2. SITE 332

The Shipboard Scientific Party[1]

SITE DATA

Date Occupied: 17 June to 6 July 1974

Position: 36°52.72′N, 33°38.46′W

Water Depth (sea level): 1806 to 1818 meters

Number of Holes: 5

Penetration: 721.5 meters

Number of Cores: 91

Total Core Recovered: 198.9 meters

Oldest Sediment Cored Above Basement:
Depth: 104.5-149 meters
Nature: Foram-bearing nannofossil ooze
Age: Late Pliocene, near early-Pliocene-late Pliocene boundary

Acoustic Basement:
Depth Subbottom: 104.5 to 149 meters
Nature: Basalt with interlayered sediment

SUMMARY

Site 332 is located in Deep Drill Valley approximately 30 km west of the axis of the Mid-Atlantic Ridge at 36°52′N latitude. The principal goal at this site was deep penetration into layer 2 of the ocean crust by multiple re-entry. Five holes were drilled at this site: Hole 332 consists of a single punch core at the mud line and Hole 332A was drilled as a single bit test hole prior to the successful deep drilling attempt at Hole 332B. Holes 332C and 332D were single-core holes drilled accidentally while attempting re-entry into Hole 332B.

Acoustic basement is overlain by 100 to 150 meters of foram-bearing nannofossil ooze, with a few thin layers of gray volcanic ash and scattered pumice fragments. The oldest sediment above basement is late Pliocene near the early Pliocene-late Pliocene boundary.

Basement consists of a largely extrusive sequence of massive to pillowed basalts with interlayered nannofossil ooze and chalk, and probable zones of breccia or basaltic rubble. The interlayered sediment and breccia make up as much as 70% of the section in the upper part, but the percentage diminishes rapidly at about 300 meters subbasement. Some chalk persists to at least 544 meters subbasement in Hole 332B.

Measured velocities and calculated effective velocities of the sequence suggest that seismic layer 2A is locally about 300 meters thick, and that the top of layer 2B consists of more abundant massive units with scarce sediment and rubble zones. Calculated layer 2A and 2B velocities agree with Whitmarsh's refraction survey data, but 2A appears thinner locally.

Hole 332A penetrated 333 meters into acoustic basement. The basalts in this hole have been divided into seven major lithologic units varying from coarse-grained plagioclase phyric basalts at the top, through a sequence of interlayered aphyric and plagioclase-phyric basalts, to a highly phyric plagioclase-clinopyroxene-olivine basalt at the base.

Hole 332B penetrated 583 meters into acoustic basement with an average recovery of 21%. Eleven lithologic units have been recognized in this sequence including highly plagioclase- and olivine-phyric basalts and less abundant aphyric basalts. Even though Holes 332A and 332B were drilled only 100 meters apart, there is no clear correlation of lithologic units between the two holes.

Small-scale lithologic breaks are common in the igneous sequence indicating that individual units are thin, probably pillow lavas, thin flows, or intrusive bodies. Individual cooling units, however, are often difficult to recognize because of poor core recovery.

The chemistry of the basalts fits the general definition of ocean ridge tholeiite but is highly variable with some evidence of eruptive cycles, progressing from differentiated to less differentiated basalts in a given sequence. Differences in chemistry reflect differences in primary magmas as well as extensive fractional crystallization in shallow magma chambers.

Most of the basalts exhibit some evidence of seawater interaction especially in the lower cores along fractures and shear zones, but fresh rock is present down to the lowest depths penetrated. Fresh sideromelane is found to at least 573 meters subbasement in Hole 332B. The lowest unit encountered at this site is a massive, medium-grained basalt with small joints and small shear zones coated with smectite and sulfides. Some altered zones contain abundant zeolite, chiefly phillipsite. However, the maximum measured downhole temperature was 14.15°C at 541 meters in Hole 332B.

The magnetic stratigraphy includes normal, reversed, and transitional zones. Magnetic evidence suggests that thick sections of petrographically and

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geochemically similar units were erupted over short time intervals of 10 to 1000 yr. The entire sequence is believed to have formed within the Median Valley in mid to late Pliocene over a period of 100,000 to 200,000 yr.

BACKGROUND AND OBJECTIVES

Site 332 is located in Deep Drill Valley about 30 km west of the crest of the Mid-Atlantic Ridge at 36°52′N latitude (Figure 1). The reasons for selection of this site for a deep drilling attempt are discussed in the Introduction (this volume).

The site was first investigated by A.S. Laughton on *Discovery II* during the summer of 1973, and then by F. Aumento on *Hudson* during the winter of 1974. Figure 2 gives the tracks of the different surveys over the valley; those of *Discovery* and *Hudson* used both satellite navigation and moored radar transponder buoy navigation; the four profiles by *Jean Charcot* have satellite navigation control only. Figure 3 gives the bathymetry over the area, using only *Hudson* data. Rough topography with small wavelength variations of high amplitude caused some contouring problems, and these are indicated by dashed contours instead of solid lines. Elsewhere, agreement between the *Hudson, Discovery*, and *Jean Charcot* surveys was within 20 meters at crossover. Figure 4 gives the magnetic anomaly map after the International Magnetic Reference Field has been removed from the magnetic values collected. A general elevation of the reference field in the area by some 200 gammas accentuates the negative anomalies; the local reference field should therefore be depressed by some 200 gammas to give an even density of positive and negative anomalies. Figure 5 is a profile along the sea-floor spreading flow line showing the magnetic anomalies at each site.

The seismic reflection profiles obtained over the valley by the *Discovery* survey reveal that the maximum sediment thickness is 300 msec, with a thickness of greater than 100 msec extending over an area of at least 2×3 km. Laughton interpreted the sediments as having been emplaced by bottom currents channeled between the ridges that delineate the valley. The ridges themselves are thought to arise from high-angle faulting, explaining the asymmetry of the basement beneath the valley; the eastern wall may be a dip slope tilted to the west by some 6° from the horizontal, and the western wall a single or multiple fault scarp facing the Median Valley with a slope of 19°. Sediments within these boundaries are either flat lying with some draping over the eastern scarp, or show buckling against the scarp. Figure 6 gives a true scale (no vertical exaggeration) cross-section through the valley to provide the reader with a better knowledge of the bathymetry and underlying structure inferred from reflection and refraction seismics.

To provide some seismic velocity control beneath the site, R. Whitmarsh on *Discovery* shot a seismic refraction line (*Discovery* Station 8443) along the axis of the sediment basin previously delineated by seismic reflection profiling. A sea bed recording pop-up seismic buoy (PUBS) was used in conjunction with a 1000-cu in air-gun fired at 1800 psi. The buoy was laid at 36°48.5′N, 33°39.7′W and some 90 gunshots were fired along a line in the direction 195° towards the buoy.

Horizontal ranges were calculated from the direct water wave travel time using velocimeter data obtained by *Discovery*. Travel times were also corrected for varying sediment thickness and sea depth along the line assuming sediment and basement velocities of 1.75 and 4.5 km/sec, respectively. The travel times were reduced to a plane dipping 1.9° to the north which represents the mean slope of the sea bed along the seismic line. The parameters of the least-squares lines fitted to the time-distance diagram are given in Table 1. Before calculating the structure beneath the site the intercepts of the second and third lines had to be corrected by +0.07 sec for the fact that the depth of the PUBS lay below the projected depth for zero range along the correction plane. The intercept of the first line indicates that it represents a refractor at, or just below, the sea bed.

Thus it is possible to calculate the structure. Since the line was not reversed, no unique solution is possible but one of two simple assumptions may be made. Either the interfaces below the sea bed are horizontal or else they dip at the same angle and direction as the sea bed (tilted block case). In either event the computed depths to the refractors are hardly different, only the velocities vary significantly (Table 2). It should be noted that these results are preliminary and only based on first arrivals. However, it is not expected that a more thorough analysis will produce significantly different results especially considering the number of points on which the least-squares line is based.

During the *Hudson* survey a series of thermal gradient measurements was attempted near the position of the deep penetration site using a Bullard probe. The measurements were taken within a 3-mile radius of the proposed drill site at 36°52′N and 33°37′W. Good penetration was achieved only on two out of seven attempts. The two good stations, numbers 13 and 22, gave quite low values of heat flow, 1.37 and 1.09 ±0.1 μcal/cm^{2}sec, respectively (Table 3). The correlation of these measurements with the graph of heat flow versus distance from spreading center (Le Pichon and Langseth, 1969) would indicate that this area is in a thermal state usually characteristic of areas at greater distances from a ridge crest, or that the spreading rate in the area is slower than anticipated, and the site is older.

Six piston cores were obtained from the proposed drilling site during the *Hudson* survey (Table 4). The 20-foot liner sections removed from the corer were cut so as to provide, as closely as possible, a 1-ft section every 5 ft for tests of the mechanical properties of the sediment. These were stored vertically and refrigerated immediately after cutting and sent to the DSDP Repository at Lamont-Doherty Geological Observatory.

The lithology of the sediment is quite uniform, being very light gray or white, stiff foram-nannofossil ooze, becoming browner towards the top. Core 74-003-5 is described in detail below as being representative of the sediments in the upper layers of the pond. It consists of

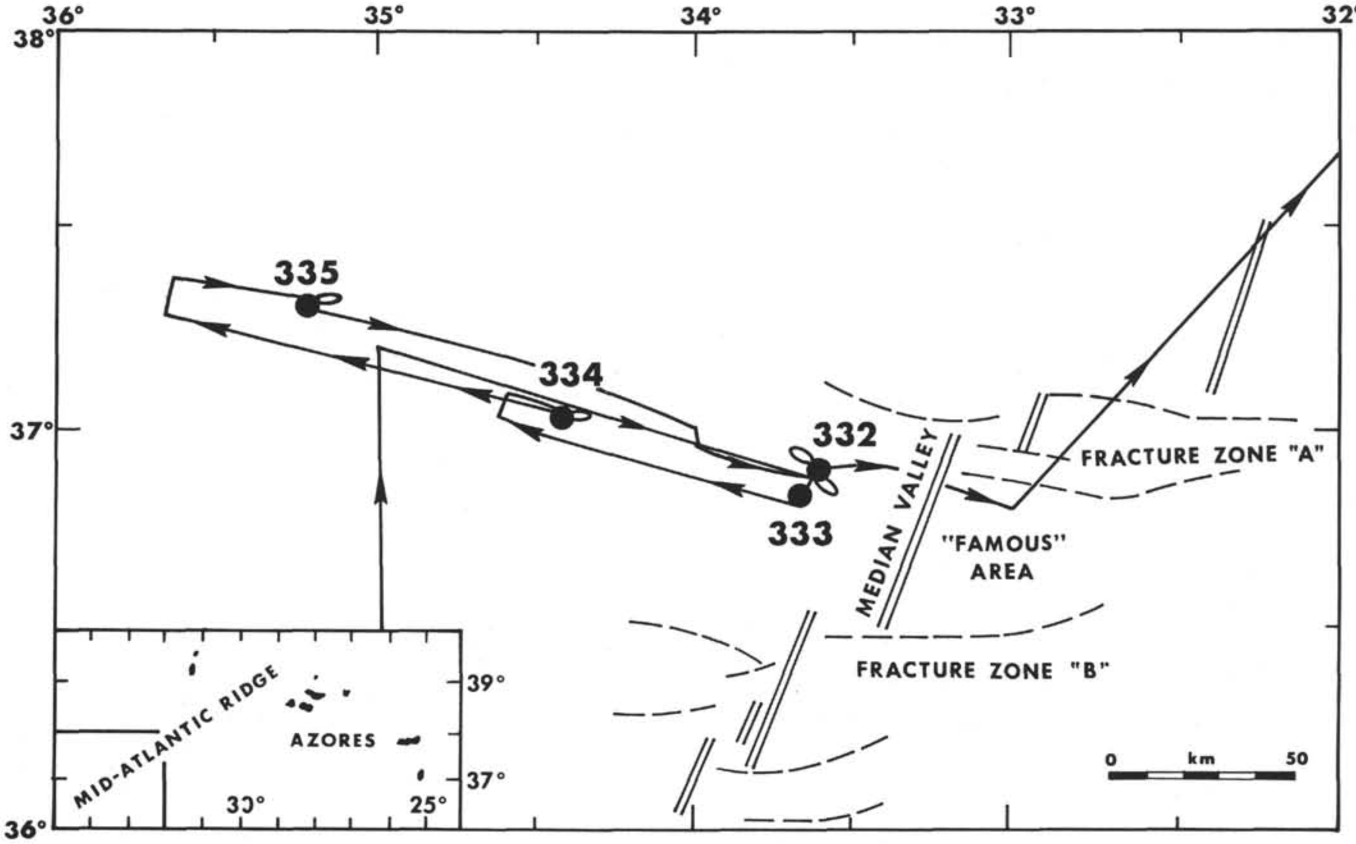

Figure 1. *Index map showing location of Site 332.*

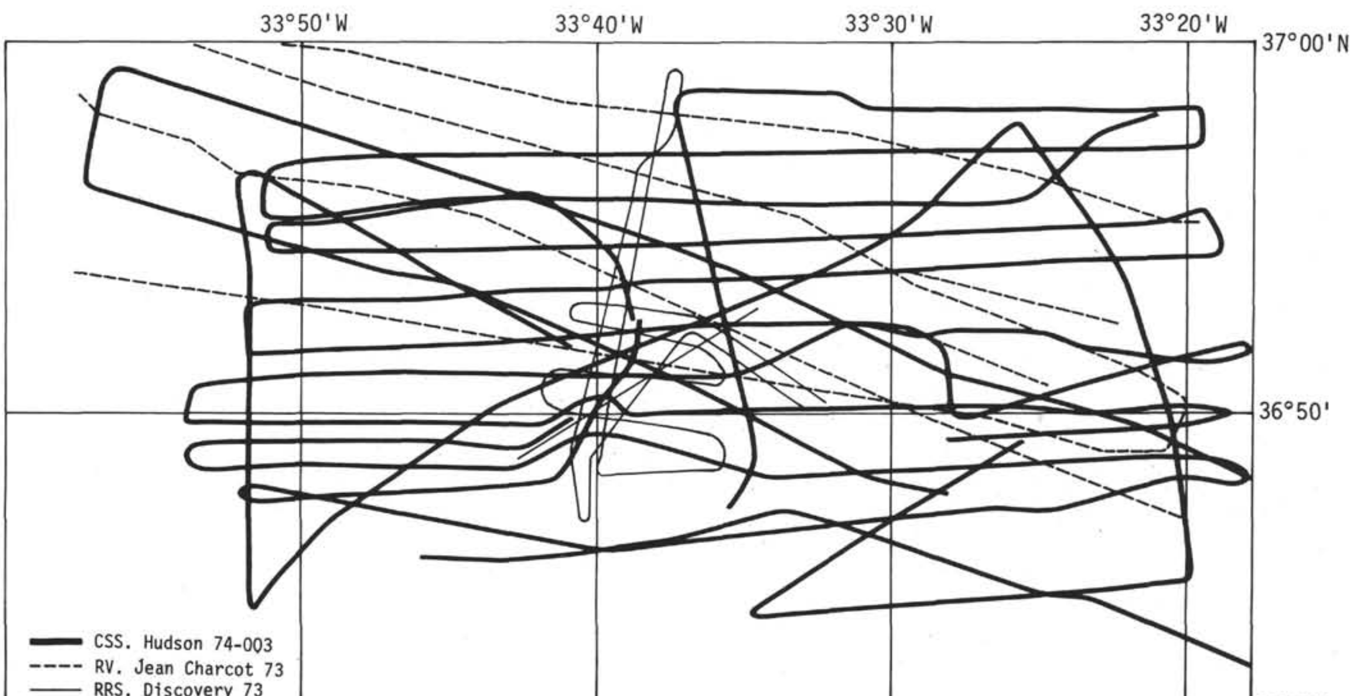

Figure 2. *Survey tracks of* Hudson, Jean Charcot, *and* Discovery *in the vicinity of* Deep Drill Valley.

light gray (N7) to very light gray (N8) foram-rich coccolith ooze with several slightly coarser light olive-gray (5Y 6/2) and pale yellowish-brown (10YR 6/2) foram-coccolith ooze horizons from 0.5 to 15 cm thick. In the lower part are two horizons approximately 5-10 cm thick of white (N9) very pure coccolith ooze with few forams, gradational with the sediment above and below. Foram-nannofossil proportions seem to be

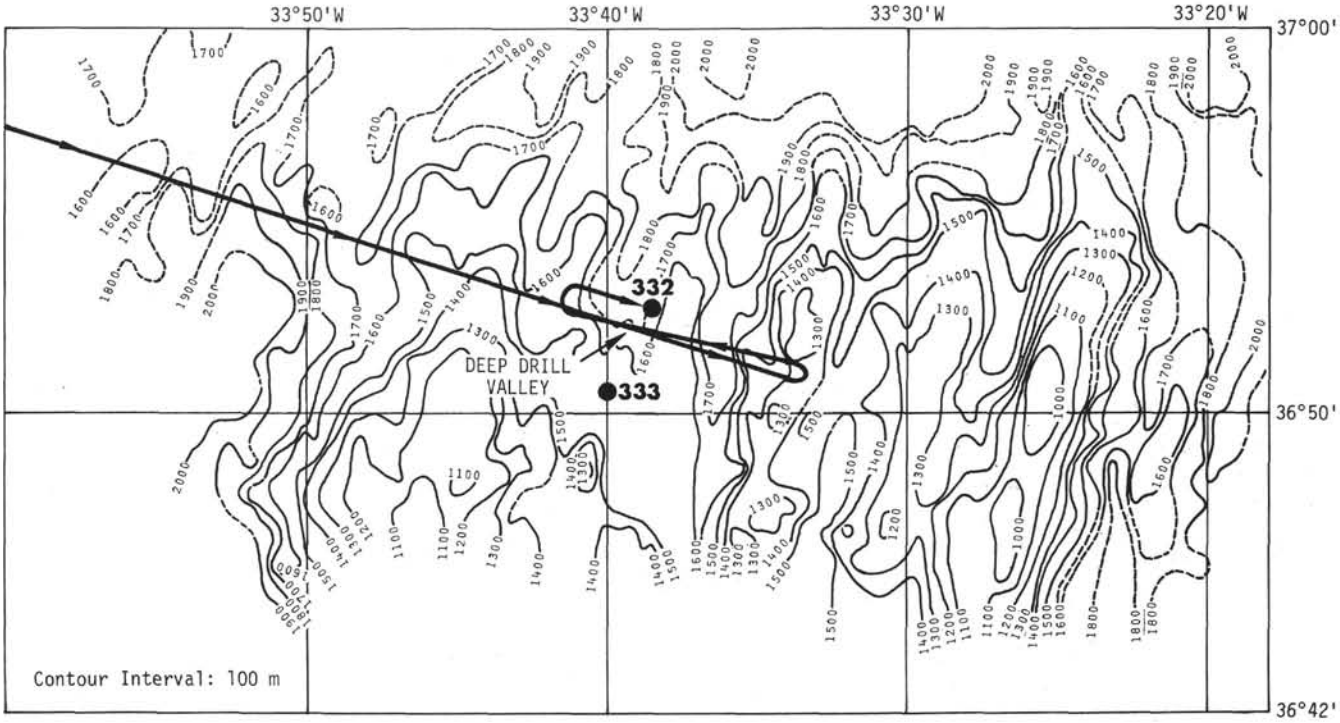

Figure 3. *Bathymetric map of the area in the vicinity of Deep Drill Valley from* Hudson *data. Contour interval 100 m. The approach track to Site 332 and 333 is shown.*

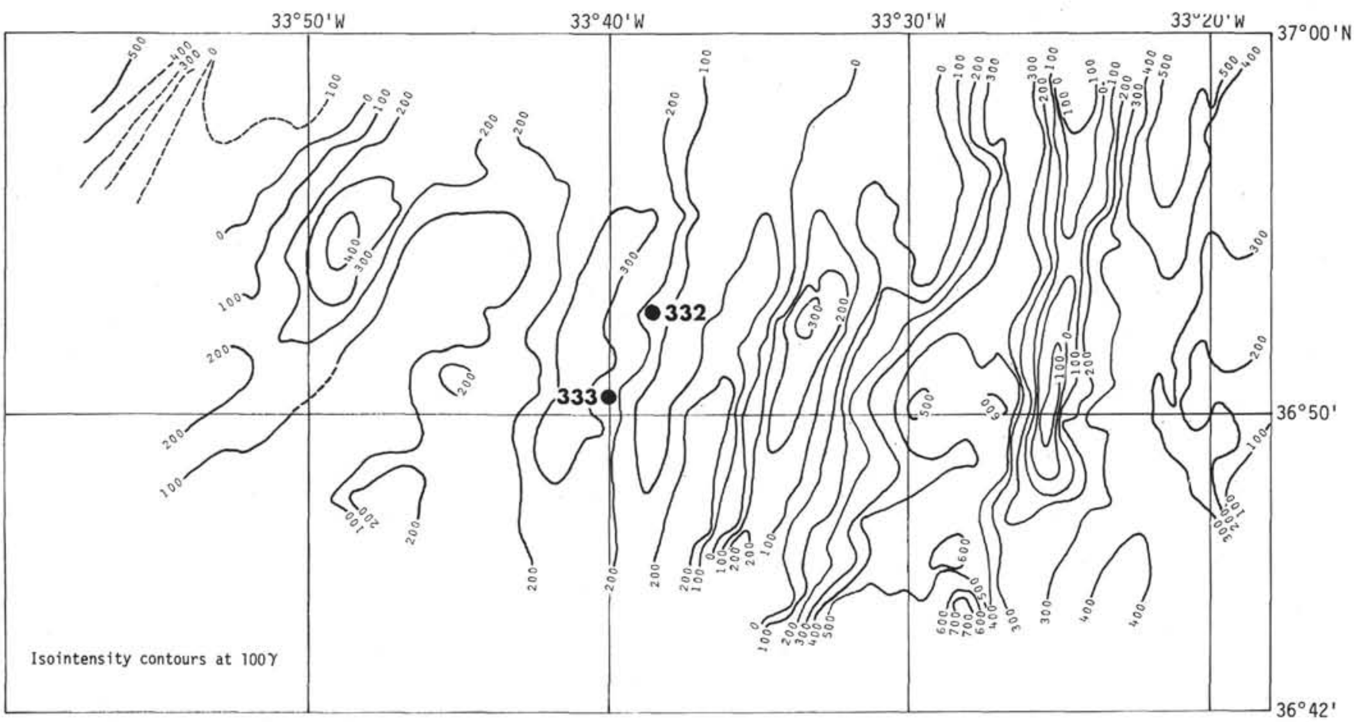

Figure 4. *Magnetic anomaly map of the area in the vicinity of Deep Drill Valley. Isointensity contours are 100γ.*

reflected by the lightness of the sediment. None of the slides examined has any visible opaque minerals or clays, and nothing was seen which could explain the greenish (5Y 6/2) coloration.

Three topographic features were sampled by dredging during the *Hudson* survey; Station 14 on the west flank of Deep Drill Valley, south of the drill site, Station 21 in the first valley east of the deep penetration

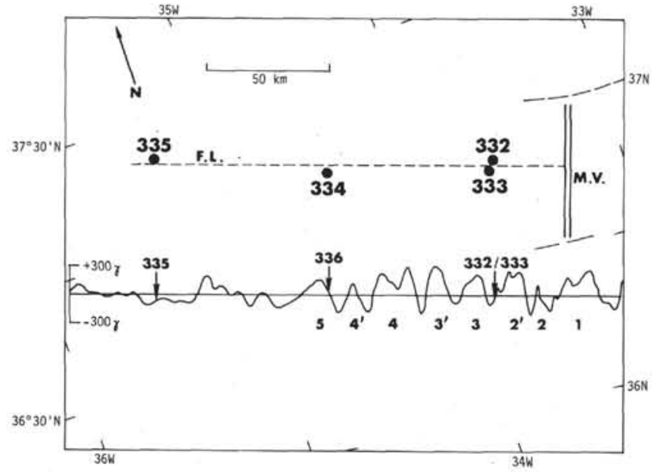

Figure 5. *Location of the Leg 37 sites along a sea-floor spreading flow line (F. L.) away from the Median Valley of the Mid-Atlantic Ridge (M. V.), together with a composite magnetic anomaly profile along the flow line. Magnetic anomaly numbering is after Talwani et al. (1971).*

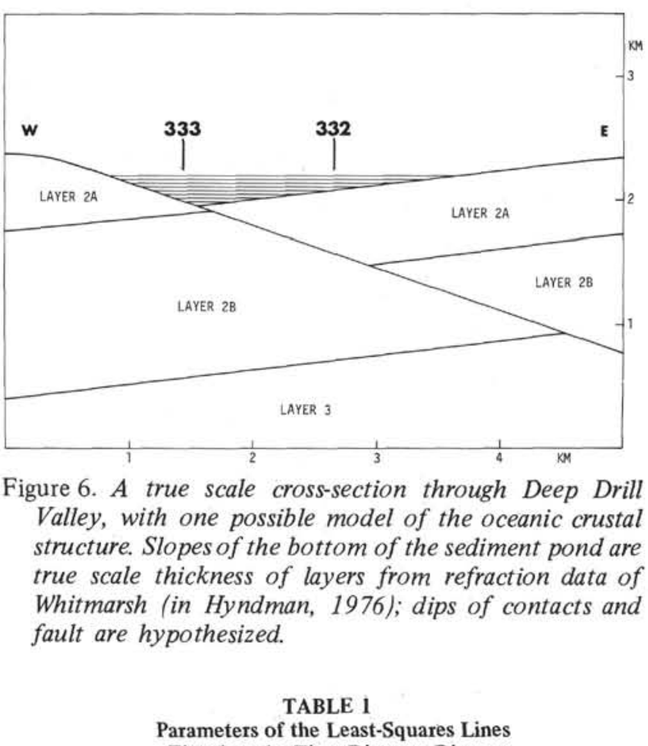

Figure 6. *A true scale cross-section through Deep Drill Valley, with one possible model of the oceanic crustal structure. Slopes of the bottom of the sediment pond are true scale thickness of layers from refraction data of Whitmarsh (in Hyndman, 1976); dips of contacts and fault are hypothesized.*

TABLE 1
Parameters of the Least-Squares Lines Fitted to the Time-Distance Diagram Produced by Seismic Refraction Survey Shot by *Discovery* in the Vicinity of Deep Drill Valley

Line	Velocity (km/sec)	Intercept (sec)	Number of Points
1	2.64 ± 0.19	0.76 ± 0.06	9
2	4.48 ± 0.11	1.20 ± 0.03	23
3	5.86 ± 0.06	1.62 ± 0.02	46

Note: Errors are standard errors

TABLE 2
Two Possible Models for the Structure of Deep Drill Valley Based on the Seismic Refraction Survey Shot by *Discovery*

Velocity (km/sec)	Thickness (km)	Depth of Refractor Below Sea Bed
Model 1		
1.494	1.39	–
2.77	0.64	0?
4.94	1.32	0.64
6.71		1.96
Model 2		
1.494	1.39	–
2.77	0.63	0?
5.20	1.31	0.63
7.49		1.94

Note: Model 1 assumes horizontal refractors below the sea bed, Model 2 assumes all refractors dip parallel with the sea bed. Sea bed has a northerly dip of 1.9° along the refraction line.

valley, and Station 29 on the steep southeastern flank of a prominent seamount 10 miles east of the drill sites. Major element analyses of the igneous rocks recovered are reported in Table 5. The specimen from Station 14 is especially interesting, having a different composition from other oceanic basalts, being more akin to the andesites described by Hekinian (1974) from the Ninetyeast Ridge.

Location of Site 332 in Linear Anomaly Pattern

The magnetic anomaly pattern in the vicinity of Sites 332 and 333 is well known from surveys by *Hudson, Jean Charcot*, and *Discovery*. For a discussion of the relationship of Sites 332 and 333 to this pattern, information from the *Hudson* 74-003 survey has been combined with a profile into the site made by *Glomar Challenger* on 17 June 1974, and a small survey relating both sites to local details of the linear anomaly pattern made by *Glomar Challenger* on 6, 7 July 1974. The *Glomar Challenger* survey of 17 June was controlled by satellite navigation and the survey of 6, 7 July by a combination of satellite navigation, bathymetry, and relationship to the beacon at Site 332. The *Glomar Challenger* survey data are preferred as a basis for detailed discussion as significant magnetic anomaly features and site locations were deliberately recorded on single continuous profiles, thus obviating the possibility of introducing errors through the matching of the results of different surveys.

The profile of 17 June 1974 extends from a point at 37°10.0'N, 35°00.0'W along a course of 105° for a distance of close to 115 km to Site 332 at 36°52.67'N, 33°38.50'W. This course was chosen so that the profile would be aligned along a line parallel to the direction of spreading and would thus be on the average a principal profile through the magnetic anomaly pattern, that is, be normal to the strike of the anomalies. The major part of the magnetic profile along this course is shown in Figure 7, together with a part profile from the available magnetic anomaly map. This latter profile ex-

TABLE 3
Heat-Flow Stations Occupied by *Hudson* in the Vicinity of Deep Drill Valley

Hudson Station	Latitude (°N)	Longitude (°W)	Depth (uncorr. m)	Penetration (m)	Gradient (m°C/m)	Conductivity (mcal/cm sec°C)	Heat Flow (μcal/cm^{2}sec)
13	36°53.1′	33°38.0′	1756	1.90	54	2.53	1.37 ± 0.1
15	36°49.6′	33°40.2′[a]	1719	(0.46)	114	2.53	2.88 ± 1
19	36°53.9′	33°38.5′	1778	2.50	68[b]	2.53	1.72 ± 1
22	36°51.7′	33°38.3′	1687	2.16	43	2.53	1.09 ± 0.1

[a]No SAT NAV pass: D. R. position.
[b]Nonlinear gradient.

TABLE 4
Piston Cores Taken by *Hudson* in Deep Drill Valley

Shipboard Sample	Station	Latitude (°N)	Longitude (°W)	Approx. Penetration (m)	Recovery (m)	Depth (uncorr. m)
74-003-3	16	36°53.8′	33°37.4′	9	8.25	1675
74-003-4	18	36°53.6′	33°38.6′	12	12.30	1734
74-003-5	20	36°53.4′	33°39.5′	12	11.80	1741
74-003-7	23	36°52.3′	33°38.8′	12	10.40	1682
74-003-8	24	36°51.6′	33°38.8′	12	8.88	1682
74-003-9	25	36°50.0′	33°39.7′	6	6.09	1660

TABLE 5
Chemical Analyses of Igneous Rocks Dredged by *Hudson* in the Vicinity of Deep Drill Valley

	14-1	21-1	21-3 (center)	21-3 (edge)	29-1	29-2	29-3	29-4
SiO_2	55.22	50.24	50.12	48.43	47.13	50.42	47.24	50.03
Al_2O_3	17.52	14.73	14.76	15.48	15.88	14.82	15.73	14.76
TiO_2	1.61	0.97	0.99	1.11	1.30	1.20	1.19	1.12
Fe_2O_3 Tot	10.34	9.64	10.28	11.10	11.73	10.11	11.10	9.85
MnO	0.31	0.15	0.98	0.12	0.20	0.17	0.19	0.17
MgO	5.19	8.56	8.18	8.76	7.49	7.69	8.05	8.05
CaO	5.47	12.63	13.18	12.68	12.85	12.28	13.15	12.96
Na_2O	3.55	2.70	2.02	1.88	2.93	2.82	2.90	2.63
K_2O	0.60	0.27	0.26	0.26	0.19	0.35	0.15	0.30
P_2O_5	0.19	0.10	0.12	0.19	0.30	0.14	0.29	0.13
Qz	8.71	–	–	–	–	–	–	–
or	3.56	1.57	1.51	1.55	1.10	2.09	0.87	1.78
pl	56.06	50.14	47.55	48.93	49.25	50.60	48.25	49.84
ne	–	–	–	–	2.80	–	3.12	–
di	–	28.08	27.74	23.34	26.44	27.05	27.71	29.09
hy	22.97	6.81	16.91	13.46	–	8.29	–	6.50
ol	–	7.66	0.43	6.37	13.41	5.68	13.33	6.70
mt	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90
il	3.05	1.84	2.88	2.10	2.47	2.28	2.26	2.14
ap	0.41	0.22	0.26	0.41	0.65	0.31	0.63	0.28
C	1.49	–	–	–	–	–	–	–

Note: All analyses recalculated to 100% water and CO_2 free. For norm calculation 25% Fe_2O_3 goes to Fe_2O_3, remainder converted to FeO.

tends our coverage from Site 332 to the western flank of the central, ridge crest, anomaly of the pattern. The International Geomagnetic Reference Field (IGRF) deviates on the average by close to 200γ from the observed regional field in the area, thus special techniques are required for anomaly isolation. A linear regional gradient was fitted by eye to the total field values along the *Glomar Challenger* profile, this amounting to a decrease of 4.2 km^{-1} toward the site. The anomalies shown in the upper profile of Figure 7 are the residuals from the measured field values after removal of this regional field. The anomalies in the

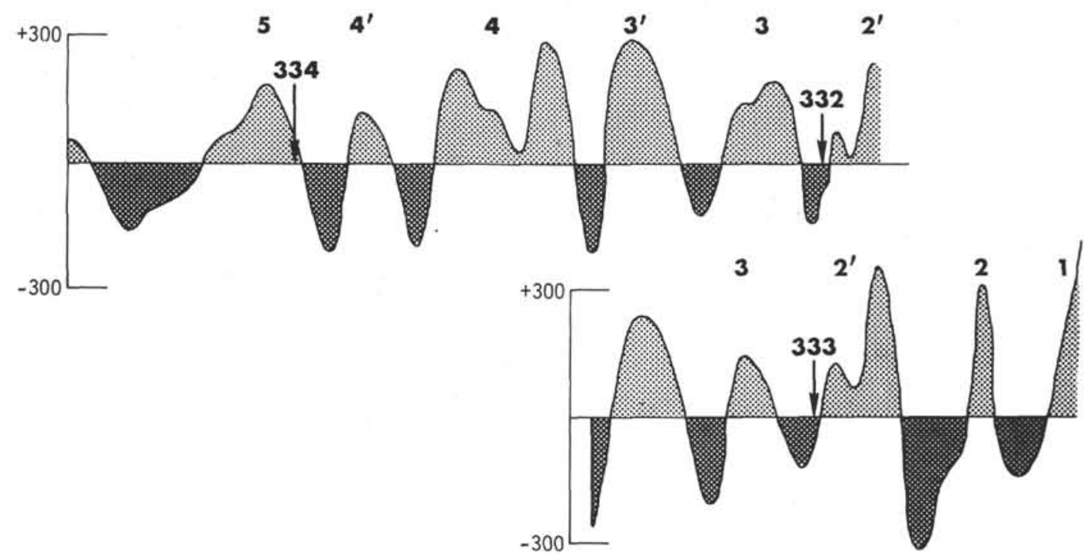

Figure 7. *Magnetic anomaly profiles along flow lines through the area of Holes 332 and 333 (marked by arrows). Upper:* Glomar Challenger, *17 June, 1974. Lower:* Hudson, *January/February 1974. Positive anomalies numbered following Talwani et al. (1971). Scales: magnetic anomalies in gammas. Horizontal scale 1 cm = 5.44 km (one quarter of standard FAMOUS area map scale.*

lower part of the figure were obtained from the magnetic anomaly map on the assumption that the regional field was constant over the profile at a value of 200γ less than the prediction of the IGRF. We should bear in mind that the effect of uncertainties in the value of the regional field in this area are small because the high horizontal magnetic gradients result in only small changes in the important crossover points between positive and negative anomalies for large changes in the supposed regional field. A composite magnetic anomaly profile is shown in Figure 5.

The positive anomalies of the profiles in Figure 7 match well with the normal polarity intervals identified by Talwani et al. (1971) from a combination of extensive magnetic surveying over the Reykjanes Ridge and radiometric age determinations on rock samples of known magnetic polarity. Anomalies 2' and 5 are identified on the *Glomar Challenger* profile and 1 to 3 on the other profile. On both profiles Site 332 lies close to the eastern side of the negative anomaly between positive anomalies 2' and 3. Talwani et al. (1971) assign an age of 3.32 to 3.78 m.y. to this negative polarity interval.

The Age of the Magnetic Source at Site 332 from its Location within the Magnetic Anomaly Pattern

This problem was approached by plotting the age of crossover points between positive and negative anomalies (from Talwani et al., 1971) against distance from Site 332 along the profiles of Figure 5 (Figure 8). A well-defined linear relationship is obtained, with data from both surveys defining the same line. The age of the magnetic source at Site 332, determined in this way, is 3.50 ±0.10 m.y.; the uncertainty describing the limits of permissible values for the data. Apparently, sea-floor spreading took place continuously between 0.69 and about 11 m.y.B.P., at least for time intervals of no less than a few hundred thousand years, at a half rate of 1.17 ±0.05 cm/yr. An error of up to ±5° in the estimation of the flow line azimuth can be tolerated without this value changing significantly.

Relationship of Site 332 to the 3.32-3.78 m.y. Negative Magnetic Anomaly

As part of the *Glomar Challenger* survey of 6, 7 July 1974, a line was run from the peak of anomaly 2' directly over the beacon at Site 332 to the flank of anomaly 3. This line is marked by profile A'-A of the magnetic anomaly map of Figure 9. The isolation of anomalies from the total field information for this map was achieved by using a combination of the linear regional gradient along the *Glomar Challenger* profile of 17 June and the north-south and east-west IGRF gradients for the area. Figure 10 shows profile A-A'. Since the dipole field inclination in this area, at ±56°, is quite steep and the anomaly pattern, with an average strike of N15°E, and is close to north-south in orientation, it is a good approximation to assume that the anomalies are symmetrical in form and peak within 1-2 km of the center of their sources. With this assumption it is relatively straightforward to relate each magnetic anomaly to supposed source geometry. Site 332 clearly lies closer to the eastern boundary of the negative anomaly, at a position that is consistent with the 3.50 ±0.10 m.y. age obtained from the 17 June profile and with the fission track ages (3.57 m.y.) calculated subsequently by Mitchell and Aumento (this volume). We note the anticipated double-peaked form of anomaly 2', marking the Gauss normal epoch, but the inflection on the east flank of the negative anomaly is unexpected. This feature, which is apparent on several but not all of the profiles through the area, marks the southwestern extension of the +100 lobe located almost directly to

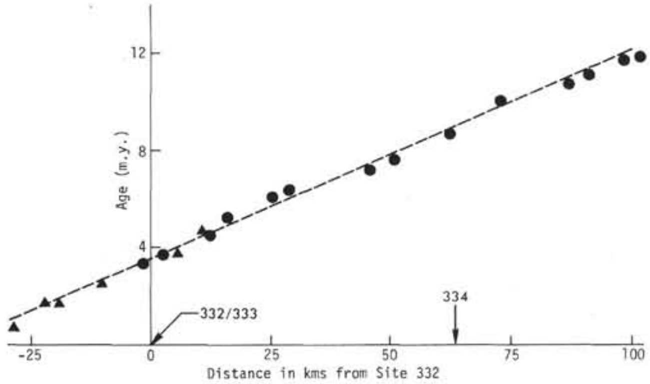

Figure 8. *Apparent age of the ocean crust along the flow line of Figure 5. Based on the ages of reversals given in Talwani et al., 1971. Circles from* Glomar Challenger *profiles. Triangles from* Hudson *profiles.*

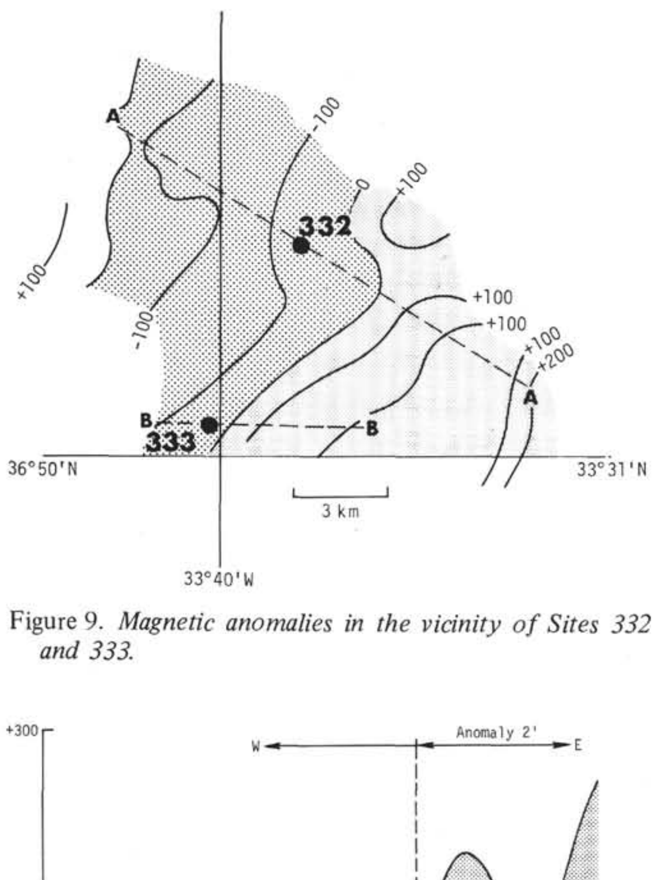

Figure 9. *Magnetic anomalies in the vicinity of Sites 332 and 333.*

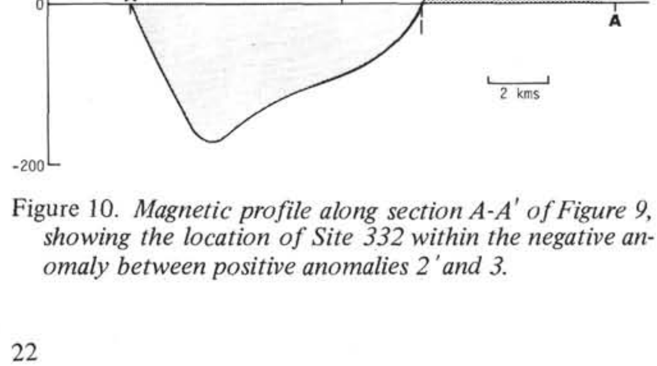

Figure 10. *Magnetic profile along section A-A' of Figure 9, showing the location of Site 332 within the negative anomaly between positive anomalies 2' and 3.*

the east of Site 332. A feature of this type, with restricted lateral extent, would not warrant consideration in a regional study, but here, where detailed comparisons of source and anomaly structure are possible, origins for this feature should be listed. At least three origins can be envisioned: a previously undocumented short positive magnetic event within the 3.32-3.78 m.y. reverse polarity interval, a topographic effect associated with the form of the valley in which Site 332 is located, or an end effect of a positive magnetic anomaly terminating to the east of the site, that is, an effect of a three-dimensional magnetic source rather than the two-dimensional type assumed to exist in modeling anomalies. The magnetic survey evidence indicates that a topographic effect arising from the slope of the valley cannot apply since the same negative anomaly in the vicinity of Site 333, where the valley has similar form, does not show any inflection. Macdonald (1975) describes deep-tow results along a line approaching to within 1.9 km of Site 332. He finds zero effective crustal magnetization for the vicinity of the site and interprets this in terms of the presence of basalts magnetized during a previously unidentified short normal interval that preceded the Gilbert-Gauss boundary by a few tens of thousands of years.

OPERATIONS

Deep Drill Valley was approached from the west-northwest along a line at right angles to the axis of the Mid-Atlantic Ridge. Along this east-southeast course the valley was easily identified, with the bathymetric, seismic, and magnetic profiles matching perfectly with those obtained previously by *Hudson* and *Discovery* II. The east-southeast course was extended over the valley until a prominent 1300-meter seamount and its magnetic anomaly were identified some 3 miles to the east, when *Challenger* reversed its course for a second pass over the valley. Beyond the second crossing of the valley, the ship traversed a shallow ridge (less than 1600 m) to the west-northwest, and as soon as the depth fell off again the ship turned to starboard for the final pass and beacon drop. Unfortuantely, due to wind and current conditions, this final maneuver resulted in a somewhat wider turn than anticipated, and the 13.5-kHz beacon series 287 was dropped at 1230 hr, 17 June, a half mile further north than expected in 1828 meters of water (rig floor). Figures 11a and 11b show airgun profiles approaching and departing Site 332. A GDR profile of the beacon drop is given in Figure 12 and Figure 13 shows a GDR profile of the beacon crossover for Hole 332B.

Hole 332

The drill string was lowered with a rotary chisel bit (F94CK), two water cores were pulled, and finally firm bottom was tagged at 1851 meters. Coring continued to 1858 meters, then the string was washed down with 440 gallons/min (gpm) water flow, zero rpm, and 5000 to 10,000 lb weight on the drill bit to 1924.5 meters to establish a re-entry casing setting depth. The string was then pulled out to just above mud line.

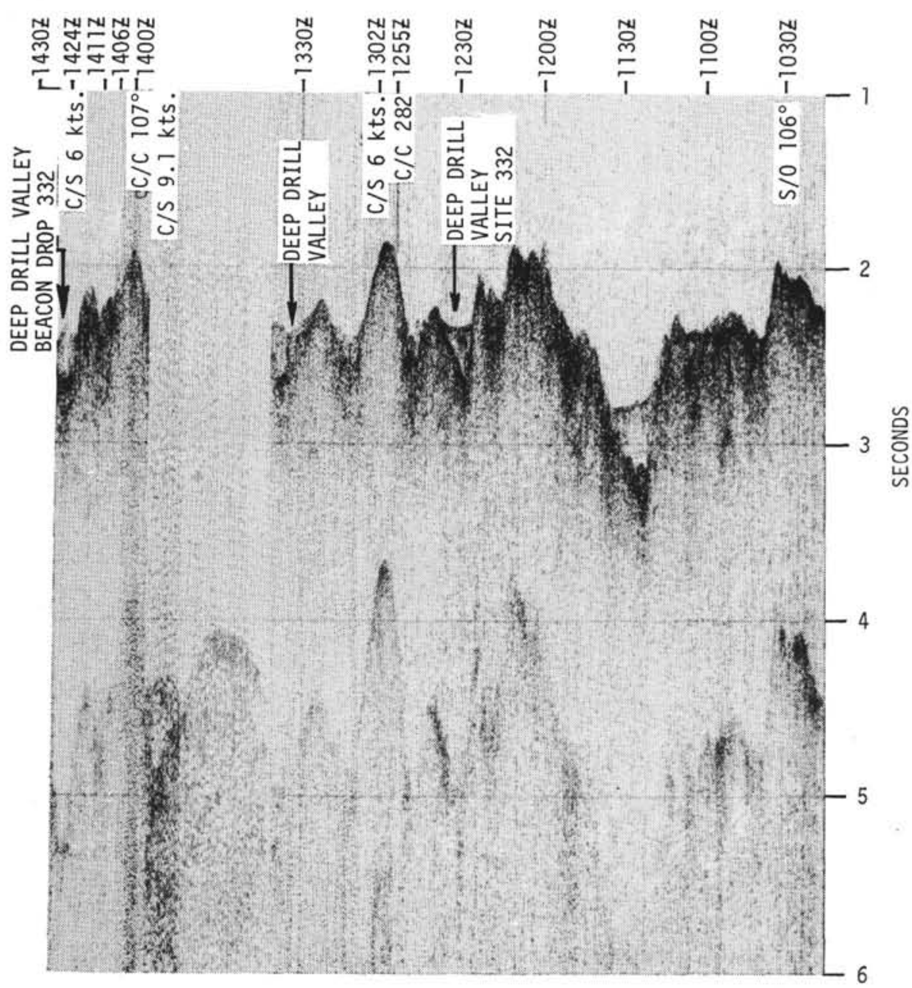

Figure 11a. *Profile along* Glomar Challenger *track approaching Hole 332.*

Hole 332A

The same drill string and bit were then spudded in at 0400 hr 18 June, and continuous coring commenced when basement was reached. Hole sloughing problems were encountered below 1991 meters, requiring clearing of the hole on two occasions with 75 barrels of 75 viscosity (75/75) mud. The heave compensator, which was on the string, was kept locked since its movement complicated matters when dealing with a sticking drill string.

At 0913 hr 19 June, *Challenger* was driven 300 ft off the hole by a heavy line squall with gusts of up to 50 knots. No damage was reported, and coring resumed soon thereafter, with improved hole conditions, although core recovery was low. At 2086 meters the hole was flushed again with 75/75 mud.

On 21 June a multishot inclination/direction finding tool was run down the hole. Hole 332A was found to have a 2°55′ inclination in direction N73W at a depth of 415.5 meters below mud line, and 1°20′ in an undetermined direction at approximately 415.5 meters below the mud line.

The string was then pulled out since the core recovery and its condition suggested that the bit was damaged. Upon recovery, the bit showed all cones, three shanks, and all stabilizers missing. A plot of core diameter against penetration was prepared and subsequently shown to be a good indicator of drill bit condition (see Figure 14): whenever the core diameter dropped to 5.5 cm, imminent bit damage was to be expected.

The stability of the hole improved with depth, and the site was considered to be an excellent one for the re-entry and deep-drill penetration experiment. Figure 15 gives an indication of penetration against both rotating days and rig days for a single-bit hole penetrating until the drill bit is destroyed.

Hole 332B

Hole 332B was drilled about 100 meters to the northwest of 332A. The re-entry cone was keel-hauled at 0900 hr 22 June, and the 13-3/8 casing latched on to the cone and lowered at 1600 hr with a button bit type F99CK. The mud line was encountered at 1843 meters (compared to 1851 m for 332A), and the casing jetted to 1909 meters by 2230 hr. Heat-flow measurements were then taken at 1909 and 1935 meters.

Acoustic basalt was encountered at 1980 meters, the hole showing good stability. The bit was pulled at 2163 meters due to reduced core diameter: the bit showed

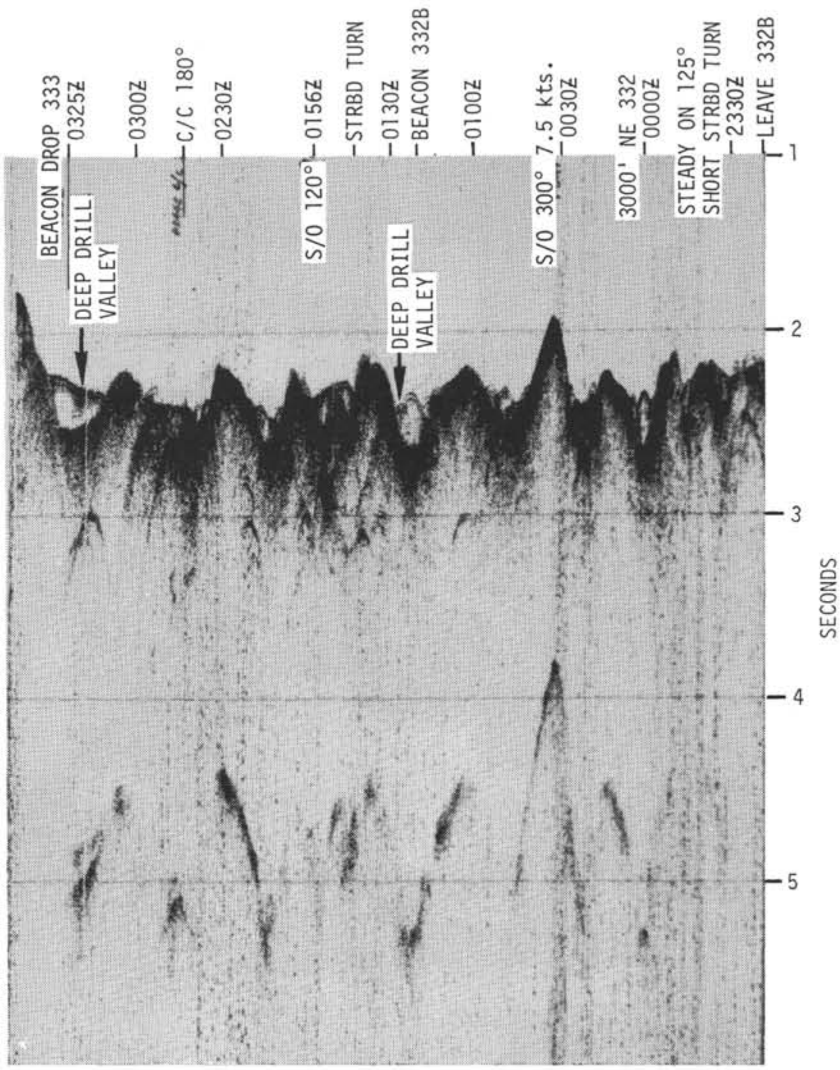

Figure 11b. *Profile along* Glomar Challenger *track leaving Hole 332.*

dull condition T2, B8 out of gauge by 1/4" after 20 rotating hr.

The mud cross was then keel hauled, and a second F99CK bit lowered. Re-entry was routine. After pulling Core 9, the retaining ring of the spring-loaded core-catcher shoe was left in the pipe, and was retrieved after two unsuccessful attempts with a magnet, and a third successful attempt with an improvised "spear" fishing tool. The heave compensator was in line and functioning well.

Bit 2 was then pulled out of the hole, and, as indicated by the core diameter, proved to be in excellent shape. The mud cross, which came up with the bit, was examined by a diver, and was found to be extensively damaged with one radial pipe missing completely and its supports severely bent (those still in existence). The ship moved due south of the hole by 1000 ft and jettisoned the remains of the mud cross onto the ocean floor.

At 2155 hr 27 June the search for the cone for re-entry commenced. This second re-entry was hampered by a malfunctioning Edo tool, which was replaced, and by multiple targets on the ocean floor, whereas those characteristic of the cone's reflectors were absent. These conditions were due to (a) pieces broken off the mud cross, (b) the beacons acting as targets, and (c) the cone being buried deep in drill cuttings so that probably only one of its three reflectors showed. However, it was realized with time that the mound of drill cuttings acted as a good sonar target, and was itself used as the re-entry target with great success. The cone was re-entered at 0405 hr 28 June.

Upon reaching 2391 meters, imminent failure of the electrical supply to the ship's dynamic positioning system necessitated premature pulling out of the hole with bit 3. The drill string was held at 1837 meters at the top of the core, and water pumped at 475 gpm in an attempt to flush cuttings off the cone reflectors. At 0710 hr 30 June the Edo tool started scanning for re-entry, but malfunctioned, then got stuck, and the pipe had to be tripped. By 2400 hr 30 June the pipe was back to the mud line, and by 0600 hr 1 July the cone was re-entered.

Unfortunately, cone re-entry did not mean re-entry back into Hole 332B. In fact, at 1860 meters the

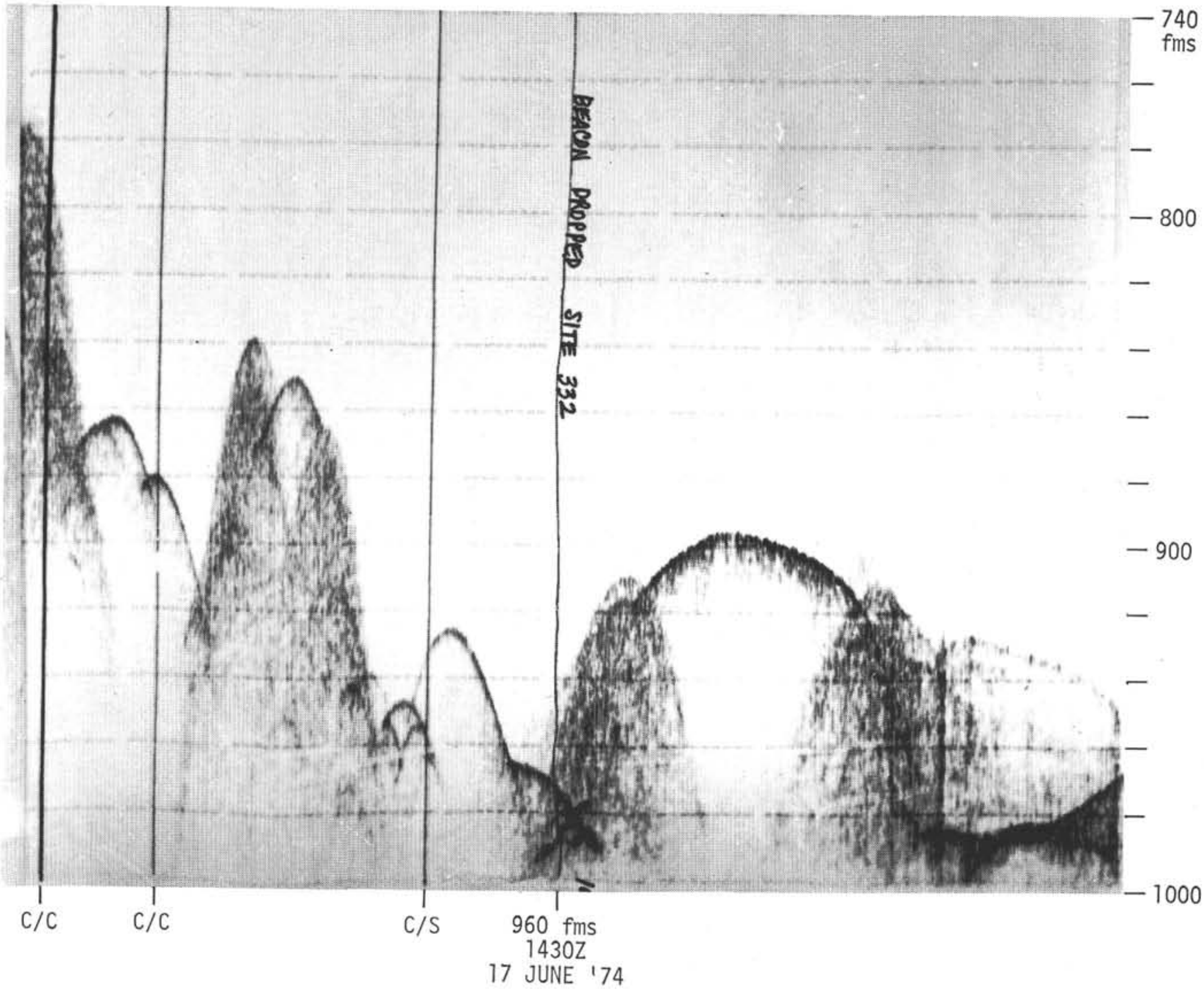

Figure 12. *GDR profile of beacon drop for Hole 332.*

original Hole 332B was sidetracked, and one core of basalt was retrieved thereby confirming a sidetrack into a new hole, Hole 332C. The string was pulled up to 1885 meters and by running the Edo tool (and damaging it), it was confirmed that the casing had parted, probably at the re-entry cone and had moved down the hole with the casing top at 1854 meters. By 0600 hr 2 July the cone was re-entered in an attempt to re-enter the casing and the original Hole 332B as well. Three successful cone re-entries were made, and each time a hard ledge between 1856 and 1860 meters was encountered. The casing was finally re-entered, and coring resumed without problems from the base of Hole 332B. Heat-flow measurements were made at 2362 meters and at 20-meter increments back up to 2162 meters.

On 4 July the Eastman Deviation Tool was run, and the survey showed 3° and 7° deviations from the vertical. The fact that these readings were different means the tool was moving and that readings indicate only that the hole had a small deviation. Upon reaching a penetration of 2562 meters, it was decided to risk another re-entry and pull out of the hole to change bits, since the core diameter was decreasing slightly, the bit had run over 31.5 hr, and the weather was due to deteriorate. Upon retrieval, bit 4 was found to be in good gauge and with effective seals and cones.

On 5 July a diamond bit was run with a fabricated fiberglass nose cone to protect and guide the bit into the cone and the parted casing. The cone was re-entered for the seventh time. The bit rolled off the top of the casing and sidetracked into Hole 332D, and a 6-meter core into the top of the basalt was taken. The diamond bit did an excellent job of preserving the sediment/basalt contact. The bit was pulled out of the hole and the cone re-entered for the eighth and ninth times, but sidetracked the casing again. At this stage it was decided to abandon Hole 332B, and to drop a second acoustic beacon for the submersible *Alvin* to home into and inspect the cone visually at a later date.

Hole conditions were generally very good, and re-entry tools and techniques performed very well indeed.

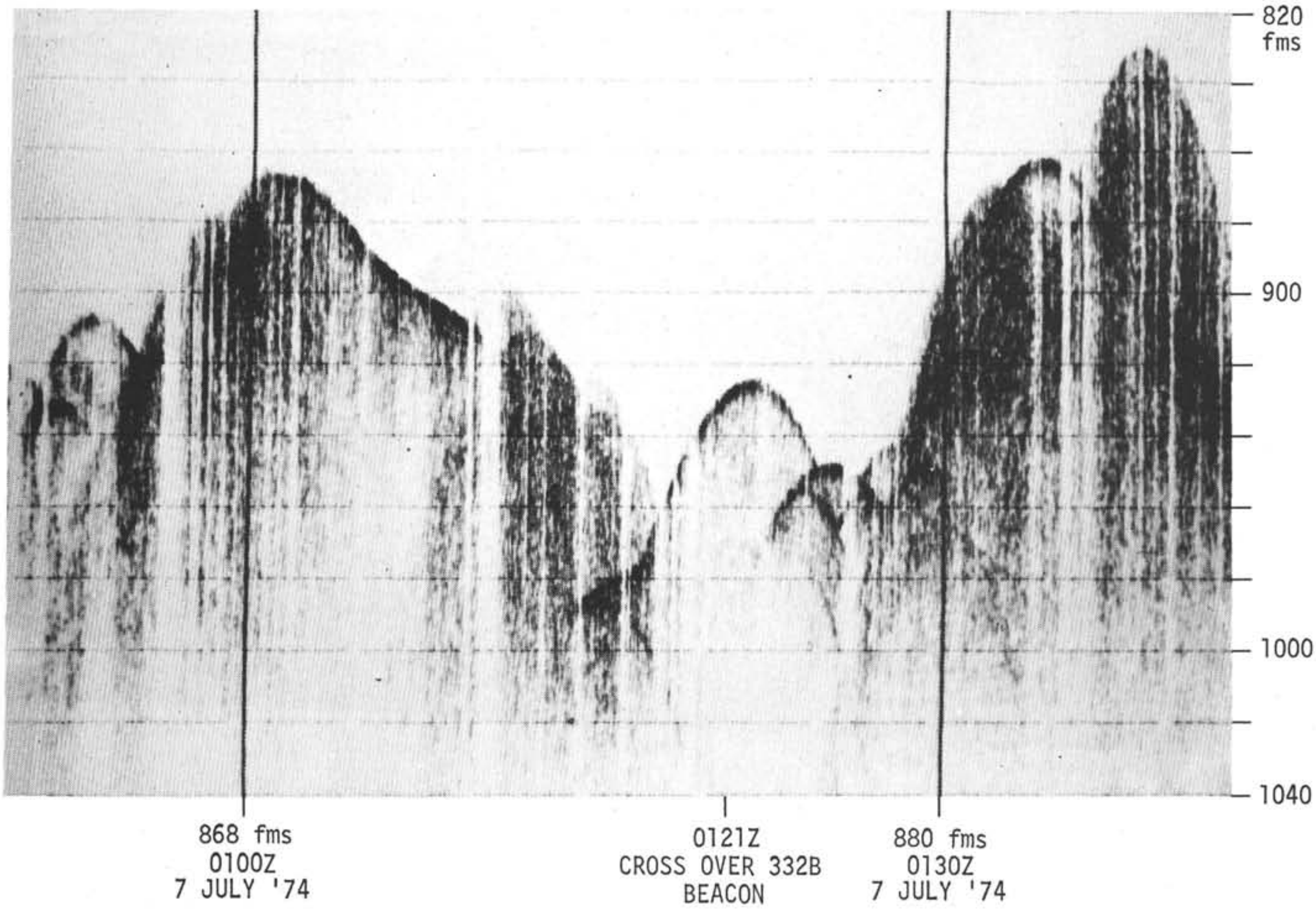

Figure 13. *GDR profile of beacon crossover for Hole 332B.*

Had it not been for the parted casing, very deep penetration could have been achieved. As it was, a penetration of seven times that of the previous DSDP record into basement was achieved. Figure 16, showing penetration with three re-entries, is to be compared with that for Hole 332A without re-entries (Figure 15). Figures 17 to 20 show the diameter of the retrieved core versus penetration for each of the four bits used in Hole 332B. Figures 21a and 21b are downhole plots of the coring and drilling rate for Holes 332A and 332B, respectively. These were used in calculating the approximate relative percentages of solid basalt and sediment or rubble in the drilled section. Table 6 gives the coring summary for each of the five holes drilled at this site.

LITHOLOGY

Holes 332 and 332A

Introduction

In Hole 332A, 104 meters of sediment overlie acoustic basement. The hole was cored from a subbottom depth of 7.0 meters to 16.5 meters, washed from 16.5 meters to 64.0 meters, and then continuously cored to the bottom of the hole at 434.5 meters. Hole 332 consists of a single punch core, 7 meters long, at the top of the sedimentary sequence.

Sediments

The sedimentary section above the basalt consists almost exclusively of white (2.5Y 8/2), poorly stratified foram-bearing nannofossil ooze composed of approximately 95% nannofossils, 4% foraminifers, and trace amounts of sponge spicules, Radiolaria, and diatoms. A 0.8-meter-thick unit of light gray (2.5Y 7/2) nannofossil-rich foraminiferal ooze occurs at 8.3 meters subbottom and a few layers of foram-rich nannofossil ooze occur in the upper 7 meters. The basal 2 meters of ooze directly overlying basaltic basement are discolored to a very pale brown (10YR 8/3).

Thin green (5G 7/1) layers occasionally interrupt the otherwise homogeneous character of the white nannofossil ooze. These layers are no more than 2 cm thick and rarely exceed three per meter. Subcircular green patches of sediment, particularly in Cores 3 and 5, may represent filled burrows. The green ooze, although compositionally similar to the white ooze, is notably stiffer.

Numerous purple (close to 5P 4/2) spots are also present in these sediments. The largest spots are 1-3 mm in diameter, but they commonly appear to be much

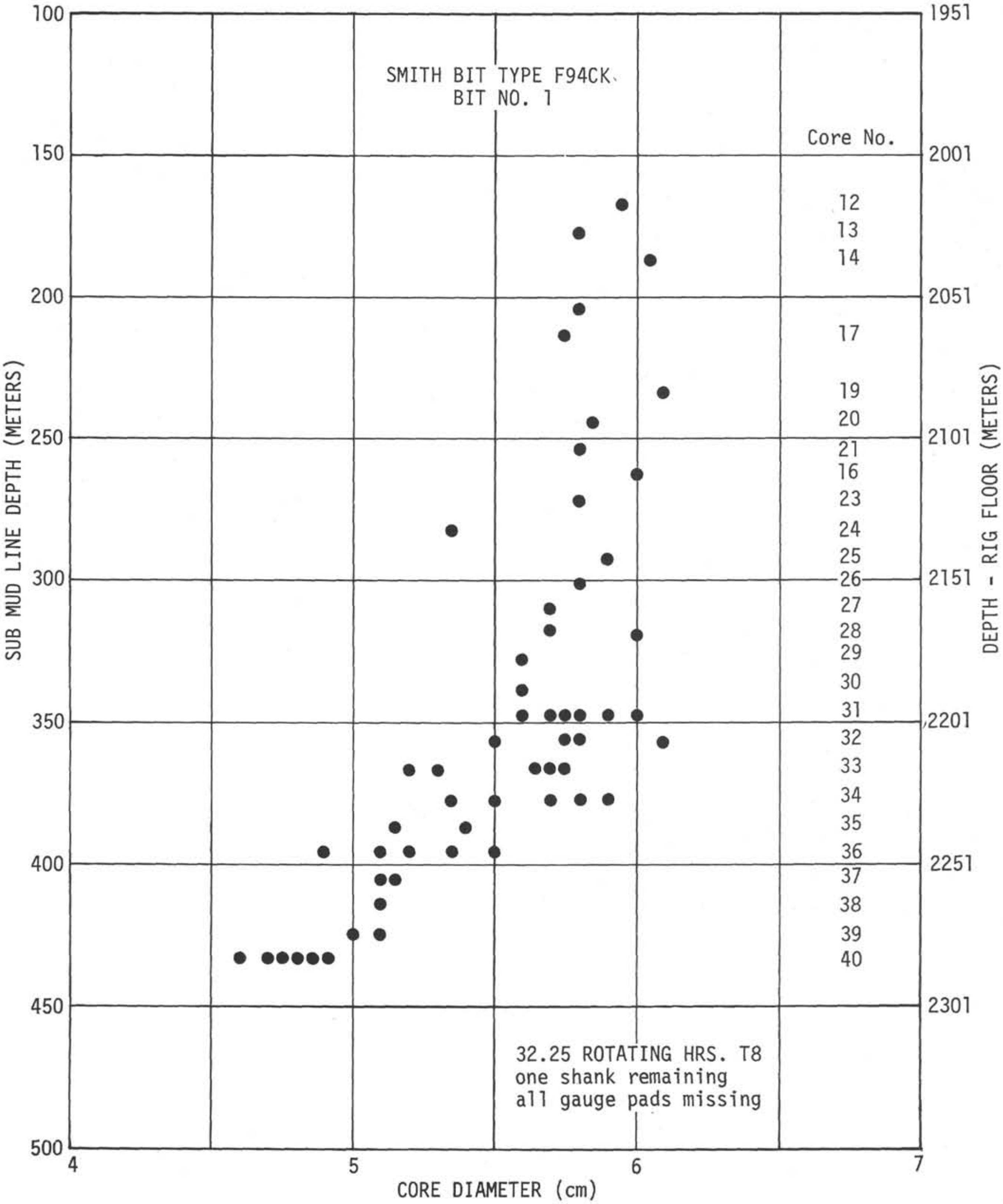

Figure 14. *Plot of core diameter with depth below the mud line for Hole 332A.*

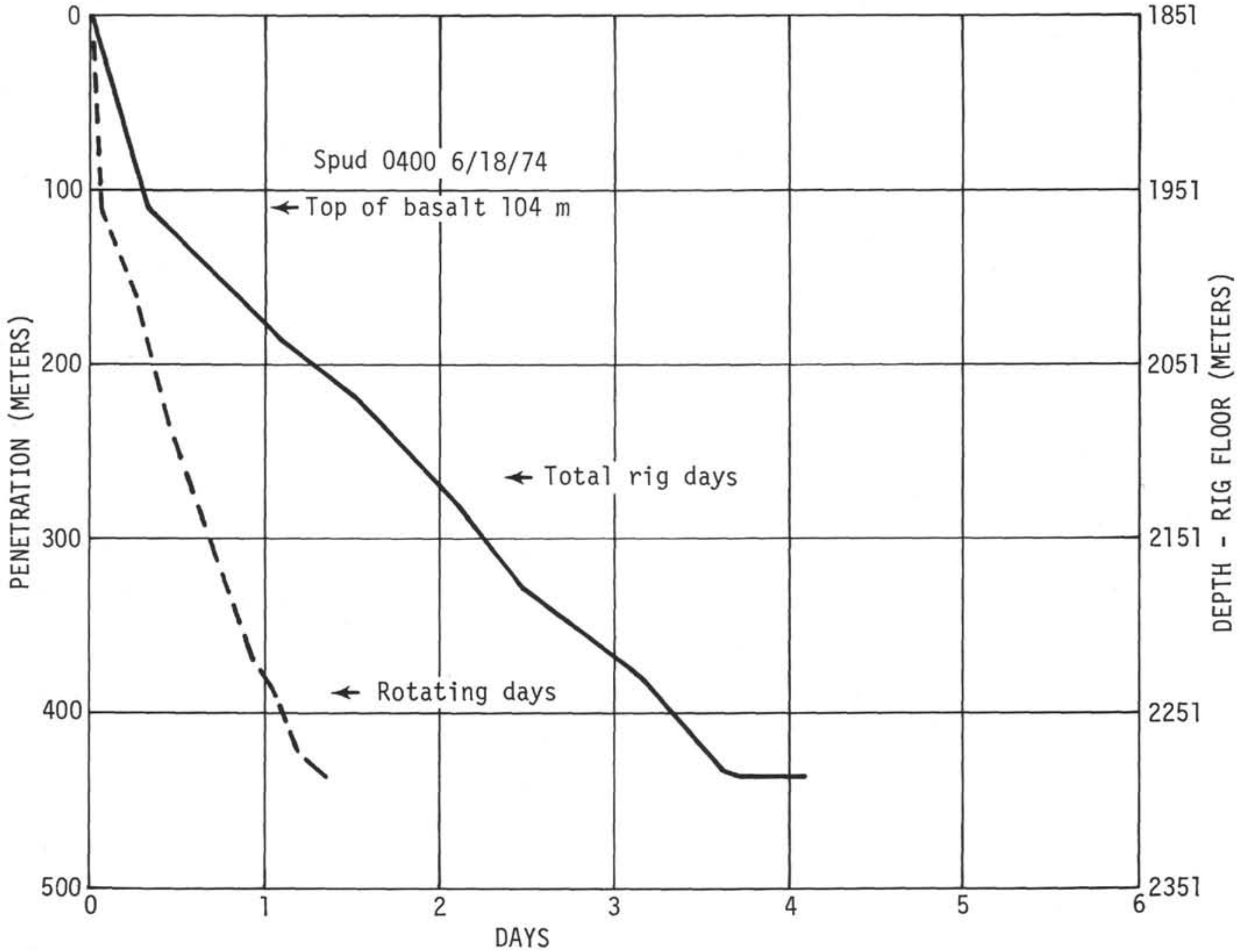

Figure 15. *Plot of time in days versus penetration at Hole 332A.*

larger due to deformation of the core. The purple spots are nannofossil ooze with 1%-2% of pyrite micronodules. Pyrite micronodules are also common in a small, dark gray patch of sediment in Core 3, Section 4. Pyrite also forms rare nodules up to 2 cm in diameter. A cylindrical nodule, possibly representing a pyritized burrow, occurs in Core 3.

Some smear slides contain traces of glass shards, and pumice fragments occur at several horizons. In one sample from Core 3 shards of both clear and less abundant yellow glass make up approximately 10% of the sediment. Traces of palagonite are also present in some of the samples.

Pumice fragments greater than 1 cm in diameter rarely exceed one per core, but small fragments are more common. The relative paucity of volcanic material despite the proximity to the Azores probably reflects the fact that the prevailing winds are from the west and southwest.

Basement

A total of 330.5 meters of basement consisting of basalt, basalt breccia, and interlayered sediments, was drilled in Hole 332A. The recovered core represents about 10% of the section drilled, with some basalt obtained from each 9.5-meter core. Based on megascopic examination the basalts have been divided into seven major lithologic units and 48 subunits (Table 7).

The major units are assigned a minimum thickness based on total core recovered and a maximum thickness based on the number of meters drilled with no change in lithology. Most of the major lithologic units clearly consist of multiple flows or intrusive bodies as indicated by the presence in the core of lithologic breaks, sedimentary interbeds, and exceptionally vesicular zones. Based on the presence of numerous glassy rinds and local changes in grain size, we can recognize at least 48 subunits within the sequence (Table 7). Because of the low recovery, many individual flows or cooling units are probably not represented in the core. Recovery is biased toward massive units and thin glassy, vesicular, or brecciated zones may be easily missed in coring. Despite the low recovery, there is a reasonable degree of petrographic and chemical continuity between cores, and from this we infer that no major units are missing from the cored section. Major element analyses of basalts from this hole are given in Tables 3A and 3B and minor trace element analyses are given in Tables 8C and 8D (at end of the text).

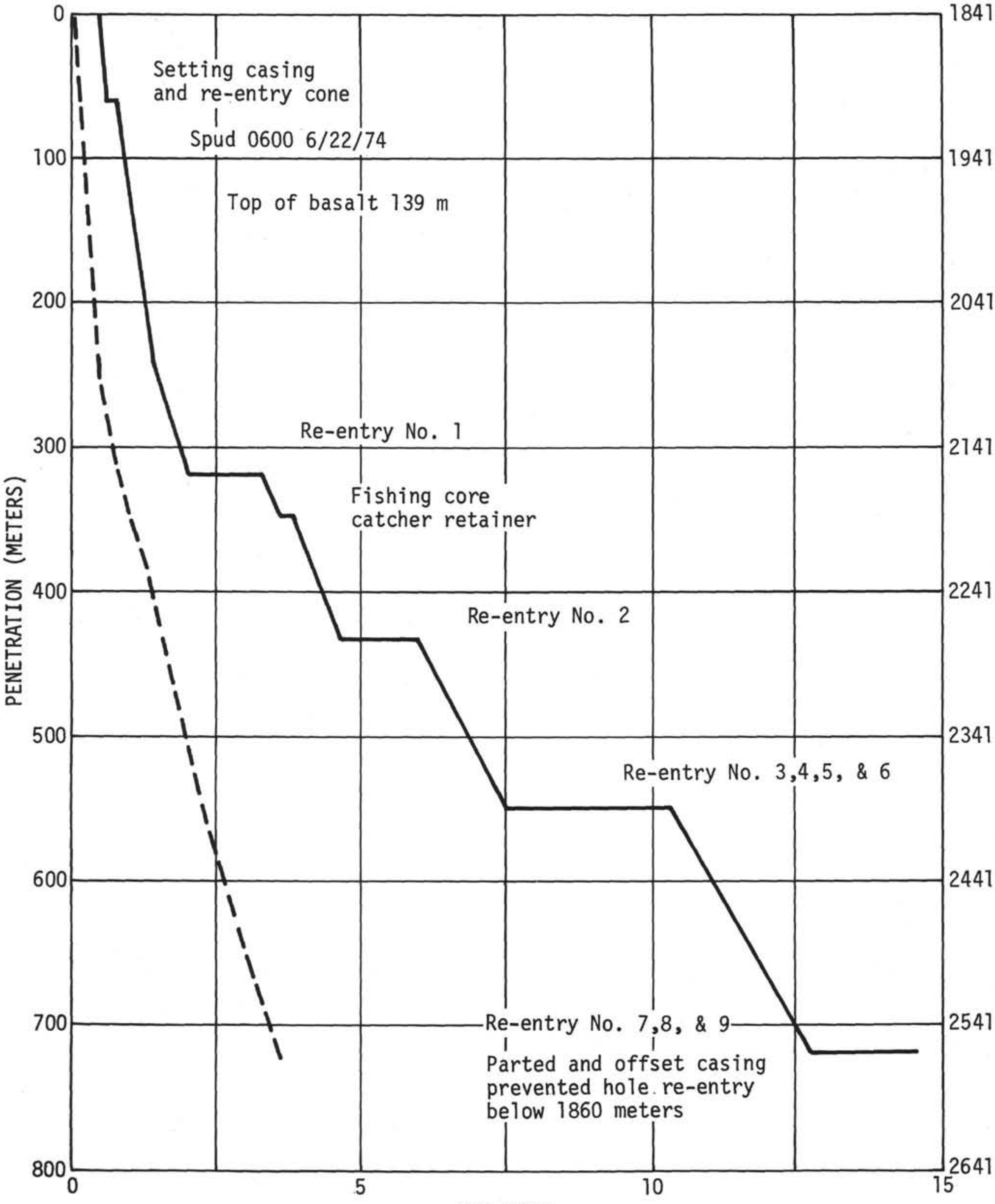

Figure 16. *Plot of time in days versus penetration at Hole 332B.*

Consolidated foram-bearing nanno ooze (chalk) and limestone are intercalated with the basalt down to Core 25 or 188 meters below acoustic basement. Distinctive horizontal layering in the chalk is preserved only in Core 22. The chalk is somewhat more indurated near basalt contacts, suggesting some baking by basalt intrusion. Many of the chalk layers contain abundant glass fragments and palagonite chips, indicating intimate mixing of basalt magmas with sediment during emplacement. Below Core 25 there are abundant veins

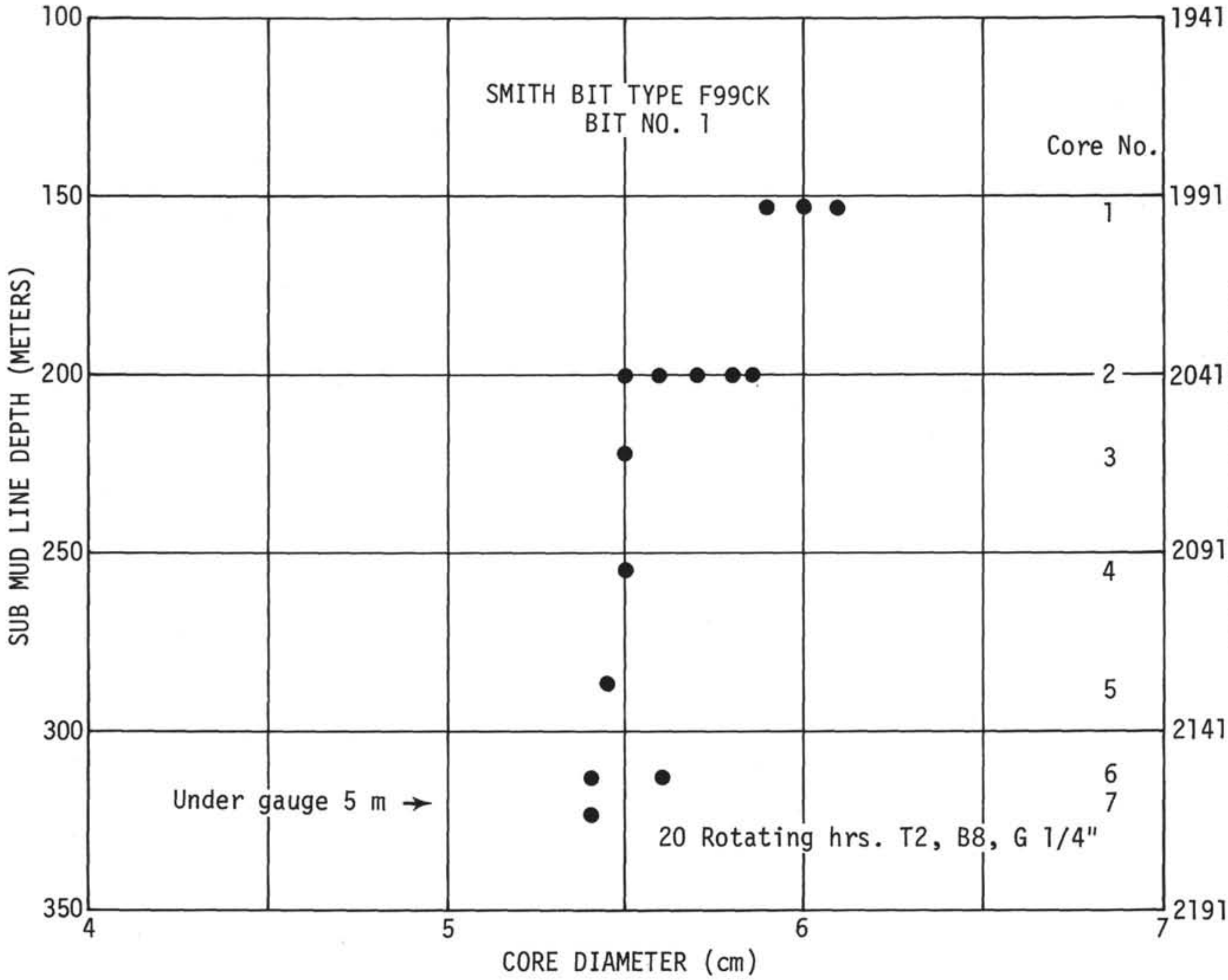

Figure 17. *Plot of core diameter with depth below the mud line for bit 1, Hole 332B.*

of fine-grained recrystallized carbonate which may have been derived from former chalk layers.

Because of the low recovery, it is difficult to evaluate the relative quantities of sediment and basalt in this sequence. Below the first basalt, layers of nanno chalk or limestone are occasionally present. Many of these sediments, particularly those in Cores 13 and 22, are foram bearing. Breccias of mixed sediment, volcanic glass, palagonite, and basalt are also common. The drilling records indicate where the hardest drilling occurred in each section, and by inference, where most of the solid rock from each core was obtained. The drilling records also show that most of the zones of rapid drilling had rough drilling, suggestive of basaltic rubble rather than soft sediment. These zones probably represent sequences of pillow basalt and breccia, and we infer that the quantity of interlayered sediment is relatively small.

The greatest proportion of recovered basalt is porphyritic, and the ratio of phyric to aphyric material is nearly 2:1. Because of the relative uniformity of lithology and chemistry within the major units, we infer that these proportions are representative of the entire section.

Nearly all of the recovered basalt shows some alteration; however, plagioclase, olivine, and augite phenocrysts are usually fresh and zones of fresh glass are common. Groundmass alteration is concentrated in narrow zones along fractures and veins. In the upper part of the sequence the vesicles are open but often lined with blue-green smectite; deeper in the hole the vesicles are partly to completely filled with smectite, phillipsite, and carbonate. Small calcareous veinlets up to 5 mm wide are also common. Fractures and vugs are usually lined with thin reddish coatings of botryoidal calcite and commonly contain clusters of radiating aragonite crystals. The most altered rocks occur in Core 12 (Unit 2) and Cores 30 through 33 (Unit 5). In these cores the rock is more massive than elsewhere, without either glassy rinds or intercalated breccia zones, and also is relatively coarser grained. These rocks are characterized by the occurrence of clouded plagioclase in the groundmass and extensive patches of green, unoxidized smectite in the matrix.

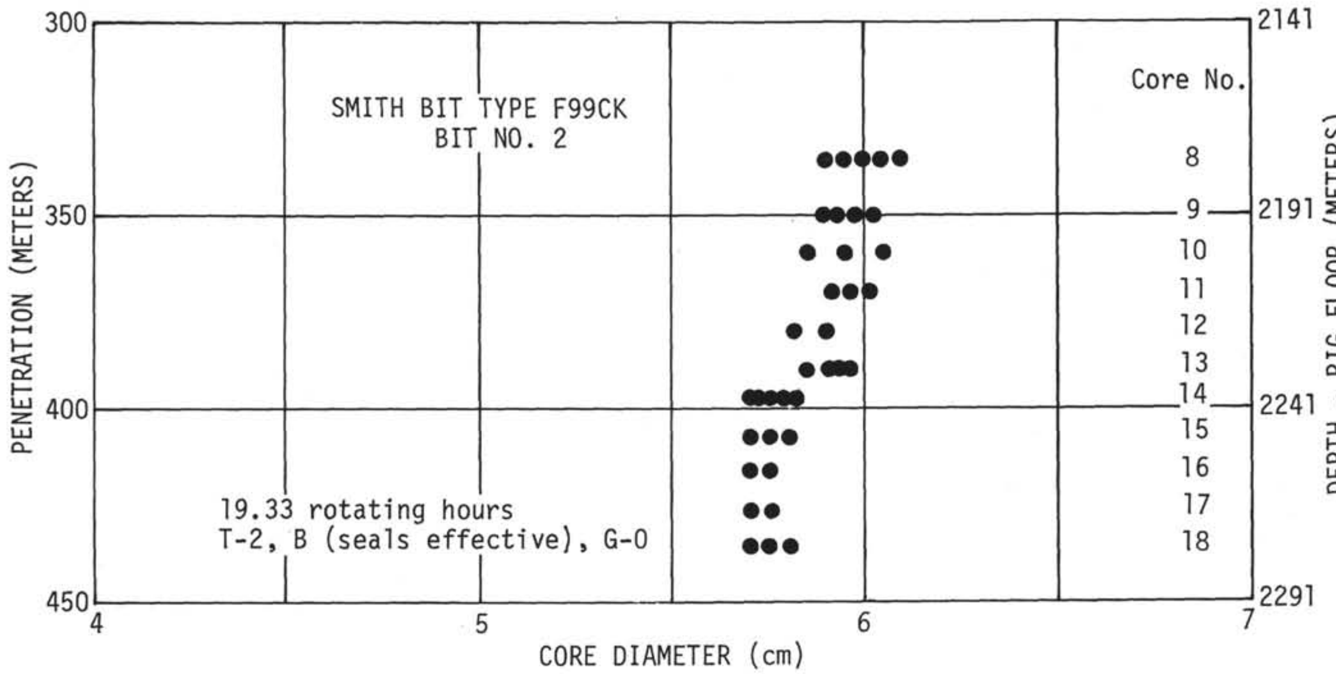

Figure 18. *Plot of core diameter with depth below the mud line for bit 2, Hole 332B.*

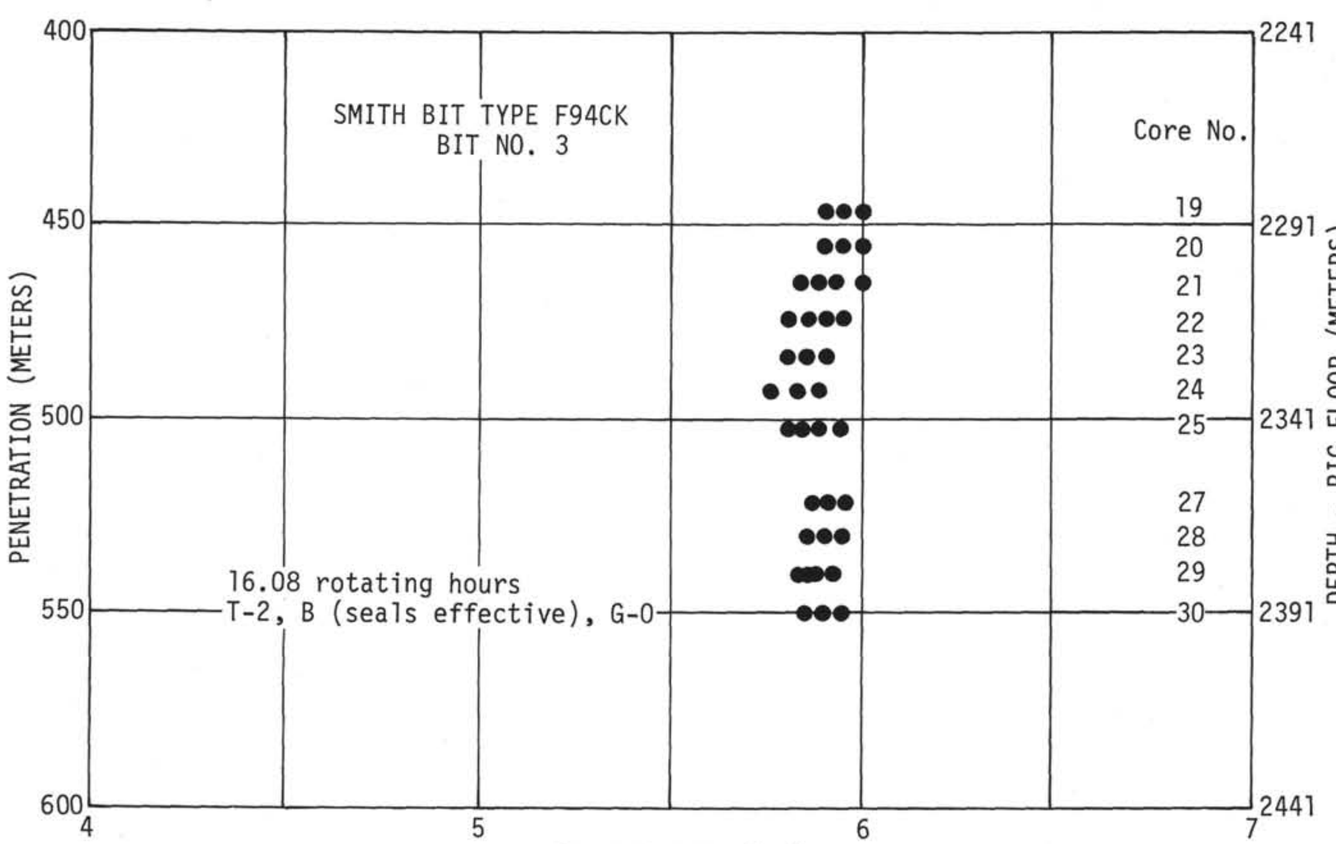

Figure 19. *Plot of core diameter with depth below the mud line for bit 3, Hole 332B.*

The opaque minerals visible in the basalts of Hole 332A consist of titanomagnetite and a sulfide, mostly pyrrhotite. Both minerals crystallized late in the cooling histories of the flows.

The titanomagnetite is invariably skeletal, ranging from 5 to about 150 μm across. Gross morphology is euhedral to anhedral, dependent upon relative size of crystal and interstitial space. The skeletal morphology

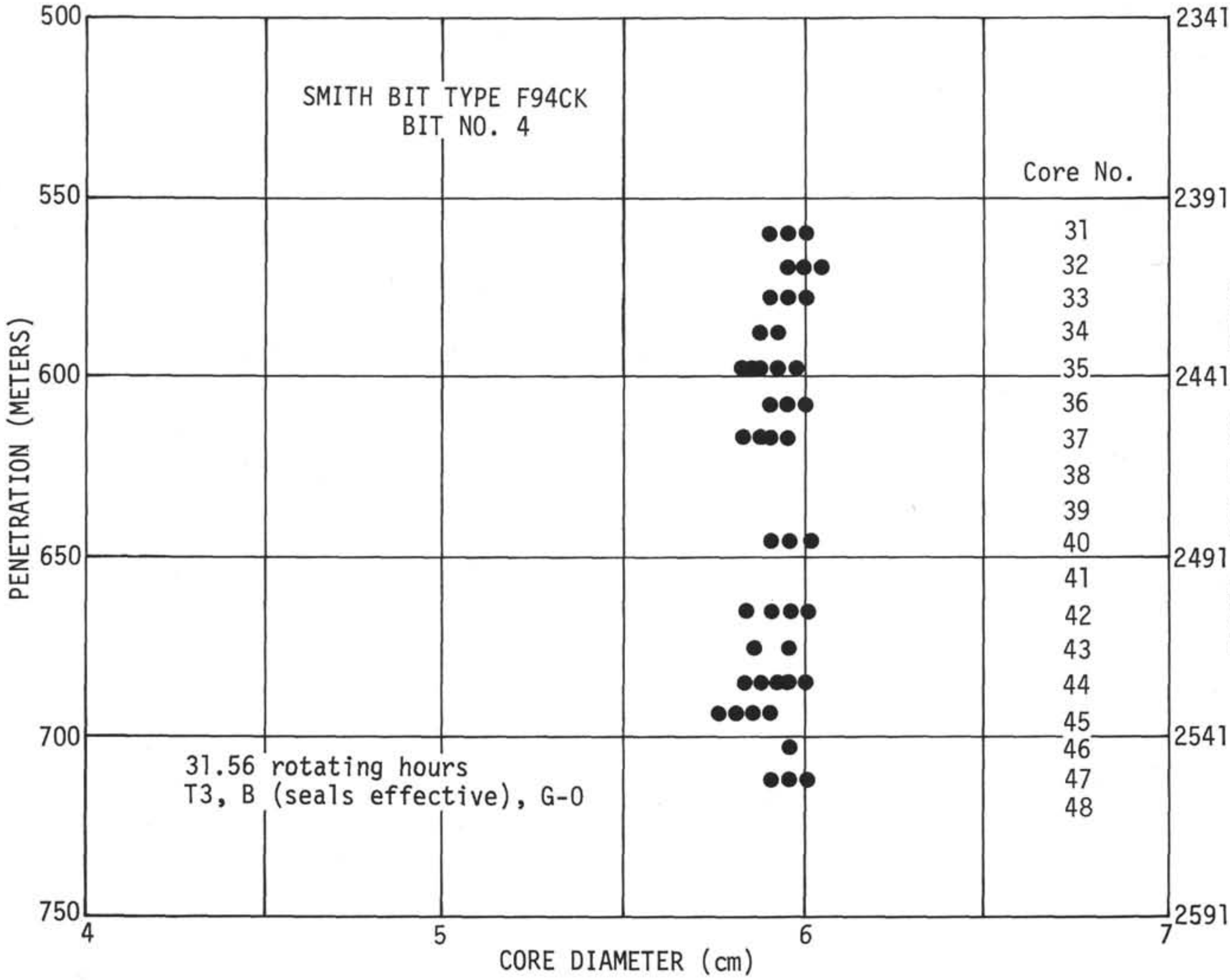

Figure 20. *Plot of core diameter with depth below the mud line for bit 4, Hole 332B.*

ranges from delicate feathers of joined octahedra to distinct cruciform shapes to stubby crystals with only 10%-20% included material in irregular blobs. In rocks with well-developed variolitic textures the magnetite is sometimes concentrated in interstitial patches about the variolites, and is sometimes disseminated in small cruciform skeletal crystals throughout the rock. No traces of ilmenite, either as a separately crystallized phase or as exsolution lamellae, were found. Magnetite is about 50% transformed to maghemite.

Sulfides occur almost ubiquitously in these rocks. They range from specks less than 1 μm in size to 3-5 μm in most rocks, and up to 30 μm in a massive unit in Core 12. The estimated percentage of sulfide is commonly 0.01%, ranging up to about 0.1%. The grains have a globular morphology and are most abundant in the residual glass areas with magnetite; a few grains are present in plagioclase and pyroxene microlites.

The primary sulfide phase is pyrrhotite but in a few of the larger grains thin bright lamellae of chalcopyrite can be found. Sulfides are also present in veins and vesicles in the upper part of the massive unit of Core 12; these sulfides are primarily pyrite of secondary origin.

Boundaries of the lithologic units are to some extent subjective. However, there is good correlation between hand specimen lithology, thin-section petrography, and major element chemistry. There is a poorer correlation of magnetic breaks with lithologic breaks. The boundaries of Unit 4, for example, are within a single magnetic polarity epoch, but are clearly defined by a change of lithology and chemistry.

Unit 1

The uppermost unit consists of sparsely phyric basalt with a very fine grained, glassy groundmass having an intersertal, slightly trachytic, texture. Patches of variolitic texture are also commonly present. Vesicles, from 0.2 to 0.4 mm in diameter, are scattered uniformly throughout the rock. These are commonly rimmed with yellow and light brown smectite and some are completely filled with calcite. Microphenocrysts of plagioclase (An_{85-90}) and augite ($2V_z = 45°$) are always present but never exceed 1%. The plagioclase crystals are euhedral to subhedral and unzoned except for a narrow marginal rim. The groundmass consists chiefly of poorly terminated skeletal plagioclase laths from 0.1 to 0.2

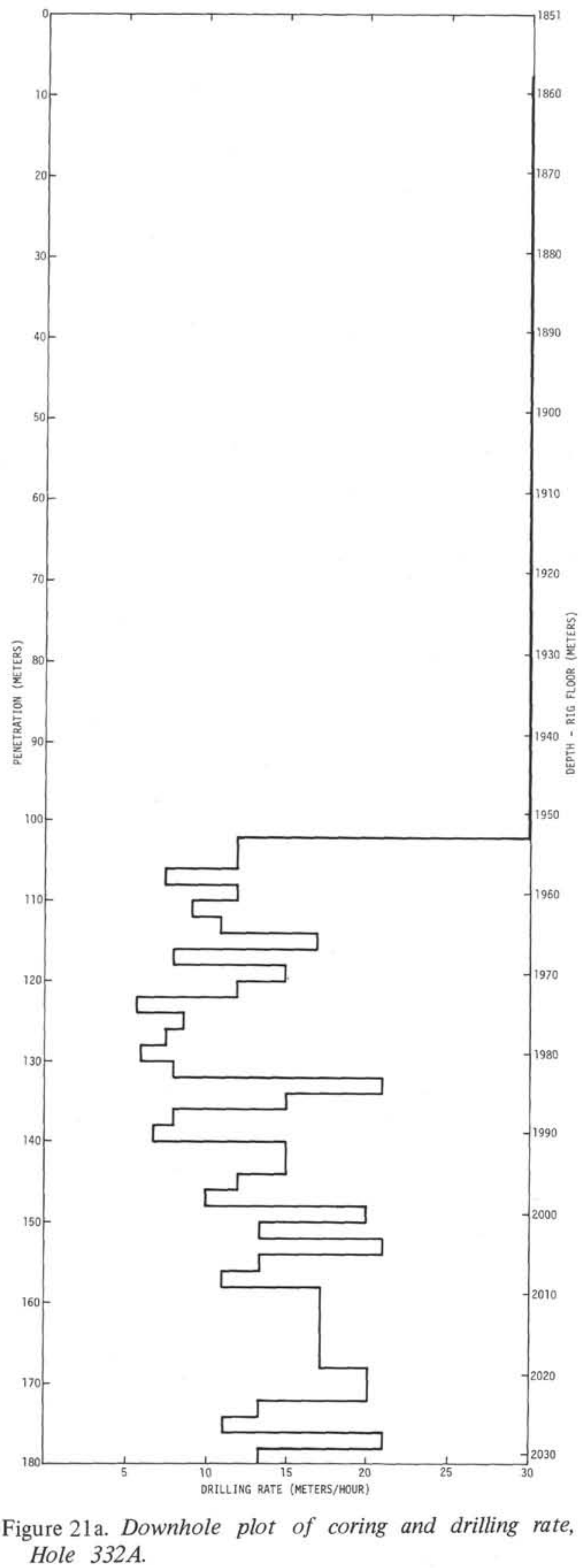

Figure 21a. *Downhole plot of coring and drilling rate, Hole 332A.*

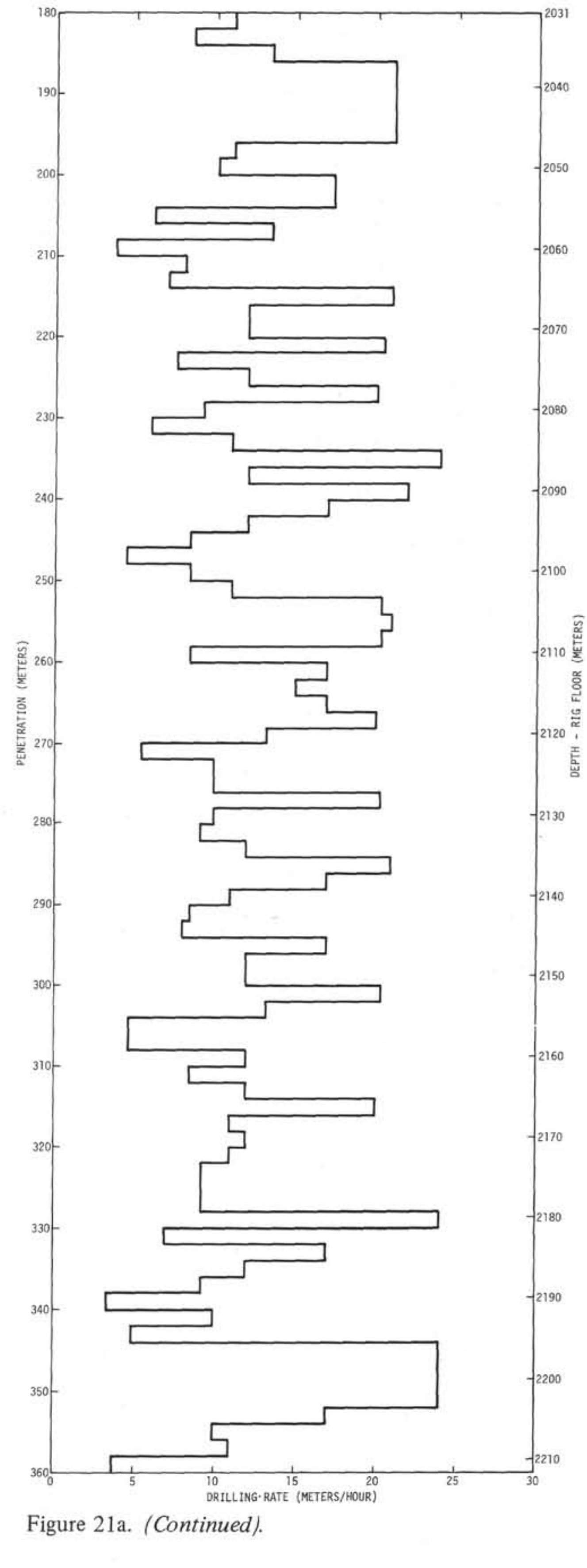

Figure 21a. *(Continued).*

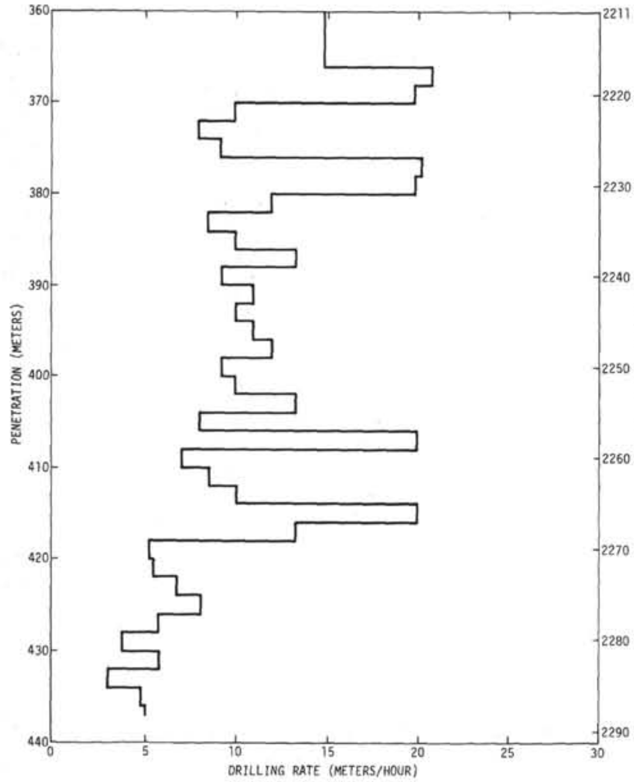

Figure 21a. *(Continued).*

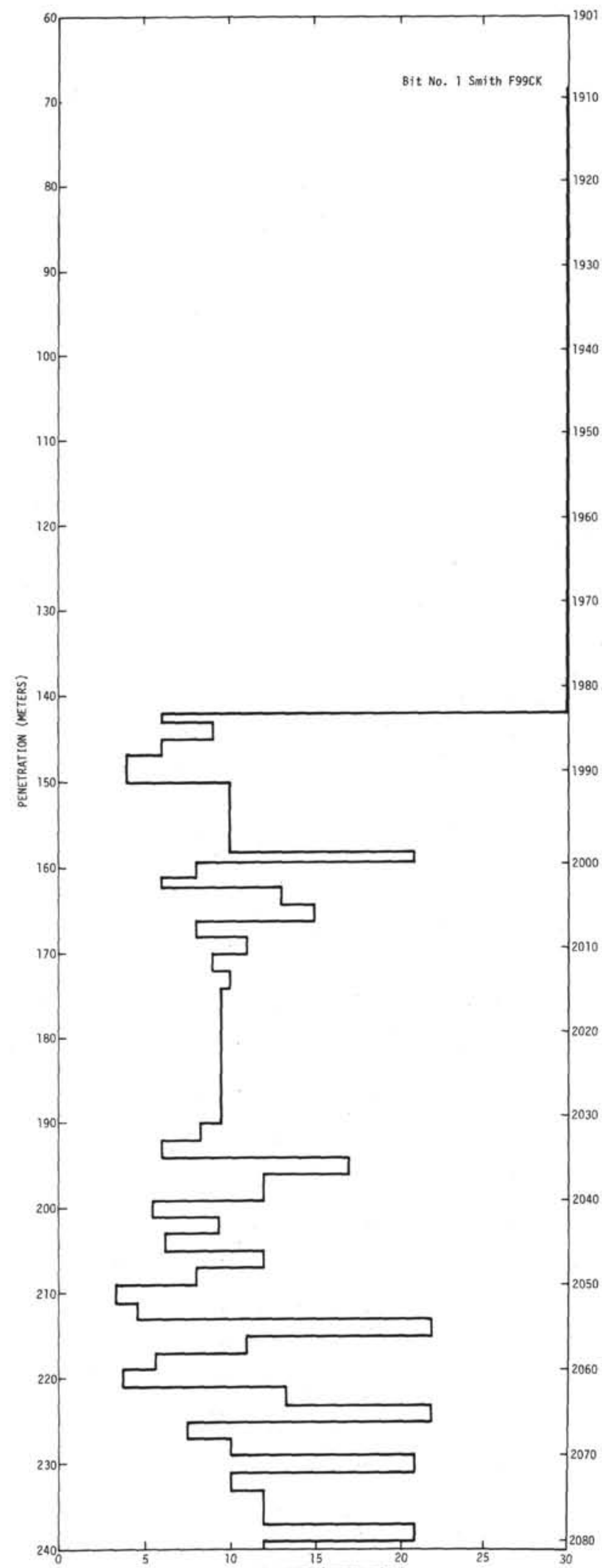

Figure 21b. *Downhole plot of coring and drilling rate, Hole 332B.*

mm long and poorly crystallized clinopyroxene in flamboyant, radiating sheaves with about 15% to 20% interstitial glass. Traces of groundmass olivine are also present. Minute octahedra of magnetite make up 1% to 2% and are associated with the glass. The glass is extensively replaced by pale brown or yellow smectite and lesser amounts of carbonate. Alteration is best developed along fractures and veins, and sharp fronts separate the fresh from altered material. In the fresh areas the rock is light gray and very little altered except for replacement of interstitial glass by brown smectite and minor carbonate. The altered zones have a yellowish-brown cast which is due to very abundant yellow smectite both in the groundmass and in the vesicles.

Unit 2

A sequence of light gray, coarsely porphyritic basalt with abundant plagioclase phenocrysts comprises Unit 2. Three subunits are recognized on the abundance of plagioclase crystals (Table 7). Baked sediment against chilled basalt occurs at several levels suggesting that at least part of the sequence is intrusive.

The porphyritic basalt is a light gray, slightly vesicular rock with 35% to 40% phenocrysts, chiefly plagioclase and sparse olivine. The plagioclase typically occurs in single euhedral to subhedral crystals from 1 to 1.5 cm in diameter and glomeroporphyritic clots are rare. The plagioclase has an average composition of approximately An_{90}; most crystals are unzoned except for a narrow rim of somewhat more sodic composition.

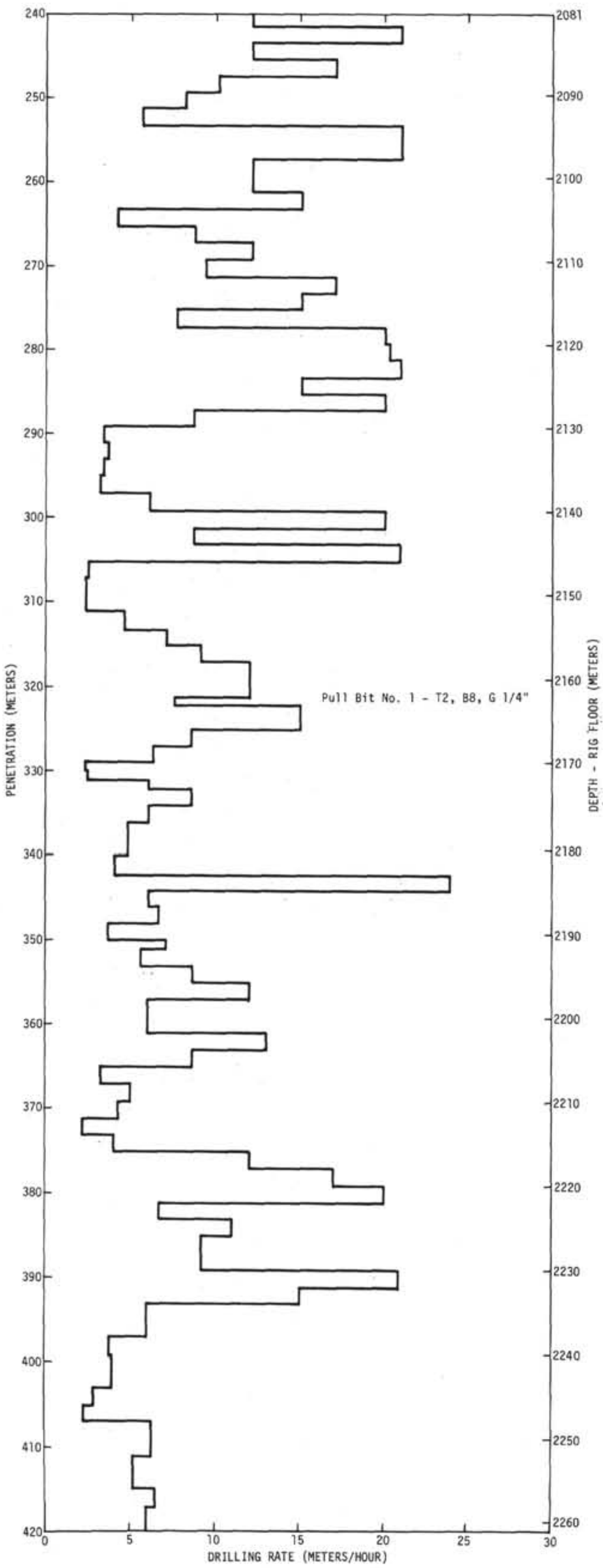

Figure 21b. *(Continued).*

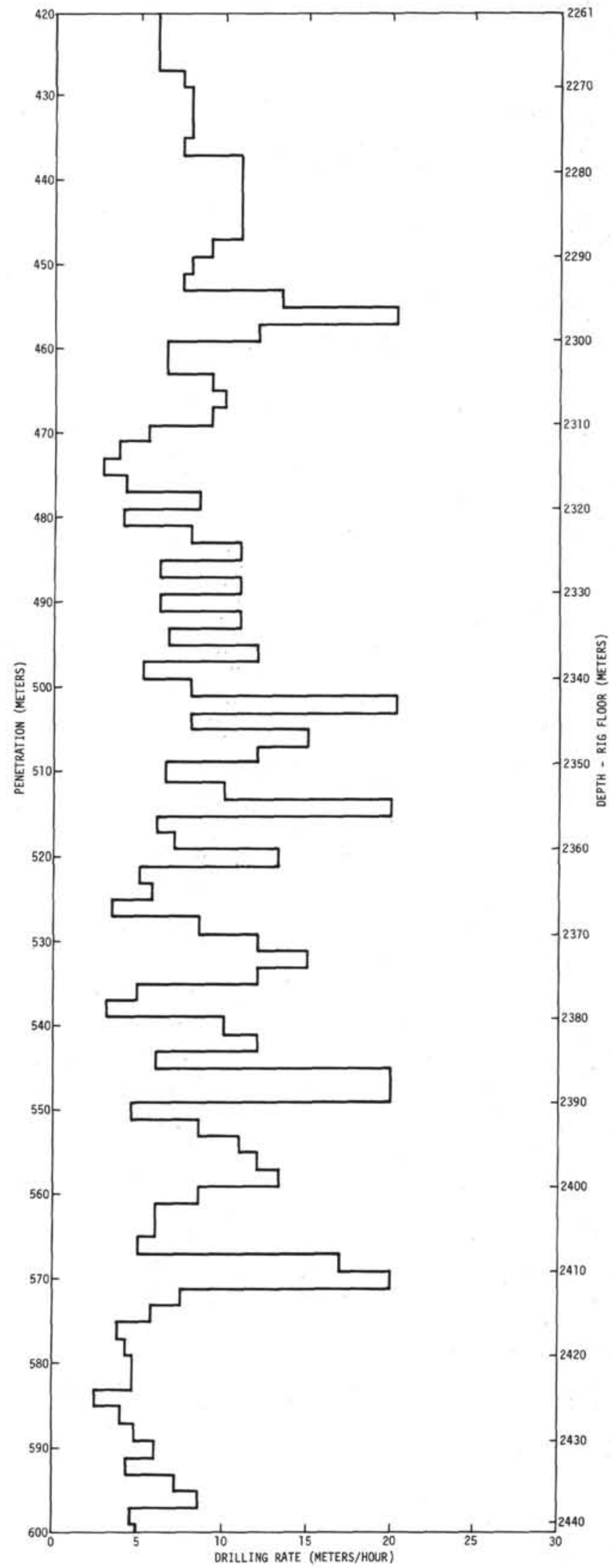

Figure 21b. *(Continued).*

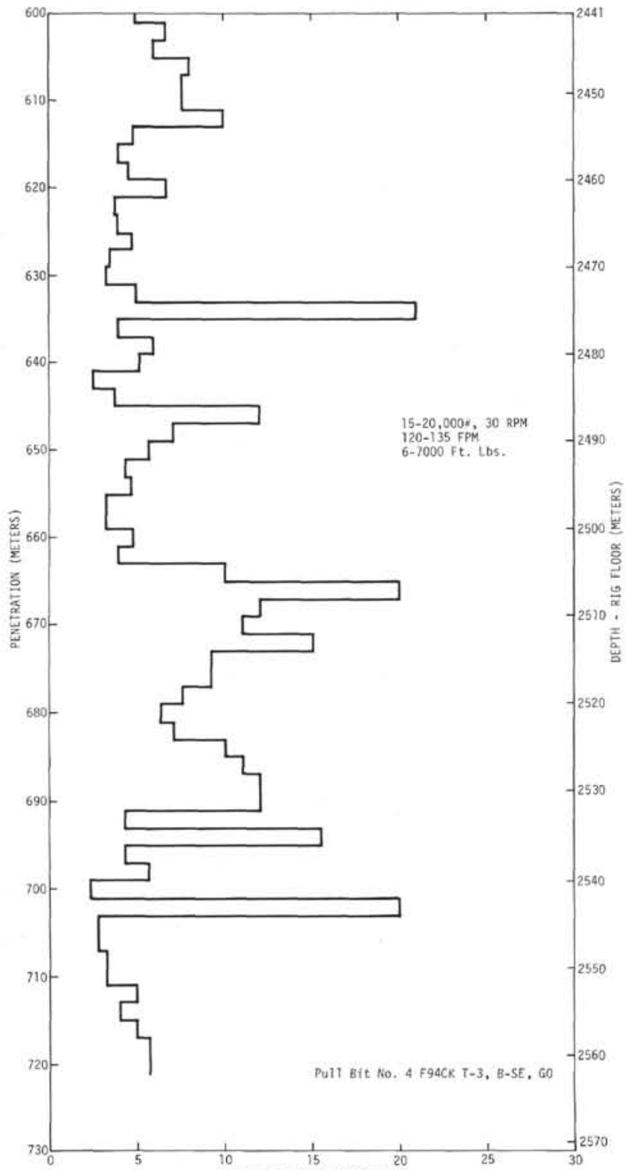

Figure 21b. *(Continued).*

Some crystals have minute glassy inclusions aligned parallel to the cleavage or, rarely, parallel to the crystal margin. All of the plagioclase is fresh, but some crystals are cut by narrow veinlets of yellow smectite. Olivine phenocrysts range from 0.5 to 1.5 cm in diameter and are typically anhedral and somewhat corroded. They have an average composition of approximately Fo_{88} based on an optic angle of 90°. Most of the crystals are fresh, but a few are rimmed and partly replaced by iddingsite and calcite.

The groundmass of the phyric basalts is fine to medium grained with intergranular to subophitic textures. It consists chiefly of plagioclase laths, granular augite, iron oxides, and minor interstitial material. Most specimens contain traces of groundmass olivine, now largely replaced by iddingsite and smectite. The plagioclase laths range from 0.2 to 0.3 mm long and have a composition of approximately An_{75}. These are partly surrounded by colorless, anhedral crystals of augite ($2Vz = 40°$) some of which reach 0.5 mm in diameter. The iron oxides, chiefly magnetite, occur as irregular masses or skeletal crystals associated with the interstitial material.

The phyric basalts are relatively fresh with only minor interstitial smectite, presumably after glass. Most vesicles are open but some are lined with smectite and partly filled with calcite. A few specimens (e.g., 7-1, 66-69 cm) contain up to 10% of pale brown smectite which occurs both as a replacement of interstitial groundmass material and as a vesicle filling. Most of the smectite has a fibrous habit but some vesicle fillings consist of more coarsely crystalline material. Prismatic colorless, low birefringent crystals with negative relief often fill smectite-lined vesicles. Microprobe analyses indicate that these are a hydrous magnesium aluminum sulfate.

Unit 3

This unit consists of uniformly dark gray, fine-grained basalt very similar in texture and mineralogy to the sparsely phyric basalts of Unit 1. A single zone of baked and lithified ooze was recovered in Core 13, but the overall amount of intercalated sediment is probably greater judging from the drilling records. Elsewhere in the unit there are numerous glassy zones and highly vesicular fragments suggestive of a pillow basalt sequence. Along the basalt-sediment contact small angular chips of basaltic glass and palagonite are embedded in the chalk. Fifteen subunits are recognized largely on phenocryst mineralogy (Table 7).

All of the basalts of Unit 3 are sparsely porphyritic with 1%-2% phenocrysts, chiefly plagioclase and augite either in small glomeroporphyritic clusters or as single crystals. Rare olivine crystals are present in a few specimens. The phenocrysts average 0.5 mm in diameter and are generally euhedral to subhedral although a few are broken. Plagioclase phenocrysts have a composition of at least An_{80} and are unzoned except for a very narrow rim of more sodic composition. Augite crystals are very pale brown, subhedral prisms with a $2Vz$ of approximately 45°. The olivine forms small, somewhat rounded and embayed crystals with a composition of Fo_{90} based on a $2Vz$ of 88°.

The groundmass of these basalts has an intergranular to intersertal texture often displaying marked flow alignment of the plagioclase laths. In general, specimens with an intergranular texture are somewhat coarser with an average grain size of 0.2 to 0.3 mm. With increasing glass these grade into intersertal specimens in which the average grain size is 0.02 mm and the crystals are very poorly developed. Along contacts the intersertal groundmass grades into glass with no groundmass minerals. A few specimens also have poorly developed variolitic textures.

Plagioclase laths and granular clinopyroxene combined make up 75% to 80% of the groundmass; the remainder consists of iron oxides, rare olivine, and variable quantities of interstitial glass. The plagioclase is

TABLE 6
Coring Summary, Site 332

Core	(June 1974)	Time	Depth From Drill Floor (m)	Depth Below Sea Floor (m)	Cored (m)	Recovered (m)	Recovery (%)
Hole 332							
1	18	0200	1851.0-1858.0	0.0-7.0	7.0	3.6	51
Hole 332A							
1	18	0500	1858.0-1867.5	7.0-16.5	9.5	1.0	11
Washed			1867.5-1915.0	16.5-64.0			
2	18	0630	1915.0-1924.5	64.0-73.5	9.5	6.4	67
3	18	0750	1924.5-1934.0	73.5-83.0	9.5	5.2	55
Heat-flow measurement							
4	18	1000	1934.0-1943.5	83.0-92.5	9.5	6.4	67
5	18	1103	1943.5-1953.0	92.5-102.0	9.5	7.9	83
6	18	1310	1953.0-1962.5	102.0-111.5	9.5	2.8	29
7	18	1445	1962.5-1972.0	111.5-121.0	9.5	1.6	17
8	18	1700	1972.0-1981.5	121.0-130.5	9.5	1.7	18
9	18	1910	1981.5-1991.0	130.5-140.0	9.5	0.8	8
10	18	2145	1991.0-2000.5	140.0-149.5	9.5	3.3	35
11	18	2315	2000.5-2010.0	149.5-159.0	9.5	0.33	3
12	19	0200	2010.0-2019.5	159.0-168.5	9.5	1.30	14
13	19	0400	2019.5-2029.0	168.5-178.0	9.5	0.20	2
14	19	0645	2029.0-2038.5	178.0-187.5	9.5	0.77	8
15	19	1110	2038.5-2048.0	187.5-197.0	9.5	0.20	2
16	19	1340	2048.0-2057.5	197.0-206.5	9.5	0.57	6
17	19	1630	2057.5-2067.0	206.5-216.0	9.5	0.55	6
18	19	1820	2067.0-2076.5	216.0-225.5	9.5	1.96	21
19	19	2040	2076.5-2086.0	225.5-235.0	9.5	0.34	4
20	19	2240	2086.0-2095.5	235.0-244.5	9.5	0.50	5
21	20	0115	2095.5-2105.0	244.5-254.0	9.5	0.72	8
22	20	0310	2105.0-2114.5	254.0-263.5	9.5	1.10	12
23	20	0505	2114.5-2124.0	263.5-273.0	9.5	0.90	9
24	20	0630	2124.0-2133.5	273.0-282.5	9.5	0.18	2
25	20	0820	2133.5-2143.0	282.5-292.0	9.5	0.87	9
26	20	1010	2143.0-2152.5	292.0-301.5	9.5	1.38	15
27	20	1250	2152.5-2162.0	301.5-311.0	9.5	1.18	12
28	20	1440	2162.0-2171.5	311.0-320.5	9.5	2.00	21
29	20	1630	2171.5-2181.0	320.5-330.0	9.5	0.90	9
30	20	1850	2181.0-2190.5	330.0-339.5	9.5	1.60	17
31	20	2100	2190.5-2200.0	339.5-349.0	9.5	2.55	27
32	20	2240	2200.0-2209.5	349.0-358.5	9.5	1.08	11
33	21	0035	2209.5-2219.0	358.5-368.0	9.5	1.20	13
34	21	0240	2219.0-2228.5	368.0-377.5	9.5	1.37	14
35	21	0430	2228.5-2238.0	377.5-387.0	9.5	0.36	4
36	21	0750	2238.0-2247.5	387.0-396.5	9.5	1.55	16
37	21	1000	2247.5-2257.0	396.5-406.0	9.5	0.50	5
38	21	1210	2257.0-2266.5	406.0-415.5	9.5	0.24	3
Down-hole inclination measurements							
	21	1335	Sand and ooze retained in core (same level as Core 38). Retained as extra				
39	21	1610	2266.5-2276.0	415.5-425.0	9.5	0.30	3
40	21	1930	2276.0-2285.5	425.0-434.5	9.5	2.90	31
Total					380.0	66.70	18
Hole 332B							
1	23	0550	1983.0-1992.5	142.0-151.5	9.5	6.59	69
2	23	1145	1992.5-2040.0	151.5-199.0	47.5	7.50	16
3	23	1655	2040.0-2068.5	199.0-227.5	28.5	4.40	15
4	23	2005	2068.5-2097.0	227.5-256.0	28.5	0.30	1
5	23	2340	2097.0-2125.5	256.0-284.5	28.5	0.11	0.4
6	24	0600	2125.5-2154.0	284.5-313.0	28.5	2.80	10
7	24	0800	2154.0-2163.5	313.0-322.5	9.5	0.30	3
Bit change and re-entry							
8	25	1700	2163.5-2173.0	322.5-322.0	9.5	2.80	29
9	25	2200	2173.0-2192.0	332.0-351.0	19.0	3.00	16
10	26	0400	2192.0-2201.5	351.0-360.5	9.5	3.14	33
11	26	0700	2201.5-2211.0	360.5-370.0	9.5	5.27	55

TABLE 6 – *Continued*

Core	Date (June 1974)	Time	Depth From Drill Floor (m)	Depth Below Sea Floor (m)	Cored (m)	Recovered (m)	Recovery (%)
Hole 332B – *Continued*							
12	26	1006	2211.0-2220.5	370.0-379.5	9.5	1.00	11
13	26	1220	2220.5-2230.0	379.5-389.0	9.5	0.95	10
14	26	1440	2230.0-2239.5	389.0-398.5	9.5	1.93	20
15	26	1840	2239.5-2249.0	398.5-408.0	9.5	1.89	20
16	26	2100	2249.0-2258.5	408.0-417.5	9.5	1.30	14
17	26	2320	2258.5-2268.0	417.5-427.0	9.5	1.50	16
18	27	0130	2268.0-2277.5	427.0-436.5	9.5	0.85	9
Bit change and re-entry							
19	28	1210	2277.5-2287.0	436.5-446.0	9.5	0.95	10
20	28	1625	2287.0-2296.5	446.0-455.5	9.5	1.90	20
21	28	1830	2296.5-2306.0	455.5-465.0	9.5	1.0	11
22	28	2145	2306.0-2315.5	465.0-474.5	9.5	4.1	43
23	29	0040	2315.5-2325.0	474.5-484.0	9.5	3.0	32
24	29	0245	2325.0-2334.5	484.0-493.5	9.5	1.4	15
25	29	0510	2334.5-2344.0	493.5-503.0	9.5	3.1	33
26	29	0715	2344.0-2353.5	503.0-512.5	9.5	0.35	4
27	29	0930	2353.5-2363.0	512.5-522.0	9.5	1.7	18
28	29	1205	2363.0-2372.5	522.0-531.5	9.5	1.3	14
29	29	1445	2372.5-2382.0	531.5-541.0	9.5	1.8	19
30	29	1715	2382.0-2391.5	541.0-550.5	9.5	1.4	15
	July						
30A	2	1315	Anywhere from 1843-2391.5 Cuttings and mud		9.5	9.5	100
31	2	1725	2391.5-2401.0	550.5-560.0	9.5	0.77	8
32	2	2010	2401.0-2410.5	560.0-569.5	9.5	1.1	12
33	2	2300	2410.5-2420.0	569.5-579.0	9.5	2.5	26
34	3	0300	2420.0-2429.5	579.0-588.5	9.5	1.0	11
35	3	0600	2429.5-2439.0	588.5-598.0	9.5	4.0	42
36	3	0850	2439.0-2448.5	598.0-607.5	9.5	6.0	63
37	3	1215	2448.5-2458.0	607.5-617.0	9.5	2.5	26
38	3	1545	2458.0-2467.5	617.0-626.5	9.5	0.06	0
39	3	1930	2467.5-2477.0	626.5-636.0	9.5	0.15	2
40	3	2300	2477.0-2486.5	636.0-645.5	9.5	2.5	26
41	4	0250	2486.5-2496.0	645.5-655.0	9.5	1.9	20
42	4	0610	2496.0-2505.5	655.0-664.5	9.5	2.3	24
43	4	0815	2505.5-2515.0	664.5-674.0	9.5	4.1	43
44	4	1045	2515.0-2524.5	674.0683.5	9.5	7.1	75
45	4	1315	2524.5-2534.0	683.5-693.0	9.5	1.3	14
46	4	1610	2534.0-2543.5	693.0-702.5	9.5	2.7	28
47	4	2020	2543.5-2553.0	702.5-712.0	9.5	3.9	41
48	5	0100	2553.0-2562.5	712.0-721.5	9.5	0.5	5
Bit change and re-entry							
Total					589.0	121.51	21
Hole 332C							
1	1	1115	1989.5-1999.0	148.5-158.0	9.5	1.1	12
Hole 332D							
1	6	0330	1983.0-1989.0	142.0-148.0	6.0	0.35	6

labradorite (An_{70-75}), and the clinopyroxene is augite with a $2Vz$ of approximately 45°. Groundmass olivine is clearly present in approximately half of the specimens examined, and other specimens commonly have small patches of smectite or carbonate that may be olivine pseudomorphs. In all cases, however, the olivine never exceeds 1% of the groundmass and always occurs in minute, subhedral crystals. Iron oxides occur as tiny octahedra or irregular crystals concentrated in the interstitial glass. The glass itself is usually devitrified or replaced by smectite and carbonate. Glassy rocks consist of dark brown, isotropic material which grades gradually into the crystalline interior.

Except in Core 12 the basalts of Unit 3 exhibit only minor alteration and this is usually concentrated along fractures and veins. The boundaries between fresh and altered material are marked by a sharp color change from gray to yellowish-brown. In the altered zones yellow smectite and carbonate are abundant both as vesicle fillings and as replacements of interstitial glass. Some specimens contain abundant phillipsite. In the unaltered zones the interstitial glass is either fresh or partly devitrified and the vesicles are open. There is a somewhat greater degree of alteration in the basalts of Core 12, but the type of alteration and the secondary minerals present are the same.

TABLE 7
Lithologic Units and Subunits, Hole 332A

Unit	Subunit	Interval	Magnetic Unit	Core Recovered (m)	Maximum Thickness (m)	Lithology
1	1	6-2, 54 cm to 6-2, 70 cm	2AM1	0.08	6.5	Aphyric basalt
2		6-2, 70 cm to 7-1, 108 cm		1.2	15.5	Plagioclase-phyric basalt
	2	6-2, 70 cm to 6-2, 130 cm	2AM1			Coarsely plagioclase-phyric basalt
	3	7-1, 4 cm to 7-1, 11 cm	2AM1			Sparsely plagioclase-phyric basalt
	4	7-1, 11 cm to 7-1, 108 cm	2AM1			Moderately plagioclase-phyric basalt
3		7-1, 108 cm to 15, CC, 86 cm		6.6	84.5	Aphyric to sparsely plagioclase-olivine-phyric basalt
	5	7-1, 108 cm to 8-1, 7 cm				Aphyric basalt with interlayered breccia
	5a	8-1, 7 cm to 8-1, 25 cm				Sparsely plagioclase-phyric basalt
	6	8-1, 25 cm to 8-2, 21 cm	2AM2			Aphyric basalt
	7	8-2, 21 cm to 8-2, 61 cm	2AM2			Sparsely plagioclase-phyric basalt
	8	8-2, 61 cm to 8-2, 100 cm	2AM2			Aphyric basalt
	9	8-2, 100 cm to 8-2, 119 cm	2AM2			Sparsely plagioclase-phyric basalt
	10	8-2, 119 cm to 9-1, 28 cm	2AM2			Aphyric basalt
	11	9-1, 28 cm to 9-1, 44 cm	2AM2			Sparsely plagioclase-olivine-phyric basalt
	12	9-1, 44 cm to 9-1, 65 cm	2AM2			Aphyric basalt
	13	9-1, 65 cm to 9-1, 79 cm	2AM2			Moderately plagioclase-phyric basalt
	14	9-1, 79 cm to 9-1, 95 cm	2AM2			Aphyric basalt
	15	9-1, 95 cm to 10, CC, 86 cm	2AM2			Moderately plagioclase-phyric basalt
	16	11-1, 57 cm to 12-2, 88 cm	2AM2			Aphyric basalt
	17	13-1, 111 cm to 14-1, 148 cm	2AM3			Glassy aphyric basalt
	18	15, CC, 53 cm to 15, CC, 86 cm	2AM3			Sparsely plagioclase-olivine-phyric basalt
4		16-1, 30 cm to 24-1, 130 cm		4.9	76.0	Aphyric basalt with interlayered chalk
	19	16-1, 30 cm to 22-1, 17 cm	2AM3			Aphyric basalt
	20	22-1, 17 cm to 24-1, 130 cm	2AM4			Aphyric basalt with chalk
5		25-1, 17 cm to 28-3, 69 cm		5.6	46.5	Aphyric and sparsely plagioclase-olivine phyric basalt
	21	25-1, 17 cm to 25-1, 78 cm				Aphyric basalt
	22	25-1, 78 cm to 25-1, 107 cm				Aphyric basalt with interlayered chalk
	23	25-1, 107 cm to 25-1, 148 cm				Sparsely plagioclase-olivine-phyric basalt
	24	26-1, 26 cm to 26-1, 77 cm	2AM5			Sparsely plagioclase-olivine-phyric basalt with interlayered chalk and basalt glass
	25	26-1, 77 cm to 26-2, 23 cm	2AM5			Moderately plagioclase-olivine-phyric basalt with interlayered breccia

TABLE 7 – *Continued*

Unit	Subunit	Interval	Magnetic Unit	Core Recovered (m)	Maximum Thickness (m)	Lithology
	26	26-2, 23 cm to 27-1, 54 cm	2AM5			Moderately plagioclase-olivine-phyric basalt
	26a	27-1, 54 cm to 27-1, 100 cm	2AM6			Moderately plagioclase-olivine-phyric basalt with minor chert
	26b	27-1, 100 cm to 28-1, 114 cm	2AM6			Sparsely plagioclase-olivine-phyric basalt
	27	28-1, 114 cm to 28-2, 54 cm	2AM6			Sparsely plagioclase-olivine-phyric basalt
	27a	28-2, 54 cm to 28-3, 69 cm	2AM6			Sparsely plagioclase-olivine-phyric basalt
6		29-1, 0 cm to 39-1, 58 cm		11.7	111.0	Plagioclase-phyric and plagioclase-olivine phyric basalt
	28	29-1, 0 cm to 29-1, 23 cm	2AM6			Plagioclase-phyric basalt with interlayered chert
	29	29-1, 23 cm to 29-1, 102 cm	2AM6			Coarsely plagioclase-olivine-phyric basalt
	30	29-1, 102 cm to 31-2, 12 cm	2AM6			Plagioclase-phyric basalt breccia
	31	31-2, 12 cm to 33-2, 90 cm	2AM6			Moderately plagioclase-phyric basalt
	32	33-2, 90 cm to 33-2, 105 cm	2AM6			Aphyric basalt
	33	33-2, 105 cm to 34-2, 90 cm	2AM6			Moderately plagioclase-olivine-phyric basalt
	34	34-2, 90 cm to 35-1, 148 cm	2AM6			Coarsely plagioclase-phyric basalt
	35	36-1, 3 cm to 37-1, 82 cm	2AM6			Coarsely plagioclase-olivine-phyric basalt
	36	37-1, 82 cm to 37-1, 146 cm	2AM7			Moderately plagioclase-phyric basalt
	37	38-1, 107 cm to 38-1, 112 cm	2AM7			Plagioclase-phyric basalt
	38	38-1, 112 cm to 38-1, 121 cm	2AM7			Moderately plagioclase-phyric basalt
	39	38-1, 121 cm to 38-1, 140 cm	2AM7			Aphyric basalt
	40	38-1, 140 cm to 39-1, 58 cm	2AM7			Plagioclase-olivine-phyric basalt
7		40-1, 11 cm to 40-2, 110 cm		2.7	2.7	Plagioclase-augite-olivine-phyric basalt with interlayered aphyric basalt
	41	40-1, 11 cm to 40-1, 32 cm	2AM7			Aphyric basalt with breccia
	42	40-1, 32 cm to 40-2, 125 cm	2AM7			Plagioclase-augite-olivine-phyric basalt
	43	40-2, 125 cm to 40-2, 133 cm	2AM7			Aphyric basalt
	44	40-3, 2 cm to 40-3, 110 cm	2AM7			Plagioclase-augite-olivine-phyric basalt

Unit 4

Unit 4 consists chiefly of dark gray, fine-grained aphyric basalt which, except for the absence of microphenocrysts, is texturally and mineralogically similar to the basalt of Unit 3. The boundary between the two units is drawn arbitrarily at the top of the aphyric sequence. The upper part of Unit 4 consists only of basalt, whereas the lower part contains numerous intercalations of nanno chalk with abundant chips of basaltic glass and palagonite. These two subunits are separated in Core 22 by 1 meter of indurated nanno chalk, but there are no petrographic or chemical differences across this boundary.

Approximately 2 meters of soupy, nannofossil ooze mixed with chips of basaltic glass and palagonite were recovered from Core 18. We suspect that this material slumped into the hole from a higher level; however, it may have come from the cored interval. Chemical analysis of hand-picked glass showed a composition similar to that of aphyric basalt from Core 20.

Petrographically, Unit 4 differs from Unit 3 only in having fewer microphenocrysts and, on the average, a somewhat finer grained groundmass. Plagioclase ($\sim An_{75}$) and augite ($2Vz = 45°$) form very sparse microphenocrysts, rarely more than two crystals per thin section. These crystals range from 0.2 to 0.5 mm across and are typically subhedral to euhedral. No olivine phenocrysts were observed.

The groundmass of these basalts has an intersertal to intergranular texture varying with the degree of crystallization. A few specimens consist of devitrified glass with only small patches of crystallized material associated with fractures and vesicles. Plagioclase, clinopyroxene, and iron oxides are the common groundmass minerals; olivine was unequivocally identified in only one specimen (Core 22-1, 136 cm). In a few specimens the groundmass exhibits minor flow alignment of crystals and, more commonly, patches of variolitic texture. Small vesicles, ranging from 0.1 to 0.2 mm in diameter, are ubiquitous.

As in Unit 2 alteration is slight and altered zones generally parallel small fractures. In the relatively fresh specimens the vesicles are either open or partly filled with smectite and some carbonate, but the interstitial glass is unaltered. Open vesicles are often surrounded by narrow zones of brown glass rich in needle-shaped crystals of iron oxide, probably ilmenite judging by the crystal form. In a few specimens the glassy material completely fills the vesicles. In altered zones smectite is abundant both as a vesicle filling and a replacement of interstitial glass and it is often associated with carbonate. A typical vesicle filling consists of a thin outer coating of yellow smectite followed by a thin layer of light brown smectite, with the central cavity filled with carbonate. In many vesicles, smectite is the only mineral present, and in others the central cavity is filled with reddish-brown hematite(?).

Unit 5

Unit 5 consists of fine-grained, sparsely porphyritic basalt very similar to that of Units 1 and 3. These rocks are characterized by the ubiquitous presence of minor olivine both as microphenocrysts and as minute groundmass crystals. The basalts of Unit 5 differ from those of Unit 4 primarily in having a slightly higher percentage of phenocrysts and the boundary between the two units is placed between Cores 24 and 25 at the base of the lowest aphyric basalt.

The basalts of Unit 5 have numerous intercalated layers of nanno chalk containing abundant fragments of glass and palagonite. Glassy selvages are also common within the basalts suggesting that this unit consists of a sequence of pillow basalts intimately intermixed with sediment. Ten subunits have been defined on the basis of phenocryst mineralogy and intercalated chalk layers.

In addition to olivine, plagioclase and augite ($2Vz = 45°$) also form microphenocrysts and occur as single crystals or in glomeroporphyritic clusters up to 3 mm across. Most of the phenocrysts are from 0.3 to 0.5 mm across, but some plagioclase crystals range up to 1.5 mm in diameter. Plagioclase and augite crystals are euhedral to subhedral; olivine crystals are anhedral, corroded, and skeletal. The plagioclase is bytownite ($\sim An_{80}$) and is unzoned except for a very narrow rim of more sodic composition. The phenocrystic olivine has a composition of approximately Fo_{85}.

The groundmass of these basalts, like those of Unit 3, consists of an intergranular to intersertal mixture of plagioclase laths, augite, iron oxides, minor olivine, and variable amounts of interstitial glass. Many specimens exhibit variolitic or trachytic textures and some, near contacts, are glassy. Poorly crystallized specimens are characterized by skeletal plagioclase laths and radiating sheaves of clinopyroxene. Small, spherical vesicles are scattered uniformly throughout these rocks.

The entire unit is very fresh with only minor alteration of glass to smectite. Carbonate and smectite partly fill many vesicles and phillipsite is present in some specimens. Many vesicles are rimmed with brown glassy zones rich in acicular opaques. Some groundmass olivine is partly replaced by smectite but most is fresh. Minor palagonite occurs on the contacts with sediments.

Unit 6

Unit 6 is distinguished from Unit 5 by an abrupt change to phyric basalt containing 15% to 20% phenocrysts, chiefly plagioclase with lesser amounts of olivine and green augite. Thin intercalated layers of aphyric basalt are present in Cores 33 and 38. Glassy rinds are present in several cores, as are lenses of nanno chalk and mixed basalt-chalk breccia. Although Unit 6 has the thickest continuous section of similar lithology in Hole 332A, the maximum single flow thickness is no more than 10 meters based on the occurrence in each core of glassy selvages and highly vesicular zones with fewer or smaller phenocrysts than the massive parts. Breaks in the lithologically similar sequence are also suggested by slightly different chemical compositions from different levels in the unit, and 13 subunits have been defined (Table 7).

Texturally and mineralogically, the basalts of this unit are very uniform; however, both the size and quantity of plagioclase crystals vary slightly, the crystals generally being smaller and fewer near flow boundaries. The plagioclase crystals range from 0.5 to 2 mm in diameter, and are euhedral to subhedral. All are calcic bytownite (An_{85-90}) and they are very weakly zoned except for a narrow rim of more sodic composition. Many crystals contain glassy inclusions up to 0.2 mm across which may account for the dark color of the plagioclase in hand specimen. Augite ($2Vz = 45°$ to $55°$) occurs in subhedral, commonly twinned crystals generally less than 1 mm across and is usually associated with plagioclase in small glomeroporphyritic clusters. Olivine forms subhedral crystals from 0.3 to 0.5 mm across and lacks obvious evidence of disequilibrium. Based on a $2Vz$ of 88°, the olivine composition is approximately Fo_{90}.

The groundmass of these basalts is typically glassy and poorly crystallized with intersertal, often variolitic textures. Ragged plagioclase laths, 0.05 to 0.1 mm long, lie in a matrix of poorly crystallized augite with radial sheaf-like clusters, together with iron oxides, minor olivine, and interstitial glass. With higher degrees of crystallization and coarser grain size the groundmass grades into intergranular textures. When large enough to determine optically, the groundmass pyroxene is consistently augite with a $2Vz$ of approximately 40° to 50°. The groundmass olivine occurs in tiny, euhedral crystals ranging from 0.02 to 0.05 mm in diameter.

The fine-grained, aphyric basalts of Unit 6 are similar to the porphyritic specimens, but either lack phenocrysts entirely or contain less than 1% of small plagioclase laths, from 0.2 to 0.5 mm across, scattered through the rock. Groundmass olivine was not definitely identified in the specimens examined.

All of the basalts of this unit are relatively fresh. Olivine is occasionally replaced by iddingsite or smectite and some of the interstitial glass is replaced by smectite. Where smectite is abundant it fills most of the vesicles; elsewhere vesicles are lined with minor carbonate and smectite.

Unit 7

Hole 332A bottomed in a strikingly porphyritic basalt containing abundant phenocrysts of plagioclase, augite, and olivine. The upper contact of this unit is marked by a breccia composed of fragments of phyric basalt and glass in a matrix of broken crystals and carbonate. Two thin layers of aphyric basalt with glassy rinds occur in Core 40 and divide this unit into 4 subunits (Table 7). The basalts of this unit were not encountered in Hole 332B, drilled about 100 meters away, suggesting that the unit may be a high-angle intrusive body.

The porphyritic basalts contain approximately 40% large, generally euhedral phenocrysts. Plagioclase ($\sim An_{90}$) makes up approximately half of the total and occurs in euhedral crystals from 1 to 3 mm in diameter. Many crystals have patchy, irregular extinction, but are unzoned except near the margins. Augite crystals ($2Vz$ = 45°-50°) comprise about 40% of the total phenocrysts. These occur as subhedral prisms generally between 0.5 and 2 mm in diameter. Most crystals have indistinct margins and merge imperceptibly into the groundmass pyroxene. Olivine phenocrysts, ranging from 0.5 to 2 mm across, are generally euhedral to subhedral, but some are corroded and resorbed. They have a composition of Fo_{90} based on a $2Vz$ of 88°.

The groundmass of these basalts is a fine-grained, intergranular mixture of labradorite, augite, iron oxides, minor olivine, and small amounts of interstitial glass. The average grain size is approximately 0.3 mm. Small vesicles, from 0.1 to 1 mm in diameter, make up 2%-3% of most specimens and are scattered uniformly through the rock. Many vesicles have dark, glassy rims, and some specimens contain vesicle-like clots from 1 to 1.5 mm in diameter, filled with normal groundmass minerals but with a much higher percentage of glass.

The aphyric basalt of Core 40, Section 2 consists chiefly of skeletal plagioclase and poorly crystallized "feathery" clinopyroxene along with iron oxides and variable amounts on interstitial glass. The crystalline rock grades into glassy zones composed of brown cryptocrystalline material with patches of variolitic texture. Most specimens also exhibit poorly developed trachytic textures. No olivine was observed in the aphyric basalts.

Like other basalts in Hole 332A those of Unit 7 are slightly altered. Olivine phenocrysts are commonly rimmed with iddingsite and partly replaced by smectite. Interstitial glass is partly altered to smectite and carbonate, and vesicles are lined or partly filled with the same minerals. A few vesicles also have minor hematite, and phillipsite is common in some of the aphyric basalts.

Holes 332B, 332C, and 332D

Sediments

Hole 332B was washed to a subbottom depth of 142 meters and then penetrated 6.5 meters of sediment before entering acoustic basement. Holes 332C and 332D recovered one core each from a subbottom depth of 148.5 and 142.0 meters, respectively.

Cored sediments above acoustic basement consist almost invariably of white (2.5Y 8/2) foram-bearing nannofossil ooze composed of approximately 96% nannofossils, 3% foraminifers, and trace amounts of sponge spicules, Radiolaria, and diatoms. Five or six 1-cm-thick green (5G 7/1) layers of stiffer ooze interrupt the sequence in Sections 1 and 2, Core 1, Hole 332B, and about 30 thin (3-4 mm) green (5G 7/1) layers occur in Sections 3 and 4.

Moderate purple (5P 4/2) spot mottling similar to that found in Hole 332A is present. Additional yellowish-white (5Y 8/2) mottling involving subcircular patches of sediment, 2-3 cm across, is widely scattered in all sections. Section 1, Core 1, Hole 332B is unusual in having a cylindrical black nodule composed of many tiny (10 μm) pyrite micronodules and in having a gray layer that is rich in volcanic glass. Traces of glass shards are also present in most of the other sediments.

Hole 332C produced one section of white (2.5Y 8/2) nanno ooze along with white to light brown (10YR 8/2) nanno chalk. Hole 332D yielded one section of white (2.5Y8/2) nanno chalk in sharp contact with basalt.

Basement

In Hole 332B, 583 meters of basaltic basement were drilled with an average recovery of 21%. Eleven major lithologic units have been defined largely on the basis of phenocryst composition. These units consist of either a single relatively uniform lithology or a repetition of two or more lithologies as, for example, Units 6 and 9. The major units are given a maximum and minimum thickness from the depth cored and the core recovered, respectively. Forty-five lithologic subunits have been defined using the same criteria as for Hole 332A (Table 9).

The prevalence of quench textures and the abundance and distribution of vesicles, amygdules, and glassy rinds suggest that most of the cored sequence consists of pillow basalt. Possible intrusive units are

TABLE 9
Lithologic Units and Subunits, Hole 332B

Unit	Subunit	Interval	Magnetic Unit	Core Recovered (m)	Maximum Thickness (m)	Lithology
1		1-5, 3 cm to 3-4, 103 cm		18.5	85.5	Coarsely plagioclase-phyric basalt with interlayered ooze
	1	1-5, 3 cm to 2-3, 30 cm	2BM1			Coarsely plagioclase-phyric basalt
	1a	2-3, 30 cm to 2-3, 39 cm	2BM1			Aphyric to sparsely plagioclase-phyric basalt
	2	2-3, 39 cm to 3-4, 103 cm	2BM1			Coarsely plagioclase-phyric basalt
2		3-4, 103 cm to 6-3, 100 cm		3.2	85.5	Aphyric to sparsely plagioclase-phyric basalt with interlayered ooze
	3	3-4, 103 cm to 6-1, 144 cm				Aphyric basalt
	4	6-2, 0 cm to 6-3, 100 cm				Aphyric to sparsely-phyric basalt with interlayered ooze
3A		7-1, 25 cm to 11-4, 118 cm		14.2	57.0	Sparsely to highly plagioclase-olivine-phyric basalt, often microdoleritic
	5	7-1, 25 cm to 7-1, 65 cm	2BM2			Coarsely plagioclase-phyric basalt
	6	8-1, 0 cm to 10-1, 72 cm	2BM2			Moderately plagioclase-phyric basalt and possible intrusives
	7	10-1, 72 cm to 11-4, 118 cm	2BM2			Probable diabasic intrusive
3B		11-4, 118 cm to 15-2, 147 cm		6.1	38	Sparsely to highly plagioclase-olivine phyric basalt
	8	11-4, 118 cm to 15-1, 25 cm	2BM2			Plagioclase-phyric basalt
	9	15-1, 25 cm to 15-1, 65 cm	2BM2			Sparsely plagioclase-phyric basalt
	10	15-1, 65 cm to 15-2, 118 cm	2BM2			Moderately plagioclase-olivine-phyric basalt
	11	15-2, 118 cm to 15-2, 147 cm	2BM2			Sparsely to coarsely olivine-plagioclase phyric basalt
4		16-1, 4 cm to 22-1, 43 cm		11.6	66.5	Moderately to highly phyric olivine basalt (picrite)
	12	16-1, 4 cm to 17-1, 148 cm	2BM3			Olivine-plagioclase-phyric basalt and breccia
	13	17-2, 2 cm to 22-1, 43 cm	2BM3			Highly olivine-phyric basalt (settling units) with brecciated partings
5		22-1, 43 cm to 25-2, 67 cm		7.5	28.5	Plagioclase-olivine glomerophyric basalt with common glassy rinds
	14	22-1, 43 cm to 22-4, 147 cm	2BM4			Plagioclase-olivine glomerophyric basalt
	15	23-1, 0 cm to 25-2, 67 cm	2BM4			Plagioclase-olivine glomerophyric basalt

TABLE 9 – *Continued*

Unit	Subunit	Interval	Magnetic Unit	Core Recovered (m)	Maximum Thickness (m)	Lithology
6		25-2, 67 cm to 34-2, 59 cm		21.4	95.0	Interlayered olivine-plagioclase-phyric basalt and aphyric basalt
	16	25-2, 67 cm to 25-3, 126 cm	2BM4			Sparsely olivine-plagioclase-phyric basalt
	17	25-3, 126 cm to 25-4, 79 cm	2BM4			Moderately olivine-plagioclase-phyric basalt
	18	26-1, 34 cm to 28-2, 34 cm	2BM4			Sparsely to moderately olivine-plagioclase-phyric basalt
	19	29-1, 0 cm to 29-2, 63 cm	2BM5			Moderately to highly olivine-phyric basalt
	20	30-1, 0 cm to 33-1, 129 cm	2BM5			Aphyric to sparsely plagioclase-olivine-phyric basalt
	21	33-1, 129 cm to 33-2, 80 cm	2BM6			Aphyric to sparsely olivine-phyric basalt
	22	33-2, 80 cm to 34-2, 59 cm	2BM6			Sparsely olivine-plagioclase-augite-phyric basalt
7	23	35-1, 0 cm to 35-3, 98 cm	2BM6	3.5	9.0	Coarsely olivine-phyric basalt (picrite)
8		35-3, 98 cm to 37-2, 108 cm		8.5	19.0	Moderately to coarsely plagioclase-phyric basalt with interlayered chalk
	24	35-3, 98 cm to 35-3, 137 cm				Moderately plagioclase-phyric basalt
	25	35-3, 137 cm to 37-2, 108 cm	2BM7			Coarsely plagioclase-phyric basalt with interlayered chalk
9		37-2, 108 cm to 42-3, 9 cm		7.5	54.0	Sparsely to moderately phyric basalt with phenocrysts of olivine, plagioclase, and picotite; many breccia zones
	26	37-2, 108 cm to 37-3, 73 cm				Sparsely olivine-phyric basalt
	27	38-1, 0 cm to 40-1, 52 cm				Moderately olivine-plagioclase phyric basalt with breccia
	28	40-1, 52 cm to 40-2, 26 cm				Moderately olivine-plagioclase phyric basalt with breccia
	29	40-2, 26 cm to 40-2, 57 cm				Plagioclase-phyric basalt with breccia
	30	40-2, 57 cm to 40-2, 90 cm				Plagioclase-phyric basalt with breccia
	31	40-2, 90 cm to 40-3, 72 cm				Plagioclase-phyric basalt
	32	41-1, 0 cm to 41-1, 75 cm				Coarsely olivine-phyric basalt with breccia
	33	41-1, 75 cm to 41-1, 145 cm				Plagioclase-phyric basalt with breccia
	34	41-2, 0 cm to 41-2, 24 cm				Aphyric basalt
	35	41-2, 24 cm to 41-2, 107 cm				Plagioclase-olivine-phyric basalt

TABLE 9 – *Continued*

Unit	Subunit	Interval	Magnetic Unit	Core Recovered (m)	Maximum Thickness (m)	Lithology
	36	42-1, 0 cm to 42-1, 78 cm				Sparsely olivine-phyric basalt with breccia
	37	42-1, 78 cm, to 42-1, 110 cm				Olivine-plagioclase-phyric basalt
	38	42-1, 110 cm to 42-2, 135 cm				Aphyric basalt
	39	42-2, 135 cm to 42-2, 147 cm				Coarsely olivine-phyric basalt
	40	42-3, 3 cm to 42-3, 9 cm				Olivine-augite-plagioclase-phyric basalt
10		42-3, 9 cm to 47-4, 88 cm		19.2	53.5	Sparsely to highly plagioclase-augite-phyric basalt
	41	42-3, 9 cm to 44-7, 73 cm	2BM8			Plagioclase-phyric basalt
	42	45-1, 0 cm to 45-1, 147 cm	2BM8			Plagioclase-phyric basalt with basalt glass
	43	46-1, 0 cm to 46-1, 32 cm				Highly plagioclase-phyric basalt
	44	46-1, 32 cm to 47-4, 88 cm	2BM9			Sparsely plagioclase-phyric basalt with breccia
11	45	48-1, 0 cm to 48-1, 147 cm		0.5	9.5	Aphyric to sparsely plagioclase-augite-olivine-phyric basalt

present in Cores 9, 10, and 11, and lower in the hole, in Core 26. These are recognized by the absence of strong vesiculation, the relatively coarse-grained microdiabasic textures, and the presence of chilled margins separated by several meters of uniformly textured basalt.

Numerous layers of nannofossil chalk and limestone are intercalated with the basalts, particularly in the upper part of the hole. The abundance of chalk layers gradually decreased with depth, and none were found below Core 36. Often the chalk layers are associated with volcanic breccia consisting of fragments of basalt and basaltic glass in a calcareous matrix.

Altered and brecciated zones are more common in Hole 332B than in Hole 332A, and these tend to increase with depth although fresh rocks are present in the lowest cores.

Despite the fact that Holes 332B and 332A were drilled only about 100 meters apart, there is little observable lithologic correlation between the two. This suggests that either the two holes are separated by a fault or that the lithologic units are irregular and discontinuous.

Major and minor element analyses for basalts from Holes 332B and 332D are given in Tables 10A, 10B, and 10C, and 10D (at end of the text).

Unit 1

Below acoustic basement there is an almost continuous succession of coarsely plagioclase-phyric basalt from Cores 1 to 3. One break is defined by a thin layer of sparsely phyric basalt in Core 2, Section 3, and other possible flow-unit contacts are suggested by decreases in phenocryst size, and increases in veining and vesicle concentrations. Recovery in this unit was highly variable suggesting the presence of interlayered sediment and basaltic breccia.

In the coarsely phyric basalts plagioclase phenocrysts often make up 50 modal percent. These are up to 4 mm in length, generally euhedral, and range in composition from An_{70} to An_{90}. They show minor normal zoning and sodic overgrowths are common. Olivine microphenocrysts are occasionally present attaining sizes of up to 1.5 mm, and groundmass olivine is ubiquitous. In altered samples plagioclase phenocrysts are jointed and veined with smectite. Olivine microphenocrysts also show corrosion/resorption effects and are replaced by iddingsite and calcite.

The groundmass of these basalts consists of plagioclase (An_{75}), clinopyroxene, and minor olivine with abundant granular magnetite. Textures vary from intergranular, intersertal, or subophitic to variolitic. Ophitic clinopyroxene attains a size of nearly 0.5 mm in some samples. Smectite commonly replaces interstitial groundmass material and iron hydroxide occurs in oxidized zones. In the vicinity of carbonate veining, olivine is occasionally replaced by carbonate.

Zones of large (3 mm) vesicles correlate with finer groundmass textures and a decrease in phenocryst size and content, and these zones may define flow boundaries. Vesicles at the top of the unit are mostly open whereas lower down they are filled with brown smectite and a hydrous magnesium aluminum sulfate similar to that found in Hole 332A.

Unit 2

Unit 2 consists mostly of aphyric basalt with intercalations of nannofossil ooze. It is separated from Unit 3 below by a sequence of basalt breccia with included chalk fragments. Occasional sparsely phyric specimens contain small phenocrysts of plagioclase (An_{85-90}) and augite. The plagioclase is euhedral and occasionally forms aggregates, whereas pyroxene is strongly ophitic. The plagioclase and pyroxene microphenocrysts are invariably fresh.

The groundmass consists largely of intergranular to subophitic mixtures of plagioclase (An_{70-75}), clinopyroxene, and iron oxides with rare interstitial glass, usually devitrified or slightly altered. Olivine was observed in only two specimens.

Subunit 3 is not strongly vesicular, but vesicles become larger and more abundant in Subunit 4 with a strong increase toward the base of the unit. Smectite, iron hydroxide, and hematite partially fill the vesicles and increase in abundance downward.

Unit 3

Unit 3 comprises a series of coarsely to sparsely phyric basalts with plagioclase phenocrysts and several possible intrusive bodies. It has been divided into two parts (3A and 3B) on the basis of phenocryst type and abundance. Unit 3A is distinguished from 3B by its greater content of phenocrystic olivine and green clinopyroxene, and the boundary between the two is drawn at the base of a possible diabasic intrusive body (Subunit 7).

Unit 3A is a sequence of coarsely plagioclase- and olivine-phyric pillow basalts with numerous glassy rinds. Several interlayered diabasic units (Core 8, Sections 1 and 2; Core 9, Sections 2 and 3) are probable intrusive bodies. The pillow basalts range from fresh to moderately altered, and the entire sequence is cut by carbonate veinlets.

The plagioclase phenocrysts are euhedral to subhedral and are often associated with augite in glomerophyric clusters. Occasional olivine phenocrysts range up to 0.5 mm in size and are often resorbed and partially replaced by carbonate and iddingsite. The groundmass is typically intergranular to variolitic and consists of plagioclase, clinopyroxene, olivine, and granular iron oxide with occasional interstitial patches of glass, most of which is altered to light brown smectite.

The possible intrusive bodies are recognized by having ophitic groundmass textures and an absence of vesicles. The probable intrusive unit comprising Subunit 7 can be divided into a lower olivine-free sequence (Core 11) and an upper olivine-bearing sequence (Core 10). Augite is absent from the upper sequence but is sparsely present in the lower one, particularly near the base. These observations suggest that Cores 10 and 11 represent two separate intrusions although the contact between them was not recovered. The rocks of Subunit 7 are coarsely porphyritic with strongly zoned plagioclase laths, clinopyroxene, olivine, and magnetite. Near the basal contact the rock is relatively fine grained with sparse plagioclase, olivine, and green clinopyroxene phenocrysts.

The upper part of Unit 3B (Subunit 8) consists of coarsely plagioclase-phyric basalt with at least one interlayered sequence of basalt breccia and lithified sediment. Plagioclase phenocrysts (An_{85-90}) range up to 4 mm long and are often associated with smaller microphenocrysts of olivine. The plagioclase is weakly zoned except for narrow rims of more sodic composition. Groundmass olivine is present in most samples along with intergranular to intersertal mixtures of clinopyroxene, plagioclase, magnetite, and glass. Vesicles are lined or filled with carbonate, smectite, and phillipsite.

Subunits 9, 10, and 11 are lithologically similar consisting of sparsely to moderately phyric basalt with phenocrysts of plagioclase and minor olivine and clinopyroxene. Subunit 11 contains fairly abundant olivine both as phenocrysts and in the groundmass.

Unit 4

Unit 4 consists of strongly olivine-phyric basalt with numerous glassy rinds suggestive of pillow lava. Two subunits are recognized on the basis of olivine content which generally increases downward. The two subunits are separated by a zone of breccia containing both crystalline basalt and palagonite.

Basalts of the upper subunit are moderately to sparsely phyric with subhedral, slightly corroded olivine phenocrysts (0.5 to 2.0 mm) set in an intergranular matrix of olivine, clinopyroxene, magnetite, and plagioclase. Small grains of picotite about 1 mm across are occasionally present in the groundmass of the most olivine-rich rocks. Calcite and light brown smectite commonly fill vesicles and veins, and a small amount of interstitial smectite is also present.

Subunit 13 comprises very coarsely to moderately phyric picrites, with subhedral olivines up to 5 mm in diameter associated with euhedral picotite. Several settling units are present in which large systematic variations in olivine phenocryst concentration occur over distances of 30 cm or less. In some especially olivine-rich specimens euhedral picotite crystals attain diameters of 1-2 mm. Quench groundmass textures are typical. These rocks are moderately vesicular, with vesicles being partly filled with smectite, carbonate, and iron hydroxides. Carbonate veining is also common.

Unit 5

The lavas of Unit 5 are glomerophyric basalts with phenocrysts of plagioclase, olivine, and occasionally, black glassy spinel all intergrown in radial microporphyritic aggregates. Olivine and plagioclase also occur as single phenocrysts up to 1 mm across. This unit is fairly uniform although it is divided into two subunits based on the presence or absence of picotite. The subunits are separated in Core 23 by a thin intercalation of olivine-phyric basalt, possibly an accidental fragment of Unit 4. Glass rinds are common throughout, increasing in number towards the bottom of the unit. Local zones of brecciation, alteration, and calcite veining are also present. Vesicles contain calcite, aragonite, phillipsite, and some smectite.

In the upper subunit (14) glomerophyric clots are up to 1.5 mm across and consist of euhedral to subhedral olivine (Fo_{89}) with adhering phenocrysts of plagioclase (An_{90}). Chrome spinel is present in small amounts, in association with or as inclusions in olivine. The groundmass is generally a fine-grained intergranular mixture of plagioclase, clinopyroxene, olivine, and iron oxide, but may be aphanitic and variolitic. Interstitial glass is mostly devitrified and associated with granular magnetite.

The lower glomerophyric unit (15) is almost indistinguishable from Subunit 14, except that it lacks picotite. However, one intercalated layer (Core 24, Section 2) is unusual in having abundant olivine and picotite phenocrysts but lacking plagioclase phenocrysts.

Unit 6

Unit 6 consists of a series of aphyric and sparsely to coarsely phyric basaltic flows with phenocrysts of plagioclase and olivine. At least one intercalation of picritic basalt is present. Subunits are defined in terms of the phenocryst assemblages and the alternations of porphyritic and aphyric layers (Table 9). The latter are mostly in the lower part of the unit. Vesicular or amygdaloidal zones probably denote flow-unit boundaries, although in contrast to Unit 5, glassy rinds are rare. Texturally, the basalts of this unit are fairly uniform although phenocryst size and content decrease near vesicular zones.

Both plagioclase and olivine phenocrysts are subhedral to euhedral and range up to 3 mm across. Olivine is often corroded and altered to iddingsite, calcite, or silica. Picotite microphenocrysts (to 0.4 mm) occur in olivine-phyric flows within Subunits 19, 20, 21, and 22. The lowest part of the unit is a homogeneous aphyric basalt.

Groundmass mineralogy is similar for most basalts: olivine, plagioclase, clinopyroxene, and magnetite, usually with interstitial glass.

Unit 7

This unit is a sequence of picrite basalt, consisting primarily of coarsely olivine-phyric rock, with irregularly distributed phenocrysts. Large ($\sim$1 mm) rhombic chrome-spinel phenocrysts are visible throughout. The olivine phenocrysts are often corroded and embayed by groundmass material and are partially altered to carbonate, smectite, and iddingsite. The groundmass consists of relatively coarse plagioclase and olivine in an aphanitic matrix of poorly crystallized clinopyroxene, skeletal plagioclase, magnetite, and glass. Interstitial alteration products and vesicle fillings include smectite and carbonate.

Unit 8

Unit 8 consists of plagioclase-phyric basalt, moderately phyric in the upper subunit and coarsely phyric in the lower one. Glassy rinds and thin sedimentary interbeds are common throughout the sequence. Fine calcareous net veining is also common. Toward the base of the unit oxidized zones occur along joints and fractures. The plagioclase phenocrysts (An_{85-90}) make up as much as 25 modal percent and are usually associated with sparse euhedral olivine and rare picotite phenocrysts. In the lower subunit plagioclase forms glomerophyric aggregates of slightly embayed crystals. Groundmass textures are chiefly intergranular to intersertal although quenched variolitic textures are also present. Phenocryst and groundmass olivine is partly to completely altered to smectite and carbonates. Smectite also occurs as a vesicle filling and a groundmass alteration product.

Unit 9

This unit is a complex interlayered sequence of porphyritic basalts with both olivine and plagioclase phenocrysts either of which may predominate. Chrome spinel is often present in the olivine-phyric types, and clinopyroxene is common in the lower parts of the unit.

At least three subunits can be recognized: the uppermost consists of sparsely olivine-phyric to aphyric basalt with amygdules of smectite and calcite. The other two comprise sparsely to moderately phyric basalts with phenocrysts of olivine (to 2 mm), picotite and, in the lower layers, plagioclase. Olivine phenocrysts are sometimes replaced by talc(?) and groundmass olivine is altered to iddingsite. Subunits 27 and 28 are separated by intervals of breccia consisting of palagonite and olivine basalt, and another complex sequence of breccia lies below Subunit 28. The brecciated rocks are heavily oxidized and altered, particularly in zones of slickensiding near the top of the unit, and are cut by numerous veinlets of carbonate and chlorite(?). Vugs are frequently filled with calcite, phillipsite, and acicular aragonite. Interleaved zones of basalt are oxidized and chloritized(?).

Unit 10

Coarsely to sparsely plagioclase-phyric basalt comprises the bulk of this unit. The four subunits are defined on the basis of phenocryst mineralogy and are usually separated by glassy zones or basalt breccia. Plagioclase phenocrysts make up 10 to 15 modal percent and are sometimes accompanied by microphenocrysts of olivine and green augite. The plagioclase crystals (An_{85-90}) are subhedral to euhedral and range up to 5 mm in length, although the average size is about 2 mm.

The groundmass is mostly intergranular to intersertal with patches of altered glass. A few specimens exhibit quench textures. Olivine is sometimes present in the groundmass where it is altered to iddingsite or smectite. Much of the interstitial glass is also replaced by smectite.

Unit 11

The entire recovery for this unit is from Core 48 which was the deepest obtained from Hole 332B. All the recovered material consists of rubble and basalt fragments of unknown relative position, ranging from aphyric to sparsely plagioclase- and olivine-phyric basalt. One specimen contains green augite phenocrysts. All pieces are fractured and slickensided, and the fractures are coated with green smectite and chlorite(?) or smectite. The groundmass is an aphanitic mixture of plagioclase, clinopyroxene, and granular opaques. Possible original microphenocrysts of olivine are now pseudomorphed by smectite (e.g., 332B-48-1, #11).

Opaque Minerals

Both oxides and sulfides occur in the rocks from Hole 332B. The oxide minerals are magnetite, ilmenite, and spinel; the sulfides are tentatively identified as pyrrhotite, chalcopyrite, bornite, and pyrite.

The oxides are primary crystallization products of the silicate magma. Magnetite occurs only in residual glassy areas and clearly formed late in the crystallization history of the rock. It ranges from 5 to 100 μm in diameter, and usually forms octahedral crystals, ranging from solid to skeletal, the latter being most common in rocks with variolitic textures. Here the magnetite occurs either in interstitial glass between varioles, or within the varioles themselves. Rare ilmenite may occur in bladed crystals with magnetite. Chrome spinel is reddish-brown and translucent; it most often occurs within olivine phenocrysts, although euhedral microphenocrysts are also present in the groundmass. Some crystals have reaction rims or overgrowths of magnetite.

In contrast to the oxides, the sulfides occur mostly in spherical globules, strongly suggesting an origin as an immiscible sulfide liquid fraction. Pyrrhotite predominates and is associated with chalcopyrite in larger globules. Pyrite occurs rarely as specks within the pyrrhotite. Bornite(?) forms small single-phase globules redder in color than chalcopyrite.

The globules range up to as much as 200 μm across. Small (2.5 μm) globules are more common in the groundmass of variolitic rocks than in microdiabasic types, while larger globules are present in the latter. Sulfides are completely absent from some rocks. The largest globules occur within the residual glass partly filling vesicles in variolitic basalts.

Pyrite is concentrated along a few fractures and also occurs as vesicle fillings where it has a common framboidal habit. The pyrite framboids occur in the upper portions of massive, diabasic units, and are clearly secondary.

Sulfides are rarely replaced by hematite. Most of the hematite in these rocks occurs as vesicle fillings. In one specimen (332B-25-2, #10) magnetite surrounding hematite-filled vesicles has thin ilmenite lamellae, the only such exsolution seen in rocks from Leg 37. The magnetites are about 50% altered to maghemite, as determined by Curie temperatures.

PALEOMAGNETISM

The study of the magnetic properties of the basalts recovered from the four basement holes at this site represents the major part of the Leg 37 paleomagnetic and rock magnetic work. The magnetic measurements for rock from Holes 332A and 332B are given in Tables 11A and 11B, respectively. These results bear on a number of problems.

1) The Vine-Matthews hypothesis and the source of the linear magnetic anomaly pattern in the vicinity of the Leg 37 sites. The natural remanence magnetization (NRM) intensities and directions and initial susceptibilities for the basalts show no overall variation with depth at Site 332. This suggests that any source layer for the magnetic anomalies must be rather thicker than the deepest basement penetration of 583 meters in Hole 332B. This conclusion is supported by the calculation which shows that as much as 2.5 km of magnetized layer, with properties as observed in the top 583 meters (average intensity of 40×10^{-4} emu/cm^3; average direction, -4°) would be required to account for the amplitude of the magnetic anomalies of the linear pattern (Hall and Ryall, this volume). As required by the Vine-Matthews hypothesis, stable remanence always exceeds induced magnetization in the basalts. However, the prediction of the hypothesis that the magnetic source consists of alternating N and R dipole magnetized prisms is contradicted by the observation of extreme magnetic complexity, with polarity reversals in vertical profiles, rapid lateral magnetic changes, and many inclinations very far from the dipole values for the area of $\pm 56°$.

2) Nondipole stable remanence inclinations and their explanation. The abundance of stable NRM inclinations that are significantly shallower than the dipole inclinations of $\pm 56°$ in all the basement sections at this site was quite unexpected, and their presence invalidated absolute plate motion estimates. Explanation for these shallow inclinations appears to require either tectonic tilting or the recording of an irregularity in the geomagnetic field. Both explanations face severe difficulties but (Macdonald, 1975) from a deep-tow study in the vicinity of Site 332, has presented a case in favor of magnetization during a period in which the geomagnetic field reversed three times in rapid sequence. In this explanation the shallow inclinations represent three transitions of the field between the stable N and R polarity states.

3) Sharp breaks in stable NRM inclination profiles. Sharp breaks in profiles of stable (cleaned) NRM inclination at Site 332 are interpreted as evidence for episodic volcanicity (Hall and Ryall, this volume). It is suggested that eruptive frequency is strongly variable with several eruptions occurring during a period of less than 100 yr separated by intervals of 10^3 to 10^4 yr without eruptions. At Hole 332A seven magnetic superunits, each comprising a number of lithological units and representing less than 100 yr in time, average 31 meters in thickness and make up 220 meters or 68% of the basement section. Again, in Hole 332B nine superunits and thick magnetic units average 41 meters in thickness and total 367 meters or 66% of the basement section.

4) Correlation of Holes 332A, 332B, 332C, and 332D. Major differences in magnetic stratigraphy occur between Holes 332A and 332B, which are only about 100 meters apart. These differences occur over the uppermost 300 meters of the basement section; below 300 meters magnetic correlation between the holes is possible. The differences over the top 300 meters are significant and include the presence of a 70-meter normally

TABLE 11A

Magnetic Measurements for Basement Rocks from Hole 332A

Sample	Cation	Curie	Rock Magnetic Data				Q	Paleomagnetic Data					Stable		Micro	Data	Sample
(Interval in cm)	Deficiency, Z	Temp	JSAT	SUS	SUS/ JSAT	NRM/ JSAT	(F=0.45)	J (0)	I (0)	D (0)	J (200)	MDF	Inc	Dec	con tent	Size	Depth (m)
6-2, 57-58 (2)								3080									104.07
6-2, 92-94 (2)	0.85	342	0.325	195	0.207	1.8	19.0	1670	29.0	92.0	665	200.0	29.7	92.6	0.04	2.60	104.42
6-2, 93-96	0.89	362	0.247			2.1		1529	29.2	86.1	769	249.1	28.3	87.2			104.43
6-2, 117-120 (2)	0.78	310	0.410	169	0.142	2.2	34.0	2588	30.3	122.6	1483	220.5	30.6	121.0			104.67
7-1, 0-3 (1)	0.66	269	0.413			4.7		5581	-35.9	175.1							111.50
7-1, 0-3 (2)								6628	-56.8	184.3							111.50
7-1, 0-3 (3)								3981	-4.8	78.7							111.50
7-1, 6-9	0.76	308	0.298	135	0.156	6.7	94.6	5747	44.2	185.4	5723	505.4	43.9	185.5			111.56
7-1, 8-11 (2)	0.76	309	0.352	182	0.178	8.1	101.0	8270	43.3	274.5	7328	361.9	43.3	274.0			111.58
7-1, 40-43 (2)	0.75	300	0.282			5.1		4130	28.5	104.7	1985	190.1	28.8	104.4			111.90
7-1, 40-43	0.73	298	0.408	132	0.112	2.6	52.6	3122	-7.4	38.8	1618	198.3					111.90
7-1, 66-69 (2)	0.78	314	0.297	117	0.136	2.7	44.8	2360	35.0	46.0	951	180.0	31.4	49.8			112.16
7-1, 125-126								6320									112.75
7-2, 7-10 (2)	0.62	260	0.419	162	0.133	4.9	81.4	5934	72.6	309.4	5589	427.1	72.5	306.4	0.40	4.10	113.07
7-2, 7-10	0.69	274	0.495	198	0.138	5.4	87.7	7818	34.9	199.2	6579	364.6					113.07
7-2, 40-43	0.60	248	0.505			2.4		3496	75.7	359.2	3189	267.2	77.1	356.6			113.40
7-2, 41-44 (2)	0.60	247	0.424	208	0.169	2.2	28.3	2652	62.4	30.8	2448	375.2	61.5	26.3			113.41
8-1, 6-7								8120									121.06
8-1,15-16								2740									121.15
8-1, 30-31								2650									121.30
8-1, 95-98 (2)	0.64	261	0.552	151	0.094	2.3	54.9	3730	59.0	329.0	3198		59.1	325.3	0.40	2.60	121.95
8-1, 96-99	0.60	251	0.601			1.9		3333	-57.5	282.7	3001	337.8					121.96
8-2, 4-7 (1)	0.64	262	0.562	222	0.136	2.8	45.6	4557	34.6	76.8	3070	257.7					122.54
8-2, 6-9 (2)	0.62	258	0.533	208	0.135	2.6	42.8	4005	46.0	343.1	2912	279.7	48.3	344.7			122.56
8-2, 45-46	0.58	246	0.544	278	0.176	3.0	37.6	4702	49.9	194.2	2215	182.7	53.8	198.1			122.95
8-2, 109-112 (2)	0.57	238	0.517	220	0.147	2.9	43.9	4350	55.0	249.0	2956	145.0	49.4	245.4	0.70	3.20	123.59
8-2, 134-135								2540									123.84
10, CC, 78-81 (2)	0.67	278	0.382	157	0.142	1.5	23.5	1660	70.6	178.2	1443	356.4	59.3	168.8			149.78
10, CC, 80-83	0.55	233	0.363	195	0.185	4.2	50.4	4423	37.2	273.8	2637	225.4	38.0	273.8			149.80
11-1, 14-15								7140									149.64
11-1, 56-57								9580									150.06
11-1, 87-88								1320									150.37
12-1, 57-58								17560									159.57
12-1, 107-110 (2)	0.26	157	0.907	1392	0.529	2.5	10.4	6540	60.0	347.0	720	150.0	56.7	345.9			160.07
12-1, 108-111	0.30	167	0.922			2.1		5625	-26.2	82.5	855	54.3					160.08
12-1, 122-125 (2)	0.30	165	0.877	1416	0.557	2.7	10.8	6870	66.0	351.0	772	75.0	58.3	344.5	0.40	3.80	160.22
12-2, 59-62	0.55	238	0.374	171	0.158	1.7	23.6	1819	-3.1	104.1	694	153.1					161.09
12-2, 61-64 (2)	0.55	238	0.391	171	0.151	1.5	22.6	1740	71.0	235.0	760	240.0	60.5	221.6			161.11
14-1, 93-96 (2)	0.58	245	0.480	134	0.096	0.9	19.7	1190	-8.0	298.0	864	270.0	-18.9	287.2			178.93
14-1, 93-96 (3)	0.66	268	0.528	174	0.114	0.7	12.9	1009	-15.4	282.7	790	279.2	-18.9	285.7			178.93
14-1, 93-96 (4)	0.57	239	0.528	174	0.114	0.6	11.7	917	16.6	49.1	810	359.3			0.60	4.40	178.93
14-1, 123-126 (2)	0.55	233	0.672	208	0.107	0.3	6.6	621	41.0	352.0	397	180.0	-5.2	350.1			179.23
14-1, 125-128	0.28	164	0.767			0.6		1380	-57.2	8.5	538	124.3					179.25
16-1, 32-35	0.58	245	0.505	156	0.107	2.0	41.6	2919	-10.8	351.6	1167	154.0					197.32
16-1, 33-36 (2)	0.60	250	0.509	154	0.104	1.7	36.2	2511	3.2	281.4	1278	192.6		279.4			197.33
17-1, 14-17 (2)	0.62	256	0.319			1.7		1530	-55.0	44.0							206.64
17-1, 14-17 (3)	0.62	254	0.455	156	0.118	1.2	21.9	1538	-67.3	50.1	1355	320.2	-67.3	46.2	0.20	3.00	206.64
17-1, 14-17 (4)	0.58	246	0.438	147	0.116	1.3	25.6	1696	-65.2	44.3	1292	284.1	-72.0	53.6			206.64
20-2, 71-74 (2)	0.69	284	0.443			2.8		3571	-33.2	136.9	1625	176.5	-35.8	138.1			237.21

TABLE 11A – *Continued*

Sample (Interval in cm)	Cation Deficiency, Z	Curie Temp	Rock Magnetic Data: JSAT	SUS	SUS/ JSAT	NRM/ JSAT	Q (F=0.45)	Paleomagnetic Data: J (0)	I (0)	D (0)	J (200)	MDF	Stable Inc	Stable Dec	Micro con tent	Data Size	Sample Depth (m)
20-2, 71-74 (2)	0.69	284	0.443			2.8		3571	-33.2	136.9	1625	176.5	-35.8	138.1			237.21
20-2, 71-74 (4)	0.67	276	0.478	221	0.159	2.9	40.5	4026	31.4	224.8	1396	132.9					237.21
20-2, 76-79 (2)	0.60	248	0.392	160	0.141	2.8	43.5	3131	-28.3	146.2	2268	289.9	-28.9	147.7			237.26
21-1, 54-57	0.60	253	0.424	300	0.244	2.4	22.2	3001	-19.9	236.5	2325	320.3					245.04
21-1, 57-60 (2)	0.66	268	0.400	195	0.168	2.8	37.3	3271	-43.1	222.1	2491	277.5	-43.9	219.3	0.20	3.30	245.07
21-1, 131-134 (2)	0.66	268	0.378	171	0.156	1.8	26.0	2003	-27.8	301.6	1688	328.8	-32.3	300.4			245.81
22-1, 37-40 (2)								6	56.0	288.0							254.37
22-1, 90-92 (2)								4	33.0	191.0							254.90
22-1, 141-144 (1)	0.67	270	0.485	239	0.170	9.9	128.9	13862	22.6	37.3	11957	374.6	24.9	37.3			255.41
23-1, 104-107	0.67	277	0.386	182	0.163	5.6	76.7	6280	-11.8	39.2	5420	354.2					264.54
23-1, 106-109 (2)	0.67	270	0.495	209	0.146	4.4	67.4	6342	-41.5	105.7	5443	315.1	-41.1	106.4	0.40	2.40	264.56
24-1, 124-127(2)	0.57	240	0.452	195	0.149	2.8	41.5	3638	-38.2	29.2	2865	300.4	-42.3	29.1			274.24
24-1, 124-127	0.57	243	0.450			3.6		4697	48.5	48.2	4592	331.5					274.24
26-1, 39-42(2)	0.53	229	0.448	195	0.150	1.4	21.3	1870	-22.1	95.8	1760	419.5	-26.0	97.8			292.39
26-1, 44-47	0.53	231	0.450	239	0.183	1.4	17.6	1889	-13.1	159.9	1712	375.1					292.44
26-2, 104-107(2)	0.60	249	0.438	135	0.106	3.0	62.0	3764	-30.1	101.3	3696	391.3	-30.2	101.9	0.30	3.50	294.54
26-2, 104-107(4)	0.66	268	0.409	134	0.113	2.7	52.5	3167	-29.5	102.7	3171	411.7	-28.8	103.9			294.54
26-2, 107-110	0.60	249	0.383			3.4		3795	-15.1	25.3	3973	497.6					294.57
27-1, 128-131(2)	0.53	228	0.648	261	0.139	0.8	13.0	1530	-15.0	69.0	1080	265.0	-20.3	68.0			302.78
28-1, 24-27	0.64	266	0.368			1.3		1411	-45.1	123.6	1261	357.4					311.24
28-1, 26-29(2)	0.53	228	0.404	171	0.146	1.0	15.3	1180	-14.0	314.0	1152	355.0	-26.6	314.4	0.40	4.30	311.26
28-1, 83-86(2)	0.60	251	0.373	217	0.201	3.1	34.2	3340	-17.0	48.0	2815	290.0	-18.1	51.2			311.83
28-2, 27-30(2)	0.58	245	0.382	151	0.136	1.3	21.8	1478	3.6	81.8	773	202.9	-12.0	82.5			312.77
28-2, 27-30(4)	0.62	258	0.363	183	0.174	1.0	13.1	1078	-6.1	86.0	710	268.1	-14.0	86.8			312.77
28-2, 55-58	0.64	265	0.591			0.8		1439	11.2	100.3	1078	308.0					313.05
28-2, 59-62(2)	0.50	218	0.478	162	0.117	0.7	14.2	1032	9.8	111.7	862	367.9	-10.9	119.8	0.50	4.50	313.09
28-2, 61-64	0.51	223	0.461	174	0.130	0.9	16.2	1265	-22.8	37.6	978	256.5					313.11
28-3, 28-31(2)	0.51	220	0.505	215	0.147	1.2	18.7	1807	-2.7	264.0	1466	361.9	-28.0	239.9			314.28
29-1, 33-36(2)	0.66	269	0.306	91	0.103	1.1	23.8	975	-15.0	30.0	898	420.0	-22.8	30.8			320.83
29-1, 34-36(1)	0.67	274	0.419			1.0		1260	-16.3	101.4							320.84
29-1, 34-36(2)								883	-34.3	332.8							320.84
29-1, 34-36(3)								785	-17.2	148.9							320.84
29-1, 74-77(2)	0.35	181	0.636	387	0.210	1.6	16.5	2880	14.0	91.0	620		-7.6	98.2	0.40	3.90	321.24
29-1, 141-144(2)	0.36	185	0.654	378	0.199	1.3	14.4	2450	20.0	9.0	373	125.0					321.91
29-1, 141-144(4)	0.27	162	0.666	374	0.194	1.2	13.4	2247	-3.3	35.5	387	93.9					321.91
29-1, 144-146	0.30	165	0.633	391	0.213	2.3	23.6	4158	34.9	303.3	497	55.8					321.94
30-1, 23-26(2)	0.58	246	0.335	116	0.119	1.3	24.5	1277	-13.1	129.0	1090	401.0	-22.1	130.7	0.30	3.90	330.23
30-1, 23-26(4)	0.64	264	0.579			0.9		1443	-20.5	131.4	1135	326.7	-23.6	131.6			330.23
30-1, 24-25(1)	0.58	245	0.293			2.4		2053	-62.9	223.0							330.24
30-1, 24-25(2)								539	61.9	285.0							330.24
30-1, 24-25(3)								1337	4.0	6.1							330.24
30-1, 104-107(2)	0.66	268	0.367	182	0.171	0.9	11.9	977	-9.2	210.9	912	467.7	-24.0	209.2			331.04
30-1, 104-107(4)	0.55	235	0.434	132	0.105	0.9	20.0	1189	-19.4	205.9	985	368.6	-24.2	208.9			331.04
30-1, 107-110	0.60	251	0.454	110	0.084	1.0	27.8	1376	31.5	167.0	999	320.9					331.07
30-1, 127-130(2)	0.53	229	0.561	143	0.088	0.9	23.8	1530	-4.0	133.0	1193	220.0	-21.8	137.3	0.80	5.60	331.27
30-2, 24-27(2)	0.51	223	0.459	159	0.119	1.3	24.3	1742	-2.8	180.5	1374	321.5	-19.2	177.5			331.74
30-2, 24-27(4)	0.53	226	0.398	242	0.210	1.9	20.6	2244	-13.5	178.3	1054	180.4	-18.6	178.9			331.74
30-2, 33-36	0.53	228	0.355	182	0.177	1.6	20.5	1681	-63.7	328.5	1236	305.2					331.83
31-1, 95-98(2)	0.60	248	0.417	122	0.101	0.9	19.9	1091	-3.2	306.1	910	373.6	-24.9	296.8			340.45
31-1, 95-98(4)	0.58	245	0.392	139	0.122	0.9	16.6	1036	-22.5	295.5	921	426.8	-25.5	297.5	0.50	3.40	340.45
31-1, 105-108	0.62	258	0.411	104	0.087	0.7	17.4	813	-4.1	30.0	800	504.1					340.55

31-2, 32-35 (2)	0.53	223	0.631	427	0.233	1.1	10.9	2103	-5.8	213.4	735	155.5	-19.4	223.6			341.32
31-2, 135-138 (2)	0.80	320	0.355	130	0.126	2.6	46.6	2725	-2.4	214.1	2317	312.1	-5.2	213.4			342.35
31-2, 135-138 (4)	0.89	361	0.391	147	0.130	3.0	50.7	3351	-4.6	212.2	2926	329.9	-6.0	211.6			342.35
31-2, 137-140	0.67	270	0.381	197	0.178	3.5	43.1	3820	60.2	11.3	2507	254.0					342.37
31-3, 69-72 (1)	0.30	165	0.504	410	0.281	0.2	1.8	328	26.5	101.7	131	157.4					343.19
31-3, 70-73 (2)	0.34	178	0.645	195	0.104	0.4	8.9	779	86.0	72.0	158	110.0	-13.2	86.5	1.70	12.20	343.20
31-3, 70-73 (4)	0.44	205	0.431	81	0.065	0.2	6.7	245	-18.5	102.3	205	430.7					343.20
31-3, 79-82 (2)	0.57	243	0.213	78	0.126	0.6	11.3	397	73.2	21.9	124	130.8	-24.0	85.9			343.29
32-1, 108-111 (2)	0.53	231	0.427	117	0.094	1.4	32.1	1691	-11.8	179.5	1310	352.2	-19.9	176.6			350.08
32-1, 109-112	0.60	249	0.357			1.4		1402	52.1	304.5	1125	364.0					350.09
33-2, 61-64 (2)	0.30	167	0.647	641	0.342	2.1	13.8	3976	-5.2	190.5	603	77.9	-28.9	192.7	0.60	3.90	360.61
33-2, 61-64 (3)	0.25	155	0.020			102.1		5923	-7.4	209.7	737	67.3	-33.6	191.3			360.61
33-2, 61-64 (4)	0.23	150	0.686	696	0.350	2.6	16.7	5222	-23.7	194.3	603	57.3	-31.7	192.7			360.61
33-2, 63-66	0.25	153	0.832			2.1		5069	6.8	24.2	658	48.7					360.63
33-2, 92-95 (2)	0.58	247	0.434	248	0.197	11.6	130.5	14567	-19.8	189.6	10815	276.9	-19.9	189.4			360.92
33-2, 128-131 (2)	0.55	232	0.395	195	0.170	1.6	21.0	1842	-7.2	353.9	756	150.1	-27.3	345.5	0.80	4.80	361.28
33-2, 128-131	0.44	205	0.464	139	0.103	1.2	25.9	1621	-51.1	324.0	760	177.7					361.28
34-1, 88-91 (2)	0.57	243	0.380	110	0.100	0.9	20.0	989	2.5	218.1	938	451.5	-16.0	213.6			368.88
34-1, 113-116 (2)	0.60	251	0.361	116	0.111	0.6	12.6	660	11.8	337.7	808	612.8	-14.0	344.6			369.13
34-1, 113-116 (4)	0.60	248	0.414	116	0.097	0.7	16.3	849	-9.0	346.6	883	584.3	-15.7	345.7			369.13
34-1, 144-147	0.60	248	0.393	132	0.116	0.8	14.7	872	-1.9	283.6	865	414.6					369.44
34-2, 104-107 (2)	0.46	208	0.484	256	0.182	1.0	12.5	1445	54.8	212.2	382	73.4	-12.0	201.2	0.60	6.10	370.54
34-2, 136-139 (2)	0.60	250	0.234	130	0.192	0.5	5.7	335	37.1	192.5	361	534.2					370.86
34-2, 136-139 (4)	0.60	249	0.309	86	0.096	0.5	12.5	482	1.6	196.4	471	463.3					370.86
34-2, 136-139	0.67	272	0.328	130	0.137	2.2	36.1	2113	44.8	271.8	1760	372.2	-9.0	197.3			370.86
35-1, 137-140 (2)	0.71	289	0.728	151	0.072	0.5	14.2	968	12.7	283.7	882	451.7	-12.0	278.1			378.87
35-1, 137-140 (4)	0.62	257	0.320	155	0.167	0.8	11.3	788	3.8	271.7	885	601.2	-12.0	276.1	0.10	3.00	378.87
36-1, 66-69 (2)	0.60	248	0.427			0.8		974	11.5	288.6	909	458.8	-.5	280.8			387.66
36-1, 67-70 (2)	0.55	233	0.330	124	0.130	1.1	19.3	1078	-5.1	253.2	1041	422.7					387.67
36-2, 33-36 (2)	0.57	240	0.431	170	0.136	1.7	28.1	2146	8.1	346.0	1018	183.8	-15.0	334.6			388.83
37-1, 116-119 (2)	0.48	213	0.596	268	0.155	2.7	39.2	4727	3.5	326.8	1758	139.7	-29.8	301.1			397.66
37-1, 138-141 (1)	0.47	210	0.473			2.2		2964	19.0	170.4							397.88
37-1, 138-141 (2)								3554	-39.3	43.3							397.88
37-1, 138-141 (3)								1572	30.6	84.2							397.88
37-1, 141-144 (2)	0.53	230	0.436	228	0.180	1.9	23.6	2426	-22.8	215.5	148	359.6	-37.0	199.6	0.70	5.90	397.91
38-1, 144-146 (1)	0.33	175	0.634			2.8		5071	50.3	42.0							407.44
38-1, 144-146 (2)								5953	52.5	332.5							407.44
38-1, 144-146 (3)								4164	56.6	345.7							407.44
39-1, 38-41 (2)	0.51	223	0.357	228	0.220	2.3	23.6	2422	11.5	174.6	1466	244.7					415.88
39-1, 38-41	0.43	203	0.623	186	0.103	1.6	33.7	2824	23.9	138.8	1422	196.1					415.88
40-1, 89-91 (2)	0.62	261	0.353	186	0.182	0.7	8.4	707	-11.0	347.0	339	185.0	-21.7	343.9			425.89
40-1, 89-91 (3)	0.69	279	0.456			0.6		791	-17.7	341.0	400	195.7	-21.2	345.2			425.89
40-1, 89-91 (4)	0.62	257	0.388	156	0.139	0.5	7.9	555	-10.2	337.0	386	267.0	-22.6	343.4	0.20	4.00	425.89
40-1, 92-95	0.60	249	0.394	150	0.131	0.5	9.0	606	13.6	344.6	363	243.2					425.92
40-2, 52-55 (2)	0.67	276	0.325	171	0.181	2.0	24.5	1886	-27.4	290.6	1107	229.1	-36.6	285.3			427.02
40-2, 52-55 (3)	0.76	305	0.437			1.6		2049	-32.6	103.2	1391	265.4					427.02
40-2, 52-55 (4)	0.62	258	0.457			1.5		1925	-22.7	270.7	1552	300.5					427.02
40-2, 93-96	0.66	269	0.587			0.6		969	14.5	223.7	640	258.8					427.43
40-2, 95-98 (2)	0.75	301	0.633	243	0.132	0.5	9.2	1008	1.0	241.5	645	250.2	-14.7	226.1			427.45
40-3, 40-43 (2)	0.57	238	0.285	244	0.295	0.5	3.9	432	28.9	91.4	543	529.6	-29.6	154.9	0.30	6.50	428.40
40-3, 90-93 (2)	0.60	248	0.232	134	0.199	1.2	12.9	776	-13.7	165.8	563	313.4	-27.0	162.8			428.90
40-3, 92-95	0.51	223	0.508			0.2		310	-11.7	173.0	375	500.0	-24.5	163.5			428.92

Note: $J(0)$, and $J(200)$, intensity of natural remanent magnetism and NRM intensity after AF demagnetization in 200-oe field; respectively; JSAT, saturation intensity; SUS, magnetic susceptibility; Q, Königsberger ratio; $I(0)$, inclination; $D(0)$, declination; MDF, median destructive field. From Hall and Ryall, this volume.

TABLE 11A – *Continued*

Sample (Interval in cm)	Cation Deficiency, Z	Curie Temp.	JSAT	SUS	Q	J(o)	I(o)	MDF	Stable I	$\Delta D = D_{NRM} - D_{stable}$	$S_{200} = J_{200}/J_{NRM}$	AF-Demagnetization Curve Type	J_{SR} (emu/cc)	H_C(oe)	H_{CR}(oe)	$Ao(\Delta)$	X	Te	Volume Ore (%)	Ore Grain Size (μm)
6-2, 107-109	0.80	343	0.160	211	27.0	2559	+24.3	290	+28.0	-7.0	0.750	B	0.203	176	248	8.378±0.002	0.57	147	0.6	2.7
7-1, 20-22	–	–	–	240	52.7	5692	+14.6	324	+14.9	-4.4	0.831	B^{++}	0.386	263	324	–	–	–	–	–
7-1, 66-68	–	–	–	216	22.2	2157	+35.5	231	+37.9	-9.8	0.611	B	0.166	151	205	–	–	–	–	–
7-1, 106-108	–	–	–	245	21.9	2412	+47.6	253	+34.0	-0.4	0.672	B^{+}	0.167	172	244	–	–	–	–	–
7-1, 143-145	–	–	–	275	59.5	7365	–	394	–	6.2	0.933	C^{++}	0.413	291	384	–	–	–	–	–
7-2, 32-34	–	–	–	289	29.1	3789	+46.4	263	+45.2	-2.5	0.691	B^{+}	0.464	233	313	–	–	–	–	–
8-1, 50-52	0.86	313	0.245	255	68.8	7893	–	515	–	6.1	0.932	C	0.440	325	416	8.369±0.002	0.68	52	1.3	3.0
8-2, 18-20	–	–	–	250	23.6	2623	+31.0	425	+32.9	+6.1	0.929	C^{+}	0.356	261	347	–	–	–	–	–
8-2, 33-35	–	–	–	392	23.7	4179	–	285	–	2.3	0.689	B^{+}	0.545	160	216	–	–	–	–	–
8-2, 75-77	–	–	–	329	5.9	884	+39.1	910	+39.3	+21.6	1.889	C^{+}	0.458	225	291	–	–	–	–	–
9-1, 95-97	–	–	–	258	67.7	7862	–	455	–	0.9	0.981	C^{+}	0.428	303	428	–	–	–	–	–
10, CC, 42-44	–	–	–	226	31.2	3167	–	531	–	1.2	0.987	C^{+}	0.355	343	468	–	–	–	–	–
11-1, 84-86	–	–	–	280	19.5	2457	+62.3	370	+62.4	-3.4	0.785	B^{+}	0.314	192	270	–	–	–	–	–
12-1, 81-83	0.79	273	0.370	343	23.9	3687	–	327	–	3.0	0.713	B^{++}	0.378	165	230	8.388±0.003	0.69	43	1.0	4.3
13-1, 144-146	–	–	–	245	19.9	2187	–	447	–	17.2	0.932	C	0.313	259	340	–	–	–	–	–
14-1, 101-103	–	–	–	343	3.4	523	–	256	–	11.2	0.581	B	0.431	146	204	–	–	–	–	–
17-1, 50-52	0.78	250	0.274	272	5.6	686	–	385	–	7.4	0.837	C^{+}	0.413	179	248	8.391±0.001	0.73	8	1.1	4.8
21-1, 31-33	–	–	–	245	10.7	1176	-48.4	445	-48.9	+1.9	0.873	C^{+}	0.329	222	294	–	–	–	–	–
21-1, 101-103	–	–	–	275	20.3	2473	–	376	–	4.7	0.810	B^{+}	0.391	219	300	–	–	–	–	–
21-1, 132-134	–	–	–	226	18.3	1859	-35.8	394	-33.6	-4.3	0.919	C^{+}	0.330	226	296	–	–	–	–	–
23-1, 59-61	–	–	–	156	156.9	19906	–	423	–	1.4	0.952	C^{+}	0.499	344	428	–	–	–	–	–
23-1, 130-132	–	–	–	231	74;8	7780	-	548	–	10.5	0.964	C	0.363	386	504	–	–	–	–	–
28-2, 109-111	–	–	–	280	30.0	3778	-24.1	399	-30.8	+5.4	0.831	C^{+}	0.316	214	322	–	–	–	–	–
28-3, 20-22	–	–	–	285	11.4	1461	–	369	–	5.1	0.801	B^{+}	0.438	187	234	–	–	–	–	–
28-3, 54-56	–	–	–	294	18.9	2500	–	268	–	3.7	0.692	C^{+}	0.421	183	244	–	–	–	–	–
29-1, 65-66	0.71	247	0.270	202	13.9	1757	–	238	–	1.4	0.552	B^{+}	0.362	148	207	8.406±0.002	0.67	57	1.3	8.3
30-1, 59-61	–	–	–	201	4.2	384	–	363	–	25.5	0.711	B	0.226	217	269	–	–	–	–	–
30-1, 135-137	0.68	262	0.276	294	14.3	1886	–	306	–	6.2	0.698	B	0.353	166	226	8.403±0.003	0.58	106	1.4	5.7
31-3, 103-105	–	–	–	628	4.7	1344	-3.0	81	-26.2	-5.0	0.244	A	0.299	60	115	–	–	–	–	–
32-1, 140-142	–	–	–	216	16.0	1564	–	457	–	14.7	0.744	C^{+}	0.315	238	323	–	–	–	–	–
32-2, 28-30	0.53	271	0.170	196	42.7	3767	–	522	–	5.2	0.960	C	0.303	400	425	8.425±0.02	0.53	179	0.6	1.7
32-2, 130-132	–	–	–	240	12.4	1344	–	280	–	4.1	0.700	B^{+}	0.316	188	234	–	–	–	–	–
34-1, 135-137	–	–	–	216	21.2	2056	–	423	–	4.8	0.840	C^{+}	0.317	265	360	–	–	–	–	–
34-2, 36-38	–	–	–	204	8.1	744	–	576	–	13.5	1.120	C^{++}	0.309	256	328	–	–	–	–	–
35-1, 92-94	–	–	–	270	10.0	1215	–	419	–	6.2	0.815	C	0.336	228	272	–	–	–	–	–
36-1, 21-23	0.77	297	0.285	250	10.7	1201	–	438	–	3.2	0.958	C^{+}	0.392	259	342	8.388±0.002	0.64	87	1.0	2.9
36-2, 5-7		–	–	199	23.9	2139	–	459	–	2.0	0.981	C^{++}	0.302	332	429	–	–	–	–	–
36-2, 23-25		–	–	233	18.3	1924	–	190	–	11.6	0.485	A^{+}	0.321	204	276	–	–	–	–	–
37-1, 101-103	0.56	237	0.395	373	32.0	5374	–	129	–	0.9	0.322	A	0.341	101	160	8.427±0.001	0.58	138	1.5	8.2
38-1, 144-146	–	–	–	461	32.1	6653	–	175	–	1.2	0.400	A	0.435	148	216	–	–	–	–	–
40-1, 38-40	–	–	–	574	17.9	4627	–	303	–	6.2	0.687	B	0.316	133	220	–	–	–	–	–
40-3, 35-37	0.68	282	0.160	221	6.0	599	-66.9	481	-29.6	+13.6	1.082	C^{+}	0.198	158	203	8.404±0.003	0.59	129	0.4	4.4

Note: J and J_{200}, intensity of natural remanent magnetism and NRM intensity after AF demagnetization in 200-oe field; respectively; JSAT saturation intensity; I, inclination; D, declination; SUS, susceptibility; Q, Königsberger ratio; MDF, median destructive field; J_{SR}, isothermal saturation remanent magnetization; H_C, bulk coercitivity; H_{CR}, coercitivity of remanence; ao, lattice constant; T_e, estimated curie temperature before oxidation; X, xFe_2TiO_4 $(1-x)$ Fe_3O_4. From Bleil and Petersen, this volume.

TABLE 11B
Magnetic Measurements for Basement Rocks from Holes 332B, 332C, and 332D

Sample (Interval in cm)	Cation Deficiency, Z	Curie Temp	Rock Magnetic Data: JSAT	SUS	SUS/ JSAT	NRM/ JSAT	Q (F=0.45)	J (0)	Paleomagnetic Data: I (0)	D (0)	J (200)	MDF	Stable Inc	Dec	Micro con- tent	Data Size	Sample Depth (m)
Hole 332B																	
1-5, 5-8 (2)	85	343	0.178	49	0.095	2.8	65.9	1454	-38.1	241.0	1261	421.4	-38.6	241.3	0.20		145.05
1-5, 37-40 (2)	73	292	0.346	95	0.095	1.6	36.4	1556	-36.1	172.5	637	143.1	-38.5	172.8			145.37
1-5, 110-113 (2)	67	272	0.401	220	0.189	1.8	20.8	2060	-28.0	174.0	371	115.0	-29.3	173.2			146.10
1, CC, 130-133	92	372	0.234	58	0.085	2.7	94.9	2477	-28.3	154.2	1380	209.3	-27.6	153.9			149.30
2-1, 21-241 (2)	57	241	0.432	234	0.187	1.4	16.3	1720	-22.0	25.0	297	95.0	-26.6	22.4			151.71
2-2, 113-116 (2)	92	372	0.213	93	0.151	2.4	35.5	1484	-34.6	153.2	924	228.0	-33.0	152.8	0.10	2.80	154.13
2-2, 113-116	87	352	0.120	143	0.411	3.8	20.3	1305	-27.4	292.9	1035	285.2	-26.1	292.5			154.13
2-3, 64-67 (2)	91	368	0.134	122	0.314	5.8	40.8	2238	-35.2	172.7	1682	318.0	-35.5	172.6			155.14
2-3,90-93 (2)	94	392	0.236	134	0.196	1.7	18.9	1138	-32.7	29.0	658	227.5	-33.4	26.7			155.40
2-3, 131-134 (2)	89	360	0.272	128	0.162	2.1	28.2	1624	-32.2	212.9	1032	224.4	-33.3	212.0			155.81
2-5, 106-109 (2)	57	239	0.569	349	0.212	.5	4.9	762	13.0	286.0	177	70.0	-30.0	290.4	0.10	2.50	158.56
2-6, 90-93 (2)	71	291	0.413	269	0.225	1.5	14.8	1794	-25.7	354.4	457	132.7	-30.8	349.8			159.90
2, CC, 47-50 (2)	91	364	0.193	116	0.207	2.6	28.1	1467	-33.8	237.2	1256	412.2	-36.6	236.3			160.97
2, CC, 47-50	87	345	0.158	117	0.255	3.3	28.6	1507	-39.5	236.2	1248	340.0	-39.7	236.3			160.97
2, CC, 119-125 (2)	82	331	0.316	151	0.165	0.9	12.2	830	-36.0	225.0	351	195.0	-34.0	223.9	0.10	3.70	161.69
2, CC, 123-126	85	343	0.315	1709	1.871	0.8	1.0	752	-15.3	329.4	404	247.2	-29.4	338.7			10.23
3-1, 15-18 (2)	92	373	0.196	116	0.204	2.7	28.9	1508	-32.3	84.8	987	242.0	-30.4	85.3			199.15
3-1, 100-103 (2)	80	320	0.533	220	0.142	1.2	19.2	1900	-19.0	212.0	359	140.0	-24.4	214.5			200.00
3-2, 95-98 (1)	87	362	0.269	118	0.151	1.7	24.3	1289	-32.8	90.7	856	224.3	-32.1	90.7			201.45
3-2, 112-115		487	0.411	132	0.111	1.6	32.3	1920	-13.0	24.9	1107	235.0	-27.0	30.3	0.10	1.60	201.62
3-3, 11-14 (1)	87	347	0.766	307	0.138	0.4	6.2	858	-9.3	342.3	415	182.8	-19.0	343.9			202.11
3-3, 42-145 (1)	69	280	0.444	154	0.120	0.7	12.7	882	-28.0	289.8	252	201.1	-34.3	290.7			202.42
3-3, 73-75 (1)	76	308	0.421	199	0.163	0.8	11.1	997	-13.8	188.4	216	329.0	-27.2	172.9			202.72
3-3, 96-99 (1)	44	206	0.442	376	0.293	0.5	3.7	625	1.3	180.7	121	98.2	-28.3	177.3			202.96
3-3, 119-122	57	240	0.449	458	0.352	0.6	3.6	739	-.8	192.1	134	70.7	-29.1	178.7	0.30	3.90	203.19
3-4, 6-9	50	218	0.505	606	0.414	0.6	3.0	822	-11.6	166.3	170	105.7	-30.0	164.1			203.56
3-4, 37-40 (1)	66	270	0.374	502	0.463	1.5	7.2	1617	-15.5	120.5	356	95.1	-27.7	113.3			203.87
3-4, 60-63 (1)	55	237	0.410	469	0.394	1.1	5.9	1255	-11.0	122.8	298	121.9	-25.6	119.2			204.10
3-4, 94-97 (1)	57	239	0.574	458	0.275	1.9	15.1	3114	-17.8	205.1	684	118.6	-21.8	203.7			204.44
4-1, 100-103 (2)	73	298	0.370	263	0.245	4.7	42.8	5060	-3.8	350.5	3765	251.0	-3.6	348.6	0.30	2.30	228.50
6-1, 77-80 (2)	62	256	0.502	248	0.170	2.9	37.5	4188	-37.8	133.3	3390	320.4	-39.7	141.0			285.27
6-2, 122-125 (2)	78	312	0.319	187	0.202	1.8	19.9	1677	-68.5	357.4	1472	296.6	-67.8	5.0			287.22
8-1, 14-17 (2)	62	257	0.327	132	0.139	1.9	30.7	1821	-13.6	29.1	1595	324.0	-10.8	25.3			322.64
8-1, 62-65 (2)	78	314	0.735	248	0.116	0.6	11.0	1230	-8.2	243.9	549	176.4	-15.4	247.9			323.12
8-1, 94-96 (2)	47	210	0.570	464	0.281	2.0	15.7	3270	-21.0	190.0	872	145.0	-24.8	192.6	0.50	12.80	323.44
8-1, 106-108	10	129	0.800	873	0.376	1.2	7.2	2835	9.4	272.1	759	119.0	-19.2	294.5			323.56
8-2, 75-77 (2)	55	234	0.425	150	0.122	1.2	21.1	1425	-20.1	186.9	1242	282.6	-22.1	184.1			324.75
8-3, 7-9 (2)	57	240	0.660	155	0.081	0.3	6.9	483	-12.0	138.0	401	230.0	-17.6	123.6			325.57
8-3, 22-24	55	235	0.630	342	0.187	0.5	6.0	930	25.0	81.5	410	170.7	-16.0	75.3	0.40	4.40	325.72
8-3, 90-92 (2)	30	165	0.882	855	0.335	1.5	9.9	3800	-4.0	115.0	799	105.0	-10.7	107.3	0.40	4.00	326.40
9-1, 18-21 (2)	69	277	0.351	98	0.096	2.5	57.2	2524	-31.5	265.4	2014	341.0	-33.3	267.0			332.18
9-1, 112-113 (2)	66	270	0.323	122	0.130	1.5	26.4	1449	-51.5	350.3	463	122.7	16.6	290.5	1.00	6.80	333.12
9-2, 44-46 (2)	49	217	0.574	275	0.165	1.2	16.4	2030	-14.0	80.0	604	110.0	18.1	76.3			333.94
9-2, 104-106 (2)	50	218	0.614	263	0.148	1.4	20.6	2441	38.1	333.3	338	420.0	-2.6	275.7	1.00	7.40	334.54
9-3, 45-47 (2)	53	230	0.472	138	0.101	0.7	15.5	962	-2.0	212.0	602	170.0	-14.4	213.8			335.45
9-3, 80-82 (2)	55	234	0.464	122	0.091	0.9	22.6	1241	32.3	95.8	756	265.6	-6.5	131.8			335.80

TABLE 11B – *Continued*

Sample (Interval in cm)	Cation Deficiency, Z	Curie Temp	Rock Magnetic Data JSAT	SUS	SUS/ JSAT	NRM/ JSAT	Q (F=0.45)	Paleomagnetic Data J(0)	I(0)	D(0)	J(200)	MDF	Inc	Dec	Micro con- tent	Data Size	Sample Depth (m)
Hole 332B																	
10-1, 133-136 (2)	64	258	0.415	121	0.101	1.20	26.6	1450	-15.3	217.0	1107	310.3	-18.5	218.4			351.62
10-1, 133-136 (2)	64	267	0.607	275	0.156	1.1	15.5	1920	-10.0	102.0	528	85.0	-18.5	97.9			352.33
10-2, 123-125	46	208	0.744	1139	0.528	1.1	4.8	2480	-31.9	240.2	206	57.6	-13.0	248.9			353.73
10-2, 125.128 (2)	47	210	0.874	1245	0.491	0.9	4.0	2240	45.0	305.0	160	75.0	-6.3	260.1	0.60	4.80	353.75
10-3, 20-23 (2)	55	237	1.684	1571	0.322	0.5	3.2	2290	-13.0	100.0	461	110.0	-17.9	96.1	1.00	6.50	354.20
11-1, 39-42 (2)	25	154	0.525	1239	0.814	1.3	3.6	1980	26.0	133.0	175	105.0	-18.0	120.4			360.89
11-2, 110-113 (2)	69	282	0.245	91	0.128	0.5	9.1	371	-16.4	64.4	491	335.4	-22.9	61.3			363.10
11-3, 40-43 (2)	25	154	0.423	1129	0.920	1.5	3.7	1880	50.0	118.0	100	15.0	-15.0	97.6	0.80	5.50	363.90
11-4, 105-108 (2)	27	160	0.585	857	0.499	0.9	4.1	1570	24.0	164.0	175	100.0	-18.9	168.4			366.05
12-1, 60-62 (2)	67	272	0.432	130	0.104	1.2	26.7	1560	-21.6	174.5	1276	298.7	-24.2	182.0	0.30	2.00	370.60
13-1, 72-74 (2)	85	343	0.641	285	0.153	4.2	60.8	7793	-19.1	253.8	3648	203.8	-20.9	256.6			380.22
14-1, 142-144 (2)	69	280	0.589	263	0.154	5.1	73.1	8657	-14.0	116.6	3709	170.3	-14.8	116.5			390.42
14-2, 33-35 (2)	62	254	0.294	191	0.224	0.6	6.2	537	-3.0	120.0	209	185.0	-19.0	117.9			390.83
14-2, 81-83 (2)	76	304	0.306	169	0.190	1.4	16.8	1280	42.2	349.2	646	416.9	39.9	347.2			391.31
15-1, 70-72 (2)	49	216	0.417	233	0.193	1.4	16.6	1740	-10.0	69.0	832	185.0	-23.4	67.5	0.20	2.50	399.20
15-1, 129-131 (2)	30	165	0.744	570	0.264	2.4	20.0	5130	23.0	5.0	700	230.0	-7.8	0.4			399.79
15-2, 83-85 (2)	66	270	0.370	163	0.152	3.4	49.7	3649	-19.9	87.5	2652	254.8	-23.4	87.9			400.83
16-1, 112-114 (2)	55	237	0.197	122	0.214	13.8	143.2	7861	-38.3	158.6	7266	435.9	-38.1	157.2			409.12
16-2, 31-33 (2)	76	308	0.280	112	0.138	10.3	165.4	8338	-30.0	358.1	8127	470.5	-30.1	0.2			409.81
18-1, 43-45 (2)	73	298	0.378	116	0.106	4.4	92.8	4844	-29.6	118.6	4338	384.3	-30.7	117.7	0.10	2.00	427.43
19-1, 24-26 (2)	73	294	0.361	199	0.190	6.9	80.2	7182	-28.0	41.2	6851	402.6	-27.8	40.5			436.74
19-1, 75-78 (2)	82	332	0.374	153	0.141	7.7	120.8	8318	-26.5	193.3	7961	415.4	-25.7	192.1			437.25
19-1, 100-103 (2)	51	225	0.367	159	0.149	3.0	44.2	3166	-25.8	187.0	1877	225.22	-23.9	184.0			437.50
19-1, 104-107	62	255	0.363	204	0.194	1.8	21.0	1927	-21.8	195.9	1432	319.8	-23.8	191.3			437.54
20-1, 51-54 (2)	73	297	0.394	195	0.171	5.2	67.1	5889	-29.4	259.6	3745	232.8	-28.8	259.6	0.20	2.10	446.51
20-1 56-59	78	310	0.367	157	0.148	7.7	116.4	8227	-20.8	261.8	4703	212.4	-21.8	257.9			446.56
20-1, 76-79 (2)	69	282	0.356	169	0.164	4.8	64.7	4918	-28.0	186.3	3587	269.6	-27.1	184.6			446.76
20-1, 115-118 (2)	80	323	0.278	214	0.265	10.9	91.5	8807	-37.8	147.6	7604	382.3	-37.3	147.8			447.15
20-2, 6-8 (2)	73	295	0.268	143	0.184	15.5	187.8	12084	-35.5	72.3	10898	355.4	-35.3	71.4			447.56
20-2, 80-82 (2)	85	340	0.265	171	0.223	11.2	111.5	8579	-28.7	333.4	7064	334.1	-28.8	333.4	0.10	1.30	448.30
20-2, 140-142 (2)	87	344	0.276	159	0.199	6.3	70.8	5063	-28.1	220.0	4306	304.5	-28.2	221.3			448.90
21-1, 11-14 (2)	78	315	0.322	195	0.209	8.3	88.0	7719	-26.6	297.6	5637	231.5	-26.1	299.4			455.61
21-1, 93-96 (2)	80	320	0.299	171	0.197	10.4	117.5	9038	-24.7	75.4	7222	285.4	-24.9	75.3			456.43
21-1, 99-102	80	323	0.256	157	0.211	6.7	70.8	5002	-27.4	66.4	4269	333.4	-29.5	69.4			456.49
21-1, 119=122 (2)	80	319	0.337	182	0.186	6.3	75.4	6178	-32.0	135.4	4249	270.2	-32.3	133.8	0.20	1.80	456.69
22-1, 4-7 (2)	85	342	0.269	214	0.274	6.2	49.9	4802	-29.9	204.8	4115	315.4	-30.0	203.2			465.04
22-1, 57-60	64	264	0.279	171	0.211	10.0	105.1	8091	-12.3	298.0	7879	492.9	-12.9	297.2			465.57
22-1, 77-80 (2)	76	307	0.234	73	0.108	5.0	103.0	3383	-20.3	58.3	3370	646.2	-20.6	57.5			465.77
22-2, 10-12 (2)	92	380	0.240	100	0.144	1.8	28.6	1285	-13.8	148.4	1156	455.2	-15.7	148.3			466.60
22-2, 36-39 (2)	69	280	0.274	195	0.245	10.8	98.0	8602	-12.5	354.1	7451	386.1	-14.4	353.0	0.10	0.90	466.86
22-2, 43-45 (2)	66	269	0.258	157	0.210	11.3	120.1	8485	-13.3	198.6	7813	428.0	-13.0	198.1			466.93
22-2, 109-111 (2)	78	312	0.287	122	0.147	4.5	68.7	3773	-12.7	333.6	3704	543.6	-13.0	333.4			467.59
22-2, 140-142	80	323	0.208	154	0.255	4.5	38.9	2698	-15.5	357.5	2733	527.3	-16.3	356.4			467.90
22-3, 3-5 (2)	76	308	0.153	114	0.257	6.4	55.5	2849	-18.2	235.8	2794	505.9	-18.7	235.3			468.39
22-3, 39-41	60	248	0.317	179	0.195	6.4	72.7	5857	-4.9	237.5	5978	457.5	- 7.4	231.4			459.61
22-4, 11-13	69	280	0.223	112	0.173	6.8	87.7	4421	-10.0	40.6	4469	516.8	-11.4	40.8	0.10	0.80	469.61
22-4, 40-42 (2)	69	280	0.266	143	0.185	4.5	53.9	3468	-5.7	171.6	2540	292.6	-9.7	169.8			469.90
22-4, 98-100 (2)	64	265	0.256	156	0.210	10.7	113.7	7979	-17.8	84.6	7106	365.4	-17.7	84.5			470.48

23-1, 101-103 (2)	67	274	0.274	197	0.248	7.8	70.1	6214	-15.0	152.1	5427	385.7	-15.0	151.1	0.10	1.10	475.51
23-1, 119-121 (2)	62	261	0.302	203	0.232	11.2	107.0	9772	-16.1	129.1	7557	285.5	-16.5	128.2			475.69
23-2, 39-45 (2)	75	301	0.418	147	0.121	3.4	61.5	4067	-15.4	71.5	3583	348.6	-14.5	70.2			476.39
23-2, 81-83 (2)	73	295	0.182	78	0.148	9.8	146.7	5149	-11.8	304.9	4454	390.0	-12.4	305.1			476.81
23-3, 4-6 (2)	75	300	0.233	110	0.163	9.7	132.9	6578	-21.4	89.4	6174	444.7	-21.3	88.5			477.54
23-3, 25-27 (2)	67	271	0.266	71	0.092	7.5	180.8	5778	-14.9	201.2	5452	478.3	-13.1	202.3	0.10	0.80	477.75
23-3, 106-108 (2)	85	342	0.125	104	0.287	5.0	39.0	1827	-7.5	146.5	1753	462.6	-8.9	146.1			478.56
23-3, 144-146 (2)	69	278	0.212	165	0.268	4.8	39.9	2963	-18.6	43.3	2901	439.6	-19.6	43.1			478.94
24-1, 70-72 (2)	67	270	0.244	128	0.181	11.3	139.4	8028	-13.1	180.2	7605	476.9	-13.0	180.5			484.70
24-1, 94-96 (2)	71	287	0.245	143	0.201	4.5	49.9	3209	-16.9	111.9	3046	356.7	-17.7	110.7			484.94
24-1, 125-127	71	285	0.245	123	0.173	7.6	97.9	5416	-2.3	116.4	5413	484.5	-2.7	117.4	0.10	0.90	485.25
24-2, 88-90 (2)	64	265	0.242	128	0.182	6.7	81.0	4668	-15.2	356.0	4582		-15.5	355.5			486.38
25-1, 128-130 (2)	55	236	0.372	117	0.108	1.9	39.4	2073	-29.8	63.2	1873	406.8	-29.7	62.5			494.78
25-2, 77-79 (2)	78	311	0.516	265	0.177	3.3	41.3	4920	-7.0	194.0	1420	285.0	-11.7	196.2			495.77
25-2, 91-93	71	285	0.434	222	0.176	1.9	23.9	2392	2.3	45.0	292	86.6	-9.7	50.8			495.91
25-3, 128-130 (2)	53	228	0.354	179	0.174	2.9	36.8	2967	24.2	329.1	936	91.1	-6.5	299.5	1.10	9.20	497.78
25-4, 47-49	51	222	0.533	265	0.171	0.7	8.5	1009	12.6	100.1	730	283.7	-17.1	59.3	0.30	3.60	498.47
27-1, 42-44 (2)	60	249	0.399	201	0.174	2.0	26.2	2366	-8.0	66.9	1788	327.6	-19.5	80.2			512.92
27-2, 4-6	62	255	0.438	171	0.135	3.0	48.8	3754	-3.3	358.4	2751	258.5	-14.5	350.6			514.04
27-2, 93-95	66	270	0.209	112	0.185	1.7	20.8	1050	-3.2	246.8	1050	543.1	-5.0	249.1			514.93
28-2, 3-6	62	258	0.313	116	0.128	4.1	70.7	3692	-11.8	210.9	3753	448.3	-10.6	210.3	0.50	2.50	523.53
28-2, 23-26	66	270	0.346	143	0.143	3.5	54.7	3521	2.0	229.5	3285	300.4	-15.3	238.4			523.73
29-1, 58-61 (2)	71	287	0.410	328	0.276	2.0	16.2	2389	-12.9	75.6	905	119.3	-32.0	55.9			532.08
29-1, 86-89	71	291	0.397	326	0.283	1.7	13.1	1920	-2.3	17.7	795	170.1	-26.9	9.9			532.36
29-1, 106-109 (2)	69	283	0.467	257	0.190	2.2	25.2	2915	-7.8	340.6	960	115.1	-28.3	340.5			532.56
29-2, 4-7 (2)	71	290	0.396	211	0.184	1.7	20.7	1967	12.7	101.4	801	149.1	-36.7	41.7			533.04
30-1, 51-53 (2)	71	286	0.434	112	0.089	3.8	95.4	4807	-24.4	164.8	4378	347.8	-27.2	165.3	0.20	1.90	541.51
30-2, 34-36 (2)	67	275	0.346	86	0.086	1.8	45.7	1770	-29.7	339.2	1798	525.8	-30.5	340.2			542.84
31-1, 73-76 (2)	73	293	0.359	147	0.141	4.2	65.8	4350	-20.4	344.9	4163	362.8	-21.0	344.1			551.23
31-1, 108-111	71	286	0.281	157	0.193	3.2	37.4	2645	-13.3	62.7	2547	363.3	-16.6	66.7			551.58
32-1, 27-30 (2)	69	283	0.289	110	0.131	4.4	73.7	3650	-19.0	217.0	2794	290.0	-24.4	212.9			560.27
32-1, 113-116 (2)	67	275	0.342	169	0.170	3.4	43.7	3326	-23.9	128.9	2868	298.7	-27.0	131.0	0.30	2.10	561.13
33-1, 5-8 (2)	76	307	0.362	162	0.154	1.4	20.1	1463	-18.1	77.4	1293	325.5	-28.0	69.6			569.55
33-1, 62-65	73	297	0.327	155	0.163	1.9	26.5	1849	45.2	16.0	295	71.8	-42.7	114.5	0.40	2.90	570.12
33-1, 100-103 (2)	69	280	0.294	127	0.149	1.0	14.3	817	-30.0	124.0	769	240.0	-46.8	99.2			570.50
33-2, 27-30 (2)		523	0.756	529	0.241	0.8	7.4	1753	-37.4	271.1	617	119.1	-45.4	267.0			571.27
33-2, 77-80 (2)	71	290	0.409	159	0.134	1.1	17.7	1270	-42.0	334.0	965	210.0	-43.0	317.0	0.30	2.60	571.77
33-2, 85-88 (1)		546	2.115	1929	0.315	1.0	7.0	6050	-49.0	81.0	717	145.0	-51.0	72.4			571.85
33-3, 11-14 (2)	91	367	0.352	326	0.319	3.1	21.7	3180	-41.0	330.0	1483	225.0	-42.7	327.3			572.61
34-1, 45-48 (2)	96	398	0.532	365	0.237	8.8	83.0	13631	-38.4	207.6	3612	178.1	-42.6	210.4			579.45
34-1, 129-132 (2)	89	353	0.393	232	0.204	0.7	7.6	796	-7.0	342.0	471	125.0	-45.7	331.5	0.30	2.90	580.29
35-1, 4-7 (1)	75	300	0.530	674	0.439	1.1	5.7	1729	-23.4	197.5	378	93.3	-46.3	201.0			588.54
35-1, 15-18 (2)	78	311	0.333	143	0.148	1.4	21.1	1360	-32.0	267.0	1108	135.0	-46.2	269.9			588.65
35-1, 33-36 (2)	85	338	0.275	148	0.186	1.2	14.2	944	-23.3	283.6	559	224.2	-52.1	282.9			588.83
35-1, 46-49 (4)	76	309	0.498	524	0.363	0.8	4.8	1140	3.0	80.7	351	138.6	-38.2	111.9			588.96
35-1, 65-68 (6)	55	238	0.337	104	0.106	0.9	18.6	872	20.0	301.1	542	255.4	-43.8	234.7	0.30	2.90	589.15
35-1, 104-107 (1)	76	309	0.303	93	0.106	1.4	29.3	1225	10.9	27.2	514	164.3	-41.5	56.6			589.54
35-1, 136-139 (3)	75	300	0.395	248	0.216	1.2	12.1	1346	-14.8	153.9	778	227.6	-36.9	154.6			589.86
35-2, 33-36 (4)	80	319	0.279	86	0.106	2.3	27.7	1847	-34.3	102.4	754	149.8	-43.0	103.1			590.33
35-2, 66-69 (2)	76	310	0.327	154	0.162	1.3	17.9	1240	-23.0	266.0	601	130.0	-32.3	257.2			590.66
35-2, 91-94 (1)	73	299	0.232	186	0.276	2.7	21.3	1783	-34.1	127.1	764	167.4	-42.3	129.6	0.10	2.30	2.41
35-3, 28-31 (4)	83	333	0.194	112	0.199	8.2	91.1	4589	-28.7	220.3	3818	284.6	-30.3	220.3			591.78
35-3, 69-72 (2)	78	312	0.341	186	0.188	5.1	60.3	5047	-38.1	148.5	2651	207.1	-39.4	148.5	0.70	2.90	592.19
35-3, 81-84 (1)	94	383	0.259	217	0.289	7.4	56.6	5525	9.3	200.0	4441	300.8					592.31
36-1, 6-8 (2)	96	396	0.282	159	0.194	4.9	56.4	4036	-4.3	212.3	2452	220.5	-7.3	211.3			598.06
36-1, 77-79 (2)	87	349	0.269	206	0.264	4.5	38.0	3518	-6.5	119.8	2204	224.2	-10.5	123.7			598.77

TABLE 11B – *Continued*

Sample (Interval in cm)	Cation Deficiency, Z	Curie Temp	Rock Magnetic Data JSAT	SUS	SUS/ JSAT	NRM/ JSAT	Q (F=0.45)	Paleomagnetic Data J (0)	I (0)	D (0)	J (200)	MDF	Stable Inc	Dec	Micro con-tent	Data Size	Sample Depth (m)
Hole 332B – *Continued*																	
36-1, 104-106	85	339	0.234	187	0.276	6.3	51.0	4288	-22.5	275.5	2267	192.6	-26.3	277.5	0.30	2.20	599.04
36-2, 3-5	89	355	0.211	112	0.183	5.8	70.8	3567	-15.0	297.2	2715	280.0	-16.8	297.0			599.53
36-2, 59-61	100	452	0.365	159	0.150	3.2	46.8	3346	-1.2	216.4	2252	234.1	-4.8	218.6			600.09
36-2, 113-115	82	327	0.258	102	0.136	6.0	98.3	4514	.5	130.2	3797	304.4	-.8	130.4			600.63
36-3, 4-6 (2)	76	309	0.259	171	0.228	6.6	64.6	4970	1.7	124.3	3855	300.2	3.1	125.1	0.20	1.70	601.04
36-3, 46-48 (1)	87	350	0.148	112	0.261	6.8	58.0	2925	-6.4	51.6	2475	378.4	-7.4	51.8			601.46
36-3, 76-78 (2)	76	309	0.226	188	0.287	8.6	66.8	5649	5.7	145.0	3825	267.7	7.0	142.6			601.76
36-3, 143-145	78	312	0.201	65	0.112	3.9	77.4	2263	-6.2	96.0	1625	293.0	-5.7	95.4			602.43
36-4, 94-96 (2)	80	324	0.240	158	0.227	4.4	42.7	3036	-38.8	70.4	2038	232.0	-38.2	71.5			603.44
36-4, 131-133	87	349	0.357	464	0.448	3.7	18.1	3787	71.0	164.2	1376	166.4	72.1	168.8			603.81
36-5, 22-24 (2)	100	452	0.185	151	0.281	4.6	36.1	2452	-8.8	191.5	1569	237.0	-17.0	200.4	0.02	1.50	604.22
36-5, 40-42	96	399	0.362	768	0.732	4.9	14.8	5107	-11.0	275.0	1735	169.6	-15.6	271.5			604.40
36-5, 120-122	82	325	0.269	187	0.240	5.6	52.4	4407	-15.3	28.1	3024	243.0	-15.7	26.2			605.20
36-6, 44-46	87	346	0.191	187	0.338	4.3	28.0	2360	5.5	140.9	1327	204.7	-16.0	124.2			605.94
36-6, 66-68	96	396	0.273	444	0.561	3.2	12.6	2509	-1.8	116.3	1193	201.0	-22.0	123.9			606.16
37-1, 73-75		503	0.497	769	0.534	3.5	14.8	5114	-21.5	127.5	3039	207.1	-35.0	126.3			608.23
37-1, 126-128		532	0.647	1217	0.649	1.7	5.7	3098	-20.3	115.3	739	128.0	-31.9	114.6	0.10	0.80	608.76
37-2, 43-45	94	390	0.322	374	0.401	7.7	42.9	7213	-37.7	126.5	2887	159.2	-40.1	130.3			609.43
37-2, 102-105		532	0.344	2151	2.156	6.8	7.0	6821	-33.2	227.8	3946	214.8	-44.0	219.7			610.02
37-3, 23-25 (2)	53	226	0.694			0.9		1878	-1.8	166.7	673	127.9	-36.3	172.8			610.73
37-3, 54-56 (2)	48	215	0.647	1327	0.707	1.0	3.1	1847	4.5	12.2	627	115.0	-36.0	26.1	1.10	6.00	611.04
40-1, 34-36 (2)	92	372	0.405			3.7		4305	-2.6	182.2	1450	158.7	1.3	185.2			636.34
40-2, 93-95 (2)	73	299	0.642			4.8		8865	39.5	343.3	2234	158.8	33.0	342.1			638.43
41-1, 64-66	41	195	0.616	748	0.419	1.8	9.8	3298	52.3	48.2	326	134.5	-4.2	66.4	0.60	3.70	646.14
41-1, 110-112 (2)	80	320	0.825	813	0.340	1.7	11.2	4100	0.0	350.0	666	145.0	-24.7	351.6			646.60
41-1, 117-119	89	362	0.853	261	0.106	0.6	12.2	1429	-9.5	244.5	361	135.2	-31.0	265.5			646.67
41-2, 42-44 (2)	85	338	0.853	1719	0.695	3.7	11.8	9120	-3.0	313.0	813	140.0	-9.7	317.0	0.20	1.90	647.42
42-1, 59-61 (2)	55	236	0.640	488	0.263	1.2	10.6	2319	-17.9	182.4	1004	161.1	-38.7	169.8			655.59
42-2, 26-28 (2)	76	310	0.480	244	0.175	1.1	13.8	1510	2.0	45.0	713	160.0	-35.2	40.3			656.76
43-1, 105-107 (2)	91	368	0.500	651	0.449	6.1	30.2	8833	-2.4	213.7	1908	170.6	-8.2	217.6			665.55
43-2, 94-96	73	299	0.692	562	0.280	3.1	24.4	6176	12.1	23.5	1286	109.9	-2.2	28.0			666.94
44-1, 42-44 (2)	76	305	0.747	634	0.293	3.0	22.9	6540	5.0	202.0	1154	120.0	2.7	206.6	0.10	2.00	674.42
44-1, 75-77	76	308	0.660	557	0.291	1.9	14.2	3550	44.3	294.9	695	110.9	31.2	265.5			674.75
44-4, 24-26 (2)	78	311	0.563	528	0.323	3.6	24.6	5850	7.0	333.0	1060	120.0	3.2	332.2			678.74
44-5, 61-63 (1)		568	1.298	1535	0.408	1.6	8.5	5875	9.6	234.8	3819	243.8	3.2	229.0			680.61
44-6, 46-48 (2)	35	183	0.904	1393	0.531	0.7	2.9	1820	32.0	99.0	156	40.0	-20.1	81.6	0.60	4.50	681.96
45-1, 104-106 (2)		543	1.139	1786	0.541	2.1	8.7	7000	-4.0	181.5	968	92.8	-11.4	185.5	0.10	1.80	684.54
46-1, 58-60 (2)	43	202	1.202	1522	0.437	0.6	3.1	2130	40.0	345.0	215	70.0	-20.2	322.1	0.90	5.00	693.58
46-2, 32-34 (2)	36	184	1.318	1822	0.477	0.8	3.6	2920	10.0	12.0	159	90.0	-33.0				694.82
47-2, 99-102 (2)	47	210	1.145	1418	0.427	1.2	6.2	3980	-4.0	12.0	228	70.0	-28.0				704.99
47-2, 145-147	24	152	1.265	1575	0.429	1.5	8.0	5650	10.9	46.3	728	67.0	-31.2	58.2			705.45
47-3, 21-24 (2)	32	170	1.616	1455	0.310	1.2	8.7	5670	4.0	291.0	959	155.0	-28.2	297.2	1.10	6.00	705.71
Hole 332C																	
1-1, 62-65 (2)	87	350	0.173	116	0.231	2.6	24.7	1291	-30.9	21.4	1066	347.6	-30.7	21.0			149.12
1-1, 78-81 (2)	92	372	0.277	134	0.167	2.1	28.6	1724	-38.4	14.8	1352	317.9	-38.6	13.8			149.28

TABLE 11B – *Continued*

Sample (Interval in cm)	Cation Deficiency, Z	Curie Temp	Rock Magnetic Data: JSAT	SUS	SUS/ JSAT	NRM/ JSAT	Q (F=0.45)	Paleomagnetic Data: J (0)	I (0)	D (0)	J (200)	MDF	Stable Inc	Stable Dec	Micro con- tent	Data Size	Sample Depth (m)
Hole 332D																	
1-1, 67-70 (2)	62	255	0.432	287	0.229	5.8	56.1	7239	24.1	334.6	6685	373.3	24.5	334.4			142.67

Note: J(0) and J(200), intensity of natural remanent magnetism and NRM intensity after AF demagnetization in 200-oe field, respectively; JSAT, saturation intensity; SUS, magnetic susceptibility; Q, Königsberger ratio; I(0), inclination; D(0), declination; MDF, median destructive field. From Hall and Ryall, this volume.

Sample (Interval in cm)	Cation Deficiency, Z	Curie Temp.	JSAT	SUS	Q	J (0)	I (0)	MDF	Stable I	$\Delta D = D_{NRM} - D_{STABLE}$	$S_{200} = J_{200}/J_{NRM}$	AF-demag- nitization Curve Type	J_{SR} (emu/cc)	Hc (oe)	Hcr (oe)	a_o (Å)	X	Te	Volume Ore (%)	Ore Grain Size (μm)
1-5, 57-60	80	393	0.138	184	19.6	1624	–	207	–	1.8	0.522	B+	0.141	160	221	8.375 ±0.002	0.47	229	0.2	1.6
2-4, 122-125	85	467	0.118	136	24.8	1523	-30.8	350	-27.0	-10.0	0.816	C	0.108	208	303	8.358 ±0.002	0.38	299	0.2	2.2
2-5, 123-125	–	–	–	401	4.2	754	-1.9	130	-9.5	-7.2	0.276	B	0.121	65	115	–	–	–	–	–
2-6, 94-97	–	–	–	346	9.1	1417	-26.2	145	-32.2	-5.2	0.312	B	0.179	100	148	–	–	–	–	–
3-1, 27-30	82	420	0.120	151	28.7	1947	-32.3	340	-34.5	+5.7	0.821	C+	0.114	188	250	8.367 ±0.001	0.43	259	0.2	2.5
3-4, 48-50	–	–	–	526	4.3	1009	–	152	–	21.5	0.318	B+	0.110	56	106	–	–	–	–	–
6-1, 111-114	74	253	0.225	331	53.6	7978	–	223	–	5.9	0.564	B	0.533	169	220	8.400 ±0.003	0.69	46	1.2	2.9
8-3, 74-76	–	–	–	970	7.8	3424	–	69	–	13.1	0.205	A	0.253	58	103	–	–	–	–	–
9-1, 88-90	65	244	0.280	294	8.9	1181	–	174	–	2.8	0.462	B	0.357	114	172	8.415 ±0.002	0.63	95	1.2	6.8
9-2, 106-108	–	–	–	158	3.5	252	–	–	–	3.9	0.829	C+	0.261	258	336	–	–	–	–	–
10-3, 39-41	31	150	0.585	1398	4.3	2680	+14.2	54	-13.6	-22.9	0.080	A	0.202	39	86	8.464 ±0.002	0.63	125	1.6	11.5
12-1, 114-117	–	–	–	202	23.1	2100	-11.5	267	-20.0	+11.1	0.662	B	0.366	191	255	–	–	–	–	–
14-1, 36-38	–	–	–	188	14.5	1235	-13.2	337	-18.6	-2.9	0.935	C+	0.337	250	308	–	–	–	–	–
15-1, 103-105	67	260	0.248	210	28.0	2651	-7.9	160	-13.0	+39.4	0.400	B	0.383	185	234	8.410 ±0.003	0.63	95	1.4	7.3
16-2, 63-65	87	328	0.120	158	144.7	10288	–	541	–	5.0	0.998	C+	0.192	375	514	8.366 ±0.001	0.67	61	0.3	0.8
25-1, 106-113	83	298	0.095	147	74.4	4918	–	500	–	8.7	0.965	C+	0.197	302	399	8.379 ±0.002	0.68	52	0.8	3.0
31-1, 116-119	84	293	0.045	267	14.1	1697	–	326	–	1.2	0.782	C	0.178	256	424	8.377 ±0.001	0.70	35	1.3	10.1
44-2, 108-110	–	–	–	668	20.1	6054	–	165	–	10.2	0.355	B+	0.364	98	138	–	–	–	–	–
44-5, 124-126	26	217	0.715	1343	1.3	810	–	81	–	59.2	0.207	A	0.231	47	92	8.452 ±0.001	0.51	197	1.3	9.8
46-2, 58-61	32	210	0.790	1704	3.3	2542	–	76	–	9.2	0.067	A+	0.321	40	78	8.453 ±0.001	0.54	187	1.7	10.2

Note: J and J_{200}, intensity of natural remanent magnetism and NRM intensity after AF demagnetization in 200-oe field; respectively; JSAT, saturation intensity; I, inclination; D, declination; SUS, susceptibility; Q, Konigsberger ratio; MDF, median destructive field; J_{SR}, isothermal saturation remanent magnetization; H_C, bulk coercitivity; H_{CR}, coercitivity of remanence; a_o, lattice constant; T_e, estimated Curie temperature before oxidation; X, xFe_2TiO_4 $(1-x)$ Fe_3O_4. From Bleil and Petersen, this volume.

TABLE 11B – *Continued*

Sample (Interval in cm)	X	Q	J (0)	I (0)	MDF	J_{100}/NRM (ORJ_{max}/NRM)	Δ Direction (deg) at MDF
3-2, 77-80 (a)			200	+80	375	0.75	48
3-2, 77-80 (b)	6800	0.16	480	-06	–	–	–
3-2, 77-80 (c)			790	+04	–	–	–
3-2, 98-101 (a)			1800	-24	250	1.04	10
3-2, 98-100 (b)	2100	1.7	1700	-33	200	1.05	4
3-2, 98-101 (c)			1400	-33	–	–	–
3-3, 14-17	6500	0.53	1500	+04	100	0.52	12 (Sl N → Sl R)
3-4, 40-43 (a)			700	+12	75	0.37	20
3-4, 40-43 (b)	8400	0.34	1200	-15	175	0.49	12
3-4, 40-43 (c)			2000	-14	–	–	–
3-4, 98-101 (a)			3400	-23	125	0.57	2
3-4, 98-101 (b)	7200	1.2	3700	-24	125	0.57	5
3-4, 98-101 (c)			4300	-22	–	–	–
6-2, 122-125 (a)			1700	-26	–	–	–
6-2, 122-125 (b)	2600	1.7	2000	-64	275	1.11	2
6-2, 122-125 (c)			2000	-69	–	–	–
21-1, 5-8	4300	4.6	8800	U	325	0.96	2
22-3, 47-53	3000	5.8	7900	–	–	–	–
23-3, 83-85 (a)	6000	1.2	2500	U	100	0.46	5
23-3, 83-85 (b)			4000	U	–	–	–
25-3, 12-13	4200	1.0	1800	U	100	0.50	35
25-4, 19-21 (a)	4100	1.0	2000	U	100	0.52	11*
25-4, 19-21 (b)			2000	U	150	0.40	10*
27-2, 76-78	4100	>2.6	>4900	-14	<350	<0.85	10*
29-1, 74-77	4500	0.56	1100	U	250	0.78	12
29-2, 57-60	7000	0.62	1900	U	175	0.67	8*
35-2, 62-65	4100	0.94	1800	-18	150	0.77	18 (Steepening R)
36-2, 81-83 (a)	3800	2.1	3200	-03	250	(.85 at 150 oe)	6
36-2, 81-83 (b)			4000	-02	250	0.98	2
37-3, 11-13	9600	0.70	3000	+33	125	0.60	13 (Steepening N)
44-3, 144-146	7900	2.0	7100	+01	150	0.77	1

Note: J (0), natural remanent magnetization intensity (average for sample where bracketed). X, susceptibility (average for sample where bracketed); Q, Königsberger ratio (NRM/0.45 X); I_0°, inclination of NRM; J_{100}/NRM, residual NRM fraction after 100 oe AF cleaning; Jmax, maximum intensity reached during AF demagnetization; MDF, mean destructive field; U, unoriented sample. All others partially (vertically) oriented. + denotes angular shift with respect to 50-oe demag step instead of NRM. From Brecher et al., this volume.

Sample (Interval in cm)	J (0)	I (0)	D (0)	J (200)	MDF	STABL I	STABL D	TRM	SRM	SRM (h)
36-1, 104-106	4520	+16	297	1710	165	+25	277	10840	174	564
36-2, 3-12	3240	+12	247	2300	290	+22	247	10300	91	306
36-2, 113-115	4100	+20	046	3570	370	+14	046	11700	122	473
36-2, 153-161	3290	+09	221	2250	250	+09	218	15600	131	523
36-2, 46-48	2900	+10	128	2340	310	+13	128	15000	113	341
36-3, 143-145	4190	+03	088	3410	340	-04	089	11100	142	486
36-5, 120-122	4430	-11	032	3210	280	-14	026	12400	158	403
36-6, 66-67	3050	-05	125	1480	190	-16	127	8120	176	472
37-1, 73-75	6060	-34	131	3300	220	-46	136	8290	184	361
37-1, 126-128	5190	–	–	2250	180	–	–	9470	164	279
37-2, 43-45	6960	-42	139	2290	160	-38	138	2640	193	408
37-2, 102-105	24600	-15	208	12300	200	-21	204	43500	1316	1107

Note: J (0), intensity of magnetization in emu/cc, for natural remanent magnetization; J (100), intensity following 100-oe demagnetization; I (0), inclination of NRM; D (0), declination in degrees; MDF, median destructive field; TRM, laboratory thermoremanence acquired in 0.5 oe from an unspecified temperature; SRM, saturation remanence in natural state; SRM(h), saturation remanence after laboratory thermoremanence acquisition. From Carmichael, this volume.

TABLE 11B – *Continued*

Sample (Interval in cm)	D	I	$J_n \times 10^3$ (Gauss)	$k \times 10^3$ (Gauss/oe)	Q_n	Q_t
9-2, 92-94	178	-2	0.743	0.279	5.9	
11-1, 110-112	92	+33	1.55	1.67	2.1	
17-1, 22-24	40	-1	8.89	0.197	100	
22-4, 48-50	78	0	4.70	0.294	35	
27-2, 112-114	229	+26	2.58	0.263	22	
35-1, 4-7	15	-14	1.81	0.975	4.1	
35-1, 46-49	287	+25	1.39	0.433	7.1	19
35-1, 104-107	246	-27	1.01	0.148	15	
35-1, 136-139	332	-27	1.36	0.256	12	
35-2, 33-36	255	+6	1.30	0.167	17	
35-2, 91-94	309	-34	2.53	0.221	25	
35-3, 28-31	42	-29	3.97	0.149	59	
35-3, 81-84	157	+6	6.36	0.232	61	
35-4, 23-30	344	+1	1.64	0.215	17	20
36-1, 104-106	87	+12	3.22	0.233	32	
36-2, 3-12	64	+17	3.15	0.155	45	
36-2, 59-61	211	+26	3.88	0.222	39	
36-2, 113-115	229	+8	4.37	0.195	50	
36-3, 46-48	308	+7	2.07	0.125	37	
36-3, 143-145	271	-1	4.02	0.151	59	
36-4, 67-69	85	-5	3.95	0.133	66	
36-5, 120-122	213	-6	4.25	0.253	37	
36-6, 66-68	308	+16	2.77	0.420	15	
37-1, 73-75	305	-24	5.35	0.575	21	
37-1, 126-128	293	-12	4.68	1.16	9.0	
37-2, 43-45	308	-39	7.94	0.394	45	
37-2, 102-105	25	-11	19.60	0.346	126	
42-1, 13-15						

Note: D, declination, degrees; I, inclination, degrees, positive downward; J_n, intensity of magnetization; k, initial susceptibility measured in 0.31 peak oe; Q_n, Königsberger ratio $Q_n = J_n/kH$, where $H = 0.45$ oe is the present in situ field; Q_t, ratio J_t/k_tH, where J_t is the thermoremanence (TRM) and k_t is the initial susceptibility measured at 20°C after heating the sample to 630°C and cooling it in a field $H = 0.45$ oe equal to the in situ field. From Deutsch et al., this volume.

Sample (Interval in cm)	Dec	Inc	Int. ($10^4 \times$ egs/cc)	Curie Temp. (uncertain) °C		
25-2, 77-79				280		
25-2, 91-93				290		
25-2, 127-129				200		
25-3, 12				200		
25-3, 83-85				220		
25-3, 116-118				475		
25-4, 19-21				250		
25-4, 51-53				250		
35-1, 4-7	290 or 110	-16	7.3	250	(430)	(560)
35-1, 46-49	20	+36	5.8	330	(560)	
35-1, 104-107	335	-32	4.6	300	(560)	
35-1, 136-139	345	+18	3.9	250	(450)	
35-2, 33-36	16	-25	7.4	220	(490)	
35-2, 91 4	338	-43	6.4	320	(560)	
35-3, 28-31	1	-32	3.8	320	(565)	
35-3, 81-84	133	-29	24	360		

Note: From Schwarz and Fujiwara, this volume.

TABLE 11B – *Continued*

Sample (Interval in cm)	Jnrm × 10^{-4}	Dnrm	Inrm	J100 × 10^{-4}	D100	I100	J200 × 10^{-4}	D200	I200	J100/Jnrm	J200/Jnrm
2-4, 54	19.26	291.9	-28.3	9.70	290.6	-32.6	3.44	298.9	-30.9	0.50	0.18
3-1, 18	16.34	58.9	-37.6	14.74	74.3	-34.7	6.64	72.3	-35.2	0.90	0.41
3-1, 120	19.66	208.4	-27.0	19.78	209.0	-24.1	11.49	207.9	-24.3	1.01	0.58
3-2, 80	10.91	7.4	-30.3	9.86	10.5	-35.2	4.63	8.4	-33.9	0.90	0.42
3-3, 46	9.08	293.7	-23.4	3.46	290.5	-30.5	1.58	289.9	-32.2	0.38	0.17
3-3, 133	5.23	181.2	-10.9	1.79	182.9	-32.4	1.03	193.0	-37.5	0.34	0.20
3-4, 27	10.99	167.3	-14.8	4.07	159.7	-29.5	2.08	167.7	-32.3	0.37	0.19
3-4, 64	11.88	115.8	-24.5	5.10	118.5	-32.9	2.42	115.7	-33.2	0.43	0.20
9-3, 103	16.40	318.1	-25.4	16.49	317.6	-25.2	12.34	319.8	-23.9	1.01	0.75
11-1, 115	23.22	315.6	23.0	3.56	302.4	-18.3	1.82	301.6	-10.7	0.15	0.08
13-1, 137	19.58	153.1	-14.8	12.49	151.7	-28.4	7.22	149.0	-31.5	0.64	0.37
20-2, 34	80.25	299.6	17.4	77.96	299.2	15.3	60.25	303.5	13.4	0.97	0.75
22-1, 97	52.45	152.8	39.0	46.97	152.9	39.0	45.54	155.2	39.4	0.90	0.87
22-2, 22	43.71	323.9	-12.6	47.24	322.1	-11.1	38.27	322.2	-12.9	1.08	0.88
23-1, 100	56.75	147.5	-21.9	55.14	150.8	-21.1	42.67	151.2	-19.8	0.97	0.75
25-4, 51	15.90	244.6	-41.2	8.50	223.2	-57.1	5.40	214.9	-55.3	0.53	0.34
28-2, 18	16.73	249.1	-25.5	17.26	249.9	-27.0	7.87	246.2	-27.4	1.03	0.47
29-1, 69	3.50	70.6	12.8	2.47	61.2	-18.9	1.73	69.6	-19.0	0.71	0.49
29-2, 9	18.67	50.9	-11.6	9.15	43.0	-25.0	5.27	46.5	-27.7	0.49	0.28
30-1, 46	15.86	167.0	-25.0	20.53	167.1	-29.4	12.72	169.3	-28.1	1.29	0.80
35-2, 62	10.50	200.4	-21.3	8.38	193.1	-40.5	4.69	193.0	-39.2	0.80	0.45
36-2, 3	38.82	237.0	-0.1	34.99	237.2	0.8	19.39	238.8	6.3	0.90	0.50
36-2, 81	42.13	148.2	-2.9	35.67	146.3	-1.4	16.95	148.3	2.3	0.85	0.40
37-3, 11	36.44	68.9	27.8	10.66	80.0	39.5	5.52	71.0	40.5	0.29	0.15
44-3, 144	68.94	161.0	2.0	38.76	160.4	-1.6	10.73	164.1	-2.7	0.56	0.16

Note: *J*nrm, *J*100, and *J*200, intensity of magnetization in emu/cc, for natural remanent magnetization, and following 100 oe and 200 oe, demagnetization treatment, respectively; corresponding directions given by *D* and *I* where D = declination in degrees east of an arbitrary zero azimuth; I = inclination in degrees with respect to the horizontal, negative above the horizon. *J*100/*J*nrm and *J*200/*J*nrm are simple magnetic stability indices. The present mean inclination of the geomagnetic field at Site 332B = +59°; axial dipole inclination = +56.5°. From Ellwood and Watkins, this volume.

Sample (Interval in cm)	Depth (m)[a]	Intensity (10^{-4} G) NRM	Intensity (10^{-4} G) 100 oe	Direction NRM Dec	Direction NRM Inc	Direction Stable Dec	Direction Stable Inc	H[b]	k[c] (10^{-4} G/oe)	Q'n[d]	MDF[e] (oe)
2-5, 113	18	9.05	3.48	294	-11	285	-25	100	4.73	1.91	86
6-1, 100	144	50.9	50.1	346	-26	345	-27	200	2.95	17.3	231
9-2, 92	192	12.5	7.67	354	20	351	-8	250	3.12	3.99	130
11-1, 110	220	19.2	2.82	319	40	310	6	100	17.3	1.10	42
14-2, 84	249	7.02	6.73	355	48	347	31	200	2.10	3.34	228
17-1, 6	276	36.8	34.4	154	-31	156	-32	400	2.04	18.0	276
22-4, 45	328	38.6	37.8	261	-8	259	-9	200	2.69	14.3	269
27-2, 112	373	15.3	16.1	45	18	45	20	150	2.01	7.60	394
33-1, 127	429	11.4	13.7	33	-43	29	-46	100	2.48	4.61	311
45-1, 104	543	63.4	28.5	2	-4	3	-8	100	22.4	2.82	94

[a]Approximate subbasement depth in meters.

[b]*H* is the AF demagnetizing field for each stable direction.

[c]*k* = initial susceptibility.

[d]*Q'n* = NRM intensity/susceptibility.

[e]MDF = median destructive field of NRM. From Kent and Lowrie, this volume.

magnetized section in Hole 332A which is absent in Hole 332B. Further important differences are seen between Holes 332B, 332C, and 332D which are within 10 meters of each other. These differences can be partly accounted for by the presence of intrusive bodies in some holes and not in others, by the presence of faults between the different holes, or by the small lateral extent of submarine volcanic units.

5) Alteration and the magnetic properties of basalts. Most of the alteration in rocks from Site 332 can be accounted for by low-temperature interaction of basalt and seawater. Only over a few intervals, usually less than 20 meters thick, is evidence seen for the former passage of hot water. Titanomagnetite cation deficiency is the typical result of both types of alteration, with resulting marked changes in magnetic properties. As oxidation proceeds Curie point, Q ratio, and mean demagnetizing field increase while NRM intensity, initial susceptibility, and saturation magnetization decrease. Oxidation has completely permeated the pillow lava sequences, but is less in a number of massive basalts, such as form much of magnetic unit 2B9 (lithological Unit 44) of Hole 332B.

PHYSICAL PROPERTIES AND HEAT FLOW

The mean compressional wave velocity for 64 basalt samples from the basement section of Holes 332A and 332B is 5.94 km/sec (see Tables 12 and 13 for physical properties and seismic velocities of basalts for Holes 332A and 332B, respectively). There is no significant difference between the average basalt velocities for the different holes. These high average velocities are in contrast to the results of seismic refraction work which can be interpreted as indicating the presence of a layer 2a (with a velocity of about 3 km/sec) capping layer 2 with an overall average veolcity of close to 5.0 km/sec. The explanation for the difference between laboratory and field measurements of the velocities is explained by the presence, especially in the upper part of layer 2, of highly fractured, low density material such as basalt rubble, flow breccia, drained pillows, lava tubes with extensive cores, and some intercalated sediment (Hyndman, this volume). The interpretation of the drilling logs suggests that at the top of basement at Site 332 only 30% of the section consists of solid basalt while at 600 meters subbottom depth the proportion of solid basalt has increased to 75%.

Detailed discussion of the heat flow at Site 332 is given by Hyndman et al. (this volume). Temperature measurements in the holes at Site 332 yielded a number of important results. First the basement temperature (14.9°C at 551 m subbasement) is quite low considering that the site is only 35 km from the axis of the volcanically active Median Valley. Secondly, heat-flow values (0.70 hfu in Hole 332A and 0.57 hfu in Hole 332B) are correspondingly low both in absolute terms and relative terms especially considering the position of the site.

The low heat-flow values are most readily explained by the circulation of rather cool water (15°C at 1 km to 75°C at 5 km) through the lower part of the crust, probably in layer 3 and at least in part in the lower part of layer 2. This circulation must have a very regular character and large horizontal scale.

BIOSTRATIGRAPHY

General

Three sections of sediment were recovered from the punch core in Hole 332. Planktonic foraminifers and calcareous nannoplankton of Pleistocene age are abundant throughout the sediment, and Radiolaria are present in small quantities in some intervals. Preservation in all three fossil groups is good.

Fossiliferous sediments in Hole 332A were found above and below the first occurrence of basalt. Six cores of soft sediment were recovered above the basalt, and several small indurated calcareous veins and small remnants of sedimentary interbeds were recovered below it.

Core 1 contains abundant planktonic foraminifers and calcareous nannoplankton of Pleistocene age, but Radiolaria are rare. An interval of 48 meters was not cored between Cores 1 and 2. Cores 2 through 5 are nearly uniform in lithology and fossil content. They are late Pliocene in age and contain abundant foraminifers, calcareous nannoplankton, and common Radiolaria. Core 6 contains abundant foraminifers and calcareous nannoplankton of early late Pliocene age, but Radiolaria are absent. A distinct lithologic change in this core is accompanied by a sudden change in the complexion of the foraminiferal faunas.

Most of the sediment below acoustic basement occurs as recrystallized veins or small isolated pieces within the basalt. In Core 22 nearly a meter of indurated, but not recrystallized, foraminiferal-bearing nannofossil chalk of early Pliocene age was recovered. This is the lowest level from which foraminifers and calcareous nannoplankton could be studied. Core 13 yielded a similar, but much smaller, interval of lithified sediment of early late Pliocene age. Foraminifers and rare coccoliths are present in veins and isolated pieces of recrystallized limestone as far downhole as Core 40. In a few horizons between Cores 22 and 40, unidentifiable planktonic foraminifers were visible in thin section.

In Hole 332B, one core of soft sediment was collected directly above the first occurrence of basalt. Abundant and well-preserved foraminifers, Radiolaria, and calcareous nannoplankton of late Pliocene age are present in this core.

Lithified sediments interbedded with basalt in Hole 332B are present in Cores 6, 17, and 36. Sediments in Core 6 consist of foraminiferal-bearing nannofossil chalk. These sediments are late Pliocene in age and contain abundant foraminifers and calcareous nannoplankton, but no Radiolaria. Although isolated pieces of recrystallized limestone recovered in Cores 17 and 36 contain foraminifers, these microfossils could not be extracted from the sediments because of high induration. Smear slides yielded a few corroded coccoliths. Radiolaria are absent from these sediments.

TABLE 12A
Physical Properties of Basalts, Hole 332A

Sample (Interval in cm)	Depth Below Bottom (m)	Depth Below Top Basalt (m)	Bulk Density (gm/cm^3)	Grain Density (gm/cm^3)	Porosity (vol %)	Water Content (wt %)	Resistivity (ohm-m)	Velocity (P) 0.5 kbar (km/sec)
6-2, 118	104.7	2.7	2.792	2.934	7.3	2.6	221	6.39
7-1, 67	112.2	10.2	2.810	2.895	4.5	1.6	571	6.45
7-2, 42	113.4	11.4	2.811	2.988	8.9	3.1	430	5.66
8-2, 7	122.6	20.6	2.809	2.978	8.6	3.1	348	5.83
12-1, 123	160.2	58.2	2.796	2.964	8.6	3.1	115	5.66
16-1, 34	197.3	95.3	2.719	2.964	12.4	4.5	64.2	5.44
21-1, 132	245.8	143.8	2.810	2.952	7.2	2.5	190	6.05
27-1, 129	302.8	200.8	2.710	3.003	14.6	5.4	73.4	5.65
28-1, 84	311.8	209.8	2.790	2.985	9.9	3.6	146	5.76
28-3, 29	314.3	212.3	2.791	2.976	9.4	3.4	160	5.77
29-1, 75	321.2	219.2	2.846	2.942	4.9	1.7	261	6.14
30-1, 128	331.3	229.3	2.822	2.962	7.1	2.5	262	6.14
31-2, 33	341.3	239.3	2.732	2.968	12.0	4.4	51.4	5.73
31-3, 80	343.3	241.3	2.780	2.934	8.0	2.9	139	5.80
33-2, 93	360.9	258.9	2.813	2.933	6.2	2.2	562	5.90
33-2, 129	361.3	259.3	2.855	2.945	4.7	1.7	294	6.18
34-1, 89	368.9	266.9	2.816	2.959	7.3	2.6	198	6.09
34-2, 105	370.5	268.5	2.810	3.006	9.7	3.4	94.1	5.78
36-2, 34	388.8	286.8	2.827	2.922	5.0	1.8	283	6.24
37-1, 117	397.7	295.7	2.818	2.977	8.0	2.8	187	5.91
40-2, 96	427.5	325.5	2.741				31.0	5.92
40-3, 41	428.4	326.4	2.861	2.996	6.7	2.3	177	6.49
Average of 22 values:			2.798	2.961	8.14	2.91	174	5.95

TABLE 12B
Seismic Velocities of Basalts, Hole 332A

Sample (Interval in cm)	Density (gm/cm^3)	Ham. Frame (km/sec)	P (0.5 kbar) (km/sec)	S (0.5 kbar) (km/sec)	P/S (0.5 kbar)	P (2.0 kbar) (km/sec)	S (2.0 kbar) (km/sec)	P/S (2.0 kbar)
6-2, 118	2.792	6.09	6.39	3.53	1.81	6.50	3.64	1.79
7-1, 67	2.810	6.14	6.45	3.50	1.84	6.53	3.52	1.86
7-2, 42	2.811	5.46	5.66	3.23	1.75	5.85	3.31	1.77
8-2, 7	2.809	5.42	5.83	3.33	1.75	6.05	3.43	1.76
12-1, 123	2.796	5.37	5.66	3.20	1.77	5.72	3.23	1.77
16-1, 34	2.719	5.16	5.44	3.04	1.79	5.57	3.12	1.79
21-1, 132	2.810	5.66	6.05	3.35	1.81	6.10	3.44	1.77
27-1, 129	2.710	5.33	5.65	3.17	1.78	5.78	3.26	1.77
28-1, 84	2.790	5.63	5.76	3.31	1.74	5.88	3.36	1.75
28-3, 29	2.791	5.52	5.77	3.32	1.74	5.87	3.36	1.75
29-1, 75	2.846	5.82	6.14	3.46	1.77	6.18	3.47	1.78
30-1, 128	2.822	5.83	6.14	3.47	1.77	6.17	3.49	1.77
31-2, 33	2.732	5.18	5.73	3.20	1.79	5.86	3.29	1.78
31-3, 80	2.780	5.44	5.80	3.24	1.79	5.87	3.28	1.79
33-2, 93	2.813	5.58	5.90	3.34	1.77	5.93	3.34	1.78
33-2, 129	2.855	5.88	6.18	3.46	1.79	6.21	3.47	1.79
34-1, 89	2.816	5.76	6.09	3.40	1.79	6.21	3.50	1.77
34-2, 105	2.810	5.37	5.78	3.24	1.79	5.88	3.31	1.78
36-2, 34	2.827	5.80	6.24	3.49	1.79	6.29	3.52	1.79
37-1, 117	2.818	5.69	5.91	3.35	1.76	5.97	3.35	1.78
40-2, 96	2.741	5.15	5.92	3.31	1.79	6.13	3.43	1.79
40-3, 41	2.861	5.79	6.49	3.63	1.79	6.53	3.66	1.78
Average of 22 values								
	2.798	5.594	5.954	3.344	1.780	6.049	3.399	1.780
Indurated sediment								
22-1, 38		2.11						

Part of one section of sediment was recovered directly above the first occurrence of basalt in Hole 332C. This sediment consists of nannofossil chalk overlain by isolated pieces of softer sediment. Fossil assemblages from the softer sediment indicate an age somewhat younger than the chalk, and it is believed that these

TABLE 13A
Physical Properties of Basalts, Hole 332B

Sample (Interval in cm)	Depth Below Bottom (m)	Depth Below Top Basalt (m)	Bulk Density (g/cm^3)	Grain Density (g/cm^3)	Porosity (vol %)	Water Content (wt %)	Resistivity (ohm-m)	Velocity (P) 0.5 kbar (km/sec)
1-5, 28	148.3	6.3	2.796	2.890	4.9	1.7	373	6.36
1-5, 121	149.2	7.2	2.812	2.941	6.7	2.4	147	6.23
2-1, 61	152.1	10.1	2.780	2.867	4.6	1.6	401	6.58
2-2, 87	153.9	11.9	2.841	2.933	4.7	1.6	415	6.35
2-4, 120	157.2	15.2	2.689	2.819	7.1	2.6	52.6	
2-5, 70	158.2	16.2	2.750	2.804	2.9	1.0	477	6.55
2-5, 117	158.7	16.7	2.833	2.895	3.3	1.2	265	6.60
2-6, 130	160.3	18.3	2.809	2.894	4.5	1.6	443	
3-2, 117	200.5	58.5	2.746	2.835	4.8	1.7	233	6.13
3-4, 11	204.6	62.6	2.814	2.845	1.7	0.6	536	6.52
3-4, 17	205.2	63.2	2.891	2.935	2.3	0.8	594	6.47
6-1, 100	285.5	143.5	2.843	2.967	6.3	2.2	400	5.99
6-2, 122	287.2	145.2	2.659	2.906	12.9	4.8	41.9	5.52
8-3, 23	325.7	183.7	2.727	2.977	12.6	4.6	40.4	5.87
9-1, 112	333.1	191.1	2.806	3.009	10.1	3.6	55.5	5.63
9-2, 105	334.6	192.6	2.796	2.988	9.7	3.5	131	5.60
9-3, 81	335.8	193.8	2.873	2.979	5.4	1.9	122	6.44
10-2, 126	353.8	211.8	2.839	2.976	7.0	2.5	82.3	5.74
14-2, 82	391.3	249.3	2.693	2.980	14.5	5.4	28.2	5.52
15-1, 130	399.8	257.8	2.880	2.967	4.5	1.6	566	6.01
19-1, 105	437.6	295.6	2.871	3.010	6.9	2.4	329	5.82
20-1, 57	446.6	304.6	2.832	3.002	8.4	2.9	142	5.55
21-1, 100	456.6	314.6	2.900	3.007	5.3	1.8	764	5.83
22-1, 58	465.6	323.6	2.850	2.952	5.2	1.8	405	5.95
22-2, 141	467.9	325.9	2.614	2.889	14.5	5.5	15.4	5.06
22-3, 40	468.4	326.4	2.862	2.987	6.2	2.1	147	6.00
22-4, 12	469.6	327.6	2.877	2.952	3.8	1.3	695	6.23
24-1, 126	485.3	343.3	2.731	2.956	11.4	4.1	56.4	5.76
25-2, 92	495.9	353.9	2.876	2.966	4.6	1.6	953	5.60
25-4, 48	498.5	356.5	2.829	2.946	6.0	2.1	240	5.88
27-2, 94	514.9	372.9	2.841	2.940	5.0	1.7	665	6.05
28-2, 24	523.7	381.7	2.829	2.979	7.6	2.7	233	5.62
29-1, 87	532.4	390.4	2.879	2.973	4.7	1.6	129	5.95
31-1, 109	551.6	409.6	2.736	2.983	12.4	4.5	52.4	5.45
33-1, 63	568.9	426.9	2.835	2.978	7.2	2.5	107	5.95
35-1, 66	587.8	445.8	2.813	2.880	3.5	1.2	128	6.50
36-1, 78	598.8	456.8	2.788	2.920	6.8	2.4	267	5.93
36-3, 77	601.8	459.8	2.780	2.921	7.3	2.6	132	5.94
36-3, 144	602.4	460.4	2.809	2.922	5.8	2.0	296	5.91
36-4, 132	603.8	461.8	2.696	2.908	11.0	4.0	50.7	5.53
36-5, 41	604.4	462.4	2.783	2.905	6.3	2.2	380	5.77
36-6, 45	606.0	464.0	2.866	2.928	3.2	1.1	1760	6.18
37-3, 55	611.0	469.1	2.883	2.943	3.1	1.1	5660	5.84
41-1, 118	646.7	504.7	2.521	2.914	20.4	8.0		5.22
43-2, 95	667.0	525.0	2.720	2.924	10.6	3.9		
44-1, 76	674.8	532.8	2.609	2.876	14.1	5.3	23.2	
44-5, 62	680.6	538.6	2.776	2.895	6.3	2.3		
47-2, 146	705.5	563.5	2.888	2.982	4.7	1.6	2133	5.77
Mean			2.795	2.934	7.1	2.6	213	5.94

pieces are not in situ. Calcareous nannofossils from the chalk are badly corroded. Radiolaria extracted from the softer sediment are rare and usually broken.

Hole 332D yielded a few small pieces of highly indurated calcareous sediment near the first occurrence of basalt. Calcareous nannofossils are common in some of the material, but are invariably badly corroded. High induration precluded the extraction of foraminifers from these sediments.

Planktonic Foraminifers

Planktonic foraminifers were examined in Holes 332, 332A, 332B, and 332C at Site 332. Hole 332D yielded a few small pieces of highly indurated calcareous sediment near the first occurrence of basalt, but foraminifers could not be extracted from this material.

Sediments above acoustic basement at Site 332 range in age from early late Pliocene to Pleistocene and include Zones N20, N21, and N23. The absolute age of basement at this site is placed at 3.0 to 3.3 m.y. B.P.

Sediments recovered below the first occurrence of basalt are assigned to Zone N20 with the exception of chalk from Hole 332A, Core 22, which is assigned to Zone N19. This chalk contains an early Pliocene fauna which includes several small specimens of *Globigerina nepenthes*.

TABLE 13B
Seismic Velocities of Basalts, Hole 332B

Sample (Interval in cm)	Density (gm/cm^3)	Ham. Frame (km/sec)	P (0.5 kbar) (km/sec)	S (0.5 kbar) (km/sec)	P/S (0.5 kbar)	P (2.0 kbar) (km/sec)	S (2.0 kbar) (km/sec)	P/S (2.0 kbar)
1-5, 28	2.796	5.79	6.36	3.49	1.82	6.48	3.53	1.84
1-5, 121	2.812	5.63	6.23	3.40	1.84	6.38	3.51	1.82
2-1, 61	2.780	5.94	6.58	3.44	1.91	6.67	3.48	1.92
2-2, 87	2.841	5.76	6.35	3.51	1.81	6.45	3.55	1.82
2-4, 120	2.689	5.69						
2-5, 70	2.750	5.91	6.55	3.74	1.75	6.66	3.77	1.77
2-5, 117	2.833	6.03	6.60	3.63	1.82	6.64	3.63	1.83
2-6, 130	2.809	5.72						
3-2, 117	2.746	5.91	6.13			6.20		
3-4, 11	2.814	6.09	6.54			6.60		
3-4, 17	2.891	6.13	6.47			6.57		
6-1, 100	2.843	5.89	5.99	3.34	1.79	6.08	3.41	1.78
6-2, 122	2.659	6.16	5.52			5.70		
8-3, 23	2.727	5.40	5.87			6.00		
9-1, 112	2.806	5.25	5.63	3.15	1.79	5.79	3.22	1.80
9-2, 105	2.796	4.99	5.60			5.80		
9-3, 81	2.873	5.89	6.44	3.38	1.91	6.47	3.48	1.86
10-2, 126	2.839	5.08	5.74			5.91		
14-2, 82	2.693	4.83	5.52			5.63		
15-1, 130	2.880	5.69	6.01	3.41	1.76	6.12	3.45	1.77
19-1, 105	2.871	5.41	5.82			5.98		
20-1, 57	2.832	5.31	5.55			5.77		
21-1, 100	2.900	5.57	5.83			5.96		
22-1, 58	2.850	5.68	5.95			6.03		
22-2, 141	2.614	4.40	5.06			5.23		
22-3, 40	2.862	5.62	6.00			6.16		
22-4, 12	2.877	5.87	6.23			6.31		
24-1, 126	2.731	5.27	5.76			5.93		
25-2, 92	2.876	5.43	5.60			5.82		
25-4, 48	2.829	5.48	5.88			6.06		
27-2, 94	2.841	5.75	6.05			6.11		
28-2, 24	2.829	5.40	5.62			5.71		
29-1, 87	2.879	5.28	5.95			6.09		
31-1, 109	2.736	5.00	5.45			5.54		
33-1, 63	2.835	5.37	5.95			6.07		
35-1, 66	2.813	5.61	6.50			6.70		
36-1, 78	2.788	5.61	5.93			6.05		
36-3, 77	2.780	5.14	5.94			6.03		
36-3, 144	2.809	5.37	5.91			6.04		
36-4, 132	2.696	4.98	5.53			5.60		
36-5, 41	2.783	5.44	5.77			5.92		
36-6, 45	2.866	5.64	6.18			6.34		
37-3, 55	2.883	5.35	5.84			6.04		
41-1, 118	2.521	5.13	5.22			5.36		
43-2, 95	2.720	5.52						
44-1, 76	2.609	5.07						
44-5, 62	2.776	6.08						
47-2, 146	2.888	5.91	5.77			5.92		
Mean	2.795	5.53	5.94	3.45	1.82	6.07	3.50	1.82

Many samples in Hole 332A were contaminated by Quaternary foraminifers during drilling operations. The contaminants are easily recognized because of their exceptionally good preservation in comparison to in situ faunas.

Small amounts of faunal mixing are evident in Holes 332A and 332B. In both holes, rare specimens of *Globorotalia margaritae* appear to have been reworked into upper Pliocene sediments. They are present in small quantities (one to three specimens) in a few samples, and the majority of these are abraded or discolored.

In Hole 332A, Cores 3, 4, and 5, rare specimens of *Sphaeroidinella seminulina* and *S. subdehiscens* are present in a few samples in the interval of *Globorotalia margaritae* contamination. Although no signs of abrasion or discoloration are evident, it appears that these specimens have also been reworked. Both species of *Sphaeroidinella* become common in the lower part of Core 5, and it appears that these specimens are in situ.

Rare specimens of *Globorotalia miocenica, Sphaeroidinella seminulina, S. subdehiscens*, and *Globorotalia margaritae* are present in Core 1 of Hole 332B, which was recovered immediately above basement. This core contains mixed late Pliocene sediment of Zones N20 and N21 in addition to very minor early Pliocene contamination. Faunal mixing and the rarity of age-diagnostic foraminifers make exact zone assignment of this core difficult. The stratigraphic position of these sediments immediately above basement in Hole 332A suggests that they should be assigned to Zone N20.

Radiolaria

Radiolaria are absent or uncommon in the samples from Hole 332. When present, the faunas are low in diversity and consist chiefly of species which are not especially age diagnostic.

Radiolarians from Hole 332A are diverse, common, and well preserved in the nannofossil oozes of Cores 2 through 5, but rare in Core 1. They are absent in the foraminiferal-rich oozes in Core 6, and in the indurated sediments of Core 22. The faunas appear to be nearly uniform throughout Cores 2 through 5, showing only minor changes in composition and abundance. They exhibit a higher latitude aspect and contain species which indicate a Pliocene to Pleistocene age.

Characteristic Radiolaria which occur throughout Cores 2 through 5 include: *Amphirhopalum ypsilon, Axoprunum angelinum, Bathropyrimis woodringi, Cornutella profunda, Eucyrtidium acuminatum, Eucyrtidium calvertense, Ommartartus tetrathalamus, Stylocontarium aquilonium, Polysolenia* spp., *Theocorythium* spp., and Carpocaniidae spp.

Radiolaria from Hole 332B are common and well preserved in the soft sediment above the first occurrence of basalt, but are absent from the lithified calcareous sediment below it. The single core of sediment which was recovered above basement at the site contains an essentially uniform high-latitude Pliocene to Pleistocene fauna. Common and characteristic species include *Amphirhopalum ypsilon, Axoprunum angelinum, Eucyrtidium acuminatum, Eucyrtidium calvertense, Ommartartus tetrathalamus, Pterocanium trilobum*, and *Stylocontarium aquilonium.*

One sample from Hole 332C was examined for Radiolaria and found to contain only rare fragments. The highly indurated calcareous material from Hole 332D was not examined for Radiolaria.

Nannofossils

Cores taken above basalt yielded abundant, well-preserved Plio-Pleistocene nannoplankton. Below the first basalt layer, nannofossils are moderately to poorly preserved due to lithification of ooze to chalk. Due to recrystallization, nannofossils have been destroyed in the limestones.

The upper portion of Core 1, Hole 332A, is characterized by *Emiliania huxleyi, Gephyrocapsa oceanica* indicative of Zone NN21. The lower portion of that core as well as the upper portion of Core 1, Hole 332A, are dominated by *Gephyrocapsa* species. Pleistocene Zone NN19 is indicated by *Pseudoemiliania lacunosa* in core-catcher samples from Core 1, Hole 332A.

Cores 2-6 in Hole 332A have similar floras. Characteristic common to abundant species include *Cyclococcolithina leptopora, Discoaster brouweri, D. pentaradiatus, D. surculus, Helicopontosphaera kamptneri, Pseudoemiliania lacunosa*, and several *Syphosphaera* species. Also found but more rarely are *Ceratolithus rugosus, Discoaster asymmetricus*, and *D. challengeri.* Cores 3-6 also yield *Reticulofenestra pseudoumbilica.* These assemblages are indicative of Zones NN15 and NN16. The boundary between the two zones is difficult to designate but perhaps lies within Core 3.

Below the first basalt, Core 13 also has the flora seen in Cores 3-6. Core 22 has a few recognizable species, but all are too long ranging to be age diagnostic.

Core 1, Hole 332B, taken just above basalt, is composed almost entirely (96%) of well-preserved late Pliocene nannofossils. Common to abundant species in Section 1, Core 1, include *Crenalithus doronicoides, Coccolithus pelagicus, Cyclococcolithina leptopora, Discoaster asymmetricus, D. brouweri, D. pentaradiatus, D. surculus, D. tamalis, Helicopontosphaera kamptneri, Pseudoemiliania lacunosa*, and several *Syphosphaera* species. This flora is indicative of Zone NN16.

Sections 2 through 5, Core 1, have the above-mentioned flora plus *Reticulofenestra pseudoumbilica* placing them in Zone NN15.

Within the basalt sequence, chalks from Cores 6 and 36 yield recognizable nannofossils. Similarity of the Core 6 flora to the Core 1 flora places it probably in Zone NN15. Poor preservation precludes dating the Core 36 assemblage.

Chalks from Holes 332C and 332D yield the same flora found in Sections 2-5, Hole 332B plus rare *Discoaster variabilis.* They are thus placed in Zone NN15.

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TABLE 8
Geochemical Data for Basalts in Hole 332A

TABLE 8A
Major Element Analyses of Basalt Glasses in Hole 332A

Sample[a]		Depth (m)	Inv.	SiO_2	TiO_2	Al_2O_3	Total Iron	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	Total
7- 1,	5- 10	111.58	SG	50.70	1.15	13.80	10.25	0.22	7.70	12.60	2.20	0.20	-	99.01
7- 1,	120-121	112.71	AU	50.83	1.23	14.42	10.83	0.24	8.69	11.74	2.34	0.20	-	100.52
7- 1,	122-	112.72	ML	52.31	1.31	14.68	10.86	-	6.85	11.61	2.29	0.19	0.13	100.23
7- 2,	70-	113.70	ML	51.32	1.15	15.00	10.63	-	7.03	11.81	2.26	0.20	0.10	99.50
8- 1,	47-	121.47	SG	50.70	1.16	13.20	10.65	0.19	7.10	11.80	2.30	0.21	-	97.48
8- 1,	47-	121.47	TM	52.31	1.12	14.48	10.50	0.18	7.48	11.64	2.30	0.16	-	100.17
8- 1,	56- 64	121.60	TM	51.62	1.17	14.52	10.20	0.17	7.43	11.66	2.49	0.18	-	99.44
8- 1,	60-	121.60	ML	51.54	1.13	14.93	10.69	-	6.85	11.74	2.26	0.20	0.09	99.43
8- 2,	121-127	123.74	AU	50.82	1.24	14.28	10.79	0.20	7.19	11.87	1.93	0.25	-	98.57
8- 2,	122-	123.72	ML	51.67	1.10	14.98	10.45	-	6.86	11.91	2.19	0.18	0.12	99.46
11- 1,	112-	150.62	ML	51.02	1.00	15.04	10.23	-	7.35	12.51	2.01	0.15	0.09	99.40
13- 1,	120-	169.70	ML	51.45	1.04	14.99	9.92	-	7.59	12.18	2.12	0.17	0.09	99.55
13- 1,	126-	169.76	ML	51.39	1.09	15.00	10.19	-	7.21	12.35	2.24	0.15	0.08	99.70
13- 1,	126-127	169.76	AU	50.43	1.16	14.43	10.43	0.21	7.60	12.05	2.10	0.20	-	98.61
13- 1,	126-127	169.76	AU	50.81	1.22	14.48	10.40	0.24	7.58	12.16	2.24	0.17	-	99.30
14- 1,	55-	178.55	ML	51.41	1.06	14.80	10.13	-	7.38	12.28	2.18	0.14	0.09	99.47
15- 1,	62- 63	188.13	AU	50.83	1.14	14.50	10.02	0.22	8.25	12.41	2.10	0.18	-	99.65
15-CC,	59-	189.10	ML	51.34	1.00	14.78	9.71	-	7.57	12.59	2.08	0.16	0.10	99.33
18- 1,	0-150	216.75	AU	50.76	1.05	14.42	10.10	0.21	7.75	12.13	2.15	0.20	-	98.77
18-CC,	-	219.10	ML	51.21	1.06	14.86	9.86	-	7.67	12.39	2.07	0.16	0.11	99.39
19- 1,	48-	225.98	AU	49.80	0.85	16.03	9.50	0.16	9.27	12.24	2.11	0.17	-	100.13
19- 1,	58-	226.08	AU	50.81	1.23	13.91	10.17	0.17	7.78	12.32	1.97	0.24	-	98.60
22- 1,	76-	254.76	SG	50.30	0.96	14.00	9.15	0.23	8.40	12.80	2.02	0.15	-	98.21
22- 1,	103-107	255.05	AU	50.94	1.32	14.21	11.22	0.21	6.99	11.42	2.31	0.24	-	98.86
22- 1,	105-	255.05	ML	51.81	1.16	14.60	10.72	-	6.67	11.44	2.27	0.18	0.11	98.96
23- 1,	53-	264.03	ML	51.71	1.17	14.90	10.89	-	6.58	11.53	2.35	0.15	0.11	99.39
23- 1,	53- 54	264.04	AU	50.98	1.36	14.09	11.42	0.25	7.15	11.30	2.38	0.21	-	99.14
25- 1,	82- 83	283.33	AU	50.94	1.32	14.28	10.96	0.25	7.26	11.52	2.29	0.20	-	99.02
25- 1,	110-	283.60	ML	52.01	1.22	14.56	11.17	-	6.72	11.38	2.32	0.20	0.11	99.69
26- 1,	104-	293.04	ML	51.14	1.22	14.70	10.62	-	7.35	11.87	2.08	0.23	0.13	99.34
26- 1,	104-108	293.06	TM	51.12	1.18	14.83	10.36	0.17	7.88	11.55	2.20	0.17	-	99.46
26- 1,	115-116	293.16	AU	50.36	1.37	14.31	10.85	0.21	7.61	11.64	2.13	0.25	-	98.73
26- 2,	5- 6	293.56	AU	50.20	1.41	14.34	10.78	0.22	7.60	11.63	2.32	0.24	-	98.74
26- 2,	8- 15	293.62	AU	50.22	1.37	14.30	10.86	0.18	7.60	11.68	2.08	0.27	-	98.56
26- 2,	13-	293.63	ML	50.94	1.26	14.93	10.61	-	7.56	11.93	2.11	0.22	0.14	99.70
26- 2,	20- 21	293.71	AU	50.32	1.38	14.26	10.82	0.20	7.54	11.74	2.14	0.24	-	98.64
26- 2,	25-	293.75	ML	51.13	1.28	14.76	10.61	-	7.59	11.95	2.07	0.22	0.11	99.72
26- 2,	132-	294.82	ML	51.18	1.23	14.86	10.58	-	7.33	11.90	2.14	0.21	0.13	99.56
26- 2,	132-133	294.83	AU	50.32	1.25	14.27	10.67	0.21	7.63	11.71	2.12	0.24	-	98.42
27- 1,	92-	302.42	ML	51.18	1.24	14.74	10.50	-	7.53	11.86	2.16	0.20	0.12	99.53
27- 1,	97- 98	302.47	AU	50.39	1.38	14.31	10.87	0.22	7.63	11.68	2.10	0.24	-	98.82
31- 1,	88-	340.38	ML	51.28	1.10	14.69	9.82	-	7.45	12.33	2.11	0.15	0.09	99.02
36- 2,	96-	389.46	ML	51.89	1.18	14.68	9.81	-	8.05	12.25	2.04	0.16	0.12	100.18
37- 1,	110-	397.60	ML	51.21	1.03	14.86	10.40	-	7.27	11.98	2.21	0.14	0.08	99.18
40- 1,	49-	425.49	ML	51.67	1.13	14.66	10.48	-	7.47	11.97	2.12	0.17	0.10	99.77
40- 1,	57-	425.57	ML	51.42	1.03	14.72	10.45	-	7.32	11.95	2.18	0.17	0.10	99.34
40- 2,	131-	427.81	ML	51.44	1.19	14.77	11.19	-	6.80	11.35	2.20	0.18	0.09	99.21
40- 2,	133-	427.83	ML	50.99	1.23	14.42	11.25	-	7.09	11.59	2.20	0.20	0.10	99.07

TABLE 8B
Major Element Analyses of Basalts in Hole 332A

Sample[a]	Depth (m)	Inv.	Method	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	Total Iron	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	CO_2	H_2O^-	H_2O^+	Total	LOI	S
6- 2, 53- 56	104.05	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.16	-	-	0.16	-	-
6- 2, 56- 57	104.07	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.53	-	-	0.53	-	0.0097
6- 2, 56- 57	104.07	GUNN	XRF	50.65	0.89	14.73	2.59	6.76	9.09	0.17	7.44	13.60	2.09	0.25	0.09	-	0.39	0.85	100.50	-	-
6- 2, 92- 94	104.43	BOG	XRF	47.34	0.37	22.83	4.98	-	4.48	0.08	5.63	15.84	1.53	0.09	0.05	0.12	0.60	0.45	99.91	2.00	-
6- 2, 92- 94	104.43	GUNN	XRF	48.78	0.36	22.21	5.33	-	4.80	0.08	5.62	15.89	1.57	0.11	0.05	-	-	-	100.00	-	-
6- 2, 92- 94	104.43	AUF	AAS	47.11	0.36	21.81	5.13	-	4.62	0.08	5.72	15.90	1.51	0.10	0.02	0.18	1.19	0.65	99.76	-	-
6- 2, 92- 94	104.43	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.18	-	-	0.18	-	-
6- 2, 93- 96	104.45	MUN	AAS	46.80	0.34	22.30	1.97	2.53	4.30	0.07	5.34	16.37	1.49	0.13	0.09	-	-	-	97.43	1.70	-
6- 2, 107-109	104.58	RB	XRFAA	48.89	0.48	20.29	1.62	4.30	5.76	0.11	6.55	14.85	1.80	0.31	0.06	0.10	0.26	0.24	99.86	0.47	-
6- 2, 125-126	104.76	ISH	XRF	47.40	0.69	18.60	-	-	6.60	0.14	5.18	16.30	2.98	0.34	-	-	-	-	98.23	1.15	-
6- 2, 125-126	104.76	LEB	WET	48.30	0.45	20.30	2.07	4.13	5.99	0.12	6.90	15.00	1.68	0.14	-	-	-	-	99.09	0.75	-
7- 1, 8- 11	111.60	BOG	XRF	47.73	1.07	14.26	9.39	-	8.45	0.13	7.06	12.46	2.12	0.28	0.13	0.27	1.20	0.51	96.61	1.90	-
7- 1, 8- 11	111.60	AUF	AAS	49.77	1.03	15.17	3.20	6.40	9.28	0.16	7.36	13.06	2.16	0.28	0.12	0.05	1.25	0.50	100.51	-	-
7- 1, 8- 11	111.60	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.05	-	-	0.05	-	0.0177
7- 1, 20- 22	111.71	RB	XRFAA	50.01	1.05	14.89	3.33	6.40	9.40	0.16	7.36	12.50	2.18	0.28	0.12	0.10	0.87	0.64	99.89	1.17	-
7- 1, 40- 43	111.92	CML	XRF	48.90	0.57	17.00	8.00	-	7.20	0.14	5.90	17.10	2.00	0.25	0.11	-	-	-	99.97	-	0.0400
7- 1, 41- 43	111.92	BOG	XRF	45.77	0.40	20.77	5.59	-	5.03	0.10	5.60	15.45	1.53	0.14	0.06	0.12	1.10	0.30	96.93	1.90	-
7- 1, 41- 43	111.92	AUF	AAS	47.61	0.44	21.53	2.34	3.47	5.58	0.11	6.01	16.04	1.57	0.15	0.05	0.25	0.81	0.28	100.66	-	-
7- 1, 41- 43	111.92	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.25	-	-	0.25	-	0.0166
7- 1, 66- 68	112.17	RB	XRFAA	48.97	0.48	20.98	2.27	3.50	5.54	0.09	6.42	14.74	1.72	0.13	0.05	-	0.25	0.55	100.15	0.82	-
7- 1, 98-100	112.49	BOG	XRF	47.28	0.39	21.24	5.89	-	5.30	0.09	5.98	15.50	1.52	0.11	0.06	-	1.14	0.76	99.96	-	-
7- 1, 123-125	112.74	RB	XRFAA	50.15	1.28	14.49	3.96	7.15	10.71	0.18	6.91	11.53	2.27	0.41	0.16	0.10	0.44	0.66	99.69	0.72	-
7- 1, 125-127	112.76	GSC	NCL	49.55	1.48	15.06	4.38	6.85	10.79	0.19	6.49	11.47	2.27	0.46	0.17	0	0.70	0.73	99.80	-	0.03
7- 1, 132-134	112.83	GSC	NCL	49.40	1.33	14.88	3.58	7.11	10.33	0.18	6.99	11.81	2.26	0.27	0.15	0	0.74	0.35	99.05	-	0.03
7- 1, 143-145	112.94	RB	XRFAA	50.18	1.15	14.26	3.62	7.00	10.26	0.14	7.19	11.69	1.59	0.20	0.13	0.10	1.03	0.57	98.85	1.38	-
7- 2, 7- 10	113.09	BOG	XRF	49.59	1.17	13.50	10.62	-	9.56	0.16	6.58	11.59	2.27	0.37	0.15	0.12	1.10	0.59	97.81	2.20	-
7- 2, 7- 10	113.09	AUF	AAS	49.71	1.09	14.68	3.47	7.06	10.18	0.18	6.88	11.85	2.31	0.38	0.08	0.01	1.47	0.59	99.76	-	-
7- 2, 7- 10	113.09	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.01	-	-	0.01	-	0.0183
7- 2, 15- 17	113.16	CML	XRF	50.80	1.35	14.40	11.80	-	10.62	0.18	6.20	12.30	2.40	0.37	0.15	-	-	-	99.95	-	0.0400
7- 2, 32- 34	113.33	RB	XRFAA	50.99	1.16	14.42	3.05	7.05	9.79	0.16	7.01	11.71	2.19	0.47	0.15	-	0.83	0.47	99.66	0.98	-
7- 2, 40- 43	113.42	MUN	AAS	50.00	1.16	14.30	3.21	6.99	9.88	0.19	7.17	11.99	2.22	0.36	0.09	-	-	-	97.68	1.35	-
8- 1, 8- 10	121.09	ISH	XRF	50.10	1.67	13.30	-	-	10.90	0.15	5.47	11.90	3.09	0.84	0.20	-	-	-	97.62	1.32	-
8- 1, 8- 10	121.09	LEB	WET	50.30	1.00	14.60	3.70	7.00	10.33	0.17	7.23	11.56	2.47	0.48	-	-	-	-	98.49	1.32	-
8- 1, 15-	121.15	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.03	-	-	0.03	-	0.0072
8- 1, 15-	121.15	GUNN	XRF	49.92	1.13	14.94	3.49	7.03	10.17	0.17	7.24	12.75	2.08	0.32	0.14	-	0.74	0.73	100.68	-	-
8- 1, 15-	121.15	GUNN	XRF	49.81	1.13	15.02	3.38	7.03	10.07	0.17	7.28	12.81	2.13	0.33	0.14	-	0.74	0.73	100.70	-	-
8- 1, 30-	121.30	GUNN	XRF	50.82	1.17	14.32	11.80	-	10.62	0.18	7.00	12.01	2.12	0.45	0.14	-	-	-	100.01	-	-
8- 1, 30-	121.30	GUNN	XRF	50.80	1.17	14.29	11.72	-	10.55	0.18	7.16	12.02	2.08	0.44	0.14	-	-	-	100.00	-	-
8- 1, 30-	121.30	AUF	AAS	49.65	1.36	14.54	3.98	7.02	10.60	0.18	7.07	12.08	2.17	0.45	0.14	0.03	0.96	0.23	99.86	-	-
8- 1, 30-	121.30	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.03	-	-	0.03	-	-
8- 1, 30- 31	121.31	BOG	XRF	48.77	1.17	13.99	11.59	-	10.43	0.17	6.70	11.82	2.22	0.46	0.14	0.28	0.80	0.59	98.70	1.50	-
8- 1, 50- 52	121.51	RB	XRFAA	50.63	1.08	14.40	2.77	7.50	9.99	0.16	7.31	11.88	2.15	0.35	0.16	0.20	0.63	0.52	99.74	0.80	-
8- 1, 56- 64	121.60	TM	PROBE	51.80	1.09	14.61	2.10	7.99	9.88	0.17	7.82	11.85	2.04	0.27	-	0.28	0.26	0.19	100.47	0.41	-
8- 1, 60- 62	121.61	GSC	NCL	49.96	1.15	15.80	3.36	7.33	10.35	0.19	7.23	11.15	2.25	0.33	0.13	0.03	0.38	0.65	99.94	-	0.08
8- 1, 95- 98	121.97	BOG	XRF	50.46	1.11	14.02	11.01	-	9.91	0.17	6.91	12.21	2.20	0.35	0.13	0.27	0.50	0.48	99.82	1.20	-
8- 1, 95- 98	121.97	AUF	AAS	50.35	1.03	14.86	2.89	7.27	9.87	0.19	7.27	12.04	2.28	0.36	0.13	0.02	0.70	0.47	99.86	-	-
8- 1, 95- 98	121.97	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	-	0.02	-	0.0143
8- 1, 96- 99	121.97	CML	XRF	50.30	1.39	14.70	11.70	-	10.53	0.17	6.90	12.00	2.30	0.33	0.17	-	-	-	99.96	-	0.1100
8- 1, 96- 99	121.97	GUNN	XRF	50.32	1.22	15.14	11.10	-	9.99	0.17	7.40	12.09	2.08	0.33	0.15	-	-	-	100.00	-	-
8- 1, 98-100	121.99	CML	XRF	51.20	1.25	14.60	11.60	-	10.44	0.18	6.20	12.20	2.40	0.34	0.13	-	-	-	100.10	-	0.0400
8- 1, 120-122	122.21	TM	PROBE	-	-	-	-	-	-	-	-	-	-	-	-	0.28	0.80	0.74	1.82	-	-
8- 2, 2- 15	122.59	AUF	AAS	50.77	1.12	14.88	2.81	7.34	9.87	0.17	7.37	12.14	2.27	0.32	0.11	0.14	0.46	0.54	100.44	-	-

TABLE 8B – *Continued*

Sample[a]	Depth (m)	Inv.	Method	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	Total Iron	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	CO_2	H_2O^-	H_2O^+	Total	LOI	S
8- 2, 2- 15	122.59	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.14	-	-	0.14	-	-
8- 2, 2- 15	122.59	DT	CLASS	50.34	1.20	14.44	3.70	7.11	10.44	0.20	7.36	12.04	2.25	0.34	-	0.10	0.44	0.47	99.99	-	-
8- 2, 2- 15	122.59	ML	CLASS	50.69	1.13	15.23	3.08	7.02	9.79	0.18	7.15	12.22	2.13	0.28	0.08	0.09	0.42	0.50	100.20	-	-
8- 2, 2- 15	122.59	SGS	MISC	50.86	1.11	14.50	3.01	7.19	9.90	0.18	7.23	12.24	2.23	0.34	0.13	0.00	0.40	0.51	99.92	-	-
8- 2, 2- 15	122.59	SGS	NAA	-	-	-	-	10.20	10.20	-	-	-	2.40	-	-	-	-	-	12.60	-	-
8- 2, 2- 15	122.59	TM	PROBE	51.51	1.08	14.60	2.89	7.11	9.71	0.15	7.53	11.99	2.17	0.33	-	0.06	0.44	0.49	100.35	0.70	-
8- 2, 2- 15	122.59	USGS	WET	50.93	1.17	14.60	3.04	7.04	9.78	0.17	7.20	12.07	2.24	0.32	0.12	0.11	0.25	0.67	99.93	-	-
8- 2, 15-	122.65	SG	PROBE	51.80	1.13	14.80	1.50	8.30	9.65	0.21	7.30	12.40	2.19	0.31	-	-	-	-	99.94	-	-
8- 2, 18- 20	122.69	RB	XRFAA	51.52	1.11	14.77	2.74	6.75	9.22	0.16	7.07	12.10	2.24	0.38	0.13	0.13	0.31	0.69	100.10	0.58	-
8- 2, 33- 35	122.84	RB	XRFAA	50.75	1.08	14.45	2.69	6.95	9.37	0.17	7.00	12.61	2.21	0.25	0.15	0.57	0.26	0.44	99.58	0.72	-
8- 2, 45-	122.95	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.01	-	-	0.01	-	0.0039
8- 2, 45-	122.95	GUNN	XRF	50.97	1.10	14.62	2.86	7.34	9.92	0.18	7.30	12.22	2.19	0.27	0.13	-	0.52	0.76	100.46	-	-
8- 2, 45-	122.95	GUNN	XRF	50.74	1.11	14.65	2.93	7.34	9.98	0.18	7.27	12.23	2.35	0.26	0.12	-	0.52	0.76	100.46	-	-
8- 2, 75- 77	123.26	RB	XRFAA	50.33	1.08	14.34	3.91	5.90	9.42	0.18	6.88	12.63	2.18	0.37	0.16	0.54	0.52	0.58	99.60	1.29	-
8- 2, 90- 92	123.41	RB	XRFAA	51.29	1.09	14.66	2.54	6.90	9.19	0.18	6.99	12.47	2.19	0.37	0.13	0.36	0.22	0.68	100.07	0.68	-
8- 2, 109-112	123.61	BOG	XRF	48.44	1.06	13.73	10.47	-	9.42	0.16	6.79	11.87	2.25	0.32	0.13	0.26	0.80	0.39	96.67	1.30	-
8- 2, 109-112	123.61	AUF	AAS	50.28	1.01	14.57	3.02	7.23	9.95	0.19	7.28	12.26	2.29	0.32	0.08	0.04	0.64	0.29	99.50	-	-
8- 2, 109-112	123.61	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.04	-	-	0.04	-	0.0045
9- 1, 35- 45	130.90	ISH	XRF	50.30	1.45	14.80	-	-	10.50	0.21	5.58	12.50	2.47	0.35	-	-	-	-	98.17	0.70	-
9- 1, 35- 45	130.90	LEB	WET	50.90	1.10	15.20	2.17	7.52	9.47	0.18	7.17	12.13	2.35	0.32	-	-	-	-	99.04	0.70	-
9- 1, 67- 68	131.18	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0077
9- 1, 67- 68	131.18	BOG	XRF	51.18	1.13	14.49	10.85	-	9.76	0.17	6.90	12.09	2.25	0.31	0.12	0.17	0.70	0.52	100.88	1.90	-
9- 1, 95- 97	131.46	RB	XRFAA	50.27	1.14	14.39	3.53	6.90	10.08	0.17	6.99	11.77	2.27	0.29	0.17	0.30	0.82	0.48	99.49	1.07	-
10-CC, -	144.60	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0163
10-CC, -	144.60	GUNN	XRF	51.42	1.16	14.21	11.57	-	10.41	0.17	6.93	11.68	2.28	0.47	0.12	-	-	-	100.01	-	-
10-CC, -	144.60	GUNN	XRF	51.01	1.16	14.36	11.64	-	10.47	0.17	7.08	11.82	2.17	0.47	0.12	-	-	-	100.00	-	-
10-CC, 42- 44	144.60	RB	XRFAA	50.91	1.15	14.47	3.33	6.65	9.65	0.17	6.77	11.67	2.28	0.41	0.12	0.26	0.82	0.78	99.79	1.28	-
10-CC, 60- 61	144.60	BOG	XRF	49.69	1.18	14.57	11.38	-	10.24	0.17	7.09	11.67	2.22	0.47	0.14	0.12	0.70	0.78	100.18	1.70	-
10-CC, 60- 65	144.60	ISH	XRF	49.60	1.86	14.10	-	-	9.56	0.14	5.98	12.50	3.21	0.72	0.18	-	-	-	97.85	2.00	-
10-CC, 60- 65	144.60	LEB	WET	50.30	1.16	14.70	3.45	6.72	9.82	0.17	6.95	11.60	2.36	0.38	-	-	-	-	97.79	2.00	-
10-CC, 78- 81	144.60	AUF	AAS	50.00	1.37	14.73	4.21	6.25	10.04	0.17	7.17	11.79	2.49	0.24	0.13	0.02	1.72	0.50	100.79	-	-
10-CC, 78- 81	144.60	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	-	0.02	-	0.0037
10-CC, 80- 81	144.60	BOG	XRF	49.55	1.18	14.29	11.07	-	9.96	0.17	6.53	11.80	-	0.27	0.14	0.19	1.70	0.57	97.46	2.45	-
11- 1, 83- 85	150.34	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.34	-	-	0.34	-	0.0063
11- 1, 84- 86	150.35	RB	XRFAA	50.79	0.95	14.88	2.41	6.50	8.67	0.16	7.45	12.84	2.10	0.23	0.10	0.10	0.45	0.65	99.61	0.73	-
11- 1, 85-	150.35	AUF	AAS	49.31	0.95	15.04	2.70	6.51	8.94	0.17	7.86	13.23	2.10	0.20	0.10	0.31	1.24	0.50	100.22	-	-
11- 1, 87- 88	150.38	BOG	XRF	49.42	0.97	14.65	9.67	-	8.70	0.16	7.85	13.03	2.15	0.20	0.11	0.36	0.80	0.48	99.85	1.80	-
11- 2, 30- 32	151.31	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0939
12- 1, 81- 83	159.82	RB	XRFAA	50.31	0.87	14.56	3.52	5.90	9.07	0.15	7.80	12.82	2.00	0.46	0.10	0.44	0.37	1.03	100.33	0.95	-
12- 1, 93- 97	159.95	CML	XRF	50.40	0.98	14.20	9.90	-	8.91	0.13	9.40	12.20	2.20	0.18	0.14	-	-	-	99.73	-	0.3100
12- 1, 107-110	160.09	AUF	AAS	49.82	0.90	14.75	2.10	6.97	8.86	0.13	8.69	12.61	2.07	0.12	0.10	0.01	1.86	0.50	100.63	-	-
12- 1, 107-110	160.09	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.01	-	-	0.01	-	0.0981
12- 1, 107-110	160.09	BOG	XRF	49.59	0.91	14.59	9.66	-	8.69	0.13	8.20	12.79	2.08	0.10	0.11	0.06	1.80	0.52	100.54	2.30	-
12- 1, 108-111	160.10	GUNN	XRF	50.69	0.91	14.82	9.77	-	8.79	0.14	8.56	12.88	2.01	0.12	0.10	-	-	-	100.00	-	-
12- 1, 108-111	160.10	MUN	AAS	49.70	0.87	14.50	2.18	6.61	8.57	0.14	8.72	13.09	2.06	0.17	0.09	-	-	-	98.13	1.48	-
12- 1, 123-	160.23	CML	XRF	49.70	1.01	14.80	11.00	-	9.90	0.17	8.10	12.30	2.30	0.29	0.14	-	-	-	99.81	-	0.0800
12- 2, 6- 8	160.57	BOG	XRF	48.81	0.89	14.47	9.46	-	8.51	0.14	8.28	12.76	2.05	0.18	0.00	-	2.17	0.40	99.61	-	-
12- 2, 20-	160.70	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0582
12- 2, 20- 21	160.71	BOG	XRF	49.05	0.92	14.48	9.24	-	8.31	0.16	8.19	12.87	2.24	0.14	0.11	0.14	1.80	0.54	99.88	2.30	-
12- 2, 20- 21	160.71	BOG	XRF	49.22	0.90	14.68	9.32	-	8.39	0.16	8.22	13.10	2.20	0.23	0.11	0.08	1.50	0.57	100.29	2.80	-
12- 2, 61- 64	161.13	BOG	XRF	49.24	0.90	14.57	9.63	-	8.67	0.15	8.04	13.31	2.28	0.17	0.10	0.10	1.20	0.61	100.30	2.00	-
13- 1, 114-115	169.64	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0103
13- 1, 114-115	169.64	BOG	XRF	49.47	1.05	14.56	10.17	-	9.15	0.15	7.30	12.40	2.23	0.28	0.14	0.09	0.90	0.58	99.32	1.60	-
13- 1, 144-146	169.95	RB	XRFAA	50.73	1.07	14.83	3.56	6.15	9.35	0.15	7.20	12.46	2.32	0.25	0.12	0.32	0.14	0.91	100.21	0.33	-
14- 1, 61-	178.61	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.27	-	-	0.27	-	0.0076

14- 1,	61-	178.61	GUNN	XRF	50.46	1.07	14.57	3.25	6.75	9.67	0.17	7.35	12.98	2.20	0.34	0.11	-	0.63	0.97	100.85	-	-
14- 1,	101-103	179.02	RB	XRFAA	51.00	1.08	14.71	3.78	5.90	9.30	0.16	7.51	12.38	2.14	0.18	0.13	-	0.29	0.21	99.47	0.21	-
14- 1,	123-126	179.25	AUF	AAS	49.69	0.99	14.64	3.73	6.66	10.02	0.17	7.23	12.20	2.25	0.45	0.07	0.03	1.03	0.50	99.64	-	-
14- 1,	123-126	179.25	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.03	-	-	0.03	-	0.0064
14- 1,	123-126	179.25	BOG	XRF	49.50	1.04	13.87	10.23	-	9.20	0.16	7.09	12.04	2.22	0.44	0.12	0.13	0.90	0.56	98.30	2.60	-
14- 1,	125-128	179.26	GUNN	XRF	50.63	1.08	14.62	11.21	-	10.09	0.17	7.19	12.41	2.15	0.44	0.12	-	-	-	100.02	-	-
14- 1,	125-128	179.26	MUN	AAS	50.10	1.03	14.10	4.08	6.44	10.11	0.18	7.39	12.60	2.10	0.48	0.09	-	-	-	98.59	1.59	-
14- 1,	127-129	179.28	CML	XRF	50.60	1.24	14.50	11.40	-	10.26	0.18	6.20	12.70	2.50	0.44	0.13	-	-	-	99.89	-	0.0500
14- 1,	127-129	179.28	CML	XRF	51.10	1.25	14.80	11.20	-	10.08	0.17	6.20	12.20	2.50	0.39	0.14	-	-	-	99.95	-	0.0600
15-CC,	-	189.10	BOG	XRF	49.19	1.04	14.80	10.01	-	9.01	0.16	7.59	12.76	2.03	0.31	0.11	0.09	0.40	0.48	98.97	0.90	-
15-CC,	84-	189.10	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.07	-	-	0.07	-	0.0114
15-CC,	84-	189.10	GUNN	XRF	-	-	-	-	7.32	7.32	-	-	-	-	-	-	-	0.48	0.93	8.73	-	-
16- 1,	124-125	198.25	AUF	AAS	51.12	1.03	14.96	1.59	7.58	9.01	0.19	7.28	12.12	2.34	0.26	0.07	0.04	0.84	0.74	100.16	-	-
16- 1,	124-125	198.25	BOG	XRF	50.71	1.16	14.53	10.00	-	9.00	0.18	7.25	12.24	2.37	0.25	0.13	0.10	0.50	0.54	99.96	1.00	-
16- 1,	125-	198.25	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0965
16- 1,	125-	198.25	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.05	-	-	0.05	-	0.0750
16- 1,	125-	198.25	GUNN	XRF	51.25	1.11	14.72	2.18	7.57	9.53	0.18	7.20	12.38	2.13	0.31	0.13	-	0.39	1.07	100.62	-	-
16- 1,	125-	198.25	GUNN	XRF	51.25	1.09	14.71	2.16	7.57	9.51	0.18	7.13	12.36	2.27	0.31	0.13	-	0.39	1.07	100.62	-	-
17- 1,	14- 17	206.66	GUNN	XRF	50.49	1.10	14.80	10.69	-	9.62	0.18	7.05	13.11	2.15	0.31	0.13	-	-	-	100.01	-	-
17- 1,	14- 17	206.66	MUN	AAS	50.10	1.04	14.00	3.08	6.70	9.47	0.19	7.13	13.21	2.12	0.37	0.09	-	-	-	98.03	2.04	-
17- 1,	50- 52	207.01	RB	XRFAA	50.54	1.06	14.21	3.96	6.50	10.06	0.17	6.90	11.66	2.13	0.55	0.13	0.04	0.68	0.82	99.35	1.11	-
17- 1,	72-	207.22	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0891
17- 1,	72- 73	207.22	BOG	XRF	48.70	1.23	14.84	10.44	-	9.39	0.17	8.09	12.27	2.15	0.15	0.12	0.09	0.70	0.50	99.45	1.10	-
17- 1,	95- 97	207.46	RB	XRFAA	49.50	1.03	14.44	3.42	6.45	9.53	0.16	7.58	12.02	2.17	0.25	0.14	0.10	1.51	0.99	99.76	1.97	-
18-CC,	-	219.10	BOG	XRF	50.47	1.03	14.63	10.73	-	9.65	0.15	7.96	12.18	2.11	0.16	0.12	0.09	0.00	0.37	100.00	<0.40	-
19- 1,	35- 36	225.86	BOG	XRF	49.54	1.03	14.01	10.48	-	9.43	0.16	7.10	12.51	2.25	0.34	0.11	0.20	0.40	0.71	98.84	1.30	-
20- 2,	71- 71	237.21	CML	XRF	50.50	1.14	13.50	10.80	-	9.72	0.16	8.50	12.70	2.30	0.19	0.13	-	-	-	99.92	-	0.1000
20- 2,	71- 74	237.22	GUNN	XRF	50.23	1.03	15.04	10.29	-	9.26	0.16	8.07	12.63	2.24	0.18	0.12	-	-	-	99.99	-	-
20- 2,	110-	237.60	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0
20- 2,	112-113	237.63	BOG	XRF	49.48	1.03	14.51	9.99	-	8.99	0.15	7.86	12.40	2.22	0.18	0.12	0.06	1.30	0.65	99.95	2.30	-
21- 1,	31- 33	244.82	RB	XRFAA	49.38	1.01	14.59	2.91	6.05	8.67	0.16	7.25	13.16	2.15	0.30	0.13	0.66	0.55	0.65	98.95	1.74	-
21- 1,	57- 59	245.08	CML	XRF	50.70	1.14	14.20	10.60	-	9.54	0.17	7.70	13.00	2.20	0.26	0.13	-	-	-	100.10	-	0.0500
21- 1,	57- 60	245.09	BOG	XRF	49.61	0.99	14.60	9.14	-	8.22	0.14	7.89	12.69	2.19	0.20	0.12	0.24	0.70	0.43	98.94	1.60	-
21- 1,	101-103	245.52	RB	XRFAA	50.44	0.95	14.80	2.90	6.20	8.81	0.14	7.94	12.79	1.96	0.23	0.13	0.15	0.42	0.68	99.73	0.70	-
21- 1,	132-134	245.83	RB	XRFAA	50.04	0.95	14.66	2.54	6.10	8.39	0.15	7.58	13.45	2.05	0.24	0.11	0.84	0.53	0.42	99.66	1.48	-
22- 1,	136-	255.36	AUF	AAS	49.81	1.11	14.62	3.45	6.91	10.01	0.18	6.89	11.85	2.32	0.38	0.15	0.09	1.35	0.42	99.53	-	-
22- 1,	136-	255.36	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.09	-	-	0.09	-	0.0197
22- 1,	136-137	255.37	BOG	XRF	49.37	1.22	14.51	11.24	-	10.11	0.17	7.29	12.08	2.20	0.38	0.14	0.12	1.00	0.66	100.38	1.90	-
23- 1,	26- 27	263.76	RB	XRFAA	49.55	1.03	14.54	3.17	6.35	9.20	0.13	7.51	12.21	2.04	0.24	0.15	0.25	1.37	0.93	99.47	2.08	-
23- 1,	59- 61	264.10	RB	XRFAA	50.55	1.17	14.12	3.83	7.10	10.55	0.15	6.74	11.49	2.21	0.34	0.14	0.31	1.00	1.00	100.15	1.41	-
23- 1,	100-105	264.53	BOG	XRF	50.17	1.23	14.38	11.15	-	10.03	0.16	6.58	11.49	2.17	0.39	0.12	0.34	0.80	0.58	99.56	2.07	-
23- 1,	106-109	264.58	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0328
23- 1,	130-132	264.81	RB	XRFAA	50.72	1.13	14.67	2.87	6.60	9.18	0.14	7.04	12.16	2.11	0.29	0.15	-	0.82	0.93	99.63	1.14	-
24- 1,	120-125	274.22	BOG	XRF	50.40	1.08	14.55	10.45	-	9.40	0.15	7.69	12.38	2.07	0.24	0.13	0.20	0.70	0.47	100.51	1.60	-
24- 1,	124-127	274.26	MUN	AAS	51.00	1.00	14.20	2.53	7.09	9.37	0.18	7.43	12.66	2.05	0.30	0.09	-	-	-	98.53	1.18	-
24- 1,	124-127	274.26	GUNN	XRF	50.94	1.07	14.86	10.40	-	9.36	0.17	7.51	12.62	2.06	0.25	0.12	-	-	-	100.00	-	-
24- 1,	124-127	274.26	GUNN	XRF	50.94	1.06	14.80	10.47	-	9.42	0.17	7.38	12.65	2.16	0.25	0.13	-	-	-	100.01	-	-
24- 1,	124-127	274.26	AUF	AAS	50.02	1.00	14.77	2.34	7.18	9.29	0.18	7.51	12.48	2.20	0.25	0.07	0.07	1.25	0.50	99.82	-	-
24- 1,	124-127	274.26	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.07	-	-	0.07	-	0.0191
25- 1,	36-	282.86	AUF	AAS	49.54	1.08	14.42	3.63	7.20	10.47	0.18	7.15	11.78	2.31	0.35	0.15	0.03	1.38	0.50	99.70	-	-
25- 1,	36-	282.86	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.03	-	-	0.03	-	0.0200
25- 1,	36- 37	282.87	BOG	XRF	49.05	1.19	13.91	11.25	-	10.12	0.16	7.22	11.85	2.36	0.34	0.12	0.12	1.00	0.58	99.15	1.40	-
25- 1,	130-132	283.81	GSC	NCL	50.09	1.24	16.01	3.60	7.50	10.74	0.19	6.38	10.86	2.46	0.28	0.13	0.03	0.36	0.41	99.54	-	0.06
26- 1,	39- 42	292.41	AUF	AAS	49.08	1.11	14.90	2.75	7.02	9.49	0.17	7.09	12.38	2.23	0.31	0.16	0.34	1.69	0.50	99.73	-	-
26- 1,	39- 42	292.41	BOG	XRF	49.02	1.23	14.53	10.35	-	9.31	0.16	7.24	12.19	2.26	0.31	0.15	0.34	1.30	0.52	99.60	2.60	-
26- 1,	39- 42	292.41	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.22	-	-	0.22	-	0.0122
26- 1,	43- 45	292.44	CML	XRF	50.20	1.45	15.00	12.20	-	10.98	0.17	6.60	11.40	2.30	0.42	0.19	-	-	-	99.93	-	0.0600
26- 1,	81- 86	292.84	RB	XRFAA	49.85	1.21	14.64	3.05	7.30	10.04	0.17	7.61	11.99	2.13	0.27	0.16	0.10	0.53	0.57	99.58	0.74	-

TABLE 8B – *Continued*

Sample[a]	Depth (m)	Inv.	Method	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	Total Iron	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	CO_2	H_2O^-	H_2O^+	Total	LOI	S
26-2, 68-70	294.19	RB	XRFAA	49.43	1.19	14.42	2.62	7.35	9.71	0.16	7.54	11.73	2.11	0.27	0.15	0.10	2.04	0.56	99.67	2.27	-
26-2, 107-110	294.59	CML	XRF	51.80	1.25	14.60	11.10	-	9.99	0.18	5.80	12.30	2.40	0.34	0.13	-	-	-	99.90	-	0.0400
26-2, 107-110	294.59	GUNN	XRF	51.13	1.10	14.79	10.57	-	9.51	0.18	7.27	12.30	2.18	0.35	0.12	-	-	-	99.99	-	-
27-1, 4-6	301.55	RB	XRFAA	49.61	1.20	14.40	3.35	7.20	10.21	0.16	7.68	11.77	2.10	0.26	0.17	0.10	0.99	0.66	99.65	1.15	-
27-1, 35-	301.85	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.07	-	-	0.07	-	0.0187
27-1, 35-36	301.86	AUF	AAS	49.40	1.09	14.77	3.16	7.31	10.15	0.18	7.56	12.02	2.18	0.34	0.09	0.90	0.73	0.50	100.23	-	-
27-1, 35-36	301.86	BOG	XRF	49.03	1.25	14.65	11.22	-	10.10	0.17	7.64	12.14	2.21	0.33	0.16	0.17	0.70	0.47	100.14	1.20	-
28-1, 24-27	311.26	GUNN	XRF	50.30	1.21	14.81	11.11	-	10.00	0.17	7.56	12.28	2.09	0.32	0.15	-	-	-	100.00	-	-
28-1, 24-27	311.26	MUN	AAS	49.70	1.13	14.30	3.78	6.48	9.88	0.18	7.50	11.87	2.07	0.38	0.09	-	-	-	97.48	1.77	-
28-1, 26-29	311.28	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0028
28-1, 26-29	311.28	BOG	XRF	48.56	1.04	16.44	9.35	-	8.41	0.15	7.39	12.66	2.19	0.27	0.16	0.19	1.50	0.61	100.51	2.70	-
28-1, 34-36	311.35	CML	XRF	50.60	1.41	14.30	11.40	-	10.26	0.17	7.00	12.40	2.20	0.31	0.17	-	-	-	99.96	-	0.0800
28-1, 68-70	311.69	RB	XRFAA	49.32	1.15	14.42	3.75	6.35	9.72	0.14	7.45	11.89	1.90	0.26	0.15	0.10	1.94	0.46	99.28	2.30	-
28-1, 91-96	311.93	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0239
28-1, 91-96	311.93	BOG	XRF	48.25	1.20	14.49	11.17	-	10.05	0.17	7.60	12.25	2.25	0.20	0.17	0.20	0.60	0.45	99.00	1.10	-
28-2, 55-58	313.07	GUNN	XRF	49.85	1.23	15.06	11.09	-	9.98	0.17	7.52	12.42	2.22	0.27	0.16	-	-	-	99.99	-	-
28-2, 55-58	313.07	MUN	AAS	50.10	1.13	14.40	3.56	6.78	9.98	0.19	7.31	12.26	2.14	0.33	0.09	-	-	-	98.29	0.96	-
28-2, 57-59	313.08	CML	XRF	50.70	1.49	14.60	11.70	-	10.53	0.17	6.30	11.60	2.40	0.35	0.21	-	-	-	99.52	-	0.0700
28-2, 59-62	313.11	AUF	AAS	48.90	1.07	14.44	4.00	6.49	10.09	0.17	7.51	11.62	2.21	0.31	0.15	0.08	2.19	0.50	99.64	-	-
28-2, 59-62	313.11	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.08	-	-	0.08	-	0
28-2, 59-62	313.11	BOG	XRF	48.73	1.18	13.82	11.17	-	10.05	0.17	7.18	11.78	2.22	0.30	0.15	0.06	1.60	0.69	99.05	2.80	-
28-2, 109-111	313.60	RB	XRFAA	49.70	1.20	14.50	6.29	4.70	10.36	0.15	7.48	11.84	2.04	0.38	0.15	-	0.79	1.01	100.23	1.26	-
28-3, 20-22	314.21	RB	XRFAA	49.64	1.21	14.36	4.06	6.35	10.00	0.15	7.54	11.51	2.05	0.28	0.16	0.10	1.44	0.96	99.81	1.89	-
28-3, 28-31	314.30	AUF	AAS	-	-	-	3.33	6.91	9.91	-	-	-	-	-	-	-	1.47	0.36	12.07	-	-
28-3, 28-31	314.30	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0104
28-3, 28-31	314.30	BOG	XRF	49.09	1.22	13.92	11.25	-	10.12	0.17	7.23	12.12	2.22	0.37	0.15	0.06	1.60	0.69	100.09	2.80	-
28-3, 54-56	314.55	RB	XRFAA	50.11	1.23	14.57	3.64	6.80	10.08	0.15	7.40	11.86	2.02	0.37	0.17	0.25	0.43	0.72	99.72	0.81	-
29-1, 13-14	320.64	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0214
29-1, 13-14	320.64	BOG	XRF	47.12	1.27	15.06	11.19	-	10.07	0.16	6.99	13.27	2.35	0.26	0.17	0.71	0.30	0.48	99.33	1.20	-
29-1, 26-29	320.78	BOG	XRF	49.94	1.03	16.02	9.06	-	8.15	0.15	6.63	12.80	2.09	0.36	0.12	0.14	0.50	0.46	99.30	1.18	-
29-1, 33-36	320.85	GUNN	XRF	48.73	1.28	15.29	11.45	-	10.30	0.17	6.85	13.45	2.32	0.28	0.19	-	-	-	100.01	-	-
29-1, 33-36	320.85	GUNN	XRF	48.60	1.26	15.42	11.34	-	10.20	0.17	6.91	13.52	2.31	0.28	0.18	-	-	-	99.99	-	-
29-1, 33-36	320.85	AUF	AAS	50.04	0.96	16.47	2.85	6.11	8.67	0.16	6.95	12.76	2.09	0.36	0.07	0.10	0.99	0.36	100.27	-	-
29-1, 33-36	320.85	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.10	-	-	0.10	-	0.0116
29-1, 37-39	320.88	CML	XRF	50.40	1.17	14.60	11.00	-	9.90	0.17	7.20	13.00	2.00	0.32	0.14	-	-	-	100.00	-	0.0500
29-1, 65-66	321.16	RB	XRFAA	49.29	0.99	15.81	3.96	4.70	8.26	0.13	6.95	13.63	1.97	0.24	0.15	1.34	0.53	0.37	100.06	1.81	-
30-1, 23-26	330.25	CML	XRF	49.10	1.23	15.40	11.40	-	10.26	0.16	6.00	13.60	2.40	0.40	0.21	-	-	-	99.90	-	0.0800
30-1, 59-61	330.60	RB	XRFAA	49.80	0.99	15.97	3.25	5.85	8.77	0.13	7.57	12.56	2.03	0.17	0.12	0.11	0.55	0.70	99.80	0.84	-
30-1, 135-137	331.36	RB	XRFAA	49.96	0.97	15.92	2.95	6.00	8.65	0.15	7.17	12.38	1.98	0.23	0.12	-	0.98	0.92	99.73	1.42	-
30-2, 61-65	332.13	AUF	AAS	48.78	0.95	16.12	2.74	6.43	8.90	0.15	7.16	12.68	2.05	0.31	0.08	0.01	0.93	0.36	98.75	-	-
30-2, 61-65	332.13	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.01	-	-	0.01	-	0.0169
30-2, 61-65	332.13	BOG	XRF	47.72	1.03	16.58	9.88	-	8.89	0.15	7.40	12.89	1.84	0.30	0.14	0.09	0.70	0.42	99.14	1.10	-
31-1, 23-24	339.74	BOG	XRF	49.22	1.03	16.35	9.79	-	8.81	0.15	6.46	12.66	2.29	0.36	0.13	0.07	0.50	0.59	99.60	1.20	-
31-3, 103-105	343.54	RB	XRFAA	49.69	1.08	15.56	2.15	7.20	9.13	0.17	7.73	12.81	2.14	0.22	0.14	-	0.33	0.17	99.39	0.34	-
32-1, 55-56	349.56	ISH	XRF	42.20	1.20	11.80	-	-	5.72	0.43	2.35	5.75	2.05	0.28	-				99.09	8.25	-
32-1, 106-108	350.07	CML	XRF	50.70	1.17	15.90	10.20	-	9.18	0.15	6.60	12.70	2.20	0.30	0.15	-	-	-	100.07	-	0.0500
32-1, 106-108	350.07	CML	XRF	50.00	1.18	16.10	10.40	-	9.36	0.16	6.60	12.90	2.20	0.29	0.14	-	-	-	99.97	-	0.0500
32-1, 108-111	350.10	AUF	AAS	49.32	0.99	16.36	2.91	6.11	8.73	0.15	6.93	12.78	2.06	0.29	0.07	0.02	1.35	0.41	99.75	-	-
32-1, 108-111	350.10	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	-	0.02	-	-
32-1, 108-111	350.10	BOG	XRF	49.48	1.22	15.18	10.65	-	9.58	0.16	7.65	12.18	2.07	0.29	0.13	0.05	0.80	0.57	100.43	1.50	-
32-1, 109-112	350.11	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0085
32-1, 109-112	350.11	CML	XRF	50.80	1.18	15.10	10.50	-	9.45	0.15	6.70	12.70	2.20	0.31	0.15	-	-	-	99.79	-	0.1200
32-1, 109-112	350.11	MUN	AAS	50.10	0.94	15.80	3.10	5.97	8.76	0.16	7.04	12.60	1.94	0.34	0.09	-	-	-	98.08	1.30	-
32-1, 109-112	350.11	GUNN	XRF	50.24	1.01	16.41	9.75	-	8.77	0.15	7.06	12.90	2.06	0.30	0.12	-	-	-	100.00	-	-
32-1, 109-112	350.11	GUNN	XRF	50.36	1.02	16.42	9.67	-	8.70	0.15	7.06	12.87	2.02	0.30	0.13	-	-	-	100.00	-	-

32- 1,	140-142	350.41	RB	XRFAA	49.91	0.98	16.38	2.83	6.10	8.65	0.15	7.06	12.68	1.99	0.29	0.12	0.10	0.42	0.53	99.54	0.73	-
32- 2,	28- 30	350.79	RB	XRFAA	49.81	1.01	16.21	3.53	5.80	8.98	0.15	7.10	12.61	2.09	0.23	0.13	0.09	0.74	0.26	99.76	1.17	-
33- 1,	95-	359.45	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0252
33- 1,	115-116	359.66	BOG	XRF	48.33	1.02	16.96	9.27	-	8.34	0.15	7.24	13.09	2.13	0.17	0.13	0.08	0.70	0.49	99.76	1.20	-
33- 2,	61- 64	360.63	BOG	XRF	49.61	1.02	14.53	9.00	-	8.10	0.14	7.02	12.34	2.14	0.12	0.13	0.15	0.30	0.68	97.18	1.60	-
33- 2,	95-100	360.98	BOG	XRF	48.91	1.07	14.20	11.18	-	10.06	0.17	7.00	11.96	2.18	0.19	0.14	-	2.21	0.55	99.76	-	-
33- 2,	99-103	361.01	BOG	XRF	49.40	1.00	16.20	9.41	-	8.47	0.15	7.26	13.00	2.07	0.25	0.13	-	0.72	0.49	100.08	-	-
33- 2,	130-132	361.31	RB	XRFAA	49.68	1.00	15.87	3.67	5.65	8.95	0.15	7.23	12.42	1.97	0.29	0.14	-	0.75	0.75	99.57	1.26	-
34- 1,	135-137	369.36	RB	XRFAA	50.27	0.99	16.21	3.23	5.55	8.46	0.16	7.14	12.63	1.98	0.20	0.14	0.25	0.44	0.56	99.75	0.49	-
34- 2,	6- 9	369.58	BEN	PROBE	51.00	0.99	16.90	-	-	8.76	0.17	6.92	13.00	2.01	0.27	-	-	-	-	100.02	-	-
34- 2,	36- 38	369.87	RB	XRFAA	49.90	1.00	16.12	2.61	6.10	8.45	0.15	7.06	12.90	2.01	0.19	0.12	-	0.56	0.44	99.16	0.92	-
34- 2,	136-139	370.88	BOG	XRF	48.49	1.08	14.70	10.15	-	9.13	0.17	7.46	13.70	2.11	0.23	0.14	1.27	0.20	0.33	100.03	2.00	-
35- 1,	92- 94	378.43	RB	XRFAA	49.84	0.98	16.32	2.44	6.10	8.30	0.15	6.93	12.90	2.00	0.23	0.15	0.50	0.63	0.27	99.44	1.06	-
36- 1,	21- 23	387.22	RB	XRFAA	50.48	1.01	16.15	2.25	6.50	8.52	0.16	7.23	12.58	2.02	0.22	0.12	0.10	0.37	0.53	99.72	0.46	-
36- 1,	66- 69	387.68	GUNN	XRF	50.29	1.03	16.24	9.75	-	8.77	0.16	7.19	12.95	2.01	0.26	0.12	-	-	-	100.00	-	-
36- 1,	66- 69	387.68	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0039
36- 1,	66- 69	387.68	MUN	AAS	49.80	0.94	15.80	2.68	6.11	8.52	0.16	7.15	12.60	1.94	0.30	0.09	-	-	-	97.57	1.27	-
36- 1,	66- 69	387.68	AUF	AAS	49.39	0.98	16.56	2.61	6.17	8.52	0.15	7.03	13.00	2.06	0.26	0.07	0.22	0.89	0.50	99.89	-	-
36- 1,	66- 69	387.68	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.22	-	-	0.22	-	-
36- 1,	66- 69	387.68	BOG	XRF	48.31	1.06	16.75	9.42	-	8.48	0.15	7.03	13.18	2.06	0.25	0.13	0.09	1.30	0.65	100.38	1.30	-
36- 2,	5- 7	388.56	RB	XRFAA	50.24	1.00	16.54	2.50	6.35	8.60	0.15	7.16	12.66	1.98	0.21	0.12	0.04	0.22	0.48	99.65	0.28	-
36- 2,	23- 25	388.74	RB	XRFAA	49.92	0.99	16.31	3.33	5.15	8.15	0.15	6.66	13.11	2.03	0.28	0.14	0.39	0.41	0.49	99.36	1.11	-
37- 1,	44- 46	396.95	ISH	XRF	49.00	0.08	15.00	-	-	8.90	0.16	10.30	13.80	1.21	0.04	-	-	-	-	98.49	0.41	-
37- 1,	78- 80	397.29	RB	XRFAA	49.83	0.98	16.16	2.46	6.10	8.31	0.16	6.97	12.72	2.09	0.27	0.14	0.12	1.35	0.20	99.55	1.64	-
37- 1,	101-103	397.52	RB	XRFAA	49.09	1.15	14.81	4.38	5.90	9.84	0.17	7.37	12.52	2.22	0.28	0.17	0.48	0.69	0.51	99.74	1.27	-
37- 1,	118-120	397.69	RB	XRFAA	49.82	1.16	14.82	3.71	6.75	10.09	0.16	7.47	11.97	2.13	0.28	0.16	-	0.40	0.60	99.43	0.65	-
37- 1,	141-144	397.93	AUF	AAS	49.66	1.10	14.92	1.71	7.64	9.18	0.16	7.69	11.89	2.17	0.16	0.09	0.01	1.78	0.50	99.48	-	-
37- 1,	141-144	397.93	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.01	-	-	0.01	-	-
37- 1,	141-144	397.93	BOG	XRF	49.73	1.12	14.37	10.97	-	9.87	0.17	7.62	11.97	2.17	0.16	0.15	0.28	0.40	0.47	99.58	2.30	-
37- 1,	144-149	397.97	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.1081
38- 1,	144-146	407.45	RB	XRFAA	50.76	0.99	16.70	2.90	5.40	8.01	0.15	7.15	12.84	1.99	0.20	0.13	-	0.26	0.69	100.16	0.44	-
39- 1,	38- 41	415.90	BOG	XRF	50.00	1.02	16.01	9.78	-	8.80	0.15	6.92	12.73	2.19	0.20	0.12	0.11	0.50	0.56	100.29	1.74	-
40- 1,	30- 31	425.31	BOG	XRF	47.77	1.08	14.57	11.23	-	10.10	0.17	7.31	12.43	2.11	0.13	0.13	0.47	2.00	0.81	100.21	3.80	-
40- 1,	121-	426.21	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.74	-	-	0.74	-	0
40- 1,	121-124	426.23	AUF	AAS	-	-	-	2.60	4.30	6.64	-	-	-	-	-	-	-	0.87	0.41	8.18	-	-
40- 1,	121-124	426.23	BOG	XRF	48.18	0.56	16.90	7.26	-	6.53	0.11	8.83	15.26	1.48	0.23	0.08	0.81	0.50	0.56	100.76	2.30	-
40- 2,	26- 33	426.80	DT	CLASS	47.40	0.63	17.24	2.75	4.10	6.57	0.14	9.25	15.00	1.57	0.11	-	0.96	0.87	-	100.02	-	-
40- 2,	26- 33	426.80	GUNN	XRF	48.83	0.55	16.82	7.15	-	6.43	0.12	9.39	15.49	1.48	0.11	0.07	-	-	-	100.01	-	-
40- 2,	26- 33	426.80	ML	CLASS	47.42	0.58	17.82	2.12	4.41	6.32	0.14	9.18	15.34	1.42	0.08	0.05	0.98	0.32	0.58	100.47	-	-
40- 2,	26- 33	426.80	SGS	NAA	-	-	-	-	6.60	6.60	-	-	-	1.80	-	-	-	-	-	8.40	-	-
40- 2,	26- 33	426.80	TM	PROBE	48.08	0.53	17.77	2.08	4.34	6.21	0.12	9.02	14.99	1.58	0.09	-	0.86	0.40	0.47	100.33	1.55	-
40- 2,	26- 33	426.80	USGS	WET	47.72	0.55	17.45	1.83	4.57	6.22	0.12	9.25	15.10	1.51	0.12	0.06	0.96	0.34	0.29	99.87	-	-
40- 2,	52- 55	427.04	CML	XRF	48.90	0.68	15.60	8.20	-	7.38	0.13	9.40	15.00	1.70	0.17	0.10	-	-	-	99.88	-	0.1200
40- 2,	52- 55	427.04	GUNN	XRF	48.72	0.56	17.01	7.39	-	6.65	0.13	9.46	15.01	1.53	0.12	0.07	-	-	-	100.00	-	-
40- 2,	93- 96	427.45	GUNN	XRF	48.63	0.56	17.37	7.22	-	6.50	0.12	9.28	15.01	1.56	0.19	0.07	-	-	-	100.01	-	-
40- 2,	93- 96	427.45	MUN	AAS	48.00	0.57	16.80	2.00	4.43	6.23	0.12	9.36	15.11	1.56	0.22	0.09	-	-	-	98.26	1.83	-
40- 2,	132-134	427.83	BOG	XRF	49.55	1.18	14.32	11.63	-	10.46	0.18	7.28	11.57	2.18	0.27	0.14	0.33	1.40	0.72	100.75	1.90	-
40- 2,	133-	427.83	TM	PROBE	50.05	0.98	14.15	3.45	7.30	10.40	0.20	7.58	10.86	2.45	0.26	-	0.92	1.04	0.75	99.99	2.16	-
40- 3,	35- 37	428.36	FW	XRFFP	48.88	0.55	16.61	1.62	4.90	6.36	0.12	9.99	13.98	1.55	0.11	0.07	0.13	0.56	0.39	99.46	0.82	-
40- 3,	37- 39	428.38	CML	XRF	48.70	0.65	15.20	8.20	-	7.38	0.13	11.40	13.90	1.60	0.17	0.11	-	-	-	100.06	-	0.0300
40- 3,	63- 66	428.65	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.16	-	-	0.16	-	0
40- 3,	63- 66	428.65	GUNN	XRF	48.65	0.54	15.01	1.59	5.61	7.04	0.13	12.32	14.04	1.33	0.10	0.07	-	0.55	0.71	100.65	-	-
40- 3,	63- 66	428.65	GUNN	XRF	48.69	0.54	15.01	1.61	5.61	7.05	0.13	12.31	13.91	1.40	0.10	0.06	-	0.55	0.71	100.63	-	-
40- 3,	90- 93	428.92	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0043
40- 3,	90- 95	428.93	BOG	XRF	47.05	0.52	14.57	6.74	-	6.06	0.11	11.12	13.73	1.40	0.08	0.07	0.58	0.60	0.39	96.96	2.02	-
40- 3,	92- 95	428.94	MUN	AAS	48.00	0.57	15.30	1.94	4.76	6.51	0.13	11.77	14.73	1.37	0.15	0.09	-	-	-	98.81	1.55	-
40- 3,	92- 95	428.94	GUNN	XRF	48.79	0.53	15.87	7.30	-	6.57	0.13	11.22	14.59	1.40	0.10	0.06	-	-	-	99.99	-	-
40- 3,	92- 95	428.94	GUNN	XRF	48.69	0.53	15.91	7.20	-	6.48	0.13	11.32	14.63	1.43	0.10	0.07	-	-	-	100.01	-	-

TABLE 8C
First Transition and Rare Earth Elements in Basalts in Hole 332A

Sample[a]	Depth (m)	Inv.	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	La	Ce	Nd	Sm	Eu	Gd	Tb	Ho	Tm	Yb	Lu
6- 2, 56	104.06	GUNN	-	5335	-	-	1317	70753	-	69	-	-	-	-	-	-	-	-	-	-	-	-	-
6- 2, 86	104.36	POP	-	-	160	340	-	-	-	120	-	-	-	-	-	-	-	-	-	-	-	-	-
6- 2, 92	104.42	BOG	-	2220	135	265	620	34832	25	85	68	27	-	-	-	-	-	-	-	-	-	-	-
6- 2, 92	104.42	GUNN	-	2158	-	-	620	37281	-	91	-	-	-	-	-	-	-	-	-	-	-	-	-
6- 2, 93	104.43	MUN	-	2038	-	350	542	33485	-	87	69	41	-	-	-	-	-	-	-	-	-	-	-
6- 2, 126	104.76	BAS	-	-	-	290	-	-	40	150	84	60	-	-	-	-	-	-	-	-	-	-	-
6- 2, 126	104.76	CHE	-	-	250	470	-	-	-	120	120	-	-	-	-	-	-	-	-	-	-	-	-
6- 2, 126	104.76	POP	-	-	150	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7- 1, 8	111.58	BOG	-	6530	265	200	1010	65678	43	83	90	71	-	-	-	-	-	-	-	-	-	-	-
7- 1, 20	111.70	POP	-	-	240	270	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-
7- 1, 40	111.90	CML	-	3417	-	-	1084	55956	30	93	90	41	-	-	-	-	-	-	-	-	-	-	-
7- 1, 41	111.91	BOG	-	2460	165	320	775	39099	33	80	76	31	-	-	-	-	-	-	-	-	-	-	-
7- 1, 60	112.10	POP	-	-	180	550	-	-	-	120	-	-	-	-	-	-	-	-	-	-	-	-	-
7- 1, 125	112.75	GSC	43	-	370	78	-	-	30	39	68	75	-	-	-	-	-	-	-	-	-	-	-
7- 1, 132	112.82	GSC	42	-	370	79	-	-	36	41	110	67	-	-	-	-	-	-	-	-	-	-	-
7- 2, 7	113.07	BOG	-	7130	300	85	1240	74281	43	51	79	73	-	-	-	-	-	-	-	-	-	-	-
7- 2, 15	113.15	CML	-	8093	-	-	1394	82535	-	80	96	93	-	-	-	-	-	-	-	-	-	-	-
7- 2, 26	113.26	POP	-	-	280	140	-	-	-	73	-	-	-	-	-	-	-	-	-	-	-	-	-
7- 2, 32	113.32	RBPU	45	6954	-	-	1239	76246	-	-	-	-	8.450	12.00	42.000	3.020	3.150	-	1.390	-	-	2.61	0.360
7- 2, 40	113.40	MUN	-	6954	-	63	1471	76897	-	67	84	81	-	-	-	-	-	-	-	-	-	-	-
8- 1, 15	121.15	GUNN	-	6774	-	-	1317	79150	-	67	-	-	-	-	-	-	-	-	-	-	-	-	-
8- 1, 15	121.15	GUNN	-	6774	-	-	1317	78381	-	67	-	-	-	-	-	-	-	-	-	-	-	-	-
8- 1, 30	121.30	BOG	-	7130	300	82	1320	81066	43	53	64	73	-	-	-	-	-	-	-	-	-	-	-
8- 1, 30	121.30	POP	-	-	310	100	-	-	-	80	-	-	-	-	-	-	-	-	-	-	-	-	-
8- 1, 50	121.50	RBPU	43	6474	-	-	1239	77792	-	-	-	-	7.230	8.31	52.000	3.100	1.550	-	1.070	-	-	2.33	0.360
8- 1, 56	121.56	TM	46	6534	255	30	1317	76923	51	53	72	-	5.370	14.60	9.300	2.450	0.890	-	0.580	0.70	-	2.43	0.360
8- 1, 60	121.60	GSC	42	-	360	33	-	-	36	45	87	51	-	-	-	-	-	-	-	-	-	-	-
8- 1, 95	121.95	BOG	-	6710	265	55	1380	77009	36	55	90	71	-	-	-	-	-	-	-	-	-	-	-
8- 1, 96	121.96	CML	-	8333	-	-	1317	81835	34	104	76	98	-	-	-	-	-	-	-	-	-	-	-
8- 1, 96	121.96	GUNN	-	7314	-	-	1317	77639	-	91	-	-	-	-	-	-	-	-	-	-	-	-	-
8- 1, 98	121.98	CML	-	7493	-	-	1394	81136	-	60	118	84	-	-	-	-	-	-	-	-	-	-	-
8- 1, 120	122.20	TM	-	-	275	75	-	-	50	59	63	-	-	-	-	-	-	-	-	-	-	-	-
8- 1, 135	122.35	BAS	-	-	-	-	-	-	50	100	84	120	-	-	-	-	-	-	-	-	-	-	-
8- 1, 135	122.35	CHE	-	-	320	30	-	-	-	72	120	-	-	-	-	-	-	-	-	-	-	-	-
8- 1, 135	122.35	POP	-	-	320	45	-	-	-	71	-	-	-	-	-	-	-	-	-	-	-	-	-
8- 2, 2	122.52	SGS	43	-	-	38	-	79448	76	-	-	-	6.300	13.90	-	3.000	1.000	-	0.750	-	-	2.80	0.360
8- 2, 2	122.52	TM	45	6474	270	28	1162	75594	-	62	93	-	5.700	14.80	8.500	2.480	0.860	-	-	0.80	-	2.44	0.390
8- 2, 45	122.95	GUNN	-	6594	-	-	1394	77197	-	63	-	-	-	-	-	-	-	-	-	-	-	-	-
8- 2, 45	122.95	GUNN	-	6654	-	-	1394	77686	-	63	-	-	-	-	-	-	-	-	-	-	-	-	-
8- 2, 75	123.25	RBPU	43	6474	-	-	1394	73303	-	-	-	-	6.770	9.95	62.000	2.350	0.900	-	0.800	-	-	2.73	0.340
8- 2, 109	123.59	BOG	-	6470	300	55	1240	73232	43	49	86	71	-	-	-	-	-	-	-	-	-	-	-
9- 1, 45	130.95	BAS	-	-	-	-	-	-	50	110	75	100	-	-	-	-	-	-	-	-	-	-	-
9- 1, 45	130.95	CHE	-	-	355	47	-	-	-	93	120	-	-	-	-	-	-	-	-	-	-	-	-
9- 1, 45	130.95	POP	-	-	260	84	-	-	-	72	-	-	-	-	-	-	-	-	-	-	-	-	-
9- 1, 67	131.17	BOG	-	6890	290	55	1320	75890	52	73	73	76	-	-	-	-	-	-	-	-	-	-	-
10-CC,	144.60	GUNN	-	6954	-	-	1317	80926	-	49	-	-	-	-	-	-	-	-	-	-	-	-	-
10-CC, 42	144.60	RBPU	43	6894	-	-	1317	75088	-	-	-	-	7.470	15.00	66.000	3.040	0.930	-	0.790	-	-	1.86	0.370
10-CC, 60	144.60	BOG	-	7190	300	50	1320	79597	38	46	72	78	-	-	-	-	-	-	-	-	-	-	-
10-CC, 65	144.60	BAS	-	-	-	-	-	-	90	90	80	90	-	-	-	-	-	-	-	-	-	-	-
10-CC, 65	144.60	CHE	-	-	350	40	-	-	-	80	140	-	-	-	-	-	-	-	-	-	-	-	-
10-CC, 65	144.60	POP	-	-	280	90	-	-	-	79	-	-	-	-	-	-	-	-	-	-	-	-	-
10-CC, 80	144.60	BOG	-	7250	-	-	1320	77429	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

11- 1, 87	150.37	BOG	-	5940	265	100	1260	67637	45	74	86	67	-	-	-	-	-	-	-	-	-	-	-
12- 1, 81	159.81	RBPU	42	5215	-	-	1162	70576	-	-	-	-	5.340	12.00	49.000	2.310	0.800	-	0.270	-	-	1.98	0.240
12- 1, 93	159.93	CML	-	5875	-	-	1007	69245	-	77	106	63	-	-	-	-	-	-	-	-	-	-	-
12- 1, 107	160.07	BOG	-	5580	250	107	1000	67567	43	76	92	61	-	-	-	-	-	-	-	-	-	-	-
12- 1, 108	160.08	GUNN	-	5455	-	-	1084	68336	-	77	-	-	-	-	-	-	-	-	-	-	-	-	-
12- 1, 108	160.08	MUN	-	5215	-	107	1084	66733	-	79	89	64	-	-	-	-	-	-	-	-	-	-	-
12- 1, 123	160.23	CML	-	6055	-	-	1317	76939	-	85	119	68	-	-	-	-	-	-	-	-	-	-	-
12- 2, 20	160.70	BOG	-	5640	265	13	1240	64629	41	72	90	64	-	-	-	-	-	-	-	-	-	-	-
12- 2, 20	160.70	BOG	-	5520	265	115	1240	65189	41	70	86	63	-	-	-	-	-	-	-	-	-	-	-
12- 2, 61	161.11	BOG	-	5520	265	112	1160	67357	41	70	90	60	-	-	-	-	-	-	-	-	-	-	-
13- 1, 114	169.64	BOG	-	6410	270	107	1220	71134	41	50	69	70	-	-	-	-	-	-	-	-	-	-	-
14- 1, 61	178.61	GUNN	-	6414	-	-	1317	75299	-	69	-	-	-	-	-	-	-	-	-	-	-	-	-
14- 1, 101	179.01	RBPU	43	6474	-	-	1239	72394	-	-	-	-	6.200	5.19	39.000	2.730	0.980	-	1.020	-	-	2.32	0.270
14- 1, 123	179.23	BOG	-	6350	285	85	1240	71553	43	68	90	66	-	-	-	-	-	-	-	-	-	-	-
14- 1, 125	179.25	GUNN	-	6474	-	-	1317	78408	-	68	-	-	-	-	-	-	-	-	-	-	-	-	-
14- 1, 125	179.25	MUN	-	6175	-	77	1394	78699	-	72	88	71	-	-	-	-	-	-	-	-	-	-	-
14- 1, 127	179.27	CML	-	7434	-	-	1394	79737	-	70	102	73	-	-	-	-	-	-	-	-	-	-	-
14- 1, 127	179.27	CML	-	7493	-	-	1317	78338	-	73	108	78	-	-	-	-	-	-	-	-	-	-	-
15-CC,	189.10	BOG	-	6290	270	130	1220	70015	43	76	74	65	-	-	-	-	-	-	-	-	-	-	-
16- 1, 124	198.24	BOG	-	7010	270	62	1350	69945	50	73	80	74	-	-	-	-	-	-	-	-	-	-	-
16- 1, 125	198.25	GUNN	-	6654	-	-	1394	74193	-	65	-	-	-	-	-	-	-	-	-	-	-	-	-
16- 1, 125	198.25	GUNN	-	6534	-	-	1394	74053	-	66	-	-	-	-	-	-	-	-	-	-	-	-	-
17- 1, 14	206.64	GUNN	-	6594	-	-	1394	74771	-	85	-	-	-	-	-	-	-	-	-	-	-	-	-
17- 1, 14	206.64	MUN	-	6235	-	65	1471	73729	-	87	87	81	-	-	-	-	-	-	-	-	-	-	-
17- 1, 50	207.00	RBPU	43	6354	-	-	1317	78327	-	-	-	-	6.700	8.22	60.000	3.130	0.940	-	0.790	-	-	2.19	0.330
17- 1, 72	207.22	BOG	-	7490	270	57	1280	73022	45	52	76	74	-	-	-	-	-	-	-	-	-	-	-
18-CC,	219.10	BOG	-	6170	275	80	1240	75051	38	60	79	67	-	-	-	-	-	-	-	-	-	-	-
19- 1, 35	225.85	BOG	-	6290	285	100	1240	73302	41	62	76	66	-	-	-	-	-	-	-	-	-	-	-
20- 2, 71	237.21	GUNN	-	6175	-	-	1239	71973	-	96	-	-	-	-	-	-	-	-	-	-	-	-	-
20- 2, 71	237.21	CML	-	6834	-	-	1239	75540	54	106	94	89	-	-	-	-	-	-	-	-	-	-	-
20- 2, 112	237.62	BOG	-	6290	275	225	1160	69875	43	91	90	71	-	-	-	-	-	-	-	-	-	-	-
21- 1, 57	245.07	BOG	-	6000	255	85	1080	63929	38	72	86	62	-	-	-	-	-	-	-	-	-	-	-
21- 1, 57	245.07	CML	-	6834	-	-	1317	74141	-	93	119	76	-	-	-	-	-	-	-	-	-	-	-
21- 1, 101	245.51	RBPU	42	5695	-	-	1084	68576	-	-	-	-	5.760	10.00	56.000	2.130	0.780	-	0.770	-	-	3.00	0.320
22- 1, 136	255.36	BOG	-	7430	295	62	1317	78618	41	65	69	72	-	-	-	-	-	-	-	-	-	-	-
23- 1, 100	264.50	BOG	-	7490	295	52	1320	77988	41	40	72	75	-	-	-	-	-	-	-	-	-	-	-
23- 1, 130	264.80	RBPU	44	6774	-	-	1084	71482	-	-	-	-	6.680	7.58	34.000	2.180	1.100	-	0.800	-	-	2.23	0.340
24- 1, 120	274.20	BOG	-	6590	275	95	1320	73092	64	164	110	68	-	-	-	-	-	-	-	-	-	-	-
24- 1, 124	274.24	MUN	-	5995	-	93	1394	72920	-	74	84	73	-	-	-	-	-	-	-	-	-	-	-
24- 1, 124	274.24	GUNN	-	6414	-	-	1317	72743	-	67	-	-	-	-	-	-	-	-	-	-	-	-	-
24- 1, 124	274.24	GUNN	-	6354	-	-	1317	73232	-	69	-	-	-	-	-	-	-	-	-	-	-	-	-
25- 1, 36	282.86	BOG	-	7250	280	47	1200	78688	45	49	79	75	-	-	-	-	-	-	-	-	-	-	-
25- 1, 130	283.80	GSC	43	-	380	14	-	-	33	23	75	61	-	-	-	-	-	-	-	-	-	-	-
26- 1, 39	292.39	BOG	-	7550	280	215	1280	72393	41	126	66	75	-	-	-	-	-	-	-	-	-	-	-
26- 1, 43	292.43	CML	-	8692	-	-	1317	85333	-	95	92	86	-	-	-	-	-	-	-	-	-	-	-
26- 2, 107	294.57	CML	-	7493	-	-	1394	77639	66	70	93	84	-	-	-	-	-	-	-	-	-	-	-
26- 2, 107	294.57	GUNN	-	6594	-	-	1394	73932	-	64	-	-	-	-	-	-	-	-	-	-	-	-	-
27- 1, 26	301.76	DT	-	-	270	220	-	-	-	130	-	-	-	-	-	-	-	-	-	-	-	-	-
28- 1, 24	311.24	GUNN	-	7254	-	-	1317	77709	-	87	-	-	-	-	-	-	-	-	-	-	-	-	-
28- 1, 24	311.24	MUN	-	6774	-	230	1394	76912	-	86	68	75	-	-	-	-	-	-	-	-	-	-	-
28- 1, 26	311.26	BOG	-	6350	280	215	1230	65398	43	85	67	76	-	-	-	-	-	-	-	-	-	-	-
28- 1, 34	311.34	CML	-	8453	-	-	1317	79737	-	124	92	82	-	-	-	-	-	-	-	-	-	-	-
28- 1, 91	311.91	BOG	-	7310	280	210	1280	78128	43	75	61	75	-	-	-	-	-	-	-	-	-	-	-
28- 2, 55	313.05	GUNN	-	7374	-	-	1317	77569	-	115	-	-	-	-	-	-	-	-	-	-	-	-	-
28- 2, 55	313.05	MUN	-	6774	-	273	1471	77710	-	108	107	76	-	-	-	-	-	-	-	-	-	-	-
28- 2, 57	313.07	CML	-	8932	-	-	1317	81835	-	98	92	87	-	-	-	-	-	-	-	-	-	-	-
28- 2, 59	313.09	BOG	-	7250	275	210	1320	78128	38	87	62	73	-	-	-	-	-	-	-	-	-	-	-
28- 3, 28	314.28	BOG	-	7430	280	215	1280	78688	43	85	65	78	-	-	-	-	-	-	-	-	-	-	-

TABLE 8C – *Continued*

Sample[a]	Depth (m)	Inv.	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	La	Ce	Nd	Sm	Eu	Gd	Tb	Ho	Tm	Yb	Lu
28-3, 54	314.54	RBPU	41	7374	-	-	1162	78425	-	-	-	-	7.820	13.00	54.000	2.630	1.180	-	0.760	-	-	2.38	0.360
29-1, 13	320.63	BOG	-	7730	280	225	1220	78268	37	72	55	77	-	-	-	-	-	-	-	-	-	-	-
29-1, 26	320.76	BOG	-	6230	235	225	1150	63370	41	100	70	65	-	-	-	-	-	-	-	-	-	-	-
29-1, 33	320.83	GUNN	-	7673	-	-	1317	80087	-	83	-	-	-	-	-	-	-	-	-	-	-	-	-
29-1, 37	320.87	CML	-	7014	-	-	1317	76939	-	98	93	79	-	-	-	-	-	-	-	-	-	-	-
29-1, 65	321.15	RBPU	38	5935	-	-	1007	64306	-	-	-	-	6.180	9.21	46.000	2.690	0.950	-	0.850	-	-	2.52	0.350
30-1, 23	330.23	CML	-	7374	-	-	1239	79737	35	72	58	80	-	-	-	-	-	-	-	-	-	-	-
30-1, 135	331.35	RBPU	37	5815	-	-	1162	67368	-	-	-	-	5.900	6.96	48.000	2.310	0.870	-	0.450	-	-	2.44	0.290
30-2, 61	332.11	BOG	-	6230	235	200	1160	69105	38	68	62	62	-	-	-	-	-	-	-	-	-	-	-
31-1, 23	339.73	BOG	-	6230	235	200	1135	68476	37	65	63	64	-	-	-	-	-	-	-	-	-	-	-
31-3, 103	343.53	RBPU	41	6474	-	-	1317	71119	-	-	-	-	5.870	9.48	47.000	3.010	0.920	-	0.490	-	-	3.43	0.280
32-1, 106	350.06	CML	-	7014	-	-	1162	71344	-	152	101	77	-	-	-	-	-	-	-	-	-	-	-
32-1, 106	350.06	CML	-	7074	-	-	1239	72743	-	149	104	73	-	-	-	-	-	-	-	-	-	-	-
32-1, 108	350.08	BOG	-	7430	245	225	1240	74491	38	68	69	61	-	-	-	-	-	-	-	-	-	-	-
32-1, 109	350.09	CML	-	7074	-	-	1162	73442	36	76	72	78	-	-	-	-	-	-	-	-	-	-	-
32-1, 109	350.09	MUN	-	5635	-	244	1239	68183	-	81	72	74	-	-	-	-	-	-	-	-	-	-	-
32-1, 109	350.09	GUNN	-	6055	-	-	1162	68196	-	79	-	-	-	-	-	-	-	-	-	-	-	-	-
32-1, 109	350.09	GUNN	-	6115	-	-	1162	67637	-	78	-	-	-	-	-	-	-	-	-	-	-	-	-
32-2, 28	350.78	RBPU	38	6055	-	-	1162	69867	-	-	-	-	6.350	12.00	50.000	2.210	1.050	-	0.460	-	-	1.61	0.300
33-1, 115	359.65	BOG	-	6170	240	200	1070	64839	41	114	65	64	-	-	-	-	-	-	-	-	-	-	-
33-2, 61	360.61	BOG	-	6170	245	205	1080	62950	41	70	72	62	-	-	-	-	-	-	-	-	-	-	-
33-2, 130	361.30	RBPU	38	5995	-	-	1162	69678	-	-	-	-	5.620	12.00	41.000	2.010	0.780	-	0.620	-	-	1.46	0.320
34-1, 135	369.35	RBPU	37	5935	-	-	1239	65821	-	-	-	-	5.780	5.03	38.000	2.400	0.880	-	0.810	-	-	1.75	0.320
34-2, 6	369.56	BEN	-	-	-	-	-	-	-	-	-	-	5.000	13.00	7.500	2.200	0.740	2.800	0.510	0.79	0.33	2.00	0.310
34-2, 136	370.86	BOG	-	6590	242	215	1290	70994	37	57	68	69	-	-	-	-	-	-	-	-	-	-	-
35-1, 92	378.42	RBPU	37	5875	-	-	1162	64579	-	-	-	-	6.390	8.11	53.000	2.340	0.870	-	0.630	-	-	2.32	0.300
36-1, 66	387.66	BOG	-	6470	235	220	1160	65888	36	89	65	62	-	-	-	-	-	-	-	-	-	-	-
36-1, 66	387.66	GUNN	-	6175	-	-	1239	68196	-	94	-	-	-	-	-	-	-	-	-	-	-	-	-
36-1, 66	387.66	MUN	-	5635	-	209	1239	66336	-	92	74	72	-	-	-	-	-	-	-	-	-	-	-
36-2, 5	388.55	RBPU	38	5995	-	-	1162	66946	-	-	-	-	5.910	9.79	34.000	2.810	0.850	-	0.690	-	-	2.63	0.290
37-1, 101	397.51	RBPU	41	6894	-	-	1317	76591	-	-	-	-	7.250	11.00	37.000	3.150	1.060	-	0.660	-	-	2.26	0.380
37-1, 118	397.68	RBPU	41	6954	-	-	1239	78525	-	-	-	-	7.300	10.00	35.000	2.900	1.060	-	0.570	-	-	2.94	0.380
37-1, 141	397.91	BOG	-	6770	265	232	1320	76729	54	181	69	73	-	-	-	-	-	-	-	-	-	-	-
38-1, 144	407.44	RBPU	38	5935	-	-	1162	62345	-	-	-	-	5.530	6.98	34.000	2.760	0.950	-	0.600	-	-	1.83	0.320
39-1, 38	415.88	BOG	-	6170	240	205	1150	68406	36	62	65	63	-	-	-	-	-	-	-	-	-	-	-
40-1, 30	425.30	BOG	-	6710	275	92	1320	78548	49	88	54	72	-	-	-	-	-	-	-	-	-	-	-
40-1, 121	426.21	BOG	-	3420	190	700	860	50780	36	137	52	40	-	-	-	-	-	-	-	-	-	-	-
40-2, 26	426.76	SGS	36	-	-	668	-	51407	54	-	-	-	2.600	6.60	-	1.300	0.580	-	0.300	-	-	1.40	0.210
40-2, 26	426.76	TM	35	3177	185	920	929	48353	-	225	70	-	2.270	6.70	4.400	1.120	0.460	-	0.250	0.39	-	1.12	0.180
40-2, 52	427.02	CML	-	4076	-	-	1007	57355	36	228	81	60	-	-	-	-	-	-	-	-	-	-	-
40-2, 52	427.02	GUNN	-	3357	-	-	1007	51689	-	197	-	-	-	-	-	-	-	-	-	-	-	-	-
40-2, 93	427.43	GUNN	-	3357	-	-	929	50500	-	183	-	-	-	-	-	-	-	-	-	-	-	-	-
40-2, 93	427.43	MUN	-	3417	-	793	929	48494	-	163	71	51	-	-	-	-	-	-	-	-	-	-	-
40-2, 132	427.82	BOG	-	7250	275	52	1390	81346	51	50	69	76	-	-	-	-	-	-	-	-	-	-	-
40-2, 133	427.83	TM	46	5875	280	23	1549	80991	59	60	76	-	5.570	13.90	10.000	2.620	0.950	-	0.540	0.79	-	2.65	0.460
40-3, 37	428.37	CML	-	3897	-	-	1007	57355	-	316	104	52	-	-	-	-	-	-	-	-	-	-	-
40-3, 63	428.63	GUNN	-	3237	-	-	1007	54787	-	272	-	-	-	-	-	-	-	-	-	-	-	-	-
40-3, 63	428.63	GUNN	-	3237	-	-	1007	54927	-	269	-	-	-	-	-	-	-	-	-	-	-	-	-
40-3, 90	428.90	BOG	-	3180	180	812	900	47143	41	206	71	42	-	-	-	-	-	-	-	-	-	-	-
40-3, 92	428.92	MUN	-	3417	-	1140	1007	50645	-	225	79	52	-	-	-	-	-	-	-	-	-	-	-
40-3, 92	428.92	GUNN	-	3177	-	-	1007	51060	-	251	-	-	-	-	-	-	-	-	-	-	-	-	-
40-3, 92	428.92	GUNN	-	3177	-	-	1007	50360	-	254	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 8D
Trace Elements in Basalts in Hole 332A

Sample[a]	Depth (m)	Inv.	B	Li	Rb	Sr	Cs	Ba	Tl	Th	U	Y
6- 2, 56- 57	104.07	GUNN	-	-	5.00	106.0	-	50	-	-	-	-
6- 2, 85- 86	104.36	BAS	-	8.9	13.00	-	-	-	-	-	-	-
6- 2, 85- 86	104.36	DUR	-	-	-	-	-	-	-	-	-	-
6- 2, 85- 86	104.36	POP	-	8.0	13.00	-	-	22	-	-	-	-
6- 2, 92- 94	104.43	GUNN	-	-	2.00	110.0	-	31	-	-	-	-
6- 2, 92- 94	104.43	AUM	-	-	-	-	-	-	-	-	0.130	-
6- 2, 93- 96	104.45	AUM	-	-	-	-	-	-	-	-	0.130	-
6- 2, 93- 96	104.45	MUN	-	-	4.00	142.0	-	42	-	-	-	-
6- 2, 125-126	104.76	BAS	-	5.0	5.00	-	-	-	-	-	-	-
6- 2, 125-126	104.76	CHE	-	-	-	107.0	-	50	-	-	-	-
6- 2, 125-126	104.76	DUR	-	-	-	-	-	-	-	-	-	-
6- 2, 125-126	104.76	POP	-	1.8	1.00	93.0	-	24	-	-	-	-
7- 1, 8- 11	111.60	AUM	-	-	-	-	-	-	-	-	0.190	-
7- 1, 15- 20	111.68	DUR	-	-	-	-	-	-	-	-	-	-
7- 1, 15- 20	111.68	POP	-	4.0	4.00	140.0	-	40	-	-	-	-
7- 1, 40- 43	111.92	AUM	-	-	-	-	-	-	-	-	.70	-
7- 1, 40- 43	111.92	CML	-	-	5.00	120.0	-	10	-	-	-	13.0
7- 1, 41- 43	111.92	AUM	-	-	-	-	-	-	-	-	.60	-
7- 1, 55- 60	112.08	DUR	-	-	-	-	-	-	-	-	-	-
7- 1, 55- 60	112.08	POP	-	6.8	3.30	110.0	-	23	-	-	-	-
7- 1, 125-	112.75	GSC	5	1	14	140	0.3	46	-	-	-	25
7- 1, 132-	112.82	GSC	5	3	8	130	0.2	37	-	-	-	22
7- 2, 7- 10	113.09	AUM	-	-	-	-	-	-	-	-	0.180	-
7- 2, 15- 17	113.16	CML	-	-	7.00	135.0	-	-	-	0.60	0.406	31.0
7- 2, 25- 26	113.26	DUR	-	-	-	-	-	-	-	-	-	-
7- 2, 25- 26	113.26	POP	-	4.5	7.00	120.0	-	47	-	-	-	-
7- 2, 32- 34	113.33	PU	-	-	-	-	5	-	-	1.01	1.350	-
7- 2, 40- 43	113.42	AUM	-	-	-	-	-	-	-	-	0.190	-
7- 2, 40- 43	113.42	MUN	-	-	9.00	103.0	-	104	-	-	-	-
8- 1, 15-	121.15	AUM	-	-	-	-	-	-	-	-	0.210	-
8- 1, 15-	121.15	GUNN	-	-	6.00	108.0	-	63	-	-	-	-
8- 1, 15-	121.15	GUNN	-	-	5.00	108.0	-	59	-	-	-	-
8- 1, 25- 30	121.28	DUR	-	-	-	-	-	-	-	-	-	-
8- 1, 25- 30	121.28	POP	-	5.0	7.80	130.0	-	46	-	-	-	-
8- 1, 30-	121.30	AUM	-	-	-	-	-	-	-	-	0.370	-
8- 1, 50- 52	121.51	PU	-	-	-	-	4	-	-	1.27	1.700	-
8- 1, 56- 64	121.60	TM	<1	5.0	-	77.0	-	27	-	-	-	32.0
8- 1, 60-	121.60	GSC	5	1	9	130	0.2	49	-	-	-	21
8- 1, 95- 98	121.97	AUM	-	-	-	-	-	-	-	-	0.200	-
8- 1, 96- 99	121.97	AUM	-	-	-	-	-	-	-	-	0.230	-
8- 1, 96- 99	121.97	CML	-	-	8.00	128.0	-	61	-	-	-	30.0
8- 1, 96- 99	121.97	GUNN	-	-	6.00	113.0	-	68	-	-	-	-
8- 1, 98-100	121.99	CML	-	-	6.77	118.3	-	-	-	0.40	0.205	30.0
8- 1, 120-122	122.21	TM	16	10.0	-	87.0	-	19	-	-	-	35.0
8- 1, 125-135	122.30	BAS	-	6.0	13.40	-	-	-	-	-	-	-
8- 1, 125-135	122.30	CHE	-	-	-	107.0	-	72	-	-	-	-
8- 1, 125-135	122.30	DUR	-	-	-	-	-	-	-	-	-	-
8- 1, 125-135	122.30	POP	-	4.6	3.00	130.0	-	46	-	-	-	-
8- 2, 2- 15	122.59	TM	<1	6.0	-	93.0	-	28	-	-	-	28.0
8- 2, 45-	122.95	GUNN	-	-	4.00	116.0	-	70	-	-	-	-
8- 2, 45-	122.95	GUNN	-	-	5.00	117.0	-	73	-	-	-	-

TABLE 8D – *Continued*

Zr	Hf	Nb	Ta	Pd	Ir	Pt	Au	Cd	Pb	Sb	F	P	Ga	Sn	Ag	Ge	Yb
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
120	-	-	-	-	-	-	-	-	0.25	-	-	-	13	0.73	0.025	0.35	2
110	-	-	-	-	-	-	-	-	0.25	-	-	-	12	0.65	0.025	0.35	2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
73	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.0	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	1.38	-	2.89	-	-	-	-	67	-	1.67	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
58	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	0.97	-	0.93	-	-	-	-	53	-	0.63	-	-	-	-	-	-	-
80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
110	-	-	-	-	-	-	-	-	0.25	-	-	-	7.8	0.76	0.15	0.35	2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
82	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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68	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.7	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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TABLE 8D – *Continued*

Sample[a]	Depth (m)	Inv.	B	Li	Rb	Sr	Cs	Ba	Tl	Th	U	Y
8- 2, 75- 77	123.26	PU	-	-	-	-	3	-	-	0.72	1.380	-
8- 2, 109-112	123.61	AUM	-	-	-	-	-	-	-	-	0.220	-
9- 1, 35- 45	130.90	BAS	-	5.0	7.00	-	-	-	-	-	-	-
9- 1, 35- 45	130.90	CHE	-	-	-	160.0	-	120	-	-	-	-
9- 1, 35- 45	130.90	DUR	-	-	-	-	-	-	-	-	-	-
9- 1, 35- 45	130.90	POP	-	3.0	3.40	150.0	-	120	-	-	-	-
9- 1, 67- 68	131.18	AUM	-	-	-	-	-	-	-	-	0.310	-
10-CC, -	144.60	AUM	-	-	-	-	-	-	-	-	0.270	-
10-CC, -	144.60	GUNN	-	-	10.00	116.0	-	69	-	-	-	-
10-CC, 42- 44	144.60	PU	-	-	-	-	3	-	-	1.32	1.490	-
10-CC, 60- 65	144.60	BAS	-	10.0	8.00	-	-	-	-	-	-	-
10-CC, 60- 65	144.60	CHE	-	-	-	150.0	-	750	-	-	-	-
10-CC, 60- 65	144.60	DUR	-	-	-	-	-	-	-	-	-	-
10-CC, 60- 65	144.60	POP	-	6.6	3.40	110.0	-	500	-	-	-	-
11- 2, 30- 32	151.31	AUM	-	-	-	-	-	-	-	-	0.260	-
12- 1, 81- 83	159.82	PU	-	-	-	-	3	-	-	1.04	0.970	-
12- 1, 93- 97	159.95	CML	-	-	2.00	118.0	-	-	-	-	-	24.0
12- 1, 107-110	160.09	AUM	-	-	-	-	-	-	-	-	0.190	-
12- 1, 108-111	160.10	AUM	-	-	-	-	-	-	-	-	0.170	-
12- 1, 108-111	160.10	GUNN	-	-	2.00	107.0	-	65	-	-	-	-
12- 1, 108-111	160.10	MUN	-	-	4.00	101.0	-	88	-	-	-	-
12- 1, 123-	160.23	CML	-	-	5.00	120.0	-	-	-	0.60	0.158	22.0
12- 2, 20-	160.70	AUM	-	-	-	-	-	-	-	-	0.210	-
13- 1, 114-115	169.64	AUM	-	-	-	-	-	-	-	-	0.240	-
14- 1, 61-	178.61	GUNN	-	-	6.00	113.0	-	62	-	-	-	-
14- 1, 101-103	179.02	PU	-	-	-	-	3	-	-	0.64	0.880	-
14- 1, 123-126	179.25	AUM	-	-	-	-	-	-	-	-	0.240	-
14- 1, 125-128	179.26	AUM	-	-	-	-	-	-	-	-	0.380	-
14- 1, 125-128	179.26	GUNN	-	-	9.00	116.0	-	61	-	-	-	-
14- 1, 125-128	179.26	MUN	-	-	9.00	104.0	-	100	-	-	-	-
14- 1, 127-129	179.28	CML	-	-	6.00	120.0	-	-	-	-	-	24.0
14- 1, 127-129	179.28	CML	-	-	9.00	133.0	-	-	-	-	-	24.0
15-CC, 84-	189.10	AUM	-	-	-	-	-	-	-	-	0.210	-
16- 1, 125-	198.25	AUM	-	-	-	-	-	-	-	-	1.350	-
16- 1, 125-	198.25	AUM	-	-	-	-	-	-	-	-	0.570	-
16- 1, 125-	198.25	GUNN	-	-	5.00	118.0	-	78	-	-	-	-
16- 1, 125-	198.25	GUNN	-	-	5.00	118.0	-	75	-	-	-	-
17- 1, 14- 17	206.66	AUM	-	-	-	-	-	-	-	-	0.430	-
17- 1, 14- 17	206.66	GUNN	-	-	6.00	117.0	-	60	-	-	-	-
17- 1, 14- 17	206.66	MUN	-	-	6.00	113.0	-	110	-	-	-	-
17- 1, 50- 52	207.01	PU	-	-	-	-	3	-	-	0.98	1.360	-
17- 1, 72-	207.22	AUM	-	-	-	-	-	-	-	-	0.270	-
20- 2, 71- 71	237.21	CML	-	-	5.00	112.0	-	39	-	-	-	27.0
20- 2, 71- 74	237.22	GUNN	-	-	2.00	101.0	-	60	-	-	-	-
20- 2, 71- 74	237.22	AUM	-	-	-	-	-	-	-	-	0.290	-
20- 2, 110-	237.60	AUM	-	-	-	-	-	-	-	-	0.260	-
21- 1, 57- 59	245.08	CML	-	-	4.31	108.2	-	-	-	0.90	0.166	23.0
21- 1, 57- 60	245.09	AUM	-	-	-	-	-	-	-	-	0.150	-
21- 1, 101-103	245.52	PU	-	-	-	-	3	-	-	0.94	0.990	-
22- 1, 136-	255.36	AUM	-	-	-	-	-	-	-	-	0.320	-
23- 1, 106-109	264.58	AUM	-	-	-	-	-	-	-	-	0.230	-

TABLE 8D – *Continued*

Zr	Hf	Nb	Ta	Pd	Ir	Pt	Au	Cd	Pb	Sb	F	P	Ga	Sn	Ag	Ge	Yb
-	0.77	-	0.83	-	-	-	-	54	-	0.75	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	-	-	-
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-	1.61	-	1.12	-	-	-	-	75	-	0.80	-	-	-	-	-	-	-
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-	1.03	-	0.99	-	-	-	-	50	-	0.50	-	-	-	-	-	-	-
55	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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51	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	-	5	-	-	-	-	-	-	0.59	-	-	-	-	-	-	-	-
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-	2.01	-	1.21	-	-	-	-	60	-	0.74	-	-	-	-	-	-	-
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52	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
59	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
64	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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58	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	2.05	-	0.68	-	-	-	-	43	-	0.51	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
72	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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60	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	1.64	-	0.68	-	-	-	-	54	-	0.68	-	-	-	-	-	-	-
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TABLE 8D – *Continued*

Sample[a]	Depth (m)	Inv.	B	Li	Rb	Sr	Cs	Ba	Tl	Th	U	Y
23- 1, 130-132	264.81	PU	-	-	-	-	2	-	-	0.77	1.120	-
24- 1, 124-127	274.26	MUN	-	-	2.00	106.0	-	97	-	-	-	-
24- 1, 124-127	274.26	GUNN	-	-	4.00	114.0	-	65	-	-	-	-
24- 1, 124-127	274.26	AUM	-	-	-	-	-	-	-	-	0.210	-
24- 1, 124-127	274.26	GUNN	-	-	4.00	114.0	-	70	-	-	-	-
24- 1, 124-127	274.26	AUM	-	-	-	-	-	-	-	-	0.340	-
25- 1, 36-	282.86	AUM	-	-	-	-	-	-	-	-	0.210	-
25- 1, 130-	283.80	GSC	5	2	8	130	0.2	49	-	-	-	25
26- 1, 39- 42	292.41	AUM	-	-	-	-	-	-	-	-	0.340	-
26- 1, 43- 45	292.44	CML	-	-	10.00	128.0	-	-	-	0.80	0.202	29.0
26- 2, 107-110	294.59	AUM	-	-	-	-	-	-	-	-	0.300	-
26- 2, 107-110	294.59	CML	-	-	11.00	138.0	-	65	-	-	-	27.0
26- 2, 107-110	294.59	GUNN	-	-	6.00	122.0	-	66	-	-	-	-
27- 1, 25- 26	301.76	DUR	-	-	-	-	-	-	-	-	-	-
27- 1, 25- 26	301.76	POP	-	4.7	9.00	140.0	-	450	-	-	-	-
27- 1, 35-	301.85	AUM	-	-	-	-	-	-	-	-	0.320	-
28- 1, 24- 27	311.26	AUM	-	-	-	-	-	-	-	-	0.270	-
28- 1, 24- 27	311.26	GUNN	-	-	6.00	113.0	-	61	-	-	-	-
28- 1, 24- 27	311.26	MUN	-	-	5.00	101.0	-	94	-	-	-	-
28- 1, 26- 29	311.28	AUM	-	-	-	-	-	-	-	-	0.330	-
28- 1, 34- 36	311.35	CML	-	-	5.19	116.2	-	-	-	0.60	0.285	27.0
28- 1, 91- 96	311.93	AUM	-	-	-	-	-	-	-	-	0.250	-
28- 2, 55- 58	313.07	AUM	-	-	-	-	-	-	-	-	0.380	-
28- 2, 55- 58	313.07	GUNN	-	-	5.00	115.0	-	70	-	-	-	-
28- 2, 55- 58	313.07	MUN	-	-	2.00	112.0	-	101	-	-	-	-
28- 2, 57- 59	313.08	CML	-	-	8.00	128.0	-	-	-	0.70	0.212	28.0
28- 2, 59- 62	313.11	AUM	-	-	-	-	-	-	-	-	0.370	-
28- 3, 28- 31	314.30	AUM	-	-	-	-	-	-	-	-	0.320	-
28- 3, 54- 56	314.55	PU	-	-	-	-	2	-	-	0.55	1.160	-
29- 1, 13- 14	320.64	AUM	-	-	-	-	-	-	-	-	0.960	-
29- 1, 33- 36	320.85	GUNN	-	-	5.00	123.0	-	79	-	-	-	-
29- 1, 33- 36	320.85	AUM	-	-	-	-	-	-	-	-	0.310	-
29- 1, 37- 39	320.88	CML	-	-	6.60	111.6	-	-	-	0.60	0.169	24.0
29- 1, 65- 66	321.16	PU	-	-	-	-	2	-	-	0.48	1.220	-
30- 1, 23- 26	330.25	AUM	-	-	-	-	-	-	-	-	0.330	-
30- 1, 23- 26	330.25	CML	-	-	10.00	127.0	-	39	-	-	-	23.0
30- 1, 135-137	331.36	PU	-	-	-	-	2	-	-	0.51	1.290	-
30- 2, 61- 65	332.13	AUM	-	-	-	-	-	-	-	-	0.180	-
31- 3, 103-105	343.54	PU	-	-	-	-	3	-	-	0.87	1.530	-
32- 1, 106-108	350.07	CML	-	-	6.00	126.0	-	-	-	1.00	0.185	22.0
32- 1, 106-108	350.07	CML	-	-	4.00	123.0	-	-	-	-	-	25.0
32- 1, 109-112	350.11	AUM	-	-	-	-	-	-	-	-	0.200	-
32- 1, 109-112	350.11	CML	-	-	6.00	115.0	-	21	-	-	-	22.0
32- 1, 109-112	350.11	MUN	-	-	8.00	104.0	-	113	-	-	-	-
32- 1, 109-112	350.11	GUNN	-	-	6.00	110.0	-	60	-	-	-	-
32- 1, 109-112	350.11	GUNN	-	-	6.00	109.0	-	53	-	-	-	-
32- 2, 28- 30	350.79	PU	-	-	-	-	3	-	-	0.76	1.350	-
33- 1, 95-	359.45	AUM	-	-	-	-	-	-	-	-	0.300	-
33- 2, 130-132	361.31	PU	-	-	-	-	3	-	-	0.89	1.120	-
34- 1, 135-137	369.36	PU	-	-	-	-	2	-	-	0.84	1.140	-
34- 2, 6- 9	369.58	BEN	-	-	-	-	-	36	-	0.49	0.16	-

TABLE 8D – *Continued*

Zr	Hf	Nb	Ta	Pd	Ir	Pt	Au	Cd	Pb	Sb	F	P	Ga	Sn	Ag	Ge	Yb
-	2.48	-	0.78	-	-	-	-	48	-	0.71	-	-	-	-	-	-	-
52	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
110	-	-	-	-	-	-	-	-	0.25	-	-	-	9.5	0.56	0.025	0.35	2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
80	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
69	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	-	-	-
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60	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
78	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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65	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
77	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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-	1.83	-	0.59	-	-	-	-	43	-	0.75	-	-	-	-	-	-	-
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66	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	2.22	-	0.90	-	-	-	-	42	-	0.50	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
61	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	1.07	-	0.54	-	-	-	-	37	-	0.49	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	2.29	-	1.02	-	-	-	-	43	-	0.83	-	-	-	-	-	-	-
62	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
65	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
57	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
54	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	1.20	-	0.83	-	-	-	-	41	-	1.14	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	1.59	-	1.02	-	-	-	-	37	-	0.80	-	-	-	-	-	-	-
-	1.37	-	0.77	-	-	-	-	41	-	0.77	-	-	-	-	-	-	-
56	1.4	8.6	-	-	-	-	-	-	0.56	-	-	-	-	-	-	-	-

TABLE 8D – *Continued*

Sample[a]	Depth (m)	Inv.	B	Li	Rb	Sr	Cs	Ba	Tl	Th	U	Y
35- 1, 92- 94	378.43		-	-	-	-	2	-	-	0.59	0.820	-
36- 1, 66- 69	387.68	GUNN	-	-	5.00	109.0	-	60	-	-	-	-
36- 1, 66- 69	387.68	AUM	-	-	-	-	-	-	-	-	0.290	-
36- 1, 66- 69	387.68	MUN	-	-	7.00	99.0	-	115	-	-	-	-
36- 1, 66- 69	387.68	AUM	-	-	-	-	-	-	-	-	0.320	-
36- 2, 5- 7	388.56	PU	-	-	-	-	2	-	-	0.51	1.330	-
37- 1, 101-103	397.52	PU	-	-	-	-	3	-	-	0.96	1.480	-
37- 1, 118-120	397.69	PU	-	-	-	-	2	-	-	0.76	1.210	-
37- 1, 141-144	397.93	AUM	-	-	-	-	-	-	-	-	0.530	-
38- 1, 144-146	407.45		-	-	-	-	2	-	-	0.52	1.350	-
40- 1, 121-	426.21	AUM	-	-	-	-	-	-	-	-	0.180	-
40- 2, 26- 33	426.80	TM	<1	4.0	-	135.0	-	12	-	-	-	22.0
40- 2, 52- 55	427.04	AUM	-	-	-	-	-	-	-	-	0.210	-
40- 2, 52- 55	427.04	CIL	-	-	2.00	125.0	-	17	-	-	-	15.0
40- 2, 52- 55	427.04	GUNN	-	-	2.00	108.0	-	42	-	-	-	-
40- 2, 93- 96	427.45	AUM	-	-	-	-	-	-	-	-	0.110	-
40- 2, 93- 96	427.45	GUNN	-	-	3.00	108.0	-	45	-	-	-	-
40- 2, 93- 96	427.45	MUN	-	-	6.00	98.0	-	58	-	-	-	-
40- 2, 133-	427.83	TM	12	13.0	-	98.0	-	22	-	-	-	38.0
40- 3, 37- 39	428.38	CML	-	-	2.08	94.8	-	-	-	<1.00	0.064	13.0
40- 3, 63- 66	428.65	AUM	-	-	-	-	-	-	-	-	0.088	-
40- 3, 63- 66	428.65	GUNN	-	-	2.00	94.0	-	42	-	-	-	-
40- 3, 63- 66	428.65	GUNN	-	-	2.00	93.0	-	43	-	-	-	-
40- 3, 90- 93	428.92	AUM	-	-	-	-	-	-	-	-	0.140	-
40- 3, 92- 95	428.94	AUM	-	-	-	-	-	-	-	-	0.100	-
40- 3, 92- 95	428.94	MUN	-	-	5.00	93.0	-	45	-	-	-	-
40- 3, 92- 95	428.94	GUNN	-	-	2.00	98.0	-	44	-	-	-	-
40- 3, 92- 95	428.94	GUNN	-	-	2.00	96.0	-	44	-	-	-	-

Note: The analyst codes are as follows: AU – F. Aumento, Dalhousie University (Chapter 57, this volume); SG – H. Sigurdsson, 20 University of Rhode Island (Chapter 71, this volume); TM – G. Thompson, Woods Hole Oceanographic Institution (Chapter 53, this volume); AUM – F. Aumento and W. Mitchell, Dalhousie University (Chapter 31, this volume); S by A. J. Naldrett, University of Toronto (Chapter 32, this volume); AUF – F. Aumento and M. Fratta, Dalhousie University; GUNN – B. Gunn, University of Montreal (Chapter 58, this volume); BOG – H. Bougault, Centre Oceanologique de Bretagne (Chapters 30 and 50, this volume); MUN – Memorial University of Newfoundland (see Chapter 56, this volume); RB – P. Robinson, University of California, Riverside (Chapters 51 and 61, this volume); RBPU – P. Robinson, University of California, Riverside (transition elements) and H. Puchelt, Universitat Karlsruhe (REE) (Chapters 51 and 37, respectively); LEB – A. Lebedkova, U.S.S.R. Academy of Sciences; ISH – I. Shevaleevsky, U.S.S.R. Academy of Sciences; GSC – Geological Survey of Canada (see Chapter 63, this volume); DT – L. Dmitriev, U.S.S.R. Academy of Sciences (Chapter 52, this volume); ML – W. Melson, Smithsonian Institute (Chapter 57, this volume); USGS – U.S. Geological Survey (see Chapter 10, this volume); SGS – J. Schilling, University of

TABLE 8D – *Continued*

Zr	Hf	Nb	Ta	Pd	Ir	Pt	Au	Cd	Pb	Sb	F	P	Ga	Sn	Ag	Ge	Yb
-	1.53	-	0.58	-	-	-	-	41	-	0.47	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
53	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	1.74	-	0.57	-	-	-	-	43	-	0.52	-	-	-	-	-	-	-
-	2.37	-	0.99	-	-	-	-	45	-	0.74	-	-	-	-	-	-	-
-	2.23	-	0.83	-	-	-	-	44	-	0.72	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	2.41	-	0.56	-	-	-	-	41	-	0.66	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Rhode Island (Chapters 38 and 71, this volume); BEN – A; Bence, New York State University, Stony Brook (Chapter 54, this volume); FW – M. Flower – Ruhr-Universitat Bochum (Chapters 51 and 61, this volume); POP – E. Popolitov, U.S.S.R. Academy of Sciences; BAS – L. Bannich and N. Sushevskaya, U.S.S.R. Academy of Sciences; CHE – S. Chernogorova and V. Kovalenker, U.S.S.R. Academy of Sciences; CML – R. Lambert, University of Alberta, (Chapter 34, this volume); PU – H. Puchelt, Universitat Karlsruhe (Chapter 37, this volume); DUR – H. Durasova, U.S.S.R. Academy of Sciences.

The methods codes are as follows: TRACK – fission track; XRF – X-ray fluorescence; AAS – atomic absorption; XRFAA – X-ray fluorescence and atomic absorption; WET – classical wet chemical techniques; NCL – neoclassical techniques; PROBE – electron microprobe; MISC – miscellaneous techniques; NAA – neutron activation analysis; CLASS – classical wet chemical techniques; XRFFP – X-ray fluorescence and flame photometry; – not detected.

TABLE 10
Geochemical Data for Basalts in Holes 332B and 332D

TABLE 10A
Major Element Analyses of Glasses in Holes 332B and 332D

Sample[a]	Depth (m)	Inv.	SiO_2	TiO_2	Al_2O_3	Total Iron	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	Total
6- 2, 46- 53	286.50	AU	50.87	1.19	14.46	10.45	0.53	7.62	11.83	2.16	0.22	-	99.33
8- 1, 36-	322.86	ML	51.54	1.18	14.88	9.90	-	7.71	12.38	2.02	0.20	0.10	99.91
8- 1, 36- 37	322.87	AU	51.16	1.24	14.51	9.99	0.46	7.82	12.21	2.01	0.20	-	99.60
8- 1, 48-	322.98	ML	51.43	1.12	14.83	10.00	-	7.73	12.46	2.04	0.17	0.13	99.91
8- 1, 50-	323.00	ML	51.73	1.17	14.91	9.94	-	7.87	12.37	2.02	0.20	0.10	100.31
8- 1, 50- 51	323.01	AU	51.23	1.25	14.54	10.01	0.46	7.89	12.16	2.01	0.21	-	99.76
8- 1, 50- 53	323.01	TM	51.46	1.12	15.05	9.42	0.19	7.84	12.08	1.79	0.14	-	99.09
10- 1, 37-	351.37	ML	51.62	1.17	15.09	9.89	-	7.52	12.33	2.02	0.15	0.11	99.90
16- 1, 30-	408.30	ML	49.60	0.75	16.46	9.35	-	8.99	12.15	2.14	0.09	0.06	99.59
16- 1, 33- 35	408.34	AU	49.63	0.84	15.61	9.58	0.46	9.73	11.98	2.09	0.14	-	100.06
16- 1, 33- 35	408.34	AU	49.20	0.87	15.92	9.45	0.16	8.78	12.22	2.04	0.17	-	98.81
16- 1, 125-	409.25	ML	50.69	0.80	16.47	9.29	-	8.77	12.69	2.00	0.09	0.06	100.86
16- 2, 5-	409.55	ML	50.45	0.79	16.74	9.30	-	8.98	12.42	1.99	0.09	0.06	100.82
16- 2, 75-	410.25	ML	50.10	0.76	16.46	9.25	-	8.90	12.30	2.05	0.08	0.07	99.97
17- 1, 91- 93	418.42	AU	49.42	0.88	15.68	9.39	0.16	8.92	12.25	1.90	0.17	-	98.77
17- 1, 101-	418.51	ML	50.34	0.79	16.41	9.32	-	8.67	12.46	2.12	0.09	0.07	100.27
17- 2, 29- 31	419.30	AU	50.35	0.88	15.87	9.26	0.16	8.46	12.15	2.05	0.17	-	99.35
19- 1, 43-	436.93	ML	50.13	0.76	16.30	9.37	-	9.06	12.30	2.02	0.10	0.07	100.11
19- 1, 43- 44	436.94	AU	49.17	0.84	15.74	9.13	0.20	9.12	14.29	2.01	0.12	-	100.62
19- 1, 43- 44	436.94	AU	50.12	0.83	15.83	9.59	0.18	9.39	12.10	2.05	0.12	-	100.21
19- 1, 44-	436.94	ML	50.13	0.77	16.26	9.24	-	9.08	12.18	2.05	0.09	0.06	99.86
19- 1, 72-	437.22	ML	50.05	0.76	16.37	9.27	-	8.78	12.27	2.07	0.12	0.06	99.75
20- 1, 99-	446.99	ML	50.15	0.73	16.52	9.25	-	9.44	11.84	2.24	0.09	0.06	100.32
20- 2, 10-	447.60	ML	50.74	0.80	16.66	9.54	-	8.95	12.84	1.93	0.10	0.07	101.63
20- 2, 74-	448.24	ML	50.34	0.66	17.30	9.29	-	9.10	12.89	2.01	0.06	0.06	101.71
20- 2, 76-	448.26	ML	49.94	0.64	16.65	9.22	-	9.29	12.49	2.05	0.08	0.03	100.39
20- 2, 76- 77	448.27	AU	49.14	0.70	15.96	9.38	0.16	9.45	12.45	1.81	0.13	-	99.18
20- 2, 103-	448.53	ML	49.94	0.66	17.18	9.20	-	9.10	12.85	2.04	0.07	0.06	101.10
20- 2, 104-	448.54	ML	49.54	0.64	16.47	9.05	-	8.98	12.24	2.05	0.07	0.04	99.08
20- 2, 104-105	448.55	AU	49.40	0.76	16.18	9.30	0.19	9.34	12.33	2.12	0.10	-	99.72
20- 2, 105-	448.55	AU	48.94	0.70	16.25	9.39	0.16	8.98	12.46	2.08	0.13	-	99.09
20- 2, 105-	448.55	ML	49.78	0.63	16.78	9.11	-	8.63	12.44	2.08	0.08	0.05	99.58
20- 2, 111-	448.61	ML	50.55	0.66	16.70	9.16	-	8.79	12.90	2.03	0.09	0.04	100.92
20- 2, 130-	448.80	ML	49.41	0.66	16.83	9.07	-	8.95	12.56	2.03	0.06	0.06	99.63
20- 2, 130-131	448.81	AU	49.74	0.72	16.17	9.46	0.17	9.53	12.34	2.13	0.10	-	100.36
20- 2, 131-	448.81	ML	49.97	0.69	16.88	9.20	-	9.17	12.87	2.02	0.06	0.06	100.92
21- 1, 40-	455.90	ML	50.17	0.67	16.78	9.19	-	9.04	12.86	1.97	0.08	0.05	100.81
21- 1, 86-	456.36	ML	49.52	0.65	16.50	8.97	-	8.82	12.18	2.07	0.06	0.05	98.82
21- 1, 86- 87	456.37	AU	49.27	0.70	16.11	9.42	0.19	9.30	12.20	2.11	0.10	-	99.40
21- 1, 107-	456.57	ML	49.42	0.63	16.52	9.14	-	9.20	12.36	2.01	0.06	0.05	99.39
21- 1, 107-110	456.59	AU	48.64	0.69	16.09	9.47	0.19	9.91	12.11	2.12	0.10	-	99.32
21- 1, 114-	456.64	ML	50.50	0.65	16.87	9.22	-	9.07	12.88	2.01	0.07	0.06	101.33
21- 1, 115-	456.65	AU	49.02	0.70	16.03	9.26	0.15	9.29	12.34	2.09	0.14	-	99.02
22- 1, 38-	465.38	ML	48.81	0.69	16.36	9.07	-	9.22	12.43	2.06	0.07	0.08	98.79
22- 2, 4- 5	466.55	TM	50.49	0.88	16.06	9.57	0.18	8.37	11.57	2.54	0.05	-	99.71
22- 2, 23-	466.73	ML	50.56	0.90	16.09	10.03	-	7.87	12.02	2.41	0.08	0.07	100.03
22- 2, 23- 25	466.74	AU	49.81	0.97	15.59	10.14	0.17	8.19	11.66	2.38	0.15	-	99.06
22- 2, 51-	467.01	ML	50.60	0.90	15.96	10.07	-	8.15	11.76	2.35	0.07	0.06	99.92
22- 2, 51- 52	467.02	AU	49.87	1.00	15.60	10.18	0.21	8.19	11.64	2.36	0.12	-	99.17
22- 2, 61- 63	467.12	AU	50.09	0.97	15.60	10.32	0.20	8.11	11.66	2.32	0.13	-	99.40
22- 3, 72- 75	468.74	AU	49.91	0.94	15.49	10.21	0.21	8.14	10.07	2.36	0.12	-	97.45
22- 3, 123-	469.23	AU	49.96	0.97	15.73	10.26	0.18	8.02	11.59	2.25	0.15	-	99.11
22- 3, 123-	469.23	ML	51.07	0.89	16.31	9.92	-	7.93	11.60	2.41	0.07	0.06	100.26
22- 3, 141-	469.41	ML	50.32	0.89	15.81	10.18	-	7.86	11.63	2.32	0.08	0.06	99.15
22- 4, 85-	470.35	ML	51.52	0.89	16.12	10.05	-	8.02	12.12	2.32	0.09	0.06	101.19
23- 1, 92-	475.42	AU	49.95	1.00	15.69	10.33	0.18	8.15	11.51	2.42	0.14	-	99.37
23- 1, 92-	475.42	ML	50.36	0.87	16.20	9.98	-	7.95	11.81	2.35	0.08	0.07	99.67
23- 2, 135-	477.35	AU	50.02	0.96	15.72	10.29	0.17	7.99	11.57	2.32	0.14	-	99.18
23- 2, 135-	477.35	ML	50.51	0.90	15.98	10.00	-	8.07	11.91	2.27	0.06	0.06	99.76
23- 3, 115-	478.65	ML	50.05	0.93	15.71	9.82	-	7.94	11.77	2.34	0.08	0.08	98.72
24- 1, 5-	484.05	ML	50.13	0.82	16.15	9.95	-	8.10	11.68	2.33	0.09	0.08	99.33
24- 2, 65-	486.15	ML	50.72	0.88	16.16	10.03	-	7.95	11.82	2.25	0.08	0.07	99.96

TABLE 10A – *Continued*

Sample[a]	Depth (m)	Inv.	SiO_2	TiO_2	Al_2O_3	Total Iron	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	Total
25- 2, 14-	495.14	ML	50.70	0.86	16.12	10.05	-	7.87	11.67	2.32	0.07	0.04	99.70
25- 2, 34-	495.34	ML	50.71	0.91	16.23	10.04	-	7.91	11.78	2.31	0.08	0.06	100.03
33- 3, 30-	572.80	ML	50.95	1.13	15.04	10.13	-	7.39	12.41	2.08	0.17	0.10	99.40
35- 3, 81-	592.31	ML	50.41	0.71	16.20	9.14	-	8.84	12.59	2.07	0.08	0.08	100.12
36- 1, 64-	598.64	ML	50.02	0.68	15.55	8.81	-	8.80	13.92	1.89	0.06	0.03	99.76
36- 2, 25-	599.75	ML	49.65	0.65	15.81	8.77	-	8.63	13.85	1.92	0.06	0.05	99.39
36- 2, 102-	600.52	ML	50.00	0.68	15.81	8.76	-	8.71	13.77	1.88	0.07	0.06	99.74
36- 3, 105-113	602.09	TM	49.56	0.67	15.90	8.29	0.17	9.19	13.57	2.15	0.07	-	99.57
36- 3, 113-	602.13	ML	49.31	0.67	15.83	8.68	-	8.88	13.89	1.87	0.06	0.06	99.25
36- 4, 17-	602.67	ML	49.91	0.66	15.93	8.74	-	8.42	13.73	1.93	0.09	0.04	99.45
41- 1, 5-	645.55	ML	51.84	1.13	14.23	10.57	-	7.55	12.37	2.10	0.18	0.10	100.07
41- 2, 95-	647.95	ML	49.69	0.66	16.68	9.16	-	8.80	12.65	2.03	0.05	0.06	99.78
43- 2, 70-	666.70	ML	50.91	1.04	14.57	10.56	-	7.20	12.21	2.19	0.16	0.09	98.93
45- 1, 42-	683.92	ML	50.74	1.05	14.93	10.55	-	7.19	12.23	2.14	0.15	0.10	99.08
45- 1, 80- 83	684.32	AU	51.42	1.15	13.74	11.05	0.20	7.87	12.43	2.26	0.20	-	100.32
45- 1, 80- 83	684.32	AU	51.51	1.17	13.80	11.23	0.21	7.88	12.47	2.26	0.21	-	100.74
45- 1, 80- 83	684.32	AU	51.53	1.21	13.82	11.23	0.21	7.90	12.47	2.26	0.20	-	100.83
1- 1, 1-	142.01	ML	51.78	1.13	14.72	10.70	-	7.16	11.75	2.19	0.20	0.13	99.76
1- 1, 33-	142.33	ML	51.54	1.22	14.70	10.71	-	7.21	11.74	2.16	0.20	0.11	99.59
1- 1, 35-	142.35	AU	51.94	1.32	13.20	11.20	0.20	7.73	11.98	2.26	0.24	-	100.07
1- 1, 35-	142.35	AU	52.09	1.34	13.52	11.15	0.22	7.67	12.01	2.29	0.24	-	100.53

TABLE 10B
Major Element Analyses of Basalts in Holes 332B and 332D

Sample[a]	Depth (m)	Inv.	Method	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	Total Iron	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	CO_2	H_2O^-	H_2O^+	Total	LOI	S
1- 5, 5- 8	145.07	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	-	0.02	0.00	0.0040
1- 5, 5- 8	145.07	GUNN	XRF	47.96	0.30	23.80	1.20	3.19	4.27	0.08	5.29	16.29	1.44	0.06	0.05	-	0.81	0.26	100.73	-	-
1- 5, 37- 40	145.39	AUF	AAS	46.91	0.34	22.44	1.90	3.31	5.02	0.08	6.31	14.49	1.49	0.07	0.02	0.03	1.14	1.26	99.79	-	-
1- 5, 37- 40	145.39	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.03	-	-	0.03	0.00	0.0767
1- 5, 110-113	146.12	AUF	AAS	47.87	0.36	21.78	1.26	3.89	5.02	0.08	6.99	14.84	1.44	0.04	0.03	-	0.68	0.82	100.08	-	-
1- 5, 110-113	146.12	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	0.00	0.1011
1- 5, 110-113	146.12	GUNN	XRF	48.84	0.37	21.30	5.78	-	5.20	0.09	7.04	15.07	1.44	0.04	0.04	-	-	-	100.01	-	-
1-CC, 130-133	146.60	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	2.00	-	-	2.00	-	0.0000
1-CC, 130-133	146.60	GUNN	XRF	45.92	0.24	24.04	2.60	2.11	4.45	0.10	4.23	18.81	1.45	0.20	0.06	-	0.41	0.87	101.04	-	-
2- 1, 21- 24	151.72	AUF	AAS	47.73	0.39	21.95	1.18	4.09	5.15	0.09	6.94	14.89	1.50	0.03	0.03	0.03	0.83	0.84	100.52	-	-
2- 1, 21- 24	151.72	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.03	-	-	0.03	0.00	0.0816
2- 1, 21- 24	151.72	BOG	XRF	47.10	0.37	21.83	5.60	-	5.04	0.09	7.08	15.12	1.53	0.03	0.05	0.12	0.70	0.84	100.46	1.70	-
2- 1, 117-120	152.68	ISH	XRF	45.60	0.53	20.50	-	-	7.00	0.10	4.27	17.80	2.23	0.21	-	-	-	-	98.30	1.76	-
2- 1, 131-134	152.83	AUF	AAS	-	-	-	2.34	2.69	4.80	-	-	-	-	-	-	-	0.80	0.96	6.79	-	-
2- 1, 131-134	152.83	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0031
2- 2, 63- 66	153.64	FW	XRFFP	47.76	0.37	21.60	0.87	3.90	4.68	0.09	6.92	14.94	1.46	0.04	0.02	0.09	0.94	1.16	100.16	1.93	-
2- 2, 113-116	154.14	AUF	AAS	46.61	0.36	22.16	1.90	3.27	4.98	0.09	6.22	15.51	1.44	0.09	0.02	0.17	1.01	0.85	99.70	-	-
2- 2, 113-116	154.14	AUF	AAS	47.69	0.37	22.39	1.46	3.65	4.96	0.10	6.26	15.74	1.59	0.06	0.03	0.19	0.62	0.34	100.49	-	-
2- 2, 113-116	154.14	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.17	-	-	0.17	-	0.0031
2- 2, 113-116	154.14	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.04	-	-	0.04	-	0.0263
2- 2, 113-116	154.14	CML	XRF	49.90	0.42	17.60	6.50	-	5.85	0.10	7.40	16.00	1.70	0.15	0.08	-	-	-	99.85	-	0.2100
2- 2, 113-116	154.14	GUNN	XRF	48.79	0.36	21.54	5.60	-	5.04	0.10	6.31	15.79	1.40	0.06	0.04	-	-	-	99.99	-	-
2- 2, 113-116	154.14	MUN	AAS	46.80	0.34	21.90	4.30	1.01	4.88	0.09	6.28	15.69	1.49	0.13	0.09	-	-	-	98.12	1.50	-
2- 3, 31-	154.81	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.11	-	-	0.11	-	0.0118
2- 3, 31- 34	154.83	BOG	XRF	48.26	0.55	15.59	7.89	-	7.10	0.14	9.08	15.40	1.72	0.16	0.06	0.78	0.20	0.32	100.15	1.20	-
2- 3, 64- 67	155.16	AUF	AAS	47.65	0.41	19.89	2.31	4.32	6.40	0.12	7.09	14.79	1.63	0.17	0.05	0.11	0.83	0.56	99.93	-	-
2- 3, 64- 67	155.16	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0000
2- 3, 64- 67	155.16	BOG	XRF	48.85	0.44	19.68	6.87	-	6.18	0.11	7.22	14.77	1.67	0.16	0.06	0.17	0.40	0.54	100.94	1.20	-
2- 3, 90- 93	155.42	AUF	AAS	47.24	0.39	21.63	1.55	3.91	5.30	0.10	6.88	15.29	1.59	0.08	0.03	0.16	0.56	0.21	99.62	-	-
2- 3, 90- 93	155.42	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.16	-	-	0.16	-	0.0023
2- 3, 90- 93	155.42	MUN	AAS	47.40	0.41	21.00	4.08	1.56	5.23	0.10	6.93	15.93	1.50	0.13	0.09	-	-	-	99.13	0.93	-
2- 3, 131-134	155.83	FW	XRFFP	47.12	0.35	22.48	1.41	3.20	4.47	0.09	6.39	15.35	1.49	0.08	0.02	-	0.82	1.18	99.98	1.85	-
2- 4, 54- 57	156.56	SGS	NAA	-	-	-	-	5.30	5.30	-	-	-	1.60	-	-	-	-	-	6.90	-	-
2- 4, 122-125	157.24	FW	XRFFP	48.06	0.38	22.27	1.09	3.50	4.48	0.10	5.59	16.09	1.56	0.08	0.02	0.14	0.46	0.54	99.88	1.31	-
2- 5, 81- 84	158.33	ISH	XRF	46.00	0.53	17.70	-	-	6.67	0.08	9.30	15.02	1.75	0.14	-	-	-	-	97.46	2.45	-
2- 5, 103-106	158.55	CML	XRF	49.00	.40	18.40	6.00	-	5.40	.09	8.60	15.50	1.50	.12	.08	-	-	-	99.69	-	.1800
2- 5, 106-109	158.58	AUF	AAS	47.47	.36	21.60	1.29	4.10	5.26	.09	7.03	14.87	1.50	.04	.02	.08	.68	.93	100.12	-	-
2- 5, 106-109	158.58	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	.08	-	-	.08	-	.0550
2- 5, 109-111	158.60	BEN	PROBE	48.7	.32	22.0	-	-	5.34	0	7.11	14.9	1.48	.09	-	-	-	-	99.94	-	-
2- 5, 123-125	158.74	FW	XRFFP	47.95	0.36	22.29	0.72	4.00	4.65	0.09	7.04	15.22	1.40	0.03	0.02	-	0.37	0.93	100.42	1.11	-
2- 6, 41- 43	159.42	AUF	AAS	47.77	0.46	18.66	1.98	4.33	6.11	0.11	7.45	15.50	1.35	0.40	0.03	-	0.48	0.71	99.23	-	-
2- 6, 41- 43	159.42	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0058
2- 6, 41- 43	159.42	GUNN	XRF	49.41	0.46	18.48	6.76	-	6.08	0.12	7.55	15.54	1.54	0.10	0.05	-	-	-	100.01	-	-
2- 6, 90- 93	159.92	AUF	AAS	48.02	0.76	15.52	1.92	7.47	9.20	0.14	9.31	11.95	2.14	0.08	0.05	0.03	1.40	0.80	99.59	-	-
2- 6, 90- 93	159.92	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.07	-	-	0.07	-	0.0892
2- 6, 94- 97	159.96	FW	XRFFP	47.81	0.39	20.59	0.74	4.30	4.97	0.10	7.72	14.67	1.49	0.04	0.03	0.21	0.75	1.25	100.09	1.93	-
2- 6, 102-105	160.04	ISH	XRF	50.10	.58	11.30	-	-	7.37	.14	9.36	16.20	1.86	.13	-	-	-	-	97.04	2.18	-
2-CC, 3- 7	160.60	GUNN	XRF	48.34	0.34	22.26	5.39	-	4.85	0.08	6.60	15.52	1.40	0.04	0.04	-	-	-	100.01	-	-
2-CC, 3- 7	160.60	GUNN	XRF	49.27	0.33	21.71	5.32	-	4.79	0.08	6.48	15.23	1.49	0.04	0.04	-	-	-	99.99	-	-
2-CC, 119-125	160.60	AUF	AAS	-	-	-	2.08	3.83	5.70	-	-	-	-	-	-	-	0.82	0.90	7.63	-	-
2-CC, 119-125	160.60	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.17	-	-	0.17	-	0.0000
3- 1, 15- 18	199.17	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0000

3- 1,	27- 30	199.29	FW	XRFFP	47.75	0.33	22.60	1.50	3.00	4.35	0.09	6.38	15.37	1.47	0.08	0.02	-	0.65	0.75	99.99	1.60	-
3- 1,	60-	199.60	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0098
3- 1,	60-	199.60	GUNN	XRF	48.73	0.38	21.19	5.72	-	5.15	0.10	6.32	15.98	1.46	0.07	0.05	-	-	-	100.00	-	-
3- 1,	100-	200.00	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0693
3- 1,	100-103	200.01	BOG	XRF	47.50	0.32	22.92	4.96	-	4.46	0.08	6.70	15.14	1.30	0.03	0.07	0.05	0.50	0.89	100.46	1.70	-
3- 2,	98-101	201.50	TM	PROBE	-	-	-	-	-	-	-	-	-	-	-	-	0.17	0.62	0.76	1.55	-	-
3- 3,	14- 17	202.16	TM	PROBE	-	-	-	-	-	-	-	-	-	-	-	-	0.01	0.67	0.64	1.32	-	-
3- 3,	46- 49	202.47	SGS	NAA	-	-	-	-	5.90	5.90	-	-	-	1.60	-	-	-	-	-	7.50	-	-
3- 3,	77- 80	202.79	TM	PROBE	-	-	-	-	-	-	-	-	-	-	-	-	0.07	0.29	0.30	0.66	-	-
3- 3,	85- 87	202.86	ISH	XRF	45.50	.31	21.70	-	-	6.12	.10	7.20	17.00	1.00	.03	-	-	-	-	98.14	1.16	-
3- 3,	128-	203.28	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.04	-	-	0.04	-	0.0399
3- 3,	128-	203.28	GUNN	XRF	48.96	0.34	21.50	1.22	3.88	4.98	0.09	6.59	15.43	1.48	0.03	0.04	-	0.62	0.83	101.01	-	-
3- 3,	133-136	203.35	SGS	NAA	-	-	-	-	4.40	4.40	-	-	-	1.40	-	-	-	-	-	5.80	-	-
3- 4,	20-	203.70	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0552
3- 4,	20-	203.70	GUNN	XRF	49.30	0.40	19.81	6.46	-	5.81	0.10	7.47	14.92	1.43	0.05	0.04	-	-	-	99.98	-	-
3- 4,	24- 27	203.76	ISH	XRF	46.60	.44	19.10	-	-	7.39	.12	7.30	16.20	1.73	.05	-	-	-	-	98.93	.29	-
3- 4,	26- 29	203.78	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.01	-	-	0.01	-	-
3- 4,	26- 36	203.81	ML	CLASS	48.26	0.43	20.53	1.51	4.46	5.82	0.12	7.59	14.95	1.47	0.05	0.03	0.02	0.27	0.40	100.11	-	-
3- 4,	26- 36	203.81	SGS	MISC	48.40	0.42	19.81	1.34	4.75	5.96	0.10	7.55	14.95	1.55	0.08	0.03	<0.01	0.28	0.31	99.56	-	-
3- 4,	26- 36	203.81	SGS	NAA	-	-	-	-	6.20	6.20	-	-	-	1.70	-	-	-	-	-	7.90	-	-
3- 4,	26- 36	203.81	TM	PROBE	48.60	0.40	19.59	1.29	4.82	5.98	0.11	8.16	14.61	1.60	0.06	-	0.07	0.31	0.37	99.99	0.46	-
3- 4,	26- 36	203.81	USGS	WET	48.46	0.41	20.18	1.39	4.55	5.80	0.10	7.66	14.83	1.54	0.05	0.04	0.04	0.25	0.41	99.91	-	-
3- 4,	26- 36	203.81	USSR	CLASS	48.14	0.50	19.74	1.90	4.56	6.27	0.12	7.60	14.88	1.60	0.05	-	0.00	0.26	0.32	99.67	-	-
3- 4,	26- 36	203.81	GUNN	XRF	49.17	0.41	19.46	6.60	-	5.94	0.11	7.71	14.98	1.48	0.05	0.04	-	-	-	100.01	-	-
3- 4,	26- 36	203.81	GUNN	XRF	49.14	0.41	19.46	6.59	-	5.93	0.11	7.75	15.03	1.43	0.05	0.04	-	-	-	100.01	-	-
3- 4,	27-	203.77	SGS	NAA	-	-	-	-	6.40	6.40	-	-	-	1.70	-	-	-	-	-	8.10	-	-
3- 4,	40- 43	203.92	TM	PROBE	-	-	-	-	-	-	-	-	-	-	-	-	0.01	0.23	0.14	0.38	-	-
3- 4,	48- 50	203.99	FW	XRFFP	48.61	0.45	18.80	0.81	5.10	5.83	0.12	8.54	14.50	1.52	0.03	0.03	-	0.40	0.70	99.61	1.03	-
3- 4,	59-	204.09	GUNN	XRF	49.33	0.45	18.30	7.31	-	6.58	0.12	8.48	14.45	1.46	0.04	0.05	-	-	-	99.99	-	-
3- 4,	59-	204.09	GUNN	XRF	49.52	0.45	18.22	7.27	-	6.54	0.12	8.37	14.43	1.52	0.04	0.05	-	-	-	99.99	-	-
3- 4,	64- 67	204.16	SGS	NAA	-	-	-	-	6.20	6.20	-	-	-	-	-	-	-	-	-	6.20	-	-
3- 4,	98-101	204.50	TM	PROBE	48.00	0.40	18.77	1.76	4.43	6.01	0.10	8.36	14.32	1.55	0.07	-	0.36	0.69	0.55	99.36	1.66	-
3- 4,	109-	204.59	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0121
3- 4,	109-112	204.61	BOG	XRF	50.43	1.11	14.73	9.89	-	8.90	0.17	7.12	12.57	2.09	0.33	0.13	0.10	0.40	0.62	99.69	1.20	-
3- 4,	118-121	204.70	DH	XRF	48.40	2.33	14.60	-	-	10.40	0.16	6.90	13.10	2.30	0.25	-	-	-	-	98.44	0.74	-
4- 1,	100-	228.50	AUF	AAS	49.89	1.00	14.88	1.48	7.57	8.90	0.16	8.03	12.60	2.08	0.19	0.12	0.10	1.19	0.22	99.51	-	-
4- 1,	100-	228.50	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.10	-	-	0.10	-	0.1077
4- 1,	100-	228.50	GUNN	XRF	50.52	1.03	14.63	10.74	-	9.66	0.17	7.80	12.53	2.13	0.33	0.12	-	-	-	100.00	-	-
4- 1,	100-	228.50	MUN	AAS	49.20	1.04	14.70	4.37	5.82	9.75	0.17	7.68	12.54	2.03	0.37	0.28	-	-	-	98.20	2.03	-
4- 1,	100-103	228.51	BOG	XRF	49.31	1.07	14.54	9.78	-	8.80	0.17	8.35	12.35	1.98	0.18	0.12	0.12	0.90	0.76	99.63	2.00	-
4- 1,	100-103	228.51	ML	XRF	50.80	1.18	14.10	11.40	-	10.26	0.17	7.40	12.40	2.10	0.33	0.13	-	-	-	100.01	-	0.1100
4- 1,	108-111	228.60	FW	XRFFP	48.88	1.00	14.23	3.17	6.10	8.95	0.16	7.53	12.54	2.04	0.27	0.10	0.31	1.89	0.21	98.43	2.62	-
6- 1,	18-	284.68	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0034
6- 1,	18- 21	284.70	BOG	XRF	48.72	1.15	13.93	11.42	-	10.28	0.18	7.00	11.96	-	0.23	-	0.23	0.60	0.55	95.97	0.70	-
6- 1,	77-	285.27	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.03	-	-	0.03	-	0.0127
6- 1,	77- 80	285.29	AUF	AAS	50.24	1.05	14.68	3.11	6.97	9.77	0.18	7.31	12.16	2.25	0.40	0.08	0.03	1.24	0.30	100.00	-	-
6- 1,	77- 80	285.29	BOG	XRF	49.09	1.13	13.94	10.87	-	9.78	0.17	6.90	12.24	2.24	0.39	0.12	0.20	0.60	0.61	98.50	1.50	-
6- 1,	100-	285.50	CML	XRF	50.30	1.30	14.60	11.80	-	10.62	0.18	6.50	12.40	2.30	0.40	0.15	-	-	-	99.93	-	0.0900
6- 1,	111-114	285.63	FW	XRFFP	50.79	1.14	14.62	1.95	6.90	8.65	0.18	7.69	12.59	2.18	0.24	0.10	0.47	0.88	0.32	100.05	1.53	-
6- 1,	122-125	285.74	ISH	XRF	49.20	1.19	15.00	-	-	9.80	0.02	6.96	12.30	2.59	0.28	-	-	-	-	97.34	1.14	0.1500
6- 2,	84- 87	286.86	FW	XRFFP	49.22	1.07	14.42	1.71	7.00	8.54	0.18	7.58	12.23	2.25	0.29	0.09	-	2.37	0.53	98.94	3.13	-
6- 2,	122-	287.22	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0000
6- 2,	122-125	287.24	BOG	XRF	48.05	1.05	13.66	11.12	-	10.01	0.17	7.36	11.09	2.62	0.33	0.13	0.09	1.80	1.24	98.71	3.50	-
6- 2,	122-125	287.24	TM	PROBE	50.59	1.03	14.39	3.79	5.85	9.26	0.14	7.94	11.31	2.35	0.31	-	0.05	1.21	0.60	99.56	2.05	-
6- 3,	34-	287.84	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0023
6- 3,	34-	287.84	GUNN	XRF	50.64	1.11	14.76	11.76	-	10.58	0.20	6.84	12.02	2.26	0.29	0.12	-	-	-	100.00	-	-
6- 3,	34-	287.84	MUN	AAS	49.20	1.08	14.70	6.47	4.86	10.68	0.21	6.78	11.82	2.35	0.34	0.09	-	-	-	97.90	1.55	-
6- 3,	80- 83	288.32	ISH	XRF	49.90	1.09	14.30	-	-	12.60	0.17	6.49	11.30	2.35	0.40	-	-	-	-	97.83	1.14	-

TABLE 10B – *Continued*

Sample[a]	Depth (m)	Inv.	Method	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	Total Iron	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	CO_2	H_2O^-	H_2O^+	Total	LOI	S
6- 3, 87-	288.37	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.35	-	-	0.35	-	0.0110
6- 3, 87- 90	288.39	AUF	AAS	49.44	1.04	14.57	3.38	7.18	10.22	0.18	6.73	11.64	2.29	0.47	0.07	0.35	1.37	0.96	99.67	-	-
6- 3, 87- 90	288.39	BOG	XRF	49.36	1.13	14.16	12.00	-	10.80	0.18	7.08	11.93	2.26	0.48	0.12	0.36	0.50	0.82	100.38	2.00	-
7- 1, 36- 37	313.37	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.08	-	-	0.08	-	0.0151
7- 1, 36- 37	313.37	GUNN	XRF	50.13	1.02	16.26	2.94	6.21	8.85	0.15	7.22	13.00	1.99	0.26	0.13	-	0.75	0.79	100.85	-	-
8- 1, 6- 7	322.57	ISH	XRF	49.20	1.08	16.30	-	-	8.27	0.15	8.49	12.80	2.04	0.34	-	-	-	-	98.49	1.10	-
8- 1, 14- 17	322.66	AUF	AAS	49.92	1.00	16.06	3.10	5.73	8.52	0.15	6.96	13.02	2.09	0.24	0.14	0.02	1.26	0.71	100.40	-	-
8- 1, 14- 17	322.66	AUF	AAS	49.40	0.96	16.54	2.96	5.79	8.45	0.14	6.92	12.74	2.09	0.24	0.08	0.02	1.52	0.35	99.75	-	-
8- 1, 14- 17	322.66	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	-	0.02	-	0.0369
8- 1, 14- 17	322.66	BOG	XRF	48.50	1.05	16.13	9.39	-	8.45	0.15	7.08	12.74	2.01	0.26	0.14	0.10	0.70	0.82	99.07	1.80	-
8- 1, 17- 20	322.68	GUNN	XRF	50.52	1.01	16.28	9.88	-	8.89	0.15	7.00	12.74	1.99	0.30	0.12	-	-	-	99.99	-	-
8- 1, 27- 29	322.78	ISH	XRF	49.20	1.04	15.70	-	-	9.48	0.16	7.58	12.70	1.62	0.22	-	-	-	-	97.70	0.94	-
8- 1, 62- 65	323.14	GUNN	XRF	48.06	1.00	17.59	2.97	5.80	8.48	0.16	6.84	14.56	1.99	0.24	0.14	-	0.49	0.68	100.52	-	-
8- 1, 62- 65	323.14	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	1.00	-	-	1.00	-	0.0000
8- 1, 65- 68	323.17	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0000
8- 1, 65- 68	323.17	GUNN	XRF	48.68	1.00	16.61	9.53	-	8.58	0.16	6.76	14.90	2.02	0.23	0.13	-	-	-	100.02	-	-
8- 1, 78- 80	323.29	ISH	XRF	47.00	1.04	16.10	-	-	10.80	0.17	5.76	14.20	2.21	0.27	-	-	-	-	97.60	1.69	-
8- 1, 94- 96	323.45	GUNN	XRF	50.41	1.02	16.29	1.83	7.06	8.71	0.15	7.28	12.97	1.95	0.13	0.12	-	0.57	0.83	100.61	-	-
8- 1, 94- 96	323.45	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0991
8- 1, 96- 98	323.47	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0962
8- 1, 96- 98	323.47	GUNN	XRF	50.69	1.02	16.21	9.82	-	8.84	0.15	7.24	12.68	1.91	0.16	0.12	-	-	-	100.00	-	-
8- 2, 75- 77	324.76	GUNN	XRF	50.73	1.03	16.40	1.77	6.72	8.31	0.14	7.36	12.88	1.97	0.12	0.13	-	0.48	0.56	100.29	-	-
8- 2, 75- 77	324.76	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.06	-	-	0.06	-	0.0877
8- 2, 77- 79	324.78	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0302
8- 2, 77- 79	324.78	GUNN	XRF	50.54	1.00	16.74	9.51	-	8.56	0.15	7.18	12.58	2.03	0.16	0.11	-	-	-	100.00	-	-
8- 3, 7- 8	325.58	GUNN	XRF	50.23	1.03	15.89	9.71	-	8.74	0.15	7.43	13.16	2.07	0.20	0.12	-	-	-	99.99	-	-
8- 3, 7- 8	325.58	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0044
8- 3, 9- 11	325.60	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0000
8- 3, 9- 11	325.60	GUNN	XRF	49.96	1.04	15.83	10.30	-	9.27	0.16	7.16	13.09	2.09	0.24	0.13	-	-	-	100.00	-	-
8- 3, 9- 11	325.60	GUNN	XRF	50.08	1.04	15.75	10.27	-	9.24	0.16	7.19	13.08	2.08	0.24	0.12	-	-	-	100.01	-	-
8- 3, 74- 76	326.25	FW	XRFFP	50.67	1.01	16.67	1.41	6.60	7.87	0.15	7.44	12.75	2.00	0.11	0.10	0.17	0.67	0.83	100.58	1.08	-
8- 3, 90- 92	326.41	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.03	-	-	0.03	-	0.0823
8- 3, 90- 92	326.41	GUNN	XRF	50.22	0.96	17.08	1.91	6.73	8.45	0.14	7.04	13.01	1.90	0.14	0.12	-	0.64	0.71	100.60	-	-
8- 3, 90- 92	326.41	GUNN	XRF	50.10	0.97	17.06	1.94	6.73	8.48	0.14	7.04	13.08	1.92	0.15	0.12	-	0.64	0.71	100.60	-	-
8- 3, 93- 95	326.44	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.04	-	-	0.04	-	0.0848
8- 3, 93- 95	326.44	GUNN	XRF	50.32	0.98	16.62	1.63	7.19	8.66	0.15	7.17	12.94	1.94	0.15	0.11	-	0.63	0.89	100.72	-	-
8- 3, 93- 95	326.44	MUN	AAS	49.00	1.02	16.90	4.07	4.91	8.57	0.15	7.24	12.72	1.90	0.18	0.09	-	-	-	98.18	1.53	-
9- 1, 18- 21	332.20	AUF	AAS	49.75	1.00	16.77	2.83	6.11	8.66	0.15	7.20	12.79	2.04	0.25	0.12	0.03	0.97	0.50	100.51	-	-
9- 1, 18- 21	332.20	BOG	XRF	48.46	1.05	16.18	9.50	-	8.55	0.15	7.20	12.81	2.09	0.25	0.14	0.09	0.60	0.61	99.13	1.50	-
9- 1, 18- 21	332.20	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.03	-	-	0.03	-	0.0208
9- 1, 28- 30	332.29	ISH	XRF	47.70	1.15	16.10	-	-	10.20	0.15	6.39	13.50	2.33	0.28	-	-	-	-	97.80	1.39	-
9- 1, 36- 39	332.38	ISH	XRF	47.90	1.19	14.70	-	-	9.56	0.16	6.81	14.80	2.32	0.25	-	-	-	-	97.69	1.65	-
9- 1, 88- 90	332.89	FW	XRFFP	48.27	1.06	14.16	2.41	6.10	8.27	0.17	7.50	14.50	2.09	0.18	0.12	1.66	0.68	0.22	99.12	2.87	-
9- 1, 138-140	333.39	ISH	XRF	46.90	1.10	14.80	-	-	10.20	0.16	7.99	13.70	2.06	0.28	-	-	-	-	97.04	2.33	-
9- 2, 44- 46	333.95	GUNN	XRF	49.69	1.00	16.51	3.03	5.92	8.65	0.15	7.10	13.47	2.11	0.24	0.12	-	0.66	0.60	100.60	-	-
9- 2, 44- 46	333.95	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.38	-	-	0.38	-	0.0000
9- 2, 46- 48	333.97	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0000
9- 2, 46- 48	333.97	GUNN	XRF	49.96	1.00	16.33	9.72	-	8.75	0.15	7.00	13.56	1.93	0.23	0.12	-	-	-	100.00	-	-
9- 2, 76- 78	334.27	ISH	XRF	48.20	1.16	16.00	-	-	9.90	0.16	6.75	12.50	3.13	0.42	-	-	-	-	98.22	0.90	-
9- 2, 106-108	334.57	FW	XRFFP	49.82	1.04	16.17	3.60	5.60	8.84	0.15	7.38	12.69	2.10	0.24	0.11	0.10	0.81	0.59	100.40	1.43	-
9- 3, 14- 16	335.15	CML	XRF	50.30	1.10	15.40	9.80	-	8.82	0.14	8.10	12.50	2.20	0.29	0.19	-	-	-	100.02	-	0.0500
9- 3, 43- 45	335.44	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0000
9- 3, 43- 45	335.44	GUNN	XRF	50.41	1.01	16.19	9.76	-	8.78	0.16	7.22	12.76	2.10	0.28	0.12	-	-	-	100.01	-	-
9- 3, 43- 45	335.44	GUNN	XRF	50.30	1.01	16.32	9.92	-	8.93	0.16	7.24	12.63	2.04	0.27	0.13	-	-	-	100.02	-	-

9- 3,	45- 47	335.46	AUF	AAS	50.24	0.75	15.00	2.36	6.66	8.78	0.16	8.30	12.93	1.83	0.16	0.06	0.01	0.88	0.63	99.97	-	-
9- 3,	45- 47	335.46	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.10	-	-	0.10	-	0.0019
9- 3,	103-105	336.04	SGS	NAA	-	-	-	-	8.50	8.50	-	-	-	-	-	-	-	-	-	8.50	-	-
9- 3,	119-121	336.20	ISH	XRF	49.40	1.26	16.00	-	-	9.55	0.16	6.80	12.90	2.68	0.35	-	-	-	-	99.15	0.47	-
9- 3,	130-132	336.31	ISH	XRF	48.40	1.09	15.50	-	-	9.70	0.15	6.92	13.40	1.90	0.40	-	-	-	-	98.20	0.50	-
10- 1,	44- 47	351.46	ISH	XRF	50.20	1.21	16.20	-	-	8.65	0.13	7.23	12.30	2.47	0.27	-	-	-	-	98.66	0.62	-
10- 1,	62- 65	351.64	AUF	AAS	49.73	1.02	15.84	3.16	6.47	9.31	0.16	7.23	12.83	2.01	0.33	0.15	0.08	0.70	1.04	100.75	-	-
10- 1,	62- 65	351.64	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.08	-	-	0.08	-	0.0184
10- 1,	62- 65	351.64	BOG	XRF	49.50	1.04	15.41	10.06	-	9.05	0.16	7.11	12.68	2.02	0.35	0.13	0.22	0.50	0.48	99.66	1.20	-
10- 1,	102-104	352.03	ISH	XRF	46.80	1.09	15.10	-	-	9.52	0.14	6.81	14.30	2.10	0.28	-	-	-	-	96.14	3.12	-
10- 1,	131-133	352.32	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0000
10- 1,	131-133	352.32	GUNN	XRF	48.25	1.07	15.23	10.32	-	9.29	0.17	7.25	15.32	2.01	0.25	0.14	-	-	-	100.01	-	-
10- 1,	133-136	352.35	BOG	XRF	45.36	1.01	15.09	9.82	-	8.84	0.18	6.73	15.22	2.16	0.25	0.14	2.34	1.00	0.55	99.85	4.30	-
10- 1,	133-136	352.35	AUF	AAS	45.35	0.95	15.16	3.39	5.78	8.83	0.17	6.77	14.67	2.16	0.25	0.14	2.26	2.69	0.34	100.08	-	-
10- 1,	133-136	352.35	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	2.20	-	-	2.20	-	0.0000
10- 2,	111-114	353.63	ISH	XRF	49.30	1.23	14.10	-	-	10.60	0.18	9.78	11.30	2.24	0.26	-	-	-	-	98.99	0.60	-
10- 3,	20- 23	354.22	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0713
10- 3,	20- 23	354.22	GUNN	XRF	50.19	1.02	16.49	9.61	-	8.65	0.14	7.49	12.75	2.08	0.13	0.13	-	-	-	100.03	-	-
10- 3,	23- 26	354.25	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0811
10- 3,	23- 26	354.25	GUNN	XRF	50.82	1.03	16.29	9.46	-	8.51	0.14	7.42	12.55	2.04	0.14	0.12	-	-	-	100.01	-	-
10- 3,	23- 26	354.25	GUNN	XRF	50.77	1.03	16.37	9.53	-	8.58	0.14	7.36	12.55	2.00	0.14	0.12	-	-	-	100.01	-	-
10- 3,	39- 41	354.40	FW	XRFFP	50.24	1.03	16.22	1.77	6.30	7.89	0.14	7.57	12.51	2.06	0.17	0.11	0.07	0.57	0.13	98.89	0.82	-
10- 3,	49- 51	354.50	ISH	XRF	47.80	1.34	16.00	-	-	7.35	0.11	11.10	11.20	2.75	0.34	-	-	-	-	97.99	1.54	-
11- 1,	39- 42	360.91	AUF	AAS	49.31	1.01	16.12	1.62	6.81	8.27	0.14	7.58	12.84	2.01	0.18	0.10	0.06	0.75	0.78	99.31	-	-
11- 1,	39- 42	360.91	CML	XRF	51.40	1.15	15.00	9.00	-	8.10	0.12	8.80	11.70	2.10	0.23	0.18	-	-	-	99.68	-	0.2900
11- 1,	39- 42	360.91	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.06	-	-	0.06	-	0.0779
11- 1,	44- 46	360.95	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0668
11- 1,	44- 46	360.95	GUNN	XRF	50.77	1.01	16.43	9.37	-	8.43	0.14	7.35	12.65	2.00	0.16	0.11	-	-	-	99.99	-	-
11- 1,	52- 55	361.04	ISH	XRF	49.20	1.04	16.00	-	-	9.48	0.13	8.15	12.50	2.10	0.21	-	-	-	-	98.80	0.37	-
11- 1,	115-117	361.66	SGS	NAA	-	-	-	-	8.20	8.20	-	-	-	-	-	-	-	-	-	8.20	-	-
11- 1,	148-150	361.99	ISH	XRF	48.60	0.89	15.30	-	-	9.35	0.14	9.20	12.20	2.16	0.23	-	-	-	-	98.07	0.64	-
11- 1,	149-150	362.00	ISH	XRF	44.40	0.79	13.70	-	-	11.40	0.16	11.80	12.90	1.84	0.15	-	-	-	-	97.14	2.40	-
11- 2,	35- 39	362.37	ISH	XRF	51.90	0.86	14.90	-	-	9.35	0.10	7.75	11.20	2.02	0.19	-	-	-	-	98.27	1.12	-
11- 2,	80- 83	362.82	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0970
11- 2,	80- 83	362.82	GUNN	XRF	51.28	1.12	15.60	9.34	-	8.40	0.15	7.63	12.45	2.10	0.20	0.13	-	-	-	100.00	-	-
11- 2,	110-113	363.12	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	-	0.02	-	0.0000
11- 2,	110-113	363.12	AUF	AAS	49.73	1.05	16.81	3.89	5.03	8.53	0.14	7.21	12.57	2.08	0.27	0.11	0.02	0.95	0.10	99.96	-	-
11- 3,	40- 43	363.92	GUNN	XRF	50.14	0.92	16.38	9.95	-	8.95	0.14	8.00	12.13	2.14	0.12	0.09	-	-	-	100.01	-	-
11- 3,	40- 43	363.92	AUF	AAS	49.14	0.96	16.67	2.01	6.97	8.78	0.14	7.96	12.34	2.14	0.13	0.09	0.06	0.88	0.79	100.28	-	-
11- 3,	40- 43	363.92	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.06	-	-	0.06	-	0.0704
11- 3,	69- 71	364.20	ISH	XRF	49.20	0.96	15.60	-	-	9.42	0.15	8.48	13.20	2.12	0.22	-	-	-	-	99.35	0.20	-
11- 3,	75- 78	364.27	TM	PROBE	50.76	0.83	15.32	3.32	6.05	9.04	0.15	8.04	12.01	1.92	0.18	-	0.13	0.31	0.25	99.27	0.89	-
11- 3,	75- 78	364.27	TM	PROBE	50.49	0.84	15.31	3.50	5.73	8.88	0.15	8.06	11.97	1.90	0.21	-	0.29	0.73	0.52	99.70	1.69	-
11- 4,	105-108	366.07	BOG	XRF	50.14	1.02	16.06	8.90	-	8.01	0.14	7.39	12.76	2.08	0.18	0.13	0.10	0.90	0.49	100.29	1.60	-
11- 4,	105-108	366.07	AUF	AAS	49.57	0.99	16.58	1.39	6.92	8.17	0.14	7.60	12.90	2.07	0.17	0.14	0.07	0.98	0.24	99.76	-	-
11- 4,	105-108	366.07	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.06	-	-	0.06	-	0.0941
11- 4,	108-111	366.10	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0754
11- 4,	108-111	366.10	GUNN	XRF	50.82	1.01	16.47	9.11	-	8.20	0.15	7.52	12.61	2.03	0.17	0.12	-	-	-	100.01	-	-
12- 1,	57- 60	370.59	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0069
12- 1,	57- 60	370.59	GUNN	XRF	50.75	1.02	16.33	9.38	-	8.44	0.15	7.11	12.92	1.98	0.23	0.12	-	-	-	99.99	-	-
12- 1,	60- 62	370.61	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0207
12- 1,	60- 62	370.61	BOG	XRF	49.86	1.04	15.86	9.68	-	8.71	0.16	7.04	12.79	1.95	0.27	0.13	0.07	0.40	0.41	99.66	0.80	-
12- 1,	114-117	371.16	FW	XRFFP	50.08	0.95	15.95	3.67	5.70	9.00	0.14	7.05	12.30	1.97	0.41	0.13	0.18	0.47	0.63	99.63	0.96	-
12- 1,	121-123	371.22	ISH	XRF	49.00	1.25	15.90	-	-	10.06	0.23	6.04	14.00	1.63	0.34	-	-	-	-	98.99	0.74	-
13- 1,	66- 68	380.17	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0
13- 1,	66- 68	380.17	GUNN	XRF	49.67	0.98	16.12	9.87	-	8.88	0.15	7.56	13.37	1.95	0.21	0.12	-	-	-	100.00	-	-
13- 1,	68- 70	380.19	ISH	XRF	48.20	1.06	15.20	-	-	10.06	0.20	7.10	12.70	2.31	0.28	-	-	-	-	97.65	2.00	-
13- 1,	70- 72	380.21	CML	XRF	48.40	1.19	14.80	11.10	-	9.99	0.15	8.40	13.10	2.30	0.27	0.17	-	-	-	99.88	-	0.0600

TABLE 10B – *Continued*

Sample[a]	Depth (m)	Inv.	Method	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	Total Iron	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	CO_2	H_2O^-	H_2O^+	Total	LOI	S
13- 1, 70- 72	380.21	CML	XRF	51.30	1.31	14.50	11.30	-	10.17	0.17	6.80	11.70	2.40	0.26	0.16	-	-	-	99.90	-	0.0500
13- 1, 72- 74	380.23	GUNN	XRF	-	-	-	-	5.09	5.09	-	-	-	-	-	-	-	1.12	0.84	7.05	-	-
13- 1, 72- 74	380.23	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.63	-	-	0.63	-	<0.0001
13- 1, 98-100	380.49	ISH	XRF	48.40	1.04	15.90	-	-	10.80	0.24	6.20	13.10	2.60	0.29	-	-	-	-	98.57	0.95	-
13- 1, 137-139	380.88	SGS	NAA	-	-	-	-	8.70	8.70	-	-	-	-	-	-	-	-	-	8.70	-	-
14- 1, 33- 35	389.34	CML	XRF	50.10	1.15	14.80	10.50	-	9.45	0.16	7.70	13.00	2.10	0.23	0.13	-	-	-	99.87	-	0.0700
14- 1, 36- 38	389.37	FW	XRFFP	50.47	1.04	16.36	2.59	5.60	7.93	0.16	7.51	12.73	2.05	0.21	0.09	0.19	0.78	1.12	100.90	1.34	-
14- 1, 142-144	390.43	AUF	AAS	48.62	1.01	16.59	3.29	5.68	8.64	0.15	7.17	13.19	2.15	0.21	0.11	0.62	0.96	0.71	100.46	-	-
14- 1, 142-144	390.43	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.62	-	-	0.62	-	0.0034
14- 2, 31- 33	390.82	ISH	XRF	48.00	1.04	15.50	-	-	10.10	0.15	7.95	13.10	2.19	0.31	-	-	-	-	98.34	1.64	-
14- 2, 33- 35	390.84	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.04	-	-	0.04	-	0.0000
14- 2, 33- 35	390.84	MUN	AAS	48.70	1.03	16.30	6.02	2.75	8.17	0.15	7.50	12.80	2.09	0.27	0.09	-	-	-	97.70	1.65	-
14- 2, 33- 35	390.84	AUF	AAS	49.54	1.00	17.04	3.01	5.49	8.20	0.14	7.56	12.48	2.14	0.23	0.10	0.04	1.07	0.33	100.17	-	-
14- 2, 35- 37	390.86	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0000
14- 2, 35- 37	390.86	GUNN	XRF	50.68	1.00	16.22	9.53	-	8.58	0.14	7.51	12.47	2.08	0.25	0.11	-	-	-	99.99	-	-
15- 1, 53- 55	399.04	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.16	-	-	0.16	-	0.0000
15- 1, 70- 72	399.21	AUF	AAS	48.90	0.98	16.33	2.94	6.00	8.65	0.16	7.13	13.36	1.91	0.22	0.10	0.03	0.99	0.88	99.93	-	-
15- 1, 70- 72	399.21	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.04	-	-	0.04	-	0.0000
15- 1, 73- 75	399.24	GUNN	XRF	50.79	1.01	16.13	3.12	5.91	8.72	0.15	7.14	12.80	1.98	0.20	0.12	-	0.50	0.50	100.35	-	-
15- 1, 103-105	399.54	FW	XRFFP	50.62	1.05	16.65	2.56	5.50	7.80	0.16	7.11	13.02	2.05	0.21	0.11	0.14	0.80	0.90	100.88	1.41	-
15- 2, 81- 83	400.82	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0106
15- 2, 81- 83	400.82	GUNN	XRF	50.52	1.01	16.42	9.50	-	8.55	0.15	7.07	13.07	1.94	0.21	0.12	-	-	-	100.01	-	-
15- 2, 83- 85	400.84	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0157
15- 2, 83- 85	400.84	BOG	XRF	49.52	1.00	16.21	9.22	-	8.30	0.14	6.88	12.95	1.98	0.25	0.14	0.20	0.80	0.74	100.03	1.80	-
15- 2, 130-131	401.31	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	1.47	-	-	1.47	-	0.0023
15- 2, 130-131	401.31	GUNN	XRF	47.70	0.75	15.32	4.96	5.31	9.77	0.17	9.38	13.33	2.14	0.24	0.12	-	1.06	1.43	101.91	-	-
16- 1, 112-114	409.13	MUN	AAS	46.50	0.76	14.90	5.90	4.20	9.51	0.15	11.41	11.67	2.01	0.17	0.09	-	-	-	97.76	2.04	-
16- 1, 112-114	409.13	AUF	AAS	46.61	0.73	14.81	2.94	6.52	9.17	0.14	11.54	11.46	2.03	0.13	0.05	0.01	1.39	1.26	99.62	-	-
16- 1, 112-114	409.13	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.42	-	-	0.42	-	0.0033
16- 1, 141-143	409.42	CML	XRF	48.90	0.82	13.80	10.90	-	9.81	0.15	10.80	12.30	1.90	0.16	0.08	-	-	-	99.81	-	0.1800
16- 1, 141-143	409.42	GUNN	XRF	48.37	0.76	15.50	10.48	-	9.43	0.15	10.41	12.05	2.08	0.14	0.07	-	-	-	100.01	-	-
16- 2, 31- 33	409.82	BOG	XRF	47.71	0.74	14.24	10.25	-	9.22	0.14	11.22	11.05	2.03	0.12	0.08	0.19	1.40	0.84	100.01	2.70	-
16- 2, 31- 33	409.82	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0045
16- 2, 63- 65	410.14	FW	XRFFP	48.06	0.74	14.71	1.91	6.90	8.62	0.16	12.34	11.30	1.95	0.13	0.04	0.14	1.37	0.34	100.09	1.78	-
17- 2, 47- 49	419.48	ISH	XRF	47.40	0.82	13.90	-	-	10.50	0.18	10.50	12.20	1.53	0.15	-	-	-	-	98.18	1.87	-
18- 1, 43- 45	427.44	BOG	XRF	47.24	0.74	13.82	10.44	-	9.39	0.15	12.45	11.18	2.40	0.17	0.08	0.37	0.80	0.81	100.65	2.20	-
18- 1, 43- 45	427.44	AUF	AAS	46.05	0.72	14.49	3.13	6.53	9.35	0.16	12.49	11.21	2.02	0.16	0.04	0.33	1.44	0.63	99.40	-	-
18- 1, 43- 45	427.44	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.33	-	-	0.33	-	0.0000
18- 1, 86- 88	427.87	GUNN	XRF	48.36	0.69	14.24	3.35	6.76	9.77	0.15	14.11	11.07	0.32	0.13	0.07	-	0.88	0.81	100.94	-	-
18- 1, 86- 88	427.87	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.06	-	-	0.06	-	0.0059
19- 1, 10- 19	436.65	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.06	-	-	0.06	-	0.0000
19- 1, 10- 19	436.65	GUNN	XRF	47.80	0.62	13.06	3.07	6.43	9.20	0.16	16.12	10.10	1.75	0.12	0.06	-	1.22	1.10	101.61	-	-
19- 1, 10- 19	436.65	ISH	XRF	47.10	0.69	12.70	-	-	10.40	0.26	13.60	11.20	1.33	0.43	-	-	-	-	97.71	1.14	-
19- 1, 24- 26	436.75	AUF	AAS	46.55	0.70	13.93	2.85	6.78	9.34	0.15	13.33	10.86	1.85	0.15	0.06	0.06	1.37	0.67	99.31	-	-
19- 1, 24- 26	436.75	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.06	-	-	0.06	-	0.0000
19- 1, 24- 26	436.75	FW	XRFFP	46.54	0.73	13.93	2.81	6.20	8.73	0.15	13.29	10.87	1.95	0.15	0.07	0.40	1.91	0.59	99.59	2.58	-
19- 1, 24- 26	436.75	MUN	AAS	46.30	0.73	14.00	6.34	4.40	10.10	0.16	13.44	10.99	1.94	0.19	0.09	-	-	-	98.58	1.69	-
19- 1, 75- 78	437.27	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.37	-	-	0.37	-	0.0000
19- 1, 75- 78	437.27	GUNN	XRF	48.69	0.76	15.54	4.87	5.16	9.54	0.14	9.40	12.36	2.22	0.20	0.09	-	1.15	1.27	101.85	-	-
19- 1, 100-103	437.52	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.38	-	-	0.38	-	0.0000
19- 1, 100-103	437.52	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.17	-	-	0.17	-	0.0000
19- 1, 100-103	437.52	GUNN	XRF	48.84	0.76	15.28	3.98	5.84	9.42	0.14	10.16	12.01	2.06	0.21	0.09	-	1.23	1.19	101.79	-	-
19- 1, 100-103	437.52	GUNN	XRF	48.53	0.76	15.40	5.00	5.34	9.84	0.15	9.31	12.45	2.14	0.24	0.09	-	1.08	1.15	101.64	-	-
19- 1, 100-103	437.52	GUNN	XRF	48.59	0.75	15.44	4.92	5.34	9.76	0.15	9.24	12.53	2.12	0.23	0.10	-	1.08	1.15	101.64	-	-
19- 1, 104-111	437.58	ISH	XRF	47.80	0.09	15.50	-	-	9.04	0.18	10.10	12.00	1.96	0.14	-	-	-	-	98.47	1.28	-

19- 1, 107-110	437.59	BEN	PROBE	49.4	0.68	15.8	-	-	9.35	0	10.6	11.9	2.02	0.23	-	-	-	-	99.98	-	-
19- 1, 110-113	437.62	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.14	-	-	0.14	-	0.0038
19- 1, 110-113	437.62	GUNN	XRF	48.87	0.73	14.94	3.13	6.41	9.22	0.15	11.03	11.75	1.99	0.20	0.08	-	0.93	0.74	100.95	-	-
19- 1, 110-113	437.62	GUNN	XRF	48.86	0.74	14.87	3.12	6.41	9.21	0.15	11.08	11.86	1.94	0.20	0.08	-	0.93	0.74	100.98	-	-
20- 1, 51- 54	446.53	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.40	-	-	0.40	-	0.0261
20- 1, 51- 54	446.53	GUNN	XRF	48.67	0.74	15.06	3.98	6.02	9.60	0.15	10.17	12.15	2.06	0.26	0.08	-	0.97	1.15	101.46	-	-
20- 1, 51- 54	446.53	GUNN	XRF	48.33	0.72	14.95	3.21	6.64	9.53	0.14	10.55	12.43	1.99	0.22	0.08	-	1.20	1.20	101.66	-	-
20- 1, 76- 79	446.78	AUF	AAS	-	-	-	2.37	7.09	9.22	-	-	-	-	-	-	-	1.08	0.87	11.41	-	-
20- 1, 76- 79	446.78	AUF	AAS	-	-	-	2.36	7.09	9.21	-	-	-	-	-	-	-	1.08	0.87	11.40	-	-
20- 1, 76- 79	446.78	AUM	TRACK	-	-	-	2.36	7.09	9.21	-	-	-	-	-	-	0.05	-	-	0.05	-	0.0283
20- 1, 91- 95	446.93	FW	XRFFP	47.38	0.68	14.00	2.20	6.50	8.48	0.15	13.74	10.83	1.83	0.12	0.05	-	1.78	0.62	99.88	2.38	-
20- 1, 115-118	447.17	AUF	AAS	46.55	0.73	14.95	3.88	5.60	9.09	0.13	10.25	11.45	2.15	0.17	0.06	0.06	1.83	1.70	99.51	-	-
20- 1, 115-118	447.17	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.06	-	-	0.06	-	0.0034
20- 2, 6- 8	447.57	AUF	AAS	47.42	0.74	15.56	3.20	6.38	9.26	0.13	10.05	11.47	2.07	0.14	0.06	0.02	1.09	0.90	99.23	-	-
20- 2, 6- 8	447.57	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	-	0.02	-	0.0000
20- 2, 6- 8	447.57	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0304
20- 2, 6- 8	447.57	GUNN	XRF	48.99	0.75	15.55	10.53	-	9.47	0.14	9.94	11.77	2.13	0.13	0.07	-	-	-	100.00	-	-
20- 2, 6- 8	447.57	GUNN	XRF	48.55	0.73	15.00	3.69	6.18	9.50	0.14	11.16	11.61	2.05	0.14	0.07	-	1.09	1.34	101.75	-	-
20- 2, 6- 8	447.57	GUNN	XRF	48.59	0.74	15.14	3.74	6.18	9.55	0.14	11.11	11.45	2.02	0.14	0.07	-	1.09	1.34	101.75	-	-
20- 2, 34- 36	447.85	ISH	XRF	48.20	0.88	13.00	-	-	8.75	0.22	11.90	10.90	1.92	0.22	-	-	-	-	95.99	2.04	-
20- 2, 34- 36	447.85	SG	PROBE	49.30	0.72	15.30	1.50	7.40	8.75	0.15	11.20	11.90	2.08	0.14	-	-	-	-	99.69	-	-
20- 2, 34- 36	447.85	SGS	NAA	-	-	-	-	9.70	9.70	-	-	-	2.20	-	-	-	-	-	11.90	-	-
20- 2, 80- 82	448.31	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.55	-	-	0.55	-	0.0000
20- 2, 80- 82	448.31	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.10	-	-	0.10	-	0.0238
20- 2, 80- 82	448.31	GUNN	XRF	48.44	0.61	15.10	4.06	5.59	9.24	0.13	11.22	12.01	2.01	0.15	0.06	-	1.48	1.51	102.37	-	-
20- 2, 80- 82	448.31	GUNN	XRF	48.26	0.61	15.27	3.69	6.03	9.35	0.13	11.68	11.44	2.04	0.13	0.06	-	0.96	0.98	101.28	-	-
20- 2, 80- 82	448.31	GUNN	XRF	48.50	0.60	15.02	3.65	6.03	9.31	0.13	11.90	11.34	1.97	0.13	0.05	-	0.96	0.98	101.26	-	-
20- 2, 136-138	448.87	ISH	XRF	47.50	0.06	14.20	-	-	10.10	0.16	11.40	12.10	2.20	0.26	-	-	-	-	98.00	1.30	-
20- 2, 140-142	448.91	AUF	AAS	47.70	0.59	14.87	3.04	5.56	8.30	0.15	10.82	11.68	1.99	0.14	0.04	0.16	1.50	1.07	99.31	-	-
20- 2, 140-142	448.91	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.24	-	-	0.24	-	0.0000
20- 2, 140-142	448.91	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.16	-	-	0.16	-	0.0037
20- 2, 140-142	448.91	GUNN	XRF	48.53	0.59	14.97	3.30	6.17	9.14	0.15	11.56	11.81	1.99	0.17	0.06	-	0.87	0.92	101.09	-	-
21- 1, 5- 8	455.57	FW	XRFFP	45.89	0.51	12.95	1.56	6.80	8.20	0.15	18.17	9.68	1.64	0.09	0.03	0.32	1.36	1.13	100.28	2.75	-
21- 1, 5- 8	455.57	ISH	XRF	46.60	0.07	14.40	-	-	9.50	0.16	12.80	12.30	1.76	0.15	-	-	-	-	97.74	2.00	-
21- 1, 5- 8	455.57	TM	PROBE	47.89	0.61	15.52	2.84	6.34	8.90	0.13	11.91	11.33	1.91	0.16	-	0.36	0.65	1.11	100.76	1.85	-
21- 1, 11- 14	455.63	AUF	AAS	46.49	0.64	14.62	2.16	7.09	9.03	0.14	13.82	10.77	1.83	0.09	0.05	0.04	1.17	1.10	100.01	-	-
21- 1, 11- 14	455.63	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.04	-	-	0.04	-	0.0487
21- 1, 11- 14	455.63	BOG	XRF	46.04	0.57	13.71	10.01	-	9.01	0.15	13.71	10.61	1.84	0.09	0.04	0.15	0.90	1.00	98.82	1.80	-
21- 1, 18- 21	455.70	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.34	-	-	0.34	-	0.0200
21- 1, 18- 21	455.70	GUNN	XRF	46.71	0.50	12.44	2.58	7.00	9.32	0.15	18.60	9.51	1.56	0.13	0.05	-	0.75	1.37	101.35	-	-
21- 1, 27- 30	455.79	BEN	PROBE	48.0	0.46	13.5	-	-	9.45	0	17.2	9.67	1.58	0.13	-	-	-	-	99.99	-	-
21- 1, 27- 30	455.79	CML	XRF	47.40	0.57	14.00	10.30	-	9.27	0.15	15.40	10.20	1.50	0.16	0.06	-	-	-	99.74	-	0.2000
21- 1, 27- 30	455.79	ISH	XRF	43.90	0.71	11.90	-	-	10.10	0.21	17.70	10.90	2.07	0.18	-	-	-	-	97.76	1.90	-
21- 1, 93- 96	456.45	AUF	AAS	46.44	0.57	14.77	2.03	7.00	8.83	0.14	12.38	10.97	1.81	0.10	0.04	0.12	1.46	1.56	99.39	-	-
21- 1, 93- 96	456.45	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.16	-	-	0.16	-	0.0265
21- 1, 93- 96	456.45	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.85	-	-	0.85	-	0.0302
21- 1, 93- 96	456.45	GUNN	XRF	47.94	0.61	15.21	3.59	6.13	9.36	0.15	11.49	12.12	1.88	0.15	0.06	-	1.00	2.15	102.48	-	-
21- 1, 119-122	456.71	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.74	-	-	0.74	-	0.0173
21- 1, 119-122	456.71	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.66	-	-	0.66	-	0.0144
21- 1, 119-122	456.71	GUNN	XRF	47.69	0.61	15.07	4.14	5.91	9.64	0.15	11.63	11.95	1.96	0.16	0.07	-	0.96	1.93	102.23	-	-
21- 1, 119-122	456.71	GUNN	XRF	47.87	0.59	15.89	4.77	5.18	9.48	0.14	10.21	12.41	2.07	0.21	0.08	-	1.17	1.71	102.30	-	-
21- 1, 119-122	456.71	GUNN	XRF	47.84	0.59	16.08	4.66	5.18	9.38	0.14	10.18	12.39	2.07	0.21	0.07	-	1.17	1.71	102.29	-	-
22- 1, 4- 7	465.06	AUF	AAS	44.25	0.51	13.51	3.75	6.15	9.52	0.15	14.16	11.18	1.58	0.25	0.06	1.19	1.58	1.66	99.98	-	-
22- 1, 4- 7	465.06	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.20	-	-	0.20	-	0.0154
22- 1, 4- 7	465.06	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	1.16	-	-	1.16	-	0.0339
22- 1, 4- 7	465.06	BOG	XRF	43.40	0.56	12.84	10.57	-	9.51	0.15	14.37	10.94	1.63	0.25	0.08	1.31	1.20	1.68	98.98	4.19	-
22- 1, 4- 7	465.06	GUNN	XRF	47.28	0.52	13.09	2.97	6.65	9.32	0.14	16.80	9.94	1.64	0.17	0.05	-	0.89	1.30	101.44	-	-
22- 1, 4- 7	465.06	GUNN	XRF	47.30	0.52	13.14	3.05	6.65	9.39	0.14	16.68	9.80	1.76	0.17	0.05	-	0.89	1.30	101.45	-	-

TABLE 10B – *Continued*

Sample[a]	Depth (m)	Inv.	Method	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	Total Iron	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	CO_2	H_2O^-	H_2O^+	Total	LOI	S
22- 1, 77- 80	465.79	AUF	AAS	47.34	0.84	16.08	2.76	7.00	9.48	0.14	8.97	12.06	2.38	0.11	0.10	0.40	0.17	0.50	98.85	-	-
22- 1, 77- 80	465.79	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.40	-	-	0.40	-	0.0360
22- 1, 77- 80	465.79	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.27	-	-	0.27	-	0.0559
22- 1, 77- 80	465.79	BOG	XRF	46.26	0.78	15.81	10.44	-	9.39	0.14	8.68	12.20	2.36	0.11	0.07	0.49	1.30	0.63	99.27	2.40	-
22- 1, 77- 80	465.79	GUNN	XRF	48.36	0.82	16.25	10.63	-	9.56	0.15	9.09	12.30	2.25	0.11	0.06	-	-	-	100.02	-	-
22- 1, 77- 80	465.79	GUNN	XRF	48.55	0.79	16.43	2.91	6.87	9.48	0.14	8.77	12.23	2.34	0.13	0.07	-	0.80	0.93	100.96	-	-
22- 1, 77- 80	465.79	GUNN	XRF	48.55	0.82	16.43	2.91	6.87	9.48	0.14	8.77	12.22	2.34	0.13	0.07	-	0.80	0.93	100.98	-	-
22- 1, 97-100	465.99	SG	PROBE	49.30	0.80	17.00	1.50	7.10	8.45	0.15	9.20	12.30	2.20	0.11	-	-	-	-	99.66	-	-
22- 1, 97-100	465.99	SGS	NAA	-	-	-	-	9.20	9.20	-	-	-	-	-	-	-	-	-	9.20	-	-
22- 1, 97-107	466.02	ISH	XRF	47.00	0.88	15.00	-	-	10.50	0.12	10.30	11.10	2.35	0.16	-	-	-	-	97.31	2.12	-
22- 2, 10- 12	466.61	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.50	-	-	0.50	-	0.0167
22- 2, 10- 12	466.61	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	6.49	-	-	6.49	-	0.0144
22- 2, 10- 12	466.61	GUNN	XRF	-	-	-	-	4.63	4.63	-	-	-	-	-	-	-	1.13	1.59	7.35	-	-
22- 2, 10- 12	466.61	GUNN	XRF	44.59	0.80	16.65	7.18	3.27	9.73	0.20	4.08	19.38	2.66	0.67	0.15	-	1.68	2.83	104.14	-	-
22- 2, 36- 39	466.88	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.25	-	-	0.25	-	0.0000
22- 2, 36- 39	466.88	GUNN	XRF	-	-	-	-	7.22	7.22	-	-	-	-	-	-	-	0.80	0.79	8.81	-	-
22- 2, 43- 45	466.94	AUF	AAS	49.08	0.84	16.54	1.81	7.76	9.39	0.15	8.73	11.79	2.26	0.10	0.07	0.04	1.19	0.01	100.37	-	-
22- 2, 43- 45	466.94	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.04	-	-	0.04	-	0.0741
22- 2, 43- 45	466.94	BOG	XRF	47.87	0.83	15.56	10.43	-	9.38	0.15	8.47	11.84	2.35	0.09	0.07	0.15	0.70	0.64	99.15	1.50	-
22- 2, 43- 45	466.94	ISH	XRF	48.40	0.89	15.10	-	-	9.92	0.13	9.05	11.80	2.36	0.15	-	-	-	-	97.80	1.03	-
22- 2, 109-111	467.60	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	1.24	-	-	1.24	-	0.0023
22- 2, 109-111	467.60	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	1.56	-	-	1.56	-	0.0167
22- 2, 109-111	467.60	GUNN	XRF	49.40	1.13	14.78	3.21	6.50	9.39	0.17	7.69	13.92	2.09	0.26	0.13	-	0.64	1.05	100.97	-	-
22- 2, 109-111	467.60	GUNN	XRF	48.36	0.85	17.08	7.53	3.14	9.92	0.15	6.04	13.48	2.56	0.36	0.10	-	1.93	2.13	103.71	-	-
22- 3, 3- 5	468.04	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	3.39	-	-	3.39	-	0.0080
22- 3, 3- 5	468.04	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	2.69	-	-	2.69	-	0.0118
22- 3, 3- 5	468.04	GUNN	XRF	47.04	0.85	17.57	7.29	3.71	10.27	0.15	5.06	14.91	2.51	0.36	0.13	-	1.74	2.11	103.43	-	-
22- 3, 3- 5	468.04	GUNN	XRF	46.35	0.86	17.16	7.02	3.98	10.29	0.16	5.36	15.63	2.59	0.34	0.13	-	1.44	2.52	103.54	-	-
22- 3, 3- 5	468.04	GUNN	XRF	46.29	0.86	17.11	7.21	3.98	10.46	0.16	5.33	15.66	2.50	0.34	0.12	-	1.44	2.52	103.52	-	-
22- 3, 39- 41	468.40	ISH	XRF	47.80	0.88	15.50	-	-	9.78	0.14	9.40	12.40	2.49	0.16	-	-	-	-	98.69	0.94	-
22- 3, 47- 53	468.50	TM	PROBE	49.57	0.74	16.31	1.82	7.52	9.16	0.15	9.14	11.05	2.58	0.08	-	0.29	0.63	0.30	100.18	0.77	-
22- 3, 126-128	469.27	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.80	-	-	0.80	-	0.0188
22- 3, 126-128	469.27	GUNN	XRF	-	-	-	-	5.59	5.59	-	-	-	-	-	-	-	0.97	1.89	8.45	-	-
22- 4, 18- 20	469.69	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	5.42	-	-	5.42	-	0.0144
22- 4, 18- 20	469.69	BEN	PROBE	49.6	0.77	16.1	-	-	10.7	0.16	8.65	11.5	2.30	0.31	-	-	-	-	100.09	-	-
22- 4, 18- 20	469.69	GUNN	XRF	45.19	0.81	16.75	7.10	3.31	9.70	0.20	4.43	18.41	2.73	0.58	0.13	-	1.49	2.60	103.73	-	-
22- 4, 18- 20	469.69	GUNN	XRF	45.14	0.82	16.85	7.24	3.31	9.83	0.20	4.34	18.30	2.72	0.58	0.13	-	1.49	2.60	103.72	-	-
22- 4, 22- 24	469.73	ISH	XRF	49.10	0.89	15.10	-	-	9.70	0.19	7.68	12.60	2.66	0.23	-	-	-	-	98.15	1.50	-
22- 4, 22- 24	469.73	SG	PROBE	50.00	0.84	16.40	1.50	7.50	8.85	0.17	8.90	11.50	2.44	0.15	-	-	-	-	99.40	-	-
22- 4, 22- 24	469.73	SGS	NAA	-	-	-	-	9.00	9.00	-	-	-	-	-	-	-	-	-	9.00	-	-
22- 4, 40- 42	469.91	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.38	-	-	0.38	-	0.0061
22- 4, 40- 42	469.91	GUNN	XRF	49.20	0.81	16.17	3.36	6.38	9.40	0.15	8.44	12.25	2.25	0.20	0.08	-	0.94	0.92	101.15	-	-
22- 4, 98-100	470.49	AUF	AAS	49.32	0.88	16.47	1.99	7.01	8.80	0.13	8.12	11.93	2.24	0.11	0.07	0.09	1.06	0.95	100.37	-	-
22- 4, 98-100	470.49	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.16	-	-	0.16	-	0.0718
22- 4, 98-100	470.49	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.09	-	-	0.09	-	0.0734
22- 4, 98-100	470.49	GUNN	XRF	49.17	0.86	16.20	2.63	7.33	9.70	0.14	8.46	11.90	2.33	0.09	0.08	-	0.76	1.20	101.15	-	-
22- 4, 98-100	470.49	GUNN	XRF	49.75	0.88	16.31	10.17	-	9.15	0.14	8.27	12.07	2.22	0.12	0.08	-	-	-	100.01	-	-
22- 4, 98-100	470.49	GUNN	XRF	49.55	0.89	16.48	10.20	-	9.18	0.14	8.25	12.12	2.16	0.12	0.09	-	-	-	100.00	-	-
22- 4, 142-149	470.96	ISH	XRF	47.10	1.00	14.00	-	-	9.09	0.25	10.80	12.60	2.68	0.19	-	-	-	-	97.73	1.76	-
23- 1, 10- 12	474.61	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.28	-	-	0.28	-	0.0300
23- 1, 10- 12	474.61	GUNN	XRF	49.22	0.78	16.28	2.65	6.96	9.34	0.15	8.94	11.90	2.14	0.15	0.07	-	0.78	0.98	101.00	-	-
23- 1, 15- 17	474.66	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.09	-	-	0.09	-	0.0265
23- 1, 15- 17	474.66	GUNN	XRF	48.95	0.80	16.33	2.78	6.99	9.49	0.15	8.90	11.85	2.23	0.17	0.07	-	0.57	0.98	100.77	-	-
23- 1, 23- 25	474.74	FW	XRFFP	49.31	0.78	16.53	2.06	6.30	8.15	0.15	8.78	11.72	2.29	0.16	0.04	0.04	1.41	0.29	99.86	1.88	-
23- 1, 78- 80	475.29	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0304

23- 1,	78- 80	475.29	CML	XRF	48.50	0.84	14.60	11.00	-	9.90	0.14	9.40	12.90	2.20	0.19	0.09	-	-	-	99.86	-	0.2200
23- 1,	78- 80	475.29	GUNN	XRF	48.75	0.77	16.10	10.37	-	9.33	0.14	9.30	12.19	2.21	0.11	0.07	-	-	-	100.01	-	-
23- 1,	78- 80	475.29	MUN	AAS	48.30	0.84	16.50	3.81	5.70	9.13	0.14	8.00	12.69	2.22	0.20	0.09	-	-	-	98.49	2.42	-
23- 1,	97-100	475.49	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.11	-	-	0.11	-	0.0350
23- 1,	97-100	475.49	GUNN	XRF	50.93	1.21	14.47	3.25	7.65	10.57	0.18	6.86	11.82	2.29	0.37	0.13	-	0.55	0.83	100.54	-	-
23- 1,	100-102	475.51	ISH	XRF	47.60	0.89	15.40	-	-	10.50	0.18	7.50	13.60	2.51	0.32	-	-	-	-	98.50	1.10	-
23- 1,	100-102	475.51	SG	PROBE	49.70	0.81	16.50	1.50	8.20	9.55	0.17	8.80	11.80	2.32	0.16	-	-	-	-	99.96	-	-
23- 1,	100-102	475.51	SGS	NAA	-	-	-	-	9.80	9.80	-	-	-	-	-	-	-	-	-	9.80	-	-
23- 1,	101-103	475.52	AUF	AAS	48.46	0.84	16.40	2.00	7.57	9.37	0.15	8.63	11.55	2.35	0.08	0.06	0.06	1.10	0.84	100.09	-	-
23- 1,	101-103	475.52	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.06	-	-	0.06	-	0.0512
23- 1,	101-103	475.52	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0650
23- 1,	101-103	475.52	GUNN	XRF	48.47	0.83	16.00	3.23	6.46	9.37	0.14	7.91	13.72	2.29	0.14	0.09	-	0.83	1.30	101.41	-	-
23- 1,	101-103	475.52	GUNN	XRF	49.57	0.83	16.15	10.67	-	9.60	0.15	8.56	11.71	2.21	0.08	0.07	-	-	-	100.00	-	-
23- 2,	39- 45	476.42	AUF	AAS	47.42	0.81	16.19	4.11	5.67	9.37	0.14	7.62	12.29	2.30	0.23	0.08	0.15	1.75	0.94	99.70	-	-
23- 2,	39- 45	476.42	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.15	-	-	0.15	-	0.0039
23- 2,	81- 83	476.82	AUF	AAS	47.78	0.84	16.49	3.67	6.21	9.51	0.13	7.62	12.50	2.48	0.16	0.07	0.58	1.01	1.44	100.98	-	-
23- 2,	81- 83	476.82	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.94	-	-	0.94	-	0.0076
23- 2,	81- 83	476.82	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	1.05	-	-	1.05	-	0.0125
23- 2,	81- 83	476.82	GUNN	XRF	48.33	0.84	16.46	4.34	5.81	9.72	0.14	7.49	13.16	2.52	0.17	0.09	-	0.67	1.56	101.58	-	-
23- 2,	81- 83	476.82	MUN	AAS	47.00	0.78	16.30	6.22	3.73	9.33	0.14	7.50	12.70	2.32	0.21	0.09	-	-	-	96.99	2.63	-
23- 3,	4- 6	477.55	AUF	AAS	47.49	0.75	16.21	2.59	6.75	9.08	0.13	8.80	11.86	2.18	0.08	0.05	0.07	1.59	1.08	99.63	-	-
23- 3,	4- 6	477.55	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.07	-	-	0.07	-	0.0536
23- 3,	4- 6	477.55	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.25	-	-	0.25	-	0.0600
23- 3,	4- 6	477.55	GUNN	XRF	48.96	0.80	16.38	2.93	6.85	9.48	0.14	8.96	11.79	2.29	0.08	0.07	-	0.73	1.27	101.25	-	-
23- 3,	25- 27	477.76	AUF	AAS	48.34	0.85	16.60	2.12	7.48	9.39	0.14	8.49	11.78	2.36	0.08	0.06	0.07	1.03	0.81	100.21	-	-
23- 3,	25- 27	477.76	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.07	-	-	0.07	-	0.0569
23- 3,	32- 34	477.83	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.07	-	-	0.07	-	0.0377
23- 3,	32- 34	477.83	GUNN	XRF	48.98	0.83	16.39	2.97	6.84	9.51	0.14	8.58	12.01	2.31	0.12	0.08	-	0.87	0.84	100.96	-	-
23- 3,	32- 34	477.83	GUNN	XRF	48.81	0.83	16.41	3.01	6.84	9.55	0.14	8.55	12.02	2.43	0.12	0.08	-	0.87	0.84	100.95	-	-
23- 3,	83- 85	478.34	TM	PROBE	-	-	-	-	-	-	-	-	-	-	-	-	0.90	0.62	0.42	1.94	-	-
23- 3,	106-108	478.57	TM	PROBE	-	-	-	-	-	-	-	-	-	-	-	-	11.31	1.44	0.76	13.51	-	-
23- 3,	144-146	478.95	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.18	-	-	0.18	-	0.0035
23- 3,	144-146	478.95	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0000
23- 3,	144-146	478.95	GUNN	XRF	49.10	0.80	16.57	3.58	6.06	9.28	0.15	8.35	12.11	2.33	0.19	0.08	-	1.26	0.91	101.49	-	-
23- 3,	144-146	478.95	GUNN	XRF	50.31	1.11	14.67	5.88	5.09	10.38	0.20	7.15	12.33	2.13	0.43	0.12	-	0.75	1.05	101.22	-	-
24- 1,	70- 72	484.71	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.03	-	-	0.03	-	0.0628
24- 1,	70- 72	484.71	FW	XRFFP	47.89	0.79	16.21	1.94	6.80	8.55	0.15	9.85	11.44	2.26	0.08	0.06	0.12	1.70	0.60	99.89	2.03	-
24- 1,	94- 96	484.95	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0000
24- 1,	94- 96	484.95	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.77	-	-	0.77	-	0.0000
24- 1,	94- 96	484.95	BOG	XRF	46.68	0.86	16.14	10.58	-	9.52	0.14	6.90	11.88	2.33	0.20	0.08	0.21	1.40	1.14	98.54	2.60	-
24- 1,	94- 96	484.95	GUNN	XRF	50.20	1.13	14.81	6.21	4.87	10.46	0.20	7.07	12.39	2.03	0.44	0.12	-	0.89	1.68	102.04	-	-
24- 2,	88- 90	486.39	AUF	AAS	48.45	0.88	15.89	1.99	7.69	9.48	0.15	8.66	11.68	2.34	0.11	0.11	0.05	1.31	0.27	99.58	-	-
24- 2,	88- 90	486.39	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.05	-	-	0.05	-	0.0731
24- 2,	88- 90	486.39	BOG	XRF	4765	85	1569	1054	-	9.48	17	857	1166	238	15	7	14	120	122	10029	160	-
24- 2,	88- 90	486.39	GUNN	XRF	49.45	0.84	15.91	10.73	-	9.65	0.15	8.66	11.88	2.19	0.11	0.07	-	-	-	99.99	-	-
24- 2,	88- 90	486.39	ISH	XRF	49.00	0.86	14.60	-	-	10.60	0.20	8.09	12.80	2.54	0.17	-	-	-	-	98.92	0.86	-
25- 1,	106-113	494.60	FW	XRFFP	48.62	0.80	16.27	2.32	6.15	8.24	0.15	8.92	11.75	2.27	0.17	0.05	0.12	1.15	0.05	98.79	1.97	-
25- 2,	77- 79	495.78	BOG	XRF	48.17	0.88	15.79	10.69	-	9.62	0.17	7.36	11.89	-	0.24	-	0.40	0.50	1.00	97.09	2.40	-
25- 2,	77- 79	495.78	GSC	NCL	48.82	0.92	16.32	4.01	5.41	9.02	0.15	7.68	11.15	2.51	0.20	0.08	0.11	0.80	1.37	99.53	-	0.02
25- 2,	91- 93	495.92	GSC	NCL	49.08	0.88	15.86	4.30	5.29	9.16	0.17	7.62	11.45	2.47	0.17	0.07	0.15	0.80	1.29	99.60	-	0.02
25- 2,	97-	495.97	GUNN	XRF	49.83	0.88	15.79	10.79	-	9.71	0.16	7.84	11.91	2.52	0.19	0.08	-	-	-	99.99	-	-
25- 2,	119-121	496.20	ISH	XRF	47.00	1.02	14.10	-	-	10.00	0.15	9.25	11.30	2.41	0.19	-	-	-	-	95.42	3.70	-
25- 2,	127-129	496.28	GSC	NCL	49.12	0.94	15.74	3.78	5.52	8.92	0.16	7.39	12.08	2.50	0.15	0.07	0.46	0.88	0.98	99.77	-	0.02
25- 3,	12-	496.62	GSC	NCL	48.83	0.91	15.80	4.66	4.97	9.16	0.17	7.46	11.40	2.44	0.17	0.07	0.14	0.96	1.58	99.48	-	0.02
25- 3,	12- 13	496.63	TM	PROBE	-	-	-	-	-	-	-	-	-	-	-	-	0.64	1.11	0.79	2.54	-	-
25- 3,	83- 85	497.34	GSC	NCL	48.57	0.84	16.16	3.45	5.38	8.48	0.15	7.48	12.33	2.42	0.12	0.07	0.79	0.66	1.13	99.55	-	0.02
25- 3,	83- 85	497.34	GSC	NCL	47.87	0.85	16.18	4.90	5.72	10.13	0.17	7.30	11.80	2.40	0.17	0.07	0.45	0.60	1.00	99.48	-	0.01
25- 3,	116-118	497.67	GSC	NCL	33.52	0.51	13.82	4.92	1.70	6.13	0.26	5.22	23.98	1.86	0.22	0.10	11.74	0.88	1.51	100.24	-	0.05

TABLE 10B – *Continued*

Sample[a]	Depth (m)	Inv.	Method	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	Total Iron	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	CO_2	H_2O^-	H_2O^+	Total	LOI	S
25- 3, 128-130	497.79	AUF	AAS	46.68	0.77	15.76	3.95	5.76	9.31	0.14	9.91	11.26	2.20	0.15	0.10	0.34	1.48	0.84	99.34	-	-
25- 3, 128-130	497.79	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	1.22	-	-	1.22	-	0.0000
25- 3, 128-130	497.79	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.34	-	-	0.34	-	0.0031
25- 3, 128-130	497.79	BOG	XRF	46.42	0.74	15.57	10.61	-	9.55	0.15	9.92	11.32	2.10	0.16	0.07	0.37	1.10	1.22	99.75	3.00	-
25- 3, 128-130	497.79	GUNN	XRF	-	-	-	-	5.63	5.63	-	-	-	-	-	-	-	0.74	1.45	7.82	-	-
25- 4, 6- 10	498.08	FW	XRFFP	46.98	0.75	15.22	4.23	5.10	8.91	0.16	10.40	11.38	2.15	0.16	0.07	0.53	1.30	1.40	99.83	3.03	-
25- 4, 19- 21	498.20	GSC	NCL	48.95	0.78	15.94	3.85	4.97	8.43	0.15	9.65	11.37	2.25	0.19	0.05	0.12	0.56	1.42	100.25	-	0
25- 4, 19- 21	498.20	GSC	NCL	47.97	0.78	15.73	4.76	5.78	10.06	0.17	9.94	10.96	2.18	0.20	0.06	0.12	-	-	100.13	-	0.02
25- 4, 19- 21	498.20	TM	PROBE	-	-	-	-	-	-	-	-	-	-	-	-	0.17	0.97	0.95	2.09	-	-
25- 4, 51- 53	498.52	GSC	NCL	47.24	0.83	17.08	4.81	4.69	9.02	0.17	6.96	12.51	2.31	0.15	0.08	0.94	0.52	1.70	99.99	-	0
25- 4, 51- 53	498.52	SG		48.90	0.89	17.00	1.50	8.20	9.55	0.21	7.90	13.50	2.30	0.18	-	-	-	-	100.58	-	-
25- 4, 51- 53	498.52	SGS	NAA	-	-	-	-	9.70	9.70	-	-	-	2.40	-	-	-	-	-	12.10	-	-
26- 1, 99-101	504.00	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.24	-	-	0.24	-	0.0000
26- 1, 99-101	504.00	GUNN	XRF	50.59	1.14	15.02	4.22	6.14	9.93	0.18	7.07	12.26	2.29	0.29	0.14	-	0.97	1.02	101.33	-	-
27- 1, 42- 44	512.93	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0000
27- 1, 42- 44	512.93	BOG	XRF	47.95	1.16	15.16	10.92	-	9.83	0.17	7.68	12.35	2.53	0.26	0.13	0.13	0.70	0.70	99.84	1.20	-
27- 1, 102-104	513.53	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.22	-	-	0.22	-	0.0281
27- 1, 102-104	513.53	GUNN	XRF	50.29	1.14	14.94	3.04	7.22	9.95	0.17	7.41	12.40	2.17	0.29	0.12	-	0.27	0.92	100.38	-	-
27- 2, 10- 12	514.11	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.56	-	-	0.56	-	0.0092
27- 2, 10- 12	514.11	GUNN	XRF	50.97	1.15	15.29	2.51	7.10	9.36	0.17	7.26	12.28	2.08	0.27	0.14	-	0.55	0.97	100.74	-	-
27- 2, 30- 32	514.31	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.40	-	-	0.40	-	0.0000
27- 2, 30- 32	514.31	GUNN	XRF	49.37	0.80	16.16	2.17	7.20	9.15	0.15	8.66	12.09	2.39	0.14	0.08	-	0.37	0.55	100.13	-	-
27- 2, 56- 58	514.57	CML	XRF	48.90	1.19	14.90	10.80	-	9.72	0.15	8.00	13.00	2.40	0.26	0.17	-	-	-	99.77	-	0.0900
27- 2, 56- 58	514.57	CML	XRF	51.60	1.31	14.20	11.30	-	10.17	0.14	6.60	11.80	2.40	0.27	0.18	-	-	-	99.80	-	0.0600
27- 2, 76- 78	514.77	TM	PROBE	49.76	1.10	14.52	2.61	7.12	9.47	0.18	7.17	11.97	2.06	0.28	-	1.27	0.66	0.41	99.11	2.68	-
27- 2, 80- 82	514.81	ISH	XRF	48.50	1.19	14.40	-	-	11.00	0.21	6.70	12.00	2.55	0.35	-	-	-	-	96.90	2.23	-
27- 2, 84- 86	514.85	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	1.26	-	-	1.26	-	0.0161
27- 2, 84- 86	514.85	FW	XRFFP	48.33	1.12	14.54	1.49	7.00	8.34	0.18	6.96	11.95	2.13	0.18	0.12	1.99	2.07	0.73	98.79	4.50	-
27- 2, 84- 86	514.85	GUNN	XRF	48.48	0.92	17.49	4.17	6.68	10.43	0.14	4.99	13.40	2.66	0.20	0.12	-	0.64	1.23	101.12	-	-
27- 2, 84- 86	514.85	GUNN	XRF	49.14	0.81	16.40	3.07	6.68	9.44	0.15	8.40	12.02	2.28	0.23	0.08	-	0.64	1.23	101.13	-	-
28- 1, 93- 95	522.94	ISH	XRF	50.60	1.25	14.30	-	-	11.60	0.15	6.12	11.80	2.33	0.25	-	-	-	-	98.40	1.30	-
28- 2, 3- 6	523.55	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0000
28- 2, 3- 6	523.55	BOG	XRF	48.68	1.16	14.50	10.41	-	9.37	0.16	6.95	11.94	2.35	0.27	0.13	0.27	0.90	0.87	98.59	1.90	-
28- 2, 18- 21	523.70	SGS	NAA	-	-	-	-	9.60	9.60	-	-	-	2.40	-	-	-	-	-	12.00	-	-
29- 1, 58- 61	532.10	AUF	AAS	43.31	0.53	14.50	4.48	4.87	8.90	0.17	10.40	13.00	1.89	0.23	0.07	4.32	1.26	1.08	100.11	-	-
29- 1, 58- 61	532.10	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	4.20	-	-	4.20	-	0.0000
29- 1, 58- 61	532.10	BOG	XRF	42.32	0.57	13.86	9.77	-	8.79	0.18	10.58	12.83	1.98	0.25	0.09	4.34	0.60	0.75	98.12	6.60	-
29- 1, 63- 66	532.15	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.70	-	-	0.70	-	0.0040
29- 1, 63- 66	532.15	GUNN	XRF	48.36	0.59	14.59	3.65	5.93	9.21	0.15	12.59	11.21	2.02	0.22	0.05	-	0.77	1.60	101.73	-	-
29- 1, 69- 72	532.21	SG	PROBE	50.10	0.66	15.30	1.50	5.70	7.05	0.16	12.30	12.00	2.10	0.24	-	-	-	-	100.06	-	-
29- 1, 69- 72	532.21	SGS	NAA	-	-	-	-	-	-	-	-	-	2.10	-	-	-	-	-	2.10	-	-
29- 1, 74- 77	532.26	TM	PROBE	-	-	-	-	-	-	-	-	-	-	-	-	1.39	0.93	0.69	3.01	-	-
29- 1, 106-109	532.58	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	1.24	-	-	1.24	-	0.0035
29- 1, 106-109	532.58	GUNN	XRF	48.43	0.57	14.79	3.97	5.48	9.05	0.15	12.41	11.50	1.88	0.16	0.06	-	0.90	1.94	102.24	-	-
29- 1, 106-109	532.58	GUNN	XRF	48.40	0.58	14.90	4.04	5.48	9.12	0.15	12.36	11.33	1.94	0.16	0.06	-	0.90	1.94	102.24	-	-
29- 2, 4- 7	533.06	AUF	AAS	-	-	-	3.68	5.93	9.24	-	-	-	-	-	-	-	0.90	1.88	12.39	-	-
29- 2, 4- 7	533.06	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	1.94	-	-	1.94	-	0.0090
29- 2, 9- 12	533.10	ISH	XRF	44.20	0.52	13.80	-	-	10.90	0.11	15.00	11.40	1.71	0.18	-	-	-	-	97.82	1.80	-
29- 2, 9- 12	533.10	SG	PROBE	47.80	0.60	16.20	1.50	7.20	8.55	0.19	11.40	11.30	2.11	0.14	-	-	-	-	98.44	-	-
29- 2, 9- 12	533.10	SGS	NAA	-	-	-	-	8.90	8.90	-	-	-	-	-	-	-	-	-	8.90	-	-
29- 2, 14- 17	533.16	FW	XRFFP	46.26	0.58	14.34	2.89	5.70	8.30	0.15	12.67	11.26	1.88	0.13	0.05	1.77	1.04	1.25	99.97	3.90	-
29- 2, 57- 60	533.59	TM	PROBE	-	-	-	-	-	-	-	-	-	-	-	-	1.96	0.68	0.70	3.34	-	-
30- 1, 46- 48	541.47	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.61	-	-	0.61	-	0.0127
30- 1, 46- 48	541.47	GUNN	XRF	-	-	-	-	6.24	6.24	-	-	-	-	-	-	-	0.71	1.11	8.06	-	-
30- 1, 46- 48	541.47	SGS	NAA	-	-	-	-	9.50	9.50	-	-	-	-	-	-	-	-	-	9.50	-	-

30- 1,	105-107	542.06	AUF	AAS	49.38	1.06	15.13	2.96	6.61	9.27	0.17	6.83	12.17	2.13	0.33	0.13	2.27	0.88	0.70	100.75	-	-
30- 1,	105-107	542.06	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	2.19	-	-	2.19	-	0.0093
30- 1,	105-107	542.06	BOG	XRF	47.33	1.11	14.56	10.24	-	9.21	0.15	6.94	12.13	2.13	0.35	0.14	2.25	0.60	0.75	98.68	3.70	-
30- 1,	106-109	542.08	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	2.74	-	-	2.74	-	0.0097
30- 1,	106-109	542.08	GUNN	XRF	50.38	1.13	15.10	2.98	7.07	9.75	0.18	7.09	12.70	2.12	0.33	0.13	-	0.38	1.53	101.12	-	0.0097
30- 1,	119-121	542.20	ISH	XRF	40.50	0.42	9.30	-	-	10.70	0.17	25.60	7.85	1.21	0.12	-	-	-	-	95.87	3.40	-
30- 2,	17- 19	542.68	ISH	XRF	50.30	1.11	14.30	-	-	9.33	0.17	6.15	12.20	2.11	0.45	-	-	-	-	96.12	2.80	-
30- 2,	28- 30	542.79	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	2.35	-	-	2.35	-	0.0167
30- 2,	28- 30	542.79	GUNN	XRF	50.67	1.12	15.03	3.11	6.92	9.72	0.18	7.19	12.45	2.09	0.34	0.13	-	0.40	1.36	100.99	-	-
31- 1,	73- 76	551.24	BOG	XRF	47.35	1.11	14.46	10.79	-	9.71	0.18	6.32	11.70	2.24	0.35	0.15	2.76	0.60	0.86	98.87	4.00	-
31- 1,	116-119	551.67	FW	XRFFP	44.37	1.09	13.46	1.29	9.60	10.76	0.21	6.50	11.31	2.19	0.47	0.11	6.35	0.99	1.41	99.35	8.19	-
32- 1,	10- 13	560.12	ISH	XRF	46.90	1.31	15.40	-	-	12.10	0.22	6.41	12.60	2.35	0.49	-	-	-	-	97.78	1.50	-
32- 1,	27- 30	560.28	AUF	AAS	48.71	1.03	14.83	3.97	6.24	9.81	0.16	6.89	12.38	2.21	0.25	0.13	0.53	1.75	0.34	99.42	-	-
32- 1,	27- 30	560.28	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.53	-	-	0.53	-	0.0025
32- 1,	27- 30	560.28	BOG	XRF	49.11	1.10	14.25	10.76	-	9.68	0.16	7.03	12.38	2.24	0.25	0.13	0.62	0.80	0.94	99.77	2.80	-
32- 1,	74- 77	560.76	ISH	XRF	46.20	1.35	14.10	-	-	11.80	0.19	6.43	14.70	2.14	0.30	-	-	-	-	97.16	1.79	-
32- 1,	113-116	561.15	AUF	AAS	48.20	1.07	14.68	4.12	6.44	10.15	0.19	6.78	12.19	2.02	0.38	0.11	1.05	1.28	1.09	99.60	-	-
32- 1,	113-116	561.15	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	1.23	-	-	1.23	-	0.0099
33- 1,	5- 8	569.57	AUF	AAS	49.32	1.07	14.52	2.45	7.01	9.21	0.17	6.42	12.17	2.08	0.28	0.11	3.41	0.97	0.79	100.77	-	-
33- 1,	5- 8	569.57	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	3.41	-	-	3.41	-	0.0268
33- 1,	5- 8	569.57	BOG	XRF	48.06	1.05	15.01	10.08	-	9.07	0.17	6.27	12.20	-	0.28	-	3.43	0.80	0.79	98.14	5.20	-
33- 1,	82- 85	570.34	ISH	XRF	55.00	1.14	10.80	-	-	11.30	0.20	4.73	12.30	1.93	0.33	-	-	-	-	97.76	1.50	-
33- 1,	95- 98	570.47	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	1.69	-	-	1.69	-	0.0000
33- 1,	95- 98	570.47	GUNN	XRF	50.58	0.99	14.89	3.95	5.86	9.41	0.17	7.12	13.28	2.22	0.20	0.10	-	1.04	1.00	101.40	-	-
33- 1,	100-103	570.52	MUN	AAS	46.80	0.95	14.40	5.83	3.91	9.16	0.18	7.38	13.33	2.10	0.22	0.09	-	-	-	95.19	4.26	-
33- 1,	100-103	570.52	AUF	AAS	47.26	0.98	14.49	3.04	6.25	8.99	0.17	7.24	13.21	2.19	0.18	0.09	3.06	0.88	0.96	100.00	-	-
33- 1,	100-103	570.52	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	3.06	-	-	3.06	-	0.0038
33- 2,	27- 30	571.28	AUF	AAS	45.48	0.52	15.34	3.76	5.38	8.76	0.18	6.72	14.15	2.15	0.18	0.06	3.87	1.30	0.43	99.52	-	-
33- 2,	27- 30	571.28	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	3.85	-	-	3.85	-	0.0106
33- 2,	27- 30	571.28	BOG	XRF	45.30	0.59	14.91	9.66	-	8.69	0.17	6.60	14.06	1.98	0.17	0.06	4.07	0.70	0.86	99.13	5.60	-
33- 2,	66- 69	571.67	FW	XRFFP	45.64	0.94	14.29	3.96	5.60	9.16	0.20	6.90	13.77	2.07	0.26	0.11	4.30	1.22	0.47	99.73	6.27	-
33- 2,	77- 80	571.78	AUF	AAS	49.86	1.02	15.23	3.64	5.43	8.71	0.14	6.83	12.61	2.35	0.23	0.09	0.44	1.40	1.05	100.32	-	-
33- 2,	77- 80	571.78	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.44	-	-	0.44	-	0.0000
33- 2,	77- 80	571.78	CML	XRF	52.70	1.17	14.10	10.40	-	9.36	0.15	6.30	12.20	2.40	0.29	0.15	-	-	-	99.86	-	0.1200
33- 2,	85- 88	571.87	GSC	NCL	42.88	1.00	15.00	4.31	4.84	8.72	0.16	7.66	14.12	2.05	0.22	0.12	6.03	0.32	1.20	99.91	-	0.02
33- 3,	11- 14	572.63	MUN	AAS	43.10	0.60	14.80	6.47	2.94	8.76	0.17	6.63	14.76	2.04	0.18	0.09	-	-	-	91.78	8.25	-
33- 3,	11- 14	572.63	AUF	AAS	43.35	0.58	14.72	4.35	4.64	8.55	0.16	6.73	14.22	2.09	0.13	0.06	5.87	1.99	1.46	100.35	-	-
33- 3,	11- 14	572.63	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	5.87	-	-	5.87	-	0.0055
33- 3,	22- 25	572.74	SCT		45.80	-	15.58	12.49	-	11.24	0.16	5.78	13.89	2.22	0.14	-	-	2.59	-	98.65	-	0.0080
34- 1,	45- 48	579.47	AUF	AAS	48.07	1.03	15.27	3.20	5.98	8.86	0.16	7.31	12.28	2.30	0.28	0.08	1.37	1.55	0.67	99.55	-	-
34- 1,	45- 48	579.47	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	1.40	-	-	1.40	-	0.0028
34- 1,	45- 48	579.47	BOG	XRF	47.45	1.11	15.01	9.93	-	8.94	0.17	7.33	12.34	2.33	0.29	0.14	1.55	1.40	0.60	99.65	3.80	-
34- 1,	119-122	580.21	GUNN	XRF	48.71	0.63	15.73	4.36	5.41	9.33	0.16	8.64	13.33	2.18	0.18	0.07	-	0.63	1.71	101.74	-	-
34- 1,	119-122	580.21	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	2.57	-	-	2.57	-	0.0000
34- 1,	129-132	580.31	AUF	AAS	45.34	0.61	15.04	3.67	5.55	8.85	0.16	8.17	13.34	2.00	0.17	0.04	2.85	1.21	1.58	99.73	-	-
34- 1,	129-132	580.31	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	2.86	-	-	2.86	-	0.0034
34- 2,	0- 3	580.52	ISH	XRF	47.40	0.67	14.20	-	-	10.10	0.20	9.85	12.10	2.47	0.29	-	-	-	-	97.81	2.20	-
34- 2,	53- 60	581.07	FW	XRFFP	49.22	0.96	14.46	2.64	6.40	8.78	0.19	8.00	12.36	2.07	0.17	0.08	1.33	1.27	0.53	99.68	3.25	-
35- 1,	4- 7	588.56	GSC	NCL	42.73	0.56	14.41	3.99	4.87	8.46	0.56	11.52	12.44	1.76	0.18	0.05	5.85	0.54	1.38	100.84	-	0.01
35- 1,	15- 18	588.67	GUNN	XRF	46.67	0.52	13.80	3.85	5.60	9.06	0.16	13.98	12.73	1.81	0.21	0.06	-	1.04	1.71	102.14	-	-
35- 1,	15- 18	588.67	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	5.00	-	-	5.00	-	0.0000
35- 1,	25- 28	588.77	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	1.76	-	-	1.76	-	0.0000
35- 1,	25- 28	588.77	GUNN	XRF	47.74	0.53	14.05	3.53	6.06	9.23	0.15	14.07	11.14	1.82	0.19	0.05	-	0.64	1.28	101.25	-	-
35- 1,	33- 36	588.85	FW	XRFFP	44.26	0.47	11.97	3.54	5.60	8.79	0.14	15.64	9.85	1.70	0.25	0.03	3.77	1.58	1.52	100.32	6.48	-
35- 1,	46- 49	588.98	GSC	NCL	43.21	0.45	11.14	3.18	5.62	8.48	0.45	18.84	9.62	1.43	0.20	0.03	4.58	0.62	1.34	100.71	-	0.01
35- 1,	77- 80	589.28	ISH	XRF	46.80	0.61	11.60	-	-	9.10	0.19	15.60	9.67	2.28	0.30	-	-	-	-	96.85	2.70	-
35- 1,	104-107	589.56	GSC	NCL	45.56	0.46	11.58	2.45	6.77	8.97	0.46	20.65	8.17	1.39	0.13	0.03	1.09	0.40	0.98	100.12	-	0.07
35- 1,	130-133	589.82	ISH	XRF	44.00	0.45	11.90	-	-	10.20	0.15	19.90	9.42	1.45	0.24	-	-	-	2.10	100.10	-	-

TABLE 10B – *Continued*

Sample[a]	Depth (m)	Inv.	Method	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	Total Iron	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	CO_2	H_2O^-	H_2O^+	Total	LOI	S
35- 1, 136-139	589.88	GSC	NCL	44.38	0.46	12.14	3.15	6.15	8.98	0.16	18.41	9.48	1.49	0.14	0.04	2.26	0.64	1.12	100.02	-	0.01
35- 2, 33- 36	590.35	GSC	NCL	44.40	0.42	11.33	3.02	6.30	9.02	0.16	21.13	8.36	1.38	0.13	0.04	1.43	0.62	1.04	99.76	-	0.03
35- 2, 51- 58	590.55	GUNN	XRF	46.10	0.47	11.91	10.71	-	9.64	0.16	19.48	9.25	1.69	0.18	0.05	-	-	-	100.00	-	-
35- 2, 51- 58	590.55	ML	CLASS	44.14	0.46	12.37	3.00	6.32	9.02	0.16	18.89	8.84	1.41	0.15	0.04	2.32	0.99	1.23	100.41	-	-
35- 2, 51- 58	590.55	SGS	MISC	44.22	0.47	11.67	2.74	6.60	9.07	0.15	19.16	8.66	1.60	0.17	0.04	<0.01	0.78	0.78	97.03	-	-
35- 2, 51- 58	590.55	SGS	NAA	-	-	-	-	9.40	9.40	-	-	-	1.70	-	-	-	-	-	11.10	-	-
35- 2, 51- 58	590.55	TM	PROBE	44.89	0.43	11.82	2.61	6.49	8.84	0.15	19.34	8.82	1.53	0.18	-	2.21	0.79	1.85	101.11	3.90	-
35- 2, 51- 58	590.55	USGS	WET	44.44	0.44	11.96	2.76	6.46	8.94	0.15	18.99	8.68	1.55	0.18	0.04	2.37	0.64	1.18	99.84	-	-
35- 2, 51- 58	590.55	USSR	CLASS	44.20	0.48	11.71	3.45	6.51	9.61	0.21	19.25	8.35	1.52	0.16	-	2.20	1.12	1.12	100.28	-	-
35- 2, 62- 65	590.64	SG	PROBE	46.00	0.59	13.90	1.50	8.50	9.85	0.18	13.80	11.50	1.83	0.20	-	-	-	-	98.00	-	-
35- 2, 62- 65	590.64	SGS	NAA	-	-	-	-	9.40	9.40	-	-	-	-	-	-	-	-	-	9.40	-	-
35- 2, 62- 65	590.64	TM	PROBE	45.91	0.52	13.62	3.89	5.41	8.91	0.15	13.18	10.44	1.69	0.21	-	2.65	0.83	0.89	99.39	4.81	-
35- 2, 66- 69	590.67	AUF	AAS	43.15	0.35	9.74	2.29	7.32	9.38	0.14	24.60	7.09	1.28	0.13	0.04	1.28	1.11	0.88	99.40	-	-
35- 2, 66- 69	590.67	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	1.28	-	-	1.28	-	-
35- 2, 87- 90	590.89	FW	XRFFP	43.81	0.37	9.68	2.18	7.30	9.26	0.14	23.86	7.03	1.21	0.08	0.03	0.27	0.78	1.32	98.06	2.87	-
35- 2, 87- 90	590.89	ISH	XRF	48.00	0.55	17.30	-	--	8.35	0.14	8.78	13.20	1.50	0.08	-	-	-	-	97.40	2.25	-
35- 2, 91- 94	590.92	BOG	XRF	43.05	0.40	9.11	10.47	-	9.42	0.15	23.75	7.14	1.90	0.14	0.04	1.48	0.60	0.96	99.19	3.20	-
35- 2, 91- 94	590.92	GSC	NCL	44.89	0.45	12.25	1.80	7.13	8.75	0.14	19.94	8.14	1.43	0.08	0.03	1.71	0.84	1.18	100.01	-	0.06
35- 2, 105-108	591.07	CML	XRF	47.50	0.54	15.40	10.40	-	9.36	0.17	13.50	10.20	1.80	0.28	0.07	-	-	-	99.86	-	0.1300
35- 2, 105-108	591.07	CML	XRF	47.30	0.57	15.40	10.60	-	9.54	0.14	13.40	10.40	1.80	0.28	0.07	-	-	-	99.96	-	0.0700
35- 2, 114-117	591.16	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	2.07	-	-	2.07	-	0.0057
35- 2, 114-117	591.16	CML	XRF	47.40	0.71	14.10	10.80	-	9.72	0.16	13.20	11.10	1.90	0.23	0.08	-	-	-	99.68	-	0.2900
35- 2, 114-117	591.16	GUNN	XRF	47.91	0.64	13.91	3.76	6.39	9.77	0.16	12.90	11.42	1.94	0.21	0.06	-	1.08	1.41	101.79	-	-
35- 2, 114-117	591.16	MUN	AAS	46.00	0.64	13.50	5.63	4.30	9.37	0.16	12.95	10.79	1.84	0.23	0.12	-	-	-	96.16	4.24	-
35- 3, 28- 31	591.80	GSC	NCL	44.85	0.55	13.51	2.91	6.18	8.80	0.17	14.14	11.17	1.75	0.20	0.05	2.71	0.76	0.90	99.85	-	0.02
35- 3, 41- 44	591.92	ISH	XRF	44.50	0.73	11.80	-	-	10.20	0.14	13.70	10.10	2.53	0.59	-	-	-	-	94.29	4.98	-
35- 3, 61- 64	592.13	CML	XRF	46.90	0.61	13.90	11.20	-	10.08	0.17	12.60	12.30	1.80	0.26	0.09	-	-	-	99.83	-	0.1500
35- 3, 61- 64	592.13	GUNN	XRF	47.10	0.56	13.95	10.76	-	9.68	0.17	13.12	12.31	1.74	0.24	0.06	-	-	-	100.01	-	-
35- 3, 61- 64	592.13	MUN	AAS	44.10	0.56	13.50	3.17	6.23	9.08	0.16	12.95	11.80	1.69	0.25	0.09	-	-	-	94.50	5.58	-
35- 3, 67-	592.17	BOG	XRF	44.21	0.54	13.24	10.18	-	9.16	0.16	12.39	11.52	1.72	0.20	0.07	3.44	0.60	0.68	98.95	4.70	-
35- 3, 69- 72	592.21	AUF	AAS	44.52	0.55	13.86	2.92	6.65	9.28	0.16	12.41	11.66	1.81	0.20	0.05	3.35	0.97	0.91	100.02	-	-
35- 3, 69- 72	592.21	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	3.35	-	-	3.35	-	0.0033
35- 3, 81- 84	592.33	GSC	NCL	44.53	0.68	17.56	5.68	4.62	9.73	0.15	4.65	13.27	2.35	0.21	0.12	3.80	1.06	1.38	100.06	-	0.02
35- 3, 91- 95	592.43	FW	XRFFP	48.86	1.09	15.67	3.18	4.80	7.66	0.15	8.50	12.06	2.37	0.29	0.08	0.17	1.38	1.22	99.82	2.46	-
35- 4, 31- 33	593.32	ISH	XRF	45.20	0.60	16.70	-	-	8.51	0.15	5.02	17.60	1.65	0.29	-	-	-	-	95.72	3.00	-
36- 1, 6- 8	598.07	AUF	AAS	46.63	0.54	17.48	3.11	4.48	7.28	0.13	6.19	15.00	1.80	0.26	0.05	1.95	1.12	1.16	99.90	-	-
36- 1, 6- 8	598.07	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	1.97	-	-	1.97	-	0.0121
36- 2, 3- 12	599.58	ISH	XRF	46.60	0.71	16.50	-	-	9.04	0.17	6.70	15.40	1.36	0.26	-	-	-	-	96.74	2.77	-
36- 2, 3- 12	599.58	SG	PROBE	49.90	0.73	18.20	1.50	5.60	6.95	0.14	6.80	14.90	2.10	0.17	-	-	-	-	100.04	-	-
36- 2, 3- 12	599.58	SGS	NAA	-	-	-	-	7.70	7.70	-	-	-	-	-	-	-	-	-	7.70	-	-
36- 2, 81- 83	600.32	SG	PROBE	49.40	0.59	19.00	1.50	5.10	6.45	0.16	6.70	15.00	1.89	0.14	-	-	-	-	99.48	-	-
36- 2, 81- 83	600.32	SGS	NAA	-	-	-	-	6.40	6.40	-	-	-	1.90	-	-	-	-	-	8.30	-	-
36- 2, 81- 83	600.32	TM	PROBE	-	-	-	-	-	-	-	-	-	-	-	-	1.32	0.78	0.59	2.69	-	-
36- 2, 85- 87	600.36	FW	XRFFP	45.03	0.47	17.87	2.92	3.10	5.73	0.12	7.31	14.78	1.83	0.18	0.04	2.78	1.62	0.88	98.93	6.22	-
36- 2, 90-100	600.45	ISH	XRF	47.00	0.87	15.90	-	-	8.70	0.16	6.70	15.50	1.72	0.26	-	-	-	-	96.91	3.02	-
36- 3, 4- 6	601.05	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	1.60	-	-	1.60	-	0.0073
36- 3, 4- 6	601.05	GUNN	XRF	48.65	0.53	19.43	8.06	-	7.25	0.14	6.58	14.60	1.81	0.14	0.05	-	-	-	99.99	-	-
36- 3, 11- 13	601.12	ISH	XRF	48.00	0.63	14.00	-	-	8.42	0.16	8.25	14.90	1.78	0.18	-	-	-	-	96.33	3.54	-
36- 3, 46- 48	601.47	AUF	AAS	46.27	0.53	17.81	2.80	4.56	7.08	0.12	6.69	14.66	1.80	0.14	0.03	1.03	2.29	1.21	99.94	-	-
36- 3, 46- 48	601.47	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	1.00	-	-	1.00	-	0.0037
36- 3, 46- 48	601.47	BOG	XRF	45.43	0.54	17.83	7.84	-	7.05	0.12	6.52	14.40	1.80	0.12	0.06	1.53	1.30	1.32	98.81	4.60	-
36- 3, 105-113	602.09	TM	PROBE	-	-	-	-	4.53	4.53	-	-	-	-	-	-	0.85	1.27	0.74	7.39	-	-
36- 3, 138-140	602.39	ISH	XRF	47.50	0.62	14.00	-	-	7.90	0.13	10.40	14.10	1.46	0.11	-	-	-	-	96.18	2.90	-
36- 4, 67- 69	603.18	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	1.08	-	-	1.08	-	0.0000
36- 4, 67- 69	603.18	GUNN	XRF	47.98	0.56	18.39	4.06	4.02	7.68	0.16	7.24	14.85	2.00	0.23	0.07	-	1.15	2.35	103.06	-	-

36- 4,	67- 69	603.18	GUNN	XRF	48.18	0.56	18.47	4.07	4.02	7.68	0.16	7.26	14.62	1.91	0.22	0.08	-	1.15	2.35	103.05	-	-
36- 4,	99-101	603.50	CML	XRF	48.80	0.57	15.20	9.10	-	8.19	0.13	10.20	13.70	1.70	0.20	0.07	-	-	-	99.67	-	0.2700
36- 4,	99-101	603.50	GUNN	XRF	48.63	0.54	18.22	8.54	-	7.68	0.13	8.15	13.81	1.76	0.18	0.05	-	-	-	100.01	-	-
36- 4,	99-101	603.50	MUN	AAS	47.30	0.60	18.40	2.81	4.84	7.37	0.14	8.01	13.53	1.72	0.20	0.09	-	-	-	97.64	2.52	-
36- 5,	5- 7	604.06	TM	PROBE	-	-	-	-	-	-	-	-	-	-	-	-	2.64	3.47	3.08	9.19	-	-
36- 5,	5- 7	604.06	TM	PROBE	-	-	-	-	-	-	-	-	-	-	-	-	23.31	1.93	2.48	27.72	-	-
36- 5,	22- 24	604.23	BOG	XRF	45.35	0.56	17.60	7.81	-	7.03	0.14	8.34	12.88	1.75	0.14	0.06	0.33	1.50	2.29	98.75	4.20	-
36- 5,	22- 26	604.24	AUF	AAS	46.94	0.54	18.50	2.45	4.99	7.19	0.13	8.41	13.21	1.74	0.11	0.04	0.24	2.10	1.70	101.10	-	-
36- 5,	22- 26	604.24	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.24	-	-	0.24	-	0.0218
36- 5,	60- 62	604.61	ISH	XRF	47.80	0.63	14.60	-	-	8.23	0.15	10.50	14.30	1.76	0.16	-	-	-	-	98.12	1.90	-
36- 5,	72- 74	604.73	FW	XRFFP	46.62	0.49	19.11	1.63	4.60	6.07	0.13	7.93	13.29	1.62	0.07	0.04	-	1.32	2.28	99.13	3.26	-
36- 6,	4- 5	605.55	SCT	VAR	45.20	-	16.97	9.63	-	8.67	0.14	6.83	13.51	1.94	0.23	-	-	3.90	-	98.35	-	0.0140
36- 6,	52- 54	606.03	ISH	XRF	45.70	0.68	17.20	-	-	8.26	0.18	9.43	13.40	1.65	0.24	-	-	-	-	96.73	3.04	-
36- 6,	58- 60	606.09	FW	XRFFP	47.51	0.51	18.20	1.97	4.40	6.17	0.14	7.99	14.49	1.71	0.09	0.03	0.93	0.89	1.31	100.17	2.91	-
37- 1,	78- 80	608.29	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.43	-	-	0.43	-	0.0153
37- 1,	78- 80	608.29	CML	XRF	48.30	0.59	15.50	8.60	-	7.74	0.13	10.30	14.20	1.70	0.20	0.08	-	-	-	99.60	-	0.3500
37- 1,	78- 80	608.29	GUNN	XRF	48.87	0.59	18.49	3.74	4.28	7.65	0.13	7.36	13.94	1.90	0.17	0.06	-	1.36	2.24	103.13	-	-
37- 1,	78- 80	608.29	MUN	AAS	46.50	0.59	17.80	5.88	2.28	7.57	0.13	7.43	13.76	1.89	0.20	0.09	-	-	-	96.55	3.50	-
37- 1,	113-115	608.64	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0091
37- 1,	113-115	608.64	BOG	XRF	45.63	0.52	17.81	7.70	-	6.93	0.13	7.89	13.28	1.74	0.08	0.05	0.30	1.20	2.23	98.56	3.80	-
37- 2,	12- 14	609.13	ISH	XRF	46.50	0.66	16.50	-	-	7.65	0.19	9.16	13.60	1.73	0.15	-	-	-	-	96.14	3.36	-
37- 2,	34- 36	609.35	FW	XRFFP	47.34	0.53	17.87	2.53	4.10	6.38	0.12	8.23	13.54	1.67	0.09	0.03	0.20	1.69	1.11	99.05	3.42	-
37- 2,	72- 74	609.73	SCT		45.70	-	17.84	8.19	-	7.37	0.13	7.86	14.55	1.75	0.11	-	-	2.34	-	98.47	-	0.0040
37- 2,	72- 74	609.73	TM	PROBE	-	-	-	-	-	-	-	-	-	-	-	-	1.02	0.74	1.17	2.93	-	-
37- 2,	72- 74	609.73	TM	PROBE	-	-	-	-	-	-	-	-	-	-	-	-	0.90	0.88	1.24	3.02	-	-
37- 3,	2- 5	610.53	ISH	XRF	46.10	0.92	13.40	-	-	10.90	0.18	11.00	10.70	2.35	0.25	-	-	-	-	95.80	3.27	-
37- 3,	11- 13	610.62	SG	PROBE	50.90	0.69	16.20	1.50	5.30	6.65	0.16	12.40	11.70	2.01	0.08	-	-	-	-	100.94	-	-
37- 3,	11- 13	610.62	SGS	NAA	-	-	-	-	8.10	8.10	-	-	-	2.00	-	-	-	-	-	10.10	-	-
37- 3,	11- 13	610.62	TM	PROBE	-	-	-	-	-	-	-	-	-	-	-	-	0.19	0.92	1.90	3.01	-	-
37- 3,	23- 25	610.74	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0936
37- 3,	23- 25	610.74	BOG	XRF	46.68	0.62	15.85	9.89	-	8.90	0.15	9.72	11.98	2.23	0.06	0.06	0.20	0.60	1.96	100.00	2.80	-
37- 3,	23- 25	610.74	MUN	AAS	48.20	0.56	14.40	1.75	7.00	8.57	0.15	12.93	10.92	1.81	0.11	0.09	-	-	-	97.92	2.48	-
37- 3,	28- 29	610.78	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0576
37- 3,	28- 29	610.78	GUNN	XRF	-	-	-	-	6.56	6.56	-	-	-	-	-	-	-	0.65	1.63	8.84	-	-
37- 3,	50- 52	611.01	FW	XRFFP	46.67	0.60	14.78	3.20	5.60	8.48	0.17	11.88	10.99	1.91	0.16	0.04	0.33	0.73	2.27	99.33	2.93	-
39- 1,	2- 5	626.53	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0649
39- 1,	2- 5	626.53	BOG	XRF	45.91	0.58	13.94	10.42	-	9.38	0.16	12.48	10.95	-	0.08	-	0.46	0.30	1.76	97.04	2.60	-
40- 1,	30- 32	636.31	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.12	-	-	0.12	-	0.0059
40- 1,	30- 32	636.31	CML	XRF	49.60	1.10	14.80	10.40	-	9.36	0.16	8.50	12.70	1.90	0.38	0.14	-	-	-	99.68	-	0.2900
40- 1,	30- 32	636.31	GUNN	XRF	49.41	0.93	17.79	4.80	4.45	8.77	0.15	6.60	12.74	2.14	0.38	0.12	-	1.78	1.85	103.14	-	-
40- 1,	30- 32	636.31	MUN	AAS	46.40	0.88	17.70	7.02	1.92	8.24	0.15	6.53	12.35	2.17	0.42	0.09	-	-	-	95.63	3.69	-
40- 1,	34- 36	636.35	AUF	AAS	-	-	-	5.98	3.73	9.11	-	-	-	-	-	-	-	3.18	1.11	14.00	-	-
40- 1,	34- 36	636.35	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.29	-	-	0.29	-	-
40- 1,	34- 36	636.35	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0079
40- 1,	34- 36	636.35	BOG	XRF	45.73	0.93	17.23	9.96	-	8.96	0.15	5.96	11.24	2.16	0.49	0.13	0.41	2.70	2.22	99.31	6.10	-
40- 1,	73- 75	636.74	ISH	XRF	47.20	1.18	15.40	-	-	9.45	0.17	7.85	11.40	2.07	0.47	-	-	-	-	95.13	3.89	-
40- 2,	40- 42	637.91	ISH	XRF	47.30	1.08	14.70	-	-	9.45	0.20	7.00	13.90	2.16	0.26	-	-	-	-	95.45	4.28	-
40- 2,	64- 66	638.15	FW	XRFFP	47.36	0.91	17.78	4.71	4.00	8.24	0.12	6.00	11.59	1.99	0.33	0.09	0.10	3.64	1.06	99.68	5.40	-
40- 2,	93- 95	638.44	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.11	-	-	0.11	-	0.0319
40- 2,	93- 95	638.44	GUNN	XRF	49.83	0.93	18.12	3.66	4.78	8.07	0.14	6.58	13.16	2.02	0.15	0.12	-	1.50	1.14	102.13	-	-
40- 2,	93- 95	638.44	MUN	AAS	48.80	0.86	17.20	3.11	5.17	7.97	0.15	6.87	13.16	1.93	0.19	0.09	-	-	-	97.53	2.21	-
40- 2,	97- 99	638.48	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.37	-	-	0.37	-	0.0158
40- 2,	97- 99	638.48	GUNN	XRF	49.47	0.92	17.87	5.19	4.44	9.11	0.15	6.21	12.60	2.21	0.33	0.13	-	1.34	1.62	102.48	-	-
40- 2,	97- 99	638.48	GUNN	XRF	49.20	0.93	17.90	5.20	4.44	9.12	0.15	6.33	12.69	2.21	0.33	0.13	-	1.34	1.62	102.47	-	-
41- 1,	106-108	646.57	FW	XRFFP	48.72	0.88	17.20	2.53	5.20	7.48	0.16	7.18	12.73	2.02	0.15	0.08	-	2.28	1.22	100.35	3.45	-
41- 1,	110-112	646.61	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0037
41- 1,	110-112	646.61	BOG	XRF	48.94	0.87	16.86	10.51	-	9.46	0.16	7.02	12.52	2.07	0.15	0.09	0.08	1.30	1.13	101.70	3.00	-
41- 1,	115-117	646.66	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	-	0.02	-	0.0000

TABLE 10B – *Continued*

Sample[a]	Depth (m)	Inv.	Method	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	Total Iron	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	CO_2	H_2O^-	H_2O^+	Total	LOI	S
41- 1, 115-117	646.66	GUNN	XRF	49.75	0.89	17.44	3.98	4.97	8.55	0.16	7.11	12.17	2.37	0.49	0.10	-	1.82	1.43	102.68	-	-
41- 1, 115-117	646.66	GUNN	XRF	49.84	0.88	17.55	3.99	4.97	8.56	0.16	7.12	12.00	2.35	0.49	0.11	-	1.82	1.43	102.71	-	-
41- 2, 17- 19	647.18	FW	XRFFP	47.87	1.02	13.88	3.61	6.10	9.35	0.20	8.75	11.11	2.11	0.28	0.09	-	2.18	1.62	98.82	3.49	-
41- 2, 38- 40	647.39	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.06	-	-	0.06	-	0.0120
41- 2, 38- 40	647.39	GUNN	XRF	49.41	0.90	17.24	3.48	5.68	8.81	0.18	7.25	12.87	2.04	0.22	0.11	-	1.23	0.81	101.42	-	-
41- 2, 38- 40	647.39	GUNN	XRF	49.31	0.90	17.26	3.55	5.68	8.87	0.18	7.26	12.90	2.00	0.22	0.11	-	1.23	0.81	101.41	-	-
41- 2, 42- 44	647.43	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.07	-	-	0.07	-	0.0093
41- 2, 42- 44	647.43	GUNN	XRF	49.44	0.91	17.80	3.25	5.32	8.24	0.18	7.12	13.05	2.04	0.19	0.11	-	1.48	0.94	101.83	-	-
42- 1, 20- 22	655.21	SCT		45.60	-	14.71	11.57	-	10.41	0.17	9.28	11.13	1.86	0.12	-	-	4.19	-	98.63	-	0.0020
42- 1, 56- 58	655.57	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.09	-	-	0.09	-	0.0642
42- 1, 56- 58	655.57	CML	XRF	48.60	0.70	14.70	10.50	-	9.45	0.15	11.00	12.00	1.80	0.12	0.08	-	-	-	99.65	-	0.3200
42- 1, 56- 58	655.57	GUNN	XRF	48.74	0.64	15.69	3.50	6.14	9.29	0.15	10.05	12.40	1.89	0.06	0.06	-	1.50	1.33	102.15	-	-
42- 1, 56- 58	655.57	MUN	AAS	46.80	0.64	15.80	5.72	3.66	8.81	0.15	10.36	12.10	1.86	0.10	0.09	-	-	-	97.28	3.04	-
42- 1, 59- 61	655.60	BOG	XRF	45.41	0.58	14.34	9.59	-	8.63	0.16	11.85	10.53	1.91	0.07	0.07	0.23	2.70	1.48	98.92	3.10	-
42- 1, 59- 61	655.60	AUF	AAS	47.47	0.69	15.82	3.36	6.05	9.07	0.15	9.75	12.02	1.94	0.05	0.05	0.06	1.14	1.37	99.92	-	-
42- 1, 59- 61	655.60	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.06	-	-	0.06	-	0.0736
42- 1, 67- 69	655.68	ISH	XRF	46.70	0.64	14.20	-	-	9.78	0.13	11.50	11.30	2.09	0.09	-	-	-	-	96.43	3.15	-
42- 2, 4- 6	656.55	ISH	XRF	47.10	0.60	13.40	-	-	8.95	0.11	14.10	10.80	1.88	0.12	-	-	-	-	97.06	3.23	-
42- 2, 26- 28	656.77	AUF	AAS	-	-	-	3.36	5.82	8.84	-	-	-	-	-	-	-	1.46	1.71	12.35	-	-
42- 2, 26- 28	656.77	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.15	-	-	0.15	-	0.0050
42- 2, 26- 28	656.77	GUNN	XRF	49.09	0.62	15.38	10.30	-	9.27	0.16	10.47	11.95	1.92	0.06	0.06	-	-	-	100.01	-	-
42- 2, 32- 34	656.83	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.08	-	-	0.08	-	0.0000
42- 2, 32- 34	656.83	GUNN	XRF	48.78	0.63	15.61	4.44	5.50	9.49	0.17	10.69	11.67	1.75	0.07	0.07	-	1.32	1.91	102.61	-	-
42- 2, 32- 34	656.83	GUNN	XRF	48.85	0.63	15.57	4.33	5.50	9.39	0.17	10.66	11.66	1.86	0.07	0.06	-	1.32	1.91	102.59	-	-
42- 2, 138-140	657.89	FW	XRFFP	46.68	0.67	15.26	2.36	6.00	8.12	0.16	10.43	11.37	1.85	0.14	0.04	0.15	1.94	1.56	98.61	3.76	-
43- 1, 102-104	665.53	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.03	-	-	0.03	-	0.0023
43- 1, 102-104	665.53	GUNN	XRF	49.04	0.86	17.89	3.53	5.56	8.74	0.15	6.75	13.03	2.23	0.23	0.11	-	1.65	1.31	102.34	-	-
43- 1, 102-104	665.53	GUNN	XRF	49.09	0.86	17.87	3.56	5.56	8.76	0.15	6.65	13.09	2.21	0.23	0.11	-	1.65	1.31	102.34	-	-
43- 1, 105-107	665.56	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0061
43- 1, 105-107	665.56	BOG	XRF	46.15	0.71	18.61	7.87	-	7.08	0.13	6.08	11.74	2.20	0.46	0.10	0.11	1.00	3.94	99.10	6.40	-
43- 1, 126-128	665.77	ISH	XRF	47.40	1.11	17.20	-	-	9.85	0.16	7.00	11.90	1.94	0.30	-	-	-	-	96.87	2.94	-
43- 2, 55- 57	666.56	FW	XRFFP	48.69	0.86	16.26	2.29	5.70	7.76	0.15	7.11	11.63	2.44	0.28	0.08	0.04	2.67	1.93	100.13	4.54	-
43- 2, 105-107	667.06	ISH	XRF	47.50	1.21	16.20	-	-	10.50	0.18	5.72	13.30	1.98	0.28	-	-	-	-	96.87	2.34	-
43- 3, 19- 21	667.70	ISH	XRF	48.00	0.08	17.40	-	-	10.30	0.13	7.90	11.60	2.17	0.26	-	-	-	-	97.84	2.80	-
43- 3, 51- 53	668.02	GSC	NCL	43.73	0.82	20.38	4.52	3.09	7.16	0.12	4.78	9.63	3.43	0.54	0.08	0.04	2.82	5.37	99.35	-	0.04
43- 3, 109-110	668.60	TM	PROBE	-	-	-	-	-	-	-	-	-	-	-	-	0.67	6.95	9.18	16.80	-	-
44- 1, 42- 44	674.43	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0096
44- 1, 42- 44	674.43	BOG	XRF	47.15	0.86	16.43	9.46	-	8.51	0.16	6.80	12.29	2.21	0.21	0.11	0.13	1.80	2.24	99.85	4.00	-
44- 1, 47- 49	674.48	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.08	-	-	0.08	-	0.0077
44- 1, 47- 49	674.48	GUNN	XRF	49.37	0.85	17.48	3.88	5.48	8.97	0.15	6.87	12.67	2.23	0.31	0.11	-	1.57	1.31	102.28	-	-
44- 1, 47- 49	674.48	GUNN	XRF	49.34	0.86	17.56	3.82	5.48	8.92	0.15	6.77	12.86	2.14	0.31	0.11	-	1.57	1.31	102.28	-	-
44- 1, 143-145	675.44	ISH	XRF	48.70	1.06	15.10	-	-	10.40	0.18	6.75	12.40	2.44	0.29	-	-	-	-	97.32	2.30	-
44- 2, 55- 57	676.06	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.05	-	-	0.05	-	0.0000
44- 2, 55- 57	676.06	GUNN	XRF	49.28	0.88	17.40	3.73	5.66	9.02	0.16	6.83	12.71	2.30	0.32	0.11	-	1.72	1.23	102.33	-	-
44- 2, 55- 57	676.06	GUNN	XRF	49.23	0.89	17.54	3.77	5.66	9.05	0.16	6.90	12.57	2.26	0.31	0.11	-	1.72	1.23	102.35	-	-
44- 2, 103-105	676.54	ISH	XRF	47.40	1.18	16.50	-	-	10.50	0.17	5.90	12.90	1.90	0.23	-	-	-	-	96.69	2.51	-
44- 2, 108-110	676.59	FW	XRFFP	47.84	0.84	17.26	2.17	5.40	7.35	0.16	7.09	12.63	2.16	0.13	0.08	-	1.76	1.54	99.06	3.11	-
44- 3, 144-146	678.45	SGS	NAA	-	-	-	-	9.00	9.00	-	-	-	2.40	-	-	-	-	-	11.40	-	-
44- 3, 144-146	678.45	TM	PROBE	48.56	0.86	16.61	3.19	5.81	8.68	0.15	7.81	12.21	2.01	0.21	-	0.19	1.02	1.60	100.23	2.68	-
44- 5, 68- 70	680.69	CML	XRF	49.80	1.03	15.80	11.20	-	10.08	0.16	7.80	9.90	3.40	0.63	0.10	-	-	-	99.82	-	0.2000
44- 5, 68- 70	680.69	GUNN	XRF	50.13	0.91	17.34	10.24	-	9.21	0.15	6.61	9.71	4.18	0.62	0.11	-	-	-	100.00	-	-
44- 5, 68- 70	680.69	MUN	AAS	47.30	0.81	17.10	3.83	5.13	8.58	0.15	6.41	9.29	3.72	0.69	0.29	-	-	-	94.72	5.26	-

44- 5,	98-100	680.99	ISH	XRF	49.00	1.13	14.50	-	-	10.50	0.16	8.22	12.40	1.49	0.22	-	-	-	-	97.62	1.37	-
44- 5,	124-126	681.25	FW	XRFFP	49.68	0.95	14.68	2.84	5.95	8.51	0.16	8.47	12.52	1.86	0.12	0.10	0.10	1.62	0	99.05	1.08	-
44- 6,	4- 6	681.55	ISH	XRF	49.90	1.02	13.30	-	-	10.30	0.15	8.30	12.10	1.43	0.22	-	-	-	-	96.8	2.42	-
44- 6,	33- 37	681.85	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.06	-	-	0.06	-	0.1110
44- 6,	33- 37	681.85	GUNN	XRF	50.52	1.02	14.72	3.31	6.72	9.70	0.15	8.15	12.48	1.93	0.13	0.12	-	0.98	0.79	101.02	-	-
44- 6,	33- 37	681.85	GUNN	XRF	50.36	1.02	14.74	3.40	6.72	9.78	0.16	8.18	12.54	1.88	0.14	0.12	-	0.98	0.79	101.03	-	-
44- 6,	46- 48	681.97	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0893
44- 6,	46- 48	681.97	BOG	XRF	48.07	0.94	14.29	10.11	-	9.10	0.15	8.42	12.35	-	0.15	-	0.17	1.00	0.92	96.57	2.50	-
45- 1,	45- 47	683.96	ISH	XRF	49.40	1.11	14.40	-	-	9.44	0.19	7.80	12.40	1.40	0.40	-	-	-	-	96.68	2.23	-
45- 1,	54- 56	684.05	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0458
45- 1,	54- 56	684.05	BOG	XRF	41.84	0.84	15.79	9.79	-	8.81	0.16	7.28	8.55	-	0.42	-	0.35	6.20	5.73	96.95	13.20	-
46- 1,	58- 60	693.59	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0410
46- 1,	58- 60	693.59	BOG	XRF	50.36	1.24	14.58	11.90	-	10.71	0.16	7.36	11.10	1.98	0.18	0.13	0.19	1.80	0.97	101.95	3.00	-
46- 1,	98-100	693.99	ISH	XRF	48.40	1.31	12.10	-	-	12.80	0.17	7.00	10.90	1.90	0.22	-	-	-	-	94.80	4.74	-
46- 2,	58- 61	695.10	FW	XRFFP	49.57	1.08	14.75	1.60	6.90	8.34	0.17	7.99	12.10	2.20	0.17	0.12	0.09	1.41	0.89	99.04	2.02	-
46- 2,	76- 78	695.27	ISH	XRF	48.70	1.29	14.80	-	-	11.10	0.16	7.51	11.90	2.32	0.21	-	-	-	-	97.99	1.74	-
46- 3,	15- 17	696.16	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.03	-	-	0.03	-	0.0775
46- 3,	15- 17	696.16	GUNN	XRF	50.61	1.19	14.60	3.93	7.18	10.72	0.17	7.39	11.63	2.21	0.16	0.13	-	1.01	0.81	101.02	-	-
46- 3,	15- 17	696.16	GUNN	XRF	50.69	1.17	14.68	3.91	7.18	10.70	0.17	7.41	11.54	2.17	0.16	0.13	-	1.01	0.81	101.03	-	-
46- 3,	36- 38	696.37	CML	XRF	52.00	1.26	13.60	11.60	-	10.44	0.16	7.50	11.20	2.10	0.20	0.18	-	-	-	99.80	-	0.2600
47- 1,	123-126	703.74	ISH	XRF	51.50	1.16	13.80	-	-	8.80	0.19	7.20	10.80	2.33	0.21	-	-	-	-	96.05	2.73	-
47- 2,	67- 70	704.69	CML	XRF	50.50	1.28	14.30	12.30	-	11.07	0.18	7.30	11.50	2.00	0.14	0.18	-	-	-	99.68	-	0.2000
47- 2,	80- 83	704.82	ISH	XRF	47.50	1.14	14.80	-	-	10.56	0.25	7.05	12.90	2.40	0.11	-	-	-	-	97.01	1.43	-
47- 2,	95- 98	704.97	BOG	XRF	48.49	1.18	14.23	11.83	-	10.64	0.18	7.17	11.75	2.05	0.07	0.12	0.11	1.00	0.73	98.91	2.10	-
47- 2,	99-102	705.01	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0129
47- 2,	106-109	705.08	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.04	-	-	0.04	-	0.0904
47- 2,	106-109	705.08	GUNN	XRF	50.63	1.16	14.56	3.33	7.80	10.80	0.18	7.30	11.83	2.10	0.09	0.14	-	1.07	0.44	100.63	-	-
47- 2,	106-109	705.08	GUNN	XRF	50.53	1.17	14.60	3.31	7.80	10.78	0.18	7.26	11.90	2.17	0.09	0.13	-	1.07	0.44	100.65	-	-
47- 3,	10- 13	705.62	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.07	-	-	0.07	-	0.1170
47- 3,	10- 13	705.62	GUNN	XRF	50.90	1.15	14.66	3.55	7.56	10.75	0.17	7.18	11.67	2.07	0.11	0.14	-	1.01	0.68	100.85	-	-
47- 3,	10- 13	705.62	GUNN	XRF	50.91	1.15	14.66	3.46	7.56	10.67	0.17	7.22	11.64	2.13	0.11	0.13	-	1.01	0.68	100.83	-	-
47- 3,	130-132	706.81	ISH	XRF	48.60	1.46	14.20	-	-	10.62	0.25	6.10	12.90	2.81	0.34	-	-	-	-	97.31	1.86	-
48- 1,	118-120	713.19	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0591
48- 1,	118-120	713.19	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	0.13	-	-	0.13	-	0.0187
48- 1,	118-120	713.19	BOG	XRF	47.44	0.97	15.06	9.90	-	8.91	0.17	8.22	12.57	2.66	0.37	0.12	0.07	1.20	0.91	99.66	1.90	-
48- 1,	118-120	713.19	CML	XRF	50.00	1.12	13.80	10.00	-	9.00	0.17	9.80	11.90	2.50	0.22	0.14	-	-	-	99.65	-	0.2200
48- 1,	118-120	713.19	FW	XRFFP	48.77	0.97	14.84	2.29	5.60	7.66	0.17	9.46	12.19	2.05	0.16	0.09	0.08	1.63	0.97	99.27	2.90	-
48- 1,	118-120	713.19	GUNN	XRF	50.05	0.98	15.27	3.00	5.91	8.61	0.16	9.06	11.87	2.68	0.20	0.12	-	1.40	1.73	102.43	-	-
48- 1,	118-120	713.19	MUN	AAS	48.60	0.92	14.80	4.90	3.72	8.13	0.16	8.86	11.67	2.65	0.25	0.09	-	-	-	96.62	2.93	-
1- 1,	67- 70	142.68	AUM	TRACK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	-	0.0101

TABLE 10C
First Transition and Rare Earth Elements in Basalts in Holes 332B and 332D

Sample[a]	Depth (m)	Inv.	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	La	Ce	Nd	Sm	Eu	Gd	Tb	Ho	Tm	Yb	Lu
1- 5, 5	145.05	GUNN	-	1798	-	-	620	33275	-	88	-	-	-	-	-	-	-	-	-	-	-	-	-
1- 5, 110	146.10	GUNN	-	2218	-	-	697	40428	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-
1-CC, 130	146.60	GUNN	-	1439	-	-	774	34587	-	75	-	-	-	-	-	-	-	-	-	-	-	-	-
2- 1, 21	151.71	BOG	-	2220	120	270	700	39169	44	89	63	35	-	-	-	-	-	-	-	-	-	-	-
2- 1, 120	152.70	POP	-	-	200	420	-	-	61	120	-	-	-	-	-	-	-	-	-	-	-	-	-
2- 2, 63	153.63	FW	-	2218	-	265	697	36462	-	102	80	-	-	-	-	-	-	-	-	-	-	-	-
2- 2, 113	154.13	CML	-	2518	-	-	774	45464	29	111	74	34	-	-	-	-	-	-	-	-	-	-	-
2- 2, 113	154.13	GUNN	-	2158	-	-	774	39169	-	101	-	-	-	-	-	-	-	-	-	-	-	-	-
2- 2, 113	154.13	MUN	-	2038	-	364	697	37943	-	98	83	42	-	-	-	-	-	-	-	-	-	-	-
2- 3, 31	154.81	BOG	-	3360	180	400	1084	55186	50	134	122	52	-	-	-	-	-	-	-	-	-	-	-
2- 3, 64	155.14	BOG	-	2640	160	362	850	48052	47	105	90	42	-	-	-	-	-	-	-	-	-	-	-
2- 3, 90	155.40	MUN	-	2458	-	390	774	40688	-	113	89	44	-	-	-	-	-	-	-	-	-	-	-
2- 3, 131	155.81	FW	-	2098	-	260	697	34787	-	103	78	-	-	-	-	-	-	-	-	-	-	-	-
2- 4, 54	156.54	SGS	30	-	-	266	-	41282	33	-	-	-	1.300	3.60	3.100	0.870	0.420	-	0.270	-	0.23	1.20	0.180
2- 4, 122	157.22	FW	-	2278	-	270	774	34885	-	99	85	-	-	-	-	-	-	-	-	-	-	-	-
2- 5, 84	158.34	BAS	-	-	-	380	-	-	30	180	80	50	-	-	-	-	-	-	-	-	-	-	-
2- 5, 84	158.34	POP	-	-	120	350	-	-	55	100	-	-	-	-	-	-	-	-	-	-	-	-	-
2- 5, 103	158.53	CML	-	2398	-	-	697	41967	-	97	84	28	-	-	-	-	-	-	-	-	-	-	-
2- 5, 109	158.59	BEN	-	-	-	-	-	-	-	-	-	-	1.300	3.20	2.100	0.730	0.320	1.100	0.220	0.32	0.15	0.90	0.140
2- 5, 123	158.73	FW	-	2158	-	254	697	36192	-	96	75	-	-	-	-	-	-	-	-	-	-	-	-
2- 6, 41	159.41	GUNN	-	2758	-	-	929	47283	-	130	-	-	-	-	-	-	-	-	-	-	-	-	-
2- 6, 94	159.94	FWPU	34	2338	-	282	774	38669	-	107	84	-	1.700	7.40	46.000	0.800	0.410	-	0.310	-	-	2.04	0.190
2- 6, 105	160.05	POP	-	-	130	390	-	-	59	130	-	-	-	-	-	-	-	-	-	-	-	-	-
2-CC, 3	160.60	MUY	-	-	-	370	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-CC, 3	160.60	GUNN	-	2038	-	-	620	37700	-	92	-	-	-	-	-	-	-	-	-	-	-	-	-
2-CC, 3	160.60	GUNN	-	1978	-	-	620	37211	-	91	-	-	-	-	-	-	-	-	-	-	-	-	-
3- 1, 27	199.27	FW	-	1978	-	228	697	33859	-	98	78	-	-	-	-	-	-	-	-	-	-	-	-
3- 1, 60	199.60	GUNN	-	2278	-	-	774	40008	-	107	-	-	-	-	-	-	-	-	-	-	-	-	-
3- 1, 100	200.00	BOG	-	1920	115	242	620	34693	20	81	60	29	-	-	-	-	-	-	-	-	-	-	-
3- 2, 98	201.48	TM	-	-	135	400	-	-	50	112	77	-	-	-	-	-	-	-	-	-	-	-	-
3- 3, 14	202.14	TM	-	-	165	365	-	-	50	123	87	-	-	-	-	-	-	-	-	-	-	-	-
3- 3, 46	202.46	SGS	32	-	-	282	-	45955	31	-	-	-	1.200	2.80	-	0.940	0.370	-	0.250	-	0.20	1.20	0.170
3- 3, 77	202.77	TM	-	-	130	380	-	-	48	90	80	-	-	-	-	-	-	-	-	-	-	-	-
3- 3, 87	202.87	BAS	-	-	-	200	-	-	-	-	50	-	-	-	-	-	-	-	-	-	-	-	-
3- 3, 87	202.87	CHE	-	-	84	195	-	-	27	73	51	-	-	-	-	-	-	-	-	-	-	-	-
3- 3, 128	203.28	GUNN	-	2038	-	-	697	38742	-	95	-	-	-	-	-	-	-	-	-	-	-	-	-
3- 3, 128	203.28	MUY	-	-	-	380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3- 3, 133	203.33	SGS	26	-	-	241	-	34272	26	-	-	-	1.100	2.80	-	0.720	0.300	-	0.210	-	0.18	1.00	0.150
3- 4, 20	203.70	GUNN	-	2398	-	-	774	45184	-	102	-	-	-	-	-	-	-	-	-	-	-	-	-
3- 4, 26	203.76	SGS	34	-	-	303	-	48292	56	-	-	-	1.800	3.70	-	1.000	0.410	-	0.330	-	-	1.20	0.270
3- 4, 26	203.76	TM	37	2398	145	395	852	46566	-	105	87	-	1.430	4.00	2.600	0.850	0.360	-	-	0.38	-	1.16	0.200
3- 4, 26	203.76	GUNN	-	2458	-	-	852	46164	-	108	-	-	-	-	-	-	-	-	-	-	-	-	-
3- 4, 27	203.77	BAS	-	-	-	320	-	-	-	70	-	-	-	-	-	-	-	-	-	-	-	-	-
3- 4, 27	203.77	CHE	-	-	106	450	-	-	46	90	-	-	-	-	-	-	-	-	-	-	-	-	-
3- 4, 27	203.77	SGS	35	-	-	299	-	49850	36	-	-	-	1.500	4.20	3.700	1.000	0.420	-	0.320	-	-	1.40	0.160
3- 4, 40	203.90	TM	43	-	135	390	-	-	45	110	93	-	2.320	4.70	-	1.000	0.420	-	-	0.46	-	1.34	0.230
3- 4, 48	203.98	FW	-	2698	-	323	929	45389	-	119	97	-	-	-	-	-	-	-	-	-	-	-	-
3- 4, 59	204.09	GUNN	-	2698	-	-	929	51130	-	121	-	-	-	-	-	-	-	-	-	-	-	-	-
3- 4, 64	204.14	SGS	37	-	-	325	-	48292	38	-	-	-	1.300	4.80	-	0.900	0.440	-	0.280	-	-	1.60	0.240
3- 4, 98	204.48	TM	41	2398	115	335	774	46816	45	98	78	-	1.660	4.40	-	0.930	0.420	-	0.290	0.46	-	1.31	0.210
3- 4, 109	204.59	BOG	-	6720	260	85	1320	69175	41	58	89	75	-	-	-	-	-	-	-	-	-	-	-
3- 4, 121	204.71	BAS	-	-	-	80	-	-	65	70	100	80	-	-	-	-	-	-	-	-	-	-	-

3- 4, 121	204.71	CHE	-	-	250	56	-	-	-	50	92	-	-	-	-	-	-	-	-	-	-	-	-
4- 1, 100	228.50	BOG	-	6540	210	112	1320	68406	38	100	75	75	-	-	-	-	-	-	-	-	-	-	-
4- 1, 100	228.50	GUNN	-	6175	-	-	1317	75121	-	66	-	-	-	-	-	-	-	-	-	-	-	-	-
4- 1, 100	228.50	ML	-	7074	-	-	1317	79737	56	77	96	85	-	-	-	-	-	-	-	-	-	-	-
4- 1, 100	228.50	MUN	-	6235	-	100	1317	75898	-	69	89	74	-	-	-	-	-	-	-	-	-	-	-
4- 1, 100	228.50	MUY	-	-	-	160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4- 1, 108	228.58	FW	-	5995	-	193	1239	69685	-	81	88	-	-	-	-	-	-	-	-	-	-	-	-
6- 1, 18	284.68	BOG	-	7020	265	86	1390	79877	38	64	83	95	-	-	-	-	-	-	-	-	-	-	-
6- 1, 77	285.27	BOG	-	6900	240	72	1317	76030	33	54	60	75	-	-	-	-	-	-	-	-	-	-	-
6- 1, 100	285.50	CML	-	7793	-	-	1394	82535	-	74	128	85	-	-	-	-	-	-	-	-	-	-	-
6- 1, 111	285.61	FWPU	43	6834	-	202	1394	67383	-	67	90	-	6.790	9.14	58.000	2.890	0.970	-	0.590	-	-	2.29	0.350
6- 1, 125	285.75	BAS	-	-	-	80	-	-	55	70	80	90	-	-	-	-	-	-	-	-	-	-	-
6- 2, 122	287.22	BOG	-	6480	240	4	1320	77779	38	37	64	76	-	-	-	-	-	-	-	-	-	-	-
6- 2, 122	287.22	TM	51	6175	295	40	1084	72075	53	53	80	-	4.790	13.10	7.000	2.410	0.980	-	0.660	-	-	2.79	0.390
6- 3, 34	287.84	GUNN	-	6654	-	-	1549	82255	-	45	-	-	-	-	-	-	-	-	-	-	-	-	-
6- 3, 34	287.84	MUN	-	6474	-	56	1626	83109	-	51	82	79	-	-	-	-	-	-	-	-	-	-	-
6- 3, 34	287.84	MUY	-	-	-	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6- 3, 83	288.33	BAS	-	-	-	70	-	-	50	20	60	63	-	-	-	-	-	-	-	-	-	-	-
6- 3, 83	288.33	CHE	-	-	230	38	-	-	33	25	76	-	-	-	-	-	-	-	-	-	-	-	-
6- 3, 87	288.37	BOG	-	6900	240	47	1390	83934	38	40	60	83	-	-	-	-	-	-	-	-	-	-	-
7- 1, 36	313.36	GUNN	-	6115	-	-	1162	68925	-	81	-	-	-	-	-	-	-	-	-	-	-	-	-
8- 1, 7	322.57	BAS	-	-	-	240	-	-	55	100	60	79	-	-	-	-	-	-	-	-	-	-	-
8- 1, 7	322.57	CHE	-	-	215	240	-	-	47	75	82	-	-	-	-	-	-	-	-	-	-	-	-
8- 1, 14	322.64	BOG	-	6420	230	230	1160	65678	50	106	70	74	-	-	-	-	-	-	-	-	-	-	-
8- 1, 17	322.67	GUNN	-	6055	-	-	1162	69105	-	86	-	-	-	-	-	-	-	-	-	-	-	-	-
8- 1, 29	322.79	BAS	-	-	-	230	-	-	55	40	60	81	-	-	-	-	-	-	-	-	-	-	-
8- 1, 29	322.79	CHE	-	-	-	185	-	-	-	-	56	-	-	-	-	-	-	-	-	-	-	-	-
8- 1, 62	323.12	GUNN	-	5995	-	-	1239	65981	-	84	-	-	-	-	-	-	-	-	-	-	-	-	-
8- 1, 65	323.15	GUNN	-	5995	-	-	1239	66657	-	85	-	-	-	-	-	-	-	-	-	-	-	-	-
8- 1, 80	323.30	CHE	-	-	160	180	-	-	-	-	74	-	-	-	-	-	-	-	-	-	-	-	-
8- 1, 94	323.44	GUNN	-	6115	-	-	1162	67820	-	76	-	-	-	-	-	-	-	-	-	-	-	-	-
8- 1, 96	323.46	GUNN	-	6115	-	-	1162	68686	-	76	-	-	-	-	-	-	-	-	-	-	-	-	-
8- 2, 75	324.75	GUNN	-	6175	-	-	1084	64737	-	99	-	-	-	-	-	-	-	-	-	-	-	-	-
8- 2, 77	324.77	GUNN	-	5995	-	-	1162	66517	-	104	-	-	-	-	-	-	-	-	-	-	-	-	-
8- 3, 7	325.57	GUNN	-	6175	-	-	1162	67916	-	92	-	-	-	-	-	-	-	-	-	-	-	-	-
8- 3, 9	325.59	GUNN	-	6235	-	-	1239	72043	-	88	-	-	-	-	-	-	-	-	-	-	-	-	-
8- 3, 74	326.24	FW	-	6055	-	199	1162	61270	-	78	61	-	-	-	-	-	-	-	-	-	-	-	-
8- 3, 90	326.40	GUNN	-	5755	-	-	1084	65786	-	78	-	-	-	-	-	-	-	-	-	-	-	-	-
8- 3, 90	326.40	GUNN	-	5815	-	-	1084	65996	-	79	-	-	-	-	-	-	-	-	-	-	-	-	-
8- 3, 93	326.43	GUNN	-	5875	-	-	1162	67402	-	79	-	-	-	-	-	-	-	-	-	-	-	-	-
8- 3, 93	326.43	MUN	-	6115	-	247	1162	66712	-	76	63	70	-	-	-	-	-	-	-	-	-	-	-
8- 3, 93	326.43	MUY	-	-	-	270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9- 1, 18	332.18	BOG	-	6420	220	230	1160	66448	50	70	70	68	-	-	-	-	-	-	-	-	-	-	-
9- 1, 30	332.30	BAS	-	-	-	230	-	-	50	50	60	80	-	-	-	-	-	-	-	-	-	-	-
9- 1, 30	332.30	CHE	-	-	190	210	-	-	-	-	62	-	-	-	-	-	-	-	-	-	-	-	-
9- 1, 39	332.39	BAS	-	-	-	240	-	-	50	110	60	77	-	-	-	-	-	-	-	-	-	-	-
9- 1, 39	332.39	CHE	-	-	180	185	-	-	49	83	80	-	-	-	-	-	-	-	-	-	-	-	-
9- 1, 88	332.88	FW	-	6354	-	210	1317	64370	-	76	65	-	-	-	-	-	-	-	-	-	-	-	-
9- 1, 140	333.40	BAS	-	-	-	240	-	-	55	40	50	80	-	-	-	-	-	-	-	-	-	-	-
9- 1, 140	333.40	CHE	-	-	150	160	-	-	-	-	74	-	-	-	-	-	-	-	-	-	-	-	-
9- 2, 44	333.94	GUNN	-	5995	-	-	1162	67312	-	84	-	-	-	-	-	-	-	-	-	-	-	-	-
9- 2, 46	333.96	GUNN	-	5995	-	-	1162	67986	-	84	-	-	-	-	-	-	-	-	-	-	-	-	-
9- 2, 78	334.28	POP	-	-	280	300	-	-	-	130	-	-	-	-	-	-	-	-	-	-	-	-	-
9- 2, 106	334.56	FW	-	6235	-	213	1162	68799	-	85	71	-	-	-	-	-	-	-	-	-	-	-	-
9- 3, 14	335.14	CML	-	6594	-	-	1084	68546	-	97	91	68	-	-	-	-	-	-	-	-	-	-	-
9- 3, 43	335.43	GUNN	-	6055	-	-	1239	68266	-	69	-	-	-	-	-	-	-	-	-	-	-	-	-
9- 3, 103	336.03	SGS	43	-	-	207	-	66206	43	-	-	-	5.800	13.10	8.000	2.500	0.930	-	0.650	-	0.46	2.80	-
9- 3, 121	336.21	POP	-	-	220	250	-	-	-	80	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 10C – *Continued*

Sample[a]	Depth (m)	Inv.	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	La	Ce	Nd	Sm	Eu	Gd	Tb	Ho	Tm	Yb	Lu
9- 3, 132	336.32	BAS	-	-	-	230	-	-	50	80	60	83	-	-	-	-	-	-	-	-	-	-	-
9- 3, 132	336.32	CHE	-	-	-	175	-	-	-	-	86	-	-	-	-	-	-	-	-	-	-	-	-
10- 1, 47	351.47	BAS	-	-	-	240	-	-	50	100	60	90	-	-	-	-	-	-	-	-	-	-	-
10- 1, 47	351.47	CHE	-	-	215	160	-	-	-	-	74	-	-	-	-	-	-	-	-	-	-	-	-
10- 1, 62	351.62	BOG	-	6300	220	235	1240	70364	53	70	65	72	-	-	-	-	-	-	-	-	-	-	-
10- 1, 104	352.04	BAS	-	-	-	230	-	-	50	90	60	88	-	-	-	-	-	-	-	-	-	-	-
10- 1, 104	352.04	CHE	-	-	160	160	-	-	-	-	56	-	-	-	-	-	-	-	-	-	-	-	-
10- 1, 131	352.31	GUNN	-	6414	-	-	1317	72183	-	74	-	-	-	-	-	-	-	-	-	-	-	-	-
10- 1, 133	352.33	BOG	-	6300	230	230	1394	68686	-	75	65	84	-	-	-	-	-	-	-	-	-	-	-
10- 2, 114	353.64	BAS	-	-	-	280	-	-	40	-	70	110	-	-	-	-	-	-	-	-	-	-	-
10- 2, 114	353.64	POP	-	-	340	340	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-
10- 3, 20	354.20	GUNN	-	6115	-	-	1084	67217	-	72	-	-	-	-	-	-	-	-	-	-	-	-	-
10- 3, 23	354.23	GUNN	-	6175	-	-	1084	66168	-	78	-	-	-	-	-	-	-	-	-	-	-	-	-
10- 3, 39	354.39	FWPU	38	6175	-	199	1084	61451	-	78	70	-	6.100	8.71	36.000	2.750	0.880	-	0.690	-	-	2.77	0.280
10- 3, 39	354.39	ON	-	-	-	-	-	-	-	-	-	-	-	12.00	8.330	2.450	0.910	3.120	-	-	-	2.36	-
10- 3, 51	354.51	BAS	-	-	-	290	-	-	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10- 3, 51	354.51	POP	-	-	300	310	-	-	-	100	70	90	-	-	-	-	-	-	-	-	-	-	-
11- 1, 39	360.89	CML	-	6894	-	-	929	62950	42	86	65	73	-	-	-	-	-	-	-	-	-	-	-
11- 1, 44	360.94	GUNN	-	6055	-	-	1084	65538	-	74	-	-	-	-	-	-	-	-	-	-	-	-	-
11- 1, 55	361.05	BAS	-	-	-	220	-	-	50	40	50	75	-	-	-	-	-	-	-	-	-	-	-
11- 1, 55	361.05	CHE	-	-	190	210	-	-	28	38	68	-	-	-	-	-	-	-	-	-	-	-	-
11- 1, 115	361.65	SGS	39	-	-	199	-	63870	40	-	-	-	0.500	12.30	6.800	2.600	0.830	-	0.650	-	0.37	2.70	0.480
11- 1, 150	362.00	BAS	-	-	-	230	-	-	50	80	60	96	-	-	-	-	-	-	-	-	-	-	-
11- 1, 150	362.00	CHE	-	-	165	145	-	-	57	80	56	-	-	-	-	-	-	-	-	-	-	-	-
11- 2, 39	362.39	BAS	-	-	-	240	-	-	40	90	60	78	-	-	-	-	-	-	-	-	-	-	-
11- 2, 39	362.39	CHE	-	-	160	220	-	-	-	-	62	-	-	-	-	-	-	-	-	-	-	-	-
11- 2, 80	362.80	GUNN	-	6714	-	-	1162	65328	-	285	-	-	-	-	-	-	-	-	-	-	-	-	-
11- 3, 40	363.90	GUNN	-	5515	-	-	1084	69595	-	109	-	-	-	-	-	-	-	-	-	-	-	-	-
11- 3, 71	364.21	BAS	-	-	-	230	-	-	50	30	50	73	-	-	-	-	-	-	-	-	-	-	-
11- 3, 71	364.21	CHE	-	-	155	145	-	-	37	52	62	-	-	-	-	-	-	-	-	-	-	-	-
11- 3, 75	364.25	TM	46	4976	225	240	1162	70345	54	105	70	-	5.200	13.30	7.800	2.290	0.870	-	0.560	0.79	-	2.15	0.360
11- 3, 75	364.25	TM	48	5036	225	210	1162	69112	38	58	60	-	-	12.60	7.200	2.270	0.790	-	0.540	0.72	-	1.99	0.330
11- 4, 105	366.05	BOG	-	6180	245	235	1080	62251	50	76	64	72	-	-	-	-	-	-	-	-	-	-	-
11- 4, 108	366.08	GUNN	-	6055	-	-	1162	63720	-	81	-	-	-	-	-	-	-	-	-	-	-	-	-
12- 1, 57	370.57	GUNN	-	6115	-	-	1162	65608	-	82	-	-	-	-	-	-	-	-	-	-	-	-	-
12- 1, 60	370.60	BOG	-	6300	103	230	1240	67707	-	69	-	-	-	-	-	-	-	-	-	-	-	-	-
12- 1, 114	371.14	FW	-	5695	-	190	1084	70067	-	78	64	-	-	-	-	-	-	-	-	-	-	-	-
12- 1, 123	371.23	BAS	-	-	-	230	-	-	60	130	70	84	-	-	-	-	-	-	-	-	-	-	-
12- 1, 123	371.23	CHE	-	-	160	130	-	-	45	79	68	-	-	-	-	-	-	-	-	-	-	-	-
13- 1, 66	380.16	GUNN	-	5875	-	-	1162	69035	-	108	-	-	-	-	-	-	-	-	-	-	-	-	-
13- 1, 70	380.20	BAS	-	-	-	230	-	-	55	200	60	93	-	-	-	-	-	-	-	-	-	-	-
13- 1, 70	380.20	CHE	-	-	155	155	-	-	-	-	54	-	-	-	-	-	-	-	-	-	-	-	-
13- 1, 70	380.20	CML	-	7134	-	-	1162	77639	-	147	103	79	-	-	-	-	-	-	-	-	-	-	-
13- 1, 70	380.20	CML	-	7853	-	-	1317	79038	-	97	89	86	-	-	-	-	-	-	-	-	-	-	-
13- 1, 100	380.50	BAS	-	-	-	250	-	-	60	100	70	83	-	-	-	-	-	-	-	-	-	-	-
13- 1, 100	380.50	CHE	-	-	260	230	-	-	-	-	62	-	-	-	-	-	-	-	-	-	-	-	-
13- 1, 137	380.87	SGS	42	-	-	201	-	67764	46	-	-	-	5.700	13.20	9.100	2.500	0.930	-	0.670	-	0.49	2.60	0.500
14- 1, 33	389.33	CML	-	6894	-	-	1239	73442	-	92	95	79	-	-	-	-	-	-	-	-	-	-	-
14- 1, 36	389.36	FWPU	37	6235	-	199	1239	61734	-	75	63	-	5.630	4.55	56.000	2.260	0.750	-	0.330	-	-	2.41	0.320
14- 2, 33	390.83	BAS	-	-	-	230	-	-	30	130	60	80	-	-	-	-	-	-	-	-	-	-	-
14- 2, 33	390.83	CHE	-	-	180	185	-	-	37	73	56	-	-	-	-	-	-	-	-	-	-	-	-
14- 2, 33	390.83	MUN	-	6175	-	245	1162	63526	-	172	70	72	-	-	-	-	-	-	-	-	-	-	-
14- 2, 35	390.85	GUNN	-	5995	-	-	1084	66657	-	111	-	-	-	-	-	-	-	-	-	-	-	-	-
15- 1, 73	399.23	GUNN	-	6055	-	-	1162	67871	-	84	-	-	-	-	-	-	-	-	-	-	-	-	-
15- 1, 73	399.23	MUY	-	-	-	270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

15- 1, 103	399.53	FWPU	38	6295	-	195	1239	60745	-	84	65	-	6.010	7.93	41.000	2.290	0.900	-	0.600	-	-	1.51	0.320
15- 2, 81	400.81	GUNN	-	6055	-	-	1162	66448	-	94	-	-	-	-	-	-	-	-	-	-	-	-	-
15- 2, 83	400.83	BOG	-	6120	220	230	1080	64489	53	84	68	66	-	-	-	-	-	-	-	-	-	-	-
15- 2, 130	401.30	GUNN	-	4496	-	-	1317	76045	-	296	-	-	-	-	-	-	-	-	-	-	-	-	-
16- 1, 112	409.12	MUN	-	4556	-	878	1162	73981	-	267	84	69	-	-	-	-	-	-	-	-	-	-	-
16- 1, 141	409.41	CML	-	4916	-	-	1162	76240	59	278	86	69	-	-	-	-	-	-	-	-	-	-	-
16- 1, 141	409.41	GUNN	-	4556	-	-	1162	73302	-	261	-	-	-	-	-	-	-	-	-	-	-	-	-
16- 1, 141	409.41	MUY	-	-	-	630	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16- 2, 31	409.81	BOG	-	4560	170	505	1080	71693	61	296	77	66	-	-	-	-	-	-	-	-	-	-	-
16- 2, 63	410.13	FWPU	36	4436	-	748	1239	67104	-	303	80	-	3.560	3.51	54.000	1.390	0.720	-	0.590	-	-	2.70	0.230
17- 2, 49	419.49	BAS	-	-	-	560	-	-	85	230	110	77	-	-	-	-	-	-	-	-	-	-	-
17- 2, 49	419.49	CHE	-	-	230	1100	-	-	-	300	92	-	-	-	-	-	-	-	-	-	-	-	-
18- 1, 43	427.43	BOG	-	4500	170	520	1160	73022	60	340	80	62	-	-	-	-	-	-	-	-	-	-	-
18- 1, 86	427.86	GUNN	-	4136	-	-	1162	76068	-	491	-	-	-	-	-	-	-	-	-	-	-	-	-
18- 1, 86	427.86	MUY	-	-	-	820	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19- 1, 10	436.60	GUNN	-	3717	-	-	1239	71587	-	573	-	-	-	-	-	-	-	-	-	-	-	-	-
19- 1, 19	436.69	BAS	-	-	-	680	-	-	80	420	70	75	-	-	-	-	-	-	-	-	-	-	-
19- 1, 19	436.69	CHE	-	-	105	1250	-	-	-	500	70	-	-	-	-	-	-	-	-	-	-	-	-
19- 1, 24	436.74	FWPU	35	4376	-	771	1162	67946	-	312	89	-	3.690	3.96	49.000	1.340	0.650	-	0.390	-	-	1.98	0.250
19- 1, 24	436.74	MUN	-	4376	-	995	1239	78617	-	343	77	67	-	-	-	-	-	-	-	-	-	-	-
19- 1, 75	437.25	GUNN	-	4556	-	-	1084	74224	-	271	-	-	-	-	-	-	-	-	-	-	-	-	-
19- 1, 100	437.50	GUNN	-	4556	-	-	1084	73326	-	262	-	-	-	-	-	-	-	-	-	-	-	-	-
19- 1, 100	437.50	GUNN	-	4556	-	-	1162	76535	-	273	-	-	-	-	-	-	-	-	-	-	-	-	-
19- 1, 100	437.50	GUNN	-	4496	-	-	1162	75976	-	273	-	-	-	-	-	-	-	-	-	-	-	-	-
19- 1, 107	437.57	BAS	-	-	-	630	-	-	55	200	100	84	-	-	-	-	-	-	-	-	-	-	-
19- 1, 107	437.57	BEN	-	-	-	-	-	-	-	-	-	-	3.500	8.00	5.200	1.650	0.630	2.300	0.430	0.68	0.29	1.70	0.270
19- 1, 107	437.57	CHE	-	-	120	700	-	-	-	290	100	-	-	-	-	-	-	-	-	-	-	-	-
19- 1, 110	437.60	GUNN	-	4376	-	-	1162	71796	-	300	-	-	-	-	-	-	-	-	-	-	-	-	-
19- 1, 110	437.60	GUNN	-	4436	-	-	1162	71726	-	309	-	-	-	-	-	-	-	-	-	-	-	-	-
20- 1, 51	446.51	GUNN	-	4316	-	-	1084	74178	-	271	-	-	-	-	-	-	-	-	-	-	-	-	-
20- 1, 51	446.51	GUNN	-	4436	-	-	1162	74728	-	255	-	-	-	-	-	-	-	-	-	-	-	-	-
20- 1, 91	446.91	FW	-	4076	-	892	1162	66016	-	372	83	-	-	-	-	-	-	-	-	-	-	-	-
20- 2, 6	447.56	GUNN	-	4496	-	-	1084	73652	-	248	-	-	-	-	-	-	-	-	-	-	-	-	-
20- 2, 6	447.56	GUNN	-	4376	-	-	1084	73961	-	330	-	-	-	-	-	-	-	-	-	-	-	-	-
20- 2, 6	447.56	GUNN	-	4436	-	-	1084	74311	-	190	-	-	-	-	-	-	-	-	-	-	-	-	-
20- 2, 34	447.84	SGS	40	-	-	612	-	75553	57	-	-	-	3.000	6.80	4.700	1.800	0.680	-	0.530	-	-	2.20	0.280
20- 2, 36	447.86	BAS	-	-	-	680	-	-	110	350	100	77	-	-	-	-	-	-	-	-	-	-	-
20- 2, 36	447.86	CHE	-	-	170	930	-	-	-	325	92	-	-	-	-	-	-	-	-	-	-	-	-
20- 2, 80	448.30	GUNN	-	3657	-	-	1007	71923	-	351	-	-	-	-	-	-	-	-	-	-	-	-	-
20- 2, 80	448.30	GUNN	-	3657	-	-	1007	72769	-	373	-	-	-	-	-	-	-	-	-	-	-	-	-
20- 2, 80	448.30	GUNN	-	3597	-	-	1007	72490	-	372	-	-	-	-	-	-	-	-	-	-	-	-	-
20- 2, 138	448.88	BAS	-	-	-	740	-	-	65	250	60	62	-	-	-	-	-	-	-	-	-	-	-
20- 2, 138	448.88	CHE	-	-	110	1100	-	-	-	315	105	-	-	-	-	-	-	-	-	-	-	-	-
20- 2, 140	448.90	GUNN	-	3537	-	-	1162	71163	-	334	-	-	-	-	-	-	-	-	-	-	-	-	-
21- 1, 5	455.55	FW	-	3057	-	1426	1162	63877	-	560	87	-	-	-	-	-	-	-	-	-	-	-	-
21- 1, 5	455.55	TM	44	3657	180	1070	1007	69247	70	335	85	-	-	5.80	3.800	1.230	0.530	-	0.360	0.60	-	1.93	0.320
21- 1, 8	455.58	BAS	-	-	-	880	-	-	60	275	85	67	-	-	-	-	-	-	-	-	-	-	-
21- 1, 8	455.58	CHE	-	-	105	1500	-	-	-	245	92	-	-	-	-	-	-	-	-	-	-	-	-
21- 1, 11	455.61	BOG	-	3480	150	480	1160	70015	46	363	83	65	-	-	-	-	-	-	-	-	-	-	-
21- 1, 18	455.68	GUNN	-	2997	-	-	1162	72575	-	677	-	-	-	-	-	-	-	-	-	-	-	-	-
21- 1, 27	455.77	BEN	-	-	-	-	-	-	-	-	-	-	1.600	4.10	2.700	1.000	0.400	1.500	0.280	0.47	0.21	1.30	0.190
21- 1, 27	455.77	CML	-	3417	-	-	1162	72043	-	678	112	66	-	-	-	-	-	-	-	-	-	-	-
21- 1, 30	455.80	BAS	-	-	-	1020	-	-	100	630	100	60	-	-	-	-	-	-	-	-	-	-	-
21- 1, 30	455.80	CHE	-	-	165	1000	-	-	-	520	160	-	-	-	-	-	-	-	-	-	-	-	-
21- 1, 93	456.43	GUNN	-	3657	-	-	1162	72841	-	341	-	-	-	-	-	-	-	-	-	-	-	-	-
21- 1, 119	456.69	GUNN	-	3657	-	-	1162	75006	-	373	-	-	-	-	-	-	-	-	-	-	-	-	-
21- 1, 119	456.69	GUNN	-	3537	-	-	1084	73735	-	335	-	-	-	-	-	-	-	-	-	-	-	-	-
21- 1, 119	456.69	GUNN	-	3537	-	-	1084	72966	-	331	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 10C – *Continued*

Sample[a]	Depth (m)	Inv.	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	La	Ce	Nd	Sm	Eu	Gd	Tb	Ho	Tm	Yb	Lu
22-1, 4	465.04	BOG	-	3480	145	520	1162	73932	46	430	78	60	-	-	-	-	-	-	-	-	-	-	-
22-1, 4	465.04	GUNN	-	3117	-	-	1084	72569	-	617	-	-	-	-	-	-	-	-	-	-	-	-	-
22-1, 4	465.04	GUNN	-	3117	-	-	1084	73129	-	614	-	-	-	-	-	-	-	-	-	-	-	-	-
22-1, 77	465.77	BOG	-	4800	170	335	1084	73022	40	162	78	64	-	-	-	-	-	-	-	-	-	-	-
22-1, 77	465.77	GUNN	-	4916	-	-	1162	74351	-	184	-	-	-	-	-	-	-	-	-	-	-	-	-
22-1, 77	465.77	GUNN	-	4736	-	-	1084	73832	-	182	-	-	-	-	-	-	-	-	-	-	-	-	-
22-1, 77	465.77	GUNN	-	4916	-	-	1084	73832	-	183	-	-	-	-	-	-	-	-	-	-	-	-	-
22-1, 97	465.97	SGS	38	-	-	345	-	71659	55	-	-	-	3.000	5.40	5.200	1.800	0.730	-	0.490	-	-	2.70	0.350
22-1, 107	466.07	BAS	-	-	-	400	-	-	55	150	60	67	-	-	-	-	-	-	-	-	-	-	-
22-1, 107	466.07	CHE	-	-	110	300	-	-	-	235	80	-	-	-	-	-	-	-	-	-	-	-	-
22-2, 10	466.60	GUNN	-	4796	-	-	1549	75663	-	129	-	-	-	-	-	-	-	-	-	-	-	-	-
22-2, 43	466.93	BOG	-	5040	165	382	1160	72952	40	146	75	70	-	-	-	-	-	-	-	-	-	-	-
22-2, 45	466.95	BAS	-	-	-	385	-	-	55	110	70	70	-	-	-	-	-	-	-	-	-	-	-
22-2, 45	466.95	CHE	-	-	135	320	-	-	-	170	86	-	-	-	-	-	-	-	-	-	-	-	-
22-2, 109	467.59	GUNN	-	6774	-	-	1317	73057	-	97	-	-	-	-	-	-	-	-	-	-	-	-	-
22-2, 109	467.59	GUNN	-	5096	-	-	1162	77129	-	155	-	-	-	-	-	-	-	-	-	-	-	-	-
22-3, 3	468.03	GUNN	-	5096	-	-	1162	79866	-	146	-	-	-	-	-	-	-	-	-	-	-	-	-
22-3, 3	468.03	GUNN	-	5156	-	-	1239	80081	-	145	-	-	-	-	-	-	-	-	-	-	-	-	-
22-3, 3	468.03	GUNN	-	5156	-	-	1239	81410	-	147	-	-	-	-	-	-	-	-	-	-	-	-	-
22-3, 41	468.41	BAS	-	-	-	470	-	-	70	210	300	-	-	-	-	-	-	-	-	-	-	-	-
22-3, 41	468.41	CHE	-	-	220	550	-	-	-	150	125	-	-	-	-	-	-	-	-	-	-	-	-
22-3, 47	468.47	TM	44	4436	160	425	1162	71303	58	155	77	-	2.780	7.20	5.100	1.650	0.700	-	0.440	-	-	2.56	0.340
22-4, 18	469.68	BEN	-	-	-	-	-	-	-	-	-	-	2.600	6.60	4.200	0.390	0.590	0.180	0.360	0.64	0.28	1.60	0.260
22-4, 18	469.68	GUNN	-	4856	-	-	1549	75454	-	134	-	-	-	-	-	-	-	-	-	-	-	-	-
22-4, 18	469.68	GUNN	-	4916	-	-	1549	76433	-	133	-	-	-	-	-	-	-	-	-	-	-	-	-
22-4, 22	469.72	SGS	37	-	-	354	-	70101	48	-	-	-	2.800	6.50	4.700	1.600	0.690	-	0.510	-	0.40	2.40	0.420
22-4, 24	469.74	BAS	-	-	-	410	-	-	65	205	70	70	-	-	-	-	-	-	-	-	-	-	-
22-4, 24	469.74	CHE	-	-	135	400	-	-	-	170	100	-	-	-	-	-	-	-	-	-	-	-	-
22-4, 40	469.90	GUNN	-	4856	-	-	1162	73195	-	171	-	-	-	-	-	-	-	-	-	-	-	-	-
22-4, 98	470.48	GUNN	-	5156	-	-	1084	75518	-	149	-	-	-	-	-	-	-	-	-	-	-	-	-
22-4, 98	470.48	GUNN	-	5275	-	-	1084	71134	-	129	-	-	-	-	-	-	-	-	-	-	-	-	-
22-4, 149	470.99	BAS	-	-	-	-	-	-	60	250	80	72	-	-	-	-	-	-	-	-	-	-	-
22-4, 149	470.99	CHE	-	-	195	540	-	-	-	170	90	-	-	-	-	-	-	-	-	-	-	-	-
23-1, 10	474.60	GUNN	-	4676	-	-	1162	72714	-	195	-	-	-	-	-	-	-	-	-	-	-	-	-
23-1, 15	474.65	MUY	-	-	-	470	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23-1, 23	474.73	FWPU	35	4676	-	388	1162	63479	-	178	84	-	3.200	4.58	34.000	1.370	0.730	-	0.310	-	-	1.90	0.250
23-1, 78	475.28	CML	-	5036	-	-	1084	76939	46	198	74	73	-	-	-	-	-	-	-	-	-	-	-
23-1, 78	475.28	GUNN	-	4616	-	-	1084	72533	-	212	-	-	-	-	-	-	-	-	-	-	-	-	-
23-1, 78	475.28	MUN	-	5036	-	498	1084	71046	-	162	71	67	-	-	-	-	-	-	-	-	-	-	-
23-1, 78	475.28	MUY	-	-	-	420	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23-1, 97	475.47	GUNN	-	7254	-	-	1394	82308	-	53	-	-	-	-	-	-	-	-	-	-	-	-	-
23-1, 100	475.50	SGS	39	-	-	370	-	76332	52	-	-	-	3.200	6.40	5.000	1.900	0.740	-	0.480	-	-	2.60	0.420
23-1, 101	475.51	GUNN	-	4976	-	-	1084	72916	-	150	-	-	-	-	-	-	-	-	-	-	-	-	-
23-1, 101	475.51	GUNN	-	4976	-	-	1162	74631	-	156	-	-	-	-	-	-	-	-	-	-	-	-	-
23-1, 102	475.52	BAS	-	-	-	390	-	-	65	200	80	67	-	-	-	-	-	-	-	-	-	-	-
23-1, 102	475.52	CHE	-	-	140	320	-	-	-	170	84	-	-	-	-	-	-	-	-	-	-	-	-
23-2, 81	476.81	GUNN	-	5036	-	-	1084	75634	-	172	-	-	-	-	-	-	-	-	-	-	-	-	-
23-2, 81	476.81	MUN	-	4676	-	481	1084	72559	-	155	81	70	-	-	-	-	-	-	-	-	-	-	-
23-3, 4	477.54	GUNN	-	4796	-	-	1084	73832	-	184	-	-	-	-	-	-	-	-	-	-	-	-	-
23-3, 32	477.82	GUNN	-	4976	-	-	1084	74041	-	180	-	-	-	-	-	-	-	-	-	-	-	-	-
23-3, 32	477.82	GUNN	-	4976	-	-	1084	74321	-	178	-	-	-	-	-	-	-	-	-	-	-	-	-
23-3, 83	478.33	TM	-	-	190	385	-	-	46	135	70	-	-	-	-	-	-	-	-	-	-	-	-
23-3, 106	478.56	TM	-	-	200	380	-	-	20	83	35	-	-	-	-	-	-	-	-	-	-	-	-
23-3, 144	478.94	GUNN	-	6654	-	-	1549	80798	-	195	-	-	-	-	-	-	-	-	-	-	-	-	-
23-3, 144	478.94	GUNN	-	4796	-	-	1162	72210	-	193	-	-	-	-	-	-	-	-	-	-	-	-	-

24- 1,	70	484.70	FWPU	35	4736	-	444	1162	66534	-	174	80	-	2.790	4.47	53.000	2.290	0.560	-	0.690	-	-	2.71	0.230
24- 1,	94	484.94	BOG	-	5280	175	362	1080	74002	46	142	95	-	-	-	-	-	-	-	-	-	-	-	-
24- 1,	94	484.94	GUNN	-	6774	-	-	1549	81354	-	128	-	-	-	-	-	-	-	-	-	-	-	-	-
24- 2,	88	486.38	BOG	-	5220	160	380	1320	73722	50	140	77	67	-	-	-	-	-	-	-	-	-	-	-
24- 2,	88	486.38	GUNN	-	5036	-	-	1162	75051	-	162	-	-	-	-	-	-	-	-	-	-	-	-	-
24- 2,	90	486.40	BAS	-	-	-	400	-	-	70	150	90	74	-	-	-	-	-	-	-	-	-	-	-
24- 2,	90	486.40	CHE	-	-	140	380	-	-	-	170	80	-	-	-	-	-	-	-	-	-	-	-	-
25- 1,	16	493.66	ON	-	-	-	-	-	-	-	-	-	-	-	6.41	5.000	1.710	0.200	2.520	-	-	-	2.04	-
25- 1,	106	494.56	FWPU	34	4796	-	385	1162	64130	-	179	93	-	2.080	3.61	54.000	1.470	0.520	-	0.340	-	-	1.87	0.220
25- 2,	77	495.77	BOG	-	5400	-	-	1317	74771	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25- 2,	79	495.79	GSC	40	-	270	370	-	-	33	110	85	77	-	-	-	-	-	-	-	-	-	-	-
25- 2,	91	495.91	GSC	39	-	260	370	-	-	33	98	87	73	-	-	-	-	-	-	-	-	-	-	-
25- 2,	97	495.97	GUNN	-	5275	-	-	1239	75470	-	140	-	-	-	-	-	-	-	-	-	-	-	-	-
25- 2,	97	495.97	MUY	-	-	-	470	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25- 2,	121	496.21	BAS	-	-	-	-	-	-	80	160	100	85	-	-	-	-	-	-	-	-	-	-	-
25- 2,	121	496.21	CHE	-	-	150	320	-	-	-	-	92	-	-	-	-	-	-	-	-	-	-	-	-
25- 2,	127	496.27	GSC	44	-	290	410	-	-	35	110	91	69	-	-	-	-	-	-	-	-	-	-	-
25- 3,	12	496.62	GSC	44	-	280	380	-	-	38	120	120	75	-	-	-	-	-	-	-	-	-	-	-
25- 3,	12	496.62	TM	-	-	205	500	-	-	60	132	80	-	-	-	-	-	-	-	-	-	-	-	-
25- 3,	83	497.33	GSC	37	-	260	380	-	-	33	130	79	60	-	-	-	-	-	-	-	-	-	-	-
25- 3,	116	497.66	GSC	26	-	180	280	-	-	41	180	65	21	-	-	-	-	-	-	-	-	-	-	-
25- 3,	128	497.78	BOG	-	4560	-	487	1160	74211	-	282	-	-	-	-	-	-	-	-	-	-	-	-	-
25- 4,	6	498.06	FWPU	33	4496	-	526	1239	69311	-	284	77	-	2.830	3.45	52.000	1.550	0.710	-	0.440	-	-	2.14	0.240
25- 4,	19	498.19	GSC	34	-	230	520	-	-	43	250	77	63	-	-	-	-	-	-	-	-	-	-	-
25- 4,	19	498.19	GSC	35	-	230	500	-	-	42	250	79	50	-	-	-	-	-	-	-	-	-	-	-
25- 4,	19	498.19	TM	E -	-	150	575	-	-	63	315	80	-	-	-	-	-	-	-	-	-	-	-	-
25- 4,	51	498.51	GSC	39	-	270	410	-	-	45	190	65	72	-	-	-	-	-	-	-	-	-	-	-
25- 4,	51	498.51	SGS	35	-	-	380	-	75553	49	-	-	-	2.600	7.30	5.400	1.900	0.720	-	0.480	-	-	2.30	0.260
26- 1,	99	503.99	GUNN	-	6834	-	-	1394	77317	-	187	-	-	-	-	-	-	-	-	-	-	-	-	-
27- 1,	42	512.92	BOG	-	7080	240	182	1320	76380	50	84	70	76	-	-	-	-	-	-	-	-	-	-	-
27- 1,	102	513.52	GUNN	-	6834	-	-	1317	77475	-	98	-	-	-	-	-	-	-	-	-	-	-	-	-
27- 2,	10	514.10	GUNN	-	6894	-	-	1317	72856	-	91	-	-	-	-	-	-	-	-	-	-	-	-	-
27- 2,	30	514.30	GUNN	-	4796	-	-	1162	71249	-	74	-	-	-	-	-	-	-	-	-	-	-	-	-
27- 2,	56	514.56	CML	-	7134	-	-	1162	75540	-	139	97	78	-	-	-	-	-	-	-	-	-	-	-
27- 2,	56	514.56	CML	-	7853	-	-	1084	79038	-	94	92	83	-	-	-	-	-	-	-	-	-	-	-
27- 2,	76	514.76	TM	49	6594	250	150	1394	73713	70	90	68	-	6.000	15.20	8.500	2.620	0.910	-	0.620	0.88	-	2.35	0.390
27- 2,	82	514.82	BAS	-	-	-	180	-	-	65	130	60	83	-	-	-	-	-	-	-	-	-	-	-
27- 2,	82	514.82	CHE	-	-	180	130	-	-	40	72	68	-	-	-	-	-	-	-	-	-	-	-	-
27- 2,	84	514.84	FW	-	6714	-	145	1394	64945	-	95	73	-	-	-	-	-	-	-	-	-	-	-	-
27- 2,	84	514.84	GUNN	-	5515	-	-	1084	81173	-	74	-	-	-	-	-	-	-	-	-	-	-	-	-
27- 2,	84	514.84	GUNN	-	4856	-	-	1162	73479	-	70	-	-	-	-	-	-	-	-	-	-	-	-	-
28- 1,	95	522.95	BAS	-	-	-	110	-	-	65	100	60	88	-	-	-	-	-	-	-	-	-	-	-
28- 1,	95	522.95	CHE	-	-	195	140	-	-	34	53	86	-	-	-	-	-	-	-	-	-	-	-	-
28- 2,	3	523.53	BOG	-	7140	260	185	1240	72812	51	69	72	78	-	-	-	-	-	-	-	-	-	-	-
28- 2,	18	523.68	SGS	46	-	-	162	-	74774	49	-	-	-	6.100	13.70	9.400	3.200	1.000	-	0.750	-	0.44	3.00	0.390
29- 1,	58	532.08	BOG	-	3660	195	710	1390	68336	62	333	69	57	-	-	-	-	-	-	-	-	-	-	-
29- 1,	63	532.13	GUNN	-	3537	-	-	1162	71719	-	413	-	-	-	-	-	-	-	-	-	-	-	-	-
29- 1,	69	532.19	SGS	38	-	-	1029	-	-	58	-	-	-	2.100	4.50	-	1.400	0.560	-	0.410	-	0.28	1.80	0.300
29- 1,	74	532.24	TM	-	-	190	1500	-	-	73	340	92	-	-	-	-	-	-	-	-	-	-	-	-
29- 1,	106	532.56	GUNN	-	3417	-	-	1162	70452	-	412	-	-	-	-	-	-	-	-	-	-	-	-	-
29- 1,	106	532.56	GUNN	-	3477	-	-	1162	70942	-	410	-	-	-	-	-	-	-	-	-	-	-	-	-
29- 2,	9	533.09	SGS	35	-	-	1011	-	69322	61	-	-	-	1.900	4.40	3.000	1.300	0.510	-	0.390	-	0.33	1.90	0.250
29- 2,	12	533.12	BAS	-	-	-	780	-	-	90	500	100	65	-	-	-	-	-	-	-	-	-	-	-
29- 2,	12	533.12	CHE	-	-	74	1500	-	-	-	470	80	-	-	-	-	-	-	-	-	-	-	-	-
29- 2,	14	533.14	FWPU	35	3477	-	1186	1162	64611	-	384	94	-	3.550	3.26	53.000	1.180	0.720	-	0.320	-	-	1.46	0.280
29- 2,	57	533.57	TM	-	-	115	970	-	-	85	460	110	-	-	-	-	-	-	-	-	-	-	-	-
30- 1,	46	541.46	SGS	43	-	-	158	-	73995	42	-	-	-	5.000	13.70	9.000	2.500	0.920	-	0.720	-	0.48	3.40	0.510
30- 1,	105	542.05	BOG	-	6900	250	180	1160	71623	50	75	65	78	-	-	-	-	-	-	-	-	-	-	-

TABLE 10C – *Continued*

Sample[a]	Depth (m)	Inv.	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	La	Ce	Nd	Sm	Eu	Gd	Tb	Ho	Tm	Yb	Lu
30- 1, 106	542.06	GUNN	-	6774	-	-	1394	75934	-	91	-	-	-	-	-	-	-	-	-	-	-	-	-
30- 1, 121	542.21	BAS	-	-	-	220	-	-	70	130	80	77	-	-	-	-	-	-	-	-	-	-	-
30- 1, 121	542.21	CHE	-	-	250	145	-	-	43	72	56	-	-	-	-	-	-	-	-	-	-	-	-
30- 2, 19	542.69	BAS	-	-	-	-	-	-	60	100	60	88	-	-	-	-	-	-	-	-	-	-	-
30- 2, 19	542.69	CHE	-	-	140	145	-	-	30	35	68	-	-	-	-	-	-	-	-	-	-	-	-
30- 2, 28	542.78	GUNN	-	6714	-	-	1394	75651	-	94	-	-	-	-	-	-	-	-	-	-	-	-	-
31- 1, 73	551.23	BOG	-	6960	235	192	1390	75470	38	85	57	71	-	-	-	-	-	-	-	-	-	-	-
31- 1, 116	551.66	FW	-	6534	-	135	1626	83797	-	84	30	-	-	-	-	-	-	-	-	-	-	-	-
32- 1, 13	560.13	BAS	-	-	-	175	-	-	60	100	60	83	-	-	-	-	-	-	-	-	-	-	-
32- 1, 13	560.13	CHE	-	-	170	120	-	-	30	66	68	-	-	-	-	-	-	-	-	-	-	-	-
32- 1, 27	560.27	BOG	-	6780	-	325	1240	75261	-	74	-	-	-	-	-	-	-	-	-	-	-	-	-
32- 1, 77	560.77	BAS	-	-	-	160	-	-	65	130	60	77	-	-	-	-	-	-	-	-	-	-	-
32- 1, 77	560.77	CHE	-	-	200	150	-	-	35	66	68	-	-	-	-	-	-	-	-	-	-	-	-
33- 1, 5	569.55	BOG	-	6660	225	150	1390	70504	43	109	65	73	-	-	-	-	-	-	-	-	-	-	-
33- 1, 85	570.35	BAS	-	-	-	120	-	-	60	100	60	77	-	-	-	-	-	-	-	-	-	-	-
33- 1, 85	570.35	CHE	-	-	155	62	-	-	33	47	50	-	-	-	-	-	-	-	-	-	-	-	-
33- 1, 95	570.45	GUNN	-	5935	-	-	1317	73256	-	81	-	-	-	-	-	-	-	-	-	-	-	-	-
33- 1, 95	570.45	MUY	-	-	-	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33- 1, 100	570.50	MUN	-	5695	-	84	1394	71233	-	73	107	68	-	-	-	-	-	-	-	-	-	-	-
33- 2, 27	571.27	BOG	-	3720	160	700	1390	67567	41	238	38	60	-	-	-	-	-	-	-	-	-	-	-
33- 2, 66	571.66	FW	-	5635	-	150	1549	71317	-	92	20	-	-	-	-	-	-	-	-	-	-	-	-
33- 2, 77	571.77	CML	-	7014	-	-	1162	72743	40	92	41	70	-	-	-	-	-	-	-	-	-	-	-
33- 2, 85	571.85	GSC	44	-	360	150	-	-	28	87	33	130	-	-	-	-	-	-	-	-	-	-	-
33- 3, 11	572.61	MUN	-	3597	-	1208	1317	68154	-	260	69	66	-	-	-	-	-	-	-	-	-	-	-
33- 3, 22	572.72	SCT	42	-	-	405	1239	87361	30	210	87	-	2.000	10.00	-	1.400	0.740	-	0.310	-	-	1.70	0.270
34- 1, 45	579.45	BOG	-	6900	250	182	1240	69455	50	85	32	82	-	-	-	-	-	-	-	-	-	-	-
34- 1, 119	580.19	GUNN	-	3777	-	-	1239	72619	-	282	-	-	-	-	-	-	-	-	-	-	-	-	-
34- 2, 3	580.53	BAS	-	-	-	680	-	-	65	250	110	63	-	-	-	-	-	-	-	-	-	-	-
34- 2, 3	580.53	CHE	-	-	120	1100	-	-	-	255	92	-	-	-	-	-	-	-	-	-	-	-	-
34- 2, 53	581.03	FW	-	5755	-	140	1471	68315	-	64	81	-	-	-	-	-	-	-	-	-	-	-	-
35- 1, 4	588.54	GSC	38	-	230	1200	-	-	42	330	55	49	-	-	-	-	-	-	-	-	-	-	-
35- 1, 15	588.65	GUNN	-	3117	-	-	1239	70524	-	500	-	-	-	-	-	-	-	-	-	-	-	-	-
35- 1, 25	588.75	GUNN	-	3177	-	-	1162	71861	-	552	-	-	-	-	-	-	-	-	-	-	-	-	-
35- 1, 33	588.83	FW	-	2818	-	1380	1084	68379	-	588	119	-	-	-	-	-	-	-	-	-	-	-	-
35- 1, 46	588.96	GSC	33	-	180	1500	-	-	60	560	63	61	-	-	-	-	-	-	-	-	-	-	-
35- 1, 80	589.30	POP	-	-	160	1300	-	-	120	760	-	-	-	-	-	-	-	-	-	-	-	-	-
35- 1, 104	589.54	GSC	32	-	190	1500	-	-	60	640	68	57	-	-	-	-	-	-	-	-	-	-	-
35- 1, 133	589.83	BAS	-	-	-	960	-	-	90	600	70	62	0.96	-	-	-	-	-	-	-	-	-	-
35- 1, 133	589.83	CHE	-	-	84	1500	-	-	-	720	74	-	-	-	-	-	-	-	-	-	-	-	-
35- 1, 136	589.86	GSC	34	-	200	1500	-	-	50	500	55	48	-	-	-	-	-	-	-	-	-	-	-
35- 2, 33	590.33	GSC	31	-	170	1300	-	-	61	670	66	48	-	-	-	-	-	-	-	-	-	-	-
35- 2, 51	590.51	GUNN	-	2818	-	-	1239	74911	-	799	-	-	-	-	-	-	-	-	-	-	-	-	-
35- 2, 51	590.51	SGS	28	-	-	1268	-	73217	81	-	-	-	1.500	3.40	-	0.960	0.380	-	0.250	0.40	-	1.20	0.190
35- 2, 51	590.51	TM	-	2578	105	1260	1162	68806	-	850	78	-	1.470	4.70	2.300	0.880	-	-	-	0.40	-	1.22	0.220
35- 2, 62	590.62	SGS	26	-	-	1577	-	73217	86	-	-	-	1.200	3.20	-	0.880	0.330	-	0.300	-	0.20	1.30	0.190
35- 2, 62	590.62	TM	34	3117	92	1070	1162	69347	90	630	78	-	1.660	4.10	-	0.930	0.400	-	0.230	0.42	-	1.32	0.220
35- 2, 87	590.87	FW	-	2218	-	2150	1084	72108	-	967	65	-	-	-	-	-	-	-	-	-	-	-	-
35- 2, 90	590.90	BAS	-	-	-	1260	-	-	100	700	70	84	-	-	-	-	-	-	-	-	-	-	-
35- 2, 90	590.90	CHE	-	-	53	1500	-	-	-	740	74	-	-	-	-	-	-	-	-	-	-	-	-
35- 2, 91	590.91	BOG	-	2400	90	900	1160	73232	62	944	59	49	-	-	-	-	-	-	-	-	-	-	-
35- 2, 91	590.91	GSC	32	-	180	1300	-	-	56	570	70	50	-	-	-	-	-	-	-	-	-	-	-
35- 2, 105	591.05	CML	-	3237	-	-	1317	72743	-	504	121	59	-	-	-	-	-	-	-	-	-	-	-
35- 2, 105	591.05	CML	-	3417	-	-	1084	74141	-	525	115	57	-	-	-	-	-	-	-	-	-	-	-
35- 2, 114	591.14	CML	-	4256	-	-	1239	75540	60	427	101	69	-	-	-	-	-	-	-	-	-	-	-
35- 2, 114	591.14	GUNN	-	3837	-	-	1239	76062	-	390	-	-	-	-	-	-	-	-	-	-	-	-	-

35- 2, 114	591.14	MUN	-	3837	-	1097	1239	72872	-	325	106	65	-	-	-	-	-	-	-	-	-	-	-
35- 2, 114	591.14	MUY	-	-	-	670	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35- 3, 24	591.74	CHE	-	-	180	1000	-	-	-	-	115	-	-	-	-	-	-	-	-	-	-	-	-
35- 3, 24	591.74	POP	-	-	170	1600	-	-	130	650	-	-	-	-	-	-	-	-	-	-	-	-	-
35- 3, 28	591.78	GSC	37	-	210	1000	-	-	45	390	69	56	-	-	-	-	-	-	-	-	-	-	-
35- 3, 44	591.94	BAS	-	-	-	820	-	-	80	500	80	84	-	-	-	-	-	-	-	-	-	-	-
35- 3, 44	591.94	CHE	-	-	82	1500	-	-	-	470	92	-	-	-	-	-	-	-	-	-	-	-	-
35- 3, 61	592.11	CML	-	3657	-	-	1317	78338	63	580	77	69	-	-	-	-	-	-	-	-	-	-	-
35- 3, 61	592.11	GUNN	-	3357	-	-	1317	75261	-	525	-	-	-	-	-	-	-	-	-	-	-	-	-
35- 3, 61	592.11	MUN	-	3357	-	1318	1239	70698	-	418	76	64	-	-	-	-	-	-	-	-	-	-	-
35- 3, 61	592.11	MUY	-	-	-	860	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35- 3, 67	592.17	BOG	-	3420	135	600	1240	71204	60	458	85	59	-	-	-	-	-	-	-	-	-	-	-
35- 3, 75	592.25	ON	-	-	-	-	-	-	-	-	-	-	-	4.59	3.440	1.180	0.500	1.810	-	-	-	1.61	-
35- 3, 81	592.31	GSC	45	-	280	880	-	-	37	190	57	49	-	-	-	-	-	-	-	-	-	-	-
35- 3, 91	592.41	FWPU	33	6534	-	367	1162	59630	-	172	70	-	2.250	3.57	53.000	1.500	0.500	-	0.320	-	-	1.06	0.170
35- 4, 33	593.33	BAS	-	-	-	470	-	-	50	130	30	53	-	-	-	-	-	-	-	-	-	-	-
35- 4, 33	593.33	CHE	-	-	105	410	-	-	-	72	35	-	-	-	-	-	-	-	-	-	-	-	-
36- 2, 3	599.53	SGS	41	-	-	419	-	59975	39	-	-	-	4.400	10.40	5.900	1.800	0.700	-	0.520	-	0.43	2.40	0.410
36- 2, 12	599.62	BAS	-	-	-	580	-	-	60	140	100	52	-	-	-	-	-	-	-	-	-	-	-
36- 2, 12	599.62	CHE	-	-	170	800	-	-	-	-	115	-	-	-	-	-	-	-	-	-	-	-	-
36- 2, 81	600.31	SGS	38	-	-	418	-	49850	37	-	-	-	2.000	5.50	3.300	1.300	0.570	-	0.360	-	0.26	2.00	0.310
36- 2, 81	600.31	TM	-	-	170	475	-	-	55	110	80	-	-	-	-	-	-	-	-	-	-	-	-
36- 2, 85	600.35	FW	-	2818	-	437	929	44570	-	131	89	-	-	-	-	-	-	-	-	-	-	-	-
36- 2, 100	600.50	BAS	-	-	-	580	-	-	40	190	80	60	-	-	-	-	-	-	-	-	-	-	-
36- 2, 100	600.50	CHE	-	-	260	760	-	-	-	130	140	-	-	-	-	-	-	-	-	-	-	-	-
36- 3, 4	601.04	GUNN	-	3177	-	-	1084	56375	-	116	-	-	-	-	-	-	-	-	-	-	-	-	-
36- 3, 13	601.13	BAS	-	-	-	-	-	-	55	180	80	65	-	-	-	-	-	-	-	-	-	-	-
36- 3, 13	601.13	CHE	-	-	150	580	-	-	-	-	84	-	-	-	-	-	-	-	-	-	-	-	-
36- 3, 46	601.46	BOG	-	3360	160	457	930	54837	43	125	71	47	-	-	-	-	-	-	-	-	-	-	-
36- 3, 105	602.05	TM	43	-	160	595	-	35284	95	160	90	-	2.540	5.70	3.800	1.160	0.500	-	0.330	0.51	-	1.66	0.260
36- 3, 140	602.40	BAS	-	-	-	-	-	-	60	160	80	55	-	-	-	-	-	-	-	-	-	-	-
36- 3, 140	602.40	CHE	-	-	115	620	-	-	-	-	80	-	-	-	-	-	-	-	-	-	-	-	-
36- 4, 67	603.17	GUNN	-	3357	-	-	1239	59727	-	118	-	-	-	-	-	-	-	-	-	-	-	-	-
36- 4, 67	603.17	GUNN	-	3357	-	-	1239	59797	-	118	-	-	-	-	-	-	-	-	-	-	-	-	-
36- 4, 99	603.49	CML	-	3417	-	-	1007	63650	43	145	81	51	-	-	-	-	-	-	-	-	-	-	-
36- 4, 99	603.49	GUNN	-	3237	-	-	1007	59733	-	127	-	-	-	-	-	-	-	-	-	-	-	-	-
36- 4, 99	603.49	MUN	-	3597	-	540	1084	57353	-	119	79	53	-	-	-	-	-	-	-	-	-	-	-
36- 4, 99	603.49	MUY	-	-	-	430	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36- 5, 5	604.05	TM	-	-	130	360	-	-	42	105	70	-	-	-	-	-	-	-	-	-	-	-	-
36- 5, 5	604.05	TM	-	-	70	70	-	-	<1	38	2	-	-	-	-	-	-	-	-	-	-	-	-
36- 5, 22	604.22	BOG	-	3360	175	425	1080	54627	37	115	71	43	-	-	-	-	-	-	-	-	-	-	-
36- 5, 62	604.62	BAS	-	-	-	-	-	-	55	200	90	60	-	-	-	-	-	-	-	-	-	-	-
36- 5, 62	604.62	CHE	-	-	150	840	-	-	-	-	84	-	-	-	-	-	-	-	-	-	-	-	-
36- 5, 72	604.72	FWPU	37	2937	-	421	1007	47230	-	123	75	-	2.150	3.96	49.000	1.380	0.430	-	0.240	-	-	1.53	0.240
36- 6, 4	605.54	SCT	44	-	-	260	1084	67357	29	135	88	-	1.600	13.00	-	1.300	0.640	-	0.220	-	-	0.95	0.240
36- 6, 54	606.04	BAS	-	-	-	550	-	-	45	180	70	50	-	-	-	-	-	-	-	-	-	-	-
36- 6, 54	606.04	CHE	-	-	225	700	-	-	-	130	125	-	-	-	-	-	-	-	-	-	-	-	-
36- 6, 58	606.08	FW	-	3057	-	432	1084	48051	-	135	86	-	-	-	-	-	-	-	-	-	-	-	-
37- 1, 78	608.28	CML	-	3537	-	-	1007	60152	49	159	94	51	-	-	-	-	-	-	-	-	-	-	-
37- 1, 78	608.28	GUNN	-	3537	-	-	1007	59522	-	138	-	-	-	-	-	-	-	-	-	-	-	-	-
37- 1, 78	608.28	MUN	-	3537	-	655	1007	58886	-	131	96	58	-	-	-	-	-	-	-	-	-	-	-
37- 1, 78	608.28	MUY	-	-	-	370	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37- 1, 113	608.63	BOG	-	3240	160	447	1000	53857	42	115	65	44	-	-	-	-	-	-	-	-	-	-	-
37- 2, 14	609.14	POP	-	-	220	680	-	-	87	190	-	-	-	-	-	-	-	-	-	-	-	-	-
37- 2, 34	609.34	FW	-	3177	-	446	929	49631	-	134	88	-	-	-	-	-	-	-	-	-	-	-	-
37- 2, 72	609.72	SCT	41	-	-	270	1007	57285	33	155	92	-	2.200	9.40	-	1.400	0.650	-	0.350	-	-	1.40	0.380
37- 2, 72	609.72	TM	-	-	145	550	-	-	62	120	70	-	-	-	-	-	-	-	-	-	-	-	-
37- 2, 72	609.72	TM	-	-	180	510	-	-	45	118	60	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 10C – *Continued*

Sample[a]		Depth (m)	Inv.	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	La	Ce	Nd	Sm	Eu	Gd	Tb	Ho	Tm	Yb	Lu
37- 3,	5	610.55	BAS	-	-	-	910	-	-	50	230	96	70	-	-	-	-	-	-	-	-	-	-	-
37- 3,	5	610.55	CHE	-	-	235	1000	-	-	-	280	170	-	-	-	-	-	-	-	-	-	-	-	-
37- 3,	5	610.55	POP	-	-	210	850	-	-	-	280	-	-	-	-	-	-	-	-	-	-	-	-	-
37- 3,	11	610.61	SGS	26	-	-	451	-	63091	36	-	-	-	2.100	6.80	5.600	1.300	0.630	-	0.360	-	-	1.60	0.210
37- 3,	11	610.61	TM	-	-	170	950	-	-	70	280	115	-	-	-	-	-	-	-	-	-	-	-	-
37- 3,	23	610.73	BOG	-	3840	183	700	1160	69175	52	357	95	56	-	-	-	-	-	-	-	-	-	-	-
37- 3,	23	610.73	MUN	-	3357	-	1239	1162	66763	-	296	94	61	-	-	-	-	-	-	-	-	-	-	-
37- 3,	28	610.78	MUY	-	-	-	620	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37- 3,	50	611.00	FWPU	36	3597	-	906	1317	66001	-	266	98	-	2.360	3.08	52.000	1.620	0.570	-	0.580	-	-	1.59	0.230
39- 1,	2	626.52	BOG	-	3600	160	750	1240	72882	39	289	84	56	-	-	-	-	-	-	-	-	-	-	-
40- 1,	30	636.30	CML	-	6594	-	-	1239	72743	43	283	96	79	-	-	-	-	-	-	-	-	-	-	-
40- 1,	30	636.30	GUNN	-	5575	-	-	1162	68268	-	90	-	-	-	-	-	-	-	-	-	-	-	-	-
40- 1,	30	636.30	MUN	-	5275	-	388	1162	64056	-	87	58	71	-	-	-	-	-	-	-	-	-	-	-
40- 1,	30	636.30	MUY	-	-	-	270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40- 1,	34	636.34	BOG	-	5880	230	250	1160	69665	45	75	95	65	-	-	-	-	-	-	-	-	-	-	-
40- 1,	75	636.75	BAS	-	-	-	350	-	-	45	110	80	90	-	-	-	-	-	-	-	-	-	-	-
40- 1,	75	636.75	CHE	-	-	270	290	-	-	-	100	125	-	-	-	-	-	-	-	-	-	-	-	-
40- 2,	42	637.92	POP	-	-	250	360	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-
40- 2,	64	638.14	FW	-	5455	-	160	929	64100	-	60	61	-	-	-	-	-	-	-	-	-	-	-	-
40- 2,	93	638.43	GUNN	-	5575	-	-	1084	62817	-	99	-	-	-	-	-	-	-	-	-	-	-	-	-
40- 2,	93	638.43	MUN	-	5156	-	349	1162	62022	-	93	67	70	-	-	-	-	-	-	-	-	-	-	-
40- 2,	97	638.47	GUNN	-	5515	-	-	1162	70855	-	81	-	-	-	-	-	-	-	-	-	-	-	-	-
40- 2,	97	638.47	GUNN	-	5575	-	-	1162	70925	-	80	-	-	-	-	-	-	-	-	-	-	-	-	-
41- 1,	106	646.56	FW	-	5275	-	176	1239	58199	-	70	63	-	-	-	-	-	-	-	-	-	-	-	-
41- 1,	110	646.60	BOG	-	5340	200	195	1240	73512	38	75	84	62	-	-	-	-	-	-	-	-	-	-	-
41- 1,	115	646.65	GUNN	-	5335	-	-	1239	66527	-	69	-	-	-	-	-	-	-	-	-	-	-	-	-
41- 1,	115	646.65	GUNN	-	5275	-	-	1239	66597	-	69	-	-	-	-	-	-	-	-	-	-	-	-	-
41- 2,	17	647.17	FW	-	6115	-	200	1549	72763	-	73	61	-	-	-	-	-	-	-	-	-	-	-	-
41- 2,	38	647.38	GUNN	-	5395	-	-	1394	68567	-	93	-	-	-	-	-	-	-	-	-	-	-	-	-
41- 2,	38	647.38	GUNN	-	5395	-	-	1394	69057	-	94	-	-	-	-	-	-	-	-	-	-	-	-	-
41- 2,	42	647.42	GUNN	-	5455	-	-	1394	64155	-	78	-	-	-	-	-	-	-	-	-	-	-	-	-
42- 1,	20	655.20	SCT	42	-	-	525	1317	80926	44	225	79	-	2.300	20.00	-	1.500	0.660	-	0.600	-	-	2.00	0.380
42- 1,	56	655.56	CML	-	4196	-	-	1162	73442	42	94	159	66	-	-	-	-	-	-	-	-	-	-	-
42- 1,	56	655.56	GUNN	-	3837	-	-	1162	72281	-	277	-	-	-	-	-	-	-	-	-	-	-	-	-
42- 1,	56	655.56	MUN	-	3837	-	907	1162	68516	-	227	102	64	-	-	-	-	-	-	-	-	-	-	-
42- 1,	56	655.56	MUY	-	-	-	570	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42- 1,	59	655.59	BOG	-	3360	160	520	1240	67077	40	230	77	58	-	-	-	-	-	-	-	-	-	-	-
42- 1,	69	655.69	BAS	-	-	-	-	-	-	70	250	100	65	-	-	-	-	-	-	-	-	-	-	-
42- 1,	69	655.69	CHE	-	-	140	1000	-	-	-	325	115	-	-	-	-	-	-	-	-	-	-	-	-
42- 2,	6	656.56	BAS	-	-	-	-	-	-	80	250	90	42	-	-	-	-	-	-	-	-	-	-	-
42- 2,	6	656.56	CHE	-	-	115	1000	-	-	-	305	86	-	-	-	-	-	-	-	-	-	-	-	-
42- 2,	26	656.76	GUNN	-	3717	-	-	1239	72043	-	288	-	-	-	-	-	-	-	-	-	-	-	-	-
42- 2,	32	656.82	GUNN	-	3777	-	-	1317	73880	-	286	-	-	-	-	-	-	-	-	-	-	-	-	-
42- 2,	32	656.82	GUNN	-	3777	-	-	1317	73111	-	284	-	-	-	-	-	-	-	-	-	-	-	-	-
42- 2,	138	657.88	FWPU	37	4017	-	752	1239	63241	-	231	75	-	2.900	3.89	53.000	1.280	0.480	-	0.520	-	-	2.06	0.270
43- 1,	102	665.52	GUNN	-	5156	-	-	1162	68006	-	71	-	-	-	-	-	-	-	-	-	-	-	-	-
43- 1,	102	665.52	GUNN	-	5156	-	-	1162	68215	-	71	-	-	-	-	-	-	-	-	-	-	-	-	-
43- 1,	105	665.55	BOG	-	4500	180	202	1000	55047	39	60	60	53	-	-	-	-	-	-	-	-	-	-	-
43- 1,	128	665.78	BAS	-	-	-	200	-	-	40	100	50	75	-	-	-	-	-	-	-	-	-	-	-
43- 1,	128	665.78	CHE	-	-	290	200	-	-	30	92	72	-	-	-	-	-	-	-	-	-	-	-	-
43- 2,	55	666.55	FWPU	32	5156	-	184	1162	60415	-	59	52	-	4.420	6.15	59.000	2.330	0.730	-	0.720	-	-	1.18	0.310
43- 2,	107	667.07	BAS	-	-	-	260	-	-	50	100	60	75	-	-	-	-	-	-	-	-	-	-	-
43- 2,	107	667.07	CHE	-	-	250	180	-	-	30	82	120	-	-	-	-	-	-	-	-	-	-	-	-
43- 3,	21	667.71	BAS	-	-	-	-	-	-	90	90	40	78	-	-	-	-	-	-	-	-	-	-	-
43- 3,	21	667.71	CHE	-	-	170	165	-	-	36	43	47	-	-	-	-	-	-	-	-	-	-	-	-

43- 3, 51	668.01	GSC	-	-	15	13	-	-	18	56	56	41	-	-	-	-	-	-	-	-	-	-	-
43- 3, 109	668.59	TM	-	-	65	165	-	-	35	72	115	-	-	-	-	-	-	-	-	-	-	-	-
44- 1, 42	674.42	BOG	-	5400	-	207	1240	66168	-	69	95	-	-	-	-	-	-	-	-	-	-	-	-
44- 1, 47	674.47	GUNN	-	5096	-	-	1162	69823	-	73	-	-	-	-	-	-	-	-	-	-	-	-	-
44- 1, 47	674.47	GUNN	-	5156	-	-	1162	69403	-	73	-	-	-	-	-	-	-	-	-	-	-	-	-
44- 1, 145	675.45	BAS	-	-	-	250	-	-	40	100	50	75	-	-	-	-	-	-	-	-	-	-	-
44- 1, 145	675.45	CHE	-	-	305	230	-	-	24	90	72	-	-	-	-	-	-	-	-	-	-	-	-
44- 2, 55	676.05	GUNN	-	5275	-	-	1239	70175	-	74	-	-	-	-	-	-	-	-	-	-	-	-	-
44- 2, 105	676.55	BAS	-	-	-	190	-	-	35	90	56	75	-	-	-	-	-	-	-	-	-	-	-
44- 2, 105	676.55	CHE	-	-	290	230	-	-	30	90	88	-	-	-	-	-	-	-	-	-	-	-	-
44- 2, 108	676.58	FW	-	5036	-	187	1239	57239	-	61	68	-	-	-	-	-	-	-	-	-	-	-	-
44- 3, 144	678.44	SGS	41	-	-	170	-	70101	37	-	-	-	4.500	1.02	6.500	2.100	0.800	-	0.550	-	0.42	2.80	0.490
44- 3, 144	678.44	TM	48	5156	225	210	1162	67566	47	65	60	-	4.590	1.23	7.300	2.080	0.760	-	0.650	0.78	-	2.69	0.410
44- 5, 68	680.68	CML	-	6175	-	-	1239	78338	48	94	75	59	-	-	-	-	-	-	-	-	-	-	-
44- 5, 68	680.68	GUNN	-	5455	-	-	1162	71623	-	76	-	-	-	-	-	-	-	-	-	-	-	-	-
44- 5, 68	680.68	MUN	-	4856	-	195	1162	66746	-	77	56	58	-	-	-	-	-	-	-	-	-	-	-
44- 5, 68	680.68	MUY	-	-	-	190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44- 5, 100	681.00	BAS	-	-	-	200	-	-	55	130	80	90	-	-	-	-	-	-	-	-	-	-	-
44- 5, 100	681.00	CHE	-	-	260	210	-	-	30	98	120	-	-	-	-	-	-	-	-	-	-	-	-
44- 5, 124	681.24	FWPU	41	5695	-	211	1239	66209	-	74	75	-	6.050	1.00	38.000	2.860	0.690	-	0.740	-	-	2.30	0.320
44- 6, 6	681.56	BAS	-	-	-	175	-	-	55	110	60	80	-	-	-	-	-	-	-	-	-	-	-
44- 6, 6	681.56	CHE	-	-	295	230	-	-	38	100	140	-	-	-	-	-	-	-	-	-	-	-	-
44- 6, 33	681.83	GUNN	-	6115	-	-	1239	76138	-	81	-	-	-	-	-	-	-	-	-	-	-	-	-
44- 6, 46	681.96	BOG	-	5760	255	225	1160	70714	42	75	65	74	-	-	-	-	-	-	-	-	-	-	-
45- 1, 47	683.97	BAS	-	-	-	170	-	-	40	130	80	80	-	-	-	-	-	-	-	-	-	-	-
45- 1, 47	683.97	CHE	-	-	270	210	-	-	26	80	110	-	-	-	-	-	-	-	-	-	-	-	-
45- 1, 54	684.04	BOG	-	5760	-	190	1390	68476	-	73	-	-	-	-	-	-	-	-	-	-	-	-	-
46- 1, 58	693.58	BOG	-	7680	280	90	1240	83234	40	47	62	95	-	-	-	-	-	-	-	-	-	-	-
46- 1, 100	694.00	BAS	-	-	-	200	-	-	50	95	90	90	-	-	-	-	-	-	-	-	-	-	-
46- 1, 100	694.00	CHE	-	-	310	62	-	-	30	140	140	-	-	-	-	-	-	-	-	-	-	-	-
46- 1, 100	694.00	POP	-	-	280	120	-	-	-	67	-	-	-	-	-	-	-	-	-	-	-	-	-
46- 2, 58	695.08	FWPU	42	6474	-	120	1317	64935	-	58	76	-	6.720	8.37	55.000	2.430	0.910	-	1.610	-	-	2.71	0.360
46- 2, 78	695.28	BAS	-	-	-	-	-	-	90	90	80	94	-	-	-	-	-	-	-	-	-	-	-
46- 2, 78	695.28	CHE	-	-	230	62	-	-	47	34	86	-	-	-	-	-	-	-	-	-	-	-	-
46- 3, 15	696.15	GUNN	-	7134	-	-	1317	83419	-	53	-	-	-	-	-	-	-	-	-	-	-	-	-
46- 3, 15	696.15	GUNN	-	7014	-	-	1317	83279	-	53	-	-	-	-	-	-	-	-	-	-	-	-	-
46- 3, 36	696.36	CML	-	7553	-	-	1239	81136	-	63	104	80	-	-	-	-	-	-	-	-	-	-	-
47- 1, 126	703.76	POP	-	-	340	130	-	-	95	89	-	-	-	-	-	-	-	-	-	-	-	-	-
47- 2, 67	704.67	CML	-	7673	-	-	1394	86032	-	62	110	74	-	-	-	-	-	-	-	-	-	-	-
47- 2, 83	704.83	BAS	-	-	-	-	-	-	90	100	70	92	-	-	-	-	-	-	-	-	-	-	-
47- 2, 83	704.83	CHE	-	-	215	58	-	-	48	33	92	-	-	-	-	-	-	-	-	-	-	-	-
47- 2, 95	704.95	BOG	-	7200	-	85	1390	82745	-	45	-	-	-	-	-	-	-	-	-	-	-	-	-
47- 2, 106	705.06	GUNN	-	6954	-	-	1394	84059	-	51	-	-	-	-	-	-	-	-	-	-	-	-	-
47- 2, 106	705.06	GUNN	-	7014	-	-	1394	83919	-	53	-	-	-	-	-	-	-	-	-	-	-	-	-
47- 3, 10	705.60	GUNN	-	6894	-	-	1317	83705	-	52	-	-	-	-	-	-	-	-	-	-	-	-	-
47- 3, 10	705.60	GUNN	-	6894	-	-	1317	83076	-	52	-	-	-	-	-	-	-	-	-	-	-	-	-
47- 3, 132	706.82	BAS	-	-	-	110	-	-	40	70	124	94	-	-	-	-	-	-	-	-	-	-	-
47- 3, 132	706.82	CHE	-	-	245	68	-	-	36	23	86	-	-	-	-	-	-	-	-	-	-	-	-
47- 4, 30	707.30	BAS	-	-	-	550	-	-	40	100	65	100	-	-	-	-	-	-	-	-	-	-	-
47- 4, 30	707.30	CHE	-	-	300	40	-	-	38	76	120	-	-	-	-	-	-	-	-	-	-	-	-
48- 1, 30	712.30	MUY	-	-	-	390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48- 1, 118	713.18	BOG	-	5940	220	237	1320	69245	43	80	85	72	-	-	-	-	-	-	-	-	-	-	-
48- 1, 118	713.18	CML	-	6714	-	-	1317	69945	50	161	76	74	-	-	-	-	-	-	-	-	-	-	-
48- 1, 118	713.18	FWPU	40	5815	-	480	1317	59636	-	138	73	-	6.730	1.00	49.000	2.350	0.790	-	0.520	-	-	2.05	0.300
48- 1, 118	713.18	GUNN	-	5875	-	-	1239	67032	-	141	-	-	-	-	-	-	-	-	-	-	-	-	-
48- 1, 118	713.18	MUN	-	5515	-	561	1239	63248	-	126	71	69	-	-	-	-	-	-	-	-	-	-	-
48- 1, 118	713.18	MUY	-	-	-	430	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 10D
Trace Elements in Basalts in Holes 332B and 332D

Sample[a]	Depth (m)	Inv.	B	Li	Rb	Sr	Cs	Ba	Tl	Th	U	Y
1- 5, 5- 8	145.07	GUNN	-	-	0.00	101.0	-	44	-	-	-	-
1- 5, 37- 40	145.39	AUM	-	-	-	-	-	-	-	-	0.018	-
1- 5, 110-113	146.12	AUM	-	-	-	-	-	-	-	-	0.140	-
1- 5, 110-113	146.12	GUNN	-	-	1.00	93.0	-	48	-	-	-	-
1-CC, 130-133	146.60	GUNN	-	-	4.00	123.0	-	48	-	-	-	-
2- 1, 21- 24	151.72	AUM	-	-	-	-	-	-	-	-	0.100	-
2- 1, 117-120	152.68	DUR	-	-	-	-	-	-	-	-	-	-
2- 2, 63- 66	153.64	FW	-	-	0.50	106.0	-	25	-	-	-	12.6
2- 2, 113-116	154.14	AUM	-	-	-	-	-	-	-	-	0.120	-
2- 2, 113-116	154.14	AUM	-	-	-	-	-	-	-	-	0.049	-
2- 2, 113-116	154.14	CML	-	-	0.00	119.0	-	21	-	-	-	13.0
2- 2, 113-116	154.14	GUNN	-	-	2.00	99.0	-	39	-	-	-	-
2- 2, 113-116	154.14	MUN	-	-	4.00	108.0	-	28	-	-	-	-
2- 3, 31-	154.81	AUM	-	-	-	-	-	-	-	-	0.120	-
2- 3, 64- 67	155.16	AUM	-	-	-	-	-	-	-	-	0.090	-
2- 3, 90- 93	155.42	MUN	-	-	3.00	92.0	-	32	-	-	-	-
2- 3, 131-134	155.83	FW	-	-	2.30	119.0	-	23	-	-	-	11.0
2- 4, 122-125	157.24	FW	-	-	0.90	127.0	-	22	-	-	-	12.1
2- 5, 81- 84	158.33	DUR	-	-	-	-	-	-	-	-	-	-
2- 5, 103-106	158.55	CML	-	-	<1.00	106.0	-	-	-	<1.00	0.048	10.0
2- 5, 106-109	158.58	AUM	-	-	-	-	-	-	-	-	0.037	-
2- 5, 109-111	158.60	BEN	-	-	-	-	-	36	-	0.49	0.16	-
2- 5, 123-125	158.74	FW	-	-	1.70	109.0	-	21	-	-	-	10.8
2- 6, 41- 43	159.42	GUNN	-	-	3.00	95.0	-	39	-	-	-	-
2- 6, 90- 93	159.92	AUM	-	-	-	-	-	-	-	-	0.058	-
2- 6, 94- 97	159.96	FW	-	-	0.60	113.0	2	25	-	0.70	1.270	13.1
2- 6, 102-105	160.04	DUR	-	-	-	-	-	-	-	-	-	-
2-CC, 3- 7	160.60	MUYA	-	7.0	4.60	101.0	-	43	0 025	-	0.070	-
2-CC, 3- 7	160.60	GUNN	-	-	0.00	96.0	-	37	-	-	-	-
2-CC, 3- 7	160.60	GUNN	-	-	-	96.0	-	43	-	-	-	-
3- 1, 15- 18	199.17	AUM	-	-	-	-	-	-	-	-	0.110	-
3- 1, 27- 30	199.29	FW	-	-	1.50	121.0	-	29	-	-	-	12.2
3- 1, 32- 34	199.33	AUM	-	-	-	-	-	-	-	-	0.230	-
3- 1, 60-	199.60	AUM	-	-	-	-	-	-	-	-	0.100	-
3- 1, 60-	199.60	GUNN	-	-	1.00	95.0	-	74	-	-	-	-
3- 1, 100-	200.00	AUM	-	-	-	-	-	-	-	-	0.070	-
3- 2, 98-101	201.50	TM	5	23.0	-	88.0	-	3	-	-	-	10.0
3- 3, 14- 17	202.16	TM	10	5.0	-	93.0	-	9	-	-	-	16.0
3- 3, 77- 80	202.79	TM	<1	3.0	-	135.0	-	8	-	-	-	<1.0
3- 3, 85- 87	202.86	SAV	-	-	-	-	-	-	-	-	-	-
3- 3, 128-	203.28	GUNN	-	-	-	94.0	-	38	-	-	-	-
3- 3, 128-	203.28	MUCA	-	4.6	0.90	97.0	-	37	0 059	-	0.090	-
3- 4, 20-	203.70	AUM	-	-	-	-	-	-	-	-	0.090	-
3- 4, 20-	203.70	GUNN	-	-	1.00	85.0	-	40	-	-	-	-
3- 4, 24- 27	203.76	SAV	-	-	-	-	-	-	-	-	-	-
3- 4, 26- 36	203.81	TM	<1	2.0	-	95.0	-	6	-	-	-	17.0
3- 4, 26- 36	203.81	GUNN	-	-	1.00	87.0	-	38	-	-	-	-
3- 4, 40- 43	203.92	TM	<1	4.0	-	75.0	-	7	-	-	-	13.0
3- 4, 48- 50	203.99	FW	-	-	-	92.0	-	31	-	-	-	13.4
3- 4, 59-	204.09	AUM	-	-	-	-	-	-	-	-	0.140	-
3- 4, 59-	204.09	GUNN	-	-	0.00	80.0	-	40	-	-	-	-

TABLE 10C – *Continued*

Zr	Hf	Nb	Ta	Pd	Ir	Pt	Au	Cd	Pb	Sb	F	P	Ga	Sn	Ag	Ge	Yb
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29	–	0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
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35	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
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14	–	<1	–	–	–	–	–	–	0.95	–	–	–	–	–	–	–	–
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56	1.4	8.6	–	–	–	–	–	–	0.56	–	–	–	–	–	–	–	–
33	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
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35	0.68	–	0.49	–	–	–	–	34	–	0.60	–	–	–	–	–	–	–
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33	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
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20	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
25	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
21	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	0.01	0.022	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	0.390	0.02	<1	0.98	–	–	–	–	–	–	–	–	–	–
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–	–	–	–	–	–	–	–	–	–	–	0.01	0.028	–	–	–	–	–
<1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
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22	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
32	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
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TABLE 10D – *Continued*

Sample[a]		Depth (m)	Inv.	B	Li	Rb	Sr	Cs	Ba	Tl	Th	U	Y
3- 4,	98-101	204.50	TM	5	5.0	-	110.0	-	10	-	-	-	13.0
3- 4,	109-	204.59	AUM	-	-	-	-	-	-	-	-	0.200	-
3- 4,	118-121	204.70	SAV	-	-	-	-	-	-	-	-	-	-
4- 1,	100-	228.50	AUM	-	-	-	-	-	-	-	-	0.270	-
4- 1,	100-	228.50	GUNN	-	-	6.00	112.0	-	63	-	-	-	-
4- 1,	100-	228.50	MUN	-	-	10.00	107.0	-	87	-	-	-	-
4- 1,	100-	228.50	MUYA	-	10.0	7.30	121.0	-	60	0 013	-	0.240	-
4- 1,	100-103	228.51	ML	-	-	11.00	120.0	-	42	-	-	-	22.0
4- 1,	108-111	228.60	FW	-	-	7.10	115.0	-	78	-	-	-	23.4
6- 1,	18-	284.68	AUM	-	-	-	-	-	-	-	-	0.250	-
6- 1,	77-	285.27	AUM	-	-	-	-	-	-	-	-	0.220	-
6- 1,	100-	285.50	CML	-	-	8.10	114.5	-	-	-	0.40	0.276	28.0
6- 1,	111-114	285.63	FW	-	-	3.30	115.0	3	87	-	1.15	1.270	25.2
6- 1,	122-125	285.74	AN	-	-	-	-	-	-	-	-	-	-
6- 1,	122-125	285.74	SAV	-	-	-	-	-	-	-	-	-	-
6- 2,	122-	287.22	AUM	-	-	-	-	-	-	-	-	0.270	-
6- 2,	122-125	287.24	TM	15	28.0	-	105.0	-	42	-	-	-	28.0
6- 3,	34-	287.84	GUNN	-	-	5.00	122.0	-	76	-	-	-	-
6- 3,	34-	287.84	MUCA	-	13.0	8.20	130.0	-	64	0 017	-	0.320	-
6- 3,	34-	287.84	MUN	-	-	8.00	124.0	-	107	-	-	-	-
6- 3,	80- 83	288.32	AN	-	-	-	-	-	-	-	-	-	-
6- 3,	80- 83	288.32	BAS	-	11.0	8.00	-	-	-	-	-	-	-
6- 3,	80- 83	288.32	CHE	-	-	-	86.0	-	31	-	-	-	-
6- 3,	80- 83	288.32	SAV	-	-	-	-	-	-	-	-	-	-
6- 3,	87-	288.37	AUM	-	-	-	-	-	-	-	-	0.260	-
7- 1,	36- 37	313.37	CK	-	-	-	-	-	-	-	-	-	-
7- 1,	36- 37	313.37	GUNN	-	-	4.00	118.0	-	78	-	-	-	-
8- 1,	6- 7	322.57	AN	-	-	-	-	-	-	-	-	-	-
8- i,	6- 7	322.57	BAS	-	12.0	6.00	-	-	-	-	-	-	-
8- 1,	6- 7	322.57	CHE	-	-	-	81.0	-	34	-	-	-	-
8- 1,	6- 7	322.57	SAV	-	-	-	-	-	-	-	-	-	-
8- 1,	17- 20	322.68	AUMC	-	-	-	-	-	-	-	-	0.250	-
8- 1,	17- 20	322.68	GUNN	-	-	5.00	108.0	-	59	-	-	-	-
8- 1,	27- 29	322.78	BAS	-	8.5	5.00	-	-	-	-	-	-	-
8- 1,	27- 29	322.78	CHE	-	-	-	86.0	-	21	-	-	-	-
8- 1,	27- 29	322.78	SAV	-	-	-	-	-	-	-	-	-	-
8- 1,	62- 65	323.14	GUNN	-	-	4.00	120.0	-	73	-	-	-	-
8- 1,	62- 65	323.14	AUM	-	-	-	-	-	-	-	-	0.300	-
8- 1,	65- 68	323.17	AUM	-	-	-	-	-	-	-	-	0.260	-
8- 1,	65- 68	323.17	GUNN	-	-	4.00	123.0	-	63	-	-	-	-
8- 1,	78- 80	323.29	CHE	-	-	-	123.0	-	31	-	-	-	-
8- 1,	78- 80	323.29	SAV	-	-	-	-	-	-	-	-	-	-
8- 1,	94- 96	323.45	GUNN	-	-	2.00	110.0	-	0	-	-	-	-
8- 1,	94- 96	323.45	AUM	-	-	-	-	-	-	-	-	0.180	-
8- 1,	96- 98	323.47	AUM	-	-	-	-	-	-	-	-	0.220	-
8- 1,	96- 98	323.47	GUNN	-	-	2.00	109.0	-	59	-	-	-	-
8- 2,	75- 77	324.76	GUNN	-	-	2.00	111.0	-	0	-	-	-	-
8- 2,	75- 77	324.76	AUM	-	-	-	-	-	-	-	-	0.190	-
8- 2,	77- 79	324.78	AUM	-	-	-	-	-	-	-	-	0.200	-
8- 2,	77- 79	324.78	GUNN	-	-	3.00	110.0	-	57	-	-	-	-
8- 3,	7- 8	325.58	GUNN	-	-	2.00	123.0	-	171	-	-	-	-

TABLE 10D – *Continued*

Zr	Hf	Nb	Ta	Pd	Ir	Pt	Au	Cd	Pb	Sb	F	P	Ga	Sn	Ag	Ge	Yb
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.021	0.046	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
55	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
67	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
71	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
73	3.04	-	1.20	-	-	-	-	48	-	0.81	-	-	-	-	-	-	-
-	-	-	-	-	-	-	3.30	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.020	0.048	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	0.160	<.01	<1	0.68	-	-	-	-	-	-	-	-	-	-
61	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	5.30	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.023	0.045	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	<.001	-	<1	30.00	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	2.30	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.024	0.040	-	-	-	-	-
-	-	-	-	0.200	<.01	<1	9.40	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.021	0.047	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.020	0.042	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 10D – *Continued*

Sample[a]	Depth (m)	Anv.	B	Li	Rb	Sr	Cs	Ba	Tl	Th	U	Y
8- 3, 7- 8	325.58	AUM	-	-	-	-	-	-	-	-	0.260	-
8- 3, 9- 11	325.60	AUM	-	-	-	-	-	-	-	-	0.310	-
8- 3, 9- 11	325.60	GUNN	-	-	4.00	113.0	-	70	-	-	-	-
8- 3, 74- 76	326.25	FW	-	-	1.70	116.0	-	62	-	-	-	22.8
8- 3, 90- 92	326.41	AUM	-	-	-	-	-	-	-	-	0.210	-
8- 3, 90- 92	326.41	GUNN	-	-	1.00	110.0	-	68	-	-	-	-
8- 3, 90- 92	326.41	GUNN	-	-	2.00	111.0	-	72	-	-	-	-
8- 3, 93- 95	326.44	GUNN	-	-	1.00	109.0	-	62	-	-	-	-
8- 3, 93- 95	326.44	MUCA	-	5.6	5.50	118.0	-	60	0 015	-	0.210	-
8- 3, 93- 95	326.44	MUN	-	-	4.00	104.0	-	86	-	-	-	-
9- 1, 18- 21	332.20	AUM	-	-	-	-	-	-	-	-	0.230	-
9- 1, 28- 30	332.29	BAS	-	11.0	5.00	-	-	-	-	-	-	-
9- 1, 28- 30	332.29	CHE	-	-	-	93.0	-	24	-	-	-	-
9- 1, 28- 30	332.29	SAV	-	-	-	-	-	-	-	-	-	-
9- 1, 36- 39	332.38	BAS	-	13.0	7.00	-	-	-	-	-	-	-
9- 1, 36- 39	332.38	CHE	-	-	-	84.0	-	18	-	-	-	-
9- 1, 36- 39	332.38	SAV	-	-	-	-	-	-	-	-	-	-
9- 1, 88- 90	332.89	FW	-	-	2.20	259.0	-	73	-	-	-	23.1
9- 1, 138-140	333.39	AN	-	-	-	-	-	-	-	-	-	-
9- 1, 138-140	333.39	BAS	-	19.0	8.00	-	-	-	-	-	-	-
9- 1, 138-140	333.39	CHE	-	-	-	90.0	-	26	-	-	-	-
9- 1, 138-140	333.39	SAV	-	-	-	-	-	-	-	-	-	-
9- 2, 44- 46	333.95	GUNN	-	-	5.00	141.0	-	68	-	-	-	-
9- 2, 44- 46	333.95	AUM	-	-	-	-	-	-	-	-	0.280	-
9- 2, 46- 48	333.97	AUM	-	-	-	-	-	-	-	-	0.250	-
9- 2, 46- 48	333.97	GUNN	-	-	6.00	124.0	-	84	-	-	-	-
9- 2, 72- 76	334.24	DUR	-	-	-	-	-	-	-	-	-	-
9- 2, 76- 78	334.27	POP	-	8.3	4.00	100.0	-	49	-	-	-	-
9- 2, 106-108	334.57	FW	-	-	5.90	119.0	-	82	-	-	-	25.3
9- 3, 14- 16	335.15	CML	-	-	7.00	126.0	-	-	-	0.80	0.256	23.0
9- 3, 43- 45	335.44	AUMC	-	-	-	-	-	-	-	-	0.280	-
9- 3, 43- 45	335.44	GUNN	-	-	6.00	114.0	-	66	-	-	-	-
9- 3, 45- 47	335.46	AUM	-	-	-	-	-	-	-	-	0.290	-
9- 3, 119-121	336.20	DUR	-	-	-	-	-	-	-	-	-	-
9- 3, 119-121	336.20	POP	-	3.0	4.80	120.0	-	43	-	-	-	-
9- 3, 130-132	336.31	AN	-	-	-	-	-	-	-	-	-	-
9- 3, 130-132	336.31	BAS	-	5.4	9.00	75.0	-	25	-	-	-	-
9- 3, 130-132	336.31	SAV	-	-	-	-	-	-	-	-	-	-
10- 1, 44- 47	351.46	AN	-	-	-	-	-	-	-	-	-	-
10- 1, 44- 47	351.46	BAS	-	5.0	5.00	-	-	-	-	-	-	-
10- 1, 44- 47	351.46	CHE	-	-	-	80.0	-	25	-	-	-	-
10- 1, 44- 47	351.46	SAV	-	-	-	-	-	-	-	-	-	-
10- 1, 62- 65	351.64	AUM	-	-	-	-	-	-	-	-	0.220	-
10- 1, 102-104	352.03	AN	-	-	-	-	-	-	-	-	-	-
10- 1, 102-104	352.03	BAS	-	12.0	7.00	-	-	-	-	-	-	-
10- 1, 102-104	352.03	CHE	-	-	-	92.0	-	22	-	-	-	-
10- 1, 102-104	352.03	SAV	-	-	-	-	-	-	-	-	-	-
10- 1, 131-133	352.32	AUMC	-	-	-	-	-	-	-	-	0.280	-
10- 1, 131-133	352.32	GUNN	-	-	6.00	148.0	-	57	-	-	-	-
10- 1, 133-136	352.35	AUM	-	-	-	-	-	-	-	-	0.290	-
10- 2, 111-114	353.63	BAS	-	8.0	5.00	-	-	-	-	-	-	-

TABLE 10D – *Continued*

Zr	Hf	Nb	Ta	Pd	Ir	Pt	Au	Cd	Pb	Sb	F	P	Ga	Sn	Ag	Ge	Yb
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	<.001	0.04	<1	1.70	-	-	-	-	-	-	-	-	-	-
55	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.024	0.046	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.026	0.047	-	-	-	-	-
70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	7.40	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.014	0.036	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
61	-	6	-	-	-	-	-	-	0.75	-	-	-	-	-	-	-	-
-	-	-	-	<.001	0.45	<1	0.46	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	2.65	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.014	0.048	-	-	-	-	-
-	-	-	-	-	-	-	2.70	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.026	0.050	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	5.90	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.033	0.042	-	-	-	-	-
-	-	-	-	0.180	0.02	<1	0.78	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 10D – *Continued*

Sample[a]	Depth (m)	Inv.	B	Li	Rb	Sr	Cs	Ba	Tl	Th	U	Y
10- 2, 111-114	353.63	DUR	-	-	-	-	-	-	-	-	-	-
10- 2, 111-114	353.63	POP	-	6.4	5.00	100.0	-	43	-	-	-	-
10- 3, 20- 23	354.22	AUM	-	-	-	-	-	-	-	-	0.230	-
10- 3, 20- 23	354.22	GUNN	-	-	2.00	110.0	-	72	-	-	-	-
10- 3, 23- 26	354.25	AUMC	-	-	-	-	-	-	-	-	0.210	-
10- 3, 23- 26	354.25	GUNN	-	-	2.00	109.0	-	69	-	-	-	-
10- 3, 39- 41	354.40	FW	-	-	2.50	117.0	2	73	-	0.71	1.190	23.0
10- 3, 49- 51	354.50	BAS	-	8.0	5.00	-	-	-	-	-	-	-
10- 3, 49- 51	354.50	DUR	-	-	-	-	-	-	-	-	-	-
10- 3, 49- 51	354.50	POP	-	7.0	3.80	120.0	-	48	-	-	-	-
11- 1, -	360.50	AN	-	-	-	-	-	-	-	-	-	-
11- 1, -	360.50	BAS	-	29.0	5.00	-	-	-	-	-	-	-
11- 1, -	360.50	CHE	-	-	-	72.0	-	12	-	-	-	-
11- 1, -	360.50	SAV	-	-	-	-	-	-	-	-	-	-
11- 1, 39- 42	360.91	CML	-	-	5.00	124.0	-	59	-	-	-	23.0
11- 1, 39- 42	360.91	AUM	-	-	-	-	-	-	-	-	0.200	-
11- 1, 44- 46	360.95	AUM	-	-	-	-	-	-	-	-	0.250	-
11- 1, 44- 46	360.95	GUNN	-	-	3.00	111.0	-	64	-	-	-	-
11- 1, 52- 55	361.04	BAS	-	10.0	3.00	-	-	-	-	-	-	-
11- 1, 52- 55	361.04	CHE	-	-	-	90.0	-	27	-	-	-	-
11- 1, 52- 55	361.04	SAV	-	-	-	-	-	-	-	-	-	-
11- 1, 148-150	361.99	AN	-	-	-	-	-	-	-	-	-	-
11- 1, 148-150	361.99	BAS	-	9.0	6.50	-	-	-	-	-	-	-
11- 1, 148-150	361.99	CHE	-	-	-	57.0	-	16	-	-	-	-
11- 1, 148-150	361.99	SAV	-	-	-	-	-	-	-	-	-	-
11- 2, 35- 39	362.37	AN	-	-	-	-	-	-	-	-	-	-
11- 2, 35- 39	362.37	BAS	-	9.0	5.00	-	-	-	-	-	-	-
11- 2, 35- 39	362.37	CHE	-	-	-	77.0	-	30	-	-	-	-
11- 2, 35- 39	362.37	SAV	-	-	-	-	-	-	-	-	-	-
11- 2, 80- 83	362.82	AUMC	-	-	-	-	-	-	-	-	0.300	-
11- 2, 80- 83	362.82	GUNN	-	-	5.00	116.0	-	85	-	-	-	-
11- 3, 40- 43	363.92	GUNN	-	-	3.00	98.0	-	55	-	-	-	-
11- 3, 40- 43	363.92	AUM	-	-	-	-	-	-	-	-	0.170	-
11- 3, 69- 71	364.20	BAS	-	9.5	3.50	-	-	-	-	-	-	-
11- 3, 69- 71	364.20	CHE	-	-	-	86.0	-	21	-	-	-	-
11- 3, 69- 71	364.20	SAV	-	-	-	-	-	-	-	-	-	-
11- 3, 75- 78	364.27	TM	<1	7.0	-	115.0	-	42	-	-	-	25.0
11- 3, 75- 78	364.27	TM	55	60.0	-	85.0	-	27	-	-	-	24.0
11- 4, 105-108	366.07	AUM	-	-	-	-	-	-	-	-	0.210	-
11- 4, 108-111	366.10	AUM	-	-	-	-	-	-	-	-	0.200	-
11- 4, 108-111	366.10	GUNN	-	-	4.00	112.0	-	60	-	-	-	-
12- 1, 57- 60	370.59	AUMC	-	-	-	-	-	-	-	-	0.230	-
12- 1, 57- 60	370.59	GUNN	-	-	5.00	110.0	-	82	-	-	-	-
12- 1, 60- 62	370.61	AUM	-	-	-	-	-	-	-	-	0.160	-
12- 1, 114-117	371.16	FW	-	-	8.80	112.0	-	73	-	-	-	22.4
12- 1, 121-123	371.22	AN	-	-	-	-	-	-	-	-	-	-
12- 1, 121-123	371.22	BAS	-	7.0	7.00	-	-	-	-	-	-	-
12- 1, 121-123	371.22	CHE	-	-	-	83.0	-	20	-	-	-	-
12- 1, 121-123	371.22	SAV	-	-	-	-	-	-	-	-	-	-
13- 1, 66- 68	380.17	AUMC	-	-	-	-	-	-	-	-	0.220	-
13- 1, 66- 68	380.17	GUNN	-	-	5.00	134.0	-	56	-	-	-	-

TABLE 10D – *Continued*

Zr	Hf	Nb	Ta	Pd	Ir	Pt	Au	Cd	Pb	Sb	F	P	Ga	Sn	Ag	Ge	Yb
-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	<.001	0.04	<1	0.23	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
69	1.71	-	1.02	-	-	-	-	40	-	0.70	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	3.60	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.038	0.035	-	-	-	-	-
64	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	1.06	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	0.025	0.040	-	-	-	-	-
-	-	-	-	-	-	-	2.40	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	0.026	0.044	-	-	-	-	-
-	-	-	-	0.170	0.08	<1	0.51	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.018	0.048	-	-	-	-	-
70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	<.001	0.05	<1	3.90	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	6.10	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.016	0.046	-	-	-	-	-
-	-	-	-	0.050	0.02	<1	67.00	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 10D – *Continued*

Sample[a]		Depth (m)	Inv.	B	Li	Rb	Sr	Cs	Ba	Tl	Th	U	Y
13- 1,	68- 70	380.19	AN	-	-	-	95.0	-	12	-	-	-	-
13- 1,	68- 70	380.19	AN	-	-	-	-	-	-	-	-	-	-
13- 1,	68- 70	380.19	BAS	-	11.6	7.00	-	-	-	-	-	-	-
13- 1,	68- 70	380.19	SAV	-	-	-	-	-	-	-	-	-	-
13- 1,	70- 72	380.21	CML	-	-	3.42	123.7	-	-	-	0.50	0.228	21.0
13- 1,	70- 72	380.21	CML	-	-	3.00	127.0	-	-	-	-	-	26.0
13- 1,	72- 74	380.23	AUM	-	-	-	-	-	-	-	-	0.360	-
13- 1,	98-100	380.49	AN	-	-	-	-	-	-	-	-	-	-
13- 1,	98-100	380.49	BAS	-	12.0	9.00	-	-	-	-	-	-	-
13- 1,	98-100	380.49	CHE	-	-	-	102.0	-	29	-	-	-	-
13- 1,	98-100	380.49	SAV	-	-	-	-	-	-	-	-	-	-
14- 1,	33- 35	389.34	CML	-	-	5.00	125.0	-	-	-	1.10	0.055	22.0
14- 1,	36- 38	389.37	FW	-	-	5.10	122.0	3	76	-	0.85	1.570	23.1
14- 2,	31- 32	390.82	SAV	-	-	-	-	-	-	-	-	-	-
14- 2,	31- 33	390.82	BAS	-	24.0	11.00	-	-	-	-	-	-	-
14- 2,	31- 33	390.82	CHE	-	-	-	73.0	-	27	-	-	-	-
14- 2,	33- 35	390.84	MUN	-	-	7.00	103.0	-	88	-	-	-	-
14- 2,	35- 37	390.86	AUMC	-	-	-	-	-	-	-	-	0.210	-
14- 2,	35- 37	390.86	GUNN	-	-	7.00	114.0	-	66	-	-	-	-
15- 1,	53- 55	399.04	CK	-	-	-	-	-	-	-	-	-	-
15- 1,	73- 75	399.24	GUNN	-	-	3.00	111.0	-	57	-	-	-	-
15- 1,	73- 75	399.24	MUCA	-	9.3	2.70	118.0	-	53	0 044	-	0.250	-
15- 1,	103-105	399.54	FW	-	-	4.60	119.0	3	86	-	0.88	1.650	24.8
15- 2,	81- 83	400.82	AUMC	-	-	-	-	-	-	-	-	0.180	-
15- 2,	81- 83	400.82	GUNN	-	-	4.00	113.0	-	74	-	-	-	-
15- 2,	83- 85	400.84	AUM	-	-	-	-	-	-	-	-	0.190	-
15- 2,	130-131	401.31	CK	-	-	-	-	-	-	-	-	-	-
15- 2,	130-131	401.31	GUNN	-	-	3.00	307.0	-	52	-	-	-	-
16- 1,	112-114	409.13	MUN	-	-	4.00	86.0	-	43	-	-	-	-
16- 1,	112-114	409.13	AUM	-	-	-	-	-	-	-	-	0.180	-
16- 1,	141-143	409.42	CML	-	-	6.00	101.0	-	40	-	-	-	20.0
16- 1,	141-143	409.42	GUNN	-	-	2.00	90.0	-	69	-	-	-	-
16- 1,	141-143	409.42	MUYA	-	18.0	3.70	94.0	-	56	0 016	-	0.110	-
16- 2,	31- 33	409.82	AUM	-	-	-	-	-	-	-	-	0.094	-
16- 2,	63- 65	410.14	FW	-	-	0.80	85.0	3	49	-	0.83	1.060	17.5
17- 2,	47- 49	419.48	AN	-	-	-	-	-	-	-	-	-	-
17- 2,	47- 49	419.48	BAS	-	19.8	2.40	-	-	-	-	-	-	-
17- 2,	47- 49	419.48	CHE	-	-	-	73.0	-	11	-	-	-	-
17- 2,	47- 49	419.48	SAV	-	-	-	-	-	-	-	-	-	-
18- 1,	43- 45	427.44	AUM	-	-	-	-	-	-	-	-	0.140	-
18- 1,	86- 88	427.87	GUNN	-	-	1.00	79.0	-	41	-	-	-	-
18- 1,	86- 88	427.87	MUCA	-	15.0	3.70	83.0	-	39	0 016	-	0.110	-
19- 1,	10- 19	436.65	AN	-	-	-	-	-	-	-	-	-	-
19- 1,	10- 19	436.65	AUM	-	-	-	-	-	-	-	-	0.160	-
19- 1,	10- 19	436.65	BAS	-	13.6	9.00	-	-	-	-	-	-	-
19- 1,	10- 19	436.65	CHE	-	-	-	51.0	-	10	-	-	-	-
19- 1,	10- 19	436.65	GUNN	-	-	1.00	84.0	-	49	-	-	-	-
19- 1,	10- 19	436.65	SAV	-	-	-	-	-	-	-	-	-	-
19- 1,	24- 26	436.75	AUM	-	-	-	-	-	-	-	-	0.120	-
19- 1,	24- 26	436.75	FW	-	-	2.60	89.0	2	43	-	0.80	0.920	19.2
19- 1,	24- 26	436.75	MUN	-	-	5.00	78.0	-	47	-	-	-	-

TABLE 10D – *Continued*

Zr	Hf	Nb	Ta	Pd	Ir	Pt	Au	Cd	Pb	Sb	F	P	Ga	Sn	Ag	Ge	Yb
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	9.60	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.012	0.045	-	-	-	-	-
61	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
66	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	2.80	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.014	0.045	-	-	-	-	-
59	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
67	1.34	-	0.87	-	-	-	-	43	-	0.64	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.047	0.044	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
53	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	<.001	<.01	<1	9.00	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	<.001	-	<1	1.20	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	<.001	0.03	<1	6.10	-	-	-	-	-	-	-	-	-	-
68	1.09	-	0.94	-	-	-	-	41	-	0.68	-	-	-	-	-	-	-
-	-	-	-	<.001	0.02	<1	35.00	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	7.100	-	<1	3.70	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	1.61	-	0.65	-	-	-	-	57	-	0.50	-	-	-	-	-	-	-
-	-	-	-	-	-	-	2.60	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.056	0.040	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	1.400	0.03	<1	1.00	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	2.40	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.022	0.035	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	1.41	-	0.83	-	-	-	-	57	-	0.67	-	-	-	-	-	-	-
39	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 10D – *Continued*

Sample[a]	Depth (m)	Inv.	B	Li	Rb	Sr	Cs	Ba	Tl	Th	U	Y
19- 1, 75- 78	437.27	AUM	-	-	-	-	-	-	-	-	0.230	-
19- 1, 75- 78	437.27	GUNN	-	-	3.00	137.0	-	62	-	-	-	-
19- 1, 100-103	437.52	AUM	-	-	-	-	-	-	-	-	0.095	-
19- 1, 100-103	437.52	AUM	-	-	-	-	-	-	-	-	0.200	-
19- 1, 100-103	437.52	GUNN	-	-	3.00	87.0	-	45	-	-	-	-
19- 1, 100-103	437.52	GUNN	-	-	6.00	94.0	-	53	-	-	-	-
19- 1, 100-103	437.52	GUNN	-	-	5.00	93.0	-	47	-	-	-	-
19- 1, 104-107	437.56	AN	-	-	-	-	-	-	-	-	-	-
19- 1, 104-107	437.56	BAS	-	11.8	6.50	-	-	-	-	-	-	-
19- 1, 104-107	437.56	CHE	-	-	-	49.0	-	10	-	-	-	-
19- 1, 104-107	437.56	SAV	-	-	-	-	-	-	-	-	-	-
19- 1, 107-110	437.59	BEN	-	-	-	-	-	19	-	0.29	0.11	-
19- 1, 110-113	437.62	AUM	-	-	-	-	-	-	-	-	0.130	-
19- 1, 110-113	437.62	GUNN	-	-	4.00	85.0	-	47	-	-	-	-
19- 1, 110-113	437.62	GUNN	-	-	4.00	85.0	-	47	-	-	-	-
20- 1, 51- 54	446.53	AUM	-	-	-	-	-	-	-	-	0.120	-
20- 1, 51- 54	446.53	AUM	-	-	-	-	-	-	-	-	0.090	-
20- 1, 51- 54	446.53	GUNN	-	-	5.00	91.0	-	42	-	-	-	-
20- 1, 51- 54	446.53	GUNN	-	-	6.00	89.0	-	46	-	-	-	-
20- 1, 91- 95	446.93	FW	-	-	1.70	86.0	-	42	-	-	-	18.3
20- 1, 115-118	447.17	AUM	-	-	-	-	-	-	-	-	0.210	-
20- 2, 6- 8	447.57	AUM	-	-	-	-	-	-	-	-	0.100	-
20- 2, 6- 8	447.57	AUM	-	-	-	-	-	-	-	-	0.065	-
20- 2, 6- 8	447.57	GUNN	-	-	2.00	84.0	-	42	-	-	-	-
20- 2, 6- 8	447.57	GUNN	-	-	2.00	83.0	-	52	-	-	-	-
20- 2, 6- 8	447.57	GUNN	-	-	2.00	85.0	-	63	-	-	-	-
20- 2, 34- 36	447.85	AN	-	-	-	-	-	-	-	-	-	-
20- 2, 34- 36	447.85	BAS	-	22.0	6.00	-	-	-	-	-	-	-
20- 2, 34- 36	447.85	CHE	-	-	-	56.0	-	11	-	-	-	-
20- 2, 34- 36	447.85	SAV	-	-	-	-	-	-	-	-	-	-
20- 2, 80- 82	448.31	AUM	-	-	-	-	-	-	-	-	0.085	-
20- 2, 80- 82	448.31	AUM	-	-	-	-	-	-	-	-	0.130	-
20- 2, 80- 82	448.31	GUNN	-	-	1.00	196.0	-	43	-	-	-	-
20- 2, 80- 82	448.31	GUNN	-	-	2.00	84.0	-	42	-	-	-	-
20- 2, 80- 82	448.31	GUNN	-	-	1.00	83.0	-	46	-	-	-	-
20- 2, 136-138	448.87	AN	-	-	-	-	-	-	-	-	-	-
20- 2, 136-138	448.87	BAS	-	16.0	6.00	-	-	-	-	-	-	-
20- 2, 136-138	448.87	CHE	-	-	-	46.0	-	9	-	-	-	-
20- 2, 136-138	448.87	SAV	-	-	-	-	-	-	-	-	-	-
20- 2, 140-142	448.91	AUM	-	-	-	-	-	-	-	-	0.110	-
20- 2, 140-142	448.91	AUM	-	-	-	-	-	-	-	-	0.110	-
20- 2, 140-142	448.91	GUNN	-	-	3.00	88.0	-	55	-	-	-	-
21- 1, 5- 8	455.57	AN	-	-	-	-	-	-	-	-	-	-
21- 1, 5- 8	455.57	BAS	-	6.0	5.00	-	-	-	-	-	-	-
21- 1, 5- 8	455.57	CHE	-	-	-	44.0	-	44	-	-	-	-
21- 1, 5- 8	455.57	FW	-	-	5.60	68.0	-	44	-	-	-	14.6
21- 1, 5- 8	455.57	SAV	-	-	-	-	-	-	-	-	-	-
21- 1, 5- 8	455.57	TM	35	16.0	-	65.0	-	4	-	-	-	24.0
21- 1, 11- 14	455.63	AUM	-	-	-	-	-	-	-	-	0.071	-
21- 1, 18- 21	455.70	AUM	-	-	-	-	-	-	-	-	0.035	-
21- 1, 18- 21	455.70	GUNN	-	-	3.00	57.0	-	56	-	-	-	-

TABLE 10D – *Continued*

Zr	Hf	Nb	Ta	Pd	Ir	Pt	Au	Cd	Pb	Sb	F	P	Ga	Sn	Ag	Ge	Yb
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	2.30	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.026	0.033	-	-	-	-	-
38	0.9	5.4	-	-	-	-	-	-	0.19	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	3.00	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.018	0.030	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	3.00	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.028	0.028	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	17.50	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.022	0.028	-	-	-	-	-
38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 10D – *Continued*

Sample[a]	Depth (m)	Inv.	B	Li	Rb	Sr	Cs	Ba	Tl	Th	U	Y
21- 1, 27- 30	455.79	BEN	-	-	-	-	-	7.8	-	0.18	0	-
21- 1, 27- 30	455.79	CML	-	-	3.01	62.1	-	-	-	<1.00	0.082	15.0
21- 1, 27- 30	455.79	SAV	-	-	-	-	-	-	-	-	-	-
21- 1, 93- 96	456.45	AUM	-	-	-	-	-	-	-	-	0.070	-
21- 1, 93- 96	456.45	AUM	-	-	-	-	-	-	-	-	0.190	-
21- 1, 93- 96	456.45	GUNN	-	-	2.00	196.0	-	41	-	-	-	-
21- 1, 119-122	456.71	AUM	-	-	-	-	-	-	-	-	0.260	-
21- 1, 119-122	456.71	AUM	-	-	-	-	-	-	-	-	0.240	-
21- 1, 119-122	456.71	GUNN	-	-	3.00	117.0	-	39	-	-	-	-
21- 1, 119-122	456.71	GUNN	-	-	4.00	111.0	-	44	-	-	-	-
21- 1, 119-122	456.71	GUNN	-	-	4.00	111.0	-	39	-	-	-	-
21- 2, 27- 30	457.29	BAS	-	21.0	4.00	-	-	-	-	-	-	-
21- 2, 27- 30	457.29	CHE	-	-	-	58.0	-	30	-	-	-	-
22- 1, 4- 7	465.06	AUM	-	-	-	-	-	-	-	-	0.140	-
22- 1, 4- 7	465.06	AUM	-	-	-	-	-	-	-	-	0.230	-
22- 1, 4- 7	465.06	GUNN	-	-	4.00	67.0	-	50	-	-	-	-
22- 1, 4- 7	465.06	GUNN	-	-	4.00	66.0	-	48	-	-	-	-
22- 1, 77- 80	465.79	AUM	-	-	-	-	-	-	-	-	0.170	-
22- 1, 77- 80	465.79	AUM	-	-	-	-	-	-	-	-	0.100	-
22- 1, 77- 80	465.79	GUNN	-	-	2.00	85.0	-	53	-	-	-	-
22- 1, 77- 80	465.79	GUNN	-	-	1.00	86.0	-	60	-	-	-	-
22- 1, 77- 80	465.79	GUNN	-	-	1.00	87.0	-	60	-	-	-	-
22- 1, 97-107	466.02	AN	-	-	-	-	-	-	-	-	-	-
22- 1, 97-107	466.02	BAS	-	6.0	4.00	-	-	-	-	-	-	-
22- 1, 97-107	466.02	CHE	-	-	-	47.0	-	6	-	-	-	-
22- 1, 97-107	466.02	SAV	-	-	-	-	-	-	-	-	-	-
22- 2, 10- 12	466.61	AUM	-	-	-	-	-	-	-	-	0.530	-
22- 2, 10- 12	466.61	AUM	-	-	-	-	-	-	-	-	1.120	-
22- 2, 10- 12	466.61	GUNN	-	-	7.00	148.0	-	54	-	-	-	-
22- 2, 36- 39	466.88	AUM	-	-	-	-	-	-	-	-	0.140	-
22- 2, 43- 45	466.94	AN	-	-	-	-	-	-	-	-	-	-
22- 2, 43- 45	466.94	AUM	-	-	-	-	-	-	-	-	0.071	-
22- 2, 43- 45	466.94	BAS	-	4.5	4.00	-	-	-	-	-	-	-
22- 2, 43- 45	466.94	CHE	-	-	-	57.0	-	8	-	-	-	-
22- 2, 43- 45	466.94	SAV	-	-	-	-	-	-	-	-	-	-
22- 2, 109-111	467.60	AUM	-	-	-	-	-	-	-	-	0.710	-
22- 2, 109-111	467.60	AUM	-	-	-	-	-	-	-	-	0.220	-
22- 2, 109-111	467.60	GUNN	-	-	5.00	118.0	-	79	-	-	-	-
22- 2, 109-111	467.60	GUNN	-	-	3.00	128.0	-	48	-	-	-	-
22- 3, 3- 5	468.04	AUM	-	-	-	-	-	-	-	-	0.850	-
22- 3, 3- 5	468.04	AUM	-	-	-	-	-	-	-	-	0.840	-
22- 3, 3- 5	468.04	GUNN	-	-	3.90	116.0	-	55	-	-	-	-
22- 3, 3- 5	468.04	GUNN	-	-	4.50	120.0	-	63	-	-	-	-
22- 3, 3- 5	468.04	GUNN	-	-	4.60	120.0	-	69	-	-	-	-
22- 3, 39- 41	468.40	AN	-	-	-	-	-	-	-	-	-	-
22- 3, 39- 41	468.40	BAS	-	4.8	3.00	-	-	-	-	-	-	-
22- 3, 39- 41	468.40	CHE	-	-	-	95.0	-	30	-	-	-	-
22- 3, 39- 41	468.40	SAV	-	-	-	-	-	-	-	-	-	-
22- 3, 47- 53	468.50	TM	<1	3.0	-	62.0	-	3	-	-	-	25.0
22- 3, 126-128	469.27	AUM	-	-	-	-	-	-	-	-	0.660	-
22- 4, 18- 20	469.69	AUM	-	-	-	-	-	-	-	-	1.120	-

TABLE 10D – *Continued*

Zr	Hf	Nb	Ta	Pd	Ir	Pt	Au	Cd	Pb	Sb	F	P	Ga	Sn	Ag	Ge	Yb
18	0.7	2.9	–	–	–	–	–	–	0.24	–	–	–	–	–	–	–	–
26	–	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
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55	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
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TABLE 10D – *Continued*

Sample[a]	Depth (m)	Inv.	B	Li	Rb	Sr	Cs	Ba	Tl	Th	U	Y
22- 4, 18- 20	469.69	BEN	-	-	-	-	-	16	-	0.26	0	-
22- 4, 18- 20	469.69	GUNN	-	-	5.00	137.0	-	56	-	-	-	-
22- 4, 18- 20	469.69	GUNN	-	-	5.90	137.0	-	60	-	-	-	-
22- 4, 22- 24	469.73	AN	-	-	-	-	-	-	-	-	-	-
22- 4, 22- 24	469.73	BAS	-	25.8	4.65	-	-	-	-	-	-	-
22- 4, 22- 24	469.73	CHE	-	-	-	54.0	-	9	-	-	-	-
22- 4, 22- 24	469.73	SAV	-	-	-	-	-	-	-	-	-	-
22- 4, 40- 42	469.91	AUM	-	-	-	-	-	-	-	-	0.160	-
22- 4, 40- 42	469.91	GUNN	-	-	3.60	87.0	-	41	-	-	-	-
22- 4, 98-100	470.49	AUM	-	-	-	-	-	-	-	-	0.160	-
22- 4, 98-100	470.49	AUM	-	-	-	-	-	-	-	-	0.130	-
22- 4, 98-100	470.49	GUNN	-	-	0.00	85.0	-	59	-	-	-	-
22- 4, 98-100	470.49	GUNN	-	-	2.00	93.0	-	44	-	-	-	-
22- 4, 142-149	470.96	AN	-	-	-	-	-	-	-	-	-	-
22- 4, 142-149	470.96	BAS	-	25.5	7.00	-	-	-	-	-	-	-
22- 4, 142-149	470.96	CHE	-	-	-	67.0	-	10	-	-	-	-
22- 4, 142-149	470.96	SAV	-	-	-	-	-	-	-	-	-	-
23- 1, 10- 12	474.61	AUM	-	-	-	-	-	-	-	-	0.075	-
23- 1, 10- 12	474.61	GUNN	-	-	2.30	83.0	-	31	-	-	-	-
23- 1, 15- 17	474.66	GUNN	-	-	3.00	83.0	-	35	-	-	-	-
23- 1, 15- 17	474.66	MUCA	-	7.0	4.60	91.0	-	27	0 037	-	0.088	-
23- 1, 23- 25	474.74	FW	-	-	4.50	88.0	1	46	-	0.77	1.090	20.3
23- 1, 78- 80	475.29	AUM	-	-	-	-	-	-	-	-	0.110	-
23- 1, 78- 80	475.29	CML	-	-	3.00	101.0	-	40	-	-	-	11.0
23- 1, 78- 80	475.29	GUNN	-	-	2.60	87.0	-	-	-	-	-	-
23- 1, 78- 80	475.29	MUN	-	-	6.00	88.0	-	71	-	-	-	-
23- 1, 78 · 80	475.29	MUYA	-	3.3	6.40	100.0	-	42	0 082	-	0.290	-
23- 1, 97-100	475.49	AUM	-	-	-	-	-	-	-	-	0.320	-
23- 1, 97-100	475.49	GUNN	-	-	5.80	114.0	-	81	-	-	-	-
23- 1, 100-102	475.51	AN	-	-	-	-	-	-	-	-	-	-
23- 1, 100-102	475.51	BAS	-	9.0	7.00	-	-	-	-	-	-	-
23- 1, 100-102	475.51	CHE	-	-	-	45.0	-	9	-	-	-	-
23- 1, 100-102	475.51	SAV	-	-	-	-	-	-	-	-	-	-
23- 1, 101-103	475.52	AUM	-	-	-	-	-	-	-	-	0.170	-
23- 1, 101-103	475.52	GUNN	-	-	3.50	81.0	-	-	-	-	-	-
23- 1, 101-103	475.52	GUNN	-	-	0.00	112.0	-	71	-	-	-	-
23- 2, 39- 45	476.42	AUM	-	-	-	-	-	-	-	-	0.270	-
23- 2, 81- 83	476.82	AUM	-	-	-	-	-	-	-	-	0.220	-
23- 2, 81- 83	476.82	AUM	-	-	-	-	-	-	-	-	0.210	-
23- 2, 81- 83	476.82	GUNN	-	-	2.90	97.0	-	66	-	-	-	-
23- 2, 81- 83	476.82	MUN	-	-	5.00	87.0	-	58	-	-	-	-
23- 3, 4- 6	477.55	AUM	-	-	-	-	-	-	-	-	0.110	-
23- 3, 4- 6	477.55	AUM	-	-	-	-	-	-	-	-	0.090	-
23- 3, 4- 6	477.55	GUNN	-	-	0.00	83.0	-	55	-	-	-	-
23- 3, 25- 27	477.76	AUM	-	-	-	-	-	-	-	-	0.110	-
23- 3, 32- 34	477.83	AUM	-	-	-	-	-	-	-	-	0.110	-
23- 3, 32- 34	477.83	GUNN	-	-	0.30	85.0	-	30	-	-	-	-
23- 3, 32- 34	477.83	GUNN	-	-	1.50	85.0	-	28	-	-	-	-
23- 3, 83- 85	478.34	TM	23	9.0	-	92.0	-	9	-	-	-	30.0
23- 3, 106-108	478.57	TM	21	11.0	-	165.0	-	24	-	-	-	29.0
23- 3, 144-146	478.95	AUM	-	-	-	-	-	-	-	-	0.110	-

TABLE 10D – *Continued*

Zr	Hf	Nb	Ta	Pd	Ir	Pt	Au	Cd	Pb	Sb	F	P	Ga	Sn	Ag	Ge	Yb
36	1.0	4.1	-	-	-	-	-	-	.10	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	7.50	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.018	0.030	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	4.40	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.018	0.034	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	0.550	<.01	<1	1.40	-	-	-	-	-	-	-	-	-	-
46	1.06	-	0.81	-	-	-	-	47	-	0.64	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	3.90	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.015	0.030	-	-	-	-	-
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42	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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TABLE 10D – *Continued*

Sample[a]	Depth (m)	Inv.	B	Li	Rb	Sr	Cs	Ba	Tl	Th	U	Y
23- 3, 144-146	478.95	GUNN	-	-	3.80	85.0	-	35	-	-	-	-
23- 3, 144-146	478.95	GUNN	-	-	3.20	89.0	-	76	-	-	-	-
24- 1, 70- 72	484.71	AUM	-	-	-	-	-	-	-	-	0.080	-
24- 1, 70- 72	484.71	FW	-	-	1.30	85.0	2	42	-	0.79	1.490	20.3
24- 1, 94- 96	484.95	AUM	-	-	-	-	-	-	-	-	0.330	-
24- 1, 94- 96	484.95	AUM	-	-	-	-	-	-	-	-	0.170	-
24- 1, 94- 96	484.95	GUNN	-	-	2.90	96.0	-	56	-	-	-	-
24- 2, 88- 90	486.39	AN	-	-	-	-	-	-	-	-	-	-
24- 2, 88- 90	486.39	AUM	-	-	-	-	-	-	-	-	0.086	-
24- 2, 88- 90	486.39	BAS	-	8.0	4.50	-	-	-	-	-	-	-
24- 2, 88- 90	486.39	CHE	-	-	-	49.0	-	8	-	-	-	-
24- 2, 88- 90	486.39	GUNN	-	-	2.50	81.0	-	33	-	-	-	-
24- 2, 88- 90	486.39	SAV	-	-	-	-	-	-	-	-	-	-
25- 1, 106-113	494.60	FW	-	-	2.60	87.0	3	40	-	0.84	1.080	20.4
25- 2, 77- 79	495.78	GSC	5	31	6	89	0.3	26	-	-	-	10
25- 2, 91- 93	495.92	GSC	5	38	6	92	0.2	27	-	-	-	10
25- 2, 97-	495.97	GUNN	-	-	5.20	94.0	-	38	-	-	-	-
25- 2, 97-	495.97	MUYA	-	22.0	4.60	101.0	-	50	0 019	-	0.140	-
25- 2, 119-121	496.20	AN	-	-	-	-	-	-	-	-	-	-
25- 2, 119-121	496.20	BAS	-	10.0	7.00	-	-	-	-	-	-	-
25- 2, 119-121	496.20	CHE	-	-	-	59.0	-	15	-	-	-	-
25- 2, 119-121	496.20	SAV	-	-	-	-	-	-	-	-	-	-
25- 2, 127-129	496.28	GSC	5	21	4	130	0.2	28	-	-	-	10
25- 3, 12-	496.62	GSC	5	32	4	89	0.2	25	-	-	-	10
25- 3, 12- 13	496.63	TM	15	24.0	-	80.0	-	17	-	-	-	24.0
25- 3, 83- 85	497.34	GSC	5	12	6	120	0.3	27	-	-	-	10
25- 3, 83- 85	497.34	GSC	5	32	3	100	0.1	25	-	-	-	10
25- 3, 116-118	497.67	GSC	5	10	4	190	0.2	29	-	-	-	10
25- 3, 128-130	497.79	AUM	-	-	-	-	-	-	-	-	0.160	-
25- 4, 6- 10	498.08	FW	-	-	4.00	90.0	2	45	-	0.84	0.820	19.0
25- 4, 19- 21	498.20	GSC	5	28	3	100	0.3	26	-	-	-	10
25- 4, 19- 21	498.20	GSC	5	14	5	100	0.2	26	-	-	-	10
25- 4, 19- 21	498.20	TM	12	26.0	-	60.0	-	10	-	-	-	25.0
25- 4, 51- 53	498.52	GSC	5	20	3	100	0.4	23	-	-	-	10
26- 1, 99-101	504.00	AUM	-	-	-	-	-	-	-	-	0.083	-
26- 1, 99-101	504.00	GUNN	-	-	1.00	93.0	-	77	-	-	-	-
27- 1, 42- 44	512.93	AUM	-	-	-	-	-	-	-	-	0.150	-
27- 1, 102-104	513.53	AUM	-	-	-	-	-	-	-	-	0.290	-
27- 1, 102-104	513.53	GUNN	-	-	5.10	116.0	-	150	-	-	-	-
27- 2, 10- 12	514.11	AUM	-	-	-	-	-	-	-	-	0.220	-
27- 2, 10- 12	514.11	GUNN	-	-	6.70	110.0	-	82	-	-	-	-
27- 2, 30- 32	514.31	AUM	-	-	-	-	-	-	-	-	0.260	-
27- 2, 30- 32	514.31	GUNN	-	-	6.20	108.0	-	97	-	-	-	-
27- 2, 56- 58	514.57	CML	-	-	4.00	146.0	-	-	-	-	-	21.0
27- 2, 56- 58	514.57	CML	-	-	4.00	124.0	-	-	-	0.40	0.252	27.0
27- 2, 76- 78	514.77	TM	<1	4.0	-	98.0	-	38	-	-	-	32.0
27- 2, 80- 82	514.81	AN	-	-	-	-	-	-	-	-	-	-
27- 2, 80- 82	514.81	BAS	-	6.0	4.00	-	-	-	-	-	-	-
27- 2, 80- 82	514.81	CHE	-	-	-	96.0	-	26	-	-	-	-
27- 2, 80- 82	514.81	SAV	-	-	-	-	-	-	-	-	-	-
27- 2, 84- 86	514.85	AUM	-	-	-	-	-	-	-	-	0.160	-

TABLE 10D – *Continued*

Zr	Hf	Nb	Ta	Pd	Ir	Pt	Au	Cd	Pb	Sb	F	P	Ga	Sn	Ag	Ge	Yb
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49	0.70	–	0.60	–	–	–	–	49	–	0.77	–	–	–	–	–	–	–
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–	–	–	–	–	–	–	–	–	–	–	0.012	0.033	–	–	–	–	–
47	0.77	–	0.92	–	–	–	–	58	–	0.75	–	–	–	–	–	–	–
35	–	–	–	–	–	–	–	–	0.25	–	–	–	12	0.87	0.025	0.35	2
35	–	–	–	–	–	–	–	–	0.25	–	–	–	12	0.87	0.025	0.35	2
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–	–	–	–	–	–	–	–	–	–	–	0.021	0.034	–	–	–	–	–
35	–	–	–	–	–	–	–	–	0.25	–	–	–	11	0.51	0.025	0.35	2
35	–	–	–	–	–	–	–	–	5.0	–	–	–	10	0.65	0.025	0.35	2
55	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
35	–	–	–	–	–	–	–	–	0.25	–	–	–	9	0.25	0.060	0.35	2
35	–	–	–	–	–	–	–	–	0.25	–	–	–	11	0.63	0.025	0.35	2
35	–	–	–	–	–	–	–	–	0.25	–	–	–	0.3	0.25	0.025	0.35	2
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
43	0.75	–	0.87	–	–	–	–	55	–	0.69	–	–	–	–	–	–	–
35	–	–	–	–	–	–	–	–	0.25	–	–	–	8.3	0.58	0.025	0.35	2
35	–	–	–	–	–	–	–	–	0.25	–	–	–	7.7	0.50	0.025	0.35	2
50	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
35	–	–	–	–	–	–	–	–	0.25	–	–	–	14	0.87	0.025	0.35	2
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
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62	–	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
66	–	7	–	–	–	–	–	–	0.74	–	–	–	–	–	–	–	–
80	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	4.30	–	–	–	–	–	–	–	–	–	–
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–	–	–	–	–	–	–	–	–	–	–	0.033	0.041	–	–	–	–	–
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TABLE 10D – *Continued*

Sample[a]		Depth (m)	Inv.	B	Li	Rb	Sr	Cs	Ba	Tl	Th	U	Y
27- 2,	84- 86	514.85	FW	-	-	2.50	128.0	-	87	-	-	-	27.1
27- 2,	84- 86	514.85	GUNN	-	-	9.60	115.0	-	75	-	-	-	-
27- 2,	84- 86	514.85	GUNN	-	-	9.80	110.0	-	76	-	-	-	-
28- 1,	93- 95	522.94	AN	-	-	-	-	-	-	-	-	-	-
28- 1,	93- 95	522.94	BAS	-	7.0	3.00	-	-	-	-	-	-	-
28- 1,	93- 95	522.94	CHE	-	-	-	86.0	-	21	-	-	-	-
28- 1,	93- 95	522.94	SAV	-	-	-	-	-	-	-	-	-	-
28- 2,	3- 6	523.55	AUM	-	-	-	-	-	-	-	-	0.180	-
29- 1,	58- 61	532.10	AUM	-	-	-	-	-	-	-	-	0.220	-
29- 1,	63- 66	532.15	AUM	-	-	-	-	-	-	-	-	0.110	-
29- 1,	63- 66	532.15	GUNN	-	-	4.00	74.0	-	67	-	-	-	-
29- 1,	74- 77	532.26	TM	<1	19.0	-	100.0	-	12	-	-	-	12.0
29- 1,	106-109	532.58	AUM	-	-	-	-	-	-	-	-	0.140	-
29- 1,	106-109	532.58	GUNN	-	-	3.50	78.0	-	79	-	-	-	-
29- 1,	106-109	532.58	GUNN	-	-	3.70	77.0	-	82	-	-	-	-
29- 2,	9- 12	533.10	AN	-	-	-	-	-	-	-	-	-	-
29- 2,	9- 12	533.10	BAS	-	20.0	2.00	-	-	-	-	-	-	-
29- 2,	9- 12	533.10	CHE	-	-	-	38.0	-	12	-	-	-	-
29- 2,	9- 12	533.10	SAV	-	-	-	-	-	-	-	-	-	-
29- 2,	14- 17	533.16	FW	-	-	5.10	84.0	2	43	-	0.58	1.190	16.5
29- 2,	57- 60	533.59	TM	20	11.0	-	60.0	-	3	-	-	-	28.0
30- 1,	46- 48	541.47	AUM	-	-	-	-	-	-	-	-	0.310	-
30- 1,	73- 76	541.74	AUM	-	-	-	-	-	-	-	-	0.210	-
30- 1,	105-107	542.06	AUM	-	-	-	-	-	-	-	-	0.190	-
30- 1,	106-109	542.08	AUM	-	-	-	-	-	-	-	-	0.180	-
30- 1,	106-109	542.08	GUNN	-	-	5.00	122.0	-	72	-	-	-	-
30- 1,	119-121	542.20	AN	-	-	-	-	-	-	-	-	-	-
30- 1,	119-121	542.20	BAS	-	5.0	2.00	-	-	-	-	-	-	-
30- 1,	119-121	542.20	CHE	-	-	-	67.0	-	18	-	-	-	-
30- 1,	119-121	542.20	SAV	-	-	-	-	-	-	-	-	-	-
30- 2,	17- 19	542.68	AN	-	-	-	-	-	-	-	-	-	-
30- 2,	17- 19	542.68	BAS	-	6.0	11.00	-	-	-	-	-	-	-
30- 2,	17- 19	542.68	CHE	-	-	-	95.0	-	34	-	-	-	-
30- 2,	17- 19	542.68	SAV	-	-	-	-	-	-	-	-	-	-
30- 2,	28- 30	542.79	AUM	-	-	-	-	-	-	-	-	0.190	-
30- 2,	28- 30	542.79	GUNN	-	-	6.00	120.0	-	77	-	-	-	-
31- 1,	116-119	551.67	FW	-	-	5.20	106.0	-	80	-	-	-	24.3
32- 1,	10- 13	560.12	AN	-	-	-	-	-	-	-	-	-	-
32- 1,	10- 13	560.12	BAS	-	5.6	5.00	-	-	-	-	-	-	-
32- 1,	10- 13	560.12	CHE	-	-	-	96.0	-	20	-	-	-	-
32- 1,	10- 13	560.12	SAV	-	-	-	-	-	-	-	-	-	-
32- 1,	27- 30	560.28	AUM	-	-	-	-	-	-	-	-	0.200	-
32- 1,	74- 77	560.76	AN	-	-	-	-	-	-	-	-	-	-
32- 1,	74- 77	560.76	BAS	-	6.6	5.00	-	-	-	-	-	-	-
32- 1,	74- 77	560.76	CHE	-	-	-	115.0	-	19	-	-	-	-
32- 1,	74- 77	560.76	SAV	-	-	-	-	-	-	-	-	-	-
32- 1,	113-116	561.15	AUM	-	-	-	-	-	-	-	-	0.180	-
33- 1,	5- 8	569.57	AUM	-	-	-	-	-	-	-	-	0.210	-
33- 1,	82- 85	570.34	AN	-	-	-	-	-	-	-	-	-	-
33- 1,	82- 85	570.34	BAS	-	8.4	4.00	-	-	-	-	-	-	-
33- 1,	82- 85	570.34	CHE	-	-	-	87.0	-	12	-	-	-	-

TABLE 10D – *Continued*

Zr	Hf	Nb	Ta	Pd	Ir	Pt	Au	Cd	Pb	Sb	F	P	Ga	Sn	Ag	Ge	Yb
73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	1.30	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.028	0.047	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	3.00	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.012	0.026	-	-	-	-	-
35	1.08	-	0.59	-	-	-	-	50	-	0.67	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	2.60	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.026	0.050	-	-	-	-	-
-	-	-	-	-	-	-	3.60	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.018	0.045	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	3.10	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.020	0.044	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	4.60	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.018	0.036	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	18.20	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 10D – *Continued*

Sample[a]	Depth (m)	Inv.	B	Li	Rb	Sr	Cs	Ba	Tl	Th	U	Y
33- 1, 82- 85	570.34	SAV	-	-	-	-	-	-	-	-	-	-
33- 1, 95- 98	570.47	GUNN	-	-	3.70	128.0	-	61	-	-	-	-
33- 1, 95- 98	570.47	MUCA	-	7.0	1.80	132.0	-	61	0 008	-	0.170	-
33- 1, 100-103	570.52	MUN	-	-	6.00	121.0	-	79	-	-	-	-
33- 2, 27- 30	571.28	AUM	-	-	-	-	-	-	-	-	0.140	-
33- 2, 66- 69	571.67	FW	-	-	5.10	145.0	-	75	-	-	-	23.0
33- 2, 77- 80	571.78	AUM	-	-	-	-	-	-	-	-	0.210	-
33- 2, 77- 80	571.78	CML	-	-	3.00	138.0	-	52	-	-	-	27.0
33- 2, 85- 88	571.87	GSC	5	5	16	140	1.4	35	-	-	-	21
33- 3, 11- 14	572.63	MUN	-	-	4.00	133.0	-	38	-	-	-	-
33- 3, 22- 25	572.74	SCT	-	-	-	-	-	-	-	-	-	-
34- 1, 45- 48	579.47	AUM	-	-	-	-	-	-	-	-	0.320	-
34- 1, 119-122	580.21	GUNN	-	-	4.80	114.0	-	50	-	-	-	-
34- 1, 119-122	580.21	AUM	-	-	-	-	-	-	-	-	0.190	-
34- 1, 129-132	580.31	AUM	-	-	-	-	-	-	-	-	0.190	-
34- 2, 0- 3	580.52	AN	-	-	-	-	-	-	-	-	-	-
34- 2, 0- 3	580.52	BAS	-	15.0	3.00	-	-	-	-	-	-	-
34- 2, 0- 3	580.52	CHE	-	-	-	96.0	-	10	-	-	-	-
34- 2, 0- 3	580.52	SAV	-	-	-	-	-	-	-	-	-	-
34- 2, 53- 60	581.07	FW	-	-	2.20	123.0	-	64	-	-	-	21.6
35- 1, 4- 7	588.56	GSC	5	7	4	110	0.1	17	-	-	-	21
35- 1, 15- 18	588.67	GUNN	-	-	2.20	106.0	-	37	-	-	-	-
35- 1, 15- 18	588.67	AUM	-	-	-	-	-	-	-	-	0.083	-
35- 1, 25- 28	588.77	AUM	-	-	-	-	-	-	-	-	0.082	-
35- 1, 25- 28	588.77	GUNN	-	-	3.00	97.0	-	40	-	-	-	-
35- 1, 33- 36	588.85	FW	-	-	5.60	164.0	-	31	-	-	-	14.1
35- 1, 46- 49	588.98	GSC	5	11	4	130	0.1	7.8	-	-	-	21
35- 1, 77- 80	589.28	DUR	-	-	-	-	-	-	-	-	-	-
35- 1, 78- 80	589.29	POP	-	9.5	1.60	480.0	-	22	-	-	-	-
35- 1, 104-107	589.56	GSC	5	16	2	69	0.3	15	-	-	-	21
35- 1, 130-133	589.82	AN	-	-	-	-	-	-	-	-	-	-
35- 1, 130-133	589.82	BAS	-	11.2	3.10	-	-	-	-	-	-	-
35- 1, 130-133	589.82	CHE	-	-	-	60.0	-	10	-	-	-	-
35- 1, 130-133	589.82	SAV	-	-	-	-	-	-	-	-	-	-
35- 1, 136-139	589.88	GSC	5	6	4	72	0.8	8.4	-	-	-	21
35- 2, 33- 36	590.35	GSC	5	10	3	75	0.3	15	-	-	-	21
35- 2, 51- 58	590.55	GUNN	-	-	3.00	73.0	-	33	-	-	-	-
35- 2, 51- 58	590.55	TM	18	11.0	-	50.0	-	2	-	-	-	25.0
35- 2, 62- 65	590.64	TM	20	8.0	-	53.0	-	3	-	-	-	27.0
35- 2, 87- 90	590.89	AN	-	-	-	-	-	-	-	-	-	-
35- 2, 87- 90	590.89	BAS	-	9.2	3.00	-	-	-	-	-	-	-
35- 2, 87- 90	590.89	CHE	-	-	-	23.0	-	10	-	-	-	-
35- 2, 87- 90	590.89	FW	-	-	0.90	63.0	-	26	-	-	-	12.5
35- 2, 87- 90	590.89	SAV	-	-	-	-	-	-	-	-	-	-
35- 2, 91- 94	590.92	GSC	5	16	2	60	0.4	12	-	-	-	21
35- 2, 105-108	591.07	CML	-	-	3.42	85.8	-	-	-	<1.00	0.126	16.0
35- 2, 105-108	591.07	CML	-	-	4.00	99.0	-	-	-	-	-	11.0
35- 2, 114-117	591.16	CML	-	-	4.00	100.0	-	21	-	-	-	19.0
35- 2, 114-117	591.16	GUNN	-	-	3.00	90.0	-	35	-	-	-	-
35- 2, 114-117	591.16	MUCA	-	13.0	5.50	94.0	-	39	< 001	-	0.150	-
35- 2, 114-117	591.16	MUN	-	-	7.00	97.0	-	46	-	-	-	-

TABLE 10D – *Continued*

Zr	Hf	Nb	Ta	Pd	Ir	Pt	Au	Cd	Pb	Sb	F	P	Ga	Sn	Ag	Ge	Yb
-	-	-	-	-	-	-	-	-	-	-	0.022	0.037	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	0.270	-	<1	2.00	-	-	-	-	-	-	-	-	-	-
49	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
57	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
110	-	-	-	-	-	-	-	-	0.25	-	-	-	8.9	1.0	0.025	0.35	2
38	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	15.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	3.80	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.022	0.020	-	-	-	-	-
60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	0.25	-	-	-	9.3	0.55	0.025	0.35	2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	0.25	-	-	-	6.7	0.60	0.025	0.35	2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	<.01	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	0.25	-	-	-	7.2	0.58	0.025	0.35	2
-	-	-	-	-	-	-	6.10	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.020	0.017	-	-	-	-	-
35	-	-	-	-	-	-	-	-	0.25	-	-	-	6.5	0.89	0.025	0.35	2
35	-	-	-	-	-	-	-	-	0.25	-	-	-	5.1	0.53	0.025	0.35	2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	8.60	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.010	0.015	-	-	-	-	-
35	-	-	-	-	-	-	-	-	0.25	-	-	-	8.0	0.80	0.025	0.35	2
22	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	1.900	0.04	<1	2.70	-	-	-	-	-	-	-	-	-	-
38	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 10D – *Continued*

Sample[a]	Depth (m)	Inv.	B	Li	Rb	Sr	Cs	Ba	Tl	Th	U	Y
35- 3, 21- 24	591.73	CHE	-	-	-	68.0	-	40	-	-	-	-
35- 3, 21- 24	591.73	DUR	-	-	-	-	-	-	-	-	-	-
35- 3, 21- 24	591.73	POP	-	7.5	1.90	100.0	-	20	-	-	-	-
35- 3, 28- 31	591.80	GSC	5	6	4	94	0.4	12	-	-	-	21
35- 3, 41- 44	591.92	AN	-	-	-	-	-	-	-	-	-	-
35- 3, 41- 44	591.92	BAS	-	10.0	4.00	-	-	-	-	-	-	-
35- 3, 41- 44	591.92	CHE	-	-	-	71.0	-	11	-	-	-	-
35- 3, 41- 44	591.92	SAV	-	-	-	-	-	-	-	-	-	-
35- 3, 61- 64	592.13	CML	-	-	6.00	101.0	-	10	-	-	-	17.0
35- 3, 61- 64	592.13	GUNN	-	-	4.00	90.0	-	63	-	-	-	-
35- 3, 61- 64	592.13	MUN	-	-	8.00	85.0	-	59	-	-	-	-
35- 3, 61- 64	592.13	MUYA	-	6.5	7.30	90.0	-	47	0 050	-	0.047	-
35- 3, 69- 72	592.21	AUM	-	-	-	-	-	-	-	-	0.051	-
35- 3, 81- 84	592.33	GSC	5	6	3	110	0.4	26	-	-	-	21
35- 3, 91- 95	592.43	FW	-	-	5.30	100.0	2	72	-	0.84	1.540	24.7
35- 4, 31- 33	593.32	AN	-	-	-	-	-	-	-	-	-	-
35- 4, 31- 33	593.32	BAS	-	4.0	7.40	-	-	-	-	-	-	-
35- 4, 31- 33	593.32	CHE	-	-	-	99.0	-	8	-	-	-	-
35- 4, 31- 33	593.32	SAV	-	-	-	-	-	-	-	-	-	-
36- 1, 6- 8	598.07	AUM	-	-	-	-	-	-	-	-	0.077	-
36- 2, 3- 12	599.58	AN	-	-	-	-	-	-	-	-	-	-
36- 2, 3- 12	599.58	BAS	-	7.0	3.00	-	-	-	-	-	-	-
36- 2, 3- 12	599.58	CHE	-	-	-	79.0	-	7	-	-	-	-
36- 2, 3- 12	599.58	SAV	-	-	-	-	-	-	-	-	-	-
36- 2, 81- 83	600.32	TM	10	5.0	-	105.0	-	8	-	-	-	23.0
36- 2, 85- 87	600.36	FW	-	-	1.80	143.0	-	30	-	-	-	16.7
36- 2, 90-100	600.45	AN	-	-	-	-	-	-	-	-	-	-
36- 2, 90-100	600.45	BAS	-	7.0	6.00	-	-	-	-	-	-	-
36- 2, 90-100	600.45	CHE	-	-	-	100.0	-	29	-	-	-	-
36- 2, 90-100	600.45	SAV	-	-	-	-	-	-	-	-	-	-
36- 3, 4- 6	601.05	AUM	-	-	-	-	-	-	-	-	0.080	-
36- 3, 4- 6	601.05	GUNN	-	-	2.00	113.0	-	38	-	-	-	-
36- 3, 11- 13	601.12	AN	-	-	-	-	-	-	-	-	-	-
36- 3, 11- 13	601.12	BAS	-	7.5	5.00	-	-	-	-	-	-	-
36- 3, 11- 13	601.12	CHE	-	-	-	77.0	-	8	-	-	-	-
36- 3, 11- 13	601.12	SAV	-	-	-	-	-	-	-	-	-	-
36- 3, 46- 48	601.47	AUM	-	-	-	-	-	-	-	-	0.100	-
36- 3, 105-113	602.09	TM	<1	4.0	-	140.0	-	8	-	-	-	19.0
36- 3, 138-140	602.39	AN	-	-	-	-	-	-	-	-	-	-
36- 3, 138-140	602.39	BAS	-	7.2	5.00	-	-	-	-	-	-	-
36- 3, 138-140	602.39	CHE	-	-	-	69.0	-	8	-	-	-	-
36- 3, 138-140	602.39	SAV	-	-	-	-	-	-	-	-	-	-
36- 4, 67- 69	603.18	AUM	-	-	-	-	-	-	-	-	0.210	-
36- 4, 67- 69	603.18	GUNN	-	-	3.00	86.0	-	57	-	-	-	-
36- 4, 67- 69	603.18	GUNN	-	-	3.00	86.0	-	58	-	-	-	-
36- 4, 99-101	603.50	CML	-	-	5.00	93.0	-	17	-	-	-	19.0
36- 4, 99-101	603.50	GUNN	-	-	4.00	81.0	-	57	-	-	-	-
36- 4, 99-101	603.50	MUN	-	-	6.00	73.0	-	97	-	-	-	-
36- 4, 99-101	603.50	MUYA	-	5.1	8.20	93.0	-	<1	0 056	-	0.064	-
36- 5, 5- 7	604.06	TM	48	23.0	-	245.0	-	8	-	-	-	26.0
36- 5, 5- 7	604.06	TM	12	13.0	-	2500.0	-	20	-	-	-	-

TABLE 10D – *Continued*

Zr	Hf	Nb	Ta	Pd	Ir	Pt	Au	Cd	Pb	Sb	F	P	Ga	Sn	Ag	Ge	Yb
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	0.25	-	-	-	8.4	0.56	0.025	0.35	2
-	-	-	-	-	-	-	8.60	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.020	0.017	-	-	-	-	-
29	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	0.25	-	-	-	11	0.85	0.025	0.35	2
59	1.33	-	0.91	-	-	-	-	57	-	0.70	-	-	-	-	-	-	-
-	-	-	-	-	-	-	2.20	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.022	0.020	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	2.40	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.035	0.018	-	-	-	-	-
38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	2.80	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.026	0.018	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	3.30	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.026	0.026	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	6.65	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.01	0.022	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 10D – *Continued*

Sample[a]		Depth (m)	Inv.	B	Li	Rb	Sr	Cs	Ba	Tl	Th	U	Y
36- 5,	22- 26	604.24	AUM	-	-	-	-	-	-	-	-	0.150	-
36- 5,	60- 62	604.61	AN	-	-	-	-	-	-	-	-	-	-
36- 5,	60- 62	604.61	BAS	-	13.2	5.00	-	-	-	-	-	-	-
36- 5,	60- 62	604.61	CHE	-	-	-	60.0	-	9	-	-	-	-
36- 5,	60- 62	604.61	SAV	-	-	-	-	-	-	-	-	-	-
36- 5,	72- 74	604.73	FW	-	-	2.00	94.0	2	24	-	0.58	1.130	14.6
36- 6,	4- 5	605.55	SCT	-	-	-	-	-	-	-	-	-	-
36- 6,	52- 54	606.03	AN	-	-	-	-	-	-	-	-	-	-
36- 6,	52- 54	606.03	BAS	-	6.0	6.00	-	-	-	-	-	-	-
36- 6,	52- 54	606.03	CHE	-	-	-	82.0	-	27	-	-	-	-
36- 6,	52- 54	606.03	SAV	-	-	-	-	-	-	-	-	-	-
36- 6,	58- 60	606.09	FW	-	-	0.70	106.0	-	30	-	-	-	15.4
37- 1,	78- 80	608.29	CML	-	-	2.00	106.0	-	23	-	-	-	16.0
37- 1,	78- 80	608.29	GUNN	-	-	2.00	89.0	-	51	-	-	-	-
37- 1,	78- 80	608.29	MUCA	-	7.0	7.30	110.0	-	<1	0 024	-	-	-
37- 1,	78- 80	608.29	MUN	-	-	1.00	85.0	-	28	-	-	-	-
37- 1,	113-115	608.64	AUM	-	-	-	-	-	-	-	-	0.130	-
37- 2,	12- 14	609.13	DUR	-	-	-	-	-	-	-	-	-	-
37- 2,	12- 14	609.13	POP	-	11.0	1.60	91.0	-	21	-	-	-	-
37- 2,	34- 36	609.35	FW	-	-	2.70	92.0	-	31	-	-	-	16.3
37- 2,	72- 74	609.73	SCT	-	-	-	-	-	-	-	-	-	-
37- 2,	72- 74	609.73	TM	<1	6.0	-	92.0	-	9	-	-	-	19.0
37- 2,	72- 74	609.73	TM	24	9.0	-	68.0	-	5	-	-	-	18.0
37- 3,	2- 5	610.53	BAS	-	14.0	4.70	-	-	-	-	-	-	-
37- 3,	2- 5	610.53	CHE	-	-	-	57.0	-	38	-	-	-	-
37- 3,	2- 5	610.53	DUR	-	-	-	-	-	-	-	-	-	-
37- 3,	2- 5	610.53	POP	-	11.5	4.60	80.0	-	26	-	-	-	-
37- 3,	11- 13	610.62	TM	20	7.0	-	48.0	-	8	-	-	-	19.0
37- 3,	23- 25	610.74	AUM	-	-	-	-	-	-	-	-	0.070	-
37- 3,	23- 25	610.74	AUM	-	-	-	-	-	-	-	-	0.200	-
37- 3,	23- 25	610.74	MUN	-	-	2.00	72.0	-	44	-	-	-	-
37- 3,	28- 29	610.78	MUYA	-	10.0	5.50	93.0	-	27	0 066	-	-	-
37- 3,	50- 52	611.01	FW	-	-	2.90	81.0	3	42	-	0.89	0.830	17.8
39- 1,	2- 5	626.53	AUM	-	-	-	-	-	-	-	-	0.110	-
40- 1,	30- 32	636.31	CML	-	-	10.00	122.0	-	72	-	-	-	25.0
40- 1,	30- 32	636.31	GUNN	-	-	6.00	101.0	-	66	-	-	-	-
40- 1,	30- 32	636.31	MUCA	-	7.9	9.10	127.0	-	<1	0 047	-	-	-
40- 1,	30- 32	636.31	MUN	-	-	8.00	101.0	-	75	-	-	-	-
40- 1,	34- 36	636.35	AUM	-	-	-	-	-	-	-	-	0.230	-
40- 1,	34- 36	636.35	AUM	-	-	-	-	-	-	-	-	0.350	-
40- 1,	73- 75	636.74	AN	-	-	-	-	-	-	-	-	-	-
40- 1,	73- 75	636.74	BAS	-	14.0	9.00	-	-	-	-	-	-	-
40- 1,	73- 75	636.74	CHE	-	-	-	94.0	-	60	-	-	-	-
40- 1,	73- 75	636.74	SAV	-	-	-	-	-	-	-	-	-	-
40- 2,	40- 42	637.91	DUR	-	-	-	-	-	-	-	-	-	-
40- 2,	40- 42	637.91	POP	-	4.0	1.30	150.0	-	28	-	-	-	-
40- 2,	64- 66	638.15	FW	-	-	6.90	115.0	-	56	-	-	-	23.6
40- 2,	93- 95	638.44	AUM	-	-	-	-	-	-	-	-	0.140	-
40- 2,	93- 95	638.44	AUM	-	-	-	-	-	-	-	-	0.180	-
40- 2,	93- 95	638.44	GUNN	-	-	1.00	106.0	-	53	-	-	-	-
40- 2,	93- 95	638.44	MUN	-	-	3.00	95.0	-	86	-	-	-	-

TABLE 10D – *Continued*

Zr	Hf	Nb	Ta	Pd	Ir	Pt	Au	Cd	Pb	Sb	F	P	Ga	Sn	Ag	Ge	Yb
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	2.90	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.010	0.026	-	-	-	-	-
37	0.67	-	0.56	-	-	-	-	40	-	0.62	-	-	-	-	-	-	-
-	22.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	1.70	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.010	0.018	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	<.001	<.01	<1	2.40	-	-	-	-	-	-	-	-	-	-
36	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	18.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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33	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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36	1.23	-	0.87	-	-	-	-	55	-	0.46	-	-	-	-	-	-	-
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53	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	<.001	<.01	<1	5.00	-	-	-	-	-	-	-	-	-	-
52	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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50	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 10D – *Continued*

Sample[a]	Depth (m)	Inv.	B	Li	Rb	Sr	Cs	Ba	Tl	Th	U	Y
40- 2, 97- 99	638.48	AUM	-	-	-	-	-	-	-	-	0.240	-
40- 2, 97- 99	638.48	GUNN	-	-	5.00	105.0	-	58	-	-	-	-
40- 2, 97- 99	638.48	GUNN	-	-	7.00	105.0	-	59	-	-	-	-
41- 1, 106-108	646.57	FW	-	-	4.20	106.0	-	59	-	-	-	23.7
41- 1, 110-112	646.61	AUM	-	-	-	-	-	-	-	-	0.180	-
41- 1, 115-117	646.66	AUM	-	-	-	-	-	-	-	-	0.120	-
41- 1, 115-117	646.66	GUNN	-	-	8.00	96.0	-	80	-	-	-	-
41- 1, 115-117	646.66	GUNN	-	-	7.00	96.0	-	76	-	-	-	-
41- 2, 17- 19	647.18	FW	-	-	4.70	93.0	-	55	-	-	-	26.1
41- 2, 38- 40	647.39	AUM	-	-	-	-	-	-	-	-	0.130	-
41- 2, 38- 40	647.39	GUNN	-	-	5.00	97.0	-	58	-	-	-	-
41- 2, 38- 40	647.39	GUNN	-	-	4.00	98.0	-	55	-	-	-	-
41- 2, 42- 44	647.43	AUM	-	-	-	-	-	-	-	-	0.100	-
41- 2, 42- 44	647.43	GUNN	-	-	3.00	13.0	-	50	-	-	-	-
42- , 67- 69	655.68	BAS	-	7.0	3.00	-	-	-	-	-	-	-
42- , 67- 69	655.68	CHE	-	-	-	45.0	-	7	-	-	-	-
42- , 67- 69	655.68	SAV	-	-	-	-	-	-	-	-	-	-
42- 1, 20- 22	655.21	SCT	-	-	-	-	-	-	-	-	-	-
42- 1, 56- 58	655.57	CML	-	-	2.00	82.0	-	22	-	-	-	20.0
42- 1, 56- 58	655.57	GUNN	-	-	1.00	78.0	-	41	-	-	-	-
42- 1, 56- 58	655.57	MUCA	-	7.0	5.50	93.0	-	27	0 069	-	0.100	-
42- 1, 56- 58	655.57	MUN	-	-	5.00	79.0	-	37	-	-	-	-
42- 1, 59- 61	655.60	AUM	-	-	-	-	-	-	-	-	0.076	-
42- 2, 4- 6	656.55	AN	-	-	-	-	-	-	-	-	-	-
42- 2, 4- 6	656.55	BAS	-	14.2	3.00	-	-	-	-	-	-	-
42- 2, 4- 6	656.55	CHE	-	-	-	37.0	-	11	-	-	-	-
42- 2, 4- 6	656.55	SAV	-	-	-	-	-	-	-	-	-	-
42- 2, 26- 28	656.77	AUM	-	-	-	-	-	-	-	-	0.110	-
42- 2, 26- 28	656.77	GUNN	-	-	1.00	75.0	-	35	-	-	-	-
42- 2, 32- 34	656.83	AUM	-	-	-	-	-	-	-	-	0.150	-
42- 2, 32- 34	656.83	GUNN	-	-	2.00	70.0	-	48	-	-	-	-
42- 2, 32- 34	656.83	GUNN	-	-	1.00	69.0	-	48	-	-	-	-
42- 2, 138-140	657.89	FW	-	-	3.50	95.0	2	52	-	0.84	0.830	18.7
43- 1, 102-104	665.53	AUM	-	-	-	-	-	-	-	-	0.080	-
43- 1, 102-104	665.53	GUNN	-	-	3.00	97.0	-	66	-	-	-	-
43- 1, 102-104	665.53	GUNN	-	-	4.00	97.0	-	52	-	-	-	-
43- 1, 105-107	665.56	AUM	-	-	-	-	-	-	-	-	0.100	-
43- 1, 126-128	665.77	AN	-	-	-	-	-	-	-	-	-	-
43- 1, 126-128	665.77	BAS	-	5.0	5.00	-	-	-	-	-	-	-
43- 1, 126-128	665.77	CHE	-	-	-	85.0	-	47	-	-	-	-
43- 1, 126-128	665.77	SAV	-	-	-	-	-	-	-	-	-	-
43- 2, 55- 57	666.56	FW	-	-	4.50	106.0	3	74	-	0.68	1.370	25.4
43- 2, 105-107	667.06	BAS	-	5.5	4.50	-	-	-	-	-	-	-
43- 2, 105-107	667.06	CHE	-	-	-	120.0	-	47	-	-	-	-
43- 2, 105-107	667.06	SAV	-	-	-	-	-	-	-	-	-	-
43- 3, 19- 21	667.70	AN	-	-	-	-	-	-	-	-	-	-
43- 3, 19- 21	667.70	BAS	-	6.4	6.70	-	-	-	-	-	-	-
43- 3, 19- 21	667.70	CHE	-	-	-	64.0	-	14	-	-	-	-
43- 3, 19- 21	667.70	SAV	-	-	-	-	-	-	-	-	-	-
43- 3, 51- 53	668.02	GSC	0.5	7	10	200	0.4	25	-	-	-	10
43- 3, 109-110	668.60	TM	50	14.0	-	85.0	-	10	-	-	-	29.0

TABLE 10D – *Continued*

Zr	Hf	Nb	Ta	Pd	Ir	Pt	Au	Cd	Pb	Sb	F	P	Ga	Sn	Ag	Ge	Yb
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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-	23.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	3.000	0.11	<1	2.60	-	-	-	-	-	-	-	-	-	-
37	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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45	1.16	-	0.83	-	-	-	-	49	-	0.69	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.022	0.022	-	-	-	-	-
59	0.85	-	0.80	-	-	-	-	36	-	0.66	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.022	0.046	-	-	-	-	-
-	-	-	-	-	-	-	2.30	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.014	0.042	-	-	-	-	-
35	-	-	-	-	-	-	-	-	0.25	-	-	-	9.7	0.25	0.025	0.35	2
80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 10D – *Continued*

Sample[a]	Depth (m)	Inv.	B	Li	Rb	Sr	Cs	Ba	Tl	Th	U	Y
44- 1, 42- 44	674.43	AUM	-	-	-	-	-	-	-	-	0.084	-
44- 1, 47- 49	674.48	AUM	-	-	-	-	-	-	-	-	0.140	-
44- 1, 47- 49	674.48	GUNN	-	-	5.00	96.0	-	57	-	-	-	-
44- 1, 47- 49	674.48	GUNN	-	-	6.00	96.0	-	55	-	-	-	-
44- 1, 143-145	675.44	AN	-	-	-	-	-	-	-	-	-	-
44- 1, 143-145	675.44	BAS	-	5.0	7.00	-	-	-	-	-	-	-
44- 1, 143-145	675.44	CHE	-	-	-	120.0	-	55	-	-	-	-
44- 1, 143-145	675.44	SAV	-	-	-	-	-	-	-	-	-	-
44- 2, 55- 57	676.06	AUM	-	-	-	-	-	-	-	-	0.080	-
44- 2, 55- 57	676.06	GUNN	-	-	5.00	94.0	-	58	-	-	-	-
44- 2, 55- 57	676.06	GUNN	-	-	-	-	-	58	-	-	-	-
44- 2, 103-105	676.54	AN	-	-	-	-	-	-	-	-	-	-
44- 2, 103-105	676.54	BAS	-	5.0	5.00	-	-	-	-	-	-	-
44- 2, 103-105	676.54	CHE	-	-	-	105.0	-	42	-	-	-	-
44- 2, 103-105	676.54	SAV	-	-	-	-	-	-	-	-	-	-
44- 2, 108-110	676.59	FW	-	-	1.80	104.0	-	54	-	-	-	22.5
44- 3, 144-146	678.45	TM	6	4.0	-	110.0	-	17	-	-	-	30.0
44- 5, 68- 70	680.69	CML	-	-	13.00	121.0	-	100	-	-	-	22.0
44- 5, 68- 70	680.69	GUNN	-	-	10.00	109.0	-	143	-	-	-	-
44- 5, 68- 70	680.69	MUN	-	-	12.00	97.0	-	193	-	-	-	-
44- 5, 68- 70	680.69	MUYA	-	9.3	11.00	118.0	-	120	0 029	-	0.170	-
44- 5, 98-100	680.99	AN	-	-	-	-	-	-	-	-	-	-
44- 5, 98-100	680.99	BAS	-	5.0	4.00	-	-	-	-	-	-	-
44- 5, 98-100	680.99	CHE	-	-	-	100.0	-	82	-	-	-	-
44- 5, 98-100	680.99	SAV	-	-	-	-	-	-	-	-	-	-
44- 5, 124-126	681.25	FW	-	-	1.10	111.0	3	82	-	0.63	0.870	22.1
44- 6, 4- 6	681.55	AN	-	-	-	-	-	-	-	-	-	-
44- 6, 4- 6	681.55	BAS	-	5.0	3.00	-	-	-	-	-	-	-
44- 6, 4- 6	681.55	CHE	-	-	-	115.0	-	76	-	-	-	-
44- 6, 4- 6	681.55	SAV	-	-	-	-	-	-	-	-	-	-
44- 5, 33- 37	681.85	AUM	-	-	-	-	-	-	-	-	0.230	-
44- 6, 33- 37	681.85	GUNN	-	-	-	-	-	77	-	-	-	-
44- 6, 33- 37	681.85	GUNN	-	-	2.00	107.0	-	73	-	-	-	-
44- 6, 46- 48	681.97	AUM	-	-	-	-	-	-	-	-	0.170	-
45- 1, 45- 47	683.96	AN	-	-	-	-	-	-	-	-	-	-
45- 1, 45- 47	683.96	BAS	-	8.0	5.00	-	-	-	-	-	-	-
45- 1, 45- 47	683.96	CHE	-	-	-	105.0	-	65	-	-	-	-
45- 1, 45- 47	683.96	SAV	-	-	-	-	-	-	-	-	-	-
45- 1, 54- 56	684.05	AUM	-	-	-	-	-	-	-	-	0.130	-
46- 1, 58- 60	693.59	AUM	-	-	-	-	-	-	-	-	0.200	-
46- 1, 98-100	693.99	BAS	-	5.0	3.00	-	-	-	-	-	-	-
46- 1, 98-100	693.99	CHE	-	-	-	105.0	-	72	-	-	-	-
46- 1, 98-100	693.99	DUR	-	-	-	-	-	-	-	-	-	-
46- 1, 98-100	693.99	POP	-	3.0	1.80	160.0	-	48	-	-	-	-
46- 1, 123-126	694.24	POP	-	4.5	2.00	160.0	-	40	-	-	-	-
46- 2, 58- 61	695.10	FW	-	-	3.40	108.0	3	76	-	0.63	0.870	26.1
46- 2, 76- 78	695.27	AN	-	-	-	-	-	-	-	-	-	-
46- 2, 76- 78	695.27	BAS	-	6.0	7.00	-	-	-	-	-	-	-
46- 2, 76- 78	695.27	CHE	-	-	-	64.0	-	29	-	-	-	-
46- 2, 76- 78	695.27	SAV	-	-	-	-	-	-	-	-	-	-
46- 3, 15- 17	696.16	AUM	-	-	-	-	-	-	-	-	0.270	-

TABLE 10D – *Continued*

Zr	Hf	Nb	Ta	Pd	Ir	Pt	Au	Cd	Pb	Sb	F	P	Ga	Sn	Ag	Ge	Yb
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-	-	-	-	-	-	-	1.80	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	0.015	0.035	-	-	-	-	-
58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
59	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	2.30	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.035	0.033	-	-	-	-	-
60	1.77	-	0.66	-	-	-	-	46	-	0.63	-	-	-	-	-	-	-
-	-	-	-	-	-	-	7.40	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.026	0.042	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	5.00	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.026	0.036	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
72	1.75	-	0.64	-	-	-	-	49	-	0.73	-	-	-	-	-	-	-
-	-	-	-	-	-	-	3.40	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	0.018	0.05	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 10D – *Continued*

Sample[a]	Depth (m)	Inv.	B	Li	Rb	Sr	Cs	Ba	Tl	Th	U	Y
46- 3, 15- 17	696.16	GUNN	-	-	3.00	109.0	-	72	-	-	-	-
46- 3, 15- 17	696.16	GUNN	-	-	3.00	109.0	-	67	-	-	-	-
46- 3, 36- 38	696.37	CML	-	-	<1.00	119.0	-	-	-	<1.00	0.243	27.0
47- 1, 123-126	703.74	DUR	-	-	-	-	-	-	-	-	-	-
47- 2, 67- 70	704.69	CML	-	-	0.87	108.7	-	-	-	<1.00	0.307	25.0
47- 2, 80- 83	704.82	BAS	-	5.8	7.00	-	-	-	-	-	-	-
47- 2, 80- 83	704.82	CHE	-	-	-	65.0	-	24	-	-	-	-
47- 2, 80- 83	704.82	SAV	-	-	-	-	-	-	-	-	-	-
47- 2, 99-102	705.01	AUM	-	-	-	-	-	-	-	-	0.230	-
47- 2, 106-109	705.08	AUM	-	-	-	-	-	-	-	-	0.230	-
47- 2, 106-109	705.08	GUNN	-	-	1.00	111.0	-	64	-	-	-	-
47- 2, 106-109	705.08	GUNN	-	-	1.00	111.0	-	61	-	-	-	-
47- 3, 10- 13	705.62	AUM	-	-	-	-	-	-	-	-	0.180	-
47- 3, 10- 13	705.62	GUNN	-	-	2.00	110.0	-	72	-	-	-	-
47- 3, 10- 13	705.62	GUNN	-	-	1.00	110.0	-	75	-	-	-	-
47- 3, 129-132	706.81	AN	-	-	-	-	-	-	-	-	-	-
47- 3, 129-132	706.81	BAS	-	6.0	6.00	-	-	-	-	-	-	-
47- 3, 129-132	706.81	CHE	-	-	-	97.0	-	25	-	-	-	-
47- 3, 129-132	706.81	SAV	-	-	-	-	-	-	-	-	-	-
47- 4, 27- 30	707.28	BAS	-	6.0	4.50	-	-	-	-	-	-	-
47- 4, 27- 30	707.28	CHE	-	-	-	110.0	-	63	-	-	-	-
47- 4, 27- 30	707.28	SAV	-	-	-	-	-	-	-	-	-	-
48- 1, 30- 33	712.32	MUYA	-	5.1	5.50	127.0	-	54	0 039	-	-	-
48- 1, 118-120	713.19	AUMC	-	-	-	-	-	-	-	-	0.500	-
48- 1, 118-120	713.19	CML	-	-	4.00	126.0	-	29	-	-	-	25.0
48- 1, 118-120	713.19	FW	-	-	2.40	106.0	2	68	-	0.83	1.140	20.9
48- 1, 118-120	713.19	GUNN	-	-	2.00	109.0	-	75	-	-	-	-
48- 1, 118-120	713.19	MUN	-	-	4.00	97.0	-	75	-	-	-	-
48- 1, 118-120	713.19	MUYA	-	4.6	5.50	118.0	-	0	0 046	-	0.180	-
1- 1, 67- 70	142.68	AUM	-	-	-	-	-	-	-	-	0.210	-

Note: The analyst codes are as follows: AU – F. Aumento, Dalhousie University (Chapter 57, this volume); TM – G. Thompson, Woods Hole Oceanographic Institution (Chapter 53, this volume); GUNN – B. Gunn, University of Montreal (Chapter 58, this volume); AUM – F. Aumento and W. Mitchell, Dalhousie University (Chapter 31, this volume); S by A. J. Naldrett, University of Toronto (Chapter 32, this volume); AUF – F. Aumento and M. Fratta, Dalhousie University; BOG – H. Bougault, Centre Oceanologique de Bretagne (Chapters 30 and 50 this volume); ISH – I. Shevaleevsky, U.S.S.R. Academy of Sciences; FW – M. Flower, Ruhr-Universitat Bochum (Chapters 51 and 61, this volume); CML – R. Lambert, University of Alberta (Chapter 34, this volume); SGS – J. Schilling, University of Rhode Island (Chapters 38 and 71, this volume); BEN – A. Bence, State University of New York, Stony Brook (Chapter 54, this volume); USSR – U.S.S.R. Academy of Sciences (see Chapter 10, this volume); ML - W. Melson, Smithsonian Institution; USGS – U.S. Geological Survey (see Chapter 10, this volume); SG – H. Sigurdsson, University of Rhode Island (Chapter 71, this volume); GSC – Geological Survey of Canada (see Chapter 63, this volume); SCT – R. Scott, Texas A & M University (Chapter 64, this volume); POP – E. Popolitov, U.S.S.R. Academy of Sciences; BAS – L. Bannich and A. Sushevskaya, U.S.S.R. Academy of Sciences; FWPU – M. Flower, Ruhr-Universitat Bochum (transition elements)

TABLE 10D – *Continued*

Zr	Hf	Nb	Ta	Pd	Ir	Pt	Au	Cd	Pb	Sb	F	P	Ga	Sn	Ag	Ge	Yb
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
70	–	9	–	–	–	–	–	–	1.31	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	1.7	–	–	–
71	–	9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	0.018	0.055	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	4.70	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	0.024	0.050	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	0.045	0.038	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	0.330	0.03	<1	3.20	–	–	–	–	–	–	–	–	–	–
66	–	12	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
69	2.02	–	0.86	–	–	–	–	43	–	0.61	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
54	–	16	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

and H. Puchelt (REE) (Chapters 51 and 37, respectively, this volume); MUY – J. Muysson, McMaster University (Chapter 33, this volume); CHE – S. Chernogorova and V. Kovalenker, U.S.S.R. Academy of Sciences; ON – R. O'Nions, University of Oxford (Chapter 39, this volume); MUYA – J. Muysson, McMaster University and F. Aumento, Dalhousie University; MUCA – J. Muysson, McMaster University, J. Crocket, McMaster University, and F. Aumento, Dalhousie University; CK – J. Crocket, McMaster University (Chapter 36, this volume); AUMC – F. Aumento and W. Mitchell, Dalhousie University, and J. Crocket, McMaster University; AN – G. Anoshin, U.S.S.R. Academy of Sciences; DUR – N. Durasova, U.S.S.R. Academy of Sciences; SAV – E. Savinova, N. Kosilina, and T. Andreeva, U.S.S.R. Academy of Sciences. The methods codes are as follows: TRACK – fission track; XRF – X-ray fluorescence; AAS – atomic absorption; XRFAA – X-ray fluorescence and atomic absorption; WET – classical wet chemical techniques; NCL – neoclassical techniques; PROBE – electron microprobe; MISC – miscellaneous techniques; NAA – neutron activation analysis; CLASS – classical wet chemical techniques; XRFFP – X-ray fluorescence and flame photometry; – not detected.

Site 332 Hole Core 1 Cored Interval: 0.0-7.0 m

AGE	ZONE	FOSSIL CHARACTER: FOSSIL	ABUND.	PRES.	SECTION	METERS	LITHOLOGY	DEFORMATION	LITHO. SAMPLE	LITHOLOGIC DESCRIPTION
PLEISTOCENE	N23 (F) (Foram zonation from Blow, 1969) NN21 (Nanno zonation from Martini & Worsley, 1970)				0					
		F	A	G	1	0.5, 1.0	VOID		120, 136	
		F	A	G	2				9, 64, 106	
		F, N, R	A, A, –	G, G, –	3		REMOVED		43, 110, 132	
PLEISTOCENE	N23 (F)	F, N, R	A, A, –	G, G, –	Core Catcher					

Soft to stiff, light gray to very pale brown, moderately disturbed nanno ooze. Pteropods concentrated along walls in Core 1.

10YR 6/4
10YR 7/3
10YR 7/4
10YR 7/3
10YR 8/1
10YR 7/3
5YR 8/2 Small pink patch
10YR 8/3
2.5Y 7/4
5Y 8/1
2.5Y 6/1 Thin gray layer
5Y 8/1
10YR 7/3

1. FORAM BEARING NANNO OOZE
Smear slides 1-120, 2-65, 2-106, 3-43, 3-110, 3-132

Nannos	95%
Forams	4%
Sponge Spicules	TR
Vol. Glass	TR

2. FORAM RICH NANNO OOZE
Smear slides 1-136, 2-9

Nannos	75%
Forams	21%
Vol. Glass	2%
Sponge Spicules	1%

Grain Size

	2-30
sand	53.5
silt	17.4
clay	29.1

Carbon-Carbonate 3-100
11.4, 0.1, 95

X-ray (Bulk) 2-122
Amor 16.1, Calc 99.1, Quar 0.9

X-ray (2-20μm)

	2-119	2-122	3-108
Amor	N.D.	N.D.	N.D.
Quar	33.0	17.5	25.3
K-Fe	11.8	12.1	17.0
Plag	24.5	20.6	28.1
Mica	10.3	6.6	18.6
Chlo	2.1	2.2	2.6
Augi	18.3	14.6	7.6
Mont	-	26.4	-
Kaol	-	-	0.8
Cris	TR	PRES	TR

Explanatory Notes in Chapter 1

Site 332 Hole A Core 1 Cored Interval: 7.0-16.5 m

AGE	ZONE	FOSSIL CHARACTER: FOSSIL	ABUND.	PRES.	SECTION	METERS	LITHOLOGY	DEFORMATION	LITHO. SAMPLE	LITHOLOGIC DESCRIPTION
PLEISTOCENE	N22/N23 (F) NN19? NN20				0					
		F, F, N, R	A, A, A, –	G, G, G, –	1	0.5, 1.0	VOID, Pu, VOID, Pu		110, 140	
					Core Catcher					

Chiefly soft, highly disturbed, light gray to white foram ooze. Pumice fragments at 102 and 132 cm.

2.5Y 7/2
2.5Y 7/2
2.5Y 8/2
2.5Y 8/2

1. NANNO-RICH FORAM OOZE
Smear slide 110

Forams	65%
Nannos	35%
Sponge Spicules	TR

2. NANNO OOZE
Smear slide 140

Nannos	98%
Forams	2%
Vol. Glass	TR

Grain Size

	1-80
sand	93.4
silt	0.1
clay	6.4

Carbon-Carbonate 1-75
11.3, 0.1, 93

X-ray (Bulk) 1-90
Amor 13.5, Calc 100.0

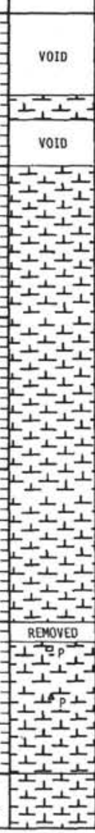
X-ray (2-20μm)

	1-90
Amor	N.D.
Quar	12.5
K-Fe	17.5
Plag	9.9
Kaol	2.0
Mica	44.5
Chlo	1.3
Phil	12.3
Cris	PRES

Explanatory Notes in Chapter 1

Site 332 Hole A Core 2 Cored Interval: 64.0-73.5 m

AGE	ZONE	FOSSIL CHARACTER: FOSSIL	ABUND.	PRES.	SECTION	METERS	LITHOLOGY	DEFORMATION	LITHO. SAMPLE	
					0					
					1	0.5, 1.0	VOID / VOID		97	2.5Y 8/1
		F	A	G	2				48, 100	5G 7/1 layers 2.5Y 8/1
	NN16	F	A	G	3				43, 88	2.5Y 8/1
		F	A	G	4				77	2.5Y 8/1
LATE PLIOCENE	N21	F	A	G	5		REMOVED		88, 122	2.5Y 8/1 with layers of 5G 7/1
		F N R	A A C	G G G	Core Catcher					2.5Y 8/1



LITHOLOGIC DESCRIPTION

Chiefly white, stiff, strongly to moderately deformed nanno ooze. Somewhat mottled and streaked with purple spots and green (5G 7/1) layers. Pyrite nodules in Section 5.

FORAM BEARING NANNO OOZE

Smear slides 1-97, 2-48, 2-100, 3-43, 3-88, 4-77, 5-88, 5-122

Nannos	94%
Forams	5%
Sponge Spicules	1%
Rads	TR
Diatoms	TR
Vol. Glass	TR

Grain Size

	2-98	3-80	4-76
sand	9.2	13.8	9.9
silt	28.1	28.8	29.5
clay	62.7	57.4	60.6

Carbon-Carbonate 2-85
11.3, 0.1, 93

X-ray (Bulk) 2-70
Amor 8.5, Calc 100.0

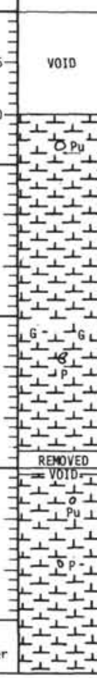
X-ray (2-20μm)

	2-70	3-75	4-73	5-69
Amor	83.9	81.7	80.1	84.0
Quar	16.3	28.8	24.9	11.7
K-Fe	16.2	10.0	9.5	12.7
Plag	30.2	25.6	16.0	15.6
Kaol	0.7	-	4.1	0.9
Mica	9.1	15.4	11.1	8.0
Chlo	0.4	-	1.0	0.3
Phil	6.1	-	-	4.0
Augi	21.2	18.5	14.8	13.0
Pyri	-	1.6	1.4	0.7
Mont	-	-	14.8	32.0
Paly	-	-	2.3	1.2
Cris	PRES	TR	PRES	PRES

Explanatory Notes in Chapter 1

Site 332 Hole A Core 3 Cored Interval: 73.5-83.0 m

AGE	ZONE	FOSSIL CHARACTER: FOSSIL	ABUND.	PRES.	SECTION	METERS	LITHOLOGY	DEFORMATION	LITHO. SAMPLE	
					0					
					1	0.5, 1.0	VOID		125	2.5Y 8/1
	N21 (F)	F	A	G	2				14, 88	2.5Y 8/1 with green 5G 7/1 patches
	? NN15? NN16	F	A	G	3		REMOVED		29, 49	2.5Y 8/1
		F	A	G	4		VOID		26, 74	grayish patch pyrite micronodule rich; 2.5Y 8/1
LATE PLIOCENE	N20 (F)? NN15?	F N R	A A C	G G G	Core Catcher					2.5Y 8/1



LITHOLOGIC DESCRIPTION

Chiefly white, soft to stiff, strongly to moderately deformed nanno ooze. Some deformed patches and layers of green (5G 7/1) ooze. Pumice fragments at 2-25 and 4-12. Pyritized burrow at 4-50 and pyrite nodule at 3-100. Some volcanic glass at 3-29. Mottled with purple spots. Green patches appear to be burrows.

FORAM BEARING NANNO OOZE

Smear slides 1-125, 2-14, 2-44, 2-88, 3-49, 4-74

Nannos	93%
Forams	5%
Sponge Spicules	1%
Diatoms, Rads, Vol. Glass, Heavy Minerals	TR

Grain Size

	3-105	4-76
sand	8.4	13.6
silt	6.4	27.0
clay	85.2	59.5

Carbon-Carbonate 3-98
11.1, 0.1, 92

X-ray (Bulk) 3-101
Amor 8.5, Calc 100.0

grayish patch pyrite micronodule rich

X-ray (2-20μm)

	3-101	4-70
Amor	72.9	N.D.
Quar	5.2	8.7
K-Fe	40.3	24.2
Plag	19.8	34.1
Mica	10.6	22.3
Mont	17.6	-
Phil	3.5	-
Pyri	3.0	1.3
Augi	-	9.4
Cris	PRES	PRES

Explanatory Notes in Chapter 1

Site 332 Hole A Core 4 Cored Interval: 83.0-92.5 m

AGE	ZONE		FOSSIL	ABUND.	PRES.	SECTION	LITHO. SAMPLE	
LATE PLIOCENE	N20? (F)	NN15?	F	A	G	1	100	2.5Y 8/1
						2	75	2.5Y 8/1
			F	A	G	3	124	2.5Y 8/1
			F	A	G	4	62	2.5Y 8/1
			F	A	G	5	82	2.5Y 8/1
							145	5G 7/1 Thin greenish layer 2.5Y 8/1 5G 7/1 Thin greenish layer
			F N R	A A C	G G G	Core Catcher		2.5Y 8/1 mixed with 5G 7/1

METERS: 0.5, 1.0

LITHOLOGY: REMOVED

LITHOLOGIC DESCRIPTION

Upper 5 m is a homogeneous slurry of nanno ooze; lower part of core is white, stiff, weakly to moderately deformed nanno ooze. Some green (5G 7/1) layers and streaks. Pyrite at 3-112. Moderately mottled with purplish spots.

FORAM BEARING NANNO OOZE

Smear slides 1-100, 2-75, 3-124, 4-62, 5-82, 5-145

Nannos	94%
Forams	5%
Sponge Spicules	1%
Vol. Glass	TR
Diatoms	TR
Rads	TR
Heavy Minerals	TR

Grain Size

	4-73
sand	10.8
silt	26.9
clay	62.3

Carbon-Carbonate 4-67
11.3, 0.1, 94

X-ray (Bulk) 3-142
Amor 7.6, Calc 100.0

X-ray (2-20μm)

	3-142	4-76	5-77
Amor	81.4	N.D.	N.D.
Quar	10.4	15.5	8.8
K-Fe	20.5	23.1	19.9
Plag	17.9	26.2	26.3
Mica	11.5	13.0	16.4
Mont	23.0	-	19.3
Phil	7.7	5.8	-
Pyri	0.7	-	-
Augi	8.3	16.6	9.3
Cris	PRES	PRES	PRES

Explanatory Notes in Chapter 1

Site 332 Hole A Core 5 Cored Interval: 92.5-102.0 m

AGE	ZONE		FOSSIL	ABUND.	PRES.	SECTION	LITHO. SAMPLE	
LATE PLIOCENE	N20 (F)?	NN15?				1	132	2.5Y 8/1
			F	A	G	2	76 90	2.5Y 8/1
			F	A	G	3	113 130	2.5Y 8/1
			F	A	G	4	98	2.5Y 8/1
			F	A	G	5	84	2.5Y 8/1
	N20 (F)	NN15				6	38	2.5Y 8/1 5G 7/1 Thin greenish layer
			F	A	G		101 115	10YR 8/1
			F N R	A A C	G G G	Core Catcher		2.5Y 8/1

METERS: 0.5, 1.0

LITHOLOGY: VOID; REMOVED

LITHOLOGIC DESCRIPTION

Soft to stiff, strongly to weakly disturbed nanno ooze. Chiefly white with some green (5G 7/1) and purple (5P 4/2) blobs and streaks - green blobs may be burrows. Pyrite at 2-95 and pumice fragment at 5-85.

FORAM-BEARING NANNO OOZE

Smear slides 1-130, 1-132, 2-76, 2-90, 3-113, 4-98, 5-84, 6-38, 6-101, 6-115

Nannos	96%
Forams	3%
Sponge Spicules	1%
Vol. Glass	TR
Rads	TR

Grain Size

	2-68	4-110	5-70	6-66
sand	17.6	8.6	7.1	5.0
silt	24.6	30.2	34.2	33.2
clay	57.8	61.3	58.8	61.8

Carbon-Carbonate 4-108
11.1, 0.1, 92

X-ray (Bulk) 2-72
Amor 7.7, Calc 100.0

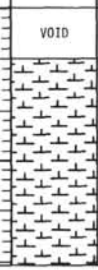
X-ray (2-20μm)

	2-72	3-76	4-105	5-76	6-73
Amor	N.D.	N.D.	80.3	84.4	N.D.
Quar	4.6	11.5	11.6	13.1	11.0
K-Fe	21.7	17.8	13.2	16.0	28.5
Plag	14.4	19.1	16.3	23.3	29.7
Kaol	-	1.4	-	1.6	-
Mica	59.4	8.2	9.2	9.4	18.7
Chlo	-	0.8	-	1.0	0.9
Mont	-	28.8	28.6	28.1	-
Paly	-	1.3	-	-	-
Phil	-	-	8.2	-	-
Pyri	-	0.8	-	-	-
Augi	-	10.4	13.0	7.6	11.2
Cris	-	PRES	PRES	PRES	PRES

Explanatory Notes in Chapter 1

Site 332 Hole A Core 6 Cored Interval: 102.0-111.5 m Sheet 1 of 2

AGE	ZONE	FOSSIL CHARACTER: FOSSIL	ABUND.	PRES.	SECTION	METERS	LITHOLOGY	DEFORMATION	LITHO.SAMPLE
					0				
LATE PLIOCENE	N20 (F) NN15	F	A	G	1	0.5 1.0	VOID		98
		F N R	A A –	G G –	2				60 104



LITHOLOGIC DESCRIPTION

Stiff, slightly deformed, white to very pale brown nanno ooze. Occasional 3-4 mm black chitinous shell fragments below 1-59 level. Slight pale brown (10YR 8/2) mottling.

10YR 8/1

FORAM BEARING NANNO OOZE

Smear slides 1-98, 2-60, 2-104

Nannos	97%
Forams	3%
Rads	TR
Vol. Glass	TR
Palagonite	TR

10YR 8/3

10YR 8/3

Grain Size

	1-102	2-76
sand	27.6	33.3
silt	22.4	20.3
clay	49.9	46.4

Carbon-Carbonate 1-99
11.3, 0.1, 94

X-ray (Bulk) 2-70
Amor 12.2, Calc 96.5, Quar 0.3, Phil 3.3

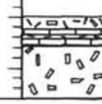
X-ray (2-20μm)

	1-95	2-70
Amor	N.D.	46.5
Quar	4.0	3.4
K-Fe	7.3	18.2
Plag	18.4	10.3
Mica	8.9	1.9
Paly	1.2	-
Phil	43.6	64.9

Explanatory Notes in Chapter 1

Site 332 Hole A Core 6 Cored Interval: 102.0-111.5 m Sheet 2 of 2

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	SAMPLES	D g/cc	V km/sec	POROSITY
								0					
								1	0.5 1.0				
28.5 16.7 30.8	nN nN	23.1	5.04	5.7	0.17	0.45	0.12	2		TC A B	2.792	6.39	7.3



LITHOLOGIC DESCRIPTION

Upper part of core consists of nanno ooze (see sheet A). Original basalt recovery was 0.45 m. Styrofoam spacers make the length shown here greater than the amount recovered.

1. SPARSELY PHYRIC BASALT
   T. S. 2-57
   Aphyric intergranular texture with traces of plagioclase and augite microphenocrysts. Groundmass fresh, holocrystalline - composed of plagioclase, clinopyroxene, minor olivine and iron-oxides.

2. PLAGIOCLASE PHYRIC BASALT
   T. S. 2-93, 2-118
   Approximately 30-40% plagioclase phenocrysts (~An_{90}) up to 1 cm across in intergranular to intersertal groundmass of plagioclase, clinopyroxene, iron-oxides, olivine and altered glassy mesotasis. Some smectite replacing mesotasis. Slightly vesicular.

   Interlayered sediments are white to brownish, limestones (micrites).

Site 332 Hole A Core 7 Cored Interval: 111.5-121.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	SAMPLES	D g/cc	V km/sec	POROSITY
								0					
26.8 64.5 63.2 23.6 44.1 86.7	nN nN – nN nN nN	13.75 21.15 14.55	10.82 5.69 9.58	6.7 5.7 7.2	0.41 0.22 0.32	0.59 0.30 0.51	0.12 0.38 0.27	1	0.5 1.0	A A B TC TC A B T	2.810 2.811	6.45 5.66	4.5 8.9

LITHOLOGIC DESCRIPTION

Original basalt recovery was 1.6 m. Styrofoam spacers make the length shown here greater than the amount recovered.

1. SPARSELY PHYRIC BASALT
   T. S. 1-9, 1-113, 1-125, 2-9, 2-42
   Fine-grained basalt with very sparse microphenocrysts of plagioclase. Intergranular to intersertal, slightly trachytic; slightly vesicular. Groundmass of plagioclase, clinopyroxene, iron-oxides and cryptocrystalline material. Glassy zones and sediment inclusions present. Smectite, carbonate and zeolites(?) in veins, vesicles and groundmass.

2. PLAGIOCLASE PHYRIC BASALT
   T. S. 1-42, 1-67
   Coarsely porphyritic with plagioclase to 12 mm. Groundmass intergranular, with plagioclase, clinopyroxene, iron-oxides, sparse olivine and cryptocrystalline material. Calcite, smectite, and zeolite in sparse vesicules. Some chlorophaeite in groundmass.

   Sediment layers and inclusions are limestones (micrites).

Explanatory Notes in Chapter 1

Site 332 Hole A Core 8 Cored Interval: 121.0-130.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
81.2 27.4 26.5 34.9								1	0.5		T T TC T			
37.3	N	14.2	11.76	6.8	0.45	0.59	0.28	1	1.0		A TC			
40.9	N	14.2	11.15	7.0	0.37	0.48	0.27				A	2.809	5.83	8.6
25.4 43.5	N	13.95	10.63	6.9	0.36	0.39	0.26	2			TC T A TC			

LITHOLOGIC DESCRIPTION

Original recovery was 1.7 m. Styrofoam spacers make the length shown here greater than the amount recovered.

1. SPARSELY PHYRIC BASALT
T. S. 1-6, 1-15, 1-30, 1-96, 2-7, 2-110, 2-133
Fine-grained, slightly vesicular basalt with very rare microphenocrysts of plagioclase, augite and olivine. Groundmass is intergranular to intersertal mixture of plagioclase, clinopyroxene, iron-oxides and minor cryptocrystalline mesostasis often replaced by smectite. Calcite and some zeolite in vesicules.

Limestone at 1-68.

Site 332 Hole A Core 9 Cored Interval: 130.5-140.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
		14.70	11.00	7.00	0.32	0.52	0.17	1	0.5 1.0		TC TC TC TC TC TC			

LITHOLOGIC DESCRIPTION

Original basalt recovery was 0.8 m. Styrofoam spacers make the length shown here greater than the amount recovered.

SPARSELY PHYRIC BASALT
T. S. 1-67, 1-50, 1-131
Sparse plagioclase microphenocrysts in intergranular to intersertal groundmass of plagioclase, clinopyroxene, iron-oxides. Rare olivine and some glassy mesostasis. Mesostasis altered to smectite along fractures. Rare vesicles to 0.5 mm often filled with calcite and smectite.

Explanatory Notes in Chapter 1

Site 332 Hole A Core 10 Cored Interval: 140.0-149.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
								1	0.5 1.0	WASHED SEDIMENT				
								2						
17.6	nN	14.65 14.81	11.35 11.57	6.7 7.21	0.27 0.5	0.57 0.78	0.19 0.12	3		VOID	TC TC A			

LITHOLOGIC DESCRIPTION

Upper two sections consist of watery ooze probably washed into hole. Original basalt recovery was 0.3 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

SPARSELY PHYRIC BASALT
T. S. CC-60, CC-80
Sparse plagioclase and augite phenocrysts in intergranular to intersertal groundmass of plagioclase, clinopyroxene, iron-oxides and altered glassy mesostatis. Smectite and carbonate replace mesostasis and fill sparse vesicles.

Site 332 Hole A Core 11 Cored Interval: 149.5-159.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
13.2 95.8 71.4		14.89	9.83	7.98	0.22	0.48	0.36	1	0.5 1.0	VOID	TC TC TC			

LITHOLOGIC DESCRIPTION

Original basalt recovery was 0.33 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

SPARSELY PHYRIC BASALT
T. S. 1-57, 1-85, 1-112
Sparse phenocrysts of plagioclase and phenocrysts of olivine and augite in intergranular to intersertal groundmass of plagioclase, clinopyroxene, iron-oxides, rare olivine and glassy mesostasis. Mesostasis partly replaced by chlorophaeite and smectite and sparse vesicles filled with smectite and carbonate.

Site 332 Hole A Core 12 Cored Interval: 159.0-168.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
68.7 65.4 175.6	nN nN	14.85 14.95	9.48 9.9	8.4 8.4	0.27 0.14	0.54 0.52	0.14 0.06	1	0.5 1.0	VOID	TC T T A B	2.796	5.66	8.6
17.4	nN	14.85 15.0	9.82 9.53	8.2 8.4	0.20 0.25	0.61 0.57	0.10 0.08	2			T A T			

LITHOLOGIC DESCRIPTION

Original basalt recovery was 1.30 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

SPARSELY PHYRIC BASALT
T. S. 1-9, 1-57, 1-109, 1-124, 2-30, 2-84
Very sparse phenocyrsts of plagioclase in intergranular to intersertal, slightly trachytic groundmass of plagioclase, clinopyroxene, iron-oxides and glassy mesostasis. Rare olivine. Mesostasis partly replaced by smectite. Vesicles partly filled with smectite and carbonate, and at 1-90 by sulfide mineral.

Explanatory Notes in Chapter 1

Site 332 Hole A Core 13 Cored Interval: 168.5-178.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
		14.8	10.34	7.42	0.28	0.58	0.09	1	0.5, 1.0		TC, T			

LITHOLOGIC DESCRIPTION

Original basalt recovery was 0.20 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

SPARSELY PHYRIC BASALT
T. S. 1-114, 1-144
Aphyric to very sparsely phyric basalt. Rare microphenocrysts of plagioclase, augite and olivine in intergranular to intersertal groundmass of plagioclase, clinopyroxene, iron-oxides, rare olivine and cryptocrystalline mesostasis. Some smectite after mesostasis and minor smectite and carbonate in sparse vesicles.

Interlayered sediment is foram-bearing nanno chalk. Correlated with Zone NN15.

Site 332 Hole A Core 14 Cored Interval: 178.0-187.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
6.21 11.9	nSHR, Shr SHR	14.1	10.4	7.2	0.45	0.56	0.13	1	0.5, 1.0	VOID	TC, A, T, A			

LITHOLOGIC DESCRIPTION

Original basalt recovery was 0.77 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

SPARSELY PHYRIC BASALT
T. S. 1-125
Sparse phenocrysts of plagioclase and augite in intergranular to intersertal groundmass of plagioclase, clinopyroxene, iron-oxides and glassy mesostasis. Glassy material partly replaced by smectite which also partly fills sparse vesicles.

Site 332 Hole A Core 15 Cored Interval: 187.5-197.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
		14.95	10.11	7.66	0.32	0.48	0.09	1	0.5		TC, T, T, TC			

LITHOLOGIC DESCRIPTION

Original basalt recovery was 0.20 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

SPARSELY PHYRIC BASALT
T. S. 15 CC
Sparse phenocrysts of plagioclase with rarer augite and olivine in intergranular groundmass of plagioclase, clinopyroxene, iron-oxide, and sparse olivine. Smectite partly replaces groundmass olivine and partly fills sparse vesicules. Some glassy breccia of same basalt in sharp contact with massive material.

Explanatory Notes in Chapter 1

Site 332 Hole A Core 16 Cored Interval: 197.0-206.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
27.1	Shn SHR	14.7	10.12	7.34	0.25	0.54	0.10	1	0.5, 1.0		A, TC	2.719	5.44	12.4

LITHOLOGIC DESCRIPTION

Original basalt recovery was 0.57 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

APHYRIC BASALT
T. S. 1-26, 1-35
Fine-grained intergranular to intersertal basalt composed of plagioclase, clinopyroxene, poorly formed iron-oxides and some glassy mesostasis. Rare microphenocrysts of plagioclase and augite. Smectite replaces some glass and partly fills sparse vesicles.

Site 332 Hole A Core 17 Cored Interval: 206.5-216.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
15.3	rR	15.03	10.58	8.2	0.18	0.50	0.09	1	0.5, 1.0		A, TC, TC			

LITHOLOGIC DESCRIPTION

Original basalt recovery was 0.55 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

APHYRIC BASALT
T. S. 1-43, 1-72
Dark gray fine-grained basalt with brown stained surfaces. Intergranular to intersertal groundmass of plagioclase, clinopyroxene, iron-oxides and minor interstitial glass. Some glass replaced by smectite. Sparse vesicles filled with glassy material containing abundant oxides.

Site 332 Hole A Core 18 Cored Interval: 216.0-225.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
		14.7	10.78	8.0	0.17	0.37	0.09	1	0.5, 1.0	SLURRY OF BASALT CHIPS WITH SOME SEDIMENTARY MATERIAL. PROBABLY WASHED INTO HOLE FROM ABOVE.				

LITHOLOGIC DESCRIPTION

Explanatory Notes in Chapter 1

Site 332 Hole A Core 19 Cored Interval: 225.5-235.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
		14.2	10.62	7.2	0.34	0.71	0.20	1	0–0.5	VOID	TC, TC, T, TC			

LITHOLOGIC DESCRIPTION

Original basalt recovery was 0.34 m. Styroforam spacers make the amount shown here greater than the amount recovered.

APHYRIC BASALT
T. S. 1-37, 1-56, 1-68, 1-87
Very fine-grained, often glassy basalt with interserta1, pilotaxitic texture. Groundmass fresh with plagioclase, clinopyroxene, iron-oxides and rare olivine. Glass often devitrified and sometimes replaced by smectite. Sparse vesicles and veins lined with smectite. Rare microphenocrysts of plagioclase.

Site 332 Hole A Core 20 Cored Interval: 235.0-244.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								1	0.5–1.0	VOID; NANNO OOZE SLURRY				
35.2	rR	14.81	10.2	8.02	0.20	0.65	0.06	2		VOID	T, TC			

LITHOLOGIC DESCRIPTION

Nanno ooze in Section 1 probably slumped material. Original basalt recovery was 0.50 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

APHYRIC BASALT
T. S. 2-91, 2-112
Very fine-grained glassy basalt with rare plagioclase microphenocrysts. Groundmass either cryptocrystalline material or fine mixture of plagioclase, clinopyroxene and iron-oxide. Fresh. Vesicles sparse except in zones indicated.

Site 332 Hole A Core 21 Cored Interval: 244.5-254.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
33.0	rR	14.8	9.27	8.0	0.19	0.43	0.24	1	0.5	VOID	A			
21.3	rR								1.0	VOID	A	2.810	6.05	7.2

LITHOLOGIC DESCRIPTION

Original basalt recovery was 0.72 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

APHYRIC BASALT
T. S. 1-59
Dark gray, very fine-grained basalt with traces of plagioclase and augite microphenocrysts. Intergranular groundmass of plagioclase, clinopyroxene and iron-oxides. Minor interstitial smectite. Minor calcite in sparse vesicules.

Explanatory Notes in Chapter 1

Site 332 Hole A Core 22 Cored Interval: 254.0-263.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
6.3×10^{-6}	nN							1	0.5		TC, A			
109.5 3.8×10^{-6}	nN nN	14.77	11.44	7.42	0.41	0.66	0.12		1.0		TC			

LITHOLOGIC DESCRIPTION

Original recovery was 1.10 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

APHYRIC BASALT
T. S. 1-10, 1-136
Dark gray very fine-grained basalt with intergranular to intersertal texture. Groundmass of plagioclase, clinopyroxene, iron-oxides and rare olivine. Some interstitial glass-devitrified. Sparse vesicules with smectite, calcite and some marginal glass. Rare microphenocrysts of plagioclase and augite. Magnetic relations suggest basalt is intrusive.

FORAM BEARING NANNO CHALK
S. S. 1-40
White to light brown, indurated nanno chalk with fairly abundant chips and fragments of black glass and palagonite up to 3 cm. Chips embedded in chalk. Correlated with Zones N19 and NN15.

Site 332 Hole A Core 23 Cored Interval: 263.5-273.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
65.6	rR	14.65	11.36	6.7	0.38	0.58	0.34	1	0.5–1.0	VOID	TC, TC, A			

LITHOLOGIC DESCRIPTION

Original recovery was 0.90 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

APHYRIC BASALT
T. S. 1-40
Dark gray, fine-grained basalt with intersertal, trachytic texture. Groundmass of plagioclase, clinopyroxene, iron-oxides, rare olivine (?) and glassy mesostasis. Glass partly replaced by smectite. Sparse vesicules with smectite and some chlorophaeite. Rare microphenocrysts of plagioclase and augite.

LIMESTONE
Light brown limestone (micrite) with some embedded fragments of glass and palagonite.

Site 332 Hole A Core 24 Cored Interval: 273.0-282.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
37.1	rR	14.75	10.60	7.8	0.26	0.47	0.20	1	0.5–1.0	VOID	A			

LITHOLOGIC DESCRIPTION

Original recovery was 0.18 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

APHYRIC BASALT

Explanatory Notes in Chapter 1

Site 332 Hole A Core 25 Cored Interval: 282.5-292.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
		14.15	11.44	7.35	0.31	0.58	0.12	1	0.5, 1.0	VOID	TC, T, A, TC			

LITHOLOGIC DESCRIPTION

Original recovery was 0.87 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

SPARSELY PHYRIC BASALT
T. S. 1-36, 1-90, 1-129
Sparse phenocrysts of plagioclase, augite and olivine, often in clots. Groundmass intergranular to intersertal, slightly trachytic-composed of plagioclase, clinopyroxene, iron-oxides, common olivine and some glass. Smectite replaces some glass and fills sparse vesicles along with calcite and hematite. Small layers of nanno chalk with glass fragments intercalated with basalt. Correlated with NN15.

Site 332 Hole A Core 26 Cored Interval: 292.0-301.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
19.0	rR	14.85	10.58	7.4	0.33	0.52	0.34	1	0.5, 1.0	VOID, VOID	A, T			
37.4	rR							2			T, T, A, T			

LITHOLOGIC DESCRIPTION

Original recovery was 1.38 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

SPARSELY PHYRIC BASALT
T. S. 1-80, 2-12, 2-38, 2-146
Sparse phenocrysts of plagioclase, augite and olivine often in clots. Groundmass intersertal, often variolitic with plagioclase, clinopyroxene, iron-oxides, some olivine and glassy mesostasis. Glass partly replaced by smectite and some calcite. Sparse to common vesicles partly filled with smectite and calcite.

NANNO CHALK - LIMESTONE
White chalk to light brown limestone with common embedded fragments of glass, palagonite and basalt.

Site 332 Hole A Core 27 Cored Interval: 301.5-311.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
15.3	ShrR	14.85	11.37	7.74	0.6	0.47	0.17	1	0.5, 1.0		TC, TC, TC	2.710	5.65	14.6

LITHOLOGIC DESCRIPTION

Original recovery was 1.18 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

SPARSELY PHYRIC BASALT
T. S. 1-35, 1-130, 1-139
Sparse phenocrysts of plagioclase and rare augite and olivine in variolitic to intersertal groundmass of plagioclase, clinopyroxene, iron-oxide, rare olivine and glassy mesostasis. Glass partly replaced by smectite. Sparse vesicles partly filled with smectite and carbonate.

Explanatory Notes in Chapter 1

Site 332 Hole A Core 28 Cored Interval: 311.0-320.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
33.4 11.8	ShrSHRShrR	14.67 16.83	11.31 9.57	7.7 7.56	0.23 0.33	0.45 0.61	0.20 0.19	1	0.5, 1.0	VOID	T, B, A, T, TC, TC	2.790	5.76	9.9
10.3 14.8	nSHR ShnSHR	14.15	11.44	7.35	0.31	0.69	0.06	2		VOID	A, A			
18.0	ShrR	14.37	11.25	7.35	0.38	0.64	0.21	3		VOID	B	2.791	5.77	9.4

LITHOLOGIC DESCRIPTION

Original basalt recovery was 2.00 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

SPARSELY PHYRIC BASALT
T. S. 1-15, 1-85, 1-94, 2-60
Sparse phenocrysts of plagioclase, olivine and augite in variolitic intersertal groundmass of plagioclase, clinopyroxene, iron-oxides, sparse olivine and interstitial glass. Smectite replaces some glass and groundmass olivine and, with calcite, partly fills sparse vesicles.

Site 332 Hole A Core 29 Cored Interval: 320.5-330.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
24.5 28.8 9.75	N - ShnSHRShrR	16.2 15.29	9.16 11.36	6.7 7.1	0.36 0.25	0.46 0.48	0.14 0.7	1	0.5, 1.0		T, A, B, T, A	2.846	6.14	4.9

LITHOLOGIC DESCRIPTION

Original recovery was 0.90 m. Styrofoam spacers make the amount shown here greater than the amount recovered. Mostly dark gray, medium-grained porphyritic basalt with minor included fragments of limestone. Basalt partly brecciated and glassy.

PLAGIOCLASE PHYRIC BASALT
T. S. 1-35, 1-74, 1-105, 1-143
Fifteen to twenty percent plagioclase phenocrysts in medium-grained subophitic groundmass of plagioclase, clinopyroxene, iron-oxides and olivine with minor interstitial glass. Groundmass olivine and glass partly altered to smectite. Sparse vesicules sometimes lined with smectite.

SPARSELY PHYRIC BASALT
T. S. 1-13
Sparse phenocrysts of plagioclase, olivine and rare augite in fine-grained intersertal groundmass of plagioclase, clinopyroxene, iron-oxide, rare olivine and interstitial glass. Some smectite after glass and in sparse vesicles.

Explanatory Notes in Chapter 1

Site 332 Hole A Core 30 Cored Interval: 330.0-339.5 m

NRM Intensity	Polarity	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O^+	CO_2	Section	Samples	D g/cc	V km/sec	Porosity
17.4 15.3 9.92	ShrSHR Shr R Shr R	16.78	10.00	7.49	0.32	0.42	0.09	0, 1, 2	A, T, A, B, T, T, A, TC, T, TC	2.822	6.14	7.1

LITHOLOGY: VOID

LITHOLOGIC DESCRIPTION

Original recovery was 1.60 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

Dark gray, generally massive basalt with a few limestone inclusions. Scattered vesicle zones and calcite veinlets.

PLAGIOCLASE PHYRIC BASALT
T. S. 1-68, 1-128, 1-134, 2-11, 2-61, 2-80, 2-100
Abundant plagioclase phenocrysts with rare olivine and augite in intersertal, often variolitic, to subophitic groundmass of plagioclase, clinopyroxene, iron-oxides, olivine and variable amounts of glass. Glass devitrified often and partly replaced by smectite. Smectite and calcite in vesicles.

Site 332 Hole A Core 31 Cored Interval: 339.5-349.0 m

NRM Intensity	Polarity	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O^+	CO_2	Section	Samples	D g/cc	V km/sec	Porosity
11.0	Shr SHR	16.54	9.9	6.74	0.36	0.59	0.07	0, 1	TC, T, B, TC			
21.0	Shr SHR							2	B, T, T	2.732	5.73	12.0
27.3	Shr SHR							2	A			
4.00 7.79	nR nSHR							3	TC, T, A	2.780	5.80	8.0

LITHOLOGIC DESCRIPTION

Original recovery was 2.55 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

Medium gray, compact basalt with a few vugs, calcite veins and vesicle zones. Abundantly porphyritic. Breccia zone from 2-95 to 2-118.

PLAGIOCLASE PHYRIC BASALT
T. S. 1-23, 1-137, 2-34, 2-81, 3-15, 3-80
Abundant plagioclase phenocrysts with rare olivine. Groundmass intersertal to intergranular, often variolitic; composed of plagioclase, clinopyroxene, iron-oxides, olivine and interstitial glass. Olivine and glass partly replaced by smectite and calcite. Sparse vesicles lined with calcite and smectite.

Explanatory Notes in Chapter 1

Site 332 Hole A Core 32 Cored Interval: 349.0-358.5 m

NRM Intensity	Polarity	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O^+	CO_2	Section	Samples	D g/cc	V km/sec	Porosity
16.9	ShrSHR	15.4	10.8	7.76	0.37	0.57	0.05	0, 1, 2	A, T			

LITHOLOGY: VOID

LITHOLOGIC DESCRIPTION

Original recovery was 1.08 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

Medium gray, massive porphyritic basalt with sparse vesicles.

PLAGIOCLASE PHYRIC BASALT
T. S. 1-110
Abundant plagioclase and rare olivine phenocrysts in intersertal, variolitic groundmass of plagioclase, clinopyroxene, iron-oxides, olivine and interstitial glass. Some smectite after glass.

Site 332 Hole A Core 33 Cored Interval: 358.5-368.0 m

NRM Intensity	Polarity	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O^+	CO_2	Section	Samples	D g/cc	V km/sec	Porosity
		17.18	9.39	7.33	0.20	0.49	0.08	0, 1	TC, T			
18.4 145.7 39.8	ShrR ShnSHR ShrR	14.7	9.10	7.1	0.13	0.68	0.15	2	A, A, B	2.813, 2.855	5.90, 6.18	6.2, 4.7

LITHOLOGY: VOID, VOID

LITHOLOGIC DESCRIPTION

Original recovery was 1.20 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

Medium gray, massive, porphyritic basalt with scattered vesicle zones. Sparsely porphyritic from 2-90 to 2-116.

PLAGIOCLASE PHYRIC BASALT
T. S. 1-115, 2-12
Abundant plagioclase and rare olivine phenocrysts. Groundmass intergranular to intersertal, often variolitic, composed of plagioclase, clinopyroxene, iron-oxides, olivine and interstitial glass. Smectite and carbonate replace some glass and line vesicles.

Site 332 Hole A Core 34 Cored Interval: 368.0-377.5 m

NRM Intensity	Polarity	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O^+	CO_2	Section	Samples	D g/cc	V km/sec	Porosity
6.6 9.89	ShnSHR ShnSHR							0, 1	B, A	2.816	6.09	7.3
3.35 14.5	N-nSHR	14.97	10.34	7.60	0.24	0.33	1.27	2	B, A	2.810	5.78	

LITHOLOGY: VOID

LITHOLOGIC DESCRIPTION

Original recovery was 1.37 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

Medium gray, fine-grained, massive, porphyritic basalt with sparse vesicles.

PLAGIOCLASE PHYRIC BASALT

Explanatory Notes in Chapter 1

Site 332 Hole A Core 35 Cored Interval: 377.5-387.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
9.68	Shr SHR							1	0.5, 1.0		A			

LITHOLOGIC DESCRIPTION

Original recovery was 0.36 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

Medium gray, massive, porphyritic basalt with ubiquitous small vesicles.

PLAGIOCLASE PHYRIC BASALT

Site 332 Hole A Core 36 Cored Interval: 387.0-396.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
9.74	Shn SHR	17.1	9.62	7.18	0.26	0.65	0.09	1	0.5, 1.0		A			
21.5	Shn SHR										B	2.827	6.24	
								2						

LITHOLOGIC DESCRIPTION

Original recovery was 1.55 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

Medium gray, porphyritic, massive basalt with ubiquitous small vesicles.

PLAGIOCLASE PHYRIC BASALT
T. S. 1-60
Abundant plagioclase phenocrysts in intergranular groundmass of plagioclase, clinopyroxene, iron-oxides and minor interstitial glass. Some calcite in vesicles.

Site 332 Hole A Core 37 Cored Interval: 396.5-406.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
								1	0.5	VOID				
24.3 47.3	rR ShnR	14.54	1.1	7.71	0.17	0.47	0.28		1.0		T, T, B, A	2.818	5.91	

LITHOLOGIC DESCRIPTION

Original recovery was 0.50 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

Medium gray, porphyritic basalt with some glassy zones, ubiquitous small vesicles and some vesicle zones.

PLAGIOCLASE PHYRIC BASALT
T. S. 1-78, 1-100, 1-142
Abundant plagioclase and rare augite and olivine phenocrysts in intergranular to subophitic groundmass, often variolitic, composed of plagioclase, clinopyroxene, iron-oxides, olivine and some interstitial glass. Glass partly replaced by smectite, calcite and zeolite(?). Carbonate and zeolite(?) also in vesicles.

Explanatory Notes in Chapter 1

Site 332 Hole A Core 38 Cored Interval: 406.0-415.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
								1	0.5, 1.0		T, T			

LITHOLOGIC DESCRIPTION

Original recovery was 0.24 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

Medium gray, porphyritic basalt with minor glass and sparse vesicles.

PLAGIOCLASE PHYRIC BASALT
T. S. 1-109, 1-132, 1-143
Abundant plagioclase and rare augite phenocrysts in fine-grained variolitic groundmass of plagioclase, clinopyroxene, iron-oxides, olivine and variable glass. Glass devitrified and partly replaced by smectite. Some smectite in vesicles.

Site 332 Hole A Core 39 Cored Interval: 415.5-425.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
24.2	?	16.2	9.9	7.0	0.23	0.56	0.11		0.5		A			

LITHOLOGIC DESCRIPTION

Original recovery was 0.30 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

Medium gray porphyritic basalt with ubiquitous small vesicles.

PLAGIOCLASE PHYRIC BASALT
T. S. 1-40
Plagioclase and rare augite phenocrysts in intersertal to subophitic groundmass of plagioclase, clinopyroxene, iron-oxide and interstitial glass. Smectite replaces some glass and lines some vesicles.

Site 332 Hole A Core 40 Cored Interval: 425.0-434.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
7.07	ShrR	15.06	11.61	7.56	0.27	0.81	0.47	1	0.5	VOID	TC, T			
		17.22	7.4	9.0	0.24	0.56	0.81		1.0	VOID	A, T, T			
18.9	rR							2			A, B	2.741	5.92	
10.1	ShrSHR	14.68	11.92	7.46	0.3	0.72	0.33			VOID	TC, B	2.861	6.49	
7.76 4.32	ShrR nR	14.8	6.85	11.3	0.11	0.39	0.58	3			A			

LITHOLOGIC DESCRIPTION

Original recovery was 2.90 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

Medium to light gray, generally porphyritic basalt with some fine-grained sections. Glass rinds and glassy breccia common. Small vesicles ubiquitous - larger vesicles in scattered zones. Patch of limestone at 2-7.

1. PLAGIOCLASE PHYRIC BASALT
   T. S. 1-30
   Sparsely phyric basalt with plagioclase and rare augite in intergranular, trachytic groundmass of plagioclase, clinopyroxene, iron-oxide and minor interstitial glass. Smectite replaces some glass and lines vesicles and veinlets with carbonate.

2. PLAGIOCLASE-AUGITE PHYRIC BASALT
   T. S. 1-60, 1-121, 3-91
   Very porphyritic with abundant phenocrysts of plagioclase, augite and lesser olivine in intergranular to intersertal groundmass of plagioclase, clinopyroxene, iron-oxides, rare olivine and some interstitial glass. Olivine partly altered to iddingsite and carbonate. Glass replaced partly by smectite and carbonate.

Explanatory Notes in Chapter 1

Site 332 Hole B Core 1 Cored Interval: 142.0-151.5 m Sheet 1 of 2

AGE	ZONE	FOSSIL CHARACTER: FOSSIL	ABUND.	PRES.	SECTION	METERS	LITHOLOGY	DEFORMATION	LITHO. SAMPLE	LITHOLOGIC DESCRIPTION
					0					
LATE PLIOCENE	N20/N21 (F); NN16	F N R	A A C	G G G	1	0.5, 1.0	VOID		65, 72, 87, 106	2.5Y 8/1, 5YR 2/1, 2.5Y 8/1
	—?— NN15?	F N R	A A C	G G G	2				42, 102	2.5Y 8/1
		F	A	G	3				75	2.5Y 8/1
		F	A	G	4				76, 136	2.5Y 8/1
		F	A	G					28	2.5Y 8/1

Chiefly white, stiff, little deformed nanno ooze. Numerous slightly stiffer layers of green (close to 5G 7/1) ooze 0.2-1.0 cm thick. Purple spot mottling throughout. Some patches of yellowish white (5Y 8/2) ooze present. Volcanic glass rich layer at 1-65. Pyrite micronodules at 1-72.

FORAM BEARING NANNO OOZE

Smear slides 1-87, 1-106, 2-42, 2-102, 3-75, 4-76, 4-136, 5-28

Nannos	94%
Forams	4%
Sponge Spicules	1%
Diatoms	TR
Rads	TR
Vol. Glass	TR
Heavy Minerals	TR

Grain Size

	1-75	2-81	3-76	4-76	5-30
sand	5.2	5.6	2.2	6.8	5.5
silt	30.3	29.8	28.0	27.4	33.9
clay	64.6	64.6	69.8	65.8	60.7

Carbon-Carbonate 1-76

11.3, 0.1, 94

X-ray (Bulk) 2-75

Amor 10.3, Calc 100.0

X-ray (2-20μm)

	1-73	2-75	3-70	4-70	5-25
Amor	N.D.	N.D.	81.0	N.D.	90.1
Quar	13.6	8.9	6.2	7.9	15.7
K-Fe	38.7	25.4	37.0	35.1	22.0
Plag	29.3	20.5	32.8	34.4	34.0
Mica	11.3	33.3	5.1	6.4	9.6
Chlo	-	-	0.8	-	-
Mont	-	-	16.2	-	-
Phil	-	-	-	-	6.4
Anal	-	-	-	2.2	-
Augi	7.1	12.0	1.9	14.1	12.2
Cris	PRES	PRES	PRES	TR	PRES

Explanatory Notes in Chapter 1

Site 332 Hole B Core 1 Cored Interval: 142.0-151.5 m Sheet 2 of 2

NRM INTENSITY	POLARITY	CHEMICAL CHARACTER: Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY	LITHOLOGIC DESCRIPTION
								0							
								1	0.5, 1.0						
								2							
								3							
								4							
14.5	rR										A	2.79	6.36	4.9	
15.6	rR							5			B A				
20.6	rR										A B	2.81	6.23	6.7	

Original basalt recovery was 1.05 m. Styrofoam spacers make the length shown here greater than the amount recovered.

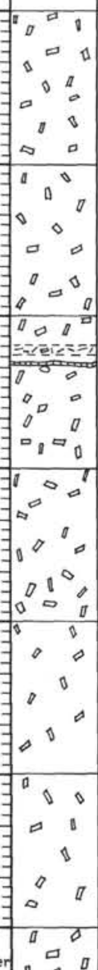
PLAGIOCLASE PHYRIC BASALT

T. S. 5-5, 5-110

Large plagioclase crystals up to 5 mm across with sodic rims. Groundmass is intergranular to subophitic with plagioclase, augite, olivine and iron-oxides with some interstitial glass; smectite fills sparse vesicles and replaces some glass.

Explanatory Notes in Chapter 1

Site 332 Hole B Core 2 Cored Interval: 151.5-199.0 m



NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	SAMPLES	D g/cc	V km/sec	POROSITY
								0				
17.2	rR	22.2	5.7	7.2	0.04	0.84	0.12	1	A			
								1	B	2.780	6.58	4.6
								1	A			
								2	A			
14.8	rR							2	B	2.841	6.35	4.7
								2	A			
		19.9	6.95	7.3	0.17	0.54	0.17	2				
		15.8	8.0	9.2	0.17	0.32	0.78	3	TC			
22.4	rR							3	A			
11.4	rR							3	B			
16.2	rR							3				
								4	B	2.689		7.1
								5	B	2.750	6.55	2.9
7.6	ShnR							5	A			
								5	B	2.833	6.60	3.3
15.6	rR							6	A			
17.9	rR							6	A			
								6	B	2.809		1.6
14.7	rR							Core Catcher	A			
8.3	rR							Core Catcher	A			

METERS: 0.5, 1.0

LITHOLOGIC DESCRIPTION

Original basalt recovery was 7.50 m. Styrofoam spacers make the length shown here greater than the amount recovered.

1. COARSELY PLAGIOCLASE-PHYRIC BASALT
   T. S. 1-21, 1-131, 3-64, 5-106, 6-41, 6-90, CC47
   Large phenocrysts of plagioclase up to 4 mm in length; and ~50 modal %, showing normal zoning and sodic overgrowths; occasional olivine phenocrysts; groundmass is intergranular subophitic to intersertal, olivine ubiquitous, with pyroxene, plagioclase magnetite; smectite alteration of glass; fine vesicles often filled towards base of core, with smectite, and sulphate mineral.

2. SPARSELY-PHYRIC BASALT
   T. S. 3-36
   A finer-grained (plag. >Ol) phyric intercalation in Section 3; 'quench' groundmass.

   All sections traversed by thin calcareous veins; oxidation patches; lithified sediment in Section 3.

Explanatory Notes in Chapter 1

Site 332 Hole B Core 3 Cored Interval: 199.0-227.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	SAMPLES	D g/cc	V km/sec	POROSITY
								0				
15.1	rR							1	A			
19.0	ShrSHR	23.6	5.03	6.8	0.03	0.89	0.05	1	A			
								2	B	2.746	6.13	4.8
								3	B	2.814	6.52	1.7
								4	B	2.891	6.47	2.3
		14.9	10.0	7.2	0.32	0.62	0.10	4	T,C			

METERS: 0.5, 1.0

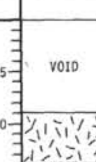
LITHOLOGIC DESCRIPTION

Original recovery was 4.40 m. Styrofoam spacers make the length shown here greater than the amount recovered.

1. COARSELY PLAGIOCLASE-PHYRIC BASALT.
   T. S. 1-15, 1-100
   Coarsely-phyric basalts as in Core 2.

2. SPARSELY-PHYRIC BASALT
   T. S. 4-104
   Fresh, sparsely augite and plag.-phyric (1-5%), rock; smectite rare: fine-grained (~.03 mm) intergranular groundmass with fresh interstitial glass; no olivine; vesicles at base of section.

Site 332 Hole B Core 4 Cored Interval: 227.5-256.0 m



NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	SAMPLES	D g/cc	V km/sec	POROSITY
								0				
50.6	rSHR	14.8	9.96	8.5	0.19	0.76	0.12	1	A			

METERS: 0.5, 1.0

LITHOLOGIC DESCRIPTION

Original basalt recovery was 0.30 m. Styrofoam spacers make the length shown here greater than the amount recovered.

1. APHYRIC BASALT
   T. S. 1-100
   Equigranular, almost aphyric rock with small augite and plagioclase (micro-) phenocrysts (<1%) groundmass of plagioclase, pyroxene, and magnetite; small amounts of interstitial smectite - also as vesicle-filling; otherwise fresh, except for rare calcareous veining.

Explanatory Notes in Chapter 1

Site 332 **Hole** B **Core** 5 **Cored Interval:** 256.0-284.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
								1	0.5, 1.0	VOID / basalt / VOID				

LITHOLOGIC DESCRIPTION

Original basalt recovery was 0.11 m. Styrofoam spacers make the length shown here greater than the amount recovered.

1. APHYRIC BASALT
   As in Core 4.

Site 332 **Hole** B **Core** 6 **Cored Interval:** 284.5-313.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
41.9	rR	14.14 14.13	11.03 11.58	7.0 7.1	0.40 0.23	0.61 0.55	0.20 0.23	1	0.5, 1.0		T,C A B	2.843	5.99	6.3
16.8	rR	14.1	11.48	7.6	0.32	1.24	0.09	2			B A A B	2.659	5.52	12.9
								3		VOID	TC			

LITHOLOGIC DESCRIPTION

Original basalt recovery was 2.80 m. Styrofoam spacers make the length shown here greater than the amount recovered.

1. APHYRIC BASALT
   T. S. 1-18, 1-77, 2-122, 3-87
   As in Cores 4 and 5; olivine rarely present in groundmass; occasional microphenocrysts of clinopyroxene, (sometimes as aggregates) and plagioclase (<1%); relatively coarse-grained in 6-3; generally fresh; vesicles filled with smectite and occasional Fe-hydroxide and/or hematite; some calcite veining.

2. FORAM BEARING NANNO CHALK
   White to light brown, indurated nanno chalk with chips of black volcanic glass and palagonite up to 1.5 cm. Chips embedded in chalk. Glass layer at 2-10. Correlated with N20 and NN15.

Site 332 **Hole** B **Core** 7 **Cored Interval:** 313.0-322.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
								1	0.5, 1.0	VOID / basalt / VOID				

LITHOLOGIC DESCRIPTION

Original recovery was 0.30 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

1. COARSELY PLAGIOCLASE-PHYRIC BASALT.
   Phenocrysts, mostly plagioclase (4 mm), (also some olivine (1 mm); vesicles filled with calcite and zeolite; calcareous coatings and net-veining are common.

Explanatory Notes in Chapter 1

Site 332 **Hole** B **Core** 8 **Cored Interval:** 322.5-332.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
32.7 12.3 18.2	rR Shr SHR ShrSHR	16.4	9.55	7.2	0.25	0.82	0.10	1	0.5, 1.0		A A A			
								2			TC			
4.83	ShrSHR							3			A B	2.727	5.87	12.6
38.0	ShrSHR									VOID				

LITHOLOGIC DESCRIPTION

Original recovery was 2.80 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

1. MODERATELY TO COARSELY PLAGIOCLASE-PHYRIC BASALT
   T. S. 1-14, 2-75, 1-62, 3-7, 3-90
   Continuous from Core 7; plagioclase phenocrysts are 1-3 mm in size; occasional olivine, and green augite may be up to 1 mm; groundmass is fine-medium-grained intergranular and intersertal, always olivine-bearing; mostly, but not entirely, vesicular with smectite and carbonate infilling; slight alteration but mostly fresh.

Site 332 **Hole** B **Core** 9 **Cored Interval:** 332.0-351.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
25.4	rR	16.4	9.63	7.3	0.25	0.61	0.09	1	0.5, 1.0		A			
14.5	n SLN										B	2.806	5.63	10.1
20.3•	ShrSHR							2			A			
24.4	nSHR										B	2.796	5.60	9.7
12.4 9.62	nSHR ShnSHR							3		VOID	A B	2.873	6.44	5.4

LITHOLOGIC DESCRIPTION

Original recovery was 3.00 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

1. MODERATELY PLAGIOCLASE-PHYRIC BASALT
   T. S. 1-18, 2-44, 3-45
   Continuous from Cores 8 and 7; olivine occurs as occasional microphenocrysts, and also in the groundmass; also plagioclase-pyroxene aggregates; texture of groundmass generally fine-grained intergranular-sometimes microdoleritic; glassy patches normally altered; much calcite veining, pipe vesicles, and amygdules mostly of smectite.

2. SPARSELY-PHYRIC BASALT
   Similar to above, but with sparse e crystals of olivine and green augite.

Explanatory Notes in Chapter 1

Site 332 **Hole** B **Core** 10 **Cored Interval:** 351.0-360.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	SAMPLES	D g/cc	V km/sec	POROSITY
								0					
14.5	ShrSHR	15.6	10.18	7.2	1.05	0.48	0.22	1	0.5	A			
19.2	ShrSHR	15.7	10.22	7.0	0.21	0.55	2.34		1.0	A			
22.4	nSHR							2		B	2.839	5.74	7.0
22.9	ShnSHR									A			
								3					

LITHOLOGY: VOID

LITHOLOGIC DESCRIPTION

Original recovery was 3.14 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

1. MODERATELY TO SPARSELY-PHYRIC BASALT
   Continues from Core 9.
   T. S. 1-62
   Phenocrysts of plagioclase (3 mm) and rare olivine and green pyroxene; aphanitic-variolitic groundmass; generally fresh and vesicular.

2. PLAGIOCLASE-PHYRIC BASALT
   T. S. 1-133, 3-20
   Plagioclase phenocrysts (up to ~3 mm) 15% modally; in coarse-grained diabasic groundmass of plagioclase, clinopyroxene, olivine and magnetite; some vesicles, filled with smectite and calcite; sulphides along some veins and patches of ruddy oxidized alteration; olivine pseudomorphed by calcite.

Explanatory Notes in Chapter 1

Site 332 **Hole** B **Core** 11 **Cored Interval:** 360.5-370.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	SAMPLES	D g/cc	V km/sec	POROSITY
								0					
19.8	nSHR							1	0.5	A			
									1.0				
								2					
3.71	ShrR									A			
18.8	nSHR							3		A			
15.7	nSHR	16.3	9.04	7.5	0.19	0.49	0.1	4		A			

LITHOLOGIC DESCRIPTION

Original recovery was 5.27 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

1. PLAGIOCLASE-PHYRIC BASALT
   Continues from Core 10.
   T. S. 1-39, 2-110, 3-40, 4-105
   Less olivine, but appearances of green augite, microdiabasic texture; smectite in groundmass interstices - also in vesicles; strong zoning of plagioclase phenocrysts; much calcareous veining - and fairly intense alteration.

2. SPARSELY-PHYRIC BASALT
   Fine-grained with occasional small phenocrysts of olivine and pyroxene.

Site 332 **Hole** B **Core** 12 **Cored Interval:** 370.0-379.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	SAMPLES	D g/cc	V km/sec	POROSITY
								0					
15.6	rR	16.0	9.77	7.1	0.28	0.41	0.07	1	0.5	A			
									1.0				

LITHOLOGIC DESCRIPTION

Original recovery was 1.00 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

1. PLAGIOCLASE-PHYRIC BASALT
   Plagioclase>>olivine>green augite phenocrysts (plag. to 4 mm); olivine in groundmass; interstitial glass altered to smectite; abundant vesicles are present, - filled with smectite and calcite, probably defining flow-units.

Explanatory Notes in Chapter 1

Site 332 Hole B Core 13 Cored Interval: 379.5-389.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	SAMPLES	D g/cc	V km/sec	POROSITY
								0				
77.9	ShrR							1	A			

LITHOLOGIC DESCRIPTION

Original recovery was 0.95 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

1. PLAGIOCLASE-PHYRIC BASALT
T. S. 1-72
Continuous from Core 12; abundant vesicles - arranged in distinct layers; several brecciated partings and veins. Plagioclase phenocrysts ~An_{85} Moderately coarse intergranular groundmass.

Site 332 Hole B Core 14 Cored Interval: 389.0-398.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	SAMPLES	D g/cc	V km/sec	POROSITY
								0				
86.6	ShrSHR							1	A			
5.37	ShrSHR							2	A			
12.8	nN							2	B	2.693	5.52	14.5

LITHOLOGIC DESCRIPTION

Original recovery was 1.93 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

1. PLAGIOCLASE-PHYRIC BASALT
T. S. 1-142, 2-33
Continuous from Core 13; olivine in groundmass, mostly very fresh, although patches of smectite present in groundmass; alteration increases downwards. Large ophitic pyroxene in groundmass (~.4 mm); plag. phenocrysts form aggregates; abundant vesicles - often infilled by smectite.

Site 332 Hole B Core 15 Cored Interval: 398.5-408.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	SAMPLES	D g/cc	V km/sec	POROSITY
								0				
17.4	ShrR							1	A			
51.3	nSHR							1	B	2.880	6.01	4.5
36.5	ShrR	16.5	9.38	7.0	0.27	0.74	0.20	2	A			

LITHOLOGIC DESCRIPTION

Original recovery was 1.89 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

1. PLAGIOCLASE-PHYRIC BASALT. 1 (3-25), 1 (65-147) and 2 (16-147).
T. S. 1-70, 2-83
Plagioclase and olivine phenocrysts (1-5%) form aggregates; smectite vesicle-filling; rare green augite; more olivine than above.

2. SPARSELY-PLAGIOCLASE-PHYRIC BASALT
Plagioclase phenocrysts only; fine- to medium-grained groundmass.

Vesicles ubiquitous; smectite and calcite infilling; chlorite(?) veins.

Explanatory Notes in Chapter 1

Site 332 Hole B Core 16 Cored Interval: 408.0-417.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	SAMPLES	D g/cc	V km/sec	POROSITY
								0				
78.6	rR							1	A			
83.4	rR	14.6	10.5	11.5	0.13	0.84	0.19	2	A			

LITHOLOGIC DESCRIPTION

Original recovery was 1.30 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

1. OLIVINE-PHYRIC BASALT
T. S. 1-112, 1-31
Sparsely-phyric (olivine>plagioclase) 1-5% ubiquitous vesicles; fine-grained groundmass with small euhedral picotites; phenocryst distribution very irregular; flow-units marked by glassy rinds: Mn - incrustations common.

Site 332 Hole B Core 17 Cored Interval: 417.5-427.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	SAMPLES	D g/cc	V km/sec	POROSITY
								0				
								1				
								2				

LITHOLOGIC DESCRIPTION

Original recovery was 1.50 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

1. OLIVINE-PHYRIC BASALT
As in Core 16 - sparsely-phyric and becoming progressively more associated with breccia downwards; breccia of basalt and palagonite fragments with calcareous matrix.

2. SPARSELY TO MODERATELY OLIVINE-PHYRIC BASALT
Similar to Core 16: many glassy rinds and calcite veins; ubiquitous small (<1 mm) vesicles; olivine phenocrysts to 5 mm; and occasional plagioclase to 2 mm; some palagonite breccia intermixed.

Site 332 Hole B Core 18 Cored Interval: 427.0-436.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	SAMPLES	D g/cc	V km/sec	POROSITY
								0				
48.4	rR	14.1	10.6	12.7	0.18	0.81	0.37	1	A			

LITHOLOGIC DESCRIPTION

Original recovery was 0.85 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

1. COARSELY OLIVINE-PHYRIC BASALT
T. S. 1-43
Sparse to abundant olivine phenocrysts reflection crystal-settling units; very scarce plagioclase coarsely-phyric rocks have abundant picotite; olivine phenocrysts up to 5 mm, often resorbed: fine calcareous veining is common; smectite alteration of interstitial glass-otherwise intergranular to interseratal texture; vesicles coated with smectite; tops of settling units are almost aphyric.

Explanatory Notes in Chapter 1

Site 332 Hole B Core 19 Cored Interval: 436.5-446.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	SAMPLES	D g/cc	V km/sec	POROSITY
								0					
71.8	rR							1		A			
83.2	rR								0.5	A			
31.7	rR								1.0	B	2.871	5.82	6.9

LITHOLOGY

LITHOLOGIC DESCRIPTION

Original recovery was 0.95 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

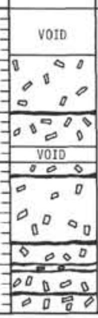
1. COARSELY OLIVINE-PHYRIC BASALT
   As in Core 18.
   T. S. 1-24, 1-68, 1-100
   Vesciles very small, sparse or absent. Picotite microphenocrysts; groundmass fine-grained to variolitic; carbonate and smectite veins and vesicle-fillings; olivine in groundmass; plagioclase <5%.

   Several glassy rinds present.

Site 332 Hole B Core 20 Cored Interval: 446.0-455.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	SAMPLES	D g/cc	V km/sec	POROSITY
								0					
58.9	rR							1	0.5	A B	2.832	5.555	8.4
49.2	rR									A			
88.1	rR								1.0	A			
120.8	rR							2		A			
85.8	rR									A			
50.6	rR									A			

LITHOLOGY



LITHOLOGIC DESCRIPTION

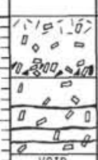
Original recovery was 1.90 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

1. COARSELY OLIVINE-PHYRIC BASALT
   T. S. 1-51, 1-76
   As in Core 19.
   Olivine>>plagioclase (>>picotite). Quenched groundmass. Aragonite in vugs. Numerous glassy rinds.

Site 332 Hole B Core 21 Cored Interval: 455.5-465.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	SAMPLES	D g/cc	V km/sec	POROSITY
								0					
77.2	rR	14.0	10.2	14.0	0.09	1.0	0.15	1		A			
90.4	rR								0.5				
61.8	rR								1.0	A B A	2.900	5.83	5.3

LITHOLOGY



LITHOLOGIC DESCRIPTION

Original recovery was 1.0 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

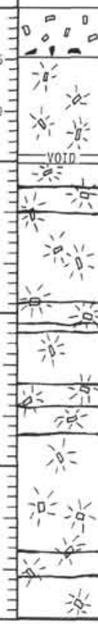
1. OLIVINE-PHYRIC BASALT
   As in Core 20: (olivine>plagioclase); parting of basalt and palagonite breccia. Olivine settling units and glassy rinds.

Explanatory Notes in Chapter 1

Site 332 Hole B Core 22 Cored Interval: 465.0-474.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	SAMPLES	D g/cc	V km/sec	POROSITY
								0					
48.0	rR	13.4	11.0	15.0	0.25	1.68	1.31	1		A			
									0.5	B	2.850	5.95	5.2
33.8	rR	16.2	10.7	8.9	0.11	0.63	0.49		1.0	A			
12.9	rSHR							2		A			
86.0	SHR									A A			
84.9	Shr	15.8	10.6	8.6	0.09	0.64	0.15						
37.7	ShrSHR									A			
28.5	ShrSHR									B A	2.614	5.06	14.5
								3		B	2.862	6.00	6.2
										A			
										B	2.877	6.23	3.8
34.7	ShrSHR							4		A			
78.9	ShrSHR									A			

LITHOLOGY



LITHOLOGIC DESCRIPTION

Original recovery was 4.1 m Styrofoam spacers make the amount shown here greater than the amount recovered.

1. OLIVINE-PHYRIC BASALT
   T. S. 1-4
   Very coarsely phyric; prominent euhedral picotite microphenocrysts; olivine up to 4 mm.

2. GLOMEROPHYRIC BASALT
   T. S. 1-77, 2-10, 2-36, 2-43, 2-109, 3-3, 4-40, 4-98
   Euhedral/subhedral olivine phenocrysts with adhering aggregates of plagioclases; picotite inclusions in olivine sometimes present; groundmass mostly aphanitic-glassy areas being frequently altered to smectite; and groundmass olivine (always present) pseudomorphed by calcite; vesicle fillings are of both calcite and smectite.

Explanatory Notes in Chapter 1

Site 332 Hole B Core 23 Cored Interval: 474.5-484.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
49.2	Shr SHR							1	0.5, 1.0		A			
66.4	Shr SHR										A			
62.1	Shr SHR										A			
93.7	Shr SHR													
40.7	Shr SHR							2			A			
51.5	Shr SHR										A			
65.8	Shr rR										A			
57.8	Shr SHR							3			A			
18.3	Shr SHR													
29.6	Shr SHR										A			

LITHOLOGIC DESCRIPTION

Original recovery was 3.0 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

1. OLIVINE-PHYRIC BASALT
   As in Cores 18-22.

2. GLOMEROPHYRIC BASALT
   As in Core 22.
   T. S. 1-10, 1-78, 1-101, 2-39, 2-81, 3-25, 3-144 [plagioclase-olivine-augite.]

   Parting of glomerophyric-basalt and palagonite breccia with calcareous matrix.

Site 332 Hole B Core 24 Cored Interval: 484.0-493.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
32.1 80.2	SHr SHR Shr SHR	16.6	10.9	7.1	0.20	1.14	0.21	1	0.5, 1.0		A, A, B	2.731	5.76	11.4
66.7	ShrSHR	16.1	10.8	8.8	0.10	1.22	0.14	2		VOID	A			

LITHOLOGIC DESCRIPTION

Original recovery was 1.4 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

1. GLOMEROPHYRIC BASALT
   T. S. 1-68, 1-94, 2-88
   As in Core 23 except between 1-75 and 2-80 which is more altered and contains more olivine; picotite is not so common; some smectite in vesicles; in altered sections interstitial glass is altered to smectite.

Site 332 Hole B Core 25 Cored Interval: 493.5-503.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
20.7	rR							1	0.5, 1.0					
49.2	rSHR	16.1	10.9	7.5	0.24	1.0	0.40	2			A, B	2.876	5.60	4.6
29.7	nSHR	16.0	10.9	10.2	0.15	1.22	0.37	3			A, B	2.829	5.88	6.0
								4		VOID				

LITHOLOGIC DESCRIPTION

Original core recovery was 3.1 m; styrofoam spacers make the amount shown here greater than the amount recovered.

1. GLOMEROPHYRIC BASALT
   As in Cores 24, 23 etc.

2. APHYRIC BASALT
   T. S. 2-77
   Very fine-grained intergranular ground-mass with scattered crystals of mostly fresh olivine (some replaced by serpentine, smectite or calcite); interstitial glass replaced by oxidized smectite.

3. SPARSELY-PHYRIC BASALT
   T. S. 3-128
   Strongly vesicular, with irregularly-distributed olivine micro-phenocrysts (1-5%); fairly coarse-grained groundmass (0.1-0.2 mm grain size), slight alteration of olivine to serpentine,(?), carbonate and/or iddingsite; also occasional micro-phenocrysts of plagioclase.

Site 332 Hole B Core 26 Cored Interval: 503.0-512.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
								1	0.5, 1.0	VOID				

LITHOLOGIC DESCRIPTION

Original recovery was 0.35 m; styrofoam spacers make the amount shown here greater than the amount recovered.

1. SPARSELY PLAGIOCLASE-PHYRIC BASALT
   Quite vesicular with sparse (<5%) plagi-oclase phenocrysts (to 3 mm); fine to medium-grained groundmass; carbonate amygdules and veins.

Site 332 Hole B Core 27 Cored Interval: 512.5-522.0 m

NRM Intensity	Polarity	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	Section	Samples	D g/cc	V km/sec	Porosity
23.7	ShrSHR	15.4	10.9	7.8	0.27	0.70	0.13	1	A			
37.5	ShrSHR								A			
								2	B	2.841	6.05	5.0

Original recovery was 1.7 m; styrofoam spacers make the amount shown here greater than the amount recovered.

1. SPARSELY-PHYRIC BASALT
   T. S. 2-4
   As in Core 26.
   Sparse phenocrysts of plagioclase (<5%) (to 1-5 mm); and olivine (<1 mm); fine-grained aphanitic to intersertal groundmass with quite fresh glass; some smectite; and calcite pseudomorphing groundmass olivine; carbonate vesicle-fillings.

Site 332 Hole B Core 28 Cored Interval: 522.0-531.5 m

NRM Intensity	Polarity	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	Section	Samples	D g/cc	V km/sec	Porosity
36.9	ShrSHR	14.8	10.6	7.1	0.25	0.87	0.27	1	A B	2.829	5.62	7.6
								2				

LITHOLOGY: VOID (Section 2)

Original recovery was 1.3 m; styrofoam spacers make the amount shown here greater than the amount recovered.

1. SPARSELY-PHYRIC BASALT
   T. S. 2-3, similar to Core 27

   Sparse phenocrysts, mainly of plagioclase (1-5%), up to 5 mm); also olivine (~1%, up to 1 mm) and augite (<1%).

   Fine intergranular-intersertal groundmass; also subophitic; interstitial glass replaced by smectite; if olivine if olivine is present in groundmass it is totally replaced by calcite.

   Vesicles and carbonate amygdules ubiquitous.

Site 332 Hole B Core 29 Cored Interval: 531.5-541.0 m

NRM Intensity	Polarity	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	Section	Samples	D g/cc	V km/sec	Porosity
23.9	ShrR	14.8	10.4	11.3	0.26	1.43	4.34	1	A			
									B	2.879	5.95	4.7
29.2	ShrR								A			
19.7	nR								A			
								2				

Original recovery was 1.8 m; styrofoam spacers make the amount shown here greater than the amount recovered.

1. SPARSELY OLIVINE-PHYRIC BASALT
   T. S. 1-51, 1-58
   Variable distribution of olivine phenocrysts (3-15%) and up to 5 mm in size; olivine is abundant in groundmass; subophitic/intergranular plagioclase and pyroxene.

   Groundmass and interstitial glass alteration to serpentine(?), smectite, iddingsite; also chlorophaeite; many calcite veinlets.

   Possible intercalation (one piece!) of plagioclase-phyric basalt?, 2-35 to 2-45.

Explanatory Notes in Chapter 1

Site 332 Hole B Core 30 Cored Interval: 541.0-550.5 m

NRM Intensity	Polarity	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	Section	Samples	D g/cc	V km/sec	Porosity
48.1	rR	15.1	10.6	7.2	0.35	0.75	2.25	1	A			
									A			
17.7	rR								A			
								2				

LITHOLOGY: VOID (Section 2)

Original recovery was 1.4 m; styrofoam spacers make the amount shown here greater than the amount recovered.

1. SPARSELY-PHYRIC BASALT
   T. S. 1-51, 2-34
   Sparse to moderate contents of olivine (to 2 mm) and plagioclase phenocrysts (1-5%) (to 4 mm) with occasional picotite microcrysts: moderately coarse subophitic groundmass of clinopyroxene and plagioclase and abundant olivine (altered to iddingsite and silica).

   Abundant vesicles and carbonate amygdules; also carbonate in groundmass.

Site 332 Hole B Core 31 Cored Interval: 550.5-560.0 m

NRM Intensity	Polarity	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	Section	Samples	D g/cc	V km/sec	Porosity
43.5	rR	15.1	11.3	6.6	0.37	0.86	2.76	1	A			
									B	2.736	5.45	12.4

LITHOLOGY: VOID (top of Section 1)

Original recovery was 0.77 m; styrofoam spacers make the amount shown here greater than the amount recovered.

1. SPARSELY-PHYRIC BASALT
   T. S. 1-73
   Similar to Core 30.
   Plagioclase phenocrysts (1-5%) up to 5 mm in size predominate over rare olivine (<1 mm); green augite (<1 mm) in Core 31 only. Fine intergranular to intersertal groundmass mostly; occasionally micro-diabasic; vesicles coated with smectite and/or chlorite(?) - filled by calcite and smectite.

   Alteration is slight to moderate.

Site 332 Hole B Core 32 Cored Interval: 560.0-569.5 m

NRM Intensity	Polarity	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	Section	Samples	D g/cc	V km/sec	Porosity
36.5	ShrR	14.6	11.0	7.2	0.26	0.94	0.62	1	A			
33.3	rR											

Original recovery was 1.1 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

1. SPARSELY PLAGIOCLASE-PHYRIC BASALT
   T. S. 1-27, 1-113
   Sparse plagioclase phenocrysts (1-5%, up to 5 mm); olivine micro-phenocrysts are very rare; groundmass varies between quenched variolitic and micro-diabasic; fresh olivine, pyroxene, plagioclase and magnetite in groundmass.

   Vesicles filled by smectite and carbonate.

Explanatory Notes in Chapter 1

Site 332 Hole B Core 33 Cored Interval: 569.5-579.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
14.6	ShrR	15.8	10.6	6.6	0.30	0.79	3.43	1			A			
									0.5		B	2.835	5.95	7.2
8.17	rR								1.0		A			
17.5	rR	15.8	10.2	7.0	0.18	0.86	4.07	2			A			
12.7	rR										A			
60.5	rR									VOID				
31.8	rR										A			
								3		VOID				

LITHOLOGIC DESCRIPTION

Original recovery was 2.5 m; styrofoam spacers make the amount shown here greater than the amount recovered.

1. APHYRIC BASALT
   T. S. 1-5, 1-100, 2-27
   Similar to Core 30.
   Medium-grained subophitic groundmass. Glass oxidized and replaced by smectite and carbonate; these phases and chlorite also in vesicles. Occasional plagioclase micro-phenocrysts.

2. SPARSELY OLIVINE-PHYRIC BASALT
   T. S. 2-77
   Olivine phenocrysts up to 2 mm (>5%) and very sparse plagioclase; micro-phenocrysts of picotite (~.4 mm) are common; groundmass is intergranular; plagioclase, pyroxene, magnetite and olivine; calcite infilling of veins and vesicles.

   Very oxidized and altered below 33-2-80; with much complex calcareous veining and abundant amygdules (decreasing downwards).

Site 332 Hole B Core 34 Cored Interval: 579.0-588.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
136.3	rR	15.6	10.3	7.6	0.29	0.60	1.55	1	0.5		A			
7.96	ShrR								1.0					
								2		VOID				

LITHOLOGIC DESCRIPTION

Original recovery was 1.0 m; styrofoam spacers make the amount shown here greater than the amount recovered.

1. SPARSELY-PHYRIC BASALT
   T. S. 1-45, 1-129
   Continued from 33-3 and 33-2.
   Very sparse phenocrysts of olivine (1-5%), plagioclase (1-5%) + augite (<1%); olivine up to 3 mm; amygdules of calcite in parts; otherwise very massive basalt; substantial alteration.

Explanatory Notes in Chapter 1.

Site 332 Hole B Core 35 Cored Interval: 588.5-598.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY
								0						
17.3	rR							1			A			
									0.5		B	2.813	6.50	3.5
									1.0					
17.9	rR	9.4	10.8	24.5	0.12	0.96	1.48	2			A			
										VOID				
50.4	rR							3			A			
		13.9	10.7	13.0	0.20	0.68	3.44				T,C			
								4		VOID				

LITHOLOGIC DESCRIPTION

Original recovery was 4.0 m; styrofoam spacers make the amount shown here greater than the amount recovered.

1. OLIVINE-PHYRIC BASALT
   T. S. 1-15, 2-66, 3-69
   Very coarsely-phyric; olivine (15-20%. to 5 mm); plagioclase <5% (to 1 mm) ± augite; phenocryst distribution becomes more irregular tribution becomes more irregular at at-base of unit; fresh euhedral picotite is common; groundmass is coarse-grained; plagioclase laths set in a finer matrix; much smectite, carbonate alteration.

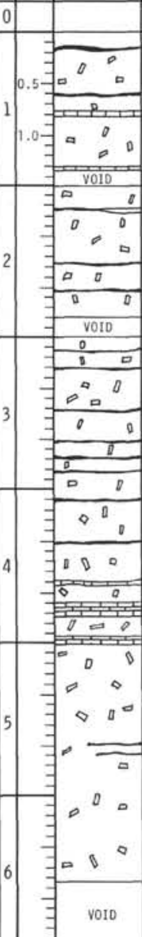
2. PLAGIOCLASE-PHYRIC BASALT
   Coarsely- to moderately-phyric (plagioclase>>olivine) basalt; fine-grained, with some glass. Becomes more coarsely-phyric (plagioclase ~20%, to ~5 mm) with depth in Sections 3 and 4.

Explanatory Notes in Chapter 1

Site 332 Hole B Core 36 Cored Interval: 598.0-607.5 m

Section	NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SAMPLES	D g/cc	V km/sec	POROSITY
0												
1	42.0	SHN	18.6	8.18	6.8	0.13	1.32	1.53	A			
1									B	2.788	5.93	6.8
2												
3	49.7	Shn SHN							A			
3									B	2.780	5.94	7.3
3									B	2.809	5.91	5.8
4	30.3	rR							B	2.696	5.53	11.0
5	24.5	rSHR	18.6	8.2	8.7	0.12	2.29	0.33	A B	2.783	5.77	6.3
6									B	2.866	6.18	3.2

LITHOLOGY



LITHOLOGIC DESCRIPTION

Original recovery was 6.0 m; styrofoam spacers make the amount shown here greater than the amount recovered.

1. PLAGIOCLASE-PHYRIC BASALT
T. S. 1-6, 3-4, 4-94, 5-22
Continues from Core 35.
Coarsely-phyric rock; plagioclase (~15% to 4 mm) and olivine (1-5%); and picotite occasionally.

Smectite aleration of interstitial glass.

Numerous glassy rinds; and intercalations of lithified sediment.

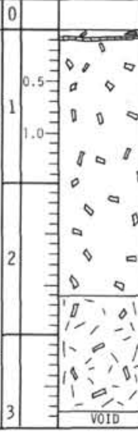
2. FORAM BEARING LIMESTONE
Chalk at 4-118 with corroded nannos.

Explanatory Notes in Chapter 1

Site 332 Hole B Core 37 Cored Interval: 607.5-617.0 m

Section	NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SAMPLES	D g/cc	V km/sec	POROSITY
0												
1			18.5	8.0	8.2	0.09	2.23	0.30	T,C			
2												
3	18.8	ShrR	16.3	10.2	10.0	0.06	1.96	0.20	A B	2.883	5.84	3.1

LITHOLOGY



LITHOLOGIC DESCRIPTION

Original recovery was 2.5 m; styrofoam spacers make the amount shown here greater than the amount recovered.

1. PLAGIOCLASE-PHYRIC BASALT
T. S. 1-113
Continues from Cores 35 and 36.
Veins of carbonate and zones of oxidized palagonite; occasional (micro)-phenocrysts of olivine and picotite.

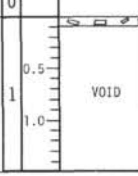
Some smectite alteration of interstitial glass.

2. SPARSELY OLIVINE-PHYRIC BASALT
Sparse phenocrysts of olivine (1-5%) and plagioclase (<1%); amygdules of smectite and carbonate.

Site 332 Hole B Core 38 Cored Interval: 617.0-626.5 m

Section	NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SAMPLES	D g/cc	V km/sec	POROSITY
0												
1												

LITHOLOGY



LITHOLOGIC DESCRIPTION

Original recovery was 0.06 m; styrofoam spacers make the amount shown here greater than the amount recovered.

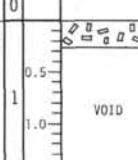
This 1 piece is possibly accidental, but may represent a separate lithologic subunit.

1. OLIVINE AND PLAGIOCLASE-PHYRIC BASALT
Olivine (~5% to 3 mm) and plagioclase (~5% to 7 mm) phenocrysts in a fine-grained groundmass

Site 332 Hole B Core 39 Cored Interval: 626.5-636.0 m

Section	NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SAMPLES	D g/cc	V km/sec	POROSITY
0												
1			14.3	10.7	12.8	0.08	1.76	0.46	T,C			

LITHOLOGY



LITHOLOGIC DESCRIPTION

Original recovery was 0.15 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

1. OLIVINE-PHYRIC BASALT (3 pieces)
T. S. 1-2
Phenocrysts of olivine (~5%) and minor plagioclase and picotite. Fine-grained groundmass - olivine altered to iddingsite; vesicles filled with smectite.

Explanatory Notes in Chapter 1

Site 332 Hole B Core 40 Cored Interval: 636.0-645.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	SAMPLES	D g/cc	V km/sec	POROSITY
								0				
43.1	ShrSHN	18.2	10.5	6.3	0.50	2.22	0.41	1	A			
88.7	nN							2	A			
								3				

LITHOLOGY: VOID, VOID, VOID

LITHOLOGIC DESCRIPTION

Original recovery was 2.5 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

1. OLIVINE-PHYRIC BASALT
Continued from 39.

2. PLAGIOCLASE-PHYRIC BASALT
T. S. 1-34
Plagioclase phenocrysts (to 2 mm) >5% olivine (to 1 mm) <1%; plagioclase sericitized; quenched groundmass - small skeletal plagioclase in fibrous plagioclase pyroxene matrix; orange smectite as vesicle-filling; olivine possibly absent from groundmass.

Much brecciated material (basalt, palagonite) and net-veining of calcite.

Site 332 Hole B Core 41 Cored Interval: 645.5-655.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	SAMPLES	D g/cc	V km/sec	POROSITY
								0				
41.0	ShrR	17.3	9.54	7.2	0.15	1.13	0.08	1	A B	2.521	5.22	20.4
91.2	rSHR							2	A			

LITHOLOGY: VOID

LITHOLOGIC DESCRIPTION

Original recovery was 1.9 m. Styrofoam spacers make the amount shown here greater than the amount recovered.

1. OLIVINE-PHYRIC BASALT
Olivine phenocrysts of ~2 mm (~5%) set in a fine-grained groundmass. This rock, associated with very sparsely olivine-phyric material, and palagonite as brecciated zone 41-1 (3-80).

2. PLAGIOCLASE-PHYRIC BASALT
T. S. 1-110, 2-42
Plagioclase phenocryst (~20%, and 3-4 mm) intersertal groundmass texture; no olivine (?). Glass oxidized and replaced by smectite; considerable alteration in sequence - associated with coarse breccia. Many calcite veins - also chlorite and hematite.

3. APHYRIC BASALT
Brecciated and chloritized and traversed by glassy zone.

Explanatory Notes in Chapter 1

Site 332 Hole B Core 42 Cored Interval: 655.0-664.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	SAMPLES	D g/cc	V km/sec	POROSITY
								0				
23.2	ShrR	15.0	10.0	12.4	0.09	1.48	0.23	1	A			
15.1	ShrR							2	A			
								3				

LITHOLOGY: VOID, VOID

LITHOLOGIC DESCRIPTION

Original recovery was 2.3 m; styrofoam spacers make the amount shown here greater than the amount recovered.

1. SPARSELY OLIVINE-PHYRIC BASALT
T. S. 2-26
Olivine phenocrysts to 2 mm but very sparse (<1%); subophitic groundmass; olivine iddingsitized; vesicles filled with smectite.

2. APHYRIC BASALT
T. S. 1-59
Abundant olivine in groundmass, also picotite.

3. COARSELY OLIVINE-PHYRIC BASALT
Olivine phenocrysts in 3 mm; abundant picotite.

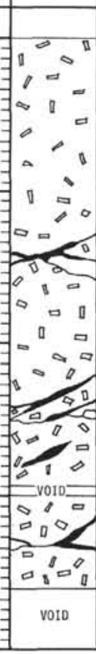
4. PLAGIOCLASE-PHYRIC BASALT
Plagioclase phenocrysts up to 4 mm; quite coarsely-phyric.

Explanatory Notes in Chapter 1

Site 332 Hole B Core 43 Cored Interval: 664.5-674.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	SAMPLES	D g/cc	V km/sec	POROSITY
88.3	ShrSHR	19.6	8.29	6.4	0.44	3.94	0.11	1	A			
								2	B	2.720		10.6
								3				
								4				

LITHOLOGY



LITHOLOGIC DESCRIPTION

Original recovery was 4.1 m; styrofoam spacers make the amount shown here greater than the amount recovered.

1. PLAGIOCLASE-PHYRIC BASALT
   T. S. 1-105
   Continued from Core 42.
   Glassy zones are very prominent.
   Smectite and zeolite veining.

   Plagioclase phenocrysts up to 1-5 mm. Sometimes aggregated with clinopyroxene; interstitial smectire; occasional olivine and (?) picotite; whole sequence is highly jointed.

Explanatory Notes in Chapter 1

Site 332 Hole B Core 44 Cored Interval: 674.0-683.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	SAMPLES	D g/cc	V km/sec	POROSITY
65.4	SHn SHN	17.4	9.87	7.1	0.21	2.24	0.13	1	A			
								1	B	2.609		14.1
								2				
58.5	ShnSHN							3	A			
								4	B	2.776		6.3
18.2	nR	14.6	10.3	8.6	0.15	0.92	0.17	5	A			
								6				

LITHOLOGY

LITHOLOGIC DESCRIPTION

Original recovery was 7.1 m; styrofoam spacers make the amount shown here greater than the amount recovered.

1. PLAGIOCLASE-PHYRIC BASALT
   T. S. 1-42, 4-24
   Continued from Cores 42 and 43.
   Similar but with microphenocrysts of augite as aggregates with plagiorlase; groundmass intergranular with patches of oxidized and devitrified glass; interstitial smectite.

2. SPARSELY-PHYRIC BASALT
   T. S. 6-46
   Very sparse microphenocrysts of plagioclase (to .8 mm) and augite; groundmass is intergranular with subophitic plagioclase and clinopyroxene; probable olivine pseudomorphed by smectite.

   Abundant vesicles, in well-defined zones, filled mostly by calcite, also hematite; rare sulphides seen in calcite veins.

Explanatory Notes in Chapter 1

Site 332 Hole B Core 44 Cored Interval: 674.0-683.5 m Sheet 2 of 2

AGE	ZONE	FOSSIL CHARACTER: FOSSIL	ABUND.	PRES.	SECTION	METERS	LITHOLOGY	DEFORMATION	LITHO. SAMPLE	LITHOLOGIC DESCRIPTION
					0					
					1	0.5, 1.0	VOID			Sparsely-phyric basalt continued from Section 6, Sheet 1.

Site 332 Hole B Core 45 Cored Interval: 683.5-693.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY	LITHOLOGIC DESCRIPTION
								0							
70.0	ShrSHR	18.0	11.2	8.3	0.49	5.73	0.35	1	0.5, 1.0		T,C				Original recovery was 1.3 m; styrofoam spacers make the amount shown here greater than the amount recovered. 1. PLAGIOCLASE-PHYRIC BASALT As in Cores 42, 43 and 44. Much breccia associated with glassy zones. Micro-glomerophyric plagioclase-pyroxene clots.

Site 332 Hole B Core 46 Cored Interval: 693.0-702.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY	LITHOLOGIC DESCRIPTION
								0							
21.3	nR	15.0	12.3	7.6	0.16	0.97	0.19	1	0.5, 1.0	VOID	A				Original recovery was 2.7 m; styrofoam spacers make the amount shown greater than the amount recovered. 1. SPARSELY-PHYRIC BASALT T. S. 1-58 Very sparsely plagioclase-phyric; groundmass intergranular with subophitic patches; smectite present interstitially and as vesicle-filling; considerable fracturing; alteration slight to moderate.
29.2	ShnR							2		VOID					
								3		VOID					

Site 332 Hole B Core 47 Cored Interval: 702.5-712.0 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY	LITHOLOGIC DESCRIPTION
								0							
								1	0.5, 1.0	VOID					Original recovery was 3.9 m; styrofoam spacers make the amount shown here greater than the amount recovered. 1. SPARSELY-PHYRIC BASALT T. S. 2-99 Continued from Core 46. Brecciated zone; fragments of basalt in fine matrix.
39.8	ShrR	14.5	12.1	7.3	0.07	0.73	0.11	2			A				
56.5	shnR										B	2.888	5.77	4.7	
								3							
								4		VOID					

Site 332 Hole B Core 48 Cored Interval: 712.0-721.5 m

NRM INTENSITY	POLARITY	Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY	LITHOLOGIC DESCRIPTION
								0							
		15.4	10.1	8.4	0.38	0.91	0.07	1	0.5, 1.0		T,C T,C				Original recovery was 0.5 m; styrofoam spacers make the amount shown here greater than the amount recovered. 1. APHYRIC BASALT T. S. 1-146 Quenched groundmass; small plagioclase laths set in fine matrix of fibrous plagioclase and clinopyroxene. Vesicles partly filled with smectite and zeolite(?); probably original microphenocrysts pseudomorphed by smectite.

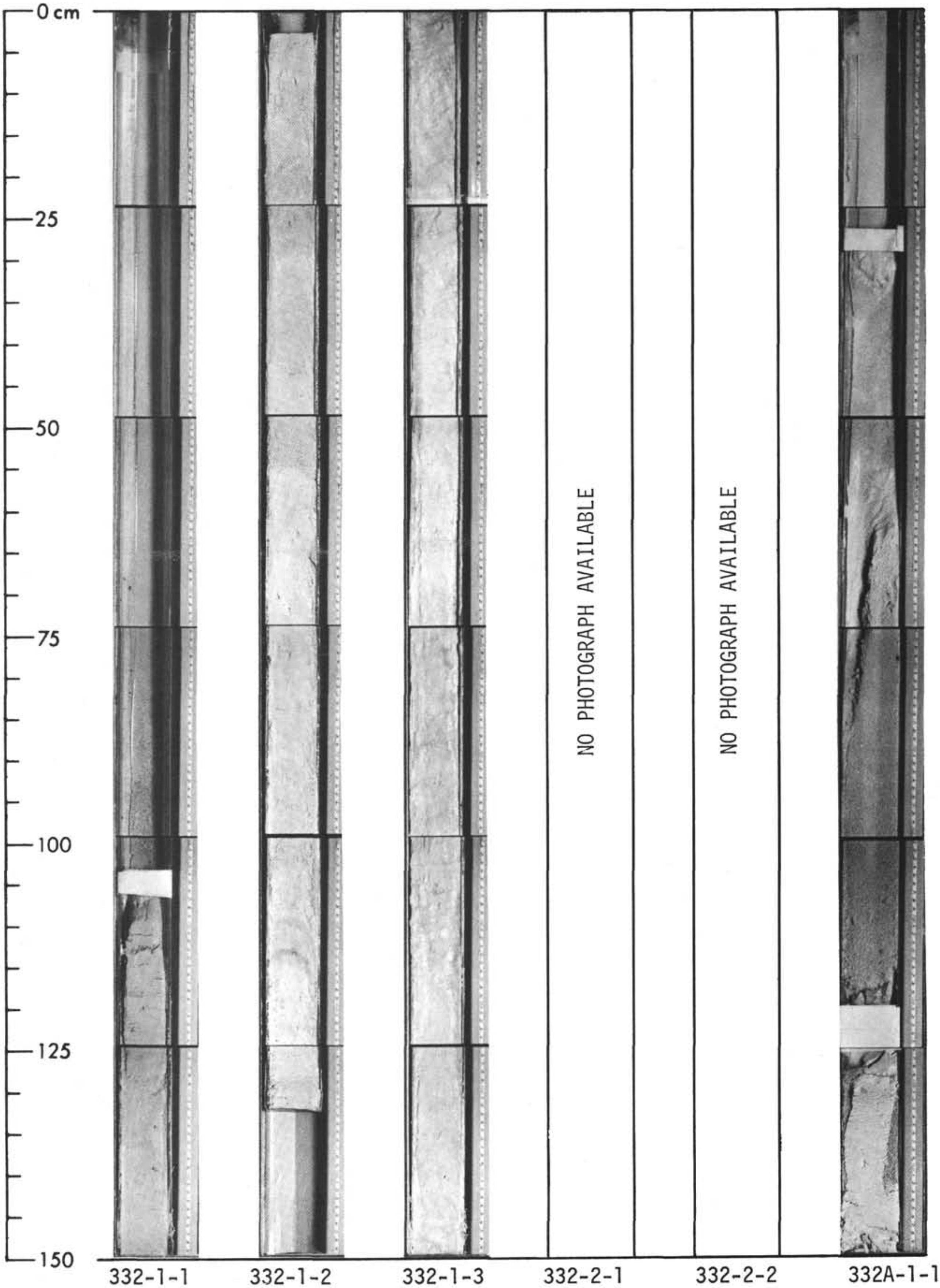
Site 332 Hole C Core 1 Cored Interval: 148.5-158.0 m

NRM INTENSITY	POLARITY	CHEMICAL CHARACTER Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY	LITHOLOGIC DESCRIPTION
								0							
								1	0.5 1.0		B A				Original recovery was 1.10 m. Styrofoam spacers make the amount shown here greater than the amount recovered. 1. PLAGIOCLASE-PHYRIC BASALT 2. NANNOFOSSIL CHALK

Site 332 Hole D Core 1 Cored Interval: 142.0-148.0 m

NRM INTENSITY	POLARITY	CHEMICAL CHARACTER Al_2O_3	Fe_2O_3	MgO	K_2O	H_2O+	CO_2	SECTION	METERS	LITHOLOGY	SAMPLES	D g/cc	V km/sec	POROSITY	LITHOLOGIC DESCRIPTION
								0							
								1	0.5		A				Original recovery was 0.35 m. Styrofoam spacers make the amount shown here greater than the amount recovered. 1. APHYRIC BASALT 2. NANNOFOSSIL CHALK

Explanatory Notes in Chapter 1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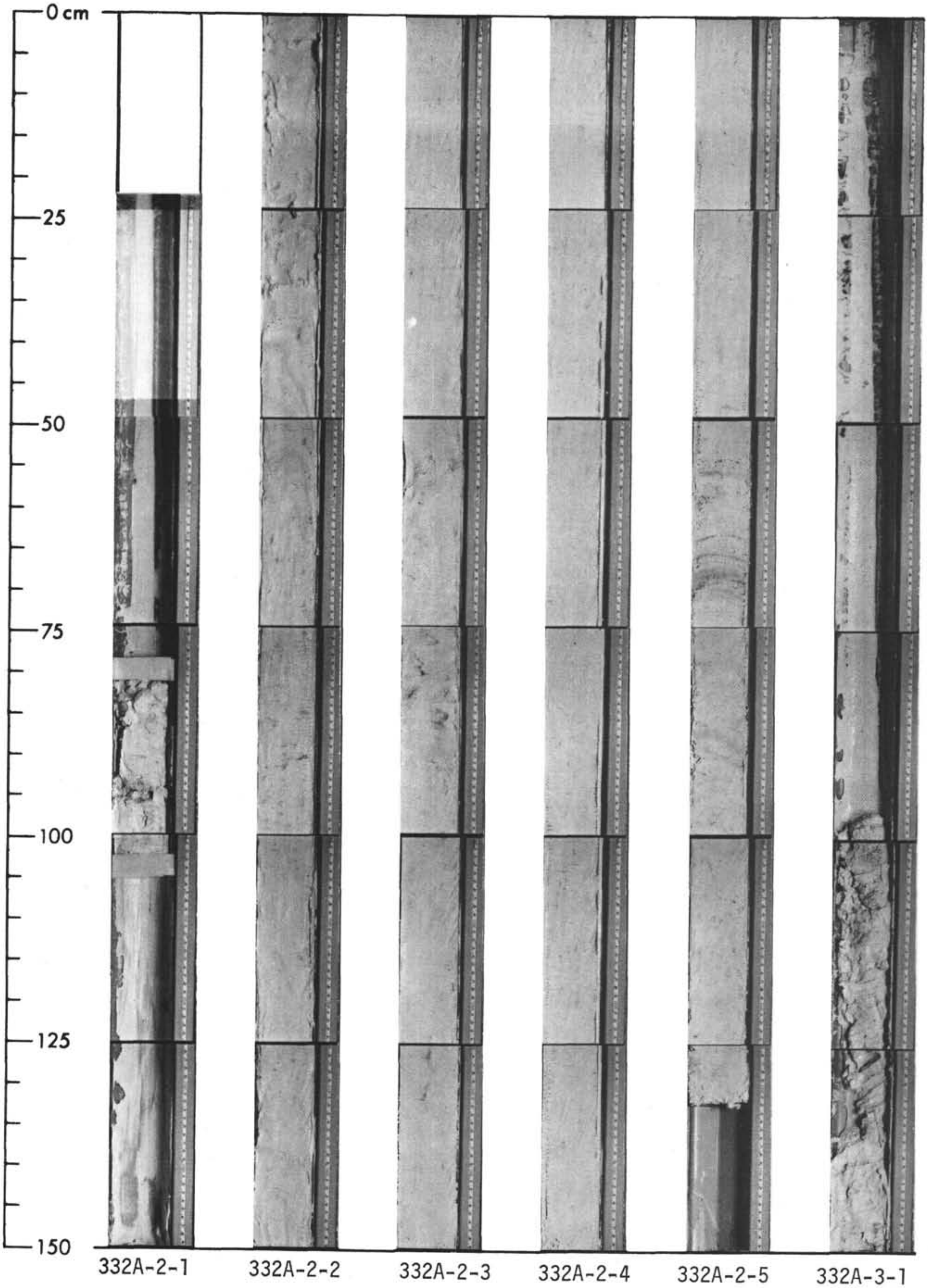
332-1-2
332-1-3
332-2-1
332-2-2
332A-1-1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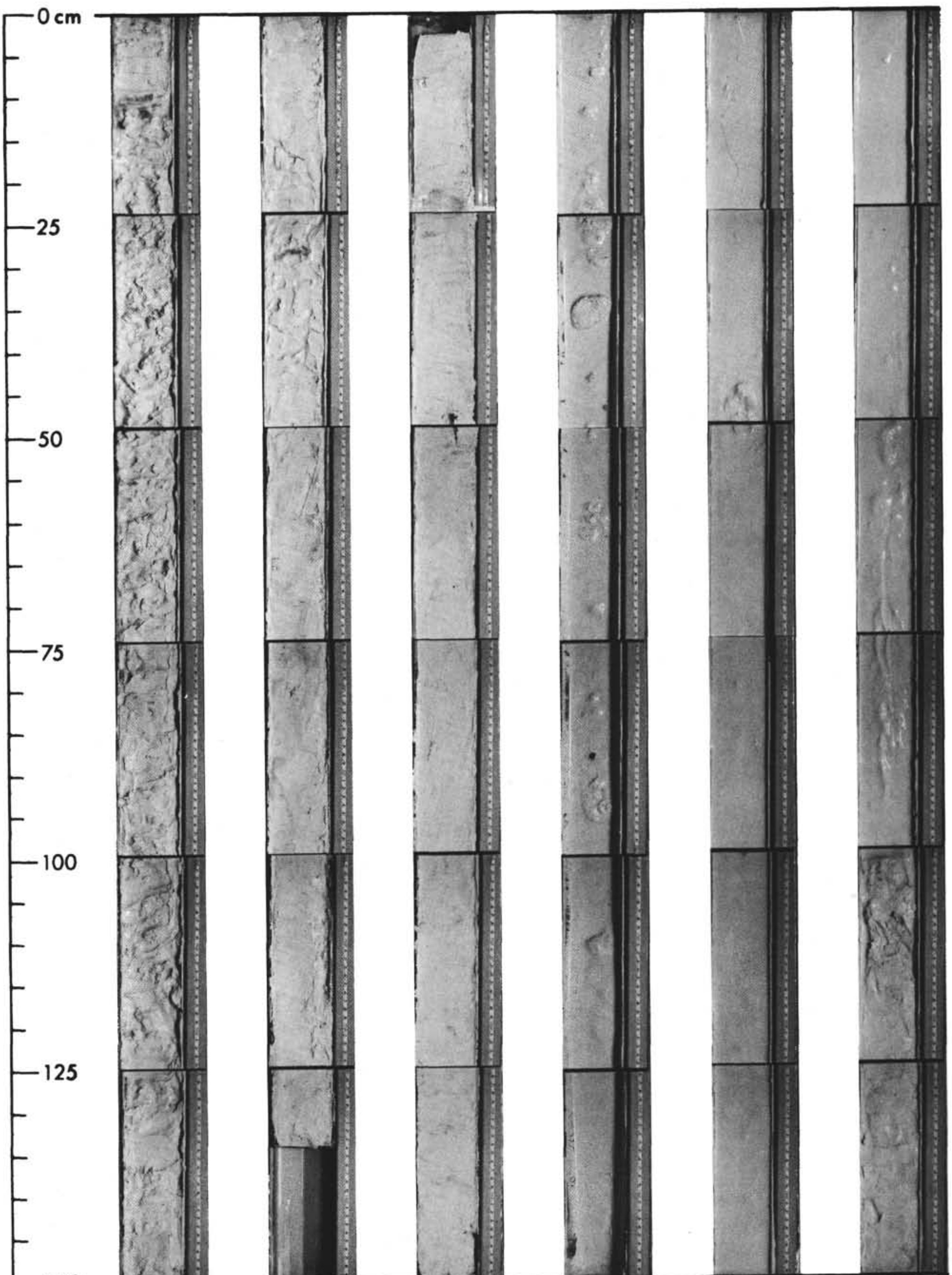
332A-3-1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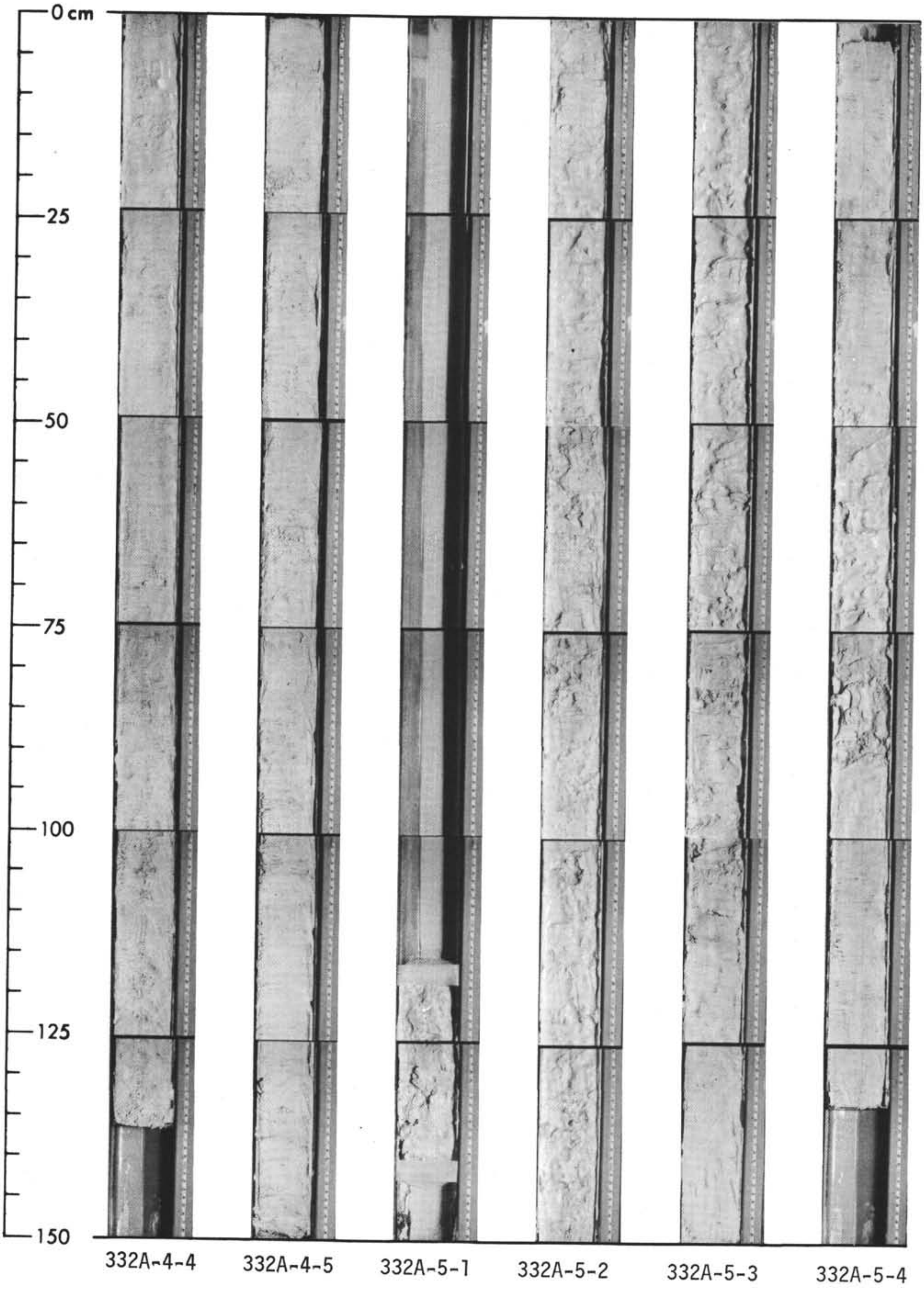
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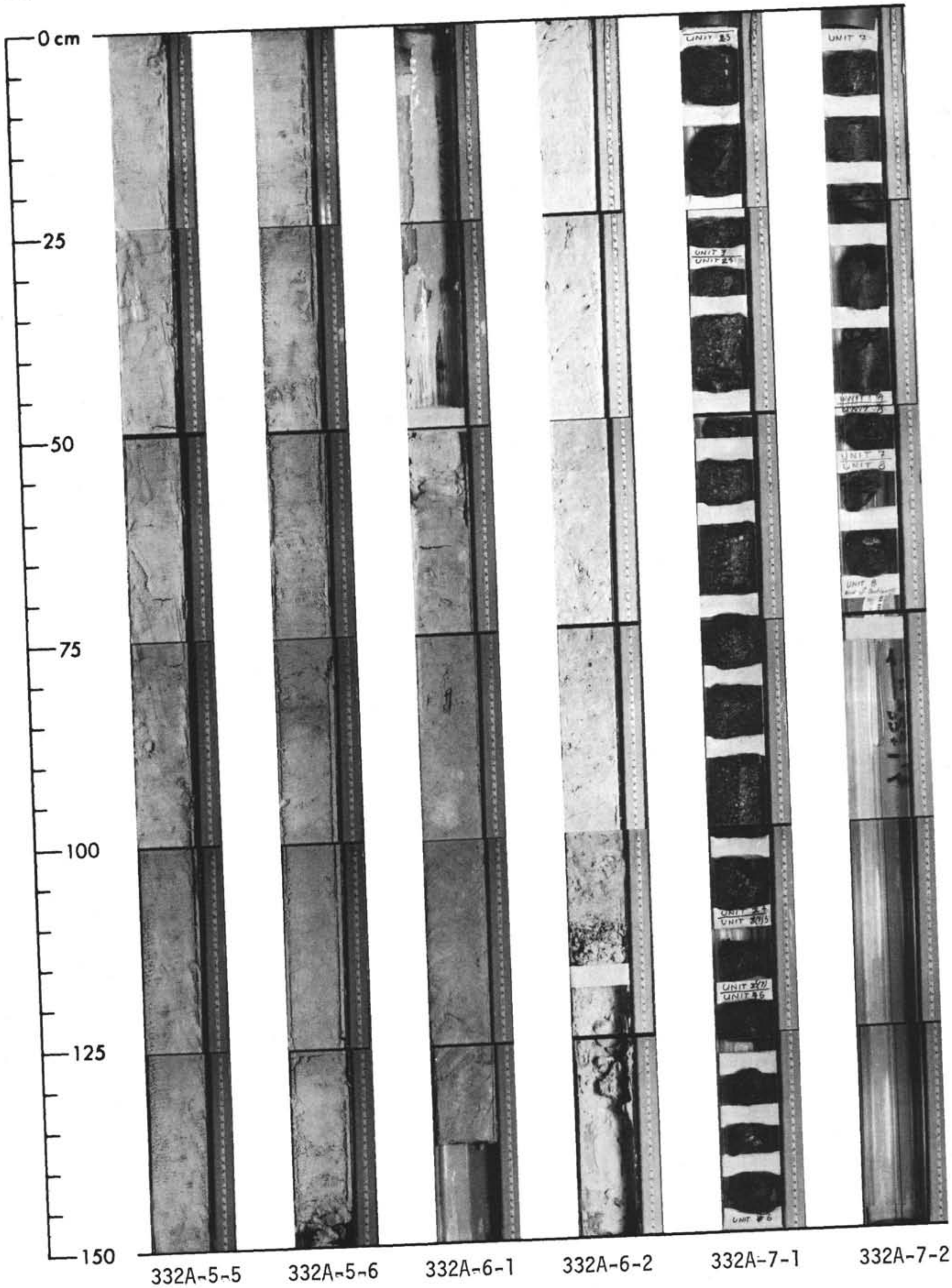
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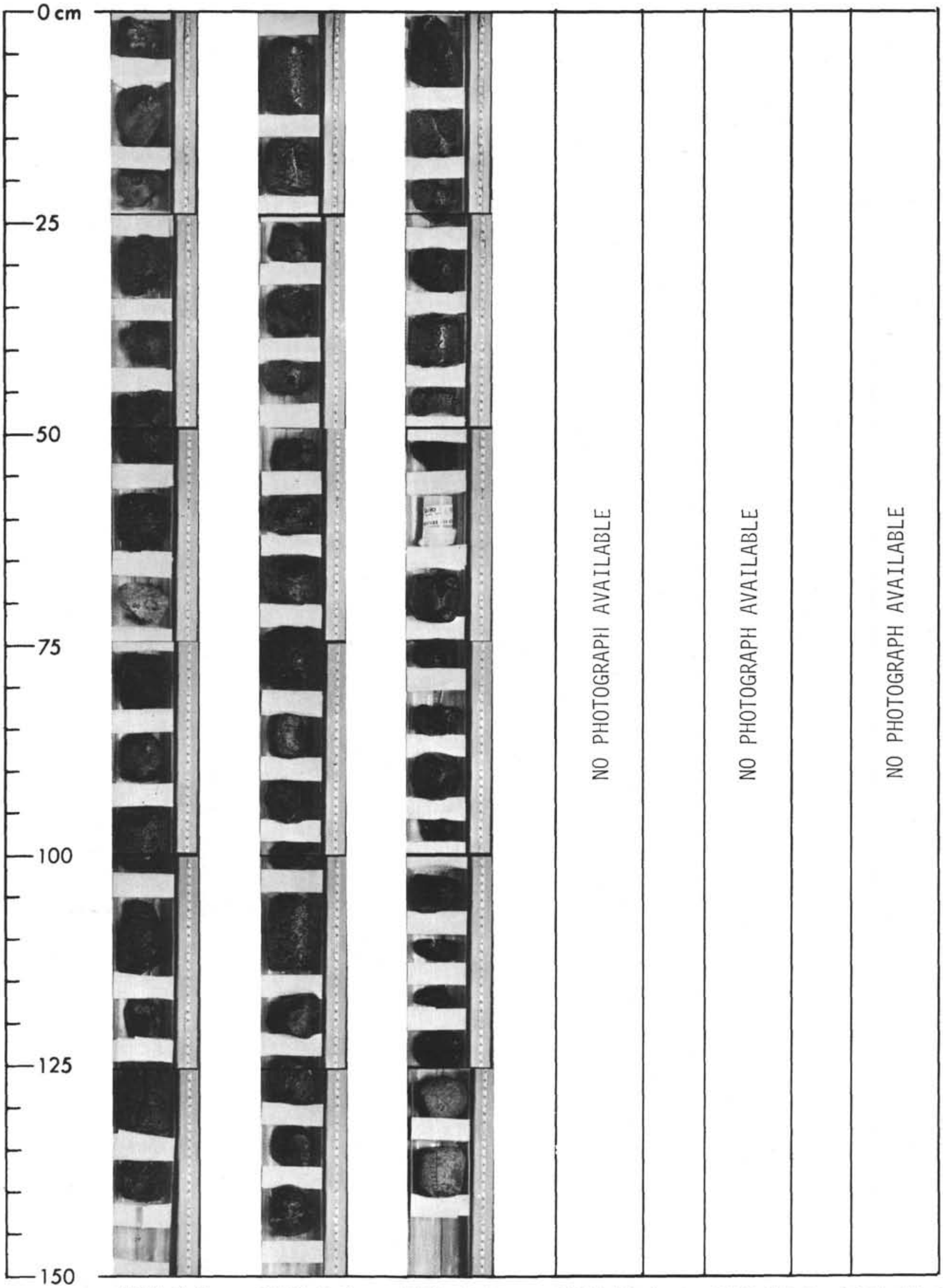
332A-7-2



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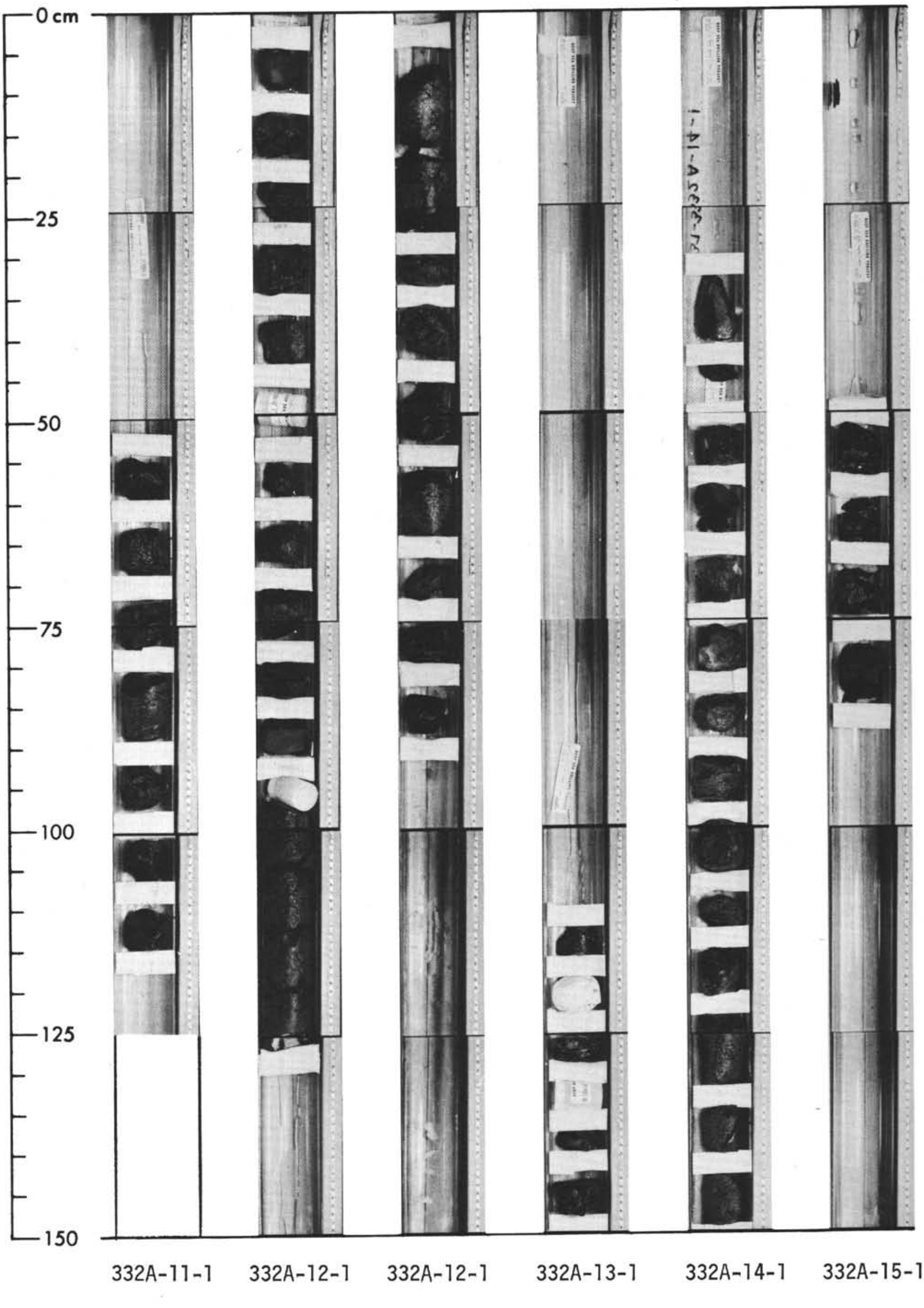
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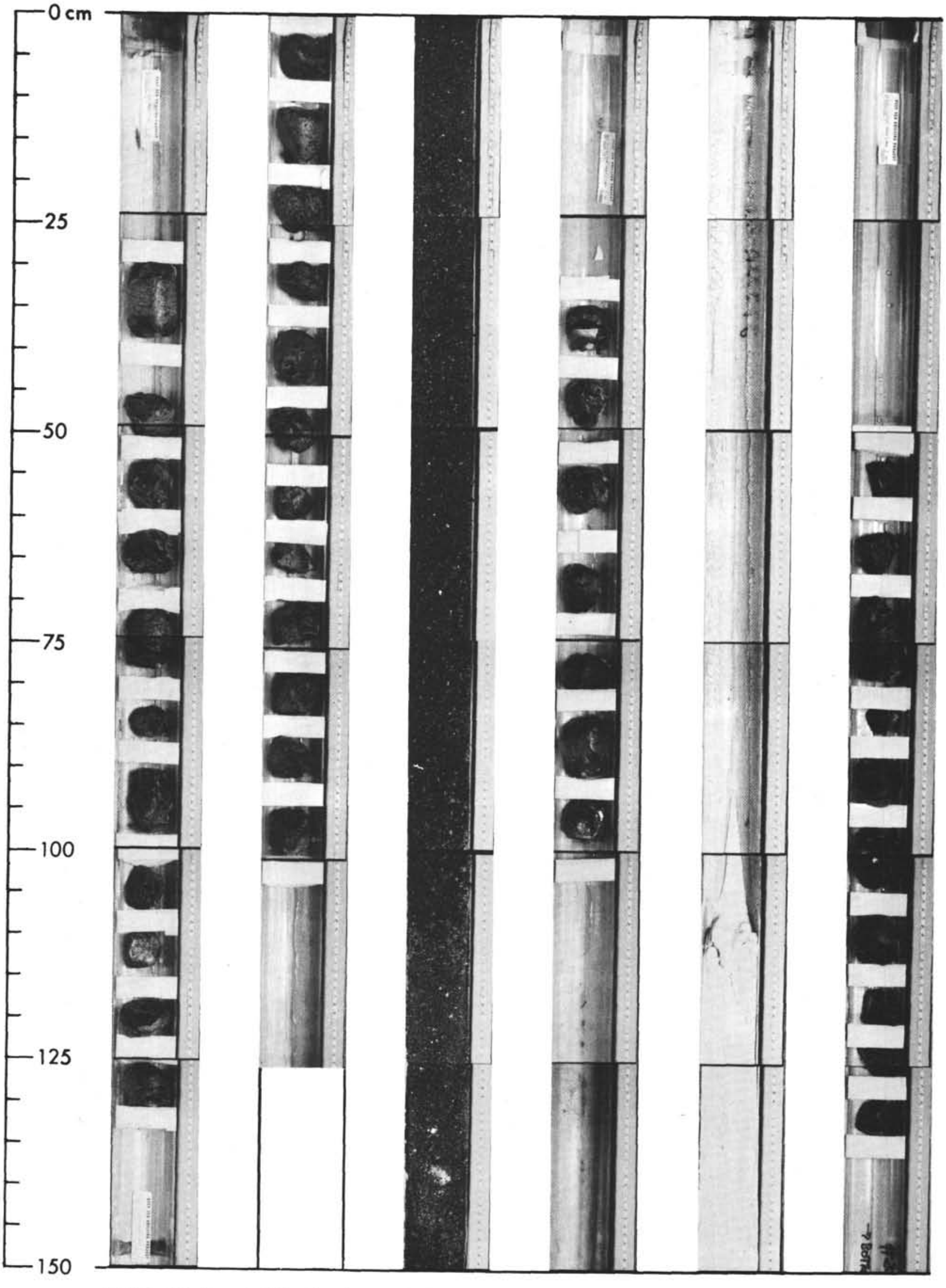

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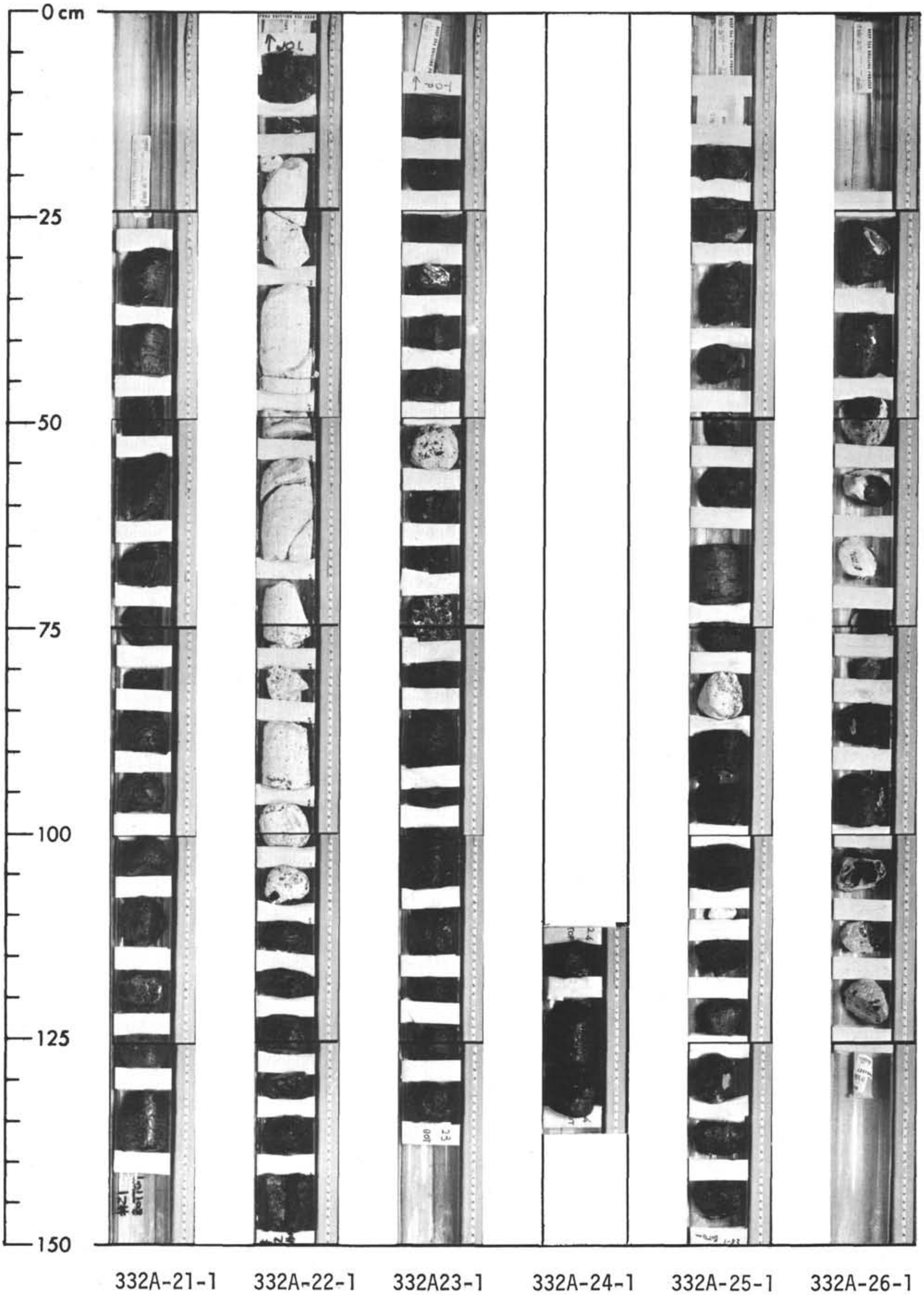
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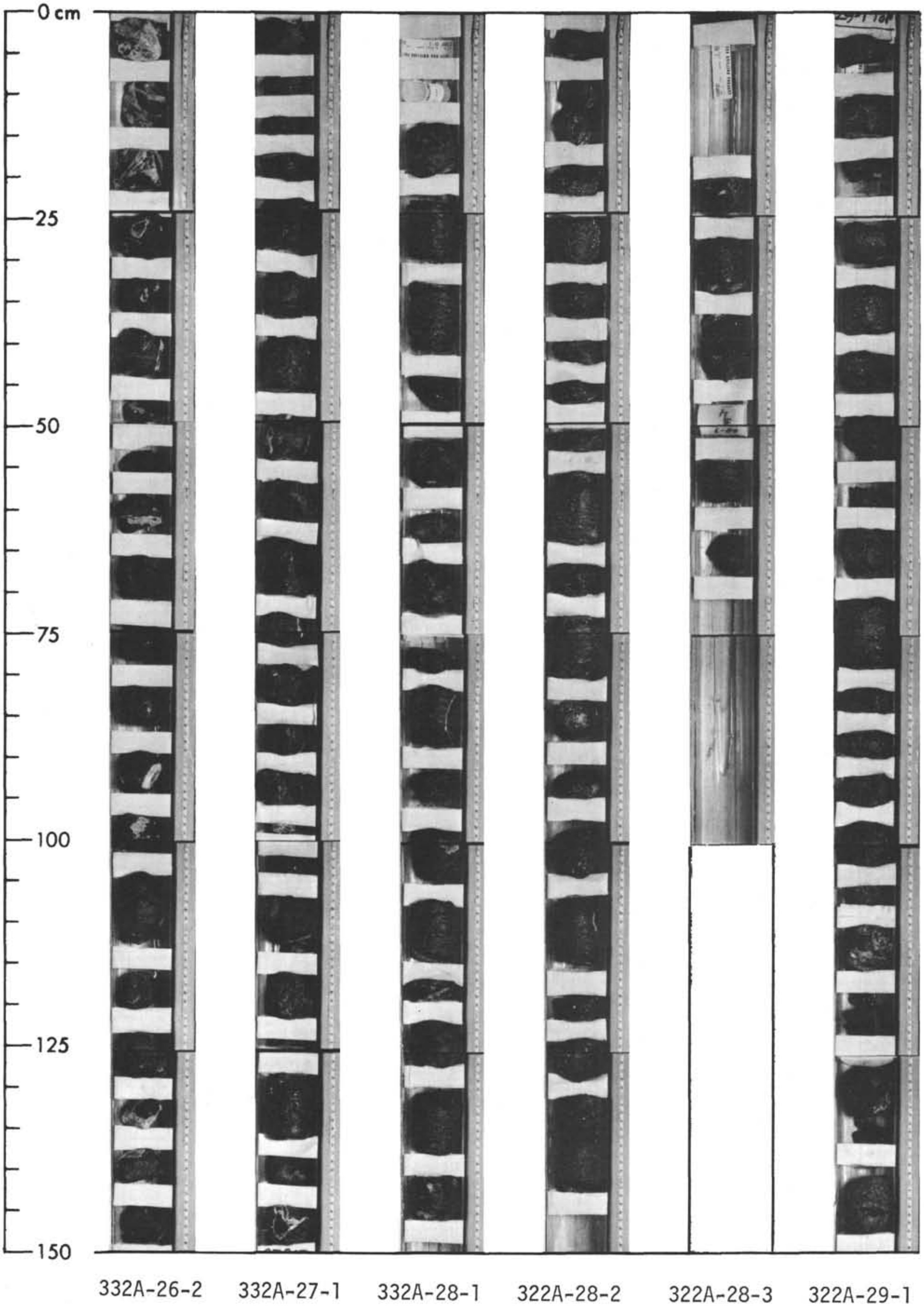
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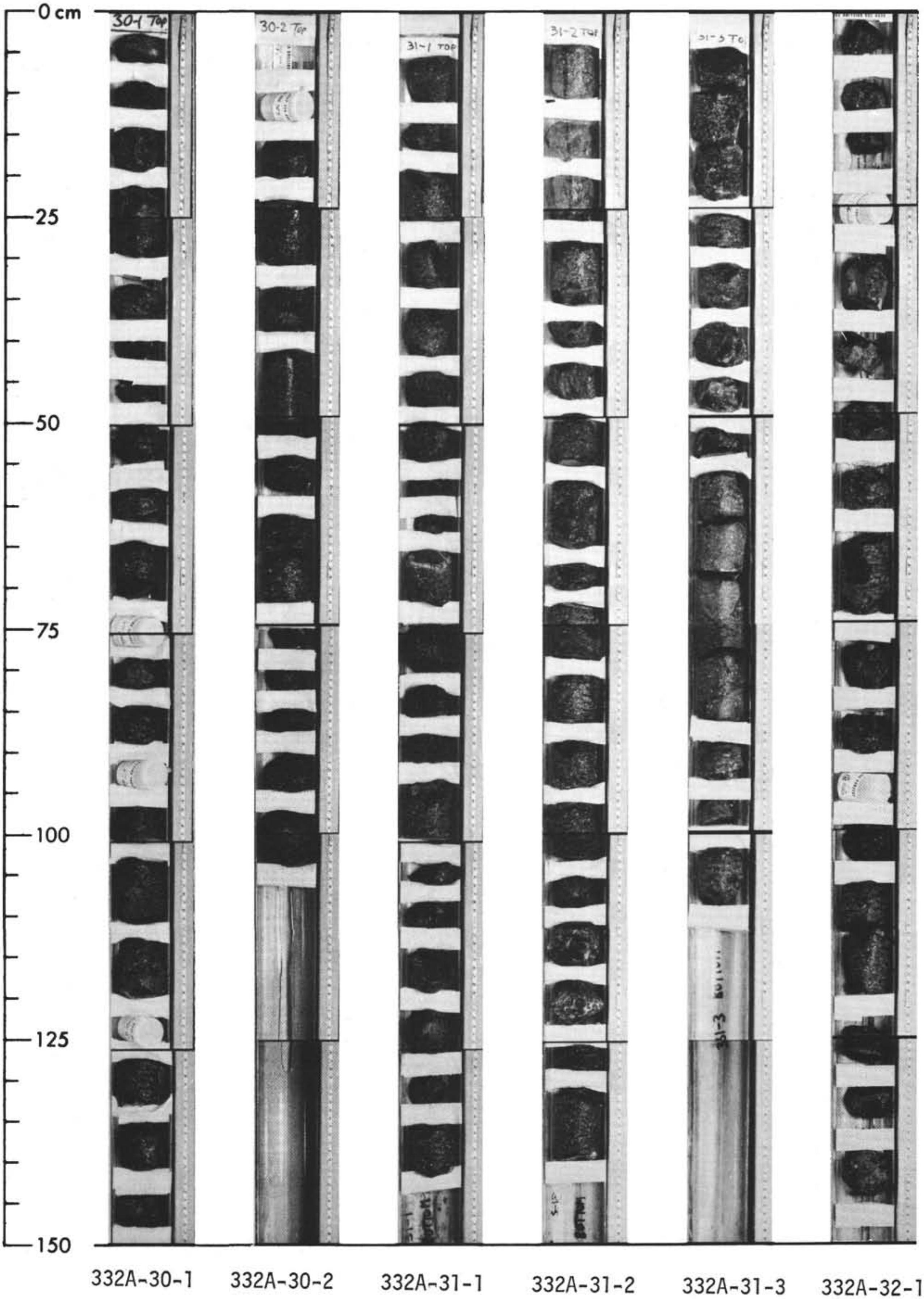
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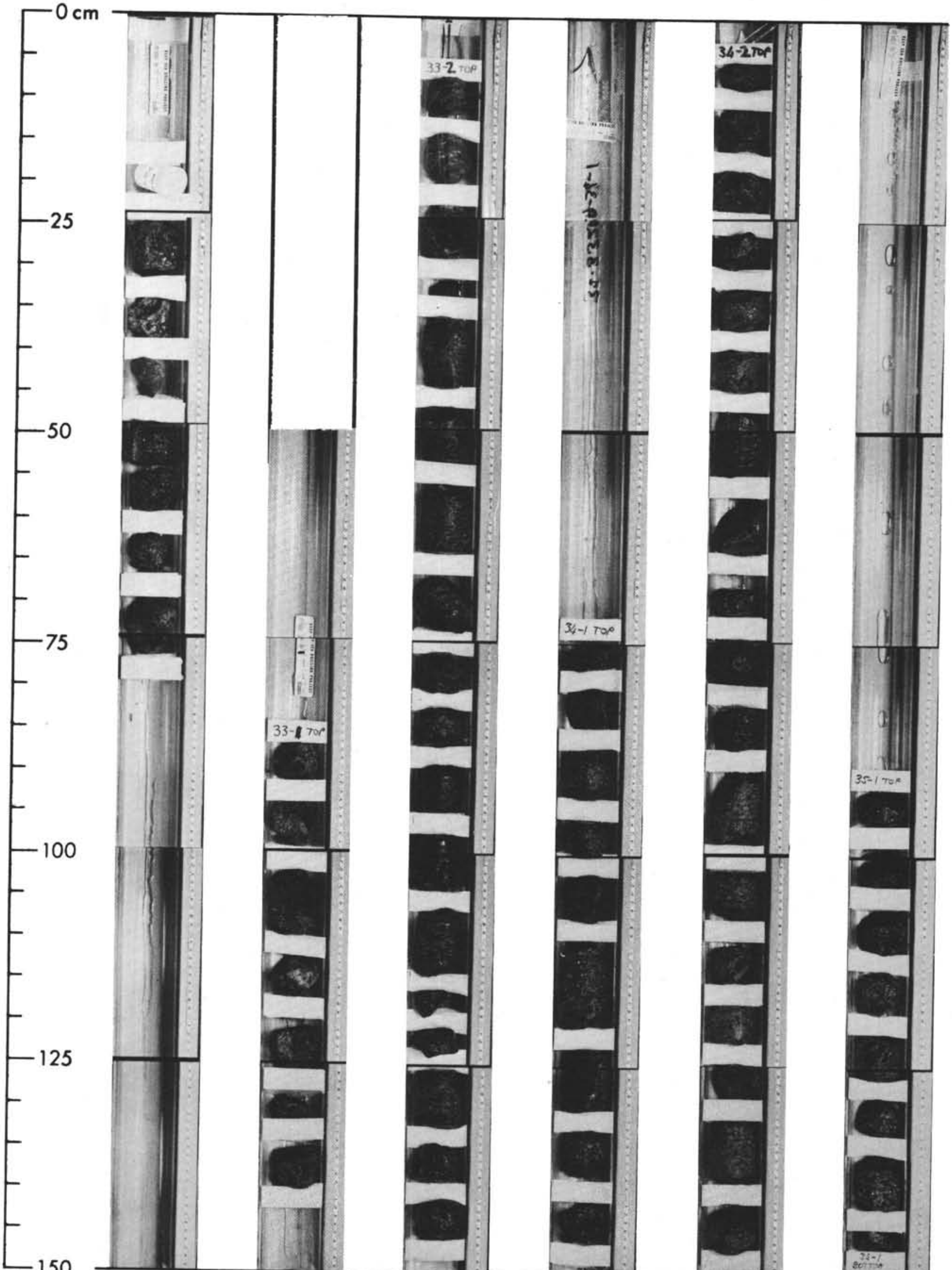
332A-32-1



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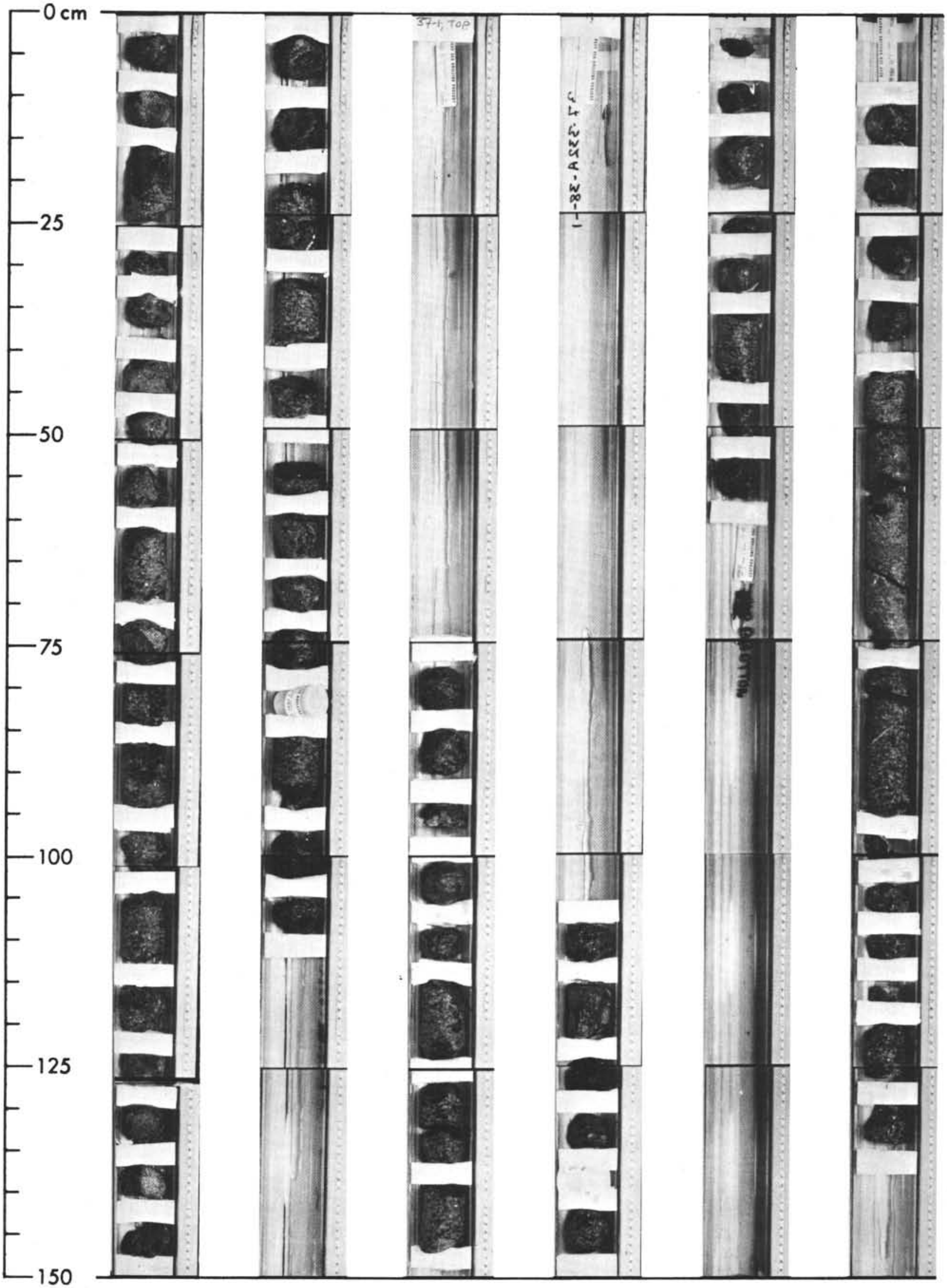

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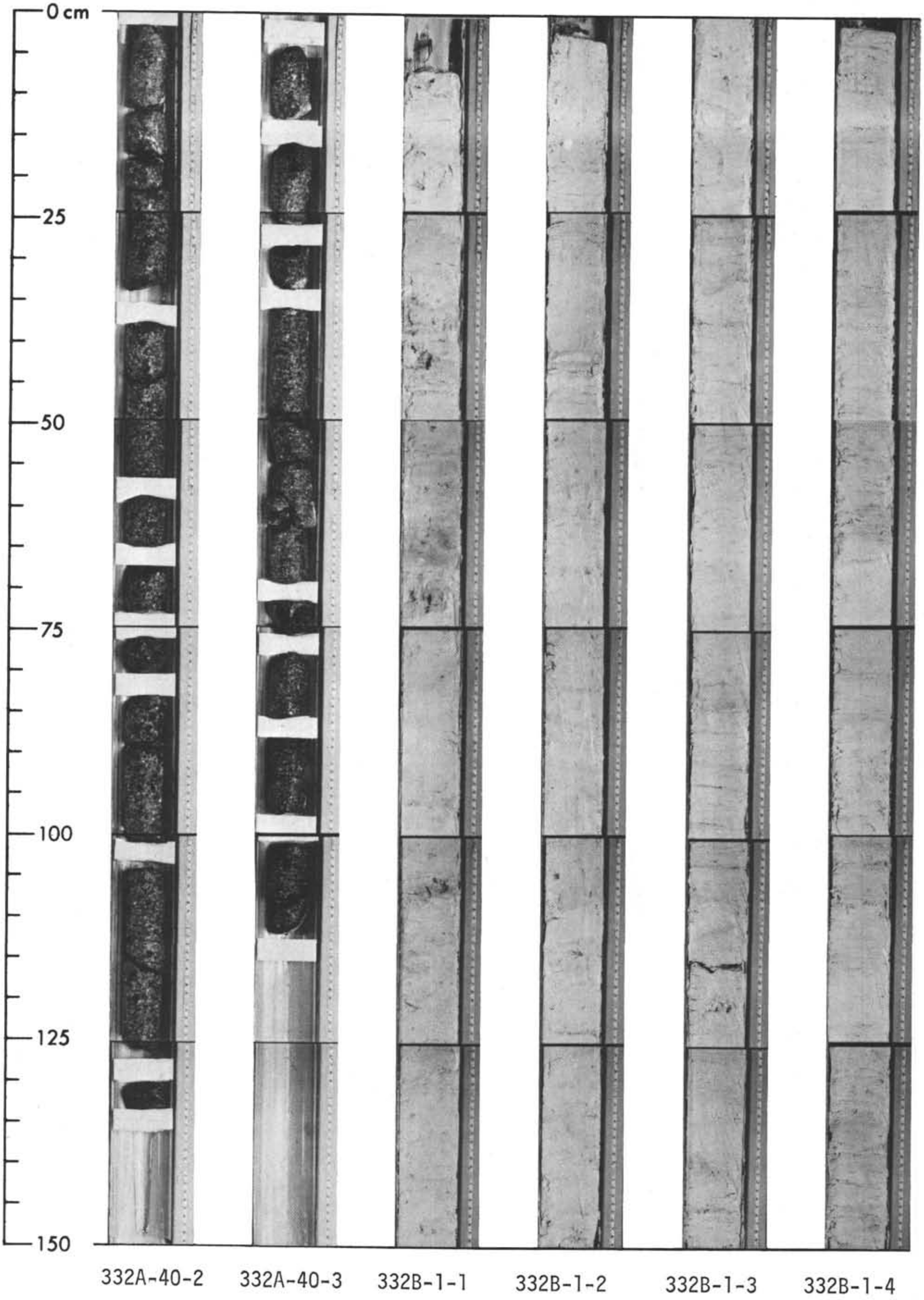
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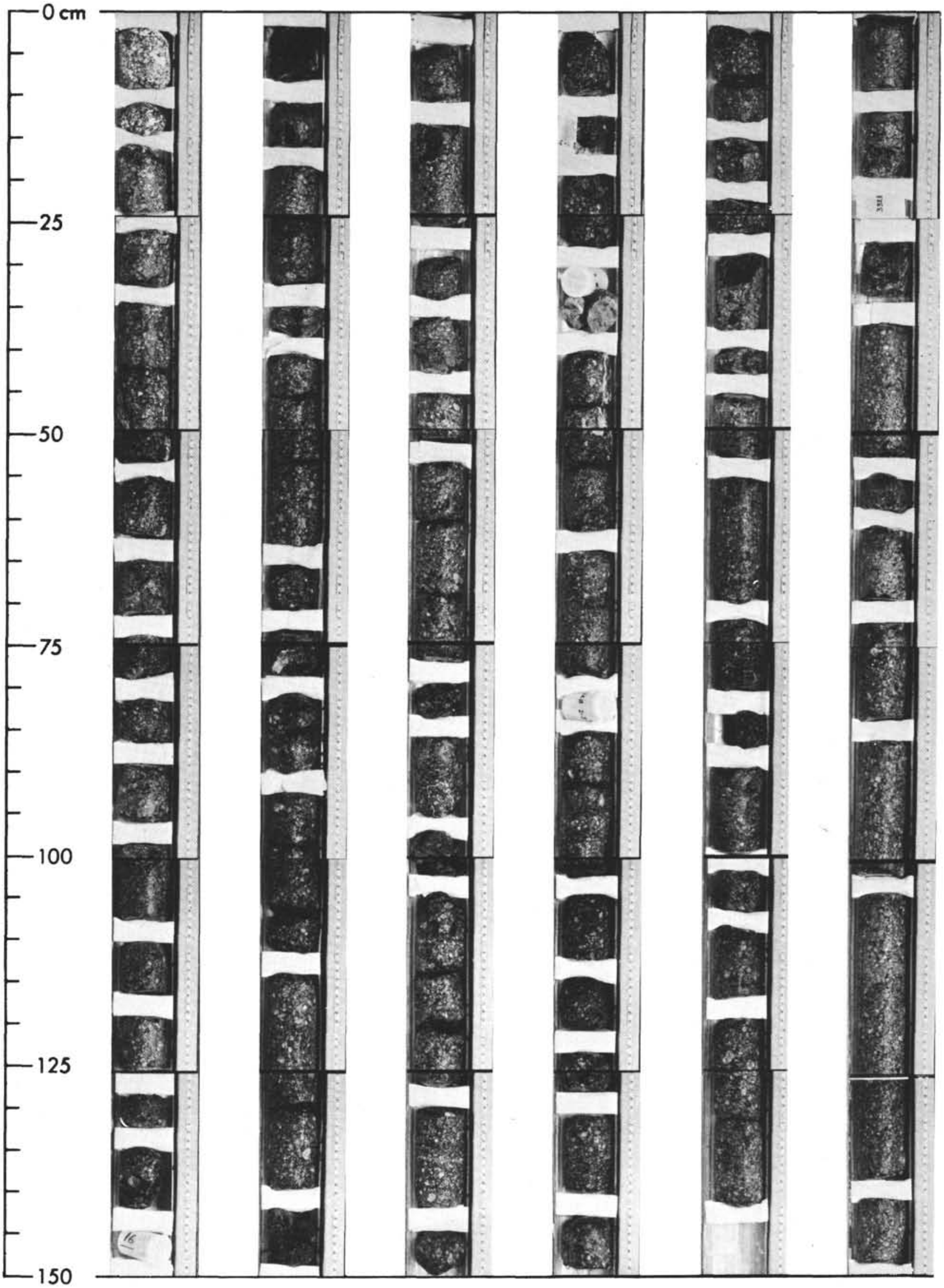
332B-1-4



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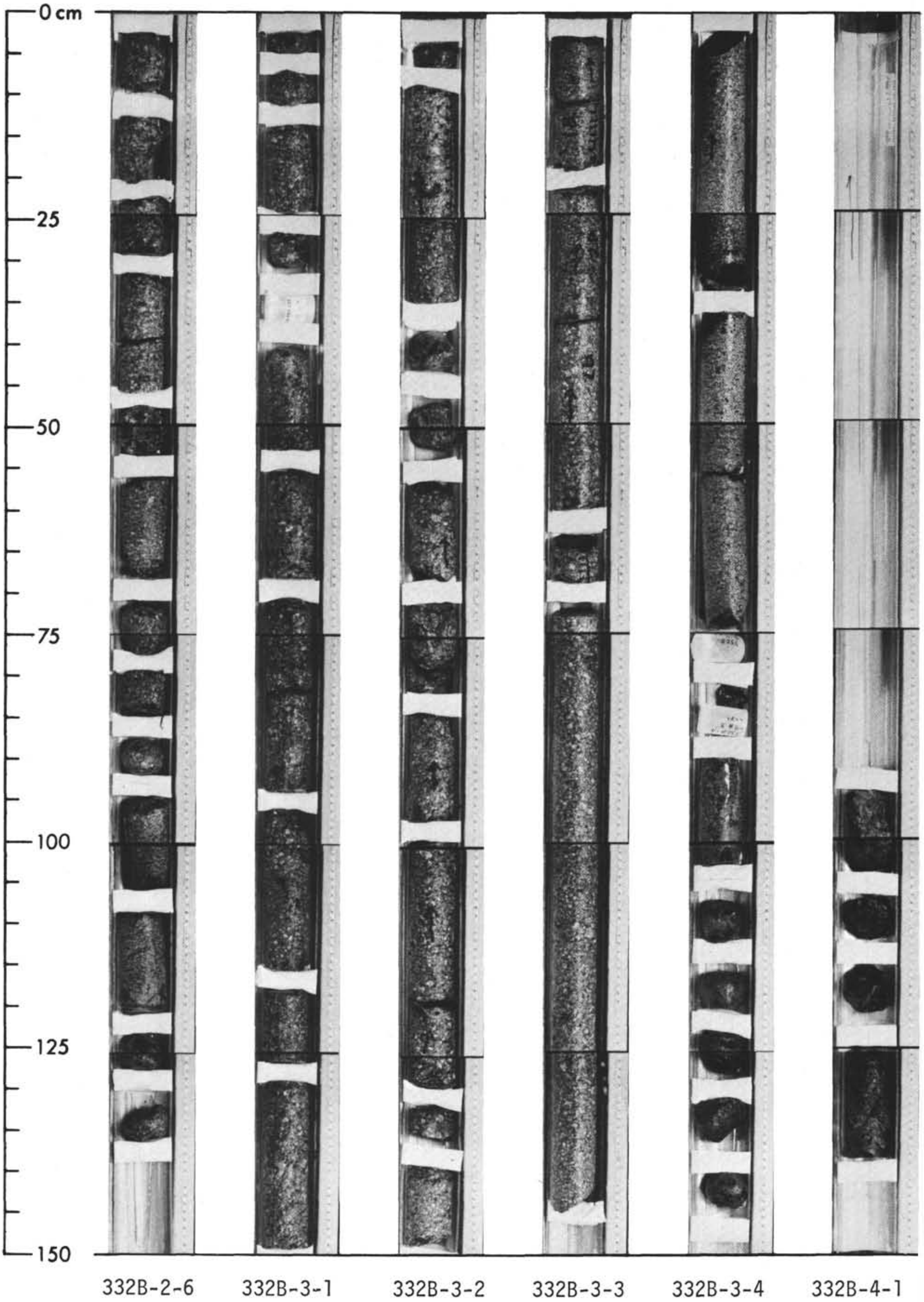
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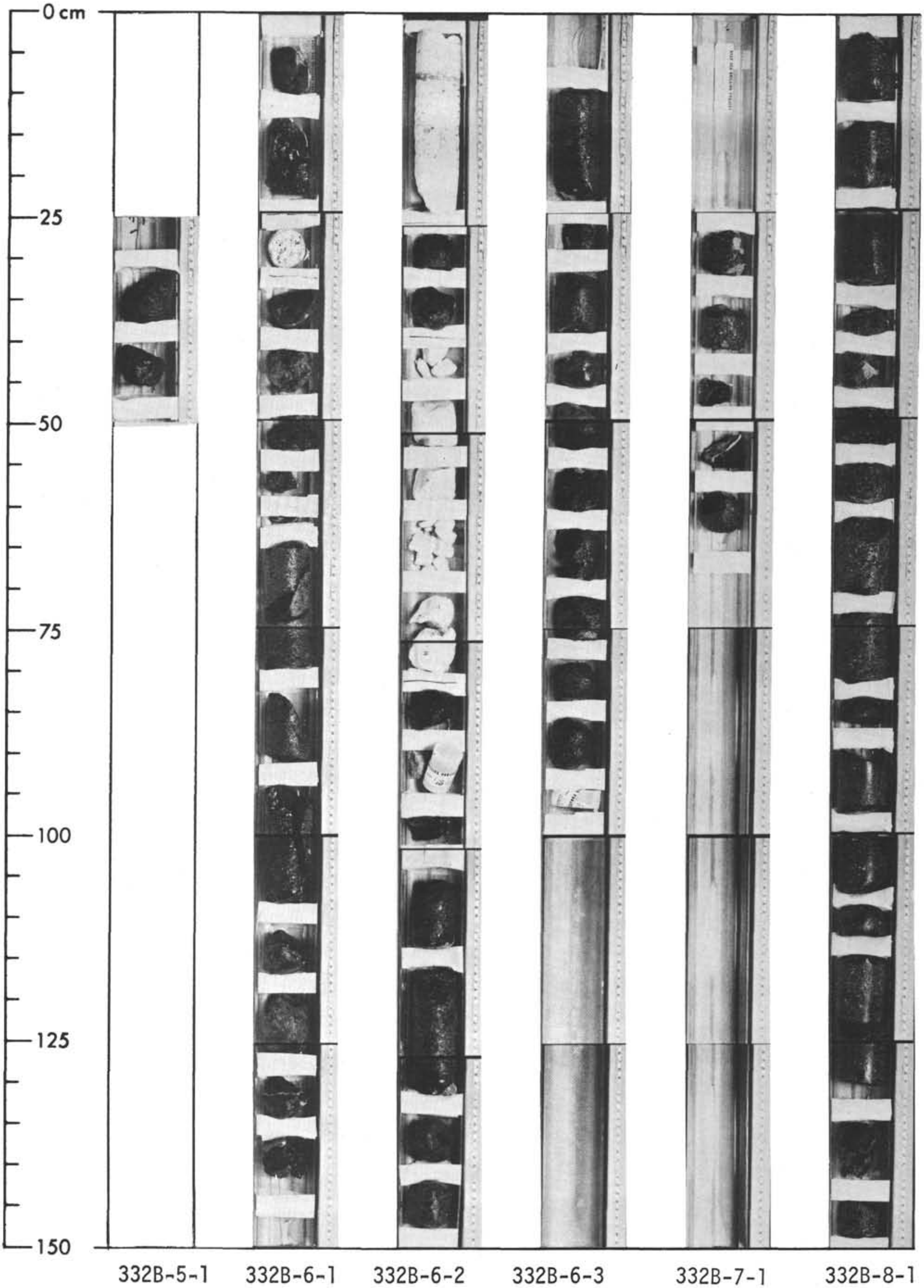
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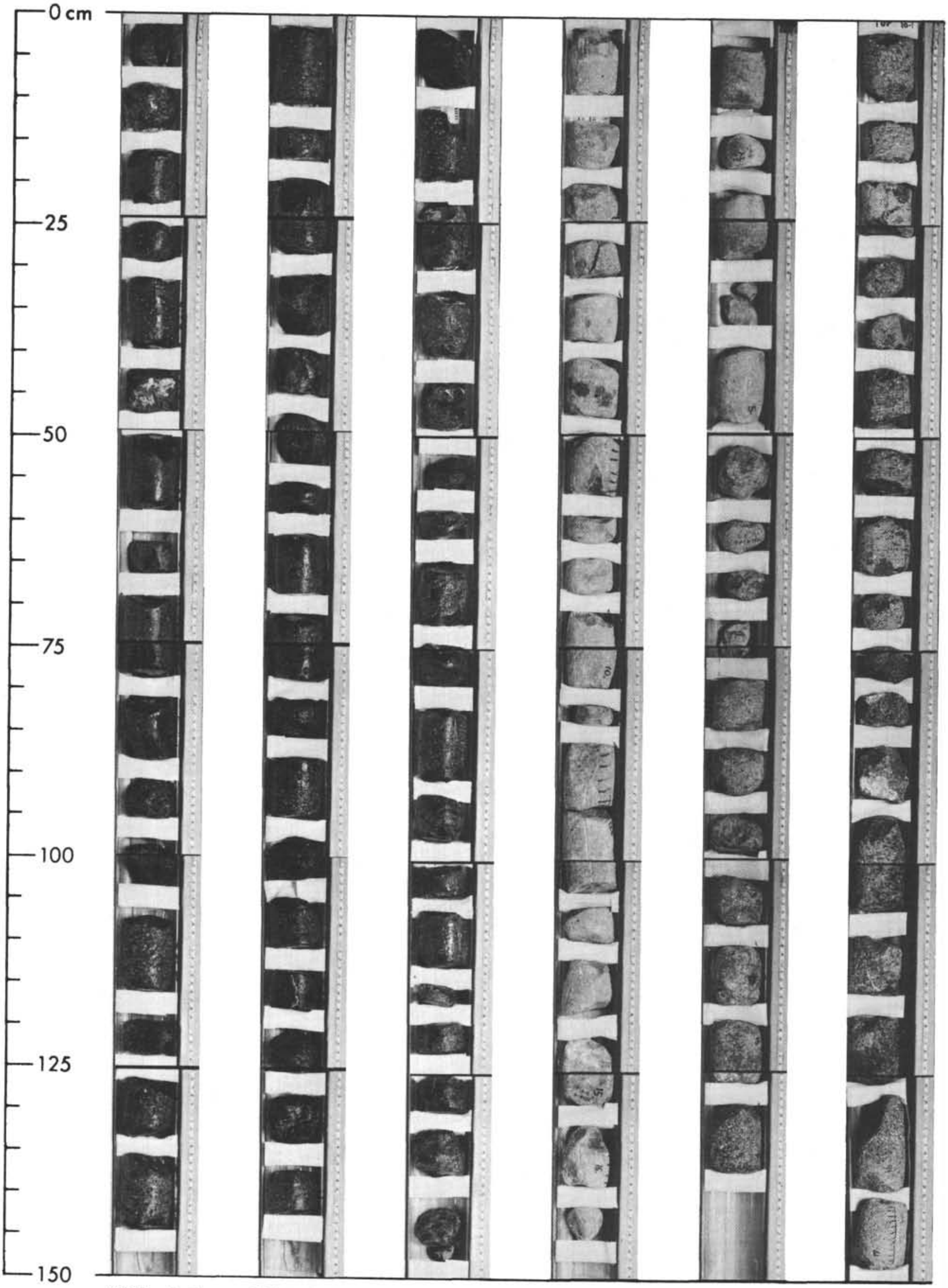

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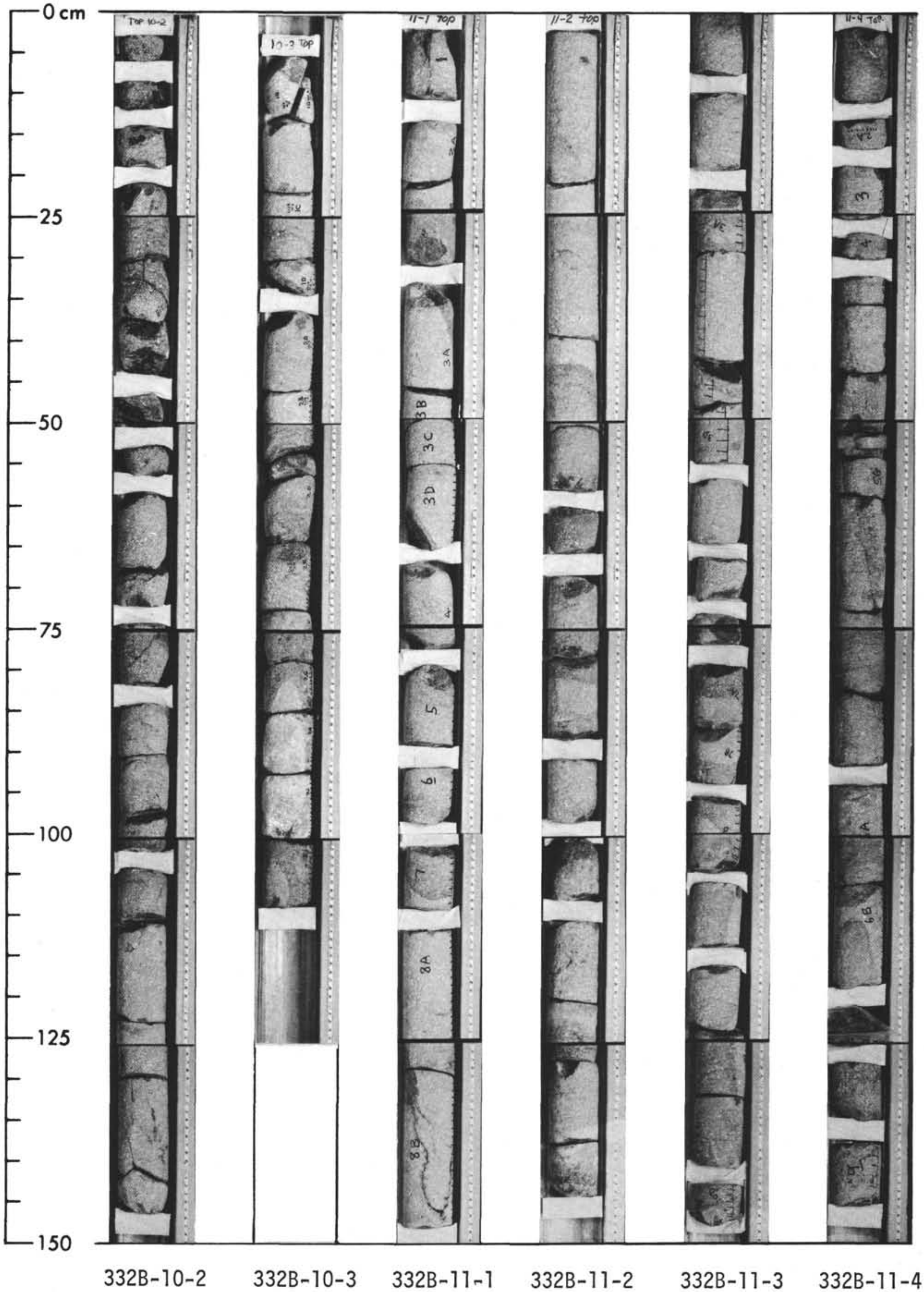
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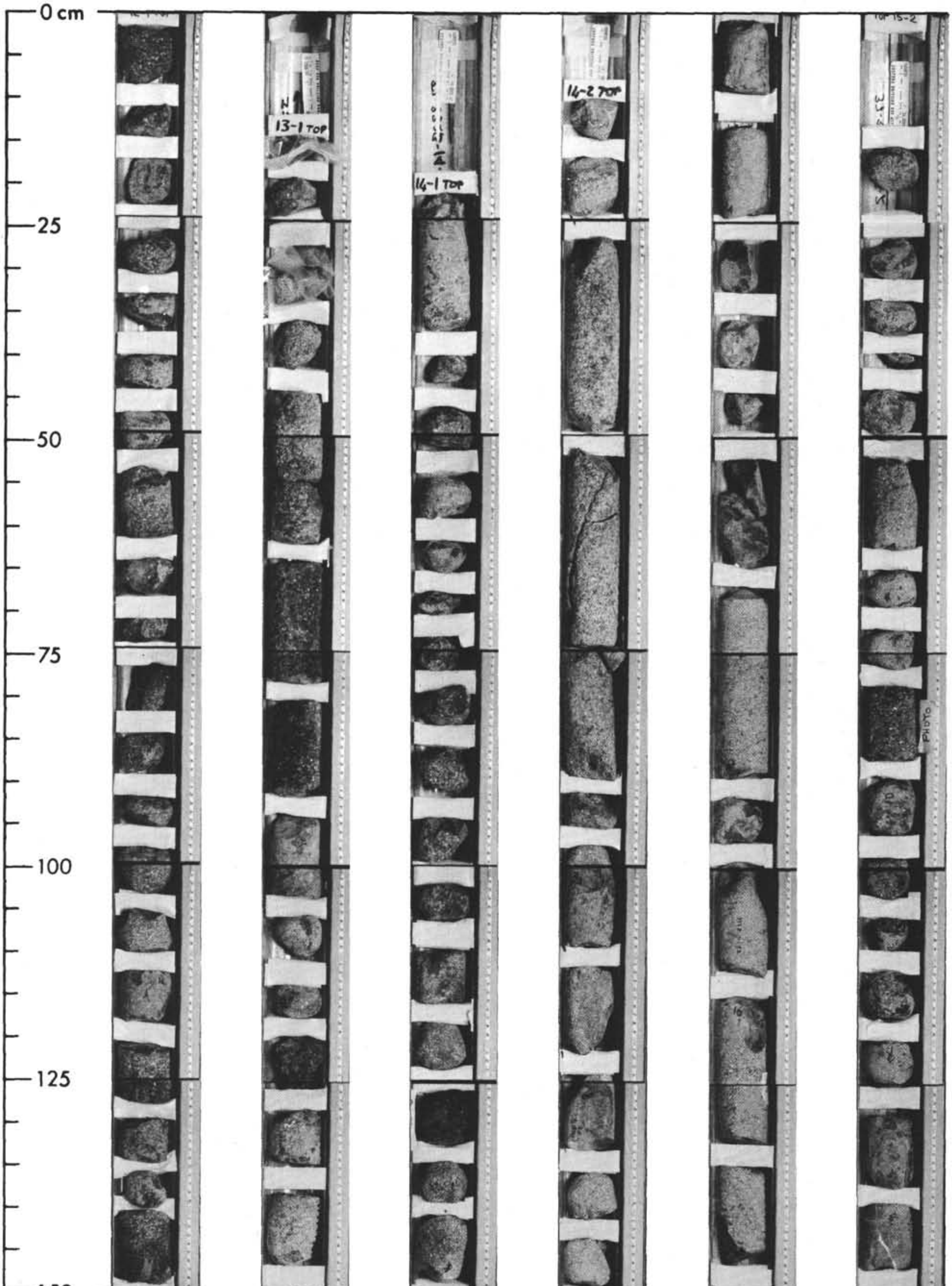

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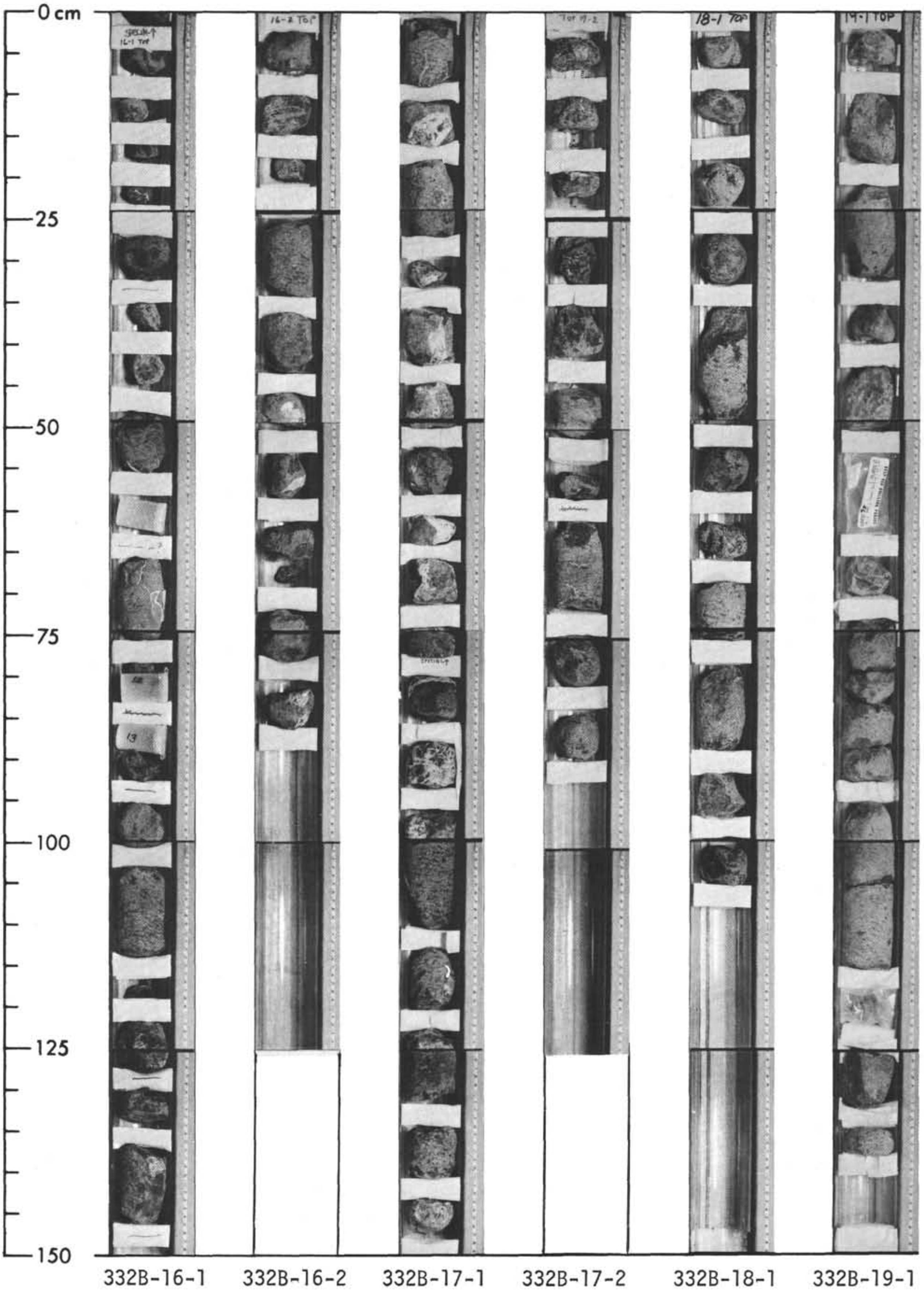
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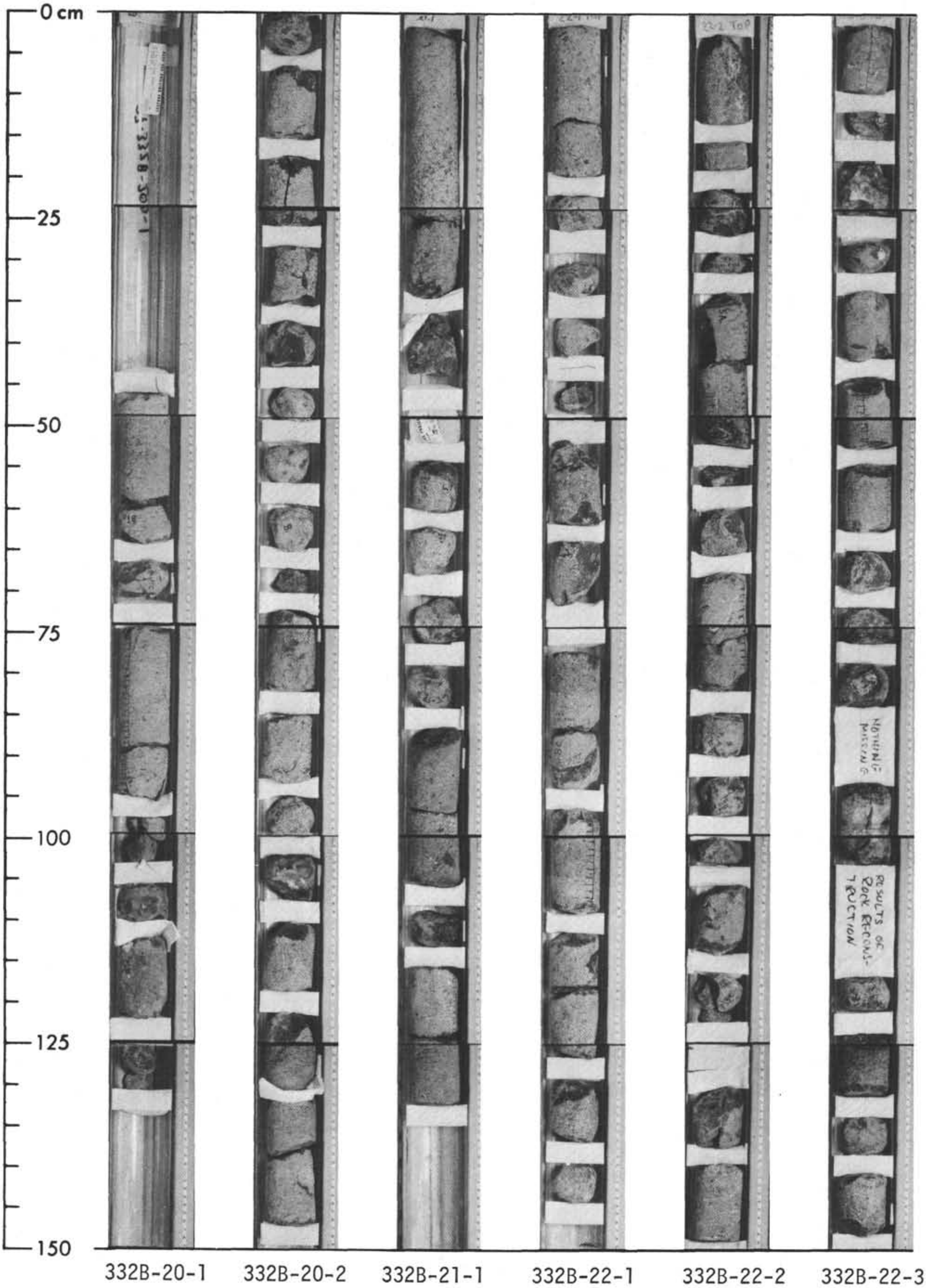
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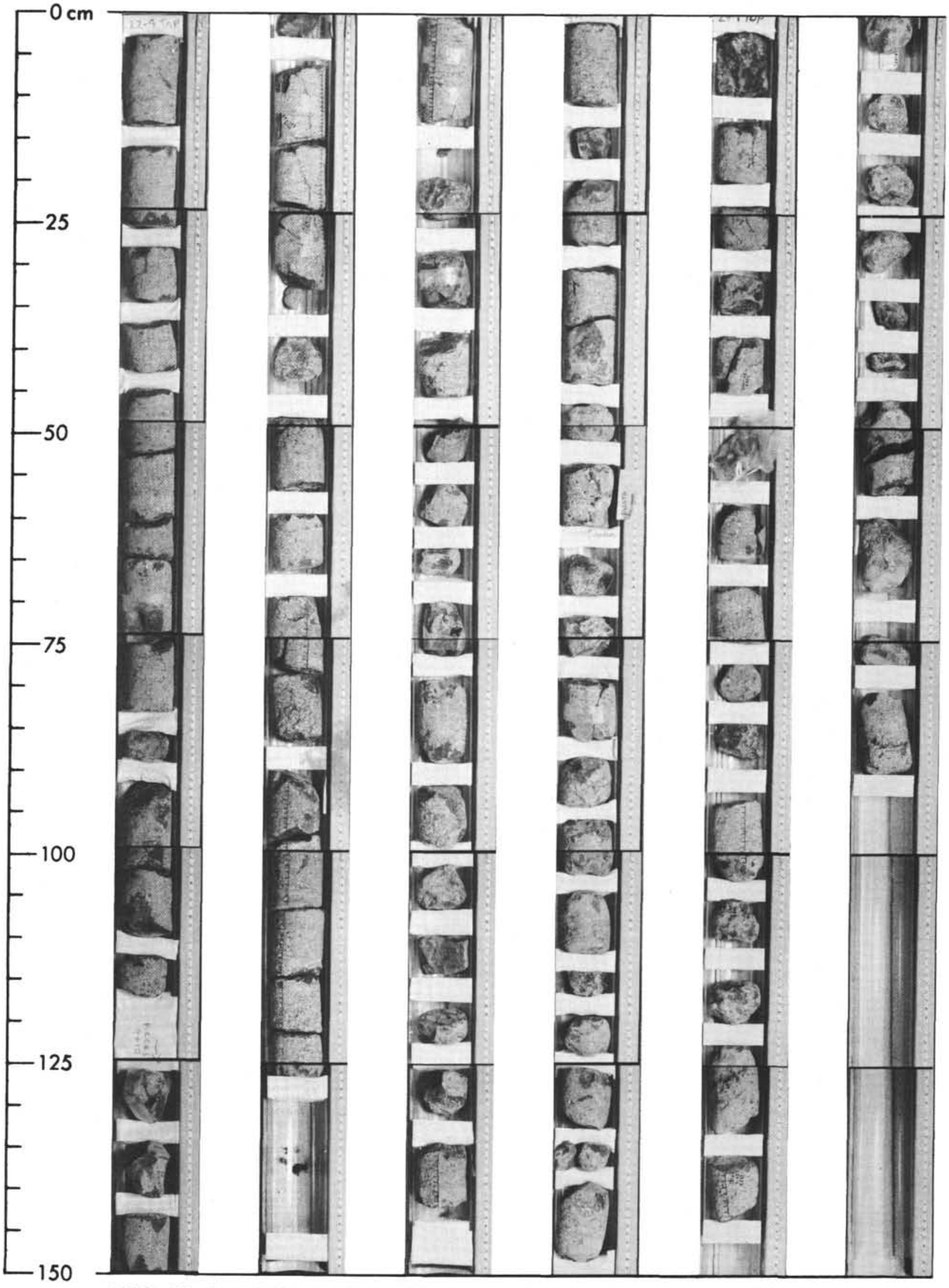
332B-21-1
332B-22-1
332B-22-2
332B-22-3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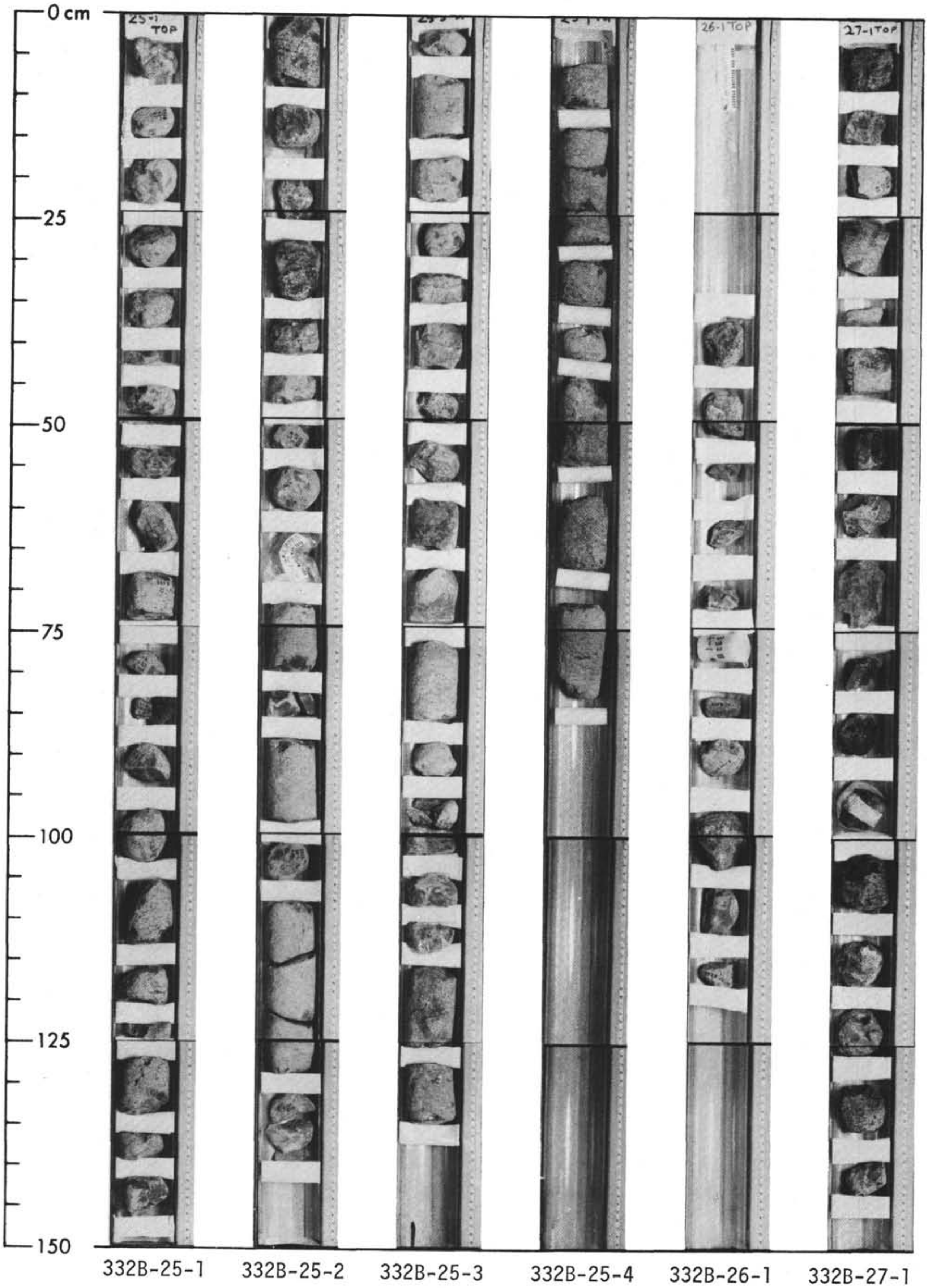
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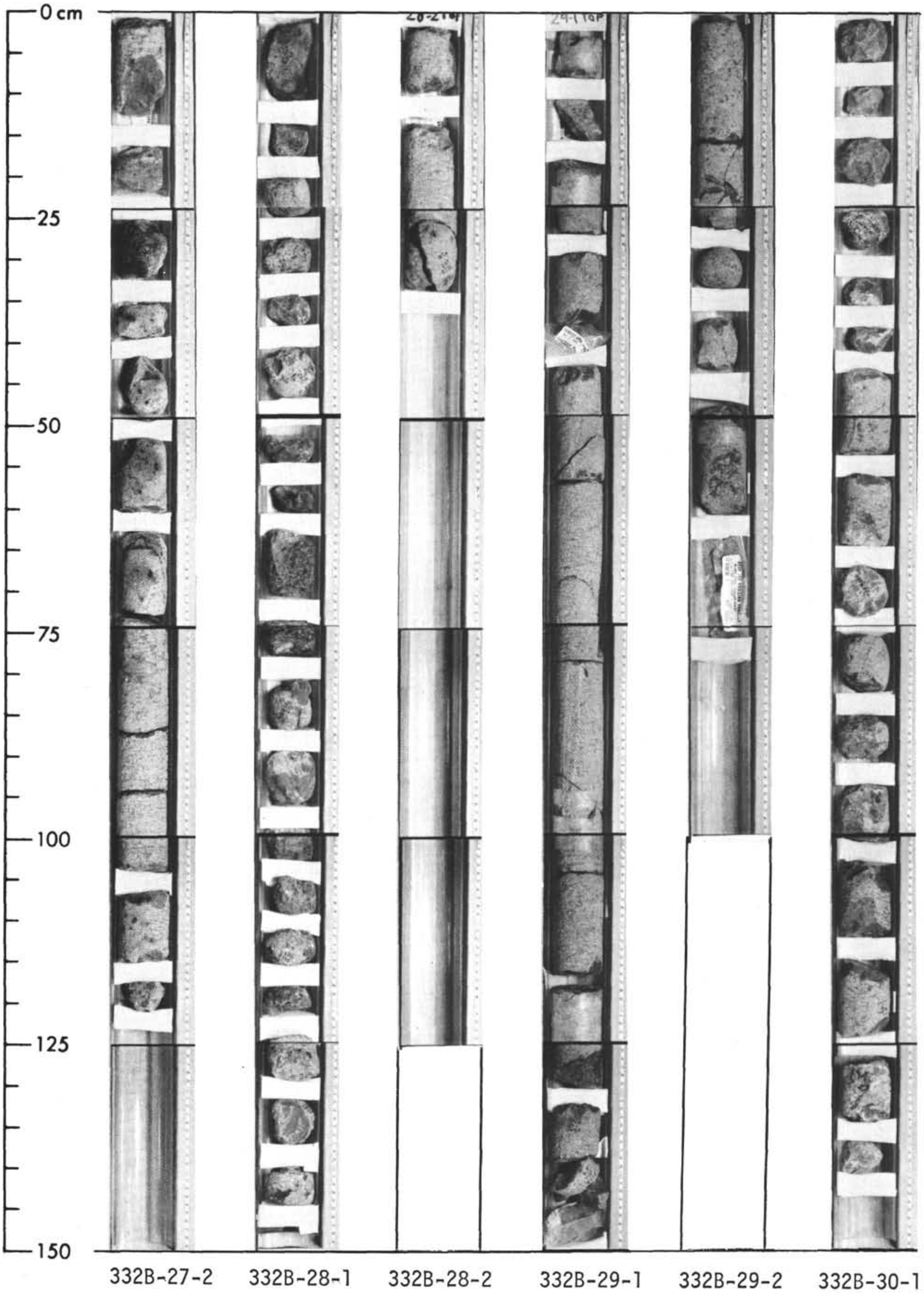
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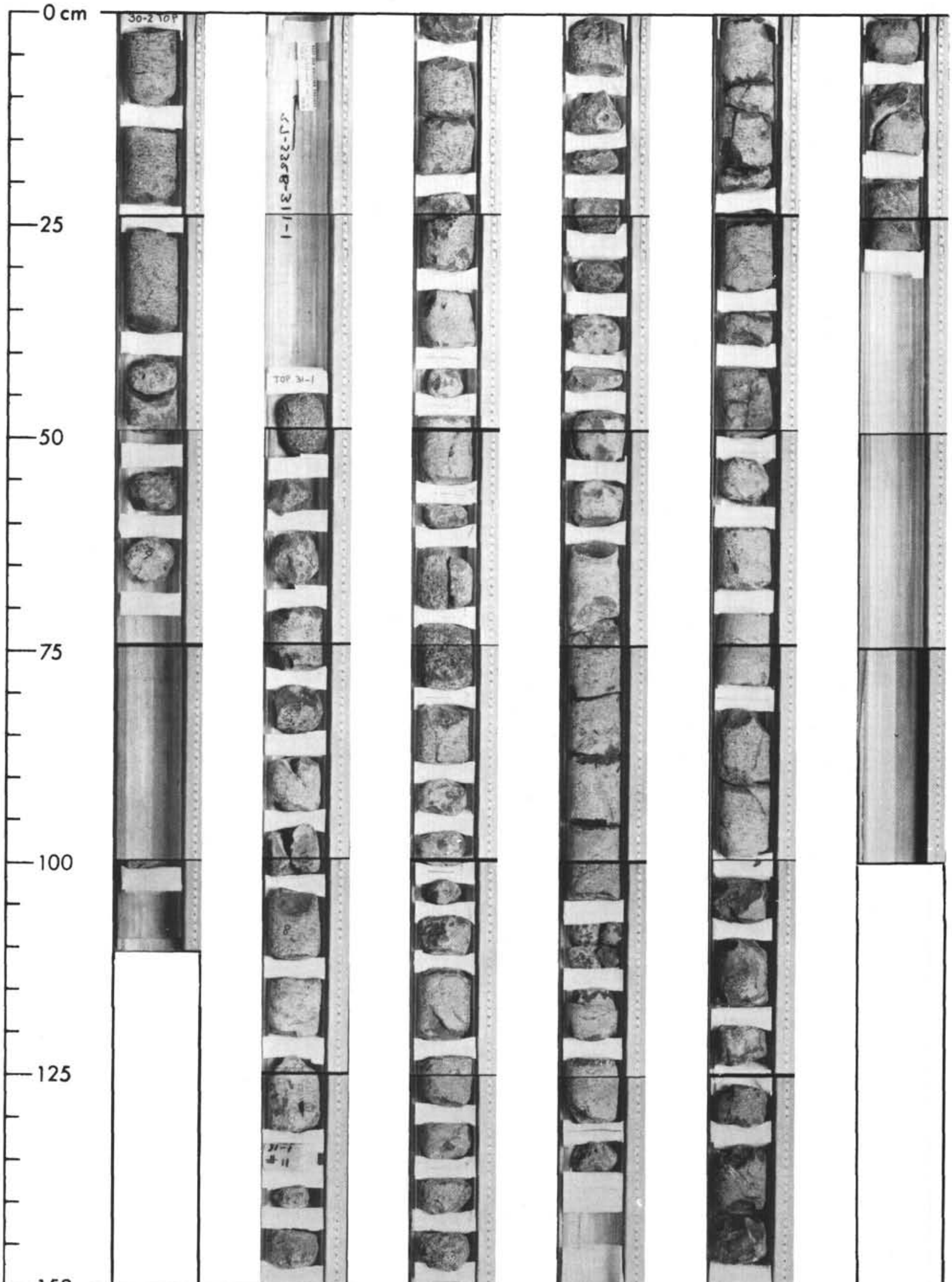

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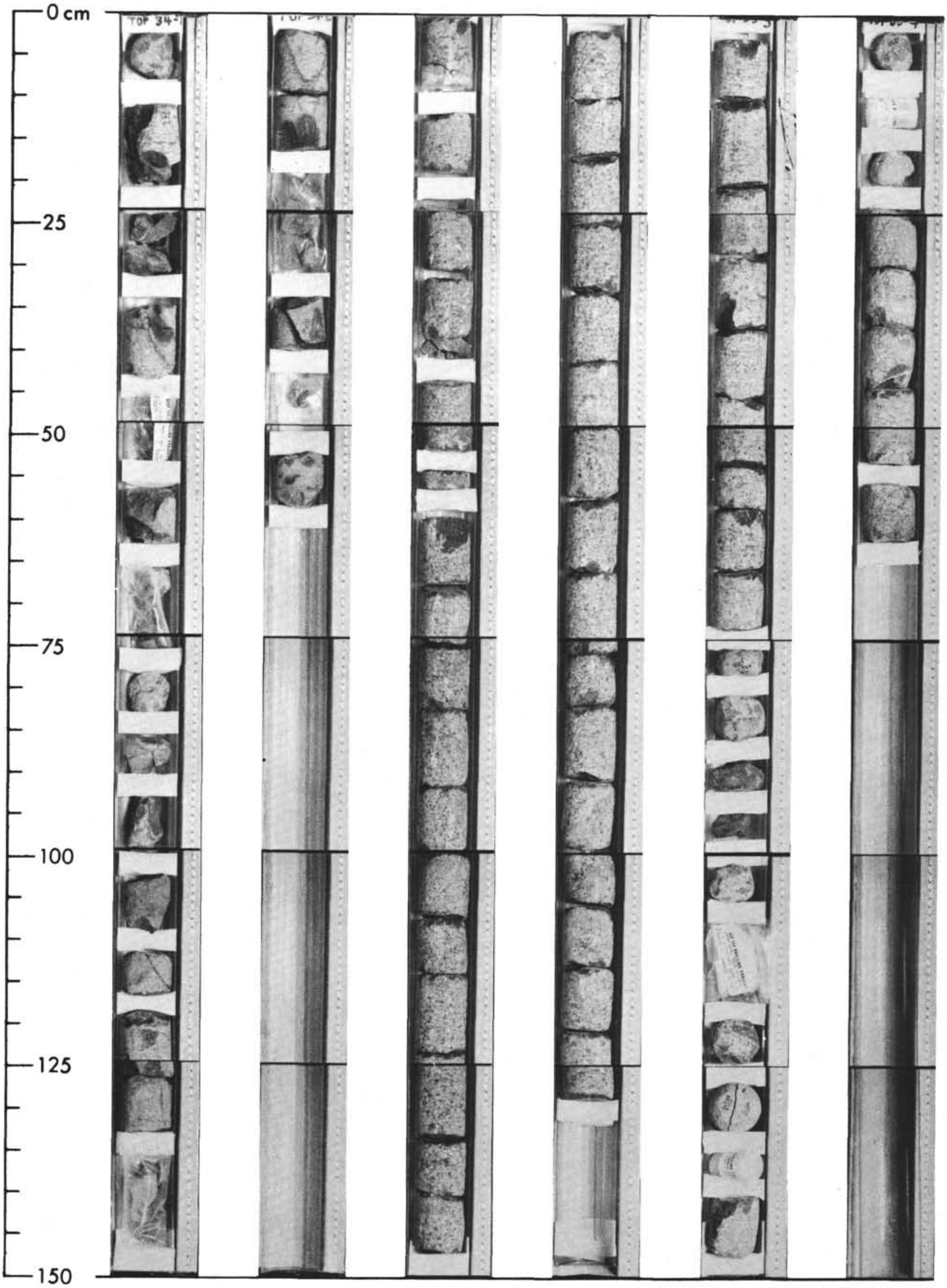

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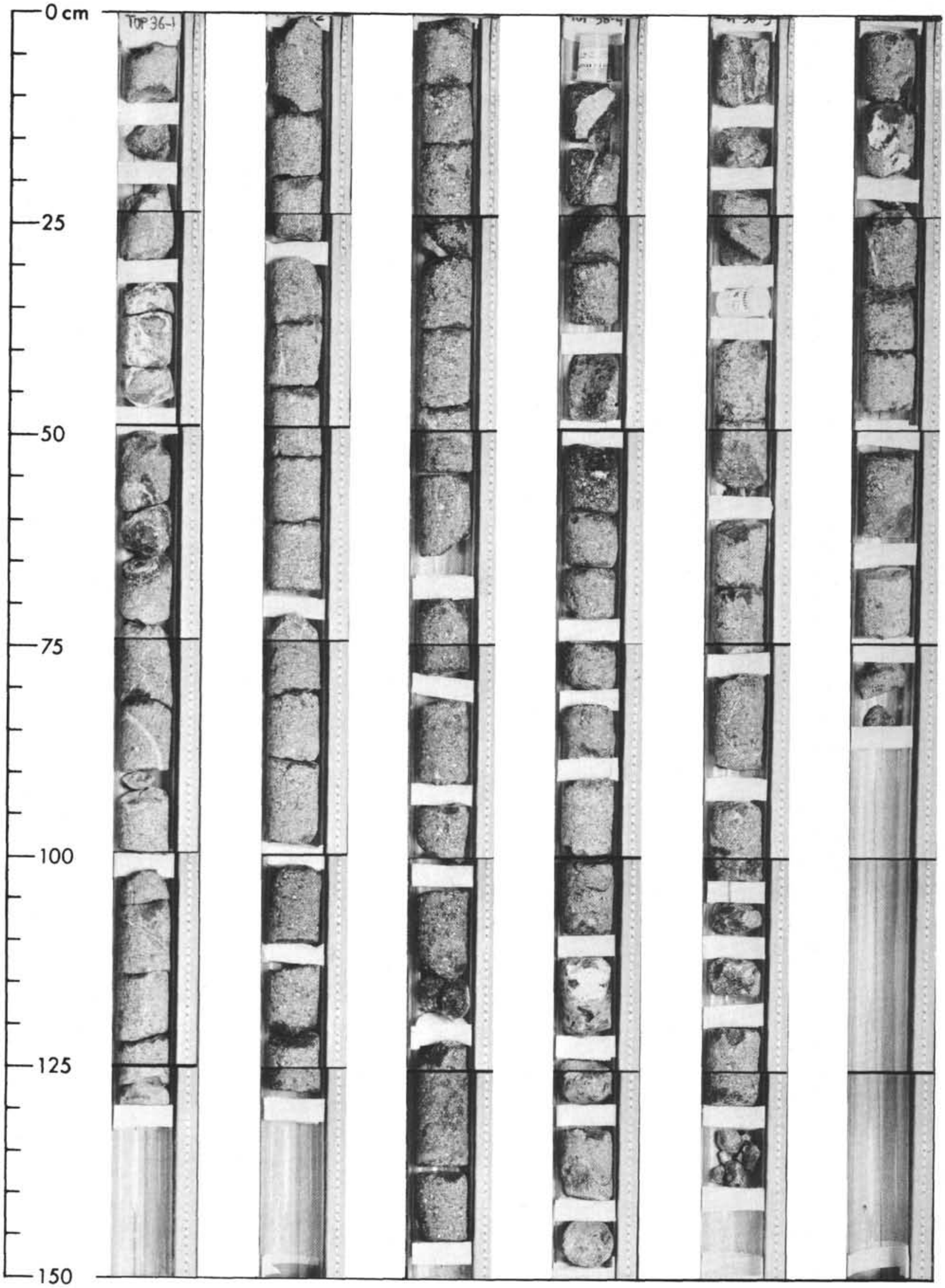

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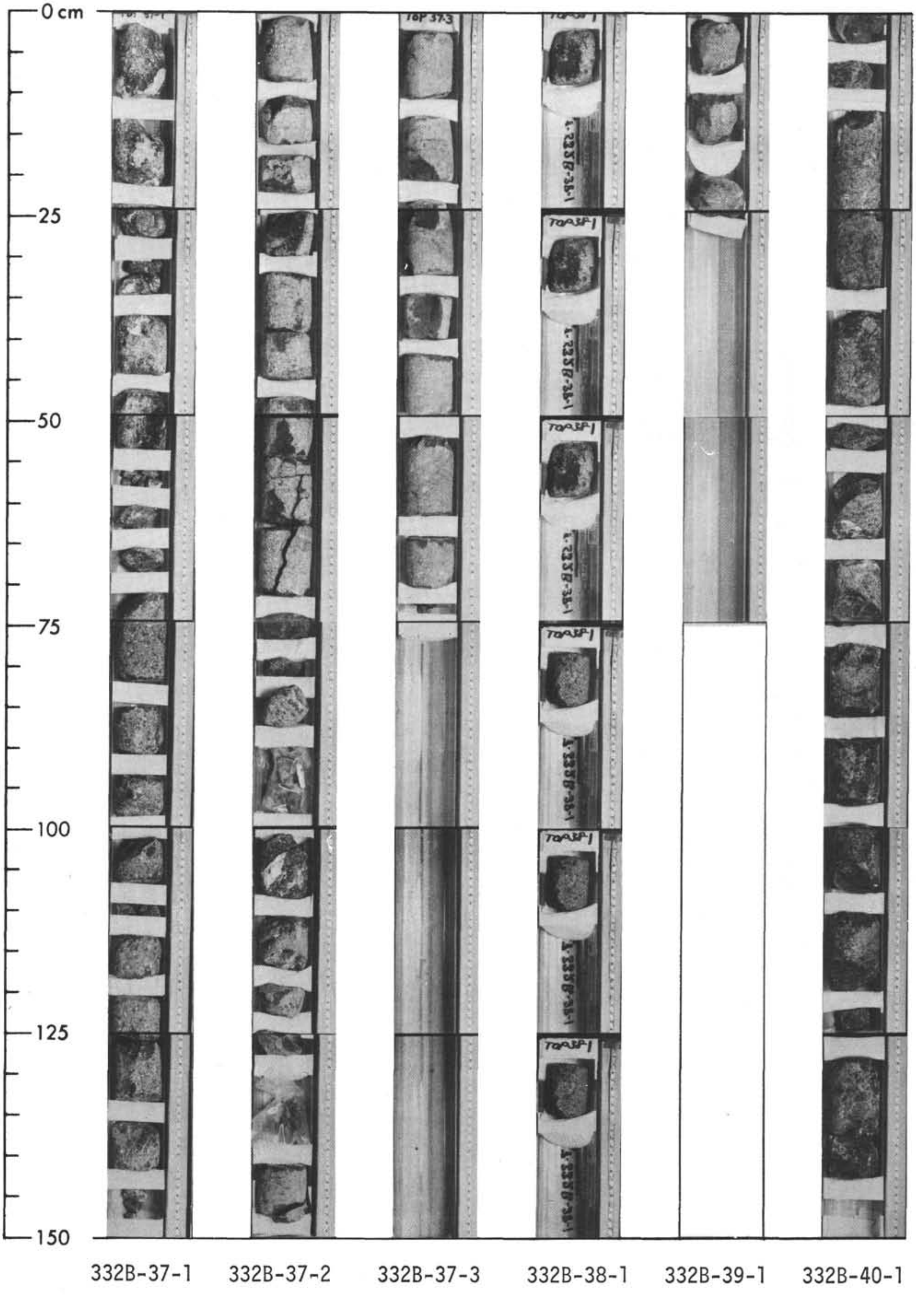
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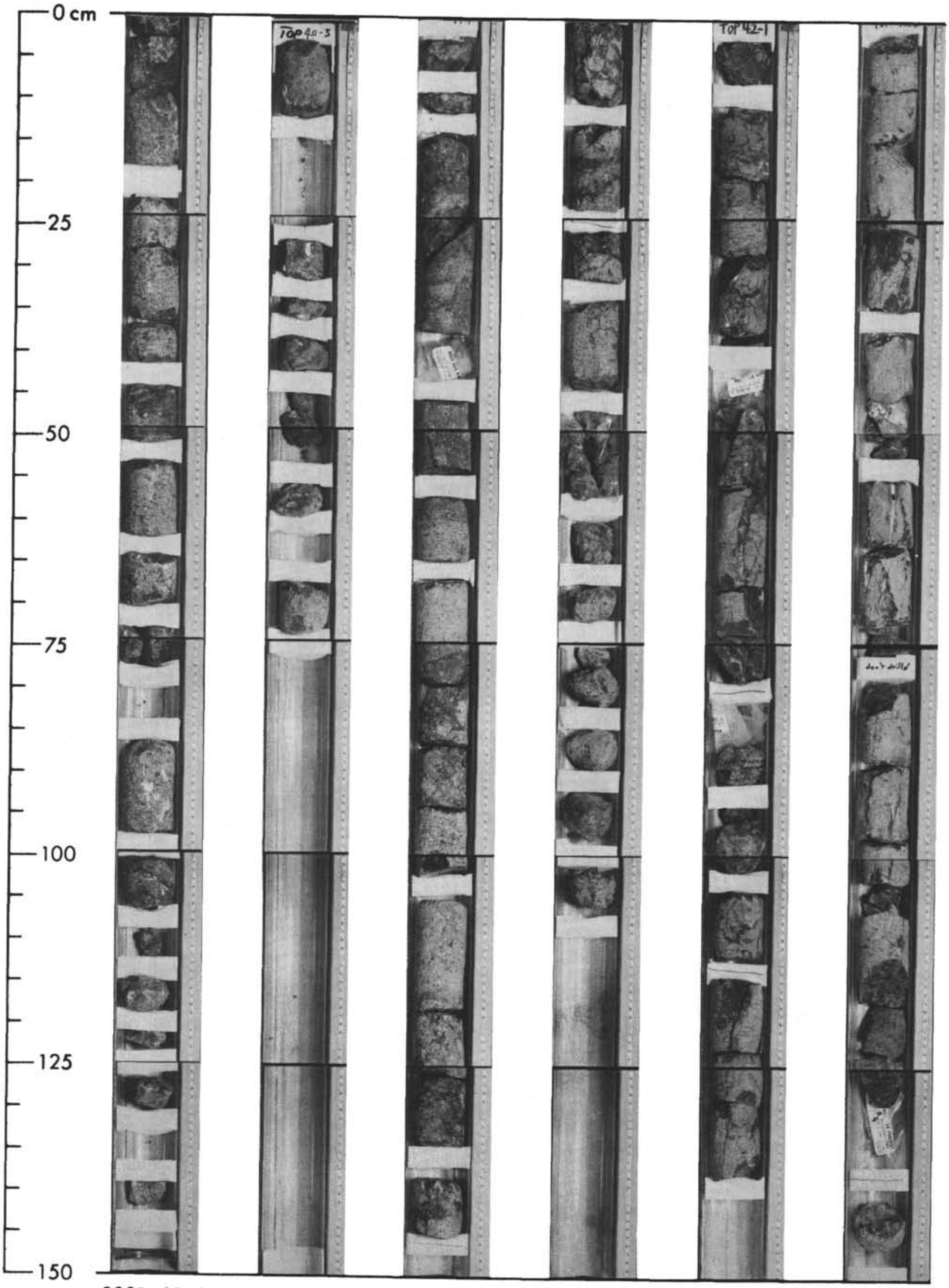
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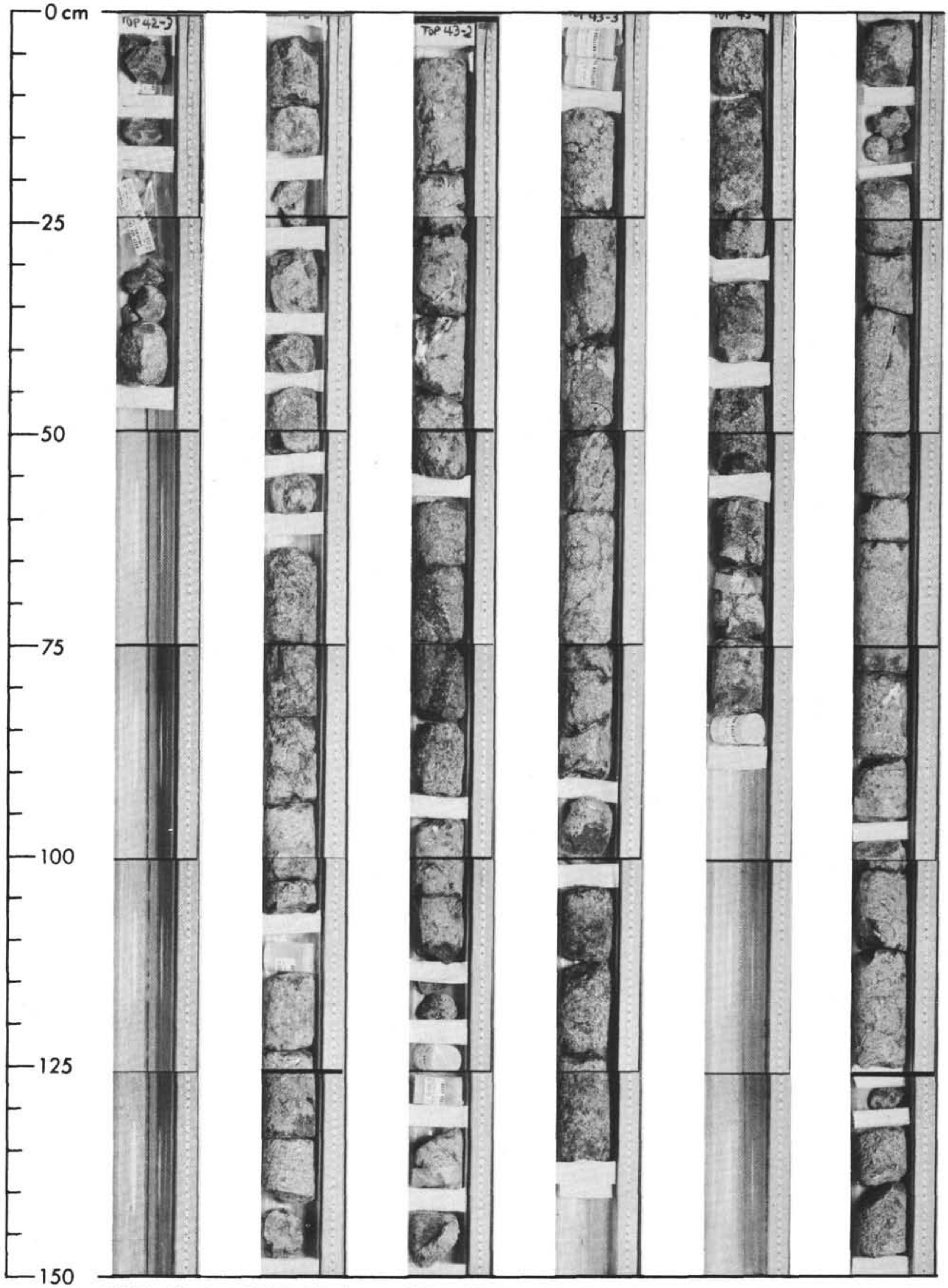
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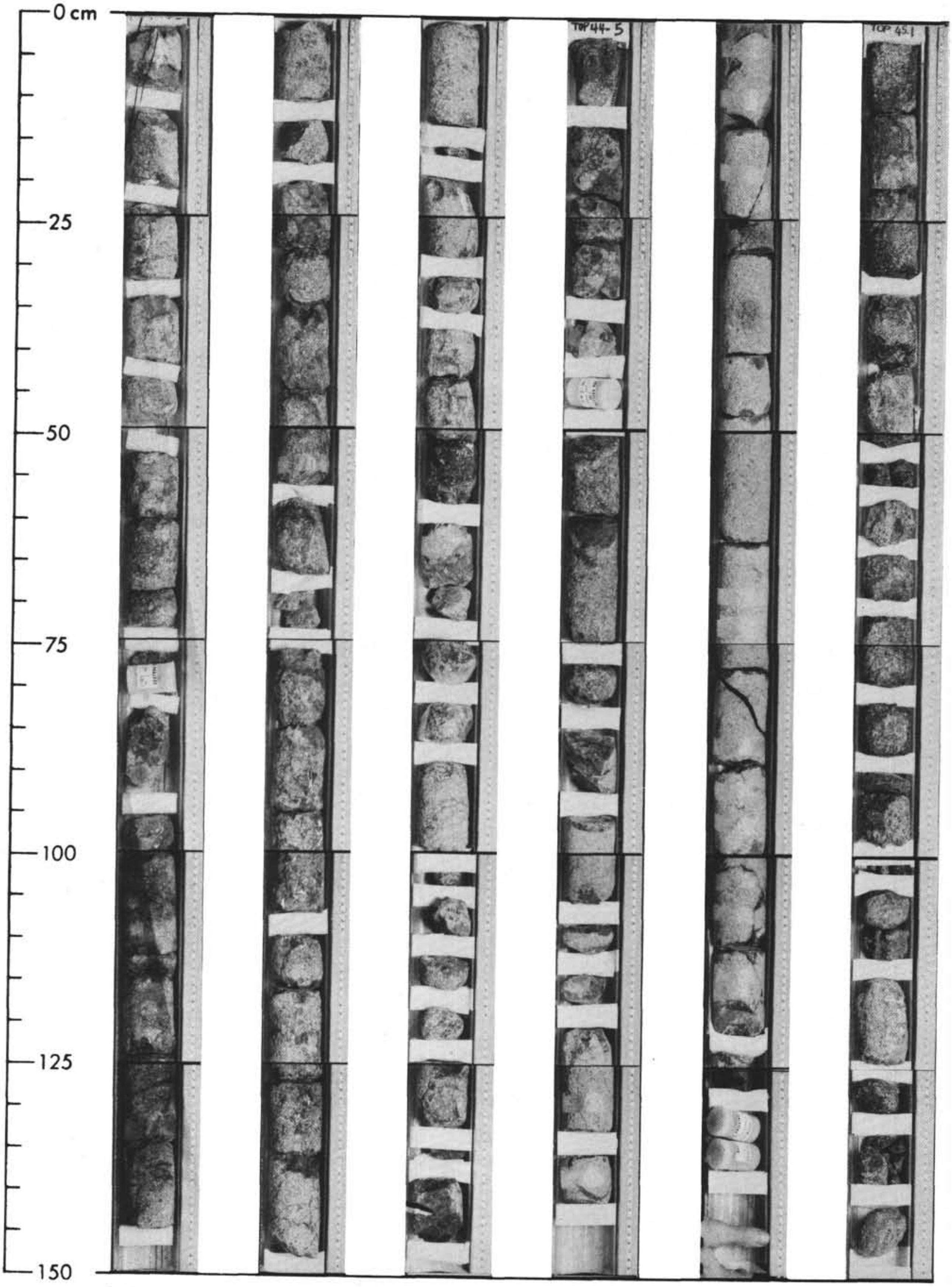

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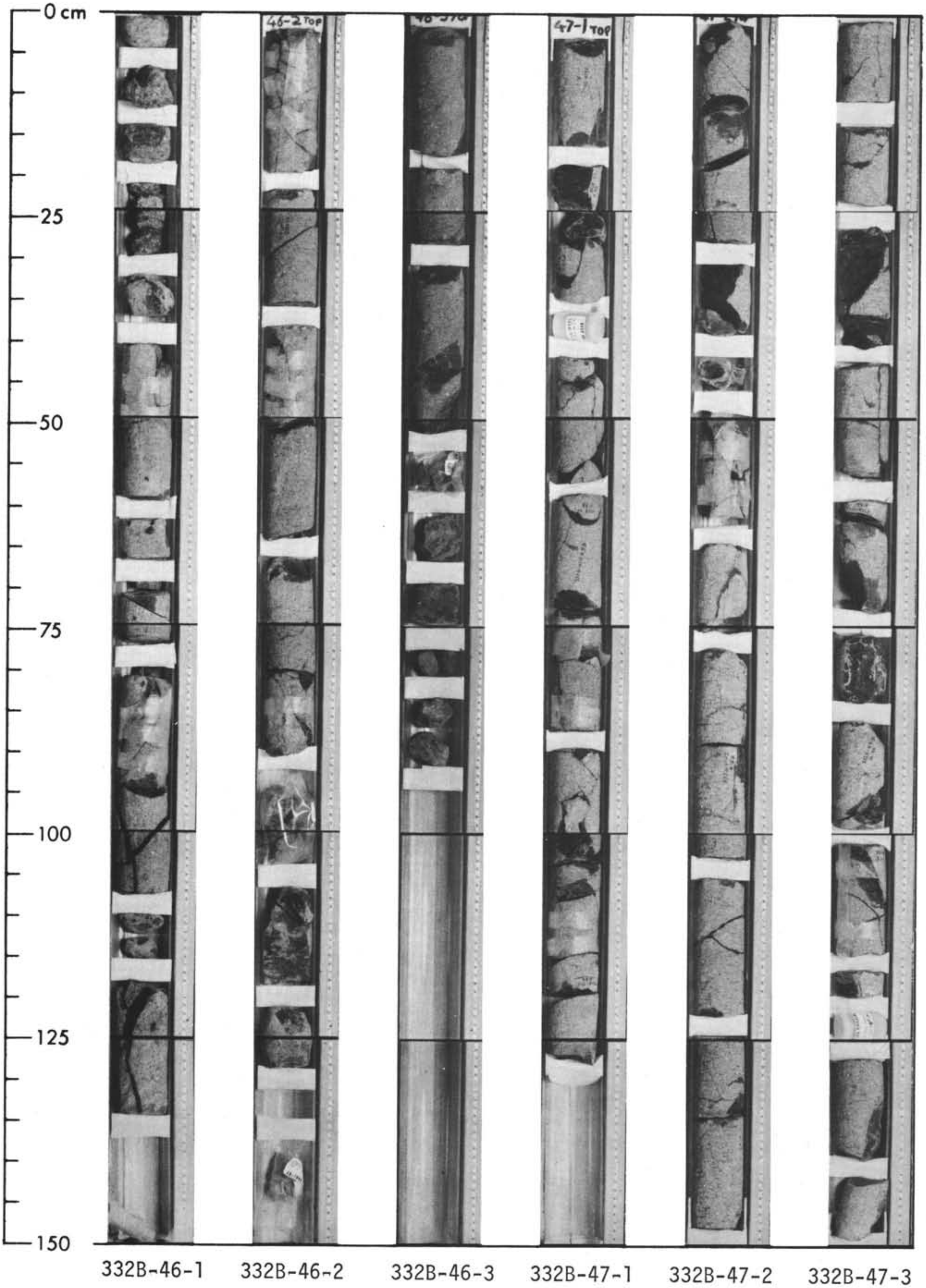
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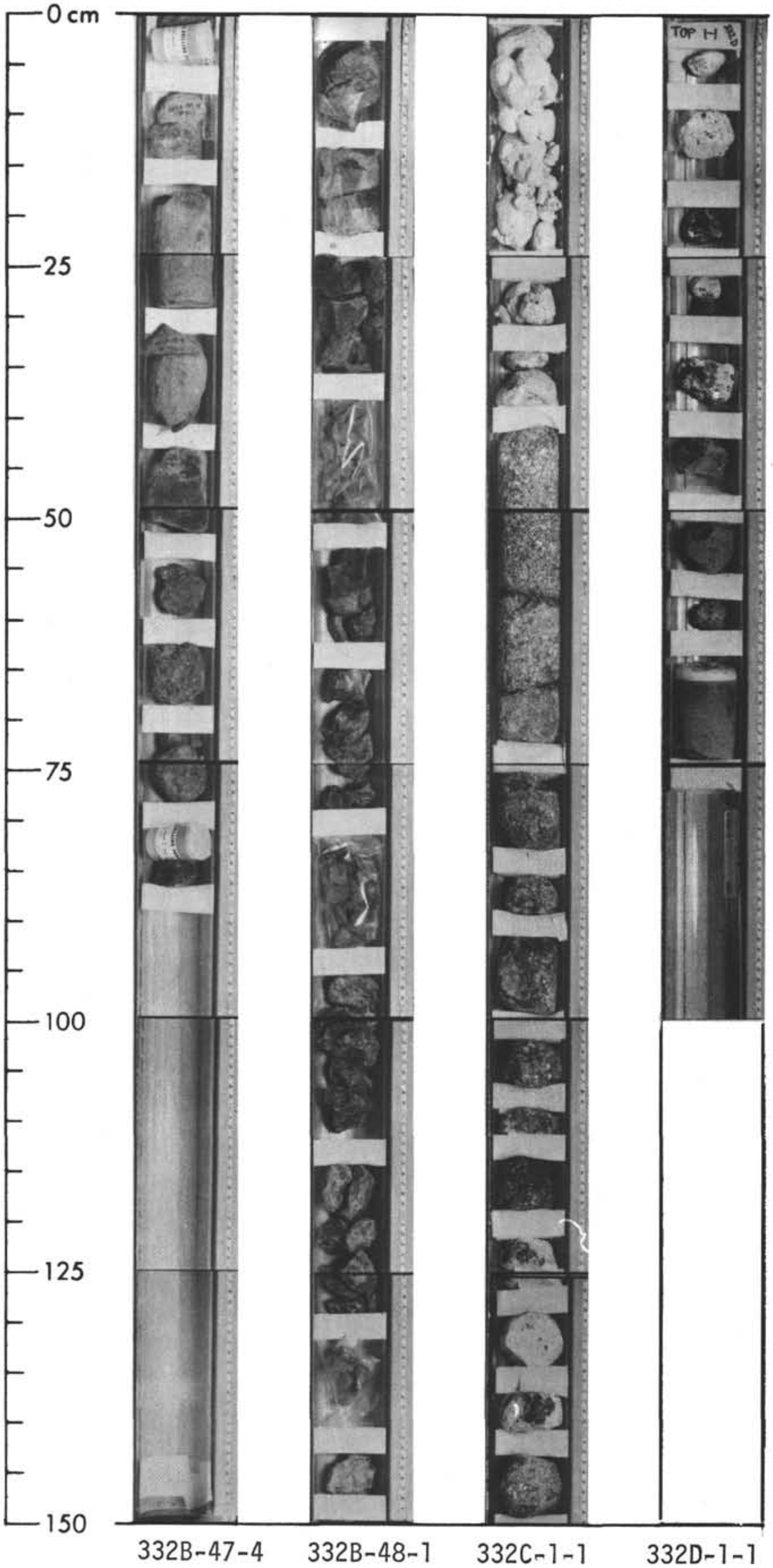
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