

SITE 1038 HOLE A CORE 1R Recovery 2% CORED 0.0 - 8.5 mbsf

1038A-1R

1038A-2R

1038A-3R

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
1R					Unit v					<p>MASSIVE SULFIDE</p> <p>Major Lithologies: Massive vuggy pyrite breccia and chimney fragments. Clastic vuggy pyrite consisting mainly of chimney fragments, some with conduits lined with euhedral pyrite. Anhydrite partly infills open spaces in Pieces 1, 2, 4 and 5. Silica infills vuggy pyrite in Piece 3.</p>

SITE 1038 HOLE A CORE 2R Recovery 1% CORED 8.5 - 18.2 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
2R					Unit II					<p>CLAYSTONE</p> <p>Major Lithology: Gray (N6), moderately indurated, non-calcareous CLAYSTONE. There are no obvious sedimentary structures. One piece of massive sulfide is also present and probably fell into the hole from above.</p>

SITE 1038 HOLE A CORE 3R Recovery 1% CORED 18.2 - 27.9 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
3R					Unit 2					<p>CLAYSTONE</p> <p>Major Lithology: Highly altered, bluish gray (5B6/1), very soft but compact, brecciated CLAYSTONE. May be altered to Mg-chlorite or to chlorite. Pieces 3, 4, and 5 probably fell into the hole from above. Piece 3 is a massive pyrrhotite/pyrite breccia, variably infilled with silica. Pieces 4 and 5 are pyrite chimney rubble.</p>

SITE 1038 HOLE A CORE 4R Recovery 0% CORED 27.9 - 37.6 mbsf

1038A-4R

1038A-5R

1038A-8R

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
										<small>clay</small> <small>silt</small> <small>fine</small> <small>medium</small> <small>fine</small> <small>very coarse</small> <small>granule</small>
28 37.6			X			v				MASSIVE SULFIDE Major Lithology: Probable fall-in from above. Piece 1 is a massive, bronzy, hexagonal pyrrhotite, partly altered to vuggy pyrite along later fractures. Vugs are partly filled with a soft, clear mineral, probably anhydrite.

SITE 1038 HOLE A CORE 5R Recovery 0% CORED 37.6 - 47.3 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
										<small>clay</small> <small>silt</small> <small>fine</small> <small>medium</small> <small>fine</small> <small>very coarse</small> <small>granule</small>
38 47.3			X			v				MASSIVE SULFIDE Major Lithology: Probable fall-in from above. Compact massive pyrite.

1038A-6R NO RECOVERY

1038A-7R NO RECOVERY

SITE 1038 HOLE A CORE 8R Recovery 10% CORED 66.6 - 76.2 mbsf

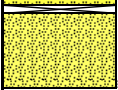
METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
										<small>clay</small> <small>silt</small> <small>fine</small> <small>medium</small> <small>fine</small> <small>very coarse</small> <small>granule</small>
67 76.2				v	Unit II	←SS				CLAYSTONE and CLAYEY SANDY SILTSTONE Major Lithologies: Dark gray (N4) calcareous CLAYSTONE with abundant nanfossils and black fossilized wood(?). Interval 169-1038A-8R-1, 64-80 cm, is gray (N5), bioturbated CLAYEY SANDY SILTSTONE.

SITE 1038 HOLE A CORE 9R Recovery 7% CORED 76.2 - 85.8 mbsf

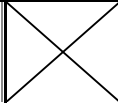
1038A-9R

1038A-10R


1038A-11R

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
76.2 - 85.8		very fine, fine, medium, coarse, very coarse, granule			Unit III		SS, IW			FINE SANDSTONE Major Lithology: Gray (N5) homogeneous, moderately indurated, micaceous FINE SANDSTONE. The whole sequence is very calcareous.

SITE 1038 HOLE A CORE 10R Recovery 0% CORED 85.8 - 95.4 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
85.8 - 95.4		very fine, fine, medium, coarse, very coarse, granule								MASSIVE SULFIDE Major Lithology: MASSIVE SULFIDE, one piece that fell into the hole.

SITE 1038 HOLE A CORE 11R Recovery 1% CORED 95.4 - 104.9 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
95.4 - 104.9		very fine, fine, medium, coarse, very coarse, granule			Unit III		SS			MEDIUM SANDSTONE Major Lithology: Greenish gray (5BG5/1), weakly to moderately indurated, calcareous MEDIUM SANDSTONE.

SITE 1038 HOLE A CORE 12R Recovery 1% CORED 104.9 - 114.5 mbsf

1038A-12R

1038B-1R

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
105.0 104.5 104.0 103.5 103.0 102.5 102.0 101.5 101.0 100.5 100.0 99.5 99.0 98.5 98.0 97.5 97.0 96.5 96.0 95.5 95.0 94.5 94.0 93.5 93.0 92.5 92.0 91.5 91.0 90.5 90.0 89.5 89.0 88.5 88.0 87.5 87.0 86.5 86.0 85.5 85.0 84.5 84.0 83.5 83.0 82.5 82.0 81.5 81.0 80.5 80.0 79.5 79.0 78.5 78.0 77.5 77.0 76.5 76.0 75.5 75.0 74.5 74.0 73.5 73.0 72.5 72.0 71.5 71.0 70.5 70.0 69.5 69.0 68.5 68.0 67.5 67.0 66.5 66.0 65.5 65.0 64.5 64.0 63.5 63.0 62.5 62.0 61.5 61.0 60.5 60.0 59.5 59.0 58.5 58.0 57.5 57.0 56.5 56.0 55.5 55.0 54.5 54.0 53.5 53.0 52.5 52.0 51.5 51.0 50.5 50.0 49.5 49.0 48.5 48.0 47.5 47.0 46.5 46.0 45.5 45.0 44.5 44.0 43.5 43.0 42.5 42.0 41.5 41.0 40.5 40.0 39.5 39.0 38.5 38.0 37.5 37.0 36.5 36.0 35.5 35.0 34.5 34.0 33.5 33.0 32.5 32.0 31.5 31.0 30.5 30.0 29.5 29.0 28.5 28.0 27.5 27.0 26.5 26.0 25.5 25.0 24.5 24.0 23.5 23.0 22.5 22.0 21.5 21.0 20.5 20.0 19.5 19.0 18.5 18.0 17.5 17.0 16.5 16.0 15.5 15.0 14.5 14.0 13.5 13.0 12.5 12.0 11.5 11.0 10.5 10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0	12R 104.9-114.5	Very fine medium coarse granular			Unit III	PP SS				MEDIUM SANDSTONE Major Lithology: Greenish gray (5BG5/1), faintly laminated, weakly to moderately indurated, weakly to moderately calcareous, MEDIUM SANDSTONE. Green color in this and last core appears to be imparted by green biotite flakes.

SITE 1038 HOLE B CORE 1R Recovery 23% CORED 0.0 - 6.8 mbsf

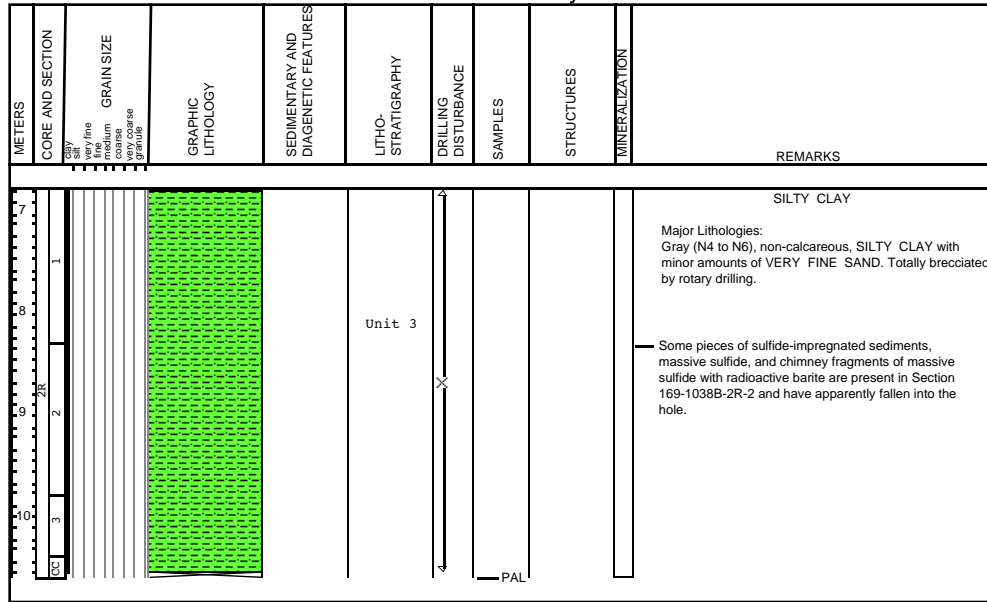
METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0	1R 0.0-6.8	Very fine medium coarse granular			Unit II	PP IW				FINE SAND Major Lithologies: Gray (N5), soupy, poorly sorted, SILT to MEDIUM SAND, dominantly FINE SAND, containing white clay aggregates (zeolite?), quartz, feldspar, and minor amounts of glass shards and sanidine. In Section 169-1038B-1R, at 37-40 cm, is one black silty-sandy chip (5 cm in diameter) of sulfides, quartz, and feldspar. Finely disseminated sand-sized sulfides are present throughout.

SITE 1038 HOLE B CORE 2R Recovery 49% CORED 6.8 - 14.4 mbsf

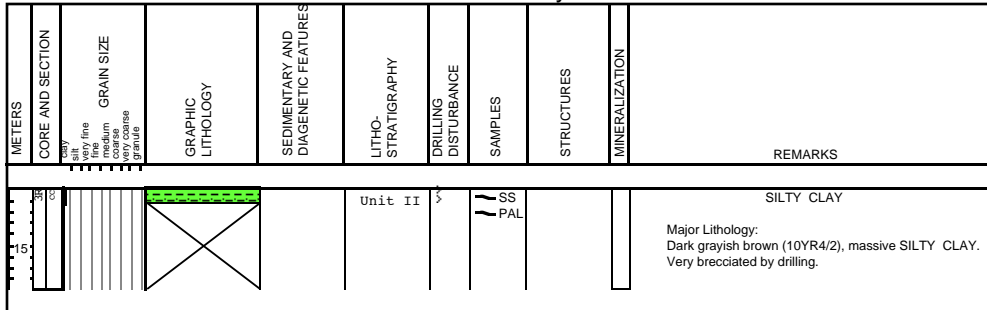
1038B-2R

1038B-3R

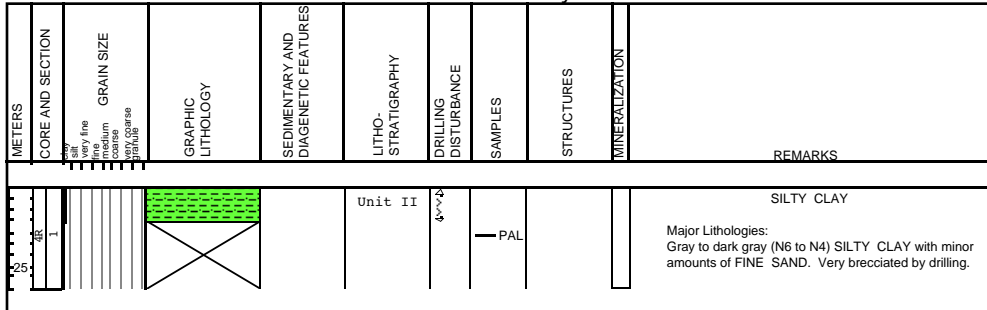
1038B-4R



SITE 1038 HOLE B CORE 3R Recovery 1% CORED 14.4 - 24.2 mbsf



SITE 1038 HOLE B CORE 4R Recovery 3% CORED 24.2 - 33.9 mbsf

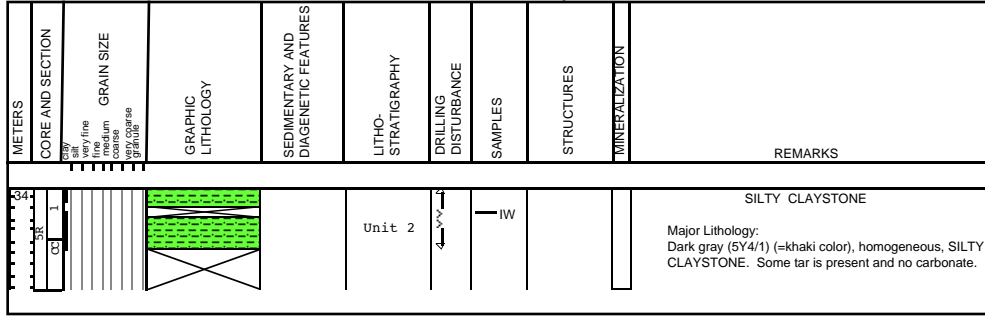


SITE 1038 HOLE B CORE 5R Recovery 6% CORED 33.9 - 43.6 mbsf

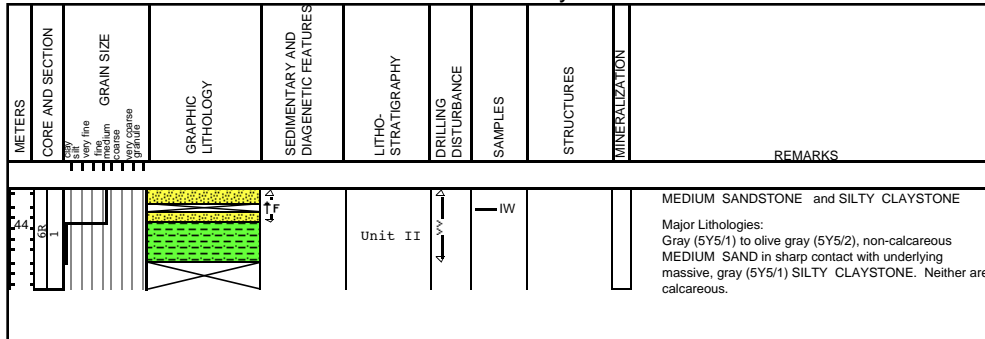
1038B-5R

1038B-6R

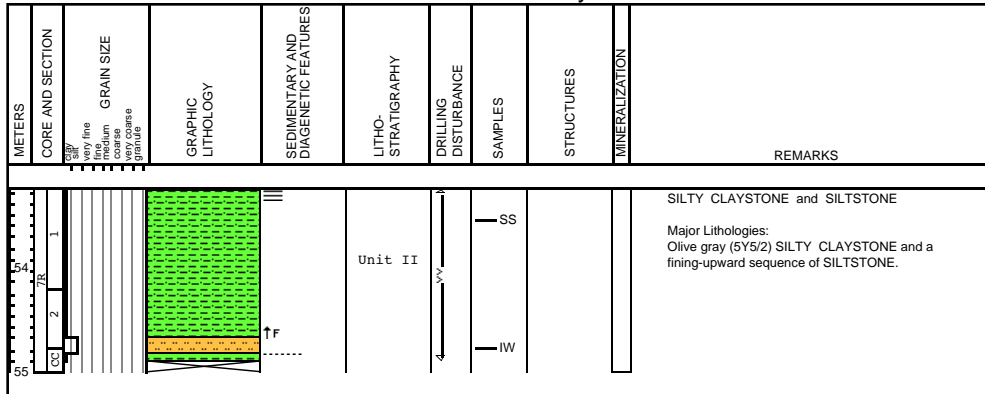
1038B-7R



SITE 1038 HOLE B CORE 6R Recovery 7% CORED 43.6 - 53.2 mbsf



SITE 1038 HOLE B CORE 7R Recovery 17% CORED 53.2 - 62.8 mbsf



SITE 1038 HOLE B CORE 8R Recovery 15% CORED 62.8 - 72.4 mbsf

1038B-8R

1038B-9R

1038B-10R

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
53 54	CC 3R 1	very fine fine medium coarse very coarse granular			Unit II		IW			SILTY CLAYSTONE Major Lithology: Dark gray(5Y5/1), massive, moderately indurated, non-calcareous SILTY CLAYSTONE.

SITE 1038 HOLE B CORE 9R Recovery 6% CORED 72.4 - 82.0 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
73 74	CC 3R 1	very fine fine medium coarse very coarse granular			Unit II Unit III		PAL			MEDIUM to COARSE SANDSTONE Major Lithologies: Dark gray (5Y5/1) to olive gray (5Y5/2), non-calcareous, moderately indurated, MEDIUM to COARSE SANDSTONE. Also there is non-calcareous, moderately indurated SILTY CLAYSTONE at the top of Section 169-1038B-9R-1 and mixed into the core catcher.

SITE 1038 HOLE B CORE 10R Recovery 0% CORED 82.0 - 91.6 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
83	CC 3R 1	very fine fine medium coarse very coarse granular			Unit III					SILTY CLAYSTONE Major Lithology: Dark gray (5Y5/1), moderately indurated, non-calcareous, massive SILTY CLAYSTONE.

SITE 1038 HOLE B CORE 11R Recovery 3% CORED 91.6 - 101.2 mbsf

1038B-11R

1038B-12R

1038B-13R

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
91.6 92 92.4 92.8 93.2 93.6 94 94.4 94.8 95.2 95.6 96 96.4 96.8 97.2 97.6 98 98.4 98.8 99.2 99.6 100 100.4 100.8 101.2	CC 1	very fine fine medium coarse granule			Unit III	W				MEDIUM to COARSE SANDSTONE Major Lithologies: Greenish gray (5GY5/1), moderately indurated, noncalcareous, massive MEDIUM SANDSTONE and lesser amounts of COARSE SANDSTONE.

SITE 1038 HOLE B CORE 12R Recovery 3% CORED 101.2 - 110.9 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
101.2 101.6 102 102.4 102.8 103.2 103.6 104 104.4 104.8 105.2 105.6 106 106.4 106.8 107.2 107.6 108 108.4 108.8 109.2 109.6 110 110.4 110.8 110.9	12R	very fine fine medium coarse granule			Unit III	W				MEDIUM SANDSTONE Major Lithology: Greenish gray (5Y5/1) MEDIUM SANDSTONE.

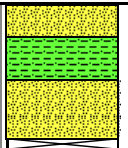
SITE 1038 HOLE B CORE 13R Recovery 18% CORED 110.9- 120.5 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
110.9 111.3 111.7 112.1 112.5 112.9 113.3 113.7 114.1 114.5 114.9 115.3 115.7 116.1 116.5 116.9 117.3 117.7 118.1 118.5 118.9 119.3 119.7 120.1 120.5	CC 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169	very fine fine medium coarse granule			Unit 3	W SS SS				MEDIUM SANDSTONE and CLAYSTONE Major Lithologies: Dark greenish gray (5GY4/1), moderately indurated, massive, non-calcareous MEDIUM SANDSTONE. Green color may be imparted by green needles of clino-amphiboles, possibly actinolite. There is no apparent grading throughout the interval. There are small (1 to 2 cm) cavities that are filled with a white, very finely crystalline material, possibly anhydrite. In Section 169-1038B-13R-CC is an intact interval (between 7 and 19 cm) of dark gray (N4), indurated CLAYSTONE. This piece has a 1.5 cm subvertical crack filled with quartz and anhydrite or barite.

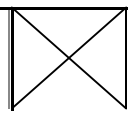
SITE 1038 HOLE C CORE 1R Recovery 8% CORED 0.0 - 14.6 mbsf

1038C-1R

1038C-2R

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
0.0 1R 1 CC	0.0 1R 1 CC	very fine fine medium coarse granular			Unit II					<p>SILT to MEDIUM SAND and SILTY CLAY</p> <p>Major Lithologies: Dark gray (N3) to medium gray (N4) SILT to MEDIUM SAND. Interval 169-1038C-1R-1, 0 to 32 cm contains SILTY CLAY aggregates, quartz, feldspar, mica, and sulfides (10%). Interval 169-1038C-1R-1, 78 to 112 cm contains 40 to 50% sulfides commonly with rough, jagged rims. Sulfides are pyrite, sphalerite, pyrrhotite, and minor chalcopyrite. Interval 169-1038C-1R-1, 0-20 cm contains oil.</p> <p>Minor Lithology: Medium gray (N6) SILTY CLAY with sand-sized sulfides (10-20%) and silt-sized quartz.</p> <p>CLAYEY SILT and CLAYSTONE</p> <p>Minor Lithologies: Medium gray (N6) CLAYEY SILT contains 7 clasts of hydrothermal products: massive pyrrhotite and sphalerite, massive sphalerite with a thick crust of spongy barite (?), gray slightly indurated CLAYSTONE and CLAYSTONE with 1-2 mm wide veins of pyrrhotite crystals.</p>

SITE 1038 HOLE C CORE 2R Recovery 1% CORED 14.6 - 22.6 mbsf

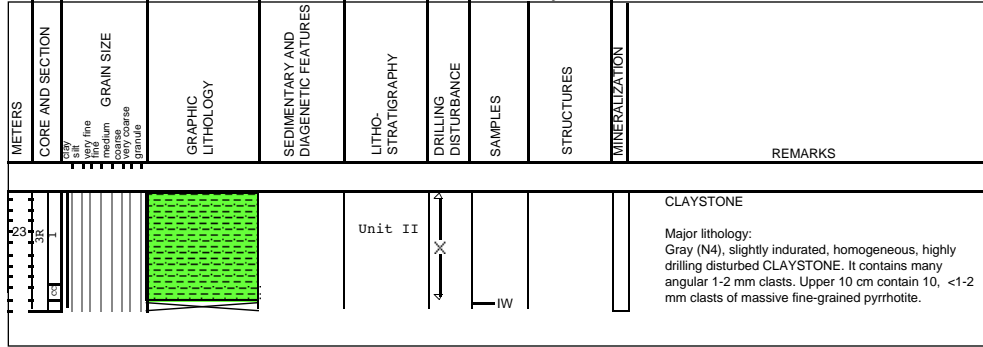
METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
14.6 2R 22.6	14.6 2R 22.6	very fine fine medium coarse granular								<p>MASSIVE SULFIDE and MUD</p> <p>Major Lithologies: Two clasts of massive pyrrhotite + sphalerite + isocubanite + barite ± pyrite in gray (N4) MUD. MASSIVE SULFIDE clasts have a compact texture with some bands and edges which have a higher proportion of sphalerite, isocubanite, and barite. The bulk of the clasts are composed of interlocking fresh pyrrhotite crystals.</p>

SITE 1038 HOLE C CORE 3R Recovery 11% CORED 22.6 - 32.2 mbsf

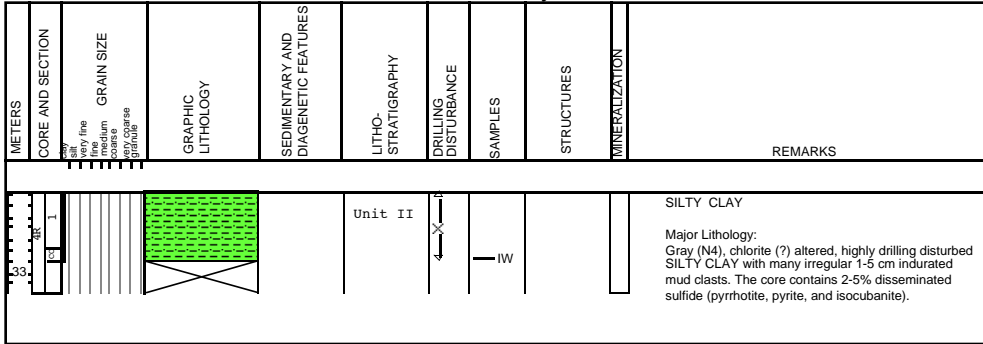
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1038C-4R

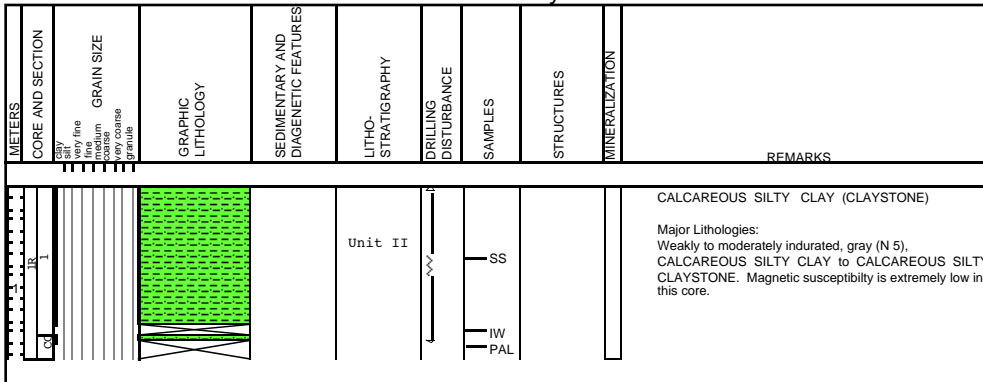
1038D-1R



SITE 1038 HOLE C CORE 4R Recovery 11% CORED 32.2 - 41.8 mbsf



SITE 1038 HOLE D CORE 1R Recovery 11% CORED 0.0 - 14.6 mbsf



SITE 1038 HOLE D CORE 2R Recovery 7% CORED 14.6 - 24.6 mbsf

1038D-2R

1038D-3R

1038D-4R

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
14.6 15.0 15.4 15.8 16.2 16.6 17.0 17.4 17.8 18.2 18.6 19.0 19.4 19.8 20.2 20.6 21.0 21.4 21.8 22.2 22.6 23.0 23.4 23.8 24.2 24.6	1038D-2R 1038D-3R 1038D-4R	very fine fine medium coarse very coarse granular			Unit II		IW IW PAL			SILTY CLAYSTONE Major Lithologies: Weakly to moderately indurated, gray (N 5), CALCAREOUS SILTY CLAYSTONE and SILTY CLAYSTONE. Section 169-1038D-2R-1 is weakly calcareous; Section 169-1038D-2R-2 is noncalcareous, as are all of the deeper cores from Hole 1038D.

SITE 1038 HOLE D CORE 3R Recovery 6% CORED 24.6 - 34.2 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
24.6 25.0 25.4 25.8 26.2 26.6 27.0 27.4 27.8 28.2 28.6 29.0 29.4 29.8 30.2 30.6 31.0 31.4 31.8 32.2 32.6 33.0 33.4 33.8 34.2	1038D-3R 1038D-4R	very fine fine medium coarse very coarse granular			Unit 2		IW PAL			SILTY CLAYSTONE Major Lithology: Gray (N 5), weakly indurated, noncalcareous, clay-altered SILTY CLAYSTONE. Black carbon "soot" is common in the water in the pore spaces in the Interval 169-1038D-3R-1, 0-25 cm.

SITE 1038 HOLE D CORE 4R Recovery 2% CORED 34.2 - 43.8 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
34.2 34.6 35.0 35.4 35.8 36.2 36.6 37.0 37.4 37.8 38.2 38.6 39.0 39.4 39.8 40.2 40.6 41.0 41.4 41.8 42.2 42.6 43.0 43.4 43.8	1038D-4R	very fine fine medium coarse very coarse granular			Unit II		IW PAL			FINE SANDSTONE and SILTY CLAYSTONE Major lithologies: In this core 10 cm of weakly indurated, olive gray (5Y 5/1), noncalcareous, FINE SANDSTONE overlies 10 cm of weakly indurated, gray (N 5), noncalcareous, but highly altered SILTY CLAYSTONE. Black carbon "soot" is present in the water in the core voids.

SITE 1038 HOLE E CORE 1R Recovery 0.5% CORED 0.0 - 13.3 mbsf

1038E-1R

1038E-2R

1038E-3R

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
										very fine fine medium coarse very coarse granule
0.0 - 13.3	1R		X							MASSIVE SULFIDE Major Lithology: Three pieces of massive, fine-grained, slightly porous pyrrhotite and pyrite with minor sphalerite and trace of anhydrite.

SITE 1038 HOLE E CORE 2R Recovery 1% CORED 13.3 - 21.4 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
										very fine fine medium coarse very coarse granule
13.3 - 21.4	2R		X							MASSIVE SULFIDE and SULFIDE-VEINED CLAYSTONE Major Lithologies: Three pieces of MASSIVE SULFIDE (pyrrhotite and minor pyrite, sphalerite) and strongly altered SULFIDE-VEINED CLAYSTONE (25% sulfide). Barite may be included in some crystals.

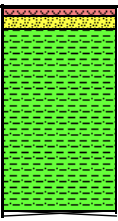
SITE 1038 HOLE E CORE 3R Recovery 0.1% CORED 21.4 - 31.0 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
										very fine fine medium coarse very coarse granule
21.4 - 31.0	3R		X							MASSIVE SULFIDE Major Lithology: One piece of MASSIVE SULFIDE with a very fine-grained pyrrhotite "core," to a central fine-grained pyrite (95%) with minor fine-grained black sphalerite (5%) to an outer rim zone of 1-2 mm hexagonal pyrrhotite plates in a mesh texture.

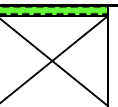
SITE 1038 HOLE E CORE 4R Recovery 23% CORED 31.0 - 40.6 mbsf

1038E-4R

1038F-1R

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
31.0 32 33	CC 1 CC 2	very fine fine medium coarse granule			Unit II					<p>SULFIDE-IMPREGNATED SANDSTONE, MEDIUM SANDSTONE, and SILTY CLAY</p> <p>Major lithologies: Dark gray (N4), SILTY CLAY with disseminated calcite crystals. In Section 169-1038E-4R-2 and -CC, SILTY CLAY is slightly indurated. Section 169-1038E-4R1, 0-8 cm is a clast of highly silicified, SULFIDE-IMPREGNATED SANDSTONE.</p> <p>Minor Lithology: Pieces of MEDIUM to COARSE SANDSTONE are in Section 169-1038E-4R-1, 8-24 cm.</p>

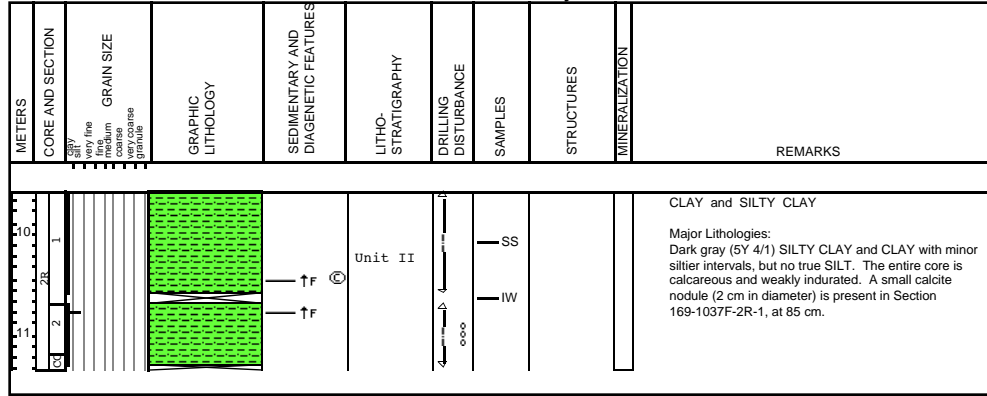
SITE 1038 HOLE F CORE 1R Recovery 1% CORED 0.0 - 9.6 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
0 1	JR CC	very fine fine medium coarse granule			Unit II					<p>CLAY</p> <p>Major lithology: Dark gray (5Y 4/1) CLAY, homogeneous.</p>

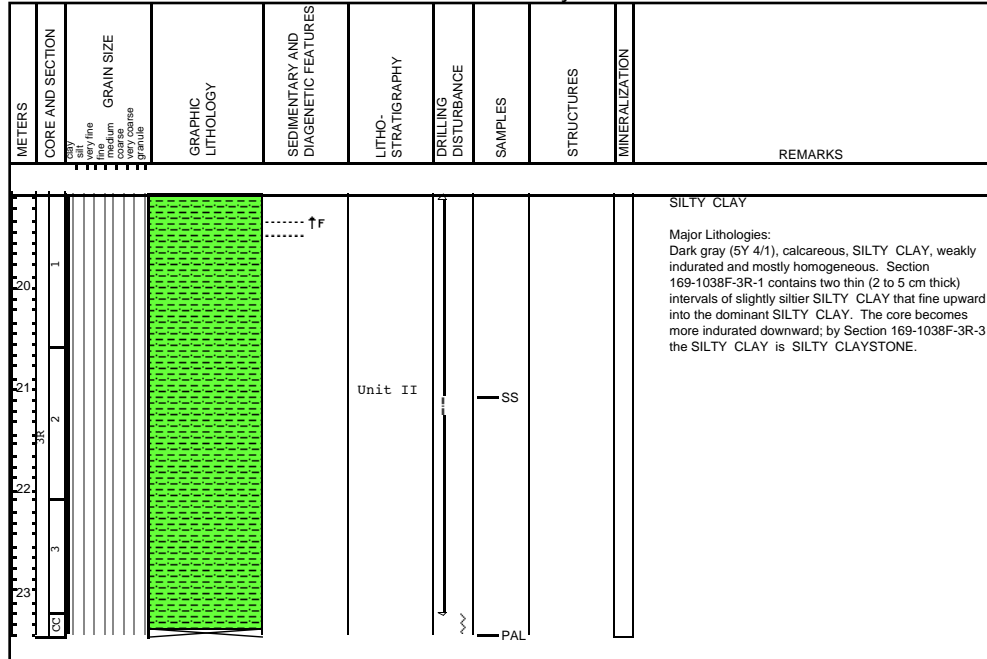
SITE 1038 HOLE F CORE 2R Recovery 18% CORED 9.6 - 19.1 mbsf

1038F-2R

1038F-3R



SITE 1038 HOLE F CORE 3R Recovery 44% CORED 19.1 - 28.7 mbsf



SITE 1038 HOLE F CORE 4R Recovery 4% CORED 28.7 - 38.4 mbsf

1038F-4R

1038G-1X

1038G-2X

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
29.0	CC	very fine fine medium coarse granule			Unit II					CLAYEY SILTSTONE and SILTY CLAYSTONE Major Lithologies: Dark gray (5Y 4/1) calcareous, moderately indurated CLAYEY SILTSTONE and dark gray (5Y 4/1), calcareous, weakly to moderately indurated SILTY CLAYSTONE. The SILTSTONE intervals fine upward, but are otherwise structureless.

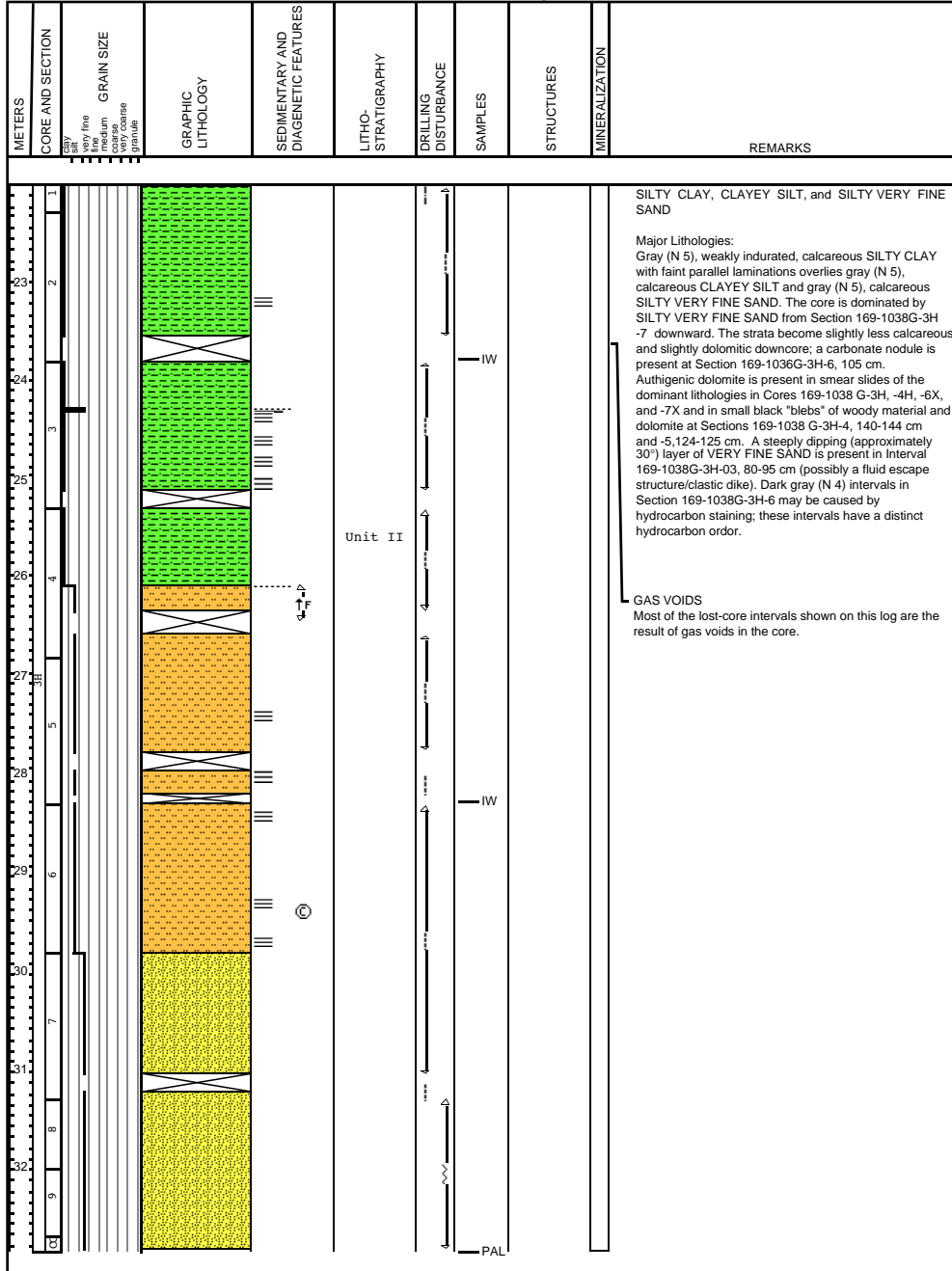
SITE 1038 HOLE G CORE 1X Recovery 0% CORED 0.0 - 12.2 mbsf

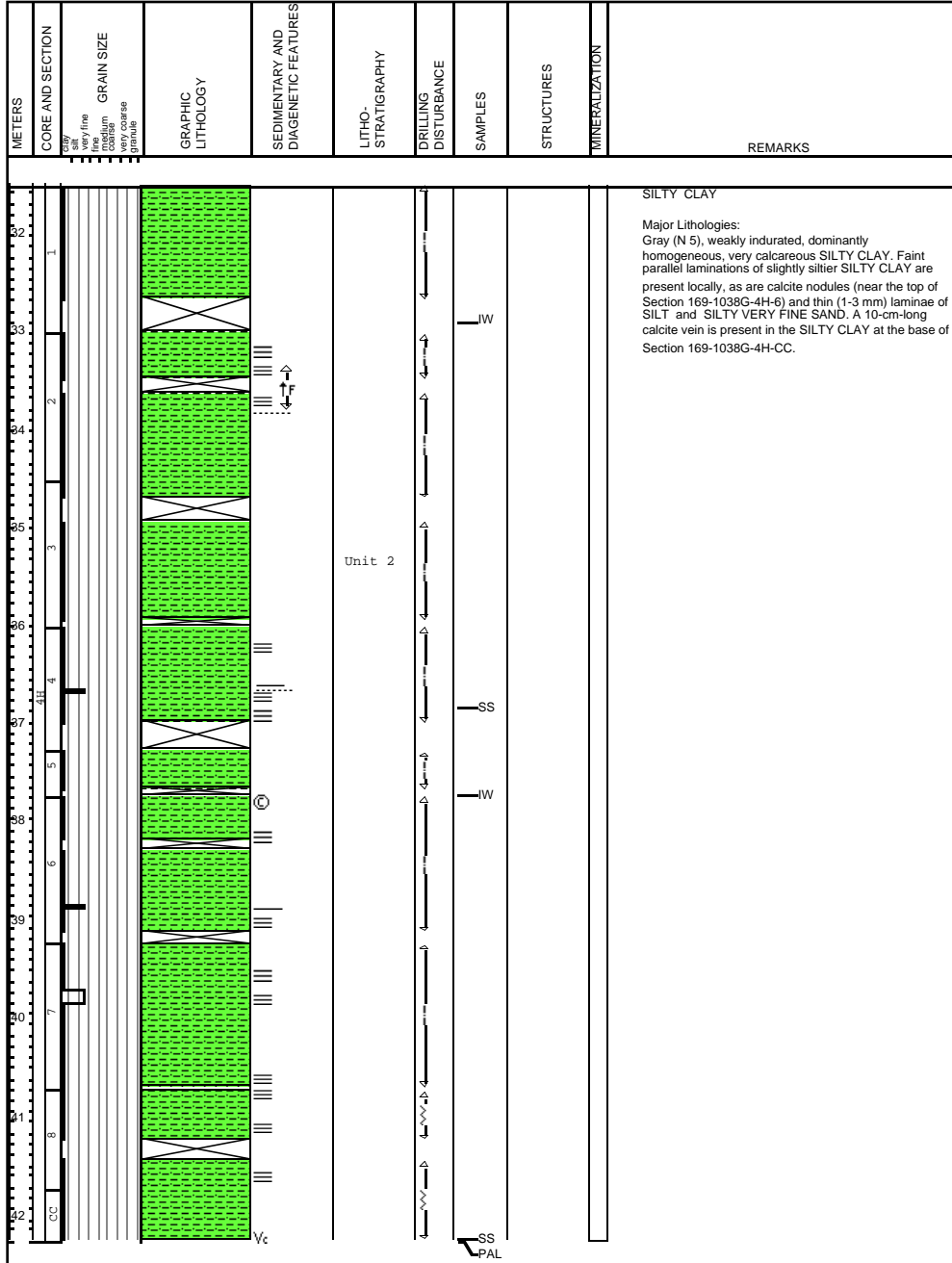
METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
1.0	1X	very fine fine medium coarse granule								CARBONATE NODULES Major Lithology: This core consists of three bluish to greenish gray (5B 6/1 to 5GY 4/1) CALCITE NODULES, probably cementing clay. The center of one of the nodules is dark greenish gray (5GY 4/1) and well silicified.

SITE 1038 HOLE G CORE 2X Recovery 1% CORED 12.2 - 22.0 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
13.0	CC	very fine fine medium coarse granule								CARBONATE NODULES Major Lithology: This core, like the one above it (Core 169-1038G-1X), consists of three CALCITE NODULES. The nodules are greenish gray (5GY 5/1) and have darker green, silicified interiors.

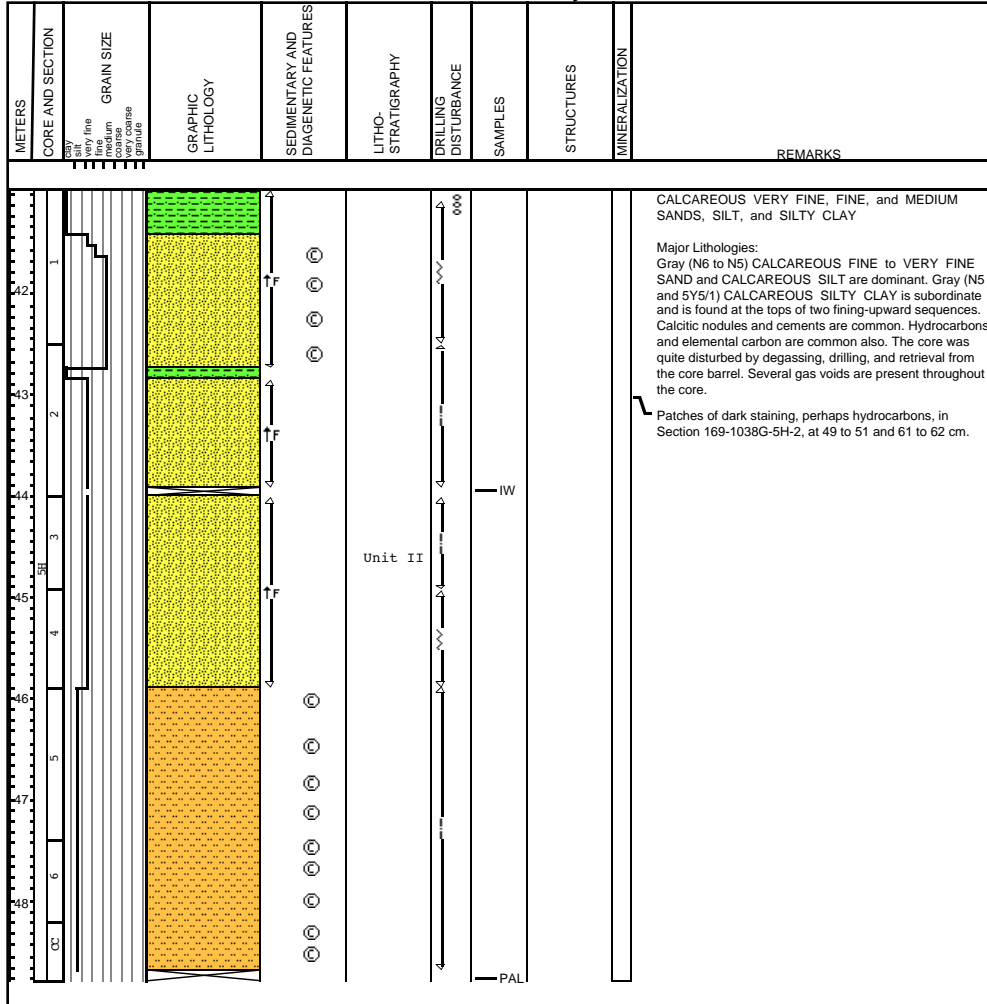
SITE 1038 HOLE G CORE 3H Recovery 122% CORED 22.0 - 31.5 mbsf 1038G-3H





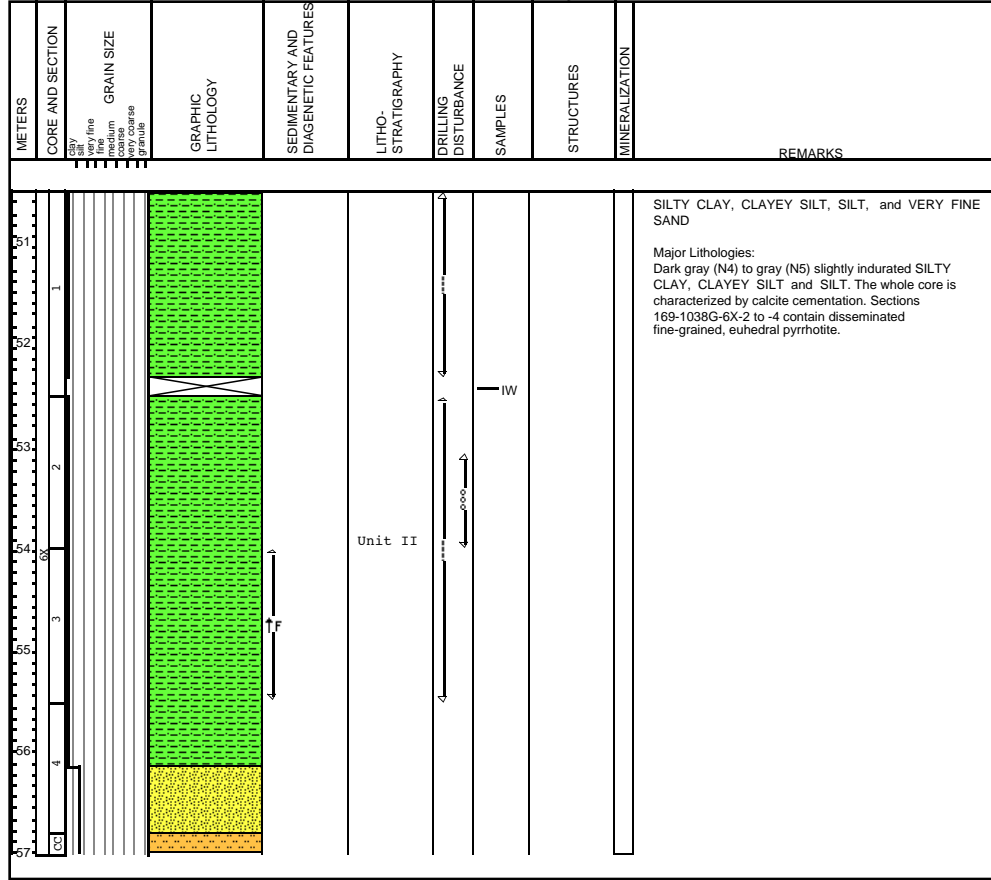
SITE 1038 HOLE G CORE 5H Recovery 80% CORED 41.0 - 50.5 mbsf

1038G-5H



SITE 1038 HOLE G CORE 6X Recovery 60% CORED 50.5 - 60.5 mbsf

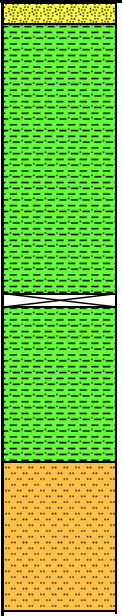
1038G-6X



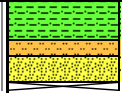
SITE 1038 HOLE G CORE 7X Recovery 61% CORED 60.5 - 70.1 mbsf

1038G-7X

1038G-8X

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
60.5 61 62 63 64 65 66	CC	very fine fine medium coarse very coarse granule			Unit II			IW		<p>SILTY CLAY, CLAYEY SILT, SILT and MEDIUM SAND</p> <p>Major Lithologies: Light gray (N6) to gray (N5), slightly indurated SILTY CLAY. Only Section 169-1038G-7X-1 is calcareous. There is almost no carbonate below this. Section 169-1038G-7X-2 contains about 5% disseminated sulfide, probably pyrrhotite. Section 169-1038G-7X-1, 0-23 cm is characterized by MEDIUM SAND with disseminations of mica and fine-grained pyrite. Sections 169-1038G-7X-4 to -CC contain CLAYEY SILT to SILT with traces of disseminated pyrite.</p>

SITE 1038 HOLE G CORE 8X Recovery 10% CORED 70.1 - 79.7 mbsf

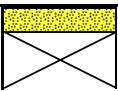
METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
70.1 71	CC	very fine fine medium coarse very coarse granule			Unit III			IW PAL		<p>SILTY CLAY, CLAYEY SILT and VERY FINE SAND</p> <p>Major Lithologies: Light gray (N6) to gray (N5) VERY FINE SAND fining upwards to CLAYEY SILT to SILTY CLAY. The top of the core contains calcareous concretions (1-3 cm in diameter) that have probably fallen into the hole. Otherwise the sediment is non-calcareous.</p>

SITE 1038 HOLE G CORE 9X Recovery 3% CORED 79.7 - 89.3 mbsf

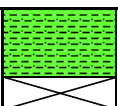
1038G-9X

1038G-10X

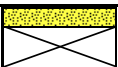
1038G-11X

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0 7.5 8.0 8.5 9.0	CC	clay silt fine medium coarse very coarse granule			Unit III		PAL			CLAYEY FINE SAND Major Lithologies: Light gray (N6) to gray (5Y 6/1) non-calcareous CLAYEY FINE SAND. At 8-9 cm a calcareous concretion occurs in the zone of suspected fall-in (0 to 9 cm). Disseminations of sulfides are present.

SITE 1038 HOLE G CORE 10X Recovery 8% CORED 89.3 - 98.9 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0 7.5 8.0 8.5 9.0	CC 1	clay silt fine medium coarse very coarse granule			Unit III		IW PAL			SILTY CLAY to CLAYEY SILT Major Lithologies: Gray (N5) SILTY CLAY to CLAYEY SILT. In Section 169-1038G-10X-1, at 3-8 cm, a carbonate concretion occurs within probable fall-in. Otherwise the sediment is non-calcareous.

SITE 1038 HOLE G CORE 11X Recovery 2% CORED 98.9 - 108.6 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0 7.5 8.0 8.5 9.0	CC	clay silt fine medium coarse very coarse granule			Unit III		IW			CLAYEY FINE SAND Major Lithologies: Gray (5Y 6/1), slightly calcareous, nonindurated CLAYEY FINE SAND with traces of disseminated sulfides. A carbonate concretion (4 cm in diameter) at the top occurs in a zone (0 to 14 cm) of drilling rubble. The brownish gray color of the FINE SAND is imparted by brown mica.

1038G-12X NO RECOVERY

SITE 1038 HOLE G CORE 13X Recovery 2% CORED 118.2 - 127.8 mbsf

1038G-13X

1038G-14X

1038G-15X

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
118.2 119 120 121 122 123 124 125 126 127.8	CC	very fine medium coarse granule			Unit III					FINE to MEDIUM SAND Major Lithology: Gray (5Y 6/1), slightly calcareous, FINE to MEDIUM SAND with disseminated sulfides. The top 5 cm are drilling rubble.

SITE 1038 HOLE G CORE 14X Recovery 2% CORED 127.8 - 137.4 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
127.8 128 129 130 131 132 133 134 135 136 137.4	CC	very fine medium coarse granule			Unit III		PAL			MEDIUM SAND Major Lithologies: Gray (5Y 5/1), homogeneous, weakly calcareous, MEDIUM SAND with some slightly indurated pieces of SANDSTONE and some 1 mm blebs of whitish calcite crystals.

SITE 1038 HOLE G CORE 15X Recovery 4% CORED 137.4 - 144.5 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
137.4 138 139 140 141 142 143 144 144.5	CC	very fine medium coarse granule			Unit IV		PAL			MEDIUM SAND Major Lithologies: Gray (5Y 5/1), weakly calcareous, MEDIUM SAND. The upper 14 cm is drilling rubble containing 4 angular pebbles of microgranular BASALT (1-2.5 cm in diameter). Basalt is microcrystalline, sparsely plagioclase-phyric, and sparsely vesicular. Other pieces include slightly cemented SANDSTONE and MUDSTONE.

SITE 1038 HOLE G CORE 16X Recovery 4% CORED 144.5 - 147.0 mbsf

1038G-16X

1038H-1X

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
147.0 146.5 146.0 145.5 145.0 144.5		very fine silt medium coarse granule					XRF TS			BASALT Major Lithology: Fine- to medium-grained moderately plagioclase-clinopyroxene phyric BASALT. These are nearly or completely holocrystalline; greenish-gray (5B4/1), chloritized (?), non-vesicular, and chlorite veined.

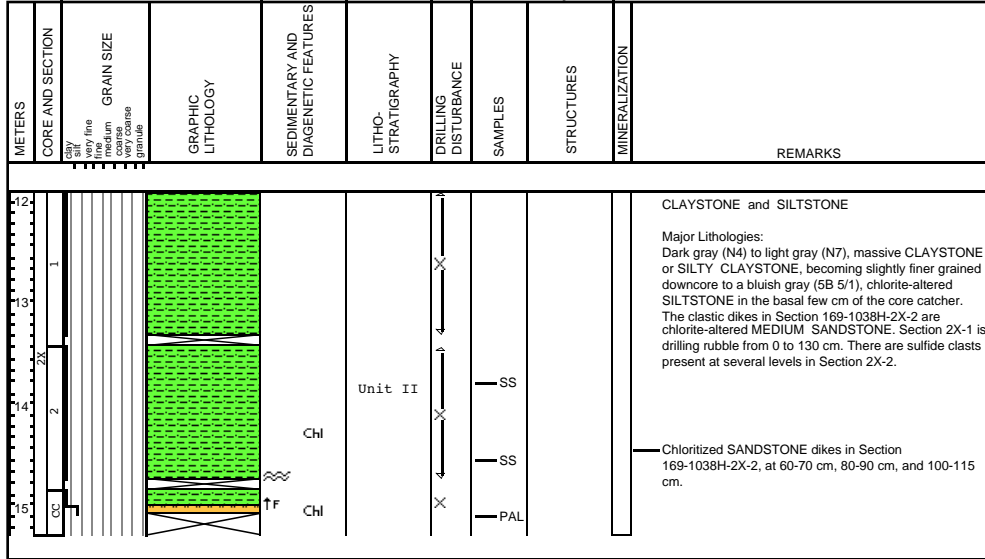
SITE 1038 HOLE H CORE 1X Recovery 42% CORED 0.0 - 11.9 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
11.9 11.5 11.0 10.5 10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0	CC 1X 2 3 4	very fine silt medium coarse granule			Unit II					CLAYSTONE, SILTSTONE and VERY FINE SANDSTONE Major Lithologies: A fining-upward sequence of VERY FINE SAND (base in Section 169-1038H-1X-4, 20 cm) to SILTSTONE (Section 1X-2) to SILTY CLAYSTONE (most of Section 1X-1). It is moderately indurated, but noncalcareous. It is clay altered and fractured. The coarser-grained strata are chloritized and are light greenish gray (5G7/1). The finer strata are gray (N5) to light gray (N7). The bottom of Section 169-1038H-1X-4 (52 to 103 cm) and the core catcher are drilling rubble. Veins in Sections 1X-3 and -4 have chlorite halos; the vein in Section 1X-4 is filled with a soft white silicate, either a clay mineral or a zeolite. Pyrrhotite angular clasts (1 to 10 cm in diameter) occur at 0-40 and 105-115 cm in Section 1X-1. Pyrrhotite rounded pebbles (5 to 15 mm in diameter) occur in a 2 cm thick bed, 79-81 cm in Section 169-1038H-1X-3.

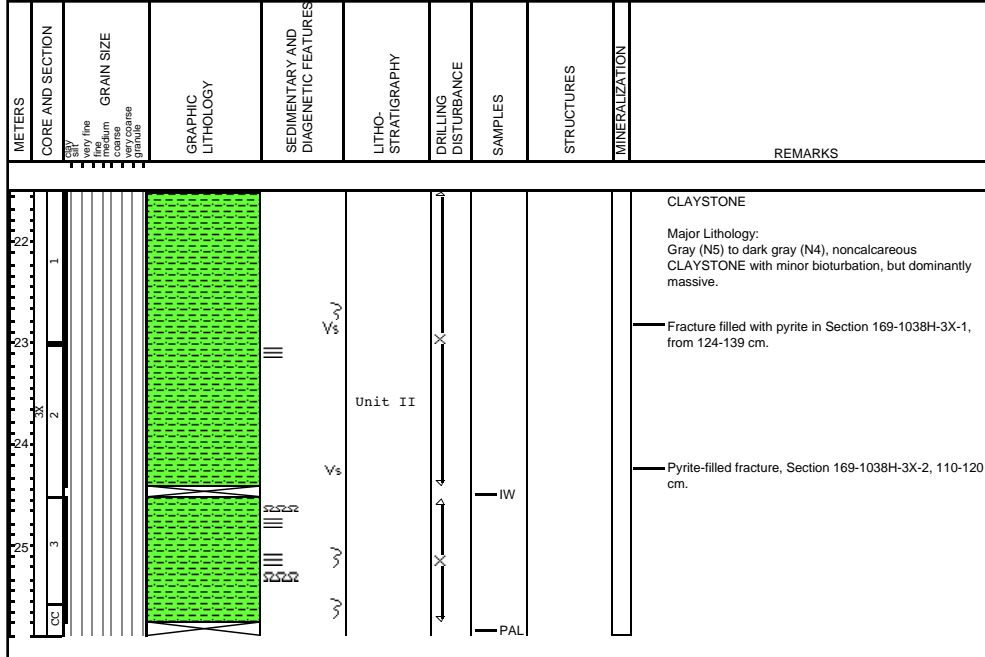
SITE 1038 HOLE H CORE 2X Recovery 33% CORED 11.9 - 21.5 mbsf

1038H-2X

1038H-3X



SITE 1038 HOLE H CORE 3X Recovery 51% CORED 21.5 - 29.8 mbsf



SITE 1038 HOLE H CORE 4X Recovery 67% CORED 29.8 - 39.1 mbsf 1038H-4X

METERS	CORE AND SECTION	GRAIN SIZE very fine fine medium coarse very coarse boulders	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
30 31 32 33 34 35 36	1 2 3 4 CC				Unit II		4X PAL	IW	<p>SILTY CLAYSTONE, CLAYEY SILTSTONE to SILTSTONE, and FINE SAND</p> <p>Major Lithology: Dark gray (N4) to gray (5Y 5/1), slightly to moderately indurated SILTSTONE fining upwards to calcareous SILTY CLAYSTONE. Section 169-1038G-4X-CC is characterized by fine-grained SAND. The whole core consists of rock biscuits and drilling breccia. The top of the core (Section 169-1038H-4X-1, 0-23 cm) contains rubbles of massive pyrrhotite and very altered claystone that have probably fallen into the hole.</p>	

SITE 1038 HOLE H CORE 5X Recovery 90% CORED 39.1 - 48.7 mbsf

1038H-5X

METERS	CORE AND SECTION	GRAIN SIZE very fine fine medium coarse very coarse granular	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
40 41 42 43 44 45 46 47					Unit II				<p>CLAYSTONE, SILTY CLAYSTONE and MEDIUM SAND</p> <p>Major Lithologies: Dark gray (N3), slightly indurated, calcareous SILTY CLAYSTONE and CLAYSTONE. Section 169-1038H-5X-1, 12-85 cm is characterized by MEDIUM SAND that is probably the base of a turbidite that continues upward into Core 169-1038H-4X. The top of Core 169-1038H-5X (Section 1, 0-12 cm) is characterized by rubbles of MUDSTONE, SILTSTONE, SANDSTONE and SULFIDES (massive fine-grained pyrrhotite and small gravel bits of CuFe-sulfides and arsenopyrite?).</p>	

SITE 1038 HOLE H CORE 6X Recovery 8% CORED 48.7 - 58.4 mbsf

1038H-6X

1038H-7X

1038H-8X

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
					Unit II					<p>SILTSTONE</p> <p>Major Lithology: Very dark gray (2.5 YR 3) drilling-induced breccia of slightly indurated, calcareous SILTSTONE. It contains wood fragments up to 2 mm in diameter and disseminated crystals of white mica. Section 169-1038H-6X-CC, 0-12 cm contains black grains of organic matter up to 5 mm. The top of the core (Section 169-1038G-6X-1, 0-13 cm) is characterized by a drilling-induced rubble of massive sulfide (fall-in from uphole) that contains 10 pieces of dense, compact, fine-grained pyrrhotite, coarse-grained (to 3 mm) hexagonal pyrrhotite plates and a piece of bluish gray (5B 5/1) smectite-altered claystone.</p>

SITE 1038 HOLE H CORE 7X Recovery 0.1% CORED 58.4 - 68.0 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
					Unit II					<p>CLAYSTONE, SILTSTONE and SANDSTONE</p> <p>Major Lithologies: Dark gray, gray and bluish gray, drill-induced rubble of CLAYSTONE, SILTSTONE and SANDSTONE (up to 25 mm) and one pebble of fine-grained pyrite.</p>

SITE 1038 HOLE H CORE 8X Recovery 3% CORED 68.0 - 77.6 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
					Unit II					<p>SILTSTONE</p> <p>Major Lithologies: Dark gray, drill-induced rubbles of SILTSTONE (clasts up to 20 mm) and fine-grained pyrrhotite intergrown with sphalerite (from 2 mm to about 10 mm diameter).</p>

1038H-9X NO RECOVERY

1038H-10X

1038H-11X

SITE 1038 HOLE H CORE 10X Recovery 0% CORED 87.1 - 96.7 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
87.1 88	CC	very fine fine medium coarse very coarse granular								<p>MASSIVE SULFIDE</p> <p>Major Lithology: Two pieces of dark bronze, fine- to medium-grained pyrrhotite-rich sulfide clasts (up to 3.5 cm) with vugs that are lined with platy pyrrhotite crystals. Barite occurs as white/colorless mineral.</p>

SITE 1038 HOLE H CORE 11X Recovery 0% CORED 96.7 - 106.3 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
96.7 106.3	CC	very fine fine medium coarse very coarse granular								<p>MASSIVE SULFIDE</p> <p>Major Lithology: Three pieces of fine- to coarse-grained MASSIVE SULFIDE. Coarse-grained pyrrhotite forms an interlocking network of platy crystals. Rare interstitial fibrous barite. One vein filled with pyrite crosscuts the massive pyrrhotite.</p>

1038H-12X NO RECOVERY

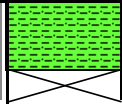
1038H-13X NO RECOVERY

SITE 1038 HOLE H CORE 14X Recovery 7% CORED 125.5 - 135.2 mbsf

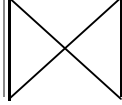
1038H-14X

1038H-15X

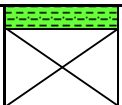
1038H-16X

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
126 127	CC	Very fine fine medium coarse granular				↕	IW PAL			<p>SILTY CLAYSTONE</p> <p>Major Lithology: Very dark (2.5Y 3/1), indurated, drilling-induced SILTY CLAYSTONE breccia. The core contains 1-2% of fine-grained pyrrhotite.</p>

SITE 1038 HOLE H CORE 15X Recovery 1% CORED 135.2 - 144.8 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
136	CC	Very fine fine medium coarse granular								<p>SILTY CLAYSTONE and BASALT</p> <p>Major Lithologies: Drilling-induced rubble of gray, rounded SILTY CLAYSTONE clasts (2-30 mm) and micro- to cryptocrystalline, aphyric to sparsely phytic, sparsely to moderately vesicular BASALT. Dark gray BASALT contains numerous veinlets (0.2-2 mm) with chlorite, calcite, and pyrite (after pyrrhotite). These minerals also fill vesicles and voids.</p>

SITE 1038 HOLE H CORE 16X Recovery 2% CORED 144.8 - 154.4 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
145	CC	Very fine fine medium coarse granular					IW PAL			<p>CLAYSTONE and BASALT</p> <p>Major Lithologies: Most of the core catcher sample consists of drilling rubble including fragments of CLAYSTONE, BASALT, and pyrrhotite. The interval from 15 to 17 cm may be in situ. This is comprised of dark gray (N4), moderately lithified, non-calcareous, massive CLAYSTONE. Drilling rubble of dark gray, lithified, massive, homogeneous CLAYSTONE (1-15 mm; 95 % of all clasts), microcrystalline BASALT fragments (3% of clasts), light greenish, bleached/chloritized BASALT? (1% of clasts) and very fine-grained pyrrhotite clasts (1% of clasts).</p>

1038H-17X NO RECOVERY

1038H-18X

1038H-20X

SITE 1038 HOLE H CORE 18X Recovery 0% CORED 164.0 - 173.6 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
165	18X CC	very fine fine medium coarse granule								CLAYSTONE and BASALT Major Lithologies: Drilling rubble and fall-in. Includes chunks of aphyric BASALT, massive pyrrhotite, and CLAYSTONE. No distinctive new lithologies encountered.

1038H-19X NO RECOVERY

SITE 1038 HOLE H CORE 20X Recovery 3% CORED 183.6 - 192.8 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
184	20X CC	very fine fine medium coarse granule				X	SS W PAL			CLAYSTONE Major Lithology: In Section 169-1038H-20X-1, at 20 to 25 cm is a dark gray (N4), altered (partly silicified?), well-indurated, noncalcareous, homogeneous CLAYSTONE. This is the apparent primary lithology that has mostly been reduced (by drilling) to a pulp. In Section 20X-1, from 0 to 15 cm is a drilling rubble consisting of CLAYSTONE, SILTSTONE, BASALT, and MASSIVE SULFIDE.

METERS	CORE AND SECTION	GRAIN SIZE Very fine medium coarse fine sand gravel	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO- STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
0 1 2 3 4	1X 1X 1X 1X 1X	Very fine medium coarse fine sand gravel			Unit II					<p>SILTY CLAY</p> <p>Major Lithologies: This core is made dominantly of two lithologies. There is a greenish gray (5GY 5/1) weakly calcareous, diatomaceous SILTY CLAY in the upper two sections. There are two fine-grained turbiditic intervals within this stratum. The second lithology is a fining-upward sequence (from Section 169-1038I-1X-CC to the middle of Section 1X-2). The bulk of the latter lithology is a weakly calcareous, homogeneous SILTY CLAY. The top of this core was "double-cored", therefore the upper 33 cm of Section 169-1038I-1X-1 is repeated (beginning at 33 cm). This upper unit is a 2 cm thick, dark brown (7.5 YR 3/4) oxidized layer underlain by a 4 cm thick, olive (5Y 4/4), silty, bioturbated interval.</p>

SITE 1038 HOLE I CORE 2X Recovery 46% CORED 9.3 - 17.3 mbsf 1038I-2X

METERS	CORE AND SECTION	GRAIN SIZE very fine fine medium very coarse granule	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
					Unit II					<p>MEDIUM SAND, CLAYEY SILT, SILT, and CLAY</p> <p>Major Lithologies: The core is dominated by greenish gray (10Y 5), homogeneous, almost non-calcareous (< 1%) SILTY CLAY, CLAYEY SILT, and CLAY from Sections 169-1038I-2X-2 to 2X-CC. Section 2X-1 is characterized by two fining-upward sequences of MEDIUM SAND to SILT to CLAY. Sands are poorly sorted, grain morphology is angular and the core contains glauconite grains. The coarser strata (38-40 cm) of the uppermost turbidite consists of FINE to MEDIUM SAND with very fine-grained sulfide grains.</p>

SITE 1038 HOLE I CORE 4H Recovery 106% CORED 26.8 - 36.3 mbsf 1038I-4H

METERS	CORE AND SECTION GRAIN SIZE very fine fine medium coarse very coarse granule	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
27 28 29 30 31 32 33 34 35 36				Unit II			IW IW SS PAL	<p>SILTY CLAY and CLAYEY SILT</p> <p>Major Lithologies: Gray (5Y 5/1), light greenish gray (10Y 6) to dark greenish gray (10Y 5) SILTY CLAY. Sections 169-1038I-4H-2 and 4H-3 are made of CLAYEY SILT fining upward to SILTY CLAY. Sections 4H-4 to 4H-CC are moderately calcareous showing small clusters of white calcite crystals, whereas Sections 4H-3 to 4H-1 are weakly calcareous. The entire core contains only minor amounts of disseminated sulfides (<< 1%).</p>	

METERS	CORE AND SECTION clay silt silty fine fine medium coarse very coarse granule	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO- STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
37 38 39 40 41 42 43 44 45 46				Unit II			PAL	IW	MINERALIZATION	<p>FINE SAND and SANDY SILT</p> <p>Major Lithologies: Dark greenish gray (10Y 5) to gray (N4), moderately calcareous, FINE SAND fining upward to SANDY SILT in Section 169-1038I-5H-1. Sand is poorly sorted in Sections 5H-1 to 5H-3. Sections 5H-4 to 5H-7 are highly disturbed and soupy. These sections are probably a sucked-in interval.</p>

SITE 1038 HOLE I CORE 6H Recovery 83% CORED 45.8 - 55.3 mbsf 1038I-6H

METERS	CORE AND SECTION	GRAIN SIZE very fine fine medium coarse very coarse granule	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
					<p>Unit II</p>		<p>IW SS IW PAL</p>			<p>SILTY CLAY and CLAYEY SILT</p> <p>Major Lithologies: Dark greenish gray (10Y 5), calcareous, CLAYEY SILT fining upward to homogeneous SILTY CLAY. In Sections 169-1038I-6H-3, 79-82 cm and 6H-4, 4-7 cm, subspherical carbonate concretions are present. The entire core is characterized by clusters of whitish calcite crystals.</p>

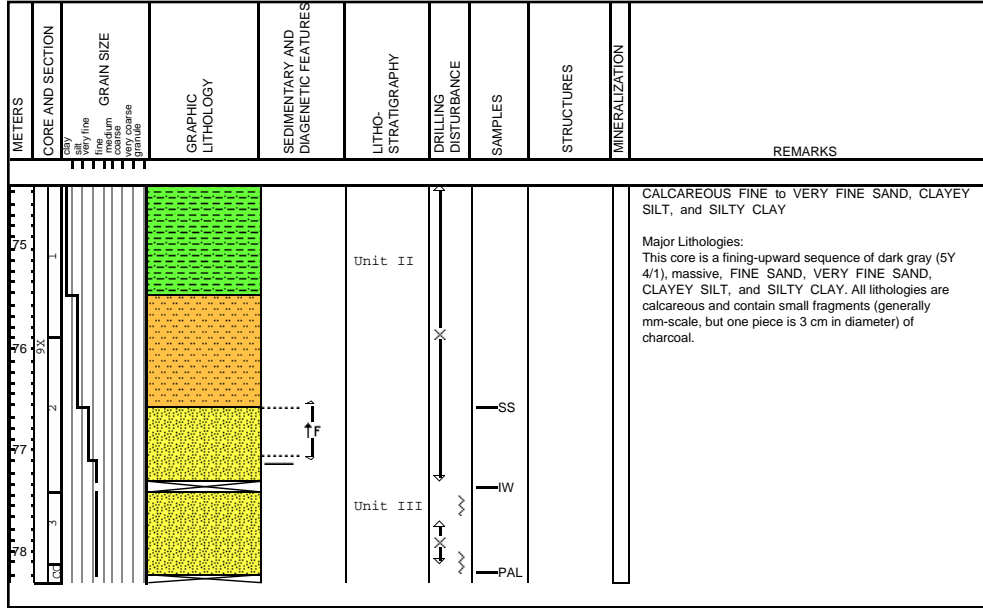
METERS	CORE AND SECTION	GRAIN SIZE very fine fine medium coarse very coarse granule	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
56 57 58 59 60 61 62 63 64 65	1 2 3 4 5 6 7				Unit II					<p>SILTY CLAY</p> <p>Major Lithologies: Gray (5Y 6/1) to dark gray (5Y 4/1), mostly homogeneous, calcareous SILTY CLAY. In Section 169-1038I-7H-3 a fining-upward sequence is indicated by an increase in SILT content. The upper 8 cm of Section 7H-1 is probably hemipelagic CLAY with some coccoliths. Carbonate concretions (up to 3 cm) occur in Sections 7H-1, 7H-2 and 7H-4. Sections 7H-3 to -7 are characterized by whitish patches and lenses of calcite crystals.</p>

SITE 1038 HOLE I CORE 8X Recovery 102% CORED 64.8 - 74.4 mbsf 1038I-8X

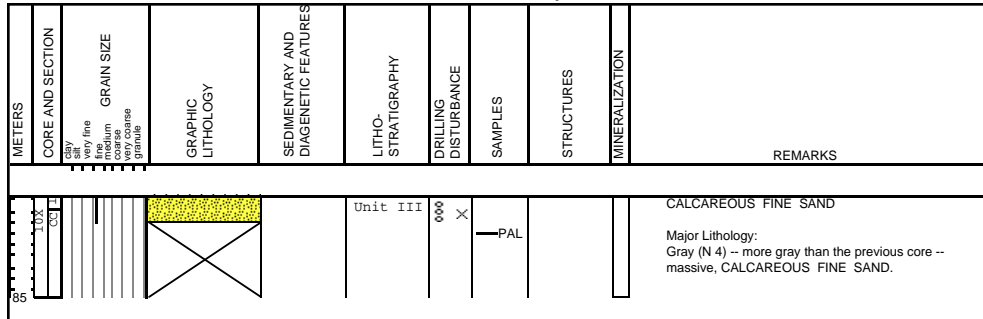
METERS	CORE AND SECTION	GRAIN SIZE very fine fine medium very coarse granule	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
65 66 67 68 69 70 71 72 73 74					Unit II					<p>CALCAREOUS MICACEOUS VERY FINE SAND and CALCAREOUS SILTY CLAY</p> <p>Major Lithologies: Very dark greenish gray (10Y 3/1) CALCAREOUS MICACEOUS VERY FINE SAND filled with carbonate concretions and homogeneous, very dark greenish gray (10Y 3/1) CALCAREOUS SILTY CLAY. There is no obvious grading within the sand. Rare, very small (sub-mm) wood fragments are present throughout the core, detectable by visual core examination in the CALCAREOUS MICACEOUS FINE SAND and in smear slides of the CALCAREOUS SILTY CLAY.</p>

SITE 1038 HOLE I CORE 9X Recovery 39% CORED 74.4 - 84.0 mbsf 1038I-9X

1038I-10X



SITE 1038 HOLE I CORE 10X Recovery 2% CORED 84.0 - 93.6 mbsf



SITE 1038 HOLE I CORE 12X Recovery 5% CORED 103.2 - 112.8 mbsf 1038I-12X 1038I-16X

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
104 12X 100	12X CC	Very fine medium coarse granular			Unit III		SS			<p>FINE SANDSTONE</p> <p>Major Lithology: Light gray (N 7), very calcareous FINE SANDSTONE with brown mica (muscovite). Three cm-scale, very dark gray (5Y 3/1) calcite nodules are present near the top of Section 169-1038I-12X-1. This core has very low magnetic susceptibility compared to Core 169-1038I-16X (the next core with recovery).</p>

1038I-13X NO RECOVERY

1038I-14X NO RECOVERY

1038I-15X NO RECOVERY

SITE 1038 HOLE I CORE 16X Recovery 3% CORED 141.7 - 151.3 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
142 16X 100	16X CC	Very fine medium coarse granular			Unit V		SS			<p>MEDIUM SANDSTONE</p> <p>Major Lithology: Dark greenish gray (5BG 4/1), moderately indurated, calcareous MEDIUM SANDSTONE. The SANDSTONE has a high magnetic susceptibility compared to that in Core 169-1038I-12X. The main lithologic difference, as seen in smear slides, is that the chlorite content is higher in this core than in Core 169-1038I-12X. The sandstone in this core is also much darker in color than that of Core 169-1038I-12X.</p>

SITE 1038 HOLE I CORE 17X Recovery 16% CORED 151.3 - 160.9 mbsf

1038I-17X

1038I-18X

1038I-19X

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
151.3 152 153	CC 17X	very fine medium coarse granule			Unit V	SS IW				CLAYSTONE Major Lithology: Black (N 2), homogeneous, well-indurated, slightly fissile, calcareous CLAYSTONE; very brecciated by drilling. The CLAYSTONE contains elemental carbon that forms a sheen on water in the core liner.

SITE 1038 HOLE I CORE 18X Recovery 4% CORED 160.9 - 170.5 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
161	CC 18X	very fine medium coarse granule			Unit V	PAL IW				SILTY CLAYSTONE and BASALT Major Lithologies: This core contains two distinct lithologies: drilling rubble (possibly partially in situ?) of SILTY CLAYSTONE and broken pieces of BASALT. The SILTY CLAYSTONE consists of pieces of gray (N 5) and light gray (N 7) massive, calcareous SILTY CLAYSTONE similar to material recovered up-core. The BASALT is black (N 2.5), fresh and microphyric, with plagioclase phenocrysts and chilled margins.

SITE 1038 HOLE I CORE 19X Recovery 9% CORED 170.5 - 180.1 mbsf

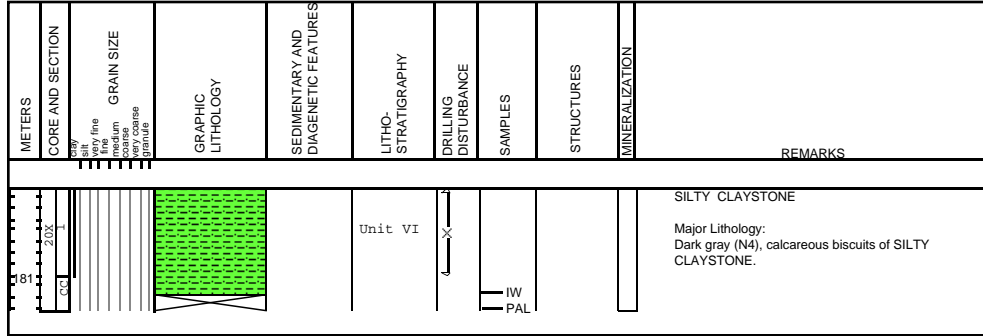
METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
171	CC 19X	very fine medium coarse granule			Unit V		PAL			SILTY CLAYSTONE Major Lithology: Gray (N 5) massive, calcareous, SILTY CLAYSTONE.

SITE 1038 HOLE I CORE 20X Recovery 12% CORED 180.1 - 189.7 mbsf

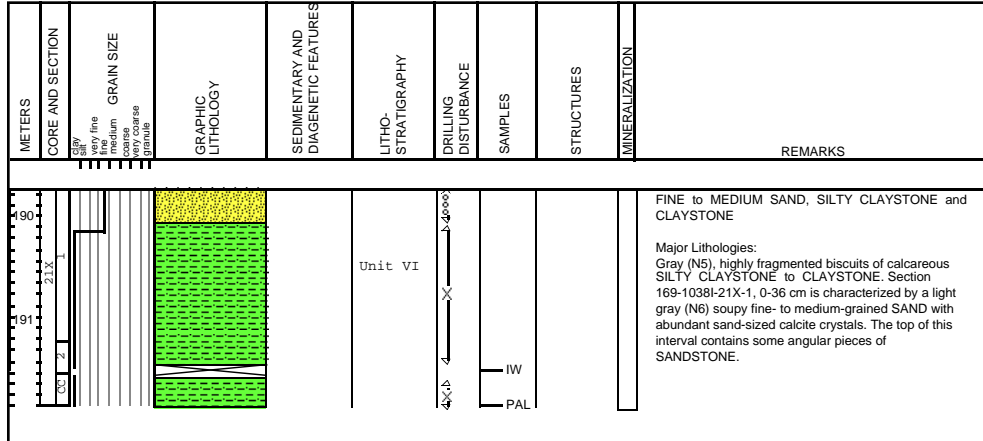
1038I-20X

1038I-21X

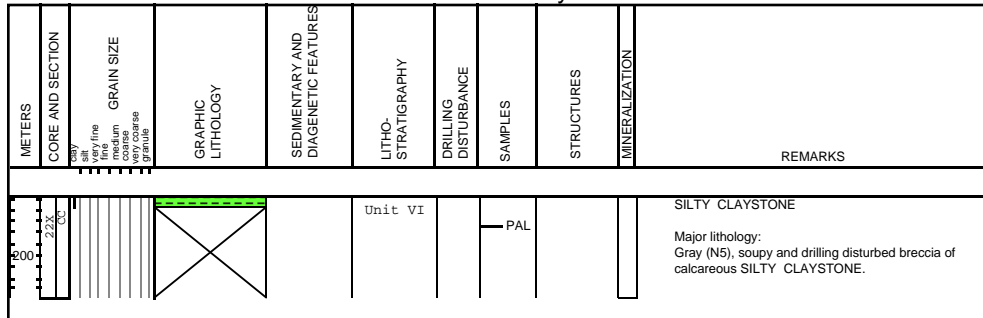
1038I-22X



SITE 1038 HOLE I CORE 21X Recovery 20% CORED 189.7 - 199.4 mbsf



SITE 1038 HOLE I CORE 22X Recovery 1% CORED 199.4 - 209.0 mbsf



SITE 1038 HOLE I CORE 23X Recovery 4% CORED 209.0 - 218.6 mbsf

1038I-23X

1038I-24X

1038I-26X

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
210	23X CC	Very fine medium coarse granule			Unit VI	X	IW PAL			CLAYSTONE Major lithology: Gray (N5), highly fragmented biscuits of calcareous CLAYSTONE.

SITE 1038 HOLE I CORE 24X Recovery 0% CORED 218.6 - 228.2 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
219	24X CC	Very fine medium coarse granule			Unit VI					CALCAREOUS FINE SANDSTONE and CALCAREOUS SILTY CLAYSTONE Major Lithologies: Drilling rubble of 2 pieces (2 to 3 cm in diameter) of gray (N4), CALCAREOUS FINE SANDSTONE and 1 piece of gray (N4), CALCAREOUS SILTY CLAYSTONE.

1038I-25X NO RECOVERY

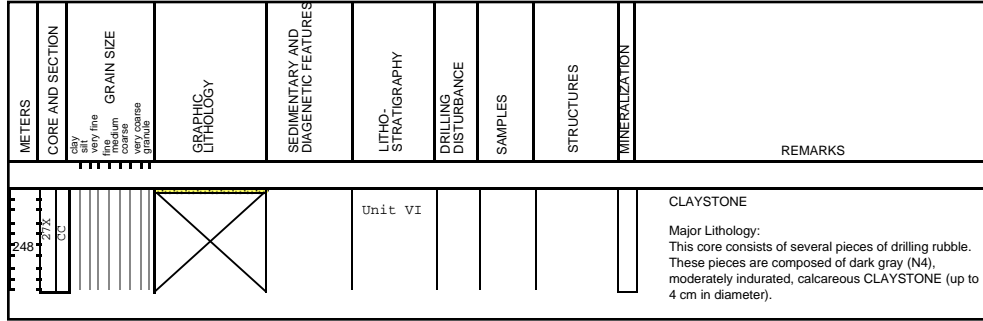
SITE 1038 HOLE I CORE 26X Recovery 0% CORED 237.8 - 247.4 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
238	26X CC	Very fine medium coarse granule			Unit VI					CALCAREOUS CLAYSTONE and CALCAREOUS SILTSTONE Major Lithologies: Drilling rubble with 1 piece of gray CALCAREOUS CLAYSTONE (2 cm in diameter) and 1 piece of gray CALCAREOUS SILTSTONE (4 cm in diameter) that contains mica and components of organic matter.

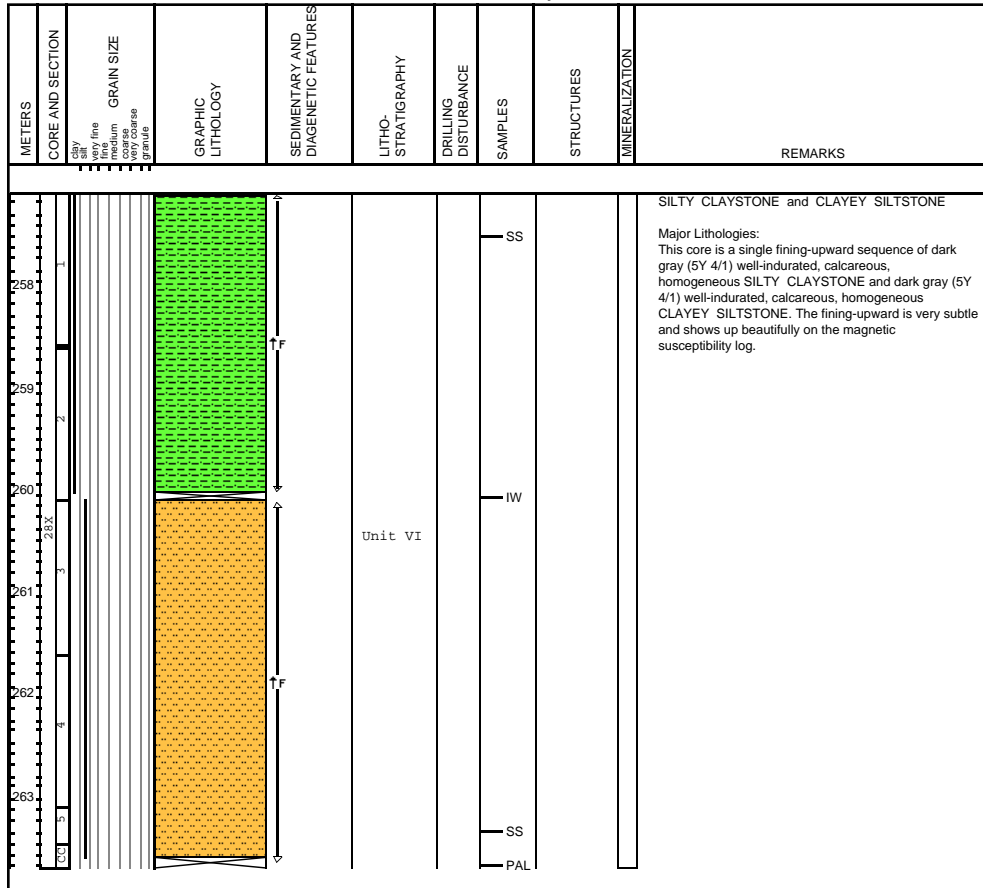
SITE 1038 HOLE I CORE 27X Recovery 0.1% CORED 247.4 - 257.1 mbsf

1038I-27X

1038I-28X



SITE 1038 HOLE I CORE 28X Recovery 67% CORED 257.1 - 266.7 mbsf

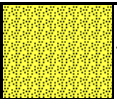
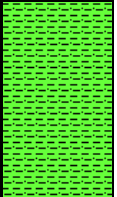
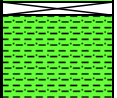

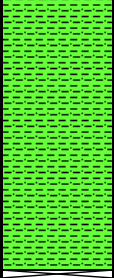


SITE 1038 HOLE I CORE 29X Recovery 94% CORED 266.7 - 276.4 mbsf 1038I-29X

METERS	CORE AND SECTION	GRAIN SIZE <small>very fine fine medium coarse very coarse granule</small>	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO- STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS	
267	1									<p>SILTY CLAY</p> <p>Major Lithology: Dark gray (5 Y 4/1), homogeneous, calcareous SILTY CLAY. The whole core to Section 169-1038I-29X-7 is part of a fining-upward sequence. This sequence is very subtle -- a change from SILTY CLAYSTONE to siltier SILTY CLAYSTONE -- but is borne out by the magnetic susceptibility record and smear slide examination.</p>	
268	2										
269	3										
270	4										
271	5					Unit VI					
272	6										
273	7										
274											
275											

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
277	1	very fine								<p>SILTSTONE, VERY FINE SANDSTONE, and FINE SANDSTONE</p> <p>Major Lithologies: This core shows a progressive change in grain size, from dark gray SILTSTONE in Section 169-1038I-30X-1, to dark gray VERY FINE SANDSTONE in Sections 30X-1 and the top of Section 30X-2, to FINE SANDSTONE in Sections 30X-2, 30X-3, and 30X-CC. All of the strata are calcareous and the coarser fractions are very micaceous. The strata are dominantly very dark gray (5Y 4/1), but are darker (5Y 3/1) from Section 30X-1, 130 cm to Section 30X-2, 20 cm. The base of this zone of darker color corresponds to the top of a magnetic susceptibility "wipe out" zone.</p>
278	2	medium			Unit VI		SS IW			
279	3	coarse					SS PAL			

SITE 1038 HOLE I CORE 31X Recovery 78% CORED 286.1 - 295.7 mbsf 1038I-31X

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
287	1	very fine			Unit VI					<p>SILTY CLAYSTONE and VERY FINE SANDSTONE</p> <p>Major Lithologies: The top 95 cm of Section 169-1038I-31X-1 contains a gray (5Y5/1), calcareous, VERY FINE SANDSTONE. This contains chlorite, biotite, plagioclase, clinopyroxene, clinoamphiboles, and chert fragments, but very few opaque minerals. The sandstone has very low magnetic susceptibility. It overlies a calcareous, dark gray (5Y4/1), homogeneous, massive (slightly fissile), SILTY CLAYSTONE. This sediment has normal magnetic susceptibility.</p>
288	2	medium								
289	3	coarse								
290	4	granular			Unit VII					
291	5									
292										
293										

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
296	1	very fine			Unit VII					<p>SILTY CLAYSTONE and CLAYEY SILTSTONE</p> <p>Major Lithologies: Dark greenish gray (10Y 5/1), fractured biscuits of calcareous SILTY CLAYSTONE. Section 169-1038I-32X-CC contains gray (5Y 5/1) CLAYEY SILTSTONE that fines upward. Parallel laminations are highlighted by monosulfide banding.</p>
297	2	medium								
298	3	coarse								
299	3	granular								

SITE 1038 HOLE I CORE 33X Recovery 93% CORED 305.3 - 314.9 mbsf 1038I-33X

METERS	CORE AND SECTION	GRAIN SIZE very fine medium very coarse granule	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO- STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
306 307 308 309 310 311 312 313 314				Unit VII		W SS	PAL		<p>CLAYSTONE, SILTY CLAYSTONE and SANDY SILTSTONE</p> <p>Major Lithologies: Very dark greenish gray (10Y 3/1), fragmented biscuits of calcareous CLAYSTONE and SILTY CLAYSTONE. In Section 169-1038I-33X-4 SANDY SILTSTONE, which is probably the base of the turbidite bed, fines upward to SILTY CLAYSTONE. SANDY SILTSTONE contains calcite crystals.</p>	

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
315										CLAYSTONE Major Lithology: Dark greenish gray (10Y 4/1) drilling biscuits of homogeneous, calcareous CLAYSTONE.
316										
317										
318										
319					Unit VII					
320										
321										
322										
323										

SITE 1038 HOLE I CORE 35X Recovery 40% CORED 324.5 - 334.1 mbsf

1038I-35X

1038I-36X

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
325 326 327 328	CC 1 2 3	very fine silty medium coarse fine granule			Unit VII	SS IW SS PAL				CLAYSTONE, SILTY CLAYSTONE, CLAYEY SILTSTONE Major Lithologies: Dark greenish gray (10Y 4/1) fractured biscuits of calcareous CLAYEY SILTSTONE fining upward to SILTY CLAYSTONE to CLAYSTONE.

SITE 1038 HOLE I CORE 36X Recovery 26% CORED 334.1 - 343.7 mbsf

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
335 336	C 1 2	very fine silty medium coarse fine granule			Unit VII	SS IW				CLAYSTONE, SILTY CLAYSTONE, and SILTY SAND Major Lithologies: Dark gray gray (N4) slightly calcareous SILTY CLAYSTONE and CLAYSTONE. The upper 46 cm of section 169-1038I-36X-1 is very disturbed (soupy) and contains 4 cm of MEDIUM SAND in a silt-clay matrix as well as wood fragments.

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
344	1	very fine								<p>SILTY CLAYSTONE</p> <p>Major Lithology: Dark gray (N4) to dark greenish gray (5GY 4/1) drilling disturbed biscuits of SILTY CLAYSTONE. Section 169-1038I-37X-4 is characterized by a decrease in silt content fining upward to Section 37X-3. The upper 50 cm of the core is highly disturbed and soupy.</p>
345	2	medium								
346	3	coarse								
347	4	granule								
348	37X									
349	5									
350	6									
351	7			Unit VII						
352										
353	CC									

SITE 1038 HOLE I CORE 38X Recovery 26% CORED 353.3 - 362.9 mbsf 1038I-38X

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIOGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
354 355 356	1 2	very fine medium coarse granular			Unit VII		SS IW SS			SILTY CLAYSTONE and CLAYEY SILTSTONE Major Lithologies: Calcareous, dark gray (5Y4/1), homogeneous, CLAYEY SILTSTONE (0 to 90 cm of Section 169-1038I-38X-1) overlies calcareous, dark gray (5Y4/1), homogeneous, SILTY CLAYSTONE. The CLAYSTONE contains more mica and carbonate than the SILTSTONE. Calcareous nannofossils are still present.

SITE 1038 HOLE I CORE 39X Recovery 105% CORED 362.9 - 372.5 mbsf 1038I-39X

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
363.4	1	very fine			Unit VII					<p>SILTY CLAYSTONE and very CLAYEY SILTSTONE</p> <p>Major Lithologies: This core is dominantly moderately indurated, dark gray (5Y 4/1), homogeneous, calcareous SILTY CLAYSTONE. Very slight variations in the percentage of silt in the SILTY CLAYSTONE are present, and show up nicely on the magnetic susceptibility log. The strata in Interval 169-1038I-39X-7, 10 cm to 39X-8, 50 cm is significantly coarser than the overlying strata, becoming a very CLAYEY SILTSTONE at the base of the interval. This interval probably represents the base of a thick muddy turbidite that continues up into Section 169-1038I-39X-6.</p>
364.0	2	medium								
365.0	3	coarse								
366.0	4	medium								
367.0	5	very fine								
368.0	6	medium								
369.0	7	coarse								
370.0	8	medium								
371.0	7	coarse			Unit 8					
372.0	8	medium								
373.0	CU									

SITE 1038 HOLE I CORE 40X Recovery 83% CORED 372.5 - 382.1 mbsf 1038I-40X

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
373	1	very fine	[Green pattern]		Unit VIII					<p>SILTY CLAYSTONE and CLAYEY SILTSTONE</p> <p>Major Lithologies: Calcareous, dark gray (5Y4/1), massive and homogeneous, SILTY CLAYSTONE and CLAYEY SILTSTONE. The whole core is part of one fining-upward sequence.</p>
374	2	medium	[Green pattern]							
375	3	coarse	[Green pattern]							
376	40X	granular	[Green pattern]							
377	4		[Green pattern]							
378	5		[Orange pattern]							
379	6									
380	7									

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
383										<p>CLAYEY SILTSTONE and SILTY CLAYSTONE</p> <p>Major Lithologies: Calcareous, dark gray (5Y4/1), CLAYEY SILTSTONE is the base of a fining-upward sequence that continues up into overlying core. The base of this sequence is at 125 cm in Section 169-1038I-41X-1. The SILTSTONE is underlain by a more calcareous, homogeneous and massive, dark gray (5Y4/1), SILTY CLAYSTONE.</p> <p>Void of unknown cause</p>
384										
385										
386					Unit VIII					
387										
388										

SITE 1038 HOLE I CORE 42X Recovery 89% CORED 391.8 - 401.4 mbsf 1038I-42X

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS				
392		very fine			Unit VIII					<p>SILTY CLAYSTONE and SILTSTONE</p> <p>Major Lithologies: Calcareous, dark gray (5Y4/1), massive and homogeneous, SILTY CLAYSTONE overlying CLAYEY to SANDY SILTSTONE. The base of this fining upward sequence is at 19 cm in Section 169-1038I-42X-5. It is underlain by 10 cm of parallel laminated SANDY SILTY CLAYSTONE. The latter is underlain by dark gray (5Y4/1), calcareous, massive and homogeneous CLAYSTONE. There are (were, to be more accurate) two black mm-thick lenses of pyrite at 90 cm in Section 169-1038I-42X-5.</p>				
393		medium												
394		coarse												
395		granule												
396		42X												
397														
398														
399														
400														

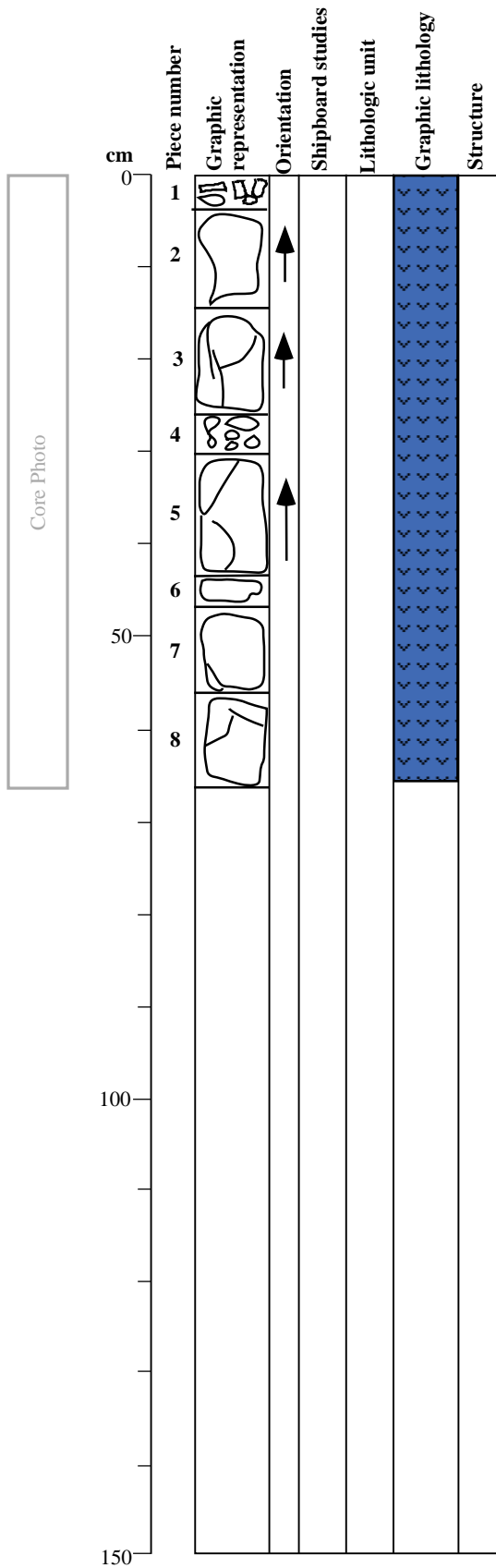
SITE 1038 HOLE I CORE 43X Recovery 87% CORED 401.4 - 404.0 mbsf 1038I-43X

METERS	CORE AND SECTION	GRAIN SIZE	GRAPHIC LITHOLOGY	SEDIMENTARY AND DIAGENETIC FEATURES	LITHO-STRATIGRAPHY	DRILLING DISTURBANCE	SAMPLES	STRUCTURES	MINERALIZATION	REMARKS
402 403	1 2 3	Very fine fine medium coarse very coarse granular			Unit VIII			SS IW SS		<p>SILTY CLAYSTONE, SILTSTONE, and BASALT</p> <p>Major Lithologies: Very dark gray (5Y3/1), calcareous, slightly fissile, SILTY CLAYSTONE. There is a 5 cm thick SILTSTONE at the base of Section 169-1038I-43X-2. Based on baked fragments of SILTSTONE in the top of Section 169-1038I-43X-3, the SILTSTONE was intruded by a massive, fine-grained, aphyric basalt. The uppermost oriented piece of the BASALT (Section 169-1038I-43X-3, Piece 2) is very fine grained and has a fresh chilled glass margin. The basalt is sparsely to moderately plagioclase-olivine phyrlic. Section 169-1038I-43X-3, Pieces 2 and 3 contains veinlets of calcite and pyrite. There is also pyrite replacing the groundmass in these pieces. The nature of the contact suggests to the petrologists that this basalt is a flow and not an intrusion.</p> <p>High angle subvertical fracture (minimum dip 60°), unmineralized.</p> <p>1-2 mm thick baked sediment contact</p>

169-1038I-43X-3
Top of Section 43X - 401.4 mbsf

Pieces 1-8

ROCK TYPE: BASALT
COMMENTS:



- Piece 1: Rubble of silty claystone or clayey siltstone and glassy, fine-grained basalt.
- Piece 2: Very fine-grained basalt with chilled glass margin (fresh) at top. Some phenocrysts of plagioclase and fresh euhedral light-green olivine.
- Piece 3: Very fine-grained, plagioclase-phyric basalt. Abundant ~0.5 mm phenocrysts of plagioclase and euhedral olivine. Less than 1 mm thick, subvertical veinlets of calcite.
- Piece 4: Rubble of very fine-grained basalt.
- Piece 5: Very fine-grained, plagioclase-phyric basalt. Abundant ≤ 1 mm phenocrysts of plagioclase and euhedral olivine. 0.5 - 1 mm veinlets of calcite with pyrite along veinlet walls. Also pyrite in the groundmass of the basalt. Vesicles filled with calcite at the top of the piece.
- Pieces 6-8: Very fine-grained plagioclase-phyric basalt with ~1 mm plagioclase phenocrysts. Some olivine phenocrysts present as well. Vesicles filled with white and orange-brown calcite. Pyrite is present in the groundmass, but most commonly associated with calcite-filled vesicles and mm-thick veinlets of calcite.

CORE/SECTION