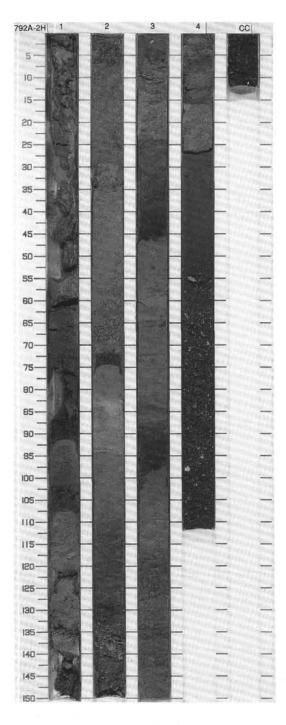
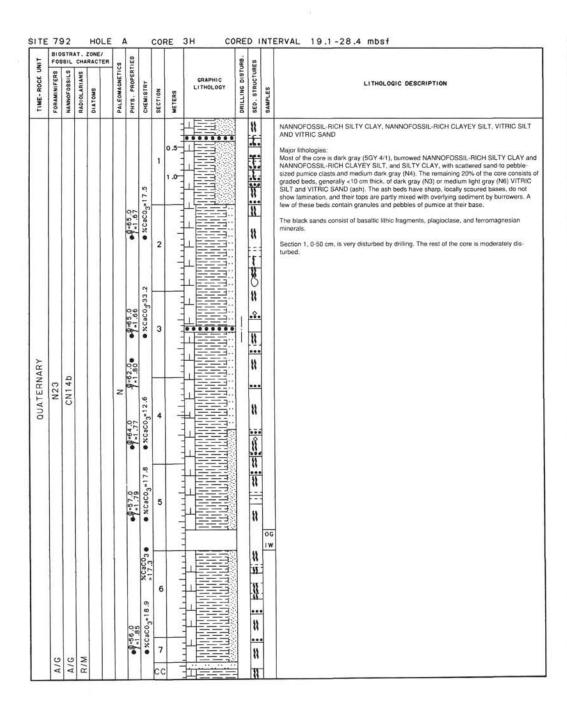
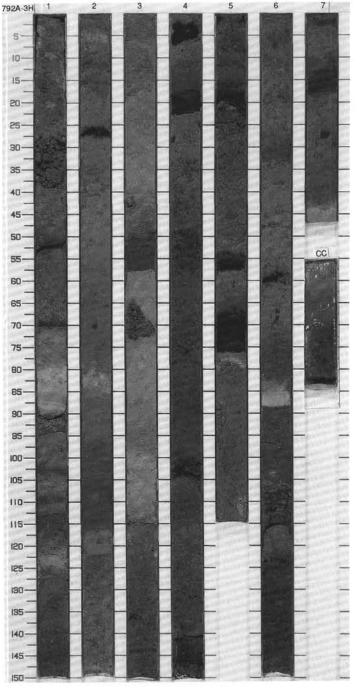


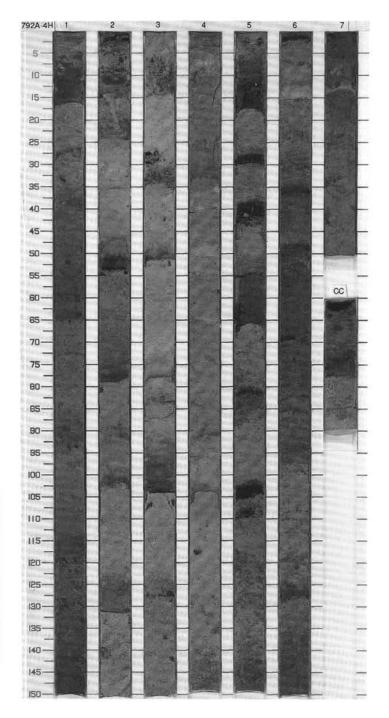
LINO				ZONE/	R		2				URB.	SES					
TIME-ROCK (FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PAI FOMACNETICS		PHIS. PHOPERILES	CHEMISTRY	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LIT	HOL 06	iic d	ESCRIPTION
						0.67.0		• xcaco ₃ 26.8	0.5		-wwww-	•••	1	VITRIC SILT AND SAND Major lithologies: Most of the core is dark gray (5G) NANNOFOSSIL-RICH CLAYEY S pumice clasts, and medium dark s consists of graded beds, generally VITRIC SILT and SAND (ash). Th	4/1), ILT an Iray (N <10 c e ash t e parti	burro od SII (4) VI om thi beds y mix	FOSSIL-RICH CLAYEY SILT, SILTY CLAY, wed NANNOFOSSIL-RICH SILTY CLAY, .TY CLAY, with scattered sand-to pebble-siz: TRIC SILT. The remaining 20% of the core ck, of dark gray (N3) or medium light gray (N have sharp, locally scoured bases, do not ad with overlying sediment by burrowers. A les of purince at their base.
						0.65.0	=1.72	27.51				:::	*	minerals.	ed by	drillin	ments, plagioclase, and ferromagnesian g. The rest of the core is moderately dis-
QUATERNARY	N23	CN15			2			3 • %CaCO ₃ =4.9				11		TEXTURE: Sand 80 Silt 20 Clay COMPOSITION: Accessory minerals Clay Clay	— 80 20	8	5 40 55
	A/G	5/2	8			0.09-0-	1.75	S 20003	C	•		F		Diatoms	10 Tr 90		10 10 10 30 5 3 Tr



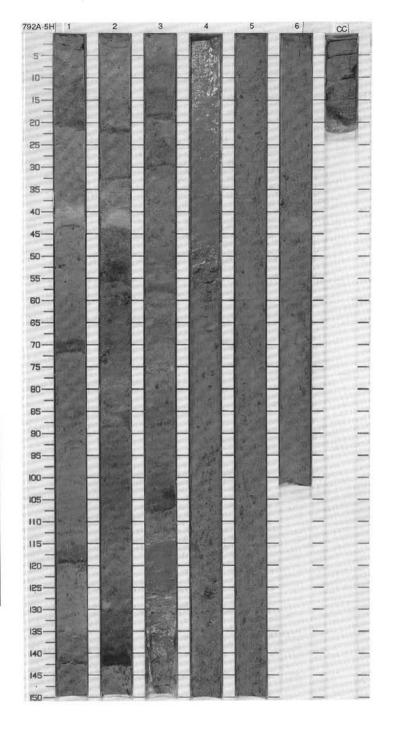




LINO				ZONE	8	ries				JRB.	53		
TIME-ROCK U	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED, STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
		CN14b A/G				9-61.0	● %CaCO ₃ =15.4	1	0.5		#	*	NANNOFOSSIL-RICH CLAYEY SILT. NANNOFOSSIL-RICH SILTY CLAY, VITRIC SILT AND CLAYEY SAND Major lithologies: Most of the core consists of burrowed olive gray (5Y 4/1) NANNOFOSSIL-RICH CLAYEY SILT, and light olive gray (5Y 5/2) NANNOFOSSIL-RICH SILTY CLAY with scattered san to granule-and pebble-sized pumiceous clasts. VITRIC SILT is intercalated as thin beds of light olive gray (5Y 4/1), and thick beds of olive gray (5Y 4/1) sediment. The SAND is dar gray (N3) to graysh black (N2) in color, and forms sharp-based thin to medium beds, will lower graded division, followed locally by a plane-parallel laminated division. Locally, the divisions grade upward into an olive gray (5Y 4/1) division of CLAYEY SAND. Some of this sand beds contain granules at the base.
						9=62.0	•%CaCO ₃ =21.2	2		000	***	1	Minor lithologies: Dark greenish gray (5G 4/1), very thin ash layers of VITRIC SILT are present. A few of the beds of vitric silt are soupy. Section 5, 0 cm, to Section 6, 50 cm, is moderate disturbed by drilling. SMEAR SLIDE SUMMARY (%):
20		A/G CN14b				9=67.0		3			***	*	1, 93 3, 55 D D TEXTURE: Silt 30 20 Clay 70 80
QUATERNARY	N23				Z	9-59.0 9-67.0	9	4			**		COMPOSITION: Clay 42 40 Diatoms 1 1 Feldspar 1 1 Foraminifers 2 1 Glass 30 20 Inorganic calcite — 1 Nannofossits 20 30 Opaques 1 1 Oxide — 1 Pyroxene — 1 Quartz 1 1 Hadiolarians 1 — 1
							•%CaCO3 %CaCO				**	•	Spicules 1 2
		A/G CN14a	F/6			9-61.0	• %CaCO3=10.3	6 7 CC	+ 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1 1 1 1 1 1		

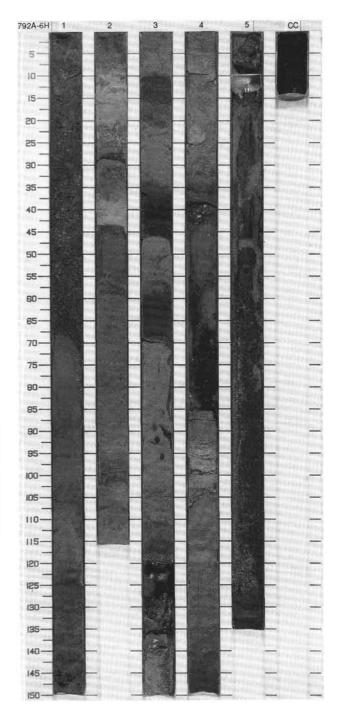


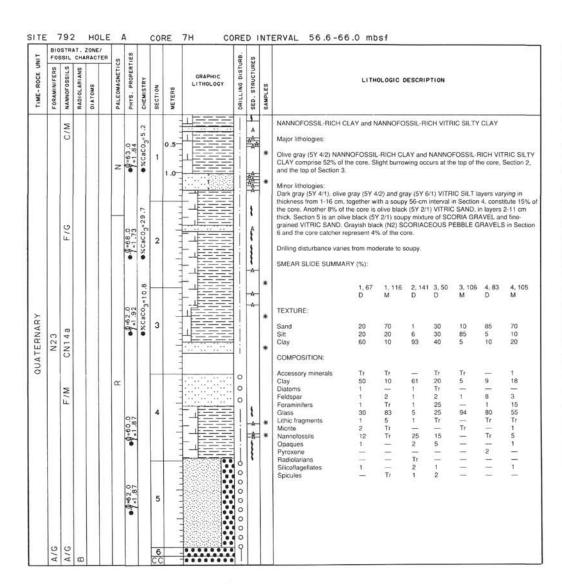
5	FOS	SIL	CHAR	ONE/	R SJ	TIES				DISTURB.	RES								
I ME- HOCK	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS, PROPERTIES	CHEMISTRY	SECTION	GRAPH LITHOLO	TRIG DRITTING	SED. STRUCTURES	SAMPLES	LITH	OLOGIC :	DESCRIF	PTION			
						9-62.0	4.9	1	0.5		A A A A A A A A A A A A A A A A A A A	*	NANNOFOSSIL-RICH CLAY AND Major lithologies: Olive gray (5Y 4/2) NANNOFOSSII CLAY together comprise 76% of th isolated pumice and scoria clasts. Minor lithologies: Dark gray (5Y 4/1) VITRIC SILT in comprises 12% of the core. Gray (5Y 4/11) CSILTY SAND and VITRIC SILTY SAND S	-RICH CL e core. Th a disturbe iY 6/1) an	AY and ey are sl d (flow-ir d dark gr	NANNOF ightly to h	OSSIL-F neavily be 5 cm thic 1, 5Y 4/1	RICH VIT urrowed, k (Sectio	and co
						0	0%C	2			A A A A	*	The upper half of the core is moder SMEAR SLIDE SUMMARY (%): 1, 42 M	ately distu 1, 95 D	2, 10 D	drilling, a	3, 16	3, 40	3, 1; M
		A/G					8.8	3			A A A A A A A A A A A A A A A A A A A	*	TEXTURE: Sand 85 Silt 15 Clay — COMPOSITION:	2 18 80	10 30 60	15 65 20	5 95 —	Tr 25 75	40 30 30
	N23	CN14a			z	9-63.0	• %CaCO3=48					*	Accessory minerals Clay 2 Diatoms Tr Feldspar 1 Foraminifers Tr Glass 95 Lithic fragments Tr	Tr 46 1 3 2 6 3	1 40 2 2 2 2 20 Tr	2 20 5 33 25	- - 3 1 93 Tr	47 1 1 2 15	30 Tr 3 Tr 60 Tr
						9-91.0	• xcaco ₃ =19.2	4					Micrite	35 2 — Tr 1	30 - - - Tr 2		2 - 1 - Tr	1 30 1 - - 1 1	3 1 3 Tr
								5											
						9-19.9	●%CaCO ₃ *19.9	6)								

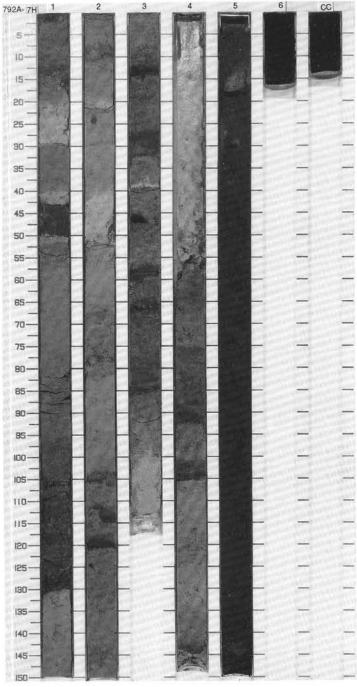


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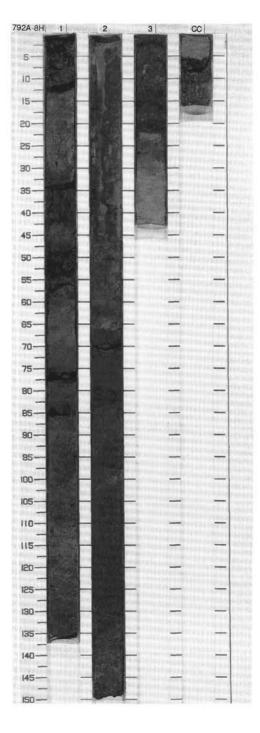
- NO	FOS	SIL	СНА	ZONE/ RACTER	So	TIES				URB.	RES									
TIME-HOCK O	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES		LITHO	LOGIC E	DESCRIP	TION			
						9-67.0	.8	1	0.5		00 com	*	NANNOFOSSIL-RICH VI Major lithologies: Olive gray (5Y 4/2) and b prises 48% of the core. S cm are heavily burrowed, black (5YR 2/1), black (5' 14 cm thick. Thicker beds Sections 4, 6 and CC. Th granules; the other sands laminated, others are gra	lack (5Y 3/ ome interv Most of th Y 3/2) and s occur in Se e unit in Se are mediu ded, or bot	2) NANNi als are sli e rest of grayish b section 1, ection 1 c im to very h.	OFOSSII ightly bur the core lack (N2) 14-70 cr ontains 5 y fine-gra	L-RICH Northweel, a (34%) is VITRIC m, and a: 30% puined. So	VITRIC S and Section dark gra SAND, to s thick flo imice pet me of the	on 2, 6-1; y (5Y 4/1 ypically in w-in laye obles and thicker I	2 and 30), brown hayers rs in 1 20-30% ayers an
						9-69.0	• %CaCO3*7	2			A	*	Minor lithology: Nine, gra occur throughout and cor Drilling disturbance is mo	nstitute 9% iderate to s	of the co		VITRIC	SILT lay	ers. 5 12	cm thick
							%CaC03				A	og IW	SMEAR SLIDE SUMMAR	1, 90 D	2. 18 M	2. 40 M	2. 94 M	3. 35 M	3. 84 D	4. 125 D
						-63.0	*CaCO3	3			Α	*	TEXTURE: Sand Silt Clay	Tr 30 70	90 10	40 60	90	95 5	5 45 50	20 80
AH.						8	%"	35			A	*	COMPOSITION: Accessory minerals	1	1	-	_		1	1
CONTERNAR	N23	CN14a				z	9.				=80	E	Clay Diatoms Feldspar Foraminifers	68 Tr 2 3	Tr 2	_ 2 _ 97	2 Tr 96	Tr 10 1	50 3 1 4	58 3 1 4
00						1.79	3=21	4		000	L		Glass Lithic fragments Micrite Nannofossils Opaques	10 1 2 10 1	96 Tr — Tr	1 Tr Tr	Tr Tr 1	2 Tr	15 1 2 15	1 20 1
						•	. %				A	*	Pyroxene Radiolarians Silicoflagellates Spicules	 Tr 2	-	-	<u>-</u>	2 Tr	2 5 1	Tr 1
						0.59.0		5		0000										
	A/G	5/2	8					CC		0,,,,,,,,,,,	A									

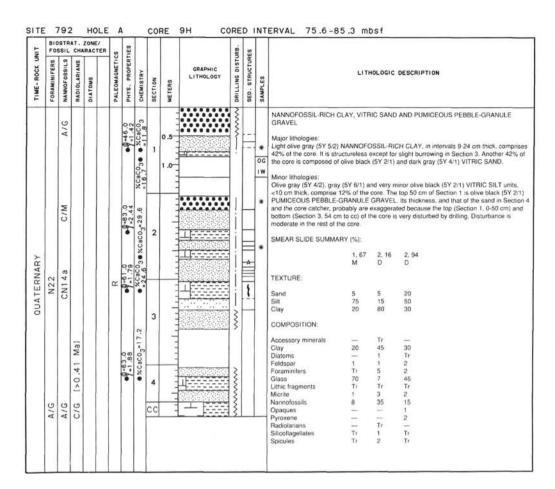


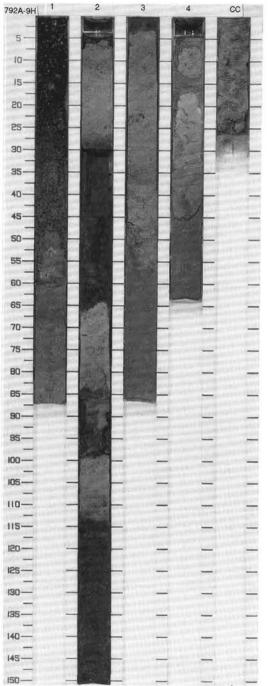




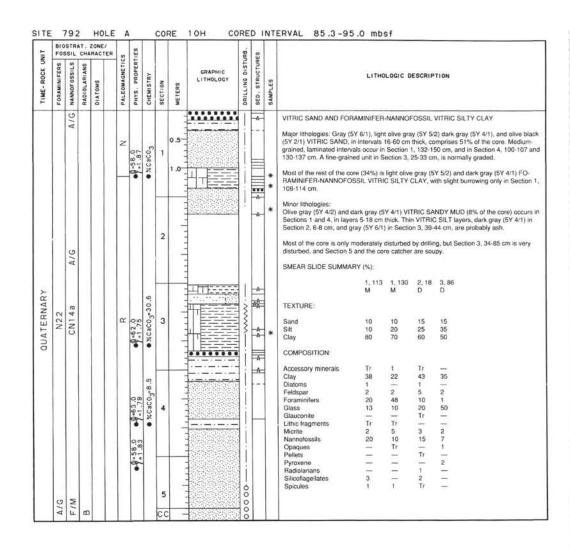
UNIT				ONE/	S	LES					IRB.	83					
TIME-ROCK U	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES		LITHO	LOGIC D	ESCRIPTION
		0/0				-0.63.0	• %CaCo ₃	1	0.5	<u></u>		A A A	*	Major lithologies: Olive gray (5Y 4/2) and bl VITRIC SANDY MUD con 26-32 cm and 98-104 cm, thick, and in Section 2, 97 bed that contains scattere Minor lithology: Black (5Y	ack (5Y 3/nprise 56% Grayish b -135 cm, v d pumice (2) NANNO of the co lack (N2) where it is grains and	C SILT, comprising 6% of the core, occurs a
QUATERNARY	N23	CN14a			α	9-59.0	•	2	Linkland	1	000	A A			stly moder		and as caps, 1-5 cm thick, over sand layers e top of Section 2 is soupy. CC. 3 M
	A/G	9/				9=58.0	•	3	11111	1		*** AAAA A	*	TEXTURE: Sand Silt Clay COMPOSITION:	75 15 10	40 35 25	40 55 5
	A	4	8											Accessory minerals Clay Diatoms Feldspar Foraminifers Glass Glass Glauconite Lithic fragments Micrite Nannofossiis Pyroxene Radiolarians Silicoflagellates Spicules	10 5 2 74 5 2 2 2	2 25 1 5 10 40 Tr Tr 1 15 — Tr	5 2 87 5 Tr

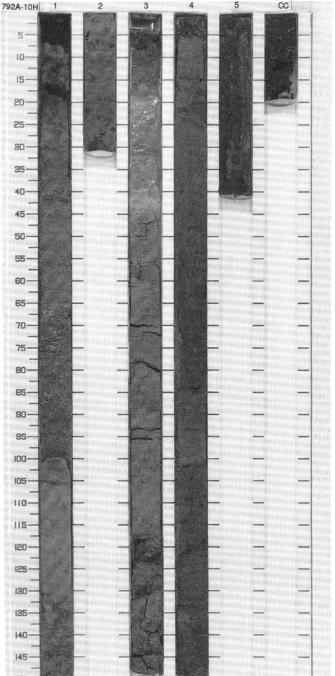


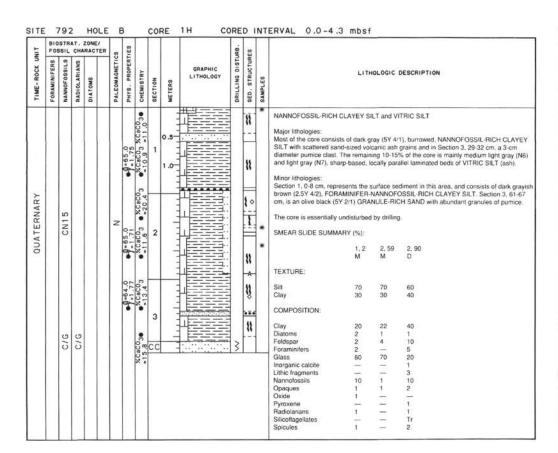


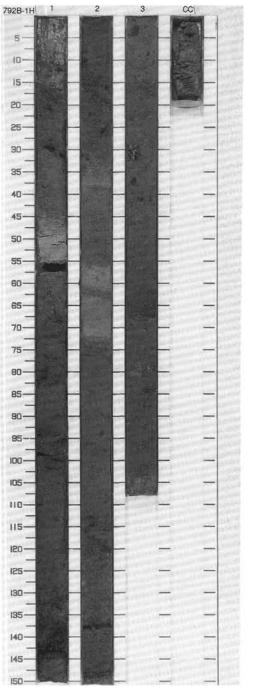


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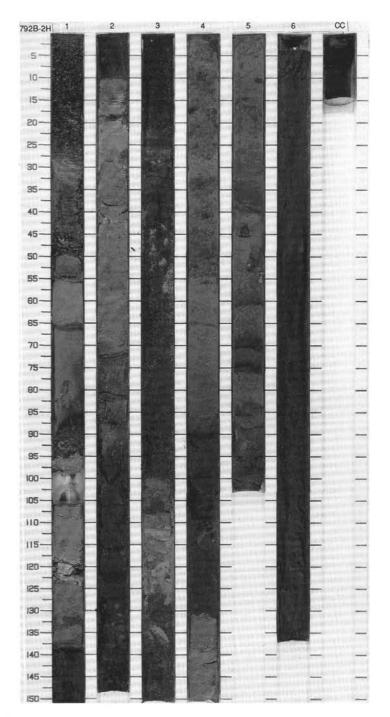


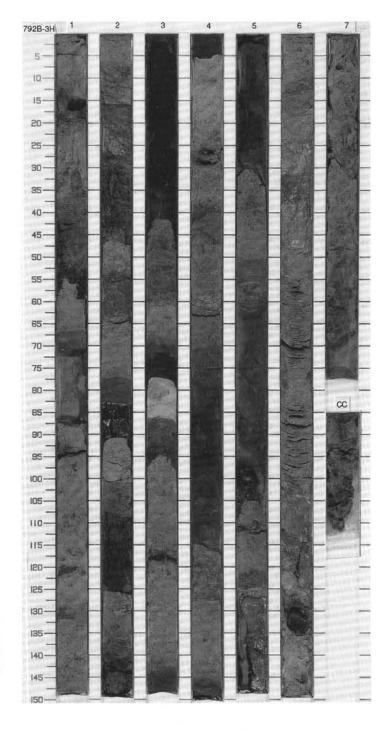






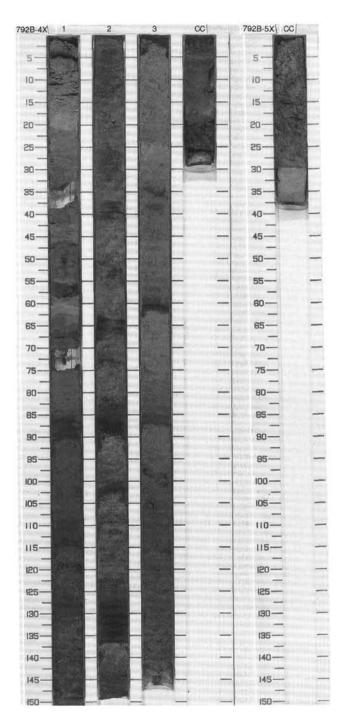
- N		SSIL			60	ES					RB.	S		
TIME-ROCK UN	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
							12.1 • %CaCO ₃ *23.9	1	0.5		owwo o owwo	**		NANNOFOSSIL-RICH SILTY CLAY, VITRIC SILT AND VITRIC SAND Major lithologies: The background lithology in this core is dark gray (5Y 4/1), burrowed NANNOFOSSIL SILTY CLAY. This is interbedded with very thin to thick beds of grayish black (N2) to leigh gray (N7) VITRIC SILT and VITRIC SAND (ash beds), which are generally structures except for local grading. All of Section 6 and the core catcher consists of dark gray (N3), medium-to coarse-grained VITRIC SAND. Sections 1-3 are moderately disturbed to soupy. Section 6 is soupy.
						9-63.0	• %CaCO3*12	2	in the state of th		0 0 0 0 0 0 0	************		
DOALERNARY		CN14a			z	9-6-	6.	3		—		···		
GUATE		CN				-Ø=62.0 -1.8	• %CaCO3=16.	4	in the contract			* * * * * * * * * * * * * * * * * * *		
						9.58.0	• %caco3	5			1	011 ○11 AA		
								6			0 0 0 0 0			
		A/G	R/M					CC			0			





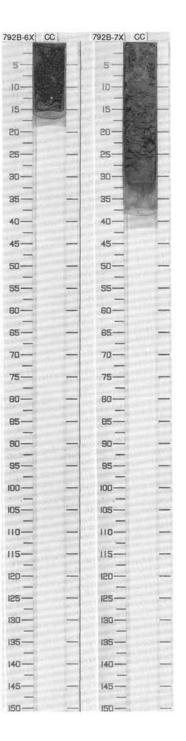
UNIT		STRA			69	ES				BB.	S		
TIME-ROCK U	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
					æ	9-64.0	%CaC03.	1	0.5			•	NANNOFOSSIL-RICH CLAYEY SILT, VITRIC SILT AND VITRIC SAND Major lithologies: This core consists of an intimate interbedding of burrowed, dark gray (5Y 4/1), NANNOFO SIL-RICH CLAYEY SILT, and generally very thin to medium beds of black (N1) to very light gray (file) VITRIC SILT and VITRIC SAND. Many normally graded sequences consist of a tri-partite bed of vitric silt(sand, overlain by very fine, structureless vitric silt, overlain by nannofossil-rich clayey silt. Section 1, 0-90 cm, is moderately disturbed by drilling.
QUATERNARY		CN14a				9-47.0	● %CaCO ₃ =1.4	2			1	•	
					Jaramillo?]	54.0	● %CaCO ₃ =8.8	3			°~		
		C/M	8		3			СС		•			

FOS	SIL	CHA	RACTER	00	ES					RB.	S		
FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETIC	PHYS. PROPERT	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTU	SED. STRUCTUR	SAMPLES	LITHOLOGIC DESCRIPTION
22 A/G	14a A/G	R/M		CN			сс			0 >			VITRIC SAND AND NANNOFOSSIL-RICH SILTY CLAY Major lithologies: This short core catcher sample consists of half dark gray (5Y 4/1) VITRIC SAND, and half grayish green (5GY 6/1), burrowed NANNOFOSSIL-RICH SILTY CLAY. The upper 15 cm of the core catcher consists of caved, soupy, fine pebbles and granules of social in a matrix of silty clay. This is not an in situ lithology.
	A/G FORAMINIFERS	2 A/G FORAMINIFERS 4a A/G NANNOFOSSILS	N22 A/G FORMINIFERS N14a A/G NANNOFOSSILS R/M RADIOLARIANS	N14a A/G FORAMINIERRA N14a A/G MANNOFOSSILS R/M RADIOLARIANS O1ATOMS	N143 A/G FORAMINIFERS N143 A/G MANNOFOSSILS PAID PAID PAID PAID PAID PAID PAID PAID	N143 A/G FORAMINIFERS N143 A/G NANNOFOSSILS PAIGOLARIANS OIATOMS N2 PALEOMAGNETICS PHYS. PROPERTI	N14a A/G RANNON N14a A/G NANNON N14a PAGOU DIATOM N2 PALEON PHYS.	N14a A/G FORAMI N14a A/G NAMOO N14a RADIO OLATOM PALEON PHYS. CHEWIS	N143 A/G FORAMI N143 A/G NANNOF NA RADIOL DIATOM N2 PALEOM PHYS.	N14a A/G FORAMI N14a A/G NANNO N14a RADIO DIATOM DHYS. CHEWIS CHEWIS DATE DHYS. CHEWIS DHYS. DHYS	N143 A/G RANNO N143 A/G NANNO	N143 A/G NAMNO N143 A	N143 A/G RANNO N143 A/G NANNO DATEON DATEON DATEON DATEON OF SECTION OF SECTI

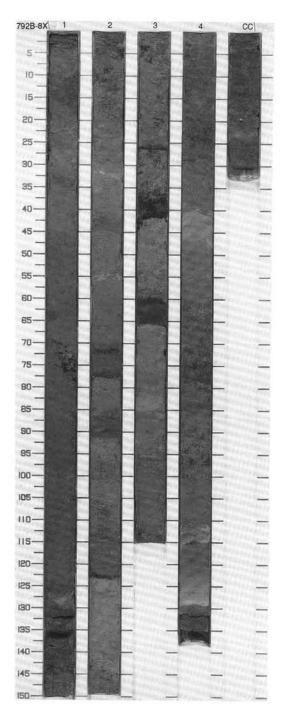


TINO				ZONE/ RACTER	S	83					IRB.	8		
TIME-ROCK U	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETIC	PHYS. PROPERTI	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
PLEISTOCENE		CN14a A/G	R/P					cc	-		0			SCORIACEOUS GRAVEL Major lithology: The only material in this short core catcher sample is soupy, dark gray (N3) SCORIACEOUS GRAVEL This is probably 100% cavings, and should not be considered as in situ sediment.

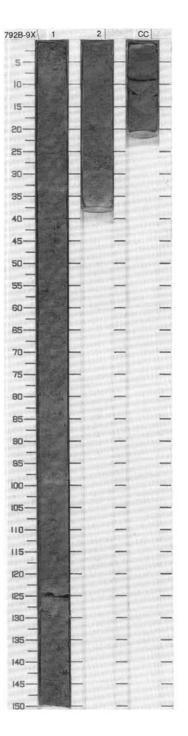
UNIT				ZONE/ RACTER	07	ES					RB.	S		
TIME-ROCK UN	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
UPPER PLIOCENE	2 C/G	CN12d A/G	R/P			9-54.0	%CaC03.	СС			**			CLAYEY SILT Major lithology: This short core catcher sample consists of dark gray (SGY 4/1), strong disturbed CLAYEY SILT.

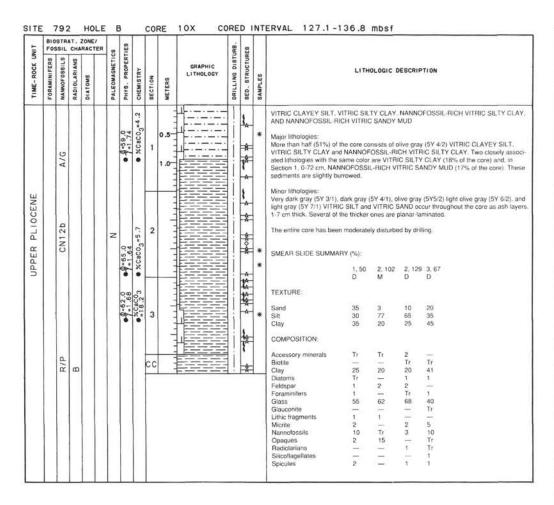


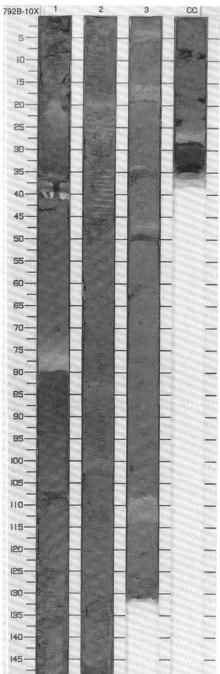
TINO		STR			40	SES					RB.	S					
TIME-ROCK U	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES		LITHO	DLOGIC	DESCRIPTION
		A/G CN12c					3=5.9 %CaC030	1	0.5			* * * * * * * * * * * * * * * * * * * *	*	VITRIC SILTY SAND AND VI Major lithologies: The bulk of this core consists FORAMINIFER-RICH VITRIC to dark gray (5GY 4/1) VITRIC core consists of grayish black CLAY, VITRIC SILT and VITRIC	of one SILT; C SILT; (N2) to	of the for dark gra Y SAND o light gra ND (ash	Illowing burrowed lithologies: dark gray (5Y 4/ y (5Y 4/1) VITRIC SILT; or dark gray (5Y 4/1) to VITRIC SANDY SILT. The remainder of the ay (N7) thin to medium beds of VITRIC SILTY beds).
						9*60.0	● %C3CO3=E	2	- Contraction			FEE		TEXTURE:		1, 58 D	4, 50 D
UPPER PLIOCENE					В	9=59.0	• %CaCO ₃ =15.1	3				***	og	Clay COMPOSITION: Clay Diatoms Feldspar Foraminiters Glass Glass Glass	30 50 60 60 60 60 60 60	10 80 10 10 	60 30 10 10 10 10 10 70
		CN12b				9=53.0	-9.0 -10.93	4	Trend trend	4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		**	*			3 Tr	Tr
		C/M	8					cc				11					



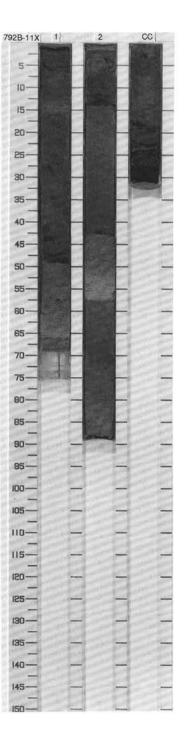
UNIT				ZONE/ RACTER	91	IES					JRB.	ES		
TIME-ROCK U	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
Ä							0			4::::::::::::::::::::::::::::::::::::::			*	NANNOFOSSIL-RICH VITRIC SILT
PER PLIOCENE		CN12b			α	0.19-6	203-13		0.5			1		Major lithology: The core is almost entirely dark gray (5Y 4/1), slightly burrowed NANNO- FOSSIL-RICH VITRIC SILT, interbedded with widely separated beds, generally <2 cm thic of light gray (N7) VITRIC SILT (ash). The core is essentially undisturbed by drilling. SMEAR SLIDE SUMMARY (%):
UPP		A/G	F/M			9-63.0	*CaC03	2 CC	-	 		1		1, 20 D TEXTURE: Silt 20 Clay 80
														Clay 80 COMPOSITION: Clay 62 Diatoms 1 Feldspar 2 Foraminifers 1 Glass 20 Inorganic calcite 1 Nannofossils 10 Opaques 1 Pyroxene 1 Spicules 1







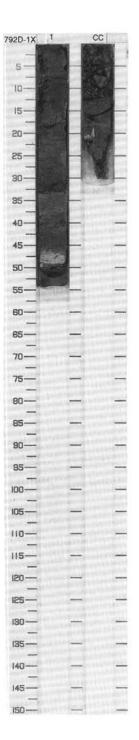
LINO				RACT	en!	S	SEL					JRB.	ES		
TIME-ROCK U	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS		PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
UPPER PLIOCENE		A/G CN12a A/G CN12b	9/3			Z	9-59.0	● XCBC03	1	0.5			A A	TW	BIOGENIC SILICA-RICH LITHIC-VITRIC SILTY CLAY AND NANNOFOSSIL-RICH VITR SILTY CLAY Major lithologies: 51% of the core is composed of olive gray (5Y 3/2) BIOGENIC SILICA-RICH LITHIC-VITRIC SILTY CLAY that is slightly bioturbated in places. Dark gray (5Y 4/1), structureles NANNOFOSSIL-RICH VITRIC SILTY CLAY comprises another 26% of the core. Minor lithologies: Light-and dark-colored VITRIC SILT and VITRIC SAND ash layers 1-6 cm thick, in approximately equal abundance, together comprise 21% of the core. The dark colors are grayish black (R2) and very dark grayish brown (5Y 3/2); the light colors are gray (5Y 6/1) and gray (5Y 5/1). The ash beds are structureless except for a light-colored layer in Section 2, 82-5 cm, which contains burrows, 2/3 cm wide, that are filled with olive gray (5Y 4/2) sitly clay. Section 1 and the core catcher are moderately disturbed by drilling. SMEAR SLIDE SUMMARY (%): 1, 25 2, 10 2, 55 2, 64 D M M M TEXTURE: Sand 20 10 Tr 15 Silt 25 50 95 35 Clay 55 40 5 50 COMPOSITION: Accessory minerals 1 1 Tr 1 Clay 51 35 5 43 Diatoms 2 Tr 1 Foraminifers 1 1 Tr 1 Glass 15 50 95 35 Lithic tragments 10 Tr 3 Nannofossils 4 5 Tr 10 Opaques 1 2 Tr 1 Radiolarians Tr — 1 Silicoltagellates 10 — 2 Spicules 1 1 — 1



NI T				ZONE/ RACTER	60	IES				JRB.	83				
TIME-ROCK UNIT	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES		LITHO	OLOGIC DESCRIPTION
UPPER PLIOCENE		CN12a A/G	9/0		Z		%CaC03 ● =6.0	СС		**		**	olive gray (5Y 4/2) NANNi diameter at 33 cm, is filled Minor lithologies: A VITRIC ASH layer at 15 gray (5Y 5/1) in the middle scoriaceous sand occur a	ir the minor IOFOSSIL- d by olive g 5-18 cm is a le. Two 1-ci at 25 and 2 sisturbed by RY (%):	lithologies listed below, 90% of the core consists of RICH VITRIC SILTY CLAYSTONE. A burrow, 12 cm in gray (5Y 3/2) medium-grained sand. colored gray (5Y 6/1) in its upper and lower thirds, and in thick graysh black (N2) layers of coarse-grained



+17				ZONE/	69	831					RB.	85				
TIME-ROCK UNIT	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED, STRUCTURES		LITH	OLOGIC I	DESCRIPTION
	0/0	A/G	5/2		z	9-53.0	%CaC030 =7.83	1 CC				AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	Minor lithologies: A grayish black (N2), ver	he core con CLAYSTO	sists of s NE.	tructureless olive gray (SY 4/2) NANNOFOS C SAND occurs at 31-33 cm, and a light grant, 1, 47-50 cm. Both of these layers are ash
PLIOCENE	1 - N22	CN12a	S. pentas										The core is very disturbed moderately disturbed in SMEAR SLIDE SUMMA	Section 1, 1		
UPPER	N2		S										TEXTURE: Sand Silt Clay COMPOSITION:	20 25 55	100	15 35 50
													Clay Diatoms Feldspar Foraminifers Glass Lithic fragments Micrite Nannotossils Opaques Pyroxene Radiolarians Silicoflagellates Spicules	48 1 2 4 20 2 3 15 1 Tr 3	1 99 Tr Tr Tr	45 2 2 2 2 30 2 — 10 — 2 1 3



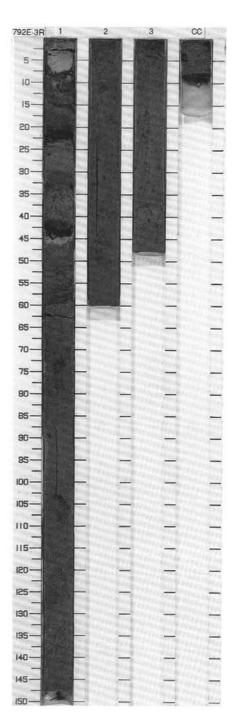
LINO				ZONE/	R	2	1.58	T			RB.	0	3		-
TIME-ROCK U	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS		PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	GRAPHIC		SED STBILLTINGES			LITHOLOGIC DESCRIPTION
<u> </u>	A/M	A/G	5/2			2	9-55.0	*CaC03 =	1			1	*	FORAMINIFER-RICH SI Section 1, 10 cm, there a	LTY SAND of moderately burrowed, line grained, light olive gray (5Y 5/2) LTY SAND. Foraminiters can be easily seen with a hand lens. At are abundant foraminiters, 0.3 cm bivalves, and rounded granules 1, 46-54 cm, consists of olive gray (5Y 3/2), stiff CLAYEY SILT.
ER PLIOCENE	N21	CN12b	S. pentas											Section 1, 0-60 cm, is sli SMEAR SLIDE SUMMA	ghtly to moderately fractured by drilling RY (%): 1, 90 D
UPPER														TEXTURE: Sand Sit Clay COMPOSITION: Accessory minerals Feldspar Foraminifers Glass	70 20 10 2 3 20 65
														Nannotossils Quartz Radiotarians Spicules	7 3 Tr

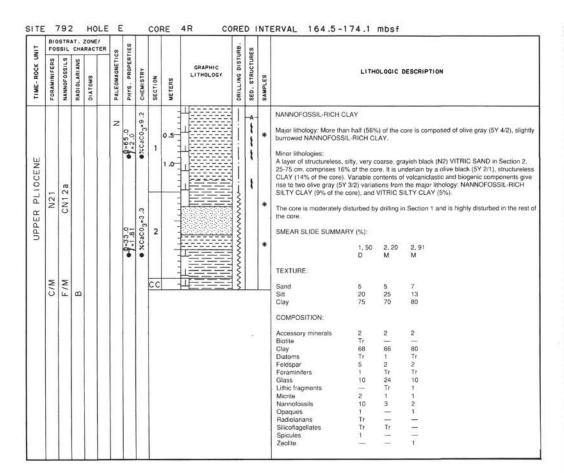


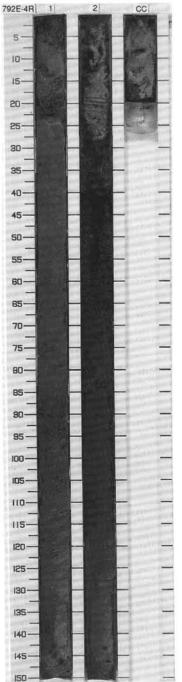
- 100				RACT		99	IES.					RB.	83		
IME-ROCK OF	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS		PALEOMAGNETICS	PHYS, PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
	A/G					z			1		4		A	*	NANNOFOSSIL-RICH VITRIC SILTY CLAY
	A/M	A/G	S/2												Major lithology: Olive gray (5Y 4/2) NANNOFOSSIL-RICH VTRIC SILTY CLAY. The interval 11-17 cm is slightly burrowed, and the burrows are filled with medium- to coarse grained scoriaceous sand.
	- 1		١,												Minor lithology: At 17 cm there is a dark greenish gray (10Y5/1) pocket of silt-sized ash.
2000															SMEAR SLIDE SUMMARY (%):
j															1, 21
3	ı	ю	as		- 1		1	1 15						- 1	D
: 1	N21	CN12	pentas												TEXTURE:
	~	O		1	- 1										Sand 2
1	- 1	- 1	S		- 1	- 1	1	- 3							Silt 23 Clay 75
															COMPOSITION:
1	- 1				- 1									- 1	COMPOSITION:
- 1		- 1		1	- 1		1								Accessory minerals Tr
-1				- 1	- 1		- 1							- 1	Biotite Tr
1				- 1		- 1								- 1	Clay 62 Diatoms 3
- 1														- 1	Feldspar 1
1	ł				ł		- 1							- 1	Foraminiters 1
-				- 1										- 1	Glass 15
- 1				- 1											Lithic fragments 2 Micrite 1
-														- 1	Micrite 1 Nannofossils 10
- 1															Radiolarians Tr
-															Silicoftagellates 5
- 1	- 1	- 1	- 1		- 1		- 1							- 1	Spicules Tr



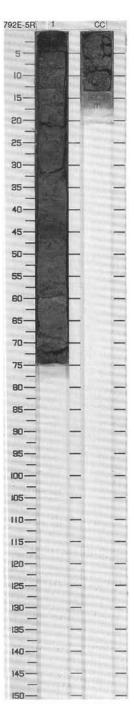
TINO		SIL		RACTE	0	95	TIES					URB.	SES		
TIME-ROCK L	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS		PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
UPPER PLIOCENE	A/M N21	A/G CN12a	C/M			2	•	•%CaCO3=15.2 •%CaCO3=15.4	1	1.0			4	* *	NANNOFOSSIL-RICH VITRIC SILTY CLAY Major lithology: NANNOFOSSIL-RICH VITRIC SILTY CLAY comprises the entire cor light olive gray (SY 5/2) in Section 1, 0-3 cm, and olive gray (SY 4/2) in Section 1, 7-4 where the core is only moderately disturbed by drilling. In the rest of the core, it has be very disturbed by drilling, and is mixed with the darker minor lithologies to homogeniz olive gray (SY 3/2). Minor lithologies: In the upper, less disturbed part of the core, there are three layers, 2-4 cm thick, of lig olive gray (SY 5/2), light gray (N7), and gray (SY 6/1) VITRIC SILT, and four thin (1-3 thick) beds of grayish black (N2) and brownish black (SYN 2/1) ash layers that are CF TAL-VITRIC SANDY MUD except for the layer in Section 1, 44-46 cm, which is SCOPPEBILE-GRANULE GRAVEL. SMEAR SLIDE SUMMARY (%): 1, 5

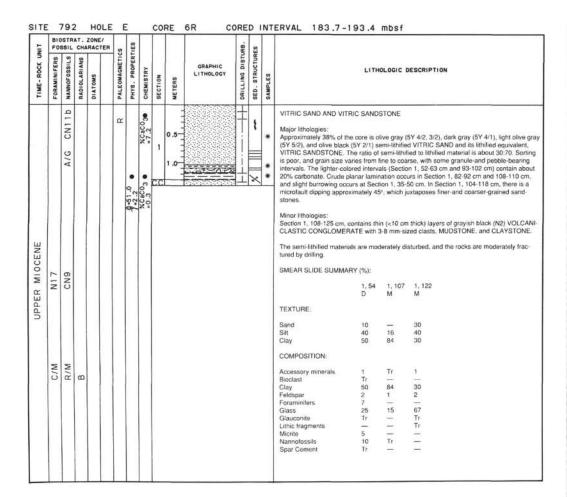


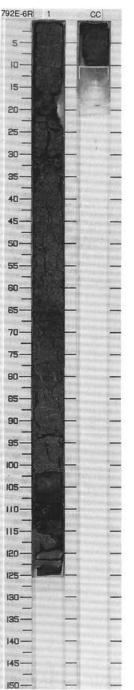




5				ONE/		ES					88	95					
TIME-ROCK UP	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES		LITHO	LOGIC D	ESCRIPTION
UPPER PLIOCENE	N21 A/G	CN12a			Z		● %CaCO ₃ = 20.8	1	0.5		+	A	*	CLAY constitutes 85% of Minor lithologies: 10% of the core is a darkom, the first lithified inter 5/3) and gray (5Y 5/1) Vicatcher.	eless, olive of the core. s gray (5Y 4 val in the holTRIC SILT and in Section d in Section	gray (5Y -	4/2) NANNOFOSSIL-RICH VITRIC SILTY C SILTSTONE ash layer in Section 1, 25 3/3 emaining 5% of the core consists of olive (5 at the bottom of Section 1 and in the core m. moderately fractured in Section 1, 10-30 cm, and very disturbed in the core catcher.
	C/M	A/G	R/P											TEXTURE: Sand Silt Clay COMPOSITION	1, 29 M	1. 63 D 10 30 60	1,73 M 30 60 10
														Accessory minerals Clay Diatoms Feldspar Foraminifers Glass Lithic fragments Micrite Nannotossits Opaques Silicotlagellates Spicules	10 1 2 Tr 81 Tr Tr 1 5	Tr 50 1 1 1 30 - 2 15 - Tr	Tr 10 Tr 1 Tr 87 — — 2 Tr





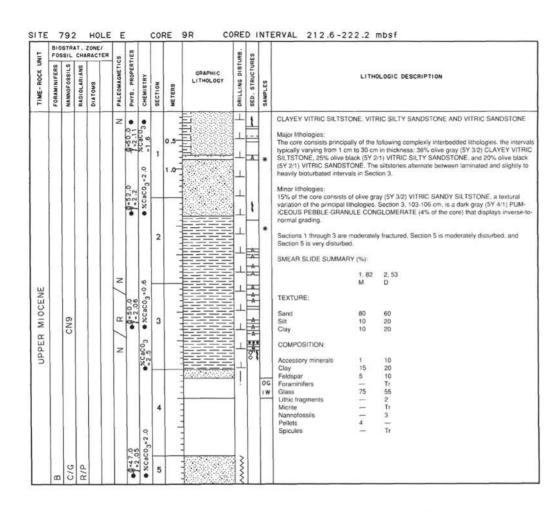


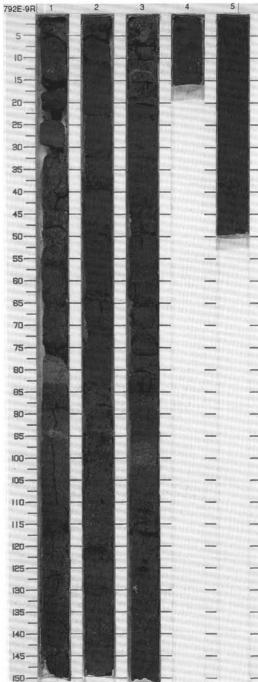
TINO				RACT		S	TIES				URB.	838					
TIME-ROCK U	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS		PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES		LITH	OLOGIC	DESCRIPTION
PER MIOCENE	8	CN9 F/G	8			α.			1		1	1	#*	is VITRIC MUDDY SAN: 35 cm, intense bioturbat sand. The intervals 0-10 cm ar	gray (5Y 3. DSTONE. ion by Cho	(2) VITRIC Slight bur indrites ha	MUDDY SANDSTONE C SANDY MUDSTONE, and the remaining 46 rowing occurs at 6-10 cm. Over the interval 3 is left burrows 3 mm in diameter filled with derately fractured, and the interval 10-22 cm.
UPP														consists of drilling brecci SMEAR SLIDE SUMMA		SECTIO	N (%):
															1, 1 M	1, 3 D	1, 20 M
														TEXTURE:			
														Sand Silt Clay	55 20 25	20 30 50	30 30 40
					П									COMPOSITION			
														Accessory minerals Bioclast Clay	3 Tr 25	10 50	10 40
														Diatoms Feldspar Foraminifers	1 8 2	2 Tr	3 Tr
														Glass Lithic fragments Micrite	43	34	33 10
														Nannofossils Pellets	15 Tr	3	3
														Pore Space Radiolarians Rock fragment	Tr 1 2		2
						- 1								Spicules		1	-



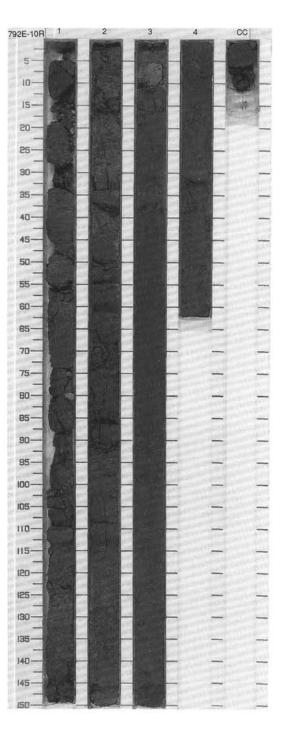
UNIT				ZONE/ RACTER	8 00	Sa					RB.	8				
TIME-ROCK UP	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES		LITHO	DLOGIC DESCRIPTION
		9	/P		α			1			I	1	#	VITRIC MUDDY SANDS	STONE, VIT	RIC SANDSTONE AND VITRIC SANDY MUDSTONE
	В	F/G	B		Iz	04	ac03	1		-	+	A	*			
	-	-	1777		12	10	San	\vdash	-	h	1	A	-	Major lithologies:		A CONTRACT OF THE CONTRACT OF
NE.						000	XC.									e black (5Y 2/1), slightly burrowed VITRIC MUDDY SY 2/1) VITRIC SANDSTONE, and 23% of VITRIC
MIOCENE		CN9												lithified only in the dusky	green (5G	of the core (25-34 cm interval) is VITRIC SILT, which is 3/2) middle part of the bed. The upper and lower parts ark gray (5Y 4/1) in color.
r		O											- 1	The core is moderately f	tractured the	punhout
ш	ı					1							- 1	The core is moderately i	racialed iii	oughou.
UPP													- 1	SMEAR SLIDE SUMMA	RY (%):	
-															1, 20 D	1, 32 M
														TEXTURE:		
						1							- 1	Sand	50	5
	ı							l					- 1	Silt	20	65
						1							- 4	Clay	30	30
														COMPOSITION:		
														Accessory minerals	10	Tr
						1		1					- 0	Clay	30	30
	1 1	Ш				1		l					- 1	Feldspar	10	1
								l						Foraminiters	Tr	
	ı					1		1					- 1	Glass	40	68
														Lithic fragments	10	
						1							- 11	Micrite	-	Tr
													- 4	Nannofossils		Tr
	ı					1								Opaques	-	1
	ıl					1		1					- 1	Pellets	=	Tr





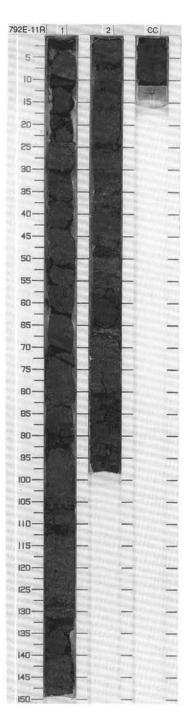


TINO				ZONE/ RACTER	99	ES	Ē			JRB.	ES					
TIME-ROCK U	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	u	THOLOG	IC D	ESCRIPTION
					z		-0.9 -0.9	1	0.5	\(\frac{1}{4}\)	177	*	SILTSTONE, slightly to heavily I Minor lithologies: Greenish black (5GY 2/1), comr isolated 1-6 cm intervals and co greenish black (5GY 2/1) and gr	nonly pla mprises ayish bla	nar-la 9% o ack (N	(%) of olive black (5Y 2/1) VITRIC SANDY several intervals in Section 2. aminated VITRIC SILT CLAYSTONE occurs in the core. The remaining 3% of the core is the core. The remaining 3% of the core is 42°; CRYSTAL-VITRIC SAND, probably sh, in, one of these beds displays cross-lamination.
UPPER MIDGENE		CN9				1.96	%CaCO3=0.5	2		1 1 1 1	1	*		on 3, an	d ven	Section 1, moderately fractured in parts of y disturbed over the rest of the core. 2, 144 D
OP		A/G				•	• %CaCO ₃ =3.2 • %	3		temminament F		*	Sand 5	75 20 5 10 Tr 5 10 — 73 — 2 Tr 7		35 30 35 3 3 32 5 7r 50 — Tr

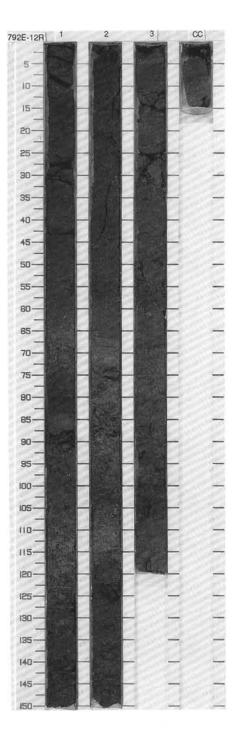


SITE 792

TINO				RACTE	R	TIES					URB.	SES					
TIME-ROCK U	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES		LITH	OLOGIC I	DESCRIPTION
R MIOCENE		CN9			Z	0.0 9 -64.0 9-51.0	030 x CaCO3 • xC	1	0.5				*	Major lithology: CRYST/ olive black (5Y 2/1) in co slightly bioturbated over Minor lithologies: Greenish black (5G 2/1)	AL-VITRIC : olor, compriseveral into and grayish bly ash bed	SILTSTOI se 47% a rvals. n black (N s and con	FAL-VITRIC SANDY MUDSTONE NE and CRYSTAL-VITRIC SANDY MUD. bo and 36% of the core, respectively. They are 2) CRYSTAL-VITRIC SANDSTONE, in layer apprise 17% of the core. Several are planar. y drilling.
UPPE	В	F/M	R/P			4-4-	- %CaC	2 CC				Ť	*	SMEAR SLIDE SUMMA TEXTURE: Sand	RY (%): 1, 48 D	2, 62 M	CC. 2 M
			1											Silt Clay	25 20	55 Tr	30 40
														COMPOSITION: Accessory minerals Cement Olay Feldspar Foraminilers Glass Littic fragments Micrite Nannofossils Radiolarians Slicoflageliates Spicules	5 20 8 1 54 2 Tr 10 Tr Tr	7 3 Tr 7 Tr 80 3 —	2 40 6 6 17 50 1 1 1 1

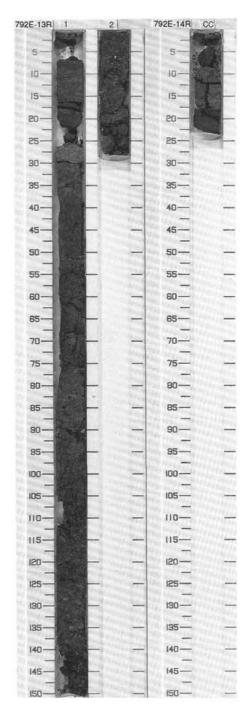


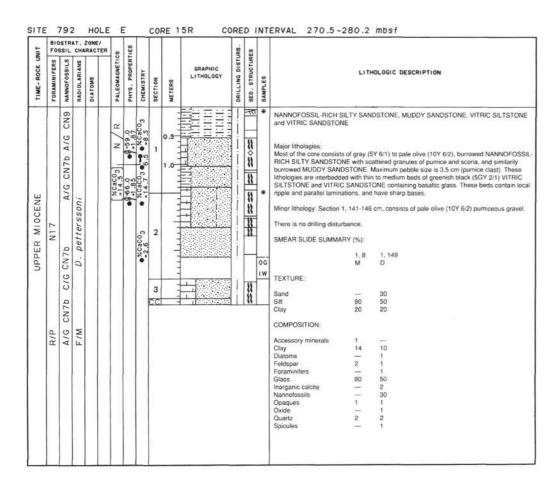
LINO				ZONE/ RACTER	So	ries				URB.	ES		
TIME-ROCK U	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED, STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
					z		3*11.9	1	0.5	//	**		NANNOFOSSIL-AND GRANULE-RICH MUDDY SANDSTONE Major lithology: Most of the core consists of dark gray (5Y 4/1), strongly burrowed NANNO FOSSIL-AND GRANULE-RICH MUDDY SANDSTONE. The granules are scattered throughout the core and consist of black basaltic scoria and light gray pumice. In Section
						9=60.0	• %caco3.	1	1.0		11		83-90 cm, there is a concentration of scoria pebbles with diameters as large as 0.7 cm. Some of this sediment appears crudely laminated, but this could be a product of horizonts burrowing. Some of the muddy sandstone is pale olive (10Y 6/2) in color and is relatively rich in nannofossils (see smear slide data).
MICCENE	N17	CN9								/	11	*	Minor lithology: Section 1, 83-93 cm, is a bed of dark gray (5GY 4/1) SILTY CLAYSTONE with basal parallel laminae. This is probably an ash layer. Section 1, 0 cm, to Section 2, 50 cm, is slightly fractured by drilling. Section 3 is highly fractured.
משבורט	Z	S				2.0	CO3=8.1	2	100 100 100 100 100 100 100 100 100 100		ů		SMEAR SLIDE SUMMARY (%): 2, 112 M
						-0=50.0	• %caco3-				**		TEXTURE: Sand 50 Sit 40 Clay 10
	R/M	A/G	100					3	# = = =		11		COMPOSITION: Accessory minerals 5 Clay 2
	В	A	В					CC	1 4 5 5 5	:	11		Cay 2 Feldspar 3 Glass 60 Micrite 10 Nannofossils 20

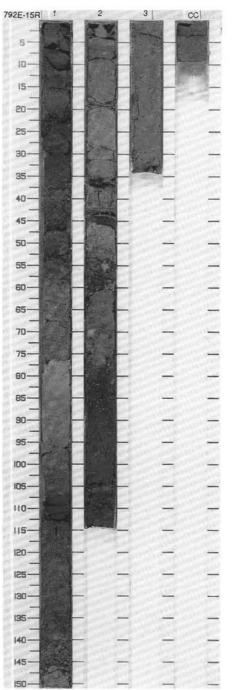


LINO				ZONE RAC	65	1.58	CHEMISTRY	SECTION			JRB.	53			
TIME-ROCK U	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES			METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION	
UPPER MIOCENE	A/G	CN9 A/G		10	α	0.09=	%CaCo3● =7.4	1 2	0.5		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		*	GRANULE-TO PEBBLE-BEARING MUDDY SANDSTONE Major lithology: Most of the core is dark gray (5GY 41), burrowed GRANULE-TO PEBB BEARING MUDDY SANDSTONE. Pumice and scoria pebbles are <1 cm in diameter. Minor lithologies: Section 1, 4-5 cm, is a remnant of the base of a bed of black fine SANDSTONE. Section 18-25 cm, is greenish black (5GY 2/1) SILTY CLAYSTONE. Section 2, 21-28 cm, is a drilling breccia of greenish black (5GY 2/1) CLAYEY SILTSTONE. In general, the core is highly fractured by drilling. SMEAR SLIDE SUMMARY (%):	
	R/P	R/M	R/P											TEXTURE: Sand 80 Sit 20 COMPOSITION: Accessory minerals 10 Feldspar 15 Foraminifers Tr Glass 75 Spicules Tr	

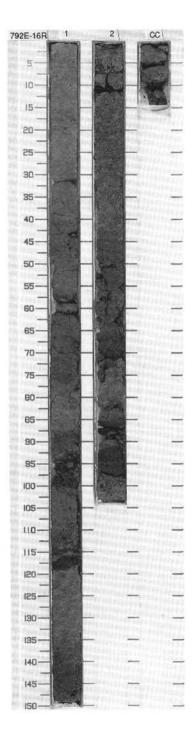
TINO				T. ZONE/ CHARACTER			831				8	JRB.	S			
TIME-ROCK U	FORAMINIFERS	NANNOFOSSILS RADIOLARIANS DIATOMS				PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY SECTION	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES		LITHOLOGIC DESCRIPTION
		A/M	R/P			œ	- 1		СС		# = = = = = = = = = = = = = = = = = = =		11	#	SILTY SANDSTONE AND	MUDDY SANDSTONE
NE	8	A/	R/						ľ							ay (5GY 4/1), burrowed, laminated SILTY SANDSTONE, grading by 4/1) MUDDY SANDSTONE with scattered granules of basallic
MIOCENE															THIN SECTION SUMMA	RY (%):
		σ														CC. 19
		CN9														M
UPPER															TEXTURE:	
P P			10												Sand	30
															Silt	30
															Clay	40
															COMPOSITION:	
				1											Accessory minerals	3
			1						1						Clay	40
									1						Feldspar	7
															Foraminifers	2
			1						l						Glass	40
															Micrite	Tr
															Nannofossils	5
									1						Radiolarians	3
			1						1						Rock fragment Spicules	Tr Tr



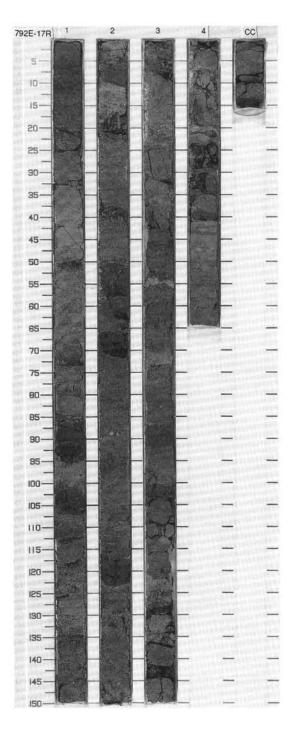




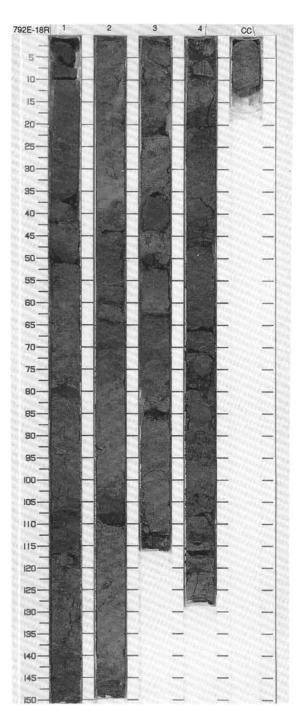
TIME-ROCK UNIT		STRA				PALEOMAGNETICS	LES				JRB.	S		
	FORAMINIFERS NANNOFOSSILS RADIOLARIANS DIATOMS						PHYS. PROPERTIES	CHEMISTRY	SECTION	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
DDLE - UPPER MIOCENE	71N	7a A/G A/G	. petters					-2.5 -9.8	2	0.5		# # # # # # # # # # # # # # # # # # #	1	GRANULE-BEARING MUDDY SANDSTONE Major lithologies: Most of the core consists of dark gray (5Y 4/1 and 5GY 4/1), burrowed GRANULE-BEARING MUDDY SANDSTONE. The granules consist of basaltic scoria. Minor lithology. Section 1, 93-100 cm, 115-120 cm, and Section 2, 6-11 cm, 86-96 cm, consist of thin beds of generally parallel laminated, olive black (5Y 2/1) VITRIC CLAYEY SILTSTONE. Section 1, 30-50 cm, is slightly fractured by drilling. SMEAR SLIDE SUMMARY (%): 1, 15 1, 53 D D TEXTURE:
MIDI	R/M		C/M						cc	<u> </u>	: 4X			Sand 20 — Silt 70 60 Clay 10 40 COMPOSITION: Clay — 34 Feldspar 2 1 Glass 68 60 Inorganic calcite 5 — Nannolossils 25 2 Opaques — 1 Pyroxene — 1 Ouartz — 1

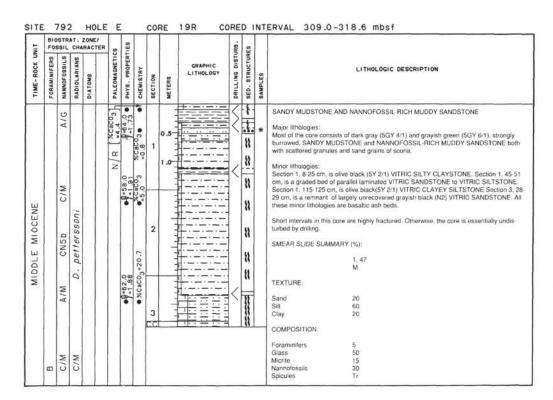


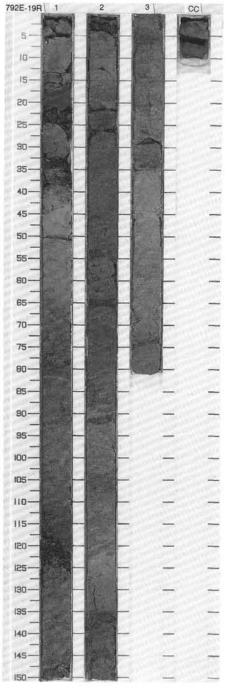
UNIT				ONE/	9	SEL				URB.	ES					
TIME-ROCK U	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES		LITHO	LOGIC (DESCRIPTION
		A/G CN6	•		50	9-59.0	2030 01		0.5	11111	11	*	AND VITRIC SILTSTONE Major lithologies:			E, NANNOFOSSIL-RICH SANDY MUDSTONI
		CN6			z		%CaC03	1			.1.		SANDSTONE and NANNOF granules and sand grains. The graded and/or parallel lamina	OSSIL- he rema ated, thi	RICH SA ining 209 in beds o	NDY MUDSTONE, both with scattered scoria % of the core consists of sharp-based, locally
MIOCENE		A/M	erssoni				*			:: /	ï		Section 1 is moderately fract SMEAR SLIDE SUMMARY (ection 3,	30 cm, to CC is highly fractured by drilling.
MIDDLE			D. pette			-65.0	%CaCO3=0.4	2			11			1, 51 M	3, 55 M	CC. 7 M
Z		CN5b	7			6				7/	11		Silt	80 20 —	80 20	80 10 10
		A/M					3=0.4	3		}	**	*	COMPOSITION: Accessory minerals Clay	5	14	Tr
						9-63.0	• %CaCO3=0.4				11		Diatoms Feldspar Foraminifers Glass	15 Tr 80	1 1 1 80	5 Tr 95
	R/P-M	A/M CN5b	C/M			66.0	*CaCO3	4			1		Lithic fragments Nannofossils Oxide Quartz	Tr —	- 1 1	Tr —



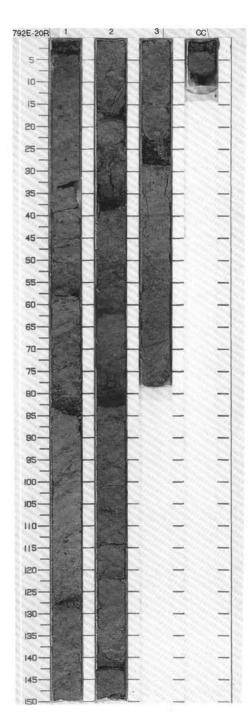
TINO		SIL		ZONE/	R S	TIES					URB.	SES			
TIME-ROCK U	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITI	HOLOGIC DESCRIPTION
					R/N	9-63.0	*CaCO3	1	0.5		× <>//	**		MUDSTONE, VITRIC SILTSTONE Major lithologies: Most of the core consists of burrow NANNOFOSSIL-RICH MUDDY SA MUDSTONE, with the lighter color	ANDSTONE, NANNOFOSSIL-RICH SANDY E AND VITRIC SANDSTONE wed, dark gray (SGY 4/1) and grayish green (SGY 6/1) ANDSTONE and NANNOFOSSIL-RICH SANDY s corresponding to intervals with higher carbonate grains of basalite scoria are scattered throughout the
MIOCENE		p	etterssoni			12.30 0=54.0		2		4-5-48	/	***		laminated thin beds of grayish blac VITRIC SANDSTONE (ash beds). Minor lithology: Section 3, 85-87 or CONGLOMERATE.	re consists of sharp-based, locally graded and/or paralick (N2) or olive black (5Y 2/1) VITRIC SILTSTONE and m, consists of olive black (5Y 2/1), line SCORIACEOUS dilightly fractured by drilling Section 4 is highly fractured. 8 2.147
MIDDLE		CNSD	D. pette			-4-62.0 %CaCO3=13	-7,CaCO3	3	Personal temperation on the		< <	******	og iw	TEXTURE:	70 30 —
	В	A/M	5/2			9-65.0	• xcaco3=16.7 %Ca	4			5	***		Distribution 2	93



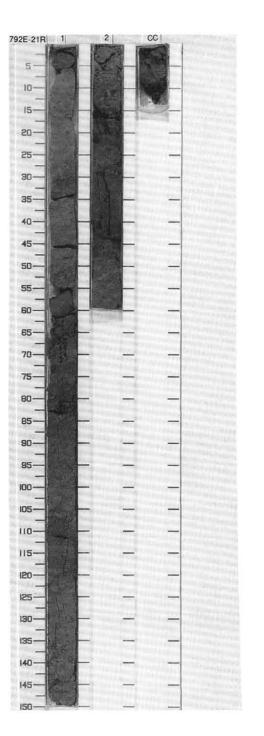




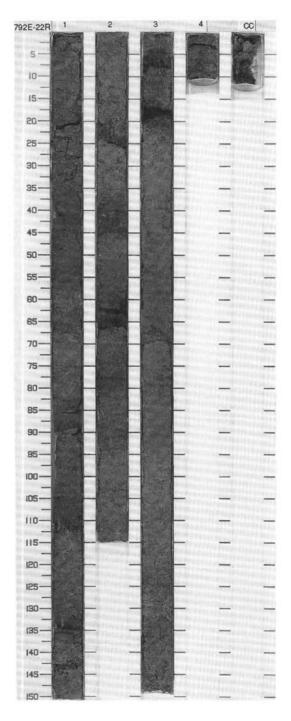
UNIT				CONE/	R o		ES				RB.	50		
TIME-ROCK UN	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	DAI COMACAUCTICO		PHYS. PROPERTIES	CHEMISTRY	SECTION	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
ENE		A/G	soni		a	O. C. O. O.	7.1.92	=22.03	0.5-		1111	**	*	NANNOFOSSIL-RICH SANDY MUDSTONE Major lithology: The core is almost entirely grayish green (5GY 6/1) strongly burrowed NANNOFOSSIL-RICH SANDY MUDSTONE with scattered granule-and sand-sized scor grains. There are some pumice pebbles in the sediment. The most common trace fossil i Zoophycos, although Chondrites is also present. Persistent dip of some burrows and scoria layers suggests a dip of 10°-20°.
MIDDLE MIGGENE		CNSD	D. petterss			Cuu	7 1.57	-12.13	2		/// //	=======================================		Minor lithologies: The core contains several ash layers of VITRIC SILTSTONE, VITRIC SANDSTONE and VITRIC SILTY CLAYSTONE. Some of these are graded. The ash beds are located in Section 1, 80-84 cm, Section 2, 14-19 cm, 31-38 cm, 78-83 cm, and Section 3, 17-27 cm About half of the core is slightly fractured by drilling. SMEAR SLIDE SUMMARY (%): 1, 36 D TEXTURE:
		A/M				A-83 A	1.89	- 1	3 _		<	**		Silt 14 Clay 86 COMPOSITION: Accessory minerals 1 Clay 56
	R/P	C/M	C/M											Diatoms



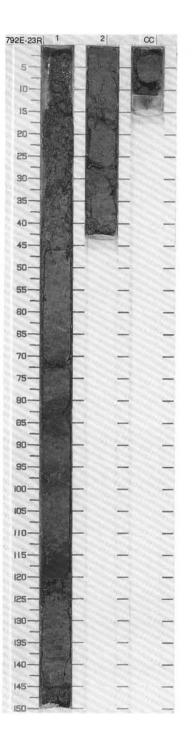
-				ZONE/ RACTER	99	ES					JRB.	es w								
TIME-ROCK UNIT	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	3	LITH0	LOGIC D	ESCRIP1	ION		
MIDDLE MIOCENE		CN5a A/G	D. petterssoni			9-60.0	● %CaCO3-8.0 %CaCO3 ●	1	0.5				*		ore consist is slighe basidark gradiark	sists of da ghtly burn e of Secti ay (5GY 4 C SILTST of the co	ark gray (rowed in 5 ion 2. Zoo I/1) VITRI TONE and	Section ophycos C-CRY: 1 VITRI	1, 0-110 burrows STAL SIL C SANDS	cm, and heavily occur in Section TY CLAYSTONI STONE, in beds (
	В	A/G	F/P											Sit Clay COMPOSITION: Accessory minerals Clay Feldspar Foraminifers Glass Lithic fragments Micrite Nannolossils Opaques	77 225 775 775 775 775 775 775 775 775 7	15 75 10 1 1 10 5 - 76 3 3 1 Tr	Tr 355 65 1 599 3 - 15 2 Tr 15 1 - 2	20 70 10 5 8 10 75 Tr	35 65 — 3 — 4 — 86 7 — Tr	15 25 60 2 2 53 2 1 25 Tr 15 2



TINO				CONE/	99	LES				URB.	ES			
TIME-ROCK U	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES		LITHOLOGIC DESCRIPTION
		C/M			z	9=56.0	• %CaC03	1	0.5	H			Major lithology: Very dar bated NANNOFOSSIL-F comprises 96% of the co	VITRIC SILTY CLAYSTONE AND VITRIC SILTY CLAYSTONE fk gray (5Y 3/1) and dark gray (5Y 4/1), slightly to heavily biotur- RICH VITRIC SILTY CLAYSTONE and VITRIC SILTY CLAYSTONI are, airing 4% of the core is composed of seven brownish black (5YR 2
						9-59.0	-15.73		10		1		VITRIC SANDSTONE The core is moderately f	ash beds 1-5 cm thick.
MIOCENE			soni							4	i°		SMEAR SLIDE SUMMA	RY (%): 4, 8 M
25		CN5a	petterssoni				%cac03=7.3	2			100		TEXTURE:	
щ		0	6				S		-	=-			Sand	3
2	1		2	0.0		1	0	- 1	1			OG	Silt	37
MIDDL		A/G	0		2		•		-			IW	Clay	60
Σ		٩			R/N		%caco3		#===	=-	4		COMPOSITION:	
			- 1			0.8	C.9		1		1		Accessory minerals	a"
		- 1	- 1			- 64	X		-		1	ıl	Clay	60
			- 1			-	•	3	14		•		Feldspar	2
			- 1			•		2002	-		11		Glass	20
- 7	1	1	- 1		1			- 1				- 4	Micrite	1
	Ιl								4	-	11	ш	Nannofossils	15
			- 1						+====		11		Radiolarians	1
	C/M	A/G	/P					4 CC		=1	AA AA		Spicules	Tr

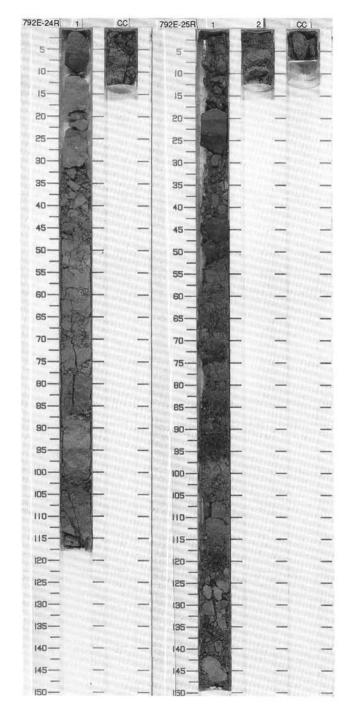


TINO				ZONE	9	LIES					JRB.	ES			
TIME-ROCK U	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES		LITHOLOGIC DESCRIPTION
E MIOCENE	N10	CN5a A/M	D. alata		z	9-60.0	●%CaC03		0.5		F F F F F F F F F F F F F F F F F F F	225-220	*	Major lithology: Dark gra SILTY CLAYSTONE cor 110 cm. Minor lithology: The rem VITRIC SANDSTONE at	rilling breccia. The rest of the core is moderately fractured.
MIDDLE			9					CC	-		7	1		TEXTURE:	1, 56 D
	R/M	A/M	F/P											Sand Silt Clay COMPOSITION:	20 20 60
	R	A	L.											Accessory minerals Clay Feldspar Foraminifers Glass Glauconite Lithic tragments Nannofossils Radiolarians Silicoftagellates Spicules	1 60 2 1 17 Tr Tr 18 1 1 Tr

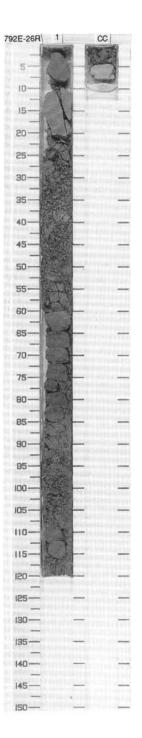


=				ZONE/	A o	8 4					RB.	S			
TIME-ROCK UNIT	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PAI FOMACNETICS	BHYS DROBEOTIES		SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	u	THOLOGIC DESCRIPTION
OWER MIOCENE	N6	CN2 A/G			0		€ 60560%	1 CC	0.5		> /	*X-1 -//*	*	Section 1, 18-43 cm, 80-90 cm a Section 1 there are sub-vertical I Minor lithology: In Section 1, 5-1 STONE, overlain by a 5-cm thick	ANNOFOSSIL-RICH CLAYSTONE, slightly burrowed in and 108-113 cm, and heavily burrowed from 93-110 cm. fractures at 26-28 cm, and a microfault at 113-117 cm (0 cm, there is a brownish black (5YR 2/1) VITRIC SAND k NANNOFOSSIL-RICH VITRIC SILTY CLAYSTONE the mixing by burrowers of part of the sandstone with the vitractured.
Ĭ	F/M	A/M	RIP											Sand	5 10 85 2 80 2 Tr 5

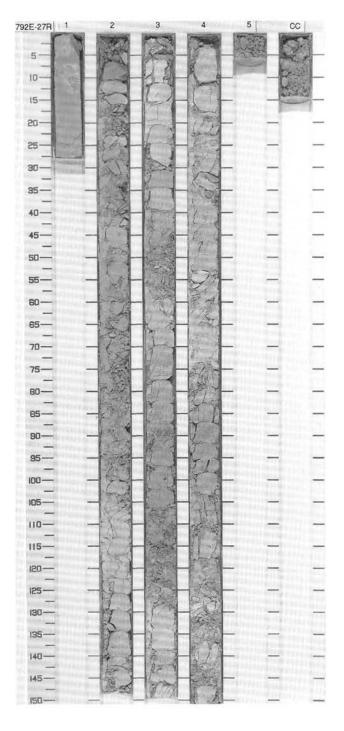
TINO		STR			89	831					JRB.	83		
TIME-ROCK U	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
ER MIOCENE		CN1c A/M			Z	-60	15.83 • %CaC03	1 2 55	0.5		XXXXXXXXX	X		NANNOFOSSIL-RICH CLAYSTONE Major lithology: 86% of the core is dark gray (5GY 4/1), dark green (5GY4/3), olive black (5Y 2/1) and light greenish gray (5GY 7/1) NANNOFOSSIL-RICH CLAYSTON subvertical fractures occur in a rotated drilling biscult in Section 1, 143-150 cm. Minor lithology: Five layers of olive black (5Y 2/1) CRYSTAL-VITRIC SANDY SILTSTONS 3-13 cm thick, constitute 19% of the core. One layer, in Section 1, 25-28 cm, is planar-laminated. The core consists of drilling breccia. SMEAR SLIDE SUMMARY (%):
LOW	В	C/M	R/P											1, 25 M TEXTURE: Sand 25 Siit 75 COMPOSITION: Accessory minerals 2 Cement Tr Feldspar 5 Glass 93 Lithic fragments Tr

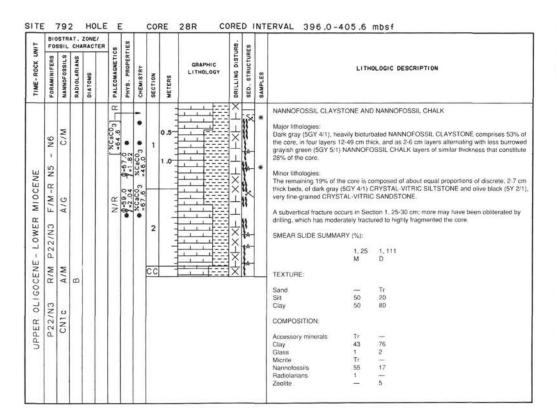


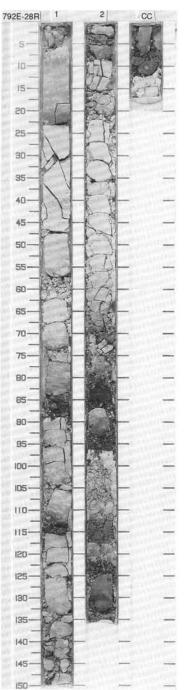
UNIT				RACT	80	831					JRB.	ES		
TIME-ROCK U	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	WETERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
LOWER MIDCENE	NS - N6	CN1c A/G			α	•	*CaCO3 • %CaCO3•	1	0.5		TXXXXXXX	1 1	*	NANNOFOSSIL-RICH CLAYSTONE Major lithology: The uppermost 93% of the core is grayish green (5GY 5/1) and dark gray (5GY 4/1) NANNOFOSSIL-RICH CLAYSTONE. The only visible structure is a water-escape feature in Section 1. 5 cm. Minor lithology: The lowermost 7% of the core consists of a 4 cm-thick layer of light gray (5Y 7/1) NANNOFOSSIL CLAYSTONE in the CC. Portions of the core have been moderately or highly fractured; the rest is drilling breccia. SMEAR SLIDE SUMMARY (%): CC. 6
	R/M	A/G	R/P											TEXTURE: Sand 2 Silt 20 Clay 78 COMPOSITION: Accessory minerals 1 Clay 52 Feldspar 1 Glass 5 Micrite Tr Nannofossis 40 Soicules 1

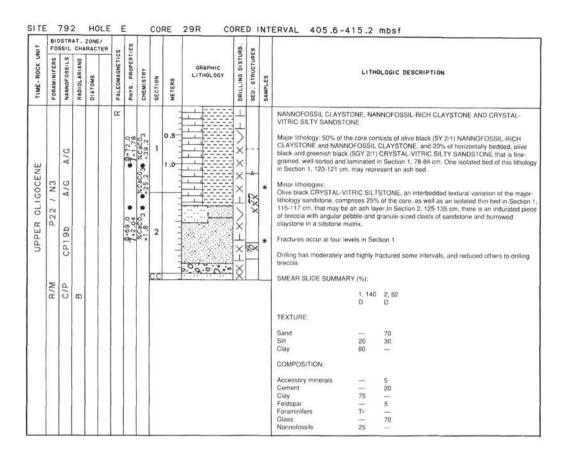


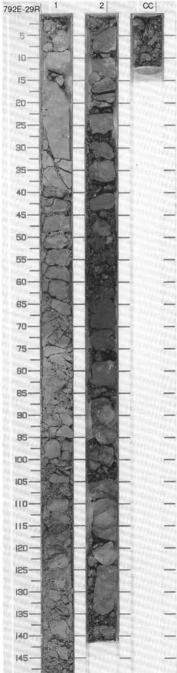
5	FOS			CONE/ RACTE	0	ES					JRB.	83						
I ME- NOCK	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES		LITHO	DLOGIC D	ESCRIP	TION
٦	П		П		œ			П		1 1 222	\mp	X	*	NANNOFOSSIL CHALK	and NANN	OFOSSIL	CLAYS	TONE
							%CaC03	"	0.5				og IW	gray (5Y 7/1), heavily bio CLAYSTONE. Burrows o 2 and 4; there may have	turbated N t Zoophyco been othe disturband	ANNOFO os occur. rs, becau	SSIL CH Subvertions se much	7/2), white (5Y 8/1), and light IALK and NANNOFOSSIL all fractures occur in Sections 1 of the core has been reduced s ranges from moderately to
1		0			A.	0.8	603	Н	_		×	w			1, 12	3, 10	3.90	5. 2
		CN1			Z	9-68	● %CaC03 ■ 59.63			1 1	×	1		TEXTURE:	D	D	М	D
								2		7 7 3	×	1	Ш	Sand	-	74.5	20	_
								0.72		++++	0		1 1	Silt	60 40	60 40	50	Tr
									-	1 1 2 2	Ž.	11		COMPOSITION:	40	40	30	100
					Z			Ш	_		T	11		Accessory minerals	_	2	Tr	Tr
	ш	A/M			m		1			1 1 1	1		*	Clay	37	34	20	40
	Ш	A						ш			1		1 1	Feldspar Foraminifers	1	Tr	1	1
	1					1			2.0	1 1 1	1			Glass	Tr	1	62	1
								3			X			Lithic fragments	_	-	1	<u></u>
							1			1 1 1	1	11	*	Micrite	Tr	-	-	1
						1			1 0 2	1	1	11	*	Nannofossils	60	65	12	55
										1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	14	"		Opaques Pellets	500	-	3	=
				ш							1^	1		Silicoflagellates	_		-	Tr
											X			Spicules	1	_	-	2
		C/M				1	Si		- 3		1	1	ш					
		O					33		1		1							
				1 1		0	3,		- 2		1							
					- 1	26.0	ac .	4	1		1	1	ш					
					1	6	●%CaCO3=33	1	1		1	1						
									1 2		1							
							1		3	-	1	×						
										1	1	18						
		A/G	R/P						3	1	1X	X	*					

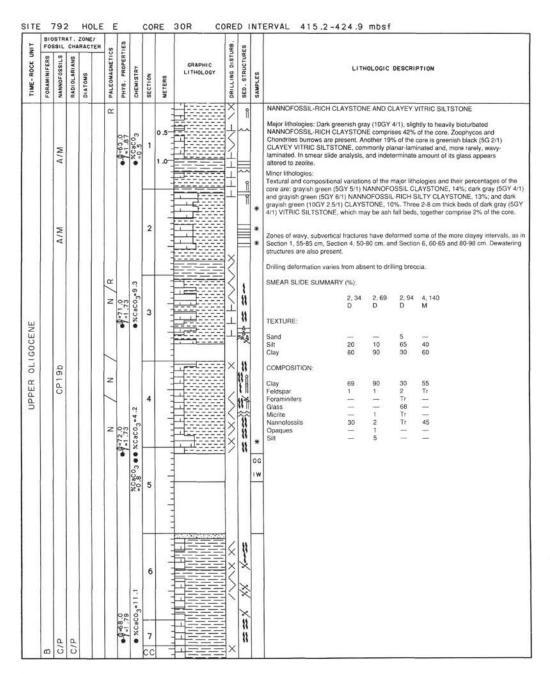


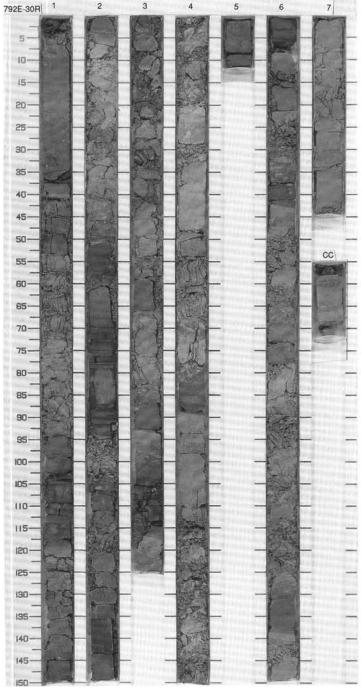


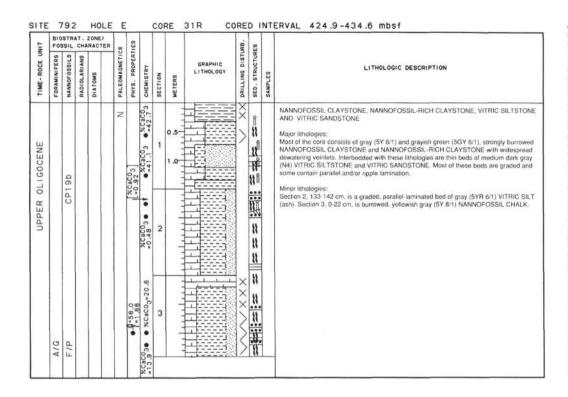


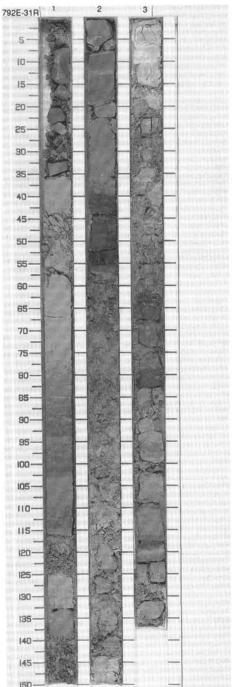


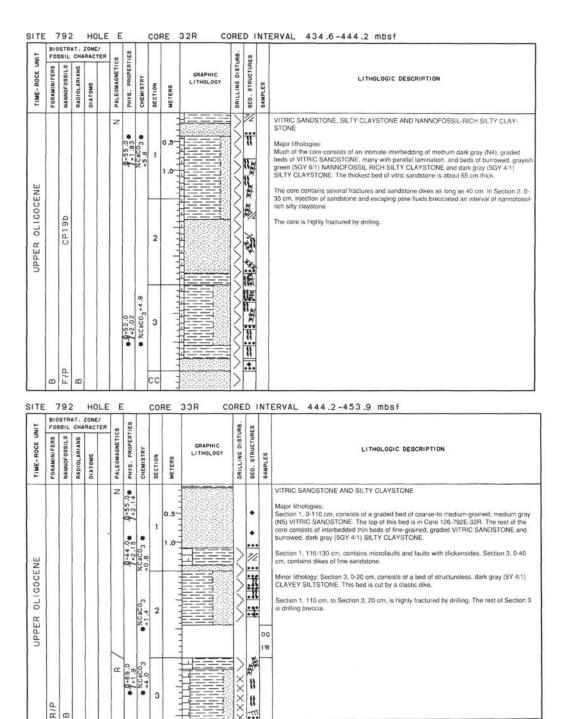


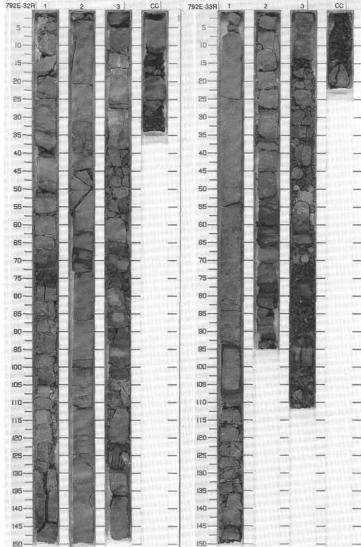










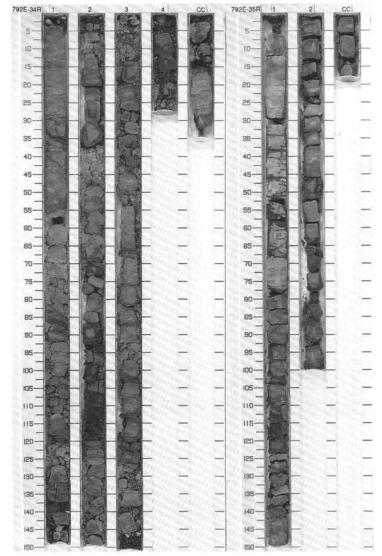


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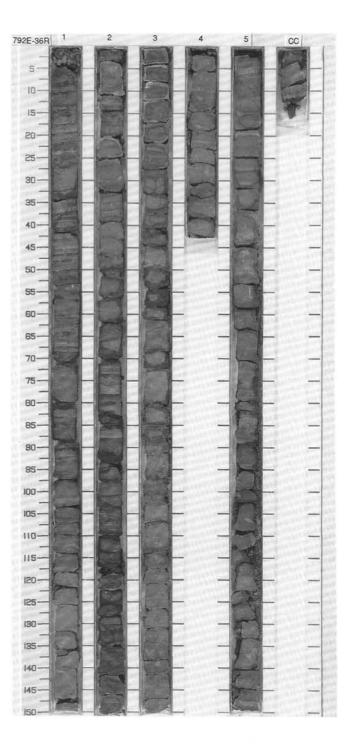
UNIT	FOS	SIL	CHA	RACTE	 S	TIES					URB.	SES			
TIME-ROCK L	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION		APHIC HOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITH	DLOGIC DESCRIPTION
					2	1.78	• %CaCO ₃	1	0.5		X	** ** **		RICH CLAYSTONE Major lithologies: Most of the core consists of interbee SILTSTONE and greenish black (54 About 10% of the core consists of b CLAYSTONE, Zoophycos burrows	STONE, VITRIC SANDSTONE AND NANNOFOSSIL dded thin beds of dark gray (5Y 4/1) CLAYEY 3Y 2/1) VITRIC SILTSTONE and VITRIC SANDSTON urrowed, dark gray (5GY 4/1), NANNOFOSSIL-RICH are common. claystone is injected by sandstone dikes.
PER OLIGOCENE		CP19b			N N N W	9.1-8.0	●%CaC03 =8.8	2			/ × × ×	11 11 11	*	Bedding in Section 1 dips at about 5 Minor lithologies: Section 1, 122-128 cm, is NANNOF NANNOFOSSIL SILTSTONE. Most of the core is either highly frac SMEAR SLIDE SUMMARY (%): 2, 40	OSSIL SILTY CLAYSTONE, Section 2, 37-50 cm, is
UPI					2 22 4	9.08.0	• %CaCO3	3			×	11 11		Z. 40 M TEXTURE: Sand — Silt 60 Clay 40 COMPOSITION:	90 10
		9/0	R/P					4			×	Į.	*	Accessory minerals 6 Feldspar	Tr Tr 95 —

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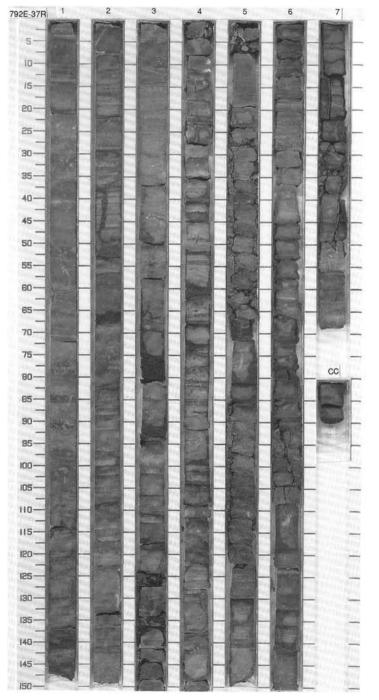
UNIT				CONE/	R	60	ES					88.	55		
TIME-ROCK UN	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS		PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
UPPER OLIGOCENE		CP19b					•	• %CaCO ₃ • %CaCO ₃	1	1.0		>>>>>>	母 ** 母 题 母 ****		CLAYSTONE AND VITRIC SANDSTONE Major lithologies. Overall there are roughly equal amounts of burrowed, dark gray (5GY 4/1) CLAYSTONE and beds of graded, dark gray (N3) and medium dark gray (N4) VITRIC SANDSTONE, some with parallel lamination. The carbonate content of the claystone is just below the lim necessary for designation as a nannofessit-rich lithology. All of Section 1, and Section 2, 0-20 cm, contain a zone of sandstone injection as a long vertical dike, Locally, beds are offset on opposite sides of the dike due to bedding-parallel injection. The core is highly fractured by drilling.
		9/0	R/P						2 CC	1		>	**		4

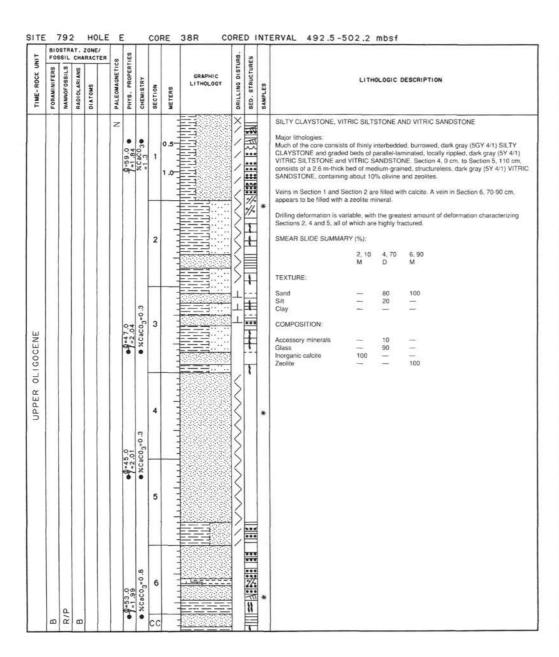


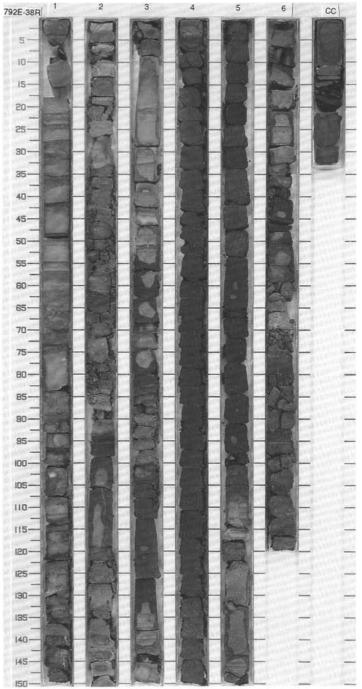
TINO	FO	SSIL	CHARACTE	S)I	RTIES				TURB.	JRES		
TIME-ROCK	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
UPPER OLIGOCENE		CP19b		Z	9-69.0 9-173	• %CaCo3 • %CaCo3=14.6 • %CaCo3=5.2 • %CaCo3	2	0.5		1 1 1 1	*	NANNOFOSSIL-RICH SILTY CLAYSTONE, VITRIC SILTSTONE AND VITRIC SANDSTONE Major lithologies: The core consists of a rhythmic interbedding of very thin to thin beds of moderately burrowed, dark gray (SGY 4/1) NANNOFOSSIL-RICH SILTY CLAYSTONE, and graded, parallel laminated, locally rippled, beds of dark gray (SGY 4/1) UTRIC SILTSTONE and vitric sandstone. The maximum grain size in all these beds is medium sand. Minor lithology: Section 1, 117-150 cm. consists of burrowed NANNOFOSSIL-RICH SIL CLAYSTONE. Sections 1 through 4 are moderately fractured by drilling SMEAR SLIDE SUMMARY (%): 1, 144 3, 100 M D TEXTURE: Silt 40 30 Clay 60 70 COMPOSITION: Clay 20 5 Feldspar 5 Glass 30 75 Micrite 10 — Nannofossils 40 10
		A/M			9-65.0	• %CaCO3=6.3	5			1 1	•	

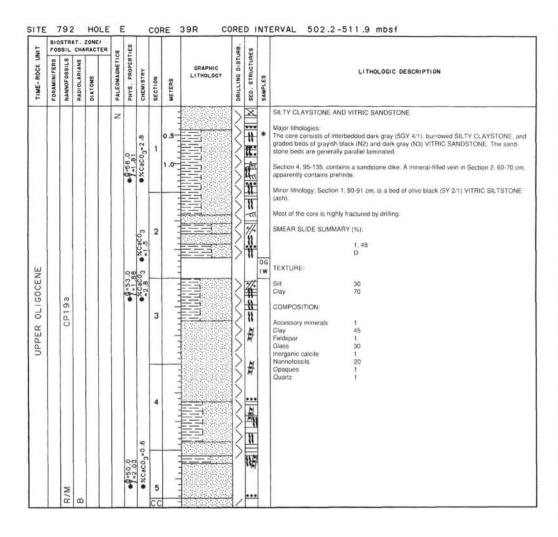


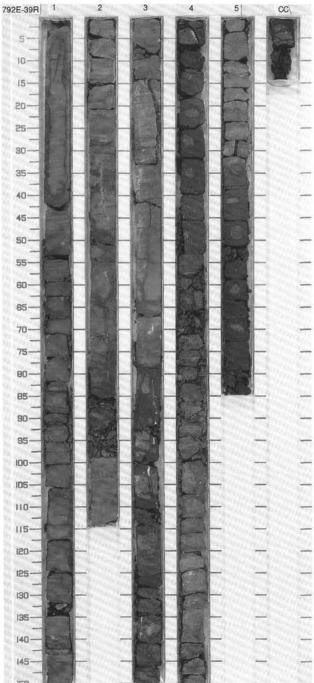
TINO	FO	STR	AT. CHA	ZONE/ RACTER	on	.ES							ERVAL 482.8-492.5 mbsf
TIME-ROCK U	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	GRAPHIC LITHOLOG	Y	DRILLING DISTURB	SAMPLES	LITHOLOGIC DESCRIPTION
					Z	9-62.0	*Caco3 **Caco3		0.5			*	NANNOFOSSIL-RICH SILTY CLAYSTONE AND VITRIC SANDSTONE Major lithologies: This core is characterized by an interbedding of burrowed, grayish green (5GY 6/1) NAN- NOFOSSIL-RICH SILTY CLAYSTONE and thin to medium graded beds of greenish black 15GY 2/1) VITRIC SANDSTONE. Sandstone beds contain parallel and local ripple lamina tion. Bedding dips at 5° In Section 6, 110-120 cm, there is a sandstone dike. Section 7, 20-40 cm, contains a mineral-filled vein. The filling is gypsum.
							3.9	2			#		Minor lithologies. Section 1, 140-142 cm, is a bed of grayish black (N2) VITRIC SILTY CLAYSTONE (ash). Section 3, 50-51 cm, Section 5, 88-97 cm and 123-124 cm are olive black (5Y 2/1) VITRIC SILTSTONE (ash). Section 1 is slightly fractured and Section 2 is moderately fractured by drilling. The rest of the core is highly fractured. SMEAR SLIDE SUMMARY (%):
OLIGOCENE		а				9-64.0	● %CaCO ₃ =13.	3					1,73 1,140 D M TEXTURE: Sill 40 40 Clay 60 60 COMPOSITION: Clay 20 —
UPPER ULI		CP19				1.86		4				K 1 11./	Feldspar — Tr Glass 45 90 Micrite 10 — Nannotossils 25 5 Quartz — 5
						•	• %CaCO ₃ =5.4	5					
							• %CaCO3=1.1	6					
	В	5/2	R/P					7			の対象は		

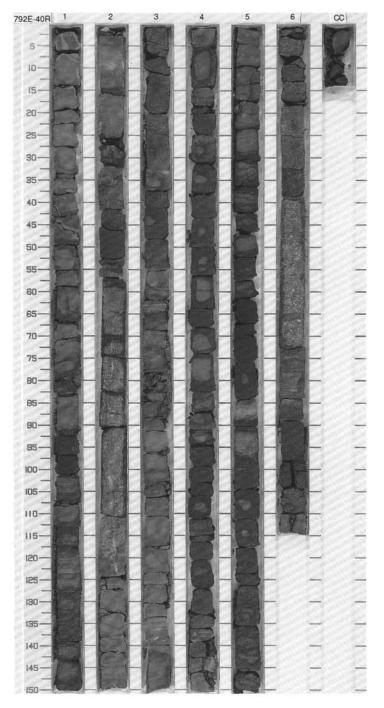




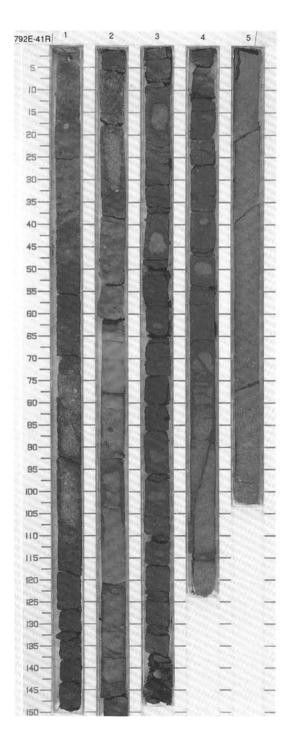




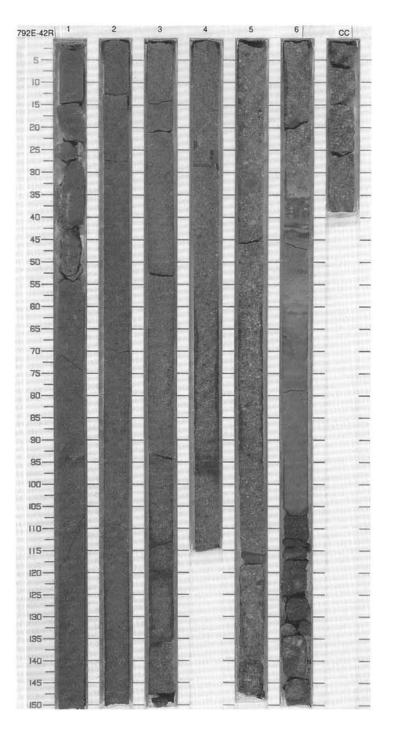


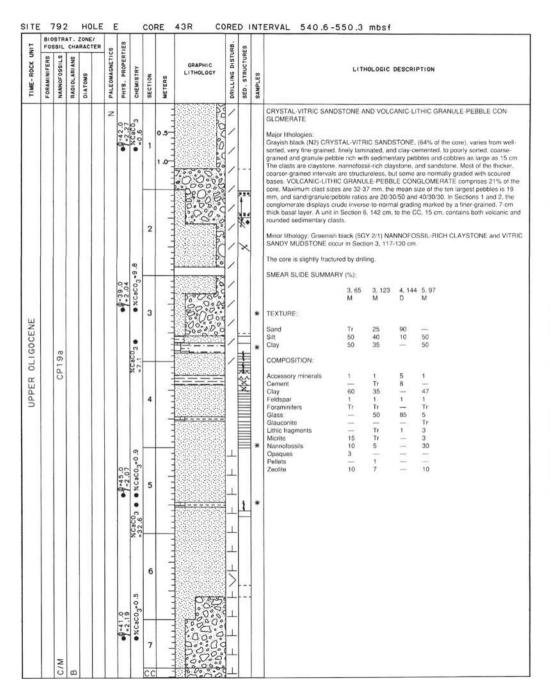


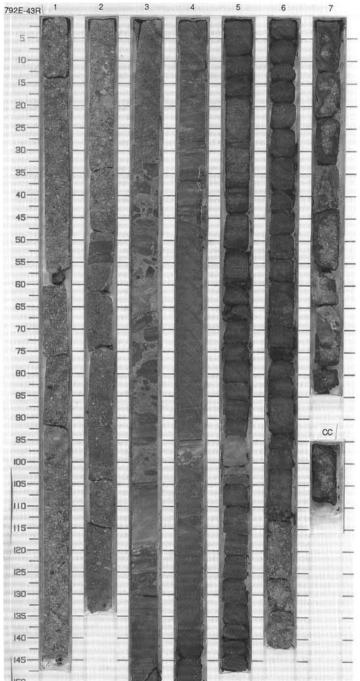
				ZONE/ RACTE	R	99	3				.BB.	ES		
I ME- KOCK O	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS		PALEOMAGNETICS	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
NE.						Z 0.44.0	%CaCO3	1	0.5			•	##	CRYSTAL-VITRIC SANDSTONE Major lithology: Most of the core (87%) is black (N1), grayish black (N2), and dark gray CRYSTAL-VITRIC SANDSTONE. Most of the sandstone is well-sorted, but various int are coarse grained and granule-rich (Section 1, 0-4 cm and 117-150 cm) or granule-by (Section 4), medium to coarse or very coarse grained (Sections 3 and 4, respectively), very time grained and silty to medium grained (Section 1, 61-150 cm). Minor lithology: Most of the remaining material in the core is a grayish black (N2) VOL-CANIC SANDY GRANULE-PEBBLE CONGLOMERATE with rounded to angular, varies.
OFFER OLISOCENE		CP19a				0.09-0	%CaCO3. %CaCO3.			Section 1		***	#	altered volcanic rock clasts. The clasts are colored light greenish gray ISG 8/1), black medium gray (N5), and light gray. In Section 1, 3-117 cm, the sand/granule/pebble rat 40/40/20, the maximum clast size is 16 mm, and the mean size of the 10 largest clasts mm. In Section 2, 4-33 cm, the sand/granule/pebble ratio is 30/40/30, and maximum c size is 11 mm. Drilling has moderately fractured the core in Section 3 and the top of Section 4. SMEAR SLIDE & THIN SECTION SUMMARY (%):
0							9.0*					**	*	1, 109 1, 129 2, 24 2, 62 2, 147 M M M M D TEXTURE:
						0.05.0	7=2.03	3			1			Sand 100 98 100 — 80 Slit — 2 — 20 20 Clay — — 80 —
											1			COMPOSITION: Accessory minerals 10 10 5 — 5
								r			1			Cement 35 40 45 — — — 78 10 Feldspar 15 10 15 3 5 Foraminiters — — Tr —
								4			1			Lithic fragments
	В	R/M	В			0.65	7*2.2							Rock fragment 5 10 15 — Zeolite — 15 1

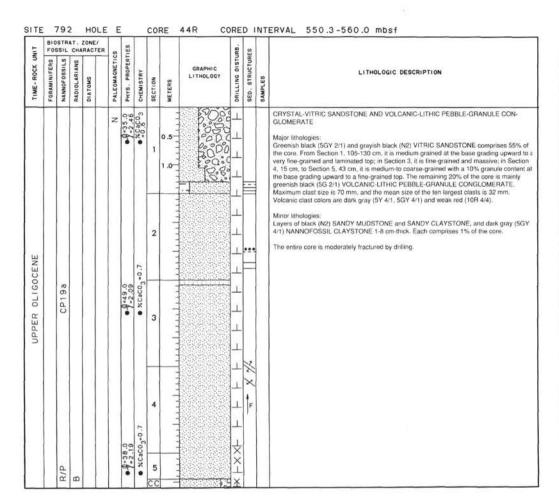


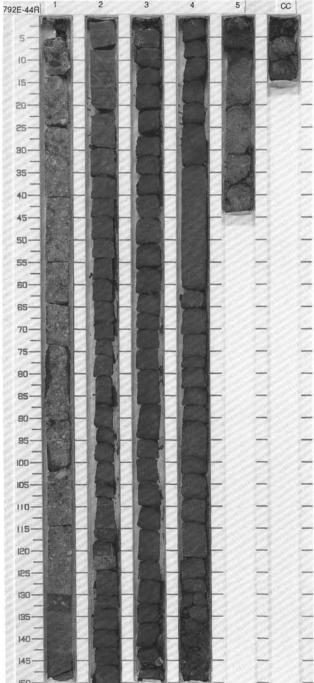
-				ZONE/	R	ço		T						ERVAL 531.2-540.6 mbsf
TIME-ROCK UNIT	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	ON COMPONENCE	PHYS. PROPERTIES	CHEMICTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
					N	0.45.0	0	1	0.5		> +++	×	*	CRYSTAL-VITRIC SANDSTONE AND VOLCANIC-LITHIC GRANULE CONGLOMERATE Major lithologies: The entire core is grayish black (N2) and greenish black (5G 2/1), except for the minor lithology. Section 1, 0 cm, to Section 6, 107 cm, is CRYSTAL-VITRIC SANDSTONG comprising 72% of the core, it is generally well-sorted and ranges in grain size from granule-bearing sand to very fine-grained, taintly laminated sand. Most of the rest of the core (27%) is well-indurated VOLCANIC-LITHIC GRANULE CONGLOMERATE with sand granule/pebble ratios varying from 40/40/20 to 35/60/5. The maximum clast size is 34 mm and the mean size of the ten largest clasts is 21 mm. Most of the clasts are andestific, but claystone rip-up clasts are located in Section 4, 23-28 cm, and Section 6, 134 cm.
								2	100		///			Minor lithology: Section 6, 35-43 cm, is greenish black (5GY 2/1), slightly bioturbated NANNOFOSSIL-RICH CLAYSTONE. There are three fractures in Section 1. Drilling disturbance varies from moderately and
									2.10000		11			slightly fractured to undisturbed, SMEAR SLIDE & THIN SECTION SUMMARY (%): 1, 1 5, 93 5, 116 6, 37
CENE							10		1		111			D D D M TEXTURE:
OLIGOCENE		CP19a				9-46.0	• XCaCO.=0	3	3.55		111			Sand 70 100 100 Tr Sitt 30 — 60 Clay — 40 COMPOSITION:
UPPER						•		-	-		11	٥		Accessory minerals 10 5 5 — Cement — 40 18 — Clay — 53
							9.0=0		l second		////	٠		Feldspar 1 10 9 3 Glass 73 40 41 30 Lithe tragments 1 — — 10 Micrite — — — 10 Nannolossils — — 3 3 Rock fragment — 5 27 — Zeolite 10 — 1 1
							• %CaCO. = 0	-		2 1 1 2 CO	1.		OG IW	Zeolite 10 — 1
						0-41.0	• %CaCO.=0.8	, 5	and the second second		////////		##	
								6				>:	*	
												•		
								7		5000000				
		R/P	8			1.1		cc						

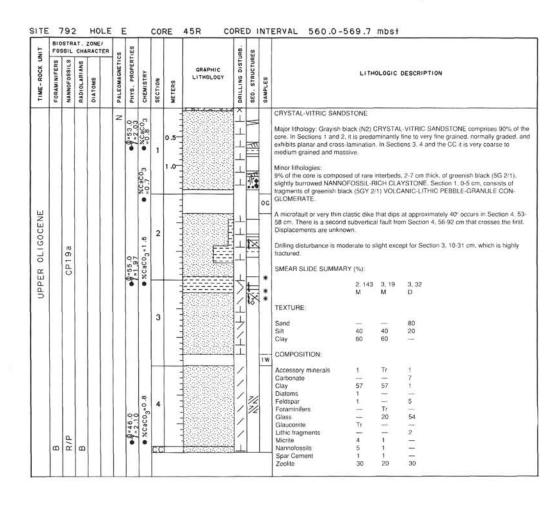


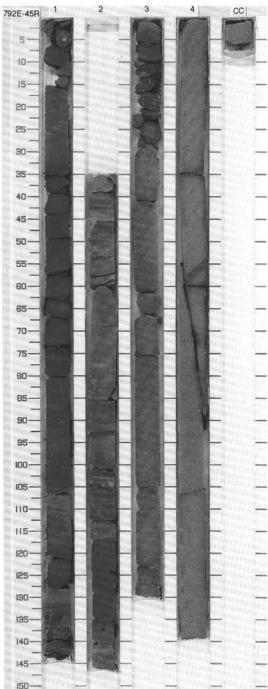


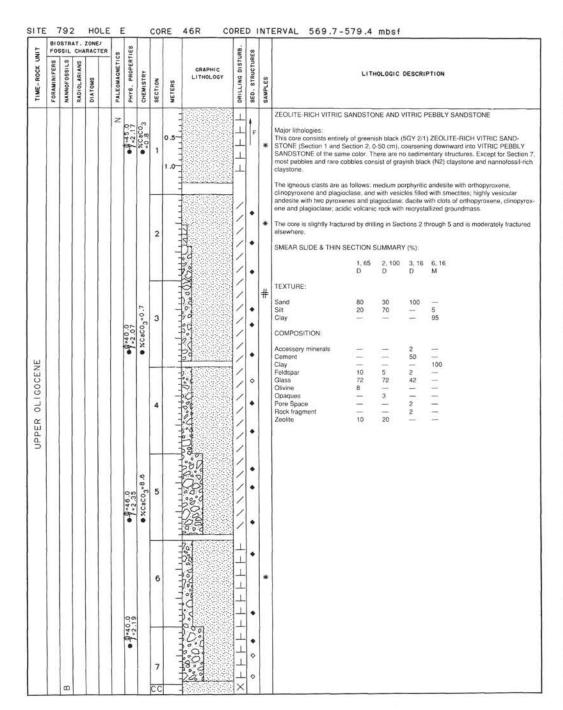


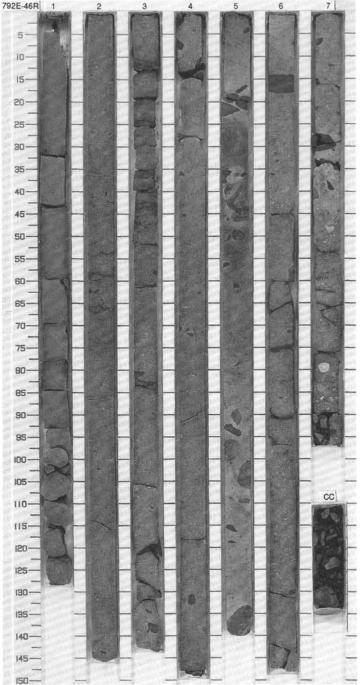




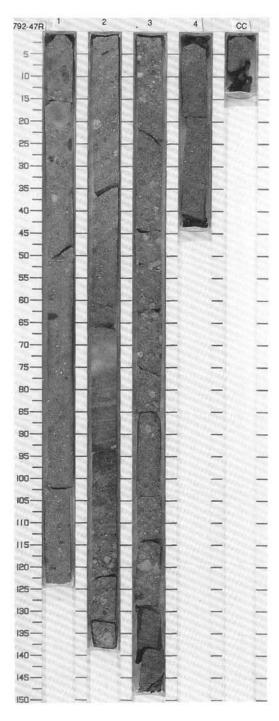


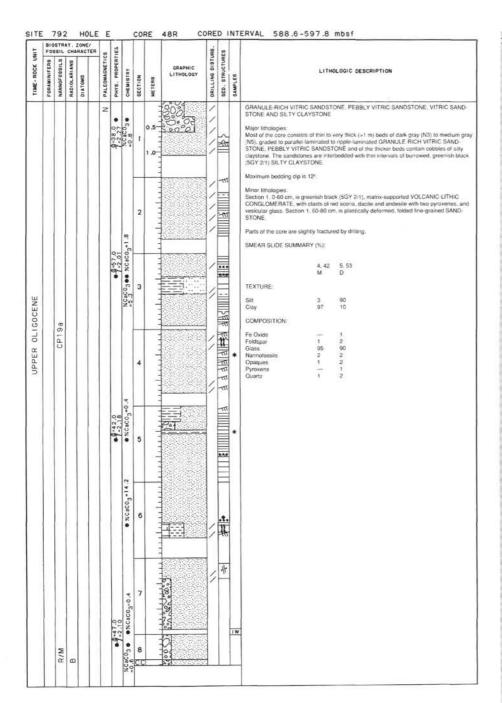


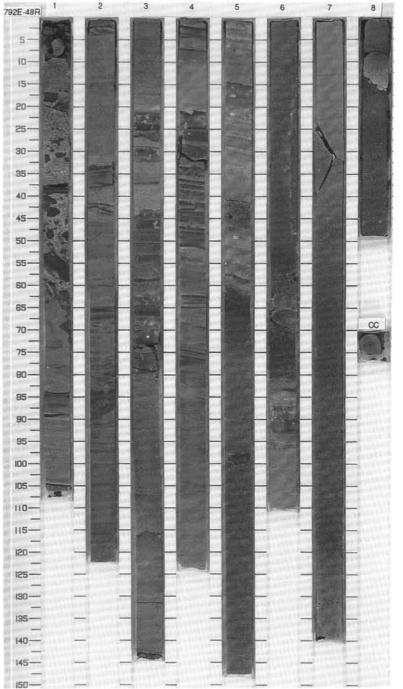




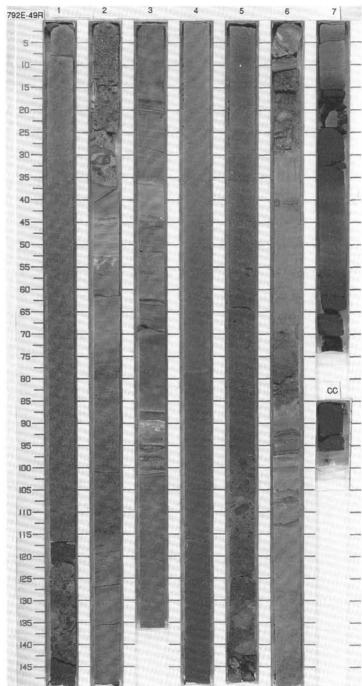
UNIT				ZONE/	R W	,	ES					RB.	8		
TIME-ROCK UN	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	DALEDMAGNETICS		PHYS. PROPERTIES	CHEMISTRY	SECTION	NETERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
					c		7-2.31	• %CaCO3=1.1	1	0.5	2000 000 000 000 000 000 000 000 000 00	////	•		VOLCANIC-LITHIC CONGLOMERATE AND GRANULE-RICH VITRIC SANDSTONE Major lithologies: Most of the core consists of dark gray (N3). matrix supported, generally structureless VOLCANIC-LITHIC CONGLOMERATE. This lithology contains approximately 20% peoble 40% granules, and 40% sand. Finer grained parts of the core consist of GRANULE-RICH VITRIC SANDSTONE, some of which is parallel laminated. Color is the same throughout. Bedding dips at 10%. Igneous clasts include the following; highly vesicular medium porphyritic dacite and two
UPPER OLIGOCENE		CP19a						3.0.8	2	The standard standard					pyroxene andesite; red scoria; black obsidian; and welded fulf. The core is slightly fractured in Sections 1 and 4 and moderately fractured in Section 3.
						O 85-W	7-2.29	• %CaCO3-0	3	erriterriterri	2000 000 000 000 000 000 000 000 000 00	1			
		R/M	8						4	7		11			

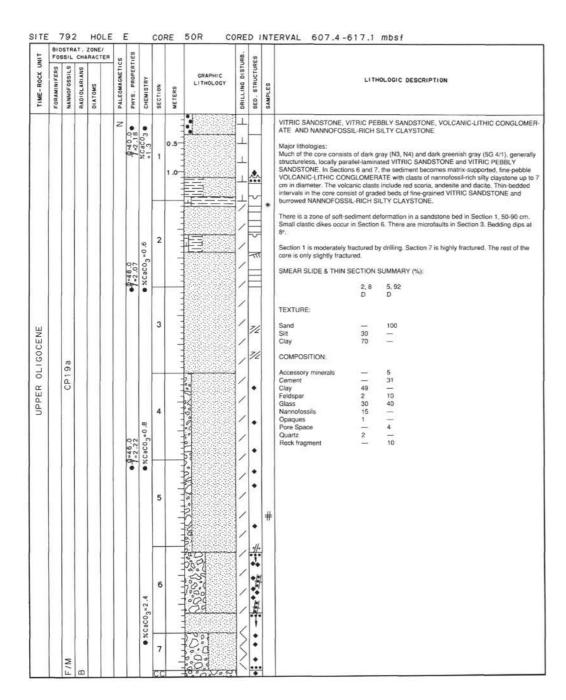


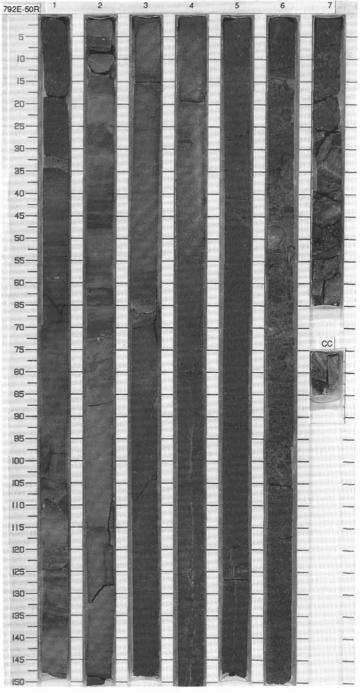


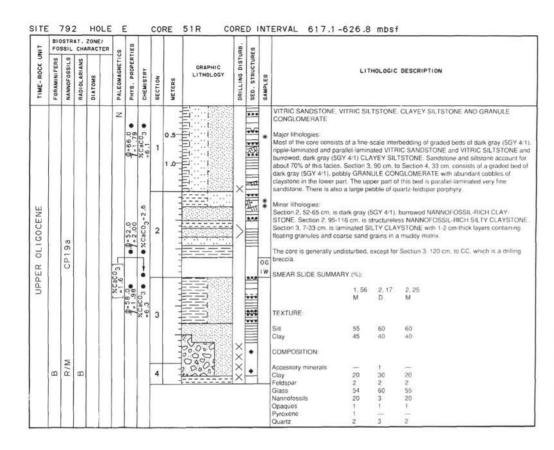


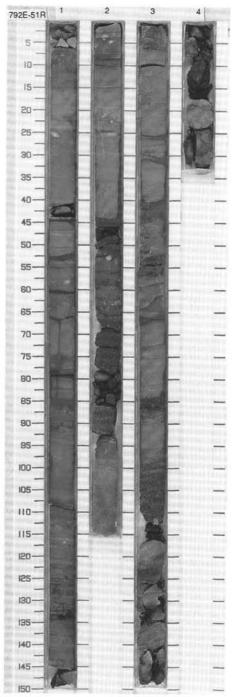
TINO		STR			s	1ES					RB.	ES.		
TIME-ROCK UP	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
						9=51.0 9=46.0		1	0.5			F		VITRIC SANDSTONE. VOLCANIC-LITHIC GRANULE CONGLOMERATE AND CLAY- STONE Major lithologies: Most of the core consists of various size grades and bed thicknesses of dark greenish gra (5G 41) and dark gray (5GY 41) VITRIC SANDSTONE. The thickest beds (1.3 m thick) a coarse and very coarse to medium grained, and may be structureless or parallel laminate there may be thin rippled divisions at the top of the bed. Thin to medium sandstone beds are graded and are characterized by parallel-laminated and rippled divisions (Bourne b an c divisions). These are interbedded with thin beds of dark greenish gray (5G 41) CLAY- STONE. Two of the thicker beds have a basal division of VOLCANIC-LITHIC GRANULE CONGLOMERATE with floating large pebbles of claystone and nannofossi-frich daystone
						6.		2				I F	*	Beds dip at 10° Volcanic clasts in the conglomerates include medium porphyritic andesite and red scoria. Minor lithologies: Section 2, 53-55 cm, is burrowed CARBONATE-RICH CLAYEY SILTSTONE, Section 3, 8 g cm, is a dark gray (N3) bed of VITRIC SILTY CLAYSTONE (ash).
CENE						9.58.0	● %CaCO3 #3.9	3					**	SMEAR SLIDE SUMMARY (%): 2, 39 2, 53 3, 88 3, 91 7, 23 M D D M D TEXTURE: Sand — — — — 30 Silt 5 10 13 65 60 Clay 95 90 87 35 10 COMPOSITION:
UPPER OLIGOCENE		CP19a						4						Clay 86 87 87 30 10 Feidspar 1 1 1 3 2 Glass 5 - 5 62 84 Inorganic calcite - 5 Nannofossils 5 5 5 Opaques 1 1 1 1 2 Pyroxene 1 - 1 1 2 Ouartz 1 1 1 3 2
						7 9 46.0		5				•		
						0.55.0		6				43 KF		
		R/M	8					7			\ \ \	F	*	









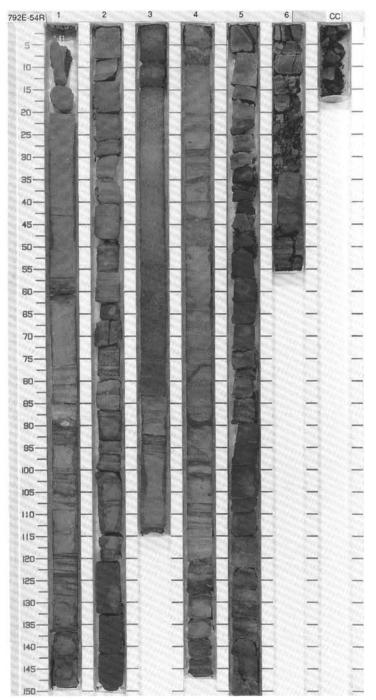


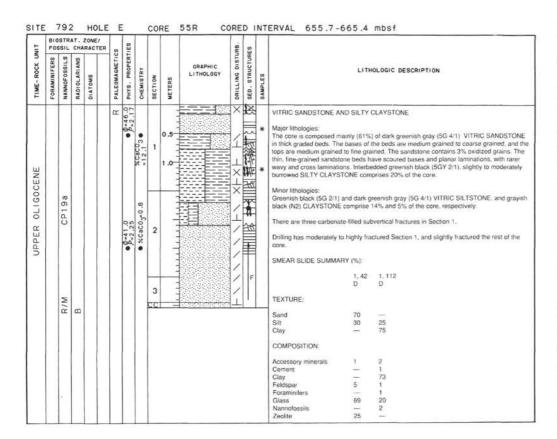
536.4 mbsf	792E-52R 1	2	3	4	5	6
LITHOLOGIC DESCRIPTION	5-					
LAYSTONE, NANNOFOSSIL CLAYSTONE AND VITRIC	15—				100	
(7), intensely to slightly bioturbated NANNOFOSSIL SILTY DFOSSIL CLAYSTONE comprise 43% of the core. Most of the fark gray (5GY 4/1), dusky green (5G 3/2), and olive black (5Y 2/1) STONE, typically fine grained to very fine grained and planar s-taminations, normal grading, and basal load casts.	20—	581				
11) SILTY CLAYSTONE and olive black (5Y 2/1) SANDY tal lithologies that comprise 11% and 10% of the core, respection, is a concentration of detrital plant matter.	35— 40—					
fractured by drilling,	45—					
Y (%): 1, 92 2, 103 5, 103 6, 33	50—	man				
M M M D	55—					E CONTRACTOR
5 50 40 75 35 30 20 25 60 20 40 —	60—	- 6				
	65—					_
1 — 2 5 — 2 — 1 53 20 — 1 1 5 3 3	70—					-
Tr — — — 5 57 22 61	75—					-
- Tr	80—					-
Tr 1 — — 10 10 3 30	85—					
	90—					-
	95—					-
1	100—					-
	105—					-
	110—	- 100		55 S		-
	115—			The second		-
	120-					
OVERY	125—					-
	130-			55.31		
	135—		THE SECOND			
	140-			W.	1	-
	145—				No -	
	Tatalogian			H-1		

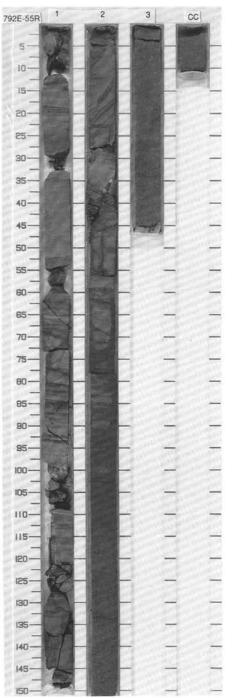
TINO	FOS	STR			SO	TIES					URB.	RES		
TIME-ROCK U	FORAMINIFERS	NAMNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
					œ		%CaCO3 € %CaCO3 € 42.5 3 € 16.0		0.5		/////////	2 2 22 22 22 22	*	NANNOFOSSIL SILTY CLAYSTONE, NANNOFOSSIL CLAYSTONE AND VITRIC CRYSTAL SANDSTONE Major lithologies: Light greenish gray (5G 7/1), intensely to slightly bioturbated NANNOFOSSIL SILTY CLAYSTONE and NANNOFOSSIL CLAYSTONE comprise 43% of the core. Most of the rest of the core (36%) is dark gray (5GY 4/1), dusky green (5G 3/2), and olive black (5Y 2 VITRIC-CRYSTAL SANDSTONE, typically fine grained to very fine grained and planar laminated, with rarer cross-laminations, normal grading, and basal load casts. Minor lithologies: Dark greenish gray (5G 4/1) SILTY CLAYSTONE and olive black (5Y 2/1) SANDY
						- 50.0	*CaCO3 **	2	1		////		*	SILTSTONE are transitional lithologies that comprise 11% and 10% of the core, respectively. Section 5, 101-105 cm, is a concentration of detrital plant matter. The entire core is slightly fractured by drilling, SMEAR SLIDE SUMMARY (%):
Ē							.0.6 0.0				///	4.		1, 92 2, 103 5, 103 6, 33 M M M D
OL! GOCENE		19a					•	3	-		1111	1		Sand 5 50 40 75 Sit 35 30 20 25 Clay 60 20 40 —
UPPER 0		CP1					3=14.7				111	1 21		Accessory minerals 1 — 2 5 Cement — 2 — 1 Clay 53 20 20 — Feldspar 1 5 3 3
_							●%C3C03=14	4	-		111			Feroispin Fero
							8,0				111	11		Radiolarians Tr 1 — — Zeolite 10 10 3 30
			3				• %CaCO3*0	5			1///	1		
						9-51.0	xcaco3				////	1 1		
	В	5/2	8			•	•	6		4===	1	**	*	

126 792E 53R NO RECOVERY

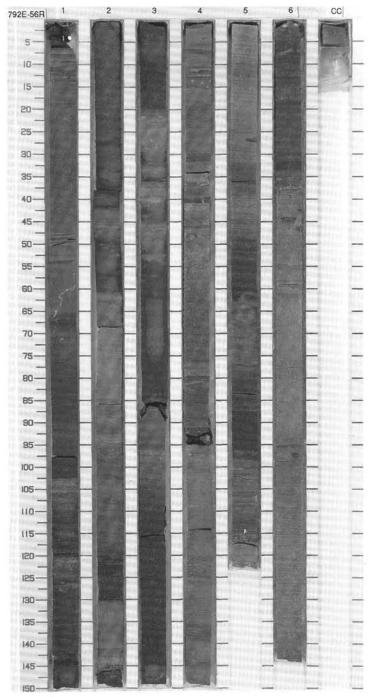
UNIT				ZONE/	9	ES			o m		JRB.	ES		
TIME-ROCK U	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
					α	-0-55.0 -5-5.2		1	0.5		<u> </u>	~ ***	*	VITRIC SANDSTONE Major lithology: Greenish black (5G 2/1, 2/2) and dusky green (5G 3/2) VITRIC SAND- STONE comprises 71% of the core. Most of it is fine grained to very line grained, with common parallel laminations and sharp basal contlacts. Rare features are cross famination fining-upward sequences and scoured bases. The sandstone in Section 3.0.83 cm, is medium grained and massive. The finer layers are capped by dark greenish gray (5G 4/1) CLAYSTONE and CLAYEY SILTSTONE layers, which together comprise 21% of the core Minor lithology: 7% of the core is thin interbeds of light greenish gray (5G 7/1) NANNOFO: SIL-RICH CLAYSTONE.
							-1.4 • KCaCO ₃	2	1		>	**	*	Microfractures are present in Section 4. Drilling disturbance varies from none to highly fractured. SMEAR SLIDE SUMMARY (%): 1, 71 2, 70
OLIGOCENE		a				0.43.0	●%CaCO3=1				3	# # X		D D TEXTURE: Sand 80 15 Silt 20 55 Clay 30
UPPER OLI		CP198					●%CaCO ₃ * 8.9	3				>	OG I W	
								4	1		////14	してくれ		Giass 65 50 Radiolarians Tr — Zeolite 30 20
						0.13=0	•	5			1	1		
	В	F/G	В				• %CaCO3	6			/ ↓×±×			



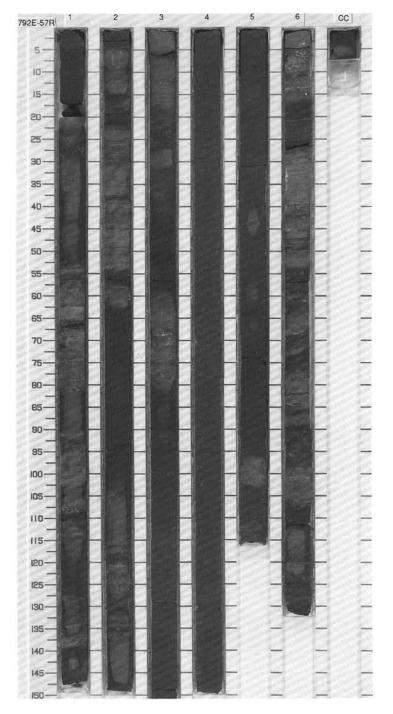




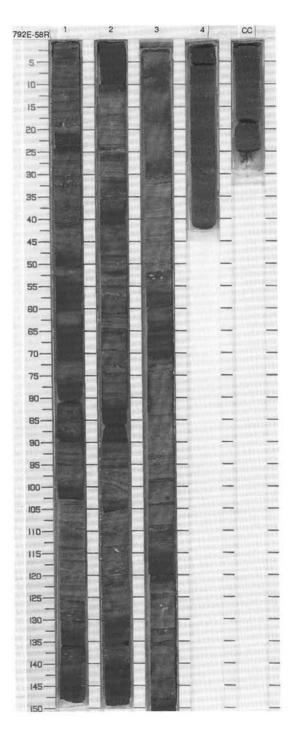
LINIT				ZONE/ RACTE	R on	ES							ERVAL 665.4-					
TIME-ROCK U	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	GRAPHIC LITHOLOG	Y	PRILLING DISTORD	SED, STRUCTURES		LITHO	LOGIC	DESCRIP	TION	
					z			1	0.5-				dark gray (N4) and gray and lesser amounts of a and is commonly paralli- laminae rich in grayish of grains. There is detrital	erbedded things green (50 surrowed SIL all laminated green (5G 5/2 hornblende i	n to thick 3 5/2) VI TY CLA and/or rip 2) granul n the sar	graded TRIC SA YSTONE ople lamines that and distones.	beds of one of the control of the co	yrayish black (N2), medium NE and VITRIC SILTSTON only sandstones contain be intensely aftered pumic
						0.83=65.0	• %CaCO ₃ =2.2	2				# := · · · · · · · · · · · · · · · · · ·	SMEAR SLIDE & THIN TEXTURE: Sand Silt Clay	4, 110 M		S, 65 D — 35 65	5, 94 D	6, 110 D
OLIOGOCENE		19a				9=48.0	• %CaCO ₃ =0.7	3		>	<	;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;	COMPOSITION: Accessory minerals Coment Clay Fe Oxide Felospar Glass Homblende Opaques Quartz	100	5 10 — 20 60 —	35 1 1 60 -	5 40 — 20 30	55 - 1 40 2 1
UPPER OL		CP1				6	• **	4		>	<	# # # # # # # # # # # # # # # # # # #	Rock fragment	-	5		5	-
								5				**						
	8	R/P	8				• %CaCO3-0.4	6	HITTOTAL			*						



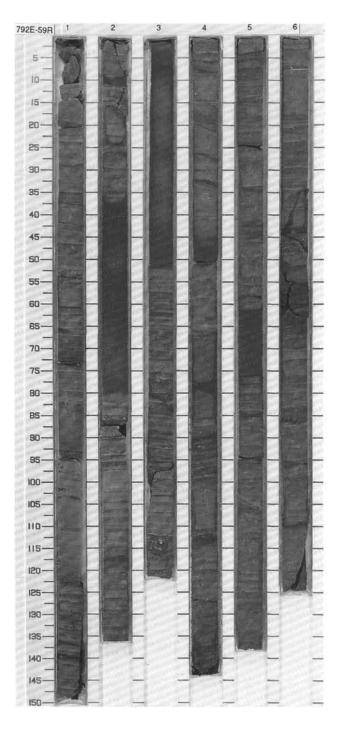
T IN				ZONE/ RACTE	9 00	ES					JRB.	ES		
TIME-ROCK U	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
					z		•XCaC03	1	0.5			\$1 1	*	VITRIC SANDSTONE, VITRIC SILTSTONE AND SILTY CLAYSTONE Major lithologies: This core consists of interbedded thin to thick graded beds of medium dark gray (N4) and dark gray (5GY 4/1) VITRIC SANDSTONE and VITRIC SILTSTONE and lesser amounts burrowed SILTY CLAYSTONE. Chondrites is a common trace fossil. Sandstone forms m of the core and is commonly parallel laminated and/or rypple laminated. The thickest grad sandstone bed begins in Section 3, 95 cm, and extends down to Section 5, 95 cm.
						●Ø=46.0 ▼=2.16	• %CaCO3 =0.5	2				F-1		SMEAR SLIDE SUMMARY (%): 1, 64
SOCENE		/ N3	9a				•	3				: # #:#:F		Clay — 20 Feldspar 15 3 Glass 50 72 Hornblende — 1 Morrite 10 — Nannofossils 20 — Olivine 5 — Opaques — 1 Quartz — 3
0. LEN 0.		P22	CP1					4				E		
							%CaCO ₃	5				2.04	OG I W	
	R/M	A/M	R/P			63.0	%CaC03 -	6				17	*	



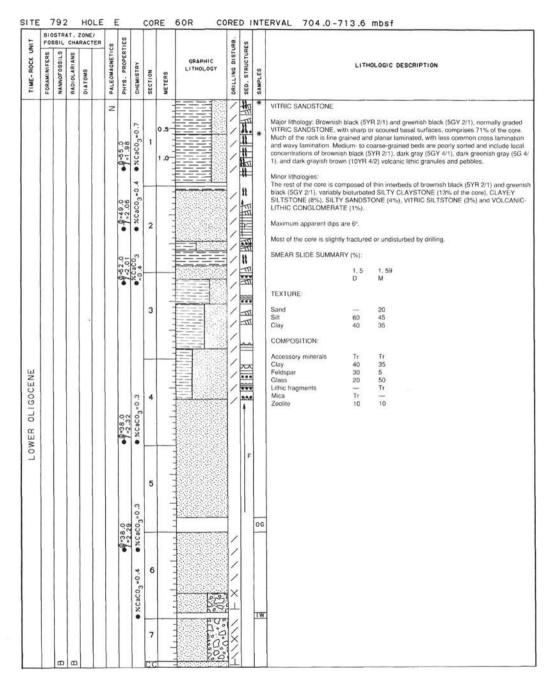
TINO				ONE/	92	ries					JRB.	83							
TIME-ROCK U	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES		LITH	DLOGIC I	DESCRIP	TION	
					Z	0.9=44.0	*Caco3	1	0.5		1	三二年 里 以下	*	VITRIC SANDSTONE, VITI NANNOFOSSIL-RICH SILT Major lithologies: Section 4 and the core cate parallel-laminated VITRIC's graded beds of very dark by VITRIC CLAYEY SILTSTO, NANNOFOSSIL-RICH SILT	ther cons SANDSTO YOUR (10' NE, burns TY CLAY	STONE ist of dark ONE. The YR 2/2) a owed VIT	k gray (Ne rest of t	3), very c he core c gray (5G)	oarse-grained, graded to onsists of thinly interbedde (4/1) VITRIC SANDSTON
OL! GOCENE?						0.62.0	• %CaCO3=2.3	2	111111111111111111111111111111111111111		一////エエエ	- FFF 144 1	*	Maximum apparent dip is 8 The core is slightly to mode SMEAR SLIDE SUMMARY TEXTURE: Sand	rately fra	1, 72 D		2, 106 D	3, 30 D
LOWER O						9.42.0	*CaCO3=0.4	3 4		写 写 记 记	//	# # # # # # # # # # # # # # # # # # # #	*	Sit Clay COMPOSITION: Accessory minerals Clay Feldspar Glass Nannofossils Opaques Oxide Pytoxene Quartz	50 20 13 2 80 2	20 80 2 15 1 -	20 80 	10 90 	40 60 1 60 3 3 3 0 - 1 2 - 3

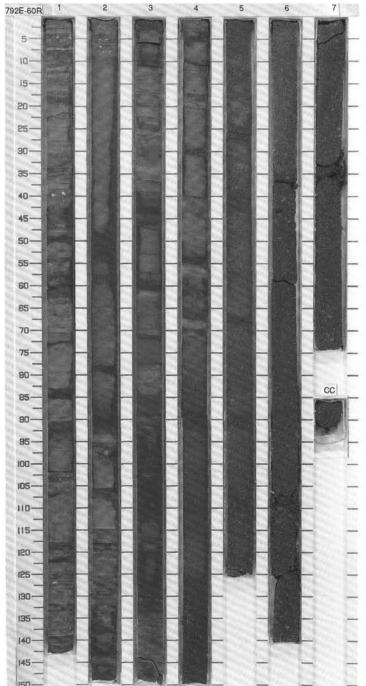


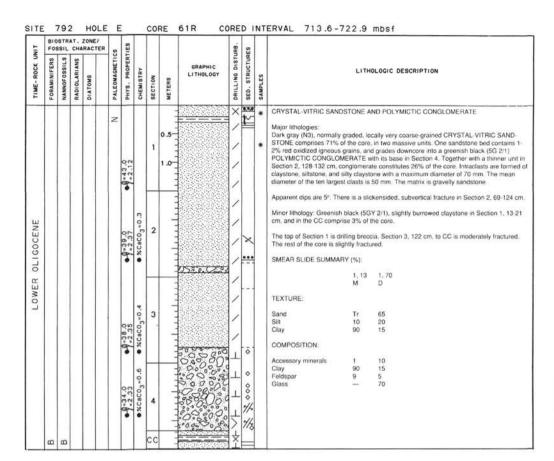
	BIC	STR	AT.	ZONE/	Т	T	Г	CO		59R CC			Г	ERVAL 694.4-704.0 mbsf
TIME-ROCK UNIT	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	SWOLVIG	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
					Z	0.6	CO3-0.4 • XCaCO3-	1	0.5		<u> </u>	**		VITRIC SANDSTONE, VITRIC CLAYEY SILTSTONE AND NANNOFOSSIL-RICH SILTY CLAYSTONE Major lithologies: About 20% of the core consists of thin to medium-graded beds of very dusky red (10R 2/s and dark gray (N3), locally parallel-and ripple-laminated VITRIC SANDSTONE. The rest of the core consists of thinly laminated, dark greenish gray (5G 4/1) VITRIC CLAYEY SILTSTONE and NANNOFOSSIL-RICH SILTY CLAYSTONE with variable amounts of fin scale lamination and burrowing. Section 5, 60 cm, contains bedding-parallel slickensides. Maximum apparent dip is 6°, Minor lithology: Section 1, 37-38 cm, 83-84 cm. Section 2, 24-26 cm, Section 3, 62 cm, at
						4.0	• xcaco3-	2	1		////	***		Section 4, 92 cm, consist of dark greenish gray (5G 4/1) beds of VITRIC SILTSTONE (as Section 1 is moderately to highly fractured by drilling. The rest of the core is either undisturbed or slightly fractured. SMEAR SLIDE SUMMARY (%): 6, 44 M TEXTURE:
ER OLIGOCENE		CP17-18				9=55.0		3			///	**		Sand 80 Silt 20 COMPOSITION: Accessory minerals 5 Feldspar 15 Glass 75
LOWER		CP17				9-51.0	.1 • %C	4	and the second second		////	F F F 22 22		
				0.556.0	•%cac03=6	5				20/22/4 7/2000				
	B R/P		R/P					6	The second second		>	1/2	*	

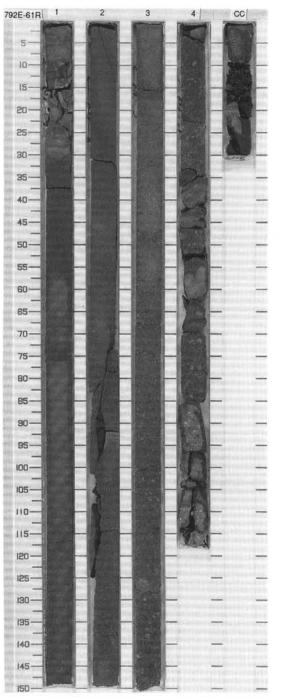


SITE 792

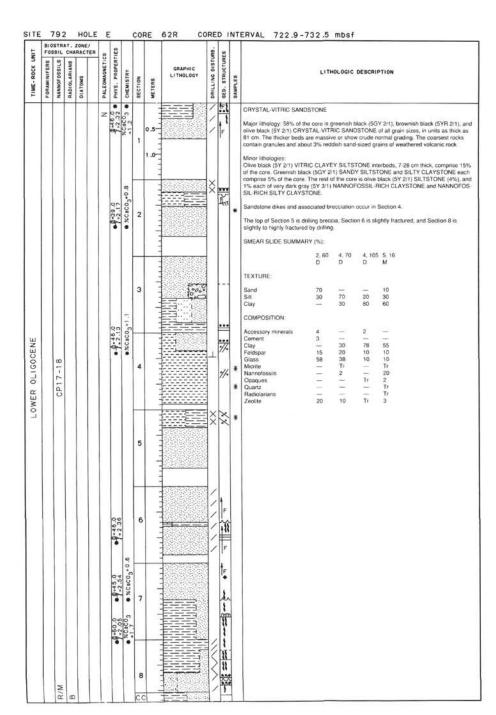


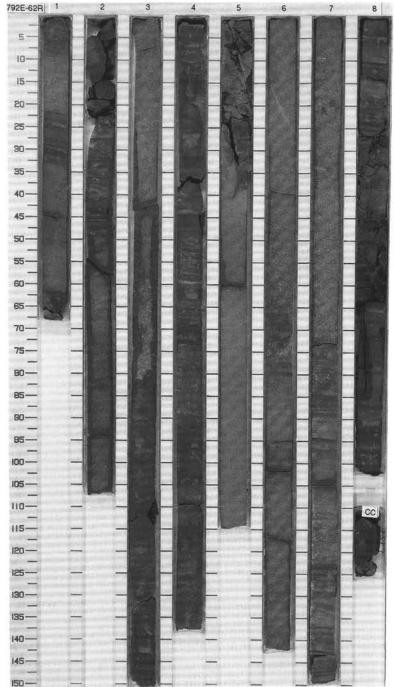


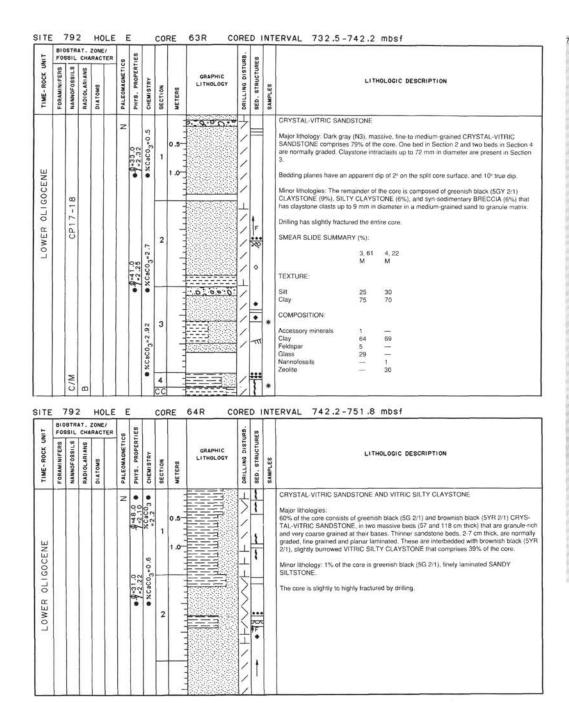


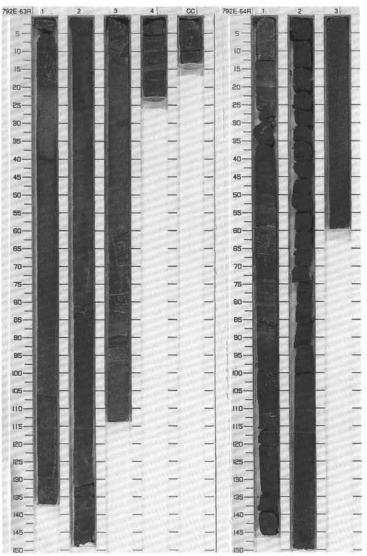


SITE 792

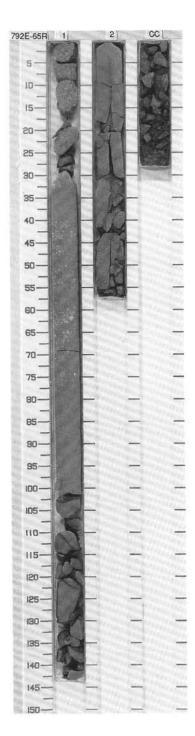




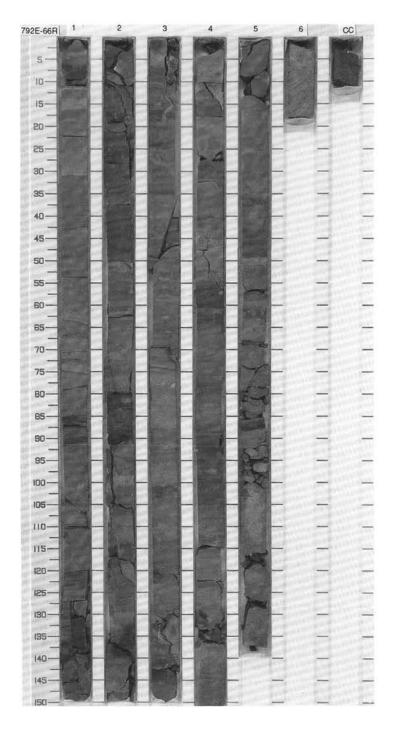




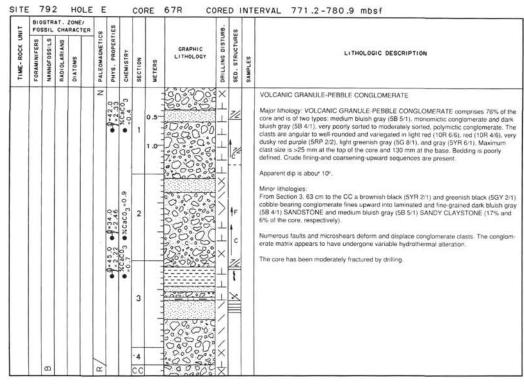
TINO				ZONE/ RACTE	R	82	ES					88	S		
TIME-ROCK UN	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS		PALEOMAGNETIC	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
LOWER OLIGOCENE		8	8				9-44.0 9-36.0	• %CaCO ₃		0 .5	0°, 60°, 70°,	×× ×× >>××	×		CRYSTAL-VITRIC SANDSTONE Major lithology: Grayish black (N2) and dark gray (N3), massive, medium-to fine-grained CRYSTAL-VITRIC SANDSTONE, that contains concentrations of pumice granules at soveral horizons, comprises 92% of the core. The pumice granules are typically 4-7 mm idiameter; one outsized pumice clast with a diameter of 12 mm is located in Section 1, 62 cm, and a 2x9 mm claystone clast is located in Section 2, 26 cm. Minor hithology: A dark gray (N3) VOLCANIC PEBBLE-GRANULE CONGLOMERATE in Section 1, 0-17 cm, constitutes the remaining 8% of the core. Clasts are andesite, daotte and pumice with maximum diameters of 8 mm. A subvertical fracture is located in Section 2, 10-60 cm. Except for Section 1, 30-102 cm, which is undisturbed, the core is drilling breccia or highlitractured.



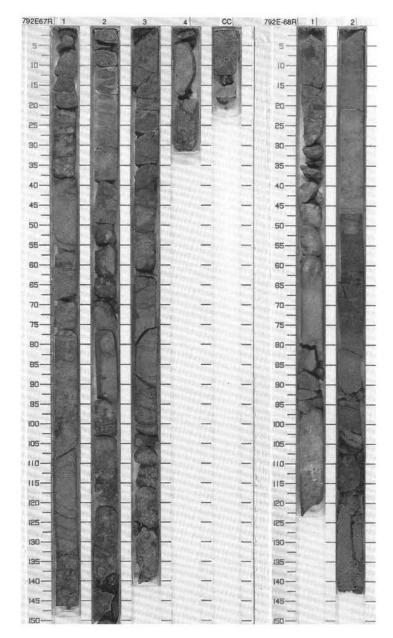
FOSS	SIL	CHA		108	RTIES					TURB.	JRES						
FORAMINIFER	NANNOFOSSIL	RADIOLARIANS	DIATOMS		PHYS.	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DIS	SED. STRUCTO	SAMPLES		LITH	OLOGIC	DESCRI	PTION
				Z	0=55.0	*CaCo3•	1	0.5			超十	**	SANDSTONE Major lithologies: Dark greenish gray (5G 4) VITRIC SILTY CLAYSTOI consists of interbedded di fine-grained sandstone be grading, and scoured basi Minor lithologies:	1) and da NE togeth ark greens ds, 1-26 des.	rk gray (5 er compri sh gray (5 m thick.)	GY 4/1) se 33% (G 4/1) al which dis	VITRIC CLAYEY SILTSTONE and of the core, Another 27% of the core dark gray (5GY 41), line: to ver glay planar lamination, normal
	C/M						2	and to be a			t-a	*	RICH CLAYSTONE (14%, SANDSTONE (7%), CLA' 1) VOLCANIC PEBBLE-G clast size of 25 mm and a Subvertical, zeolite-filled t subvertical sandstone dik small chlorite-filled vein in), dark gre YSTONE (IRANULE mean size ractures; 1 e, 4-10 cm mediately	enish gra 5%), and CONGLO e of 16 m I mm thic thick, is	in Section (in Section) MERAT materials for the k, occur is located in	1) SANDY CLAYSTONE (8%). SIL on 6 and the CC, greenish gray (50 E. The conglomerate has a maxim ten largest pebbles. in Section 1, 130 and 140 cm. A in Section 2, 92-133 cm. There is a
	P17-1				9-47.0	• %CaCO3 =0.7	3	ecolored con			-====		SMEAR SLIDE SUMMAR TEXTURE: Sand Siit		1, 34 D	2. 99 M	2, 136 M
							4				3		COMPOSITION: Accessory minerals Amphilbole Clay Feldspar Glass Inorganic calcite Micrite	3 10 47	1 96 1 1	Tr	100
	0				9-51.0	• %CaCO ₃ =1.2	5				1 2 2 2		Zeolite	40	<u>-</u> -	10	
	FORAMINIFERS	7-18 C/M RANNESSILS P	/P CP17-18 C/M RADIOLARIANS 2	P CP17-18 C/M RANNOFOSSILS RADIOLARIANS POLATONS	P CP17-18 C/M RANDFOSSILS P CPRAININFERS DIATONS DIATO	P	P	FORMAMINESS FORMAMINESS	P	PARTICULAR AND PARTIC	# CP17-18 C/M NAMMOFOSSILS OF THE PROPERTY OF	PARTICION OF STRUCTURES PARTICION OF STRUCTUR	PARTICION NAMMOFOSSILS **COCO_3=1.2 **COCO	POSSIL CHARACTER SUNDY INTERCOLLATE STATE	BEST CHARACTER BEST STORY OF THE STORY OF T	POSTIL CHARACTER BENNING THE PROPERTY OF THE	### POSSIL CHARACTER 10 10 10 10 10 10 10 10

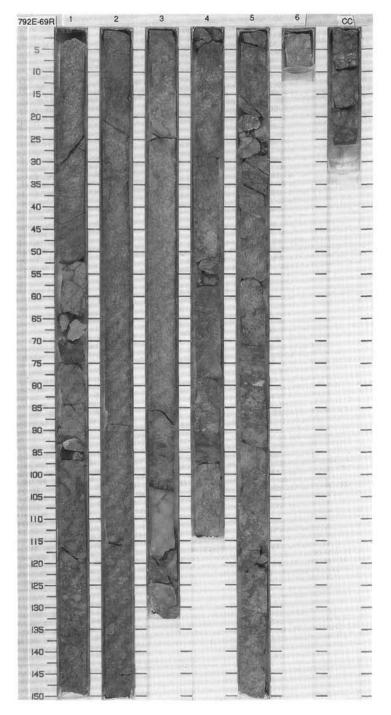


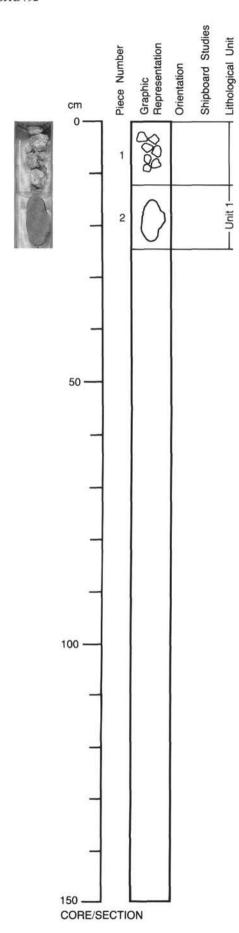
SITE 792



E S				ZONE/ RACTES	R on	ES					JRB.	ES		
TIME-ROCK UP	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
		В			Z	9-2	SCaCC	2	0.5	\$0000 \$0000 \$0000 \$0000	1	X X FF F X 22		CRYSTAL-VITRIC SANDSTONE Major lithology: The upper and middle 65% of the core is greenish gray (5G 5.1), dark gray (5G 4/1), and greenish black (5G 2/1) CRYSTAL-VITRIC SANDSTONE. Some intervals are normally graded, others are planar laminated, and others contain scattered granules. Minor lithology: Section 1, 0-43 cm, consists of dark greenish gray (5G 4.1) VOLCANIC GRANULE-PEBBLE CONSLOMERATE with the same lithology as the bottom of Core 126 792E 67R. Its sand/granule/spebble ratio is 10:30:60, and andesite clasts are as large as 6 mm in diameter. There is a fault in Section 2, 106-116 cm, within which there is a red (2.5YR 5.6) clast of altered andesite, and two other black (N1) igneous clasts, immediately beneath the fault (110-116 cft) is an interval of altered SANDSTONE, motified in the colors dark greenish gray (5G 4.1) and reddsh yellow (7.5YR 6.5). Section 2, 116-143 cm, is a zone of VITRIC SILTY CLAYSTONE and VITRIC SANDY MUDSTONE, hydrothermally altered to motified very dark green (7.5 GY 3/2) and dark gray/sh blue (5BG 5.1) rock.







126-792E-70R-CC

Piece 1 : Sediment Unit V

See sedimentary visual core description.

UNIT 1: PORPHYRITIC ANDESITE

Piece 2

CONTACTS: None.
PHENOCRYSTS: Orthopyroxene pseudomorphs are sometimes mantled with

clinopyroxene, some fresh orthopyroxene present.

Plagioclase - 35%; 0.2-5 mm; euhedral, zoned, glomeroporphyritic clots.

Clinopyroxene - 5%; 0.1-5 mm; euhedral, fresh.

Orthopyroxene - 10%; 0.1-5 mm; euhedral, 90% replaced by smectite, rimmed by

clinopyroxene.

Magnetite - 1%; 0.1-0.5 mm; subhedral.

GROUNDMASS: Fine-grained altered glass with microphenocrysts of plagioclase and

pyroxenes.
VESICLES: None.

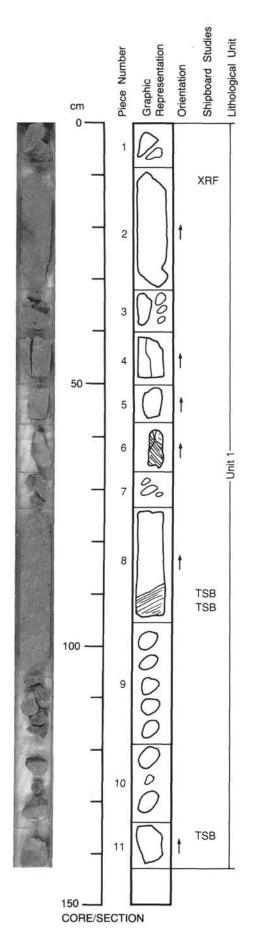
COLOR: Medium light gray, N6.

STRUCTURE: Massive.

ALTERATION: Moderately altered, glass and partly altered orthopyroxene.

VEINS/FRACTURES: <1%; <1 mm; along fractures; celadonite and smectite veins.

ADDITIONAL COMMENTS: Xenoliths of plagioclase-orthopyroxene-clinopyroxene diabase and finer-grained andesite.



126-792E-71R-1

UNIT 1: PORPHYRITIC ANDESITE

Pieces 1-11

CONTACTS: None.
PHENOCRYSTS: Orthopyroxene pseudomorphs are sometimes mantled with

clinopyroxene, some fresh orthopyroxene present.

Plagioclase - 35%; 0.2-5 mm; euhedral, zoned, glomeroporphyritic clots.

Clinopyroxene - 5%; 0.1-5 mm; euhedral, fresh.
Orthopyroxene - 10%; 0.1-5 mm; euhedral, 90% replaced by smectite, rimmed by

clinopyroxene.

Magnetite - 1%; 0.1-0.5 mm; subhedral.

GROUNDMASS: Fine-grained altered glass with microphenocrysts of plagioclase and

pyroxenes. VESICLES: None.

COLOR: Medium light gray, N6.

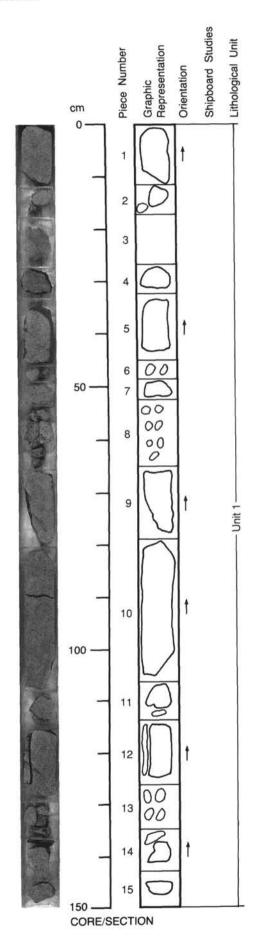
STRUCTURE: Massive.

ALTERATION: Moderately altered, glass and partly altered orthopyroxene.

VEINS/FRACTURES: <1%; <1 mm; along fractures; celadonite and smectite veins.

ADDITIONAL COMMENTS: Xenoliths of plagioclase-orthopyroxene-clinopyroxene diabase and finer-grained andesite. Hyaloclastite layers in Pieces 6 (3 cm thick)

and 8 (4 cm thick).



126-792E-71R-2

UNIT 1: PORPHYRITIC ANDESITE

Pieces 1-15

CONTACTS: None.
PHENOCRYSTS: Orthopyroxene pseudomorphs are sometimes mantled with

clinopyroxene, some fresh orthopyroxene present.

Plagioclase - 35%; 0.2-5 mm; euhedral, zoned, glomeroporphyritic clots

Clinopyroxene - 5%; 0.1-5 mm; euhedral, fresh.

Orthopyroxene - 10%; 0.1-5 mm; euhedral, 90% replaced by smectite, rimmed by clinopyroxene.

Magnetite - 1%; 0.1-0.5 mm; subhedral.

GROUNDMASS: Fine-grained altered glass with microphenocrysts of plagioclase and

pyroxenes.
VESICLES: None.

COLOR: Medium light gray, N6.

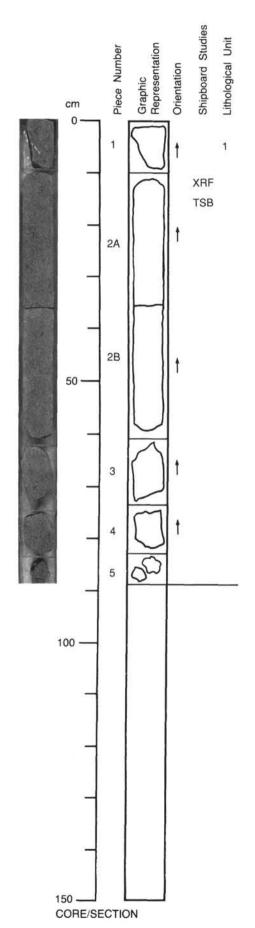
STRUCTURE: Massive.

ALTERATION: Moderately altered, glass and partly altered orthopyroxene.

VEINS/FRACTURES: <1%; <1 mm; along fractures; celadonite and smectite veins.

ADDITIONAL COMMENTS: Xenoliths of plagioclase-orthopyroxene-clinopyroxene

diabase and finer-grained andesite.



126-792E-71R-3

UNIT 1: PORPHYRITIC ANDESITE

Pieces 1-5

CONTACTS: None.

PHENOCRYSTS: Orthopyroxene pseudomorphs are sometimes mantled with clinopyroxene, some fresh orthopyroxene present.

Plagioclase - 35%; 0.2-5 mm; euhedral, zoned, glomeroporphyritic clots.

Clinopyroxene - 5%; 0.1-5 mm; euhedral, fresh.

Orthopyroxene - 10%; 0.1-5 mm; euhedral, 90% replaced by smectite, rimmed by

clinopyroxene.

Magnetite - 1%; 0.1-0.5 mm; subhedral.

GROUNDMASS: Fine-grained altered glass with microphenocrysts of plagioclase and

pyroxenes.
VESICLES: None.

COLOR: Medium light gray, N6.

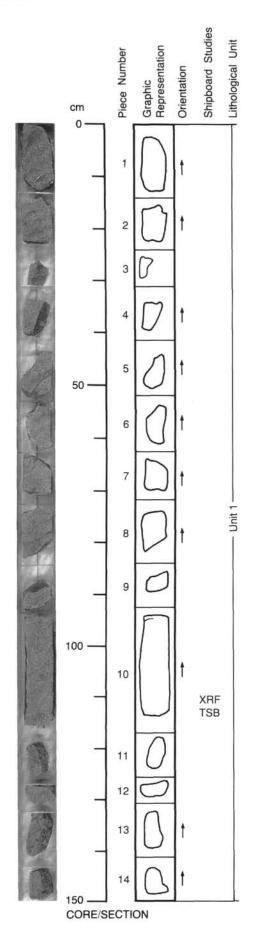
STRUCTURE: Massive.

ALTERATION: Moderately altered, glass and partly altered orthopyroxene.

VEINS/FRACTURES: <1%; <1 mm; along fractures; celadonite and smectite veins.

ADDITIONAL COMMENTS: Xenoliths of plagioclase-orthopyroxene-clinopyroxene

diabase and finer-grained andesite.



126-792E-72R-1

UNIT 1: PORPHYRITIC ANDESITE

Pieces 1-14

CONTACTS: None.

PHENOCRYSTS: Orthopyroxene pseudomorphs are sometimes mantled with clinopyroxene, some fresh orthopyroxene present.

Plagioclase - 35%; 0.2-5 mm; euhedral, zoned, glomeroporphyritic clots.

Clinopyroxene - 5%; 0.1-5 mm; euhedral, fresh.

Orthopyroxene - 10%; 0.1-5 mm; euhedral, 90% replaced by smectite, rimmed by clinopyroxene.

clinopyroxene.

Magnetite - 1%; 0.1-0.5 mm; subhedral.

GROUNDMASS: Fine-grained altered glass with microphenocrysts of plagioclase and

pyroxenes.

VESICLES: None.

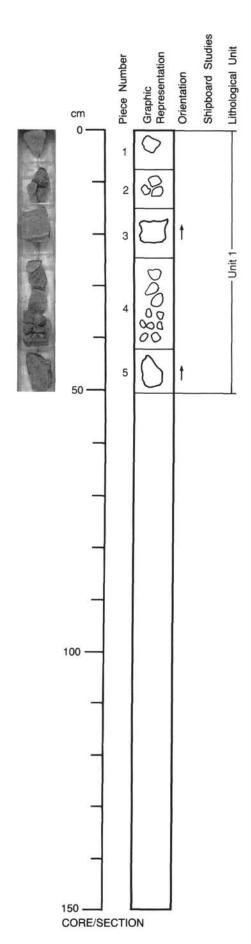
COLOR: Medium light gray, N6.

STRUCTURE: Massive.

ALTERATION: Moderately altered, glass and partly altered orthopyroxene.

VEINS/FRACTURES: <1%; <1 mm; along fractures; celadonite and smectite veins.

ADDITIONAL COMMENTS: Xenoliths of plagioclase-orthopyroxene-clinopyroxene diabase and finer-oranged andesite. diabase and finer-grained andesite.



126-792E-72R-2

UNIT 1: PORPHYRITIC ANDESITE

Pieces 1-5

CONTACTS: None.

CONTACTS: None.

PHENOCRYSTS: Orthopyroxene pseudomorphs are sometimes mantled with clinopyroxene, some fresh orthopyroxene present.

Plagioclase - 35%; 0.2-5 mm; euhedral, zoned, glomeroporphyritic clots.

Clinopyroxene - 5%; 0.1-5 mm; euhedral, fresh.

Orthopyroxene - 10%; 0.1-5 mm; euhedral, 90% replaced by smectite, rimmed by clinopyroxene.

Magnetite - 1%; 0.1-0.5 mm; subhedral.

GROUNDMASS: Fine-grained altered glass with microphenocrysts of plagioclase and pyroxenes.

pyroxenes.

VESICLES: None.

COLOR: Medium light gray, N6.

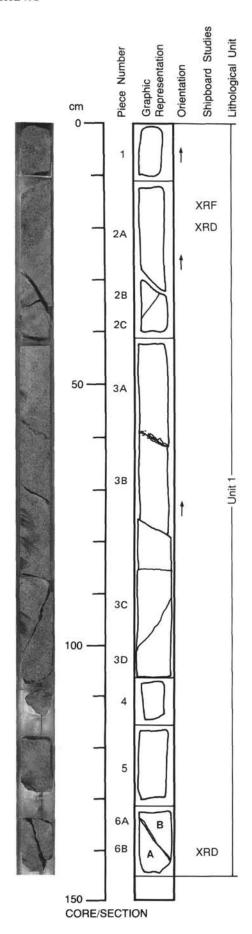
STRUCTURE: Massive.

ALTERATION: Moderately altered, glass and partly altered orthopyroxene.

VEINS/FRACTURES: <1%; <1 mm; along fractures; celadonite and smectite veins.

ADDITIONAL COMMENTS: Xenoliths of plagioclase-orthopyroxene-clinopyroxene diabase and finer-grained andesite

diabase and finer-grained andesite.



126-792E-73R-1

UNIT 1: PORPHYRITIC ANDESITE

Pieces 1-6

CONTACTS: None. PHENOCRYSTS:

Plagioclase - 35%; 0.2-5 mm; euhedral, zoned.

Clinopyroxene - 5%; 0.2-5 mm; euhedral fresh. Orthopyroxene - 5%; 0.2-5 mm; euhedral, replaced by smectite. Magnetite - 1%; 0.1-0.5 mm; subhedral.

Quartz - 0.5%; 0.1-0.4 mm; anhedral rounded.

GROUNDMASS: Fine-grained altered glass with microphenocrysts of pyroxenes and

plagioclase laths.
VESICLES: None.

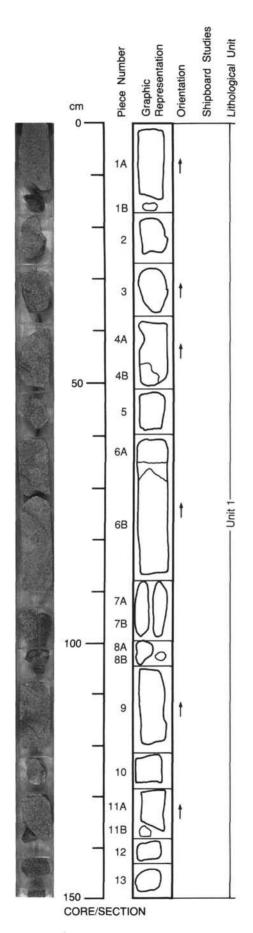
COLOR: Light medium gray, N6.

STRUCTURE: Massive.

ALTERATION: Moderately altered glass and partly altered orthopyroxene.

VEINS/FRACTURES: <1%; 1 mm; along fractures; celadonite and smectite veins.

ADDITIONAL COMMENTS: 5-mm-thick chlorite vein in Pieces 6A and B.



126-792E-73R-2

UNIT 1: PORPHYRITIC ANDESITE

Pieces 1-13

CONTACTS: None.
PHENOCRYSTS:
Plagioclase - 35%; 0.2-5 mm; euhedral, zoned. Clinopyroxene - 5%; 0.2-5 mm; euhedral fresh.

Orthopyroxene - 5%; 0.2-5 mm; euhedral, replaced by smectite.

Magnetite - 1%; 0.1-0.5 mm; subhedral.

Quartz - 0.5%; 0.1-0.4 mm; anhedral rounded.

GROUNDMASS: Fine-grained altered glass with microphenocrysts of pyroxenes and plagioclase laths. VESICLES: None.

COLOR: Light medium gray, N6.

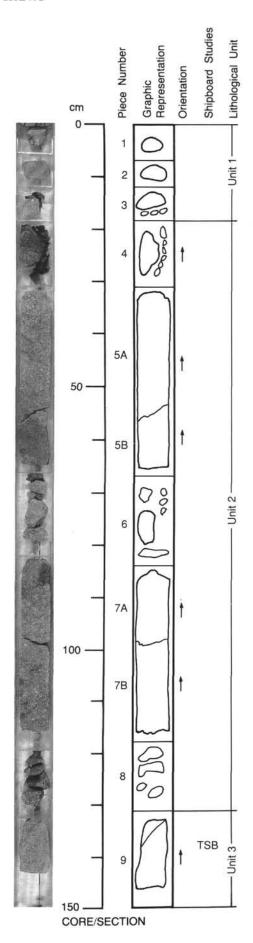
STRUCTURE: Massive.

ALTERATION: Moderately altered glass and partly altered orthopyroxene.

VEINS/FRACTURES: <1%; 1 mm; along fractures; celadonite and smectite veins.

ADDITIONAL COMMENTS: 8 cm of breccia-hyaloclastite with contact to flow beneath

(Piece 6A).



126-792E-74R-1

UNIT 1: PORPHYRITIC ANDESITE

Pieces 1-3

CONTACTS: None. PHENOCRYSTS:

Plagioclase - 35%; 0.2-5 mm; euhedral, zoned.

Clinopyroxene - 5%; 0.2-5 mm; euhedral fresh.

Orthopyroxene - 5%; 0.2-5 mm; euhedral, replaced by smectite.

Magnetite - 1%; 0.1-0.5 mm; subhedral. Quartz - 0.5%; 0.1-0.4 mm; anhedral rounded.

GROUNDMASS: Fine-grained altered glass with microphenocrysts of pyroxenes and

plagioclase laths.
VESICLES: None.

COLOR: Light medium gray, N6.

STRUCTURE: Massive.

ALTERATION: Moderately altered glass and partly altered orthopyroxene.

VEINS/FRACTURES: None.

UNIT 2: ANDESITIC HYALOCLASTITE BRECCIA

Pieces 4-9

CONTACTS: In Piece 9 at the base there is a clear contact to a massive andesite lava. In the basal 3 mm an accumulation of broken ilmenite grains is present.

PHENOCRYSTS: The rock contains plagioclase-orthopyroxene-clinopyroxene andesite and plagioclase-clinopyroxene-quartz-dacite fragments in a hydrothermally-altered. glassy matrix.

Plagioclase - 30%; 0.1-3 mm; euhedral, zoned, clustered.

Clinopyroxene - 3%; 0.2-2 mm; subeuhedral.

Opaques - 1%; 0.1-0.5 mm; subhedral, 8% in basal layer.

Orthopyroxene - 1%; 0.1-3 mm; subhedral, altered to smectite, GROUNDMASS: Fine grained, altered into smectite and chlorite.

VESICLES: None.

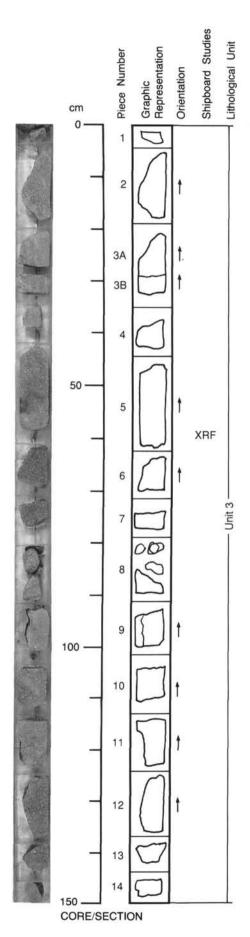
COLOR: Grayish green, 10GY 5/2.

STRUCTURE: Glassy fragmental rock with clast and matrix; fragmented and broken crystals.

ALTERATION: Glass and orthopyroxene are altered.

VEINS/FRACTURES: None.

ADDITIONAL COMMENTS: Quartz phenocrysts in xenoliths are rounded and partly



126-792E-74R-2

UNIT 3: PORPHYRITIC ANDESITE

Pieces 1-14

CONTACTS: None. PHENOCRYSTS:

PHENOCRYSTS:
Plagioclase - 35%; 0.2-5 mm; euhedral, zoned.
Clinopyroxene - 5%; 0.2-5 mm; euhedral fresh.
Orthopyroxene - 5%; 0.2-5 mm; euhedral, replaced by smectite.
Magnetite - 1%; 0.1-0.5 mm; subhedral.
Quartz - 0.5%; 0.1-0.4 mm; anhedral rounded.

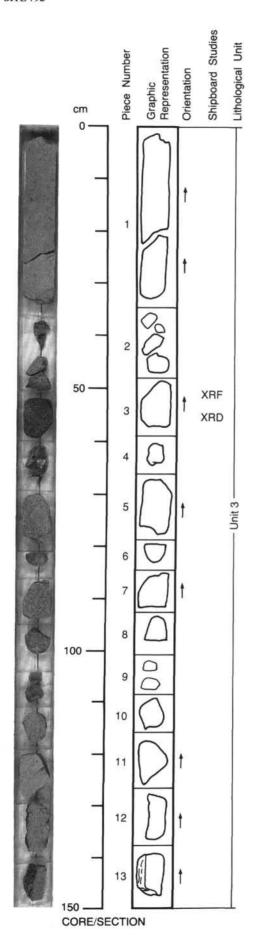
GROUNDMASS: Fine-grained altered glass with microphenocrysts of pyroxenes and plagioclase laths.

VESICLES: None.
COLOR: Light medium gray, NS

COLOR: Light medium gray, N6.
STRUCTURE: Massive.

ALTERATION: Moderately altered glass and partly altered orthopyroxene.
VEINS/FRACTURES: 10.1007/j.nm; 1 mm; along fractures; celadonite and smectite veins.
ADDITIONAL COMMENTS: 2-3 fragments of hyaloclastite material in Piece 8.

Lindshamed alteration along using and fractures in Pieces 9 and 11. Hydrothermal alteration along veins and fractures in Pieces 9 and 11.



126-792E-75R-1

UNIT 3: PORPHYRITIC ANDESITE

Pieces 1-13

CONTACTS: None. PHENOCRYSTS:

PHENOCRYSTS:
Plagioclase - 35%; 0.2-5 mm; euhedral, zoned.
Clinopyroxene - 5%; 0.2-5 mm; euhedral fresh.
Orthopyroxene - 5%; 0.2-5 mm; euhedral, replaced by smectite.
Magnetite - 1%; 0.1-0.5 mm; subhedral.
Quartz - 0.5%; 0.1-0.4 mm; anhedral rounded.

GROUNDMASS: Fine-grained altered glass with microphenocrysts of pyroxenes and plagioclase laths.

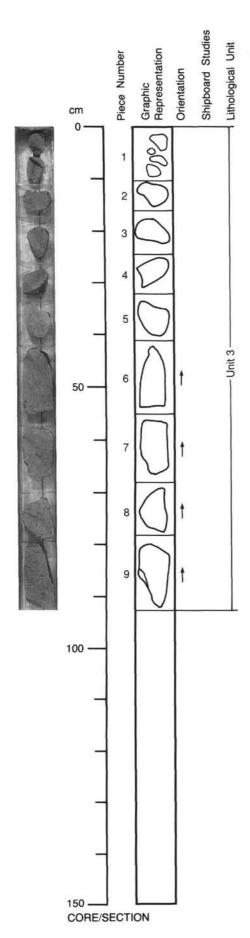
VESICLES: None.
COLOR: Light medium gray. N6

COLOR: Light medium gray, N6. STRUCTURE: Massive.

ALTERATION: Moderately altered glass and partly altered orthopyroxene.

VEINS/FRACTURES: <1%; 1 mm; along fractures; celadonite and smectite veins.

ADDITIONAL COMMENTS: Interlayered green hyaloclastite in Piece 4.



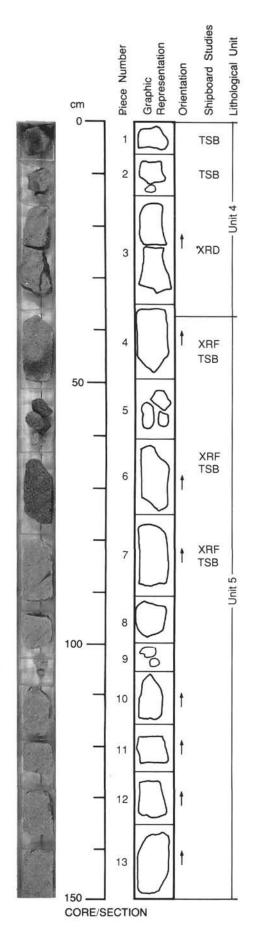
126-792E-75R-2

UNIT 3: PORPHYRITIC ANDESITE

Pieces 1-9

CONTACTS: None. PHENOCRYSTS:

PHENOCRYSTS:
Plagioclase - 35%; 0.2-5 mm; euhedral, zoned.
Clinopyroxene - 5%; 0.2-5 mm; euhedral fresh.
Orthopyroxene - 5%; 0.2-5 mm; euhedral, replaced by smectite.
Magnetite - 1%; 0.1-0.5 mm; subhedral.
Quartz - 0.5%; 0.1-0.4 mm; anhedral rounded.
GROUNDMASS: Fine-grained altered glass with microphenocrysts of pyroxenes and plagioclase laths.
VESICLES: None.
COLOR: Light medium gray, N6.
STRUCTURE: Massive.
ALTERATION: Moderately altered glass and partly altered orthopyroxene.
VEINS/FRACTURES: <1%; 1 mm; along fractures; celadonite and smectite veins.



126-792E-76R-1

UNIT 4: VOLCANIC BRECCIA

Pieces 1-4

CONTACTS: Good visible contact with massive andesite lava at top of Piece 4. PHENOCRYSTS: All the phenocrysts are altered in the clasts but only orthopyroxene is altered in the matrix.

Plagioclase - 35%; 0.2-4 mm; euhedral, glomeroporphyritic clots fresh n the clasts but altered to chlorite in the matrix.

Clinopyroxene - 3%; 0.2-4 mm; euhedral fresh in clasts, replaced by prehnite and

smectite in matrix. Orthopyroxene - 1%; 0.2-3 mm; euhedral, replaced by smectite.

Magnetite - 1%; 0.1-0.2 mm.

GROUNDMASS: Fine-grained smectite and chlorite (with prehnite) in matrix. VESICLES: 10%; 0.2 mm; round; even; vesicles only present in the clasts.

COLOR: Greenish gray matrix (5G 6/1) and dark gray clasts (N3).

STRUCTURE: Brecciated with angular to rounded gray clasts in a green matrix.

ALTERATION: Moderately altered glass and olivine, replaced by smectite and chlorite.

VEINS/FRACTURES: None.

UNIT 5: PORPHYRITIC ANDESITE

Pieces 4-13

CONTACTS: None. PHENOCRYSTS:

Plagioclase - 35%; 0.2-4 mm; sub-euhedral, zoned and clustered.

Orthopyroxene - 7%; 0.1-2 mm; euhedral, altered to smectite.

Clinopyroxene - 3%; 0.1-2 mm; euhedral fresh. Magnetite - 1%; O.1-0.2 mm; sub-euhedral. Quartz- 1%; 0.1-0.2 mm; anhedral rounded.

GROUNDMASS: Fine-grained altered glass with microphenocrysts of plagioclase,

pyroxenes and magnetite.

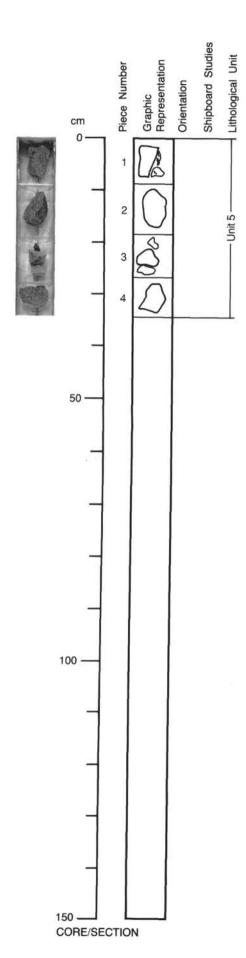
VESICLES: None.

COLOR: Light medium gray, N6.

STRUCTURE: Massive.

ALTERATION: Moderately altered glass and orthopyroxene.

VEINS/FRACTURES: <1%; 1 mm; along fractures; celadonite and smectite veins.



126-792E-76R-2

UNIT 5: PORPHYRITIC ANDESITE

Pieces 1-4

CONTACTS: None. PHENOCRYSTS:

Plagioclase - 35%; 0.2-4 mm; sub-euhedral, zoned and clustered. Orthopyroxene - 7%; 0.1-2 mm; euhedral, altered to smectite. Clinopyroxene - 3%; 0.1-2 mm; euhedral fresh. Magnetite - 1%; 0.1-0.2 mm; sub-euhedral. Quartz - 1%; 0.1-0.2 mm; anhedral rounded.

GROUNDMASS: Fine-grained altered glass with microphenocrysts of plagioclase,

pyroxenes and magnetite.

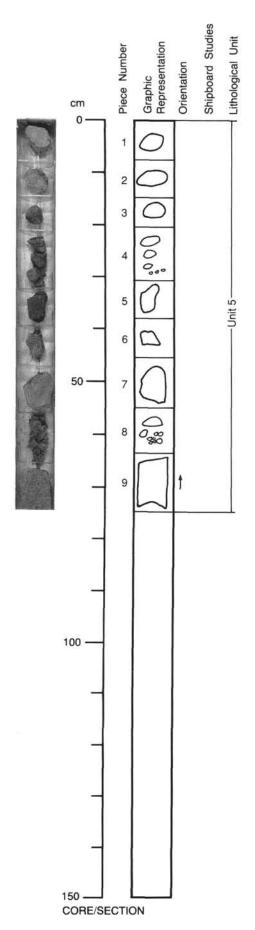
VESICLES: None.

COLOR: Light medium gray, N6. STRUCTURE: Massive.

ALTERATION: Moderately altered glass and orthopyroxene.

VEINS/FRACTURES: <1%; 1 mm; along fractures; celadonite and smectite

ADDITIONAL COMMENTS: Contact with hyaloclastite in Piece 4. Layer 0.5 cm thick.



126-792E-77R-1

UNIT 5: PORPHYRITIC ANDESITE

Pieces 1-9

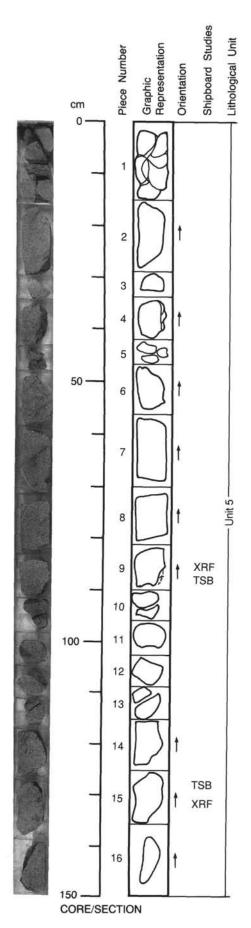
CONTACTS: None. PHENOCRYSTS:

PHENOCRYSTS:

Plagioclase - 35%; 0.2-4 mm; sub-euhedral, zoned and clustered.
Orthopyroxene - 7%; 0.1-2 mm; euhedral, altered to smectite.
Clinopyroxene - 3%; 0.1-0.2 mm; euhedral fresh.
Magnetite - 1%; 0.1-0.2 mm; sub-euhedral.
Quartz - 1%; 0.1-0.2 mm; anhedral rounded.

GROUNDMASS: Fine-grained altered glass with microphenocrysts of plagioclase, pyroxenes and magnetite.

VESICLES: None.
COLOR: Light medium gray, N6.
STRUCTURE: Massive.
ALTERATION: Moderately altered glass and orthopyroxene.
VEINS/FRACTURES: <1%; 1 mm; along fractures; celadonite and smectite veins.
ADDITIONAL COMMENTS: Hyaloclastite layers or hydrothermal alteration in Pieces 4 and 8.



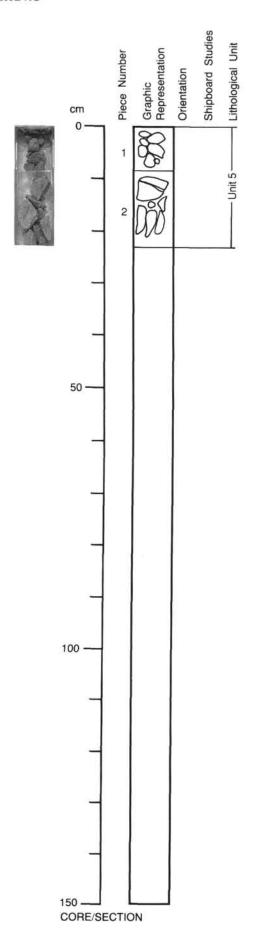
126-792E-78R-1

UNIT 5: PORPHYRITIC ANDESITE

Pieces 1-16

CONTACTS: None. PHENOCRYSTS:

PHENOCRYSTS:
Plagioclase - 35%; 0.2-4 mm; sub-euhedral, zoned and clustered.
Orthopyroxene - 7%; 0.1-2 mm; euhedral, altered to smectite.
Clinopyroxene - 3%; 0.1-2 mm; euhedral fresh.
Magnetite - 1%; 0.1-0.2 mm; sub-euhedral.
Quartz - 1%; 0.1-0.2 mm; anhedral rounded.
GROUNDMASS: Fine-grained altered glass with microphenocrysts of plagioclase, pyroxenes and magnetite.
VESICLES: None.
COLOR: Light medium gray, N6.
STRUCTURE: Massive.
ALTERATION: Moderately altered glass and orthopyroxene.
VEINS/FRACTURES: <1%; 1 mm; along fractures; celadonite and smectite veins.



126-792E-78R-2

UNIT 5: PORPHYRITIC ANDESITE

Pieces 1-2

CONTACTS: None.
PHENOCRYSTS:
Plagioclase - 35%; 0.2-4 mm; sub-euhedral, zoned and clustered.
Orthopyroxene - 7%; 0.1-2 mm; euhedral, altered to smectite.
Clinopyroxene - 3%; 0.1-2 mm; euhedral fresh.
Magnetite - 1%; 0.1-0.2 mm; sub-euhedral.
Quartz - 1%; 0.1-0.2 mm; anhedral rounded.
GROUNDMASS: Fine-grained altered glass with microphenocrysts of plagioclase, pyroxenes and magnetite.
VESICLES: None.
COLOR: Light medium gray, N6.

COLOR: Light medium gray, N6. STRUCTURE: Massive.

ALTERATION: Moderately altered glass and orthopyroxene.

VEINS/FRACTURES: <1%; 1 mm; along fractures; celadonite and smectite veins.

126-792E-40R-06 (55-57 cm)

OBSERVER: LTP

WHERE SAMPLED: Unit 5

ROCK NAME: Clinopyroxene-plagioclase andesite

GRAIN SIZE: Fine

TEXTURE: Porphyritic-vesicular

PRIMARY PERCENT PERCENT SIZE COMPO-MINERALOGY PRESENT ORIGINAL (mm) COMMENTS SITION MORPHOLOGY PHENOCRYSTS Plagioclase N/A 10 Zoned, fresh. N/A Clinopyroxene 4 N/A 5 N/A Fresh. GROUNDMASS N/A N/A N/A 85% vesicular groundmass. N/A N/A SECONDARY REPLACING/ MINERALOGY COMMENTS PERCENT FILLING Clays Smectites filling up. VESICLES/ SIZE CAVITIES PERCENT LOCATION (mm) FILLING COMMENTS Vesicles 10 </=0.5 Rounded Filled with smectite. COMMENTS: Clasts (up to 8 mm) of clinopyroxene-plagicclase andesite. These clasts differ mainly on the basis of the groundmass which can be vesicular, or fine grained and rich in plagioclases microlites, sometimes flow aligned. Clinopyroxene and plagioclase clots. No piece # given.

126-792E-41R-01 (128-130 cm)

OBSERVER: LTP

WHERE SAMPLED: Unit 5 / sedimentologists

ROCK NAME: Olivine-plagioclase basalt

GRAIN SIZE: Fine

TEXTURE: Porphyritic

PRIMARY MINERALOGY		PERCENT	SIZE (mm)	COMPO- SITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Olivine	N/A	2	2		N/A	Pseudomorphs of smectites.
Plagioclase	N/A	8	3		N/A	
GROUNDMASS						
Plagioclase	N/A	N/A	N/A		N/A	Glass altered in smectites.
VESICLES/			SIZE		****	
CAVITIES	PERCENT	LOCATIO	N (mm)		FILLING	SHAPE
Vesicles	0					

COMMENTS: Clast in a volcaniclastic sandstone? other clasts: clinopyroxene-plagioclase andesite, volcanic glass, pumices, clinopyroxene and plagioclase crystals. Cement: smectites and opal. No piece # given.

126-792E-41R-02 (24-26 cm)

OBSERVER: LTP

WHERE SAMPLED: Unit 5

ROCK NAME: Clinopyroxene-plagioclase andesite

GRAIN SIZE: Fine

TEXTURE: Porphyritic

PRIMARY MINERALOGY N/A	N/A	ORIGINAL (1		COMPO- SITION	MORPHOLOGY N/A	COMMENTS
VESICLES/ CAVITIES Vesicles	PERCENT 0	LOCATION	SIZE (mm)	M. And .	FILLING	SHAPE

COMMENTS: Clasts in a volcaniclastic rocks. Plagioclase and clinopyroxene clots. Perhaps sediments. No piece # given.

126-792E-42R-05 (116-119 cm)

OBSERVER: LTP

WHERE SAMPLED: Unit 5 (sedimentologists)

ROCK NAME: Plagioclase-clinopyroxene andesite

GRAIN SIZE: Fine

TEXTURE: Porphyritic

VESICLES/ CAVITIES Vesicles	PERCENT 0	LOCATIO	SIZE ON (mm)		FILLING	SHAPE
GROUNDMASS N/A	N/A	N/A	N/A		N/A	80% groundmass.
Clinopyroxene Orthopyroxene Magnetite	N/A N/A N/A	5 Trace N/A	=4<br N/A N/A		Euhedral N/A N/A	Zoned. Pseudomorphous. Clustered with small pyroxenes.
PHENOCRYSTS Plagioclase	N/A	15	=2</td <td></td> <td>Euhedral</td> <td>Fresh-zoned.</td>		Euhedral	Fresh-zoned.
PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT	SIZE L (mm)	COMPO- SITION	MORPHOLOGY	COMMENTS

COMMENTS: Clasts in a volcaniclastic sandstone: all these clasts are formed of clinopyroxene-plagicclase andesite. The only difference is in the groundmass which may be rich in flow aligned or more vesicular plagicclase microlites. Sediment clast: chlorite and epidote(?). Glass fragments-pumice and crystals (pyroxene + clinopyroxene) entire or broken. Matrix-opal cement. No piece # given.

126-792E-47R-01 (20-21 cm)

OBSERVER: LTP

WHERE SAMPLED: Unit 5 (sedimentologist)

ROCK NAME: Clinopyroxene-plagioclase andesite

GRAIN SIZE: Fine

TEXTURE: Porphyritic-vesicular

PRIMARY	PERCENT	PERCENT	SIZE	COMPO-		
MINERALOGY	PRESENT	ORIGINAL	(mm)	SITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	0	20	=4</td <td></td> <td>Euhedral</td> <td>Pseudomorphosed in smectites and</td>		Euhedral	Pseudomorphosed in smectites and
						zeolites.
Clinopyroxene	0	1	=1</td <td></td> <td>Subhedral</td> <td>Altered.</td>		Subhedral	Altered.
GROUNDMASS						
Plagioclase	N/A	N/A	0.1		N/A	Altered.
Altered glass	N/A	N/A	N/A		N/A	
SECONDARY		REPL	ACING/			
MINERALOGY	PERCENT	FILL	ING			COMMENTS
Clays	100					
VESICLES/			SIZE			
CAVITIES	PERCENT	LOCATIO	N (mm)		FILLING	SHAPE
Vesicles	30		3		Calcite, zeolites	Elongated

COMMENTS: Clinopyroxene-plagicclase andesitic clast in a pebbly granule conglomerate. Pumice fragments. Plagicclase-clinopyroxene crystals. Matrix contains zeolites. No piece # given.

126-792E-47R-01 (108-110 cm)

OBSERVER: LTP

WHERE SAMPLED: Unit 5

ROCK NAME: Clinopyroxene-basalt or andesite

GRAIN SIZE: Fine

TEXTURE: Porphyritic-vesicular

PRIMARY PERCENT PERCENT SIZE COMPO-MINERALOGY PRESENT ORIGINAL (mm) SITION MORPHOLOGY COMMENTS PHENOCRYSTS N/A Clinopyroxene 1 </=2 Euhedral Fresh exsolution along cleavages. Plagioclase N/A N/A N/A Euhedral Replaced by zeolites. Pseudomorphs of replaced smectites. Orthopyroxene N/A 5 5 N/A GROUNDMASS 60% highly vesicular groundmass. N/A N/A N/A N/A N/A SECONDARY REPLACING/ MINERALOGY PERCENT FILLING COMMENTS Smectites filling up small vesicles. Clays Zeolites Filling big elongated vesicles. PERCENT LOCATION (mm) VESICLES/

Smectites, zeolites

COMMENTS: Clasts in a lapilli-tuff? are pebbly granule conglomerate. Broken and or complete crystals plagicclase, clinopyroxene, and quartz. Matrix is probably formed of zeolites. No piece # given.

126-792E-51R-04 (21-23 cm)

30

OBSERVER: LTP

WHERE SAMPLED:

SHAPE

Rounded, elongated

ROCK NAME: Clinopyroxene-olivine-plagioclase basalt

GRAIN SIZE: Fine

CAVITIES

Vesicles

TEXTURE: Porphyritic

PRIMARY	PERCENT	PERCENT	SIZE	COMPO-		
MINERALOGY	PRESENT	ORIGINAL	(mm)	SITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Olivine	6	N/A	=5</td <td></td> <td>Euhedral</td> <td>Pseudomorphs of smectite, some crystals remain fresh.</td>		Euhedral	Pseudomorphs of smectite, some crystals remain fresh.
Plagioclase	28	N/A	=4</td <td></td> <td>Euhedral</td> <td>Fresh, including clinopyroxene.</td>		Euhedral	Fresh, including clinopyroxene.
Clinopyroxene	6	N/A	=3</td <td></td> <td>Euhedral</td> <td>Partly altered.</td>		Euhedral	Partly altered.
GROUNDMASS						
Opaques	N/A	N/A	=0.1</td <td></td> <td>N/A</td> <td>Glass is completely replaced by hydrated cryptocrystalline isotrophic material.</td>		N/A	Glass is completely replaced by hydrated cryptocrystalline isotrophic material.
Olivine	N/A	N/A	=0.5</td <td></td> <td>N/A</td> <td></td>		N/A	
Plagioclase	N/A		=0.5</td <td></td> <td>N/A</td> <td></td>		N/A	
SECONDARY		REPI	ACING/			
MINERALOGY	PERCENT	FILI	ING			COMMENTS
Clays					Smectites from vesicles.	n alteration of olivine and clinopyroxene fills
VESICLES/			SIZE			
CAVITIES	PERCENT	LOCATIO			FILLING	SHAPE
Vesicles	3	MOUNTIL	~4-5		Smectites	Irregular

COMMENTS: No piece # given. Groundmass is 60%.

126-792E-67R-04 (4-6 cm)

OBSERVER: LTP

WHERE SAMPLED:

ROCK NAME: Clinopyroxene-orthopyroxene-plagioclase-andesite

GRAIN SIZE: Fine TEXTURE: Porphyritic

CAVITIES Vesicles	PERCENT 0	LOCATIO			FILLING	SHAPE
VESICLES/			SIZE			
Magnetite	N/A	N/A	~0.1		N/A	Microcrystalline groundmass.
GROUNDMASS Plagioclase	N/A		~0.2		N/A	Microcrystalline groundmass.
Orthopyroxene	N/A	1	~1.5		N/A	includes plagioclase and magnetite. Fresh "stubby twinning".
Orthopyroxene	N/A	1	=10</td <td></td> <td>N/A</td> <td>Altered to smectites (and celadonite)</td>		N/A	Altered to smectites (and celadonite)
Magnetite	N/A		N/A		N/A	
Clinopyroxene	N/A		=2</td <td></td> <td>Euhedral</td> <td>Fresh.</td>		Euhedral	Fresh.
PHENOCRYSTS Plagioclase	N/A		=3</td <td></td> <td>Euhedral</td> <td>Partly altered to smectites.</td>		Euhedral	Partly altered to smectites.
MINERALOGY	PRESENT	ORIGINAL	, (mm)	SITION	MORPHOLOGY	COMMENTS
PRIMARY	PERCENT	PERCENT	SIZE	COMPO-		

COMMENTS: No piece # given. Groundmass is 60%.

126-792E-68R-02 (108-109 cm)

OBSERVER: LTP WHERE SAMPLED:

ROCK NAME: Volcanic-andesitic breccia

GRAIN SIZE: Fine

TEXTURE: Porphyritic

N/A	N/A	Groundmass is iron stained.
		Competing of a contract of the
N/A	Euhedral	Fresh or slightly altered to smectites, sometimes clustered with clinopyroxene.
2	Euhedral	Fresh.
4	Euhedral	Fresh, euhedral, zoned.
(1117)	MORPHOLOGY	COMMENTS
AL (mm) SITION		
	AL (mm) SITION	T SIZE COMPO- NAL (mm) SITION MORPHOLOGY

COMMENTS: Clasts of non-stained orthopyroxene-clinopyroxene-plagicclase andesite. Entire or broken plagioclase-clinopyroxene crystals. Matrix is altered glass in smectites. No piece # given. 126-792E-69R-04 (38-39 cm)

OBSERVER: LTP

WHERE SAMPLED:

ROCK NAME: Amphibole-dacite

GRAIN SIZE: Fine

TEXTURE: Porphyritic

VESICLES/

CAVITIES

Vesicles

PERCENT PERCENT SIZE COMPO-PRIMARY MINERALOGY PRESENT ORIGINAL (mm) SITION MORPHOLOGY COMMENTS PHENOCRYSTS N/A 5 0.5 Euhedral Fresh. Plagioclase Euhedral Fresh. Clinopyroxene N/A Tr 0.1 Included in amphibole. Euhedral Opaque N/A N/A N/A Amphibole N/A Euhedral Fresh-zoned. 3 2 Quartz N/A N/A GROUNDMASS N/A N/A N/A Groundmass is microcrystalline. VESICLES/ SIZE CAVITIES PERCENT LOCATION (mm) FILLING SHAPE Vesicles COMMENTS: Amphibole-dacite in volcaniclastic bed. No piece # given. 126-792E-69R-05 (52-53 cm) OBSERVER: LTP WHERE SAMPLED: BOCK NAME: N/s GRAIN SIZE: Fine grained TEXTURE: Porphyritic PERCENT PERCENT SIZE COMPO-MINERALOGY PRESENT ORIGINAL (mm) SITION MORPHOLOGY COMMENTS PHENOCRYSTS Plagioclase N/A 20 ~1 Euhedral Glomeroporphyritic aggregates zoned, fresh. Opaques N/A 2 0.5 Euhedral Often in inclusions in amphiboles. Quartz N/A N/A Subeuhedral Embayed. Fresh, zoned (green hornblende). Amphibole N/A </=5 Euhedral GROUNDMASS 72% apparently fresh, isotropic glass. Apparently fresh isotropic glass. Plagioclase N/A N/A 0.1 N/A Amphibole N/A N/A 0.3 N/A

COMMENTS: Clots of amphibole, opaque and plagicclase. Glass is fractured and along cracks, there is development of smectites. No piece # given.

FILLING

SHAPE

SIZE

(mm)

PERCENT LOCATION

0

126-792E-71R-01 (Piece 8,94-96 cm)

OBSERVER: LTP

WHERE SAMPLED:

ROCK NAME: Orthopyroxene-clinopyroxene andesite

GRAIN SIZE:

TEXTURE: Porphyritic

VESICLES/ CAVITIES Vesicles	PERCENT	LOCATIO	SIZE (mm) =1</th <th></th> <th>FILLING</th> <th>SHAPE COMMENTS Irregular Filled with smectites.</th>		FILLING	SHAPE COMMENTS Irregular Filled with smectites.
Clays	15	Orthopy			Smectite.	
SECONDARY MINERALOGY	PERCENT	REPL	ACING/			COMMENTS
rytoxenes	N/A	N/A	N/A		N/A	material.
Plagioclase Pyroxenes	N/A N/A		=0.1<br N/A		N/A N/A	Altered glass in cryptocrystalline brown
GROUNDMASS	***	** 7 *				
Magnetite	N/A	Tr	=1</td <td></td> <td>Subhedral</td> <td></td>		Subhedral	
Orthopyroxene	N/A	15	=3</td <td></td> <td>Euhedral</td> <td>Altered to smectites.</td>		Euhedral	Altered to smectites.
Clinopyroxene	15	15	=5</td <td></td> <td>Euhedral</td> <td></td>		Euhedral	
PHENOCRYSTS Plagioclase	30	30	1		Subhedral	Glomeroporphyritic aggregates, zoned.
MINERALOGY	PRESENT	ORIGINAL	(mm)	SITION	MORPHOLOGY	COMMENTS
RIMARY		PERCENT	SIZE	COMPO-		

COMMENTS: Orthopyroxene pseudomorphs mantled by clinopyroxene. Groundmass is 40%.

126-792E-71R-01 (Piece 8,99-101 cm) OBSERVER: LTP WHERE SAMPLED:

ROCK NAME: Orthopyroxene-clinopyroxene andesite

GRAIN SIZE:

TEXTURE: Porphyritic

ESICLES/ CAVITIES Vesicles	PERCENT 0	LOCATIO	SIZE N (mm)		FILLING	SHAPE
INERALOGY lays	PERCENT 55	FILL	ING roxene,	glass		COMMENTS
SECONDARY			ACING/			
						material.
Glass	N/A	N/A	N/A		N/A	Glass completely altered in brown opaque
Clinopyroxene	N/A	N/A	=0.5</td <td></td> <td>N/A</td> <td></td>		N/A	
GROUNDMASS Plagioclase	N/A	N/A	0.1		N/A	Microlites.
Magnetite	<1	<1	N/A		N/A	Very few compared to the other rocks.
rthopyroxene	0 <1		=5</td <td></td> <td>Euhedral</td> <td>Completely altered in smectites.</td>		Euhedral	Completely altered in smectites.
Clinopyroxene	10	10	=3</td <td></td> <td>Euhedral</td> <td>plagioclase.</td>		Euhedral	plagioclase.
Plagioclase	25 10		=5</td <td></td> <td>Subhedral</td> <td>Clustered in glomerophyritic aggregates Fresh/smectites clustered with</td>		Subhedral	Clustered in glomerophyritic aggregates Fresh/smectites clustered with
PHENOCRYSTS						
MINERALOGY	PRESENT	ORIGINAL	(mm)	SITION	MORPHOLOGY	COMMENTS
RIMARY	PERCENT	PERCENT	SIZE	COMPO-		

COMMENTS: The rock appears to be pyroclastic: some crystals look broken. Present groundmass is 10%, original is 65%.

126-792E-71R-01 (Piece 11,134-142 cm)

OBSERVER: LTP

WHERE SAMPLED:

ROCK NAME: Orthopyroxene-clinopyroxene andesite

GRAIN SIZE: Fine
TEXTURE: Porphyritic

PERCENT PERCENT SIZE COMPO-PRIMARY MINERALOGY COMMENTS PRESENT ORIGINAL (mm) MORPHOLOGY SITION PHENOCRYSTS 30 30 </=5 Subhedral Zoned and clustered. Plagioclase Euhedral Inclusions, lamellae, fresh. Clinopyroxene </=4 15 15 Altered in smectites (very few 14 </=4 Euhedral Orthopyroxene 1 preserved). </=1 Subhedral In the groundmass. Magnetite N/A N/A Perhaps a few crystals of olivine Olivine N/A N/A pseudomorphs. GROUNDMASS Plagioclase N/A N/A </=0.1 N/A Clinopyroxene N/A N/A </=0.3 N/A </=0.5 Orthopyroxene N/A N/A N/A Glass completely devitrified. Glass N/A N/A N/A N/A SECONDARY REPLACING/ PERCENT COMMENTS MINERALOGY FILLING Orthopyroxene, glass Clays 55 VESICLES/ SIZE PERCENT LOCATION (mm) CAVITIES FILLING Vesicles 0

COMMENTS: Inclusions: quartz xenocrysts surrounded by clinopyroxene. Big inclusions with the same mineralogy as the andesite, coarser grained than the andesite - flow-aligned plagioclase microlites/laths. Original groundmass was 60%, present is 10%.

126-792E-71R-02 (83-85 cm)

OBSERVER: LTP

WHERE SAMPLED:

ROCK NAME: Orthopyroxene-clinopyroxene-andesite

GRAIN SIZE: Fine

TEXTURE: Porphyritic

VESICLES/ CAVITIES Vesicles	PERCENT 0	LOCATIO	SIZI ON (mm		FILLING	SHAPE
					groundmass	3.
Clays	53	Orthopy	roxene,	glass		replacing orthopyroxene and preserved in the
MINERALOGY	PERCENT	FILI	ING			COMMENTS
SECONDARY		REPI	ACING/			
Glass	N/A	N/A	N/A		N/A	
Orthopyroxene	N/A		0.2		N/A	Microlites. Altered to smectites.
Clinopyroxene	N/A		0.2		N/A	
Feldspar	N/A	N/A	0.1		N/A	Microcrystalline groundmass. Includes flow aligned feldspars.
GROUNDMASS						1 ● 07*0000 TOT-01099000
Orthopyroxene	1	5	=3</td <td></td> <td>Euhedral</td> <td>Altered to smectites. Some crystals are preserved.</td>		Euhedral	Altered to smectites. Some crystals are preserved.
Opaque	1	1	<0.5		Euhedral	Fresh.
Clinopyroxene	5	5	4		Euhedral	Fresh.
Plagioclase	30	30	3-4		Euhedral	Zoned and clustered in glomeroporphyritic clots.
PHENOCRYSTS						
MINERALOGY	PRESENT	ORIGINAL	(mm)	SITION	MORPHOLOGY	COMMENTS
PRIMARY	PERCENT	PERCENT	SIZE	COMPO-		

COMMENTS: No piece # given. Present groundmass is 10% and original is 59%. Orthopyroxene altered with smectite and mantled by clinopyroxene.

126-792E-71R-03 (Piece 2A, 33-34 cm)

OBSERVER: TOR

WHERE SAMPLED: Unit 7

ROCK NAME: Plagioclase-two orthopyroxene-andesite

GRAIN SIZE: Fine

TEXTURE: Intersertal, porphyritic

CAVITIES	PERCENT	LOCATIO			FILLING	SHAPE
ESICLES/			SIZE			
lays	65	Orthopy	roxene,	glass		
INERALOGY	PERCENT	FILL				COMMENTS
ECONDARY		REPL	ACING/			
lagioclase	N/A	N/A	<0.1		Laths	
GROUNDMASS	N/A	N/A	N/A		N/A	Devitrified, partly altered to smectite.
rthopyroxene	1	10	0.1-4		Euhedral	Almost all altered to smectite.
agnetite	1		<0.2		N/A	Included in clinopyroxene.
Tinopyroxene	3	3	0.1-4		Editedial	Fresh.
linopyroxene	20 3		0.1-4		Euhedral	Plagioclase included in clinopyroxene
PHENOCRYSTS lagioclase	2.0	20	N/A		Subhedral	Zoned.
INERALOGY	PRESENT	ORIGINAL	(mm)	SITION	MORPHOLOGY	COMMENTS
RIMARY		PERCENT	SIZE	COMPO-		56.00000

COMMENTS: Xenolith of similar mineralogy present in thin section. All glass completely altered to smectite. Phenocrysts: plagicclase </=1.0 mm, but sample contains ~50% plagicclase (0.1-0.2 mm in size) in a subophitic texture. Orthopyroxene and clinopyroxene in percentage as above, magnetite ~5%. Fluidal textures around the xenolith - alignment of plagicclase laths in groundmass around the xenolith. Several crystals along the edge of the xenolith appear to be broken. Present groundmass is 10%, original was 66%.

126-792E-72R-01 (Piece 10,110-111 cm)

OBSERVER: TOR

WHERE SAMPLED: Unit 1

ROCK NAME: Plagioclase-two pyroxene-andesite

GRAIN SIZE: Fine

TEXTURE: Intersertal, porphyritic

VESICLES/ CAVITIES Vesicles	PERCENT 0	LOCATIO	N (mm)		FILLING	SHAPE
Clays	24	Glass				
Clays	20		roxene,	glass	Smectite.	
SECONDARY MINERALOGY	PERCENT	FILL				COMMENTS
Plagioclase	N/A	N/A	N/A		N/A	
GROUNDMASS Glass	N/A		N/A		N/A	Devitrified, altered to smectite.
Orthopyroxene	Tr	10	0.1-4		Euhedral	Almost completely altered to smectite, a few rims of orthopyroxene remains.
Magnetite	1		<0.2		Euhedral-subhedral	
Clinopyroxene	5		0.1-1		zoned Euhedral	Fresh.
PHENOCRYSTS Plagioclase	30	30	0.2-4		Euhedral-subhedral,	
MINERALOGY	PRESENT	ORIGINAL	(nun)	SITION	MORPHOLOGY	COMMENTS
RIMARY		PERCENT	SIZE	COMPO-		

COMMENTS: Present groundmass is 10%, original was 54%.

126-792E-73R-01 (Piece 10,17-18 cm)

OBSERVER: TOR

WHERE SAMPLED: Unit 1

ROCK NAME: Plagioclase-two pyroxene-andesite

GRAIN SIZE: Fine

TEXTURE: Intersertal, porphyritic

VESICLES/ CAVITIES Vesicles	PERCENT	LOCATIO	SIZI		FILLING	SHAPE
Clays	55	Orthopy	roxene,	glass	Smectite.	
SECONDARY MINERALOGY	PERCENT	FILI				COMMENTS
Plagioclase	N/A	N/A	<0.2		Laths	
GROUNDMASS Glass	N/A		N/A		N/A	Devitrified.
Quartz	=1</td <td><!--=1</td--><td>0.1-0.4</td><td></td><td>Anhedral</td><td></td></td>	=1</td <td>0.1-0.4</td> <td></td> <td>Anhedral</td> <td></td>	0.1-0.4		Anhedral	
Orthopyroxene	0		0.2-5		Euhedral	Altered to smectite.
Magnetite	1		N/A		Euhedral	
Clinopyroxene	3		N/A		Euhedral	
PHENOCRYSTS Plagioclase	30		0.2-5		Subhedral	Highly zoned.
MINERALOGY	PRESENT	ORIGINAL	(mm)	SITION	MORPHOLOGY	COMMENTS
PRIMARY	PERCENT	PERCENT	SIZE	COMPO-		

COMMENTS: Present groundmass is 10%, original was 65%.

126-792E-74R-01 (Piece 7A,84-85 cm)

OBSERVER: TOR

WHERE SAMPLED:

ROCK NAME: Clinopyroxene-plagioclase-andesite with dacite xenoliths

GRAIN SIZE:

TEXTURE: Porphyritic

VESICLES/ CAVITIES Vesicles	PERCENT 0	LOCATIO	SIZE ON (mm)		FILLING	SHAPE
Clays	55	Orthopy	roxene,	glass	Smectites comi	ng from altered glass.
SECONDARY MINERALOGY	PERCENT	FILL				COMMENTS
GROUNDMASS Plagioclase	10	~0.1	N/A		N/A	Altered groundmass to smectites giving a "pseudobreccia" look.
Orthopyroxene	<<1	1	3		N/A	Fresh or altered to smectites.
Magnetite Ouartz	N/A		=1<br N/A		N/A N/A	In xenoliths, partly resorbed.
Clinopyroxene	3		=2</td <td></td> <td>Euhedral</td> <td>Includes small plagioclase.</td>		Euhedral	Includes small plagioclase.
PHENOCRYSTS Plagioclase	30	30	=3</td <td></td> <td>Subeuhedral</td> <td>Zoned-clustered.</td>		Subeuhedral	Zoned-clustered.
MINERALOGY	PRESENT	ORIGINAL	(mm)	SITION MORPHOLOGY		COMMENTS
PRIMARY	PERCENT	PERCENT	SIZE	COMPO-		

COMMENTS: Quartz-orthopyroxene dacite is present as xenoliths. Groundmass is recrystallized cryptocrystalline quartz. Magnetite is also present. Orthopyroxene is altered in smectites. Some clasts contain mica pseudomorphs replaced by chlorite. Perhaps some of the rock is partly broken i.e. "clasts"?

126-792E-74R-01 (Piece 9,145-148 cm) OBSERVER: REX WHERE SAMPLED: At magnetite accumulation layer

ROCK NAME: Porphyritic - 2 pyroxene andesite

GRAIN SIZE: 0.5-3 mm

TEXTURE: Porphyritic-intersertal, accumulative

VESICLES/ CAVITIES Vesicles	PERCENT	LOCATIO	SIZE (mm)		FILLING	SHAPE
Clays	43	Replaci	ng		Glass/matrix	of rock.
SECONDARY MINERALOGY	PERCENT	FILL	10000		41 EU F H 1 F L 1 EU	COMMENTS
GROUNDMASS Glass	5	58	N/A		N/A	
(magnetite?) Orthopyroxene	?	<1	0.1-0.3		Subhedral	LIOWS.
Spinel	8	8	0.1-0.5		Subhedral	flows.
Clinopyroxene	3		0.2-2		Subhedral	Accumulation at contact between two
PHENOCRYSTS Plagioclase	30		0.5-2		Euhedral	
MINERALOGY	PRESENT	ORIGINAL	(mm)	SITION	MORPHOLOGY	COMMENTS
RIMARY	PERCENT		SIZE	COMPO-		

COMMENTS: Above contact, accumulation of ore mineral amidst normal andesite assemblage for Unit 1. Matrix in this region is veined by smectite alteration-could be fragmental? - possibly some flow-brecciation at base of flow.

126-792E-75R-01 (Piece 3,50-51 cm) OBSERVER: TOR WHERE SAMPLED: Unit 1

ROCK NAME: Plagioclase-orthopyroxene-clinopyroxene-quartz-andesite

GRAIN SIZE: Fine

TEXTURE: Porphyritic, intersertal

VESICLES/ CAVITIES Vesicles	PERCENT 0	LOCATIO	SIZE N (mm)		FILLING	SHAPE
Clays 	64	Orthopy	roxene,	glass	Smectite repl	acing orthopyroxene.
SECONDARY MINERALOGY	PERCENT	FILL				COMMENTS
Plagioclase	N/A	N/A	<0.1		Needles	
GROUNDMASS Glass	N/A	N/A	N/A		N/A	Devitrified.
Quartz	2	2	0.1-0.7		Anhedral (rounded	1)
Orthopyroxene	0		0.1-2		Euhedral	
Magnetite	1		=0.2</td <td></td> <td>Euhedral</td> <td></td>		Euhedral	
Clinopyroxene	1	1	0.1-0.7		N/A	
PHENOCRYSTS Plagioclase	15	15	N/A		N/A	
MINERALOGY	PRESENT	ORIGINAL	(mm)	SITION	MORPHOLOGY	COMMENTS
PRIMARY		PERCENT	SIZE	COMPO-	502122322 2014263	10-17-17-17-17-17-17-17-17-17-17-17-17-17-

COMMENTS: Present groundmass is 10%, original was 74%.

126-792E-76R-01 (Piece 1,1-2 cm)

OBSERVER: LTP

WHERE SAMPLED: Altered zone (glassy part)

ROCK NAME: Pyroclastic breccia (andesitic)

GRAIN SIZE: Fine

TEXTURE: Porphyritic

/ESICLES/ CAVITIES /esicles	PERCENT	LOCATIO	SIZE (mm)	FILLING	3	SHAPE
					nepracing cr	inopytoxene.
rehnite	10				Replacing cl:	용면 경에 PA (MATE) 100 경기 19 20m 등 하지만 하시면 하게 되었다면 하게 되었다.
hlorite	30					nerals (mainly phenocrysts).
Clays	60	EIDL	1110		Replacing mir	nerals and groundmass.
SECONDARY MINERALOGY	PERCENT	REPL	ACING/			COMMENTS
						clinopyroxene ~2 mm. Groundmass. 80%, both altered completely, transformed to chlorite and smectites.
GROUNDMASS N/A	N/A	N/A	N/A	3	N/A	Orthopyroxene surrounded by
Orthopyroxene	N/A	N/A	~2	1	Suhedral	Replaced by smectites, iron oxides.
Clinopyroxene	N/A		4 ~2		N/A	Replaced by smectites and prehnite.
PHENOCRYSTS Plagioclase	N/A		0.5	7	Euhedral	Chloritized.
MINERALOGY	PRESENT	ORIGINAL	(mm)	SITION	MORPHOLOGY	COMMENTS
PRIMARY	PERCENT	PERCENT	SIZE	COMPO-		

COMMENTS: Clasts: altered clinopyroxene-orthopyroxene andesite, 4-5 cm up to 0.5 cm. Groundmass: glassy becoming partly replaced by smectites. Clots of clinopyroxene including small plagicclase laths, very fresh. Clinopyroxene and plagicclase crystals, whole or broken, very fresh. Orthopyroxene - generally replaced by smectites (some relics).

126-792E-76R-01 (Piece 1,2-3 cm)

OBSERVER: TOR

WHERE SAMPLED:

ROCK NAME: Pyroclastic breccia

GRAIN SIZE: Fine

TEXTURE: Porphyritic

/ESICLES/ CAVITIES /esicles	PERCENT 0	LOCATIO	SIZE ON (mm)		FILLING		SHAPE
lays	69	Orthopy	roxene,	clinopyroxene,	plagioclase,	groundmass	
ECONDARY MINERALOGY	PERCENT	REPI FILI	ACING/				COMMENTS
					.,,,,		originally 57%.
lagioclase	N/A	N/A	N/A		N/A		originally 57%. Glass and plagicclase are presently 2%,
lass	N/A	N/A	N/A		N/A		Glass and plagioclase are presently 2%,
GROUNDMASS							
rthopyroxene	0	6	N/A		Euhe	dral	
Magnetite	1	1	N/A		Subh	edral	
linopyroxene	3		N/A			dral	Partly altered to smectite.
PHENOCRYSTS	25	30	0.2-1		Euhe	dral	
MINERALOGY	PRESENT	ORIGINAL	(mm)	SITION	MOR	PHOLOGY	COMMENTS
RIMARY		PERCENT	SIZE	COMPO-			

126-792E-76R-01 (Piece 2,10-11 cm)

OBSERVER: LTP

WHERE SAMPLED:

ROCK NAME: Andesitic volcanic breccia (orthopyroxene-clinopyroxene)

GRAIN SIZE: Fine
TEXTURE: Porphyritic

VESICLES/ CAVITIES Vesicles	PERCENT 0	LOCATIO	SIZE (mm)		FILLING	SHAPE
Clays	50	Glass				
MINERALOGY	PERCENT	FILLING				COMMENTS
SECONDARY	REPLACING/					
Groundmass	N/A	N/A	N/A		N/A	Partly cryptocrystalline.
Clinopyroxene	N/A		0.5		N/A	
GROUNDMASS Plagioclase	N/A		0.1		N/A	
Orthopyroxene	N/A	1	3		Euhedral	Altered to smectites.
Opaque	1		N/A		N/A	
Clinopyroxene	3	3	1		Euhedral	Fresh.
PHENOCRYSTS Plagioclase	35	35	=4</td <td></td> <td>Euhedral</td> <td>Oscillatory zoned - glomeroporphyritic.</td>		Euhedral	Oscillatory zoned - glomeroporphyritic.
MINERALOGY	PRESENT	ORIGINAL	(mm)	SITION	MORPHOLOGY	COMMENTS
PRIMARY	PERCENT	PERCENT	SIZE	COMPO-		

COMMENTS: Clasts: three types: clinopyroxene-q-dacite with a groundmass replaced by smectites. Very altered orthopyroxene-clinopyroxene andesite similar to sample 126-73R-01, piece 1.

Orthopyroxene-clinopyroxene-plagic

126-792E-76R-01 (Piece 4,42-43 cm)

OBSERVER: LTP

WHERE SAMPLED:

ROCK NAME: Quartz bearing orthopyroxene-clinopyroxene andesite

GRAIN SIZE: Fine grained TEXTURE: Porphyritic

VESICLES/ CAVITIES Vesicles	PERCENT 0	LOCATIO	SIZI ON (mm)		FILLING	SHAPE
Clays	54	Orthopy	roxene,	glass		
SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING				COMMENTS
Slass	N/A	N/A	N/A		N/A	
GROUNDMASS Feldspar	N/A	N/A	0.1		N/A	Glass partly recrystallized.
Quartz	2	2	N/A		Subhedral	Smectites embayed.
Ilmenite	3		N/A		Subhedral	Ilmenite or magnetite.
Clinopyroxene	6	6	=3</td <td></td> <td>Euhedral</td> <td>Fresh.</td>		Euhedral	Fresh.
Plagioclase	20	20	<4		Euhedral	Zoned, fresh clustered.
PHENOCRYSTS Orthopyroxene	1	5	2		Euhedral	Partly altered, some are fresh.
MINERALOGY	PRESENT	ORIGINAL	(mm)	SITION	MORPHOLOGY	COMMENTS
PRIMARY	PERCENT		SIZE	COMPO-		

COMMENTS: This rock appears rather rich in magnetite-ilmenite and quartz is sometimes embayed. Groundmass is presently 10%, originally 64%.

126-792E-76R-01 (Piece 6,69-70 cm)

OBSERVER: TOR

WHERE SAMPLED: Unit 1

ROCK NAME: Highly plagioclase-two pyroxene-andesite

GRAIN SIZE: Fine

TEXTURE: Porphyritic, intersertal

PRIMARY PERCENT PERCENT SIZE COMPO-MINERALOGY PRESENT ORIGINAL (mm) COMMENTS SITION MORPHOLOGY PHENOCRYSTS Plagioclase 35.5 35.5 0.2-4 Subhedral Zoned. Clinopyroxene 1.2 1.2 0.1-1 Subhedral 1.2 Magnetite 1.2 0.1-0.2 Euhedral Quartz 1.5 1.5 0.1-0.2 Anhedral Round. Orthopyroxene 0 6.5 0.1-2 Euhedral Altered to smectite. GROUNDMASS 54.1 N/A 0 Glass N/A Altered to smectite. SECONDARY REPLACING/ MINERALOGY PERCENT FILLING COMMENTS 60.6 Glass, orthopyroxene Clays Smectite. VESICLES/ SIZE CAVITIES PERCENT LOCATION (mm) FILLING SHAPE Vesicles 0

COMMENTS: Proportions and percentages by point counting (850 points).

126-792E-76R-01 (Piece 6,69-70 cm)

OBSERVER: LTP

WHERE SAMPLED:

ROCK NAME: Quartz-bearing andesite (2 pyroxenes)

GRAIN SIZE: Fine
TEXTURE: Porphyritic

PERCENT PERCENT SIZE PRIMARY COMPO-MINERALOGY PRESENT ORIGINAL (mm) MORPHOLOGY COMMENTS SITION PHENOCRYSTS Clustered and highly zoned. 33 </=5 Subhedral Plagioclase 33 Clinopyroxene </=3 Zn=35-40, perfectly fresh. 8 8 N/A Magnetite 1 </=1 1 N/A Quartz </=1 Sub-euhedral Orthopyroxene 0 15 </=3 Euhedral Altered to smectites. GROUNDMASS Plagioclase N/A N/A </=0.1 N/A Often included in pyroxenes. Clinopyroxene N/A N/A </=0.1 N/A Magnetite N/A N/A N/A N/A Glass N/A N/A N/A N/A Glass partly devitrified. SECONDARY REPLACING/ PERCENT FILLING MINERALOGY COMMENTS Clays 45 Smectites replacing orthopyroxene. VESICLES/ SIZE PERCENT LOCATION (mm) CAVITIES FILLING SHAPE Vesicles 0

COMMENTS: 2 types of clots: magnetite + plagioclase and orthopyroxene + plagioclase. Glass is still fresh. Groundmass is 10%.

126-792E-76R-01 (Piece 7,84-88 cm)

OBSERVER: LTP

WHERE SAMPLED: Unit 5

ROCK NAME: Clinopyroxene-dacite

GRAIN SIZE: Fine grained TEXTURE: Porphyritic

PRIMARY PERCENT PERCENT SIZE COMPO-MINERALOGY PRESENT ORIGINAL (mm) SITION MORPHOLOGY COMMENTS PHENOCRYSTS Plagioclase 30 30 2-3 Euhedral Oscillatory zoned, fresh. Clinopyroxene 7 3-4 Euhedral Fresh. Opaque 1 1 N/A Subhedral

Opaque 1 1 N/A Subhedral Orthopyroxene 0 5 3 Euhedral Altered. Quartz 5 5 0.5 Subhedral Fresh.

GROUNDMASS

Feldspar N/A N/A 0.1 N/A Cryptocrystalline to altered siliceous glass.

Glass N/A N/A N/A N/A N/A N/A Cryptocrystalline to altered silicious glass.

SECONDARY REPLACING/
MINERALOGY PERCENT FILLING COMMENTS
Clays 47 Orthopyroxene and glass

VESICLES/ SIZE

VENTURES PERCENT LOCATION (mm) FILLING SHAPE
Vesicles 10 Random Secondary, quartz and zeolites(?)

COMMENTS: Orthopyroxene is less abundant than in the quartz-bearing andesites. Present groundmass is 10%, originally was 52%.

126-792E-78R-01 (Piece 9,81-82 cm) OBSERVER: LTP WHERE SAMPLED:

ROCK NAME: GRAIN SIZE:

TEXTURE: Porphyritic

PRIMARY PERCENT PERCENT SIZE COMPO-MINERALOGY PRESENT ORIGINAL (mm) SITION MORPHOLOGY COMMENTS PHENOCRYSTS </=5 Subhedral Plagioclase 34 34 Oscillatory zoned-fresh. Clinopyroxene 10 10 </=5 Euhedral Including small plagioclase. Magnetite Subhedral 2 2 N/A 0 Altered to smectites. Orthopyroxene 13 Euhedral </=4 Quartz ~1 N/A GROUNDMASS Clinopyroxene N/A N/A ~</=1 N/A Orthopyroxene N/A </=1 N/A N/A Plagioclase N/A N/A </=0.5 N/A Glass N/A N/A N/A N/A Completely devitrified in a brown cryptocrystalline material. Magnetite N/A N/A N/A N/A SECONDARY REPLACING/ MINERALOGY PERCENT FILLING COMMENTS Clays 53 Orthopyroxene Smectite. VESICLES/ SIZE CAVITIES PERCENT LOCATION SHAPE (mm) FILLING Vesicles 0

COMMENTS: Present groundmass is 10%, originally was 53%. Two types of clots: 1) big clinopyroxene associated with plagioclase + orthopyroxene and magnetite; 2) plagioclase glomeroporphyritic aggregates.

126-792E-78R-01 (Piece 15,133-136 cm) OBSERVER: LTP WHERE SAMPLED:

ROCK NAME: Quartz-bearing andesite (2 pyroxenes)

GRAIN SIZE: Fine

TEXTURE: Porphyritic

PRIMARY	DBDORNE	DEDCEM	SIZE	COMPO		
		PERCENT		COMPO-		GOLD (THUM C
MINERALOGY PHENOCRYSTS	PRESENT	ORIGINAL	(mm)	SITION	MORPHOLOGY	COMMENTS
Plagioclase	25	25 7	=5</td <td></td> <td>N/A</td> <td></td>		N/A	
Clinopyroxene	7	7	=2</td <td></td> <td>N/A</td> <td>Fresh, sometimes clustered with plagioclase.</td>		N/A	Fresh, sometimes clustered with plagioclase.
Orthopyroxene	1	7	=3</td <td></td> <td>N/A</td> <td>Partly altered to smectites. Some crystals are still fresh.</td>		N/A	Partly altered to smectites. Some crystals are still fresh.
Quartz	1	1	=1</td <td></td> <td>N/A</td> <td></td>		N/A	
GROUNDMASS						
Plagioclase	N/A	N/A	=0.1</td <td></td> <td>N/A</td> <td></td>		N/A	
Clinopyroxene	N/A	N/A	=0.5</td <td></td> <td>N/A</td> <td></td>		N/A	
Glass	N/A	N/A	N/A		N/A	Glass altered in brown microcrystalline material.
SECONDARY	REPI	ACING/				
MINERALOGY	PERCENT	T FILLING				COMMENTS
Clays	56	Orthopyroxene,		glass		
VESICLES/			SIZ	E		
CAVITIES	PERCENT	LOCATIO	N (mm)	FILLING	SHAPE
Vesicles	0					

COMMENTS: 1 crystal of fresh orthopyroxene. Present groundmass is 10%, original was 60%.