14. GRAIN SIZE ANALYSIS

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METHODS

Standard methods of grain size analysis are outlined in the project manual. In general, the methods consist of sediment dispersal in Calgon solution or other suitable fluid using an ultrasonic probe, sieving the sand fraction, and pipetting the silt and clay fractions.

SHIPBOARD SAMPLING PROCEDURES

One sample, consisting of about 10 cubic centimeters, was taken from most opened sections of the cores. The unsampled cores either were not opened or were too highly deformed for representative sampling. Personal judgment influenced sampling so that one should not consider the data in the accompanying tables as random or stratified random samples. Generally, the coarser sediments were sampled in turbidite layers; and, in a few cores, ashy strata were sampled rather than more representative beds.

NOMENCLATURE

The size analyses are plotted on a triangular diagram which has sand, silt and clay as the end points. According to the sediment nomenclature proposed by the Leg 5 geologists, the word mud might be synonymous with clay. However, in this section, the word clay will be used for materials in the clay-size range. In many samples, the clay fraction is composed entirely of nannofossils which is compositionally misleading if the triangular diagrams alone are studied. Also, much of the sand and silt-sized materials are not of terrigenous origin, but may be composed of radiolarian tests, diatom frustules, foraminiferal tests, volcanic glass, zeolites and manganese micronodules. The occurrences of these components in the cores are discussed in the following section.

RESULTS

Triangle diagrams based on the results of grain size analyses from each site are given as Figure 1. A complete list of results is presented as Table 1.

Site 32

At Site 32, clay-sized components make up 55 per cent of thirty-four samples while sands and silts comprise 6 per cent and 39 per cent, respectively. Most sediments are of terrigenous origin. However, "red" clay near the bottom of the hole and planktonic siliceous fossils in the upper part, are notable exceptions. The sand-sized components are terrigenous sand grains, tests of siliceous fossils, glass shards, spherical or oval-shaped glassy objects, and phillipsite. Each of the components becomes a major contributor in certain parts of the hole. Silt-sized components apparently have the same diversity of origins as the sands.

Terrigenous turbidite sands are the major contributors to the sand fractions of Cores 1 and 5, and are minor parts of Core 3. A coarse-grained turbidite bed in Section 5 of Core 1 contains 53.6 per cent sand. Also, a sample from Section 1 of Core 1 has a large amount of sand (30.6 per cent) and silt (65.5 per cent) of terrigenous origin. In Cores 3 and 6, siliceous fossils may be important components in the coarser fractions, even though the sand fraction comprises less than 2 per cent of the sample. Although some glass shards were noted in the first seven cores, they are not believed to be significant contributors. Below Core 7, specifically in Cores 8 and 9, the glass content increases. The high sand content in Section 3 of Core 8 was caused by biased sampling of an ash bed; Section 6 of the same core also has a high proportion of glass. Section 2 of Core 10 has a high sand content (10.6 per cent) that is probably due to the abundance of spherical and oval-shaped glassy objects, which are described elsewhere in this volume by von der Borch. In Core 11 and in the upper four sections of Core 12, the sandy parts are predominantly phillipsite and terrigenous grains. Origins of silts and clays are more difficult to determine; however, some clay in Core 3 is composed of nannofossils.

The diverse origins of the sand-sized components at Site 32 should emphasize that there is a need to use caution in interpreting the results from grain size analyses and, also, that the graphic logs should be inspected carefully before conclusions are formulated.

Site 33

Sediments at Site 33 are predominantly fine-grained. Of thirty-seven samples, 2 per cent is sand, 33 per cent is silt, and 65 per cent is clay. Compositionally, sand-sized particles are foraminifera, siliceous fossils, pyrite spherules, glass and terrigenous sands. Coarse-grained turbidites were not cored. In the upper four cores, foraminiferal tests and siliceous fossils comprise

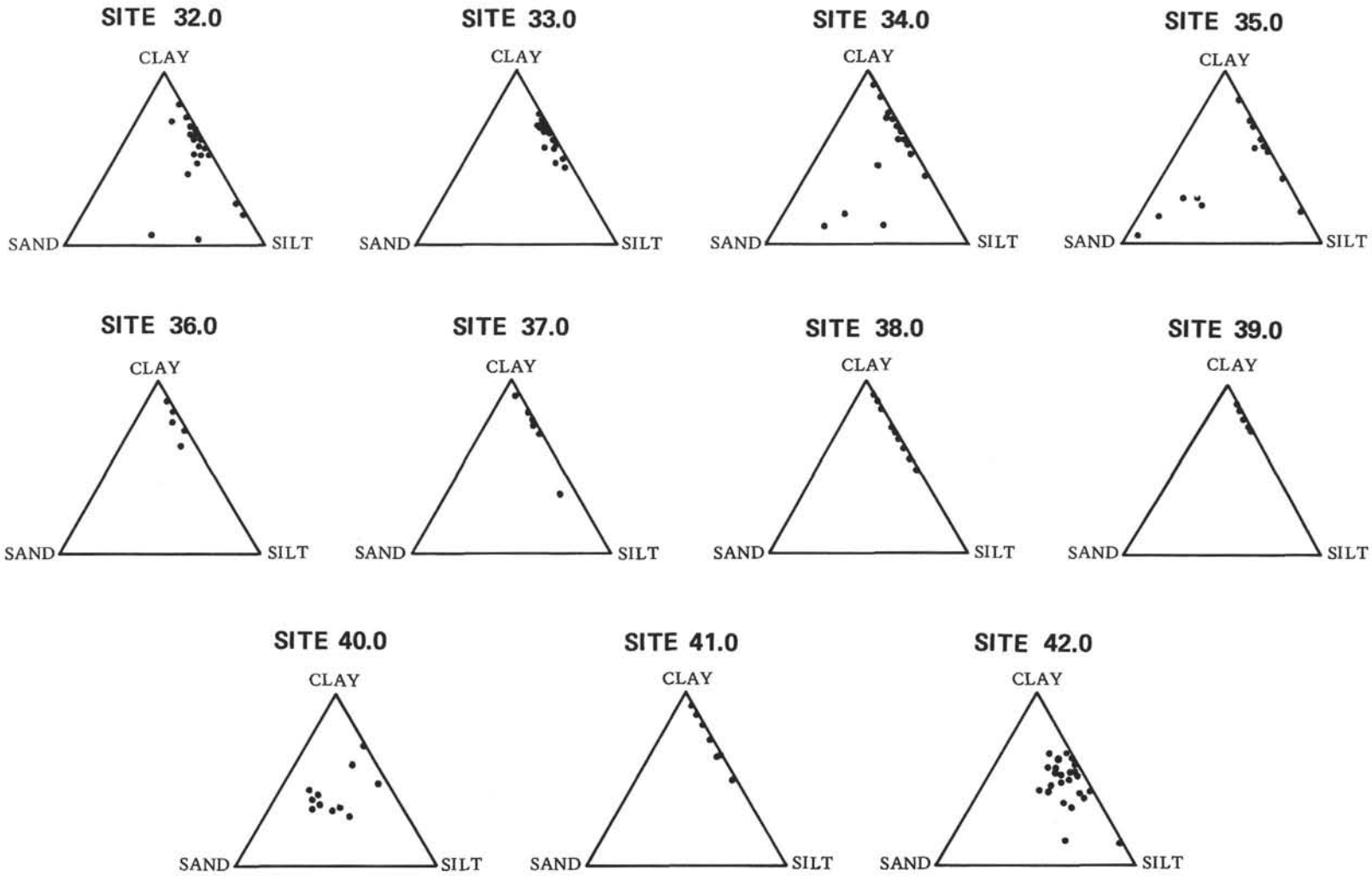

Figure 1. *Results of grain size analyses of samples from core collected on Leg 5.*

most of the sand-sized components. In Section 1 of Core 3, a 5.2 per cent sand fraction shows the added influence of some terrigenous material. High sand contents (3.1 and 4.2 per cent) in Cores 5 and 6 probably result from foraminiferal tests and siliceous fossils. Higher sand percentages in Core 8 can be attributed to siliceous fossils, some fresh feldspars and small amounts of glass. Pyritized radiolarian tests and irregular concretionary objects occur in dark gray to black streaks in Section 5 of Core 10. This particular sample was selected to help determine the nature of the dark streaks and should nearly represent a maximum concentration for the pyrite spherules (8.8 per cent). High sand content in Core 12 is caused by the presence of volcanic glass and siliceous fossils. Both samples from Core 12 also have a high silt content. High clay content in Core 9 may be due to the abundance of nannofossils in this interval.

Site 34

Sand comprises 4.5 per cent of the sediments sampled at Site 34, while silt and clay form 32 and 63.5 per cent, respectively. Terrigenous components are dominant, but siliceous fossils and nannofossils are important contributors to some cores. Only the first 12 cores were sampled for grain size analyses.

Turbidite sands comprise a significant part of Core 6. In Section 5 of Core 6, fine-grained sand contributes more than 65 per cent. Volcanic ash in Core 5 may be part of the sand fraction. In Cores 7, 8 and 9, the sand content ranges from 1.0 to 5.3 per cent. Terrigenous particles, volcanic ash and siliceous fossils all contribute to the sand. Nannofossils become important fractions in Cores 10, 11 and 12, where the clay content increases and sand percentages are small.

Site 35

The influence of deposition from turbidity currents has greatly affected sedimentation at Site 35. In the nineteen samples taken here, five contained more than 50 per cent sand. Six others had high silt contents (over 40 per cent). High sand percentages in Cores 5 and 6 (89 and 73 per cent) probably are representative of sands from most unopened sections of Cores 4, 5 and 6. The sample with 89 per cent sand is coarse-grained and relatively well-sorted.

Laminated muds which separate the coarse-grained turbidites have low sand percentages and high clay contents. Glass shards are rare in the cores of Site 35.

Site 36

Biogenous cores comprise about 80 per cent of the column, and muds make up the other 20 per cent at Site 36. Grain size analyses from nine samples average 2 per cent sand, 21 per cent silt and 77 per cent clay. Sand content ranges from 0.2 to 7.3 per cent. Silt percentages range from 11.1 to 30.9 per cent, and clay content ranges from 61.8 to 88.7 per cent. All sediments are classified as clays or silty clays.

The reasons for the high sand content in Section 6 of Core 10 are not known. The sample was taken from a mud nannofossil ooze, and the sand fraction may be glass or tests of foraminifera. Cores 10, 11 and 12 have high clay contents. Some clays are nannofossil ooze and other clays are muds of terrigenous origin. Grain size analyses do not show differences between these fine-grained components.

Site 37

Pelagic "red" clay is the dominant lithology at Site 37. The sand and silt content depends on the presence of manganese micronodules, zeolites, quartz grains and altered glass.

Quartz grains account for most of the silt-sized grains in Core 1. Managanese micronodules apparently are responsible for the high sand content in Sections 2 and 3 of Core 2, and Sections 3, 4 and 5 of Core 3. Phillipsite probably contributes to the high silt content in some sections of Core 3. However, the high silt content in Core 4 can be attributed to altered glass and irregular grains of iron-stained fragments.

The average sand content of the 16 samples is 1.6 per cent. Silt and clay percentages average 21.2 and 77.2 per cent, respectively. High clay content reflects the pelagic sedimentation.

Site 38

Except for the bottom nine meters, the sediments at Site 38 are composed of "red" clay. The bottom nine meters are a mixture of foraminiferal nannofossil ooze and "red" clay.

Sand content is low (average 0.5 per cent). Silt and clay fractions average 26.0 and 73.5 per cent, respectively. These averages emphasize the abundance of fine-grained particles in the sedimentary column. In Core 3, sand content reaches 1.5 per cent, and silt comprises as much as 45 per cent of the samples. These coarser components may be twinned clusters and micronodules of phillipsite, and iron-stained fragments of unknown origin.

Site 39

Sediments at Site 39 are classified as clays and silty clays. Sand averages only 0.5 per cent, while silts and clays average 21 and 78.5 per cent, respectively. The entire sediment column is "red" clay, and the relative homogeneity of the grain size analyses reflects the character of the sediments. The amount of phillipsite

is not noticeably reflected in the sand and silt percentages. Nannofossils in the bottom section of Core 2 contribute to the higher clay content.

Site 40

At this site, radiolarian tests comprise the sand and silt fractions. Triangular plots of samples from this site are somewhat similar to plots of samples from Sites 34 and 35, but the constituents are different. Sites 34 and 35 are characterized by an abundance of terrigenous materials; while at Site 40, radiolarian ooze is the dominant lithology.

Site 41

At Site 41, "red" clay comprises the upper two cores and the radiolarian ooze makes up the bottom two cores. Unfortunately, the bottom cores were extruded into oversized liners and, therefore, not sampled for grain size analyses. The results are based on nine samples from the upper two cores.

Anomalous sand averages (1.3 per cent) and the silt and clay averages (24.2 per cent and 74.5 per cent) in Section 3 of Core 2 indicate the higher amounts of phillipsite. Possibly, small twinned clusters and micronodules contribute a large part of the sand and silt. High clay content (93.5 per cent) from near the base of Core 1 can be correlated with the absence of zeolites.

Site 42

Sediments at Site 42 are composed predominantly of two biogeneous components: nannofossils and radiolarians. Grain size analyses reflect the varying proportions of these two components. High sand and silt content shows a high percentage of radiolarians, and a high clay percentage reflects the abundance of nannofossils. "Red" clay is rare throughout the column. Major lithologies are nannofossil ooze, radiolarian ooze, radiolarian nannofossil ooze and nannofossil radiolarian ooze. The best examples of nannofossil and radiolarian oozes are in Cores 2, 8 and 11. Good examples of radiolarian and nannofossil radiolarian oozes are in Cores 5, 9 and 10.

Site 43

Because of drilling difficulties at Site 43, no samples were taken for grain size analyses.

TABLE 1
Leg 5 Grain Size Results

Hole	Core	Section	Interval Sampled (cm)	% Sand	% Silt	% Clay	Classification
32	1	1	46	30.6	65.5	3.9	Sandy silt
32	1	2	0	0.3	51.8	47.9	Clayey silt
32	1	3	13	0.1	34.9	65.0	Silty clay
32	1	4	8	0.6	24.8	74.6	Silty clay
32	1	5	8	53.6	40.9	5.5	Silty sand
32	1	6	8	10.3	42.5	47.2	Silty clay
32	3	1	8	0.3	33.2	66.5	Silty clay
32	3	2	8	0.7	36.1	63.2	Silty clay
32	3	4	8	1.3	34.8	63.9	Silty clay
32	3	5	8	1.1	30.9	68.0	Silty clay
32	4	1	14	0.4	33.2	66.4	Silty clay
32	4	2	8	0.6	47.0	52.4	Silty clay
32	4	4	6	0.5	42.6	56.9	Silty clay
32	5	2	12	21.5	78.5	0.0	Silt
32	5	6	13	4.1	38.3	57.6	Silty clay
32	6	3	132	1.7	30.2	68.1	Silty clay
32	6	6	12	1.6	17.4	81.0	Clay
32	7	1	20	0.5	41.9	57.6	Silty clay

TABLE 1 – *Continued*

Hole	Core	Section	Interval Sampled (cm)	% Sand	% Silt	% Clay	Classification
32	8	1	10	1.9	34.6	63.5	Silty clay
32	8	3	33	17.9	41.1	41.0	Clayey silt
32	8	6	15	4.6	31.8	63.6	Silty clay
32	9	3	12	3.4	28.4	68.2	Silty clay
32	9	6	9	0.8	81.3	17.9	Silt
32	10	2	17	10.6	18.8	70.6	Silty clay
32	10	3	20	0.7	18.0	81.3	Clay
32	11	1	114	1.5	18.2	80.3	Clay
32	11	2	8	5.7	31.4	62.9	Silty clay
32	11	3	17	1.0	36.4	62.6	Silty clay
32	12	1	79	2.0	31.2	66.8	Silty clay
32	12	2	10	0.9	30.5	68.6	Silty clay
32	12	3	19	5.3	43.0	51.7	Silty clay
32	12	4	7	2.1	73.4	24.5	Clayey silt
32	12	5	10	4.3	34.4	61.3	Silty clay
32	12	6	5	9.6	38.7	51.7	Silty clay
33	1	1	8	0.0	31.2	68.8	Silty clay
33	1	2	10	0.4	26.2	73.4	Silty clay
33	1	3	3	0.1	43.4	56.5	Silty clay
33	1	4	13	1.1	26.3	72.6	Silty clay
33	1	6	15	0.0	28.6	71.4	Silty clay
33	2	1	14	0.0	27.8	72.2	Silty clay
33	2	2	7	0.7	25.7	73.6	Silty clay
33	2	3	8	0.7	30.2	69.1	Silty clay
33	2	4	9	1.2	27.4	71.4	Silty clay
33	2	5	14	0.3	23.5	76.2	Clay
33	2	6	8	2.1	24.5	73.4	Silty clay
33	3	1	19	5.2	28.4	66.4	Silty clay
33	3	2	14	0.5	33.2	66.3	Silty clay
33	3	3	10	1.4	26.9	71.7	Silty clay
33	3	4	23	0.1	29.4	70.5	Silty clay
33	3	5	20	0.6	29.2	70.2	Silty clay
33	3	6	24	0.2	33.2	66.6	Silty clay
33	4	1	24	0.3	33.2	66.5	Silty clay
33	4	3	29	0.5	27.6	71.9	Silty clay
33	4	5	26	0.3	38.8	60.9	Silty clay
33	5	3	20	4.2	42.5	53.3	Silty clay
33	5	6	59	0.1	38.8	61.1	Silty clay

TABLE 1 – *Continued*

Hole	Core	Section	Interval Sampled (cm)	% Sand	% Silt	% Clay	Classification
33	6	6	8	3.1	27.7	69.2	Silty clay
33	7	3	30	0.2	49.9	49.9	Silty clay
33	8	1	15	1.0	41.7	57.3	Silty clay
33	8	2	20	2.2	30.9	66.9	Silty clay
33	8	3	20	6.0	26.1	67.9	Silty clay
33	8	4	25	2.0	38.1	59.9	Silty clay
33	8	5	23	2.6	30.4	67.0	Silty clay
33	8	6	24	2.4	34.1	63.5	Silty clay
33	9	3	23	0.1	25.0	74.9	Silty clay
33	9	6	24	0.1	34.9	65.0	Silty clay
33	10	2	77	1.7	40.5	57.8	Silty clay
33	10	5	9	8.8	36.5	54.7	Silty clay
33	11	2	25	4.6	30.1	65.3	Silty clay
33	12	3	76	4.2	53.2	42.6	Clayey silt
33	12	6	16	7.0	46.5	46.5	Silty clay
34	1	1	19	1.9	59.7	38.4	Clayey silt
34	1	1	24	0.3	29.1	70.6	Silty clay
34	1	2	27	0.6	26.1	73.3	Silty clay
34	1	3	24	0.3	8.7	91.0	Clay
34	1	4	25	0.2	43.4	56.4	Silty clay
34	1	5	23	0.3	22.2	77.5	Clay
34	2	4	4	0.1	27.7	72.2	Silty clay
34	2	5	4	0.3	23.7	76.0	Clay
34	2	6	5	0.1	30.0	69.9	Silty clay
34	3	2	4	0.3	15.7	84.0	Clay
34	3	3	3	0.2	21.7	78.1	Clay
34	3	4	4	0.1	30.4	69.5	Silty clay
34	3	5	3	0.1	25.0	74.9	Silty clay
34	3	6	3	0.5	23.9	75.6	Clay
34	4	1	3	0.3	37.4	62.3	Silty clay
34	4	2	3	0.0	42.3	57.7	Silty clay
34	4	3	20	0.2	35.6	64.2	Silty clay
34	4	4	29	0.2	46.6	53.2	Silty clay
34	4	5	24	0.0	45.4	54.6	Silty clay
34	4	6	24	0.2	34.7	65.1	Silty clay
34	5	1	56	0.6	9.5	89.9	Clay
34	5	2	25	1.2	43.0	55.8	Silty clay
34	5	3	37	1.7	34.4	63.9	Silty clay

TABLE 1 – *Continued*

Hole	Core	Section	Interval Sampled (cm)	% Sand	% Silt	% Clay	Classification
34	5	4	57	2.5	41.8	55.7	Silty clay
34	5	5	67	0.2	45.3	54.5	Silty clay
34	5	6	6	0.5	33.2	66.3	Silty clay
34	6	1	5	36.4	52.4	11.2	Sandy silt
34	6	2	10	3.1	46.3	50.6	Silty clay
34	6	4	24	52.8	29.5	17.7	Silty sand
34	6	5	24	65.5	24.1	10.4	Silty sand
34	6	6	20	21.7	32.9	45.4	Sand-silt-clay
34	7	3	51	1.8	32.7	65.5	Silty clay
34	7	4	29	1.0	34.6	64.4	Silty clay
34	7	6	4	5.3	36.1	58.6	Silty clay
34	8	6	14	2.4	37.9	59.7	Silty clay
34	9	1	41	3.9	22.6	73.5	Silty clay
34	9	2	127	5.2	34.9	59.9	Silty clay
34	9	3	53	1.0	26.4	72.6	Silty clay
34	9	4	9	1.1	39.5	59.4	Silty clay
34	9	5	17	2.0	36.7	61.3	Silty clay
34	9	6	31	0.8	31.3	67.9	Silty clay
34	10	1	100	1.1	35.9	63.0	Silty clay
34	10	2	8	0.7	33.1	66.2	Silty clay
34	10	3	5	0.7	28.4	70.9	Silty clay
34	10	4	25	1.0	34.9	64.1	Silty clay
34	10	5	24	2.3	24.4	73.3	Silty clay
34	10	6	24	0.5	42.6	56.9	Silty clay
34	11	3	49	0.2	39.9	59.9	Silty clay
34	12	1	124	0.2	45.3	54.5	Silty clay
34	12	2	99	0.4	34.6	65.0	Silty clay
35	1	2	19	1.5	31.5	67.0	Silty clay
35	1	3	20	0.4	27.9	71.7	Silty clay
35	1	5	10	0.2	39.0	60.8	Silty clay
35	2	1	39	0.4	27.1	72.5	Silty clay
35	2	2	4	0.1	33.3	66.6	Silty clay
35	2	3	6	56.4	17.1	26.5	Clayey sand
35	2	4	10	0.1	47.0	52.9	Silty clay
35	2	5	25	50.1	24.9	25.0	Sand-silt-clay
35	2	6	8	49.5	28.6	21.9	Sand-silt-clay

TABLE 1 – *Continued*

Hole	Core	Section	Interval Sampled (cm)	% Sand	% Silt	% Clay	Classification
35	5	4	0	89.2	5.4	5.4	Sand
35	6	2	8	73.3	10.0	16.7	Clayey sand
35	6	4	6	7.0	38.3	54.7	Silty clay
35	9	1	90	0.2	30.5	69.3	Silty clay
35	11	6	0	0.1	42.8	57.1	Silty clay
35	12	6	110	0.6	16.6	82.8	Clay
35	13	4	114	0.2	45.6	54.2	Silty clay
35	14	4	35	0.7	46.3	53.0	Silty clay
35	15	4	23	0.4	61.0	38.6	Clayey silt
35	16	2	25	1.7	79.6	18.7	Silt
36	2	4	29	0.9	29.1	70.0	Silty clay
36	10	6	123	7.3	30.9	61.8	Silty clay
36	11	3	63	4.5	20.1	75.4	Clay
36	11	4	17	1.8	16.4	81.8	Clay
36	11	5	60	0.2	18.1	81.7	Clay
36	12	1	66	1.7	17.3	81.0	Clay
36	12	2	49	0.3	17.6	82.1	Clay
36	12	6	47	0.2	11.1	88.7	Clay
37	1	3	10	0.4	20.9	78.7	Clay
37	2	1	60	0.4	22.1	77.5	Clay
37	2	2	18	1.1	18.5	80.4	Clay
37	2	3	11	3.8	6.9	89.3	Clay
37	2	4	11	0.5	6.6	92.9	Clay
37	2	6	10	0.6	6.2	93.2	Clay
37	3	1	24	0.3	0.0	99.7	Clay
37	3	2	24	0.9	24.8	74.3	Silty clay
37	3	3	60	1.7	22.7	75.6	Clay
37	3	4	34	2.8	24.3	72.9	Silty clay
37	3	5	61	1.8	24.5	73.7	Silty clay
37	3	6	25	0.2	21.4	78.4	Clay
37	4	2	10	0.4	23.0	76.6	Clay
37	4	3	10	0.3	31.1	68.6	Silty clay
37	4	4	20	0.3	29.3	70.4	Silty clay
37	4	5	80	8.3	57.3	34.4	Clayey silt
38	2	3	69	0.1	14.3	85.6	Clay
38	2	4	2	0.1	11.7	88.2	Clay
38	2	5	129	0.3	19.0	80.7	Clay

TABLE 1 – *Continued*

Hole	Core	Section	Interval Sampled (cm)	% Sand	% Silt	% Clay	Classification
38	2	6	89	0.2	8.3	91.5	Clay
38	3	1	9	0.4	18.1	81.5	Clay
38	3	3	137	1.5	26.3	72.2	Silty clay
38	3	4	59	0.2	7.1	92.7	Clay
38	3	6	34	0.4	45.2	54.4	Silty clay
38	4	2	14	1.0	33.0	66.0	Silty clay
38	4	3	104	0.5	28.4	71.1	Silty clay
38	4	4	31	0.5	39.8	59.7	Silty clay
38	5	1	37	0.8	31.0	68.2	Silty clay
38	5	3	22	0.4	30.6	69.0	Silty clay
38	6	5	5	0.0	52.0	48.0	Clayey silt
39	1	1	64	0.2	15.3	84.5	Clay
39	1	3	28	0.4	11.7	87.9	Clay
39	1	4	11	0.8	19.8	79.4	Clay
39	1	4	15	0.5	22.0	77.5	Clay
39	1	5	0	0.8	26.4	72.8	Silty clay
39	1	6	17	0.5	21.3	78.2	Clay
39	2	1	74	0.8	24.8	74.4	Silty clay
39	2	3	40	0.5	26.5	73.0	Silty clay
39	2	5	13	0.3	24.9	74.8	Silty clay
39	2	6	50	0.8	16.5	82.7	Clay
40	1	1	50	0.8	30.5	68.7	Silty clay
40	8	3	0	5.1	47.4	47.5	Silty clay
40	9	2	20	29.6	42.2	28.2	Sand-silt-clay
40	11	4	20	42.9	19.0	38.1	Clayey sand
40	14	3	20	41.0	23.6	35.4	Sand-silt-clay
40	15	2	55	13.0	29.0	58.0	Silty clay
40	15	4	20	44.7	22.1	33.2	Sand-silt-clay
40	15	5	95	42.0	14.5	43.5	Sandy clay
40	15	6	10	31.6	34.2	34.2	Sand-silt-clay
40	16	1	20	35.0	32.5	32.5	Sand-silt-clay
40	16	3	21	39.1	20.3	40.6	Sand-silt-clay
41	1	1	42	0.3	19.9	79.8	Clay
41	1	2	20	0.3	18.7	81.0	Clay
41	1	3	20	0.4	26.2	73.4	Silty clay
41	1	4	11	0.3	11.7	88.0	Clay
41	1	6	10	0.3	6.2	93.5	Clay
41	2	1	20	1.1	35.9	63.0	Silty clay

TABLE 1 – *Continued*

Hole	Core	Section	Interval Sampled (cm)	% Sand	% Silt	% Clay	Classification
41	2	2	20	1.3	26.3	72.4	Silty clay
41	2	3	20	4.3	34.2	61.5	Silty clay
41	2	4	30	3.4	48.3	48.3	Silty clay
42	1	1	23	7.2	40.6	52.2	Silty clay
42	1	3	17	7.2	53.7	39.1	Clayey silt
42	1	4	22	5.2	44.9	49.9	Silty clay
42	2	1	7	3.9	33.3	62.8	Silty clay
42	2	2	10	1.2	40.4	58.4	Silty clay
42	2	3	3	0.7	38.2	61.1	Silty clay
42	2	4	67	2.3	36.0	61.7	Silty clay
42	2	5	12	1.8	39.3	58.9	Silty clay
42	2	6	14	1.5	39.4	59.1	Silty clay
42	4	1	30	3.9	42.7	53.4	Silty clay
42	4	2	95	1.2	41.1	57.7	Silty clay
42	4	3	20	1.4	55.5	43.1	Clayey silt
42	4	4	20	14.2	39.0	46.8	Silty clay
42	4	5	30	7.4	51.5	41.1	Clayey silt
42	4	6	32	14.0	34.4	51.6	Silty clay
42	5	1	77	15.8	50.5	33.7	Clayey silt
42	5	2	29	28.6	57.1	14.3	Sandy silt
42	5	3	10	9.1	30.3	60.6	Silty clay
42	5	4	14	9.6	37.7	52.7	Silty clay
42	5	5	6	13.0	31.6	55.4	Silty clay
42	5	6	14	27.0	29.2	43.8	Sand-silt-clay
42	8	4	2	3.0	42.4	54.6	Silty clay
42	8	5	3	10.9	0.0	89.1	Clay
42	9	1	30	9.4	41.8	48.8	Silty clay
42	9	2	6	10.8	37.2	52.0	Silty clay
42	9	4	20	11.3	24.2	64.5	Silty clay
42	9	5	103	16.5	27.8	55.7	Silty clay
42	10	1	34	18.2	45.4	36.4	Clayey silt
42	10	2	15	15.1	30.3	54.6	Silty clay
42	10	3	45	22.7	34.3	43.0	Sand-silt-clay
42	10	4	13	20.2	34.2	45.6	Sand-silt-clay
42	11	3	60	2.5	84.9	12.6	Silt