



Cape Roberts 1

Scale 1:5

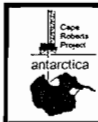
Sheet Interval 15.63 to 20.04 Sheet No. 1

Core Type HQ BOX 1 Logged by: LK on 17/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay silt sand gravel				number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description	
			□	□	□	□								
15.63													Dolerite clasts, grayish black.	
15.73								0.01			N20			
15.83														
15.93														
16.03														
16.06							6	90			5Y2/1			Exact position unknown. Conglomerate, grayish black. Clasts are lenticular and angular, moderately well rounded. Matrix is sand to muddy sand.
19.07														
19.13							1	8						
19.23							φ	φ						
19.33							1	2			5Y2/1			SILTY SAND to CLAST-POOR SANDY DIAMICTON, grayish-black, compact, and massive. Clasts most abundant in lowest 13 cm of interval; granule to pebble size.
19.43							5	5						
19.57														
19.97							1	10			5Y2/1			
20.04														CLAST-RICH SANDY DIAMICTITE, grayish-black, compact and massive.

Notes Smear slide at 19.26 m

CLAST-RICH SANDY DIAMICTITE, grayish-black, compact and massive.



Cape Roberts 1

Scale 1:5

Sheet Interval 20.04 to 21.04 Sheet No. 2

Core Type HQ BOX 1 Logged by: LAK on 17/10/97

Depth (mbsf)	Drilling distance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Biurbation	Colour	Consolidation	Description
20.04			diagonal lines	diagonal lines	diagonal lines	diagonal lines	8	10					CLAST-RICH MUDDY DIAMICTON, olive black, massive, very poorly sorted.
20.24			diagonal lines	diagonal lines	diagonal lines	diagonal lines	10	20			SY		Large clasts include dolerite and granite, sub-rounded.
			diagonal lines	diagonal lines	diagonal lines	diagonal lines	4	5			=/1		
			diagonal lines	diagonal lines	diagonal lines	diagonal lines	5	40					
20.44			diagonal lines	diagonal lines	diagonal lines	diagonal lines	13	45					
20.64			diagonal lines	diagonal lines	diagonal lines	diagonal lines	4	1					CLAST-POOR MUDDY DIAMICTON, olive black, massive, poorly sorted
			diagonal lines	diagonal lines	diagonal lines	diagonal lines	1	<1					
20.84			diagonal lines	diagonal lines	diagonal lines	diagonal lines	2	<1					
			diagonal lines	diagonal lines	diagonal lines	diagonal lines	∅	∅					
21.04			diagonal lines	diagonal lines	diagonal lines	diagonal lines	15	25					CLAST-RICH MUDDY DIAMICTON, olive black, massive, poorly sorted

Notes Smear slide at 20.66 mbsf -- sandy mud

1m3



Cape Roberts 1

Scale 1:5

Sheet Interval 21.04 to 22.00 Sheet No. 3

Core Type HQ BOX 1 Logged by: LAK on 18/10/97

Depth (mbsf)	Drilling disturbance	Core Face	Grain Size				number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
			clay	silt	sand	gravel							
21.04		FAST-TRACK SAMPLE											CLAST-POOR MUDDY DIAMICTON AND CLAST-RICH MUDDY DIAMICTON, with
21.14													minor SANDY MUDSTONE WITH DISPERSED CLASTS.
21.24						2	41			5Y 2/1			Olive black, massive, poorly sorted.
21.34						5	3						Maximum clast size = 7 cm dolomite @ 21.85-21.92 m.
21.44						5	5						Next largest clasts are 2-4 cm in diameter. No stratification or fabric apparent.
21.54						2	41						
21.64						5	5						
21.74						8	12						
21.84						1	90						
21.94						1	5						
22.00													

Notes Smear slide at 21.47 m -- sandy mud

1M4

Cape Roberts 1		Sheet Interval 24.38 to 25.43		Sheet No. 4							
Scale 1:5		Core Type HQ BOX 2		Logged by: LAK on 18/10/97							
Depth (mbsf)	Drilling distance	Core Face	clay silt sand gravel	number of clasts	% clasts	structure	Biolurbation	Colour	Consolidation	Description	
24.38										CLAYEY SANDS, olive black and structureless. Medium sand, moderately sorted.	
24.55					3	8				CLAST-POOR MUDDY DIAMICTON, CLAST-RICH MUDDY DIAMICTON and SANDY MUDDY PEBBLE/GRANULE CONGLOMERATE, GRAVEL	
24.58					5	2				Poorly sorted, massive olive black. Largest clast is 3 cm in diameter; most clasts are 3-6 mm. clast compositions include fine-grained black dolerite and "brick red" feldspar grains.	
24.78					40	35					
					50	30					
					50	20					
25.00			25.00								
25.05			25.05								
25.23					1	5					VOLCANIC SANDY MUD, poorly sorted, fine- to medium grained. No stratification apparent. May be moderately disturbed by drilling.
25.43											

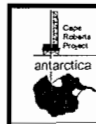
Notes Smear slide at 24.48 = clayey sand
 Smear slide at 25.29 = volcanic sandy mud

1m 5

Cape Roberts 1		Sheet Interval <u>25.43</u> to <u>26.43</u> Sheet No. <u>5</u>								
Scale 1:5		Core Type <u>HQ BOX 2</u> Logged by: <u>LAK</u> on <u>18/10/9</u>								
Depth (mbsf)	Drilling disturbance	Core Face	clay silt sand gravel	number of clasts	% clasts	structure	Biurbation	Colour	Consolidation	Description
25.43				φ	φ				F	Possibly moderate to severe coring disturbance, especially at 25.70-25.90 m
25.63				φ	φ			5Y 2/1	R	SANDY MUD, olive black.
25.83				φ	φ				M	~ Structureless, except for mud "clasts", which may be depositional or coring-induced. Largest "clast" has D ~ 2 cm, at 25.95.
26.03				φ	φ					
26.23				φ	φ					
26.43				φ	φ					

Notes Smear slide at 26.16m -- sandy mud.

1m6



Cape Roberts 1
Scale 1:5

Sheet Interval 26.43 to 27.43 Sheet No. 6

Core Type HQ BOX 2 Logged by: LAK on 18/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Biurbation	Colour	Consolidation	Description
26.43													
26.63													
26.83													
27.03													
27.23													
27.43													

SILTY SANDS, moderately sorted to poorly sorted, fine to medium grained. Olive black, no structures or stratification apparent. White calcareous shell debris and forams present on split face, especially common from 26.5 - 27.15 m.

SY
2/1

F
I
R
M

Notes Smear slide at 26.90 m = s. Hy sand



Cape Roberts 1

Scale 1:5

Sheet Interval 27.43 to 29.84 Sheet No. 7

Core Type HQ BOX 3 Logged by: LAK on 18/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description							
27.43							1	<1			5Y 2/1	F 1 R M	27.43-27.95 and 27.96-28.10 m = SILTY SAND to MUDDY SAND WITH DISPERSED CLASTS, po olive black and structureless. Clasts are 2-5 mm max. diameter; fine-grained dolerite and pink granite.							
27.53													1	<1					Forams common on split face at 27.50-27.86 m; also coarse quartz sand at 27.43-27.5	
27.63													φ	φ					27.95-27.96 m = SILTY SAND, moderate sorted, showing normal and reverse grading. Well-rounded qtz, feldspar, few forams.	
27.83													φ	φ						
27.95													φ	φ						
27.96													φ	φ						
28.03																				
28.10							28-10													
29.49							29.49							>50	40			5Y 2/1	29.49-29.84 m MUDDY SANDY GRAVEL to CLAST-RICH SAND DIAMICT, olive black and massive, poorly sorted. Max clast size = 6 cm; two largest clasts are subangular volcani-clastic sandstone. Possible sharp inclined	
29.64													>50	55						contact separates clast-rich and clast poorer intervals. Smaller clasts are fine-grau
29.84						20	10													

Notes Smear slide at 27.77 m = silty sand

contact separates clast-rich and clast poorer intervals. Smaller clasts are fine-grau



Cape Roberts 1

Scale 1:5

Sheet Interval 29.84 to 30.84 Sheet No. 8

Core Type HQ BOX 3 Logged by: LAK on 18/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
29.84													29.84 - 30.54 m: MUDDY SAND STONE WITH DISPERSED CLASTS to CLAST-POOR SANDY DIAMICT, olive-black, poorly sorted, and massive.
							10	5					
							4	1			5Y		
30.04							8	3			2/1	F	Largest clasts are ~1 cm in diameter, quartz-rich sandstone
							4	1					R Smaller clasts are black fine-grained dolerite and pink "granite".
30.19							5	5					M to C O M P A C T
30.24							8	1					
							1	4					
30.44													
30.64													
							>50	25					30.64 - 30.84 m: CLAST-RICH MUDDY DIAMICT to SANDY MUDDY GRANULE GRAVEL, olive black, poorly sorted, and massive. Largest clasts are 2-3 cm diameter granite and volcani- clastic sandstone.
30.64							>20	5					
30.84							>50	50					

Notes Smear slides at
30.07 m = sandy mud
30.70 m = sandy mud

Smaller clasts are predom-
antly granule size, fine
grained dolerite and pink
"granite".

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Biolumination	Colour	Consolidation	Description	
30.84							10	2			5Y 2/1		Interval from 31.09 m to 31.68 m is highly disturbed by drilling. Interval from 30.91 to 31.09 m may be moderately disturbed.	
30.91							φ	φ			5Y 4/1	C		
30.04												O		
31.09							φ	φ				M	<u>30.84-30.91 m:</u> CLAST-POOR MUDDY DIAMICT, poorly sorted, olive black, massive. Clasts are granule-size fine-gr dolerite & pink granite	
31.18							φ	φ			5YR 2/1	P		
31.20												A		
							φ	φ				C	<u>30.91-31.09 m:</u> SANDY MUD, olive gray, poorly sorted, massive. Compact to weakly indurated.	
							φ	φ				T		
31.42							φ	φ						<u>31.09 m-31.70 m:</u> CLAYEY SAND to VOLCANIC FINE SAND, highly disturbed by drilling. Moderately sorted, rich in Qtz, rock fragments, and volcanic glass. Brownish black.
31.62							φ	φ						
31.70											5Y 2/1		<u>31.70-31.82 m:</u> CLAST-RICH SANDY DIAMICT, olive black	
31.82							>20	15					poorly sorted, massive Max. clast diameter ~6 most clasts are granule small pebble size. Qtz	

Notes Smear slide at 31.50 m = volcanic fine sand

Box 4/1

Cape Roberts 1		Sheet Interval 31.82 to 32.82 Sheet No. 10									
Scale 1:5		Core Type HQ BOX 4 Logged by: LAK on 18/10/97									
Depth (mbsf)	Drilling disturbance	Core Face	clay silt sand gravel	number of clasts	% clasts	structure	Biurbation	Colour	Consolidation	Description	
31.82				20	15			5Y 2/1		31.82-31.89 m: CLAST-RICH SANDY DIAMICT, olive black, poorly sorted, massive Max. clast size ~5 mm, predominantly black fine-grained dolerite.	
31.89				13	3			5GY 6/1	C		
32.02									O		
									M	31.89-32.82 m: BIOGENIC CALCAREOUS MIXED SEDIMENT, greenish-gray, and weakly stratified. Biogenic components include whole or partial frams, bryozoans, barnacles, worm tubes. Stratification expressed as concentrations of biogenic debris a few mm to a few cm thick, separated by similar thicknesses of biogenic-depleted material. Bryozoan fragments to 1.5 cm long. Clasts to 3 mm maximum diameter; mostly black	
32.22					5	4				P	
										A	
										C	
32.42									5GY 6/1	T	
					1	4					
32.62					5	4					
32.82				10	2						

Notes Smear slide at 32.46 m = biogenic calcareous mixed sediment
Paleontology sample taken at 32.05-32.15 m.

fine-grained
dolerite.

Box 4/4/2

Cape Roberts 1		Sheet Interval 32.82 to 33.82 Sheet No. 11										
Scale 1:5		Core Type HQ BOX 4										
Drilling disturbance		Logged by: LAK on 18/10/97										
Depth (mbsf)	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Biocurbation	Colour	Consolidation	Description
32.82						1	0			5Y		<p>32.82 - 33.15 m:</p> <p>SANDY MUDDY GRAVEL, olive black massive, poorly sorted. Large dolerite clast from 32.84 to 33.01 m. Remainder of clasts are granule to medium pebble size; black fine-grained dolerite. Few mm-size biogenic fragments -- bryozoans.</p> <p>33.15 - 33.30 m:</p> <p>Grading from CLAST-RICH SANDY DIAMICTITE down to CALCAREOUS SANDY MUD. Clast content decreases downcore as biogenic content increases. Max. clast diameter ~ 1 cm.</p> <p>33.30 - 33.82 m:</p> <p>CALCAREOUS SANDY MUD WITH DISPERSE CLASTS, greenish gray poorly sorted, with abundant foram, bryozoan, and mollusk debris. Clast abundance decreases downcore</p>
							0	0			2/1	
33.02							>20	75				
							>30	15				
33.15							>20	10			5Y	
33.22							>30	10			4/1	
33.30							10	5				
33.42							>20	5			5GY	
							>10	3			6/1	
33.62							φ	φ				
33.82						1	1					

Notes Smear slides at 33.06 m = Sandy mud and 33.47 m = Calcareous sandy mud

1 cm green mudst clast at 33.80-33.82 m Weak stratification,



Cape Roberts 1

Scale 1:5

Sheet Interval 33.82 to 35.06 Sheet No. 12

Core Type HQ BOX 4 Logged by: LAK on 18/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description	
33.82													33.82 - 34.22 m: SANDY MUDS WITH DISPERSED CLASTS, olive gray, massive, poorly sorted Maximum clast size = 4 mm. Most clasts are granules of black fine-grained dolerite.	
34.02							3	<1			5Y -1			
							3	<1						
							5	1						
							3	<1						
34.22														34.22 - 35.06 m: CLAST-RICH MUDDY DIAMICT TO SANDY MUDDY GRAVEL, olive gray, massive, poorly sorted. Large clasts include: 6cm x 6cm and 6cm x 3cm dolerites 5cm x 3cm granite Average clast size ~ 1 cm. Clast lithology Include volcaniclastic sandstone, pink granite, green mudstone, dolerite.
34.30							720	7						
34.58							710	70						
34.66							720	80				5Y 4/1		
76							730	35						
34.86						720	30							
35.06						720	20							

Notes Smear slide at 33.96 m = Sandy mud

Box 5/1



Cape Roberts 1

Scale 1:5

Sheet Interval 35.06 to 36.01 Sheet No. 13

Core Type HQ BOX 5 Logged by: LAK on 18/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description	
35.06							720	3			5Y 2/1		35.06-36.01 m: CLAST-POOR MUDDY DIAMICT, olive black, poorly sorted and matrix.	
35.26							8	1					C Largest clasts are ~1-1.5 cm in diameter, black volcanic clastic(?) sandstones and	
							6	1					P coarse-grained silicic ign/metam. gravels.	
35.46							10	3					C Remainder of clasts are generally small (just above granule lower boundary), dark (volcanic clastic sandstone or dolerite?) or pink "granite".	
							5	1						
							10	2						
35.66							9	1						
							15	3						
35.86							8	2						
36.01							8	3						

Notes Smear slide at 35.25 m = Sandy mud

Box 5/2

Cape Roberts 1		Sheet Interval <u>36.60</u> to <u>38.10</u> Sheet No. <u>14</u>												
Scale 1:5		Core Type <u>HQ</u> BOX <u>5</u> Logged by: <u>LAK</u> on <u>18/10/97</u>												
Depth (mbsf)	Drilling disturbance	Core Face	clay silt sand gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description				
36.60				1	1			5Y 2/1	C	36.60-38.10 m:				
36.70				10	3							SANDY MUD MATRIX with varying amount of clasts -- grades from CLAST-Poor MUDDY DIAMICT		
36.80	1			6	2							O	above 37.47m to	
36.84	1											M	SANDY MUDDY GRAVEL and	
37.37						15	5					P	CLAST-RICH MUDDY DIAMICT below 37.47m.	
						>30	40					C		
						>20	10					T	Clasts predominantly black volcaniclastic (?) sandstone, with maximum size of 3 cm X 3 cm.	
						>30	12						Average clast size ~ 3-4 mm; smaller clasts primarily black sandstone, but with minor quartzose and pink "granite" debris.	
						>30	10							
						7	5							
38.10				5	7									

Notes Smear slide @ 37.70m = Sandy mud



Cape Roberts 1

Scale 1:5

Sheet Interval 38.10 to 39.10 Sheet No. 15

Core Type HQ BOX 5 Logged by: LAK on 18/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Biurbation	Colour	Consolidation	Description	
38.10											GY 2/1		38.10-39.10 m:	
							8	3						SANDY mud matrix with varying amount of clasts to give
							70	5					C	CLAST-RICH MUDDY
38.30							70	7					O	DIAMICT, grading downward into
							70	7					M	CLAST-RICH MUDDY
							70	7					P	DIAMICT, grading downward into
							70	7					A	SANDY MUDDY GRAVEL.
38.50							70	10					C	
							70	40					T	All are poorly sorted, massive, and olive black in color.
38.70							70	40						
						70	30						Largest clasts are 2-4 cm maximum diameter; average clast size ~ 4-5 mm and average size increases downcore.	
38.90						70	40							
39.10						70	60							

Notes Smear slide at 38.37 m = sandy mud



Cape Roberts 1

Scale 1:5

Sheet Interval 39.10 to 40.10 Sheet No. 16

Core Type HQ BOX 6 Logged by: LAK on 18/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Biurbation	Colour	Consolidation	Description
39.10													39.10 - 40.10 m:
							3	<1			5Y 2/1		SANDY MUD, STONE , SANDY MUD WITH DISPERSED CLASTS, CLAST-POOR STONE MUDDY CLAST-POOR
							6	8				C	DIAMICT, CLAST-RICH MUDDY DIAMICT, AND SANDY MUDDY GRAVEL, all olive black, poorly sorted, and massive.
39.30							7	2				M	
							1	80				P	
39.50												C	Large silicic igneous metamorphic clast at
39.55			STRENGTH SAMPLE									T	39.42 - 39.55 m; ~4 cm granitic clast at 39.72 - 39.76 m; 2 cm volcaniclastic mudstone clast at 39.27 - 39.29 m.
39.65							7	2					Remainder of clasts are fine-grained diabase gneiss, granite, pink granite -- average size ~ 2-3 mm.
39.70							4	20					
							∅	∅					
39.90							3	<1					
							2	<1					
40.10													

Notes Smear slide at 39.84m = sandy mud



Cape Roberts 1

Scale 1:5

Sheet Interval 40.10 to 40.95 Sheet No. 17

Core Type HQ BOX 6 Logged by: LAK on 19/10/97

Depth (mbsf)	Drilling distance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Biurbation	Colour	Consolidation	Description
40.10													40.10 - 40.95 m :
							3	<1			5Y 2/1		SANDY MUD WITH DISPERSED CLASTS, CLAST-POOR MUDDY DIAMICT, CLAST-RICH MUDDY DIAMICT, and SANDY MUDDY GRAVEL, all olive black, poorly sorted, and massive.
40.30							5	2					C
							2	<1					O
							>10	40					M
40.50							>10	40					A
							3	<1					C
40.70							12	<1					T
							>20	2					abundant intraformational clasts, with possible evidence of minor clast deformation. Some clasts may also be present in other parts of this core.
40.90							5	90					SANDY MUDDY GRAVEL at 40.90 - 40.95 m is result of large granitic clasts.
40.95													Other clasts in core are granule size (on average), quartzose, pink granite or dark fine-grained dolerite.

Notes Smear slide at 40.80 m = sandy mud



Cape Roberts 1

Scale 1:5

Sheet Interval 40.95 to 41.95 Sheet No. 18

Core Type HQ BOX 6 Logged by: LAK on 18/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
40.95							3	<1					SANDY MUD, SANDY MUD WITH DISPERSED CLASTS, CLAST-POOR MUDDY DIAMICT, and CLAST-RICH MUDDY DIAMICT, all olive black, massive, and poorly sorted. Note: clast numbers and %s are for extraformational clasts only. Intraformational clasts may be present, especially in fractured portions of the core, but have not been positively identified. Extraformational clasts include 3 cm dolerite at 41.43-41.46 m and 3 cm granite at 41.92-41.95 m. Remainder mostly granule to small pebble size, fine-grained dolerite, pink granite, and quartz.
41.05						6	2			5Y 2/1	C		
41.15						4	1				O		
41.25						6	2				M		
41.35						5	11				P		
41.45						6	2				A		
41.55						7	1				C		
41.65						6	1				T		
41.75						4	1						
41.85						1	25						

Notes Smear slide at 41.50 m = sandy mud

pebble size, fine-grained
 dolerite, pink granite, and
 quartz.



Cape Roberts 1

Scale 1:5

Sheet Interval 41.95 to 43.15 Sheet No. 19

Core Type HQ BOX 7 Logged by: LAK on 19/10/97

MISSING →

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Disturbance	Colour	Consolidation	Description
41.95							7	2			5Y 2/1		41.95 - 43.05 m: CLAST-POOR MUDDY DIAMICT AND CLAST-RICH MUDDY DIAMICT, olive black, poorly sorted and massive.
42.16 42.352							1	4					
42.55							6	3					C Clast-rich muddy diamict at 42.85-42.95 m.
							3	5					O
							2	4					M Gradational contact at 43.05 m with underlying
							4	4					P with underlying
42.75							4	4					A CLAST-POOR SANDY DIAMICT.
							4	2					C
							>30	20					T Maximum clast sizes ~ 1-2 cm in diameter; remains are granule to fine pebble sizes. Lithologies include p. granite, dolerite.
42.95							10	1					
43.15							1	4					

Notes Smear slide at 42.80 m = sandy mud.



Cape Roberts 1

Scale 1:5

Sheet Interval 43.15 to 44.14 Sheet No. 20

Core Type HQ BOX 7 Logged by: LAK on 19/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
43.15													43.15-43.41 m
							3	1			NI	L	and
							φ	φ				I	43.55-44.14 m:
43.35							φ	φ				T	VOLCANIC FINE SAND ^{STONE} black, moderately sorted.
43.41							φ	φ				H	Unstratified, but
43.44	↓	MISSING										F	with brecciated pattern in sandstone
	↓						7	70				I	("fitted fabric").
43.55							φ	φ				D	
							φ	φ					43.44-43.55 m:
							φ	φ					GRAVEL, composed of 7 clasts, with maximum diameter = 2 cm.
43.75							φ	φ					Lithologies include granite, volcanic-clastic sandstone.
							φ	φ					WASH-IN, at the top of a run.
43.95							φ	φ					
							φ	φ					
44.14							φ	φ					

Notes Smear slide at 43.90 = volcanic fine sand



Cape Roberts 1

Scale 1:5

Sheet Interval 44.14 to 45.14 Sheet No. 21

Core Type HQ BOX 7 Logged by: LAK on 19/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
44.14							○	○			NI		44.14 - 45.28 m: VOLCANIC FINE SANDSTONE, black, moderately sorted, and unstratified. Exhibits pattern of in situ brecciation, but without evidence of transport ("fitted fabric").
44.34													L I T H I F I E D
44.54													
44.74													
44.94													
45.14													

Notes Smear slide at 44.60 m = volcanic fine sand



Cape Roberts 1

Scale 1:5

Sheet Interval 45.14 to 46.00 Sheet No. 22

Core Type HQ BOX 8 Logged by: LAK on 19/10/97

Depth (mbsf)	Drilling distance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
45.14											5Y 2/1	C	45.14 - 46.00 m:
							1 < 1	(=)	{			P	VOLCANIC FINE SANDSTONE,
45.28												A	olive black (5Y 2/1),
												C	variably indurated, poorly sorted.
45.28												T	RESET DATUM
												O	Physical structures include weak parallel bedding, wispy lamination, and
45.50							1 < 1	(=)	{		5Y 2/1	L	rare possible microclasts. (All of these are seen within individual sst. clasts).
												I	Bioturbation evidence by low abundances of simple mm-scale burrows and larger (cm to dm length) possible burrows @ 45.75 - 45.90 m.
45.75												F	
												D	
46.00													Entire core is FINE SANDSTONE BRECCIA with sandstone broke into angular clasts 2-7 cm in length. Sandstone clast/sst

Notes Smear slide at 45.83 m = volcanic fine sandstone

Single extraformational clast (pebble, granitic,

within breccia is hi ranging from ~50% to 100% when a non 10 cm length.



Cape Roberts 1

Scale 1:5

Sheet Interval 46.00 to 47.14 Sheet No. 23

Core Type HQ BOX 8 Logged by: LAK on 19/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
46.00													46.00 - 47.41 m:
											SY 2/1	C O M	VOLCANIC FINE SILTY SANDSTONE, olive black, poorly to moderately sorted
46.20													Entire interval is BRECCIATED VOLC. FINE SILTY SANDSTONE discussed further below
46.40													Within sandstone clasts:
													1.) Physical structures primarily are weakly developed "wispy" (laterally discontinuous) lamination.
46.60			BREAK										2.) Fossils include calcareous molds of 5 individuals at 46.08 - 46.15 m -- forams?, ostracods?
46.84											SY 2/1	E D	3.) Bioturbation evidenced by simple mm-scale color mottling.
46.99													
47.14													BRECCIA: Matrix composed of disaggregated

Notes Smear slide at 46.95 m = volcanic silty fine sandstone

● = wispy lamination (weak, laterally discontinuous lamination)

volc. silty fine sandstone
Ratio of clasts/m ranges from 50% to 90%. Clasts are an...



Cape Roberts 1

Scale 1:5

Sheet Interval 47.14 to 48.14 Sheet No. 24

Core Type HQ BOX 8 Logged by: LAK on 19/10/97

Depth (mbsf)	Drilling distance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	bioturbation	Colour	Consolidation	Description
47.14	/										54 Z/1	C O M P A C T	47.14-48.14 m: CLAYEY SANDSTONE olive black, poorly sorted, and compact to lithified.
47.34	/											T O	Entire interval is CLAYEY SANDSTONE BRECCIA, described below.
47.54	/											L I T H	Within individual sst. clasts, major feature is simple mm-scale color mottling, interpreted to represent minor to moderate bioturbation.
47.74	/											F I E D	Some color patterns, however, may also represent vertically and laterally discontinuous deposition ("wispy" lamination).
47.94	/											D	BRECCIA: Sst. clasts are angular, few mm to 5-10 cm in size. Matrix is derived from this clayey sst. Ratio of clasts/matrix varies 50% - 90% within intervals of the
48.14	/												

Notes Smear slide at 47.74 m = clayey sandstone

core that are not highly fragmented! drilling.



Cape Roberts 1

Scale 1:5

Sheet Interval 48.14 to 49.24 Sheet No. 25

Core Type HQ BOX 9 Logged by: LAK on 19/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
48.14											5Y 2/1	C	48.14-49.24 m:
48.20												O	SANDY MUDSTONE
48.30												M	olive black, poorly sorted, compact to lithified.
48.44											5Y 2/1	P	Entire core is SANDY MUDSTONE BRECCIA, best seen in slightly fractured or unfractured pieces as described below.
48.64												A	
48.84												T	Within discrete clasts of sandy mudstone, major features are widespread mm-scale, simple burrow mottles. In sandstone clasts at 48.30-48.50 horizontal burrow traces are continuous across core face.
49.04												L	
49.24												H	
												I	
												F	
												E	
												D	
													BRECCIA: Entire interval is SANDY MUDSTONE BRECCIA, with matrix derived from this mudstone. Clast/matrix ratios in least fragmentary intervals range from 60% to 100%. Clasts

Notes Smear slide at 48.90 m = Sandy mudstone

are angular, range from few mm to 10-20 cm in size.



Cape Roberts 1

Scale 1:5

Sheet Interval 49.24 to 50.23 Sheet No. 26

Core Type HQ BOX 9 Logged by: LAK on 19/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
49.24	↓										SY 2/1	C	49.24 - 49.34:
49.34	↓											O	DOWNHOLE CONTAMINATION AT TOP OF RUN.
49.44	↓											M	
	↓											P	
	↓											A	
	↓											C	49.34 - 50.23 m:
	↓											T	SANDY MUDSTONE, olive black, poorly sorted, variably lithified. Entire interval is SANDY MUDSTONE BRECCIA
49.64	↓											L	
	↓											I	
	↓											T	
	↓											H	Simple, 1-5 mm scale burrow mottling is major sedimentary structure, distributed in abundances < 30% throughout core.
49.84	↓											F	
	X											I	
	X											E	
	X											D	
	↓												<u>BRECCIA:</u>
50.04	↓												Matrix & clasts are both intraformational. In unfragmented intervals the clast/matrix ratio is high, 50-90%. Clasts are angular, range in size from few mm to
	↓												
	↓												
	↓												
50.23	↓												

Notes Smear slide at 50.00 m -- sandy mud



Cape Roberts 1

Scale 1:5

Sheet Interval 50.23 to 52.64 Sheet No. 27

Core Type HQ BOX 9 Logged by: LAK on 19/10/9

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Biolurbation	Colour	Consolidation	Description
50.23/51.33	↓		///	///	///	///					54 2/1	C O M P A C T	50.23 - 52.64 m: SANDY mudstone, olive black and highly fractured in most of this core.
	↓		///	///	///	///						T O	51.33 - 51.66 m and 52.31 - 52.54 m are down hole contamination at tops of runs - primarily pebbles/cobbles of this sandy mudstone although minor extraterritorial clasts are also present.
	↓		///	///	///	///						L I T H I F I E D	51.66 - 51.76 m = least fractured portion of core. Sandy mudstone with common burrow mottling, simple forms 0.3 - 0.7 cm in diameter. Evidence of pre- drilling brecciation not obvious in this core, because of strong drilling overprint.
52.00/52.31	↓		///	///	///	///							
	↓		///	///	///	///							
	↓		///	///	///	///							
	↓		///	///	///	///							
	↓		///	///	///	///							
	↓		///	///	///	///							
52.64	X		///	///	///	///							

Notes



Cape Roberts 1

Scale 1:5

Sheet Interval 52.64 to 53.60 Sheet No. 28

Core Type HQ BOX 10 Logged by: LAK on 19/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Biurbation	Colour	Consolidation	Description
52.64	X		/				φ	φ		4	5Y 2/1 to 5Y 4/1	FIRM TO LITHIFIED	52.64-53.11 m: CLAYEY SILTSTONE olive black to olive gray, poorly sorted, and slightly to moderately bioturbated
	X		/				φ	φ		4	(11) 5Y 3/1		
	X		/				φ	φ		4			
	X		/				φ	φ		4			
52.86	X		/				φ	φ		4			
	X		/				φ	φ		4			
	X		/				φ	φ		4			
	X		/				φ	φ		4			
53.11	X		/										
53.30	X		/										
	X		/										
	X		/										
	X		/										
	X		/										
53.60													

53.30-53.60 m:
SILTSTONE, olive gray and moderately sorted. Slightly to moderately bioturbated with weakly developed cm-scale bedding in lower half of large piece at 53.50-53.60m

Notes Smear slide at 53.00 = clayey silt



Cape Roberts 1

Scale 1:5

Sheet Interval 53.60 to 54.55 Sheet No. 29

Core Type HQ BOX 10 Logged by: LAK on 19/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Disturbance	Colour	Consolidation	Description
53.60	\						φ	φ			5Y 4/1	LITHIFIED	53.60 - 53.70 m SILTSTONE, olive gray and moderately sorted.
	\												
	X												
	X						1	<1			5Y 2/1	COMPACT	53.70 - 54.55 m: CLAYEY SILTSTONE to CLAYEY SILTSTONE WITH DISPERSED CLASTS, olive gray to olive black, and poorly sorted.
53.80	⊥						φ	φ			to 5Y 4/1		
	X												
	X												
	X						φ	φ					
54.00	X												Bioturbated slightly to moderately throughout with mm-scale color mottling. Discrete cm-scale, laterally continuous burrows at 54.10 to 54.30 m.
	X						1	<1				LITHIFIED	
	X						φ	φ	○				
54.20							φ	φ	○				Extraformational clasts, mostly coarse sand to granule size, widely dispersed through interval but coarse sand clasts become more abundant downcore. Clasts mostly dark fine-grained dolerite.
							φ	φ					
54.40													Clayey siltstone clasts also observed at 54.15-54.35 angular to rounded, with relatively low clast/matrix ratio.
	X						1	<1					
54.55	X												

Notes Smear slide at 54.00 = ~~silt~~ clayey siltstone



Cape Roberts 1

Scale 1:5

Sheet Interval 54.55 to 55.51 Sheet No. 30

Core Type HQ BOX 10 Logged by: LAK on 19/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
54.55	X										5Y		54.55-55.51 m:
	X						φ	φ			2/1		CLAYEY SILTSTONE,
	X										to		CLAYEY SILTSTONE
	X										5Y		WITH DISPERSED CLAST
							4	<1			4/1		CLAST-POOR CLAYEY
54.75													SILTSTONE DIAMICTITE
													and CLAST-RICH CLAY
							3	<1					SILTSTONE DIAMICTITE
													olive black to olive
							2	2					gray, and poorly sort
	X												
	X												
	X						φ	φ					BIOTURBATION INDICATED
55.00	X												H BY GENERAL MM-SCALE
55.21							1	80					I COLOR MOTTLING & LARGE
													F (FEW MM - 1 CM)
							2	20					I DISCRETE HORIZONTAL
													E TRACES AT 54.74 m, &
													D 54.83 m (FAINT)
													Well-defined laminae
							4	<1					of white & dark within
													olive gray matrix @
55.51													55.35-55.40 m, with
													few coarse sand clasts
													broken by normal fault
													that appears to extend
													up to base of dolerite c
													? Faulted by dropstone my
													Large clasts: 12 cm
													dolerite at 55.21 -
													55.33 m; 1 cm dolerite
													at 54.91-54.92 m.

Notes Smear slide at 54.75 m = clayey siltstone

Weakly defined mm-scale laminae of fine grained dark material & medium/coarse sand grains



Cape Roberts 1

Scale 1:5

Sheet Interval 55.51 to 56.51 Sheet No. 31

Core Type HQ BOX 11 Logged by: LAK on 20/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
55.51													55.51-56.51 m: Predominant (scale) CLAYEY SILTSTONE CLAYEY SILTSTONE to CLAST-POOR MUDDY DIAMICTITE, olive black (5Y 2/1) and poorly sorted, with faint mm-scale burrow mottling, especially below 55.95 m.
55.71							4	5	cm		5Y 2/1	COMPACT	
							6	2	cm				
							7	10					
							7	30					
55.91							7	30					Interbedded in 1 cm-scale with black MUDDY SANDSTONE between 55.59-55.67 m.
							7	30					Muddy sandstone contains medium/coarse sand grains + most of the larger clasts in that interval.
							7	30					
56.11							Φ	Φ					Contorted intervals of MUDDY SANDSTONE to CLAST-POOR SANDY DIAMICTITE at 55.67-55.71, 55.71-55.76, and 55.76-55.8 m separated by sharp inclined to irregular contacts.
							Φ	Φ					
56.31							Φ	Φ					
56.51							1	4					CLAYEY SILTSTONE is BRECCIA BRECCIA from 55.85 to 56.06 m, possibly in 2 or 3 distinct intervals; and below 56 m wispy laminations rare common below 56.06 m; possible ripple cross-laminations at c

Notes Smear slide @ 56.29 = clayey siltstone

Loaded contact at 56.48 m;

Intervals; and below 56 m wispy laminations rare common below 56.06 m; possible ripple cross-laminations at c



Cape Roberts 1

Scale 1:5

Sheet Interval 56.51 to 57.56 Sheet No. 32

Core Type HQ BOX 11 Logged by: LAK on 20/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
56.51							20	80			5Y	C	56.51-57.56 m:
							NONE	φ	(wavy)		2/1	O	SILTY CLAYSTONE, olive black to greenish black, moderately to poorly sorted.
56.71											to	A	SILTY CLAYSTONE BRECCIA at 56.51-56.91 m.
									(wavy)		5G	T	SILTY CLAYSTONE CONGLOMERATE with intraclasts, ~5 mm φ and rounded, in zone at 56.93-56.98 m.
56.91							>10	80	o			L	
							φ	φ				I	Mm-scale simple burrow mottling, common to moderate abundance throughout.
57.11									(wavy)			E	Wispy lamination present in low abundance throughout interval.
	X											D	
	X												
	X												
57.30	X												
57.36													
57.56													

Notes Smear slide at 56.82 m = silty clay



Cape Roberts 1

Scale 1:5

Sheet Interval 57.56 to 58.56 Sheet No. 33

Core Type XQ BOX 11 Logged by: LAK on 20/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Disturbance	Colour	Consolidation	Description
57.56							NONE	0		⚡	5Y 2/1	E	CLAYEY SILTSTONE
57.76							NONE	0		⚡		O	57.56-57.83 m
57.96							70	80		⚡		M	57.92-58.56 m.
58.16							0	0		⚡		P	Olive black, poorly sorted, and bioturbated throughout with simple mm-scale burrows. Wispy laminae also present throughout core.
58.36							0	0		⚡		A	SANDSTONE lenses and layers > 0.5 cm thick at 57.59 m, 57.83 m (with loaded base), 58.05 m, 58.17m, and 58.40m.
58.56										⚡		C	Thin (~1-2 mm) sand laminae, some with microload bases, occur rarely through the core.
										⚡		T	CLAYEY SILTSTONE BRECCIA at 57.83-57.92 m (< 2 cm thick)
										⚡		O	Thin brecciated zone below sharp contact at 58.02 m.

Notes Smear slide at 58.13 = clayey siltstone

= sand lens = thin sand layer (~7 mm thick)



Cape Roberts 1

Scale 1:5

Sheet Interval 58.56 to 59.58 Sheet No. 34

Core Type HQ BOX 12 Logged by: LAK on 20/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
58.56							φ φ			4	SY 2/1	L	58.56 - 59.58 m: COARSE SILTSTONE, olive black and weakly bioturbated. No significant structures observed, except possible rare wispy laminations?
58.76							φ φ			4			
58.96							1 φ	10	0	4			
59.16	X X X						φ φ		0	4			Mudstone clasts at 58.88-58.90 m, 59.25 m, 59.27-59.29
59.36	X						2	3	0	4			
59.40	X						φ φ			4			
59.45							φ φ			4			
59.58							φ φ			4			

Notes Smear slide at 58.96 m =



Cape Roberts 1

Scale 1:5

Sheet Interval 59.58 to 60.56 Sheet No. 35

Core Type HQ BOX 12 Logged by: LAK on 20/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Biurbation	Colour	Consolidation	Description
59.58		FAST TRACK SAMPLE											59.58 - 59.68 m: Fast track sample
		STRENGTH TEST											59.68 - 59.78 m: Strength test
59.78							1	41			SY 2/1	L	59.78 - 60.47 m: SILTY FINE SANDSTONE, olive black and bioturbated, with mm-scale simple burrow mottles. Parallel-laminated gray fine sandstone clasts at 60.04, 60.34-60.36, and Gray fine sandstone also forms thin matrix between
59.98							φ	φ	~~~~~			I	Parallel-laminated gray fine sandstone clasts at 60.04m (well rounded), 60.34-60.36 (angular), and 60.47-60.56 m (5 clasts, angular). Same material forms thin veins/matrix
60.18							φ	φ				E	
							φ	φ				D	
60.38							1	2					Discrete horizontal burrow at 59.94m
							φ	φ	~~~~~				between brecciated sandstone clasts at 60.37-60.47m.
60.56							5	60					disrupted/brecciated olive black sandstone material at 60.37-60.47m.

Notes Smear slide at 60.02m = Silty fine sandstone

60.47 - 60.56 m:
SANDSTONE BRECCIA, olive black fine sst. matrix (~40%) with gray parallel



Cape Roberts 1

Scale 1:5

Sheet Interval 60.56 to 61.82 Sheet No. 36

Core Type HQ BOX 12 Logged by: LAK on 20/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
60.56							3	<1	●		5Y 2/1	L	60.56-61.14 m:
							710	2	○			T	FINE TO MEDIUM SANDSTONE, moderately sorted and slightly bioturbated.
60.76							φ	φ				F	Small bedrock clasts (dolerite, granite) in upper 10 cm.
												C	~3 cm thick MUDSTONE BRECCIA at 60.76-60.79 m. MUDSTONE
60.96												A	clasts are rounded, ~5 mm φ, and closely packed.
												T	
												O	
60.14												N	
61.46							18	25	●		5Y 2/1		61.46-61.82 m:
													CLAST-POOR SANDY DIAMICTITE, CLAST-RICH SANDY DIAMICT
61.58							20	10	○				grading to FINE SANDSTONE WITH SILT AND CLAY below 61.6
							2	2	○				Clasts include granite & red & black fine-gran dolerite. Largest clast 4 cm x 1.5 cm, well-rounded reddish dolerite.
61.82							φ	φ	(≈)				Remainder of clasts average ~ 0.5 = 0.7 cm

Notes Smear slides at 60.94 m = fine to medium sandstone
 at 60.75 m = fine sandstone with silt and clay
 Muddy intervals at 61.60-61.62 m and 61.67-61.69 m may be deformed wispy laminations



Cape Roberts 1

Scale 1:5

Sheet Interval 61.82 to 62.82 Sheet No. 37

Core Type HQ BOX 13 Logged by: LAK on 20/10/97

Depth (mbsf)	Drilling distance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Disturbance	Colour	Consolidation	Description
61.82							1	41			5Y 2/1	L	61.82-62.82 m: MUDDY SANDSTONE WITH DISPERSED CLASTS
							7	1	•			T	CLAST-POOR SANDY DIAMICTITE, CLAST-RICH SANDY DIAMICTITE, & MUDDY SANDY CONGLOMERATE
62.02							>20	30	• •			I	SANDSTONE WITH DISPERSED CLASTS
							5	25	•			F	at 62.07-62.22 m, CLAST-RICH MUDDY DIAMICTITE.
62.22							>10	15	•			E	All are olive black, poorly sorted, and occur as intervals
							70	60	• • •			D	5-20 cm thick with irregular, sharp to gradational contacts.
62.42							15	10					Interval at 62.02-62.42 m contains abundant large angular intraformational clasts.
							13	7	•				Clast lithologies in other intervals include granite, dolerite, red McMurdo volcanics (@ 62.39 m).
62.62							16	3	•				Average pebb clast size ~ 1 cm φ.
62.82							3	41					

Notes Smear slides at 62.12 m = very silty clay
 61.94 m = silty sandstone



Cape Roberts 1

Scale 1:5

Sheet Interval 62.82 to 65.20 Sheet No. 38

Core Type HQ BOX 13 Logged by: LAK on 20/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
62.82													62.82 - 63.22 m:
							6	41	mm		5Y 2/1	L	Muddy sandstone with dispersed clasts and clast-rich sandy diamictite, olive black and poorly sorted.
63.02							13	40				F	mm-thick individual sand laminae spaced ~1.5 cm apart at 62.82-62.92 m.
63.22	X						12	35				E	
	X											D	Largest clast is angular dolerite, ~10 cm x 5 cm, at 63.08 - 63.18 m. Other clasts are dolerites and granites, average size ~1 cm φ.
63.42									mm		5Y 4/1		
63.50									mm				63.22 - 65.20 m:
64.90	X												<u>SILTY SANDSTONE</u> , olive black to olive gray. Abundant stratification at 1-5 m scale from 63.22 to 63.50 m; homogenized by drilling below 63.50 m. Stratification
65.20	X												types include low angle laminations

Notes



Cape Roberts 1

Scale 1:5

Sheet Interval 65.20 to 66.30 Sheet No. 39

Core Type HQ BOX 13 Logged by: LAK on 20/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Biurbation	Colour	Consolidation	Description
65.20	X							0			5Y		65.20 - 66.30 m:
	X										2/1	L	SILTY SANDSTONE,
	X											I	olive black,
	X											T	Well-stratified below
	X											H	64.50 m, but
65.40	/											F	homogenized by
65.50	+											F	drilling at 65.20 -
	+											F	65.40 m.
	+											F	At 65.50 - 66.30 m,
	+											F	have abundant
65.70	+											F	mm-scale parallel
	+											F	lamination and
	+											F	rare-to-common
	+											F	low angle stratifica
	+											F	Deformed bedding
65.90	+											F	and soft-sediment
	+											F	deformation structure
	+											F	occur in zones at:
	+											F	65.85 - 65.90 m,
	+											F	65.97 - 66.02 m,
	+											F	66.05 - 66.10 m,
66.10	+											F	and 66.20 - 66.25 m
	+											F	
	+											F	
66.30	+											F	

F - 100% sandstone

Notes



Cape Roberts 1

Scale 1:5

Sheet Interval 66.30 to 67.27 Sheet No. 40

Core Type HQ BOX 14 Logged by: LAK on 21/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
66.30			diagonal lines	diagonal lines	diagonal lines	diagonal lines	NONE	0		⌋	5Y		66.30 - 66.55 m
			diagonal lines	diagonal lines	diagonal lines	diagonal lines	NONE			⌋	2/1		and
			diagonal lines	diagonal lines	diagonal lines	diagonal lines	NONE			⌋			66.75 - 67.27 m:
66.45	X		diagonal lines	diagonal lines	diagonal lines	diagonal lines				⌋			SILTY SAND ^{STONE} , olive black and poorly sorted.
	/		diagonal lines	diagonal lines	diagonal lines	diagonal lines				⌋			mm-scale simple burrow mottling at 66.30 - 66.55 m, and discrete horizontal burrows at 66.39 and 67.25 m.
66.70	/		diagonal lines	diagonal lines	diagonal lines	diagonal lines				⌋			Zones with soft sediment deformation/distorted bedding at 66.82 - 66.88 m and 66.95 - 67.24 m.
80	/		diagonal lines	diagonal lines	diagonal lines	diagonal lines			~~~~~	⌋			Faint mm-scale lamination at 66.88 - 66.95 m.
66.90	/		diagonal lines	diagonal lines	diagonal lines	diagonal lines			(=)m	⌋			
	/		diagonal lines	diagonal lines	diagonal lines	diagonal lines			~~~~~	⌋			
67.10	/		diagonal lines	diagonal lines	diagonal lines	diagonal lines				⌋			66.55 - 66.75 m:
	/		diagonal lines	diagonal lines	diagonal lines	diagonal lines				⌋			SANDY MUD ^{STONE} WITH DIATOMS, olive black and bioturbated.
20	/		diagonal lines	diagonal lines	diagonal lines	diagonal lines				⌋			
67.27	/		diagonal lines	diagonal lines	diagonal lines	diagonal lines				⌋			

Notes Smear slides at 66.60m = Sandy mud with diatoms
 67.10m = Silty sand



Cape Roberts 1

Scale 1:5

Sheet Interval 67.27 to 68.26 Sheet No. 41

Core Type HQ BOX 14 Logged by: LAK on 21/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
67.27													
37							NONE	0			5Y 2/1	L	67.27-67.40 m and 67.71-68.26 m:
67.47	I											T	SILTY SANDSTONES, olive black and poorly sorted.
												F	Bioturbated above 67.40 m, homogenized by drilling below 68.05 m.
67.67												E	D Interval 67.71-68.05 composed of 4 or 5 repetitions of
77									(=)mm				(≡)mm weakly bedded gradational
67.87									Ω				deformed; sharp b
									(=)mm				Each repetition ~ 5-15 cm thick.
									Ω				
									(=)mm				
									Ω				
68.05													67.40-67.71 m:
68.11	X												SILTY CLAYSTONE WITH DIATOMS, olive black & burrowed.
	X												
68.26	X												

Notes



Cape Roberts 1

Scale 1:5

Sheet Interval 68.26 to 69.35 Sheet No. 42

Core Type HQ BOX 14 Logged by: LAK on 21/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Biurbation	Colour	Consolidation	Description
68.26													
68.26 - 68.78 m & 69.20 - 69.35 m							NONE	φ	(=) mm	⚡	SY 2/1	L	SILTY SANDSTONE, olive black and poorly sorted.
68.47										⚡		I	Weakly developed lamination and bioturbation (simple mm-scale burrows) at 68.26-68.78 m.
68.67										⚡		F	Bioturbated (simple mm-scale burrows) at 69.20-69.35 m.
68.78										⚡		D	Both intervals are BRECCIATED, with large angular clasts and high clast/matrix ratio.
68.92	?						>30	90	○				
	X												
	?						>30	90	○				
	X												
	?						>30	90	○				
	X												
	?						>30	90	○				
69.35							φ	φ		⚡			

68.92 - 69.20 m:
 SILTY SANDSTONE
 PEBBLE CONGLOMERATE
 olive black. Intraformational clasts of silty sst, rounded, with average size of 3-7 mm, and high clast/matrix ratio

Notes



Cape Roberts 1

Scale 1:5

Sheet Interval 69.35 to 70.35 Sheet No. 43

Core Type HQ BOX 15 Logged by: LAK on 21/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
69.35											SY 2/1		② 69.57-69.94 m: SILTY CLAYSTONE WITH DIATOMS, olive black, bioturbated.
69.55													① 69.35-69.57 m: SILTY CLAY INTRAFORMATIONAL CONGLOMERATE with high clast/matrix ratio. Clasts range from rounded, small pebble-size to angular 1-3 cm in length.
69.75													
69.95													③ 69.94-70.10 m: Well-stratified interval with thicker (5mm to 2cm thick) siltstone (olive black to olive gray) interbedded with thinner (1-5mm) black fine sandstones. Sands range from lenticular to laterally continuous across core face, and show slight surface rippling and microloading.
70.00													
70.15													
70.35													Inclination & depositional dip of 20°. Microfault

Notes Smear slide at 69.74 m = silty clay^{stone} with diatoms

⑤ 70.27-70.35 m: Deformed

④ 70.10-70.27 m: Deformed siltstone, with contorted laminations and minor weak brecciation



Cape Roberts 1

Scale 1:5

Sheet Interval 70.35 to 72.54 Sheet No. 44

Core Type HQ BOX 15 Logged by: LAK on 21/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description	
														0.00-0.05
70.35											5Y 2/1	L	70.35-72.54 m: SILTY SANDSTONE olive black and poorly sorted.	
70.55									↑ ↓	UNKNOWN		E		
70.76									↓				D	70.35-70.68 m: Syn-depositional or early post-depositional deformation evident - contorted laminations, etc.
70.90	X								↑					70.68-70.90 m: More intensely deformed than above, + evidence of partial homogenization during drilling.
72.14	X								↓				C	
72.34	X													72.14-72.54 m: Homogenized during drilling.
	X												S	
	X												O	
	X												F	
72.54	X													T

Notes



Cape Roberts 1

Scale 1:5

Sheet Interval 72.54 to 73.95 Sheet No. 45

Core Type HQ BOX 15 Logged by: LAK on 21/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Biurbation	Colour	Consolidation	Description
72.54											SY 2/1	L I T H I F I E D	72.54 - 73.95 m: SILTY SANDSTONE, olive black and poorly sorted.
72.74									(=) _{em}				Variable extent of homogenization by drilling.
72.92 73.43	X											S	72.54 - 72.68 m = "massive" - may have been deformed by drilling.
73.60	X											F	72.68 - 72.71 m = weakly bedded sandstone & siltstone, cm-scale.
73.75	X											T	72.68 - 72.87 m = as at 72.54 - 72.68
	X												72.87 - 72.92 m -- sandy siltstone and sandstone stratified interval
	X												black sandstone siltstone black sandstone
73.95	X												73.43 - 73.95 m = Homogenized by drilling

Notes Smear slide at 73.55m = silty sandstone



Cape Roberts 1

Scale 1:5

Sheet Interval 74.13 to 75.26 Sheet No. 46

Core Type HQ BOX 16 Logged by: LAK on 21/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Disturbance	Colour	Consolidation	Description	
74.13							70	1	↑		SY 2/1	L	74.13 - 74.51 m: SILTY SANDSTONE, olive black & poorly sorted. Originally laminated at mm-scale (parallel laminations, not varve-like laminations, but subsequently deformed plastically and partially homogenized.	
74.33						3	<1	↑				L I T H I F I E D		
						3	<1	↓						
74.53	X					2	<1	↓						
	X					1	1							
74.65	X													
74.83		YELLOW SPACER - NOT A	SPACER - NOT A SAMPLE											74.51 m = Sharp contact with underlying SILTY SANDSTONE WITH DISPERSED CLASTS, olive black and poorly sorted. Clasts throughout this core are primarily dark fine-grained dolerite. Max. size = 1 cm; average size 2-3 mm. Many Coarse sand-sized grains of the dolerite are common.
						2	<1							
						4	<1							
75.06						4	<1							
						2	<1							
75.26														

Notes Smear slide at 74.91 m = SILTY SANDSTONE



Cape Roberts 1

Scale 1:5

Sheet Interval 75.26 to 76.26 Sheet No. 47

Core Type HQ BOX 16 Logged by: LAK on 21/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Disturbance	Colour	Consolidation	Description
75.26													75.26-76.26 m:
							1	<1	•		5Y 2/1	L	SILTY SANDSTONE
												I	to SILTY SANDSTONE
							1	<1	•			T	WITH DISPERSED
												H	CLASTS, olive black
75.46												I	and poorly sorted.
							φ	φ				F	Simple mm-scale
												I	burrow mottles through
							φ	φ				E	discrete (but faint)
							φ	φ				D	horizontal burrows
75.66									↑				in interval 75.62-
							φ	φ	↑				75.79 m.
							1	<1	•				Clasts entirely dark,
									↓				fine-grained dolerite;
75.86													largest is very angular,
							φ	φ					1 cm X 5 mm clast
													at 76.10 m.
							φ	φ					
76.06							3	1	•				
							φ	φ					
76.26													

Notes



Cape Roberts 1

Scale 1:5

Sheet Interval 76.26 to 77.22 Sheet No. 48

Core Type HQ BOX 16 Logged by: LAK on 21/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	bioturbation	Colour	Consolidation	Description
76.26											5Y 4/1		<p>76.26 - 77.22 m:</p> <p>CLAYEY SILTSTONE, olive gray, moderately bioturbated with mm-scale burrow mottling, and few outsized clasts.</p> <p>Other than bioturbated structures, this interval is "massive".</p> <p>Also rare MUDSTONE WITH DISPERSED CLASTS.</p>
							φ	φ					
							φ	φ					
76.46	↓						φ	φ					
	┆						φ	φ					
	┆						φ	φ					
	┆						φ	φ					
76.66	┆						2	<1	•				
	┆						φ	φ					
	┆						φ	φ					
76.80	┆						φ	φ					
76.82	┆						φ	φ					
	┆						φ	φ					
	┆						φ	φ					
	┆						φ	φ					
77.22	┆												
		EMPTY -- WHITE SPACER											

Notes Smear slide @ 76.50 m = CLAYEY SILTSTONE




Cape Roberts 1

Sheet Interval 77.22 to 78.25 Sheet No. 49

Scale 1:5

Core Type HQ BOX 17 Logged by: LAK on 21/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
77.22	///		///				○	○			SGY 4/1	L	77.22 - 78.25 m
	///		///									T	SILTY CLAYSTONE
	///		///									H	dark greenish-gray, mottled with mm- scale simple burrow throughout.
77.42	///		///									F	Discrete horizontal burrow at 77.64m
			///									E	Discrete horizontal No physical sediment structures or bedding observed.
77.62			///									D	
			///										
77.82			///										
			///										
78.02	///		///										
	///		///										
78.15	///		///				↓	↓					
78.25													

FAST TRACK SAMPLE

78.15 - 78.25 m

Notes Smear slide at 77.44 m = SILTY CLAYSTONE




Cape Roberts 1

Scale 1:5

Sheet Interval 78.25 to 79.25 Sheet No. 50

Core Type HQ BOX 17 Logged by: LAK on 21/10/97

Depth (mbsf)	Drilling distance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
78.25							0	0		4	SGY	L	78.25 - 78.70 m and 78.74 - 78.78 m
										4	4/1	I	SILTY CLAYSTONE,
										4		T	dark greenish gray and bioturbated
78.45										4		H	with simple mm-scale burrow mottling.
										4		I	
										4		F	78.70 - 78.74 m:
										4		I	SILTY SANDSTONE,
										4		E	dark greenish gray.
78.65										4		D	78.78 - 78.85 m:
										4			Transitional zone, from SILTY SANDSTONE ^{SILTY CLAYSTONE} above to below.
78.85							3	41					
							13	10			5Y		78.85 - 79.25 m
											2/1		SILTY SANDSTONE to CLAST-RICH SAND
							6	41					DIAMICTITE, olive black and poorly sorted. Possible cm-scale diffuse stratification at 79.10 - 79.20 m.
79.05							4	5	()				Concentration of granules & coarse sand @ 78.8
							0	0					Clasts include granite (large clasts), fine-gr.
79.25													dolerite (1 cm) ^g ; "pink granite" coarse sand; ^g gtz.

Notes See sketch

↑ - r



Cape Roberts 1

Scale 1:5

Sheet Interval 79.25 to 80.25 Sheet No. 51

Core Type HQ BOX 17 Logged by: LAK on 21/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
79.25									↑		5Y 2/1	L	79.25 - 79.55 m and
							φ	φ	}}			I	79.75 - 80.25 m:
									+			H	SILTY SANDSTONE,
							φ	φ	↓			I	olive black and
79.45									↓			F	poorly sorted,
									(=)			I	with dispersed
							3	<1				E	clasts (small, <3mm
												D	in some intervals.
													Disturbed laminations
							70	80	○				and soft sediment
79.65													deformation @
							70	80	○				79.25 - 79.43 m.
													"Massive" sandstone
													79.43 - 79.48 m.
							φ	φ	(≈)				SILTY SST. WITH
79.85													DISPERSED CLASTS @
							φ	φ					79.48 - 79.54 m, with
													faint laminations.
													SILTY SST INTRA-
							2	<1					FORMATIONAL
													CONGLOMERATE @
80.05													79.55 - 79.75 m,
							2	<1					with clasts averaging
													7-10 mm φ, rounded
													and clast/matrix
							φ	φ					ratio ~ 70% clasts.
80.25													79.95 - 80.00 m =
													SILTY SANDSTONE,

Notes Smear slide at 79.48 m = Silty sandstone

possibly brecciated, with rare wispy laminations.
80.00 - 80.25 m = bioturbated



Cape Roberts 1

Scale 1:5

Sheet Interval 80.25 to 81.25 Sheet No. 52

Core Type HQ BOX 18 Logged by: LAK on 21/10/97

Depth (mbsf)	Drilling distance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Disturbance	Colour	Consolidation	Description
80.25													
							φ φ			⌋	5Y 2/1	L	80.25-81.25 m:
							φ φ			⌋		T	SILTY SANDSTONE,
80.45	X											A	olive black and
	X											F	poorly sorted, with
	X											E	dolerite cobble clast
												D	at 80.51-81.16 m.
													Maybe have been
80.65													syndepositionally
													brecciated at
													80.25-80.43 m.
80.85													
81.05													
81.25							φ φ			⌋			

Notes



Cape Roberts 1

Scale 1:5

Sheet Interval 81.25 to 82.25 Sheet No. 53

Core Type HQ BOX 18 Logged by: LAK on 21/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bedurbation	Colour	Consolidation	Description
81.25							φ	6		~	SY 2/1	L	SILTSTONE, olive black and disturbed to varying extent in much of this core; 81.25-81.48m 81.25-81.48m -- May be brecciated 81.48-81.53m -- INTRAFORMATIONAL CONGLOMERATE, with rounded clasts 5-7mm φ. 81.53-81.83m --
81.45						φ	6		~		H		
						22	8	0		~		F	
81.65						φ	φ			~		E	
		STRENGTH TEST 81.68-81.80m											brecciated, with possible INTRAFORMATIONAL CONGLOMERATE at 81.81-81.83m (more matrix).
82.85							φ	φ		~			81.83-81.95m = ~"massive"
							φ	φ		~			81.95-82.12m = brecciated
82.05							φ	φ		~			82.12-82.25m = "massive"
82.25							φ	φ		~			

Notes Smear slide at 82.20m = SILTSTONE



Cape Roberts 1

Scale 1:5

Sheet Interval 82.52 to 83.70 Sheet No. 54

Core Type HQ BOX 18 Logged by: LAK on 21/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
82.75													SILTY SANDSTONE, olive black and poorly sorted, with varying degrees of post-depositional modification.
82.45							70	90	○				
82.64	X												
83.12	X	YELLOW SPACER											
83.35													82.25-82.37m = INTRAFORMATIONAL CONGLOMERATE, with clasts rounded to angular, range in size from granule to ~3 cm φ
45													82.37-82.55m = BRECCIATED
55													82.55-82.60m = INTRAFORMATIONAL CONGLOMERATE
65													83.12-83.70m = BRECCIATED, to varying extent, throughout this interval.
83.70													

Notes Smear slide at

Extra for matinal clast @ 83.43 m = fine-grained dolerite, rounded ~6 mm φ



Cape Roberts 1

Scale 1:5

Sheet Interval 83.70 to 84.70 Sheet No. 55

Core Type HQ BOX 19 Logged by: LAK on 21/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Disturbance	Colour	Consolidation	Description
83.70	X						N	0			5Y 4/1		83.70 - 84.70 m:
83.75	X						N	0			to 5Y 2/1		Olive black to olive gray silty sandstone, grading downcore to clayey siltstone. Brecciated, and deformed as desc.
83.90													83.70 - 84.06 m: brecciated
84.00													84.06 - 84.55 m:
84.10							1	1					"Massive", although slightly fractured, with thin white (calcite?) veins running vertically at 84.13-84.20 m 84.13-84.20 m and 84.33-84.40 m
84.30													84.55 - 84.70 m:
84.50													Brecciated, with angular clasts up to 4 cm max.
84.70													

Notes



Cape Roberts 1

Scale 1:5

Sheet Interval 84.70 to 85.78 Sheet No. 56

Core Type HQ BOX 19 Logged by: LAK on 21/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
84.70							NONE	0			5Y 4/1 to 5Y 2/1		84.70-85.78 m: CLAYEY SILTSTONE WITH DIATOMS, olive black to olive gray.
84.90	X												84.70-84.90m: Brecciated in place
84.97	X	YELLOW SPACER											85.00-85.78 m: Bioturbated, with mm-scale simple burrow mottles. Otherwise "structural" although some evidence of possible widely spaced healed fractures. Mudstone clast at 85.28 m. Dolerite clast at 85.49 m.
85.08													
85.28													
85.48													
85.78													

Notes Smear slide at 85.30m = CLAYEY SILTSTONE WITH DIATOMS



Cape Roberts 1

Scale 1:5

Sheet Interval 85.78 to 86.78 Sheet No. 57

Core Type HQ BOX 19 Logged by: LAK on 21/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Biurbation	Colour	Consolidation	Description
85.78							φ	φ					85.78 - 85.95 m: CLAYEY SILTSTONE, massive.
							φ	φ	?			L	
85.98							φ	φ				T	85.95 - 85.90 m: SANDSTONE, with sharp base and sharp top, relatively massive, but with some indication of soft-sediment deformation.
							φ	φ				H	
												F	
86.13							1	4				I	
							5	1				E	85.90 - 86.78 m: SILTY SANDSTONE, olive gray to olive black, poorly sorted and massive. Simple mm-scale burrow mottling thr. Dropstones at 86.20 - 86.22 m - dolerites;
							φ	φ				D	86.54 m - granite;
86.38							φ	φ					86.57 m - dolerite. All < 1 cm φ.
							2	4					
86.58							φ	φ					
							φ	φ					
86.78							φ	φ					

Notes Smear slide at 86.48 m = Clayey siltstone



Cape Roberts 1

Scale 1:5

Sheet Interval 86.78 to 87.78 Sheet No. 58

Core Type HQ BOX 20 Logged by: LAK on 22/10/97

Depth (mbsf)	Drilling distance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	bioturbation	Colour	Consolidation	Description
86.78	↓										54 2/1		86.78 - 87.29 and 87.31 - 87.78 m:
	↓						φ	φ				L	SILTY SANDSTONE to SANDY SILTSTONE, olive black and slightly to moderately bioturbated throughout.
	↓						φ	φ				T	
86.98	↓						φ	φ				H	
	↓						φ	φ				F	
	↓						φ	φ				E	87.29 - 87.31 m:
87.18	↓						φ	φ				D	Black sandstone, moderately sorted.
	↓						1	4					Dolerite clast (2mm) at 87.24 m and at 87.30 m in SANDSTONE
87.38	↓						φ	φ					
	↓												
87.58	↓												
	↓												
87.78	↓												

Notes Smear slide @ 87.44m = clayey siltstone



Cape Roberts 1

Scale 1:5

Sheet Interval 87.78 to 89.27 Sheet No. 59

Core Type HQ BOX 20 Logged by: LAK on 22/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of classes	% class	structure	Disturbance	Colour	Consolidation	Description
87.78	X						0	0			SY 2/1	S	87.78-87.92 m
	X											O	& 88.42-88.54 m:
	X											F	SAND, medium
	X											T	fine-grained and poorly sorted, homogenized by drilling.
	X												
	X												
	X												
87.92	X												88.54-88.72 m:
88.42	X												SANDSTONE,
	X												fine-grained and poorly sorted, partially homogenized by drilling.
88.54	X												
	/												
	/												
88.76	/												88.72-89.27 m:
	/												SANDSTONE; grading down core from
88.78													fine-grained to medium-grained,
													moderately to poorly sorted, olive black;
89.90													structureless, but may have been affected (homogenized or partially homogenized) by drilling.
89.02													Faint color contrast at 88.97 m.
89.14													
89.27													

Notes

Interval from 88.42-89.27 m represents 85 cm of ^{core} length, but only occupies 70 cm of real length in this interval. Depths on this description scaled to 6 cm/increment in this interval.



Cape Roberts 1

Scale 1:5

Sheet Interval 89.27 to 90.64 Sheet No. 60

Core Type HQ BOX 20 Logged by: LAK on 22/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Biurbation	Colour	Consolidation	Description
89.27							φ	φ			5Y 2/1	L	89.27-89.28m =
												I	Medium SANDSTONE, medium ^{medium} grained and moderately sorted.
												T	No structures (physical or biological)
89.47												H	observed, but may have been overprinted by drilling.
												F	
89.67												I	90.19-90.64 m:
												E	SANDSTONE, grading downcore
												D	from fine-grained to medium-grained, moderately sorted. No structures observed, but may have been overprinted by drilling.
89.82													
90.19							1	41					Fine-grained dolerite and quartzose clasts at 90.55 m; single dolerite clast at 90.21 m.
							φ	φ					
90.39							φ	φ					
							φ	φ					
							φ	41					
90.64													

Notes Smear slide at 89.50m = SANDSTONE



Cape Roberts 1

Scale 1:5

Sheet Interval 90.64 to 91.57 Sheet No. 61

Core Type HQ BOX Z1 Logged by: LAK on 22/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Biurbation	Colour	Consolidation	Description
90.64							0	0	(≡) mm to cm		5YR 2/1 to 5Y 2/1	LITH	90.64-91.59 m: SANDSTONE, olive grey black to brownish black.
90.84									↓				90.64-90.89 m has parallel lamination, 0.3 cm - 0.7 cm thick, of light & dark sandy intervals. Light laminae are well-sorted, medium-grained, qtz-rich, and dark laminae are poorly sorted, medium-grained, with lower qtz. content.
91.04													
91.24													90.89-91.42 m = "massive", has weak cm scale strat with no strong stratification except a 0.5 cm-thick muddy layer at 91.22 m.
91.44									(≡) cm				91.42-91.53 m has weak cm-scale stratification, with poorly sorted, qtz-rich light intervals of medium sandstone, and
91.59													
			WHITE SPACER										

Notes Smear slide at 91.13 m = sandstone

actually occupies 10 cm of core length

very poorly sorted, less qtz-rich dark intervals of medium sandstone

91.53-91.59 m = "massive"



Cape Roberts 1

Scale 1:5

Sheet Interval 91.94 to 92.95 Sheet No. 62

Core Type HQ BOX 21 Logged by: LAK on 22/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
91.94									(≡) cm		5Y 2/1	L	91.94-92.19 m
							φ	φ	↓			I	SANDSTONE,
												T	with cm-scale
							φ	φ				H	wedge-shaped to
92.14												I	lenticular stratification
												F	at 91.94-92.02 m;
												I	"massive" at 92.02-
							1	10	•			D	92.19 m.
												E	Dolerite clast,
							1	1			5Y 2/1	D	2 cm x 3 cm, at
													92.19 m.
92.34									•				Sharp contact at
							φ	φ					92.19 m between
													overlying sandstone
													and underlying
							φ	φ					CLAYEY SILTSTONE
													WITH DIATOMS.
92.54									•				92.19-92.95 m:
							1	4					CLAYEY SILTSTONE
													WITH DIATOMS,
													olive black and
													bioturbated with
							φ	φ					simple mm-scale
92.74													borrow mottling.
							φ	φ					Pink granitic clast
													at 92.34 m;
	X						φ	φ					dolerite small angular
	X												pebble clast at
	X						φ	φ					92.61 m
92.95	X												

Notes Smear slide at 92.45 = clayey siltstone with diatoms



Cape Roberts 1

Sheet Interval 93.05 to 94.05 Sheet No. 63

Scale 1:5

Core Type HQ BOX 21 Logged by: LAK on 22/10/97

Depth (mbsf)	Drilling distance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Biurbation	Colour	Consolidation	Description
93.05	+						0	0			SY 2/1		93.05-94.05 m: CLAYEY SILTSTONE WITH DIATOMS, grading downcore to SILTY CLAYSTONE
93.25													Simple mm-scale burrow mottling throughout; also some cm-long, 1-2 mm simple burrow traces,
93.45													
93.65													
93.85													
94.05													

Notes Smear slide at 93.85 = silty claystone



Cape Roberts 1

Scale 1:5

Sheet Interval 94.05 to 95.02 Sheet No. 64

Core Type HQ BOX 22 Logged by: LAK on 22/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
94.05							1	15	•	~	5Y 2/1	L	94.05 - 95.02 m:
							φ	φ		~		I	Olive black;
							φ	φ		~		T	bioturbated, with
94.25							φ	φ	~~~~~	~		H	simple mm-scale
							φ	φ		~		F	burrow mottles,
							φ	φ		~		I	and horizontally
94.45							φ	φ		~		E	continuous burrow
94.50							4	1	•	~		D	@ 94.22 m;
							3	1	•	~			SILTY CLAYSTONE
							2	<1		~			to SILTY CLAYSTONE
94.65							φ	φ		~			WITH DIATOMS.
							φ	φ		~			
94.85							φ	φ		~			
							2	<1		~			
95.02							2	<1		~			

Noteworthy clasts:
 94.05-94.15 m = well-rounded granite
 94.53-94.54 m = sub-rounded pink granite
 94.61-94.62 m = fine-grained sandstone or volcanic.

Notes Smear slide at 95.43m = Silty claystone with diatoms



Cape Roberts 1

Sheet Interval 95.02 to 96.02 Sheet No. 65

Scale 1:5

Core Type HQ BOX 22 Logged by: LAK on 22/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description	
95.02											5Y 2/1		95.02-96.02 m ⁱ	
							φ	φ		⚡		L	Olive black;	
										⚡		I	bioturbated with	
95.22							φ	φ		⚡		T	1 mm-scale simple	
										⚡		H	burrow mottles;	
							φ	φ		⚡		I	black sandy	
										⚡		F	SILTY CLAYSTONE	
							1	<1		⚡			to	
95.42										⚡			SILTY CLAYSTONE	
										⚡			WITH DIATOMS	
										⚡				
							φ	φ		⚡			Clasts:	
										⚡			E	Granitic at 95.39 m,
										⚡			D	pink granite and
							2	<1		⚡				angular dolerite at
95.62										⚡				95.55-95.57 m.
										⚡				
							φ	φ		⚡				
										⚡				
95.82										⚡				
										⚡				
										⚡				
										⚡				
96.02										⚡				

Black sandy intervals,
0.5-2 cm thick
and now deformed by
loading (and possible
burrwing), at
95.86-95.88 m,
95.89-95.90 m,
and 95.98-95.99 m.

Notes Smear slide at 95.48 m
= Silty claystone with diatoms



Cape Roberts 1

Sheet Interval 96.02 to 97.02 Sheet No. 66

Scale 1:5

Core Type HQ

BOX 22

Logged by: LAK on 22/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Biurbation	Colour	Consolidation	Description
96.02							0	0		h	SY 2/1	L	96.02-97.02 m: CLAYEY SILTSTONE to SILTY CLAYSTONE, olive black and bioturbated throughout.
96.22							1	1	•	h		H	Notable clasts:
							0	0		h		F	96.20 m 1cm, granitic
							2	3	•	h		E	96.34 m 2cm, granite, angular
96.42							2	4	•	h		D	96.68 m 1 cm, subrounded dolerite
							4	4	•	h			96.71-96.76 m 5 cm, subrounded dolerite
96.62							2	1	•	h			96.99-97.01 m 2 cm subangular reddish dolerite or volcanic?
							1	12	•	h			
96.82							3	4	•	h			
							2	5	•	h			
97.02							2	5	•	h			

Notes Smear slide @ 96.62 m = Clayey siltstone



Cape Roberts 1

Scale 1:5

Sheet Interval 97.02 to 98.02 Sheet No. 67

Core Type HQ BOX 23 Logged by: LAK on 22/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay silt sand gravel				number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
			clay	silt	sand	gravel							
97.02										SY		97.02 - 98.02 m:	
							3	<1		2/1		L	CLAYEY SILTSTONE, olive black and
							2	<1				I	bioturbated with
97.22												T	mm-scale simple burrow mottling
							φ	φ				H	throughout.
												I	~1 cm thick, inclined and deformed sandy
32												F	intervals at 97.33
							1	<1				I	and 97.39 m.
97.42												E	Deformed by loading and ? burrowing?
							φ	φ				D	
52													
													<u>Clasts!</u>
													2 x 2mm granites, 97.02-97.07 m.
97.62													97.20 m 7mm subrounded dolerite
													97.96-97.97m - -
													" stratified " distinct layer of pebbles dispersed granules - angular to subangular granite & dolerite
97.82													
98.02							3	1					

Notes



Cape Roberts 1

Sheet Interval 98.02 to 99.02 Sheet No. 68

Scale 1:5

Core Type HQBOX 23Logged by: LAK on 22/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
98.02	///		///				φ	φ		~	SY 2/1	L	<p>98.02-99.02 m:</p> <p>SILTY CLAYSTONE WITH DIATOMS, olive black and bioturbated throughout with mm-scale simple burrow mottles.</p> <p>Traces of cm-scale horizontal color stratification present rarely through core.</p> <p>All clasts are granule to small pebble size, angular to subrounded dolerite.</p>
98.22			///				φ	φ		~		T	
			///				1	<1	.	~		H	
			///				φ	φ		~		I	
98.42			///				2	<1	.	~		F	
			///				φ	φ		~		I	
98.62			///				1	<1	.	~		D	
	///		///				φ	φ		~			
98.82	///		///				φ	φ		~			
	///		///				2	<1	.	~			
99.02			///										

Notes Smear slide at 98.35 = silty claystone with diatoms



Cape Roberts 1

Sheet Interval 99.02 to 100.02 Sheet No. 69

Scale 1:5

Core Type HQ BOX 23

Logged by: LAK on 22/10/97

Depth (mbsf)	Drilling distance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
99.02		FAST-TRACK							SAMPLE				
99.12		99.02 - 99.12 m											
99.22			/	/	/	/	φ φ			⚡	5Y 2/1	L	99.02 - 100.00 m!
99.32			/	/	/	/	φ φ			⚡		I	Olive black, bioturbated
99.42			/	/	/	/	φ φ			⚡		T	CLAYEY SILTSTONE WITH DIATOMS.
99.52			/	/	/	/	φ φ		⊗	⚡		H	Mineral-filled cracks, primarily vertical, at 99.30-99.50 m. Network of horizontal mineral-filled cracks at 99.51 cm. Cracks are <1 mm wide.
99.62			/	/	/	/	3 <1		⊗	⚡		F	
99.72			/	/	/	/	2 <1		•	⚡		I	
99.82			/	/	/	/	φ φ			⚡		E	
99.92			/	/	/	/	φ φ			⚡		D	Clasts are all <3 mm φ.
100.02			/	/	/	/	2 <1			⚡			Sharp contact at 100.00 m, with SILTY SANDSTONE below.

Notes

Smear slide at 99.97 m = CLAYEY SILTSTONE WITH DIATOMS.

⊗ = mineralized cracks

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Biurbation	Colour	Consolidation	Description
100.02													<p>100.02 - 101.05 m: Olive black CLAYEY SILTSTONE WITH DIATOMS, bioturbated with mm-scale simple burrow mottling throughout.</p> <p>Clasts are granule to fine pebble size, and occur in poorly developed sandier intervals 1cm to 10 cm thick. (SILTY SANDSTONE)</p> <p>Mineral-filled cracks cracks, primarily vertical, are present at 100.79-100.82 m and 101.00-101.05 m.</p> <p>Possible shell debris on left side of core at 100.73 m?</p>
100.22						4	4			5Y 2/1	LITHIFIED		
100.42						1	1						
100.50		YELLOW SPACER											
100.55	⊥					1	1						
	⊥					3	3						
	⊥								φ?				
100.80									φ φ				
	⊥								φ φ				
101.05	⊥								φ φ				

Notes Smear slide at 100.89 m = clayey siltstone with diatoms



Cape Roberts 1

Sheet Interval 101.05 to 102.05 Sheet No. 71

Scale 1:5

Core Type HQ BOX 24 Logged by: LAK on 22/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
101.05													
		STRENGTH TEST											
		101.05 - 101.75 m											
101.15							φ	φ			SY 2/1	L	101.05-102.05 m:
101.25													olive black, slightly bioturbated
													CLAYEY SILTSTONE WITH DIATOMS
101.45													Clasts are granule-sized angular to subangular dolerite; occur below
													slightly sandier interval at 101.72-101.82 m, and within poorly bedded interval with poorly developed cm-scale stratification of sandier and less slightly
101.65													
101.85							2	←					sandy thin beds.
							1	←					
							1	←					
102.05													

Notes



Cape Roberts 1

Scale 1:5

Sheet Interval 102.05 to 102.99 Sheet No. 72

Core Type HQ BOX 24 Logged by: LAK on 22/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	bedding	Colour	Consolidation	Description
102.05							0	0			SY 2/1	L	102.05-102.81 m:
													CLAYEY SILTSTONE WITH DIATOMS, olive black and bioturbated, grading down to SANDY SILTSTONE.
102.25													1 cm X 1 cm angular dolerite clast @ 102.50 m.
102.45													102.81-102.99 m:
							3	1	•				SILTY SANDSTONE to SANDSTONE, faintly bedded to well-laminated, with dip of ~10°.
102.65							2	<1	•				102.81-102.96 m = faintly stratified dipping
							3	<1	•				102.86-102.90 m = well ^{stratified} laminated sandstone + silty silt. with dip decreasing downcore.
102.85							1	<1	•				102.90-102.99 = 'mudstone'
102.99		WHITE SPACER											

Notes Smear slide at 102.45 m = CLAYEY SILTSTONE WITH DIATOMS silty sandstone.



Cape Roberts 1

Sheet Interval 102.99 to 103.99 Sheet No. 73

Scale 1:5

Core Type HQ BOX 25 Logged by: LAK on 22/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bedurbation	Colour	Consolidation	Description
102.99													
	X						φ	φ		⚡	SY		102.99-103.41 m: SILTY SANDSTONE TO SANDSTONE, fine-grained, with granule clast concentration at 103.10 m. Homogenized by drilling at 103.12-103.41 m. Sharp contact with 103.41-103.99 m: L CLAST-POOR to CLAST-RICH SANDY DIAMICTITE. No obvious clast fabric. H Large clasts include: F 1.5cm split dolerite clast with gte. rim at 103.53m; I 3cm x 4cm granite with angular overhanging X-section (see sketch); E 2 cm pink granite at 103.71m; D 2 cm rounded dolerite with sandstone rim at 103.93m; 2 cm granite with nodular rim at 103.93m.
	X						5	4	•	⚡	2/1	S	
103.19	X											O	
	X						φ	φ				F	
	X											T	
	X						φ	φ					
	X												
103.39	X						7	3	⌒				
	X												
	X						12	5	•		SY		
103.59											2/1	T	
							10	15	•			H	
												I	
							15	3	•			F	
103.79												I	
							20	15	•			E	
												D	
103.99							16	6	•				

Notes

2 cm granite with nodular rim at 103.93m.

300
6000



Cape Roberts 1

Scale 1:5

Sheet Interval 103.99 to 104.99 Sheet No. 74

Core Type HQ BOX 25 Logged by: LAL on 22/10/97

Depth (mbsf)	Drilling distance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bedstratification	Colour	Consolidation	Description
103.99											SY 2/1		103.99-104.99m
							5	3					L
							8	25					I
104.19							9	2					T
							11	1					H
							9	15					I
104.39							11	5					E
							9	2					D
104.59							11	5					
							9	2					
104.79							11	5					
							12	3					
104.99							13	3					

Notes

22/10/97



Cape Roberts 1

Sheet Interval 104.99 to 106.13 Sheet No. 75

Scale 1:5

Core Type HQ BOX 25

Logged by: LAK on 22/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Distribution	Colour	Consolidation	Description
104.99							5	40			SY 2/1	L	104.99 - 106.13 m: CLAST-POOR SANDY DIAMICTITE
105.14							13	3				T	to CLAST-RICH SANDY DIAMICTITE,
105.29							15	3				H	olive black and poorly sorted, with no obvious pebble fabric.
105.42							13	2				F	Sandy lens at 105.43-105.44 m.
105.67							9	1				D	Minor mudstone clasts @ 105.20-105.29 m.
							15	5					Noteworthy clasts: - 6cm x 4cm angular granite @ 105.00-105.06 m - 1.5 cm rounded granite at 105.07 m - 2x 1-2 cm dolerites at 105.43-105.49 m - 4 cm angular granite at 106.01-106.06 m.
105.92							8	3					
							10	1					
							4	20					
							10	2					
106.13													

Notes

3-28
2-28
1-1
4-28
10000



Cape Roberts 1

Sheet Interval 106.13 to 107.13 Sheet No. 76

Scale 1:5

Core Type HQ BOX 26 Logged by: LAK on 22/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Biurbation	Colour	Consolidation	Description
106.13											5Y		106.13-107.13 m:
							4	2			2/1		Mostly CLAST-POOR SANDY DIAMICTITE,
							8	6					WITH CLAST-RICH SANDY DIAMICTITE
106.33							6	<1					in lowest 10 cm due to presence of granitic cobble.
							3	<1					Dispersed coarse sand-sized grains common throughout core.
106.53							φ	φ					Noteworthy clasts:
							3	<1					1 cm angular granite at 106.16 m;
106.73							4	<1					2 cm triangular granite at 106.29 m;
							4	2					24 cm (top upper 1/2) rounded granitic clast at 106.99 - 107.13 m.
106.93							1	100					
107.13													

Notes Smear slide at 106.69 = SANDY MUDSTONE



Cape Roberts 1

Sheet Interval 107.13 to 108.13 Sheet No. 77

Scale 1:5

Core Type HQ BOX 26 Logged by: LAK on 22/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bedurbation	Colour	Consolidation	Description
107.13											SY 2/1		107.13-108.13 m:
								100					L SANDY CLAST- POOR DIAMICTITE
								100					to SANDY CLAST- RICH DIAMICTITE,
107.33								100					THI olive black, with dolerite, granitic, and quartzose
								100					FI clasts and coarse sand-sized grains
107.53							9	4					E dispersed throughout.
							7	1					D Noteworthy clasts:
													30 cm granitic cobble (lower half of clast beginning @ 106.91 m)
107.73							12	2					at 107.13-107.43 m
							2	4					2 cm rounded granite @ 107.51 m
							10	2					3 cm x 4 cm subrounded granite @ 107.10-108.13m
107.93							7	3					
							5	20					
108.13													

Notes

20/10/97



Cape Roberts 1

Scale 1:5

Sheet Interval 108.13 to 109.13 Sheet No. 78

Core Type 40 BOX 26 Logged by: LAK on 22/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Disturbance	Colour	Consolidation	Description
108.13							5	13			S4 2/1	L	<u>108.13-108.76 m:</u> SANDY CLAST-POOR TO SANDY CLAST-RICH DIAMICTITE, olive black, with granitic and dolerite clasts & coarse sand-sized grains throughout. Large clasts: 4 cm pink granite, 108.19-108.23 m 12 cm subangular dolerite, 108.31-108.43 m 3 cm basalt?, 108.49-108.52 m <u>108.76-109.00 m:</u> faintly interbedded (cm-scale) siltstone and sandstone, with inclined con-acts, tapering beds, and possible soft-sediment deformation. <u>109.00-109.13 m:</u> CLAST-POOR SANDY
108.33						5	8					I	
						5	8					T	
						1	80					H	
						5	10					I	
108.52 108.56						8	4					F	
						7	3	(=) cm				I	
108.77						2	4					D	
						2	2						
108.97	X					5	4						
109.13						3	2						
WHITE SPACER													

Notes Smear slide at 108.69m = SANDY MUDSTONE

DIAMICTITE or SANDSTONE, fining up from granule-rich zone at 109.11 m to sandstone at 109.00 m.



Cape Roberts 1

Sheet Interval 109.13 to 110.13 Sheet No. 879

Scale 1:5

Core Type HQ BOX 27 Logged by: LAK on 22/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	Structure	Bedurbation	Colour	Consolidation	Description
109.13											5Y 2/1	L	109.13-109.23 m SILTY SANDSTONE, olive black, faultly bedded with soft-
							φ	φ				I	Sediment deformation, cut by high & reverse fault.
109.33							φ	φ				H	109.23 -- slightly dipping contact = fault
							φ	φ				F	109.23-109.28 m -- ~"massive" SILTY SANDSTONE
109.53							3	<1				E	109.28-109.33 m -- SILTY SST, with possible F-u by loss of coarse sand
							1	<1				D	109.33-109.43 m -- SILTY SST, possible F-u above sharp base, and faulted
109.73							3	<1					109.43-109.48 m -- SILTY SST to CLAST- RICH SANDY DIAMICTE, with possible F-u cycles and faulted 100' edge.
							6	4b					109.48-109.60 m -- \$ 109.60-109.65 m -- SILTY SST to CLAST- RICH SANDY DIAMICTE, with possible F-u cycles and faulted 100' edge.
109.93							6	φ					109.65-109.73 m ~"massive" SILTY SST
							φ	φ					109.73-110.13 m ~"massive" CLAST-RICH SANDY DIAMICTE
110.13													

Notes

110.10-110.13m = "massive"
SILTY SANDSTONE

109.80-110.10 m
SANDSTONE, parallel
laminated with
laminae dipping ~10°



Cape Roberts 1

Sheet Interval 110.13 to 111.13 Sheet No. 80

Scale 1:5

Core Type HQ BOX 27 Logged by: LAK on 22/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
110.13							15	3	•		5Y 2/1		110.13-110.15 m CLAST-RICH SANDY DIAMICTITE
									(≡) mm			L	110.15-110.28 -- laminated (mm-scale)
110.33							1	4	↓	⚡		I	SILTSTONE TO SILTY SANDSTONE, with some laminae
							710	40	⊖			H	defined by single gram layers of coarse sand & granules.
							710	10				F	110.28-110.38 m -- "massive" SILTY SANDSTONE
110.53							∅	∅		⚡		E	110.38-110.46 m -- INTRACLAST CONGLOMERATE OF CLAYEY SILTSTONE
										⚡		D	110.46-111.13 m ; CLAYEY SILTSTONE, olive black, bioturbated throughout with single mm-scale burrows.
110.73										⚡			
										⚡			
110.93										⚡			
										⚡			
111.13										⚡			

Notes



Cape Roberts 1

Scale 1:5

Sheet Interval 111.13 to 112.16 Sheet No. 81

Core Type HQ BOX 27 Logged by: LAK on 22/10/97

Depth (mbsf)	Drilling disturbance	Core Face	Grain Size Distribution (%)				number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
			clay	silt	sand	gravel							
111.13							Φ	Φ		SY		LITHIFIED Olive black, grading from CLAYEY SILTSTONE at 111.13 m - 111.30 m to SILTY SANDSTONE at 111.30 - 111.89 m, back to CLAYEY SILTSTONE at 111.89 - 112.16 m. D Mineral-filled cracks, mostly vertical, at 111.81 - 112.16 m. Possible high-angle fault running from 111.96 m to 112.16 m?	
111.33										21			
111.44													
111.48													
111.56													
111.76													
111.96													
112.16													

Notes



Cape Roberts 1

Sheet Interval 112.16 to 113.16 Sheet No. 82

Scale 1:5

Core Type HQ BOX 28

Logged by: LAK on 23/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	bioturbation	Colour	Consolidation	Description
112.16							∅	∅			5Y		112.16-112.58 m:
"											2/1	L	SILTY CLAYSTONE,
												I	olive black and
												T	"massive" above 112.32 m.
112.36												H	From 112.32-112.58 m,
												I	Silty claystone is
												F	deformed ^{and inter-fingers with} and contains
												I	lenses and bodies of
												E	black silty sandstone.
112.56												D	Slightly brecciated
													at 112.38-112.41 m
													and 112.48-112.51 m.
													112.56-113.16 m:
													SILTY SANDSTONE,
													olive black, poorly
112.76													sorted, and
													"massive", possibly
													due to bioturbation.
112.96													
113.16													

Notes Smear slides at 112.32 m = SILTY CLAYSTONE
 at 112.75 m = SILTY SANDSTONE



Cape Roberts 1

Sheet Interval 113.16 to 114.16 Sheet No. 83

Scale 1:5

Core Type HQ BOX 28

Logged by: LAK on 23/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
113.16							φ	φ		⚡	5Y 2/1	L	113.16-114.16 m' SILTY SANDSTONE, Olive black, poorly sorted, and may be bioturbated.
113.36										?		I	
										⚡		H	-1-2 mm thick ^{wispy} claystone laminae spaced ~1-5 cm apart at 113.45-113.54 m.
										?		F	
										⚡		E	~5 mm thick claystone lens at 113.68 m
113.56										⚡		D	-diffuse color banding, ~5 mm thick ^{dark} intervals spaced 2-3 cm apart, 113.72 - 113.98 m.
										?			
										⚡			Mudstone clast (5 mm φ) at 113.97 m
113.76										⚡			Dolerite clast (5 mm φ) @ 114.08 m
										⚡			
										?			114.10 m' Sharp contact with underlying medium to coarse sandstone.
113.96										⚡			
										?			
										⚡			
114.16										⚡			

Notes



Cape Roberts 1

Sheet Interval 114.16 to 115.22 Sheet No. 84

Scale 1:5

Core Type HQ BOX 28 Logged by: LAK on 23/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description	
114.16											SY 2/1	C O M P A C T L I T H I F I E D C O M P A C T	114.16 - 114.70 m! and 114.89 - 115.22 m!	
							φ	φ						MEDIUM TO COARSE-GRAINED SANDSTONE, with dispersed clasts of quartz, granite, and dolerite --
114.36							φ	φ						largest clast is 10 cm subrounded granite at 114.07 to 114.17 m.
114.54							1	<1	•					
114.60							2	<1	•					
							2	<1	•					114.70 - 114.89 m! MEDIUM SANDSTONE, lithified, with minor coarse sand grains & 1 large, angular dolerite clast (2cm x 2cm) at 114.78 - 114.80 m.
114.82							1	6						
							φ	φ						
							3	<1						
115.02							4	50						
							3	25	↑ ↓					
115.22														

Notes Smear slide at 114.39 m = SILTY SANDSTONE



Cape Roberts 1

Sheet Interval 115 to 116.22 Sheet No. 85

Scale 1:5

Core Type HQ BOX 29

Logged by: LAK on 23/11/97

Depth (mbsf)	Drilling distance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Biurbation	Colour	Consolidation	Description
115.22							8	15	o		SY 2/1		115.22-115.84 m -- CLAST-RICH to CLAST-POOR SANDY DIAMICTITE, and MUDDY SANDSTONE WITH DISPERSED CLASTS
115.42							13	3	.				"massive" at 115.22- 115.50 m and at 115.64-115.84 m
115.62							4	41					Coarse sst. matrix with dispersed clasts, and possible fining- up sequence, at 115.50-115.54 m
115.82							7	41					Disturbed, with contorted boundaries contacts of sst. and sandy siltstone lenses, at 115.54- 115.64 m.
116.02							1	41					115.84-116.22 m : SANDY SILTSTONE and FINE SANDSTONE, showing remnants of original mm-scale lamination, but now disrupted and truncated by soft-sediment deformation (? and biurbation?).
116.22							0	0					

Notes Smear slide @ 115.65 m -- SILTY SANDSTONE



Cape Roberts 1

Scale 1:5

Sheet Interval 116.22 to 117.22 Sheet No. 86

Core Type HQ BOX 29 Logged by: LAK on 23/10/97

Depth (mbsf)	Drilling distance	Core Face	Grain Size				number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
			clay	silt	sand	gravel							
116.22												<p>116.22 - 116.48 m SANDY SILTSTONE, olive black and "massive", broken by thin (1-2 mm wide) elastic dikes from below 116.50 m.</p> <p>116.48 - 116.52 m: Disturbed (faulted) transition from SANDY SILTSTONE to SANDSTONE.</p> <p>116.52 - 116.94 m: SANDSTONE, olive black and moderately sorted, Deformed by soft-sediment deformation at 116.52 - 116.74 m. Weak cm-scale parallel stratification preserved at 116.82 - 116.94 m. "Massive" at 116.94 - 117.02 m.</p> <p>"Pebble nest" at 117.02 - 117.12 m - 1 large granite (7 cm ϕ) and ~8 granules/pebbles.</p> <p>"Massive" at 117.12 m - 117.22 m.</p>	
						ϕ		↑	?	5Y 2/1	L		
						ϕ		↑	?		I		
116.42						ϕ		↑	?		T		
						ϕ		↑	?		H		
						ϕ		↑	?		I		
						ϕ		↑	?		F		
						ϕ		↑	?		I		
						ϕ		↑	?		E		
						ϕ		↑	?		D		
116.62						ϕ		↑			C		
						ϕ		↑			O		
						ϕ		↑			M		
						ϕ		↑			P		
						ϕ		↑			A		
						ϕ		↑			C		
						ϕ		↑			T		
116.82						ϕ		↑					
						ϕ		↑					
						ϕ		↑					
						ϕ		↑					
						ϕ		↑					
						ϕ		↑					
						ϕ		↑					
						ϕ		↑					
						ϕ		↑					
117.02						ϕ		↑					
						ϕ		↑					
						ϕ		↑					
						ϕ		↑					
						ϕ		↑					
						ϕ		↑					
						ϕ		↑					
						ϕ		↑					
						ϕ		↑					
117.22						ϕ		↑					

Notes



Cape Roberts 1

Sheet Interval 117.22 to 118.22 Sheet No. 87

Scale 1:5

Core Type HQ BOX 29

Logged by: LAK on 25/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Disturbance	Colour	Consolidation	Description
117.22							0	0			SY 2/1	COMPACT	117.22 - 117.69 m: SANDSTONE, olive black, moderately sorted.
117.42												LITHIFIED	117.22 - 117.40 m -- "massive", may be deformed. 117.40 - 117.50 m -- Interstratified with olive tan well-sorted sandstone -- well-sorted sst. present as inclined bed 2 cm thick & as wispy laminae
117.62												COMPACT	117.50 - 117.69 m -- inclined (dip ~ 10°), faintly cm-scale laminated.
117.82							2	<1				LITHIFIED	117.69 - 118.22 m: SILTY SANDSTONE, olive black, with rare wispy laminae in upper 10 cm, and faint color/grain size contacts at 117.92 and 117.94 m.
118.02							2	<1				LITHIFIED	
118.22							0	0				LITHIFIED	

Notes Smear slide at 117.60 m = SANDSTONE



Cape Roberts 1

Sheet Interval 118.22 to 119.30 Sheet No. 88

Scale 1:5

Core Type HQ BOX 30 Logged by: LAK on 23/10/97

Depth (mbsf)	Drilling disturbance	Core Face	Grain Size				number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
			clay	silt	sand	gravel							
118.22		OPEN								SY 2/1		118.22-119.30 m: SILTY SANDSTONE, Olive gray and moderately sorted Evidence of deformation throughout, varying in intensity from inclined chaotic laminae to brecciated dispersed intraclasts (118.60-118.67 m) and pebble-sized intraformational conglomerate. Extent of bioturbation unknown.	
118.42													
118.62							>10	30					
							>10	70					
118.92	X												
118.97	X												
119.00													
119.30													

Notes Smear slide at 118.50 m = SILTY SANDSTONE



Cape Roberts 1

Sheet Interval 119.30 to 120.30 Sheet No. 89

Scale 1:5

Core Type HQ BOX 30

Logged by: LAK on 23/11/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Disturbance	Colour	Consolidation	Description
119.30							1	3	•		5y 2/1	L I T H I F I E D	119.30-120.30 m: SANDY MUDSTONE, SANDY MUDSTONE WITH DISPERSED CLASTS, and (PREDOMINANTLY) CLAST-POOR MUDDY DIAMICTITE. olive black, and "massive".
119.50							1	3	0				Extraformational clasts include dolomite, granite, pink granite.
119.70							4	2	•				Intraformational sedimentary clasts distributed sparsely through core, including 1cm x 1cm angular clast at 119.45 m.
119.90							5	2	•				~ Vertical sandy stringers along left side of core at 119.97-120.04 m -- possible clastic dikes?
120.10							5	2	•				
120.30							5	1	•				
120.30							5	4	•				

Notes

Smear slide at 119.79 m = ~~MUDDY SANDSTONE~~
SANDY MUDSTONE



Cape Roberts 1

Scale 1:5

Sheet Interval 120.30 to 121.30 Sheet No. 90

Core Type HQ BOX 30 Logged by: LAK on 23/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay silt sand gravel				number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
			clay	silt	sand	gravel							
120.30		STRENGTH TEST											
120.40		SAMPLE					120.30-120.40 m						
120.50		FAST TRACK SAMPLE					120.40-120.50 m						
120.70										5Y 2/1	L I T H I F I E D	120.50-121.30 m: CLAST-POOR MUDDY DIAMICTITE, with subordinate amounts of CLAST-RICH MUDDY DIAMICTITE and SANDY MUDSTONE WITH DISPERSED CLASTS. Extraformational clasts predominantly granitic. Intraformational (sedimentary) clasts dispersed rarely through core, including a pyritized pebbled intraclast on the left edge of the core at 120.65-120.66 m.	
120.90													
121.10													
121.30													

Notes



Cape Roberts 1

Scale 1:5

Sheet Interval 121.30 to 122.30 Sheet No. 91

Core Type HQ BOX 31 Logged by: LAK on 23/10/97

Depth (mbsf)	Drilling distance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
121.30													121.30-122.22 m:
							6	1	•		SY 2/1	L	CLAST-POOR to CLAST-RICH MUDDY DIAMICTITE, with subordinate amounts of SANDY MUDSTONE WITH DISPERSED CLASTS, olive black and "massive".
121.50							4	<1	•			T	
							2	<1	○			H	
							3	5	•			F	Extraformational clasts include granites and lesser dolerites;
121.70							5	1	•			E	Intraformational clasts are rare.
							11	2	•			D	Sandstone-filled vein network @ 121.97-122.02 m. Sharp inclined contact at 122.22 m.
121.90							4	2	•				122.22-122.30 m:
							5	2	•				MUDSTONE with dispersed clasts.
122.10							5	<1	•				
122.30							2	<1	•				

Notes

100-10



Cape Roberts 1

Sheet Interval 122.30 to 123.30 Sheet No. 92

Scale 1:5

Core Type HQ BOX 31 Logged by: LAK on 23/10/91

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Disturbance	Colour	Consolidation	Description
122.30							3	6	•		5Y 2/1	L	<p>122.30-123.30 m: CLAST-POOR TO CLAST-RICH MUDDY DIAMICTITE, grading with matrix grain size increasing slightly below 123.20 due to increased sand content. Clasts entirely extraformational in this core, including a 10 cm thick dolerite at 123.10-123.20 m.</p>
							4	2	•			H	
122.50							3	3	•			I	
							5	3	•			E	
122.70							8	6	•			D	
							4	2	•				
122.90							7	1	•				
							7	5	•				
123.10							1	5	•				
							3	2	•				
123.30													

Notes Smear slide at 122.49 m = SANDY MUDSTONE



Cape Roberts 1

Scale 1:5

Sheet Interval 123.30 to 124.17 Sheet No. 93

Core Type HQ BOX 31 Logged by: LAK on 23/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bedding	Colour	Consolidation	Description
123.30											SY 2/1	L I T H I F I E D	123.30-123.97m! MUDDY SANDSTONE, MUDDY SANDSTONE WITH DISPERSED CLASTS, CLAST-POOR SANDY DIAMICTITE & CLAST-RICH SANDY DIAMICTITE, olive black and poorly sorted. Clasts predominantly granitic, but largest clast is subangular siltstone clast, 3 cm ϕ , at 123.78-123.81 m.
123.50							6	2	•				
123.70							3	3	•				
123.90							2	4	•				
123.97							2	15	•				
124.10							4	1	↑				Sharp inclined Contact at 123.97 m.
124.17							ϕ		↓				123.97-124.17 m: Siltstone, olive black and contains contorted lenses of fine sandstone. Lowest 5 cm - white with vertical cement
124.30		EMPTY -- WHITE SPACER										between siltstone and fine sandstone.	

Notes

10/10/97



Cape Roberts 1

Sheet Interval 124.17 to 125.17 Sheet No. 94

Scale 1:5

Core Type HQ BOX 32

Logged by: LAK on 24/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
124.17							1	4			SY 2/1	L	124.17-125.17m ¹
													Predominantly
													CLAST-RICH MUDDY
													DIAMICTITE, with
124.37							6	2	•				lesser amounts of
													CLAST-POOR MUDDY
													DIAMICTITE and
							11	1	•				SANDY MUDSTONE
													WITH DISPERSED
													CLASTS.
							5	4	•				~ "Massive", with
124.57													no apparent clast
													fabric. Clast lithologies
							5	6	•				dominated by granites,
													with subordinate
													dolerites and trace
							8	6	•				amounts of sedimentary
													intraclasts.
124.77							3	25	•				
							9	6	•				
124.97													
							5	10	•				
							6	2	•				
125.17													

Notes Smear slide at 125.02m = SANDY MUDSTONE

6097
10



Cape Roberts 1

Sheet Interval 125.17 to 126.17 Sheet No. 95

Scale 1:5

Core Type HQ BOX 32 Logged by: LAK on 24/10/97

Depth (mbsf)	Drilling disturbance	Core Face	Grain Size				number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
			clay	silt	sand	gravel							
125.17							4	41			Sy 2/1	L	<u>125.17-125.77 m:</u> CLAST-POOR MUDDY DIAMICTITE, olive-black and "massive".
125.37						7	1					T	Clasts predominantly small, subrounded dolerites, although some granite also present.
125.57						7	6					F	
						9	2					E	
						4	41					D	<u>125.77-126.17 m:</u> CLAST-RICH MUDDY DIAMICTITE, olive-black and "massive". Clasts predominantly granites, angular at 125.77-125.91 m, but subrounded large clast (6 cm ϕ) of granite at 126.06-126.12 m. Dolerite clasts also present.
125.77						3	2						
						5	5						
						4	15						
125.97						4	12						
						1	50						
126.17													

Notes



Cape Roberts 1

Sheet Interval 126.17 to 127.09 Sheet No. 96

Scale 1:5

Core Type HQ BOX 32 Logged by: LAK on 24/10/97

Depth (mbsf)	Drilling distance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Biorturbation	Colour	Consolidation	Description
126.17							9	1			5Y 2/1	L	126.17-127.09 m:
												I	CLAST-POOR to
												T	CLAST-RICH
												H	MUDDY DIAMICTITE,
							6	5				I	olive black and
126.37												F	"massive".
												I	
							9	5				E	Clasts ~ subequal
												D	amounts of dolerite
													and granite --
							6	2					granitic clasts
126.57													generally angular,
													dolerite clasts vary
							9	1					angular → subrounded.
							9	15					Siltstone intraclast
126.77													(angular, ~ 1.5 cm ϕ)
													at 126.93 m.
							4	3					
							9	6					
126.97													
							10	5					
127.09													
		EMPTY -- WHITE SPACER											

Notes Smear slide at 126.43 = SANDY MUDSTONE

24/10/97



Cape Roberts 1

Sheet Interval 127.09 to 128.09 Sheet No. 97

Scale 1:5

Core Type HQ BOX 33Logged by: LAK on 24/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Biurbation	Colour	Consolidation	Description
127.09													127.09 - 128.09 m:
							4	21			SY 2/1	L	SANDY MUDSTONE
							4	21				I	WITH DISPERSED
							4	21				T	CLASTS, with lesser
127.29							8	20				H	amounts of
							3	15				I	CLAST-POOR and
							3	15				F	CLAST-RICH MUDDY
127.49							3	15				I	DIAMICTITE.
							3	15				E	Olive-black and
							3	15				D	"massive".
							3	15					Pyritized sandstone
							3	15					intraclast(?) at
							3	15					127.32-127.33 m
							3	15					5 cm ϕ granitic
							3	15					clast at 127.45-
							3	15					127.50 m.
127.69							6	1					Small clasts
							6	1					predominantly
							6	1					angular/subangular
							6	1					dolerite above
							6	1					127.95 m; quartzose /
							6	1					granitic below
							6	1					127.95 m.
127.89							7	4					
							7	4					
							7	4					
128.09							7	4					

Notes



Cape Roberts 1

Sheet Interval 128.09 to 129.09 Sheet No. 98

Scale 1:5

Core Type HQ BOX 33 Logged by: LAK on 24/10/97

Depth (mbsf)	Drilling distance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Biurbation	Colour	Consolidation	Description
128.09							5	1			5Y 2/1	L	128.09-129.09 m:
							3	<1				I	CLAST-POOR MUDDY DIAMICTITE, with minor intervals of
128.29							5	3				T	CLAST-RICH MUDDY DIAMICTITE and
							8	10				H	SANDY MUDSTONE WITH DISPERSED
128.49							4	1				I	CLASTS, olive black and "massive".
							8	6				F	Sedimentary intraclast, ~1.5 cm ϕ , at 128.45-128.46 m; remainder of clast are granules (generally larger, >1 cm ϕ and more angular) and lenses (generally smaller, more rounded).
128.69							9	2				E	Clayey interval of 128.10-128.11 m.
							5	1				D	
128.89							5	3					
							5	3					
129.09													

Notes Smear slide at 128.53 = SANDY MUDSTONE



Cape Roberts 1

Sheet Interval 129.09 to 130.09 Sheet No. 99

Scale 1:5

Core Type HQ BOX 33

Logged by: LAK on 24/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
129.09							4	<1			54 2/1		129.09 - 130.09 m :
													L
													I
							3	<1					T
129.29													H
							4	<1					I
							4	<1					F
							4	2					E
129.49							6	1					D
							7	<1					
							9	6					
129.69							10	1					
							4	<1					
129.89							6	2					
130.09													

Interval from 129.15 - 129.26 m contains deformed sandy and muddy bedding.

Clasts predominantly dolerite (60-70%+), angular to rounded. Lesser amounts of qtz. and granitic debris, primarily angular to subangular.

Notes



Cape Roberts 1

Scale 1:5

Sheet Interval 130.09 to 131.09 Sheet No. 100

Core Type HQ BOX 34 Logged by: LAL on 24/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
130.09											5Y 2/1	L	130.09 - 131.09 m:
							9	4	•			I	Predominantly CLAST-POOR MUDDY
							2	3	•			T	DIAMICTITE, with
130.29												H	subordinate amounts of SANDY MUDSTONE
							10	5	0			I	WITH DISPERSED
							4	<1	•			F	CLASTS and CLAST-RICH MUDDY
							2	<1				I	DIAMICTITE.
130.49							5	1	0			D	Thin clayey siltstone, lacking coarse sand and coarser fractions, at 130.48 - 130.51 m.
							5	2	•				Sedimentary intraclasts (siltstone) at 130.31 - 130.33 m and 130.51 m.
130.69							6	2	•				Remaining clasts ~ 60-70% granitic (angular to subrounded), 30-40% dolomite (subangular).
							4	2	•				
							7	9	•				

Notes Smear slide at 130.45 = SANDY MUDSTONE



Cape Roberts 1

Sheet Interval 131.09 to 132.09 Sheet No. 101

Scale 1:5

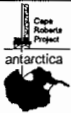
Core Type HQ BOX 34

Logged by: LAK on 24/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of classes	% clasts	structure	Bioturbation	Colour	Consolidation	Description
131.09							6	2	•		5Y 2/1	L	131.09-132.09 m:
							4	26	•			T	CLAST-RICH and CLAST-POOR MUDDY DIAMICTITE, olive black and "massive",
131.29							7	4	•			F	clasts ~ 60-70% dolomite (subangular to subrounded) and quartz/granite (generally angular to subangular).
							17	5	•			E	Largest clasts are 5 cm ϕ dolomite at 131.25-131.33m and 4 cm ϕ granite at 131.97-132.01m.
131.49							6	3	•			D	Small (≤ 1 cm) etc. present throughout interval at 131.09-131.25m.
							6	5	•				
131.69							10	2	•				
	X						6	2	•				
	X						7	3	•				
							7	5	•				
131.89									•				
132.09									•				

Notes

8/1/97



Cape Roberts 1

Sheet Interval 132.09 to 133.09 Sheet No. 102

Scale 1:5

Core Type HQ BOX 34 Logged by: LAK on 24/10/97

Depth (mbsf)	Drilling disturbance	Core Face	Grain Size				number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
			clay	silt	sand	gravel							
132.09													132.09 - 133.09 m :
						7	1	•		SY	L		CLAST-POOR and
								•		2/1	I		CLAST-RICH MUDDY
								•			T		DIAMICTITE,
						9	6	•			H		olive black and
132.29								0			I		"massive".
								•			F		Clasts ~ 50% dolerite
						8	1	•			I		and 50% granite/gneiss.
								•			E		Large clasts are
						4	<1	•			D		mudstone intraclast,
132.49	1							•					~ 7mm x 5cm at
	1							•					132.27m, and
	1					4	7	•					dolerite fine-grained
								•					granite, 6 cm x 2.5 cm
						3	20	•					at 132.59 - 132.64 cm
132.69								•					
						5	2	•					
								•					
						6	1	•					
132.89								•					
						11	2	•					
								•					
						6	2	•					
133.09													

Notes Smear slide at 132.73m = SANDY MUDSTONE

7-10-97
6-2-97



Cape Roberts 1

Scale 1:5

Sheet Interval 133.09 to 134.09 Sheet No. 103
Core Type HQ BOX 35 Logged by: LAK on 24/10/97

Depth (mbsf)	Drilling disturbance	Core Face	Grain Size				number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
			clay	silt	sand	gravel							
133.09										5Y 2/1	L	133.09-134.09:	
						6	13	•				Predominantly CLAST-POOR MUDDY DIAMICTITE, with lesser amounts of SANDY MUDSTONE WITH DISPERSED CLASTS and CLAST-RICH DIAMICTITE. 1cm x 2cm angular sedimentary intraclast at 133.22 m. 2cm x 4cm dolerite at 133.09 - 133.11 m. Remainder of clasts ~ 50% dolerite, 50% granite. Clastic dike, ~15cm wide, oriented diagonally across core from 132.77 m, and overlies core with decolour bedding from 132.35 - 133.0 m.	
133.29						5	3	○					
						9	2	•					
						1	<1						
133.49						7	1	•					
						8	3	•					
133.69						4	2	•					
						4	1	•					
						0	0						

Notes: Remainder of clasts ~ 50% dolerite, 50% granite

Cape Roberts 1

Sheet Interval 134.09 to 135.09 Sheet No. 104

Scale 1:5 Visual Description

Core Type HQ BOX 35

Logged by: LAK on 24/10/97

Depth (mbsf)	Drilling Disturbance	Core Face	Clay	Silt	Sand	Gravel	number of clasts	% clasts	structure	bioturbation Intensity	colour	consolidation	Description
134.09							4	<1	↑		5Y 2/1	L	CLAST-POOR MUDDY DIAMICTITE and CLAST-RICH MUDDY DIAMICTITE, olive black and generally "massive". Deformed and cemented sandstone at 134.27-134.31 m; deformation may also extend upward to 134.09 m. Fractured zone at 134.89-135.09 m may represent original soft-sediment deformation. Large clasts include 3 cm granite at 134.50-134.55 m, 10 cm dark sandstone at 134.70-134.75 m and 4 cm sandstone at 134.80-134.85 m. wedge 300 500
134.29						7	1	↑ ?			T		
						4	1	↑			H		
						3	<1	↑			I		
134.49						6	30	↑			E		
						2	30	↑			D		
134.69						4	8	↑					
						2	2	↑					
134.89	↓					1	7	↑					
	↓					3	8	↑					
135.09	↓							↑					

Cape Roberts 1

Sheet Interval 135.09 to 136.24

Sheet No. 105

Scale 1:5 Visual Description

Core Type HQ BOX 35

Logged by: LAK on 24/10/97

Depth (mbsf)	Drilling Disturbance	Core Face	Clay	Silt	Sand	Gravel	number of clasts	% clasts	structure	bioturbation intensity	colour	consolidation	Description
135.09							4	1			5Y 2/1	L	135.09-135.40m and
							7	2			to 5Y 4/1	T H	135.74-136.24m: CLAST-POOR MUDDY DIAMICTITE,
135.29							2	10	○			F	olive black to olive gray and "massive".
135.40	X X X								●				Clasts include granite, dolerite, and rare
135.60		YELLOW SPACER											
							1	1	○			E	Sedimentary intraclasts.
							5	2	○			D	135.60-135.74m: CLAYEY SILTSTONE WITH DISPERSED CLASTS, olive black to olive gray and possibly deformed. Lower contact is irregular and diffuse.
135.94							7	2	○				
							4	1	○				
136.24							7	3	○				
							1	1	○				
136.24									○				

Smear slide at 135.63 = CLAYEY SILTSTONE



Cape Roberts 1

Sheet Interval 136.24 to 137.24 Sheet No. 106

Scale 1:5

Core Type HQ BOX 36 Logged by: LAK on 24/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
136.24											SY	L	136.24-137.24m:
							2	<1			2/1	I	CLAST-POOR to
												T	CLAST-RICH
							2	4				H	MUDDY DIAMICTITE,
136.44												I	olive black and
												F	poorly sorted.
							4	1	o			E	Clasts primarily
												D	dolerite (~70%);
							10	2	o				remainder granitic,
136.64									o				except for 4 mm ϕ
									o				angular sedimentary
							8	5	o				intraclast at 136.47m.
									o				Largest clast is 6 cm x
	X								o				3 cm dolerite, subrounded,
	X						2	<1					at 137.15-137.20m.
136.84													
							7	1					
							10	1					
137.04													
							4	4					
137.24							1	30					

Notes Smear slide at 136.92m SANDY MUDSTONE



Cape Roberts 1

Sheet Interval 137.24 to 138.22 Sheet No. 107

Scale 1:5

Core Type HQ BOX 36 Logged by: LAK on 24/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	bioturbation	Colour	Consolidation	Description
137.24							3	<1			SY 2/1	L	137.24 - 138.22 m
												I	CLAST-POOR MUDDY
												T	DIAMICTITE, olive
							2	<1				H	black, poorly sorted,
												I	and "massive".
137.44												F	Small clasts primarily
							6	1				I	dolerite; larger
												E	clasts primarily
												D	granitic.
							1	5					Large clasts at
137.64													137.62 - 137.64 m,
													137.84 m, 138.09 m.
							1	<1					
							7	3					
137.84													
							5	1					
							8	1					
138.04													
							7	3					
							3	1					
138.22													

Notes

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Cape Roberts 1

Scale 1:5

Sheet Interval 138.22 to 139.22 Sheet No. 108

Core Type H9 BOX 36 Logged by: LAK on 24/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Biurbation	Colour	Consolidation	Description
138.22	↓						3	1			5Y 2/1	L	<p>138.22-139.22 m:</p> <p>CLAST-POOR to CLAST-RICH MUDDY DIAMICTITE, olive black, poorly sorted, and "massive".</p> <p>Clasts predominantly dolerite above 138.47m; granites dominate below 138.47m.</p> <p>Carbonate sediment clasts, 3cm x 2cm & with vugs, at 138.84 m.</p> <p>3 cm φ sedimentary intraclast at 139.10 m.</p>
	↓						5	1				I	
	↓											H	
	↓											I	
138.42	↓						3	10	•			F	
	↓											I	
	↓						4	1				E	
	↓											D	
138.62	↓						5	2	•				
	↓												
	↓						4	2	•				
	↓												
138.82	↓						3	10	•				
	↓												
	↓						7	1					
	↓												
139.02	↓								•				
	↓												
	↓												
139.22	↓						3	1	•				

Notes Small side at 138.93m granite massive

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Cape Roberts 1

Sheet Interval 139.22 to 140.22 Sheet No. 109

Scale 1:5

Core Type HQ BOX 37 Logged by: LAK on 24/10/97

Depth (mbsf)	Drilling disturbance	Core Face	Grain Size				number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
			clay	silt	sand	gravel							
139.22													<p>139.22 - 140.22 m:</p> <p>CLAST-POOR to CLAST-RICH MUDDY DIAMICTITE, olive black, poorly sorted, and "massive".</p> <p>Large clasts ~80% dolerite, 20% granite -- dolerites generally subrounded to rounded.</p> <p>Lathe-like sedimentary intraclasts (1 cm long) at 140.05 m.</p>
						6	3			SY 2/1	L		
						7	5				T		
139.42						7	2				H		
						9	2				F		
						7	7				E		
						8	1				D		
139.62						6	1						
						6	2						
						4	3						
						3	5						
139.82													
140.02													
140.22													

Notes



Cape Roberts 1

Scale 1:5

Sheet Interval 140.22 to 141.35 Sheet No. 110

Core Type HO BOX 37 Logged by: LAK on 24/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
140.22	↓						5	8	•			L	<u>140.22-141.10 m:</u> CLAST-RICH to CLAST-POOR MUDDY DIAMICTITE, olive black and poorly sorted.
	↓								•			I	
	↓								•			T	
	↓						4	2	•			H	
140.45		YELLOW SPACER										I	Clasts ~80% granite, ~20% dolerite.
140.65												F	
							11	1				E	<u>141.10-141.24 m:</u> CLAYEY SILTSTONE, olive black and slightly bioturbated.
140.75							4	3	•			D	
							4	2					
140.95	↓								•				<u>141.35-141.24 m:</u> CLAYEY SILTSTONE, with wispy laminations at 141.33 m, grading upward to sandy mudstone/muddy sandstone, with wispy/ faint parallel laminations
	↓						2	1	•				
	↓												
	↓						D	3					
141.15	↓												
	↓												
	↓												
141.35													

Notes



Cape Roberts 1

Scale 1:5

Sheet Interval 141.35 to 142.35 Sheet No. 111

Core Type HQ BOX 37 Logged by: LAK on 24/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
141.35									(≡)mm		5Y 2/1	L	141.35-141.51 and 141.62-142.35 m
							1	<1	(≡)mm			T	CLAYEY SILTSTONE, olive black.
141.55							1	<1	(≡)mm			F	At 141.35-141.51 m, clayey siltstone is faintly laminated
							1	2				E	from 141.43-141.51 m and grades up across loaded contact into faintly laminated silty sandstone.
141.75												D	
141.82													
			FAST-TRACK SAMPLE										
141.92			141.82-141.92 m										
			STRENGTH TEST										
141.95			141.92-142.02 m.										
142.02													
													At 141.62-142.35 m, clayey siltstone is massive and slightly bioturbated. Lenses of silty sandstone occur at 141.70 m.
142.15													141.51-141.62 m Massive and slightly bioturbated sandstone and siltstone
142.35													

Notes

Smear slide at 142.20 m = clayey siltstone

Selected smear slide images are included by name in the variation(s).

Mineral filled vertical fractures at 142.20-142.35 m.



Cape Roberts 1

Sheet Interval 142.35 to 143.65 Sheet No. 112

Scale 1:5

Core Type HQ BOX 38 Logged by: LAK on 25/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Disturbance	Colour	Consolidation	Description
142.35			/				0	0		4	SY 4/1	L	<u>142.35 - 143.65 m:</u> SILTY CLAYSTONE, olive gray, and bioturbated. 2 clasts: 1 granitic, 1 dolerite, both angular & ~4 mm ϕ .
			/							4		I	
			/							4		T	
			/							4		H	
142.55			/							4		I	
			/							4		F	
			/							4		I	
			/							4		E	
142.75			/							4		D	
			/							4			
142.95			/							4			
143.25			/				0	0		4			
			/				1	21	•	4			
143.45			/				0	0		4			
			/				1	21	•	4			
143.65			/							4			

Notes



Cape Roberts 1

Sheet Interval 143.65 to 144.65 Sheet No. 113

Scale 1:5

Core Type HQ BOX 38Logged by: LAK on 25/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
143.65													143.65-144.65m:
							1?	<1		4/1	54	L	SILTY CLAYSTONE,
									o?			I	olive gray and
							φ	φ				T	bioturbated
												H	throughout,
143.85									(≈)			I	Possible claystone
									o?			F	intraclasts (angular)
							1?	<1	(≈)			I	at 143.75m and
												E	143.83m.
												D	Wispy lamination of
							φ	φ	(≈)†				light olive gray
144.05													siltstones at
							φ	φ					143.86-143.99m,
													(faulted at 143.99m),
													144.36-144.33m
							1	7	•				Wispy lamination of
144.25													black claystone at
							φ	φ					144.31m.
									(≈)				2cm down core at
							φ	φ	↓				144.20-144.22m.
144.45													
144.65													

Notes

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Cape Roberts 1

Scale 1:5

Sheet Interval 144.65 to 145.09 Sheet No. 114

Core Type HQ BOX 38 Logged by: LAK on 25/10/97

Depth (mbsf)	Drilling distance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
144.65							0	0	(~)	4	SP 4/1	L	<u>144.65-145.09 m:</u> SILTY CLAYSTONE, olive gray and moderately bioturbated. Wispy lamination present at 144.68 m, 144.80-144.83 m, and 145.45-145.48 m, with underlying microloads at 145.48m Faint contact/lamina of black claystone 145.33 m.
144.85	\\								(~)	4		H	
144.93	\\									4		I	
145.02	\\									4		F	
										4		E	
145.24										4		D	
145.44									(~)	4			
145.59										4			
		WHITE SPACER											

Notes



Cape Roberts 1

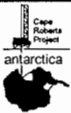
Sheet Interval 145.59 to 146.59 Sheet No. 115

Scale 1:5

Core Type HQ BOX 39 Logged by: LAL on 25/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of clasts	% clasts	structure	Bioturbation	Colour	Consolidation	Description
145.59							0	0		⚡	SY 4/1		145.59 - 146.59 m:
145.79									(~)	⚡			SILTY CLAYSTONE, olive gray and moderately bioturbated.
145.99										⚡			Wispy lamination at 145.80-145.82m, and 146.47-146.51m,
146.19										⚡			Granule-sized granitic clast at 146.27m.
146.39							φ	φ		⚡			
146.59										⚡			

Notes



Cape Roberts 1

Scale 1:5

Sheet Interval 146.59 to 147.58 Sheet No. 116

Core Type HQ BOX 39 Logged by: LAK on 25/10/97

Depth (mbsf)	Drilling disturbance	Core Face	clay	silt	sand	gravel	number of classes	% classes	structure	Bioturbation	Colour	Consolidation	Description
146.59											5Y 4/1	L I T H I F I E D	146.59 - 147.19 m: SILTY CLAYSTONE, olive gray and bioturbated throughout. Pyritized sandy burrow fill at 147.07 - 147.10 m. Deformed contact at 147.19 m, underlain by
146.79													SILTY SANDSTONE, olive gray and deformed, with intercalate of silty sandstone and silty claystone at 147.32 - 147.47 m
146.99													147.48 - 147.53 m SILTY SANDSTONE, massive with 1 granitic clast.
147.19							70	10					
147.39							10	50					
147.58							1	<1					

Notes

Cape Roberts

Sheet Interval 147.58 to 147.69 Sheet No. 117

Scale 1:5 Visual Description

Core Type HQ BOX 39 Logged by: LAK on 25/10/97

Depth (mbsf)	Drilling Disturbance	Core Face	Clay	Silt	Sand Gravel	number of clasts	% clasts	structure	bioturbation Intensity	colour	consolidation	Description
147.58			///			∅	∅		4	SY 4/1	L I T H I F I E D	147.58 - 147.69 m: SILTY SANDSTONE, olive gray, fine- grained, and bioturbated.
147.69		EMPTY										