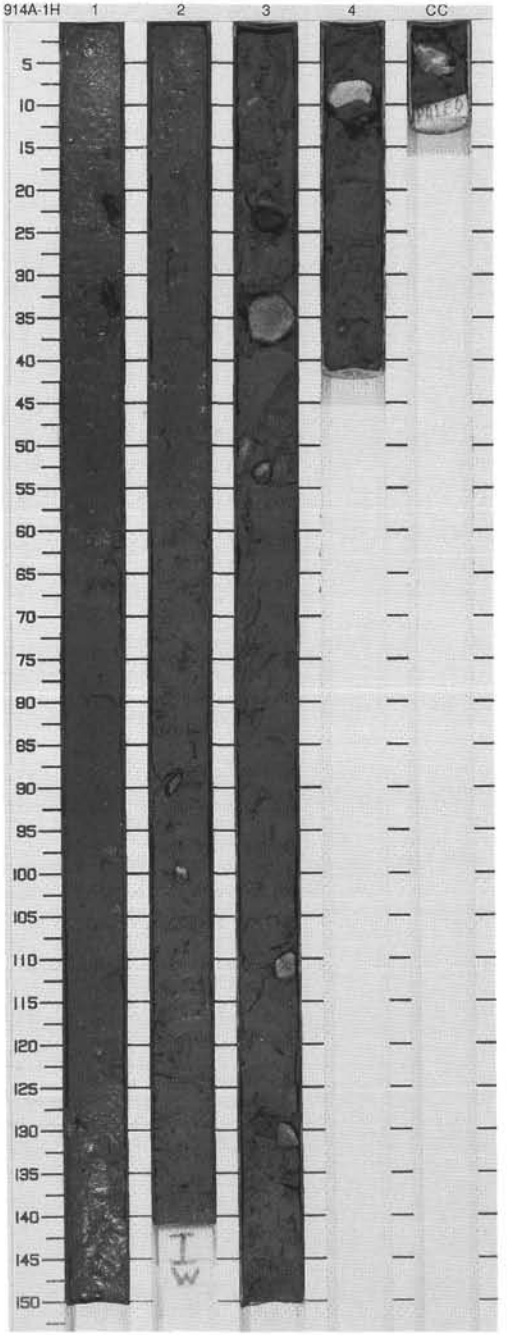
SITE 914 HOLE A CORE 1H CORED 0.0 - 5.0 mbsf

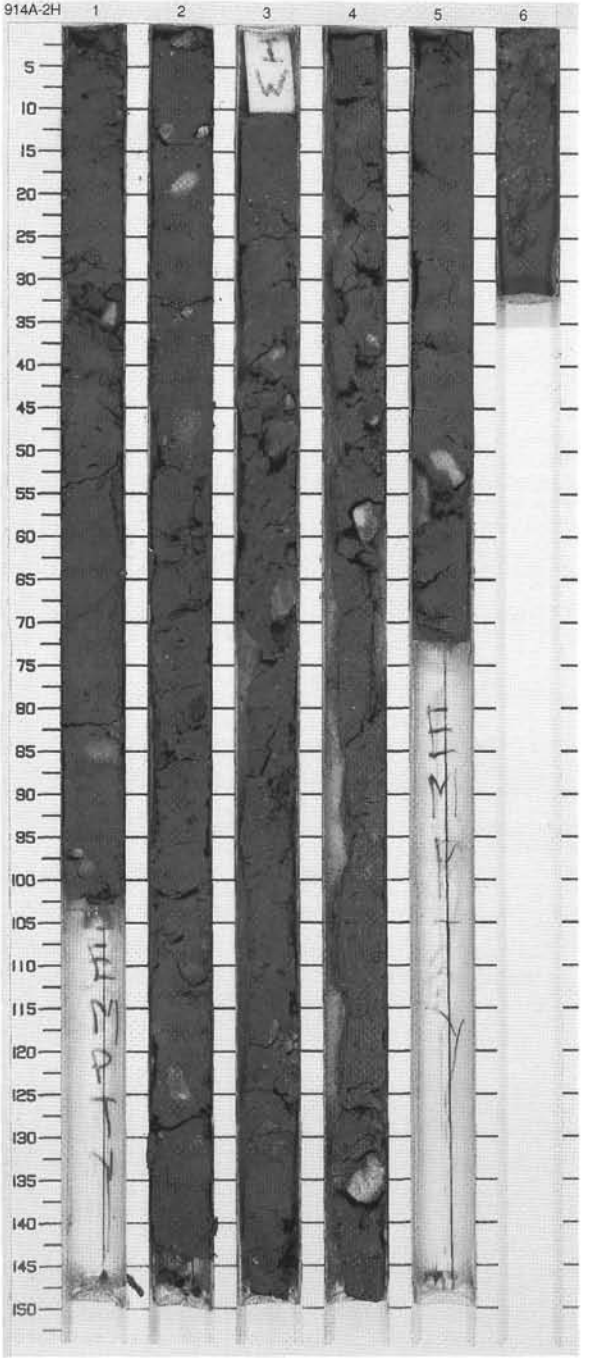
Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–5		1	Quaternary	◇ ◇	○○	S S S	5Y 3/2	SANDY SILT WITH DROPSTONES Major Lithology: SANDY SILT WITH DROPSTONES: (Section 1, 0 to 16 cm and 60 to 150 cm, Section 2, 56 to 150 cm, Section 3, 0 to 150 cm, Section 4, 0 to 41 cm, and CC, 0 to 9.5 cm). Dropstones range in size from about 1 to 5 cm. Dropstones are composed of a number of lithologies, including basalt, gneiss, and quartzite. Dropstones are angular to subrounded. Separate beds of the sandy silt range in color from dark olive gray (5Y 3/2) to very dark gray (5Y 3/1). Minor Lithologies: SANDY NANNOFOSSIL MIXED SEDIMENT, olive gray (5Y 4/2), (Section 1, 0 to 5 cm), very soupy. SILTY SAND WITH DROPSTONES, massive, with abundant amphibole, feldspar, and calcareous microfossils. (Section 1, 5 to 60 cm). SANDY SILT WITHOUT DROPSTONES (Section 2, 0 to 56 cm), occurs as a homogeneous, black (5Y 2.5/1) bed.
						S	5Y 2.5/1	
		2		◇ ◇		S	5Y 3/1	
		3		◇ ◇ ◇ ◇ ◇ ◇		S	5Y 3/2	
		4		◇		S S M S	5Y 3/1	
		CC	??					

Information on Core Description Forms, for ALL sites, represents field notes taken aboard ship. Some of this information has been refined in accord with post-cruise findings, but production schedules prohibit definitive correlation of these forms with subsequent findings. Thus, the reader should be alerted to the occasional ambiguity or discrepancy.



SITE 914 HOLE A CORE 2H CORED 5.0 - 6.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–6		1	Quaternary	◇		S	5Y 3/2	SANDY SILT WITH GRAVEL (DIAMICTON) Major Lithology: Well-consolidated, stiff SANDY SILT WITH GRAVEL (DIAMICTON): (Section 2, 0 to 144 cm, Section 4, 0 to 150 cm, and Section 5, 0 to 72 cm). No bedding is visible and a number of isolated dropstones of cobble and granule size are suspended in the matrix of sandy mud and muddy sand. Minor Lithologies: CLAYEY SILT, dark gray (2.5Y 4/1), Section 6, 0 to 33 cm; SANDY MUD WITH GRAVEL, dark olive gray (5Y 3/2) to very dark gray (5Y 3/1), Section 1, 0 to 103 cm; and MUDDY COARSE SAND WITH GRAVEL, very dark gray (5Y 3/1), Section 3, 10 to 150 cm, include clasts of basalt, gneiss, gabbro, and a red sandstone. No sedimentary structures are visible. The minor lithologies grade into the major lithologies, the principal difference between the two being the presence of larger suspended clasts. General Description: The exact nature of Core 152-914A-2H is problematic as 6.57 m of recovery was obtained after an advance of only 1 m. The sediment in this core may have been partially drawn up from below the bottom of the hole on core extraction.
		2		◇ ◇ ◇		S	5R 3/1	
		3		◇ ◇ ◇		I T S	5Y 2/1	
		4		◇ ◇ ◇		S	5R 2.5/1	
		5		◇		S		
		6				M	2.5Y N4/0	



SITE 914 HOLE A CORE 3X CORED 6.0 - 14.0 mbsf

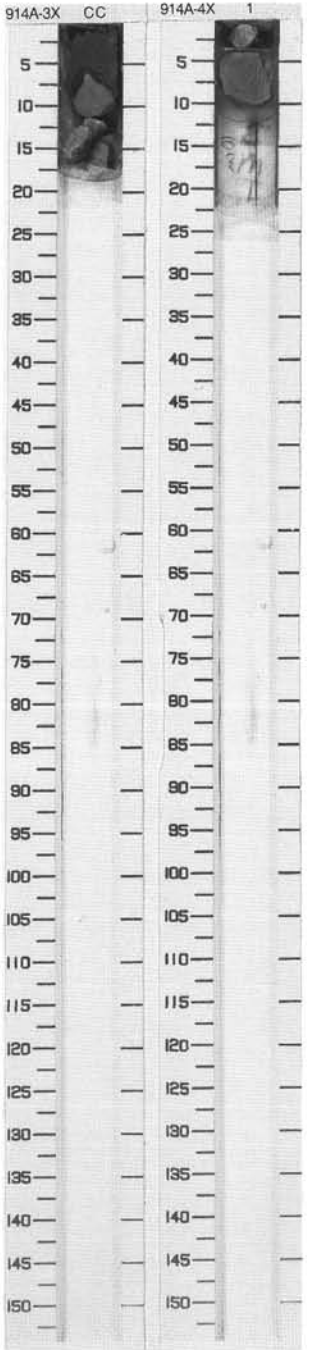
Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
		CC		◇		MS		SANDY SILT WITH GRAVEL (DIAMICTON) Major Lithology: SANDY SILT WITH GRAVEL, very dark gray (5Y 3/1). No structure is visible except for the presence of isolated gravel clasts ranging from 1 to 6 cm in length, suspended in the sandy silt matrix. Clast types include altered dolerite, gabbro, diorite, and shale. Age: Quaternary

SITE 914 HOLE A CORE 4X CORED 14.0 - 18.6 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
		1						GRAVEL Major Lithology: *Two drilling fragments recovered:* gneiss, 4 cm long, and serpentinite, 6 cm long.

914B 1R NO RECOVERY

914B 2R NO RECOVERY



SITE 914 HOLE B CORE 3R CORED 103.0 - 112.1 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color
		CC					

Description

GRAVEL

General Description:
This core consists of five drilling fragments. From top (Piece 1) to bottom (Piece 5) the rock types are the following:

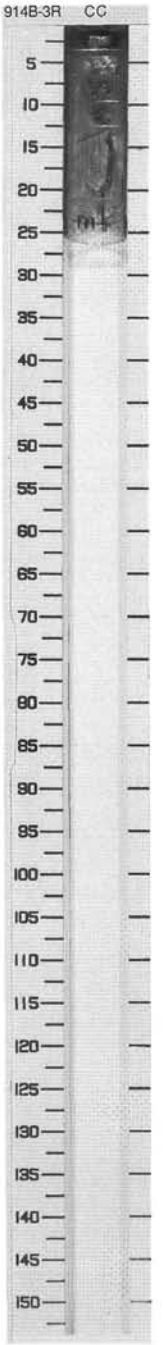
Piece 1: felsic gneiss, 3 cm long.
COLOR: Light gray.
LAYERING: Gneissic structure with indistinct mafic bands.
DEFORMATION: None.
PRIMARY MINERALOGY:
Quartz - Mode: 70%
Crystal size: 1 mm.
Crystal shape: Anhedral.
Crystal orientation: None.
Percent replacement: None.
Feldspar - Mode: 20%
Crystal size: 1 mm.
Crystal shape: Anhedral.
Crystal orientation: None.
Percent replacement: None.
Biotite - Mode: 10%
Crystal size: 1 mm.
Crystal shape: Flakes.
Crystal orientation: None.
Percent replacement: None.
SECONDARY MINERALOGY:
Total percent: 0%
Texture: None.
Vein material: None.
ADDITIONAL COMMENTS: 3–4-cm-sized rounded cobble in glacial sediments.

Piece 2: felsic gneiss, 3.5 cm long.
COLOR: Light gray.
LAYERING: Weak schistosity of mica grains.
DEFORMATION: None.
PRIMARY MINERALOGY:
Quartz - Mode: 75%
Crystal size: 1–2 mm.
Crystal shape: Anhedral.
Crystal orientation: None.
Percent replacement: None.
Feldspar - Mode: 20%
Crystal size: 1 mm.
Crystal shape: Anhedral.
Crystal orientation: None.
Percent replacement: None.
Biotite - Mode: 5%
Crystal size: 1 mm.
Crystal shape: Flakes.
Crystal orientation: None.
Percent replacement: None.
SECONDARY MINERALOGY:
Total percent: None.
Vein material: None.
ADDITIONAL COMMENTS: 3.5-cm rock in glacial conglomerate.

Piece 3: metapelite, 4 cm long.
CONTACTS: None.
PHENOCRYSTS:
GROUNDMASS: Very fine-grained; dense.
VESICLES: 0%
COLOR: Dark greenish gray (5BG 4/1).
STRUCTURE: Massive homogeneous.
ALTERATION: None.
VEINS/FRACTURES: None.
ADDITIONAL COMMENTS: 3–6-cm subangular stone in gravel.

Piece 4: quartzite, 2-cm long.
COLOR: Gray (5BG 6/1).
LAYERING: None.
DEFORMATION: None.
PRIMARY MINERALOGY:
Quartz - Mode: 100%
Crystal size: 1–2 mm.
Crystal shape: Anhedral.
Crystal orientation: None.
Percent replacement: None.
Opaque minerals - Mode: <1%
Crystal size: <0.1 mm.
Crystal orientation: None.
Percent replacement: None.
SECONDARY MINERALOGY:
Total percent: 0%
Vein material: None.
ADDITIONAL COMMENTS: Two pebbles 1-cm diameter in glacial conglomerate.
Piece 5: gneiss, 8 cm long.
COLOR: Gray (N5).
LAYERING: Homogeneous gneissic structure.
DEFORMATION: None.
PRIMARY MINERALOGY:
Quartz - Mode: 40%
Crystal size: 1 mm.
Crystal shape: Anhedral.
Feldspar - Mode: 40%
Crystal size: 1 mm.
Crystal shape: Anhedral.
Biotite - Mode: 20%
Crystal size: 1–2 mm.
Crystal shape: Flaky.
SECONDARY MINERALOGY:
Total percent: 0%
Vein material: None.
ADDITIONAL COMMENTS: 4–8-cm-sized subangular stone in gravel.

The total recovery is 21 cm.
Age: Quaternary



SITE 914 HOLE B CORE 4R CORED 112.1 - 121.3 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
		CC						GRAVEL

General Description:
This core consists of one drilling fragment of serpentinite (16 cm long).

Piece 1
COLOR: Bluish green.
LAYERING: None.
PRIMARY MINERALOGY:
Serpentinite - Mode: 95%
Crystal size: 0.5–1 mm.
Crystal shape: Subhedral.
Pyroxene - Mode: 5%
Crystal size: 1–2 mm.
Crystal shape: Anhedral.
SECONDARY MINERALOGY:
Texture: Reptile-skin texture to all crystals; pyroxenes appear to be sheared.
ADDITIONAL COMMENTS: Cobble in glacial conglomerate.

Age: Quaternary

SITE 914 HOLE B CORE 5R

CORED 121.3 - 130.4 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color
		1	Quat.		VVVV		

Description

GRAVEL

General Description:
This core consists of eleven drilling fragments. From top (Piece 1) to bottom (Piece 11) the rock types are the following:

Piece 1: granitic gneiss, 7 cm long.

Piece 2: granitic gneiss, 8 cm long.
COLOR: Mottled light gray, dark green/black.
LAYERING: Slight orientation of mafic minerals.
PRIMARY MINERALOGY:
Quartz - Mode: 50%
Crystal size: 5–10 mm.
Crystal shape: Euhedral.
Biotite - Mode: 10%
Crystal size: 1–7 mm.
Crystal shape: Flaky.
Feldspar - Mode: 40%
Crystal size: 1–5 mm.
Crystal shape: Euhedral.
Garnet - Mode: <1%
Crystal size: 1 mm.
Crystal shape: Euhedral.
Pyrite - Mode: <1%
Crystal size: <1 mm.
Crystal shape: Euhedral.
ADDITIONAL COMMENTS: Biotite occurs as small flakes and as large (up to 1 cm) clots.

Piece 3: garnet amphibolite, 6 cm long.
COLOR: Dark gray.
LAYERING: None.
DEFORMATION: Slight fabric.
PRIMARY MINERALOGY:
Hornblende - Mode: 50%
Crystal size: 0.5 mm.
Crystal shape: Anhedral.
Plagioclase - Mode: 40%
Crystal size: 0.5 mm.
Crystal shape: Anhedral.
Garnet - Mode: 10%
Crystal size: 0.5 mm.
Crystal shape: Anhedral.
SECONDARY MINERALOGY:
Total percent: None.

Piece 4: quartz diorite with epidote alteration, 7 cm long.
COLOR: White, dark green-gray.
LAYERING: None.
DEFORMATION: None.
PRIMARY MINERALOGY: Minor amounts of garnet, sphene, and apatite.
Plagioclase - Mode: 40%
Crystal size: 1 mm.
Crystal shape: Anhedral.
Comments: Replaced by sericite.
Hornblende - Mode: 20%
Crystal size: 2 mm.
Crystal shape: Prismatic.
Quartz - Mode: 30%
Crystal size: 1 mm.
Crystal shape: Anhedral.
Orthoclase - Mode: 5%
Crystal size: 1 mm.
Crystal shape: Anhedral.
Comments: Replaced by sericite.
Oxide minerals - Mode: 1%
SECONDARY MINERALOGY: Epidote forming coronae around hornblende.
Total percent: 4%
Texture: Epidote and calcite.

Piece 5: aphyric basalt, 5 cm long.
PHENOCRYSTS:
GROUNDMASS: Aphanitic.
VESICLES:
COLOR: Dark gray.
ALTERATION: Pyrite as isolated crystals 1–2 mm.
VEINS/FRACTURES: 2 cm; epidote filling vein.
ADDITIONAL COMMENTS: 4 cm-size rounded stone in gravel.

Piece 6: gabbro, 8 cm long.
COLOR: Dark gray.
LAYERING: None.
PRIMARY MINERALOGY:
Plagioclase - Mode: 50%
Crystal size: 2–4 mm.
Crystal shape: Lath.
Comments: Cloudy.
Clinopyroxene - Mode: 45%
Crystal size: 1–5 mm.
Crystal shape: Euhedral.
Comments: Ophitically encloses plagioclase.
Fe-oxides - Mode: 5%
Crystal size: 1–2 mm.
Crystal shape: Euhedral.
SECONDARY MINERALOGY: Slight alteration of clinopyroxene.

Piece 7: gabbro, 6 cm long.
COLOR: Dark gray to white.
LAYERING: None.
PRIMARY MINERALOGY:
Plagioclase - Mode: 45%
Crystal size: 2–3 mm.
Crystal shape: Anhedral.
Clinopyroxene - Mode: 35%
Crystal size: 2–3 mm.
Crystal shape: Euhedral.
Olivine - Mode: 12%
Crystal size: 1 mm.
Crystal shape: Euhedral.
Oxide minerals - Mode: 8%
Crystal size: 1 mm.
SECONDARY MINERALOGY: Plagioclase slightly altered to sericite; olivine altered to iddingsite along fractures.
Texture: Equigranular medium grained.

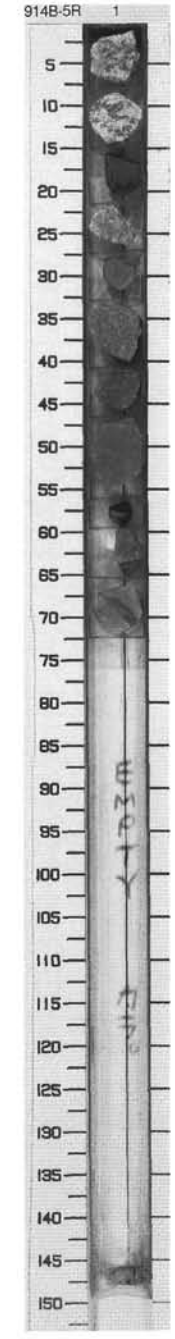
Piece 8: basalt with alteration mineral-filled vesicles, 11 cm long.
PHENOCRYSTS:
Plagioclase - 1%; 1 mm.
GROUNDMASS: Aphanitic.
VESICLES: 1%; 2 mm; eliptical; random; filled with chlorite.
COLOR: Dark gray.
ALTERATION: Chlorite in vesicles.

Piece 9: basalt, 4 cm long.
PHENOCRYSTS:
GROUNDMASS: Fine-grained with plagioclase, clinopyroxene, and opaque oxides.
VESICLES:
COLOR: Dark gray.
ADDITIONAL COMMENTS: Angular piece 2 cm in diameter.

Piece 10: basalt, 6 cm long.
PHENOCRYSTS:
GROUNDMASS: Fine-grained.
VESICLES:
COLOR: Dark gray.
VEINS/FRACTURES: 1 to 2 mm; two types: 1. chlorite + calcite. 2. epidote.
ADDITIONAL COMMENTS: Angular piece 2 cm in diameter.

Piece 11: metapelite, 7 cm long

Age: Quaternary



SITE 914 HOLE B CORE 6R CORED 130.4 - 139.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
		1						GRAVEL

General Description:
This core consists of three drilling fragments. From top (Piece 1) to bottom (Piece 3) the rock types are the following:

Piece 1: basalt with epidote-filled vesicles, 7 cm long;
PHENOCRYSTS: None.
GROUNDMASS: Fine-grained.
VESICLES: 1%; 5 mm; eliptical; random; vesicles filled first with epidote and then by quartz.
COLOR: Dark gray.
VEINS/FRACTURES: 2 mm; filled with epidote.
ADDITIONAL COMMENTS: 5-cm diameter cobble, slightly rounded.

Piece 2: basalt with epidote- and quartz-filled vesicles, 7 cm long;
PHENOCRYSTS: None.
GROUNDMASS: Fine-grained.
VESICLES: 2%; up to 10 mm; spherical; random; filled with epidote and quartz.
COLOR: Dark gray.
ADDITIONAL COMMENTS: 5-cm diameter cobble, slightly rounded.

Piece 3: metabasalt cut by thin vein of quartz, 6 cm long.
PHENOCRYSTS: None.
GROUNDMASS: Aphanitic.
VESICLES: 5%; 1–2 mm; spherical; random; filled with light gray quartz(?) material, so that the border with the basalt becomes vague.
COLOR: Greenish gray.
ALTERATION: Moderate to heavily altered.
VEINS/FRACTURES: Cut by thin vein of quartz.

Age: Quaternary.

SITE 914 HOLE B CORE 7R CORED 139.5 - 148.7 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color
		CC			W	S	

Description

GRAVEL

General Description:
This core consists of six drilling fragments. From top (Piece 1) to bottom (Piece 5) the types are the following:
Piece 1: andesite, 6 cm long;
PHENOCRYSTS:
Plagioclase - 2%; 3 mm; margin indistinct.
GROUNDMASS: Fine-grained.
VESICLES: 0%
COLOR: Medium gray.

Piece 1: dolerite
PHENOCRYSTS:
GROUNDMASS: Plagioclase laths, clinopyroxene, medium grained.
VESICLES: 0%
COLOR: Light gray.
ALTERATION: Moderate, some cloudiness in plagioclase.
ADDITIONAL COMMENTS: 5-cm-long rounded cobble, weathered surface is pitted.

Piece 2: diabase with pitted, weathered surface, 5 cm long;

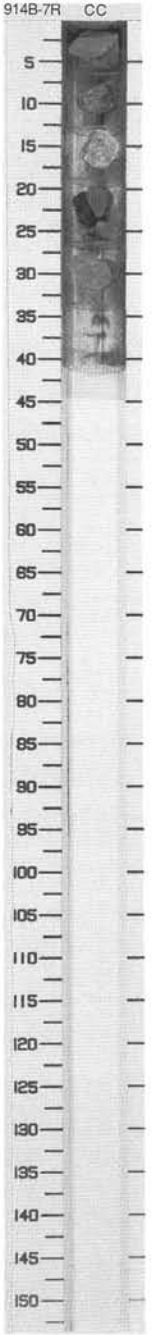
Piece 3: granite, 4.5 cm long;
COLOR: Light gray.
LAYERING: Very indistinct.

PRIMARY MINERALOGY:
Feldspar - Mode: 50%
Crystal size: 2 mm.
Crystal shape: Anhedral.
Hornblende - Mode: 5%
Crystal size: 0.5 mm.
Crystal shape: Prismatic.
Quartz - Mode: 35%
Crystal size: 1 mm.
Crystal shape: Anhedral.
Biotite - Mode: 10%
Crystal size: 0.5 mm.
Crystal shape: Anhedral.
ADDITIONAL COMMENTS: Clast in glacial sediments.

Piece 4: two fragments of aphanitic basalt with epidote-filled veins, 3 cm long, and sandy silt with angular 2 mm to 2 cm size clasts (diacmicton);
PHENOCRYSTS: None.
GROUNDMASS: Fine-grained.
VESICLES: 0%
COLOR: Dark gray.
VEINS/FRACTURES: 3 mm long; filled with epidote.
ADDITIONAL COMMENTS: 2-cm rounded cobble.

Piece 5: basalt, 6 cm long.
PHENOCRYSTS: None.
GROUNDMASS: Fine-grained.
VESICLES: 0%
COLOR: Dark gray.
ADDITIONAL COMMENTS: 5-cm rounded cobble.

Age: Quaternary.



SITE 914 HOLE B CORE 8R CORED 148.7 - 158.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color
		CC			V	S S S	

Description

GRAVEL

General Description:
This core consists of six drilling fragments. From top (Piece 1) to bottom (Piece 6) the types are the following:

Piece 1: diamicton, 4 cm long, muddy sand with clasts, totally structureless. Diameters of clasts are from 2 mm to 1 cm. Clasts mainly comprise quartz and fragments of basalt.

Piece 2: aphyric basalt, 4 cm long;
PHENOCRYSTS: None.
GROUNDMASS: Fine-grained.
VESICLES: 0%
COLOR: Dark gray.
ADDITIONAL COMMENTS: 4-cm rounded cobble.

Piece 3: diamicton, 5-cm-long, muddy sand with clasts, totally structureless. Diameter of individual clasts are from 2 mm to 1.5 cm. Gravels mainly comprise quartz, fragments of basalt, and red sandstone.

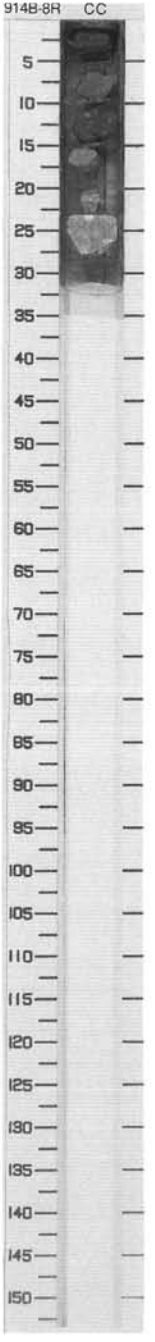
Piece 4: aphyric basalt, 3 cm long;
PHENOCRYSTS: None.
GROUNDMASS: Fine-grained.
VESICLES: 0%
COLOR: Dark gray.
ADDITIONAL COMMENTS: 3-cm rounded cobble.

Piece 5: felsic gneiss, 3 cm long;
PHENOCRYSTS: None.
GROUNDMASS: Fine-grained.
COLOR: Medium gray.
ADDITIONAL COMMENTS: Gneissose texture defined by quartz/feldspar segregation.

Piece 6: metaconglomerate, 6 cm long.
COLOR: Medium gray.
LAYERING: None.
PRIMARY MINERALOGY:
ADDITIONAL COMMENTS: Quartzite clast up to 20 mm across set in a gray matrix.

Age: Quaternary.

914B 9R THROUGH 11R NO RECOVERY



SITE 914 HOLE B CORE 12R CORED 187.2 - 196.8 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
		CC						SANDSTONE

General Description:
Moderately bioturbated SANDSTONE with indistinct subhorizontal burrows. Calcite-cemented, moderately sorted, medium- to coarse-grained, dark gray (5Y 4/1) to dark olive gray (5Y 4/2) bed. Sandstone is quartz rich, with minor amounts of feldspar, lithic fragments (including mudstone), mica, and amphibole. Total recovery is 15 cm in the form of two drilling fragments.

Age: Unknown.

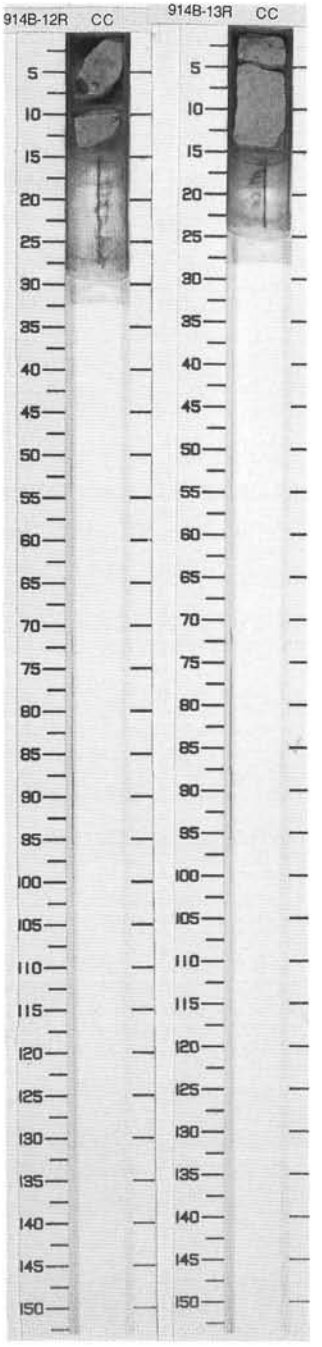
SITE 914 HOLE B CORE 13R CORED 196.8 - 206.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
		CC				S		SANDSTONE

General Description:
Calcite-cemented SANDSTONE, moderately sorted, massively bedded, fine sand to silt sized, a few clasts up to 1 mm across. Dark gray (5Y 4/1) to dark olive gray (5Y 4/2). Horizontal burrow (6 mm across) is filled with olive (5Y 5/3) muddy sand. Total recovery is 14 cm in the form of two drilling fragments.

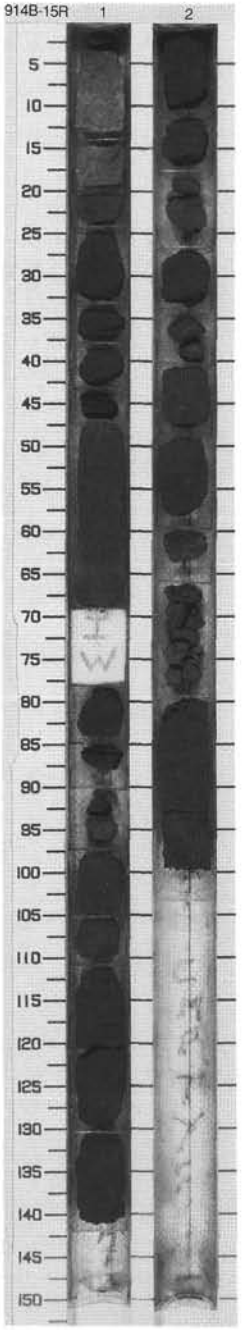
Age: Unknown.

914B 14R NO RECOVERY



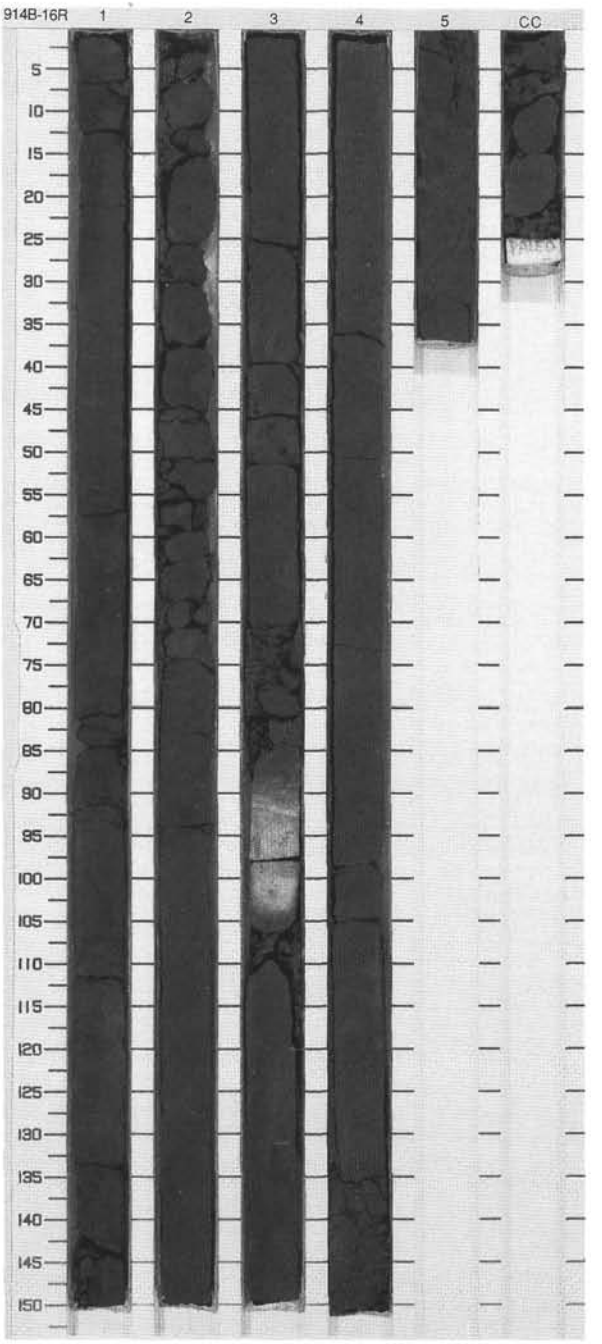
SITE 914 HOLE B CORE 15R CORED 216.1 - 225.8 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1 2		1 2	early Oligocene			S I S O M	5Y 4/1 To 5Y 2.5/1	SANDY SILT WITH ZEOLITE Major Lithology: Cemented with carbonate in the upper 19 cm, and unconsolidated in the rest of the core. Moderate bioturbation occurs in the upper 23 cm. Some shell fragments and pieces of wood (up to several milimeters in size) are dispersed in the sediment. Color ranges from dark gray (5Y 4/1) to black (5Y 2.5/1). Phillipsite comprises up to 20% of sediment; trace of glauconite pellets. Minor Lithologies: SILTY SANDSTONE interbeds with gradational contacts due to bioturbation throughout the core, have higher sand content and up to 25% lithic fragments, most of which are basaltic.



SITE 914 HOLE B CORE 16R CORED 225.8 - 235.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–6		1, 2, 3, 4, 5, CC	early Oligocene			S; S; S; S S; S; S; S	5Y 2.5/1; 5Y 3/1 To 5Y 2/1	SILT WITH SAND AND PHILLIPSITE Major Lithology: SILT WITH SAND AND PHILLIPSITE, massive, homogeneous, black (5Y 2.5/1). Slight bioturbation is observed throughout, obscuring original bedding. Heavy bioturbation is observed in Section 1, 45–92 cm and Section 2, 88–93 cm. Burrows are filled with slightly coarser grained sand. Bioclasts scattered throughout this core include shell fragments (gastropods and mollusks, with thin test walls, from 1 to 5 mm in whole shell length), foraminifers (from 1 to 2 mm), and other calcareous bioclasts (possibly spines of echinoids, from 1 to 3 mm in diameter). A large shell fragment 3 cm across is seen in Section 1, 79–81 cm. Wood fragments up to 3 mm scattered throughout. Phillipsite comprises up to 25% of total sediment, trace of glauconitic pellets. Minor Lithology: SANDSTONE, calcite-cemented, light olive gray (5Y 6/2) grading downward to gray (5Y 5/1), heavily burrowed (especially in upper part of this sandstone) occurs in Section 3, 86–99 cm. This bed has gradational top and bottom contacts.



SITE 914 HOLE B CORE 17R CORED 235.5 - 245.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–7		1–5, CC	early Oligocene			S, S, S, S, I, S, M	5Y 3/1	SANDY SILT Major Lithology: SANDY SILT, massive, homogeneous, very dark gray (5Y 3/1), slightly bioturbated throughout. Original bedding destroyed by burrowing. Burrows are filled with slightly coarser grained sand. Shell *fragments scattered throughout* include mollusks and echinoid spines. Wood fragments up to 3 mm scattered throughout. Phillipsite and volcanic glass up to 5% of total core indicates volcanic source rocks; heavy minerals such as garnet and blue-green amphibole indicate metamorphic provenance as well.