

Lamont Geological Observatory
of
Columbia University
Preliminary Description
NOT FOR PUBLICATION

Conrad 10-11

Megascopic Description of a Split Core

Latitude:	25°31.5'N	Longitude:	55°14.5'W
Corr. depth:	4923 m	P.D.R. depth:	2605 fm
Date taken:	13 December 1965	Date opened:	25 April 1967
Date described:	26 April 1967	Date photographed:	25 April 1967
Described by:	R. N. Baker	Flow-in:	1247 cm
Core length:	16 cm		

GENERAL: Mud, dark yellowish orange (10 YR 6/6), moist with a marble sized manganese nodule occurring at 2 cm in the "A" tray.

0-16 cm Mud, dark yellowish orange (10 YR 6/6) grading to moderate brown (5 YR 4/4), moist, firm, and slightly burrow mottled. A manganese nodule occurs at 2 cm in the "A" tray. Faint blebs of calcareous clay appear throughout. Carbonate content moderate to low. Coarse fraction consists of benthonic and smaller types of planktonic foraminifera, shell fragments, manganese micronodules, iron oxide pellets, subangular to angular clear quartz grains. The darker clay is similar, but with a lower carbonate content and higher percentage of manganese micronodules.

CONRAD 10-13

Megascopic Description of a Split Core

Latitude:	24°47.2'N	Longitude:	54°59.5'W
Corr. depth:	5300 m	P.D.R. depth:	2800 fm
Date taken:	14 December 1965	Date opened:	21 July 1967
Date described:	24 July 1967	Date photographed:	21 July 1967
Described by:	N. Hawks	Flow-in:	21 cm
Core length:	88 cm		

GENERAL:

Clays. The upper 17 cm is moderate brown and uniform in appearance. The section from 17 to 80 cm is of variable orange color, well mixed with dark fragments of manganese and mafic rock. The section from 80 cm to the bottom is moderate yellowish brown and is again uniform in character.

0-17 cm

Clay, moderate brown (5 YR 3/4) in color. This section is moderately compacted, cohesive and plastic. Homogeneous in color, texture and composition. Carbonate content is very low. Coarse fraction sampled at 10 cm is very small relative to the total amount of sediment. The major constituents of this fraction are manganese O₂, micromodules and fragments of clear quartz. Foraminifera and other bioclastic material were also noted. Matrix is principally inorganic. Basal contact is distinct; indicated by color and texture.

17-80 cm

Highly elastic clay. Light brown (5 YR 5/6) to dark yellowish orange (10 YR 6/6) in color. Dark clastic material is prominent. Sediment is moderately compacted but is not cohesive and not plastic. Carbonate content is nil. The coarse fraction sampled 22, 85, 52 and 70 cm is about 1/4 - 1/2 of the total sediment. The composition of this fraction is mainly grains of hydrous iron oxides and palagonite. Grains of partially replaced feldspar are also noted. Fragments of highly altered tholeiite are common. Lithic fragment size varies from 1 mm or less to a fragment 8 cm x 4 cm x 4 cm at 70 cm. Lithic fragments are generally coated with a varnish of manganese O₂. Manganese O₂ nodules and micromodules are prominent. There is no organic material in the sediment. All of the sediment in this zone appears to be indigenous except for the manganese dioxide. The basal contact is gradational but readily apparent in both color and texture.

CONRAD 10-13 (cont'd)

80-88 cm

Moderate yellowish brown (10 YR 5/4). Moderately compacted and cohesive. Composition is similar to 17-80 cm, but there are no large lithic fragment or manganese O_2 nodules. The coarse fraction, which is about $1/4 = 1/2$ of the total sediment, does contain smaller lithic fragments and manganese O_2 micronodules as well as the FE_2O_3 and palagonite described above. There is a minor amount of bioclastic material present.

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Conrad 10-81

Megascopic Description of a Split Core

Latitude:	11°30.4'N	Longitude:	107°30.4'W
Corr. depth:	3266 m	P.D.R depth:	1750 fm
Date taken:	19 February 1966	Date opened:	2 February 1967
Date described:	3 February 1967	Date photographed:	2 February 1967
Described by:	H. Zeiss	Flow-in:	0
Core length:	161 cm		

0-161 cm - Mud, moderate brown (5 YR 3/4), non-compact. Some mottling to pale yellow orange (10 YR 8/6). Carbonate content nil. Sand fraction consists of manganese micronodules and few planktonic foraminifera, juvenile tests. Gravel sized manganese nodules occur at 0-4 cm, 20-36 cm, 70-79 cm, 143-161.

Conrad 10-91

A Megascopic Description of a Split Core

Latitude:	12°16.5'N	Longitude:	120°09.5'W
Corr. depth:	4471 m	P.D.R. depth:	2382 fm
Date taken:	3 March 1966	Date opened:	18 April 1967
Date described:	19 April 1967	Date photographed:	18 April 1967
Described by:	D. Turkel	Flow-in:	0
Core length:	825 cm		

GENERAL: Light brown radiolarian mud from top to bottom. Narrow band of broken manganese nodules at top and large manganese lumps at 695 cm.

0-5 cm Broken manganese nodules and micronodules. Chunks are 1 cm diameter. Color grayish black (N2).

5-825 cm Mud, between light brown (5YR6/4) and grayish orange (10YR7/4). Sediment is soft, moist, plastic and has spongy radiolarian ooze feel. Light burrowing and manganese staining noted for most of length. Secondary oxidation staining due to gutter pipe rusting at 40 cm and at bottom. Large broken manganese nodule at 695 cm. Carbonate content nil. Small washed fraction consists of several species of radiolaria; some diatoms and manganese micronodules. Percentage of radiolaria increases with depth and siliceous spicules appear. Volcanic shards also appear toward bottom of core in minor amounts. From 810 cm to 825 cm the sediment is stained darkly with manganese.

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CONRAD 10-93

Megascopeic Description of a Split Core

Latitude:	07°17.5'N	Longitude:	125°20.4'W
Corr. depth:	4610 m (?)	P.D.R. depth:	2453 fm (?)
Date taken:	5 March 1966	Date opened:	31 July 1967
Date described:	7 August 1967	Date photographed:	31 July 1967
Described by:	N. Hawks	Flow-in:	0
Core length:	1085		

GENERAL: Alternating layers of moderate brown radiolarian clays and white foraminiferal marls. The lower boundary of each clay layer is an angular unconformity.

- 0-10 cm** Radiolarian - foraminiferal marl; dark yellowish brown (10 YR 4/2) in color. Manganese nodule is present at top. Sediment is firm, cohesive and plastic. Carbonate content is moderate and manganese is present throughout. Coarse fraction, sampled at 5 cm, comprises about 1/4 of the total sediment. The major coarse constituents are Radiolaria and foraminifera, both equally abundant. Also noted are siliceous spicules; manganese O₂ micronodules, some dark minerals (amphiboles or pyroxenes?), and volcanic glass. Basal contact is distinct and noted by color change.
- 10-48 cm** Radiolarian - foraminiferal marl, pale yellowish brown (10 YR 6/2) in color. Similar in all respects to 0-10 cm, except there is an absence of dark minerals and manganese O₂ micronodules in this section. Basal contact is distinct, indicated by color change.
- 48-87 cm** Radiolarian - foraminiferal marl, dark yellowish brown (10 YR 4/2) in color. Heavily disturbed by burrowing and (or slumping with much material similar in color and composition to the immediately above section included.) Texture and composition are identical to section 0-10 cm. Basal contact is distinct and indicated by color change.
- 87-230 cm** Radiolarian clay, moderate brown (5 YR 3/4), firm and cohesive. The section is heavily burrowed. A small lamination, rich in calcareous bioclastics, but still predominantly radiolarian, is present at 203 cm. Matrix here contains the first appearance of discoasters. The coarse fraction is about 1/4 of the total sediment. Samples

CONRAD 10-93 (cont'd)

87-230 cm
(cont'd)

taken at 100, 202 cm reveal Radiolaria as the major coarse constituent, with diatoms and some bioclastic material also present. Manganese O₂ nodules and micronodules are common as in volcanic glass. Some mafic minerals are also noted. Basal contact is an obvious angular unconformity separating layers that differ radically in color, texture and composition.

230-896 cm

Foraminiferal marl, white (N9) with small black specks scattered throughout. Isolated laminations of dark, but lithologically similar material. Firm and cohesive. Sediment is heavily disturbed by microfaulting and some intrusions of radiolarian clay (esp. 320 cm). Carbonate content is high and manganese micronodules are scattered throughout. Fine fraction is rich in discoasters. Coarse fraction is about 1/4 to 1/3 of the total sediment (sampled at 235, 335, 362, 475, 567, 800 cm). The primary constituent is foraminifera, siliceous spicules, Radiolaria, manganese O₂ micronodules and bioclastic fragment are found throughout. From 284-305 cm, the sediment grades into a foraminiferal marl ooze. Basal contact is sharp; indicated by color and lithologic changes.

896-1003 cm

Radiolarian clay, moderate brown (5 YR 3/4). This section is similar in appearance to 87-230 cm except for the presence of highly angular light colored markings. The section almost appears brecciated but both the matrix and the inclusion are unconsolidated. The light color inclusions are similar to the dark matrix in composition (fine quartz and/or volcanic glass with bioclastic material and some Radiolaria) but there is no manganese in the light areas. The light areas also contain occasional selenite crystals up to 2 mm in length. The carbonate content is low throughout. The basal contact is disturbed but is obviously an angular unconformity separating distinct lithologies.

1003-1038 cm

Foraminiferal marl, white (N9) with black specks. Identical to 230-896 cm in color, texture and composition. Basal contact is sharp; indicated by color and lithologic change. Discoasters present.

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CONRAD 10-93 (cont'd)

- 1038-1050 cm Radiolarian clay, moderate brown (5 YR 3/4) and mottled. This section is identical in all respects to 896-1003 cm. Basal contact is another angular unconformity separating two radically different lithologies.
- 1050-1085 cm Foraminiferal marl, white (N9) with black specks. Identical to 1003-1038 cm.

NOTE: Discoasters present in laminae at 203 and each foraminiferal section thereafter. Core is all or at least in great part tertiary in age.

CONRAD 10-101

Megascopic Description of a Split Core

Latitude:	06°46'N	Longitude:	142°34.5'W
Corr. depth:	5201 m	P.D.R. depth:	2760 fm
Date taken:	13 March 1966	Date opened:	23 October 1967
Date described:	23 October 1967	Date photographed:	23 October 1967
Described by:	P. Dasgupta	Flow-in:	315 cm
Core length:	1205 cm		

GENERAL:

Olive gray radiolarian - diatomaceous clay with a layer of medium olive gray radiolarian - diatomaceous clay at 865-895 cm, overlying white radiolarian - diatomaceous chalk at 1050 cm. The chalk layer contains disceasters indicating a pre-Pleistocene age. Reworked patches of silt due to burrowing as well as large patches of lighter colored staining due to secondary oxidation have produced a mottled appearance in the top layer, especially at 0-250 cm. Both burrowing and staining are much less below 250 cm. Burrowing is strong again near the contact at 1050 cm and uniformly conspicuous below 1150 cm. Manganese test is positive throughout the top layer. A few small manganese nodules occur in the top layer.

0-865 cm

Radiolarian - diatomaceous clay, medium olive gray (5 Y 4/2) grading to olive gray (5 Y 3/2). True color partially masked by burrowing and rust staining. Moderately compacted. Strongly burrow-mottled at 0-250 cm, burrowing is sporadically present throughout the rest of the layer. Carbonate content is negligible everywhere. Manganese test is positive and small manganese nodules are present at 766 and 768-770 cm. Washed fractions at regular intervals throughout the layer consist of Radiolaria, diatoms, sponge spicules and manganese micronodules. Fish teeth are found at 550 cm. Basal contact gradational (marked by change in color and carbonate content) and reworked by burrowing.

865-895 cm

Radiolarian - diatomaceous clay, light olive gray (5 Y 6/1). Moderately compacted. Burrowing moderate with reworked patches from top layer present. Carbonate content low. Washed fraction at 885 cm consists of Radiolaria, diatoms, sponge spicules and manganese micronodules. Basal contact gradational (marked by change in color and carbonate content) and reworked by burrowing.

CONRAD 10-101 (cont'd)

- 895-1050 cm Similar to 0-865 cm. Burrowing very slight in this layer. Manganese nodule is present at 938-940 cm. Basal contact sharp (marked by change in color and lithology) and highly disturbed by burrowing.
- 1050-1205 cm Radiolarian - diatomaceous chalk, white (N9). Below 1150 cm color is masked by patches of top layer reworked by burrowing. Well compacted, firm. Burrowing strong at 1050-1065 cm and uniformly conspicuous below 1150 cm. Carbonate content high, but often appears moderate due to the presence of reworked patches of top layer. Coarse fractions at 1100 and 1200 cm, consist of Radiolaria, diatoms, sponge spicules and a few foraminifera. Fine fractions contain coccoliths and discoasters.

RC10-110

Megascopic Description of a Split Core

Latitude:	16°31.5'S	Longitude:	156°04'W
Corr. depth:	4618 m	P.D.R. depth:	2457 fm
Date taken:	29 March 1966	Date opened:	1 February 1967
Date described:	2 February 1967	Date photographed:	1 February 1967
Described by:	P. Dasgupta	Flow-in:	0
Core length:	866 cm.		

- 0-24 cm. Brown clay mixed with fragments of basalt and manganese nodules. Color between light brown (6 YR 6/4) and moderate brown (5 YR 4/4). Carbonate content moderate. Burrows abundant. The sediment part consists of silty clay with a low percentage of sand. Sand fraction contains planktonic foraminifera, radiolaria, sponge spicules, echinoid spines and a few subangular grains of quartz.

- 24-690 cm. Homogenous brown clay. Color gradually varying from moderately brown (5 YR 4/4) through (5 YR 3/4) to dusky brown (5 YR 2/2) and turning lighter again. Carbonate content nil. Burrows present at places. Sediment consists of silty clay and a low percentage of sand. Sand fraction contains planktonic foraminifera, sponge spicules and quartz grains.

- 690-698 cm. Pyroclastic material and manganese nodules, mixed with brown clay. Color same as 0-24. Carbonate content nil.

- 698-762 cm. Homogenous brown clay. Similar to 24-690. Sharp contact at 762cm.

- 762-775 cm. Lithified pyroclastic material. Bedding distinct. Color mainly light brown (5 YR 6/4). Hornblende crystals and manganese nodules present. Gradational contact at 775 cm.

- 775-784 cm. Homogenous clay. Color bright yellow, close to (5 Y 7/6). Concentration of iron with subsequent oxidation indicated. Carbonate content nil. Sediment consists of silty clay. Sharp contact at 784 cm.

- 784-866 cm. Pyroclastic fragments. Color similar to 690-698. Quartz, manganese and iron present.

CONRAD 10-123

Megascopic Description of a Split Core

Latitude:	05°08.5'N	Longitude:	175°16'W
Corr. depth:	5295 m	P.D.R. depth:	2808 fm
Date taken:	9 April 1966	Date opened:	11 December 1967
Date described:	12 December 1967	Date photographed:	11 December 1967
Described by:	J. Hudson	Flow-in:	0
Core length:	1380 cm		

GENERAL:

Clay, predominately very dark yellowish brown above a depth of 1260 cm and moderate pinkish gray below this depth; generally structureless. Burrowing is slight to moderate. Carbonate content is nearly zero, manganese content is usually low. Coarse fraction is less than 2%; consists predominately of fine sand and manganese micronodules. Secondary oxidation stains common throughout.

0-1265 cm

Clay, predominately very dark yellowish brown (10 YR 3/4). Rust contamination is common and has frequently obscured the original color of the sediment. Compaction is moderate. Burrowing slight to moderate and burrows are often filled with moderate yellowish brown (10 YR 5/4) clay. Carbonate content is virtually nil; manganese content is low to moderate. Coarse fraction represents 1% or less; composition is variable. Radiolaria predominate at the top of the core but decrease with depth and are absent below about 150 cm. Moderately sorted, subangular, very pale orange (10 YR 8/2) to light brown (5 YR 5/6), fine sand is rare at the top of the core but increases with depth and predominates by 200 cm. Between 0-300 cm shell fragments and manganese micronodules are common. Manganese micronodules predominate or are abundant between 300 and 1265 cm. Shell fragments, often of pteropods, range from abundant to rare throughout the layer.

Well sorted, subrounded, light colored fine sand is abundant between 200-350 and between 830-1265 cm but otherwise rare to absent. Well sorted, very pale orange (10 YR 8/2), subrounded, fine sand grains predominate between about 500-600 cm.

CONRAD 10-123 (cont'd)

- 0-1265 cm
(cont'd) The layer is structureless except for some thin poorly defined laminations between 1240-1265 cm. Basal contact sharp, marked by a change in color and a slight change in composition. A 5mm manganese crust forms the very bottom of the layer and manganese nodules are present between 1260-1265 cm.
- 1265-1348 cm Clay, between pale orange (10 YR 7/2) and moderate pinkish gray (5 Y 7/1); below 1315 cm, clay, dark grayish orange (10 YR 7/4), becomes increasingly abundant. The dark grayish orange clay first occurs as large angular fragments which are often rimmed with a 1 mm thick manganese crust. With increasing depth this clay becomes dominant, probably due to increasing size of the fragments and manganese crusts are very thin or absent. Except in these crusts and in small dark colored streaks and specks, manganese content is low; carbonate content is very low. Sediment is extremely well compacted. Burrowing is absent. Coarse fraction represents less than 2%; consists predominately of shell fragments and moderately sorted, subangular, white (N9), fine sand. Manganese micronodules are rare. Basal contact is quite sharp; marked by a color change.
- 1348-1358 cm Clay, between white (N9) and very pale orange (10 YR 8/2), structureless and well compacted. Composition is similar to that of layer between 1265-1348 cm except that manganese content is extremely low and very coarse sand and granule-size dark colored rock fragments are common, especially near the top of the layer. Basal contact is sharp but uneven and runs roughly diagonally between 1357-1363 cm; marked by changes in color and composition.
- 1358-1370 cm Very sandy clay, light olive gray (5 Y 6/1), structureless, well compacted but poorly consolidated. Burrowing is absent. Manganese and carbonate contents are low. Coarse fraction represents 70%; consists almost exclusively of very poorly sorted, angular, very fine sand to pebble-sized pale olive (10 Y 6/2) and dark yellowish orange (10 YR 6/6) rock fragments. Manganese micronodules are rare. Basal contact is gradational between 1368-1370 cm; marked by color and compositional changes.

CONRAD 10-123 (cont'd)

1370-1380 cm Clay, pale yellowish brown (10 YR 6/4), structureless, well compacted. Burrowing slight. Carbonate content is virtually nil; manganese content is very low even though manganese micronodules are abundant. Coarse fraction represents about 5%; consists predominately of poorly sorted, subangular, light colored, fine to very coarse sand. An unidentified mineral, clear and colorless which forms fine grained rectangular plates, is abundant. Very coarse sand-sized rock fragments, similar to those in the overlying layer, are common. Pteropod fragments, sponge spicules and pyrite (?) are rare.

RC 10-131

A Megascopic Description of a Split Core

Latitude:	14 ^o 32'S	Longitude:	157 ^o 58'E
Corr. depth:	2933 m	P.D.R. depth:	1569 fm
Date taken:	20 April 1966	Date opened:	16 March 1967
Date described:	16 March 1967	Date photographed:	16 March 1967
Described By:	P. Dasgupta	Flow-in:	0
Core length:	937 cm		

GENERAL: Foraminiferal ooze mottled with manganese flakes throughout. Staining due to secondary oxidation occurs in large patches.

0-937 cm Foraminiferal ooze, color uniform grayish orange (10 YR 7/4). Compacted, firm. A few burrows present. Manganese flakes occur throughout the core. Manganese nodules at 55 cm, 260 cm, 660 cm. Carbonate content high. Sediment consists of silty clay with a moderate amount of sand. Sand fraction contains foraminifera (juvenile and adult) and a few sponge spicules. Foraminifera include Globigerina and Globobulimina.

Conrad 10-153

Megascopic Description of a Split Core

Latitude:	14°47.5'N	Longitude:	154°03'E
Corr. depth:	5460 m	P.D.R. depth:	2897 fm
Date taken:	13 May 1966	Date opened:	24 April 1967
Date described:	24 April 1967	Date photographed:	24 April 1967
Described by:	D. Turkel	Flow-in:	0
Core length:	1025 cm		

GENERAL: Chocolate brown homogeneous mud throughout. Two large manganese nodules at top and 10 cm. Slight rust staining.

0-1025 cm Mud, between moderate (5 YR 3/4) and grayish brown (5 YR 3/2). Soft, moist and plastic. Slight secondary oxidation along sides. Two large manganese nodules at 2 cm and 10 cm. Very small washed fraction consisting of a few siliceous spicules, several radiolaria. Manganese test negative.

CONRAD 10-154

Megascopic Description of a Split Core

Latitude:	16°53.5'N	Longitude:	155°08.0'E
Corr. depth:	5775 m	P.D.R. depth:	3057 fm
Date taken:	14 May 1966	Date opened:	5 July 1967
Date described:	6 July 1967	Date photographed:	5 July 1967
Described by:	R. Trier	Flow-in:	0
Core length:	1185 cm		

GENERAL: Typical "red clay", dark brown, homogeneous in color and texture. There is a large manganese nodule present between 682-687 cm. No burrowing is visible.

0-1185 cm Clay, between moderate brown (5 YR 4/4) and moderate brown (5 YR 3/4) homogeneous in color and texture throughout. A large manganese nodule (4.5 cm x 6 cm x 6 cm) is present between 682-687 cm. Carbonate content nil to less than 1%. Sand fractions form less than 5% of the sediment and consists of about 50% manganese micronodules and 45% phillipsite. The remaining 5% of the sand fraction varies throughout the core and is made up of Radiolaria and quartz at 12 cm, 412 cm and 812 cm, foraminifera and quartz at 312, 512 cm and 1012 cm. Neither Radiolaria nor foraminifera were found at 212, 612, or 912 cm.

Conrad 10-161

Megascopic Description of a Split Core

Latitude:	31°43.5'N	Longitude:	157°30'E
Corr. depth:	3768 m	P.D.R depth:	2014 fm
Date taken:	23 May 1966	Date opened:	12 December 1966
Date described:	13 December 1966	Date photographed:	12 December 1966
Described by:	R. Goldstein	Flow-in:	0
Core length:	969 cm		

General: Foraminiferal ooze throughout with a concentration of manganese nodules at 803-808 cm. The core is extensively mottled and burrowed.

0-969 cm - Foraminiferal ooze, very pale orange (10YR8/2) with very extensive pinkish gray (5YR8/1) to light brownish gray (5YR6/1) mottling. Uniform in texture, poorly compacted at top grading downward to moderate compaction and plastic. Burrowing very extensive throughout. Manganese micro-nodules present throughout with greatest concentrations in brown areas. Manganese nodules found at 803-808 cm. Carbonate content high. Foraminifera generally small or broken. Planktonic and benthonic forms both present.

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Conrad 10-168

Megascopic Description of a Split Core

Latitude:	32°23'N	Longitude:	148°25.5'E
Corr. depth:	5751 m	P.D.R. depth:	3045 fm
Date taken:	11 June 1966	Date opened:	14 April 1967
Date described:	15 April 1967	Date photographed:	14 April 1967
Described by:	P. Dasgupta	Flow-in:	0
Core length:	1004 cm		

GENERAL: Brown clay, staining due to secondary oxidation present. Manganese-nodules occur at places.

0-1004 cm Clay, color moderate yellowish brown (10 YR 5/4). Burrowing moderate. Brown oxidation staining occurs in patches. Traces of manganese present throughout. Large manganese-nodules at 170, 395, 440 and 800 cm. Carbonate content nil. Sediment consists of silty clay.

Megascopic Description of a Split Core

Latitude:	32°28.5'N	Longitude:	153°1.5'E
Corr. depth:	5544 m	P.D.R. depth:	2940 fm
Date taken:	13 June 1966	Date opened:	29 May 1967
Date described:	31 May 1967	Date photographed:	29 May 1967
Described by:	P. Dasgupta	Flow-in:	0
Core length:	1191 cm		

GENERAL: Dark yellowish brown and pale brown mud with slight color variations. Rust staining common throughout the core. Large manganese nodule at 1145-1148 cm.

0-1191 cm Mud, color dark yellowish brown (10 YR 4/2) and pale brown (5 YR 5/2), often masked by lighter staining due to secondary oxidation. Compact. Mottled with burrows and yellowish mud patches. Carbonate content nil. Sulfide content nil. Test for manganese positive. Manganese nodule at 1145-1148 cm. Washed fraction small, consisting of Radiolaria, diatoms, volcanic glass, manganese micronodules, unidentified minerals.

CONRAD 10-172

Megascopic Description of a Split Core

Latitude:	32°06'N	Longitude:	154°37.5'E
Corr. depth:	4387 m	P.D.R. depth:	2338 fm
Date taken:	14 June 1966	Date opened:	14 July 1967
Date described:	17 July 1967	Date photographed:	14 July 1967
Described by:	N. Hawks	Flow-in:	412 cm
Core length:	669 cm		

GENERAL: Radiolarian clay of dark yellowish brown color for first 43 cm and basal 100 cm (568-669 cm) with foraminiferal clay of variable color found between. Foraminiferal clay and basal Radiolarian clay contain intercalated highly laminated layers of volcanic ash, manganese nodules and pyroclastic bombs. Secondary oxidation staining common throughout.

0-43 cm Radiolarian clay, dark yellowish brown (10 YR 4/2). Homogeneous, moderately compacted cohesive and plastic. Burrowing is present, but no other primary structures are apparent. Carbonate content is low. Coarse fraction, which comprises 10% of the total sediment (samples taken at 5 and 40 cm), is primarily volcanic glass, with some dark minerals such as magnetite and pyroxenes (?) or amphiboles (?). Radiolaria are abundant with some diatoms and foraminifera also present. Echinoderm spines and manganese O₂ micronodules were also noted. Basal contact is indicated by a sharp color change but boundary is indistinct because of burrowing.

43-481 cm Foraminiferal clay, color varies from moderate yellowish brown (10 YR 5/4) to pinkish gray (5 YR 8/2). Moderately compacted, cohesive and plastic. Heavily burrowed throughout. No other apparent structures. Color variations are related to relative abundance of manganese O₂ and not to changes in clastic nature or composition of the sediment. Carbonate content is moderate and presence of manganese is variable. Samples taken at 50, 118, 170, 203, 300 and 400 cm indicate that the coarse fraction is about 10% of the total sediment. Glass is again the predominant constituent and the aforementioned mafic minerals are still present. Foraminifera are the dominant organism. Radiolaria are common.

CONRAD 10-172 (cont'd)

- 43-481 cm (cont'd) Manganese O₂ micronodules varied in abundance (eg. absent at 118 cm and common at 170 cm). Siliceous spicules were also observed. Badly fractured but apparently large manganese O₂ nodule occurs at 105 cm. Basal contact is sharp; indicated by color and textural change.
- 481-497 cm Volcanic ash, color varies from very light gray (N8) to medium gray (N5). Non-cohesive, highly laminated. Carbonate content is nil. Coarse fraction comprises better than 90% of the total sediment. Volcanic glass is the prime constituent but some muscovite and other minerals are also found. No biogenic material. Basal contact is sharp; indicated by color and textural change.
- 497-517 cm Clay, moderate yellowish brown (10 YR 5/4) moderately compacted and cohesive. Carbonate content is nil, coarse fraction at 500 cm was nearly 1/3 of total sediment was almost exclusively volcanic glass and related minerals. There is a limited amount of unidentified bioclastic material and occasional manganese O₂ micronodules. Matrix appears to be primarily volcanic dust and clay minerals. Basal contact is sharp with abrupt color and texture changes.
- 517-524 cm Ash, similar to 481-497 cm. Abrupt basal contact as above.
- 524-538 cm Clay, similar to 497-517 cm. Similar abrupt basal contact.
- 538-550 cm Ash, similar to 481-497 cm with a similar sharp basal contact.
- 550-568 cm Clay, similar to 497-517 cm. Mixed in this clay are pyroclastic bombs of pumice of variable size. All appear to be broken and the largest appears to have been badly shattered during the taking of the core. The core outline is still evident in the largest fragment, which is 5 1/2 cm in diameter. Basal contact is indistinct and indicated macroscopically only by the disappearance of these large pyroclastics.
- 568-669 cm Radiolarian clay, moderate to dark yellowish brown (10 YR 5/4 to 10 YR 4/2). Moderately compacted, cohesive and plastic. This section

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CONRAD 10-172 (cont'd)

568-669 cm
(cont'd)

is heavily burrowed and distinct zoophycus tracks are common. This section is heavily disturbed because of shipboard accident (see shipboard description, pg. 3). Carbonate content is low. The coarse fraction sampled at 600 and 660 cm comprises about 1/4 of the total sediment. The major constituent is volcanic glass. The major organic constituent is the abundant Radiolaria found throughout. Unidentified bioclastic material and occasional foraminifera are also present. An ash layer similar to 481-497 cm is present at 543-545 cm and immediately below that are several manganese O_2 nodules at 545 cm.

CONRAD 10-176

Megascopic Description of a Split Core

Latitude:	34°47'N	Longitude:	160°40'E
Corr. depth:	4226 m	P.D.R. depth:	2255 fm
Date taken:	20 June 1966	Date opened:	8 August 1967
Date described:	9 August 1967	Date photographed:	8 August 1967
Described by:	P. Dasgupta	Flow-in:	404 cm
Core length:	752 cm		○

GENERAL: Foraminiferal - radiolarian marl ooze grading to radiolarian marl ooze and overlying clay at 528 cm. Colors are dark yellowish brown, pale yellowish brown, grayish orange and grayish brown. Burrowing strong. Manganese test positive everywhere. Manganese nodules at 0-3 cm.

0-528 cm Foraminiferal - radiolarian marl ooze grading to radiolarian marl ooze, dark yellowish brown (10 YR 4/2), pale yellowish brown (10 YR 6/2) and grayish orange (10 YR 7/4). Moderately compacted. Burrowing strong. Carbonate content moderate to high. Manganese nodules at 0-3 cm. Washed fractions at 50, 100, 150, 250, 280, 500 cm are moderate indicating the gradation of lithology (decrease of foraminifera and increase of Radiolaria towards the bottom). They are as follows:

- 50 cm - foraminifera and Radiolaria in approximately equal amounts, sponge spicules, manganese micronodules, glass, quartz, garnet, magnetite.
- 100 cm - Same as 50 cm.
- 150 cm - Foraminifera fewer, Radiolaria more abundant, sponge spicules, manganese micronodules, magnetite.
- 250 cm - Same as 150 cm
- 280 cm - foraminifera very few, Radiolaria, manganese micronodules, quartz, magnetite.
- 500 cm - Radiolaria, foraminifera rare, sponge spicules, manganese micronodules, magnetite.

Basal contact sharp due to color change, but reworked by burrowing.

528-752 cm Clay, grayish brown (5 YR 3/2). Moderately compacted, Burrowing strong, reworked patches of silt scattered throughout. Carbonate content slight to nil. Washed fractions at 540, 650, 740 cm consists of fish teeth, manganese micronodules and siliceous debris.

RC 10-178

A Megascopic Description of a Split Core

Latitude:	37°48'N	Longitude:	172°20'E
Corr. depth:	5808 m	P.D.R. depth:	3082 fm
Date taken:	23 June 1966	Date opened:	15 March 1967
Date described:	16 March 1967	Date photographed:	15 March 1967
Described by:	D. Turkel	Flow-in:	0
Core length:	1040 cm		

GENERAL: Moderate brown mud with numerous bands of manganese staining and heavily burrowed throughout. Three large manganese nodules occur at top, at 368 cm and at 550 cm. Rust staining common.

0-15 cm Mud, moderate brown (5 YR 3/4) soft, moist and plastic. Section is heavily burrowed at bottom. At top is large manganese nodule. No rust. Carbonate content nil. Washed fraction is very small and consists mainly of radiolaria. Basal contact highly worked and due to color change.

15-1040 cm Mud, interlayered beds of pale yellowish brown (10 YR 6/2), moderate yellowish brown (10 YR 5/4) and manganese stained mud which is dusky brown (5 YR 2/2). Most of section is heavily mottled. Manganese staining is heavy throughout but especially at 150 cm, 270-295 cm, 452-515 cm, 678 cm, and 862 cm. Rusting is quite evident and in some places it masks out the manganese staining. Two large manganese nodules (2-3 cm diam.) occur at 368 cm and 550 cm. Carbonate content nil throughout section. Very small washed section containing mostly radiolaria and tiny amounts of broken glass and diatoms appearing towards bottom.

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Conrad 10-179

Megascopic Description of a Split Core

Latitude:	39° 38' N	Longitude:	173° 43' E
Corr. depth:	4312 m	P.D.R. depth:	2305 fm
Date taken:	23, 24 June 1966	Date opened:	12 June 1967
Date described:	14 June 1967	Date photographed:	12 June 1967
Described by:	D. Turkel	Flow-in:	241 cm
Core length:	740 cm		

GENERAL: Buff colored very highly burrowed and mottled mud with numerous Zoophycus tracks gradually grading into a dark brown highly burrowed mud. At about 70 cm there are two large manganese nodules 6 cm diameter.

0-340 cm Mud, light brown (5 YR 6/4) soft and plastic. Sediment exceedingly heavily burrow mottled with abundant Zoophycus tracks through section at 70 and 75 there are two large manganese nodules which are 6 cm diameter. Slight secondary oxidation along sides. Carbonate content moderate. From about 2 m to bottom of layer sediment is stippled with manganese micronodules that have been dragged by the splitting knife causing small black streaks. Washed fraction contains foraminifera (broken and unbroken) numerous forms of Radiolaria, siliceous spines, diatoms and occasional glass shards. Basal contact very gradational due to color change and is highly burrowed.

340-740 cm Mud, pale brown (5 YR 5/2) grading into grayish brown (5 YR 3/2). Sediment is moderately soft and slightly crumbly. Burrowing heavy throughout layer. Carbonate content moderate at top of layer becoming nil toward bottom. Washed fraction contains small amount of broken foraminifera, many Radiolaria forms, large amount of siliceous spines, manganese micronodules, few glass shards. Percentage of siliceous spines and manganese micronodules increases with depth while Radiolarian concentration decreases. Toward bottom of core siliceous material fades out while manganese micronodules remain high in concentration.

Conrad 10-182

Megascopic Description of a Split Core

Latitude:	45°37'N	Longitude:	177°52'E
Corr. depth:	5561 m	P.D.R depth:	2960 fm
Date taken:	26 June 1966	Date opened:	23 January 1967
Date described:	23 January 1967	Date photographed:	23 January 1967
Described by:	P. Dasgupta	Flow-in:	0
Core length:	1130 cm		

General: Light brown muds with ash layers at 540 and 545 cm.

0-480 cm - Non-homogeneous brown clay. Color between grayish orange (10 YR 7/4) and moderately yellowish brown (10 YR 5/4). Laminations poor. Burrows and tracks present throughout. Carbonate content nil. Manganese nodules at 184 cm and traces of manganese in other places. Sediment consists mostly of clay with a small sand fraction. Sand contains planktonic foraminifera, diatoms, ostracods, sponge spicules, echinoid spines and a few sub-angular quartz grains.

480-1130 cm - Non-homogeneous brown clay. Color slightly lighter than previous section, lithology same. Volcanic ash at 540 cm and 545 cm. Lamination poor. Burrows and tracks present. Organisms same as previous section. Traces of manganese at 880 cm.

RC 10-205

A Megascopic Description of a Split Core

Latitude:	44°37'N	Longitude:	170°03'W
Corr. depth:	6081 m	P.D.R. depth:	3220 fm
Date taken:	22 July 1966	Date opened:	21 March 1967
Date described:	23 March 1967	Date photographed:	21 March 1967
Described by:	J. Stadter	Flow-in:	0
Core length:	1150 cm		

GENERAL: Brown mud with high diatom content. Radiolaria are also present as well as other silicious materials. Test for manganese positive throughout core.

0-1150 cm Mud with high diatom content, color moderate brown (5 YR 4/4) to light brown (5 YR 5/6) at top of core and variable towards middle with some moderate brown (5 YR 3/4). Burrows and tracks seem to be present at 465 and 470 cm as well as some speckling and flaking of darker material noticeable at 530 cm and 885 cm. Carbonate content nil but flame test for manganese is positive. Manganese content seems to increase toward bottom of core. Washed fraction contains diatoms, radiolaria, spicules and mineral content increases toward bottom of core. Minerals identified are quartz, garnet, magnetite, manganese nodules. Other igneous material appears to be present.

Conrad 10-239

Megascopic Description of a Split Core

Latitude:	18° 10' N	Longitude:	119° 03' W
Corr. depth:	3275 m	P.D.R. depth:	1755 fm
Date taken:	27 August 1966	Date opened:	21 April 1967
Date described:	24 April 1967	Date photographed:	21 April 1967
Described by:	P. Dasgupta	Flow-in:	0
Core length:	369 cm		

GENERAL: Light brown mud interlayered with manganese-rich sand and pebbles at top 30 and bottom 10 cm. Manganese-nodules also present at 188, 195 and 230 cm.

0-30 cm Manganese-lumps mixed with sand and pebbles. Color grayish black (N2). Crumbly. Carbonate content very low. Washed fraction contains quartz, volcanic glass and rock fragments. Basal contact sharp due to change in lithology.

30-360 cm Mud, color between grayish orange (10 YR 7/4) and dark yellowish orange (10 YR 6/6), grading to moderate yellowish brown (10 YR 5/4). Compact, moist, soft. Burrowing moderate. Manganese present throughout in flakes as well as nodules at 188, 195, 230, 235 cm. Carbonate content high to moderate, but decreasing towards bottom and becoming nil below 345 cm. Washed fraction low, consisting of quartz, glass, foraminifera, fish teeth (abundant), echinoid spines, sponge spicules. Basal contact sharp due to change in lithology.

360-369 cm Manganese-rich sand. Color grayish black (N2) and between grayish yellow (5 Y 8/4) and moderate yellow (5 Y 7/6). Crumbly. Carbonate content very low. Washed fraction similar to 0-30 cm.

Conrad 10-244

Megascopic Description of a Split Core

Latitude:	12°17'N	Longitude:	101°57'W
Corr. depth:	3162 m	P.D.R. depth:	1695 fm
Date taken:	1 September 1966	Date opened:	4 May 1967
Date described:	5 May 1967	Date photographed:	4 May 1967
Described by:	P. Dasgupta	Flow-in:	0
Core length:	480 cm		

- GENERAL: Brown mud interlayered with olive gray mud.
- 0-12 cm Mud, color between moderate brown (5 YR 4/4) and grayish brown (5 YR 3/2). Compact, firm. Carbonate content very low. Small washed fraction consists of foraminifera (juvenile and adult), broken shells, mineral debris. Basal contact gradational due to color change.
- 12-31 cm Mud, color olive gray (5 Y 4/1) partially masked by rust stains. Compact, firm. Carbonate content negligible. Washed fraction similar to 0-12 cm, but foraminifera are fewer. Basal contact gradational due to change in lithology.
- 31-85 cm Mud, color olive gray (5 Y 4/1). Compact, firm, but broken. Carbonate content negligible. Washed fraction small, consisting of foraminifera and a few broken shells. Manganese-nodule at 32-35 cm. Basal contact sharp due to color change.
- 85-432 cm Mud, color moderate brown (between 5 YR 4/4 and 5 YR 3/4) and olive gray (5 Y 5/1). The brown color may be large due to staining. Compact, firm, but broken and even crumbly at places. Carbonate content nil to low at the bottom. Low washed fraction consists of mineral debris and a few foraminifera. Basal contact sharp due to change in color and lithology.
- 432-480 cm Mud turning sandy towards the bottom, color dark yellowish brown (10 YR 4/2) and light olive gray (5 Y 6/1) interlayered. Compact, firm, broken. Carbonate content low to moderate. Washed fraction similar to 85-432 cm.

CONRAD 10-274

Megascopic Description of a Split Core

Latitude:	24°26.8'N	Longitude:	74°14.2'W
Corr. depth:	5231 m	P.D.R. depth:	2767 fm
Date taken:	2 October 1966	Date opened:	9 May 1967
Date described:	10 May 1967	Date photographed:	9 May 1967
Described by:	D. Turkel	Flow-in:	157 cm
Core length:	382 cm		

GENERAL: 20 cm thick zone of coralline and manganese gravel overlying various shades of green and brown mud (20-220 cm) and brown mud (220-382 cm). Large pebble occurs at 380 cm.

0-20 cm Assorted loose pebbles about 2 cm in diameter. Pebbles consist of manganese nodules, coral fragments, hematite, limestone, sandstone. Pebbles are well rounded. Basal contact sharp due to lithologic change.

20-30 cm Mud, pale yellowish brown (10 YR 6/2) with a very high percentage of sand, moderately hard but friable and crumbly. Carbonate content high. Washed fraction consists of hematite, white mineral debris, many juvenile foraminifera, occasional quartz grains, brown mineral grains, (rust stained?). Basal contact sharp due to change in lithology.

30-40 cm Mud, between grayish orange (10 YR 7/4) and moderate yellowish brown (10 YR 5/4) moderately soft and compact. Dark irregular bands at 32 cm. Carbonate content nil. Very small washed fraction consists of manganese micronodules, small amount of mineral debris. Basal contact sharp but irregular due to color change.

40-75 cm Mud, light olive gray (5 Y 6/1) moderately firm but crumbly. Flecks of light brown mud mixed in section. Carbonate content low. Manganese test negative. Very small washed fraction consisting of white mineral debris. Basal contact sharp due to color change.

75-82 cm Similar to 30-40 cm layer. Bottom contact oblique due to color change.

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CONRAD 10-274 (cont'd)

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|------------|--|
| 82-98 cm | Similar to 40-75 cm section. |
| 98-108 cm | Similar to 30 to 40 cm bed. |
| 108-220 cm | Interlayered beds similar to 30-40 cm section and 40-75 cm section. |
| 220-382 cm | Mud, pale brown (5 YR 5/2) mixed with areas of very crumbly mud which is black (N4). Lenses of black crumbly mud are at 240-250, 270-280, 300 and 320 cm. Carbonate content nil to low. Washed fraction contains manganese micronodules, white mineral fragments which appear to be rust stained, and some quartz grains. Black areas contain mostly large manganese nodules and other pebble sized rocks; amount of small quartz grains increase toward bottom. |

Conrad 10-278

Megascopic Description of a Split Core

Latitude:	24°23.5'N	Longitude:	73°55'W
Corr. depth:	5325 m	P.D.R. depth:	2811 fm
Date taken:	6 October 1966	Date opened:	8 May 1967
Date described:	8 May 1967	Date photographed:	8 May 1967
Described by:	P. Dasgupta	Flowin:	47 cm
Core length:	498 cm		

GENERAL: Brown mud interlayered with yellowish gray mud and sand. Manganese nodules present near the top.

- 0-190 cm Mud, color pale yellowish brown (10 YR 6/2), slightly masked by burrowing. Compact, firm, moist. Burrowing moderate. Carbonate content nil. Manganese nodules abundant between 0 and 30 cm and 80 and 100 cm. Washed fraction small, consisting of quartz, calcite, manganese-micronodules, fish teeth, mineral debris (iron-stained). Basal contact gradational due to color change.
- 190-362 cm Mud, color yellowish gray (5 Y 8/1). Compact, firm. Burrowing less than top section. Carbonate content increasing progressively from nil to low. Washed fraction small, consisting of mineral debris, quartz. Basal contact gradational due to change in lithology.
- 362-498 cm Sand interlayered with mud, color similar to 190-362 cm. Poorly consolidated, crumbly. Burrowing slight. Carbonate content moderate to high. Washed fraction of sand consists of quartz, mineral debris, a few foraminifera (Globigerina), fish teeth, broken shells.

Conrad 10-279

Megascopic Description of a Split Core

Latitude:	24° 30.8' N	Longitude:	74° 26' W
Corr. depth:	4984 m	P.D.R. depth:	2636 fm
Date taken:	6 October 1966	Date opened:	9 March 1967
Date described:	10 March 1967	Date photographed:	9 March 1967
Described by:	P. Dasgupta	Flow-in:	0
Core length:	310 cm		

GENERAL: Mainly calcareous mud interlayered with calcareous sand with foraminifera ooze and pebbly sand at top 33 cm.

0-8 cm Foraminiferal ooze, color between dark yellowish brown (10 YR 4/2) and pale brown (5 Y 5/2). Compacted, firm. A few indistinct tracks. Carbonate content high. Sediment consists of silty clay with a moderate sand percentage. Washed fraction contains mostly foraminifera and a few sponge spicules. Manganese present. Basal contact sharp due to change in lithology.

8-33 cm Pebbly nodulated sand, color same as 0-8 cm but spotted with lighter colored pebbles. Unconsolidated, crumbly. Carbonate content high. Large manganese-nodule. Washed fraction contains foraminifera, sponge spicules, manganese-micro-nodules. Basal contact sharp due to change in color and lithology.

33-210 cm Calcareous mud. Color yellowish gray (5 Y 7/2). Compacted, firm. Oblique white bands of foraminifera sand at places. Orange colored laminations at 112, 116, 181, 183 cm. A few tracks and burrows. Sediment consists of silty clay with a negligible amount of sand. Washed fraction contains a few foraminifera. Coccoliths and discoasters are also present. Basal contact sharp due to change in color and lithology.

210-230 cm Calcareous sand, color - very pale orange (10 YR 8/2). Uncompacted, crumbly. Carbonate content high. Washed fraction contains foraminifera (including Globigerina, Globotruncana). Basal contact sharp due to change in color and lithology.

230-240 cm Calcareous mud, similar to 33-210 cm. Basal contact sharp due to change in color and lithology.

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Conrad 10-279 (cont'd)

240-290 cm Calcareous sand, similar to 210-230 cm. Basal contact sharp oblique at 290-300 cm due to change in color and lithology.

290-310 cm Calcareous mud, similar to 33-210 cm. Color between grayish orange (10 YR 7/4) and pale yellowish brown (10 YR 6/2).

Conrad 10-76

Megascopic Description of a Split Core

Latitude:	06° 38.5' N	Longitude:	110° 56.5' W
Corr. depth:	4316 m	P.D.R. depth:	2301 fm
Date taken:	15 February 1966	Date opened:	20 May 1967
Date described:	21 May 1967	Date photographed:	20 May 1967
Described by:	P. Dasgupta	Flow-in:	0
Core length:	921 cm		

GENERAL: Brown mud with color largely masked by burrowing and oxidation staining. Manganese present throughout; manganese-nodules occur near the top. Sediment generally firm, but near the bottom becomes poorly consolidated and crumbly.

0-921 cm Mud, color pale brown (5 YR 5/2) and grayish brown (5 YR 3/2) interlayered. Color often masked by reworked burrowing and staining caused by rusting. Compact; poorly consolidated and crumbly at 910-921 cm. Mottled with tracks and burrows. Carbonate content varies from low in darker portions to moderate in lighter portions. No sulfide present. Test for manganese positive everywhere. Manganese-nodules present at 0-6 cm. Washed fraction small, consisting of planktonic foraminifera (*Globigerina*, *Globorotalia*), radiolaria, a few diatoms, siliceous spicules, unidentified broken shells, quartz, glass, manganese-micro-nodules, magnetite, calcite (?). Washed fraction is higher and coarser in the lighter portions.

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CONRAD 10-77

Megascopic Description of a Split Core

Latitude:	07°14.7'N	Longitude:	111°21.3'W
Corr. depth:	4136 m	P.D.R. depth:	2207 fm
Date taken:	16 February 1966	Date opened:	14 July 1967
Date described:	17 July 1967	Date photographed:	14 July 1967
Described by:	P. Kranz	Flow-in:	0
Core length:	952 cm		

GENERAL:

Foraminiferal - radiolarian marl with gradational dark and moderate brown bands (0-165 cm) overlies a foraminiferal marl (165-300 cm) moderate brown containing lumps of tan foraminiferal chalk up to 15 cm in diameter. These units are underlain by a foraminiferal marl with gradational dark and moderate brown bands (300-562 cm); manganese nodules up to 3 cm in diameter at 380 and 450 cm. The last unit in the core is a foraminiferal chalk (562-952 cm), tan with white spots. The core is moderately soft, moist and plastic down to 562 cm after which it is weakly cohesive. The entire core is moderately mottled and burrowed. There is rust staining in the upper 50 cm.

0-165 cm

Foraminiferal - radiolarian marl, with grayish brown (5 YR 3/2) and moderate brown (5 YR 4/4) gradational bands. The sediment is soft, moist and plastic. Moderate mottling and burrowing evident throughout. Carbonate content moderate. Manganese test positive. Moderate washed fraction at 20 cm contains mostly broken adult foraminifera with occasional sponge spicules. Small to moderate washed fraction at 120 cm is dominantly Radiolaria with occasional foraminifera, sponge spicules, echinoid spines and manganese micronodules. Basal contact distinct defined by a color and lithologic change.

165-300 cm

Foraminiferal marl, moderate brown (5 YR 4/4) containing pale yellowish brown (10 YR 6/2) lumps of foraminiferal chalk up to 15 cm in diameter. Moderate mottling and burrowing throughout. Carbonate content moderate in the matrix; high in the lumps. Manganese test positive in the matrix; negative in the lumps. Small to moderate washed fraction of matrix at 220 cm contains mostly broken, adult foraminifera

CONRAD 10-77 (cont'd)

165-300 cm
(cont'd)

with occasional sponge spicules and Radiolaria. Extremely small washed fraction from a lump at 265 cm contains broken foraminifera and occasional echinoid spines. The fine fraction of the lump contains discoasters and coccoliths. The fine fraction of the matrix contains only coccoliths. Basal contact gradational defined by a lithologic change.

300-562 cm

Foraminiferal marl, moderate brown (5 YR 4/4), moist, soft, plastic. Slightly burrowed. Carbonate content moderate. Manganese test positive. Manganese nodules 2-3 cm in diameter at 380 and 405 cm. Small washed fractions (320, 420 cm) contain mostly broken adult foraminifera with occasional sponge spicules, echinoid spines and manganese micronodules. Basal contact reasonably distinct defined by a color and lithologic change.

562-952 cm

Foraminiferal chalk, light brown (5 YR 6/4) mottled with white (N9) moist and crumbly. Moderately burrowed. Carbonate content high. Manganese test negative. Small washed fractions contain few foraminifera plus occasional sponge spicules, echinoid spines and Radiolaria. Some manganese micronodules found near the upper contact.

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Conrad 10-79

Megascopic Description of a Split Core

Latitude:	09°19.3'N	Longitude:	110°32.9'W
Corr. depth:	3630 m	P.D.R. depth:	1943 fm
Date taken:	17 February 1966	Date opened:	23 May 1967
Date described:	23 May 1967	Date photographed:	23 May 1967
Described by:	D. Turkel	Flow-in:	0
Core length:	969 cm		

GENERAL: Dark brown highly mottled mud from top to bottom. Core has layers of lighter brown mud but color change is slight. Concentration of manganese-micronodules at 620 cm and at top.

0-969 cm Mud, grayish brown (5 YR 3/2), moderate brown (5 YR 3/4) and moderate brown (5 YR 4/4). Sediment is very soft, moist and crumbly. No secondary rusting. Core is heavily burrow mottled throughout. Mottling gives sediment a splotchy appearance. There are concentrations of manganese at the top and at 625 cm. Zoophycus tracks appear sporadically. Moderate washed sample contains broken Globorotalia tests (the edges of Globorotalia have been broken off and make up most of the sample), manganese-micronodules, and few Radiolaria. Percentage of foraminifera decreases with depth in core.

Conrad 10-88

Megascopic Description of a Split Core

Latitude:	16°39.3'N	Longitude:	110°12.7'W
Corr. depth:	3660 m	P.D.R depth:	1958 fm
Date taken:	28 February 1966	Date opened:	2 February 1967
Date described:	3 February 1967	Date photographed:	2 February 1967
Described by:	H. Zeiss	Flow-in:	0
Core length:	212 cm		

- 0-8 cm - Mud, dark yellowish brown (10 YR 4/2). Manganese nodules at 0-4 cm. Sand fraction very small. Little compaction, no burrowing. Lower contact gradational color change. Carbonate content nil.
- 8-16 cm - Mud, dark yellowish orange (10 YR 6/6). Carbonate content nil. Small sand fraction. Little compaction, no burrowing. Lower contact sudden lithologic change.
- 16-19 cm - Volcanic ash, greenish gray (5 GY 6/1). Some burrowing may be present at upper contact. Carbonate content nil. Sediment is a fine grained ash with abundant amounts of volcanic glass and some planktonic foraminifera. Sharp bottom contact due to lithologic change.
- 19-212 cm - Mud, dark yellowish orange (10 YR 6/6). No burrowing evident. Carbonate content nil. Sediment seems to be homogeneous. Very small sand fraction containing few planktonic foraminifera.