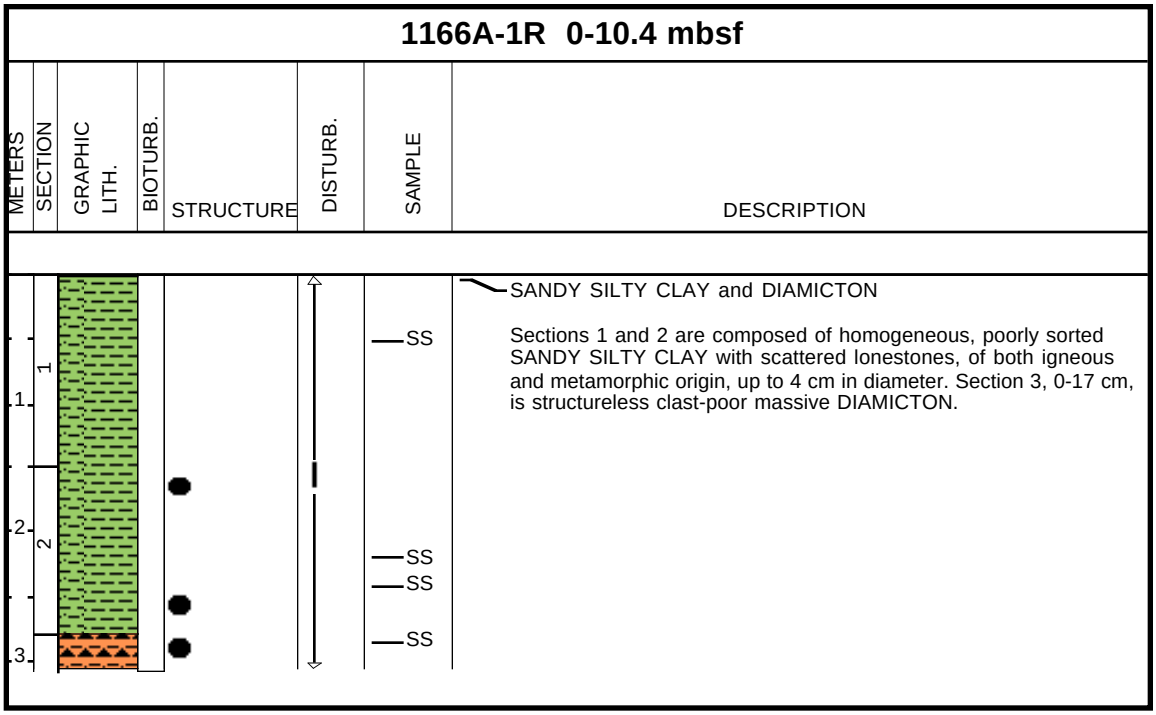
Core Photo


1166A-1R 0-10.4 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
2
3
SS
SS
SS
SS
SANDY SILTY CLAY and DIAMICTON
Sections 1 and 2 are composed of homogeneous, poorly sorted SANDY SILTY CLAY with scattered lonestones, of both igneous and metamorphic origin, up to 4 cm in diameter. Section 3, 0-17 cm, is structureless clast-poor massive DIAMICTON.

Core Photo

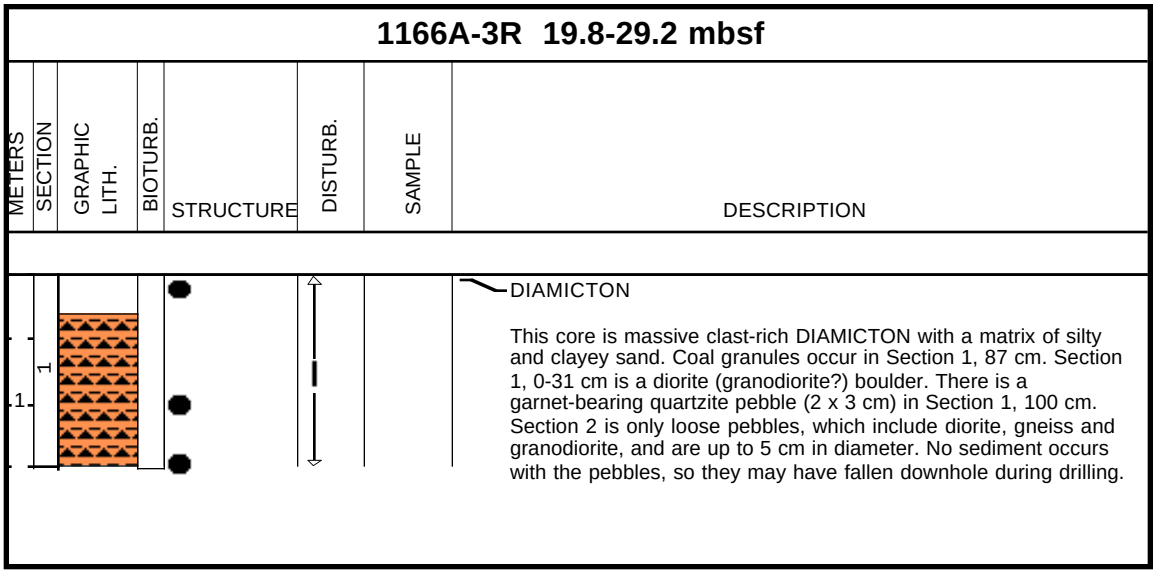
1166A-2R 10.4-19.8 mbsf

METERS	SECTION	GRAPHIC LITH.	BIOTURB.	STRUCTURE	DISTURB.	SAMPLE	DESCRIPTION
	1						PEBBLES AND COBBLES

Only 7 loose PEBBLES and COBBLES were recovered in this core. Most are granite and dolerite. No sediment was recovered and the pebbles may have fallen downhole during drilling.

Core Photo

1166A-3R 19.8-29.2 mbsf



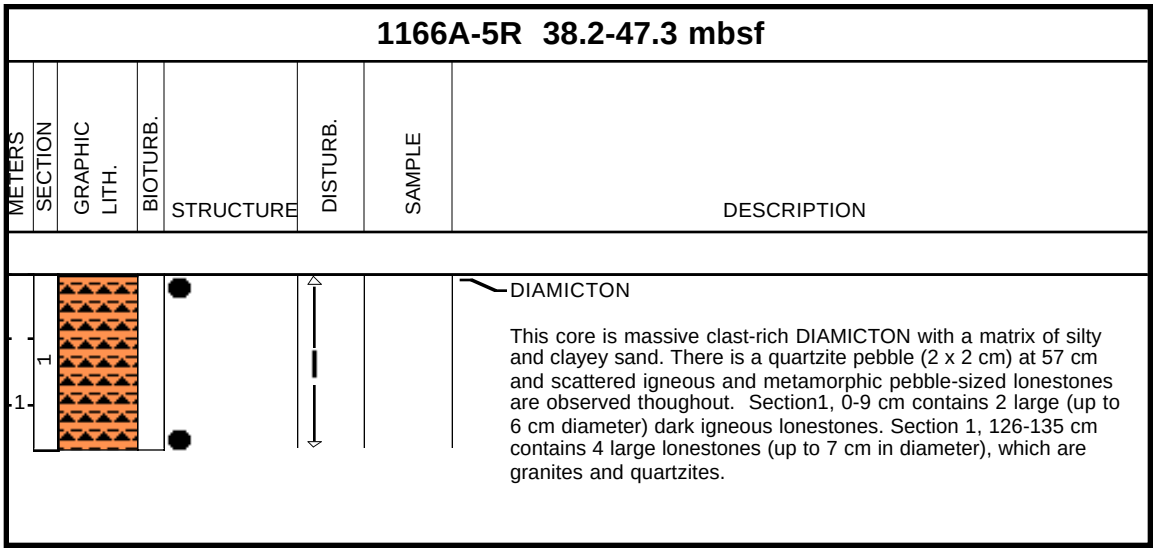
Core Photo

1166A-4R 29.2-38.2 mbsf

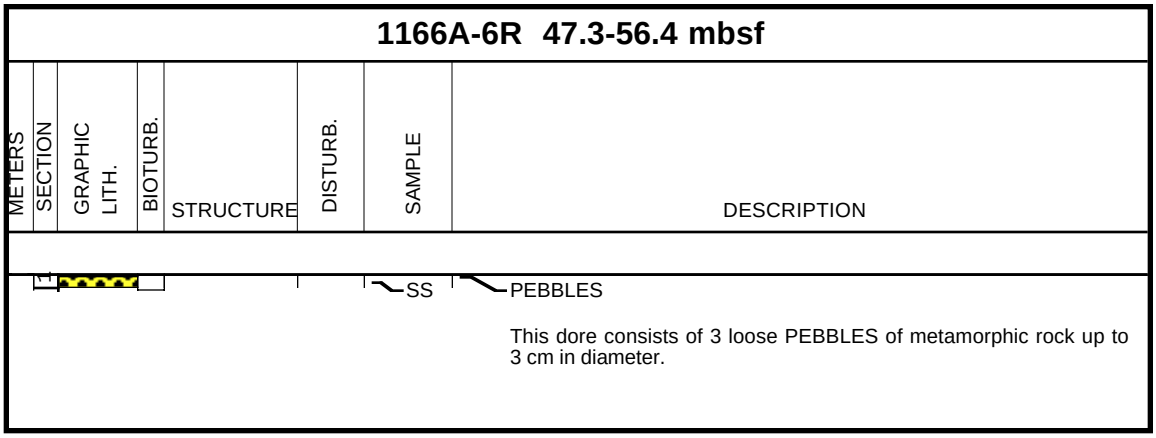
METERS	SECTION	GRAPHIC LITH.	BIOTURB.	STRUCTURE	DISTURB.	SAMPLE	DESCRIPTION
	1						PEBBLES

Core consists of 2 pebbles; each is 4 cm in diameter. One is gneiss and the other is dolerite. These pebbles may have fallen downhole during drilling.

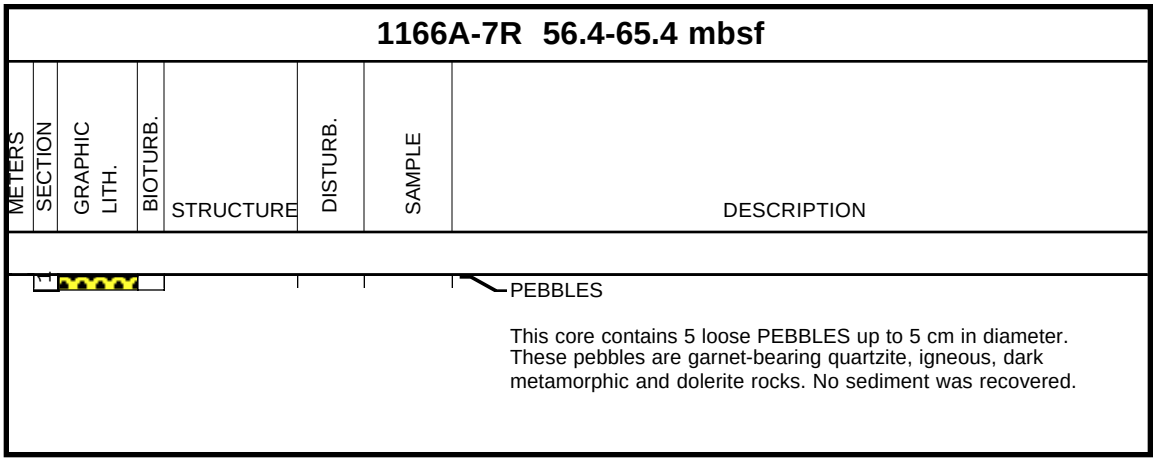
Core Photo


1166A-5R 38.2-47.3 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
1
DIAMICTON
This core is massive clast-rich DIAMICTON with a matrix of silty and clayey sand. There is a quartzite pebble (2 x 2 cm) at 57 cm and scattered igneous and metamorphic pebble-sized lonestones are observed thoughout. Section1, 0-9 cm contains 2 large (up to 6 cm diameter) dark igneous lonestones. Section 1, 126-135 cm contains 4 large lonestones (up to 7 cm in diameter), which are granites and quartzites.

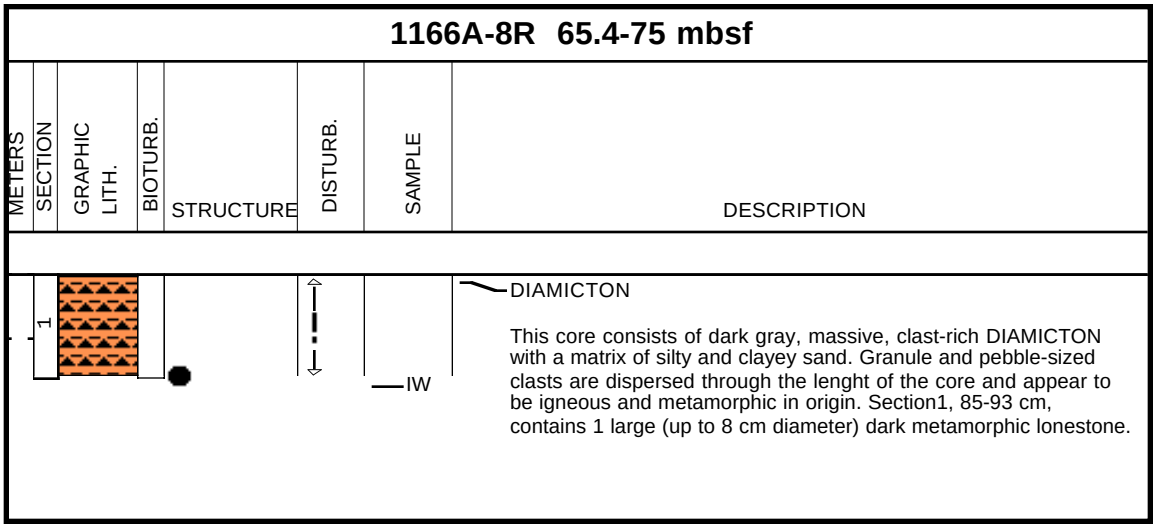
Core Photo


1166A-6R 47.3-56.4 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
SS
PEBBLES
This dore consists of 3 loose PEBBLES of metamorphic rock up to 3 cm in diameter.

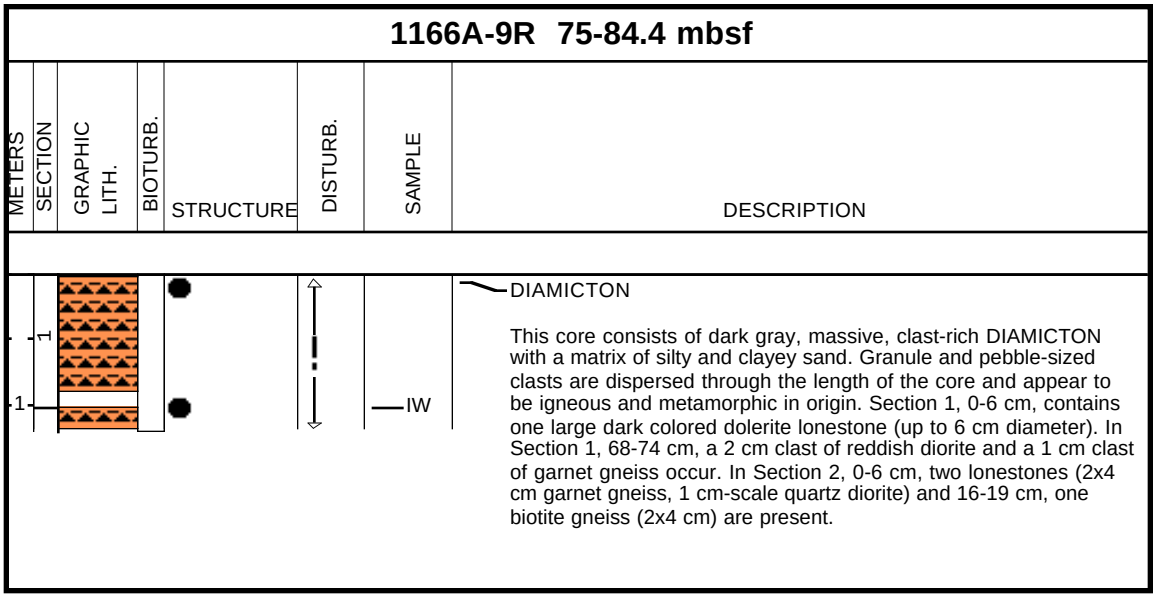
Core Photo


1166A-7R 56.4-65.4 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
PEBBLES
This core contains 5 loose PEBBLES up to 5 cm in diameter. These pebbles are garnet-bearing quartzite, igneous, dark metamorphic and dolerite rocks. No sediment was recovered.

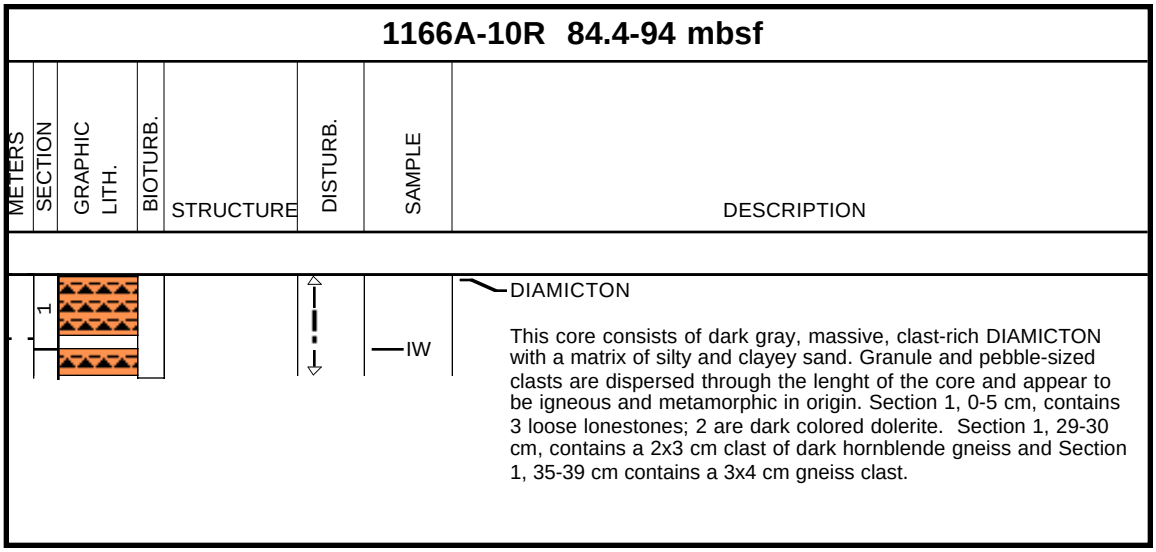
Core Photo


1166A-8R 65.4-75 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
IW
DIAMICTON
This core consists of dark gray, massive, clast-rich DIAMICTON with a matrix of silty and clayey sand. Granule and pebble-sized clasts are dispersed through the lenght of the core and appear to be igneous and metamorphic in origin. Section1, 85-93 cm, contains 1 large (up to 8 cm diameter) dark metamorphic lonestone.

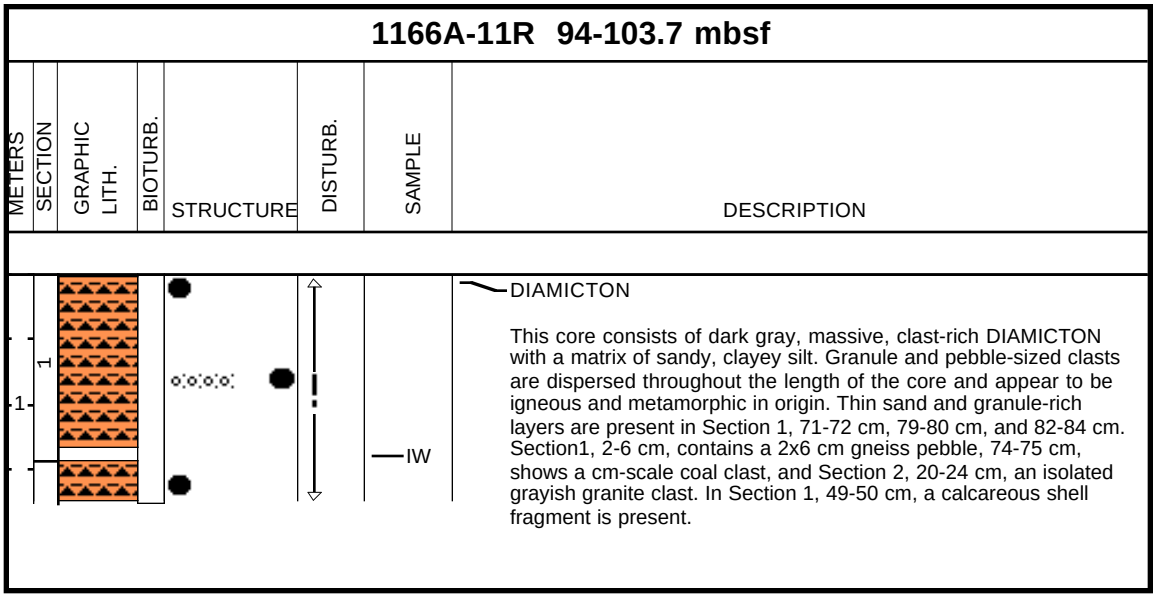
Core Photo


1166A-9R 75-84.4 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
1
IW
DIAMICTON
This core consists of dark gray, massive, clast-rich DIAMICTON with a matrix of silty and clayey sand. Granule and pebble-sized clasts are dispersed through the length of the core and appear to be igneous and metamorphic in origin. Section 1, 0-6 cm, contains one large dark colored dolerite lonestone (up to 6 cm diameter). In Section 1, 68-74 cm, a 2 cm clast of reddish diorite and a 1 cm clast of garnet gneiss occur. In Section 2, 0-6 cm, two lonestones (2x4 cm garnet gneiss, 1 cm-scale quartz diorite) and 16-19 cm, one biotite gneiss (2x4 cm) are present.

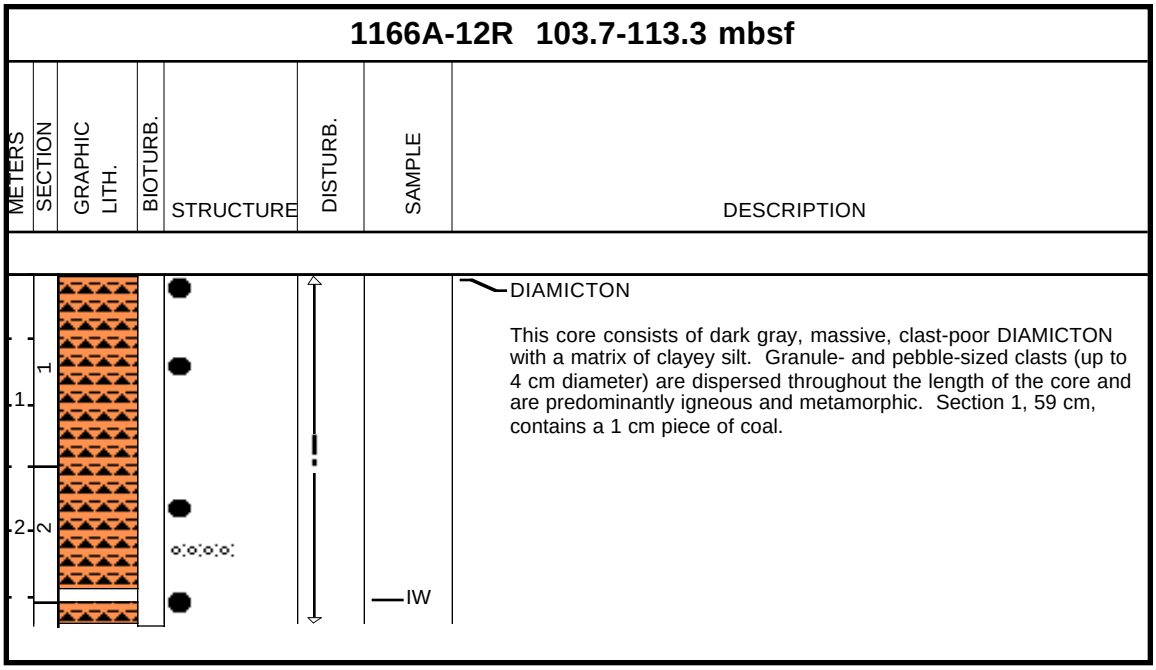
Core Photo


1166A-10R 84.4-94 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
IW
DIAMICTON
This core consists of dark gray, massive, clast-rich DIAMICTON with a matrix of silty and clayey sand. Granule and pebble-sized clasts are dispersed through the lenght of the core and appear to be igneous and metamorphic in origin. Section 1, 0-5 cm, contains 3 loose lonestones; 2 are dark colored dolerite. Section 1, 29-30 cm, contains a 2x3 cm clast of dark hornblende gneiss and Section 1, 35-39 cm contains a 3x4 cm gneiss clast.

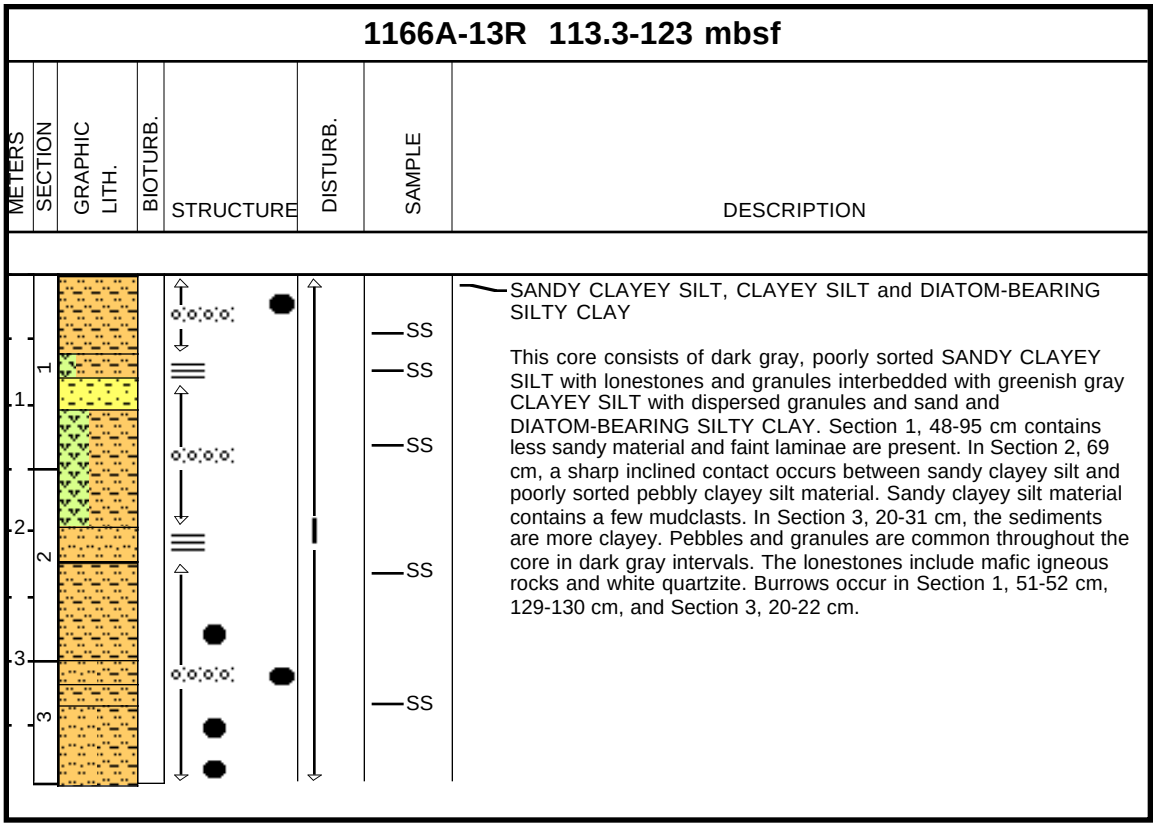
Core Photo


1166A-11R 94-103.7 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
1
IW
DIAMICTON
This core consists of dark gray, massive, clast-rich DIAMICTON with a matrix of sandy, clayey silt. Granule and pebble-sized clasts are dispersed throughout the length of the core and appear to be igneous and metamorphic in origin. Thin sand and granule-rich layers are present in Section 1, 71-72 cm, 79-80 cm, and 82-84 cm. Section1, 2-6 cm, contains a 2x6 cm gneiss pebble, 74-75 cm, shows a cm-scale coal clast, and Section 2, 20-24 cm, an isolated grayish granite clast. In Section 1, 49-50 cm, a calcareous shell fragment is present.

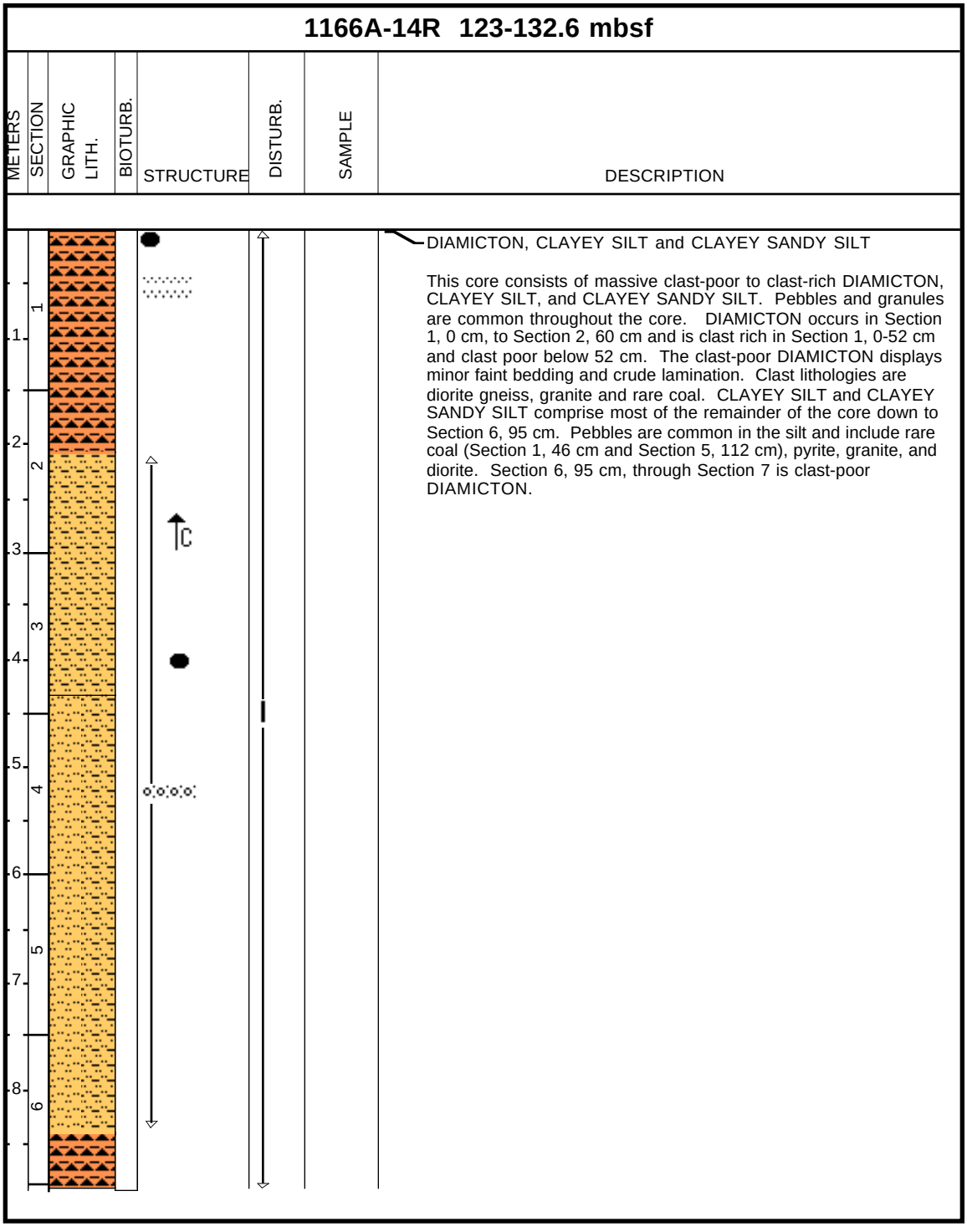
Core Photo


1166A-12R 103.7-113.3 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
2
1
2
IW
DIAMICTON
This core consists of dark gray, massive, clast-poor DIAMICTON with a matrix of clayey silt. Granule- and pebble-sized clasts (up to 4 cm diameter) are dispersed throughout the length of the core and are predominantly igneous and metamorphic. Section 1, 59 cm, contains a 1 cm piece of coal.

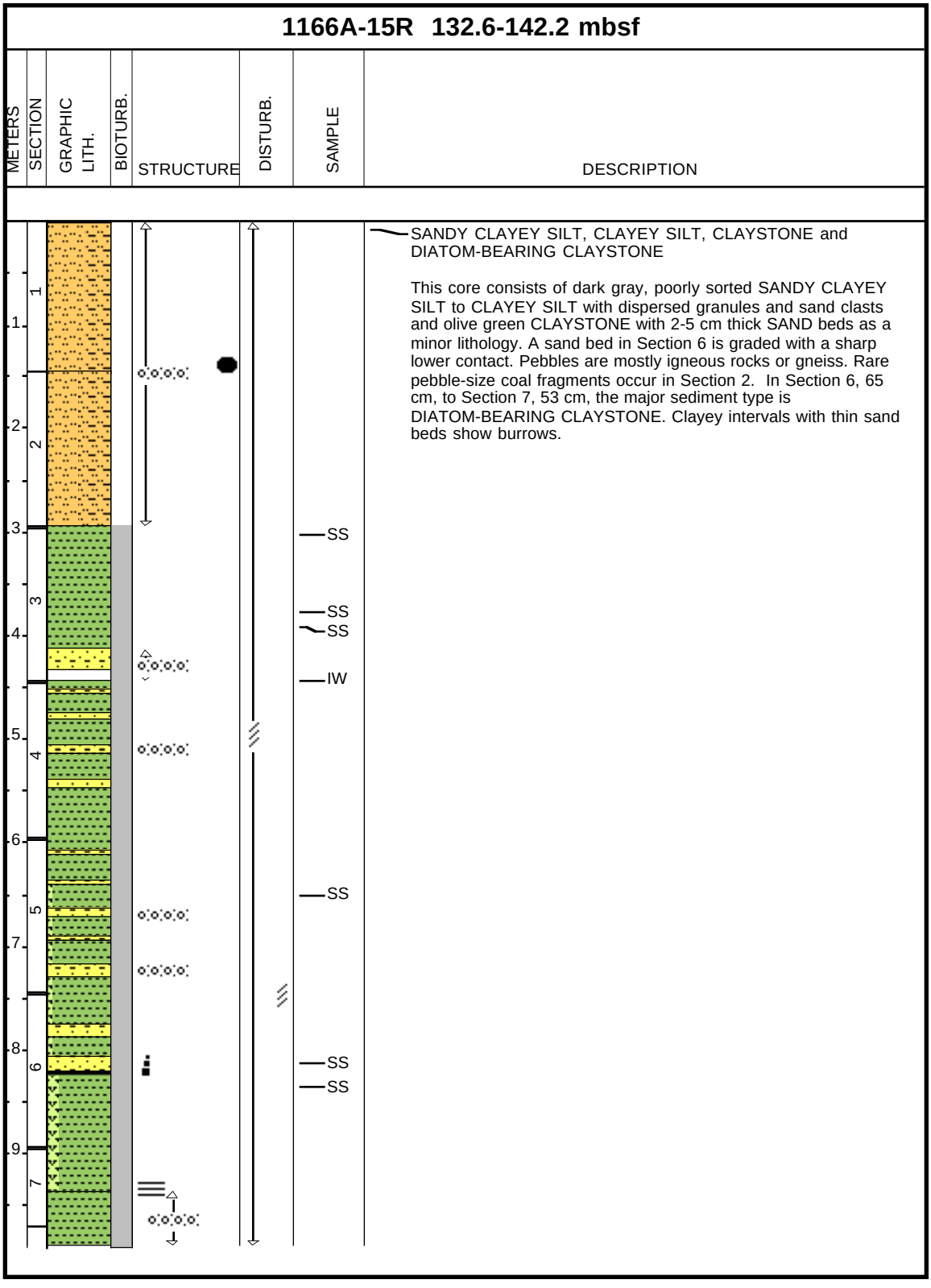
Core Photo


1166A-13R 113.3-123 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
SS
SS
SS
SS
SS
SANDY CLAYEY SILT, CLAYEY SILT and DIATOM-BEARING SILTY CLAY
This core consists of dark gray, poorly sorted SANDY CLAYEY SILT with lonestones and granules interbedded with greenish gray CLAYEY SILT with dispersed granules and sand and DIATOM-BEARING SILTY CLAY. Section 1, 48-95 cm contains less sandy material and faint laminae are present. In Section 2, 69 cm, a sharp inclined contact occurs between sandy clayey silt and poorly sorted pebbly clayey silt material. Sandy clayey silt material contains a few mudclasts. In Section 3, 20-31 cm, the sediments are more clayey. Pebbles and granules are common throughout the core in dark gray intervals. The lonestones include mafic igneous rocks and white quartzite. Burrows occur in Section 1, 51-52 cm, 129-130 cm, and Section 3, 20-22 cm.

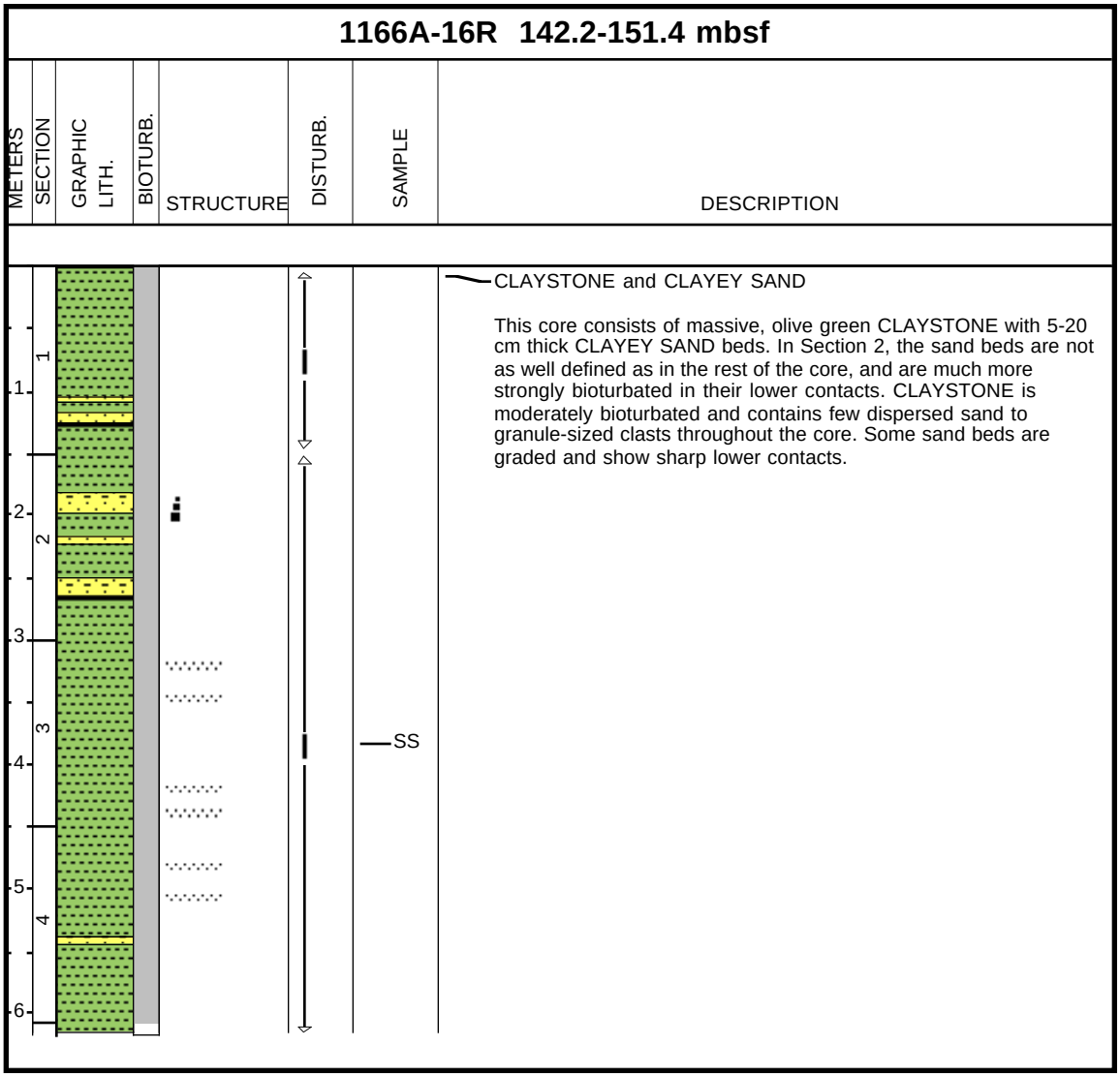
Core Photo


1166A-14R 123-132.6 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
DIAMICTON, CLAYEY SILT and CLAYEY SANDY SILT
This core consists of massive clast-poor to clast-rich DIAMICTON, CLAYEY SILT, and CLAYEY SANDY SILT. Pebbles and granules are common throughout the core. DIAMICTON occurs in Section 1, 0 cm, to Section 2, 60 cm and is clast rich in Section 1, 0-52 cm and clast poor below 52 cm. The clast-poor DIAMICTON displays minor faint bedding and crude lamination. Clast lithologies are diorite gneiss, granite and rare coal. CLAYEY SILT and CLAYEY SANDY SILT comprise most of the remainder of the core down to Section 6, 95 cm. Pebbles are common in the silt and include rare coal (Section 1, 46 cm and Section 5, 112 cm), pyrite, granite, and diorite. Section 6, 95 cm, through Section 7 is clast-poor DIAMICTON.

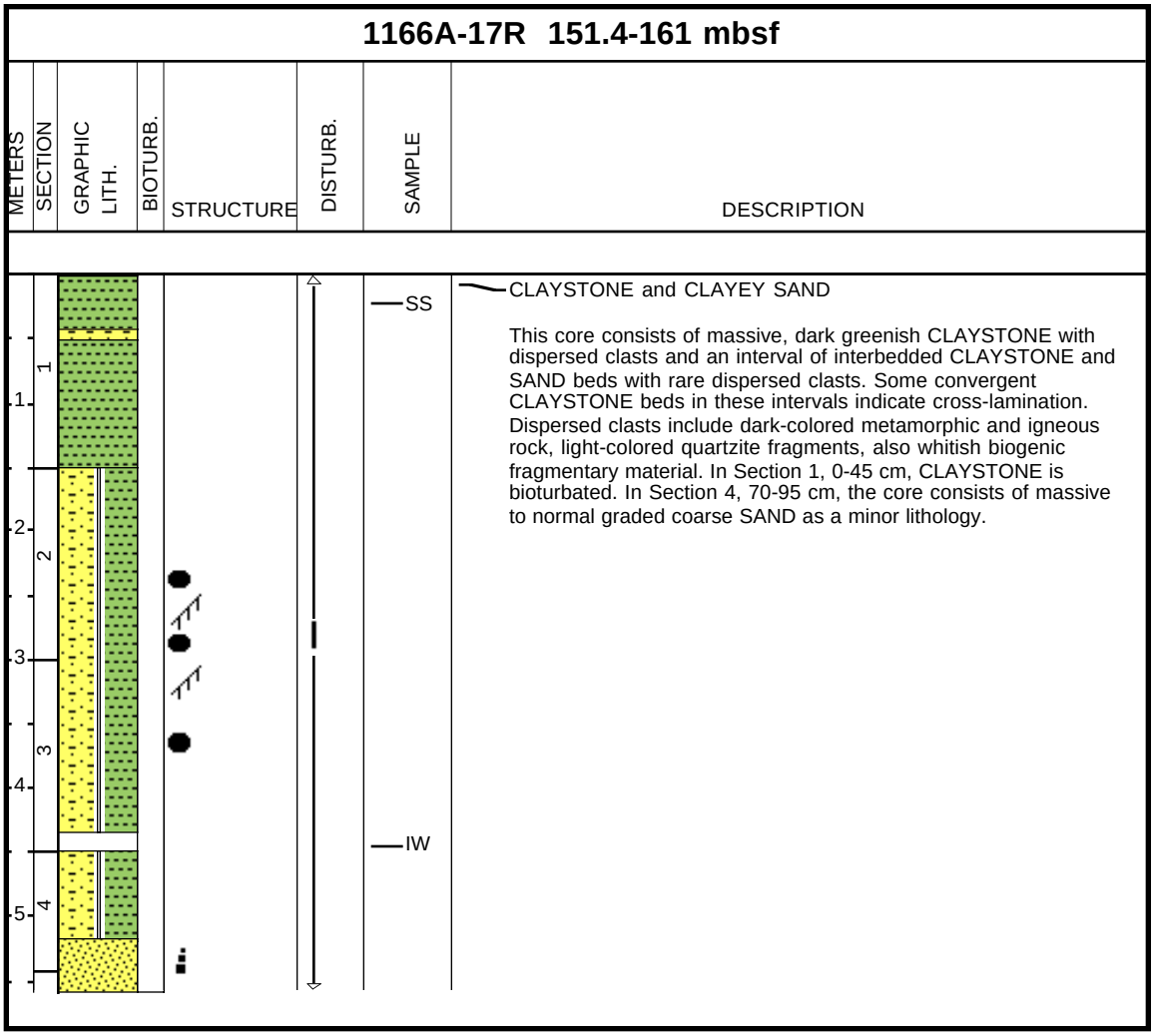
Core Photo


1166A-15R 132.6-142.2 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
SS
SS
SS
IW
SS
SS
SS
SANDY CLAYEY SILT, CLAYEY SILT, CLAYSTONE and DIATOM-BEARING CLAYSTONE
This core consists of dark gray, poorly sorted SANDY CLAYEY SILT to CLAYEY SILT with dispersed granules and sand clasts and olive green CLAYSTONE with 2-5 cm thick SAND beds as a minor lithology. A sand bed in Section 6 is graded with a sharp lower contact. Pebbles are mostly igneous rocks or gneiss. Rare pebble-size coal fragments occur in Section 2. In Section 6, 65 cm, to Section 7, 53 cm, the major sediment type is DIATOM-BEARING CLAYSTONE. Clayey intervals with thin sand beds show burrows.

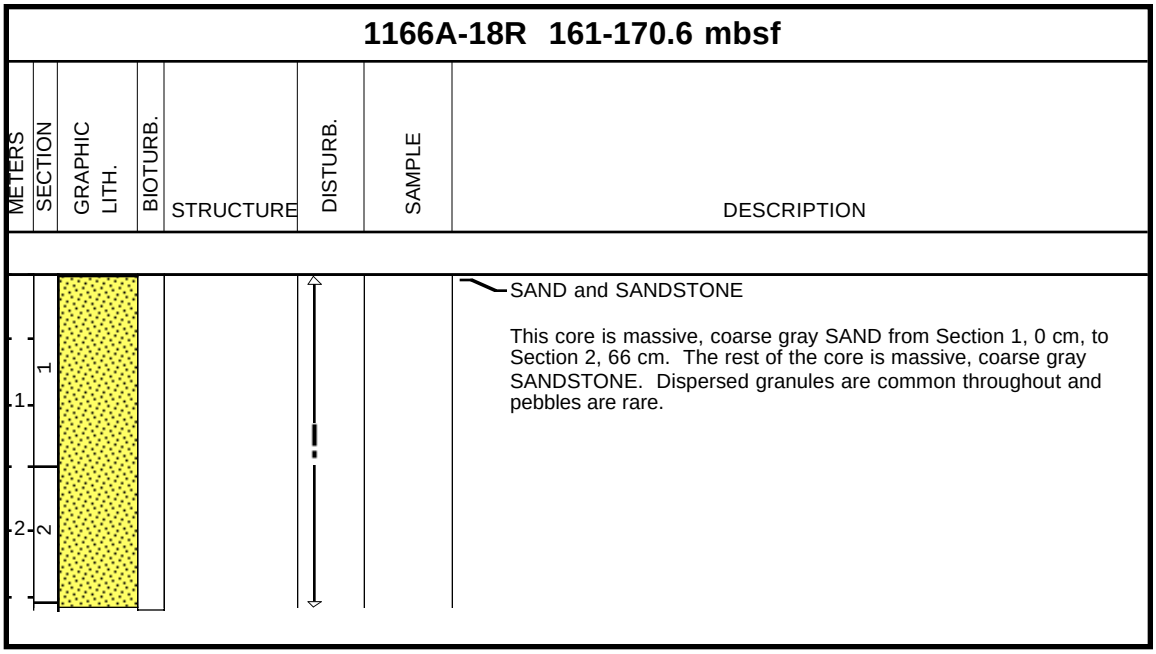
Core Photo


1166A-16R 142.2-151.4 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
2
3
4
5
6
SS
CLAYSTONE and CLAYEY SAND
This core consists of massive, olive green CLAYSTONE with 5-20 cm thick CLAYEY SAND beds. In Section 2, the sand beds are not as well defined as in the rest of the core, and are much more strongly bioturbated in their lower contacts. CLAYSTONE is moderately bioturbated and contains few dispersed sand to granule-sized clasts throughout the core. Some sand beds are graded and show sharp lower contacts.

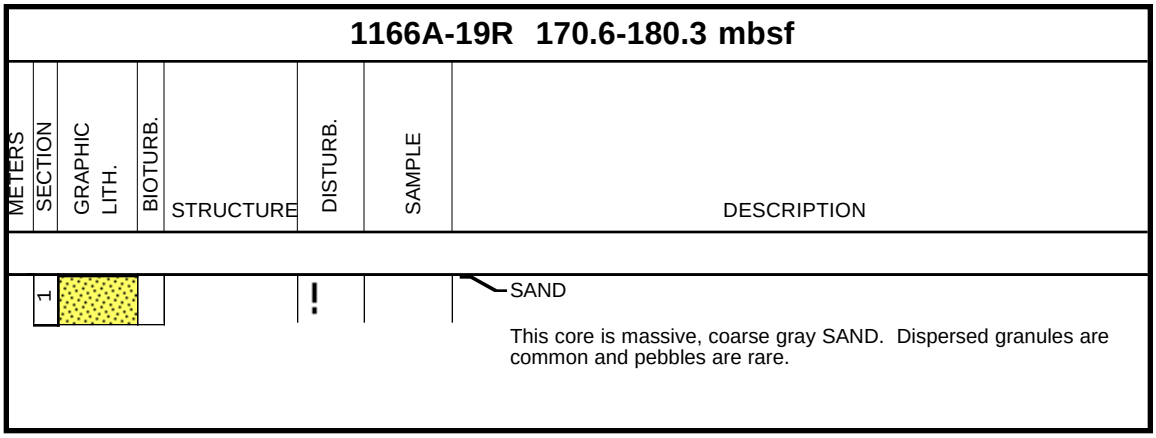
Core Photo


1166A-17R 151.4-161 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
SS
IW
CLAYSTONE and CLAYEY SAND
This core consists of massive, dark greenish CLAYSTONE with dispersed clasts and an interval of interbedded CLAYSTONE and SAND beds with rare dispersed clasts. Some convergent CLAYSTONE beds in these intervals indicate cross-lamination. Dispersed clasts include dark-colored metamorphic and igneous rock, light-colored quartzite fragments, also whitish biogenic fragmentary material. In Section 1, 0-45 cm, CLAYSTONE is bioturbated. In Section 4, 70-95 cm, the core consists of massive to normal graded coarse SAND as a minor lithology.

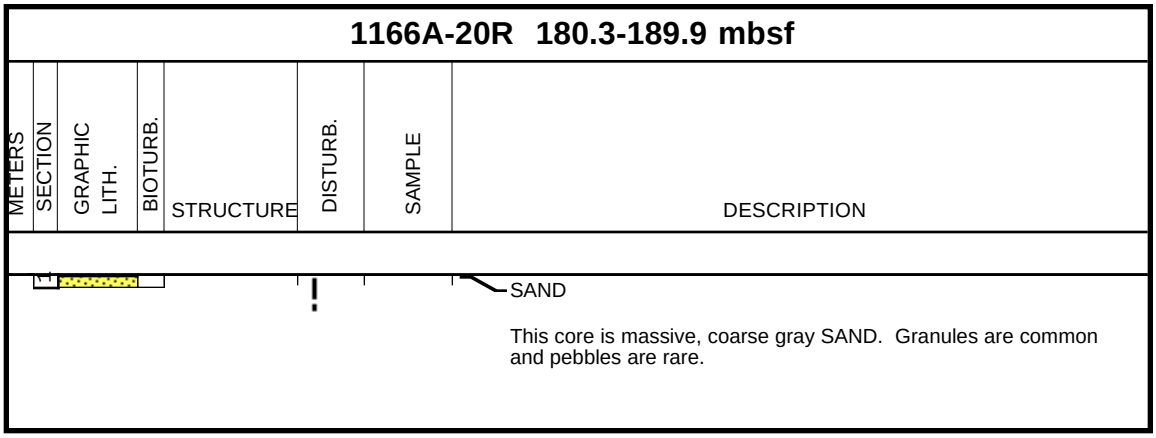
Core Photo


1166A-18R 161-170.6 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
2
1
2
SAND and SANDSTONE
This core is massive, coarse gray SAND from Section 1, 0 cm, to Section 2, 66 cm. The rest of the core is massive, coarse gray SANDSTONE. Dispersed granules are common throughout and pebbles are rare.

Core Photo

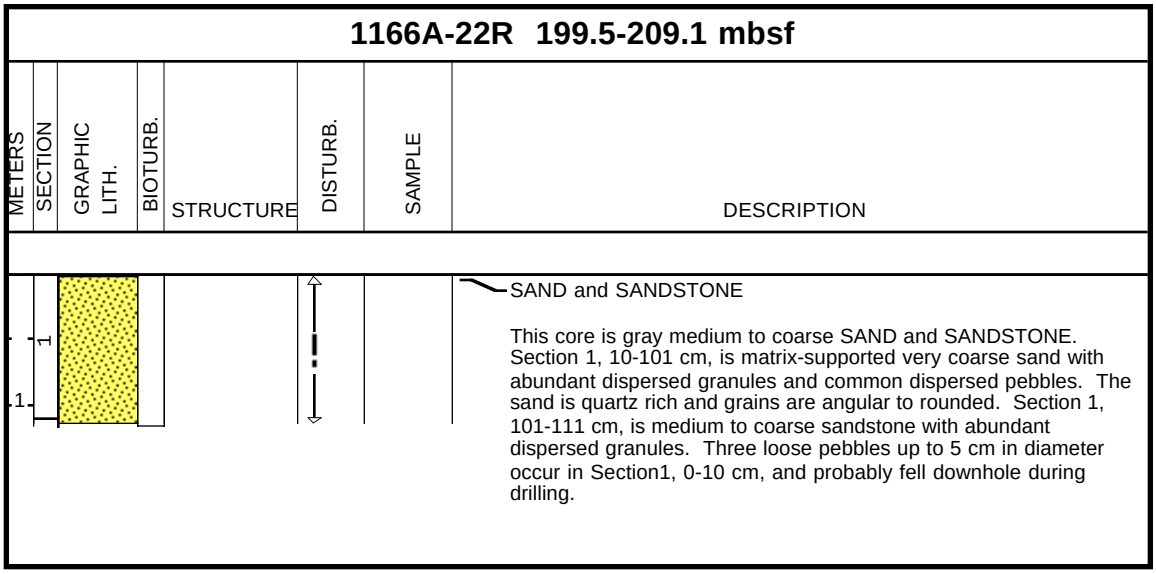

1166A-19R 170.6-180.3 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
!
SAND
This core is massive, coarse gray SAND. Dispersed granules are common and pebbles are rare.

Core Photo

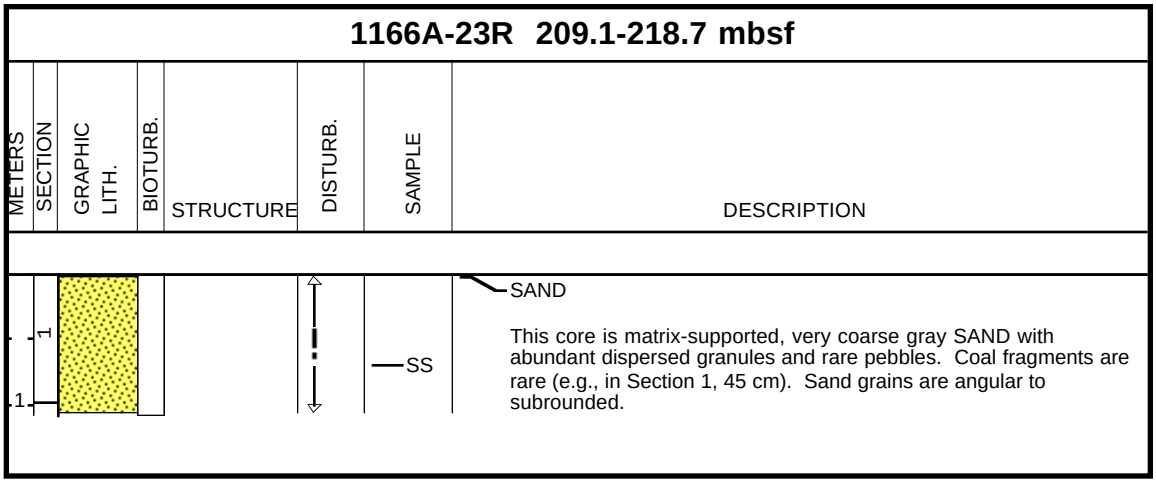


1166A-21R ENTIRE CORE GIVEN TO PALEONTOLOGISTS

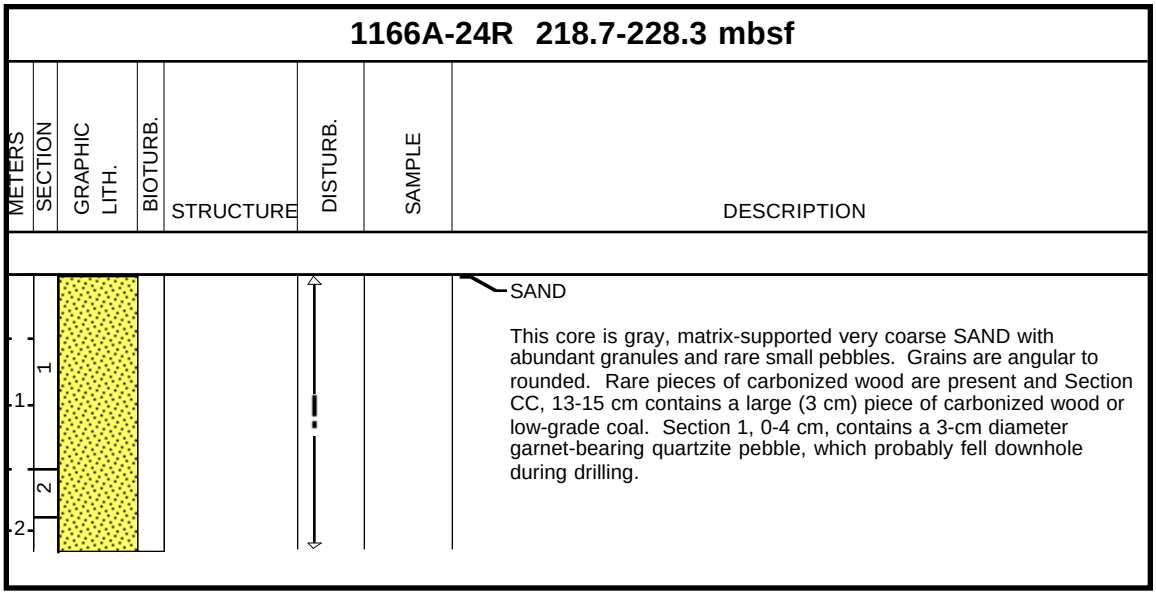
Core Photo


1166A-22R 199.5-209.1 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
1
SAND and SANDSTONE
This core is gray medium to coarse SAND and SANDSTONE. Section 1, 10-101 cm, is matrix-supported very coarse sand with abundant dispersed granules and common dispersed pebbles. The sand is quartz rich and grains are angular to rounded. Section 1, 101-111 cm, is medium to coarse sandstone with abundant dispersed granules. Three loose pebbles up to 5 cm in diameter occur in Section1, 0-10 cm, and probably fell downhole during drilling.

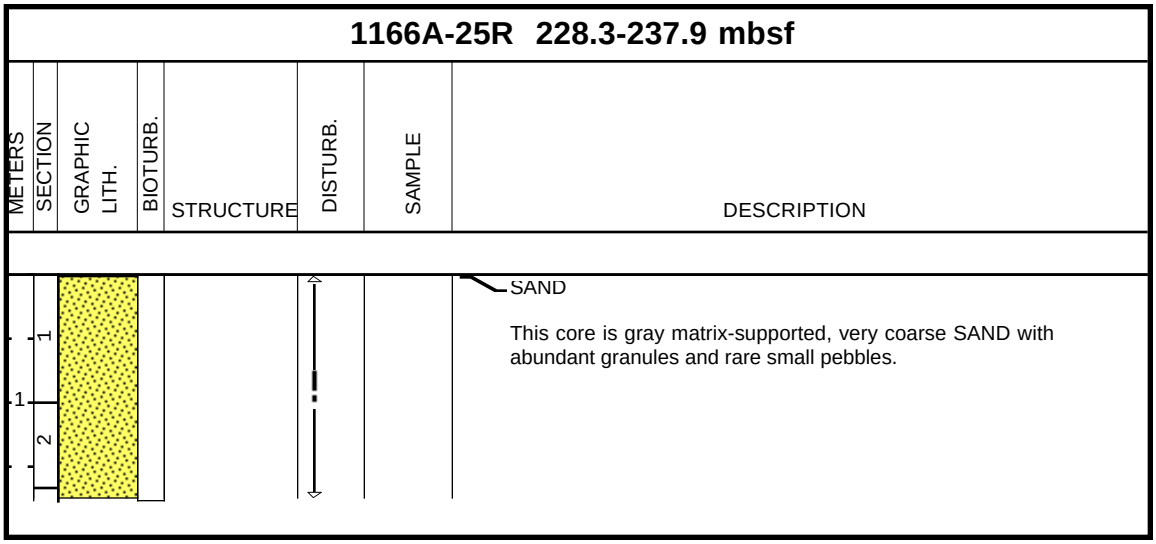
Core Photo


1166A-23R 209.1-218.7 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
1
SS
SAND
This core is matrix-supported, very coarse gray SAND with abundant dispersed granules and rare pebbles. Coal fragments are rare (e.g., in Section 1, 45 cm). Sand grains are angular to subrounded.

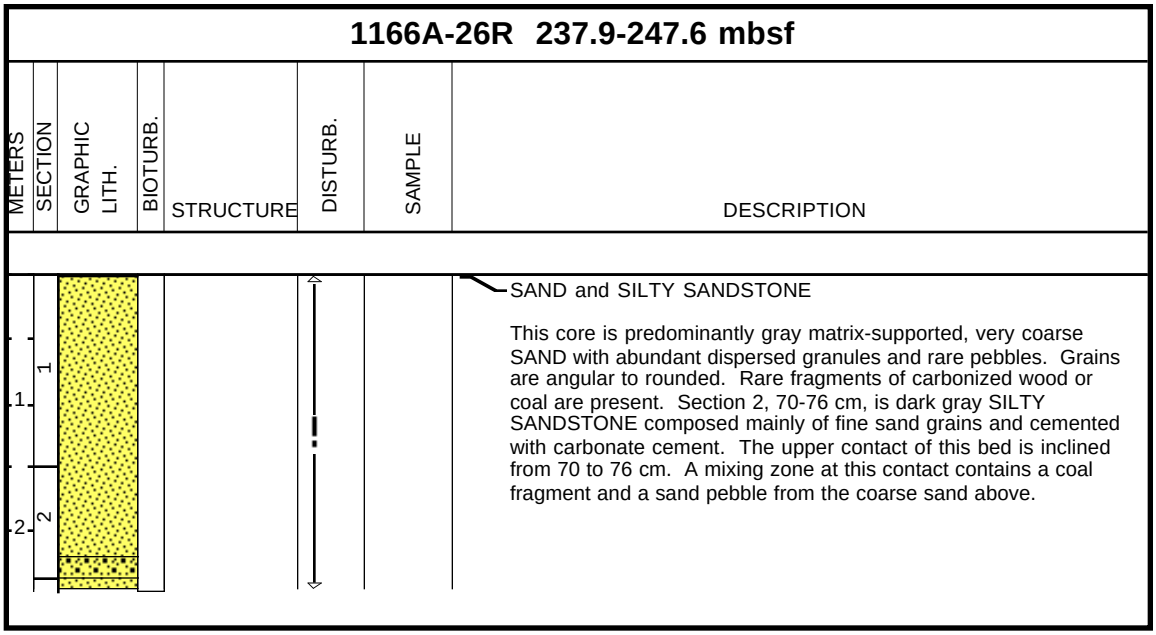
Core Photo


1166A-24R 218.7-228.3 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
2
SAND
This core is gray, matrix-supported very coarse SAND with abundant granules and rare small pebbles. Grains are angular to rounded. Rare pieces of carbonized wood are present and Section CC, 13-15 cm contains a large (3 cm) piece of carbonized wood or low-grade coal. Section 1, 0-4 cm, contains a 3-cm diameter garnet-bearing quartzite pebble, which probably fell downhole during drilling.

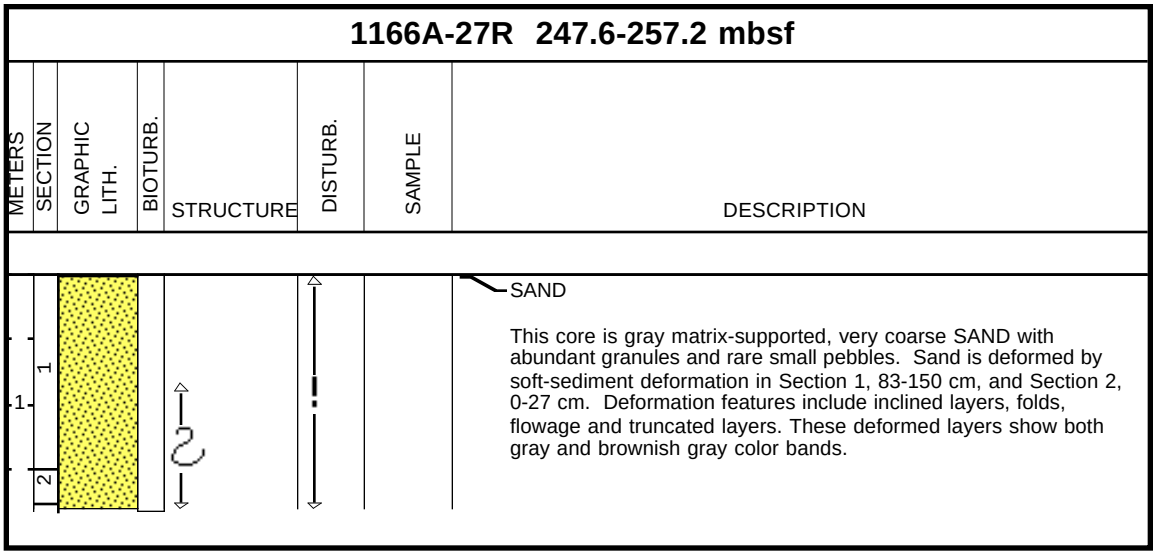
Core Photo


1166A-25R 228.3-237.9 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
1
2
SAND
This core is gray matrix-supported, very coarse SAND with abundant granules and rare small pebbles.

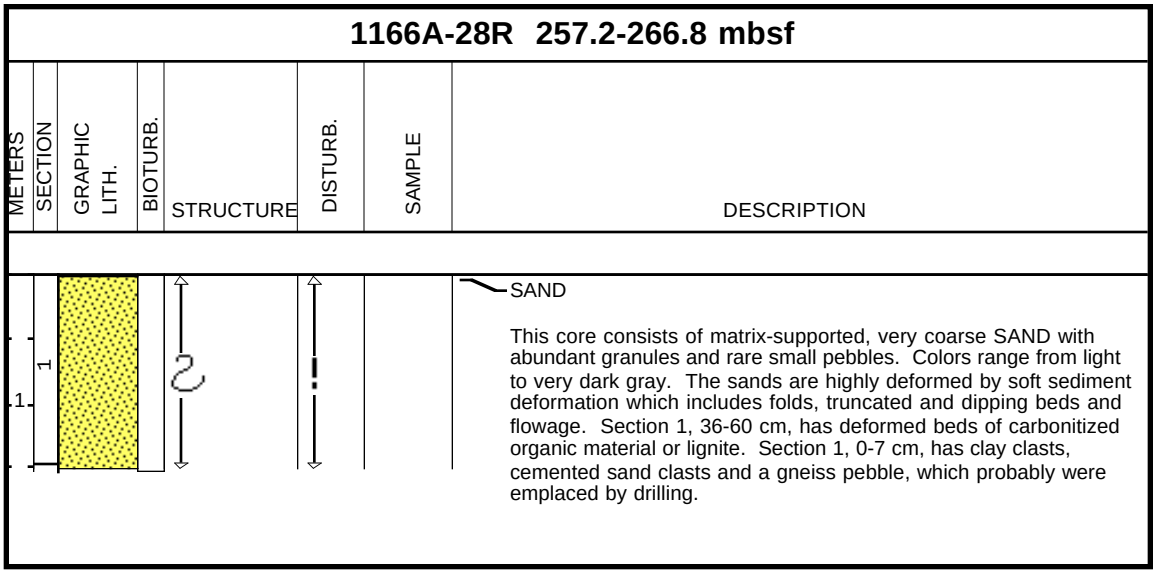
Core Photo


1166A-26R 237.9-247.6 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
2
1
2
SAND and SILTY SANDSTONE
This core is predominantly gray matrix-supported, very coarse SAND with abundant dispersed granules and rare pebbles. Grains are angular to rounded. Rare fragments of carbonized wood or coal are present. Section 2, 70-76 cm, is dark gray SILTY SANDSTONE composed mainly of fine sand grains and cemented with carbonate cement. The upper contact of this bed is inclined from 70 to 76 cm. A mixing zone at this contact contains a coal fragment and a sand pebble from the coarse sand above.

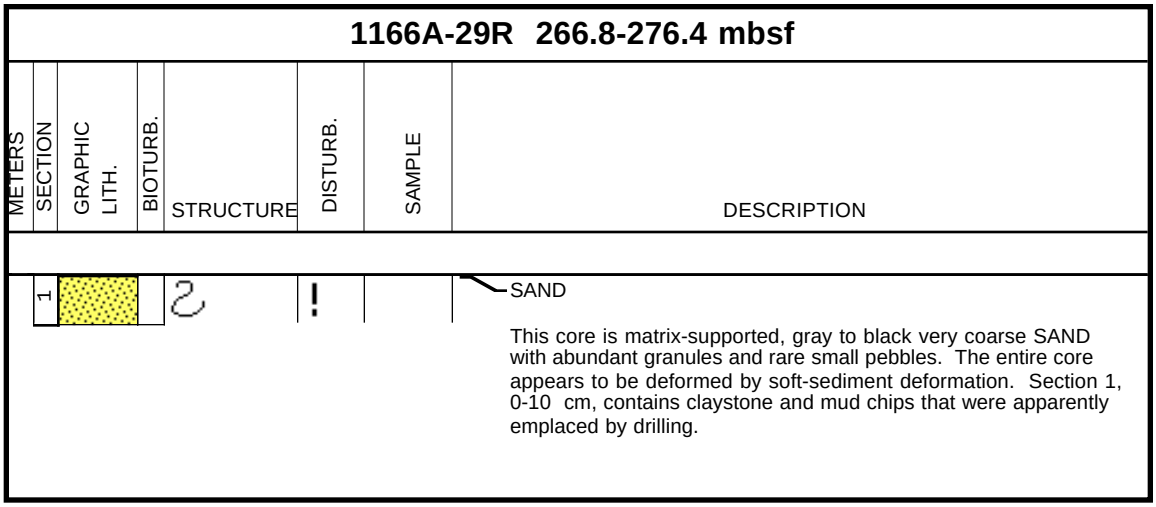
Core Photo


1166A-27R 247.6-257.2 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
1
2
SAND
This core is gray matrix-supported, very coarse SAND with abundant granules and rare small pebbles. Sand is deformed by soft-sediment deformation in Section 1, 83-150 cm, and Section 2, 0-27 cm. Deformation features include inclined layers, folds, flowage and truncated layers. These deformed layers show both gray and brownish gray color bands.

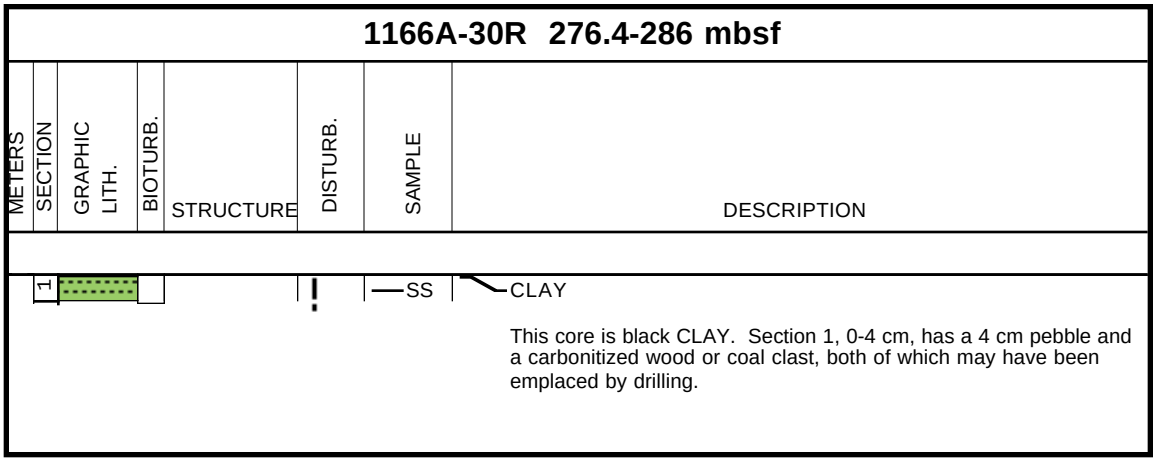
Core Photo


1166A-28R 257.2-266.8 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
1
SAND
This core consists of matrix-supported, very coarse SAND with abundant granules and rare small pebbles. Colors range from light to very dark gray. The sands are highly deformed by soft sediment deformation which includes folds, truncated and dipping beds and flowage. Section 1, 36-60 cm, has deformed beds of carbonitized organic material or lignite. Section 1, 0-7 cm, has clay clasts, cemented sand clasts and a gneiss pebble, which probably were emplaced by drilling.

Core Photo

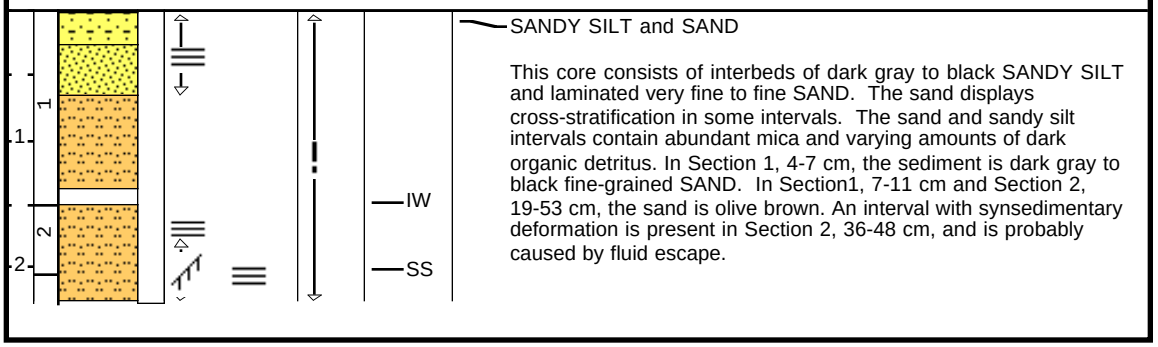

1166A-29R 266.8-276.4 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
SAND
This core is matrix-supported, gray to black very coarse SAND with abundant granules and rare small pebbles. The entire core appears to be deformed by soft-sediment deformation. Section 1, 0-10 cm, contains claystone and mud chips that were apparently emplaced by drilling.

Core Photo


1166A-30R 276.4-286 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
SS
CLAY
This core is black CLAY. Section 1, 0-4 cm, has a 4 cm pebble and a carbonitized wood or coal clast, both of which may have been emplaced by drilling.

Core Photo

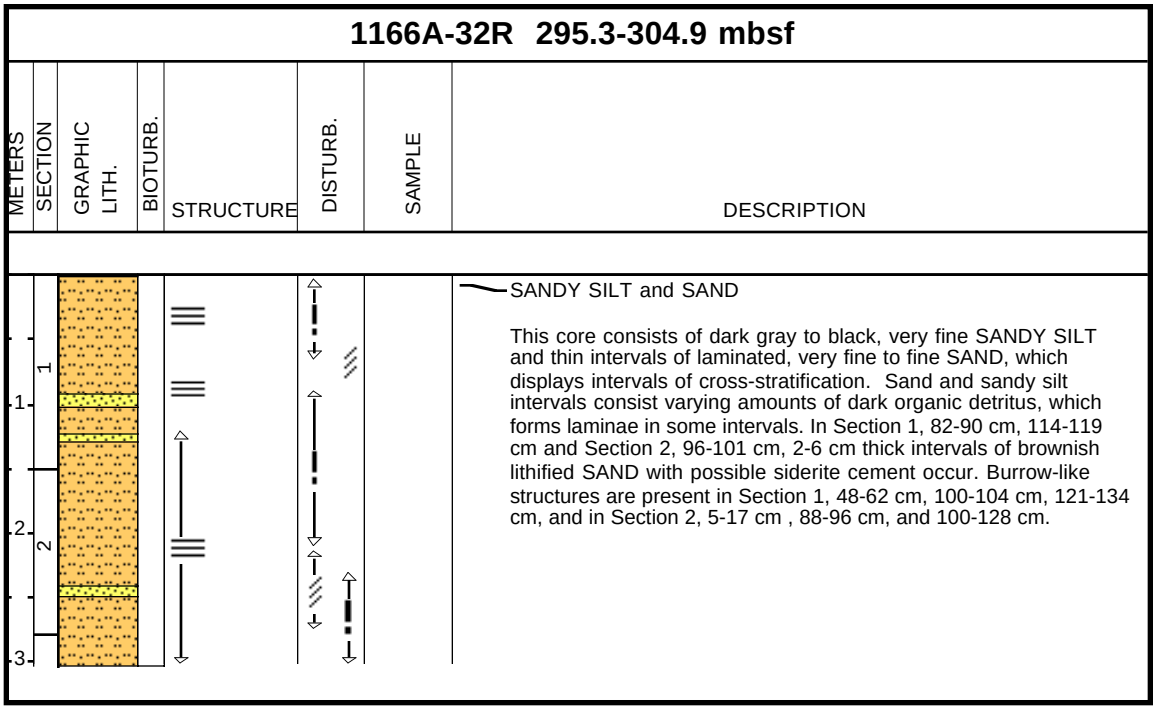
1166A-31R 286-295.3 mbsf



SANDY SILT and SAND

This core consists of interbeds of dark gray to black SANDY SILT and laminated very fine to fine SAND. The sand displays cross-stratification in some intervals. The sand and sandy silt intervals contain abundant mica and varying amounts of dark organic detritus. In Section 1, 4-7 cm, the sediment is dark gray to black fine-grained SAND. In Section1, 7-11 cm and Section 2, 19-53 cm, the sand is olive brown. An interval with synsedimentary deformation is present in Section 2, 36-48 cm, and is probably caused by fluid escape.

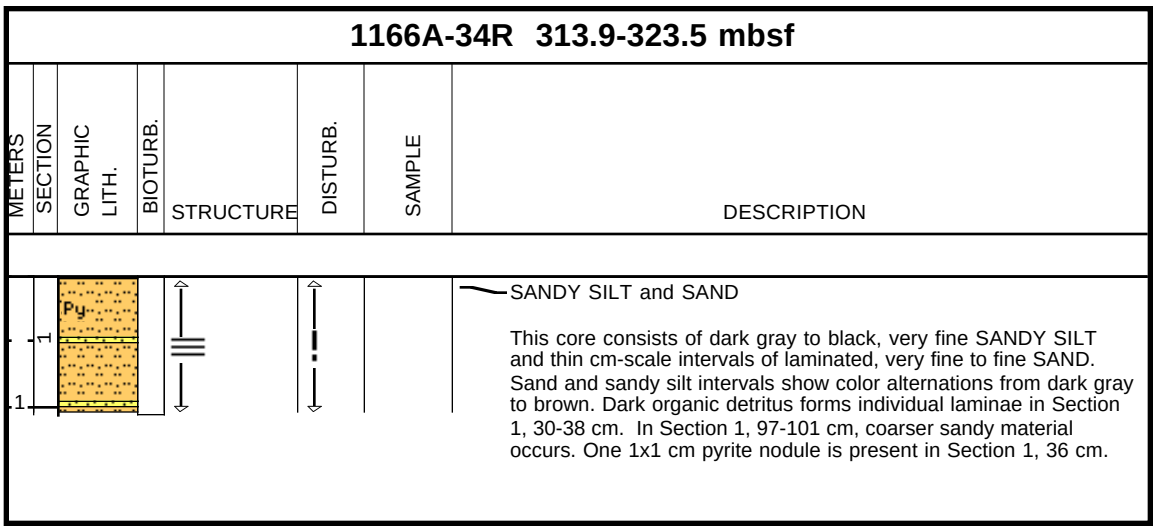
Core Photo



1166A-33R ENTIRE CORE GIVEN TO PALEONTOLOGISTS

Core Photo

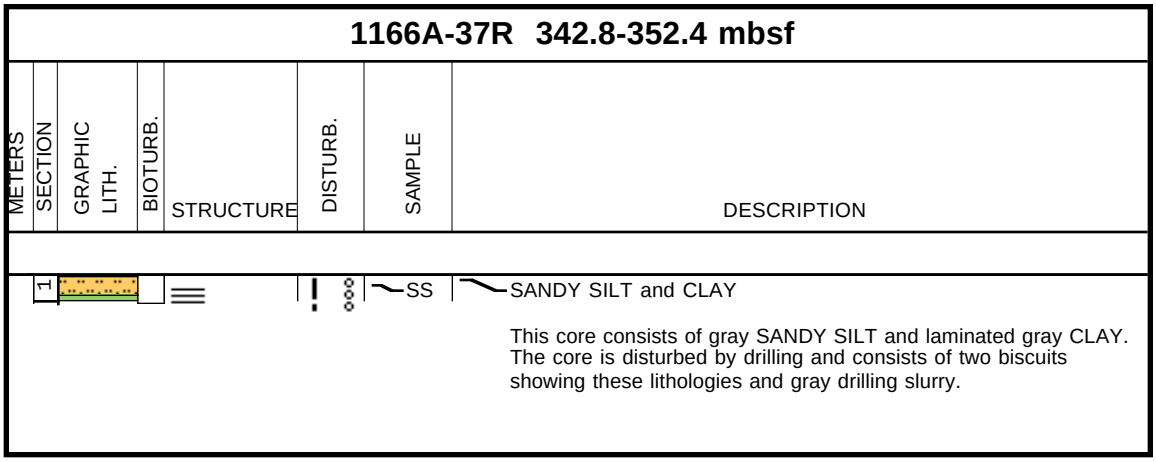
1166A-34R 313.9-323.5 mbsf



1166A-35R NO RECOVERY

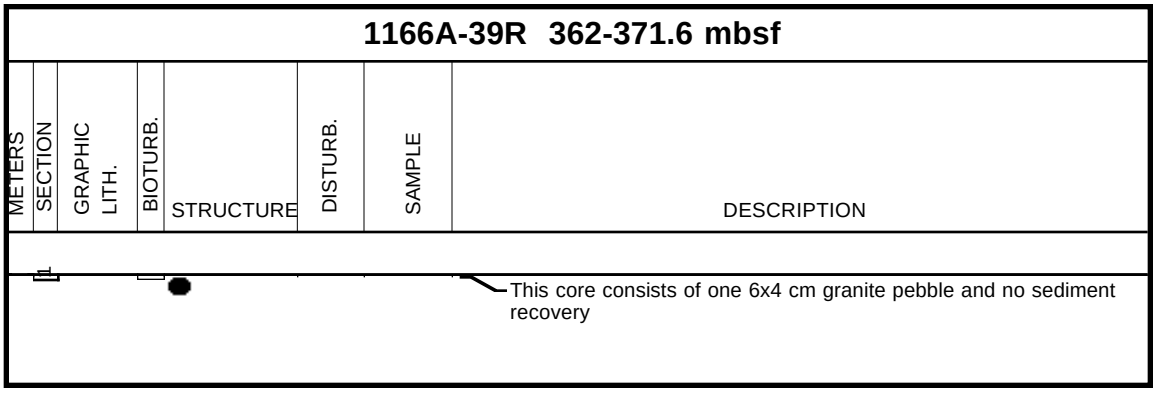
1166A-36R NO RECOVERY

Core Photo



1166A-38R NO RECOVERY

Core Photo



1166A-40R NO RECOVERY

Sample							Texture			Mineral																											Biogenic									Rock				
Hole	Core	Coretype	Section	Top Interval (cm)	Depth (mbsf)	Lithology (D=Dominant, M=Minor)	Sand (%)	Silt (%)	Clay (%)	Accessory Minerals (%)	Amphibole (%)	Apatite (%)	Biotite (%)	Carbonate (%)	Chert (%)	Clay (%)	Clinoptilolite (%)	Feldspar (%)	Garnet (%)	Glauconite (%)	Heavy Minerals (%)	Mica (%)	Muscovite (%)	Olivine (%)	Opaques (%)	Phillipsite (%)	Plagioclase (%)	Pyrite (%)	Quartz (%)	Siderite (%)	Sphene, Titanite (%)	Tridymite (%)	Unspecified Minerals (%)	Volcanic Glass (%)	Zeolite (%)	Zircon (%)	Diatoms (%)	Dinoflagellate (%)	Fish Remains (%)	Foraminifers (%)	Nannofossils (%)	Radiolarians (%)	Siliceous Sponge Spicules (%)	Silicoflagellates (%)	Sponge Spicules (%)	Coal (%)	Lithic Fragments (%)	Micrite (%)	Rock Fragment (%)	Comments
188-1166																																																		
A	1	R	2	72	2.22	D	*	10	90		1					54									1												30					2	10							spicule-bearing diatom clay
A	1	R	1	50	0.50	D	*	25	75		2					69									1				15								10						3							diatom-bearing silty clay
A	1	R	2	95	2.45	D	2	30	68		5					59									3				25								5						3							silty clay
A	6	R	CC	0	47.30	D		25	75																																									silty clay
A	9	R	CC	0	76.02	D		50	50																																									(sandy) silty clay; sd not on smear slides
A	13	R	1	135	114.65	D		20	80		5		1			43									1				15								25						10							diatom clay
A	13	R	1	50	113.80	D		25	75		5					72									2				20																					silty clay
A	13	R	1	72	114.02	D	*	20	80		2		1								1			1	1				20								15						10							diatom-bearing clay
A	13	R	2	73	115.53	D		15	85		5		2			76									1				15														1							silty clay
A	13	R	3	34	116.64	D	*	25	75		2		1			71									1				25																					silty clay
A	15	R	3	70	136.25	D		5	95		5		1			83									1				10																					silt-bearing claystone
A	15	R	6	64	140.69	M	10	10	80																																									sand & silt-bearing claystone (matrix only)
A	15	R	6	73	140.78	D		5	95							72									1				5								20						2							diatom-bearing claystone
A	15	R	5	68	139.23	D	1	10	89		1					78									3				8								10													diatom-bearing claystone
A	15	R	3	18	135.73	D	2	10	88		1					86									2				10								1													silty claystone
A	15	R	6	64	140.69	M	10	10	80																																									sand & silt-bearing claystone (matrix only)
A	17	R	1	24	151.64	D	10	40	50																																									sand-bearing silty claystone
A	18	R	2	103	163.53	D		30	70																																									silty claystone (matrix?)
A	22	R	1	62	200.12	M		40	60		3					59					1		2		2				30	1																2				silty clay (matrix)
A	23	R	1	69	209.79	M		40	60		2					59					1		1		3				30	1																3				silty clay (matrix)
A	24	R	1	40	219.10	M		40	60		2		1			57					2				3				30		3															2				silty clay
A	30	R	1	10	276.50	D	5	75	20				5			15		5					20		20				25				10																	silt
A	31	R	1	100	287.00	D	30	40	30																																									clayey sandy silt
A	31	R	2	52	288.02	M	50	30	20																																									silty sand
A	32	R	CC	0	298.09	D	50	30	20																																									silty sand
A	34	R	CC	0	314.91	D	70	20	10				10			10					10		15		25				20				10																	sand
A	37	R	CC	5	342.85	D	70	20	10				10			10																																		sand
A	37	R	CC	15	342.95	D	2	75	23				7			23					5		20		10				25				10																	sand
A	37	R	CC	15	342.95	D	2	75	23				7			23					5		20		10				25				10																	sand
A	37	R	CC	5	342.85	D	70	20	10												10		25		10				20				15																	sand