Hole 369-U1513A Core 1H, Interval 0.0-5.37 m (CSF-A)

Core 1H is dominated by a light gray to white calcareous ooze. Iron oxide-rich reddish intervals are present throughout the core. The overall grain size is clay. In Section 4, a fine grained sand interval is dominated by abundant foraminifera and calcareous nannofossils. The core exhibits a slight soupy drilling disturbance. Munsell color notations for this core are as follows: 7.5YR 7/1– light gray, 7.5YR 8/2– pinkish white, and 7.5YR 8.5/1–white.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Silt Silt Frine sand Medium sand Medium sand Very coarse sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance Disturbance intensity	Natural gamma radiation (cps) 0 50 100 15	Bulk density (g/cm ³)	Reflectance L* a* b* 32 72 Lundundur 1 6 11 Lundundur -7 -2 3 8 Lundundur	
	100 -	1			IW PAL SED SED PMAG •	$\begin{array}{c} + + + + + + \\ + + + + + + + \\ + + + + $		7.5YR 8/2	#						:		in the second		
	200 -		-		SED • IW CARB HS SED • MAD SED •	$\begin{array}{c} + + + + + + \\ + + + + + + + \\ + + + + $		7.5YR 8.5/1 7.5YR 8/2	#										
3-	300 -	2			PMAG • SED • PAL •	+++++++		7.5YR 8.5/1	#		Pleistocene [GTS2012]		Pt1b		1	• • • • •	P. and the state of the state o		
-		3			MAD ●			7.5YR 8.5/1	#		Pleist					* * * * * *	, in the second		
4	400 -	4	-	100	XRD ●	$\begin{array}{c} + + + + + + \\ + + + + + + + \\ + + + + $		7.5YR 8.5/1 7.5YR 7/1	#							• • • • • •			
5	500 -	CC			PMAG SED FORAM FORAM FORAM PAL FORAM	++++++		7.5YR 8.5/1 7.5YR 8.5/1	# #			CN14	Pt1a			0 0 1 0	11	\sum	} -

Hole 369-U1513A Core 2H, Interval 5.3-14.68 m (CSF-A)

Core 2H is dominated by a light gray to white calcareous and nannofossil ooze. Purple and greenish intervals are present throughout the core. The overall grain size is clay. Sections 3, 6 and 7 contain fine sand-grained which is dominated by foraminifera. The core exhibits a slight soupy drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 7/N– light gray, GLEY 1 8/N– white gray, GLEY 1 8/10Y– light greenish gray, GLEY 1 7/10Y– light greenish gray, 7.5YR 7/1– light gray, and 7.5YR 8.5/1–white.



Hole 369-U1513A Core 3H, Interval 14.8-22.91 m (CSF-A)

Core 3H is dominated by light gray to white calcareous ooze. Light reddish gray and pale yellow intervals are present throughout the core. The grain size varies from silt to medium sand. The core exhibits a slight to moderate soupy drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 6/N– gray, GLEY 1 7/10Y– light greenish gray, 2.5Y 7/1– light gray, 2.5Y 8/1– white, 2.5Y 8/2– pale yellow, 2.5Y 8.5/1– white, 2.5Y 8/2– pale yellow, 2.5Y 8.5/1– white, 2.5Y 8/2– pale yellow.



Hole 369-U1513A Core 4H, Interval 24.3-33.83 m (CSF-A)

Core 4H is dominated by light gray to white calcareous ooze with several greenish gray intervals. The grain size varies from silt to medium sand. In Section 2, there is a burrow infilled with possible pyrite or monosulfide. Munsell color notations for this core are as follows: GLEY 1 6/N– gray, GLEY 1 7/N– light gray, GLEY 1 8/N– white gray, GLEY 1 5/SG– greenish gray, GLEY 1 6/N– gray, GLEY 1 6/N– gray, GLEY 1 8/SGY– light greenish gray, GLEY 1 6/SGY– greenish gray, GLEY 1 8/10Y– light greenish gray, GLEY 1 6/N– gray, GLEY 1 6/10GY– greenish gray, and 2.5Y 7/2– light gray.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Silt Silt Ferry fine sand Medium sand Medium sand Coarse sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	Nannofossil Zones	PF Zones BF Dalacenvironment	Drilling disturbance	Disturbance intensity acide of the second se	nma ation os) 100 1.	Bulk density (g/cm ³) 4 2.4 3.4	uuuluuu 0 5 10	e Magnetic susceptibility (IU) 0 150 300 -10 0 10 20 Induntual
- - 25 - -	100 -	1			SED •	++++++		GLEY 1 8/N GLEY 1 8/N	#					8			**		
- 26 - - -	200 -	2			SED • NANNO • MAD •	++++++ +++++++ +++++++++++++++++++		GLEY 1 5/5G GLEY 1 6/N GLEY 1 8/N GLEY 1 8/N						8					
- 27	300 -			3	NANNO NANNO NANNO SED NANNO SED MAD PAL	$\overline{+}$ \overline		8/5GY GLEY 1 8/5GY GLEY 1 8/5GY GLEY 1 8/10Y 2.5Y 7/2						:	* * * *				
- 28	400 -	3		-	SED PAL XRD PAL SED PAL	++++++		GLEY 1 6/10GY GLEY 1 8/N	— # #		S2012]			8		•			
29	500 -	4	I		NANNO NANNO	++++++: ++++++: +++++++: ++++++++:		GLEY 1 8/N	☞ #		Pliocene [GTS2012]								
30	600 -				NANNO NANNO IW CARB HS PMAG	++++++		GLEY 1 7/N GLEY 1 7/N	#						• • • • • • • • • • • •				
31 -	700 -	5			MAD ●	++++++ +++++++ ++++++++ +++++++++		GLEY 1 8/N	#						0 0 0 0 0 0 0 0 0				
32 -	800 -	6			NANNO ●	$\begin{array}{c} + + + + + + \\ + + + + + + \\ + + + + + $		GLEY 1 8/N	#						• • • • • • • • • • • • • • • • • • •				
-	900 -	7 CC		(Fritz	SED •	++++++		GLEY 1 8/N GLEY 1 8/5GY GLEY 1 6/N GLEY 1 8/N GLEY 1 8/N	# ■#			CN12a	PI5	^					

Hole 369-U1513A Core 5H, Interval 33.8-43.67 m (CSF-A) Core 5H is a white calcareous ooze. One greenish grey interval of 2 cm is present in the top of the core. The overall grain size is clay. There is no drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 6/10GY– greenish gray, and 2.5Y 8/1– white. **BF** Paleoenvironment Disturbance intensity Reflectance Bioturbation intensity Natural Drilling disturbance Nannofossil Zones L* a* b* Magnetic gamma Bulk Depth CSF-A (m) Core length (cm) susceptibility radiation density Grain size 52 72 Lithologic unit (IÙ) Sedimentary (cps) (g/cm³) համակուտ Shipboard samples Clay Slit Slit Very fine sand Fine sand Medium sand Coarse sand Very coarse sand PF Zones structures 1 6 11 16 150 300 Munsell color Section 0 50 100 1.4 2.4 3.4 and Core Graphic Lithologic Age 1.4 1.9 -6-4-124 -10 0 10 20 image lithology accessories Jumbunhund 2.5Y 8/1 GLEY 1 6/10Y $\overline{\tau}$ $\overline{\tau}$ $\overline{\tau}$ 34 ŝ エエ ÷ ÷ 1 2.5Y 8/1 # +++ 100 누누 ÷ 35 ++ +++++ VANNO ++++ ÷ Ŧ ÷ 200 ++ +: 36 2 2.5Y 8/1 SED ++++ 1 VANNC 300 ÷ ÷ ÷ ÷ ÷ MAD 37 $\pm\pm\pm$ +: ++ +: 3 2.5Y 8/1 ÷÷ +: 400 +++ 38 ++ PL4 PAL Pliocene [GTS2012] 누누 ÷ ╪╪╪╪ I + + + ÷ ÷ 500 PMAG 누누 1 39 2.5Y 8/1 # 4 VANNO ÷ ÷ $\pm\pm\pm$ IW CARB HS 600 ++++ 40 ++++ ÷ +: XRD 5 2.5Y 8/1 ++ Т 700 ++++ 41 ÷ 1 ÷ . MAD į, Z <u>ال</u>. VANNO 800 -42 6 2.5Y 8/1 1 SED 8 900 ÷÷÷ 43 ÷ +++ ÷ 7 2.5Y 8/1 ++++ ÷ CN10 3 PAL FORAM FORAM NANNO FORAM FORAM NANNO 2.5Y 8/1 CC

Hole 369-U1513A Core 6H, Interval 43.3-52.83 m (CSF-A) Core 6H is a pale yellow nannofossil ooze. The overall grain size is clay. The core has been subject to drilling disturbance evident with flow in (Sections 2 to 3), voids (Section 2) and soupy intervals (Section 1). Munsell color notations for this core are as follows: 2.5Y 8/2– pale yellow, and 2.5Y 8/3– pale yellow. BF Paleoenvironment Disturbance intensity Reflectance Bioturbation intensity Natural Drilling disturbance Nannofossil Zones L* a* b* Magnetic gamma Bulk Depth CSF-A (m) Core length (cm) susceptibility radiation density Grain size 76 36 Lithologic unit (IU) Sedimentary (cps) (g/cm³) հասհասհա Shipboard samples Clay Silt Very fine sand Fine sand Medium sand Very coarse sand structures PF Zones 6 11 16 150 300 Munsell Section 0 50 100 1.4 2.4 3.4 and للمطلبا color Core Graphic Lithologic Age 1.4 1.9 -10 0 10 -10 0 10 20 lithology image accessories hundrund < 2.5Y 8/2 8 ŝ # 1 44 2.5Y 8/2 # 1 100 2 45 2 200 -SED 1 2.5Y 8/2 46 300 -NANNO XRD 3 J 2.5Y 8/2 # 47 400 Pliocene [GTS2012] 48 I 2.5Y 8/2 VANNO # J 4 500 CARB 49 600 XRF XRD NANNO MAD 1 2.5Y 8/3 5 ť. 50 M14 700 PAL 51 SED NANNO MAD 8 6 2.5Y 8/3 ź 800 -52 PMAG 7 2.5Y 8/3 900 VANNO CN10 113b 2.5Y 8/3 СС NANNO FORAM FORAM FORAM NANNO FORAM PAL



Hole 369-U1513A Core 8F, Interval 57.5-62.62 m (CSF-A)

Core 8F is a pale yellow nannofossil ooze. The overall grain size is clay. Manganese nodules are present in Sections 3, 4 and in the CC. There is no drilling disturbance. Munsell color notations for this core are as follows: 2.5Y 7/3– pale yellow, 2.5Y 8/2– pale yellow, and 2.5Y 8/3– pale yellow.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Sitr Sitr Fine sand Medium sand Coarse sand Very coarse sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	Nannotossil Zones	BF Paleoenvironment	Drilling disturbance	Disturbance intensity		Bulk density (g/cm ³) 1.4 2.4 3. 1.4 1.9	
- 58 - - - - 59 -	100 -	1			XRD NANNO	$\begin{array}{c} \hline \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $		2.5Y 8/2	*							· · · · · · · · · · · · · · · · · · ·		
-	200 -	2	1		NANINO MAD	$\begin{array}{c} + + + + + + \\ + + + + + + + \\ + + + + $		2.5Y 8/2	*		Miocene [GTS2012]							
61 -	300 -	3		-	SED NANNO XRD NANNO	$\begin{vmatrix} + + + + + + + + + + + + + + + + + + +$		2.5Y 8/3	- • #		Mioc					· · · ·		
62 -	400 -	4 CC			PAL • MAD • NANNO •			2.5Y 7/3 2.5Y 7/3 2.5Y 7/3	0 # 			M11-M12 M13a						

Hole 369-U1513A Core 9H, Interval 62.2-72.07 m (CSF-A) Core 9H is a pale yellow nannofossils ooze. Nannofossils are generally more abundant than foraminifera. The overall grain size is clay. A chert nodule is present in Section 5 at 14-20 cm. There is no drilling disturbance. Munsell color notations for this core are as follows: 2.5Y 7/3– pale yellow, and 10YR 8/2– very pale brown. BF Paleoenvironment Disturbance intensity Reflectance Bioturbation intensity Natural Drilling disturbance Nannofossil Zones L* a* b* Magnetic gamma Bulk Depth CSF-A (m) Core length (cm) susceptibility radiation density Grain size 40 80 Lithologic unit (IU) Sedimentary (cps) (g/cm³) հասհասհ Shipboard samples Clay Silt Very fine sand Fine sand Medium sand Very coarse sand structures PF Zones 3 6 8 150 300 Munsell color Section 0 50 100 1.4 2.4 3.4 and Core Graphic Lithologic Age 15 1.4 1.9 -8 2 12 -10 0 10 20 lithology image accessories huduuluul . I. 2.5Y 7/3 0 XRD IANNO : Т VANNO ÷ ÷ ⊥ 1 63 2.5Y 7/3 # $\pm\pm\pm$ 100 +++ ÷ XRD NANNO ÷ ۱ $\pm\pm\pm\pm$ うしていて ÷ 64 200 ÷ 10YR 8/2 2 ÷ +++ ÷ Mar ÷ ÷ ÷ 65 ÷ 300 Second Second MAD PMAG 10YR 8/2 3 66 400 SED PAL Campanian 67 Ш 500 10YR 8/2 4 No. 68 IW CARB HS 600 XRD MAD 5 10YR 8/2 0 69 700 Ş ŝ 70 800 10YR 8/2 6 71 900 10YR 8/2 7 iot zoned C17 10YR CC PAL FORAM NANNO NANNO FORAM FORAM 72 8/2

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Hole 369-U1513A Core 10H, Interval 71.7-80.62 m (CSF-A) Core 10H is a very pale brown nannofossil ooze. Nannofossils are generally more abundant than foraminifera. The overall grain size is clay. A chert nodule is present in Section 1 at 1-5 cm. The core is destroyed with soupy disturbance. The Munsell color notation for this core is as follows: 10YR 8/2- very pale brown. **BF** Paleoenvironment Disturbance intensity Reflectance Bioturbation intensity Natural Drilling disturbance Nannofossil Zones L* a* b* Magnetic gamma Bulk Depth CSF-A (m) Core length (cm) susceptibility radiation density 0 1 1 Grain size Lithologic unit (IÙ) Sedimentary (cps) (g/cm³) համամամամ Shipboard samples Clay Slit Slit Very fine sand Fine sand Medium sand Coarse sand Very coarse sand PF Zones structures 00111 150 300 Munsell Section 0 50 100 1.4 2.4 3.4 and لتسلسنا color Core Graphic Lithologic Age 0 1.4 1.9 00111 -10 0 10 20 image lithology accessories hundrund - I -72 •••••• 10YR 8/2 1 1 # 100 73 4 ٢, 200 10YR 8/2 2 1 74 ۲ j ç 300 75 North State 10YR 8/2 3 Ŧ PMAG 400 Campanian 76 •• Ш ¥, Ś 500 SED and the second second 10YR 8/2 4 MAD 1 77 XRD : : 600 HS ••••••• CARB 78 10YR 8/2 5 ł 700 79 ••••• 10YR 8/2 And the second s 6 1 # 800 80 : not zoned 10YR 8/2 7 ł CC17 PAL FORAM FORAM NANNO FORAM NANNO FORAM CC 10YR 8/2

Hole 369-U1513A Core 11F, Interval 80.6-85.6 m (CSF-A)

Core 11F is a very pale brown nannofossil ooze. Nannofossils are generally more abundant than foraminifera. The overall grain size is clay. A silicified limestone fragment is present in Section 2 at 6-10 cm. In Section 2, there are trace amounts of ooids. The core exhibits an overall slight bowed drilling disturbance. The Munsell color notation for this core is as follows: 10YR 8/2– very pale brown.



Hole 369-U1513A Core 12F, Interval 85.3-88.85 m (CSF-A)

Core 12F is a very pale brown nannofossil ooze. Nannofossils are generally more abundant than foraminifera. The overall grain size is clay. A chert nodule is present in Section 1 (1-5cm). There is slight mousselike drilling disturbance. The Munsell color notation for this core is as follows: 10YR 8/2– very pale brown.



Hole 369-U1513A Core 13F, Interval 90.0-91.27 m (CSF-A)

Core 13F is a very pale brown nannofossil ooze. Nannofossils are generally more abundant than foraminifera. The overall grain size is clay. The core exhibits a slight mousse-like drilling disturbance. In Section 1, two silicified limestone fragments are observed at 32-35 cm and 65-58 cm. The Munsell color notation for this core is as follows: 10YR 8/2– very pale brown.



Hole 369-U1513A Core 14F, Interval 91.2-95.61 m (CSF-A)

Core 14F is a very pale brown nannofossil ooze. Nannofossils are generally more abundant than foraminifera. The overall grain size is clay. Section 1 and Section 2 (until 73 cm) are destroyed with soupy drilling disturbance, the rest of the core presents no drilling disturbance. In Section 1, silicified limestone fragments are observed at 32-35 cm and 65-58 cm. The Munsell color notation for this core is as follows: 10YR 8/2– very pale brown.



Hole 369-U1513A Core 15F, Interval 95.6-95.7 m (CSF-A) All to paleo Ative gamma Bulk gamma Bulk radiation density o (cps) (g/cm³) 0 50 1001.4 2.4 3.4 to 1.4 1.9 BF Paleoenvironment Bioturbation intensity Reflectance Drilling disturbance Nannofossil Zones * Magnetic susceptibility (IU) L* a* b* Depth CSF-A (m) Core length (cm) Grain size 0 1 1 Lithologic unit Sedimentary structures համամամամ sand Shipboard samples Clay Slit Slit Very fine sand Fine sand Medium sand Coarse sand Very coarse sand PF Zones Section 0 0 1 1 1 0 150 300 Munsell color and Lithologic accessories Core image Graphic lithology Age 00111 -10 0 10 20 Junfunfunf NANNO PAL FORAM FORAM HS NANNO FORAM FORAM П

Hole 369-U1513A Core 16X, Interval 95.7-96.87 m (CSF-A)

Core 16X is a very pale brown nannofossils ooze. The overall grain size is clay. Section 1 and Section 2 (until 73 cm) are destroyed with soupy drilling disturbance, the rest of the core presents no drilling disturbance. In Section 1, silicified limestone fragments are present at 0-20 cm and 47-54 cm. The Munsell color notation for this core is as follows: 10YR 8/2– very pale brown.



Hole 369-U1513A Core 17X, Interval 98.7-103.97 m (CSF-A)

Core 17X is a light greenish gray nannofossil ooze. The overall grain size is clay. Section 1 and Section 2 present slight biscuit drilling disturbance, the rest of the core presents no drilling disturbance. Intervals with silicified limestone fragment are frequent throughout. In Section 3, an inoceramid fragment was present. Munsell color notations for this core are as follows: GLEY 1 7/10Y– light greenish gray, and GLEY 1 8/10Y– light greenish gray.





Hole 369-U1513A Core 19X, Interval 117.9-122.22 m (CSF-A) Core 19X is a white nannofossil ooze with silicified limestone/nodules. The overall grain size is clay. Bioturbation is low to moderate throughout. The core exhibits moderate biscuit to fragmented drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 6/N– gray, and GLEY 1 8/N– white gray. **BF** Paleoenvironment Disturbance intensity Reflectance Bioturbation intensity Natural Drilling disturbance Nannofossil Zones L* a* b* Magnetic gamma Bulk Depth CSF-A (m) Core length (cm) susceptibility radiation density Grain size 68 28 Lithologic unit (IÙ) Sedimentary (cps) (g/cm³) հասհասհ Shipboard samples Clay Silt Very fine sand Fine sand Medium sand Very coarse sand PF Zones structures 1 6 11 16 150 300 Munsell color 0 50 100 1.4 2.4 3.4 Section and لتتلتنا Lunding. Core Graphic Lithologic Age 1.4 1.9 -2 -10 0 10 20 image lithology accessories hundrund . I. GLEY 1 33 118 6/N ł 2 Z GLEY 1 8/N 8 84 1 4 • 100 GLEY 1 6/N GLEY 1 54 ≥ ΓŌ 119 3 \mathbf{x}_{i}^{*} 84 . 8/N GLEY 1 30336335 10 1 \$ ••••• 8 6/N GLEY 1 8/N GLEY 1 8/N ... CARB Coniacian GLEY 1 8/N 200 8 PMAG **%** 120 : Ш というと Ń 2 SED 2 88 GLEY 1 6/N GLEY 1 8/N ¢ ¥4 8 PAL IW CARB HS PMAG 300 Å : 121 5 MAD XRD SED 3 8 GLEY 1 8/N 0 8 ¥ concavata eq Ş ł, 400 SC15 GLEY 1 8/N 122 8 сс 鎉 FORAM NANNO FORAM FORAM NANNO PAL FORAM പ്

Hole 369-U1513A Core 20X, Interval 127.5-132.57 m (CSF-A)

Core 20X is a white nannofossil ooze with silicified limestone/nodules. The overall grain size is clay. Bioturbation intensity is low to moderate throughout. The core exhibits moderate biscuit to fragmented drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 6/N– gray, GLEY 1 7/N– light gray, GLEY 1 8/N– white gray, and 2.5YR 8/1– white.





Hole 369-U1513A Core 22X, Interval 138.5-139.41 m (CSF-A)

Core 22X is a white nannofossil ooze with silicified limestone/nodules. A manganese nodule is present at the top of Section 1. The overall grain size is clay. Bioturbation is low to moderate throughout. The core exhibits moderate biscuited to fragmented drilling disturbance. Munsell color notations for this core are as follows: 2.5YR 8/1– white, and GLEY 1 6/N– gray.



Hole 369-U1513A Core 23X, Interval 148.1-149.0 m (CSF-A) Core 23X is a white nannofossil/calcareous ooze with silicified limestone/nodules. Black streaks of an unknown mineral(?) is present in the silicified limestone and the ooze. The overall grain size is clay. Bioturbation is low to moderate throughout. The core exhibits moderate biscuited drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 4/N– dark gray, GLEY 1 6/N– gray, GLEY 1 7/N– light gray, GLEY 1 7/SGY– light greenish gray, 5Y 7/1– light gray, and 5Y 8/1–white. **BF** Paleoenvironment Disturbance intensity Reflectance Bioturbation intensity Natural Drilling disturbance Nannofossil Zones L* a* b* Magnetic gamma Bulk Depth CSF-A (m) Core length (cm) susceptibility radiation density Grain size 32 52 Lithologic unit (IU) Sedimentary (cps) (g/cm³) համական Shipboard samples Clay Silt Very fine sand Fine sand Medium sand Very coarse sand PF Zones structures 4 6 8 150 300 Munsell color 0 50 100 1.4 2.4 3.4 Section and لتتنا Core Graphic Lithologic Age 1.4 1.9 -10 0 10 20 image lithology accessories huduuluul GLEY 1 6 eq CARB XRD SED PAL HS : 7/N 5Y 8/1 GLEY 1 2 . concavata Coniacian ł 1 3 7/5GY GLEY 1 4/N GLEY 1 6/N 5Y 8/1 # . Ш ۸, 2 ### CC15 0 ł сс FORAM NANNO NANNO PAL FORAM FORAM 149 o.

Hole 369-U1513A Core 24X, Interval 149.1-150.42 m (CSF-A)

Core 24X is a greenish gray nannofossil ooze with silicified limestone/nodules. The overall grain size is clay. Bioturbation intensity is moderate throughout with frequent burrows. Recognised ichofacies include chondrites, zoophycos, planolites, thalassinoides and teichichnus. The core exhibits moderately fragmented drilling disturbance. The Munsell color notation for this core is as follows: GLEY 1 8/10Y– light greenish gray.



Hole 369-U1513A Core 25X, Interval 153.9-154.99 m (CSF-A)

Core 25X is a light greenish gray clayey nannofossil ooze/chalk with silicified limestone beds. The lithology changes to lithified calcareous chalk at 25X-CC (0 cm). The overall grain size is clay. Bioturbation is moderate in the nannofossil ooze/chalk and low in the silicified beds. Recognised ichofacies include chondrites, zoophycos, planolites, thalassinoides and teichichnus. The core exhibits moderately fragmented drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 6/N– gray, and GLEY 1 8/10Y– light greenish gray.



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Hole 369-U1513A Core 26X, Interval 157.2-159.4 m (CSF-A)

Core 26X is a greenish gray clayey nannofossil chalk with silicified limestone beds up to 10 cm thick. The overall grain size is clay. Bioturbation intensity is moderate in the nannofossil chalk and low in the silicified beds. Recognized ichofacies include chondrites, zoophycos, planolites, thalassinoides and teichichnuss. The core exhibits moderately fragmented and biscuited drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 6/N– gray, and GLEY 1 8/10Y– light greenish gray.



6/N

Hole 369-U1513A Core 27X, Interval 162.0-164.69 m (CSF-A)

Core 27X is a greenish gray clayey nannofossil chalk with silicified limestone beds up to 8 cm thick. The overall grain size is clay. Bioturbation intensity is moderate to high in the nannofossil chalk and low in the silicified beds. High bioturbation in the nannofossil chalk causes color banding. Recognized ichofacies include chondrites, zoophycos, planolites, thalassinoides and teichichnus. The core exhibits slight to moderately fragmented and biscuited drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 6/N– gray, GLEY 1 7/N– light gray, and GLEY 1 8/10Y– light greenish gray.



Hole 369-U1513A Core 28X, Interval 166.8-169.73 m (CSF-A)

Core 28X is a greenish gray clayey nannofossil chalk with silicified limestone beds up to 10 cm thick. The overall grain size is clay. Bioturbation intensity is moderate to high in the nannofossil chalk and low in the silicified beds. High bioturbation in the nannofossil chalk causes color banding. Recognized ichofacies include chondrites, zoophycos, planolites, thalassinoides and teichichnus. The core exhibits slight to highly fragmented drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 7/N– light gray, and GLEY 1 8/10Y– light greenish gray.



Hole 369-U1513A Core 29X, Interval 171.6-174.29 m (CSF-A)

Core 29X is a greenish gray clayey nannofossil chalk with silicified limestone beds up to 10 cm thick. The overall grain size is clay. Bioturbation intensity is moderate to high in the nannofossil chalk and low in the silicified beds. Greenish/brownish-coloed burrows are frequently observed. Recognized ichofacies include chondrites, zoophycos, planolites, thalassinoides and teichichnus. The core exhibits moderate biscuit drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 7/N– light gray, and GLEY 1 8/10Y– light greenish gray.



Hole 369-U1513A Core 30X, Interval 176.4-177.54 m (CSF-A) Core 30X is a greenish gray clayey nannofossil chalk with silicified limestone beds up to 5 cm thick. The overall grain size is clay. Bioturbation intensity is moderate in the nannofossil chalk and low in the silicified beds. Recognized ichofacies include chondrites, zoophycos, planolites, thalassinoides and teichichnus. The core exhibits moderately fractured/biscuited drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 7/N– light gray, and GLEY 1 8/10Y– light greenish gray. **BF** Paleoenvironment Disturbance intensity Reflectance Bioturbation intensity Natural Drilling disturbance Nannofossil Zones L* a* b* Magnetic gamma Bulk Depth CSF-A (m) Core length (cm) susceptibility radiation density Grain size 28 48 Lithologic unit (IÙ) Sedimentary (cps) (g/cm³) համական Shipboard samples Clay Slit Slit Very fine sand Fine sand Medium sand Coarse sand Very coarse sand PF Zones structures 6 11 150 300 Munsell color 0 50 100 1.4 2.4 3.4 Section and and and Core Graphic Lithologic Age 1.4 1.9 -6 И -10 0 10 20 image lithology accessories huduuluul GLEY 1 0 (lowe # R 7/N GLEY MNN ## 1 8/10 GLEY % maslakovae MAD SED CARB XRD HS 0 Turonian • 7/N GLEY 1 Ш # ١ 177 8/10Y Ŷ, GLEY 1 8/10Y # 8 СС 100 FORAM NANNO FORAM FORAM FORAM PAL NANNO

Hole 369-U1513A Core 31X, Interval 179.5-181.0 m (CSF-A)

Core 31X is a light greenish gray clayey nannofossil chalk with white intervals and silicified limestone. The overall grain size is clay. Bioturbation is high in the light greenish gray nannofossil chalk and low in the white intervals. The core exhibits severe biscuited drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 8/N– white gray, and GLEY 1 7/10Y– light greenish gray.



Hole 369-U1513A Core 32X, Interval 186.0-186.85 m (CSF-A)

Core 32X is a white to greenish gray clayey nannofossil chalk with intervals of silicified limestone. The overall grain size is clay. Bioturbation is sparse to low throughout. The core exhibits severe brecciated and biscuited drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 7/10Y– light greenish gray, GLEY 1 6/5GY– greenish gray, GLEY 1 7/5G– light greenish gray, and 10YR 9/1– white.



Hole 369-U1513A Core 33X, Interval 190.8-192.66 m (CSF-A)

Core 33X is a light greenish gray clayey nannofossil chalk with intervals of silicified limestone. The overall grain size is clay. Bioturbation intensity is low to moderate throughout. The core exhibits severe to destroyed biscuited drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 8/10GY– light greenish gray, and GLEY 1 8/5GY– light greenish gray.



Hole 369-U1513A Core 34X, Interval 195.6-196.47 m (CSF-A)

Core 34X is a light greenish gray clayey nannofossil chalk with an interval of silicified limestone. The overall grain size is clay. Bioturbation is sparse to moderate throughout. The core exhibits severe to destroyed biscuited drilling disturbance and as a result, many pieces are not in situ. The Munsell color notation for this core is as follows: GLEY 1 8/10GY–light greenish gray.



Hole 369-U1513A Core 35X, Interval 200.4-201.71 m (CSF-A)

Core 35X is a light greenish gray to pale yellow silicified limestone with an interval of clayey nannofossil chalk. The overall grain size is clay. Bioturbation is sparse to moderate throughout. The core exhibits severe biscuited and brecciated drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 7/10Y– light greenish gray, GLEY 1 8/10Y– light greenish gray, 5Y 6/1– gray, 5Y 8/4– pale yellow, and 10BG 7/1– light greenish gray.



Hole 369-U1513A Core 36X, Interval 205.2-206.58 m (CSF-A)

Core 36X is a white to white greenish gray nannofossil chalk. The overall grain size is clay. Bioturbation is moderate throughout. This core is more lithified than previous cores. The core exhibits severely fragmented drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 8/10Y– light greenish gray, GLEY 1 7/5GY– light greenish gray, and GLEY 1 7/5G– pale green.




Hole 369-U1513A Core 38X, Interval 214.8-216.52 m (CSF-A) Core 38X is a white clayey nannofossil chalk. The overall grain size is clay. Bioturbation is moderate throughout. Greenish/gray and brownish/olive intervals were observed. The core exhibits slight to severe fractured and biscuited drilling disturbance. BF Paleoenvironment Disturbance intensity Reflectance Bioturbation intensity Natural Drilling disturbance Nannofossil Zones L* a* b* Magnetic gamma Bulk Depth CSF-A (m) Core length (cm) susceptibility (IU) radiation density Grain size 60 20 Lithologic unit Sedimentary (g/cm³) (cps) հասհասհաս Shipboard samples ium sand rse sand ' coarse sa PF Zones structures -1 4 9 14 150 300 Munsell color Section 0 50 100 1.4 2.4 3.4 and fine s sand لتتنا Core Graphic Lithologic Clay Silt Very Coars Coars Age 1.4 1.9 -6 -1 4 9 -10 0 10 20 image lithology accessories hundrund 5Y 8/1 % **%** 215 IANNO XRD SED PAL CARB 5Y 6/3 5Y 8/1 **\$**\$ 8 Turonian 1 Ш GLEY 1 181 1 1 s 100 7/5GY GLEY 1 4 216 6/5G **3**4 not zoned % PAL MAD CC11 14 5Y 8/1 СС % PAL FORAM NANNO NANNO FORAM FORAM

			Hole	369-U1513A C	ore 39X, Interval	219.0-22	0.17 m	(CSF-	A)				
Core distu	e 39X is a white claye Irbance.	y nannofossil	chalk. The overa	all grain size is clay. I	Bioturbation is modera	te througho	out. The co	ore exhi	bits s	light to sev	ere fracture	d and breccia	ted drilling
						sity	S	nent ie	sity	Natural		Reflectance)
(E)	cm) t		Gr	ain size		nten:	one	ironn banc	nten	gamma radiation	Bulk density	L* a* b* 32 72	Magnetic susceptibility (IU)
SF-A	gth (c uni	Ð		d sand	Sedimentary structures	tion i	ssil z s	oenvi listur	nce i	(cps)	(g/cm ³)		
Depth CSF-A (m)	Core length (cm) Section Lithologic unit <u></u> O	abe abo Shipboard samples	Craphia	- Sit Very fine sand Fine sand Menus sand - Coarse sand - Very coarse sand - Very coarse sand Color Color Color	and Lithologic	Bioturbation intensity Age	Nannofossil Zones PF Zones	BF Paleoenvironment Drilling disturbance	Disturbance intensity) 50 100	1.4 2.4 3		0 150 300 Ll
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		NANNO FORAM											

Hole 369-U1513A Core 40X, Interval 224.4-226.77 m (CSF-A) Core 40X alternates between greenish-grey and white clayey nannofossil chalks. The overall grain size is clay. An interval of green nannofossil-rich claystone was observed in Section 2 (10-15 cm). Bioturbation is variable throughout. The core exhibits moderately biscuited and brecciated drilling disturbances. **BF** Paleoenvironment Disturbance intensity Reflectance Bioturbation intensity Natural Drilling disturbance Nannofossil Zones L* a* b* Magnetic gamma Bulk Depth CSF-A (m) Core length (cm) susceptibility radiation Grain size density 28 68 Lithologic unit (IÙ) Sedimentary (cps) (g/cm³) հասհասհա Shipboard samples Clay Silt Very fine sand Fine sand Medium sand Very coarse sand PF Zones structures -2 3 8 13 150 300 Munsell color 0 50 100 1.4 2.4 3.4 Section and Core Graphic Lithologic Age 1.4 1.9 -2 -10 0 10 20 lithology image accessories hundrund GLEY 1 8/10Y 3 ¥4 ξ. PMAG MAD MAD × 5Y 8/1 GLEY 1 1 1 8/10Y 5Y 8/1 5 225 SED GLEY 1 8 ŷ 8/10 5Y 8 HS 100 Furonian SED XRD CARB PAL PAL SED GLE П ł 5/5G GLEY 8 2 4/10Y GLEY 8 226 8/10Y not zoned 200 GLEY 1 8/10Y 3 8 СС -1 PAL FORAM FORAM NANNO NANNO FORAM FORAM



Hole 369-U1513A Core 42X, Interval 234.0-236.44 m (CSF-A) Core 42X is a greenish-grey nannofossil chalk. A darker greenish-grey nannofossil chalk interval is present in Section 1 (0-15 cm). The overall grain size is clay. Bioturbation is moderate throughout. The core exhibits moderate biscuit drilling disturbance. BF Paleoenvironment Reflectance Disturbance intensity Bioturbation intensity Natural Drilling disturbance Nannofossil Zones L* a* b* Magnetic gamma Bulk Depth CSF-A (m) Core length (cm) susceptibility (IU) radiation density Grain size 30 50 Lithologic unit Sedimentary (cps) (g/cm³) համական Shipboard samples Clay Slit Slit Very fine sand Fine sand Medium sand Coarse sand Very coarse sand PF Zones structures 150 300 -3 2 7 Munsell color Section 0 50 100 1.4 2.4 3.4 and Core Graphic Lithologic Age 1.4 1.9 -7 -2 3 -10 0 10 20 lithology image accessories huduuluul 1 GLEY 1 4/10Y 234 0;0;0;0; PAL Ł 8 1 GLEY 1 8/10Y 14 MAD PMAG CARB VANNO SED HS GLEY 1 235 100 332 9 Turonian 4/10Y GLEY 1 4/10Y Ш • XRD SED 2 GLEY 1 8/10Y 8 3 • not zoned 236 200 CC10b SED GLEY 1 8/10Y СС 貕 8 FORAM FORAM FORAM NANNO NANNO PAL FORAM





Hole 369-U1513A Core 45X, Interval 244.5-247.37 m (CSF-A)

Core 45X is a dark greenish claystone with thin beds of black claystone. From Section 3, there is transition in litholoiges from claystone to nannofossil-rich clay. There are sharp and gradational color changes throughout the core. Bioturbation is sparse to high in the green claystones, low to high in the calcareous clays, and absent in the black clay intervals. Chondrites is present in Section 3 (42-44 cm). Many sedimentary structures are present including convolute bedding, parallel laminations and load casts. The overall grain size is clay. The core exhibits many different types of drilling disturbances, but is mostly fragmented.



Hole 369-U1513A Core 46X, Interval 249.3-253.56 m (CSF-A)

Core 46X is an alternation of very dark gray claystone with nannofossils to light greenish-grey nannofossil-rich claystone, every 20-30 cm. The overall grain size is clay. Bioturbation is low to high throughout with darker intervals being more highly bioturbated. Sedimentary structures present including convolute bedding and parallel laminations. The core exhibits moderate to severe fragmented to biscuit drilling disturbance



Hole 369-U1513A Core 47X, Interval 254.1-259.49 m (CSF-A)

Core 47X is an alternation of very dark gray claystone with nannofossils to light greenish-grey nannofossil-rich claystone, every 20-60 cm. The overall grain size is clay. Bioturbation is low throughout. High bioturbations are in the darker interval. Shell fragments is present in Section 2 (95, 104 cm) interlaminations are present. There is faulting contact at 84 cm ~45 degrees. The core exhibits moderate fragmented to severe biscuit drilling disturbance



Hole 369-U1513A Core 48X, Interval 263.7-271.62 m (CSF-A)

Core 48X is an alternation of dark greenish-gray nannofossils-rich claystone to light greenish-grey and sometimes nannofossil-rich claystone. The overall grain size is clay. Bioturbation is generally intense throughout. Dark greenish-gray intervals tend to be highly bioturbated. Shell fragments are present throughout but tend to be more abundant in dark greenish-gray intervals. Recognized ichofacies include chondrites, zoophycos, planolites, thalassinoides and teichichnus and are mostly present in the dark greenish-gray intervals. The core exhibits moderate biscuit drilling disturbance.

Depth CSF-A (m)	Core length (cm)	Section	Core	Shipboard samples	Graphic lithology	Clay - Clay - Very fine sand - Very coarse sand - Very coarse sand - Very coarse sand - Very coarse sand - Coarse sand	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Nannofossil Zones	PF Zones	BF Paleoenvironment Drilling disturbance	Disturbance intensity	(cps) 0 50 100 1.	Bulk density (g/cm ³) 4 2.4 3.4	-2 3 8 13	e Magnetic susceptibility (IU) 0 150 300 Lundhund -10 0 10 20 Lundhund
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265 - - - 266	200 -	2		PAL • SED •		GLEY 1 GLEY 1 GLEY 1 S/5GY GLEY 1					8		· · · · · · ·		- A CAR AND	
- - - 267 —	300 -			SED ● XRD ●		411GY 411GY 411GY 411GY 2.5/N GLEY1 5/5CY GLEY1 2.5/N									and the second with	
- - 268 — -	400 -	3		NANNO PMAG MAD		GLEY 1 4/10GY CLEY 1 2.5/N CLEY 1 4/10GY CLEY 1 4/10GY CLEY 1 2.5/N CLEY 1 2.5/N CLEY 1	*	Cenomanian			8					
- - 269 — -	500 -	4	J			4/10GY GLEY 1 4/10GY GLEY 1 4/10GY GLEY 1 4/10GY					8				and the second	
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- - 271 — - -	700 -	6 CC		PAL • FORAM • NANNO NANNO FORAM FORAM FORAM PAL		CLEY1 GLEY1 GLEY1 GLEY1 4/10GY GLEY1 4/10GY			CC9b	not zoned	8				marchand	





Hole 369-U1513B Core 1H, Interval 0.0-8.73 m (CSF-A)

Core 1H is dominated by a light gray to white calcareous ooze. White to pinkish intervals are present throughout the core. The overall grain size is clay. Sections 3 and 4 are dominated by foraminifera. The core exhibits a slight to moderate soupy drilling disturbance. Munsell color notations for this core are as follows: 5YR 8/1–white, 7.5YR 8/1– white, 7.5YR 8.5/2– pinkish white, 10YR 8/1–white and 10YR 8/3–very pale brown.



Hole 369-U1513B Core 2H, Interval 8.7-18.66 m (CSF-A)

Core 2H is dominated by a light gray to white calcareous ooze. Purple and greenish intervals are present throughout the core. The overall grain size is clay. Sections 3, 6 and 7 contain fine sand-grained which is dominated by foraminifera. The core exhibits a slight soupy drilling disturbance. Munsell color notations for this core are as follows: 2.5Y 7/1-light gray, 5Y 8/2-white, 7.5YR 8/1-white, and Gley 1 7/N-light gray.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Safety Safety Safety Coarse sand Very coarse sand Very coarse sand Very coarse sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance	Natura gamm radiation (cps)	a Bulk on density (g/cm ³) 100 1.4 2.4 3		* Magnetic susceptibility (IU) 0 150 300
9 - -	0-	1				$\frac{1}{2} + \frac{1}{2} + \frac{1}$		7.5YR 8/1	#						▲				
- - 10 -	100 -					++++++		7.5YR 8/1	#							•			
- - - 11 - -	200 -	2				$\begin{array}{c} + + + + + + \\ + + + + + + + \\ + + + + $		8/1 GLEY 1 7/N 7.5YR 8/1	# #						:	· · · · ·			
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- - 13 - -	400 -	3				++++++		5Y 8/2	#		S2012]				•	•		- Marine	-
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Hole 369-U1513B Core 3H, Interval 18.2-28.32 m (CSF-A)

Core 3H is dominated by a light gray to white calcareous ooze. Purple and greenish intervals are present throughout the core. The overall grain size is clay. Sections 3, 6 and 7 contain fine sand-grained which is dominated by foraminifera. Section 3 exhibits a slight soupy drilling disturbance. Munsell color notations for this core are as follows: 2.5Y 7/1-light gray and 5Y 8/2-white.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay strip Strip File sand File sand Coarse sand Very coarse sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance	ance		Bulk	uuluulu 0 5 10	e Magnetic susceptibility (IU) 0 150 300 Ll. -10 0 10 20 Immunut
- - 19 -	100 -	1			SED •	+++++++		2.5Y 7/1	#								• • • • • • • • •			
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21	300 -					++++++ ++++++ ++++++++++++++++++++		5Y 8/2	#						1					
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- - - 24 -	500 -	4	I			+++++++		5Y 8/2	#		Pleistocene [GTS2012]						• • • • • • • • • •			
- - 25 -	700 -	5				++++++: ++++++: +++++++: ++++++++++		5Y 8/2 2.5Y 7/1 5Y 8/2 2.5Y 7/1	# # #								• • • • • • •			
- 26 - -	800 -	6						2.5Y 7/1	#								•	N. Same		
- 27	900 -	7				$\begin{array}{c} + + + + + + \\ + + + + + + \\ + + + + + $		2.5Y 7/1 5Y 8/2	# #								•	3		
28 -	1000 -	.cc			FORAM FORAM PAL FORAM NANNO PORAM	+ + + + + + + + + + + + + + + + + + +		5Y 8/2	#				Pt1a	CN14			•	(#.		3 –

Hole 369-U1513B Core 4H, Interval 27.7-37.1 m (CSF-A)

Core 4H is dominated by a light gray to white calcareous ooze. The overall grain size is clay to fine sand. Section 6 contains fine sand-grained which is dominated by foraminifera ooze. Manganese nodules occur at 58 cm of Section 4. The core is disturbed by broken core liner. Munsell color notations for this core are as follows: 2.5Y 7/1-light gray, 5Y 8/2-white, and 5YR 8/1-yellowish gray.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Silt - Very fine sand Fine sand Fine sand Coarse sand - Very coarse sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age Namofossil Zonos	PF Zones	BF Paleoenvironment	Drilling disturbance	Image: Second system Natural gamma Bu radiation dens cps (cps) 0 50 100 1.4 100 1.4 100 1.4 100 1.4	sity 36 76 n ³) Luuduuduu 4 3.4 0 5 10 15 Luuduudu 1.9 -9 -4 1 6	* Magnetic susceptibility (IU) 0 150 300
- 28	0-	1				$\begin{array}{c} + + + + + + + \\ + + + + + + + + + \\ + + + + + + + + \\ + + + + + + + \\ + + + + + + + \\ + + + + + + + \\ \end{array}$		5Y 8/2	#					۸			
- 29 - -	100 -					+++++++		2.5Y 7/1	 #								
30 -	200 -	2				$\begin{array}{c} + + + + + + + \\ + + + + + + + \\ + + + + + + + \\ + + + + + + + \\ \end{array}$		5Y 8/2	#								
31 -	300 -	3			SED 8	+++++++		5Y 8/1 2.5Y 7/1 5Y 8/2	= # #								
- 32 - -	400 -	4	1					5Y 8/2	#					•	Jan Marine		
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		6				$\begin{array}{c} + + + + + + + \\ + + + + + + + + \\ + + + + + + + \\ + + + + + + + \\ + + + + + + + \\ + + + + + + \\ \end{array}$		5Y 8/2	#								
	800 -	7				+++++++		5Y 8/2	#					•			
37 –	900 -	CC			SED • FORAM • FORAM FORAM FORAM PAL	┿┿┿┿┿ ╪╪╪╪		5Y 8/2	#					^			{

Hole 369-U1513B Core 5H, Interval 37.2-47.4 m (CSF-A) Core 5H is dominated by a white calcareous ooze. The overall grain size is clay. Munsell color notation for this core is 5Y 8/2-white. BF Paleoenvironment Reflectance Bioturbation intensity Disturbance intensity Natural Drilling disturbance Nannofossil Zones L* a* b* Magnetic gamma Bulk Depth CSF-A (m) Core length (cm) susceptibility radiation density Grain size 32 72 Lithologic unit (IÙ) Sedimentary (cps) (g/cm³) հասհասհաս Shipboard samples Clay Silt Very fine sand Fine sand Medium sand Coarse sand PF Zones structures 1 6 11 16 150 300 Munsell color Section 0 50 100 1.4 2.4 3.4 and Core Graphic Lithologic Age 1.4 1.9 -7 -2 3 -10 0 10 20 lithology image accessories huduuluul $\overline{\tau}$ ł ÷ Ś ł ÷ 1 5Y 8/2 # 38 ÷ ÷ 100 ++ ++ $\pm\pm\pm\pm$ ÷÷ 누누 39 200 ÷ 2 5Y 8/2 ++ 40 300 ÷ ÷ +++ ÷ ÷ 3 5Y 8/2 41 + 400 ++: 누누 ++ Pliocene [GTS2012] +++++ 42 ++++ ÷ 500 · I ⊥ 1 \perp 1 4 5Y 8/2 # ÷ 43 ÷ : 600 ÷ ÷ 누누 ÷ +: 5 5Y 8/2 44 700 + ÷ ÷ 45 ÷ ÷ + ÷ 800 -SED ٦. ÷÷ ÷ 6 5Y 8/2 # Т 46 900 ÷ ÷ ÷ 7 5Y 8/2 \$ ÷ 47 $\pm\pm\pm\pm$ ⊥ CN9d 1000 - CC 5Y 8/2 PL2 $\pm\pm\pm\pm$ FORAM FORAM NANNO NANNO FORAM

Hole 369-U1513B Core 6H, Interval 46.7-55.99 m (CSF-A) Core 6H is dominated by a pale yellow calcareous ooze. The overall grain size is clay to fine sand. Section 2 (0-8 cm) contains a light gray fine sand-grained which is dominated by foraminifera ooze. Munsell color notations for this core are as follows: 2.5Y 7/1-light gray and 2.5Y 8/3-pale yellow. **BF** Paleoenvironmen Disturbance intensity Reflectance Bioturbation intensity Natural Drilling disturbance Nannofossil Zones L* a* b* Magnetic gamma Bulk Depth CSF-A (m) Core length (cm) 84 susceptibility radiation density Grain size 44 Lithologic unit (IU) Sedimentary (cps) (g/cm³) للتسليتسا Shipboard samples Clay Slit Slit Very fine sand Fine sand Medium sand Coarse sand Very coarse sand structures PF Zones 1 6 11 16 150 300 Munsell 0 50 100 1.4 2.4 3.4 Section and 1 1.1 color Core Graphic Lithologic Age 15 1.4 1.9 -2 3 8 13 -10 0 10 20 image lithology accessories hundradian 1 $\overline{\tau}$ $\overline{\tau}$ $\overline{\tau}$ Т 47 ÷ ±+ ⊥ 2.5Y 8/3 # 1 $\pm\pm\pm$ 100 누누 ÷ 48 ÷ + 2.5Y 7/1 2.5Y 7/1 SED . +++++ 200 ÷ 누누 +: 2 49 2.5Y 8/3 Т ÷ Ŧ 누누 300 ++++ ÷ 50 ++++╧╧╧ ÷ ÷ ++ 3 2.5Y 8/3 누누 400 ++++51 ÷ ÷ 누누 ÷ ÷ 누누 I ÷ ÷ ++ ÷ ÷ 500 ++++ ÷ ++++ +: 4 2.5Y 8/3 52 ÷ Т 600 ÷+ 53 ÷ ++ 누누 ÷ 2.5Y 8/3 \$ +++++ 5 ++++ ÷ • • • • • • • • • • • 700 ÷ 54 SED 2.5Y 7/1 ł 2.5Y 8/3 ÷ ⊥ ⊥ ⊥ т ŦŦ Ŧ 6 2.5Y 8/3 800 ÷ ÷ ÷ + 55 •••• ÷ +++ \pm ++ ÷ 2.5Y 8/3 7 · · · · · + + + + +: 900 +++ СС 2.5Y 8/3 \geq PAL FORAM FORAM NANNO FORAM FORAM NANNO

Hole 369-U1513B Core 7H, Interval 56.2-64.94 m (CSF-A) Core 7H is dominated by a pale yellow calcareous ooze. The overall grain size is clay. The core exhibits moderate to severe soupy drilling disturbance in section 1 (0-91cm) and CC (8-15 cm). Munsell color notations for this core are as follows: 2.5Y 8/2-pale yellow, 2.5Y 8/3-pale yellow, and 10YR 8/3-very pale brown. BF Paleoenvironment Disturbance intensity Reflectance Bioturbation intensity Natural Drilling disturbance Nannofossil Zones L* a* b* Magnetic gamma Bulk Depth CSF-A (m) Core length (cm) susceptibility radiation density Grain size 80 40 Lithologic unit (IÙ) Sedimentary (cps) (g/cm³) հասհասհա Shipboard samples Clay Slit Slit Very fine sand Fine sand Medium sand Coarse sand Very coarse sand structures PF Zones 7 12 17 150 300 Munsell 0 50 100 1.4 2.4 3.4 Section and لتتلتنا color and an a Core Graphic Lithologic Age 1.4 1.9 2 12 -10 0 10 20 image lithology accessories Juntantant 1 $\overline{\tau}$ $\overline{\tau}$ $\overline{\tau}$ × Т Ê + 1 ÷ ×. 2.5Y 8/2 1 # 57 누누 ÷ 100 누누 ÷ ÷ ÷ ++ ÷ ÷ +++++ ++++ ÷ 58 Ŧ ÷ 200 ++ +: 2 2.5Y 8/2 ++++ 59 300 ÷ ÷: $\pm\pm\pm$ ÷ +: ++++ SED ÷÷ 누누 3 2.5Y 8/2 60 +++++ Miocene [GTS2012] 400 +++ ++ ÷ I ++ ÷ ╪╪╪╪ 61 +++++ 500 ++++ ⊥ 4 2.5Y 8/3 ++ 누누 62 ⊥ ÷ • 600 ÷ ++++ ÷ $\pm\pm\pm\pm$ + ÷ 10YR 8/3 5 63 700 ++++ +++ ++++ 64 +++++ 800 -10YR 8/3 6 +++++ . ++++ ⊥ $\pm\pm\pm\pm$ 10YR CC FORAM FORAM FORAM PAL NANNO NANNO 8/3

Hole 369-U1513B Core 8H, Interval 63.7-72.33 m (CSF-A)

Core 8H is dominated by a brownish yellow calcareous ooze and a white nannofossil ooze. A hardground is present in section 2 (10 to 42 cm) and hosts abundant manganese nodules. Rare manganese nodules are also present in section 1 (14 and 72 cm). The core is slightly fractured as aconsequence of drilling disturbance. Munsell color notations for this core are as follows: 10YR 6/6-brownish yellow, 10YR 8/1-white, 10YR 8/3-very pale brown and 10YR 8/4-very pale brown.



Hole 369-U1513B Core 9F, Interval 72.3-77.04 m (CSF-A) Core 9F is dominated by a white nannofossil ooze. The overall grain size is clay, Cherts are present in section 3 (41 to 57 cm) and in section 4 (71 to 76 cm). The core has not been disturbed by drilling. Munsell color notation for this core is 10YR 8/1-white. BF Paleoenvironment Disturbance intensity Reflectance Bioturbation intensity Natural Drilling disturbance Nannofossil Zones L* a* b* Magnetic gamma Bulk Depth CSF-A (m) Core length (cm) susceptibility (IU) radiation Grain size density 8 48 Lithologic unit Sedimentary (cps) (g/cm³) համական Shipboard samples Clay Slit Very fine sand Fine sand Medium sand Coarse sand Very coarse sand PF Zones structures 1 6 11 16 150 300 Munsell color Section 0 50 100 1.4 2.4 3.4 and Core Graphic Lithologic Age 1.4 1.9 -2 3 8 13 -10 0 10 20 lithology image accessories huduuluul 73 10YR 8/1 1 # 100 74 Santonian/Campanian 10YR 8/1 2 # 200 PAL Ш 75 300 -10YR 8/1 ł 3 0 # papula (D. asymetrica eq.) SED ••••• Ş 76 ž : 400 10YR 8/1 0 4 \$ CC16b-17 10YR 8/1 СС 77 PAL FORAM FORAM FORAM NANNO FORAM NANNO

Hole 369-U1513B Core 10F, Interval 77.0-79.81 m (CSF-A) Core 10F is dominated by a white nannofossil ooze. The overall grain size is clay, Cherts are present in section 1 (98 to 105 cm) and in section 4. The core exhibits both a slight biscuit and severe soupy drilling disturbance. Munsell color notation for this core is 10YR 8/1-white. BF Paleoenvironment Disturbance intensity Reflectance Bioturbation intensity Natural Drilling disturbance Nannofossil Zones L* a* b* Magnetic gamma Bulk Depth CSF-A (m) Core length (cm) susceptibility (IU) radiation Grain size density 28 68 Lithologic unit Sedimentary (cps) (g/cm³) հասհասհաս Sanc Shipboard samples Clay Slit Very fine sand Fine sand Medium sand Coarse sand PF Zones structures 3 4 5 150 300 Munsell color Section 0 50 100 1.4 2.4 3.4 and and and Core Graphic Lithologic Age 1.4 1.9 4 9 -10 0 10 20 lithology image accessories hundrund 1 77 10YR 8/1 8 1 0 # Santonian/Campanian 78 100 •••• 2 Ш • 1 8 Ż 79 200 10YR 8/1 2 # CC16b-17 } ł FORAM FORAM NANNO NANNO FORAM FORAM PAL







Hole 369-U1513B Core 14F, Interval 93.9-98.57 m (CSF-A) Core 14F is a white nannofossil ooze. The overall grain size is clay, The core exhibits severe brecciated drilling disturbance in section 1 (0-37 cm). Munsell color notations for this core are as follows: 2.5Y 7/2-light gray, 2.5Y 8/2-pale yellow and Gley 1 8/N-white. BF Paleoenvironment Disturbance intensity Reflectance Bioturbation intensity Natural Drilling disturbance Nannofossil Zones L* a* b* Magnetic gamma Bulk Depth CSF-A (m) Core length (cm) susceptibility (IU) radiation Grain size density 12 52 Lithologic unit Sedimentary (cps) (g/cm³) համակուտ Shipboard samples Clay Silt Very fine sand Fine sand Medium sand Very coarse sand PF Zones structures 3 5 7 150 300 Munsell color Section 0 50 100 1.4 2.4 3.4 and لتتلتنا Core Graphic Lithologic Age 1.4 1.9 -9 -4 1 6 -10 0 10 20 image lithology accessories hundrund . I. 2.5Y 8/2 # () 94 × GLEY 1 8/N : 1 C # 2 0 C ١, 1 2.5Y 8/2 # 100 95 ••••• 200 96 Santonian 2 2.5Y 8/2 # П 300 97 papula (D. asymetrica eq. 2.5Y 8/2 *dd* # 3 400 98 2.5Y 7/2 # SED FORAM NANNO PAL FORAM FORAM FORAM cc 2.5Y 7/2

Site U1513 core descriptions

All to paleo.

Hole 369-U1513C Core 1H, Interval 0.0-7.67 m (CSF-A)

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit ogic unit image	Shipboard samples	Graphic lithology	Clay Satt Very fine sand Fine sand Medium sand Coartes sand Very coarse sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance	nce	Natural gamma radiation (cps)	Bulk density (g/cm ³)	Magnetic susceptibilit (IU) 0 150 300
0 - - 1 - - -	100 -	1																
- 2 -	200 -	2																
- 3 - -	300 -																	
- - 4 - -	400 -	3																
5 -	500 -	4																
- 6 - -	600 -																	
- - 7 -		5 CC		PAL •														

Site U1513 core descriptions

All to paleo.

Hole 369-U1513C Core 2H, Interval 7.6-17.3 m (CSF-A)

	Core length (cm)	Section Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Sit Vergitine sand Medium sand Medium sand Coarse sand Coarse sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	Nannorossii ∠ones PF Zones	BF Paleoenvironment	Drilling disturbance	Natural gamma radiation (cps)	Bulk density (g/cm ³)	e Magnet susceptib (IU) 0 150 Lundun -10 0 10
- 8 - -	100 -	1														
) - (- - - - - -	200 -	2														
- - - -	300 -	3														
2-	400 -	4														
	600 -															
	700 -	5														
	800 -	6														
7 -		7 CC		PAL •												

Hole 369-U1513D Core 11, Interval 0.0-0.0 m (CSF-A)

Drilleo	d interv	/al					9-01513D	Core 11, Inter	vai 0.0	-0.0 r	m (Ce	S ⊢ -≁	4)						
Depth CSF-A (m)	Core length (cm)	Section Lithologic unit	Core image	Shipboard samples	Graphic lithology	Grain size pues secondary sustainability of the second sec	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance	Disturbance intensity	Natural gamma radiation (cps)	Bulk density (g/cm ³) 1.4 2.4 3	L 0011	1 SUS سا 1 -10 سا ل	agnetic ceptibil (IU) 1990 39
143 - - 144 - - - - -																			

Hole 369-U1513D Core 2R, Interval 95.0-96.52 m (CSF-A)

Core 2R is dominated by a pale orange calcareous chalk interbedded with silicified limestone layers. Bioturbation is low. Recognized ichnofacies include chondrites-planolites-zoophycos. The core presents different types and intensities of drilling disturbance. In Section 1 at 115 cm is an inoceramid. Munsell color notations for this core are as follows: GLEY 1 6/N– gray, GLEY 1 7/N– light gray, 10YR 7/2– light gray, 10YR 8/1– white, 10YR 8/2– very pale brown.









Hole 369-U1513D Core 6R, Interval 133.4-135.84 m (CSF-A)

Core 6R is comprised of nannofossil chalk with thin beds of silicified limestone. Bioturbation is sparse to high, Nodules of silicified limestone are present in Section1 (18 and 28-34 cm) and Section 2 (81-86 cm). Shell fragments are present Section 2 (10-15 cm), and inoceramid shells are present in Section 2 (75-76 cm). Drilling disturbance is various ranging from biscuit to brecciated. Munsell color notations for this core are as follows: GLEY 1 6/N– gray, GLEY 1 7/N– light gray, and GLEY 1 8/N– white.


Hole 369-U1513D Core 7R, Interval 143.0-144.97 m (CSF-A)

Core 7R is comprised of nannofossil chalk with medium beds of silicified limestone. There are gradational changes in color throughout the core from greenish gray, to white, to light greenish gray. Bioturbation is absent to moderate, Drilling disturbance is various ranging from fractured to brecciated. Munsell color notations for this core are as follows: GLEY 1 7/10Y– light greenish gray, and GLEY 1 8/10Y– light greenish gray.



Hole 369-U1513D Core 8R, Interval 152.6-155.05 m (CSF-A)

Core 8R is comprised of nannofossil chalk with medium beds of silicified limestone. Bioturbation is sparse to moderate, Silicified limestone nodules are present in Section 2 (68 and 70 cm). Sporadic thin laminations of claystone are present in Sections 1 and 2. Drilling disturbance is various ranging from brecciated to biscuited. Munsell color notations for this core are as follows: GLEY 1 7/N– light gray, GLEY 1 8/N– white, GLEY 1 7/10Y– light greenish gray, and GLEY 1 8/10Y– light greenish gray.



Hole 369-U1513D Core 9R, Interval 162.2-164.06 m (CSF-A)

Core 9R is comprised of nannofossil chalk with medium beds of silicified limestone. Bioturbation is sparse to moderate, A thin bed with high bioturbation is present in Section 2 (36-38 cm). Drilling disturbance is various ranging from brecciated to fragmented. Munsell color notations for this core are as follows: GLEY 1 7/N– light gray, and GLEY 1 8/N– white.



Hole 369-U1513D Core 10R, Interval 171.8-175.39 m (CSF-A)

Core 10R is dominated by nannofossil chalk with nodules of silicified limestone. Bioturbation ranges from being absent to moderate, A thin bed with high bioturbation is present in Section 2 (79-83 cm). Drilling disturbance is various ranging from brecciated to fragmented. Munsell color notations for this core are as follows: GLEY 1 8/N– white, GLEY 1 7/10Y– light greenish gray, GLEY 1 8/10Y– light greenish gray, and GLEY 1 8/5GY– light greenish gray.



Hole 369-U1513D Core 11R, Interval 181.4-187.42 m (CSF-A)

Core 11R is a greenish-grey nannofossil chalk with recurring intervals of pale greenish-gray and dark greenish gray nannofossil chalk. The overall grain size is clay. Bioturbation moderate throughout. The core exhibits intervals with moderate to severe fractured and brecciated drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 8/10Y– light greenish gray, GLEY 1 6/5GY– greenish gray, and 10Y 4/1– dark greenish gray.



Hole 369-U1513D Core 12R, Interval 191.0-195.66 m (CSF-A)

Core 12R is a greenish-gray nannofossil chalk with recurring intervals of light greenish-gray nannofossil chalk. The overall grain size is clay. Bioturbation moderate throughout. The core exhibits intervals with slight to severe fractured drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 8/N– white, GLEY 1 8/10Y– light greenish gray, GLEY 1 6/5GY– greenish gray, and 10Y 4/1– dark greenish gray.



Hole 369-U1513D Core 13R, Interval 200.6-202.3 m (CSF-A)

Core 13R is a greenish-gray nannofossil chalk with recurring intervals of light greenish-gray nannofossil chalk. The overall grain size is clay. Bioturbation moderate throughout. The core exhibits intervals with slight to severe fractured drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 8/10Y- light greenish gray, and GLEY 1 6/5GY-greenish gray.



Hole 369-U1513D Core 14R, Interval 210.2-213.27 m (CSF-A)

Core 14R is a greenish-gray nannofossil chalk with recurring intervals of light greenish-gray and dark greenish grey nannofossil chalk. The overall grain size is clay. Bioturbation moderate throughout. The core exhibits intervals with different types of moderate to severe drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 8/10Y–light greenish gray, GLEY 1 6/5GY– greenish gray, and 10Y 4/1– dark greenish gray.



Hole 369-U1513D Core 15R, Interval 219.8-227.85 m (CSF-A)

Core 15R is a light greenish-gray nannofossil chalk with recurring intervals of greenish-gray and dark greenish gray nannofossil chalk. The overall grain size is clay. Bioturbation sparse to moderate throughout. The core exhibits intervals with different degrees of fractured and fragmented drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 8/N– white, GLEY 1 8/10Y– light greenish gray, GLEY 1 6/5GY– greenish gray, and 10Y 4/1– dark greenish gray.



Hole 369-U1513D Core 16R, Interval 229.4-233.93 m (CSF-A)

Core 16R is a light greenish-gray nannofossil chalk. In Section 1, inoceramid fragments were observed between 45 cm and 64 cm. The overall grain size is clay. Thin laminations are observed within the dark greenish-gray intervals. Bioturbation is sparse to moderate throughout. The core exhibits intervals with different degrees of fractured and fragmented drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 8/N– white, and GLEY 1 8/10Y– light greenish gray.



Hole 369-U1513D Core 17R, Interval 234.2-238.98 m (CSF-A)

Core 17R is a light greenish-gray nannofossil-rich claystone with recurring intervals of greenish gray and dark nannofossil-rich claystone. Thin laminations are observed within the greenish gray nannofossil-rich claystone intervals. The overall grain size is clay. Bioturbation sparse to moderate throughout. The core exhibits slight to severe fractured drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 4/10Y- dark greenish gray, GLEY 1 6/5GY- greenish gray, and GLEY 1 8/10Y- light greenish gray.



Hole 369-U1513D Core 18R, Interval 239.0-243.51 m (CSF-A)

Core 18R is a light greenish-gray nannofossil-rich claystone with recurring intervals of grayish green nannofossil-rich claystone. Thin laminations are observed within the grayish green nannofossil-rich claystone intervals. The overall grain size is clay. Bioturbation is sparse to moderate throughout. In Section 3, between 80 and 88 cm, a soft-sedimentary fault was observed. The core exhibits slight to moderate fractured drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 5/5G– greenish gray, and GLEY 1 8/10Y– light greenish gray.



Hole 369-U1513D Core 19R, Interval 243.8-247.75 m (CSF-A)

Core 19R is a greenish gray nannofossil-rich claystone. Thin black layers and laminations are present within the greenish gray nannofossil-rich claystone. The overall grain size is clay. Bioturbation sparse to high. In Section 2, between 95 and 105 cm, there is a a back claystone interval. Within this interval, the upper half is moderately bioturbated while the lower half has thin laminations. The core exhibits slight fractured and severe biscuit drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 2.5/N– black, GLEY 1 5/5G– greenish gray, and GLEY 1 8/10Y– light greenish gray.



Hole 369-U1513D Core 20R, Interval 248.6-252.41 m (CSF-A)

Core 20R consists of recurring sequences of greenish gray, light gray and gray nannofossil-rich claystones. The thickness of each triplet ranges from ~50-15 cm. The overall grain size is clay. Bioturbation is sparse to low. There are shell fragments in Section 1 at 20 cm and in Section 4 at 47 cm. The core exhibits severe fractured to biscuited drilling disturbance. Munsell color notations for this core are as follows: 5Y 5/1– gray, 5Y 6/1– gray, 5Y 7/1– light gray, 5Y 8/1–white, GLEY 1 5/10Y– greenish gray, and GLEY 1 7/10Y– light gray.



Hole 369-U1513D Core 21R, Interval 258.2-264.19 m (CSF-A)

Core 21R consists of recurring sequences of dark greenish gray, light greenish gray and dark gray nannofossil-rich claystones. The thickness of each triplet varies between ~90-15 cm. The overall grain size is clay. Bioturbation is sparse to moderate. There are shell fragments in Section 4 at 37 cm. The core exhibits slight moderate to severe biscuit drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 4/N– dark gray, GLEY 1 5/N– gray, GLEY 1 5/10Y– greenish gray, GLEY 1 6/10Y– greenish gray, GLEY 1 1 6/20Y– dark greenish gray, GLEY 1 5/5GY– greenish gray, and GLEY 1 6/5GY– greenish gray.

Depth CSF-A (m)	Core length (cm)	Section Lithologic unit	Core image	Shipboard samples		Clay Servi fine sand Fine sand Medium sand Coarse sand - Verv coarse sand	Munsell color	Sedim struc ar Litho acces	tures nd logic	Bioturbation intensity	Age	Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance	turbance	Natural gamma radiation (cps)	Bulk density (g/cm ³)	Lundundi 0 5 1015	Magnetic susceptibility (IU) -10 1990 3990 Lundudud -10 0 10 20 Lundudud
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264 –	C			PAL FORAM FORAM NANNO FORAM FORAM NANNO	╌╶∓╶╴┶╴ ╶╶╶╌╌┶┰╶		GLEY 1 5/10Y GLEY 1 5/10Y		55 55			CC9-10a	not zoned		8			<	×2	-

Hole 369-U1513D Core 22R, Interval 267.8-271.8 m (CSF-A)

Core 22R is a gray nannofossil rich claystone with reoccurring intervals of dark greenish gray claystone. The overall grain size is clay. Bioturbation is sparse to moderate. There are also very dark greenish gray thin beds of claystone, Shell fragments are present in Section 2 (98-99 cm), Section 3 (68, 77, 78, and 81 cm) and in the CC (4, 9 cm). The core exhibits serve to destroyed biscuit drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 3/N– very dark gray, GLEY 1 3/10Y– very dark greenish gray, GLEY 1 3/10Y– very dark greenish gray, and GLEY 1 3/10GP– very dark greenish gray.



Hole 369-U1513D Core 23R, Interval 277.4-284.37 m (CSF-A)

Core 23R is a greenish black claystone with two thick beds of dark gray claystone in Section 4 (23-33 and 142-150 cm). The overall grain size is clay. Bioturbation is sparse to high. There are glauconitic horizons present in Section 1 (30, 42, 82, 108, 133 and 149 cm), Section 2 (16, 35, 53, 75, 101 and 125 cm), and Section 3 (36 and 107 cm). There is also a pyrite nodule present in Section 5 (31 cm), The core exhibits serve biscuit drilling disturbance and the first ten centimeters of Section 1 is completely destroyed. Munsell color notations for this core are as follows: GLEY 1 3/N– very dark gray, GLEY 1 4/N– dark gray, and GLEY 1 2.5/5GY– greenish black.



Hole 369-U1513D Core 24R, Interval 287.0-295.22 m (CSF-A)

Core 24R is a dark greenish gray to black claystone. The overall grain size is clay. Bioturbation is absent to high. There are glauconitic horizons present in Section 2 (115-116 and 143-144 cm), Section 3 (18-19 and 113-151 cm), and Section 5 (42 and 54 cm). The core exhibits fractured and biscuited drilling disturbances. Munsell color notations for this core are as follows: GLEY 1 2.5/N– black, GLEY 1 3/N– very dark gray, GLEY 1 3/10Y– very dark greenish gray, GLEY 1 4/10Y– dark greenish gray, GLEY 1 3/SGY– very dark greenish gray, and GLEY 1 4/5GY– dark greenish gray.



Hole 369-U1513D Core 25R, Interval 296.6-304.84 m (CSF-A) Core 25R is a black claystone. The overall grain size is clay. Bioturbation is sparse to high. Nodules of pryrite are present in Section 4 (47 cm) and Section 7 (43 cm) The core exhibits fractured and severe biscuit drilling disturbances. The Munsell color notation for this core is as follows: GLEY 1 2.5/N- black. BF Paleoenvironment Disturbance intensity Reflectance Bioturbation intensity Natural Drilling disturbance L* a* Nannofossil Zones b* Magnetic gamma Bulk Depth CSF-A (m) Core length (cm) 60 susceptibility radiation density Grain size 20 Lithologic unit (IÙ) Sedimentary (cps) (g/cm³) للتسليتسا Shipboard samples Clay Slit Slit Very fine sand Fine sand Medium sand Coarse sand Very coarse sand structures PF Zones 1 3 5 7 -10 1990 3990 Munsell 0 50 100 1.4 2.4 3.4 Section and L color Core Graphic Lithologic Age 30 45 **1.4** 1.9 -12 -7 -2 3 -10 0 10 20 lithology image accessories hundradian Mur Wiren ł, 297 GLEY 1 2.5/N 8 1 # 100 Y 298 Marrino 200 GLEY 1 2.5/N 2 8 维 299 W W 300 というという Minner 300 •••••• GLEY 1 2.5/N 8 3 Cenomanian 400 GLEY 1 2.5/N 1/1 # ٩, IV ζ GLEY 1 2.5/N 8 MMMANAAM 301 4 8 GLEY 1 2.5/N 0 *∂∂* # 1 500 · 4 GLEY 1 8 # 2.5/N GLEY 1 302 # 2.5/ GLEY 1 2.5/N # ٨ 600 GLEY 1 5 # CARB PAL SED XRD PMAG MAD CARB IW HS MAD 2.5/N GLEY 1 2.5/N 1, # 1 303 GLEY 1 # 2.5/N GLEY 1 2.5/N % # 8 700 6 { CARB GLEY 1 2.5/N ± 8 304 Wwwww • 8 GLEY 1 2.5/N 0 7 not zoned CARB % 800 2000 GLEY 1 2.5/N СС FORAM FORAM FORAM PAL NANNO NANNO FORAM 1

						Н	ole 369-L	J1513D C	ore 26R, Interval	306.2	2-31	1.1 m	(CS	A)				
				laystone. EY 1 2.5/			is clay. Bio	turbation is	low. The core exhibits	slight f	ractu	red and	l biscu	it drilli	ng disturban	ces. The Mu	nsell color no	otation for this
										~			t	>			Reflectanc	
Ē	(î									Bioturbation intensity		nes	BF Paleoenvironment	Drilling disturbance Disturbance intensitv	Natural gamma	Bulk	L* a* b'	Magnetic susceptibility
Depth CSF-A (m)	Core length (cm)		c unit		σ		Grain size	0	Sedimentary	ion in		Nannofossil Zones PF Zones	envir	sturb Ince in	radiation (cps)	density (g/cm ³)	40 l.	(IU)
th CS	e lenç	Section	Lithologic unit	Core	Shipboard samples	Graphic	Clay Silt Very fine sand Fine sand Medium sand	- very coarse Munsell color	structures and Lithologic	urbati		Nannofos: PF Zones	Paleo	ing di urbar	0 50 10	0 1.4 2.4 3.4	4 1357 4 հավավակ	-10 1990 3990 Ll
Dep	Cor	Sec	Lith	image	Ship	lithology	Clay Silt Very fine Fine san Medium	Mui Colo	accessories	Biot	Age			Drill	30	1.4 1.9	-9 -4 1 Juuduuduu	-10 0 10 20 համակով
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_		1			CARB •			GLEY 1 2.5/N	#			T. app		<i>,</i> ,	:			}
307 –	100 -				CARB FORAM FORAM PAL FORAM FORAM			2.5/14				`						
-					MAD CARB IW HS										•••••••••••••••••••••••••••••••••••••••	}	Z	
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308 -	200 -	2			PAL ●			GLEY 1	4					,,		5		
-		2			XRD •			2.5/N	#		u			".				
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309 -	300 -																Amartin	
_												is eq.						
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311 –		CC			FORAM FORAM PAL FORAM NANNO			2.5/N	#			ğı		//				
					NANNO FORAM NANNO													

Hole 369-U1513D Core 27R, Interval 315.8-320.79 m (CSF-A) Core 27R is a black claystone. The overall grain size is clay. Bioturbation is low. Nodules of pryrite are present throughout. The core exhibits slight to severe fractured and biscuit drilling disturbances. The Munsell color notation for this core is as follows: GLEY 1 2.5/N- black. **BF** Paleoenvironment Disturbance intensity Reflectance Bioturbation intensity Natural Drilling disturbance Nannofossil Zones L* a* b* Magnetic gamma Bulk Depth CSF-A (m) Core length (cm) susceptibility radiation density Grain size 24 44 Lithologic unit (IÙ) Sedimentary համասնա (cps) (g/cm³) Shipboard samples Clay Slit Slit Very fine sand Fine sand Medium sand Coarse sand Very coarse sand PF Zones structures 6 11 -10 1990 3990 Munsell color Section 0 50 100 1.4 2.4 3.4 and Core Graphic Lithologic Age 15 30 1.4 1.9 -8-5-303 -10 0 10 20 image lithology accessories huduuluul MANN MINNAN 316 . . Š N GLEY 1 2.5/N 1, 1 # PAL MAD Į XRD SED 100 317 ••••••••• Name of Arrest GLEY 1 2.5/N 2 0 # 17, 200 PMAG 318 CARB IW HS Albian IV 300 319 appenninica - P. ticinensis eq. GLEY 1 2.5/N 8 3 # • 400 Z 1997 3 320 GLEY 1 2.5/N 8 4 маг ŕ 290 GLEY 1 2.5/N СС FORAM PAL FORAM NANNO NANNO FORAM FORAM %

Hole 369-U1513D Core 28R, Interval 325.4-333.84 m (CSF-A)

Core 28R is a dark greenish grey claystone. The overall grain size is clay. Bioturbation is generally intense. Lighter greenish intervals recur throughout the core and present a lesser degree of bioturbation. Shell fragments are present in Sections 3, 4 and 6. The trace fossil assemblage includes chondrites, thalassinoides, planolites, zoophycos and teichichnus. Three soft sedimentary faults are present in Section 1 between 25 and 57 cm. The core exhibits slight to moderate fractured drilling disturbances. The Munsell color notation for this core is as follows: GLEY 1 4/5GY– dark greenish gray.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Silt Silt Fine sand Medium sand Censors sand Censors sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	DE 70000		BF Paleoenvironment	Drilling disturbance Disturbance intensity	Natural gamma radiation (cps) 0 50 100	Bulk density (g/cm ³)	1 3 5 7	Magnetic susceptibility (IU) -10 1990 3990 Lundard -10 0 10 20 Lundard
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327 -	200 -				MAD PMAG										¥ –			Martin	
328 -	300 -	2		-	CARB IW HS			GLEY 1 4/5GY	*						%		and the second se	And and	
- - 329 — -	400 -	3						GLEY 1 4/5GY	**						%	0 0 0 0 0 0 0 0 0 0 0 0	Service and		
330 -	500 -		IV		SED (Albian				,,	• • • • •	and the second		
331 -	600 -	4						GLEY 1 4/5GY	<i>dd</i> #						%				
- - 332 - -		5			MAD XRD			GLEY 1 4/5GY	<i>6</i> 6				olo eq.		%		Ser free provention		
333 -	700 -	6	r					GLEY 1 4/5GY	ටට %			CC3a-D T annanninica - D ticinancis ad			%		Summer second	and the state of the	
-	800 -	СС			PAL FORAM FORAM NANNO FORAM FORAM NANNO			GLEY 1 4/5GY	#							ŀ.	۱ <u>۶</u>)

Hole 369-U1513D Core 29R, Interval 335.0-344.02 m (CSF-A)

Core 29R is a dark greenish grey and black claystone. The overall grain size is clay. Bioturbation is generally intense. Lighter greenish intervals recur throughout the core and exhibits a lesser degree of bioturbation. Shell fragments are present throughout. The trace fossil assemblage includes thalassinoides, planolites, zoophycos and teichichnus. Soft sedimentary faults are present in Section 1 between 8 and 22 cm. The core exhibits slight to moderate fractured and fragmented drilling disturbances. Munsell color notations for this core are as follows: GLEY 1 2.5/N– black, and GLEY 1 4/5GY– dark greenish gray.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Sit Sit From sand Medium sand Medium sand Very coarse sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance	Disturbance intensity		Bulk		Magnetic susceptibility (IU) -10 1990 3990 -10 1990 3990 -10 0 10 20
335 - - - - 336 - -	100 -	1			XRD • PAL •			GLEY 1 4/5GY	66 %					۲ ۲				Mushin	
337 -	200 -	2			MAD ●			GLEY 1 4/5GY	00					%			man and the second s	manyman	
338 - - -	300 -	3						GLEY 1 4/5GY	<i>20 %</i>					%			i managementer ou	Murrid Married	
339 - - - 340 -	400 -	4	IV		SED •			GLEY 1 4/5GY	<i>66 %</i>		Albian			%		•		Mary Mark	
- - - 341 –	600 -							GLEY 1 2.5/N	96 %								and the second	a property and	
- - 342 - -	700 -	5			PMAG MAD			GLEY 1 2.5/N	<i>20</i>			eq.		%		• • • • • • • • • • • • • • • • • • • •	and the second	Mary Mary	
- - 343 — - -	800 -	6			PAL ● CARB IW HS ●			GLEY 1 2.5/N	66 %			T. appenninica - P. ticinensis eq.		%			and the second secon	Marmin M	
- - 344 —	900 –	7 CC			PAL FORAM FORAM FORAM NANNO NANNO	 		GLEY 1 2.5/N GLEY 1 2.5/N	% 66 %			T. appen		% 2		•).	Amount	

Hole 369-U1513D Core 30R, Interval 344.6-353.53 m (CSF-A)

Core 30R is a black claystone. The overall grain size is clay. Bioturbation is generally high to intense. Shell fragments are common throughout. The trace fossil assemblage includes thalassinoides, planolites, zoophycos and teichichnus. Soft sedimentary faults are common. A nodule of pryrite is present in Section 4 (19 cm). The core exhibits slight to moderate fractured drilling disturbance. The Munsell color notation for this core is as follows: GLEY 1 2.5/N– black.

	Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Sitt Sitt Fine sand Fine sand Method sand Coarse sand Very coarse sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance	Disturbance intensity	Natural gamma radiation (cps) 0 50 100			e Magnetic susceptibility (IU) -10 1990 3990 -10 0 10 20 Innihimi
347 300 3 348 349 300 3 349 400 4 10 10 10 360 5 10 10 10 360 5 10 10 10 360 5 10 10 10 360 5 10 10 10 360 5 10 10 10 360 5 10 10 10 360 5 10 10 10 360 7 10 10 10 360 7 10 10 10 360 7 10 10 10 360 7 10 10 10 360 7 10 10 10 360 7 10 10 10 360 7 10 10 10 361 10 10 10 10 362 10 10 10 10 363 10 10 10 10 363 10 10 10 10 363 10 10 10 10	- 345 - - -								GLEY 1 2.5/N	<i>2</i> 2 %						%		•		mm	
$ \begin{array}{c} 200 - 2 \\ 347 \\ - \\ 300 - 3 \\ 348 \\ - \\ 400 - 4 \\ - \\ 500 - \\ 350 - \\ 5 \\ - \\ 600 - \\ 351 - \\ - \\ 700 - 6 \\ 352 \\ - \\ 800 - \\ 7 \\ - \\ 800 - \\ - \\ 80 - \\ - \\ - \\ 80 - \\ - \\ - \\ 80 - \\ - \\ - \\ 80 - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\$	- 346 - -																			Mannan	
$\begin{array}{c} 400 \\ -4 \\ -4 \\ -5 \\ -5 \\ -5 \\ -5 \\ -5 \\ -5$	- - 347 - -	200 -	2						2.5/N	<i>20</i> %						%					
$\begin{array}{c} 400 \\ -4 \\ -4 \\ -4 \\ -4 \\ -4 \\ -4 \\ -4 $	- - 348 —	300 -	3						GLEY 1 2.5/N							%			e maris m	a Conjudiana	
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$351 - \frac{1}{25N} = \frac{1}{25N} $	- 350 - - -		5			HS •			GLEY 1 2.5/N							%		• • • • • • •	server and	Muchallin	
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CC PAL PAL C C C C C C C C C C C C C C C C C C C	-	800 -	7						GLEY 1 2.5/N	20 %				tiensis		%				Mar Mary	
	-		СС			PAL FORAM FORAM FORAM NANNO FORAM NANNO			GLEY 1 2.5/N	29 %			CC8d	B. bregg		"			(\$	man) -

Hole 369-U1513D Core 31R, Interval 354.2-360.66 m (CSF-A)

Core 31R is a black claystone. The overall grain size is clay. Bioturbation is intense. Shell fragments are common throughout. The trace fossil assemblage includes thalassinoides, planolites, zoophycos and teichichnus. Soft sedimentary faults and pyrite nodules are common. The core exhibits slight to moderate fractured and biscuited drilling disturbance. The Munsell color notation for this core is as follows: GLEY 1 2.5/N– black.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Sitt - Very fine sand - Fine sand	þ		Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance	bance	Natural gamma radiation (cps) 0 50 100 	Bulk density (g/cm ³) 1.4 2.4 3. 1.4 1.9	1 6 11 16	Magnetic susceptibilit (IU)
- - 355 – -	100 -	1						GLEY 1 2.5/N	0	00 <i>%</i>						≥				M-W/W-	
- - 356 - - -	200 -	2			XRD •			GLEY 1 2.5/N		ðð %						<i>%</i>		•	and a second second	and the second states	
357 -	300 -	3	IV		CARB IW HS SED PMAG MAD			 GLEY 1 2.5/N		00 XX		Albian				% 8		• • • • • • •		A MANAGAN	
358 -	400 -							 								<i>.</i> ,				San Marin	
359	500 -	4			PAL ●			GLEY 1 2.5/N	0	<i>00 Ж</i>						00%				A A A A A A A A A A A A A A A A A A A	
360	600 -	5 CC			MAD FORAM NANNO NANNO PAL FORAM FORAM FORAM			GLEY 1 2.5/N	0	00 #			CC8d	B. breggiensis		8		• • • •			
					PAL FORAM FORAM FORAM																

Hole 369-U1513D Core 32R, Interval 363.8-371.45 m (CSF-A)

Core 32R is a black claystone. The overall grain size is clay. Bioturbation is intense. Shell fragments are present in trace abundance and are only present in Sections 1 and 2. The trace fossil assemblage includes thalassinoides, planolites, zoophycos and teichichnus. A soft sedimentary fault is present in Section 2 at 45-51 cm. The core exhibits slight to moderate fractured and biscuited drilling disturbance. The Munsell color notation for this core is as follows: GLEY 1 2.5/N– black.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Sit Fire sand Fire sand Medium sand Coroses sand Coroses sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity Age	Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance	Natural Reflectance gamma Bulk L* a* b* Magnei radiation density 20 60 susceptiti c(cps) (g/cm³) tuntunutu (IU) 0 50 100 1.4 3.4 -10 30 1.4 1.9 -13.8 -3 2 -10 100 10 1.4 1.9 -13.8 -3 2 -10 100
364 - - - 365 -	100 -	1			MAD ●			GLEY 1 2.5/N	20 %					8	
- - 366 - -	200 -	2			CARB			GLEY 1 2.5/N	69 Ж					9	
- 367 — - -	300 -	3	IV		CARB IW HS PAL			GLEY 1 2.5/N		Albian				%	
	400 -				SED •			GLEY 1		AI				8	
- 369 — - -	500 -	4			MAD PMAG			GLEY 1 2.5/N	*					% %	
370 -	600 -	5						GLEY 1 2.5/N						" ",	
371 -	700 -	6 CC			FORAM FORAM NANNO FORAM FORAM PAL			GLEY 1 2.5/N GLEY 1 2.5/N	¥ > ¥		CC8b-c	B. breggiensis		< %	

Hole 369-U1513D Core 33R, Interval 373.4-381.88 m (CSF-A)

Core 33R is a black claystone. The overall grain size is clay. Bioturbation is intense. In Section 2, between 112 and 140 cm, a green layer with black burrows and shell fragments was observed. This interval is barren and contains common pyrite. The core exhibits moderate to destroyed fractured and fragmented drilling disturbance. The Munsell color notation for this core is as follows: GLEY 1 2.5/N- black.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Saft Very fine sand Fine sand Medium sand Coarse sand Very coarse and	Munsell color		Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance	Natural gamma radiation (cps) 0 50 100 1	Bulk density (g/cm ³)		e Magnetic susceptibility (IU) -10 1990 3990 -10 0 10 20 Innulunu
- 374 	100 -	1			XRD ●			GLEY 1 2.5/N	0	88						%	· · · · · · · · · · · · · · · · · · ·		Marris Annu Mu	
- 375 - - - - - 376 -	200 -	2			SED •			GLEY 1 2.5/N	0	14						< = %		مال مسلم معاد مارسه مسلما مارسه المارس مال مسلم معاد مارسه مسلم مارسه مارسه مارسه مارسه مارسه مارسه مارسه مارسه	March March M	
377 -	300 - 400 -		IV		PAL CARB ●			GLEY 1 2.5/N	0	84		Albian				%	· · · · · · · · · · · · · · · · · · ·		Manana and	
- 378 — - - - 379 —	500 -		Ĩ		HS • MAD PMAG •			GLEY 1 2.5/N	0	88		Alb				%			Martin Martin	
- - - 380 — - -	600 - 700 -	5						GLEY 1 2.5/N	0	5						%			March March	
- - 381 — - - - -	800 -	6 CC			MAD FORAM			GLEY 1 2.5/N GLEY 1 2.5/N	0	¥ ¥			CC8b-c	Barren		%		a it ministration	And the second states	
					MAD FORAM NANNO FORAM FORAM FORAM															

Hole 369-U1513D Core 34R, Interval 383.0-386.85 m (CSF-A)

Core 34R is a black claystone. The overall grain size is clay. Bioturbation is sparse to low. Rare pyrite nodules are present in Section 1 (69 cm,113-116 cm). The core exhibits moderate biscuited and fragmented drilling disturbances. The Munsell color notation for this core is as follows: GLEY 1 2.5/N– black.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay slt - Sit - Sit - Sit - Neitime sand - Medium sand - Veny coarse sand - Veny coarse sand	Munsell color		Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	Nannofossil Zones	PF Zones	BF Paleoenvironment	Disturbance intensity	Natural gamma radiation (cps) 0 50 100 	Bulk density (g/cm ³)	Luuluuluu 1 4 6 9 11	e Magnetic susceptibility (IU) -10 19903990 Lundard -10 0 10 20 Lundard
383	0-				SED •			GLEY 1 2.5/N	0	#					۶ ۲	3	•		And	-
- 384 — - -	100 -	1			HS ●			GLEY 1 2.5/N	_	#					8				Suman	
- - 385 - - -	200 -	2	IV		CARB MAD XRD PMAG PAL			GLEY 1 2.5/N				Albian			8	3	• • • • • •		- Marting Ches	
	300 -	3 CC			MAD NANNO NANNO FORAM FORAM FORAM			GLEY 1 2.5/N GLEY 1 2.5/N		55 55			CC8b-c	Barren	6		• • • • •		A March	

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Hole 369-U1513D Core 35R, Interval 392.6-397.63 m (CSF-A)

Core 35R is a black claystone. The overall grain size is clay. Bioturbation is sparse. Rare pyrite nodules are present in Section 1 (39 cm). Section 2 (85 cm), and Section 3 (50 cm). The core exhibits severe to moderate biscuit drilling disturbances. The Munsell color notation for this core is as follows: GLEY 1 2.5/N– black.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay stift fine sand Meddum sand Meddum sand Very coarse sand	Munsell color		Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance	Natural gamma radiation (cps) 0 50 10 45	Bulk density (g/cm ³) 01.4 2.4 3.	Reflectanc L* a* b 16 56 Lududuu 4 1 6 11 	e * Magnetic susceptibility (IU) -10 19903990 Lundhuud -10 0 10 20 Lundhuud
393 -	100 -	1			XRD • PMAG MAD •			GLEY 1 2.5/N	0	8					٤	3			Martin Constant	
395 -	200 -	2	IV		CARB •			GLEY 1 2.5/N	0	%		Albian			٤	3				
- - 396 - - -	300 -	3			HS •			GLEY 1 2.5/N	0						8	3			Marine And	
397 -	400 -	4 CC			FORAM FORAM NANNO			GLEY 1 2.5/N GLEY 1 2.5/N GLEY 1 2.5/N	_	# #			CC8b-c	not zoned	8			Xenni	Mary Changel	

Hole 369-U1513D Core 36R, Interval 402.2-407.73 m (CSF-A) Core 36R is a black claystone. The overall grain size is clay. Bioturbation is moderate to sparse. Rare pyrite nodules are present in Section 2 (51-53 and 65-66 cm). The core exhibits severe to moderate biscuited drilling disturbances. The Munsell color notation for this core is as follows: GLEY 1 2.5/N– black. soenvironment ation intensity Reflectance ance intensity Natural disturbance L* a* b* Magnetic 16 56 susceptibility Lundmulu (IU) ossil Zones gamma Bulk ngth (cm) radiation density Grain size gic unit sand and se sand Sedimentary (cps) (g/cm³) ard es structures 1 6 11

	Ueptn Cor-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Sit Very fine sand Fine sand Medium sand Coarse sand Very coarse sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensi	Age	Nannofossil Zones	PF Dolocomironmo	Drilling disturbance	Disturbance intensi	Natural gamma radiation (cps) 0 50 100	Bulk density (g/cm ³) 1.4 2.4 3.4 1.4 1.9	L* a* b ³ 16 56 16 11 1 6 11 -9 -4 1	Magnetic susceptibility (IU) -10 1990 3990 -10 0 10 20 Induntud
40		100 -	1						GLEY 1 2.5/N	\$					8			Mar Mar	John March Martin	
40	-)4 - -	200 -	2			MAD ●			GLEY 1 2.5/N	0 #					8				Contraction of the second	
40	- 05 - - -	300 -		IV		XRF XRD •				-		Albian			8				- March March	
40		400 -	3						GLEY 1 2.5/N GLEY 1 2.5/N	- -					8		• • • •			
40	- - - 70 - -	500 -	. 4			PAL SED HS PMAG CARB MAD			GLEY 1 2.5/N	-			CC8b-c Barren	Ē	8		•		Jan Marine	
	1		CC		2000	FORAM FORAM PAL FORAM FORAM NANNO NANNO	<u> </u>		GLEY 1 2.5/N	- #					8					

Hole 369-U1513D Core 37R, Interval 411.8-416.59 m (CSF-A)

Core 37R is a black claystone. The overall grain size is clay. Bioturbation is sparse. A chlorite lense is present in section 1 (70 cm). A pyrite nodule is present in Section 2 (25 cm). The core exhibits slight fractured to destroyed biscuit drilling disturbances. The Munsell color notation for this core is as follows: GLEY 1 2.5/N- black.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Silt Silt Fine sand Fine sand Medium sand Coarse sand Very coarse sand	Munsell color	Sedimen structur and Litholog accessor	oturbatio	Age	Nannofossil Zones	PF Zones	BF Paleoenvironment Drilling disturbance	Disturbance intensity	Natural gamma radiation (cps) 0 50 100 45 60	Bulk density (g/cm ³) 1.4 2.4 3 1.4 1.9		Magnetic susceptibility (IU)
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414	- - 200 - - - -	2	IV		SED •			GLEY 1 2.5/N		#	Albian			8				And and And	
415	- 300 - -		ALCONTRACTOR		HS •				-					00000000				A AMARANA	
416	- - 400 - -	3 CC			PAL • PMAG • MAD • FORAM • VANNO • ORAM • PAL • ORAM • PAL			GLEY 1 2.5/N GLEY 1 2.5/N	_	*		CC8a	Barren	<i>"</i>		* * * *		Mar Jonator	

Hole 369-U1513D Core 38R, Interval 421.4-429.35 m (CSF-A)

Core 38R is a black claystone. Two medium beds of sideritic claystone are present in Section 2 (64-83 cm) and in the CC (16-27 cm). The overall grain size is clay. Bioturbation is sparse. Pyrite nodules are present in Section 1 (108, 115 cm), Section 3 (42, 56, 114-116 cm), Section 4 (67, 112 cm), and Section 5 (51, 66-68 cm). Shell fragments are present in Section 4 (112, 139 cm), and Section 6 (10 cm). The core exhibits slight fractured to severe biscuited drilling disturbances. Munsell color notations for this core are as follows: GLEY 1 2.5/N– black, and GLEY 1 6/N– gray.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	- Clay - Silt - Very fine sand	 Fine sand Medium sand Coarse sand Very coarse sand 	Munsell color		Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance	ance	Natural gamma radiation (cps) 0 50 100 	Bulk density (g/cm ³)	Reflectanc L* a* b [*] 20 60 Lundundu 4 6 11 Lundundu -12 -7 -2 3	Magnetic susceptibility (IU) -10 1990 3990
422 -	100 -	1			TS TSB				GLEY 1 2.5/N	0	5						8		•		Munner Mark	
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424	300 -	2							GLEY 1 6/N GLEY 1 2.5/N	_	#						% 89 89				Hard Mark	
- 425 — - -	400 -	3	IV		SED •				GLEY 1 2.5/N	0	#		Albian				% 8 %				A CAN	
426	500 -	4			PAL HS MAD				GLEY 1 2.5/N	0	2 9 ¥						% 8				Martin	
427	600 -		 The solid Block Solid Solid Solid Solid S		XRD PMAG CARB					_							8				A A A A A A A A A A A A A A A A A A A	
428	700 -	5	And the second second						GLEY 1 2.5/N GLEY 1 2.5/N	0	¥ 66			а	en		% 00 % % 00 %				RCWCompany	
429		СС			FORAM PAL FORAM FORAM NANNO FORAM NANNO TSB TS				GLEY 1 2.5/N GLEY 1 6/N	0	¥			CC8a	Barren		<i>7,</i> <i>7,</i>		•	{*.		

Hole 369-U1513D Core 39R, Interval 431.0-436.37 m (CSF-A)

Core 39R is a black claystone. The overall grain size is clay. Bioturbation is sparse. Pyrite nodules are present in Section 1 (139-141 cm), Section 2 (41 cm), Section 3 (147 cm), and Section 4 (23 cm), The core exhibits slight fractured to severe biscuited drilling disturbances. The CC section is destroyed. The Munsell color notation for this core is as follows: GLEY 1 2.5/N- black.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Clay Silt Silt Fine sand Medium sand Medium sand Very coarse sand	Munsell color		Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance	ance i	Natural gamma radiation (cps) 50 100 60	Bulk density (g/cm ³)	Reflectanc L* a* b' 16 36 Indududu 1 6 111621 -10 -5 0 Indududud	Magnetic susceptibility (IU)
431 - - - 432 - -	100 -	1					GLEY 1 2.5/N	0	8										Month Charles	
- 433 - - -	200 -	2	IV		MAD PMAG		GLEY 1 2.5/N	0	**		Albian				% 00×00%					
434	300 -	3	-		HS ●		GLEY 1 2.5/N	0	ii		A				% % % % %				PALINALANA	
435	400 -	4	-		XRD CARB PAL MAD		GLEY 1 2.5/N	0							% %				MMMM	
436 –	500 -	cc	-		SED • FORAM • NANNO FORAM FORAM FORAM PAL			_				CC8a	Barren		×			\.\ .	Z	}

Hole 369-U1513D Core 40R, Interval 440.6-443.39 m (CSF-A)

Core 40R is a black claystone. The overall grain size is clay. Bioturbation is sparse. Pyrite nodules are present in Section 1 (31, 129 cm), Section 2 (12, 16 cm). A chlorite horizon is present in Section 2 (82 cm). The core exhibits slight fractured to severe biscuited drilling disturbances. The CC is a void and is not described. The Munsell color notation for this core is as follows: GLEY 1 2.5/N– black.



Hole 369-U1513D Core 41R, Interval 450.2-458.91 m (CSF-A)

Core 41R is a black claystone overlying very dark greenish gray fine sandstone. The grains of sandstone are mainly dominated by volcanic clasts of basalt and feldspar and cemented by calcite. A 5 cm volcanic clasts is present in Section 1 (8 cm). Pyrite nodules are present in both sandstone and claystone intervals. Bioturbation is sparse. The core is slightly fractured. Munsell color notations for this core are as follows: GLEY 1 2.5/N– black, GLEY 1 4/10Y– dark greenish gray, and GLEY 1 3/5G– very dark greenish gray.



Hole 369-U1513D Core 42R, Interval 459.8-466.04 m (CSF-A)

Core 42R consists of several cycles of gray to very dark greenish gray sandstones with erosive bases and normal grading. Subangular claystone, volcanic clasts and pyrite are common throughout. Several irregular veins are present in Sections 1 and 2. The core is slightly to moderately fractured. Munsell color notations for this core are as follows: GLEY 1 3/N- very dark gray, GLEY 1 5/N- gray, GLEY 1 6/N- gray, GLEY 1 2.5/5G- greenish black, GLEY 1 4/10Y- dark greenish gray, 10Y 3/1- very dark greenish gray, and 10YR 3/2- very dark grayish brown.


Hole 369-U1513D Core 43R, Interval 469.4-476.26 m (CSF-A)

Core 43R consists of several cycles of gray to dark reddish gray sandstones and very dark grayish brown silty claystone layers. The sandstone layers are generally normal graded with planar or curved bases. Pyrites are common throughout. The core is slight to moderately fractured. Munsell color notations for this core are as follows: GLEY 1 4/N– dark gray, GLEY 1 5/N– gray, GLEY 1 3/10Y– very dark greenish gray, 10Y 3/1– very dark greenish gray, 10YR 3/2– very dark grayish brown, and 10R 3/1– dark reddish gray.



Hole 369-U1513D Core 44R, Interval 479.0-488.42 m (CSF-A)

Core 44R is dominated by a dark reddish gray silty claystone, interbedded with several thin dark gray fine sandstone layers. Pyrite nodules are common throughout. The core is slightly to moderately fractured. Munsell color notations for this core are as follows: GLEY 1 4/N- dark gray, and 10R 3/1- dark reddish gray.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay - Clay - Very fine sand - Fine sand - Medium sand	Coarse sand Very coarse sand B Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance Disturbance intensity	Natural gamma radiation (cps) 0 50 100	Bulk	1 6 11 16	e Magnetic susceptibilit (IU) -10 1990 399 Lundurud -10 0 10 20 Lundurud
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- 00	100 -		r				│ │ │ ┌┼──┼┛	GLEY 1 4/N GLEY 1 4/N		2				8			hippon	
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-		5			PAL ●			10R 3/1	# ≡					"	•		willing the	
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1	l	CC		5-7-2	FORAM NANNO PAL FORAM FORAM FORAM			10R 3/1	# ≡] B		″,]			

Hole 369-U1513D Core 45R, Interval 488.6-497.62 m (CSF-A)

Core 45R is dominated by a dark reddish gray silty claystone, interbedded with several thin dark gray fine sandstone layers with sharp boundaries. Pyrite nodules are common throughout. The core is slightly to moderately fractured. Munsell color notations for this core are as follows: GLEY 1 4/N– dark gray, and 10R 3/1– dark reddish gray.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Sit Sit Fine sand Medium sand Medium sand Very coarse sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance	Ë		Bulk density (g/cm ³)	Reflectance L* a* b* 20 60 Lundundum 1 6 11 16 Lundundum -8 -3 2	Magnetic susceptibility (IU)
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- 493 - -		4	v		PMAG ●			10R 3/1	# ≡		Barren			%		•		San Andrew	
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-	900 -	<u> </u>			PAL FORAM FORAM NANNO FORAM FORAM NANNO										L				

Hole 369-U1513D Core 46R, Interval 498.2-504.43 m (CSF-A)

Core 46R is dominated by a dark a gray silty claystone and clayey siltstone which are cemented by calcites. A small fault occurs in Section 2. Irregular veins infilled with calcites are common nearby the fault. The core is slightly to moderately fractured. Munsell color notations for this core are as follows: GLEY 1 3/N- very dark gray, GLEY 1 4/N- dark gray, and 10R 3/1- dark reddish gray.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay - Satt - Satt Fine sand - Medium sand - Very coarse sand - Very coarse sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance	Disturbance intensity	Natural gamma radiation (cps) 0 50 100 	Bulk density (g/cm ³)	Reflectanc L* a* b 40 14 6 9 -10 -5 0	
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- - 500 - - - -	200 -	2						GLEY 1 3/N	#					%		•		man	
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- - - 504 - -	500 - 600 -	5	-		SED • CARB • IW HS • MAD			GLEY 1 4/N GLEY 1 4/N	22			arren		%				M. Marrielland	
-	600 -	СС	;		NANNO PAL FORAM FORAM NANNO FORAM FORAM			GLEY 1 4/N	29			Barren						2	

Hole 369-U1513D Core 47R, Interval 507.8-515.92 m (CSF-A) Core 47R is dominated by a dark gray siltstone, which are cemented by calcite. Several small faults are present throughout the core and are infilled with calcite. The core is slightly to moderately fractured. Munsell color notations for this core are as follows: GLEY 1 3/N- very dark gray, and GLEY 1 4/N- dark gray. **BF** Paleoenvironment Disturbance intensity Reflectance Bioturbation intensity Natural Drilling disturbance Nannofossil Zones L* a* b* Magnetic gamma Bulk Depth CSF-A (m) Core length (cm) susceptibility radiation density 52 Grain size 12 Lithologic unit (IÙ) Sedimentary (cps) (g/cm³) հասհասհա Shipboard samples Clay Silt Very fine sand Fine sand Medium sand Very coarse sand structures PF Zones 6 11 10 1990 3990 Section Munsell 0 50 100 1.4 2.4 3.4 and color Core Graphic Lithologic Age 1.4 1.9 -8 -6 -3 -1 2 -10 0 10 20 image lithology accessories hundradian ξ GLEY 1 3/N 508 12 ł 1 •••••• ł GLEY 1 3/N # % 100 3 509 2 STAN M . 1 200 GLEY 1 % •••••• 2 *dd* # 5 510 PAL 4 Ę 'n. • 300 -٦ 3 511 GLEY 1 % 3 *dd* # Barren 400 V • 512 HS Ì PMAG MAD 1 500 · GLEY 1 4/N ł 4 *20 #* 513 22-1 XRD . CARB . No. -----600 ••••• 514 GLEY 1 4/N 5 % ł, • SED ł 700 515 . . No No i. J GLEY 1 4/N % 6 Barren GLEY 1 4/N 1 СС 800 PAL FORAM FORAM NANNO FORAM FORAM NANNO

Hole 369-U1513D Core 48R, Interval 517.4-525.79 m (CSF-A)

Core 48R is dominated by a greenish black to very dark gray siltstone with intervals of thin beds of calcite cemented siltstone and carbonate nodules. Bioturbation is absent. Slickenslides are present Sections 2, 3 and 5, Shell fragments are present in Sections 1 and 3. The core exhibits slight to moderate fragmented/fractures drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 5/N– gray, GLEY 1 2.5/10Y– greenish black, and 5YR 3/1– very dark gray.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Safet Clay Nery fine sand Fine sand Coartes sand Very coarse sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	Nannofossil Zones PF Zones	BF Paleoenvironment	Drilling disturbance	Disturbance intensity		Bulk density (g/cm ³) 1.4 2.4 3.	Reflectance L* a* b* 22 42 Indududud 4 1 6 11 16 Indududud -11 -6 -1	Magnetic susceptibility (IU)
- - 518 - - - - - - - - - - - - - - - - - - -	100 -	1						GLEY 1 2.5/10Y GLEY 1 5/N	- 20# ,					×		· · · · · · · · · · · · · · · · · · ·		Marine	
- - - 520 - -	200 -	2			SED • MAD •			GLEY 1 2.5/10Y GLEY 1 2.5/10Y	# 								v v v v v		
- 521 - - - - 522 -	400 -	4	v		CARB IW HS PMAG			GLEY 1 2.5/10Y	- #		Barren			× × ×		•	hand the	And marking	
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-	800 -	7 CC			FORAM FORAM NANNO FORAM FORAM PAL			5YR 3/1 GLEY 1 2.5/10Y	• #			Barren		2		•	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	MArray	

Hole 369-U1513D Core 49R, Interval 527.0-532.26 m (CSF-A)

Core 49R is dominated by very dark gray sandy siltstone to very dark gray sandy siltstone. Normal grading is present from Section 1 to the CC. Bioturbation is sparse to absent. Slickenslides are present in Sections 1 and veins of calcite are present within a thick bed of calcareous sandy siltstone in Section 2 (18-42 cm). Injections of sand are present in Section 4 (55, 91-95 and 98 cm). The core exhibits slightly to moderately fragmented/fractures drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 3/N– very dark gray, and GLEY 1 3/10Y– very dark greenish gray.



Hole 369-U1513D Core 50R, Interval 536.6-544.0 m (CSF-A)

Core 50R is dominated by a greenish black to dark gray sandy siltstone with 3 calcite cemented thin to medium beds in Section 2 (32-42, 59-70 and 81-87 cm). Pyrite and shell fragments are disseminated through the core. Carbonate nodules are present in Section 1. The core exhibits slightly to severely fractured and fragmented drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 4/N- dark gray, and GLEY 1 2.5/10Y- greenish black.

$ \begin{array}{c} $	537 100 1 538 200 200 2 300 300 400 3 540 0 500 4 500 4 540 0 557 0 540 0 550 0 400 3 541 0 550 4 500 4 500 4 500 4 500 4 500 0 50 0 <	Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay - Silt - Very fine sand - Medium sand	- Coarse sand 7 - Very coarse sand 0 Munsell		edimentary structures and Lithologic uccessories	Bioturbation intensity	Age	Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance	ance	Natural gamma radiation (cps) 0 50 100 15	Bulk density (g/cm ³)		e Magnetic susceptibility (IU) -10 1990 3990 -10 0 10 20 Indudud
$ \begin{array}{c} 100 \\ 538 \\ 539 \\ 539 \\ 539 \\ 540 \\ 400 \\ - \\ 540 \\ - \\ - \\ 540 \\ - \\ - \\ 540 \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ -$	$ \begin{array}{c} 100 - \\ 538 \\ 539 \\ 539 \\ 540 \\ 400 - \\ 540 \\ 540 \\ 540 \\ 540 \\ 540 \\ 540 \\ 540 \\ 540 \\ 540 \\ 540 \\ 540 \\ 540 \\ 540 \\ 540 \\ 540 \\ 540 \\ 551 \\ 700 - \\ 5 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7 \\ 7$	537 -	0-				MAD .					#						×		•		ANDA	} -
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Hole 369-U1513D Core 51R, Interval 546.2-555.65 m (CSF-A)

Core 51R is dominated greenish black to very dark brown sandy siltstone and very thin black sandstone. Pyrite is disseminated throughout the core. Organic material is disseminated and present from Section 2 to Section 6. A fault is present from the Section 5 (51 cm) to Section 6 (14 cm). Normal grading is present in the CC. The core is slightly to severely fractured with some severely brecciated drilling disturbances. Munsell color notations for this core are as follows: GLEY 1 2.5/10Y– greenish black, GLEY 1 3/10Y– very dark greenish gray, 7.5YR 2.5/1– black, 7.5YR 2.5/2– very dark brown, and 7.5YR 3/1– very dark gray.



Hole 369-U1513D Core 52R, Interval 555.8-564.46 m (CSF-A)

Core 52R is dominated by very fine to medium greenish black glauconitic sandstone. A calcite nodule is present in Section 1 (77-84 cm). A calcite cemented interval is present in Section 2 (60-64 cm). Mud clast are present in Sections 3 and 4. Abundant shell fragments are present in Sections 5 and 6. Pyrites are present throughout. Bioturbation is absent to low. The core exhibits slightly fractured to severely breciated drilling disturbances. Munsell clor notations for this core are as follows: GLEY 1 2.5/10Y– greenish black, 10Y 3/1– very dark greenish gray, GLEY 1 2.5/10Y– greenish black, and GLEY 1 3/10Y– very dark greenish gray.



Hole 369-U1513D Core 53R, Interval 565.4-572.01 m (CSF-A)

Core 53R is dominated by very dark greenish gray glauconitic sandstones. Calcite cemented intervals are present in Section 3. Pyrite is present throughout. Bioturbation is absent to low. The core exhibits slight fractured drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 5/N– gray, GLEY 1 2.5/10Y– greenish black, 10Y 3/1– very dark greenish gray, 10R 3/1– dark reddish gray, and 10R 5/1–reddish gray.



Hole 369-U1513D Core 54R, Interval 575.0-582.98 m (CSF-A)

Core 54R is dominated by very dark gray sandstones and siltstones. A calcite cemented interval is present in Section 3 (55-70 cm). Pyrite nodules are common throughout. Bioturbation is moderate to intense. In Section 6 (110-126 cm) there are shell fragments. The core exhibits slight fractured drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 4/N– dark gray, GLEY 1 5/N– gray, and 10R 3/1– dark reddish gray.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Silt Silt Flore sand Medium sand Medium sand Correse sand Correse sand	Munsell color		Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance	ance	Natural gamma radiation (cps)	Bulk	1 2 2 3 3	e Magnetic susceptibility (IU) -10 1990 3990 -10 0 10 20 Including
575 - - - - 576 -	100 -	1			MAD • PAL •			GLEY 1 4/N	0							% % %		•		Monopunation	
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-		2	ł					GLEY 1 4/N GLEY 1 4/N	0	ii ii						"		•		wartow barry water	-
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579 — - - -	400 -	4	V		MAD XRD PMAG			GLEY 1 4/N GLEY 1 5/N GLEY 1		# #		Barren				%		•		Aniser March March	
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Hole 369-U1513D Core 55R, Interval 584.6-594.15 m (CSF-A)

Core 55R is dominated by very dark gray sandstones and siltstones. A calcite cemented interval is present in Section 3 (97-103 cm). Pyrite is common throughout. Abundant shell fragments occur in Section 4 (57-59 cm) and Section 5 (38-60 cm). Bioturbation is moderate to intense. The core exhibits slight fractured drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 4/N– dark gray, GLEY 1 5/N– gray, 10Y 3/1– very dark greenish gray, and 10R 3/1– dark reddish gray.



Hole 369-U1513D Core 56R, Interval 594.2-602.66 m (CSF-A)

Core 56R is dominated by very dark gray sandstones and siltstones. A calcite cemented interval is present in Section 2 (109-124 cm). Pyrite is common throughout. Bioturbation is moderate to intense. The core exhibits slight fractured drilling disturbance. Munsell color notations for this core are as follows: GLEY 1 4/N– dark gray, GLEY 1 5/N– gray, and 10R 3/1– dark reddish gray.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay - Clay - Slit - Very fine sand - Medum sand - Coarse sand - Coarse sand	very variate and the color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	Nannofossil Zones	PF Zones	Drilling disturbance	Disturbance intensity	Natural gamma radiation (cps) 0 50 100	Bulk	8 -6 -3 -1 2	* Magnetic susceptibility (IU) -10 19903990
_	0-							GLEY 1 4/N	# ≡					*		•••••	R::	Mont	
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596 -	200 -			-				GLEY 1 4/N	® #							•		Maton	-
-		2			MAD PMAG	·		10R 3/1 GLEY 1	- ® #					11		•		- And	
597 -	300 -		ji I	-		· _ · ·		5/N GLEY 1 4/N	• ® # ® #							••••		Mar Mar	
-		3						GLEY 1 4/N	® #≡					1.		•		And and a second	-
598 — - -	400 -		v	-							Barren					•		Marrie	-
- - 599 —		4			XRD •			GLEY 1 4/N	® #≡		ä			<i>"</i>		•		Herver	
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-		6	1					GLEY 1 4/N	e #					1		•		Marina	
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-		СС			PAL FORAM NANNO FORAM FORAM NANNO	•		4/N GLEY 1 4/N	© # ® #				Darren	<i>"</i> ,			\ ` ••	K	· .
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Hole 369-U1513D Core 57R, Interval 603.8-612.42 m (CSF-A) Core 57R is dominated by very dark gray sandstones. Pyrite nodules and organic materials are common throughout. An interval cemented by calcite occurs at 77-102 cm of Section 5. A coral fragment is present at 62-66 cm of Section 6. The core exhibits slight fractured drilling disturbance. **BF** Paleoenvironmen Disturbance intensity Reflectance Bioturbation intensity Natural Drilling disturbance Nannofossil Zones L* a* b* Magnetic gamma Bulk Depth CSF-A (m) Core length (cm) susceptibility radiation density Grain size 18 38 Lithologic unit (IÙ) Sedimentary (cps) (g/cm³) համակուտ Shipboard samples Clay Slit Slit Very fine sand Fine sand Medium sand Coarse sand Very coarse sand structures PF Zones 2 3 4 -10 1990 399 Munsell 0 50 100 1.4 Section 2.4 3.4 and 1 ____ L color Core Graphic Lithologic Age 15 1.4 1.9 -8 -6 -3 -1 2 -10 0 10 20 lithology image accessories hundradian GLEY 1 5/N മ # 12 604 Ň G Ĝ G• G G 1 G. 10Y 3/1 % # MAD G Ż 100 605 Ġ Ĝ ì うちとうとうとう 1 2 10Y 3/1 200 -# 606 5 Ĝ ••••••••••• G G 10Y 3/1 # ☰ A A 300 - $\left\{ \right\}$ **...** SED 607 10R 3/1 # ☰ SED G G G 144 - L 3 % G 10Y 3/1 Y Y Y Y Y i G G 400 10Y 3/1 # 608 Barren Ĝ G V Ş NVVV •••••• M M XRD MAD PMAG % 10Y 3/1 4 500 · 609 G IW CARB HS ß Ĝ G • NIN ST G 12 10Y 3/1 600 # ٠G 610 5 1 G GLEY 1 4/N • X c Ś G 10Y 3/1 # . 700 • 3 611 Ĝ G : ł G MANCANA N 7 : ş, 6 10Y 3/1 % # Ś 800 -Ĝ G G 612 À , ŝ arren G.G G FORAM FORAM NANNO FORAM FORAM NANNO CC



Hole 369-U1513D Core 59R, Interval 623.0-632.42 m (CSF-A) Core 59R is dominated by very dark greenish gray glauconitic sandstones with clasts. Pyrite nodules and organic materials are common throughout. Several ~10 cm thick intervals are cemented by calcite. The core exhibits slight fracturing. **BF** Paleoenvironment Disturbance intensity Reflectance Bioturbation intensity Natural Drilling disturbance Nannofossil Zones L* a* b* Magnetic gamma Bulk Depth CSF-A (m) Core length (cm) susceptibility radiation density Grain size 26 46 Lithologic unit (IÙ) համասնա Sedimentary (cps) (g/cm³) Shipboard samples Clay Sitt Very fine sand Fine sand Medium sand Coarse sand Very coarse sand structures PF Zones 6 11 -10 1990 3990 Munsell Section 0 50 100 1.4 2.4 3.4 and color u hu i Core Graphic Lithologic Age 15 1.4 1.9 -11 -6 -1 4 -10 0 10 20 lithology image accessories hundradian . I. GGG 623 ÷ MANNAMAN G G Ň G.G MAD たろうしてい 17, 1 10Y 3/1 # Ĝ 624 100 G : • ŝ Ĝ Sim 200 625 G 2 % 10Y 3/1 # G Ĝ mar 1 : j. Ϊ. 626 300 -Martin Martin Ĝ : ζ 11 3 10Y 3/1 • G Ĝ 627 400 ·G North Party IW CARB G G ţ Barren V G Ĝ G 500 628 When % 4 10Y 3/1 G MAD XRD PMAG Ĝ 2 5 G G 600 629 S 1 monthly Ĝ ۰. 5 1 10Y 3/1 ć : 630 700 Ĝ s^{*} 3 • Z . MMM MMM MMM G Ĝ % 6 10Y 3/1 # . 631 800 Second Second G G 4 Ĝ G : G G % 7 10Y 3/1 # ş. G G C . 632 900 • G 10Y 3/1 % сс # FORAM FORAM NANNO PAL FORAM NANNO FORAM

Hole 369-U1513D Core 60R, Interval 632.6-639.78 m (CSF-A)

Core 60R is dominated by a heterolithic very dark gray to greenish gray sandstone with intervals of silty sandstone and sandy siltstone. Grain size varies throughout the core and is between silt and medium sand. A range of sedimentary structures are present throughout including current ripples, cross bedding and mud drapes (or double mud drapes); however, most intervals are massive and structureless. Abundant shell fragments are present between 78 and 100 cm in Section 5. Bioturbation is either absent or sparse throughout the core. The core exhibits slight to moderate fractured and fragmented drilling disturbance.



Hole 369-U1513D Core 61R, Interval 642.2-650.33 m (CSF-A)

Core 61R is dominated by greenish black glauconitic sandstone and gravish brown sandstone. Grain size varies from medium sand (Section 1 and 2) to fine sand (Section 3 to CC). Lenses of sideritic cements are present in Section 4 (48-50, 56-60, 62-63, 89-90 cm). Organic material and pyrite are common in Sections 5 and 6. Bioturbation is sparse to moderate throughout the core. The core does not exhibits drilling disturbance, except for Sections 1 and 2 that have slight fractured drilling disturbance

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Clay Sit Very fine sand Medium sand Coarse sand Coarse sand		str	imentary uctures and hologic essories	Bioturbation intensity	Age	Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance Disturbance intensity	(cps) 0 50 100	Bulk density (g/cm ³) 1.4 2.4 3.4 1.4 1.9	Reflectanc L* a* b* 20 40 Indududud 0 5 101520 Indududud -9 -4 1	Magnetic susceptibilit (IU)
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- - 645 - - -	300 -	3			SED ●			GLEY 1 2.5/10Y		#							•		Ang Dermina	
- 546 - - -	400 -	4	v		IW CARB HS ●			5YR 3/2	Ē	#		Barren							and many and	
- 47 — - -	500 -	5			MAD ●			5YR 3/2	0	#							•		Manufatra	
- 648 - - -	600 -				MAD PMAG XRD				-								• • • • • •		March	
- 649 — -	700 -	6			XRD			5YR 3/2	0	#							• • • • • •		Marine Marine	
- - 650 — -	800 -	7 CC			PAL FORAM FORAM NANNO FORAM FORAM NANNO	0 0 0 0 0 0 0 0 0 0		GLEY 1 3/5GY GLEY 1 3/5GY	0	#							• • • •		And Walter	

Hole 369-U1513D Core 62R, Interval 651.8-658.26 m (CSF-A)

Core 62R is dominated by a very dark to dark greenish gray glauconitic sandstones that are fine to medium grained sand. Calcite cemented intervals are present in Sections 1, 2, 4 and CC. Organic fragments are rare throughout the core. Lithic clasts are present in Section 1 (89-90 cm) and Section 5 (41 cm). Bioturbation is absent. The core exhibits slight to moderate fractured drilling disturbance.



Hole 369-U1513D Core 63R, Interval 661.4-669.59 m (CSF-A)

Core 63R is dominated by a dark to greenish gray sandstone with glauconite that is fine to medium grained sand. Lithic clasts are present in Section 7. Calcite veining and circular holes (2 mm wide by 2 cm in length) are present in Sections 3, 5 and 7 - these maybe a drilling relict. Organic materials are disseminated throughout where as pyrite nodules are only present in Sction 7. Bioturbation is absent. The core exhibits brecciated, fragmented and fractured drilling disturbance.

Depth CSF-A (m)	Core length (cm)	Section	Core image	Shipboard samples	Graphic lithology	Clay Siti Very fine sand Fine sand Medium sand Coarse sand	 Very coarse sand 0 Munsell color 	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age Normeforcil Zongo	PF Zones	BF Paleoenvironment	Drilling disturbance	Disturbance intensity		Bulk density (g/cm ³) 1.4 2.4 3.		e * Magnetic susceptibility (IU) -10 1990 3990 -10 0 10 20 Iuminum
662 -	0-	1		SED •			GLEY 1 2.5/10Y	- O #					×		•		(marth	-
-	100 -	2					GLEY 1 2.5/10Y	#							•		A MACH	
663 -	200 -			MAD •		· · ·	GLEY 1 2.5/10Y	- # -					7,		•		Marine	
- - 664 -	200	3					GLEY 1 4/10Y	c #							•		Jun -	
-	300 -						GLEY 1 2.5/10Y GLEY 1 2.5/10Y	_O'''' # #					"/,		•		J. Mark	
- 65 — -		4					GLEY 1 5/10GY GLEY 1 2.5/10Y	_ C # #							• • • • •		Mr. Mar	
-	400 -	\\								Barren					• • • • • •		MAN	
666 - - -	500 -	5					GLEY 1 5/10GY	c #							• • • • •		Y	
- - 667 -				PMAG MAD IW CARB HS			GLEY 1	- "							• • • • •		M www	
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-	700 -	7		XRD •			GLEY 1 4/10Y	- •••• # - ••••					× % %		•		- Maryan	
669 — - -	800 -	СС		FORAM •			GLEY 1 5/10GY GLEY 1 5/10GY	୦ # ଌ୬ #			Barren		% ×				Month	}
				FORAM FORAM NANNO PAL FORAM NANNO FORAM									L					

Hole 369-U1513D Core 64R, Interval 671.0-680.92 m (CSF-A)

Core 64R is dominated by a very dark greenish gray to gray sandstone that is fine to medium grained. Calcite cemented intervals are present from Section 1 to 7. Calcite veins are present in Sections 1 and 6. Organic materials are disseminated throughout with woody fragments in Section 6. Shell fragments are only present in Section 1. Pyrite nodules are present in Sections 1, 2 and 6. Bioturbation is absent. The core exhibits brecciated, fragmented and fractured drilling disturbance in Sections 1, 4, and 7.



Hole 369-U1513D Core 65R, Interval 680.6-689.22 m (CSF-A)

Core 65R is dominated by a very dark greenish gray sandstone with clasts, which progressively changes to a dark reddish gray claystone-siltstone-sandstone in Section 5 (73 cm). Grain size varies from silt to coarse sand. Organic matter is rare. Calcite cemented intervals are present in Sections 4, 5, 7 and the CC. Calcite veins are common in Section 7 and in the CC. In Section 7, there is an increase in amount and size of clasts of variable composition and in calcite veins. Bioturbation is absent. The core mainly exhibits slightly to moderately fractured and fragmented drilling disturbances.



Hole 369-U1513D Core 66R, Interval 690.2-695.34 m (CSF-A)

Core 66R consists of two possible flow units of porphyritic basalt with alternating red-brown and green overprints. A flow top breccia grading into massive flow defines the upper boundary with overlying claystone. Flow unit 1A has a brecciated top that grades into massive basalt porphyry. The lower boundary with flow unit 1B is an aphyric to plagioclase phyric interval in Section 2 at 100-128 cm. The only clear phenocryst phase is plagioclase, which range in size from medium-grained (1-3 mm) to very large megacrysts (5-30 mm in length) in flow unit 1B. The groundmass is aphyric and partially replaced by red-brown hematite shown as color bands and smears. A fine-grained (<1 mm) diabase finger (2 cm thick) intrudes it in Section 3, 127-142 cm.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Color Contraction	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance	turbance	Natural gamma radiation (cps) 0 50 100 0 15	Bulk density (g/cm ³) 1.4 2.4 3.4 1.4 1.9	Reflectanc L* a* b' 20 40 Iuuluuluulu -4 -2 0 2 Iuuluuluulu -9 -7 -4 -2 1	e Magnetic susceptibility (IU) -10 1990 3990 Lundund -10 0 10 20 Lundund
- - 691 – -	100 -	1			TS TSB			*					"				And a show	-
- 692 - -	200 -	2											%		• • • • • •	Y Y W		-
- 693 – - -	300 -	3	VI		MAD PMAG TS ICP TSB								% %		• • • • • •			
- 694 — - -	400 -	4			ICP TS TSB								"		•		And	
695 — -	500 -														•			

							Но	ole 369	69-U1513D-66R Section 1, Top of Section: 690.2 m (CSF-A)
Depth (m)	Core length (cm)	Piece number Scanned	image	Orientation Lithology	5	Shipboard studies	Lith. unit	Drilling disturbance	Pyroxene Magnetic Feldspar Groundmass Group Succeptibility 0 40 80 to grain size in terustry of a b 2 4 6 in terustry o
691.4 -	30 - 40 - 50 - 60 - 70 - 80 - 90 - 100 - 110 -					TS TSB	1A	~	Core GBR consists of two possible flow units of pophytic based with alternating of pophytic based with outlying classed between and up to near the database flow unit if has a brocested to phate grades into massive based pophyty. The lower barrow prospecting of the second grades into massive based pophyty. The lower barrow prospecting of the second grades into massive based pophytics. With range in size from medium grained (1-3 mm to very target prospecting) of the second and partially replaced by red-trown hermits above an action bands and another the second and partially replaced by red-trown hermits above an action bands and another the into () intrudes it in Section 3, 127-142 cm.

							Н	ole 369	-U1513D-	66R Sec	ion 2,	Тор	of Sect	ion: 6	91.58	s m	(CSF-A)	
Depth (m)	Core length (cm)	Piece number	Scanned image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Pyroxe Feldsp 0 40 Innland 0 40	nar outact 08 کontact 08	Groun grain	size	α Alteration intensity rank	Veins/Structures	Vesicle abundance	SI 20	Magnetic usceptibility (IU) 220	Description
691.8 691.8 692.0 692.2 692.4 692.4 692.4 692.4	10 20 30 40 50 60 70 80 90 1100 110				> > > > > > > > > > > > > > > > > > >		1A	2011						XX XX	Ves			Description

							Но	ole 369	-U1513D-66R Section 3, Top of Section: 692.86 m (CSF-A)
Depth (m)	Core length (cm)	Piece number	Scanned image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Pyroxene Xuput Magnetic Feldspar Groundmass Uput Susceptibility 0 40 80 50 grain size 10 undmutuding 60 2 4 6 10 20 220 0 40 80 0 2 4 6 10 10 undmutuding 0 24 6 10 20 220 Description
692.9 - - - 693.0 - - 693.1 - - - 693.2 - - - 693.3 - - - 693.4 - - - 693.5 - - - 693.6 - - - 693.6 - - - 693.7 - - - 693.7 - - - 693.8 - - - 693.9 -	20 30 40 50 60 70 80 90	- 1			ヘビント ビント ビント ビント ビント ビント ビント ビント ビント ビント	• MAD MAG	1B	~	Core 66R consists of two possible flow under of popphysic basal with alternating red-town and green overprists. A flow top bread grading into massive basal popphys. The flow with 14 has a breadcated big that grades into massive basal popphys. The flower boundary with flow unit 18 is an aphytic to plagodase physic interval an Section 2 at 100-128 cm. The only decides, which and partially replaced by red-brown hematite shown as coldre bands and amersa. A fine-grained (<1 mm) dabase finger (2 cm thick) intrudes it in Section 3, 127-142 cm.

							Н	ole 36	69-L	J1513D-66R Section 4, Top of Sec	tion: 6	693.92	m (CSF-A)	
Depth (m)	Core length (cm)	Piece number	Scanned image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling	disturbance	Pyroxene Feldspar 0 40 80 to grain size interview 0 40 80 00 to grain size interview 0 40 80 to grain size interview 1 40 80 to grain size interview	Veins/Structures	Vesicle abundance	Magnetic susceptibility (IU) 30 130	Description
694.0 -	10.				<pre>>< > < > <</pre>									Core 66R consists of two possible flow units of porphyritic basalt with alternating red-brown and green overprints. A flow top breccia grading into massive flow defines the upper boundary with overlying claystone. Flow unit 1A has a brecciated top that grades into massive basalt porphyry. The lower boundary with flow unit 1B is an aphyric to plagioclase phyric interval in Section 2 at 100-128 cm. The only clear
- 694.2 -	20 · 30 ·			A Martine and the second se										Section 2 at 100-128 cm. The only clear phenocryst phase is plagioclase, which range in size from medium-grained (1-3 mm) to very large megacrysts (5-30 mm in length) in flow unit 1B. The groundmass is aphyric and partially replaced by red-brown hematite shown as color bands and smears. A fine-grained (<1 mm) diabase finger (2 cm thick) intrudes it in Section 3, 127-142 cm.
- 694.4 -	40 - 50 -					 ICP TS TSB 								
-	60 -			-										
694.6 -	70-			Dreat dial			1B	<i>''</i> ,		y				
-	80-													
694.8 -	90.													
695.0 -	100 · 110 ·			↑										
-	120 ·												<	
695.2 -	130 -	3		ţ									$\left \right\rangle$	
	140												-	

Hole 369-U1513D Core 67R, Interval 695.0-699.01 m (CSF-A)

Core 67R consists of greenish gray dolerite dike with an equigranular groundmass and porphyritic texture of megacrystic plagioclase and pyroxene in Sections 1 and 2. Texture grades down from green plagioclase-phyric microcrystalline groundmass to trachytic basalt near the baked contact with reddish-brownish volcaniclastic breccia. In section 4, there is a sharp inclined boundary from brown vesicular basalt to red orange matrix; texture change across sharp boundary from crystalline to clastic indicating reaction boundary between sill/dike and breccia. Contact is marked with a very thin, 1 mm, selvage of chilled margin and a reddish reaction halo (10-25 cm) in basalt and dark red baking color (25-34 cm) that grades to red-brown color of the breccia.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay State Clay Hory fripe sand Fripe sand Medicin sand Coartes sand Very coartes sand Very coartes sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	Nannofossil Zones	PF Zones	BF Paleoenvironment Drilling disturbance	Disturbance intensity	Natural gamma radiation (cps) 0 50 100	Bulk density (g/cm ³)	Reflectanc L* a* b* 30 50 Lundundu 0 5 10 4 Lundundu -8 -3 2	e Magnetic susceptibility (IU) -10 1990 3990 Linulunul -10 0 10 20 Linulunul
695 - - - 696 - - -	100 -	1			TS TSB ICP MAD PMAG									<i>%</i>		• • • • • • • • • • • • • • • • • • •	•	M. M. M. M.	C. 1
697	200 -	2	VI		TSB ICP •									<i>"</i> "		• • • • • • • • • • • • •		Month Journa	
698 - - - 699	300 -	4			TS TSB ICP TS TSB MAD PMAG			2.5Y 3/3	Ľ					"				Martin Conception	

						Н	ole 369-	U1513D-67R Section 1, Top of Sec	tion:	695.0	m (CSF-A)	
Depth (m)	Core length (cm)	Piece number Scanned image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Pyroxene Feldspar 0 40 80 to undiminant 0 40 80 to 0 2 4 6 1 40 80 to 0 40 80 to 0 2 4 6 1 40 10 10 10 10 10 10 10 10 10 10 10 10 10	Veins/Structures	Vesicle abundance	Magnetic susceptibility (IU) -40 360	Description
695.0		1					¥*					Core 67R consists of greenish gray dolerite dike with an equigranular groundmass and porphyritic texture of megacrystic
-	10-											porphyritic texture of megacrystic plagioclase and pyroxene in Sections 1 and 2. Texture grades down from green plagioclase-phyric microcrystalline groundmass to trachytic basalt near the baked contact with reddish-brownish volcaniclastic breccia. In section 4, there is a sharp inclined boundary from brown
695.2 -	20-											vesicular basalt to red orange matrix; texture change across sharp boundary from crystalline to clastic indicating reaction
-	30-				TS TSB ICP							boundary between sill/dike and breccia. Contact is marked with a very thin, 1 mm, selvage of chilled margin and a reddish reaction halo (10-25 cm) in basalt and dark red baking color (25-34 cm) that grades to red-brown color of the breccia.
695.4 -	40 -	1 and			• MAD							
-	50 -											
695.6 -	60 -	2	t			1C	<i>"</i> ,					
-	70-				• MAG							
695.8 -	80 -											
-	90 -											
696.0 -	100 -										$\langle \rangle$	
-	·110-											

Visual core descriptions

Image: service of the service of th
896.3 - 10 - - 696.3 - 10 - - 696.4 - 20 - - 696.5 - 30 - - 696.6 - 40 - - 696.7 - 50 - - 696.8 - 60 - - 696.9 - 70 - 696.9 - 70 - 697.0 - 80 -

			Hole 369-	U1513D-67R Section 3, Top of Secti	on: 697.13 m (CSF-A)	
Depth (m) Core length (cm) Piece number Scanned image	Orientation Lithology	Shipboard studies	Lith. unit Drilling disturbance	Pyroxene Feldspar 0 40 80 to undimination 0 40 80 to to to to to to to to to to to to to t	Veins/Structures Magnetic (II) 06 01- 06 01- 06 01- 01- 06 01-	Description
$ \begin{array}{c} 07.2 \\ 07.2 \\ 07.2 \\ 07.2 \\ 07.3 \\ 20 \\ 07.4 \\ 30 \\ 1 \\ 07.5 \\ 40 \\ 07.6 \\ 50 \\ 07.7 \\ 60 \\ 2 \end{array} $		• TSB ICP				Core 67R consists of greenish gray dolerit dike with an equigranular groundmass and porphyritic texture of megacrystic plagioclase and pyroxene in Sections 1 an 2. Texture grades down from green plagioclase-phyric microcrystalline groundmass to trachytic basalt near the baked contact with reddish-brownish volcaniclastic breccia. In section 4, there is sharp inclined boundary from brown vesicular basalt to red orange matrix; textuc change across sharp boundary from crystalline to clastic indicating reaction boundary between sill/dike and breccia. Contact is marked with a very thin, 1 mm, selvage of chilled margin and a reddish reaction halo (10-25 cm) in basalt and dar red baking color (25-34 cm) that grades to red-brown color of the breccia.

Hole 369-U1513D-67R Section 4, Top of Section: 697.77 m (CSF-A)	
Depth (m) Core length (m) Core length (m) Priece number Core length (m) Priece number Maguetic Inthroboard studies Maduetic (n) Maduetic Core length (cm) Priling Maduetic (n) (n) (n) (n) (n) (n) (n) (n)	
087.8 0 0.8 0.9 0.9 0.0 0	ndmass and tic ections 1 and preen lline meat the winish on 4, there is a prown matrix; texture / from reaction d breccia. thin, 1 mm, a reddish salt and dark

Hole 369-U1513D Core 68R, Interval 699.8-708.44 m (CSF-A) Core 68R consists of four flow units (3A to3D) of similar aphyric fine-grained basalt variably altered to argillic and propylitic hydrothermal alteration and one flow unit of amygdaloidal basalt with microcrystalline groundmass and 10% vesicles filled with white secondary mineral. BF Paleoenvironment Reflectance Disturbance intensity Bioturbation intensity Natural Drilling disturbance Nannofossil Zones L* a* b* Magnetic gamma Bulk Depth CSF-A (m) Core length (cm) susceptibility (IU) radiation Grain size density 32 Lithologic unit Sedimentary (cps) (g/cm³) ىلىسلىسى Shipboard samples Clay Slit Slit Very fine sand Fine sand Medium sand Coarse sand Very coarse sand PF Zones structures 0 2 4 6 -10 1990 3990 Munsell Section 0 50 100 1.4 2.4 3.4 and color L Core Graphic Lithologic Age 0 1.4 1.9 -10-5 0 5 -10 0 10 20 lithology image accessories huduuluul TSB TS PMAG MAD ICP TS TSB : 700 2 1 % 100 f, 701 ź VV CAN-X 200 702 2 1, ł • : 300 -Ś 1 703 3 1 $\dot{\boldsymbol{\ell}}$ •••••• 400 704 VI ð 500 · 1 . 4 705 •••••• ٤ TS TSB ICP TSB . £ 4 . 600 : 706 5 1 . Ş • 700 • 707 . ••••• MAD TS TSB : Man Ż 6 1, . 800 -⊲ 708 ∇ 10R 3/2 Lth Ś V

							Н	ole 369	9-U1513D-68R Sec	tion 1, To	p of Sec	tion:	699.8 r	n (CSF-A)	
Depth (m)	Core length (cm)	Piece number	Scanned image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Pyroxene Feldspar 0 40 80 55 Indudududu 80 60 0 40 80 60 Indudududu 0 2 A	Groundma grain siz	eratio nsity	Veins/Structures	Vesicle abundance	Magnetic susceptibility (IU) 200	Description
701.0	- 30 - 40 - 50 - 60 - 70 - 80 - 90 - 110 - 120 - 130					• TSB • MAG • MAD • ICP • TSB	3A	~							Core 68R consists of four flow units (3A to3D) of similar aphyric fine-grained basalt variably altered to argillic and propylitic hydrothermal alteration and one flow unit of armygdaloidal basalt with microcrystalline groundmass and 10% vesicles filled with white secondary mineral.

							Н	ole 369	-U1513D-68R Section 2, Top of Section: 701.3 m (CSF-A)								
Depth (m)	Core length (cm)	Piece number	Scanned image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Pyroxene X Magnetic Feldspar Groundmass U Susceptibility 0 40 80 50 grain size 50 100 0 40 80 50 2 4 6 100 0 40 80 0 2 4 6 100 1000 0 40 80 0 2 4 6 100 1000 Description								
702.5 -	- 30 - - 40 - - 50 - - 60 - - 70 - - 80 - - 90 - - 100 - - 110 -	-		$\uparrow \qquad \qquad \uparrow \qquad \qquad$			3А	2	Care BR consists of four flow units (3A (03D) of similar aphytic flee-grine desaits variably altered to agilis and propylis. In anygdatolati basit with microrystalline groundmass and 10% vesicles filled with while secondary mineral.								
								Ho	ole 369	-U1513D-68R Secti	on 3, Top	of Sect	on: 7	02.68	m (0	CSF-A)	
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Depth (m)	Core length (cm)	Piece number	Scanned	Image	Urientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Pyroxene Feldspar 0 40 80 55 Inductional 55 0 40 80 60 100 80 60 100 80 80 80 100 80 80 100 80 80 100 80 100 100 80 100 80 100 100 80 100 80 100 100 80 100 100 100 100 100 100 100 100 100 1	Groundmas grain size 0 2 4 6	م Alteration intensity rank	Veins/Structures	Vesicle abundance	N sus 100	Magnetic sceptibility (IU) 1100	
702.7 - - 702.9 - -	10· 20· 30·	_ 1						3A									Core 68R consists of four flow units (3A to3D) of similar aphyric fine-grained basalt variably altered to argillic and propylitic hydrothermal alteration and one flow unit of amygdaloidal basalt with microcrystalline groundmass and 10% vesicles filled with white secondary mineral.
703.1 - - 703.3 -	50 · 60 ·																
- 703.5 -				A MARK	> 10 > 10 > 10 > 10 >				%						(5	
- 703.7	90 · 100 · 110 ·	3						3В		~~						$\left\langle \right\rangle$	
703.9 -	120 · 130 ·														{	5	
704.1 -	140			1 as the for)	



							Н	ole 36	-U1513D-68R	Sectior	n 5, Top	of Sect	ion: 7	05.44	m (CSF-A)	
Depth (m)	Core length (cm)	Piece number	Scanned	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling	Pyroxene Feldspar 0 40 80 Indududud 0 40 80	Contact type 0 0 0	oundmas grain size 2 4 6	ہ Alteration intensity rank	Veins/Structures	Vesicle abundance	Magnetic susceptibility (IU) 80 480	Description
705.5 -	10	-				7 7 7										Core 68R consists of four flow units (3A to3D) of similar aphyric fine-grained basalt variably altered to argillic and propylitic hydrothermal alteration and one flow unit of amygdaloidal basalt with microcrystalline groundmass and 10% vesicles filled with white secondary mineral.
- 705.7 -	20		1 M L	and the second		7 - 7 - 7 - 7									\geq	
- 705.9 -	40			1											$\left\{ \right.$	
706.1 -	60 70						3D	"		Ψ					$\left\{ \right.$	
706.3 -	80 90					7 7 7 7										
706.5 -	100	-	-	1. A.												
706.7 -	120 130	2	ALX.			7 7 7										
706.9 -	140	3				7	3E			- [$\tilde{\mathbf{c}}$	$\left(\right)$	

							Н	ole 369-	9-U1513D-68R Section 6, Top of Section: 706.95 m (CSF-A)
Depth (m)	Core length (cm)	Piece number	Scanned image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Pyroxene X S Magnetic Feldspar Groundmass Grain size S S (IU) 0 40 80 to grain size S S (IU) 1 10 10 10 10 10 10 10 10 10 10 10 10 10
707.0 -	10-	1		1					Core 68R consists of four flow units (3A to3D) of similar aphyric fine-grained basalt variably altered to argillic and propylitic hydrothermal alteration and one flow unit of amygdaloidal basalt with microcrystalline groundmass and 10% vesicles filled with white secondary mineral.
- 707.2 -	20 - 30 -	2 3		1					
- 707.4 -	40 - 50 -	4				• MAD	3E		
- 707.6 -	60 - 70 -	6		1				"	
707.8 -	80 - 90 -	7							
708.0 -	100- 110-	8		- 			4		
708.2 -	120 - 130 -								
708.4 -	140 -	9	e. N						

Hole 369-U1513D Core 69R, Interval 709.4-716.97 m (CSF-A)

Core 69R consists of one flow unit of originally pyroxene-plagioclase phyric basalt altered to varying degrees from red-brown hematitic/magnetite to brown argillic? (iron oxide-clay) in Sections 1 to 2 to propylitic (zeolite-chlorite) alteration toward the fresher segments in Section 3. High magnetic susceptibility in sections 1 and 2 maybe attributed to complete alteration of possibly high-Fe basalt originally. Alteration creates pseudo-porphyritic, vuggy and amygdaloidal textures. Fresher intervals are dark gray to black with sparse (5%) phenocrysts of 5-10 mm plagioclase and pyroxene in microcrystalline groundmass. Sparsely vesicular/amygdaloidal alteration texture at 43-53 cm and trachytic texture along vein margin at 87-93 cm, Section 3 and at 0-20, 50-53 and 143-150 cm, Section 5 due to alteration. Amygdaloidal texture at 25-27 cm, Section 6 but original texture is sparsely phyric. Possible intrusive, with chilled margins at 5-123 cm, Section 2.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core	Shipboard samples	Graphic	Clay Sit Very fine sand Very fine sand Medium sand Very coarse sand Very coarse sand	Munsell color	Sedimentary structures and Lithologic	Bioturbation intensity	0	Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance	Disturbance intensity	Natural gamma Bu radiation den: (cps) (g/ci	sity 20 40 n ³) لساساساس 4 3.4 -0 2 4 6 ساساساساس	* Magnetic susceptibility (IU) -10 1990 3990
De	Ŝ	Sec	Lit	image	Shi sar	lithology	€0 € i e i e i e i e i e i e i e i e i e i	UL ML	accessories	Bio	Age	Nai	Н	ВГ	D	Dis	1.4	1.9 -9 -4 1 6	-10 0 10 20 համակում
- - 710 - -	100 -	1			MAD • ICP • TSB • TS	<pre>^ \L \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \</pre>									< %			Approximation	
- 711	200 -	2			TS ICP TSB										<i>''</i> ,			Manual Contraction	
712	300 -	3				A 2 7 A 2 S F 7 L S F A 2 7 A 2 S F 7 L S F A 2 7 A 2 S F 7 L S F S L 7 A 2 S L 7									" "/,			Muniter Contraction	
713	400 -	4	VI		PMAG MAD TSB TS ICP										<i>%</i>			- Alexandra	
- - - - - - - -	500 -			-		、 、 、 、 、 、 、 、 、 、 、 、 、 、									~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~			· · ·	-
716 -	600 -	5				× × - × - × - × - × - × - × - × -									% % %				
-	700 -	6													< % % ~				-

					Hole 369	9-U1513D-69R Section 1, Top of Section: 709.4 m (CSF-A)
Depth (m)	Core length (cm)	Piece number Scanned image	Orientation Lithology	Shipboard studies	Lith. unit Drilling disturbance	Pyroxene Magnetic Feldspar Groundmass Up Structure Susceptibility 0 40 80 to grain size to trie size of the susceptibility 0 40 80 to grain size to trie size of the size of the susceptibility 0 40 80 to grain size to trie size of the size of the susceptibility 0 40 80 to grain size to trie size of the size of th
710.6 -	- 30 - - 40 - - 50 - - 60 - - 70 - - 80 - - 90 - - 100 - - 110 -			MAD ICP TSB TS	iA ×	Core 69R consists of one flow unit of criginaly provide depression with the criginaly provide depression with the crast of the segments in Section 3. High maybe attributed to complete attribute of reader segments in Section 3. High maybe attributed to complete attribute of reader attributed to complete attribute texture attributed to complete attribute texture sparsety report. Possible minusker, with dilled fragment at 5/2 or m, Section 2. complete attributed to complete attribute texture sparsety report. Possible minusker, with dilled fragment at 5/2 or m, Section 2. complete attributed to complete attribute texture sparsety report. Possible minusker, with dilled fragment at 5/2 or m, Section 2. complete attribute attribute sparsety report. Possible minusker, with dilled fragment at 5/2 or m, Section 2. complete attribute attribute sparsety report. Possible minusker, with dilled fragment at 5/2 or m, Section 2. complete attribute attribute sparsety report. complete attribute attribute sparsety report. complete attribute complete attribute

							Н	lole 369-	-U1513D-69R Section 2, Top of Section: 710.76 m (CSF-A)
Depth (m)	Core length (cm)	Piece number	Scanned image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Pyroxene X Magnetic Feldspar Groundmass U B Susceptibility 0 40 80 50 grain size 52 10 1 1 1 1 1 1 1 0 40 80 52 0 2 4 6 1 0 40 80 0 2 4 6 1
710.8 -	10-			and the second second second and a second					Core 69R consists of one flow unit of originally pyroxene-plagioclase phyric basal altered to varying degrees from red-brown hematiit/magnetite to brown argillic? (iron oxide-clay) in Sections 1 to 2 to propylitic (zeolite-chlorite) alteration toward the fresher segments in Sections 1. High magnetic susceptibility in sections 1 and 2 maybe attributed to complete alteration of possibly high-Fe basalt originally. Alteration creates pseudo-porphyritic,vuggy and amygdaloidal textures. Fresher intervals are
711.0 -	30 -								amygdaloidal textures. Fresher intervals are dark gray to black with sparse (5%) phenocrysts of 5-10 mm plagioclase and pyroxene in microcrystalline groundmass. Sparsely vesicular/amygdaloidal alteration texture at 43-53 cm and trachytic texture along vein margin at 87-93 cm, Section 3 and at 0-20, 50-53 and 143-150 cm, Section 3 5 due to alteration. Amygdaloidal texture at 25-27 cm, Section 6 but original texture is sparsely phyric. Possible intrusive, with chilled margins at 5-123 cm, Section 2.
711.2 -	50 -			n a lo de la compañía			5A		
- 711.6 -	70 -					• ICP			
- 711.8 -	90 -							"	
712.0 -	110 - 120 - 130 -		All A. C.						

	Н	lole 369-l	J1513D-69R Section 3, Top of Section: 712.08 m (CSF-A)
Depth (m) Core length (cm) Piece number Scanned image Orientation Lithology	Shipboard studies Lith. unit	Drilling disturbance	Pyroxene Magnetic Feldspar Groundmass using subscriptibility 0 40 80 to grain size is to is the subscription 0 40 80 to grain size is to is the subscription 0 40 80 to grain size is to is the subscription 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
712.1 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	54		Core 69R consists of one flow unit of originally proxeme plagicabase physic baselt altered to varying degrees from rechronymic based edgr. 10 Sections 11 to 2 by regylline treater segments in Section 3. High magnetic susceptibility in sections 1 and 2 maybe attribute to complete alteration of prosebly high-fe baselt regionally. Altern amount of the section 1 and 2 maybe different intervelse are drark gray to black with sparse (5%) phenocrystalline groundmass. Sparsely varies of 5-10 m placidose and protocetaria migradical alteration and at 20-0, 50-53 and 143-160 cm, Section 3 and at 20-0, 50-53 and 143-160 cm, Section 3 and at 20-0, 50-53 and 143-160 cm, Section 3 and at 20-0, 50-53 and 143-160 cm, Section 3 during vein margin at 57-33 cm, Section 3 during vein margin at 57-13 cm, Section 4 during vein margin at 57-13 cm, Section 4 during vein margin at 57-

	Hole 369	9-U1513D-69R Section 4, Top of Section: 713.2 m (CSF-A)
Depth (m) Core length (cm) Piece number Scanned image Orientation Lithology	Shipboard studies Lith. unit Drilling disturbance	Pyroxene Xu Magnetic Feldspar Groundmass C Susceptibility 0 40 80 to grain size to undudududu 0 2 4 6 to clo 0 40 80 co 2 4 6 to clo 0 40 80 co 2 4 6 to clo clo 0 40 80 co 2 4 6 to clo
$713.2 0 \qquad A \qquad L \\ A \qquad J \qquad 7 \\ J \qquad J$	• MAD • TSB • TSB 5A 5A • Z	Core 69R consists of one flow unit of orginally proceen-plaquotase physic basalt altered to varying degrees from red-boxin boxed-edu () in Sections 1 to 20 propyline (zeolite-choite) alteration toward the trebers experiments in Sections 1. High magnetic ausceptibility in sections 1 and 20 mossibly high-Fe biosel registry. Alteration proceeding to 1. High projections and amygdialoid lattures. Freehr intervals are dark gray to black with sparse (5%) phonecurst of 5.10 mm placebase and phonesure of 4.435 cm and transition to keture at 4.435 cm and transition to the 4.435 cm and transition of dark organism and the 4.435 cm and transition to dark of 4.435 cm and transition of dark to anteration. Altery the totute alter of the transition of the 4.435 cm and transition of dark to anteration. Altery data sparset by transition of the transition of the 4.435 cm and transition of the 4.435 cm of the 4.435 cm and transition of the 4.435 cm and transition of the 4.435 cm and transition of the 4.435 cm and transition of the 4.435 cm of the 4.435 cm and transition of the 4.435 cm and

						Н	ole 369·	-U1513D-69R Section 5, Top of Section: 714.7 m (CSF-A)
Depth (m)	Core length (cm)	Piece number Scanned image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Pyroxene X Magnetic Feldspar Groundmass D S susceptibility 0 40 80 50 grain size 50 eigen (IU) Individudinal 0 2 4 6 b 2 40 40 Description 0 40 80 0 2 4 6 b b Description
715.9	- 30 - - 40 - - 50 - - 60 - - 70 - - 80 - - 90 - - 100 - - 110 - - 120 - - 130 -			^		5A		Core 69R consists of one flow unit of originally pyrotene-deligicidae phyric basel hermatiking particle to brow anglike? (ron oxide-clay) in Sections 11 of 20 propyline (credite-thring) alternation toward the frostner segments in Section 3. High maybe attribute of the section of the section of the section or series peaked by mains in alternation of possibly high-fe basel toriginally. Alternation or arease peaked-originally. Alternation or series peaked-originally. Alternation of the section of the section of the section of the pyroxeme in microcrystalline groundness. Sparsely wescillar based alternation toxiture at 43-53 or and trachytic toxiture alternation of the section of the section of the classifier of the section of the section of the section of the classifier of the section of the section of the section of the classifier of the section of the section of the section of the classifier of the section of the section of the classifier of the section of the section of the s

	Hole 369-	U1513D-69R Section 6, Top of Section: 716.2 m (CSF-A)
Depth (m) Core length (cm) Piece number Scanned image Orientation Lithology	Shipboard studies Lith. unit Drilling disturbance	Pyroxene Magnetic Feldspar Groundmass Last in the state of the state
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	5A ×	Core 69R consists of one flow unit of originally proxeme-plagioclase phyric basalt altered to varying degrees from red-brown hematii/charganetite to brown argilite? (iron oxide-day) in Section 3. High magnetic susceptibility in sections 1 and 2 to possibly high-Fe basalt originally. Alteration oreates pseudo-porphyritic, vuggy and amygdaloidal textures. Fresher intervals are dark gray to basalt with sparse (5%) phenocrystalline groundmass. Sparsely vesicular/amygdaloidal alteration texture at 43-53 cm, Section 3 and at 0-20, 50-53 and 143-150 cm, Section 2 000 000 000 000 000 000 000 000 000 0

Hole 369-U1513D Core 70R, Interval 719.0-724.88 m (CSF-A)

Core 70R consists of porphyritic basalts (flow units 5B and 5C) cut at 60 degree angle by intrusive unit C at Section 2, 84-98 cm and at 40 degree angle at Section 5, 16-25 cm. Intrusive is microcrystalline dolerite with xenoliths showing glomeropophyrithic texture. Native copper dissemination is present in Sections 1 and 2. Rounded basalt xenoliths with sharp (top of Section 3) to diffuse outlines are present in Sections 3, 4 and 5. Reddish brown alteration ribbon and patches are present in Sections 3 and 4.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay State Clay Hory fine sand Fine sand Fine sand Coartes sand Very coarse sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity Age	Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance	Nat gan radi	os)	Bulk density (g/cm ³) 1.4 2.4 3.4 1.4 1.9	1231	e Magnetic susceptibility (IU) -10 19903990 Lundund -10 0 10 20 Lundund
719	100 -	1			TS TSB ICP	<pre>> < <</pre>								ж % Х		•		Mary Mary	
- - 721 -	200 -	2			PMAG • MAD • TS •									% %				and your	
722	300 -	3	VI		TS ICP TSB PMAG •									"	· · · · · · · · · · · · · · · · · · ·				
723 -	400													×					
724	500 -	4	The second		MAD •									× // × // × // × // × // × // × // × /		,		Marrie Marrie	

							Н	lole 369	-U1513D-70R Section 1, Top of Sec	ction:	719.0 r	m (CSF-A)	
Depth (m)	Core length (cm)	Piece number Scanned	image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Pyroxene Groundmass Feldspar Groundmass 0 40 80 0 1 1 0 1 1	Veins/Structures	Vesicle abundance	Magnetic susceptibility (IU) 0 400	Description
720.2 -	- 30 - 40 - 50 - 60 - 70 - 80 - 90 - 110 - 120 - 130					• TSB ICP	5B	۲۲ ۲					Core 70R consists of porphyritic basalts (flow units SB and 5C) cut at 60 degree angle by intrusive unit C at Section 2, 84-98 cm and at 40 degree angle at Section 5, 16-25 cm. Intrusive is microcrystalline dolerite with xenoliths showing glomeropophyrithic texture. Native copper dissemination is present in Sections 1 and 2. Rounded basalt xenoliths with sharp (top of Section 3) to diffuse outlines are present in Sections 3, 4 and 5. Reddish brown alteration ribbon and patches are present in Sections 3 and 4.

							Н	ole 369-	-U1513D-70R Section 2, Top of Section: 720.44 m (CSF-A)
Depth (m)	Core length (cm)	Piece number	Scanned image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Pyroxene Xu Magnetic Feldspar Groundmass Groundmass U Susceptibility 0 40 80 to to to to 0 40 80 to to to to to 0 40 80 to to to to to to 0 40 80 to to to to to to 0 40 80 0 2 4 6 to to
720.5 -	10-				<pre>> < > < > < > < > < > < <</pre>				Core 70R consists of porphyritic basalts (flow units 5B and 5C) cut at 60 degree angle by intrusive unit C at Section 2, 84-98 cm and at 40 degree angle at Section 5, 16-25 cm. Intrusive is microcrystalline dolerite with xenoliths showing glomeropophyrithic texture. Native copper dissemination is present in Sections 1 and 2 Rounded basalt xenoliths with sharp (top of Section 3) to diffuse outlines are present in Sections 3, 4 and 5. Reddish brown
720.7 -	20 - 30 -	1		1		• MAG		%	Core 70R consists of porphyritic basalts (flow units 5B and 5C) cut at 60 degree angle by intrusive unit C at Section 2, 84-98 cm and at 40 degree angle at Section 5, 16-25 cm. Intrusive is microcrystalline dolerite with xenoliths showing glomeropophyrithic texture. Native copper dissemination is present in Sections 1 and 2 Rounded basalt xenoliths with sharp (top of Section 3) to diffuse outlines are present in Sections 3, 4 and 5. Reddish brown alteration ribbon and patches are present in Sections 3 and 4.
- 720.9 -	40 - 50 -				> <		5B		
- 721.1 -	60 - 70 -	Leisen			、				
- 721.3 -	80 - 90 -	2		ţ,		• MAD		"	
721.5 -	100 - 110 -		K				5C		

						Hol	e 369-	U1513D-70R Section 3, Top of Section: 721.56 m (CSF-A)
Depth (m)	Core length (cm)	Piece number Scanned image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Pyroxene Samo Magnetic Feldspar Groundmass US Samo Susceptibility 0 40 80 55 grain size Size Size (IU) Individual and So A 0 2 4 6 Size Size Size Size Size Size Size Size
721.6 -					• TS ICP TSB			Core 70R consists of porphyritic basalts (flow units 5B and 5C) cut at 60 degree angle by intrusive unit C at Section 2, 84-98
-	10-							cm and at 40 degree angle at Section 5, 16-25 cm. Intrusive is microcrystalline dolerite with xenoliths showing glomeropophyrithic texture. Native copper dissemination is present in Sections 1 and 2. Rounded basalt xenoliths with sharp (top of Section 3) to diffuse outlines are present in Sections 3, 4 and 5. Reddish brown
721.8 -	20-							Sections 3, 4 and 5. Reddish brown alteration ribbon and patches are present in Sections 3 and 4.
	30 -	-						
-			1. / 1					
722.0 -	40-		<u> </u>					
	50 -	1	1. / 1.					
-								
722.2 -	60 -	- 1					1.	
	70-	-						
-						5C		
722.4 -	80 -							
	90 -	-						
-			1. / 1					
722.6 -	100-							
	110-	-	1. / 1.					
-	120							
722.8 -	120-							
	130-	2						
-	140-	No.					×	
723.0 -		3						

										Н	ole	369-	9-U1513D-70R Section 4, Top of Section: 723.06 m (CSF-A)
Depth (m)		Core length (cm)	Piece number	Scanned		Orientation	Lithology		oriippoaru studies	Lith. unit		disturbance	Pyroxene X Magnetic Feldspar Groundmass Use of the second s
723.1 -	1	10-	1										Core 70R consists of porphyritic basalts (flow units 5B and 5C) cut at 60 degree angle by intrusive unit C at Section 2, 84-98 cm and at 40 degree angle at Section 5, 16-25 cm. Intrusive is microcrystalline dolerite with xenoliths showing glomeropophyrithic texture. Native copper dissemination is present in Sections 1 and 2 Rounded basalt xenoliths with sharp (top of Section 3) to diffuse outlines are present in Sections 3, 4 and 5. Reddish brown
723.3 -		20 - 30 -				トレン シン シン シン					1	,	Sections 3, 4 and 5. Reddish brown alteration ribbon and patches are present in Sections 3 and 4.
723.5 -		40 - 50 -	2		VL THE STATE								
723.7 -		50 - 70 -				> シンシンシン シン				5C			
723.9 -		30 - 90 -	3		A CARLER AND A CAR	シンシンシンシン					\$		
724.1 -		00 - 10 -	4					•	ЛАD		7	;	
724.3 -		20 – 30 –	5	THE REAL	P. C.	シンシンシンシン					\$		

Visual core descriptions

	Hole 369-	U1513D-70R Section 5, Top of Section	on: 724.45 m (CSF-A)	
Depth (m) Core length (cm) Piece number Scanned image Orientation Lithology	Shipboard studies Lith. unit Drilling disturbance	Pyroxene Feldspar 0 40 80 to united for the set 0 40 80 to 0 40 80 to 0 40 80 to 0 2 4 6 to 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Veinss/Structures Veinss/Structures (II) 000 001- 000 001- 000	Description
$\begin{array}{c} 724.5 \\ 724.5 \\ 724.5 \\ 724.5 \\ 724.6 \\ 724.6 \\ 724.7 \\ 724.7 \\ 724.7 \\ 724.7 \\ 724.7 \\ 724.8 \\ 724.8 \\ 724.8 \\ 724.8 \\ 724.8 \\ 724.9 \\ 40 \\ 2 \end{array}$	5C			Core 70R consists of porphyritic basalts (flow units 5B and 5C) cut at 60 degree angle by intrusive unit C at Section 2, 84-98 cm and at 40 degree angle at Section 5, 16-25 cm. Intrusive is microcrystalline dolerite with xenoliths showing glomeropophyrithic texture. Native copper dissemination is present in Sections 1 and 2. Rounded basalt xenoliths with sharp (top of Section 3) to diffuse outlines are present in Sections 3, 4 and 5. Reddish brown alteration ribbon and patches are present in Sections 3 and 4.

Hole 369-U1513D Core 71R, Interval 723.8-727.795 m (CSF-A)

Core 71R is dominated by pyroxene-phyric basalt flow units (5D and 5E) showing variable degrees of alteration resulting in vuggy textures at Sections 3 to 4. Several subparallel veins occur in Section 3, 43-94 cm where it shows color banding of green and white. Spherical to elongate vugs are infilled with clay. Native copper specks are present in Section 2.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Silt - Silt - Vertice sand - Medum sand - Vertice sand - Vertice sand - Vertice sand - Vertice sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	Nannofossil Zones	PF Zones	BF Paleoenvironment	Disturbance intensity	Natural gamma Reflectance L* a* b* radiation density 18 38 58 (cps) (g/cm³) buluuluuluuluuluuluuluuluuluuluuluuluulu	Magnetic susceptibility (IU) -10 1990 3990 Lunturul -10 0 10 20 Lunturul
724 -		1			MAD PMAG	7 C 7 V 7 C 7 V C 7 C 7 V								*			
725 -	- - - - -	2			TS ICP TSB									3	\$		
726 -	200 -		VI											1	;		
727 -	300 -	3			TSB ICP TSB TSB TS	$2 \times 2 \times$										China - Marting	· · · ·

Visual core descriptions



		Hole 369-	9-U1513D-71R Section 2, Top of Section: 724.16 m (CSF-A)
Depth (m)	Core length (cm) Piece number Scanned image Orientation Lithology	Shipboard studies Lith. unit Drilling disturbance	Pyroxene Magnetic Feldspar Groundmass Ut transporter (IU) 0 40 80 to grain size transporter (IU) 1 and and and a 2 4 6 H H H H H H H H H H H H H H H H H H
724.2 -			Core 71R is dominated by pyroxene-phyric basalt flow units (5D and 5E) showing variable degrees of alteration resulting in vuggy textures at Sections 3 to 4. Several subparallel veins occur in Section 3, 43-94 cm where it shows color banding of green and white. Spherical to elongate vugs are infilled with clay. Native copper specks are present in Section 2.
724.4 -			
724.6 ·			
724.8 ·		5D 🏏	
725.0 ·			
725.2 -			
725.4 -			
725.6			

							Н	lole 369	U1513D-71R Section 3, Top of Section:	: 725.62	m (CSF-A)	
Depth (m)	Core length (cm)	Piece number	Scanned	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Pyroxene Feldspar 0 40 80 to grain size undertained 0 40 80 00 02 4 6 tribution 0 40 80 00 00 00 00 00 00 00 00 00 00 00 00	Vesicle abundance	Magnetic susceptibility (IU) 0 400	Description
725.7 -	10	-				7						Core 71R is dominated by pyroxene-phyric basalt flow units (5D and 5E) showing variable degrees of alteration resulting in vuggy textures at Sections 3 to 4. Several subparallel veins occur in Section 3, 43-94 cm where it shows color banding of green and white. Spherical to elongate vugs are infilled with clay. Native copper specks are present in Section 2.
- 725.9 -	20 30		Mar de	Î		7						
- 726.1 -	40 50					7		%		0000		
- 726.3 -	60 70	2		Î			5D			0000		
- 726.5 -	80 90	4		Î I		7		×				
	100	6				7		×		2020		
_	110 120	9	8	Î ↓		2		2			\rangle	
726.9 -	130	10		Î		P ● TSB						

							Н	ole 369-	9-U1513D-71R Section 4, Top of Section: 726.97 m (CSF-A)
Depth (m)	Core length (cm)	Piece number	Scanned image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Pyroxene X is production Magnetic Feldspar Groundmass Use production Susceptibility 0 40 80 grain size is production 0 40 80 grain size grain size 1 1 1 1 grain size 1 1 1
1 727.0 - 727.1 - 727.2 - 727.2 - 727.3 - 727.4 - 727.5 - 727.6 - 727.7 - 727.7	10 - 20 - 30 - 40 - 50 - 60 -	-	Scan	Orien		Shipb	5D 5E	V X V X Drillin	by the second

Hole 369-U1513D Core 72R, Interval 728.6-732.87 m (CSF-A)

Core 72R is composed by pyroxene-phyric basalt flow units (5E and 5F) showing variable degrees of alteration resulting in vuggy textures, pseudo-porphyritic texture and color banding and gradation. Alternation of alteration halos of propylitization (chlorite-clay, Section 1, 12-99 cm Section 2, 0-11 and 21-34 cm) and hematization (hematite-clay, Section 3, 11-21 cm and 34-145.5 cm) are observed. Pseudo-porphyritic (propylitic altered) and vuggy/amygdaloidal (hematite-clay altered) textures are observed, respectively. Red hematite stains at 130-145 cm, Section 2 and top of Section 3 indicate veining or complete replacement of glassy groundmass between flow units (5D and 5E, 5E and 5F). Chlorite-calcite vein cuts pyroxene-phyric massive flow unit with vesiculated flow top (5F) at 79-84 cm, Section 3. Small, 5-10 mm wide intrusive dikes observed near the bottom of the section.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay - Clay - Sint - Sint - Very frine sand - Frine sand - Mery coarse sand - Very coarse sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	Nannofossil Zones	PF Zones	BF Paleoenvironment	Urilling disturbance Disturbance intensity	Natural gamma radiation (cps) 0 50 100	Bulk density (g/cm ³) 1.4 2.4 3.4 1.4 1.9	Reflectanc L* a* b' 22 42 Iuduuduuduu 4 0 1 2 3 Iuduuduuduu -8 -3 2 7	e Magnetic susceptibility (IU) -10 1990 3990 Londonal -10 0 10 20 Londonal
- 729 - - - -	100 -	1			TS ICP TSB										<i>,</i> ,	•		Mar and a start	
730	200 -	2	VI		PMAG MAD ●									:	<i>"</i>			Multimetro and	
	300 - 400 -	3			TS TSB ●										~	- - - - - - - - - - - - - - - - - - -	MI : P AA I AM	and property and and the	

	F	lole 369	-U1513D-72R Section 1, Top of Section: 728.6 m (CSF-A)
Depth (m) Core length (cm) Piece number Scanned image Orientation Lithology	Shipboard studies Lith. unit	Drilling disturbance	Pyroxene xu Xu Magnetic Feldspar Groundmass u Susceptibility 0 40 80 55 grain size 100 undividueland 0 2 4 6 100 2000 Description 0 40 80 0 2 4 6 100 100 Description
$728.6 \qquad 0 \qquad 1 \\ 2 \\ - 10 - 1 \\ 2 \\ - 10 - 1 \\ - 10 - $	• ^{ICP} TSB 5E		Core 72R is accepted by proveme phytic basit from the 31 showing variable degrees of alteration resulting in vigge textures, speed-ophytic texture and color banding and gradiation. Alternation of alteration halos of prophytic texture and color banding and gradiation. Alternation 72, 0-11 and 21-34 run and 34-145.5 cm) are observed. Preudo-Somykric textures and to prophytic texture of and and top of Section 31 middate varing or complete replacement of glassy groundmass between flow units (BD and 5E, Syvpome) privic massive flow units (BD and 5E, Syvpome) privic massite flow units (BD and 5E, Syvpome) privic massive flow units (BD

										Ho	le	369	9-L	J1513D-72R Sec	tion	2, T	op c	of Sect	tion: 7	29.	915	m	(CS	F-A)	
Depth (m)		Core length (cm)	Piece number	Scanned	image	Orientation		Lithology	Shinhoard ctudioc	Lith. unit		Drilling	disturbance	Pyroxene Feldspar 0 40 80 to 0 40 80 to 0 40 80 to 0 40 80 to	Gro g	ound rain : 2 4	size	ه Alteration intensity rank	Veins/Structures	Vesicle	abundance	su 0	isce (I	netic otibilit J) 200	
730.0 - - 730.2 - - 730.4 - - 730.6 - - 730.8 - - 730.8 - - 731.0 -	1 2 3 3 3 5 5 5 5 7 7 7 7 7 7 9 9 9	- 00	1 2 3 4 5 6		image in the second	· → Orientation	> と > と > と > と > と > と > と > と > と >		Stinhnard Shinhnard	Lith. unit		Builling	disturbance	Feldspar 0 40 80 to 0 40 80 to 0 40 80 to 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		rain	size	a definition of the second sec	Veins/Struc	Vesicle	abundance		(1	J) 200	
	13	80 - 10 -	12 13 14																						



Hole 369-U1513D Core 73R, Interval 738.2-744.5 m (CSF-A)

Core 73R is dominated by aphyric, microcrystalline intrusive basalt with green alteration overprint. Brown staining and veins are common in Sections 2 and 5. Xenoliths of porphyritic basalt are common, with pyroxenes altered to green chlorite. Rounded green specks are also common, possibly vugs filled with secondary green clay and sometimes calcite.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Structure Arrive sand Fripe sand Coarse sand Coarse sand Munsell Coolor	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age Nacadencil Zonac	PF Zones	BF Paleoenvironment	Drilling disturbance	Disturbance intensity		sity 22 42	b* Magnetic susceptibility (IU) 4 -10 1990 3990
- - 739 - -	100 -	1		MUUUMAN	MAD • ICP • TS TSB											More way	
- 740 - -	200 -	2											*		, AM	· · · · · · · · · · · · · · · · · · ·	
- 741 — - -	300 -	3	VI		DMAG								"				
	400 -	4			PMAG MAD TSB TS ICP								"				
743	500 -	5											"				
744	600 -				TSB TS ●	× × × × × × × × × × × × × × × × × × ×											

	Hole 369-U1513D-73R Section 1, Top of Section: 738.2 m (CSF-A)											
Depth (m)	Core length (cm)	Piece number Scanned	image Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Pyroxene Groundmass Feldspar Groundmass 0 40 80 50 9 2 40 80 9 2 9 40 9 2 9 40 9 2 9 40 9 10 9 2 9 10 9 2 9 10 9 10 9 10 9 10 9 10 9 10 9 10 9 10 9 10 9 10 9 10 9 10 9 10 9 10 9 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 <	Veins/Structures	Vesicle abundance	Magnetic susceptibility (IU) 40 440	Description
738.2 , 738.4 , 738.6 , 738.8 , 738.8 , 739.0 , 739.0 , 739.2 , 739.2	- 10 - 20 - 30 - 40 - 50 - 60 - 70 - 80 - 70 - 80 - 100 - 110 - 120 - 130				• MAD	5G	D		<u>e</u>			Description

			-U1513D-73R Section 2, Top of Section: 739.65 m (CSF-A)
Depth (m)	Core length (cm) Piece number Scanned image Orientation Lithology	Shipboard studies Lith. unit Drilling disturbance	Pyroxene X Magnetic Feldspar Groundmass U Susceptibility 0 40 80 10 10 0 40 80 10 10 100 0 40 80 10 2 4 6 0 40 80 0 2 4 6 100 0 40 80 0 2 4 6 100 100 0 40 80 0 2 4 6 100 100 100 0 40 80 0 2 4 6 100 100 100 100 0 40 80 0 2 4 6 100 100 100 100 0 40 80 0 2 4 6 100 100 100 100 0 40 80 0 2 4 6 100 100 100 100 100 100 100 100
739.7 -			Core 73R is dominated by aphyric, microcrystalline intrusive basalt with green alteration overprint. Brown staining and veins are common in Sections 2 and 5. Xenoliths of porphyritic basalt are common, with pyroxenes altered to green chlorite. Rounded green specks are also common, possibly vugs filled with secondary green clay and sometimes calcite.
- 739.9 -			clay and sometimes calcite.
- 740.1			
740.3 -		5G %	
740.5 -			
740.7 -			
740.9 -			
741.1 -			

	Hole 369-	U1513D-73R Section 3, Top of Section: 741.15 m (CSF-A)
Depth (m) Core length (cm) Piece number Scanned image Orientation Lithology	Shipboard studies Lith. unit Drilling disturbance	Pyroxene Feldspar 0 40 80 to 0 40 80 to 0 2 4 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
$\begin{array}{c} 741.2 \\ 741.2 \\ - \\ 741.3 \\ - \\ 20 \\ - \\ 741.4 \\ - \\ 30 \\ - \\ 741.6 \\ - \\ 40 \\ - \\ 6 \end{array}$	5G %	Core 73R is dominated by aphyric, microcrystalline intrusive basalt with green alteration overprint. Brown staining and veins are common in Sections 2 and 5. Xenoliths of porphyritic basalt are common, with pyroxenes altered to green chlorite. Rounded green specks are also common, possibly vugs filled with secondary green clay and sometimes calcite.

	Hole 369-U1513D-73R Section 4, Top of Section: 741.61 m (CSF-A)										
Depth (m) Core length (cm)	Piece number Scanned image	Orientation Lithology	Shipboard studies	Lith. unit Drilling disturbance		A theration A ther	Veins/Structures	Vesicle abundance	Magnetic susceptibility (IU) 0 1000	Description	
$ \begin{array}{c} \widehat{\textbf{L}}, & \begin{array}{c} $		VC V V V V V V V V V V V V V V V V V V	MAG MAD TSB ICP	Definition	Foldenar Gr	pundmass rain size utility is a size of the size of th	Veins/Struc	Vesicle	(IU) 0 1000		
742.9 - 130 -	-										

Hole 369-U1513D-73R Section 5, Top of Section: 743.0 m (CSF-A)										
Depth (m) Core length (cm) Piece number Scanned image Orientation Lithology	Shipboard studies Lith. unit Drilling disturbance	Pyroxene S Magnetic Feldspar Groundmass C L L L L L L L L L L L L L L L L L L								
743.0 0 1 1 1 1 1 1 1 1	• TSB	Core 72R is dominated by aphysic. microcrossalline intrusive basis with green alieration. Brown staring and Kendlike of porphysic basis are common. With pyroxenes altered to green choice. Ruinded green specks are also common, possibly uugs filled with secondary green day and sometimes calcite.								

Hole 369-U1513D Core 74R, Interval 743.0-747.095 m (CSF-A)

Core 74 consists of dolerite dike observed in Core 73R, with chilled contact with pyroxene-phyric basalt flow unit (5G) in Section 3, 41 cm. Rounded xenoliths with diffuse boundaries are common with traces of single isolated plagicolase crystals. Subparallel orange-brown alteration ribbons present at 58-88 cm and form alteration halo around xenoliths at 90-91 cm and 125-127 cm in Section 2. In Section 3, moderately altered pyroxene-phyric basalt has chlorite replacing pyroxene and clay filling vugs. Minor evidence of chilled contact with intrusive was observed. Hematite alteration forming vugs filled with clay from 68 cm down to 114 cm is evident.



	Hole 369	9-U1513D-74R Section 1, Top of Section: 743.0 m (CSF-A)	
Depth (m) Core length (cm) Piece number Scanned image Orientation Lithology	Shipboard studies Lith. unit Drilling disturbance	Pyroxene X X Magnetic Feldspar Groundmass u S Susceptibil 0 40 80 ts grain size ter argin (IU) Immunulum ts 0 2 4 6 true 7 0 7 0 40 80 ts grain size true ter argin 10 <td< th=""><th>200 Deceription</th></td<>	200 Deceription
$743.0 0 1 \\ 2 \\ - 10 - 3 \\ 743.2 - 20 - 4 \\ - 30 - 4 \\ - 30 - 4 \\ - 30 - 4 \\ - 30 - 4 \\ - 30 - 4 \\ - 5 \\ - 50 - 6 \\ - 7 \\ - 50 - 6 \\ - 7 \\ - 50 - 6 \\ - 7 \\ - 50 - 6 \\ - 7 \\ - 50 - 6 \\ - 7 \\ - 50 - 6 \\ - 7 \\ - 744.8 - 80 - 4 \\ - 10 \\ - 90 - 4 \\ - 7 \\ - 744.8 - 80 - 4 \\ - 10 \\ - 10 \\ - 10 \\ - 10 \\ - 110 - 4 \\ - 10 - 4 \\ $	• "CP TSB 5G %		Core 74 consists of dolerite dike observed in Core 73R, with chilled contact with pyroxene-phyric basalt flow unit (5G) in Section 3, 41 cm. Rounded xenoliths with diffuse boundaries are common with traces of single isolated plagioclase crystals. Subparallel orange-brown alteration ribbons present at 58-88 cm and form alteration halo around xenoliths at 90-91 cm and 125-127 cm in Section 2. In Section 3, moderately altered pyroxene-phyric basait has chlorite replacing pyroxene and clay filling vugs. Minor evidence of chilled contact with intrusive was observed. Hematite alteration forming vugs filled with clay from 68 cm down to 114 cm is evident.

		Hole 369-	U1513D-74R Section 2, Top of Section	n: 744.5 m (CSF-A)	
Depth (m) Core length (cm) Piece number Scanned image Orientation Lithology	Shipboard studies Lith. unit	Drilling disturbance	Pyroxene Yungan Feldspar Groundmass 0 40 80 55 0 40 0 40 0 40 0 40 0 40 0 50 0 2 0 40 0 2 0 40	Agnetic Magnetic susceptibility (IU) (IU) Agnetic (IU) (IU) (IU) (IU)	Description
744.5 -10 -10 744.7 20 -30 -30 744.9 40 -50 -50 745.1 60 -70 -70 745.3 80 -90 -10 -110	• ICP • TSB TS				Core 74 consists of dolerite dike observed in Core 73R, with chilled contact with pyroxene-phyric basalt flow unit (5G) in Section 3, 41 cm. Rounded xenoliths with diffuse boundaries are common with traces of single isolated plagioclase crystals. Subparallel orange-brown alteration ribbons present at 58-88 cm and form alteration halo around xenoliths at 90-91 cm and 125-127 cm in Section 2. In Section 3, moderately altered pyroxene-phyric basalt has chlorite replacing pyroxene and clay filling vugs. Minor evidence of chilled contact with intrusive was observed. Hematite alteration forming vugs filled with clay from 68 cm down to 114 cm is evident.

						Ho	ole 369-I	U1	513D-74R Section	3, Тор о	f Section	on: 74	5.955	5 m (CSF-A)	
Depth (m)	Core length (cm)	Piece number Scanned	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance			roundmass grain size	Alteration intensity rank	Veins/Structures	Vesicle abundance	Magnetic susceptibility (IU) -100 900	Description
746.0 -	10-				• TSB ICP									<	Core 74 consists of dolerite dike observed in Core 73R, with chilled contact with pyroxene-phyric basalt flow unit (5G) in Section 3, 41 cm. Rounded xenoliths with diffuse boundaries are common with traces of single isolated plagioclase crystals. Subparallel orange-brown alteration ribbons present at 58-88 cm and form alteration halo around xenoliths at 90-91 cm and 125-127 cm in Section 2. In Section 3, moderately otherad price parchice here there in the section.
746.2 -	20-					5G	%		<u>it</u>					Ì	altered pyroxene-phyric basalt has chlorite replacing pyroxene and clay filling vugs. Minor evidence of chilled contact with intrusive was observed. Hematite alteration forming vugs filled with clay from 68 cm down to 114 cm is evident.
746.4 -	40 -		AND AS ALLES				~		1997					$\left\{ \right\}$	
746.6 -	60 - 70 - 80 -						"								
746.8 -	90 - 100 -			<pre>< > < <</pre>		5H	~		Ŷ						
747.0 -	110-													>	
Hole 369-U1513D Core 75R, Interval 747.8-756.7 m (CSF-A)

Core 75R contains the boundary between flow units 5 and 7 marked by interflow volcaniclastic breccia showing normal grading and imbrication from Section 1, 70 cm to Section 4, 20 cm. Section 1 is the bottom part of sparsely pyroxene-phyric basalt in Core 74R. Brecciated flow bottom contains native Cu dissemination in matrix and has 1.5-2 cm thick chilled/baked contact with underlying volcanogenic breccia at 68-70 cm, Section 1. Section 7, 44 cm contains highly to completely altered brown vesicular/amygdaloidal basalt with flow banding and trachytic interval at 62-73 cm and chilled, oxidized margins at 97-98 cm, 107-109 cm, and 116-118 cm, similar to alternating alteration bands in Core 71R. The bottom of Section 7 consists of highly altered amygdaloidal basalt grading to moderately altered vesicular basalt.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit a: O	Core	Shipboard samples	Graphic lithology	Clay Silt Silt For the sand Medium sand Medium sand Cery coarse sand Cery coarse sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance		latural amma diation (cps) 50 100 15	Bulk density (g/cm ³)		e Magnetic susceptibility (IU) -10 1990 3990
748	100	1						10R 3/2	Lih						×				MANAM	
749 -	100 -	2			MAD PMAG			10R 3/2	Lth											
- 750 — - -	200 -				TSB TS ICP												•		- And	-
- - 751 — -	300 -	3			IUP.			10R 3/2	Lth								•		Marran	
752 -	400 -	4	VI		TS ICP TSB			10K 3/2	ш						"			- WWW		5 -
753 -	500 -			K	TSB										<i>"</i>	-			-	
- - 754 -	600 -	5				× 1 × 2 × 2 × 2 × 2 × 2 × 2 × 2 × 2 × 2									×//× –	-/.	•		And New Mines	
- - - 755 —	700 -	6		X											× < < / ↓ × <		•		Marman	
-	800 -														"		•		Mr. M.	
756		7			TSB PMAG MAD TSB ICP TS										″.		•			



(a) (b) (b) (b) (b) (b) (b) (c) (
- 10- - 10-

							Н	ole 369-l	U1513D-75R Section 3, Top of Section: 749.88 m (CSF-A)
Depth (m)	Core length (cm)	Piece number Scanned	image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Pyroxene X Magnetic Feldspar Groundmass U Susceptibility 0 40 80 50 100 0 40 80 50 2.4 6 0 40 80 50 1500 Description 0 40 80 2.4 6 100 100 0 40 80 0.2 4 6 100 100 Description
749.9 -	10-		and the second se						Core 75R contains the boundary between flow units 5 and 7 marked by interflow volcaniclastic breccia showing normal grading and imbrication from Section 1, 70 cm to Section 4, 20 cm. Section 1 is the bottom part of sparsely pyroxene-phyric basalt in Core 74R. Brecciated flow bottom contains native Cu dissemination in matrix and has 1.5-2 cm thick chilled/baked contao with underlying volcanogenic breccia at
750.1 –	20 -								with underlying volcanogenic breccia at 68-70 cm, Section 1. Section 4 to Section 7. 44 cm contains highly to completely altered brown vesicular/amygdaloidal basalt with flow banding and trachytic interval at 62-73 cm and chilled, oxidized margins at 97-98 cm, 107-109 cm, and 116-118 cm, similar to alternating alteration bands in Core 71R.
- 750.3 -	40 -								The bottom of Section 7 consists of highly altered amygdaloidal basalt grading to moderately altered vesicular basalt.
-	50 - 60 -					 TSB ICP 			
750.5 -	70-	1							
750.7 -	80 -	1 and the state	1 2 3 1 B						
-	90 - 100 -								
750.9 -	110-								
751.1 -	120 -								
-	130 - 140 -								

		lole 369-	-U1513D-75R Section 4, Top of Section: 751.3 m (CSF-A)
Depth (m) Core length (cm) Piece number Scanned image Orientation Lithology	Shipboard studies Lith. unit	Drilling disturbance	Pyroxene X Magnetic Feldspar Groundmass U State Item of the state 0 40 80 50 grain size 51 52 (IU) Indududud 0 2 4 6 10 10 100 100 0 40 80 0 2 4 6 10 100 100 Description
$ \begin{array}{c} 751.3 \\ - 10 \\ - 10 \\ 751.5 \\ - 20 \\ - 30 \\ - 30 \\ - 30 \\ - 30 \\ - 30 \\ - 30 \\ - 30 \\ - 50 \\ - 50 \\ - 50 \\ - 50 \\ - 50 \\ - 50 \\ - 50 \\ - 752.1 \\ - 80 \\ - 10 \\ - 110 \\ - 110 \\ - 110 \\ - 110 \\ - 110 \\ - 130 \\ - 130 \\ - 130 \\ - 130 \\ - 130 \\ - 130 \\ - 3$	• TSB ICP	z	



							Н	lole 369	-U1513D-75R Section 6, Top of Section: 754.27 m (CSF-A)
Depth (m)	Core length (cm)	Piece number	Scanned image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Pyroxene Sample Magnetic Feldspar Groundmass Grou
754.3 - - 754.5 - 754.7 - - 755.1 - - 755.1 - - 755.3 -	10 · 20 · 30 · 40 · 50 · 60 · 80 ·				- ハ 、 ハ 、 ハ 、 ハ 、 ハ 、 ハ 、 ハ 、 ハ 、		78	2	Cere 75R contains the boundary between frow units 5 and 7 marked by interfeore volcaniciation from Section 1 at the operation of the section

	Hole 369	-U1513D-75R Section 7, Top of Sect	tion: 755.4 m (CSF-A)	
Depth (m) Core length (cm) Piece number Scanned image Orientation Lithology	Shipboard studies Lith. unit Drilling disturbance	Pyroxene Feldspar 0 40 80 55 Groundmass grain size 0 40 80 65 0 2 4 6 1 4 6 1 4 6 1 4 6 1 4 6 1 4 6 1 4 7 1 4 6 1 4 7 1 7 1 7 1 7 1 7 1 7 1 7 1 7 1	A ceins Magnetic Magnetic (IU) Magnetic (UU) A ceins (UU) A ceins (UU)	Description
$755.4 \qquad 0 \qquad A \qquad 2 \qquad A \qquad A \qquad 7 \\ - 10 - 10 - 11 \qquad A \qquad 7 \\ - 30 - $	- ТSB 7С // // // // // // // // // // // // //			Core 75R contains the boundary between flow units 5 and 7 marked by interflow volcaniclastic breccia showing normal grading and imbrication from Section 1, 70 cm to Section 4, 20 cm. Section 1 is the bottom part of sparsely pyroxene-phyric basalt in Core 74R. Brecciated flow bottom contains native Cu dissemination in matrix and has 1.5-2 cm thick chilled/baked contact with underlying volcanogenic breccia at 68-70 cm, Section 1. Section 4 to Section 7, 44 cm contains highly to completely altered brown vesicular/amygdaloidal basalt with flow banding and trachytic interval at 62-73 cm and chilled, oxidized margins at 97-98 cm, 107-109 cm, and 116-118 cm, similar to alternating alteration bands in Core 71R. The bottom of Section 7 consists of highly altered amygdaloidal basalt grading to moderately altered vesicular basalt.

Hole 369-U1513E Core 11, Interval 0.0-0.0 m (CSF-A)

Drilled	interval

Depth CSF-A (m)	Core length (cm) Section Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Str Very Vine sand Terne sand Medum sand Coarse sand Coarse sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance	urbance	Natural gamma radiation (cps) 0 50 100	Bulk density (g/cm ³)	e Magnetic susceptibility (IU) 0 150 300 Lundunud -10 0 10 20 Lundunud
765																-
- 766 - - - -																-
767																
- - - 769 - -																-
770 -																-

Hole 369-U1513E Core 2R, Interval 685.2-694.36 m (CSF-A)

Core 2R is composed of a sequence of one flow, Unit 1A, and a possible sill, Unit 1B. The sequence has an irregular, disconformable (erosional) contact with overlying volcaniclastic sandstone of Lithostratigraphic Unit V in Section 4, 0-2 cm. Sections 1-3 cored the overlying matrix-supported volcaniclastic sandstones showing normal grading that grades into a parallel laminated alternation of claystone and siltstone. Unit 1A is an olivine-pyroxene-plagioclase basalt with large phenocrysts of plagioclase feldspar up to 3 cm long in a microcrystalline groundmass. It is cross-cut with subparallel carbonate veins and some intervals of recrystallized groundmass resulting in a pseudo-porphyritic texture, usually near the veins, are present in all core sections. The lower boundary of Unit 1A with the interflow breccia Unit 2a is a baked, orange brown-colored contact in Section 6, 116-121 cm. An interval of dark reddish gray (2.5YR 3/1) volcaniclastic breccia is present in Sections 7 and 8. The intervening breccia is massive, reddish-brown, poorly sorted and matrix supported consisting of basaltic clasts and mineral grains. Its lower boundary is an orange-brown chilled contact with the underlying flow, Unit 1B. Unit 1B is an olivine-plagioclase-phyric basalt with large plagioclase phenocrysts of ~ 1 cm long.

$\begin{bmatrix} 3 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0$	Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples		Clay sit Sit Fine sand Fine sand Medium sand Very coarse sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance	Disturbance intensity	Natural gamma radiation (cps) 0 50 100 0 15	density (g/cm ³)	-0 2 4 6	e Magnetic susceptibility (IU) 0 150 300 Imminui -10 0 10 20 Imminui
$ \begin{array}{c} 687 \\ - \\ 3 \\ 688 \\ - \\ 300 \\ - \\ 4 \\ 4 \\ 689 \\ - \\ 690 \\ - \\ 5 \\ 0 \\ - \\ 690 \\ - \\ 600 \\ - \\ - \\ 600 \\ - \\ - \\ 8 \\ - \\ 8 \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ -$	686 -	100 -	1						GLEY 1 3/N	₩ Ξ						×		• • • • • •		and when we have	-
$ \begin{array}{c} 688 \\ 689 \\ 400 \\ 690 \\ 690 \\ 600 $	687	200 -									2									and the second second	
$ \begin{array}{c} 699 \\ - \\ 690 \\ - \\ 690 \\ - \\ 690 \\ - \\ 600 \\ - \\ - \\ 600 \\ - \\ - \\ 600 \\ - \\ - \\ 600 \\ - \\ - \\ - \\ 600 \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ -$	688	300 -	4			TS TSB ●	7									%		• • • •		and the second	
$ \begin{array}{c} $	-	400 -	5	VI														6 6 6 6 6 6 6 6		1 Martin Martin	
$ \begin{array}{c} 692 \\ 692 \\ -700 \\ -7 \\ 693 \\ -800 \\ -8 \\ 694 \\ -8 \end{array} $	-		6															0 0 0 0 0 0 0 0 0 0 0 0			
$ \begin{array}{c} $	- - - 692 -		7						2.5YR	#						2		• • • • • • • •		Martin Martin	
	693 -	800 -																• • • • • • • • •		Ampa Andrew	
	- - 694 – -	900 -	8																	JA MAN	

									Ho	ole 369	-U1			Sec	tion	4, T	op c	of Sec	ctic	on: 68	88.07	m	(CSF-A)	
Depth (m)	Core length (cm)	Piece number	Scanned	Oriontotion	Olelialon	Lithology	Shipboard studies	Lith unit		Drilling disturbance	0	Olivin Pyroxe Feldsj 10 10 10	ene par 20	5 (Gr g 0	ound grain : 2 4	size			Veins/Structures	Vesicle abundance		Magnetic susceptibility (IU) 10 90	Description
688.1 688.2 688.3 688.4 688.5 688.6 688.7 688.8 688.8 688.9 688.9 688.9 688.9	0 10 - 20 - 30 - 40 - 50 - 60 - 70 - 80 - 90 -	2								*										£ € *				Core 2R is composed of a sequence of one flow, Unit 1A, and a possible sill, Unit 1B. The sequence has an irregular, disconformable (erosional) contact with overlying volcaniclastic sandstone of Lithostratigraphic Unit V in Section 4, 0-2 cm. Sections 1-3 cored the overlying matrix-supported volcaniclastic sandstones showing normal grading that grades into a parallel laminated alternation of claystone and siltstone. Unit 1A is an olivine-pyroxene-plagioclase basalt with large phenocrysts of plagioclase feldspar up to 3 cm long in a microcrystalline groundmass. It is cross-cut with subparallel carbonate veins and some intervals of recrystallized groundmass resulting in a pseudo-porphyritic texture, usually near the veins, are present in all core sections. The lower boundary of Unit 1A with the interflow breccia Unit 2a is a baked, orange brown-colored contact in Section 6, 116-121 cm. An interval of dark reddish gray (2.5YR 3/1) volcaniclastic breccia is present in Sections 7 and 8. The intervening breccia is massive, reddish-brown, poorly sorted and matrix supported consisting of basaltic clasts and mineral grains. Its lower boundary is an orange-brown chilled contact with the underlying flow, Unit 1B. Unit 1B is an olivine-plagioclase-phyric basalt with large plagioclase phenocrysts of – 1 cm long.

							ŀ	lole 3	369-	U151	3E-	2R S	Sectio	on 5,	Тор	of Se	ctic	on: 68	9.17	m (CSF-A)	
Depth (m)	Core length (cm)	Piece number	Scanned	Image Orientation	Lithology	Shipboard studies	Lith. unit	Drillina	disturbance	Py Fe 0	livin roxe ldsp 10 10 10	ne ar 20	Contact type	Grou gra 0 2	indma in size	Alteration	Intensity rank	Veins/Structures	Vesicle abundance	Magnetic susceptibility (IU) 5 15	Description
689.2 - - - - - - - - - - - - - - - - - - -		- 1			· コ と 2 コ と 2 コ と 2 コ と 2 コ と 2 コ と 7 コ 1 コ と 7 コ と 7 コ と 7 コ と 7 コ と 7 コ と 7 コ と 7 コ と 7 コ と 7 コ と 7 コ と 7 コ と 7 コ と 7 コ と 7 コ L 7 コ	<u>ئ</u>	13 1A		dir				ŭ X					Ve	ab		Description Core 2R is composed of a sequence of one flow, Unit 1A, and a possible sill, Unit 1B. The sequence has an irregular, disconformable (erosional) contact with overlying volcaniclastic sandstone of Lithostratigraphic Unit V in Section 4, 0-2 cm. Sections 1-3 cored the overlying matrix-supported volcaniclastic sandstones showing normal grading that grades into a parallel laminated alternation of claystone and siltstone. Unit 1A is an olivine-pyroxene-plagioclase basalt with large phenocrysts of plagioclase feldspar up to 3 cm long in a microcrystalline groundmass. It is cross-cut with subparallel carbonate veins and some intervals of recrystallized groundmass resulting in a pseudo-porphyritic texture, usually near the veins, are present in all core sections. The lower boundary of Unit 1A with the interflow breccia Unit 2a is a baked, orange brown-colored contact in Section 6, 116-121 cm. An interval of dark reddish gray (2.5YR 3/1) volcaniclastic breccia is present in Sections 7 and 8. The intervening breccia is massive, reddish-brown, poorly sorted and matrix supported consisting of basaltic clasts and mineral grains. Its lower boundary is an orange-brown chilled contact with the underlying flow, Unit 1B. Unit 1B is an olivine-plagioclase-phyric basalt with large plagioclase phenocrysts of ~ 1 cm long.
690.2 -	100	-)	

									Ho	le 369)-U1			Sec	tior	n 6, T	Гор с	of Sect	ion: 6	90.2	8 n	n (CSF-A)	
Depth (m)	Core length (cm)		Scanned image	Orientation		Lithology	Shipboard studies	tion dti l		Drilling disturbance	0 11 0 11 0	Olivin Pyroxo Feldsj 10 10 10 10	ene par 20) t	type D	froun grain	dmas size 4 6		Veins/Structures	Vesicle	abundance	Magnetic susceptibility (IU) 20 40	Description
 ▲ ▲ ● ●	111 22 33 51 60 77 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7						Shi			Z X X Z Dri				- 00 - 0				Atte	×× ×				Description
-		۳٦			ם			L															

			U1513E-2R Section 7, Top of Section	n: 691.61 m (CSF-A)	
Depth (m)	Core length (cm) Piece number Scanned image Orientation Lithology	Shipboard studies Lith. unit Drilling disturbance	Olivine Pyroxene Feldspar 0 10 20 Groundmass 0 10 20 grain size 0 10 20 to grain size	Magnetic Magnetic (IU) (IU) August (IU) (IU) (IU) (IU) (IU)	Description
691.7 -					Core 2R is composed of a sequence of one flow, Unit 1A, and a possible sill, Unit 1B. The sequence has an irregular, disconformable (erosional) contact with overlying volcaniclastic sandstone of Lithostratigraphic Unit V in Section 4, 0-2 cm. Sections 1-3 cored the overlying matrix-supported volcaniclastic sandstones showing normal grading that grades into a parallel laminated alternation of claystone
- 691.9 -					and siltstone. Unit 1A is an olivine-pyroxene-plagioclase basalt with large phenocrysts of plagioclase feldspar up to 3 cm long in a microcrystalline groundmass. It is cross-cut with subparallel carbonate veins and some intervals of recrystallized groundmass resulting in a pseudo-porphyritic texture, usually near the veins, are present in all core sections. The lower boundary of Unit 1A with the interflow
- 692.1 -					breccia Unit 2a is a baked, orange brown-colored contact in Section 6, 116-121 cm. An interval of dark reddish gray (2.5YR 3/1) volcaniclastic breccia is present in Sections 7 and 8. The intervening breccia is massive, reddish-brown, poorly sorted and matrix supported consisting of basaltic clasts and mineral grains. Its lower boundary is an orange-brown chilled contact with the underlying flow, Unit 1B. Unit 1B is an olivine-plagioclase-phyric basalt with large
- 692.3 -		2A 🏏			plagioclase phenocrysts of ~ 1 cm long.
- 692.5 -					
- 692.7 -					
- 692.9 -					

					Н	ole 369	-U1513E-2R	Section	on 8, Top	of Sect	ion: 69	92.92	m (CSF-A)	
Depth (m)	Core length (cm) Piece number Scanned	image Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Olivine Pyroxene Feldspar 0 10 20 0 10 20 0 10 20 0 10 20 0 10 20	tact	Groundmas grain size		Veins/Structures	Vesicle abundance	Magnetic susceptibility (IU) 10 110	Description
693.0 -	10-												2	Core 2R is composed of a sequence of one flow, Unit 1A, and a possible sill, Unit 1B. The sequence has an irregular, disconformable (erosional) contact with overlying volcaniclastic sandstone of Lithostratigraphic Unit V in Section 4, 0-2 cm. Sections 1-3 cored the overlying matrix-supported volcaniclastic sandstones showing normal grading that grades into a
- 693.2 -	20-1				2A	%							$\left<\right>$	parallel laminated alternation of claystone and siltstone. Unit 1A is an olivine-pyroxene-plagioclase basalt with large phenocrysts of plagioclase feldspar up to 3 cm long in a microcrystalline groundmass. It is cross-cut with subparallel carbonate veins and some intervals of recrystallized groundmass resulting in a pseudo-porphyritic texture, usually near the veins, are present in all core sections. The lower boundary of Unit 1A with the interflow
- 693.4	40 2													breccia Unit 2a is a baked, orange brown-colored contact in Section 6, 116-121 cm. An interval of dark reddish gray (2.5YR 3/1) volcaniclastic breccia is present in Sections 7 and 8. The intervening breccia is massive, reddish-brown, poorly sorted and matrix supported consisting of basaltic clasts and mineral grains. Its lower boundary is an orange-brown chilled contact with the underlying flow, Unit 1B. Unit 1B is an olivine-plagioclase-phyric basalt with large plagioclase phenocrysts of ~ 1 cm long.
693.6 -	60 - 70 -													
693.8 -	80- 90- 3	^ ^ ^ ^												
694.0 -	100-				1B			14 M						
694.2 -	120-										*			
_	140-												'	

Hole 369-U1513E Core 3R, Interval 694.8-704.73 m (CSF-A)

Core 3R consists of alternating volcaniclastic breccias and basalt flows. Section 1 is plagioclase-megacrystic basalt sill (Unit 1b) that continuous from Core 2R, Section 8. It has a baked contact with dark reddish gray (2.5YR 3/3) volcaniclastic breccia, Unit 2b, in Section 1, 92-98 cm. The volcaniclastic breccia has three normal grading cycles. It continues to Section 2, 14 cm, where it has a gradational boundary with highly altered brown basalt. The highly altered basalt in Section 2, 14 cm continues down to Section 5, 81 cm where a dolerite sill/dike intrudes it, showing a chilled margin. The dolerite intrusion continues to Section 7, 105 cm where it has a chilled margin and baked contact with the underlying inversely-graded breccia. The inversely graded breccia has a gradational contact at Section 8, 21 cm with the underlying highly altered massive flow.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Safety Hory fine sand Fine sand Medum sand Coartes sand Very coarse sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance	Natural gamma radiation (cps)	(g/cm ³)	Reflectanc L* a* b* 20 40 umlumlum 4 1 6 11 4 1 6 11 - 11-6 -1 4 9 - Individual	Magnetic susceptibilit (IU) 0 150 300
695 - - - 696 - -	100 -	1						2.5YR 3/3	#					ж %			M. M	
- 697 – -	200 -	2						2.5YR 3/3	#					% % %			Marino and a second and a second when	V.
- 698 — - -	300 -	3				<pre>>> < >> < >> < >> < >> < >> < >> < >></pre>								<i>%</i>	• • • • •		Con Marine Marine	
- 699 – - -	400 -	4	VI	2										/, //, //, //, //	•		and the second	5
- 700	500 -	5	VI											<i>%</i>			and the state	
701	700 -	6												~ ~~~ ~~ ~~ ~~ ~~ ~~ ~~ ~~ ~~ ~~ ~~ ~~			at and the	
702 - - - 703 -	800 -	7						2.5YR 3/2	#					% % % %			ANNA CONTRACTOR	
- - 704 - -	900 -	8						2.5YR 3/2	#					% % X % % X			Martin Contraction	

							ł	Hole 3	59-L			ctior	n 1, Top d	of Sect	ion: 6	94.8 m	n (CSF-A)	
Depth (m)	Core length (cm)	Piece number	Scanned image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling		Olivin Pyroxet Feldsp 0 10 0 10 0 10 0 10	ne ar 20 20 20 20 20 20 20 20	Gi Ü O	roundmass grain size	o Alteration intensity rank	Veins/Structures	Vesicle abundance	Magnetic susceptibility (IU) 200	Description
694.8 - 695.0 - 695.2 - - 695.4 - - 695.6 - - - 695.6 -	- 10- - 20- - 30- - 40- - 50- - 60- - 70- - 80- - 80- - 90- - 100- - 110-		Sc.			Children and Chi	4 <u>i</u>]				200 8 5 4 100 10 10 10 10 10 10 10 10 10 10 10 10			Alternational and a second and a	Vei	Ver		Description Core 3R consists of alternating volcaniclastic breccias and basalt flows. Section 1 is plagioclase-megacrystic basalt sill (Unit 1b) that continuous from Core 2R, Section 8. It has a baked contact with dark reddish gray (2.5YR 3/3) volcaniclastic breccia, Unit 2b, in Section 1, 92-98 cm. The volcaniclastic breccia has three normal grading cycles. It continues to Section 2, 14 cm, where it has a gradational boundary with altered basalt in Section 2, 14 cm continues sill/dike intrudes it, showing a chilled margin. The dolerite intrusion continues to Section 7, 105 cm where it has a chilled margin and baked contact with the underlying inversely-graded breccia. The inversely graded breccia has a gradational contact at Section 8, 21 cm with the underlying highly altered massive flow.

					ŀ	Hole 369	-U1513E-3R Section 2, Top of Section: 696.07 m (CSF-A)
Depth (m)	Core length (cm)	Piece number Scanned image	Orientation Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Olivine Pyroxene Feldspar 0 10 20 Induction 0 10 20 Induction 0 10 20 Induction 0 10 20 0 10 20 Induction 0 20 4 6 Induction 0 10 20 Induction 0 10 20 Induction 0 10 20 Induction 0 20 4 6 Induction Indu
696.1 -	10-						Core 3R consists of alternating volcaniclastic breccias and basalt flows. Section 1 is plagioclase-megacrystic basalt sill (Unit 1b) that continuous from Core 2R, Section 8. It has a baked contact with dark reddish gray (2.5YR 3/3) volcaniclastic breccia, Unit 2b, in Section 1, 92-98 cm. The
696.3 -	20 -						volcaniclastic breccia has three normal grading cycles. It continues to Section 2, 14 cm, where it has a gradational boundary with highly altered brown basalt. The highly altered basalt in Section 2, 14 cm continues down to Section 5, 81 cm where a dolerite sill/dike intrudes it, showing a chilled margin. The dolerite intrusion continues to Section 7,
-	30 - 40 -			V. < / Þ. (/		%	105 cm where it has a chilled margin and baked contact with the underlying inversely-graded breccia. The inversely graded breccia has a gradational contact at Section 8, 21 cm with the underlying highly altered massive flow.
696.5 -	50 -						
696.7 -	60 - 70 -	1			2B	",	
- 696.9 -	80 -						
-	90 - 100 -						
697.1 -	110-						
697.3 -	120 -						
-	130 -					<i>"</i> ,	

								Н	ole 369	9-U1513E-3R Section 3, Top of Section: 697.44 m (CSF-A)
Depth (m)	Core length (cm)		Scanned	image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Olivine Pyroxene Feldspar 0 10 20 Groundmass c pit in Size is
697.4 - 697.5 - - 697.6 - - 697.7 - - 697.8 - - 697.8 - - 697.8 - - 697.8 - - 698.0 - - 698.0 - - 698.1 - - 698.2 - - 698.2 - - 698.2 - -	5	0 - 0 - 0 -			1 1			2B	%	Core 3R consists of alternating volcanidastic breccias and basalt flows. Section 1 is plagocase-megacystic basalt sil (Unit 1b) that continuous from Core 2R. Section 8. It has a baked contact with dark reddia pray (2.5YR 33) volcanidastic breccia, Lunit 2b, in Section 1, 92-98 cm. The volcanidastic breccia has three normal grading cycles. It continues to Section 2, 14 cm, where it has a gradiational boundary with highly altered brown basalt. The highly altered basalt in Section 2, 14 cm continues to Section 5. 81 cm where a dolerite silf(dire it has a gradiational boundary with highly altered brown basalt. The highly altered basalt in Section 2, 14 cm cm, where it has a gradiational boundary with highly altered brown basalt. The highly altered basalt in Section 2, 14 cm cm, where it has a gradiational contact, at Section 8, 21 cm with the underlying inversely-graded breccia. The inversely inversely-graded breccia, has a gradiational contact, at Section 8, 21 cm with the underlying highly altered massive flow.

								ŀ	lole 369	69-U1513E-3R Section 4, Top of Section: 698.28 m (CSF-A)
Depth (m)	Core length (cm)	Piece number	Scanned	image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Olivine Pyroxene Feldspar 0 10 20 0 10 20 to 0 2 4 6 to 120 220 120 220 120 220 Description
698.3 - - - - - - - - - - - - - - - - - - -	50 60 70 80 90				$\uparrow \uparrow $	、 シス、 シス、 シス、 シス、 シス、 シス、 シス、 シス、 シス、 シス		3B	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Core 3R consists of alternating volcanicitatic brecisa and beast if twos. Section 1 is plaqiciase-megarystic torico for 28 at all (Um 18 Jun Section 1, 92-98 cm. Th volcaniclastic brecisa has three norm yorks, includes it, above, and a section 2, 14 cm of the section 2, 14 cm continues down to Section 5, 81 cm where a dollar down to Section 5, 81 cm where a dollar three doelrie intrusion continues to Section 2, 14 cm of the section 2, 14 cm continues and the section 2, 14 cm continues to Section 5, 81 cm where a dollar three doelrie intrusion continues to Section 2 taked of therein a the section 2, 14 cm continues to Section 6, 21 cm with the underlying highly altered massive flow.

							F	lole 369	-U1513E-3R Section 5, Top of Section	on: 69	99.49	m (CSF-A)	
Depth (m)	Core length (cm)	Piece number	Scanned image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Olivine Pyroxene Feldspar 0 10 20 0 10 20 0 10 20 grain size of the state 0 10 20 grain size o	Veins/Structures	Vesicle abundance	Magnetic susceptibility (IU) 85 135	Description
699.5 · 699.6 · 699.7 · 699.8 · 699.9 · 700.0 · 700.1 · 700.2 · 700.3 · 700.4 · 700.5 ·	20 30 40 50 60 70 80 90	- 1					3C						Core 3R consists of alternating volcaniclastic breccias and basalt flows. Section 1 is plagioclase-megacrystic basalt sill (Unit 1b) that continuous from Core 2R, Section 8. It has a baked contact with dark reddish gray (2.5YR 3/3) volcaniclastic breccia, Unit 2b, in Section 1, 92-98 cm. The volcaniclastic breccia has three normal grading cycles. It continues to Section 2, 14 cm, where it has a gradational boundary with highly altered brown basalt. The highly altered basalt in Section 2, 14 cm continues down to Section 5, 81 cm where a dolerite sill/dike intrudes it, showing a chilled margin. The dolerite intrusion continues to Section 7, 105 cm where it has a chilled margin and baked contact with the underlying inversely-graded breccia. The inversely graded breccia has a gradational contact at Section 8, 21 cm with the underlying highly altered massive flow.

								ŀ	lole 369	9-U1513E-3R Section 6, Top of Section: 700.54 m (CSF-A)
Depth (m)	Core length (cm)			image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Olivine Pyroxene Feldspar 0 10 20 Induction 0 2 4 6 10 Induction 0 10 20 Induction 0 2 4 6 Induction Induction 0 10 20 Induction 0 2 4 6 Induction Inductio
700.6 - - 700.8 -	1(1					Core 3R consists of alternating volcaniclastic breccias and basalt flows. Section 1 is plagioclase-megacrystic basalt sill (Unit 1b) that continuous from Core 2R, Section 8. It has a baked contact with dark reddish gray (2.5YR 3/3) volcaniclastic breccia, Unit 2b, in Section 1, 92-98 cm. Th volcaniclastic breccia has three normal grading cycles. It continues to Section 2, 14 cm, where it has a gradational boundary wit highly altered brown basalt. The highly altered basalt in Section 2, 14 cm continues down to Section 5, 81 cm where a dolerite sill/dike intrudes it, showing a chilled margir The dolerite intrusion continues to Section 7
- 701.0 -	30 40 50		2						~	105 cm where it has a chilled margin and baked contact with the underlying inversely-graded breccia. The inversely graded breccia has a gradational contact at Section 8, 21 cm with the underlying highly altered massive flow.
- 701.2 - -	60)-)-)-	4		†			3D	*	
	90 100		5		↑				*	
-	11(A Contraction							

						Н	ole 369	9-U1513E-3R Section 7, Top of Section: 701.79 m (CSF-A)
Depth (m)	Core length (cm)	Piece number Scanned image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Olivine Pyroxene Feldspar Same Magnetic 0 10 20 Groundmass Same 0 10 20 grain size Same 0 10 20 grain size Same 0 10 20 grain size Same 0 10 20 Same Same 10 20 Same Sam Sam 10 20
701.8 - - 702.0 - 702.2 - 702.2 - - 702.4 - - 702.6 - - 702.8 -	10- 20- 30- 50- 60- 70- 80- 100- 110- 120- 130-					3D		Instruction Q > Not Instruction Description Velocitarity O > Section 1: Inspectase-mapping to basit all (Uni 1t) had continuous from Core 28, Section 1: Ins a basid contract with data models gray (2.5)*(3.0) to 10 coldsite working cycles. It continues to Section 2.1 the highly address to basit the observed basit all (Uni 1t) had continues to Section 2.1 the highly address 1: Start with each address the address all (data intrudes 1; showing a chiled margin down to Section 3: 81 cm where a diletit all (data intrudes 1; showing a chiled margin the social mast the address to Section 7.1 the continues to Section 7.1 the content intrusion continues to Section 7.1 the section 8.1 the interval to Section 8.1 the interval the section 8.1 the intrusion continues to Section 7.1 the section 8.1 the interval the section 8.1 the intrusion content at Section 8.1 cm where the section 8.1 the intrusion content at Section 8.1 cm where the section 7.1 the interval the section 8.1 the intrusion content at Section 8.1 cm where the section 7.1 the interval the section 8.1 the interval the section 8.1 the interval the section 8.1 the interval the section

				Hole 369	J1513E-3R Section 8, Top of Section: 703	3.23 m (CSF-A)	
Depth (m)	Core length (cm) Piece number Scanned image	Orientation Lithology	Shipboard studies	Lith. unit Drilling disturbance	Olivine Pyroxene Feldspar 0 10 20 0 10 20 Groundmass 0 10 20 grain size 0 10 20 0 0 10 20 grain size 0 10 20 0 0 0 10 20 0 10 0 0 0 0 0 0 0 0	Magnetic 8 susceptibility 9 control (IU) 10 control (IU) 10 control (IU) 10 control (IU) 10 control (IU) 10 control (IU)	Description
703.3 -	10-			4			Core 3R consists of alternating volcaniclastic breccias and basalt flows. Section 1 is plagioclase-megacrystic basalt sill (Unit 1b) that continuous from Core 2R, Section 8. It has a baked contact with dark reddish gray (2.5YR 3/3) volcaniclastic breccia, Unit 2b, in Section 1, 92-98 cm. The volcaniclastic breccia has three normal
- 703.5 -	20-			_			grading cycles. It continues to Section 2, 14 cm, where it has a gradational boundary with highly altered brown basalt. The highly altered basalt in Section 2, 14 cm continues down to Section 5, 81 cm where a dolerite sill/dike intrudes it, showing a chilled margin. The dolerite intrusion continues to Section 7, 105 cm where it has a chilled margin and baked contact with the underlying inversely-oraded breccia. The inversely
- 703.7 -	40- 1 50-			%			inversely-graded breccia. The inversely graded breccia has a gradational contact at Section 8, 21 cm with the underlying highly altered massive flow.
- 703.9 -	60 - 70 -						
- 704.1 -	80 - 90 - 2		Ę	5A ≥			
- 704.3 -	100 -			~			
- 704.5 -	120-			<i>*</i>			
- 704.7 -	140 - 4			~			

Drilled interval

Hole 369-U1513E Core 41, Interval 704.4-704.4 m (CSF-A)

Depth CSF-A (m)	Core length (cm) Section Lithologic unit	Core image	brood Bald Bld Graphic Bithology	Clay Clay Very free sand Very carates sand Very carates sand Very carates sand Very carates sand Coartes sand Coartes sand Coartes carates Coartes Carates Coartes Carates Coartes Carates Coartes Carates Coartes Carates Coartes Coa	Sedimentary structures and Lithologic accessories	Bioturbation intensity Age	Nannofossil Zones	PF Zones BF Paleoenvironment	Drilling disturbance	Natura gamm radiatic (cps) 0 50	Il a Bulk on density (g/cm ³) 100 1.4 2.4 3 1 1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1	.4 L 0 0 1 1 1 L 0 0 1 1 1	e Magnetic susceptibilit (IU) 0 150 300 Lundund -10 0 10 20 Lundund
695 -													
- - 696 - - -													
- - 697 – - -													
- - 698 — - -													
- - 699 - - -													
700 - - -													
701 -													
702 -													
703 -													
704 -	0 -												

Hole 369-U1513E Core 5R, Interval 726.0-731.445 m (CSF-A)

Core 5R is composed of two olivine-plagioclase-phyric flows intruded by a dolerite dike. The dike has steeply dipping chilled contact at 8-41 cm and 106-143 cm in Section 1 and 0-35 cm in Section 2 and contains xenoliths of a porphyritic basalt. The intrusive contact with the lower basalt flow is a chilled margin interval at 9-12 cm, Section 4. A thin (1 mm wide) copper vein, with dissemination halo, is observed at 99-105 cm, Section 3. Brown alteration ribbons are also observed within the dolerite dike at 45-100 cm in Section 2 and at 39-62 cm, Section 3. Alteration creates a vuggy/amygdaloidal texture in moderately to highly altered basalt at the top and bottom of the core.

Depth CSF-A (m)	Core length (cm)	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Very time sand Munsell Munsell	Sedimentary structures and <u>o</u> Lithologic 8 accessories	Bioturbation intensity	Nannofossil Zones	PF Zones	BF Paleoenvironment Drilling disturbance	Disturbance intensity	Natural gamma radiation (cps) 0 50 100	Bulk density (g/cm ³)	Reflectanc L* a* b* 18 38 Iuuluuluulu 1 2 3 4 Iuuluuluu -10-7 -5 -2	e Magnetic susceptibility (IU) 0 150 300 Innihmi -10 0 10 20 Innihmi
726	100 -		M. W.		<pre></pre>						2		•		Manana	
728	200 - 2	:									%		• • • • • • • • • • • • • • • • • • • •		Martha	
- 729 — - -	300 -	VI									%		•		Strange Contraction	
- 730 — - -	400 -	_											* * * * *			
731 -	500 -				V V V V V V V V V V V V V V V V V V V										MANANA	5

Hole 369-U1513E-5R Section 1, Top of Section: 726.0 m (CSF-A) Olivine Pyroxene Shipboard studies Core length (cm) Veins/Structures Feldspar Piece number Alteration intensity rank Magnetic 0 10 20 Drilling disturbance Vesicle abundance Orientation 0 10 2 Groundmass susceptibility Depth (m) Lith. unit (IU) Scanned Lithology grain size 20 Contact image համամամամ type 0 10 20 0 400 800 0 2 4 6 Description 726.0 Core 5R is composed of two Þ olivine-plagioclase-phyric flows intruded by a 0 contains xenoliths of a porphyritic basalt. 10 The intrusive contact with the lower basalt flow is a chilled margin interval at 9-12 cm, Section 4. A thin (1 mm wide) copper vein, with dissemination halo, is observed at 99-105 cm, Section 3. Brown alteration 726.2 20 5B ribbons are also observed within the dolerite dike at 45-100 cm in Section 2 and at 39-62 cm, Section 3. Alteration creates a vuggy/amygdaloidal texture in moderately to Ľ highly altered basalt at the top and bottom of 30 the core. 726.4 -40 50 726.6 -60 t 2 70 2 726.8 -80 -90 5D 727.0 - 100 · 110 727.2 - 120 -3 Ľ 130 4 727.4 -1140 5







Hole 369-U1513E Core 6R, Interval 735.6-744.07 m (CSF-A)

Core 6R consists of three flow units 5H, 5I, and 5J intruded by a dolerite dike in Sections 1 (29-38 cm), Section 2 (0-21 cm), Section 3, 126 cm to Section 5, 83 cm, and at Section 6 (0-113 cm). Flow Unit 5H is an olivine-pyroxene-phyric basalt with propylitic alteration overprint from 18-117 cm, Section 2, inducing amygdaloidal texture. The dolerite dike intrusion contains xenoliths of the basalt showing diffuse margins. Units 5I and 5J are black, sparsely pyroxene-plagioclase-phyric basalt with round to elongated vugs and with amygdaloidal texture near their chilled margin boundary at 75-82 cm, Section 3. Some cavities are lined with calcite and malachite that show very well-developed crystal forms.

Sedimentary is grant in the second se
$743 = \begin{bmatrix} 6 \\ 700 - 6 \\ 6 \\ 743 - 6 \\ 800 - 7 \end{bmatrix}$

Visual core descriptions





Hole 369-U1513E-6R Section 3, Top of Section: 737.43 m (CSF-A) Olivine Pyroxene Shipboard studies Core length (cm) Veins/Structures Feldspar Alteration intensity rank Piece number Magnetic 0 10 20 Drilling disturbance Orientation Groundmass abundance susceptibility 0 10 2 Depth (m) Lithology Lith. unit (IU) Scanned 10 20 Contact grain size Vesicle image համամամամ type 0 10 20 200 2200 0 2 4 6 Description Core 6R consists of three flow units 5H, 5I, and 5J intruded by a dolerite dike in Sections 1 (29-38 cm), Section 2 (0-21 cm), Section 3, 126 cm to Section 5, 83 cm, and 737.5 at Section 6 (0-113 cm). Flow Unit 5H is an olivine-pyroxene-phyric basalt with propylitic 1 10-0 alteration overprint from 18-117 cm, Section 2, inducing amygdaloidal texture. The dolerite dike intrusion contains xenoliths of the basalt showing diffuse margins. Units 5I and 5J are black, sparsely 20 2 pyroxene-plagioclase-phyric basalt with round to elongated vugs and with amygdaloidal texture near their chilled margin boundary at 75-82 cm, Section 3. 3 737.7 Some cavities are lined with calcite and 30 malachite that show very well-developed 0 4 crystal forms. 0 Ľ 0000000 5 5J 40 6 737.9 رەر مەر 50 7 0 နှင့် 0 8 0 60 õ o 0 0°, 10°, 9 738.1 0 70 õ 10 0 > õ o 000 0 Ľ 11 80 00 0 12 1 738.3 o 13 90 14 0 00 15 0 o 100-16 5K õ Ľ C 738.5 17 c 110 C 120 18 o ō 738.7 130 Ľ Î 51 19 140




							F	lole 369	-U1513E-6R S	ectic	on 6, Top c	f Section	on: 74	1.68	m (CSF-A)	
Depth (m)	Core length (cm)	Piece number Scanned	image Oriontation	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Olivine Pyroxene Feldspar 0 10 20 0 10 20 0 10 20 0 10 20	Contact type	Groundmas grain size 0 2 4 6	ه Alteration intensity rank	Veins/Structures	Vesicle abundance	Magnetic susceptibility (IU) 0 2000	Description
741.7 - - 741.9 - - 742.1 - - 742.3 - - 742.5 - - 742.5 - - - 742.7 - 1 - 1 742.9 - 1 -	$\begin{array}{c} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$	1					5N	<u><u><u></u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>								Core 6R consists of three flow units 5H, 5I, and 5J intruded by a dolerite dike in Sections 1 (29-38 cm), Section 2 (0-21 cm), Section 3, 126 cm to Section 5, 83 cm, and at Section 6 (0-113 cm). Flow Unit 5H is an olivine-pyroxene-phyric basalt with propylitic alteration overprint from 18-117 cm, Section 2, inducing amygdaloidal texture. The dolerite dike intrusion contains xenoliths of the basalt showing diffuse margins. Units 5I and 5J are black, sparsely pyroxene-plagioclase-phyric basalt with amygdaloidal texture near their chilled margin boundary at 75-82 cm, Section 3. Some cavities are lined with calcite and malachite that show very well-developed crystal forms.

	Hole 369-U1	1513E-6R Section 7, Top of Section	on: 743.13 m (CSF-A)	
Depth (m) Core length (cm) Piece number Scanned image Orientation Lithology	shipboard stud ith. unit rilling isturbance o r o r o	Groundmass ي وي الساساسيا (10 كن grain size و 10 كن 10 كن ي وي الساساسيا الساساسياسيا	Keins, Structures Magnetic Succetipility (IU) (IU) Source Source (IU) (IU) (IU) (IU) (IU) (IU) (IU) (IU)	Description
743.2 - 0 - 1 - 2 - 0 - 1 - 2 - 0 - 1 - 2 - 0 - 1 - 2 - 0 - 1 - 2 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0	50 %			Core 6R consists of three flow units 5H, 5I, and 5J intruded by a dolerite dike in Section 3, 126 cm to Section 2, 0-21 cm, dat Section 6 (0-113 cm). Flow Unit 5H is an olivine-pyroxene-phyric basalt with propylitic alteration overprint from 18-117 cm, Section 2, inducing amygdaloidal texture. The dolerite dike intrusion contains xenoliths of the basalt showing diffuse margins. Units 5I and 5J are black, sparsely pyroxene-plagioclase-phyric basalt with round to elongated vugs and with amygdaloidal texture near their chilled margin boundary at 75-82 cm, Section 3. Some cavities are lined with calcite and malachite that show very well-developed crystal forms.

Hole 369-U1513E Core 7R, Interval 745.2-754.59 m (CSF-A)

Core 7R consists of very thick dark reddish gray (2.5YR 3/1) volcaniclastic breccia with several normal grading beds at the upper part (Sections 1 to 4) that overlies two compound flows of brown porphyritic basalt with flow banding and trachytic texture, Units 7A and 7B, consist of several thin flows that are superimposed on top of one another and separated by a chilled margin boundary. They have trachytic texture shown by subparallel alignment of feldspar laths that are altered to clay and by highly elongated vesicles. They also show flow banding with chilled outlines. These compound flows are in fault contact with underlying highly altered, red-brown massive flow, Unit 7C, with some agglutinated clasts of basalt producing patchy, fragmental texture.

Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Sit Sit Herry fine sand Medium sand Medium sand Looztes sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	PF Zones	BF Paleoenvironment	Drilling disturbance	Natural gamma radiation (cps) 0 50 100 0 15304560	Bulk density (g/cm ³)	Reflectanc L* a* b* 20 40 Immunutum 4 2 4 6 8 Immunutum -7 -2 3 8	e Magnetic susceptibility (IU) 0 150 300 Lundund -10 0 10 20 Lundundud
- - - 746 -	100 -	1						2.5YR 3/1	#					R			Jan Mariana	
- - 747 -	200 -	2						2.5YR 3/1	#	Δ							for the properties of the second second	
- - 748 - - -	300 -	3						2.5YR 3/1	#					%	•		Andrewski	-
- - 749 - - -	400 -	4						2.5YR 3/1	#					%	* * * *		MANA	
- 750 - - -	500 -	5	VI			× × × × × × × × × × × × × × × × × × ×								%			James and	
- 751 — - -	600 -	6												%			And Marken	ζ.
- 752 — - -	700 -	7												% %			A gales a post of the	
- 753 — - -	800 -					<pre></pre>								~ ~				
- 754 — -	900 -	8												%			Mark Mark	

						Н	lole 369	-U1513E-7R Section 1, Top of Sect	ion: 7	745.2 m (CSF-A)	
Depth (m)	Core length (cm) Piece number	Scanned image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Olivine Pyroxene Feldspar 0 10 20 Groundmass 0 10 20 0 10 20 grain size 0 10 20 0 10 20 grain size 0 10 20 0 10 20 grain size 0 10 20 0 2 4 6 Induction	Veins/Structures	Magnetic 8 susceptibility 9 pp 10 20 20 20 20 20 20 20 20 20 20 20 20 20	Description
745.2 - 745.3 - - 745.4 - - 745.5 - - 745.6 - - 745.6 - - 745.8 - - 745.9 - 745.9 - - 745.9 - 745.9 -	50 - 60 - 70 -					6	327				Core 7R consists of very thick dark reddish gray (2.5YR 3/1) volcaniclastic breccia with several normal grading beds at the upper part (Sections 1 to 4) that overlies two compound flows of brown porphyritic basalt with flow banding and trachytic texture, Units 7A and 7B, consist of several thin flows that are superimposed on top of one another and separated by a chilled margin boundary. They have trachytic texture shown by subparallel alignment of feldspar laths that are altered to clay and by highly elongated vesicles. They also show flow banding with chilled outlines. These compound flows are in fault contact with underlying highly altered, red-brown massive flow, Unit 7C, with some agglutinated clasts of basalt producing patchy, fragmental texture.

						ŀ	lole 369-	U1513E-7R Section 2, Top of Section: 746.02 m (CSF-A)	
Depth (m)	Core length (cm)	Piece number Scanned	image Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Olivine Pyroxene Feldspar 0 10 20 Groundmass 0 10 20 to grain size 0 10 20 to grain size 0 10 20 to the the the the the the the the the the	cription
746.1 -	10-	1	14 14 1					gray (2.5YR 3/1) several normal gr part (Sections 1 t compound flows - with flow banding 7A and 7B, consi are superimposed separated by a cf	of very thick dark reddish volcaniclastic breccia with rading beds at the upper o 4) that overlies two of brown porphyritic basalt and trachytic texture, Units st of several thin flows that d on top of one another and illed margin boundary.
- 746.3 -	20 - 30 -	-	& here ?					subparallel align are altered to clau vesicles. They alt chilled outlines. T in fault contact wi altered, red-brow with some agglut	tic texture shown by nent of feldspar laths that y and by highly elongated so show flow banding with hese compound flows are th underlying highly n massive flow, Unit 7C, inated clasts of basalt , fragmental texture.
- 746.5 -	40 - 50 -	-							
- 746.7 -	60 - 70 -	1	Î			6			
- 746.9 -	80 -								
747.1 -	100 - 110 -								
747.3 -	120 - 130 -								

747.4 - 10 - 20 - 747.6 - 10 -	escription ts of very thick dark reddish 1) volcaniclastic breccia with grading beds at the upper 1 to 4) that overlies two rs of brown porphyritic basalt ng and trachytic texture, Units nist of several thin flows that
747.4 - 10 - 20 - 747.6 - 10 - 10 - - 20 - 747.6 - 74 -	 volcaniclastic breccia with grading beds at the upper to 4) that overlies two rs of brown porphyritic basalt ng and trachytic texture, Units isist of several thin flows that
20 - They have trach subparallel align are altered to dr. vesicles. They are interested to dr. vesicles. They are altered to dr. vesicles. They are altered to dr. vesicles.	sed on top of one another and
30 - 30 - 30 - 30 - 30 - 30 - 30 - 30 -	chilled margin boundary. hytic texture shown by nment of feldspar laths that lay and by highly elongated also show flow banding with . These compound flows are with underlying highly bwn massive flow, Unit 7C, utinated clasts of basalt hy, fragmental texture.
	ny, naginenta texture.

								Н	lole 369	-U1513E-7R Section 4, Top of Secti	on: 7	48.52	2 m (CSF-A)	
Depth (m)	Core length (cm)	Piece number	Scanned image	Orientation	Lithology	i	Shipboard studies	Lith. unit	Drilling disturbance	Olivine Pyroxene Feldspar 0 10 20 0 10 20 grain size 0 10 20 to grain size	Veins/Structures	Vesicle	Magnetic susceptibility (IU) 200 2200	Description
(E) tage 748.6 - - 748.6 - - 748.7 - - 748.7 - - 748.8 - - 748.9 - - 749.0 - - 749.0 - - 749.1 - - 749.2 - - 749.3 - - 749.3 - - 749.5 -	10 20 30 40 50 60 70 80 90		Scanned				Shipboard stud	Lith. unit	Drilling	Foldonor	Veins/Structure		susceptibility (IU) 200 2200 International	Description

							Н	ole 369	-U1513E-7F	R Sectio	on 5, Top	of Sect	ion: 74	49.58	m (CS	SF-A)	
Depth (m)	Core length (cm)	Piece number	Scanned	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	հավավանո	00 00 00 00 00 00 00 00 00 00 00 00 00	Groundma grain size	eration ensity	Veins/Structures	Vesicle abundance	Ma suso 120	agnetic ceptibility (IU) 520	Description
749.6 749.7 749.8 749.9 750.0 750.1 750.2 750.3 750.3 750.4 750.3	70 80 90		T	ſ	$\begin{array}{c} \begin{array}{c} \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} $		7A	~									Core 7R consists of very thick dark reddish gray (2.5YR 3/1) volcaniclastic breccia with several normal grading beds at the upper part (Sections 1 to 4) that overlies two compound flows of brown porphyritic basalt with flow banding and trachytic texture, Units 7A and 7B, consist of several thin flows that are superimposed on top of one another and separated by a chilled margin boundary. They have trachytic texture shown by subparallel alignment of feldspar laths that are altered to clay and by highly elongated vesicles. They also show flow banding with chilled outlines. These compound flows are in fault contact with underlying highly altered, red-brown massive flow, Unit 7C, with some agglutinated clasts of basalt producing patchy, fragmental texture.

							Н	lole 369	-U1513E-7R \$	Sectior	n 6, Top o	f Secti	on: 75	50.58 ı	m (CSF-A)	
Depth (m)	Core length (cm)	Piece number	Scanned image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Olivine Pyroxene Feldspar 0 10 20 Indududud 0 10 20 Indududud 0 10 20	ntact e	Groundmass grain size	Alteration intensity rank	Veins/Structures	Vesicle abundance	Magnetic susceptibility (IU) 100 1100 2100	Description
<u>а</u> 750.6 - 750.7 - 750.8 - 750.9 - 751.0 - 751.1 - 751.2 - 751.3 - 751.3 - 751.4 - 751.5 - 751.6 -	10 ⁻ 20 ⁻ 30 ⁻ 40 ⁻ 50 ⁻ 60 ⁻ 80 ⁻ 80 ⁻ 90 ⁻		Sci			Shi		Dri		Con		After	Vei			Description

							Н	lole 369	-U1513E-7R Sectio	on 7, Top o	f Secti	on: 7	51.68 ı	n (C	SF-A)		
Depth (m)	Core length (cm)	Piece number	Scanned image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Olivine Pyroxene Feldspar 0 10 20 Indiandand 0 10 20 to Indiandand 0 10 20 to Indiandand 0 10 20 to Indiandand	Groundmas grain size 0 2 4 6	Alteration intensity rank	Veins/Structures	Vesicle abundance	sus 80	agnet ceptib (IU) 480	ility 880	Description
751.7 - - 751.9 - - 752.1 - - 752.3 - - 752.5 -	10- 20- 30- 40- 50- 60- 70- 80-	-		↑ · · · · · · · · · · · · · · · · · · ·			7А	%	ъ¥								Core 7R consists of very thick dark reddish gray (2.5YR 3/1) volcaniclastic breccia with several normal grading beds at the upper part (Sections 1 to 4) that overlies two compound flows of brown porphyritic basalt with flow banding and trachytic texture, Units 7A and 7B, consist of several thin flows that are superimposed on top of one another and separated by a chilled margin boundary. They have trachytic texture shown by subparallel alignment of feldspar laths that are altered to clay and by highly elongated vesicles. They also show flow banding with chilled outlines. These compound flows are in fault contact with underlying highly altered, red-brown massive flow. Unit 7C, with some agglutinated clasts of basalt producing patchy, fragmental texture.
- 752.7 - 752.9 - - 753.1 -	90 - 100 - 110 - 120 - 130 -	-					7В		~ .							$\left.\right\rangle$	

				Но	ole 369-	U1513E-7R Section 8, Top of Section	on: 7	53.18	m (CSF-A)	
Depth (m)	Core length (cm) Piece number Scanned image	Orientation Lithology	Shipboard studies	Lith. unit	Drilling disturbance	Olivine Pyroxene Feldspar 0 10 20 0 10 20 grain size of the size 0 10 20 to grain size of the size o	Veins/Structures	Vesicle abundance	Magnetic susceptibility (IU) 0 2000	Description
753.2 - - 753.4 - 753.6 - 753.8 - 753.8 - 753.8 - 7 754.0 - - - 754.2 11 -<		0 1		7B						Core 7R consists of very thick dark reddish gray (2.5YR 3/1) volcaniclastic breccia with several normal grading beds at the upper part (Sections 1 to 4) that overlies two compound flows of brown porphyritic basalt with flow banding and trachytic texture, Units 7A and 7B, consist of several thin flows that are superimposed on top of one another and separated by a chilled margin boundary. They have trachytic texture shown by subparallel alignment of feldspar laths that are altered to clay and by highly elongated vesicles. They also show flow banding with chilled outlines. These compound flows are in fault contact with underlying highly altered, red-brown massive flow, Unit 7C, with some agglutinated clasts of basalt producing patchy, fragmental texture.

Hole 369-U1513E Core 8R, Interval 754.8-761.98 m (CSF-A)

Core 8R is composed of 5 lithologic units, 7C to 7G. Unit 7C is a highly altered, red-brown massive flow with some agglutinated basalt clasts and in fault contact with underlying Unit D at 136 cm, Section 1. Unit 7D is slight to moderately altered aphyric cryptocrystalline picritic (?) basalt that change to green and brown mosaic texture with interconnected brown interstitial material due to alteration. The bottom boundary is a chilled margin at 57 cm, Section 2. Unit 7E is highly altered reddish black aphyric cryptocrystalline picritic (?) basalt with native copper dissemination and it has a color change boundary with Unit 7F at 58 cm, Section 3. Unit 7F is a greenish aphyric basalt (?) with a checkered to foliated pattern consisting of crisscrossing lineations of oxide grains in a greenish (altered to chlorite) groundmass; alteration turns it into a darker green groundmass with red-brown crisscrossing pattern. The pattern grades to sparsely olivine-phyric featureless groundmass with about 3% olivine at its upper boundary with Unit 7E and its bottom boundary with the underlying Unit 7F is a chilled margin on top of Section 5, 0-10 cm. It is cut by a broad brown vertical vein, possibly from dike intrusions at 76-140 cm, Section 3. Unit 7G is a highly altered red-brown basalt agglomerate similar to Unit 7C.

$ \begin{array}{c} 756 \\ 766 \\ 767 \\ 768 \\ 769 $	Depth CSF-A (m)	Core length (cm)	Section	Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Silt - Silt - Silt - Fine sand - Medum sand - Very coarse sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	Nannofossil Zones	PF Zones	BF Paleoenvironment	Drilling disturbance	bance	Natural gamma radiation (cps) 0 50 100	Bulk density (g/cm ³)	Reflectance L* a* b* 8 48 Luuluuluu 0 2 4 Luuluuluu -12 -7 -2 3 Luuluuluu	e Magnetic susceptibility (IU) 0 150 300 -10 0 10 20 Iundunud
$ \begin{array}{c} 200 \\ 757 \\ 2 \\ 300 \\ 758 \\ 300 \\ 758 \\ 400 \\ 759 \\ 600 \\ 761 \\ 600 \\ 761 \\ 600 \\ 761 \\ 600 \\ 761 \\ 600 \\ 761 \\ $	-	100 -	1															· · · · · · · · · · · · · · · · · · ·		Commenced and	
758 300 3 VI 400 1 759 1 400 1 759 1 400 1 759 1 500 1 760 1 1 1	- - 757 -	200 -	2													~ ~		•		Martino	
759 - 4 = 500	- - 758 -	300 -	3	VI												%		• • • • • • • •		manna	-
$ \begin{array}{c} 760 \\ - \\ 760 \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ -$	759 -	400 -														~					
	- 760 — - -	500 -	4			TSB TS ●										~		•		and the second s	
	761	600 -	5													% N %				- And	

Hole 369-U1513E-8R Section 1, Top of Section: 754.8 m (CSF-A)										
Depth (m) Core length (cm) Piece number Scanned image Orientation Lithology	Shipboard studies Lith. unit Drilling disturbance	Olivine Pyroxene Feldspar 0 10 20 0 10 20 grain size 0 10 20 to grain size	A ceins Magnetic Susceptibility (IU) A C A C A C A C A C A C A C A C	Description						
$754.8 \qquad 1 \qquad $	Image: Second secon			Core 8R is composed of 5 lithologic units, 7C to 7G. Unit 7C is a highly altered, red-brown massive flow with some agglutinated basalt clasts and in fault contact with underlying Unit D at 136 cm, Section 1. Unit 7D is slight to moderately altered aphyric cryptocrystalline picritic (?) basalt that change to green and brown interstitial material due to alteration. The bottom boundary is a chilled margin at 57 cm, Section 2. Unit 7E is highly altered reddish black aphyric cryptocrystalline picritic (?) basalt with native copper dissemination and it has a color change boundary with Unit 7F at 58 cm, Section 3. Unit 7F is a greenish aphyric basalt (?) with a checkered to foliated pattern consisting of crisscrossing lineations of oxide grains in a greenish (altered to chlorite) groundmass; alteration turns it into a darker green groundmass with red-brown crisscrossing pattern. The pattern grades to sparsely olivine-phyric featureless groundmass with about 3% olivine at its upper boundary with the underlying Unit 7F is a chilled margin on top of Section 5, 0-10 cm. It is cut by a broad brown vertical vein, possibly from dike intrusions at 76-140 cm, Section 3. Unit 7G is a highly altered red-brown basalt agglomerate similar to Unit 7C.						



	Hole 369-U1513E-8R Section 3, Top of Section: 757.7 m (CSF-A)														
Depth (m)	Core length (cm)	Piece number	Scanned	image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling	disturbance	Olivine Pyroxene Feldspar 0 10 20 Groundmass 0 10 20 0 10 20 grain size 0 10 20 undindicular 0 10 20 0 2 4 6 undindicular 0 10 20 0 2 4 6 undindicular 0 10 20 0 2 4 6 undindicular 0 10 20 0 10 20 0 10 20 0 10 20 0 10 20 0 10 20 0 10 20 0 10 20 0 10 10 10 10 10 10 10 10 10 10 10 10	Veins/Structures	Vesicle abundance	Magnetic susceptibility (IU) 0 2000	Description
757.7 - 757.9 - - 758.1 - - 758.3 - - 758.5 - - 758.5 - - 758.5 - - 758.7 - - 758.7 -	10- 20- 30- 50- 60- 70- 80- 90- 100- 110- 120- 130-					A > A > A > A > A > A > A > A > A > A		7E	2						Core BR is composed of 5 lithologic units, TC to 7G. Unit 7C is a highly altered, red-brown massive flow with some agglutinated basalt clasts and in fault contact with underlying Unit D at 136 cm, Section 1. Unit 7D is slight to moderately altered aphyric cryptocrystalline picritic (?) basalt that change to green and brown mosaic texture with interconnected brown interstitial material due to alteration. The bottom boundary is a chilled margin at 57 cm, Section 2. Unit 7E is highly altered reddish black aphyric cryptocrystalline picritic (?) basalt with native copper dissemination and it has a color change boundary with Unit 7F at 58 cm, Section 3. Unit 7F is a greenish aphyric basalt (?) with a checkered to foliated pattern consisting of crisscrossing lineations of oxide grains in a greenish (altered to chlorite) groundmass; alteration turns it into a darker green groundmass with red-brown crisscrossing pattern. The pattern grades to sparsely olivine-phyric featureless groundmass with about 3% olivine at its upper boundary with Unit 7E and its bottom boundary with the underlying Unit 7F is a chilled margin on top of Section 5, 0-10 cm. It is cut by a broad brown vertical vein, possibly from dike intrusions at 76-140 cm, Section 3. Unit 7G is a highly altered red-brown basalt agglomerate similar to Unit 7C.

Hole 369-U1513E-8R Section 4, Top of Section: 759.2 m (CSF-A)										
Depth (m) Core length (cm) Piece number Scanned image Orientation Lithology	Shipboard studies Lith. unit Drilling disturbance	Olivine Pyroxene Feldspar 0 10 20 Groundmass 0 10 20 grain size 0 10 20 grain size 10 20 grain size 10 10 20 grain size 10 20 grain size								
$ \begin{array}{c} 759.2 \\ - \\ 10 \\ 2 \end{array} $ $ \begin{array}{c} 759.4 \\ - \\ 30 \\ - \\ 30 \\ - \\ 30 \\ - \\ 30 \\ - \\ 30 \\ - \\ 5 \end{array} $ $ \begin{array}{c} 759.6 \\ - \\ 30 \\ - \\ 759.6 \\ - \\ 40 \\ - \\ - \\ 5 \end{array} $ $ \begin{array}{c} 759.6 \\ - \\ 759.8 \\ - \\ 760.2 \\ - \\ 100 \\ - \\ - \\ 760.4 \\ - \\ 120 \\ - \\ - \\ 760.6 \\ - \\ 130 \\ - \\ 760.6 \\ - \\ 140 \\ - \\ - \\ 760.6 \\ - \\ 140 \\ - \\ - \\ 760.6 \\ - \\ - \\ 760.6 \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ -$	• ^{TSB} • ^{TSB} • (1) •	Create Rise composed of 5 linkalogic units, 7 de 376 automatic and the second								

									Hole	369	-U1513E-8R Section 5, Top of Sectio	on: 7	60.7 r	m (CSF-A)	
Depth (m)	Core length (cm)		Plece number Scanned	image	Orientation	Lithology	Shipboard studies	Lith. unit	Drilling	disturbance	Olivine Pyroxene Feldspar 0 10 20 0 10 20 grain size tip: 0 10 20 to grain size tip: 0 10 10 10 to grain size tip: 0 10 to grain size tip: 0 10 to grain sin	Veins/Structures	Vesicle abundance	Magnetic susceptibilit (IU) 400 2400	Description
760.7		ŀ	1					7F	2)	Core 8R is composed of 5 lithologic units, 7C to 7G. Unit 7C is a highly altered, red-brown massive flow with some agglutinated basalt clasts and in fault contact with underlying Unit D at 136 cm, Section 1. Unit 7D is slight to moderately altered aphyric cryptocrystalline picritic (?) basalt that change to green and brown mosaic texture with interconnected brown interstitial material due to alteration. The bottom boundary is a chilled margin at 57 cm, Section 2. Unit 7E is highly altered
- 761.1 -	- 3		3		1				",						redish black aphyric cryptocrystalline picritic (?) basalt with native copper dissemination and it has a color change boundary with Unit 7F at 58 cm, Section 3. Unit 7F is a greenish aphyric basalt (?) with a checkered to foliated pattern consisting of crisscrossing lineations of oxide grains in a greenish (altered to chlorite) groundmass; alteration turns it into a darker green groundmass with red-brown crisscrossing pattern. The pattern grades to sparsely olivine-phyric featureless groundmass with
- 761.3 -		0-		R											about 3% olivine at its upper boundary with Unit 7E and its bottom boundary with the underlying Unit 7F is a chilled margin on top of Section 5, 0-10 cm. It is cut by a broad brown vertical vein, possibly from dike intrusions at 76-140 cm, Section 3. Unit 7G is a highly altered red-brown basalt agglomerate similar to Unit 7C.
- 761.5 -	7	0-	4		• • • •			7G						5	
-		0-	5	FIL					<i>%</i>						
761.7 -		0-	6						2						
761.9 -	-12	0 -													

Hole 369-U1513E Core 9R, Interval 764.4-770.27 m (CSF-A)

Core 9R consists of three lithologic units 7H, 7I, and 7J. Unit 7H is a moderately altered greenish black aphyric cryptocrystalline picritic (?) basalt that shows aligned black (oxide) mineral forming a foliation texture toward the bottom of Section 1 and in Section 2. It is cut by hematite-calcite veins throughout the section and also form tension gash structure at 124-142 cm, Section 1. The bottom boundary is a chilled margin at at 96 cm in Section 2. Unit 7I is highly altered reddish black aphyric cryptocrystalline picritic (?) basalt that is partially to completely replaced by hematite. The boundary with Unit 7J is a moderately vesicular to arnygdaloidal flow top in Section 3, 36 cm. It is cut by a network of hematite veins at 139-141 cm in section 2 and a chilled margin boundary with Unit 7J. Unit 7J is a massive porphyritic basalt with a moderately vesicular plagioclase-phyric glassy flow top that grades into a massive flow with a fine-grained groundmass in Sections 4 and 5.

Depth CSF-A (m)	Core length (cm)	Section Lithologic unit	Core image	Shipboard samples	Graphic lithology	Clay Safet Clay Very fine sand Frive sand Frive sand Coarses sand Very coarse sand	Munsell color	Sedimentary structures and Lithologic accessories	Bioturbation intensity	Age	Nannotossil Zones PF Zones	BF Paleoenvironment	Drilling disturbance	Disturbance intensity	Natural gamma radiation (cps) 0 50 100 	Bulk density (g/cm ³) 1.4 2.4 3	Reflectanc L* a* bi 14 34 Iuniunium 4 -0 2 4 -12 -7 -2 3 -12 -7 -2 3	Magnetic susceptibility (IU) 0 150 300
765 -	100 -	1											*		• • • • • • • • •		M Mar m	-
766	200 -	2											%		• • • • • • •	CU Mandred	Marghan Margh	
767	300 -			,									N %		· · · · · · · · · · · · · · · · · · ·		hours and a	
768	400 -												// // X		•		AMA CONTRACTOR	
769	500 -	5			<pre></pre>								11		•			

			9-U1513E-9R Section 1, Top of Section: 7	764.4 m (CSF-A)	
Depth (m)	Core length (cm) Piece number Scanned image Orientation Lithology	Shipboard studies Lith. unit Drilling disturbance	Olivine Pyroxene Feldspar 0 10 20 Understand 0 10 20 Groundmass 0 10 20 Grain size 0 10 20 Grain size 0 10 20 Grain size 0 10 20 Grain size 0 10 20 0 10 10 0	Magnetic 8 susceptibility 9 pp 10 pp 12 00 1200 2 m 10 100	Description
764.4 - 764.6 - - 764.8 - - 765.0 - - 765.2 - - 765.2 - - 765.2 -	$ \begin{array}{c} & 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1$	Shipb I thu u Shiph			Description
765.6 -			X X		
765.8 –					

Hole 369-U1513E-9R Section 2, Top of Section: 765.9 m (CSF-A) Olivine Shipboard studies Core length (cm) **Pvroxene** Veins/Structures eldspar Piece number Magnetic intensity rank 0 10 20 Drilling disturbance Vesicle abundance Orientation susceptibility Groundmass Depth (m) Alteration Lithology Lith. unit (IU) Scanned 20 grain size 0 10 Contact image hundradiand type 0 10 20 500 1500 2500 0 2 4 6 Description Core 9R consists of three lithologic units 7H, 765.9 WWWWWWWWW 7I, and 7J. Unit 7H is a moderately altered greenish black aphyric cryptocrystalline picritic (?) basalt that shows aligned black (oxide) mineral forming a foliation texture toward the bottom of Section 1 and in 10 Ж Section 2. It is cut by hematite-calcite veins throughout the section and also form tension gash structure at 124-142 cm, Section 1. The bottom boundary is a chilled margin at at 96 cm in Section 2. Unit 7I is highly 766.1 20 altered reddish black aphyric cryptocrystalline picritic (?) basalt that is partially to completely replaced by hematite. The boundary with Unit 7I is a moderately vesicular to amygdaloidal flow top in Section 30 3, 36 cm. It is cut by a network of hematite veins at 139-141 cm in section 2 and a chilled margin boundary with Unit 7J. Unit 7J is a massive porphyritic basalt with a moderately vesicular plagioclase-phyric 766.3 -40 glassy flow top that grades into a massive flow with a fine-grained groundmass in Sections 4 and 5. Ľ 7H % 50 60-2 766.5 -70 80 - 3 766.7 -90 Þ Ľ С 0 4 Q 766.9 - 100 5 С 6 О > 7 D 110 С 8 9 0 71 767.1 - 120 O D 10 130-"/, С 0 P 0 Ж 767.3 - 140 ·



