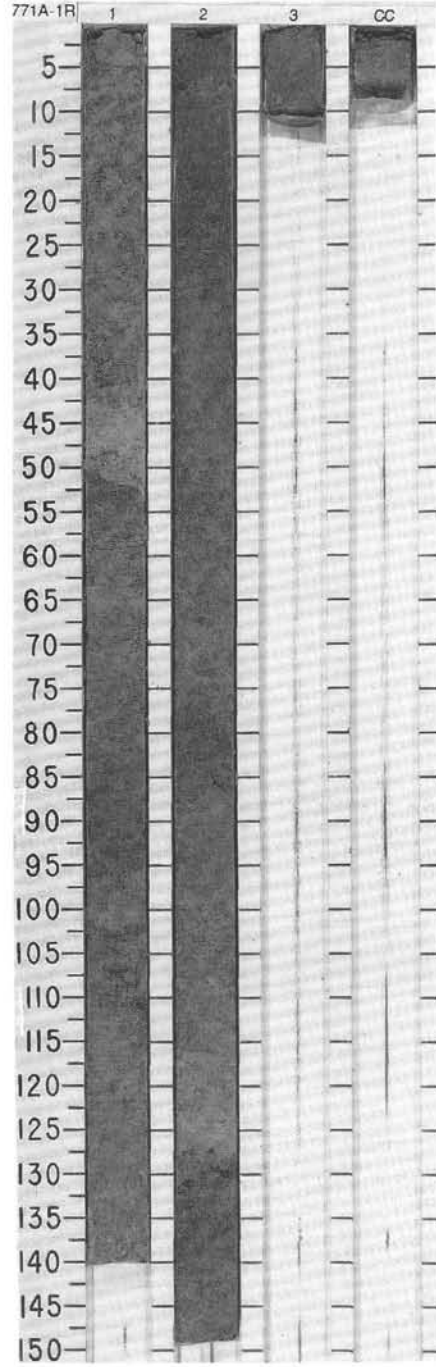


TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER			PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION																																																																				
	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS																																																																														
UPPER PLIOCENE	●A/M	●C/G					1	0.5					<p>NANNOFOSSIL CLAY and nannofossil marl with foraminifers</p> <p>Major lithology: Dark greenish gray (10Y 5/1) NANNOFOSSIL CLAY. Mottling is common in the clay and it is bioturbated throughout. It is composed of clay with nannofossils and silty volcanic detritus (plagioclase, glass and lithic fragments). Dark green (5G 3/3) patched also rich in clay.</p> <p>Minor lithology: Nannofossil marl with foraminifers occurs in two thin to medium beds with sharp bases and gradational contacts with the overlying clay. These graded beds are light greenish gray (10Y 6/1) and are composed of clay, nannofossils, foraminifers and small amounts of volcanic silt. The sediments in this core are dominantly pelagic/hemipelagic with thin calcareous turbidites.</p> <p>SMEAR SLIDE SUMMARY (%):</p> <table border="1"> <tr> <td></td> <td>1.47</td> <td>1.91</td> <td>2.130</td> </tr> <tr> <td></td> <td>M</td> <td>D</td> <td>M</td> </tr> </table> <p>TEXTURE:</p> <table border="1"> <tr> <td>Sand</td> <td>20</td> <td>—</td> <td>—</td> </tr> <tr> <td>Silt</td> <td>20</td> <td>20</td> <td>20</td> </tr> <tr> <td>Clay</td> <td>60</td> <td>80</td> <td>80</td> </tr> </table> <p>COMPOSITION:</p> <table border="1"> <tr> <td>Accessory minerals</td> <td>—</td> <td>2</td> <td>—</td> </tr> <tr> <td>Biotite</td> <td>—</td> <td>—</td> <td>1</td> </tr> <tr> <td>Clay</td> <td>40</td> <td>80</td> <td>75</td> </tr> <tr> <td>Discoaster</td> <td>—</td> <td>2</td> <td>—</td> </tr> <tr> <td>Foraminifers</td> <td>20</td> <td>—</td> <td>—</td> </tr> <tr> <td>Glass</td> <td>5</td> <td>2</td> <td>3</td> </tr> <tr> <td>Hornblende</td> <td>1</td> <td>—</td> <td>—</td> </tr> <tr> <td>Nannofossils</td> <td>30</td> <td>5</td> <td>15</td> </tr> <tr> <td>Plagioclase</td> <td>2</td> <td>2</td> <td>3</td> </tr> <tr> <td>Quartz</td> <td>—</td> <td>2</td> <td>—</td> </tr> <tr> <td>Rock fragment</td> <td>—</td> <td>2</td> <td>2</td> </tr> <tr> <td>Spicules</td> <td>—</td> <td>2</td> <td>—</td> </tr> </table>		1.47	1.91	2.130		M	D	M	Sand	20	—	—	Silt	20	20	20	Clay	60	80	80	Accessory minerals	—	2	—	Biotite	—	—	1	Clay	40	80	75	Discoaster	—	2	—	Foraminifers	20	—	—	Glass	5	2	3	Hornblende	1	—	—	Nannofossils	30	5	15	Plagioclase	2	2	3	Quartz	—	2	—	Rock fragment	—	2	2	Spicules	—	2	—
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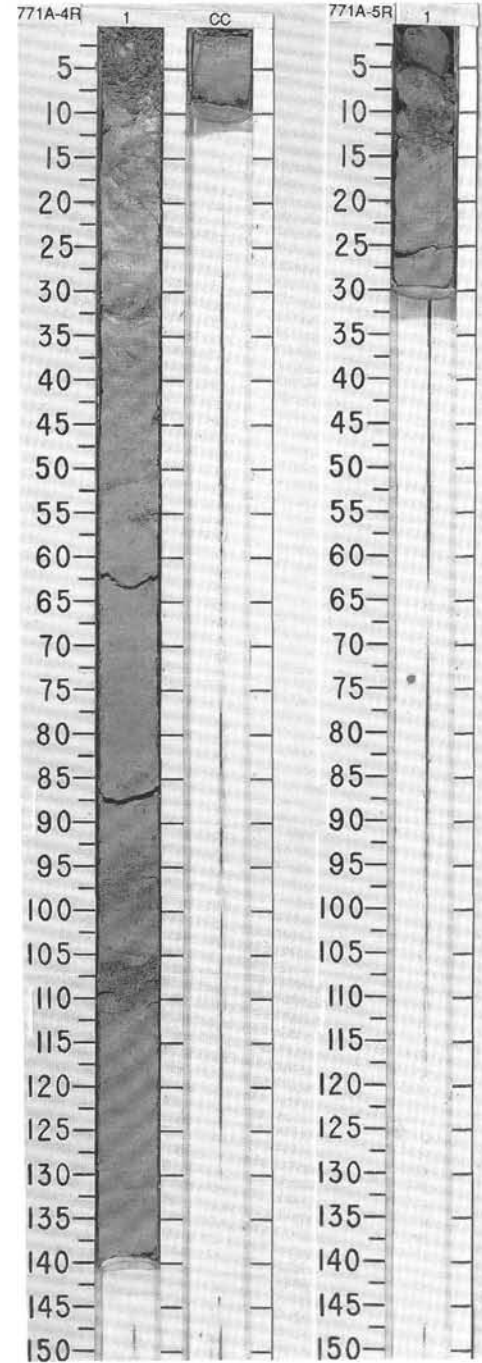


SITE 771 HOLE A CORE 4R CORED INTERVAL 164.2-173.9 mdsf

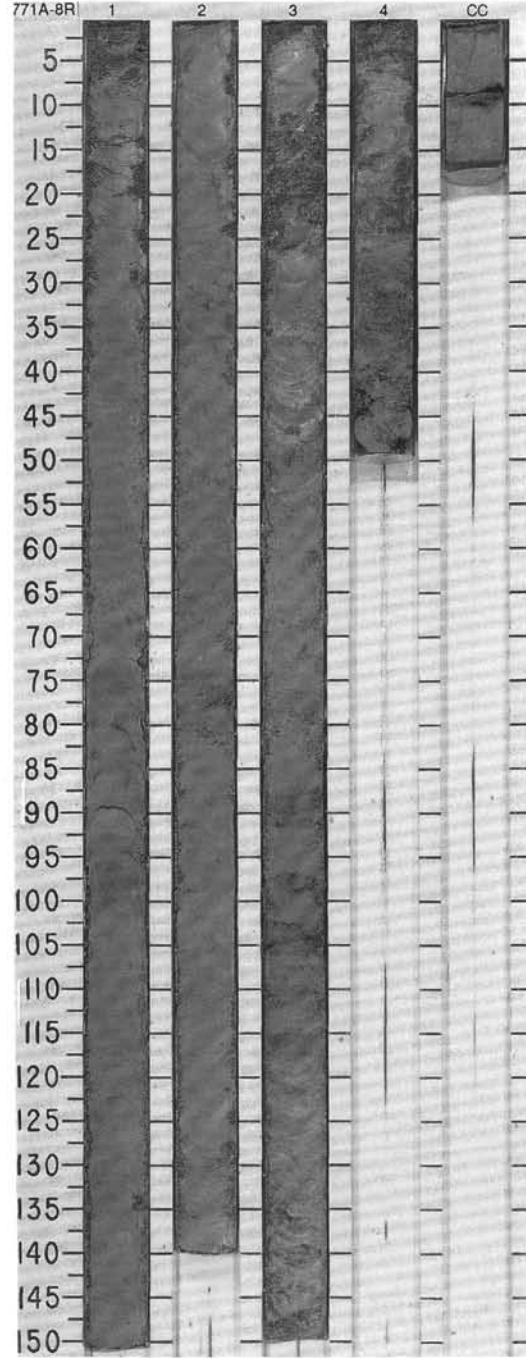
TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER				PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION																																									
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UPPER MIOCENE	N16	C/M	(N17)	C/M		Wc=77 γ=2.59		1	0.5 1.0			*	<p>NANNOFOSSIL MARL and NANNOFOSSIL CLAY</p> <p>Major lithologies: NANNOFOSSIL MARL and NANNOFOSSIL CLAY are gradationally interbedded in this core, forming thin to thick beds. The nannofossil marl is light greenish gray (5GY 7/1) to light gray (5Y 7/1), and the nannofossil clay is greenish gray (5GY 6/1 to 10Y 6/1). Both lithologies are massive and slightly bioturbated, consisting of clay, nannofossils, very minor foraminifers, and silt-sized calcite grains of uncertain origin; they differ mainly in nannofossil content. Some of the nannofossil clay contains a minor silt component consisting of plagioclase, volcanic glass, and opaque minerals. The nannofossil marl and nannofossil clay are interpreted as variable mixtures of hemipelagic clay and pelagic biogenic carbonate sediment.</p> <p>SMEAR SLIDE SUMMARY (%):</p> <table border="1"> <tr> <td></td> <td>1, 24</td> <td>1, 108</td> </tr> <tr> <td></td> <td>D</td> <td>M</td> </tr> </table> <p>TEXTURE:</p> <table border="1"> <tr> <td>Silt</td> <td>5</td> <td>10</td> </tr> <tr> <td>Clay</td> <td>95</td> <td>90</td> </tr> </table> <p>COMPOSITION:</p> <table border="1"> <tr> <td>Apatite</td> <td>—</td> <td>Tr</td> </tr> <tr> <td>Carbonate grains</td> <td>1</td> <td>3</td> </tr> <tr> <td>Clay</td> <td>55</td> <td>50</td> </tr> <tr> <td>Dinoflagellate</td> <td>—</td> <td>Tr</td> </tr> <tr> <td>Foraminifers</td> <td>2</td> <td>1</td> </tr> <tr> <td>Glass</td> <td>—</td> <td>1</td> </tr> <tr> <td>Nannofossils</td> <td>40</td> <td>35</td> </tr> <tr> <td>Opagues</td> <td>1</td> <td>3</td> </tr> <tr> <td>Plagioclase</td> <td>—</td> <td>5</td> </tr> <tr> <td>Zeolite</td> <td>1</td> <td>—</td> </tr> </table>		1, 24	1, 108		D	M	Silt	5	10	Clay	95	90	Apatite	—	Tr	Carbonate grains	1	3	Clay	55	50	Dinoflagellate	—	Tr	Foraminifers	2	1	Glass	—	1	Nannofossils	40	35	Opagues	1	3	Plagioclase	—	5	Zeolite	1	—
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SITE 771 HOLE A CORE 5R CORED INTERVAL 173.9-183.6 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER				PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION																			
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MIDDLE MIOCENE	N15	R/M	M/C	B		Wc=87 γ=2.79		1				*	<p>NANNOFOSSIL CLAY</p> <p>Major lithology: NANNOFOSSIL CLAY found in the core catcher is the only lithology recovered in this core. It is dark greenish gray (10Y 5/1), homogeneous, and slightly bioturbated. It is composed of clay minerals and nannofossils (mostly coccoliths with some discoasters), with very minor plagioclase and silt-sized calcite grains.</p> <p>SMEAR SLIDE SUMMARY (%):</p> <table border="1"> <tr> <td></td> <td>1, 11</td> </tr> <tr> <td></td> <td>M</td> </tr> </table> <p>TEXTURE:</p> <table border="1"> <tr> <td>Silt</td> <td>10</td> </tr> <tr> <td>Clay</td> <td>90</td> </tr> </table> <p>COMPOSITION:</p> <table border="1"> <tr> <td>Carbonate grains</td> <td>2</td> </tr> <tr> <td>Clay</td> <td>65</td> </tr> <tr> <td>Nannofossils</td> <td>30</td> </tr> <tr> <td>Opagues</td> <td>1</td> </tr> <tr> <td>Plagioclase</td> <td>1</td> </tr> <tr> <td>Plant</td> <td>Tr</td> </tr> </table>		1, 11		M	Silt	10	Clay	90	Carbonate grains	2	Clay	65	Nannofossils	30	Opagues	1	Plagioclase	1	Plant	Tr
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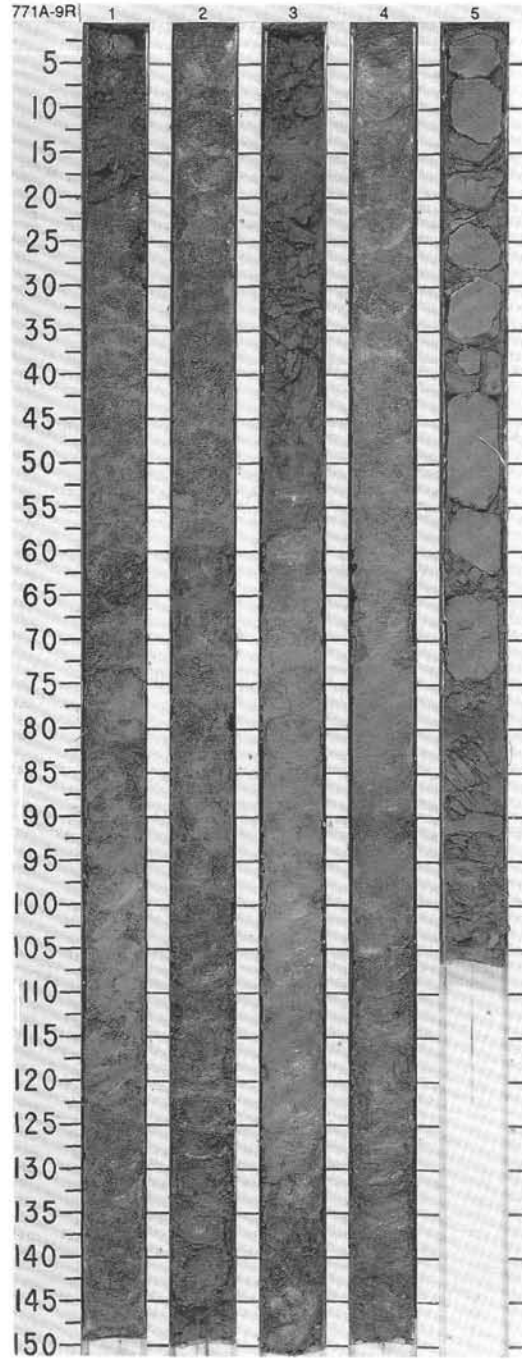


TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER				PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION																																																																																															
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MIDDLE MIOCENE	N10-12	N13	NN7	EB				0.5 1.0	1			*	<p>NANNOFOSSIL CLAY and CLAY WITH NANNOFOSSILS</p> <p>Major lithologies: NANNOFOSSIL CLAY and CLAY WITH NANNOFOSSILS form alternating very thick beds with gradational contacts. Both lithologies are light greenish gray to dark greenish gray (10Y 6/1 to 5/1), with gray and olive gray mottling indicative of slight to moderate bioturbation. They are primarily massive, but some thin layers with gradational boundaries occur in the clay with nannofossils, defined by subtle color variations. These lithologies consist primarily of clay minerals and nannofossils, differing mainly in the relative proportions of these components. Minor amounts of silt-sized bioclasts and unidentified carbonate grains are also present, along with trace amounts of plagioclase, hornblende, and biotite. The nannofossil clay and clay with nannofossils in this core are considered to be mixtures of hemipelagic clay and pelagic biogenic carbonate sediment.</p> <p>SMEAR SLIDE SUMMARY (%):</p> <table border="1"> <tr> <td></td> <td>1, 58</td> <td>2, 120</td> <td>3, 83</td> <td>3, 90</td> <td>CC, 11</td> </tr> <tr> <td></td> <td>D</td> <td>D</td> <td>D</td> <td>M</td> <td>D</td> </tr> </table> <p>TEXTURE:</p> <table border="1"> <tr> <td>Sand</td> <td>—</td> <td>1</td> <td>—</td> <td>—</td> <td>2</td> </tr> <tr> <td>Silt</td> <td>5</td> <td>10</td> <td>5</td> <td>5</td> <td>10</td> </tr> <tr> <td>Clay</td> <td>95</td> <td>89</td> <td>95</td> <td>95</td> <td>88</td> </tr> </table> <p>COMPOSITION:</p> <table border="1"> <tr> <td>Bioclast</td> <td>1</td> <td>—</td> <td>5</td> <td>2</td> <td>4</td> </tr> <tr> <td>Biotite</td> <td>—</td> <td>—</td> <td>—</td> <td>Tr</td> <td>—</td> </tr> <tr> <td>Carbonate grains</td> <td>—</td> <td>5</td> <td>—</td> <td>—</td> <td>5</td> </tr> <tr> <td>Clay</td> <td>83</td> <td>50</td> <td>75</td> <td>85</td> <td>60</td> </tr> <tr> <td>Feldspar</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>Tr</td> </tr> <tr> <td>Foraminifers</td> <td>1</td> <td>Tr</td> <td>—</td> <td>—</td> <td>1</td> </tr> <tr> <td>Hornblende</td> <td>—</td> <td>—</td> <td>Tr</td> <td>Tr</td> <td>—</td> </tr> <tr> <td>Nannofossils</td> <td>15</td> <td>40</td> <td>20</td> <td>10</td> <td>30</td> </tr> <tr> <td>Opalines</td> <td>—</td> <td>Tr</td> <td>—</td> <td>—</td> <td>Tr</td> </tr> <tr> <td>Plagioclase</td> <td>Tr</td> <td>2</td> <td>—</td> <td>1</td> <td>—</td> </tr> <tr> <td>Pyrite</td> <td>—</td> <td>—</td> <td>Tr</td> <td>—</td> <td>—</td> </tr> </table>		1, 58	2, 120	3, 83	3, 90	CC, 11		D	D	D	M	D	Sand	—	1	—	—	2	Silt	5	10	5	5	10	Clay	95	89	95	95	88	Bioclast	1	—	5	2	4	Biotite	—	—	—	Tr	—	Carbonate grains	—	5	—	—	5	Clay	83	50	75	85	60	Feldspar	—	—	—	—	Tr	Foraminifers	1	Tr	—	—	1	Hornblende	—	—	Tr	Tr	—	Nannofossils	15	40	20	10	30	Opalines	—	Tr	—	—	Tr	Plagioclase	Tr	2	—	1	—	Pyrite	—	—	Tr	—	—
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SITE 771 HOLE A CORE 9R CORED INTERVAL 212.6-22.3 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER				PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION																																																																																																												
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MIDDLE MIOCENE														<p>NANNOFOSSIL CLAY/CLAYSTONE, CLAYSTONE WITH NANNOFOSSILS, and NANNOFOSSIL MARL/MARLSTONE</p> <p>Major lithologies: NANNOFOSSIL CLAY/CLAYSTONE, CLAYSTONE WITH NANNOFOSSILS, NANNOFOSSIL MARL/MARLSTONE form thick beds which intergrade vertically. All of these lithologies are massive and structureless, with slight bioturbation evident in the upper part of the core. The nannofossil clay/claystone is dark greenish gray (10Y 5/1), the claystone with nannofossils is olive gray (10Y 5/2), and the nannofossil marl/marlstone is light greenish gray (10Y 6/1 to 6/2). The main difference between these lithologies is in the relative proportion of clay and nannofossils, which are the major sediment components. They also contain very minor amounts of foraminifers and other unidentified silt-sized carbonate bioclasts, and plagioclase. Very minor amounts of volcanic glass, hornblende, and biotite are also locally present. The sediments in this core are interpreted as mixtures of hemipelagic clay and pelagic biogenic carbonate sediment, along with traces of admixed volcanic ash. The degree of induration increases irregularly downward through this core.</p> <p>SMEAR SLIDE SUMMARY (%):</p> <table border="1"> <tr> <td></td> <td>1, 80</td> <td>2, 69</td> <td>3, 96</td> <td>4, 104</td> <td>5, 60</td> </tr> <tr> <td>D</td> <td>D</td> <td>D</td> <td>D</td> <td>D</td> <td>D</td> </tr> </table> <p>TEXTURE:</p> <table border="1"> <tr> <td>Sand</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>2</td> </tr> <tr> <td>Silt</td> <td>10</td> <td>5</td> <td>10</td> <td>10</td> <td>10</td> </tr> <tr> <td>Clay</td> <td>90</td> <td>95</td> <td>90</td> <td>90</td> <td>88</td> </tr> </table> <p>COMPOSITION:</p> <table border="1"> <tr> <td>Apatite</td> <td>—</td> <td>—</td> <td>1</td> <td>—</td> <td>—</td> </tr> <tr> <td>Bioclast</td> <td>—</td> <td>4</td> <td>—</td> <td>Tr</td> <td>—</td> </tr> <tr> <td>Biotite</td> <td>—</td> <td>Tr</td> <td>—</td> <td>—</td> <td>—</td> </tr> <tr> <td>Carbonate grains</td> <td>3</td> <td>—</td> <td>2</td> <td>15</td> <td>10</td> </tr> <tr> <td>Clay</td> <td>60</td> <td>80</td> <td>55</td> <td>45</td> <td>55</td> </tr> <tr> <td>Foraminifers</td> <td>2</td> <td>1</td> <td>2</td> <td>—</td> <td>—</td> </tr> <tr> <td>Glass</td> <td>—</td> <td>—</td> <td>1</td> <td>2</td> <td>2</td> </tr> <tr> <td>Hornblende</td> <td>—</td> <td>Tr</td> <td>—</td> <td>—</td> <td>—</td> </tr> <tr> <td>Nannofossils</td> <td>30</td> <td>15</td> <td>30</td> <td>35</td> <td>30</td> </tr> <tr> <td>Opauques</td> <td>1</td> <td>—</td> <td>2</td> <td>2</td> <td>—</td> </tr> <tr> <td>Plagioclase</td> <td>3</td> <td>Tr</td> <td>3</td> <td>Tr</td> <td>Tr</td> </tr> <tr> <td>Plant</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>1</td> </tr> <tr> <td>Rock fragment</td> <td>1</td> <td>—</td> <td>—</td> <td>—</td> <td>Tr</td> </tr> </table>		1, 80	2, 69	3, 96	4, 104	5, 60	D	D	D	D	D	D	Sand	—	—	—	—	2	Silt	10	5	10	10	10	Clay	90	95	90	90	88	Apatite	—	—	1	—	—	Bioclast	—	4	—	Tr	—	Biotite	—	Tr	—	—	—	Carbonate grains	3	—	2	15	10	Clay	60	80	55	45	55	Foraminifers	2	1	2	—	—	Glass	—	—	1	2	2	Hornblende	—	Tr	—	—	—	Nannofossils	30	15	30	35	30	Opauques	1	—	2	2	—	Plagioclase	3	Tr	3	Tr	Tr	Plant	—	—	—	—	1	Rock fragment	1	—	—	—	Tr
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Rock fragment	1	—	—	—	Tr																																																																																																																					
	●C/M	●C/M	●C/M	●C/M	●C/M	●C/M	●C/M	●C/M	●C/M	●C/M	●C/M	●C/M	●C/M																																																																																																													
	●B	●B	●B	●B	●B	●B	●B	●B	●B	●B	●B	●B	●B																																																																																																													
	●V-1, 56	●V-1, 56	●V-1, 56	●V-1, 56	●V-1, 56	●V-1, 56	●V-1, 56	●V-1, 56	●V-1, 56	●V-1, 56	●V-1, 56	●V-1, 56	●V-1, 56																																																																																																													
	●C/M	●C/M	●C/M	●C/M	●C/M	●C/M	●C/M	●C/M	●C/M	●C/M	●C/M	●C/M	●C/M																																																																																																													
	●C/M	●C/M	●C/M	●C/M	●C/M	●C/M	●C/M	●C/M	●C/M	●C/M	●C/M	●C/M	●C/M																																																																																																													

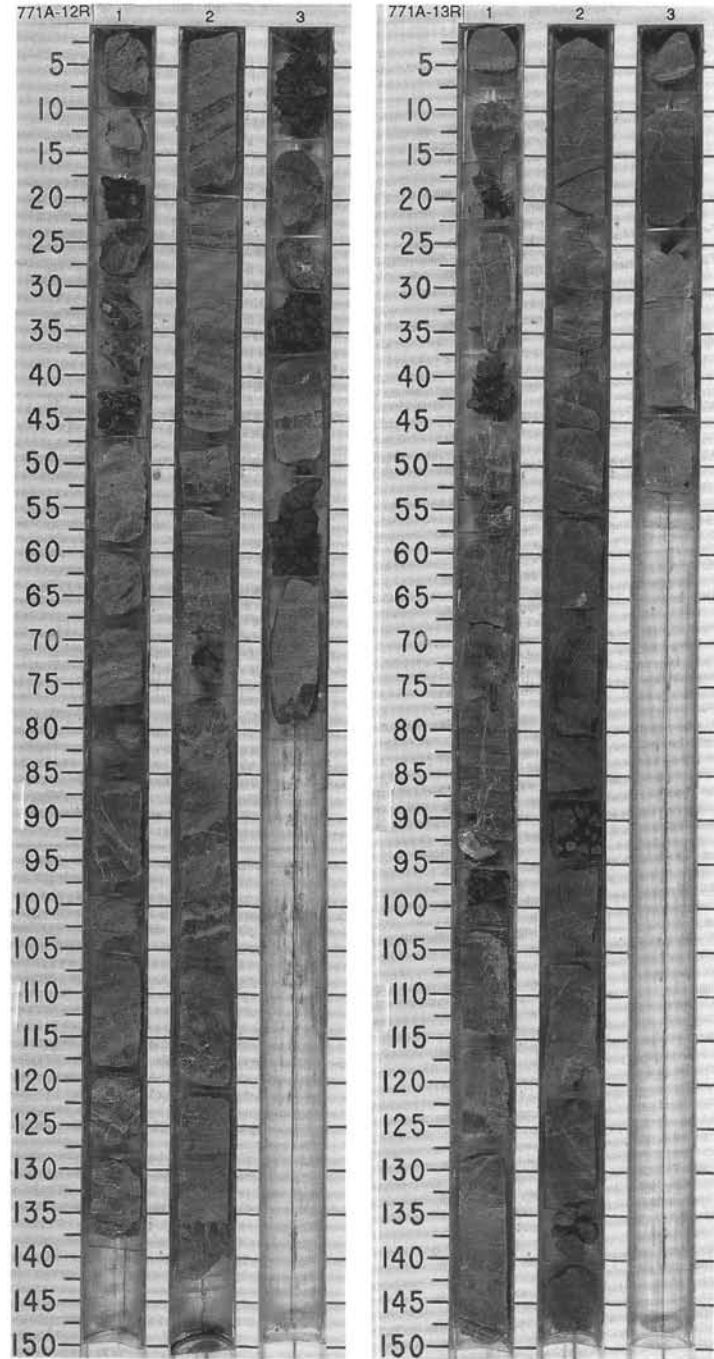


SITE 771 HOLE A CORE 12R CORED INTERVAL 261.7-251.3 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER			PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
	FORAMINIFERS	NAUPOFOSSILS	RADIOLARIANS										
LOWER - MIDDLE MIOCENE													<p>BASALT, COARSE TUFF, FINE TUFF and volcanic silty claystone</p> <p>Major lithologies:</p> <p>a. Brecciated vesicular BASALT occurs in Section 1, 0-47 cm. The vesicles are around 1 mm across and are filled with bluish silica in places. It is probably the lower part of the lava flow observed in Core</p> <p>b. COARSE TUFF and FINE TUFF occur in medium beds which are normally graded in places. In Section 3, 38-45 cm, a coarse tuff bed displays reverse grading in the basal 1 cm and is massive in the upper part of the bed. The basal contacts of the coarse tuff beds are usually sharp and faint parallel lamination occurs in places. Microfaulting and fractures are common, particularly in the upper parts of the fine tuff beds. The fractures are filled with tuff or with a white mineral. The tufts are dark greenish gray to greenish gray (5BG 4/1, 5/1, 6/1).</p> <p>Minor lithologies: Silty claystone occurs interbedded with tuff beds in Sections 2 and 3. It is dark green (10G 3/1) and fractured with ash injected along the fractures. The tuff beds and silty claystone are interpreted as turbidites of redeposited volcanic ash.</p>
	●F/P	NN5			WC-36 0-45.8 1-2.28 2-1.77 (V-2.60)		1						
					WC-22 0-33.1 1-2.26 2-1.90 (V-2.61)		2						

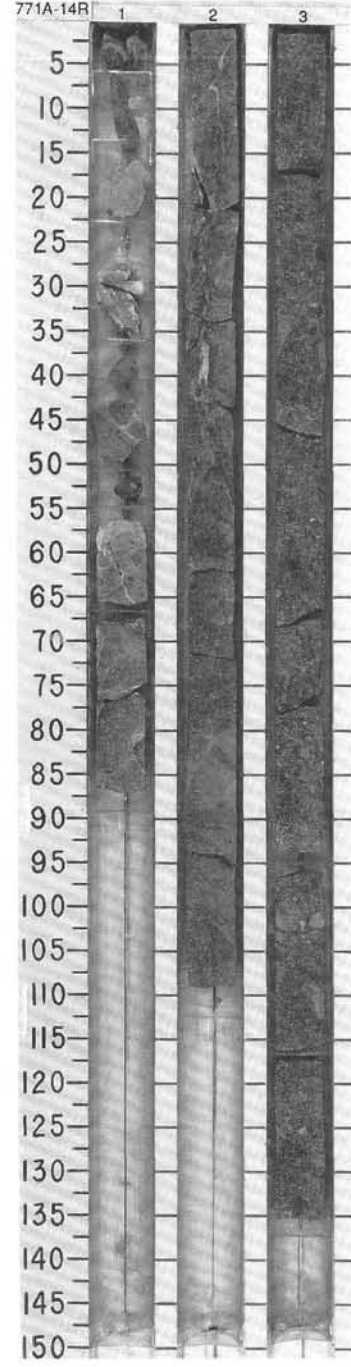
SITE 771 HOLE A CORE 13R CORED INTERVAL 251.3-261.0 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER			PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
	FORAMINIFERS	NAUPOFOSSILS	RADIOLARIANS										
LOWER - MIDDLE MIOCENE													<p>COARSE TUFF and FINE TUFF</p> <p>Major lithology: Dark gray to dark greenish gray (5G 4/1, 5BG 4/1) COARSE TUFF and FINE TUFF occur interbedded in thin to medium beds in this core. The coarse tuff beds have sharp bases and are massive and graded, fining-upwards into laminated fine tuff. Reverse grading occurs at the base of the coarse tuff beds. The beds are highly fractured and microfaulted throughout. The fractures are filled with ash to form sedimentary dikes in places, others are filled with a white mineral. Many of the fractures and faults in the fine tuff beds appear to have formed very soon after deposition. The tufts are dominantly vitric with some plagioclase crystals and opaque minerals. These beds are interpreted as a sequence of turbidites of redeposited volcanic ash material.</p> <p>SMEAR SLIDE SUMMARY (%):</p> <p>2, 116 D</p> <p>TEXTURE:</p> <p>Sand 80 Silt 20</p> <p>COMPOSITION:</p> <p>Glass 75 Opagues 5 Plagioclase 10 Rock fragment 10</p>
	●C/M	NN5			WC-20 0-33.3 1-3.01 2-4.3 3-2.01		1						
					WC-21 0-33.2 1-2.36 2-1.87		2						

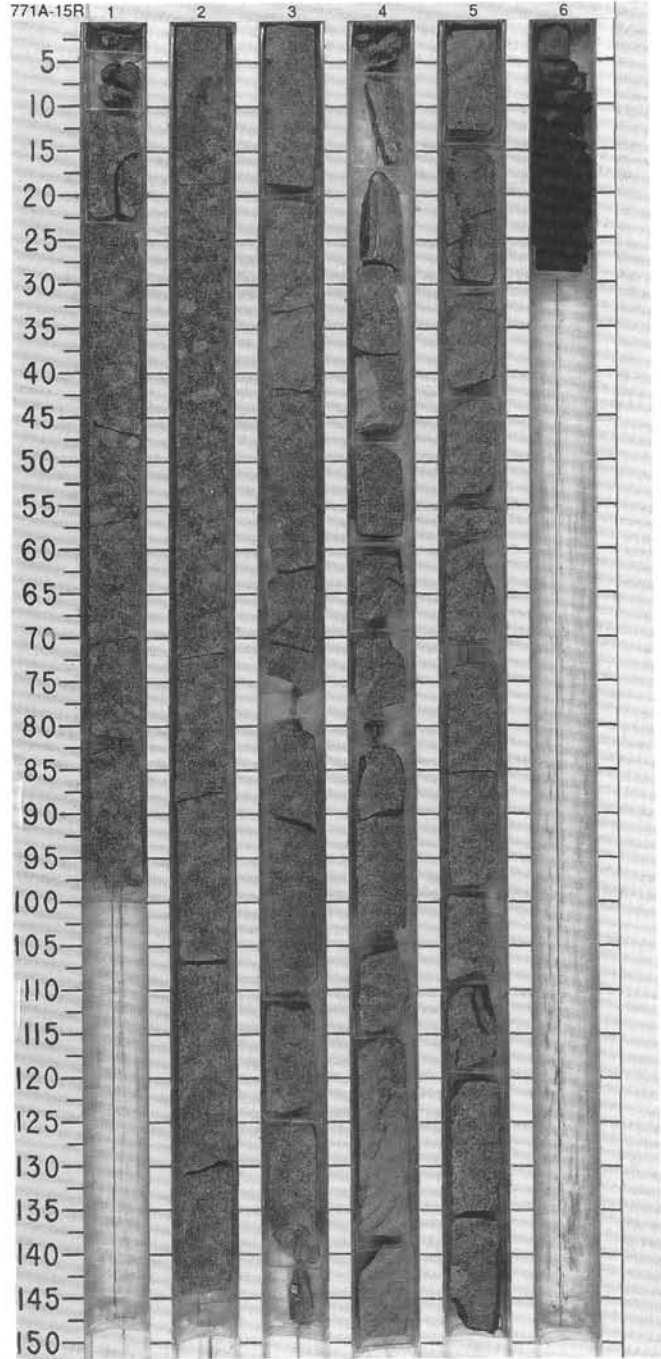


SITE 771 HOLE A CORE 14R CORED INTERVAL 261.0-265.5 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER				PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
	FORAMINIFERS	MAMMOFOSILS	RADIOLARIANS	DIATOMS										
LOWER - MIDDLE MIOCENE														
		NN3	NN5	C/M				1	0.5 1.0	VOID				
								2		VOID				
								3						



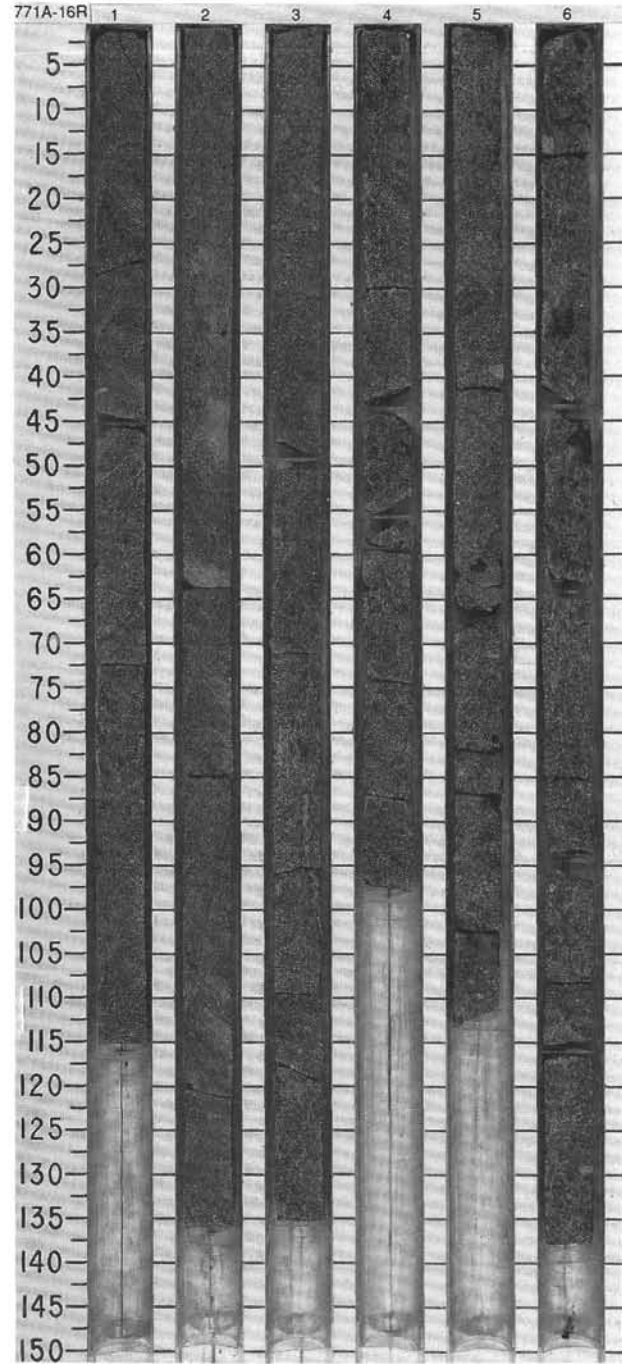
TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER				PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS										
								1	0.5 1.0	[Stippled pattern]	X X			<p>LAPILLISTONE</p> <p>Major lithology: Massive, poorly sorted LAPILLISTONE occurs throughout this core. There are no structures to indicate bedding. The grains are mostly 1-5 mm in diameter, with common larger clasts of highly vesicular volcanic rock up to 8 cm in diameter. The lapillistone is dark grayish green (7.5G 3/1, 3/2) when wet. The lapillistone is composed of lithic clasts of plagioclase-clinopyroxene phryic andesite, andesite with a brown glassy ground-mass, and plagioclase-pyroxene andesitic basalt; other grains include crystals of pyroxene and sulfides. Native copper occurs as fine grains in Section 1, 65-100 cm. There are fractures present in Section 4, 15-60 cm. These sediments were deposited as mass-flows of volcanic material.</p> <p>Drilling disturbance is slight except in Section 6, which is a breccia of volcanic material.</p>
							2			[Stippled pattern]	X X			
							3			[Stippled pattern]	X X			
							4			[Stippled pattern]	X X			
							5			[Stippled pattern]	X X			
							6			[Stippled pattern]	X X			



SITE 771 HOLE A CORE 16R CORED INTERVAL 275.1-284.8 mbsf

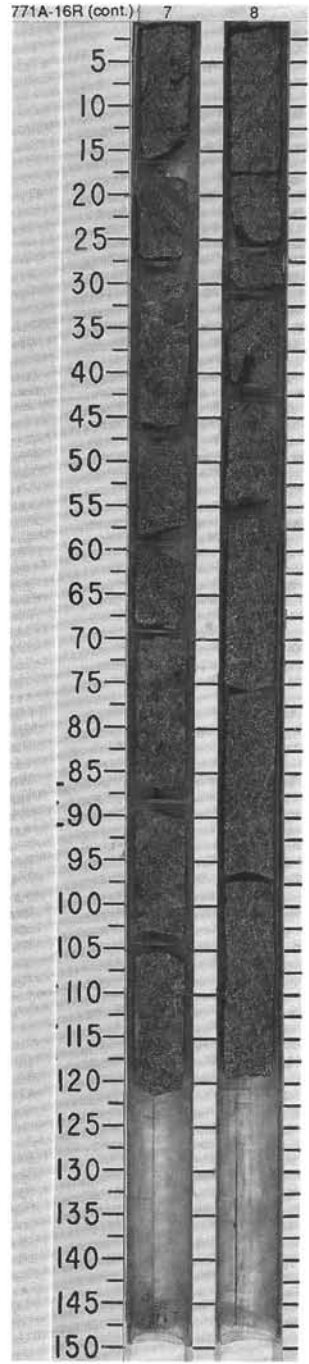
TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER				PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS										
									0.5					<p>LAPILLISTONE</p> <p>Major lithology: Massive, poorly sorted LAPILLISTONE occurs throughout this core. There are no structures to indicate bedding. The grains are mostly 1-5 mm in diameter, with common larger, angular clasts of highly vesicular volcanic rock up to 10 cm in diameter. There is a general tendency towards coarser sediments towards the bottom of the core. The lapillistone is dark grayish green (7.5G 3/1, 3/2) when wet. The lapillistone is composed of lithic clasts of plagioclase-clinopyroxene phyric andesite, andesite with a brown glassy groundmass, and plagioclase-pyroxene andesitic basalt; other grains include crystals of pyroxene and sulfides. Native copper occurs as fine grains in Section 3. There are fractures present in Section 2, 90-110 cm. These sediments were deposited as mass-flows of volcanic material.</p> <p>Drilling disturbance is slight.</p>
								1	VOID					
								2	VOID					
								3	VOID					
								4						
								5	VOID					
								6						

(cont.)



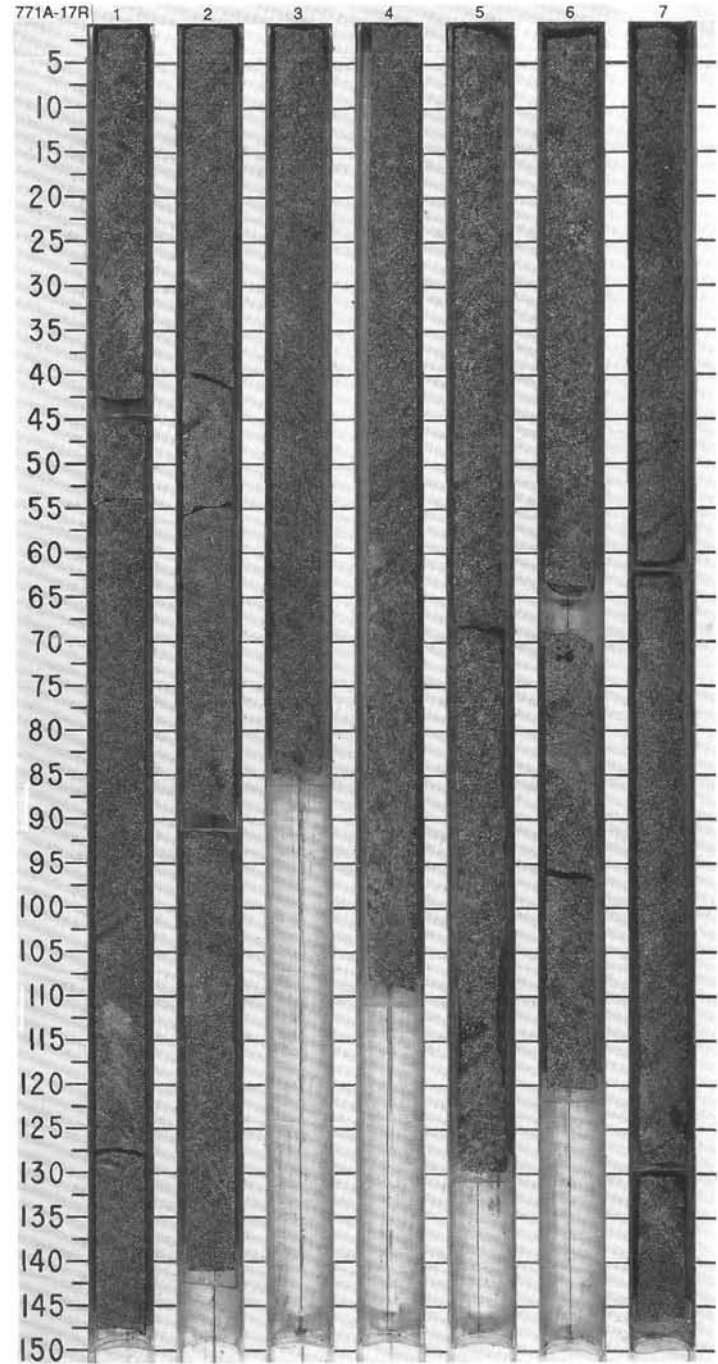
SITE 771 HOLE A CORE 16R CORED INTERVAL 275.1-284.8 mdsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER			PALEOMAGNETICS	PHYS. PROPERTIES CHEMISTRY	SECTION METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES SAMPLES	LITHOLOGIC DESCRIPTION
	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS							
					● $\frac{22.4}{2.14} \frac{W}{L} = 12.4$ $V = 3.31$ ● $\frac{2.14}{2.14} = 1.0$	7 8				(cont.)



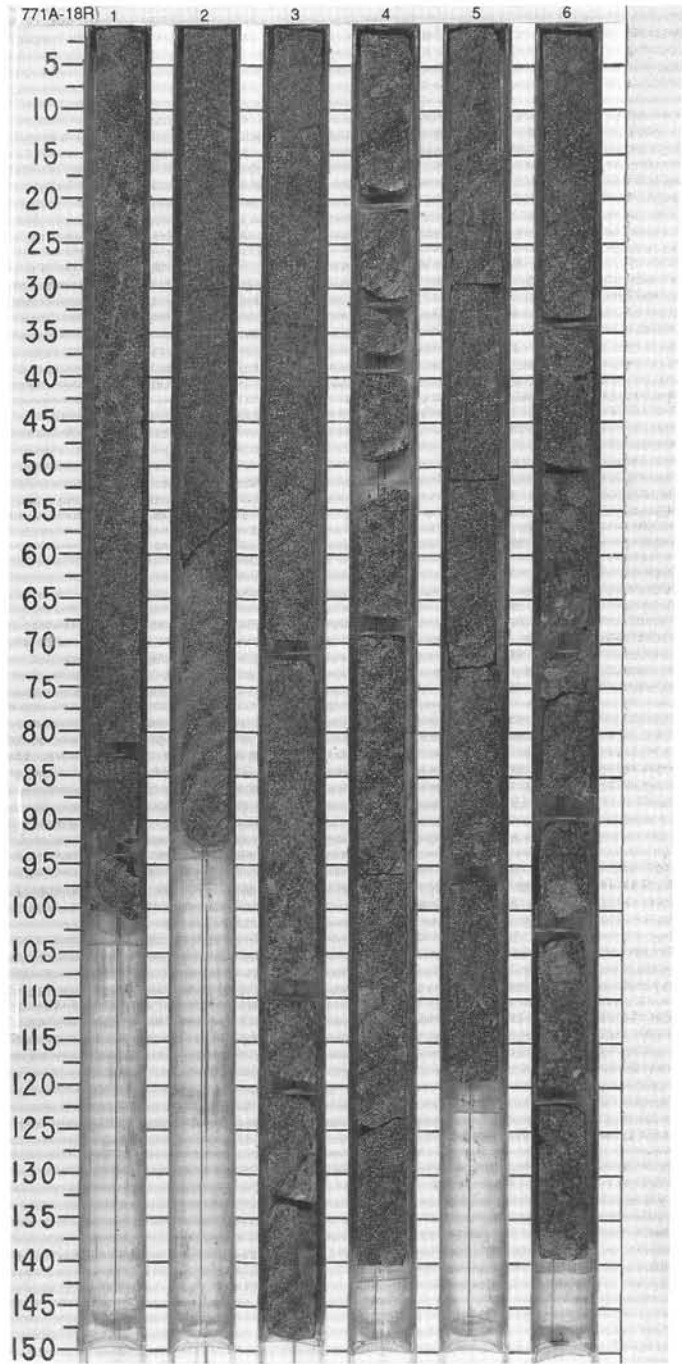
SITE 771 HOLE A CORE 17R CORED INTERVAL 284.8-294.4 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER				PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SEC. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
	FORAMINIFERS	NANOFOSSILS	RADIOLARIANS	DIATOMS										
									0.5					<p>LAPILLISTONE</p> <p>Major lithology: Massive, poorly sorted LAPILLISTONE occurs throughout this core. There are no structures to indicate bedding. The grains are mostly 1-10 mm in diameter, with common larger, angular clasts of highly vesicular volcanic rock up to 3 cm in diameter. There are some variations in the grain size of the lapillistone with a distinctly finer unit (maximum clast size 5 mm) in Section 3, 33-70 cm, and a fining-upwards through Section 4, with maximum clast size decreasing from 10 to 5 mm. The lapillistone is dark grayish green (7.5G 3/1, 3/2) when wet. It is composed of lithic clasts of plagioclase-clinopyroxene andesite, andesite with a brown glassy groundmass, and plagioclase-pyroxene andesitic basalt; other grains include crystals of pyroxene, sulfides and native copper. There are fractures present in Section 4, 80-90 cm. These sediments were deposited as mass-flows of volcanic material.</p> <p>Drilling disturbance is slight.</p>
								1						
								2						
								3		VOID				
								4		VOID				
								5		VOID				
								6		VOID				
								7						



TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER			PALEOMAGNETICS	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB. SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS							
					1	0.5 1.0				<p>LAPILLISTONE and basalt</p> <p>Major lithology: Massive, poorly sorted LAPILLISTONE occurs throughout this core. There are no structures to indicate bedding. The grains are mostly 2-10 mm in diameter, with common larger, angular clasts of highly vesicular volcanic rock up to 7 cm in diameter in Sections 1 to 4, and up to 12 cm in Sections 5 to 7. This change in block size indicates an overall fining-upwards through this core. The lapillistone is dark grayish green (7.5G 3/1, 3/2) when wet. It is composed of lithic clasts of plagioclase-clinopyroxene phryic andesite, andesite with a brown glassy groundmass, and plagioclase-pyroxene andesitic basalt; other grains include crystals of pyroxene, sulfides and native copper. Exotic clasts of pale green (10Y 6/1) siliceous rock occur in Sections 3 and 4. These sediments were deposited as mass-flows of volcanic material.</p> <p>Minor lithology: Basalt occurs in Section 8, 20-78 cm. It is a plagioclase-clinopyroxene-olivine-phryic basalt which is vesicular in places. The vesicles are lined or filled with a pale silicate mineral. A xenolith 8 mm in diameter of translucent white siliceous material occurs in Section 8, 25 cm (piece 3). The basalt is heavily veined in places with a fracture fill of white silicate. This unit of basalt may be a large block within the clastic sequence or a lava flow.</p> <p>Drilling disturbance is slight in the lapillistone and moderate in the basalt.</p>
					2	VOID				
					3	VOID				
					4	VOID				
					5	VOID				
					6	VOID				

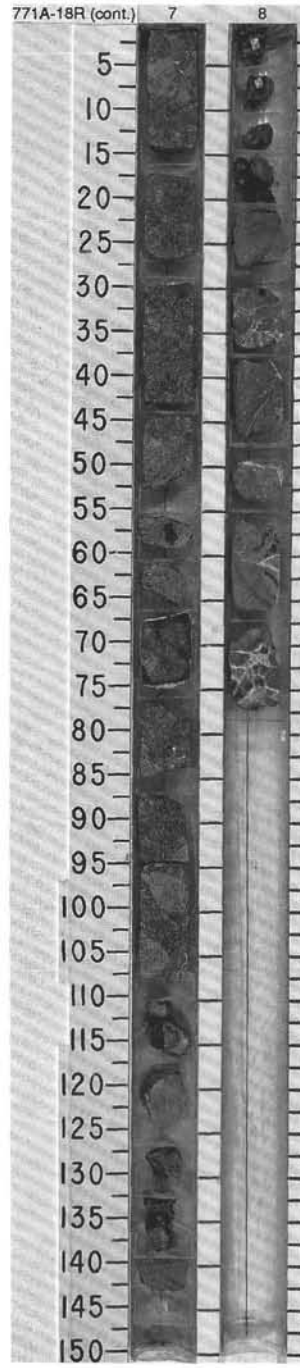
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SITE 771 HOLE A CORE 18R CORED INTERVAL 294.4-304.1 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER				PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS										
								7		[Stippled pattern]			○	
								8		[Arrow pattern]			○	
													○	
													○	
													○	

(cont.)



124-771A-15R-04 (Piece 1, 39-44 cm) OBSERVER: SPA WHERE SAMPLED: Lapillus within tuff

ROCK NAME: Highly plagioclase-clinopyroxene-olivine phyric basalt

GRAIN SIZE: Fine-grained

TEXTURE: Phyric, hypocristalline

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Olivine	0	4	1.0-0.2		Euhedral, grain	Altered to clays.
Plagioclase	13	15	1.5-0.2		Lath	Rich with glass inclusions, coarse glomerophyric insets.
Clinopyroxene	4	4	2.0-0.3		Euhedral, prism	
GROUNDMASS						
Plag + Cpx + Glass	70	76	N/A		N/A	Hypocrystalline aggregate of plag and pyroxene microlites dusted with opaques with interposed partly altered glass (clear).
SECONDARY MINERALOGY						
	PERCENT	REPLACING/ FILLING				COMMENTS
Clay	4	Olivine				Reddish iddingsite replaced by green clays.
Clays	9	Plagioclase - glass				
Zeolites	trace	Glass				

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	1	Even	0.2	Clay	Spherical

COMMENTS: (NO UNIT OR PIECE NUMBER GIVEN).

124-771A-17R-02 (Piece 1, 108-110 cm) OBSERVER: SPA WHERE SAMPLED: Lapillus

ROCK NAME: Highly plagioclase-clinopyroxene-olivine phyric basalt

GRAIN SIZE: Fine-grained

TEXTURE: Phyric, hypocristalline

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Olivine	0	4	1.0-0.3		Euhedral prism	Completely altered.
Plagioclase	16	20	2.0-0.2	Labradorite - Bytownite	Euhedral lath	Altered at core, twinned.
Clinopyroxene	2	2	0.3-0.2	Augite	Euhedral prism	Isolated micro-phenocrysts.
GROUNDMASS						
Plagioclase	8	8	0.2-0.01		Lath	Fresh, rarely twinned.
Clinopyroxene	2	2	0.2-0.02		Prism	
Mesostasis	18	54	N/A		N/A	Hypohyaline: Glass + skeletal cpx + plag.
SECONDARY MINERALOGY						
	PERCENT	REPLACING/ FILLING				COMMENTS
Clays	38	Glass, plagioclase				Yellow-green, very fine-grained. Similar to clays after glass.
Clays	2	Vesicles				
Clays	4	Olivine				Mesh texture.
K-feldspar	2	Plagioclase				
Cristobalite(?)	2	Vesicles				Rosettes.
Apophyllite	6	Vesicles				
VESICLES/ CAVITIES						
	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	20	Even	2.0-0.2	Qtz., clay, zeolite	Spherical, lobate	Lined by thin festoons of clays or fibrous zeolite.

COMMENTS: Isolated phenocrysts of plagioclase, orthopyroxene, and clinopyroxene. Groundmass mostly consisting of glass and quench pyroxene, with plagioclase and clinopyroxene microlites. Glass altered to clays. (NO PIECE OR UNIT NUMBER GIVEN).

SITE 771

124-771A-18R-03 (Piece 1, 31-33 cm)

OBSERVER: SPA

WHERE SAMPLED: 0.8 x 3.0 cm lapillus

ROCK NAME: Highly plagioclase-clinopyroxene phyrlic basalt

GRAIN SIZE: Fine-grained

TEXTURE: Phyrlic, hyalopilitic-fluidal

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Olivine	0	trace	0.3		Subhedral grains	Replaced by iddingsite/clay.
Plagioclase	10	12	1.5-0.3	An60-65	Lath	
Clinopyroxene	3	3	0.8-0.1	Augite	Euhedral prism	
GROUNDMASS						
Plagioclase	10	10	0.3-0.02		Euhedral-lath	
Clinopyroxene	4	4	0.1-0.01		Euhedral-prism	
Opakes	1	1	0.05-0.02		N/A	Partly hematitized magnetite.
Mesostasis	45	60	N/A		N/A	Devitrified glass, altered, fractured.
SECONDARY MINERALOGY						
	PERCENT	REPLACING/ FILLING				COMMENTS
Clays	15	Glass				Olive green smectite.
Clays	3	Olivine				Orange iddingsite replaced by green smectite.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	0				

COMMENTS: The described rock is the dominant lithology among lapilli. Texture is hypohyaline with moderate fluidal arrangement of plagioclase phenocrysts and groundmass microlites. Glass shows spherical non-concentric perlitic cracks, along which clay alteration develops. (NO UNIT OR PIECE NUMBER GIVEN).

124-771A-18R-03 (Piece 1, 129-132 cm)

OBSERVER: SPA

WHERE SAMPLED: Clast of lapillistone

ROCK NAME: Moderately olivine-clinopyroxene phyrlic basalt

GRAIN SIZE: Fine-grained

TEXTURE: Phyrlic, intersertal-pilotaxitic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Olivine	0	2	0.6-0.2		N/A	Altered to iddingsite.
Clinopyroxene	2	2	1.0-0.5		N/A	
GROUNDMASS						
Plagioclase	27	30	0.4-0.1	An65-55	Lath	
Clinopyroxene	10	10	0.1-0.01		Subhedral prism	
Olivine	0	3	0.1-0.03		Subhedral grains	
Mesostasis	28	48	N/A		N/A	Glass + microlites of plagioclase, clinopyroxene, magnetite.
Magnetite	3	3	0.04-0.01		Euhedral grains	
SECONDARY MINERALOGY						
	PERCENT	REPLACING/ FILLING				COMMENTS
Clays	20	Mesostasis				
Clays	5	Vesicles, olivine				
Zeolites	5	Vesicles, plagioclase				

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	5	Irregular	10-0.2	Clay, zeolite	Spherical, lobate, pipe(coars vesicles)

COMMENTS: This sample comes from a coarse lapillus. There is evidence that the rock chilled after fragmentation and degassing: Texture changes rather abruptly from intersertal to hyalopilitic (both fluidal) around pipe-shaped amygdules and at margins at the contact with fine lapilli - two-stage vesiculation evident. (NO UNIT OR PIECE NUMBER GIVEN).

124-771A-18R-07 (Piece 1, 57-59 cm) OBSERVER: SPA WHERE SAMPLED: Lapillus

ROCK NAME: Plagioclase-clinopyroxene-olivine phyrlic basalt

GRAIN SIZE:

TEXTURE: Phyrlic, hypocrySTALLINE, amygdaloidal

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Olivine	0	3	0.2-0.1		Euhedral-prism	Replaced by serpentine and clays.
Plagioclase	25	25	2.0-0.2	Bytownite - Labradorite	Euhedral lath	> An65, Glass & devitrified melt inclusion.
Clinopyroxene	2	N/A	3.0-0.2	Augite	Euhedral-subhedral prism	Inclusions of opx, olivine, plag, magnetite glass.
Spinel	trace	N/A	0.2-0.4	Magnetite	Euhedral grains	
GROUNDMASS						
Mesostasis	30	50	N/A		N/A	Plagioclase + clinopyroxene + magnetite + glass.
SECONDARY MINERALOGY						
	PERCENT	REPLACING/FILLING				COMMENTS
Clays	1	Olivine				Similar to clays from glass and within amygdules.
Clays	38	Vesicles, glass				Pale brown-green, optically (+) and (-).
Serpentine(?)	2	Olivine				Pleochroic orange to yellow green, optically (-).
Chalcedony(?)	2	Vesicles				
VESICLES/CAVITIES						
	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	30	Even	3.0-0.15	Clays, Qtz.	Spherical, pipe	Filling arranged in concentric layers.

COMMENTS: Graded porphyritic texture, hypocrySTALLINE groundmass with partly fresh glass. Melt inclusions (brown, fresh or devitrified glass) within plagioclase and clinopyroxene phenocrysts common. Orthopyroxene included within clinopyroxene phenocrysts is optically bronzite. (NO UNIT OR PIECE NUMBER GIVEN).

124-771A-18R-07 (Piece 1, 120-124 cm) OBSERVER: SPA WHERE SAMPLED: Lapillus

ROCK NAME: Highly plagioclase-clinopyroxene-olivine phyrlic basalt

GRAIN SIZE: Fine-grained

TEXTURE: Phyrlic, hypocrySTALLINE

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Olivine	0	3	1.0-0.3		Euhedral/subhedral grains	Altered to clays.
Plagioclase	30	30	1.2-0.3		Euhedral lath	Fresh, inclusion-free.
Clinopyroxene	5	5	1.0-0.2	Augite	Euhedral-prism	
Spinel	trace	trace	0.1	Magnetite	Euhedral-grains	
GROUNDMASS						
Mesostasis	30	60	N/A		N/A	HypocrySTALLINE, composed of plag + cpx + magnetite + glass (oxidized and altered to clays)/
SECONDARY MINERALOGY						
	PERCENT	REPLACING/FILLING				COMMENTS
Clays	32	Glass				
Clays	3	Olivine				
Zeolites	1	Vesicles				
VESICLES/CAVITIES						
	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	7	Even	1.2-0.3	Clays	Spherical, elliptical	Lobate outlines related to lining with clays.

COMMENTS: Less than 1% plagioclase phenocrysts contain melt inclusions. Glomerophyrlic aggregates plus or minus plagioclase. Marked variations in texture (decreasing content of plagioclase microphenocrysts and increasing skeletal pyroxene) toward vesicles. (NO UNIT OR PIECE NUMBER GIVEN).

SITE 771

124-771A-18R-07 (Piece 1, 142-144 cm)

OBSERVER: SPA

WHERE SAMPLED: Lapillus

ROCK NAME: Highly plagioclase-olivine-pyroxene phyric basalt

GRAIN SIZE: Fine-grained

TEXTURE: Phyric hyalopilitic/pilotaxitic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Olivine	trace	5	1.0-0.15		Euhedral-grains	Pseudomorphosed by iddingsite.
Plagioclase	30	30	3.0-0.2	An65-55	Lath	
Clinopyroxene	4	4	3.0-0.2	Augite	Subhedral-prism	
Spinel	trace	trace	0.5-0.05	Magnetite	Euhedral-grains	
Orthopyroxene	1	1	.03-0.2	Hypersthene	Subhedral, anhedral	Intergrown with olivine.
GROUNDMASS						
Mesostasis	58	58	N/A		N/A	Glass plus plagioclase-clinopyroxene-magnetite microlites and crystallites.
SECONDARY MINERALOGY						
	PERCENT	REPLACING/ FILLING				COMMENTS
Clays	1	Vesicles				
Clays	5	Olivine				Orange yellow optically (+) iddingsite.
Zeolites	1	Vesicles				
VESICLES/CAVITIES						
	PERCENT	LOCATION	SIZE (mm)		FILLING	SHAPE
Vesicles	2	Even	0.7		Clay	

COMMENTS: Thin (0.02 mm thick) veins filled with clays and zeolite. (NO UNIT OR PIECE NUMBER GIVEN).

124-771A-18R-08 (Piece 1, 21-23 cm)

OBSERVER: SPA

WHERE SAMPLED:

ROCK NAME: Highly plagioclase-olivine phyric basalt

GRAIN SIZE: Fine-grained

TEXTURE: Phyric-hyalopilitic/pilotaxitic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Olivine	0	3	1.5-0.3		Euhedral-prism	Isolated or glomerophyric.
Plagioclase	15	15	2.0-0.3	Labradorite-Bytownite >An65	Lath	Oscillatory zoning.
Clinopyroxene	1	1	0.5-0.3		Subhedral-prism	Glomerophyric.
Spinel	trace	trace	0.2	Magnetite	Euhedral	
GROUNDMASS						
Plagioclase	30	30	0.3-0.02		N/A	
Olivine	trace	10	0.3-0.02		N/A	
Clinopyroxene	10	10	0.3-0.02		N/A	
Mesostasis	12	22	N/A		N/A	Incipiently devitrified and altered glass with clinopyroxene and magnetite microlites and crystallites.
Spinel	4	4	0.03-0.015		N/A	
SECONDARY MINERALOGY						
	PERCENT	REPLACING/ FILLING				COMMENTS
Clays	10	Olivine				Orange brown "iddingsite"
Clays	13					Greenish, brownish replacing glass and iddingsite.
Zeolites	3	Vesicles				
Clays	2	Vesicles				Lining vesicles.
VESICLES/CAVITIES						
	PERCENT	LOCATION	SIZE (mm)		FILLING	SHAPE
Vesicles	8	Irregular	0.05-30x30		Clay, zeolite	Spherical-lobate, pipe

COMMENTS: (NO UNIT OR PIECE NUMBER GIVEN).