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Grain Size and Composition of Seafloor Sediment, Kodiak Shelf, Alaska

by

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This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editoral standards.

Also see corresponding digital grainsize data MGGID 06995003.

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GRAIN SIZE AND COMPOSITION OF SEAFLOOR SEDIMENT, KODIAK SHELF, ALASKA

Environmental geologic studies of Kodiak Shelf, western Gulf of Alaska (Fig. 1), have been conducted in support of the Federal government's outer continental shelf petroleum leasing program. Geological and geophysical data were gathered aboard the R/V SEA SOUNDER on four cruises in 1976-1979, and aboard the R/V S.P. LEE and NOAA ship DISCOVERER in 1980. Samples of seafloor sediment were collected at 203 stations (Fig. 2). The purpose of this report is to present the grain size and compositional data for these samples.

A modified grab sampler was used to collect most of the sediment samples. The grab moved along vertical rails housed in a four-legged frame and was driven by a 400-lb weight. The grab retrieved samples in coarse sedimentary deposits where other devices failed. A gravity corer was used to collect samples of soft sediment. Samples were collected from the DISCOVERER using a standard Shipek grab sampler.

Subsamples were taken from the upper few centimeters of each grab sample or core, removing material only from the uppermost sedimentation unit. Each subsample was wet sieved into coarse (>2mm), sand (2-0.062mm), and fine (<0.062mm) fractions. The fine fraction was pipetted to distinguish the silt (0.062-0.004mm) and clay (<0.004mm) size fractions. The relative weight percentage of each fraction was calculated (Table 1, Appendix 1).

Visual estimates were made of the (volume) percentages of compositional elements in each sieved size fraction (Appendix 1). These proportions have been recalculated as whole-sediment weight percentages in Table 1.

Q-mode factor analysis was performed on the combined textural and compositional data for all samples. Factor analysis is used mainly as a mapping tool for the purposes of this report, but it can also be used as a basis for interpreting sedimentary history. Twelve variables were used in the analysis. These particular variables seem to best represent the distinct elements of the seafloor sediment on Kodiak Shelf, as decided after extensive subjective examination of the samples. Textural variables include coarse, sand, silt, and clay size fractions. Compositional variables include terrigenous minerals, volcanic ash, whole or broken megafaunal carbonate shells (all in the coarse fraction and much larger than 2mm), crushed megafaunal shells (predominantly in the sand size fraction), fine carbonate (in the silt and clay size fraction), foraminifera shells, clay minerals, and siliceous microfossil shells.

Data for each variable were scaled on a range between zero and one. This normalization represents the relative percentage of each measurement in the range between the minimum and maximum values of that variable. Varimax loadings (proportional contributions of each factor to a given sample) were computed for five factors, which account for 97% of the cumulative variance of measurements (Table 2). The factors represent composites of all the original variables, and use of five factors is judged to give the optimum synthesis of the original data. Communalities (amount of the sums of squares of the normalized data accounted for by the five factors) of all but 9 samples are high (exceeds 0.80). Four of the samples (61,128,234,236) with low

communalities represent a sediment type rich in forams. When a six-factor model is used, the foram variable dominates the sixth factor. Sample 502 is from the edge of Shelikof Strait and probably represents a different sedimentary environment. The remaining samples (D24, D25, D26, D38) that have low communalities show no obvious distinguishing features and may have experienced sampling or analytical errors.

Samples for which factor 1 has the highest factor loading are shown in Figure 3. Similar maps for the other factors are Figures 4-7. The technique used in preparing these maps was to show a totally blackened circle if the particular factor is clearly dominant in a sample. If other factors are present in significant amounts, arbitrarily defined as a factor loading at least one-half as large as the highest loading value, the relative proportions of these factors are scaled as unshaded areas of the circle.

Compositions of the five factors in terms of the relative importance of the twelve original variables are given in Table 3. The values in each column indicate only a relative ranking, and negative numbers simply designate a strong disassociation of a particular variable with a particular factor. Roughly, factor one represents coarse terrigenous material, factor 2 is mud with abundant clay minerals, factor 3 is sand-size volcanic ash, factor 4 is terrigenous sand, and factor 5 is shelly sand.

Visual descriptions of several samples that were not analyzed in detail, including dart cores of semilithified to lithified bedrock, are given in Table 4.

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FIGURE CAPTIONS

Figure 1a. General location map of Kodiak Shelf.

Figure 1b. Physiographic features of Kodiak Shelf.

Figure 2. Locations of sampling stations.

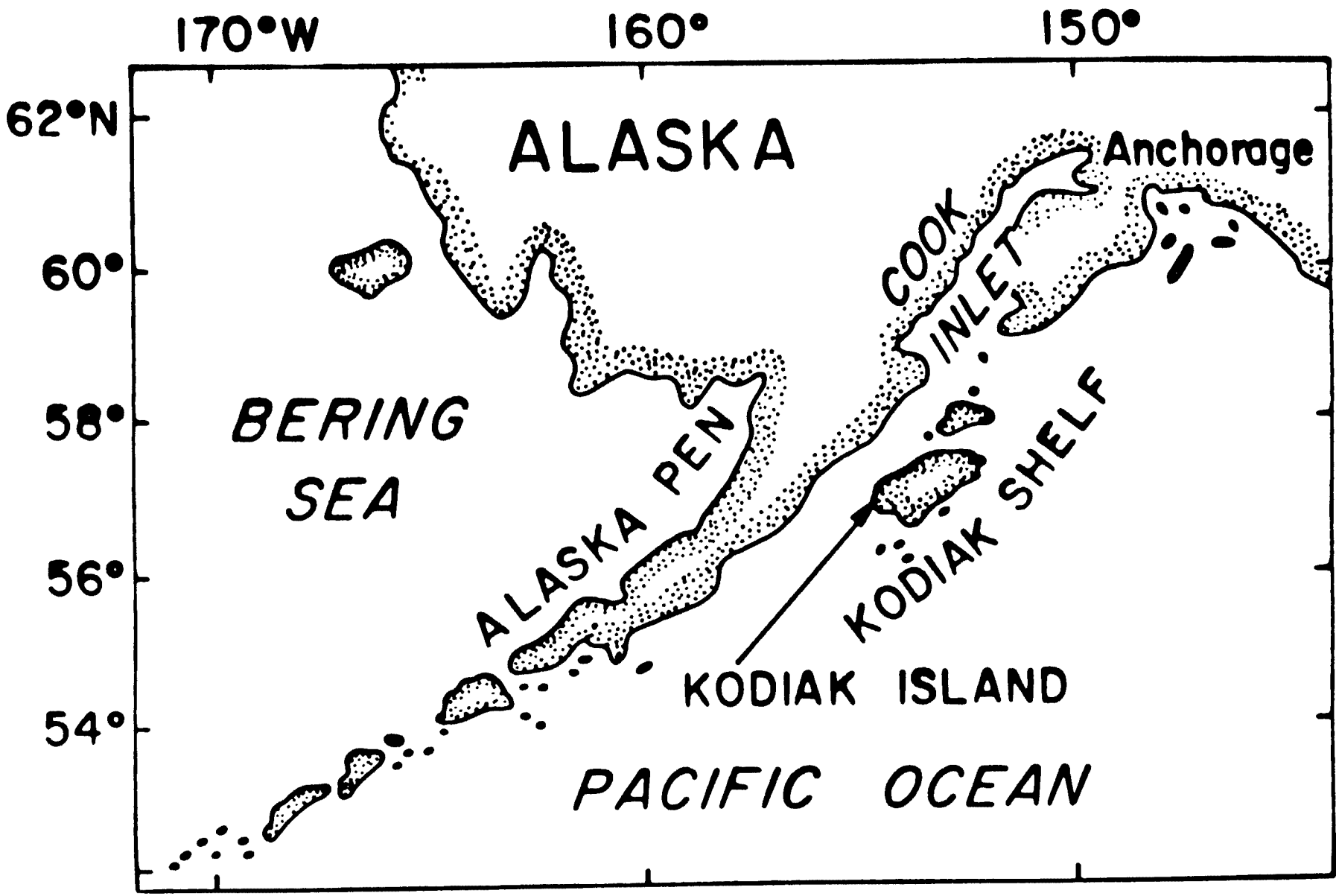
Figure 3. Locations of samples in which factor 1 has highest factor loading. Shaded areas of seafloor are bedrock outcrop (with thin patches of unconsolidated sediment).

Figure 4. Locations of samples in which factor 2 has highest factor loading.

Figure 5. Locations of samples in which factor 3 has highest factor loading.

Figure 6. Locations of samples in which factor 4 has highest factor loading.

Figure 7. Locations of samples in which factor 5 has highest factor loading.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160°
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62°N
60°
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54°
ALASKA
Anchorage
COOK INLET
BERING SEA
ALASKA PEN
KODIAK SHELF
KODIAK ISLAND
PACIFIC OCEAN

Fig. 1a

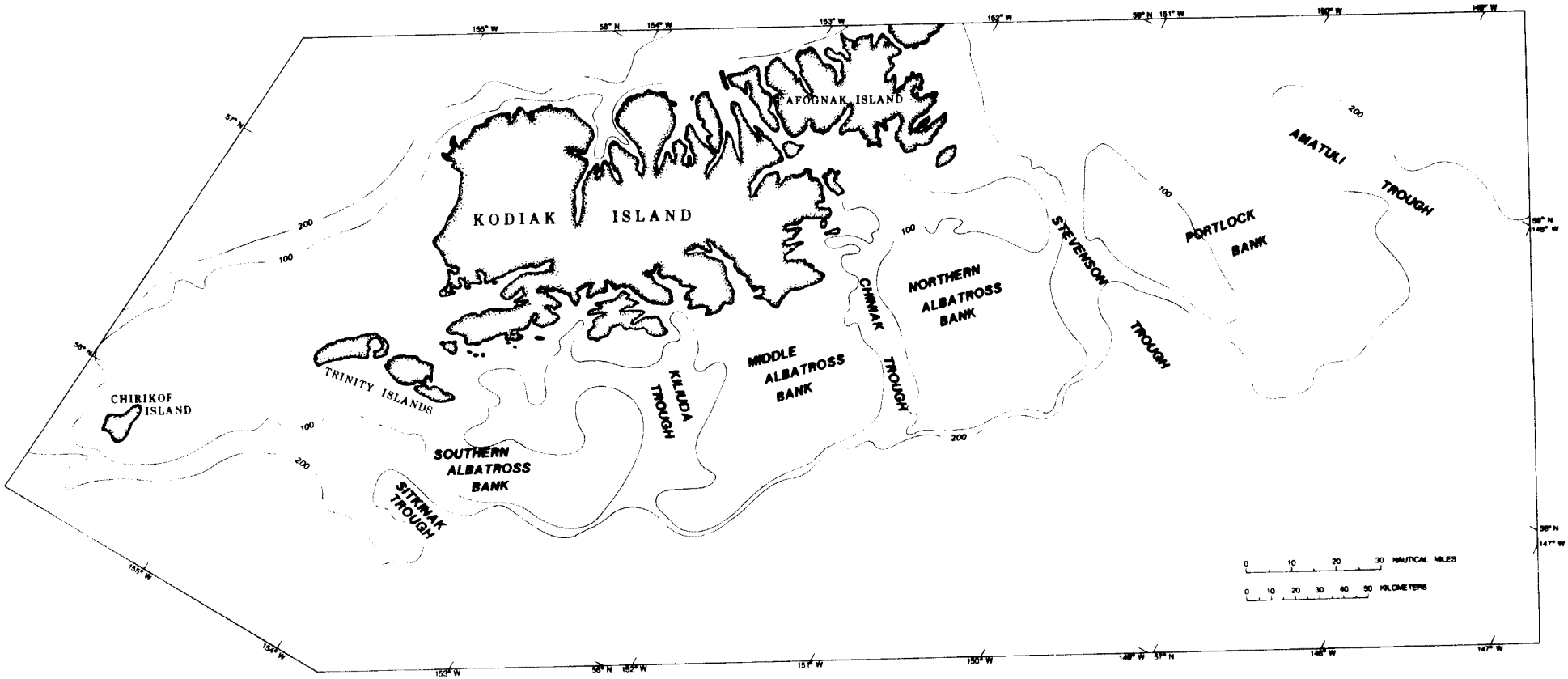
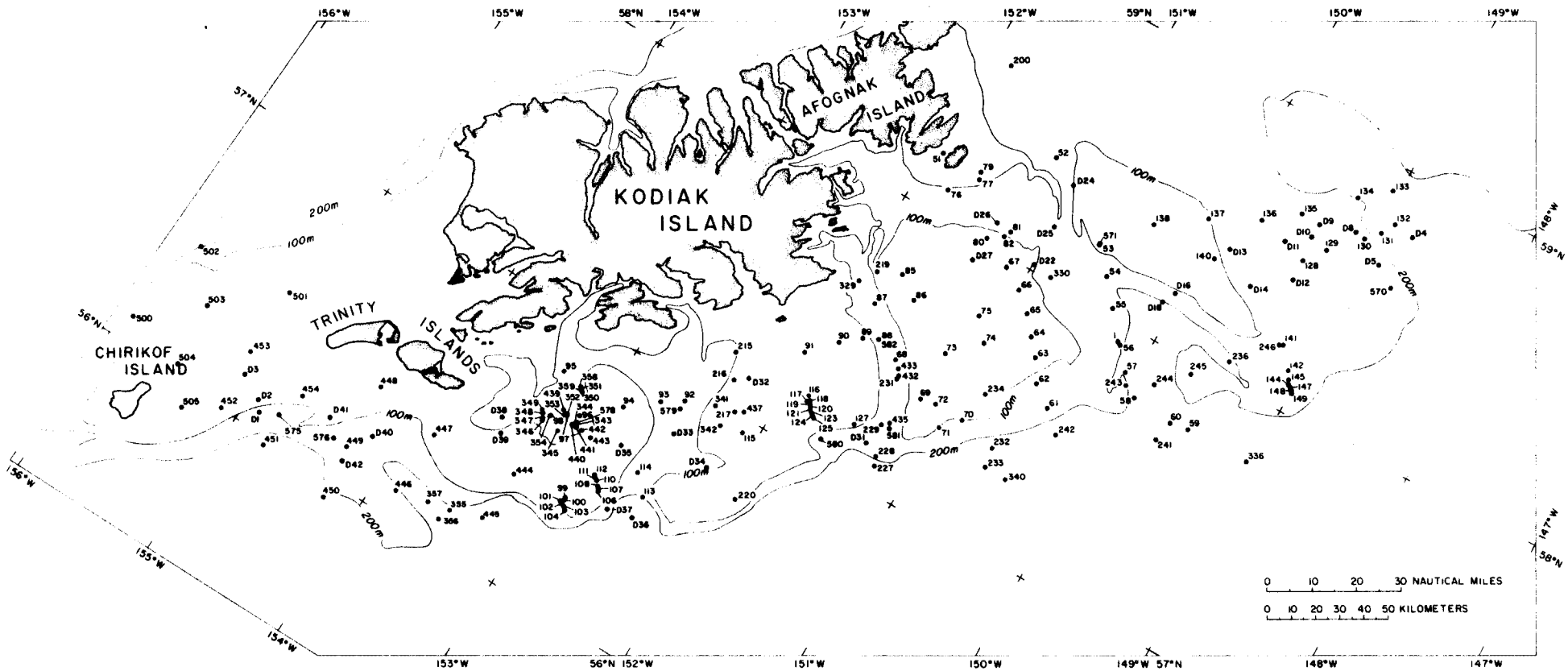

KODIAK ISLAND
AFOGNAK ISLAND
CHIRIKOF ISLAND
TRINITY ISLANDS
SOUTHERN ALBATROSS BANK
SITKINAK TROUGH
KILIUDA TROUGH
MIDDLE ALBATROSS BANK
CHIRIKOF TROUGH
NORTHERN ALBATROSS BANK
STEVENSON TROUGH
PORTLOCK BANK
AMATULI TROUGH
200
100
0 10 20 30 NAUTICAL MILES
0 10 20 30 40 50 KILOMETERS

Fig. 1b


KODIAK ISLAND
AFOGNAK ISLAND
TRINITY ISLANDS
CHIRIKOF ISLAND
200m
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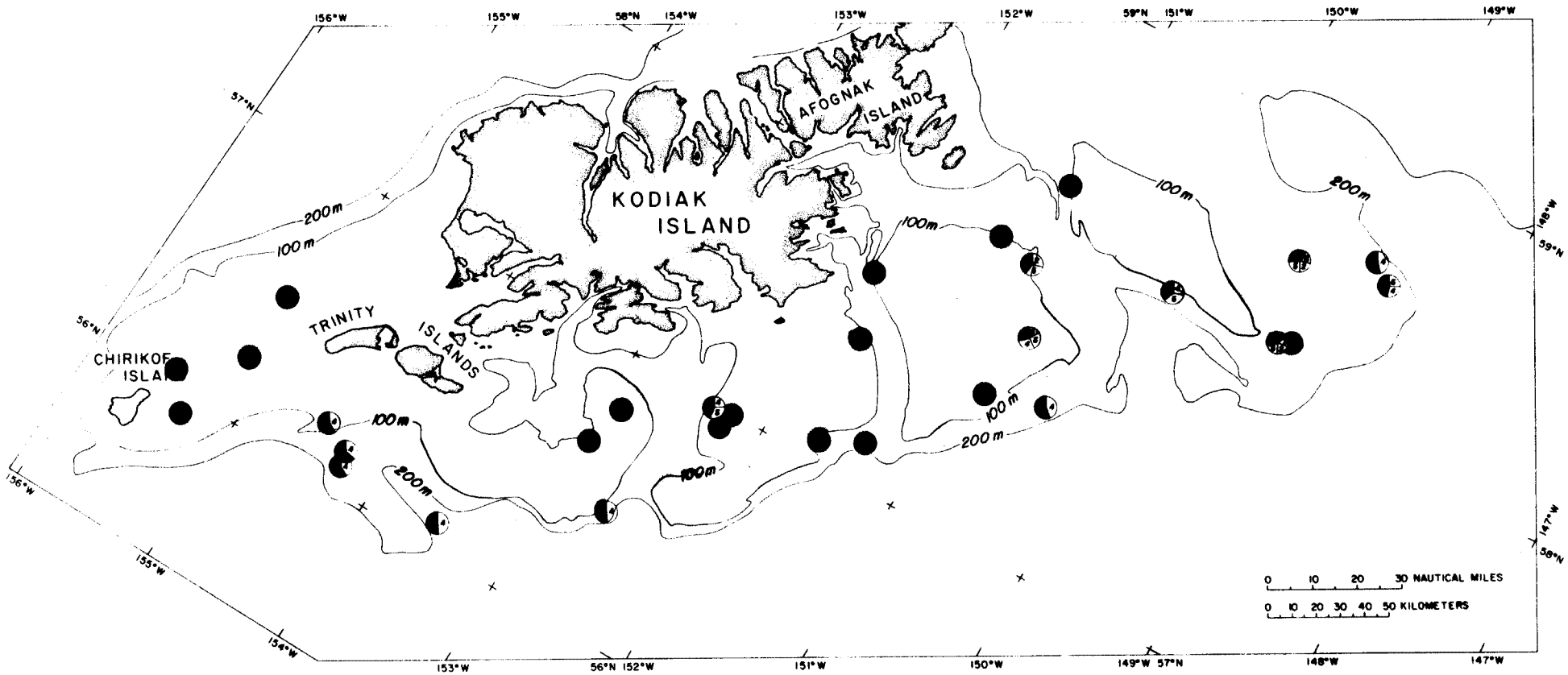
0 10 20 30 NAUTICAL MILES
0 10 20 30 40 50 KILOMETERS

Fig. 2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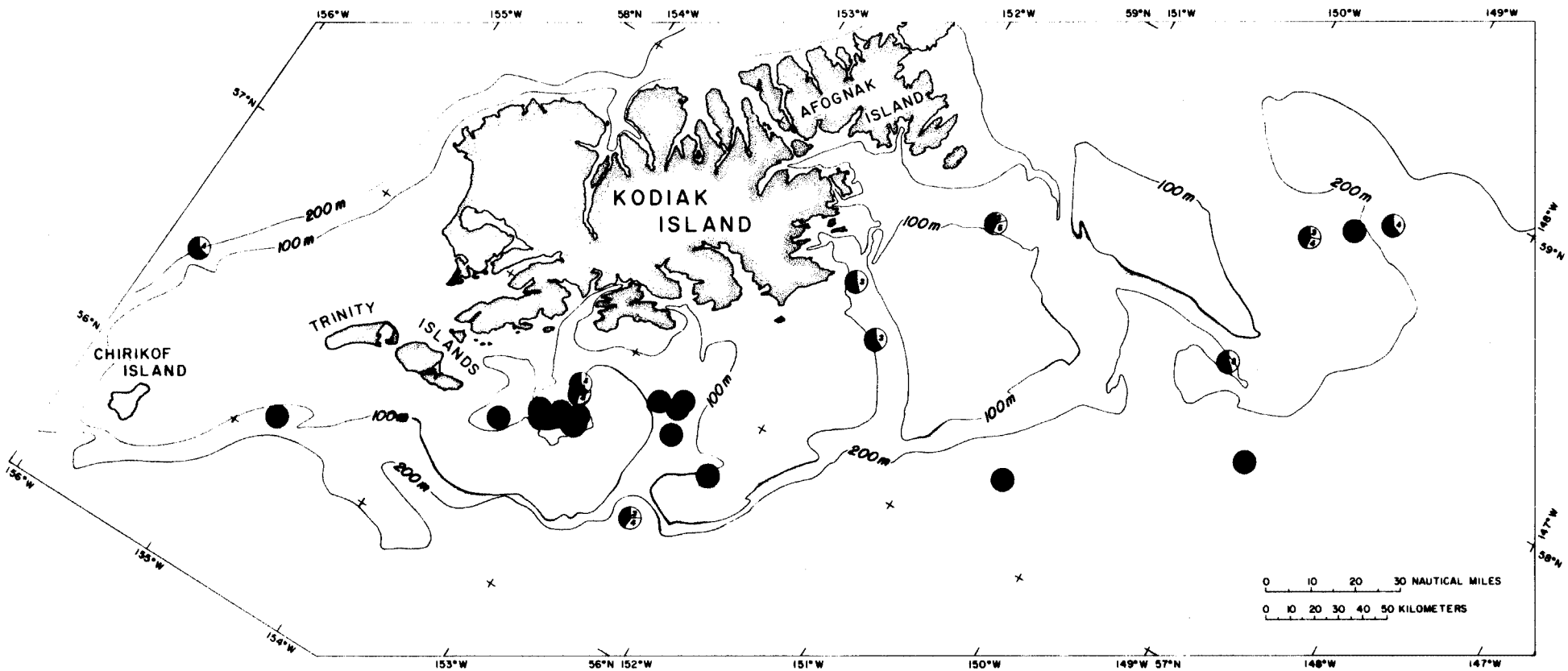
KODIAK ISLAND
AFOGNAK ISLAND
TRINITY ISLANDS
CHIRIKOF ISLAND
200m
100m
0 10 20 30 NAUTICAL MILES
0 10 20 30 40 50 KILOMETERS

Fig. 3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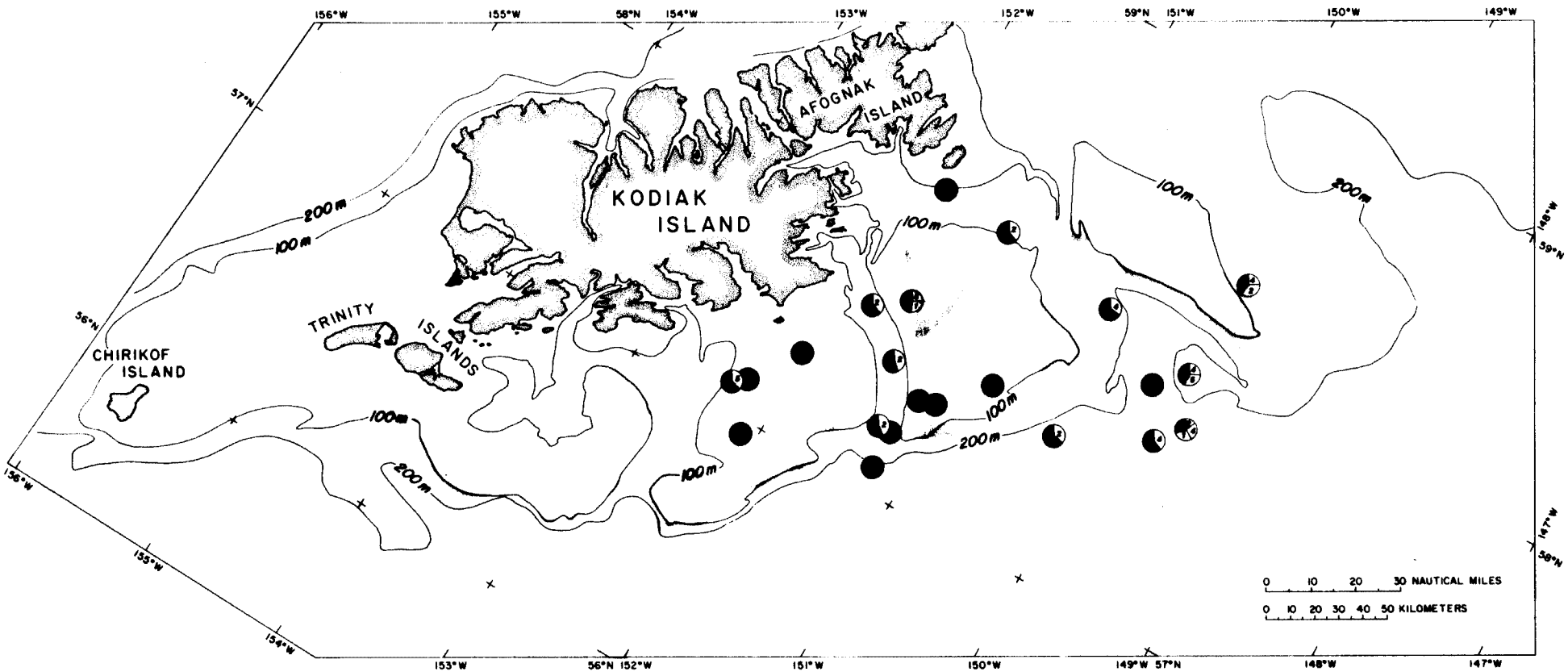
KODIAK ISLAND
AFOGNAK ISLAND
TRINITY ISLANDS
CHIRIKOF ISLAND
200 m
100 m
0 10 20 30 NAUTICAL MILES
0 10 20 30 40 50 KILOMETERS

Fig. 4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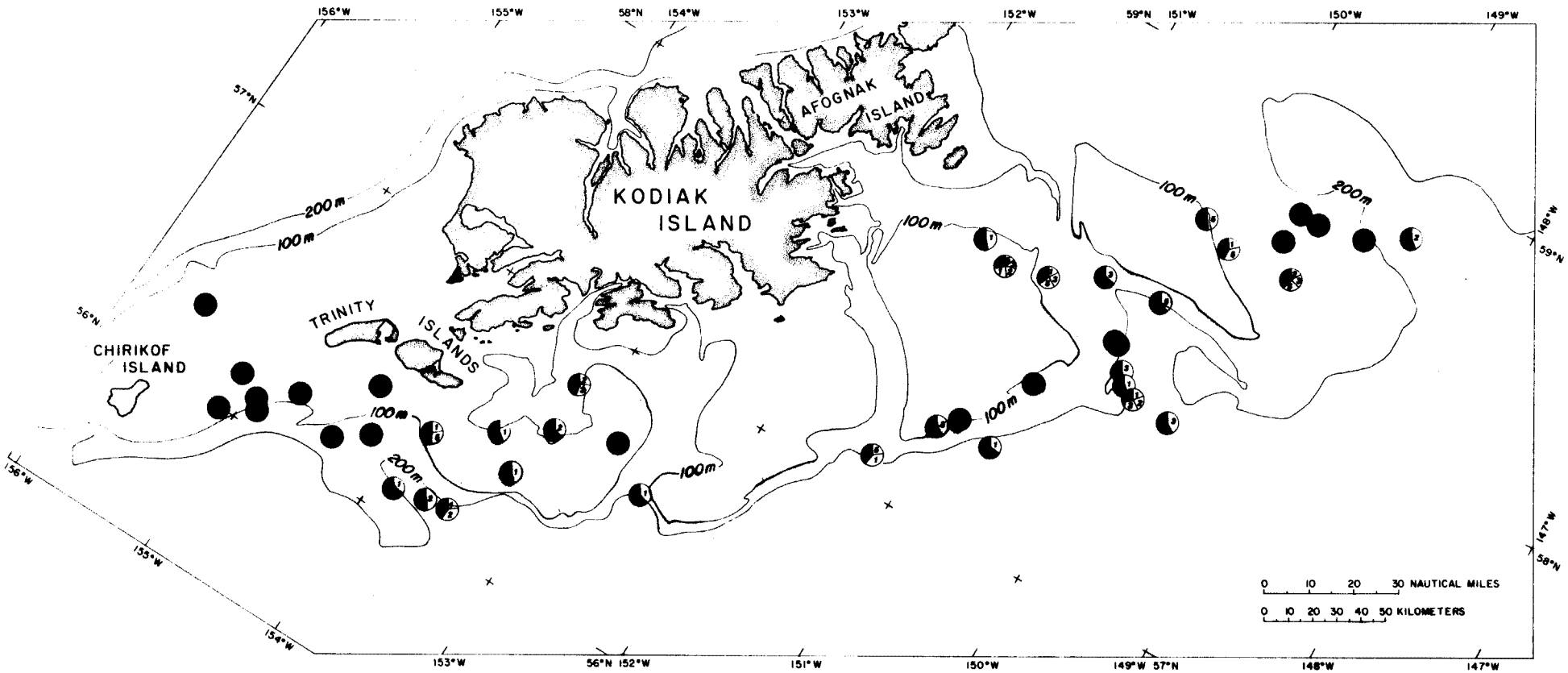
57°N
148°W
147°W
KODIAK ISLAND
AFOGNAK ISLAND
TRINITY ISLANDS
CHIRIKOF ISLAND
200 m
100 m
0 10 20 30 NAUTICAL MILES
0 10 20 30 40 50 KILOMETERS

Fig. 5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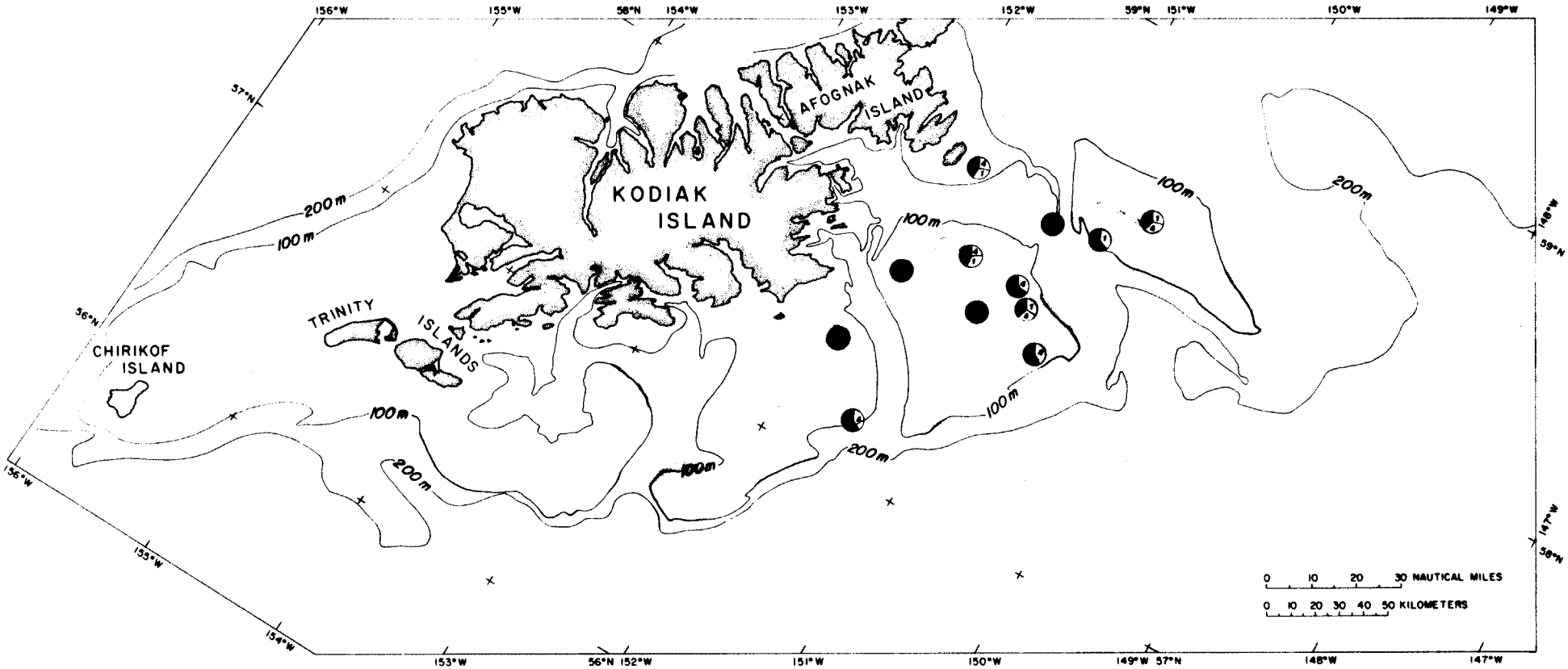
151°W
150°W
149°W
57°N
148°W
147°W
KODIAK ISLAND
AFOGNAK ISLAND
TRINITY ISLANDS
CHIRIKOF ISLAND
200m
100m
0 10 20 30 NAUTICAL MILES
0 10 20 30 40 50 KILOMETERS

Fig. 6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155°W
56°N
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59°N
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148°W
147°W
KODIAK ISLAND
AFOGNAK ISLAND
TRINITY ISLANDS
CHIRIKOF ISLAND
200 m
100 m
0 10 20 30 NAUTICAL MILES
0 10 20 30 40 50 KILOMETERS

Fig. 7

Table 1. Locations, textures, and compositions of sediment samples.

Sample	North Latitude	West Longitude	Water Depth (m)	Location*	Texture (weight percents) Coarse	Sand	Silt	Clay	Composition (weight percents) Terrig.	Carb.	Ash	Clay	Silic.
1	57°56.54'	150°13.56'	192	StT		98	1	1	100	tr	tr	tr	
50	59°52.50'	151°54.50'	32		58	42	tr	tr	94	6			tr
51	58°12.54'	151°55.74'	60		100				95	5			
52	58°24.42'	151°13.80'	107	StT	70	25	3	2					
53	58°12.56'	150°39.79'	86	PB	100				88	12			
54	58°73.62'	150°30.26'	175	StT	2	78	14	6	61	14	22	3	tr
55	58°01.86'	150°21.64'	184	StT		83	12	5	27	1	70	2	tr
56	57°55.56'	150°11.34'	190	StT		99	tr	1	99	tr		1	
57	57°50.94'	150°03.74'	194	StT	2	76	17	5	48	4	43	4	1
58	57°46.99'	149°55.40'	232	StT	15	56	22	7	49	tr	41	9	1
59	57°46.60'	149°29.66'	495	CS	28	56	10	6	52	1	41	6	
60	57°45.96'	149°37.41'	444	CS	2	81	10	7	56	tr	36	7	1
61	57°35.61'	150°24.46'	112	NAB	38	54	5	3	73	17	5	4	1
62	57°39.15'	150°33.49'	102	NAB	12	85	2	1	68	29	2	1	tr
63	57°43.96'	150°39.25'	90	NAB	17	79	3	1	40	58	1	1	tr
64	57°47.50'	150°45.00'	83	NAB	34	62	2	2	51	34	14	1	tr
65	57°51.50'	150°51.50'	77	NAB	32	62	3	3	47	46	5	2	tr
66	57°55.10'	150°59.30'	81	NAB	13	75	8	4	20	64	12	3	1
67	57°59.70'	151°06.40'	82	NAB	21	53	18	8	53	18	17	10	2
68	57°28.15'	151°28.35'	154	CT	1	43	46	10	5	2	86	7	tr
69	57°23.43'	151°11.44'	80	NAB	13	82	2	3	14	5	79	2	tr
70	57°24.08'	150°52.25'	96	NAB	1	97	1	1	94	1	4	1	tr
71	57°20.01'	150°59.08'	95	NAB		96	3	1	61	1	34	1	tr
72	57°24.20'	151°05.10'	92	NAB	tr	94	3	3	6	1	91	2	tr
75	57°45.80'	151°08.05'	70	NAB	10	90			13	87			
76	58°06.20'	151°46.10'	95		tr	96	1	3	12	6	80	2	tr
77	58°11.60'	151°37.00'	38		95	5			94	6			
79	58°13.23'	151°38.07'	68		36	62	tr	2	41	58	1	tr	tr
80	58°01.50'	151°21.63'	181	NAB	32	62	4	2					
81	58°05.21'	151°14.55'	143	NAB/StT		60	30	10	2	1	85	11	1

Table 1 (continued)

Sample	North Latitude	West Longitude	Water Depth (m)	Location*	Texture (weight percents) Coarse	Sand	Silt	Clay	Composition (weight percents) Terrig.	Carb.	Ash	Clay	Silic.
SHIP/ DRIVE ID													
82	58°03.60'	151°15.90'	103	NAB	64	16	15	5	58	18	14	8	2
85	57°45.00'	151°44.00'	55	NAB	28	70	1	1	5	85	10		tr
86	57°41.40'	151°34.70'	61	NAB	36	61	1	2					
87	57°36.45'	151°47.60'	132	CT	4	58	31	7	3	4	80	10	3
88	57°30.00'	151°38.80'	167	CT		22	69	9	6	tr	75	17	2
89	57°28.50'	151°44.50'	70	MAB	68	24	6	2	63	11	25	1	tr
90	57°25.10'	151°51.90'	67	MAB	6	91	1	2	3	93	3	1	tr
91	57°19.29'	152°01.82'	73	MAB	5	91	2	2	3	14	84	1	tr
92	56°56.40'	152°32.90'	167	KT		6	74	20	15	tr	41	29	15
93	56°53.50'	152°41.00'	128	KT		24	62	14	12	1	38	37	12
94	56°48.15'	152°52.75'	63	SAB	87	10	2	1	83	14	1	2	tr
96	56°41.40'	153°05.90'	146	KT		3	61	36	11	tr	52	36	1
97	56°40.10'	153°10.20'	150	KT		1	60	39	5	tr	38	56	1
98	56°38.00'	153°16.00'	145	KT		1	62	37	13	tr	46	41	tr
112													
SEA SOUNDER/ S376WG													
113	56°33.50'	152°27.20'	197	KT	25	70	3	2	94	2	3	1	tr
115	56°57.02'	152°06.28'	76	MAB		92	5	3	2	9	87	2	tr
127	57°11.24'	151°29.59'	69	MAB	17	25	11	7	31	54	10	5	tr
128	58°31.47'	149°21.90'	121	PB	25	45	15	15	37	36	15	11	1
130	58°42.23'	149°03.38'	145	PB		79	11	10	81		15	3	1
131	58°44.99'	148°58.18'	214	AT	3	45	25	27					
132	58°48.16	148°54.71'	236	AT	5	33	32	30	56	tr	26	15	3
134	58°49.42'	149°14.22'	206	AT	20	41	17	22					
135	58°40.39'	149°31.82'	136	PB		77	15	8	78		10	11	1
136	58°34.90'	149°45.19'	125	PB		73	17	10					
137	58°29.46'	150°05.25'	93	PB	10	72	13	5	53	42	6	9	tr
138	58°22.30'	150°24.07'	60	PB	24	70	3	3	41	51	7	1	tr
141	58°13.12'	149°11.85'	120	PB	56	26	11	7	60	13	22	5	tr
200	58°36.79'	151°50.26'	159		48	46	2	4	92	3	2	2	1
201	58°42.24'	152°17.77'	126		54	43	1	2	67	31	tr	2	tr
SEA SOUNDER/ S777WG													
202	58°46.12'	152°42.85'	190		3	65	13	19	72	3	12	10	3
204	58°51.37'	152°54.13'	164		36	32	19	13	52	tr	34	12	2
205	58°58.89'	153°13.38'	118		35	47	11	7	80	2	12	5	1
215	57°11.38'	152°25.89'	115	MAB/KT	15	63	14	8					
216	57°06.00'	152°20.60'	96	MAB	1	88	7	4	6	35	56	3	tr

Table 1 (continued).

Sample	North Latitude	West Longitude	Water Depth (m)	Location*	Texture (weight percents) Coarse	Sand	Silt	Clay	Composition (weight percents) Terrig.	Carb.	Ash	Clay	Silic.
217	57°00.00'	152°13.50'	76	MAB	52	44	3	1	49	27	23	1	tr
219	57°42.65'	151°53.60'	79	CT	73	25	1	1	89	10	1		tr
227	57°05.60'	151°14.00'	358	CS		72	19	9	7	tr	87	6	tr
228	57°07.50'	151°15.40'	185	CT	33	59	5	3	67	28	2	3	tr
229	57°14.20'	151°19.90'	172	CT		55	36	9	6	1	74	17	2
232	57°22.01'	150°35.92'	262	CS	29	69	1	1	98	tr	1	1	tr
233	57°17.60'	150°34.50'	630	CS		23	55	22					
234	57°31.54'	150°49.42'	93	NAB	50	47	2	1	52	28	19	1	tr
236	58°04.20'	149°28.20'	230	StT		38	48	14	5	tr	71	23	1
241	57°41.29'	149°39.16'	606	CS	5	86	4	5	37		62	1	tr
242	57°31.40'	150°16.00'	300	CS		64	30	6	7	tr	80	12	1
243	57°48.50'	150°01.10'	190	StT	24	66	7	3	77	2	16	5	tr
244	57°51.70'	149°50.90'	257	StT	1	80	15	4	17	tr	75	7	1
245	57°57.60'	149°39.70'	135	StT	9	72	6	13	21	33	41	4	1
246	58°12.80'	149°13.40'	134	PB	32	47	13	8	35	29	23	13	tr
329	57°38.95'	151°58.03'	218	CT		36	50	14	3	tr	76	20	1
330	58°00.96'	150°50.59'	135	StT	10	78	7	5	50	28	17	5	tr
336	57°46.60'	149°02.08'	1700	CS		1	50	49	16		40	39	5
340	57°17.48'	150°24.92'	762	CS	2	23	51	24	43	2	34	21	tr
341	56°59.00'	152°21.47'	80	MAB	50	43	4	3	50	41	6	3	tr
342	56°55.77'	152°15.17'	79	MAB	59	34	4	3	66	5	26	3	tr
343	56°39.37'	153°04.72'	155	KT		5	64	31	14	1	66	15	4
344	56°39.47'	153°05.63'	160	KT		1	60	39	16	2	23	56	3
345	56°36.11'	153°10.00'	119	KT		65	23	12	69	1	17	12	1
346	56°36.22'	153°12.51'	120	KT		67	22	11					
347	56°36.76'	153°17.92'	130	KT		4	67	29	16	tr	36	44	3
348	56°37.66'	153°18.89'	143	KT		3	63	34	12		48	36	4
349	56°38.24'	153°19.80'	148	KT		1	61	38	3		53	42	2
350	56°46.20'	153°10.00'	154	KT		13	53	34	11		40	37	12
351	56°46.86'	153°11.02'	125	KT	22	32	29	17	52	tr	26	16	6
353	56°39.90'	153°11.08'	148	KT		1	61	38	6	tr	43	45	6
354	56°37.85'	153°16.05'	143	KT		1	61	38	11	3	60	21	5
355	56°08.53'	153°29.41'	314	SiT	10	45	26	19	67	2	21	10	tr
356	56°05.55'	153°31.28'	370	SiT	43	49	5	3	93	tr	3	4	tr
357	56°07.56'	153°38.46'	240	SiT		56	30	14	53	1	22	21	3

Table 1 (continued).

Sample	North Latitude	West Longitude	Water Depth (m)	Location*	Texture (weight percents) Coarse	Sand	Silt	Clay	Composition (weight percents) Terrig.	Carb.	Ash	Clay	Silic.
358	56°47.03'	153°11.70'	122	KT	2	69	16	13	54	tr	30	15	1
359	56°46.47'	153°10.59'	152	KT		49	32	19	37	tr	37	22	4
437	57°01.14'	152°10.31'	72	MAB	80	18	1	1	90	7	2	1	tr
443	56°38.56'	152°57.42'	82	SAB	71	18	7	4	89	2	5	3	1
444	56°22.91'	153°15.75'	35	SAB	39	59	1	1	96	2	1	1	
446	56°05.88'	153°51.49'	213	SiT	10	76	10	4	86		7	6	1
447	56°20.68'	153°50.84'	94	SiT	9	75	10	6	55	31	8	4	2
448	56°23.19'	154°18.80'	42	SAB		99	tr	1	100		tr	tr	tr
449	56°08.13'	154°17.33'	97	SAB	63	30	4	3	93	1	1	4	1
452	55°59.97'	155°07.08'	67	SAB	1	99			100	tr			
453	56°13.90'	155°09.84'	32	SAB	91	9	tr	tr	96	4	tr	tr	tr
454	56°12.08'	154°42.77'	89	SAB		97	1	2	97	tr	2	1	tr
501	56°29.79'	155°08.57'	30	SAB	73	26	tr	1	71	28	tr	tr	tr
502	56°27.49'	155°48.68'	180	SS		39	42	19	50	18	20	12	1
503	56°17.43'	155°32.91'	50	SAB		99	tr	1	94	6	tr	tr	
504	56°03.09'	155°30.25'	25	SAB	96	4	tr	tr	78	22		tr	
505	55°55.32'	155°18.02'	50	SAB	77	23	tr	tr	95	5	tr	tr	tr
570	58°34.4'	148°44.1'	117	PB	49	39	5	7	62	30	1	3	4
571	58°12.9'	150°39.9'	80	StT	52	46	1	1	4	92	tr	tr	4
575	56°05.9'	154°45.3'	115	SAB		10	46	44	32	12	41	2	14
576	56°08.8'	154°22.4'	134	SAB	tr	82	11	7	91	1	2	5	tr
578	56°39.5'	153°05.2'	154	KT		1	51	48	20	6	47	26	1
579	56°54.9'	152°32.6'	170	KT		2	63	35	35	12	37	15	tr
580	57°05.0'	151°38.4'	119	MAB	71	19	6	4	80	8	10	2	1
581	57°14.4'	151°19.0'	163	CT		67	25	8	2	1	92	5	0
582	57°29.7'	151°38.6'	133	CT		39	45	16	26	6	60	8	0
D1	56°03.4'	154°52.7'	113	SAB		100	tr	tr	100	tr			
D2	56°05.7'	154°55.9'	64	SAB		99	tr	1	99		tr	tr	tr
D3	56°09.1'	155°02.9'	55	SAB		100			100			tr	
D4	58°41.5'	148°45.4'	215	AT	3	49	22	26	73	3	14	9	1
D5	58°38.4'	148°53.4'	120	PB	41	46	5	9	78	10	2	3	8
D8	58°48.2'	149°08.0'	195	PB	1	23	51	25	65	5	7	15	8
D9	58°40.1'	149°23.2'	135	PB		75	15	10	69	1	23	7	1
D10	58°36.9'	149°23.2'	126	PB	3	57	21	19	29	11	39	12	8
D11	58°33.3'	149°32.6'	120	PB		79	10	11	81	4	11	2	2

Table 1 (continued).

Sample	North Latitude	West Longitude	Water Depth (m)	Location*	Texture (weight percents) Coarse	Sand	Silt	Clay	Composition (weight percents) Terrig.	Carb.	Ash	Clay	Silic.
D12	58°26.5'	149°21.8'	135	PB	9	70	12	9	45	25	18	4	7
D13	58°25.6'	149°51.0'	135	PB	15	66	17	2	45	34	13	4	3
D14	58°20.5'	149°36.2'	140	PB		58	31	11	24	9	50	14	1
D16	58°10.7'	150°01.6'	128	PB	37	52	6	5	46	36	6	3	9
D18	58°14.4'	150°51.4'	106	StT	4	93	1	2	55	27	9	2	8
D22	58°02.5'	150°59.4'	97	NAB	40	38	13	9	32	30	23	4	11
D24	58°20.3'	151°02.4'	101	StT	86	11	1	2	10	87	1	1	1
D25	58°10.4'	150°59.0'	111	NAB	27	67	3	3	20	50	5	2	22
D26	58°05.0'	151°20.8'	139	CT		55	29	16	3	47	34	13	2
D27	57°52.9'	151°22.4'	71	NAB	41	57	tr	2	40	53	3	0	5
D31	57°09.1'	151°21.6'	128	CT	64	31	3	2	69	15	11	1	4
D32	57°07.8'	152°15.2'	80	MAB		84	12	4	5	8	76	8	3
D33	56°48.7'	152°29.9'	146	KT		1	64	35	6	8	56	26	4
D34	56°46.7'	152°11.7'	102	KT		19	53	28	46	7	21	23	3
D35	56°40.6'	152°45.2'	82	SAB	tr	97	2	1	72	23	0	1	3
D36	56°28.6'	152°25.8'	338	CS		56	33	11	42	7	33	12	5
D37	56°26.9'	152°36.0'	179	KT	37	53	1	9	75	7	11	2	5
D38	56°32.4'	153°30.8'	132	KT		15	61	24	27	17	36	18	3
D39	56°29.1'	153°28.0'	88	SAB	25	58	7	10	67	24	1	5	3
D40	56°13.0'	154°11.3'	130	SiT		78	15	7	74	7	2	11	5
D41	56°11.6'	154°28.9'	91	SAB	52	41	4	3	88	5	5	2	0
D42	56°04.9'	154°14.8'	93	SAB	54	37	4	5	86	7	2	3	3

*Refer to Fig. 8. At=Amatuli Trough, PB=Portlock Bank, StT=Stevenson Trough, NAB=northern Albatross Bank, CT=Chiniak Trough MAB=middle Albatross Bank, SAB=southern Albatross Bank, SiT=Sitkinak Trough, CS=continental slope, SS=Shelikof Strait.

Table 2. Varimax factor loadings for 5 factors used to classify and map unconsolidated seafloor sediment of Kodiak Shelf, Alaska. Factors are based on 12 textural and compositional variables. Factor-loading values listed in the columns for factors 1-5 are the proportional contributions of each factor to a given sample. Communality is the sum of squares of the 5 factor loadings for a sample, and will be unity if 5 factors account for all the information in the sample.

STA.	COMM.	1	2	3	4	5
001	0.9967	0.3287	-0.0013	0.2247	0.9015	0.1597
054	0.9874	0.2855	0.2226	0.4267	0.7709	0.2829
055	0.9973	0.1359	0.2525	0.8318	0.4467	0.1535
056	0.9967	0.3287	-0.0020	0.2238	0.9016	0.1600
057	0.9946	0.2612	0.2980	0.6222	0.6433	0.1912
058	0.9920	0.4003	0.4472	0.5558	0.5579	0.1077
059	0.9952	0.5444	0.2937	0.5664	0.5277	0.1153
060	0.9952	0.2648	0.2595	0.5537	0.7212	0.1760
061	0.7494	0.6262	0.0995	0.1631	0.5071	0.2522
062	0.9869	0.3824	0.0026	0.2731	0.7856	0.3858
063	0.9597	0.2933	-0.0078	0.2634	0.5619	0.6989
064	0.9562	0.5524	0.0500	0.3250	0.5466	0.4941
065	0.9585	0.5085	0.0502	0.2366	0.5194	0.6096
066	0.9645	0.1841	0.1053	0.3752	0.4129	0.7799
067	0.9844	0.5136	0.4011	0.3172	0.6039	0.3073
068	0.9598	0.0636	0.6032	0.7646	0.0799	0.0279
069	0.9857	0.1857	0.1659	0.8944	0.3011	0.1821
070	0.9961	0.3323	0.0102	0.2579	0.8900	0.1642
071	0.9986	0.2610	0.0736	0.5494	0.7671	0.1864
072	0.9872	0.0449	0.1652	0.9211	0.2855	0.1671
075	0.9124	0.0713	-0.0651	0.2627	0.3674	0.8361
076	0.9872	0.0699	0.1411	0.8839	0.3649	0.2189
079	0.9575	0.5127	-0.0220	0.2133	0.4536	0.6655
080	0.9789	0.6290	0.0473	0.2052	0.7095	0.1884
081	0.9951	0.0348	0.5262	0.8244	0.1656	0.1002
081	0.9951	0.0348	0.5262	0.8244	0.1656	0.1002
082	0.9874	0.9064	0.3093	0.0892	0.2222	0.1137
085	0.9156	0.2451	-0.0344	0.3586	0.1909	0.8303
086	0.8703	0.4027	0.0847	0.7407	0.0878	0.3802
087	0.9856	0.0689	0.5122	0.8260	0.1415	0.1273
088	0.8900	0.0500	0.7698	0.5425	0.0127	-0.0209
089	0.9826	0.9141	0.1418	0.2370	0.2592	0.0592
090	0.9075	0.0089	-0.0342	0.2801	0.3179	0.8525
091	0.9888	0.0703	0.1375	0.9153	0.2553	0.2492
092	0.8275	0.0546	0.8922	0.1484	0.0391	0.0706
093	0.8262	0.0440	0.8621	0.2301	0.1074	0.1287
094	0.9849	0.9588	0.0528	-0.0586	0.2397	0.0429
096	0.9548	0.0426	0.9496	0.2244	0.0098	-0.0269
097	0.8847	0.0056	0.9351	0.1011	-0.0026	0.0063
098	0.9347	0.0400	0.9503	0.1702	0.0162	-0.0291
113	0.9978	0.5625	0.0475	0.1758	0.7946	0.1297
115	0.9913	0.0388	0.1755	0.9139	0.2737	0.2209
127	0.9283	0.2858	0.1925	0.3019	0.4721	0.7039
128	0.5004	0.3932	0.3170	0.2063	0.2467	0.3768
130	0.9930	0.3289	0.2192	0.2982	0.8530	0.1428
132	0.9429	0.2948	0.7583	0.1749	0.4976	0.0523

Table 2 (continued).

STA.	COMM.	1	2	3	4	5
135	0.9891	0.3162	0.2760	0.2577	0.8500	0.1547
137	0.9434	0.2997	0.2099	0.2941	0.6172	0.5848
138	0.9419	0.4466	0.0354	0.3360	0.5529	0.5680
141	0.8416	0.8025	0.2520	0.2118	0.2615	0.1442
216	0.8213	0.0841	0.1525	0.7159	0.2769	0.4492
217	0.9614	0.7762	0.0850	0.3609	0.3271	0.3384
219	0.9858	0.9072	0.0322	-0.0059	0.3899	0.0985
227	0.9940	0.0540	0.3798	0.8823	0.2364	0.1116
228	0.9682	0.6244	0.0835	0.1834	0.6285	0.3778
229	0.9844	0.0486	0.6052	0.7539	0.1885	0.1092
232	0.9979	0.5843	0.0211	0.1479	0.7891	0.1073
234	0.6950	0.6709	0.0554	0.2887	0.2852	0.2778
236	0.9723	0.0371	0.7540	0.6253	0.0966	0.0451
241	0.9894	0.2098	0.1745	0.7796	0.5307	0.1594
242	0.9912	0.0471	0.4849	0.8352	0.2104	0.1096
243	0.9944	0.5443	0.1483	0.3092	0.7484	0.1430
244	0.9950	0.0975	0.3090	0.8584	0.3600	0.1536
245	0.9424	0.2097	0.2824	0.6330	0.4070	0.5023
246	0.5676	0.4628	0.2825	0.3141	0.2368	0.3448
329	0.9751	0.0328	0.7432	0.6455	0.0642	0.0307
330	0.8658	0.3360	0.1449	0.3974	0.6211	0.4338
336	0.9129	0.0501	0.9483	0.0903	0.0512	0.0159
340	0.9696	0.2032	0.8786	0.2114	0.3340	0.0129
341	0.9608	0.7327	0.0878	0.1653	0.3712	0.5011
342	0.9906	0.8582	0.1526	0.2872	0.3768	0.0792
343	0.9520	0.0658	0.9095	0.3457	0.0020	-0.0313
344	0.9157	0.0294	0.9532	-0.0132	0.0695	0.0350
345	0.9882	0.3133	0.4298	0.2822	0.7797	0.1338
347	0.9316	0.0493	0.9548	0.1198	0.0566	0.0032
348	0.9680	0.0451	0.9634	0.1938	0.0183	-0.0035
349	0.9493	0.0120	0.9506	0.2103	-0.0358	-0.0107
350	0.9060	0.0400	0.9310	0.1532	0.0715	0.0955
351	0.9587	0.4668	0.6968	0.2235	0.4417	0.1007
353	0.9464	0.0130	0.9631	0.1328	-0.0129	0.0275
354	0.9747	0.0454	0.9548	0.2467	-0.0060	-0.0025
355	0.9775	0.3957	0.5833	0.2146	0.6550	0.0751
356	0.9945	0.7198	0.1049	0.0890	0.6734	0.0633
357	0.9679	0.2490	0.6180	0.2968	0.6428	0.1508
358	0.9783	0.2631	0.4412	0.4510	0.6961	0.1624
359	0.9718	0.1776	0.7347	0.4005	0.4721	0.1312
443	0.9899	0.9062	0.1450	-0.0192	0.3837	0.0091
444	0.9966	0.6720	0.0255	0.1157	0.7219	0.0986
446	0.9946	0.4214	0.1608	0.2300	0.8471	0.1433
447	0.9364	0.3497	0.1763	0.2988	0.6872	0.4707
448	0.9970	0.3289	-0.0075	0.2247	0.9016	0.1596
449	0.9941	0.8565	0.1069	-0.0044	0.4978	0.0360
452	0.9968	0.3374	-0.0149	0.2243	0.8987	0.1573
453	0.9847	0.9477	0.0224	-0.0746	0.2829	-0.0180
454	0.9971	0.3295	0.0161	0.2347	0.8990	0.1579
501	0.9738	0.9222	0.0082	0.0164	0.3087	0.1666
502	0.6371	0.1370	0.6510	0.0642	0.4058	0.1602
503	0.9962	0.3142	-0.0005	0.2262	0.8959	0.2089
504	0.9797	0.9770	0.0127	-0.0676	0.1382	0.0363
505	0.9859	0.9071	0.0167	-0.0282	0.4015	0.0273
570	0.9783	0.7541	0.1896	0.0334	0.4537	0.4083

Table 2 (continued).

STA.	COMM.	1	2	3	4	5
571	0.8465	0.5057	-0.0059	0.1840	-0.0342	0.7455
575	0.8000	0.0958	0.8657	0.0896	0.1728	0.0580
576	0.9950	0.3366	0.1728	0.1855	0.8923	0.1461
578	0.9129	0.0567	0.9439	0.1172	0.0707	0.0041
579	0.8011	0.0971	0.8751	0.0468	0.1535	0.0141
580	0.9817	0.9153	0.1547	0.0294	0.3421	0.0452
581	0.9891	0.0343	0.4184	0.8796	0.1723	0.0977
582	0.9386	0.1254	0.7339	0.5537	0.2725	0.0584
D001	0.9967	0.3293	-0.0152	0.2265	0.9009	0.1587
D002	0.9970	0.3289	-0.0075	0.2247	0.9016	0.1596
D003	0.9967	0.3293	-0.0152	0.2265	0.9009	0.1587
D004	0.9523	0.3372	0.5605	0.1259	0.7049	0.1080
D005	0.9260	0.6769	0.2271	0.0448	0.5978	0.2386
D008	0.9536	0.2452	0.8037	-0.0766	0.4826	0.0934
D009	0.9955	0.3006	0.3155	0.3798	0.7982	0.1553
D010	0.8979	0.1510	0.6405	0.4270	0.4398	0.2984
D011	0.9910	0.3266	0.2242	0.2543	0.8566	0.1886
D012	0.9409	0.2856	0.3284	0.3434	0.6419	0.4706
D013	0.8904	0.3240	0.2916	0.2786	0.5988	0.5139
D014	0.9858	0.1138	0.6138	0.6206	0.4070	0.2129
D016	0.9038	0.5730	0.1934	0.1702	0.4449	0.5579
D018	0.9394	0.2493	0.0710	0.3325	0.7299	0.4785
D022	0.8166	0.5648	0.4028	0.2719	0.2331	0.4552
D024	0.6226	0.6810	-0.0004	0.0588	-0.2454	0.3085
D025	0.6019	0.2517	0.1626	0.1588	0.2624	0.6466
D026	0.6902	-0.0208	0.5739	0.2904	0.2051	0.4838
D027	0.9579	0.5413	0.0418	0.1756	0.4006	0.6869
D031	0.9769	0.8845	0.1232	0.1104	0.3681	0.1780
D032	0.9203	0.0425	0.2949	0.8189	0.2825	0.2848
D033	0.9414	0.0093	0.9510	0.1884	-0.0162	0.0329
D034	0.9789	0.1681	0.9089	0.0338	0.3441	0.0706
D035	0.9949	0.2634	0.0159	0.2581	0.8339	0.4041
D036	0.9598	0.2022	0.6394	0.4020	0.5451	0.2265
D037	0.9557	0.6567	0.1974	0.1683	0.6408	0.2157
D038	0.7172	0.0574	0.8189	0.0796	0.1613	0.1046
D039	0.9728	0.5490	0.2468	0.1199	0.6984	0.3290
D040	0.9767	0.2888	0.2853	0.1809	0.8416	0.2662
D041	0.9934	0.8020	0.0909	0.0862	0.5744	0.0677
D042	0.9889	0.8104	0.1468	0.0222	0.5406	0.1335
% CUM. VAR		45.791	65.111	76.326	92.208	96.956

Table 3. Factor score matrix.

	1	2	3	4	5
coarse size	0.8262	-0.0345	0.0289	-0.3301	0.1309
sand size	-0.0525	-0.0958	0.4956	0.5926	0.4329
silt size	-0.0202	0.6255	0.0009	-0.0026	0.0049
clay size	-0.0188	0.5295	-0.1285	0.0573	0.0610
terrigenous	0.5182	0.0743	-0.1752	0.6814	-0.2084
clay min.	-0.0147	0.4287	-0.0677	0.0100	0.0318
volc. ash	0.0932	0.2429	0.8172	-0.1893	-0.1883
silic. micro.	0.0109	0.1785	-0.0929	-0.0074	0.2144
foram.	0.1200	0.0076	0.0325	-0.0815	0.2162
large shells	0.1388	-0.0147	0.0224	-0.1441	0.2186
crushed shells	-0.0143	-0.0032	-0.0907	-0.0866	0.7458
fine carb.	-0.0496	0.1940	-0.1245	0.0373	0.1232

Table 4. Descriptions of samples for which detailed analyses were not made

Sample	North Latitude	West Longitude	Water Depth (M)	Location	Visual Description
50	59°52.50'	151°54.50'	32		Sandy gravel
95	56°48.10'	153°21.40'	170	KT	Pebbly sand
99	56°24.50'	152°53.70'	50	SAB	Bedrock (siltstone)
100	56°24.00'	152°53.50'	50	SAB	Bedrock (siltstone)
101	56°23.20'	152°54.10'	49	SAB	Bedrock (silty, fine-grained sandstone)
102	56°23.10'	152°53.90'	45	SAB	Bedrock (siltstone)
103	56°22.70'	152°52.00	50	SAB	Bedrock (silty, fine-grained sandstone)
104	56°22.00'	152°50.90'	75	SAB	Bedrock (silty, fine-grained sandstone)
106	56°29.60'	152°43.70'	60	SAB	Bedrock (siltstone)
107	56°30.15'	152°44.10'	56	SAB	Bedrock (siltstone)
108	56°30.30'	152°44.90'	56	SAB	Bedrock (siltstone)
110	56°31.40'	152°46.70'	64	SAB	Bedrock (siltstone)
111	56°31.70'	152°47.50'	65	SAB	Bedrock (sandy siltstone)
112	56°32.00'	152°48.50'	70	SAB	Coarse sand with broken shells
114	56°37.60'	152°34.00'	160	KT	Slightly muddy sand
116	57°12.00'	151°51.10'	75	MAB	Bedrock (pebbly, sandy siltstone)
117	57°10.90'	151°50.70'	54	MAB	Bedrock (pebbly, sandy siltstone)
118	57°11.00'	151°50.00'	54	MAB	Bedrock (sandy siltstone)
119	57°10.60'	151°49.10'	56	MAB	Pebbly sand with broken shells
120	57°10.00'	151°48.40'	60	MAB	Bedrock (sandy siltstone)
121	57°09.25'	151°47.50'	70	MAB	Bedrock (sandy siltstone)
123	57°08.75'	151°46.30'	76	MAB	Bedrock (sandy siltstone)
124	57°08.50'	151°45.60'	78	MAB	Bedrock (fine sandstone)
125	57°08.00'	151°45.00'	80	MAB	Sandy silt
129	58°35.85'	149°14.91'	95	PB	Pebbly muddy sand
133	58°54.41'	149°01.95'	250	AT	Muddy sand
140	58°22.25'	149°54.26'	83	PB	Pebbly sand
142	58°08.66'	149°04.71'	114	PB	Bedrock (muddy sand)
144	58°05.92'	149°01.38'	88	PB	Bedrock (sandy siltstone)
145	58°06.59'	149°02.46'	90	PB	Bedrock (sandy siltstone)

Table 4 (continued).

147	58°05.55'	149°00.97'	88	PB	Bedrock (fine-grained sandstone)
148	58°04.96'	148°59.95'	90	PB	Bedrock (sandy siltstone)
149	58°04.64'	148°59.49'	98	PB	Bedrock (sandy siltstone)
220	56°43.80'	151°55.90'	62	MAB	Boulder
231	57°24.90'	151°23.60'	187	CT	Ash-rich mud
352	56°40.19'	153°10.88'	150	KT	Ash-rich mud
432	57°25.40'	151°23.50'	175	CT	Ash-rich mud
433	57°26.71'	151°25.26'	174	CT	Ash-rich mud
435	57°15.04'	151°17.10'	158	CT	Ash-rich mud
439	56°40.51'	153°12.30'	159	KT	Ash-rich mud
440	56°39.15'	153°06.36'	156	KT	Ash-rich mud
441	56°39.50'	153°04.62'	164	KT	Ash-rich mud
442	56°39.15'	15302.11'	135	KT	Ash-rich mud
445	56°11.17'	153°17.28'	1003	SiT	Mud
450	55°56.06'	154°14.13'	390	CS	Mud, with sand layers
451	55°58.50'	154°45.80'	371	CS	

Appendix 1. Compositional data for the various size fractions.

SAMPLE NUMBER 1

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:
Terrigenous rock fragments _____
Carbonate shells _____

__ granules __ pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 98

Composition:
Terrigenous rock fragments and mineral grains 100
Carbonate megafaunal shell fragments TR
Foraminifera _____
Volcanic ash _____
Siliceous spicules and shells _____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 1
Weight percent clay (<0.0039 mm) in total sample 1

Composition:
Clay minerals _____
Volcanic ash _____
Terrigenous mineral grains _____
Siliceous shells and spicules _____
Carbonate shells _____

SAMPLE NUMBER 50

Coarse fraction (>2 mm)

Weight percent of total sample 58

Composition:
Terrigenous rock fragments 97
Carbonate shells 3

X granules X pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 42

Composition:
Terrigenous rock fragments and mineral grains 90
Carbonate megafaunal shell fragments 9
Foraminifera 1
Volcanic ash _____
Siliceous spicules and shells _____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample TR
Weight percent clay (<0.0039 mm) in total sample TR

Composition:
Clay minerals 10
Volcanic ash 35
Terrigenous mineral grains 55
Siliceous shells and spicules Tr
Carbonate shells _____

SAMPLE NUMBER 51

Coarse fraction (>2 mm)

Weight percent of total sample 100

Composition:
Terrigenous rock fragments 95
Carbonate shells 5

X granules X pebbles
_ cobbles _ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample ____

Composition:
Terrigenous rock fragments and mineral grains ____
Carbonate megafaunal shell fragments ____
Foraminifera ____
Volcanic ash ____
Siliceous spicules and shells ____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample ____
Weight percent clay (<0.0039 mm) in total sample ____

Composition:
Clay minerals ____
Volcanic ash ____
Terrigenous mineral grains ____
Siliceous shells and spicules ____
Carbonate shells ____

SAMPLE NUMBER 52

Coarse fraction (>2 mm)

Weight percent of total sample 70

Composition:
Terrigenous rock fragments 95
Carbonate shells 5

X granules X pebbles
X cobbles _ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 25

Composition:
Terrigenous rock fragments and mineral grains ____
Carbonate megafaunal shell fragments ____
Foraminifera ____
Volcanic ash ____
Siliceous spicules and shells ____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 3
Weight percent clay (<0.0039 mm) in total sample 2

Composition:
Clay minerals ____
Volcanic ash ____
Terrigenous mineral grains ____
Siliceous shells and spicules ____
Carbonate shells ____

SAMPLE NUMBER 53

Coarse fraction (>2 mm)

Weight percent of total sample 100

Composition:

Terrigenous rock fragments 89

Carbonate shells 11

X granules X pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample _____

Composition:

Terrigenous rock fragments and mineral grains _____
Carbonate megafaunal shell fragments _____
Foraminifera _____
Volcanic ash _____
Siliceous spicules and shells _____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample _____
Weight percent clay (<0.0039 mm) in total sample _____

Composition:

Clay minerals _____
Volcanic ash _____
Terrigenous mineral grains _____
Siliceous shells and spicules _____
Carbonate shells _____

SAMPLE NUMBER 54

Coarse fraction (>2 mm)

Weight percent of total sample 2

Composition:

Terrigenous rock fragments 50

Carbonate shells 50

X granules __ pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 78

Composition:

Terrigenous rock fragments and mineral grains 70
Carbonate megafaunal shell fragments 15
Foraminifera _____
Volcanic ash 10
Siliceous spicules and shells TR

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 14
Weight percent clay (<0.0039 mm) in total sample 6

Composition:

Clay minerals 15
Volcanic ash 75
Terrigenous mineral grains 10
Siliceous shells and spicules Tr
Carbonate shells _____

SAMPLE NUMBER 55

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:
Terrigenous rock fragments _____
Carbonate shells _____

__ granules __ pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 83

Composition:
Terrigenous rock fragments and mineral grains 26
Carbonate megafaunal shell fragments _____
Foraminifera 1
Volcanic ash 73
Siliceous spicules and shells _____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 12
Weight percent clay (<0.0039 mm) in total sample 5

Composition:
Clay minerals 12
Volcanic ash 63
Terrigenous mineral grains 20
Siliceous shells and spicules Tr
Carbonate shells _____

SAMPLE NUMBER 56

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:
Terrigenous rock fragments _____
Carbonate shells _____

__ granules __ pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 99

Composition:
Terrigenous rock fragments and mineral grains 100
Carbonate megafaunal shell fragments TR
Foraminifera _____
Volcanic ash _____
Siliceous spicules and shells _____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample TR
Weight percent clay (<0.0039 mm) in total sample 1

Composition:
Clay minerals 57
Volcanic ash 35
Terrigenous mineral grains 3
Siliceous shells and spicules 5
Carbonate shells Tr

SAMPLE NUMBER 57

Coarse fraction (>2 mm)

Weight percent of total sample 2

Composition:

Terrigenous rock fragments 60

Carbonate shells 40

X granules ___ pebbles

___ cobbles ___ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 76

Composition:

Terrigenous rock fragments and mineral grains 56

Carbonate megafaunal shell fragments 2

Foraminifera 2

Volcanic ash 40

Siliceous spicules and shells TR

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 17

Weight percent clay (<0.0039 mm) in total sample 5

Composition:

Clay minerals 15

Volcanic ash 65

Terrigenous mineral grains 15

Siliceous shells and spicules 5

Carbonate shells ___

SAMPLE NUMBER 58

Coarse fraction (>2 mm)

Weight percent of total sample 15

Composition:

Terrigenous rock fragments 100

Carbonate shells TR

X granules X pebbles

___ cobbles ___ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 56

Composition:

Terrigenous rock fragments and mineral grains 50

Carbonate megafaunal shell fragments ___

Foraminifera TR

Volcanic ash 50

Siliceous spicules and shells TR

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 22

Weight percent clay (<0.0039 mm) in total sample 7

Composition:

Clay minerals 30

Volcanic ash 50

Terrigenous mineral grains 15

Siliceous shells and spicules 5

Carbonate shells ___

SAMPLE NUMBER 59

Coarse fraction (>2 mm)

Weight percent of total sample 29

Composition:

Terrigenous rock fragments 100

Carbonate shells ____

x granules x pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 56

Composition:

Terrigenous rock fragments and mineral grains 34
Carbonate megafaunal shell fragments ____
Foraminifera 1
Volcanic ash 65
Siliceous spicules and shells ____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 10
Weight percent clay (<0.0039 mm) in total sample 6

Composition:

Clay minerals 35
Volcanic ash 40
Terrigenous mineral grains 20
Siliceous shells and spicules 3
Carbonate shells 2

SAMPLE NUMBER 60

Coarse fraction (>2 mm)

Weight percent of total sample 2

Composition:

Terrigenous rock fragments 100

Carbonate shells ____

x granules __ pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 81

Composition:

Terrigenous rock fragments and mineral grains 60
Carbonate megafaunal shell fragments ____
Foraminifera TR
Volcanic ash 40
Siliceous spicules and shells TR

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 10
Weight percent clay (<0.0039 mm) in total sample 7

Composition:

Clay minerals 45
Volcanic ash 40
Terrigenous mineral grains 15
Siliceous shells and spicules 10
Carbonate shells ____

SAMPLE NUMBER 61

Coarse fraction (>2 mm)

Weight percent of total sample 38

Composition:

Terrigenous rock fragments 100

Carbonate shells TR

x granules x pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 54

Composition:

Terrigenous rock fragments and mineral grains 64
Carbonate megafaunal shell fragments 3
Foraminifera 27
Volcanic ash 5
Siliceous spicules and shells 1

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 5
Weight percent clay (<0.0039 mm) in total sample 3

Composition:

Clay minerals 45
Volcanic ash 35
Terrigenous mineral grains 8
Siliceous shells and spicules 12
Carbonate shells ____

SAMPLE NUMBER 62

Coarse fraction (>2 mm)

Weight percent of total sample 12

Composition:

Terrigenous rock fragments 16

Carbonate shells 74

x granules __ pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 85

Composition:

Terrigenous rock fragments and mineral grains 78
Carbonate megafaunal shell fragments 20
Foraminifera 1
Volcanic ash 1
Siliceous spicules and shells TR

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 2
Weight percent clay (<0.0039 mm) in total sample 1

Composition:

Clay minerals 30
Volcanic ash 28
Terrigenous mineral grains 30
Siliceous shells and spicules 9
Carbonate shells 3

SAMPLE NUMBER 63

Coarse fraction (>2 mm)

Weight percent of total sample 17

Composition:

Terrigenous rock fragments 75

Carbonate shells 25

X granules
__ cobbles
__ pebbles
__ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 79

Composition:

Terrigenous rock fragments and mineral grains 35
Carbonate megafaunal shell fragments 63
Foraminifera 2
Volcanic ash TR
Siliceous spicules and shells TR

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 3
Weight percent clay (<0.0039 mm) in total sample 1

Composition:

Clay minerals 15
Volcanic ash 35
Terrigenous mineral grains 45
Siliceous shells and spicules TR
Carbonate shells 5

SAMPLE NUMBER 64

Coarse fraction (>2 mm)

Weight percent of total sample 34

Composition:

Terrigenous rock fragments 99

Carbonate shells 1

X granules
__ cobbles
X pebbles
__ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 62

Composition:

Terrigenous rock fragments and mineral grains 28
Carbonate megafaunal shell fragments 50
Foraminifera 1
Volcanic ash 21
Siliceous spicules and shells TR

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 2
Weight percent clay (<0.0039 mm) in total sample 2

Composition:

Clay minerals 30
Volcanic ash 60
Terrigenous mineral grains 5
Siliceous shells and spicules 4
Carbonate shells 1

SAMPLE NUMBER 65

Coarse fraction (>2 mm)

Weight percent of total sample 32

Composition:

Terrigenous rock fragments 95

Carbonate shells 5

X granules X pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 62

Composition:

Terrigenous rock fragments and mineral grains 26
Carbonate megafaunal shell fragments 63
Foraminifera 5
Volcanic ash 5
Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 3
Weight percent clay (<0.0039 mm) in total sample 3

Composition:

Clay minerals 37
Volcanic ash 48
Terrigenous mineral grains 15
Siliceous shells and spicules Tr
Carbonate shells Tr

SAMPLE NUMBER 66

Coarse fraction (>2 mm)

Weight percent of total sample 13

Composition:

Terrigenous rock fragments 33

Carbonate shells 67

__ granules __ pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 75

Composition:

Terrigenous rock fragments and mineral grains 20
Carbonate megafaunal shell fragments 68
Foraminifera 3
Volcanic ash 8
Siliceous spicules and shells 1

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 8
Weight percent clay (<0.0039 mm) in total sample 4

Composition:

Clay minerals 25
Volcanic ash 60
Terrigenous mineral grains 6
Siliceous shells and spicules 6
Carbonate shells 3

SAMPLE NUMBER 67

Coarse fraction (>2 mm)

Weight percent of total sample 21

Composition:

Terrigenous rock fragments 70
Carbonate shells 30

x granules x pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 53

Composition:

Terrigenous rock fragments and mineral grains 70
Carbonate megafaunal shell fragments 15
Foraminifera 5
Volcanic ash 10
Siliceous spicules and shells TR

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 18
Weight percent clay (<0.0039 mm) in total sample 8

Composition:

Clay minerals 35
Volcanic ash 50
Terrigenous mineral grains 7
Siliceous shells and spicules 8
Carbonate shells ____

SAMPLE NUMBER 68

Coarse fraction (>2 mm)

Weight percent of total sample 1

Composition:

Terrigenous rock fragments ____
Carbonate shells 100

__ granules __ pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 43

Composition:

Terrigenous rock fragments and mineral grains TR
Carbonate megafaunal shell fragments TR
Foraminifera 1
Volcanic ash 98
Siliceous spicules and shells 1

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 46
Weight percent clay (<0.0039 mm) in total sample 10

Composition:

Clay minerals 12
Volcanic ash 80
Terrigenous mineral grains 8
Siliceous shells and spicules Tr
Carbonate shells Tr

SAMPLE NUMBER 69

Coarse fraction (>2 mm)

Weight percent of total sample 13

Composition:

Terrigenous rock fragments 89

Carbonate shells 11

__ granules X pebbles

__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 82

Composition:

Terrigenous rock fragments and mineral grains 3

Carbonate megafaunal shell fragments 2

Foraminifera 1

Volcanic ash 94

Siliceous spicules and shells TR

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 2

Weight percent clay (<0.0039 mm) in total sample 3

Composition:

Clay minerals 31

Volcanic ash 54

Terrigenous mineral grains 8

Siliceous shells and spicules 6

Carbonate shells 1

SAMPLE NUMBER 70

Coarse fraction (>2 mm)

Weight percent of total sample 1

Composition:

Terrigenous rock fragments ____

Carbonate shells 100

__ granules __ pebbles

__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 97

Composition:

Terrigenous rock fragments and mineral grains 97

Carbonate megafaunal shell fragments ____

Foraminifera ____

Volcanic ash 3

Siliceous spicules and shells ____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 1

Weight percent clay (<0.0039 mm) in total sample 1

Composition:

Clay minerals 26

Volcanic ash 62

Terrigenous mineral grains 5

Siliceous shells and spicules 7

Carbonate shells ____

SAMPLE NUMBER 71

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:

Terrigenous rock fragments _____ __ granules __ pebbles

Carbonate shells _____ __ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 96

Composition:

Terrigenous rock fragments and mineral grains 64

Carbonate megafaunal shell fragments TR

Foraminifera 1

Volcanic ash 35

Siliceous spicules and shells _____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 3

Weight percent clay (<0.0039 mm) in total sample 1

Composition:

Clay minerals 31

Volcanic ash 60

Terrigenous mineral grains 7

Siliceous shells and spicules 2

Carbonate shells _____

SAMPLE NUMBER 72

Coarse fraction (>2 mm)

Weight percent of total sample TR

Composition:

Terrigenous rock fragments _____ __ granules __ pebbles

Carbonate shells 100 __ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 94

Composition:

Terrigenous rock fragments and mineral grains 5

Carbonate megafaunal shell fragments TR

Foraminifera 1

Volcanic ash 94

Siliceous spicules and shells _____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 3

Weight percent clay (<0.0039 mm) in total sample 3

Composition:

Clay minerals 35

Volcanic ash 60

Terrigenous mineral grains 5

Siliceous shells and spicules Tr

Carbonate shells _____

SAMPLE NUMBER 75

Coarse fraction (>2 mm)

Weight percent of total sample 10

Composition:

Terrigenous rock fragments 46

Carbonate shells 54

__ granules __ pebbles

__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 90

Composition:

Terrigenous rock fragments and mineral grains 10

Carbonate megafaunal shell fragments 90

Foraminifera _____

Volcanic ash _____

Siliceous spicules and shells _____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample _____

Weight percent clay (<0.0039 mm) in total sample _____

Composition:

Clay minerals _____

Volcanic ash _____

Terrigenous mineral grains _____

Siliceous shells and spicules _____

Carbonate shells _____

SAMPLE NUMBER 76

Coarse fraction (>2 mm)

Weight percent of total sample TR

Composition:

Terrigenous rock fragments _____

Carbonate shells 100

__ granules __ pebbles

__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 96

Composition:

Terrigenous rock fragments and mineral grains 12

Carbonate megafaunal shell fragments 4

Foraminifera 1

Volcanic ash 83

Siliceous spicules and shells TR

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 1

Weight percent clay (<0.0039 mm) in total sample 3

Composition:

Clay minerals 36

Volcanic ash 47

Terrigenous mineral grains 5

Siliceous shells and spicules 11

Carbonate shells 1

SAMPLE NUMBER 77

Coarse fraction (>2 mm)

Weight percent of total sample 95

Composition:

Terrigenous rock fragments 95 — X granules X pebbles

Carbonate shells 5 — cobbles — boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 5

Composition:

Terrigenous rock fragments and mineral grains 80

Carbonate megafaunal shell fragments 19

Foraminifera 1

Volcanic ash

Siliceous spicules and shells

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample

Weight percent clay (<0.0039 mm) in total sample

Composition:

Clay minerals

Volcanic ash

Terrigenous mineral grains

Siliceous shells and spicules

Carbonate shells

SAMPLE NUMBER 79

Coarse fraction (>2 mm)

Weight percent of total sample 96

Composition:

Terrigenous rock fragments 68 — X granules X pebbles

Carbonate shells 32 — cobbles — boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 62

Composition:

Terrigenous rock fragments and mineral grains 28

Carbonate megafaunal shell fragments 70

Foraminifera 2

Volcanic ash TR

Siliceous spicules and shells

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample TR

Weight percent clay (<0.0039 mm) in total sample 2

Composition:

Clay minerals 20

Volcanic ash 50

Terrigenous mineral grains 30

Siliceous shells and spicules Tr

Carbonate shells

SAMPLE NUMBER 80

Coarse fraction (>2 mm)

Weight percent of total sample 32

Composition:

Terrigenous rock fragments 65 — X granules X pebbles

Carbonate shells 35 — _ cobbles _ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 62

Composition:

Terrigenous rock fragments and mineral grains 85

Carbonate megafaunal shell fragments 3

Foraminifera TR

Volcanic ash 7

Siliceous spicules and shells _____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 4

Weight percent clay (<0.0039 mm) in total sample 2

Composition:

Clay minerals _____

Volcanic ash _____

Terrigenous mineral grains _____

Siliceous shells and spicules _____

Carbonate shells _____

SAMPLE NUMBER 81

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:

Terrigenous rock fragments _____ — _ granules _ pebbles

Carbonate shells _____ — _ cobbles _ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 60

Composition:

Terrigenous rock fragments and mineral grains 1

Carbonate megafaunal shell fragments _____

Foraminifera TR

Volcanic ash 99

Siliceous spicules and shells TR

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 30

Weight percent clay (<0.0039 mm) in total sample 10

Composition:

Clay minerals 25

Volcanic ash 65

Terrigenous mineral grains 5

Siliceous shells and spicules 3

Carbonate shells 2

SAMPLE NUMBER 82

Coarse fraction (>2 mm)

Weight percent of total sample 64

Composition:

Terrigenous rock fragments 83

Carbonate shells 17

X granules X pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 16

Composition:

Terrigenous rock fragments and mineral grains 30
Carbonate megafaunal shell fragments 25
Foraminifera 7
Volcanic ash 38
Siliceous spicules and shells TR

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 15
Weight percent clay (<0.0039 mm) in total sample 5

Composition:

Clay minerals 40
Volcanic ash 42
Terrigenous mineral grains 7
Siliceous shells and spicules 10
Carbonate shells 1

SAMPLE NUMBER 85

Coarse fraction (>2 mm)

Weight percent of total sample 28

Composition:

Terrigenous rock fragments 1

Carbonate shells 99

X granules __ pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 70

Composition:

Terrigenous rock fragments and mineral grains 5
Carbonate megafaunal shell fragments 80
Foraminifera ____
Volcanic ash 15
Siliceous spicules and shells ____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 1
Weight percent clay (<0.0039 mm) in total sample 1

Composition:

Clay minerals 23
Volcanic ash 65
Terrigenous mineral grains 5
Siliceous shells and spicules 7
Carbonate shells Tr

SAMPLE NUMBER 86

Coarse fraction (>2 mm)

Weight percent of total sample 36

Composition:

Terrigenous rock fragments 4

Carbonate shells 96

X granules ___ pebbles
___ cobbles ___ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 61

Composition:

Terrigenous rock fragments and mineral grains 6
Carbonate megafaunal shell fragments 12
Foraminifera TR
Volcanic ash 82
Siliceous spicules and shells ____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 1
Weight percent clay (<0.0039 mm) in total sample 2

Composition:

Clay minerals ____
Volcanic ash ____
Terrigenous mineral grains ____
Siliceous shells and spicules ____
Carbonate shells ____

SAMPLE NUMBER 87

Coarse fraction (>2 mm)

Weight percent of total sample 4

Composition:

Terrigenous rock fragments ____

Carbonate shells 100

___ granules ___ pebbles
___ cobbles ___ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 59

Composition:

Terrigenous rock fragments and mineral grains ____
Carbonate megafaunal shell fragments Tr
Foraminifera ____
Volcanic ash 100
Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 31
Weight percent clay (<0.0039 mm) in total sample 7

Composition:

Clay minerals 25
Volcanic ash 60
Terrigenous mineral grains 5
Siliceous shells and spicules 10
Carbonate shells ____

SAMPLE NUMBER 88

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:
Terrigenous rock fragments _____
Carbonate shells _____

__ granules __ pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 22

Composition:
Terrigenous rock fragments and mineral grains _____
Carbonate megafaunal shell fragments 1
Foraminifera _____
Volcanic ash 97
Siliceous spicules and shells 2

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 69
Weight percent clay (<0.0039 mm) in total sample 9

Composition:
Clay minerals 20
Volcanic ash 70
Terrigenous mineral grains 8
Siliceous shells and spicules 2
Carbonate shells _____

SAMPLE NUMBER 89

Coarse fraction (>2 mm)

Weight percent of total sample 68

Composition:
Terrigenous rock fragments 90
Carbonate shells 10

X granules __ pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 24

Composition:
Terrigenous rock fragments and mineral grains 3
Carbonate megafaunal shell fragments 12
Foraminifera Tr
Volcanic ash 85
Siliceous spicules and shells _____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 6
Weight percent clay (<0.0039 mm) in total sample 2

Composition:
Clay minerals 12
Volcanic ash 70
Terrigenous mineral grains 18
Siliceous shells and spicules Tr
Carbonate shells _____

SAMPLE NUMBER 90

Coarse fraction (>2 mm)

Weight percent of total sample 6

Composition:

Terrigenous rock fragments ____ — granules — pebbles

Carbonate shells 100 — cobbles — boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 91

Composition:

Terrigenous rock fragments and mineral grains 4

Carbonate megafaunal shell fragments 95

Foraminifera Tr

Volcanic ash 1

Siliceous spicules and shells ____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 1

Weight percent clay (<0.0039 mm) in total sample 2

Composition:

Clay minerals 26

Volcanic ash 60

Terrigenous mineral grains 5

Siliceous shells and spicules 8

Carbonate shells 1

SAMPLE NUMBER 91

Coarse fraction (>2 mm)

Weight percent of total sample 5

Composition:

Terrigenous rock fragments ____ — granules — pebbles

Carbonate shells 100 — cobbles — boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 91

Composition:

Terrigenous rock fragments and mineral grains 1

Carbonate megafaunal shell fragments 7

Foraminifera 1

Volcanic ash 91

Siliceous spicules and shells ____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 2

Weight percent clay (<0.0039 mm) in total sample 2

Composition:

Clay minerals 23

Volcanic ash 60

Terrigenous mineral grains 17

Siliceous shells and spicules Tr

Carbonate shells ____

SAMPLE NUMBER 92

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:

Terrigenous rock fragments _____ __ granules __ pebbles

Carbonate shells _____ __ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 6

Composition:

Terrigenous rock fragments and mineral grains 1

Carbonate megafaunal shell fragments _____

Foraminifera 1

Volcanic ash 15

Siliceous spicules and shells 83

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 74

Weight percent clay (<0.0039 mm) in total sample 20

Composition:

Clay minerals 30

Volcanic ash 45

Terrigenous mineral grains 15

Siliceous shells and spicules 12

Carbonate shells Tr

SAMPLE NUMBER 93

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:

Terrigenous rock fragments _____ __ granules __ pebbles

Carbonate shells _____ __ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 24

Composition:

Terrigenous rock fragments and mineral grains 10

Carbonate megafaunal shell fragments _____

Foraminifera 4

Volcanic ash 66

Siliceous spicules and shells 20

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 62

Weight percent clay (<0.0039 mm) in total sample 14

Composition:

Clay minerals 46

Volcanic ash 30

Terrigenous mineral grains 12

Siliceous shells and spicules 12

Carbonate shells Tr

SAMPLE NUMBER 94

Coarse fraction (>2 mm)

Weight percent of total sample 87

Composition:

Terrigenous rock fragments 90 — X granules X pebbles

Carbonate shells 10 — X cobbles X boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 10

Composition:

Terrigenous rock fragments and mineral grains 53

Carbonate megafaunal shell fragments 45

Foraminifera 1

Volcanic ash 1

Siliceous spicules and shells ____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 2

Weight percent clay (<0.0039 mm) in total sample 1

Composition:

Clay minerals 55

Volcanic ash 33

Terrigenous mineral grains 12

Siliceous shells and spicules Tr

Carbonate shells Tr

SAMPLE NUMBER 96

Coarse fraction (>2 mm)

Weight percent of total sample ____

Composition:

Terrigenous rock fragments ____ — ___ granules ___ pebbles

Carbonate shells ____ — ___ cobbles ___ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 3

Composition:

Terrigenous rock fragments and mineral grains 29

Carbonate megafaunal shell fragments 10

Foraminifera ____

Volcanic ash 30

Siliceous spicules and shells 31

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 61

Weight percent clay (<0.0039 mm) in total sample 36

Composition:

Clay minerals 35

Volcanic ash 55

Terrigenous mineral grains 10

Siliceous shells and spicules Tr

Carbonate shells ____

SAMPLE NUMBER 97

Coarse fraction (>2 mm)

Weight percent of total sample ____

Composition:

Terrigenous rock fragments ____ __ granules __ pebbles

Carbonate shells ____ __ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 1

Composition:

Terrigenous rock fragments and mineral grains 1

Carbonate megafaunal shell fragments ____

Foraminifera 3

Volcanic ash 31

Siliceous spicules and shells 65

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 60

Weight percent clay (<0.0039 mm) in total sample 39

Composition:

Clay minerals 55

Volcanic ash 40

Terrigenous mineral grains 5

Siliceous shells and spicules Tr

Carbonate shells Tr

SAMPLE NUMBER 98

Coarse fraction (>2 mm)

Weight percent of total sample ____

Composition:

Terrigenous rock fragments ____ __ granules __ pebbles

Carbonate shells ____ __ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 1

Composition:

Terrigenous rock fragments and mineral grains 1

Carbonate megafaunal shell fragments 3

Foraminifera ____

Volcanic ash 46

Siliceous spicules and shells 50

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 62

Weight percent clay (<0.0039 mm) in total sample 37

Composition:

Clay minerals 40

Volcanic ash 48

Terrigenous mineral grains 12

Siliceous shells and spicules Tr

Carbonate shells ____

SAMPLE NUMBER 113

Coarse fraction (>2 mm)

Weight percent of total sample 25

Composition:

Terrigenous rock fragments 100

Carbonate shells _____

x granules x pebbles

_ cobbles _ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 70

Composition:

Terrigenous rock fragments and mineral grains 98

Carbonate megafaunal shell fragments Tr

Foraminifera 2

Volcanic ash Tr

Siliceous spicules and shells _____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 3

Weight percent clay (<0.0039 mm) in total sample 2

Composition:

Clay minerals 25

Volcanic ash 60

Terrigenous mineral grains 15

Siliceous shells and spicules Tr

Carbonate shells _____

SAMPLE NUMBER 115

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:

Terrigenous rock fragments _____

Carbonate shells _____

_ granules _ pebbles

_ cobbles _ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 92

Composition:

Terrigenous rock fragments and mineral grains 2

Carbonate megafaunal shell fragments 6

Foraminifera 2

Volcanic ash 90

Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 5

Weight percent clay (<0.0039 mm) in total sample 3

Composition:

Clay minerals 19

Volcanic ash 73

Terrigenous mineral grains 6

Siliceous shells and spicules 2

Carbonate shells Tr

SAMPLE NUMBER 127

Coarse fraction (>2 mm)

Weight percent of total sample 17

Composition:

Terrigenous rock fragments 74 — x granules, x pebbles

Carbonate shells 26 — _ cobbles, _ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 65

Composition:

Terrigenous rock fragments and mineral grains 25

Carbonate megafaunal shell fragments 73

Foraminifera 1

Volcanic ash 1

Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 11

Weight percent clay (<0.0039 mm) in total sample 7

Composition:

Clay minerals 25

Volcanic ash 55

Terrigenous mineral grains 20

Siliceous shells and spicules Tr

Carbonate shells _____

SAMPLE NUMBER 128

Coarse fraction (>2 mm)

Weight percent of total sample 25

Composition:

Terrigenous rock fragments 98 — x granules, x pebbles

Carbonate shells 2 — _ cobbles, _ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 45

Composition:

Terrigenous rock fragments and mineral grains 5

Carbonate megafaunal shell fragments 25

Foraminifera 50

Volcanic ash 20

Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 15

Weight percent clay (<0.0039 mm) in total sample 15

Composition:

Clay minerals 35

Volcanic ash 24

Terrigenous mineral grains 35

Siliceous shells and spicules 5

Carbonate shells 1

SAMPLE NUMBER 130

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:

Terrigenous rock fragments _____ __ granules __ pebbles

Carbonate shells _____ __ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 79

Composition:

Terrigenous rock fragments and mineral grains 99

Carbonate megafaunal shell fragments _____

Foraminifera Tr

Volcanic ash Tr

Siliceous spicules and shells 1

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 11

Weight percent clay (<0.0039 mm) in total sample 10

Composition:

Clay minerals 15

Volcanic ash 75

Terrigenous mineral grains 10

Siliceous shells and spicules Tr

Carbonate shells _____

SAMPLE NUMBER 131

Coarse fraction (>2 mm)

Weight percent of total sample 3

Composition:

Terrigenous rock fragments 100 x granules x pebbles

Carbonate shells _____ __ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 45

Composition:

Terrigenous rock fragments and mineral grains 99

Carbonate megafaunal shell fragments _____

Foraminifera 1

Volcanic ash Tr

Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 25

Weight percent clay (<0.0039 mm) in total sample 27

Composition:

Clay minerals _____

Volcanic ash _____

Terrigenous mineral grains _____

Siliceous shells and spicules _____

Carbonate shells _____

SAMPLE NUMBER 132

Coarse fraction (>2 mm)

Weight percent of total sample 5

Composition:

Terrigenous rock fragments 100

Carbonate shells ____

X granules ___ pebbles

___ cobbles ___ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 33

Composition:

Terrigenous rock fragments and mineral grains 88

Carbonate megafaunal shell fragments ____

Foraminifera 1

Volcanic ash 10

Siliceous spicules and shells 1

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 32

Weight percent clay (<0.0039 mm) in total sample 30

Composition:

Clay minerals 23

Volcanic ash 39

Terrigenous mineral grains 34

Siliceous shells and spicules 5

Carbonate shells Tr

SAMPLE NUMBER 134

Coarse fraction (>2 mm)

Weight percent of total sample 20

Composition:

Terrigenous rock fragments 100

Carbonate shells ____

X granules X pebbles

___ cobbles ___ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 41

Composition:

Terrigenous rock fragments and mineral grains 94

Carbonate megafaunal shell fragments ____

Foraminifera Tr

Volcanic ash 5

Siliceous spicules and shells 1

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 17

Weight percent clay (<0.0039 mm) in total sample 22

Composition:

Clay minerals ____

Volcanic ash ____

Terrigenous mineral grains ____

Siliceous shells and spicules ____

Carbonate shells ____

SAMPLE NUMBER 135

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:

Terrigenous rock fragments _____ __ granules __ pebbles

Carbonate shells _____ __ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 77

Composition:

Terrigenous rock fragments and mineral grains 100

Carbonate megafaunal shell fragments _____

Foraminifera Tr

Volcanic ash Tr

Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 15

Weight percent clay (<0.0039 mm) in total sample 8

Composition:

Clay minerals 44

Volcanic ash 46

Terrigenous mineral grains 4

Siliceous shells and spicules 6

Carbonate shells _____

SAMPLE NUMBER 136

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:

Terrigenous rock fragments _____ __ granules __ pebbles

Carbonate shells _____ __ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 73

Composition:

Terrigenous rock fragments and mineral grains 97

Carbonate megafaunal shell fragments _____

Foraminifera _____

Volcanic ash 3

Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 17

Weight percent clay (<0.0039 mm) in total sample 10

Composition:

Clay minerals _____

Volcanic ash _____

Terrigenous mineral grains _____

Siliceous shells and spicules _____

Carbonate shells _____

SAMPLE NUMBER 137

Coarse fraction (>2 mm)

Weight percent of total sample 10

Composition:

Terrigenous rock fragments 62

Carbonate shells 38

x granules ___ pebbles

___ cobbles ___ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 72

Composition:

Terrigenous rock fragments and mineral grains 45

Carbonate megafaunal shell fragments 43

Foraminifera 8

Volcanic ash 4

Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 13

Weight percent clay (<0.0039 mm) in total sample 5

Composition:

Clay minerals 50

Volcanic ash 20

Terrigenous mineral grains 30

Siliceous shells and spicules Tr

Carbonate shells Tr

SAMPLE NUMBER 138

Coarse fraction (>2 mm)

Weight percent of total sample 24

Composition:

Terrigenous rock fragments 3

Carbonate shells 97

___ granules x pebbles

___ cobbles ___ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 70

Composition:

Terrigenous rock fragments and mineral grains 57

Carbonate megafaunal shell fragments 35

Foraminifera 2

Volcanic ash 6

Siliceous spicules and shells ___

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 3

Weight percent clay (<0.0039 mm) in total sample 3

Composition:

Clay minerals 10

Volcanic ash 60

Terrigenous mineral grains 30

Siliceous shells and spicules Tr

Carbonate shells ___

SAMPLE NUMBER 141

Coarse fraction (>2 mm)

Weight percent of total sample 56

Composition:

Terrigenous rock fragments 99

Carbonate shells 1

✗ granules ✗ pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 26

Composition:

Terrigenous rock fragments and mineral grains 6
Carbonate megafaunal shell fragments 3
Foraminifera 41
Volcanic ash 50
Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 11
Weight percent clay (<0.0039 mm) in total sample 7

Composition:

Clay minerals 25
Volcanic ash 60
Terrigenous mineral grains 15
Siliceous shells and spicules Tr
Carbonate shells _____

SAMPLE NUMBER _____

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:

Terrigenous rock fragments _____

Carbonate shells _____

__ granules __ pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample _____

Composition:

Terrigenous rock fragments and mineral grains _____
Carbonate megafaunal shell fragments _____
Foraminifera _____
Volcanic ash _____
Siliceous spicules and shells _____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample _____
Weight percent clay (<0.0039 mm) in total sample _____

Composition:

Clay minerals _____
Volcanic ash _____
Terrigenous mineral grains _____
Siliceous shells and spicules _____
Carbonate shells _____

SAMPLE NUMBER 200

Coarse fraction (>2 mm)

Weight percent of total sample 48

Composition:
Terrigenous rock fragments 98
Carbonate shells 2

X granules X pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 46

Composition:
Terrigenous rock fragments and mineral grains 97
Carbonate megafaunal shell fragments ____
Foraminifera 3
Volcanic ash Tr
Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 2
Weight percent clay (<0.0039 mm) in total sample 4

Composition:
Clay minerals 28
Volcanic ash 42
Terrigenous mineral grains 18
Siliceous shells and spicules 10
Carbonate shells 2

SAMPLE NUMBER 201

Coarse fraction (>2 mm)

Weight percent of total sample 54

Composition:
Terrigenous rock fragments 90
Carbonate shells 10

X granules X pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 43

Composition:
Terrigenous rock fragments and mineral grains 43
Carbonate megafaunal shell fragments 54
Foraminifera 3
Volcanic ash Tr
Siliceous spicules and shells ____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 1
Weight percent clay (<0.0039 mm) in total sample 2

Composition:
Clay minerals 50
Volcanic ash 15
Terrigenous mineral grains 30
Siliceous shells and spicules 5
Carbonate shells ____

SAMPLE NUMBER 202

Coarse fraction (>2 mm)

Weight percent of total sample 3

Composition:

Terrigenous rock fragments 65

Carbonate shells 35

X granules
__ cobbles
__ pebbles
__ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 65

Composition:

Terrigenous rock fragments and mineral grains 97
Carbonate megafaunal shell fragments 1
Foraminifera 1
Volcanic ash 1
Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 13
Weight percent clay (<0.0039 mm) in total sample 19

Composition:

Clay minerals 30
Volcanic ash 38
Terrigenous mineral grains 22
Siliceous shells and spicules 9
Carbonate shells 1

SAMPLE NUMBER 204

Coarse fraction (>2 mm)

Weight percent of total sample 36

Composition:

Terrigenous rock fragments 100

Carbonate shells ____

X granules
__ cobbles
X pebbles
__ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 32

Composition:

Terrigenous rock fragments and mineral grains 40
Carbonate megafaunal shell fragments ____
Foraminifera 1
Volcanic ash 58
Siliceous spicules and shells 1

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 19
Weight percent clay (<0.0039 mm) in total sample 13

Composition:

Clay minerals 34
Volcanic ash 52
Terrigenous mineral grains 9
Siliceous shells and spicules 5
Carbonate shells Tr

SAMPLE NUMBER 205

Coarse fraction (>2 mm)

Weight percent of total sample 35

Composition:

Terrigenous rock fragments 95 — X granules X pebbles

Carbonate shells 5 — cobbles — boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 47

Composition:

Terrigenous rock fragments and mineral grains 98

Carbonate megafaunal shell fragments Tr

Foraminifera 1

Volcanic ash 1

Siliceous spicules and shells ____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 11

Weight percent clay (<0.0039 mm) in total sample 7

Composition:

Clay minerals 25

Volcanic ash 67

Terrigenous mineral grains 3

Siliceous shells and spicules 5

Carbonate shells Tr

SAMPLE NUMBER 216

Coarse fraction (>2 mm)

Weight percent of total sample 1

Composition:

Terrigenous rock fragments ____ — granules — pebbles

Carbonate shells 100 — cobbles — boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 88

Composition:

Terrigenous rock fragments and mineral grains 4

Carbonate megafaunal shell fragments 19

Foraminifera 15

Volcanic ash 62

Siliceous spicules and shells ____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 7

Weight percent clay (<0.0039 mm) in total sample 4

Composition:

Clay minerals 30

Volcanic ash 50

Terrigenous mineral grains 12

Siliceous shells and spicules 5

Carbonate shells 3

SAMPLE NUMBER 217

Coarse fraction (>2 mm)

Weight percent of total sample 52

Composition:

Terrigenous rock fragments 91
Carbonate shells 9

X granules X pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 44

Composition:

Terrigenous rock fragments and mineral grains 3
Carbonate megafaunal shell fragments 30
Foraminifera 14
Volcanic ash 53
Siliceous spicules and shells ____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 3
Weight percent clay (<0.0039 mm) in total sample 1

Composition:

Clay minerals 25
Volcanic ash 50
Terrigenous mineral grains 10
Siliceous shells and spicules 7
Carbonate shells 8

SAMPLE NUMBER 219

Coarse fraction (>2 mm)

Weight percent of total sample 73

Composition:

Terrigenous rock fragments 100
Carbonate shells Tr

X granules X pebbles
X cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 25

Composition:

Terrigenous rock fragments and mineral grains 60
Carbonate megafaunal shell fragments 25
Foraminifera 14
Volcanic ash 1
Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 1
Weight percent clay (<0.0039 mm) in total sample 1

Composition:

Clay minerals 20
Volcanic ash 35
Terrigenous mineral grains 35
Siliceous shells and spicules 4
Carbonate shells 6

SAMPLE NUMBER 227

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:

Terrigenous rock fragments _____ __ granules __ pebbles

Carbonate shells _____ __ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 72

Composition:

Terrigenous rock fragments and mineral grains 1

Carbonate megafaunal shell fragments _____

Foraminifera Tr

Volcanic ash 99

Siliceous spicules and shells _____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 19

Weight percent clay (<0.0039 mm) in total sample 9

Composition:

Clay minerals 20

Volcanic ash 60

Terrigenous mineral grains 20

Siliceous shells and spicules Tr

Carbonate shells Tr

SAMPLE NUMBER 228

Coarse fraction (>2 mm)

Weight percent of total sample 33

Composition:

Terrigenous rock fragments 86 X granules X pebbles

Carbonate shells 14 __ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 59

Composition:

Terrigenous rock fragments and mineral grains 63

Carbonate megafaunal shell fragments 27

Foraminifera 10

Volcanic ash Tr

Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 5

Weight percent clay (<0.0039 mm) in total sample 3

Composition:

Clay minerals 40

Volcanic ash 25

Terrigenous mineral grains 30

Siliceous shells and spicules 5

Carbonate shells _____

SAMPLE NUMBER 229

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:

Terrigenous rock fragments _____

Carbonate shells _____

__ granules __ pebbles

__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 55

Composition:

Terrigenous rock fragments and mineral grains _____

Carbonate megafaunal shell fragments Tr

Foraminifera _____

Volcanic ash 99

Siliceous spicules and shells _____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 36

Weight percent clay (<0.0039 mm) in total sample 9

Composition:

Clay minerals 35

Volcanic ash 45

Terrigenous mineral grains 15

Siliceous shells and spicules 5

Carbonate shells _____

SAMPLE NUMBER 232

Coarse fraction (>2 mm)

Weight percent of total sample 29

Composition:

Terrigenous rock fragments 100

Carbonate shells _____

X granules X pebbles

__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 69

Composition:

Terrigenous rock fragments and mineral grains 99

Carbonate megafaunal shell fragments _____

Foraminifera Tr

Volcanic ash 1

Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 1

Weight percent clay (<0.0039 mm) in total sample 1

Composition:

Clay minerals 55

Volcanic ash 35

Terrigenous mineral grains 7

Siliceous shells and spicules 3

Carbonate shells _____

SAMPLE NUMBER 234

Coarse fraction (>2 mm)

Weight percent of total sample 50

Composition:

Terrigenous rock fragments 85 — X granules, X pebbles, __ cobbles, __ boulders

Carbonate shells 15

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 47

Composition:

Terrigenous rock fragments and mineral grains 20
Carbonate megafaunal shell fragments 3
Foraminifera 35
Volcanic ash 42
Siliceous spicules and shells TR

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 2
Weight percent clay (<0.0039 mm) in total sample 1

Composition:

Clay minerals 24
Volcanic ash 30
Terrigenous mineral grains 40
Siliceous shells and spicules 3
Carbonate shells 3

SAMPLE NUMBER 236

Coarse fraction (>2 mm)

Weight percent of total sample ____

Composition:

Terrigenous rock fragments ____ — __ granules, __ pebbles, __ cobbles, __ boulders

Carbonate shells ____

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 38

Composition:

Terrigenous rock fragments and mineral grains TR
Carbonate megafaunal shell fragments ____
Foraminifera TR
Volcanic ash 100
Siliceous spicules and shells ____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 48
Weight percent clay (<0.0039 mm) in total sample 14

Composition:

Clay minerals 35
Volcanic ash 55
Terrigenous mineral grains 8
Siliceous shells and spicules 2
Carbonate shells ____

SAMPLE NUMBER 241

Coarse fraction (>2 mm)

Weight percent of total sample 5

Composition:

Terrigenous rock fragments 97 — X granules X pebbles

Carbonate shells 3 — _ cobbles _ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 86

Composition:

Terrigenous rock fragments and mineral grains 30

Carbonate megafaunal shell fragments _____

Foraminifera _____

Volcanic ash 70

Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 4

Weight percent clay (<0.0039 mm) in total sample 5

Composition:

Clay minerals 14

Volcanic ash 37

Terrigenous mineral grains 47

Siliceous shells and spicules 2

Carbonate shells _____

SAMPLE NUMBER 242

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:

Terrigenous rock fragments _____ — _ granules _ pebbles

Carbonate shells _____ — _ cobbles _ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 64

Composition:

Terrigenous rock fragments and mineral grains 2

Carbonate megafaunal shell fragments _____

Foraminifera Tr

Volcanic ash 98

Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 30

Weight percent clay (<0.0039 mm) in total sample 6

Composition:

Clay minerals 32

Volcanic ash 51

Terrigenous mineral grains 13

Siliceous shells and spicules 4

Carbonate shells Tr

SAMPLE NUMBER 243

Coarse fraction (>2 mm)

Weight percent of total sample 24

Composition:

Terrigenous rock fragments 99
Carbonate shells 1

X granules X pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 66

Composition:

Terrigenous rock fragments and mineral grains 77
Carbonate megafaunal shell fragments 3
Foraminifera ___
Volcanic ash 20
Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 7
Weight percent clay (<0.0039 mm) in total sample 3

Composition:

Clay minerals 45
Volcanic ash 40
Terrigenous mineral grains 10
Siliceous shells and spicules 5
Carbonate shells Tr

SAMPLE NUMBER 244

Coarse fraction (>2 mm)

Weight percent of total sample 1

Composition:

Terrigenous rock fragments 100
Carbonate shells ___

X granules __ pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 80

Composition:

Terrigenous rock fragments and mineral grains 15
Carbonate megafaunal shell fragments Tr
Foraminifera ___
Volcanic ash 85
Siliceous spicules and shells ___

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 15
Weight percent clay (<0.0039 mm) in total sample 4

Composition:

Clay minerals 35
Volcanic ash 45
Terrigenous mineral grains 15
Siliceous shells and spicules 5
Carbonate shells Tr

SAMPLE NUMBER 245

Coarse fraction (>2 mm)

Weight percent of total sample 9

Composition:

Terrigenous rock fragments 60 — X granules, X pebbles, __ cobbles, __ boulders

Carbonate shells 40

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 72

Composition:

Terrigenous rock fragments and mineral grains 20

Carbonate megafaunal shell fragments 30

Foraminifera 7

Volcanic ash 43

Siliceous spicules and shells ____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 6

Weight percent clay (<0.0039 mm) in total sample 13

Composition:

Clay minerals 21

Volcanic ash 66

Terrigenous mineral grains 7

Siliceous shells and spicules 4

Carbonate shells 2

SAMPLE NUMBER 246

Coarse fraction (>2 mm)

Weight percent of total sample 32

Composition:

Terrigenous rock fragments 96 — X granules, X pebbles, __ cobbles, __ boulders

Carbonate shells 4

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 47

Composition:

Terrigenous rock fragments and mineral grains 5

Carbonate megafaunal shell fragments 15

Foraminifera 40

Volcanic ash 40

Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 13

Weight percent clay (<0.0039 mm) in total sample 8

Composition:

Clay minerals 60

Volcanic ash 30

Terrigenous mineral grains 10

Siliceous shells and spicules Tr

Carbonate shells Tr

SAMPLE NUMBER 329

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:
Terrigenous rock fragments _____
Carbonate shells _____

__ granules __ pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 36

Composition:
Terrigenous rock fragments and mineral grains _____
Carbonate megafaunal shell fragments _____
Foraminifera Tr
Volcanic ash 100
Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 50
Weight percent clay (<0.0039 mm) in total sample 14

Composition:
Clay minerals 30
Volcanic ash 65
Terrigenous mineral grains 4
Siliceous shells and spicules 1
Carbonate shells _____

SAMPLE NUMBER 330

Coarse fraction (>2 mm)

Weight percent of total sample 10

Composition:
Terrigenous rock fragments 99
Carbonate shells 1

X granules __ pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 78

Composition:
Terrigenous rock fragments and mineral grains 47
Carbonate megafaunal shell fragments 20
Foraminifera 13
Volcanic ash 20
Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 7
Weight percent clay (<0.0039 mm) in total sample 5

Composition:
Clay minerals 40
Volcanic ash 30
Terrigenous mineral grains 30
Siliceous shells and spicules Tr
Carbonate shells _____

SAMPLE NUMBER 336

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:

Terrigenous rock fragments _____ __ granules __ pebbles

Carbonate shells _____ __ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 1

Composition:

Terrigenous rock fragments and mineral grains _____

Carbonate megafaunal shell fragments _____

Foraminifera _____

Volcanic ash 2

Siliceous spicules and shells 98

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 50

Weight percent clay (<0.0039 mm) in total sample 49

Composition:

Clay minerals 38

Volcanic ash 42

Terrigenous mineral grains 15

Siliceous shells and spicules 5

Carbonate shells _____

SAMPLE NUMBER 340

Coarse fraction (>2 mm)

Weight percent of total sample 2

Composition:

Terrigenous rock fragments 100 X granules X pebbles

Carbonate shells _____ __ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 23

Composition:

Terrigenous rock fragments and mineral grains 10

Carbonate megafaunal shell fragments _____

Foraminifera 2

Volcanic ash 87

Siliceous spicules and shells 1

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 51

Weight percent clay (<0.0039 mm) in total sample 24

Composition:

Clay minerals 28

Volcanic ash 20

Terrigenous mineral grains 50

Siliceous shells and spicules Tr

Carbonate shells 2

SAMPLE NUMBER 341

Coarse fraction (>2 mm)

Weight percent of total sample 50

Composition:

Terrigenous rock fragments 94 — x granules, x pebbles, __ cobbles, __ boulders

Carbonate shells 6

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 43

Composition:

Terrigenous rock fragments and mineral grains 5

Carbonate megafaunal shell fragments 73

Foraminifera 12

Volcanic ash 10

Siliceous spicules and shells ____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 4

Weight percent clay (<0.0039 mm) in total sample 3

Composition:

Clay minerals 40

Volcanic ash 42

Terrigenous mineral grains 15

Siliceous shells and spicules Tr

Carbonate shells 3

SAMPLE NUMBER 342

Coarse fraction (>2 mm)

Weight percent of total sample 59

Composition:

Terrigenous rock fragments 98 — x granules, x pebbles, __ cobbles, __ boulders

Carbonate shells 2

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 34

Composition:

Terrigenous rock fragments and mineral grains 20

Carbonate megafaunal shell fragments 5

Foraminifera 5

Volcanic ash 70

Siliceous spicules and shells ____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 4

Weight percent clay (<0.0039 mm) in total sample 3

Composition:

Clay minerals 45

Volcanic ash 40

Terrigenous mineral grains 10

Siliceous shells and spicules 5

Carbonate shells ____

SAMPLE NUMBER 343

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:

Terrigenous rock fragments _____ __ granules __ pebbles

Carbonate shells _____ __ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 5

Composition:

Terrigenous rock fragments and mineral grains 50

Carbonate megafaunal shell fragments _____

Foraminifera 5

Volcanic ash 25

Siliceous spicules and shells 20

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 64

Weight percent clay (<0.0039 mm) in total sample 31

Composition:

Clay minerals 15

Volcanic ash 70

Terrigenous mineral grains 10

Siliceous shells and spicules 4

Carbonate shells 1

SAMPLE NUMBER 344

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:

Terrigenous rock fragments _____ __ granules __ pebbles

Carbonate shells _____ __ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 1

Composition:

Terrigenous rock fragments and mineral grains 42

Carbonate megafaunal shell fragments _____

Foraminifera 3

Volcanic ash 35

Siliceous spicules and shells 20

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 60

Weight percent clay (<0.0039 mm) in total sample 39

Composition:

Clay minerals 55

Volcanic ash 25

Terrigenous mineral grains 15

Siliceous shells and spicules 3

Carbonate shells 2

SAMPLE NUMBER 345

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:

Terrigenous rock fragments _____ __ granules __ pebbles

Carbonate shells _____ __ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 65

Composition:

Terrigenous rock fragments and mineral grains 99

Carbonate megafaunal shell fragments _____

Foraminifera 1

Volcanic ash Tr

Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 23

Weight percent clay (<0.0039 mm) in total sample 12

Composition:

Clay minerals 32

Volcanic ash 50

Terrigenous mineral grains 15

Siliceous shells and spicules 2

Carbonate shells 1

SAMPLE NUMBER 346

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:

Terrigenous rock fragments _____ __ granules __ pebbles

Carbonate shells _____ __ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 67

Composition:

Terrigenous rock fragments and mineral grains 99

Carbonate megafaunal shell fragments _____

Foraminifera Tr

Volcanic ash 1

Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 22

Weight percent clay (<0.0039 mm) in total sample 11

Composition:

Clay minerals _____

Volcanic ash _____

Terrigenous mineral grains _____

Siliceous shells and spicules _____

Carbonate shells _____

SAMPLE NUMBER 347

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:

Terrigenous rock fragments _____ __ granules __ pebbles

Carbonate shells _____ __ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 4

Composition:

Terrigenous rock fragments and mineral grains 54

Carbonate megafaunal shell fragments 4

Foraminifera _____

Volcanic ash 24

Siliceous spicules and shells 18

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 67

Weight percent clay (<0.0039 mm) in total sample 29

Composition:

Clay minerals 40

Volcanic ash 35

Terrigenous mineral grains 12

Siliceous shells and spicules 3

Carbonate shells _____

SAMPLE NUMBER 348

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:

Terrigenous rock fragments _____ __ granules __ pebbles

Carbonate shells _____ __ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 3

Composition:

Terrigenous rock fragments and mineral grains 57

Carbonate megafaunal shell fragments _____

Foraminifera 3

Volcanic ash 40

Siliceous spicules and shells _____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 63

Weight percent clay (<0.0039 mm) in total sample 34

Composition:

Clay minerals 35

Volcanic ash 50

Terrigenous mineral grains 10

Siliceous shells and spicules 5

Carbonate shells _____

SAMPLE NUMBER 349

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:

Terrigenous rock fragments _____ __ granules __ pebbles

Carbonate shells _____ __ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 1

Composition:

Terrigenous rock fragments and mineral grains 2

Carbonate megafaunal shell fragments _____

Foraminifera 3

Volcanic ash 41

Siliceous spicules and shells 54

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 61

Weight percent clay (<0.0039 mm) in total sample 38

Composition:

Clay minerals 40

Volcanic ash 55

Terrigenous mineral grains 3

Siliceous shells and spicules 2

Carbonate shells _____

SAMPLE NUMBER 350

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:

Terrigenous rock fragments _____ __ granules __ pebbles

Carbonate shells _____ __ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 13

Composition:

Terrigenous rock fragments and mineral grains 30

Carbonate megafaunal shell fragments _____

Foraminifera 3

Volcanic ash 47

Siliceous spicules and shells 20

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 53

Weight percent clay (<0.0039 mm) in total sample 34

Composition:

Clay minerals 40

Volcanic ash 40

Terrigenous mineral grains 8

Siliceous shells and spicules 12

Carbonate shells _____

SAMPLE NUMBER 351

Coarse fraction (>2 mm)

Weight percent of total sample 22

Composition:

Terrigenous rock fragments 100

Carbonate shells _____

__ granules X pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 32

Composition:

Terrigenous rock fragments and mineral grains 80
Carbonate megafaunal shell fragments _____
Foraminifera Tr
Volcanic ash 20
Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 29
Weight percent clay (<0.0039 mm) in total sample 17

Composition:

Clay minerals 32
Volcanic ash 45
Terrigenous mineral grains 8
Siliceous shells and spicules 15
Carbonate shells _____

SAMPLE NUMBER 353

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:

Terrigenous rock fragments _____

Carbonate shells _____

__ granules __ pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 1

Composition:

Terrigenous rock fragments and mineral grains _____
Carbonate megafaunal shell fragments _____
Foraminifera 3
Volcanic ash 62
Siliceous spicules and shells 35

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 61
Weight percent clay (<0.0039 mm) in total sample 38

Composition:

Clay minerals 43
Volcanic ash 45
Terrigenous mineral grains 5
Siliceous shells and spicules 7
Carbonate shells _____

SAMPLE NUMBER 354

Coarse fraction (>2 mm)

Weight percent of total sample _____

Composition:

Terrigenous rock fragments _____ — granules — pebbles

Carbonate shells _____ — cobbles — boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 1

Composition:

Terrigenous rock fragments and mineral grains _____

Carbonate megafaunal shell fragments Tr

Foraminifera Tr

Volcanic ash 55

Siliceous spicules and shells 45

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 61

Weight percent clay (<0.0039 mm) in total sample 38

Composition:

Clay minerals 20

Volcanic ash 62

Terrigenous mineral grains 10

Siliceous shells and spicules 5

Carbonate shells 3

SAMPLE NUMBER 355

Coarse fraction (>2 mm)

Weight percent of total sample 10

Composition:

Terrigenous rock fragments 100 — x granules — x pebbles

Carbonate shells _____ — cobbles — boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 45

Composition:

Terrigenous rock fragments and mineral grains 99

Carbonate megafaunal shell fragments Tr

Foraminifera Tr

Volcanic ash Tr

Siliceous spicules and shells 1

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 26

Weight percent clay (<0.0039 mm) in total sample 19

Composition:

Clay minerals 22

Volcanic ash 50

Terrigenous mineral grains 25

Siliceous shells and spicules Tr

Carbonate shells 3

SAMPLE NUMBER 356

Coarse fraction (>2 mm)

Weight percent of total sample 43

Composition:

Terrigenous rock fragments 100

Carbonate shells ____

X granules X pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 49

Composition:

Terrigenous rock fragments and mineral grains 100
Carbonate megafaunal shell fragments Tr
Foraminifera Tr
Volcanic ash Tr
Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 5
Weight percent clay (<0.0039 mm) in total sample 3

Composition:

Clay minerals 45
Volcanic ash 35
Terrigenous mineral grains 20
Siliceous shells and spicules Tr
Carbonate shells ____

SAMPLE NUMBER 357

Coarse fraction (>2 mm)

Weight percent of total sample ____

Composition:

Terrigenous rock fragments ____

Carbonate shells ____

__ granules __ pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 56

Composition:

Terrigenous rock fragments and mineral grains 80
Carbonate megafaunal shell fragments Tr
Foraminifera 1
Volcanic ash 18
Siliceous spicules and shells 1

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 30
Weight percent clay (<0.0039 mm) in total sample 14

Composition:

Clay minerals 45
Volcanic ash 30
Terrigenous mineral grains 19
Siliceous shells and spicules 6
Carbonate shells ____

SAMPLE NUMBER 358

Coarse fraction (>2 mm)

Weight percent of total sample 2

Composition:

Terrigenous rock fragments 100 — granules x pebbles

Carbonate shells ____ — cobbles — boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 69

Composition:

Terrigenous rock fragments and mineral grains 70

Carbonate megafaunal shell fragments ____

Foraminifera Tr

Volcanic ash 30

Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 16

Weight percent clay (<0.0039 mm) in total sample 13

Composition:

Clay minerals 50

Volcanic ash 40

Terrigenous mineral grains 5

Siliceous shells and spicules 5

Carbonate shells ____

SAMPLE NUMBER 359

Coarse fraction (>2 mm)

Weight percent of total sample ____

Composition:

Terrigenous rock fragments ____ — granules — pebbles

Carbonate shells ____ — cobbles — boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 49

Composition:

Terrigenous rock fragments and mineral grains 68

Carbonate megafaunal shell fragments ____

Foraminifera Tr

Volcanic ash 32

Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 32

Weight percent clay (<0.0039 mm) in total sample 19

Composition:

Clay minerals 40

Volcanic ash 45

Terrigenous mineral grains 6

Siliceous shells and spicules 9

Carbonate shells ____

SAMPLE NUMBER 437

Coarse fraction (>2 mm)

Weight percent of total sample 80

Composition:

Terrigenous rock fragments 97

Carbonate shells 3

X granules X pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 18

Composition:

Terrigenous rock fragments and mineral grains 67
Carbonate megafaunal shell fragments 20
Foraminifera 5
Volcanic ash 7
Siliceous spicules and shells 1

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 1
Weight percent clay (<0.0039 mm) in total sample 1

Composition:

Clay minerals 25
Volcanic ash 40
Terrigenous mineral grains 35
Siliceous shells and spicules TR
Carbonate shells TR

SAMPLE NUMBER 443

Coarse fraction (>2 mm)

Weight percent of total sample 71

Composition:

Terrigenous rock fragments 100

Carbonate shells TR

X granules X pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 18

Composition:

Terrigenous rock fragments and mineral grains 75
Carbonate megafaunal shell fragments 5
Foraminifera 4
Volcanic ash 15
Siliceous spicules and shells 1

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 7
Weight percent clay (<0.0039 mm) in total sample 4

Composition:

Clay minerals 25
Volcanic ash 29
Terrigenous mineral grains 39
Siliceous shells and spicules 4
Carbonate shells 3

SAMPLE NUMBER 444

Coarse fraction (>2 mm)

Weight percent of total sample 39

Composition:

Terrigenous rock fragments 97

Carbonate shells 3

x granules x pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 59

Composition:

Terrigenous rock fragments and mineral grains 99
Carbonate megafaunal shell fragments 1
Foraminifera ____
Volcanic ash ____
Siliceous spicules and shells ____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 1
Weight percent clay (<0.0039 mm) in total sample 1

Composition:

Clay minerals 48
Volcanic ash 45
Terrigenous mineral grains 7
Siliceous shells and spicules ____
Carbonate shells ____

SAMPLE NUMBER 446

Coarse fraction (>2 mm)

Weight percent of total sample 10

Composition:

Terrigenous rock fragments 100

Carbonate shells ____

x granules x pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 76

Composition:

Terrigenous rock fragments and mineral grains 99
Carbonate megafaunal shell fragments ____
Foraminifera ____
Volcanic ash 1
Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 10
Weight percent clay (<0.0039 mm) in total sample 4

Composition:

Clay minerals 40
Volcanic ash 45
Terrigenous mineral grains 5
Siliceous shells and spicules 10
Carbonate shells ____

SAMPLE NUMBER 447

Coarse fraction (>2 mm)

Weight percent of total sample 9

Composition:

Terrigenous rock fragments 71

Carbonate shells 29

X granules ___ pebbles

___ cobbles ___ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 75

Composition:

Terrigenous rock fragments and mineral grains 62

Carbonate megafaunal shell fragments 25

Foraminifera 10

Volcanic ash 3

Siliceous spicules and shells Tr

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 10

Weight percent clay (<0.0039 mm) in total sample 6

Composition:

Clay minerals 25

Volcanic ash 41

Terrigenous mineral grains 20

Siliceous shells and spicules 12

Carbonate shells 2

SAMPLE NUMBER 448

Coarse fraction (>2 mm)

Weight percent of total sample ____

Composition:

Terrigenous rock fragments ____

Carbonate shells ____

___ granules ___ pebbles

___ cobbles ___ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 99

Composition:

Terrigenous rock fragments and mineral grains 100

Carbonate megafaunal shell fragments ____

Foraminifera ____

Volcanic ash ____

Siliceous spicules and shells ____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample Tr

Weight percent clay (<0.0039 mm) in total sample 1

Composition:

Clay minerals 40

Volcanic ash 45

Terrigenous mineral grains 15

Siliceous shells and spicules Tr

Carbonate shells ____

SAMPLE NUMBER 449

Coarse fraction (>2 mm)

Weight percent of total sample 63

Composition:

Terrigenous rock fragments 100

Carbonate shells Tr

X granules X pebbles

__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 30

Composition:

Terrigenous rock fragments and mineral grains 95

Carbonate megafaunal shell fragments ____

Foraminifera 3

Volcanic ash 1

Siliceous spicules and shells 1

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 4

Weight percent clay (<0.0039 mm) in total sample 3

Composition:

Clay minerals 50

Volcanic ash 15

Terrigenous mineral grains 25

Siliceous shells and spicules 10

Carbonate shells Tr

SAMPLE NUMBER 452

Coarse fraction (>2 mm)

Weight percent of total sample 1

Composition:

Terrigenous rock fragments 75

Carbonate shells 25

X granules __ pebbles

__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 99

Composition:

Terrigenous rock fragments and mineral grains 100

Carbonate megafaunal shell fragments ____

Foraminifera ____

Volcanic ash ____

Siliceous spicules and shells ____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample ____

Weight percent clay (<0.0039 mm) in total sample ____

Composition:

Clay minerals ____

Volcanic ash ____

Terrigenous mineral grains ____

Siliceous shells and spicules ____

Carbonate shells ____

SAMPLE NUMBER 453

Coarse fraction (>2 mm)

Weight percent of total sample 91

Composition:

Terrigenous rock fragments 97
Carbonate shells 3

x granules x pebbles
x cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 9

Composition:

Terrigenous rock fragments and mineral grains 93
Carbonate megafaunal shell fragments 7
Foraminifera Tr
Volcanic ash Tr
Siliceous spicules and shells ____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample Tr
Weight percent clay (<0.0039 mm) in total sample Tr

Composition:

Clay minerals 22
Volcanic ash 20
Terrigenous mineral grains 58
Siliceous shells and spicules Tr
Carbonate shells Tr

SAMPLE NUMBER 454

Coarse fraction (>2 mm)

Weight percent of total sample ____

Composition:

Terrigenous rock fragments ____
Carbonate shells ____

__ granules __ pebbles
__ cobbles __ boulders

Sand fraction (2 mm - 0.062 mm)

Weight percent of total sample 97

Composition:

Terrigenous rock fragments and mineral grains 99
Carbonate megafaunal shell fragments ____
Foraminifera ____
Volcanic ash 1
Siliceous spicules and shells ____

Fine fraction (<0.062 mm)

Weight percent silt (0.062 mm - 0.0039 mm) in total sample 1
Weight percent clay (<0.0039 mm) in total sample 2

Composition:

Clay minerals 26
Volcanic ash 49
Terrigenous mineral grains 20
Siliceous shells and spicules 3
Carbonate shells 2