25. X-RAY MINERALOGY OF THE CARIBBEAN SEA – LEG 15[1]

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INTRODUCTION

The semiquantitative methods used in the X-ray mineralogy studies of mineral composition in bulk samples, 2-20μ, and <2μ fractions of Leg 15 have been described in the Initial Reports of the Deep Sea Drilling Project, Volumes I and II, and in Appendix III of Volumes IV and XIV. The mineral analysis of the 2-20μ and <2μ fractions were performed on $CaCO_3$–free residues. The results are presented in Tables 1 through 9 and Figures 1 through 27. A list of the samples which have been analyzed appears in Table 10.

The sediment ages and the description of the lithologic units presented in Figures 1 through 27 and used in the text of this report are from the hole summary data presented in this volume. The results of mineralogical studies on core samples collected on Leg 15 are presented below.

RESULTS

Site 146

Site 145 is located in the center of the Venezuelan Basin about 40 km north of Site 29 of Leg 4. Five lithologic units were recognized.

There are three layers above the first lithologic unit. The first layer consists of 55 meters of brown clay of unknown age (Cores 1A and 3A). Calcite, quartz, mica, and kaolinite are the common minerals in bulk samples (Table 1, Figure 1). K-feldspar and amphibole are present in the decalcified 2-20μ fraction (Figure 2). Nineteen meters of brown clay of Late Miocene age (Core 1) underlie the brown clay. The mineralogy of this layer is similar to the overlying brown clay but calcite is absent. The third layer consists of siliceous nannofossil ooze of Early Miocene age (Core 2). Calcite is the dominant mineral. Montmorillonite, quartz, plagioclase, and kaolinite are also present. Phillipsite and clinoptilolite are present in the decalcified 2-20μ fraction.

The first unit consists of foraminiferal-nannofossil and nannofossil chalk of Paleocene to Eocene age (Cores 4 to 6). Stringers and nodules of chert are scattered throughout the unit. Volcanic ash laminae are associated with the silicification of the surrounding limestone. Cristobolite is found from 422.00 meters to 422.14 meters in concentrations greater than 30 percent. Quartz, plagioclase, palygorskite, clinoptilolite, and montmorillonite occur in minor amounts. The foraminiferal-nannofossil chalk consists mainly of calcite, mica, clinoptilolite, and quartz. In the decalcified 2-20μ fraction, clinoptilolite is the major mineral, with plagioclase, quartz, montmorillonite, mica, kaolinite, and cristobalite also present. Montmorillonite and cristobalite are the major minerals in the decalcified <2μ fraction (Figure 3). Montmorillonite and clinoptilolite are commonly associated with the ash laminae.

The second unit consists of green siliceous clay of Paleocene age (Cores 7-10). Cristobalite is the dominant mineral in the upper unit and quartz becomes the dominant mineral in the lower unit. Plagioclase, montmorillonite, clinopilolite, and barite are also present.

The third unit consists of varicolored nannofossil chalk of Maestrichtian to Campanian age (Cores 11-27). In the bulk samples, calcite is the dominant mineral except in cherty layers. Quartz is dominant in most of the cherty layers except in the 476.64 meter sample, which consists largely of cristobalite. The decalcified <2μ fraction of an ash layer at the 524.39 meter depth consists entirely of montmorillonite.

The fourth unit consists of radiolarian limestones of Santonian age (Cores 29-34). Calcite and quartz are the major minerals in most of the bulk samples. Montmorillonite is the dominant mineral in the ash layers. Quartz is the main mineral in the decalcified 2-20μ fraction, with 100 percent quartz present in two chert layers (538.00 m and 674.80 m).

The fifth unit consists of variegated limestone, marl, and clay of Santonian to Coniacian age (Cores 36-41). The mineralogy of this unit is very similar to the overlying unit.

Site 149

Site 149 is located about 1 km from Site 146. Site 149 was chosen for detailed biostratigraphic and geochemical study of the younger lithologic units (Pleistocene to Eocene) which were only intermittently cored at Site 146. Four lithologic units were recognized.

The first unit consists of foraminiferal nannofossil chalk and marl ooze of Pleistocene to Pliocene age (Cores 1-9). Calcite is the dominant mineral in the bulk samples, with quartz, K-feldspar, mica, chlorite, and montmorillonite also present (Table 2, Figure 4).

Varicolored clay and marls of Pliocene to Middle Miocene age, recovered from Cores 10 through 16, comprise the second unit. The mineralogy of this unit is very similar to the overlying unit with the exception that amphibole was not detected in the second unit.

The third unit consists of foraminiferal nannofossil marl and chalk of early Miocene age (Cores 18-20). Calcite is the dominant mineral in the bulk samples; minor amounts of quartz, plagioclase, kaolinite, and montmorillonite are also

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present. Clinoptilolite is present in the decalcified 2-20μ fraction (Figure 5) throughout the unit. In the decalcified <2μ fraction, montmorillonite is the dominant mineral. Lesser amounts of quartz, plagioclase, and kaolinite are also present (Figure 6). The clayey layers described by the shipboard scientists may be altered ash layers. They are characterized by a large amount of montmorillonite and a presence of clinoptilolite.

The fourth unit consists of indurated calcareous radiolarian ooze and radiolarian nannofossil chalk of Oligocene to Middle Eocene age (Cores 26-43). Calcite is the dominant mineral in the bulk samples and is absent in the chert layers. Minor amounts of quartz, plagioclase, and mica are present. Cristobalite and quartz are the major minerals found in the chert layers and palygorskite is the only minor mineral found in the chert layers.

The abundance of montmorillonite in the <2μ fraction of the older lithologic units at this site possibly indicates that volcanic activity was more intense during Eocene to Miocene time.

Site 147

This site is located in the Cariaco Basin, a structural depression on the continental shelf north of Venezuela. This trough trends east-west, parallel to the Venezuela coast, and is located southwest of Margarita Island. The cores recovered here are Pleistocene and consist almost entirely of a dark olive green calcareous clay with a high organic content. Four similar sequences were recognized by the shipboard scientists. The first sequence consists of grayish olive green, gray, and brown calcareous clays. The second sequence consists of grayish olive green, gray, and brown calcareous clays and varicolored calcareous and dolomitic clay. The lithology of the third sequence is similar to the second. The fourth sequence consists of grayish olive green calcareous clay.

Calcite, quartz, and mica are the dominant minerals in the bulk samples (Table 3, Figure 7). Lesser amounts of plagioclase, kaolinite, chlorite, and pyrite are also present. Dolomite is absent in the first sequence but it is the dominant mineral in the sample from 103.29 meters of the second sequence. Pyrite is present throughout the second sequence except in samples containing siderite. The mineralogy of the decalcified 2-20μ and <2μ fractions is rather uniform throughout the four sequences (Figures 8 and 9).

Site 148

Site 148 is located west of the Venezuelan Basin on the western crest of the Aves Ridge. This is about 300 km west of St. Vincent Island. Two lithologic units were recognized.

The first unit consists of green foraminiferal nannofossil marl and clay of Pliocene to Pleistocene age (Cores 1-27). This unit was further subdivided into an upper marl, clay, and lower marl zone. Mineralogically, these three zones are very similar except siderite is only found in the lower marl zone and palygorskite is only found in the clay zone. In the bulk samples, calcite and quartz are the dominant minerals (Table 4, Figure 10). Plagioclase, kaolinite, and mica are present throughout the unit. Small amounts of chlorite, montmorillonite, and pyrite are scattered throughout the unit. Augite and amphibole are present in the lower marl zone. These mafic constituents were probably derived from volcanic eruptions during Pliocene time.

The second unit consists of volcanic sands and clays of Paleocene age (Cores 28-31). The mineral assemblages of this unit are entirely different from those of the overlying unit. Plagioclase, K-feldspar, clinoptilolite, and quartz are the major minerals in the bulk samples. Other minerals present are calcite, pyrite, and montmorrilonite. Cristobalite is present in the <2μ fraction (Figure 11). The low concentration of quartz and mica in the 2-20μ fraction (Figure 12) indicates that there was probably very little aeolian contribution during the deposition of the volcanic-derived sediments.

Site 150

This site is located in the Venezuelan Basin, about 35 km south of Site 29 of Leg 4. It is situated south of Sites 146 149. Three lithologic units were recognized.

The first unit consists of olive gray calcareous clay of Pliocene age (Core 1). The high amorphous scattering factor (about 80%) in the bulk samples (Table 5, Figure 13) probably corresponds to the abundant hydrotroilite reported by the shipboard scientists. Mica is the dominant mineral, but quartz, calcite, kaolinite, K-feldspar, plagioclase, chlorite, and montmorillonite are also present. The decalcified 2-20μ fraction consists of quartz and mica with minor amounts of K-feldspar, plagioclase, kaolinite, and chlorite (Figure 14). Montmorillonite, mica, and kaolinite are the major minerals in the decalcified <2μ fraction. Quartz, K-feldspar, and plagioclase are also present (Figure 15).

Brown clays of Miocene to Eocene age were recovered in Cores 2 through 5. This second unit was further subdivided into brown zeolitic clay and interbedded clays and marls. Quartz and mica are the major minerals of the upper portion of the brown zeolitic clay. Kaolinite, montmorillonite, chlorite, K-feldspar, plagioclase, clinoptilolite, and phillipsite are also present. Calcite is the dominant mineral in calcareous lenses and clinoptilolite is the major mineral in the lower portion of the brown zeolitic clay. Quartz and mica, which represent typical aeolian assemblages, are found in the upper portion of this unit in the 2-20μ fraction. Clinoptilolite and montmorillonite characterize the ash layers which are commonly found in the lower portion of this unit.

The third unit consists of varicolored marls and chalks of Late Cretaceous age (Cores 9-10). Four samples were submitted for X-ray diffraction analysis. Two volcanic ash layers at 151.18 meters and 159.04 meters consist mostly of montmorillonite in the bulk samples and in the decalcified <2μ fraction. Clinoptilolite is the major mineral in the decalcified 2-20μ fraction. Calcite is the major mineral in the bulk samples of two marls at 159.04 meters and 161.18 meters. Minor amounts of mica, K-feldspar, montmorillonite, quartz, and barite are also present. K-feldspar is the dominant mineral in the decalcified 2-20μ fraction; mica, montmorillonite, and quartz are also present. Montmorillonite is the major mineral in the decalcified <2μ fraction.

Site 151

Site 151 is located about 24 km south of Site 9 of Leg 2, on the southern part of the Beata Ridge. Three lithologic units were recognized.

The first unit consists of foraminiferal nannofossil ooze of Pleistocene age (Core 1). Calcite is the major mineral with very small amounts of quartz, mica, plagioclase, and kaolinite in the bulk samples (Table 6, Figure 16). Quartz is the major mineral in the decalcified 2-20μ fraction and montmorillonite is the dominant mineral in the decalcified <2μ fraction (Figures 17 and 18).

The second unit consists of varicolored foraminiferal nannofossil chalk of Paleocene to Pliocene age (Cores 2-11). The shipboard scientists divided this unit into a grayish, yellow green zone (Cores 2-3), a very light gray zone (Cores 4-9), and pinkish gray zone (Cores 9-11). The bulk samples of this unit are characterized by an abundance of calcite. In the decalcified 2-20μ fraction, quartz is the major mineral in the grayish, yellow green zone; plagioclase is the major mineral in the very light gray zone; and clinoptilolite is the major mineral in pinkish gray zone. In the decalcified <2μ fraction, montmorillonite is the dominant mineral. Minor amounts of quartz, plagioclase, kaolinite, mica, and chlorite appear in the grayish, yellow green zone. The mineral assemblages of the very light gray zone and the grayish, yellow green zone are similar with the exception that clinoptilolite is present and chlorite is absent in the lower zone. Plagioclase and clinoptilolite are present in the pinkish gray zone in minor amounts.

The third unit consists of calcareous olive black clay of Late Cretaceous age (Core 12). The samples submitted for X-ray diffraction analysis have a very high calcite content. Quartz and montmorillonite are the dominant minerals at 369.8 meters. Montmorillonite is also the dominant mineral in the decalcified 2-20 and <2μ fractions. High concentrations of K-feldspar and plagioclase in the 2-20μ fraction were found in some layers.

Site 152

Site 152 is located in the lower slopes of the Nicaragua Rise, about 140 km northwest of Site 151. Only one unit was reported and this unit was divided into three zones.

The first zone consists of very pale orange chalk of Late Paleocene to Early Eocene age (Cores 1-4). Calcite is the most common mineral in the bulk samples (Table 7, Figure 19), but small amounts of quartz, plagioclase, clinoptilolite, and augite were also detected. In the decalcified 2-20μ fraction, plagioclase, quartz, and augite are the only minerals present in the upper portion of this zone. In the middle of this zone, the sediment contains predominantly clinoptilolite, plagioclase, and augite with minor amounts of quartz, barite, and magnetite. In the lower portion of this zone, cristobalite is the dominant mineral; minor amounts of plagioclase, clinoptilolite, barite, quartz, and augite are also present. Montmorillonite is the dominant mineral in the decalcified <2μ fraction. Cristobalite becomes more abundant near the base of this zone. Plagioclase, quartz, and clinoptilolite are also present.

The second zone consists of a very light gray chalk of Late Cretaceous to Middle Paleocene age (Cores 6-17). Calcite is the major mineral in most of the bulk samples except in the 343.72-meter sample where cristobalite and quartz are the dominant minerals and in the 407-meter sample where quartz is the only mineral present. In the decalcified 2-20μ fraction, plagioclase, quartz, and clinoptilolite are the dominant minerals; barite, mica, kaolinite, K-feldspar, and augite occur in lesser amounts (Figure 20). There is over 50% montmorillonite present in two samples (408 m and 417.616 m). In the decalcified <2μ fraction, montmorillonite is the major mineral; minor amounts of quartz, plagioclase, mica, and clinoptilolite are also present (Figure 21).

The third zone consists of light bluish gray limestone of Late Cretaceous age (Cores 21-22). The bulk samples largely consist of calcite with small amounts of quartz, montmorillonite, and clinoptilolite. Montmorillonite is the major mineral in the decalcified 2-20μ and <2μ fractions; lesser amounts of quartz, plagioclase, mica, and clinoptilolite are present.

Site 153

This site is located southwest of Site 151, at the southern end of the Beata Ridge. Five lithologic units were recognized.

Foraminiferal nannofossil marl of Middle Pliocene age was recovered in Core 1. Calcite is the common mineral in the bulk samples (Table 8). The other minerals present are quartz, mica, plagioclase, kaolinite, chlorite, and phillipsite (Figure 22). Phillipsite and pyrite are most abundant in the decalcified 2-20μ fraction (Figure 23).

The second unit consists of clays and foraminiferal nannofossil marls of Middle and Late Miocene age (Cores 2-4). Quartz, mica, and kaolinite are the dominant minerals in the bulk samples. Calcite, K-feldspar, plagioclase, chlorite, and montmorillonite are also present. Pyrite was detected in the decalcified 2-20μ fraction.

The third unit consists of foraminiferal nannofossil chalk of Middle Oligocene to Early Miocene age (Cores 5-7). The mineralogy of the upper portion of this unit is similar to the mineralogy of the overlying unit. The bulk samples of the lower portion of this unit consist entirely of calcite. Montmorillonite is the major mineral in the decalcified 2-20μ and <2μ fractions (Figures 23 and 24). Kaolinite and pyrite were detected in the decalcified 2-20μ fraction.

Chalks of Late Cretaceous to Early Eocene age were recovered from Cores 8 through 15. Calcite and cristobalite are the major minerals in the upper portion of the bulk samples. Minor amounts of plagioclase, montmorillonite, clinoptilolite, and barite are also present. Cristobalite is the dominant mineral in the decalcified 2-20μ and <2μ fractions. High concentrations of quartz are noted near the lower portion of this unit where cristobalite is absent.

The fourth unit consists of phosphatic limestone and interbedded silt of Late Cretaceous age (Cores 16-19). Calcite is the most abundant mineral of the bulk samples; variable amounts of montmorillonite, and lesser amounts of quartz, K-feldspar, plagioclase, clinoptilolite, and pyrite, are also present. Phosphatic minerals were not detected in the samples submitted for X-ray diffraction analysis.

Site 154

Holes 154 and 154A are located about 210 km north of Cristobal, Panama, on a topographic high of the Colombian Abyssal Plain. Three lithologic units were recognized.

The first unit consists of a foraminiferal nannofossil marl of Pliocene to Pleistocene age (Cores 1, 2, and 1A-13A). The bulk samples are characterized by abundant calcite, with lesser quantities of quartz, plagioclase, kaolinite, mica, chlorite, montmorillonite, and pyrite, and occasionally with clinoptilolite, phillipsite, hematite, barite, and augite (Table 9, Figure 25). Dolomite is present in the lower portion of the unit. Quartz and plagioclase are the dominant minerals in the decalcified 2-20μ fraction (Figure 26) and montmorillonite is the dominant mineral in the decalcified $<2\mu$ fraction (Figure 27).

The second unit consists of calcareous clay of Pliocene age (Cores 14A, 15A, 16A, and 17A). Quartz and plagioclase are the dominant minerals in the bulk samples, but the calcite concentration occasionally reaches about 35 percent. Phillipsite is abundant in those samples in which calcite is absent or occurs in very small amounts. Montmorillonite, clinoptilolite, pyrite, augite, magnetite, kaolinite, and chlorite are commonly present. Dolomite and gibbsite are detected near the top of this unit (at 135.61 m). In the decalcified 2-20μ fraction, quartz and plagioclase are the dominant minerals in the upper portion of the unit, phillipsite is the dominant mineral in the central portion of the unit, and plagioclase is the dominant mineral of the lower portion of the unit. The other minerals present are augite, mica, pyrite, and magnetite.

The third unit consists of clayey volcanic sediments (Cores 3-14). The shipboard scientists suggested that the volcanic sediments may have been deposited in a shallow environment and were later swept into the Columbian Basin. Quartz, plagioclase and phillipsite are the major minerals in the bulk samples and the decalcified 2-20μ fraction. Lesser amounts of mica, montmorillonite, clinoptilolite, augite, and magnetite are also present. Montmorillonite is the dominant mineral in the decalcified $<2\mu$ fraction. Quartz, plagioclase, mica, kaolinite, clinoptilolite, phillipsite, pyrite, augite, and magnetite are also present.

DISCUSSION

Clay minerals from Recent sediments, in order of decreasing abundance, are montmorillonite, kaolinite, mica, and chlorite. This is similar to the composition of the Recent sediments of the Caribbean Sea found by Griffin and Goldberg (1969). The concentrations of kaolinite, mica, and chlorite decrease in the older sediments, while montmorillonite becomes more abundant. This relative increase of montmorillonite with age is probably due to the increased pyroclastic contribution during Cretaceous and Early Tertiary times.

Clinoptilolite was detected at all sites except Site 147. Its association with montmorillonite and volcanic glass suggests a probable authigenic origin, with the volcanic glass supplying the necessary cations and silica. Two types of clinoptilolite assemblages are observed. The first, a clinoptilolite-cristobalite association, is found at Sites 146, 148, 152, and 153. The environment of excess silica would tend to favor this type of assemblage. The second, a clinoptilolite-phillipsite association, is found in Sites 150, 151, and 154. In marine environments clinoptilolite usually shows a close correlation with rhyolitic ashes whereas phillipsite is commonly an alteration product of more mafic volcanic rocks. Since turbidites are reported at these sites, the occurrence of clinoptilolite and phillipsite together could represent a mechanical mixing of these zeolites each of a different origin. However, in some rhyolitic tuffs of saline alkaline lakes, phillipsite and clinoptilolite are forming together. Even in playa sediments, however, these silica-rich zeolites are rarely the major constituents (Hay, 1966; Cook and Hay, 1965).

Cristobalite was detected at Sites 146, 148, 149, 152, and 153. At Site 146, cristobalite is present between 413 and 485 meters. Below the 485-meter depth, quartz is the major mineral with little or no mica or plagioclase. Here, quartz appears to be the result of the recrystallization of cristobalite. The cherts contain no cristobalite but occur entirely as quartz cherts. The same type of cristobalite-quartz relationship is also noted at Site 152 and 153. At Sites 148 and 149 the drilling terminated at cristobalite cherts.

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TABLE 1
Results of X-Ray Diffraction Analyses from Sites 146 and 146A

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Rhod.	Quar.	Cris.	K-Fe	Plag.	Kaol.	Mica	Chlo.	Mont.	Paly.	Clin.	Phil.	Hema.	Pyri.	Gyps.	Bari.	Hali.	Amph.	Magn.	Unkn.[a]	Unkn.[b]
Bulk Samples																										
1A	39-45	45.00	83.9	74.8	47.8		47.8	15.4	–	–	–	18.2	18.6	–	–	–	–				–				–	
3A	96-105	97.17-99.93	84.1	75.2	36.8		25.9	–	–	4.7	9.5	19.6	2.6	1.8	–	–					–				–	
1	96-105	98.60-104.20	87.2	80.0	–		40.6	–	–	6.6	14.1	30.1	4.1	4.3	–	–					–				–	
2	254-263	254.20-261.85	74.8	60.6	86.0		4.1	–	–	2.4	1.4	–	–	6.0	–	–					–				–	
4	413-422	422.00	93.8	90.3	–		3.1	85.5	–	2.5	–	–	–	–	5.7	3.2					–				–	
5	422-431	422.14	90.9	85.8	–		5.0	82.5	–	3.8	–	–	–	1.8	–	6.8					–				–	
		423.60	59.8	37.3	96.5		0.4	–	–	–	–	1.8	–	–	–	1.4					–				–	
6	431-440	431.98	60.9	38.9	98.4		0.5	–	–	–	–	–	–	–	–	1.1					–				–	
7	440-449	441.46	90.0	84.4	–		6.4	86.6	–	3.4	–	–	–	2.4	–	–					1.2				–	
8	449-458	449.03	83.6	74.4	32.5		8.3	41.9	–	4.0	–	–	–	9.7	–	1.6					2.0				–	
		449.26	87.4	80.2	–		6.8	82.5	–	3.0	–	–	–	5.3	–	–					2.4				–	
		450.91	88.5	82.0	–		5.2	79.2	–	6.2	–	–	–	6.5	–	1.3					1.7				–	
		451.07	86.3	78.5	–		44.0	25.4	–	4.5	–	–	–	22.4	–	1.3					2.3					
		451.08	81.6	71.2	–		51.3	11.1	–	9.1	–	–	–	22.7	–	2.1					3.8				–	
9	458-467	458.08-459.87	79.3	67.6	–		73.0	–	4.5	3.3	–	–	–	14.0	–	–					5.2				–	
10	467-476	468.16-470.96	81.7	71.3	–		47.1	32.4	–	1.8	–	–	–	12.1	–	2.5					4.1				–	
11	476-485	476.64	75.6	61.8	–		8.1	75.9	–	5.7	–	–	–	6.3	–	2.5					1.5				–	
		477.14	71.3	55.2	–		69.0	–	–	–	–	–	–	6.0	11.6	8.6					4.8				–	
		477.78	85.5	77.4	–		59.1	–	1.5	–	–	7.3	3.1	11.3	15.8	–					2.0				–	
		478.87	75.6	61.8	59.2		26.6	–	1.1	–	–	2.4	–	4.4	4.5	–					1.9				–	
12	485-494	486.07	75.5	61.8	56.4		31.2	–	2.7	1.7	1.1	–	–	5.3	–	–					1.6				–	
		486.26	70.6	54.0	64.3		22.5	–	3.0	1.0	2.2	–	–	5.5	–	–					1.5				–	
13	494-503	495.48-497.26	79.7	68.2	57.0		23.3	–	4.7	1.1	–	2.6	–	10.1	–	–					1.1				–	
		497.46	68.9	51.4	74.2		28.0	–	2.8	1.0	–	2.8	–	–	–	–					1.3				–	
		498 39-499.71	76.7	63.6	66.3		23.3	–	2.6	–	–	2.5	–	5.3	–	–					–				–	
		500.02	83.8	74.7	14.5		7.4	–	6.2	1.9	–	–	2.9	67.2	–	–					–				–	
		501.42	64.1	43.9	76.9		20.2	–	–	–	–	–	–	2.9	–	–					–				–	
14	503-512	503.97-505.30	78.9	67.1	50.1		37.1	–	3.3	1.6	–	–	–	7.9	–	–					–				–	
		507.08	67.4	49.1	83.6		11.0	–	–	–	–	–	–	5.4	–	–					–				–	
		507.72	83.1	73.6	21.9		9.5	–	2.8	2.1	–	–	1.6	62.1	–	–					–				–	
		507.90	75.0	60.9	76.9		13.2	–	1.8	–	–	2.9	–	5.2	–	–					–				–	
15	512-521	513.36-519.81	76.6	63.4	66.3		22.2	–	2.1	–	–	–	–	9.3	–	–					–				–	
16	521-530	522.23	67.6	49.3	10.7		1.4	–	2.8	–	–	–	–	85.1	–	–					–				–	
		523.46	72.3	56.8	88.2		5.9	–	–	–	–	2.0	–	3.8	–	–					–				–	
		524.39-524.39	70.9	54.5	1.5		1.6	–	–	–	–	–	–	96.9	–	–					–				–	
		526.28-529.66	73.8	59.0	68.3		12.5	–	1.3	–	–	2.6	–	25.2	–	–					–				–	

17	530-539	530.64-537.63	66.0	46.8	85.9	11.8		–	–	–	–	–	2.3	–	–	–	–
		537.67	83.4	74.1	13.3	3.0	–	6.4	–	–	–	–	77.3	–	–	–	–
		538.62	63.8	43.5	72.8	25.7	–	–	–	–	–	–	1.5	–	–	–	–
18	539-548	539.58	70.8	54.3	83.1	13.2	–	–	–	–	–	–	3.7	–	–	–	–
		542.38-547.00	66.8	48.1	86.2	10.5	–	–	–	–	–	–	3.3	–	–	–	–
19	548-557	549.02	56.9	32.6	84.5	15.5	–	–	–	–	–	–	–	–	–	–	–
		550.68	57.9	34.2	87.9	10.5	–	–	–	–	–	–	1.6	–	–	–	–
		551.59-553.28	72.5	57.0	72.3	14.2	–	1.2	–	–	–	–	12.3	–	–	–	–
20	557-566	557.41-560.82	59.9	37.3	88.3	11.7	–	–	–	–	–	–	–	–	–	–	–
22	575-584	576.43-577.54	62.7	41.7	90.3	7.0	–	–	–	–	–	–	–	2.7	–	–	–
23	584-593	585.37	56.5	32.0	84.8	12.7	–	–	–	–	–	–	–	2.5	–	–	–
		586.43-587.10	81.9	71.7	50.8	3.4	–	4.7	–	–	–	–	41.2	–	–	–	–
24	593-602	593.74	72.8	57.5	75.8	18.0	–	1.4	–	–	2.6	–	2.1	–	–	–	–
25	602-611	603.52	71.7	55.7	77.8	11.0	–	1.1	–	–	–	–	10.1	–	–	–	–
26	611-620	612.19-612.64	66.5	47.7	91.7	8.3	–	–	–	–	–	–	–	–	–	–	–
27	620-629	620.87	62.9	42.0	71.5	28.5	–	–	–	–	–	–	–	–	–	–	–
		622.66	67.0	48.4	50.6	46.9	–	–	–	–	–	–	2 2.6	–	–	–	–
		623.44	4.93	20.9	–	100.0	–	–	–	–	–	–	–	–	–	–	–
29	638-647	638.38	86.8	79.4	16.7	23.4	–	–	8.0	–	7.6	–	44.3	–	–	–	–
30	647-656	650.27-654.52	49.2	36.3	85.01	15.0	–	–	–	–	–	–	–	–	–	–	Pres.
31	656-665	656.63	57.7	33.9	93.5	5.2	–	–	–	–	–	–	1.3	–	–	–	–
		657.54	53.4	27.2	89.4	10.6	–	–	–	–	–	–	–	–	–	–	–
		660.02-661.92	87.1	79.8	14.8	12.1	–	7.6	–	–	–	–	65.5	–	–	–	–
32	665-674	666.30	58.5	35.2	87.0	13.0	–	–	–	–	–	–	–	–	–	–	–
		666.71	75.2	61.3	68.9	20.7	–	–	–	–	3.6	–	6.9	–	–	–	–
33	674-683	674.80	60.6	38.4	62.9	37.1	–	–	–	–	–	–	–	–	–	–	–
34	683-692	684.36	72.0	56.2	84.1	15.9	–	–	–	–	–	–	–	–	–	–	–
36	701-710	703.35	60.1	37.6	86.7	12.3	–	1.0	–	–	–	–	–	–	–	–	–
		710.00	67.4	49.0	44.0	50.0	–	1.7	–	–	–	–	–	–	4.3	–	–
38	714-719	714.92	69.6	52.4	35.4	47.0	–	3.8	1.9	–	–	–	11.9	–	–	–	–
39	719-728	720.46	58.5	35.2	66.3	29.7	–	4.0	–	–	–	–	–	–	–	–	–
		720.96	66.5	47.6	59.9	22.6	–	–	5.8	–	8.2	–	3.4	–	–	–	–
		721.46	–	–	2.2	2.1	–	7.0	9.1	–	2.8	–	76.8	–	–	–	–
41	737-746	737.49	60.8	38.7	46.2	35.6	–	2.7	–	–	8.8	–	6.6	–	–	–	–
		738.24	54.9	29.6	79.6	2.6	–	–	–	–	–	–	17.9	–	–	–	–
		739.72	53.8	27.8	80.2	0.9	–	–	–	–	–	–	18.9	–	–	–	–

TABLE 1 – *Continued*

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Rhod.	Quar.	Cris.	K-Fe	Plag.	Kaol.	Mica	Chlo.	Mont.	Paly.	Clin.	Phil.	Hema.	Pyri.	Gyps.	Bari.	Hali.	Amph.	Magn.	Unkn.[a]	Unkn.[b]
2-20μ Fraction																										
1A	39-45	45.00	76.7	63.6			55.7	–	5.1	8.4	7.0	22.2	1.5	–	–	–	–	–	–		–		–	–		
3A	96-105	97.20-99.90	73.5	58.5			48.9	–	5.5	12.6	9.2	20.2	2.4	–	–	–	–	–	–		–		1.3	–		
1	96-105	98.60-104.20	69.1	51.7			53.4	–	–	18.6	2.7	19.6	4.8	–	–	–	–	–	–		–		1.1			
2	254-263	254.20-261.80	87.8	81.0			36.9	–	–	30.3	2.0	9.6	–	12.3	–	1.4	7.5	–	–		–		–	–		
4	413-422	422.00	88.9	82.7			4.7	77.1	–	4.4	–	–	–	–	3:1	10.7	–	–	–		–		–	–		
5	422-431	422.10	83.1	73.6			7.0	71.8	–	6.9	–	–	–	–	–	14.3	–	–	–		–		–	–		
		423.60	76.9	63.9			16.6	3.2	–	16.2	1.5	4.9	–	5.6	–	52.0	–	–	–		–		–	–		
6	431-440	432.00	81.4	70.9			16.8	3.3	–	16.4	–	5.0	–	5.7	–	52.8	–	–	–		–		–	–		
8	449-458	449.03	83.0	73.4			14.4	54.0	–	12.9	–	–	–	10.9	–	3.6	–	–	–		4.2		–	–		
		450.91	83.8	74.7			8.1	70.8	–	15.4	–	–	–	–	–	2.6	–	–	–		3.1		–	–		
		451.07	77.0	64.1			56.3	–	–	16.9	–	–	–	18.8	–	4.4	–	–	–		3.6		–	–		
		451.08	76.9	64.0			60.0	–	–	18.0	–	–	–	14.0	–	5.1	–	–	–		2.9		–	–		
9	458-467	458.08-459.87	72.3	56.7			66.3	–	8.2	3.9	–	2.1	–	12.9	–	–	–	–	–		6.6		–	–		
10	467-476	468.20-470.00	74.3	59.8			51.4	31.2	–	5.9	–	–	–	–	–	6.9	–	–	–		4.5		–	–		
11	476-485	477.78	76.4	63.1			64.0	–	10.3	5.5	–	–	1.8	11.0	7.4	–	–	–	–		–		–	–		
		478.87	74.4	60.1			63.5	–	16.3	7.8	–	3.0	–	–	–	–	–	–	–		9.4		–	–		
12	485-494	486.10	75.2	61.3			63.9	–	11.6	8.2	–	–	2.6	7.8	–	–	–	–	–		6.0					
		486.30	73.8	59.0			60.7	–	6.6	11.0	–	4.3	2.6	5.3	–	–	–	–	–		9.5		–	–		
13	494-503	495.50-497.30	80.1	68.9			59.1	–	19.9	6.4	–	3.6	1.2	7.3	–	–	–	–	–		2.5		–	–		
		497.46	77.5	64.9			48.3	–	22.4	8.6	–	5.6	1.6	9.6	–	–	–	3.1	–		0.8		–	–		
		498.40-499.70	75.2	61.2			54.7	–	17.7	7.9	–	3.6	1.9	7.8	–	–	–	–	–		6.4		–	–		
		500.02	82.1	72.1			24.0	–	12.4	4.9	–	1.9	1.3	52.9	–	–	–	2.6	–		–		–	–		
		501.40	75.5	61.7			82.0	–	2.5	–	–	2.8	–	12.7	–	–	–	–	–		–		–	–		
14	503-512	504.00-505.30	75.5	61.7			55.6	–	16.3	4.1	–	–	–	24.1	–	–	–	–	–		–		–	–		
		507.10	80.3	69.2			69.3	–	9.8	4.9	–	–	–	12.7	–	–	–	–	–		3.3		–	–		
		507.70	80.2	69.1			14.0	–	7.1	3.5	–	–	1.9	69.7	–	–	–	3.7	–		–		–	–		
		507.90	71.6	55.6			73.3	–	9.5	7.3	–	4.3	1.9	–	–	–	–	–	–		3.7		–	–		
15	512-521	513.40-519.80	78.0	65.6			43.8	–	14.9	5.1	–	2.8	–	30.2	–	–	–	–	–		3.2		–	–		
16	521-530	523.46	73.8	59.1			72.5	–	12.1	4.4	–	7.9	–	–	–	–	–	–	–		3.1		–	–		
		524.39	80.5	69.5			35.9	–	43.3	–	1.3	–	–	20.1	–	–	–	–	–		–		–	–		
		526.28-529.66	76.4	63.1			12.3	–	9.7	–	–	–	–	–	78.1	–	–	–	–		–		–	–	–	
17	530-539	530.60-537.60	74.4	60.0			55.1	–	17.9	6.0	–	8.4	–	6.2	–	–	–	–	–		6.5		–	–		
		537.70	77.1	64.1			2.9	–	11.1	–	–	–	–	85.9	–	–	–	–	–		–		–	–	–	
		538.60	50.9	23.3			100.0	–	–	–	–	–	–	–	–	–	–	–	–		–		–	–		
18	539-548	539.60	77.7	65.1			52.0	–	20.3	5.0	–	6.5	–	10.6	–	–	–	–	–		5.6		–	–		
		542.40-547.00	74.0	59.4			52.1	–	24.1	4.7	–	3.1	–	10.4	–	–	–	–	–		5.6		–	–		

19	548-557	549.00	57.0	32.8		93.1	–	4.1	1.6	–	–	–	–	–	–	–	–	–		1.2		–	–	
		550.70	71.8	56.0		76.5		9.5	2.3	–	–	–	8.1	–	–	–	–	–		3.5		–	–	
		551.60-553.30	77.2	64.3		18.3	–	10.4	–	–	–	–	69.3	–	–	–	–	–		2.1		–		
20	557-566	557.40-560.80	67.5	49.3		72.7	–	17.7	–	–	3.1	–	–	–	–	–	–	–		6.5		–	–	
22	574-584	576.40-577.50	72.8	57.5		56.3	–	21.7	3.5	–	9.5	–	–	–	–	–	–	–		9.1		–	–	
23	584-593	585.37	62.6	41.6		92.4	–	4.9	–	–	2.7	–	–	–	–	–	–	–		–		–	–	
		586.43-587.10	81.4	70.9		8.4	–	14.9	–	–	–	–	76.7	–	–	–	–	–		–		–	–	
24	593-602	593.74	77.0	64.1		73.1	–	13.0	–	–	6.8	–	5.5	–	–	–	–	–		1.6		–	–	
25	602-611	603.52	78.3	66.1		48.2	–	17.5	–	–	5.0	–	24.1	–	–	–	4.3	–		–		–	0.9	
26	611-620	612.19-612.64	75.9	62.3		45.8	–	23.5	–	–	9.8	–	–	–	–	–	8.0	–		13.2		–	0.7	
27	620-629	620.87	61.6	39.9		91.0	–	3.2	–	–	–	–	–	–	–	–	–	–		5.7		–	–	
		622.66	59.1	36.1		90.4	–	2.8	–	–	–	–	–	–	–	–	–	–		6.8		–	–	
29	638-647	638.38	79.8	68.4		25.6	–	24.4	4.9	–	6.6	–	38.5	–	–	–	–	–		–		–	–	
30	647-656	650.27-654.52	70.4	53.8		89.0	–	4.2	–	–	2.7	–	–	–	–	–	–	–		4.1		–	–	
31	656-665	656.63	75.2	61.2		57.7	–	32.7	–	–	–	–	9.6	–	–	–	–	–		–		–	–	
		660.02-661.92	89.0	82.8		12.6	–	14.0	4.4	–	–	–	69.1	–	–	–	–	–		–		–	–	
32	665-674	666.30	61.8	40.4		94.4	–	3.1	–	–	–	–	–	–	–	–	–	–		2.5		–	–	
		666.71	69.2	51.8		85.5	–	4.4	–	–	–	–	10.1	–	–	–	–	–		–		–	–	
33	674-683	674.80	51.8	24.6		100.0	–	–	–	–	–	–	–	–	–	–	–	–		–		–	–	
34	683-692	684.36	79.1	67.4		61.2	–	28.6	–	–	4.4	–	5.9	–	–	–	–	–		–		–	–	
36	701-710	703.35	61.5	39.8		92.6	–	5.6	–	–	–	–	–	–	–	–	–	–		1.8		–	–	
		710.00	60.4	38.1		91.1	–	3.0	–	–	–	–	–	–	4.5	–	–	1.4		–		–	–	
38	714-719	714.92	61.5	39.8		87.5	–	8.2	2.8	–	–	–	–	–	–	–	–	1.6		–		–	–	
39	717-728	720.46	63.1	42.4		80.6	–	12.2	–	–	–	–	–	–	–	–	–	2.9		4.4		–	–	
<2μ Fraction																								
1A	39-45	45.00	91.2	86.3	–	18.7	–	–	–	34.0	26.2	–	17.3	–	–	–	–		3.8	–	–			–
3A	96-105	97.17-99.93	92.0	87.5	–	25.4	–	–	–	30.4	18.0	–	14.9	–	–	–	–		4.1	–	–			–
1	96-105	98.60-104.20	84.6	75.9	–	25.0	–	–	4.8	20.9	23.9	2.4	22.9	–	–	–	–		–	–	7.3			–
2	254-263	254.20-261.85	85.8	77.9	–	16.8	–	–	–	7.1	6.0	–	67.8	–	–	–	–		–	–	–			–
4	413-422	422.00	91.2	86.2	–	3.3	71.3	–	1.7	–	–	–	12.7	9.0	2.0	–	–		–	–	3.1			–
5	422-431	422.14	87.5	80.4	–	4.6	80.8	2.9	1.8	–	–	–	6.3	–	3.7	–	–		–	–	–			–
		423.60	83.9	74.9	–	9.0	10.5	–	3.9	1.5	–	–	60.7	–	14.4	–	–		–	–	–			–
6	431-440	431.98	84.5	75.8	–	6.4	35.2	–	3.0	–	–	–	48.0	–	7.4	–	–		–	–	–			–

TABLE 1 – *Continued*

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Rhod.	Quar.	Cris.	K-Fe	Plag.	Kaol.	Mica	Chlo.	Mont.	Paly.	Clin.	Phil.	Hema.	Pyri.	Gyps.	Bari.	Hali.	Amph.	Magn.	Unkn.[a]	Unkn.[b]
2-20μ Fraction																										
8	449-458	449.03	86.5	78.9		–	9.7	62.5	–	1.7	–	–	–	24.6	–	–	–	–		–	1.7	–				–
		450.91	88.4	81.9		1.0	5.3	77.2	–	1.9	–	–	–	14.7	–	–	–	–		–	–	–				–
		451.07	77.7	65.1		–	38.0	14.5	–	1.2	–	–	–	46.3	–	–	–	–		–	–	–				–
		451.08	78.8	66.9		–	54.3	–	–	1.8	–	2.6	–	37.8	–	1.1	–	–		–	2.4	–				–
9	458-467	458.08-459.87	75.1	61.1		–	61.7	–	–	–	–	–	–	35.4	–	–	–	–		–	2.9	–				–
10	467-476	468.16-469.96	80.0	68.8		–	34.8	35.7	–	–	–	–	–	25.6	–	1.4	–	–		–	2.4	–				–
11	476-485	477.78	77.0	64.1		–	61.7	–	–	–	–	–	–	30.7	6.0	–	–	–		–	–	–				–
		478.87	76.3	62.9		–	59.2	–	–	–	–	–	–	33.0	5.8	–	–	–		–	2.1	–				–
12	485-494	496.07	75.0	60.9		–	63.7	–	2.6	–	1.1	–	–	31.4	–	–	–	–		–	1.2	–				–
		486.26	74.6	60.4		–	61.9	–	–	–	1.2	–	–	35.9	–	–	–	–		–	1.0	–				–
13	494-503	495.48-497.26	79.2	67.5		–	47.7	–	5.7	–	–	–	–	46.6	–	–	–	–		–	–	–				–
		497.46	78.6	66.5		–	41.4	–	3.8	–	–	–	1.8	50.9	–	–	–	1.2		–	0.9	–				–
		498.39-499.71	77.3	64.5		–	55.4	–	2.3	–	1.7	–	–	40.7	–	–	–	–		–	–	–				–
		500.02	79.0	67.2		–	1.8	–	3.5	–	–	–	–	94.7	–	–	–	–		–	–	–				–
		501.42	80.9	70.1		–	71.8	–	–	–	–	–	–	28.2	–	–	–	–		–	–	–				–
14	503-512	503.97-505.30	77.4	64.7		–	52.7	–	2.4	–	–	–	–	44.9	–	–	–	–		–	–	–				–
		507.08	75.2	61.2		–	57.7	–	1.8	–	–	–	–	40.5	–	–	–	–		–	–	–				–
		507.72	73.5	58.6		–	3.4	–	–	–	–	–	–	96.6	–	–	–	–		–	–	–				–
		507.90	84.8	76.3		–	29.7	–	4.2	–	2.2	–	–	64.0	–	–	–	–		–	–	–				–
15	512-521	513.36-519.81	76.3	62.9		–	34.8	–	1.6	–	0.8	–	–	62.9	–	–	–	–		–	–	–				–
16	521-530	523.46	84.6	76.0		–	26.7	–	4.6	–	–	–	–	68.8	–	–	–	–		–	–	–				Pres.
		524.39	76.6	63.5		–	–	–	–	–	–	–	–	100.0	–	–	–	–		–	–	–				Pres.
		526.28-529.66.	74.1	59.5		–	24.7	–	2.3	–	–	–	–	73.0	–	–	–	–		–	–	–				–
17	530-539	530.64-537.63	76.0	62.5		–	49.4	–	2.9	–	–	–	–	42.0	5.7	–	–	–		–	–	–				–
		537.67	72.1	56.4		–	0.6	–	2.7	–	–	–	–	96.7	–	–	–	–		–	–	–				–
		538.62	81.3	70.8		–	51.8	–	2.5	–	–	–	–	45.7	–	–	–	–		–	–	–				–
18	539-548	539.58	75.1	61.1		–	54.6	–	2.3	–	–	–	–	43.1	–	–	–	–		–	–	–				–
		542.38-547.00	83.7	74.5		–	77.0	–	5.4	–	–	–	–	17.6	–	–	–	–		–	–	–				–

19	548-557	549.02	59.4	36.6	–	94.1	–	–	–	–	–	–	5.9	–	–	–	–	–	–	–
		550.68	66.6	47.9	–	81.0	–	–	–	–	–	–	14.7	–	–	4.4	–	–	–	–
		551.59-553.28	73.6	58.7	–	25.5	–	1.3	–	–	–	–	73.3	–	–	–	–	–	–	–
20	557-566	557.41-560.82	69.8	52.8	–	81.4	–	–	–	–	–	–	18.6	–	–	–	–	–	–	–
22	575-584	576.43-577.54	79.9	68.6	–	53.1	–	–	–	–	4.7	–	33.0	9.3	–	–	–	–	–	–
23	584-593	585.37	58.6	35.3	–	88.3	–	–	–	–	–	–	3.9	7.7	–	–	–	–	–	–
		586.43-587.10	75.8	62.1	–	2.3	–	–	–	–	–	–	97.7	–	–	–	–	–	–	–
24	593-602	593.74	74.8	60.7	–	63.9	–	3.0	–	–	–	–	33.2	–	–	–	–	–	–	–
25	602-611	604.22	80.3	69.1	–	46.4	–	1.7	–	–	–	–	48.9	–	–	–	–	–	2.9	–
26	611-620	612.19-612.64	79.7	68.3	–	46.7	–	4.4	–	–	3.1	–	34.8	5.6	–	–	–	3.2	2.2	–
27	620-628	620.87	65.4	46.0	–	87.3	–	–	–	–	–	–	7.1	4.0	–	–	–	1.6	–	–
		622.66	67.0	48.4	–	87.0	–	2.2	–	–	–	–	9.1	–	–	–	–	1.7	–	–
29	638-647	638.38	76.8	63.7	–	9.4	–	–	–	–	–	–	90.6	–	–	–	–	–	–	–
30	647-656	648.27-652.52	79.3	67.6	–	74.2	–	3.0	–	–	–	–	21.4	–	–	–	1.3	–	–	–
31	656-665	656.63	78.0	65.6	–	67.8	–	0.7	–	–	–	–	27.8	–	–	–	–	–	3.6	–
		660.02-661.92	81.5	71.1	–	2.8	–	2.6	1.5	–	3.4	–	85.1	4.5	–	–	–	–	–	–
32	665-674	666.30	76.1	62.7	–	73.7	–	–	–	–	3.1	–	11.7	8.9	–	–	–	1.2	1.4	–
		666.71	84.5	75.7	–	38.7	–	–	–	–	10.2	–	45.4	–	–	–	–	–	5.7	–
33	674-683	674.80	74.2	59.7	–	89.3	–	–	–	–	7.6	–	3.1	–	–	–	–	–	–	–
34	683-692	684.36	80.7	69.8	–	50.9	–	–	–	–	4.0	–	37.2	8.0	–	–	–	–	–	–
36	701-710	703.35	82.5	72.7	–	77.5	–	–	–	–	4.8	–	12.6	5.1	–	–	–	–	–	–
		710.00	73.9	59.2	–	93.0	–	2.5	–	–	–	–	–	–	4.5	–	–	–	–	–
38	714-719	714.92	91.1	86.1	–	73.9	–	6.3	–	–	–	–	18.5	–	–	–	1.3	–	–	–
39	719-746	720.46	72.0	56.2	–	91.3	–	–	–	–	2.5	–	3.7	–	–	–	–	2.5	–	–

[a]Unidentified mineral yielding peaks at 3.22A and 1.47A.

[b]Unidentified mineral yielding three broad peaks at 5.12A, 3.07A, and 1.70A; may be illite. The peaks are identical with some of the peaks from Core 10, Hole 150.

TABLE 2
Results of X-Ray Diffraction Analyses from Site 149

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Quar.	Cris.	K-Fe	Plag.	Kaol.	Mica	Chlo.	Mont.	Paly.	Clin.	Bari.	Amph.
Bulk Samples																	
2	1-10	1.82-9.59	76.2	62.8	76.2	11.3	–	–	2.0	2.1	6.6	1.8	–	–			
3	10-19	11.25-12.78	74.8	60.6	82.9	7.7	–	–	1.3	3.1	5.1	–	–	–			
4	19-28	25.75	78.9	67.0	65.4	16.2	–		1.8	4.4	9.4	2.7	–	–			
5	28-37	34.47-34.43	79.2	67.4	65.1	13.7	–	1.9	1.7	5.7	10.4	1.5	–	–			
6	37-46	40.49-45.48	79.9	68.6	62.6	14.6	–	2.0	2.0	6.8	10.3	1.7	–	–			
7	46-56	48.24-54.49	79.4	67.8	68.8	12.0	–	–	–	8.8	10.4	–	–	–			
8	56-65	56.91	79.6	68.1	71.4	10.4	–	1.9	1.1	8.1	7.1	–	–	–			
		59.95-64.63	80.2	69.1	60.4	14.9	–	1.6	1.7	10.3	11.1	–	–	–			
9	65-75	68.30	78.2	65.9	70.8	12.2	–	–	1.3	8.3	7.3	–	–	–			
		72.40	79.8	68.5	8.1	31.8	–	–	2.1	17.8	28.9	3.7	7.7	–			
		73.75	80.1	68.8	–	36.3	–	–	5.9	15.4	30.3	3.8	8.2	–			
10	75-84	78.43-80.69	89.7	83.9	–	33.3	–	3.7	7.8	12.6	22.2	3.0	4.2	13.2			
11	84-93	86.64-91.36	88.4	91.9	5.8	32.8	–	5.3	6.0	16.3	24.9	3.1	5.8	–			
12	93-102	96.97-101.82	76.3	63.0	83.1	7.8	–	–	3.1	1.3	3.6	1.1	–	–			
13	102-112	105.97-110.30	82.3	72.3	67.9	13.9	–	2.4	3.3	3.6	7.2	1.8	–	–			
14	112-121	227.55	90.9	85.8	–	48.6	–	–	13.6	13.2	14.2	4.5	5.8	–			
15	121-130	121.52-128.27	86.7	79.3	33.5	28.5	–	–	7.2	8.4	12.5	2.6	7.3	–			
16	130-139	131.42-136.94	85.2	76.9	50.0	18.9	–	2.6	8.7	3.1	8.6	2.5	5.6	–			
18	149-158	154.49-156.29	75.1	61.1	83.0	3.7	–	–	2.6	1.4	3.1	–	6.2	–			
19	158-167	161.63	72.3	56.7	85.9	3.5	–	–	4.9	1.3	–	–	4.4	–			
20	167-176	170.92	70.6	54.1	91.8	2.1	–	–	1.2	–	–	–	4.9	–			
26	223-232	224.04-227.28	75.3	61.4	84.2	3.6	–	–	2.8	1.1	3.2	–	5.2	–			
28	241-251	245.29	85.1	76.7	82.3	5.5	–	–	7.6	1.4	–	–	2.6	–			
28	241-251	246.38	80.5	69.6	82.7	5.1	–	–	6.2	1.2	3.1	–	1.8	–			
29	251-260	251.53-255.30	72.4	56.8	95.9	2.6	–	–	1.4	–	–	–	–	–			
32	279-288	282.52-283.93	88.8	82.6	86.0	5.8	–	–	3.9	–	4.3	–	–	–			
33	288-298	290.05	85.4	77.3	87.8	4.4	–	–	2.2w	–	2.4	–	3.3	–			
34	298-307	299.34	–	–	88.9	4.1	–	–	2.8	–	4.3	–	–	–			
35	307-316	307.85-311.95	84.3	75.5	88.3	4.7	–	–	1.5	1.4	4.1	–	–	–			
37	325-334	328.49	79.8	68.5	96.1	1.3	–	–	–	–	2.5	–	–	–			
40	353-362	353.75	83.9	74.8	97.3	1.1	–	–	1.6	–	–	–	–	–			
41	362-371	365.75	87.4	80.3	95.8	2.5	–	–	1.7	–	–	–	–	–			
42	371-381	374.40-376.66	87.0	79.6	85.8	2.6	–	–	1.8	–	4.4	–	–	5.5			
43	381-390	382.18	89.3	83.3	–	20.6	76.3	–	–	–	–	–	–	3.1			
2-20μ Fraction																	
2	1-10	1.82-9.59	72.8	57.5		59.1	–	5.2	15.3	5.6	12.0	1.3	–		–	–	1.5
3	10-19	11.25-12.78	74.9	60.8		53.6	–	4.4	15.3	7.0	16.3	2.2	–		–	–	1.2
4	19-28	25.75	73.0	57.8		58.4	–	4.5	7.9	6.5	20.7	2.0	–		–	–	–
5	28-37	33.47-34.43	72.4	56.8		57.2	–	4.3	7.5	9.3	20.4	1.2	–		–	–	–
6	37-46	40.49-45.48	73.1	58.0		54.5	–	3.2	9.0	8.7	22.1	2.4	–		–	–	–
7	46-56	48.24-54.49	71.8	56.0		54.0	–	4.7	8.4	11.1	20.6	1.1	–		–	–	–
8	56-65	56.91	72.4	56.9		56.5	–	5.8	10.4	8.5	17.2	1.7	–		–	–	–
		59.95-64.63	71.9	56.1		55.4	–	4.0	11.6	8.1	18.2	1.1	–		–	–	1.6
9	65-75	68.30	70.0	53.2		58.6	–	4.5	10.8	7.9	16.7	1.6	–		–	–	–
		72.40	70.7	54.2		52.2	–	5.2	10.5	6.8	21.8	2.4	–		–	–	1.1
		73.75	72.1	56.5		48.2	–	7.2	14.0	5.4	19.1	2.9	–		–	1.7	1.5

TABLE 2 – *Continued*

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Quar.	Cris.	K-Fe	Plag.	Kaol.	Mica	Chlo.	Mont.	Paly.	Clin.	Bari.	Amph.
2-20μ Fraction – *Continued*																	
10	75-84	78.43-80.69	72.5	57.0		51.7	–	3.7	15.0	5.5	19.6	3.0	–		–	–	1.6
11	84-93	86.64-91.36	71.0	54.7		52.2	–	5.8	15.1	5.1	17.8	2.9	–		–	–	1.0
12	93-102	96.97-101.82	74.2	59.7		51.8	–	5.7	23.2	4.7	11.2	3.4	–		–	–	–
13	102-112	105.97-110.30	74.5	60.1		53.5	–	6.1	17.9	5.1	14.0	3.4	–		–	–	–
14	112-121	117.55	74.6	60.3		45.2	–	4.7	20.3	7.1	18.7	4.0	–		–	–	–
15	121-130	121.52-128.27	74.2	59.6		56.3	–	–	18.7	6.3	15.7	3.0	–		–	–	–
16	130-139	131.42-136.94	74.8	60.5		47.7	–	–	35.1	5.7	10.3	1.2	–		–	–	–
18	149-158	154.49-156.29	79.2	67.5		29.1	–	–	42.5	2.5	6.3	1.0	17.6		1.0	–	–
19	158-167	161.63	77.9	65.5		26.8	–	–	56.1	3.8	4.8	–	6.7		1.7	–	–
20	167-176	170.92	82.9	73.3		20.9	–	–	19.0	4.6	7.1	–	47.5		1.0	–	–
26	223-232	224.04-227.28	87.3	80.1		35.6	–	–	31.6	5.5	10.1	–	17.2		–	–	–
28	241-251	245.291	94.5	91.4		34.4	–	–	52.0	4.1	–	–	9.6		–	–	–
		146.38	89.5	83.6		34.4	–	–	52.0	4.1	–	–	9.6		–	–	–
29	251-260	251.53-255.30	90.4	85.0		40.3	–	–	33.4	–	6.1	3.5	16.7		–	–	–
32	279-288	282.52-283.93	97.3	95.8		50.8	–	–	49.2	–	–	–	–		–	–	–
33	288-298	290.05	96.0	93.8		54.0	–	–	24.8	–	–	–	21.2		–	–	–
34	298-307	299.34	99.0	98.4													
35	307-316	307.85-311.95	97.4	96.0		66.7	–	–	15.6	–	17.6	–	–		–	–	–
37	325-334	328.49	98.5	97.7		56.5	–	–	22.8	–	–	–	20.7		–	–	–
40	353-362	353.75	98.6	97.8		52.0	–	–	48.0	–	–	–	–		–	–	–
41	362-371	365.75	99.0	98.4		41.0	–	–	33.6	–	–	–	25.5		–	–	–
42	371-381	374.40-376.66	98.2	97.2		40.3	–	–	59.7	–	–	–	–		–	–	–
43	381-390	382.18	90.6	85.3		18.1	81.9	–	–	–	–	–	–		–	–	–
<2μ Fraction																	
2	1-10	1.82-9.59	83.2	73.7		16.5	–	1.7	1.4	22.9	24.3	2.9	30.3	–			
3	10-19	11.25-12.78	83.1	73.7		14.7	–	1.5	2.0	24.1	16.4	3.6	37.6	–			
4	19-28	25.75	81.5	71.2		14.3	–	1.1	–	32.9	19.4	–	32.4	–			
5	28-37	33.47-34.43	83.8	74.7		16.2	–	1.6	1.9	28.1	22.3	2.0	27.9	–			
6	37-46	40.49-45.48	87.0	79.8		2.01	–	3.0	2.1	31.1	20.8	–	22.9	–			
7	46-56	48.24-54.49	84.3	75.5		15.0	–	2.2	1.5	32.8	16.6	–	32.0	–			
8	56-65	56.91	82.4	72.5		14.5	–	1.7	1.7	34.9	13.6	–	33.6	–			
		59.95-64.63	79.9	68.6		27.3	–	3.0	3.6	19.6	27.7	2.6	16.3	–			
9	65-75	68.30	81.3	70.8		14.2	–	2.4	1.5	30.3	17.9	1.9	31.8	–			
		72.40	86.6	79.1		21.2	–	4.7	2.9	24.0	22.2	3.4	21.7	–			
		73.75	86.3	78.7		21.7	–	4.4	3.0	22.4	23.5	3.9	21.7	–			
10	75-84	78.43-80.69	83.7	74.5		17.5	–	0.6	–	22.2	23.9	3.4	19.7	12.7			
11	84-93	86.64-91.36	83.9	74.8		18.3	–	2.9	1.5	23.5	23.0	3.1	27.7	–			
12	93-102	996.97-101.82	85.2	76.8		13.7	–	–	4.3	19.7	10.8	2.7	48.9	–			
13	102-112	105.97-110.30	84.5	75.9		17.3	3.1	3.4	20.6	13.5	2.0	40.1	–				
14	112-121	117.55	87.7	80.8		22.5	–	5.2	4.6	17.6	11.5	3.8	34.4	–			

TABLE 2 – *Continued*

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Quar.	Cris.	K-Fe	Plag.	Kaol.	Mica	Chlo.	Mont.	Paly.	Clin.	Bari.	Amph.
<2μ Fraction – *Continued*																	
15	121-130	121.52-128.27	81.6	71.2		13.6	–	–	2.3	21.3	10.7	3.7	48.5	–			
18	149-158	154.49-156.29	79.4	67.9		8.5	–	–	4.0	4.8	4.8	1.8		–			
19	158-167	161.63	81.3	70.8		9.3	–	–	8.5	9.4	–	–	72.8	–			
20	167-176	170.92	75.0	60.9		4.4	–	–	1.3	3.6	–	–	90.7	–			
26	223-232	224.04-227.28	82.4	72.5		8.0	–	–	4.2	7.6	–	–	80.2	–			
28	241-251	245.29	87.2	79.9		10.1	–	–	5.8	11.1	–	–	73.1	–			
		246.38	86.4	78.8		12.6	–	–	8.9	9.1	5.3	–	64.1	–			
29	251-260	251.53-255.30	83.9	74.8		9.1	–	–	4.0	3.0	–	2.0	81.9	–			
32	279-288	282.52-283.93	86.2	78.4		10.8	–	–	4.2	8.2	6.9	–	70.0	–			
33	288-298	290.05	86.7	79.2		15.3	–	–	4.7	7.1	6.2	–	66.8	–			
34	298-307	299.34	88.1	81.4		14.9	–	–	2.7	11.3	9.1	–	62.0	–			
35	307-316	307.85-311.95	87.9	81.1		14.5	–	–	2.7	7.9	7.3	–	67.6	–			
37	325-334	328.49	91.6	86.9		11.6	–	–	–	4.7	–	–	83.7	–			
40	353-362	353.75	94.0	90.6		11.5	–	–	6.3	–	–	–	82.2	–			
41	362-371	365.75	94.2	91.0		8.9	–	–	–	–	8.0	–	57.6	25.5			
42	371-381	374.40-376.66	92.5	88.3		9.0	–	–	6.3	3.9	–	–	63.3	17.6			
43	381-390	3 382.18	93.4	89.8		7.6	86.1	–	–	–	–	–	–	6.3			

TABLE 3
Results of X-Ray Diffraction Analyses from Site 147

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Dolo.	Arag.	Side.	Quar.	Plag.	Kaol.	Mica	Chlo.	Mont.	Pyri.	Gyps.	Paly.	Bari.	Hali.
Bulk Samples																			
2	4-14	5.29-8.46	78.4	66.3	3.6	–	–	–	31.0	3.5	11.2	40.0	6.1	–	4.6	–			
		8.66	84.4	75.6	4.5	–	–	–	41.2	2.4	15.6	25.8	6.8	–	3.7	–			
		8.85	80.2	69.1	4.0	–	–	–	40.8	4.2	14.4	28.5	5.8	2.3	–	–			
		9.60	84.6	75.9	22.9	–	6.0	–	32.4	–	7.6	19.9	3.8	–	7.4	–			
3	14-23	15.18-17.50	85.2	76.8	21.2	1.2	7.2	–	33.3	4.5	6.2	18.0	3.7	–	4.8	–			
4	23-32	24.02-31.87	84.8	76.3	20.2	–	3.3	–	36.5	3.0	9.4	20.3	2.9	–	4.4	–			
5	32-42	33.45-34.79	83.5	74.2	12.6	3.6	–	–	36.0	3.2	11.0	25.2	4.0	–	4.3	–			
6	42-51	46.35-50.64	83.1	73.5	31.7	1.7	2.6	–	32.1	3.3	9.5	14.3	1.5	–	3.2	–			
7	51-60	52.63-53.82	83.6	74.3	25.8	6.4	7.0	–	30.8	3.1	6.9	13.6	2.2	–	4.2	–			
8	60-69	62.29-69.00	84.3	75.5	29.8	–	3.5	–	28.9	2.8	9.1	20.9	3.5	–	1.4	–			
9	69-78	70.69-77.97	82.1	72.1	28.5	4.8	7.3	–	30.3	3.0	4.7	14.3	2.9	–	4.2	–			
10	78-88	78.53-85.37	82.2	72.2	29.6	7.6	6.5	–	26.7	2.1	7.6	14.9	1.6	–	3.5	–			
11	88-97	88.93-97.00	80.8	69.9	44.3	0.8	7.9	–	20.5	2.2	4.2	14.7	2.3	–	3.2	–			
12	97-106	98.25-99.57	80.4	69.4	44.2	3.1	1.8	–	22.2	1.6	4.3	17.0	2.3	–	3.5	–			
		99.91	77.3	64.6	27.9	21.8	–	–	26.5	1.7	5.5	12.0	1.7	–	3.0	–			
		100.88	83.4	74.0	33.5	1.5	–	–	27.8	2.7	7.0	20.7	3.6	–	3.3	–			
		101.95-102.49	84.8	76.2	12.4	–	–	1.1	35.5	2.1	17.2	28.9	2.9	–	–	–			
		102.93	79.6	68.1	2.5	–	–	–	39.7	5.2	9.7	30.6	8.8	–	3.6	–			
		103.29	63.8	43.4	8.3	73.2	–	–	8.4	–	2.7	5.4	–	–	1.8	–			
		103.39	82.6	72.8	7.1	3.3	–	–	40.4	3.8	7.9	24.0	4.5	–	6.3	2.7			
		105.39	83.8	74.7	14.0	–	–	3.2	32.4	5.6	10.3	30.1	4.4	–	–	–			
13	106-115	106.07-114.95	82.3	72.3	22.2	11.7	2.5	–	30.6	2.2	6.2	15.0	2.9	–	–	6.8			
14	115-124	119.31-121.16	84.0	75.0	23.5	1.7	–	–	33.9	2.6	6.4	20.2	4.2	–	7.5	–			
15	124-134	124.58-132.81	80.7	69.8	22.0	21.9	–	–	28.4	2.5	4.5	12.3	3.2	–	5.2	–			
16	134-144	136.17-139.77	82.8	73.1	30.4	–	–	–	30.8	2.4	11.7	16.4	2.6	–	5.7	–			
17	144-153	144.87-152.21	80.4	69.4	48.7	2.3	–	–	23.2	2.6	3.9	10.5	1.7	–	7.1	–			
18	153-162	154.18	81.6	71.2	32.2	1.6	–	–	27.8	1.7	7.8	20.7	2.9	–	5.4	–			
		155.83-161.87	83.0	73.4	23.7	4.0	–	–	34.6	3.1	9.3	18.0	2.7	–	4.6	–			
7C	170-180	174.28-178.87	84.4	75.6	20.5	1.5	–	–	36.2	3.3	6.9	22.3	4.3	–	5.1	–			
2-20μ Fraction																			
2	4-14	5.29-8.46	72.7	57.3		–			54.1	5.6	8.2	18.4	1.6		12.2			–	
		8.66	62.0	40.7		–			51.1	7.8	9.7	16.1	1.0		13.8			–	
		8.85	61.6	40.1		–			61.2	10.8	8.1	17.1	1.6		1.2			–	
		9.60	65.8	46.5		–			44.1	8.1	7.8	28.1	1.2		10.5			–	
3	14-23	15.18-17.50	70.5	53.8		–			52.6	7.9	6.4	17.7	2.0		13.4			–	
4	23-32	24.02-31.87	67.6	49.4		–			49.0	7.3	4.7	25.2	3.7		10.1			–	
5	32-42	33.45-34.79	68.7	51.1		–			50.5	5.7	6.2	25.1	2.1		10.3			–	
6	42-51	46.35-50.64	67.6	49.4		–			53.4	7.6	4.8	20.2	3.4		10.7			–	
7	51-60	52.63-53.82	70.9	54.5		–			48.2	5.5	6.1	26.6	2.0		11.6			–	
8	60-69	62.29-69.00	68.9	51.4		–			47.8	8.7	6.9	24.1	2.4		10.2			–	
9	69-78	70.69-77.97	64.4	44.3		–			51.3	8.5	3.0	15.9	2.7		12.2			6.6	
10	78-88	78.53-85.37	65.3	45.8		–			56.5	7.7	3.1	18.8	3.1		10.8			–	
11	88-97	88.93-97.00	67.2	48.7		–			46.9	7.9	6.4	23.6	1.9		13.3			–	
12	97-106	98.25-99.57	66.2	47.2		–			46.8	7.4	4.7	24.6	2.8		13.7			–	
		99.91	63.8	43.4		–			53.7	6.4	7.5	21.1	–		11.2			–	
		100.88	67.7	49.5		–			50.3	8.1	2.6	18.3	3.3		17.4			–	
		101.95-102.49	61.5	39.9		–			62.6	6.8	9.3	12.9	2.6		5.9			–	
		102.93	58.9	35.9		–			54.3	7.9	7.1	15.9	4.8		10.0			–	
		103.29	81.3	70.8		–			45.2	6.6	9.2	14.2	–		24.8			–	
		103.39	67.6	49.4		–			51.3	7.8	6.1	23.7	1.3		8.9			–	
		105.39	65.0	45.3		–			59.2	9.2	3.8	20.8	2.8		4.2			–	

TABLE 3 – *Continued*

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Dolo.	Arag.	Side.	Quar.	Plag.	Kaol.	Mica	Chlo.	Mont.	Pyri.	Gyps.	Paly.	Bari.	Hali.
2-20μ Fraction – *Continued*																			
13	106-115	106.07-114.95	65.4	46.0		15.3			45.2	6.7	5.2	8.7	1.2		17.7			–	
14	115-124	119.31-121.16	64.6	44.7		–			46.3	7.1	5.9	15.6	2.5		22.6			–	
15	124-134	124.58-132.81	66.0	46.9		–			53.5	8.1	3.3	15.4	1.9		17.7			–	
16	134-144	136.17-139.77	66.1	47.0		–			47.7	7.3	4.0	18.5	3.0		19.5			–	
17	144-153	144.87-152.21	67.4	49.1		–			48.0	6.6	3.9	19.4	2.6		19.5			–	
18	153-162	154.18	66.2	47.2		–			43.3	7.1	4.7	33.5	2.5		8.9			–	
		155.83-161.87	63.2	42.5		–			45.8	8.3	5.2	21.5	3.0		16.1			–	
7C	170-180	174.28-178.87	66.4	47.5		–			43.3	7.9	5.4	23.2	3.6		16.6			–	
<2μ Fraction																			
2	4-14	5.29-8.46	92.3	88.0					42.8	–	15.8	23.8	5.9	6.3	3.9	1.6	–		–
		8.66	84.6	75.9					28.2	0.9	29.8	26.2	5.1	9.8	–	–	–		–
		8.85	85.8	77.7					27.6	1.8	28.9	27.2	7.5	7.0	–	–	–		–
		9.60	87.1	79.8					29.8	1.8	20.4	23.8	6.0	12.3	5.9	–	–		–
3	14-23	15.18-17.50	91.3	86.4					28.9	2.3	23.6	14.7	–	11.7	–	5.3	13.5		–
4	23.32	24.02-31.87	90.4	85.0					33.4	2.1	28.4	24.1	–	12.0	–	–	–		–
5	32-42	33.45-34.79	87.3	80.2					22.0	1.4	32.3	28.4	–	15.8	–	–	–		–
6	42-51	46.35-50.64	88.5	82.0					27.7	1.6	26.5	26.3	–	17.9	–	–	–		–
7	51-60	52.63-53.82	88.2	81.6					22.0	1.9	30.1	30.9	–	13.4	1.8	–	–		–
8	60-69	62.29-69.00	87.7	80.9					24.3	–	30.2	30.0	–	13.7	1.8	–	–		–
9	69-78	70.69-77.97	92.4	88.1					32.9	4.5	30.2	21.8	–	10.6	–	–	–		–
10	78-88	78.53-85.37	91.6	86.9					29.9	1.5	28.4	29.9	–	8.7	1.6	–	–		–
11	88-97	88.93-97.00	87.5	80.5					25.5	1.7	23.3	34.9	–	11.9	2.7	–	–		–
12	97-106	98.25-99.57	88.1	81.4					30.3	2.2	18.7	33.3	3.4	9.4	2.6	–	–		–
		100.88	98.6	83.8					24.6	1.8	26.4	28.7	–	12.9	2.4	3.2	–		–
		101.95-102.49	87.2	79.9					28.2	1.1	27.2	28.8	3.7	10.9	–	–	–		–
		102.93	88.2	81.5					19.1	1.1	35.4	32.3	–	12.1	–	–	–		–
		103.29	89.6	83.8					26.6	3.6	27.5	31.8	3.5	4.0	3.0	–	–		–
		103.39	89.2	83.2					30.4	–	23.9	26.9	5.6	9.4	3.7	–	–		–
		105.39	87.7	80.9					25.9	3.1	26.9	27.6	3.0	13.5	–	–	–		–
13	106-115	106.07-114.95	91.2	86.3					33.9	2.9	20.6	29.7	4.7	5.2	–	2.9	–		–
14	115-124	119.31-121.16	86.3	78.6					26.5	2.6	19.4	32.3	5.0	13.1	1.2	–	–		–
15	124-134	124.58-132.81	88.5	82.1					29.5	3.5	24.4	27.5	3.3	10.3	1.5	–	–		–
16	134-144	136.17-139.77	87.7	80.8					29.5	1.5	23.1	29.6	3.8	12.6	–	–	–		–
17	144-153	144.87-152.21	87.5	80.5					28.4	2.0	20.7	25.5	3.3	15.9	4.2	–	–		–
18	153-162	154.18	86.1	78.2					25.1	2.3	25.1	24.1	3.4	15.0	5.0	–	–		–
		155.83-161.87	87.5	80.5					28.8	3.5	24.6	26.3	3.5	11.2	2.2	–	–		–
7C	170-180	174.28-178.87	86.9	79.6					24.1	2.1	21.6	32.0	3.4	14.0	–	–	–		2.8

TABLE 4
Results of X-Ray Diffraction Analyses from Site 148

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Arag.	Side.	Quar.	K-Fe	Plag.	Kaol.	Mica	Chlo.	Mont.	Paly.	Clin.	Pyri.	Gyps.	Goet.	Amph.	Augi.	Unkn.[a]
Bulk Samples																						
1	0-9	0.44-7.03	88.0	81.3	45.3	5.2	–	23.2	–	3.5	7.5	12.8	2.4	–		–	–			–		
2	9-18	10.14-13.67	83.1	73.5	50.6	2.5	–	22.3	–	6.6	8.7	9.3	–	–		–	–			–		
3	18-27	19.43-23.67	84.8	76.2	39.9	–	–	27.9	–	7.6	5.8	15.5	3.3	–		–	–			–		
4	27-36	29.07-34.37	80.7	69.9	60 2	2.0	–	15.5	–	6.2	6.0	7.1	–	–		–	2.5			–		
5	36-45	39.91	82.2	72.3	15.9	–	–	26.5	–	2.7	16.3	30.9	2.1	5.6		–	–			–		
		40.08	82.0	71.8	45.4	–	–	18.0	–	3.5	10.1	19.1	1.6	2.4		–	–			–		
6	45-55	45.99-53.91	85.0	76.6	32.2	–	–	23.4	3.1	1.7	13.1	22.9	2.0	–		–	1.7			–		
7	55-64	56.36-60.81	87.0	79.7	29.7	–	–	31.4	3.6	7.5	9.4	15.6	2.7	–		–	–			–		
8	64-73	64.24-69.62	86.9	79.5	23.0	–	–	31.8	–	5.21	14.4	23.2	2.4	–		–	–			–		
9	73-82	74.39-80.46	84.5	75.8	–	–	–	43.9	–	3.8	19.1	29.8	3.5	–		–	–			–		
10	82-91	82.31-86.88	85.4	77.2	20.0	–	–	30.6	4.3	5.2	16.1	18.8	–	5.0		–	–			–		
11	91-100	93.93	79.0	62.7	16.3	–	–	20.1	–	5.4	15.4	35.6	–	7.2		–	–			–		
		95.22-99.81	85.3	77.1	21.9	–	–	37.9	–	7.6	15.6	17.0	–	–		–	–			–		
12	100-109	101.29-108.17	83.6	74.4	24.7	–	1.2	29.9	2.0	4.0	14.9	21.1	2.3	–		–	–			–		
13	109-118	109.06-110.30	86.3	78.6	15.2	–	–	31.4	2.8	4.1	15.7	27.4	3.3	–		–	–			–		
		112.63-116.72	84.0	75.1	22.7	–	–	39.6	2.9	5.2	14.8	14.8	–	–		–	–			–		
14	118-127	120.47-123.99	82.0	71.9	32.2	–	1.3	32.2	–	6.5	11.4	13.9	2.5	–		–	–			–		
15	127-137	128.26-134.73	86.6	79.0	26.9	1.8	–	28.0	–	2.7	16.9	21.2	2.4	–		–	–			–		
16	137-146	138.43-139.56	88.5	82.1	37.6	–	–	25.9	–	1.8	19.4	15.3	–	–		–	–			–		
		140.10	83.3	73.9	26.8	–	1.2	19.1	–	2.1	20.0	23.3	2.1	4.2		–	1.1			–		
		142.14-142.88	85.3	77.1	17.7	–	1.5	27.6	2.6	3.0	21.7	24.1	1.8	–		–	–			–		
17	146-156	147.00-154.69	96.9	79.6	17.2	–	–	29.0	–	4.0	20.4	26.7	2.7	–		–	–			–		
18	156-165		87.2	80.0	12.5	–	0.8	30.1	–	4.2	22.8	26.1	2.0	1.5		–	–			–		
19	165-175	166.34-168.76	84.9	76.3	24.5	–	1.1	28.6	3.3	8.1	12.7	16.9	2.1	2.6		–	–			–		
20	175-184	176.34-183.52	84.4	75.7	20.5	–	1.2	31.5	–	10.4	11.2	18.8	2.1	4.3		–	–			–		
21	184-193	184.74-187.76	85.3	77.0	23.8	–	1.6	29.8	–	3.6	12.7	24.5	4.0	–		–	–			–		
22	193-203	193.90-197.10	84.8	76.3	24.4	–	1.4	24.7	–	3.0	14.5	27.9	2.6	1.5		–	–			–		
23	203-212	204.14-211.26	81.3	70.8	37.4	–	–	25.2	–	7.0	11.4	17.3	1.6	–		–	–			–		
24	212-221	213.34-220.87	83.6	74.4	43.4	–	–	20.3	–	7.6	7.4	18.1	1.9	–		–	1.3			–		
25	221-230	222.47-223.87	85.4	77.2	30.8	–	–	25.3	–	2.1	13.4	26.4	2.0	–		–	–			–		
26	230-240	231.35-232.88	84.5	75.8	25.1	–	–	29.1	–	5.4	14.4	21.0	3.0	–		–	1.6			–		
27	240-249	240.74-246.21	81.7	71.4	51.1	–	–	17.8	–	6.1	10.0	11.6	–	3.3		–	–			–		
		248.23	76.2	62.8	35.2	–	–	12.3	–	11.8	3.8	11.9	2.1	3.6		–	16.0			3.3		
		248.56	83.3	73.9	43.8	–	–	13.9	8.9	6.5	7.2	11.5	–	6.0		2.1	–			–		

TABLE 4 – *Continued*

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Arag.	Sidė.	Quar.	K-Fe	Plag.	Kaol.	Mica	Chlo.	Mont.	Paly.	Clin.	Pyri.	Gyps.	Goet.	Amph.	Augi.	Unkn.[a]
Bulk Samples – *Continued*																						
28	249-258	249.29	72.2	56.5	63.4	–	–	3.9	10.5	7.9	–	–	–	7.1		7.1	–			–		
		249.87	72.1	56.4	2.8	–	–	11.1	25.0	40.7	–	–	–	7.6		12.8	–			–		
		250.27	74.9	60.7	–	–	–	11.4	26.4	20.0	–	–	–	16.6		25.7	–			–		
31	267-272	269.22	76.6	63.5	9.8	–	–	10.3	8.7	26.0	–	–	–	25.1		18.21	2.0			–		
		271.22	77.1	64.3	4.3	–	–	10.7	9.6	31.4	–	–	–	26.9		15.4	1.6					
2-20µ Fraction																						
1	0-9	0 0.44-7.03	69.1	51.8			–	46.6	3.4	11.3	8.0	28.8	1.8	–		–	–			–	–	–
2	2-18	10.14-13.67	71.4	55.2			–	49.8	3.6	13.3	5.3	25.8	2.8	–		–	–			–	–	–
3	18-27	19.43-23.77	73.9	59.2			–	46.5	2.9	12.7	7.6	28.2	2.1	–		–	–			–	–	–
4	27-36	29.07-34.37	68.1	50.2			–	39.3	–	19.5	8.5	29.4	2.2	–		–	1.0			–	–	–
5	36-45	39.91	67.5	49.2			–	47.4	5.3	6.6	7.0	31.0	2.6	–		–	–			–	–	–
6	45-55	45.99-53.91	70.0	53.1			–	47.5	2.5	8.6	7.4	28.1	2.0	–		–	3.8			–	–	–
7	55-64	56.36-60.81	75.2	61.2			–	49.0	5.0	16.2	4.2	21.2	3.1	–		–	1.4			–	–	–
8	64-73	64.24-69.62	74.1	59.6			–	51.1	4.2	12.4	6.0	22.6	2.1	–		–	1.6			–	–	–
9	73-82	74.39-80.46	70.3	53.5			–	47.6	2.6	7.7	8.9	30.3	1.7	–		–	1.2			–	–	–
10	82-91	82.31-86.88	70.5	53.9			–	44.8	4.4	11.0	9.2	28.3	1.2	–		–	1.1			–	–	–
11	91-100	93.93	70.4	53.8			–	51.9	5.3	10.9	7.0	31.4	1.9	–		–	1.5			–	–	–
		95.22-99.81	67.9	49.8			–	56.0	–	17.5	3.6	18.5	1.1	–		–	3.2			–	–	–
12	100-109	101.29-108.17	70.2	53.5			–	51.7	2.5	6.6	10.5	25.8	1.9	–		–	1.4			–	–	–
13	109-118	109.06-110.30	67.0	48.5			–	54.2	3.2	10.0	4.2	21.9	1.7	–		–	4.7			–	–	–
		112.63-116.72	69.7	52.6			–	51.8	3.1	7.0	9.3	25.9	1.8	–		–	1.2			–	–	–
14	118-127	120.47-123.99	66.8	48.2			–	57.9	–	11.8	5.6	20.0	1.5	–		–	3.3			–	–	–
15	127-137	128.26-134.73	71.4	55.3			–	52.4	3.1	8.9	9.2	23.4	0.9	–		–	2.2			–	–	–
16	137-146	138.43-139.56	71.8	56.0			–	47.7	3.6	6.8	10.0	28.5	2.2	–		–	1.2			–	–	–
		140.10	64.8	45.0			–	50.9	–	6.6	10.0	27.6	2.0	–		–	2.9			–	–	–
		142.14-142.88	66.4	47.5			–	54.0	4.6	9.4	6.0	23.1	1.7	–		–	1.2			–	–	–
17	146-156	147.00-154.69	68.6	51.0			–	49.9	5.1	13.2	5.21	22.5	2.1	–		–	2.0			–	–	–
18	156-165	157.38	71.1	54.8			–	47.5	3.2	10.8	10.0	25.9	1.4	–		–	1.4			–	–	–
19	165-175	166.34-168.76	71.1	54.8			–	50.1	4.5	13.2	8.0	17.5	–	–		–	6.6			–	–	–
20	175-184	176.34-183.52	73.9	59.3			0.7	49.0	3.8	13.7	6.0	22.7	2.3	–		–	1.8			–	–	–
21	184-193	184.74-187.76	74.1	59.5			0.8	47.8	3.9	14.6	6.8	22.8	1.7	–		–	1.5			–	–	–
22	193-203	193.90-197.10	69.9 1	53.0			0.5	47.2	3.5	7.5	7.5	25.9	2.0	–		–	6.0			–	–	–
23	203-212	204.14-211.26	69.6	52.6			1.2	49.7	–	8.5	7.4	29.5	2.4	–		–	1.3			–	–	–

24	212-221	213.34-220.87	72.4	56.9	–	47.8	–	11.5	10.0	26.7	1.9	–		–	2.1			–	–	–
25	221-230	222.47-223.87	74.0	59.4	–	47.0	–	14.0	4.1	25.7	2.8	–		–	4.9			–	1.6	–
26	230-240	231.35-232.88	72.8	57.5	–	47.4	3.0	6.3	7.4	32.0	2.5	–		–	1.4			–	–	–
27	240-249	240.74-246.21	73.0	57.8	–	39.2	–	23.2	8.8	26.0	1.4	–		–	1.4			–	–	–
		248.23	75.7	62.0	–	19.5	–	16.7	5.4	24.0	–	–		–	33.0			1.4	–	Present
		248.56	75.8	62.1	–	36.5	17.0	18.9	1.7	20.7	3.0	–		2.3	–			–	–	–
28	249-258	250.27	74.8	60.6	–	10.3	40.2	26.1	–	1.6	–	–		22.6	–			–	–	–
31	267-272	269.22	74.3	59.9	–	14.4	9.2	36.6	–	–	–	17.8		18.6	3.4			–	–	–
		271.22	74.9	60.8	–	12.5	6.9	39.8	–	–	–	19.3		18.8	2.6			–	–	–
$<2\mu$ Fraction																				
1	0-9	0.44-7.03	86.7	79.3		18.3	–	1.3	25.9	18.5	–	36.1	–	–	–	–	–			–
2	9-18	10.14-13.67	85.7	77.6		18.7	–	1.1	27.1	22.5	–	30.7	–	–	–	–	–			–
3	18-27	19.43-23.77	84.3	75.4		14.7	–	–	32.9	24.6	–	27.8	–	–	–	–	–			–
4	27-36	29.07-34.37	84.7	76.1		14.6	–	4.7	25.8	17.3	1.9	35.8	–	–	–	–	–			–
5	36-45	39.91	85.9	77.9		18.1	–	–	32.2	26.9	2.9	20.1	–	–	–	–	–			–
		40.08	86.8	79.3		15.6	–	1.0	28.1	26.8	2.2	26.2	–	–	–	–	–			–
6	45-55	45.99-53.91	84.1	75.2		14.7	–	–	32.0	21.1	–	32.2	–	–	–	–	–			–
7	55-64	56.36-60.81	87.4	80.3		19.3	–	1.4	30.5	21.0	–	27.8	–	–	–	–	–			
8	64-73	64.24-69.62	86.3	78.6		18.1	–	1.9	31.7	23.2	–	25.1	–	–	–	–	–			–
9	73-82	74.39-80.46	86.9	79.6		17.0	–	1.5	29.3	26.9	–	25.3	–	–	–	–	–			–
10	82-91	82.31-86.88	82.1	72.0		15.21	–	0.6	29.0	22.1	1.6	31.6	–	–	–	–	Trace			–
11	91-100	93.93	86.3	78.5		16.1	–	–	26.5	24.8	2.8	29.8	–	–	–	–	–			–
		95.22-99.81	79.4	67.9		26.3	–	5.3	17.8	34.4	2.4	13.9	–	–	–	–	–			–
12	100-109	101.29-108.17	83.1	73.6		15.1	–	–	28.4	20.0	–	25.4	11.1	–	–	–	–			–
13	109-118	109.06-110.30	79.0	67.1		27.4	–	2.7	20.5	35.6	2.7	11.1	–	–	–	–	–			–
		112.63-116.72	83.6	74.4		17.9	–	1.2	32.6	25.2	–	23.1	–	–	–	–	–			–
14	118-127	120.47-123.99	78.3	66.1		27.7	–	2.9	22.0	32.9	2.8	11.7	–	–	–	–	–			–
15	127-137	128.26-134.73	82.6	72.8		16.0	–	1.7	33.0	19.6	2.8	29.6	–	–	–	–	–			–
16	137-146	138.43-139.56	81.5	71.1		12.6	–	–	37.7	17.3	–	32.3	–	–	–	–	–			–
		140.10	85.1	76.7		16.8	–	1.9	38.3	22.0	2.0	17.5	–	–	1.5	–	–			–
		142.14	79.1	67.3		27.1	–	3.4	23.7	31.2	3.3	11.3	–	–	–	–	–			–
17	146-156	147.00-154.69	80.6	69.7		25.9	–	4.9	22.4	31.6	1.9	13.4	–	–	–	–	–			–
18	156-165	157.38	84.1	75.2		13.5	–	1.2	36.4	16.8	–	32.2	–	–	–	–	–			–
19	165-175	166.34-168.76	79.0	67.2		25.3	1.7	3.6	25.7	26.7	–	17.0	–	–	–	–	–			–
20	175-184	176.34-183.52	85.2	76.9		18.7	–	2.6	24.5	16.4	2.8	34.9	–	–	–	–	–			–

TABLE 4 – *Continued*

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Arag.	Sidé.	Quar.	K-Fe	Plag.	Kaol.	Mica	Chlo.	Mont.	Paly.	Clin.	Pyri.	Gyps.	Goet.	Amph.	Augi.	Unkn.[a]
21	184-193	184.74-187.76	83.3	74.0				16.1	–	3.0	28.2	17.3	–	34.5	–	–	–	–	–			–
22	193-203	193.90-197.10	84.6	76.0				17.9	–	–	29.8	19.6	–	32.7	–	–	–	–	–			–
23	203-212	204.14-211.26	81.8	71.5				13.4	–	–	30.1	20.8	–	35.7	–	–	–	–	–			–
24	212-221	213.34-220.87	84.7	76.2				16.6	–	2.3	27.8	18.3	–	35.1	–	–	–	–	–			–
25	221-230	222.47-223.87	85.6	77.5				15.4	–	1.7	25.5	17.0	–	40.5	–	–	–	–	–			–
26	230-240	231.35-232.88	81.3	70.9				12.5	–	–	27.1	21.7	2.8	35.9	–	–	–	–	–			–
27	240-249	240.74-246.21	85.2	76.9				16.8	–	2.5	26.4	15.9	–	38.4	–	–	–	–	–			–
		248.23	88.4	81.9				18.5	–	–	20.6	12.5	–	29.4	–	–	17.2	1.8	–			–
		248.56	87.5	80.4				15.5	–	2.8	22.3	16.7	–	42.6	–	–	–	–	–			–
28	249-258	250.27	89.1	83.0				5.9	–	6.9	–	–	–	79.8	–	7.5	–	–	–			–
31	267-272	269.22	89.8	84.0				6.1	–	4.2	1.4	–	–	63.4	–	–	1.8	–	–			22.9
		271.22	88.2	81.6				4.4	–	8.4	2.1	–	–	74.3	–	5.7	1.7	–	–			3.5

[a]Unidentified mineral. See 2-20μ fraction, Hole 151.

TABLE 5
Results of X-Ray Diffraction Analyses from Site 150

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Quar.	K-Fe	Plag.	Kaol.	Mica	Chlo.	Mont.	Clin.	Phil.	Pyri.	Bari.	Goet.	Unkn.[a]	Unkn.[b]
Bulk Samples																			
1	49-58	50.15-54.26	87.3	80.2	16.6	19.9	4.2	2.2	19.8	32.0	3.1	2.2	–	–	–	–	–	–	
2	77-86	77.70-79.25	84.1	75.1	–	37.2	5.8	3.0	13.6	29.4	3.1	7.9	–	–	–	–	–	–	
3	86-95	88.12-99.30	87.0	79.8	–	33.4	4.1	3.3	14.6	29.1	3.5	12.1	–	–	–	–	–	–	
4	95-105	95.66	–	–	–	25.9	–	12.5	20.5	27.5	3.0	8.3	2.2	–	–	–	–	–	
		97.38	88.0	81.3	–	24.6	–	15.7	8.8	13.2	1.9	16.9	6.4	12.5	–	–	–	–	
		97.74	70.7	54.2	77.3	5.1	–	–	2.6	2.6	–	2.4	1.6	8.3	–	–	–	–	
		98.90	–	–	–	11.9	–	18.1	–	8.9	–	11.9	37.2	9.9	2.1	–	Abund		
5	105-114	109.71	77.0	64.0	43.3	11.1	–	6.8	2.4	5.4	–	6.9	3.0	21.1	–	–	–	–	
2A	119-128	120.45	86.5	78.9	–	23.3	–	6.9	–	15.4	–	54.4	–	–	–	–	–	–	
9	150-159	151.18	77.6	65.0	6.7	–	–	10.5	–	–	–	71.4	11.3	–	–	–	–	Trace	
		151.26	79.7	68.3	15.6	1.6	–	1.9	–	28.8	–	28.3	23.8	–	–	–	–	Present	
10	159-168	159.04	79.9	68.7	42.7	3.6	20.1	–	–	21.6	–	8.6	–	–	–	3.2	–	–	
		161.18	71.2	55.0	71.2	8.5	3.2	–	–	3.6	–	10.8	–	–	–	2.7	–	–	
2-20μ Fraction																			
1	49-58	50.15-54.26	71.6	55.6		57.2	4.9	8.3	6.2	21.2	2.2	–	–	–		–			
2	77-86	77.70-79.25	68.4	50.6		51.5	5.8	10.5	4.5	24.4	3.4	–	–	–		–			
3	86-95	88.12-93.32	69.9	53.0		52.3	4.7	12.3	7.1	21.8	1.9	–	–	–		–			
4	95-105	95.66	78.1	65.8		45.7	–	26.8	7.0	16.4	1.6	–	2.5	–		–			
		97.38	75.6	61.9		24.2	–	16.5	10.9	15.8	1.6	16.0	6.1	9.0		–			
		97.74	75.9	62.3		21.7	–	16.2	–	7.1	–	5.0	12.8	37.2		–			
		98.90	75.6	61.9		17.0	–	15.3	–	–	–	–	48.8	18.9		–			
5	105-114	109.71	75.2	61.3		30.8	–	–	–	6.4	2.2	–	6.8	53.8		–			
2A	119-128	120.45	74.4	60.1		7.0	–	23.9	–	–	–	12.7	56.5	–		–			
9	150-159	151.18	83.5	74.2		1.0	–	26.4	–	–	–	21.8	50.8	–		–			
		151.26	75.7	62.0		2.0	–	12.3	–	4.9	–	–	80.8	–		–			
10	159-168	159.04	86.4	78.7		15.1	48.6	–	–	22.1	–	14.2	–	–		–			
		161.18	72.1	56.4		57.0	14.7	–	–	15.1	–	–	–	–		13.3			
<2μ Fraction																			
1	49-58	50.15-54.26	81.2	70.6		16.4	2.8	1.5	28.1	23.8	–	27.3	–	–					–
2	77-86	77.70-79.25	83.9	74.8		16.4	4.7	2.0	29.3	13.8	3.6	20.2	–	–					–
3	86-95	88.12-93.32	81.5	71.1		17.3	3.0	1.2	23.5	33.6	3.1	18.3	–	–					–
4	95-105	95.66	81.6	71.3		13.4	–	3.2	22.51	8.0	2.2	50.7	–	–					–
		97.38	88.8	82.5		14.4	–	7.6	12.0	11.8	2.7	49.2	2.1	–					–
		97.74	94.1	90.8		25.2	–	8.8	15.3	19.7	7.1	24.0	–	–					–
		98.90	85.7	77.6		10.4	–	5.8	6.4	4.7	–	67.1	5.6	–					–
5	105-114	109.71	88.1	81.5		11.1	–	–	13.4	8.3	–	53.0	2.4	11.8					–
2A	119-128	120.45	81.4	70.9		3.9	–	10.9	–	–	–	53.7	31.5	–					–
9	150-159	151.18	90.0	84.4		–	–	15.2	–	12.9	–	71.9	–	–					Present
		151.26	90.1	84.5		–	–	–	–	–	–	100.0	–	–					Major
10	159-168	159.04	95.4	92.8		–	–	–	–	100.0[c]	–	–	–	–					–
		161.18	86.0	78.1		10.4	3.0	–	–	8.5[c]	–	78.1	–	–					–

[a]Unidentified mineral. Peaks at 3.29 A, 9.82 A, and 3.05 A; many other visible peaks. May be related to mica.

[b]Mica peaks resemble those of illite as indicated on ASTM index card No. 9-343.

[c]Unidentified. Peaks at 3.29 A, 9.82 A, and 3.05 A; many other peaks visible. May be related to mica.

TABLE 6
Results of X-Ray Diffraction Analyses from Site 151

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Quar.	Cris.	K-Fe	Plag.	Kaol.	Mica	Chlo.	Mont.	Clin.	Phil.	Pyri.	Goet.	Gyps.	Hali.	Bari.	Unk.[a]	Unk.[b]	Unk.[c]
Bulk Samples																							
1	61-70	61.64-69.41	72.3	56.7	79.0	9.1		–	1.0	4.7	6.2	–	–	–	–	–	–				–		
2	117-126	118.34	72.4	56.8	80.5	9.6		–	1.3	4.6	4.0	–	–	–	–	–	–				–		
3	181-190	182.07-183.54	79.9	68.6	64.6	15.7		1.4	1.5	2.6	6.7	2.0	5.4	–	–	–	–				–		
		185.02-188.85	68.4	50.6	88.9	4.2		–	–	1.9	2.9	–	2.1	–	–	–	–				–		
4	237-246	237.60	59.8	37.2	99.0	1.0		–	–	–	–	–	–	–	–	–	–				–		
		239.38	76.6	63.5	88.8	3.4		–	3.4	1.4	–	–	3.0	–	–	–	–				–		
5	302-311	304.72	63.9	43.6	99.6	0.4		–	–	–	–	–	–	–	–	–	–				–		
6	311-320	313.36	63.5	43.0	99.6	0.4		–	–	–	–	–	–	–	–	–	–				–		
		320.00	61.5	39.9	99.6	0.4		–	–	–	–	–	–	–	–	–	–				–		
7	320-329	322.66	60.0	37.4	99.4	0.6		–	–	–	–	–	–	–	–	–	–				–		
9	339-348	341.54	63.6	43.2	98.4	0.5		–	–	–	–	–	–	1.1	–	–	–				–		
10	348-357	348.83-350.66	62.0	40.7	100.0	–		–	–	–	–	–	–	–	–	–	–				–		
11	357-367	364.48	69.8	52.9	93.3	0.5		–	1.4	–	–	–	2.7	2.1	–	–	–				–		
		365.88	47.9	18.5	–	100.0		–	–	–	–	–	–	–	–	–	Trace				–		
12	367-376	367.03	76.5	63.3	70.9	3.2		10.9	3.9	–	–	–	11.0	–	–	–	Trace				–		
		367.61	70.0	53.1	94.4	1.1		–	–	–	–	–	–	1.0	2.4	1.1	–				–		
		367.76	82.2	72.1	93.0	6.1		–	0.9	–	–	–	–	–	–	–	–				Present		
		368.72	66.9	48.3	90.7	0.4		–	–	–	–	–	8.8	–	–	–	–				–		
		369.19	71.2	54.9	96.2	0.6		–	–	–	–	–	3.2	–	–	–	Present				–		
		369.80	75.1	61.2	27.1	46.9		5.1	–	–	–	–	21.0	–	–	–	Abund				–		
2-20µ Fraction																							
1	61-70	61.54-69.41	67.2	48.7		62.1		4.7	11.0	8.4	13.8	–	–	–	–	–	–			–		–	
2	117-126	118.34	70.3	53.6		60.7		–	9.6	6.8	21.7	1.2	–	–	–	–	–			–		–	
3	181-190	182.07	72.1	56.4		64.5		5.2	7.9	6.7	13.7	1.0	–	–	–	1.1	–			–		–	
		185.02-188.85	77.4	64.7		58.3		3.8	14.0	8.0	14.4	1.5	–	–	–	–	–			–		–	
4	237-246	237.60	72.7	57.3		54.9		–	8.1	9.1	26.5	1.4	–	–	–	–	–			–		–	
		239.38	92.8	88.8		31.6		–	34.3	7.66	7.8	–	18.6	–	–	–	–			–		–	
5	302-311	304.72	94.3	91.2		34.8		–	48.7	3.5	8.8	–	–	4.2	–	–	–			–		–	
6	311-320	313.36	94.2	91.0		31.2		–	42.2	2.8	11.5	–	12.2	–	–	–	–			–		–	
		320.00	92.9	88.9		34.7		–	40.5	5.1	10.4	–	9.4	–	–	–	–			–		–	
7	320-329	322.66	93.2	89.4		31.9		–	45.0	2.7	8.8	–	11.6	–	–	–	–			–		–	
9	339-348	341.54	70.8	54.3		16.3		–	14.8	–	–	–	–	68.9	–	–	–			–		–	
10	348-357	348.83-350.66	76.9	64.0		5.7		–	40.6	–	–	–	–	53.7	–	–	–			–		–	
11	357-367	364.48	78.2	66.0		6.8		–	31.5	1.5	–	–	11.8	48.4	–	–	–			–		–	

12	367-376	367.03	86.1	78.3	11.7	34.2	34.8	–	–	–	18.0	1.3	–	–	–			–	–	
		367.61	80.3	69.2	9.6	–	9.5	–	–	–	5.2	18.8	38.8	18.1	–			–	–	
		368.72	86.4	78.8	4.1	25.6	12.8	1.1	5.2	–	33.0	–	–	13.5	4.7			Present	–	
		369.19	88.4	81.9	10.4	27.5	21.8	–	–	–	40.3	–	–	–	–			–	Major	
		369.80	59.5	36.7	100.0	–	–	–	–	–	–	–	–	–	–			–	Present	
<2μ Fraction																				
1	61-70	61.64-69.41	77.9	65.5	13.0	2.3	1.4	29.0	24.6	3.3	26.4	–		–	–	–	–			–
2	117-126	118.34	80.4	69.3	14.6	–	1.1	26.6	20.7	2.9	34.2	–		–	–	–	–			
3	181-190	182.07-183.54	77.6	65.0	17.0	–	0.3	21.2	17.4	1.7	42.4	–		–	–	–	–			–
		185.02-188.85	78.0	65.6	10.6	1.8	1.7	13.7	11.1	2.1	59.0	–		–	–	–	–			–
4	237-246	237.60	81.8	71.6	14.5	–	3.0	13.6	7.9	–	59.3	1.7		–	–	–	–			–
		239.38	87.0	79.7	15.8	–	3.6	13.5	–	–	67.0	–		–	–	–	–			–
5	302-311	304.72	87.8	81.0	10.6	–	6.8	7.8	6.0	–	68.8	–		–	–	–	–			–
6	311-320	313.36	88.4	81.9	10.9	–	6.8	7.2	7.0	–	68.1	–		–	–	–	–			–
7	320-329	322.66	85.5	77.4	6.4	–	5.0	6.3	3.7	–	78.6	–		–	–	–	–			–
9	339-348	341.54	82.9	73.2	8.3	–	3.9	5.1	–	–	67.9	14.8		–	–	–	–			–
10	348-357	348.83-350.66	72.8	57.5	0.6	–	5.7	–	–	–	89.9	3.7		–	–	–	–			–
11	357-367	364.48	66.1	47.0	–	–	1.8	–	–	–	96.7	1.6		–	–	–	–			–
12	367-376	367.03	91.7	87.0	5.6	–	–	–	–	–	94.4	–		–	Present	–	–			–
		367.61	87.9	81.1	3.3	–	17.1	–	–	–	71.8	3.1		3.5	–	1.2	–			–
		367.76	91.0	85.9	–	–	–	–	–	–	–	–		–	–	–	–			100.0
		368.72	87.9	81.1	–	–	–	–	–	–	94.7	–		–	–		–			–
		369.19	91.3	85.5	–	–	–	–	–	–	100.0	–		–	Major	–	–			–
		369.80	88.9	82.7	28.1	–	–	–	–	–	71.9	–		–	Major					

[a]Unidentified mineral. See <2μ fraction, Hole 151.

[b]Unidentified mineral. Peaks at 4.11 A and 3.27 A.

[c]Unidentified mineral, possibly mixed-layer mica-montmorillonite. Peaks are at 3.32 A (100%), pyramid-shaped; 10 A-15 A (60%), broad flat top; 1.99 A broad, rounded; and 4.8 A (15%), broad rounded.

TABLE 7
Results of X-Ray Diffraction Analyses from Site 152

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Quar.	Cris.	K-Fe	Plag.	Kaol.	Mica	Mont.	Paly.	Clin.	Bari.	Hali.	Augi.	Magn.	Chlo.	Unkn.
Bulk Samples																				
1	153-162	153.32	66.8	48.2	100.0	–		–	–	–										
2	162-172	163.39-164.16	87.6	80.7	75.0	1.1	–		21.1			—		–			2.8			
		166.88-166.16	62.3	41.0	92.4	0.3	–		2.2			–		5.1			–			
3	172-182	174.60-175.87	65.8	46.6	97.4	0.3	–		1.0			–		1.4			–			
4	182-192	184.79-185.99	68.2	50.3	93.6	0.3	6.1		–			–		–			–			
6	201-211	201.60-108.17	67.6	49.4	85.1	1.6	13.4		–			–		–			–			
7	211-220	212.63-216.15	68.3	50.4	85.3	2.8	10.8		–			–		1.1			–			
8	220-229	220.67	65.0	45.3	96.8	0.6	–		1.2 1			–		1.4			–			
9	229-239	230.04	68.7	51.1	91.8	1.1	4.4		1.4			1.3		–			–			
14	276-286	277.13	59.4	36.5	97.3	0.5	2.1		–			–		–			–			
16	342-351	343.65	73.3	58.3	90.5	1.0	!		3.1			2.4		3.1			–			
		343.72	72.5	57.0	19.8	35.4	44.8		–			–		–			–			
		346.45	57.2	33.2	97.0	3.0	–		–			–		–			–			
17	398-407	399.03	56.6	32.2	96.8	3.2	–		–			–		–			–			
		400.32	64.1	43.9	82.3	2.1	–		7.2			8.4		–			–			
		407.00	50.1	22.0	–	100.0	–		–			–		–			–			
18	407-416	408.04	76.9	64.0	81.7	1.3	–		3.6			13.4		–			–			
		409.23	56.3	31.7	97.2	2.8	–		–			–		–			–			
19	416-425	417.16	83.6	74.4	48.7	1.1	–		2.6			47.6		–			–			
21	453-462	454.10	64.2	44.0	91.6	0.6	–		–			7.8		–			–			
22	462-471	463.15-464.63	68.6	50.9	92.8	2.0	–		–			2.7		2.6			–			
		465.12	63.1	42.3	88.5	1.3	–		–			10.2		–			–			
		471.00	60.2	37.8	97.0	3.0	–		–			–		–			–			
2-20μ Fraction																				
1	153-162	153.32	98.0	86.9		19.0	–	–	70.1	–	–	–		–	–	–	10.9	–		
2	162-1721	163.39-164.16	94.8	91.8		3.7	–	–	61.2	–	–	–		–	–	–	35.0	–		
		166.88-169.12	70.8	54.4		4.1	–	–	23.5	–	–	–		54.0	–	–	12.4	6.0		
3	172-182	174.60-175.87	80.2	69.1		8.4	–	–	29.7	–	–	–		38.6	6.8	–	16.5	–		
4	182-192	184.79-185.99	94.1	90.8		3.7	59.8	–	16.8	–	–	–		6.2	5.5	–	8.0	–		
6	201-211	201.60-108.17	85.6	77.4		14.5	47.9	–	10.6	–	–	–		11.5	5.6	–	9.6	–		
7	211-220	212.63-216.15	86.2	78.5		9.8	62.3	–	8.8	–	–	–		13.0	6.1	–	Present	–		
8	220-229	220.67	81.6	71.3		12.4	–	–	23.6	–	–	10.7		41.0	12.4	–	Trace	Trace		
9	229-239	230.04	81.1	70.5		11.0	–	–	28.0	–	–	14.4		30.7	16.0	–	–	–		
14	276-286	277.13	90.8	85.6		12.6	53.8	–	7.5	1.6	5.1	–		10.7	4.2	4.5	–	–		
16	342-351	343.65	86.8	79.4		11.0	–	–	24.1	–	–	17.9		45.8	–	–	–	1.1		
		343.72	71.5	55.5		62.9	37.1	–	–	–	–	–		–	–	–	–	–		
		346.45	82.6	72.7		63.0	–	8.6	4.4	–	7.8	–		–	16.2	–	–	–		
18	407-416	408.04	84.3	75.5		6.4	–	27.3	8.2	–	–	56.2		1.9	–	–	–	–		
19	416-425	417.16	85.6	77.5		2.2	–	8.8	4.9	–	–	84.1		–	–	–	–	–		
21	453-462	454.10	79.7	68.3		12.8	–	11.7	–	–	10.3	61.6		–	3.6	–	–	–		
22	462-471	463.15-464.63	82.7	73.0		14.5	–	13.3	–	–	3.8	23.9		42.5	2.1	–	–	–		
		471.00	67.3	48.9		100.0	–	–	–	–	–	–		–	–	–	–	–		
<2μ Fraction																				
2	162-172	166.88-169.12	89.9	84.2		4.6	–		30.0	–	–	–	–	22.9	–				–	–
3	172-182	174-60-175.87	86.3	78.6		3.7	27.6		7.0	–	–	49.5	–	12.2	–				–	–
4	182-192	184.79-185.99	91.8	87.1		1.6	58.7		4.0	–	–	32.4	–	3.3	–				–	–

TABLE 7 – *Continued*

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Quar.	Cris.	K-Fe	Plag.	Kaol.	Mica	Mont.	Paly.	Clin.	Bari.	Hali.	Augi.	Magn.	Chlo.	Unkn.[a]
<2μ Fraction – *Continued*																				
6	201-211	201.60-208.17	90.4	85.0		3.9	62.0		3.2	–	–	25.5	5.5	–	–			–	–	–
7	211-220	212.63-216.15	91.7	87.0		2.4	69.3		2.4	–	2.0	15.1	4.6	2.3	1.7				–	–
8	220-229	220.67	87.2	80.0		3.6	14.7		2.6	–	5.1	54.0	12.1	5.6	–				2.3	–
9	229-239	230.04	88.7	82.4		3.9	46.3		2.0	–	3.9	35.2	6.4	2.3	–				–	–
16	342-351	343.65	88.0	81.2		4.3	–		9.8	2.5	–	83.4	–	–	–				–	
		343.72	85.1	76.7		10.3	89.7		–	–	–	–	–	–	–				–	–
		346.47	81.7	71.4		66.3	–		–	1.4	6.5	25.9	–	–	–				–	–
17	398-407	399.03	76.4	63.2		71.5	–		–	–	4.5	18.6	5.4	–	–				–	–
18	407-416	408.04	77.1	64.2		1.9	–		4.6	–	–	93.5	–	–	–				–	–
		409.23	66.8	48.2		87.4	–		–	–	–	4.8	7.8	–	–				–	–
19	416-425	417.16	78.5	66.5		–	–		–	–	–	100.0	–	–	–				–	–
21	453-462	454.10	70.5	53.9		1.6	–		–	–	–	98.4	–	–	–				–	–
22	462-471	463.15-464.63	85.1	76.7		13.4	–		4.6	–	7.4	70.5	–	4.1	–				–	–

[a]Unidentified mineral(s) yielding broad rounded peaks with d-spacings of 11.0, 4.6, 3.65, 3.42, 3.09, 2.76, 2.39, and 1.66A.

TABLE 8
Results of X-Ray Diffraction Analyses from Site 153

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Quar.	Cris.	K-Fe	Plag.	Kaol.	Mica	Chlo.	Mont.	Paly.	Clin.	Phil.	Pyri.	Bari.	Hali.	Magn.	Unk.[a]	Unk.[b]	Unk.[c]
Bulk Samples																							
1	102-111	103.38-110.83	80.8	69.9	44.5	19.3	–	–	3.3	9.3	16.1	1.4	–	–		6.0	–	–	–	–	–		
2	198-207	207.00	85.0	76.6	7.8	38.5	–	2.3	2.4	16.8	23.2	3.4	3.9	–		–	–	–	1.6	–	–		
3	207-216	207.90	85.2	76.9	2.4	39.5	–	3.8	4.0	15.6	27.3	3.9	3.4	–		–	–	–	–	–	–		
4	300-309	301.66-304.88	82.0	71.8	18.5	27.4	–	3.7	3.9	12.7	17.3	1.2	13.0	–		–	–	–	2.3	–	–		
5	403-412	403.76-408.01	74.4	60.1	76.3	8.5	–	1.5	1.5	2.5	2.1	1.1	6.6	–		–	–	–	–	–	–		
6	412-421	412.28	61.5	39.9	97.9	1.1	–	–	–	–	–	–	1.0	–		–	–	–	–	–	–		
7	499-508	500.14	62.3	41.2	99.0	1.0	–	–	–	–	–	–	–	–		–	–	–	–	–	–		
8	563-572	564.26	71.4	55.3	56.4	15.4	28.2	–	–	–	–	–	–	–		–	–	–	–	–	–		
9	586-591	587.10-587.95	82.4	72.5	63.6	2.3	22.8	–	3.7	–	–	–	4.9	2.7		–	–	–	–	–	–		
10	591-600	592.32-593.24	90.6	85.3	5.8	3.0	74.9	–	5.0	–	–	–	4.4	3.4		–	–	3.3	–	–	–		
11	600-609	600.86-603.16	78.9	67.0	65.0	2.4	16.1	–	3.8	–	–	–	6.6	2.5		–	–	3.5	–	–	–		
12	609-619	609.79	85.6	77.5	43.4	4.3	–	–	10.0	–	–	–	16.9	21.1		–	–	4.4	–	–	–		
		613.32	–	–	26.5	11.5	61.9	–	–	–	–	–	–	–		–	–	–	–	–	–		
13	619-656	620.30-624.29	–	–	92.0	2.0	3.0	–	–	–	–	–	2.4	0.6		–	–	–	–	–	Present		
14	656-667	657.12	51.1	23.7	9.5	90.5	–	–	–	–	–	–	–	–		–	–	–	–	–	–		
15	667-731	667.90	45.5	14.8	18.8	81.2	–	–	–	–	–	–	–	–		–	–	–	–	–	–		
		669.16	76.9	63.9	67.9	1.8	–	–	8.7	–	–	–	7.1	14.4		–	–	–	–	–	–		
		669.23	61.6	40.0	–	73.3	26.7	–	–	–	–	–	–	–		–	–	–	–	–	–		
		670.94	79.7	68.3	49.9	0.6	–	–	24.6	–	5.8	–	8.0	6.8		–	–	2.0	–	2.2	–		
		672.86	54.7	29.2	95.5	4.5	–	–	–	–	–	–	–	–		–	–	–	–	–	–		
16	731-740	731.06-732.68	79.6	68.1	37.6	16.2	–	–	10.8	–	–	–	22.5	10.0		–	3.0	–	–	–	–		
17	740-749	741.33	71.6	55.7	60.8	11.3	–	–	2.7	–	–	–	–	23.6		–	1.6	–	–	–	–		
18	749-758	750.38-754.74	–	–	42.4	1.8	–	5.7	–	–	–	–	50.0	–		–	–	–	–	–	–		
19	758-767	759.04	62.0	40.6	57.6	1.8	–	5.6	–	–	–	–	33.3	–		–	1.8	–	–	–	–		
2-20µ Fraction																							
1	102-111	103.38-110.83	73.7	58.9		44.2	–	–	4.5	8.4	18.9	1.2	–	–	–	20.5	2.4	–					
2	198-207	207.00	66.8	48.1		46.7	–	4.6	9.4	8.0	26.2	2.4	–	–	–	–	2.7	–					
3	207-216	207.90	68.2	50.4		56.6	–	4.1	9.7	4.6	21.5	2.0	–	–	–	–	1.5	–					
4	300-309	301.66-304.88	67.9	49.8		63.1	–	5.1	6.6	6.6	15.3	1.0	–	–	–	–	2.4	–					
5	403-412	403.76-408.10	73.7	58.9		58.0	–	5.5	8.7	7.2	17.4	1.7	–	–	–	–	1.6	–					
6	412-421	412.281	88.3	81.7		33.8	–	5.8	26.0	–	8.7	2.9	22.8	–	–	–	–	–					

7	499-508	500.14	91.1	85.1	28.3	–	8.0	24.6	–	7.2	3.0	29.0	–	–	–	–	–				
8	563-572	564.26	88.5	82.0	12.3	86.5	–	1.2	–	–	–	–	–	–	–	–	–				
9	586-591	587.10-587.95	84.4	75.6	6.3	48.0	–	18.4	–	–	–	5.4	–	13.6	–	–	8.3				
10	591-600	592.32-593.24	84.1	75.1	4.8	65.3	–	11.9	–	–	–	–	–	5.6	–	–	12.5				
11	600-609	600.86-603.16	80.9	70.2	7.1	32.5	–	16.4	1.0	–	–	13.7	–	14.9	–	–	14.4				
12	609-619	609.79	76.3	63.0	7.2	–	–	18.3	–	–	–	–	–	59.2	–	–	15.3				
		613.32	88.4	81.8	7.8	88.4	–	1.2	–	1.5	–	–	–	–	–	–	1.1				
13	619-656	620.30-624.29	77.6	65.0	50.8	2.7	5.9	9.1	–	4.5	–	6.6	–	11.7	–	–	8.8				
15	667-731	669.16	79.6	68.1	5.9	–	–	31.6	–	–	–	21.8	–	40.7	–	–	–				
		670.94	78.2	65.9	2.4	–	–	67.8	–	3.0	–	5.9	–	20.8	–	–	–				
		672.86	71.0	54.6	72.9	–	4.0	–	–	–	–	–	5.4	–	–	5.4	12.2				
16	731-740	731.06-732.68	74.5	60.1	27.0	–	–	24.8	–	–	–	13.4	–	29.2	–	5.6	–				
17	740-749	741.33	72.8	57.5	29.7	–	–	13.1	–	–	–	–	–	52.0	–	5.1	–				
18	749-758	750.38-754.74	78.8	66.9	5.5	–	14.4	–	–	–	–	76.7	–	–	–	1.3	2.2				
19	758-767	759.04	71.6	55.7	10.9	–	31.1	–	–	–	–	31.1	–	–	–	26.4	–				
<2μ Fraction																					
1	102-111	103.38-110.83	80.8	70.1	17.0	–	2.2	0.7	30.0	27.4	1.8	23.8	–	–	–	–	–	–	–	–	–
2	198-207	207.00	77.3	64.6	16.3	–	2.2	0.7	26.9	26.7	2.7	24.6	–	–	–	–	–	–	–	–	–
4	300-309	301.66-304.88	77.7	65.2	19.2	–	3.4	1.8	23.4	19.4	1.9	30.7	–	–	–	–	–	–	–	–	–
5	403-412	403.76-408.01	76.6	63.4	11.6	–	2.5	1.0	18.4	10.3	–	56.2	–	–	–	–	–	–	–	–	–
6	412-421	412.28	78.9	67.0	5.3	–	2.2	2.2	1.2	3.6	1.5	84.0	–	–	–	–	–	–	–	–	–
7	499-508	500.14	76.9	63.9	4.7	–	1.2	1.5	0.6	2.6	1.0	88.3	–	–		–	–	–	–	–	–
8	563-572	564.26	93.1	89.2	2.2	95.3	–	–	–	–	–	2.5	–	–		–	–	–	–	–	–
9	586-591	587.10-587.95	88.2	81.5	4.1	57.6	–	5.7	–	–	–	26.0	–	3.5		–	3.2	–	–	–	–
10	591-600	592.32-593.24	89.7	83.9	2.4	76.6	–	2.4	–	–	–	17.3	–	–		–	1.4	–	–	–	–
11	600-609	600.86-603.16	85.0	76.5	3.8	38.3	–	2.2	–	–	–	53.0	–	1.4		–	1.3	–	–	–	–
12	609-619	609.79	83.4	74.1	3.0	–	–	3.3	–	6.0	–	77.8	–	7.8		–	2.0	–	–	–	–
		613.32	90.8	85.7	2.3	87.8	–	1.1	–	2.0	–	6.8	–	–		–	–	–	–	–	–
13	619-656	620.30-624.29	79.2	67.5	9.8	28.4	1.2	–	–	2.6	–	58.1	–	–		–	–	–	–	–	–
15	667-731	670.94	83.0	73.4	–	–	–	31.8	–	14.7	–	41.0	–	1.2		–	–	4.2	7.1	Abund	–
		672.86	69.1	51.8	87.8	–	–	–	–	–	–	5.2	7.0	–		–	–	–	–	–	–
16	731-740	731.06-732.68	72.7	57.3	6.5	–	–	7.9	–	–	–	84.5	–	1.1		–	–	–	–	–	Present

TABLE 8 – ***Continued***

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Quar.	Cris.	K-Fe	Plag.	Kaol.	Mica	Chlo.	Mont.	Paly.	Clin.	Phil.	Pyri.	Bari.	Hali.	Magn.	Unk.[a]	Unk.[b]	Unk.[c]
<2μ Fraction – ***Continued***																							
17	740-749	741.33	83.2	73.7		43.6	–	–	9.9	–	–	–	37.7	–	4.2		4.6	–	–	–		–	–
18	749-758	750.38-754.74	69.5	52.3		0.5	–	1.3	–	–	–	–	98.2	–	–		–	–	–	–		–	Present
19	758-767	759.04	67.9	49.9		0.6	–	1.5	–	–	–	–	98.0	–	–		–	–	–	–		–	–

[a]Unidentified mineral yielding one observable peak at 3.18A.

[b]Unidentified mineral yielding numerous peaks including those at 3.30, 3.07, 2.14, and 2.37A.

[c]Unidentified mineral yielding one peak at 3.44A.

TABLE 9
Results of X-Ray Diffraction Analyses from Sites 154 and 154A

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Dolo.	Quar.	Plag.	Kaol.	Mica	Chlo.	Mont.	Paly.	Clin.	Phil.	Hema.	Pyri.	Bari.	Amph.	Augi.	Magn.	Apat.	Hali.	Gibb.
Bulk Samples																								
1A	1-10	2.07-4.34	81.4	70.9	52.9	–	19.0	6.8	9.7	8.5	–	3.2	–	–	–		–	–	–	–		–	–	–
		6.74-7.80	80.7	69.8	63.5	–	17.0	5.7	2.6	4.0	2.5	2.8	–	–	–		1.0		–	–		–	–	–
2A	10-20	11.67-13.17	82.4	72.5	58.4	–	20.6	7.6	2.6	6.1	2.2	2.6		–	–	–	–		–	–		–	–	–
3A	20-29	21.04-28.79	80.9	70.1	62.4	–	17.5	5.5	2.8	5.5	2.0	2.8		–	–	–	1.6		–	–		–	–	–
4A	29-39	29.11-36.71	81.0	70.3	55.2	–	18.9	7.2	6.4	7.5	1.5	2.0		–	–	–	1.3		–	–		–	–	–
5A	39-49	41.58	82.1	72.0	58.4	–	19.0	5.0	4.9	9.2	2.3	–		–	–	–	1.2		–	–		–	–	–
6A	49-59	53.06-57.62	81.0	72.5	60.3	–	16.8	6.3	3.8	7.2	1.6	1.8		–	–	–	2.2		–	–		–	–	–
1	52-61	52.38-54.60	82.4	72.5	33.7	–	15.6	23.6	3.1	8.4	2.2	1.5		–	7.5	2.5	1.9		–	–		–	–	–
		58.15	80.5	69.5	9.3	–	2.0	59.0	–	2.2	–	–		–	–	11.0	2.2		9.5	4.8		–	–	–
		60.76	83.0	73.4	57.0	–	17.5	8.0	3.5	8.2	2.9	–		–	–	–	2.9		–	–		–	–	–
8A	68-78	68.74-75.58	80.5	69.5	63.3	–	13.4	7.9	4.4	5.3	1.0	1.8		–	–	–	2.8		–	–		–	–	–
9A	78-87	79.57-84.93	80.3	69.3	64.1	–	14.0	6.9	5.1	4.9	–	3.0		–	–	–	2.0		–	–		–	–	–
10	87-97	87.83-95.38	79.7	68.2	62.6	1.7	12.4	8.3	6.0	4.3	–	3.1		–	–	–	1.6		–	–		–	–	–
11	97-106	99.59-105.60	80.5	69.5	68.2	1.4	14.1	6.6	4.5	–	1.5	2.8		–	–	–	1.1		–	–		–	–	–
12	106-116	107.17-114.82	80.3	69.2	57.8	1.4	13.5	7.8	3.3	4.7	–	3.7		–	6.4	–	1.4		–	–		–	–	–
2	108-117	112.25-117.00	81.4	71.0	65.0	–	14.3	6.3	0.8	8.3	3.7	–		–	–	–	1.6		–	–		–	–	–
13	116-125	118.58-124.51	80.7	69.8	60.1	1.7	14.3	8.5	1.8	5.7	1.6	3.8		–	–	–	2.6		–	–		–	–	–
14	125-134	125.19-132.89	81.1	70.5	50.8	1.1	18.1	7.0	6.4	6.3	–	5.7		1.5	–	–	2.0		–	–		–	–	1.2
15	134-144	135.61-138.61	86.0	78.1	36.4	2.7	21.0	9.8	7.0	12.9	1.5	7.0		–	–	–	1.7		–	–		–	–	–
16	144-153	144.10-150.25	87.6	80.7	20.8	6.6	22.7	11.9	9.1	8.4	–	14.8		1.6	–	–	4.4		–	–		–	–	–
17	153-163	155.06-158.61	80.1	68.9	–	–	18.5	44.9	–	3.2	–	4.6		1.1	17.9	–	2.5		–	4.0		3.3	–	–
		159.48	73.3	58.3	–	–	19.2	35.3	–	2.8	–	4.0		–	17.8	–	–		–	14.2		6.7	–	–
		161.54	83.4	74.1	3.9	–	26.8	19.9	–	3.4	–	4.7		1.5	31.7	–	–		–	5.2		2.8	–	–
18	163-172	164.38	79.2	67.5	17.5	–	22.0	24.9	8.5	9.5	–	14.8		–	–	–	2.7		–	Trace		–	–	–
		164.72	73.3	58.3	14.3	–	15.5	41.8	3.7	–	–	6.6		–	–	–	–		–	18.1		–	–	–
		166.44-167.87	83.4	74.1	–	–	15.4	59.2	–	–	–	8.2		1.2	14.4	–	1.4		–	–		–	–	–
3	164-173	165.63	85.6	77.5	38.4	–	23.1	10.9	6.7	8.6	1.9	6.2		1.4	–	–	2.8		–	–		–	–	–
		167.74	77.8	65.3	2.3	–	16.0	41.9	–	1.7	–	5.9		–	9.6	–	1.3		–	15.5		5.7	–	–
4	173-182	175.54-176.21	74.5	60.2	–	–	23.6	39.2	–	5.2	–	4.7		1.0	12.8	–	–		–	9.7		3.8	–	–
5	182-192	182.17	88.5	82.0	20.9	–	22.1	21.6	4.0	9.9	–	13.1		1.4	7.0	–	–		–	–		–		
		184.28	75.8	62.2	–	–	6.5	51.3	–	–	–	–		–	15.4	–	–		–	17.9		8.8	–	–
		185.11	88.0	81.3	8.5	–	21.6	32.9	2.9	9.3	–	13.3		–	10.4	–	1.1		–	–		–		
		190.49	87.0	79.7	4.1	–	15.3	31.2	4.9	9.2	–	19.1		2.3	9.3	–	1.3		–	–		–	3.3	–
6	192-202	192.29	77.4	64.6	–	–	13.7	49.5	–	–	–	–		–	12.3	–	–		–	18.4		6.1	–	–
8	211-221	211.86-216.57	84.6	75.9	5.0	–	28.5	25.8	–	4.7	–	9.0		2.1	20.8	–	4.1		–	–		–	–	–

TABLE 9 – *Continued*

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Dolo.	Quar.	Plag.	Kaol.	Mica	Chlo.	Mont.	Paly.	Clin.	Phil.	Hema.	Pyri.	Bari.	Amph.	Augi.	Magn.	Apat.	Hali.	Gibb.
Bulk Samples – *Continued*																								
9	221-230	222.00	77.0	64.0	–	–	17.7	59.0	–	–	–	1.7		–	4.0	–	–		–	12.6		5.0	–	–
10	230-240	232.66	77.3	64.5	–	–	11.4	42.7	–	–	–	3.4		–	29.3	–	–		–	8.7		4.5	–	–
		233.44	84.4	75.6	3.5	–	25.4	30.2	–	7.3	–	11.2		5.9	14.4	–	–		–	–		2.1	–	–
11	240-249	241-46-243.55	83.0	73.4	9.9	–	18.1	29.3	–	5.2	–	5.7		5.9	22.7	–	1.6		–	–		1.5	–	–
12	249-258	250.35	83.5	74.2	4.21	–	17.8	44.5	–	3.6	–	8.9		2.7	14.6	–	–		–	–		2.9	–	–
13	258-268	259.29	88.7	82.3	18.8	2.3	24.7	16.4	–	10.4	3.2	12.3		1.9	7.9	–	2.1		–	–		–	–	–
		265.33-266.86	77.4	64.7	–	–	11.6	76.0	–	–	–	–		–	–	–	–		–	7.1		5.3	–	–
14	268-277	268.57	75.8	62.3	3.9	–	20.1	50.9	–	3.1	–	2.9		–	14.4	–	–		–	0.7		4.0	–	–
2-20 µ Fraction																								
1A	1-10	2.07-4.34	77.9	65.4			55.4	21.6	7.1	13.4	1.8	–		0.7	–	–	–		–	–	–			
		6.74-7.80	77.8	65.3			49.9	21.6	5.1	11.8	2.4	–	–	–	–	9.3	–	–	–	–	–			
2A	10-201	11.67-13.17	79.1	67.3			54.7	25.8	5.6	11.7	2.2	–		–	–	–	–		–	–	–			
3A	20-29	21.04-28.79	77.7	65.2			49.2	18.7	6.9	14.8	1.8	–		–	–	–	6.5		2.1	–	–			
4A	29-39	29.11-36.71	76.5	63.3			46.1	25.6	5.6	14.3	2.0	–		–	–	–	6.4		–	–	–			
5A	39-49	41.58	77.3	64.6			50.7	19.0	6.7	14.8	1.5	–		–	–	–	7.4		–	–	–	–		
6A	49-59	53.06-57.62	77.4	67.7			45.2	19.8	5.7	13.7	1.7	–		–	–	–	12.4		1.5	–	–			
7	52-61	52.38-54.60	76.0	62.5			28.9	30.9	4.5	5.9	–	–		–	21.0	–	8.8		–	–	–			
		58.15	78.8	66.9			9.4	53.3	–	–	3.6	–		–	–	17.0	7.9		–	8.8	–			
		60.76	76.0	62.5			45.9	23.3	5.7	11.2	1.6	–		–	–	–	12.3		–	–	–			
8A	68-78	68.74-75.58	78.5	66.4			49.0	28.1	–	9.3	3.1	–		–	10.5	–	–		–	–	–			
9A	78-87	79.57-84.93	79.9	68.5			48.0	28.6	11.8	9.3	–	–		1.2	–	–	–		1.1	–	–			
10	87-97	87.83-95.38	79.0	67.1			38.0	32.1	9.7	15.0	1.6	–		2.1	–	–	–		1.4	–	–			
11	97-106	99.59-105.60	76.3	63.0			43.6	24.4	3.5	12.1	1.6	–		–	6.2	–	8.6		–	–	–			
12	106-116	107.17-114.82	82.1	72.0			42.6	19.7	1.7	11.6	2.0	–		1.7	11.7	–	8.9		–	–	–			
2	108-117	112.25-117.00	77.5	64.8			43.1	25.4	6.4	13.2	1.7	–		2.7	–	–	7.4		–	–	–			
13	116-125	118.58-124.51	80.3	69.3			40.5	20.9	4.8	13.2	–	–		1.9	7.9	–	10.9		–	–	–			
14	125-134	125.19-132.89	76.7	63.5			40.5	25.0	5.0	16.8	2.4	–		1.3	–	–	9.0		–	–	–			
15	134-144	135.61-138.61	78.3	66.1			44.3	23.7	3.2	12.6	2.2	–		1.7	–	–	12.3		–	–	–			
16	144-153	144.10-150.25	82.1	72.0			40.5	27.3	2.4	12.1	1.9	–		1.9	–	–	13.8		–	–	–			
17	153-163	155.06-158.61	78.3	66.1			11.0	36.7	4.3	4.5	–	–		0.8	29.4	–	5.4		–	3.8	4.1			
		159.48	71.0	54.7			5.7	2.0	–	–	–	–		–	66.2	–	–		–	16.0	10.0			
		161.54	76.5	63.3			6.7	13.6	–	2.8	–	–		–	65.9	–	3.1		–	4.8	3.1			
18	163-172	164.58	78.7	66.7			33.0	22.7	–	12.6	–	–		2.0	13.1	–	8.1		–	4.6	3.8			
		164.72	77.8	65.3			9.3	28.4	–	4.4	–	–		1.0	36.7	–	2.1		–	10.2	7.8			
		166.44-167.87	80.2	69.0			9.2	79.4	–	4.4	–	–		–	–	–	1.8		–	1.7	3.6			

3	164-173	165.63	77.8	65.3	45.7	26.5	3.0	15.1	2.8	–		2.4	4.5	–	–	–	–	–		
		167.74	77.0	64.1	9.6	26.9	–	2.4	–	–		–	40.0	–	2.6	–	11.5	6.8		
4	173-182	175.54-176.21	75.0	60.9	15.1	27.6	–	4.4	–	–		1.2	35.7	–	–	–	9.8	6.2		
5	182-192	182.17	80.9	70.1	28.6	39.7	2.8	13.5	–	7.7		3.5	4.2	–	–	–	–	–		
		184.28	73.7	58.9	2.6	45.8	–	–	2.7	–		–	28.3	–	–	–	13.6	6.9		
		185.11	80.7	69.8	29.4	41.9	1.6	13.3	–	–		–	6.8	–	1.5	–	5.5	–		
		190.49	80.5	69.5	19.9	33.6	–	10.4	–	13.5		3.6	13.4	–	1.6	–	1.3	2.5		
6	192-202	192.29	72.7	57.3	6.2	40.7	–	3.3	2.3	–		–	33.4	–	–	–	6.1	7.9		
8	211-221	211.86-216.57	73.9	59.2	23.4	18.9	8.9	5.4	–	–		2.5	30.3	–	6.8	–	1.0	2.7		
9	221-230	222.00	74.5	60.2	12.0	64.31	–	3.9	–	–		1.0	6.9	–	1.7	–	3.2	6.9		
10	230-240	232.66	70.2	53.4	4.7	31.2	–	–	–	–		–	49.4	–	1.7	–	8.3	4.8		
		233.44	74.2	59.6	31.7	48.7	–	8.5	–	–		7.4	–	–	1.8	–	–	1.9		
11	240-249	241.46-243.55	74.6	60.3	22.5	25.5	–	7.6	–	–		10.0	26.6	–	3.3	–	–	4.4		
12	249-258	250.35	76.5	63.3	15.5	33.4	–	5.5	–	–		4.9	29.9	–	2.5	–	3.6	4.7		
13	258-268	259.29	80.4	69.4	36.4	29.7	4.6	15.0	–	7.3		3.1	–	–	3.9	–	–	–		
		265.33-266.86	75.5	61.7	14.8	51.6	–	–	–	–		1.2	7.2	–	1.4	–	12.0	11.7		
14	268-277	268.57	70.1	53.3	7.2	58.4	–	1.4	–	–		0.4	28.1	–	0.6	–	1.0	2.9		
<2μ Fraction																				
1A	1-10	2.07-4.34	88.1	81.3	22.5	3.3	24.4	24.6	–	25.3	–	–	–	–	–		–	–	–	–
		6.74-7.80	86.1	78.4	15.8	3.5	19.5	10.9	–	50.3	–	–	–	–	–		–	–	–	–
2A	10-20	11.67-13.17	86.3	78.6	14.6	2.6	9.4	9.4	4.0	44.5	15.5	–	–	–	–		–	–	–	–
3A	20-29	21.04-28.79	84.8	76.3	18.0	2.7	16.5	10.1	2.5	50.2	–	–	–	–	–		–	–	–	–
4A	29-39	29.11-36.71	84.9	76.4	30.5	9.5	14.0	15.3	3.0	27.7	–	–	–	–	–		–	–	–	–
5A	39-49	41.58	81.4	70.9	16.3	4.4	17.9	14.5	3.8	43.1	–	–	–	–	–		–	–	–	–
6A	49-59	53.06-57.62	83.3	73.9	18.1	2.3	13.5	20.2	3.7	42.2	–	–	–	–	–		–	–	–	–
1	52-61	52.38-54.60	82.8	73.1	14.8	6.0	16.5	22.0	4.2	36.6	–	–	–	–	–		–	–	–	–
		58.15	86.5	78.9	14.6	13.8	15.3	14.5	3.7	33.6	–	–	–	2.1	2.4		–	–	–	–
		60.76	83.1	73.6	14.6	4.4	19.5	15.2	2.1	44.1	–	–	–	–	–		–	–	–	–
8A	68-78	68.74-75.58	84.5	75.8	23.1	9.9	14.8	14.5	2.2	35.6	–	–	–	–	–		–	–	–	–
9A	78-87	79.57-84.93	88.8	82.5	20.8	7.1	15.3	12.4	3.3	41.2	–	–	–	–	–		–	–	–	–
10	87-97	87.83-95.38	87.6	80.6	13.4	4.3	15.1	9.7	2.8	43.2	9.7	1.8	–	–	–		–	–	–	–
11	97-106	99.59-105.60	88.9	82.7	23.9	–	16.3	15.3	6.0	38.5	–	–	–	–	–		–	–	–	–
12	106-116	107.17-114.82	86.3	78.5	12.8	2.7	20.2	11.2	2.2	48.9	–	2.0	–	–	–		–	–	–	–
2	108-117	112.25-117.00	82.8	73.1	13.0	4.0	20.1	15.6	–	46.1	–	1.3	–	–	–		–	–	–	–
13	116-125	118.58-124.51	83.1	73.6	11.5	2.5	19.5	14.4	3.2	52.4	–	–	–	–	–		–	–	–	–
14	125-134	125.19-132.89	84.8	76.2	13.7	3.4	20.9	14.7	–	45.9	–	1.4	–	–	–		–	–	–	–
15	134-144	135.61-138.61	89.1	83.0	23.5	9.0	8.9	14.3	6.7	35.1	–	–	–	–	–		–	–	–	2.6
16	144-153	144.10-150.25	85.1	76.7	9.4	2.7	11.6	12.5	2.9	61.0	–	–	–	–	–		–	–	–	–

TABLE 9 – *Continued*

Core	Cored Interval Below Sea Floor (m)	Sample Depth Below Sea Floor (m)	Diff.	Amor.	Calc.	Dolo.	Quar.	Plag.	Kaol.	Mica	Chlo.	Mont.	Paly.	Clin.	Phil.	Hema.	Pyri.	Bari.	Amph.	Augi.	Magn.	Apat.	Hali.	Gibb.
Bulk Samples – *Continued*																								
17	153-163	155.06-158.61	90.3	84.9			4.9	2.4	2.9	9.0	–	62.7	–	–	13.7	–	–			4.3	–	–	–	
		159.48	86.0	78.1			2.4	19.6	9.6	–	–	62.9	–	–	–	–	–			5.6	–	–	–	
		161.54	95.6	93.1			9.8	23.1	3.7	18.3	–	24.5	–	–	17.3	–	3.3			–	–	–	–	
18	163-172	164.58	86.5	78.8			14.0	4.8	16.2	6.0	–	57.8	–	–	–	–	–			1.3	–	–	–	
		164.72	97.4	96.0			7.3	24.2	23.3	–	–	–	–	–	–	–	–			9.1	36.1	–	–	
		166.44-167.87	86.7	79.3			3.5	6.4	1.5	7.7	–	61.7	–	–	19.2	–	–			–	–	–	–	
3	164-173	165.63	82.8	73.2			20.7	5.8	12.3	21.9	4.3	33.7	–	1.4	–	–	–			–	–	–	–	
		167.74	83.1	73.7			7.3	3.8	1.7	3.6	–	53.7	–	1.1	22.6	–	–			5.4	0.7	–	–	
4	173-182	175.54-176.21	82.1	72.0			4.2	5.7	–	6.8	–	55.4	–	–	21.4	–	–			5.2	1.3	–	–	
5	182-192	182.17	84.0	75.0			9.5	5.1	11.4	9.6	–	62.8	–	1.6	–	–	–			–	–	–	–	
		184.28	82.3	72.3			2.0	20.4	–	3.3	–	16.1	–	–	44.0	–	–			12.6	1.7	–	–	
		185.11	86.9	79.6			11.0	8.0	11.5	11.0	–	57.2	–	1.3	–	–	–			–	–	–	–	
		190.49	86.0	78.2			6.3	4.9	–	8.4	–	78.4	–	2.0	–	–	–			–	–	–	–	
6	192-202	192.29	84.6	76.0			2.2	16.3	–	3.4	–	47.9	–	–	20.8	–	1.6			5.0	2.7	–	–	
8	211-221	211.86-216.57	88.8	82.4			11.4	0.4	1.2	9.2	–	51.5	–	3.2	20.8	–	2.3			–	–	–	–	
9	221-230	222.00	84.4	75.7			3.7	16.9	1.6	4.9	–	56.9	–	–	–	–	–			3.1	1.3	–	–	
10	230-240	232.66	82.8	73.1			3.0	24.5	–	5.6	–	44.5	–	–	16.5	–	–			5.6	0.3	–	–	
		233.44	82.6	72.8			5.4	4.8	6.1	8.5	–	66.1	–	5.0	4.0	–	–			–	–	–	–	
11	240-249	241.46-243.55	88.7	82.4			7.9	13.4	6.6	6.7	–	59.5	–	2.9	–	–	3.1			–	–	–	–	
12	249-258	250.35	83.6	74.4			7.9	11.5	–	8.5	–	50.2	–	4.0	16.4	–	0.9			–	0.6	–	–	
13	258-268	259.29	85.0	76 5			13.9	5.9	14.9	14.9	–	48.6	–	1.7	–	–	–			–	–	–	–	
		265-33-266.86	86.5	78.9			7.4	25.0	4.4	8.1	–	43.6	–	3.6	5.2	–	–			1.0	1.7	–	–	
14	268-277	268.57	85.9	78.0			6.2	19.1	–	7.9	1.3	42.8	–	1.0	16.7	–	–			2.8	2.3	–	–	

TABLE 10
Sediment Samples Submitted for X-Ray Diffraction Analysis from Leg 15

Hole	Core	Section	Depth in Section (cm)	Depth Below Sea Floor[a] (m)
146	1	2	109-111	
		3	58-61	
		4	33-35	98.59-104.17
		5	139-141	
		6	65-67	
	2	1	20-50	
		2	120-124	254.20-261.85
		5	118-120	
		6	33-35	
	4		Core Catcher	422.00
	5	1	13-15	422.14
		2	9-11	423.60
	6	1	97-99	431.98
	7	1	145-146	441.46
	8	1	3	449.03
		1	26	449.26
		2	41	450.91
		2	57	451.07
		2	58	451.08
	9	1	8	
			11	
			14	458.08-459.87
		2	13	
			30	
			37	
	10	1	116	
		2	85-90	468.16-469.96
			145-146	
	11	1	63-64	476.64
		1	113-114	477.14
		2	27-29	477.78
		2	136-138	478.87
	12	1	106-108	486.07
		1	126-127	486.26
	13	1	148-150	
		2	55-56	495.48-497.26
			145-146	
		3	25-26	
		3	45-46	497.46
		3	139-140	
		4	20-21	498.39-499.71
			120-121	
		5	1-2	500.02
		5	142-143	501.42
	14	1	97-98	503.97-505.30
		2	78-80	
		3	107-109	507.08
		4	22-23	507.72
		4	39-40	507.90
	15	1	136-138	
		2	44-45	
		1	147-148	
		3	85-86	513.36-519.81
		4	42-45	
		5	60-61	
		6	30-31	
	16	1	123.2-123.3	522.23
		2	96-96	523.46
		3	37.5-40	524.39
		4	78-82.5	
		5	135-138	526.28-529.66
			114-116	
	17	1	62-64	
		2	24-26	530.64-537.63
		3 3	37-39	
146	17	4	6-8	
		5	3-5	530.64-537.63
		6	13	
		6	16-18	537.67
		6	111-114	538.62
	18	1	57-60	539.58
		3	38-42	
		4	146-147	542.38-547.00
		5	146-147	
		6	45-49.5	
	19	1	100.5-104.5	549.02
		2	115-120	550.68
		3	59-61	551.59-553.28
		4	75-78	
	20	1	41-44	
		2	97-99	557.41-560.82
		3	80-82	
	22	1	143-146	576.43-577.54
		2	102-104	
	23	1	136-138	585.37
		2	93-95	
			99-100	586.43-587.10
		3	8-10	
	24	1	73-76	593.74
	25	2	70-73	603.52
	26	1	119-122	612-19-612.64
		2	13-14	
	27	1	85.5-89	620.87
		2	115-116	622.66
		3	43-45	623.44
	29	1	37-39	638.38
	30	1	127-131.5	
		2	91.5	650.27-654.52
		3	18-20	
		4	99-102	
	31	1	62-64	656.63
		2	3-5	657.54
		3	102-106	660.02
		4	140-142	
	32	1	129-130	666.30
		2	20-22	666.71
	33	1	79-82	674.80
	34	1	135-136	684.36
	36R	2	84-86	703.35
		2	Core Catcher	710.00
	38R	1	92-93	714.92
	39R	1	145-1481	720.46
		2	46-47	720.96
		2	91-93	721.46
	41R	1	46-52	737.49
		1	122-126	738.24
		2	120-124	739.72
146A	1	7	15-18	Undetermined
	3	1	117-120	
			144-147	97.17-99.93
		2	82-85	
		3	90.93	
147	2	1	129-131	
		2	78-80	5.29-8.46
		3	107-109	
			144-146	
147	2	4	15-17	8.66
		4	34-36	8.85
		4	109-111	9.60
	3	1	118-120	
		2	29-37	15.18-17.50
			80-82	

TABLE 10 – *Continued*

Hole	Core	Section	Depth in Section (cm)	Depth Below Sea Floor[a] (m)
147	3	2	80-82	
			133-136	15.18-17.50
		3	48-50	
	4	1	102-104	
		2	119-121	
		3	48-51	
			79-81	
		4	19-21	
			69-71	24.02-31.87
			119-121	
		5	129-131	
		6	59-61	
			71-73	
			95-97	
			135-137	
	5	1	145-147	
		2	42-43	33.45-34.79
			127-129	
	6	3	135-137	
		5	147-149	46.35-50.64
		6	112-114	
	7	2	13-15	
			79-81	52.63-53.82
			130-132	
	8	2	79-81	
			132-134	
		3	139-141	62.29-69.00
		4	106-108	
		6	129-131	
		7	102-104	
	9	2	19-21	
		4	46-48	
		5	130-132	70.69-77.97
		6	29-31	
			145-147	
	10	1	53-55	
		2	29-31	
		3	14-16	
			132-134	
		4	137-139	78.53-85.37
		5	24-26	
			63-65	
			95-96	
			129-137	
	11	1	93-95	
		2	98-100	
		3	130-132	88.93-97.00
		4	29-31	
			107-109	
		6	88-90	
	12	7	111-113	
	12	1	125-127	98.25-99.57
		2	105-107	
		2	140-142	99.91
		3	87-89	10 100.88
		4	45-47	101.95-102.49
			97-99	
		4	142-144	102.93
		5	28-30	103.29
		5	38-40	103.39
		6	88-90	105.39
	13	1	7-9	
			22-24	
		2	84-86	106.07-114.95
		4	29-31	
		6	143-145	
	14	3	131-133	
147	14	4	68-70	119.31-121.16
		5	14-16	
	15	1	58-60	
			129-131	
			139-141	
		2	59-61	
		3	109-111	124.58-132.81
		4	129-131	
		5	106-108	
		6	91-93	
			129-131	
	16	2	67-69	136.17-139.77
		4	125-127	
	17	1	87-89	
		2	92-94	
		3	135-137	144.87-152.21
		4	39-41	
		6	69-71	
	18	1	117-119	154.18
		2	133-135	
		3	98-100	
		4	77-79	155.83-161.87
		5	68-70	
		6	49-51	
			135-137	
147C	7	3	128-130	
		5	121-123	174.28-178.87
		6	31-34	
			131	
148	1	2	44-46	
		3	73-75	
			134-136	0.44-7.03
		4	47-49	
		5	101-103	
	2	1	114-117	
		2	42-44	
			117-119	10.14-13.67
		3	129-132	
			15-17	
	3	1	143-146	
		2	112-115	19.43-23.77
		4	124-127	
	4	2	57-59	
		4	144-146	29.07-34.37
		5	93-95	
			135-137	
	5	3	90-92	39.91
		3	107-109	40.08
	6	1	99-101	
		2	115-117	
		3	136-138	45.99-53.91
		4	52-54	
		5	80-82	
		6	139-141	
	7	1	136-138	
		2	68-70	56.36-60.81
		3	57-59	
		4	129-131	
	8	1	24-26	
			135-137	
		2	135-137	64.24-69.62
		3	64-66	
			137-139	
		4	110-112	
	9	1	136-139	74.39-80.46
		2	135-137	

TABLE 10 – *Continued*

Hole	Core	Section	Depth in Section (cm)	Depth Below Sea Floor[a] (m)
148	9	3	52-59	
		4	74-76	74.39-80.46
		5	144-146	
	10	1	31-33	
		2	108-110	82.31-86.88
		4	36-38	
	11	2	142-144	93.93
		3	122-124	
		4	135-137	95.22-99.81
		5	71-73	
		6	129-131	
	12	1	129-131	
		2	129-131	
		3	108-110	101.29-108.17
		4	55-57	
		5	135-137	
		6	65-67	
	13	1	6-8	109.06-110.30
			128-130	
		3	63-65	
		4	135-137	112.63-116.72
		5	134-136	
		6	20-22	
	14	2	97-99	
		3	63-65	120.47-123.99
		4	147-149	
	15	1	126-128	
		2	120-122	
		3	135-137	
		4	126-128	128.26-134.73
		5	121-123	
			145-147	
		6	21-13	
	16	1	143-146	138.43-139.56
		2	103-106	
		3	8-11	140.10
		4	64-66	142-14-142.88
			136-138	
	17	1	100-102	
		2	89-91	
		3	58-60	147.00-154.69
		4	118-120	
		5	50-52	
		6	117-119	
	18	1	137-139	157.38
	19	1	134-136	
		2	63-64	166.34-168.76
		3	74-76	
	20	1	134-136	
		2	104-106	
		3	30-32	176.34-183.52
		4	134-136	
		5	100-102	
		6	102-103	
	21	1	74-76	
		2	7-9	184.74-187.76
		3	74-76	
	22	1	90-92	
		2	127-129	193.90-197.10
		3	108-110	
	23	1	114-118	
		2	135-137	
		3	116-118	204.14-211.26
		4	14-16	
		5	139-141	
		6	74-76	
	24	1	134-136	213.34-220.87

TABLE 10 – *Continued*

Hole	Core	Section	Depth in Section (cm)	Depth Below Sea Floor[a] (m)
148	24	2	80-82	
		3	74-76	
		4	135-137	213.34-220.87
		5	117-119	
		6	135-137	
	25	1	147-149	222.47-223.87
		2	135-137	
	26	1	135-137	231.35-232.88
		2	136-138	
	27	1	74-76	
		2	83-85	
		3	57-59	240.74-246.21
		4	74-76	
		5	19-21	
		6	72-74	248.23
		6	105-107	248.56
	28	1	28-30	249.29
		1	86-88	249.87
		1	126-128	250.27
	31	2	70-73	269.22
		3	120-123	271.22
149	2	1	82-84	
		2	45-47	
		3	54-46	
			128-130	
		4	47-49	1.82-9.59
		5	37-39	
			66-68	
		6	74-76	
			107-109	
	3	1	125-127	11.25-12.78
		2	126-128	
	4	5	74-76	25.75
	5	4	97-99	33.47-34.43
		5	42-43	
	6	3	49.51	
		5	138-140	40.49-45.48
		6	92-94	
			96-98	
	7	2	74-76	48.24-54.49
			97-99	
	8	1	90-92	56.91
		3	95-97	
		5	75-78	59.95-64.63
		6	111-113	
	9	3	29-31	68.30
		5	139-141	74.40
		6	124-126	73.75
	10	3	42-44	78.43-80.69
		4	117-119	
	11	2	114-115	
		3	148-150	86.64-91.36
		5	134-136	
	12	3	51-53	
			84-86	96.97-101.82
		6	130-132	
	13	3	97-99	
			10-12	
		4	117-119	105.97-110.30
		5	92-94	
		6	44-46	
			78-80	
	14	4	104-106	117.55
	15	1	52-54	
			93-95	121.52-128.27
		4	34-36	
		5	124-127	

TABLE 10 – *Continued*

Hole	Core	Section	Depth in Section (cm)	Depth Below Sea Floor[a] (m)
149	16	1	124-144	
		2	101-103	131.42-136.94
		5	92-94	
	18	4	99-102	154.49-156.29
		5	127-129	
	19	3	62-64	161.63
	20	3	91-94	170.92
	26	1	104-106	224.04-227.28
		3	126-128	
	28	3	128-130	245.29
		4	86-90	246.38
	29	1	53-56	251.53-255.30
		3	128-130	
	32	3	52-54	282.52-283.93
		4	40-43	
	33	2	50-60	290.05
	34	1	133-135	299.34
	35	1	85-87	307.85-311.95
		4	43-45	
	37	3	48-50	328.49
	40	1	74-76	353.75
	41	3	74-76	365.75
	42	3	40-42	374.40-376.66
		4	116-118	
	43	1	117-119	382.18
150	1	1	115-118	
		2	107-110	
		3	57.60	50.15-54.26
		4	26-28	
			74-76	
	2	1	70-72	77.70-79.25
		2	73-75	
	3	2	62-64	
		4	131-133	88.12-93.32
		5	130-132	
	4	1	66-68	95.66
		2	87-89	97.38
		2	123-125	97.74
		3	89-91	98.90
	5	4	20-22	109.71
	9	1	118-119	151.18
		1	124-127	151.26
	10	1	2-5	159.04
		2	67-70	161.18
150A	2	1	144-146	120.45
151	1	1	64-66	
		3	40-42	
		4	121-123	61.64-69.41
		5	123-126	
		6	89-91	
	2	1	134-136	118.34
	3	1	107-110	182.07-183.54
		2	101-104	
		3	102-105	185.02-188.8
		6	33-35	
	4	1	59-62	137.60
		2	87-89	239.38
	5	2	121-123	304.72
	6	2	84-87	313.36
			Core Catcher	320.00
	7	2	115-117	322.66
	9	2	103-105	341.54
	10	1	83-86	348.83-350.66
		2	124-126	
	11	5	147-149	364.48
		6	136-140	365.88

TABLE 10 – *Continued*

Hole	Core	Section	Depth in Section (cm)	Depth Below Sea Floor (m)
151	12	1	2-4	367.03
		1	60-62	367.61
		1	76.77	367.76
		2	21-23	368.72
		2	68-70	369.19
		2	129-131	369.80
152	1	1	30-33	153.32
	2	1	139-142	163.39-164.16
		2	64-66	
		4	38-39	166.88-169.12
		5	14-16	
	3	2	110-112	174.60-175.87
		3	79-81	
	4	2	129-131	184.79-185.99
		3	97-99	
	6	1	60-62	
		2	34.5-36.5	201.60-208.17
		5	115-117	
	7	2	13.14	
		3	71-73	212.63-216.15
		4	49-50	
			62.5-65	
	8	1	66-68	220.67
	9	1	102-105	230.04
	14	1	112-114	277.13
	16	2	14-16	343.65
		2	21-23	343.72
		3	144-146	346.45
	17	1	102-104	399.03
		2	82-83	400.32
			Core Catcher	407.00
	18	1	102-106	408.04
		2	72-74	409.23
	19	1	114-117	417.16
	21	1	108-111	454.10
	22	1	115-118	463.15-464.63
		2	112-113	
		3	11-14	465.12
	22		Core Catcher	471.00
153	1	1	138-140	103.38-110.83
		6	131-133	
	2		Core Catcher	207.00
	3	1	89-92	207.90
	4	2	16-19	
		3	53-56	301.66-304.88
		4	35-38	
	5	1	76-79	403.76-408.01
		2	50-53	
		3	79-82	
		4	48-51	
	6	1	412.28	
	7	1	114-115	500.14
	8	1	124-127	564.26
	9	1	109-111.5	587.10-587.95
		2	42-45	
	10	1	132-135	592.32-593.24
		2	71-74	
	11	1	86-88	
			108-111	600.86-603.16
		2	35-36	
		3	13-16	
	12	1	78-80	609.79
		3	130-134	613.32
	13	1	130-133	
		2	33-35	619-656
		3	46-48	

TABLE 10 – *Continued*

Hole	Core	Section	Depth in Section (cm)	Depth Below Sea Floor[a] (m)
153	13	1 1	71-73	619-656
			77-79	
	14	1	112-113	657.12
	15	1	89-90	667.90
		2	65-66	669.16
		2	72-74	669.23
		3	93-95	670.94
		4	135-136	672.86
	16	1	6-10	
			12-17	736.06-732.68
		2	13-18	
	17	1	132-134	741.33
	18	1	138-139	
		2	29-31	
			136-138	750.38-754.74
		3	148-150	
		4	38-41	
			121-124	
	19	1	101-107	759.04
154	1	1	38-40	52.38-54.6
		2	108-110	
		5	14-16	58.15
		6	125-127	60.76
	2	3	125-127	
		5	78-80	112.25-117.00
		6	27-29.5	
		7	40-42.5	
	3	2	12-14.5	165.63
		3	73-75	167.74
	4	2	104-107	175.54-176.21
		3	18-21	
	5	1	16-18	182.17
		2	77-79	184.28
		3	10-12	185.11
		6	98-100	190.49
	6	1	27.5-30.5	192.29
	8	1	68-88	
		3	39-41	211.86-216.57
		4	105-107	
	9	1	99-101	222.00
	10	2	115-117	232.66
		3	43.45	233.44
	11	1	146-148	
		2	40-42	241.46-243.55
		3	53-55	
	12	1	134-136	250.35
	13	1	128-130	259.29
		5	133-135	265.33-266.86
		6	134-136	
	14	1	56-58	268.57
154A	1	1	107-110	
		2	19-21	2.07-4.34
		3	32-34	
		4	134-135	6.74-7.80
		5	77-79.5	
	2	2	17-19	11.67-13.17
		3	15-17	
	3	1	104-106	
		2	17-19.5	
		3	15-17.5	21.04-28.79
		4	17-19.5	

TABLE 10 – *Continued*

Hole	Core	Section	Depth in Section (cm)	Depth Below Sea Floor[a] (m)
		5	10-12	
		6	127-129	
	4	1	11-13	29.11-36.71
		2	87-89	
154A	4	3	15-18	29.11-36.71
		4	10-12.5	29.11-36.71
		5	93.5-96	
		6	18.5-21	
	5	2	107-109	41.58
	6	3	106-108	
		4	10-12	53.06-57.62
		6	110-112	
	8	1	74-76	
		2	74-76	
		4	129-131	68.74-75.58
		5	114-116	
		6	6-8	
	9	2	7-9	
		4	92-94	79.57-84.93
		5	91-93	
	10	1	83-85	
		3	115-117	87.83-95.38
		4	98-100	
		6	86-88	
	11	2	109-111	
		4	88-90	99.59-105.60
		5	133-134	
		6	108-110	
	12	1	117-119	
		3	111-113	107.17-114.82
		6	130-132	
	13	2	108-110	
		5	98-100	118.58-124.51
		6	99-101	
	14	1	19-20	
		2	65-67	
		3	95-97	
		4	19-21	125.19-132.89
		5	22-24	
		6	37-39	
	15	2	11-13	135.61-138.61
		4	9-11	
	16	1	10-12	
		3	13-15	144.10-150.25
		5	23-25	
	17	2	56-58	
		3	14-16	155.06-158.61
		4	109-111	
		5	46-49	159.48
		6	103-105	161.54
	18	2	7-9	164.58
		2	21-23	164.72
		3	44-45	166.44-167.87
		4	35-37	

[a]The sample depths identify the samples as they are reported in Tables 1-9 and Figures 1-27. Single depths indicate single sediment samples. Braces are used to indicate the samples combined into one composite sample; the depths give the range of the composited interval.

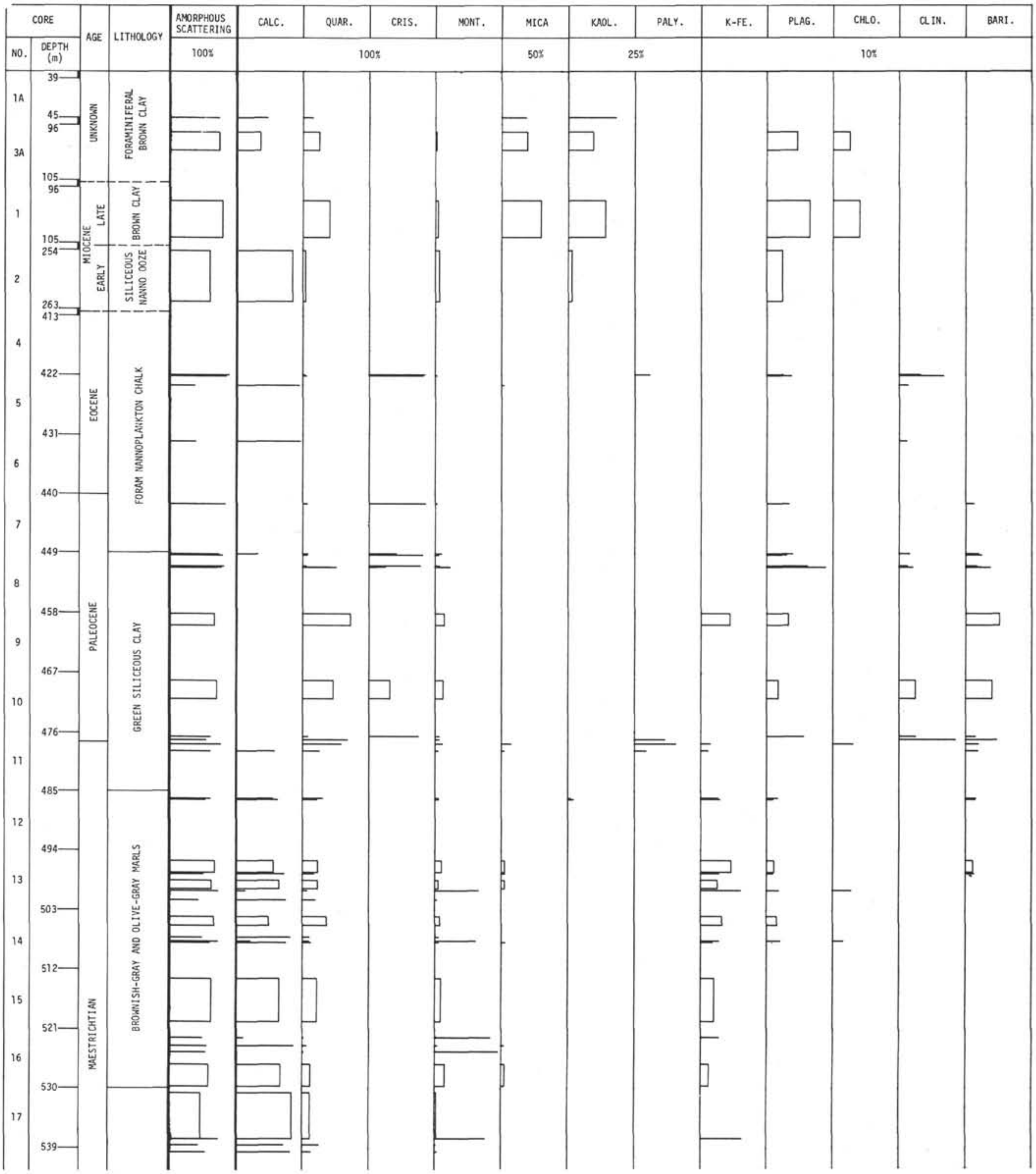

Figure 1. *Site 146. Bulk samples.*

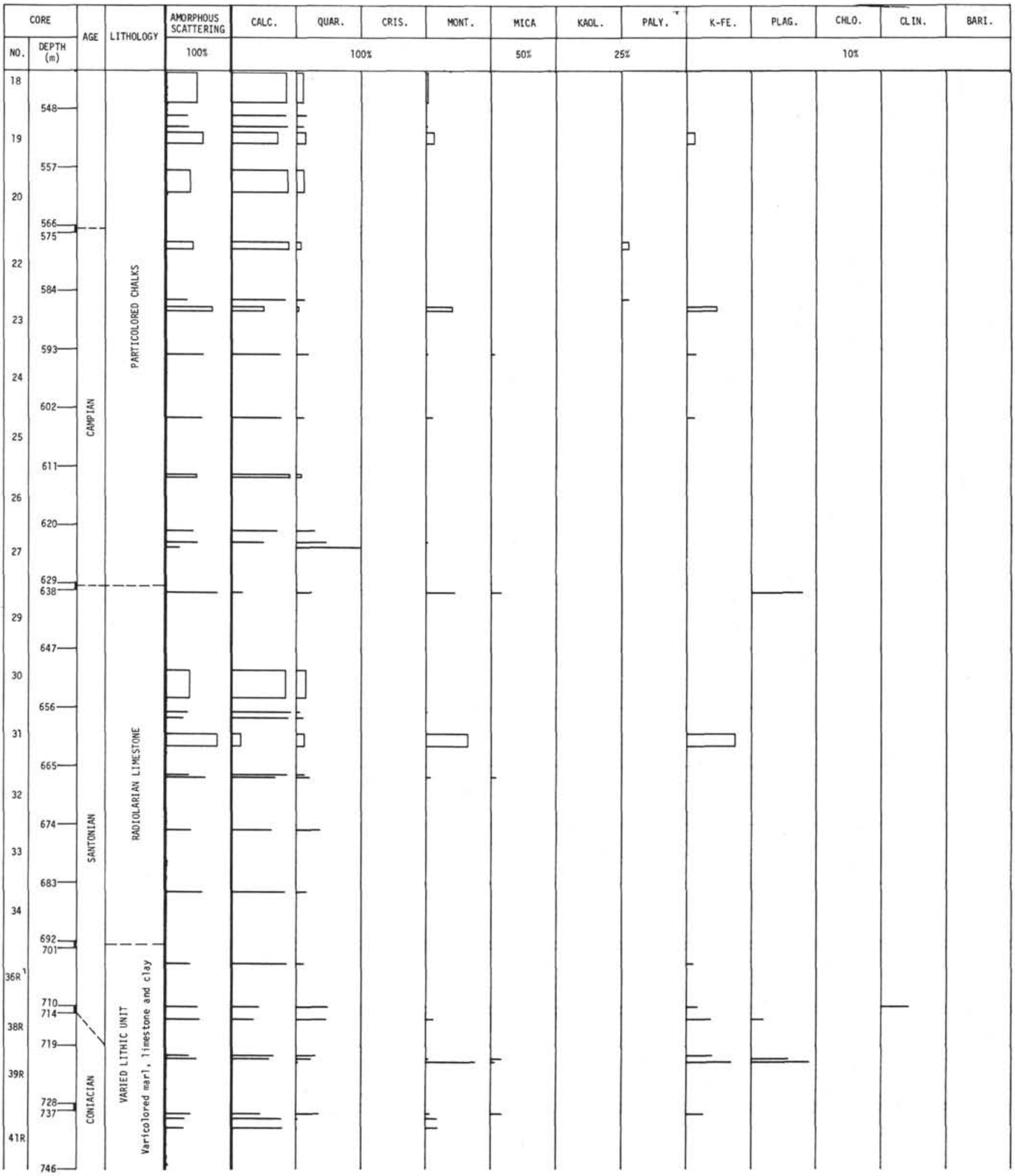

Figure 1. *(Continued)*.

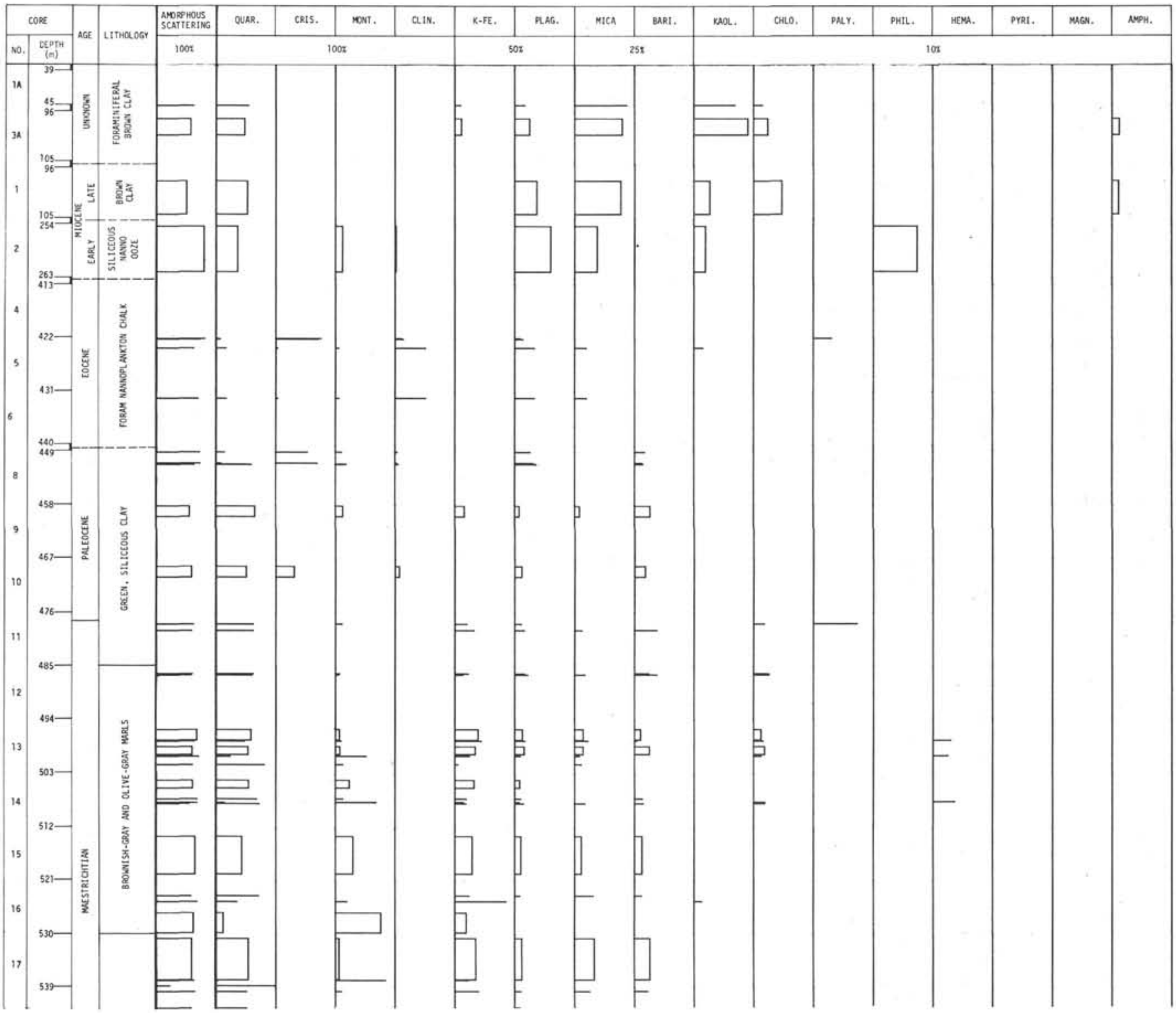

Figure 2. *Site 146. 2-20μ fractions.*

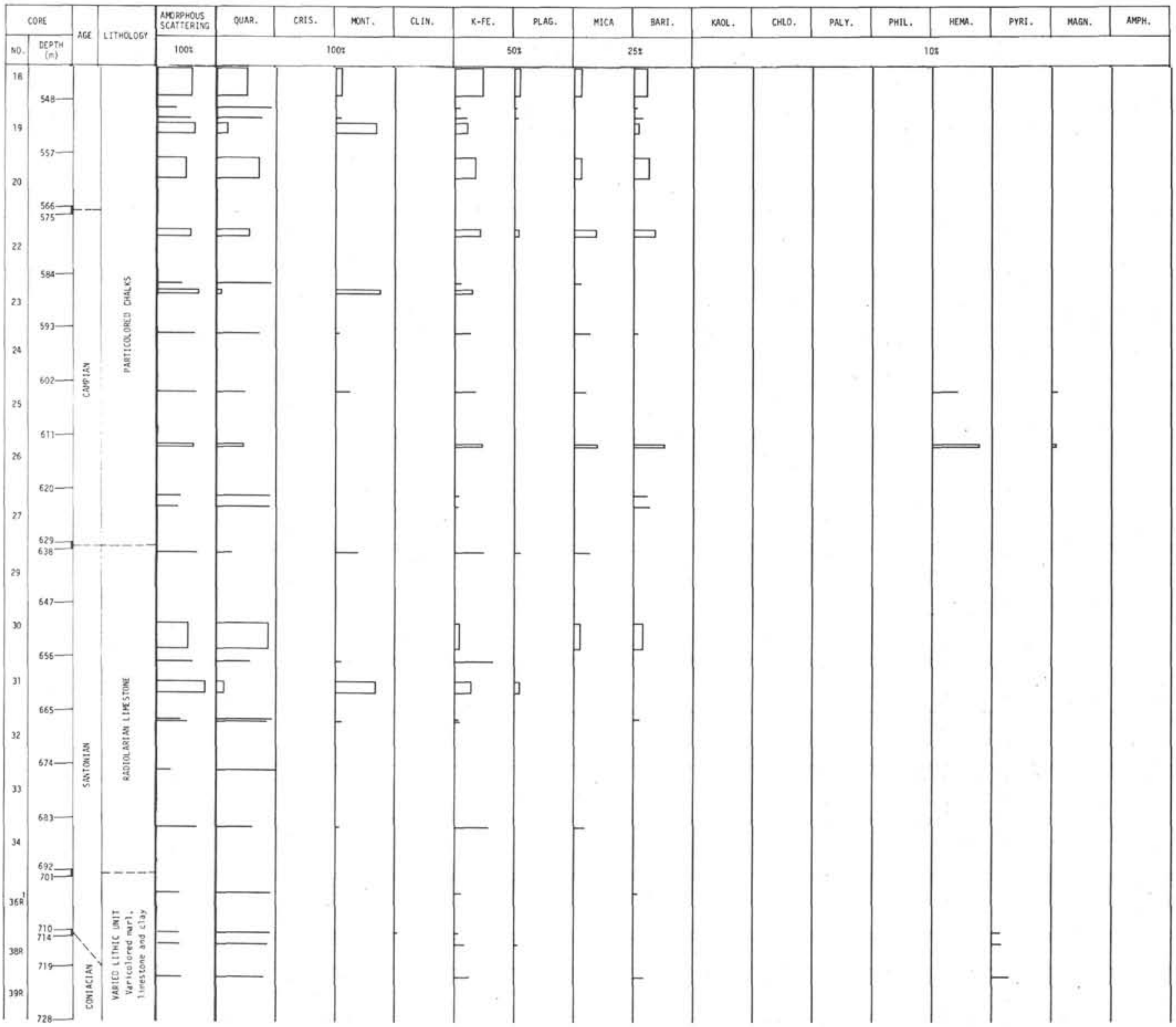

Figure 2. *(Continued).*

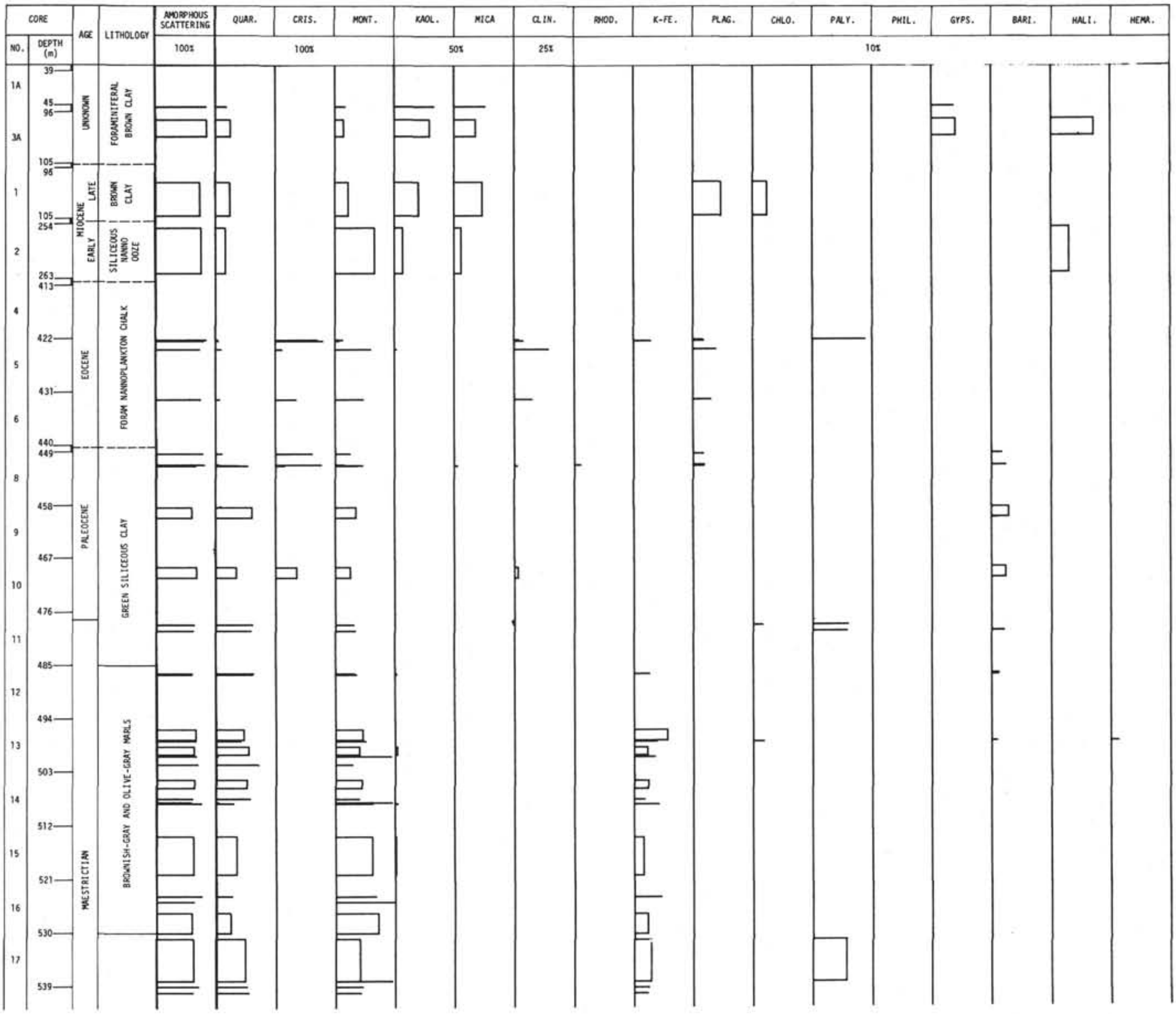

Figure 3. *Site 146. <2μ fractions.*

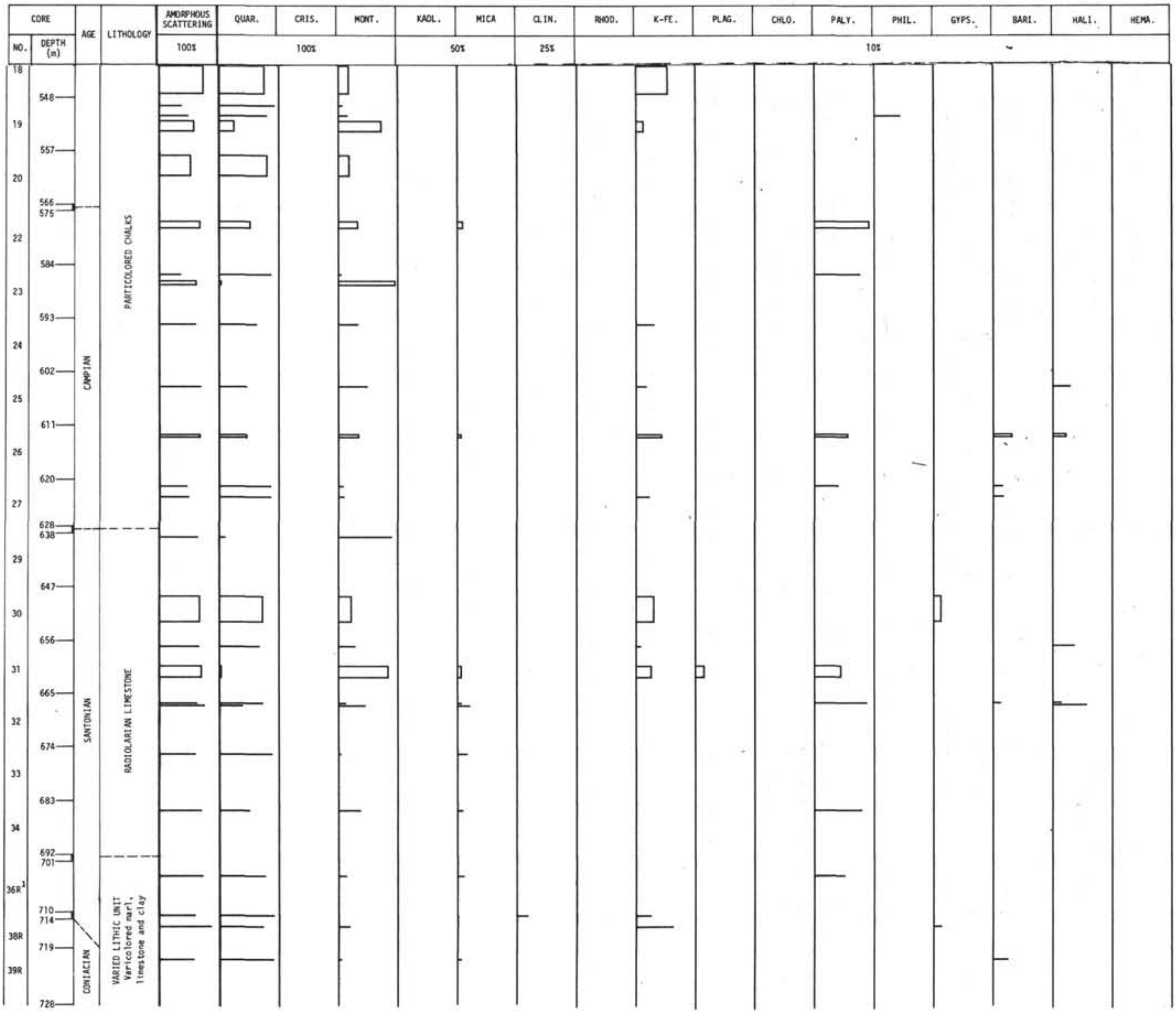

Figure 3. *(Continued).*

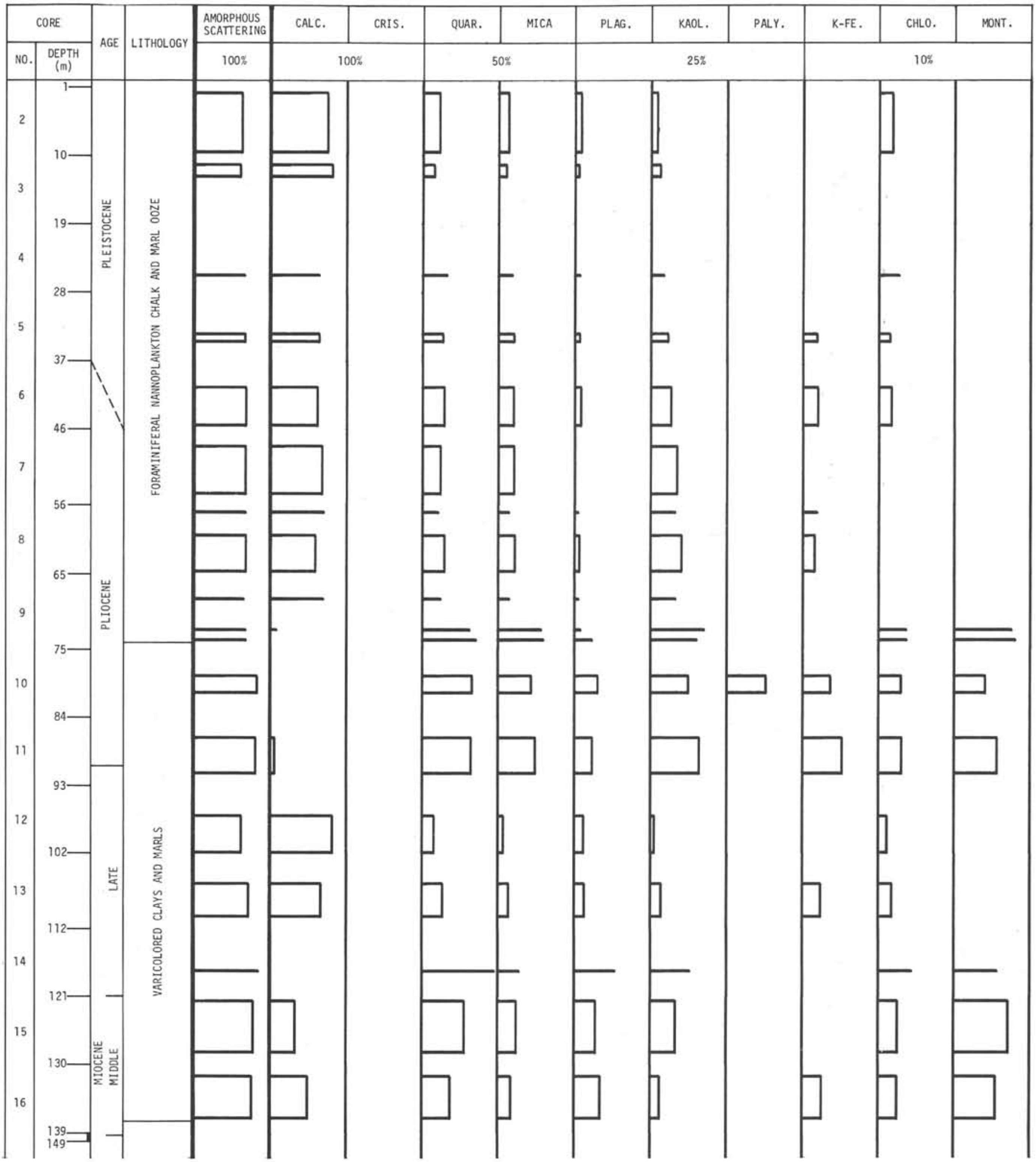

Figure 4. *Site 149. Bulk samples.*

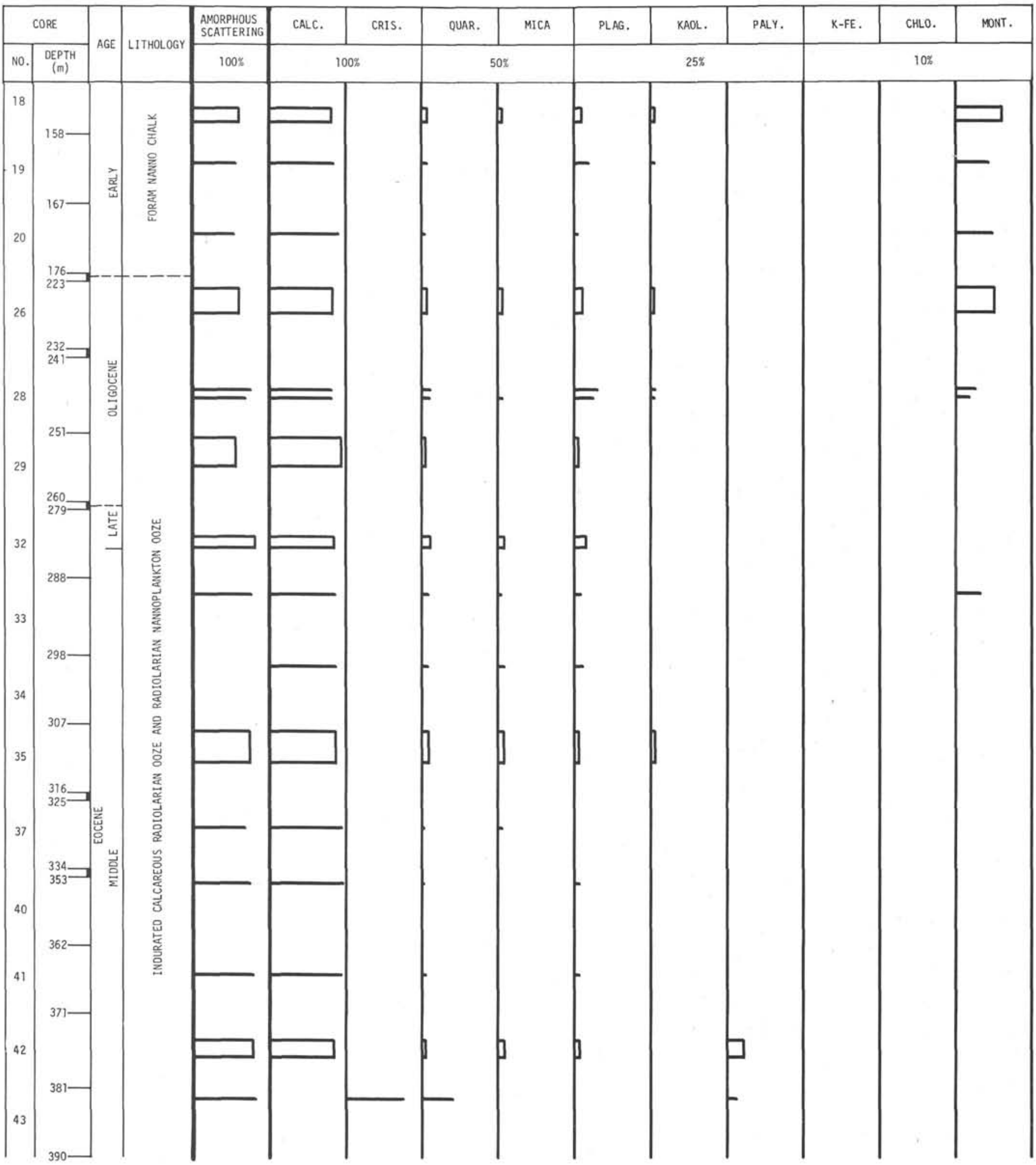

Figure 4. *(Continued)*.

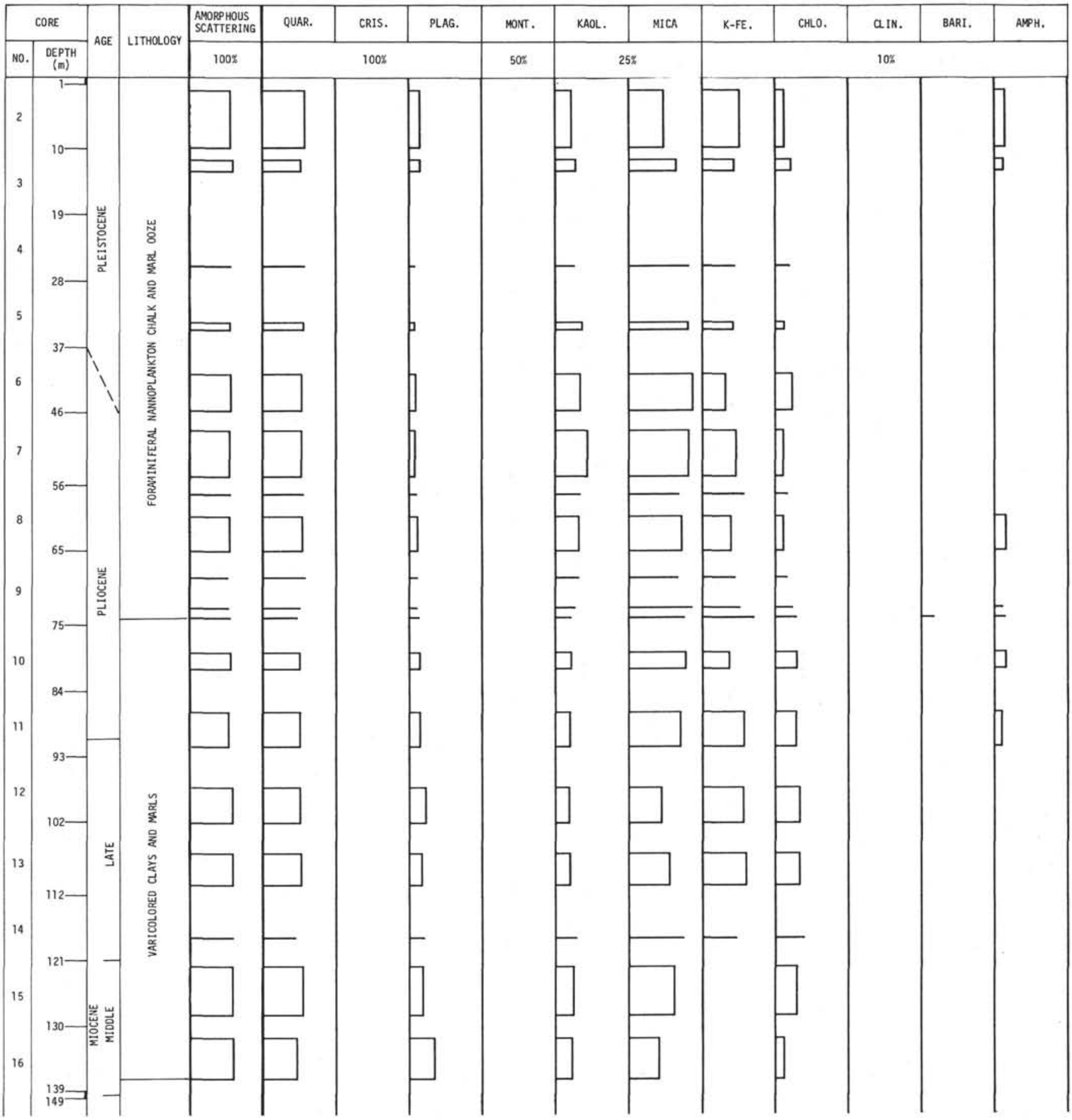

Figure 5. *Site 149. 2-20μ fractions.*

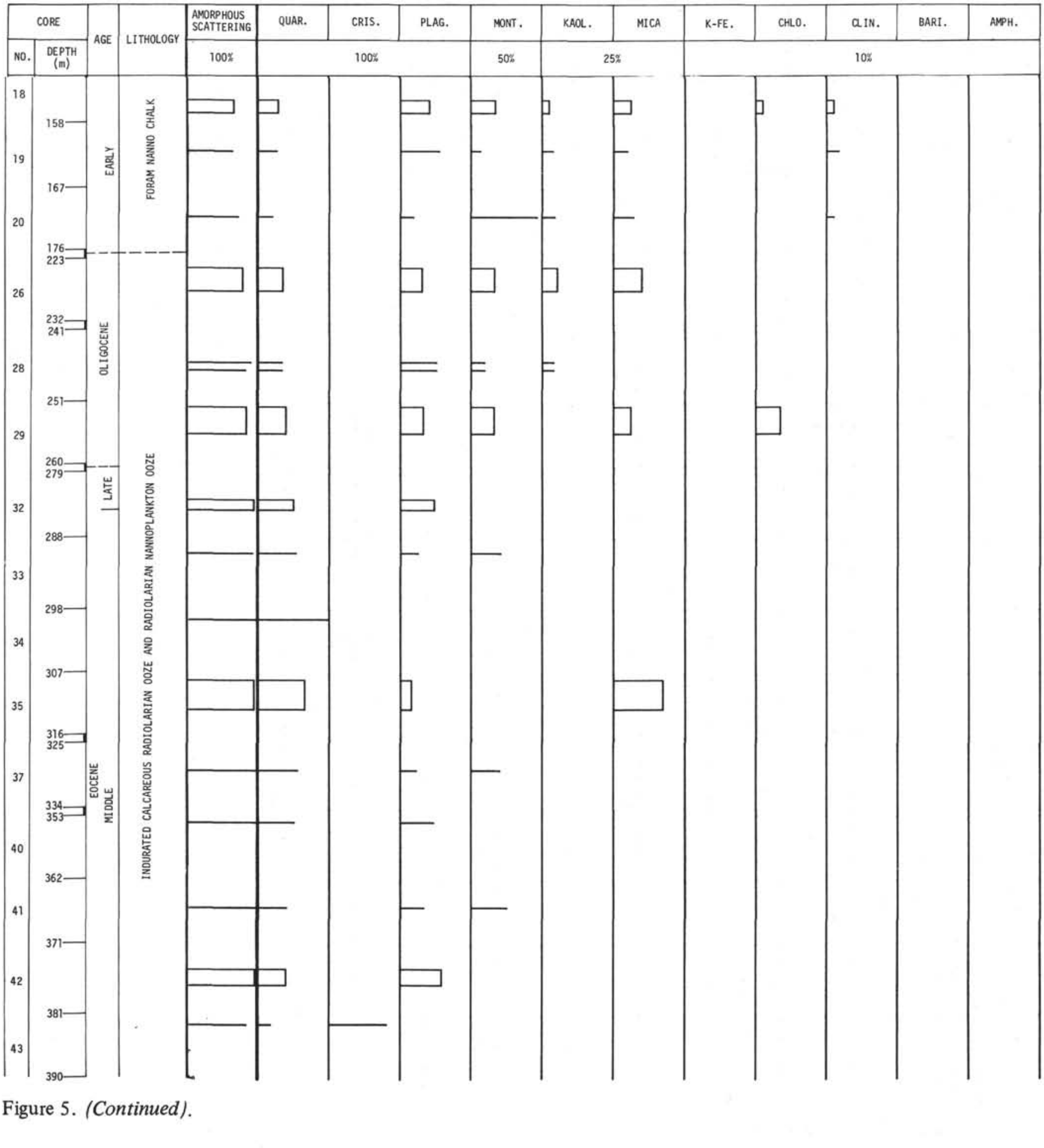

Figure 5. *(Continued).*

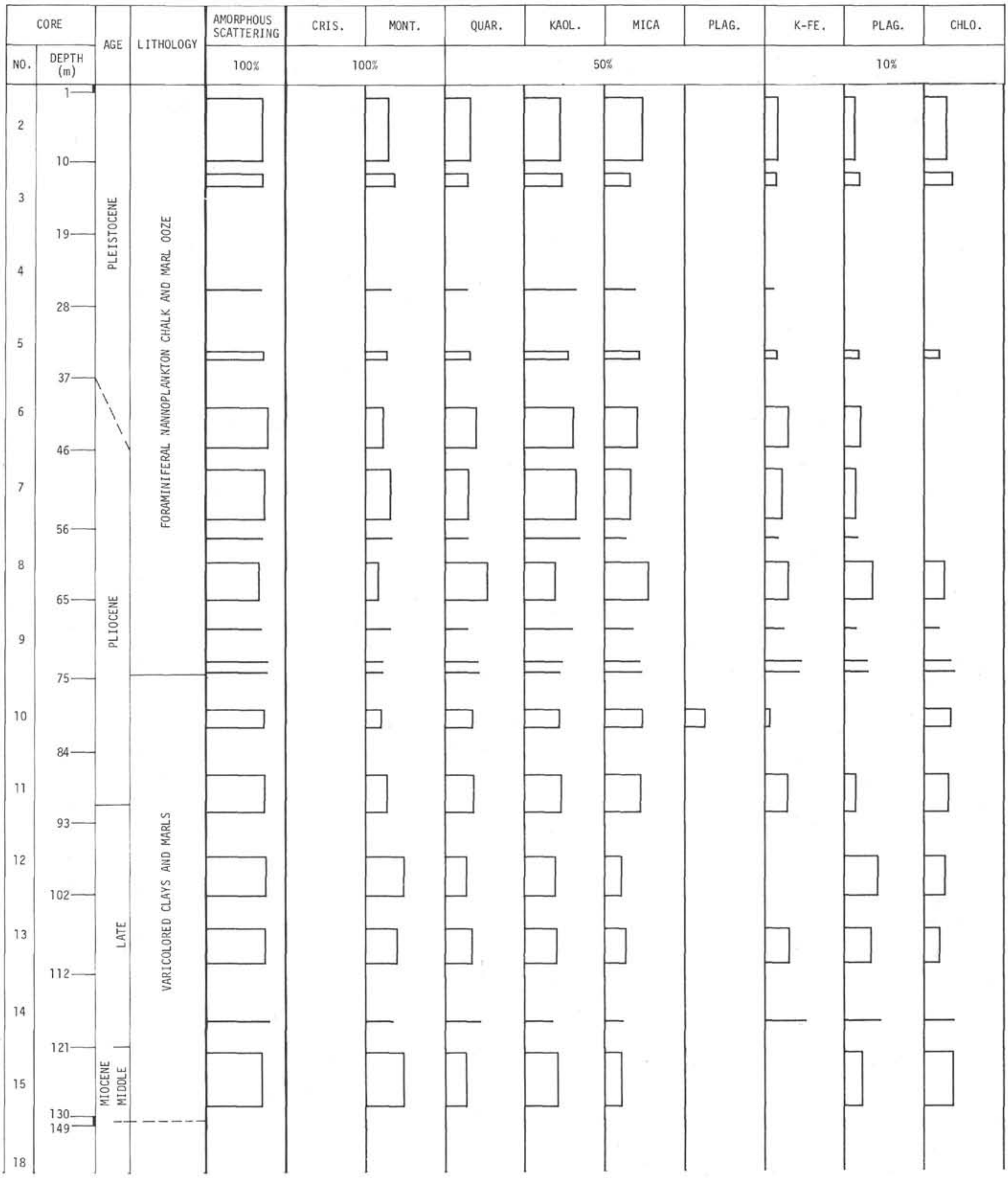

Figure 6. *Site 149. <2μ fractions.*

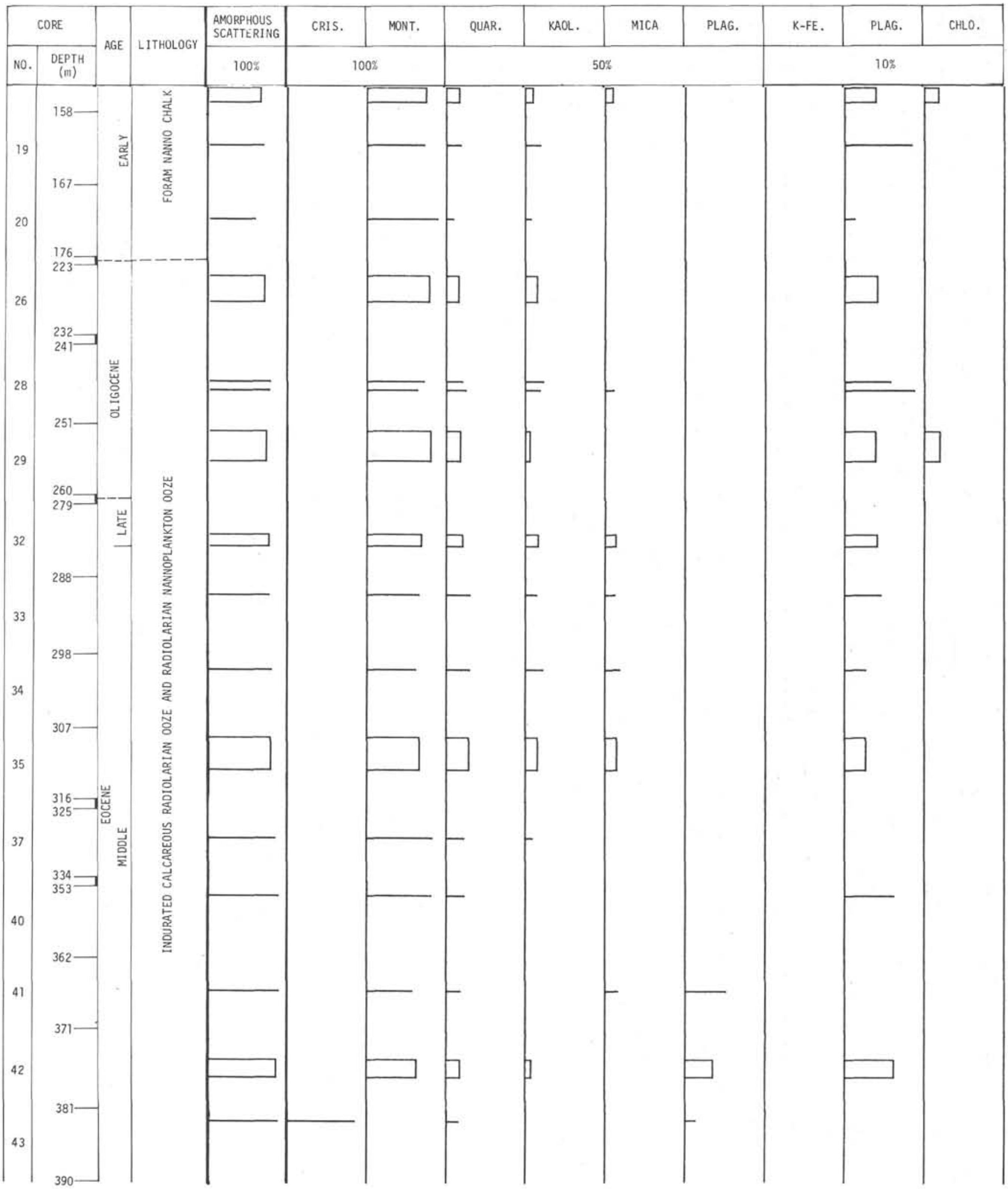

Figure 6. *(Continued)*.

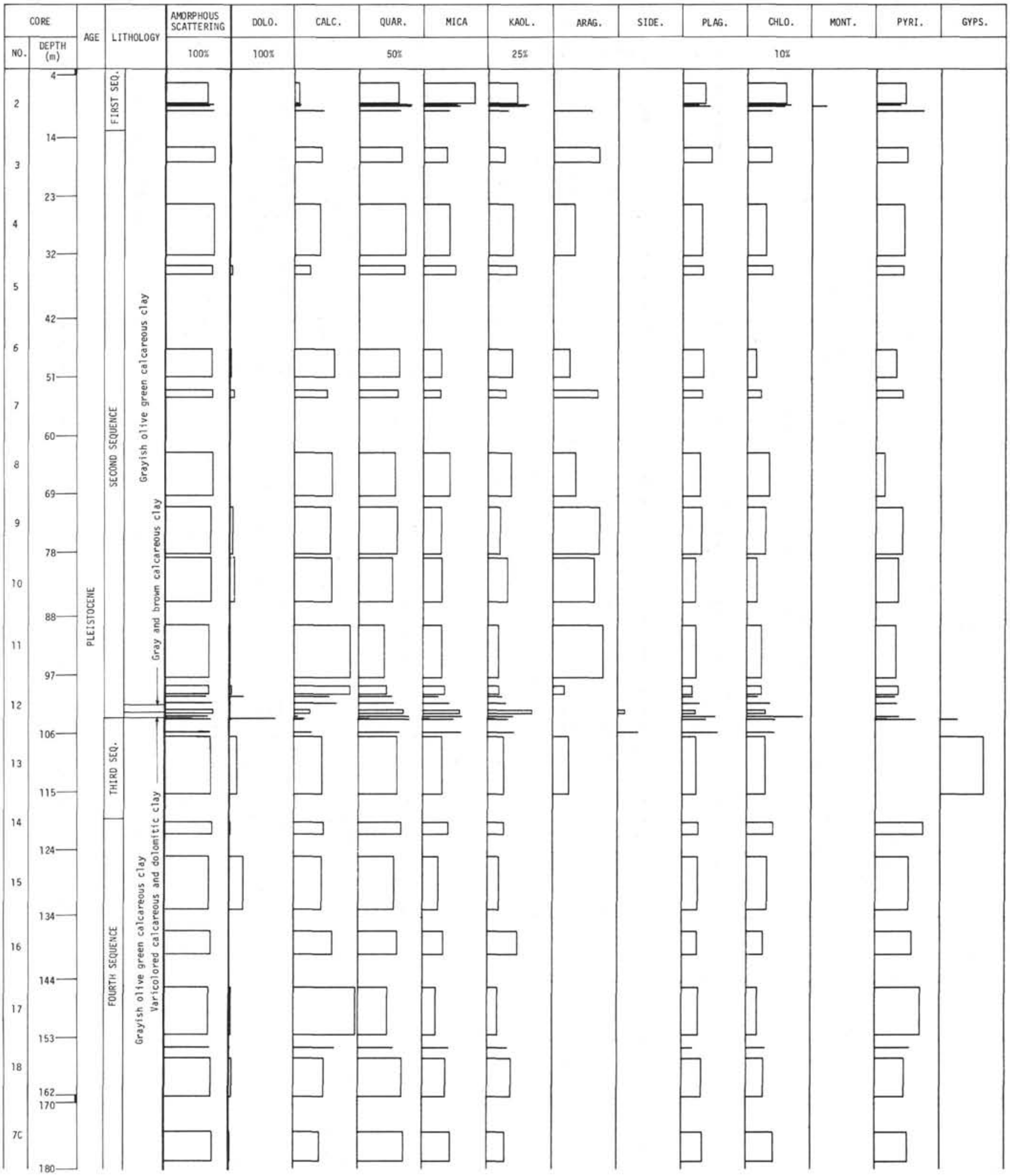

Figure 7. *Site 147. Bulk samples.*

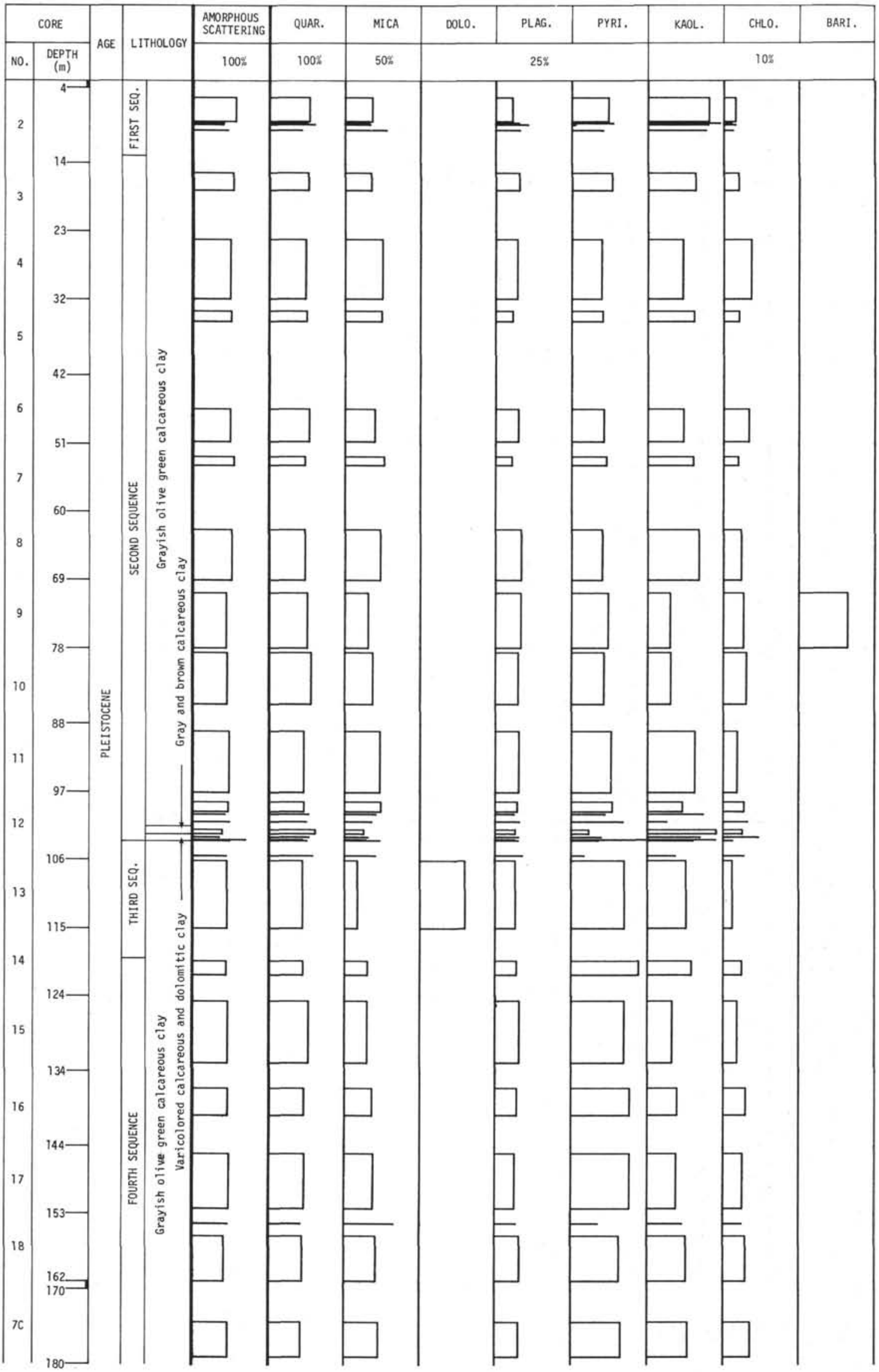

Figure 8. *Site 147. 2-20μ fractions.*

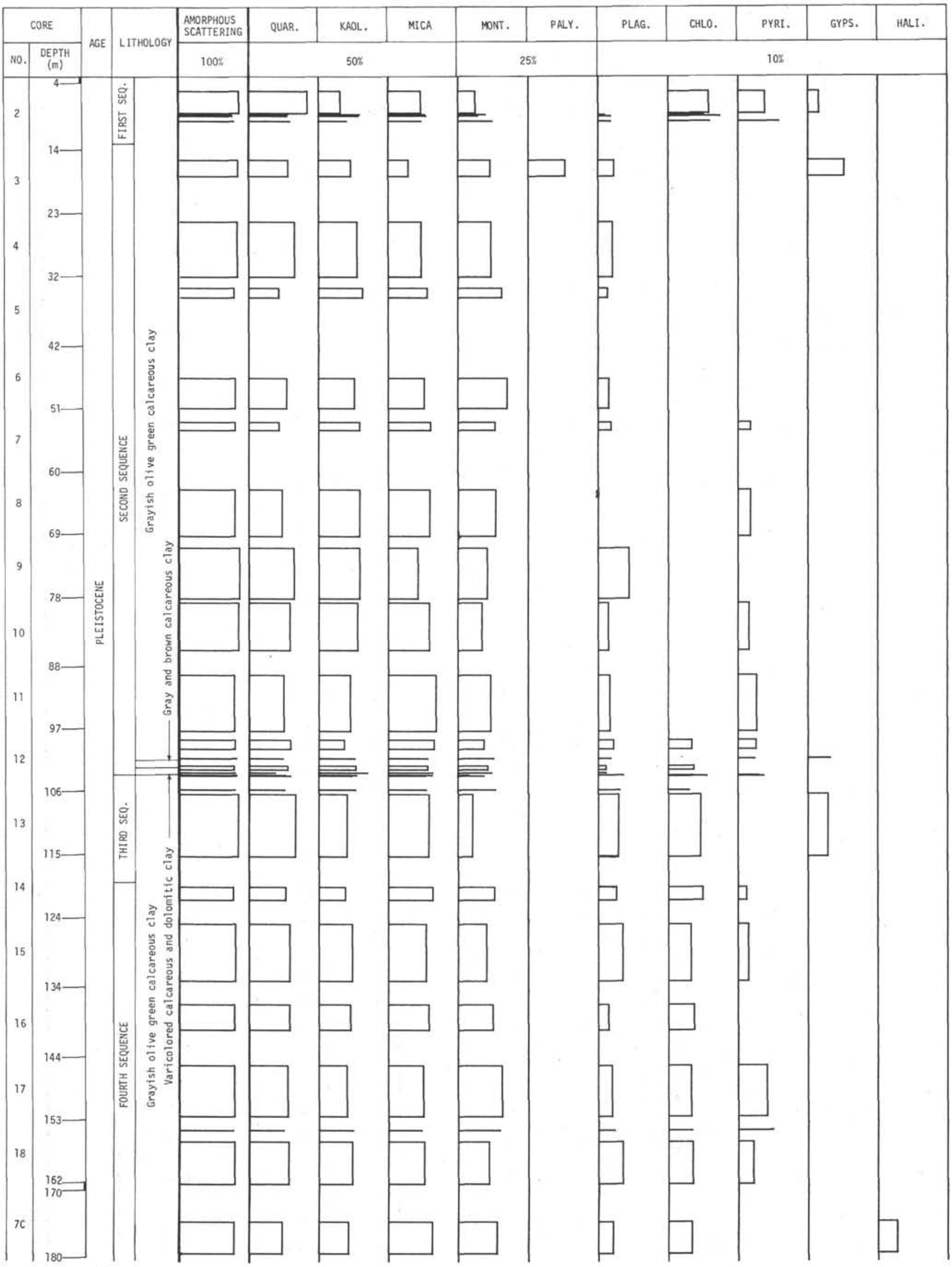

Figure 9. *Site 147. <2μ fractions.*

Figure 10. *Site 148. Bulk samples*

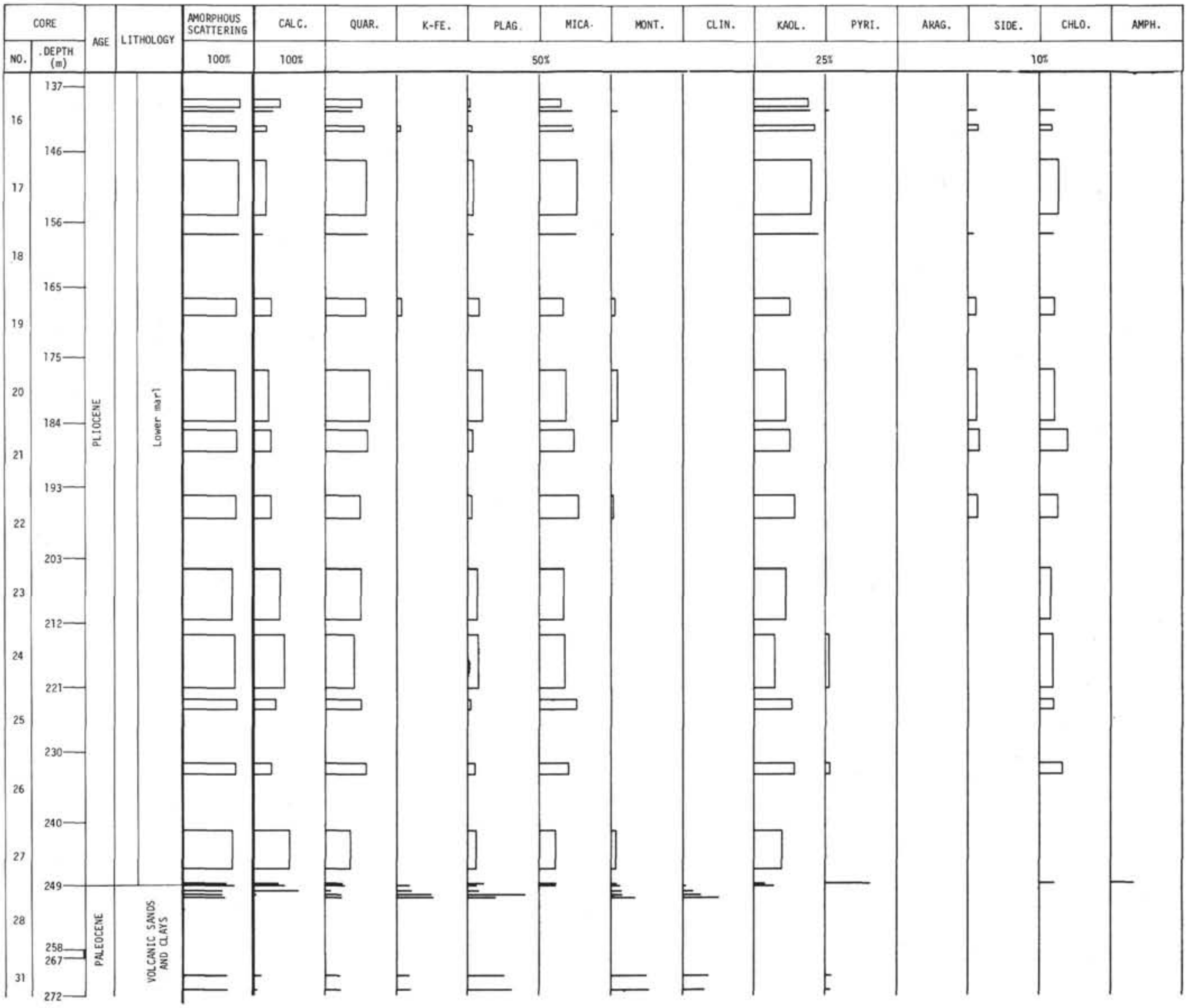

Figure 10. *(Continued).*

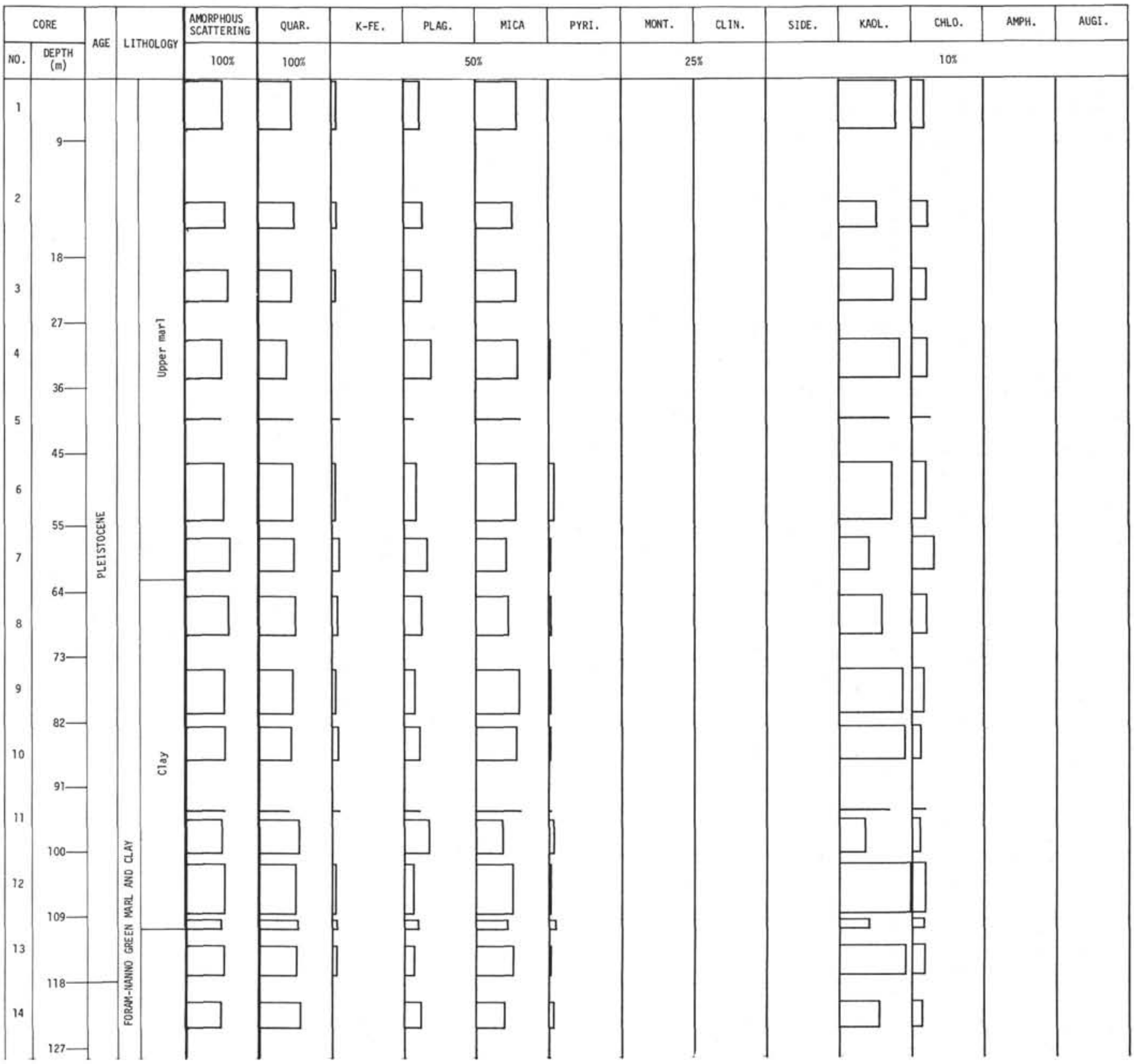

Figure 11. *Site 148. 2-20μ fractions.*

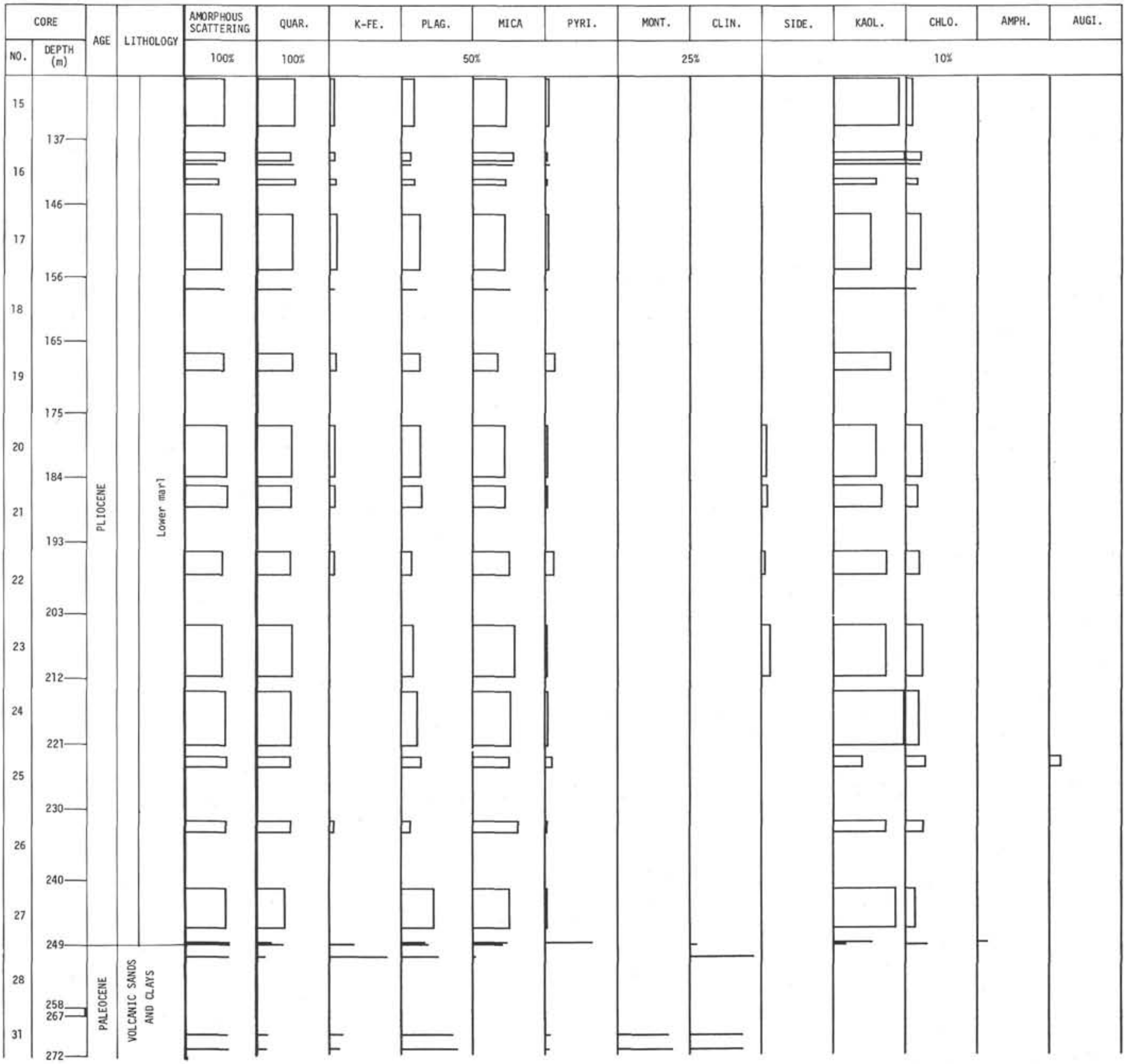

Figure 11. *(Continued).*

Figure 12. *Site 148. <2μ fractions.*

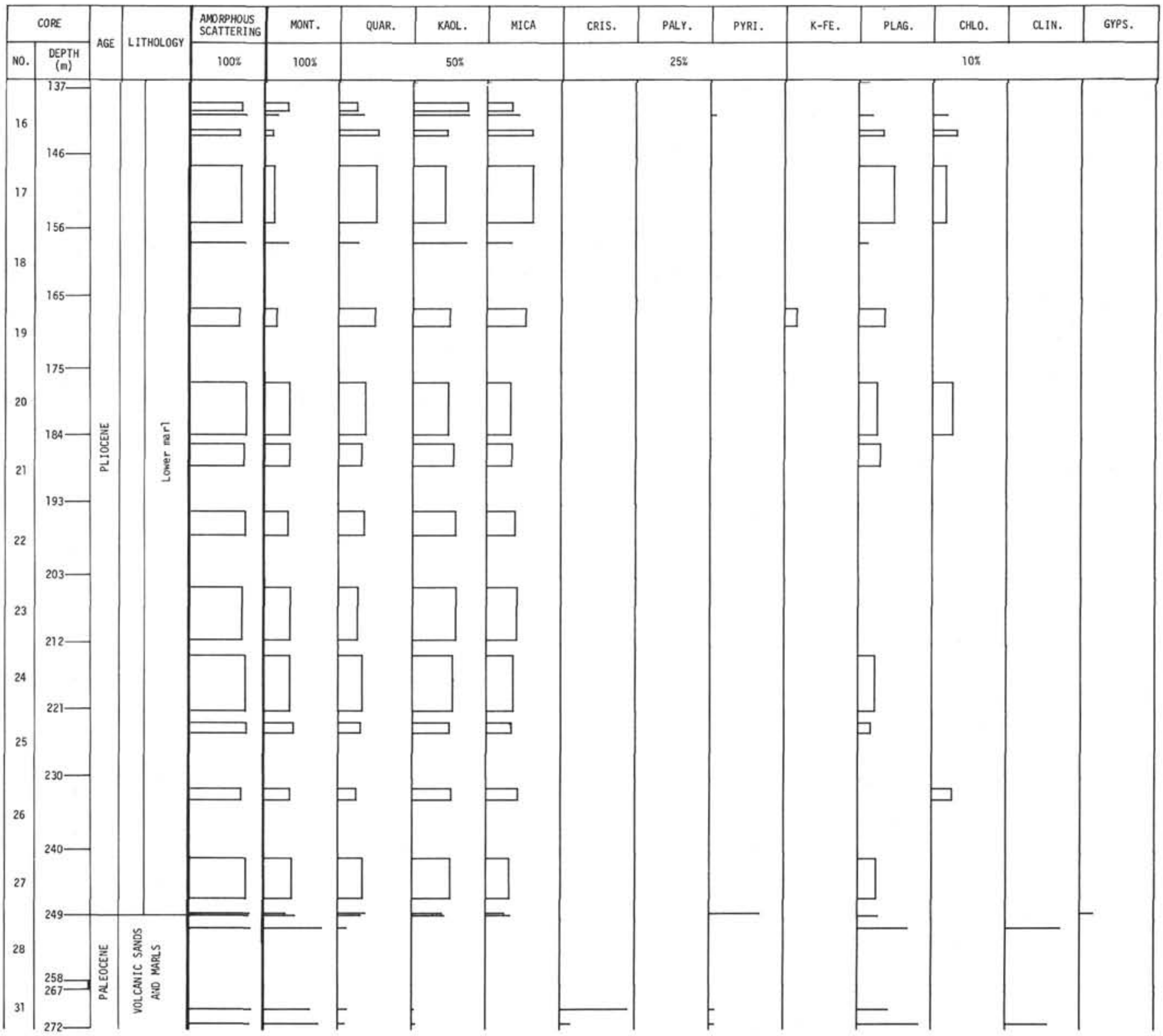

Figure 12. *(Continued).*

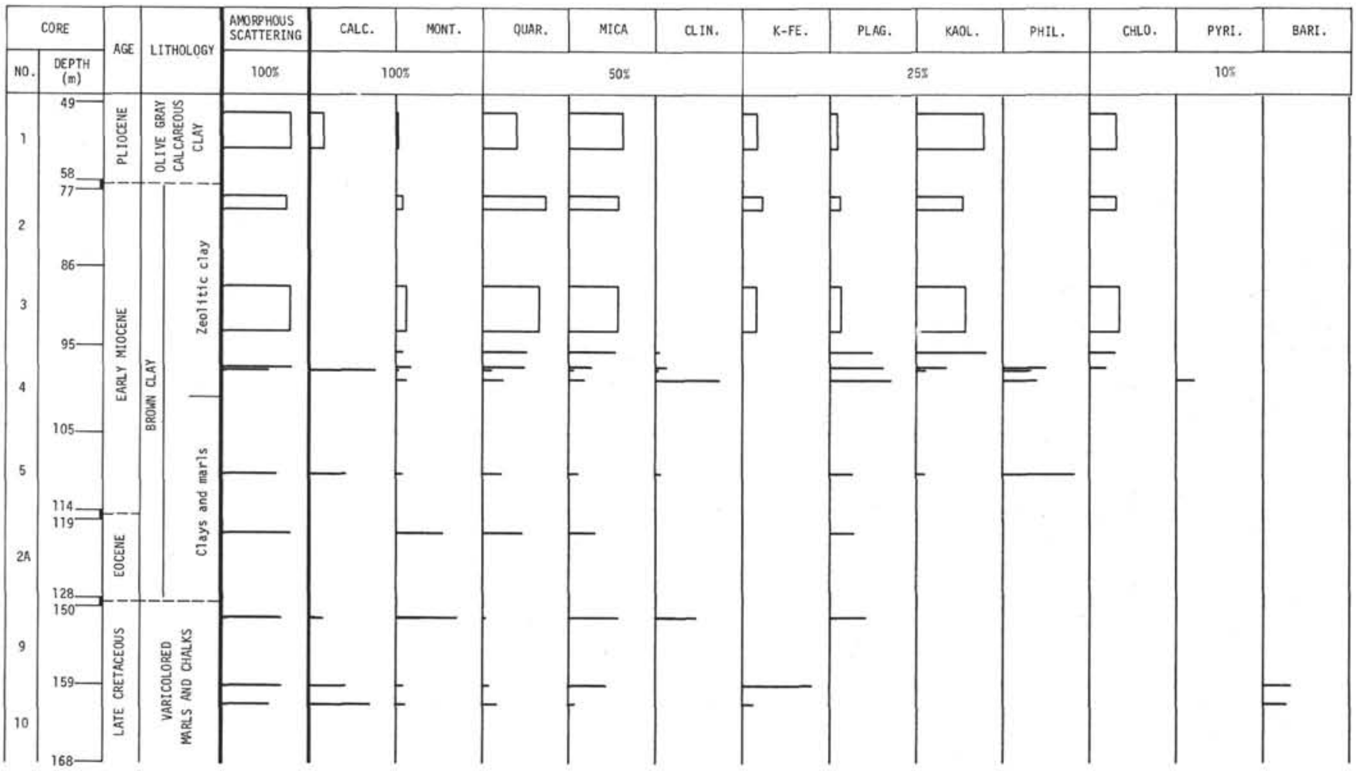

Figure 13. *Site 150. Bulk samples.*

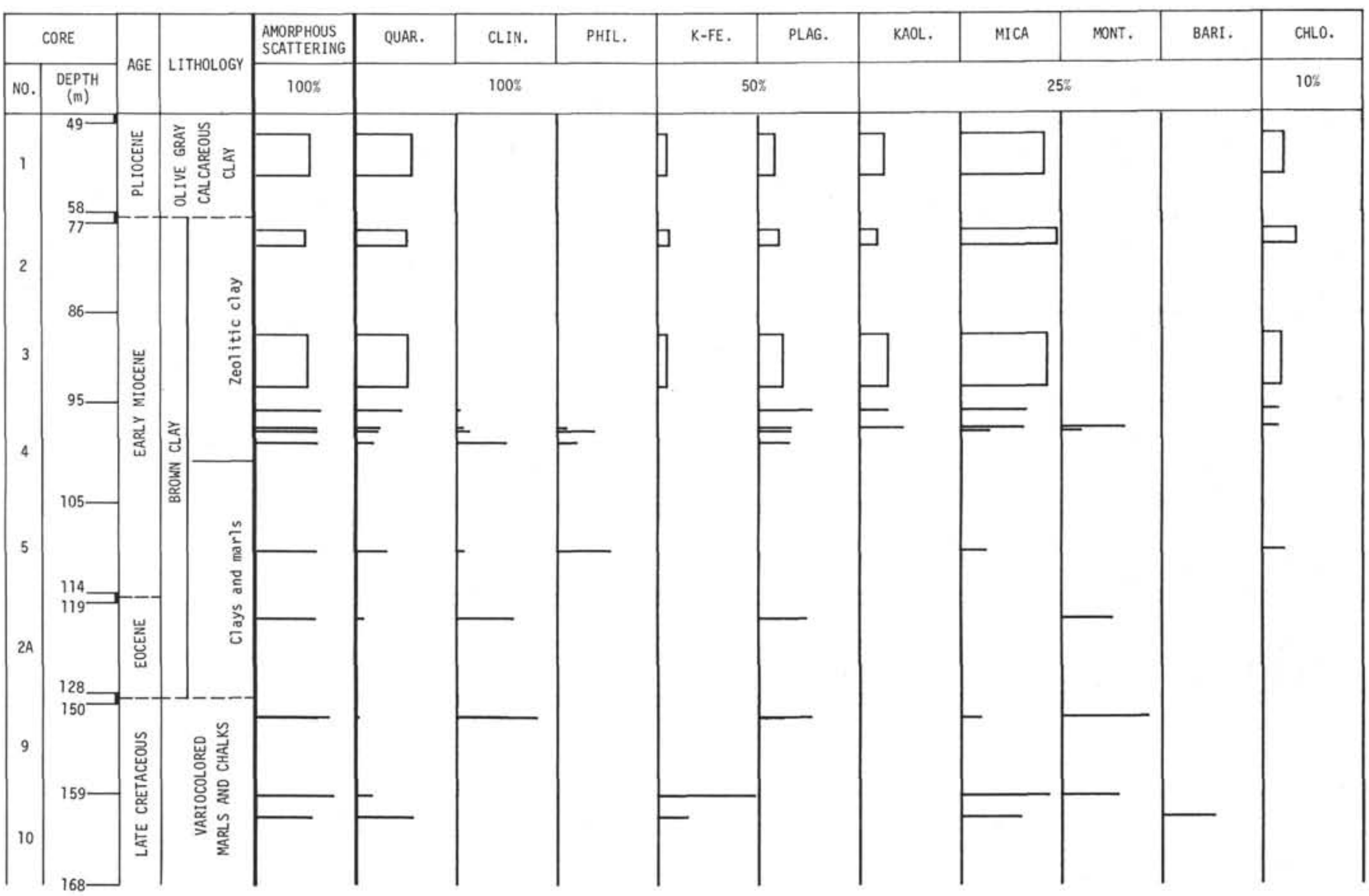

Figure 14. *Site 150. 2-20μ fractions.*

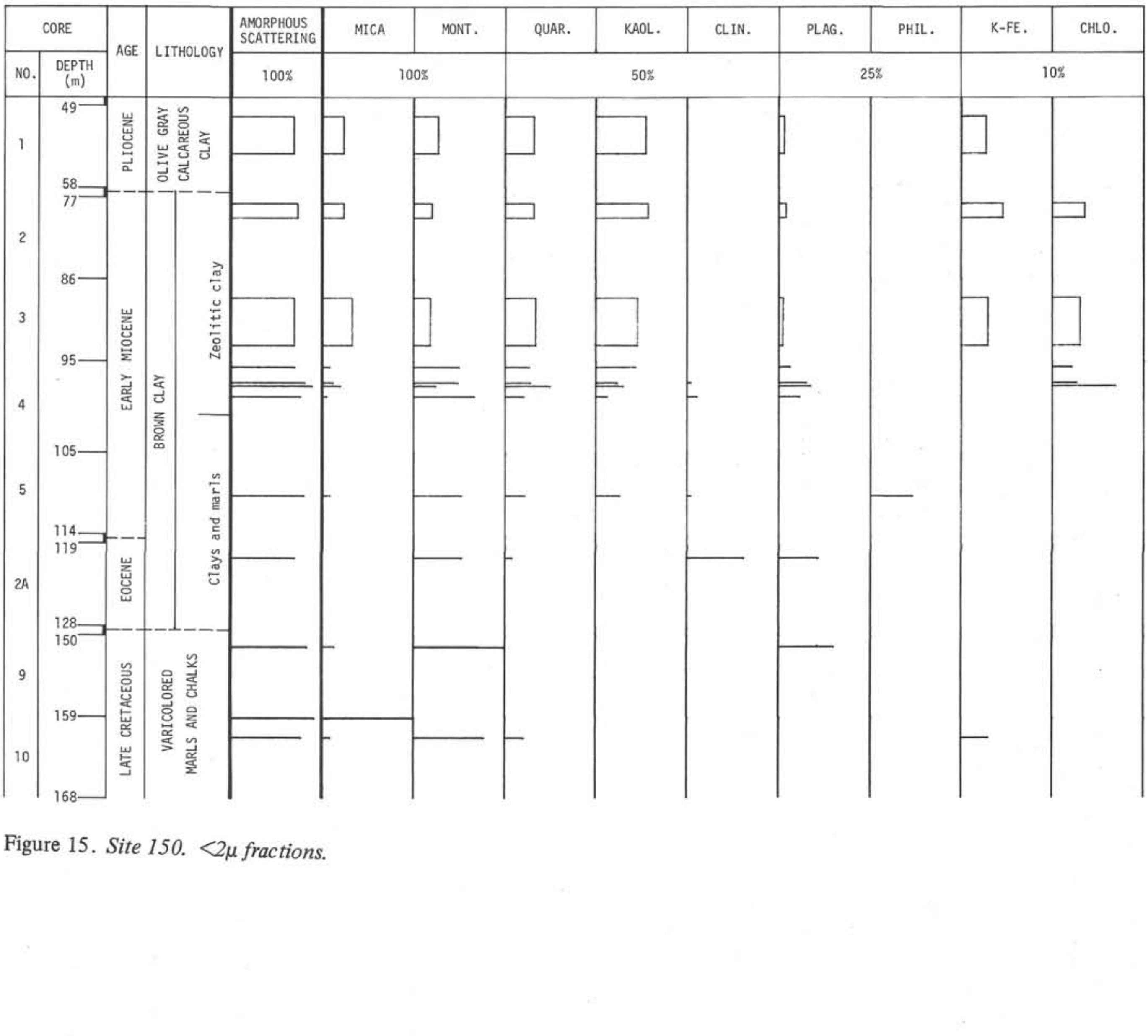

Figure 15. *Site 150. <2μ fractions.*

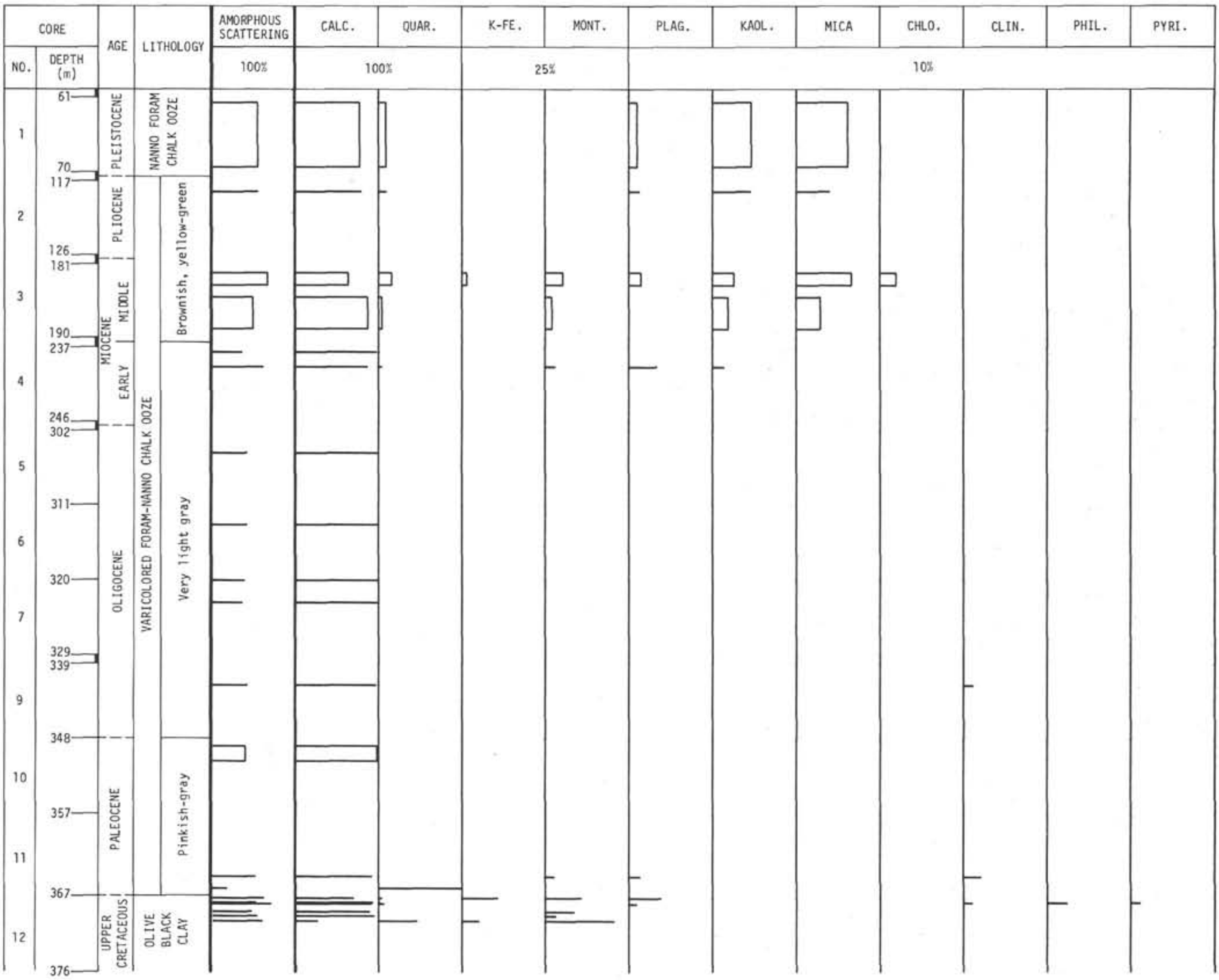

Figure 16. *Site 151. Bulk samples.*

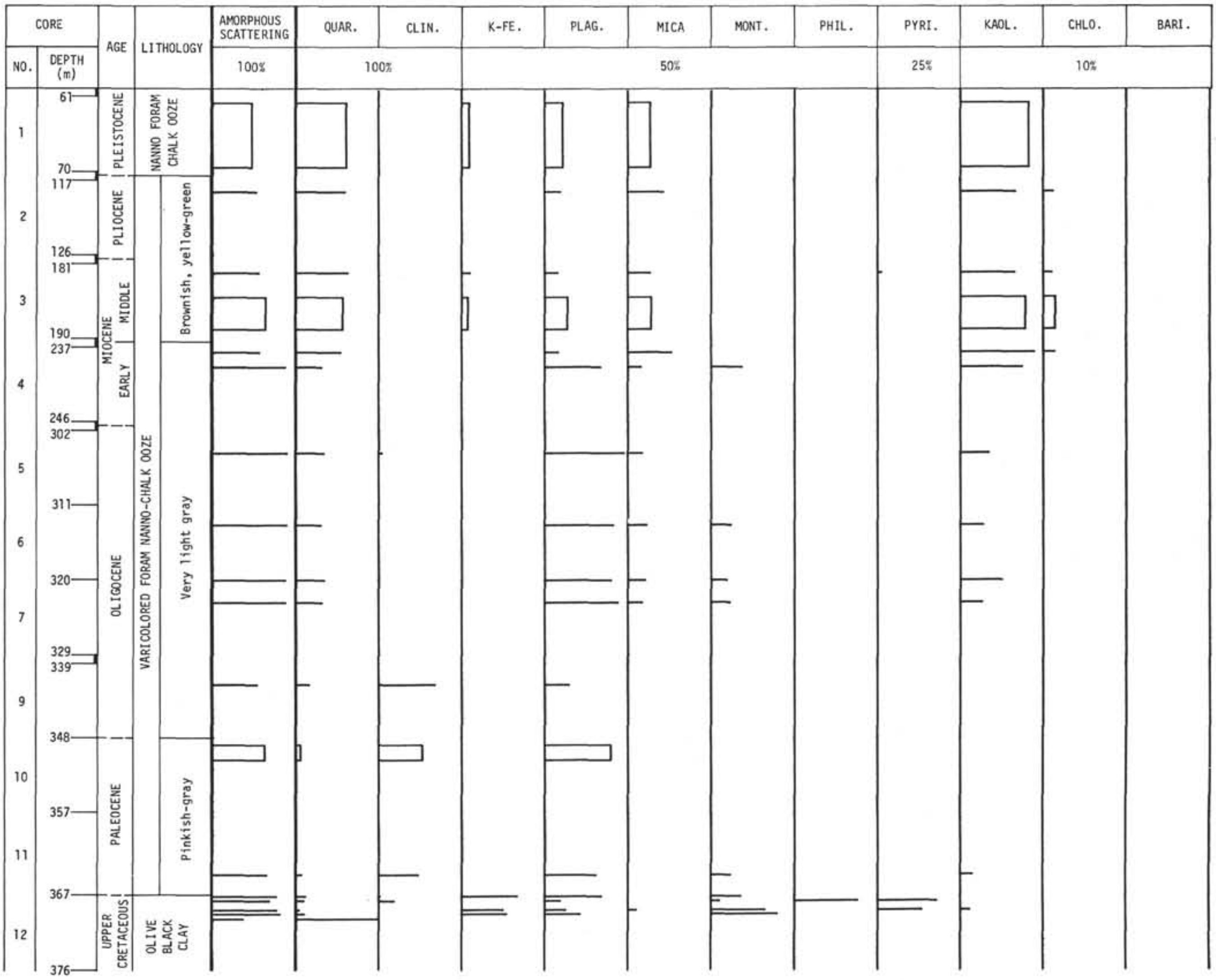

Figure 17. *Site 151. 2-20μ fractions.*

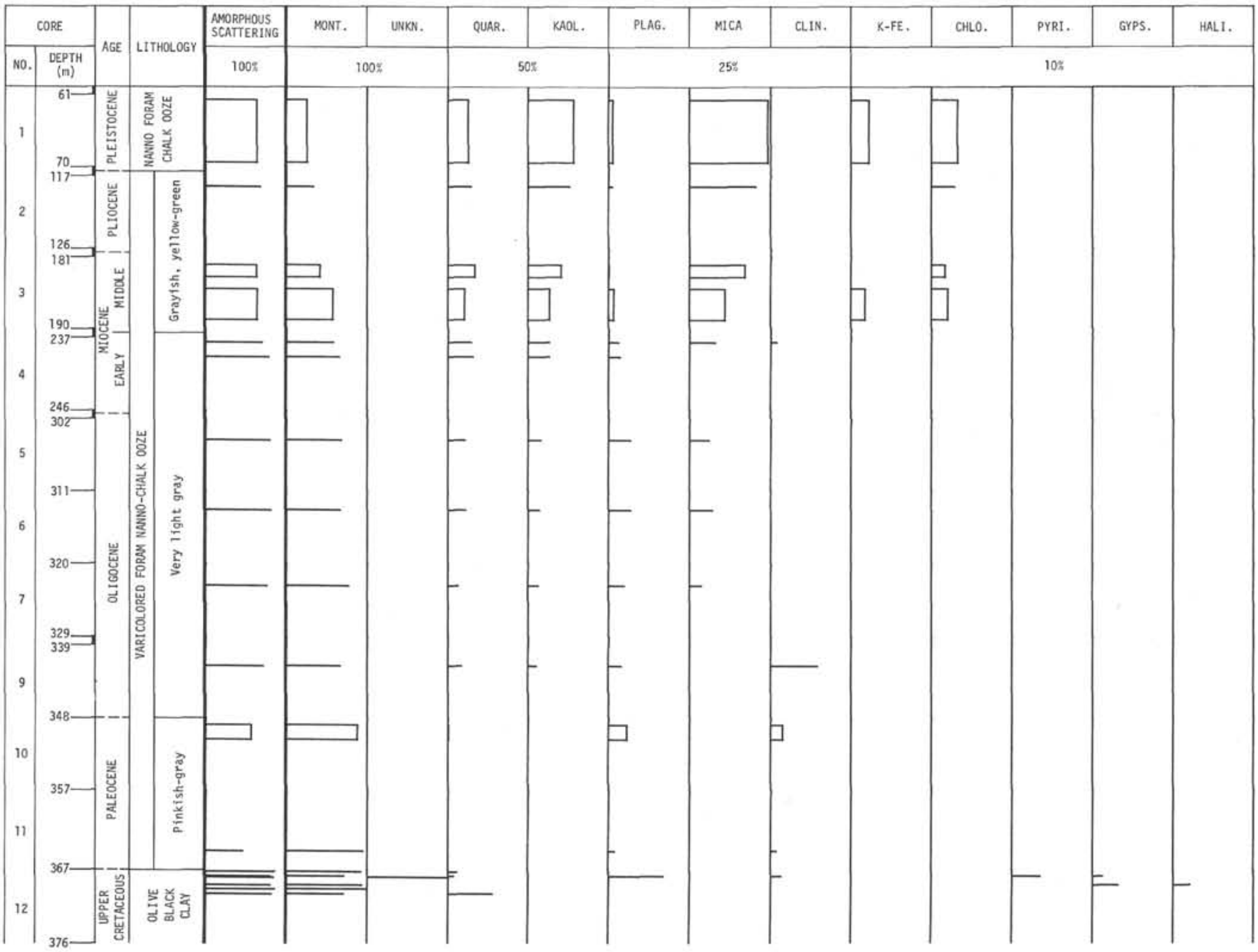

Figure 18. *Site 151.* *<2μ fractions.*

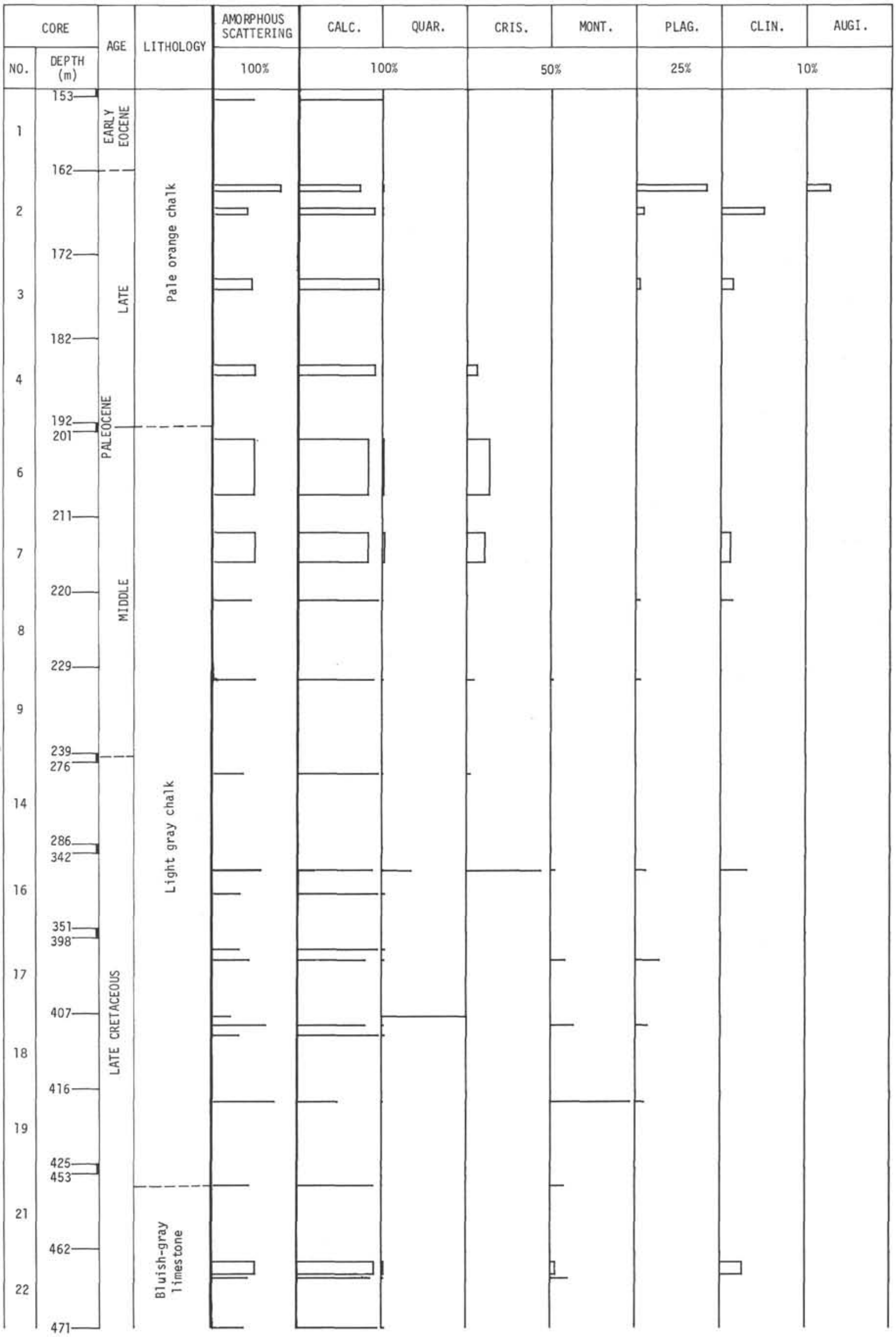

Figure 19. *Site 152. Bulk samples.*

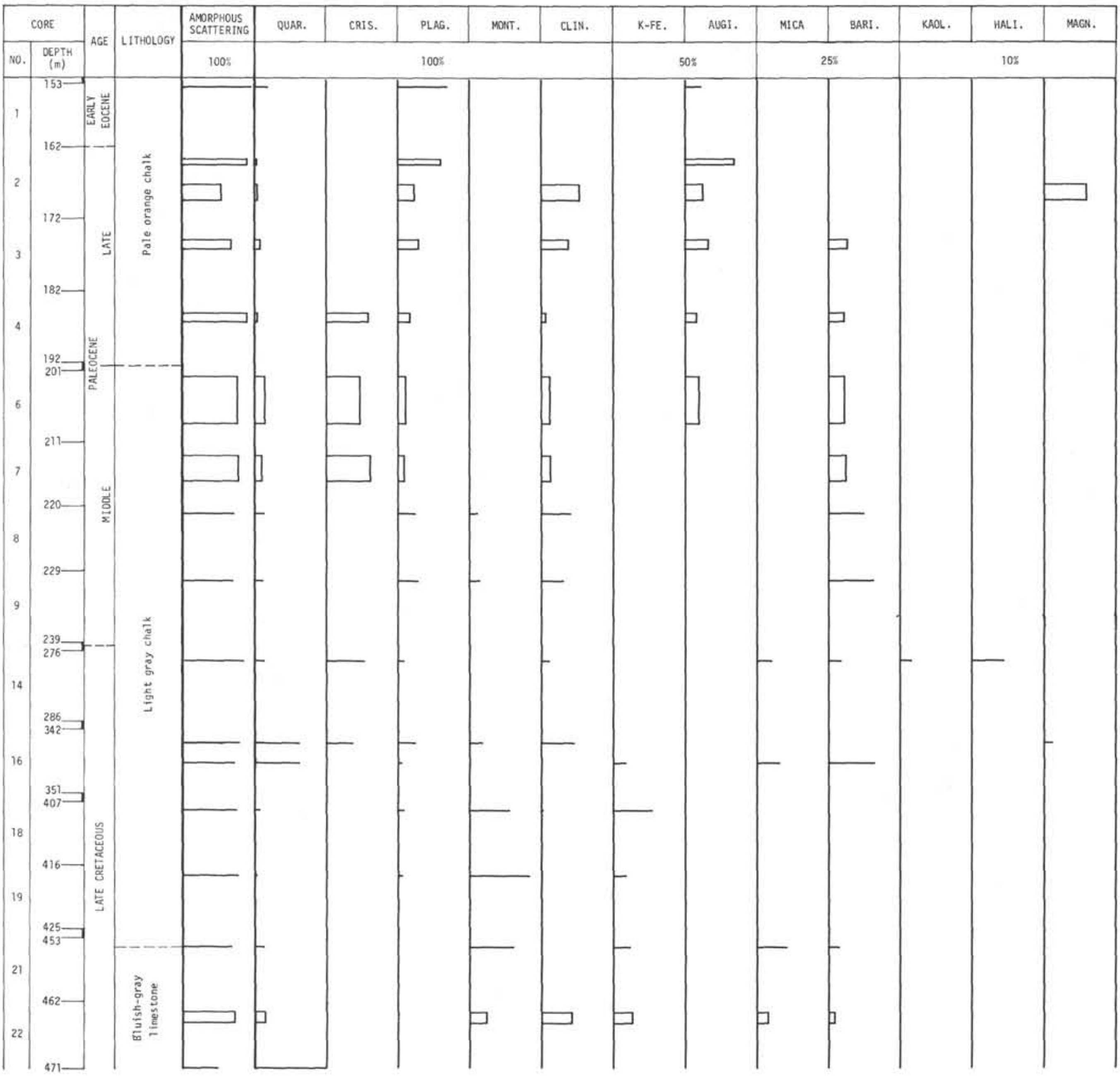

Figure 20. *Site 152. 2-20μ fractions.*

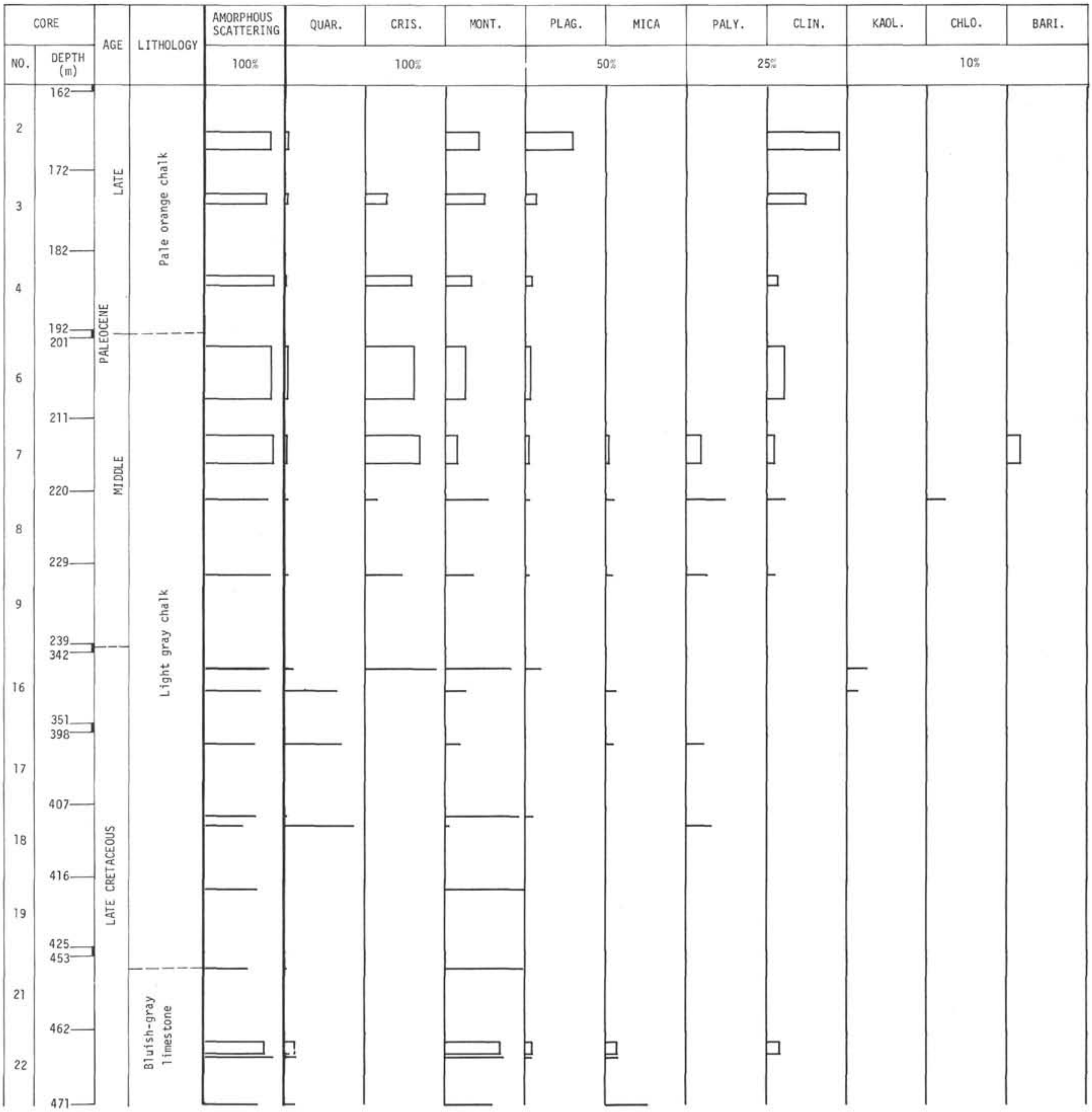

Figure 21. *Site 152. <2μ fractions.*

Figure 22. *Site 153. Bulk samples.*

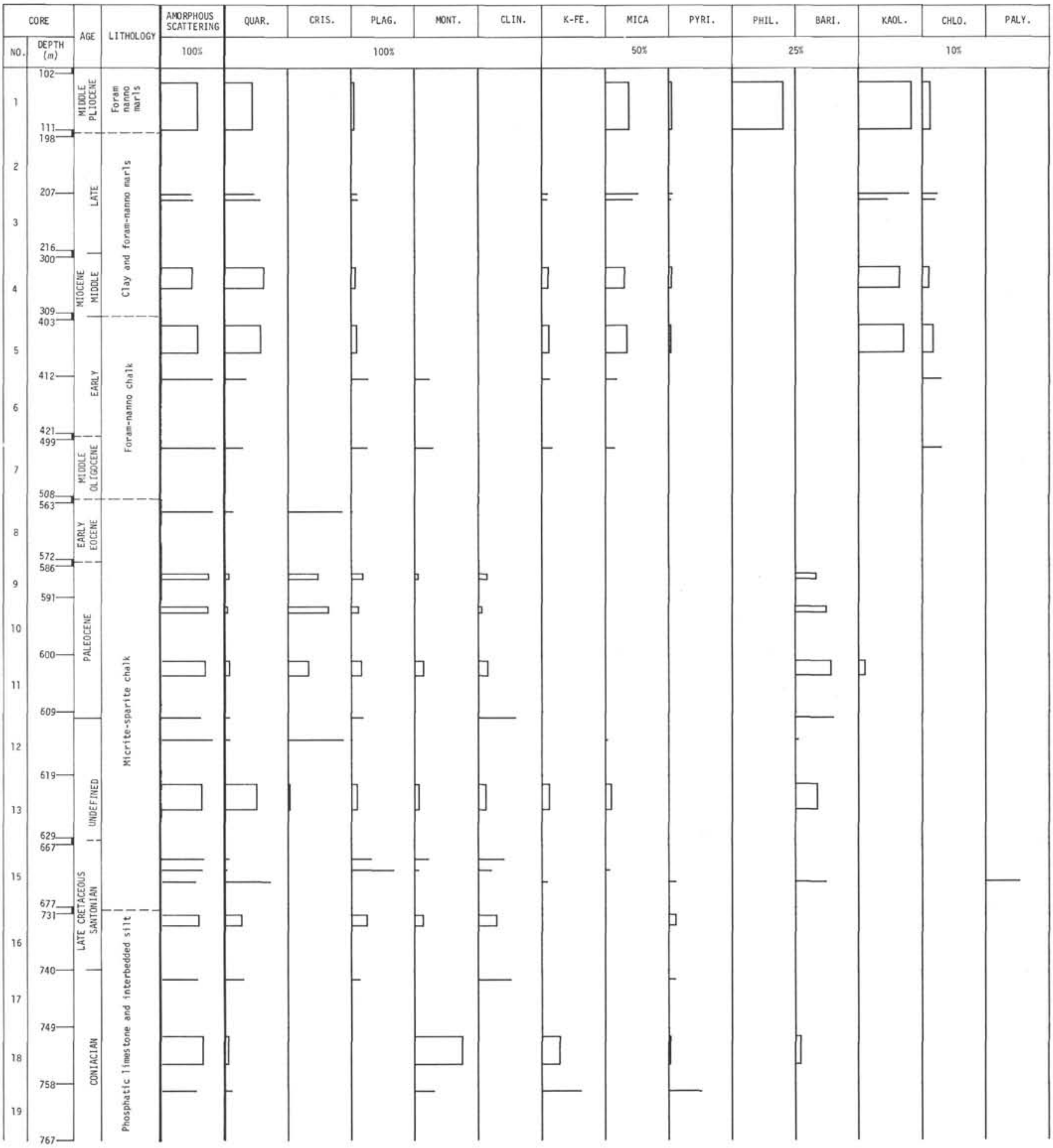

Figure 23. *Site 153. 2-20μ fractions.*

Figure 24. *Site 153. <2µ fractions.*

Figure 25. *Site 154. Bulk samples.*

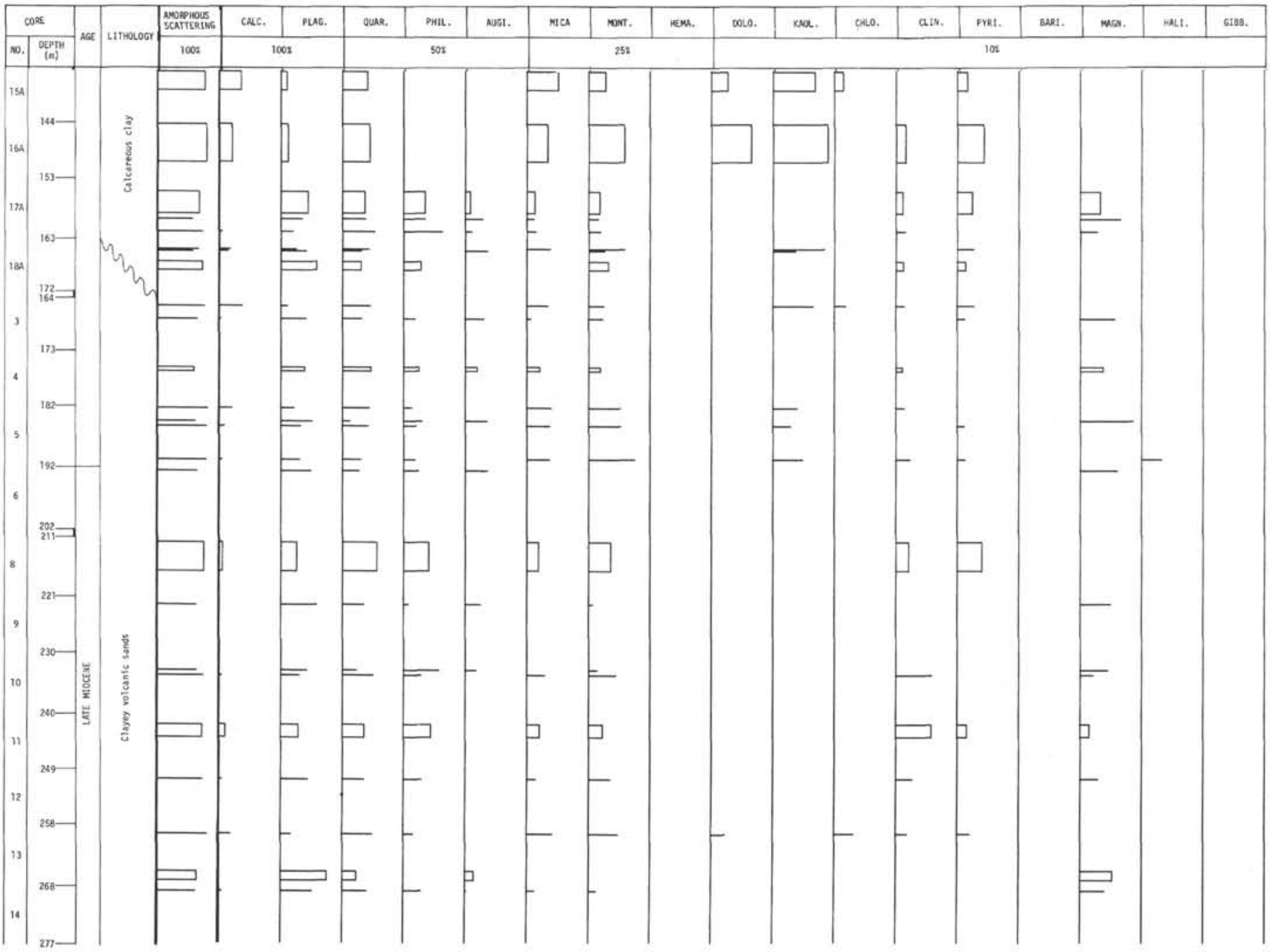

Figure 25. *(Continued).*

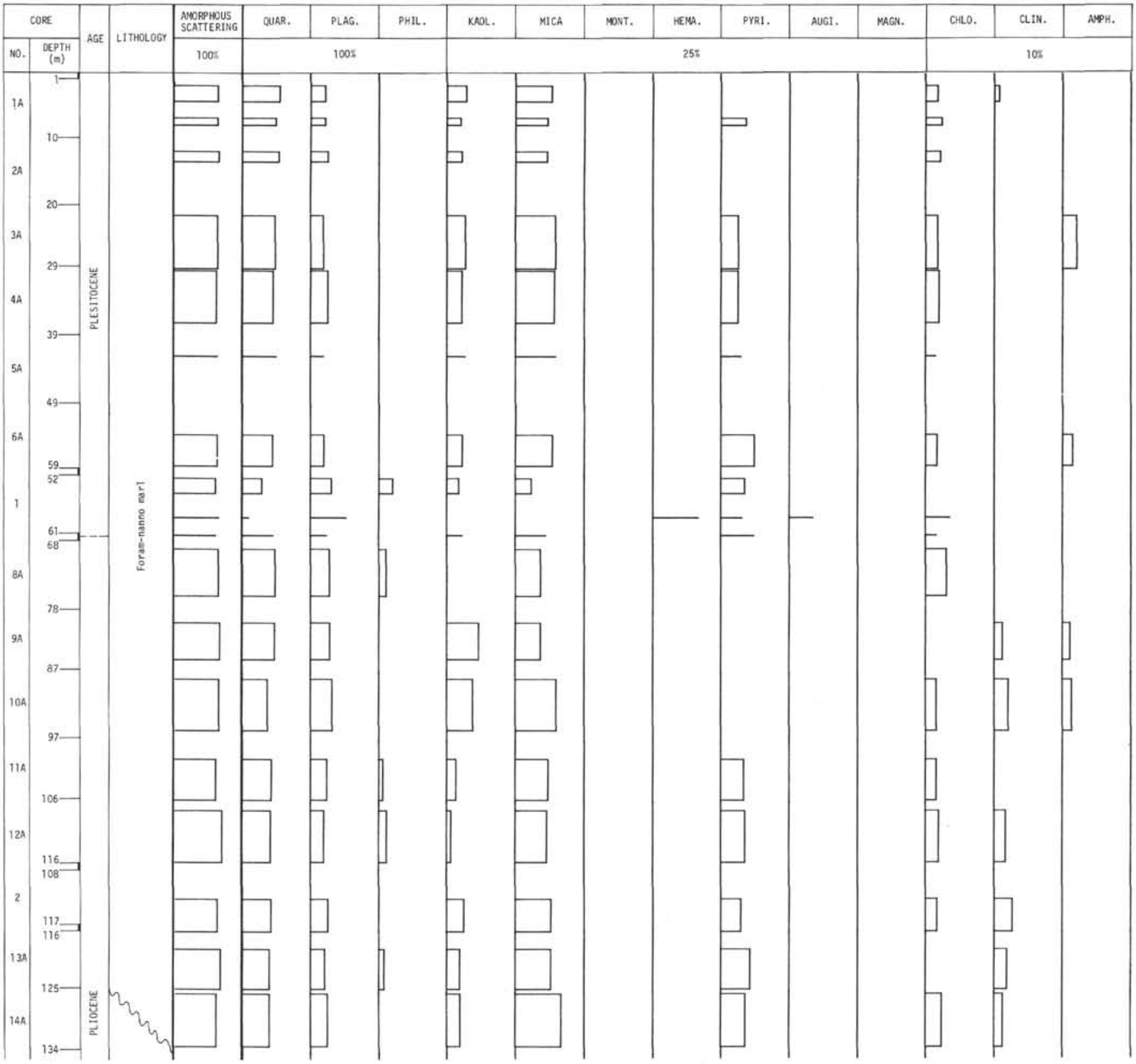

Figure 26. *Site 154. 2-20μ fractions.*

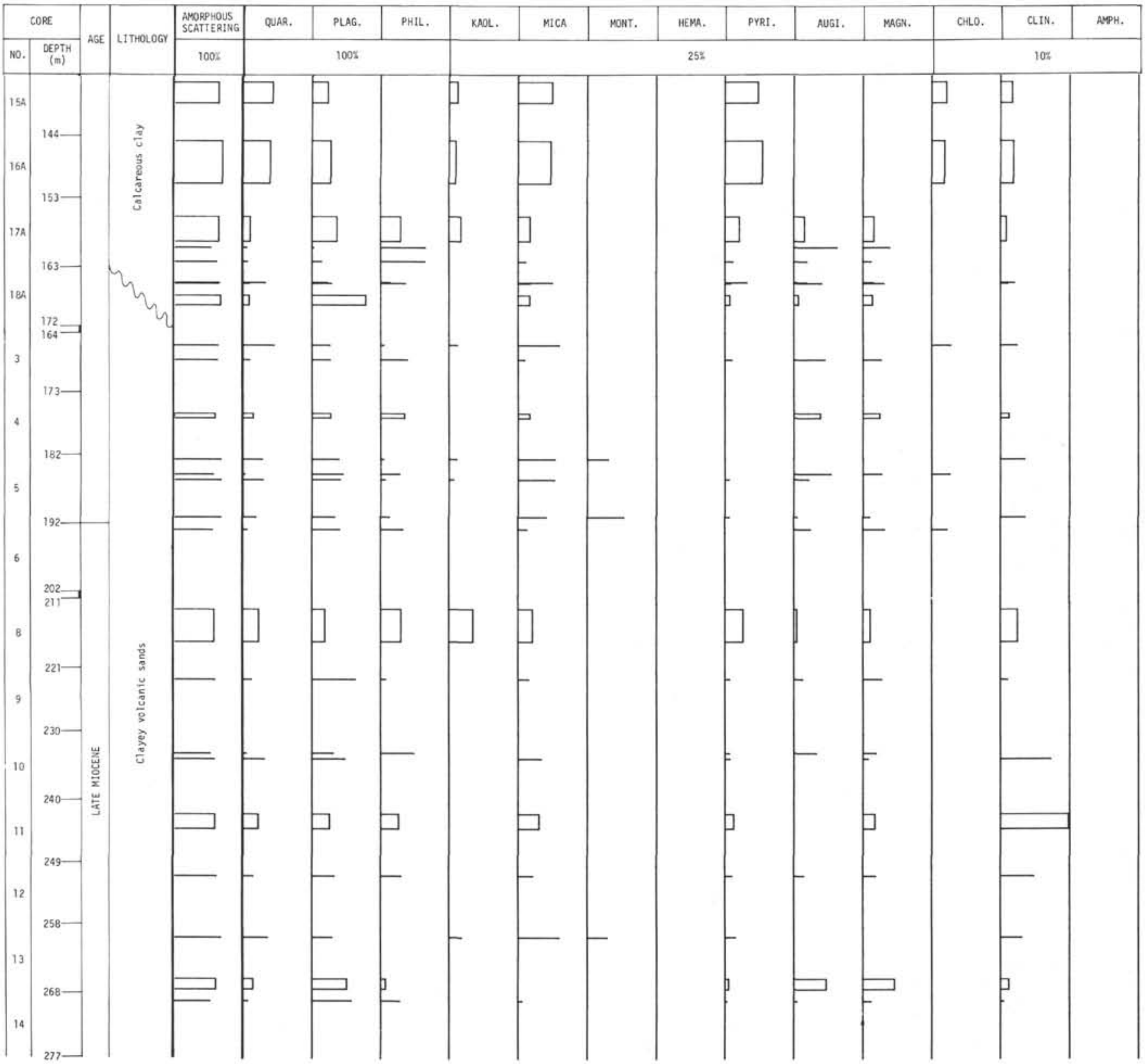

Figure 26. *(Continued)*.

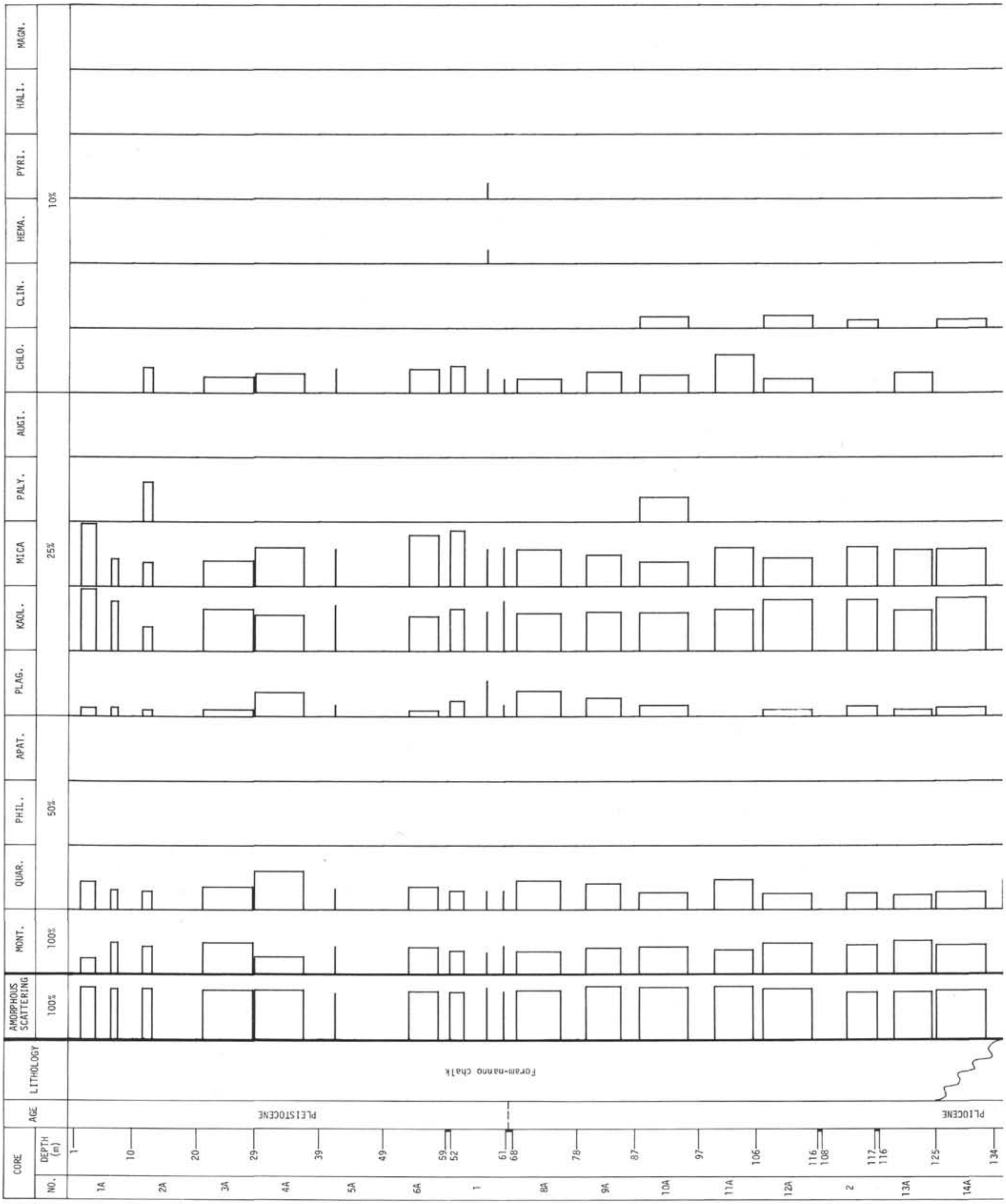

Figure 27. *Site 154. <2μ fractions.*

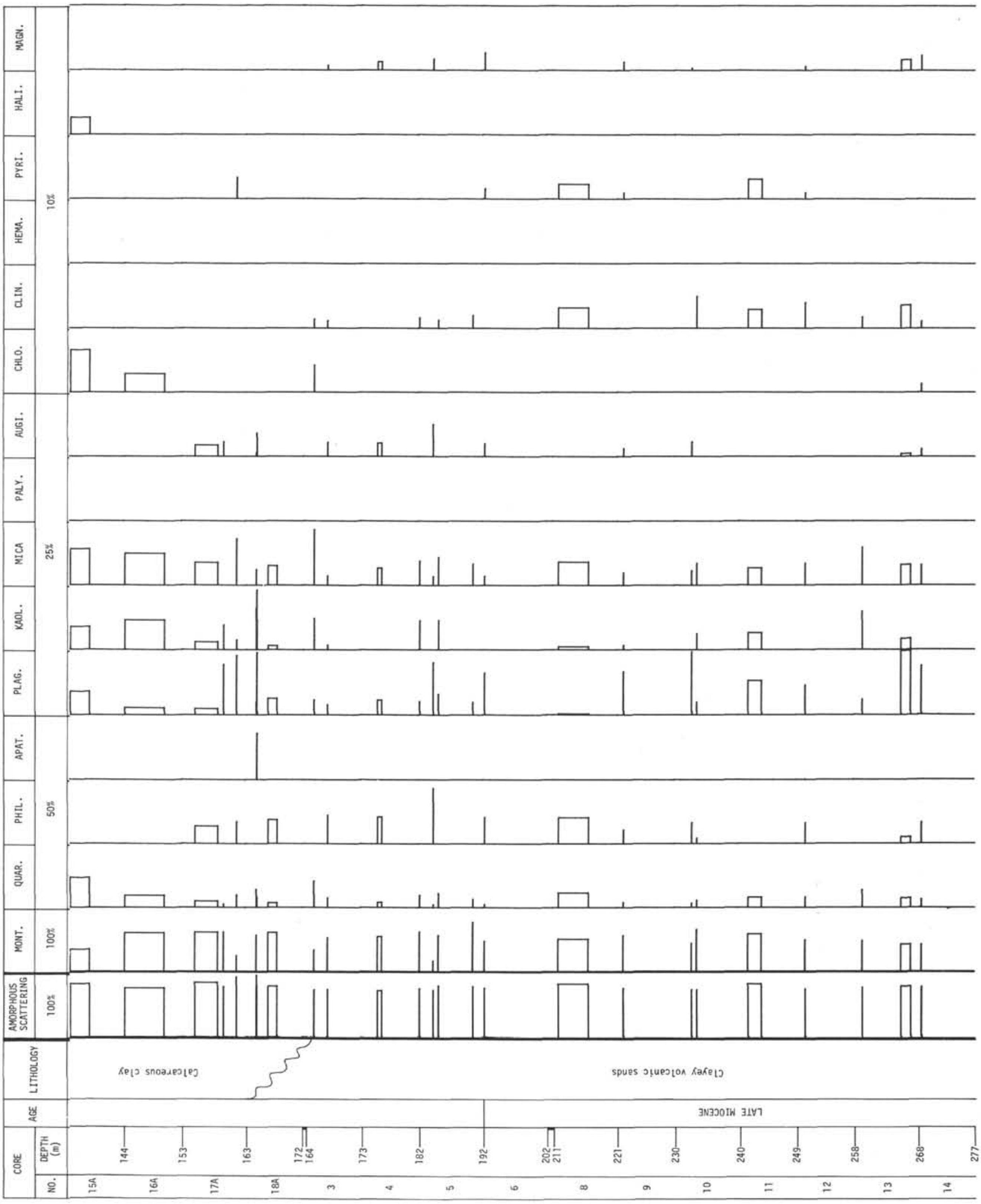

Figure 27. *(Continued)*.