18. X-RAY MINERALOGY DATA, WESTERN INDIAN OCEAN–LEG 24 DEEP SEA DRILLING PROJECT[1]

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METHODS

Semiquantitative determinations of the mineral composition of bulk samples, 2-20μ, and $< 2\mu$ fractions were performed according to the methods described in the reports of Legs 1 and 2 and in Appendix III of Volume IV. The mineral analyses of the 2-20μ and $< 2\mu$ fractions were performed on $CaCO_3$-free residues.

The X-ray mineralogy results of this study are summarized in Tables 1 through 7. The mineralogy data are presented in Tables 8 through 15. Sediment ages, lithologic units, and nomenclature of the sediment types in Tables 1 through 7 are from the DSDP Leg 24 hole summaries and from a subsequent update supplied by Dr. Peter Supko, DSDP. The stratigraphic position of samples submitted for X-ray diffraction analyses from Leg 24 are listed in Tables 1 through 7. The sample depth (in meters) below the sea floor in Tables 1 through 7 identifies the samples as they are reported in Tables 8 through 15. No samples were submitted for X-ray diffraction analysis from Site 237.

Several unidentified minerals were detected in Leg 24 samples. Their abundances were determined on a semiqualitative basis using a hypothetical mineral concentration factor of 3.0. Unidentified minerals are reported on a ranked, semiqualitative scale as outlined below:

Trace: (<5%); diffraction pattern was weak and identification was made on the basis of two major diagnostic peaks.

Present: (5%-25%); a number of peaks of the mineral are visible in the diffraction pattern.

Abundant: (25%-65%); diffraction peaks of the mineral are prominent in the total diffraction pattern, but the peaks of other minerals are of an equivalent intensity.

Major: (>65%); the diffraction peaks of the mineral dominate the diffraction pattern.

Although a certain quantity of the unidentified minerals is implied, their concentration is not included in the concentrations of the identified minerals, which are summed to 100 percent.

DRILLING MUD USAGE

Drilling mud, containing montmorillonite and barite, was used on Leg 24 as follows:

No mud was used at Sites 231, 232, 233, 235, or 236. Montmorillonite was used at Site 234 after pulling Core 14 and after pulling Core 15. Montmorillonite and barite were used at Site 237 after pulling Core 64 and before pulling Core 65. Core 67 at Site 237 got stuck so montmorillonite was used. Montmorillonite and barite were used at Site 238 prior to cutting Cores 58 and 59. Montmorillonite alone was used after pulling Core 61, after Core 62, and after Core 63. Most samples submitted for diffraction analysis do not occur close to intervals in which drilling mud was used. In the case of samples from Site 234, Core 15, the montmorillonite content is normal and barite is absent. This suggests that contamination by drilling mud is unlikely.

NOTE ON SUPPLEMENTARY SAMPLES

Many samples originally submitted for X-ray diffraction analysis by Leg 24 scientists were so calcareous that insufficient insoluble residue remained in the 2-20μ and $<2\mu$ size classes following decalcification. In order to obtain more mineral data, Leg 24 scientists submitted a suite of supplementary samples for analysis. Large, decalcified 2-20μ and $<2\mu$ samples were processed, and the results from the supplementary samples appear in Tables 16 through 19. In almost all cases the supplementary samples were taken a few centimeters above or below an original sample. Hence, a supplementary sample in Tables 16 through 19 will show the same depth (in meters) below the sea floor as original samples in Tables 8 through 15 for which there was insufficient residue.

The original and supplementary data are presented separately because during supplementary sample preparation some $<2\mu$ size material was consistently introduced into the 2-20μ samples by an inexperienced operator. This has resulted in inconsistencies between the original and supplementary data. The most obvious difference is a high montmorillonite content in the 2-20μ fraction. The data are reported here to provide qualitative mineralogic information on the insoluble residue of the supplementary samples.

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TABLE 1
Summary of X-Ray Mineralogy Samples, Sample Depths, Lithology, Age, and X-Ray Diffraction Results, Site 231

Core, Section, Interval (cm)	Sample Depth Below Sea Floor (m)	Lithology	Age	Bulk Sample Major Constituent 1	2	3	2-20μ Fraction Major Constituent 1	2	3	<2μ Fraction Major Constituent 1	2	3
2-2, 68-70	2.7	Unit I: clay-bearing nanno ooze	Holocene to Pleistocene	Calc.	Quar.	Plag.	Quar.	Plag.	Mica	Paly.	Mica	Mont.
4-2, 46-48	18.5	Unit II: nanno ooze with intercalated sand horizons	Pleistocene to Pliocene	Calc.	Arag.	Quar.	Quar.	Plag.	Mica	Paly.	Mica	Kaol.
31-4, 69-71	278.2	Unit V: clay-bearing nanno ooze	Lower Miocene through Pliocene	Calc.	Paly.	Quar.	Quar.	Mica	Plag.	Paly.	Mont.	Kaol.
44-1, 90-92	397.4			Paly.	Quar.	Mont.	Quar.	Mica	Plag.	Paly.	Mont.	Mica
61-6, 127-129	565.8			Calc.	Paly.	Quar.	Quar.	Mica	Paly.	Paly.	Mont.	Mica

TABLE 2
Summary of X-Ray Mineralogy Samples, Sample Depths, Lithology, Age, and X-Ray Diffraction Results, Site 232

Core, Section, Interval (cm)	Sample Depth Below Sea Floor (m)	Lithology	Age	Bulk Sample Major Constituent 1	2	3	2-20μ Fraction Major Constituent 1	2	3	<2μ Fraction Major Constituent 1	2	3
Hole 232												
1-1, 94-96	0.9	Unit I: nanno ooze with occasional quartzose sand layers	Late Miocene through Holocene	Calc.	Paly.		Insufficient residue			Paly.		
13-1, 74-76	107.1			Quar.	Plag.	Calc.	Mica	Quar.	Plag.	Paly.	Mont.	Mica
18-3, 50-52	158.0			Calc.	Paly.	Quar.	Quar.	Mica	Plag.	Paly.	Mont.	Mica
Hole 232A												
1-4, 32-34	163.8	Unit II: nanno ooze with occasional quartzose sand layers	Late Miocene	Calc.	Quar.	Paly.	Quar.	Plag.	K-Fe	Mont.	Kaol.	Mica
7-2, 112-114	218.6			Quar.	Plag.	Calc.	Quar.	Plag.	Mica	Paly.	Mont.	Kaol.
9-5, 126-128	242.3			Calc.	Paly.	Mica	Quar.	Mica	Plag.	Paly.	Mont.	Kaol.
14-1, 110-112	283.6			Quar.	Plag.	K-Fe	Clin.			Mont.	Paly.	Kaol.

TABLE 3
Summary of X-Ray Mineralogy Samples, Sample Depths, Lithology, Age, and X-Ray Diffraction Results, Site 233

Core, Section, Interval (cm)	Sample Depth Below Sea Floor (m)	Lithology	Age	Bulk Sample Major Constituent 1	2	3	2-20μ Fraction Major Constituent 1	2	3	<2μ Fraction Major Constituent 1	2	3
2-4, 76-78	10.3	Unit I: clay-bearing nanno ooze	Pliocene through Holocene	Calc.	Paly.		Quar.	Plag.	Mica	Paly.	Mica	Kaol.
8-4, 128-130	67.79	Unit II: micarb and clay-bearing nanno ooze	Pliocene and Pleistocene	Calc.	Paly.	Quar.	Quar.	Plag.	Mica	Paly.	Mica	Mont.
8-4, 130-132	67.81			Calc.	Paly.	Quar.	Quar.	Plag.	Paly.	Paly.	Mica	
11-4, 91-93	95.9			Calc.	Paly.	Quar.	Quar.	Plag.	Paly.	Paly.	Mica	
16-4, 43-45	142.9	Unit III: micarb and clay-bearing nanno ooze	Pliocene	Calc.	Paly.	Quar.	Quar.	Mica	Plag.	Paly.	Mica	Mont.

TABLE 4
Summary of X-Ray Mineralogy Samples, Sample Depths, Lithology, Age, and X-Ray Diffraction Results, Site 234

Core, Section, Interval (cm)	Sample Depth Below Sea Floor (m)	Lithology	Age	Bulk Sample Major Constituent 1	2	3	2-20μ Fraction Major Constituent 1	2	3	<2μ Fraction Major Constituent 1	2	3
1-2, 89-91	2.4	Unit I: clay-bearing nanno ooze	Plio-Pleistocene	Calc.	Paly.	Quar.	Quar.	Plag.	K-Fe.	Mont.	Paly.	Mica
1-4, 53-55	5.0			Calc.	Paly.	Mont.	K-Fe.	Plag.	Quar.	Mont.	Paly.	Mica
6-6, 140-142	84.9	Unit III: clay and nanno ooze	Middle Miocene	Paly.	Mont.	Mica	K-Fe.	Quar.	Plag.	Mont.	Paly.	Kaol.
10-4, 14-16	166.1	Unit V: clay and nanno ooze	Lower Miocene	Calc.	Mont.	K-Fe.	K-Fe.	Plag.	Quar.	Mont.	Kaol.	
15-3, 44-46	240.9	Unit VI: Clay ooze	Oligocene	Mont.	Kaol.	Paly.	K-Fe.	Plag.	Quar.	Mont.	Kaol.	Paly.

TABLE 5
Summary of X-Ray Mineralogy Samples, Sample Depths, Lithology, Age, and X-Ray Diffraction Results, Site 235

Core, Section, Interval (cm)	Sample Depth Below Sea Floor (m)	Lithology	Age	Bulk Sample Major Constituent 1	2	3	2-20μ Fraction Major Constituent 1	2	3	<2μ Fraction Major Constituent 1	2	3
1-2, 94-96	2.4	Unit I: nanno ooze and chalk	Pleistocene	Calc.	Paly.		Quar.	K-Fe.	Plag.	Mont.	Paly.	Mica
4-3, 30-32	31.8			Calc.	Paly.		Quar.	Plag.	K-Fe.	Mont.	Paly.	Mica
5-3, 60-62	70.1	Unit II: nanno chalk mud to slightly calcareous clay mud	Upper Miocene through Pleistocene	Arag.	Calc.		Insufficient residue			Insufficient residue		
5-6, 78-79	74.8			Calc.			Insufficient residue			Mont.	Paly.	Mica
5-6, 89-90	74.9			Mont.	Paly.	Quar.	Quar.	Plag.	K-Fe.	Mont.	Paly.	Kaol.
5-6, 110-111	75.1			Calc.	Paly.		Insufficient residue			Paly.	Mica	Kaol.
10-2, 108-110	221.1			Calc.			K-Fe.	Quar.	Plag.	Mont.	Paly.	Kaol.
11-3, 23-25	269.2			Calc.	Arag.		Insufficient residue			Mont.	Paly.	
11-3, 38-40	269.4			Mont.	K-Fe.	Paly.	K-Fe.	Plag.	Quar.	Mont.	Paly.	Kaol.
11-3, 80-82	269.8			Calc.			K-Fe.	Plag.	Quar.	Mont.	K-Fe.	Paly.

TABLE 6
Summary of X-Ray Mineralogy Samples, Sample Depths, Lithology, Age, and X-Ray Diffraction Results, Site 236

Core, Section, Interval (cm)	Sample Depth Below Sea Floor (m)	Lithology	Age	Bulk Sample Major Constituent 1	2	3	2-20μ Fraction Major Constituent 1	2	3	<2μ Fraction Major Constituent 1	2	3
3-2, 68-70	18.2	Unit II: clay-bearing nanno-ooze	Lower Miocene through Pleistocene	Calc.			Insufficient residue			Insufficient residue		
3-2, 126-128	18.8			Calc.			Quar.	Plag.	Mica	Mont.	Mica	Paly.
5-3, 41-43	38.4			Calc.	Arag.		Insufficient residue			Insufficient residue		
5-3, 71-73	38.7			Calc.	Arag.		Insufficient residue			Insufficient residue		
5-6, 118-120	43.7			Calc.	Arag.		Insufficient residue			Mont.	Paly.	Mica
6-2, 107-109	47.1			Calc.			Quar.	K-Fe.	Plag.	Mont.	Paly.	Mica
8-3, 88-90	67.4			Calc.	Mont.	Quar.	Plag.	Quar.	K-Fe	Mont.	Paly.	Mica
9-3, 112-114	77.1			Calc.	Arag.		Insufficient residue			Mont.	Paly.	
12-6, 40-42	109.4			Calc.	Arag.		Insufficient residue			Mont.	Paly.	
12-6, 92-94	109.9			Calc.			Quar.	Plag.	K-Fe.	Mont.	Paly.	Mica
15-4, 94-96	135.4			Calc.			Quar.	Plag.	Mica	Mont.	Paly.	Mica
16-5, 82-84	146.3	Unit III: nanno-bearing clays	Miocene	Mont.	Paly.	Quar.	Quar.	Plag.	K-Fe.	Mont.	Paly.	Quar.
19-2, 88-90	170.4			Mont.	Paly.	K-Fe.	Phil.	K-Fe.	Quar.	Mont.	Paly.	Kaol.
20-5, 110-112	184.6	Unit IV: nanno ooze with minor forams, rads, and clay	Oligocene	Calc.			Clin.	Paly.		Paly.	Mont.	
22-4, 89-90	201.9			Calc.			Insufficient residue			Mont.	Gyps.	
25-4, 62-64	230.1			Calc.			Insufficient residue			Insufficient residue		
29-1, 140-142	264.4	Unit V: clay-rich nanno chalk	Eocene	Calc.			Clin.	Quar.		Gyps.	Mont.	Paly.
33-1, 98-100	305.0	Unit VI: clay-bearing nanno chalk	Paleocene	Calc.			Clin.	Mont.		Mont.	Paly.	

TABLE 7
Summary of X-Ray Mineralogy Samples, Sample Depths, Lithology, Age, and X-Ray Diffraction Results, Site 238

Core, Section, Interval (cm)	Sample Depth Below Sea Floor (m)	Lithology	Age	Bulk Sample Major Constituent 1	2	3	2-20μ Fraction Major Constituent 1	2	3	<2μ Fraction Major Constituent 1	2	3
1-4, 82-84	5.3	Unit I: nanno ooze to foram-rich nanno ooze with minor clay	Upper Miocene through Quaternary	Calc.			Insufficient residue			Insufficient residue		
5-4, 103-105	43.5			Calc.			Insufficient residue			Insufficient residue		
7-2, 110-112	56.1			Calc.			Insufficient residue			Insufficient residue		
7-2, 119-121	56.2			Calc.			Insufficient residue			Insufficient residue		
7-5, 12-14	59.6			Calc.			Insufficient residue			Insufficient residue		
14-2, 76-78	122.3			Calc.			Insufficient residue			Insufficient residue		
14-4, 90-92	125.4			Calc.			Insufficient residue			Insufficient residue		
15-5, 76-77	136.4			Calc.			Insufficient residue			Insufficient residue		
38-5, 103-105	355.0	Unit II: nanno ooze to foram-bear-nanno ooze	Upper Oligocene through Middle Miocene	Calc.			Insufficient residue			Gyps.	Hali.	Mont.
39-5, 97-99	364.5			Calc.			Insufficient residue			Insufficient residue		
41-2, 67-69	378.7			Calc.			Insufficient residue			Insufficient residue		
49-2, 100-102	455.0			Calc.			Phil.	Plag.	K-Fe	Mont.	Phil.	K-Fe.
51-2, 13-15	473.1	Unit III: nanno chalk with inter-calated horizons of volcanic ash and zeolites	Lower and Upper Oligocene	Calc.			Insufficient residue			Mont.	Phil.	K-Fe.
51-4, 70-72	476.7			Calc.			K-Fe.	Phil.	Plag.	Mont.	Phil.	
52-1, 59-61	481.6			Calc.			Phil.	K-Fe.	Plag.	Mont.	Phil.	K-Fe.
52-3, 2-3	484.0			Mont.	K-Fe.	Plag.	K-Fe.	Augi.	Plag.	Mont.	Augi.	
52-3, 13-17	484.1			Calc.			Mont.	Plag.	K-Fe.	Mont.		
53-2, 6-8	492.1			Calc.			Mont.	Phil.	Plag.	Mont.		
53-3, 126-128	494-8			Calc.	Phil.		Phil.			Phil.	Mont.	
53-4, 67-69	495.7			Calc.			Phil.	Plag.	Mont.	Mont.	Phil.	Plag.
54-1, 23-25	500.2			Calc.			Insufficient residue			Mont.	Gyps.	Phil.
54-1, 84	500.8			Calc.	Plag.	Phil.	Insufficient residue			Insufficient residue		

TABLE 8
Results of X-Ray Diffraction Analysis from Site 231

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Dolo.	Arag.	Quar.	K-Fe.	Plag.	Kaol.	Mica	Chlor.	Mont.	Paly.	Pyri.	Amph.	U–1[a]
Bulk Samples																		
2	0.5-7.0	2.7	72.8	57.5	61.4	2.6	–	10.0	3.0	7.6	1.4	5.7	1.2	–	6.0	–	1.2	
4	16.5-26.0	18.5	67.7	49.5	54.2	1.5	21.5	12.8	–	2.0	–	3.3	–	–	3.3	1.4	–	
31	273.0-282.5	278.2	70.3	53.6	62.3	3.4	–	7.9	2.5	2.3	2.0	5.4	0.9	1.2	11.2	0.9	–	
44	396.5-406.0	397.4	81.9	71.8	5.5	7.5	–	21.6	3.8	6.7	2.3	–	2.5	9.0	37.1	3.8	–	
61	557.0-566.5	565.8	78.6	66.5	42.4	–	–	10.4	2.9	3.8	–	5.8	1.1	3.8	29.9	–	–	
2-20μ Fractions																		
2	0.5-7.0	2.7	75.5	61.7		3.4		36.4	10.9	24.4	1.4	16.1	3.5		–	1.1	2.9	
4	16.5-26.0	18.5	97.9	96.7		–		43.0	8.4	22.7	–	13.7	2.2		–	6.6	3.4	
31	273.0-282.5	278.2	69.1	51.7		–		35.9	12.7	17.8	2.1	20.4	3.8		–	7.3	–	
44	396.5-406.0	397.4	73.9	59.2		–		28.3	10.3	14.1	4.0	22.3	2.4		12.6	6.0	–	
61	557.0-566.5	565.8	74.0	59.3		–		35.7	10.6	13.9	–	20.8	3.2		14.8	1.1	–	
<2μ Fractions																		
2	0.5-7.0	2.7	91.1	86.1		1.0		9.6	–	1.7	11.0	16.2	4.4	13.5	41.3	1.2		T
4	16.5-26.0	18.5	92.9	88.9		–		7.1	–	2.2	10.6	21.1	4.7	6.0	43.2	5.2		–
31	273.0-282.5	278.2	81.7	71.3		–		4.6	1.1	0.5	15.2	14.3	3.2	22.4	38.7	–		T
44	396.5-406.0	397.4	87.9	81.1		–		5.0	–	–	8.0	9.8	2.3	21.5	52.4	1.1		–
61	557.0-566.5	565.8	85.4	77.2		–		3.7	–	–	–	8.5	1.9	21.6	64.3	–		–

[a]U–1 Peaks at 5.74Å, 3.62Å, and 8.02Å. T = trace.

TABLE 9
Results of X-Ray Diffraction Analysis from Hole 232

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Dolo.	Quar.	K-Fe.	Plag.	Kaol.	Mica	Chlor.	Mont.	Paly.	Pyri.	Amph.	U–1[a]
Bulk Samples																	
1	0.0-2.5	0.9	70.0	53.1	74.9	3.7	7.2	–	2.8	–	2.6	–	–	8.9	–	–	–
13	107.0-116.5	107.1	59.2	36.3	20.5	1.5	29.2	14.7	22.7	–	6.7	0.4	–	–	–	4.3	–
18	154.5-164.0	158.0	72.6	57.2	49.1	6.3	8.9	3.3	5.2	0.9	5.6	1.4	1.0	17.3	1.2	–	T
2-20μ Fractions																	
13	107.0-116.5	107.1	73.1	58.0			22.2	9.2	16.3		24.7	4.5		11.3	9.1	2.7	
18	154.5-164.0	158.0	68.5	50.8			32.0	8.9	18.5		19.5	3.3		12.8	5.1	–	
<2μ Fractions																	
1	0.0-2.5	0.9	90.9	85.8			3.7			4.9	5.4	1.9	5.8	78.2	–		T
13	107.0-116.5	107.1	86.5	78.9			4.9			7.3	12.0	2.8	19.0	49.9	4.0		T
18	154.5-164.0	158.0	85.0	76.5			3.0			8.5	10.3	1.4	16.6	60.2	–		T

[a]U–1 Peaks at 5.74Å, 3.62Å, and 8.02Å. T = trace.

TABLE 10
Results of X-Ray Diffraction Analysis from Hole 232A

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Dolo.	Quar.	K-Fe.	Plag.	Kaol.	Mica	Chlor.	Mont.	Paly.	Clin.	Pyri.	Amph.	U–1[a]
Bulk Samples																		
1	159.0-168.5	163.8	80.3	69.2	49.2	3.9	13.2	4.1	8.0	–	7.6	0.7	–	12.4		1.0	–	T
7	216.0-225.5	218.6	67.9	49.8	21.0	1.8	31.7	10.1	21.1	–	9.8	0.8	–	–		1.2	2.5	–
9	235.0-244.5	242.3	78.1	65.7	38.8	1.8	12.7	2.3	5.6	1.8	12.9	1.7	4.0	16.4		1.9	–	–
14	282.5-292.0	283.6	66.1	47.0	9.9	–	37.8	13.5	19.5	–	8.9	0.4	–	7.3		1.0	1.7	–
2-20μ Fractions																		
1	159.0-168.5	163.8	93.9	90.5			31.3	16.1	20.2	–	13.3	2.4		8.5	–	6.1	2.1	
7	216.0-225.5	218.6	57.8	34.1			32.6	9.3	25.2	–	21.8	2.7		–	–	5.9	2.6	
9	235.0-244.5	242.3	75.1	61.1			28.2	13.4	22.5	3.1	25.4	2.8		–	–	4.5	–	
14	282.5-292.0	283.6	71.0	54.6			1.5	0.7	1.0	–	1.5	0.2		–	94.9	0.2	–	
<2μ Fractions																		
1	159.0-168.5	163.8	89.3	83.3			11.7			20.6	15.0	8.4	38.7	–		5.7		–
7	216.0-225.5	218.6	81.2	70.7			5.1			14.0	6.9	3.9	24.8	43.8		1.5		–
9	235.0-244.5	242.3	84.8	76.2			4.7			11.8	10.2	1.7	30.8	39.7		1.1		T
14	282.5-292.0	283.6	83.0	73.5			3.8			15.1	6.6	2.5	43.0	29.0		–		–

[a]U-1 peaks at 5.74Å, 3.62Å, and 8.02Å. T = trace.

TABLE 11
Results of S-Ray Diffraction Analysis from Site 233

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Dolo.	Quar.	K-Fe.	Plag.	Kaol.	Mica	Chlor.	Mont.	Paly.	Pyri.	Amph.	U–1[a]
Bulk Samples																	
2	5.0-14.5	10.30	63.0	42.2	74.2	4.0	5.9	1.5	2.3	–	3.1	–		9.0	–		
8	62.0-71.5	67.79	71.0	54.7	48.5	5.6	11.2	4.8	7.1	–	5.0	1.0		15.2	1.6		
		67.81	69.8	52.9	54.4	5.4	9.6	2.0	5.0	–	6.2	–		17.5	–		
11	90.5-100.0	95.90	64.1	43.9	50.5	4.7	11.6	1.6	5.9	–	5.7	1.1		18.9	–		
16	138.0-147.5	142.90	71.3	55.1	58.4	3.5	8.8	2.1	4.3	1.6	7.2	–		12.5	1.4		
2-20μ Fractions																	
2	5.0-14.5	10.30	71.3	55.2		8.7	36.1	7.0	21.5		12.0	2.8		10.7	–	1.3	
8	62.0-71.5	67.79	71.7	55.9		–	31.9	8.0	21.7		17.3	4.3		11.0	4.8	1.1	
		67.81	73.7	59.0		–	31.6	7.6	20.3		15.5	3.0		15.7	5.3	1.1	
11	90.5-100.0	95.90	73.5	58.6		–	33.8	7.4	20.9		13.8	2.8		16.5	4.9	–	
16	138.0-147.5	142.90	73.5	58.5		–	29.4	8.3	19.5		22.4	3.8		10.3	6.3	–	
<2μ Fractions																	
2	5.0-14.5	10.30	89.6	83.7		1.2	4.8			8.0	12.9	2.9	6.9	63.4	–		T
8	62.0-71.5	67.79	86.6	79.1		–	5.4			3.6	8.5	2.4	7.6	71.0	1.7		–
		67.81	87.6	80.7		–	3.5			3.9	8.5	2.9	6.2	74.2	0.9		–
11	90.5-100.0	95.90	87.9	81.0		–	3.7			6.2	10.0	1.8	7.1	70.2	1.1		–
16	138.0-147.5	142.90	83.1	73.7		1.1	5.1			6.1	14.4	1.9	7.6	61.4	2.4		–

[a]U-1 peaks at 5.74Å, 3.62Å, and 8.02Å. T = trace.

TABLE 12
Results of X-Ray Diffraction Analysis from Site 234

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Dolo.	Quar.	K-Fe.	Plag.	Kaol.	Mica	Chlor.	Mont.	Paly.	Pyri.	Amph.	U–1[a]	U–2[b]
Bulk Samples																		
1	0.0-9.5	2.4	78.6	66.6	60.0	2.4	9.4	2.0	3.6	2.3	5.9		4.6	9.8	–		T	–
		5.0	82.1	72.1	59.7	–	7.4	6.9	4.4	0.9	–		8.1	12.6	–		–	–
6	76.0-85.5	84.9	89.2	83.1	–	2.1	12.1	6.1	3.2	9.5	12.9		24.1	26.4	3.6		T	–
10	161.5-171.0	166.1	86.2	78.5	41.6	–	4.9	10.2	–	6.9	–		29.7	6.7	–		T	T
15	237.5-247.0	240.9	85.1	76.7	–	–	9.4	4.9	4.9	16.0	8.9		43.5	12.5	–		–	–
2-20μ Fractions																		
1	0.0-9.5	2.4	79.2	67.5			41.4	17.6	25.2	–	12.5	2.3			–	1.0		
		5.0	77.3	64.5			24.3	36.4	26.3	–	9.7	1.6			1.8	–		
6	76.0-85.5	84.9	73.8	59.0			25.8	36.8	21.0	1.8	12.3	1.4			0.9	–		
10	161.5-171.0	166.1	90.8	85.7			17.9	49.8	23.4	2.3	6.6	–			–	–		
15	237.5-247.0	240.9	79.1	67.4			22.2	31.3	23.0	3.4	20.1	–			–	–		
<2μ Fractions																		
1	0.0-9.5	2.4	87.5	80.5		1.7	6.6	–		8.2	11.3	1.7	37.1	33.4	–		–	
		5.0	91.6	86.9		–	5.2	7.2		7.4	19.1	–	30.3	29.3	1.4		T	
6	76.0-85.5	84.9	91.3	86.4		–	6.9	8.0		15.8	8.6	2.8	33.9	24.1	–		–	
10	161.5-171.0	166.1	87.9	81.1		–	2.2	3.9		23.5	–	–	70.5	–	–		–	
15	237.5-247.0	240.9	83.4	74.0		–	3.4	1.0		20.9	4.9	–	60.4	9.4	–		–	

[a]U-1 peaks at 5.74Å, 3.62Å, and 8.02Å. T = trace.

[b]U-2 peaks at 3.16Å, 5.57Å, and 3.43Å.

TABLE 13
Results of X-Ray Diffraction Analysis from Site 235

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Dolo.	Arag.	Quar.	K-Fe.	Plag.	Kaol.	Mica	Chlor.	Mont.	Paly.	Phil.	Pyri.	U–1[a]	U-2[b]
Bulk Samples																			
1	0.0-9.5	2.4	72.4	56.8	88.1	–	–	3.1	–	–	1.3	–		–	7.5		–	T	–
4	28.5-38.0	31.8	78.8	66.9	73.8	1.4	–	4.7	2.6	1.7	1.8	5.7		–	8.4		–	T	–
5	66.5-76.0	70.1	64.5	44.5	37.8	2.3	59.9	–	–	–	–	–		–	–		–	T	–
		74.8	72.0	56.3	86.9	–	–	1.8	–	–	–	4.8		6.5	–		–	T	T
		74.9	89.1	83.0	13.4	3.5	–	14.1	–	5.6	6.7	6.2		24.9	23.8		1.7	P	–
		75.1	73.6	58.7	82.2	1.3	–	2.6	–	–	1.1	4.0		–	8.9		–	T	–
10	218.5-228.0	221.1	73.8	59.0	77.9	–	–	3.2	5.0	3.6	1.3	–		4.9	4.1		–	–	–
11	266.0-275.5	269.2	60.3	37.9	52.6	–	47.4	–	–	–	–	–		–	–		–	–	–
		269.4	89.3	83.3	–	–	–	12.5	22.5	8.7	5.3	7.4		24.3	17.9		1.4	–	T
		269.8	71.7	55.7	82.2	–	2.6	2.0	–	–	–	2.2		5.1	5.9		–	T	–
2-20μ Fractions																			
1	0.0-9.5	2.4	86.1	78.2				28.6	21.7	19.4	3.7	6.2	–		17.4	–	3.0		
4	28.5-38.0	31.8	86.6	79.1				32.9	19.0	20.7	5.2	14.1	–		7.1	–	1.1		
5	66.5-76.0	74.9	83.1	73.6				32.4	17.6	26.2	3.5	8.9	–		6.6	–	4.8		
10	218.5-228.0	221.1	79.2	67.6				20.4	34.0	19.5	3.3	10.2	–		6.6	–	5.9		
11	266.0-275.5	269.4	77.1	64.3				21.1	32.7	22.4	0.1	2.2	–		10.8	7.3	3.4		
		269.8	92.9	88.9				22.7	28.2	23.6	–	19.6	1.5		–	–	4.5		
<2μ Fractions																			
1	0.0-9.5	2.4	87.9	81.1		–		5.1	–		11.4	13.7	–	41.4	27.5		1.0	–	–
4	28.5-38.0	31.8	77.9	65.5		1.9		5.6	–		12.0	13.0	2.0	35.3	30.2		–	T	–
5	66.5-76.0	74.8	87.2	80.0		–		3.6	–		8.0	12.9	1.8	50.5	23.2		–	–	T
		74.9	87.6	80.6		–		5.7	–		10.2	8.8	–	40.4	34.9		–	–	T
		75.1	93.0	89.0		–		7.8	–		12.8	23.1	3.1	–	51.8		1.4	–	–
10	218.5-228.0	221.1	88.5	82.1		–		4.0	1.6		9.6	8.8	–	60.5	15.5		–	–	T
11	266.0-275.5	269.2	88.5	82.0		–		3.4	–		7.3	6.5	1.5	52.2	29.1		–	–	–
		269.4	86.3	78.6		–		4.6	–		12.4	–	–	53.1	28.7		1.2	T	–
		269.8	88.5	82.0		–		3.8	19.1		7.4	9.2	1.7	41.1	17.7		–	P	–

[a]U–1 peaks at 5.74Å, 3.62Å, and 8.02Å. T = trace; P = present.

[b]U–2 peaks at 3.16Å, 5.57Å, and 3.43Å.

TABLE 14
Results of X-Ray Diffraction Analysis from Site 236

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Dolo.	Arag.	Quar.	K-Fe.	Plag.	Kaol.	Mica	Chlor.	Mont.	Paly.	Clin.	Phil.	Anal.	Pyri.	Bari.	Gyps.	Hali.	U–1[a]	U–2[b]	U–3[c]
Bulk Samples																									
3	16.0-25.5	18.2	55.2	30.0	95.9	1.2	2.5	0.4	–	–	–	–		–	–	–	–						T	–	
		18.8	74.7	60.5	78.7	–	–	5.3	–	0.5	2.3	5.4		2.2	5.8	–	–						T	–	
5	35.0-44.5	38.4	58.6	35.3	69.1	2.3	28.6	–	–	–	–	–		–	–	–	–						T	–	
		38.7	57.6	33.7	85.6	2.5	11.3	0.6	–	–	–	–		–	–	–	–						T	–	
		43.7	59.0	36.0	69.2	1.1	29.7	–	–	–	–	–		–	–	–	–						T	–	
6	44.5-54.0	47.1	67.7	49.6	88.8	–	–	1.9	–	–	–	2.6		2.7	3.9	–	–						T	–	
8	63.5-73.0	67.4	85.9	77.9	53.7	1.6	–	8.2	3.9	4.7	2.9	7.2		11.2	6.6	–	–						T	T	
9	73.0-82.5	77.1	56.4	31.8	73.8	–	26.2	–	–	–	–	–		–	–	–	–						T	–	
12	101.5-111.0	109.4	63.3	42.6	85.8	–	12.5	0.5	–	–	–	1.2		–	–	–	–						T	–	
		109.9	74.9	60.8	82.9	–	–	3.3	1.1	1.1	1.0	3.2		2.2	5.2	–	–						–	T	
15	130.0-139.5	135.4	76.3	62.9	77.6	–	–	3.6	1.1	1.9	1.5	4.2		4.6	5.5	–	–						–	T	
16	139.5-149.0	146.3	87 7	80.8	–	–	–	13.6	8.7	4.2	6.7	8.4		30.6	27.9	–	–						–	–	
19	168.0-177.5	170.4	89.8	84.1	–	–	–	6.3	10.2	1.2	6.8	8.3		34.5	21.5	2.4	8.8						–	–	
20	177.5-187.0	184.6	55.0	29.6	98.8	–	–	–	–	–	–	–		–	–	1.2	–						–	–	
22	196.5-206.0	201.9	55.8	30.9	100.0	–	–	–	–	–	–	–		–	–	–	–						–	–	
25	225.0-234.5	230.1	49.9	21.7	100.0	–	–	–	–	–	–	–		–	–	–	–						–	–	
29	263.0-272.5	264.4	58.5	35.2	96.4	–	–	0.5	–	–	–	–		–	–	3.1	–						–	–	
33	301.0-306.5	305.0	63.5	42.9	87.3	–	–	0.3	–	–	–	–		6.5	–	5.9	–						–	T	
2-20μ Fractions																									
3	16.0-25.5	18.8	98.3	97.3				40.9	14.7	18.4	6.2	16.0	3.8	–	–	–	–	–	–	–					
6	44.5-54.0	47.1	85.7	77.6				26.7	25.6	21.8	–	13.3	2.3	–	8.8	–	–	–	–	1.5					
8	63.5-73.0	67.4	90.5	85.2				26.5	23.6	27.8	3.3	17.1	1.7	–	–	–	–	–	–	–					
12	101.5-111.0	109.9	88.2	81.5				28.0	17.8	23.4	2.3	16.3	1.8	–	9.4	–	–	–	0.9	–					
15	130.0-139.5	135.4	90.4	85.0				29.9	14.5	18.2	1.7	17.0	1.9	–	14.8	–	–	–	–	2.1					
16	139.5-149.0	146.3	82.9	73.3				27.8	23.9	25.5	–	11.9	2.0	–	8.9	–	–	–	–	–					
19	168.0-177.5	170.4	82.1	72.0				11.9	18.8	10.7	–	3.4	–	7.9	7.4	9.4	30.5	–	–	–					
20	177.5-187.0	184.6	72.0	56.3				6.5	3.4	–	–	–	–	–	12.8	76.0	–	1.2	–	–					
29	263.0-272.5	264.4	66.9	48.3				8.5	2.7	–	–	3.2	–	–	4.4	79.9	–	1.2	–	–					
33	301.0-306.5	305.0	61.1	39.1				1.9	–	–	–	–	–	22.0	–	76.1	–	–	–	–					

TABLE 14 – *Continued*

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Dolo.	Arag.	Quar.	K-Fe.	Plag.	Kaol.	Mica	Chlor.	Mont.	Paly.	Clin.	Phil.	Anal.	Pyri.	Bari.	Gyps.	Hali.	U–1[a]	U–2[b]	U–3[c]
<2μ Fractions																									
3	16.0-25.5	18.8	86.8	79.4				8.0	–	–	11.6	21.9	2.0	37.4	19.1	–			–		–	–	–	–	–
5	35.0-44.5	43.7	94.1	90.8				3.5	–	–	5.7	11.0	–	65.4	14.5	–			–		–	–	–	–	–
6	44.5-54.0	47.1	87.8	81.0				4.3	–	–	9.2	14.3	–	51.6	20.6	–			–		–	–	T	–	–
8	63.5-73.0	67.4	86.1	78.3				4.3	–	–	7.2	12.5	–	50.6	25.5	–			–		–	–	T	–	–
9	73.0-82.5	77.1	97.4	95.9				4.5	–	–	7.5	6.6	–	62.7	14.7	–			4.0		–	–	–	–	–
12	101.5-111.0	109.4	93.9	90.5				2.8	–	–	5.7	7.2	–	68.1	11.6	–			4.6		–	–	–	–	–
		109.9	87.1	79.8				4.7	–	–	4.5	11.4	1.9	52.8	24.7	–			–		–	–	T	T	–
15	130.0-139.5	135.4	86.6	79.1				7.0	–	–	5.9	16.0	2.6	50.3	18.1	–			–		–	–	T	–	–
16	139.5-149.0	146.3	90.3	84.8				11.0	6.3	5.0	8.5	8.8	–	38.3	22.1	–			–		–	–	–	–	–
19	168.0-177.5	170.4	88.3	81.7				4.5	6.4	–	8.8	3.6	–	57.4	19.5	–			–		–	–	–	–	–
20	177.5-187.0	184.6	90.5	85.1				1.0	–	–	–	–	–	35.8	61.7	1.5			–		–	–	–	–	–
22	196.5-206.0	201.9	91.7	87.0				1.2	–	–	–	–	–	74.9	–	–			–		20.7	3.2	–	P	P
29	263.0-272.5	264.4	89.1	82.9				4.2	–	–	–	–	–	28.3	21.4	–			–		35.5	10.5	–	–	–
33	301.0-306.5	305.0	79.9	68.6				0.5	–	–	–	–	–	86.0	9.1	4.5			–		–	–	–	–	–

[a]U–1 peaks at 5.74Å, 3.62Å, and 8.02Å. T = trace; P = present.

[b]U–2 peaks at 3.16Å,5.57Å, and 3.43Å.

[c]U–3 peaks at 2.50Å, 2.67Å, and 2.09Å.

TABLE 15
Results of X-Ray Diffraction Analysis from Site 238

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Quar.	K-Fe.	Plag.	Kaol.	Mica	Mont.	Clin.	Phil.	Anal.	Gyps.	Hali.	Augi.	U–1[a]	U–2[b]	U–4[c]
Bulk Samples																				
1	0.0-9.5	5.3	55.3	30.2	100.0	–	–	–			–	–	–				–	–	T	–
5	38.0-44.0	43.5	55.8	31.0	100.0	–	–	–			–	–	–				–	–	T	–
7	53.5-63.0	56.1	54.2	28.4	100.0	–	–	–			–	–	–				–	–	T	–
		56.2	52.9	26.4	100.0	–	–	–			–	–	–				–	T	T	–
		59.6	56.4	31.9	100.0	–	–	–			–	–	–				–	T	T	–
14	120.0-129.5	122.3	54.4	28.8	100.0	–	–	–			–	–	–				–	T	T	–
		125.4	52.4	25.6	100.0	–	–	–			–	–	–				–	T	T	–
15	129.5-139.0	136.3	49.8	21.5	100.0	–	–	–			–	–	–				–	T	T	–
38	348.0-357.5	355.0	51.2	23.8	100.0	–	–	–			–	–	–				–	–	–	–
39	357.5-367.0	364.5	51.6	24.3	98.7	–	1.3	–			–	–	–				–	T	–	–
41	376.5-386.0	378.7	48.5	19.5	100.0	–	–	–			–	–	–				–	–	T	–
49	452.5-462.0	455.0	49.5	21.1	99.5	–	–	–			–	0.5	–				–	–	T	–
51	471.5-481.0	473.1	51.2	25.1	100.0	–	–	–			–	–	–				–	T	–	–
		476.7	64.1	44.0	84.5	–	6.6	2.9			4.2	–	1.8				–	–	–	–
52	481.0-490.5	481.6	51.8	24.7	98.3	–	–	–			–	–	1.7				–	–	–	–
		484.0	87.8	80.9	–	–	15.2	12.1			63.6	–	–				9.1	–	–	–
		484.1	59.3	36.4	90.5	–	2.7	1.6			5.3	–	–				–	–	–	T
53	490.5-500.0	492.1	65.1	45.4	98.9	–	–	–			1.1	–	–				–	–	T	–
		494.8	68.1	50.2	65.1	–	–	–			–	–	34.9				–	T	–	–
		495.7	54.5	28.9	94.9	–	–	–			–	–	5.1				–	–	–	–
54	500.0-506.0	500.2	47.4	17.8	100.0	–	–	–			–	–	–				–	–	–	–
		500.8	84.6	75.9	40.3	1.5	–	28.0			11.1	–	19.2				–	–	–	–
<2-20μ Fractions																				
49	452.5-462.0	455.0	87.8	80.9		1.2	15.9	22.1		–	–	8.0	52.8				–			–
51	471.5-481.0	476.7	82.5	72.7		2.0	46.4	13.7		1.6	8.3	–	28.0				–			–
52	481.0-490.5	481.6	90.3	84.9		0.7	23.2	18.1		–	–	1.7	56.3				–			–
		484.0	93.4	89.6		–	33.8	25.4		–	13.9	–	–				26.9			–
		484.1	90.0	84.4		1.3	19.6	25.6		–	35.6	–	17.9				–			P
53	490.5-500.0	492.1	89.0	82.8		–	–	13.1		–	70.9	–	15.9				–			–
		494.8	70.6	54.1		–	–	–		–	–	–	100.0				–			–
		495.7	77.4	64.7		1.1	–	23.3		–	21.1	7.0	47.5				–			–

TABLE 15 – *Continued*

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Quar.	K-Fe.	Plag.	Kaol.	Mica	Mont.	Clin.	Phil.	Anal.	Gyps.	Hali.	Augi.	U–1[a]	U–2[b]	U-4[c]
<2μ Fractions																				
38	348.0-357.5	355.0	93.8	90.4		3.7	–	–	–	–	22.1	–	–	–	39.9	34.3	–			–
49	452.5-462.0	455.0	86.9	79.5		1.7	8.5	4.7	–	2.2	64.6	1.6	16.8	–	–	–	–			–
51	471.5-481.0	473.1	97.8	96.6		4.4	14.6	7.2	–	–	46.9	–	26.9	–	–	–	–			–
		476.7	71.3	55.1		–	–	–	–	–	83.7	–	15.2	1.1	–	–	–			–
52	481.0-490.5	481.6	90.2	84.7		0.8	13.9	–	–	–	71.0	–	14.3	–	–	–	–			–
		484.0	83.8	74.7		–	3.3	4.3	–	–	83.9	–	–	–	–	–	8.5			–
		484.1	88.1	81.4		–	7.2	–	–	–	92.8	–	–	–	–	–	–			P
53	490.5-500.0	492.1	84.6	75.9		–	–	–	–	–	95.3	–	4.7	–	–	–	–			–
		494.8	97.4	95.9		–	–	–	–	–	41.5	–	58.5	–	–	–	–			–
		495.7	87.8	81.0		–	–	7.5	–	–	74.0	–	10.1	–	6.9	1.4	–			–
54	500.0-506.0	500.2	90.1	84.6		2.1	–	–	–	–	62.4	–	13.4	–	14.0	8.1	–			–

[a]U–1 peaks at 5.74Å, 3.62Å, and 8.02Å. T = trace.

[b]U–2 peaks at 3.16Å, 5.57Å, and 3.43Å.

[c]U–4 broad peak at 3.56Å. P = present.

TABLE 16
Results of X-Ray Diffraction Analysis of Supplemental Samples from Site 232

Core	Depth	Sample Depth Below Sea Floor (m)	Diffuse	Amorphous Scattering	Dolo.	Quar.	K-Fe.	Plag.	Mica	Chlor.	Amph.	Mont.	Paly.
2-20μ Fractions													
1	0-2.5	0.9	65.9	46.7	12.2	37.6	6.8	21.0	16.6	4.7	1.2		
<2μ Fractions													
1	0-2.5	0.9	89.9	84.2		11.7			23.8	3.4		8.6	52.6

TABLE 17
Results of X-Ray Diffraction Analysis of Supplemental Samples from Site 235

Core	Depth	Sample Depth Below Sea Floor (m)	Diffuse	Amorphous Scattering	Dolo.	Quar.	K-Fe.	Plag.	Mica	Chlor.	Paly.	Pyri.	Amph.	Kaol.	Mont.
2-20μ Fractions															
5	66.5-76.6	70.1	68.5	50.8	2.1	37.4	5.8	21.0	23.7	6.9		3.1			
5	66.5-76.0	74.8	70.6	54.0	16.8	39.1		18.6	17.5	5.4		2.7			
5	66.5-76.0	75.1	72.5	57.0	6.7	36.4	5.0	22.3	17.9	5.4		4.3	2.0		
11	266.0-275.5	269.2	74.0	59.4	14.6	25.4	2.0	13.7	16.5	4.8	20.3	2.7			
<2μ Fractions															
5	66.5-76.0	70.1	86.6	79.1		19.5		4.5	19.9	4.9	38.4	1.0			11.8
5	66.5-76.0	74.8	89.4	83.5	2.4	17.7		3.9	22.6	4.9	41.2				7.2
5	66.5-76.0	75.1	90.4	85.0		15.0		2.8	16.0	4.2	44.3	3.0			14.8
11	266.0-275.5	269.2	89.7	83.8	0.9	12.7		2.8	16.8	3.0	53.2	1.3		1.5	7.8

TABLE 18
Results of X-Ray Diffraction Analysis of Supplemental Samples from Site 236

Core	Depth	Sample Depth Below Sea Floor (m)	Diffuse	Amorphous Scattering	Dolo.	Quar.	K-Fe.	Plag.	Kaol.	Mica	Chlor.	Mont.	Clin.	Phil.	Pyri.	Bari.	Paly.	Hali.
2-20μ Fractions																		
3	16.0-25.5	18.2	–	–		21.4	12.8	20.2	7.6	17.8		17.8	2.3					
3	16.0-25.5	18.8	77.6	65.1		33.4	13.1	18.7	2.2	22.9	4.3					5.3		
5	35.0-44.5	38.4	–	–		12.7	18.2	19.1	4.8	14.1	2.8	24.0	4.4					
5	35.0-44.5	38.7	74.6	60.3	15.2	23.8	19.4	21.8	2.6	13.9	2.2		1.1					
5	35.0-44.5	43.7	–	–	1.2	19.8	22.0	31.6	5.8	8.2			11.5					
9	73.0-82.5	77.1	82.8	73.1	55.7	8.2	9.1	9.6		3.9			1.9	7.5	4.1			
12	101.5-111.0	109.4	89.6	83.8	34.6	16.1	13.8	12.3		5.5			2.4	7.7	7.7			
22	196.5-206.0	201.9	99.0	98.5		20.3		44.3								35.3		
25	225.0-234.5	230.1	96.0	93.8		6.4		16.3		13.9		14.8				48.6		
<2μ Fractions																		
3	16.0-25.5	18.2	89.9	84.1	3.2	9.4			8.0	10.7		50.9					17.8	
3	16.0-25.5	18.8	88.4	81.8		14.7	6.3	6.4	6.9	15.8	2.2	26.4				3.1	18.2	
5	35.0-44.5	38.4	90.6	85.3	10.4	5.5		4.5	7.8	13.0		40.0					18.7	
5	35.0-44.5	38.7	90.3	84.9	2.4	13.4	11.6	8.1	4.0	11.3	2.8	33.5					13.0	
5	35.0-44.5	43.7	92.6	88.5	7.9	6.0			7.0	11.7		38.1					20.3	9.1
9	73.0-82.5	77.1	93.3	89.5	5.2	5.4		3.5	6.7	8.6		40.2			8.5		18.4	3.4
12	101.5-111.0	109.4	89.7	83.9		5.5			6.5	8.7		50.1			5.2		14.0	10.1
22	196.5-206.0	201.9	88.8	82.5								98.1				1.9		
25	225.0-234.5	230.1	86.9	79.6		1.4			2.8	5.7		78.1			2.7	3.3		5.1

TABLE 19
Results of X-Ray Diffraction Analysis of Supplemental Samples from Site 238

Core	Depth	Sample Depth Below Sea Floor (m)	Diffuse	Amorphous Scattering	Dolo.	Quar.	K-Fe.	Plag.	Kaol.	Mica	Chlor.	Mont.	Clin.	Phil.	Bari.	Paly.	Gyps.	Hali.
2-20μ Fractions																		
1	0-9.5	5.3	93.6	89.9		23.1		17.5	6.3	15.0	3.1				35.0			
5	38.0-44.0	43.5	94.0	90.6		30.6		8.2	7.2	15.4				10.9	27.8			
7	53.5-63.0	56.1	92.4	88.1		24.9			4.7	16.2				21.5	32.7			
7	53.5-63.0	56.2	–	–		14.1			4.2	8.0		35.2	1.7	22.7	14.1			
7	53.5-63.0	59.6	96.3	94.2		18.9		12.8	9.7	13.7					44.8			
14	120.0-129.5	125.4	–	–	6.9	7.5				51.9				29.4	4.3			
38	348.0-357.5	355.0	94.9	92.1		11.5	15.5	25.2	4.3	12.6		22.6			8.3			
39	357.5-367.0	364.5	–	–		2.4		11.1		3.9		13.4	17.7	51.5				
41	376.5-386.0	378.7	–	–		4.2							36.0	59.8				
51	471.5-481.0	473.1	–	–		2.7							5.3	92.0				
54	500.0-506.0	500.2	–	–		2.0		26.6				14.2	11.0	46.1				
<2μ Fractions																		
1	0-9.5	5.3	96.5	94.5		7.9			5.9	13.7		32.4	2.8		10.1	27.1		
5	38.0-44.0	43.5	96.3	94.2		9.4			11.3	11.1		55.7			12.5			
7	53.5-63.0	56.1	97.2	95.6		7.5			8.3	14.1		36.3		8.0	9.7	16.2		
7	53.5-63.0	56.2	90.8	85.7	3.5	2.5			4.0	10.0		71.3			6.1			2.6
7	53.5-63.0	59.6	97.5	96.0		8.9			16.4	32.8		29.1			12.8			
14	120.0-129.5	122.3	97.1	95.4		6.1		7.6	14.0			65.1			7.2			
14	120.0-129.5	125.4	95.3	92.6		5.2			12.5			73.1			9.2			
15	129.5-139.0	136.3	98.5	97.7								100.0						
38	348.0-357.5	355.0	89.6	83.7		3.2			2.2			86.9					1.9	5.7
39	357.5-367.0	364.5	88.2	81.6		1.4	6.3			16.2		69.5		6.6				
41	376.5-386	378.7	90.1	84.5		2.2	1.9			13.1		78.4		4.4				
51	471.5-481.0	473.1	–	–		3.5		7.7				59.0	3.1	26.7				
54	500.0-506.0	500.2	–	–		4.5		2.8				77.3	1.6	13.7				
		500.8	87.1	79.8		0.7	8.6	11.6				43.5		22.2				