24. X-RAY MINERALOGY STUDIES – LEG 6

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The analytical details of the X-ray mineralogy analyses are discussed in Volume 4, Appendix 3. The data presented here involve X-ray diffraction analyses of bulk samples of the sediment as collected, washed to remove sea salt, and then ground to less than 15 micron size. A calcite-free sample was prepared by dissolution of calcite by buffered acetic acid and then sized to separate the 2 to 20 micron fraction. This fraction is composited, and the composite intervals are shown in the logs in this section of the report. The 2 to 20 micron fraction is particularly informative showing variations in minor constituents that appear in the smear slides inspected under the microscope. In general the bulk sample X-ray analyses differ from the smear slide analyses in missing many of the minor constitutents which are evident both in the 2 to 20 micron fraction as seen by X-ray analysis and in the microscope smear slides. The bulk analysis, however, is a better quantitative indication of the relative abundances of the major constituents in the sediment samples.

ANALYTICAL RESULTS

Site 44

Site 44 is located on a crest of Horizon Ridge southwest of the Hawaiian Ridge. Approximately two-thirds of the sedimentary cap on the Horizon Ridge was penetrated before the drill bit was stopped by a series of impenetrable Middle Eocene chert beds. The five cores received from Site 44 ranged from Lower Oligocene to Middle Eocene and were taken from 40 to 76 meters below mudline.

The bulk fraction of all five cores (Figure 1) consists almost entirely of calcite and montmorillonite in relatively constant proportions (calcite 75 to 85 per cent; montmorillonite 15 to 25 per cent). Quartz occurs as a minor constituent in Cores 3 and 5.

The composited calcite-free 2 to 20 micron fraction shows more detailed variation than the bulk samples (Figure 2). Clinoptilolite and barite are present in all cores in varying concentrations. They constitute the major portion of the 2 to 20 micron fraction in all samples, with the exception of Core 5 and the Middle Eocene chert bed in Core 3. The abundance of montmorillonite in the bulk fraction and the clinoptilolite and barite in the 2 to 20 micron fraction suggest that hydrothermal activity associated with a fracture zone along the Horizon Ridge has produced this assemblage of hydrothermal alteration products. K-feldspar is also unusually abundant in the 2 to 20 micron fraction and is covariant with barite and clinoptilolite, suggesting a hydrothermally induced authigenic origin for K-feldspar at this site.

A Middle Eocene chert bed at 63 meters (Core 3) was penetrated, and a similar bed at 76 meters (Core 5) proved to be impenetrable. The bulk samples from both these depths show increased X-ray amorphous scattering and minor quartz, indicating that some of the impenetrable chert was recovered in Core 5. The 2 to 20 micron fraction from Core 5 appears to be a largely eolian assemblage, consisting of quartz, plagioclase, mica, kaolinite, and lesser amounts of barite and clinoptilolite. The 2 to 20 micron fraction from the penetrated chert bed (lower part of Core 3) consists mainly of quartz and cristobalite.

A foreign material, tentatively identified as tungsten carbide by its XRD pattern and attributed to the drill bit, was also found in this core.

Site 45

Site 45 is situated in the southeast corner of the northwest Pacific abyssal basin, just southwest of Midway Island and north of the Mid-Pacific mountain belt. The single core received from this site was Oligocene and was taken from immediately beneath the mud line. The core consists mainly of clays and ashy zones with volcanic glass.

The crystalline components of the first four sections of the core are mostly phillipsite, with lesser amounts of quartz, plagioclase, K-feldspar, and mica (Figure 3). A bed consisting of calcite and phillipsite makes up the bottom section of the core. The relative concentrations of quartz, plagioclase, K-feldspar, and mica show some variation within the core, suggesting a mixed eolian and pyroclastic origin for these constituents. The composited calcite-free 2 to 20 micron fraction is relatively richer in phillipsite, with lesser amounts of plagioclase and mica (Figure 4). The absence of quartz in the 2 to 20 micron fraction may be due to a bias in the composite sampling procedure. The unusual abundance of K-feldspar throughout the core suggests either a diagenetic or volcanic origin for this mineral.

Site 46

Site 46 is located on a fault scarp on a small abyssal hill south of the Emperor Seamounts. The authors received one core which ranged from Lower Oligocene to Upper Eocene and was taken from 0 to 9 meters.

The bulk material from Site 46 is of uniform composition throughout the core, consisting primarily of quartz, plagioclase, kaolinite, and mica in the same relative concentrations in each section (Figure 5). Minor (3 per cent) K-feldspar also occurs in a few sections. The composited 2 to 20 micron fraction contains a similar assemblage of minerals, with the exception of a small percentage of chlorite (Figure 6). The 2 to 20 micron fraction contains a relatively larger percentage of mica, and slightly smaller relative abundances of quartz and kaolinite.

The composition and uniformity of the material from Site 46 suggest that it is primarily of eolian origin. It must be noted that the recovered core was water-rich and very disturbed, hence there may be some question concerning whether the relatively constant concentrations of minerals throughout the core reflect typical eolian uniformity or drilling disturbance. However, with no other data to the contrary, the mineral assemblages observed suggest a primarily eolian origin.

Although zeolites were reported in the shipboard report, the authors were unable to detect any zeolites in their analyses. This is probably due to either an over-estimate of the zeolite concentration in the shipboard report or a bias in the shipboard core sampling procedure that provided the samples for XRD analysis.

Site 47

Site 47 is located on the western part of the Shatsky Plateau, and is the first of five sites located in the Shatsky Plateau region.

A total of 16 cores were received from the three holes drilled at this site. These cores provide a continuous sampling from the surficial Pleistocene material to the Lower Maestrichtian chalk recovered from a total depth of 129 meters. All cores are primarily calcite, with increasing dilution with depth of the accessory minerals by calcite (Figures 7, 9 and 11). The composited calcite-free 2 to 20 micron fraction consists primarily of an eolian assemblage of quartz, mica, kaolinite, plagioclase, K-feldspar and minor chlorite (Figures 8, 10 and 12). Barite occurs as a minor constituent from the Upper Pliocene to the disconformity underlying the Upper Miocene, and clinoptilolite occurs from the Upper Paleocene to Lower Maestrichtian. Montmorillonite is fairly abundant in the Pleistocene, and in the Lower Paleocene and Upper Maestrichtian.

The disconformity between the Upper Miocene of Core 6 and the Middle Eocene of Core 7 appears to mark a change in the relative amounts of carbonate and eolian material, as well as an abrupt change in the feldspar mineralogy. Below the disconformity there is a greater relative calcite concentration, as indicated by greater dilution of the eolian material in the bulk samples. K-feldspar occurs in Cores 8 through 14 in a significant concentration. This occurrence of K-feldspar is not readily explained, although a similar occurrence is found in Site 44. In both sites the K-feldspar is covariant with clinoptilolite suggesting a possible hydrothermally induced diagenetic origin.

Site 48

This second site on the western Shatsky Plateau is located in the moat of a knoll, east of Site 47. The lithology is similar to the previous site (50 meters of Neogene carbonate ooze resting disconformably on Cretaceous chalk) and again penetration was stopped by Upper Cretaceous chert.

Two Holes were drilled at this site.

Hole 48.1

Only one sample (Upper Miocene) was received. In bulk this is mainly calcite with 4 per cent quartz and the decalcified 2 to 20 micron fraction is mainly mica with quartz and minor plagioclase, kaolinite and chlorite (Figures 13 and 14). This Upper Miocene eolian assemblage is similar to that found at Site 47.

Hole 48.2

Three cores were received, the first one containing the disconformity of Late Miocene on Mid-Maestrichtian.

The primary material in all the cores is calcite, with two montmorillonite zones, one Lower Pliocene and the other Maestrichtian at around 67 meters (Figure 15). In the first core the decalcified 2 to 20 micron fraction contains mica and quartz with minor plagioclase, kaolinite and chlorite (Figures 16). The two Cretaceous cores, however, contain a different assemblage – mica, quartz, K-feldspar, kaolinite and clinoptilolite.

The litogenous minerals in the 2 to 20 micron fraction from this site are apparently largely eolian, although the mica concentrations are unusually high. This high mica concentration would normally imply turbidite contributions, but this is rather unlikely in view of the fine grain size of the mica and the altitude and geomorphic setting of the Shatsky Rise. The fact that there is a disconformity in the stratigraphic sequence on the Shatsky Rise suggests that erosion and winnowing of eolian deposits may account for the observed assemblage.

Site 49

The third site on the Shatsky Plateau is located on the western flank, due west of Site 48. Two holes were drilled and both were terminated on hitting Jurassic chert at 20 meters.

Hole 49.0

Two cores were received, the first is Pleistocene mud and the second Tithonian chalk ooze.

The bulk analysis of the Pleistocene core is mainly montmorillonite with moderate quartz and mica, minor plagioclase and occasional kaolinite. Small quantities of calcite occur in the top two meters and two phillipsite-rich zones occur at the top and near the bottom of the core (Figure 17).

The Tithonian core is quite different, containing mainly calcite with apatite, quartz and K-feldspar.

The decalcified 2 to 20 micron fraction is very similar in composition to the bulk samples, except for the absence of montmorillonite in Core 1 and its presence in Core 2 (Figure 18). These results are the reverse of the bulk analysis. In Core 2 montmorillonite is present in insufficient quantity to show up in the bulk analysis. It occurs trapped in volcanic glass shards, and shows up in the decalcified samples, but with a greatly reduced basal reflection (18.0 A). In Core 1, the montmorillonite occurs free of volcanic glass and is less than 2 microns, hence it does not show in the minor fraction.

Hole 49.1

Two cores were received, both Tithonian. They overlap Core 2 from Hole 49.0 both in depth and in age, and correlate well with it in lithology and mineralogy.

The bulk analysis of the upper portion of Core 1 is mainly phillipsite and montmorillonite with quartz, apatite, mica and minor plagioclase, K-feldspar and kaolinite (Figure 19).

Core 2 and the lower portion of Core 1 are mainly calcite with the other minerals all present in minor quantities – except apatite.

Analysis of the decalcified 2 to 20 micron fraction reveals very little phillipsite, as it occurs as large, well-formed crystals of greater than 20-micron diameter (Figure 20).

The apatite in these Upper Jurassic cores is the only apatite found on Leg 6. In the samples examined it comprises 5 to 15 per cent of the crystalline material.

Site 50

Site 50 is down slope from Site 49 on the flank of the Shatsky Rise.

Two holes were drilled here.

Hole 50.0

The single core (#2, Tithonian) received is composed in bulk of calcite with minor quartz (Figure 21).

The decalcified 2 to 20 micron fraction contains quartz, mica, minor K-feldspar and barite (Figure 22).

The lowest sample (45 meters) contains four times the amount of quartz seen in higher samples – possibly the effect of a basal conglomerate (as suggested in the shipboard lithological summary) or the underlying chert bed.

Hole 50.1

Four cores were received, the base being six meters above the core from Hole 50.0 (Pleistocene).

The first 15 meters (Core 1 and top of Core 2) contain mainly calcite, moderate mica and quartz with minor plagioclase, chlorite, and occasional feldspar (Figure 23). The average ratio of quartz:feldspar:mica is 2:1:2. The ratio remains the same even in the lower sections which exhibit considerable variation in lithology and mineralogy. Phillipsite is the major component in Core 4 and at the base of Core 3.

The decalcified 2 to 20 micron fraction is similar for all four cores, containing abundant mica, moderate quartz and plagioclase, minor kaolin and chlorite – but no k-feldspar or phillipsite. As at Site 49 the phillipsite occurs as large (20-micron diameter) crystals and does not appear in the minor fractions (Figure 24).

Site 51

The last site in this region is located at a small "pond" in a depression at the extreme western flank of the Shatsky Rise. Two holes were drilled to ascertain the age and composition of the Pacific opaque layer.

Hole 51.0

One core (Miocene) was received from a depth of 114 to 123 meters. Quartz and mica make up 60 to 70 per cent of the material – mica being the main clay mineral with montmorillonite, kaolinite and minor amounts of chlorite. Both kaolinite and montmorillonite are present in half the samples (Figure 25).

The quartz:plagioclase ratio is close to 3:1 except for one sample (Section 5, around 121 meters) which has little plagioclase, no montmorillonite and 25 per cent phillipsite.

The 2 to 20 micron fraction is similar, but with mica predominant ($\approx$70 per cent and no quartz or feldspar is observed in the upper two thirds of the cores (Figure 26).

Hole 51.1

This hole was terminated without penetration of the opaque layer when the drill bit was destroyed by chert.

A Pleistocene core from 23 to 32 meters and a core of undetermined age from 121 to 127 meters were recovered. In addition, a core of unknown age was inadvertently recovered from somewhere between 91 and 111 meters. The Pleistocene core consists mainly of quartz and mica, with lesser amounts of plagioclase, chlorite, and minor K-feldspar (Figure 27). The quartz: plagioclase ratio is approximately 2:1. The 2 to 20 micron fraction from this core is similar in composition, but with a larger concentration of mica and minor kaolinite (Figure 28).

The unknown sample contains mica, quartz and K-feldspar.

The second core is again mainly (≈70 per cent) mica and quartz, but unlike Hole 51.0, which is of comparable depth, it showed no phillipsite, kaolinite or montmorillonite in the bulk samples. It does contain K-feldspar, which is not found in Hole 51.0 (Figure 27).

The 2 to 20 micron fraction is mainly mica with quartz, montmorillonite and minor K-feldspar and chlorite (Figure 28).

Comparable sections from Holes 51.0 and 51.1 have very similar mineralogy, both in the bulk and minor fractions.

Site 52

Site 52 is located in the abyssal Pacific east of the Bonin Trench and near several large seamounts.

Eight cores were received: three Tertiary/Quaternary, three undated and two Cretaceous, all described as 'Brown clay, ash bearing and poorly fossiliferous.'

The mineral analyses are consistent with this description. In the first two Tertiary cores, clay minerals are represented by mica (25 to 40 per cent) with smaller amounts of kaolinite, chlorite and occasional montmorillonite. Quartz and feldspar make up some 40 to 60 percent of the total – mainly in a ratio of 3:2 quartz-plagioclase (Figure 29).

In the third core there is a change in the clay mineral assemblage with a sample containing 77 per cent montmorillonite at 21 meters. Thereafter, Cores 3 (Tertiary), and Cores 4, 5 and 6 (undated) contain a high percentage (15 to 40 per cent) of montmorillonite, similar quantities of mica, and smaller amounts of kaolinite and chlorite. There are no obvious lithological changes corresponding to this variation in the clay mineral assemblage.

The decalcified 2 to 20 micron fractions show no montmorillonite and have mica predominant (35 to 60 per cent) with kaolinite increasing with depth (Figure 30).

The Cretaceous sediments differ with cristobalite occuring as the major constituent in Core 7 (around 57 meters) and in Core 8, with some quartz and clay minerals. This corresponds to the Cretaceous chert bands noted in the lithology.

The 2 to 20 micron fraction also contains cristobalite – with quartz and plagioclase showing little covariance.

Site 53

Site 53 is the first of two sites located in the eastern Philippine Sea. This site is located near the base of the western flank of the Iwo Jima Ridge. The particular location of the site has a relatively thick sediment cover, and was chosen for this reason because of drilling difficulties involved with the shallow sediment which covers most of the Philippine Sea basement.

The authors received samples from a total of 11 cores from the three holes drilled at Site 53. These samples represented intermittent coring to a total depth of 197 meters, and ranged from Upper Miocene to Lower Oligocene.

Calcite was present in varying amounts in all but the uppermost surficial core, and was most abundant in the Lower Miocene and Oligocene (Figures 31, 33 and 35). In general, the abundance of plagioclase or montmorillonite throughout the sequence cored supports a largely pyroclastic origin for most of the non-biogenous sediment.

The uppermost 10 meters of sediment (Core 1, Hole 53.1, and the top 100 centimeters of Core 1, Hole 53.2) are calcite-free and underlain by an Upper Miocene ashy zone. An abundance of plagioclase, along with lesser amounts of quartz, mica and chlorite – in relatively constant proportions, suggests a mixed pyroclastic and eolian origin for this unit. This Upper Tertiary eolian assemblage is characterized by a lack of kaolinite and the presence of chlorite, and might originate in the mountainous areas of central Asia. Further work should be done to test the possibility that changing dust provenance might be a consequence of onset of glaciation in central Asia. Plagioclase and calcite in greater abundance dilute the eolian contribution from the Lower Oligocene through the Middle Miocene, suggesting a relative increase in eolian deposition, possibly periglacial dust, in the Upper Miocene. This relative decrease in pyroclastic contributions seems to be concomitant with subsidence below the carbonate compensation depth, or a raising of the compensation depth, as evidenced by the absence of calcite in sediments deposited since Upper Miocene.

This Upper Miocene ashy zone of Holes 53.1 and 53.2 consists almost entirely of plagioclase, along with minor quartz and occasional calcite. Cristobalite is also present in the 2 to 20 micron fraction (Figures 32, 34 and 36).

The Middle and Lower Miocene of Hole 53.0 displays more alteration, with montmorillonite being the predominant constituent.

Of interest is the occurrence of K-feldspar in concentrations of 2 to 10 per cent in altered Lower Miocene ash. This zone is the lowermost ash zone, and is underlain by baked, recrystallized limestone in contact with volcanic basement. This occurrence at the base of the pyroclastic sequence, and the general trend towards increased alteration with depth at this site, may suggest a diagenetic origin for this K-feldspar.

The volcanic basement rocks recovered at this site were not available for analysis.

Site 54

Site 54 is located 150 miles south of Site 53, and is similarly situated near the base of the western flank of the Iwo Jima Ridge.

Seven cores were received from this hole; they were all Middle Miocene and taken from 83 to 270 meters below mudline. Compositions of all samples from this hole are quite uniform and correspond to the Middle Miocene altered ash of Site 53 (Figure 37). Montmorillonite is predominant, constituting 45 to 85 per cent of the sediment, and calcite and plagioclase occur in lesser amounts. All samples are highly amorphous due to abundant volcanic glass. The calcite-free composited 2 to 20 micron fraction consists entirely of plagioclase (Figure 38). Any eolian or turbidite material present in the 2 to 20 micron fraction is diluted beyond detection by plagioclase.

Site 55

This hole was located on a topographic and probably structural bench on the north flank of the Caroline Ridge. The site was chosen with the objective of penetrating and dating the stratigraphic sequence to the sequence to the basement of the western Pacific Ocean floor, a goal that was thwarted by drilling difficulties encountered further north during the earlier half of the leg. Unfortunately, bad weather forced the site to be abandoned after drilling 14 continuous cores to a total of 131 meters below mudline.

We received samples from all of the 14 cores, ranging from surficial Pleistocene material to Upper Oligocene sediment at 131 meters. The bulk samples were quite uniform throughout the hole and consisted entirely of calcite (Figure 39).

The calcite-free composited 2 to 20 micron fractions indicated eolian and pyroclastic contributions which do not show up at all in the bulk analyses (Figure 40). The 2 to 20 micron fraction consists of plagioclase only during the Upper Oligocene and Lower Miocene, and a mixture of quartz, plagioclase, mica, and kaolinite from Middle Miocene to the present. The plagioclase/quartz ratio ranges from 1.5:1 to 4:1 and the quartz/kaolinite ratio is fairly consistent, suggesting that non-biogenous deposition since Mid Miocene time has been mainly of mixed eolian and pyroclastic origin. Deposition during Lower Miocene and Upper Oligocene was largely pyroclastic, as indicated by the abundance of plagioclase and the shipboard reports of volcanic glass in these cores.

Barite occurs in four cores, from Upper Pliocene to Middle Miocene; and clinoptilolite was found in one Upper Miocene core.

Site 56

Site 56 is located on a bench below the crest of the Caroline Ridge, approximately 90 miles southeast of Site 55. The objective here was the same as that of Site 55. Basement was reached, and was estimated to be pre-Upper Oligocene, although the very hard basement prevented further penetration and no samples were recovered.

The authors received samples from ten cores taken from 73 to 233 meters below mudline. Cores 1 through 5 represent continuous coring from 73 to 119 meters and are Upper to Middle Miocene. Cores 5 through 10 are continuous from 187 to 233 meters and are Lower Miocene through Upper Oligocene.

The bulk samples consist solely of calcite, with the exception of a few traces of plagioclase and montmorillonite in the Upper Oligocene (Figure 41).

The calcite-free 2 to 20 micron fractions consisted mainly of plagioclase, with occurrences of quartz, mica, kaolinite, barite and montmorillonite (trapped in volcanic glass) (Figure 42). Plagioclase is predominant in the Upper Oligocene through Middle Miocene, suggesting a primarily pyroclastic origin.

Barite occurs in the Upper and Middle Miocene, corresponding stratigraphically with the similar barite occurrences at Site 55.

Montmorillonite is predominant in two Upper and Middle Miocene cores, and is probably present to varying degrees in other cores. However, problems associated with entrapment of montmorillonite in partially altered volcanic glass prevented satisfactory quantitative analysis by XRD.

Site 57

This site is north of Site 56 on a bench on the north flank of the Caroline Ridge. The site was chosen with the objective of recovering the basement that was met at Site 56.

The bulk material from Site 47 was essentially the same as that of Sites 55 and 56. Calcite is predominant throughout, with only a single occurrence of plagioclase and montmorillonite in the Upper Oligocene (Figures 43, 44 and 46).

The calcite-free composited 2 to 20 micron fraction is also very similar to the material from Sites 55 and 56 (Figures 45 and 47). Plagioclase and montmorillonite are predominant, with plagioclase being the only crystalline constituent throughout the Upper Oligocene. Montmorillonite and plagioclase are most abundant in the Upper Miocene, with lesser amounts of eolian quartz, kaolinite, and mica also present.

The basement diabase basalt was not available for analysis. Although basalt was recovered, the basal iron-rich amorphous zone found at Sites 37, 38 and 39 of Leg 5 was not observed.

Generally this site is similar to Sites 55 and 56, with a record of intensive pyroclastic deposition during Upper Oligocene and Lower Miocene, followed by reduced pyroclastic and eolian deposition since the Middle Miocene.

Site 58

Site 58 is located in an abyssal gap northeast of Site 57, and approximately 100 miles southeast of the Mariana Trench. The hole was drilled with the objective of determining whether the late Oligocene volcanic basement found at Site 57 on the Caroline Ridge constitutes the nearby abyssal crust.

The two cores received from Site 58 are a surficial Pleistocene core and an Upper Oligocene core taken from 137 to 146 meters.

The bulk material from the Pleistocene core is mainly calcite, with approximately 20 per cent montmorillonite and minor quartz and plagioclase (Figure 48). The calcite-free 2 to 20 micron fraction from the Pleistocene core consists mainly of mica, with lesser amounts of quartz, plagioclase, dolomite and kaolinite (Figure 49). The abundance of mica suggests that this material is largely turbidite, in accord with the observations in the shipboard summary and the location of this site in a submarine canyon.

The Upper Oligocene core consists mainly of calcite, with varying concentrations of plagioclase and montmorillonite (Figure 50). The X-ray amorphous scattering increases with depth throughout the core, probably due to the volcanic glass and siliceous microfossils reported in the shipboard description. The composited calcite-free 2 to 20 micron fraction consists mainly of plagioclase, along with lesser amounts of montmorillonite, dolomite, kaolinite and mica (Figure 51)

The origin of the dolomite observed in the 2 to 20 micron fractions from this site is not readily explained. The 2 to 20 micron material is probably a mixture of eolian and pyroclastic sediment which has been winnowed and selectively disturbed by turbidity currents, as evidenced by low quartz concentrations and high mica concentrations. Miyake *et al.* (1956) have observed dolomite in eolian dust originating over the loess deposits of Asia, hence an eolian origin for dolomite is possible.

Site 59

Site 59 is located on the West Pacific abyssal floor, 40 miles southeast of the Mariana Trench and north of the Caroline Ridge.

A total of seven cores were received ranging from Quaternary to Paleocene.

59.1

Core 3 (Quarternary) contains montmorillonite, phillipsite (increasing quantity with depth), quartz, mica and minor plagioclase and kaolinite (Figure 52).

The 2 to 20 micron fraction is mainly mica with plagioclase, kaolinite and minor quartz and chlorite (Figure 53). No zeolite or montmorillonite (the montmorillonite being less than 2 microns and the phillipsite being greater than 20 microns) were observed.

59.2

Barring two samples these six cores were devoid of quartz. The Lower Miocene section (90 to 108 meters) is composed entirely of plagioclase in bulk and minor fractions (Figures 54 and 55). The Oligocene sediments (108 to 126 meters) are more altered, containing mainly montmorillonite, phillipsite, plagioclase and some kaolinite and clinoptilolite in bulk, the montmorillonite and phillipsite being absent in the 20 micron fraction (cf Site 59.1).

This is consistent with rapid pyroclastic deposition and does not exactly agree with the shipboard description of "zeolitic clays."

The lowest cores have a similar mineral assemblage – Core 5 containing a high percentage of clinoptilolite and Core 6 (mixed: Upper Paleocene; Oligo-Miocene) being very similar to the Oligocene cores (Cores 5 and 6).

Site 60

Site 60 was the final site of Leg 6 and is located on the West wall of the Mariana Trench, east of Guam. Nine cores (Miocene) were received.

The bulk composition of Cores 1 through 7 is fairly constant (this is the Mid-Miocene section, 52 to 298 meters). The minerals found are calcite, quartz, plagioclase, montmorillonite and, in one sample, mica (Figure 56). Plagioclase occurs throughout the first seven cores (2 to 100 per cent), and calcite occurs in all but two samples (9 to 96 per cent) being particularly abundant in the chalk ooze in Cores 1 and 2. Quartz appears as a minor component at random and montmorillonite occurs in four low calcite (30 per cent) zones.

Core 8 (Lower Miocene) is mainly amorphous with no calcite and composed of plagioclase (85 per cent) and quartz (15 per cent). Core 9 is similar but contains K-feldspar, montmorillonite and erionite, a mineral not observed in cores from previous legs.

Site 60 was abandoned at this point as the vessel had to return to Guam.

The bulk analysis is consistent with the volcanic ash and calcareous ooze described in the shipboard lithology summary – the decalcified 2 to 20 micron fraction, however, shows considerable variety of composition (Figure 57).

The minor fractions of Cores 1 to 3 (53 to 134 meters) contain the ash type assemblage of plagioclase, cristobalite and minor quartz. Cores 4 to 8 (134 to 349 meters) are low in quartz and cristobalite and contain dolomite and K-feldspar suggesting an eolian rather than volcanic origin. The final core (Lower Miocene, 347 to 348 meters) contains a unique assembly of K-feldspar and montmorillonite (3:2, approximately) with no plagioclase, quartz nor erionite in this 2 to 20 micron fraction.

Erionite

Material from Site 60, Core 9 was tentatively identified as erionite on the basis of the XRD and optical properties.

XRD

Peaks at dA 11.4, 6.60, 4.32, 3.81, 3.30 and 2.86 correspond with the values given for erionite by Deffeyes *et al.* (1959).

Optical

A sample of the core material was examined under the microscope. It contains a feldspar and a mineral tentatively identified as erionite (Plates 1 and 2).

This mineral occurs as rounded and subangular particles, mainly 0.05 to 0.1 millimeter in diameter, nonpleochroic and colorless to very pale pink. The refractive index is 1.470 to 1.476, and several crystals have a fibrous appearance with straight extinction. The color and refractive index correspond to those reported for erionite by Deffeyes (1959).

CONCLUSIONS

The X-ray mineralogical analyses for Leg 6 reveal a history of mixed eolian and pyroclastic deposition over the northwest Pacific Basin and the eastern Philippine Sea. The variations in the eolian and pyroclastic contributions to the lithogenous sediments of these areas have preserved a sequential record of volcanic activity in these areas.

The lithogenous sediments from Sites 53 and 54 in the eastern Philippine Sea reveal a history of intense Tertiary pyroclastic activity which followed the formation of the oceanic basement in this area. This period of volcanic activity was relatively intense from the Lower Oligocene through the Upper Miocene, and was followed by a period of mixed pyroclastic and eolian deposition which has persisted since the Upper Miocene.

The period of intense pyroclastic deposition during the Lower Oligocene through Upper Miocene is also recorded at Site 45 in the abyssal Pacific. The lack of pyroclastic material in the Upper Eocene-Lower Oligocene core taken from Site 46 in the abyssal Pacific suggests that this volcanic activity commenced with the formation of the Philippine Sea basement in the Lower Oligocene. This entire period is not recorded on the Shatsky Rise where the Upper Eocene through Middle Miocene is missing. At each site on the Shatsky Rise an unconformity was encountered with Neogene sediments resting disconformably on Cretaceous or Lower Tertiary sediments.

Sites 55, 56 and 57 on the Caroline Ridge also record heavy pyroclastic deposition from the time of formation of the Caroline Ridge basement in the Upper Oligocene until the Middle or Upper Miocene.

This general history of extensive volcanic activity during the Lower Oligocene through Upper or Middle Miocene is recorded at a number of sites of Leg 6. It appears to be associated with the formation of the Philippine Sea basement and the Caroline Ridge, and possibly the oceanic crust of the abyssal Pacific near the Caroline Ridge. The carbonate occurrences at Site 53 in the Philippine Sea also suggest that the decrease in volcanic activity in the Late Miocene may have been concomitant with subsidence of the Philippine Sea basement below the carbonate compensation depth. Alternatively, the carbonate occurrences may reflect an intensification of the deep circulation and a rise in the compensation depth as a consequence of the onset of major glaciation.

Although volcanic basement was recovered at several sites on Leg 6, the amorphous iron-rich facies of Sites 37, 38 and 39 of Leg 5 and Site 9A of Leg 2 were not encountered. Apparently this is a local phenomenon which does not necessarily accompany basement formation.

The lithogenous sediments from Sites 48, 49 and 51 on the Shatsky Plateau were found to contain unusually high concentrations of mica, especially in the 2 to 20 micron fraction. The altitude and geomorphic setting of the Shatsky Rise make a turbidite of continental origin unlikely, suggesting that the observed assemblage may be a result of disturbance of eolian deposits winnowing or by local turbidity currents. This is not unlikely in view of the fact that erosion and winnowing may have been important processes during the formation of the major disconformity on the Shatsky Rise.

The first occurrence of erionite in pelagic marine sediments was noted in the Lower Miocene at Site 60. The erionite was recovered from the bottom of Hole 60.0, and it is unfortunate that time did not permit recovery of lower sediments.

ADDITIONAL NOTES ON ANALYTICAL METHODS

The analytical methods used are similar to those described in Legs 1 and 2. Details of the X-ray data processing employed are given in the following sections, and in Appendix 3 of Volume 4. Continuous refinement of the computer programs and processing details occur and will be reported with each of the Leg Reports.

Analytical Accuracy

True accuracy of the X-ray powder diffraction data is probably highly variable. Relative abundances appear to be excellent. Analytical precision based on replicate runs is dependent both on abundances and the degree of preferred orientation encountered. The standard deviations range from 20 per cent of the amount measured at 1 per cent abundance; 10 per cent at 50 per cent abundance; 5 per cent error at 90 per cent abundance; to 1 per cent error at 99 per cent abundance. Sensitivities are usually better than 1 per cent, but the concentration threshold used is given with the data table.

The factor given in the data table is the mass absorption coefficient ratio of the phase in question to quartz for the optical slit system used. The details of the calculation are given under the section on the theory of the Minlog in Appendix 3 of Volume 4.

Amorphous Scattering

Crystalline and amorphous material both scatter X-rays. Bragg diffraction results from the scattering of large crystallites with dimensions over several hundred Angstroms in extent. Small crystallites show X-ray Bragg line broadening while large crystallites (over 1000 Angstroms in size) show sharp diffraction lines. The degree of line broadening can be used to estimate crystallite size. Material that contains ordered elements smaller than about a hundred Angstroms or highly disordered structures will produce diffuse scattering bands. These bands are characteristic of the liquid, gel and glass states, as well as, the ultramicrocrystalline state, and are indicative of the X-ray amorphous state.

X-ray powder diffraction with a diffracted beam monochromator is free of fluorescent radiation, and it is possible to separate the diffracted X-ray energy by computer stripping techniques into Bragg scattering, diffuse scattering, and a low angle optical correction for direct beam air scattering. The variable given as diffuse scattering in earlier reports is simply the uncorrected percentage of the total energy present as non-Bragg scattering. Approximately two-thirds of the total scattering is attributable to the optical correction. The excess diffuse scattering above two-thirds is attributable to amorphous matter. For very small and very large values, it closely approximates the weight percentage of amorphous material in the samples. For intermediate values it would be necessary to know the mass absorption coefficient of the bulk sample, identify all crystalline components, and know their mass absorption coefficients to calculate the true weight percentage amorphous matter in the samples. Work is underway to expand the capability to permit this determination; however, it will not be available for several legs.

REFERENCES

Deffeyes, K. S., 1959. Erionite from Cenozoic tuffaceous sediments, central Nevada. *Am. Mineralogist.* **44**, 501.

Miyake, Y., Sigiura, Y. and Katsuragi, Y., 1956. Radioactive fall-out at Asahikawa, Hokkaido in April, 1955. *J. Meterol. Soc. Japan, Ser. 2,* **34**, 226.

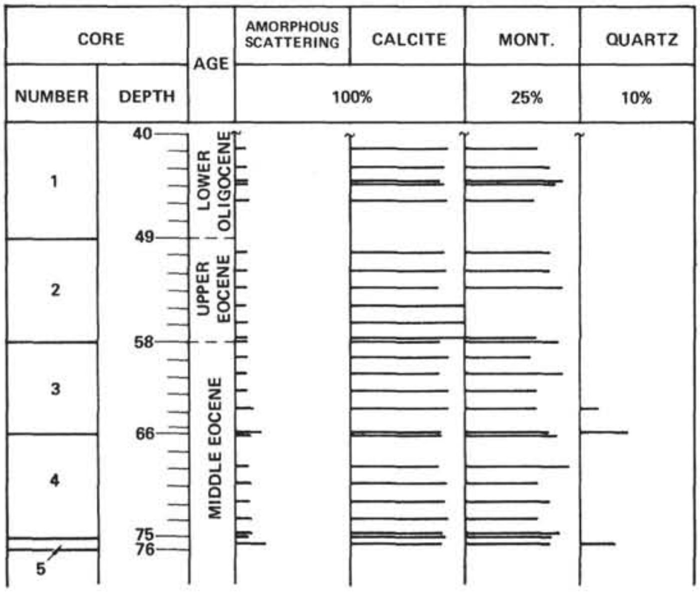


Figure 1. *Hole 44. (Bulk)*

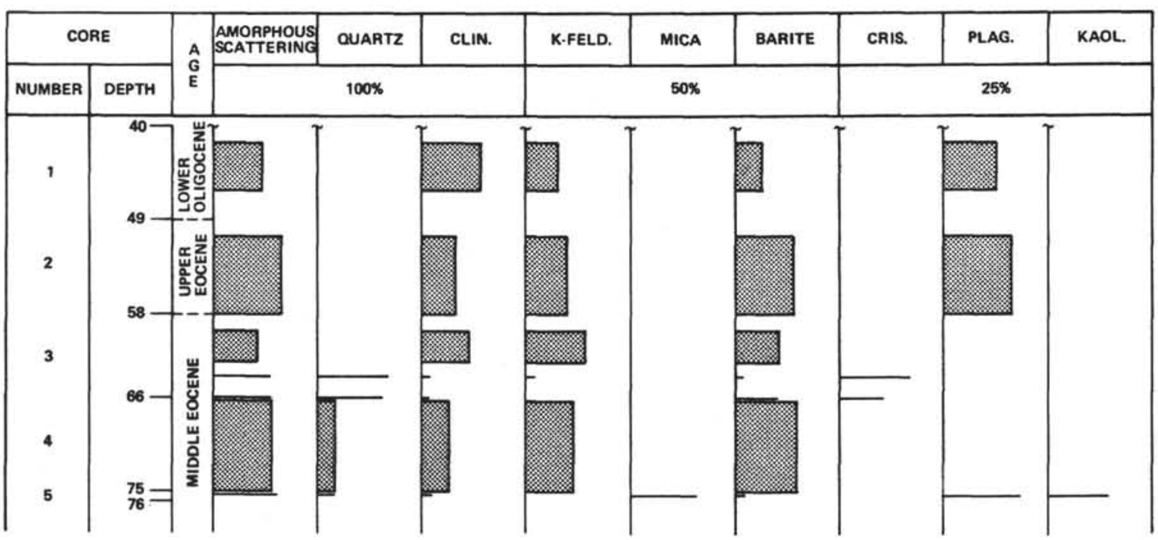


Figure 2. *Hole 44. Composited 2-20μ (calcite free)*

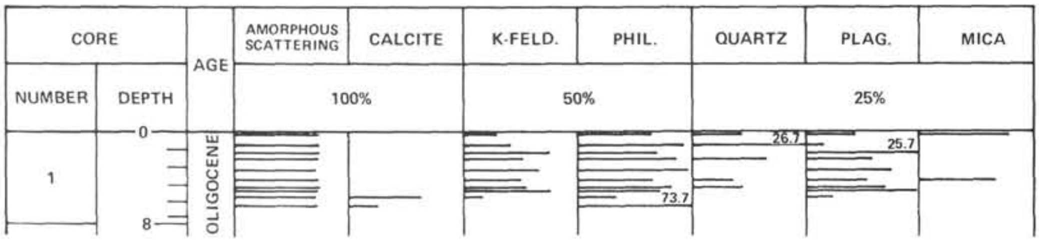


Figure 3. *Hole 45.1. (Bulk)*

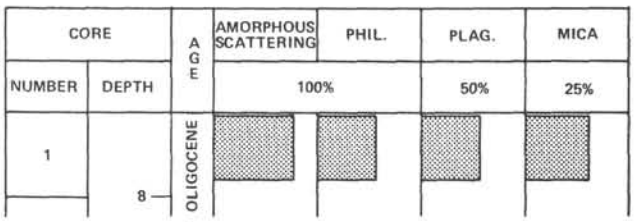


Figure 4. *Hole 45.1. Composited 2-20μ (calcite free)*

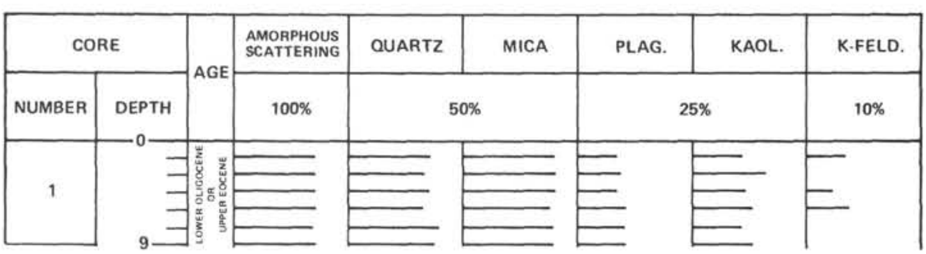


Figure 5. *Hole 46. (Bulk)*

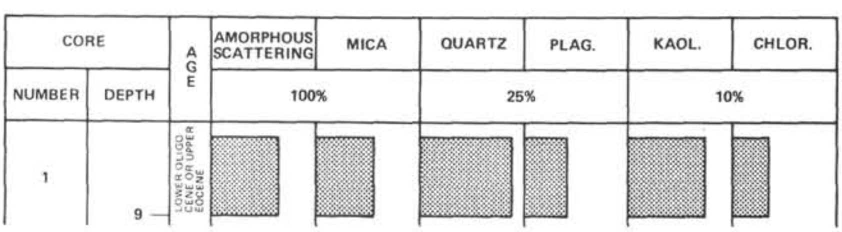


Figure 6. *Hole 46. Composited 2-20μ (calcite free)*

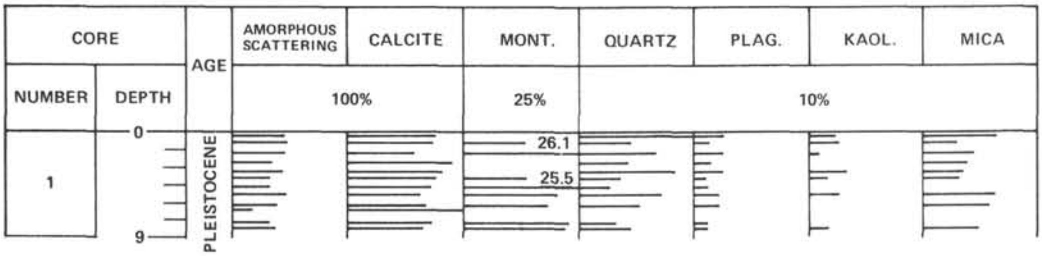


Figure 7. *Hole 47.0. (Bulk)*

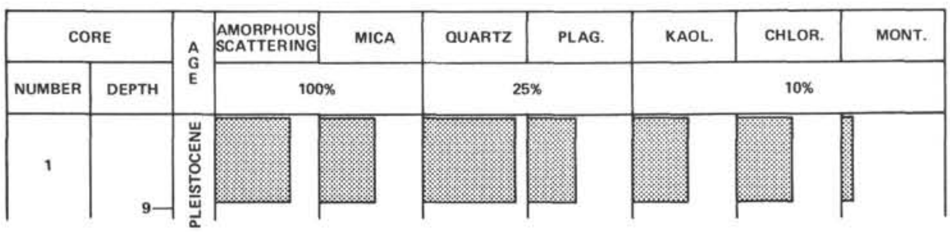


Figure 8. *Hole 47.0. Composited 2-20μ (calcite free)*

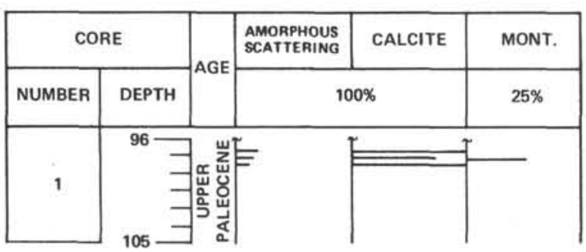


Figure 9. *Hole 47.1. (Bulk)*

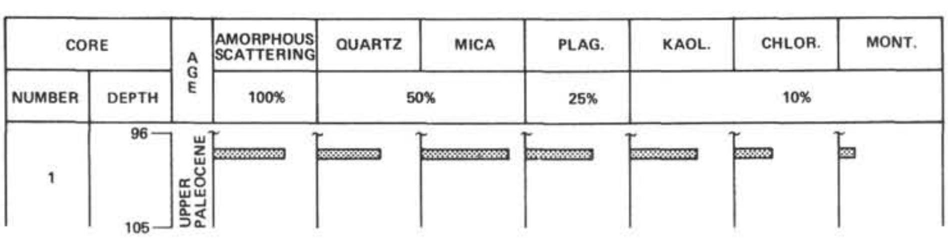


Figure 10. *Hole 47.1. Composited 2-20μ (calcite free)*

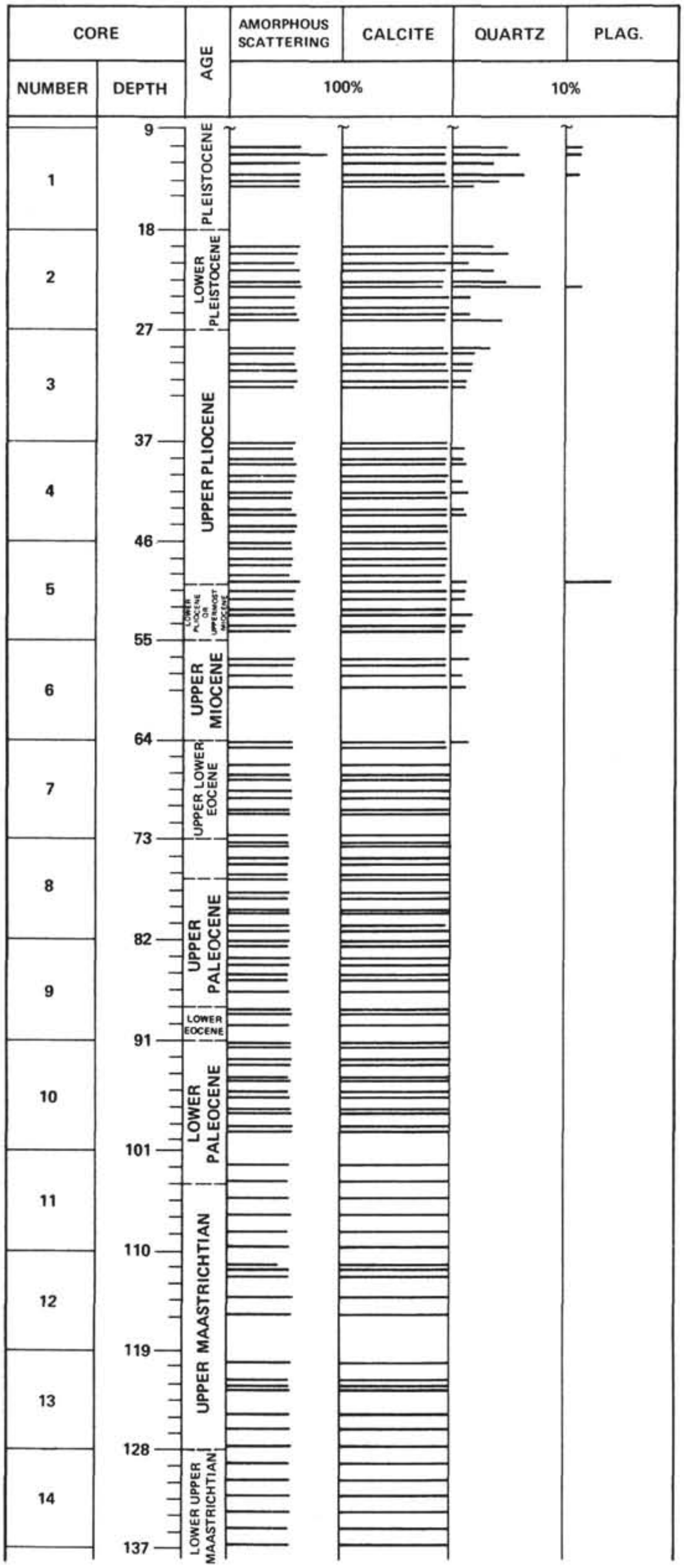


Figure 11. *Hole 47.2. (Bulk)*

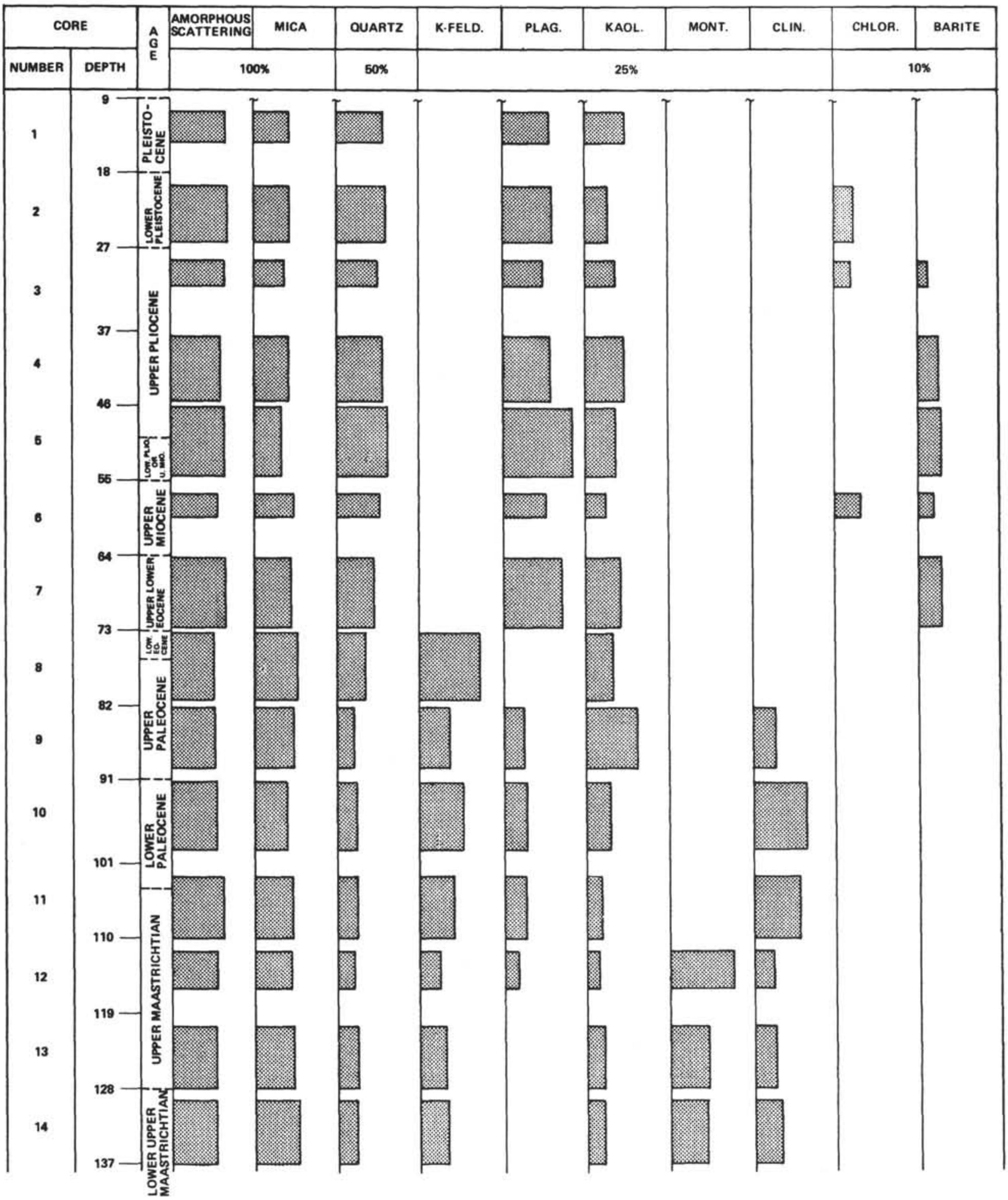


Figure 12. *Hole 47.2. Composited 2-20μ (calcite free)*

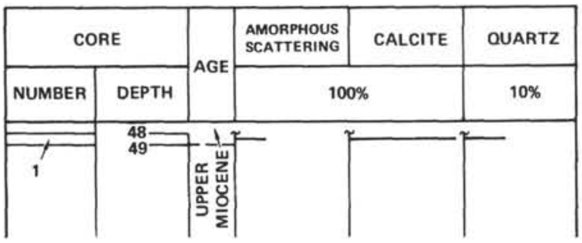


Figure 13. *Hole 48.1. (Bulk)*

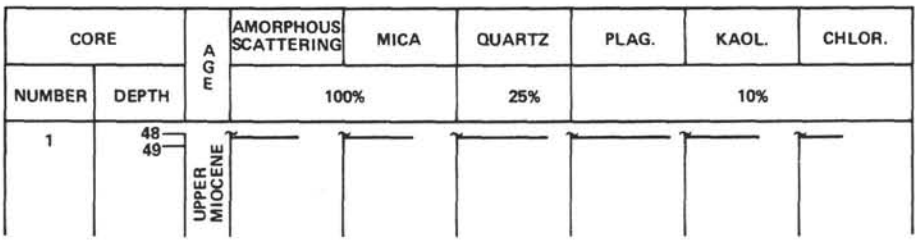


Figure 14. *Hole 48.1. Composited 2-20µ (calcite free)*

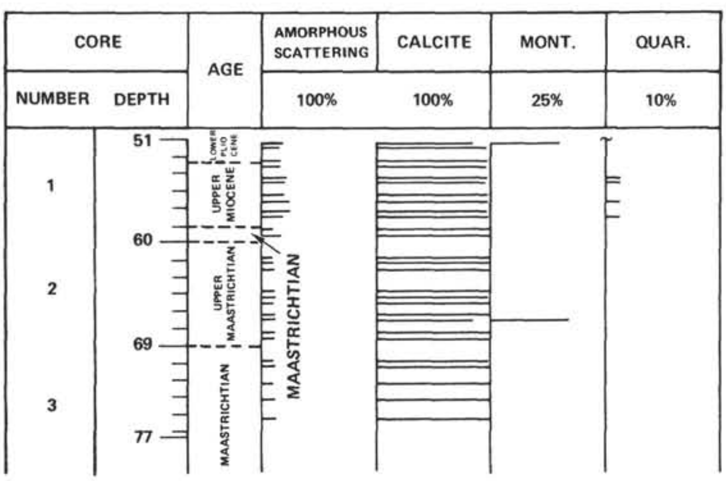


Figure 15. *Hole 48.2. (Bulk)*

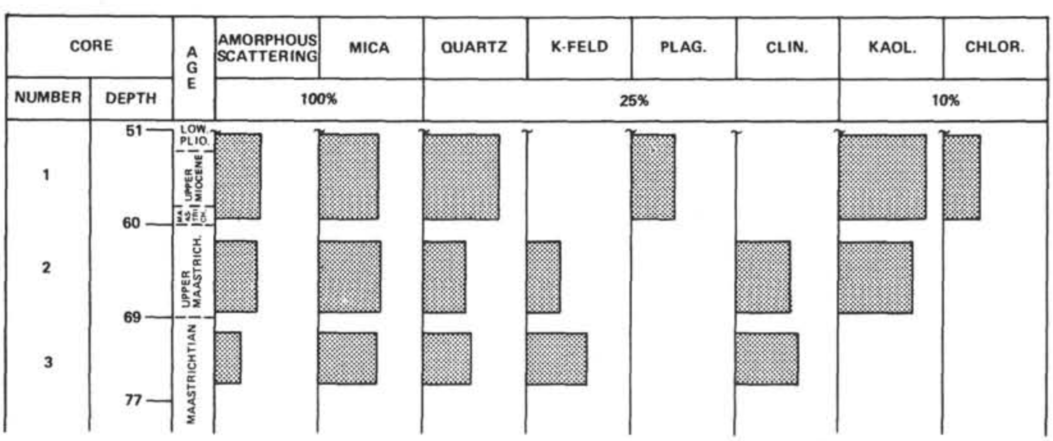


Figure 16. *Hole 48.2. Composited 2-20µ (calcite free)*

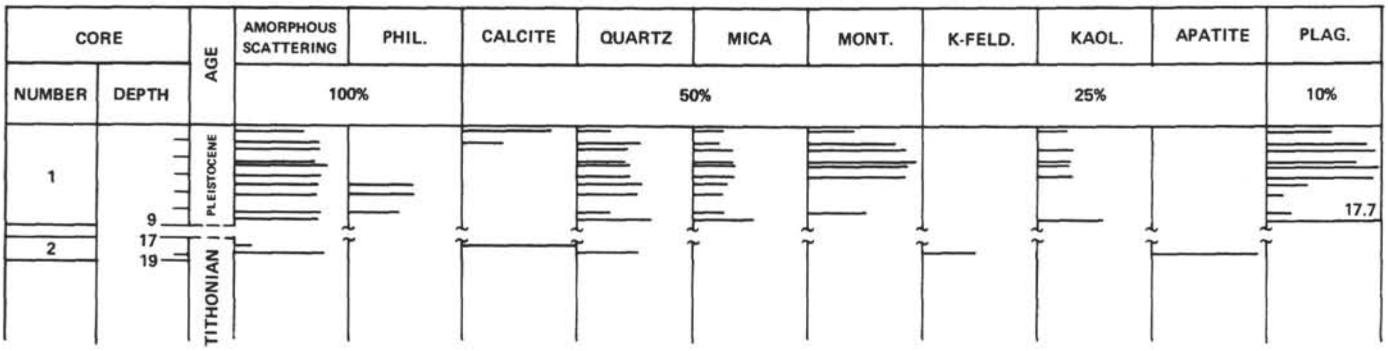


Figure 17. *Hole 49.0. (Bulk)*

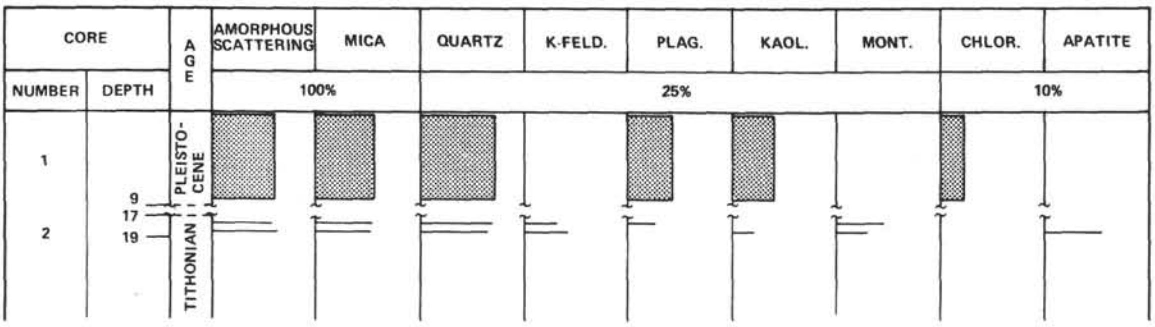


Figure 18. *Hole 49.0. Composited 2-20μ (calcite free)*

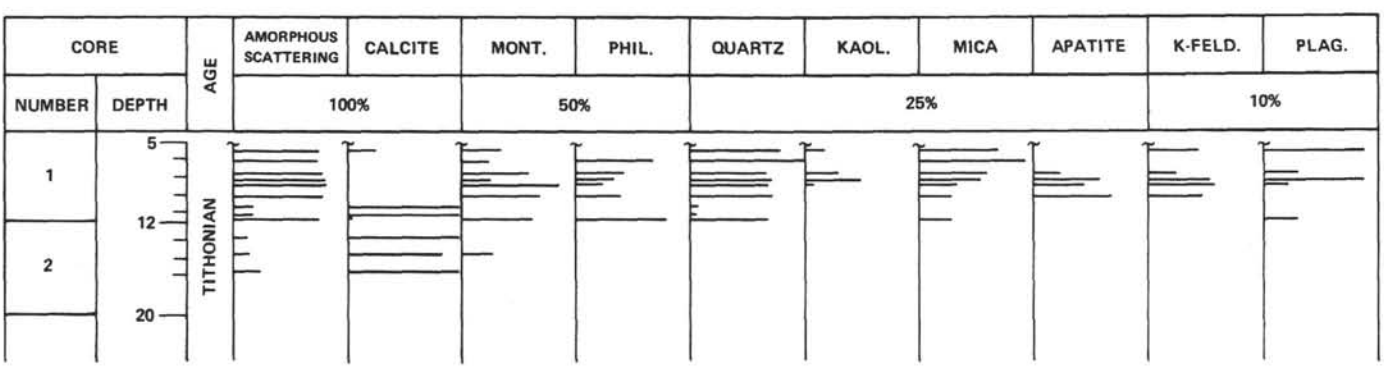


Figure 19. *Hole 49.1. (Bulk)*

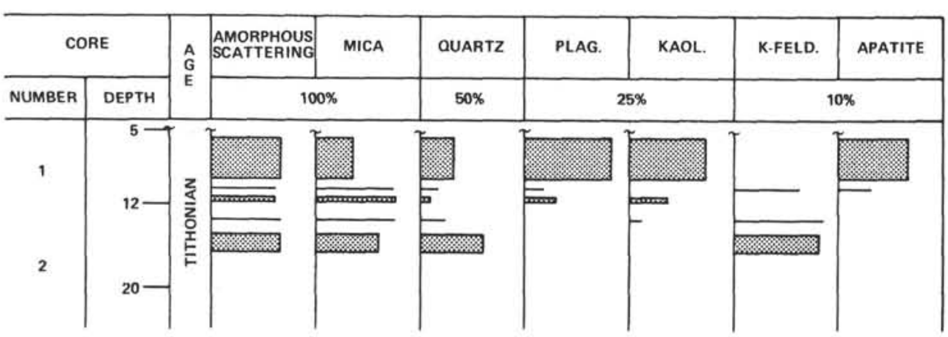


Figure 20. *Hole 49.1. Composited 2-20μ (calcite free)*

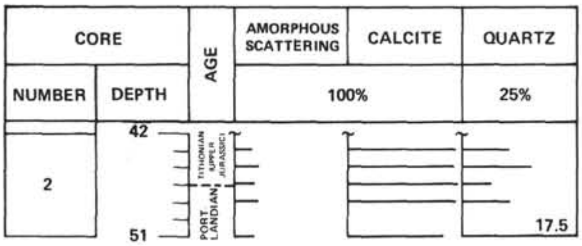


Figure 21. *Hole 50.0. (Bulk)*

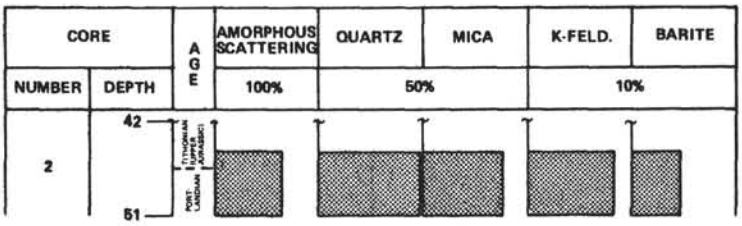


Figure 22. *Hole 50.0. Composited 2-20μ (calcite free)*

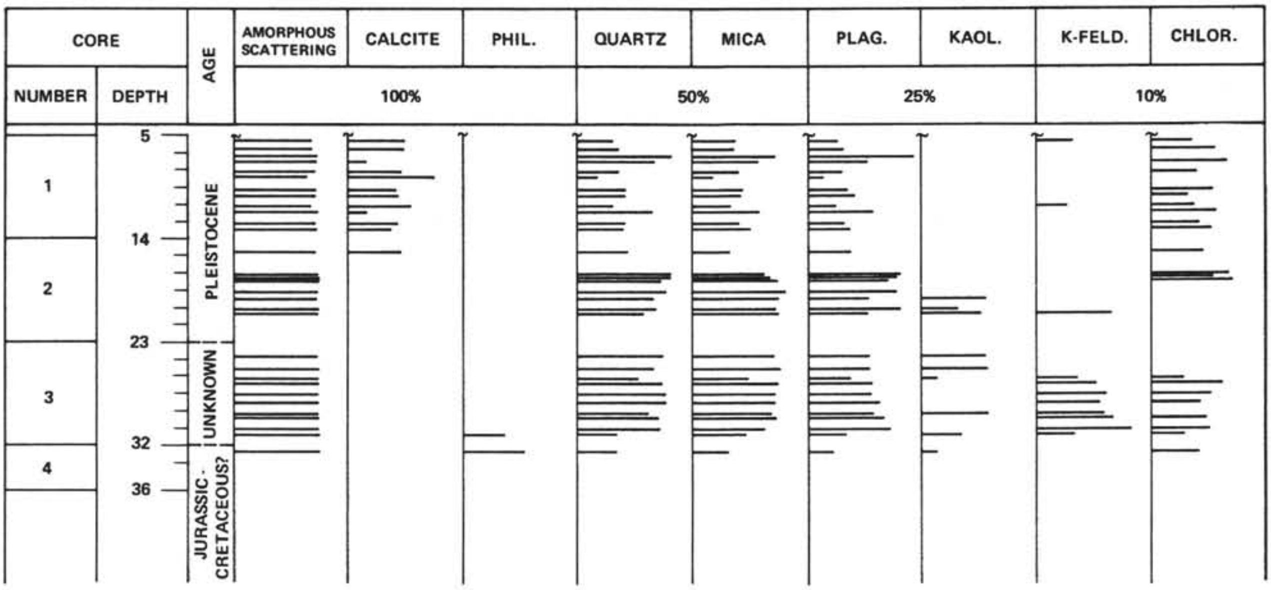


Figure 23. *Hole 50.1. (Bulk)*

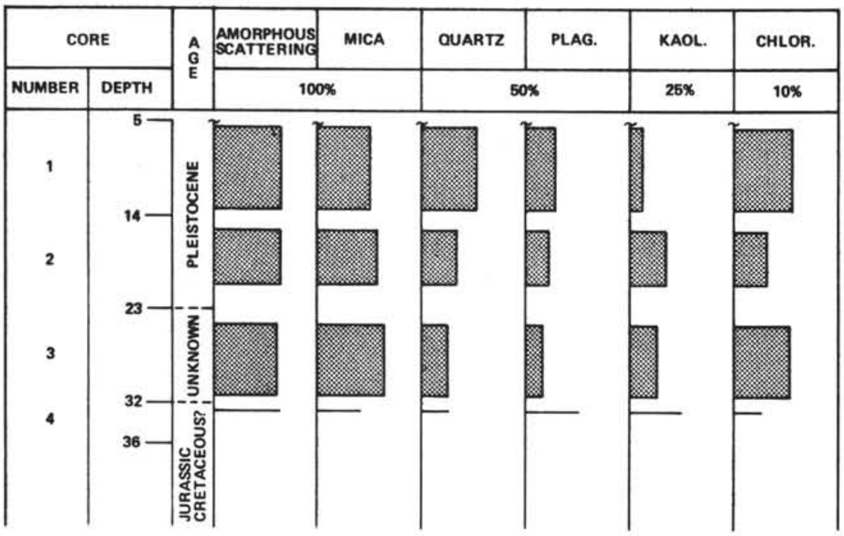


Figure 24. *Hole 50.1. Composited 2-20μ (calcite free)*

Figure 25. *Hole 51.0. (Bulk)*

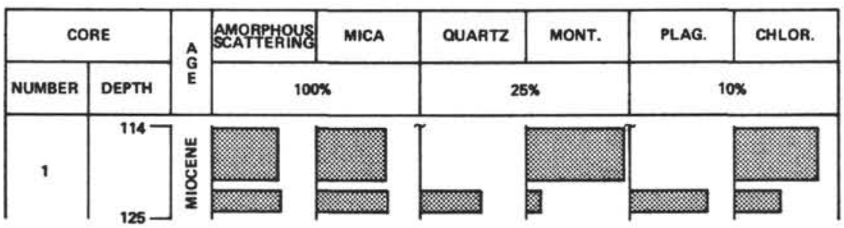


Figure 26. *Hole 51.0. Composited 2-20μ (calcite free)*

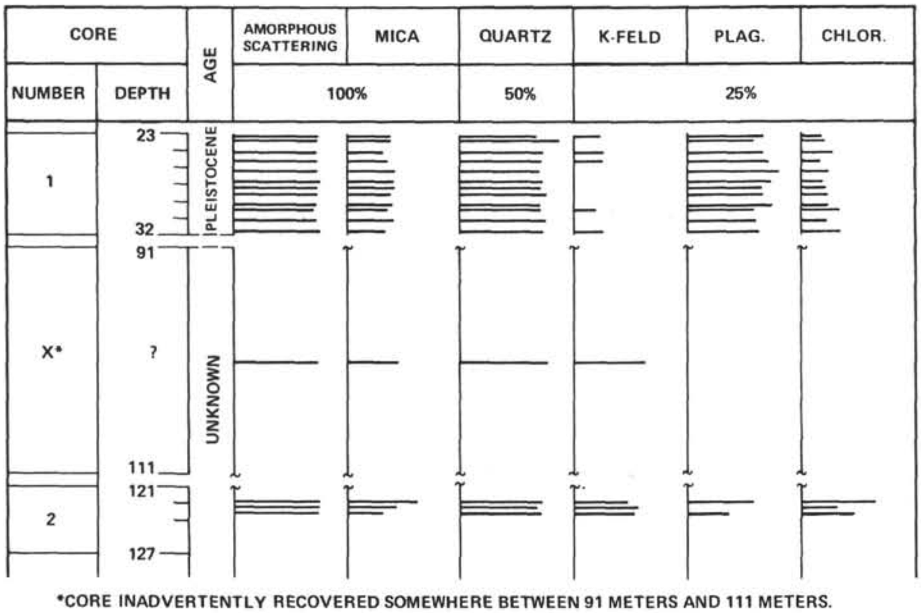


Figure 27. *Hole 51.1. (Bulk)*

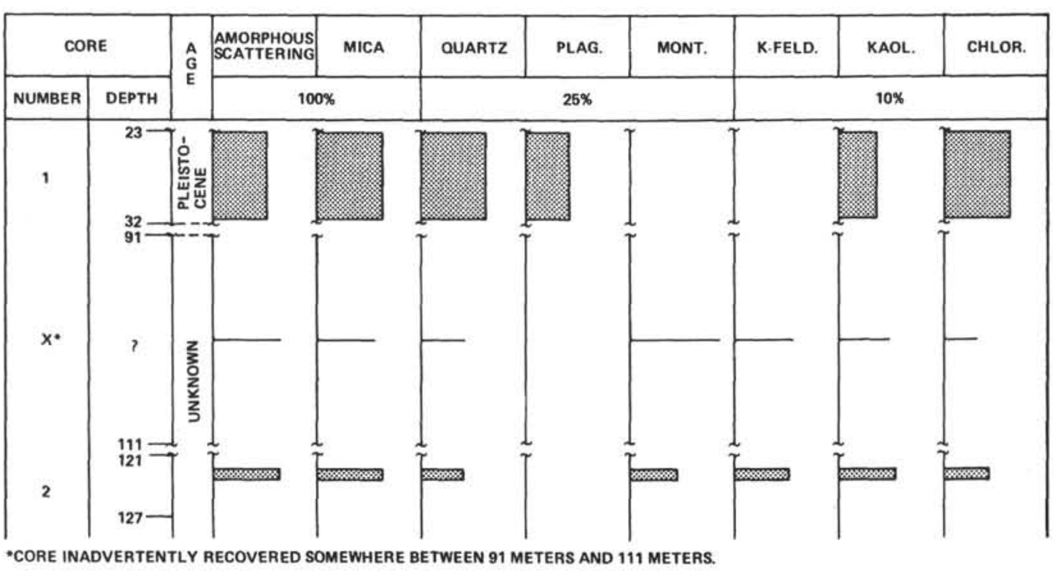


Figure 28. *Hole 51.1. Composited 2-20μ (calcite free)*

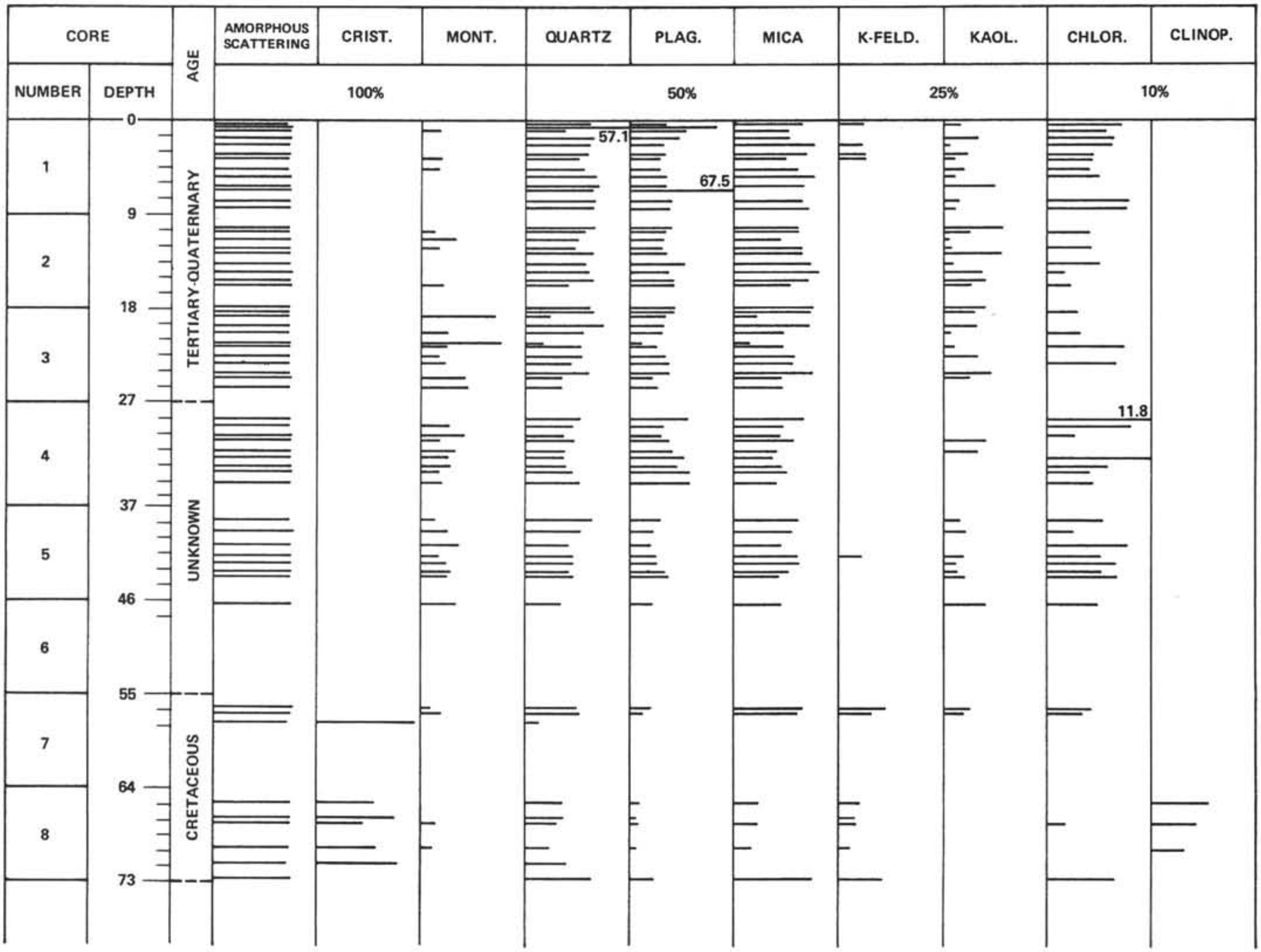


Figure 29. *Hole 52.0. (Bulk)*

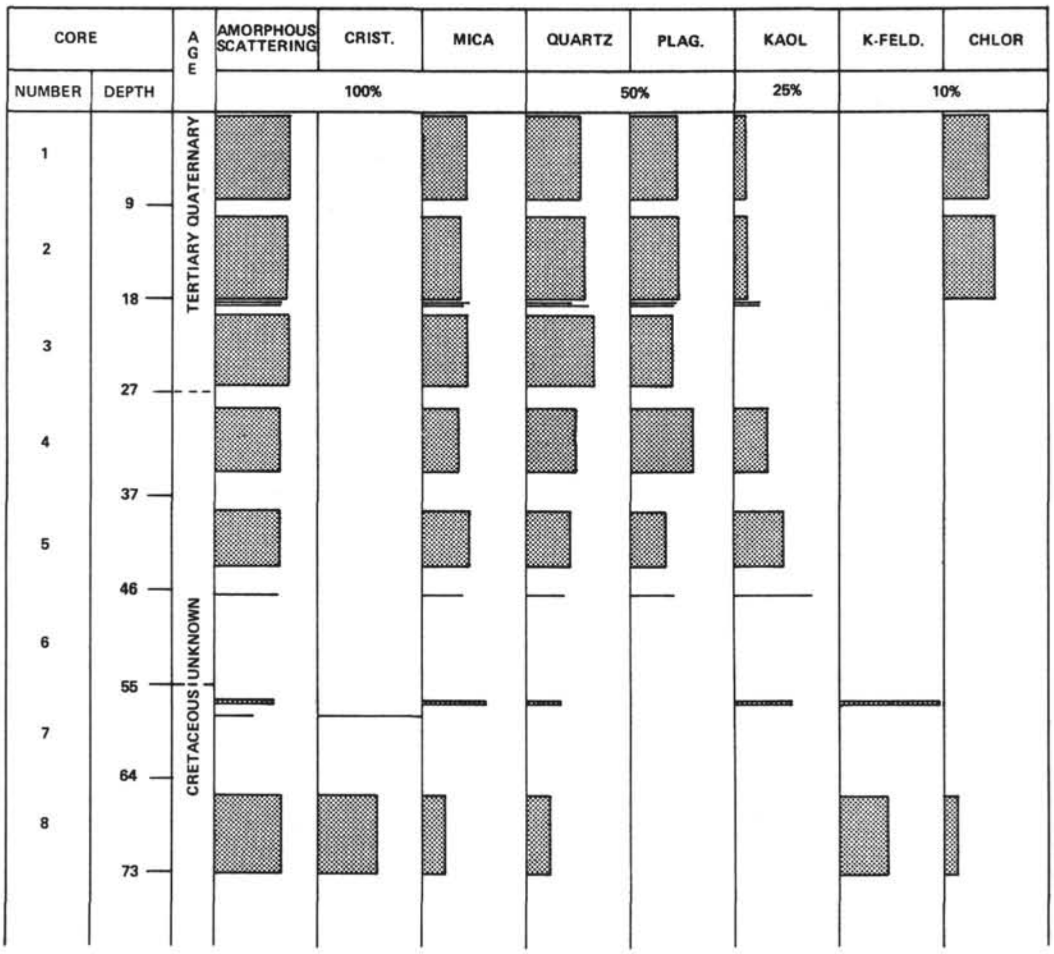


Figure 30. *Hole 52.0. Composited 2-20μ (calcite free)*

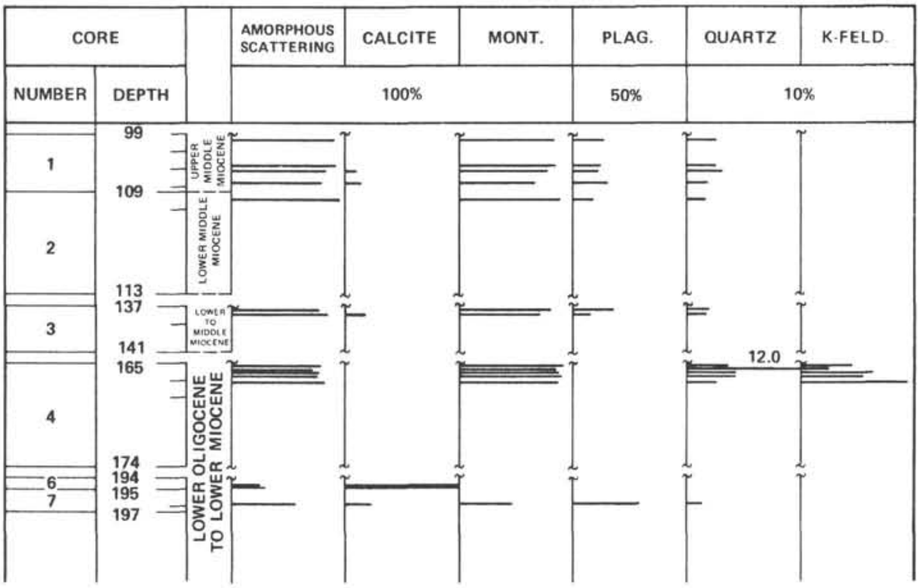


Figure 31. *Hole 53.0. (Bulk)*

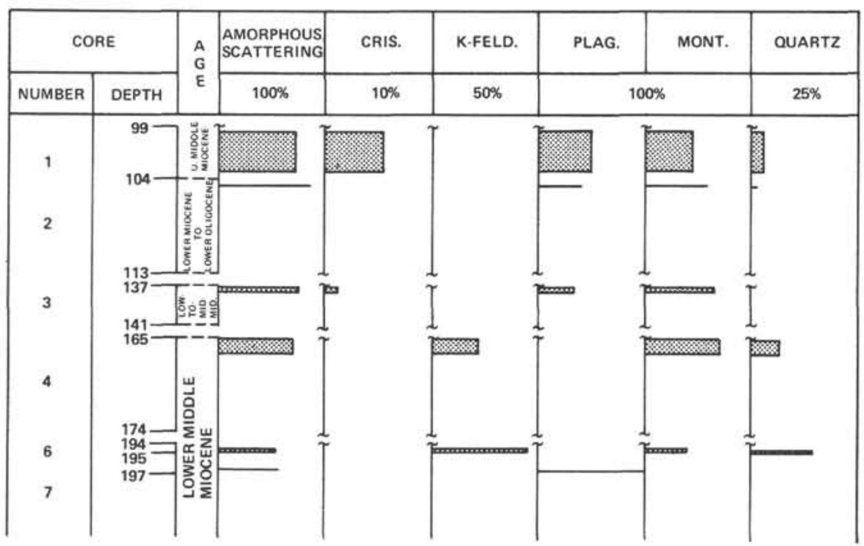


Figure 32. *Hole 53.0. Composited 2-20μ (calcite free)*

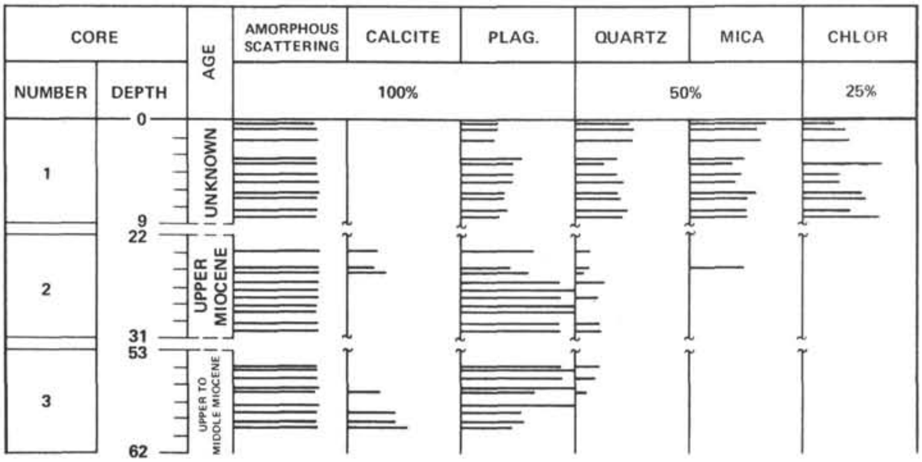


Figure 33. *Hole 53.1. (Bulk)*

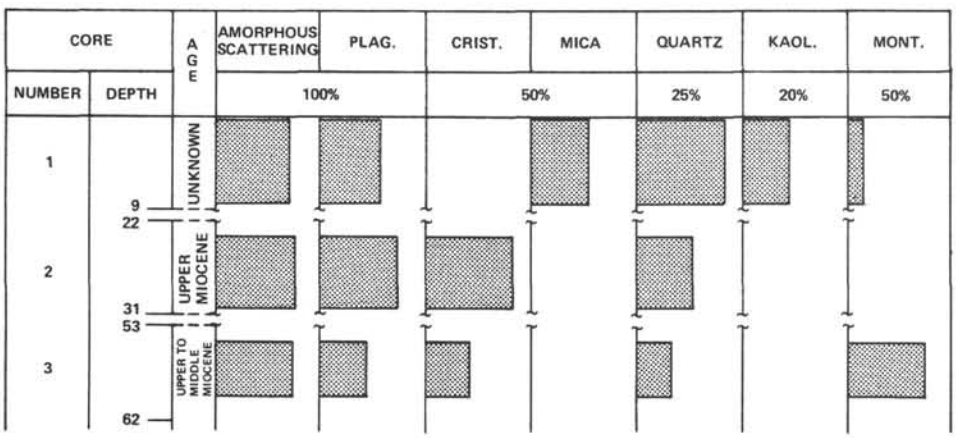


Figure 34. *Hole 53.1. Composited 2-20μ (calcite free)*

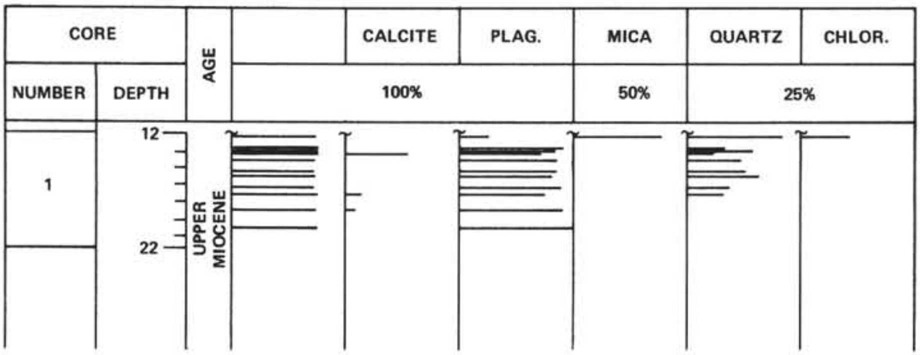


Figure 35. *Hole 53.2. (Bulk)*

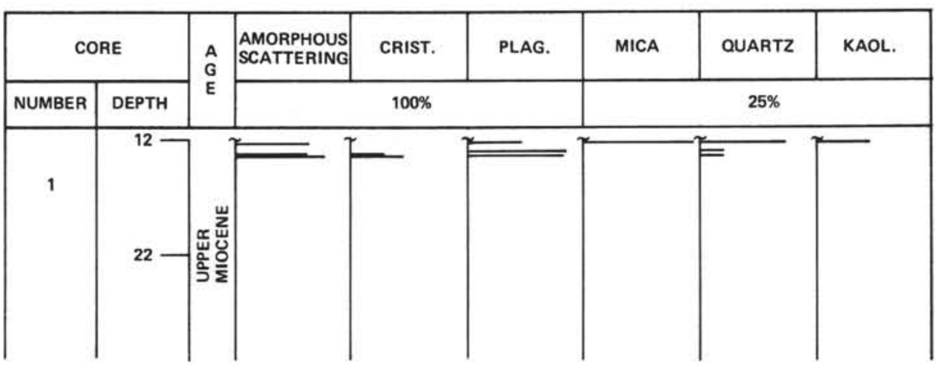


Figure 36. *Hole 53.2. Composited 2-20µ (calcite free)*

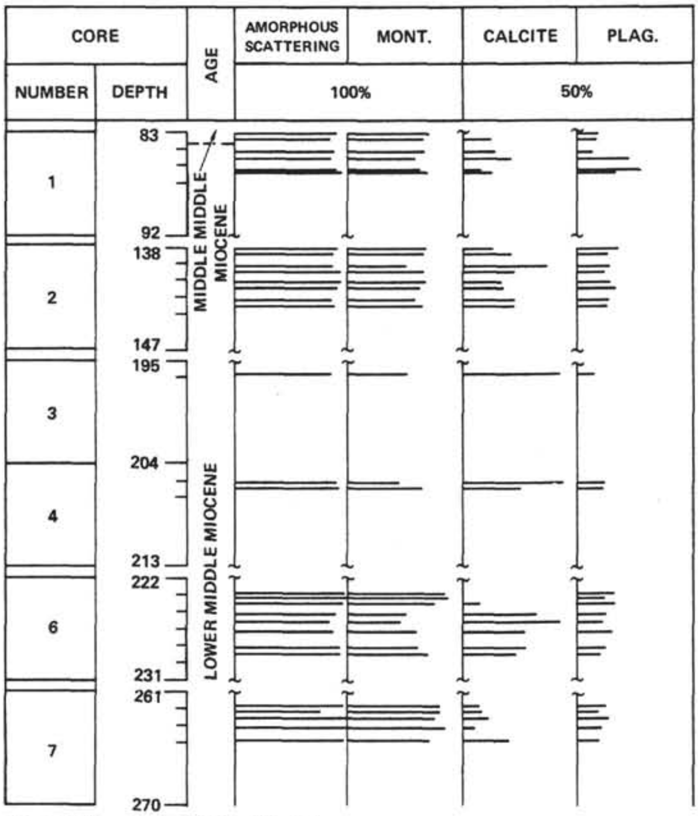


Figure 37. *Hole 54.0. (Bulk)*

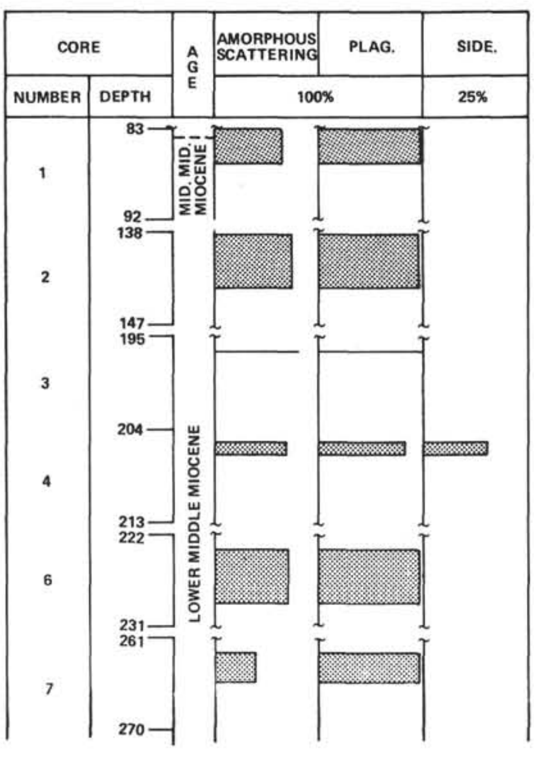


Figure 38. *Hole 54.0. Composited 2-20μ (calcite free)*

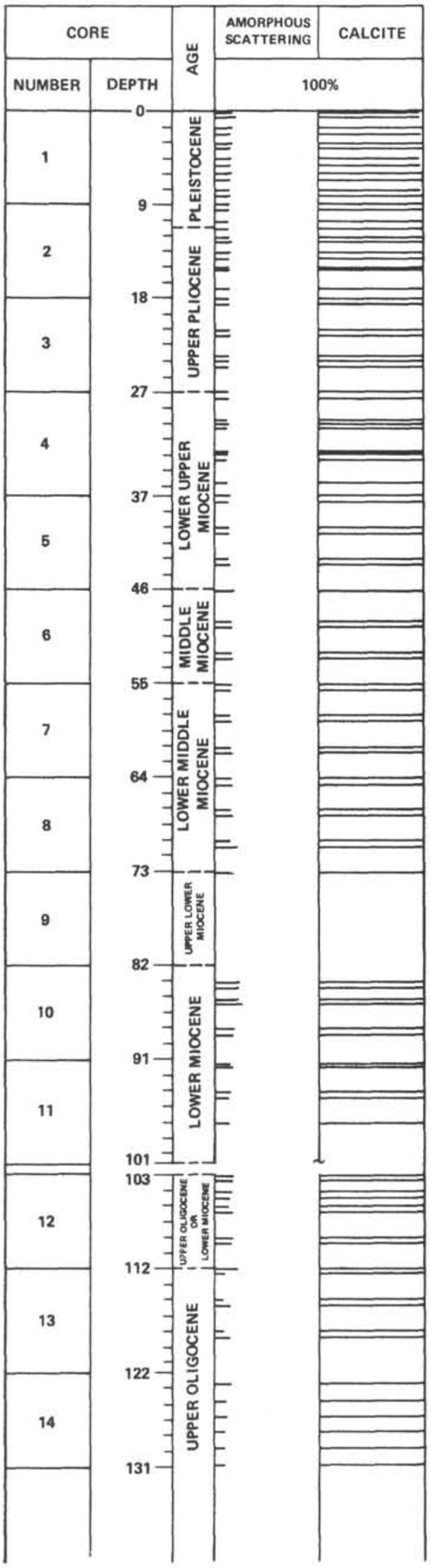
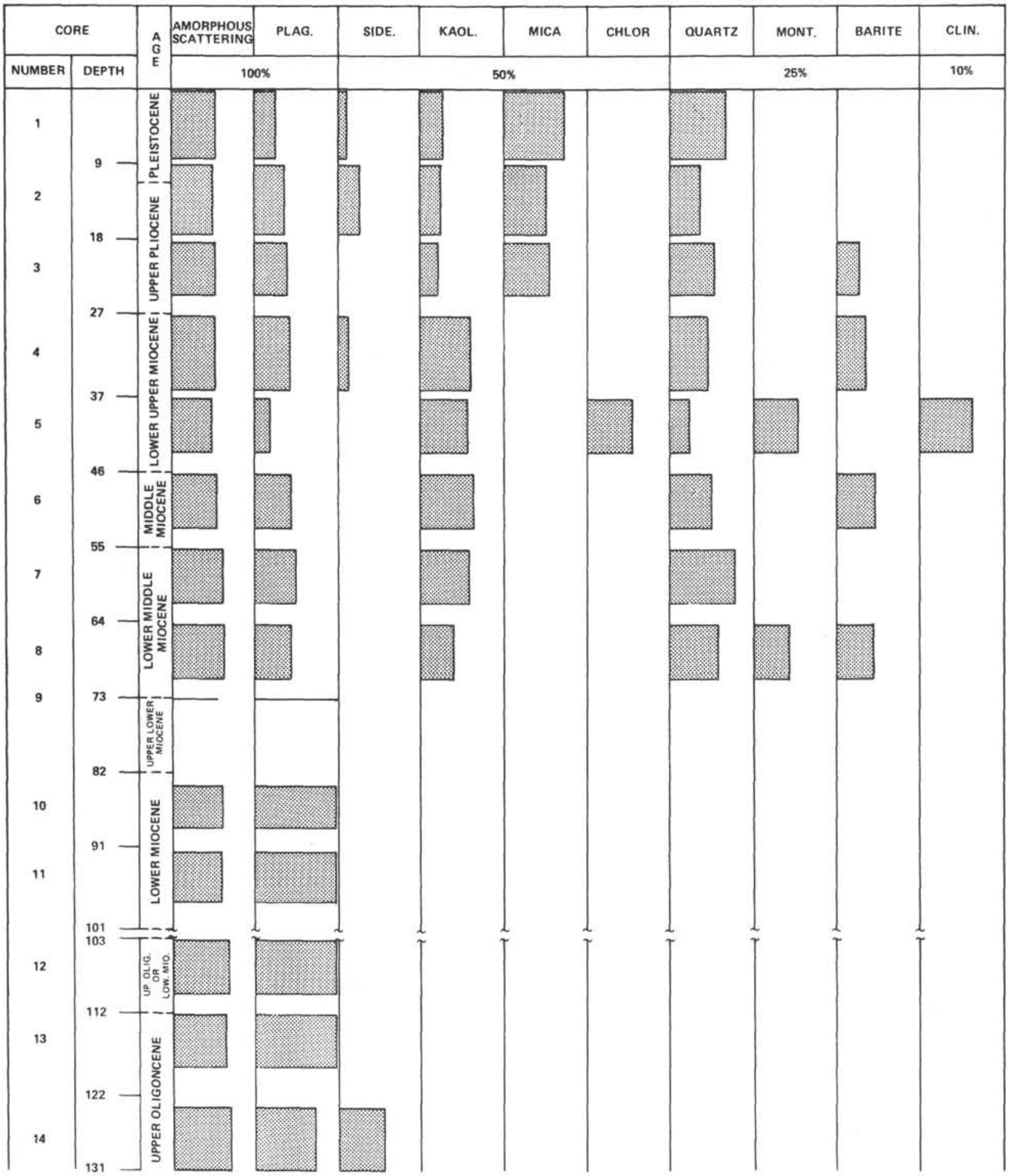


Figure 39. *Hole 55.0. (Bulk)*



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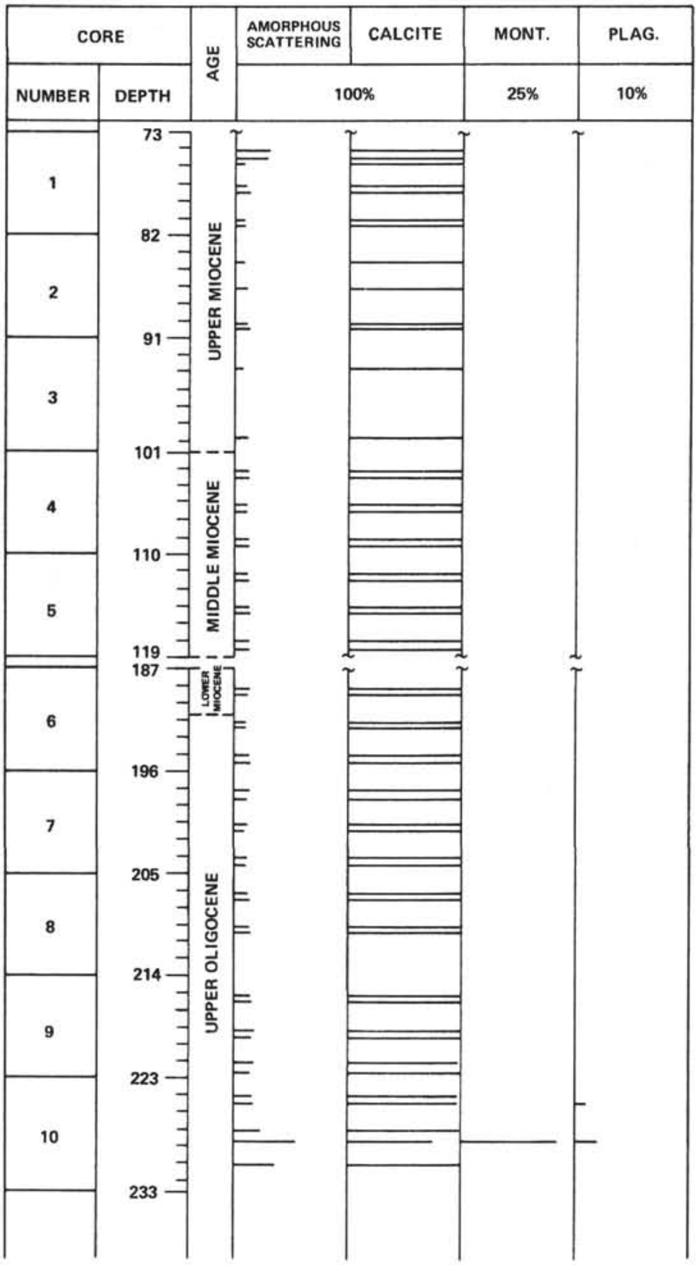

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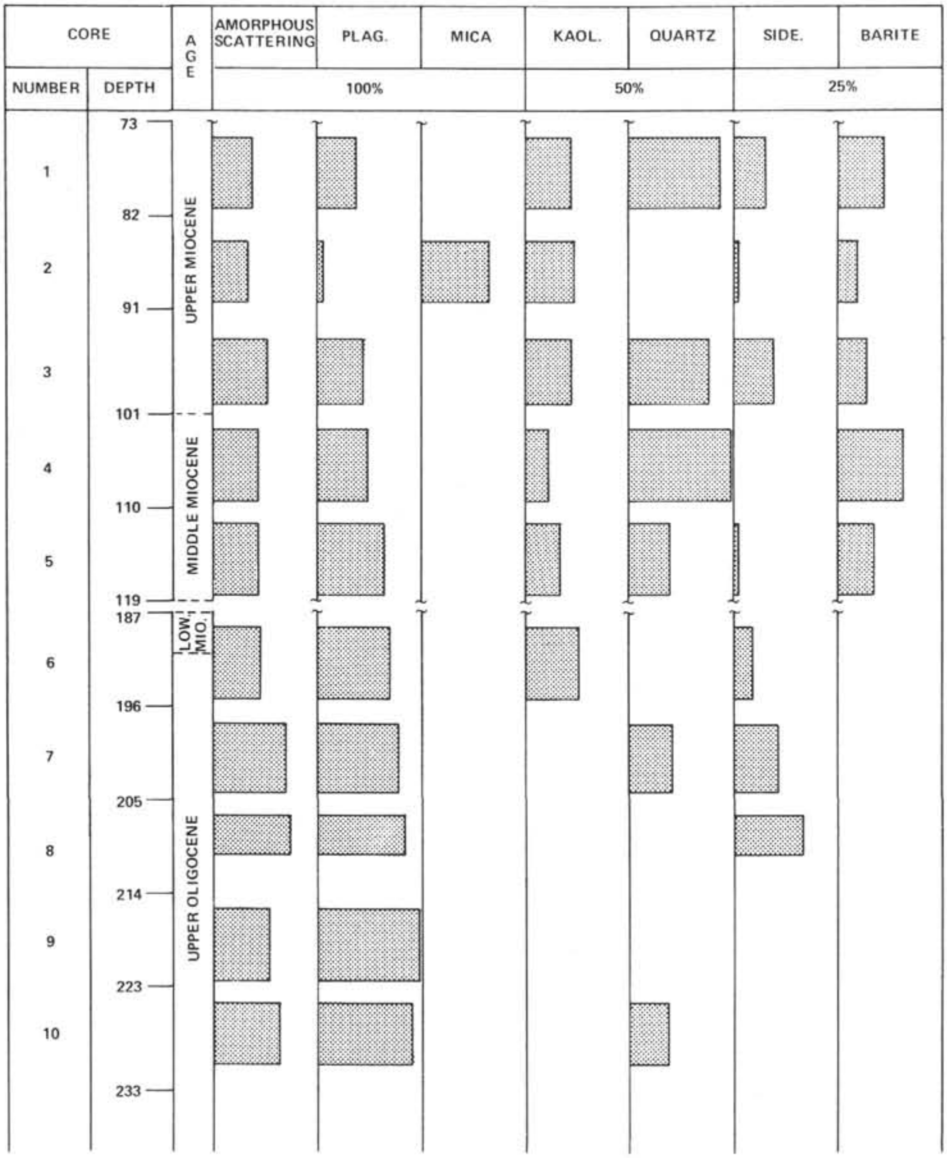

Figure 42. *Hole 56.2. Composited 2-20μ (calcite free)*

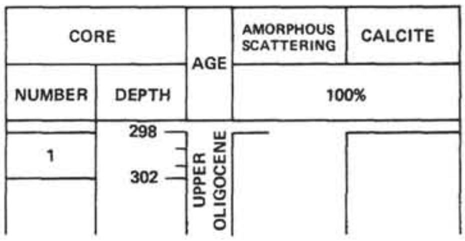

Figure 43. *Hole 57.0. (Bulk)*

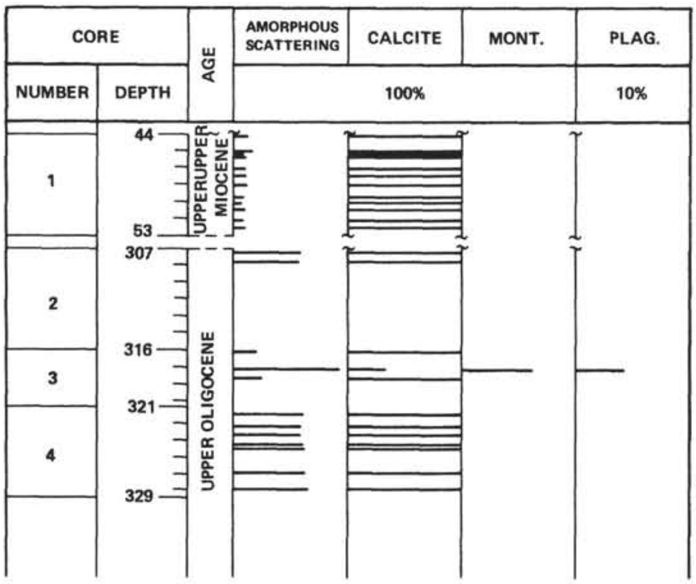

Figure 44. *Hole 57.1. (Bulk)*

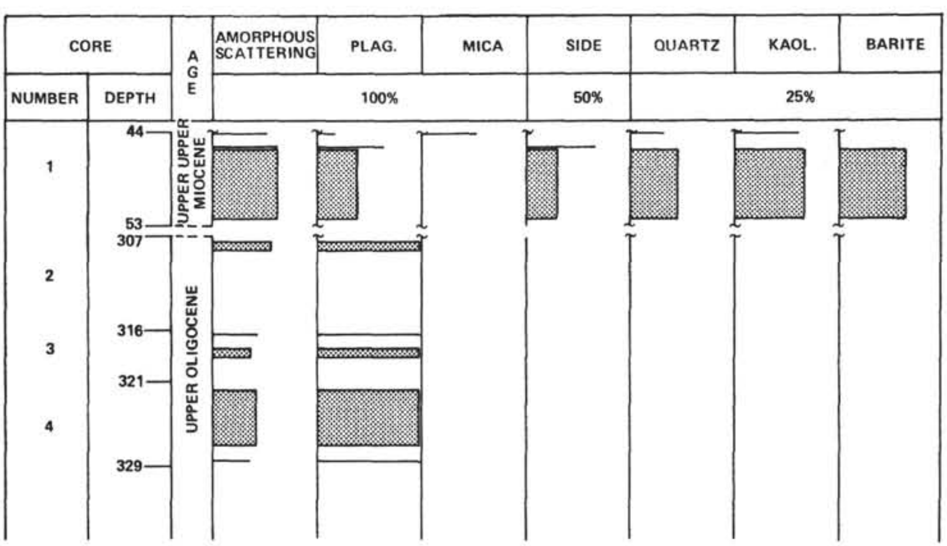

Figure 45. *Hole 57.1. Composited 2-20μ (calcite free)*

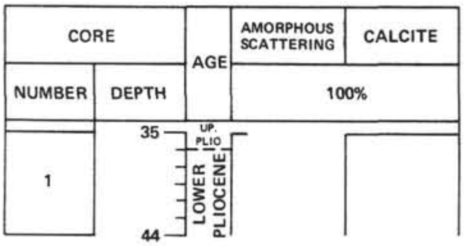

Figure 46. *Hole 57.2. (Bulk)*

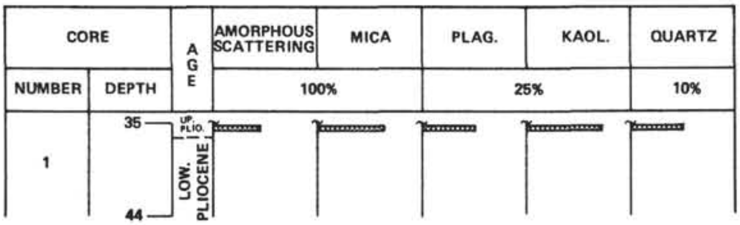

Figure 47. *Hole 57.2. Composited 2-20µ (calcite free)*

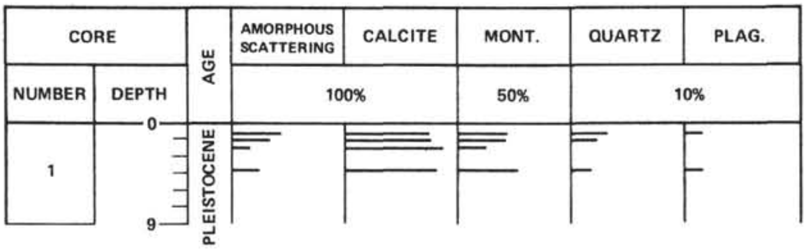

Figure 48. *Hole 58.1. (Bulk)*

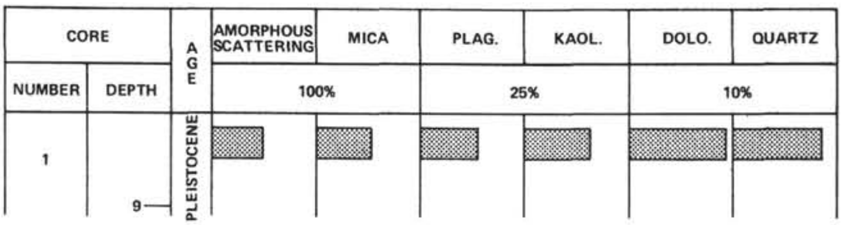

Figure 49. *Hole 58.1. Composited 2-20µ (calcite free)*

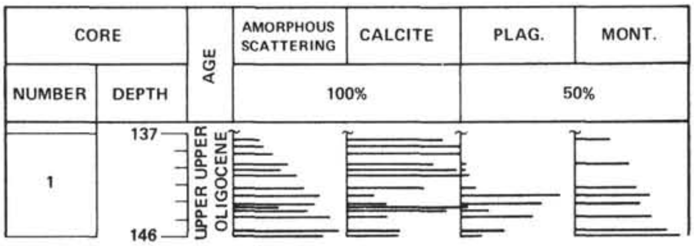

Figure 50. *Hole 58.2. (Bulk)*

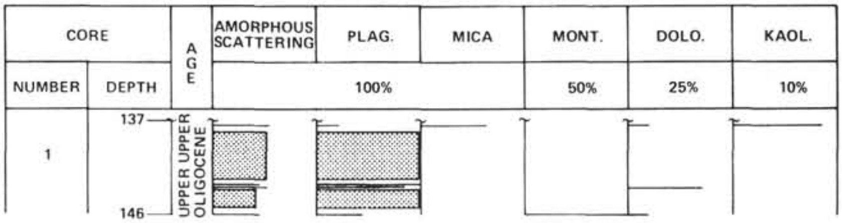

Figure 51. *Hole 58.2. Composited 2-20μ (calcite free)*

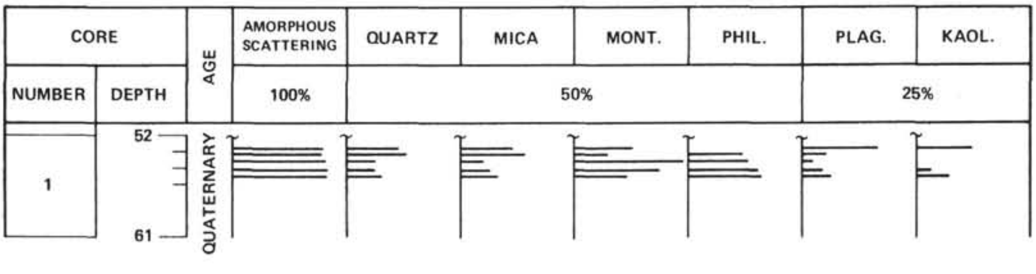

Figure 52. *Hole 59.1. (Bulk)*

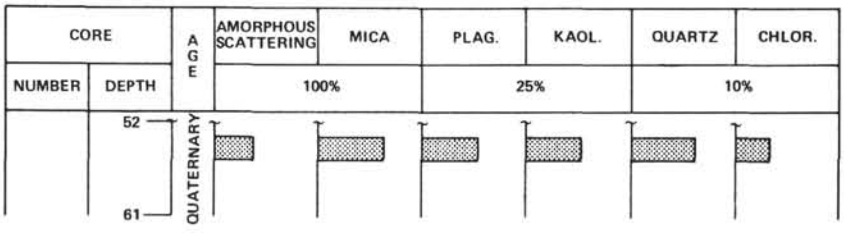

Figure 53. *Hole 59.1. Composited 2-20μ (calcite free)*

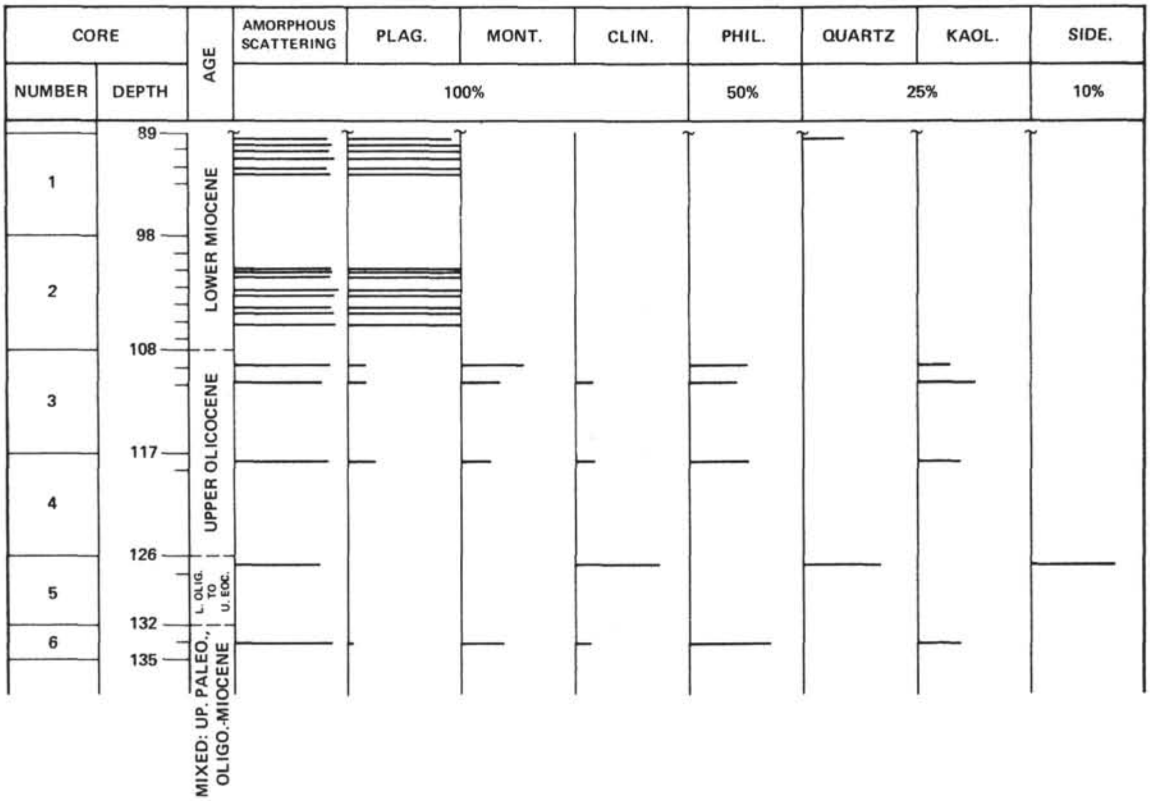

Figure 54. *Hole 59.2. (Bulk)*

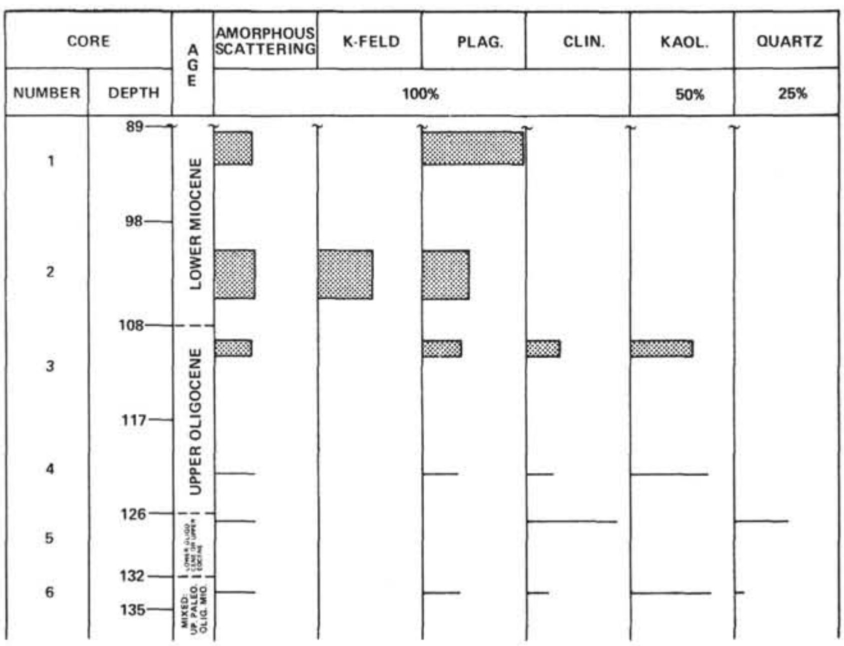

Figure 55. *Hole 59.2. Composited 2-20μ (calcite free)*

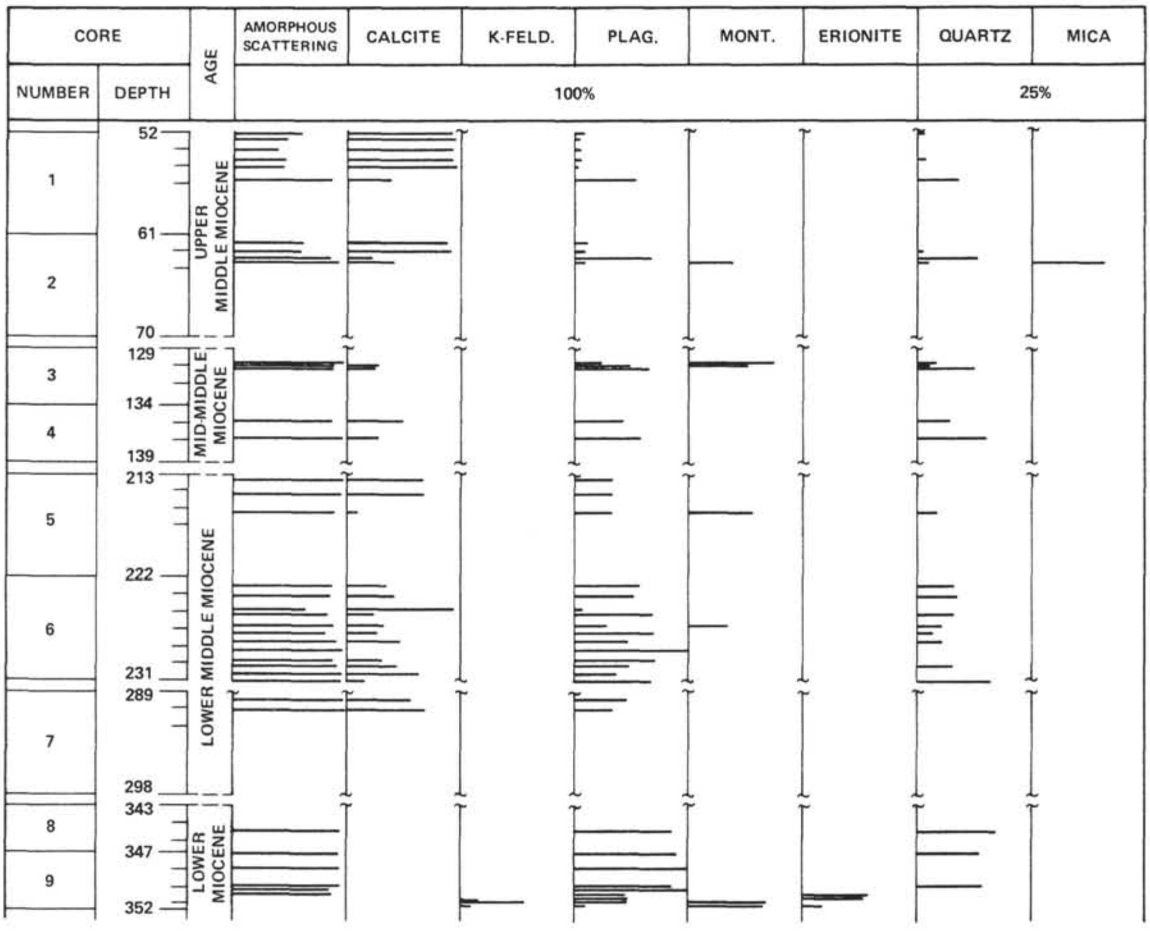

Figure 56. *Hole 60.0. (Bulk)*

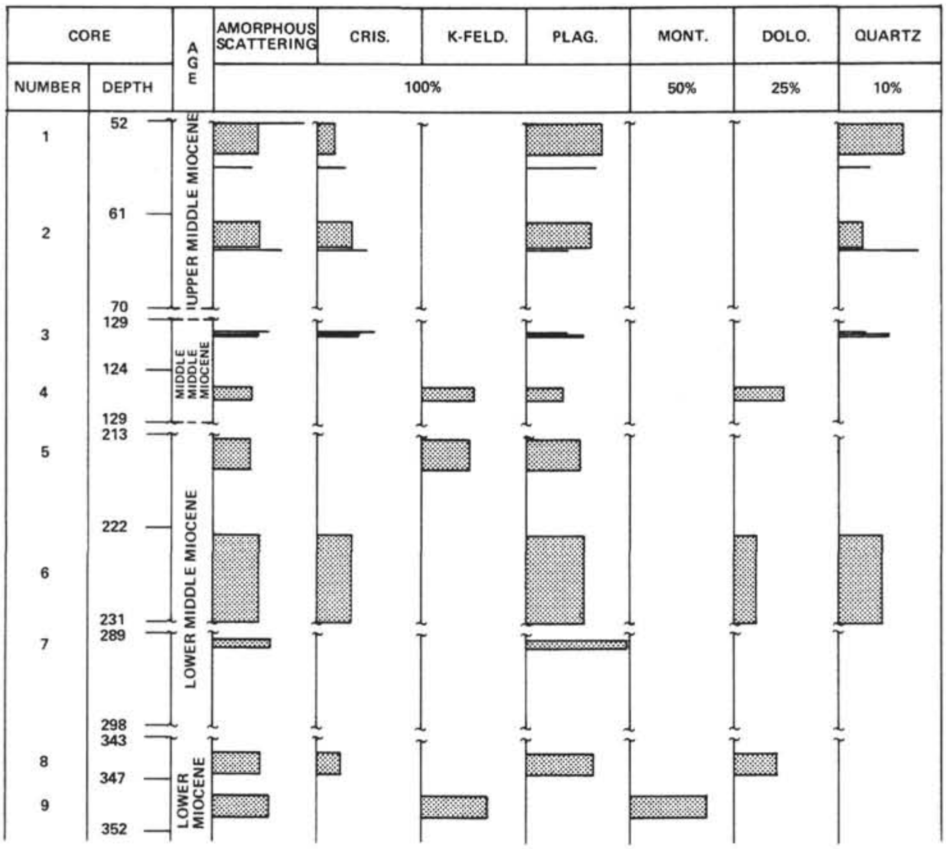

Figure 57. *Hole 60.0. Composited 2-20μ (calcite free)*

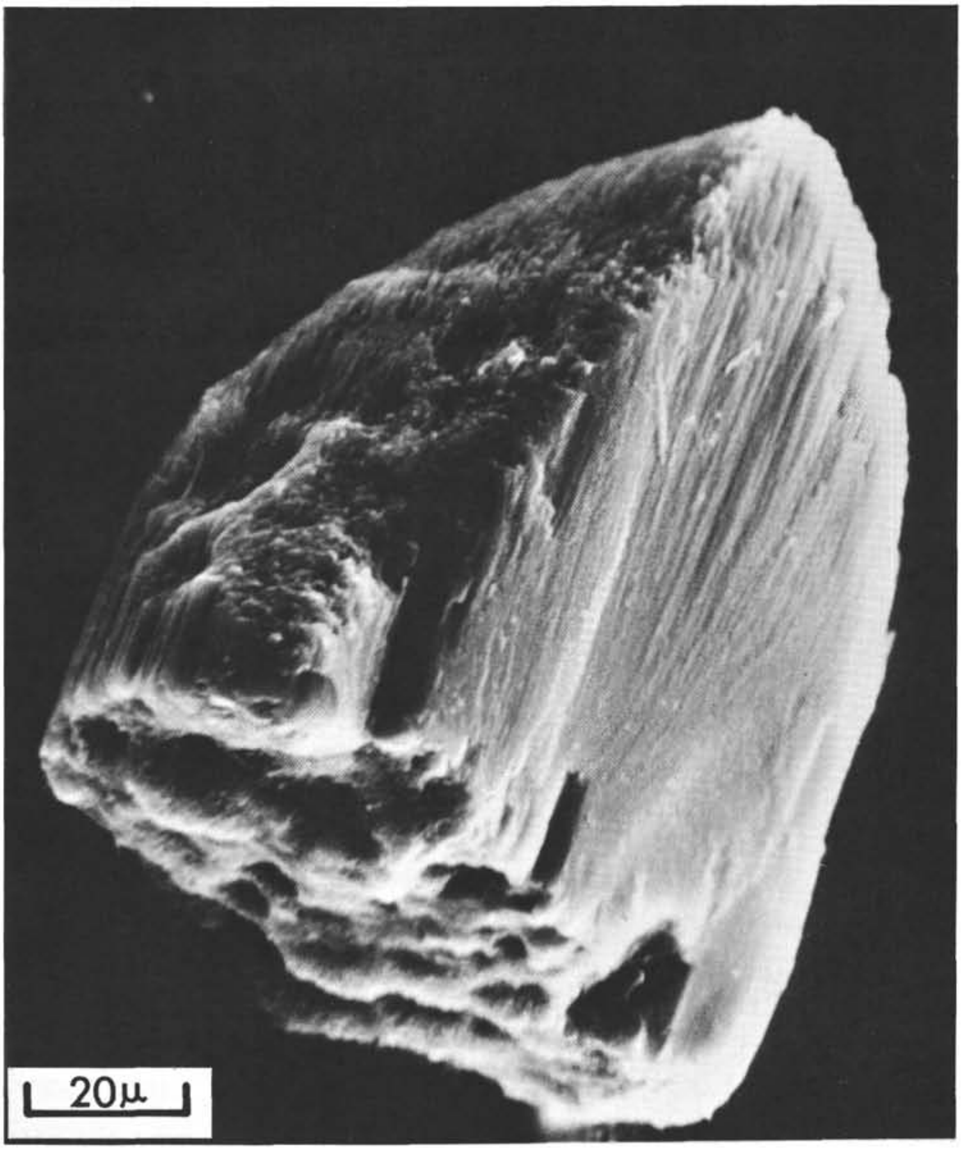

Plate 1. *Scanning electron micrograph of radiating mass of fibrous erionite crystals from Site 60, Core 9.*

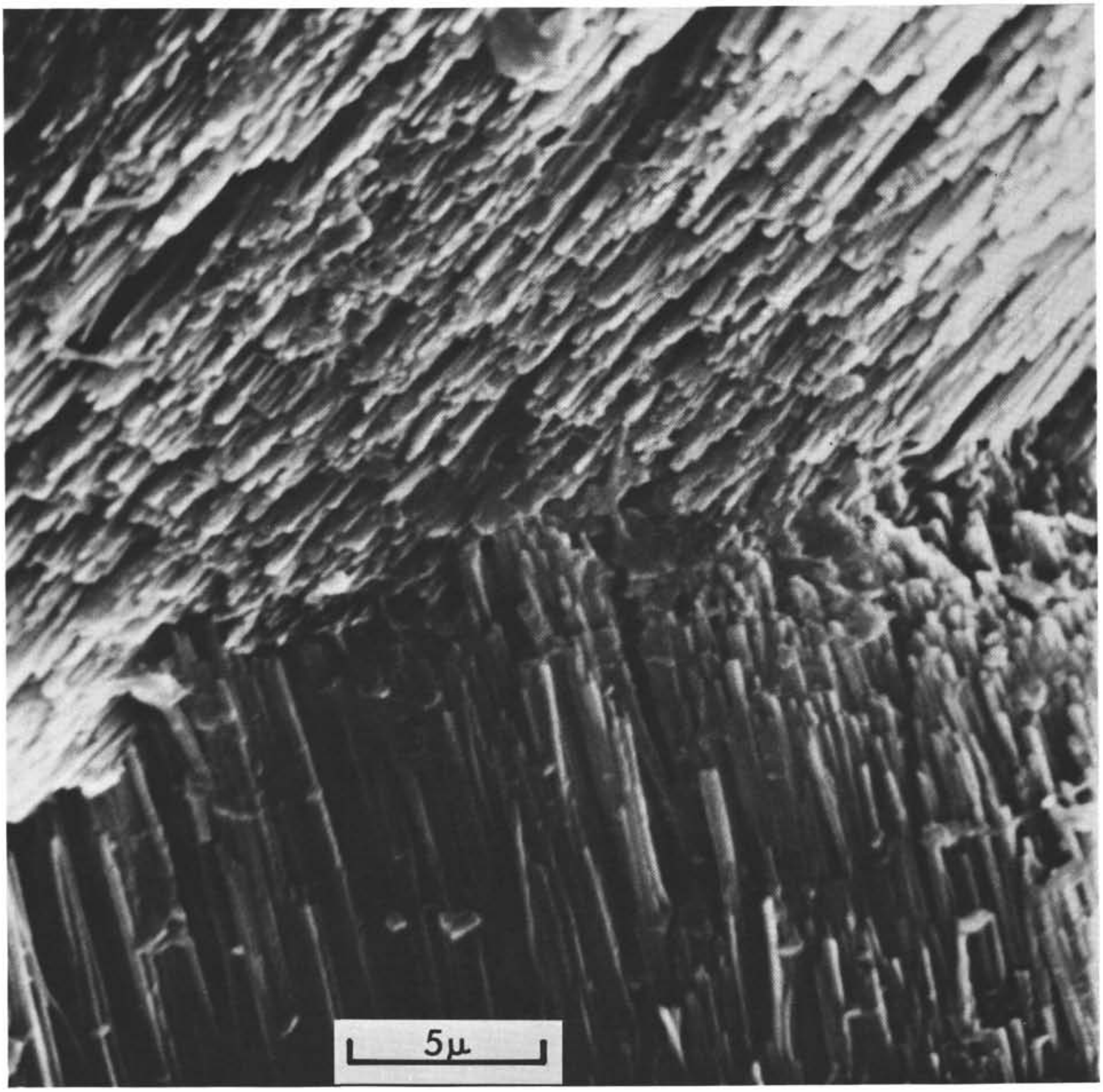

Plate 2. *High magnification scanning electron micrograph of rod shaped erionite crystals from Site 60, Core 9. SEM photos courtesy of Mr. Stanley Margolis, Geology Dept., University of California at Santa Barbara.*

TABLE 1
Results of X-Ray Diffraction Analysis of Bulk Samples from Leg 6

Site 44 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Quar.	Mont.
1	40-49	1	145-150	69.1	9.1	84.5	00.0	15.5
1		2	145-150	69.4	10.0	81.7	00.0	18.3
1		3	145-150	69.7	10.9	78.7	00.0	21.3
1			CC	69.3	9.7	80.3	00.0	19.7
1		4	145-150	70.0	11.8	84.5	00.0	15.5
2	49-58	1	145-150	69.0	8.9	81.7	00.0	18.3
2		2	145-150	69.4	10.0	81.7	00.0	18.3
2		3	145-150	68.7	7.9	78.7	00.0	21.3
2		4	145-150	69.2	9.4	100.0	00.0	
2		5	145-150	69.1	9.1	100.0	00.0	
2		6	145-150	68.5	7.4	84.5	00.0	15.5
2		–	CC	68.6	7.6	79.7	00.0	20.3
3	58-63*	2	145-150	68.7	7.9	86.1	00.0	13.9
3		3	145-150	69.3	9.7	78.7	00.0	21.3
3		4	145-150	68.8	8.2	84.5	00.0	15.5
3		5	145-150	71.3	15.6	83.0	1.7	15.3
3		–	CC	73.4	21.8	78.4	4.0	17.6
4	66-75	0	TOP	70.1	12.1	79.7	00.0	20.3
4		2	145-150	69.6	10.6	77.5	00.0	22.5
4		3	145-150	70.1	12.1	84.5	00.0	15.5
4		4	145-150	70.0	11.8	81.7	00.0	18.3
4		5	145-150	70.3	12.6	84.5	00.0	15.5
4		6	145-150	70.2	12.4	79.7	00.0	20.3
4		–	CC	69.2	9.4	81.7	00.0	18.3
5	75-76	0	TOP	74.8	25.9	79.3	2.8	17.8

* Depth changed on plot to accommodate samples received.

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Quar.	Crist.	K-Fe	Plag.	Kaol.	Mica	Clin.	Bari.
1	40-49	41.45-46.00	67.1	48.6	00.0	00.0	15.4	12.9	00.0	00.0	58.2	13.4
2	49-58	50.45-58.00	79.4	67.8	00.0	00.0	20.1	16.7	00.0	00.0	34.1	29.1
3	58-63*	59.45-62.50	64.3	44.2	00.0	00.0	29.8	00.0	00.0	00.0	48.0	22.2
3		63.95-64.00	67.5	49.2	68.2	16.8	4.7	00.0	00.0	00.0	6.2	4.1
3		CC	71.8	55.9	62.2	10.2	00.0	00.0	00.0	00.0	6.5	21.1
4	66-75	66.00-75.00	73.5	58.6	18 3	00.0	23.1	00.0	00.0	00.0	28.5	30.0
5	75-76	TOP	75.4	61.6	17.1	00.0	00.0	18.4	14.3	32.7	11.8	5.6

* Plot changed in order to accommodate samples received.

Site 45.1 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Quar.	K-Fe.	Plag.	Mica	Phil.
1	0-8	1	10-12	91.3	74.4	00.0	19.0	15.6	11.4	20.1	33.8
1			108-110	91.5	75.0	00.0	26.7	21.9	4.0	00.0	47.4

TABLE 1 – *Continued*

Site 45.1 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Quar.	K-Fe.	Plag.	Mica	Phil.
1	0-8	2	20-22	91.3	74.4	00.0	00.0	38.5	25.7	00.0	35.8
1			81-83	91.7	75.6	00.0	16.5	24.7	14.8	00.0	44.0
1		3	26-27	90.6	72.4	00.0	00.0	32.4	19.4	00.0	48.2
1			110-112	91.5	75.0	00.0	9.4	25.7	14.2	17.2	33.5
1		4	9-11	91.4	74.7	00.0	11.8	28.4	17.7	00.0	42.1
1			40-42	90.7	72.6	00.0	00.0	38.4	24.4	00.0	37.2
1			134-136	89.9	70.3	65.8	00.0	9.7	6.7	00.0	17.8
1		5	56-58	91.4	74.7	26.3	00.0	00.0	00.0	00.0	73.7

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Plag.	Mica	Phil.
1	0-8	0.10-6.58	85.9	78.0	27.6	15.1	57.2

Site 46 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Quar.	K-Fe.	Plag.	Kaol.	Mica
1	0-9	1	145-150	90.2	71.2	35.8	3.4	8.9	11.8	40.1
1		2	145-150	90.0	70.6	33.9	00.0	9.8	15.5	40.7
1		3	145-150	90.4	71.8	35.7	2.4	8.6	11.4	41.9
1		4	145-150	90.3	71.5	33.9	3.8	10.1	13.5	38.7
1		5	145-150	89.8	70.0	39.1	00.0	10.5	10.8	39.6
1		6	145-150	90.2	71.2	37.7	00.0	10.1	13.2	39.1

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Quar.	Plag.	Kaol.	Mica	Chlor.
1	0-9	1.45-9.00	76.5	63.3	22.4	10.3	7.4	56.4	3.6

Site 47.0 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Quar.	Plag.	Mont.	Kaol.	Mica
1	0-9	1	10-12	81.0	44.1	78.7	9.6	2.8	00.0	2.4	6.4
1			88-90	82.2	47.6	74.5	4.9	1.5	13.3	2.7	3.0
1		2	17-19	81.5	45.6	57.5	6.7	2.6	26.1	2.3	4.7
1			102-104	77.4	33.5	90.3	4.6	1.4	00.0	00.0	3.7
1		3	19-21	80.6	42.9	82.3	8.4	2.5	00.0	3.4	3.4
1			95-97	77.1	32.6	76.6	3.9	1.2	13.6	1.6	3.1
1		4	8-11	77.1	32.6	70.5	2.9	1.1	25.5	00.0	00.0
1			86-89	81.4	45.3	61.0	7.2	2.2	20.9	2.5	6.2
1		5	9.5-11.5	79.3	39.1	68.5	5.2	2.1	18.5	00.0	5.6
1			54.5-56.5	72.6	19.4	99.1	00.0	00.0	00.0	00.0	00.0
1		6	11-13	76.3	30.3	72.6	3.3	1.1	23.0	00.0	00.0
1			74-76	78.3	36.2	65.3	4.7	1.3	22.3	1.7	4.7

Site 47.1 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Mont.
1	90-105	1	145-150	72.7	19.7	99.0	00.0
1		2	13-15	71.3	15.6	85.9	13.7
1			75-77	69.9	11.5	100.0	00.0

TABLE 1 – *Continued*

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Quar.	Plag.	Kaol.	Mica	Chlor.	Mont.
1	0-9	0.10-8.26	81.3	70.8	22.4	11.9	5.4	53.8	5.4	1.1

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Quar.	Plag.	Kaol.	Mica	Chlor.	Mont.
1	90-105	97.45-98.27	80.5	69.5	30.3	16.0	6.4	42.1	3.6	1.5

Site 47.2 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calcite	Quar.	Plag.
1	9-18	2	19-22	87.3	62.6	93.9	4.9	1.2
1			73-75	87.8	64.1	92.9	5.9	1.2
1		3	6-8	86.9	61.5	96.2	3.8	00.0
1			111-114	87.4	62.9	92.7	6.2	1.1
1		4	4-6	87.0	61.8	95.8	4.2	00.0
1			74-76	86.6	60.6	98.1	1.9	00.0
2	18-27	2	10-11	87.1	62.1	96.3	3.7	00.0
2			75-77	87.3	62.6	94.2	5.0	00.0
2		3	4-6	86.3	59.7	98.5	1.5	00.0
2			74-76	87.7	63.8	96.5	3.5	00.0
2		4	3.5-5.5	87.1	62.1	94.2	4.9	00.0
2			74-76	87.7	63.8	90.6	7.6	1.8
2		5	2-4	86.0	58.8	98.6	1.4	00.0
2			109-111	85.9	58.5	99.1	00.0	00.0
2		6	3-5	86.4	60.0	98.3	1.7	00.0
2			74-76	86.9	61.5	94.7	4.5	00.0
3	27-37	2	3.5-5.5	86.4	60.0	96.6	3.4	00.0
3			74-76	85.9	58.5	98.1	1.9	00.0
3		3	3-5	86.3	59.7	98.2	1.8	00.0
3			74-76	86.6	60.6	98.4	1.6	00.0
3		4	13.5-15.5	86.5	60.3	98.7	1.3	00.0
3			74-76	86.3	59.7	98.8	1.2	00.0
4	37-46	1	13.5-15.5	86.3	59.7	99.3	00.0	00.0
4			74-76	86.1	59.1	98.9	1.1	00.0
4		2	14-16	86.3	59.7	98.9	1.1	00.0
4			74-76	86.5	60.3	98.5	1.5	00.0
4		3	13.5-15.5	86.1	59.1	99.4	00.0	00.0
4			74-76	86.3	59.7	98.8	1.2	00.0
4		4	10.5-13	86.3	59.7	98.9	1.1	00.0
4			74-76	85.8	58.2	99.4	00.0	00.0
4		5	13.5-15.5	86.0	58.8	98.8	1.2	00.0
4			74-76	86.7	60.9	98.5	1.5	00.0
4		6	14-16	86.4	60.0	99.3	00.0	00.0
4			73-75	86.0	58.8	99.1	00.0	00.0
5	46-55	1	14-16	86.0	58.8	99.4	00.0	00.0
5			74-76	86.2	59.4	99.4	00.0	00.0
5		2	3.5-5.5	86.2	59.4	99.5	00.0	00.0
5			74-76	85.9	58.5	99.3	00.0	00.0
5		3	3-5	85.9	58.5	99.2	00.0	00.0
5			69-71	87.7	63.8	94.4	1.4	4.2
5		4	3-5.5	86.5	60.3	98.0	1.3	00.0
5			75-77	86.3	59.7	98.7	1.3	00.0
5		5	3-5	86.4	60.0	99.4	00.0	00.0

TABLE 1 – *Continued*

Site 47.2 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Quar.	Plag.
5	46-55	6	74-76	86.7	60.9	98.0	2.0	00.0
5		6	3.5-5.5	86.4	60.0	98.8	1.2	00.0
5			71-73	86.2	59.4	98.8	1.2	00.0
6	55-64	2	2.5-5	86.5	60.3	98.4	1.6	00.0
6			74-76	86.2	59.4	99.2	00.0	00.0
6		3	14.5-16.5	85.7	57.9	98.9	1.1	00.0
6			125-127	86.3	59.7	98.6	1.4	00.0
7	64-73	1	14-16	86.4	60.0	98.6	1.4	00.0
7			74-76	86.3	59.7	99.1	00.0	00.0
7		2	74-76	85.3	56.8	100.0	00.0	00.0
7		3	10-12	85.7	57.9	100.0	00.0	00.0
7			74-76	85.5	57.4	100.0	00.0	00.0
7		4	14-16	85.8	58.2	100.0	00.0	00.0
7			70-72	85.6	57.6	100.0	00.0	00.0
7		5	24.5-26.5	85.7	57.9	100.0	00.0	00.0
7			79-81	85.6	57.6	100.0	00.0	00.0
7		6	123-127	85.2	56.5	100.0	00.0	00.0
8	73-82	1	24-26	85.5	57.4	100.0	00.0	00.0
8			74-76	85.3	56.8	100.0	00.0	00.0
8		2	14-16	85.6	57.6	100.0	00.0	00.0
8			74-76	85.3	56.8	100.0	00.0	00.0
8		3	15-17	85.6	57.6	100.0	00.0	00.0
8			75-77	85.7	57.9	99.9	00.0	00.0
8		4	14-16	85.5	57.4	100.0	00.0	00.0
8			74-76	85.4	57.1	100.0	00.0	00.0
8		5	14-16	85.4	57.1	100.0	00.0	00.0
8		5	73-75	85.8	58.2	100.0	00.0	00.0
8		6	14-16	85.4	57.1	99.7	00.0	00.0
8			74-76	85.7	57.8	100.0	00.0	00.0
9	82-91	1	10-12	85.8	58.2	100.0	00.0	00.0
9			72-74	85.7	57.8	100.0	00.0	00.0
9		2	14-16	85.9	58.5	100.0	00.0	00.0
9			75-77	85.7	57.9	100.0	00.0	00.0
9		3	14-16	85.3	56.8	100.0	00.0	00.0
9			74-76	85.6	57.6	100.0	00.0	00.0
9		4	0-5	85.3	56.8	100.0	00.0	00.0
9		5	14-16	85.7	57.9	100.0	00.0	00.0
9			75-77	85.7	57.9	100.0	00.0	00.0
9		6	60-5	85.6	57.6	100.0	00.0	00.0
10	91-101	1	14-16	86.0	58.8	100.0	00.0	00.0
10			74-76	85.4	57.1	100.0	00.0	00.0
10		2	14-16	85.5	57.4	100.0	00.0	00.0
10			75-77	85.4	57.1	100.0	00.0	00.0
10		3	15-17	85.6	57.6	100.0	00.0	00.0
10			74-76	85.5	57.4	100.0	00.0	00.0
10		4	14-16	85.3	56.8	100.0	00.0	00.0
10			74-76	85.5	57.4	100.0	00.0	00.0
10		5	14-16	85.6	57.6	100.0	00.0	00.0
10			74-76	85.8	58.2	100.0	00.0	00.0
10		6	13-15	85.7	57.9	100.0	00.0	00.0
10			74-76	85.7	57.9	100.0	00.0	00.0
11	101-110	1	145-150	85.5	57.4	99.5	00.0	00.0
11		2	145-150	85.7	57.9	100.0	00.0	00.0

TABLE 1 – *Continued*

Site 47.2 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Quar.	Plag.
11	101-110	3	145-150	85.6	57.6	100.0	00.0	00.0
11		4	145-150	85.4	57.1	100.0	00.0	00.0
11		5	145-150	85.5	57.4	100.0	00.0	00.0
11		6	145-150	85.4	57.1	100.0	00.0	00.0
12	110-119	1	145-150	82.2	47.6	100.0	00.0	00.0
12		2	15-17	85.2	56.5	100.0	00.0	00.0
12			81-83	85.3	56.8	100.0	00.0	00.0
12		3	145-150	85.4	57.1	100.0	00.0	00.0
12		4	145-150	85.2	56.5	100.0	00.0	00.0
13	119-128	1	145-150	85.5	57.4	100.0	00.0	00.0
13		2	145-150	85.4	57.1	100.0	00.0	00.0
13		3	13-15	85.2	56.5	100.0	00.0	00.0
13			74-76	85.3	56.8	100.0	00.0	00.0
13		4	145-150	85.2	56.5	100.0	00.0	00.0
13		5	145-150	85.3	56.8	100.0	00.0	00.0
13		6	145-150	85.2	56.5	100.0	00.0	00.0
14	128-129*	1	145-150	85.5	57.4	100.0	00.0	00.0
14		2	145-150	85.3	56.8	100.0	00.0	00.0
14		3	145-150	85.6	57.6	100.0	00.0	00.0
14		4	145-150	85.6	57.6	100.0	00.0	00.0
14		5	145-150	85.4	57.1	100.0	00.0	00.0
14		6	145-150	85.3	56.8	100.0	00.0	00.0

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Quar.	K-Fe.	Plag.	Kaol.	Mica	Chlor.	Mont.	Clin.	Barite
1	9-18	10.69-14.26	79.8	68.4	29.1	00.0	14.7	12.2	44.0	00.0	00.0	00.0	00.0
2	18-27	19.60-26.26	80.5	69.5	30.0	00.0	15.2	7.2	45.3	2.4	00.0	00.0	00.0
3	27-37	28.54-31.66	79.5	67.6	25.8	00.0	12.5	9.3	48.8	2.1	00.0	00.0	1.5
4	37-46	37.74-45.25	75.3	61.4	28.1	00.0	14.8	11.8	42.4	00.0	00.0	00.0	2.8
5	46-55	46.14-54.23	78.7	66.7	31.0	00.0	21.4	9.3	35.2	00.0	00.0	00.0	3.1
6	55-64	56.52-59.27	73.6	58.8	26.1	00.0	13.2	6.2	49.3	3.1	00.0	00.0	2.1
7	64-73	64.14-72.77	79.6	68.1	23.7	00.0	15.3	11.1	46.9	00.0	00.0	00.0	3.0
8	72-82	73.24-81.26	70.1	53.3	17.7	18.4	00.0	8.0	55.9	00.0	00.0	00.0	00.0
9	82-91	82.10-89-55	71.8	55.9	11.3	9.6	6.5	15.3	49.9	00.0	00.0	7.4	00.0
10	91-101	91.14-99.26	73.6	58.8	13.0	13.5	7.5	7.8	41.1	00.0	00.0	17.0	00.0
11	101-110	102.45-110.00	78.5	66.4	14.0	10.3	7.1	5.0	49.4	00.0	00.0	14.2	00.0
12	110-119	111.45-116.00	72.4	56.9	11.7	6.7	4.8	4.2	47.1	00.0	19.4	6.1	00.0
13	119-128	120.45-128.00	72.3	56.7	17.9	7.8	00.0	5.9	49.7	00.0	12.1	6.5	00.0
14	128-129*	129.45-137.00*	72.5	57.0	12.4	8.6	00.0	5.2	54.6	00.0	11.2	8.0	00.0

* Plot changed in order to accommodate samples received.

Site 48.1 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Quar.
1	48-49	1	19-21	76.1	29.7	95.3	3.9

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Quar.	Plag.	Kaol.	Mica	Chlor.
1	48-49	48.19-48.21	75.1	61.1	20.0	8.8	6.6	60.6	4.0

Site 48.2 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Quar.	Mont.
1	51-60	1	25-27	72.5	19.1	84.1	00.0	15.0
1			49-50	71.4	15.9	99.4	00.0	00.0
1		2	30-32	71.9	17.4	99.3	00.0	00.0
1			74-76	72.0	17.6	99.0	00.0	00.0
1		3	13-15	73.2	21.2	98.8	1.2	00.0
1			74-76	73.0	20.6	98.8	1.2	00.0
1		4	13-15	72.3	18.5	99.0	00.0	00.0
1			74-76	74.4	24.7	98.9	1.1	00.0
1		5	4-6	73.5	22.1	99.0	00.0	00.0
1			70-72	72.6	19.4	98.9	1.1	00.0
1		6	8-10	69.0	8.8	100.0	00.0	00.0
1			71-73	71.5	16.2	99.3	00.0	00.0
2	60-69	1	145-150	68.6	7.6	100.0	00.0	00.0
2		2	14-16	68.0	5.9	100.0	00.0	00.0
2			74-76	68.8	8.2	100.0	00.0	00.0
2		3	145-150	69.0	8.8	100.0	00.0	00.0
2		4	15-17	69.7	10.9	99.9	00.0	00.0
2			74-76	69.3	9.7	100.0	00.0	00.0
2		5	13-15	69.1	9.1	100.0		
2			74-76	70.0	11.8	83.4	00.0	16.6
2		6	13-15	70.0	11.8	100.0	00.0	00.0
2			74-76	69.2	9.4	100.0	00.0	00.0
3	69-72*	1	120-122	69.4	10.0	99.0	00.0	00.0
3		2	23-27	69.7	10.9	100.0	00.0	00.0
3		3	11-13	69.0	8.8	100.0	00.0	00.0
3		4	14-16	69.5	10.3	100.0	00.0	00.0
3		5	13-15	69.8	11.2	100.0	00.0	00.0

* Plot changed to accommodate samples received.

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Quar.	K-Fe.	Plag.	Kaol.	Mica	Chlor.	Clin.
1	51-60	51.25-59.23	66.3	47.3	18.6	00.0	10.7	8.4	58.6	3.7	00.0
2	60-69	61.45-68.26	63.0	42.2	10.8	8.5	00.0	7.0	60.3	00.0	13.4
3	69-73*	70.20-75.15*	53.4	27.2	12.1	14.8	00.0	00.0	57.4	00.0	15.7

* Plot changed in order to accommodate samples received.

Site 49.0 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Quar.	K-Fe.	Plag.	Kaol.	Mica	Mont.	Apat.	Phil.
1	0-9	1	8-10	91.5	75.0	2.2	10.5	00.0	1.6	00.0	12.9	29.9	00.0	43.0
1			73-75	86.9	61.5	39.1	14.7	00.0	5.7	6.4	13.2	20.8	00.0	00.0
1		2	13-15	92.0	76.5	15.5	26.6	00.0	8.7	00.0	10.6	38.6	00.0	00.0
1			74-76	91.1	73.8	00.0	21.9	00.0	9.4	7.9	17.9	42.9	00.0	00.0
1		3	13-15	90.0	70.6	00.0	20.2	00.0	7.9	7.2	18.1	46.6	00.0	00.0
1			75-77	93.3	80.3	00.0	22.0	00.0	9.9	7.0	18.0	43.1	00.0	00.0

TABLE 1 – *Continued*

Site 49.0 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Quar.	K-Fe.	Plag.	Kaol.	Mica	Mont.	Apat.	Phil.
1	0-9	4	3-5	92.5	79.9	00.0	23.6	00.0	9.4	7.5	17.5	42.0	00.0	00.0
1			70-72	90.9	73.2	00.0	27.8	00.0	3.5	00.0	14.5	00.0	00.0	54.1
1		5	4-6	90.3	71.5	00.0	25.9	00.0	1.4	00.0	13.3	00.0	00.0	58.4
1		6	4-6	91.5	75.0	00.0	14.3	00.0	2.1	00.0	14.0	25.5	00.0	44.0
1			70-72	90.8	72.9	00.0	41.6	00.0	17.7	14.3	26.4	00.0	00.0	00.0
2	17-18*	1	67-69	71.4	15.9	99.6	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
2			137-139	92.8	78.8	39.4	26.1	11.7	00.0	00.0	00.0	00.0	22.7	00.0

* Plot changed to accommodate samples received.

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Quar.	K-Fe.	Plag.	Kaol.	Mica	Chlor.	Mont.	Apat.
1	0-9	0.08-8.22	74.8	60.6	18.4	00.0	11.0	10.5	57.9	2.2	00.0	00.0
21	17-18*	17.67-17.69	74.0	59.4	17.6	8.5	6.5	00.0	55.5	00.0	11.9	00.0
2		18.37-18.39*	77.5	64.8	16.8	11.2	00.0	5.6	53.1	00.0	7.6	5.7

* Plot changed in order to accommodate samples received.

Site 49.1 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Quar.	K-Fe.	Plag.	Kaol.	Mica	Mont.	Apat.	Phil.
1	5-12	1	74-76	91.9	76.2	27.1	19.8	4.3	8.9	4.7	17.4	17.6	00.0	00.0
1		2	13-15	91.5	75.0	00.0	31.8	00.0	00.0	00.0	22.9	11.1	00.0	34.1
1			122-124	92.7	78.5	00.0	16.6	2.3	3.0	7.3	14.6	29.6	5.6	20.8
1		3	20-21	93.4	80.6	00.0	17.8	5.3	8.9	12.1	12.8	12.7	14.3	15.9
1			76-78	93.3	80.3	00.0	16.9	5.9	2.0	2.0	8.1	42.1	11.0	12.0
1		4	14-16	92.9	79.1	00.0	17.8	4.4	00.0	00.0	7.1	34.8	16.9	19.0
1			114-116	71.9	17.4	99.0	1.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
1		5	35-37	71.9	17.4	99.0	1.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
1			87-89	91.7	75.6	2.4	17.1	00.0	2.9	00.0	7.0	30.8	00.0	39.0
2	12-20	1	145-150	69.8	11.2	99.7	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0
2		2	145-150	70.3	12.6	82.0	3.6	00.0	00.0	00.0	00.0	13.9	00.0	00.0
2		3	145-150	73.5	22.1	99.1	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Quar.	K-Fe.	Plag.	Kaol.	Mica	Apat.	Phil.
1	5-12	5.74-9.66	79.7	68.3	10.5	2.7	12.8	17.4	24.9	3.9	27.7
1		10.64-10.66	75.1	61.1	9.3	6.4	4.8	00.0	76.2	3.2	00.0
1		11.35-11.89	75.1	61.1	5.7	00.0	7.6	9.4	77.2	00.0	00.0
2	12-20	13.95-13.50	79.7	68.3	12.9	8.6	00.0	3.6	74.9	00.0	00.0
2		14.95-16.50	79.1	67.3	30.9	8.2	00.0	00.0	60.9	00.0	00.0

Site 50.0 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Quar.
2	42-45*	1	145	71.8	17.1	95.7	4.1
2		2	150	73.3	21.5	93.9	6.1

* Depth changed on plot to accommodate samples received.

TABLE 1 – *Continued*

Site 50.0 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Quar.
2	42-45*	3	145	72.2	18.2	97.3	2.7
2		4	150	73.0	20.6	95.7	4.3
2		6	150	71.9	17.4	82.5	17.5

* Depth changed on plot to accommodate samples received.

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Quar.	K-Fe.	Mica	Bari.
2	42-45*	44.95-51.00*	77.7	65.2	48.5	8.2	38.6	4.6

* Plot changed in order to accommodate samples received.

Site 50.1 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Quar.	K-Fe	Plag.	Kaol.	Mica	Chlor.	Phil.
1	5-14	1	51.5-53.5	89.7	69.7	50.5	16.3	3.2	7.1	00.0	19.4	3.5	00.0
1			111-113	89.7	69.7	49.2	18.7	00.0	7.7	00.0	18.9	5.6	00.0
1		2	12-14	91.3	74.4	00.0	40.9	00.0	23.1	00.0	36.0	00.0	00.0
1			77-79	90.7	72.6	16.0	34.0	00.0	13.6	00.0	29.7	6.7	00.0
1		3	4-6	90.2	71.2	48.9	18.1	00.0	8.0	00.0	20.9	4.1	00.0
1			71-73	88.3	65.6	77.2	9.3	00.0	3.6	00.0	9.9	00.0	00.0
1		4	15-17	90.4	71.8	41.0	21.9	00.0	8.7	00.0	22.9	5.5	00.0
1			76-78	90.3	71.5	45.2	20.2	00.0	10.2	00.0	21.2	3.1	00.0
1		5	12-14	89.7	69.7	55.1	15.6	2.6	6.5	00.0	16.5	3.8	00.0
1			74-76	90.8	72.9	17.1	33.6	00.0	14.4	00.0	29.2	5.7	00.0
1		6	13-15	90.3	71.5	44.9	21.3	00.0	8.4	00.0	21.1	4.3	00.0
1			74-76	90.5	72.1	39.1	20.6	00.0	9.9	00.0	25.2	5.2	00.0
2	14-23	1	128-130	90.6	72.4	47.1	22.3	00.0	9.9	00.0	16.1	4.6	00.0
2		3	1-3	91.5	75.0	00.0	41.1	00.0	20.1	00.0	31.9	6.9	00.0
2			38-40	91.8	75.9	00.0	40.6	00.0	19.5	00.0	34.3	5.5	00.0
2			80-82	91.5	75.0	00.0	36.7	00.0	17.6	00.0	38.4	7.2	00.0
2		4	8-10	91.4	74.7	00.0	39.1	00.0	19.5	00.0	41.4	00.0	00.0
2			70-72	91.1	73.8	00.0	33.4	00.0	14.0	14.3	38.3	00.0	00.0
2		5	5-7	91.7	75.6	00.0	34.8	00.0	20.4	7.6	37.2	00.0	00.0
2			70-72	91.7	75.6	00.0	29.1	6.6	13.2	12.5	38.5	00.0	00.0
3	23-32	1	145-150	91.2	74.1	00.0	37.1	00.0	13.5	14.1	35.2	00.0	00.0
3		2	73-75	91.2	74.1	00.0	33.8	00.0	13.5	14.4	38.3	00.0	00.0
3		3	12-14	91.3	74.4	00.0	26.1	3.7	9.5	3.3	24.8	2.9	00.0
3			74-76	91.3	74.4	00.0	36.5	5.2	14.0	00.0	38.2	6.2	00.0
3		4	13-15	91.0	73.5	00.0	38.3	6.0	13.9	00.0	36.4	5.3	00.0
3			74-76	91.3	74.4	00.0	38.0	5.4	15.8	00.0	36.5	4.3	00.0
3		5	25-27	91.4	74.7	00.0	30.7	5.9	14.2	14.4	34.8	00.0	00.0
3			74-76	91.7	75.6	00.0	35.0	6.7	16.8	00.0	36.6	4.9	00.0
3		6	13-15	91.6	75.3	00.0	36.6	8.2	18.1	00.0	31.9	5.2	00.0
3			69-71	91.6	75.3	00.0	16.7	3.2	8.1	8.6	23.6	2.9	36.8
4	32-36	1	75	91.6	75.3	00.0	16.9	2.7	5.6	00.0	16.0	4.2	54.6

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Quar.	Plag.	Kaol.	Mica	Chlor.
1	5-14	5.52-13.26	79.0	67.2	27.1	14.4	2.6	50.2	5.7
2	14-23	15.28-20.72	78.4	66.2	17.5	11.6	8.8	58.9	3.1

TABLE 1 – *Continued*

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Quar.	Plag.	Kaol.	Mica	Chlor.
3	23-32	24.45-31.21	75.8	62.2	13.0	9.2	6.7	65.7	5.4
4	32-36	32-75	79.6	68.1	14.4	26.2	12.5	44.2	2.7

Site 51.0 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Quar.	Plag.	Kaol.	Mica	Chlor.	Mont.	Phil.
1	114-123	1	5-7	90.8	72.9	42.9	15.9	17.2	24.0	00.0	00.0	00.0
1			90-93	91.4	74.7	35.6	12.4	00.0	28.5	4.6	18.9	00.0
1		2	4-6	91.5	75.0	37.9	13.6	12.1	36.4	00.0	00.0	00.0
1			70-72	91.9	76.2	29.8	11.0	4.8	35.8	7.8	10.7	00.0
1		3	3-5	91.7	75.6	38.5	12.3	00.0	30.8	4.6	13.8	00.0
1			70-72	91.9	76.2	31.3	11.6	3.8	32.6	4.1	16.6	00.0
1		4	3-5	91.9	76.2	32.1	11.2	5.1	30.9	3.5	17.0	00.0
1			70-72	92.1	76.8	35.5	10.3	5.7	31.2	4.6	12.7	00.0
1		5	13-15	92.0	76.5	29.8	9.9	11.9	26.3	6.3	15.8	00.0
1			74-75	91.9	76.2	27.8	4.4	11.1	24.4	7.5	00.0	24.7
1		6	13-15	92.2	77.1	36.1	10.8	14.4	28.9	9.7	00.0	00.0
1			74-76	92.0	76.5	27.3	8.2	00.0	32.8	7.4	24.3	00.0

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Quar.	Plag.	Mica	Chlor.	Mont.
1	114-123	114.05-119.22	76.9	63.9	00.0	00.0	67.8	8.1	24.1
1		120.13-122.26	78.9	67.0	14.6	7.6	69.1	4.6	4.0

Site 51.1 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Quar.	K-Fe.	Plag.	Mica	Chlor.
1	23-32	1	13-15	91.7	75.6	34.1	5.5	16.5	39.1	4.8
1			73-75	91.3	74.4	38.9	00.0	14.4	41.1	5.5
1		2	13-15	91.5	75.0	37.1	6.6	17.3	32.7	6.3
1			92-94	91.6	75.3	36.2	7.0	17.5	35.1	4.1
1		3	27-29	91.4	74.7	36.3	00.0	20.0	41.6	5.2
1			111-113	91.6	75.3	36.0	00.0	18.6	41.3	4.1
1		4	13-15	91.7	75.6	36.5	00.0	16.5	41.8	5.2
1			76-78	91.6	75.3	37.7	00.0	17.0	39.9	5.4
1		5	13-15	91.8	75.9	35.3	00.0	18.2	40.4	6.0
1			74-76	91.0	73.5	35.3	4.6	14.8	37.3	8.0
1		6	13-15	91.4	74.7	37.1	00.0	15.0	42.6	5.3
1			112-114	91.7	75.6	36.5	7.1	15.9	32.2	8.3
X	?*	1	145	91.8	75.9	39.5	16.2	00.0	44.3	00.0
2	121-127	1	125-127	92.2	77.1	36.3	11.2	14.8	31.4	15.7
2		2	4-6	92.0	76.5	34.4	14.0	00.0	44.1	7.6
2			71-73	91.8	75.9	35.3	13.4	8.9	30.5	11.8

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Quar.	K-Fe.	Plag.	Kaol.	Mica	Chlor.	Mont.
1	23-32	23.13-31.64	70.2	53.4	15.7	00.0	10.4	3.8	63.6	6.5	00.0
X*	91-111*	?	77.2	64.4	10.0	5.8	00.0	4.8	54.6	3.2	21.6
2	121-127	122.25-123.23	78.1	65.8	10.5	5.3	00.0	5.5	63.0	4.4	11.4

* Core inadvertantly recovered somewhere between 91 m. and 111 m.

TABLE 1 – *Continued*

Site 52.0 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Quar.	Cris.	K-Fe.	Plag.	Kaol.	Mica	Chlor.	Mont.	Clin.
1	0-9	1	24-26	90.3	71.5	31.3	00.0	6.1	17.8	4.1	33.4	7.2	00.0	00.0
1			50-52	92.5	77.9	57.1	00.0	00.0	42.9	00.0	00.0	00.0	00.0	00.0
1			74-76	91.4	74.7	19.4	00.0	00.0	28.1	00.0	27.1	5.8	19.6	00.0
1		2	4-6	91.7	75.6	33.8	00.0	00.0	24.0	8.7	26.8	6.7	00.0	00.0
1			70-72	91.1	73.8	31.2	00.0	6.0	16.6	1.3	38.5	6.2	00.0	00.0
1		3	5-7	91.0	73.5	30.5	00.0	6.9	16.7	6.6	35.0	4.3	00.0	00.0
1			70-72	90.8	72.9	25.8	00.0	6.7	15.0	3.3	25.0	4.4	19.8	00.0
1		4	4-6	90.5	72.1	28.9	00.0	00.0	14.9	5.0	30.6	4.1	16.6	00.0
1			70-72	91.8	75.9	34.8	00.0	00.0	17.4	3.0	39.9	5.0	00.0	00.0
1		5	6-8	91.1	73.8	35.1	00.0	00.0	17.9	12.6	34.4	00.0	00.0	00.0
1			73-75	91.7	75.6	32.5	00.0	00.0	67.5	00.0	00.0	00.0	00.0	00.0
1		6	6-8	91.0	73.5	34.2	00.0	00.0	20.4	4.4	33.2	7.8	00.0	00.0
1			70-72	90.9	73.2	34.0	00.0	00.0	19.2	2.9	36.0	7.8	00.0	00.0
2	9-18	1	109-111	91.3	74.4	34.6	00.0	00.0	20.4	14.7	30.2	00.0	00.0	00.0
2		2	4-6	91.0	73.5	29.4	00.0	00.0	17.6	6.3	31.2	4.2	11.3	00.0
2			70-72	91.6	75.3	25.6	00.0	00.0	16.5	1.1	22.6	00.0	34.3	00.0
2		3	4-6	90.9	73.2	24.9	00.0	00.0	15.9	2.2	33.4	4.3	19.3	00.0
2			70-72	91.3	74.4	33.7	00.0	00.0	18.5	14.8	33.0	00.0	00.0	00.0
2		4	4-6	91.2	74.1	29.5	00.0	00.0	26.0	2.6	36.8	5.1	00.0	00.0
2			81-83	91.5	75.0	30.2	00.0	00.0	19.0	9.1	40.0	1.7	00.0	00.0
2		5	15-17	91.3	74.4	33.5	00.0	00.0	21.0	10.1	35.4	00.0	00.0	00.0
2			74-76	91.8	75.9	21.1	00.0	00.0	21.9	7.4	26.6	2.4	20.6	00.0
2		6	145-150	91.5	75.0	30.7	00.0	00.0	20.8	10.6	37.9	00.0	00.0	00.0
3	18-27	1	13-15	91.2	74.1	33.9	00.0	00.0	21.0	5.9	36.3	2.9	00.0	00.0
3			76-78	91.3	74.4	11.2	00.0	00.0	16.7	00.0	12.0	00.0	70.0	00.0
3		2	16-18	91.3	74.4	37.9	00.0	00.0	17.6	8.1	36.4	00.0	00.0	00.0
3			76-78	91.3	74.4	28.1	00.0	00.0	15.2	2.4	24.5	3.2	26.6	00.0
3		3	13-15	91.7	75.6	9.0	00.0	00.0	5.8	00.0	7.9	00.0	77.3	00.0
3			57-59	91.5	75.0	26.5	00.0	00.0	14.4	3.4	23.1	7.5	25.1	00.0
3		4	13-15	91.4	74.7	27.8	00.0	00.0	17.7	8.5	29.8	00.0	16.2	00.0
3			76-78	91.5	75.0	22.9	00.0	00.0	19.2	00.0	28.8	6.7	22.4	00.0
3		5	4-6	91.1	73.8	30.8	00.0	00.0	19.4	11.9	38.0	00.0	00.0	00.0
3			71-73	91.9	76.2	17.6	00.0	00.0	11.2	6.9	23.5	00.0	40.8	00.0
3		6	3-5	91.2	74.1	18.4	00.0	00.0	12.6	00.0	22.9	00.0	46.2	00.0
4	27-37	2	4-6	91.4	74.7	26.7	00.0	00.0	27.6	00.0	34.0	11.8	00.0	00.0
4			65-67	91.3	74.4	23.6	00.0	00.0	16.3	00.0	24.9	8.1	27.1	00.0
4		3	3-5	91.6	75.3	18.9	00.0	00.0	15.6	00.0	22.1	2.8	40.6	00.0
4			70-72	91.4	74.7	23.6	00.0	00.0	19.8	10.4	27.7	00.0	18.5	00.0
4		4	3-5	91.4	74.7	18.4	00.0	00.0	20.3	8.2	20.2	00.0	32.8	00.0
4			70-72	91.2	74.1	18.8	00.0	00.0	25.9	00.0	19.0	10.0	26.2	00.0
4		5	3-5	91.6	75.3	19.8	00.0	00.0	23.0	00.0	23.7	5.9	27.7	00.0
4			70-72	91.5	75.0	22.8	00.0	00.0	29.6	00.0	25.2	4.1	18.2	00.0
4		6	15-17	91.2	74.1	25.3	00.0	00.0	29.5	00.0	20.7	4.5	20.0	00.0
5	37-46	1	124-126	91.3	74.4	32.3	00.0	00.0	14.9	4.1	31.0	5.5	12.2	00.0
5		2	76-78	91.6	75.3	26.4	00.0	00.0	11.8	5.6	27.6	3.7	24.9	00.0
5		3	78-80	91.4	74.7	20.1	00.0	00.0	10.9	00.0	22.8	7.9	88.1	00.0
5		4	15-17	91.7	75.6	23.1	00.0	5.6	12.7	5.0	30.6	5.3	17.7	00.0
5			74-76	91.5	75.0	23.5	00.0	00.0	13.2	3.0	31.1	6.7	22.5	00.0
5		5	15-17	91.6	75.3	20.6	00.0	00.0	16.3	3.6	26.0	5.4	28.2	00.0
5			76-78	91.4	74.7	24.1	00.0	00.0	18.9	5.2	21.5	6.9	23.3	00.0
6	40-55	1	23-25	91.7	75.6	17.3	00.0	00.0	10.7	10.5	23.1	5.0	33.4	00.0
7	55-64	1	146-148	91.7	75.6	25.0	00.0	11.7	10.1	6.4	33.0	4.3	9.6	00.0
7		2	35-37	91.7	75.6	25.3	00.0	8.5	7.3	5.4	30.9	3.6	19.2	00.0
7			146-148	89.8	70.0	6.8	93.2	00.0	00.0	00.0	00.0	00.0	00.0	00.0

TABLE 1 – *Continued*

Site 52.0 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Quar.	Cris.	K-Fe.	Plag.	Kaol.	Mica	Chlor.	Mont.	Clin.
8	64-65*	1	145-150	91.4	74.7	18.6	53.3	5.4	5.0	00.0	11.9	00.0	00.0	5.7
8		2	145-150	91.2	74.1	18.8	73.5	3.9	3.7	00.0	00.0	00.0	00.0	00.0
8		3	18-20	91.3	74.4	15.0	44.6	4.5	4.1	00.0	12.0	1.9	13.4	4.5
8		4	145-150	91.2	74.1	11.8	58.9	3.1	3.1	00.0	9.4	00.0	10.5	3.2
8		5	145-150	89.7	69.7	20.3	79.7	00.0	00.0	00.0	00.0	00.0	00.0	00.0
8		6	145-150	91.7	75.6	32.2	00.0	10.6	11.6	00.0	38.7	6.8	00.0	00.0

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Quar.	Cris.	K-Fe.	Plag.	Kaol.	Mica	Chlor.
1	0-9	0.24-8.22	83.0	73.4	26.6	00.0	00.0	22.6	2.6	43.6	4.6
2	9-18	10.09-18.00	81.2	70.6	29.1	00.0	00.0	24.2	2.8	39.0	5.0
3	18-27	18.13-18.15	79.2	67.5	22.9	00.0	00.0	23.8	6.7	46.6	00.0
3		18.57-18.59	78.3	66.1	30.3	00.0	00.0	22.2	6.8	40.6	00.0
3		19.66-26.22	82.0	71.9	33.9	00.0	00.0	20.7	00.0	45.4	00.0
4	27-37	28.54-34.67	76.2	62.8	24.5	00.0	00.0	30.6	8.0	36.9	00.0
5	37-46	38.24-43.78	77.3	64.5	21.9	00.0	00.0	18.0	12.1	47.9	00.0
6	46-55	46.23-46.25	75.1	61.1	19.0	00.0	00.0	21.9	19.0	40.0	00.0
7	55-64	56.46-56.87	73.3	58.3	16.0	00.0	9.8	00.0	13.4	60.7	00.0
7		57.96-57.98	61.5	39.8	00.0	100.0	00.0	00.0	00.0	00.0	00.0
8	64-65*	65.45-73.00	79.1	67.3	11.8	58.2	4.9	00.0	00.0	23.6	1.5

* Plot changed in order to accommodate samples received.

Site 53.0 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Quar.	K-Fe.	Plag.	Mont.
1	99-104	1	50-52	96.8	90.9	00.0	2.4	00.0	14.1	83.6
1		2	149-151	97.0	91.2	00.0	2.6	00.0	12.0	85.4
1		3	14-16	94.7	84.4	7.9	3.0	00.0	11.5	77.6
1			120-121	93.6	81.2	14.6	1.9	00.0	15.2	68.4
2	104-113	1	NDG	98.6	95.9	00.0	1.6	00.0	9.4	89.0
3	137-141	1	9-11	91.5	75.0	00.0	2.0	00.0	17.0	80.9
3			77-79	95.4	86.5	19.3	1.6	00.0	7.5	71.6
4	165-174	1	6-8	93.1	79.7	00.0	3.7	4.4	00.0	91.9
4			10-12	89.8	70.0	00.0	12.0	2.2	00.0	85.8
4			14-16	92.7	78.5	00.0	4.2	6.6	00.0	89.2
4			90-92	92.7	78.5	00.0	4.2	5.7	00.0	90.1
4		2	2-6	94.4	83.5	00.0	2.5	9.5	00.0	88.0
6	194-195	2	62-63	75.0	26.5	100.0	00.0	00.0	00.0	00.0
6			63-64	75.3	27.4	99.3	00.0	00.0	00.0	00.0
7	195-197	1	150	86.0	58.8	22.8	1.2	00.0	29.6	46.4

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Quar.	Cris.	K-Fe.	Plag.	Mont.
1	99-104	99.50-103.21	82.3	72.3	3.4	5.3	00.0	49.2	42.1
2	104-113		92.2	87.8	1.0	00.0	00.0	39.1	60.0
3	137-141	137.09-137.79	85.1	76.7	00.0	1.1	00.0	33.0	65.9
4	165-174	165.06-166.56	81.2	70.6	6.2	00.0	23.7	00.0	70.1
6	194-195	194.62-194.64	72.0	56.2	14.5	00.0	45.2	00.0	40.3
7	195-197	196.50	74.3	59.8	00.0	00.0	00.0	66.7	33.3

TABLE 1 – *Continued*

Site 53.1 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Quar.	Plag.	Mica	Chlor.
1	0-9	1	4-6	90.7	72.6	00.0	24.4	33.8	34.8	7.0
1			70-72	91.8	75.9	00.0	26.2	33.7	30.3	9.8
1		2	4-6	91.9	76.2	00.0	25.2	31.5	32.2	11.1
1		3	15-17	91.5	75.0	00.0	18.2	56.9	24.9	00.0
1			79-81	91.6	75.3	00.0	13.3	49.9	19.1	17.6
1		4	14-16	91.8	75.9	00.0	19.1	48.5	23.9	8.6
1			77-79	91.9	76.2	00.0	23.8	47.8	20.1	8.3
1		5	14-16	91.8	75.9	00.0	19.2	38.4	29.4	12.9
1			77-79	91.7	75.6	00.0	20.8	39.4	25.9	13.9
1		6	25-27	91.8	75.9	00.0	23.8	40.7	25.0	10.5
1			70-72	91.9	76.2	00.0	21.6	35.4	26.5	16.5
2	22-31	1	145-150	92.2	77.1	28.0	6.9	65.0	00.0	00.0
2		2	145-150	92.2	77.1	26.4	5.8	43.8	24.0	00.0
2		3	13-15	92.3	77.4	35.4	4.4	60.2	00.0	00.0
2			96-98	92.1	76.8	00.0	13.6	86.4	00.0	00.0
2		4	4-6	91.9	76.2	00.0	00.0	100.0	00.0	00.0
2			70-72	92.0	76.5	00.0	10.8	89.2	00.0	00.0
2		5	1-3	91.5	75.0	00.0	00.0	100.0	00.0	00.0
2			70-72	92.0	76.5	00.0	00.0	100.0	00.0	00.0
2		6	4-6	92.0	76.5	00.0	11.7	88.3	00.0	00.0
2			70-72	92.0	76.5	00.0	11.3	88.7	00.0	00.0
3	53-62	1	150	91.8	75.9	00.0	10.7	89.3	00.0	00.0
3		2	13-15	91.5	75.0	00.0	00.0	100.0	00.0	00.0
3			81-83	91.9	76.2	00.0	9.3	90.7	00.0	00.0
3		3	20-22	92.2	77.1	00.0	00.0	100.0	00.0	00.0
3			70-72	91.4	74.7	30.0	4.7	65.3	00.0	00.0
3		4	23-25	92.2	77.1	00.0	00.0	100.0	00.0	00.0
3			89-91	91.9	76.2	45.2	00.0	54.8	00.0	00.0
3		5	20-22	92.1	76.2	43.4	00.0	56.6	00.0	00.0
3			78-80	91.9	76.2	54.8	00.0	45.2	00.0	00.0

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Quar.	Cris.	Plag.	Kaol.	Mica	Mont.
1	0-9	0.04-8.22	82.2	72.2	8.5	00.0	59.2	10.8	13.0	8.4
2	22-31	23.45-30.22	86.9	79.5	5.2	20.3	74.6	00.0	00.0	00.0
3	53-62	54.50-59.80	85.1	76.7	3.2	10.5	48.4	00.0	00.0	37.9

Site 53.2 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Quar.	Plag.	Mica	Chlor.
1	12-22	1	18-20	91.7	75.6	00.0	21.1	28.1	39.8	10.9
1			112-114	91.5	75.0	00.0	8.7	91.3	00.0	00.0
1			137-139	91.7	75.6	00.0	14.9	85.0	00.0	00.0
1		2	13-15	91.6	75.3	55.9	6.1	38.0	00.0	00.0
1			78-80	91.7	75.6	00.0	12.1	87.9	00.0	00.0
1		3	19-21	91.4	74.7	00.0	13.2	86.8	00.0	00.0
1			80-82	91.3	74.4	00.0	16.0	84.0	00.0	00.0
1		4	4-6	91.3	74.4	00.0	9.9	90.1	00.0	00.0
1			70-72	91.9	76.2	14.8	8.2	76.9	00.0	00.0
1		5	70-72	91.7	75.6	9.1	00.0	90.9	00.0	00.0
1		6	70-72	92.2	77.1	00.0	00.0	100.0	00.0	00.0

TABLE 1 – *Continued*

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Quar.	Cris.	Plag.	Kaol.	Mica
1	12-22	12.18-12.20	76.7	65.6	19.1	00.0	45.0	12.0	23.9
1		13.12-13.14	76.6	63.4	5.0	6.7	88.3	00.0	00.0
1		13.37-13.39	86.4	78.8	5.2	10.1	84.7	00.0	00.0

Site 54.0 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Plag.	Mont.
1	83-92	1	3-5	96.5	89.7	00.0	9.4	70.6
1			70-72	95.9	87.9	13.2	9.0	67.8
1		2	4-6	96.4	89.4	14.7	6.6	68.7
1			70-72	95.4	86.5	20.6	23.5	55.9
1		3	38-40	96.9	90.9	8.8	27.0	64.1
1			43-45	99.1	97.4	13.5	17.2	69.3
2	138-147	1	14-16	96.7	90.3	13.6	18.9	67.4
2			81-83	96.1	88.5	20.9	12.5	66.6
2		2	20-22	96.2	88.8	36.1	14.6	49.2
2			74-76	97.8	93.5	23.9	11.0	65.1
2		3	11-13	98.2	94.7	17.1	14.4	68.4
2			70-72	96.7	90.3	18.8	16.1	65.1
2		4	13-15	95.9	87.9	23.4	14.8	59.9
2			70-72	96.5	89.7	22.7	13.2	64.0
3	195-204	1	140	95.7	87.4	42.6	7.2	50.3
4	204-213	2	12-14	96.6	90.0	44.0	12.1	43.9
4			68-70	97.3	92.1	25.1	11.0	63.9
6	222-231	1	145-150	99.6	98.8	00.0	15.8	84.2
6		2	13-15	99.5	98.5	00.0	12.3	87.7
6			78-80	99.1	97.4	7.8	16.0	76.2
6		3	20-22	96.4	89.4	33.7	12.3	51.9
6			96-98	94.5	83.8	42.7	10.8	46.5
6		4	13-15	96.0	88.2	26.0	14.9	59.0
6		5	14-16	97.8	93.5	27.5	12.6	59.9
6			76-78	98.1	94.4	20.7	9.8	69.5
7	261-270	1	135-137	99.2	97.6	7.2	12.3	80.4
7		2	31-33	99.6	98.8	8.9	9.8	81.3
7			78-80	99.6	98.8	10.2	13.0	76.9
7		3	13-15	99.7	99.1	5.3	10.2	84.5
7			121-123	99.1	97.4	20.7	9.5	69.7

NOTE: All samples are highly amorphous.

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Plag.
1	83-92	83.03-86.45	78.6	66.6	100.0
2	138-147	138.14-143.22	85.1	76.7	100.0
3	195-204	196.40	88.6	82.2	100.0
4	204-213	205.05-206.20	80.7	69.8	100.0
6	222-231	223.45-228.78	81.5	71.1	100.0
7	261-270	262.35-265.23	61.8	40.3	100.0

TABLE 1 – *Continued*

Site 55.0 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.
1	0-9	1	4-6	72.0	17.6	99.4
1			70-72	72.8	20.0	99.6
1		2	4-6	72.2	18.2	100.0
1			70-72	72.1	17.9	99.6
1		3	4-6	72.2	18.2	100.0
1			70-72	70.7	13.8	100.0
1		4	4-6	72.3	18.5	99.5
1			70-72	71.8	17.1	99.6
1		5	4-6	71.8	17.1	100.0
1			70-72	71.7	16.8	100.0
1		6	4-6	71.4	15.9	99.6
1			70-72	71.8	17.1	100.0
2	9-18	1	4-6	70.4	12.9	100.0
2			70-72	70.5	13.2	100.0
2		2	4-6	70.3	12.6	100.0
2			70-72	70.7	13.8	100.0
2		3	13-15	71.0	14.7	100.0
2			69-71	71.5	16.2	100.0
2		4	12-14	71.1	15.0	100.0
2			79-81	70.7	13.8	100.0
2		5	4-6	70.6	13.5	100.0
2			29-30	70.6	13.5	100.0
2		6	79-81	70.3	12.6	100.0
3	18-27	1	13-12	70.6	13.5	100.0
3			79-81	70.3	12.6	100.0
3		3	11-13	70.8	14.1	100.0
3			78-80	70.5	13.2	100.0
3		4	145-150	70.3	12.6	100.0
3		5	12-14	70.1	12.1	100.0
3			79-81	70.7	13.8	100.0
4	27-37	1	10-12	70.3	12.6	100.0
4			80-82	70.4	12.9	100.0
4		2	145-150	70.1	12.1	100.0
4		3	4-6	69.9	11.5	100.0
4			70-72	69.6	10.6	100.0
4		4	145-150	70.1	12.1	100.0
4		5	4-6	70.3	12.6	100.0
4			70-72	69.6	10.6	100.0
4		6	145-150	70.0	11.8	100.0
5	37-46	1	4-6	70.7	13.8	98.3
5			70-72	69.8	11.2	100.0
5		3	5-7	70.4	12.9	100.0
5			70-72	70.7	13.8	100.0
5		5	4-6	70.5	13.2	100.0
5			71-73	70.6	13.5	100.0
6	46-55	1	4-6	72.6	19.4	100.0
6			70-72	72.6	19.4	100.0
6		3	14-16	71.2	15.3	100.0
6			81-83	71.4	15.9	100.0
6		5	14-16	72.1	17.9	100.0
6			78-80	71.9	17.4	100.0
7	55-64	1	16-18	71.5	16.2	100.0
7			79-81	71.1	15.0	100.0

TABLE 1 – *Continued*

Site 55.0 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.
7	55-64	3	15-17	71.0	14.7	100.0
7			80-82	70.8	14.1	100.0
7		5	15-17	71.8	17.1	100.0
7			80-82	71.9	17.4	100.0
8	64-73	1	12-14	71.0	14.7	100.0
8			78-80	71.6	16.5	100.0
8		3	13-15	71.0	14.7	100.0
8			78-80	72.0	17.6	100.0
8		5	15-17	71.3	15.6	100.0
8			81-83	73.1	20.9	100.0
9	73-82	NG TOP of BAR		72.5	19.1	100.0
10	82-91	2	13-15	73.6	22.4	100.0
10			81-83	73.7	22.6	100.0
10		3	24-26	73.4	21.8	100.0
10			79-81	74.7	25.6	100.0
10		5	13-14	72.5	19.1	100.0
10			78-80	72.2	18.2	100.0
11	91-101	1	43-45	70.8	14.1	100.0
11			71-73	71.5	16.2	100.0
11		3	13-15	70.5	13.2	100.0
11			79-81	70.0	11.8	100.0
11		5	4-6	70.3	12.6	100.0
11			70-72	70.7	13.8	100.0
12	103-112	1	10-12	72.1	17.9	100.0
12			70-72	71.2	15.3	100.0
12		2	16-18	71.1	15.0	100.0
12			80-82	70.5	13.2	100.0
12		3	5-7	70.0	11.8	100.0
12			70-72	71.8	17.1	100.0
12		5	4-6	71.6	16.5	100.0
12			70-72	70.8	14.1	100.0
13	112-122	1	1-3	72.8	20.0	100.0
13			70-72	69.2	9.4	100.0
13		3	4-6	68.6	7.6	100.0
13			70-72	70.5	13.6	100.0
13		5	4-6	68.6	7.6	100.0
13			70-72	69.9	11.5	100.0
14	122-131	1	145-150	70.5	13.2	100.0
14		2	145-150	69.1	9.1	100.0
14		3	145-150	69.4	10.0	100.0
14		4	145-150	68.7	7.9	100.0
14		5	145-150	68.4	7.1	100.0
14		6	145-150	68.8	8.2	100.0

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Quar.	Plag.	Kaol.	Mica	Chlor.	Mort.	Clin.	Bari.
1	0-9	0.04-8.22	70.7	54.2	18.2	28.0	15.3	38.4	00.0	00.0	00.0	00.0
2	9-18	9.04-17.31	68.1	50.2	11.1	44.8	14.7	29.4	00.0	00.0	00.0	00.0
3	18-27	18.31-24.81	70.4	53.8	13.4	40.5	11.0	27.7	00.0	00.0	00.0	7.3
4	27-37	27.10-36.00	69.9	53.0	12.8	45.1	32.4	00.0	00.0	00.0	00.0	9.8

TABLE 1 – *Continued*

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Quar.	Plag.	Kaol.	Mica	Chlor.	Mont.	Clin.	Bari.
5	37-46	37.04-43.73	67.9	49.8	5.7	19.7	28.0	00.0	26.7	13.4	6.3	00.0
6	46-55	46.04-52.80	72.4	56.9	12.5	44.2	31.7	00.0	00.0	00.0	00.0	11.5
7	55-64	55.16-61.82	75.4	61.6	19.8	50.5	29.7	00.0	00.0	00.0	00.0	00.0
8	64-73	64.12-70.83	76.2	62.8	14.8	43.2	19.9	00.0	00.0	11.0	00.0	11.0
9	73-82	TOP OF BAR	73.5	58.6	00.0	100.0	00.0	00.0	00.0	00.0	00.0	00.0
10	82-91	83.63-88.80	74.7	60.5	00.0	100.0	00.0	00.0	00.0	00.0	00.0	00.0
11	91-101	91.43-97.72	73.9	59.2	00.0	100.0	00.0	00.0	00.0	00.0	00.0	00.0
12	103-112	103.10-109.72	80.1	68.9	00.0	100.0	00.0	00.0	00.0	00.0	00.0	00.0
13	112-122	112.01-118.72	76.7	63.6	00.0	100.0	00.0	00.0	00.0	00.0	00.0	00.0
14	122-181	123.45-131.00	80.8	70.0	00.0	100.0	00.0	00.0	00.0	00.0	00.0	00.0

Site 56.2 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Plag.	Mont.
1	73-82	2	5-7	76.2	30.0	100.0	00.0	00.0
1			88-90	76.1	29.7	100.0	00.0	00.0
1			145-150	68.7	7.9	100.0	00.0	00.0
1		4	25-26	69.3	9.7	100.0	00.0	00.0
1			79-81	69.8	11.2	100.0	00.0	00.0
1		6	4-6	69.3	9.7	100.0	00.0	00.0
1			70-72	69.3	9.7	100.0	00.0	00.0
2	82-91	2	90	69.1	9.1	100.0	00.0	00.0
2		4	33-35	69.7	10.9	100.0	00.0	00.0
2		6	13-15	69.7	10.9	100.0	00.0	00.0
2			73-78	69.9	11.5	100.0	00.0	00.0
3	91-101	2	145-150	68.6	7.6	100.0	00.0	00.0
3		6	145-150	69.5	10.3	100.0	00.0	00.0
4	101-110	2	8-10	69.7	10.9	100.0	00.0	00.0
4			82-84	69.9	11.5	100.0	00.0	00.0
4		4	10-12	69.6	10.6	100.0	00.0	00.0
4			78-82	69.6	10.6	100.0	00.0	00.0
4		6	10-12	70.3	12.6	100.0	00.0	00.0
4			78-80	70.0	11.8	100.0	00.0	00.0
5	110-119	2	10-12	70.1	12.1	100.0	00.0	00.0
5			78-80	70.0	11.8	100.0	00.0	00.0
5		4	18-20	70.1	12.1	100.0	00.0	00.0
5			69-71	70.2	12.4	100.0	00.0	00.0
5		6	4-6	70.1	12.1	100.0	00.0	00.0
5			70-72	70.2	12.4	100.0	00.0	00.0
6	187-196	2	4-6	70.9	14.4	100.0	00.0	00.0
6			70-72	69.8	11.2	100.0	00.0	00.0
6		4	4-6	69.4	10.0	100.0	00.0	00.0
6			70-72	69.6	10.6	100.0	00.0	00.0
6		6	13-15	70.4	12.9	100.0	00.0	00.0
6			79-81	70.9	14.4	100.0	00.0	00.0
7	196-205	2	41-43	70.7	13.8	100.0	00.0	00.0
7			106-108	69.4	10.0	100.0	00.0	00.0
7		4	37-39	69.8	11.2	100.0	00.0	00.0
7			79-81	69.2	9.4	100.0	00.0	00.0
7		6	4-6	70.0	11.8	100.0	00.0	00.0
7			70-72	69.5	10.3	100.0	00.0	00.0

TABLE 1 – *Continued*

Site 56.2 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Plag.	Mont.
8	205-214	2	4-6	70.0	11.8	100.0	00.0	00.0
8			70-72	70.0	11.8	100.0	00.0	00.0
8		4	4-6	70.2	12.4	100.0	00.0	00.0
8			70-72	70.8	14.1	100.0	00.0	00.0
9	214-223	2	4-6	70.5	13.2	100.0	00.0	00.0
9			70-72	71.1	15.0	100.0	00.0	00.0
9		4	16-18	72.4	18.8	100.0	00.0	00.0
9			81-83	71.9	17.4	99.5	00.0	00.0
9		6	5-7	72.4	18.8	99.4	00.0	00.0
9			95-97	70.8	14.1	100.0	00.0	00.0
10	223-233	2	7-9	71.7	16.8	99.4	00.0	00.0
10			80-82	71.8	17.1	99.0	1.0	00.0
10		4	17-19	73.7	22.6	99.0	00.0	00.0
10			124-126	34.2	53.5	76.3	2.0	21.8
10		6	10-12	78.6	37.1	100.0	00.0	00.0

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Quar.	Plag.	Kaol.	Mica	Bari.	Mont.
1	73-82	74.55-81.22	59.7	37.0	00.0	12.5	00.0	00.0	00.0	87.5
2	82-91	84.40-90.28	56.0	31.2	1.1	4.9	23.4	63.9	4.7	00.0
3	91-101	93.95-100.00	68.4	50.6	11.5	52.8	27.4	00.0	8.3	00.0
4	101-110	102.58-109.30	62.7	41.7	00.0	62.2	00.0	00.0	37.8	00.0
5	110-119	111.60-118.22	62.9	42.0	00.0	13.9	00.0	00.0	3.3	82.8
6	187-196	188.54-195.31	65.5	46.1	4.6	69.9	25.5	00.0	00.0	00.0
7	196-205	197.91-204.22	80.8	70.0	12.6	87.4	00.0	00.0	00.0	00.0
8	205-214	206.54-210.22	83.3	73.9	16.4	83.6	00.0	00.0	00.0	00.0
9	214-223	215.54-222.47	69.8	52.8	00.0	100.0	00.0	00.0	00.0	00.0
10	223-233	224.57-230.62	76.3	63.0	00.0	100.0	00.0	00.0	00.0	00.0

Site 57.0 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.
1	298-302	1	5	76.4	30.6	100.0

Site 57.1 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Plag.	Mont.
1	44-53	1	10	69.5	10.3	100.0	00.0	00.0
1		2	0-4	71.8	17.1	100.0	00.0	00.0
1			10-12	68.7	7.9	100.0	00.0	00.0
1			19-21	69.3	9.7	100.0	00.0	00.0
1		3	4-6	69.3	9.7	100.0	00.0	00.0
1			70-72	69.4	10.0	100.0	00.0	00.0
1		4	4-6	69.5	10.3	100.0	00.0	00.0
1			115-117	69.3	9.7	100.0	00.0	00.0
1		5	4-6	69.9	11.5	100.0	00.0	00.0
1			70-72	69.4	10.0	100.0	00.0	00.0

TABLE 1 – *Continued*

Site 57.1 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Plag.	Mont.
1	44-53	6	8-10	68.3	6.8	100.0	00.0	00.0
1			78-80	69.2	9.4	100.0	00.0	00.0
2	307-316	1	39-41	86.2	59.4	100.0	00.0	00.0
2			116-118	86.2	59.4	100.0	00.0	00.0
3	316-321	1	18-20	72.8	20.0	100.0	00.0	00.0
3		2	30-32	97.5	92.6	34.3	4.2	61.5
3			107-109	74.6	25.3	100.0	00.0	00.0
4	321-329	1	83-84	86.6	60.6	100.0	00.0	00.0
4		2	23-24	86.2	59.4	100.0	00.0	00.0
4			102-104	86.2	59.4	100.0	00.0	00.0
4		3	18-20	86.6	60.6	100.0	00.0	00.0
4			71-73	86.8	61.2	100.0	00.0	00.0
4		4	145	87.1	62.1	100.0	00.0	00.0
4		5	145	88.3	65.6	100.0	00.0	00.0

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Quar.	Plag.	Kaol.	Mica	Bari.	Mont.
1	44-53	44.10	70.9	54.5	8.6	20.1	16.3	55.0	00.0	00.0
1		45.50-45.54	76.0	62.5	00.0	7.6	00.0	00.0	00.0	92.4
1		45.60-52.30	75.6	61.9	5.1	9.5	5.5	19.6	6.0	54.1
2	307-316	307.89-308.18	73.0	57.8	00.0	100.0	00.0	00.0	00.0	00.0
3	316-321	316.18-316.20	64.1	43.9	00.0	100.0	00.0	00.0	00.0	00.0
3		317.80-318.59	59.7	37.0	00.0	100.0	00.0	00.0	00.0	00.0
4	321-329	321.83-326.95	62.7	41.7	00.0	100.0	00.0	00.0	00.0	00.0
4		328.45	58.5	35.2	00.0	100.0	00.0	00.0	00.0	00.0

Site 57.2 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.
1	35-44	1	19-21	69.9	11.5	100.0
1			85-87	69.8	11.2	100.0

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Quar.	Plag.	Kaol.	Mica
1	35-44	35.19-35.89	66.1	47.0	5.1	12.5	18.5	63.9

Site 58.1 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Quar.	Plag.	Mont.
1	0-9	1	136-138	81.0	44.1	74.3	3.1	1.6	21.1
1		2	21-23	77.2	32.9	76.5	2.1	00.0	20.6
1			88-90	71.1	15.0	86.0	00.0	00.0	13.7
1		3	145-150	74.3	24.4	70.6	1.8	1.5	26.1

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Dolo.	Quar.	Plag.	Kaol.	Mica
1	0-9	1.36-4.50	67.5	49.2	9.4	8.5	13.7	15.7	52.7

TABLE 1 – *Continued*

Site 58.2 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Plag.	Mont.
1	137-143*	1	62-64	74.5	25.0	84.0	00.0	15.4
1			105-107	75.3	27.4	100.0	00.0	00.0
1		2	13-15	78.1	35.6	100.0	00.0	00.0
1			140-142	82.6	48.8	75.0	1.0	24.0
1		3	13-15	79.8	40.6	98.6	1.4	00.0
1			73-75	85.7	57.9	96.6	3.4	00.0
1		4	39-41	87.0	61.8	68.0	5.6	26.4
1			132-134	91.9	76.2	23.9	43.5	32.6
1		5	5-7	89.8	70.0	35.9	35.0	29.1
1			23-25	79.8	40.6	98.9	1.1	00.0
1			70-72	88.0	64.7	87.4	12.6	00.0
1			137-139	95.1	85.6	35.9	30.8	33.3
1		6	98-100	97.2	91.8	43.5	16.1	40.4
1			145-147	93.4	80.6	45.0	9.1	45.9

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Dolo.	Plag.	Kaol.	Mica	Mont.
1	137-143*	137.62-137.64	71.3	55.2	4.7	21.6	8.5	65.2	00.0
1		138.05-142.84	69.6	52.5	00.0	100.0	00.0	00.0	00.0
1		143.05-143.07	65.9	46.7	00.0	100.0	00.0	00.0	00.0
1		143.23-145.25	70.1	53.3	17.8	82.1	00.0	00.0	00.0
1		143.70-145.50	62.4	41.2	00.0	100.0	00.0	00.0	00.0
1		145.95-145.97	64.0	43.8	5.0	45.5	00.0	00.0	49.5

Site 59.1 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Quar.	Plag.	Kaol.	Mica	Mont.	Phil.
3	52-61	1	133-135	93.1	79.7	22.7	16.5	12.4	22.9	25.5	00.0
3		2	8-10	92.9	79.1	26.7	5.0	00.0	28.9	14.7	24.7
3			78-80	94.0	82.4	13.0	2.0	00.0	10.7	47.8	26.4
3		3	1-3	94.1	82.6	12.4	4.0	3.2	12.6	37.4	30.4
3			70-72	94.1	82.6	15.6	6.1	7.2	15.7	23.3	32.1

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Quar.	Plag.	Kaol.	Mica	Chlor.
3	52-61	53.33-55.72	60.6	38.4	6.3	13.6	12.9	63.8	3.4

Site 59.2 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Sider.	Quar.	Plag.	Kaol.	Mont.	Clin.	Phil.
1	89-98	1	43-45	94.2	82.9	00.0	9.1	90.3	00.0	00.0	00.0	00.0
1			06-108	95.7	87.4	00.0	00.0	100.0	00.0	00.0	00.0	00.0
1		2	1-3	94.9	85.0	00.0	00.0	100.0	00.0	00.0	00.0	00.0
1			70-72	96.5	89.7	00.0	00.0	100.0	00.0	00.0	00.0	00.0
1		3	1-3	93.3	80.3	00.0	00.0	100.0	00.0	00.0	00.0	00.0
1			70-72	95.1	85.6	00.0	00.0	100.0	00.0	00.0	00.0	00.0
2	98-108	2	145	94.8	84.7	00.0	00.0	100.0	00.0	00.0	00.0	00.0
2		3	4-6	95.2	85.9	00.0	00.0	100.0	00.0	00.0	00.0	00.0
2			70-72	95.2	85.9	00.0	00.0	100.0	00.0	00.0	00.0	00.0
2		4	36-38	97.0	91.2	00.0	00.0	100.0	00.0	00.0	00.0	00.0
2			70-72	95.6	87.1	00.0	00.0	100.0	00.0	00.0	00.0	00.0

* Plot changed in order to accommodate samples received.

TABLE 1 – *Continued*

Site 59.2 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Sider.	Quar.	Plag.	Kaol.	Mont.	Clin.	Phil.
2	98-108	5	32-34	95.1	85.6	00.0	00.0	100.0	00.0	00.0	00.0	00.0
2			88-90	95.3	86.2	00.0	00.0	100.0	00.0	00.0	00.0	00.0
2		6	13-15	96.1	88.5	00.0	00.0	100.0	00.0	00.0	00.0	00.0
3	108-117	1	145-150	94.6	84.1	00.0	00.0	13.6	7.3	54.5	00.0	24.5
3		2	145-150	92.2	77.1	00.0	00.0	16.7	12.6	35.0	14.7	21.0
4	117-126	1	63-65	93.8	81.8	00.0	00.0	24.8	9.7	25.5	14.3	25.5
5	126-132	1	86-88	91.8	75.9	00.0	17.0	7.5	00.0	00.0	75.5	00.0
6	132-135	2	0-5	95.4	86.5	00.0	00.0	4.0	9.6	36.2	13.9	36.3

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Quar.	K-Fe.	Plag.	Kaol.	Clin.
1	89-98	89.43-92.72	60.4	38.1	00.0	00.0	100.0	00.0	00.0
2	98-108	100.95-105.65	62.2	40.9	00.0	52.6	47.2	00.0	00.0
3	108-117	109.45-111.00	59.1	36.1	00.0	00.0	38.5	30.1	31.3
4	117-126	122.13-122.15	62.2	40.9	00.0	00.0	34.5	38.0	27.5
5	126-132	126.86-126.88	62.3	41.1	12.8	00.0	00.0	00.0	87.2
6	132-135	133.50-133.55	60.4	38.1	2.4	00.0	37.4	39.0	21.1

Site 60.0 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Quar.	K-Fe.	Plag.	Mica	Mont.	Erionite
1	52-61	1	4-6	86.3	59.7	91.6	1.4	00.0	7.0	00.0	00.0	00.0
1			75-77	81.1	44.4	95.9	00.0	00.0	3.6	00.0	00.0	00.0
1		2	5-7	79.4	39.4	94.7	00.0	00.0	4.4	00.0	00.0	00.0
1			127-129	81.7	46.2	91.7	2.1	00.0	6.2	00.0	00.0	00.0
1		3	8-10	79.8	40.6	97.2	00.0	00.0	2.3	00.0	00.0	00.0
1			130-132	95.5	86.8	38.6	9.2	00.0	52.2	00.0	00.0	00.0
2	61-70	1	84-86	86.5	60.3	89.7	00.0	00.0	10.3	00.0	00.0	00.0
2		2	9-11	86.3	59.7	90.3	1.2	00.0	8.5	00.0	00.0	00.0
2			50-52	95.2	85.9	20.8	12.7	00.0	66.5	00.0	00.0	00.0
2			70-72	97.6	92.9	40.2	2.5	00.0	8.2	16.4	32.8	00.0
3	129-134	1	114-116	99.3	97.9	00.0	4.2	00.0	21.0	00.0	74.8	00.0
3			142-144	96.5	89.7	27.0	3.1	00.0	46.9	00.0	50.0	00.0
3		2	6-8	95.8	87.6	24.8	12.4	00.0	62.8	00.0	00.0	00.0
4	134-139	1	145	96.0	88.2	49.9	7.4	00.0	42.8	00.0	00.0	00.0
4		2	145	99.0	97.1	28.8	15.0	00.0	56.2	00.0	00.0	00.0
5	213-222	1	47-49	99.5	98.5	68.4	00.0	00.0	31.6	00.0	00.0	00.0
5		2	23-25	98.9	96.8	68.9	00.0	00.0	31.1	00.0	00.0	00.0
5		3	37-39	96.5	89.7	9.0	4.2	00.0	31.2	00.0	55.6	00.0
6	222-231	1	82-84	95.6	87.1	34.5	8.2	00.0	57.3	00.0	00.0	00.0
6		2	12-14	95.6	87.1	41.6	8.5	00.0	50.0	00.0	00.0	00.0
6			122-124	87.0	61.8	93.2	00.0	00.0	6.8	00.0	00.0	00.0
6		3	10-12	94.0	82.4	24.5	8.0	00.0	67.5	00.0	00.0	00.0
6			130-132	96.3	89.1	32.6	5.0	00.0	28.6	00.0	33.9	00.0
6		4	22-24	94.0	82.4	27.0	3.4	00.0	69.6	00.0	00.0	00.0
6			104-106	96.6	90.0	48.4	5.6	00.0	46.0	00.0	00.0	00.0
6		5	33-35	99.5	98.5	00.0	00.0	00.0	100.0	00.0	00.0	00.0
6			129-131	95.8	87.6	30.9	00.0	00.0	69.1	00.0	00.0	00.0
6		6	23-25	96.6	90.0	44.2	7.5	00.0	48.3	00.0	00.0	00.0
6			80-84	99.1	97.4	62.9	00.0	00.0	37.1	00.0	00.0	00.0

TABLE 1 – *Continued*

Site 60.0 – Bulk

Core	Depth Below Sea Bed (m)	Section	Depth (cm)	Diff.	Amorph.	Calc.	Quar.	K-Fe.	Plag.	Mica	Mont.	Erionite
6	222-231	7	104-106	98.4	95.3	15.8	16.1	00.0	68.1	00.0	00.0	00.0
7	289-298	1	78-80	99.7	99.1	55.3	00.0	00.0	44.7	00.0	00.0	00.0
7		2	4-6	99.6	98.8	68.3	00.0	00.0	31.7	00.0	00.0	00.0
8	343-347	2	53-55	98.2	94.7	00.0	16.7	00.0	83.3	00.0	00.0	00.0
8		3	145	97.5	92.6	00.0	13.3	00.0	86.7	00.0	00.0	00.0
9	347-348*	1	145	98.2	94.7	00.0	00.0	00.0	100.0	00.0	00.0	00.0
9		2	145	98.0	94.1	00.0	13.7	00.0	86.3	00.0	00.0	00.0
9		3	12-14	95.1	85.6	00.0	00.0	00.0	100.0	00.0	00.0	00.0
9			77-79	95.8	87.6	00.0	00.0	00.0	42.8	00.0	00.0	57.2
9			89-91	00.0	00.0	00.0	00.0	00.0	46.2	00.0	00.0	53.1
9			109-111	00.0	00.0	00.0	00.0	13.9	17.4	00.0	68.6	00.0
9			128-130	00.0	00.0	00.0	00.0	52.6	47.4	00.0	00.0	00.0
9			143-145	00.0	00.0	00.0	00.0	8.3	9.2	00.0	65.6	16.9

* Plot changed in order to accommodate samples received.

Composited 2-20μ

Core	Depth Below Sea Bed (m)	Depth In Core	Diff.	Amorph.	Dolo.	Quar.	Cris.	K-Fe.	Plag.	Mont.
1	52-61	52.04-55.10	63.7	43.3	00.0	6.5	18.7	00.0	74.8	00.0
1		56.30-56.32	60.9	38.9	00.0	3.0	27.3	00.0	69.7	00.0
2	61-70	61.84-63.02	65.6	46.2	00.0	2.4	35.4	00.0	62.1	00.0
2		63.20-63.22	78.5	66.4	00.0	7.8	49.1	00.0	43.0	00.0
3	129-134	130.14-130.16	71.0	54.7	00.0	2.6	57.2	00.0	40.1	00.0
3		130.42-130.58	63.5	43.0	00.0	4.8	39.6	00.0	55.6	00.0
4	134-139	135.45-136.95	60.9	38.9	12.0	00.0	00.0	50.3	37.7	00.0
5	213-222	213.47-216.39	59.7	37.0	00.0	00.0	00.0	47.4	52.6	00.0
6	222-231	222.82-231.00	64.7	44.8	5.3	4.2	32.9	00.0	57.6	00.0
7	289-298	289.78-290.56	72.3	56.7	00.0	00.0	00.0	00.0	100.0	00.0
8	343-347	344.45-346.45	65.8	46.6	10.1	00.0	23.6	00.0	66.3	00.0
9	347-348*	348.45-350.79	71.7	55.8	00.0	00.0	00.0	63.0	00.0	37.0

* Plot changed in order to accommodate samples received.