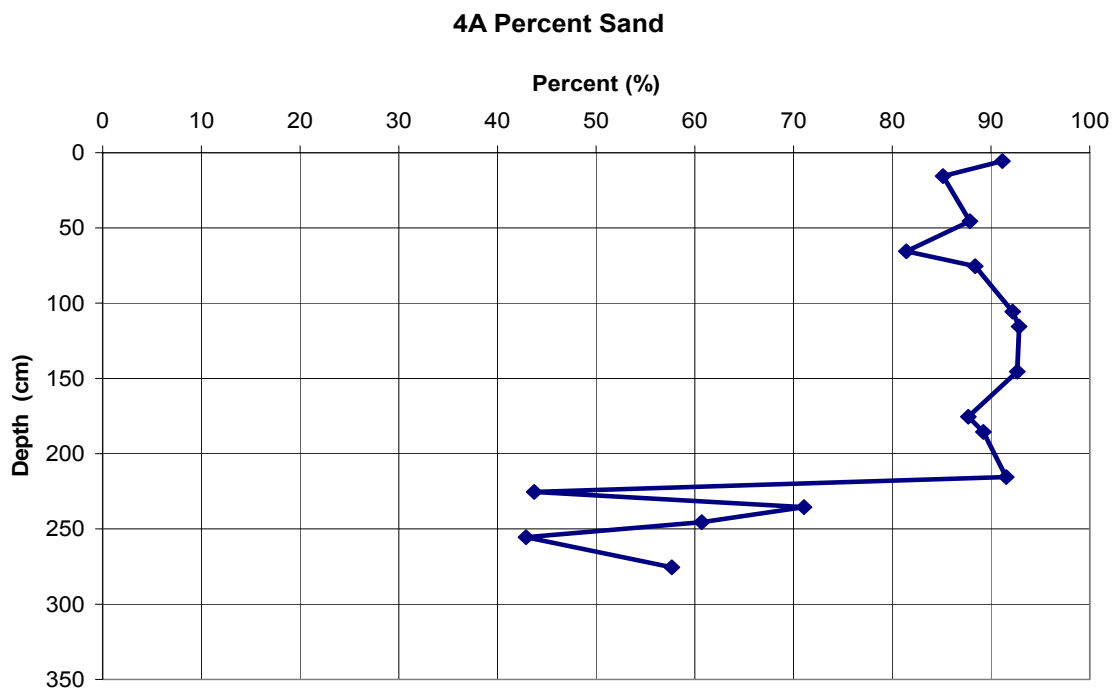


Figure A 28: Percent sand graph for core 4A

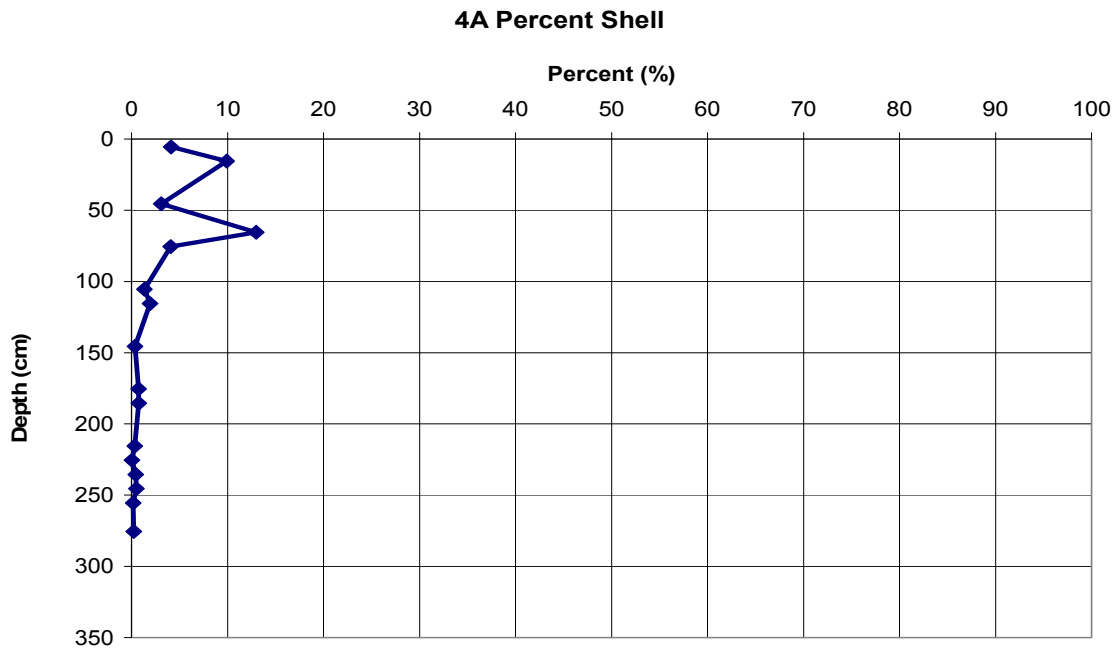


Figure A 29: Percent shell graph for core 4A

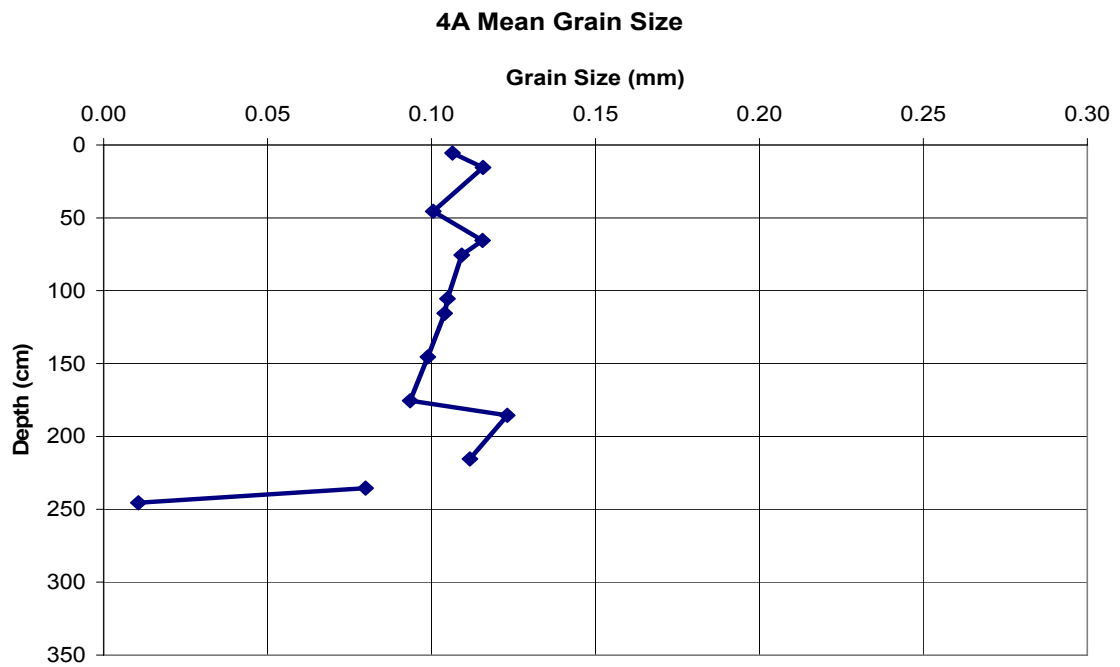


Figure A 30: Mean grain size graph for core 4A

Core#: 4B
 Core Date: 07/09/2005

Date Split/subsampled	Length: 314 cm
<u>08/19/2005</u>	Lat: 29 17.224
	Long: 94 46.766

Core#: 4B
 Core Date: 07/09/2005

Date Split/subsampled	Length: 314 cm
<u>08/19/2005</u>	Lat: 29 17.224
	Long: 94 46.766

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-10 cm	1-20 5Y 2.5/1	GS 1-10 cm	0-80 → 5 HELL HASH w/ SAND 80-100 → ALTERNATING SAND/MUD LAYERS w/ TRACE SHELL HASH. 100-226 → SAND w/ TRACE SHELL HASH 226-314 → ALTERNATING SAND/MUD LAYERS w/ TRACE SHELL HASH. APPROX 1-2 WIDE
10-20 cm	20-40 5Y 3/1	31-40 cm	
20-30 cm		61-70 cm	
30-40 cm		91-100 cm	
40-50 cm	40-70 5Y 4/1	101-110 cm	
50-60 cm		131-140 cm	
60-70 cm		141-150 cm	
70-80 cm	70-100 GLEY 1 4/N	161-170 cm 201-210 cm	
80-90 cm		211-220 cm	
90-100 cm	100-226 5Y 4/1	221-230 cm	
100-110 cm		251-260 cm	
110-120 cm		281-300 cm	
120-130 cm	226-314 GLEY 1 4/N	301-310 cm	
130-140 cm		WC	
140-150 cm		0-1 cm	
		10-11 cm	
		20-21 cm	
		30-31 cm	
		40-41 cm	
		50-51 cm	
		60-61 cm	
		70-71 cm	
		80-81 cm	
		90-91 cm	
		100-101 cm	
		110-111 cm	
		120-121 cm	
		130-131 cm	
		140-141 cm	
		150-151 cm	
		160-161 cm	
		170-171 cm	
		180-181 cm	

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
150-160 cm		WC continued	
160-170 cm		190-191 cm	
170-180 cm		200-201 cm	
180-190 cm		210-211 cm	
190-200 cm		220-221 cm	
200-210 cm		230-231 cm	
210-220 cm		240-241 cm	
220-230 cm		250-251 cm	
230-240 cm		260-261 cm	
240-250 cm		270-271 cm	
250-260 cm		280-281 cm	
260-270 cm		290-291 cm	
270-280 cm		300-301 cm	
280-290 cm		310-311 cm	

Figure A 31: Core log for 4B for depths 0-150 cm
 Figure A 32: Core log for 4B for depths 150-300 cm

Core#: 4B

Core Date: 07/09/2005

Date Split/subsampled	Length: <u>314 cm</u>
<u>08/19/2005</u>	Lat: <u>29 17.224</u>
	Long: <u>97 46.766</u>

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
310			
300			
290			
280			
270			
260			
250			
240			
230			
220			
210			
200			
190			
180			
170			
160			
150			
140			
130			
120			
110			
100			
90			
80			
70			
60			
50			
40			
30			
20			
10			
0			

Figure A 33: Core log for 4B for depths 300-314 cm

Line 4 Site B

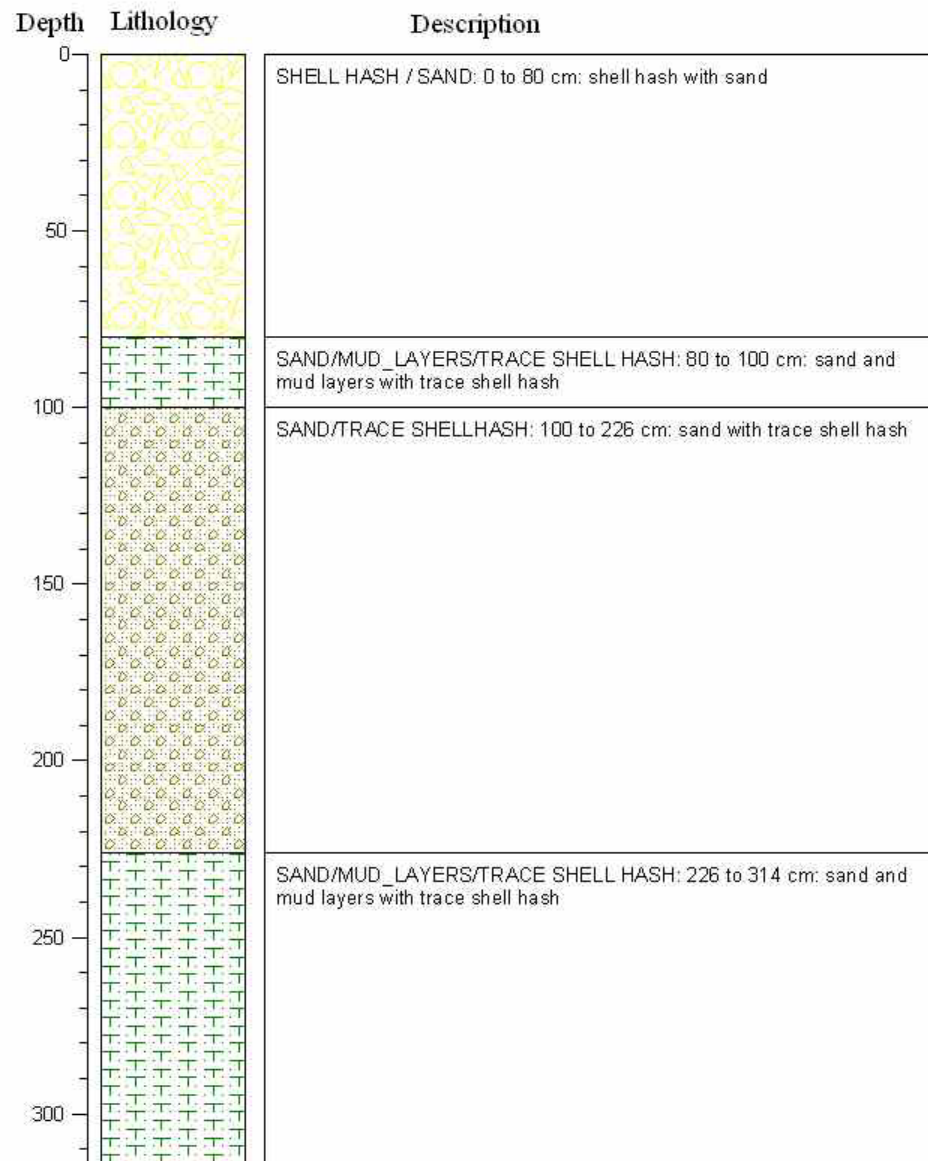


Figure A 34: Computer core log for 4B

Table A 22: Shell and sand weights for core 4B

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
4B	1-10	3.14	87.44	2.56	90.00
4B	31-40	7.45	94.12	2.69	96.81
4B	61-70	9.57	97.40	4.80	102.20
4B	71-80	1.41	33.96	4.73	38.69
4B	91-100	0.13	24.08	3.86	27.94
4B	101-110	0.19	74.51	7.26	81.77
4B	131-140	0.36	77.84	5.88	83.72
4B	161-170	0.86	96.67	5.69	102.36
4B	201-210	0.65	97.71	7.10	104.81
4B	211-220	0.34	78.54	6.20	84.74
4B	221-230	0.01	28.27	3.85	32.12
4B	251-260	0.02	9.84	2.47	12.31
4B	291-300	0.06	14.70	4.63	19.33
4B	301-310	0.01	14.02	1.52	15.54

Table A 23: Percent shell, sand, silt and clay for core 4B

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
4B	1-10	3.04603	87.306592	6.9069215	2.7404569
4B	31-40	6.3986945	83.148673	6.1839732	4.2686593
4B	61-70	7.0881013	75.695293	11.335778	5.8808281
4B	71-80	1.1506916	31.574652	40.935243	26.339413
4B	91-100	0.1546238	33.232233	40.719596	25.893547
4B	101-110	0.1817921	78.237574	16.227336	5.3532986
4B	131-140	0.3759791	87.436031	8.7154047	3.4725849
4B	161-170	0.6431109	76.545149	17.524771	5.2869695
4B	201-210	0.4178318	67.373767	20.64089	11.567512
4B	211-220	0.2229216	55.559927	28.284815	15.932337
4B	221-230	0.0136073	43.706627	36.066131	20.213635
4B	251-260	0.0310029	19.082313	52.239963	28.646721
4B	291-300	0.0890274	28.681653	48.490244	22.739076
4B	301-310	0.0156949	24.389861	47.531978	28.062466

Table A 24: RO-TAP data for core 4B

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
4B	1-10	0.81	0.69	0.61	0.61	0.28	0.14	0.16	0.96	16.73	58.75	10.84	2.56
4B	31-40	2.5	2.18	1.37	0.80	0.40	0.20	0.44	0.93	31.33	54.56	6.86	2.69
4B	61-70	5.3	2.01	1.13	0.65	0.28	0.20	0.24	0.65	16.43	67.27	12.81	4.80
4B	71-80						1.41					33.96	4.73
4B	91-100						0.13					24.08	3.86
4B	101-110	0	0.04	0.02	0.02	0.03	0.08	0.12	0.38	6.00	52.64	15.37	7.26
4B	131-140	0.15	0.07	0.05	0.03	0.01	0.05	0.09	0.33	11.22	52.98	13.22	5.88
4B	161-170	0.09	0.05	0.15	0.13	0.17	0.27	0.35	0.93	22.21	62.07	11.11	5.69
4B	201-210	0.01	0.10	0.06	0.09	0.12	0.27	0.52	0.76	27.51	60.44	8.48	7.10
4B	211-220	0.03	0.02	0.04	0.03	0.05	0.17	0.22	0.44	8.21	53.73	15.94	6.20
4B	221-230						0.01					28.27	3.85
4B	251-260						0.02					9.84	2.47
4B	291-300						0.06					14.70	4.63
4B	301-310						0.01					14.02	1.52

Table A 25: Percent finer data for core 4B

ASTM Classification	coarse sand	medium sand	medium sand	medium sand	medium sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		Silt	
Wentworth Classification	granule	very coarse sand	very coarse sand	coarse sand	coarse sand	medium sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	Very fine silt	
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.4mm/ -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710μm/ 0.5Φ Screen	% finer than N35/ 500μm/ 1.0Φ Screen	% finer than N45/ 355μm/ 1.5Φ Screen	% finer than N60/ 250μm/ 2.0Φ Screen	% finer than N80/ 180μm/ 2.5 Φ Screen	% finer than N125/ 125μm/ 3.0Φ Screen	% finer than N170/ 90μm / 3.5Φ Screen	% finer than N200/ 75μm / 3.75Φ Screen	% finer than N230/ 63μm/ 4.0Φ Screen	% finer than 4μm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	Sand	Silt
4B	1-10	99.2	98.5	97.9	97.3	97.0	96.9	96.7	95.8	79.1	20.5	9.7	7.1	2.8
4B	31-40	97.8	95.8	94.6	93.9	93.5	93.3	92.9	92.1	64.0	15.0	8.9	6.5	4.5
4B	61-70	95.8	94.2	93.4	92.8	92.6	92.5	92.3	91.8	78.8	25.9	15.8	12.0	6.2
4B	71-80						98.4					60.8	55.6	35.8
4B	91-100						99.8					61.1	54.9	34.9
4B	101-110	100.0	100.0	99.9	99.9	99.9	99.8	99.7	99.3	93.2	40.0	24.5	17.1	5.7
4B	131-140	99.8	99.8	99.7	99.7	99.7	99.6	99.5	99.2	87.0	29.7	15.4	9.0	3.6
4B	161-170	99.9	99.9	99.8	99.7	99.5	99.3	99.0	98.3	80.8	31.8	23.0	18.5	5.6
4B	201-210	100.0	99.9	99.9	99.8	99.7	99.5	99.1	98.6	78.6	34.7	28.5	23.3	13.1
4B	211-220	100.0	100.0	99.9	99.9	99.9	99.7	99.6	99.2	92.8	50.9	38.5	33.6	19.0
4B	221-230						100.0					51.8	45.2	25.3
4B	251-260						100.0					78.6	73.2	40.1
4B	291-300						99.9					71.7	62.8	29.4
4B	301-310						100.0					69.4	66.1	39.0

Table A 26: Folkian statistic data for core 4B

Station ID	Average Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(Φ)	(mm)	(Φ)	(mm)		
4B	1-10	3.243	0.1051	3.2493	0.1047	0.1742	0.4269
4B	31-40	3.132	0.1136	3.1145	0.1149	-0.2975	0.8527
4B	61-70	3.266	0.1035	3.3106	0.1003	0.2626	2.1117
4B	71-80						
4B	91-100						
4B	101-110	3.402	0.0941	3.5203	0.0867	0.6422	1.6660
4B	131-140	3.318	0.9980	3.3618	0.0968	0.2613	0.3796
4B	161-170	3.297	0.1013	3.4717	0.0897	0.6529	1.6327
4B	201-210	3.298	0.1012	3.5374	0.0857	0.6859	1.9218
4B	211-220	3.513	0.0871	5.5104	0.0217	0.8863	3.1848
4B	221-230						
4B	251-260						
4B	291-300						
4B	301-310						

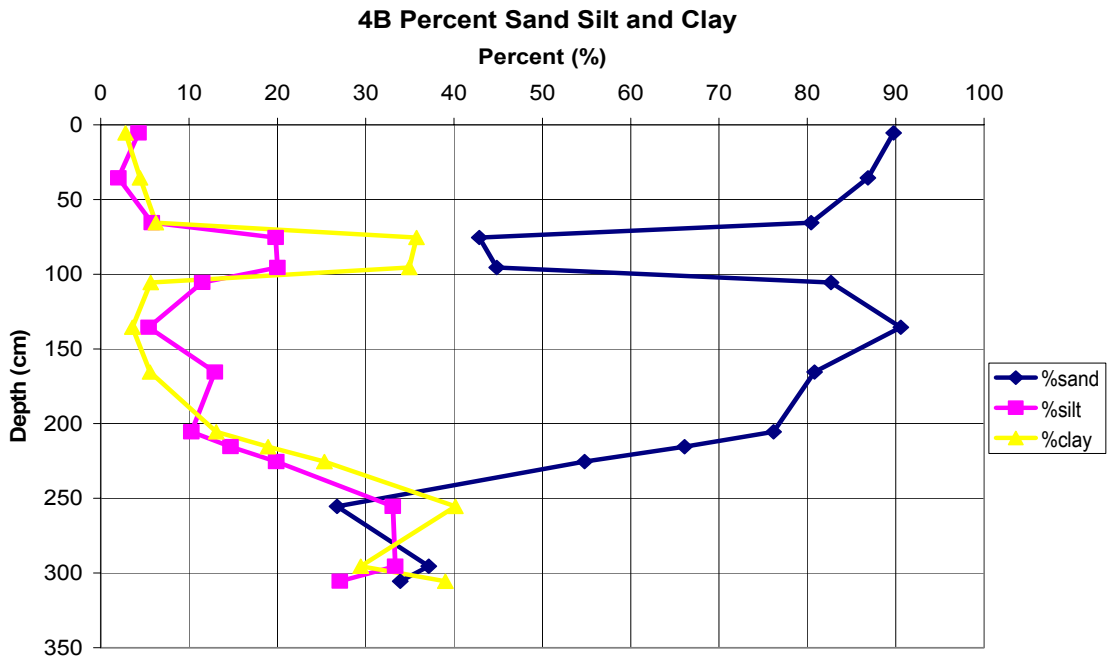


Figure A 35: Percent sand, silt and clay for core 4B

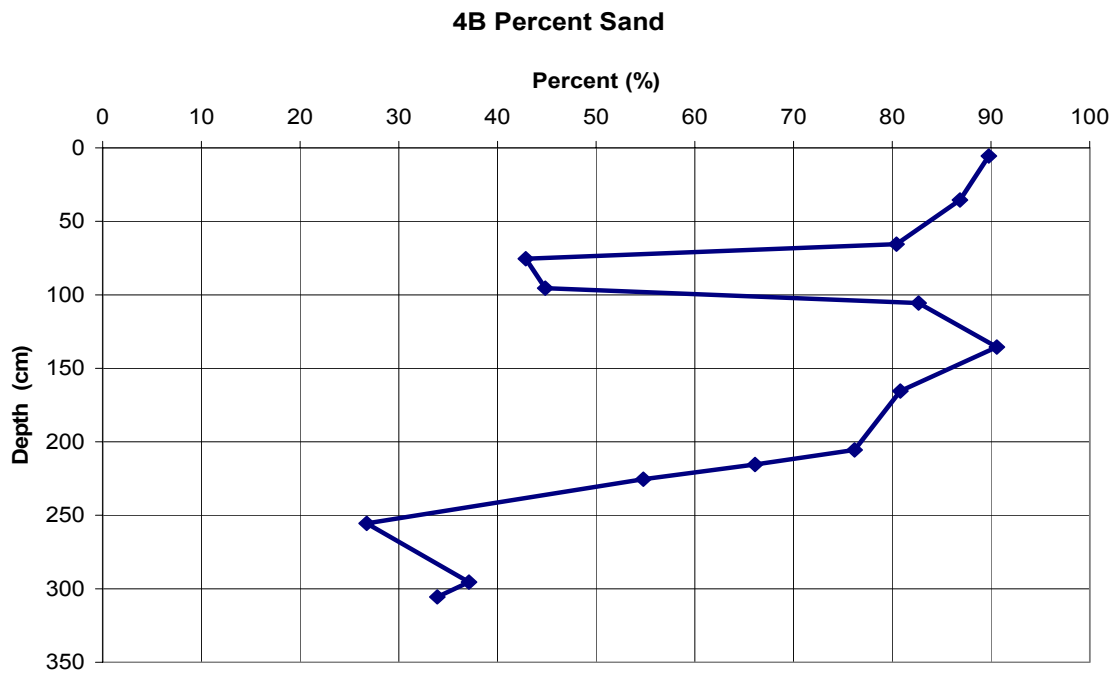


Figure A 36: Percent sand graph for core 4B

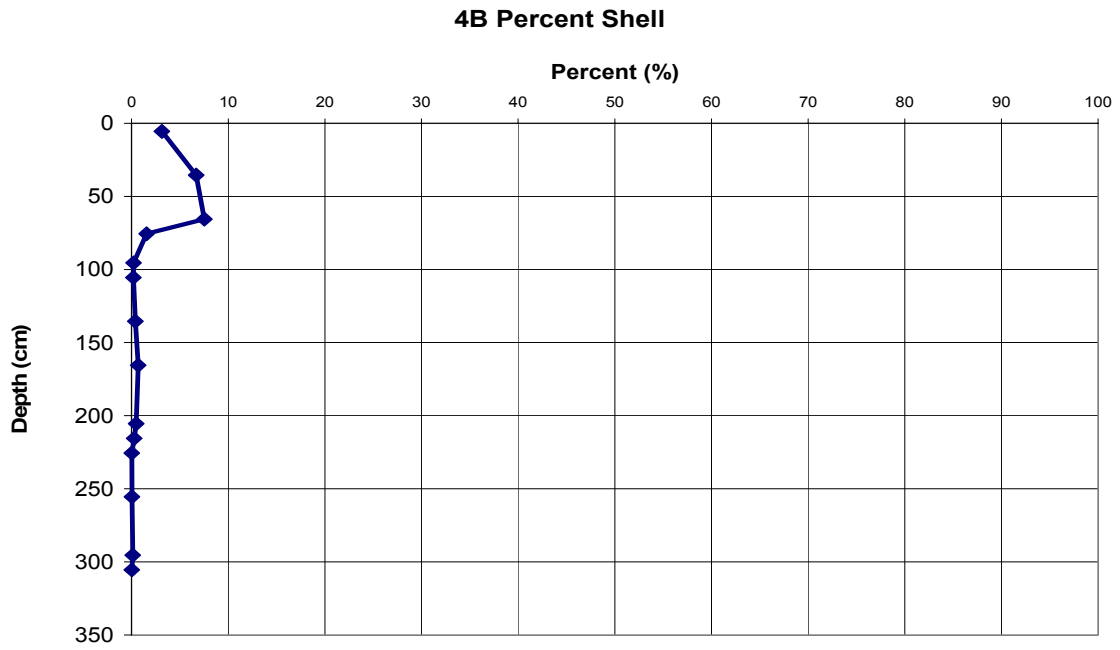


Figure A 37: Percent shell graph for core 4B

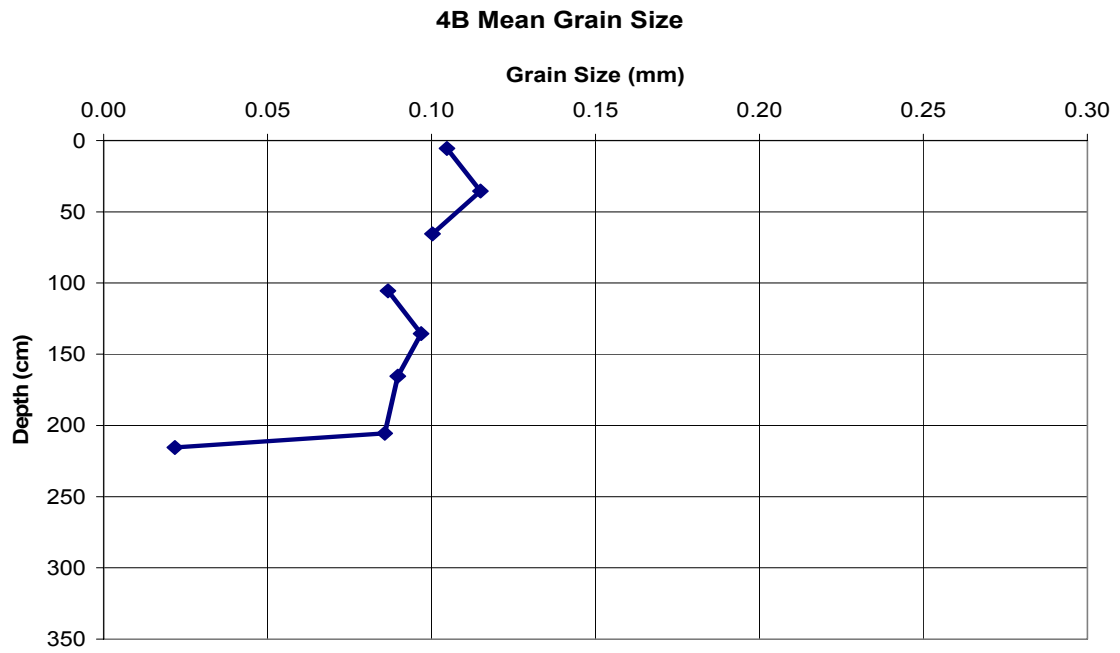


Figure A 38: Mean grain size graph for core 4B

Core#: 4C
 Core Date: 07/09/2005

Date Split/subsampled	Length: <u>200 cm</u>
<u>08/19/2005</u>	Lat: <u>21 16. 865</u>
	Long: <u>99 46.579</u>

Core#: 4C
 Core Date: 07/09/2005

Date Split/subsampled	Length: <u>200 cm</u>
<u>08/19/2005</u>	Lat: <u>21 16. 865</u>
	Long: <u>99 46.579</u>

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-12cm	6eyl 2.5/4	GS 1-10cm	0-10 → DARK, POSSIBLY ORGANIC MATERIAL w/ SAND AND TRACE SHELL HASH.
12-39cm	5Y 3/1	31-40cm	10-39 → SAND w/ TRACE SHELL HASH
39-200cm	5Y 4/1	41-50cm 61-65cm 65-70cm 91-100cm 131-140cm 161-170cm 171-180cm 191-200cm	39-65 → ALTERNATING SILTY MUD AND SAND LAYERS w/ TRACE SHELL HASH. 65-168 → SAND w/ TRACE SHELL HASH 168-200 → ALTERNATING LAYERS OF SAND AND MUD
		WC 0-1cm 10-11cm 20-31cm 30-31cm 40-41cm 50-51cm 60-61cm 170-171cm 180-181cm 190-191cm 200-201cm 210-211cm 220-221cm 70-11cm 80-81cm 90-91cm 100-101cm 110-111cm 120-121cm 130-131cm 140-141cm 150-151cm 160-161cm	

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-10cm			
10-20cm			
20-30cm			
30-40cm			
40-50cm			
50-60cm			
60-70cm			
70-80cm			
80-90cm			
90-100cm			
100-110cm			
110-120cm			
120-130cm			
130-140cm			
140-150cm			
150-160cm			
160-170cm			
170-180cm			
180-190cm			
190-200cm			

Figure A 39: Core log for 4C for depths 0-150 cm
 Figure A 40: Core log for 4C for depths 150-200 cm

Line 4 Site C

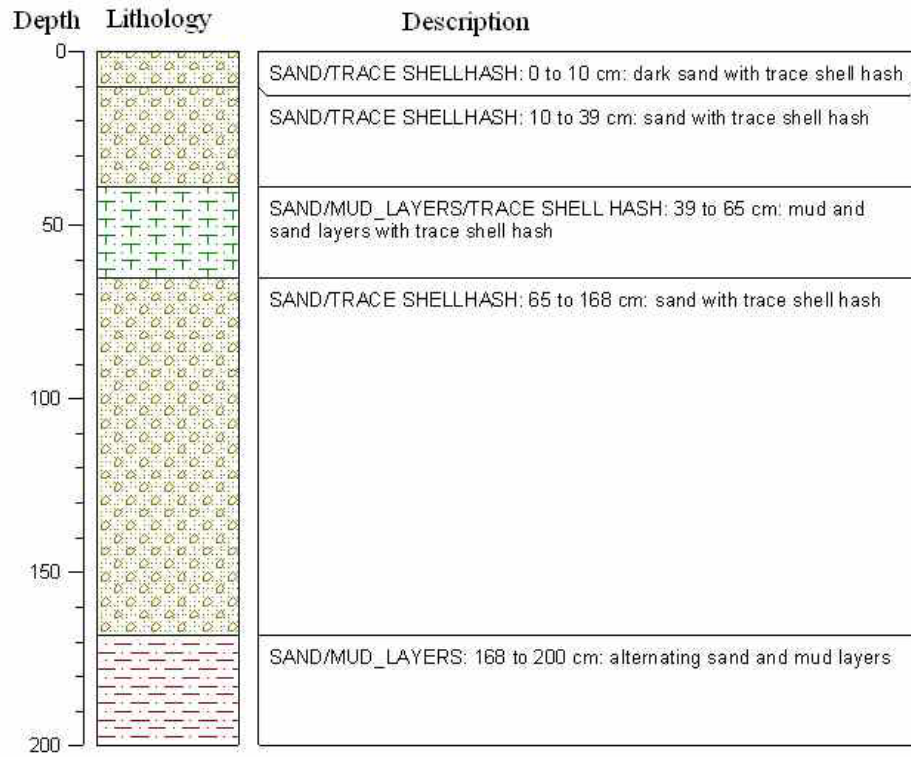


Figure A 41: Computer core log for 4C

Table A 27: Shell and sand weights for core 4C

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
4C	1-10	0.88	63.44	2.83	66.27
4C	11-20	0.46	124.19	3.51	127.70
4C	31-40	0.30	79.39	7.19	86.58
4C	41-50	0.10	37.06	0.35	37.41
4C	61-65	0.06	7.29	1.35	8.64
4C	65-70	0.07	69.37	5.70	75.07
4C	91-100	0.08	97.57	2.99	100.56
4C	131-140	0.29	86.18	2.05	88.23
4C	161-170	0.13	111.37	7.52	118.89
4C	171-180	0.01	58.73	1.69	60.42
4C	191-200	0.00	10.40	0.07	10.47

Table A 28: Percent shell, sand, silt and clay for core 4C

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
4C	1-10	0.7500852	56.486533	25.132117	17.631265
4C	11-20	0.2680418	74.410745	17.769426	7.5517874
4C	31-40	0.2804787	80.946148	14.99626	3.7771129
4C	41-50	0.1124101	42.052608	39.748201	18.086781
4C	61-65	0.1290461	18.582643	50.693623	30.594688
4C	65-70	0.073988	79.346792	15.791143	4.7880774
4C	91-100	0.0744048	93.526786	4.3526786	2.046131
4C	131-140	0.2929145	89.116711	6.3532145	4.2371597
4C	161-170	0.0830883	75.987473	16.809408	7.1200307
4C	171-180	0.0113572	68.620102	21.419648	9.9488927
4C	191-200	0	18.468866	50.511554	31.01958

Table A 29: RO-TAP data for core 4C

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
4C	1-10	0.48	0.11	0.10	0.07	0.05	0.07	0.16	1.31	13.01	39.82	9.14	2.83
4C	11-20	0.12	0.08	0.05	0.07	0.05	0.09	0.18	0.93	22.76	79.58	20.74	3.51
4C	31-40	0.00	0.00	0.02	0.03	0.07	0.18	0.35	0.38	6.12	61.04	11.50	7.19
4C	41-50						0.10					37.06	0.35
4C	61-65						0.06					7.29	1.35
4C	65-70	0.00	0.00	0.01	0.01	0.02	0.03	0.05	0.25	12.57	45.66	10.84	5.70
4C	91-100	0.00	0.01	0.01	0.02	0.02	0.02	0.07	0.57	31.18	58.13	7.62	2.99
4C	131-140	0.06	0.04	0.05	0.06	0.04	0.04	0.08	0.44	21.79	55.62	8.25	2.05
4C	161-170	0.00	0.02	0.01	0.02	0.03	0.05	0.19	0.32	11.76	90.76	8.34	7.52
4C	171-180						0.01					58.73	1.69
4C	191-200						0.00					10.40	0.07

Table A 30: Percent finer data for core 4C

ASTM Classification	coarse sand	medium sand	medium sand	medium sand	medium sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand			
Wentworth Classification	granule	very coarse sand	very coarse sand	coarse sand	coarse sand	medium sand	fine sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.4mm/ -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm / 3.5Φ Screen	% finer than N200/ 75µm / 3.75Φ Screen	% finer than N230/ 63µm/ 4.0Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
4C	1-10	99.5	99.4	99.3	99.2	99.2	99.1	98.9	97.6	84.1	42.9	33.4	30.5	21.4
4C	11-20	99.9	99.9	99.8	99.8	99.8	99.7	99.6	99.0	84.7	34.5	21.4	19.2	8.2
4C	31-40	100.0	100.0	100.0	100.0	99.9	99.7	99.4	99.0	93.1	33.7	22.6	15.6	3.9
4C	41-50						99.9					49.0	48.5	22.1
4C	61-65						99.8					77.2	73.0	44.1
4C	65-70	100.0	100.0	100.0	100.0	100.0	99.9	99.9	99.6	85.6	34.9	22.9	16.6	5.0
4C	91-100	100.0	100.0	100.0	100.0	99.9	99.9	99.9	99.3	69.7	14.5	7.3	4.4	2.1
4C	131-140	99.9	99.9	99.8	99.8	99.7	99.7	99.6	99.1	76.2	17.5	8.8	6.6	4.4
4C	161-170	100.0	100.0	100.0	100.0	99.9	99.9	99.8	99.6	91.5	29.0	23.3	18.1	7.7
4C	171-180						100.0					25.9	23.8	11.0
4C	191-200						100.0					73.4	73.2	45.0

Table A 31: Folkian statistic data for core 4C

Core ID	Sample Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(Φ)	(mm)	(Φ)	(mm)		
4C	1-10	3.401	0.0942	5.5605	0.0210	0.8788	3.3522
4C	11-20	3.340	0.0983	3.9887	0.0626	0.7891	1.6282
4C	31-40	3.350	0.0976	3.4754	0.0895	0.4589	0.4496
4C	41-50						
4C	61-65						
4C	65-70	3.341	0.0982	3.4628	0.0902	0.6274	1.6733
4C	91-100	3.165	0.1110	3.1613	0.1113	0.0920	0.3563
4C	131-140	3.212	0.1074	3.2155	0.1072	0.1900	0.3935
4C	161-170	3.310	0.1003	3.4888	0.0886	0.7280	1.7447
4C	171-180						
4C	191-200						

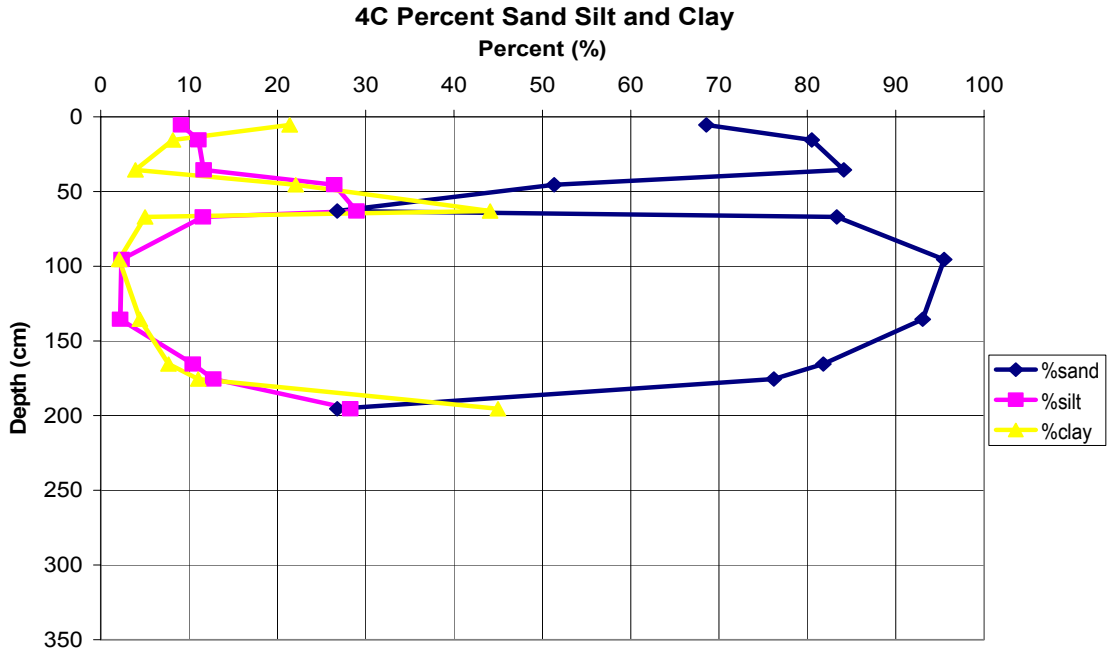


Figure A 42: Percent sand, silt and clay graph for core 4C

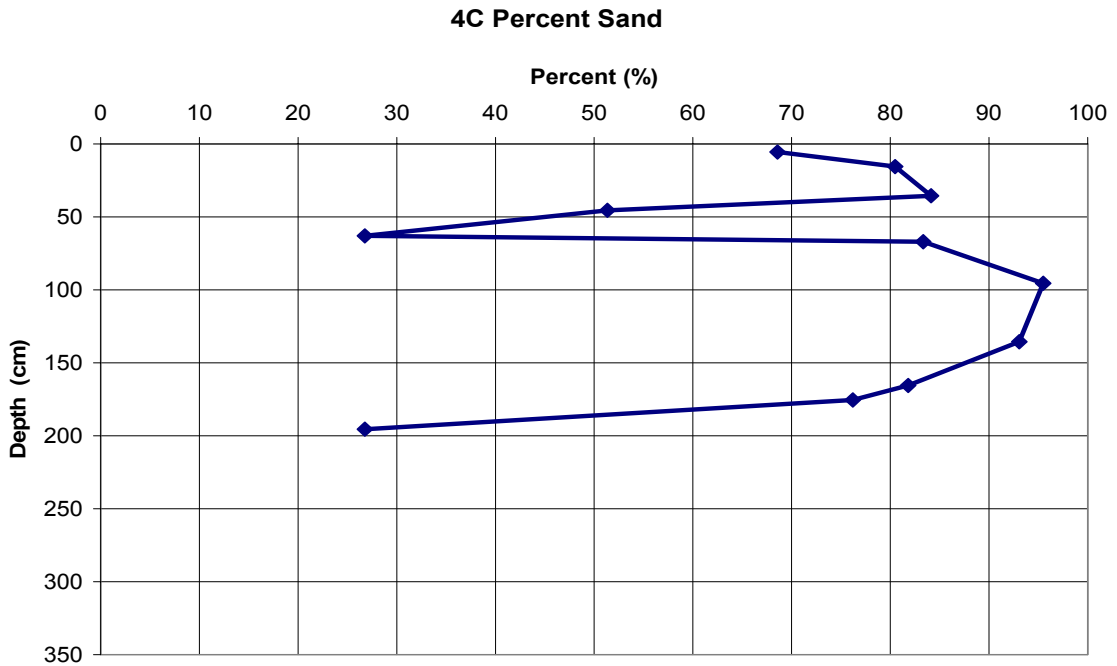


Figure A 43: Percent sand graph for core 4C

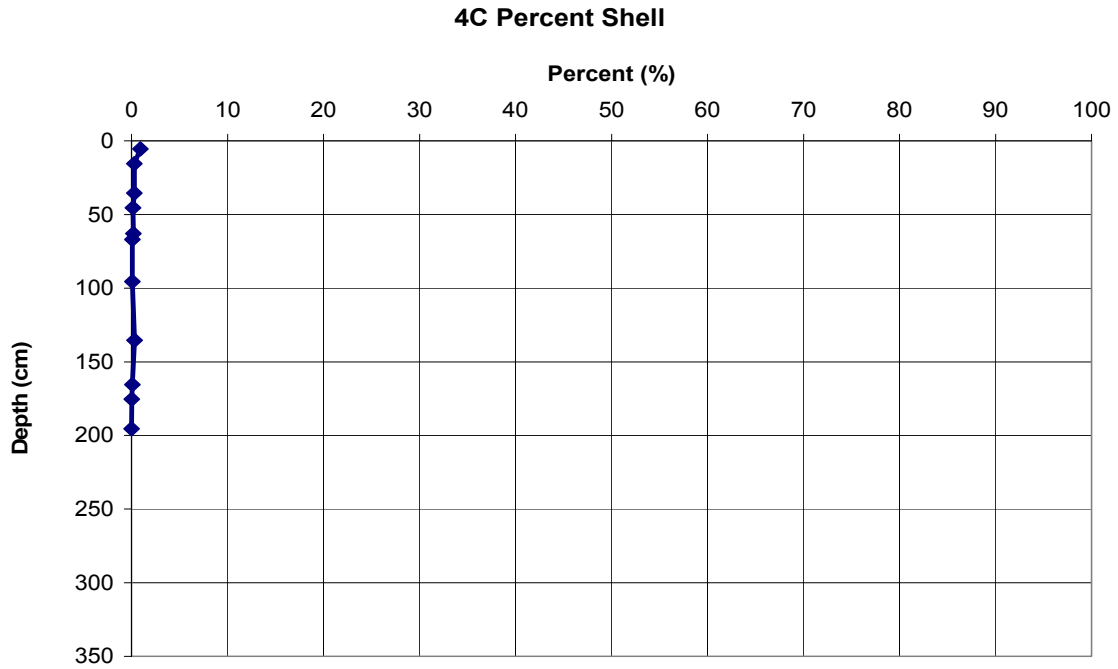


Figure A 44: Percent shell graph for core 4C

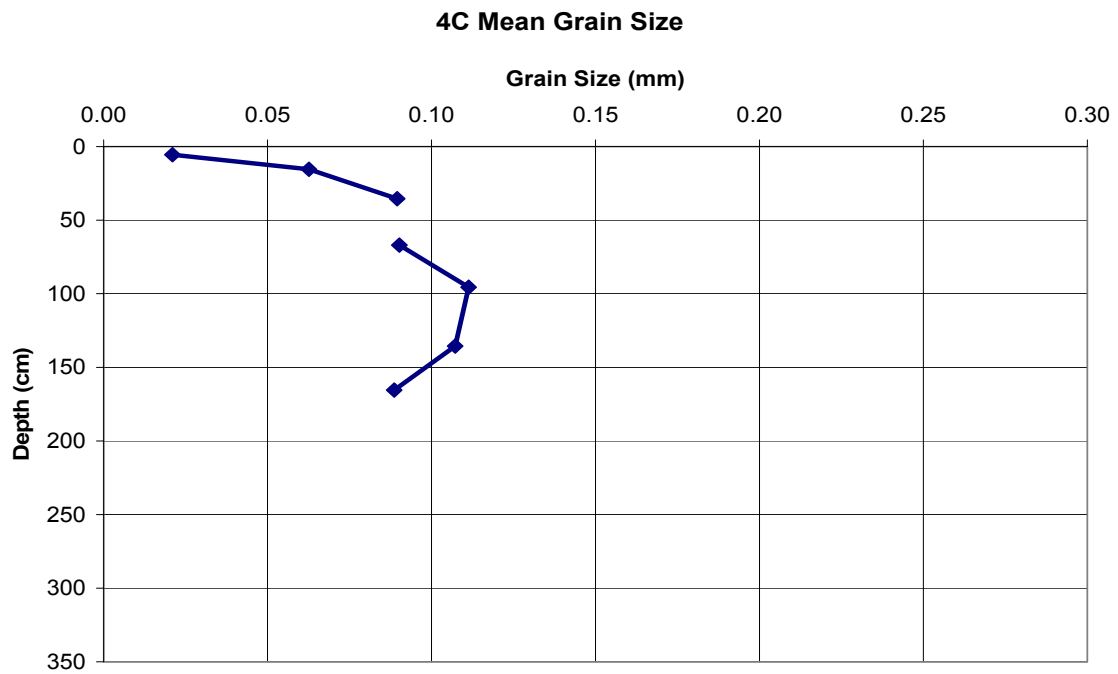


Figure A 45: Mean grain size graph for core 4C

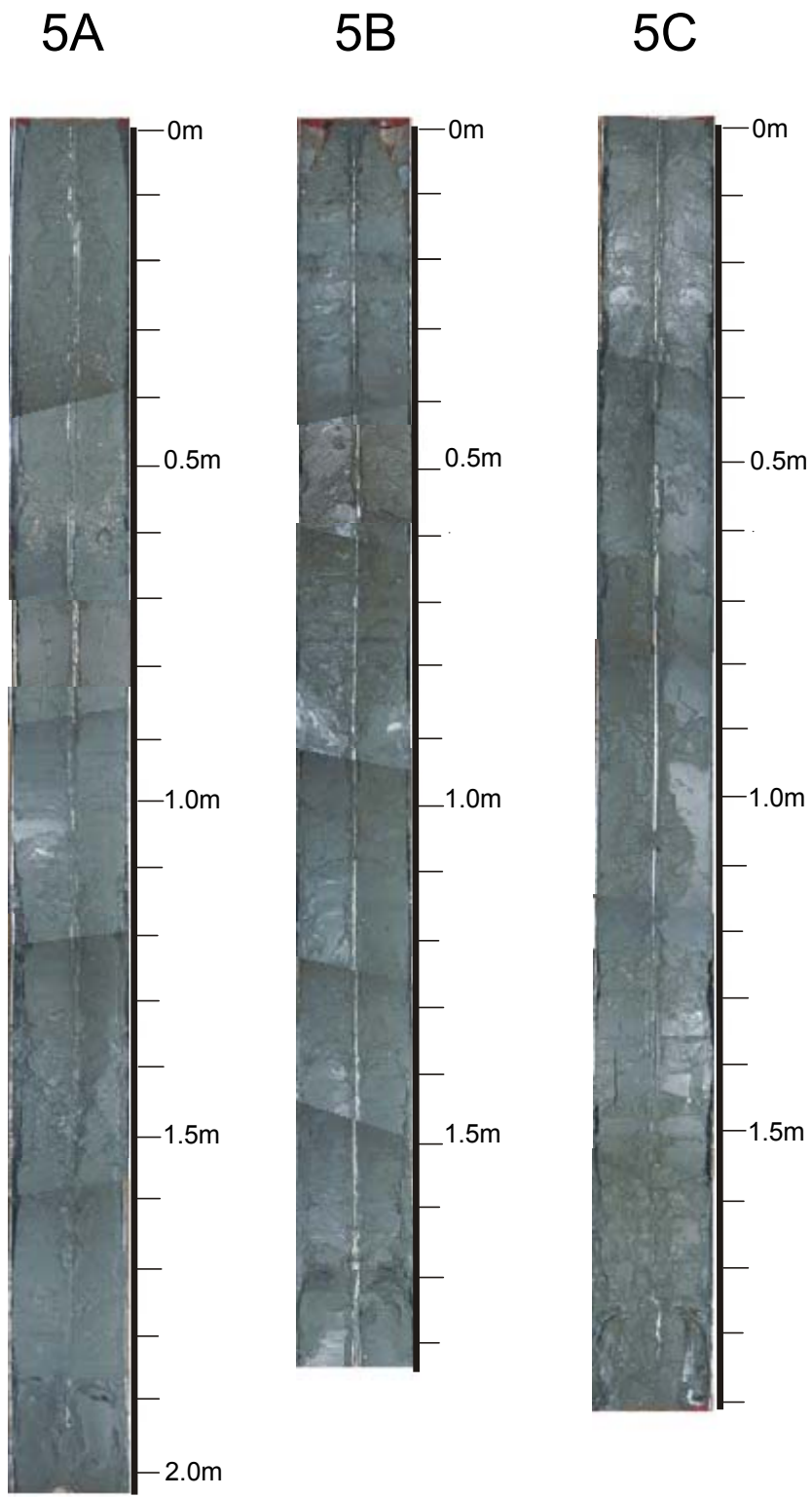


Figure A 46: Core photographs for Line 5

Line 5 Site A

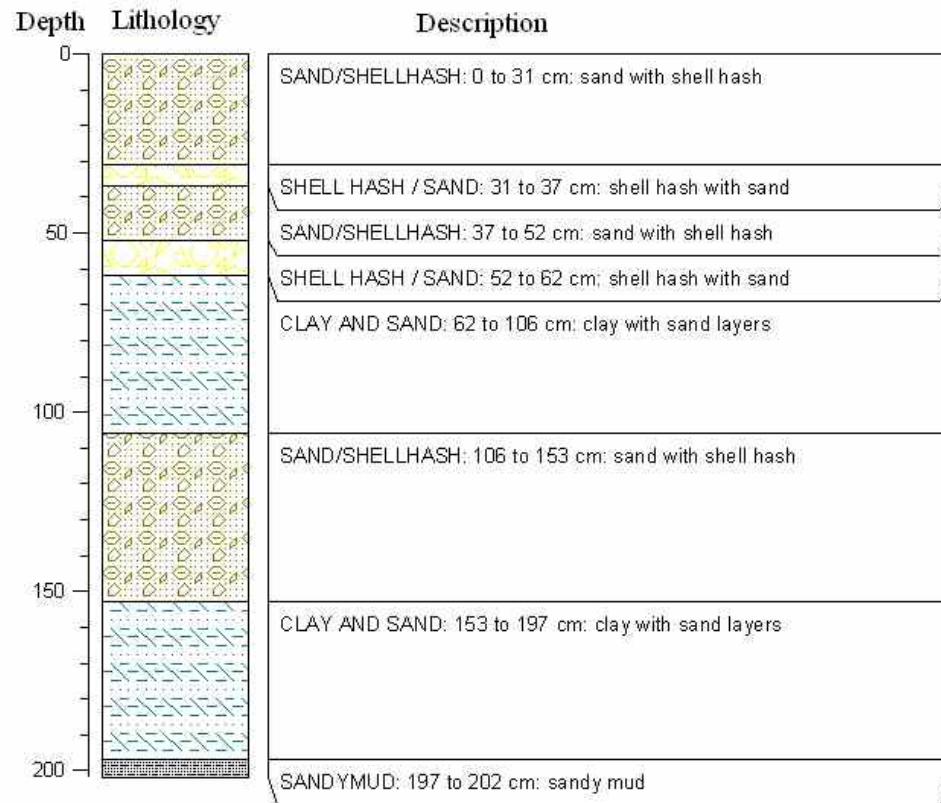


Figure A 49: Computer core log for 5A

Table A 32: Shell and sand weights for core 5A

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
5A	1-10	3.91	121.02	5.61	126.63
5A	31-40	15.05	120.13	4.67	124.80
5A	51-60	22.67	108.30	2.68	110.98
5A	61-70	5.95	22.17	2.12	24.29
5A	101-106	0.01	12.18	3.44	15.62
5A	106-110	0.07	33.41	3.50	36.91
5A	121-130	0.18	120.92	9.05	129.97
5A	141-150	0.08	41.25	8.57	49.82
5A	151-160	0.06	22.28	3.53	25.81
5A	191-197	0.14	6.96	0.26	7.22
5A	197-200	0.09	25.68	1.67	27.35

Table A 33: Percent shell, sand, silt and clay for core 5A

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
5A	1-10	2.7502286	89.069424	5.2542731	2.9260744
5A	31-40	10.02331	83.116883	4.3389943	2.5208125
5A	51-60	15.250589	74.658594	5.9266734	4.164144
5A	61-70	6.9819291	28.502699	40.084487	24.430885
5A	101-106	0.015387	24.034467	47.084167	28.865979
5A	106-110	0.1006832	53.088817	30.082704	16.727796
5A	121-130	0.1243781	89.807905	7.1932007	2.8745163
5A	141-150	0.0943174	58.736147	27.257722	13.911813
5A	151-160	0.066379	28.554044	46.310433	25.069145
5A	191-197	0.3166346	16.3293	50.435373	32.918693
5A	197-200	0.1693958	51.477508	29.738378	18.614719

Table A 34: RO-TAP data for core 5A

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
5A	1-10	0.93	0.44	1.07	0.77	0.44	0.26	0.20	0.67	16.84	93.09	10.22	5.61
5A	31-40	7.51	2.93	2.12	1.46	0.67	0.36	0.32	0.97	19.17	86.47	13.20	4.67
5A	51-60	11.50	4.56	2.84	2.16	0.97	0.64	0.60	1.65	29.58	65.95	10.52	2.68
5A	61-70						5.95					22.17	2.12
5A	101-106						0.01					12.18	3.44
5A	106-110						0.07					33.41	3.50
5A	121-130	0.00	0.01	0.04	0.06	0.03	0.04	0.08	0.49	18.18	90.18	11.99	9.05
5A	141-150						0.08					41.25	8.57
5A	151-160						0.06					22.28	3.53
5A	191-197						0.14					6.96	0.26
5A	197-200						0.09					25.68	1.67

Table A 35: Percent finer data for core 5A

ASTM Classification	coarse sand	medium sand	medium sand	medium sand	medium sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt	
Wentworth Classification	granule	very coarse sand	very coarse sand	coarse sand	coarse sand	medium sand	fine sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.4mm/ -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm / 3.5Φ Screen	% finer than N200/ 75µm / 3.75Φ Screen	% finer than N230/ 63µm/ 4.0Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
5A	1-10	99.3	99.0	98.2	97.7	97.4	97.2	97.0	96.5	84.3	16.9	9.5	5.4	3.0
5A	31-40	94.9	92.9	91.4	90.4	90.0	89.7	89.5	88.8	75.7	16.7	7.6	4.5	2.6
5A	51-60	91.9	88.7	86.7	85.2	84.5	84.1	83.7	82.5	61.7	15.4	8.1	6.2	4.3
5A	61-70						90.8					56.3	53.0	32.3
5A	101-106						100.0					73.6	66.2	40.6
5A	106-110						99.9					42.2	36.1	20.1
5A	121-130	100.0	100.0	100.0	99.9	99.9	99.9	99.8	99.5	86.5	22.4	13.8	7.4	3.0
5A	141-150						99.9					43.4	31.7	16.2
5A	151-160						99.9					67.0	61.8	33.5
5A	191-197						99.5					76.1	75.2	49.1
5A	197-200						99.8					40.4	36.5	22.9

Table A 36: Folkian statistic data for core 5A

Core ID	Sample Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(Φ)	(mm)	(Φ)	(mm)		
5A	1-10	3.244	0.1051	3.2530	0.1044	0.1878	0.3062
5A	31-40	3.215	0.1072	3.2009	0.1083	-0.3860	0.9108
5A	51-60	3.125	0.1141	2.7236	0.1508	-0.6039	1.3145
5A	61-70						
5A	101-106						
5A	106-110						
5A	121-130	3.271	0.1031	3.3110	0.1003	0.2798	0.3358
5A	141-150						
5A	151-160						
5A	191-197						
5A	197-200						

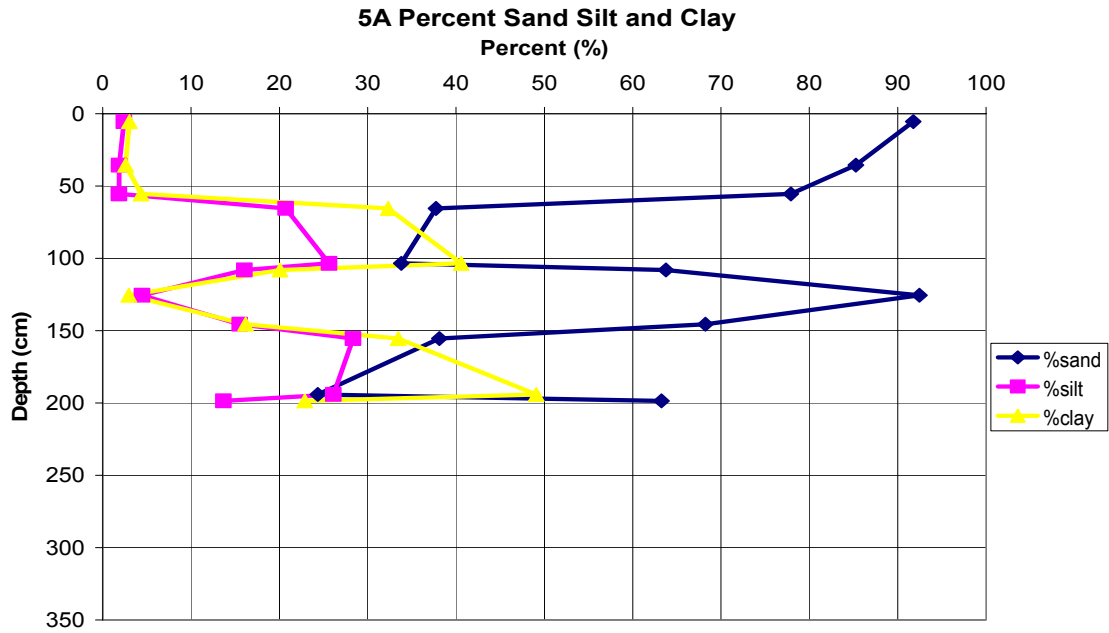


Figure A 50: Percent sand, silt and clay for core 5A

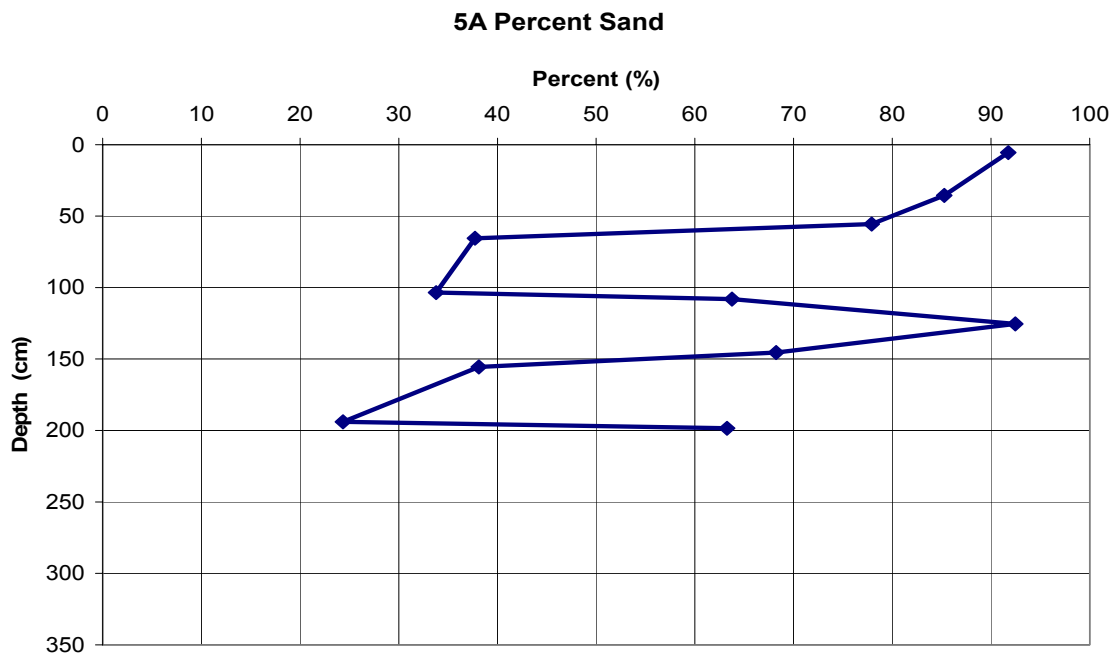


Figure A 51: Percent sand graph for core 5A

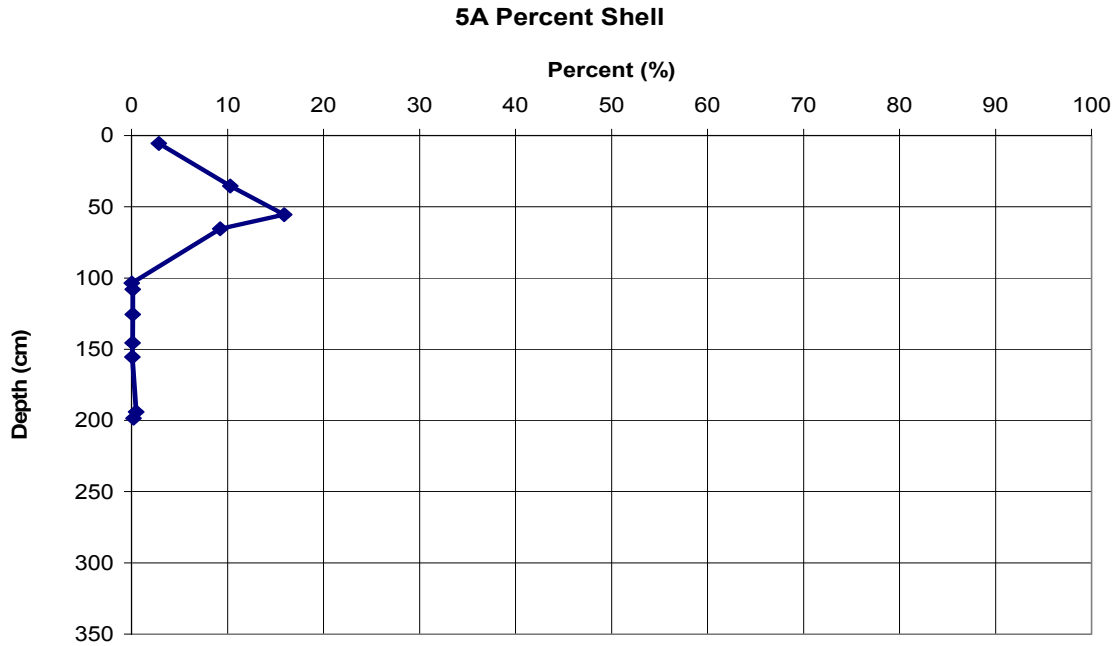


Figure A 52: Percent shell graph for core 5A

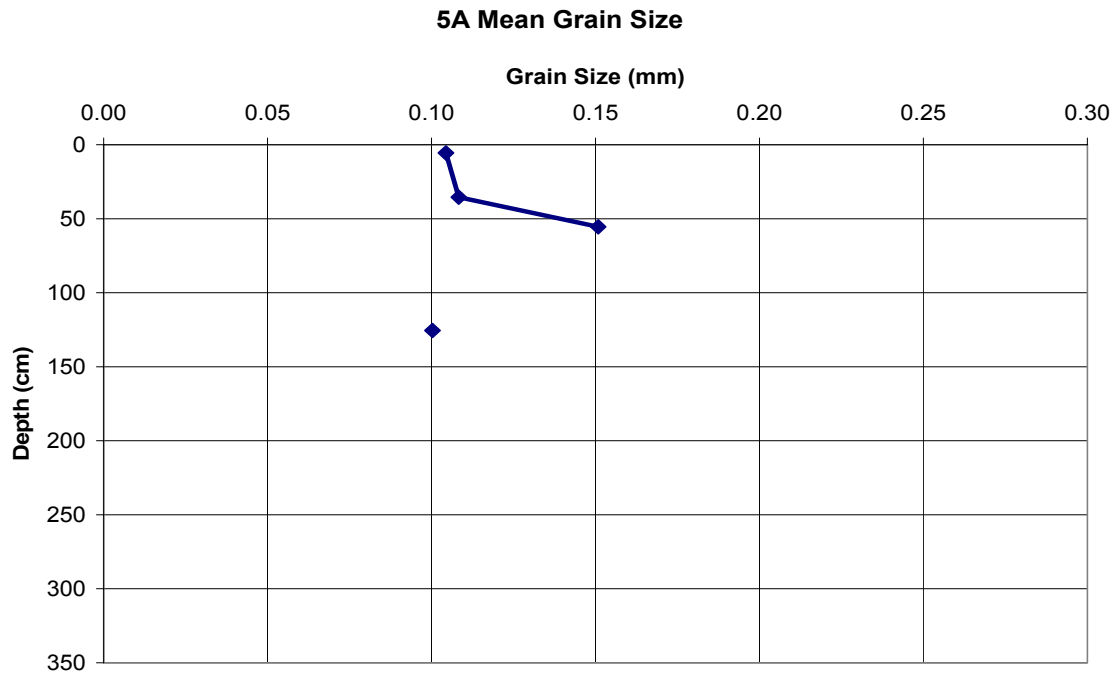


Figure A 53: Mean grain size graph for core 5A

Core#: 5B
 Core Date: 07/08/2005

Date Split/subsampled	Length: <u>183 cm</u>
	Lat: <u>29 16.401</u>
	Long: <u>94 47.746</u>



Figure A 54: Core log of 5B for depths 0-150 cm

Core#: 5B
 Core Date: 07/08/2005

Date Split/subsampled	Length: <u>183 cm</u>
	Lat: <u>29 16.401</u>
	Long: <u>94 47.746</u>

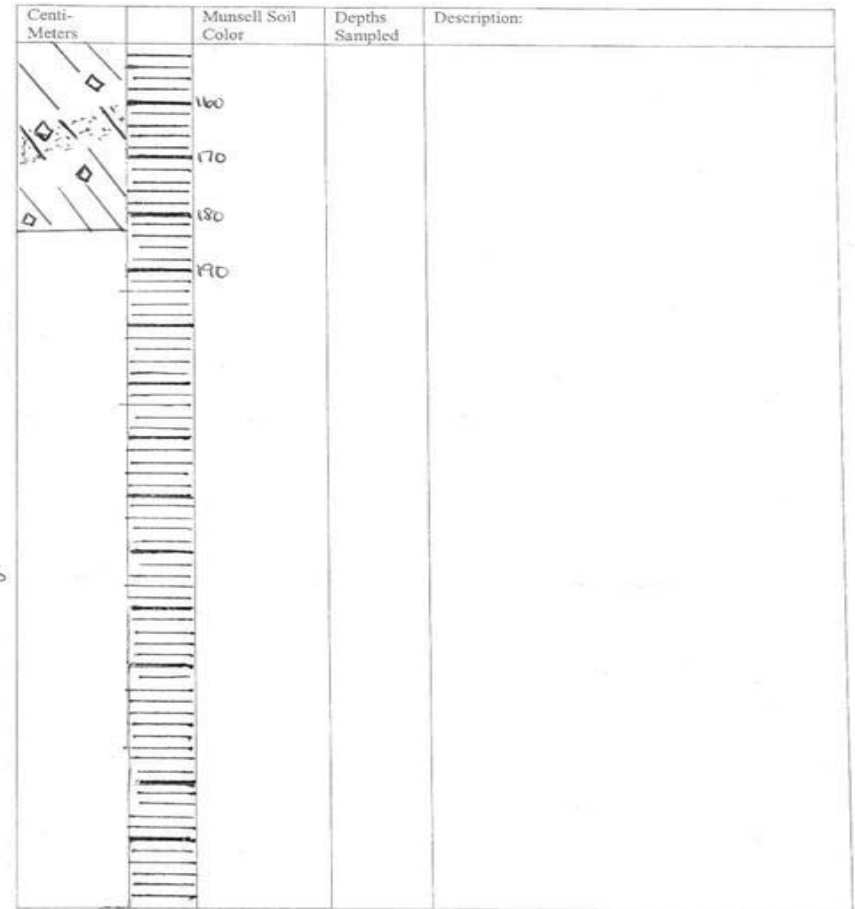


Figure A 55: Core log of 5B for depths 150-183 cm

Line 5 Site B

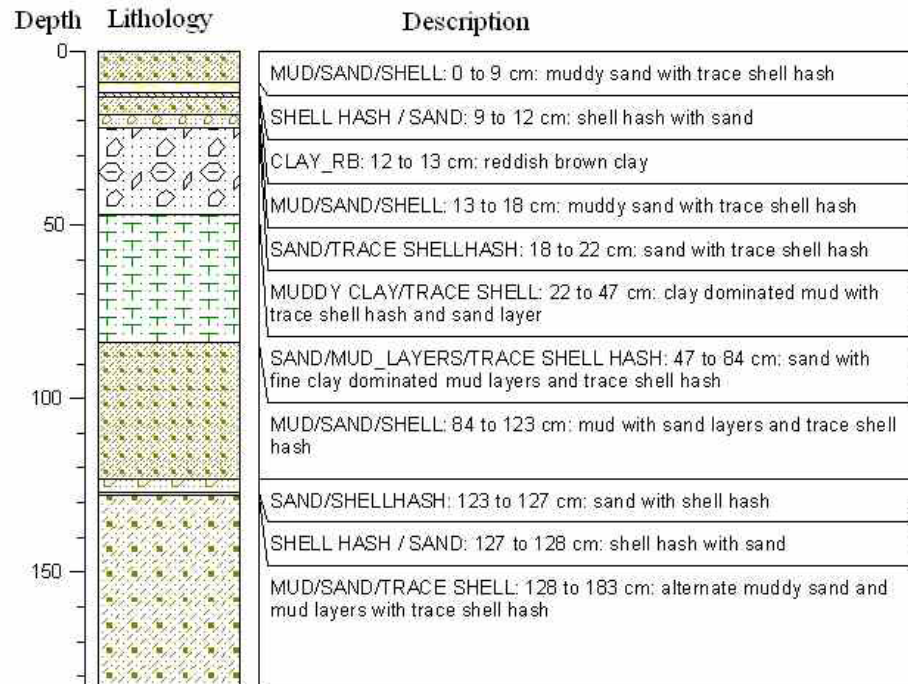


Figure A 56: Computer core log for 5B

Table A 37: Shell and sand weights for core 5B

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
5B	1-10	1.51	33.87	1.82	35.69
5B	11-20	2.64	60.42	4.50	64.92
5B	21-30	0.10	16.41	2.28	18.69
5B	41-47	0.08	11.64	3.30	14.94
5B	51-60	0.13	82.77	6.66	89.43
5B	81-84	0.31	58.38	7.96	66.34
5B	84-90	0.11	25.58	3.16	28.74
5B	101-110	0.45	55.15	2.86	58.01
5B	121-130	3.47	88.29	3.10	91.39
5B	141-150	0.06	17.57	1.52	19.09
5B	161-170	0.11	33.24	4.13	37.37
5B	171-180	0.06	48.20	5.05	53.25

Table A 38: Percent shell, sand, silt and clay for core 5B

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
5B	1-10	3.2334047	76.423983	12.023555	8.3190578
5B	11-20	2.7180068	66.838258	21.605065	8.8386698
5B	21-30	0.2581645	48.250936	32.580354	18.910546
5B	41-47	0.1103144	20.601213	49.979316	29.309156
5B	51-60	0.1221231	84.011273	12.818225	3.0483795
5B	81-84	0.3156984	67.559448	23.881053	8.2438006
5B	84-90	0.1663265	43.456566	35.367052	21.010055
5B	101-110	0.4105652	52.926418	31.572465	15.090552
5B	121-130	2.2504702	59.271029	25.873922	12.604579
5B	141-150	0.057985	18.448901	50.529113	30.964001
5B	161-170	0.1337711	45.445701	37.042442	17.378086
5B	171-180	0.0734574	65.193438	27.436337	7.2967679

Table A 39: RO TAP data for core 5B

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
5B	1-10						1.51					33.87	1.82
5B	11-20	1.50	0.47	0.24	0.20	0.12	0.11	0.27	0.39	11.71	42.05	6.00	4.50
5B	21-30						0.10					16.41	2.28
5B	41-47						0.08					11.64	3.30
5B	51-60	0.00	0.02	0.02	0.02	0.04	0.03	0.14	0.34	11.80	62.13	8.36	6.66
5B	81-84	0.13	0.01	0.04	0.04	0.04	0.05	0.08	0.26	4.46	41.80	11.78	7.96
5B	84-90						0.11					25.58	3.16
5B	101-110	0.16	0.08	0.05	0.04	0.04	0.08	0.22	0.31	4.70	43.44	6.48	2.86
5B	121-130	1.34	0.73	0.53	0.39	0.25	0.23	0.23	0.72	12.94	62.87	11.53	3.10
5B	141-150						0.06					17.57	1.52
5B	161-170						0.11					33.24	4.13
5B	171-180						0.06					48.20	5.05

Table A 40: Percent finer data for core 5B

ASTM Classification	coarse sand	medium sand	medium sand	medium sand	medium sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt	
Wentworth Classification	granule	very coarse sand	very coarse sand	coarse sand	coarse sand	medium sand	fine sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.4mm/ -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm / 3.5Φ Screen	% finer than N200/ 75µm / 3.75Φ Screen	% finer than N230/ 63µm/ 4.0Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
5B	1-10						96.5					17.4	13.1	9.1
5B	11-20	98.3	97.8	97.5	97.3	97.1	97.0	96.7	96.3	83.0	35.6	28.8	23.7	9.7
5B	21-30						99.7					47.4	40.2	23.3
5B	41-47						99.8					77.1	70.7	41.5
5B	51-60	100.0	100.0	100.0	99.9	99.9	99.9	99.7	99.4	88.0	27.8	19.7	13.2	3.1
5B	81-84	99.9	99.8	99.8	99.8	99.7	99.7	99.6	99.3	94.3	47.9	34.9	26.0	9.0
5B	84-90						99.8					50.8	44.8	26.6
5B	101-110	99.8	99.7	99.7	99.6	99.6	99.5	99.3	98.9	93.9	47.2	40.3	37.2	17.8
5B	121-130	99.0	98.5	98.1	97.8	97.6	97.4	97.3	96.7	87.1	40.5	31.9	29.6	14.4
5B	141-150						99.9					75.3	73.2	44.9
5B	161-170						99.8					50.9	44.8	21.0
5B	171-180						99.9					36.3	29.6	7.9

Table A 41: Folkian statistic data for core 5B

Core ID	Sample Depth (cm)	Median Grain Size (Φ)	Median Grain Size (mm)	Mean Grain Size (Φ)	Mean Grain Size (mm)	Skewness	Sorting Index
5B	1-10						
5B	11-20	3.326	0.0992	3.5757	0.0834	0.7008	1.8491
5B	21-30						
5B	41-47						
5B	51-60	3.298	0.1012	3.4131	0.0934	0.4240	0.4324
5B	81-84	3.474	0.0895	3.6534	0.0790	0.6713	1.8085
5B	84-90						
5B	101-110	3.458	0.0905	5.1366	0.0282	0.8902	2.8587
5B	121-130	3.382	0.0955	4.6047	0.0408	0.8594	2.4413
5B	141-150						
5B	161-170						
5B	171-180						

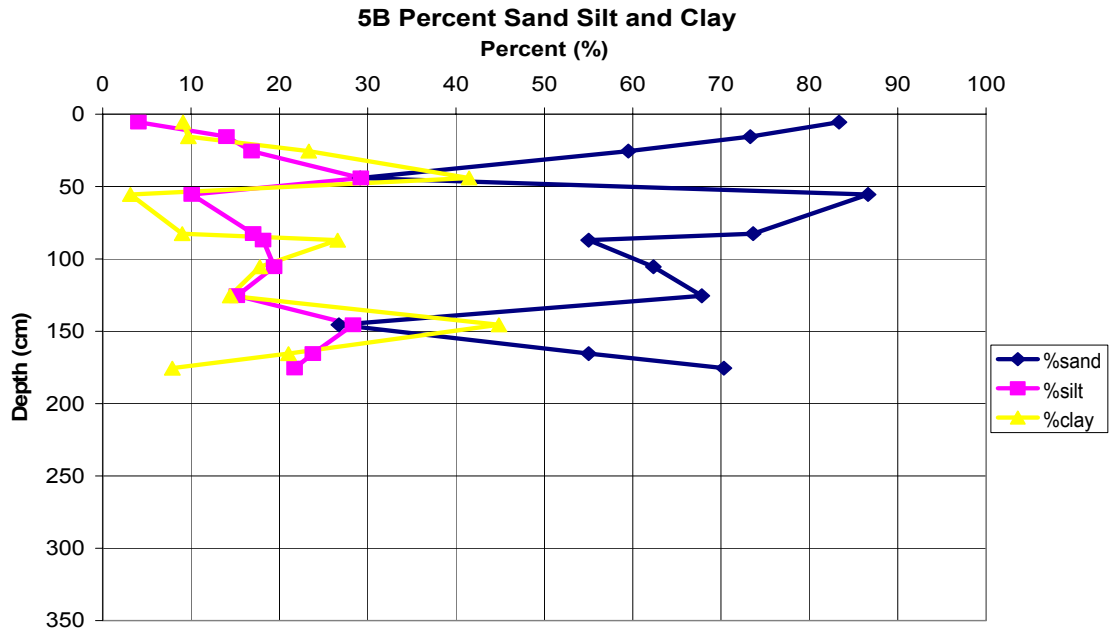


Figure A 57: Percent sand, silt and clay graph for core 5B

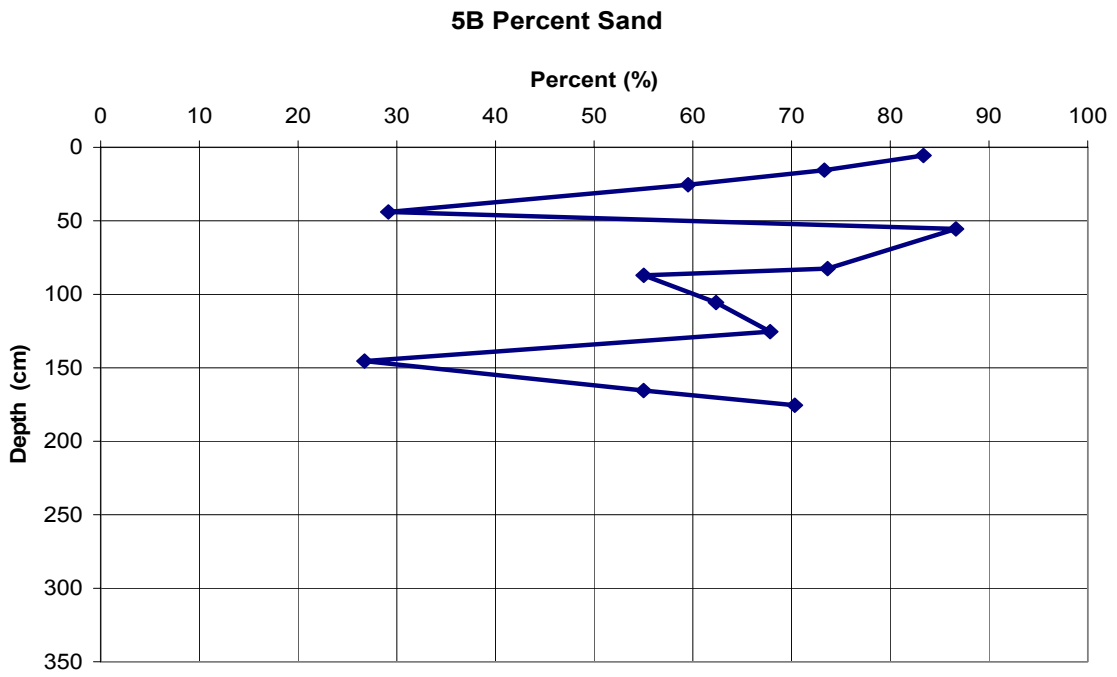


Figure A 58: Percent sand graph for core 5B

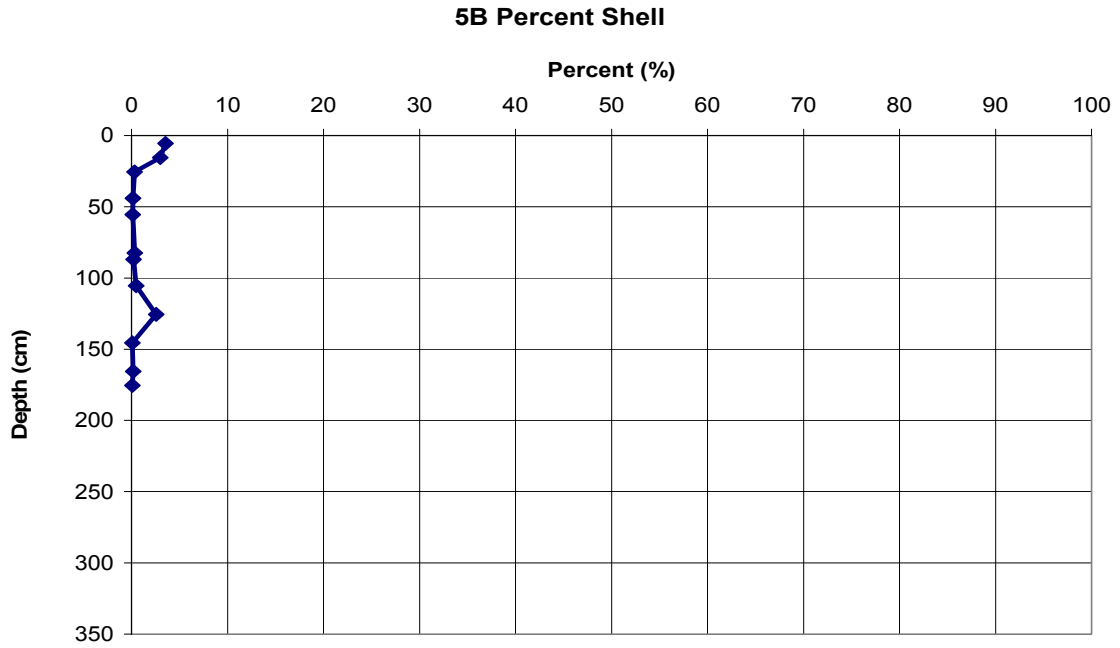


Figure A 59: Percent shell graph for core 5B

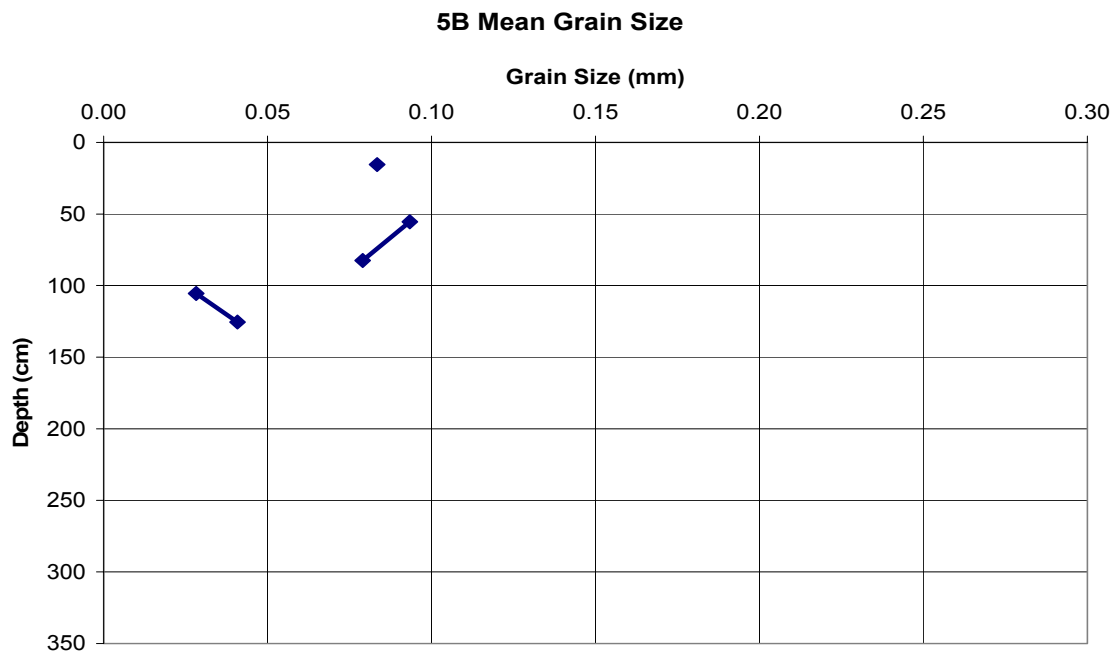


Figure A 60: Mean grain size graph for core 5B

Core#: 5C
 Core Date: 07/08/2005

Date Split/subsampled	Length: <u>190 cm</u>
	Lat: <u>29 16.204</u>
	Long: <u>94 47.512</u>

Core#: 5C
 Core Date: 07/08/2005

Date Split/subsampled	Length: <u>190 cm</u>
	Lat: <u>29 16.204</u>
	Long: <u>94 47.512</u>

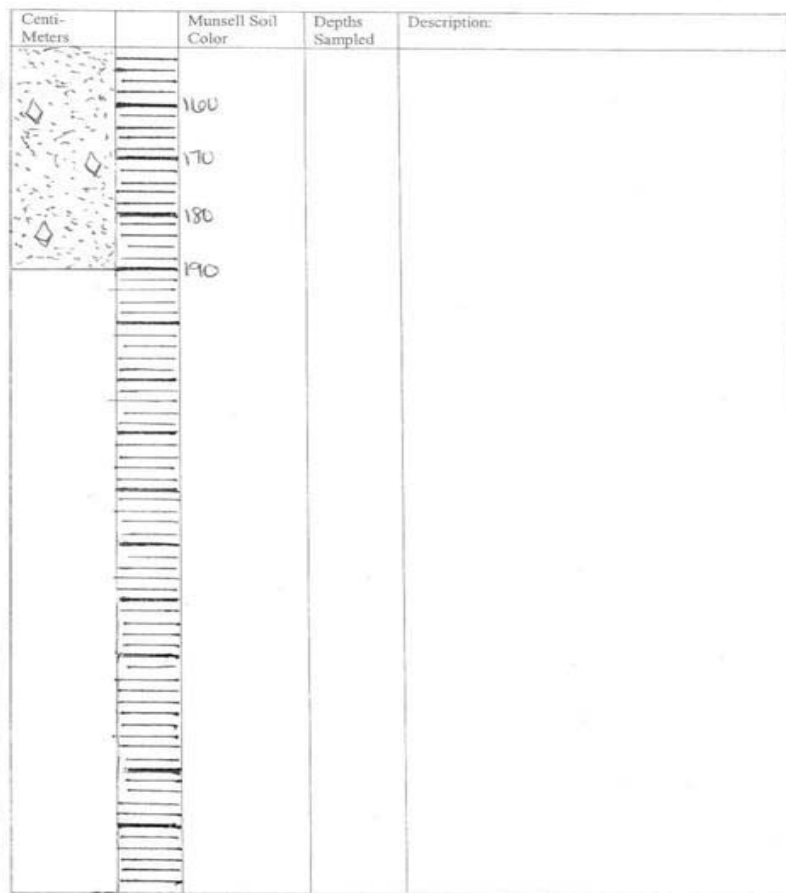
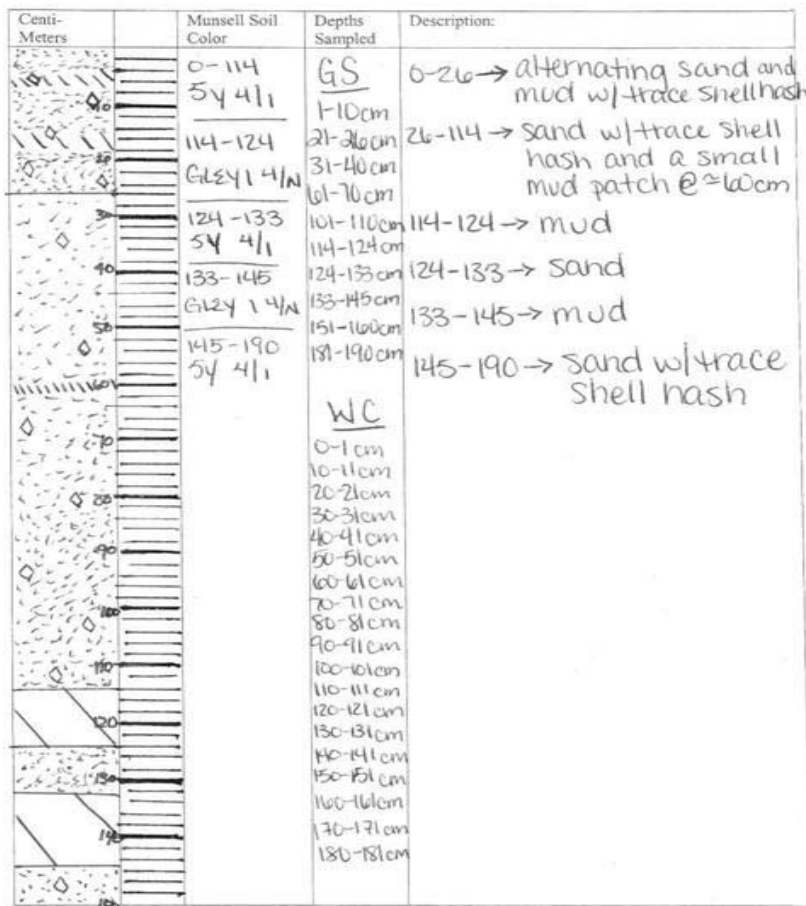


Figure A 61: Core log of 5C for depths 0-150 cm

Figure A 62: Core log of 5C for depths 150-190 cm

Line 5 Site C

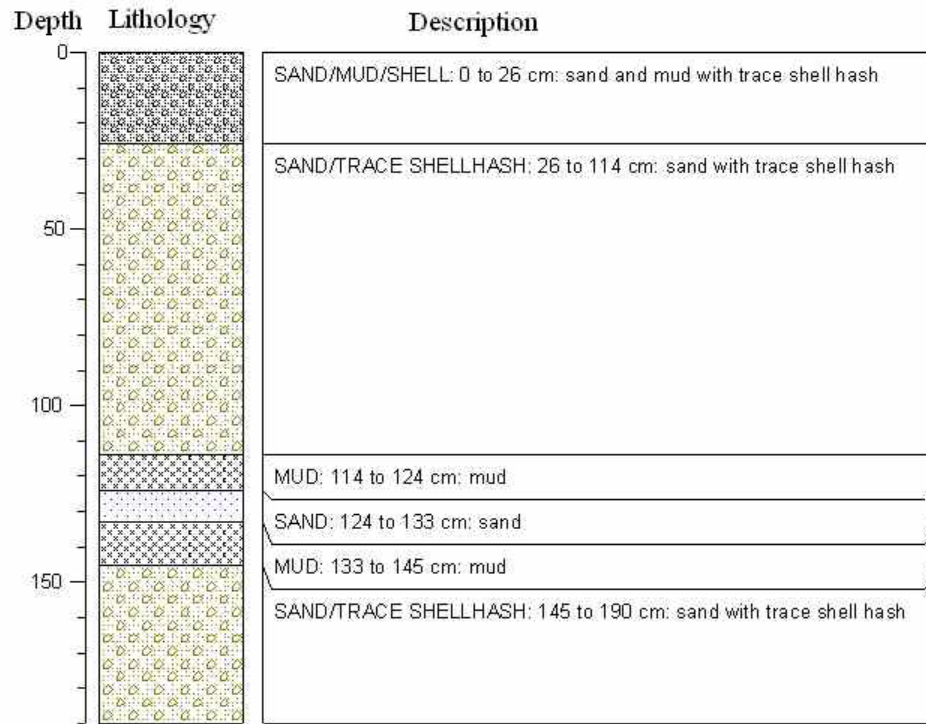


Figure A 63: Computer core log for 5C

Table A 42: Shell and sand weights for core 5C

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
5C	1-10	0.13	42.92	5.01	47.93
5C	21-26	0.04	10.20	2.70	12.90
5C	31-40	0.05	86.21	12.30	98.51
5C	61-70	0.03	31.32	5.30	36.62
5C	101-110	0.91	69.51	7.31	76.82
5C	114-124	0.01	5.43	0.68	6.11
5C	124-133	0.07	81.50	4.54	86.04
5C	133-145	0.01	1.50	0.30	1.80
5C	151-160	0.13	91.02	0.49	91.51
5C	181-190	0.50	101.20	3.70	104.90

Table A 43: Percent shell, sand, silt and clay for core 5C

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
5C	1-10	0.1808696	66.685217	21.634783	11.49913
5C	21-26	0.0842815	27.180784	44.026549	28.708386
5C	31-40	0.0369058	72.711839	22.925893	4.3253617
5C	61-70	0.0553608	67.577044	10.287876	22.07972
5C	101-110	0.9889155	83.481852	12.008259	3.5209737
5C	114-124	0.0368189	22.496318	71.925626	5.5412371
5C	124-133	0.051237	62.977602	26.310203	10.660957
5C	133-145	0.0287274	5.1709279	57.3973	37.403045
5C	151-160	0.1229198	86.526097	9.1669818	4.1840015
5C	181-190	0.4326008	90.759647	6.2337775	2.5739747

Table A 44: RO-TAP data for core 5C

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
5C	1-10						0.13					42.92	5.01
5C	21-26						0.04					10.20	2.70
5C	31-40	0.00	0.00	0.00	0.01	0.01	0.03	0.03	0.20	1.68	43.28	41.02	12.30
5C	61-70						0.03					31.32	5.30
5C	101-110	0.27	0.23	0.16	0.10	0.08	0.07	0.11	0.26	2.60	48.04	18.50	7.31
5C	114-124						0.01					5.43	0.68
5C	124-133	0.00	0.00	0.00	0.02	0.01	0.04	0.17	0.26	1.53	63.42	16.12	4.54
5C	133-145						0.01					1.50	0.30
5C	151-160	0.03	0.00	0.02	0.02	0.02	0.04	0.07	0.23	5.35	82.45	2.92	0.49
5C	181-190	0.08	0.08	0.07	0.06	0.08	0.13	0.20	0.31	5.44	85.97	9.28	3.70

Table A 45: Percent finer data for core 5C

ASTM Classification	coarse sand	medium sand	medium sand	medium sand	medium sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt	
Wentworth Classification	granule	very coarse sand	very coarse sand	coarse sand	coarse sand	medium sand	fine sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.4mm/ -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm / 3.5Φ Screen	% finer than N200/ 75µm / 3.75Φ Screen	% finer than N230/ 63µm/ 4.0Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
5C	1-10						99.8					32.3	24.4	13.0
5C	21-26						99.9					69.7	61.8	40.3
5C	31-40	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.8	98.5	65.1	33.5	24.0	4.5
5C	61-70						99.9					25.8	13.2	28.3
5C	101-110	99.7	99.4	99.3	99.1	99.1	99.0	98.9	98.6	95.6	41.5	20.7	12.4	3.6
5C	114-124						100.0					78.8	76.1	5.9
5C	124-133	100.0	100.0	100.0	100.0	100.0	99.9	99.8	99.6	98.3	46.4	33.2	29.4	11.9
5C	133-145						100.0					93.1	91.7	59.8
5C	151-160	100.0	100.0	100.0	99.9	99.9	99.9	99.8	99.6	94.3	12.9	10.1	9.6	4.4
5C	181-190	99.9	99.9	99.8	99.7	99.7	99.6	99.4	99.1	94.3	17.9	9.7	6.4	2.6

Table A 46: Folkian statistic data for core 5C

Station ID	Sample Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(Φ)	(mm)	(Φ)	(mm)		
5C	1-10						
5C	21-26						
5C	31-40	3.611	0.0814	3.8991	0.0666	0.6852	1.0384
5C	61-70						
5C	101-110	3.426	0.0926	3.4749	0.0895	0.3052	0.3926
5C	114-124						
5C	124-133	3.460	0.0904	4.3556	0.0485	0.8585	2.0615
5C	133-145						
5C	151-160	3.256	0.1042	3.2653	0.1035	0.3848	0.3613
5C	181-190	3.279	0.1025	3.2943	0.1014	0.2951	0.2785

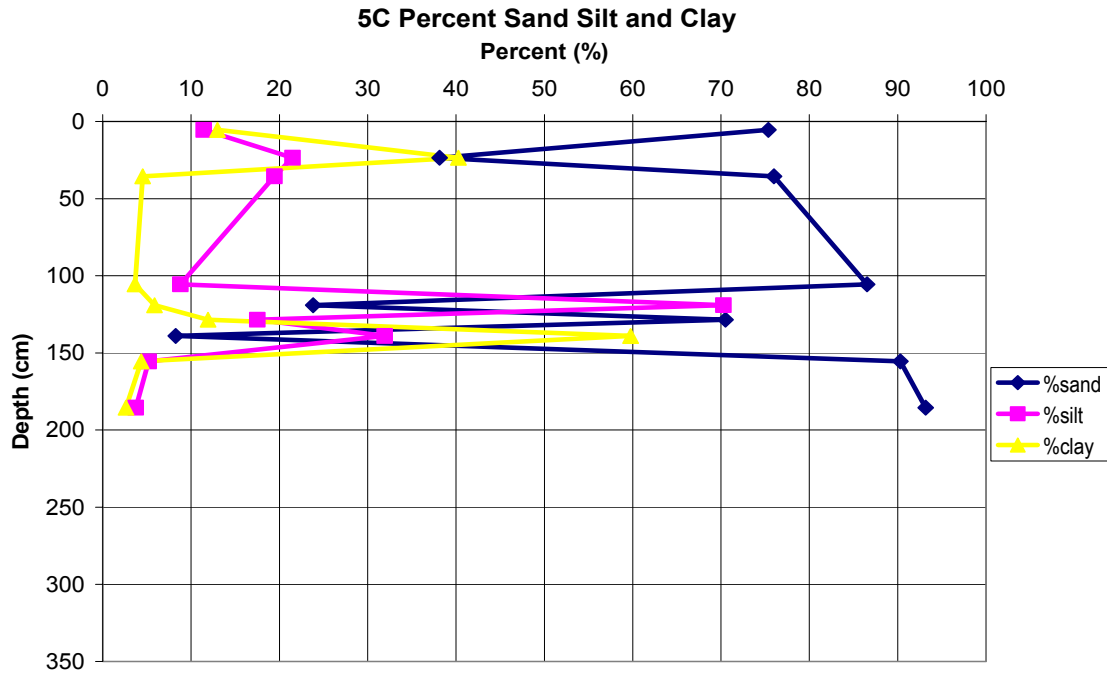


Figure A 64: Percent sand, silt and clay graph for core 5C

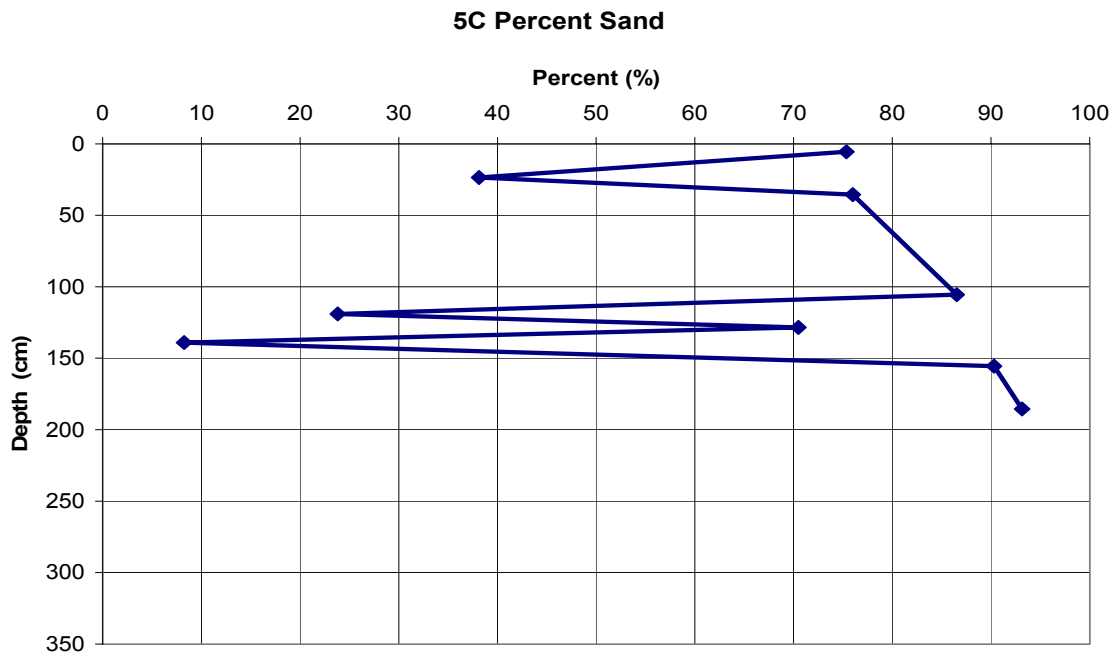


Figure A 65: Percent sand graph for core 5C

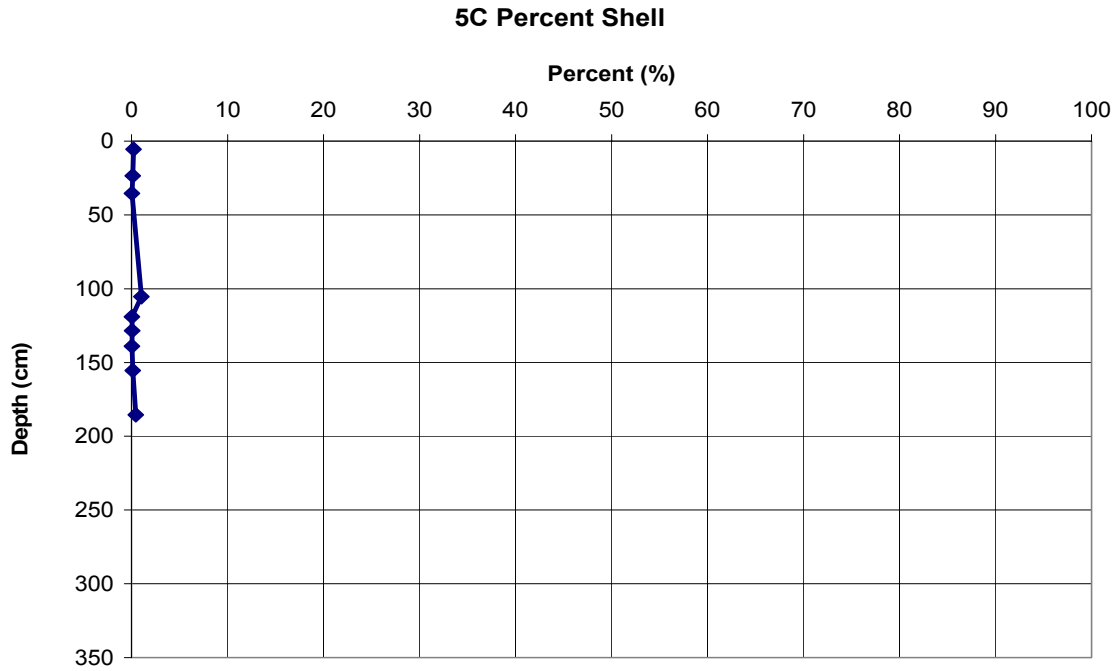


Figure A 66: Percent shell graph for core 5C

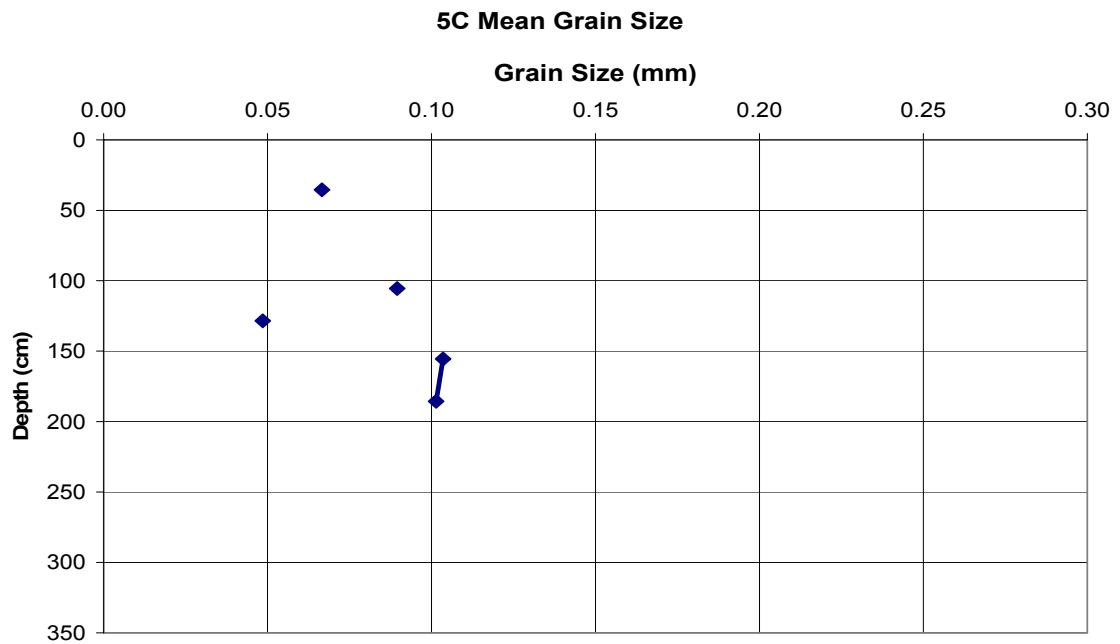


Figure A 67: Mean grain size graph for core 5C

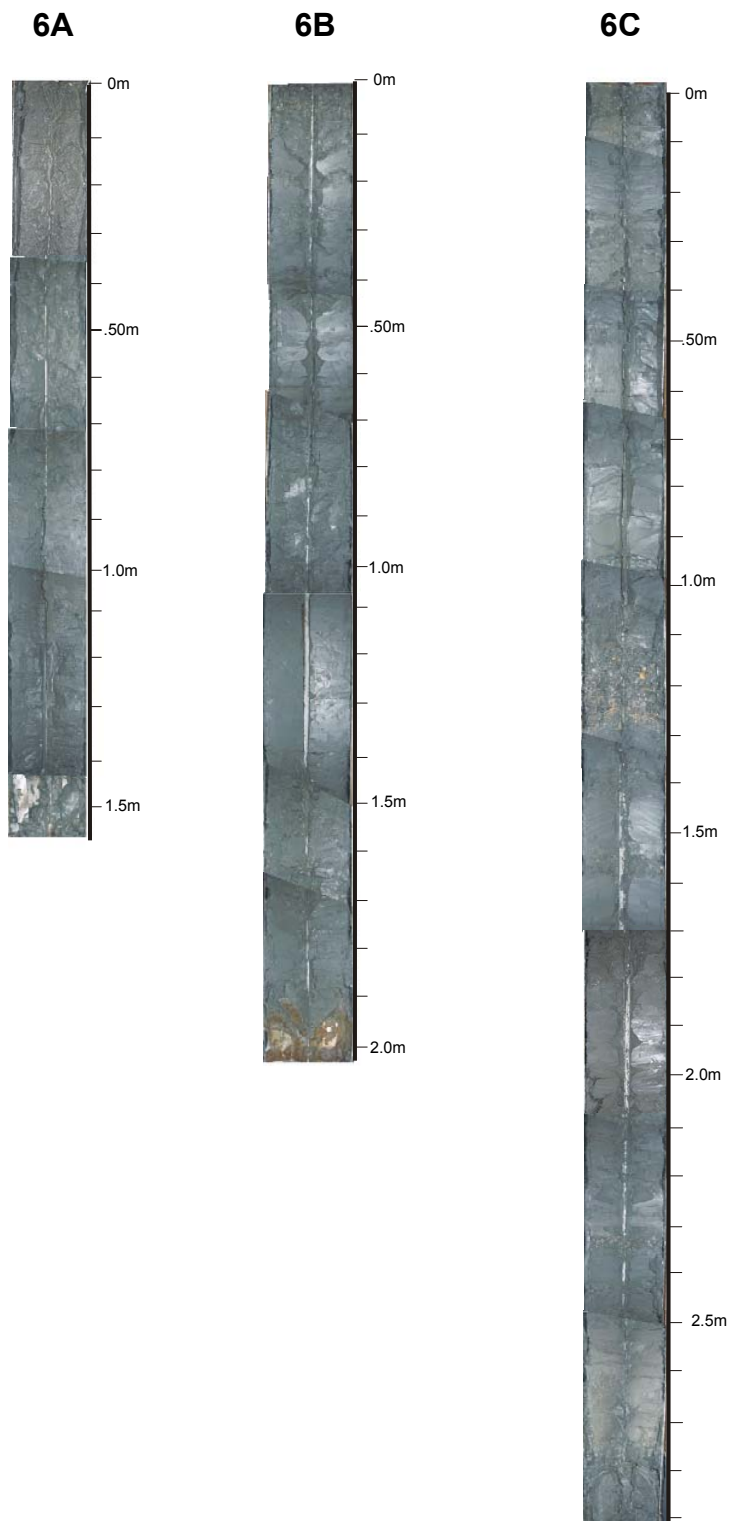


Figure A 68: Core photographs for Line 6

Core#: 6A
 Core Date: 07/08/2005

Date Split/subsampled	Length: <u>155cm</u>
	Lat: <u>29 16.204</u>
	Long: <u>94 47.512</u>

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-108	5Y 4/1	GS	0-10 → sand w/ shell hash
11-20 cm		10-22 → shell hash w/sand	
108-155	5Y 3/1	21-30 cm	22-77 → sand w/trace shell hash
71-77 cm		77-108 → Fine sand and mud laminations w/trace shell hash	
		101-108 cm	108-155 → sand w/abundant shell hash
		111-120 cm	
		121-130 cm	
		131-140 cm	
		WC	
		0-1 cm	
		10-11 cm	
		20-21 cm	
		30-31 cm	
		40-41 cm	
		50-51 cm	
		60-61 cm	
		70-71 cm	
		80-81 cm	
		90-91 cm	
		100-101 cm	
		110-111 cm	
		120-121 cm	
		130-131 cm	
		140-141 cm	
		150-151 cm	

Figure A 69: Core log of 6A for depths 0-150 cm
 Figure A 70: Core log of 6A for depths 150-155 cm

Core#: 6A
 Core Date: 07/08/2005

Date Split/subsampled	Length: <u>155cm</u>
	Lat: <u>29 16.204</u>
	Long: <u>94 47.512</u>

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
150-155	10YR 6/0		

Line 6 Site A

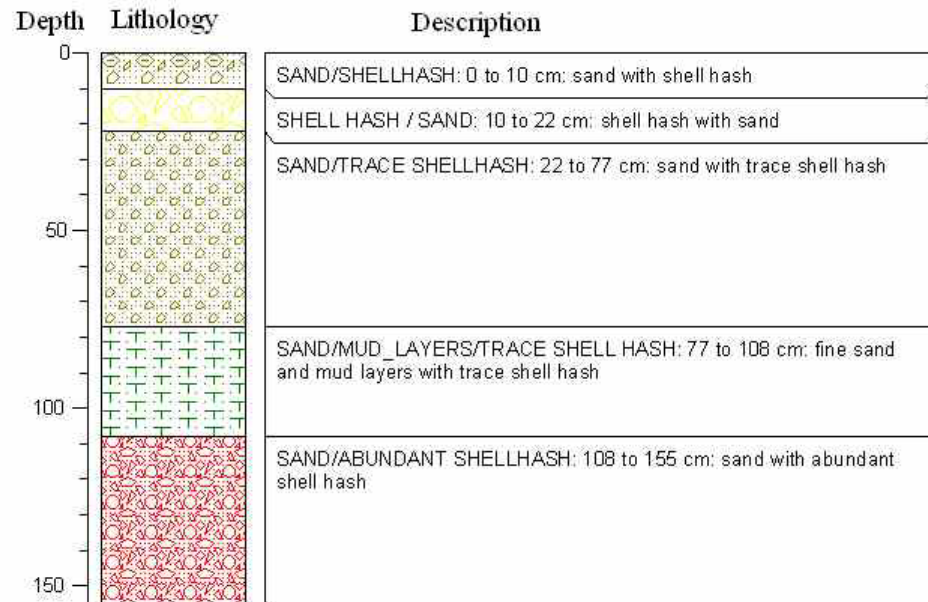


Figure A 71: Computer core log for 6A

Table A 47: Shell and sand weights for core 6A

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
6A	1-10	2.58	86.36	7.33	93.69
6A	11-20	5.49	99.58	6.72	106.30
6A	21-30	1.78	83.86	6.64	90.50
6A	41-50	0.22	81.08	4.52	85.60
6A	71-77	0.12	78.91	4.83	83.74
6A	81-90	0.04	25.56	3.96	29.52
6A	101-108	0.03	33.74	3.44	37.18
6A	111-120	0.30	86.87	9.99	96.86
6A	121-130	0.19	81.20	6.93	88.13
6A	131-140	1.06	99.59	1.89	101.48

Table A 48: Percent shell, sand, silt and clay for core 6A

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
6A	1-10	2.4371812	88.503684	6.5180427	2.541092
6A	11-20	4.4392334	85.954556	6.2828495	3.3233606
6A	21-30	1.6764775	85.236638	8.5943019	4.492583
6A	41-50	0.2254791	87.731885	7.9532643	4.0893717
6A	71-77	0.11513	80.341552	12.333301	7.2100163
6A	81-90	0.0582835	43.01326	36.878916	20.049541
6A	101-108	0.047824	59.269887	24.884425	15.797864
6A	111-120	0.2499063	80.686409	15.206797	3.856887
6A	121-130	0.191022	88.604032	8.7769567	2.4279897
6A	131-140	0.9609719	91.999456	5.1312271	1.908345

Table A 49: RO-TAP data for core 6A

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
6A	1-10	0.68	0.59	0.51	0.40	0.25	0.15	0.20	0.38	4.75	66.30	14.73	7.33
6A	11-20	2.82	0.49	0.85	0.62	0.41	0.30	0.32	0.65	13.45	74.83	10.33	6.72
6A	21-30	0.30	0.47	0.44	0.26	0.20	0.11	0.17	0.36	7.54	62.16	13.63	6.64
6A	41-50	0.04	0.03	0.03	0.07	0.03	0.02	0.06	0.32	14.37	58.35	7.98	4.52
6A	71-77	0.00	0.01	0.02	0.04	0.02	0.03	0.12	0.34	25.46	45.89	7.10	4.83
6A	81-90						0.04					25.56	3.96
6A	101-108						0.03					33.74	3.44
6A	111-120	0.01	0.06	0.06	0.03	0.05	0.09	0.20	0.28	3.24	69.75	13.40	9.99
6A	121-130	0.00	0.03	0.05	0.05	0.05	0.01	0.06	0.18	3.62	67.56	9.78	6.93
6A	131-140	0.32	0.04	0.23	0.20	0.14	0.13	0.24	0.41	7.44	87.56	3.94	1.89

Table A 50: Percent finer data for core 6A

ASTM Classification	coarse sand	medium sand	medium sand	medium sand	medium sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt	
Wentworth Classification	granule	very coarse sand	very coarse sand	coarse sand	coarse sand	medium sand	fine sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.4mm/ -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm / 3.5Φ Screen	% finer than N200/ 75µm / 3.75Φ Screen	% finer than N230/ 63µm/ 4.0Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
6A	1-10	99.3	98.8	98.3	97.9	97.6	97.5	97.3	96.9	92.3	28.1	13.8	6.7	2.6
6A	11-20	97.6	97.2	96.5	96.0	95.7	95.4	95.1	94.6	83.3	20.8	12.1	6.5	3.4
6A	21-30	99.7	99.2	98.8	98.6	98.4	98.2	98.1	97.7	90.3	29.0	15.5	9.0	4.7
6A	41-50	100.0	99.9	99.9	99.8	99.8	99.8	99.7	99.4	84.0	21.6	13.1	8.3	4.3
6A	71-77	100.0	100.0	100.0	99.9	99.9	99.9	99.8	99.4	73.1	25.6	18.3	13.3	7.8
6A	81-90						99.9					53.3	46.1	25.1
6A	101-108						99.9					36.1	29.6	18.8
6A	111-120	100.0	99.9	99.9	99.9	99.8	99.7	99.6	99.3	96.5	36.1	24.5	15.8	4.0
6A	121-130	100.0	100.0	99.9	99.9	99.8	99.8	99.7	99.6	95.8	26.2	16.1	9.0	2.5
6A	131-140	99.7	99.7	99.5	99.3	99.1	99.0	98.8	98.4	91.5	10.6	7.0	5.2	1.9

Table A 51: Folkian statistic data for core 6A

Core ID	Sample Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(Φ)	(mm)	(Φ)	(mm)		
6A	1-10	3.325	0.0993	3.3658	0.0965	0.2749	0.3196
6A	11-20	3.256	0.1042	3.2780	0.1026	-0.0448	0.4537
6A	21-30	3.323	0.0994	3.3746	0.0959	0.3064	0.3589
6A	41-50	3.259	0.1040	3.2901	0.1017	0.2625	0.3554
6A	71-77	3.222	0.1067	3.3180	0.0998	0.5871	1.7703
6A	81-90						
6A	101-108						
6A	111-120	3.372	0.0961	3.4958	0.0882	0.4498	0.4214
6A	121-130	3.316	0.0999	3.3906	0.0949	0.3996	0.3353
6A	131-140	3.243	0.1051	3.2483	0.1047	0.2580	0.2566

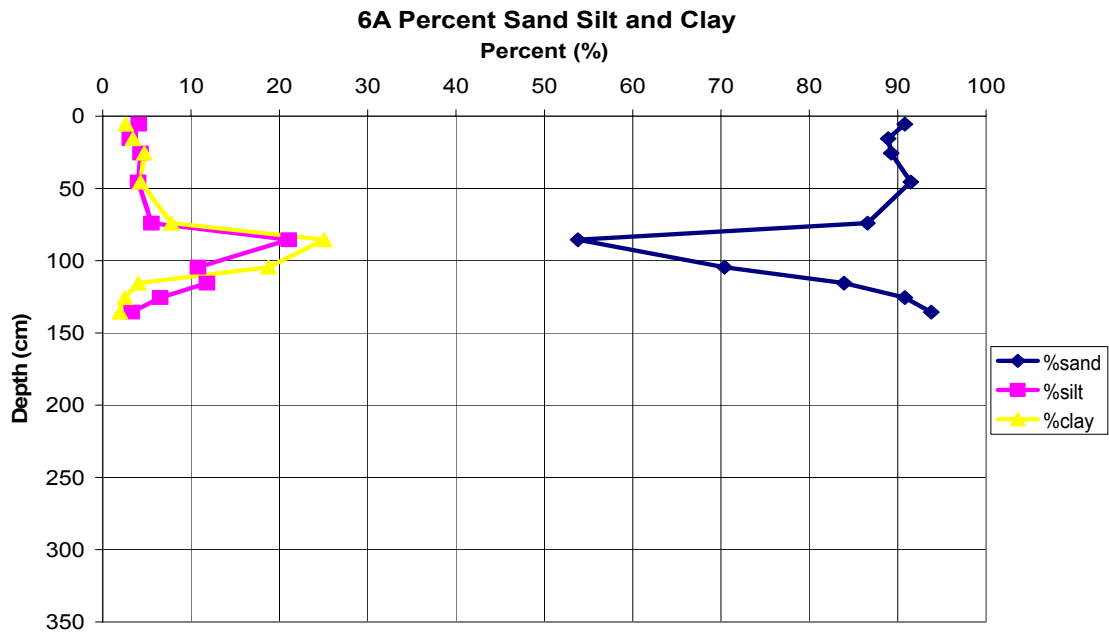


Figure A 72: Percent sand, silt and clay graph for core 6A

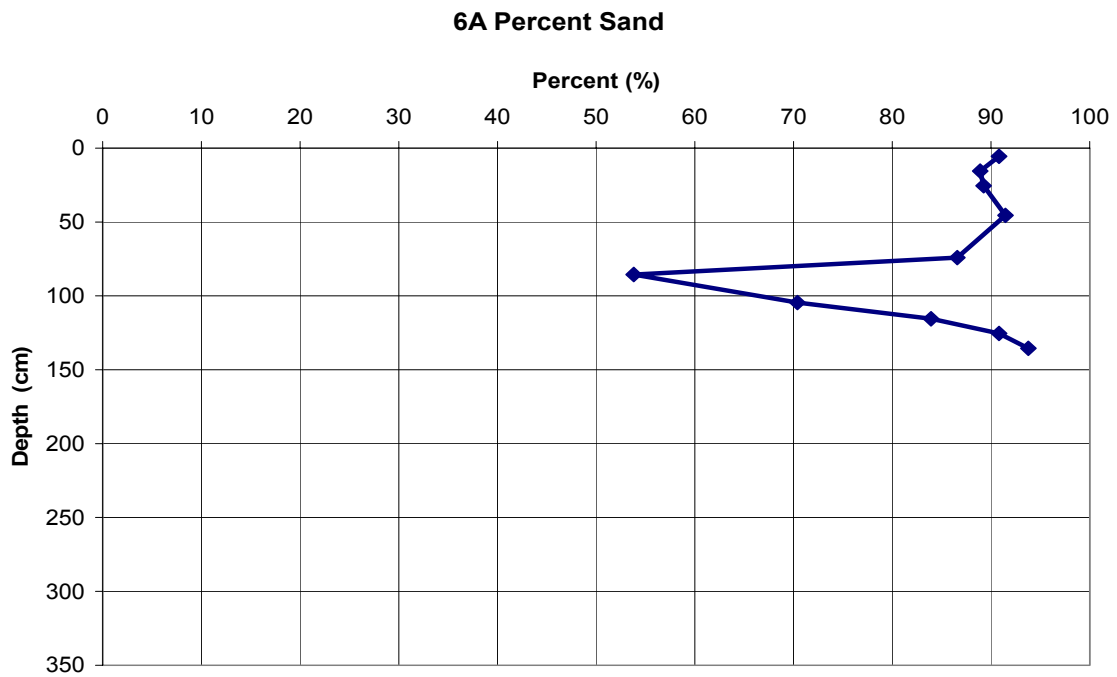


Figure A 73: Percent sand graph for core 6A

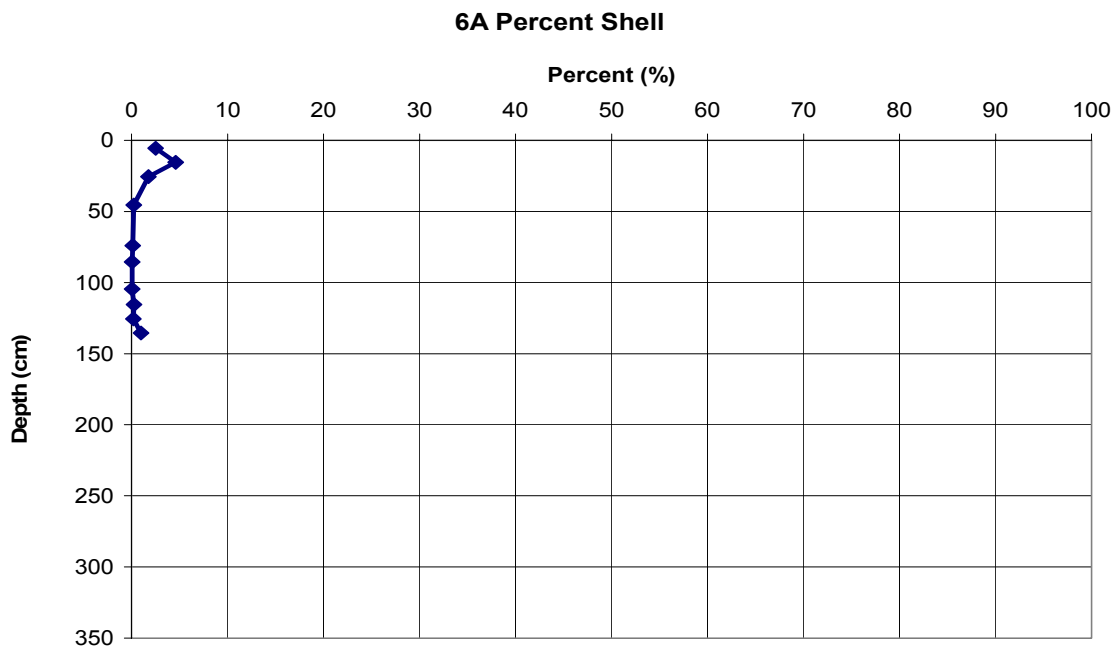


Figure A 74: Percent shell graph for core 6A

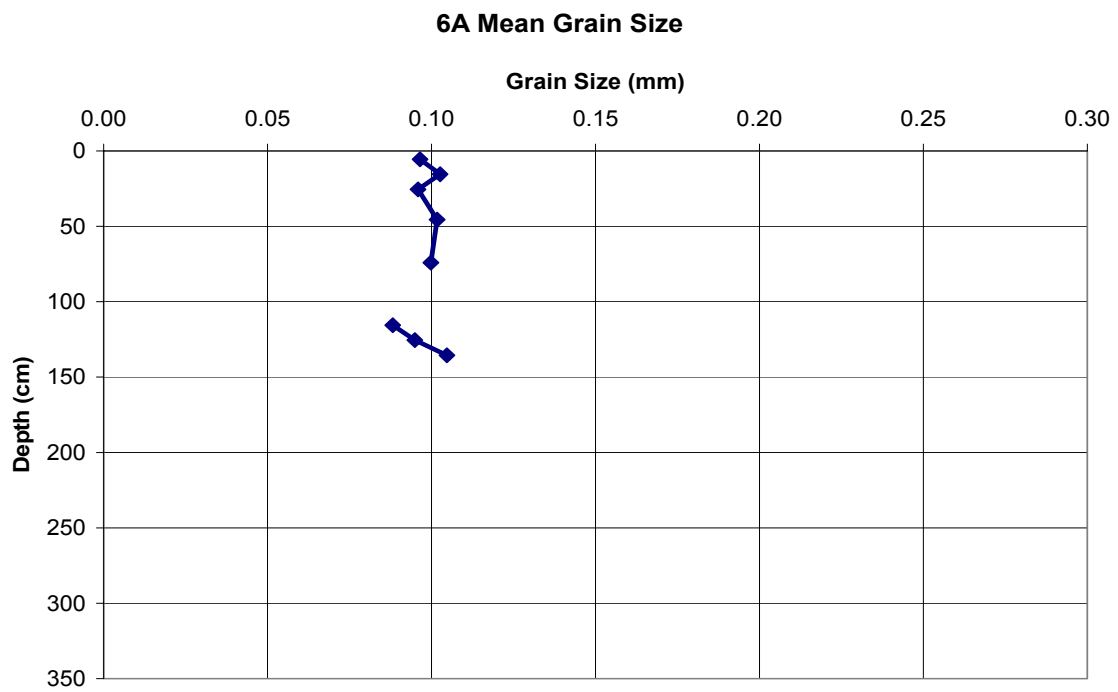


Figure A 75: Mean grain size graph for core 6A

Core#: 6B
 Core Date: 07/08/2005

Date Split/subsampled	Length: <u>192 cm</u>
<u>10/13/2005</u>	Lat: <u>29 15.769</u> Long: <u>94 48.677</u>

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-10 cm	0-66 54 4/1	<u>GS</u> 1-10 cm	0-11 → shell hash layer w/ muddy sand
11-20 cm		11-20 cm	11-47 → Alternating sand & mud layers w/ trace shell hash (layers ≈ 3 cm)
20-50 cm	66-62 54 3/1	41-50 cm	
50-60 cm		51-60 cm	
60-70 cm		71-80 cm	47-66 → Alternating mud & sand layers (≈ 1 cm in length)
70-100 cm	102-138 6L24 1 4/1	91-100 cm	
100-107 cm		101-107 cm	66-102 → sand w/ trace shell hash
107-110 cm		111-120 cm	
110-120 cm	138-192 54 4/1	131-140 cm	102-107 → shell hash w/ sand
120-130 cm		141-150 cm	
130-140 cm		161-170 cm	107-126 → sandy mud w/ trace shell hash
140-150 cm		181-192 cm	
150-160 cm		<u>WC</u> 0-1 cm	126-129 → sand w/ trace shell hash
160-161 cm		10-11 cm	
161-162 cm		20-21 cm	129-138 → mud w/ trace shell hash
162-163 cm		30-31 cm	
163-164 cm		40-41 cm	138-157 → sand w/ trace shell hash
164-165 cm		50-51 cm	
165-166 cm		60-61 cm	157-160 → mud layer w/ trace shell hash
166-167 cm		70-71 cm	
167-168 cm		80-81 cm	160-173 → sand w/ trace shell hash
168-169 cm		90-91 cm	
169-170 cm		100-101 cm	173-192 → alternating sand and mud w/ trace shell hash (≈ 1 cm)
170-171 cm		110-111 cm	
171-172 cm		120-121 cm	
172-173 cm		130-131 cm	
173-174 cm		140-141 cm	
174-175 cm		150-151 cm	
175-176 cm		160-161 cm	
176-177 cm		170-171 cm	
177-178 cm		180-181 cm	
178-179 cm		190-191 cm	
179-180 cm		192-193 cm	

Figure A 76: Core log of 6b for depths 0-150 cm

Figure A 77: Core log of 6B for depths 150-192 cm

Core#: 6B
 Core Date: 07/08/2005

Date Split/subsampled	Length: <u>192 cm</u>
<u>10/13/2005</u>	Lat: <u>29 15.769</u> Long: <u>94 48.677</u>

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
160-161 cm			
161-162 cm			
162-163 cm			
163-164 cm			
164-165 cm			
165-166 cm			
166-167 cm			
167-168 cm			
168-169 cm			
169-170 cm			
170-171 cm			
171-172 cm			
172-173 cm			
173-174 cm			
174-175 cm			
175-176 cm			
176-177 cm			
177-178 cm			
178-179 cm			
179-180 cm			
180-181 cm			
181-182 cm			
182-183 cm			
183-184 cm			
184-185 cm			
185-186 cm			
186-187 cm			
187-188 cm			
188-189 cm			
189-190 cm			
190-191 cm			
191-192 cm			

Line 6 Site B

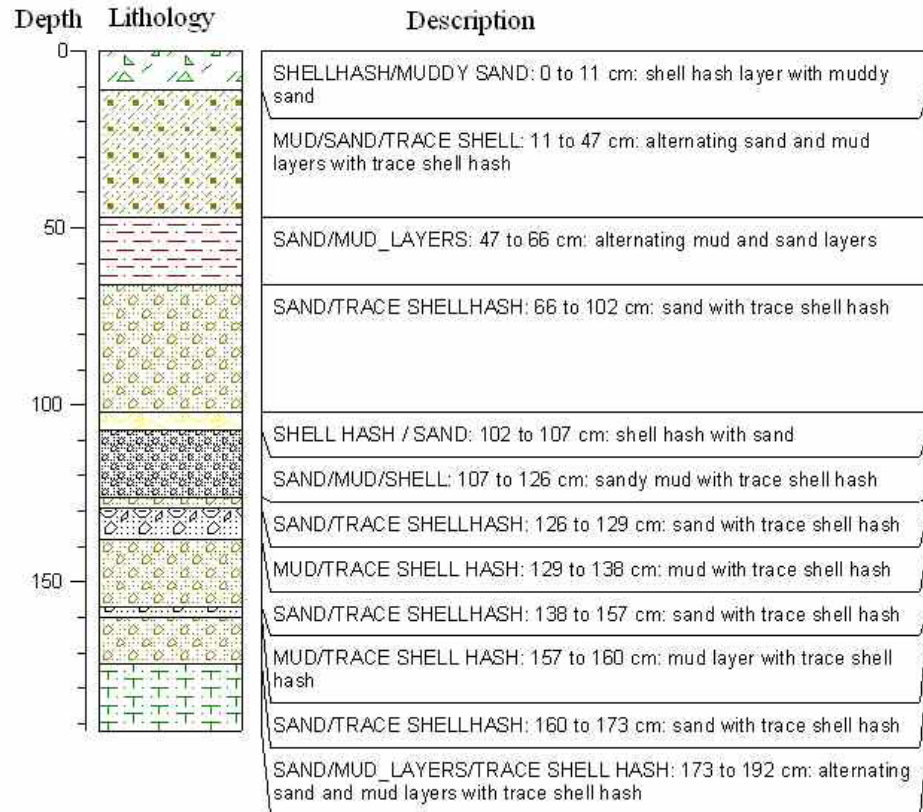


Figure A 78: Computer core log for 6B

Table A 52: Shell and sand weights for core 6B

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
6B	1-10	21.61	72.69	11.63	84.32
6B	11-20	2.80	2.80	12.26	15.06
6B	41-50	0.01	0.01	11.11	11.12
6B	51-60	0.01	0.01	2.41	2.42
6B	71-80	0.27	41.44	16.77	58.21
6B	91-100	1.54	66.98	15.77	82.75
6B	101-107	5.19	84.03	2.50	86.53
6B	111-120	0.07	0.07	2.74	2.81
6B	131-140	0.20	0.20	19.81	20.01
6B	141-150	0.23	75.57	16.20	91.77
6B	161-170	0.45	52.76	11.56	64.32
6B	181-192	0.01	51.51	4.16	55.67

Table A 53: Percent shell, sand, silt and clay for core 6B

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
6B	1-10	16.140718	62.979423	13.141875	7.7379841
6B	11-20	3.8251366	20.57377	44.760929	30.840164
6B	41-50	0.0158378	17.611657	55.543237	26.829268
6B	51-60	0.0161734	3.9139576	62.404981	33.664888
6B	71-80	0.3178527	68.526694	26.846783	4.3086703
6B	91-100	1.2912422	69.383306	21.561229	7.7642225
6B	101-107	3.78763	63.14906	22.430213	10.633096
6B	111-120	0.1568979	6.2983302	60.293623	33.251149
6B	131-140	0.3056935	30.584639	43.247994	25.861674
6B	141-150	0.1668057	66.555463	27.530188	5.7475432
6B	161-170	0.3972808	56.784674	34.126424	8.6916218
6B	181-190	0.0110023	61.249862	28.077896	10.661239

Table A 54: RO-TAP data for core 6B

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
6B	1-10	11.43	3.82	3.01	1.77	1.02	0.56	0.46	1.05	17.06	53.56	11.63	6.11
6B	11-20						2.80					12.26	1.41
6B	41-50						0.01					11.11	5.67
6B	51-60						0.01					2.41	2.08
6B	71-80	0.00	0.01	0.09	0.06	0.03	0.08	0.08	0.22	1.21	39.85	16.77	18.10
6B	91-100	0.24	0.16	0.23	0.22	0.34	0.35	0.30	0.32	4.22	61.79	15.77	17.16
6B	101-107	2.76	0.41	0.67	0.62	0.43	0.30	9.55	0.37	25.51	48.30	2.50	7.55
6B	111-120						0.07					2.74	0.33
6B	131-140						0.20					19.81	2.95
6B	141-150	0.05	0.01	0.03	0.07	0.02	0.05	0.20	0.26	4.32	70.74	16.20	14.19
6B	161-170	0.00	0.03	0.04	0.09	0.12	0.17	0.09	0.13	2.62	49.75	11.56	8.22
6B	181-192						0.01					51.51	4.16

Table A 55: Percent finer data for core 6B

ASTM Classification	coarse sand	medium sand	medium sand	medium sand	medium sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt	
Wentworth Classification	granule	very coarse sand	very coarse sand	coarse sand	coarse sand	medium sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt	
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.4mm/ -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710μm/ 0.5Φ Screen	% finer than N35/ 500μm/ 1.0Φ Screen	% finer than N45/ 355μm/ 1.5Φ Screen	% finer than N60/ 250μm/ 2.0Φ Screen	% finer than N80/ 180μm/ 2.5 Φ Screen	% finer than N125/ 125μm/ 3.0Φ Screen	% finer than N170/ 90μm / 3.5Φ Screen	% finer than N200/ 75μm / 3.75Φ Screen	% finer than N230/ 63μm/ 4.0Φ Screen	% finer than 4μm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
6B	1-10	90.7	87.7	85.2	83.8	83.0	82.5	82.1	81.3	67.5	24.1	14.7	9.8	3.9
6B	11-20						94.5					70.3	67.5	47.3
6B	41-50						100.0					75.9	63.7	24.4
6B	51-60						100.0					94.1	89.0	45.7
6B	71-80	100.0	100.0	99.9	99.8	99.8	99.7	99.6	99.3	97.8	48.8	28.2	5.9	-
6B	91-100	99.8	99.6	99.4	99.2	98.9	98.6	98.3	98.0	94.2	38.0	23.7	8.1	-6.9
6B	101-107	97.7	97.4	96.9	96.4	96.0	95.8	88.0	87.7	66.8	27.4	25.3	19.2	6.0
6B	111-120						99.8					90.6	89.5	48.9
6B	131-140						99.6					58.7	52.7	29.2
6B	141-150	100.0	100.0	99.9	99.9	99.9	99.8	99.7	99.5	96.1	41.7	29.2	18.3	-4.8
6B	161-170	100.0	100.0	99.9	99.8	99.7	99.6	99.5	99.4	96.8	48.7	37.5	29.6	1.7
6B	181-192						100.0					36.6	31.4	11.9

Table A 56: Folkian statistic data for core 6B

Station ID	Sample Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(Φ)	(mm)	(Φ)	(mm)		
6B	1-10	3.225	0.1065	2.6187	0.1622	-0.1180	2.8646
6B	11-20						
6B	41-50						
6B	51-60						
6B	71-80	3.615	0.0812	3.6406	0.0798	0.0883	0.4082
6B	91-100	3.453	0.0909	3.5548	0.0847	0.6172	1.8132
6B	101-107	3.218	0.1070	3.4078	0.0938	0.5376	2.1336
6B	111-120						
6B	131-140						
6B	141-150	3.467	0.0900	3.6341	0.0801	0.6745	1.7896
6B	161-170	3.540	0.0855	3.8583	0.0686	0.7259	1.8425
6B	181-192						

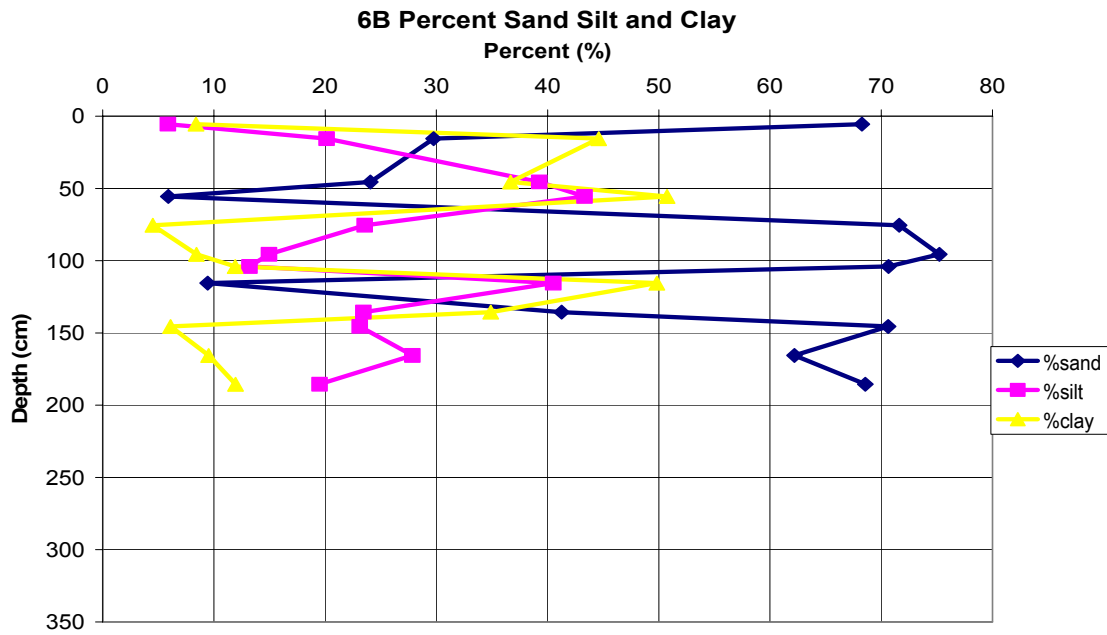


Figure A 79: Percent sand, silt and clay graph for core 6B

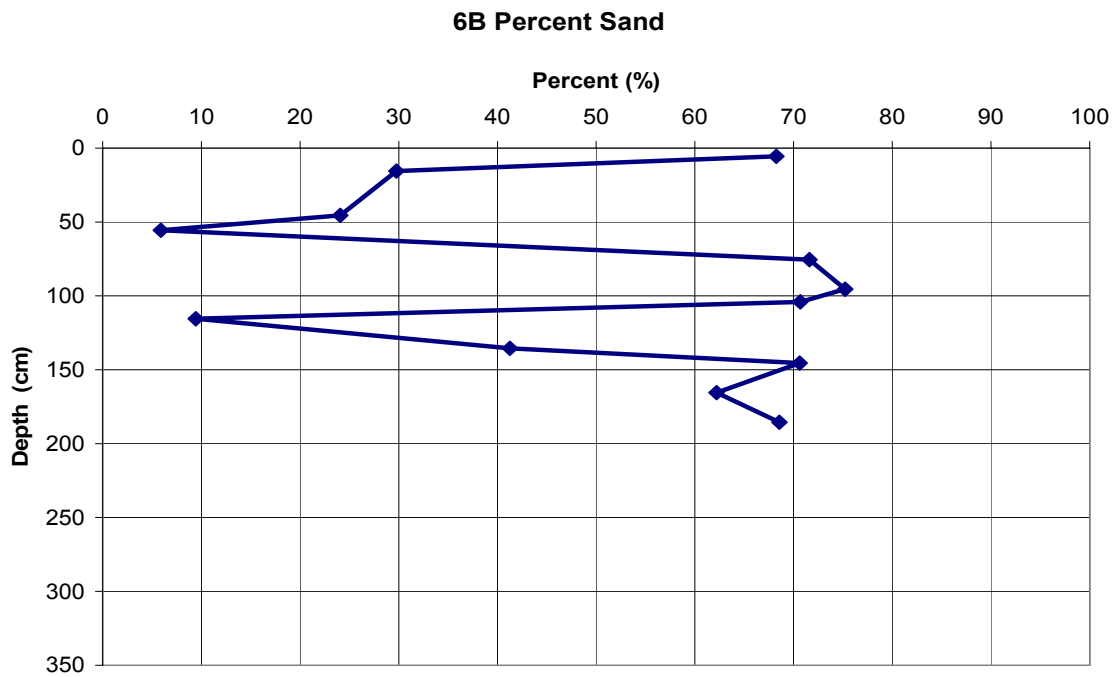


Figure A 80: Percent sand graph for core 6B

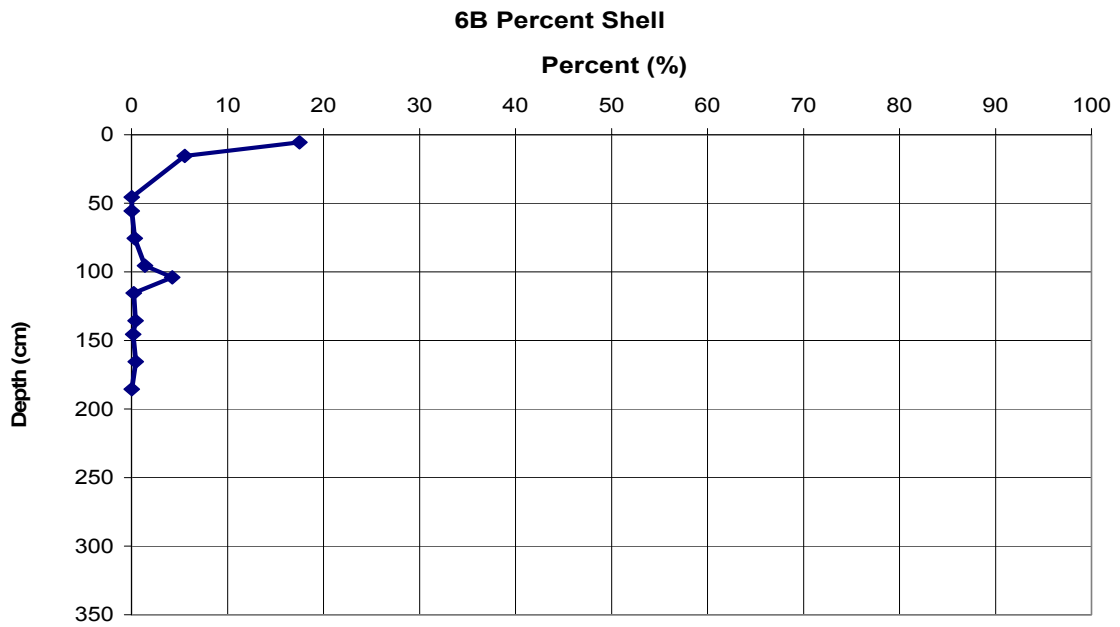


Figure A 81: Percent shell for core 6B

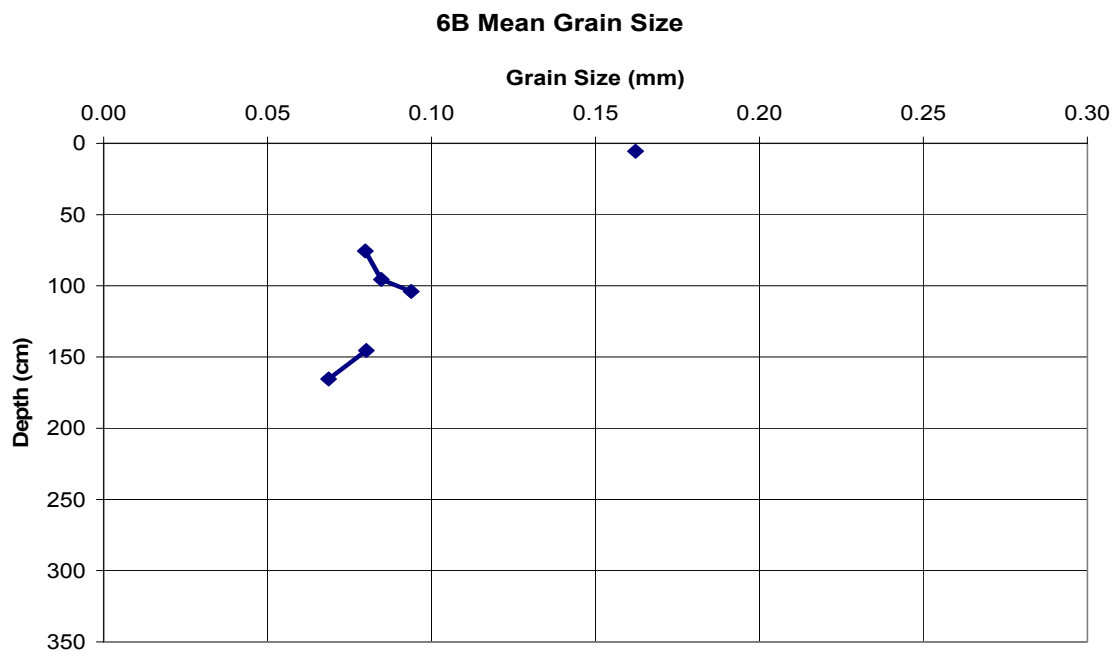


Figure A 82: Mean grain size graph for core 6B

Core#: 6C
 Core Date: 07/08/2005

Date Split/subsampled	Length: 293 cm
10/18/2005	Lat: 29 15.642
	Long: 94 48.1057

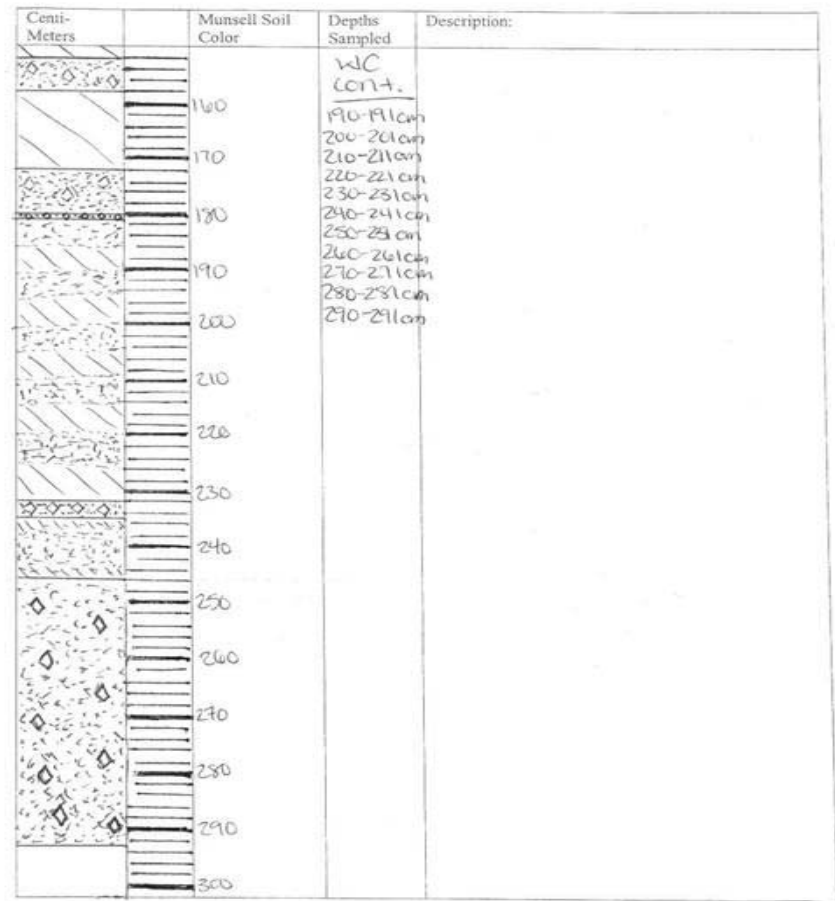


Figure A 83: Core log of 6C for depths 0-150 cm

Figure A 84: Core log of 6C for depths 150-293 cm

Core#: 6C
 Core Date: 07/08/2005

Date Split/subsampled	Length: 293 cm
10/18/2005	Lat: 29 15.642
	Long: 94 48.1057



Line 6 Site C

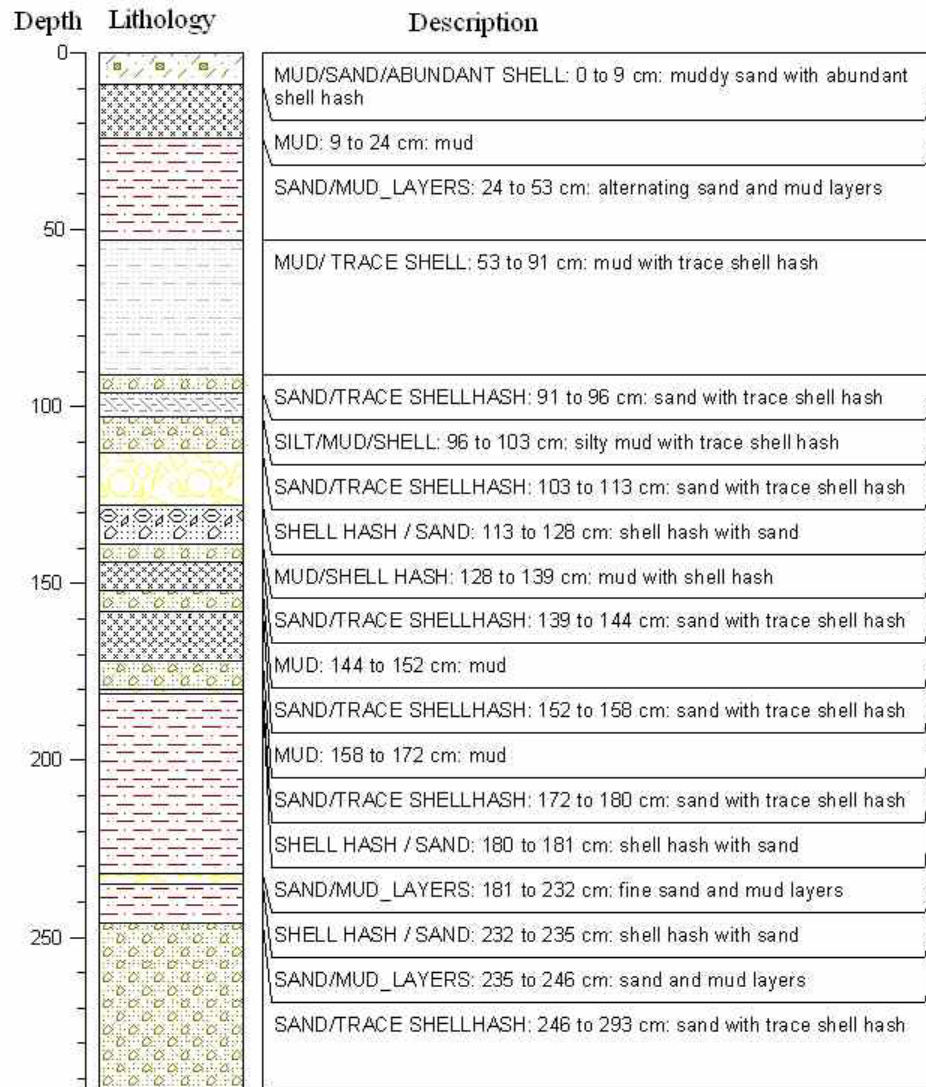


Figure A 85: Computer core log for 6C

Table A 57: Shell and sand weights for core 6C

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
6C	1-10	3.14	17.49	2.71	20.20
6C	11-20	0.04	1.72	0.96	2.68
6C	31-40	0.04	8.62	4.64	13.26
6C	41-50	0.02	5.70	3.59	9.29
6C	51-60	0.01	3.08	1.61	4.69
6C	91-100	0.61	14.96	5.29	20.25
6C	101-110	0.67	25.05	3.30	28.35
6C	111-120	33.61	116.82	12.22	129.04
6C	131-140	6.04	10.11	1.88	11.99
6C	145-154	0.02	1.41	0.30	1.71
6C	154-159	0.52	26.52	5.78	32.30
6C	159-170	0.01	3.00	1.08	4.08
6C	171-180	0.23	54.05	6.90	60.95
6C	181-190	1.34	41.62	3.33	44.95
6C	221-230	0.05	15.20	2.78	17.98
6C	231-235	2.94	32.34	7.87	40.21
6C	241-250	0.02	43.98	6.63	50.61
6C	261-270	0.38	101.14	8.73	109.87

Table A 58: Percent shell, sand, silt and clay for core 6C

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
6C	1-10	6.023403	38.749281	36.466526	18.76079
6C	11-20	0.2302821	15.4289	43.062752	41.278066
6C	31-40	0.0992556	32.903226	43.833747	23.163772
6C	41-50	0.0476929	22.153333	52.962919	24.836056
6C	51-60	0.0257036	12.055006	52.473975	35.445316
6C	91-100	0.4943875	16.412044	48.543178	34.550391
6C	101-110	1.2453532	52.695167	29.795539	16.263941
6C	111-120	18.474138	70.928379	6.6371681	3.9603144
6C	131-140	10.496133	20.835868	45.112521	23.555478
6C	145-154	0.0569233	4.8669418	58.317917	36.758218
6C	154-159	0.8385744	52.088373	33.107563	13.965489
6C	159-170	0.016975	6.925819	62.867085	30.190121
6C	171-180	0.1429637	37.88538	43.442317	18.529339
6C	181-190	1.4831212	49.750968	36.070836	12.695075
6C	221-230	0.0446688	16.062894	52.025729	31.866708
6C	231-235	3.0284302	41.419448	42.382571	13.169551
6C	241-250	0.0178971	45.288591	36.340045	18.353468
6C	261-270	0.3057735	88.408771	8.4650976	2.8203581

Table A 59: RO-TAP data for core 6C

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
6C	1-10						3.14					17.49	2.71
6C	11-20						0.04					1.72	0.96
6C	31-40						0.04					8.62	4.64
6C	41-50						0.02					5.70	3.59
6C	51-60						0.01					3.08	1.61
6C	91-100						0.61					14.96	5.29
6C	101-110						0.67					25.05	3.30
6C	111-120	24.55	3.23	2.94	1.53	0.87	0.49	0.37	0.85	37.05	67.04	11.51	12.22
6C	131-140						6.04					10.11	1.88
6C	145-154						0.02					1.41	0.30
6C	154-159						0.52					26.52	5.78
6C	159-170						0.01					3.00	1.08
6C	171-180	0.06	0.01	0.02	0.04	0.03	0.07	0.11	0.42	18.27	24.03	11.22	6.90
6C	181-190						1.34					41.62	3.33
6C	221-230						0.05					15.20	2.78
6C	231-235						2.94					32.34	7.87
6C	241-250						0.02					43.98	6.63
6C	261-270	0.00	0.02	0.05	0.04	0.10	0.17	0.18	0.22	1.78	84.04	14.92	8.73

Table A 60: Percent finer data for core 6C

ASTM Classification		coarse sand	medium sand	medium sand	medium sand	medium sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt
Wentworth Classification		granule	very coarse sand	very coarse sand	coarse sand	coarse sand	medium sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.4mm/ -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm / 3.5Φ Screen	% finer than N200/ 75µm / 3.75Φ Screen	% finer than N230/ 63µm/ 4.0Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
6C	1-10						92.6					51.3	44.9	23.1
6C	11-20						99.6					82.7	73.3	70.3
6C	31-40						99.9					72.0	57.0	30.1
6C	41-50						99.9					81.9	70.5	33.0
6C	51-60						100.0					87.7	81.3	54.9
6C	91-100						99.2					80.7	74.2	52.8
6C	101-110						98.5					42.9	35.6	19.4
6C	111-120	85.9	84.1	82.4	81.5	81.0	80.8	80.6	80.1	58.9	20.5	13.9	6.9	4.1
6C	131-140						86.3					63.3	59.0	30.8
6C	145-154						99.9					93.6	92.2	58.1
6C	154-159						99.0					49.3	38.5	16.2
6C	159-170						100.0					92.7	90.1	43.2
6C	171-180	100.0	99.9	99.9	99.9	99.9	99.8	99.7	99.4	85.5	67.1	58.6	53.3	22.7
6C	181-190						98.3					45.5	41.3	14.5
6C	221-230						99.9					80.0	76.4	46.8
6C	231-235						96.5					58.1	48.8	15.2
6C	241-250						100.0					51.8	44.5	22.5
6C	261-270						99.7					15.9	8.7	2.9

Table A 61: Folkian statistic data for core 6C

Core ID	Sample Depth (cm)	Median Grain Size (Φ)	Median Grain Size (mm)	Mean Grain Size (Φ)	Mean Grain Size (mm)	Skewness	Sorting Index
6C	1-10						
6C	11-20						
6C	31-40						
6C	41-50						
6C	51-60						
6C	91-100						
6C	101-110						
6C	111-120	3.110	0.1153	2.1091	0.2311	-0.6915	1.8406
6C	131-140						
6C	145-154						
6C	154-159						
6C	159-170						
6C	171-180	4.201	0.0540	5.7233	0.0187	0.6820	3.2325
6C	181-190						
6C	221-230						
6C	231-235						
6C	241-250						
6C	261-270	3.334	0.0987	3.4001	0.0943	0.3835	0.3257

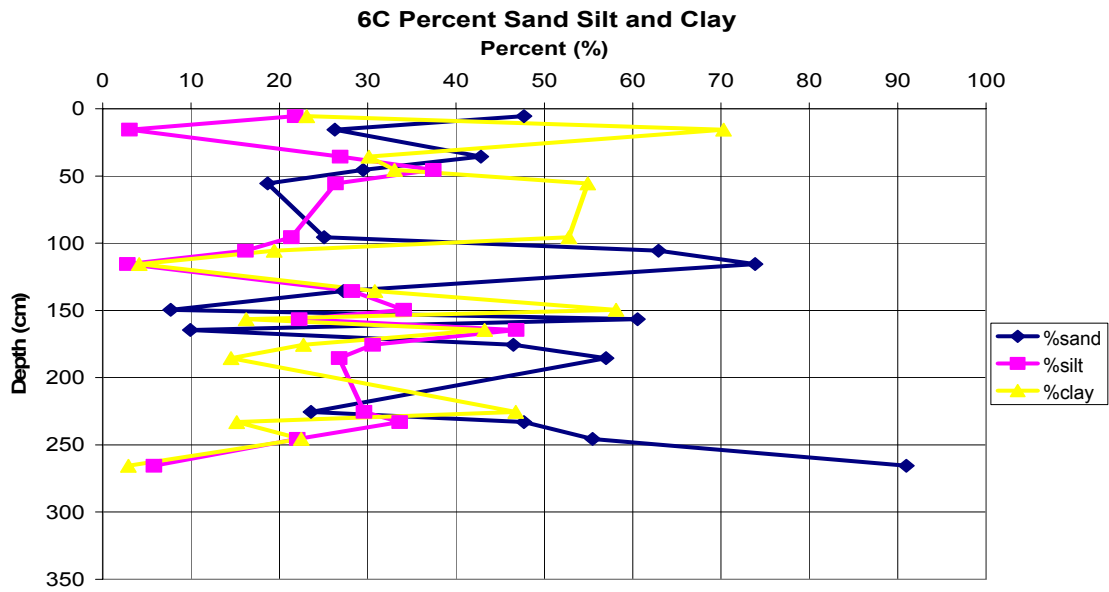


Figure A 86: Percent sand, silt and clay graph for core 6C

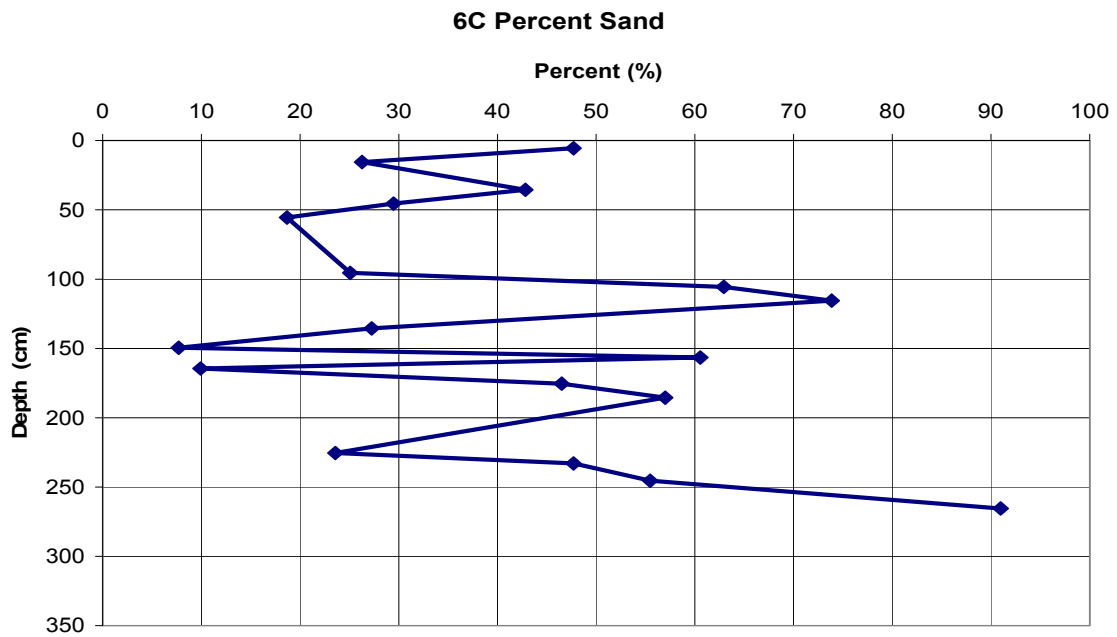


Figure A 87: Percent sand graph for core 6C

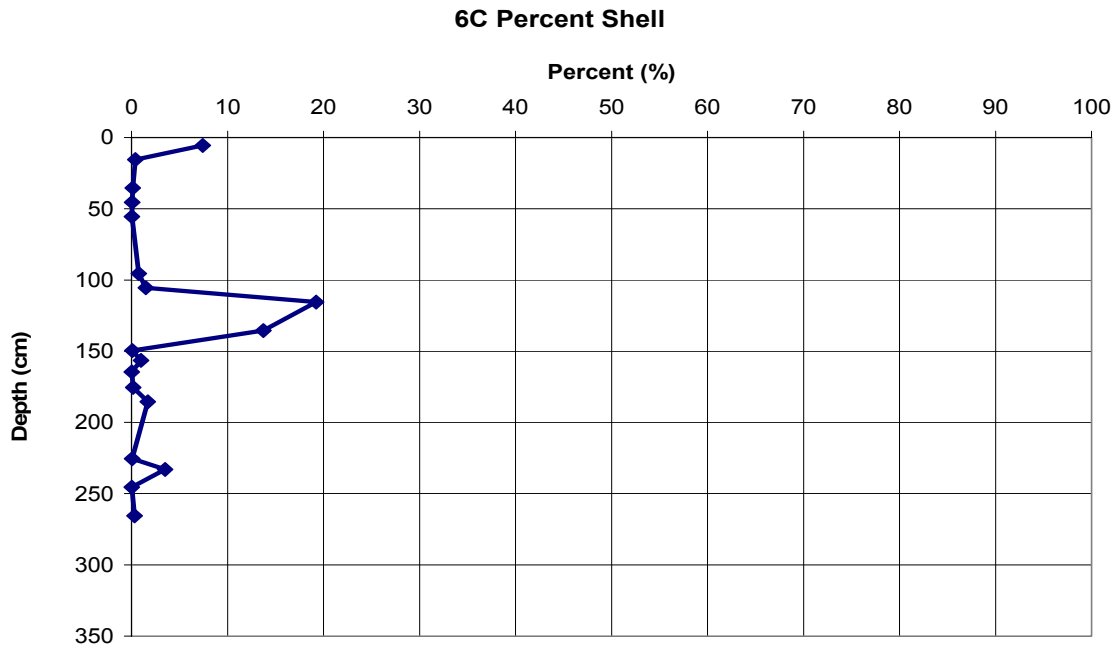


Figure A 88: Percent shell graph for core 6C

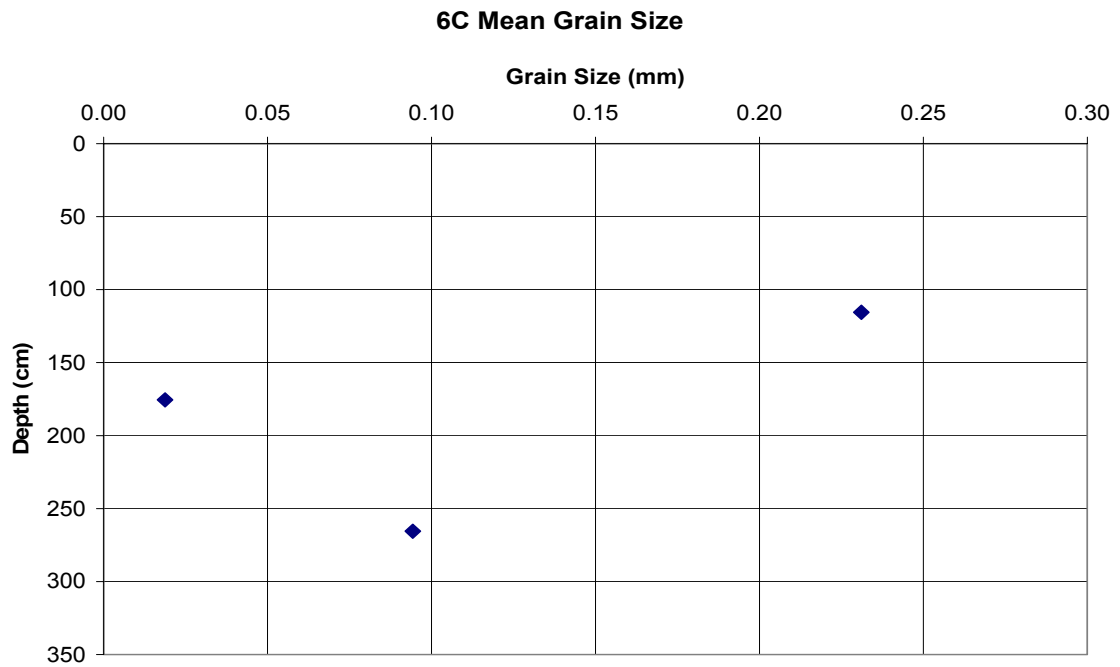


Figure A 89: Mean grain size graph for core 6C

APPENDIX B

JAMAICA BEACH SEDIMENT CORES

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Results:

A total of 14 sediment cores were collected in the west section. Each core was cut lengthwise, photographed, and processed according to ASTM standards. There were a total of 157 grain size samples collected with samples collected at the top and bottom of each lithologic interval in each core.

Core 8D:

Core 8D was taken at a water depth of 9.7 m (31 ft) (Table B1) and had a total length of 332 cm (131 in) (Figures B 1-6). A total of 8 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 51-60 cm (20-23.6 in), 101-110 cm (39.3-49.8 in), 150-160 cm (59.4-63 in), 200-210 cm (78.7-82.7 in), 240-250 cm (94.5-98.4 in), 250-260 cm (98.4-102.4 in), and 300-310 cm (118.1-122 in). This revealed that the upper 60 cm (23.6 in) ranged from 35 to 60% sand and had a mean grain size ranging from 0.009 mm (6.8 Φ) to 0.006 mm (4.1 Φ). Depths of 51 to 150 cm (20 to 59.5 in) contained sand ranging from 60 to 36% and a mean grain size ranging from 0.006 mm (4.1 Φ) to 0.015 mm (6.0 Φ). From depths of 150 to 210 cm (59.5 to 82.7 in) there is an increase in sand percentages from 36% to 85% and an increase in mean grain size from 0.015 mm (6.0 Φ) to 0.088 mm (3.5 Φ). From depths of 210 to 250cm (82.7 to 98.4 in) there is a decrease in the percent sand from 85% to 8% and then an increase in percent sand from 250 cm (98.4 in) to the bottom of the core, from 8% to 25% sand (Tables B 4&5). Sand and shell weights are shown in Table B 3. Percent sand, silt, and clay are shown in Table B 4. Median grain size, mean grain size, skewness, and sorting index are shown in Table B 5. Graphs of the results are located in Figures B 6-9.

It was determined that core 8D had approximately 100 cm (39.4 in) of sediment containing at least 50% sand of which 45 cm (17.7 in) was located at less than 1 m (3.28 ft) depth.

Core 11A:

Core 11A was collected in water with a depth of 4.7 m (15.5 ft) (Table B 1) and was 226 cm (90 in) long (Figures B 10-13). A total of 9 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 51-60 cm (20-23.6 in), 61-70 cm (24-27.6 in), 71-80 cm (28-31.5 in), 101-110 cm (39.3-49.8 in), 131-140 cm (51.6-55.1 in), 151-160 cm (59.4-63 in), 181-190 cm (71.3-74.8 in), and 201-210 cm (78.7-82.7 in). The grain size analyses revealed that the top 60 cm (23.6 in) of the core contained between 58% to 94% sand with a mean grain size ranging from 0.150 mm (2.7 Φ) to 0.055 mm (4.1 Φ). From 60 cm (23.6 in) to the bottom of the core, percent sand was over 83% and mean grain size was at least 0.031 mm (5.0 Φ) (Tables B 8&9). Sand and shell weights are shown in Table B 7. Percent shell, sand, silt and clay are shown in Table B 8. Median grain size, mean grain size, skewness, and sorting index are shown in Table B 9. Graphs of the results are located in Figures B 14-17.

It was determined that core 11A had approximately 226 cm (90 in) of sediment that contained at least 50% sand of which 100 cm (39.4 in) was located at less than 1 m (39.4 in) depth.

Core 12A:

Core 12A was taken at a water depth of 4.9 m (16 ft) (Table B 1) and had a total length of 208 cm (81.9 in) (Figures B 20-22). A total of 8 grain size samples were taken

at depths of 1-5 cm (0.4-2 in), 5-10 cm (2-3.9 in), 31-40 cm (12.2-15.7 in), 51-60 cm (20-23.6 in), 101-110 cm (39.3-49.8 in), 131-134 cm (51.6-52.8 in), 151-160 cm (59.4-63 in), and 201-210 cm (78.7-82.7 in). The core contained mostly sand with some shell hash and grain size analyses revealed that the entire core had at least 86% sand and a mean grain size of at least 0.094 mm (3.4 Φ) (Tables B 12&13). Sand and shell weights are shown in Table B 11. Percent sand, silt, and clay are shown in Table B 12. Median grain size, mean grain size, skewness, and sorting index are shown in Table B 13. Graphs of the results are located in Figures B 23-26.

It was determined that core 11A had approximately 208 cm (81.9 in) of sediment containing at least 50% sand of which 100 cm (39.4 in) was located shallower than 1 m (39.4 in) depth.

Core 12B:

Core 12B was taken at a water depth of 5.9 m (19.2 ft) (Table B 1) and had a total length of 241 cm (94.9 in) (Figures B 27-29). A total of 11 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 81-90 cm (31.9-35.4 in), 91-100 cm (35.8-39.4 in), 101-110 cm (39.3-49.8 in), 115-120 cm (45.3-47.2 in), 121-127 cm (47.6-50 in), 127-130 cm (50-51.2 in), 131-140 cm (51.6-55.1 in), 191-200 cm (75.2-78.7 in), 201-210 cm (78.7-82.7 in) and 231-240 cm (90.9-94.5 in). The top 90 cm (35.4 in) of the core contained sandy sediment which had a percent sand of over 90% and mean grain size of at least 0.093 mm (3.4 Φ). Below this depth sand percent dropped to almost 0% at a depth of 120 cm (47.2 in) when clayey sediment was encountered. At a depth of approximately 125 cm to 200 cm (49.2 to 78.7 in) another sandy layer was observed,

percent sand in this region was above 71% and had a mean grain size of at least 0.076 mm (3.7 Φ). At the bottom of the core another clayey region was encountered and sand percents dropped to below 20% (Tables B 16 & 17). Sand and shell weights are shown in Table B 15. Percent sand, silt, and clay are shown in Table B 16. Median grain size, mean grain size, skewness, and sorting index are shown in Table B 17. Graphs of the results are located in Figures B 30-33.

It was determined that core 12B had approximately 185 cm (72.8 in) of sediment containing at least 50% sand, of which 100 cm (39.4 in) was located shallower than 1 m (39.4 in) depth.

Core 12C:

Core 12C was taken at a water depth of 7.9 m (25.9 ft.) (Table B 1) and had a total length of 144 cm (43.8 in) (Figures B 34 & 35). A total of 9 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 11-21 cm (4.3- 8.3 in), 21-30 cm (8.3-11.8 in), 31-40 cm (12.2-15.7 in), 41-50 cm (16.1-19.7 in), 51-60 cm (20-23.6 in), 61-65 cm (24-25.6 in), 65-70 cm (25.6-27.6 in), and 101-110 cm (39.3-49.8 in). The top of this core down to approximately 65cm (25.6 in) contained a mud with sand laminations and had percent sand decreasing from 90 to 18%. At the bottom of the core there was an observed sand layer from approximately 70 to 101 cm (27.6 to 39.3 in) which had above 84% (Tables B 18-21). Sand and shell weights are shown in Table B 19. Percent sand, silt, and clay are shown in Table B 20. Median grain size, mean grain size, skewness, and sorting index are shown in Table B 21. Graphs of the results are located in Figures B 36-39.

It was determined that core 12C had approximately 60 cm (23.6 in) of sediment containing at least 50% sand of which 50 cm (19.7 in) was located shallower than 1 m (39.4 in) depth.

Core 12D:

Core 12D was taken at a water depth of 9 m (29.7 ft) (Table B 1) and had a total length of 273 cm (107.5 in) (Figures B 40-42). A total of 14 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 51-54 cm (20-22.3 in), 54-60 cm (22.3-23.6 in), 71-80 cm (28-31.5 in), 81-90 cm (31.9- 35.4 in) , 121-124 cm (47.6-48.8 in), 124-130 cm (48.4-51.2 in), 151-160 cm (59.4-63 in), 161-170 cm (63.3-67 in), 171-180 cm (67.3-70.9 in), 181-190 cm (71.3-74.8 in), 191-200 cm (75.2-78.7 in) , 251-260 cm (98.8-102.4 in) and 271-273 cm (106.7-107.5 in). Core 12D contained many fine layers of muddy sands, sandy muds, and clays. Its overall percent sand remained below 74% and was mostly below 50% sand; and had a mean grain size of less than 0.0221 mm (5.5 Φ) (Tables B 24 & 25). Sand and shell weights are shown in Table B 23. Percent sand, silt, and clay are shown in Table B 24. Median grain size, mean grain size, skewness, and sorting index are shown in Table B 25. Graphs of the results are located in Figures B 43-46.

It was determined that core 12D had approximately 30 cm (11.8 in) of sediment containing at least 50% sand of which 25 cm (9.8 in) was located shallower than 1 m (39.4 in) depth.

Core 13A:

Core 13A was taken at a water depth of 4.76 m (15 ft) (Table B 1) and had a total length of 318 cm (125.2 in) (Figures B 49-52). A total of 11 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 31-40 cm (12.2-15.7 in), 91-100 cm (35.8-39.4 in), 141-150 cm (55.1-59.1 in), 151-160 cm (59.4-63 in), 201-206 cm (78.7-81.1 in), 211-220 cm (83.1-86.6 in), 244-250 cm (96.1-98.4 in), 251-260 cm (98.8-102.4 in), and 311-320 cm (122.4-126 in). The top 210 cm (82.7 in) was observed to be sand, and contained at least 88% sand and had a mean grain size 0.093 mm (3.4 Φ). From depths of 210 cm (82.7 in) to 320 cm (126 in) there was a decrease and then an increase in percent sand ranging from 11% to 94% (Tables B 28&29). Sand and shell weights are shown in Table B 27. Percent sand, silt, and clay are shown in Table B 28. Median grain size, mean grain size, skewness, and sorting index are shown in Table B 29. Graphs of the results are located in Figures B 53-56.

It was determined that core 13A had approximately 268 cm (105.5 in) of sediment containing at least 50% sand of which 100 cm (39.4 in) was located shallower than 1 m (39.4 in) depth.

Core 13B:

Core 13B was taken at a water depth of 6.1 m (20 ft) (Table B 1) and had a total length of 240 cm (94.5 in) (Figures B 57-59). A total of 9 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 11-20 cm (4.3- 8.3 in) , 101-110 cm (39.3-49.8 in), 131-136 cm (51.6-53.5 in), 136-140 cm (53.5-55.1 in), 164-170 cm (64.6-66.9 in), 201-210 cm (78.7-82.7 in), 220-230 cm (86.6-90.5 in) and 231-240 cm (90.9-94.5 in). The

grain size analyses revealed that the top 136 cm (53.5 in) of the core contained at least 90% sand and had a mean grain size of no less than 0.09 mm (3.4 Φ) (Tables B 32&33). Sand and shell weights are shown in Table B 31. Percent sand, silt, and clay are shown in Table B 32. Median grain size, mean grain size, skewness, and sorting index are shown in Table B 33. Graphs of the results are located in Figures B 60-63.

It was determined that core 13B had approximately 150 cm (59.1 in) of sediment containing at least 50% sand of which 100 cm (39.4 in) was located shallower than 1 m (39.4 in) depth.

Core 13C:

Core 13C was and taken at a water depth of 7.6m (25 ft) (Table B 1) and had a total length of 318 cm (125.2 in) (Figures B 64-67). A total of 22 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 11-20 cm (4.3- 8.3 in) , 21-30 cm (8.3-11.8 in), 31-40 cm (12.2 15.7 in), 41-50 cm (16.1-19.7 in), 51-60 cm (20-23.6 in), 61-70 cm (24-27.6 in), 71-80 cm (28-31.5 in), 81-90 cm (31.9- 35.4 in), 91-100 cm (35.8-39.4 in), 101-111 cm (39.3-43.7 in), 121-130 cm (47.6-51.2 in), 141-150 cm (55.1-59.1 in), 151-160 cm (59.4-63 in), 171-180 cm (67.3-70.9 in), 201-210 cm (78.7-82.7 in), 241-250 cm (94.8-98.4 in), 251-260 cm (98.8-102.4 in), 271-280 cm (106.7-110.2 in), 281-290 cm (110.6-114.2 in), 301-310 cm (118.5-122 in). Core 13C contained many layers of sand, muddy sands, sandy muds and clays. Its overall percent sand varied greatly through out the core ranging from 96% to 20% sand and had a mean grain size that varied similarly (Tables B 36 & 37). Sand and shell weights are shown in Table B 35. Percent sand, silt, and clay are shown in Table B 36. Median grain size, mean grain size, skewness, and

sorting index are shown in Table B 37. Graphs of the results are located in Figures B 68-71.

It was determined that core 13C had approximately 165 cm (65 in) of sediment containing at least 50% sand, of which 70 cm (27.6 in) was located shallower than 1 m (39.4 in) depth.

Core 13D:

Core 13D was taken at a water depth of 9.4 m (31 ft) (Table B 1) and had a total length of 322 cm (126.8 in) (Figures B 72-75). A total of 13 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 21-30 cm (8.3-11.8 in), 51-60 cm (20-23.6 in), 71-80 cm (28-31.5 in), 91-100 cm (35.8-39.4 in), 101-106 cm (39.3-41.7 in), 106-110 cm (41.7-43.3 in), 111-120 cm (43.7-47.2 in), 161-170 cm (63.3-67 in), 201-210 cm (78.7-82.7 in), 210-220 cm (82.7-86.7 in), 261-270 cm (102.8-106.3 in) and 311-320 cm (122.4-126 in). Grain size analyses revealed that the entire length of the core contained less than 50% sand (Table B 40). Sand and shell weights are shown in Table B 39. Percent sand, silt, and clay are shown in Table B 40. Median grain size, mean grain size, skewness, and sorting index are shown in Table B 41. Graphs of the results are located in Figures B 76-79.

It was determined that core 13D had no sediment containing more than 50% sand.

Core 14B:

Core 14B was and taken at a water depth of 6.7 m (22.1 ft) (Table B 1) and had a total length of 317 cm (124.8 in) (Figures B 82-85). A total of 15 grain size samples

were taken at depths of 1-10 cm (0.4-3.9 in), 51-60 cm (20-23.6 in), 101-110 cm (39.3-43.3 in), 151-160 cm (59.4-63 in), 191-200 cm (75.2-78.7 in), 201-210 cm (63.3-67 in), 211-220 cm (83.1-86.7 in), 231-240 cm (90.9-94.5 in), 241-250 cm 94.8-98.4 in), 251-260 cm (98.8-102.4 in), 261-270 cm (102.8-106.3 in), 281-289 cm (110.6-113.8 in), 289-295 cm (113.8-116.4 in), 296-300 cm (116.5-118.1 in), 311-316 cm (122.4-124.4 in). Data from core 14B showed a large sand layer at a depth from 0-200 cm (0-78.7 in), which had over 90% sand content with a mean grain size of no less than 0.09 mm (3.4 Φ). From 200 cm (78.7 in) through the bottom of the core there are varying amounts of sand ranging from 27 to 87% (Tables B 44 & 45). Sand and shell weights are shown in Table B 43. Percent sand, silt, and clay are shown in Table B 44. Median grain size, mean grain size, skewness, and sorting index are shown in Table B 45. Graphs of the results are located in Figures B 86-89.

It was determined that core 14B had approximately 286 cm (112.6 in) of sediment containing at least 50% sand, of which 100 cm (39.4 in) was located shallower than 1 m (39.4 in) depth.

Core 14C:

Core 14C was taken at a water depth of 7.9 m (26 ft) (Table B 1) and had a length of 217 cm (85.4 in) (Figures B 90-92). A total of 13 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 21-24 cm (8.3-9.4 in), 24-34 cm (9.4-13.4 in), 34-40 cm (13.4-15.7 in), 71-80 cm (28-31.5 in), 81-90 cm (31.9- 35.4 in), 101-110 cm (39.3-43.3 in), 121-130 cm (47.6-51.2 in), 131-140 cm (51.6-55.1 in), 141-145 cm (55.5-57.1 in), 161-170 cm (63.3-67 in), 171-180 cm (67.3-70.9 in) and 181-190 cm (71.3-74.8

in) Core 14C observations showed that the core was composed of a mixture of sand, muds, and clays, with a large range in percent sand throughout the core. Percent sand ranged from 58% at the top of the core, to 90% midway down the core to 1% at the very bottom of the core, with much variation between (Table B 48). Sand and shell weights are shown in Table B 47. Percent sand, silt, and clay are shown in Table B 48. Median grain size, mean grain size, skewness, and sorting index are shown in Table B 49. Graphs of the results are located in Figures B 93-96.

It was determined that core 14C had approximately 125 cm (49.2 in) of sediment containing at least 50% sand, of which 55 cm (21.7 in) was located shallower than 1 m (39.4 in) depth.

Core 14D:

Core 14D was taken at a water depth of 8.5 m (28 ft) (Table B 1) and had a total length of 138 cm (54.3 in) (Figures B 97-98). A total of 8 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 21-30 cm (8.3-11.8 in), 31-40 cm (12.2-15.7 in), 51-58 cm (20.1-22.8 in), 61-70 cm (28-31.5 in), 91-100 cm (35.8-39.4 in), 101-110 cm (39.3-43.3 in) and 121-130 cm (47.6-51.2 in). Analyses from the core revealed that there was a sandy mud layer for the first 57 cm (22.4 in) of the core with a sand content less than 50%. From 57 cm (22.4 in) to 86 cm (33.9 in) there is a sand layer with sand content of up to 80% and a mean grain size greater than 0.05 mm (4.3 Φ). At the bottom of the core there is a muddy layer with sand content less than 60% (Tables B 52 & 53). Sand and shell weights are shown in Table B 51. Percent sand, silt, and clay are shown in Table B

52. Median grain size, mean grain size, skewness, and sorting index are shown in Table B 53. Graphs of the results are located in Figures B 99-102.

It was determined that core 14D had approximately 60 cm (23.6 in) of sediment containing at least 50% sand, of which 50 cm (19.7 in) was located shallower than 1m (39.4 in) depth.

Core 14E:

Core 14E was and taken at a water depth of 9.8 m (32 ft) (Table B 1) and had a total length of 75 cm (29.5 in) (Figures B 103-104). A total of 7 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 21-30 cm (8.3-11.8 in), 31-40 cm (12.2 15.7 in), 45-50 cm (17.7-19.7 in), 61-63 cm (28-24.8 in), 63-67 cm (24.8-26.4 in) and 73-75 cm (28.7-29.5 in). This core was composed of mostly sandy muds with a sand content of less than 70% for the entire length of the core (Table B 56). Sand and shell weights are shown in Table B 55. Percent sand, silt, and clay are shown in Table B 56. Median grain size, mean grain size, skewness, and sorting index are shown in Table B 57. Graphs of the results are located in Figures B 105-106.

It was determined that core 14E had approximately 20 cm (7.9 in) of sediment containing at least 50% sand, of which 20 cm (7.9 in) was located shallower than 1 m (39.4 in) depth.

Figure B 1: Core locations

Core ID	Latitude	Longitude	Depth	Time	Core Length
8D	29'13.945 N	94'50.377 W	9.45 m (31 ft)	2:42 PM	332 cm (131 in)
11A	29'12.984 N	94'54.073 W	4.72 m (15.5 ft)	10:50 AM	226 cm (90 in)
12A	29'12.472 N	94'54.963 W	4.88 m (16 ft)	6:45 AM	208 cm (81.9 in)
12B	29'12.340 N	94'54.899 W	5.85 m (19.2 ft)	7:30 AM	241 cm (94.9in)
12C	29'12.125 N	94'54.123 W	7.80m (25.9 ft)	8:35 AM	144 cm (43.8 in)
12D	29'11.766 N	94'54.676 W	9.05 m (29.7 ft)	9:35 AM	273 cm (107.5 in)
13A	29'11.773 N	94'56.078 W	4.57 m (15 ft)	5:30 AM	318 cm (125.2 in)
13B	29'11.637 N	94'55.989 W	6.1 m (20 ft)	4:37 AM	240 cm (94.5 in)
13C	29'11.488 N	94'55.800 W	7.62 m (25 ft)	3:49 AM	318 cm (125.2 in)
13D	29'10.845 N	94'55.416 W	9.45 m (31 ft)	2:30 AM	322 cm (126.8 in)
14B	29'11.04 N	94'56.970 W	6.74 m (22.1 ft)	4:45 PM	317 cm (124.8 in)
14C	29'10.863 N	94'56.843 W	7.92 m (26 ft)	6:00 PM	217 cm (85.4 in)
14D	29'10.667 N	94'56.778 W	8.53m (28 ft)	7:35 PM	138 cm (54.3 in)
14E	29'10.143 N	94' 56.490 W	9.75 m (32 ft)	9:00 PM	75 cm (29.5 in)

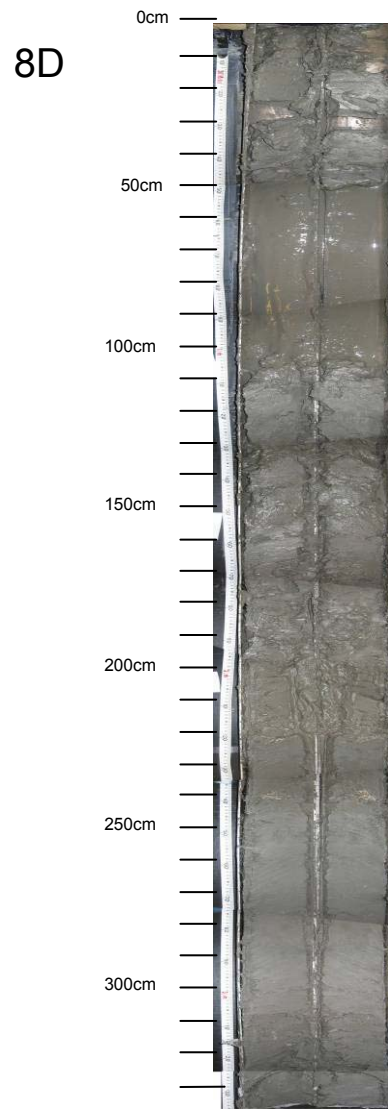


Figure B 2: Core photograph of 8D

Core#: 8D
 Core Date: 7/8/2005

Date Split/subsampled	Length: 332cm
7/12/2005	Lat: 39 13.945
	Long: 94 50.371

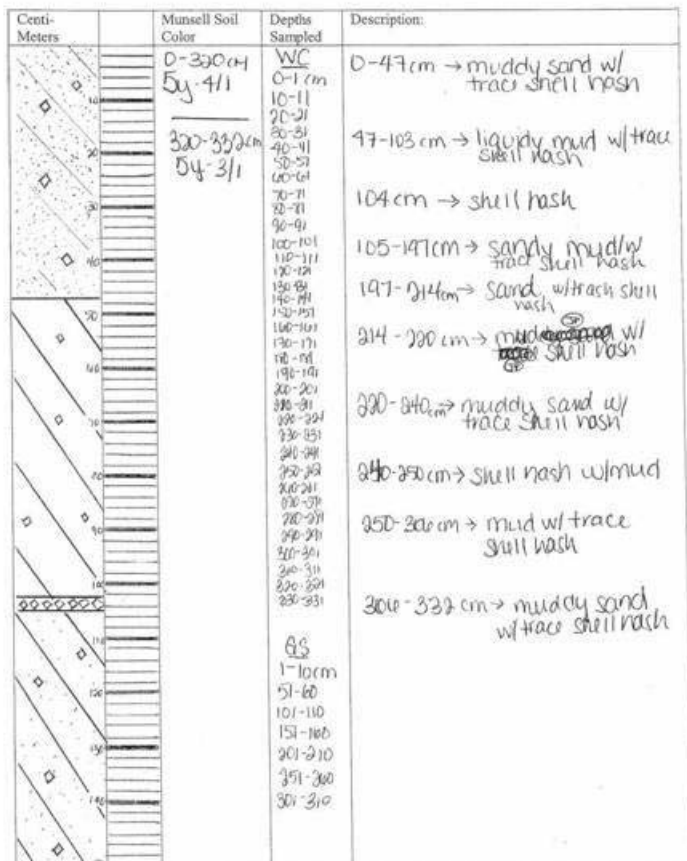
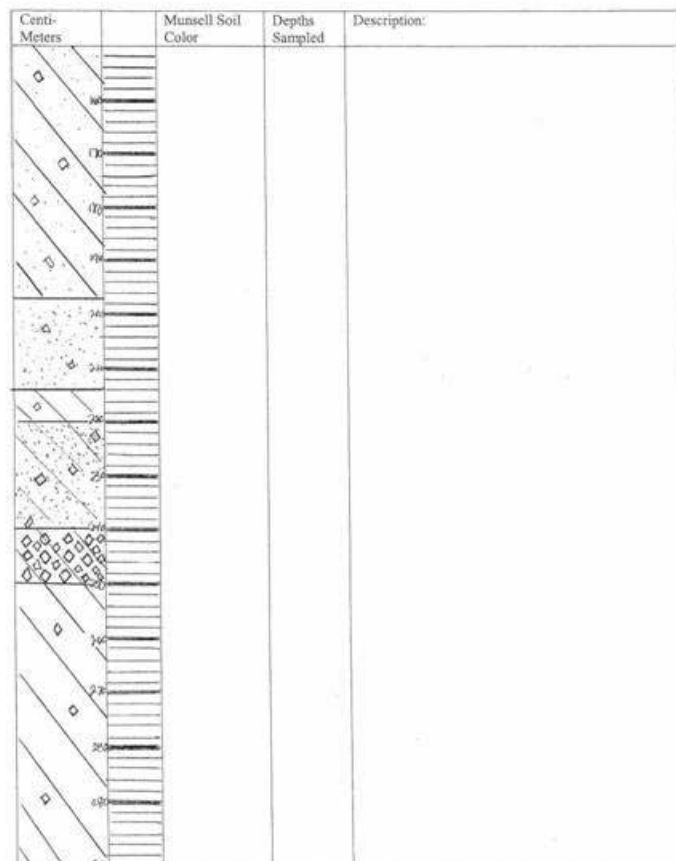


Figure B 3: Core log of 8D for 0-150 cm

Figure B 4: Core log of 8D for 150-300 cm

Core#: 8D
 Core Date: 7/8/2005

Date Split/subsampled	Length: 332cm
7/12/2005	Lat: 39 13.945
	Long: 94 50.371



Core#: 8D
 Core Date: 7/8/2005

Date Split/subsampled	Length: <u>332 CM</u>
<u>7/21/2005</u>	Lat: <u>94 13 945</u>
	Long: <u>94 50 378</u>

Line 8 Site D

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
300-332			

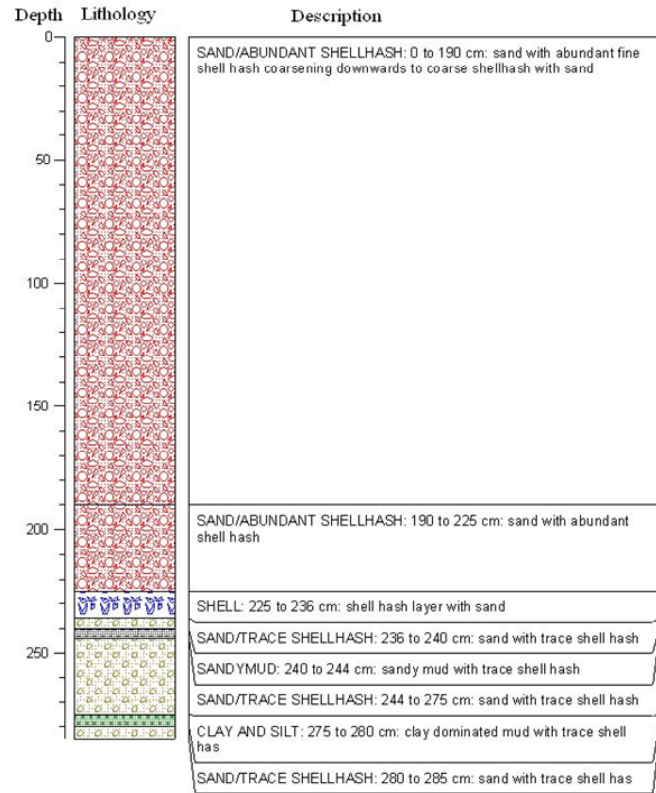


Figure B 5: Core log for 8D for depths 300-332 cm

Figure B 6: Computerized core log for 8D

Table B 1: Shell and sand weights for core 8D

Core ID	Sample Depth (cm)	shell weight	200+ weight	200-230 weight	total sand
8D	1-10		6.46	7.68	14.14
8D	51-60		16.81	7.52	24.33
8D	101-110		19.11	7.15	26.26
8D	150-160		10.79	4.41	15.20
8D	200-210	0.29	72.28	10.34	82.62
8D	240-250		2.20	1.75	3.95
8D	250-260		3.18	1.78	4.96
8D	300-310		6.19	2.96	9.15

Table B 2: Percent shell, sand, silt and clay for core 8D

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
8D	1-10		36.7	42.7	20.6
8D	51-60		59.8	25.4	14.8
8D	101-110		40.2	35.7	24.0
8D	150-160		36.5	39.9	23.6
8D	200-210	0.3	85.9	10.7	3.1
8D	240-250		8.2	61.3	30.5
8D	250-260		13.5	50.8	35.6
8D	300-310		25.7	44.7	29.7

Table B 3: RO-TAP data for core 8D

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
8D	1-10											6.46	7.68
8D	51-60											16.81	7.52
8D	101-110											19.11	7.15
8D	150-160											10.79	4.41
8D	200-210	0.01	0.06	0.05	0.06	0.05	0.06	0.12	0.22	2.33	54.37	15.24	10.34
8D	240-250											2.20	1.75
8D	250-260											3.18	1.78
8D	300-310											6.19	2.96

Table B 4: Percent finer data for core 8D

ASTM Classification		coarse sand	med. sand	med. sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt	
Wentworth Classification		granule	very coarse sand	very coarse sand	coarse sand	coarse sand	Med. sand	fine sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.40mm/ -0.5Φ Screen	% finer than N18/ 1.00mm/ 0.0Φ Screen	% finer than N25/ 710μm / 0.5Φ Screen	% finer than N35/ 500μm / 1.0Φ Screen	% finer than N45/ 355μm / 1.5Φ Screen	% finer than N60/ 250μm / 2.0Φ Screen	% finer than N80/ 180μm / 2.5 Φ Screen	% finer than N125/ 125μm / 3.0Φ Screen	% finer than N170/ 90μm/ 3.5Φ Screen	% finer than N200/ 75μm/ 3.75Φ Screen	% finer than N230/ 63μm/ 4.0Φ Screen	% finer than 4μm/ 8Φ	
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
8D	1-10											83.2	63.3	20.6	
8D	51-60											58.7	40.2	14.8	
8D	101-110											70.7	59.8	24.0	
8D	150-160											74.1	63.5	23.6	
8D	200-210	100.0	99.9	99.9	99.8	99.8	99.7	99.6	99.3	96.9	40.4	24.6	13.8	3.1	
8D	240-250											95.4	91.8	30.5	
8D	250-260											91.3	86.5	35.6	
8D	300-310											82.6	74.3	29.7	

Table B 5: Folkian statistic data

Station ID	Sample Depth	Median Grain Size	Median Grain Size	Mean grain size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(Φ)	(mm)	(Φ)	(mm)		
8D	1-10	4.188	0.5457	6.8044	0.0089	0.8884	3.6789
8D	51-60	3.828	0.0701	4.0802	0.0588	0.7824	1.7437
8D	101-110	4.592	0.0412	6.0500	0.0150	0.7321	2.9357
8D	150-160	4.756	0.0368	6.0478	0.1500	0.6823	2.8553
8D	200-210	3.41	0.0937	3.4975	0.0881	0.3495	0.3871
8D	240-250						
8D	250-260						
8D	300-310						

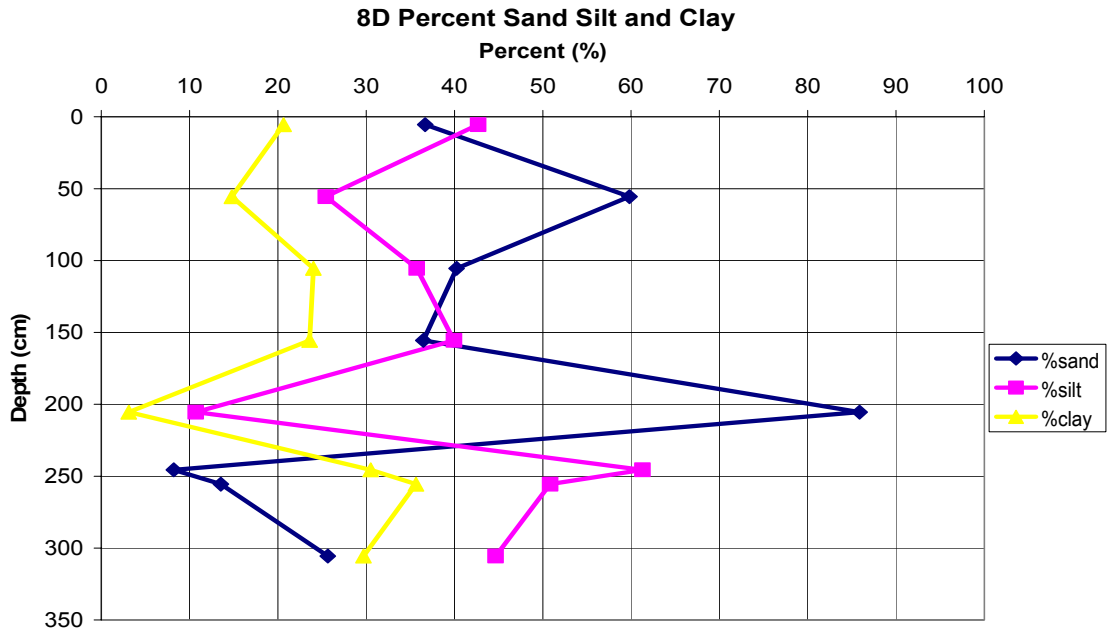


Figure B 7: Percent sand, silt and clay for core 8D

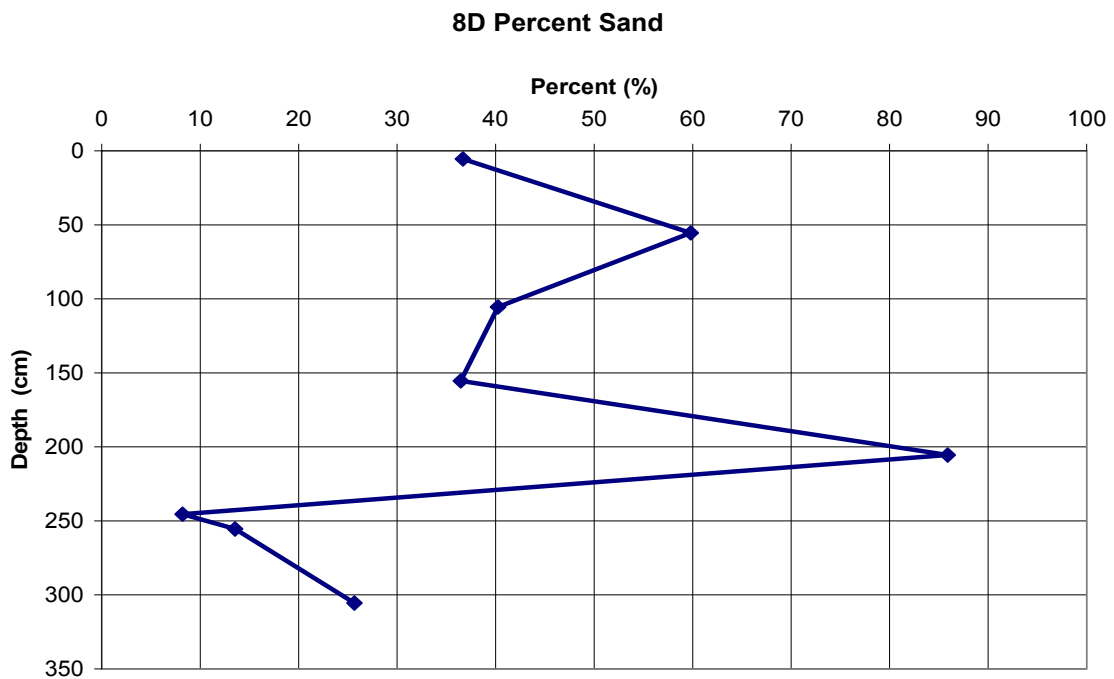


Figure B 8: Percent sand for core 8D

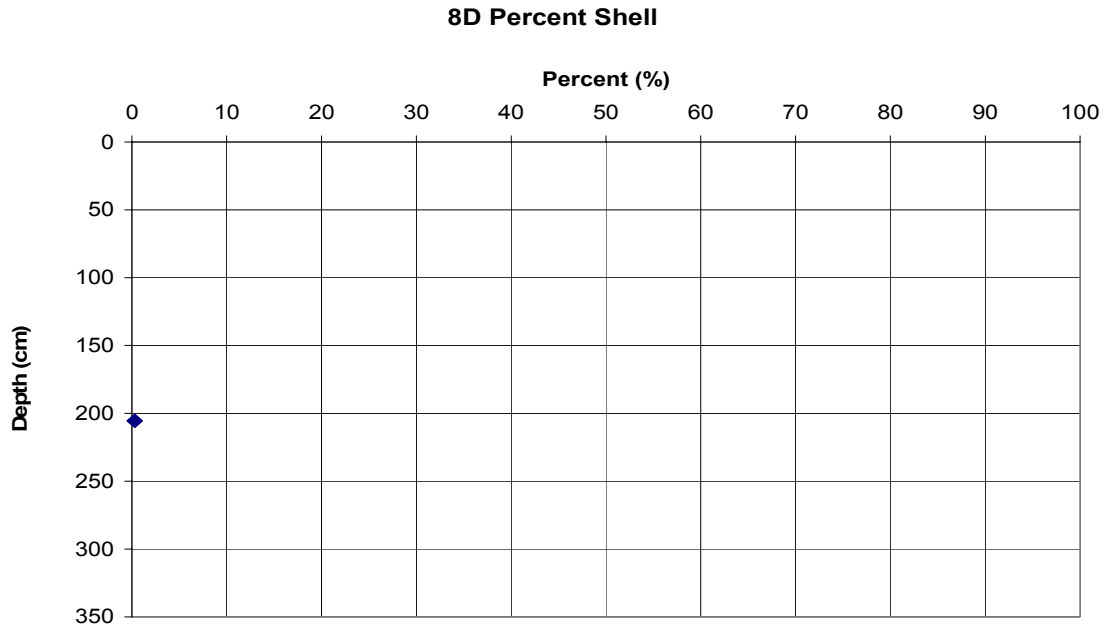


Figure B 9: Percent shell for core 8D

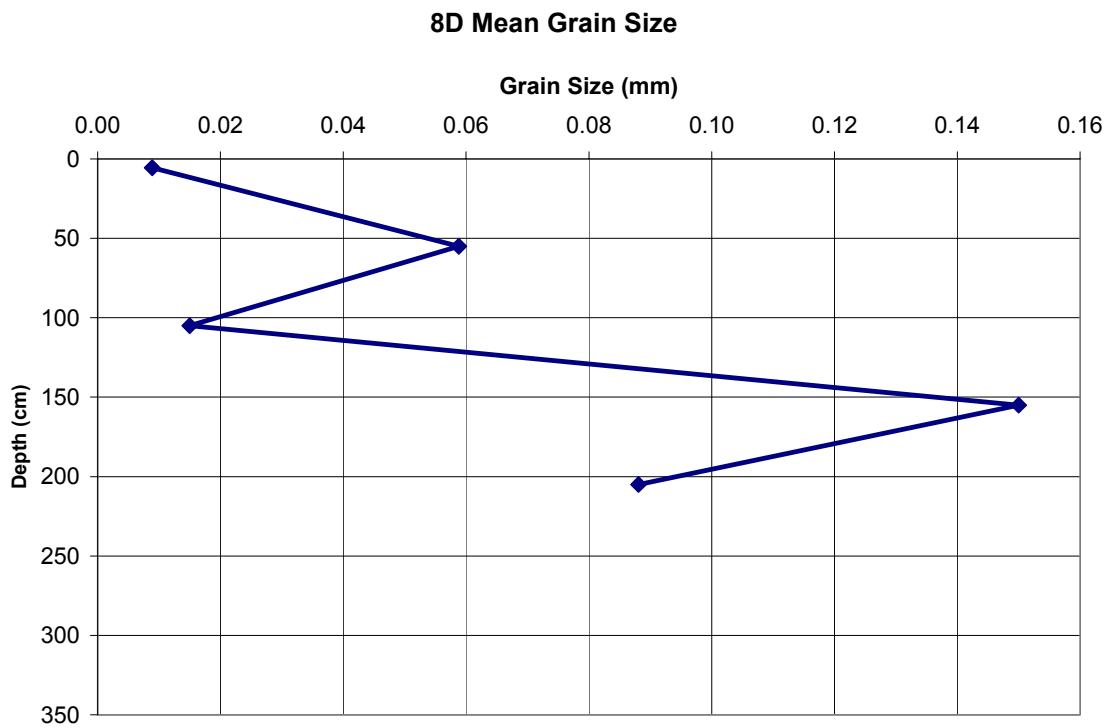


Figure B 10: Mean grain size for core 8D

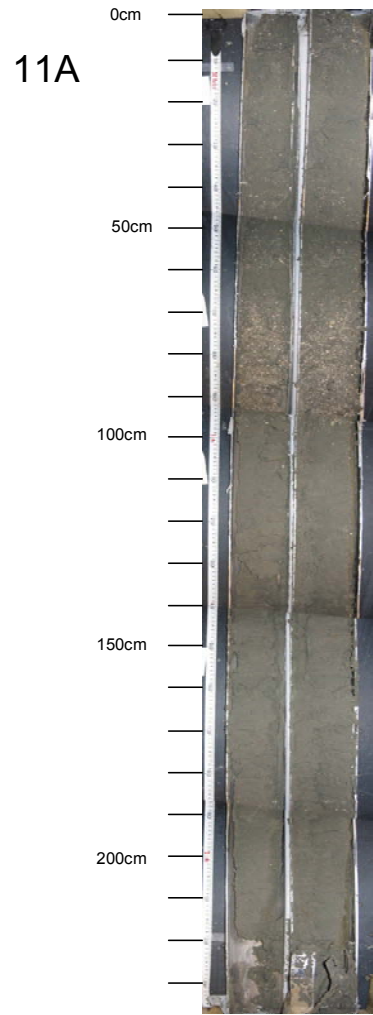


Figure B 11: Core photograph of 11A

Line 11 Site A

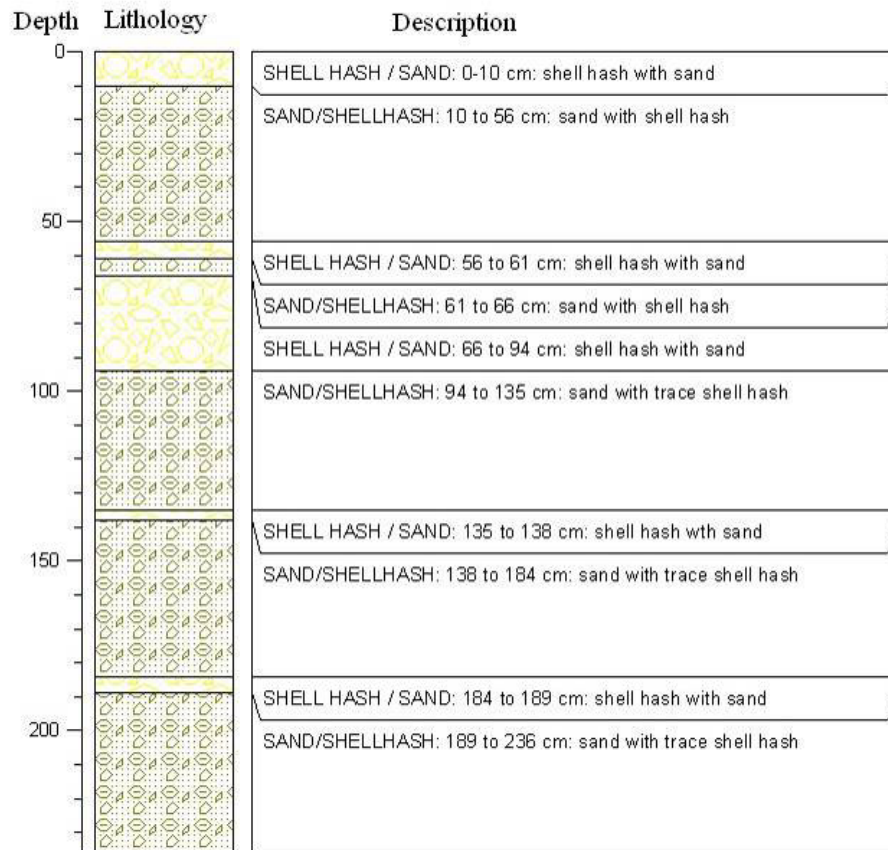


Figure B 14: Computerized core log for core 11A

Table B 6: Shell and sand weights for core 11A

Core ID	Sample Depth (cm)	shell weight	200+ weight	200-230 weight	total sand
11A	1-10	39.39	54.72	2.81	57.53
11A	51-60	3.55	104.21	2.94	107.15
11A	61-70	3.36	69.34	1.80	71.14
11A	71-80	11.16	65.26	1.88	67.14
11A	101-110	0.88	86.24	2.02	88.26
11A	131-140	0.56	76.29	3.24	79.53
11A	151-160	0.45	87.93	6.48	94.41
11A	181-190	0.80	86.03	3.13	89.16
11A	201-210	0.15	85.01	0.94	85.95

Table B 7: Percent shell, sand, silt and clay for core 11A

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
11A	1-10	39.8	58.2	0.8	1.2
11A	51-60	3.1	94.1	1.3	1.5
11A	61-70	4.3	90.8	3.4	1.5
11A	71-80	13.8	83.0	1.1	2.1
11A	101-110	0.9	91.3	4.5	3.3
11A	131-140	0.6	90.8	4.9	3.6
11A	151-160	0.5	96.1	1.9	1.6
11A	181-190	0.9	96.1	1.6	1.4
11A	201-210	0.2	98.6	1.2	0.0

Table B 8: RO-TAP data for core 11A

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
11A	1-10	36.71	0.96	0.69	0.56	0.23	0.24	0.31	0.48	3.67	36.49	13.77	2.81
11A	51-60	0.75	0.57	0.85	0.65	0.43	0.30	0.40	1.13	17.20	76.17	9.31	2.94
11A	61-70	0.89	0.86	0.64	0.48	0.25	0.24	0.30	0.77	14.17	47.01	7.09	1.80
11A	71-80	4.50	2.79	1.65	1.24	0.61	0.37	0.33	0.94	8.44	44.91	10.64	1.88
11A	101-110	0.18	0.11	0.12	0.14	0.15	0.18	0.37	0.44	14.34	64.47	6.62	2.02
11A	131-140	0.12	0.10	0.11	0.10	0.07	0.06	0.10	0.48	8.86	54.91	11.94	3.24
11A	151-160	0.00	0.02	0.03	0.09	0.11	0.20	0.20	0.43	13.30	61.00	13.00	6.48
11A	181-190	0.15	0.16	0.16	0.12	0.07	0.14	0.21	0.46	10.58	62.88	11.90	3.13
11A	201-210	0.00	0.01	0.02	0.03	0.04	0.05	0.14	0.60	73.59	9.40	1.28	0.94

Table B 9: Percent finer data for core 11A

ASTM Classification	coarse sand	med. sand	med. sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt	
Wentworth Classification	granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt	
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.40mm/- 0.5Φ Screen	% finer than N18/ 1.00mm/ 0.0Φ Screen	% finer than N25/ 710µm / 0.5Φ Screen	% finer than N35/ 500µm / 1.0Φ Screen	% finer than N45/ 355µm / 1.5Φ Screen	% finer than N60/ 250µm / 2.0Φ Screen	% finer than N80/ 180µm / 2.5 Φ Screen	% finer than N125/ 125µm / 3.0Φ Screen	% finer than N170/ 90µm/ 3.5Φ Screen	% finer than N200/ 75µm/ 3.75Φ Screen	% finer than N230/ 63µm/ 4.0Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
11A	1-10	62.9	61.9	61.2	60.6	60.4	60.2	59.8	59.4	55.6	18.7	4.8	2.0	1.2
11A	51-60	99.3	98.8	98.1	97.5	97.1	96.9	96.5	95.5	80.4	13.5	5.4	2.8	1.5
11A	61-70	98.9	97.8	97.0	96.3	96.0	95.7	95.3	94.3	76.3	16.3	7.2	4.9	1.5
11A	71-80	94.4	91.0	88.9	87.4	86.7	86.2	85.8	84.6	74.2	18.7	5.5	3.2	2.1
11A	101-110	99.8	99.7	99.6	99.4	99.3	99.1	98.7	98.3	83.4	16.7	9.8	7.7	3.3
11A	131-140	99.9	99.7	99.6	99.5	99.4	99.4	99.2	98.7	88.6	25.9	12.2	8.5	3.6
11A	151-160	100.0	100.0	99.9	99.9	99.7	99.5	99.3	98.9	85.4	23.3	10.1	3.5	1.6
11A	181-190	99.8	99.7	99.5	99.4	99.3	99.1	98.9	98.4	87.0	19.2	6.4	3.0	1.4
11A	201-210	100.0	100.0	100.0	99.9	99.9	99.8	99.7	99.0	14.6	3.8	2.3	1.2	0.0

Table B 10: Folkian statistic data for core 11A

Station ID	Sample Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(Φ)	(mm)	(Φ)	(mm)		
11A	1-10	3.339	0.0984	2.7370	0.1495	-0.1610	3.1856
11A	51-60	3.369	0.0964	4.1829	0.0548	0.7743	1.4906
11A	61-70	3.269	0.1033	3.4871	0.0888	0.0576	0.9804
11A	71-80	3.269	0.1033	3.2729	0.1030	-0.0387	1.3993
11A	101-110	3.278	0.1027	3.5050	0.0877	0.6687	0.8784
11A	131-140	3.953	0.0642	4.6585	0.0394	0.5785	1.6478
11A	151-160	4.816	0.0353	4.9737	0.0316	0.1694	1.6349
11A	181-190	3.335	0.0987	3.6137	0.0813	0.6861	0.9141
11A	201-210	2.816	0.1415	2.8387	0.1393	0.4990	0.673

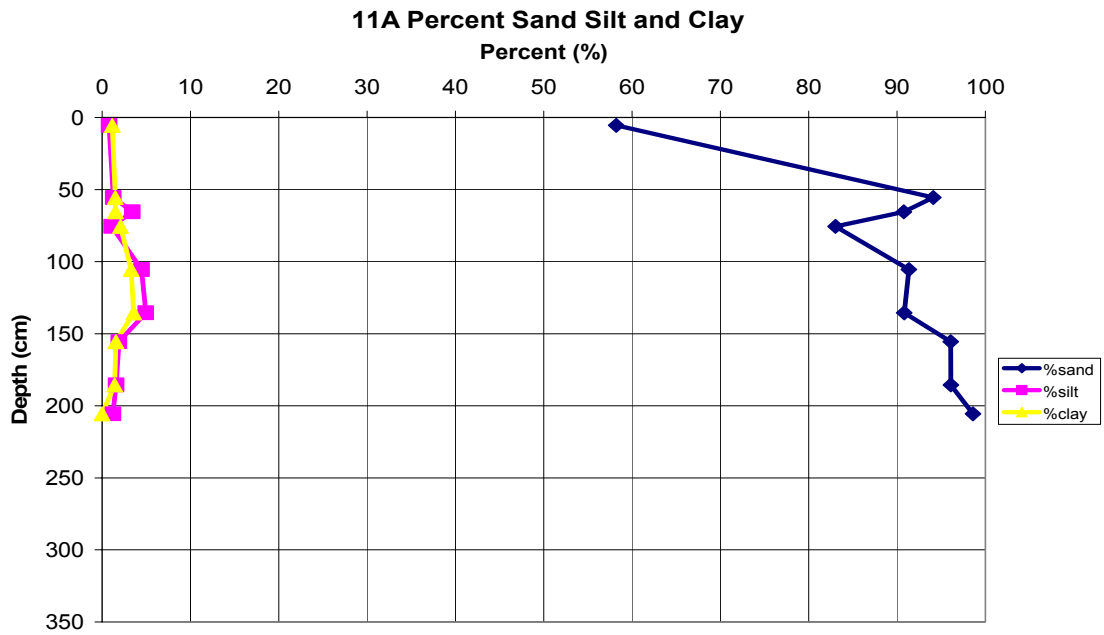


Figure B 15: Percent sand, silt and clay graph for core 11A

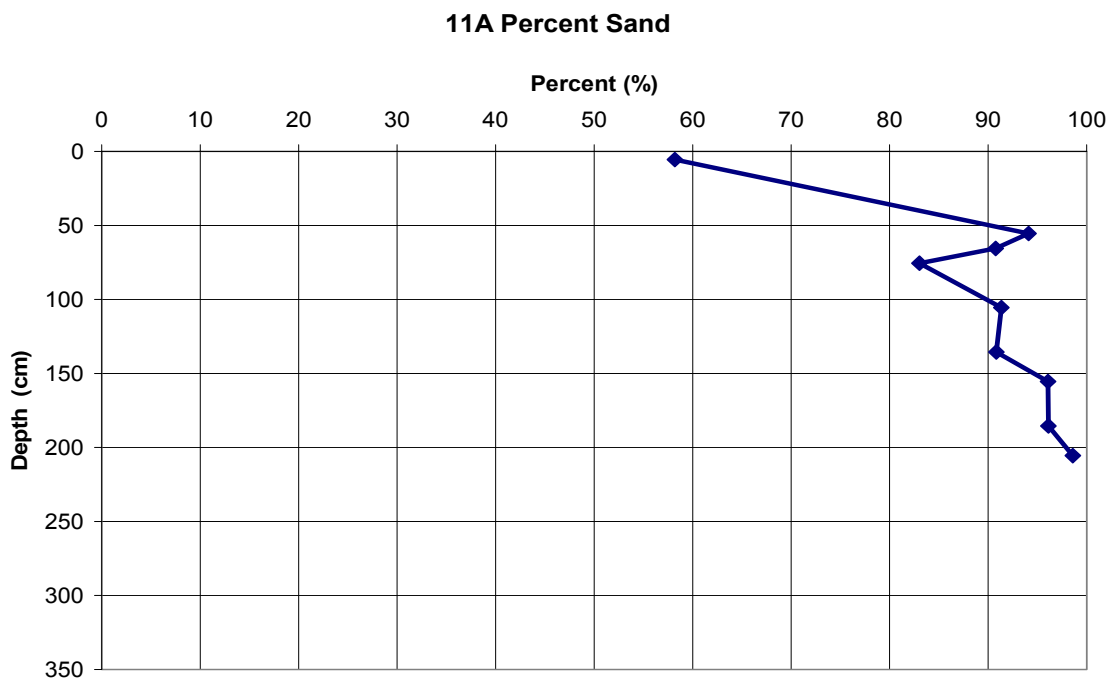


Figure B 16: Percent sand graph for core 11A

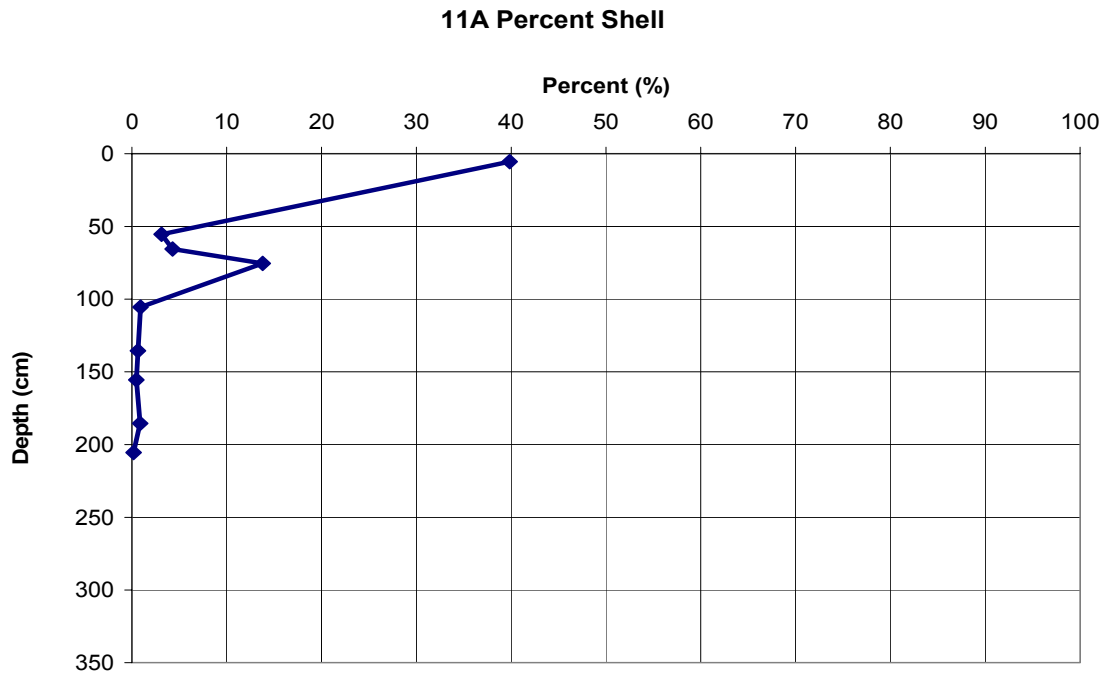


Figure B 17: Percent shell for core 11A

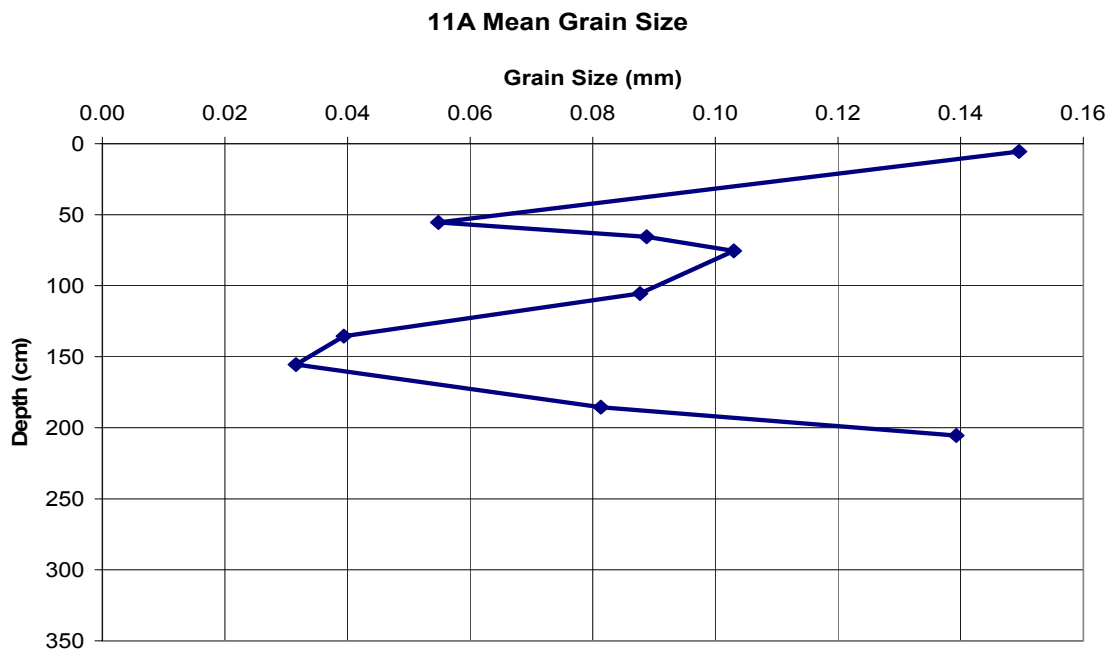


Figure B 18: Mean grain size graph for core 11A

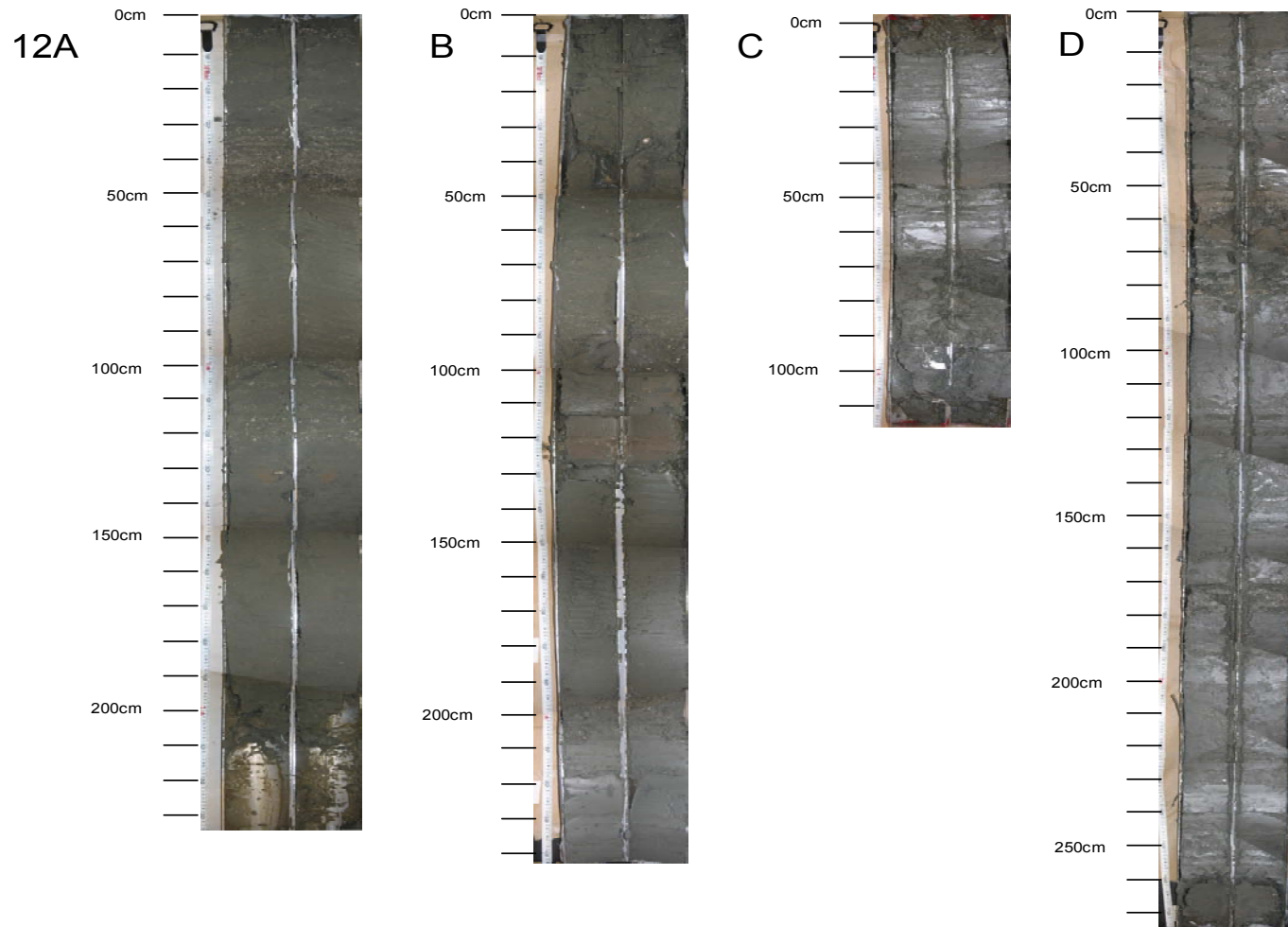


Figure B 19: Core photographs of Line 12

Core#: 12A
 Core Date: 7/8/2005

Date Split/subsampled: 7/13/2005
 Length: 208 cm
 Lat: 09 12.473
 Long: 94 54.903

Core#: 12A
 Core Date: 7/8/2005

Date Split/subsampled: 7/13/2005
 Length: 208 cm
 Lat: 09 12.473
 Long: 94 54.903

Centi-Meters	Munsell Soil Color	Depth Sampled	Description:
0-5 cm	5Y 3/1	WC	0-4 cm → slightly darker sand w/some shell hash
5-208 cm	5Y 4/1	0-1 cm 10-11 cm 20-21 cm 29-30 cm 40-41 cm 50-51 cm 60-61 cm 70-71 cm 80-81 cm 90-91 cm 100-101 cm 110-111 cm 120-121 cm 130-131 cm 140-141 cm 150-151 cm 160-161 cm 170-171 cm 180-181 cm 190-191 cm 200-201 cm	4-7 cm → shell hash w/sand 7-29 cm → sand w/trace shell hash 29-52 cm → shell hash w/sand 52-97 cm → sand w/trace shell hash 97-103 cm → shell hash w/sand 103-130 cm → sand w/ trace shell hash 130-141 cm → sand w/ trace shell hash & patch of red/brown sand 141-145 cm → sand w/ trace shell hash 145-169 cm → sand w/ trace shell hash & circular ring of slightly darker sand 169-195 cm → sand w/ trace shell hash 195-208 cm → slightly darker sand w/ trace shell hash
30-33 cm	2.5YR 4/4	GS	
		0-10 cm 51-60 cm 101-110 cm 151-160 cm 201-208 cm	

Centi-Meters	Munsell Soil Color	Depth Sampled	Description:
150-300 cm			

Figure B 20: Core log of 12A for depths 0-150 cm
 Figure B 21: Core log of 12A for depths 150-300 cm

Line 12 Site A

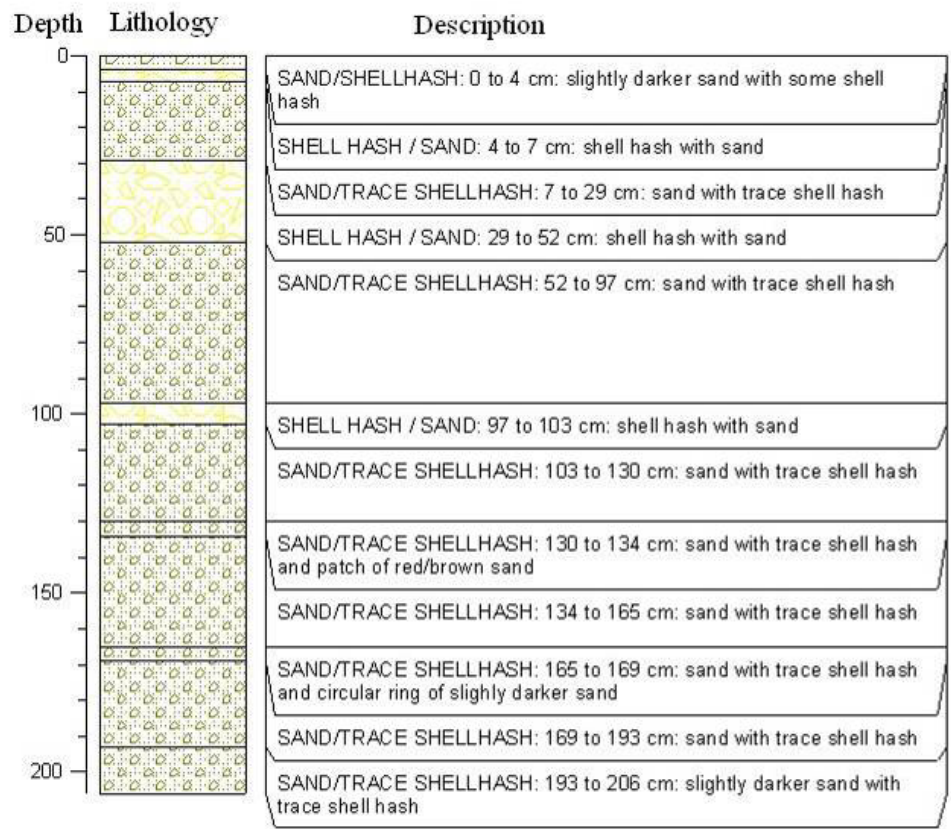


Figure B 22: Computerized core log for core 12A

Table B 11: Shell and sand weights for core 12A

Core ID	Sample Depth (cm)	shell weight	200+ weight	200-230 weight	total sand
12A	1-5	3.43	83.57	7.94	91.51
12A	5-10	1.71	76.19	3.86	80.05
12A	31-40	13.25	97.44	2.90	100.34
12A	51-60	1.53	83.94	2.47	86.41
12A	101-110	1.52	82.46	2.68	85.14
12A	131-134	0.49	68.25	2.95	71.20
12A	151-160	0.19	80.94	1.99	82.93
12A	201-210	0.12	73.71	7.83	81.54

Table B 12: Percent shell, sand, silt and clay for core 12A

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
12A	1-5	3.5	93.3	1.7	1.5
12A	5-10	2.0	94.8	1.1	2.1
12A	31-40	11.3	85.9	0.8	2.0
12A	51-60	1.7	95.4	0.9	2.0
12A	101-110	1.7	94.8	1.5	2.0
12A	131-134	0.6	93.7	2.3	3.3
12A	151-160	0.2	95.4	1.9	2.5
12A	201-210	0.1	92.2	5.2	2.5

Table B 13: RO-TAP data for core 12A

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
12A	1-5	1.19	0.87	0.58	0.35	0.20	0.24	0.39	0.68	3.68	54.36	24.46	7.94
12A	5-10	0.89	0.22	0.22	0.14	0.10	0.14	0.26	0.58	5.32	60.73	9.30	3.86
12A	31-40	4.42	1.44	3.06	2.15	1.39	0.79	1.04	2.03	10.78	73.63	9.96	2.90
12A	51-60	0.24	0.20	0.39	0.32	0.20	0.18	0.39	0.80	4.53	70.02	8.20	2.47
12A	101-110	0.62	0.23	0.28	0.15	0.13	0.11	0.18	0.56	8.78	64.99	7.95	2.68
12A	131-134	0.31	0.05	0.04	0.01	0.01	0.07	0.23	0.50	5.77	54.65	7.10	2.95
12A	151-160	0.00	0.00	0.03	0.04	0.03	0.09	0.16	0.47	13.07	58.82	8.42	1.99
12A	201-210	0.00	0.00	0.02	0.04	0.02	0.04	0.07	0.34	6.23	51.08	15.99	7.83

Table B 14: Percent finer data for core 12A

ASTM Classification	coarse sand	med. sand	med. sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt	
Wentworth Classification	granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.40mm/ -0.5Φ Screen	% finer than N18/ 1.00mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm/ 3.5Φ Screen	% finer than N200/ 75µm/ 3.75Φ Screen	% finer than N230/ 63µm/ 4.0Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
12A	1-5	98.8	97.9	97.3	97.0	96.7	96.5	96.1	95.4	91.7	36.3	11.3	3.2	1.5
12A	5-10	98.9	98.7	98.4	98.3	98.1	98.0	97.7	97.0	90.7	18.8	7.7	3.2	2.1
12A	31-40	96.2	95.0	92.4	90.5	89.3	88.7	87.8	86.0	76.8	13.8	5.3	2.8	2.0
12A	51-60	99.7	99.5	99.1	98.7	98.5	98.3	97.9	97.0	92.0	14.7	5.6	2.9	2.0
12A	101-110	99.3	99.1	98.7	98.6	98.4	98.3	98.1	97.5	87.7	15.3	6.5	3.5	2.0
12A	131-134	99.6	99.5	99.5	99.5	99.4	99.4	99.1	98.4	90.8	18.8	9.5	5.6	3.3
12A	151-160	100.0	100.0	100.0	99.9	99.9	99.8	99.6	99.1	84.0	16.4	6.7	4.4	2.5
12A	201-210	100.0	100.0	100.0	99.9	99.9	99.9	99.8	99.4	92.4	34.6	16.5	7.6	2.5

Table B 15: Folkian statistic data for core 12A

Station ID	Sample Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(Φ)	(mm)	(Φ)	(mm)		
12A	1-5	3.392	0.0948	3.3034	0.0947	0.0299	0.2942
12A	5-10	3.276	0.1028	3.2894	0.1018	0.1948	0.2621
12A	31-40	3.213	0.1074	3.1934	0.1089	-0.4184	0.7933
12A	51-60	3.264	0.1037	3.2716	0.1031	0.1763	0.2333
12A	101-110	3.252	0.1045	3.2592	0.1040	0.1673	0.2611
12A	131-134	3.274	0.1029	3.2898	0.1018	0.2544	0.2844
12A	151-160	3.244	0.1051	3.2495	0.1047	0.1480	0.2879
12A	201-210	3.367	0.0965	3.4067	0.0939	0.2316	0.3395

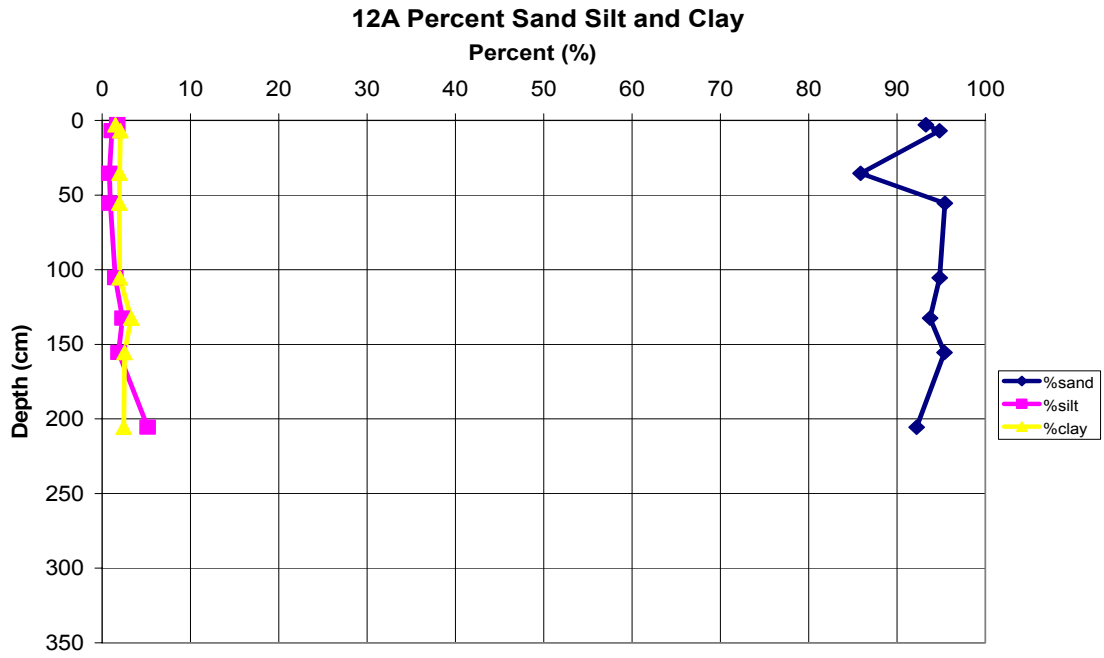


Figure B 23: Percent sand, silt and clay graph for core 12A

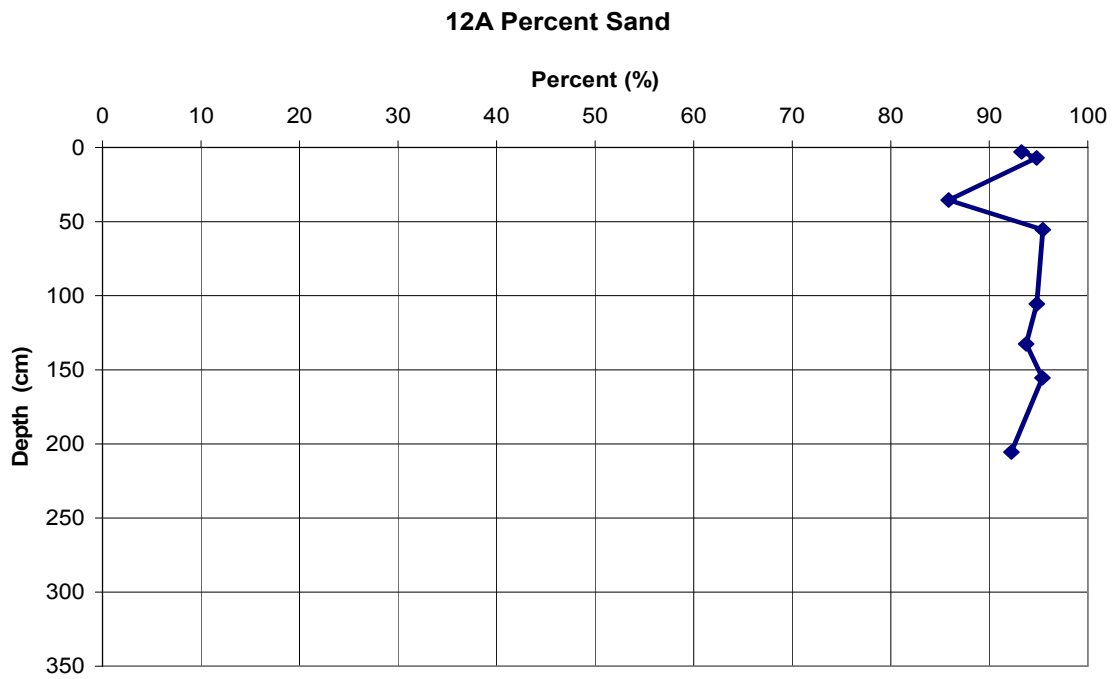


Figure B 24: Percent sand graph for core 12A

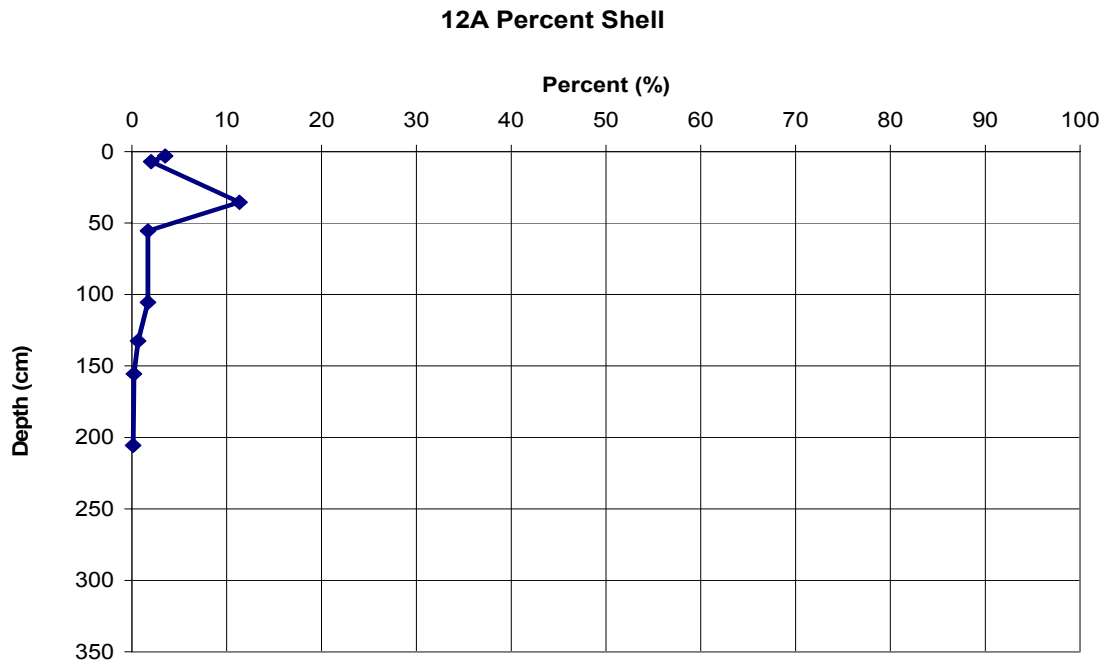


Figure B 25: Percent shell for core 12A

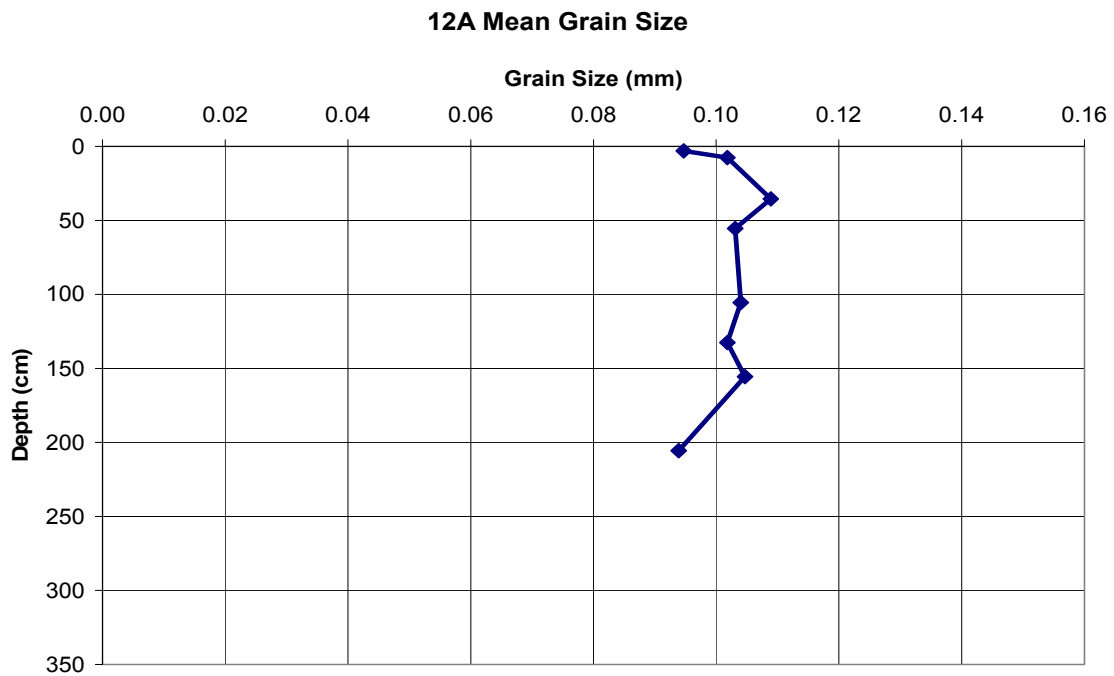


Figure B 26: Mean grain size for core 12A

Core#: 12B
 Core Date: 7/18/2005

Date Split/subsampled	Length: 241 cm
7/13/2005	Lat: 29 18.340
	Long: 94 54.899

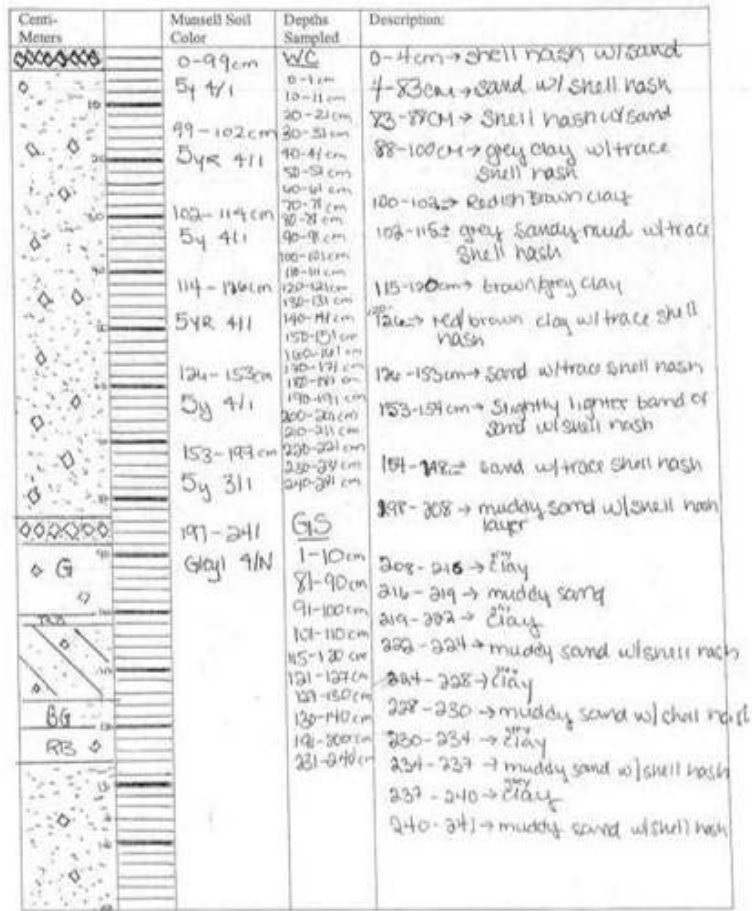
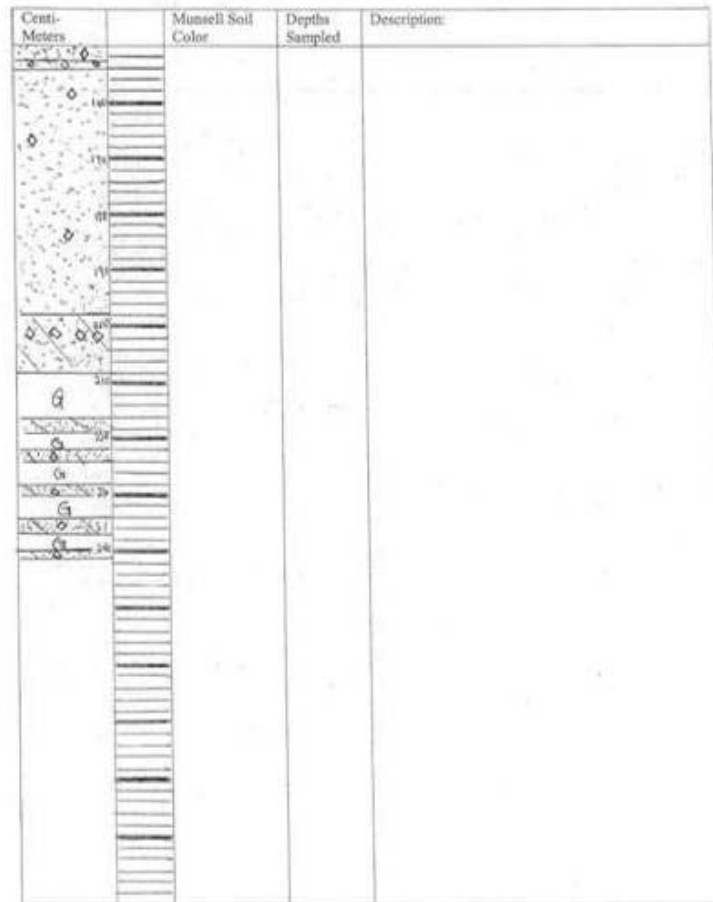


Figure B 27: Core log of 12B for depths 0-150 cm

Figure B 28: Core log of 12B for depths 150-300 cm

Core#: 12B
 Core Date: 7/18/2005

Date Split/subsampled	Length: 241 cm
7/13/2005	Lat: 29 18.340
	Long: 94 54.899



Line 12 Site B

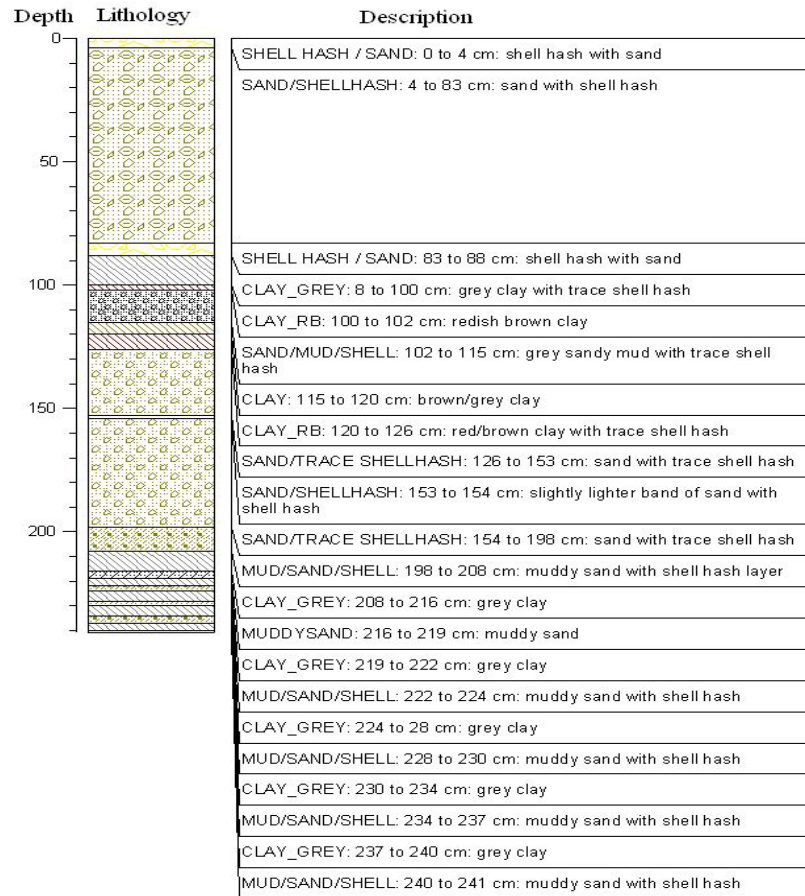


Figure B 29: Computerized core log of 12B

Table B 16: Shell and sand weights for core 12B

Core ID	Sample Depth (cm)	shell weight	200+ weight	200-230 weight	total sand
12B	1-10	3.76	76.80	7.24	84.04
12B	81-90	2.06	83.28	6.31	89.59
12B	91-100	2.44	74.73	7.76	82.49
12B	101-110		13.80	3.45	17.25
12B	115-120		0.11	0.23	0.34
12B	121-127		1.95	0.56	2.51
12B	127-130	0.14	48.10	12.91	61.01
12B	131-140	0.09	60.72	12.03	72.75
12B	191-200	1.13	67.86	6.90	74.76
12B	201-210		4.10	0.50	4.60
12B	231-240		36.38	4.19	40.57

Table B 17: Percent shell, sand, silt and clay for core 12B

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
12B	1-10	4.0	90.3	2.0	3.7
12B	81-90	2.1	91.6	1.7	4.6
12B	91-100	1.8	62.1	15.7	20.4
12B	101-110		35.4	17.2	47.4
12B	115-120		1.3	18.8	79.8
12B	121-127		9.2	14.6	76.2
12B	127-130	0.2	71.1	15.6	13.2
12B	131-140	0.1	84.2	11.9	3.7
12B	191-200	1.4	90.7	4.0	3.9
12B	201-210		19.2	18.2	62.7
12B	231-240		71.1	8.7	20.2

Table B 18: RO-TAP data for core 12B

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
12B	1-10	1.02	0.95	0.74	0.52	0.25	0.28	0.40	0.68	3.04	48.12	24.56	7.24
12B	81-90	0.53	0.45	0.38	0.34	0.16	0.20	0.39	1.34	7.11	54.76	19.68	6.31
12B	91-100	1.47	0.30	0.22	0.21	0.14	0.10	0.27	1.34	7.13	47.72	18.27	7.76
12B	101-110											13.80	3.45
12B	115-120											0.11	0.23
12B	121-127											1.95	0.56
12B	127-130	0.00	0.01	0.03	0.04	0.02	0.04	0.13	0.36	2.58	29.64	15.39	12.91
12B	131-140	0.00	0.02	0.00	0.02	0.02	0.03	0.05	0.19	3.31	40.47	16.70	12.03
12B	191-200	0.50	0.27	0.19	0.01	0.07	0.09	0.15	0.34	8.16	48.43	10.78	6.90
12B	201-210											4.10	0.50
12B	231-240											36.38	4.19

Table B 19: Percent finer data for core 12B

ASTM Classification		coarse sand	med. sand	med. sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt
Wentworth Classification		granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm / -1.0Φ Screen	% finer than N14/ 1.40mm/ -0.5Φ Screen	% finer than N18/ 1.00mm/ 0.0Φ Screen	% finer than N25/ 710µm / 0.5Φ Screen	% finer than N35/ 500µm / 1.0Φ Screen	% finer than N45/ 355µm / 1.5Φ Screen	% finer than N60/ 250µm / 2.0Φ Screen	% finer than N80/ 180µm / 2.5 Φ Screen	% finer than N125/ 125µm / 3.0Φ Screen	% finer than N170/ 90µm/ 3.5Φ Screen	% finer than N200/ 75µm/ 3.75Φ Screen	% finer than N230/ 63µm/ 4.0Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
12B	1-10	98.9	97.9	97.1	96.5	96.3	96.0	95.5	94.8	91.5	39.8	13.5	5.7	3.7
12B	81-90	99.5	99.0	98.6	98.3	98.1	97.9	97.5	96.1	88.9	32.8	12.7	6.3	4.6
12B	91-100	98.9	98.7	98.5	98.3	98.2	98.2	98.0	97.0	91.6	55.7	41.9	36.1	20.4
12B	101-110											71.7	64.6	47.4
12B	115-120											99.6	98.7	79.8
12B	121-127											92.9	90.8	76.2
12B	127-130	100.0	100.0	100.0	99.9	99.9	99.8	99.7	99.3	96.3	61.7	43.8	28.7	13.2
12B	131-140	100.0	100.0	100.0	100.0	99.9	99.9	99.8	99.6	95.8	48.9	29.6	15.7	3.7
12B	191-200	99.4	99.1	98.8	98.8	98.7	98.6	98.4	98.0	88.1	29.3	16.3	7.9	3.9
12B	201-210											82.9	80.8	62.7
12B	231-240											36.3	28.9	20.2

Table B 20: Folkian statistic data for core 12B

Station ID	Sample Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(Φ)	(mm)	(Φ)	(mm)		
12B	1-10	3.419	0.0931	3.4149	0.0933	-0.1819	0.4457
12B	81-90	3.356	0.0972	3.3698	0.0963	0.1391	0.3432
12B	91-100	3.585	0.0829	5.7321	0.0187	0.8702	3.3592
12B	101-110						
12B	115-120						
12B	121-127						
12B	127-130	3.659	0.0788	3.7112	0.0760	0.5147	1.8364
12B	131-140	3.489	0.0887	3.5460	0.0852	0.2153	0.3947
12B	191-200	3.317	0.0999	3.3730	0.0961	0.2652	0.3608
12B	201-210						
12B	231-240						

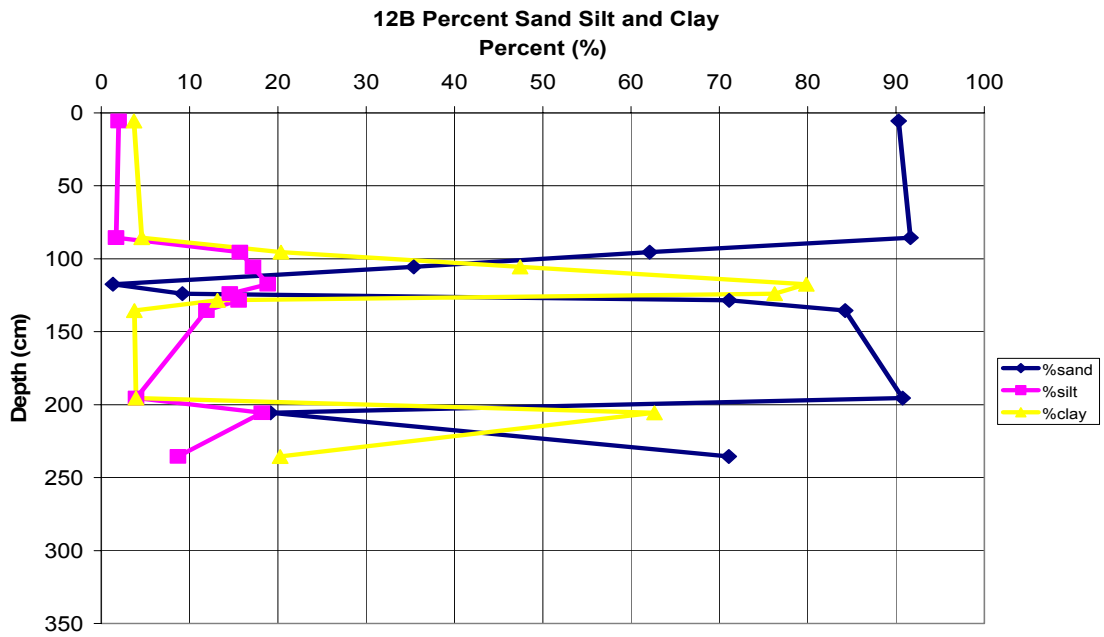


Figure B 30: Percent sand, silt and clay graph for core 12B

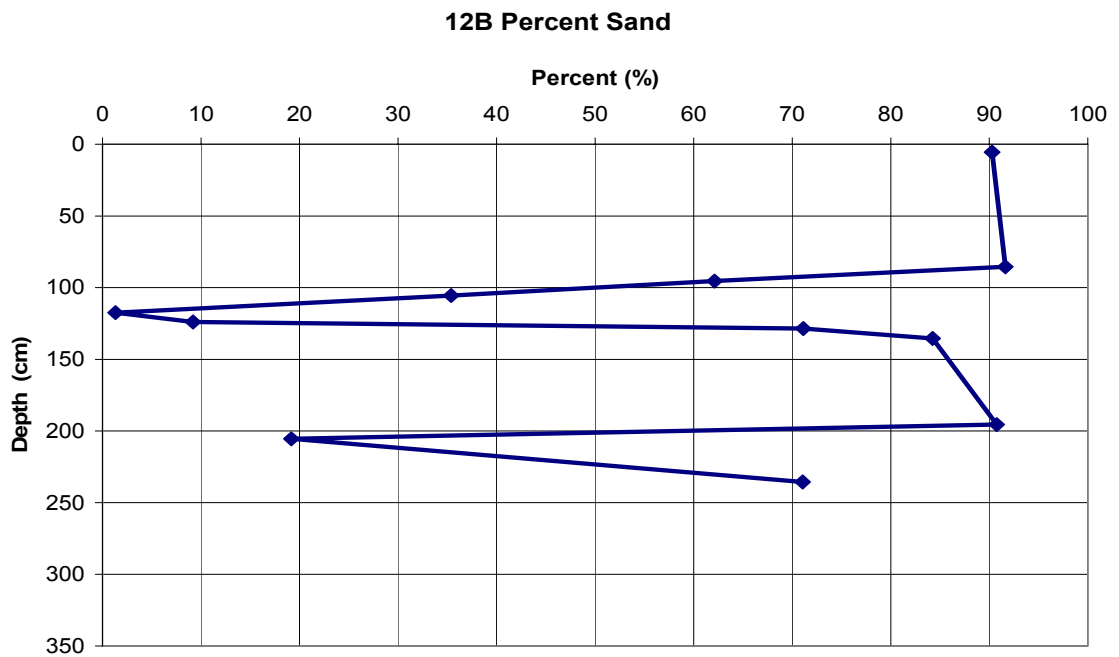


Figure B 31: Percent sand graph for core 12B

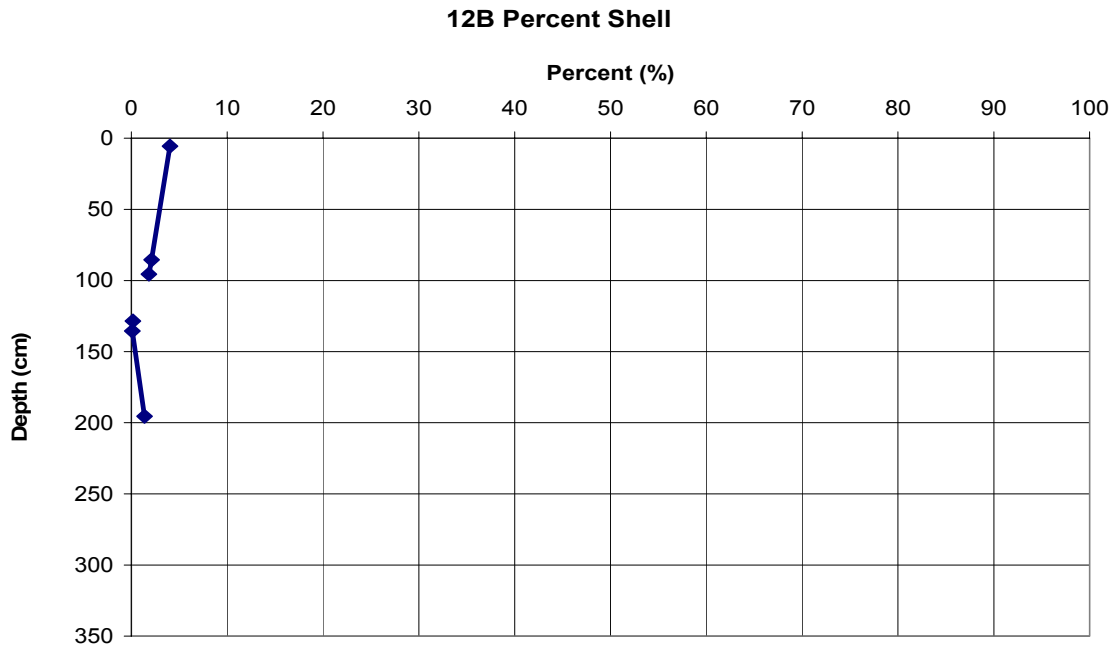


Figure B 32: Percent shell graph for core 12B

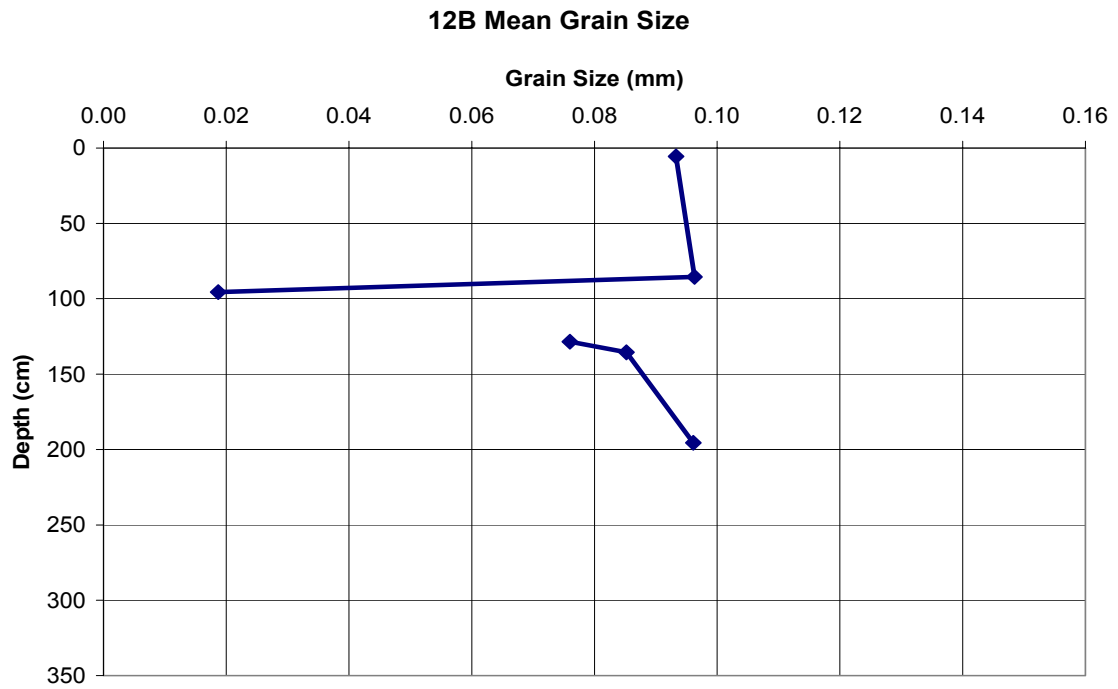


Figure B 33: Mean grain size for core 12B

Core#: 12C

Core Date: 7/8/05

Date Split/subsampled	Length: 114cm
7/14/05	Lat:
	Long:

Line 12 Site C

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-11cm	5y 4/1	WC 0-1cm 10-11cm	1-11cm → shell hash layers w/ sand
11-65cm	Gley 4/P	20-21cm 30-31cm 40-41cm 50-51cm 60-61cm 70-71cm 80-81cm 90-91cm 100-101cm 110-111cm	11-65cm → mud w/ fine sand laminations
65-114cm	5y 4/1	GS 1-10cm 11-21cm 61-65cm 65-70cm	65-68cm → sand w/ trace shell hash 68-71cm → shell hash w/ sand 71-101cm → sand w/ trace shell hash 101-105cm → sand hash w/ sand 105-114cm → sand w/ trace shell hash
		Additional GS 21-30cm 31-40cm 41-50cm 51-60cm	

Depth	Lithology	Description
0		SHELL HASH / SAND: 0 to 11 cm: shell hash layers with sand
11		MUDDY SAND: 11 to 65 cm: mud with fine sand laminations
65		SAND/TRACE SHELLHASH: 65 to 68 cm: sand with trace shell hash
68		SHELL HASH / SAND: 68 to 71 cm: shell hash with sand
71		SAND/TRACE SHELLHASH: 71 to 101 cm: sand with trace shell hash
101		SHELL HASH / SAND: 101 to 105 cm: shell hash with sand
105		SAND/TRACE SHELLHASH: 105 to 114 cm: sand with trace shell hash

Figure B 34: Core log of 12C for depths of 0-114 cm

Figure B 35: Computerized core log of 12C

Table B 21: Shell and sand weights for core 12C

Core ID	Sample Depth (cm)	shell weight	200+ weight	200-230 weight	total sand
12C	1-10	2.69	91.87	9.27	101.14
12C	11-21		24.66	1.18	25.84
12C	21-30		15.99	1.77	17.76
12C	31-40		9.85	1.05	10.90
12C	41-50		20.72	2.67	23.39
12C	51-60		30.76	4.30	35.06
12C	61-65		3.64	0.91	4.55
12C	65-70	0.83	85.93	8.61	94.54
12C	101-110	1.19	76.88	6.55	83.43

Table B 22: Percent shell, sand, silt and clay for core 12C

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
12C	1-10	2.4	89.6	3.7	4.3
12C	11-21		57.2	18.0	24.8
12C	21-30		36.7	14.4	48.9
12C	31-40		23.8	15.7	60.5
12C	41-50		42.7	12.0	45.3
12C	51-60		48.4	16.9	34.8
12C	61-65		18.7	20.5	60.7
12C	65-70	0.7	84.2	8.1	7.0
12C	101-110	1.3	89.4	-14.3	23.6

Table B 23: RO-TAP data for core 12C

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
12C	1-10	0.88	0.60	0.42	0.32	0.18	0.29	0.35	0.98	12.65	65.58	12.31	9.27
12C	11-21											24.66	1.18
12C	21-30											15.99	1.77
12C	31-40											9.85	1.05
12C	41-50											20.72	2.67
12C	51-60											30.76	4.30
12C	61-65											3.64	0.91
12C	65-70	0.10	0.18	0.16	0.15	0.11	0.13	0.16	0.51	5.52	60.07	19.67	8.61
12C	101-110	0.18	0.27	0.21	0.21	0.16	0.16	0.33	2.61	14.58	46.66	12.70	6.55

Table B 24: Percent finer data for core 12C

ASTM Classification	coarse sand	med. sand	med. sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt	
Wentworth Classification	granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.40mm/ -0.5Φ Screen	% finer than N18/ 1.00mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm/ 3.5Φ Screen	% finer than N200/ 75µm/ 3.75Φ Screen	% finer than N230/ 63µm/ 4.0Φ Screen	% finer than 4µm / 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
12C	1-10	99.2	98.7	98.3	98.0	97.9	97.6	97.3	96.4	85.2	27.2	16.3	8.0	4.3
12C	11-21											45.4	42.8	24.8
12C	21-30											67.0	63.3	48.9
12C	31-40											78.5	76.2	60.5
12C	41-50											62.2	57.3	45.3
12C	51-60											57.6	51.6	34.8
12C	61-65											85.0	81.3	60.7
12C	65-70	99.9	99.8	99.6	99.5	99.4	99.3	99.1	98.7	93.7	40.3	22.8	15.1	7.0
12C	101-110	99.8	99.5	99.3	99.1	98.9	98.7	98.4	95.6	79.9	29.9	16.3	9.3	23.6

Table A 25: Folkian statistic data for core 12C

Station ID	Sample Depth (cm)	Median Grain Size (Φ)	Median Grain Size (mm)	Mean Grain Size (Φ)	Mean Grain Size (mm)	Skewness	Sorting Index
12C	1-10	3.293	0.1016	3.3552	0.0973	0.2551	0.3796
12C	11-21						
12C	21-30						
12C	31-40						
12C	41-50						
12C	51-60						
12C	61-65						
12C	65-70	3.409	0.0937	3.4948	0.0883	0.6084	1.6744
12C	101-110	3.296	0.0556	3.3324	0.0988	0.4991	1.8546

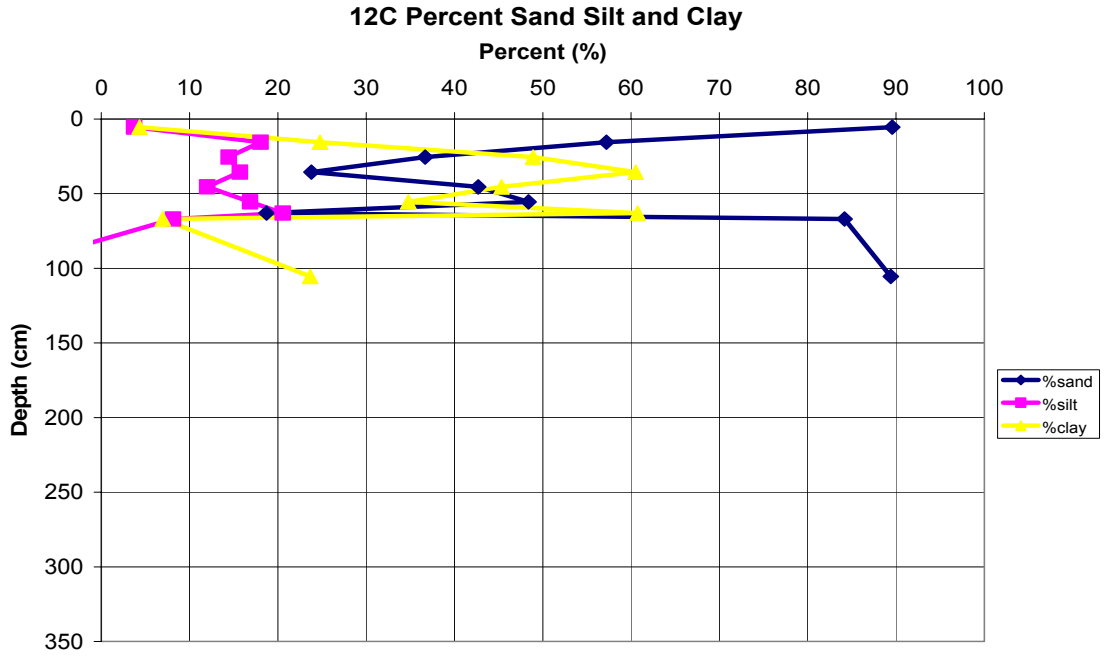


Figure B 36: Percent sand, silt and clay graph for core 12C

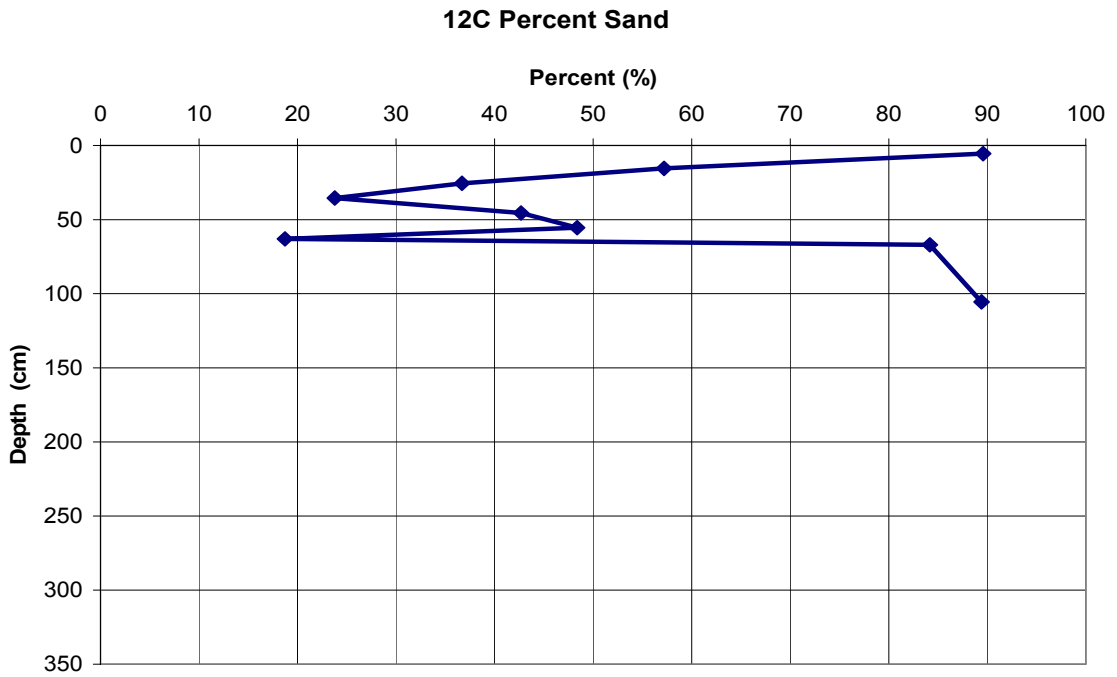


Figure B 37: Percent shell for core 12C

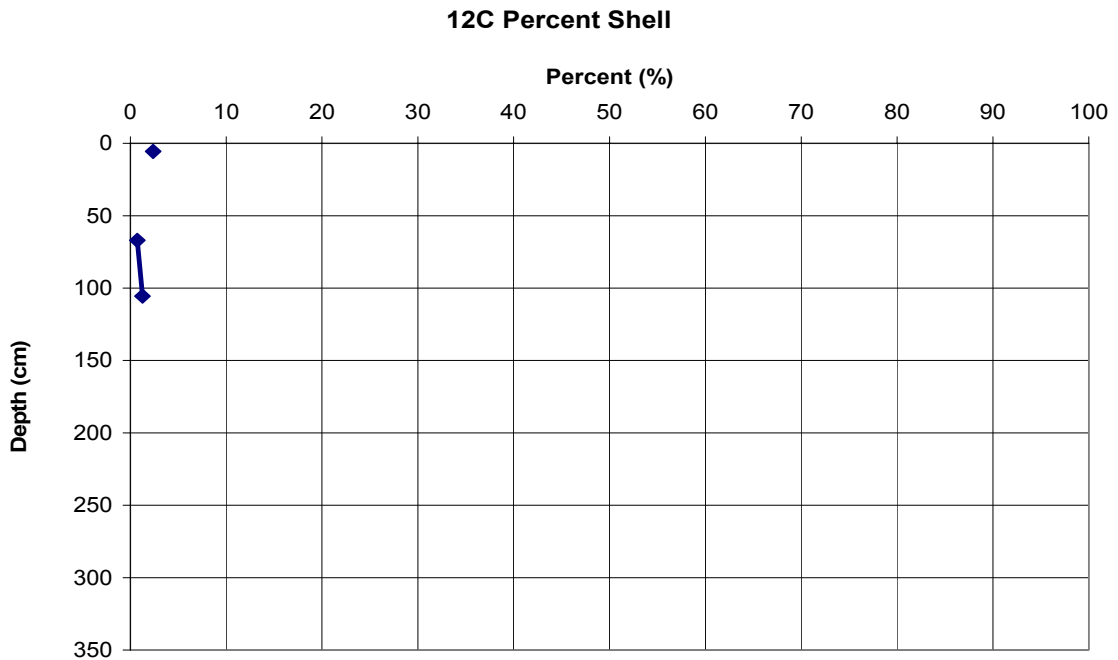


Figure B 38: Percent shell graph for core 12C

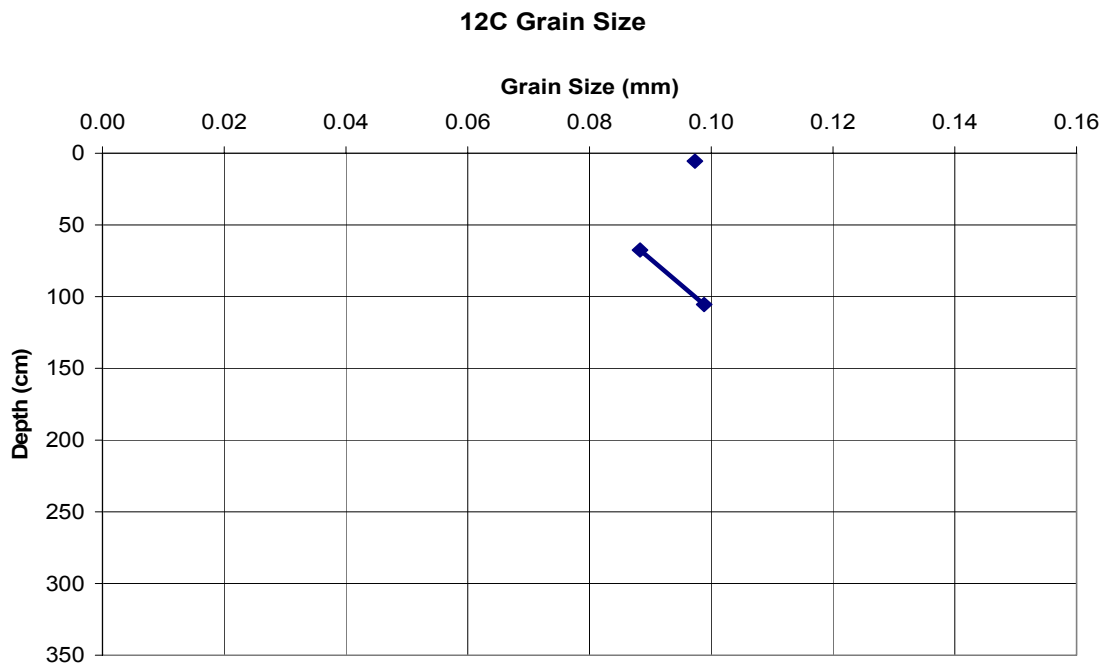


Figure B 39: Mean grain size graph for core 12C

Core#: 12D
 Core Date: 7/18/05

Date Split/subsampled: 7/14/05
 Length: 273
 Lat: 29 11 76
 Long: 94 54 67

Core#: 12D
 Core Date: 7/18/05

Date Split/subsampled: 7/14/05
 Length: 273
 Lat: 29 11 76
 Long: 94 54 67

Centi-Meters	Munsell Soil Color	Depth Sampled	Description:
0-14 cm	5y 4/1	0-14 cm	1-53 → sandy mud w/ fine laminations of silt and trace shell hash
14-26 cm	5y 3/1	14-26 cm	62-54 → band of reddish/brown sandy mud
26-32 cm	5y 4/1	26-32 cm	54-54 → shell hash w/ muddy sand
32-38 cm	5y 3/1	32-38 cm	54-62 → slightly muddy sand w/ shell hash
38-48 cm	5y 4/1	38-48 cm	62-68 → grey/brown clay
48-54 cm	5y 4/1	48-54 cm	68-80 → sand w/ trace shell hash
54-83 cm	5y 3/1	54-83 cm	80-85 → shell hash w/ muddy sand
83-100 cm	6Y 4/1	83-100 cm	85-115 → sandy mud + trace shell hash
100-120 cm	5y 4/1	100-120 cm	115-134 → muddy sand w/ trace shell hash
120-130 cm	5y 4/1	120-130 cm	134-135 → shell hash w/ muddy sand
130-140 cm	5y 4/1	130-140 cm	135-131 → sandy mud
140-150 cm	5y 4/1	140-150 cm	145-150 → sandy mud w/ trace shell hash
150-153 cm	6Y 4/1	150-153 cm	150-153 → muddy sand w/ trace shell hash
153-159 cm		153-159 cm	153-159 → mud
159-170 cm		159-170 cm	159-170 → muddy sand w/ trace shell hash
170-173 cm		170-173 cm	

Figure B 40: Core log of 12D for depths 0-150 cm
 Figure B 41: Core log of 12D for depths 150-273 cm

Centi-Meters	Munsell Soil Color	Depth Sampled	Description:
165-167 cm		165-167 cm	165-167 cm → sandy mud w/ trace shell hash
167-179 cm		167-179 cm	167-179 → shell hash w/ muddy sand
179-197 cm		179-197 cm	179-197 → muddy sand
197-205 cm		197-205 cm	197-205 → sandy mud w/ 2 dark grey patches w/ trace shell hash
205-217 cm		205-217 cm	205-217 → sandy mud w/ trace shell hash
217-239 cm		217-239 cm	217-239 → muddy sand w/ fine laminations of sand
239-254 cm		239-254 cm	239-254 → mud
254-273 cm		254-273 cm	254-273 → muddy sand w/ fine laminations of sand
273-273 cm		273-273 cm	273-273 → sandy mud w/ trace shell hash

Line 12 Site D

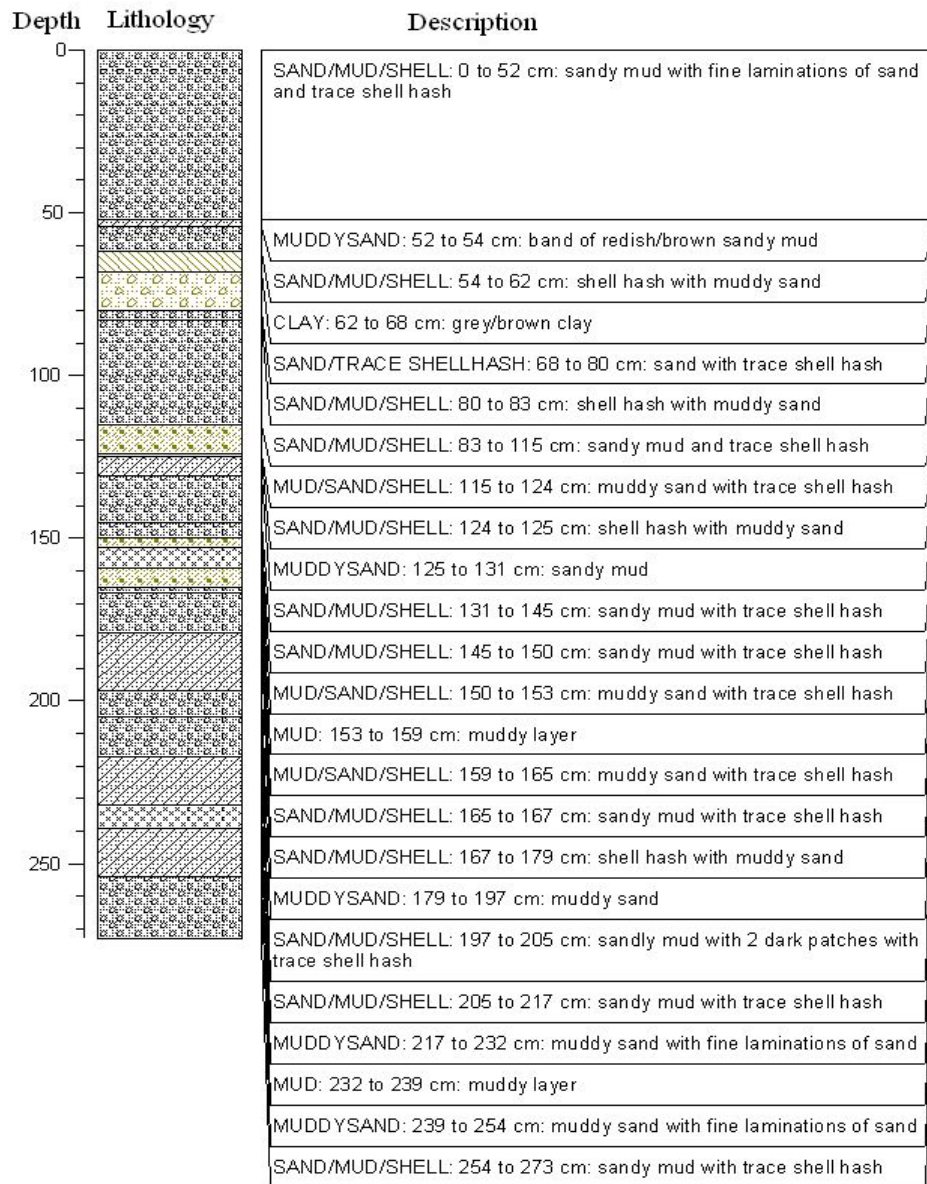


Figure B 42: Computerized core log of 12D

Table B 26: Shell and sand weights for core 12D

Core ID	Sample Depth (cm)	shell weight	200+ weight	200-230 weight	total sand
12D	1-10		21.90	3.31	25.21
12D	51-54		19.21	6.77	25.98
12D	54-60	6.95	39.08	12.37	51.45
12D	71-80	1.30	42.70	34.82	77.52
12D	81-90	17.34	29.19	7.96	37.15
12D	121-124		13.74	9.11	22.85
12D	124-130		10.09	3.34	13.43
12D	151-160		8.76	2.97	11.73
12D	161-170		27.26	5.75	33.01
12D	171-180	2.63	108.82	10.99	119.81
12D	181-190		33.14	5.37	38.51
12D	191-200		8.41	1.22	9.63
12D	251-260		4.85	1.88	6.73
12D	271-273		10.42	3.17	13.59

Table B 27: Percent shell, sand, silt and clay

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
12D	1-10		46.9	17.1	36.0
12D	51-54		51.1	24.1	24.8
12D	54-60	8.5	63.0	19.4	9.1
12D	71-80	1.1	65.6	25.4	7.9
12D	81-90	16.1	34.5	26.4	23.1
12D	121-124		30.8	49.1	20.1
12D	124-130		21.0	49.7	29.3
12D	151-160		26.0	45.4	28.6
12D	161-170		31.6	43.8	24.6
12D	171-180	1.6	73.4	15.5	9.5
12D	181-190		52.0	22.8	25.2
12D	191-200		20.3	26.4	53.3
12D	251-260		15.4	54.8	29.8
12D	271-273		49.2	33.6	17.1

Table B 28: RO-TAP data for core 12D

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
12D	1-10											21.90	3.31
12D	51-54											19.21	6.77
12D	54-60	4.06	1.58	0.60	0.38	0.20	0.13	0.07	0.17	1.01	19.11	18.72	12.37
12D	71-80	0.52	0.28	0.23	0.15	0.05	0.07	0.18	0.24	1.16	17.61	23.51	34.82
12D	81-90	9.07	3.31	2.50	1.49	0.61	0.36	0.29	0.72	4.77	13.86	9.55	7.96
12D	121-124											13.74	9.11
12D	124-130											10.09	3.34
12D	151-160											8.76	2.97
12D	161-170											27.26	5.75
12D	171-180	0.54	0.65	0.45	0.43	0.26	0.30	0.47	2.75	34.49	58.98	12.13	10.99
12D	181-190											33.14	5.37
12D	191-200											8.41	1.22
12D	251-260											4.85	1.88

Table B 29:Percent finer data for core 12D

ASTM Classification	coarse sand	med. sand	med. sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt	
Wentworth Classification	granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	fine sand	very fine sand	Very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.40mm/ -0.5Φ Screen	% finer than N18/ 1.00mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm/ 3.5Φ Screen	% finer than N200/ 75µm/ 3.75Φ Screen	% finer than N230/ 63µm/ 4.0Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	Sand	sand	silt
12D	1-10											59.2	53.1	36.0
12D	51-54											62.2	48.9	24.8
12D	54-60	95.0	93.1	92.4	91.9	91.6	91.5	91.4	91.2	90.0	66.6	43.6	28.5	9.1
12D	71-80	99.6	99.3	99.1	99.0	99.0	98.9	98.7	98.5	97.6	82.7	62.8	33.3	7.9
12D	81-90	91.6	88.5	86.2	84.8	84.2	83.9	83.6	83.0	78.5	65.7	56.8	49.4	23.1
12D	121-124											81.5	69.2	20.1
12D	124-130											84.2	79.0	29.3
12D	151-160											80.6	74.0	28.6
12D	161-170											73.9	68.4	24.6
12D	171-180	99.7	99.3	99.0	98.7	98.6	98.4	98.1	96.4	75.3	39.1	31.7	24.9	9.5
12D	181-190											55.2	48.0	25.2
12D	191-200											82.3	79.7	53.3
12D	251-260											88.9	84.6	29.8
12D	271-273											62.3	50.8	17.1

Table B 30: Folkian statistic data for core 12D

Station ID	Sample Depth (cm)	Median Grain Size (Φ)	Median Grain Size (mm)	Mean Grain Size (Φ)	Mean Grain Size (mm)	Skewness	Sorting Index
12D	1-10						
12D	51-54						
12D	54-60	3.677	0.0778	3.7277	0.0751	0.2420	2.4215
12D	71-80	3.863	0.0684	3.8313	0.0699	0.3649	1.7631
12D	81-90	3.979	0.0631	5.4876	0.0221	0.3671	4.62
12D	121-124						
12D	124-130						
12D	151-160						
12D	161-170						
12D	171-180	3.324	0.0994	3.5201	0.0868	0.6200	1.9334
12D	181-190						
12D	191-200						
12D	251-260						
12D	271-273						

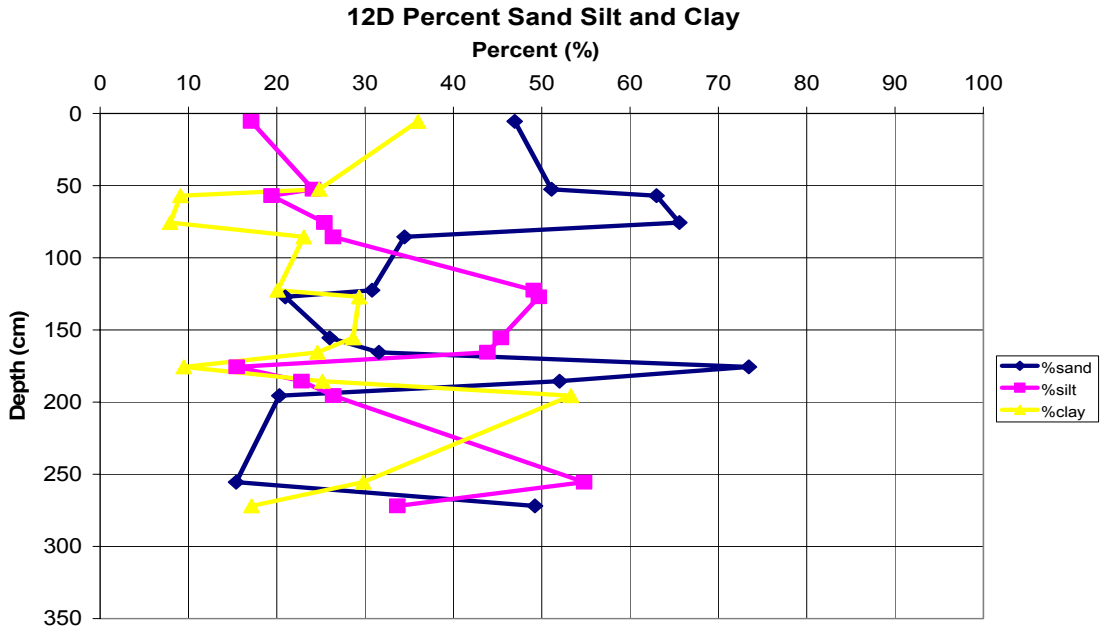


Figure B 43: Percent sand, silt and clay graph for core 12D

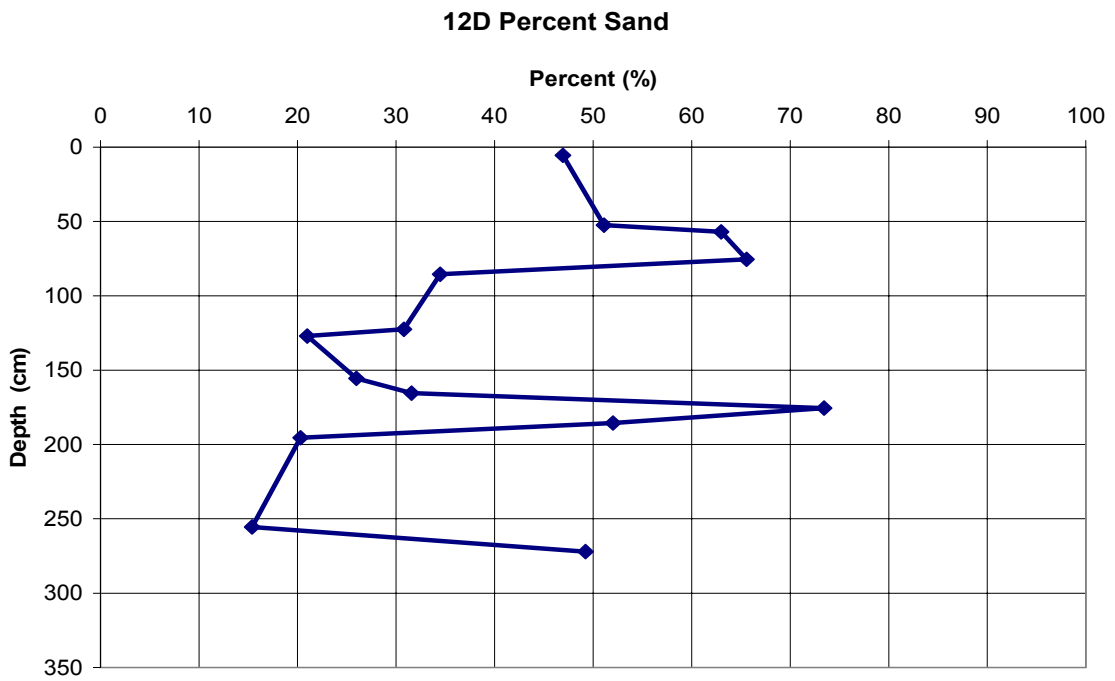


Figure B 44: Percent sand graph for core 12D

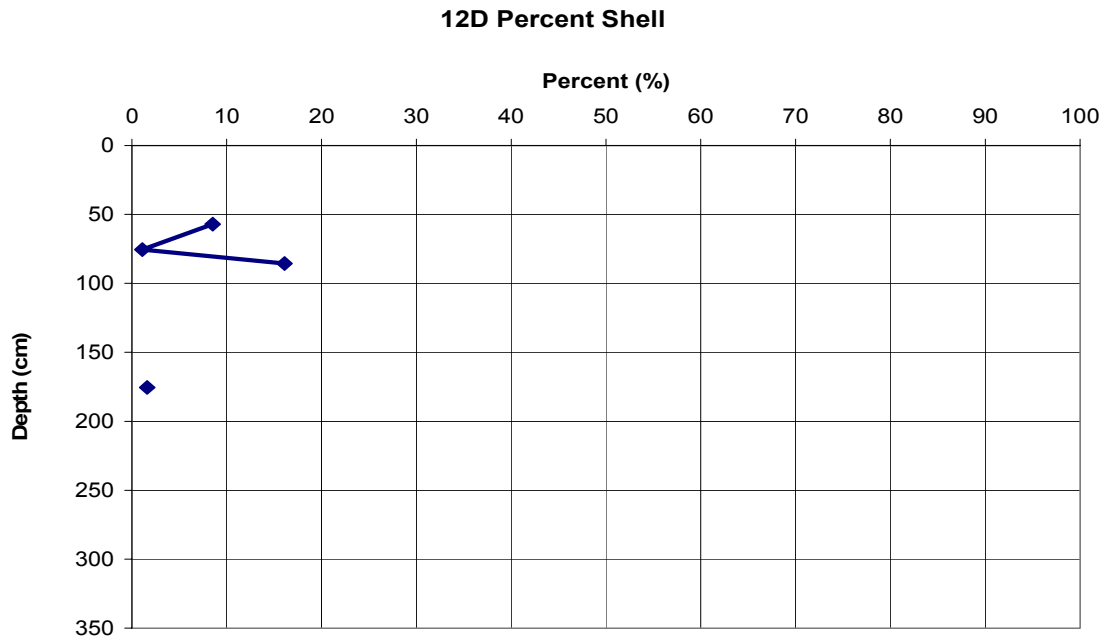


Figure B 45: Percent shell for core 12D

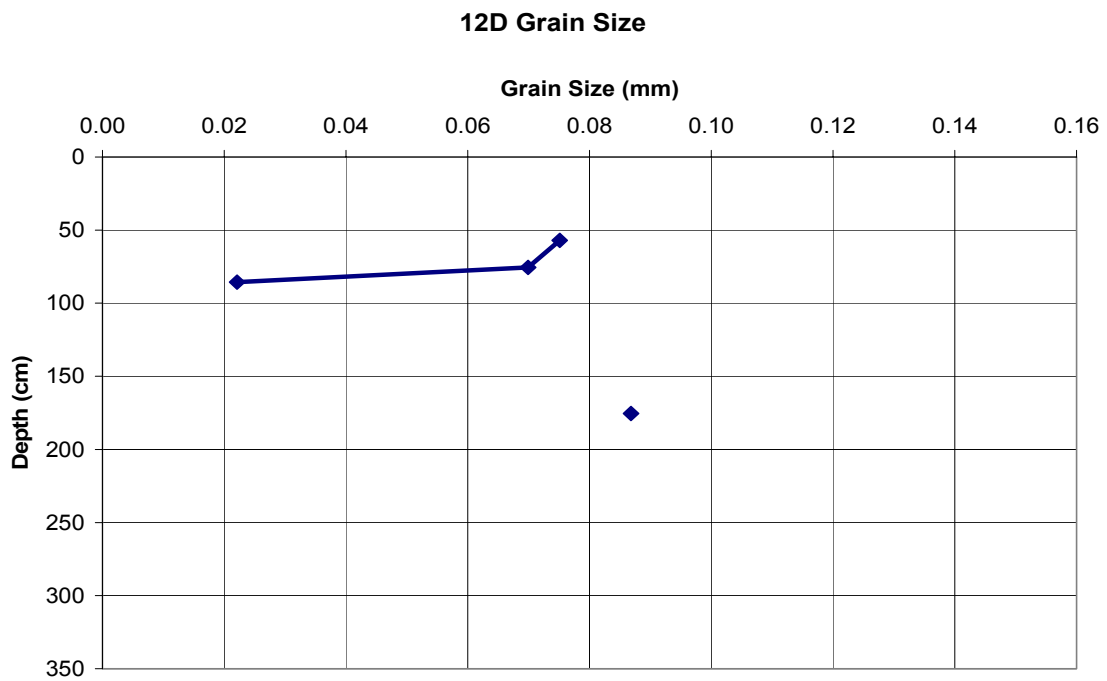


Figure B 46: Mean grain size graph for core 12

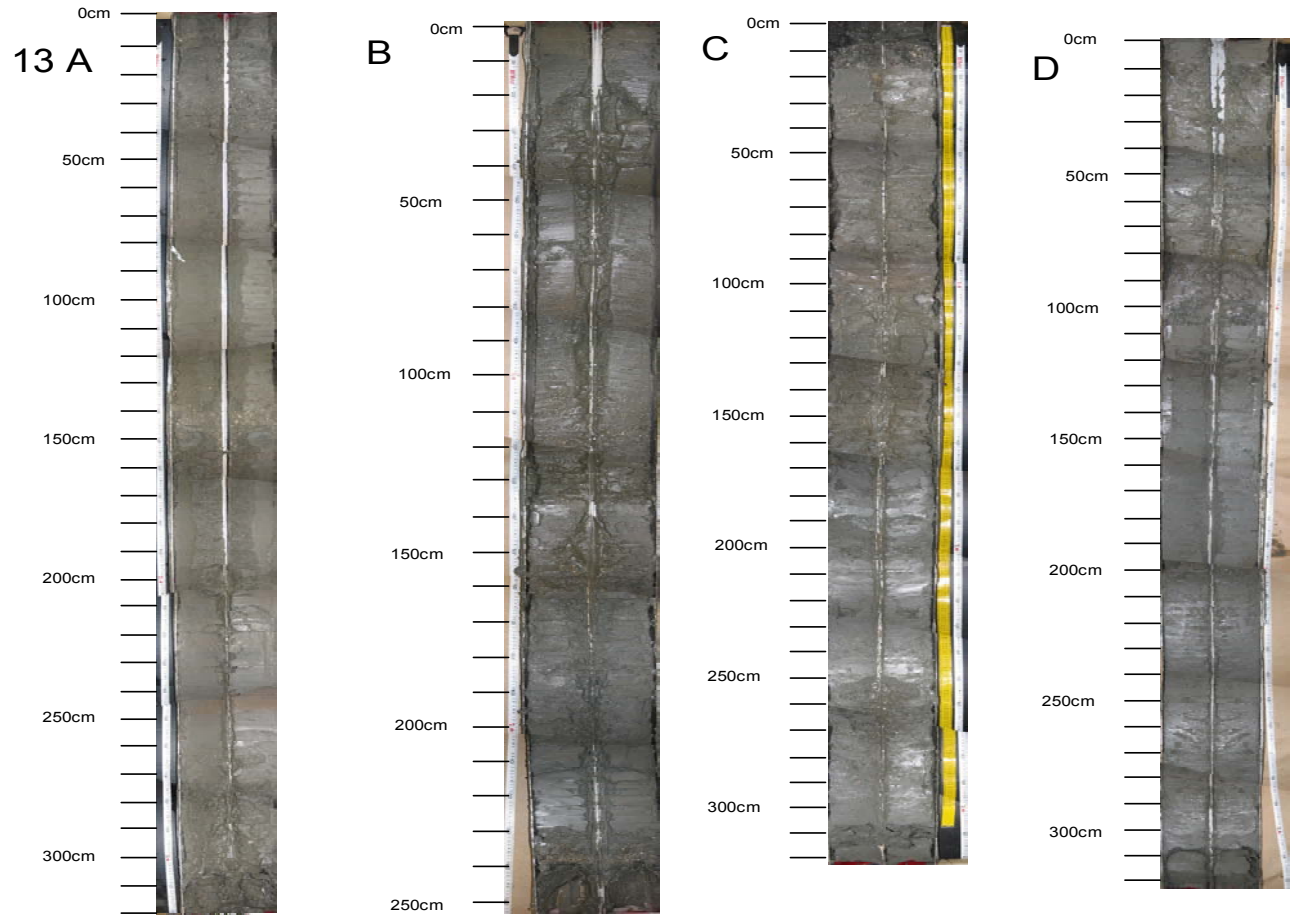


Figure B 47: Core photographs for Line 13

Core#: 13A

Core Date: 7/18/05

Date Split/subsampled	Length: 380cm
7/18/05	Lat: 29 11.73
	Long: 94 56.018

Core#: 13A

Core Date: 7/18/05

Date Split/subsampled	Length: 318cm
7/18/05	Lat: 29 11.73
	Long: 94 56.018

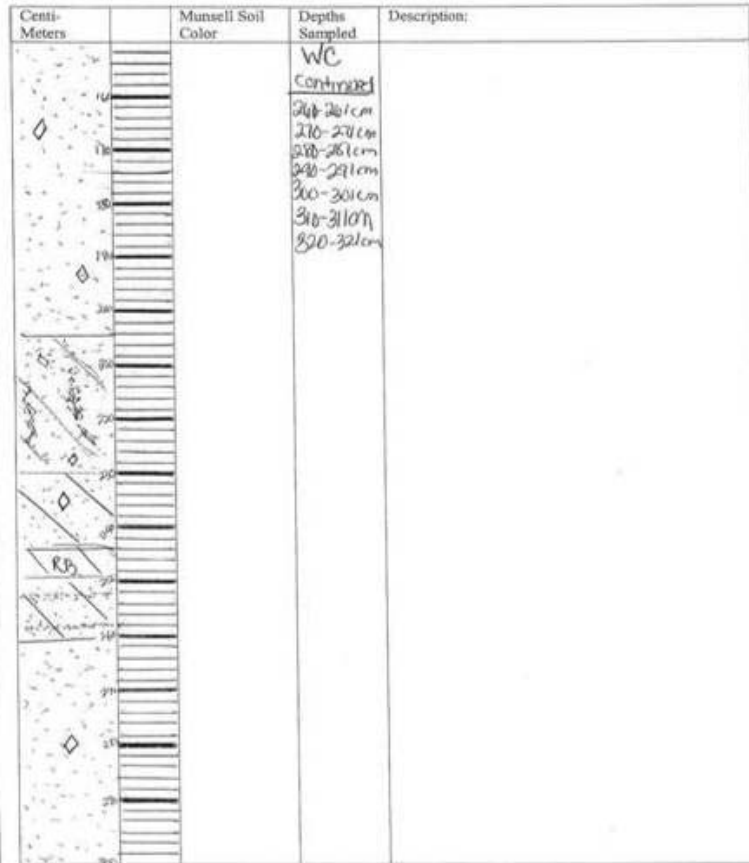
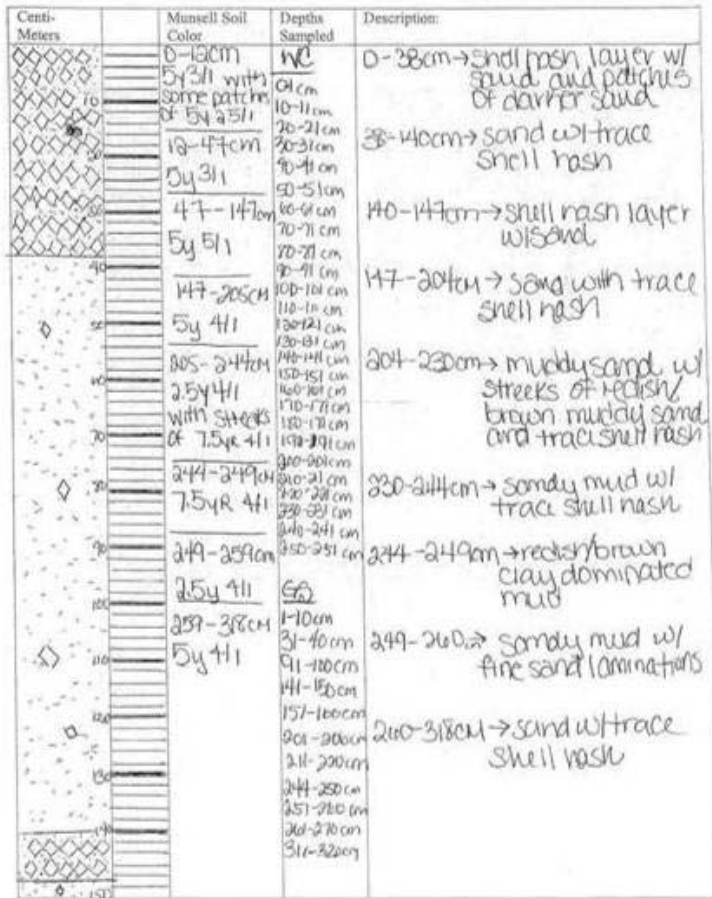


Figure B 48: Core log of 13A for depths 0-150 cm
 Figure B 49: Core log of 13A for depths 150-300 cm

Line 13 Site A

Core#: 13A
 Core Date: 7/8/05

Date Split/subsampled	Length: <u>317 CM</u>
<u>7/18/05</u>	Lat: <u>89 11.773</u>
	Long: <u>94 56.078</u>

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-38			
38-140			
140-147			
147-204			
204-230			
230-244			
244-249			
249-260			
260-318			

Depth	Lithology	Description
0		SHELL HASH / SAND: 0 to 38 cm: shell hash layer with sand and patches of darker sand
50		SAND/TRACE SHELLHASH: 38 to 140 cm: sand with trace shell hash
150		SHELL HASH / SAND: 140 to 147 cm: shell hash with sand
200		SAND/SHELLHASH: 147 to 204 cm: sand with shell hash
250		MUD/SAND/SHELL: 204 to 230 cm: muddy sand with streaks of redish/brown muddy sand and trace shell hash
260		SAND/MUD/SHELL: 230 to 244 cm: sandy mud with trace shell hash
270		CLAY_RB: 244 to 249 cm: redish/brown clay with dominated mud
280		SAND_YMUD: 249 to 260 cm: sandy mud with fine sand laminations
300		SAND/TRACE SHELLHASH: 260 to 318 cm: sand with trace shell hash

Figure B 50: Core log of 13A for depths 300-318 cm
 Figure B 51: Computerized core log of 13A

Table B 31: Shell and sand weights for core 13A

Core ID	Sample Depth (cm)	shell weight	200+ weight	200-230 weight	total sand
13A	1-10	2.25	101.02	9.36	110.38
13A	31-40	10.33	126.55	7.17	133.72
13A	91-100	0.61	135.52	1.10	136.62
13A	141-150	6.03	163.29	10.17	173.46
13A	151-160	1.09	97.87	11.81	109.68
13A	201-206	0.44	110.17	7.22	117.39
13A	211-220		15.19	5.86	21.05
13A	244-250		2.08	0.39	2.47
13A	251-260		11.22	2.20	13.42
13A	261-270	0.24	160.61	7.53	168.14
13A	311-320	0.41	110.70	3.57	114.27

Table B 32: Percent shell, sand, silt and clay for core 13A

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
13A	1-10	1.9	93.8	2.0	2.3
13A	31-40	6.9	88.9	1.8	2.4
13A	91-100	0.4	96.5	1.4	1.7
13A	141-150	3.3	93.8	1.2	1.7
13A	151-160	0.9	88.3	7.5	3.4
13A	201-206	0.3	89.6	5.2	4.8
13A	211-220		38.1	30.2	31.8
13A	244-250		11.0	51.2	37.8
13A	251-260		22.2	36.9	40.9
13A	261-270	0.1	87.4	6.7	5.7
13A	311-320	0.3	94.8	2.6	2.3

Table B 33: RO-TAP data for core 13A

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
13A	1-10	0.29	0.44	0.43	0.47	0.26	0.36	0.67	1.70	12.03	71.69	14.93	9.36
13A	31-40	3.28	2.49	1.85	1.40	0.66	0.65	1.03	2.46	22.63	90.88	9.55	7.17
13A	91-100	0.00	0.02	0.05	0.08	0.17	0.29	0.24	0.89	37.92	81.41	15.06	1.10
13A	141-150	2.28	1.55	0.91	0.57	0.34	0.38	0.71	1.80	29.51	107.13	24.14	10.17
13A	151-160	0.38	0.27	0.21	0.03	0.11	0.09	0.23	0.50	9.86	59.92	27.36	11.81
13A	201-206		0.01	0.03	0.06	0.09	0.25	0.28	0.64	11.79	82.04	15.42	7.22
13A	211-220											15.19	5.86
13A	244-250											2.08	0.39
13A	251-260											11.22	2.20
13A	261-270	0.00	0.02	0.02	0.03	0.04	0.13	0.44	1.14	20.99	121.35	16.69	7.53
13A	311-320	0.14	0.06	0.02	0.04	0.03	0.12	0.25	0.97	13.48	84.52	11.48	3.57

Table B 34: Percent finer data for core 13A

ASTM Classification	coarse sand	med. sand	med. sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt	
Wentworth Classification	granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.40mm/ -0.5Φ Screen	% finer than N18/ 1.00mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm/ 3.5Φ Screen	% finer than N200/ 75µm/ 3.75Φ Screen	% finer than N230/ 63µm/ 4.0Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
13A	1-10	99.8	99.4	99.0	98.6	98.4	98.1	97.5	96.1	85.8	24.9	12.2	4.3	2.3
13A	31-40	97.8	96.2	94.9	94.0	93.6	93.1	92.4	90.8	75.8	15.3	9.0	4.2	2.4
13A	91-100	100.0	100.0	100.0	99.9	99.8	99.6	99.4	98.8	72.0	14.5	3.9	3.1	1.7
13A	141-150	98.8	97.9	97.4	97.1	96.9	96.7	96.4	95.4	79.4	21.5	8.4	2.9	1.7
13A	151-160	99.7	99.5	99.3	99.3	99.2	99.1	98.9	98.5	90.6	42.4	20.3	10.8	3.4
13A	201-206	100.0	100.0	100.0	99.9	99.9	99.7	99.5	99.0	90.0	27.3	15.5	10.0	4.8
13A	211-220											72.5	61.9	31.8
13A	244-250											90.7	89.0	37.8
13A	251-260											81.4	77.8	40.9
13A	261-270	100.0	100.0	100.0	100.0	99.9	99.9	99.6	99.1	88.1	25.1	16.4	12.5	5.7
13A	311-320	99.9	99.8	99.8	99.8	99.8	99.7	99.5	98.6	87.5	17.3	7.8	4.8	2.3

Table B 35: Folkian statistic data for core 13A

Core ID	Sample Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(Φ)	(mm)	(Φ)	(mm)		
13A	1-10	3.291	0.1017	3.3247	0.0994	0.1879	0.3359
13A	31-40	3.205	0.108	3.1955	0.1087	-0.3335	0.7549
13A	91-100	3.182	0.1097	3.1713	0.1105	-0.0491	0.3069
13A	141-150	3.251	0.1046	3.2544	0.1044	-0.0059	0.3519
13A	151-160	3.41	0.0937	3.4198	0.0930	0.0869	0.3475
13A	201-206	3.309	0.10046	3.3673	0.0965	0.3527	0.3743
13A	211-220						
13A	244-250						
13A	251-260						
13A	261-270	3.267	0.1034	3.3077	0.1006	0.3299	0.3544
13A	311-320	3.252	0.1045	3.2489	0.1040	0.1386	0.255

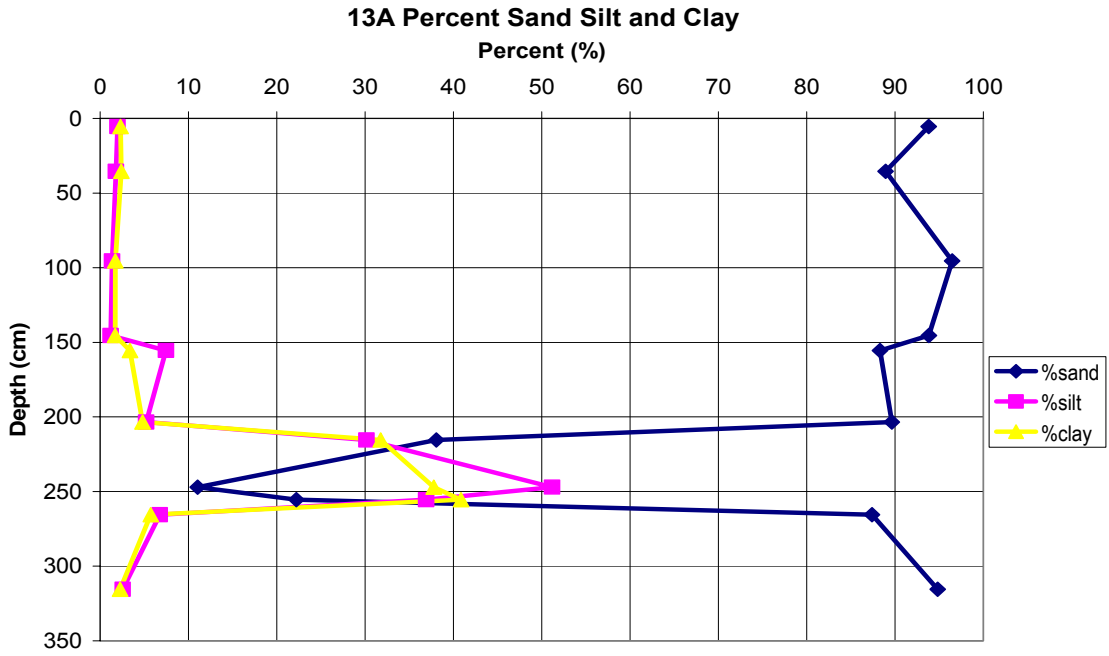


Figure B 52: Percent sand, silt and clay graph for core 13A

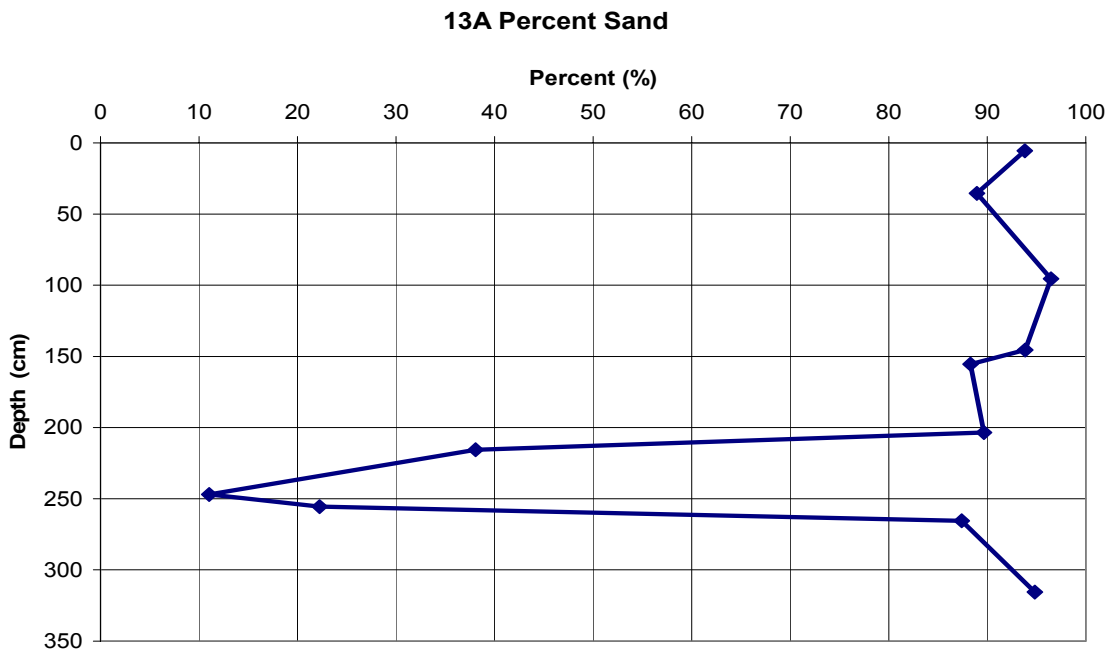


Figure B 53: Percent sand graph for core 13A

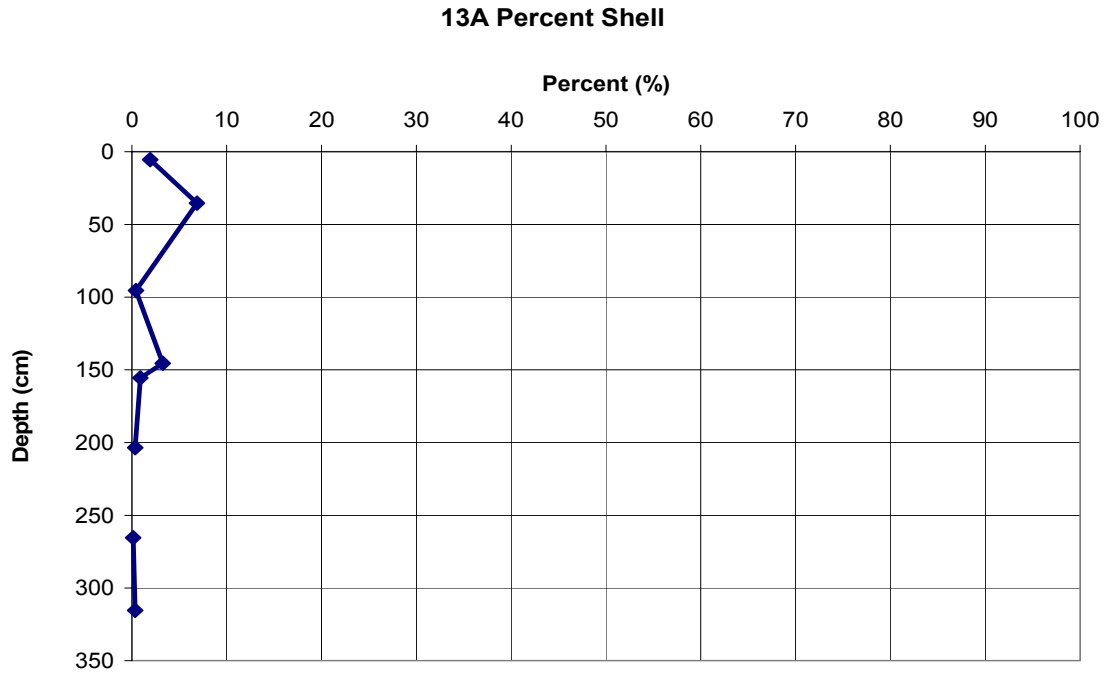


Figure B 54: Percent shell graph for core 13A

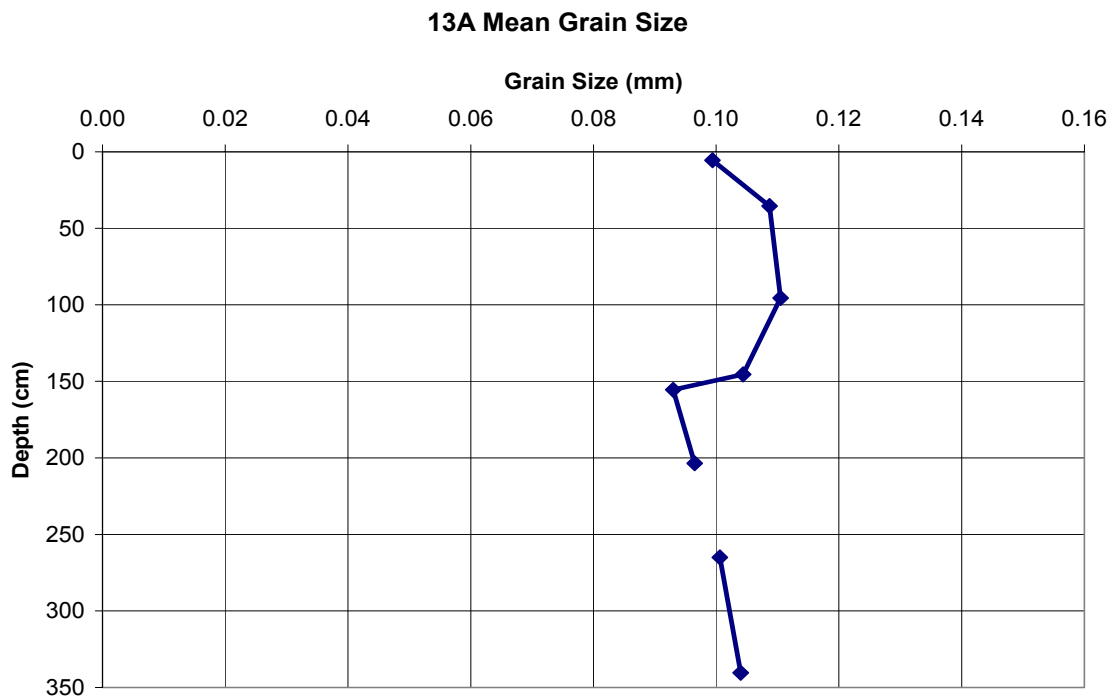


Figure B 55: Mean grain size for core 13A

Core#: 13B
 Core Date: 7/18/2005

Date Split/subsampled	Length: 240cm
7/17/05	Lat: 29 11.634
	Long: 94 55.989

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-10cm	5y 4/1	0-1cm	0-10 → shell hash layer w/sand
10-136cm	5y 3/1	10-11cm	10-23 → sand w/several dark greyish/black spots and trace shell hash
136-145cm	5y 4/1	20-21cm	23-115 → sand w/abundant shell hash
145-240	Gley 4H	20-41cm	105-136 → shell hash layer w/sand
		40-41cm	136-147 → sandy mud w/trace shell hash
		50-51cm	147-156 → shell hash layer w/sand
		60-61cm	156-164 → sand w/trace shell hash
		70-71cm	164-185 → muddy sand w/ trace shell hash
		80-81cm	185-188 → sandy mud slightly browner color
		90-91cm	188-206 → muddy sand w/ trace shell hash
		100-101cm	206-230 → silt dominated mud w/ fine sand laminations & trace shell hash
		110-111cm	230-235 → sand w/ shell hash
		120-121cm	235-240 → shell hash layer w/sand
		130-131cm	
		140-141cm	
		150-151cm	
		160-161cm	
		170-171cm	
		180-181cm	
		190-191cm	
		200-201cm	
		210-211cm	
		220-221cm	
		230-231cm	
		240-241cm	
		Additional 5y	
		131-132cm	
		132-133cm	

Figure B 56: Core log of 13B for depths 0-150 cm
 Figure B 57: Core log of 13B for depths 150-240 cm

Core#: 13B
 Core Date: 7/18/2005

Date Split/subsampled	Length: 240cm
7/18/05	Lat: 29 11.634
	Long: 94 55.989

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
150-151cm			
151-152cm			
152-153cm			
153-154cm			
154-155cm			
155-156cm			
156-157cm			
157-158cm			
158-159cm			
159-160cm			
160-161cm			
161-162cm			
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229-230cm			
230-231cm			
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236-237cm			
237-238cm			
238-239cm			
239-240cm			

Line 13 Site B

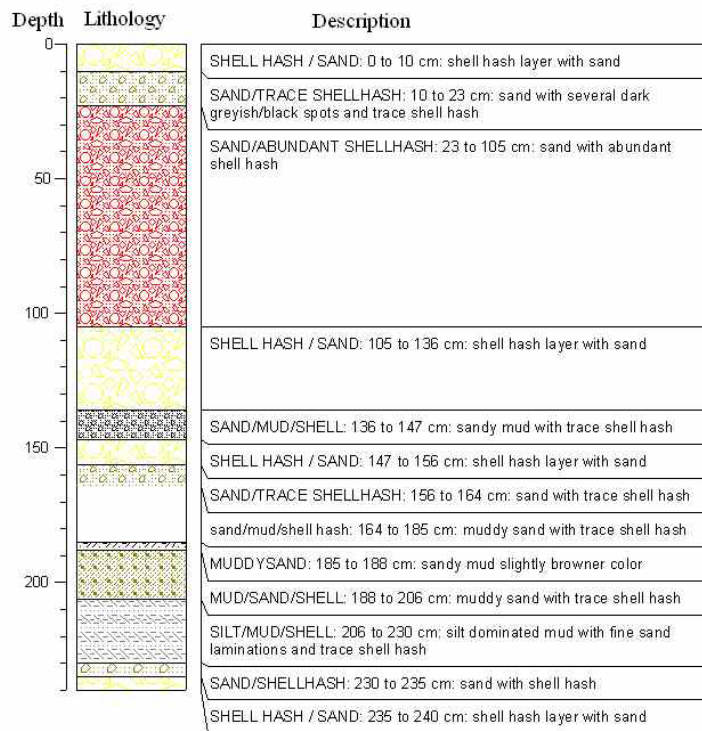


Figure B 58: Computerized core log of 13B

Table B 36: Shell and sand weights for core 13B

Core ID	Sample Depth (cm)	shell weight	200+ weight	200-230 weight	total sand
13B	1-10	1.48	106.83	13.63	120.46
13B	11-20	0.53	109.03	20.22	129.25
13B	101-110	3.41	142.85	11.79	154.64
13B	131-136	2.01	85.85	0.86	86.71
13B	136-140		13.76	3.95	17.71
13B	164-170		26.00	6.01	32.01
13B	201-210		22.40	4.01	26.41
13B	220-230		5.73	0.95	6.68
13B	231-240	21.33	117.06	6.70	123.76

Table B 37: Percent shell, sand, silt and clay for core 13B

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
13B	1-10	1.1	92.9	4.4	1.7
13B	11-20	0.4	91.9	5.1	2.6
13B	101-110	2.1	93.9	2.2	1.8
13B	131-136	2.2	93.2	1.9	2.8
13B	136-140		36.3	19.9	43.8
13B	164-170		50.8	31.9	17.2
13B	201-210		47.5	23.6	29.0
13B	220-230		28.3	24.5	47.2
13B	231-240	12.0	69.4	6.5	12.1

Table B 38: RO-TAP data for core 13B

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
13B	1-10	0.29	0.40	0.30	0.20	0.13	0.16	0.30	1.14	9.51	61.14	34.74	13.63
13B	11-20	0.00	0.06	0.06	0.07	0.06	0.28	0.45	1.88	11.06	67.59	28.05	20.22
13B	101-110	1.01	0.85	0.58	0.39	0.21	0.37	0.65	3.53	45.64	93.03		11.79
13B	131-136	1.04	0.35	0.21	0.16	0.11	0.14	0.53	1.78	8.55	51.12	23.87	0.86
13B	136-140											13.76	3.95
13B	164-170											26.00	6.01
13B	201-210											22.40	4.01
13B	220-230											5.73	0.95
13B	231-240	3.68	5.70	5.18	4.17	1.73	0.87	0.74	4.95	70.72	39.87	0.78	6.70

Table B 39: Percent finer data for core 13B

ASTM Classification	coarse sand	med. sand	med. Sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt
Wentworth Classification	granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.40mm/ -0.5Φ Screen	% finer than N18/ 1.00mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm/ 3.5Φ Screen	% finer than N200/ 75µm/ 3.75Φ Screen	% finer than N230/ 63µm/ 4.0Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	Sand	sand	silt
13B	1-10	99.8	99.5	99.2	99.1	99.0	98.9	98.6	97.7	90.4	43.3	16.5	6.0	1.7
13B	11-20	100.0	100.0	99.9	99.9	99.8	99.6	99.3	98.0	90.1	42.0	22.1	7.7	2.6
13B	101-110	99.4	98.9	98.5	98.3	98.2	97.9	97.5	95.4	67.7	11.2	11.2	4.0	1.8
13B	131-136	98.9	98.5	98.3	98.1	98.0	97.8	97.3	95.4	86.2	31.2	5.6	4.7	2.8
13B	136-140											71.8	63.7	43.8
13B	164-170											58.7	49.2	17.2
13B	201-210											59.7	52.5	29.0
13B	220-230											75.7	71.7	47.2
13B	231-240	97.9	94.7	91.8	89.5	88.5	88.0	87.6	84.8	45.2	22.8	22.4	18.6	12.1

Table B 40: Folkain Statistic data for core 13B

Core ID	Sample Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(Φ)	(mm)	(Φ)	(mm)		
13B	1-10	3.444	0.0915	3.4340	0.0921	-0.0049	0.3395
13B	11-20	3.421	0.0929	3.4509	0.0910	0.1063	0.3663
13B	101-110	3.138	0.1131	3.1228	0.1143	0.0392	0.3717
13B	131-136	3.356	0.0972	3.3385	0.0984	-0.1420	0.301
13B	136-140						
13B	164-170						
13B	201-210						
13B	220-230						
13B	231-240	2.941	0.1296	3.2015	0.1083	0.4802	2.4492

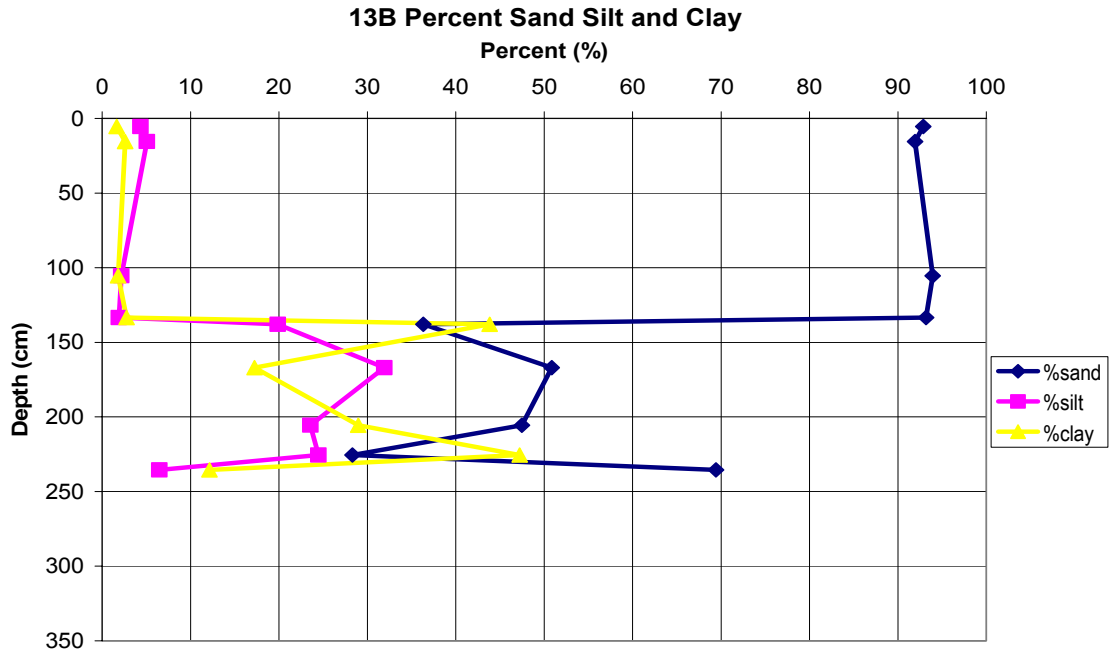


Figure B 59: Percent sand, silt and clay graph for core 13B

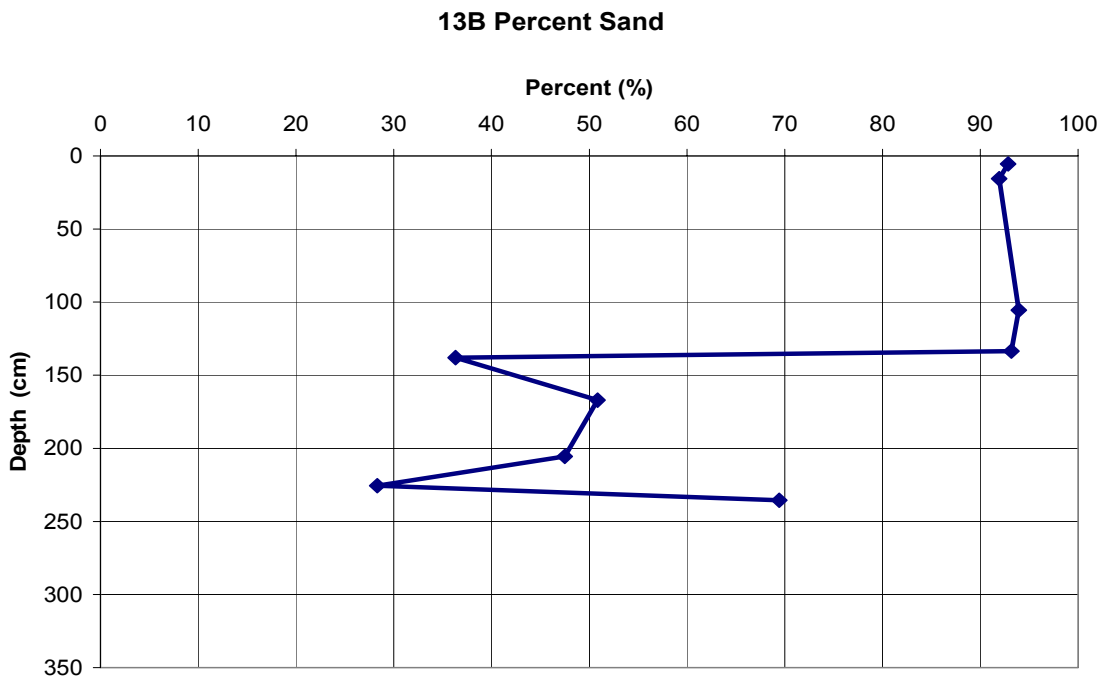


Figure B 60: Percent sand graph for core 13B

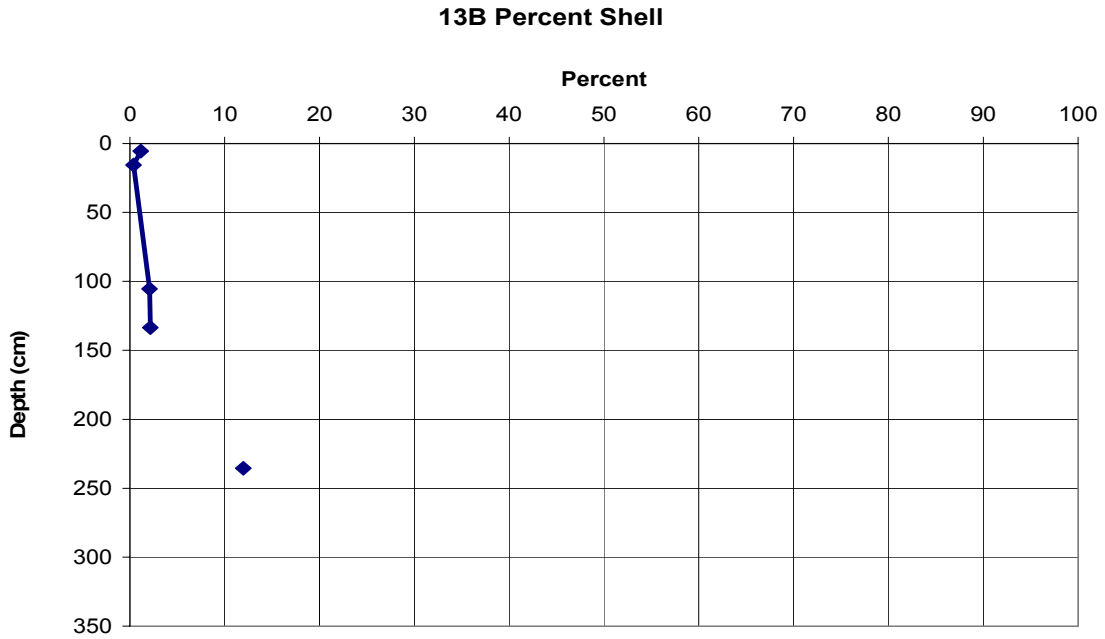


Figure B 61: Percent shell graph for core 13B

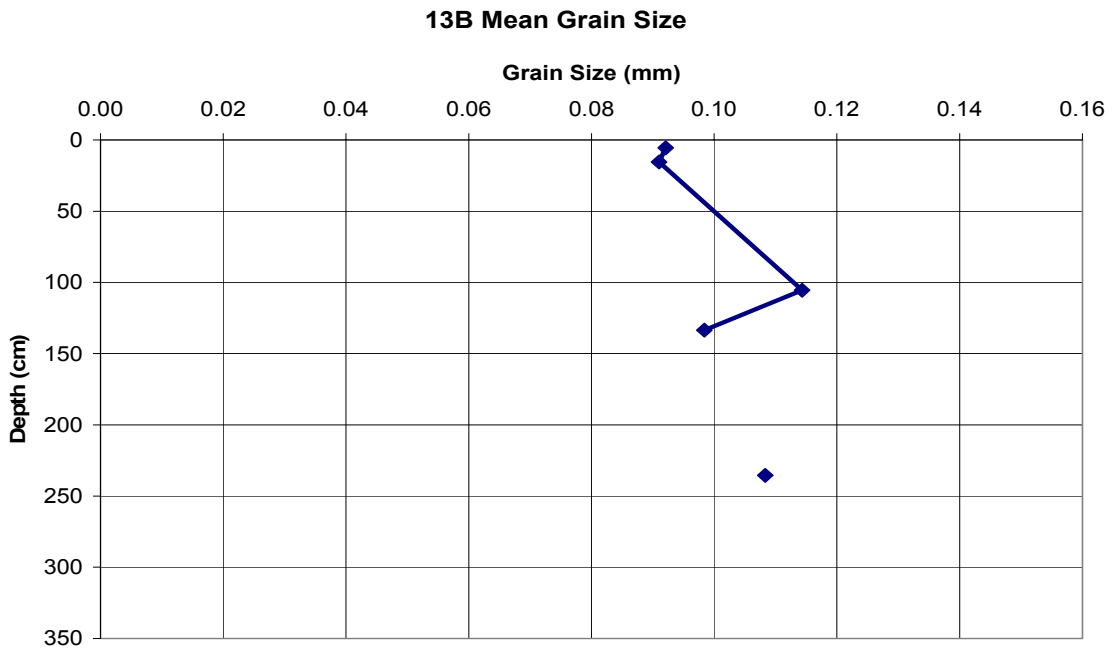


Figure B 62: Mean grain size graph for core 13B

Core#: 13C

Core Date: 7/8/05

Date Split/subsampled	Length: 382 CM
7/15/05	Lat: 21 11.488
	Long: 94 55.800

Centi-Meters	Munsell Soil Color	Depth Sampled	Description:
0-17 cm	5y 3/1	WC 0-10 cm 10-16 cm 20-21 cm	0-17 shell hash layer w/ sand
17-95 cm	10yR 4/1	20-31 cm 30-41 cm 50-51 cm 60-66 cm 76-71 cm 80-81 cm 90-91 cm	17-65 → sandy mud w/ trace shell hash and sand laminations 65-79 → sand w/ trace shell hash
95-107 cm	5y 3/1	100-101 cm 110-111 cm 120-121 cm	77-103 → mud w/ fine sand laminations and trace shell hash
107-250 cm	Gley 4/N	130-131 cm 140-141 cm 150-151 cm 160-161 cm 170-171 cm	103-165 → sand w/ trace shell hash
250-272 cm	Gley 3/N	180-181 cm 190-191 cm 200-201 cm 210-211 cm 220-221 cm 230-231 cm 240-241 cm 250-251 cm	165-170 → shell hash layer w/ sand 170-200 → clay dominated mud w/ fine sand laminations and trace shell hash
272-318 cm	Gley 4/N	260-261 cm 270-271 cm 280-281 cm 290-291 cm 300-301 cm 310-311 cm	175-175 → shell hash layer 200-204 → shell hash layer w/ muddy sand 204-251 → clay dominated mud w/ fine sand laminations and trace shell hash
		G5 1-10 cm 11-20 cm 21-30 cm 101-111 cm 161-170 cm 171-180 cm 241-250 cm 251-260 cm 271-280 cm 301-310 cm	251-272 → sand w/ trace shell hash 272-274 → shell hash w/ sand 274-316 → muddy sand w/ abundant shell hash
		301-310 cm 271-280 cm	

Figure B 63: Core log for 13C for depths 0-150 cm
Figure B 64: Core log for 13C for depths 150-300 cm

Core#: 13C

Core Date: 7/8/05

Date Split/subsampled	Length: 382 CM
7/15/05	Lat: 21 11.488
	Long: 94 55.800

Centi-Meters	Munsell Soil Color	Depth Sampled	Description:
		296-312 cm	296-312 → sandy mud w/ trace shell hash
		312-318 cm	312-318 → muddy sand

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Core#: 13C
 Core Date: 7/15/05

Date Split/subsampled	Length: 388 CM
7/15/05	Lat: 29 16.489
	Long: 94 55.105

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
310			
320			

Depth	Lithology	Description
0		SHELL HASH / SAND: shell hash layer with sand
50		SAND/MUD/SHELL: sandy mud with trace shell hash and sand laminations
		SAND/TRACE SHELLHASH: sand with trace shell hash
100		MUD/SAND/SHELL: mud with fine sand laminations and trace shell hash
150		SAND/TRACE SHELLHASH: sand with trace shell hash
200		SHELL HASH / SAND: shell hash layer with sand
		CLAY/MUD/SAND/SHELL: clay dominated mud with fine sand laminations and trace shell hash
250		SHELLHASH/MUDDY SAND: shell hash layer with muddy sand
		MUDDY CLAY/TRACE SHELL: clay dominated mud with fine sand laminations and trace shell hash
300		SAND/TRACE SHELLHASH: sand with trace shell hash
		SHELL HASH / SAND: shell hash with sand
		MUD/SAND/ABUNDANT SHELL: muddy sand with abundant shell hash
		SAND/MUD/SHELL: sandy mud with trace shell hash
		MUDDYSAND: 312 to 318 cm: muddy sand

Figure B 65: Core log of 13C for depths 300-318cm
 Figure B 66: Computerized core log for 13C

Table B 41: Shell and sand weights for core 13C

Core ID	Sample Depth (cm)	shell weight	200+ weight	200-230 weight	total sand
13C	1-10		37.23	7.25	44.48
13C	11-20	14.26	80.28	9.21	89.49
13C	21-30		15.53	3.61	19.14
13C	31-40		37.60	4.43	42.03
13C	41-50		25.64	3.76	29.40
13C	51-60		28.91	2.39	31.30
13C	61-70		39.55	0.92	40.47
13C	71-80	0.25	71.49	2.85	74.34
13C	81-90		10.34	5.53	15.87
13C	91-100		5.74	1.55	7.29
13C	101-111	0.14	137.90	5.83	143.73
13C	121-130	0.21	83.93	0.51	84.44
13C	141-150	0.16	84.88	1.54	86.42
13C	151-160	0.12	70.77	0.76	71.53
13C	161-170	1.04	108.93	2.99	111.92
13C	171-180		23.47	4.71	28.18
13C	201-210		12.03	3.18	15.21
13C	241-250		11.18	7.97	19.15
13C	251-260	0.27	78.25	13.58	91.83
13C	271-280		22.54	6.38	28.92
13C	281-290	2.35	43.83	10.76	54.59
13C	301-310		18.38	4.76	23.14

Table B 42: Percent shell, sand, silt and clay for core 13C

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
13C	1-10		83.6	8.7	7.7
13C	11-20	8.9	55.6	15.4	20.1
13C	21-30		27.2	28.7	44.1
13C	31-40		70.4	11.1	18.4
13C	41-50		51.2	22.3	26.5
13C	51-60		51.8	21.3	26.9
13C	61-70		73.5	9.9	16.7
13C	71-80	0.2	71.3	12.1	16.4
13C	81-90		31.4	31.8	36.8
13C	91-100		20.0	25.4	54.6
13C	101-111	0.1	72.3	11.9	15.7
13C	121-130	0.2	92.0	3.5	4.2
13C	141-150	0.2	94.9	2.3	2.6
13C	151-160	0.2	96.2	1.8	1.8
13C	161-170	0.8	81.7	8.5	9.0
13C	171-180		34.9	36.7	28.4
13C	201-210		30.1	39.2	30.7
13C	241-250		25.1	38.3	36.6
13C	251-260	0.2	75.6	19.3	4.9
13C	271-280		48.3	36.3	15.4
13C	281-290	1.8	42.6	34.5	21.1
13C	301-310		30.1	37.3	32.6

Table B 43: RO-TAP data for core 13C

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
13C	1-10											37.23	7.25
13C	11-20	5.53	3.83	2.26	1.46	0.73	0.45	0.89	2.70	12.15	45.94	18.60	9.21
13C	21-30											15.53	3.61
13C	31-40											37.60	4.43
13C	41-50											25.64	3.76
13C	51-60											28.91	2.39
13C	61-70											39.55	0.92
13C	71-80	0.00	0.03	0.03	0.04	0.04	0.11	0.24	0.56	8.08	44.22	18.39	2.85
13C	81-90											10.34	5.53
13C	91-100											5.74	1.55
13C	101-111	0.00	0.02	0.02	0.04	0.04	0.02	0.13	0.76	41.10	89.73	6.18	5.83
13C	121-130	0.05	0.01	0.02	0.04	0.05	0.04	0.15	0.33	61.52	17.23	4.70	0.51
13C	141-150	0.00	0.00	0.05	0.02	0.03	0.06	0.09	0.26	10.96	68.46	5.11	1.54
13C	151-160	0.00	0.03	0.02	0.04	0.01	0.02	0.09	0.26	30.78	35.79	3.85	0.76
13C	161-170	0.28	0.12	0.31	0.17	0.11	0.05	0.07	0.32	69.95	36.48	2.11	2.99
13C	171-180											23.47	4.71
13C	201-210											12.03	3.18
13C	241-250											11.18	7.97
13C	251-260	0.01	0.03	0.04	0.06	0.08	0.05	0.09	0.24	2.17	43.90	31.85	13.58
13C	271-280											22.54	6.38
13C	281-290	0.76	0.46	0.46	0.31	0.20	0.16	0.24	0.50	3.12	27.18	12.79	10.76
13C	301-310											18.38	4.76

Table B 44: Percent finer data for core 13C

ASTM Classification		coarse sand	med. sand	med. sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt	
Wentworth Classification		granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt	
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.40mm/ -0.5Φ Screen	% finer than N18/ 1.00mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm/ 3.5Φ Screen	% finer than N200/ 75µm/ 3.75Φ Screen	% finer than N230/ 63µm/ 4.0Φ Screen	% finer than 4µm/ 8Φ	
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt	
13C	1-10												30.0	16.4	7.7
13C	11-20	96.6	94.2	92.8	91.9	91.4	91.1	90.6	88.9	81.4	52.8	41.3	35.5	20.1	
13C	21-30											77.9	72.8	44.1	
13C	31-40											37.0	29.6	18.4	
13C	41-50											55.3	48.8	26.5	
13C	51-60											52.2	48.2	26.9	
13C	61-70											28.2	26.5	16.7	
13C	71-80	100.0	100.0	99.9	99.9	99.9	99.8	99.5	99.0	91.2	48.9	31.2	28.5	16.4	
13C	81-90											79.5	68.6	36.8	
13C	91-100											84.2	80.0	54.6	
13C	101-111	100.0	100.0	100.0	100.0	99.9	99.9	99.9	99.5	78.8	33.7	30.6	27.7	15.7	
13C	121-130	99.9	99.9	99.9	99.9	99.8	99.8	99.6	99.2	32.2	13.4	8.3	7.7	4.2	
13C	141-150	100.0	100.0	99.9	99.9	99.9	99.8	99.7	99.4	87.4	12.2	6.6	4.9	2.6	
13C	151-160	100.0	100.0	99.9	99.9	99.9	99.8	99.7	99.4	58.0	9.8	4.6	3.6	1.8	
13C	161-170	99.8	99.7	99.5	99.4	99.3	99.2	99.2	99.0	47.9	21.3	19.7	17.5	9.0	
13C	171-180											71.0	65.1	28.4	
13C	201-210											76.2	69.9	30.7	
13C	241-250											85.3	74.9	36.6	
13C	251-260	100.0	100.0	99.9	99.9	99.8	99.8	99.7	99.5	97.7	61.6	35.3	24.2	4.9	
13C	271-280											62.4	51.7	15.4	
13C	281-290	99.4	99.0	98.7	98.4	98.3	98.2	98.0	97.6	95.2	73.9	63.9	55.5	21.1	
13C	301-310											76.1	69.9	32.6	

Table B 45: Folkian statistic data for core 13C

Core ID	Sample Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(Φ)	(mm)	(Φ)	(mm)		
13C	1-10						
13C	11-20	3.551	0.0849	5.6756	0.0024	0.6064	3.9741
13C	21-30						
13C	31-40						
13C	41-50						
13C	51-60						
13C	61-70						
13C	71-80	3.488	0.0887	4.8960	0.0334	0.8555	2.5037
13C	81-90						
13C	91-100						
13C	101-111	3.285	0.1022	3.8032	0.0713	0.7882	2.092
13C	121-130	2.862	0.137	2.9378	0.1264	0.6055	0.9437
13C	141-150	3.236	0.1057	3.2411	0.1053	0.2179	0.2701
13C	151-160	3.069	0.1187	3.0713	0.1185	0.0714	0.3315
13C	161-170	2.979	0.1263	3.2719	0.0263	0.7519	1.7801
13C	171-180						
13C	201-210						
13C	241-250						
13C	251-260	3.601	0.082	3.7302	0.0750	0.4059	0.5665
13C	271-280						
13C	281-290	4.188	0.0546	6.3075	0.0125	0.7735	3.582
13C	301-310						

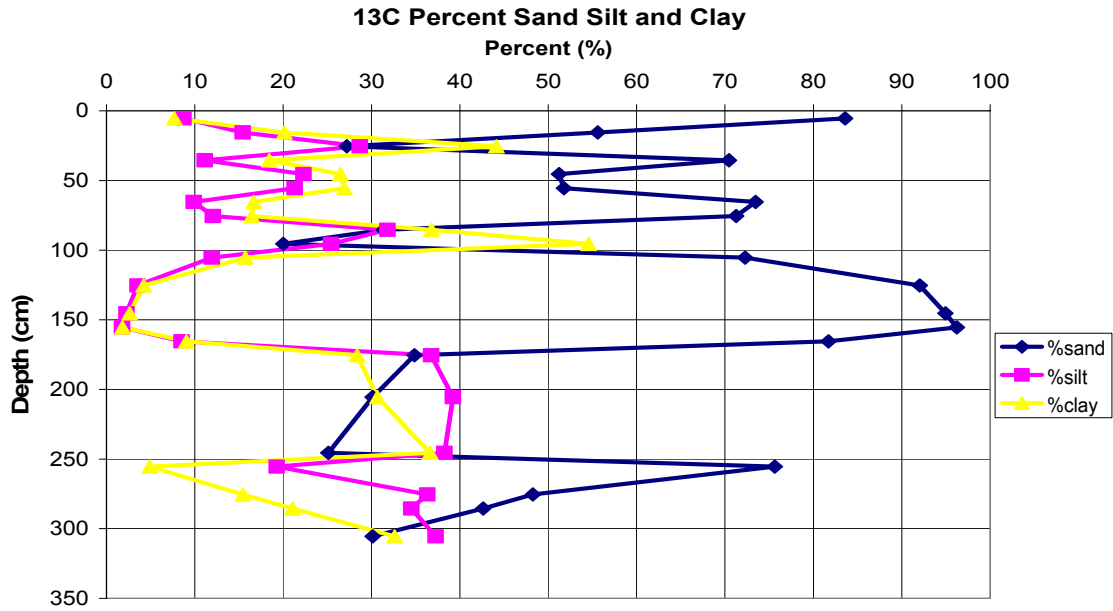


Figure B 67: Percent sand, silt and clay graph for core 13C

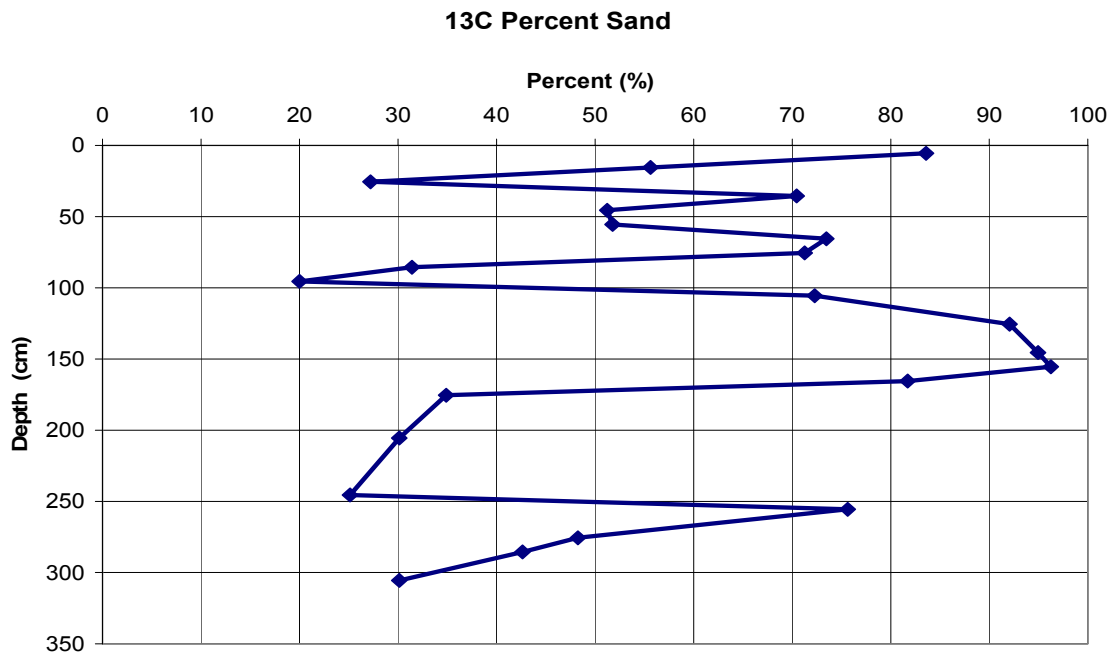


Figure B 68: Percent sand graph for core 13C

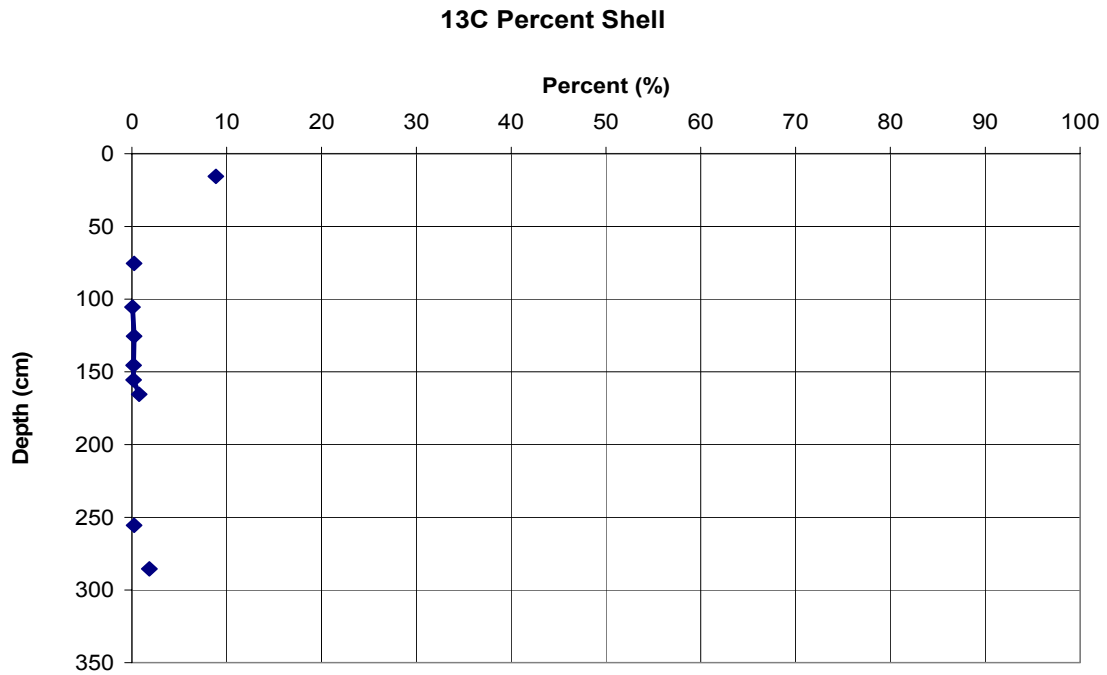


Figure B 69: Percent shell for core 13C

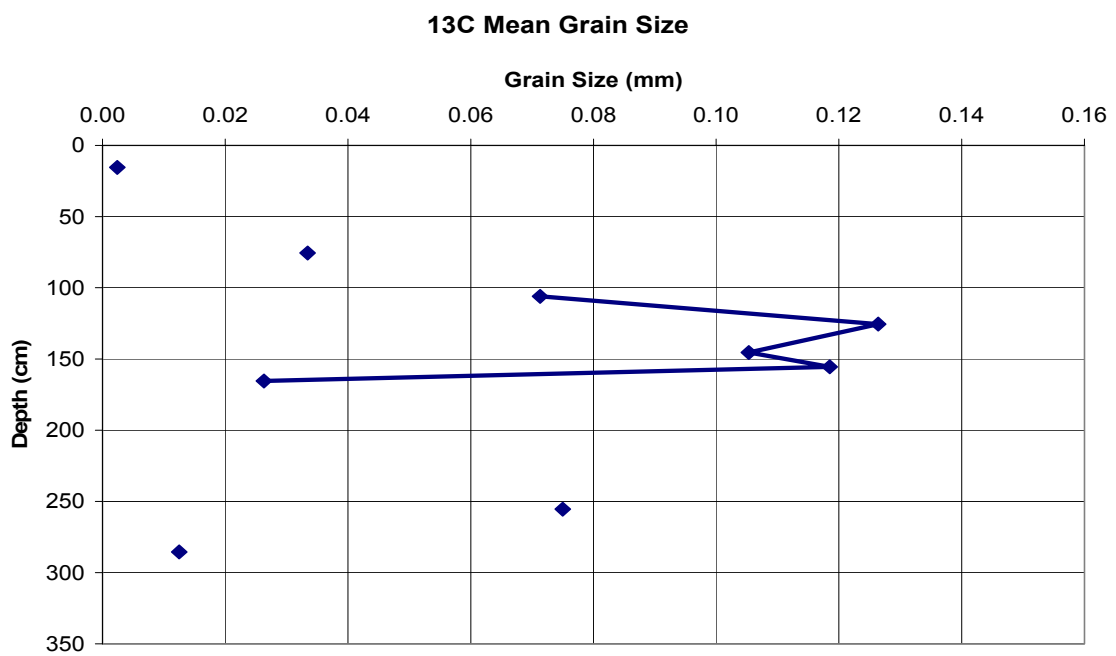


Figure B 70: Mean grain size for core 13C

Core#: 13D

Core Date: 7/18/05

Date Split/subsampled	Length: 332 cm
7/18/05	Lat: 39 10 24 S
	Long: 94 55 40 W

Centi-Meters	Munsell Soil Color	Depth Sampled	Description
0-10			
10-20			
20-30			
30-40			
40-50			
50-60			
60-70			
70-80			
80-90			
90-100			
100-110			
110-120			
120-130			
130-140			
140-150			
150-160			
160-170			
170-180			
180-190			
190-200			
200-210			
210-220			
220-230			
230-240			
240-250			
250-260			
260-270			
270-280			
280-290			
290-300			
300-310			
310-320			
320-330			
330-340			
340-350			
350-360			
360-370			
370-380			
380-390			
390-400			
400-410			
410-420			
420-430			
430-440			
440-450			
450-460			
460-470			
470-480			
480-490			
490-500			
500-510			
510-520			
520-530			
530-540			
540-550			
550-560			
560-570			
570-580			
580-590			
590-600			
600-610			
610-620			
620-630			
630-640			
640-650			
650-660			
660-670			
670-680			
680-690			
690-700			
700-710			
710-720			
720-730			
730-740			
740-750			
750-760			
760-770			
770-780			
780-790			
790-800			
800-810			
810-820			
820-830			
830-840			
840-850			
850-860			
860-870			
870-880			
880-890			
890-900			
900-910			
910-920			
920-930			
930-940			
940-950			
950-960			
960-970			
970-980			
980-990			
990-1000			
1000-1010			
1010-1020			
1020-1030			
1030-1040			
1040-1050			
1050-1060			
1060-1070			
1070-1080			
1080-1090			
1090-1100			
1100-1110			
1110-1120			
1120-1130			
1130-1140			
1140-1150			
1150-1160			
1160-1170			
1170-1180			
1180-1190			
1190-1200			
1200-1210			
1210-1220			
1220-1230			
1230-1240			
1240-1250			
1250-1260			
1260-1270			
1270-1280			
1280-1290			
1290-1300			
1300-1310			
1310-1320			
1320-1330			
1330-1340			
1340-1350			
1350-1360			
1360-1370			
1370-1380			
1380-1390			
1390-1400			
1400-1410			
1410-1420			
1420-1430			
1430-1440			
1440-1450			
1450-1460			
1460-1470			
1470-1480			
1480-1490			
1490-1500			
1500-1510			
1510-1520			
1520-1530			
1530-1540			
1540-1550			
1550-1560			
1560-1570			
1570-1580			
1580-1590			
1590-1600			
1600-1610			
1610-1620			
1620-1630			
1630-1640			
1640-1650			
1650-1660			
1660-1670			
1670-1680			
1680-1690			
1690-1700			
1700-1710			
1710-1720			
1720-1730			
1730-1740			
1740-1750			
1750-1760			
1760-1770			
1770-1780			
1780-1790			
1790-1800			
1800-1810			
1810-1820			
1820-1830			
1830-1840			
1840-1850			
1850-1860			
1860-1870			
1870-1880			
1880-1890			
1890-1900			
1900-1910			
1910-1920			
1920-1930			
1930-1940			
1940-1950			
1950-1960			
1960-1970			
1970-1980			
1980-1990			
1990-2000			
2000-2010			
2010-2020			
2020-2030			
2030-2040			
2040-2050			
2050-2060			
2060-2070			
2070-2080			
2080-2090			
2090-2100			
2100-2110			
2110-2120			
2120-2130			
2130-2140			
2140-2150			
2150-2160			
2160-2170			
2170-2180			
2180-2190			
2190-2200			
2200-2210			
2210-2220			
2220-2230			
2230-2240			
2240-2250			
2250-2260			
2260-2270			
2270-2280			
2280-2290			
2290-2300			
2300-2310			
2310-2320			
2320-2330			
2330-2340			
2340-2350			
2350-2360			
2360-2370			
2370-2380			
2380-2390			
2390-2400			
2400-2410			
2410-2420			
2420-2430			
2430-2440			
2440-2450			
2450-2460			
2460-2470			
2470-2480			
2480-2490			
2490-2500			
2500-2510			
2510-2520			
2520-2530			
2530-2540			
2540-2550			
2550-2560			
2560-2570			
2570-2580			
2580-2590			
2590-2600			
2600-2610			
2610-2620			
2620-2630			
2630-2640			
2640-2650			
2650-2660			
2660-2670			
2670-2680			
2680-2690			
2690-2700			
2700-2710			
2710-2720			
2720-2730			
2730-2740			
2740-2750			
2750-2760			
2760-2770			
2770-2780			
2780-2790			
2790-2800			
2800-2810			
2810-2820			
2820-2830			
2830-2840			
2840-2850			
2850-2860			
2860-2870			
2870-2880			
2880-2890			
2890-2900			
2900-2910			
2910-2920			
2920-2930			
2930-2940			
2940-2950			
2950-2960			
2960-2970			
2970-2980			
2980-2990			
2990-3000			
3000-3010			
3010-3020			
3020-3030			
3030-3040			
3040-3050			
3050-3060			
3060-3070			
3070-3080			
3080-3090			
3090-3100			
3100-3110			
3110-3120			
3120-3130			
3130-3140			
3140-3150			
3150-3160			
3160-3170			
3170-3180			
3180-3190			
3190-3200			
3200-3210			
3210-3220			
3220-3230			
3230-3240			
3240-3250			
3250-3260			
3260-3270			
3270-3280			
3280-3290			
3290-3300			
3300-3310			
3310-3320			

Core#: 13D

Core Date: 7/18/05

Date Split/subsampled	Length: 300cm
7/18/05	Lat: 39 10.94E
	Long: 94 55.41

Line 13 Site D

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
310			
320			
330			

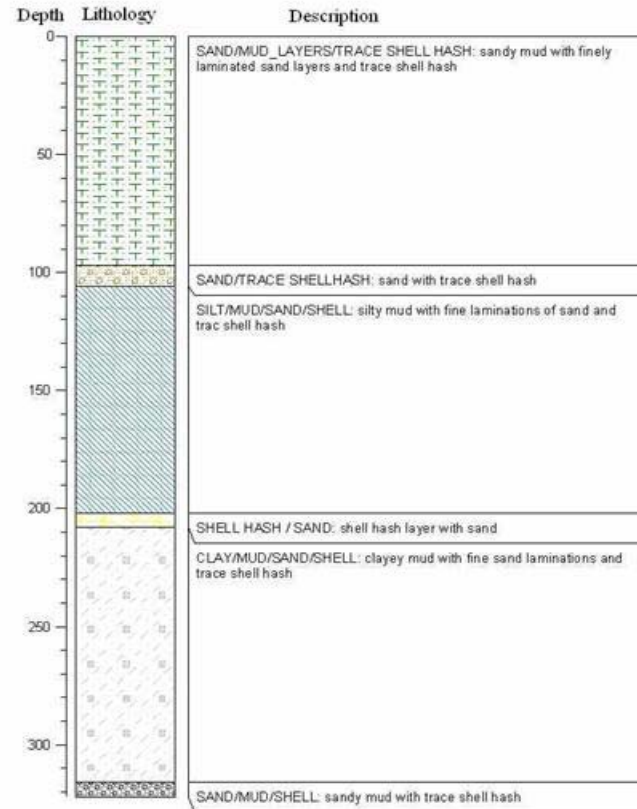


Figure B 73: Core log of 13D for depths 300-322 cm

Figure B 74: Computerized core log for 13D

Table B 46: Shell and sand weights for core 13D

Core ID	Sample Depth (cm)	shell weight	200+ weight	200-230 weight	total sand
13D	1-10		8.83	2.25	11.08
13D	21-30		7.30	2.86	10.16
13D	51-60		20.01	4.65	24.66
13D	71-80		11.65	5.41	17.06
13D	91-100		6.57	7.95	14.52
13D	101-106	0.24	19.00	17.42	36.42
13D	106-110		2.16	1.99	4.15
13D	111-120		3.42	5.35	8.77
13D	161-170		13.31	5.30	18.61
13D	201-210		27.08	8.59	35.67
13D	210-220		14.01	8.17	22.18
13D	261-270		4.46	4.62	9.08

Table B 47: Percent shell, sand, silt and clay for core 13D

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
13D	1-10		26.5	20.8	52.7
13D	21-30		24.7	23.5	51.9
13D	51-60		43.7	20.5	35.8
13D	71-80		27.6	26.3	46.2
13D	91-100		18.0	48.6	33.3
13D	101-106	0.2	35.8	51.7	12.3
13D	106-110		10.2	39.6	50.2
13D	111-120		17.8	49.7	32.5
13D	161-170		29.0	40.8	30.2
13D	201-210		43.9	33.0	23.2
13D	210-220		34.7	37.2	28.1
13D	261-270		18.8	56.8	24.4

Table B 48: RO-TAP data for core 13D

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
13D	1-10											8.83	2.25
13D	21-30											7.30	2.86
13D	51-60											20.01	4.65
13D	71-80											11.65	5.41
13D	91-100											6.57	7.95
13D	101-106	0.06	0.04	0.06	0.04	0.02	0.02	0.07	0.24	0.86	6.60	11.23	17.42
13D	106-110											2.16	1.99
13D	111-120											3.42	5.35
13D	161-170											13.31	5.30
13D	201-210											27.08	8.59
13D	210-220											14.01	8.17
13D	261-270											4.46	4.62

Table B 49: Percent finer data for core 13D

ASTM Classification	coarse sand	med. sand	med. sand	med. Sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt	
Wentworth Classification	granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.40mm/ -0.5Φ Screen	% finer than N18/ 1.00mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm/ 3.5Φ Screen	% finer than N200/ 75µm/ 3.75Φ Screen	% finer than N230/ 63µm/ 4.0Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
13D	1-10											78.9	73.5	52.7
13D	21-30											82.3	75.3	51.9
13D	51-60											64.6	56.3	35.8
13D	71-80											81.2	72.4	46.2
13D	91-100											91.8	82.0	33.3
13D	101-106	99.9	99.9	99.8	99.8	99.8	99.8	99.7	99.5	98.6	92.1	81.1	63.9	12.3
13D	106-110											94.7	89.8	50.2
13D	111-120											93.1	82.2	32.5
13D	161-170											79.2	71.0	30.2
13D	201-210											66.7	56.1	23.2
13D	210-220											78.1	65.3	28.1
13D	261-270											90.8	81.2	24.4

Table B 50: Folkian statistic data for core 13D

Core ID	Sample Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(Φ)	(mm)	(Φ)	(mm)		
13D	1-10						
13D	21-30						
13D	51-60						
13D	71-80						
13D	91-100						
13D	101-106	4.2313	0.0529	4.2879	0.0509	0.5059	1.8126
13D	106-110						
13D	111-120						
13D	161-170						
13D	201-210						
13D	210-220						
13D	261-270						

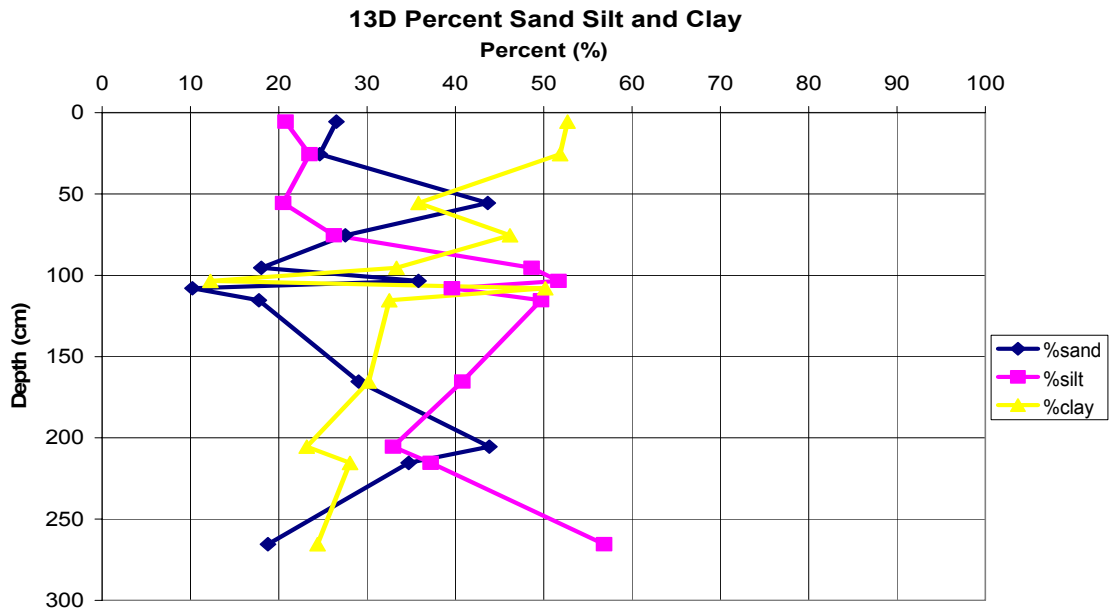


Figure B 75: Percent sand, silt and clay graph for core 13D

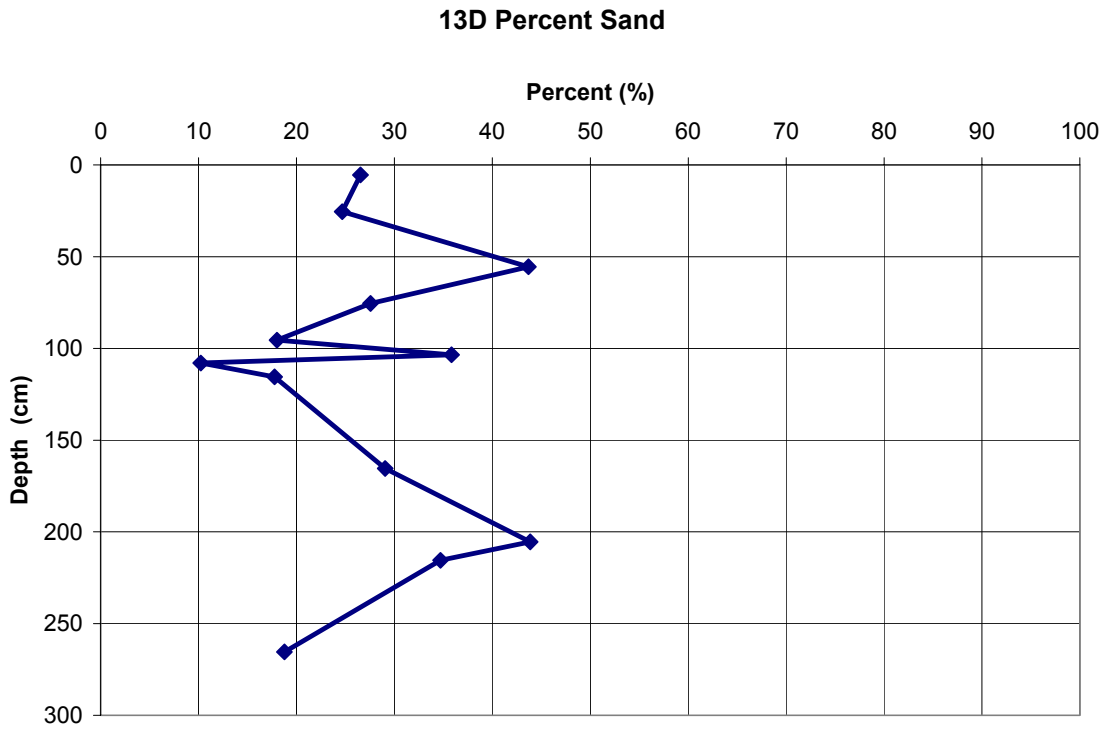


Figure B 76: Percent sand graph for core 13D

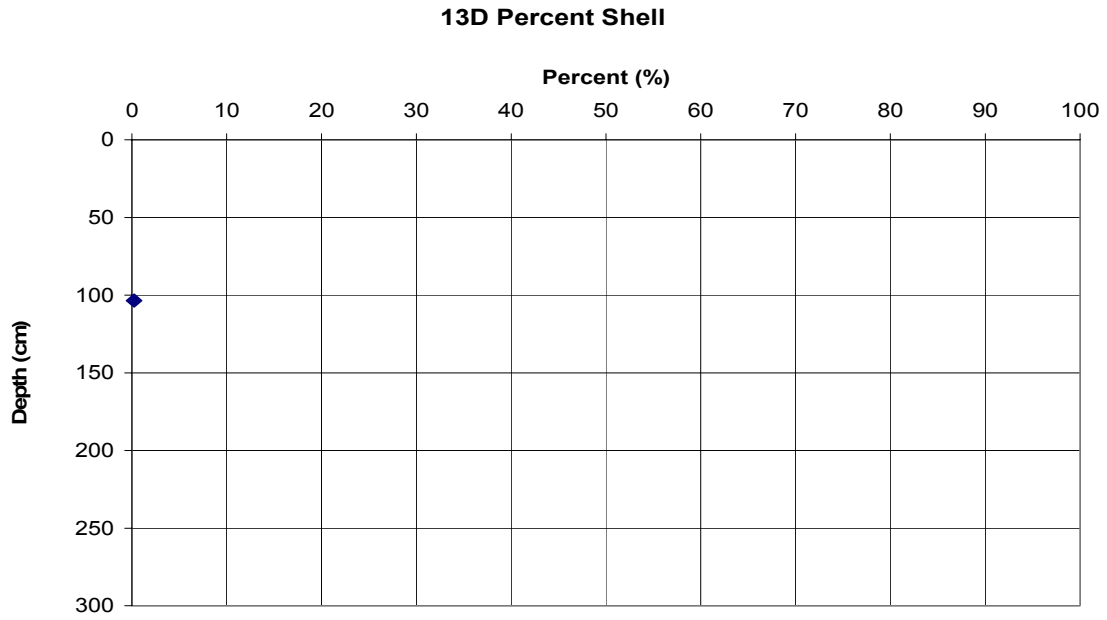


Figure B 77: Percent shell graph for core 13D

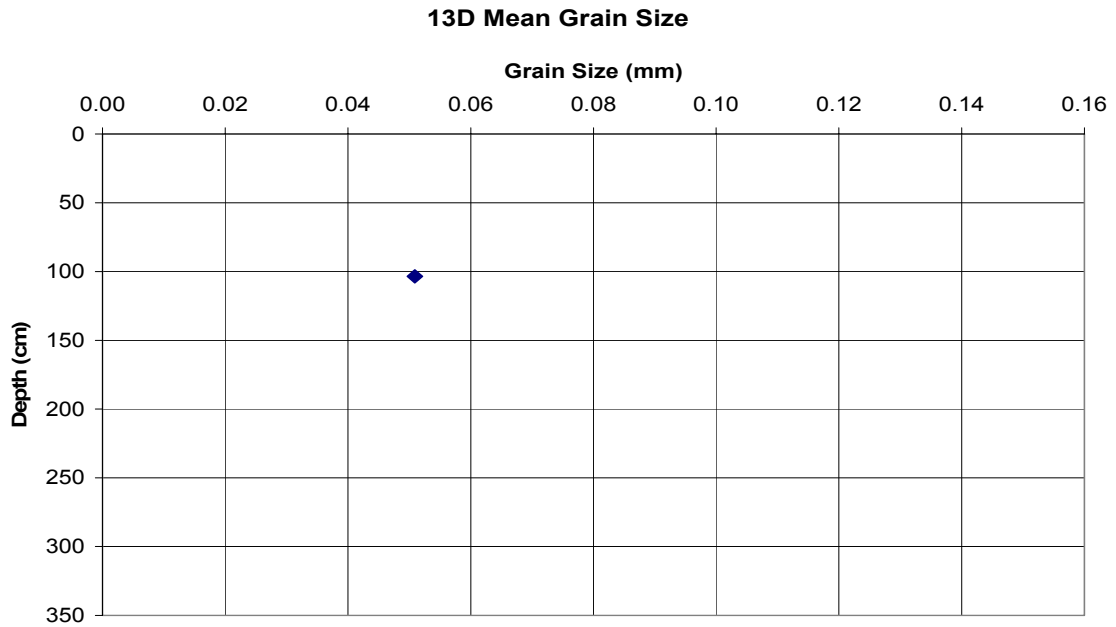


Figure B 78: Mean grain size graph for core 13D

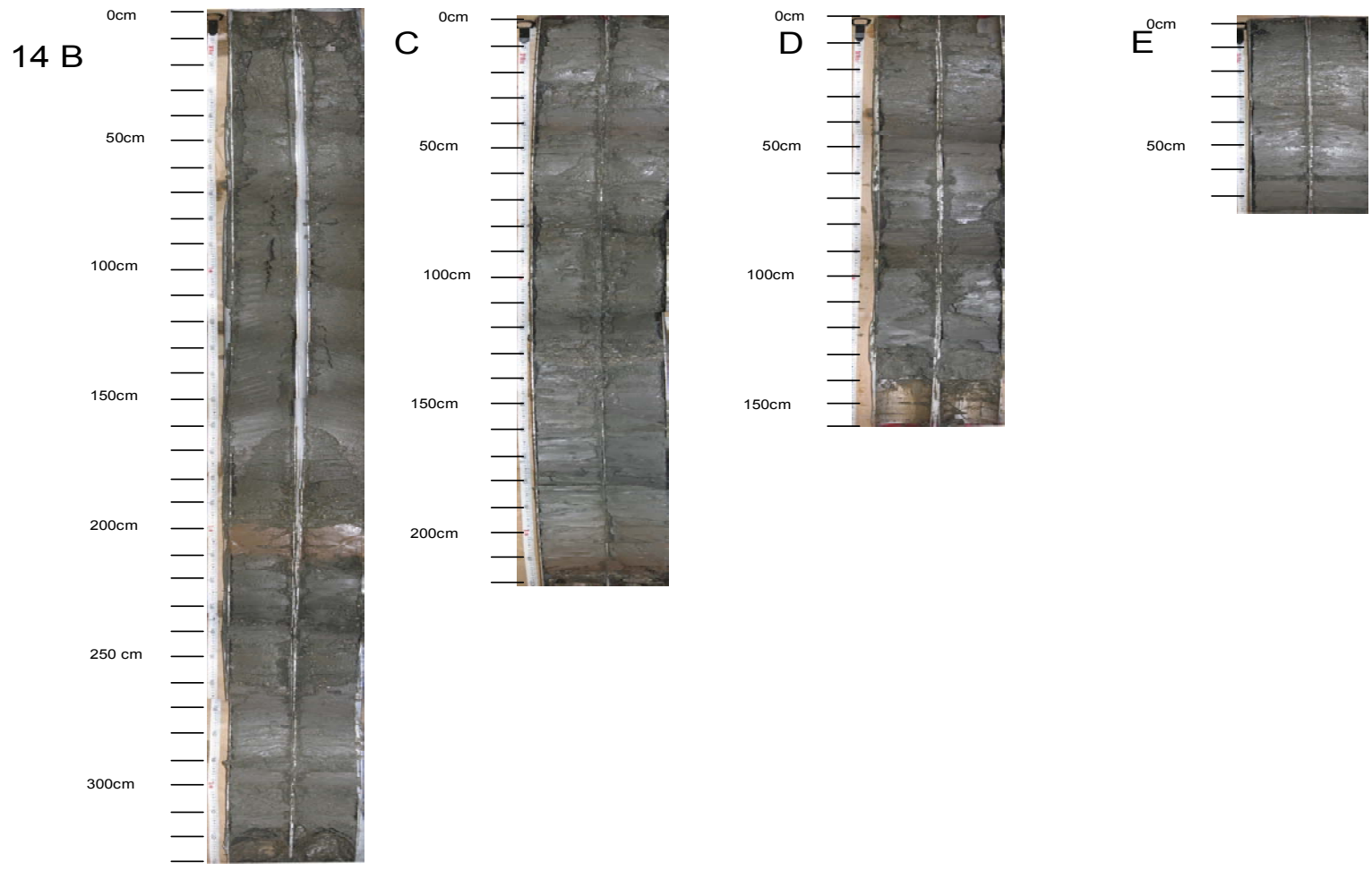
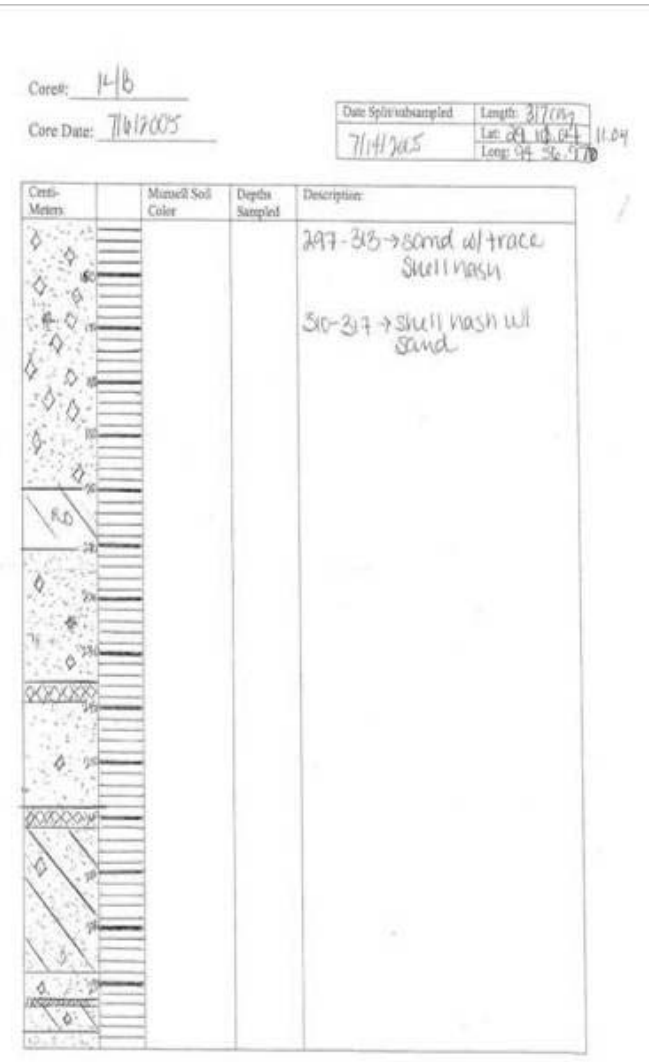


Figure B 79: Core photographs of line 14



Figure B 80: Core log of 14B for depths 0-150 cm
 Figure B 81: Core photograph of 14B for depths 150-300 cm



Core#: 14B
 Core Date: 7/16/2005

Date Split/subsampled	Length: <u>37cm</u>
<u>7/14/2005</u>	Lat: <u>99 10.04</u>
	Long: <u>94 56.98</u>

Line 14 Site B

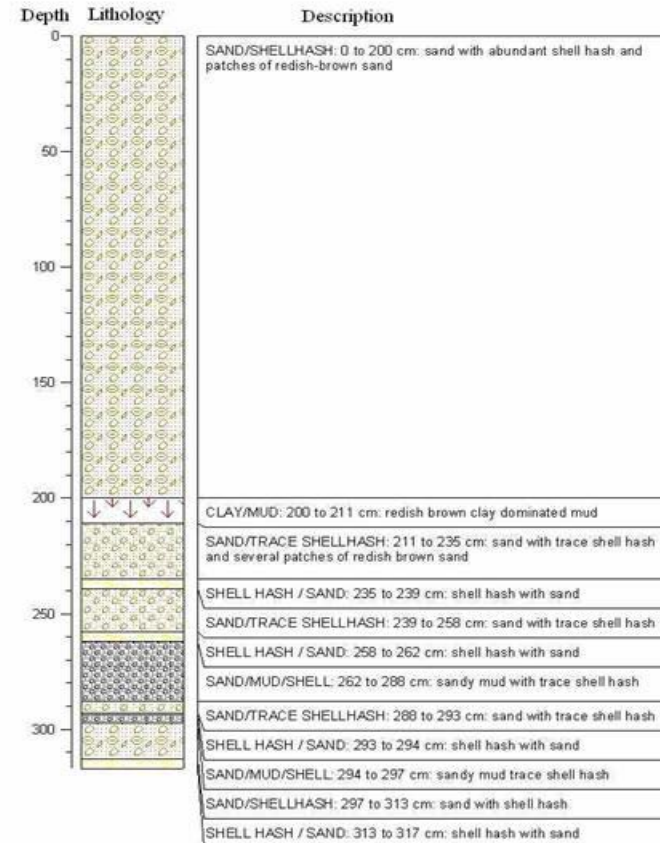
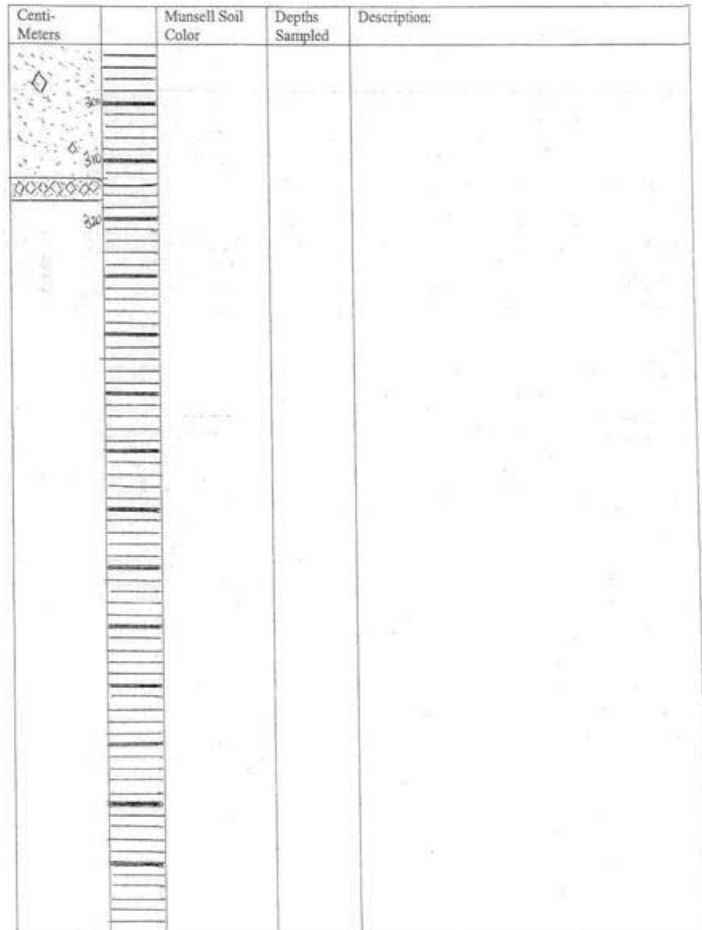


Figure B 82: Core log of 14B for depths 300-317 cm
 Figure B 83: Computerized core log of 14B

Table B 51: Shell and sand weights for core 14B

Core ID	Sample Depth (cm)	shell weight	200+ weight	200-230 weight	total sand
14B	1-10	4.23	61.90	4.46	66.36
14B	51-60	1.81	72.30	6.24	78.54
14B	101-110	1.09	72.00	5.54	77.54
14B	151-160	0.44	77.16	9.30	86.46
14B	191-200	1.29	137.42	8.87	146.29
14B	201-210		14.91	3.05	17.96
14B	211-220	0.19	49.56	28.84	78.40
14B	231-240	2.00	42.10	23.12	65.22
14B	241-250	0.42	54.84	25.30	80.14
14B	251-260	0.39	66.35	13.46	79.81
14B	261-270		10.56	5.01	15.57
14B	281-290		10.37	3.13	13.50
14B	289-295		44.64	0.86	45.50
14B	296-300	0.12	86.20	4.73	90.93
14B	310-316	1.37	100.15	7.94	108.09

Table B 52: Percent shell, sand, silt and clay for core 14B

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
14B	1-10	5.8	90.3	1.3	2.6
14B	51-60	2.2	93.3	1.6	3.0
14B	101-110	1.3	93.7	1.6	3.4
14B	151-160	0.5	95.1	1.8	2.6
14B	191-200	0.8	95.4	1.6	2.1
14B	201-210		48.6	12.2	39.2
14B	211-220	0.2	77.7	14.6	7.6
14B	231-240	2.4	76.9	15.2	5.6
14B	241-250	0.4	68.7	15.9	15.0
14B	251-260	0.4	82.6	12.4	4.6
14B	261-270		29.8	30.8	39.4
14B	281-290		27.2	27.7	45.1
14B	289-295		71.6	11.4	17.0
14B	296-300	0.1	82.5	8.6	8.9
14B	310-316	1.1	87.5	5.1	6.3

Table B 53: RO-TAP data for core 14B

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
14B	1-10	2.69	0.51	0.42	0.29	0.15	0.17	0.44	1.48	6.41	37.02	16.55	4.46
14B	51-60	0.49	0.43	0.34	0.27	0.11	0.17	0.48	1.82	6.40	45.47	18.13	6.24
14B	101-110	0.05	0.34	0.24	0.23	0.12	0.11	0.33	1.22	6.75	40.85	22.85	5.54
14B	151-160	0.05	0.11	0.09	0.10	0.05	0.04	0.23	1.75	7.16	45.11	22.91	9.30
14B	191-200	0.24	0.27	0.18	0.16	0.15	0.29	0.44	1.43	15.12	94.18	26.25	8.87
14B	201-210											14.91	3.05
14B	211-220	0.03	0.03	0.03	0.03	0.03	0.04	0.18	0.57	2.19	15.46	31.16	28.84
14B	231-240	1.32	0.28	0.14	0.10	0.08	0.08	0.18	0.18	0.57	11.04	30.13	23.12
14B	241-250	0.08	0.10	0.09	0.07	0.02	0.06	0.14	0.33	1.82	27.57	24.98	25.30
14B	251-260	0.14	0.06	0.04	0.05	0.04	0.06	0.19	0.25	2.26	39.93	23.72	13.46
14B	261-270											10.56	5.01
14B	281-290											10.37	3.13
14B	289-295											44.64	0.86
14B	296-300	0.00	0.00	0.00	0.04	0.03	0.05	0.09	0.30	5.96	68.55	11.30	4.73
14B	310-316	0.11	0.18	0.26	0.34	0.24	0.24		0.82	3.40	83.80	12.13	7.94

Table B 54: Percent finer data for core 14B

ASTM Classification	coarse sand	med. Sand	med. sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		Silt	
Wentworth Classification	granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	Very fine silt	
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.40mm/ -0.5Φ Screen	% finer than N18/ 1.00mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm/ 3.5Φ Screen	% finer than N200/ 75µm/ 3.75Φ Screen	% finer than N230/ 63µm/ 4.0Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	Sand	Silt
14B	1-10	96.3	95.6	95.1	94.7	94.5	94.2	93.6	91.6	82.9	32.5	10.0	4.0	2.6
14B	51-60	99.4	98.9	98.5	98.2	98.1	97.8	97.3	95.1	87.5	33.5	11.9	4.5	3.0
14B	101-110	99.9	99.5	99.2	99.0	98.8	98.7	98.3	96.8	88.7	39.3	11.7	5.0	3.4
14B	151-160	99.9	99.8	99.7	99.6	99.6	99.5	99.3	97.3	89.5	39.8	14.6	4.4	2.6
14B	191-200	99.8	99.7	99.5	99.4	99.3	99.2	98.9	97.9	88.1	26.6	9.5	3.7	2.1
14B	201-210											59.6	51.4	39.2
14B	211-220	100.0	99.9	99.9	99.9	99.9	99.8	99.6	99.1	96.9	81.6	50.7	22.1	7.6
14B	231-240	98.4	98.1	97.9	97.8	97.7	97.6	97.4	97.2	96.5	83.5	48.0	20.8	5.6
14B	241-250	99.9	99.8	99.8	99.7	99.7	99.6	99.5	99.2	97.7	74.0	52.6	30.9	15.0
14B	251-260	99.9	99.8	99.8	99.7	99.7	99.6	99.4	99.1	96.8	55.5	30.9	17.0	4.6
14B	261-270											79.8	70.2	39.4
14B	281-290											79.1	72.8	45.1
14B	289-295											29.8	28.4	17.0
14B	296-300	100.0	100.0	100.0	100.0	99.9	99.9	99.8	99.5	94.1	32.0	21.7	17.4	8.9
14B	310-316	99.9	99.8	99.6	99.3	99.1	98.9	98.9	98.2	95.5	27.7	17.8	11.4	6.3

Table B 55: Folkian statistic data for core 14B

Core ID	Sample Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(Φ)	(mm)	(Φ)	(mm)		
14B	1-10	3.348	0.0978	3.3314	0.0989	-0.3905	0.7505
14B	51-60	3.36	0.097	3.3650	0.0966	0.0344	0.3368
14B	101-110	3.414	0.0934	3.3952	0.0946	-0.0486	0.3339
14B	151-160	3.414	0.0934	3.4087	0.0937	-0.0056	0.3309
14B	191-200	3.313	0.1002	3.3279	0.0992	0.1281	0.3016
14B	201-210						
14B	211-220	3.755	0.0737	3.7633	0.0733	0.4723	1.7228
14B	231-240	3.736	0.0747	3.7618	0.0734	0.5315	1.6915
14B	241-250	3.779	0.0725	3.7768	0.0726	0.4320	1.8042
14B	251-260	3.551	0.0849	3.5932	0.0825	0.1778	0.3982
14B	261-270						
14B	281-290						
14B	289-295						
14B	296-300	3.340	0.098	3.5072	0.0876	0.7167	1.6649
14B	310-316	3.322	0.0996	3.4174	0.0932	0.6645	1.6843

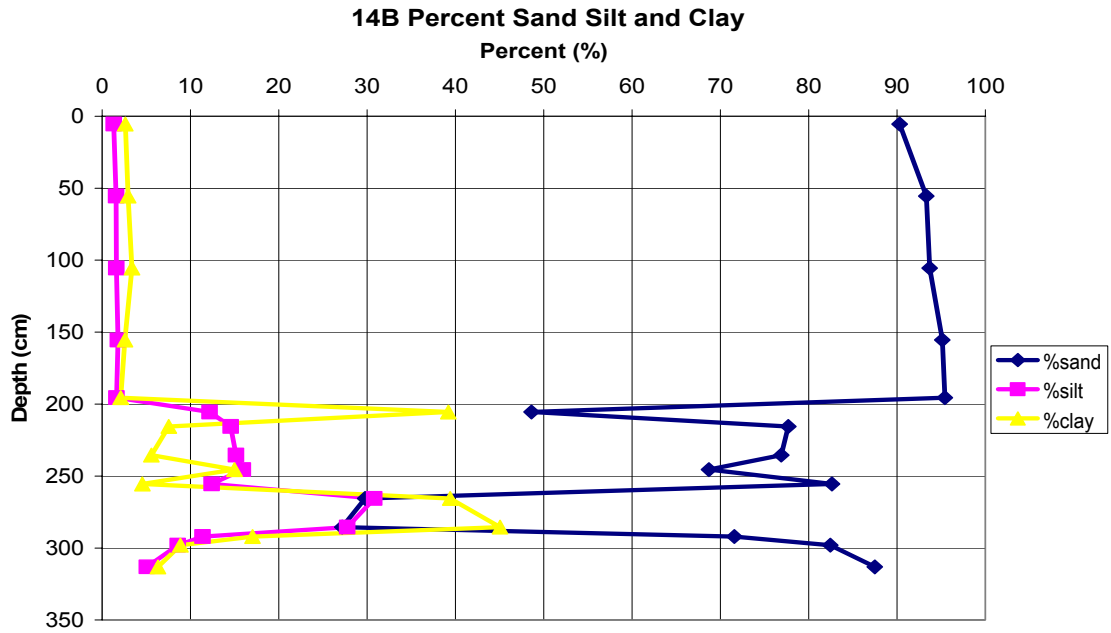


Figure B 84: Percent sand, silt and clay graph for core 14B

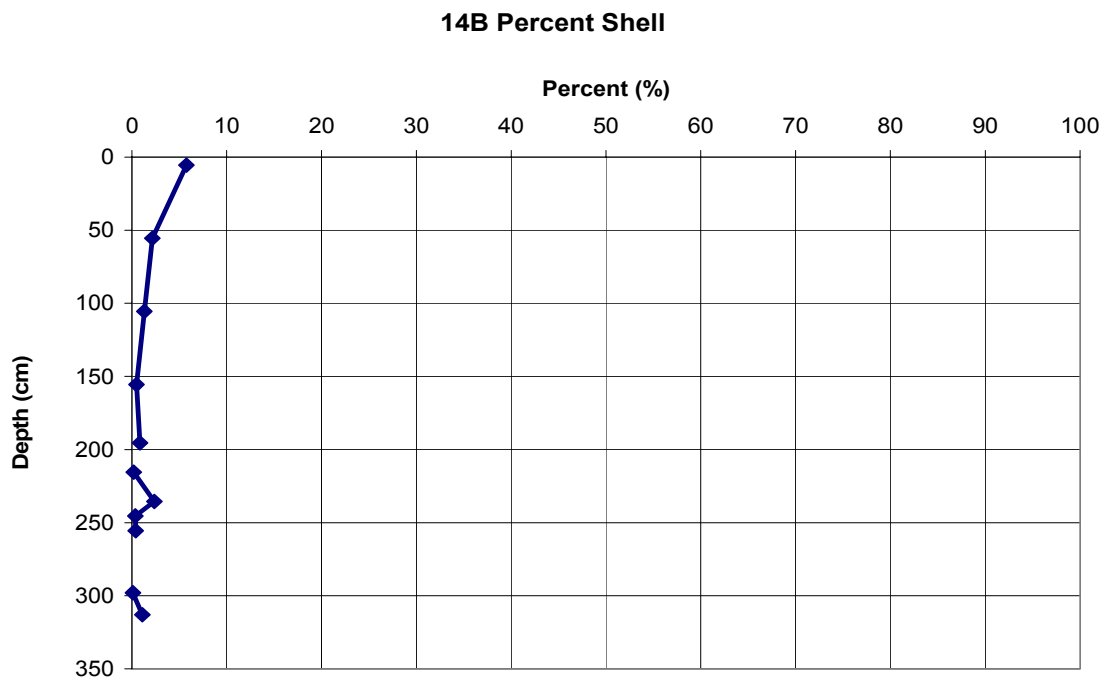


Figure B 85: Percent sand for core 14B

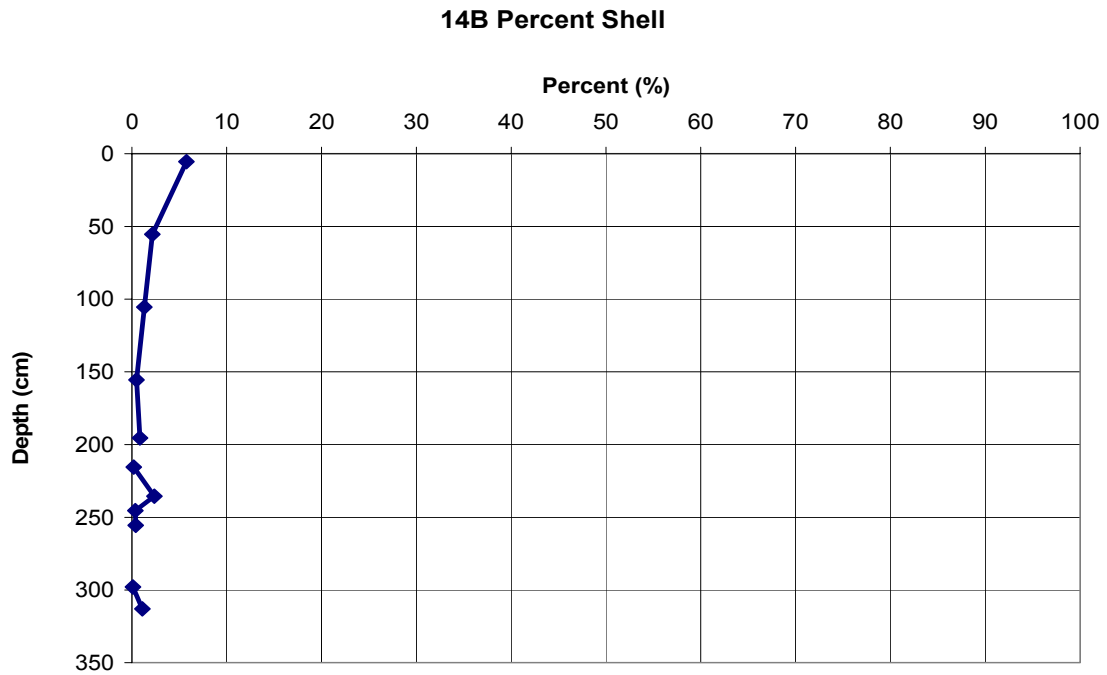


Figure B 86: Percent shell graph for core 14B

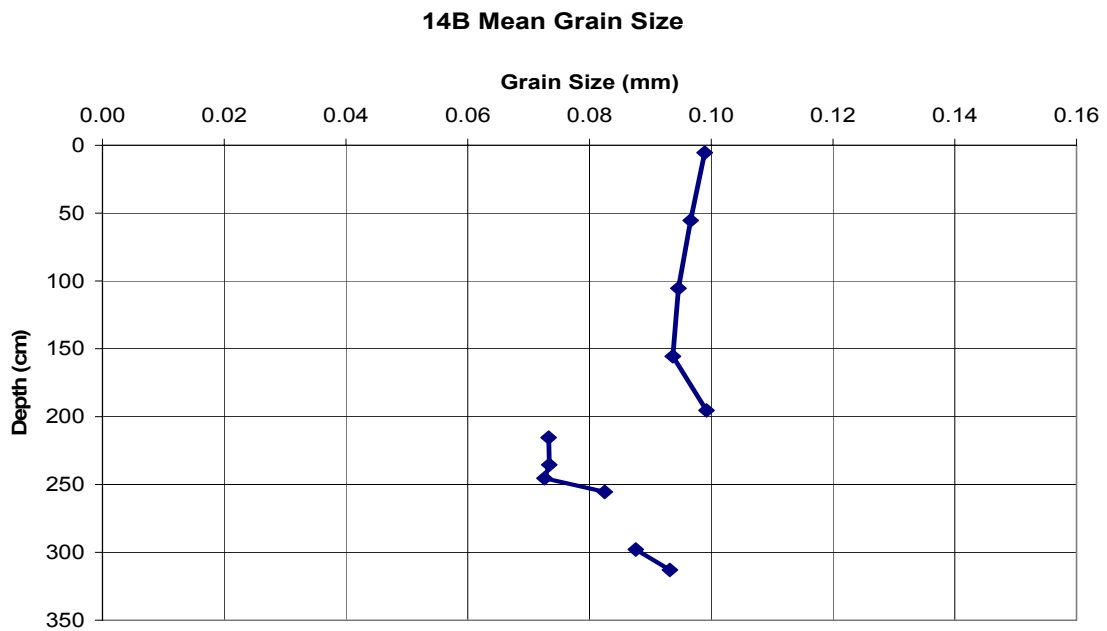


Figure B 87: Mean grain size graph for core 14C

Core#: 14C
 Core Date: 7/10/2005

Date Split/subsampled: 7/14/2005
 Length: 217 cm
 Lat: 39 10 26.3
 Long: 94 54 49.3

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-40 cm	5y 4/1	WC 0-1 cm	0-24 → sandy mud w/ trace shell hash
40-43	5yR 4/1	10-11 cm	24-35 → shell hash layer w/ sand
43-75	5y 3/1 with few patches of bt	20-21 cm 20-24 cm 20-24 cm 40-41 cm 50-57 cm 60-61 cm 70-71 cm 80-81 cm 90-91 cm 100-101 cm 100-111 cm 120-224 cm 130-133 cm 140-141 cm 150-151 cm 160-161 cm 170-171 cm 180-181 cm	25-40 → sandy mud w/ trace shell hash 40-43 → sandy mud w/ brownish red laminations 43-70 → sandy mud w/ fine sandy laminations & trace shell hash 70-127 → sand w/ trace shell hash 127-135 → shell hash w/ sand 135-145 → sand w/ trace shell hash 145-182 → clay dominated mud w/ fine sand laminations 182-209 → clay dominated mud grading from cl grey to a brownish/greenish red 209-214 → grey sand w/ a brownish/greenish red lam 214-217 → shell hash w/ sand
	5yR 4/1	G5 170-170 cm 171-170 cm 181-180 cm	
	G5	Additional G5 21-70 cm 101-100 cm	

Core#: 14C
 Core Date: 7/16/2005

Date Split/subsampled: 7/14/2005
 Length: 217 cm
 Lat: 39 10 26.3
 Long: 94 54 49.3

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
150-151 cm	G1		
151-152 cm	G1		
152-153 cm	G1		
153-154 cm	G1		
154-155 cm	G1		
155-156 cm	G1		
156-157 cm	G1		
157-158 cm	G1		
158-159 cm	G1		
159-160 cm	G1		
160-161 cm	G1		
161-162 cm	G1		
162-163 cm	G1		
163-164 cm	G1		
164-165 cm	G1		
165-166 cm	G1		
166-167 cm	G1		
167-168 cm	G1		
168-169 cm	G1		
169-170 cm	G1		
170-171 cm	G1		
171-172 cm	G1		
172-173 cm	G1		
173-174 cm	G1		
174-175 cm	G1		
175-176 cm	G1		
176-177 cm	G1		
177-178 cm	G1		
178-179 cm	G1		
179-180 cm	G1		
180-181 cm	G1		
181-182 cm	G1		
182-183 cm	G1		
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184-185 cm	G1		
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191-192 cm	G1		
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206-207 cm	G1		
207-208 cm	G1		
208-209 cm	G1		
209-210 cm	G1		
210-211 cm	G1		
211-212 cm	G1		
212-213 cm	G1		
213-214 cm	G1		
214-215 cm	G1		
215-216 cm	G1		
216-217 cm	G1		

Figure B 88: Core log of 14C for depths 0-150 cm
 Figure B 89: Core log of 14C for depths 150-300 cm

Line 14 Site C

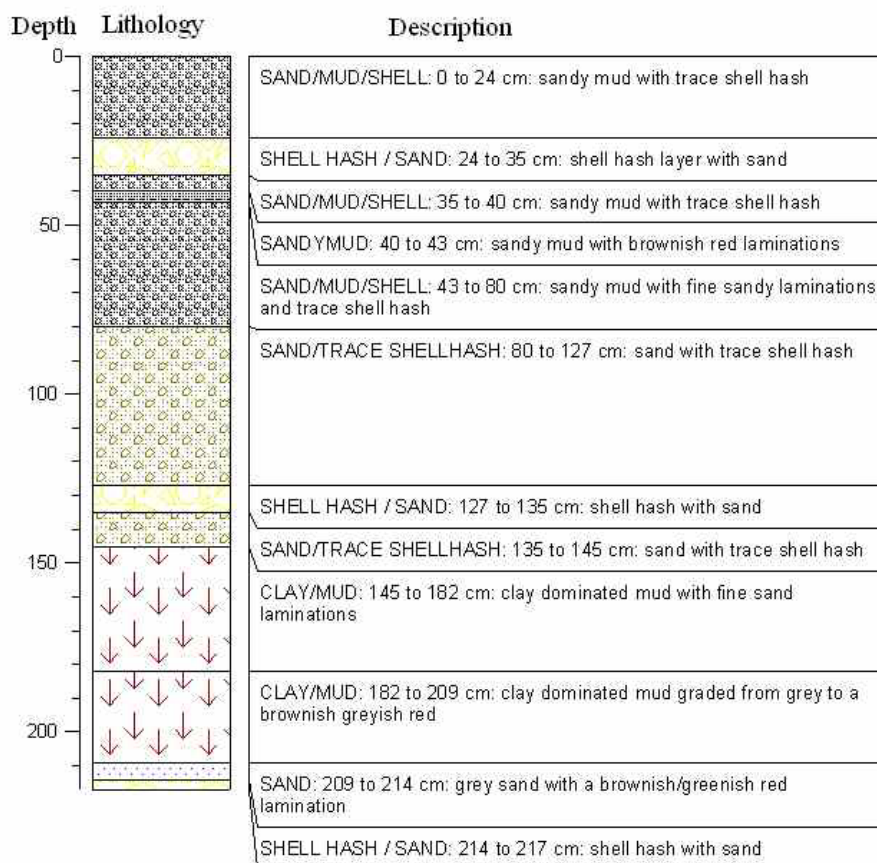


Figure B 90: Computerized core log of 14C

Table B 56: Shell and sand weights for core 14C

Core ID	Sample Depth (cm)	shell weight	200+ weight	200-230 weight	total sand
14C	1-10		26.91	7.06	33.97
14C	21-24		13.62	1.97	15.59
14C	24-34	11.63	81.63	11.79	93.42
14C	34-40		21.76	3.40	25.16
14C	71-80		21.60	9.19	30.79
14C	81-90	0.09	71.95	5.81	77.76
14C	101-110	0.32	84.05	3.67	87.72
14C	121-130	4.51	79.55	20.14	99.69
14C	131-140	6.90	40.89	7.83	48.72
14C	141-145	0.48	79.25	7.59	86.84
14C	161-170		15.20	3.34	18.54
14C	171-180		6.46	3.19	9.65
14C	181-190		0.23	0.20	0.43

Table B 57: Percent shell, sand, silt and clay for core 14C

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
14C	1-10		58.5	12.6	28.9
14C	21-24		36.2	13.2	50.6
14C	24-34	9.3	74.9	6.3	9.5
14C	34-40		52.8	17.6	29.6
14C	71-80		44.1	32.5	23.5
14C	81-90	0.1	69.7	23.9	6.3
14C	101-110	0.3	90.0	5.0	4.7
14C	121-130	3.7	81.0	11.3	3.9
14C	131-140	9.4	66.6	19.8	4.1
14C	141-145	0.5	86.8	4.6	8.1
14C	161-170		31.0	24.8	44.2
14C	171-180		18.4	36.2	45.3
14C	181-190		1.0	26.2	72.7

Table B 58: RO-TAP data for core 14C

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
14C	1-10											26.91	7.06
14C	21-24											13.62	1.97
14C	24-34	3.38	3.24	2.14	1.62	0.76	0.49	0.72	1.35	3.55	43.23	32.78	11.79
14C	34-40											21.76	3.40
14C	71-80											21.60	9.19
14C	81-90	0.00	0.01	0.02	0.02	0.01	0.03	0.05	0.22	3.29	39.34	29.05	5.81
14C	101-110	0.08	0.01	0.04	0.03	0.05	0.11	0.23	0.48	5.97	53.66	23.71	3.67
14C	121-130	1.14	0.25	0.70	0.76	0.80	0.86	1.58	5.98	10.87	33.08	28.04	20.14
14C	131-140	1.89	0.56	1.50	1.21	0.98	0.76	1.31	2.93	4.12	19.72	12.81	7.83
14C	141-145	0.01	0.05	0.08	0.13	0.08	0.13	0.29	0.82	32.38	24.84	20.92	7.59
14C	161-170											15.20	3.34
14C	171-180											6.46	3.19
14C	181-190											0.23	0.20

Table B 59: Percent finer data for core 14C

ASTM Classification	coarse sand	med. sand	med. sand	med. Sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt	
Wentworth Classification	granule	very coarse sand	very coarse sand	Coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt	
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.40mm/ -0.5Φ Screen	% finer than N18/ 1.00mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm/ 3.5Φ Screen	% finer than N200/ 75µm/ 3.75Φ Screen	% finer than N230/ 63µm/ 4.0Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
14C	1-10											53.7	41.5	28.9
14C	21-24											68.4	63.8	50.6
14C	24-34	97.3	94.7	93.0	91.7	91.1	90.7	90.1	89.0	86.2	51.5	25.2	15.8	9.5
14C	34-40											54.4	47.2	29.6
14C	71-80											69.1	55.9	23.5
14C	81-90	100.0	100.0	100.0	100.0	99.9	99.9	99.9	99.7	96.7	61.5	35.4	30.2	6.3
14C	101-110	99.9	99.9	99.9	99.8	99.8	99.7	99.4	98.9	92.8	37.7	13.4	9.7	4.7
14C	121-130	99.1	98.9	98.3	97.7	97.0	96.3	95.0	90.2	81.4	54.5	31.7	15.3	3.9
14C	131-140	97.4	96.7	94.6	92.9	91.6	90.6	88.8	84.8	79.1	52.2	34.7	24.0	4.1
14C	141-145	100.0	99.9	99.9	99.7	99.7	99.5	99.2	98.4	66.0	41.2	20.3	12.7	8.1
14C	161-170											74.6	69.0	44.2
14C	171-180											87.7	81.6	45.3
14C	181-190											99.4	99.0	72.7

Table B 60: Folkian statistic data for core 14C

Core ID	Sample Depth (cm)	Median Grain Size (Φ)	Median Grain Size (mm)	Mean Grain Size (Φ)	Mean Grain Size (mm)	Skewness	Sorting Index
14C	1-10						
14C	21-24						
14C	24-34	3.513	0.0872	3.5209	0.0867	0.2045	2.2423
14C	34-40						
14C	71-80						
14C	81-90	3.599	0.0821	4.5418	0.0427	0.7955	1.6596
14C	101-110	3.403	0.0941	3.4081	0.0938	0.4227	0.8975
14C	121-130	3.550	0.085	3.4784	0.0893	-0.3005	0.6053
14C	131-140	3.759	0.0735	6.3320	0.0123	0.6570	4.2849
14C	141-145						
14C	161-170						
14C	171-180						
14C	181-190	3.405	0.0939	3.4049	0.0940	0.2027	0.7479

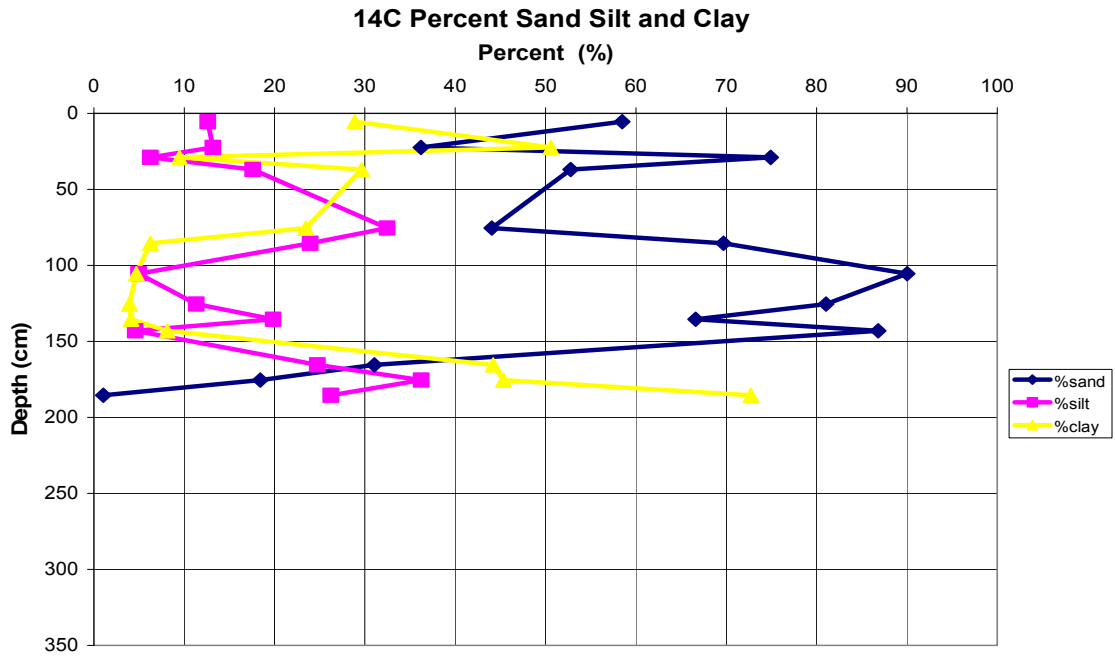


Figure B 91: Percent sand, silt and clay graph for core 14C

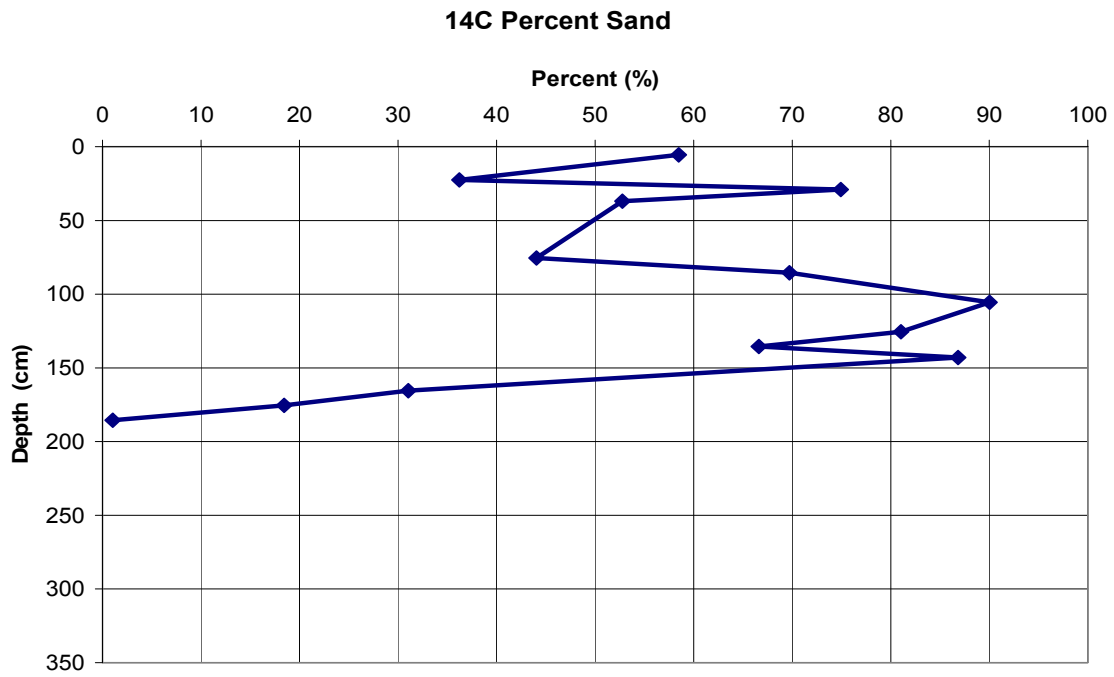


Figure B 92: Percent sand graph for core 14C

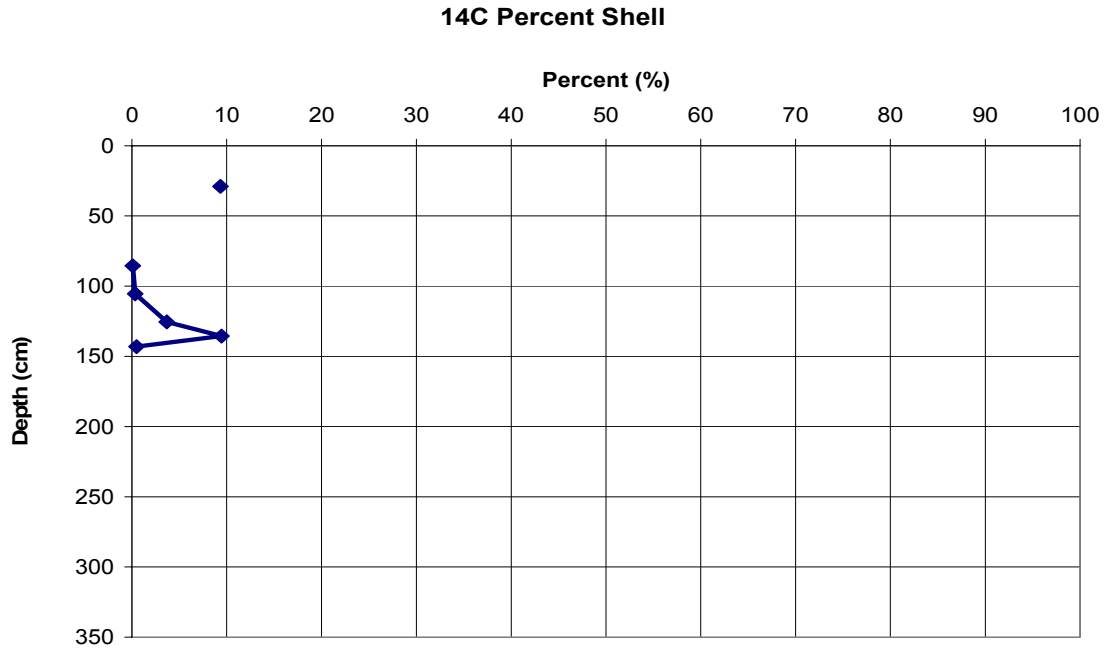


Figure B 93: Percent shell graph for core 14C

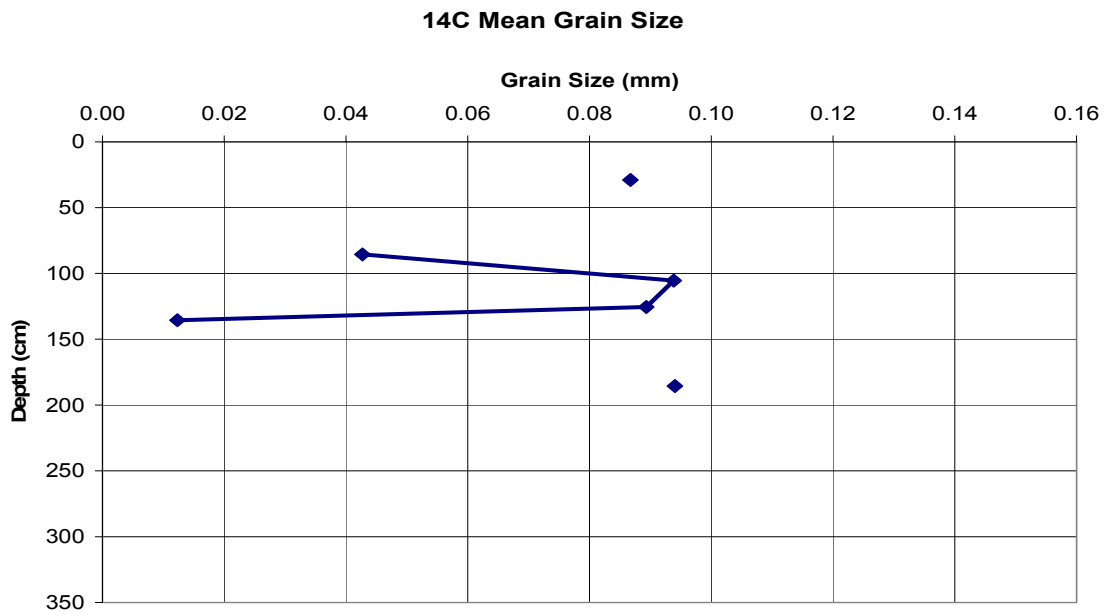


Figure B 94: Mean grain size graph for core 14C

Line 14 Site D

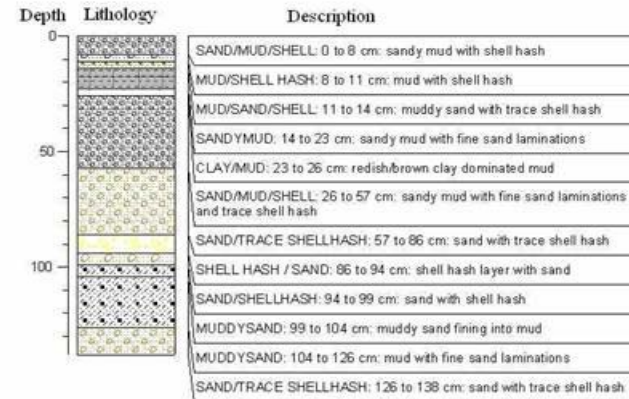


Figure B 95: Core log of 14D for depths 0-150 cm

Figure B 96: Computerized core log for 14D

Table B 61: Shell and sand weights for core 14D

Core ID	Sample Depth (cm)	shell weight	200+ weight	200-230 weight	total sand
14D	1-10		18.72	1.17	19.89
14D	21-30		15.44	1.85	17.29
14D	31-40		14.54	5.14	19.68
14D	51-58		6.95	1.58	8.53
14D	61-70	0.28	120.65	4.89	125.54
14D	91-100	0.45	127.63	2.20	129.83
14D	101-110		29.06	5.60	34.66
14D	121-130		12.50	1.54	14.04

Table B 62: Percent shell, sand, silt and clay for core 14D

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
14D	1-10		52.9	15.8	31.3
14D	21-30		35.4	21.6	43.0
14D	31-40		38.1	30.1	31.8
14D	51-58		22.6	18.0	59.4
14D	61-70	0.2	69.9	20.4	9.5
14D	91-100	0.3	81.9	11.0	6.8
14D	101-110		54.0	18.4	27.6
14D	121-130		33.2	21.1	45.7

Table B 63: RO-TAP data for core 14D

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
14D	1-10											18.72	1.17
14D	21-30											15.44	1.85
14D	31-40											14.54	5.14
14D	51-58											6.95	1.58
14D	61-70	0.00	0.02	0.01	0.02	0.05	0.18	0.28	0.36	11.82	63.30	44.89	4.89
14D	91-100	0.08	0.05	0.08	0.08	0.06	0.10	0.20	0.40	13.93	88.42	24.68	2.20
14D	101-110											29.06	5.60
14D	121-130											12.50	1.54

Table B 64: Percent finer data for core 14D

ASTM Classification		coarse sand	med. sand	med. sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt
Wentworth Classification		granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.40mm/ -0.5Φ Screen	% finer than N18/ 1.00mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm/ 3.5Φ Screen	% finer than N200/ 75µm/ 3.75Φ Screen	% finer than N230/ 63µm/ 4.0Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	Silt
14D	1-10											50.2	47.1	31.3
14D	21-30											68.4	64.6	43.0
14D	31-40											71.8	61.9	31.8
14D	51-58											81.6	77.4	59.4
14D	61-70	100.0	100.0	100.0	100.0	99.9	99.8	99.7	99.5	92.9	57.7	32.7	30.0	9.5
14D	91-100	99.9	99.9	99.9	99.8	99.8	99.7	99.6	99.3	90.5	34.8	19.2	17.8	6.8
14D	101-110											54.7	46.0	27.6
14D	121-130											70.5	66.8	45.7

Table B 65: Folkian statistic data for core 14D

Core ID	Sample Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(Φ)	(mm)	(Φ)	(mm)		
14D	1-10						
14D	21-30						
14D	31-40						
14D	51-58						
14D	61-70	3.568	0.0839	4.7161	0.0378	0.7960	1.8985
14D	91-100	3.363	0.0968	4.2503	0.0523	0.8319	1.6389
14D	101-110						
14D	121-130						

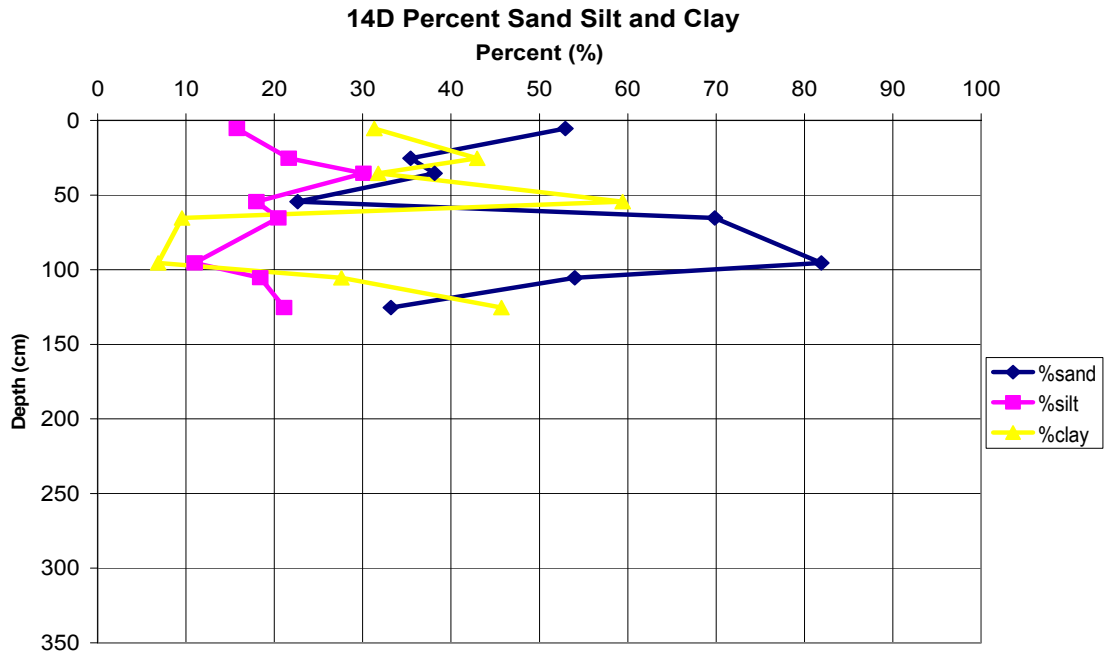


Figure B 97: Percent sand, silt and clay graph for core 14D

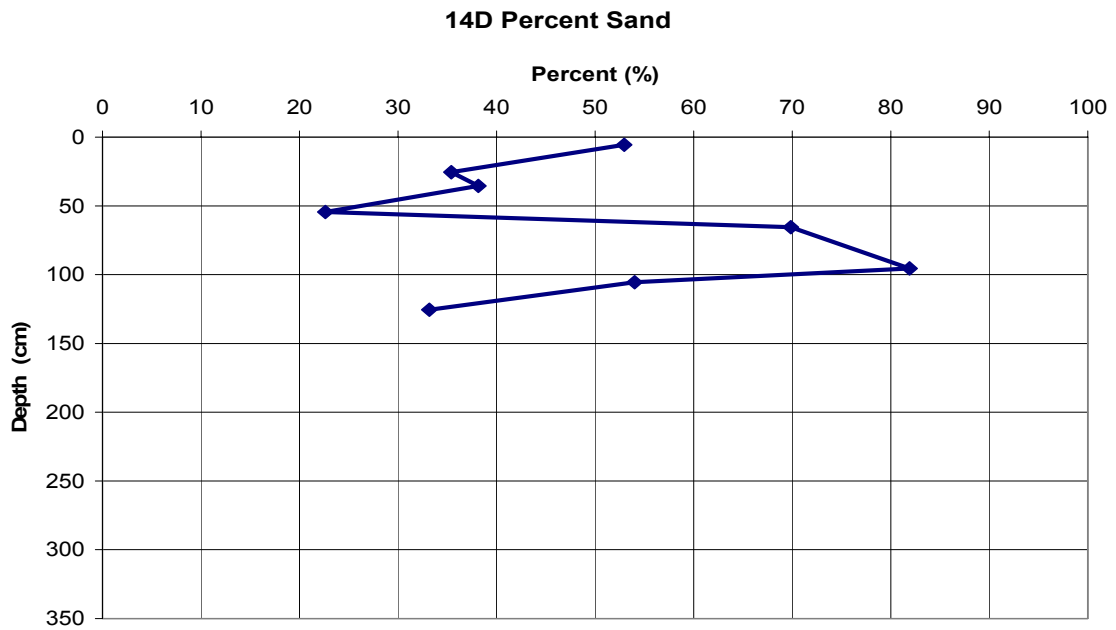


Figure B 98: Percent sand graph for core 14D

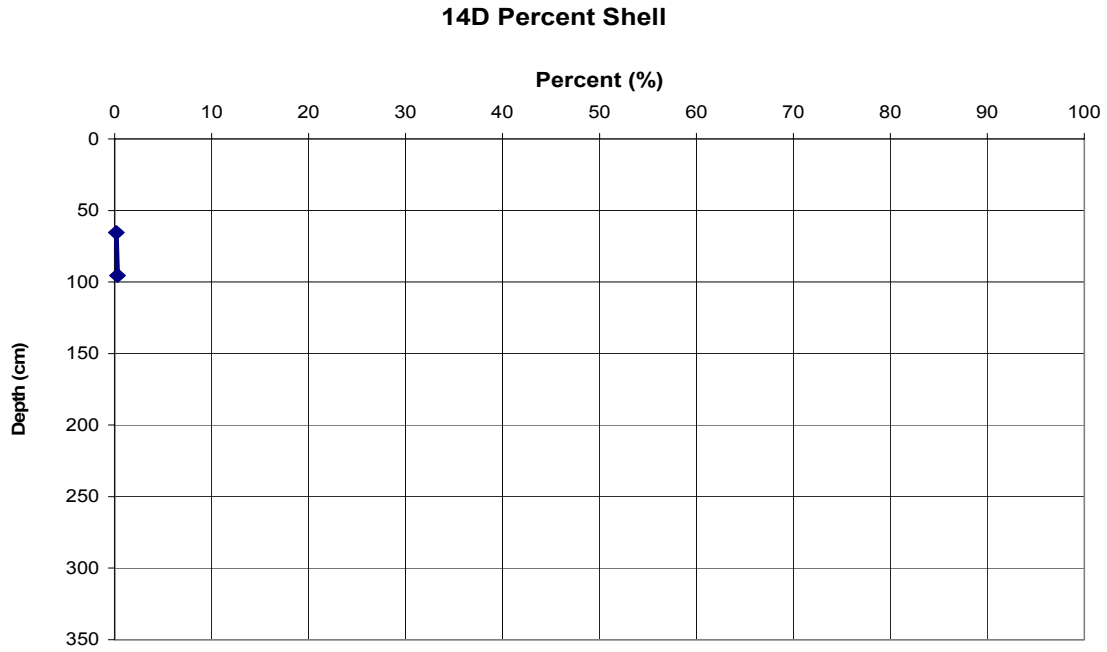


Figure B 99: Percent shell graph for core 14D

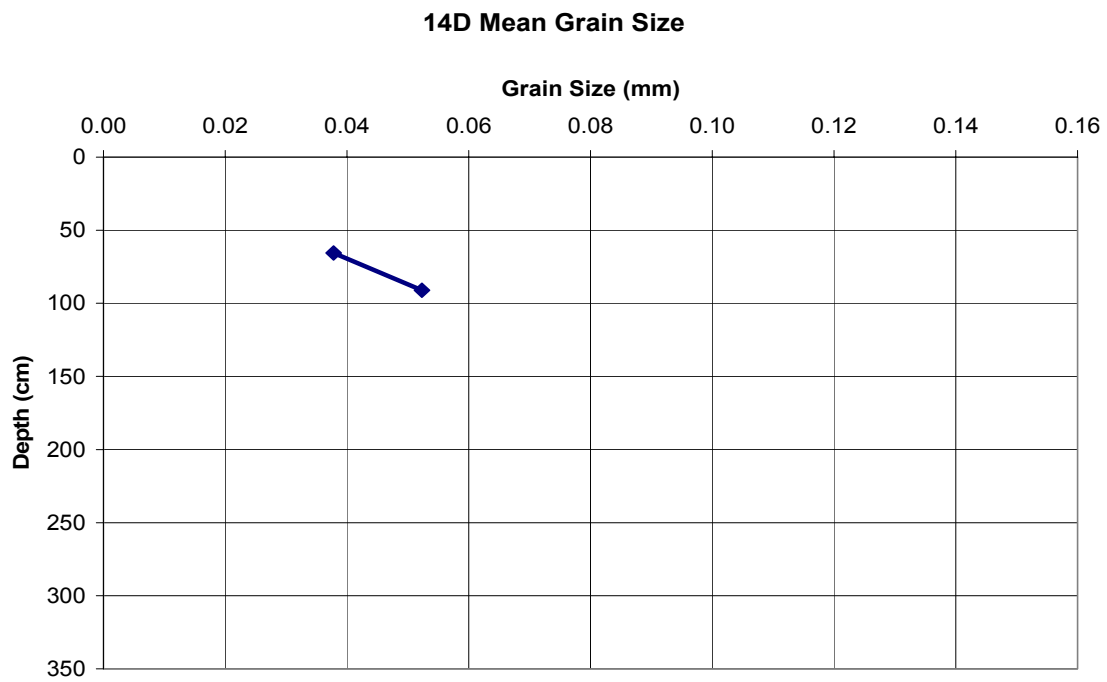


Figure B 100: Mean grain size graph for core 14D

Line 14 Site E

Core#: 14E
 Core Date: 7/14/05

Date Split/subsampled	Length: <u>75 cm</u>
<u>7/14/05</u>	Lat: <u>29.10.743</u>
	Long: <u>94.56.47</u>

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-10	0-10 cm 5y 3/1	WC 0-1 10-11	0-2 cm → shell hash layer w/ sand
10-61	10-61 cm 5y 4/1 with patches of	20-21 30-31 40-41 50-51 60-61 70-71	2-31 cm → sandy mud w/ fine sand laminations
61-63	61-63 5y 3/1	GS 1-10	31-45 cm → sandy mud w/ clay laminations and patches of redish brown silt dominated mud
63-67	63-67 5y 4/1	21-30 31-40	45-61 cm → mud w/ fine sand laminations
67-68	67-68 5y 3/1	45-50 61-63 63-67	61-63 → sand
68-73	68-73 5y 4/1	73-75	63-67 → clay dominated mud
73-75	73-75 5y 3/1		67-68 → sand 68-73 → clay dominated mud
			73-75 → sand

Depth	Lithology	Description
0		SHELL HASH / SAND: 0 to 2 cm: shell hash layer with sand
2		SANDY MUD: 2 to 31 cm: sandy mud with fine sand laminations
31		SANDY MUD: 31 to 45 cm: sandy mud with sand laminations and patches of redish brown silt dominated mud
45		MUDDY SAND: 45 to 61 cm: mud with fine sand laminations
61		SAND: 61 to 63 cm: sand
63		CLAY/MUD: 63 to 67 cm: clay dominated mud
67		SAND: 67 to 68 cm: sand
68		CLAY/MUD: 68 to 73 cm: clay dominated mud
73		SAND: 73 to 75 cm: sand

Figure B 101: Core log of 14E for depths 0-75 cm

Figure B 102: Computerized core log of 14E

Table B 66: Shell and sand weights for core 14E

Core ID	Sample Depth (cm)	Shell weight	200+ weight	200-230 weight	total sand
14E	1-10		38.50	4.48	42.98
14E	21-30		5.79	2.91	8.70
14E	31-40		10.89	6.64	17.53
14E	45-50		2.44	2.62	5.06
14E	61-63		11.75	9.35	21.10
14E	63-67		1.60	1.25	2.85
14E	73-75		12.45	5.84	18.29

Table B 67: Percent shell, sand, silt and clay for core 14E

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
14E	1-10		66.9	12.8	20.2
14E	21-30		29.2	27.7	43.1
14E	31-40		40.5	31.5	27.9
14E	45-50		21.5	37.2	41.4
14E	61-63		56.1	22.9	21.0
14E	63-67		12.9	34.4	52.8
14E	73-75		51.2	37.6	11.2

Table B 68: RO-TAP data for core 14E

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
14E	1-10											38.50	4.48
14E	21-30											5.79	2.91
14E	31-40											10.89	6.64
14E	45-50											2.44	2.62
14E	61-63											11.75	9.35
14E	63-67											1.60	1.25
14E	73-75											12.45	5.84

Table B 69: Percent finer data for core 14E

ASTM Classification	coarse sand	med. sand	med. Sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		Silt	
Wentworth Classification	granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	Very fine silt	
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.40mm/ -0.5Φ Screen	% finer than N18/ 1.00mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm/ 3.5Φ Screen	% finer than N200/ 75µm/ 3.75Φ Screen	% finer than N230/ 63µm/ 4.0Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	Silt
14E	1-10											40.0	33.1	20.2
14E	21-30											80.6	70.8	43.1
14E	31-40											74.8	59.5	27.9
14E	45-50											89.6	78.5	41.4
14E	61-63											68.8	43.9	21.0
14E	63-67											92.8	87.1	52.8
14E	73-75											65.2	48.8	11.2

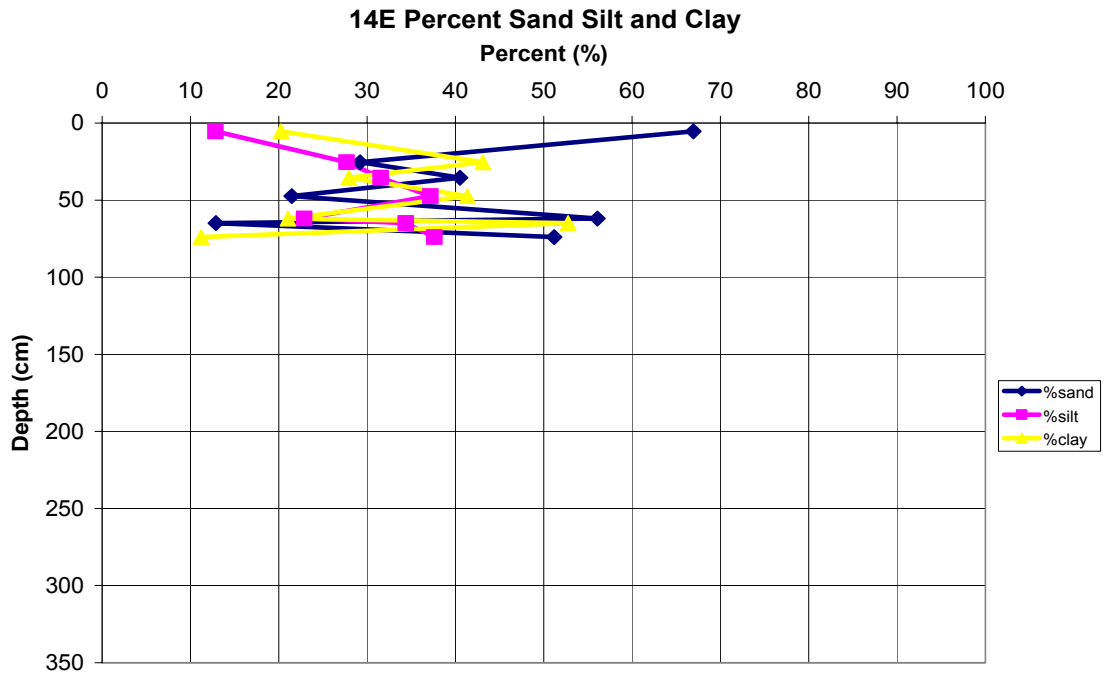


Figure B 103: Percent sand, silt and clay for core 14E

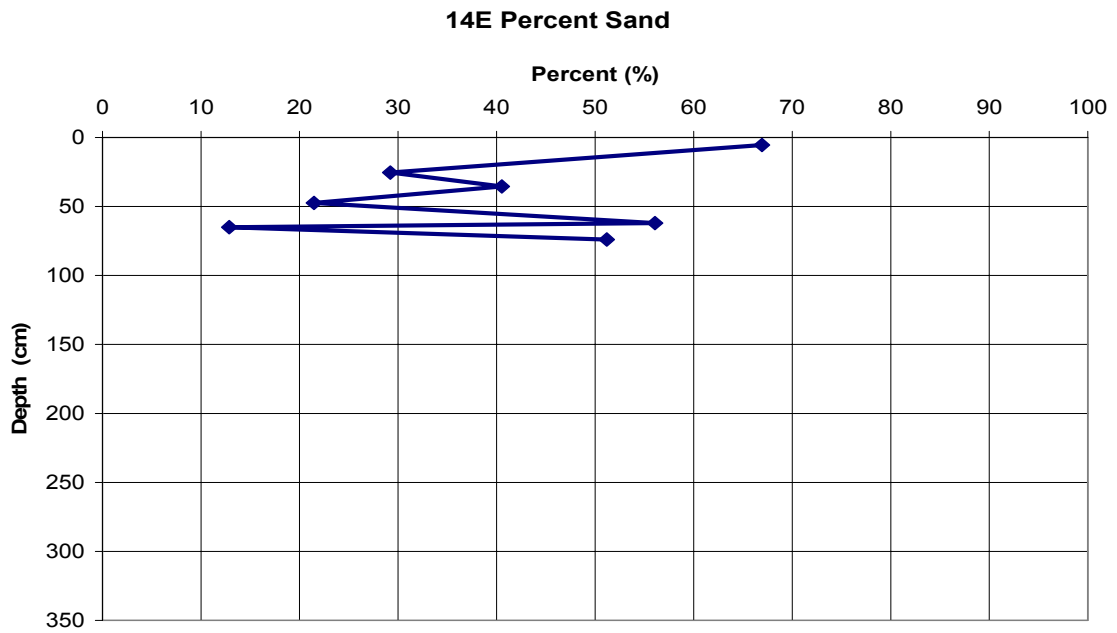


Figure B 104: Percent sand for core 14E

APPENDIX C

WEST END SEDIMENT CORES

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Results:

A total of 19 sediment cores were collected in the west section. Each core was cut, photographed, and processed according to ASTM standards. 150 Grain size samples were collected at the top and bottom of each lithologic interval in each core. Samples were wet sieved, placed in a RO-TAP machine and sands were separated according to size, and pipette analysis was performed.

Core 16B:

Core 16B was taken at water depth of 5.8 m (19.0 ft) and had a total length of 216 cm (85.0 in). A total of 10 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 21-30 cm (8.2-11.8 in), 51-60 cm (20.1-23.6 in), 71- 80 cm (27.9-31.5 in), 91-100 cm (35.8-39.4 in), 111-120 cm (43.7-47.2 in), 121-130 cm (47.6-51.2 in), 131-140 cm (51.6-55.1 in), 141-150 cm (55.5-59.1 in), and 171-180 cm (67.3-70.9 in). The grain size analysis revealed that the percent sand decreased from 95% to 79% over the first 30 cm (11.8 in) of the core and the mean grain size decreased from 0.994 mm (3.3 Φ) to 0.911 mm (3.5 Φ). Percent sand then increased from 79% to 95% sand while the mean grain size increased from 0.091 mm (3.5 Φ) to 0.139 mm (2.8 Φ) between the depths of 30 cm (11.8 in) to 60 cm (23.6 in). From 60 cm (23.6 in) to 130 cm (51.2 in) the percent sand was above 90% and the mean grain size ranged from 0.139 mm (2.8 Φ) to 0.104 mm (3.3 Φ). The percent sand decreased from 90% to 69%, and the mean grain size decreased from 0.104 mm (3.3 Φ) to 0.069 mm (3.9 Φ) between the depths of 130 cm (51.2 in) and 150 cm (59.1 in). Percent sand increased to 93% and the mean grain size increased from 0.069 mm (3.9 Φ) to 0.097 mm (3.4 Φ) from 150 cm (59.1 in) to the

bottom of the core. Sand and shell weights are shown in Table C 2. Percent shell, sand, silt and clay are shown in Table C 3. Folkian statistic data is shown in Table C 6. Graphs of the results are located in Figures C 2-5.

It was determined that core 16B had approximately 210 cm (82.7 in) of sediment that contained at least 50% sand, of which 100 cm (39.4 in) was located at less than 1 m (39.4 in) depth.

Core 16C:

Core 16C was collected in water with a depth of 7.9 m (25.9 ft) and was 196 cm (77.2 in) long. A total of 10 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 11-20 cm (4.3-7.9 in), 31-40 cm (12.2-15.7 in), 61-70 cm (24.0-27.6 in), 81-90 cm (31.9-35.4 in), 101-106 cm (39.8-41.7 in), 111-120 cm (43.7-47.2 in), 131-140 cm (51.6-55.1 in), 141-150 cm (55.5-59.1 in), and 161-170 cm (63.4-66.9 in). Grain size analysis shows that percent sand decreased from 72% to 21% sand within the top 20 cm (7.9 in). From 20 cm (7.9 in) to 70 cm (27.6 in) the percent sand increased from 21% to 52%. From 70 cm (27.6 in) to 106 cm (41.7 in), percent sand decreased from 52% to 23%. Percent sand increased from 23% to 64% from the depths of 106 cm (41.7 in) to 150 cm (59.1 in). From 150 cm (59.1 in) to the bottom of the core, percent sand decreased to 29%. Mean grain size for the entire core remained smaller than 0.087 mm (3.5 Φ). Sand and shell weights are shown in Table C 7. Percent shell, sand, silt and clay are shown in Table C 8. Folkian statistic data is shown in Table C 11. Graphs of the results are located in Figures C 9-12.

It was determined that core 16C had approximately 15 cm (5.9 in) of sediment that contained at least 50% sand, of which 10 cm (3.9 in) was located at less than 1 m (39.4 in) depth.

Core 16D:

Core 16D was taken at a water depth of 9.1 m (29.8 ft) and was a total length of 221 cm (87.0 in). A total of 11 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 31-40 cm (12.2-15.7 in), 61-70 cm (24.0-27.6 in), 81-90 cm (31.9-35.4 in), 101-110 cm (39.8-43.3 in), 111-120 cm (43.7-47.2 in), 123-130 cm (48.4-51.2 in), 131-140 cm (51.6-55.1 in), 171-180 cm (67.3-70.9 in), 181-190 cm (71.3-74.8 in), and 201-210 cm (79.1-82.7 in). Percent sand increased from 47% to 50% within the upper 40 cm (15.7 in) of the core. From 40 cm (15.7 in) to 70 cm (27.6 in) there was a decrease in percent sand from 50% to 36%. Percent sand ranged from 23% to 54% from the depths of 70 cm (27.6 in) to 180 cm (70.9 in). From 180 cm (70.9 in) to 190 cm (74.8 in), percent sand increased from 26% to 74%. Percent sand decreased from 74% to 37% from 190 cm (74.8 in) to the bottom of the core. Mean grain size for the core remained below 0.035 mm (4.8 Φ). Sand and shell weights are shown in Table C 12. Percent sand, silt and clay are shown in Table C 13. Folkian statistic data is shown in Table C 16. Graphs of the results are located in Figures C 16-19.

It was determined that core 16D had approximately 10 cm (3.9 in) of sediment contained at least 50% sand, of which 0 cm (0 in) was located shallower than 1 m (39.4 in) depth.

Core 17B:

Core 17B was taken at a water depth of 5.8 m (19.0 ft) and had a total length of 216 cm (85.0 in). A total of 11 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 11-20 cm (4.3-7.9 in), 31-40 cm (12.2-15.7 in), 61-70 cm (24.0-27.6 in), 89-94 cm (35.0-37.0 in), 101-110 cm (39.8-43.3 in), 131-140 cm (51.6-55.1 in), 153-160 cm (60.2-62.9 in), 171-180 cm (67.3-70.9 in), 181-190 cm (71.3-74.8 in), and 201-210 cm (79.1-82.7 in). The grain size analysis for core 17B shows that percent sand ranged between 88% and 97% and the mean grain size ranged from 0.0981 mm (3.3 Φ) to 0.1165 mm (3.1 Φ) for the entire length of the core. Sand and shell weights are shown in Table C 17. Percent sand, silt and clay are shown in Table C 18. Folkian statistic data is shown in Table C 21. Graphs of the results are located in Figures C 24-27.

It was determined that core 17B had approximately 216 cm (85 in) of sediment contained at least 50% sand, of which 100 cm (39.4 in) was located shallower than 1 m (39.4 in) depth.

Core 17C:

Core 17C was taken at a water depth of 7.3 m (23.9 ft) and had a total length of 170 cm (66.9 in). A total of 8 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 11-20 cm (4.3-7.9 in), 41-50 cm (16.1-19.7 in), 71-80 cm (27.9-31.5 in), 101-110 cm (39.8-43.3 in), 121-130 cm (47.6-51.2 in), 131-140 cm (51.6-55.1 in), and 141-150 cm (55.5-59.1 in). From the top of the core to 50 cm (19.7 in) there was an increase in percent sand from 82% to 96% and mean grain size ranged from 0.103 mm (3.3 Φ) to 0.095 mm (3.4 Φ). From 50 cm (7.9 in) to 110 cm (43.3 in) percent sand remained above

90% and mean grain size decreased from 0.1029 mm (3.3 Φ) to 0.1007 mm (3.3 Φ). From 110 cm (43.3 in) to 130 cm (51.2 in) percent sand decreased to 83% while mean grain size increased from 0.1007 mm (3.3 Φ) to 0.1153 mm (3.1 Φ). From 130 cm (51.2 in) to the bottom of the core the percent sand increased to 96% and the mean grain size ranged from 0.1191 mm (3.1 Φ) to 0.0992 mm (3.3 Φ). Sand and shell weights are shown in Table C 22. Percent sand, silt and clay are shown in Table C 23. Folkian statistic data is shown in Table C 26. Graphs of the results are located in Figures C 31-34.

It was determined that core 17C had approximately 170 cm (66.9 in) of sediment contained at least 50% sand, of which 100 cm (39.4 in) was located shallower than 1 m (39.4 in) depth.

Core 17D:

Core 17D was taken at a water depth of 9.1 m (29.8 ft) and had a total length of 104 cm (40.9 in). A total of 12 grain size samples were taken at depths of 1-4 cm (0.4-1.6 in), 4-10 cm (1.6-3.9 in), 11-20 cm (4.3-7.9 in), 22-33 cm (8.6-12.9 in), 33-40 cm (12.9-15.7 in), 41-50 cm (16.1-19.7 in), 53-57 cm (20.8-22.4 in), 57-62 cm (22.4-24.4 in), 62-70 cm (24.4-27.6 in), 71-80 cm (27.9-31.5 in), 81-90 cm (31.9-35.4 in), and 91-100 cm (35.8-39.4 in). The grain size analysis revealed that percent sand decreased from 86% to 23% within the top 10 cm (3.9 in). From 10 cm (3.9 in) to 50 cm (19.7 in), percent sand ranged from 17% to 24%. Percent sand increased from 18% to 51% from 50 cm (19.7 in) to 57 cm (22.4 in). From 57 cm (22.4 in) to 62 cm (24.4 in) the percent sand decreased from 51% to 28%. There was an increase in percent sand from 28% to

72% at the depths of 62 cm (24.4 in) to 90 cm (35.4 in). From 90 cm (35.4 in) to the bottom of the core there was a decrease in percent sand from 72% to 81%. Mean grain size for the entire length of the core remained below 0.083 mm (3.6 Φ) Sand and shell weights are shown in Table C 27. Percent sand, silt and clay are shown in Table C 28. Folkian statistic data is shown in Table C 31. Graphs of the results are located in Figures C 37-40.

It was determined that core 17D had approximately 24 cm (9.4 in) of sediment contained at least 50% sand, of which 24 cm (9.4 in) was located shallower than 1 m (39.4 in) depth.

Core 18B:

Core 18B was taken at a water depth of 5.8 m (19.0 ft). It had a total length of 120 cm (47.2 in). A total of 8 grain size samples were taken at depths of 1-13 cm (0.4-5.1 in), 13-20 cm (5.1-7.9 in), 21-30 cm (8.2-11.8 in), 41-50 cm (16.1-19.7 in), 71-80 cm (27.9-31.5 in), 91-100 cm (35.8-39.4 in), 101-110 cm (39.8-43.3 in), and 111-120 cm (43.7-47.2 in). The entire core ranged from 90% to 97% sand while the mean grain size ranged from 0.172 mm (2.5 Φ) to 0.098 mm (3.3 Φ). Sand and shell weights are shown in Table C 32. Percent sand, silt and clay are shown in Table C 33. Folkian statistic data is shown in Table C 36. Graphs of the results are located in Figures C 44-47.

It was determined that core 18B had approximately 120 cm (47.2 in) of sediment contained at least 50% sand, of which 100 cm (39.4 in) was located shallower than 1 m (39.4 in) depth.

Core 18C:

Core 18C was taken at a water depth of 7.6 m (24.9 ft) and had a total length of 118 cm (46.4 in). A total of 8 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 21-24 cm (8.2-9.4 in), 31-40 cm (12.2-15.7 in), 51-57 cm (20.1-22.4 in), 61-70 cm (24.0-27.6 in), 71-80 cm (27.9-31.5 in), 81-90 cm (31.9-35.4 in), and 101-110 cm (39.8-43.3 in). From the top of the core to 24 cm (9.4 in) percent sand decreased from 93% to 71% with a decrease in mean grain size from 0.115 mm (3.1 Φ) to 0.081 mm (3.6 Φ). There was an increase in percent sand from 71% to 94% and an increase in mean grain size from 0.081 mm (3.6 Φ) to 0.098 mm (3.3 Φ) at the depths from 24 cm (9.4 in) to 57 cm (22.4 in). From 57 cm (22.4 in) to the bottom of the core, percent sand decreased from 94% to 16% while the mean grain size ranged from 0.247 mm (2 Φ) to 0.004 mm (8.1 Φ). Sand and shell weights are shown in Table C 37. Percent sand, silt and clay are shown in Table C 38. Folkian statistic data is shown in Table C 41. Graphs of the results are located in Figures C 50-53.

It was determined that core 18C had approximately 80 cm (31.5 in) of sediment contained at least 50% sand, of which 80 cm (31.5 in) was located shallower than 1 m (39.4 in) depth.

Core 18D:

Core 18D was and taken at a water depth of 9.1 m (29.8 ft) and had a total length of 125 cm (49.2 in). The core photograph is shown in Figure C 41. The core log is shown in Figure C 54, and the computerized core log is shown in Figure C 55. A total of 8 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in) , 16-23 cm (6.3-9.1 in),

23-30 cm (9.1-11.8 in), 68-72 cm (26.7-28.3 in), 72-81 cm (28.3-31.9 in), 81-90 cm (31.9- 35.4 in), 101-110 cm (39.8-43.3 in), and 122-125 cm (48.0-49.2 in). Grain size analysis revealed that the top 23 cm (9.1 in) increased in percent sand from 78% to 90% and mean grain size increased from 0.067 mm (3.9 Φ) to 0.122 mm (3.4 Φ). There was an increase in percent sand from 78% to 89% and decrease in mean grain size to 0.097 mm (3.4 Φ) between 23 cm (9.1 in) and 30 cm (11.8 in). From 30 cm (11.8 in) to the bottom of the core there was a decrease in percent sand ranging from 90% to 14% and mean grain size remained smaller than 0.115 mm (3.1 Φ). Results from the RO-TAP analysis are shown in Table C 44. Sand and shell weights are shown in Table C 42. Percent sand, silt and clay are shown in Table C 43. Folkian statistic data is shown in Table C 46. Graphs of the results are located in Figures C 56-59.

It was determined that core 18D had approximately 81 cm (31.9 in) of sediment contained at least 50% sand, of which 81 cm (31.9 in) was located shallower than 1 m (39.4 in) depth.

Core 20A:

Core 20A was taken at a water depth of 4.3 m (14.1 ft) and had a total length of 231 cm (90.9 in). A total of 8 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 31-40 cm (12.2-15.7 in), 60-68 cm (23.6-26.7 in), 68-75 cm (26.7-29.5 in), 75-80 cm (29.5-31.5 in), 151-160 cm (59.5-62.9 in), 181-190 cm (71.3-74.8 in), and 211-220 cm (83.1-86.7 in). Percent sand remained above 94% for the first 68 cm (26.8 in) of the core. From 68 cm (26.8 in) to 80 cm (31.5 in) there was a decrease in percent sand from 95% to 4%. Percent sand decreased from 4% to 3% between 80 cm (31.5 in) and 160 cm

(63 in). There was an increase in percent sand from 3% to 31% at the depths of 160 cm (63 in) to 190 cm (74.8 in). From 190 cm (74.8 in) to the bottom of the core there was a decrease in sand to 23%. Mean grain size for the entire core remained smaller than 0.1022 mm (3.2 Φ). Sand and shell weights are shown in Table C 47. Percent sand, silt and clay are shown in Table C 48. Folkian statistic data is shown in Table C 51. Graphs of the results are located in Figures C 64-67.

It was determined that core 20A had approximately 68 cm (26.7 in) of sediment contained at least 50% sand, of which 68 cm (26.7 in) was located shallower than 1 m (39.4 in) depth.

Core 20B:

Core 20B was and taken at a water depth of 6.1 m (20.0 ft) and had a total length of 50 cm (19.7 in). A total of 3 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 21-30 cm (8.2-11.8 in), and 41-49 cm (16.1-19.3 in). The grain size analysis revealed that throughout the entire core 20B, percent sand ranged from 89% to 93% while mean grain size decreased from 0.098 mm (3.3 Φ) to 0.091 mm (3.5 Φ). Sand and shell weights are shown in Table C 52. Percent sand, silt and clay are shown in Table C 53. Folkian statistic data is shown in Table C 56. Graphs of the results are located in Figures C 70-73.

It was determined that core 20B had approximately 50 cm (19.7 in) of sediment contained at least 50% sand, of which 50 cm (19.7 in) was located shallower than 1 m (39.4 in) depth.

Core 20C:

Core 20C was taken at a water depth of 7.6 m (24.9 ft) and had a length of 33 cm (12.9 in). A total of 2 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in) and 21-30 cm (8.2-11.8 in). Percent sand remained above 92% for the entire length of the core, while mean grain size increased from 0.093 mm (3.4 Φ) to 0.048 mm (3.4 Φ). Sand and shell weights are shown in Table C 57. Percent sand, silt and clay are shown in Table C 58. Folkian statistic data is shown in Table C 61. Graphs of the results are located in Figures C 76-79.

It was determined that core 20C had approximately 33 cm (12.9 in) of sediment contained at least 50% sand, of which 33 cm (12.9 in) was located shallower than 1m (39.4 in) depth.

Core 20D:

Core 20D was taken at a water depth of 9.1 m (29.8 ft) and had a length of 136 cm (53.5 in). A total of 6 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 11-20 cm (4.3-7.9 in), 21-30 cm (8.2-11.8 in), 41-50 cm (16.1-19.7 in), 71-80 cm (27.9-31.5 in), and 101-110 cm (39.8-43.3 in). Percent sand for the top 50 cm (19.7 in) ranged from 82% to 95%. There was a decrease in percent sand from 50 cm (19.7 in) to the bottom of the core from 95% to 0.6%. Mean grain size for the entire core remained smaller than 0.107 mm (3.2 Φ). Sand and shell weights are shown in Table C 62. Percent sand, silt and clay are shown in Table C 63. Folkian statistic data is shown in Table C 66. Graphs of the results are located in Figures C 82-85.

It was determined that core 20D had approximately 50 cm (19.7 in) of sediment contained at least 50% sand, of which 50 cm (19.7 in) was located shallower than 1 m (39.4 in) depth.

Core 21A:

Core 21A was taken at a water depth of 4.6 m (15.1 ft) and had a length 130 cm (51.2 in). A total of 5 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 21-31 cm (8.2-12.2 in), 51-60 cm (20.1-23.6 in), 61-70 cm (24-27.6 in), and 71-80 cm (27.9-31.5 in). Grain size analysis reveals that percent sand ranges from 91% to 94% and the mean grain size ranges from 0.092 mm (3.4 Φ) to 0.138 mm (2.9 Φ) for the entire length of the core. Sand and shell weights are shown in Table C 67. Percent sand, silt and clay are shown in Table C 68. Folkian statistic data is shown in Table C 71. Graphs of the results are located in Figures C 89-92.

It was determined that core 21A had approximately 130 cm (51.2 in) of sediment contained at least 50% sand, of which 100 cm (39.4 in) was located shallower than 1 m (39.4 in) depth.

Core 21B.2:

Core 21B.2 was taken at a water depth of 6.2 m (20.3 ft) and had a length 199 cm (78.3 in). A total of 8 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 31-40 cm (12.2-15.7 in), 45-50 cm (17.7-19.7 in), 51-60 cm (20.1-23.6 in), 81-90 cm (31.9- 35.4 in), 101-110 cm (39.8-43.3 in), 121-130 cm (47.6-51.2 in), and 151-160 cm (59.5-63.0 in). Grain size analysis revealed that in the top 50 cm (19.7 in) of the core percent sand decreased from 91% to 45% while the mean grain size increased from

0.102 mm (3.3 Φ) to 0.386 mm (1.4 Φ). From 50 cm (19.7 in) to 60 cm (23.6 in) percent sand increased from 45% to 93% while mean grain size decreased from 0.386 mm (1.4 Φ) to 0.101 mm (3.3 Φ). Percent sand decreased from 93% to 81% and the mean grain size decreased from 0.101 mm (3.3 Φ) to 0.084 mm (3.6 Φ) from the depths of 60 cm (23.6 in) to 90 cm (35.4 in). From 90 cm (35.4 in) to 110 cm (43.3 in) percent sand increased from 81% to 90% and mean grain size increased from 0.084 mm (3.6 Φ) to 0.101 mm (3.3 Φ). From 110 cm (43.3 in) to the bottom of the core percent sand decreased from 90% to 23% while mean grain size increased from 0.101 mm (3.3 Φ) to 0.782 mm (4 Φ). Sand and shell weights are shown in Table C 72. Percent sand, silt and clay are shown in Table C 73. Folkian statistic data is shown in Table C 76. Graphs of the results are located in Figures C 96-99.

It was determined that core 21B.2 had approximately 105 cm (41.3 in) of sediment contained at least 50% sand, of which 95 cm (37.4 in) was located shallower than 1 m (39.4 in) depth.

Core 21C:

Core 21C was taken at a water depth of 7.9 m (25.9 ft) and had a length 89 cm (35.0 in). A total of 4 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 21-30 cm (8.2-11.8 in), 31-40 cm (12.2-15.7 in), and 61-70 cm (24.0-27.6 in). From the top of the core to 30 cm (11.8 in) percent sand increased from 58% to 71% and the mean grain size increased from 0.150 mm (2.7 Φ) to 0.176 mm (2.5 Φ). Percent sand decreased from 71% to 10% while the mean grain size increased from 0.176 mm (2.5 Φ) to 1.339 mm (-0.4 Φ) from the depths of 30 cm (11.8 in) to the bottom of the core. Sand

and shell weights are shown in Table C 77. Percent sand, silt and clay are shown in Table C 78. Folkian statistic data is shown in Table C 81. Graphs of the results are located in Figures C 102-105.

It was determined that core 21C had approximately 30cm (11.8 in) of sediment that contained at least 50% sand, of which 30 cm (11.8 in) was located shallower than 1 m (39.4 in) depth.

Core 22A:

Core 22A was taken at a water depth of 3.9 m (12.8 ft) and had a length 140 cm (55.1 in). A total of 8 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 21-30 cm (8.2-11.8 in), 41-50 cm (16.1-19.7 in), 51-56 cm (20.1-22.0 in), 56-66 cm (22.0-25.9 in), 66-76 cm (25.9-29.9 in), 90-100 cm (35.4-39.4 in), and 111-120 cm (43.7-47.2 in). Percent sand decreased from the top of the core to 56 cm (22 in) from 96% to 58% and mean grain size increased from 0.098 mm (3.3 Φ) to 0.039 mm (1.35 Φ). From 56 cm (22 in) to 66 cm (25.9 in) percent sand increased from 58% to 84%. From 66 cm (25.9 in) to the bottom of the core percent sand decreased to 4% and mean grain size remained smaller than 0.187 mm (2.4 Φ). Sand and shell weights are shown in Table C 82. Percent sand, silt and clay are shown in Table C 83. Folkian statistic data is shown in Table C 86. Graphs of the results are located in Figures C 109-112.

It was determined that core 22A had approximately 66 cm (25.9 in) of sediment contained at least 50% sand, of which 66 cm (25.9 in) was located shallower than 1 m (39.4 in) depth.

Core 22B:

Core 22B was taken at a water depth of 7 m (22.9 ft) and had a length 133 cm (52.4 in). A total of 10 grain size samples were taken at depths of 1-5 cm (0.4-1.9 in), 11-20 cm (4.3-7.9 in), 31-40 cm (12.2-15.7 in), 51-60 cm (20.1-23.6 in), 61-65 cm (24.0-25.6 in), 71-80 cm (27.9-31.5 in), 81-85 cm (31.9-33.4 in), 85-95 cm (33.4-37 in), 101-110 cm (39.8-43.3 in), and 121-130 cm (47.6-51.2 in). From the top of the core to the depth of 95 cm (37 in), percent sand remained above 67%. Percent sand decreased from 67% to 24% from the depth of 95 cm (37 in) to the bottom of the core. Mean grain size remained smaller than 0.196 mm (2.3 Φ). Sand and shell weights are shown in Table C 87. Percent sand, silt and clay are shown in Table C 88. Folkian statistic data are shown in Table C 91. Graphs of the results are located in Figures C 115-118.

It was determined that core 22B had approximately 95 cm (37 in) of sediment contained at least 50% sand, of which 95 cm (37 in) was located shallower than 1 m (39.4 in) depth.

Core 22C:

Core 22C was taken at a water depth of 7.5 m (24.6 ft) and had a length 140 cm (55.1 in). A total of 10 grain size samples were taken at depths of 1-10 cm (0.4-3.9 in), 21-30 cm (8.2-11.8 in), 31-40 cm (12.2-15.7 in), 41-50 cm (16.1-19.7 in), 51-60 cm (20.1-23.6 in), 61-70 cm (24.0-27.6 in), 71-80 cm (27.9-31.5 in), 81-90 cm (31.9- 35.4 in), 91-100 cm (35.8-39.4 in), and 131-140 cm (51.6-55.1 in). From the top of the core to 50 cm (19.7 in) percent sand decreased from 87% to 9%. From 50 cm (19.7 in) to the bottom of the core percent sand increased from 9% to 63%. Mean grain size for the

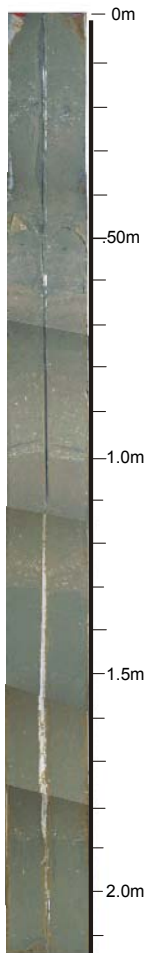
entire length of the core remained below 0.176 mm (2.5 Φ). Sand and shell weights are shown in Table C 92. Percent sand, silt and clay are shown in Table C 93. Folkian statistic data is shown in Table C 96. Graphs of the results are located in Figures C 121-124.

It was determined that core 22C had approximately 80 cm (31.5 in) of sediment contained at least 50% sand, of which 40 cm (15.7 in) was located shallower than 1 m (39.4 in) depth.

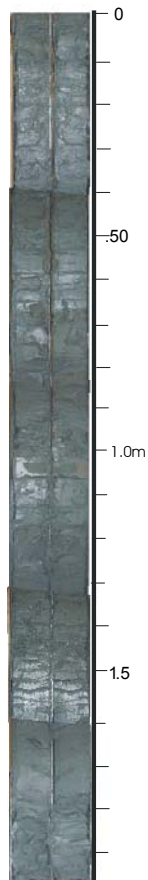
Table C 1: Location of West End cores

Core ID	Latitude	Longitude	Depth	Time	Length
16 B	29°09.838	94°58.982	5.8m (19ft)	10:53 pm	216cm (85.0in)
16 C	29°09.642	94°58.763	7.9m (26ft)	2:00 am	196cm (77.2in)
16 D	29°09.390	94°58.723	9.1m (30ft)	4:50 am	221cm (87.0in)
17 B	29°09.171	95°00.056	5.8m (20.6ft)	8:38 am	216cm (85.0in)
17 C	29°09.115	94°59.958	7.3m (24ft)	7:43 am	170cm (66.9in)
17 D	29°08.927	95°58.723	9.1m (30ft)	6:20 am	104cm (40.9 in)
18 B	29°08.598	95°00.998	5.8m (19ft)	10:00 am	120cm (47.2in)
18 C	29°08.365	95°00.858	7.6m (25ft)	11:15 am	118cm (46.4in)
18 D	29°08.180	95°00.762	9.1m (30ft)	12:20 pm	125cm (49.2in)
20 A	29°07.490	95°03.100	4.3m (14ft)	5:09 pm	231cm (90.9in)
20 B	29°07.315	95°03.067	6.1m (20ft)	4:16 pm	50cm (19.7in)
20 C	29°07.131	95°02.952	7.6m (25ft)	3:00 pm	33cm (13.0in)
20 D	29°06.772	95°02.710	9.1m (30ft)	2:09 pm	136cm (53.5in)
21 A	29°06.774	95°04.132	4.6m (15ft)	6:45 pm	130cm (51.2in)
21 B.2	29°06.567	95°04.042	6.2m (20.4ft)	7:53 pm	199cm (78.3in)
21 C	29°06.277	95°03.896	7.9m (26ft)	8:50 pm	89cm (35.0in)
22 A	29°06.117	95°05.141	3.9m (13ft)	10:00 pm	140cm (55.1in)
22 B	29°05.752	95°04.859	7.0m (23ft)	10:57 pm	133cm (52.4in)
22 C	29°05.646	95°04.782	7.5m (24.7ft)	11:51 pm	140cm (55.1in)

16 B



16 C



16 D

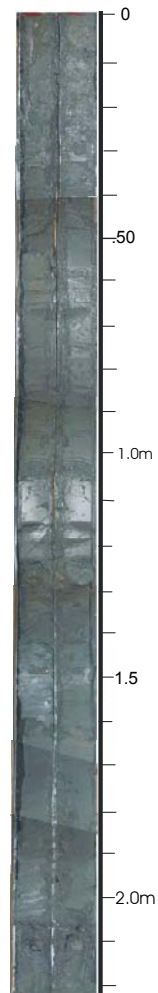


Figure C 1: Core photographs for line 16

Table C 2: Shell and sand weights for core 16B

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
16B	1-10	1.16	107.06	8.56	115.62
16B	21-30	1.80	24.77	7.84	32.61
16B	51-60	0.78	105.66	2.49	108.15
16B	71-80	0.39	91.70	3.79	95.49
16B	91-100	3.16	106.15	1.84	107.99
16B	111-120	0.58	101.16	3.87	105.03
16B	121-130	2.38	108.99	4.73	113.72
16B	131-140	0.21	86.72	9.93	96.65
16B	141-150	0.37	47.30	22.17	69.47
16B	171-180	0.31	101.72	3.65	105.37

Table C 3: Percent shell, sand, silt and clay for core 16B

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
16B	1-10	0.95	94.91	2.25	1.88
16B	21-30	4.34	78.62	9.26	7.79
16B	51-60	0.69	95.22	2.00	2.10
16B	71-80	0.39	96.42	1.24	1.95
16B	91-100	2.72	92.93	2.58	1.77
16B	111-120	0.53	96.02	1.60	1.85
16B	121-130	1.97	93.94	2.34	1.75
16B	131-140	0.18	82.46	13.94	3.43
16B	141-150	0.37	69.16	26.85	3.62
16B	171-180	0.28	93.49	3.85	2.39

Table C 4: RO-TAP data for core 16B

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
16B	1-10	0.17	0.30	0.23	0.18	0.16	0.12	0.40	1.81	7.70	82.03	15.12	8.56
16B	21-30	0.66	0.31	0.31	0.25	0.15	0.12	0.5	1.65	6.05	5.14	11.43	7.84
16B	51-60	0.29	0.04	0.09	0.12	0.11	0.13	0.36	2.03	82.51	16.74	4.02	2.49
16B	71-80	0	0.02	0.04	0.08	0.1	0.15	0.31	1.67	14.91	66.82	7.99	3.79
16B	91-100	1.08	0.69	0.55	0.43	0.24	0.17	0.42	2.42	51.81	45.42	6.08	1.84
16B	111-120	0.1	0.06	0.11	0.11	0.1	0.1	0.16	1.57	17.21	72.37	9.85	3.87
16B	121-130	0.68	0.72	0.42	0.27	0.17	0.12	0.21	1.07	13.01	84.96	9.74	4.73
16B	131-140	0.04	0	0.02	0.03	0.04	0.08	0.14	0.5	13.72	67.17	5.19	9.93
16B	141-150	0.09	0.08	0.08	0.06	0.03	0.03	0.02	0.19	0.43	9.92	36.74	22.17
16B	171-180	0.13	0.04	0.03	0.07	0.04	0	0.07	0.23	1.08	79.37	20.97	3.65

Table C 5: Percent finer data for core 16B

ASTM Classification		coarse sand	med. sand	med. sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand	silt
Wentworth Classification		granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.40mm/ -0.5Φ Screen	% finer than N18/ 1.00mm / 0.0Φ Screen	% finer than N25/ 710μm/ 0.5Φ Screen	% finer than N35/ 500μm/ 1.0Φ Screen	% finer than N45/ 355μm / 1.5Φ Screen	% finer than N60/ 250μm /2.0Φ Screen	% finer than N80/ 180μm/ 2.5 Φ Screen	% finer than N125/ 125μm/ 3.0Φ Screen	% finer than N170/ 90μm/ 3.5Φ Screen	% finer than N200/ 75μm/ 3.75Φ Screen	% finer than N230/ 63μm/ 4Φ Screen	% finer than 4μm / 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	Silt
16B	1-10	99.9	99.6	99.4	99.3	99.1	99.0	98.7	97.2	90.9	23.6	11.2	4.1	1.9
16B	21-30	98.4	97.7	96.9	96.3	95.9	95.7	94.5	90.5	75.9	63.5	35.9	17.0	7.8
16B	51-60	99.7	99.7	99.6	99.5	99.4	99.3	99.0	97.2	24.6	9.8	6.3	4.1	2.1
16B	71-80	100.0	100.0	99.9	99.9	99.8	99.6	99.3	97.6	82.6	15.1	7.0	3.2	2.0
16B	91-100	99.1	98.5	98.0	97.6	97.4	97.3	96.9	94.8	50.3	11.2	5.9	4.4	1.8
16B	111-120	99.9	99.9	99.8	99.7	99.6	99.5	99.3	97.9	82.2	16.0	7.0	3.5	1.8
16B	121-130	99.4	98.8	98.5	98.3	98.1	98.0	97.9	97.0	86.2	16.0	8.0	4.1	1.8
16B	131-140	100.0	100.0	99.9	99.9	99.9	99.8	99.7	99.3	87.6	30.3	25.8	17.4	3.4
16B	141-150	99.9	99.8	99.8	99.7	99.7	99.6	99.6	99.4	99.0	89.1	52.5	30.5	3.6
16B	171-180	99.9	99.8	99.8	99.8	99.7	99.7	99.7	99.5	98.5	28.1	9.5	6.2	2.4

Table C 6: Folkian statistic data for core 16B

Station ID	Sample Depth	Average Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(cm)	(Φ)	(mm)	(Φ)	(mm)		
16B	1-10	5.5	3.297	0.1013	3.3246	0.0994	0.2320	0.2912
16B	21-30	21.5	3.627	0.0806	3.4504	0.0911	0.1368	2.0878
16B	51-60	51.5	2.821	0.141	2.8458	0.1386	0.3533	0.3271
16B	71-80	71.5	3.232	0.106	3.2355	0.1057	0.1219	0.2885
16B	91-100	91.5	3.002	0.1243	3.0225	0.1226	0.1738	0.3935
16B	111-120	115.5	3.235	0.1058	3.2386	0.1055	0.114	0.294
16B	121-130	125.5	3.249	0.1047	3.2565	0.1042	0.1816	0.2812
16B	131-140	135.5	3.3	0.1011	3.4566	0.0907	0.4543	0.4682
16B	141-150	145.5	3.77	0.0729	3.8531	0.0689	0.3573	0.3345
16B	171-180	175.5	3.347	0.0979	3.3674	0.0965	0.3869	0.3911

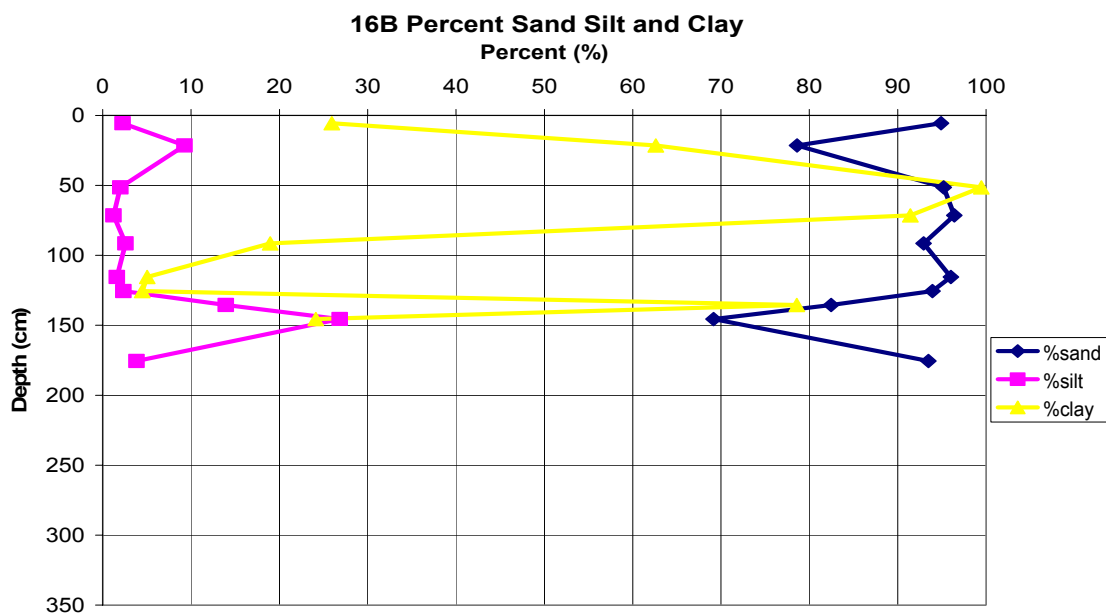


Figure C 2: Percent sand, silt and clay graph for core 16B

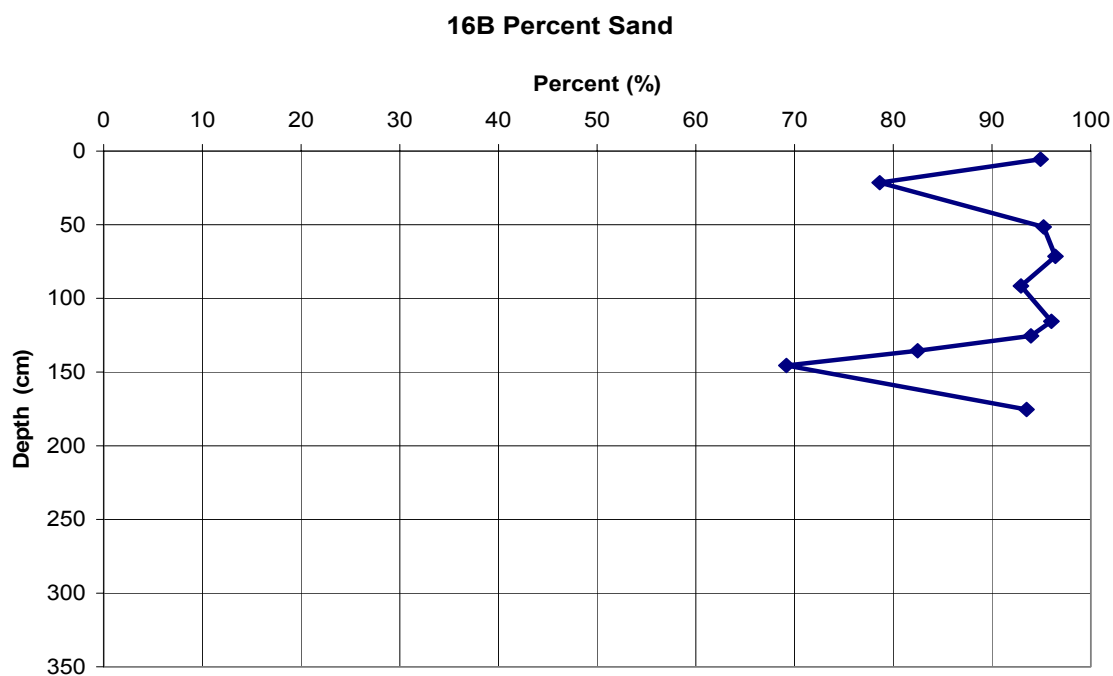


Figure C 3: Percent sand graph for core 16B

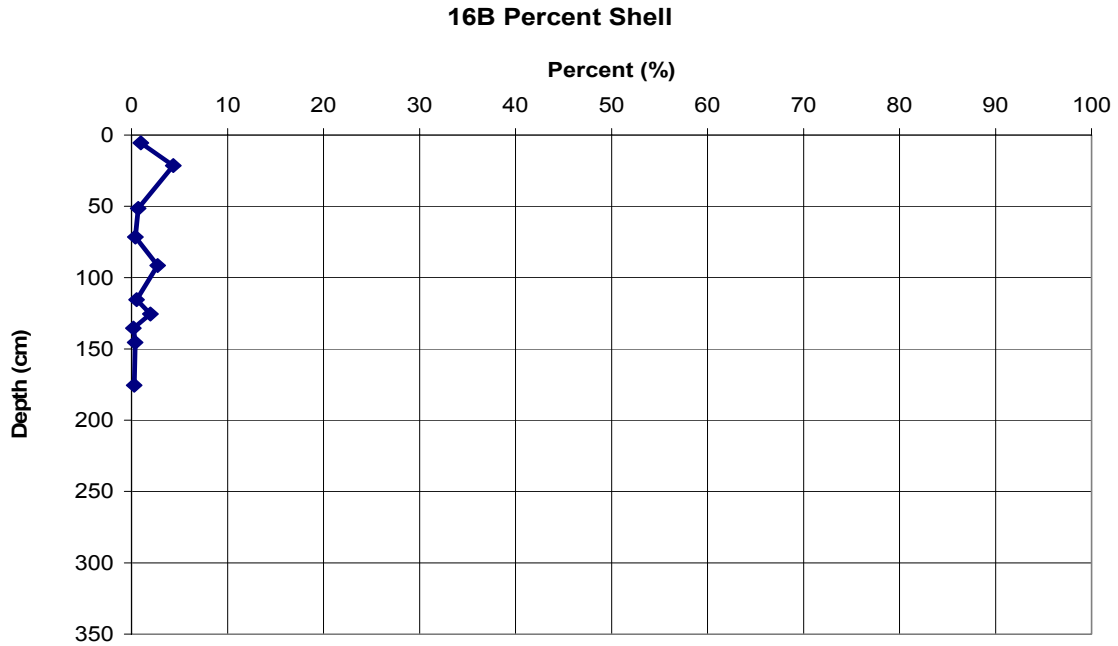


Figure C 4: Percent shell graph for core 16B

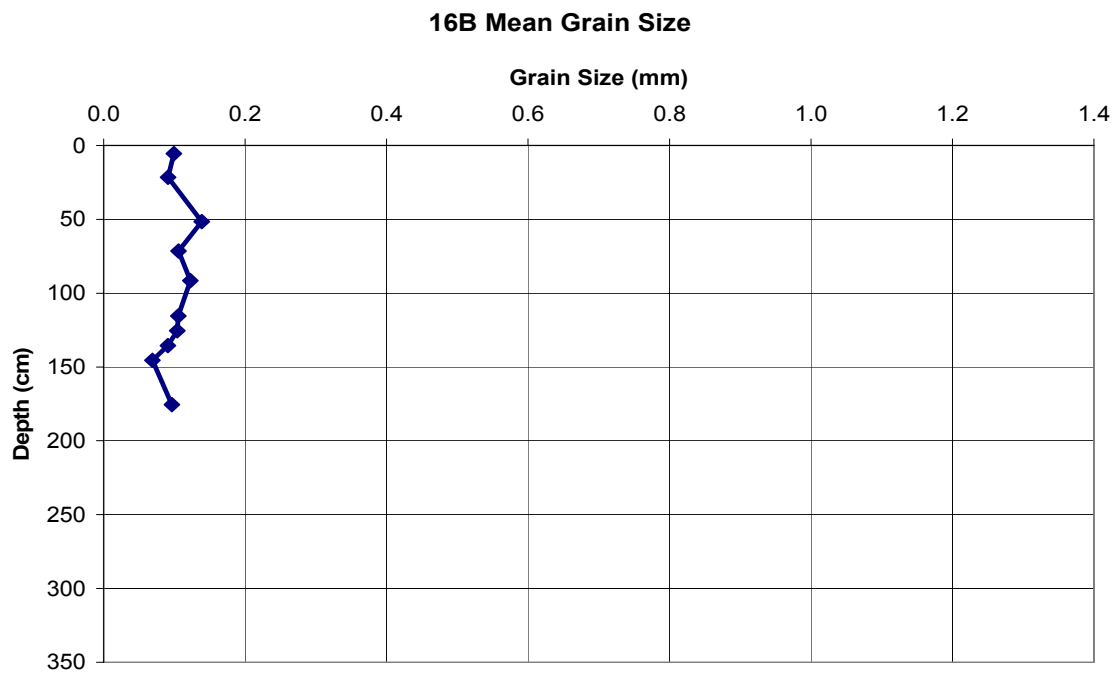


Figure C 5: Mean grain size graph for core 16B

Core#: 16 C
 Core Date: 07/06/05

Date Split/subsampled	Length: 196 cm
10/20/05	Lat: 29 09.642
	Long: 94 58.763

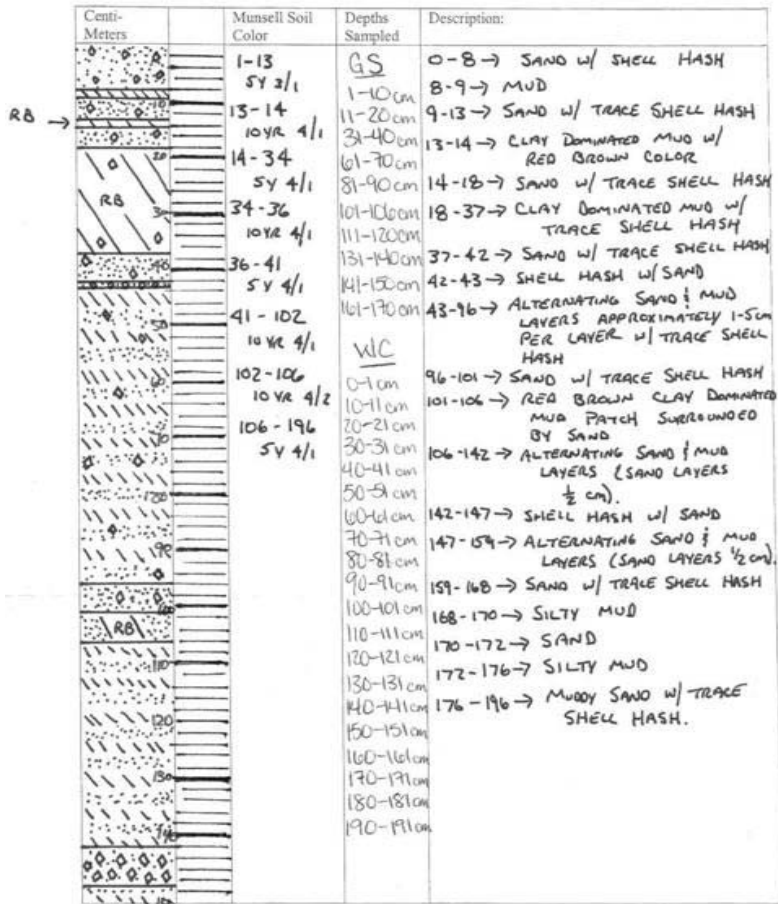
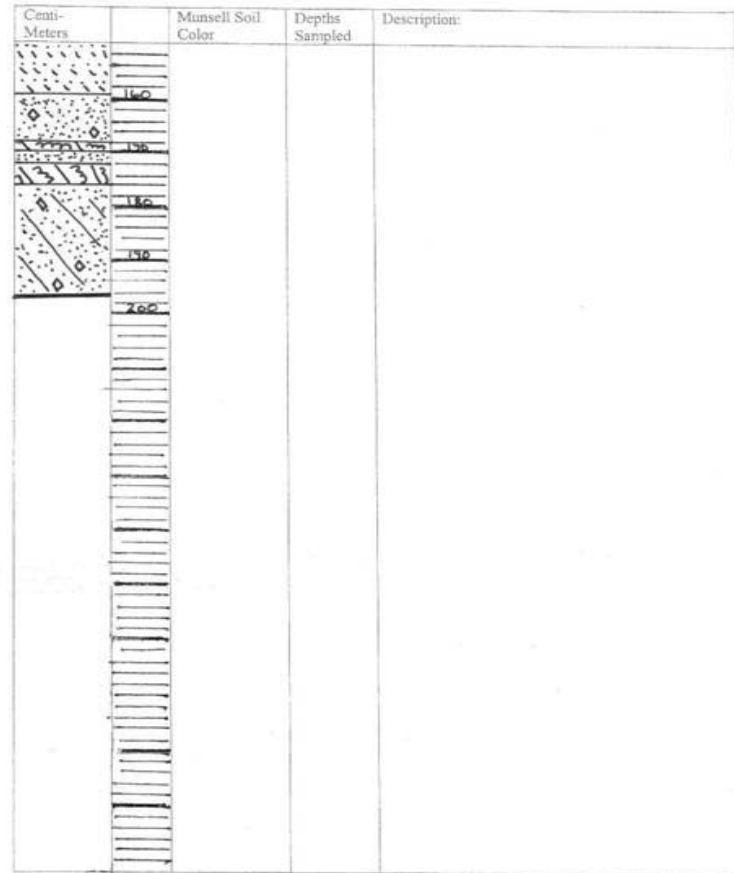


Figure C 6: Core log for 16C for depths 0-150 cm
 Figure C 7: Core log for 16C for depths 150-196 cm

Core#: 16 C
 Core Date: 07/06/05

Date Split/subsampled	Length: 196 cm
10/20/05	Lat: 29 09.642
	Long: 94 58.763



Line 16 Site C

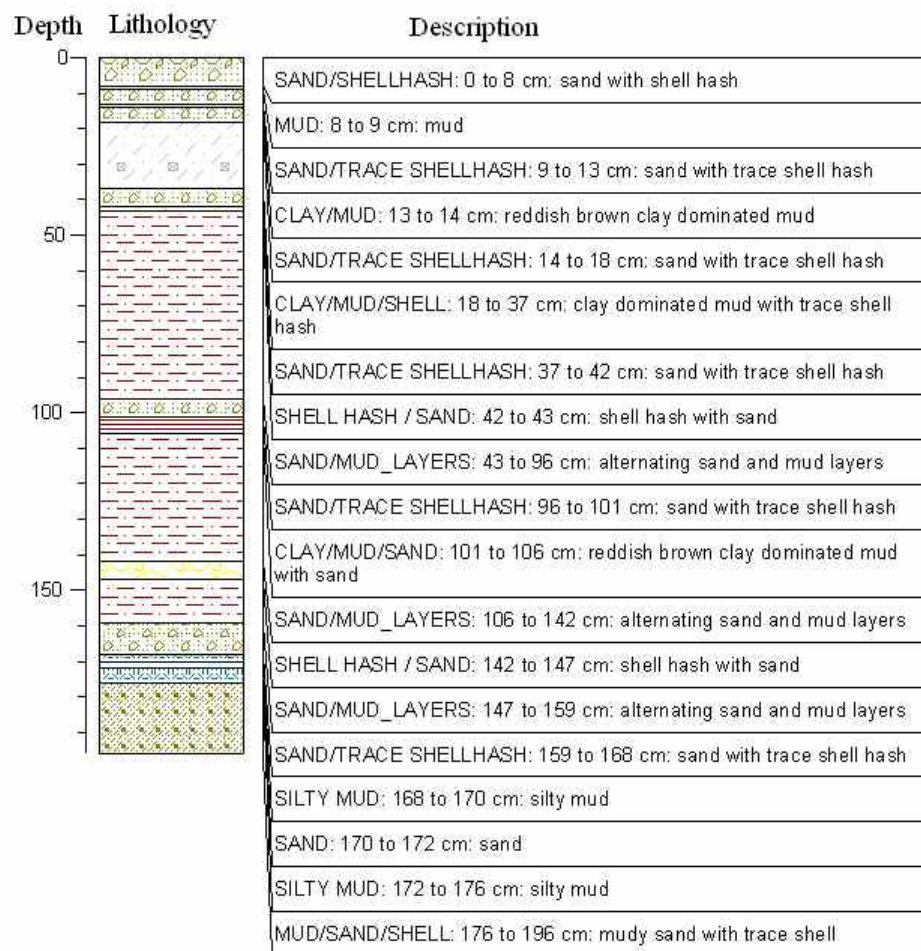


Figure C 8: Computer core log for 16C

Table C 7: Shell and sand weights for core 16C

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
16C	1-10	2.23	87.61	7.87	95.48
16C	11-20	0.04	3.34	4.88	8.22
16C	31-40	0.32	20.61	10.69	31.30
16C	61-70	0.10	25.85	1.71	27.56
16C	81-90	0.03	6.36	2.30	8.66
16C	101-106	0.00	3.94	1.05	4.99
16C	111-120	0.49	14.03	5.40	19.43
16C	131-140	0.20	13.26	4.90	18.16
16C	141-150	4.33	75.06	12.98	88.04
16C	161-170	0.04	31.45	6.27	37.72

Table C 8: Percent shell, sand, silt and clay for core 16C

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
16C	1-10	1.70	72.85	13.25	12.20
16C	11-20	0.10	20.79	52.44	26.67
16C	31-40	0.53	52.03	24.71	22.73
16C	61-70	0.19	52.46	21.94	25.42
16C	81-90	0.09	27.24	18.12	54.55
16C	101-106	0.00	23.02	18.04	58.94
16C	111-120	1.14	45.04	20.45	33.38
16C	131-140	0.42	38.56	11.82	49.20
16C	141-150	3.15	64.12	5.98	26.74
16C	161-170	0.03	29.28	49.66	21.04

Table C 9: RO-TAP data for core 16C

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
16C	1-10	0.78	0.45	0.3	0.23	0.29	0.18	0.59	1.89	35.29	41.01	8.83	7.87
16C	11-20						0.04					3.34	4.88
16C	31-40						0.32					20.61	10.69
16C	61-70						0.1					25.85	1.71
16C	81-90						0.03					6.36	2.3
16C	101-106						0					3.94	1.05
16C	111-120						0.49					14.03	5.4
16C	131-140						0.2					13.26	4.9
16C	141-150	1.27	0.25	0.86	0.72	0.69	0.54	0.59	2.17	4.9	44.93	22.47	12.98
16C	161-170						0.04					31.45	6.27

Table C 10: Percent finer data for core 16C

ASTM Classification		coarse sand	med. sand	med. sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand	silt
Wentworth Classification		granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.40mm/ -0.5Φ Screen	% finer than N18/ 1.00mm/ 0.0Φ Screen	% finer than N25/ 710µm /0.5Φ Screen	% finer than N35/ 500µm /1.0Φ Screen	% finer than N45/ 355µm /1.5Φ Screen	% finer than N60/ 250µm 2.0Φ Screen	% finer than N80/ 180µm /2.5 Φ Screen	% finer than N125/ 125µm /3.0Φ Screen	% finer than N170/ 90µm/ 3.5Φ Screen	% finer than N200/ 75µm / 3.75Φ Screen	% finer than N230/ 63µm/ 4Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
16C	1-10	99.4	99.1	98.8	98.7	98.4	98.3	97.8	96.4	69.5	38.2	31.5	25.4	12.2
16C	11-20						99.9					91.5	79.1	26.7
16C	31-40						99.5					65.2	47.4	22.7
16C	61-70						99.8					50.6	47.4	25.4
16C	81-90						99.9					79.9	72.7	54.5
16C	101-106						100.0					81.8	77.0	58.9
16C	111-120						98.9					66.3	53.8	33.4
16C	131-140						99.6					71.4	61.0	49.2
16C	141-150	99.1	98.9	98.3	97.7	97.2	96.8	96.4	94.8	91.3	58.5	42.2	32.7	26.7
16C	161-170						100.0					75.6	70.7	21.0

Table C 11: Folkian statistic data for core 16C

Station ID	Sample Depth	Average Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(cm)	(Φ)	(mm)	(Φ)	(mm)		
16C	1-10	5.5	3.278	0.1027	3.5114	0.8729	0.6362	1.992
16C	11-20	15.5						
16C	31-40	35.5						
16C	61-70	65.5						
16C	81-90	85.5						
16C	101-106	103						
16C	111-120	115.5						
16C	131-140	135.5						
16C	141-150	145.5	3.619	0.081	6.3601	0.0121	0.832	3.9788
16C	161-170	165.5						

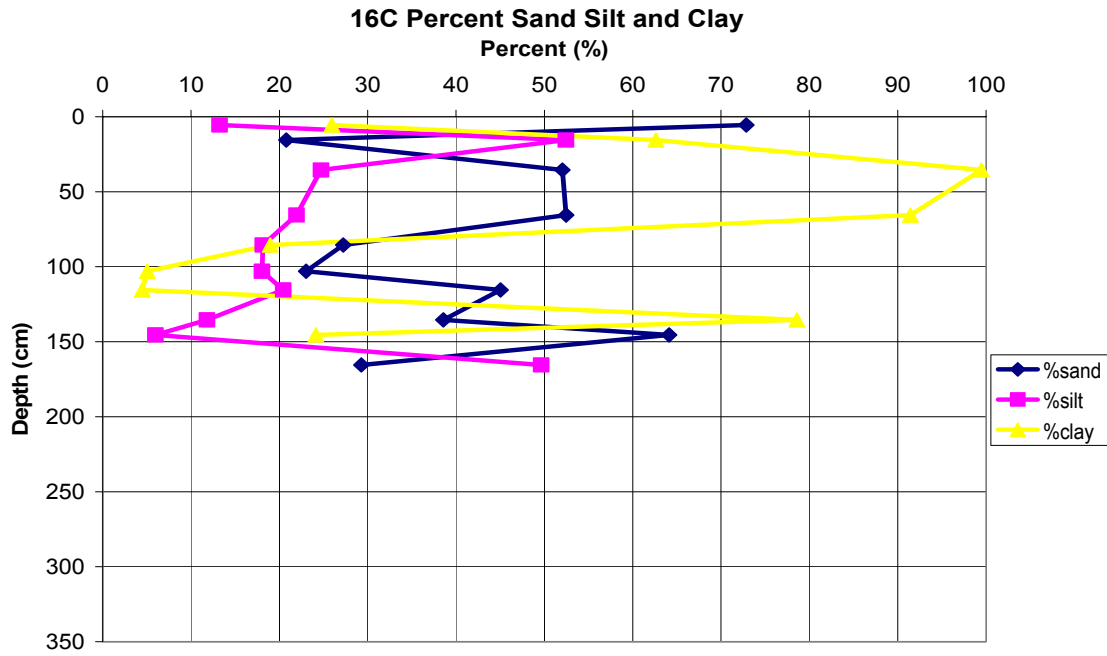


Figure C 9: Percent sand, silt and clay graph for core 16C

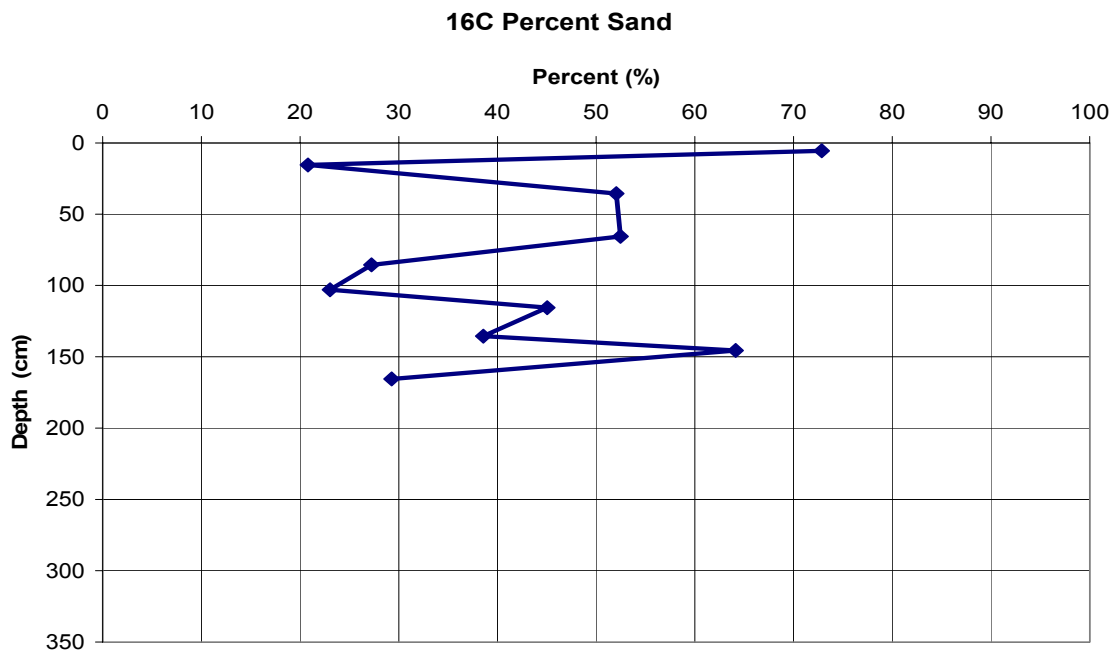


Figure C 10: Percent sand graph for core 16C

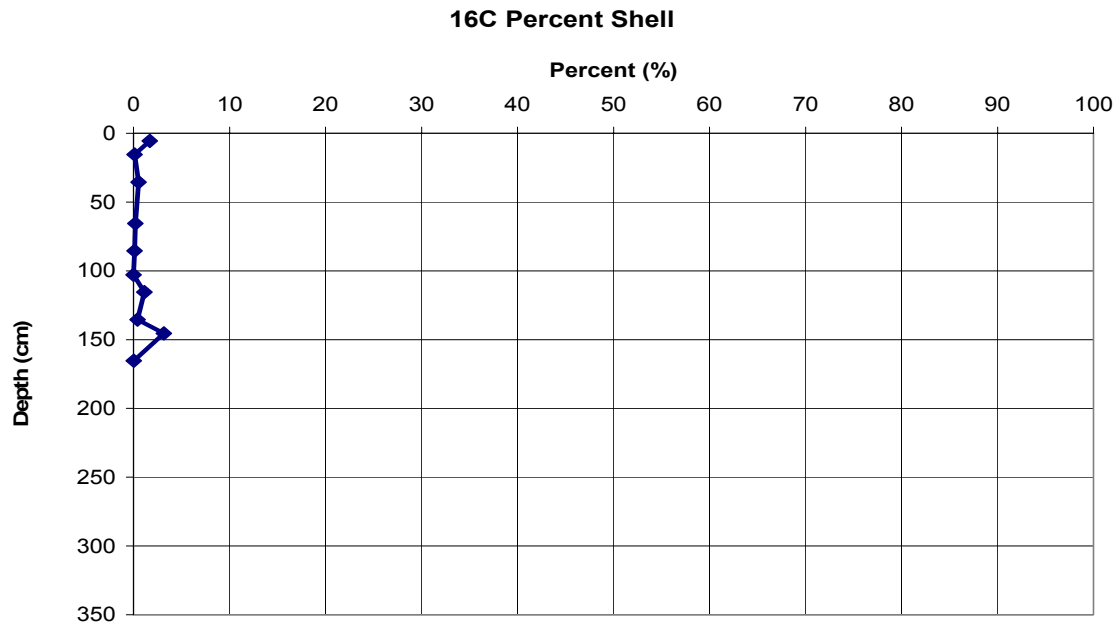


Figure C 11: Percent shell graph for core 16C

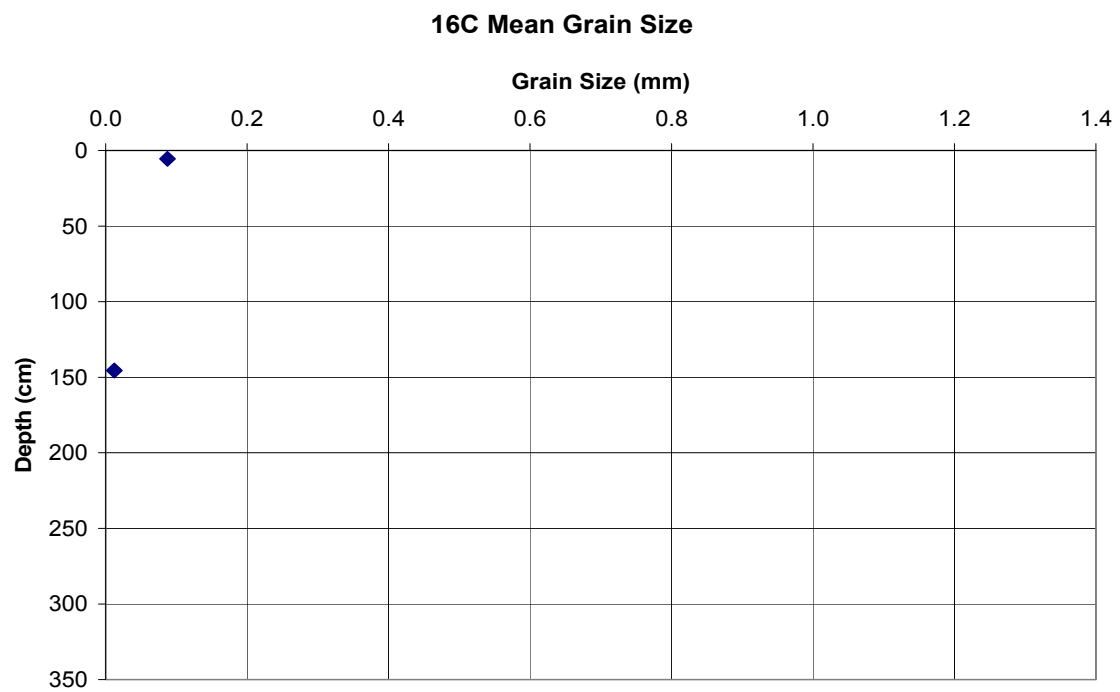


Figure C 12: Mean grain size graph for core 16C

Core#: 16D
 Core Date: 07/17/05

Date Split/subsampled	Length: 221 cm
10/20/05	Lat: 29 09.390
	Long: 94 58.723

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-59	GS	0-5 cm	0-5 → SHELL HASH
59-124	5Y 4/1 mud → 5Y 4/1 smb → 5Y 3/1	5-20 cm 20-26 cm 26-45 cm 45-46 cm	5-20 → SANDY MUD w/ TRACE SHELL HASH 20-26 → SAND w/ TRACE SHELL HASH 26-45 → ALTERNATING SAND AND MUD LAYERS (APPROX 1 cm). 45-46 → SHELL HASH w/ SAND
124-128	10YR 4/1	111-120 cm 123-130 cm	46-124 → SILTY MUD w/ FINE SAND LAMINATIONS
128-182	6.5YR 4/1N	131-140 cm 171-180 cm	124-128 → REDDISH BROWN CLAY DOMINATED MUD w/ SHELL AND SHELL HASH
182-221	5Y 3/1	181-190 cm 201-210 cm	128-136 → REDDISH BROWN CLAY DOMINATED MUD 136-162 → MUD AND SAND LAMINATIONS w/ TRACE SHELL HASH 162-163 → SHELL HASH w/ SAND 163-183 → SILT DOMINATED MUD w/ SOME SAND LAMINATIONS 183-193 → SAND w/ SHELL HASH 193-221 → SAND AND MUD LAMINATIONS w/ ABUNDANT SHELL HASH
		WC	
		0-10 cm	
		10-11 cm	
		20-21 cm	
		30-31 cm	
		40-41 cm	
		50-51 cm	
		60-61 cm	
		70-71 cm	
		80-81 cm	
		90-91 cm	
		100-101 cm	
		110-111 cm	
		120-121 cm	
		130-131 cm	
		140-141 cm	
		150-151 cm	
		160-161 cm	
		170-171 cm	
		180-181 cm	
		190-191 cm	
		200-201 cm	
		210-211 cm	
		220-221 cm	

Figure C 13: Core log for 16D for depths 0-150 cm
 Figure C 14: Core log for 16D for 150-221 cm

Core#: 16D
 Core Date: 07/17/05

Date Split/subsampled	Length: 221 cm
10/20/05	Lat: 29 09.390
	Long: 94 58.723

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
150-221			

Line 16 Site D

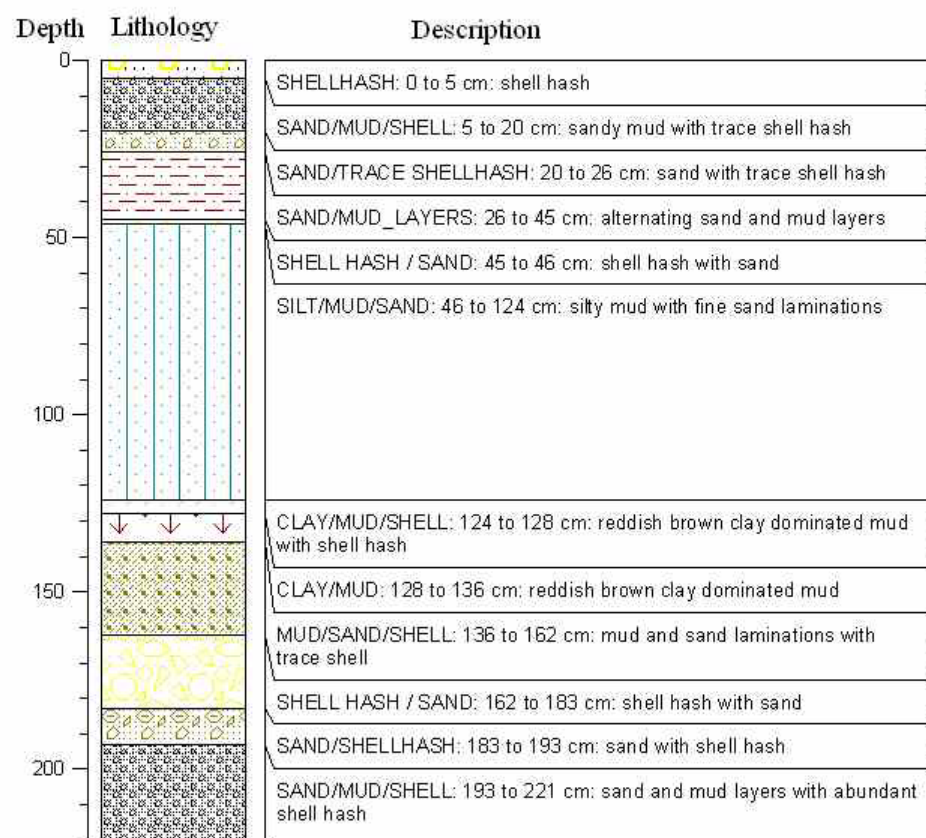


Figure C 15: Computer core log for 16D

Table C 12: Shell and sand weights for core 16D

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
16D	1-10	1.65	32.42	8.21	40.63
16D	31-40	0.02	17.87	1.79	19.66
16D	61-70	0.04	8.56	5.06	13.62
16D	81-90	0.01	14.05	12.44	26.49
16D	101-110	0.09	10.38	7.43	17.81
16D	111-120	0.07	12.49	7.77	20.26
16D	123-130	0.15	5.20	3.90	9.10
16D	131-140	0.06	7.42	5.31	12.73
16D	171-180	0.11	14.91	3.53	18.44
16D	181-190	0.19	75.29	8.30	83.59
16D	201-210	1.69	17.50	6.12	23.62

Table C 13: Percent shell, sand, silt and clay for core 16D

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
16D	1-10	1.89	46.52	24.29	27.29
16D	31-40	0.05	49.80	13.73	36.42
16D	61-70	0.11	35.98	23.45	40.46
16D	81-90	0.02	53.80	19.17	27.00
16D	101-110	0.20	39.13	21.69	38.98
16D	111-120	0.14	40.87	21.81	37.18
16D	123-130	0.44	26.51	24.73	48.32
16D	131-140	0.11	23.02	45.00	31.87
16D	171-180	0.15	25.94	37.26	36.65
16D	181-190	0.17	73.77	16.13	9.93
16D	201-210	2.62	36.61	40.79	19.98

Table C 14: RO-TAP data for core 16D

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
16D	1-10						1.65					32.42	8.21
16D	31-40						0.02					17.87	1.79
16D	61-70						0.04					8.56	5.06
16D	81-90						0.01					14.05	12.44
16D	101-110						0.09					10.38	7.43
16D	111-120						0.07					12.49	7.77
16D	123-130						0.15					5.2	3.9
16D	131-140						0.06					7.42	5.31
16D	171-180						0.11					14.91	3.53
16D	181-190	0.03	0.02	0.04	0.04	0.03	0.03	0.1	0.3	0.9	25.47	48.52	8.3
16D	201-210						1.69					17.5	6.12

Table C 15: Percent finer data for core 16D

ASTM Classification		coarse sand	med. sand	med. Sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand	silt
Wentworth Classification		granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.4mm / -0.5Φ Screen	% finer than N18/ 1.0mm / 0.0Φ Screen	% finer than N25/ 710µm / 0.5Φ Screen	% finer than N35/ 500µm / 1.0Φ Screen	% finer than N45/ 355µm / 1.5Φ Screen	% finer than N60/ 250µm / 2.0Φ Screen	% finer than N80/ 180µm / 2.5 Φ Screen	% finer than N125/ 125µm /3.0Φ Screen	% finer than N170/ 90µm / 3.5Φ Screen	% finer than N200/ 75µm / 3.75Φ Screen	% finer than N230/ 63µm/ 4Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	Silt
16D	1-10							98.8				75.2	69.2	53.8
16D	31-40							100.0				74.7	72.1	64.5
16D	61-70							99.9				87.9	80.7	68.2
16D	81-90							100.0				82.0	66.1	54.1
16D	101-110							99.9				87.4	78.5	66.7
16D	111-120							99.9				85.9	77.1	64.9
16D	123-130							99.8				92.3	86.8	74.6
16D	131-140							99.9				92.0	86.2	59.5
16D	171-180							99.9				88.0	85.2	64.1
16D	181-190	100.0	100.0	99.9	99.9	99.9	99.9	99.8	99.6	98.9	80.5	45.4	39.4	26.2
16D	201-210							98.2				79.3	72.7	44.3

Table C 16: Folkian statistic data for core 16D

Station ID	Sample Depth	Average Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(cm)	(Φ)	(mm)	(Φ)	(mm)		
16D	1-10	5.5						
16D	31-40	35.5						
16D	61-70	65.5						
16D	81-90	85.5						
16D	101-110	105.5						
16D	111-120	115.5						
16D	123-130	126.5						
16D	131-140	135.5						
16D	171-180	175.5						
16D	181-190	185.5	3.644	0.0796	4.8174	0.0352	0.8869	1.7884
16D	201-210	205.5						

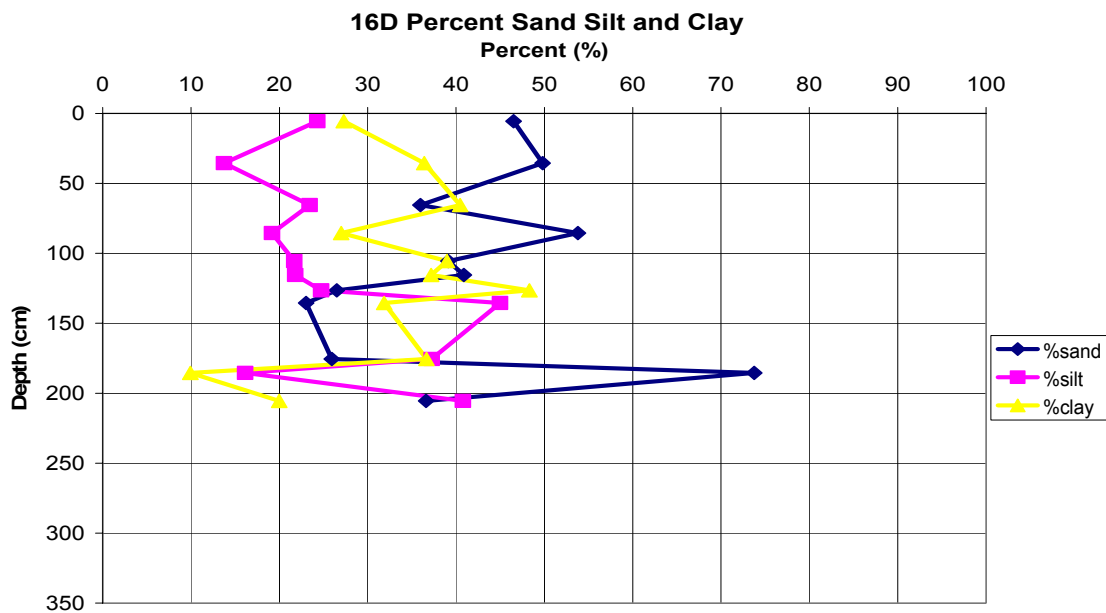


Figure C 16: Percent sand, silt and clay graph for core 16D

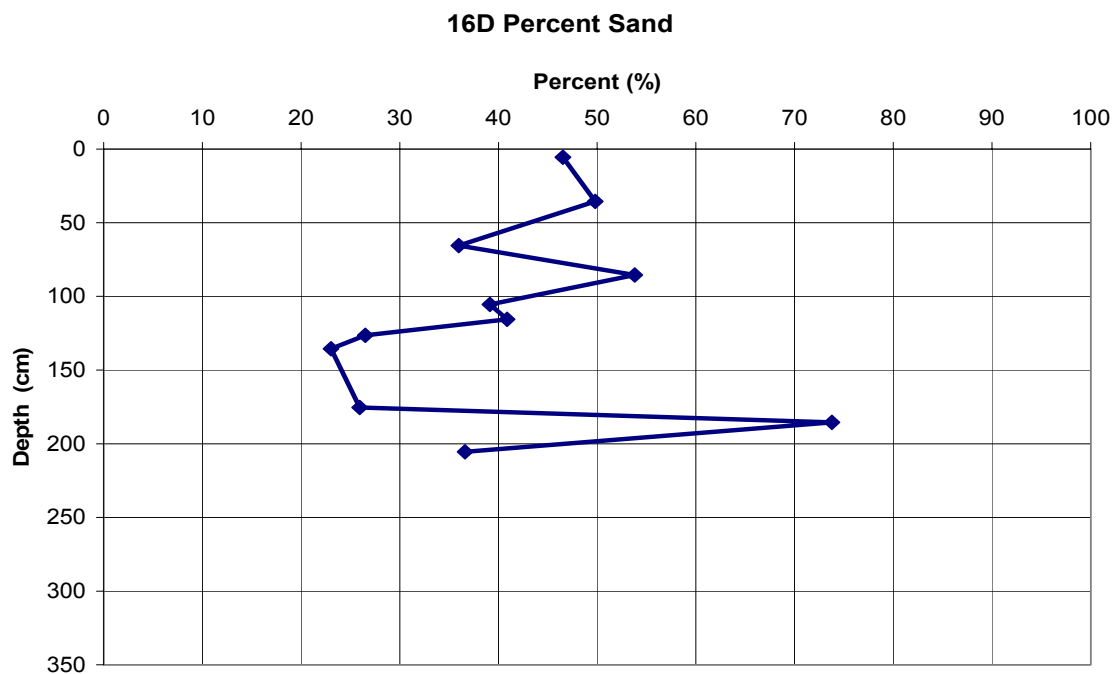


Figure C 17: Percent sand graph for core 16D

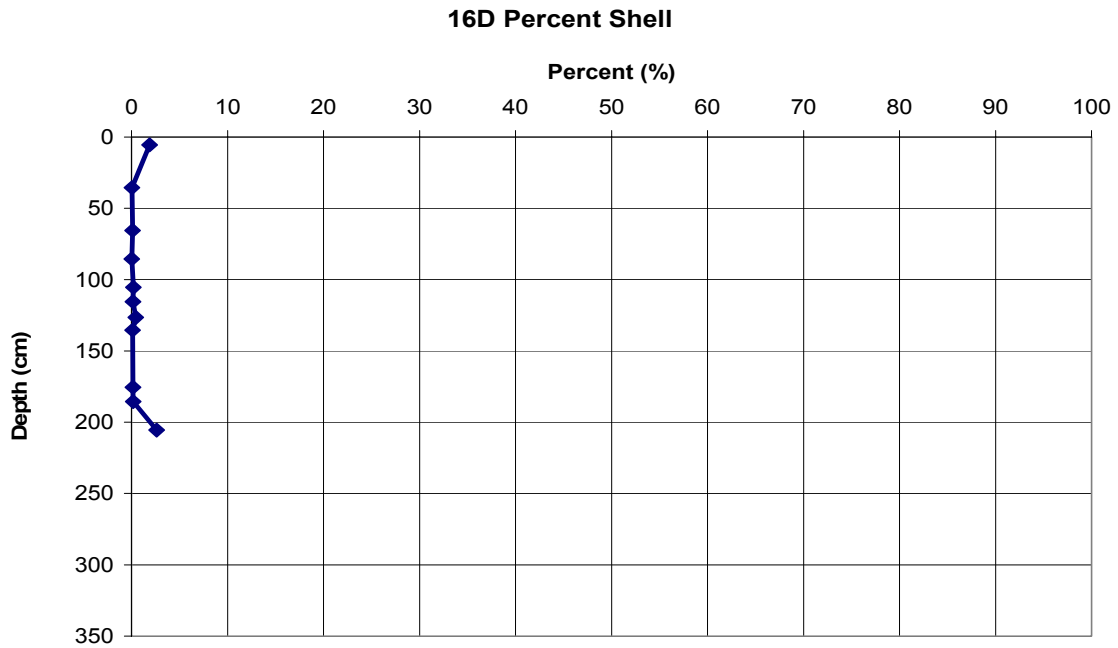


Figure C 18: Percent shell graph for core 16D

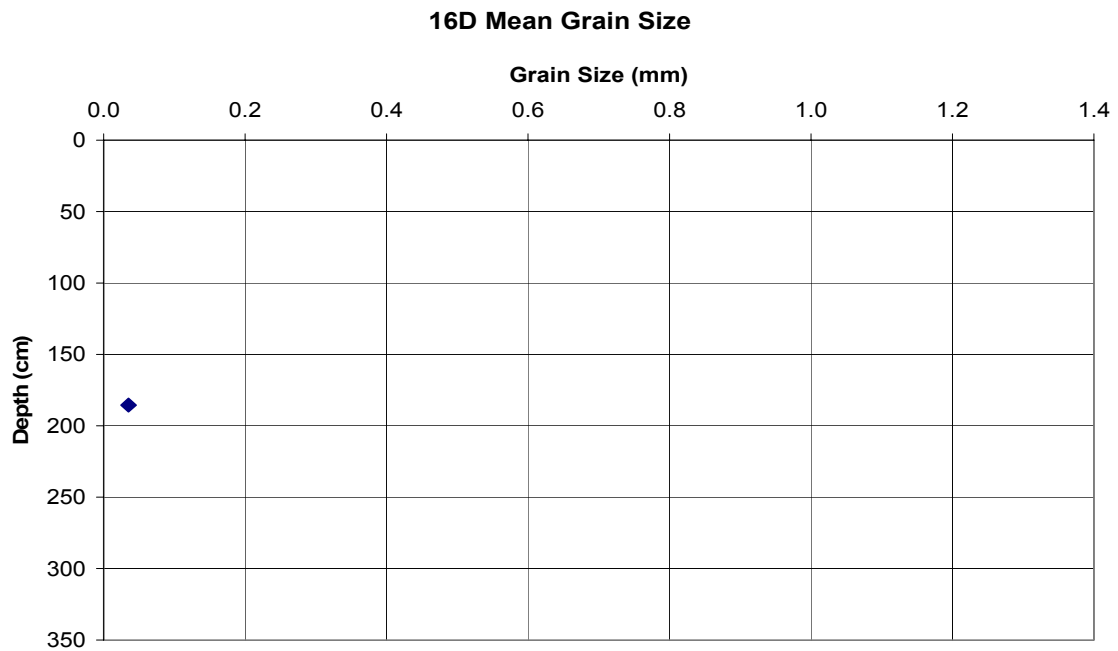
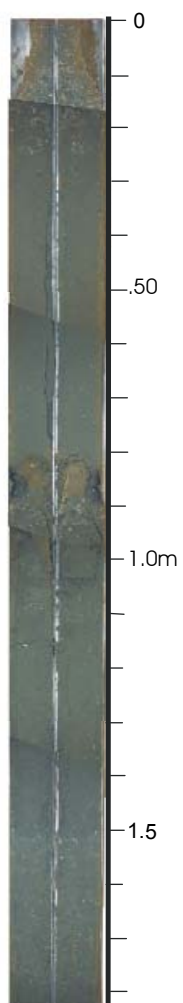
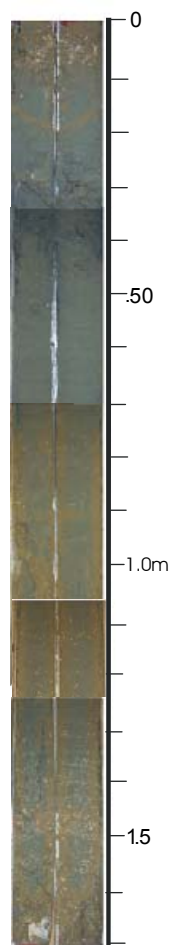


Figure C 19: Mean grain size graph for core 16D

17 B



17 C



17 D

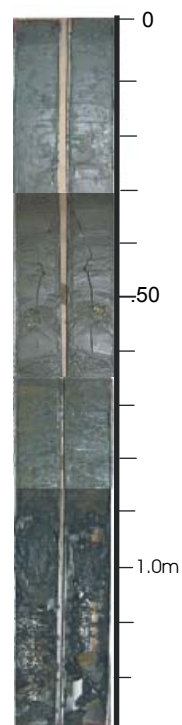


Figure C 20: Core photographs for line 17

Core#: 17B
 Core Date: 07/07/05

Date Split/subsampled	Length: 216 cm
10/27/05	Lat: 29 09.171
	Long: 95 00.056

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-135	5Y 4/1	CS	0-26 → SHELL HASH W/ SAND
135-152	5Y 3/1	1-10 cm	26-88 → SAND W/ TRACE SHELL
152-177	5Y 4/1	11-20 cm	88-94 → SHELL HASH W/ SAND
177-191	5Y 3/1	31-40 cm	94-153 → SAND W/ TRACE SHELL HASH
191-216	5Y 4/1	161-70 cm	153-180 → SAND W/ SHELL HASH
		81-94 cm	180-216 → SAND W/ TRACE SHELL HASH
		101-110 cm	
		131-140 cm	
		153-160 cm	
		171-180 cm	
		181-190 cm	
		201-210 cm	
		WC	
		0-1 cm	
		10-11 cm	
		20-21 cm	
		30-31 cm	
		40-41 cm	
		50-51 cm	
		60-61 cm	
		70-71 cm	
		80-81 cm	
		90-91 cm	
		100-101 cm	
		110-111 cm	
		120-121 cm	
		130-131 cm	
		140-141 cm	
		150-151 cm	
		160-161 cm	
		170-171 cm	
		180-181 cm	
		190-191 cm	
		200-201 cm	
		210-211 cm	

Figure C 21: Core log for 17B for depth 0-150 cm
 Figure C 22: Core log for 17B for depths 150-216 cm

Core#: 17B
 Core Date: 07/07/05

Date Split/subsampled	Length: 216 cm
10/27/05	Lat: 29 09.171
	Long: 95 00.056

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-150			
150-216			

Line 17 Site B

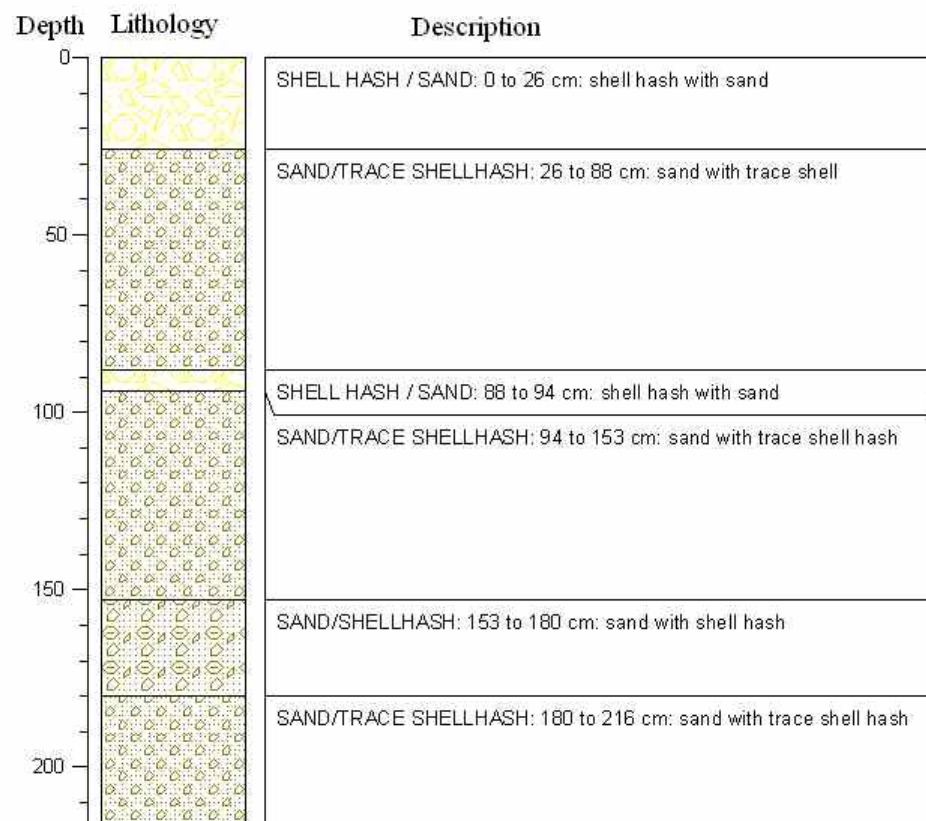


Figure C 23: Computer core log for 17B

Table C 17: Shell and sand weights for core 17B

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
17B	1-10	6.07	68.82	5.40	74.22
17B	11-20	7.79	81.50	6.81	88.31
17B	31-40	0.20	91.33	5.25	96.58
17B	61-70	0.18	89.76	3.88	93.64
17B	89-94	6.37	89.54	4.53	94.07
17B	101-110	1.18	92.85	8.02	100.87
17B	131-140	0.19	93.56	5.92	99.48
17B	153-160	0.34	93.41	3.88	97.29
17B	171-180	1.66	83.77	4.43	88.20
17B	181-190	0.36	88.12	5.56	93.68
17B	201-210	0.54	95.61	2.45	98.06

Table C 18: Percent shell, sand, silt and clay for core 17B

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
17B	1-10	7.22	88.27	2.68	1.83
17B	11-20	7.80	88.37	1.72	2.11
17B	31-40	0.20	95.96	1.95	1.90
17B	61-70	0.19	96.87	0.95	2.00
17B	89-94	6.16	90.95	1.10	1.79
17B	101-110	1.12	95.76	1.31	1.82
17B	131-140	0.18	95.06	2.58	2.17
17B	153-160	0.34	96.01	1.70	1.95
17B	171-180	1.75	92.76	3.28	2.21
17B	181-190	0.36	94.12	3.28	2.24
17B	201-210	0.52	94.84	2.20	2.44

Table C 19: RO-TAP data for core 17B

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
17B	1-10	1.73	1.5	1.21	0.87	0.47	0.29	0.97	2.8	4.86	52.38	7.81	5.4
17B	11-20	3.96	1.38	1.05	0.75	0.38	0.27	1.54	2.94	6.26	56.65	14.11	6.81
17B	31-40	0	0.03	0.04	0.05	0.03	0.05	0.21	1.45	5.4	70.52	13.75	5.25
17B	61-70	0.02	0.03	0.02	0.03	0.03	0.05	0.36	2.27	7.37	66.26	13.5	3.88
17B	89-94	4.24	0.03	0.91	0.6	0.38	0.21	0.85	1.93	8.57	65.91	12.28	4.53
17B	101-110	0.35	0.16	0.27	0.2	0.11	0.09	0.21	1.43	8.95	64.19	18.07	8.02
17B	131-140	0.04	0	0.02	0.03	0.04	0.06	0.19	1.04	12.18	59.39	20.76	5.92
17B	153-160	0.02	0.07	0.06	0.1	0.04	0.05	0.23	1.56	12.32	66.88	12.42	3.88
17B	171-180	1.02	0.16	0.12	0.13	0.09	0.14	0.3	1.59	13.15	57.8	10.93	4.43
17B	181-190	0.15	0.05	0.05	0.03	0.04	0.04	0.13	0.61	7.95	64.41	15.02	5.56
17B	201-210	0.1	0.13	0.1	0.09	0.06	0.06	0.24	1.38	36.84	53.34	3.81	2.45

Table C 20: Percent finer data for core 17B

ASTM Classification		coarse sand	med. sand	med. sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt
Wentworth Classification		granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.4mm/ -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710µm / 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm/ 3.5Φ Screen	% finer than N200/ 75µm/ 3.75Φ Screen	% finer than N230/ 63µm/ 4Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
17B	1-10	97.9	96.2	94.7	93.7	93.1	92.8	91.6	88.3	82.5	20.2	10.9	4.5	1.8
17B	11-20	96.0	94.7	93.6	92.9	92.5	92.2	90.7	87.7	81.5	24.8	10.6	3.8	2.1
17B	31-40	100.0	100.0	99.9	99.9	99.9	99.8	99.6	98.2	92.8	22.7	9.1	3.8	1.9
17B	61-70	100.0	99.9	99.9	99.9	99.9	99.8	99.4	97.1	89.5	20.9	7.0	2.9	2.0
17B	89-94	95.9	95.9	95.0	94.4	94.0	93.8	93.0	91.2	82.9	19.1	7.3	2.9	1.8
17B	101-110	99.7	99.5	99.3	99.1	99.0	98.9	98.7	97.3	88.8	27.9	10.7	3.1	1.8
17B	131-140	100.0	100.0	99.9	99.9	99.9	99.8	99.6	98.6	87.0	30.2	10.4	4.8	2.2
17B	153-160	100.0	99.9	99.9	99.8	99.7	99.7	99.4	97.9	85.7	19.7	7.5	3.7	2.0
17B	171-180	98.9	98.8	98.6	98.5	98.4	98.3	97.9	96.3	82.4	21.6	10.1	5.5	2.2
17B	181-190	99.8	99.8	99.7	99.7	99.7	99.6	99.5	98.9	90.9	26.2	11.1	5.5	2.2
17B	201-210	99.9	99.8	99.7	99.6	99.5	99.5	99.2	97.9	62.3	10.7	7.0	4.6	2.4

Table C 21: Folkian statistic data for core 17B

Station ID	Sample Depth	Average Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(cm)	(Φ)	(mm)	(Φ)	(mm)		
17B	1-10	5.5	3.256	0.1042	3.2686	0.1033	-0.2918	0.7664
17B	11-20	15.5	3.281	0.1024	3.2894	0.1018	-0.3364	0.8602
17B	31-40	35.5	3.301	0.101	3.3211	0.0996	0.218	0.2714
17B	61-70	65.5	3.286	0.102	3.2984	0.1012	0.1405	0.2647
17B	89-94	91.5	3.257	0.1041	3.2611	0.1039	-0.3333	0.7247
17B	101-110	105.5	3.321	0.0996	3.3406	0.0983	0.1385	0.3037
17B	131-140	135.5	3.334	0.0987	3.3427	0.0981	0.0914	0.3252
17B	153-160	156.5	3.267	0.1034	3.2767	0.1027	0.1354	0.2877
17B	171-180	175.5	3.261	0.1039	3.2757	0.1028	0.1383	0.3442
17B	181-190	185.5	3.314	0.1001	3.3391	0.0983	0.2284	0.3064
17B	201-210	205.5	3.104	0.1158	3.0957	0.1165	0.1039	0.3721

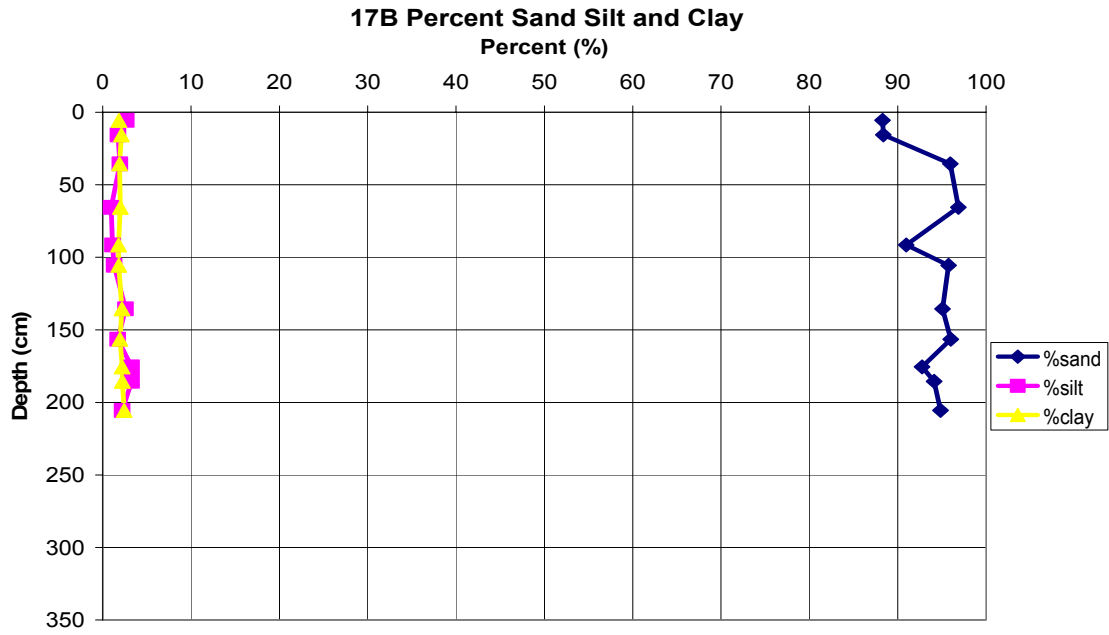


Figure C 24: Percent sand, silt and clay graph for core 17B

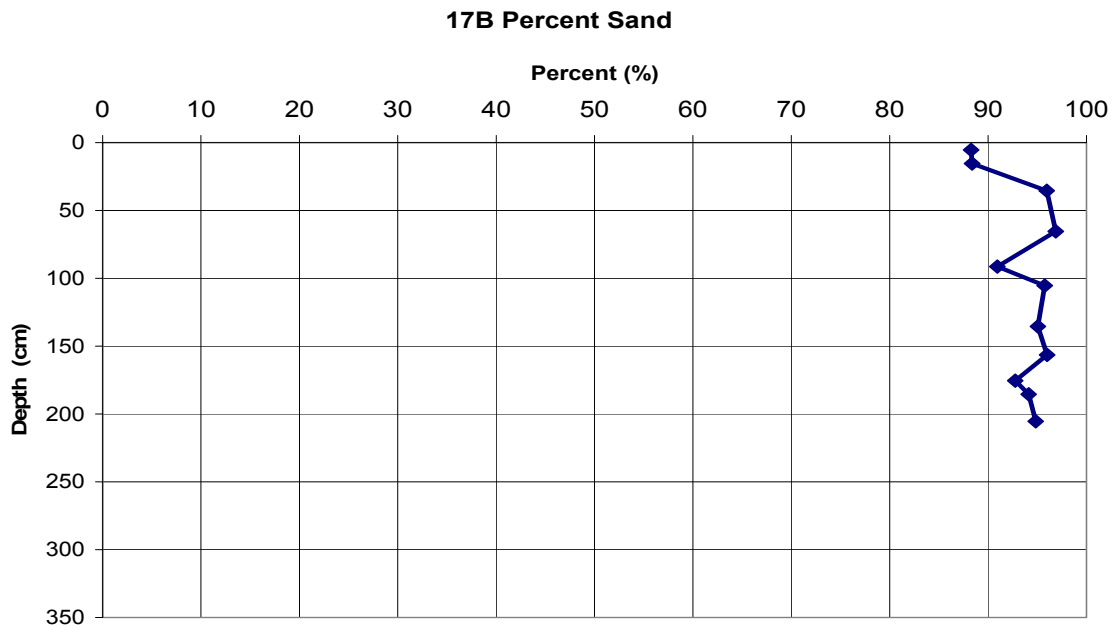


Figure C 25: Percent sand graph for core 17B

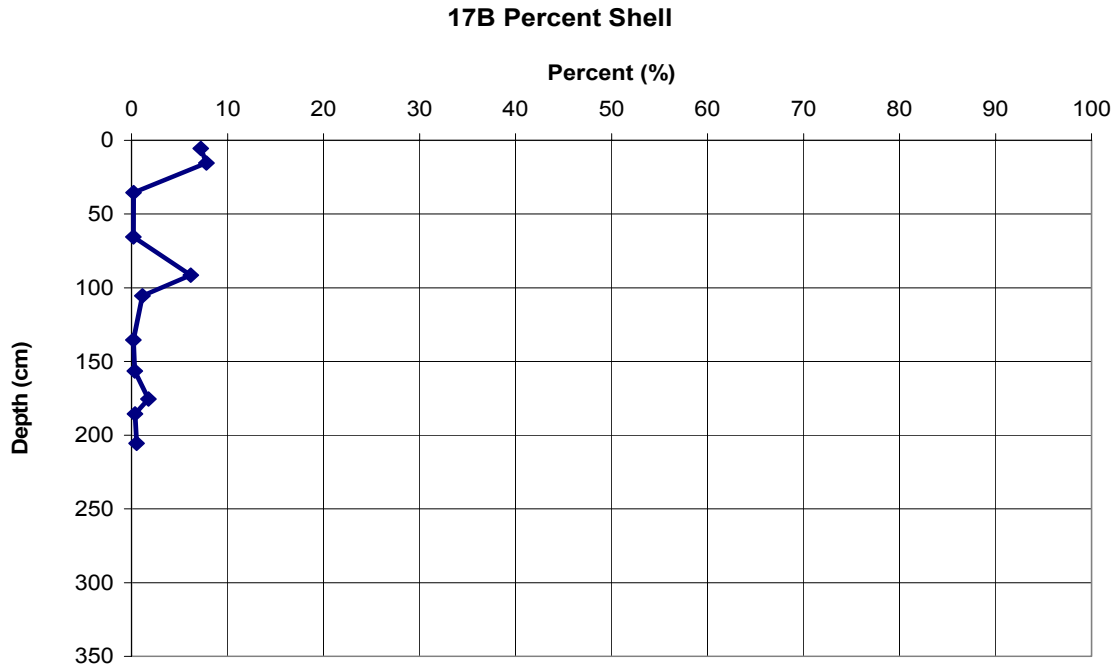


Figure C 26: Percent shell graph for core 17B

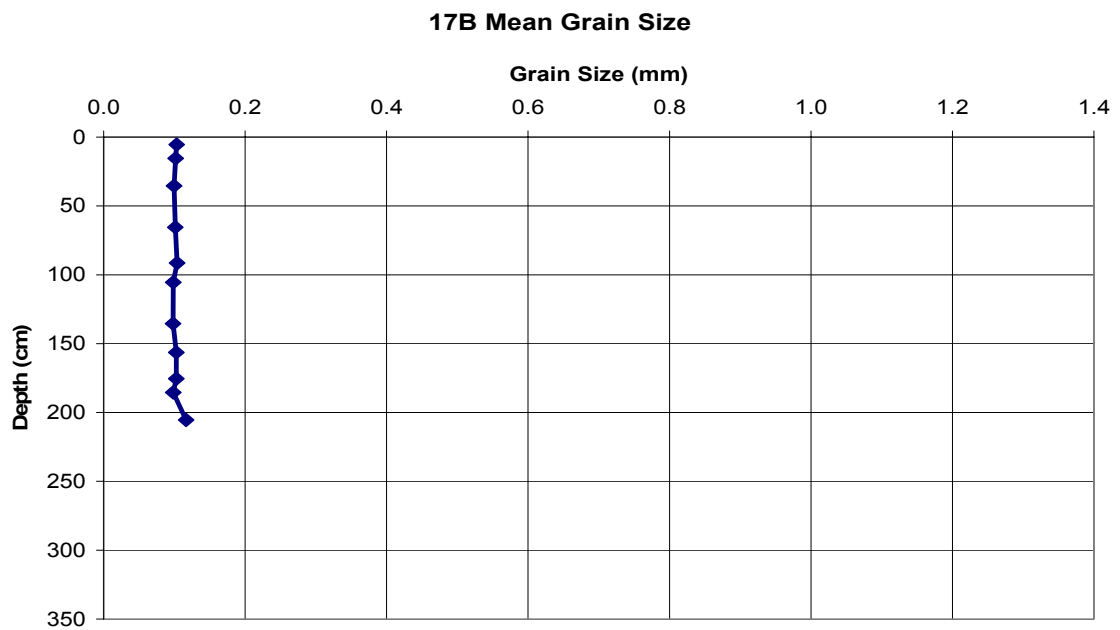


Figure C 27: Mean grain size graph for core 17B

Line 17 Site C

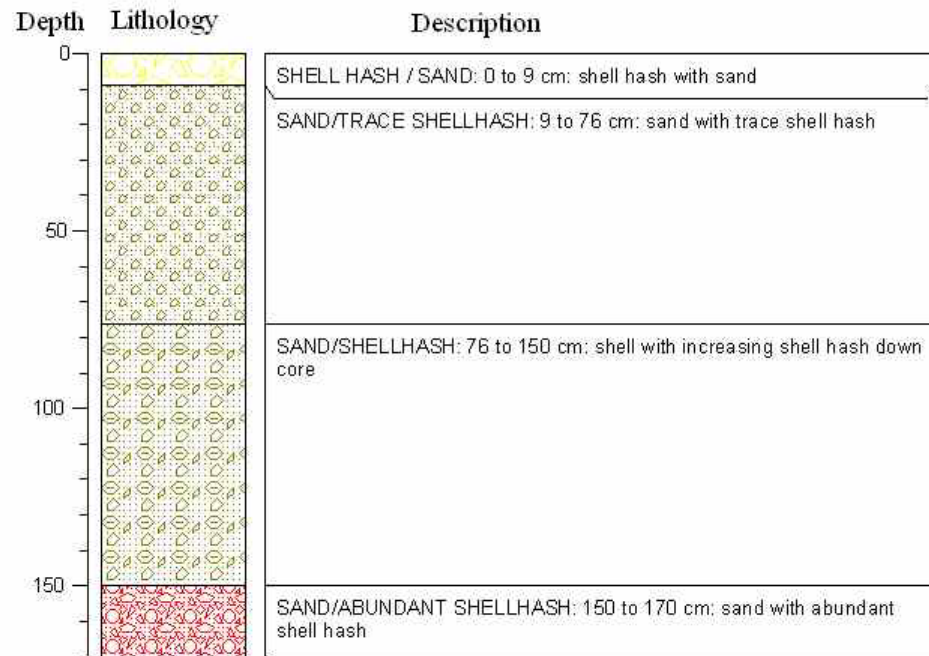


Figure C 30: Computer core log for 17C

Table C 22: Shell and sand weights for core 17C

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
17C	1-10	13.83	80.65	7.17	87.82
17C	11-20	0.63	93.63	2.34	95.97
17C	41-50	0.11	104.90	1.90	106.80
17C	71-80	0.11	86.23	1.64	87.87
17C	101-110	0.48	96.52	2.05	98.57
17C	121-130	14.04	87.41	1.95	89.36
17C	131-140	4.09	105.84	5.13	110.97
17C	141-150	0.63	88.48	4.84	93.32

Table C 23: Percent shell, sand, silt and clay for core 17C

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
17C	1-10	12.90	81.90	1.51	3.69
17C	11-20	0.59	90.26	4.40	4.75
17C	41-50	0.10	96.07	2.03	1.80
17C	71-80	0.12	94.33	2.77	2.79
17C	101-110	0.46	95.26	2.01	2.27
17C	121-130	13.04	82.96	2.41	1.59
17C	131-140	3.44	93.21	1.86	1.50
17C	141-150	0.65	96.42	1.15	1.77

Table C 24: RO-TAP data for core 17C

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
17C	1-10	7.63	1.2	2.13	1.6	0.78	0.49	0.45	4.2	13.55	39.83	22.62	7.17
17C	11-20	0.23	0.05	0.09	0.11	0.07	0.08	0.27	1.3	5.92	62.08	24.06	2.34
17C	41-50	0	0	0.02	0.02	0.03	0.04	0.09	1.27	13.98	74.45	15.11	1.9
17C	71-80	0.01	0.02	0.01	0.02	0.03	0.02	0.03	0.18	5.69	72.38	7.95	1.64
17C	101-110	0.16	0.04	0.09	0.09	0.06	0.04	0.13	0.51	5.92	75.67	14.29	2.05
17C	121-130	6.93	2.88	1.88	1.41	0.6	0.34	0.55	1.74	15.44	65.35	4.33	1.95
17C	131-140	1.28	1.04	0.71	0.58	0.29	0.19	0.43	1.39	46.72	50.82	6.48	5.13
17C	141-150	0.16	0.04	0.12	0.13	0.1	0.08	0.17	0.67	6.01	65.92	15.71	4.84

Table C 25: Percent finer data for core 17C

ASTM Classification		coarse sand	med. sand	med. sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt
Wentworth Classification		granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.0mm/ -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm/ 3.5Φ Screen	% finer than N200/ 75µm/ 3.75Φ Screen	% finer than N230/ 63µm/ 4Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	Silt
17C	1-10	92.9	91.8	89.8	88.3	87.6	87.1	86.7	82.8	70.1	33.0	11.9	5.2	3.7
17C	11-20	99.8	99.7	99.7	99.5	99.5	99.4	99.2	97.9	92.4	34.0	11.4	9.2	4.7
17C	41-50	100.0	100.0	100.0	100.0	99.9	99.9	99.8	98.7	86.1	19.1	5.5	3.8	1.8
17C	71-80	100.0	100.0	100.0	99.9	99.9	99.9	99.8	99.7	93.5	15.8	7.3	5.6	2.8
17C	101-110	99.8	99.8	99.7	99.6	99.6	99.5	99.4	98.9	93.2	20.1	6.3	4.3	2.3
17C	121-130	93.6	90.9	89.1	87.8	87.3	87.0	86.5	84.8	70.5	9.8	5.8	4.0	1.6
17C	131-140	98.9	98.1	97.5	97.0	96.7	96.6	96.2	95.0	55.8	13.1	7.7	3.4	1.5
17C	141-150	99.8	99.8	99.7	99.5	99.4	99.3	99.2	98.5	92.3	24.2	7.9	2.9	1.8

Table C 26: Mean grain size data for core 17C

Station ID	Sample Depth	Average Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(cm)	(Φ)	(mm)	(Φ)	(mm)		
17C	1-10	5.5	3.27	0.1032	3.281	0.1024	0.2774	0.2718
17C	11-20	15.5	3.376	0.0959	3.3835	0.0954	0.4355	0.9
17C	41-50	45.5	3.268	0.1034	3.2745	0.1029	0.0821	0.2655
17C	71-80	75.5	3.27	0.1032	3.281	0.1024	0.2774	0.2718
17C	101-110	105.5	3.293	0.1016	3.305	0.1007	0.173	0.2453
17C	121-130	125.5	3.165	0.111	3.1103	0.1153	-0.4742	0.9338
17C	131-140	135.5	3.056	0.1197	3.064	0.1191	0.1223	0.4007
17C	141-150	145.5	3.311	0.1003	3.3268	0.0992	0.1627	0.2642

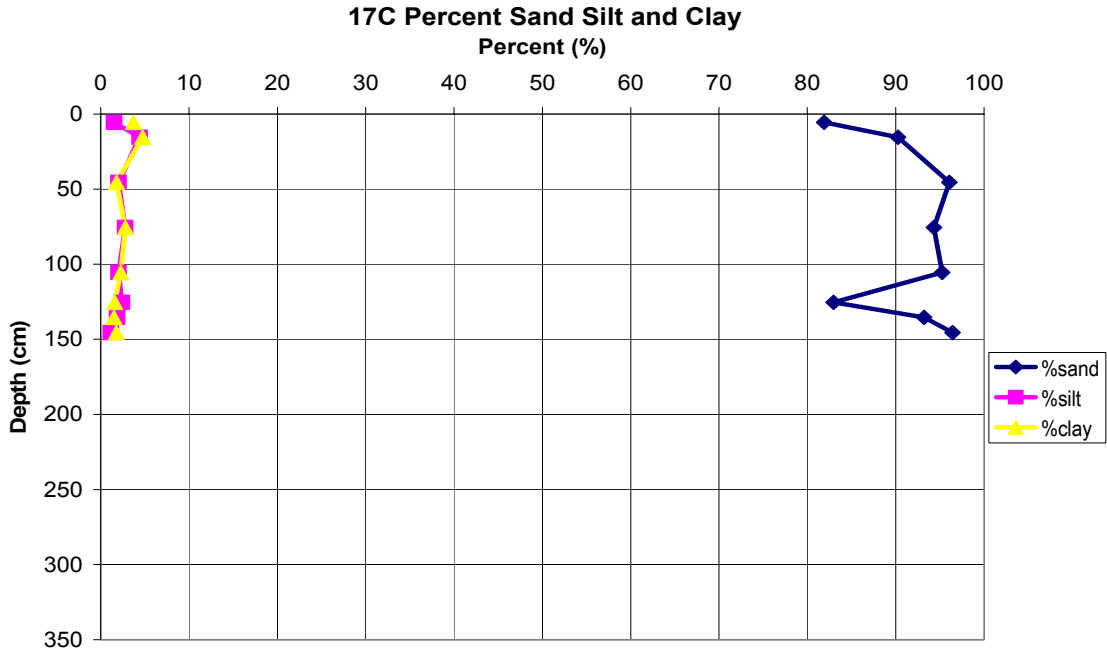


Figure C 31: Percent sand, silt and clay graph for core 17C

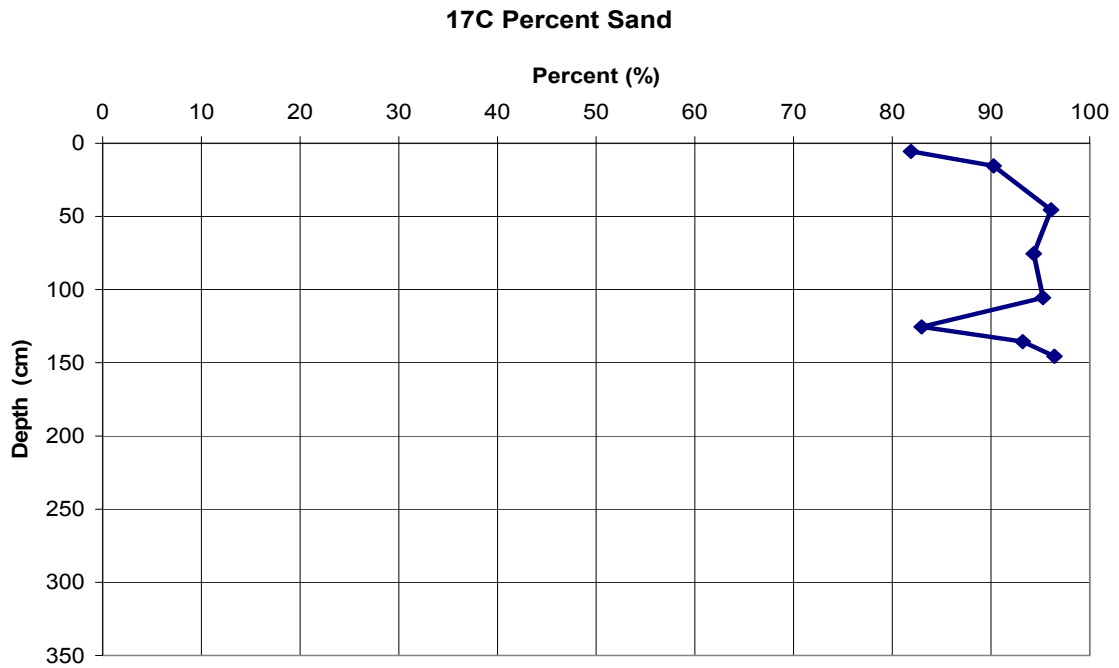


Figure C 32: Percent sand graph for core 17C

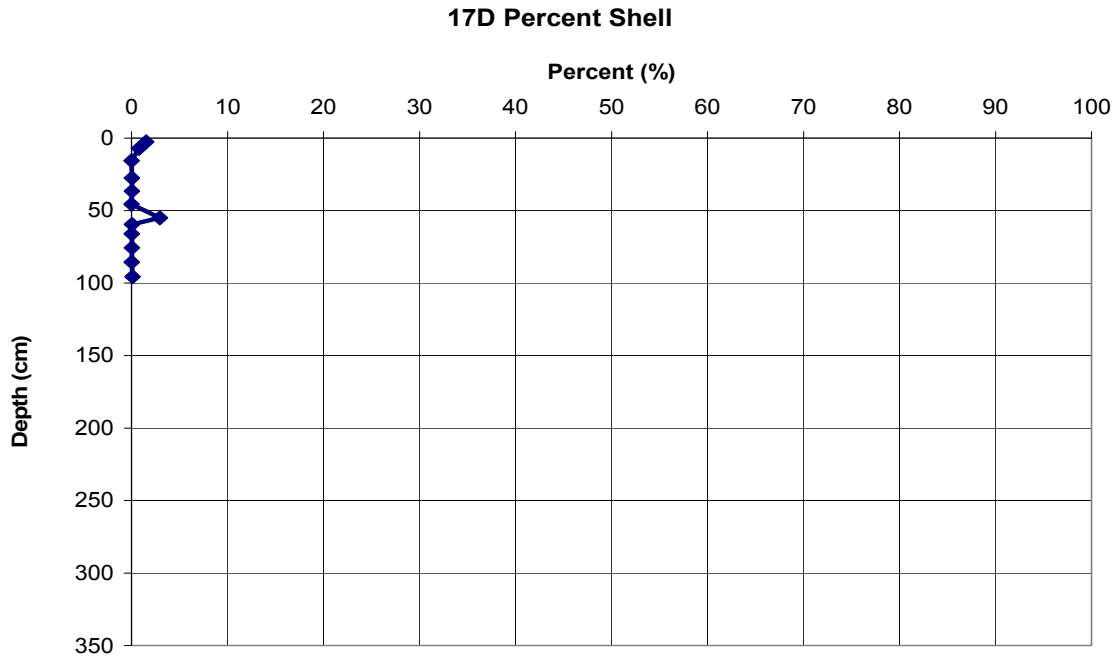


Figure C 33: Percent shell graph for core 17C

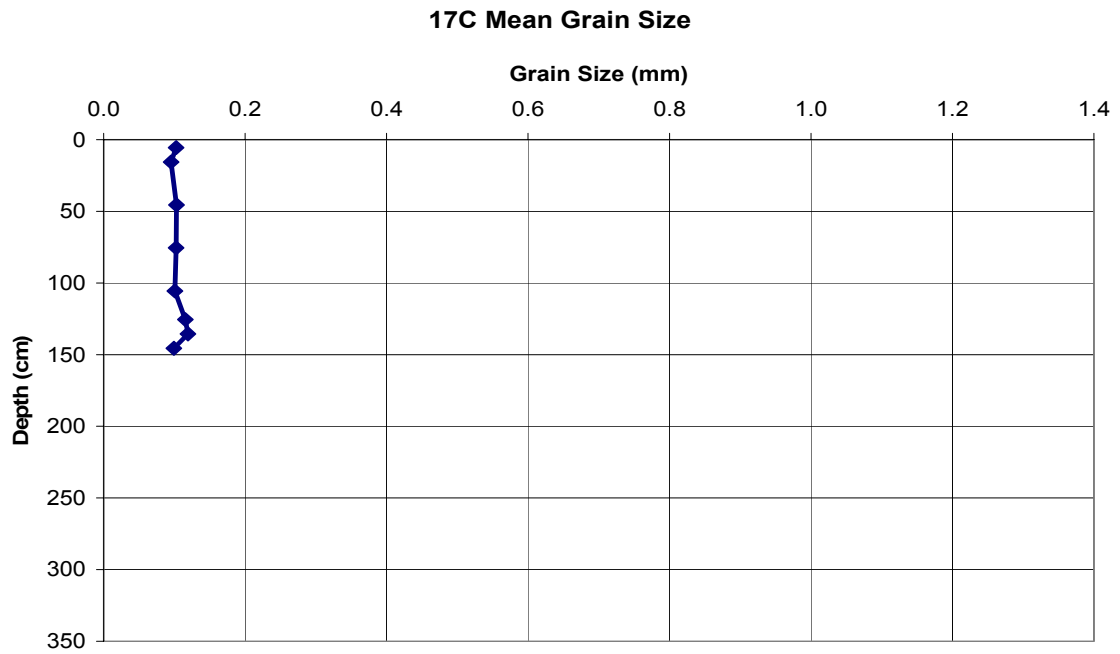


Figure C 34: Mean grain size graph for core 17C

Core#: 17 D
 Core Date: 07/07/05

Date Split/subsampled	Length: 104 cm
10/27/05	Lat: 29 08.927
	Long: 94 58.723

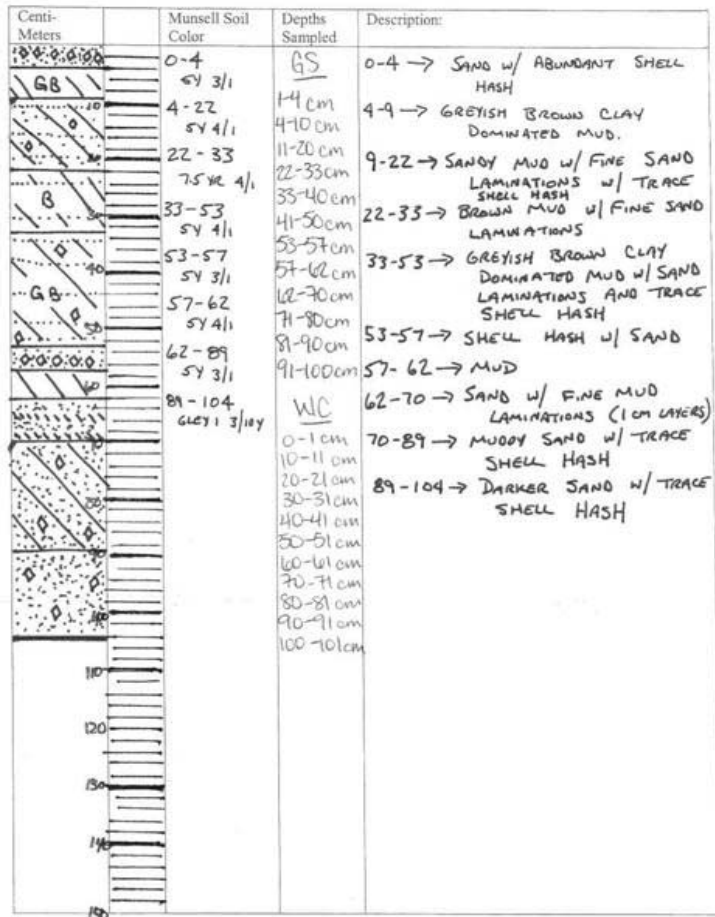


Figure C 35: Core log for 17D for depths 0-104 cm

Line 17 Site D

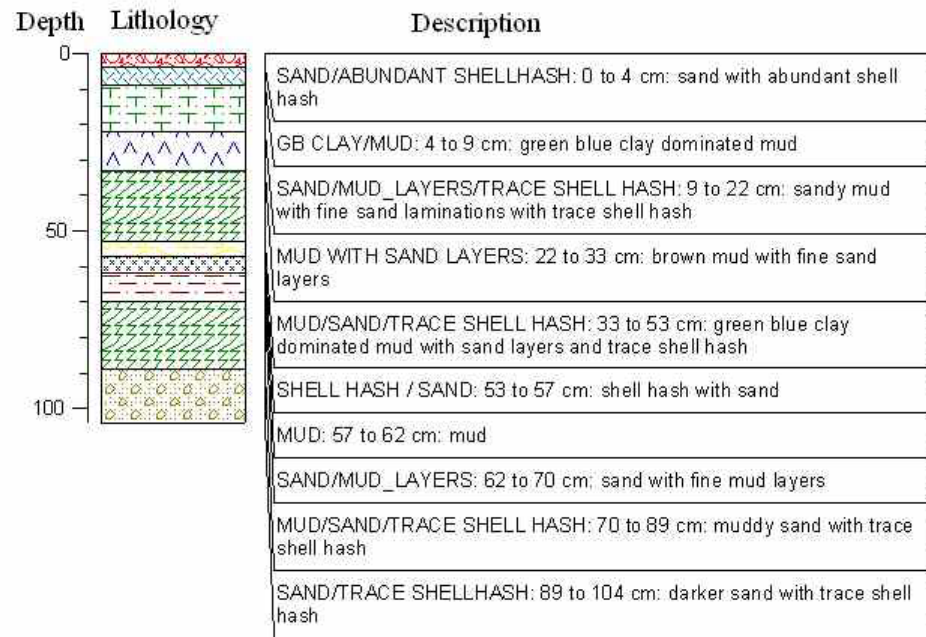


Figure C 36: Computer core log for 17D

Table C 27: Shell and sand weights for core 17D

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
17D	1-4	0.98	46.14	9.20	55.34
17D	4-10	0.07	1.42	0.73	2.15
17D	11-20	0.00	1.34	1.08	2.42
17D	22-33	0.01	2.96	3.70	6.66
17D	33-40	0.01	2.21	2.69	4.90
17D	41-50	0.00	2.67	2.38	5.05
17D	53-57	2.24	19.36	19.37	38.73
17D	57-62	0.01	3.17	3.20	6.37
17D	62-70	0.01	6.89	5.69	12.58
17D	71-80	0.02	19.87	11.00	30.87
17D	81-90	0.01	29.04	3.72	32.76
17D	91-100	0.10	55.41	19.00	74.41

Table C 28: Percent shell, sand, silt and clay for core 17D

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
17D	1-4	1.52	85.97	9.38	3.12
17D	4-10	0.77	23.57	1.64	74.01
17D	11-20	0.00	20.51	8.77	70.72
17D	22-33	0.04	23.32	27.91	48.74
17D	33-40	0.04	17.47	29.67	52.82
17D	41-50	0.00	18.30	43.71	37.98
17D	53-57	2.94	50.86	29.81	16.38
17D	57-62	0.04	27.70	40.09	32.17
17D	62-70	0.03	38.88	39.31	21.77
17D	71-80	0.04	62.01	32.96	4.99
17D	81-90	0.02	72.49	22.11	5.38
17D	91-100	0.11	80.61	15.97	3.30

Table C 29: RO-TAP data for core 17D

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
17D	1-4						0.98					46.14	9.20
17D	4-10						0.07					1.42	0.73
17D	11-20						0					1.34	1.08
17D	22-33						0.01					2.96	3.70
17D	33-40						0.01					2.21	2.69
17D	41-50						0					2.67	2.38
17D	53-57						2.24					19.36	19.37
17D	57-62						0.01					3.17	3.20
17D	62-70						0.01					6.89	5.69
17D	71-80						0.02					19.87	11.00
17D	81-90						0.01					29.04	3.72
17D	91-100	0.00	0.01	0.02	0.03	0.02	0.02	0.05	0.16	2.16	41.65	11.39	19.00

Table C 30: Percent finer data for core 17D

ASTM Classification		coarse sand	med. sand	med. sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt	
Wentworth Classification		granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.4mm/ -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm/ 3.5Φ Screen	% finer than N200/ 75µm/ 3.75Φ Screen	% finer than N230/ 63µm/ 4Φ Screen	% finer than 4µm/ 8Φ	
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt	
17D	1-4							98.5				26.8	12.5	3.1	
17D	4-10							99.2				83.7	75.7	74.0	
17D	11-20							100.0				88.6	79.5	70.7	
17D	22-33							100.0				89.6	76.6	48.7	
17D	33-40							100.0				92.1	82.5	52.8	
17D	41-50							100.0				90.3	81.7	38.0	
17D	53-57							97.1				71.6	46.2	16.4	
17D	57-62							100.0				86.2	72.3	32.2	
17D	62-70							100.0				78.7	61.1	21.8	
17D	71-80							100.0				60.0	38.0	5.0	
17D	81-90							100.0				35.7	27.5	5.4	
17D	91-100	100.0	100.0	100.0	99.9	99.9	99.9	99.8	99.7	97.3	52.2	39.9	19.3	3.3	

Table C 31: Folkian statistic data for core 17D

Station ID	Sample Depth	Average Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(cm)	(Φ)	(mm)	(Φ)	(mm)		
17D	1-4	2.5						
17D	4-10	7						
17D	11-20	15.5						
17D	22-33	27.5						
17D	33-40	36.5						
17D	41-50	45.5						
17D	53-57	55						
17D	57-62	59.5						
17D	62-70	66						
17D	71-80	75.5						
17D	81-90	85.5						
17D	91-100	95.5	3.537	0.0858	3.5795	0.0833	0.1317	0.3905

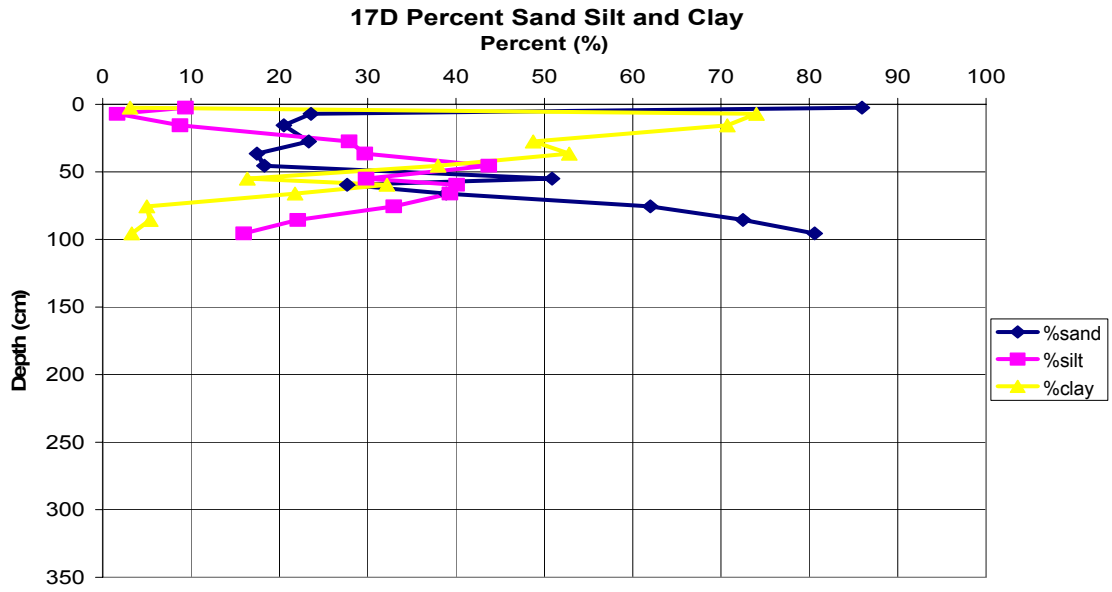


Figure C 37: Percent sand, silt and clay graph for core 17D

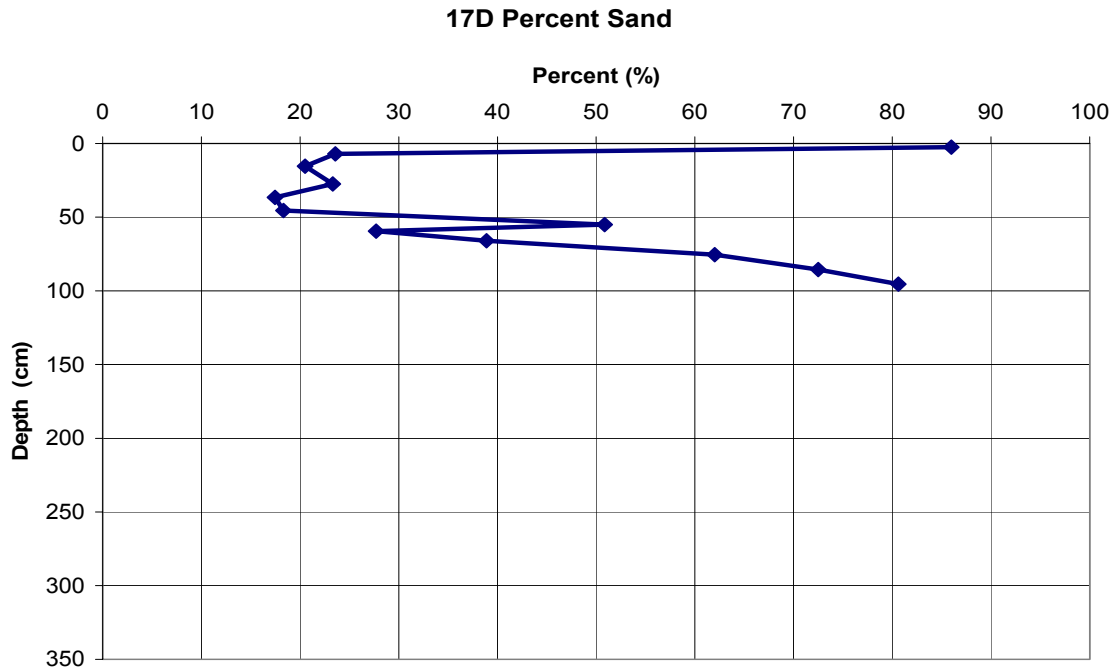


Figure C 38: Percent sand graph for core 17D

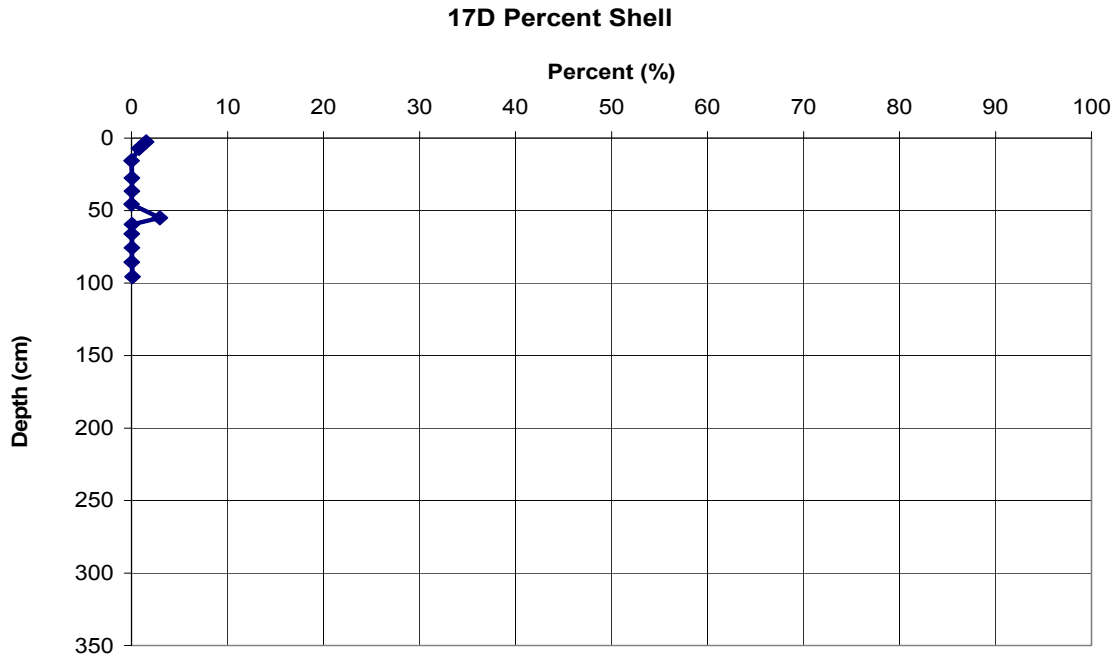


Figure C 39: Percent shell graph for core 17D

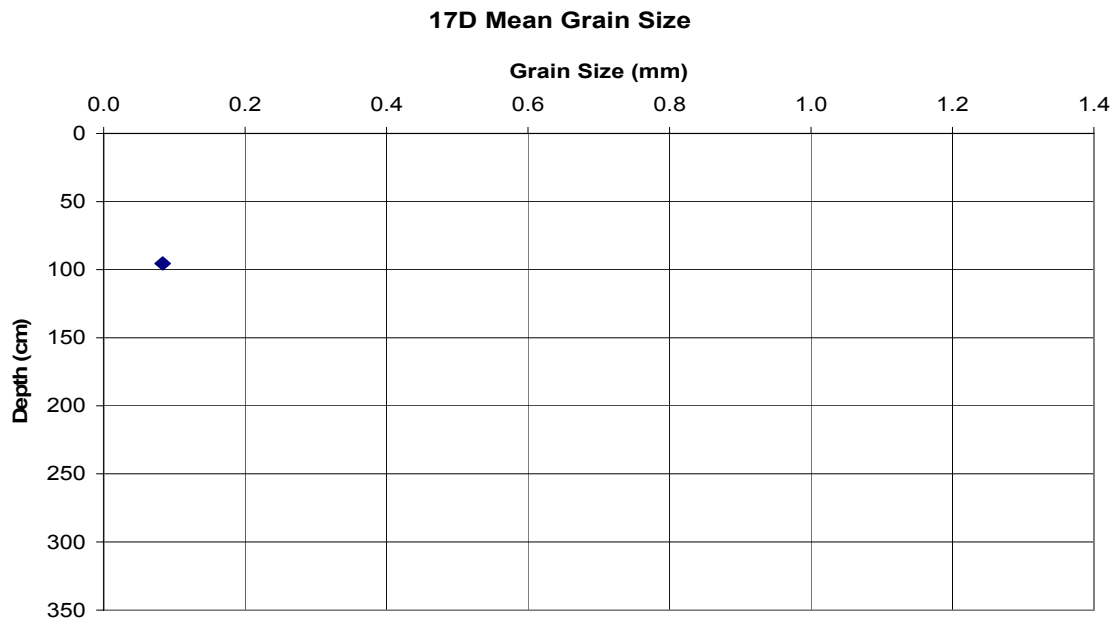
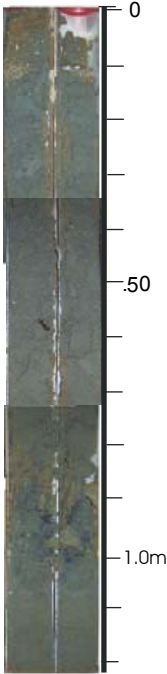
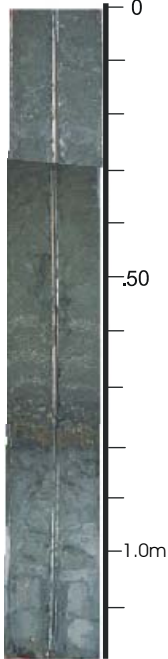


Figure C 40: Mean grain size graph for core 17D

18 B



18 C



18 D

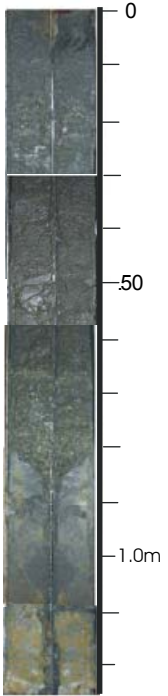


Figure C 41: Core photographs for line 18

Core#: 18B

Core Date: 7/7/05

Date Split/subsampled	Length: 120 cm
10/27/05	Lat: 29 08.598
	Long: 95 00.998

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-13 cm	5y 3/1	GS 13 cm	0-13 → shell hash w/ sand
13-80 cm		13-20 cm	13-80 → sand w/ trace shell hash
80-104 cm	5y 2.5/1	21-30 cm	80-104 → sand w/ shell hash
104-107 cm		41-50 cm	104-107 → shell hash w/ sand
107-120 cm	5y 3/2	71-80 cm	107-120 → sand w/ trace shell hash
		91-100 cm	
		101-110 cm	
		111-120 cm	
		WC	
		0-1 cm	
		10-11 cm	
		20-21 cm	
		30-31 cm	
		40-41 cm	
		50-51 cm	
		60-61 cm	
		70-71 cm	
		80-81 cm	
		90-91 cm	
		100-101 cm	
		110-111 cm	

Figure C 42: Core log for 18B for depths 0-120 cm

Line 18 Site B

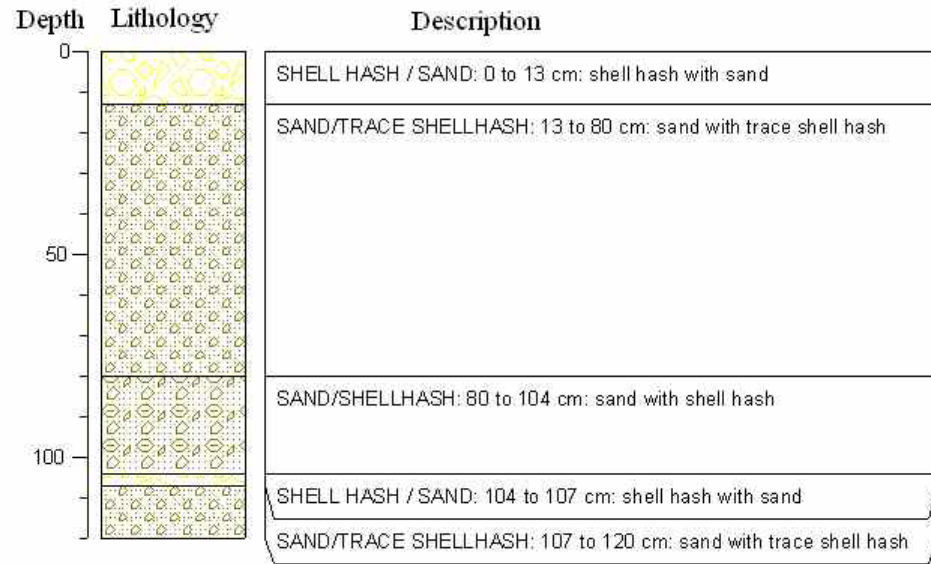


Figure C 43: Computer core log for 18B

Table C 32: Shell and sand weights for core 18B

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
18B	1-13	5.96	89.42	5.79	95.21
18B	13-20	1.69	93.05	7.91	100.96
18B	21-30	1.61	97.67	7.65	105.32
18B	41-50	0.23	104.79	5.69	110.48
18B	71-80	0.61	107.49	4.94	112.43
18B	91-100	2.64	90.83	3.16	93.99
18B	101-110	5.60	102.14	3.69	105.83
18B	111-120	0.46	119.14	0.18	119.32

Table C 33: Percent shell, sand, silt and clay for core 18B

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
18B	1-13	5.65	90.33	2.29	1.73
18B	13-20	1.55	92.83	3.68	1.93
18B	21-30	1.43	93.64	2.69	2.23
18B	41-50	0.20	96.12	1.48	2.20
18B	71-80	0.52	95.54	2.17	1.77
18B	91-100	2.65	94.19	1.54	1.62
18B	101-110	4.86	91.92	1.32	1.90
18B	111-120	0.37	96.89	0.69	2.05

Table C 34: RO-TAP data for core 18B

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
18B	1-13	1.52	1.27	1.19	1.01	0.51	0.46	2.9	9.58	20	48.35	8.59	5.79
18B	13-20	0.35	0.21	0.38	0.34	0.25	0.16	0.94	3.68	13.99	49.39	25.05	7.91
18B	21-30	0.17	0.43	0.38	0.25	0.21	0.17	0.82	3.34	12.29	63.92	17.3	7.65
18B	41-50	0.02	0.05	0.05	0.04	0.04	0.03	0.14	0.88	6.65	83.56	13.56	5.69
18B	71-80	0.07	0.09	0.11	0.13	0.12	0.09	0.2	1.42	14.83	76.45	14.59	4.94
18B	91-100	0.98	0.5	0.39	0.39	0.21	0.17	0.38	2.85	32.79	47.23	7.58	3.16
18B	101-110	1.91	0.73	1.26	0.92	0.49	0.29	0.49	1.46	17.26	68.86	14.07	3.69
18B	111-120	0.05	0.09	0.08	0.07	0.07	0.1	1.39	65.18	36.75	13.37	2.45	0.18

Table C 35: Percent finer data for core 18B

ASTM Classification		coarse sand	med. sand	med. sand	med. sand	med. Sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt
Wentworth Classification		granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.4mm/ - 0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm/ 3.5Φ Screen	% finer than N200/ 75µm/ 3.75Φ Screen	% finer than N230/ 63µm/ 4Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
18B	1-13	98.6	97.4	96.2	95.3	94.8	94.3	91.6	82.5	63.5	17.7	9.5	4.0	1.7
18B	13-20	99.7	99.5	99.1	98.8	98.6	98.4	97.6	94.2	81.3	35.9	12.9	5.6	1.9
18B	21-30	99.8	99.5	99.1	98.9	98.7	98.6	97.8	94.9	83.9	27.1	11.7	4.9	2.2
18B	41-50	100.0	99.9	99.9	99.9	99.8	99.8	99.7	98.9	93.1	20.4	8.6	3.7	2.2
18B	71-80	99.9	99.9	99.8	99.7	99.6	99.5	99.3	98.1	85.5	20.5	8.1	3.9	1.8
18B	91-100	99.0	98.5	98.1	97.7	97.5	97.4	97.0	94.1	61.3	13.9	6.3	3.2	1.6
18B	101-110	98.3	97.7	96.6	95.8	95.4	95.1	94.7	93.4	78.5	18.6	6.4	3.2	1.9
18B	111-120	100.0	99.9	99.8	99.8	99.7	99.6	98.5	45.6	15.7	4.9	2.9	2.7	2.0

Table C 36: Folkian statistic data for core 18B

Station ID	Sample Depth	Average Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(cm)	(Φ)	(mm)	(Φ)	(mm)		
18B	1-13	7	3.147	0.1124	3.0343	0.1216	-0.4039	0.7668
18B	13-20	16.5	3.367	0.0965	3.3408	0.0983	-0.1377	0.4377
18B	21-30	25.5	3.3	0.1011	3.3183	0.0998	-0.0162	0.4026
18B	41-50	45.5	3.29	0.1018	3.3071	0.1006	0.2282	0.263
18B	71-80	75.5	3.269	0.1033	3.2807	0.1025	0.1457	0.2966
18B	91-100	95.5	3.108	0.1155	3.0978	0.1163	0.0128	0.395
18B	101-110	105.5	3.237	0.1056	3.2331	0.1059	-0.2207	0.4584
18B	111-120	115.5	2.458	0.1814	2.5392	0.1715	0.3647	0.4239

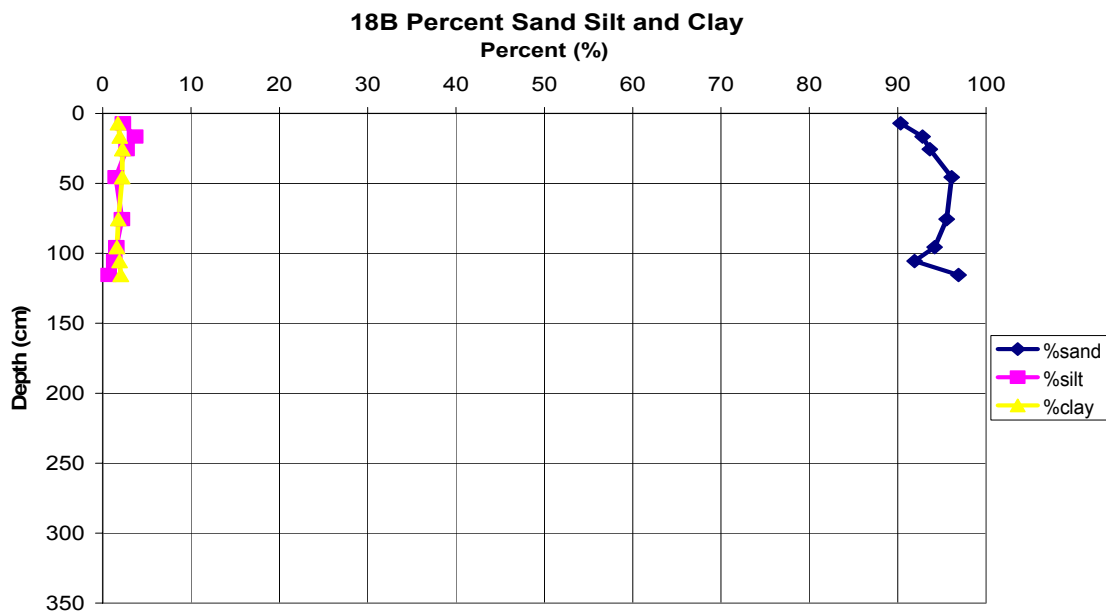


Figure C 44: Percent sand, silt and clay graph for core 18B

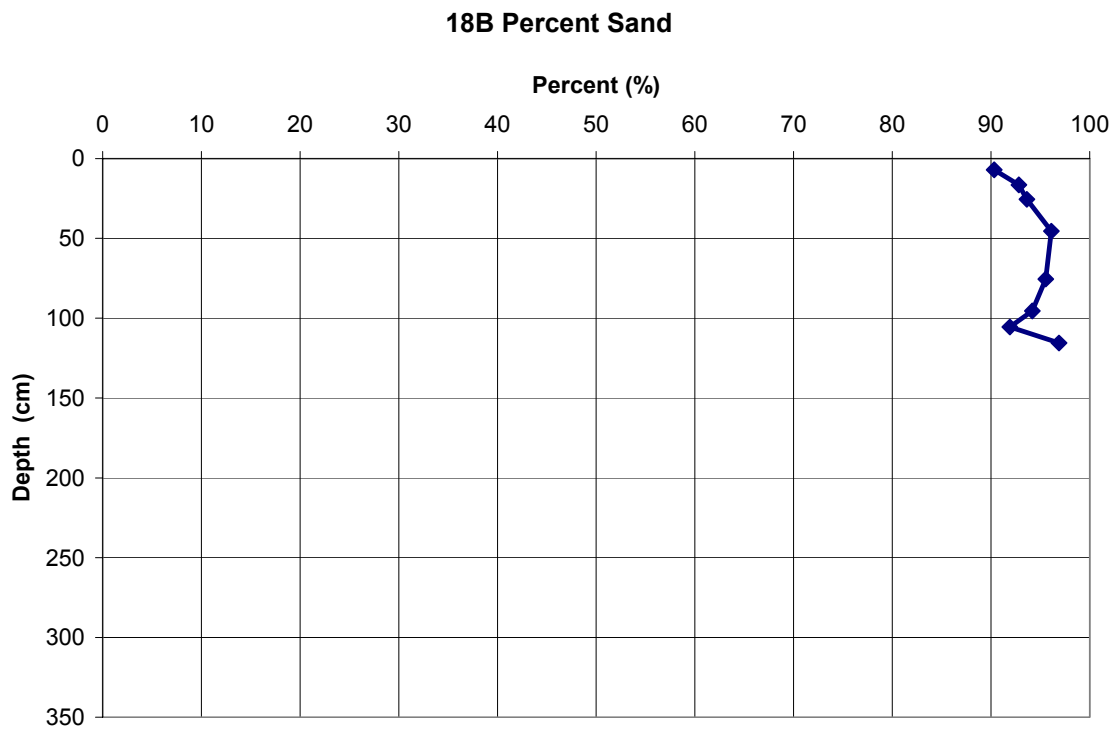


Figure C 45: Percent sand graph for core 18B

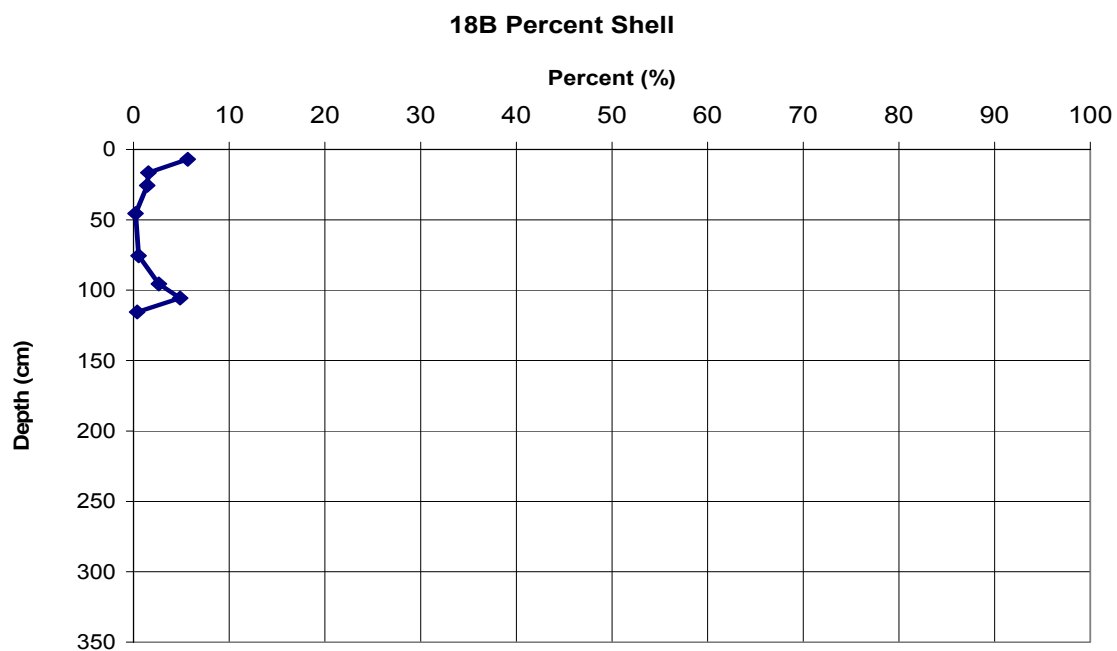


Figure C 46: Percent shell graph for core 18B

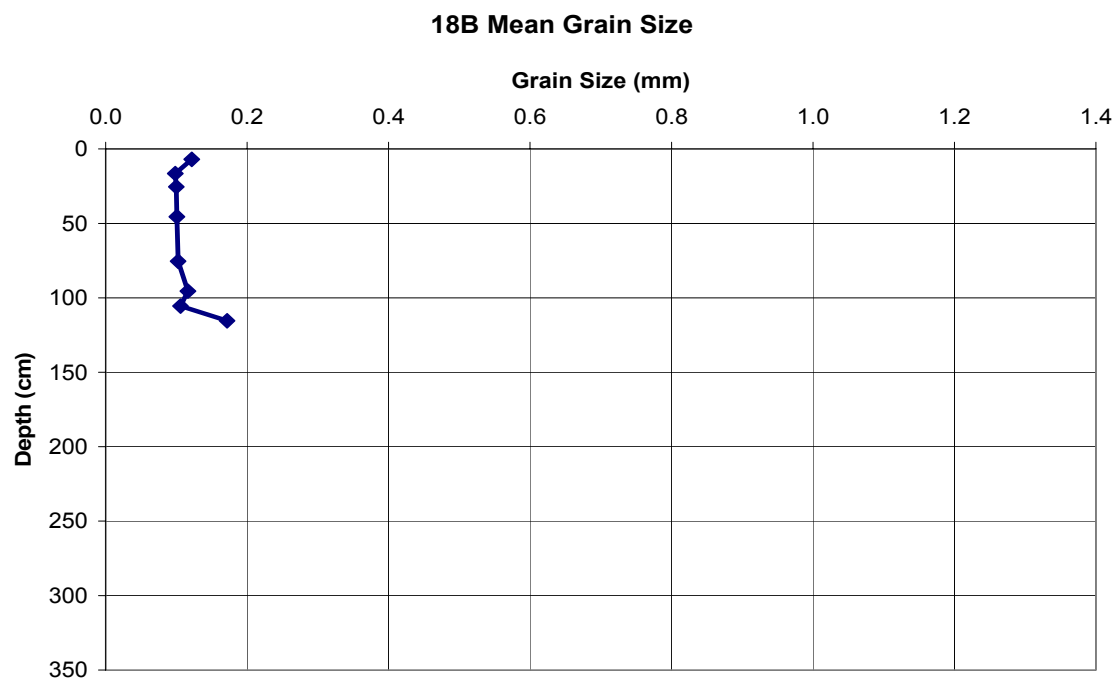


Figure C 47: Mean grain size graph for core 18B

Core#: 18C

Core Date: 07/07/05

Date Split/subsampled	Length: 118 cm
11/03/05	Lat: 29 08.365
	Long: 95 00.858

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-22	5Y 3/1	GS 1-10 cm	0-12 → DARK GREY SAND w/ SHELL HASH
22-24	5Y 4/1	21-24 cm	12-22 → DARK GREY SAND w/ ABUNDANT SHELL HASH
24-57	2.5Y 4/1	31-40 cm 51-57 cm	22-24 → BROWNISH GREY MUDDY SAND w/ SHELL HASH
57-80	1/2.5Y	61-70 cm 71-80 cm	24-57 → GREY SAND w/ TRACE SHELL HASH
80-118	8Y 1 4/10 3/10, 2.5/10, 10 YR 5/6	81-90 cm 101-110 cm	57-59 → SHELL HASH w/ SAND 59-60 → GREY SAND w/ SHELL HASH 60-61 → SHELL HASH w/ SAND 61-62 → GREY SAND w/ ABUNDANT SHELL HASH 62-65 → SHELL HASH w/ SAND 65-67 → GREY SAND w/ TRACE SHELL HASH 67-69 → SHELL HASH w/ SAND 69-71 → GREY SAND w/ SHELL HASH 71-80 → SHELL HASH w/ SAND 80-118 → BEAUMONT CLAY w/ CALCAREOUS NODULES
		WC 0-1 cm 10-11 cm 20-21 cm 30-31 cm 40-41 cm 50-51 cm 60-61 cm 70-71 cm 80-81 cm 90-91 cm 100-101 cm 110-111 cm	

Figure C 48: Core log for 18C for depths 0-118 cm

Line 18 Site C

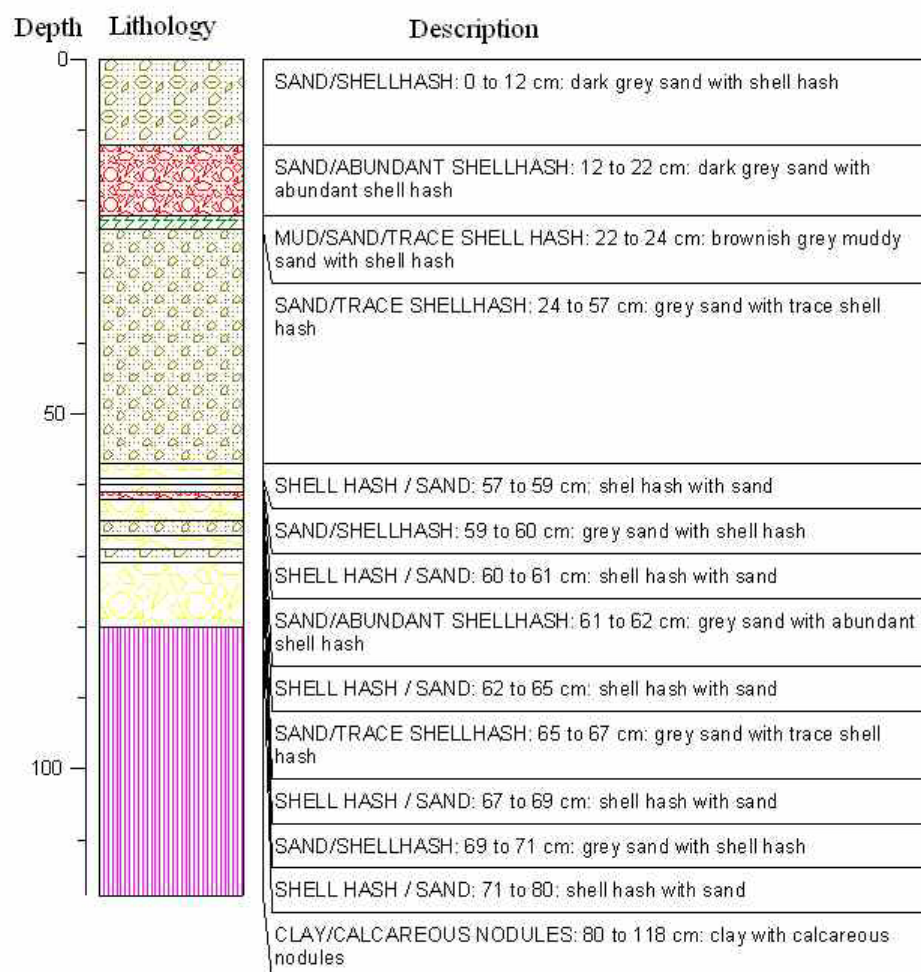


Figure C 49: Computer core log for 18C

Table C 37: Shell and sand weights for core 18C

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
18C	1-10	2.47	99.17	3.33	102.50
18C	21-24	1.91	33.29	2.11	35.40
18C	31-40	0.37	99.29	5.91	105.20
18C	51-57	0.76	94.43	5.85	100.28
18C	61-70	16.66	89.69	6.88	96.57
18C	71-80	27.76	59.13	6.18	65.31
18C	81-90	0.78	7.92	1.29	9.21
18C	101-110	5.83	7.43	1.30	8.73

Table C 38: Percent shell, sand, silt and clay for core 18C

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
18C	1-10	2.24	92.93	3.21	1.62
18C	21-24	3.82	70.73	9.80	15.65
18C	31-40	0.33	93.44	3.92	2.31
18C	51-57	0.71	94.30	3.27	1.71
18C	61-70	13.10	75.95	7.53	3.42
18C	71-80	26.82	63.11	4.94	5.13
18C	81-90	1.66	19.62	25.75	52.96
18C	101-110	10.52	15.75	24.85	48.89

Table C 39: RO-TAP data for core 18C

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
18C	1-10	0.71	0.47	0.51	0.38	0.22	0.18	1.15	5.42	27.3	60.53	4.77	3.33
18C	21-24	0.63	0.35	0.29	0.24	0.16	0.24	0.57	1.62	4.14	24.83	2.13	2.11
18C	31-40	0.01	0	0.05	0.08	0.09	0.14	0.41	1.65	18.14	74.22	4.87	5.91
18C	51-57	0.13	0.11	0.17	0.16	0.09	0.1	0.15	0.98	11.01	61.84	20.45	5.85
18C	61-70	7.52	2.39	2.37	2	1.42	0.96	0.92	3.82	13.71	51.94	19.3	6.88
18C	71-80	15.36	3.74	3.3	2.96	1.48	0.92	0.48	0.83	3.65	44.72	9.45	6.18
18C	81-90	0.37	0.08	0.06	0.05	0.09	0.13	0.39	0.79	2.05	3.02	1.67	1.29
18C	101-110	4.9	0.35	0.14	0.25	0.14	0.05	0.22	0.6	1.88	2.81	1.92	1.3

Table C 40: Percent finer data for core 18C

ASTM Classification	coarse sand	med. sand	med. sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt	
Wentworth Classification	granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt	
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.4mm/ -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710μm/ 0.5Φ Screen	% finer than N35/ 500μm/ 1.0Φ Screen	% finer than N45/ 355μm/ 1.5Φ Screen	% finer than N60/ 250μm/ 2.0Φ Screen	% finer than N80/ 180μm/ 2.5 Φ Screen	% finer than N125/ 125μm/ 3.0Φ Screen	% finer than N170/ 90μm/ 3.5Φ Screen	% finer than N200/ 75μm/ 3.75Φ Screen	% finer than N230/ 63μm/ 4Φ Screen	% finer than 4μm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	Silt
18C	1-10	99.4	98.9	98.5	98.1	97.9	97.8	96.7	91.8	67.1	12.2	7.8	4.8	1.6
18C	21-24	98.7	98.0	97.5	97.0	96.7	96.2	95.0	91.8	83.5	33.9	29.7	25.5	15.7
18C	31-40	100.0	100.0	99.9	99.9	99.8	99.7	99.3	97.8	81.7	15.8	11.5	6.2	2.3
18C	51-57	99.9	99.8	99.6	99.5	99.4	99.3	99.1	98.2	87.9	29.7	10.5	5.0	1.7
18C	61-70	94.1	92.2	90.3	88.8	87.7	86.9	86.2	83.2	72.4	31.5	16.4	10.9	3.4
18C	71-80	85.2	81.5	78.4	75.5	74.1	73.2	72.7	71.9	68.4	25.2	16.0	10.1	5.1
18C	81-90	99.2	99.0	98.9	98.8	98.6	98.3	97.5	95.8	91.5	85.0	81.5	78.7	53.0
18C	101-110	91.2	90.5	90.3	89.8	89.6	89.5	89.1	88.0	84.6	79.5	76.1	73.7	48.9

Table C 41: Folkian statistic data for core 18C

Station ID	Sample Depth	Average Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(cm)	(Φ)	(mm)	(Φ)	(mm)		
18C	1-10	5.5	3.146	0.1125	3.1174	0.1148	-0.0734	0.4309
18C	21-24	22.5	3.314	0.1011	3.6259	0.0806	0.6771	2.0472
18C	31-40	35.5	3.224	0.1066	3.2331	0.0806	0.1879	0.3177
18C	51-57	54	3.333	0.0988	3.3442	0.098	0.1202	0.3224
18C	61-70	65.5						
18C	71-80	75.5						
18C	81-90	85.5	8.457	0.0028	8.1159	0.0036	-0.1006	3.8178
18C	101-110	105.5						

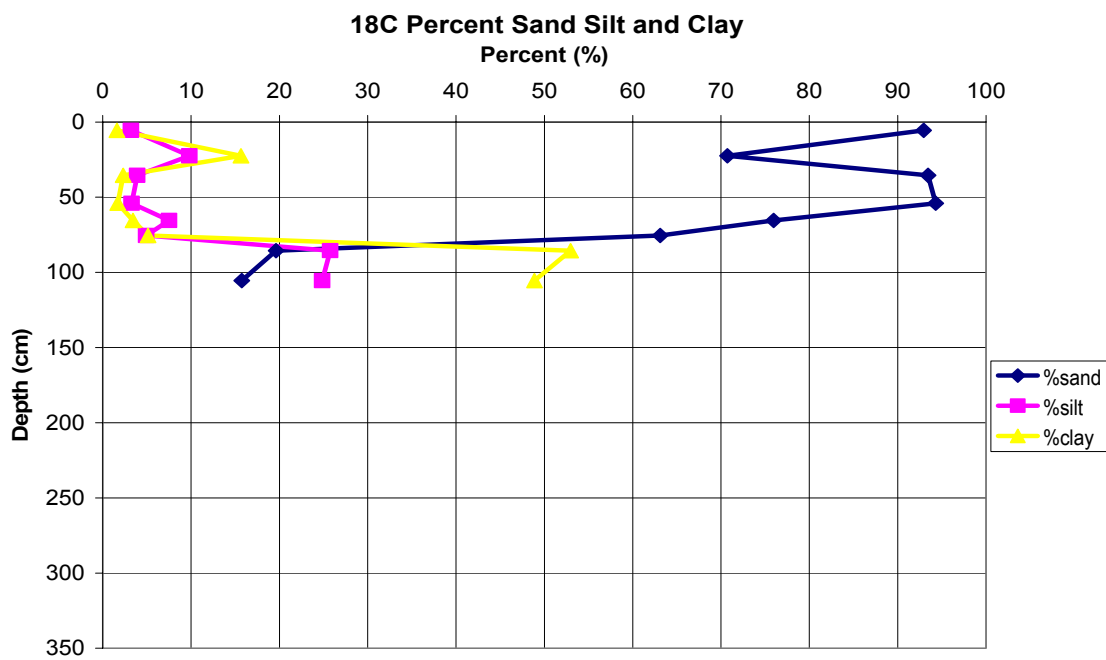


Figure C 50: Percent sand, silt and clay graph for core 18C

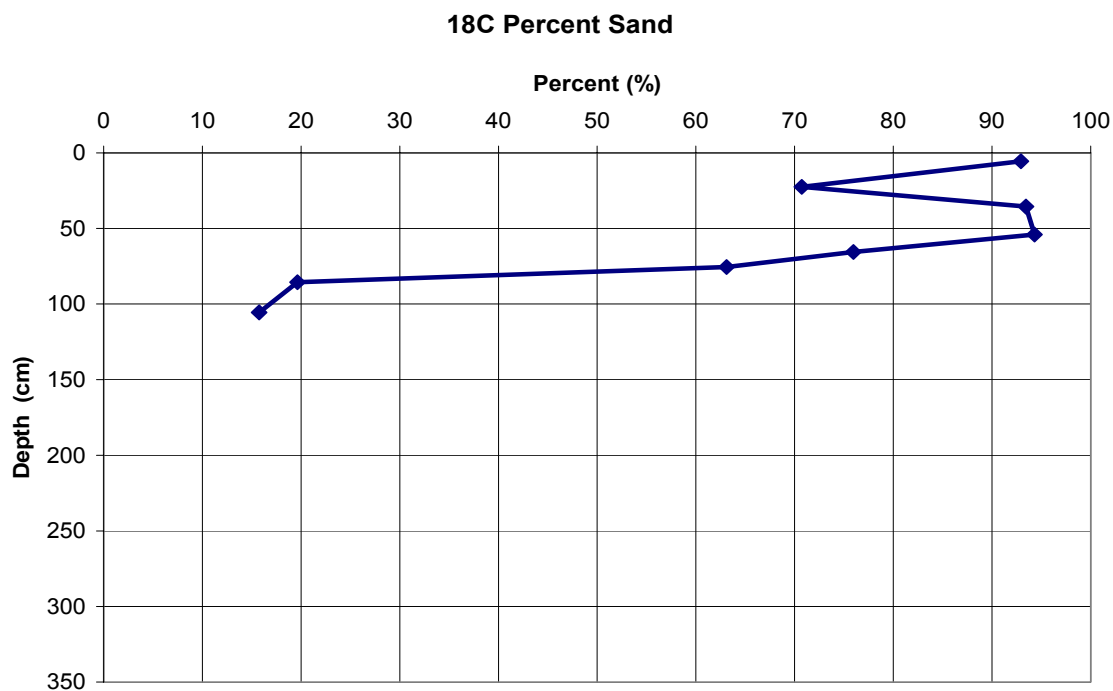


Figure C 51: Percent sand graph for core 18C

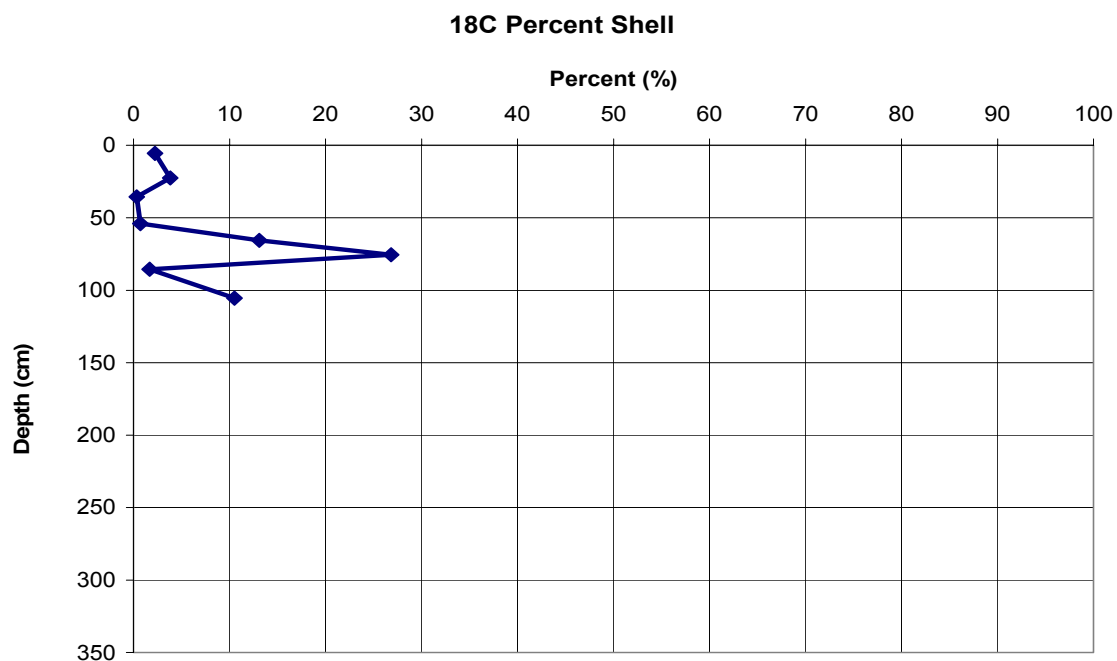


Figure C 52: Percent shell graph for core 18C

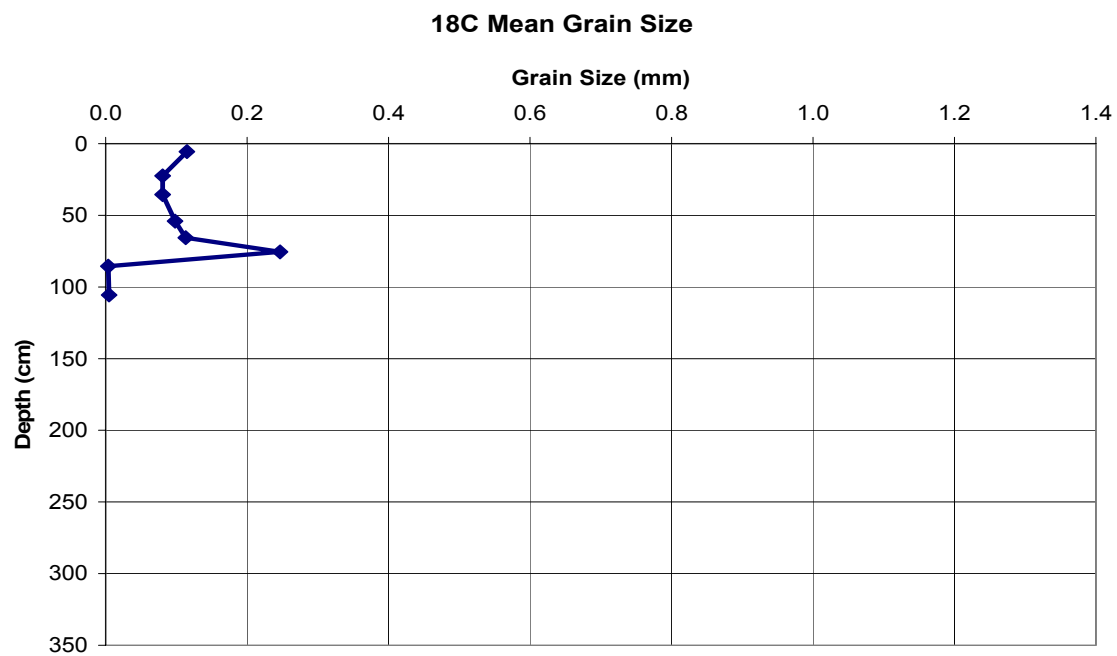


Figure C 53: Mean grain size graph for core 18C

Core#: 18D

Core Date: 7/7/05

Date Split/subsampled	Length: 125 cm
10/27/05	Lat: 29° 08.180
	Long: 95° 00.762

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-23 cm	5Y 2.5/1	GS 1-10 cm	0-16 → muddy sand w/ trace shell hash
23-84 cm	5Y 3/1	16-23 cm 23-30 cm 68-72 cm	16-23 → shell hash w/ sand 23-48 → sand w/ trace shell hash
84-122 cm	Marbleized Color 5Y 4/1, 2.5Y 4/6, Grey 4/1N	72-81 cm 81-90 cm 101-110 cm 122-125 cm	48-49 → shell hash w/ sand 49-67 → sand w/ shell hash 67-69 → shell hash w/ sand 69-72 → sand w/ abundant shell hash
122-125 cm	5Y 8/1	WC 0-1 cm 10-11 cm 20-21 cm 30-31 cm 40-41 cm 50-51 cm 60-61 cm 70-71 cm 80-81 cm 90-91 cm 100-101 cm 110-111 cm 120-121 cm	72-84 → shell hash w/ sand 84-122 → beamont clay marbleized color 122-125 → calcium carbonate

Figure C 54: Core log for 18D for depths 0-125 cm

Line 18 Site D

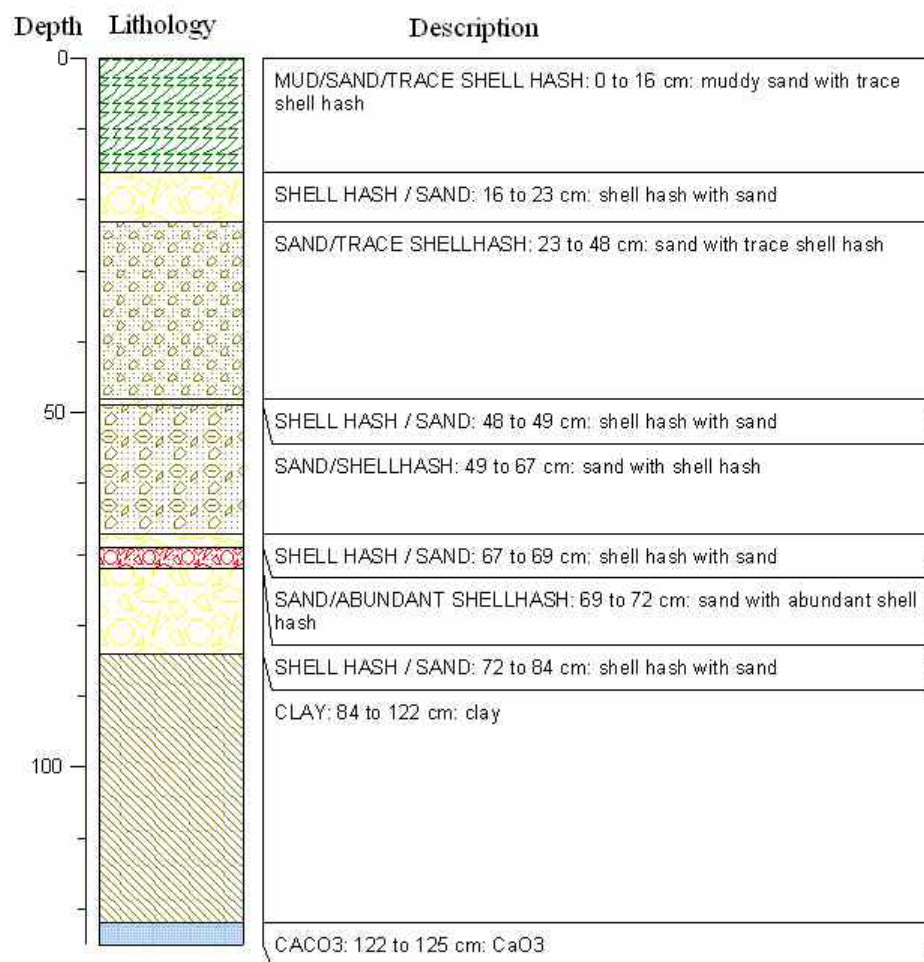


Figure C 55: Computer core log for 18D

Table C 42: Shell and sand weights for core 18D

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
18D	1-10	1.31	69.12	3.39	72.51
18D	16-23	11.03	85.80	10.76	96.56
18D	23-30	0.84	96.38	5.17	101.55
18D	68-72	3.63	68.55	3.01	71.56
18D	72-81	16.14	70.80	9.65	80.45
18D	81-90	3.44	19.84	4.72	24.56
18D	101-110	0.05	8.72	2.29	11.01
18D	122-125	7.21	4.99	1.51	6.50

Table C 43: Percent shell, sand, silt and clay for core 18D

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
18D	1-10	1.41	77.78	9.65	11.17
18D	16-23	8.93	78.21	6.25	6.61
18D	23-30	0.74	89.84	6.67	2.75
18D	68-72	4.22	83.28	8.43	4.06
18D	72-81	14.28	71.17	10.39	4.16
18D	81-90	4.68	33.41	27.61	34.31
18D	101-110	0.09	19.12	32.98	47.82
18D	122-125	15.25	13.75	38.45	32.55

Table C 44: RO-TAP data for core 18D

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
18D	1-10	0.23	0.29	0.28	0.2	0.15	0.16	0.76	3.79	8.92	41.74	13.91	3.39
18D	16-23	4.53	2.46	1.91	1.15	0.65	0.33	10.74	4.39	12.77	40.66	17.24	10.76
18D	23-30	0.35	0.1	0.12	0.1	0.11	0.06	0.17	0.93	4.83	76.72	13.73	5.17
18D	68-72	1.02	0.59	0.61	0.75	0.36	0.3	1.7	6.38	29.35	18.17	12.95	3.01
18D	72-81	3.47	3.1	3.46	3	1.99	1.12	0.61	2.3	8.26	35.64	23.99	9.65
18D	81-90						3.44					19.84	4.72
18D	101-110						0.05					8.72	2.29
18D	122-125						7.21					4.99	1.51

Table C 45: Percent finer data for core 18D

ASTM Classification		coarse sand	med. sand	med. sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt
Wentworth Classification		granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.4mm/ -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710μ / 0.5Φ Screen	% finer than N35/ 500μm/ 1.0Φ Screen	% finer than N45/ 355μm/ 1.5Φ Screen	% finer than N60/ 250μm/ 2.0Φ Screen	% finer than N80/ 180μm/ 2.5 Φ Screen	% finer than N125/ 125μm/ 3.0Φ Screen	% finer than N170/ 90μm/ 3.5Φ Screen	% finer than N200/ 75μm/ 3.75Φ Screen	% finer than N230/ 63μm/ 4Φ Screen	% finer than 4μm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
18D	1-10	99.8	99.4	99.1	98.9	98.8	98.6	97.8	93.7	84.1	39.4	24.5	20.8	11.2
18D	16-23	96.3	94.3	92.8	91.9	91.3	91.1	82.4	78.8	68.5	35.5	21.6	12.9	6.6
18D	23-30	99.7	99.6	99.5	99.4	99.3	99.3	99.1	98.3	94.0	26.1	14.0	9.4	2.8
18D	68-72	98.8	98.1	97.4	96.5	96.1	95.8	93.8	86.4	52.2	31.1	16.0	12.5	4.1
18D	72-81	96.9	94.2	91.1	88.5	86.7	85.7	85.2	83.1	75.8	44.3	23.1	14.6	4.2
18D	81-90						95.3					68.3	61.9	34.3
18D	101-110						99.9					71.0	32.6	47.8
18D	122-125						84.8					74.2	71.0	32.6

Table C 46: Folkian statistic data for core 18D

Station ID	Sample Depth	Average Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(cm)	(Φ)	(mm)	(Φ)	(mm)		
18D	1-10	5.5	3.384	0.0954	3.8891	0.0672	0.7147	1.9446
18D	16-23	19.5	3.295	0.1014	3.0309	0.1219	0.011	2.5678
18D	23-30	26.5	3.316	0.0999	3.3605	0.0969	0.3681	0.3486
18D	68-72	70	3.042	0.1209	3.1123	0.1152	0.3577	1.1966
18D	72-81	76.5	3.434	0.0921	3.2284	0.1063	-0.4664	1.1997
18D	81-90	85.5						
18D	101-110	105.5						
18D	122-125	123.5						

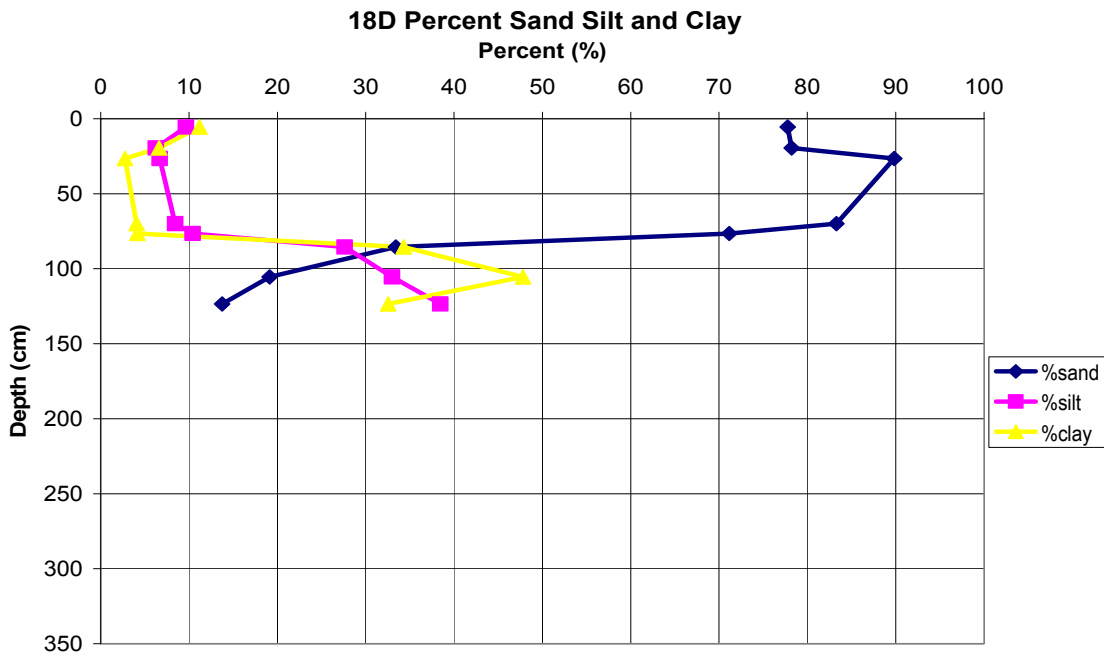


Figure C 56: Percent sand, silt and clay graph for core 18D

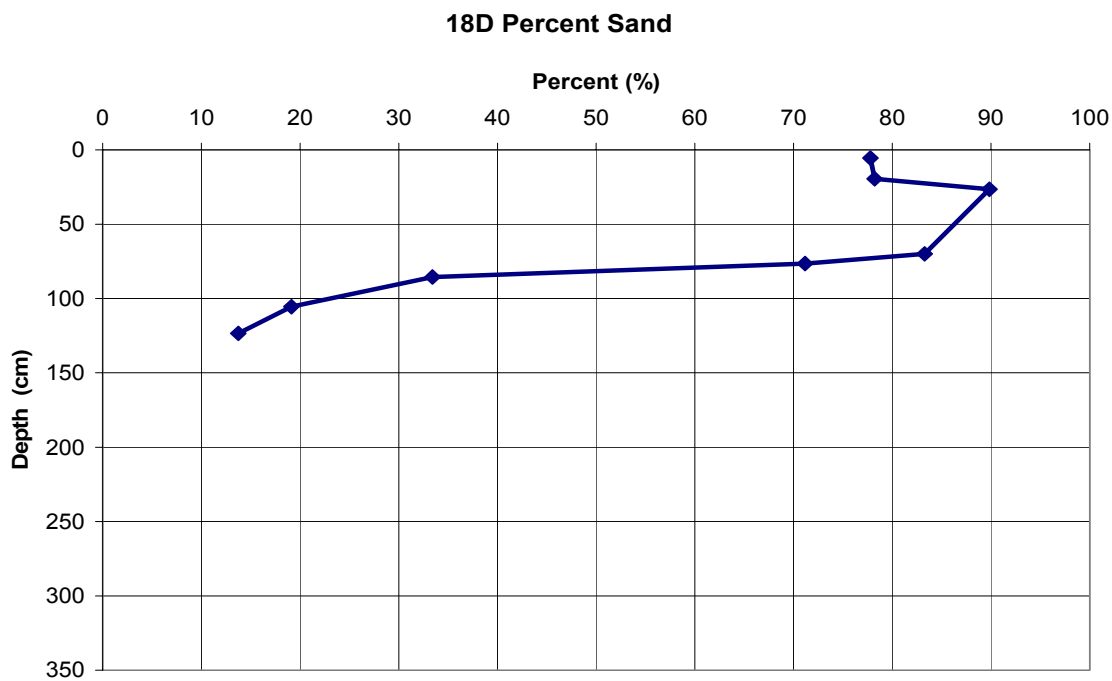


Figure C 57: Percent sand graph for core 18D

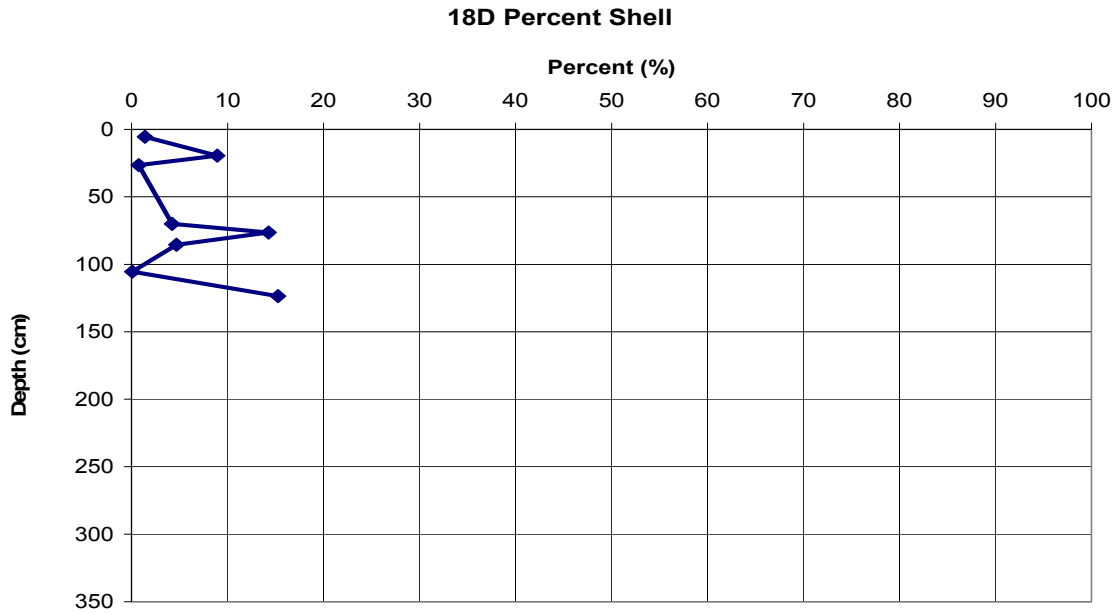


Figure C 58: Percent shell graph for core 18D

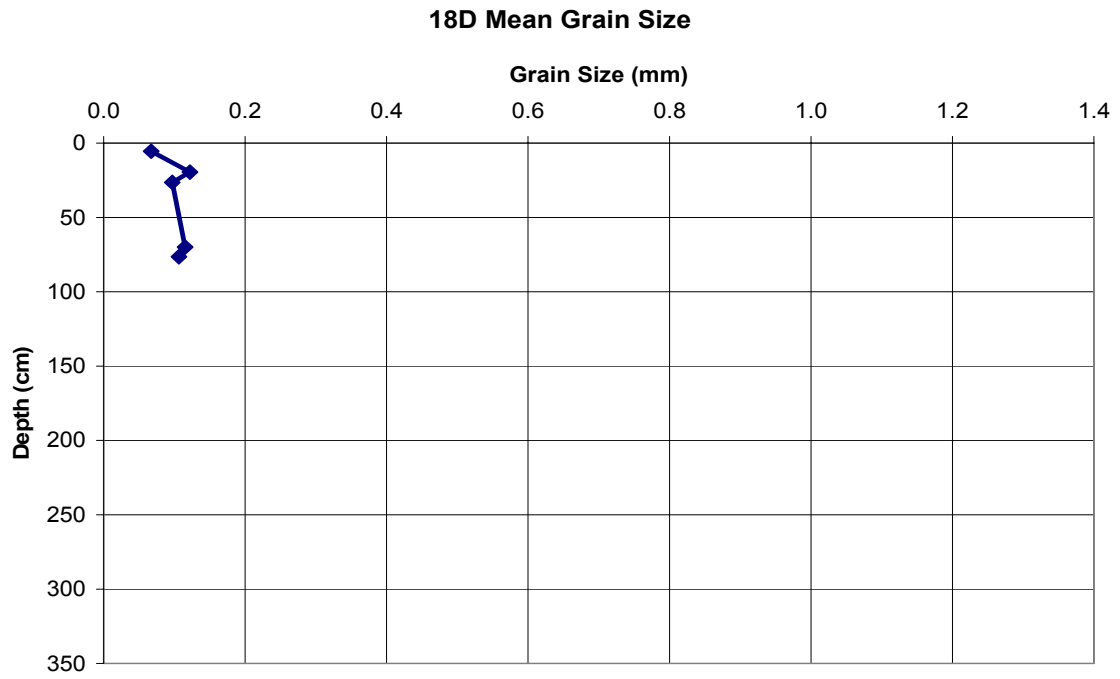
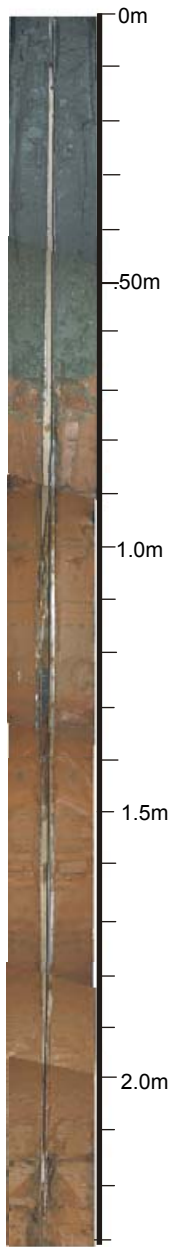


Figure C 59: Mean grain size graph for core 18D

20 A



20 B



20 C



20 D

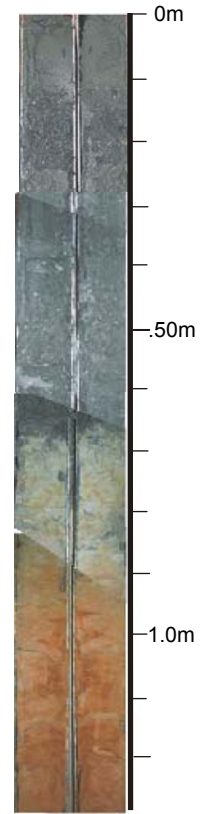


Figure C 60: Core photographs for line 20

Core#: 20 A
 Core Date: 07/07/05

Date Split/subsampled	Length: <u>231 cm</u>
	Lat: <u>29 07.490</u>
<u>11/08/05</u>	Long: <u>95 03.100</u>

Core#: 20 A
 Core Date: 07/07/05

Date Split/subsampled	Length: <u>231 cm</u>
	Lat: <u>29 07.490</u>
<u>11/08/05</u>	Long: <u>95 03.100</u>

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-68	5Y 4/1	GS	0-47 → SAND w/ TRACE SHELL HASH
68-76	5Y 4/1	110 cm	47-58 → SAND w/ ABUNDANT SHELL HASH
76-87	7.5YR 4/3	31-40 cm	58-68 → SAND w/ TRACE SHELL HASH
87-90	7.5YR 4/3	60-68 cm	68-76 → SAND TO MUD. RED/BROWN CLAY LAYER. TRANSITION ZONE w/ SHELL HASH
90-104	7.5YR 4/3	68-75 cm	76-87 → RED BROWN CLAY DOMINATED MUD
104-124	2.5YR 4/1	75-80 cm	87-90 → RED BROWN CLAY w/ SAND
124-130	7.5YR 4/3	151-160 cm	90-107 → RED BROWN CLAY w/ SMALL SAND PATCHES.
130-177	7.5YR 4/3	81-110 cm	107-115 → RED BROWN CLAY w/ FINE SAND LAMINATIONS.
177-201	7.5YR 4/2	211-220 cm	115-124 → RED BROWN CLAY
201-215	7.5YR 4/2	0-1 cm	124-130 → BRIGHTER ORANGE/BROWN CLAY
215-216	2.5Y 5/2	10-11 cm	130-140 → RED BROWN CLAY w/ SHELL HASH
216-231	7.5YR 4/2	20-21 cm	140-140.5 → SAND LAMINATION
	7.5YR 4/2	21-21.5 cm	140.5-146 → RED BROWN CLAY w/ SAND PATCH
	7.5YR 4/2	21.5-21.6 cm	146-157 → RED BROWN CLAY w/ SAND LAMINATION
	7.5YR 4/2	21.6-21.7 cm	157-158 → BRIGHTER ORANGE BROWN CLAY
	7.5YR 4/2	21.7-21.8 cm	158-161 → RED BROWN CLAY w/ SAND
	7.5YR 4/2	21.8-21.9 cm	161-162 → BRIGHTER ORANGE BROWN CLAY
	7.5YR 4/2	21.9-22.0 cm	162-167 → RED BROWN CLAY
	7.5YR 4/2	22.0-22.1 cm	167-173 → RED BROWN CLAY w/ FINE SAND LAMINATIONS
	7.5YR 4/2	22.1-22.2 cm	173-177 → RED BROWN CLAY
	7.5YR 4/2	22.2-22.3 cm	177-201 → RED BROWN CLAY w/ MANY SAND LAMINATIONS

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
201-215			201-215 → BROWNER SANDY MUD
215-216			215-216 → SAND LAYER
216-231			216-231 → BROWNER MUD

Figure C 61: Core log for 20A for depths 0-150 cm
 Figure C 62: Core log for 20A for depths 150-231 cm

Line 20 Site A

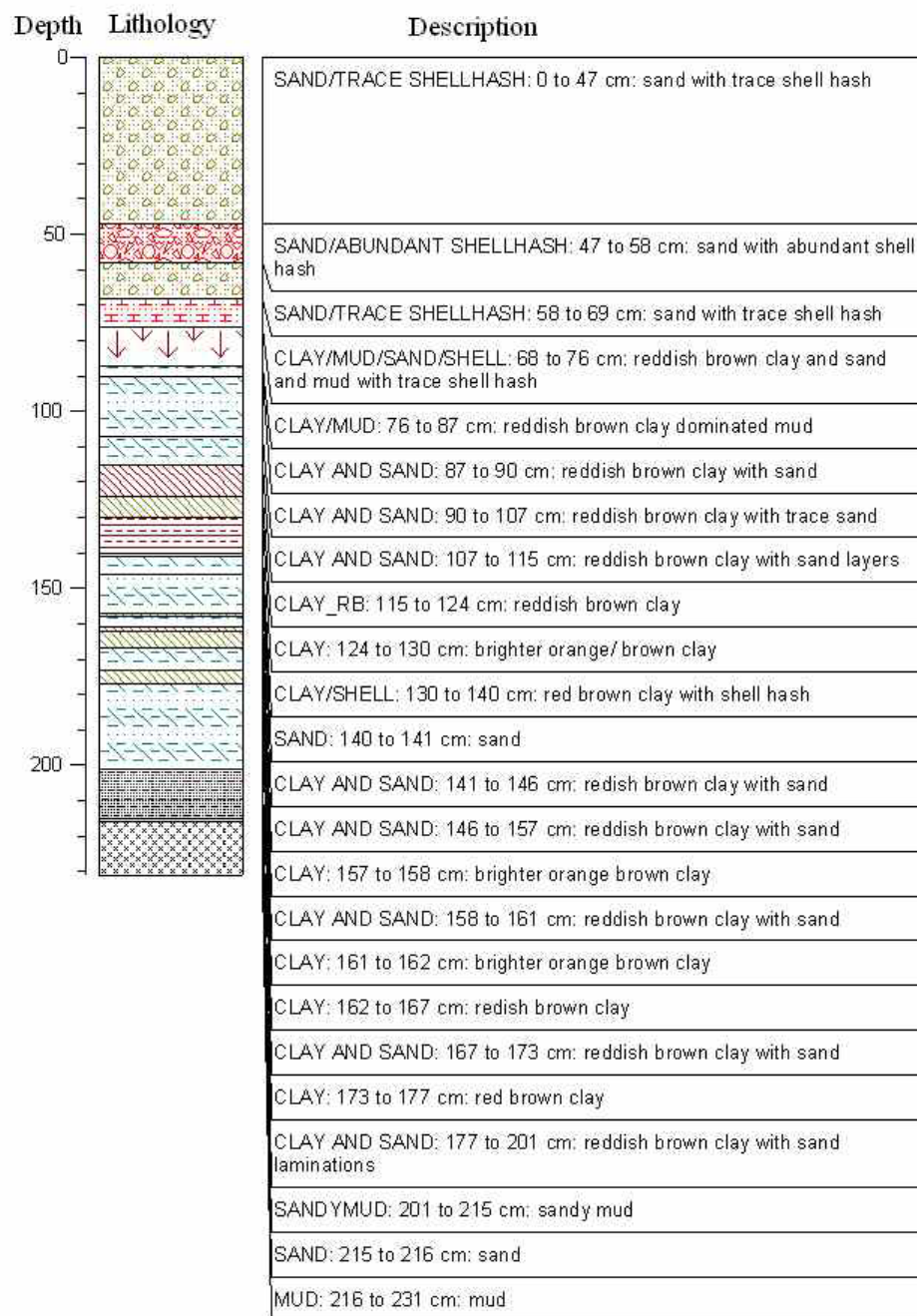


Figure C 63: Computer core log 20A

Table C 47: Shell and sand weights for core 20A

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
20A	1-10	0.25	95.84	8.24	104.08
20A	31-40	0.18	98.61	8.82	107.43
20A	60-68	0.74	103.50	7.00	110.50
20A	68-75	0.85	28.87	3.10	31.97
20A	75-80	0.06	0.87	0.16	1.03
20A	151-160	0.03	1.17	1.06	2.23
20A	181-190	0.02	15.25	5.71	20.96
20A	211-220	0.02	10.85	9.67	20.52

Table C 48: Percent shell, sand, silt and clay for core 20A

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
20A	1-10	0.23	95.66	1.88	2.23
20A	31-40	0.16	93.61	2.96	3.28
20A	60-68	0.63	94.57	1.99	2.80
20A	68-75	1.25	47.09	16.92	34.74
20A	75-80	0.21	3.56	43.08	53.15
20A	151-160	0.04	2.78	38.26	58.92
20A	181-190	0.03	30.83	29.04	40.10
20A	211-220	0.02	22.80	43.74	33.44

Table C 49: RO-TAP data for core 20A

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
20A	1-10	0.05	0.02	0.06	0.05	0.04	0.03	0.03	0.19	3.16	63.96	28.5	8.24
20A	31-40	0	0.02	0.04	0.04	0.05	0.03	0.05	0.26	2.88	75.47	19.95	8.82
20A	60-68	0.18	0.18	0.12	0.14	0.07	0.05	0.07	0.25	18.12	71.9	13.16	7
20A	68-75						0.85					28.87	3.1
20A	75-80						0.06					0.87	0.16
20A	151-160						0.03					1.17	1.06
20A	181-190						0.02					15.25	5.71
20A	211-220						0.02					10.85	9.67

Table C 50: Percent finer data for core 20A

ASTM Classification	coarse sand	med. sand	med. sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt	
Wentworth Classification	granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt	
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.40mm/ -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710μm/ 0.5Φ Screen	% finer than N35/ 500μm/ 1.0Φ Screen	% finer than N45/ 355μm/ 1.5Φ Screen	% finer than N60/ 250μm/ 2.0Φ Screen	% finer than N80/ 180μm/ 2.0Φ Screen	% finer than N125/ 125μm/ 3.0Φ Screen	% finer than N170/ 90μm/ 3.5Φ Screen	% finer than N200/ 75μm/ 3.75Φ Screen	% finer than N230/ 63μm/ 4Φ Screen	% finer than 4μm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	Silt
20A	1-10	100.0	99.9	99.9	99.8	99.8	99.8	99.7	99.6	96.7	37.9	11.7	4.1	2.2
20A	31-40	100.0	100.0	99.9	99.9	99.9	99.8	99.8	99.6	97.1	31.3	13.9	6.2	3.3
20A	60-68	99.8	99.7	99.6	99.5	99.4	99.4	99.3	99.1	83.6	22.0	10.8	4.8	2.8
20A	68-75						98.7					56.2	51.7	34.7
20A	75-80						99.8					96.8	96.2	53.2
20A	151-160						100.0					98.5	97.2	58.9
20A	181-190						100.0					77.5	69.1	40.1
20A	211-220						100.0					87.9	77.2	33.4

Table C 51: Folkian statistic data for core 20A

Station ID	Sample Depth	Average Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(cm)	(Φ)	(mm)	(Φ)	(mm)		
20A	1-10	5.5	3.41	0.0937	3.4163	0.0933	0.0933	0.275
20A	31-40	35.5	3.356	0.0972	3.3945	0.0947	0.2755	0.3012
20A	60-68	64	3.264	0.1037	3.2849	0.1022	0.1747	0.3263
20A	68-75	71.5						
20A	75-80	77.5						
20A	151-160	155.5						
20A	181-190	185.5						
20A	211-220	215.5						

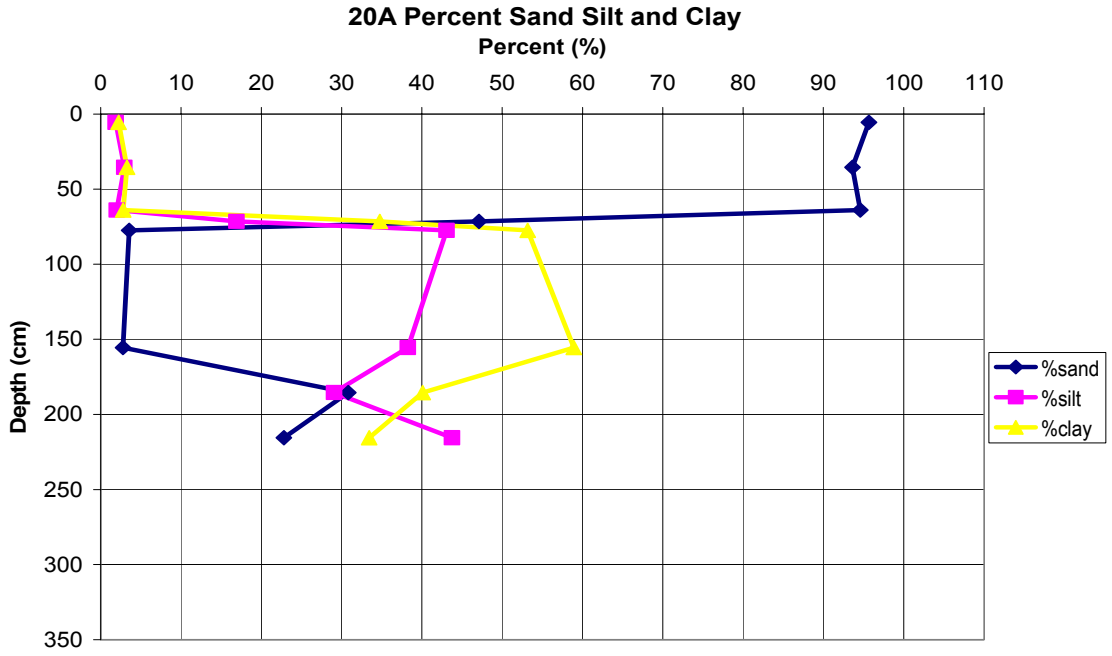


Figure C 64: Percent sand, silt and clay graph for core 20A

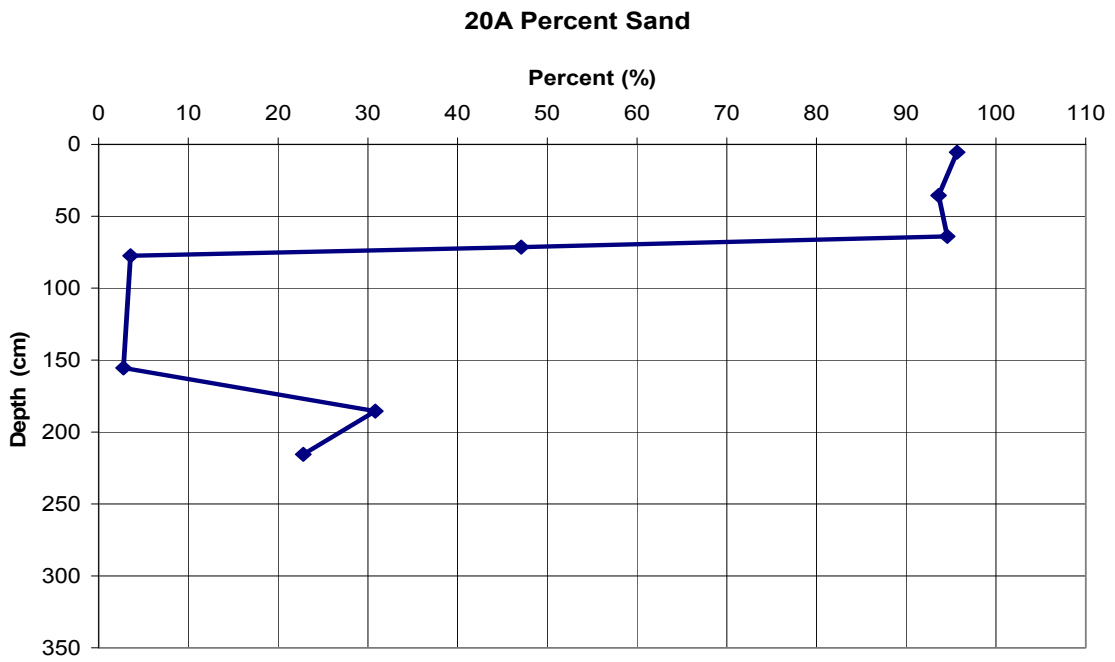


Figure C 65: Percent sand graph for core 20A

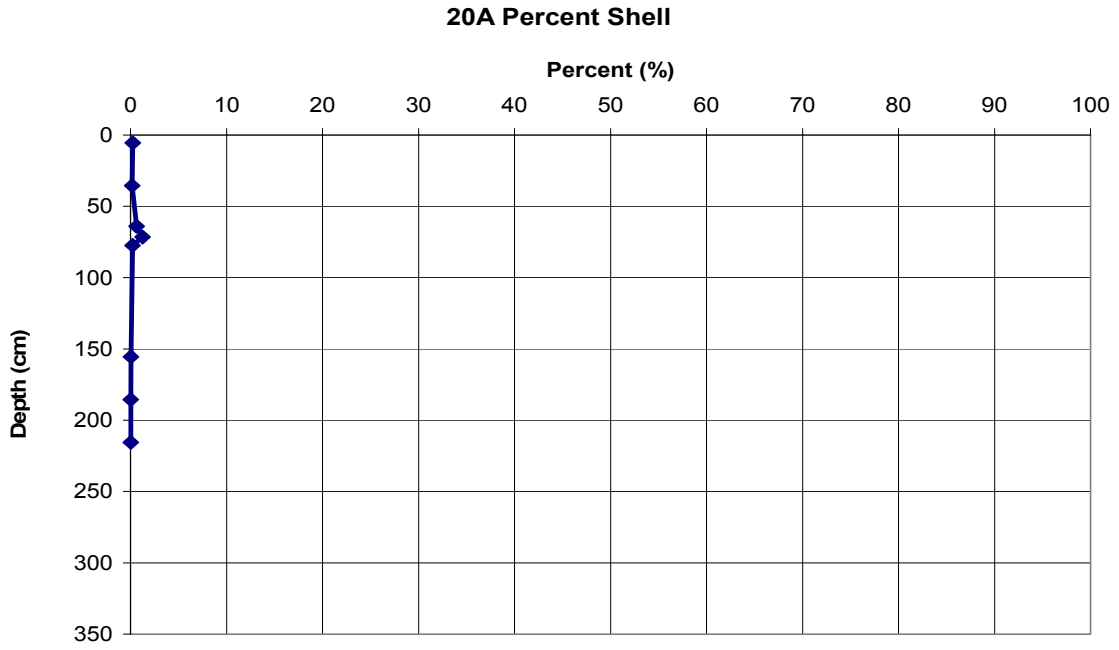


Figure C 66: Percent shell graph for core 20A

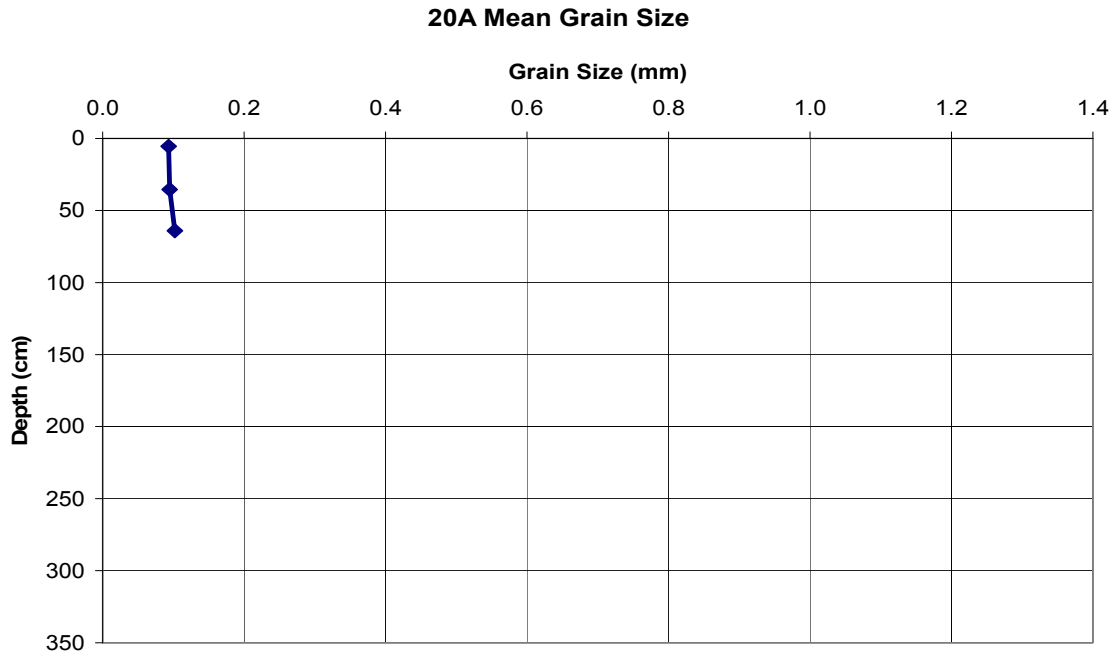


Figure C 67: Mean grain size graph for core 20A

Core#: 20B

Core Date: 07/07/05

Date Split/subsampled	Length: <u>50 cm</u>
	Lat: <u>29 07.315</u>
	Long: <u>95 03.067</u>

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-10	0-50 5Y 3/1	<u>GS</u> 1-10 cm	0-23 → DARK GREY SAND w/ TRACE SHELL HASH
10-20		21-30 cm	23-33 → DARK GREY SAND w/ ABUNDANT SHELL HASH
20-30		41-49 cm	33-50 → DARK GREY SAND w/ SHELL HASH
30-40	0-50 5Y 3/1	<u>WC</u> 0-1 cm	
40-50		10-11 cm	
50-60		20-21 cm	
60-70		30-31 cm	
70-80		40-41 cm	
80-90			
90-100			
100-110			
110-120			
120-130			
130-140			
140-150			

Figure C 68: Core log for 20B for depths 0-50 cm

Line 20 Site B

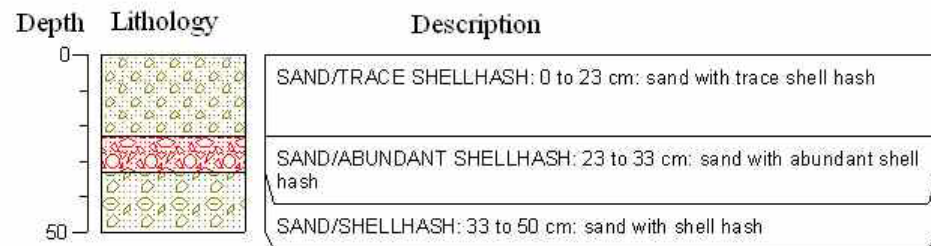


Figure C 69: Computer core log for 20B

Table C 52: Shell and sand weights for core 20B

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
20B	1-10	0.74	93.63	7.19	100.82
20B	21-30	6.33	89.85	8.98	98.83
20B	41-49	1.82	79.58	17.56	97.14

Table C 53: Percent shell, sand, silt and clay for core 20B

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
20B	1-10	0.69	93.38	3.45	2.49
20B	21-30	5.69	88.89	2.83	2.59
20B	41-49	1.73	92.58	2.93	2.76

Table C 54: RO-TAP data for core 20B

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
20B	1-10	0.34	0.11	0.08	0.1	0.06	0.05	0.06	0.47	8.44	70.89	13.77	7.19
20B	21-30	1.05	1.73	1.66	1.08	0.6	0.21	0.16	0.5	4.38	65.7	19.11	8.98
20B	41-49	0.08	0.37	0.52	0.44	0.25	0.16	0.15	0.44	4.85	55.46	18.68	17.56

Table C 55: Percent finer data for core 20B

ASTM Classification		coarse sand	med. sand	med. sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt
Wentworth Classification		granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.40mm/ -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710μm/ 0.5Φ Screen	% finer than N35/ 500μm/ 1.0Φ Screen	% finer than N45/ 355μm/ 1.5Φ Screen	% finer than N60/ 250μm/ 2.0Φ Screen	% finer than N80/ 180μm/ 2.5 Φ Screen	% finer than N125/ 125μm/ 3.0Φ Screen	% finer than N170/ 90μm/ 3.5Φ Screen	% finer than N200/ 75μm/ 3.75Φ Screen	% finer than N230/ 63μm/ 4Φ Screen	% finer than 4μm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
20B	1-10	99.7	99.6	99.5	99.4	99.4	99.3	99.3	98.8	91.0	25.3	12.6	5.9	2.5
20B	21-30	99.1	97.5	96.0	95.0	94.5	94.3	94.2	93.7	89.8	30.7	13.5	5.4	2.6
20B	41-49	99.9	99.6	99.1	98.7	98.4	98.3	98.1	97.7	93.1	40.2	22.4	5.7	2.8

Table C 56: Folkian statistic data for core 20B

Station ID	Sample Depth	Average Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(cm)	(Φ)	(mm)	(Φ)	(mm)		
20B	1-10	5.5	3.305	0.1007	3.3401	0.0983	0.2637	0.3106
20B	21-30	25.5	3.339	0.0984	3.3681	0.0964	-0.2374	0.6857
20B	41-49	45	3.405	0.094	3.4533	0.0909	0.1796	0.3425

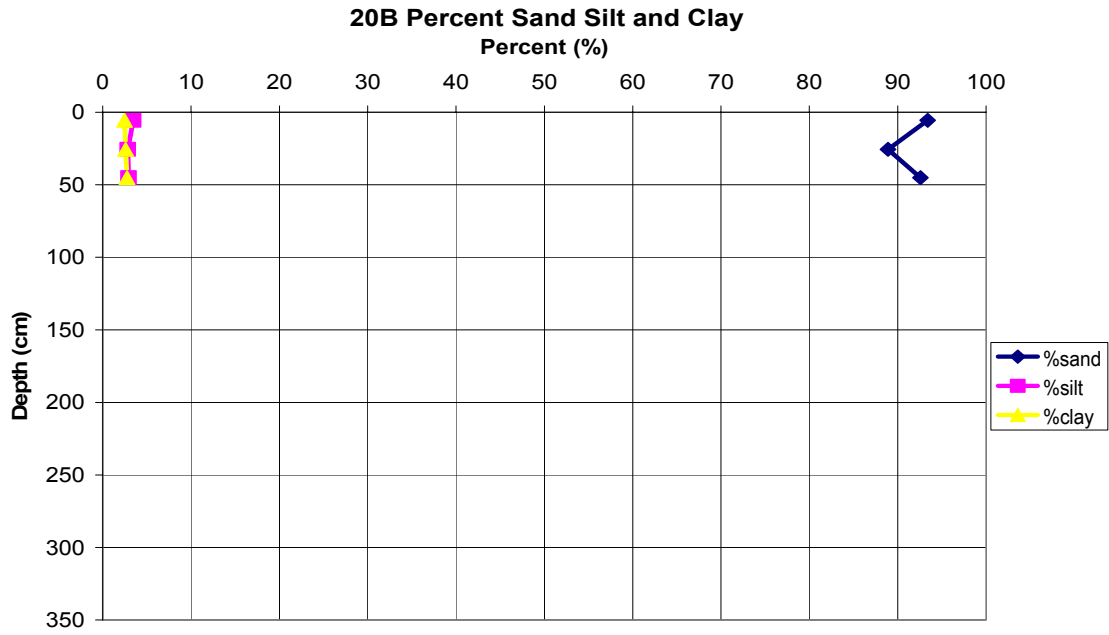


Figure C 70: Percent Sand, Silt, and Clay for core 20B

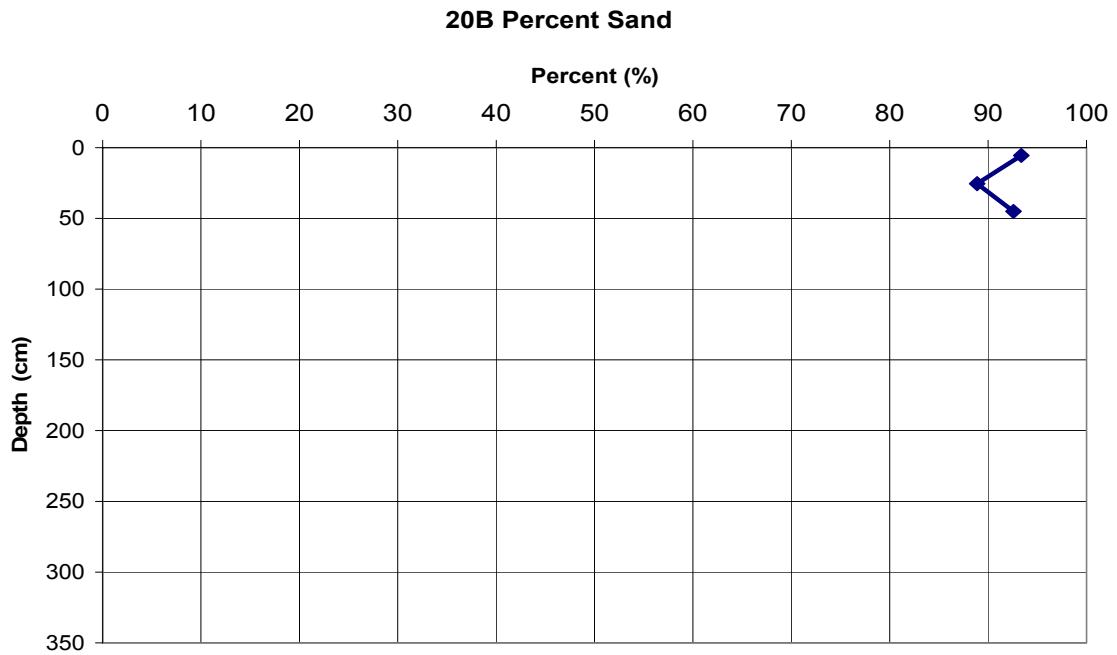


Figure C 71: Percent Sand for core 20B

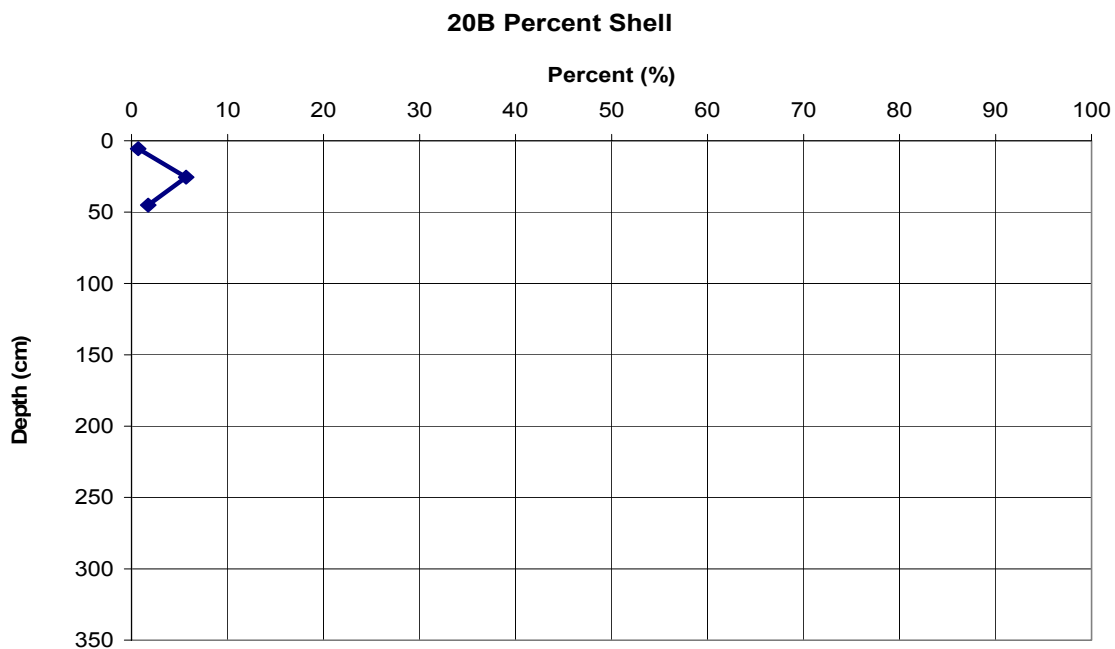


Figure C 72: Percent shell graph for core 20B

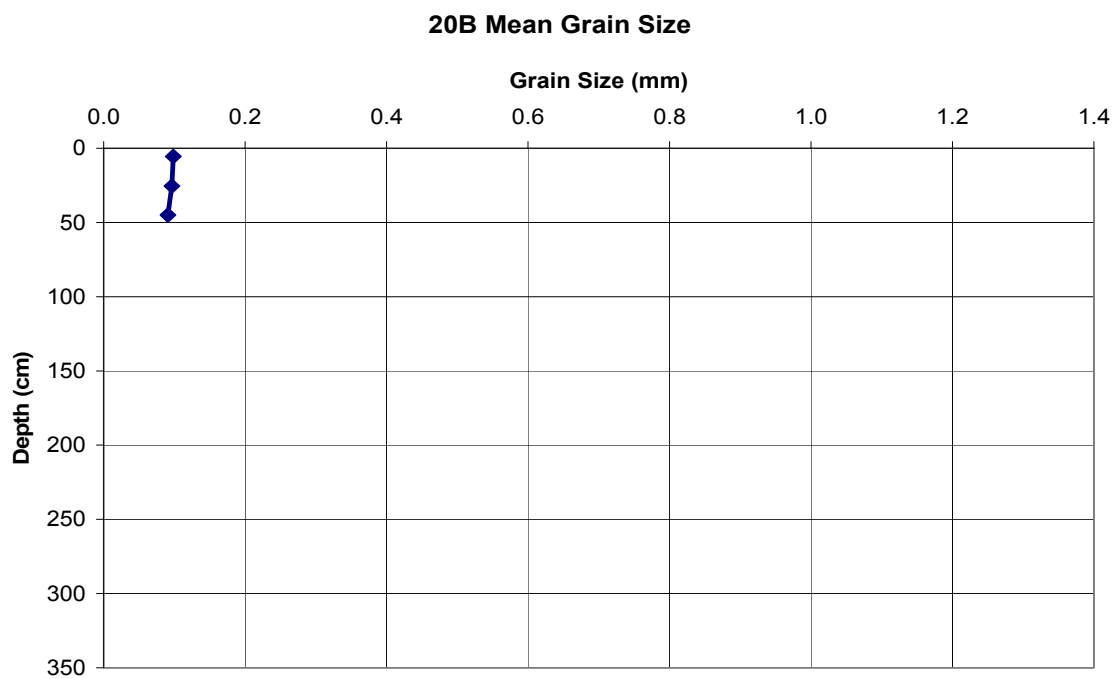


Figure C 73: Mean grain size graph for core 20B

Core#: 20C

Core Date: 07/07/05

Date Split/subsampled	Length: 33 cm
11/10/05	Lat: 29° 07.131
	Long: 95° 02.952

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-33	5Y 3/1	GS 1-10 cm 21-30 cm	0-33 → SAND w/ TRACE SHELL HASH.
0-1 cm		WC	
10-11 cm			
20-21 cm			
30-31 cm			
40			
50			
60			
70			
80			
90			
100			
110			
120			
130			
140			
150			

Figure C 74: Core log for 20C for depths 0-33 cm

Line 20 Site C


Depth	Lithology	Description
0		SAND/ TRACE SHELL HASH: 0 to 33 cm: sand with trace shell hash

Figure C 75: Computer core log for 20C

Table C 57: Shell and sand weights for core 20C

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
20C	1-10	0.18	73.82	7.46	81.28
20C	21-30	0.24	84.30	9.45	93.75

Table C 58: Percent shell, sand, silt and clay for core 20C

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
20C	1-10	0.20	91.86	4.41	3.53
20C	21-30	0.24	94.17	2.85	2.74

Table C 59: RO-TAP data for core 20C

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
20C	1-10	0	0.03	0.03	0.04	0.04	0.04	0.05	0.52	4.99	48.11	20.15	7.46
20C	21-30	0	0.03	0.05	0.03	0.05	0.08	0.17	0.65	5.28	61.54	16.66	9.45

Table C 60: Percent finer data for core 20C

ASTM Classification		coarse sand	med. sand	med. Sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt
Wentworth Classification		granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.40mm / -0.5Φ Screen	% finer than N18/ 1.00mm/ 0.0Φ Screen	% finer than N25/ 710µm / 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm / 1.5Φ Screen	% finer than N60/ 250µm 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm / 3.5Φ Screen	% finer than N200/ 75µm / 3.75Φ Screen	% finer than N230/ 63µm/ 4Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
20C	1-10	100.0	100.0	99.9	99.9	99.8	99.8	99.7	99.2	93.5	39.1	16.4	7.9	3.5
20C	21-30	100.0	100.0	99.9	99.9	99.8	99.8	99.6	98.9	93.6	31.8	15.1	5.6	2.7

Table C 61: Folkian statistic data for core 20C

Station ID	Sample Depth	Average Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(cm)	(Φ)	(mm)	(Φ)	(mm)		
20C	1-10	5.5	3.409	0.0937	3.4278	0.0925	0.1764	0.3391
20C	21-30	25.5	3.351	0.0976	3.3929	0.0948	0.2445	0.315

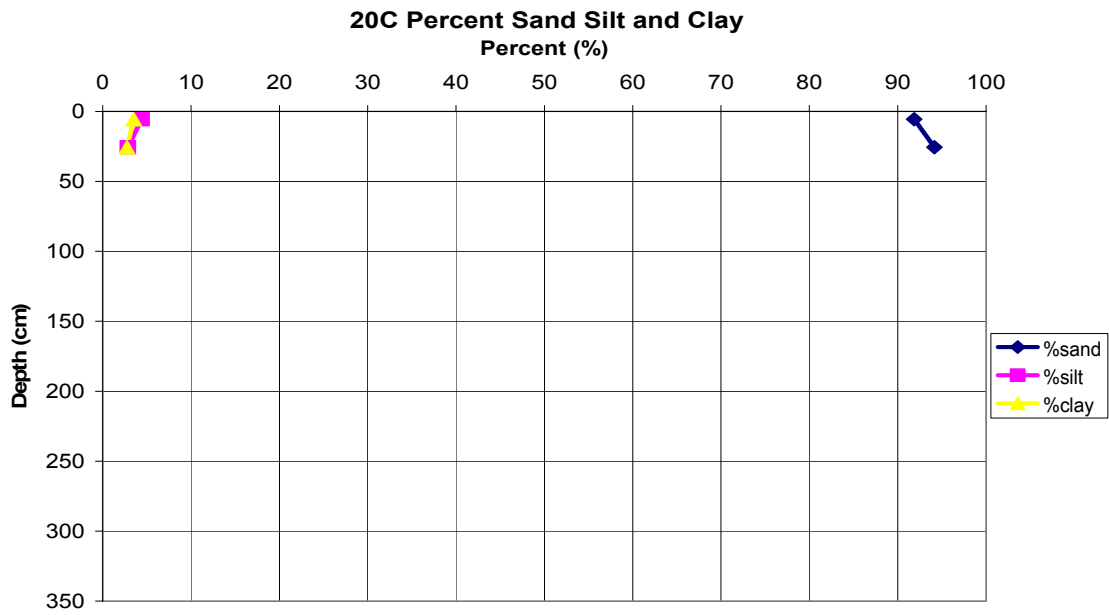


Figure C 76: Percent Sand, Silt, and Clay for core 20C

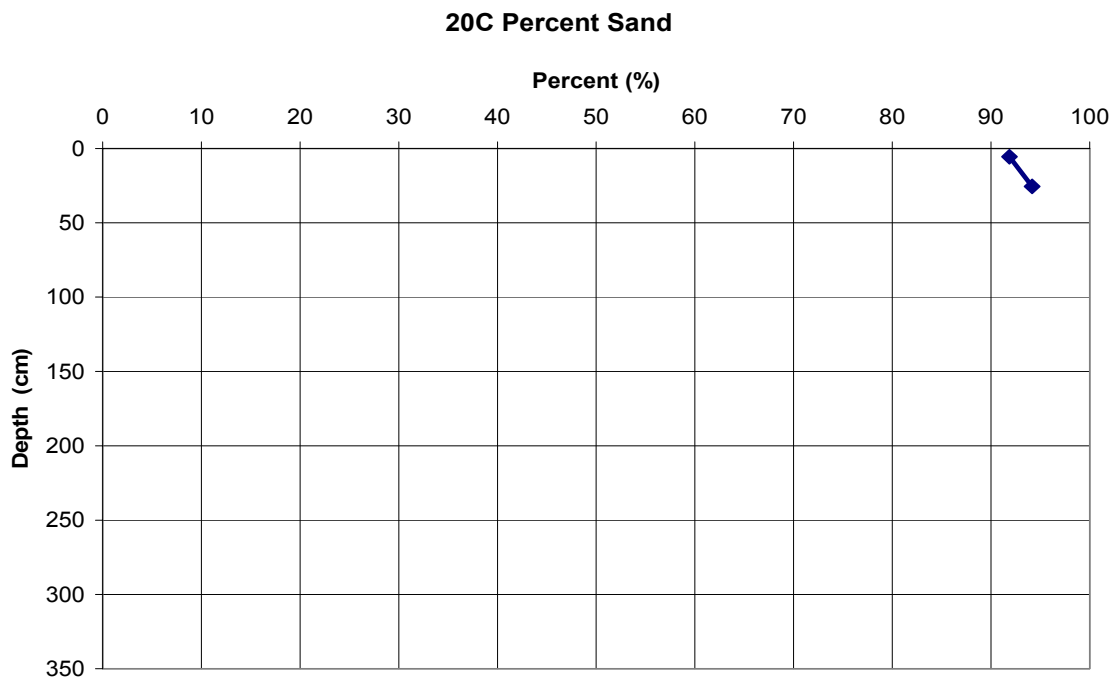


Figure C 77: Percent Sand for core 20C

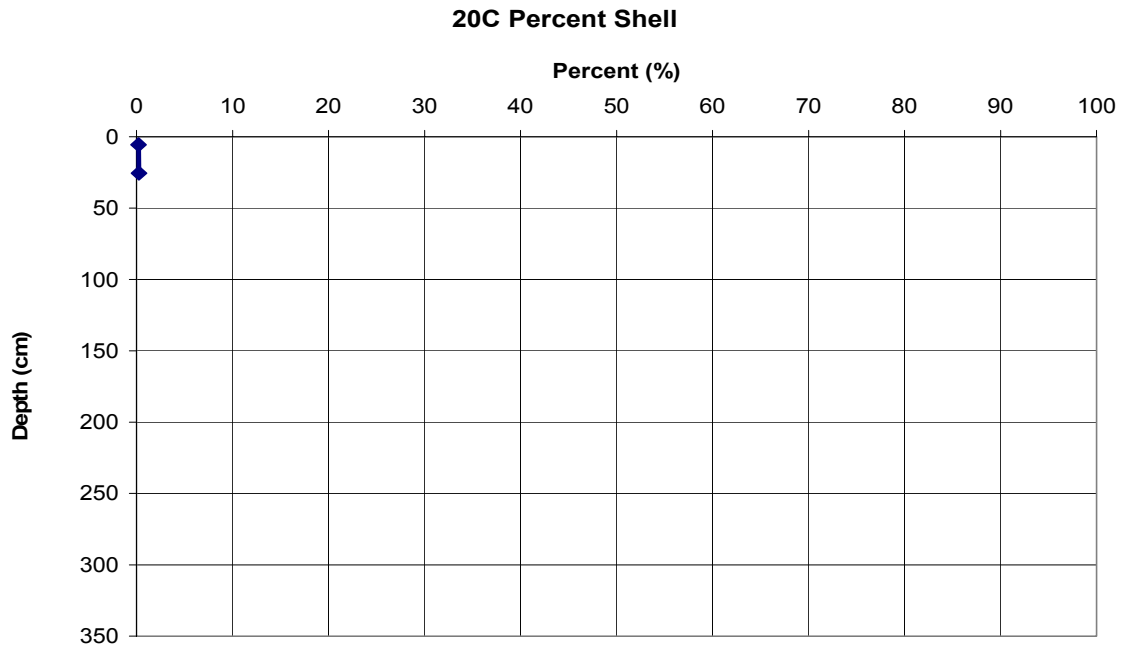


Figure C 78: Percent shell graph for core 20C

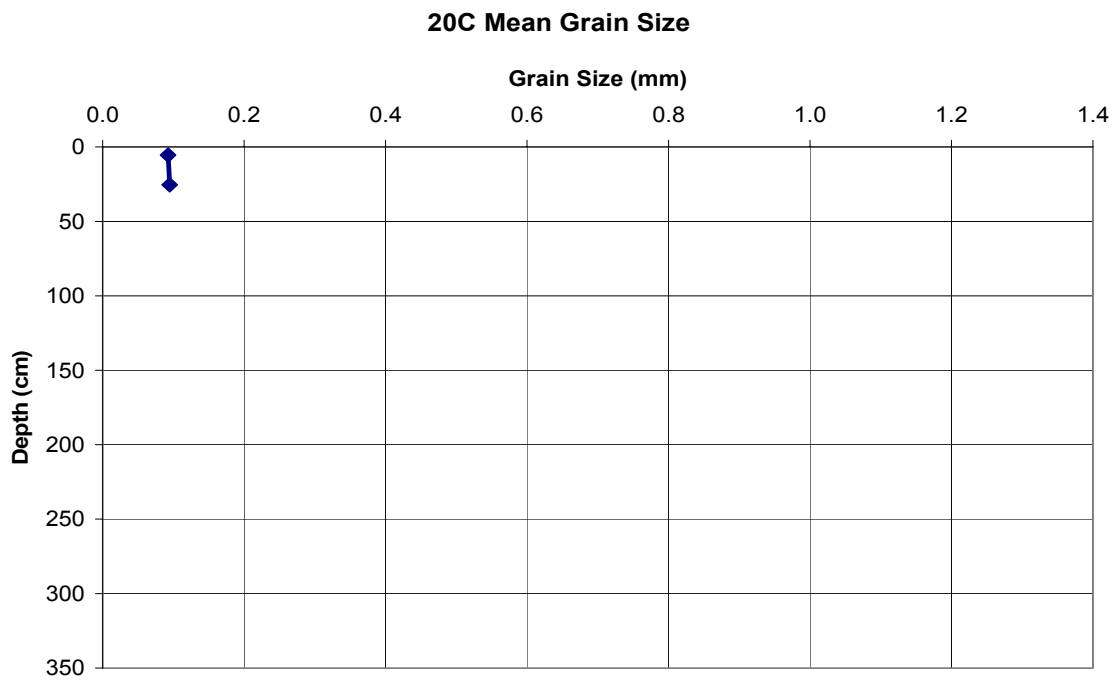


Figure C 79: Mean grain size graph for core 20C

Core#: 20 D

Core Date: 07/07/05

Date Split/subsampled	Length: 136 cm
11/09/05	Lat: 29 06. 772
	Long: 95 02. 710

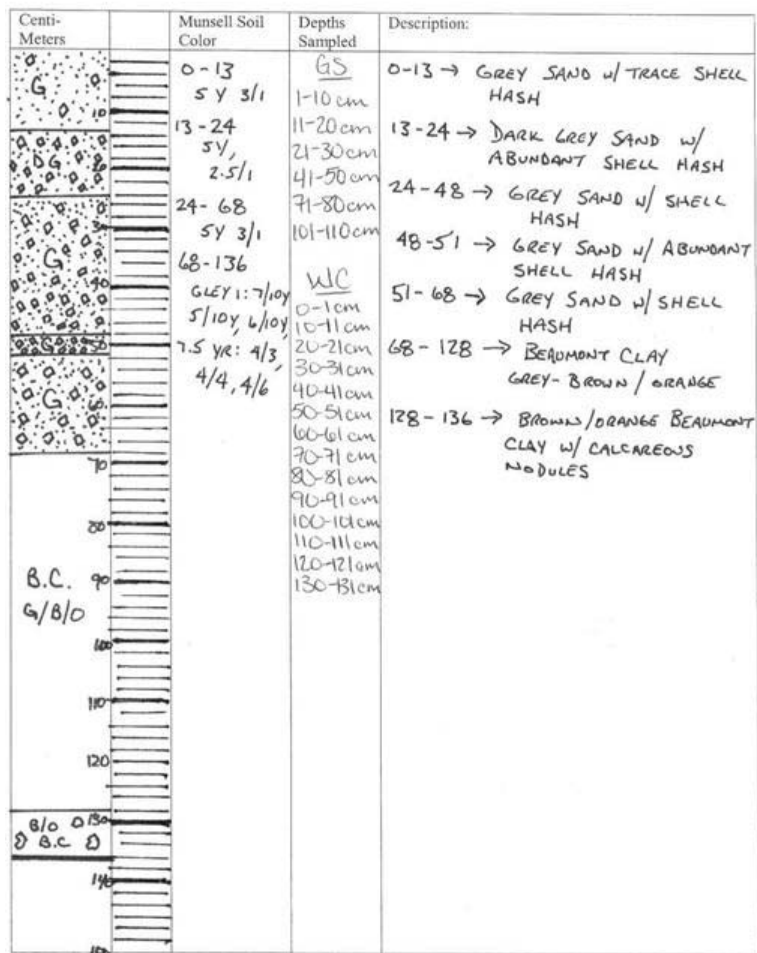


Figure C 80: Core log for 20D for depths 0-136 cm

Line 20 Site D

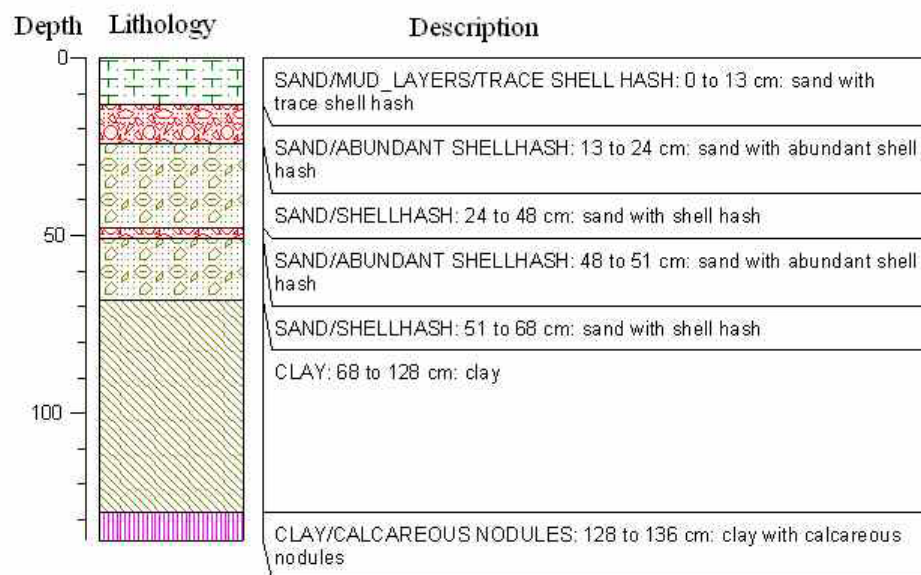


Figure C 81: Computer core log for 20D

Table C 62: Shell and sand weights for core 20D

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
20D	1-10	0.16	83.71	6.67	90.38
20D	11-20	1.90	98.22	7.96	106.18
20D	21-30	4.17	85.77	3.04	88.81
20D	41-50	0.50	82.43	6.68	89.11
20D	71-80	0.00	3.04	1.43	4.47
20D	101-110	0.01	0.15	0.05	0.20

Table C 63: Percent shell, sand, silt and clay for core 20D

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
20D	1-10	0.17	94.94	2.79	2.10
20D	11-20	1.64	91.91	2.74	3.71
20D	21-30	3.86	82.11	8.40	5.63
20D	41-50	0.53	94.21	2.89	2.37
20D	71-80	0.00	12.36	44.27	43.37
20D	101-110	0.03	0.58	36.37	63.01

Table C 64: RO-TAP data for core 20D

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
20D	1-10	0	0	0.01	0.02	0.05	0.08	0.41	2.61	18.52	41.97	20.2	6.67
20D	11-20	0.23	0.38	0.43	0.39	0.31	0.16	1.63	6.2	27.38	44.1	18.91	7.96
20D	21-30	1.73	0.34	0.31	0.26	0.24	1.29	0.45	3.49	26.53	44.33	10.97	3.04
20D	41-50	0.07	0.08	0.08	0.12	0.08	0.07	0.17	2.44	15.73	52.03	12.06	6.68
20D	71-80						0					3.04	1.43
20D	101-110						0.01					0.15	0.05

Table C 65: Percent finer data for core 20D

ASTM Classification	coarse sand	med. sand	med. sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt	
Wentworth Classification	granule	very coarse sand	coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine silt	
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.4mm / -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm/ 3.5Φ Screen	% finer than N200/ 75µm/ 3.75Φ Screen	% finer than N230/ 63µm/ 4Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
20D	1-10	100.0	100.0	100.0	100.0	99.9	99.8	99.4	96.7	77.2	33.1	11.9	4.9	2.1
20D	11-20	99.8	99.5	99.1	98.8	98.5	98.4	96.9	91.6	67.9	29.7	13.3	6.4	3.7
20D	21-30	98.4	98.1	97.8	97.6	97.3	96.1	95.7	92.5	68.0	27.0	16.8	14.0	5.6
20D	41-50	99.9	99.8	99.8	99.6	99.5	99.5	99.3	96.7	80.1	25.1	12.3	5.3	2.4
20D	71-80	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	91.6	87.6	43.4
20D	101-110	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.5	99.4	63.0

Table C 66: Folkian statistic data for core 20D

Station ID	Sample Depth	Average Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(cm)	(Φ)	(mm)	(Φ)	(mm)		
20D	1-10	5.5	3.327	0.0992	3.3002	0.1011	-0.0781	0.4139
20D	11-20	15.5	3.243	0.1051	3.2179	0.107	-0.0614	0.5146
20D	21-30	25.5	3.21	0.1076	3.2488	0.1048	0.4227	1.2627
20D	41-50	45.5	3.268	0.1034	3.2898	0.1018	0.0998	0.3784
20D	71-80	75.5						
20D	101-110	105.5						

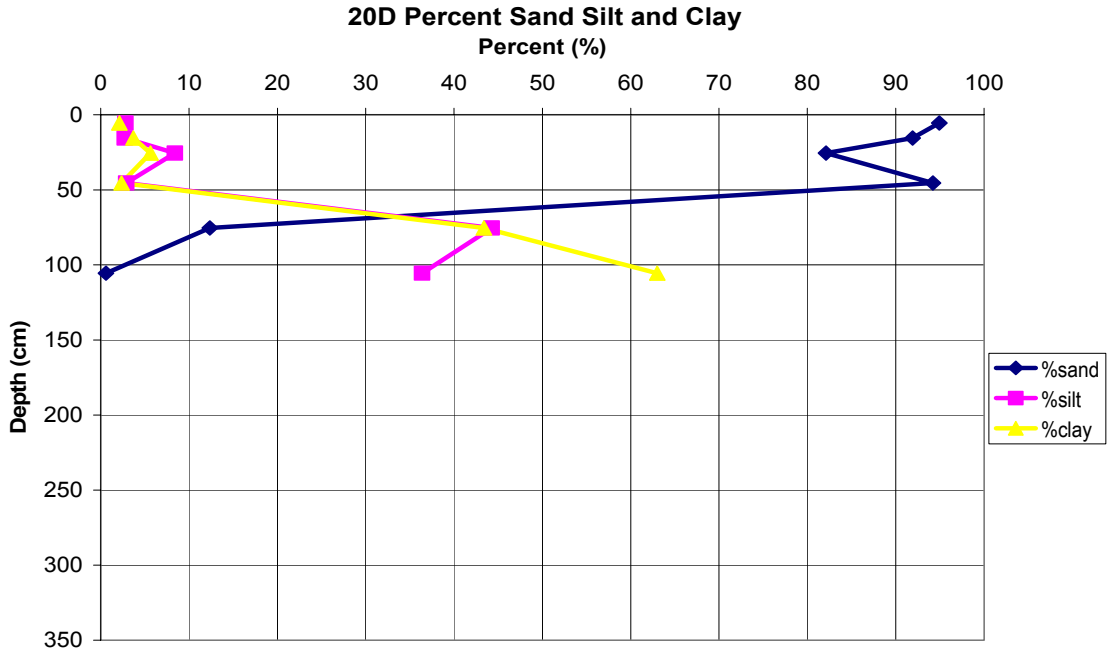


Figure C 82: Percent sand, silt and clay graph for core 20D

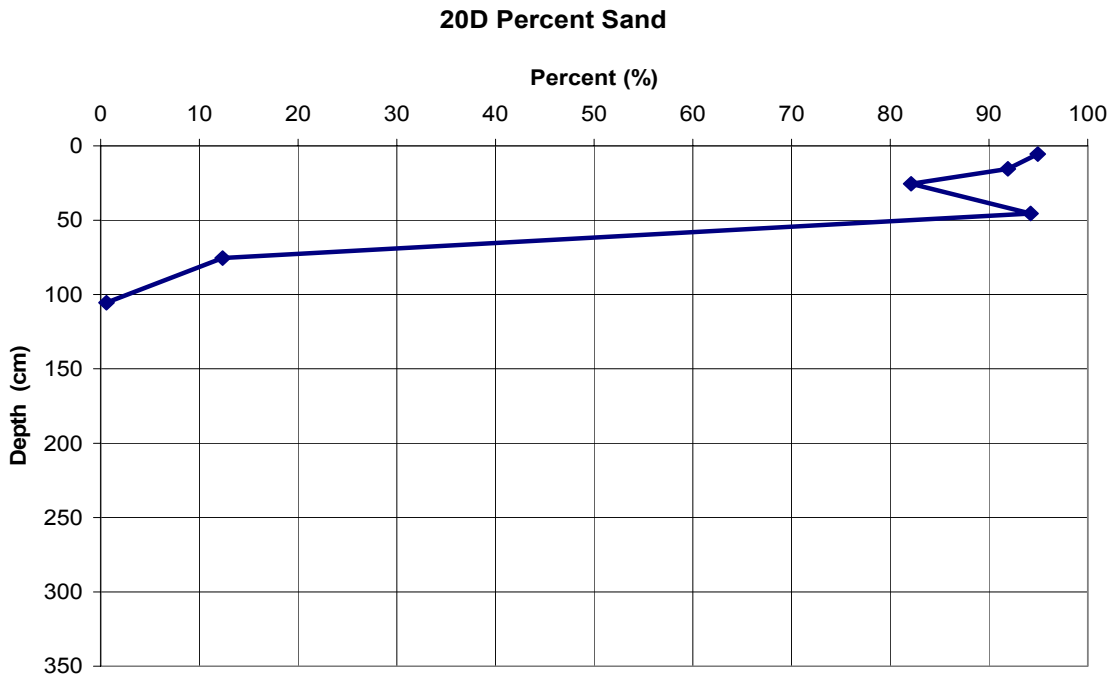


Figure C 83: Percent sand graph for core 20D

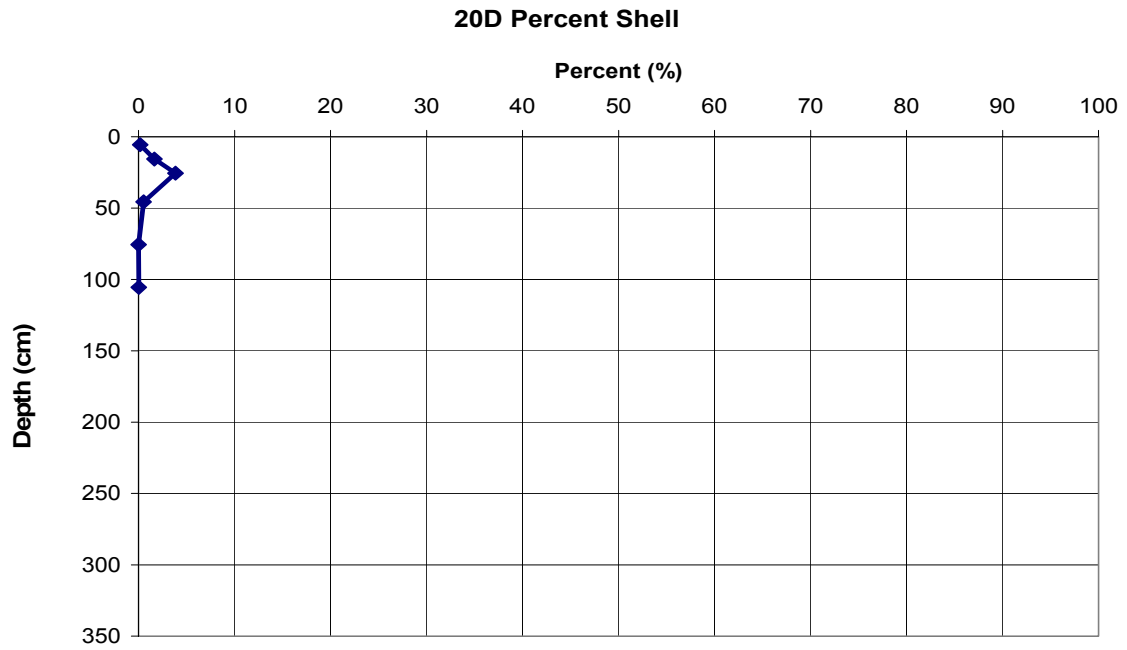


Figure C 84: Percent shell graph for core 20D

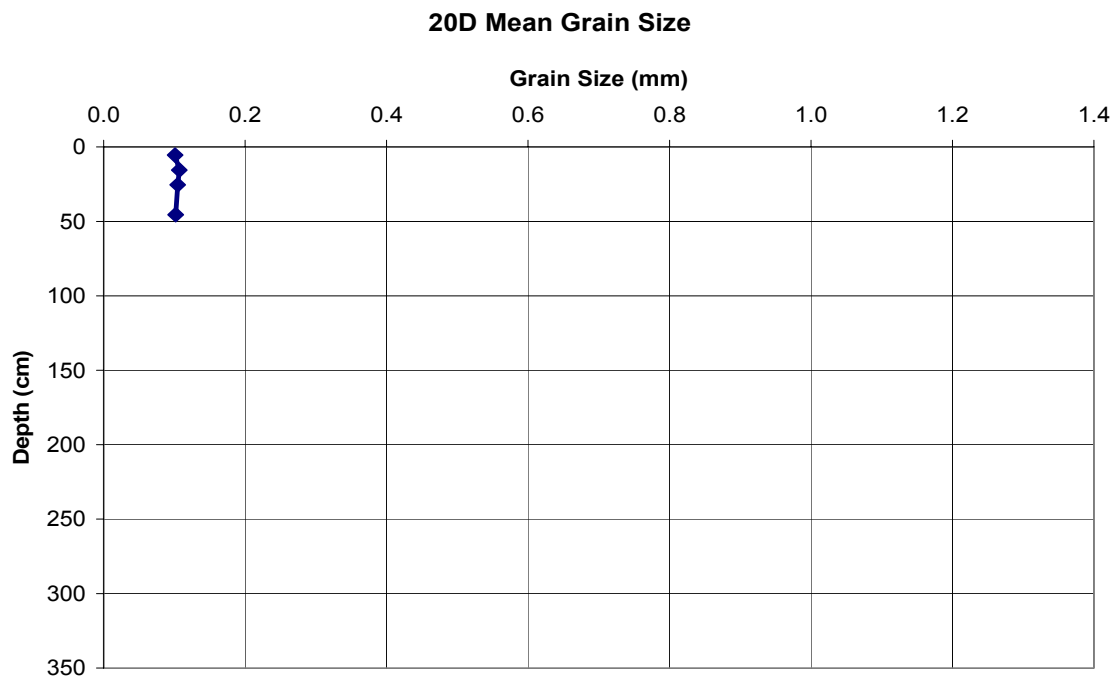


Figure C 85: Mean grain size graph for core 20D

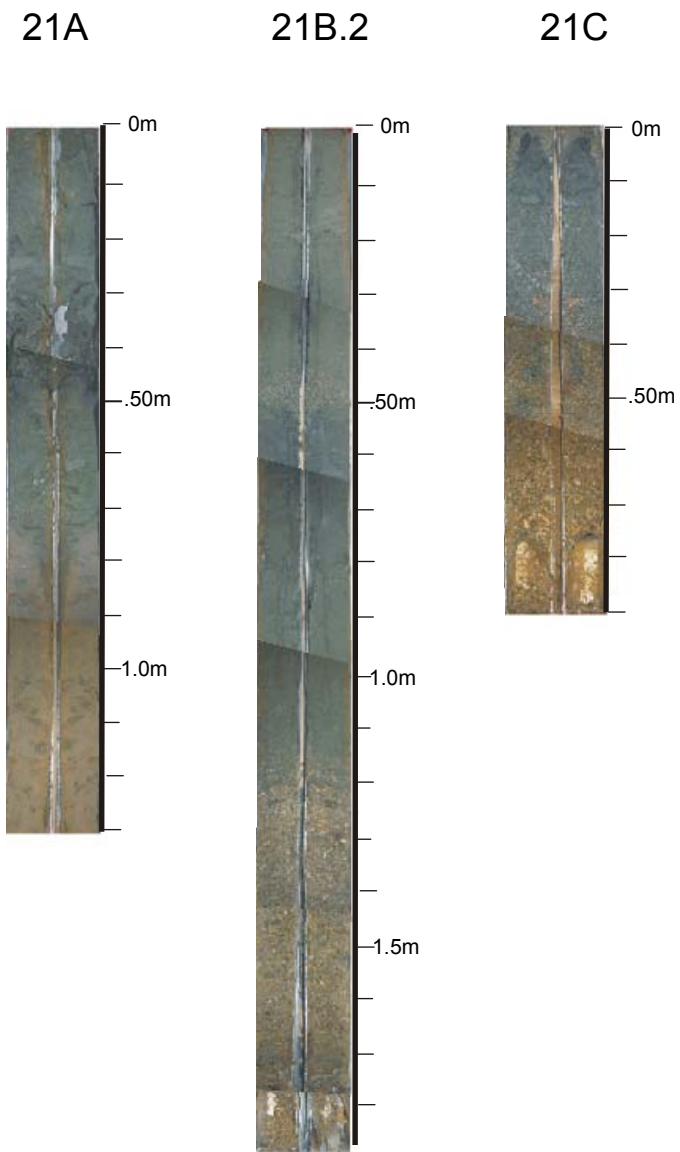


Figure C 86: Core photographs for line 21

Core#: 21A

Core Date: 07/07/05

Date Split/subsampled	Length: 130 cm
11/10/05	Lat: 29 06.774
	Long: 95 04.132

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-10	0-33 5Y 3/1	GS 1-10 cm	0-64 → SAND w/ TRACE SHELL HASH
10-20	33-74 5Y 4/1	21-31 cm	64-69 → SAND w/ ABUNDANT SHELL HASH
20-30	74-130 2.5Y 5/2	51-60 cm	69-74 → SHELL w/ SAND
30-40		61-70 cm	74-130 → SAND w/ TRACE SHELL HASH AND SMALL MUD AND DARK SAND PATCHES
40-50		71-80 cm	
50-60		WC 0-1 cm	
60-70		10-11 cm	
70-80		20-21 cm	
80-90		30-31 cm	
90-100		40-41 cm	
100-110		50-51 cm	
110-120		60-61 cm	
120-130		70-71 cm	
		80-81 cm	
		90-91 cm	
		100-101 cm	
		110-111 cm	
		120-121 cm	

Figure C 87: Core log for 21A for depths 0-130 cm

Line 21 Site A

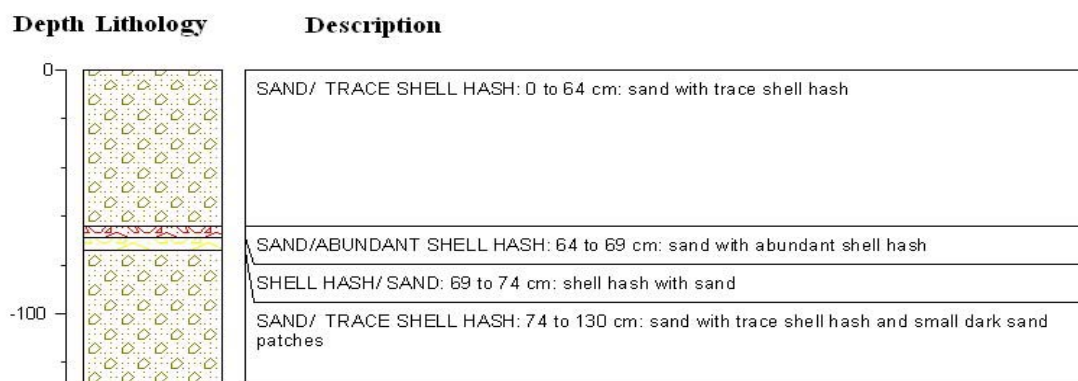


Figure C 88: Computer core log for 21A

Table C 67: Shell and sand weight for core 21A

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
21A	1-10	0.29	82.83	6.48	89.31
21A	21-31	2.61	81.79	3.47	85.26
21A	51-60	6.15	101.44	3.25	104.69
21A	61-70	0.88	72.07	3.06	75.13
21A	71-80	0.19	88.97	5.29	94.26

Table C 68: Percent shell, sand, silt and clay for core 21A

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
21A	1-10	0.30	92.77	4.59	2.34
21A	21-31	2.80	91.48	2.83	2.89
21A	51-60	5.38	91.66	1.84	1.12
21A	61-70	1.08	91.97	3.34	3.62
21A	71-80	0.19	93.71	3.26	2.84

Table C 69: RO-TAP data for core 21A

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
21A	1-10	0.1	0.04	0.02	0.04	0.04	0.05	0.08	0.47	3.11	53.45	25.72	6.48
21A	21-31	0.75	0.52	0.41	0.39	0.33	0.21	0.34	2.7	9.6	57.87	11.28	3.47
21A	51-60	1.9	1.07	0.8	0.98	0.7	0.7	1.77	25.83	32.61	32.45	8.78	3.25
21A	61-70	0.14	0.14	0.17	0.15	0.16	0.12	0.29	1.24	8.88	54.69	6.97	3.06
21A	71-80	0.01	0.02	0.02	0.02	0.05	0.07	0.15	0.96	8.22	59.22	20.42	5.29

Table C 70: Percent finer data for core 21A

ASTM Classification	coarse sand	med. sand	med. sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt	
Wentworth Classification	granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine silt	
Core ID	Sample Depth (cm)	finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.4mm/ -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm/ 3.5Φ Screen	% finer than N200/ 75µm/ 3.75Φ Screen	% finer than N230/ 63µm/ 4Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
21A	1-10	99.9	99.9	99.8	99.8	99.8	99.7	99.6	99.1	95.9	40.4	13.7	6.9	2.3
21A	21-31	99.2	98.6	98.2	97.8	97.4	97.2	96.8	93.9	83.6	21.5	9.4	5.7	2.9
21A	51-60	98.3	97.4	96.7	95.8	95.2	94.6	93.1	70.5	41.9	13.5	5.8	3.0	1.1
21A	61-70	99.8	99.7	99.4	99.3	99.1	98.9	98.6	97.0	86.2	19.2	10.7	7.0	3.6
21A	71-80	100.0	100.0	100.0	99.9	99.9	99.8	99.7	98.7	90.5	31.7	11.4	6.1	2.8

Table C 71: Folkian statistic data for core 21A

Station ID	Sample Depth	Average Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(cm)	(Φ)	(mm)	(Φ)	(mm)		
21A	1-10	5.5	3.427	0.0926	3.4313	0.0923	0.1899	0.337
21A	21-31	26	3.269	0.1033	3.2801	0.1025	-0.0362	0.4246
21A	51-60	55.5	2.864	0.1368	2.8512	0.1381	-0.1711	0.7104
21A	61-70	65.5	3.26	0.1039	3.2763	0.1028	0.2401	0.3227
21A	71-80	75.5	3.352	0.0975	3.366	0.0966	0.1861	0.3339

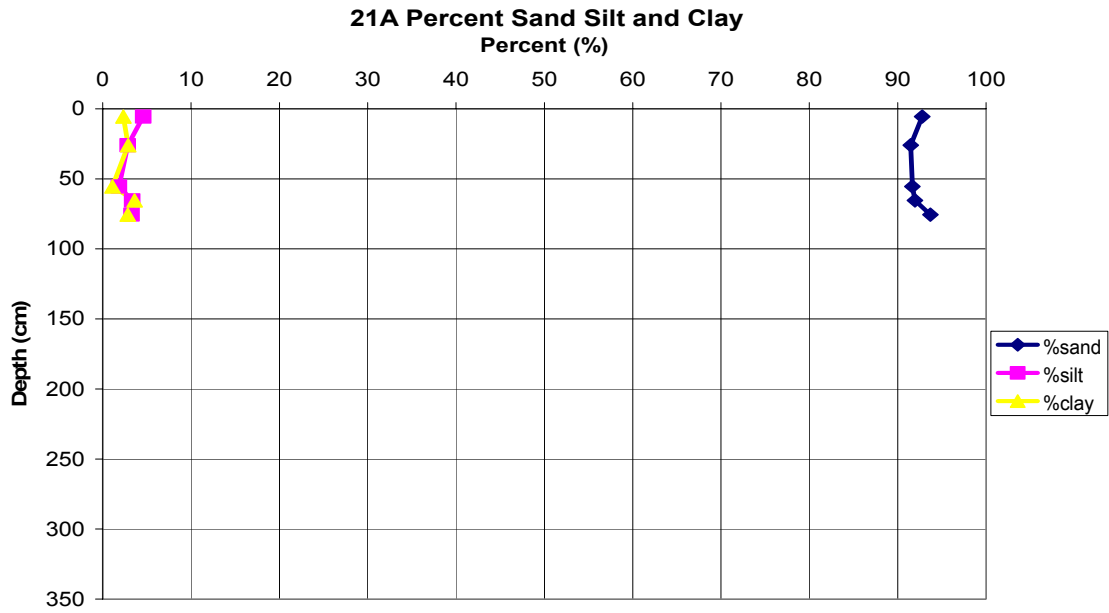


Figure C 89: Percent sand, silt and clay graph for core 21A

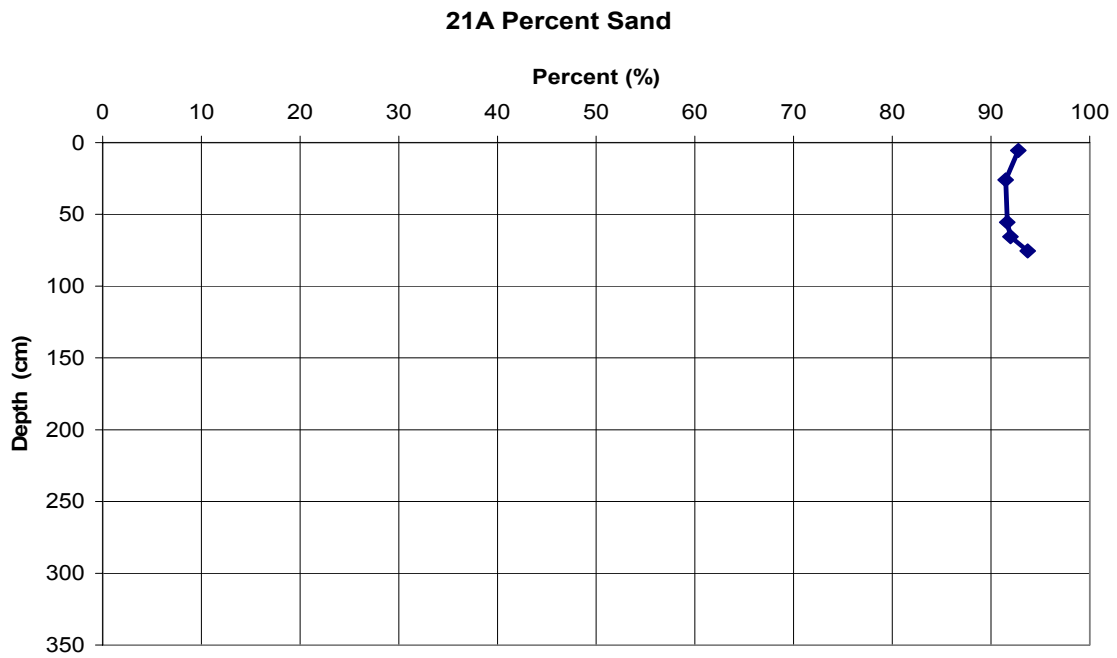


Figure C 90: Percent sand graph for core 21A

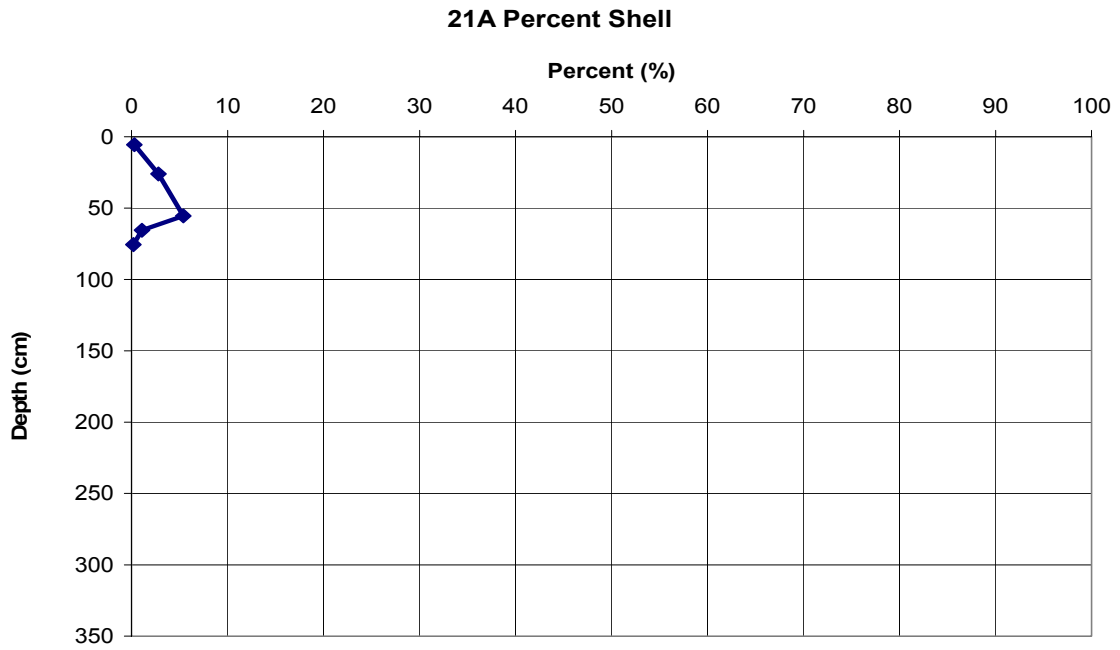


Figure C 91: Percent shell graph for core 21A

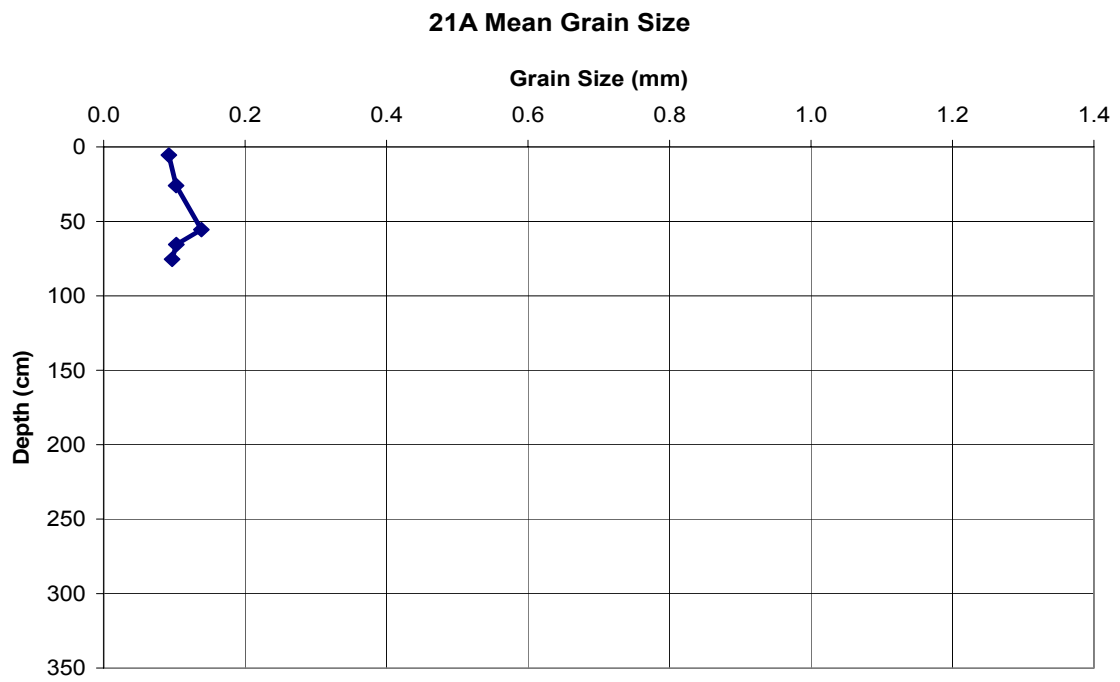


Figure C 92: Mean grain size graph for core 21A

Core#: 21 B.2

Core Date: 07/07/05

Date Split/subsampled	Length: <u>199 cm</u>
	Lat: <u>29 06.567</u>
	Long: <u>95 04.042</u>

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-50	5Y 4/1	65	0-45 → SAND w/ TRACE SHELL HASH
50-115	5Y 3/1	1-10 cm	45-50 → SHELL HASH w/ SAND
115-199	2.5Y 6/2	31-40 cm	50-115 → SAND w/ TRACE SHELL HASH
		45-50 cm	115-199 → SHELL HASH w/ SAND
		51-60 cm	
		81-90 cm	
		101-110 cm	
		121-130 cm	
		151-160 cm	
		WC	
		0-1 cm	
		10-11 cm	
		20-21 cm	
		30-31 cm	
		40-41 cm	
		50-51 cm	
		60-61 cm	
		70-71 cm	
		80-81 cm	
		90-91 cm	
		100-101 cm	
		110-111 cm	
		120-121 cm	
		130-131 cm	
		140-141 cm	
		150-151 cm	
		160-161 cm	
		170-171 cm	
		180-181 cm	

Figure C 93: Core log for 21B.2 for depths 0-150 cm

Core#: 21 B.2

Core Date: 07/07/05

Date Split/subsampled	Length: <u>199 cm</u>
	Lat: <u>29 06.567</u>
	Long: <u>95 04.042</u>

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-150			
150-199			

Figure C 94: Core log for 21B.2 for depths 150-199 cm

Line 21 Site B.2



Figure C 95: Computer core log for 21B.2

Table C 72: Shell and sand weights for core 21B.2

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
21B2	1-10	0.51	98.26	5.53	103.79
21B2	31-40	6.12	94.88	6.02	100.90
21B2	45-50	72.15	57.54	4.92	62.46
21B2	51-60	1.67	95.35	5.55	100.90
21B2	81-90	1.34	78.27	10.61	88.88
21B2	101-110	4.85	91.82	4.87	96.69
21B2	121-130	96.63	41.45	3.61	45.06
21B2	151-160	108.23	33.59	0.76	34.35

Table C 73: Percent shell, sand, silt and clay for core 21B.2

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
21B2	1-10	0.45	90.59	5.66	3.30
21B2	31-40	5.36	88.30	2.94	3.40
21B2	45-50	51.45	44.54	2.26	1.75
21B2	51-60	1.54	93.05	3.26	2.15
21B2	81-90	1.23	81.41	12.05	5.32
21B2	101-110	4.54	90.48	3.13	1.84
21B2	121-130	64.33	30.00	3.01	2.66
21B2	151-160	72.78	23.10	2.44	1.68

Table C 74: RO-TAP data for core 21B.2

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
21B2	1-10	0	0.01	0.04	0.08	0.09	0.29	0.65	4.7	18.2	62.93	11.78	5.53
21B2	31-40	0.02	0.06	0.17	0.67	2.58	2.62	2.41	5.97	16.43	60.52	9.55	6.02
21B2	45-50	8.96	13.68	17.81	17.32	11.15	3.23	1.77	3.91	8.88	30.47	12.51	4.92
21B2	51-60	0.2	0.29	0.25	0.38	0.29	0.26	0.29	1.37	8.4	72.68	12.61	5.55
21B2	81-90	0.07	0.27	0.27	0.32	0.25	0.16	0.2	0.73	3.9	49.79	23.65	10.61
21B2	101-110	1.78	0.5	0.8	0.77	0.61	0.39	0.28	1.25	10.71	61.51	18.07	4.87
21B2	121-130	43.08	15.71	13.93	12.07	8.08	3.76	2.45	8.14	14.67	10.14	6.05	3.61
21B2	151-160	58.32	14.33	10.27	12.06	7.61	5.64	3.1	6.26	13.59	8.85	1.79	0.76

Table C 75: Percent finer data for core 21B.2

ASTM Classification	coarse sand	med. sand	med. sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		Silt	
Wentworth Classification	granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt	
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.4mm/ -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm/ 3.5Φ Screen	% finer than N200/ 75µm/ 3.75Φ Screen	% finer than N230/ 63µm/ 4Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	Silt
21B2	1-10	100.0	100.0	100.0	99.9	99.8	99.6	99.0	94.9	79.0	24.1	13.8	9.0	3.3
21B2	31-40	100.0	99.9	99.8	99.2	96.9	94.6	92.5	87.3	72.9	20.0	11.6	6.3	3.4
21B2	45-50	93.6	83.9	71.2	58.8	50.9	48.5	47.3	44.5	38.2	16.4	7.5	4.0	1.7
21B2	51-60	99.8	99.5	99.3	99.0	98.7	98.5	98.2	96.9	89.2	22.2	10.5	5.4	2.1
21B2	81-90	99.9	99.7	99.4	99.1	98.9	98.8	98.6	97.9	94.3	48.7	27.1	17.4	5.3
21B2	101-110	98.3	97.9	97.1	96.4	95.8	95.5	95.2	94.0	84.0	26.4	9.5	5.0	1.8
21B2	121-130	71.3	60.9	51.6	43.6	38.2	35.7	34.0	28.6	18.9	12.1	8.1	5.7	2.7
21B2	151-160	60.8	51.1	44.2	36.1	31.0	27.2	25.1	20.9	11.8	5.8	4.6	4.1	1.7

Table C 76: Folkian statistic data for core 21B.2

Station ID	Sample Depth	Average Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(cm)	(Φ)	(mm)	(Φ)	(mm)		
21B2	1-10	5.5	3.256	0.1042	3.2847	0.1022	0.1231	0.4516
21B2	31-40	35.5	3.212	0.1075	3.1917	0.109	-0.2195	0.6012
21B2	45-50	47.5						
21B2	51-60	55.5	3.286	0.1021	3.3077	0.1006	0.2294	0.3013
21B2	81-90	85.5	3.488	0.0887	3.564	0.0842	0.5744	1.681
21B2	101-110	105.5	3.302	0.101	3.309	0.1005	-0.1228	0.4502
21B2	121-130	125.5						
21B2	151-160	155.5						

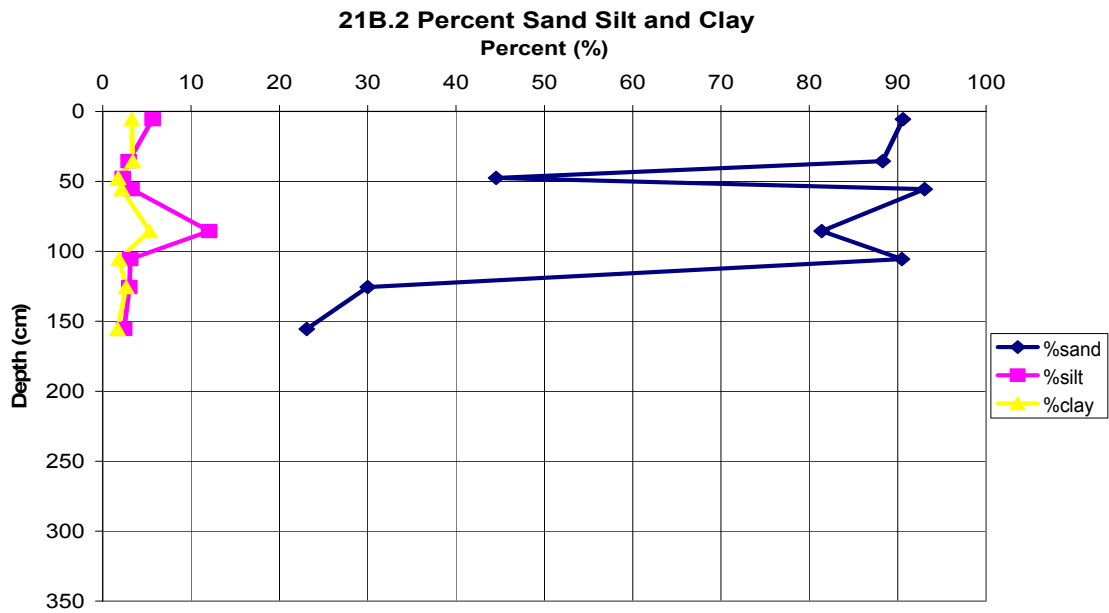


Figure C 96: Percent Sand, Silt, and Clay graph for core 21B.2

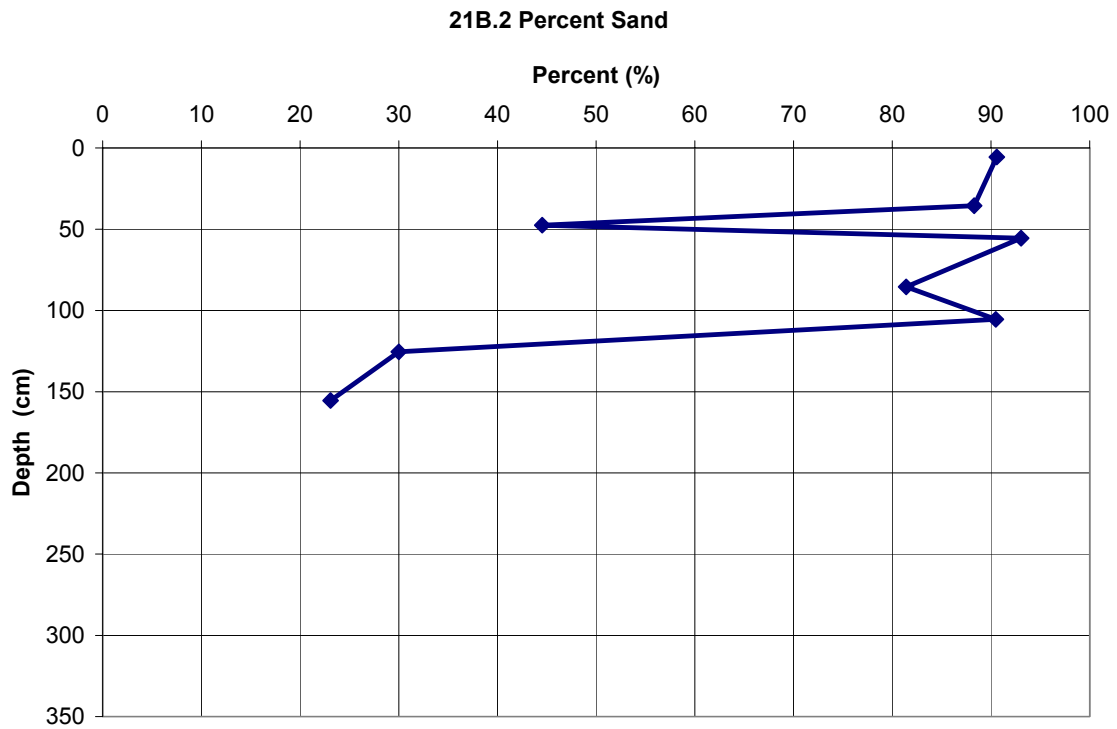


Figure C 97: Percent sand graph for core 21B.2

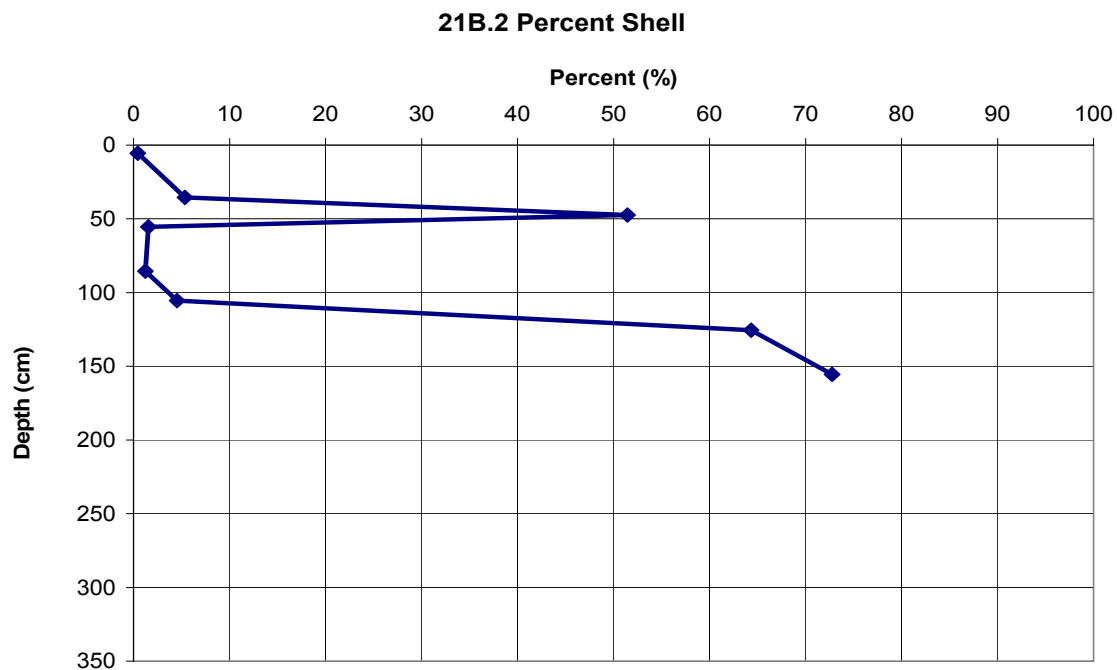


Figure C 98: Percent shell graph for core 21B.2

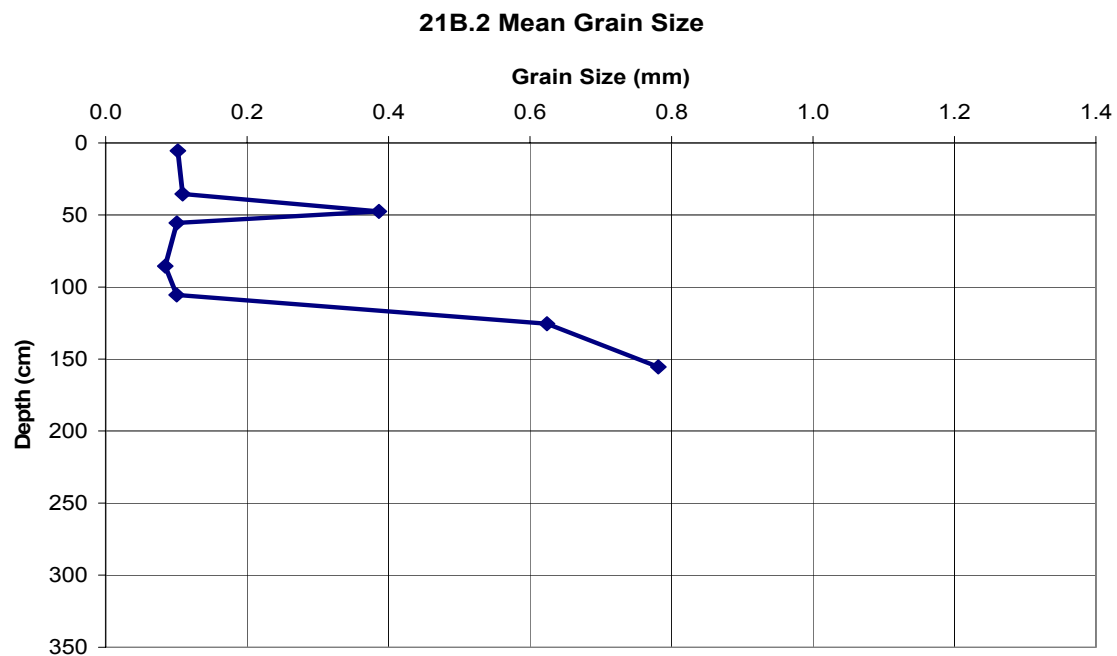


Figure C 99: Mean grain size graph for core 21B.2

Core#: 21C

Core Date: 07/07/05

Date Split/subsampled	Length: 89 cm
	Lat: 21 06.277
	Long: 95 03.896



Figure C 100: Core log for 21C for depths 0-89 cm

Line 21 Site C

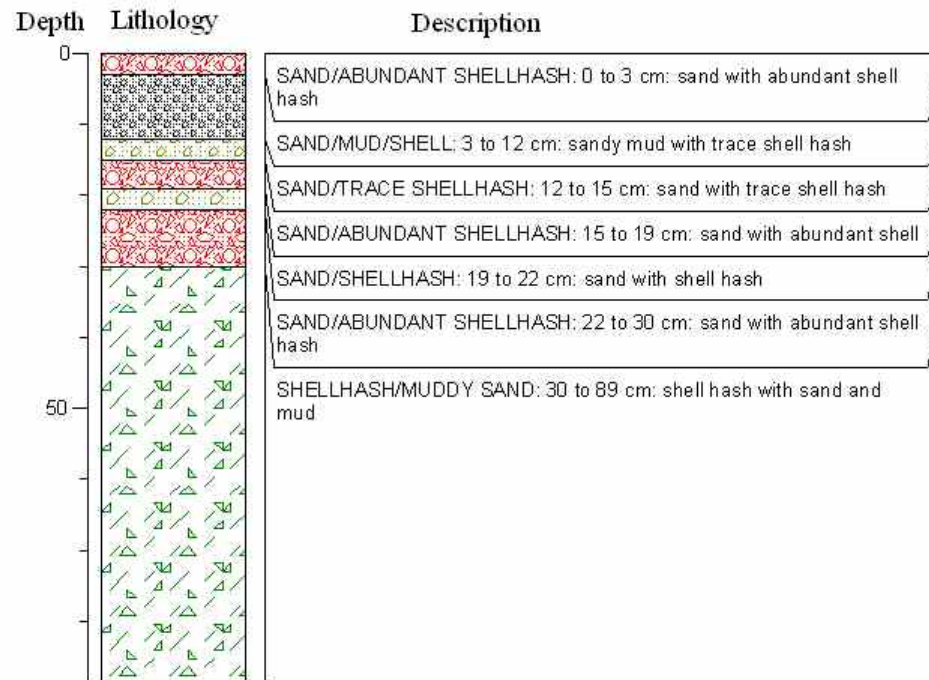


Figure C 101: Computer core log for 21C

Table C 77: Shell and sand weights for core 21C

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
21C	1-10	17.20	40.55	6.71	47.26
21C	21-30	21.62	71.46	5.67	77.13
21C	31-40	71.34	44.62	3.08	47.70
21C	61-70	104.27	11.58	0.78	12.36

Table C 78: Percent shell, sand, silt and clay for core 21C

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
21C	1-10	21.24	58.37	8.07	12.32
21C	21-30	19.90	71.00	4.12	4.98
21C	31-40	57.76	38.62	1.27	2.36
21C	61-70	85.59	10.15	2.27	2.00

Table C 79: RO-TAP data for core 21C

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
21C	1-10	1.4	2.28	3.42	5.28	3.15	1.67	0.77	1.31	3.59	21.28	13.6	6.71
21C	21-30	3.7	4.05	4.69	4.65	3.14	1.39	0.91	2.11	7.55	44.33	16.56	5.67
21C	31-40	25.31	11.16	12.17	12.09	7.29	3.32	1.36	1.64	5.86	26.6	9.16	3.08
21C	61-70	61.9	15.36	10.92	7.68	5.6	2.81	2.26	1.81	2.11	3.62	1.78	0.78

Table C 80: Percent finer data for core 21C

ASTM Classification	coarse sand	med. sand	med. sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt	
Wentworth Classification	granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine sand	very fine silt	
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.4mm/ -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710μm/ 0.5Φ Screen	% finer than N35/ 500μm/ 1.0Φ Screen	% finer than N45/ 355μm/ 1.5Φ Screen	% finer than N60/ 250μm/ 2.0Φ Screen	% finer than N80/ 180μm/ 2.5 Φ Screen	% finer than N125/ 125μm/ 3.0Φ Screen	% finer than N170/ 90μm/ 3.5Φ Screen	% finer than N200/ 75μm/ 3.75Φ Screen	% finer than N230/ 63μm/ 4Φ Screen	% finer than 4μm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
21C	1-10	98.3	95.5	91.2	84.7	80.8	78.8	77.8	76.2	71.8	45.5	28.7	20.4	12.3
21C	21-30	96.6	92.9	88.5	84.3	81.4	80.1	79.3	77.3	70.4	29.6	14.3	9.1	5.0
21C	31-40	79.5	70.5	60.6	50.8	44.9	42.2	41.1	39.8	35.1	13.5	6.1	3.6	2.4
21C	61-70	49.2	36.6	27.6	21.3	16.7	14.4	12.6	11.1	9.3	6.4	4.9	4.3	2.0

Table C 81: Folkian statistic data for core 21C

Station ID	Sample Depth	Average Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(cm)	(Φ)	(mm)	(Φ)	(mm)		
21C	1-10	5.5	3.435	0.0921	2.7365	0.1495	-0.0764	2.9387
21C	21-30	25.5	3.27	0.1032	2.505	0.1756	-0.6402	1.5813
21C	31-40	35.5						
21C	61-70	65.5						

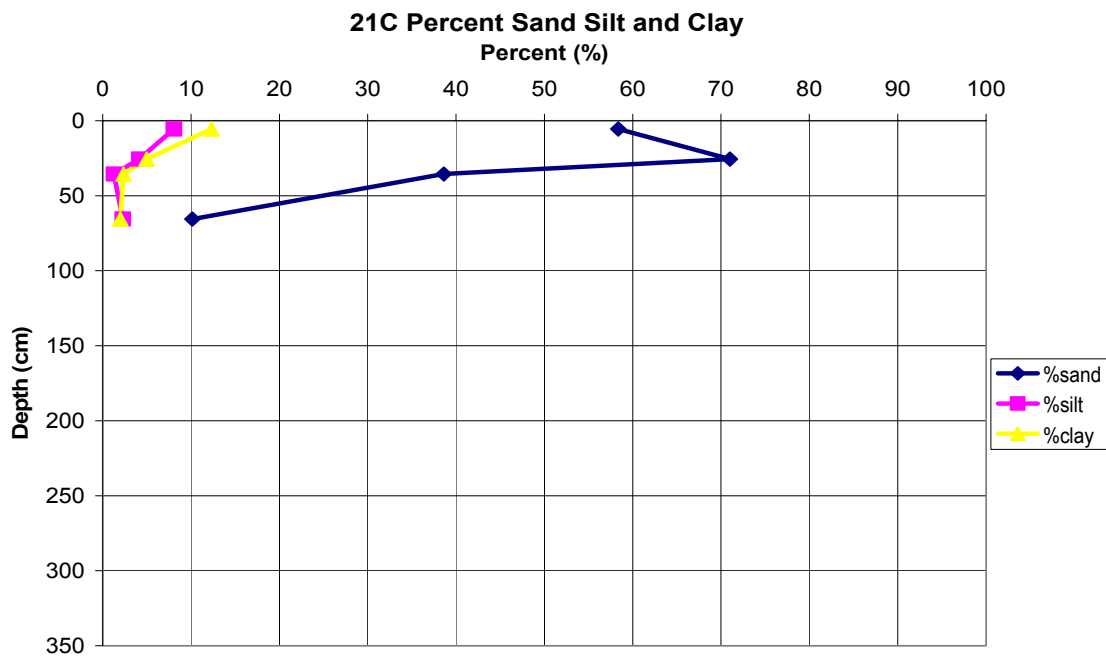


Figure C 102: Percent sand, silt and clay graph for core 21C

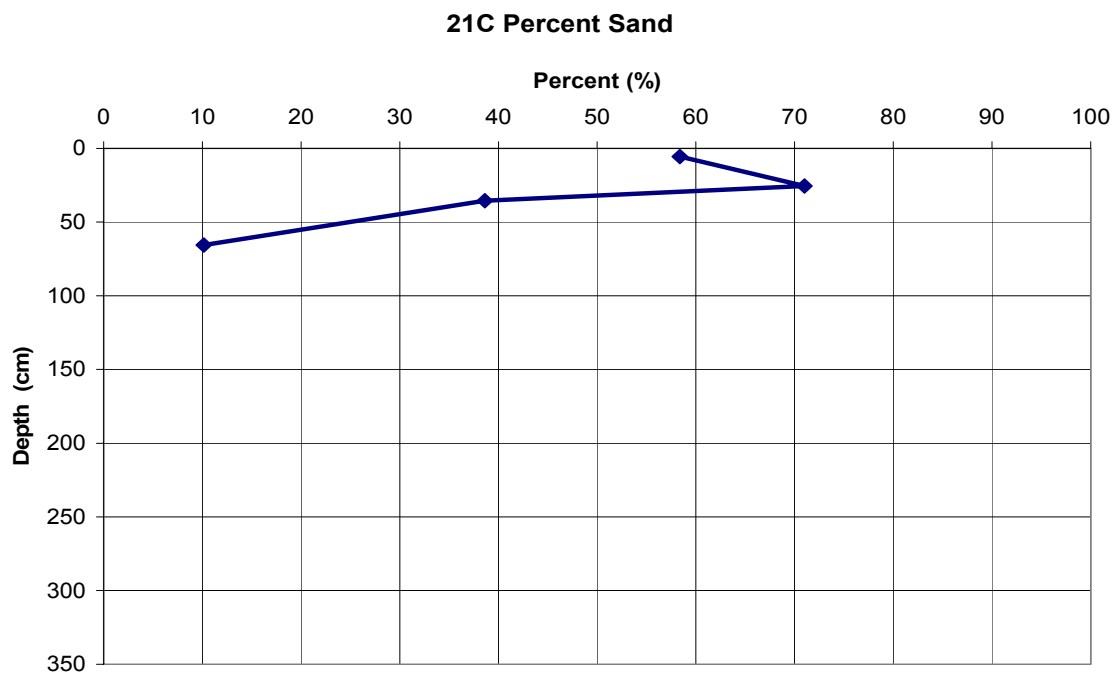


Figure C 103: Percent sand graph for core 21C

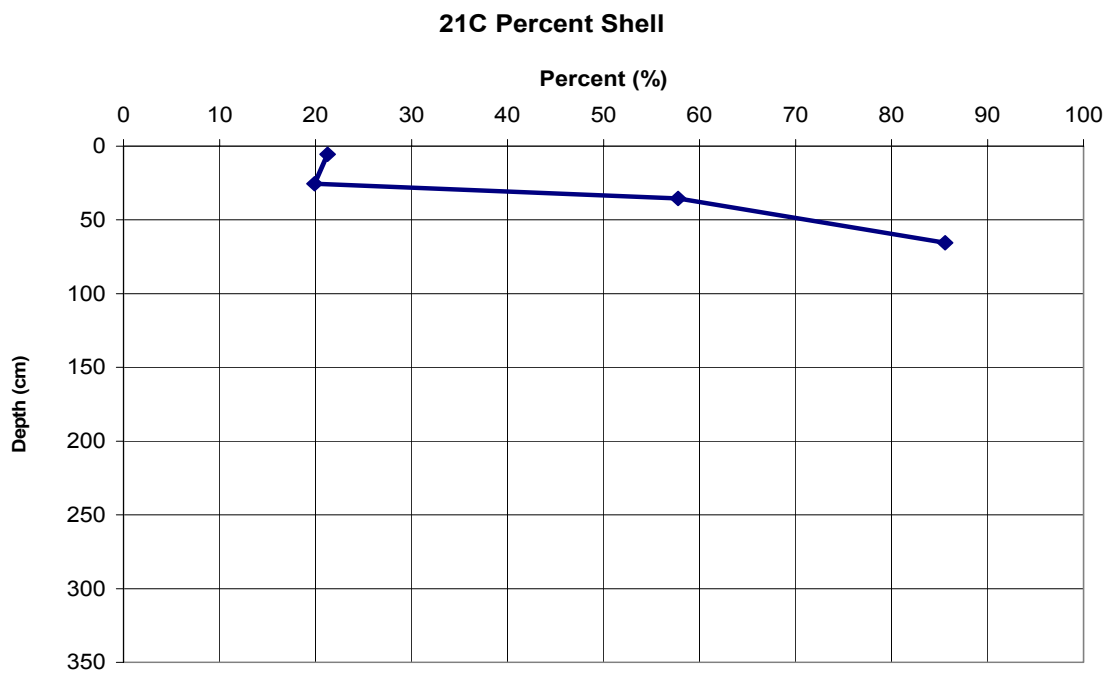


Figure C 104: Percent shell graph for core 21C

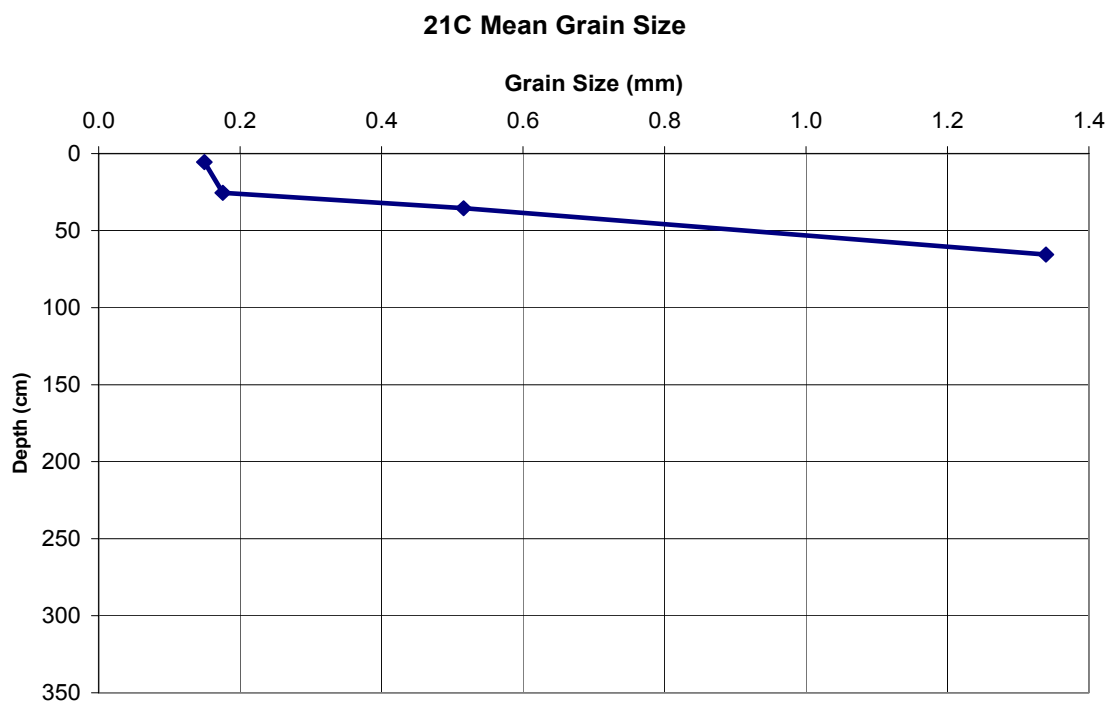


Figure C 105: Mean grain size graph for core 21C

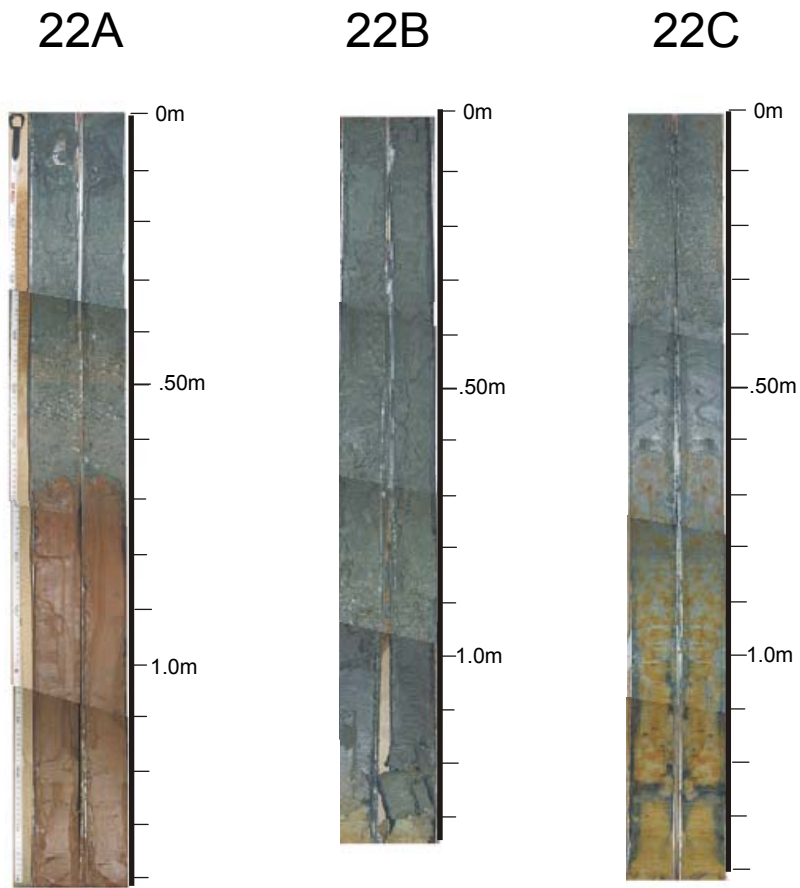


Figure C 106: Core photographs for line 22

Core#: 22 A

Core Date: 07/07/05

Date Split/subsampled	Length: 140 cm
	Lat: 29 06. 117
	Long: 95 05. 141

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-15	5Y 3/1	GS 0-10 cm	0-43 → SAND w/ TRACE SHELL HASH
15-43	5Y 4/1	21-30 cm	43-51 → SAND w/ ABUNDANT SHELL HASH
43-51	5Y 5/1	41-50 cm	51-56 → SHELL HASH w/ SAND
51-56	5Y 4/1	51-56 cm	56-65 → SAND w/ ABUNDANT SHELL HASH
56-65	5Y 5/1	66-76 cm	65-120 → RED BROWN BEAUMONT CLAY w/ SEVERAL SMALL SAND PATCHES AND TRACE SHELL HASH
65-140	5Y 4/5	111-120 cm	120-121 → SHELL HASH LAYER
	5Y 4/4	W/C 0-1 cm	121-140 → RED BROWN BEAUMONT CLAY w/ TRACE SHELL HASH
		10-11 cm	
		20-21 cm	
		30-31 cm	
		40-41 cm	
		50-51 cm	
		60-61 cm	
		70-71 cm	
		80-81 cm	
		90-91 cm	
		100-101 cm	
		110-111 cm	
		120-121 cm	
		130-131 cm	

Figure C 107: Core log for 22A for depths 0-140 cm

Line 22 Site A

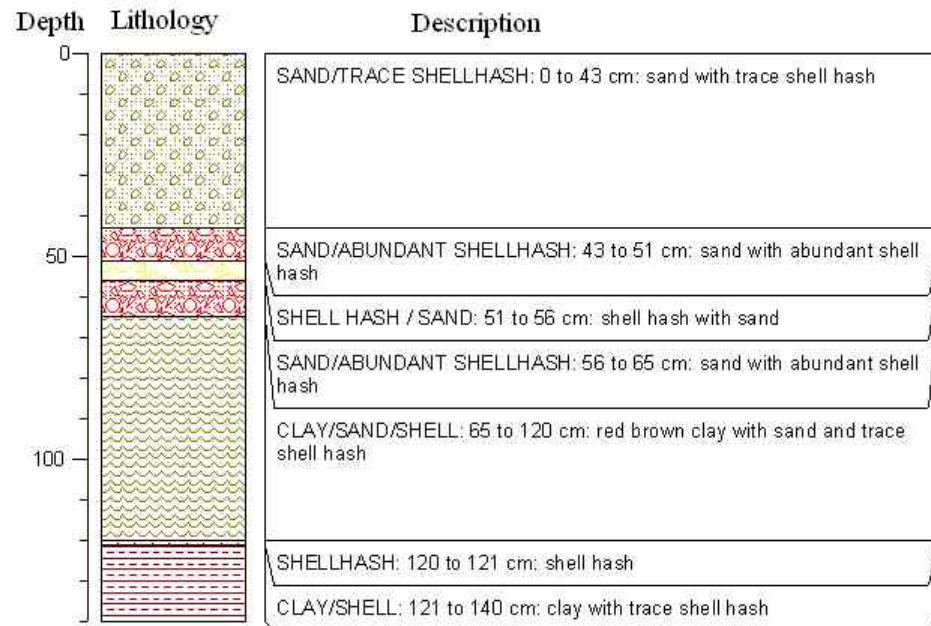


Figure C 108: Computer core log for 22A

Table C 82: Shell and sand weights for core 22A

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
22A	1-10	0.69	91.00	6.91	97.91
22A	21-30	3.21	96.96	3.66	100.62
22A	41-50	24.78	94.68	1.03	95.71
22A	51-56	39.40	55.99	0.38	56.37
22A	56-66	15.82	91.55	0.31	91.86
22A	66-76	0.70	4.07	0.72	4.79
22A	90-100	0.02	0.67	0.15	0.82
22A	111-120	0.02	1.09	0.56	1.65

Table C 83: Percent shell, sand, silt and clay for core 22A

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
22A	1-10	0.67	95.76	2.18	1.39
22A	21-30	2.83	88.56	5.20	3.42
22A	41-50	19.91	76.91	1.59	1.59
22A	51-56	40.20	57.52	0.84	1.44
22A	56-66	14.41	83.70	0.47	1.42
22A	66-76	2.34	16.02	34.69	46.95
22A	90-100	0.07	2.75	39.74	57.44
22A	111-120	0.05	4.15	39.02	56.78

Table C 84: RO-TAP data for core 22A

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
22A	1-10	0.24	0.06	0.17	0.11	0.07	0.04	0.04	0.16	3.06	72.91	14.83	6.91
22A	21-30	1.51	0.59	0.43	0.32	0.21	0.15	0.17	0.64	13.99	69.93	12.23	3.66
22A	41-50	7.34	4.15	3.35	2.99	3.28	3.67	8.18	39.26	26.58	16.71	3.95	1.03
22A	51-56	18.7	6.31	4.22	4.39	2.82	2.96	3.93	19.54	18.52	12.16	1.84	0.38
22A	56-66	7.17	2.25	1.67	1.4	1.62	1.71	6.09	38.97	34.25	10.84	1.4	0.31
22A	66-76						0.70					4.07	0.72
22A	90-100						0.02					0.67	0.15
22A	111-120						0.02					1.09	0.56

Table C 85: Percent Finer data for core 22A

ASTM Classification	coarse sand	med. sand	med. sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt	
Wentworth Classification	granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine silt	
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.4mm/ -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm/ 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm/ 3.5Φ Screen	% finer than N200/ 75µm/ 3.75Φ Screen	% finer than N230/ 63µm/ 4Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
22A	1-10	99.8	99.7	99.5	99.4	99.4	99.3	99.3	99.1	96.1	24.8	10.3	3.6	1.4
22A	21-30	98.7	98.2	97.8	97.5	97.3	97.2	97.0	96.5	84.1	22.6	11.8	8.6	3.4
22A	41-50	94.1	90.8	88.1	85.7	83.0	80.1	73.5	42.0	20.6	7.2	4.0	3.2	1.6
22A	51-56	80.9	74.5	70.2	65.7	62.8	59.8	55.8	35.9	17.0	4.5	2.7	2.3	1.4
22A	56-66	93.5	91.4	89.9	88.6	87.1	85.6	80.0	44.5	13.3	3.4	2.2	1.9	1.4
22A	66-76						97.7					84.0	81.6	46.9
22A	90-100						99.9					97.7	97.2	57.4
22A	111-120						99.9					97.2	95.8	56.8

Table C 86: Folkian statistic data for core 22A

Station ID	Sample Depth	Average Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(cm)	(Φ)	(mm)	(Φ)	(mm)		
22A	1-10	5.5	3.319	0.0998	3.3454	0.098	0.2484	0.2678
22A	21-30	25.5	3.271	0.1032	3.2927	0.1016	0.2733	0.3993
22A	41-50	45						
22A	51-56	53.5						
22A	56-66	61						
22A	66-76	71						
22A	90-100	95						
22A	111-120	115.5						

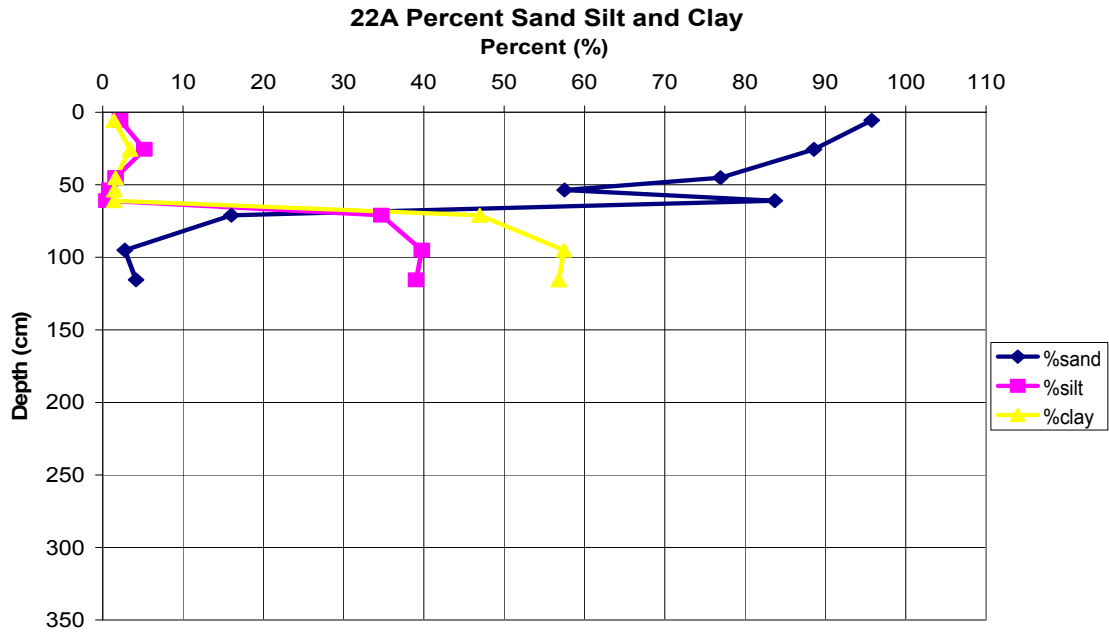


Figure C 109: Percent sand, silt and clay graph for core 22A

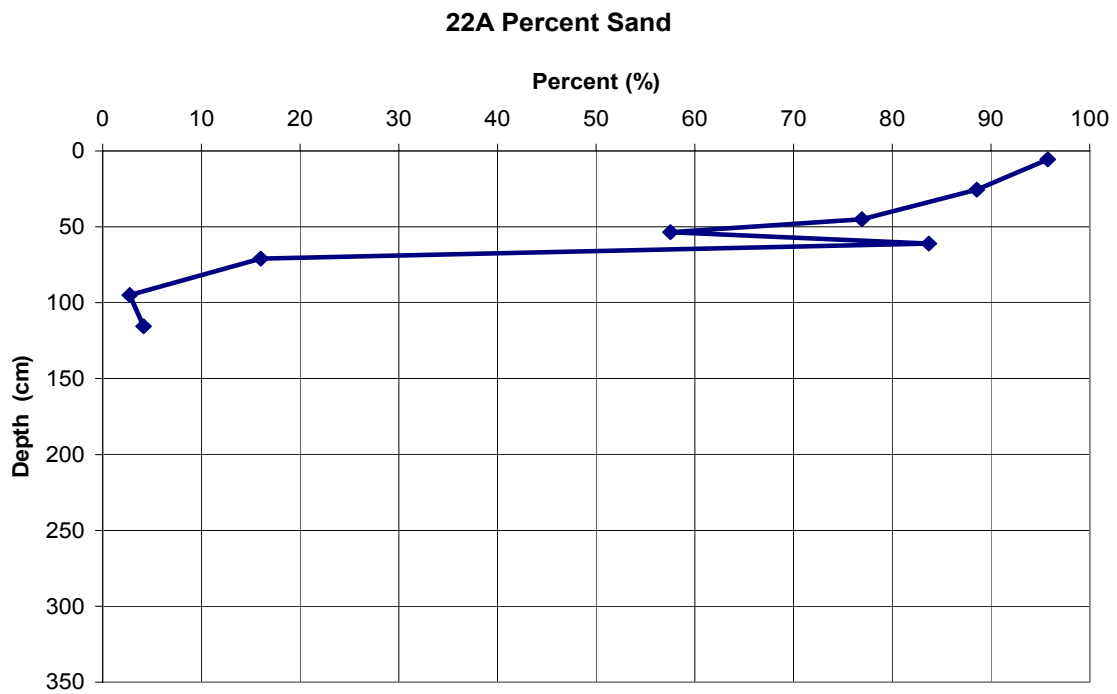


Figure C 110: Percent sand graph for core 22A

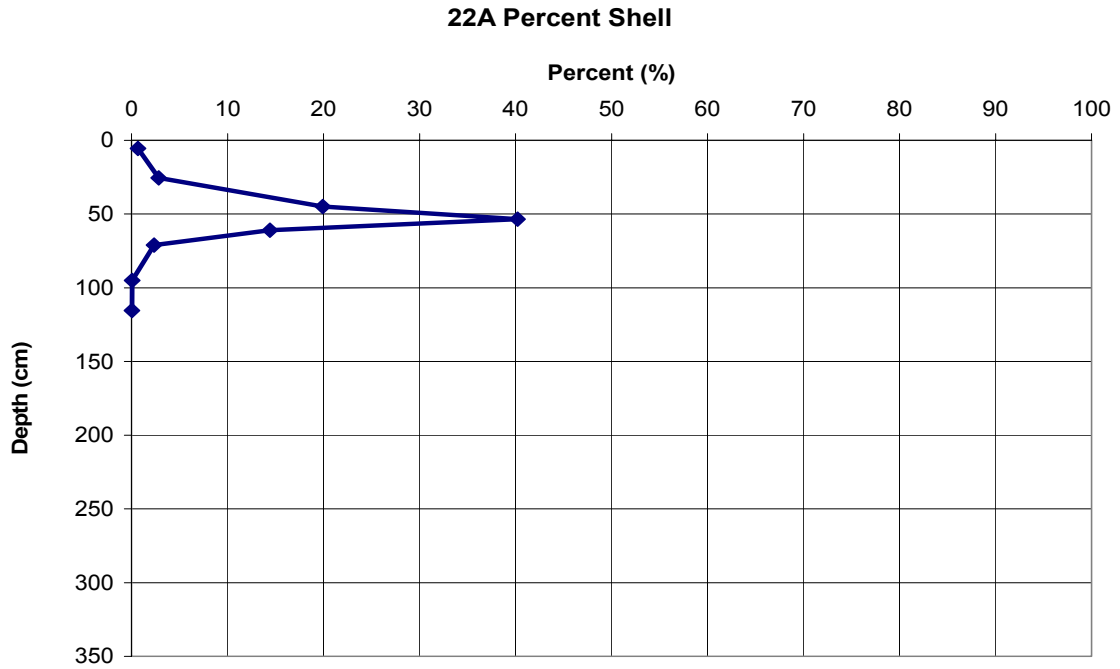


Figure C 111: Percent shell graph for core 22A

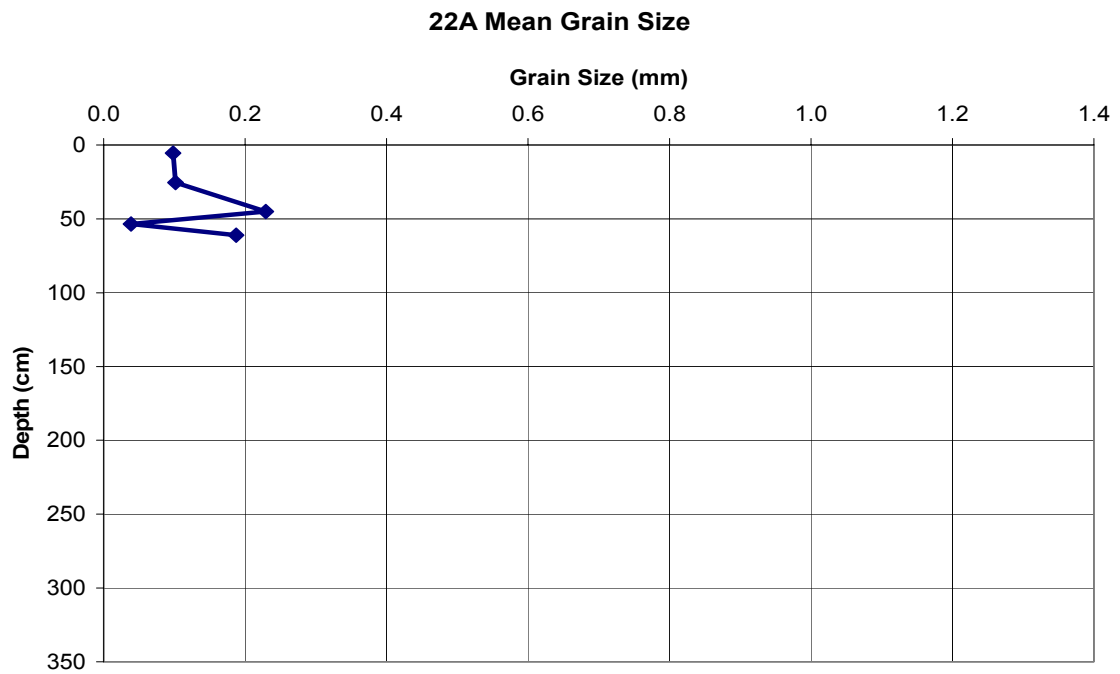


Figure C 112: Mean grain size graph for core 22A

Line 22 Site B

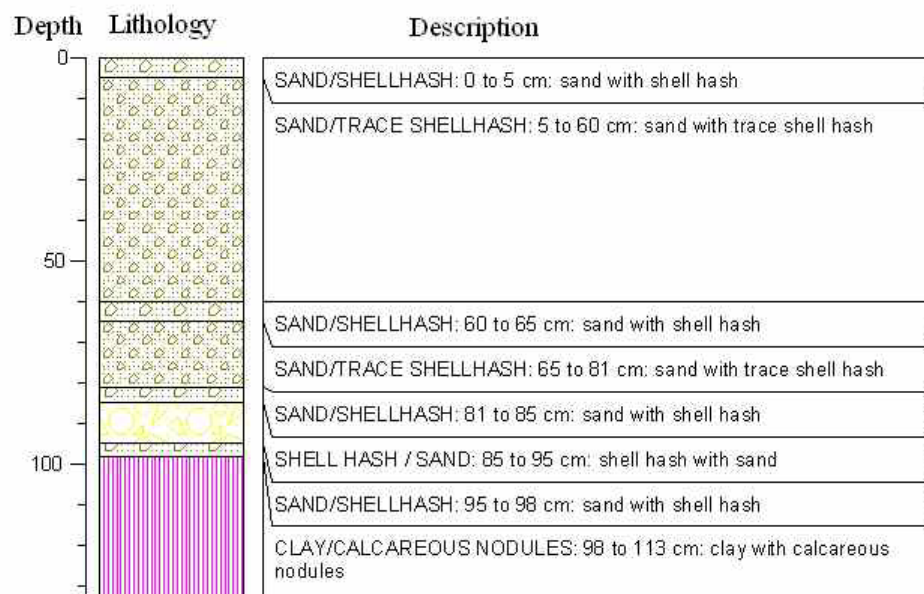


Figure C 114: Computer core log for 22B

Table C 87: Shell and sand weights for core 22B

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
22B	1-5	3.45	69.00	5.84	74.84
22B	11-20	1.59	75.73	5.24	80.97
22B	31-40	0.22	85.81	5.94	91.75
22B	51-60	1.18	71.76	5.02	76.78
22B	61-65	3.38	70.92	3.22	74.14
22B	71-80	1.69	82.47	3.22	85.69
22B	81-85	7.98	61.79	2.36	64.15
22B	85-95	25.24	73.86	3.80	77.66
22B	101-110	1.46	17.35	2.72	20.07
22B	121-130	4.75	11.12	1.55	12.67

Table C 88: Percent shell, sand, silt and clay for core 22B

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
22B	1-5	4.20	91.04	2.45	2.31
22B	11-20	1.85	94.37	0.64	3.15
22B	31-40	0.23	94.96	3.03	1.79
22B	51-60	1.44	93.86	2.89	1.81
22B	61-65	4.14	90.85	3.24	1.77
22B	71-80	1.85	93.55	2.79	1.81
22B	81-85	10.58	85.06	2.76	1.60
22B	85-95	21.64	66.60	6.08	5.68
22B	101-110	2.14	29.45	28.12	40.28
22B	121-130	9.03	24.09	26.89	39.98

Table C 89: RO-TAP data for core 22B

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
22B	1-5	0.05	0.3	0.49	0.76	1.08	0.77	0.45	0.73	6.71	49.42	11.69	5.84
22B	11-20	0.17	0.18	0.24	0.47	0.31	0.22	0.15	0.6	6.32	57.6	11.06	5.24
22B	31-40	0	0.01	0.02	0.05	0.07	0.07	0.13	0.72	7.33	59.65	17.98	5.94
22B	51-60	0.19	0.1	0.16	0.3	0.23	0.2	0.21	1.42	7.42	50.24	12.47	5.02
22B	61-65	1.65	0.25	0.35	0.42	0.4	0.31	0.26	1.07	13.67	45.19	10.73	3.22
22B	71-80	0.28	0.17	0.24	0.35	0.37	0.28	0.2	1.12	21.88	49.43	9.84	3.22
22B	81-85	0.71	1.3	1.8	2.12	1.56	0.49	0.3	1.37	13.1	39.11	7.91	2.36
22B	85-95	10.12	3.09	3.66	4.11	3.12	1.14	1	1.99	15.81	47.9	7.16	3.8
22B	101-110						1.46					17.35	2.72
22B	121-130						4.75					11.12	1.55

Table C 90: Percent finer data for core 22B

ASTM Classification		coarse sand	med. sand	med. Sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt
Wentworth Classification		granule	very coarse sand	Very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine silt
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.4mm/ -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm / 1.5Φ Screen	% finer than N60/ 250µm 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm/ 3.5Φ Screen	% finer than N200/ 75µm/ 3.75Φ Screen	% finer than N230/ 63µm/ 4Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	Shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	silt
22B	1-5	99.9	99.6	99.0	98.1	96.7	95.8	95.3	94.4	86.2	26.1	11.9	4.8	2.3
22B	11-20	99.8	99.6	99.3	98.8	98.4	98.1	98.0	97.3	89.9	22.8	9.9	3.8	3.1
22B	31-40	100.0	100.0	100.0	99.9	99.8	99.8	99.6	98.9	91.3	29.6	11.0	4.8	1.8
22B	51-60	99.8	99.6	99.4	99.1	98.8	98.6	98.3	96.6	87.5	26.1	10.8	4.7	1.8
22B	61-65	98.0	97.7	97.2	96.7	96.2	95.9	95.5	94.2	77.5	22.1	9.0	5.0	1.8
22B	71-80	99.7	99.5	99.2	98.9	98.5	98.2	97.9	96.7	72.8	18.9	8.1	4.6	1.8
22B	81-85	99.1	97.3	94.9	92.1	90.1	89.4	89.0	87.2	69.8	18.0	7.5	4.4	1.6
22B	85-95	91.3	88.7	85.5	82.0	79.3	78.4	77.5	75.8	62.2	21.2	15.0	11.8	5.7
22B	101-110						97.9					72.4	68.4	40.3
22B	121-130						91.0					69.8	66.9	40.0

Table C 91: Folkian statistic data for core 22B

Station ID	Sample Depth	Average Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(cm)	(Φ)	(mm)	(Φ)	(mm)		
22B	1-5	3	3.3	0.1011	3.3245	0.0994	-0.0825	0.4484
22B	11-20	15.5	3.292	0.1017	3.3134	0.1002	0.2036	0.287
22B	31-40	35.5	3.338	0.0985	3.3579	0.0971	0.1735	0.3026
22B	51-60	55.5	3.305	0.1007	3.3259	0.0993	0.1631	0.3174
22B	61-65	63	3.248	0.1048	3.2476	0.1048	-0.0535	0.4246
22B	71-80	75.5	3.205	0.108	3.2017	0.1082	0.0458	0.3781
22B	81-85	83	3.192	0.1089	3.1481	0.1123	-0.395	0.7973
22B	85-95	90						
22B	101-110	105.5						
22B	121-130	125.5						

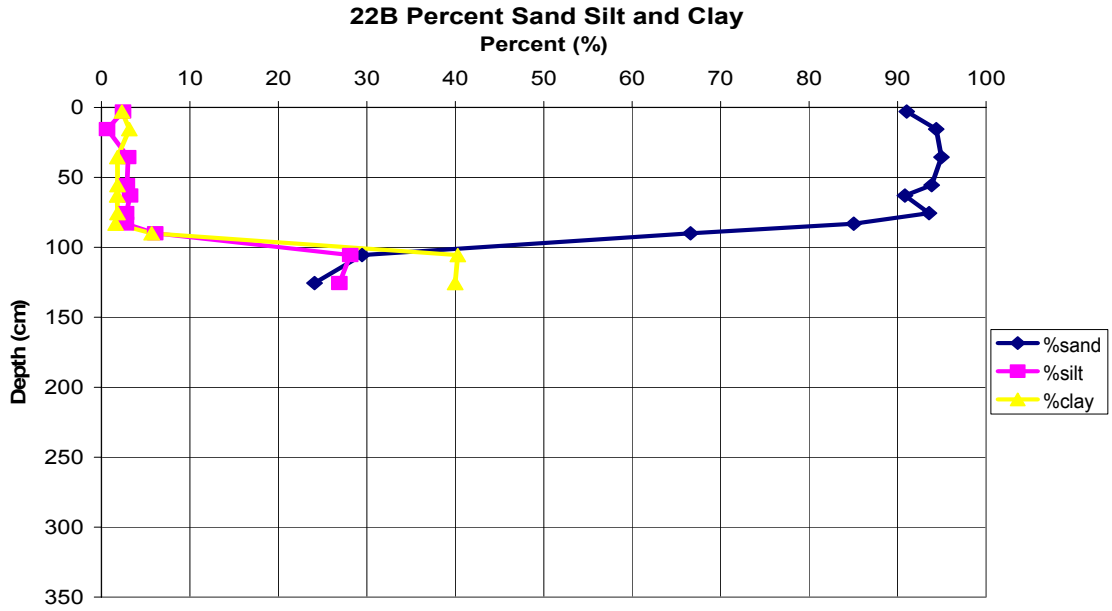


Figure C 115: Percent sand, silt and clay graph for core 22B

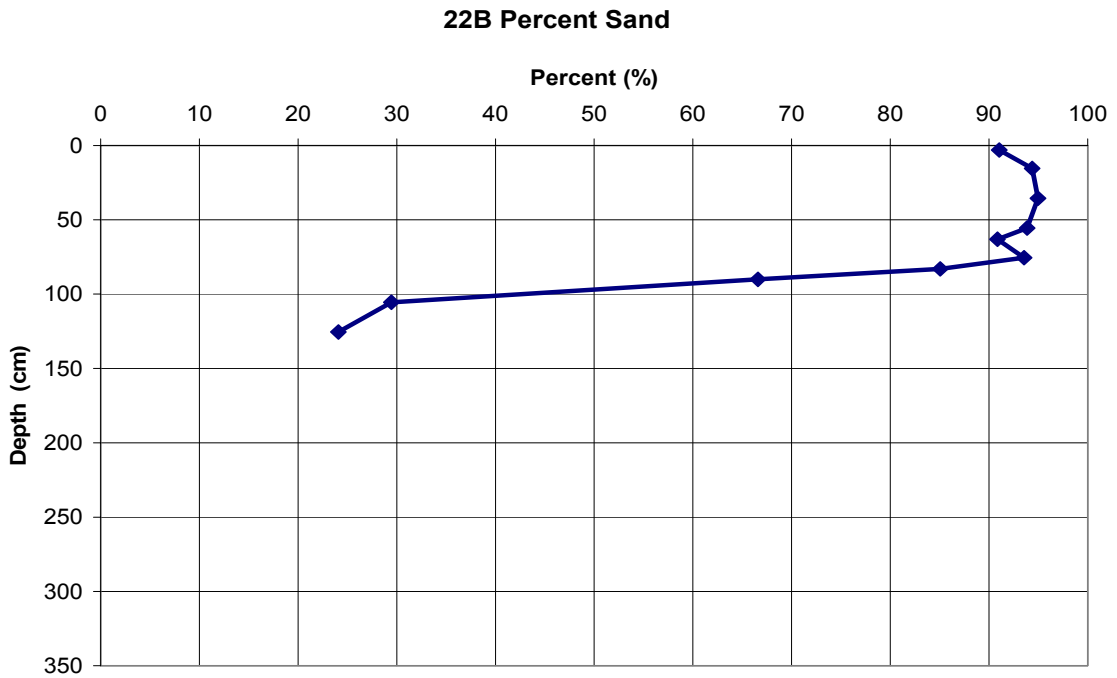


Figure C 116: Percent sand graph for core 22B

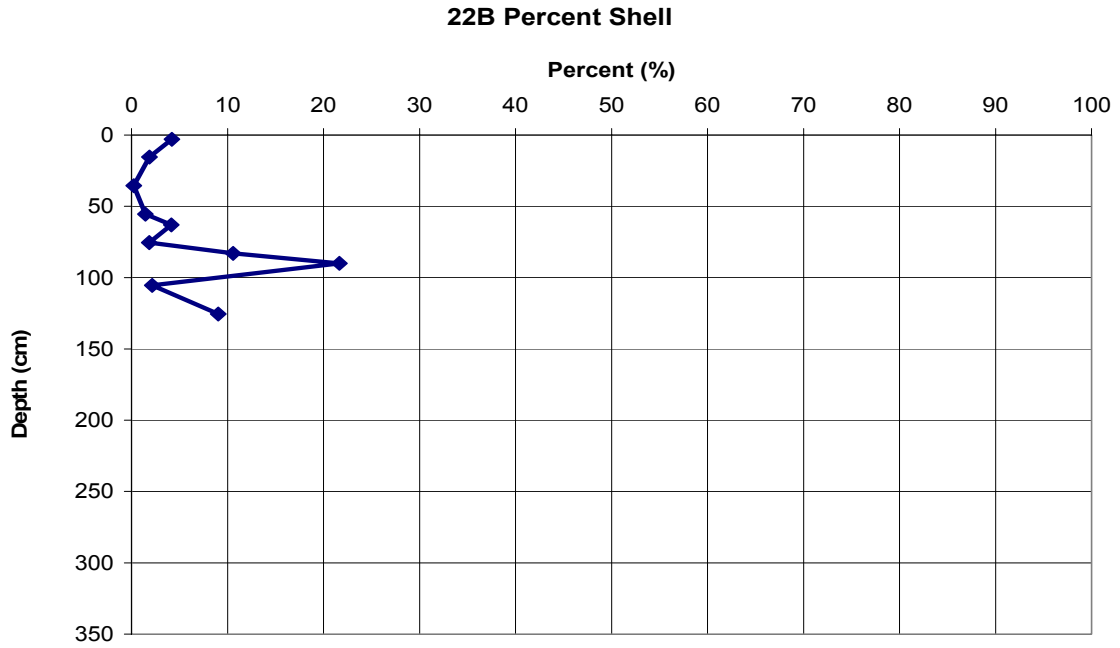


Figure C 117: Percent shell graph for core 22B

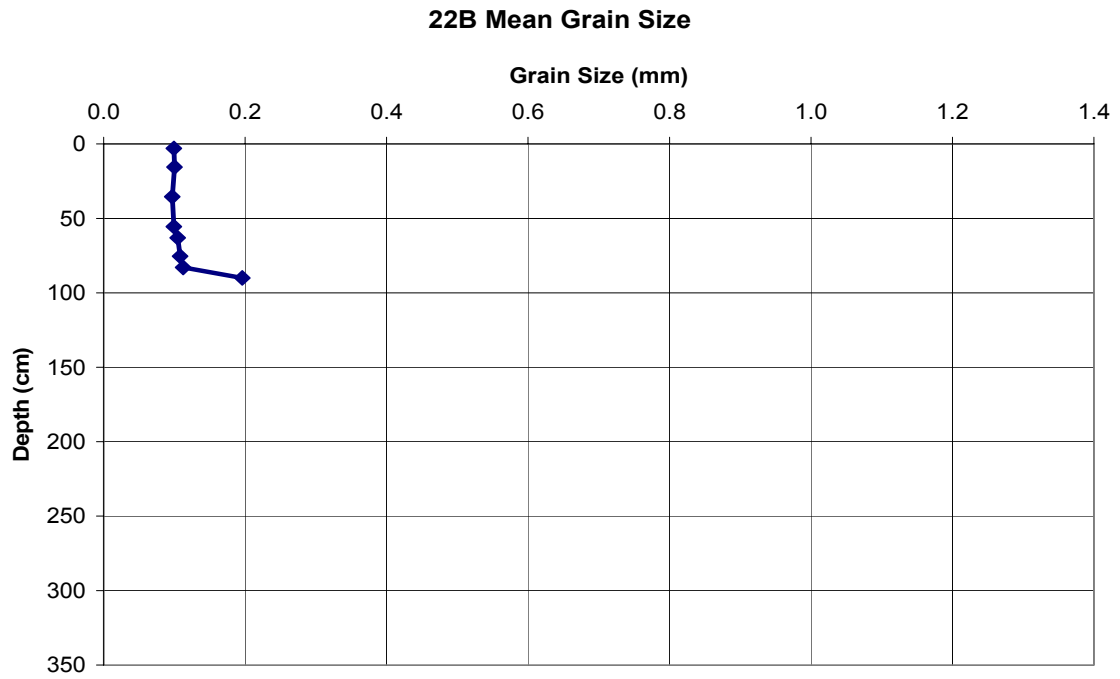


Figure C 118: Mean grain size graph for core 22B

Core#: 22 C

Core Date: 07/07/05

Date Split/subsampled	Length: <u>140 cm</u>
<u>12/12/05</u>	Lat: <u>29 05.646</u>
	Long: <u>96 04.780</u>

Centi-Meters	Munsell Soil Color	Depths Sampled	Description:
0-37	5Y 5/1	GS 1-10 cm	0-19 → SAND w/ SHELL HASH
37-62	5Y 4/1	21-30 cm	19-28 → SAND w/ ABUNDANT SHELL HASH
62-140	5Y 3/1	31-40 cm	28-37 → SHELL HASH w/ SAND
	5Y 6/2	41-50 cm	37-62 → SILT DOMINATED MUD w/ SMALL SAND PATCHES & LAYERS AND SHELL HASH PATCHES
	2.5YR 4/4	51-60 cm	
	10YR 5/4	61-70 cm	62-140 → MULTICOLORED BAMBURGH CLAY w/ SMALL SAND PATCHES AND TRACE SHELL HASH
		71-80 cm	- COLOR DOMINATED BY GREY. RANGES FROM GREY/RED/ORANGE/YELLOW
		81-90 cm	
		91-100 cm	
		131-140 cm	
		WC	
		0-1 cm	
		10-11 cm	
		20-21 cm	
		30-31 cm	
		40-41 cm	
		50-51 cm	
		60-61 cm	
		70-71 cm	
		80-81 cm	
		90-91 cm	
		100-101 cm	
		110-111 cm	
		120-121 cm	
		130-131 cm	
		140-141 cm	

Figure C 119: Core log for 22C for depths 0-140 cm

Line 22 Site C

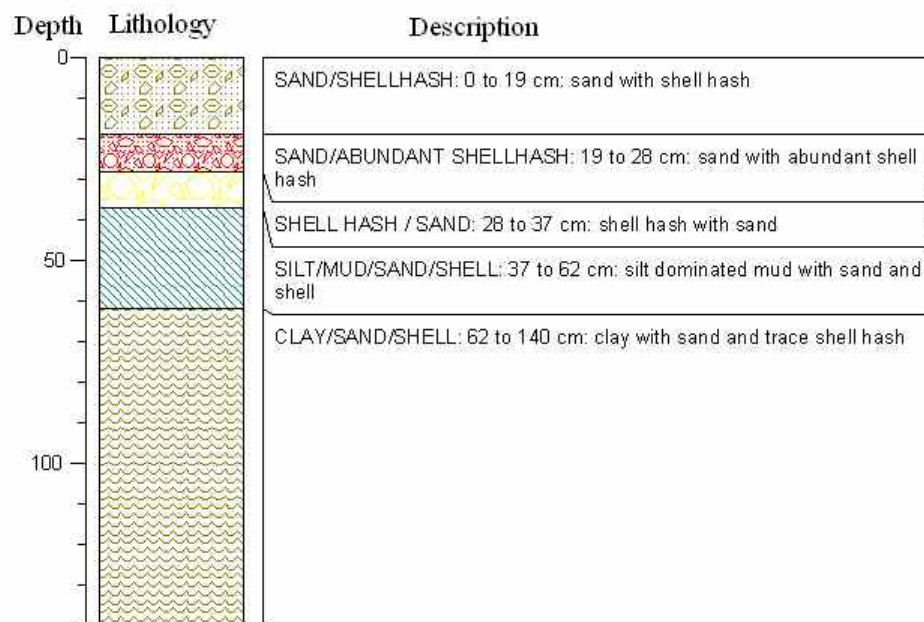


Figure C 120: Computer core log for 22C

Table C 92: Shell and sand weights for core 22C

Core ID	Sample Depth (cm)	shell weight (g)	200+ weight (g)	200-230 weight (g)	overall sand weight (g)
22C	1-10	2.20	77.56	5.95	83.51
22C	21-30	20.45	64.45	2.95	67.40
22C	31-40	14.75	23.82	2.27	26.09
22C	41-50	0.42	0.90	2.06	2.96
22C	51-60	1.25	7.70	1.93	9.63
22C	61-70	1.00	11.31	1.98	13.29
22C	71-80	0.04	11.51	1.56	13.07
22C	81-90	0.02	15.77	2.32	18.09
22C	91-100	0.02	20.20	2.04	22.24
22C	131-140	1.79	28.10	2.22	30.32

Table C 93: Percent shell, sand, silt and clay for core 22C

Core ID	Sample Depth (cm)	% shell	% sand	%silt	%clay
22C	1-10	2.30	87.33	4.55	5.82
22C	21-30	21.45	70.69	4.32	3.55
22C	31-40	19.50	34.50	18.50	27.50
22C	41-50	1.24	8.77	38.40	51.59
22C	51-60	2.94	22.66	29.13	45.27
22C	61-70	2.34	31.06	32.09	34.52
22C	71-80	0.12	38.41	19.94	41.53
22C	81-90	0.05	41.95	24.81	33.19
22C	91-100	0.05	54.86	21.57	23.52
22C	131-140	3.73	63.12	16.29	16.86

Table C 94: RO-TAP data for core 22C

Core ID	Sample Depth (cm)	N10/ 2.0mm Screen Sample Weight (g)	N14/ 1.40mm Screen Sample Weight (g)	N18/ 1.00mm Screen Sample Weight (g)	N25/ 710µm Screen Sample Weight (g)	N35/ 500µm Screen Sample Weight (g)	N45/ 355µm Screen Sample Weight (g)	N60/ 250µm Screen Sample Weight (g)	N80/ 180µm Screen Sample Weight (g)	N125/ 125µm Screen Sample Weight (g)	N170/ 90µm Screen Sample Weight (g)	N200/ 75µm Screen Sample Weight (g)	N230/ 63µm Screen Sample Weight (g)
22C	1-10	0.05	0.2	0.34	0.57	0.62	0.42	0.22	0.99	10.94	49.58	15.83	5.95
22C	21-30	2.27	1.25	3.55	6.19	5.28	1.91	0.37	0.49	5.71	45.84	12.04	2.95
22C	31-40						14.75					23.82	2.27
22C	41-50						0.42					0.90	2.06
22C	51-60						1.25					7.70	1.93
22C	61-70						1.00					11.31	1.98
22C	71-80						0.04					11.51	1.56
22C	81-90						0.02					15.77	2.32
22C	91-100						0.02					20.20	2.04
22C	131-140						1.79					28.10	2.22

Table C 95: Percent finer data for core 22C

ASTM Classification	coarse sand	med. sand	med. sand	med. sand	med. sand	fine sand	fine sand	fine sand	fine sand	fine sand	fine sand		silt	
Wentworth Classification	granule	very coarse sand	very coarse sand	coarse sand	coarse sand	med. sand	fine sand	fine sand	fine sand	fine sand	very fine sand	very fine sand	very fine silt	
Core ID	Sample Depth (cm)	% finer than N10/ 2.0mm/ -1.0Φ Screen	% finer than N14/ 1.4mm/ -0.5Φ Screen	% finer than N18/ 1.0mm/ 0.0Φ Screen	% finer than N25/ 710µm/ 0.5Φ Screen	% finer than N35/ 500µm/ 1.0Φ Screen	% finer than N45/ 355µm / 1.5Φ Screen	% finer than N60/ 250µm/ 2.0Φ Screen	% finer than N80/ 180µm/ 2.5 Φ Screen	% finer than N125/ 125µm/ 3.0Φ Screen	% finer than N170/ 90µm/ 3.5Φ Screen	% finer than N200/ 75µm/ 3.75Φ Screen	% finer than N230/ 63µm/ 4Φ Screen	% finer than 4µm/ 8Φ
Observed Contents of the sample		shell only	shell only	shell only	shell only	shell only	shell only	shell only	sand	sand	sand	sand	sand	Silt
22C	1-10	99.9	99.7	99.4	98.8	98.1	97.7	97.5	96.4	85.0	33.1	16.6	10.4	5.8
22C	21-30	97.6	96.3	92.6	86.1	80.6	78.6	78.2	77.6	71.7	23.6	11.0	7.9	3.5
22C	31-40						80.5					49.0	46.0	27.5
22C	41-50						98.8					96.1	90.0	51.6
22C	51-60						97.1					78.9	74.4	45.3
22C	61-70						97.7					71.2	66.6	34.5
22C	71-80						99.9					66.1	61.5	41.5
22C	81-90						100.0					63.4	58.0	33.2
22C	91-100						100.0					50.1	45.1	23.5
22C	131-140						96.3					37.8	33.2	16.9

Table C 96: Folkian statistic data for core 22C

Station ID	Sample Depth	Average Depth	Median Grain Size	Median Grain Size	Mean Grain Size	Mean Grain Size	Skewness	Sorting Index
	(cm)	(cm)	(Φ)	(mm)	(Φ)	(mm)		
22C	1-10	5.5	3.34	0.0983	3.3727	0.0961	0.5043	1.6306
22C	21-30	25.5	3.238	0.1055	2.5055	0.1755	-0.5813	1.4874
22C	31-40	35.5						
22C	41-50	45.5						
22C	51-60	55.5						
22C	61-70	65.5						
22C	71-80	75.5						
22C	81-90	85.5						
22C	91-100	95.5						
22C	131-140	135.5						

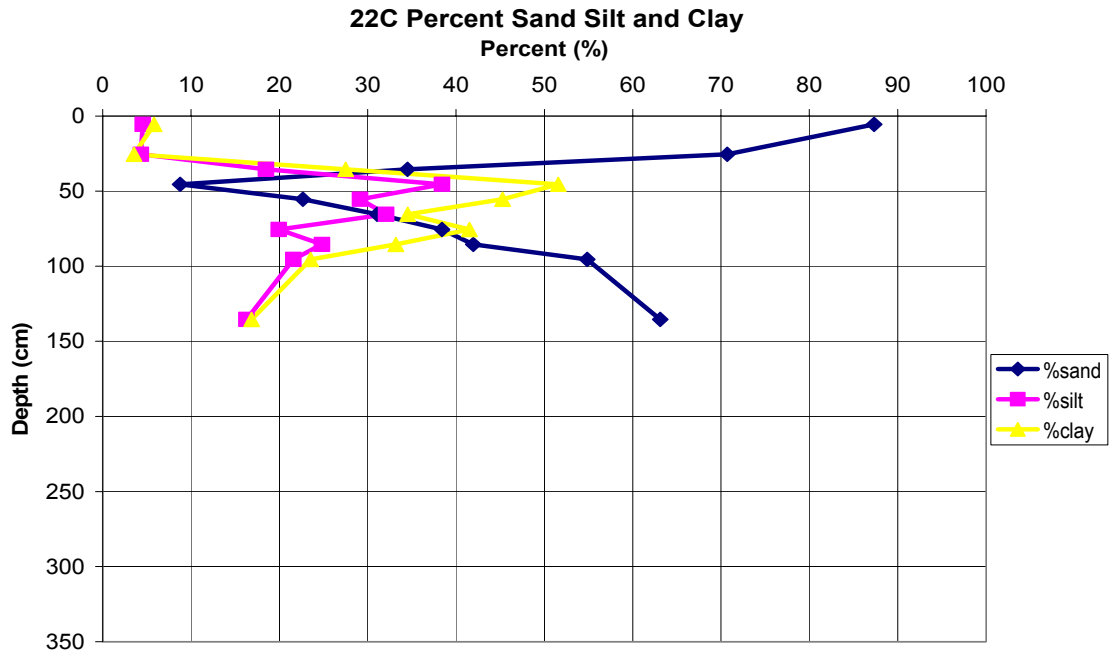


Figure C 121: Percent sand, silt and clay graph for core 22C

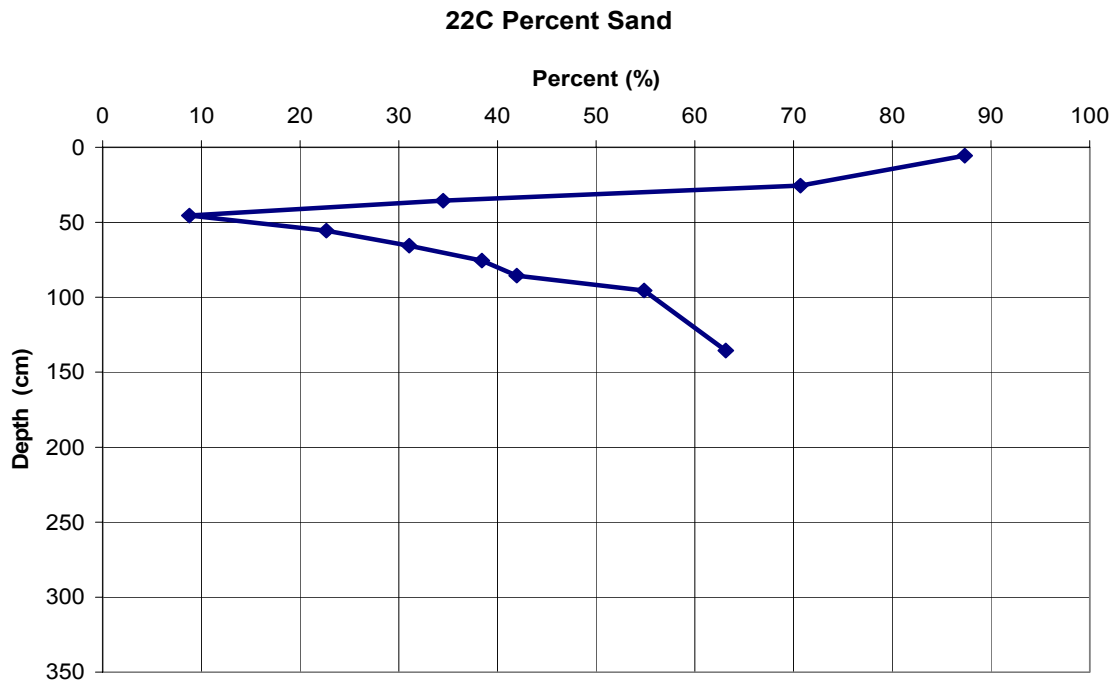


Figure C 122: Percent sand graph for core 22C

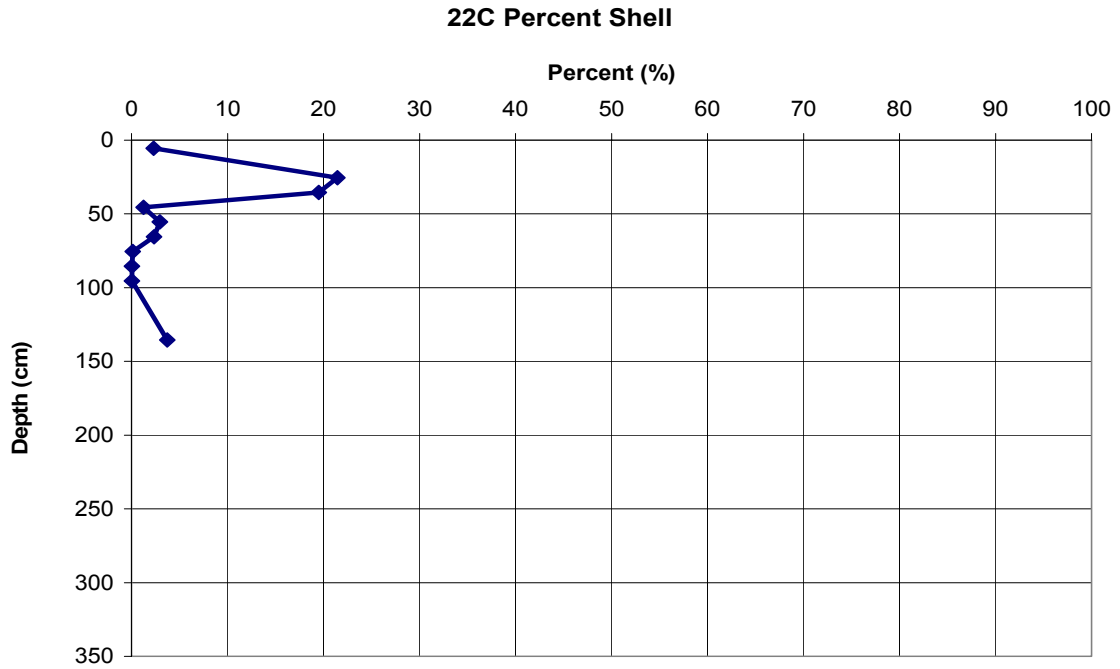


Figure C 123: Percent shell graph for core 22C

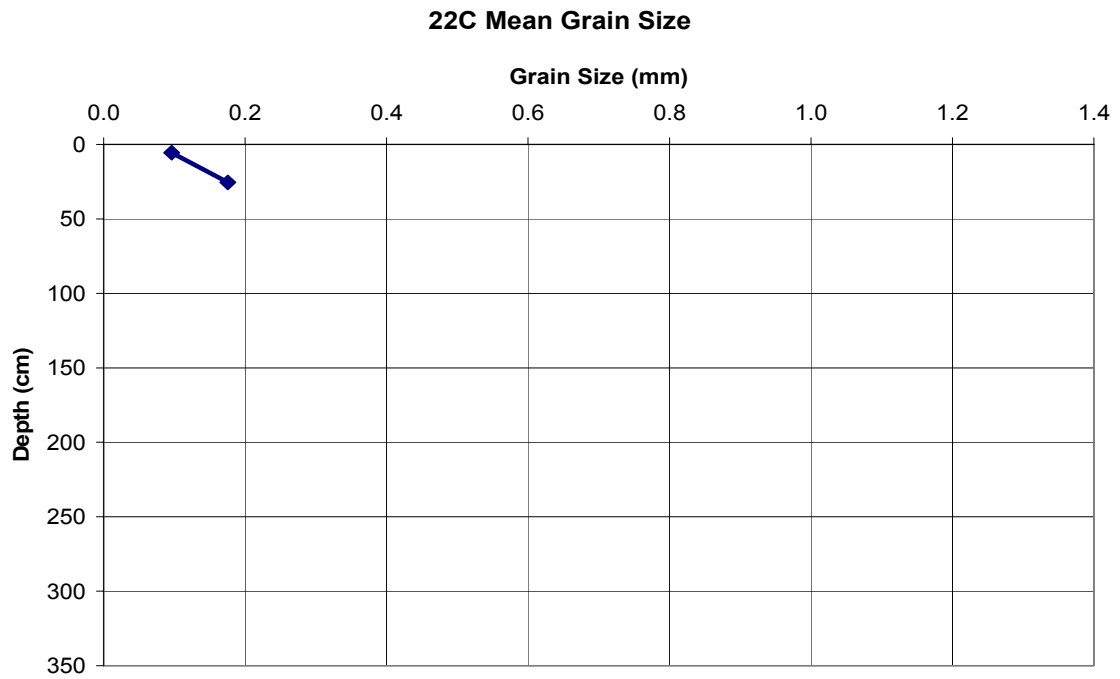


Figure C 124: Mean grain size graph for core 22C

VITA

Name: Jennifer Lynn Pitkewicz

Address: 1001 Texas Clipper Rd. Suite 710, Galveston, TX 77554

Email Address: jpitkewi@aol.com

Education: B.S., Geology, State University of New York at Stony Brook, 2003
 M.S., Oceanography, Texas A&M University, 2006

Publications: DELLAPENNA, T.M., **PITKEWICZ, J.L.**, OERTLING, T., 2006. Report of the Results of Galveston Sand Source Study Phase 1: Field Investigation – Results for the Jamaica Beach Potential Borrow Site. *Texas General Land Office Technical Report*.

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