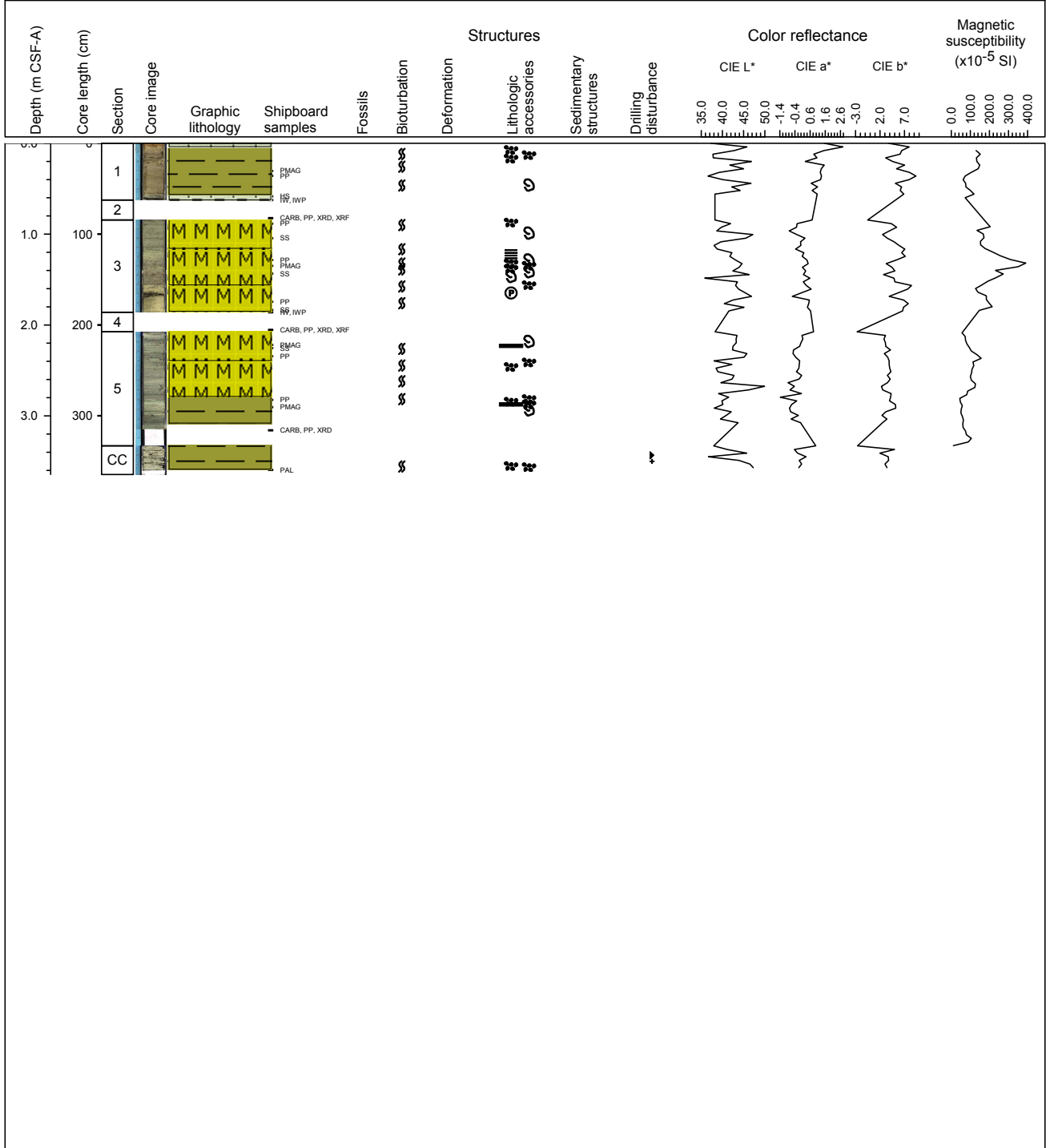


Core Photo

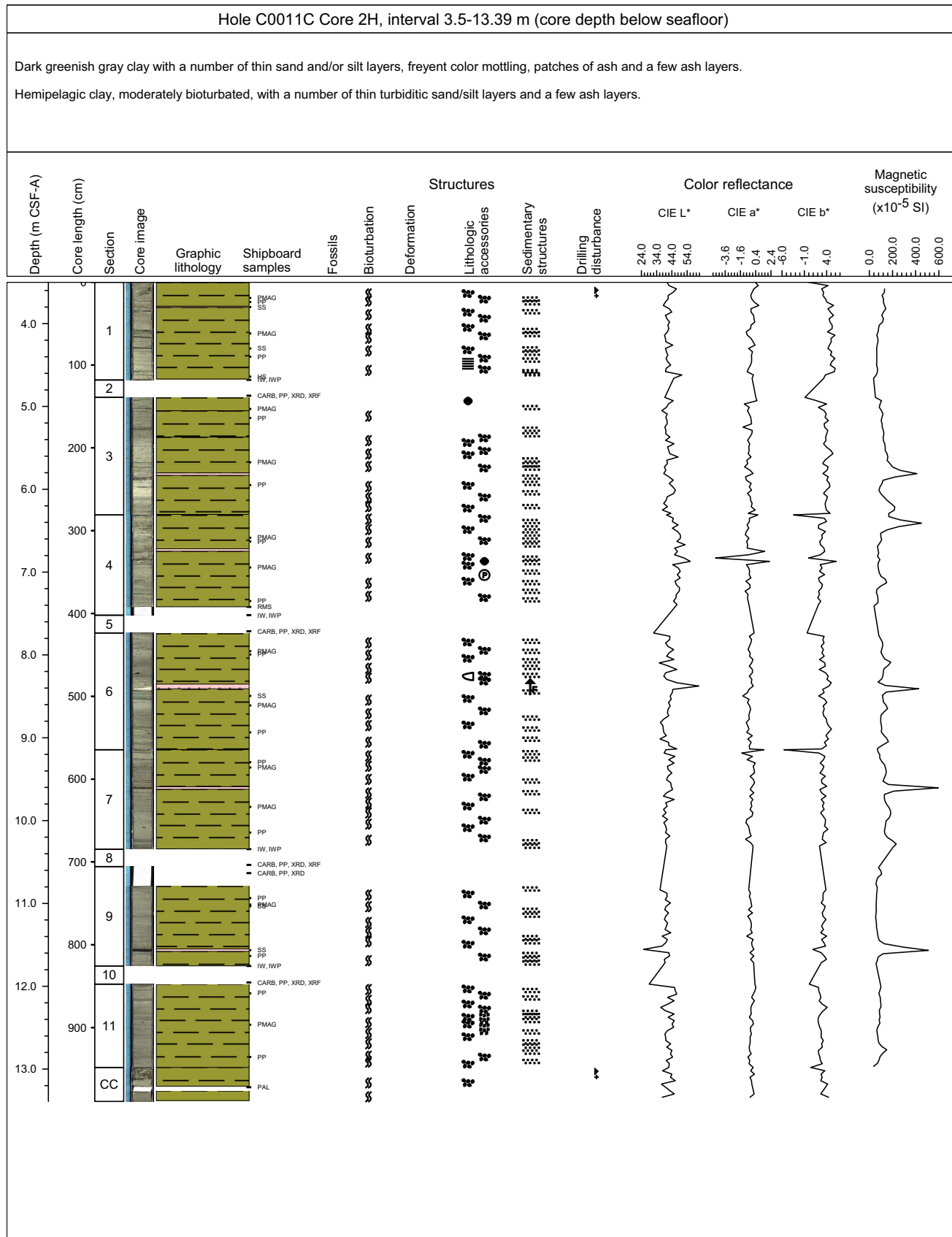
C0011A - Drilled Expedition 319 - NO RECOVERY
 C0011B - See Expedition 322

Hole C0011C Core 1H, interval 0-3.645 m (core depth below seafloor)

A succession of hemipelagic sediments on top (in the first core), then mixed sediments inferred to be five MTDs to the lower part of section 5, beneath which is hemipelagic clay.



Core Photo



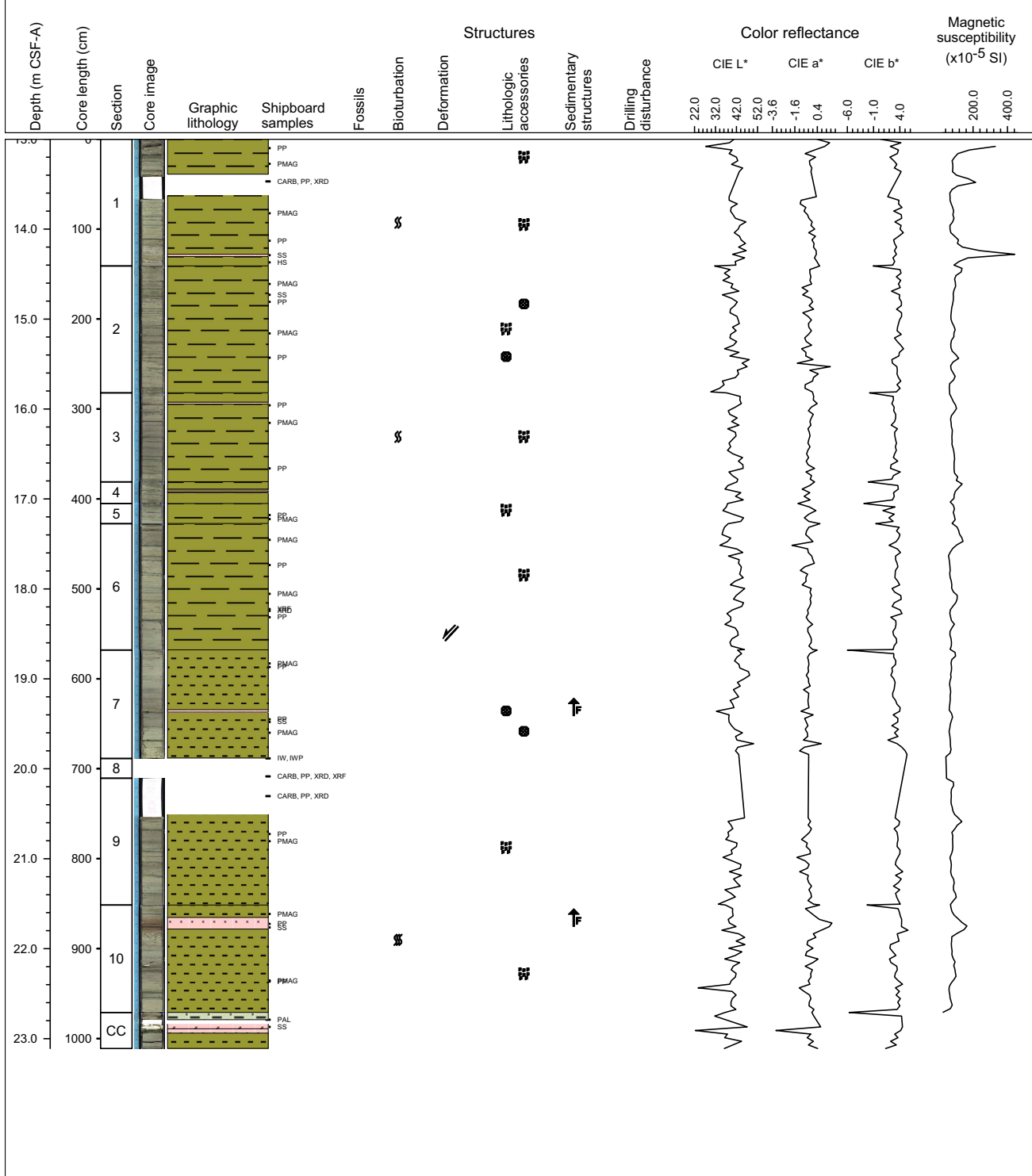
Core Photo

Hole C0011C Core 3H, interval 13-23.11 m (core depth below seafloor)

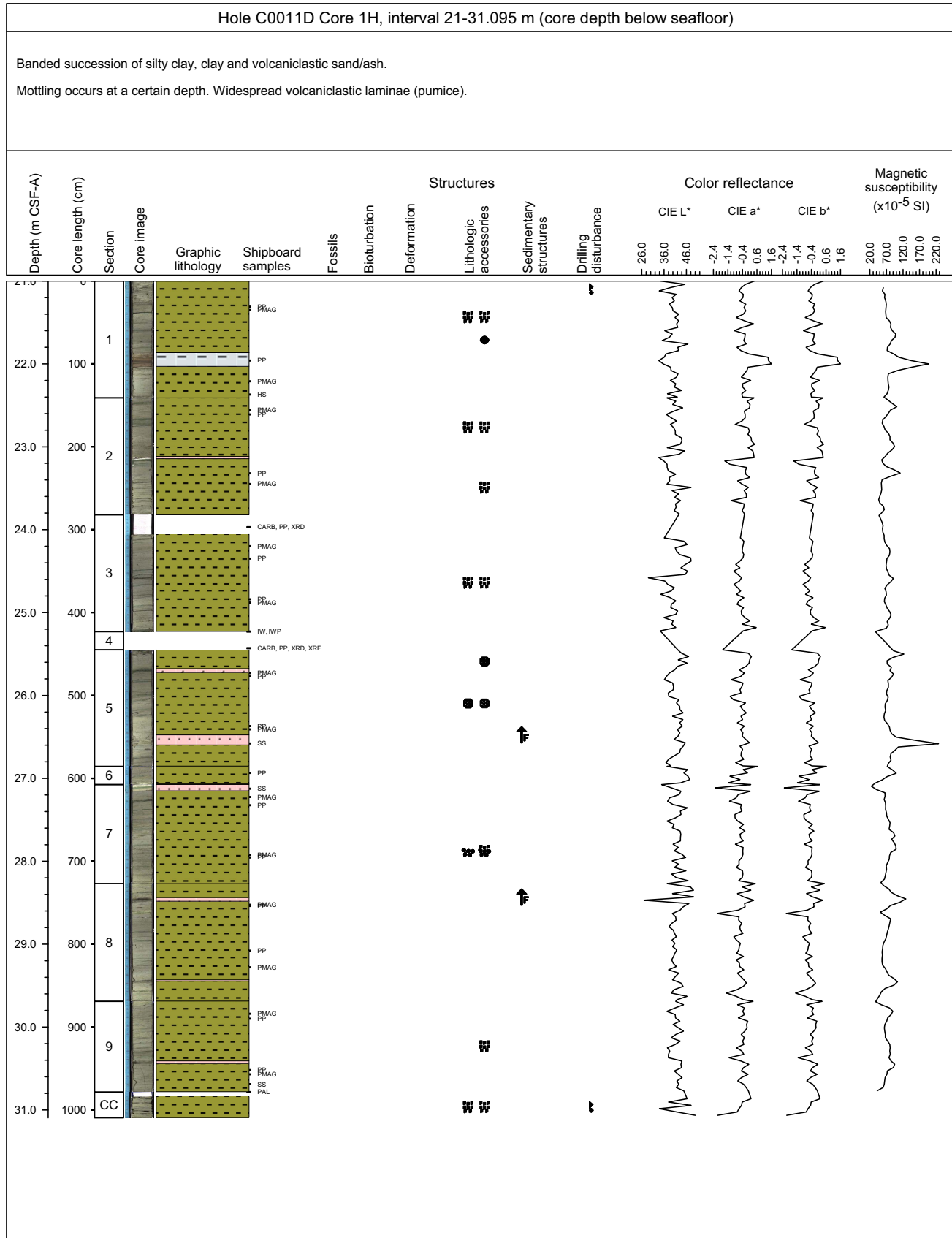
Succession of clay and silty clay with intercalated volcanic ash and sand.

Some significant bioturbation at places.

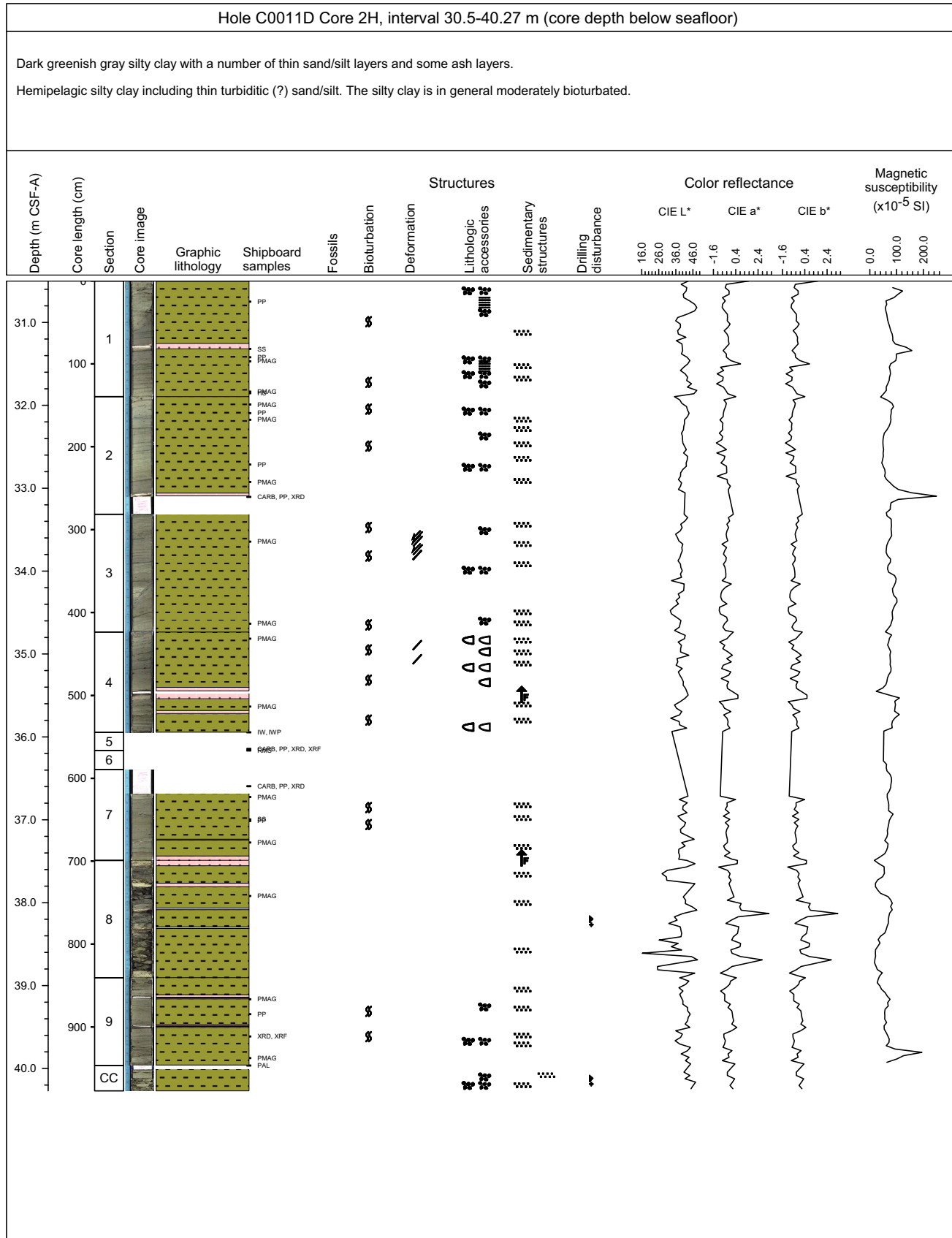
Scattered pumice and isolated mud clasts.



Core Photo



Core Photo

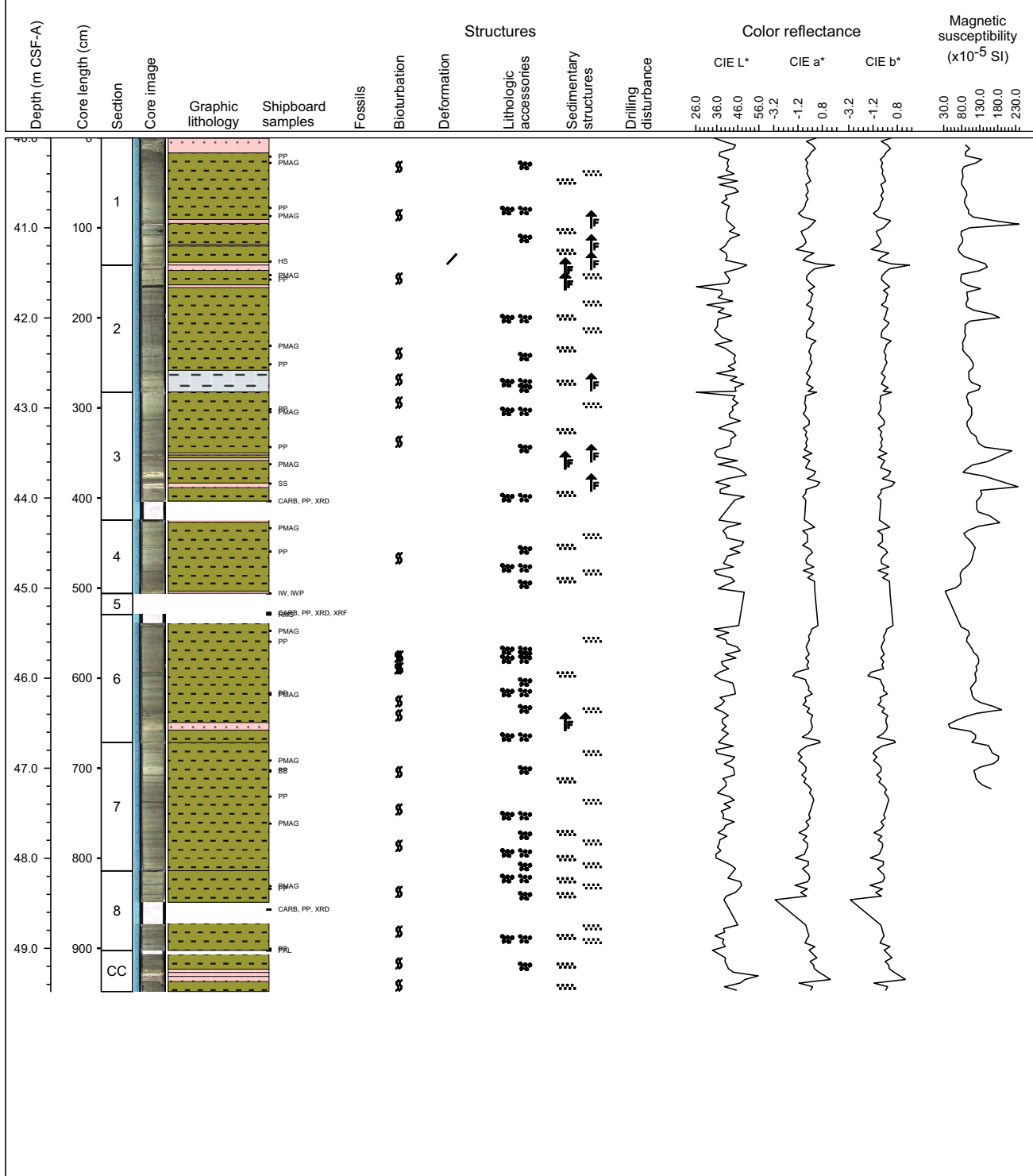


Core Photo

Hole C0011D Core 3H, interval 40-49.48 m (core depth below seafloor)

Dark greenish gray silty clay with a number of thin sand/silt layers and some ash layers.

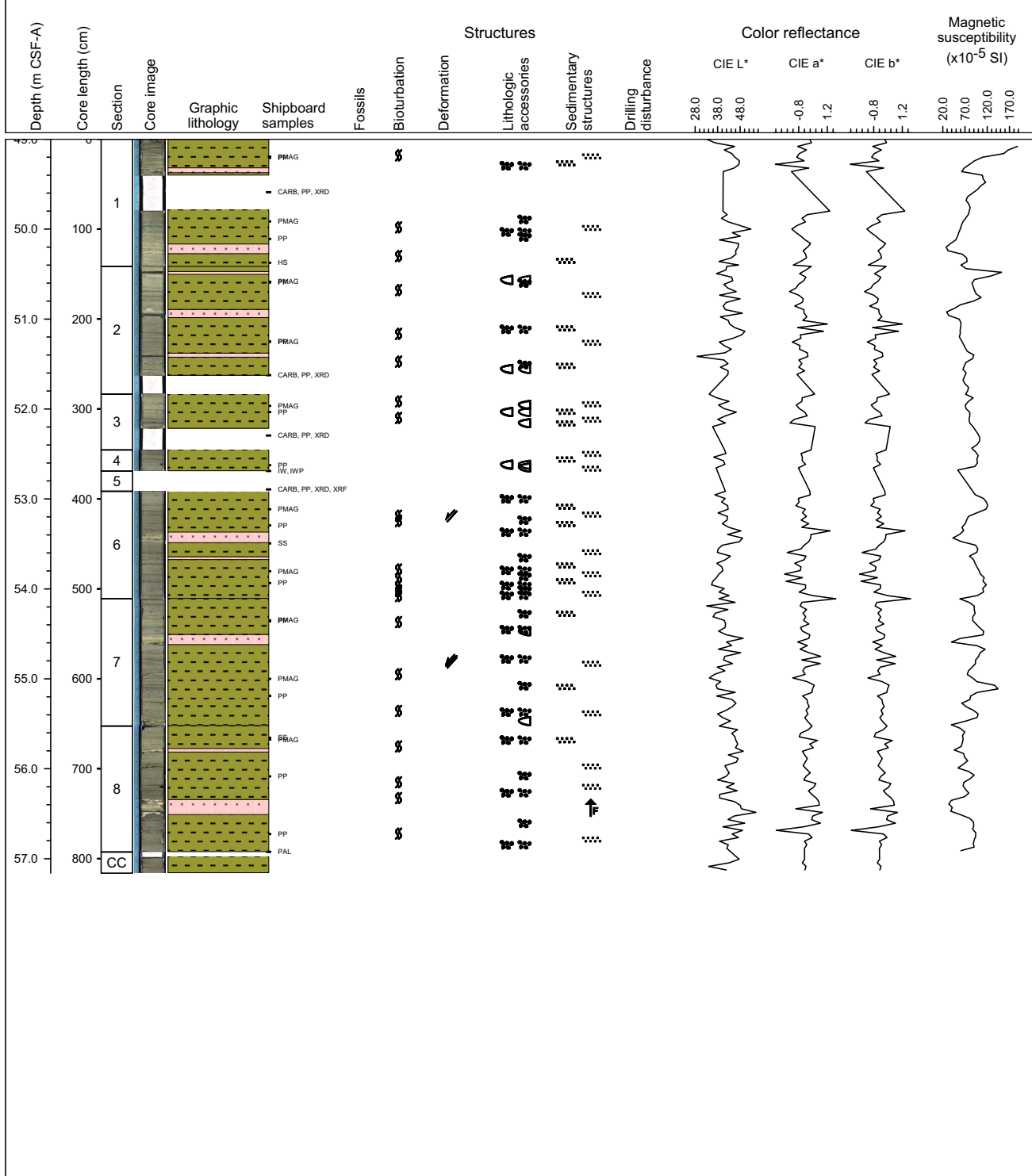
Hemipelagic silty clay including a number of thin turbiditic sand/silt layers and some ash layers. The silty clay is slightly - moderately bioturbated.



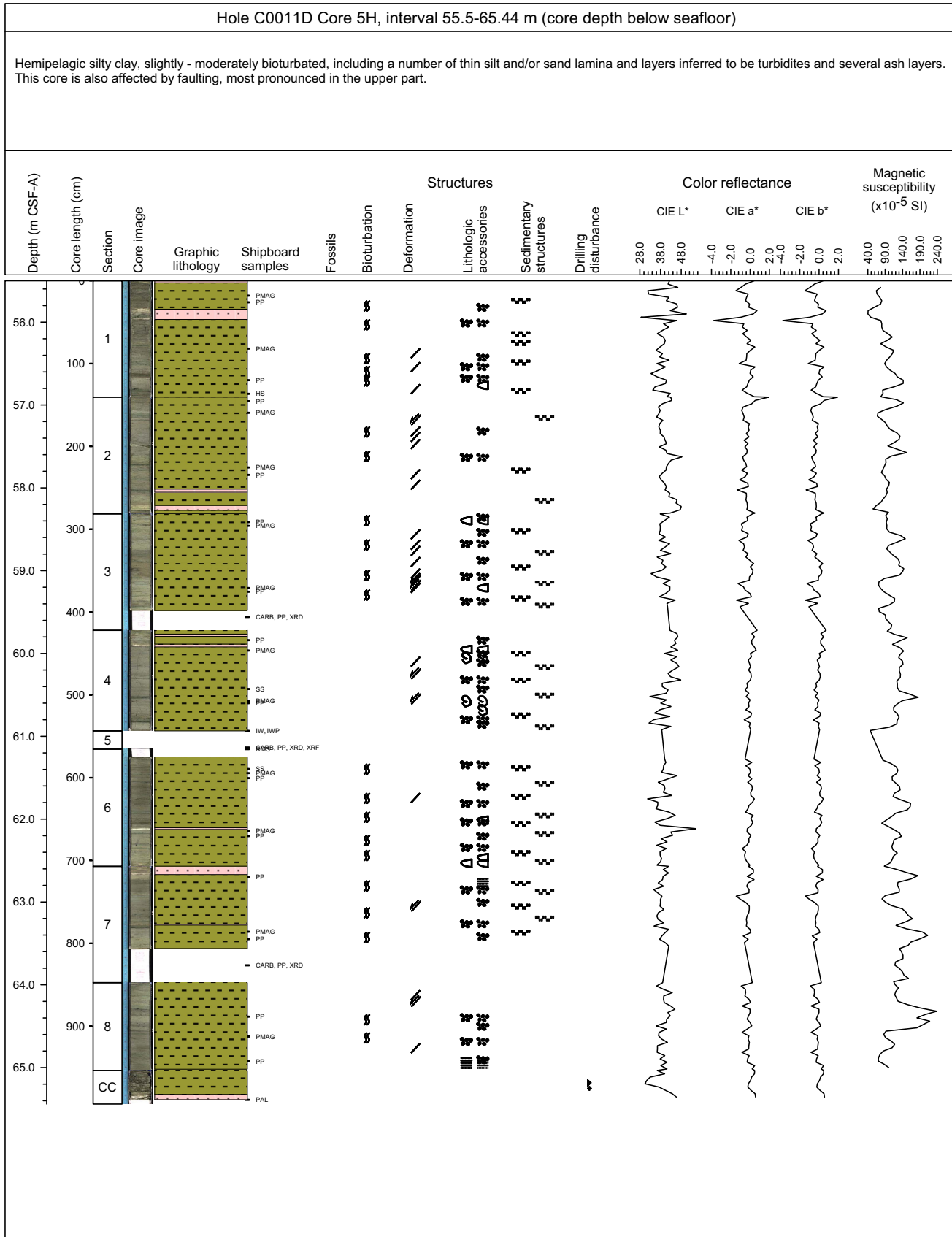
Core Photo

Hole C0011D Core 4H, interval 49-57.16 m (core depth below seafloor)

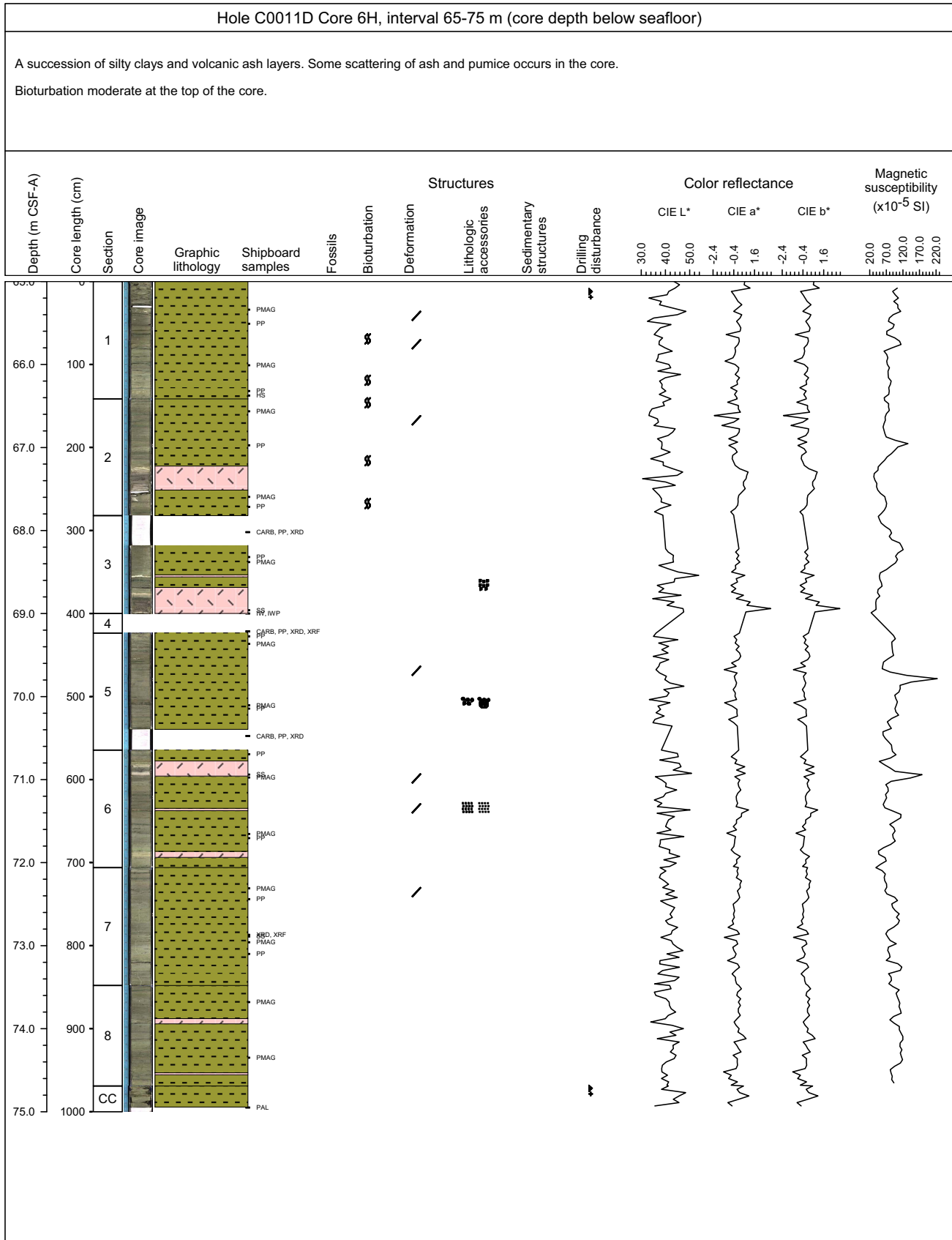
Dark greenish gray silty clay with a number of thin silt-sand layers, the silty clay comprise color mottling and patches of ash.
 Hemipelagic silty clay, moderately bioturbated, including a number of thin, turbiditic silt-sand layers and some ash layers.



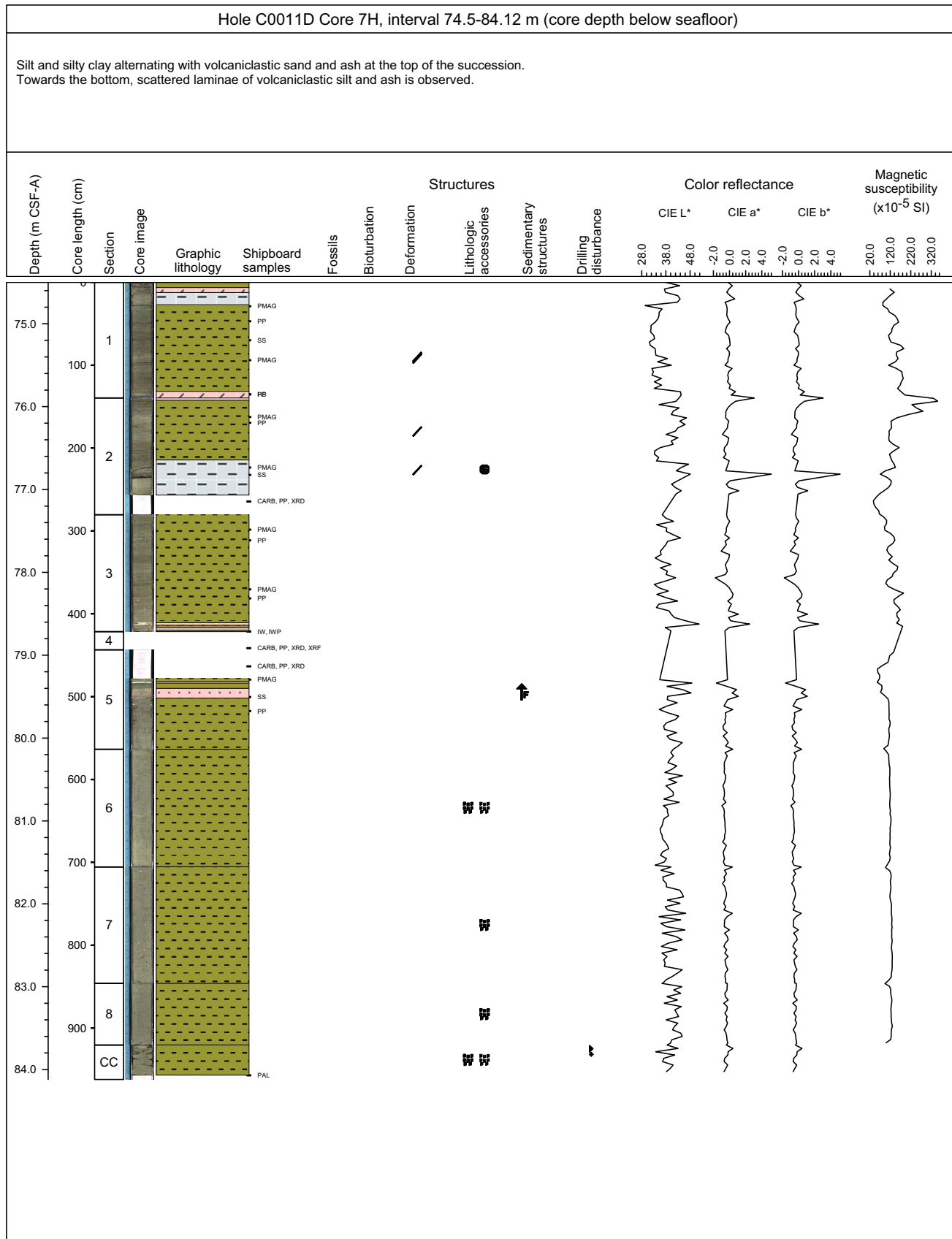
Core Photo



Core Photo



Core Photo

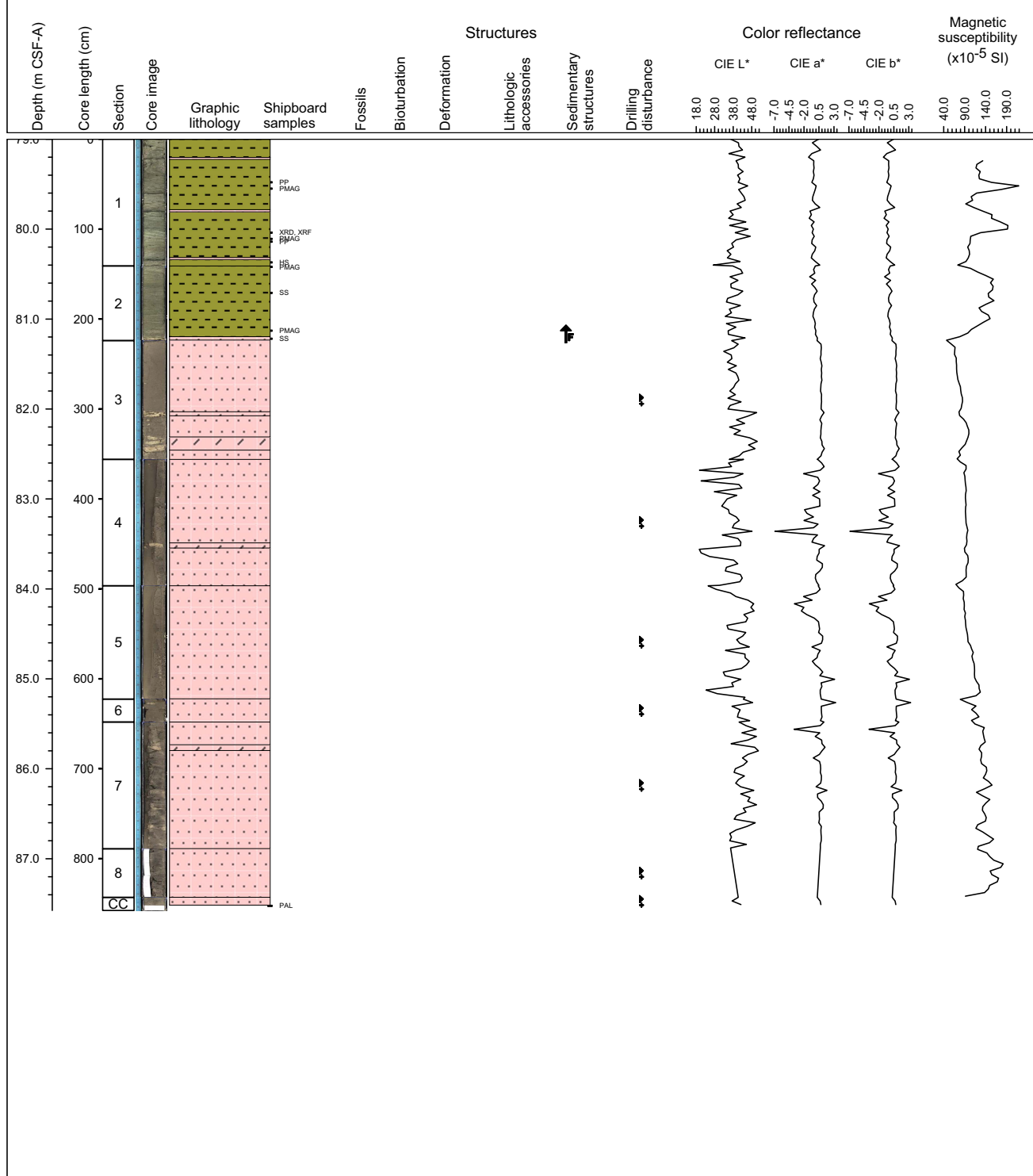


Core Photo

Hole C0011D Core 8H, interval 79-87.575 m (core depth below seafloor)

Alternating silty clay and volcanic ash in the first 1.2 meters.

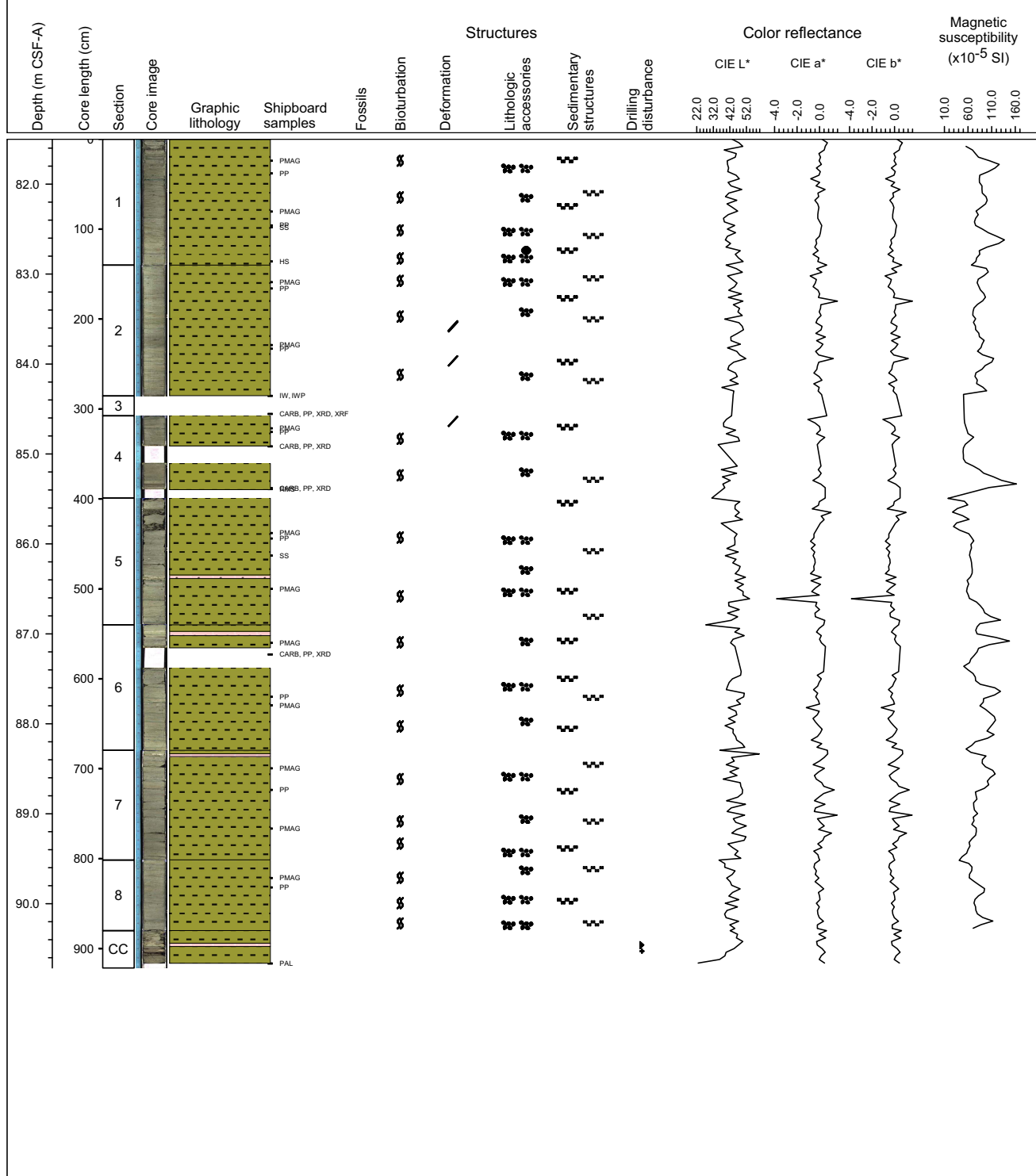
Volcanic ash layer (grain size of sand) occurs below 1.2 meters. The sand is structureless due to drilling disturbance. However, four levels with volcanic fine ash are identified within the larger volcanic ash bed.



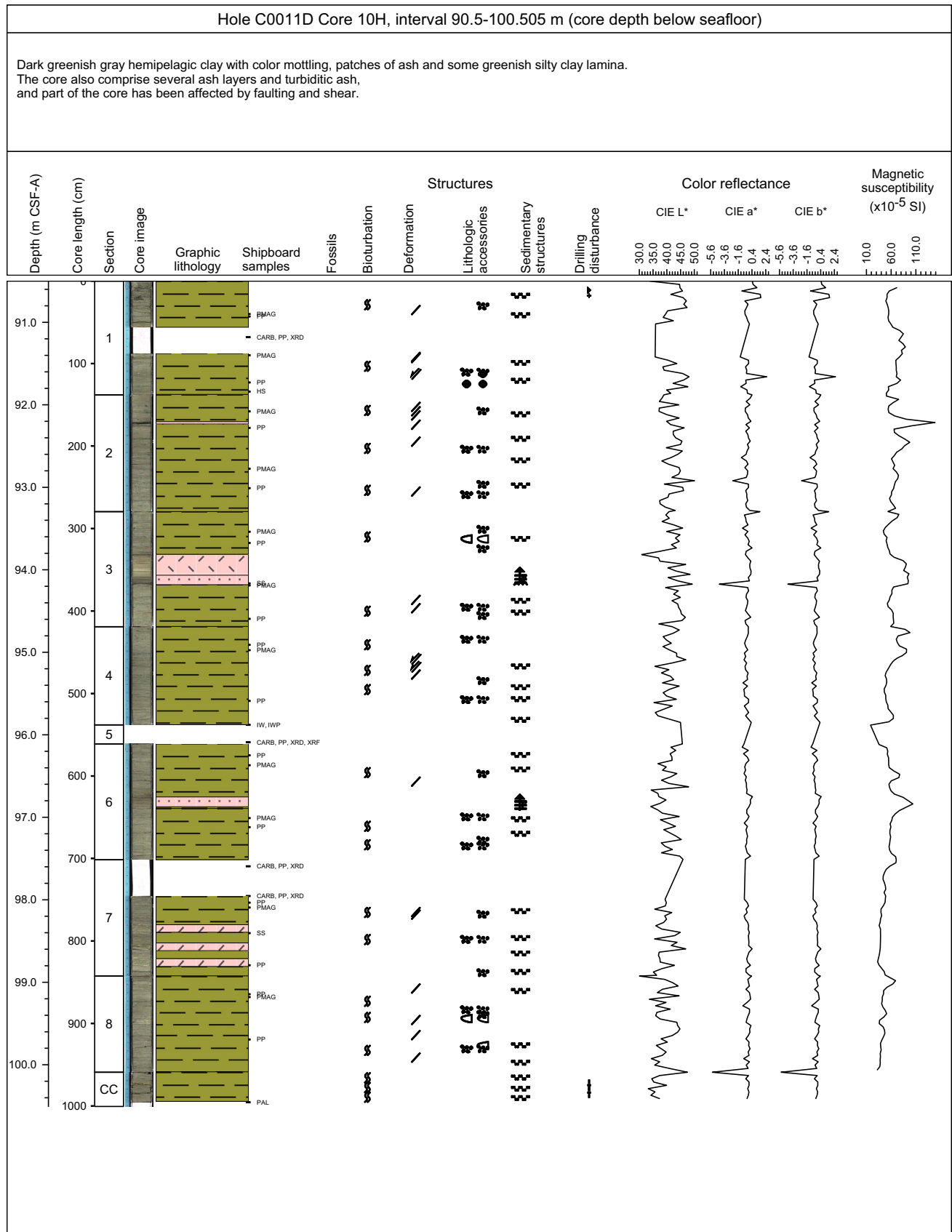
Core Photo

Hole C0011D Core 9H, interval 81.5-90.715 m (core depth below seafloor)

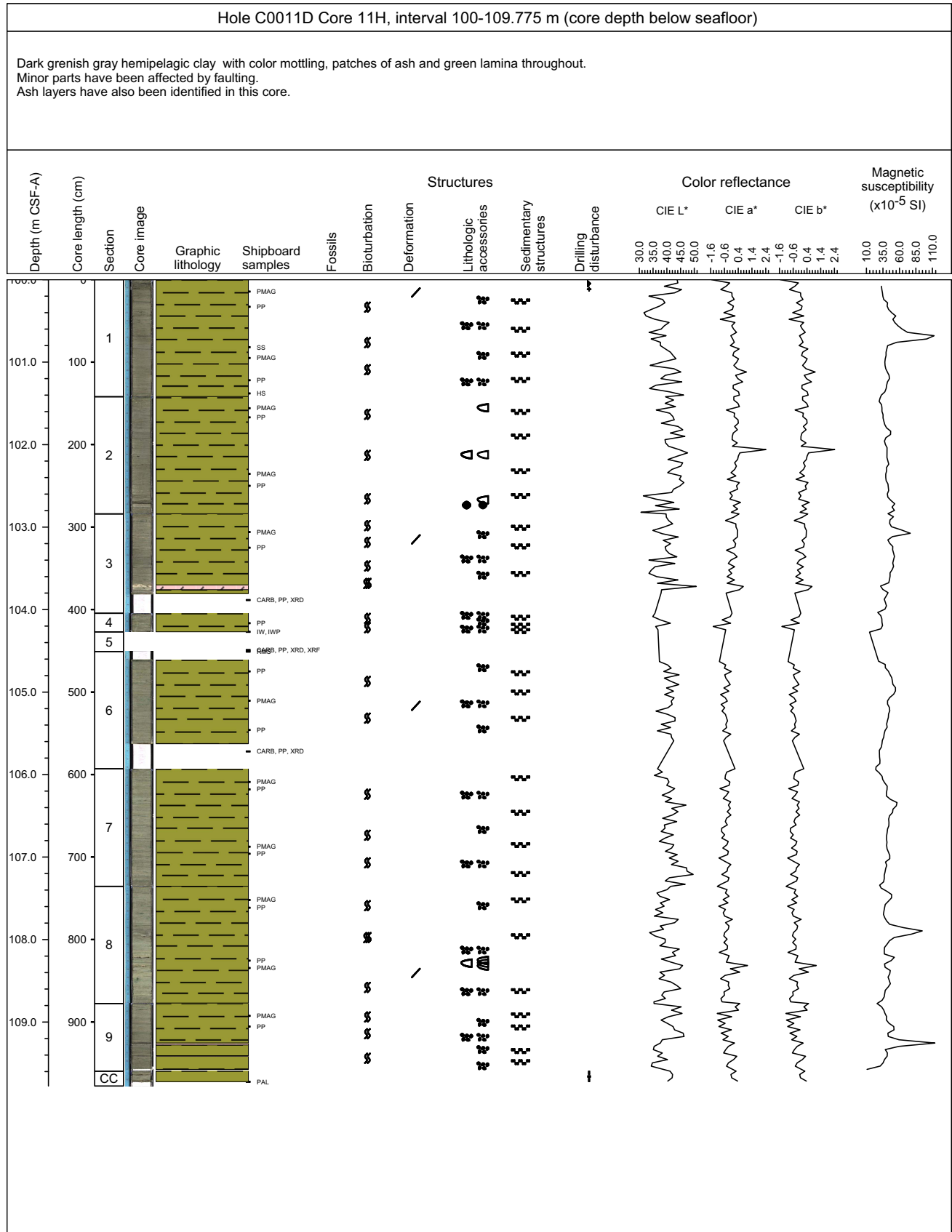
Silty clay and volcanic ash alternating in the succession. Bioturbation is moderate throughout. Mottling and scattered volcanic ash are pervasive.



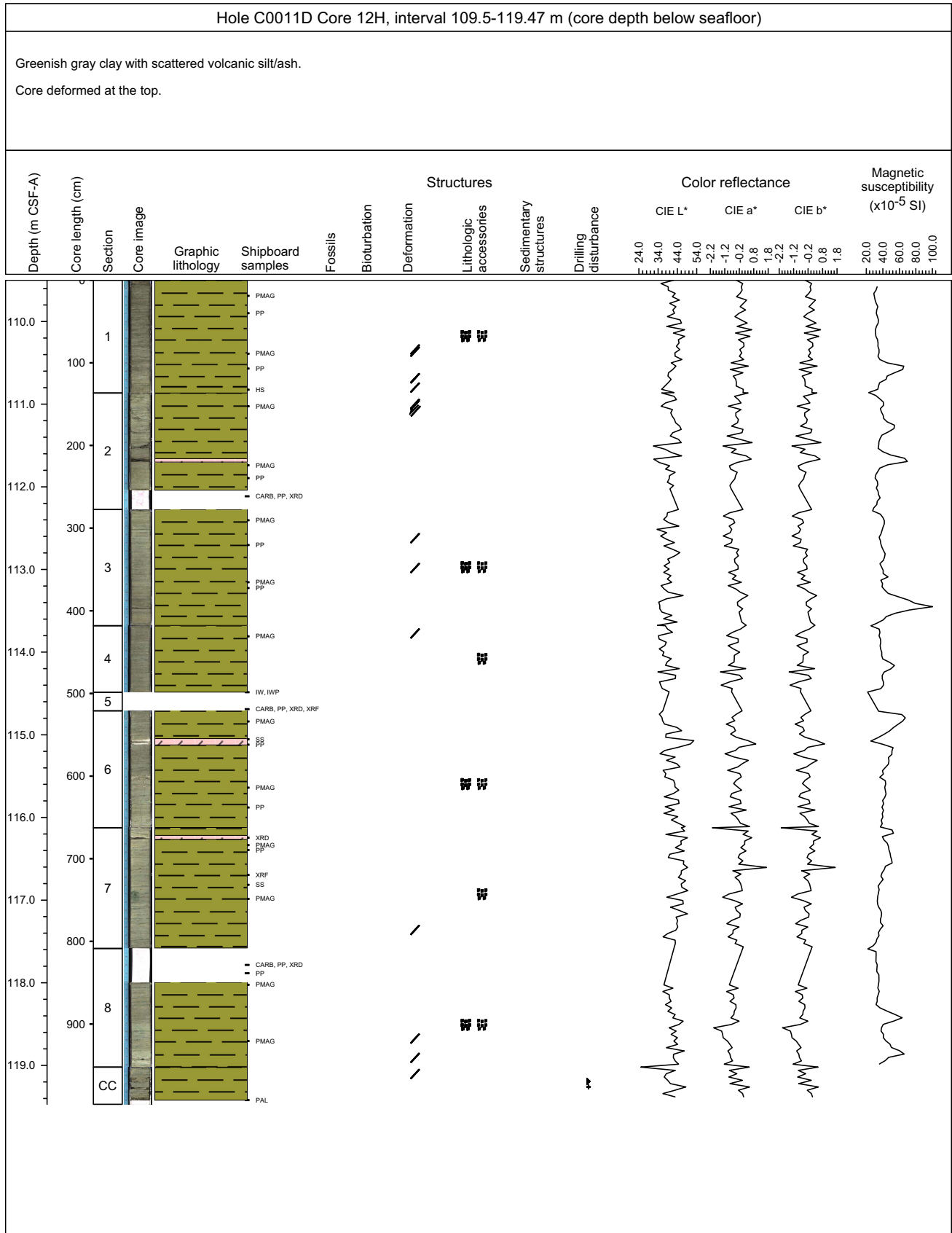
Core Photo



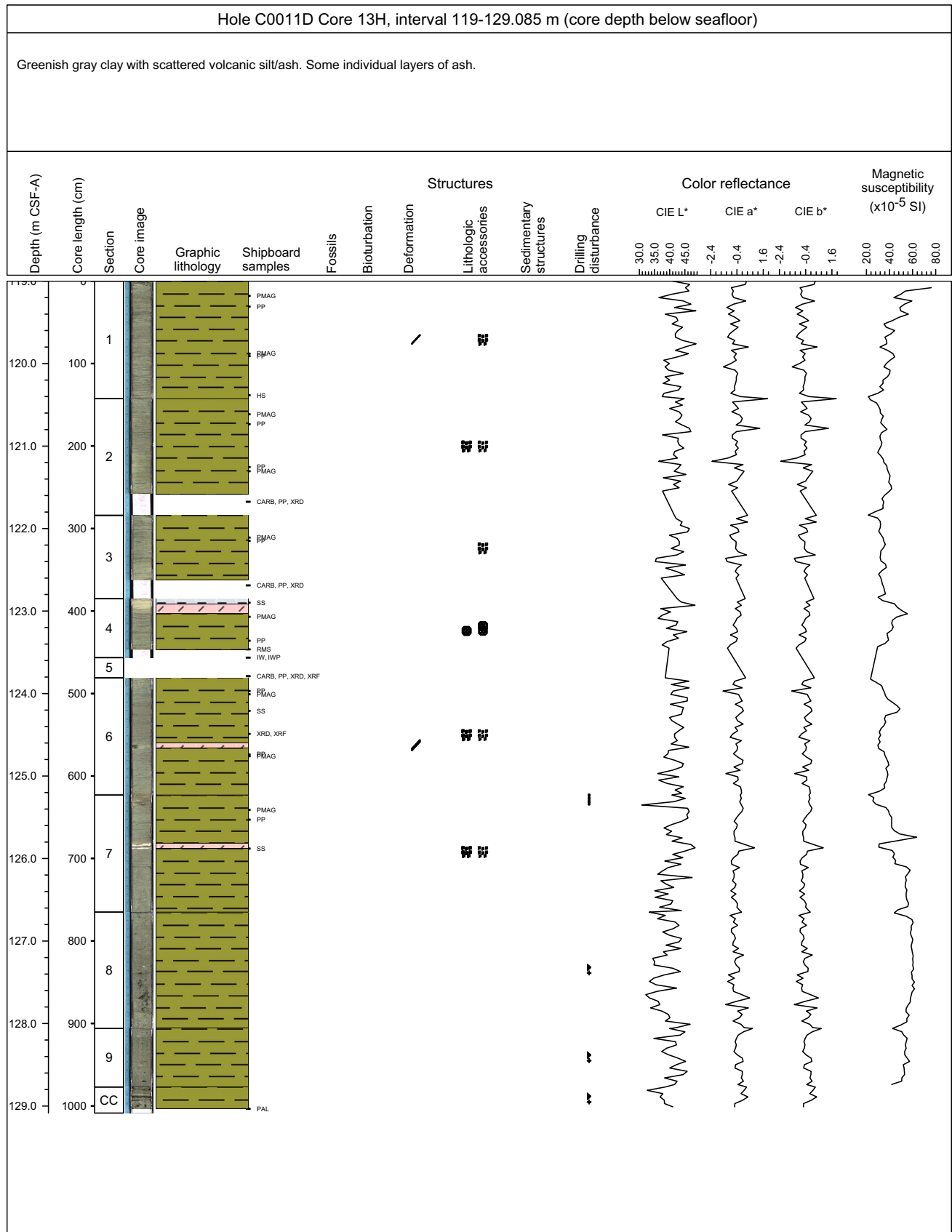
Core Photo



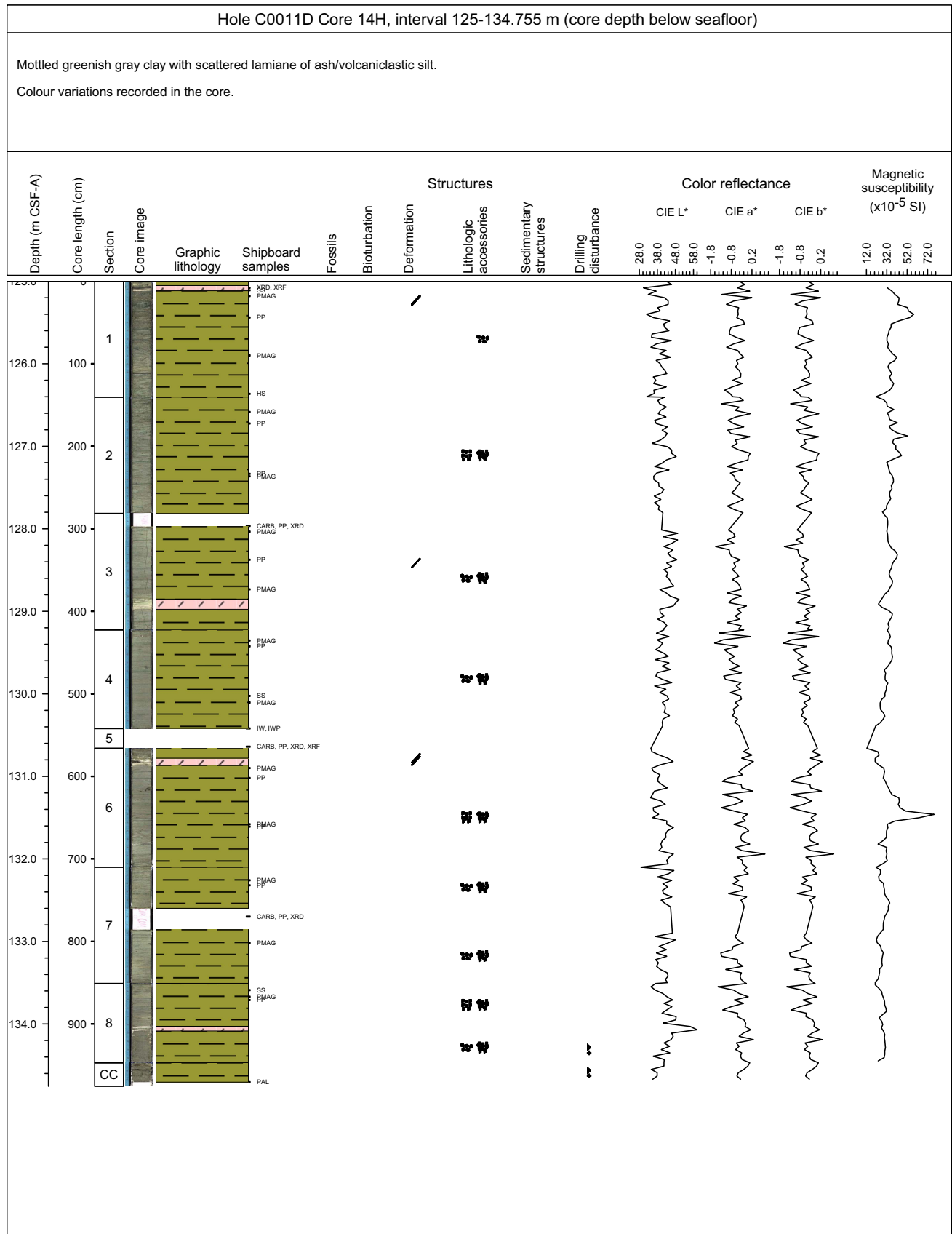
Core Photo



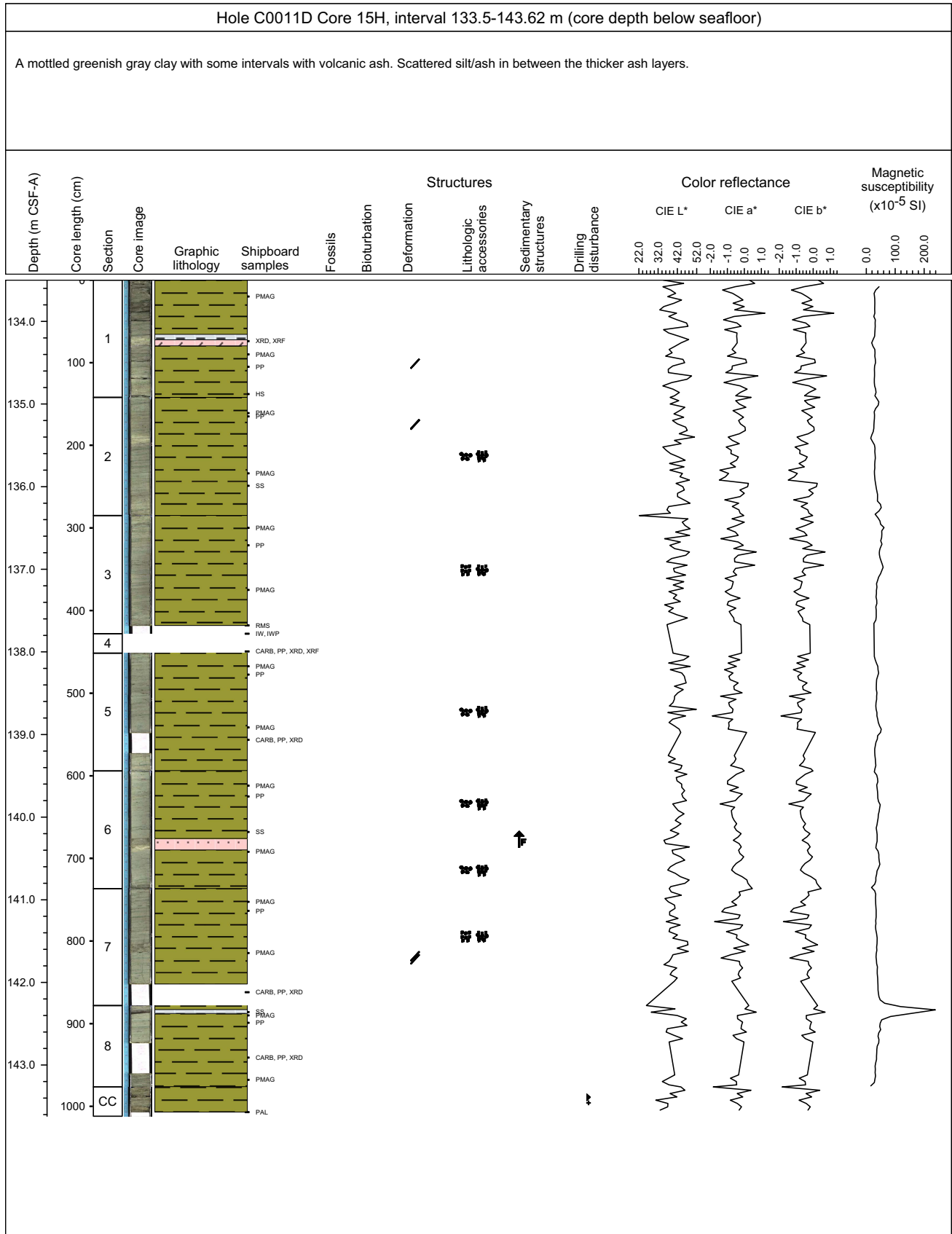
Core Photo



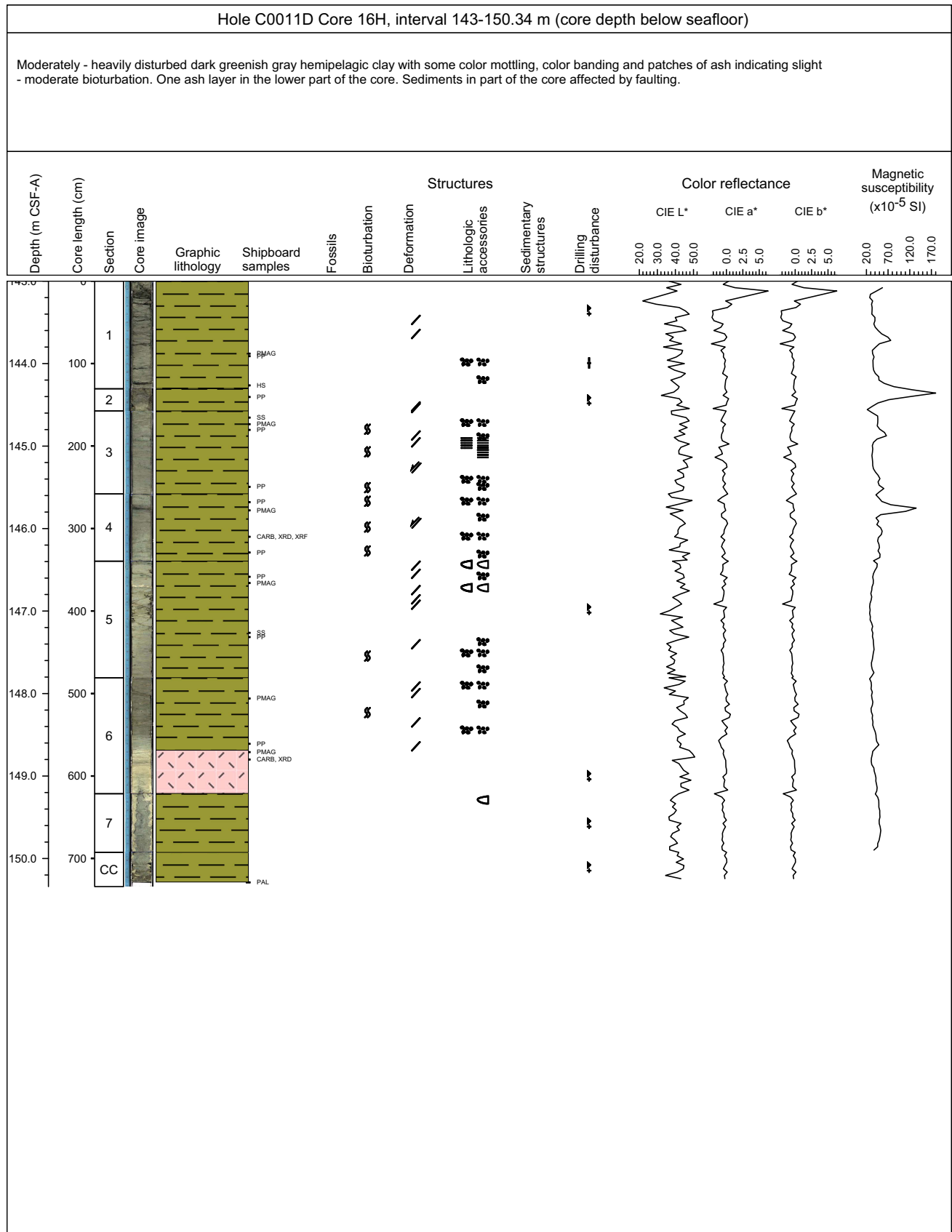
Core Photo



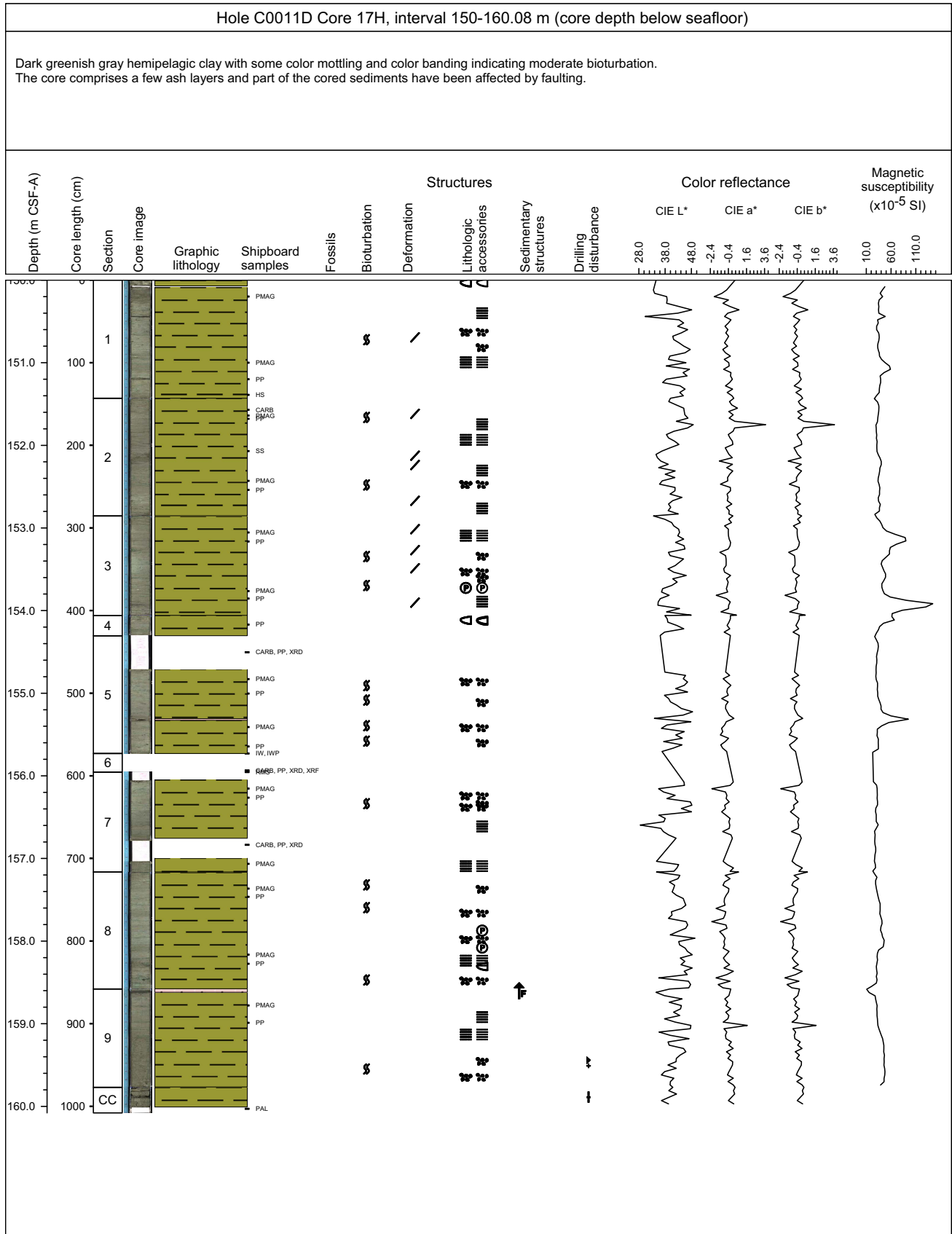
Core Photo



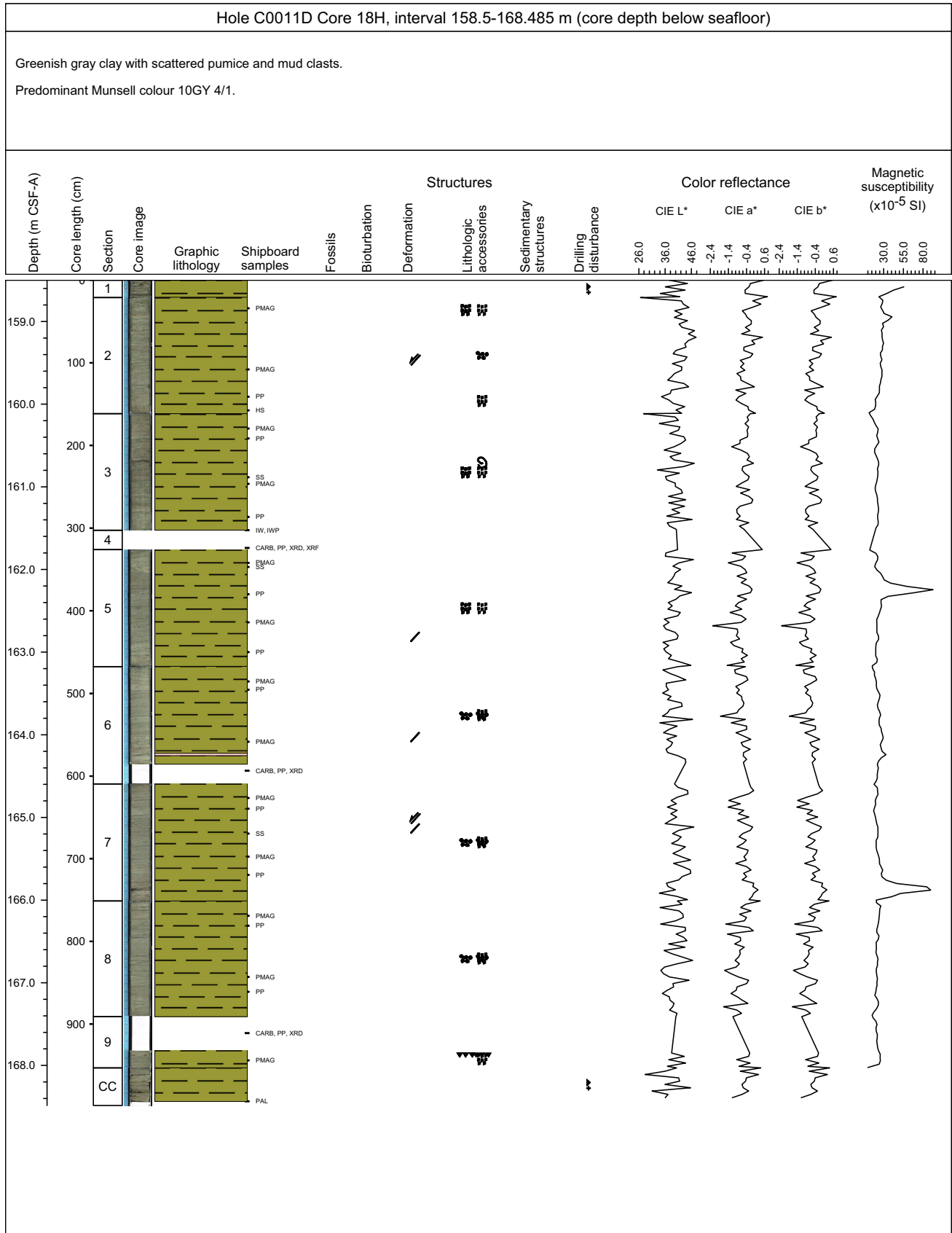
Core Photo



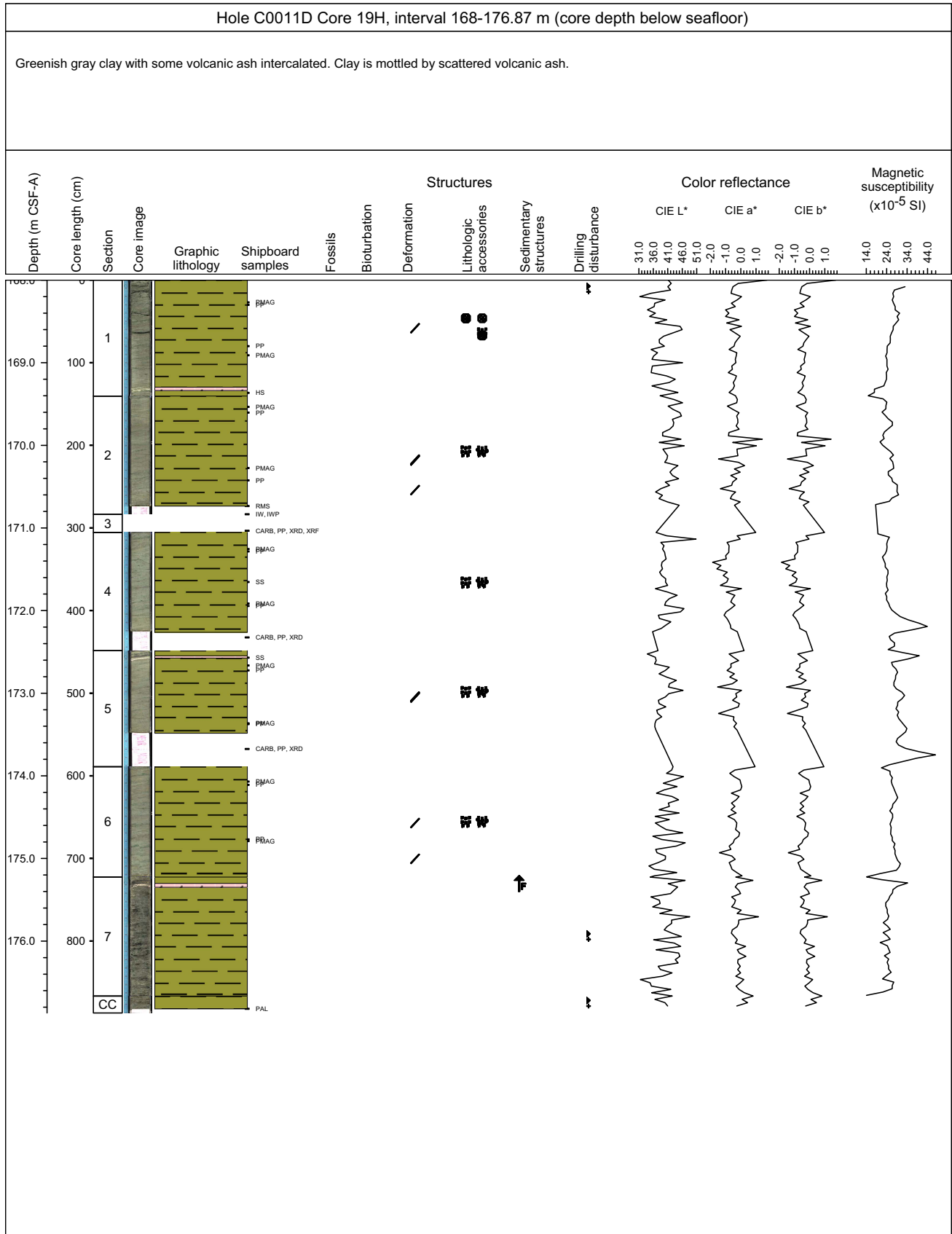
Core Photo



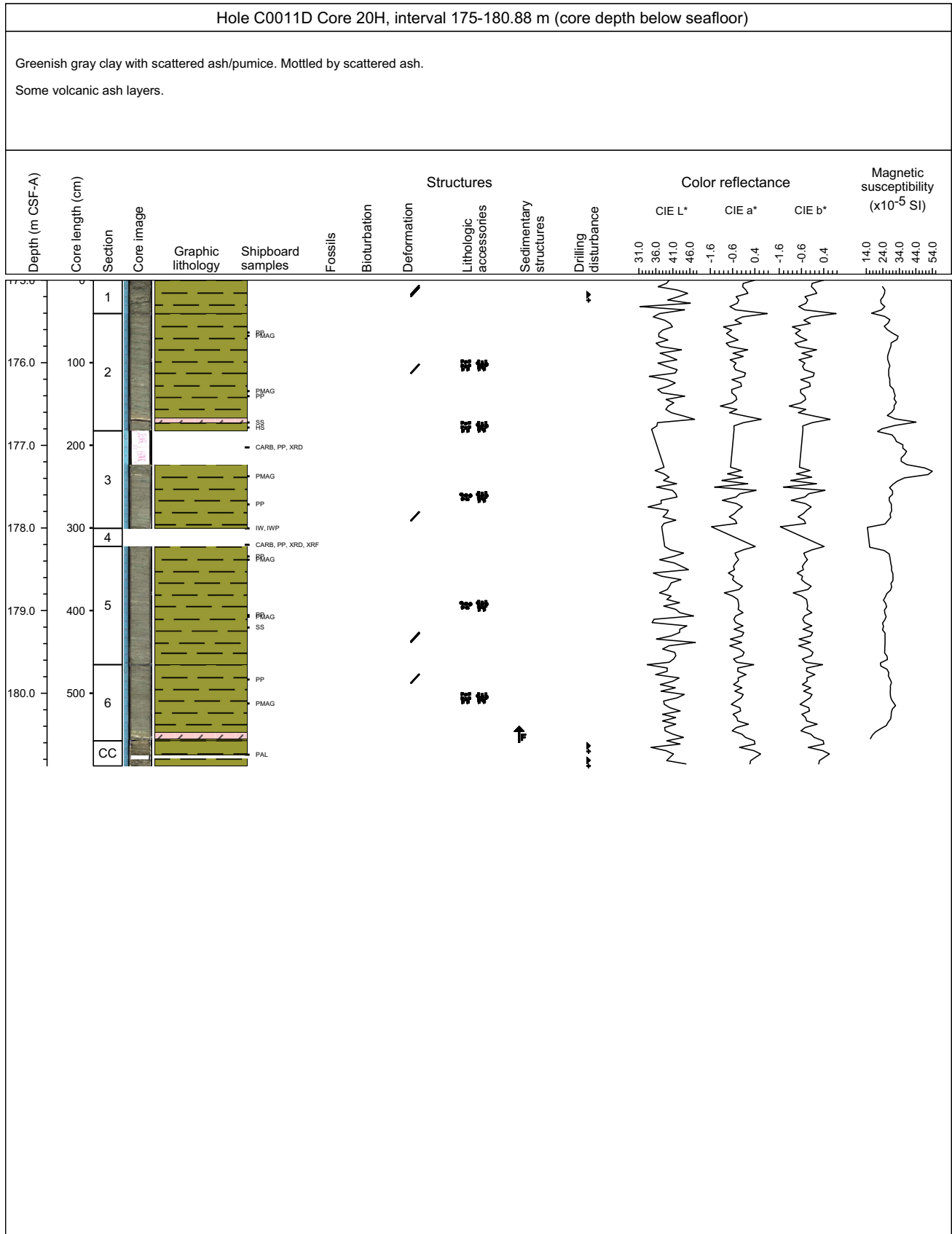
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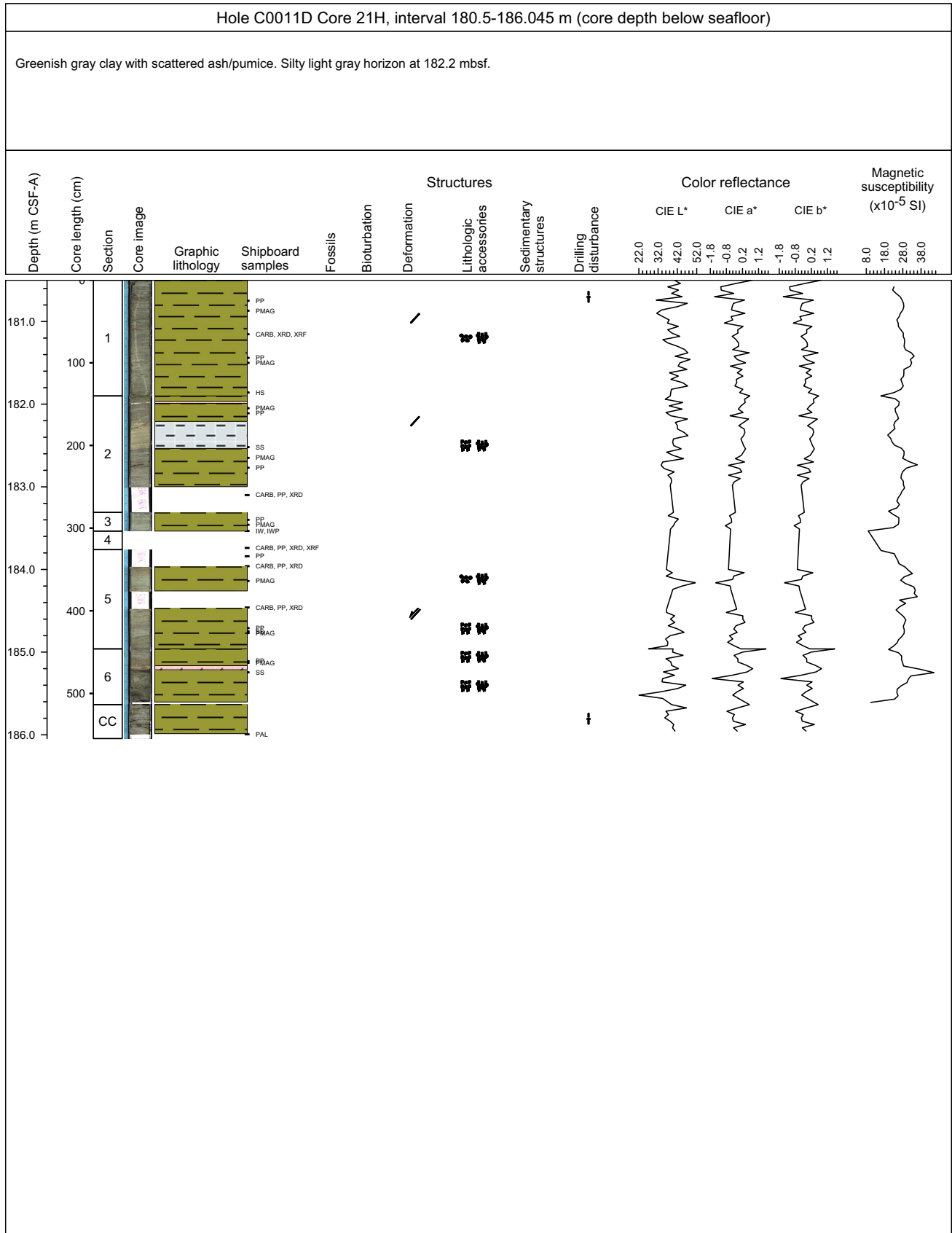
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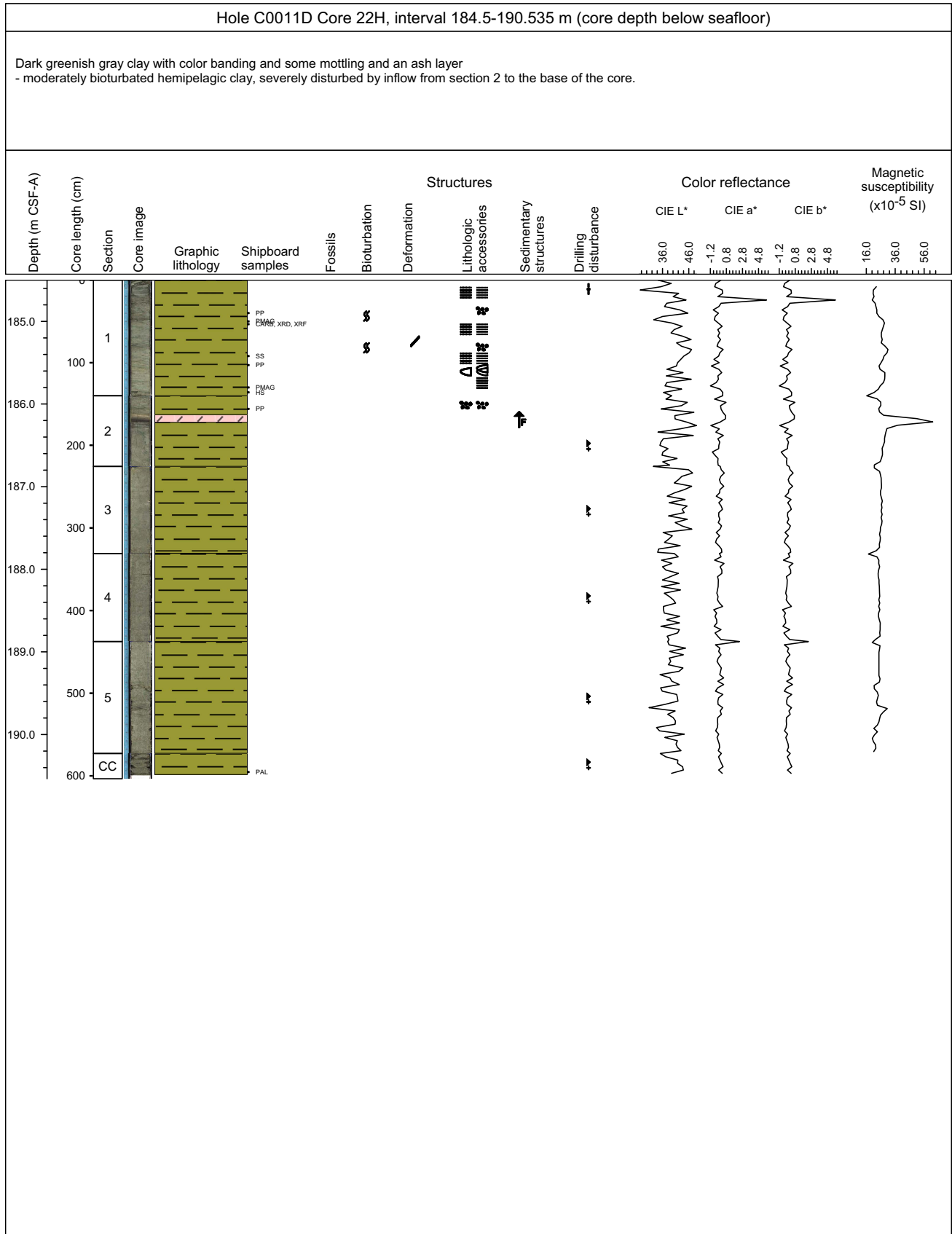
Core Photo



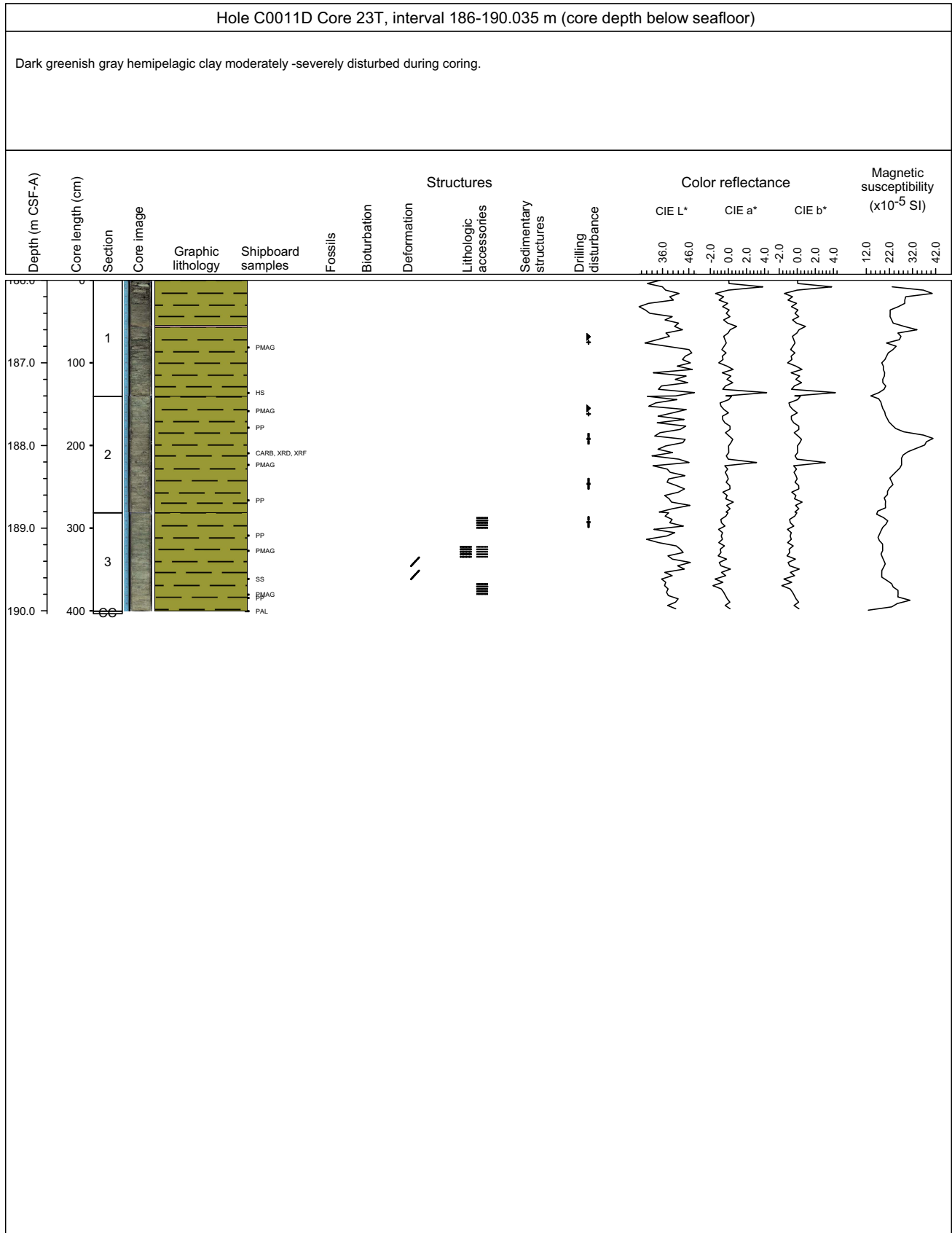
Core Photo



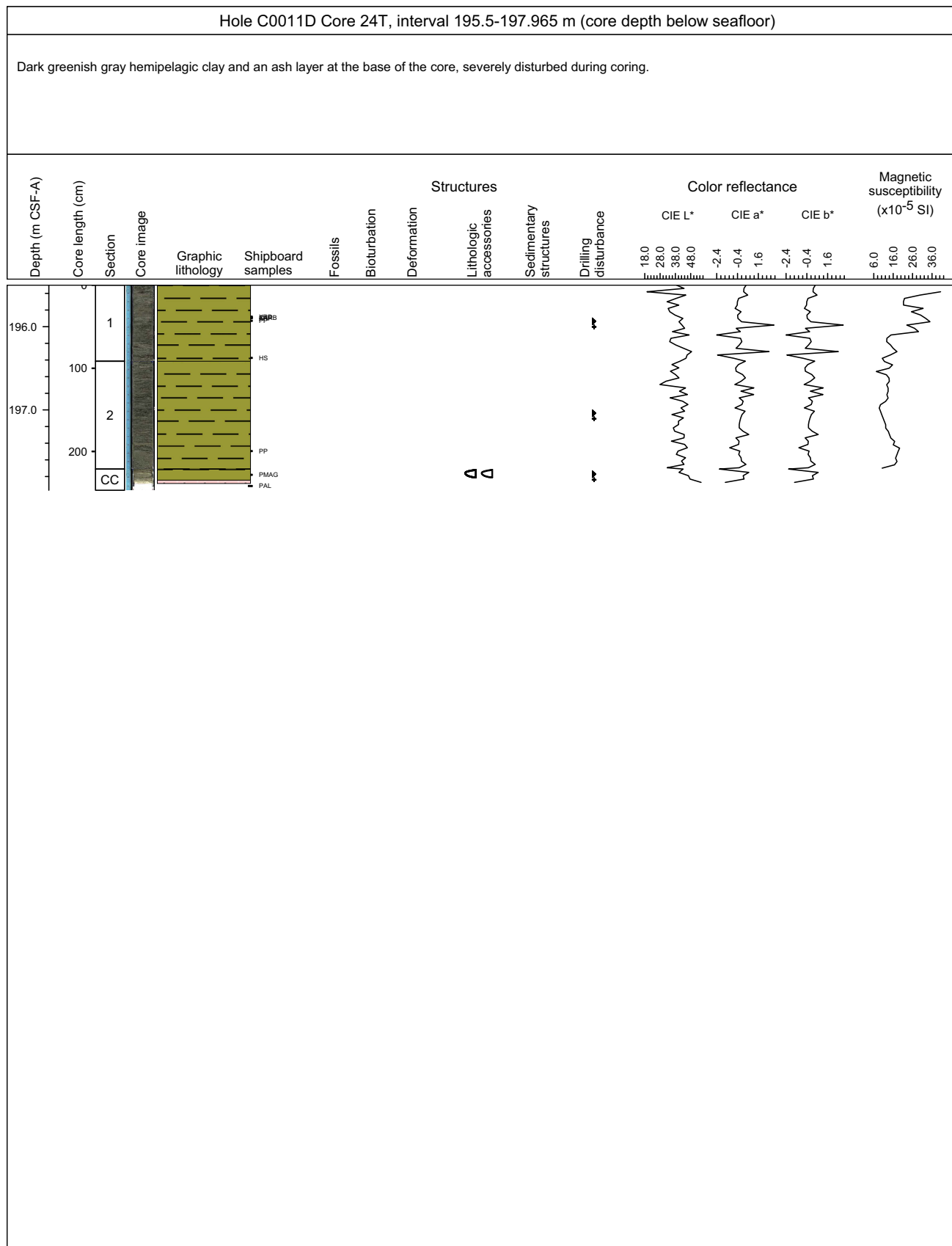
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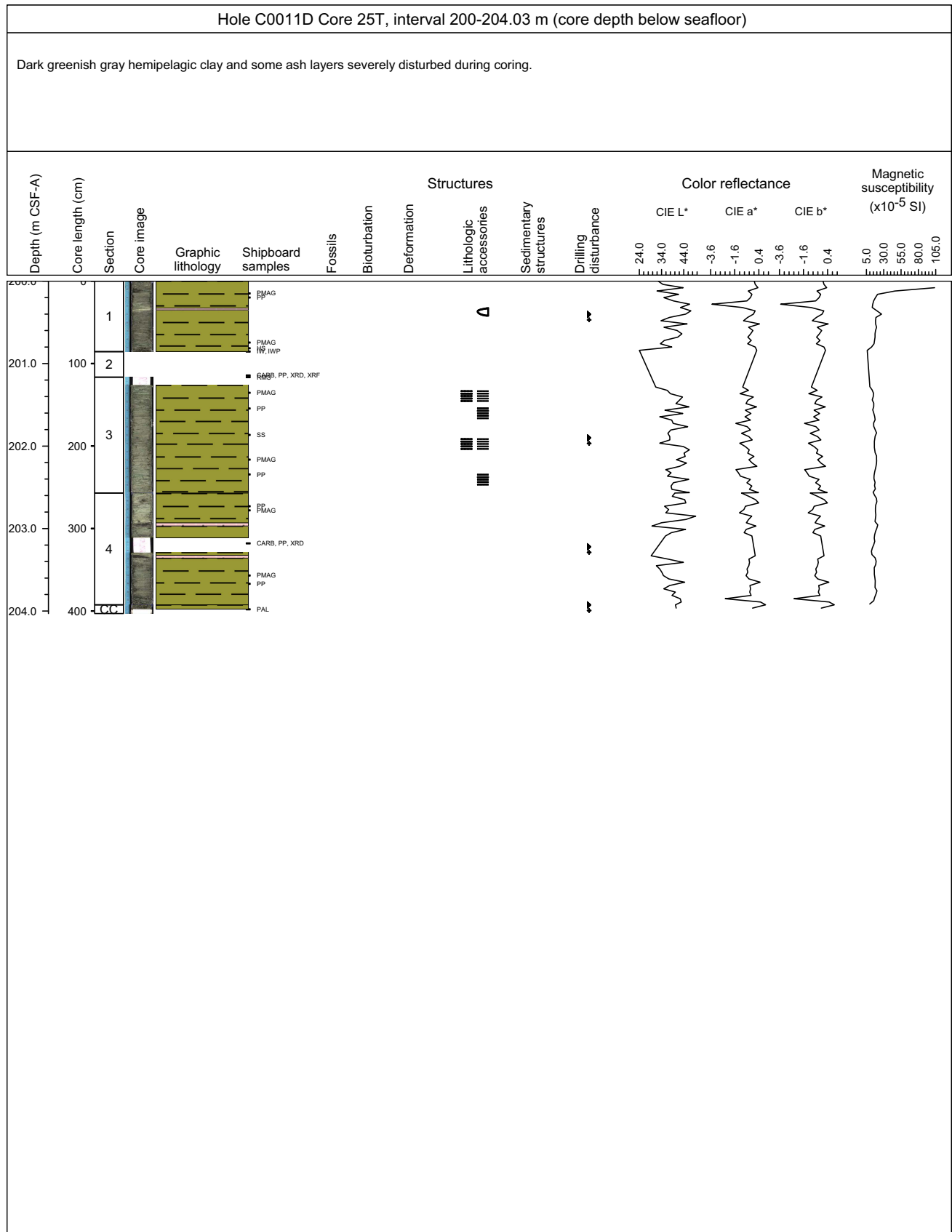
Core Photo



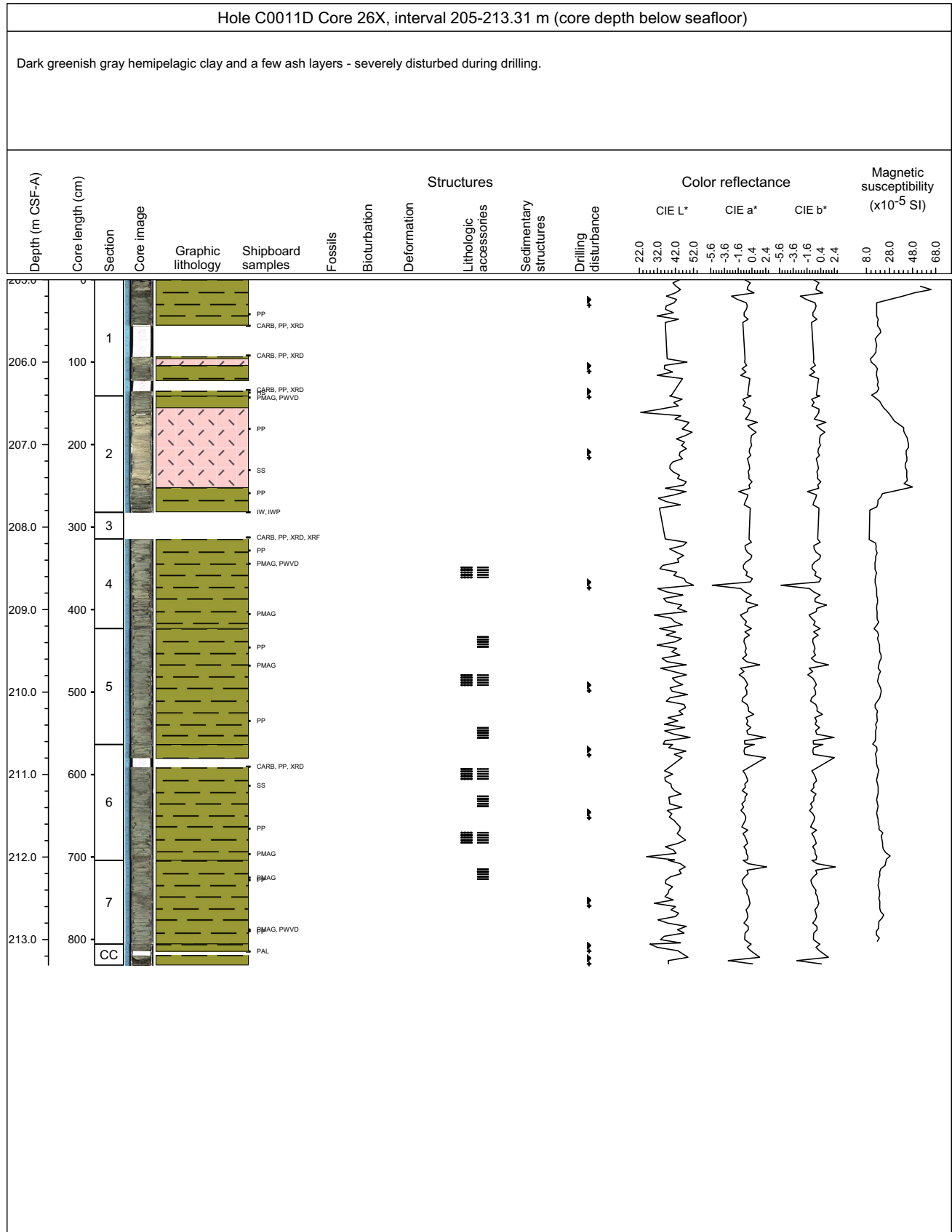
Core Photo



Core Photo



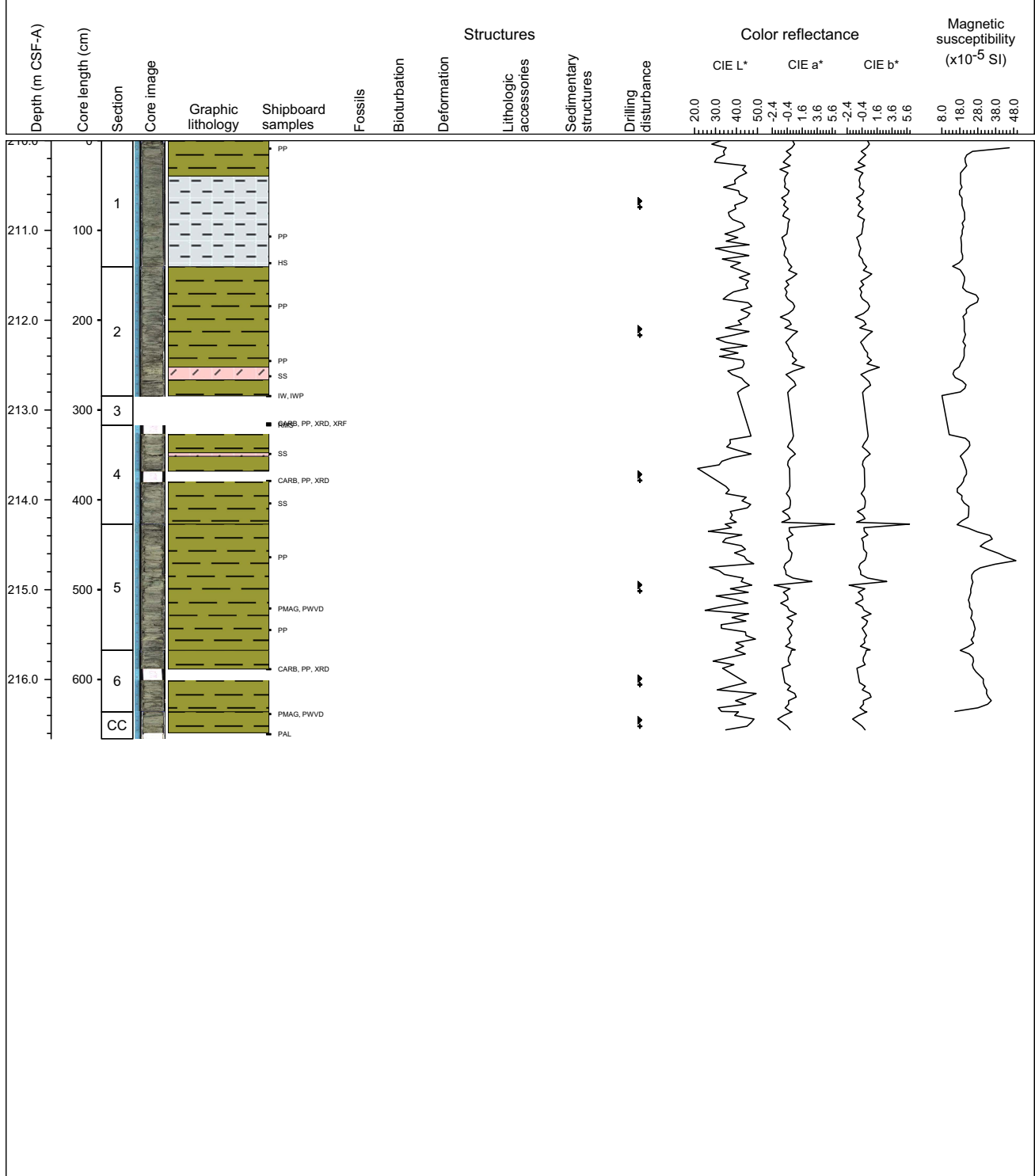
Core Photo



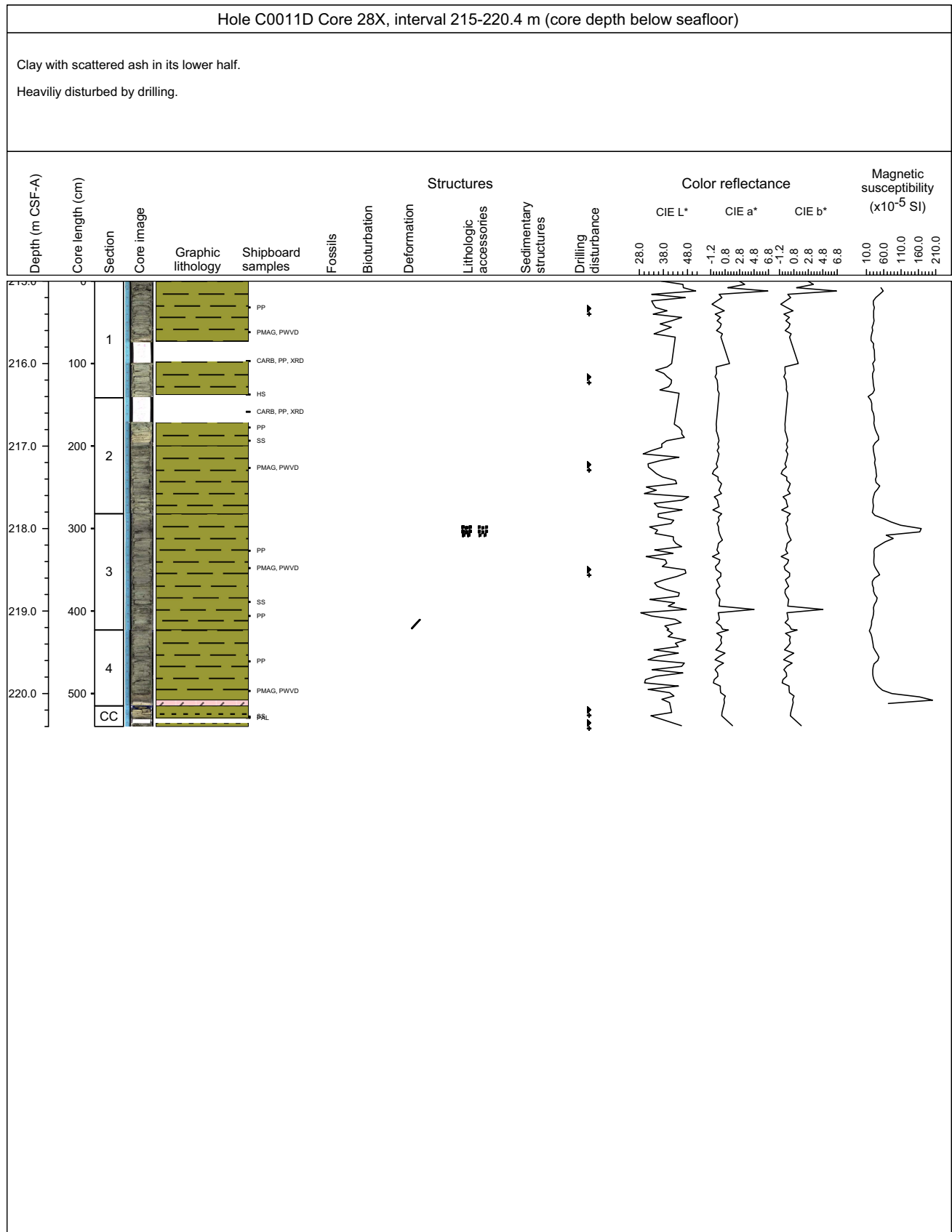
Core Photo

Hole C0011D Core 27X, interval 210-216.66 m (core depth below seafloor)

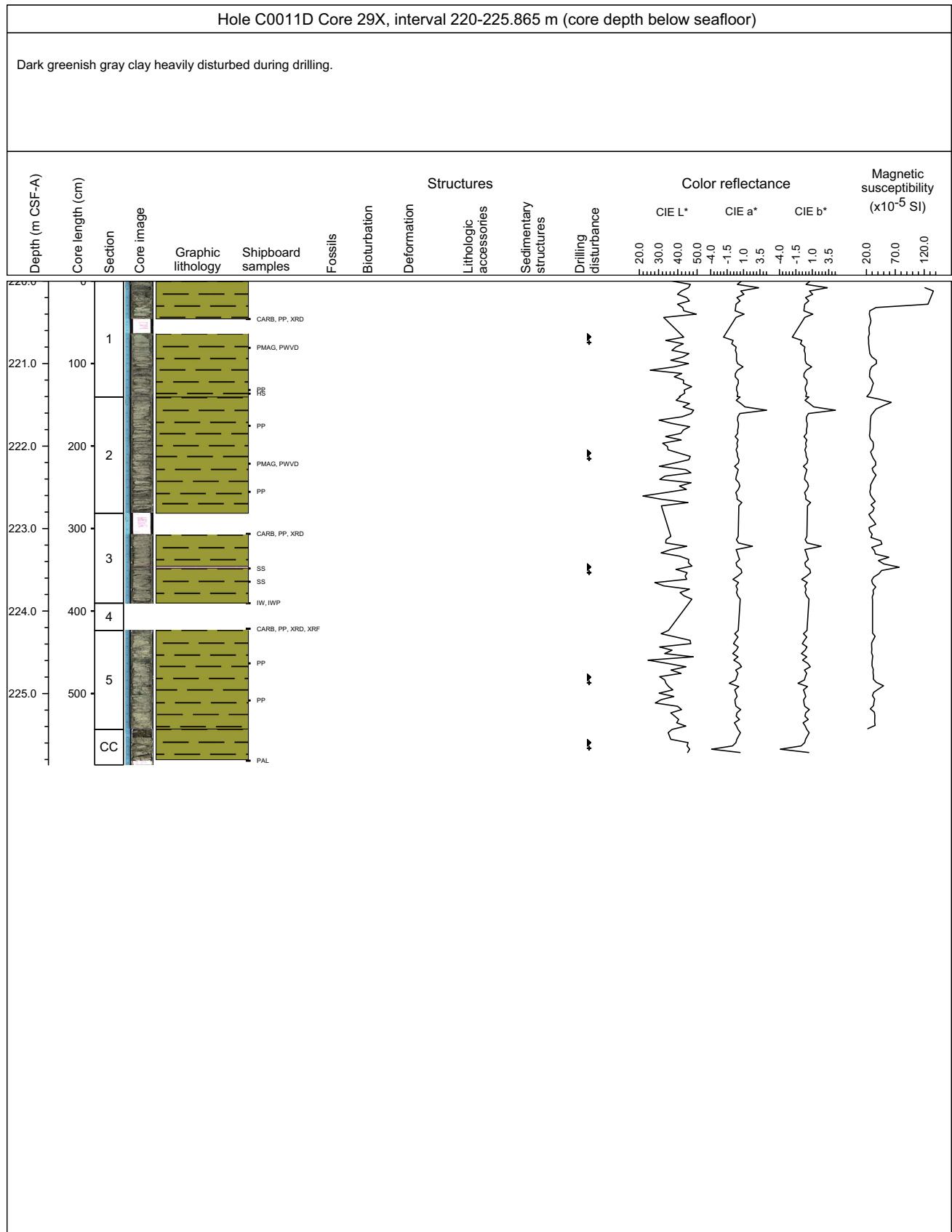
A succession of clay and silt with some intervals with volcanoclastic ash.
 The core is heavily disturbed by drilling (biscuits).



Core Photo



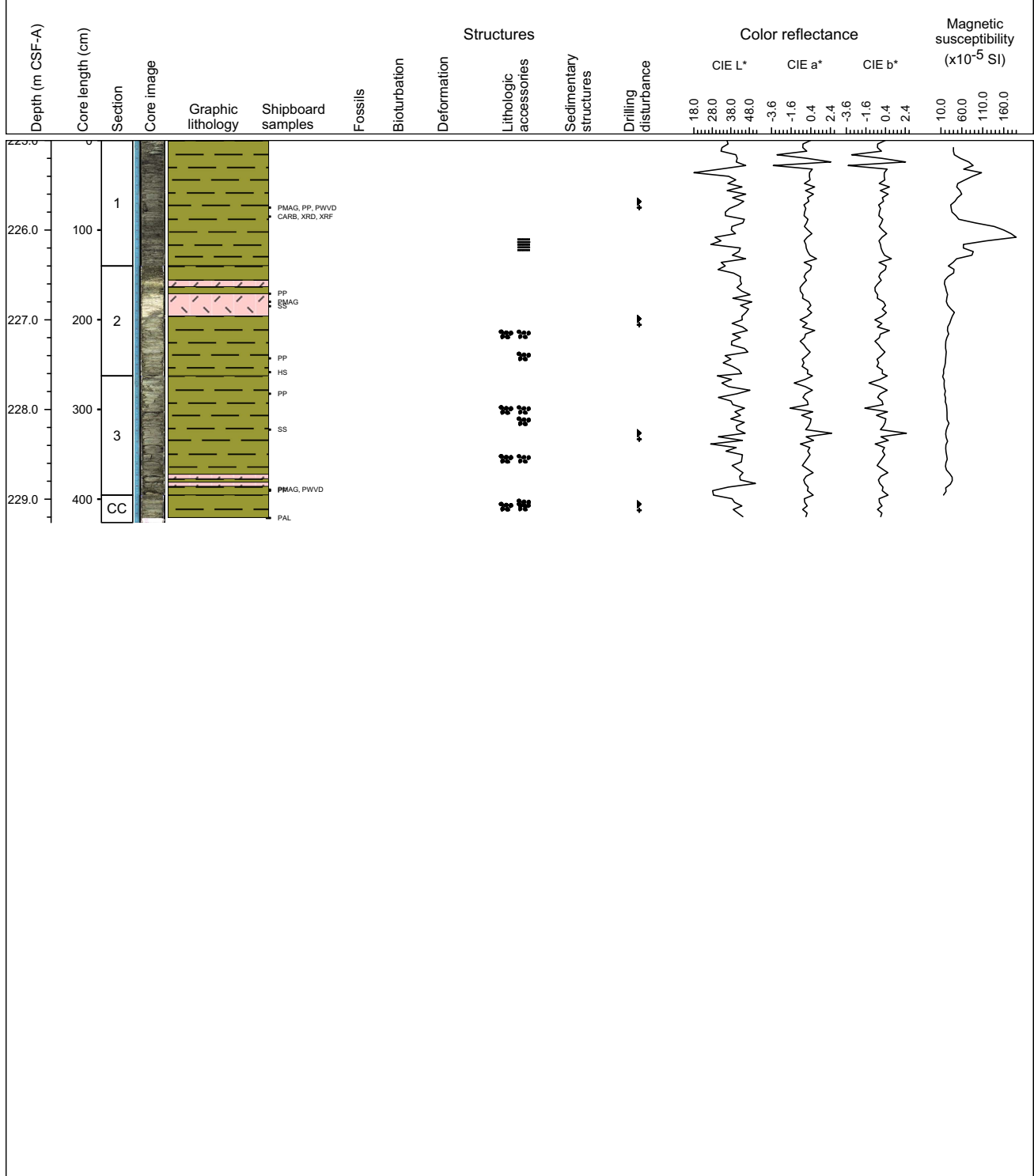
Core Photo



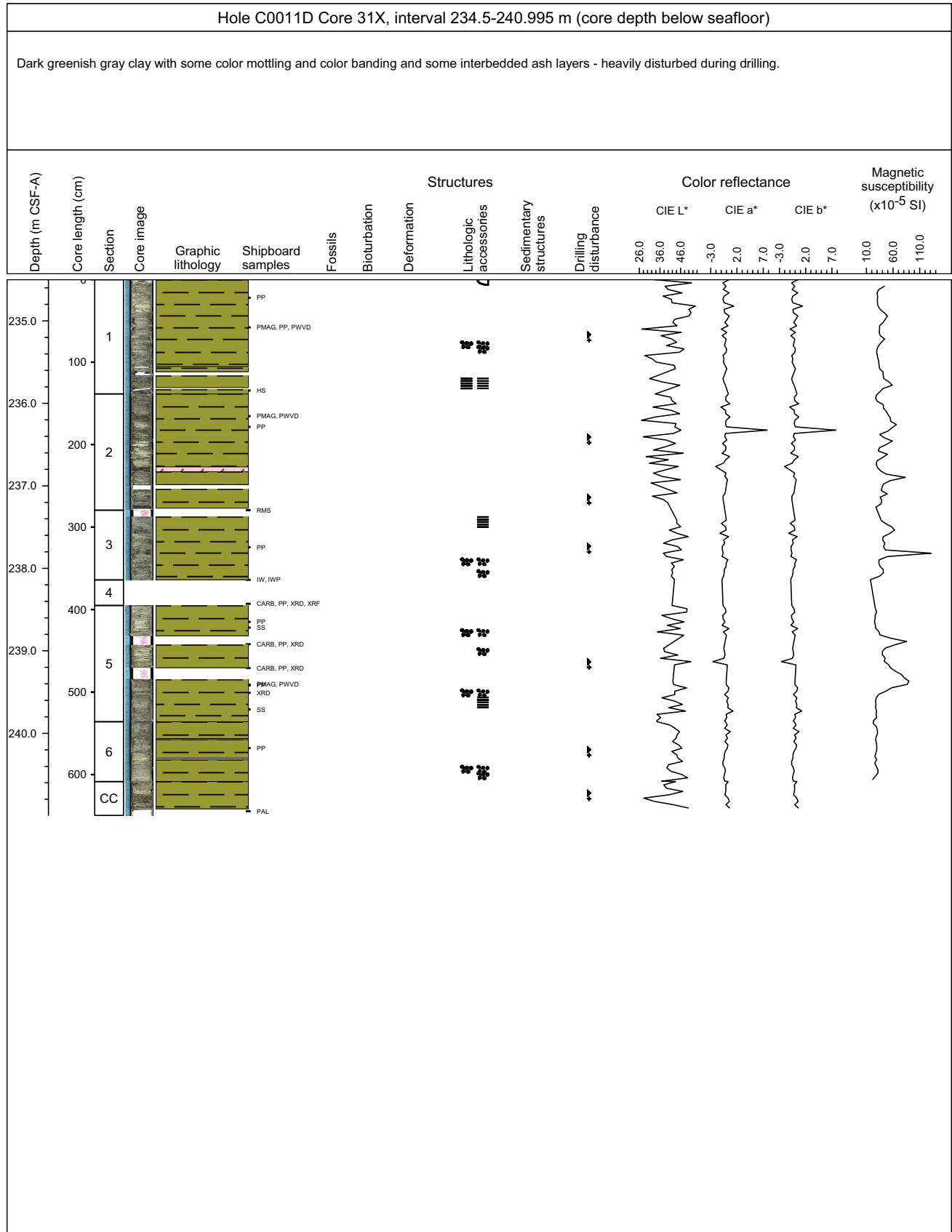
Core Photo

Hole C0011D Core 30X, interval 225-229.26 m (core depth below seafloor)

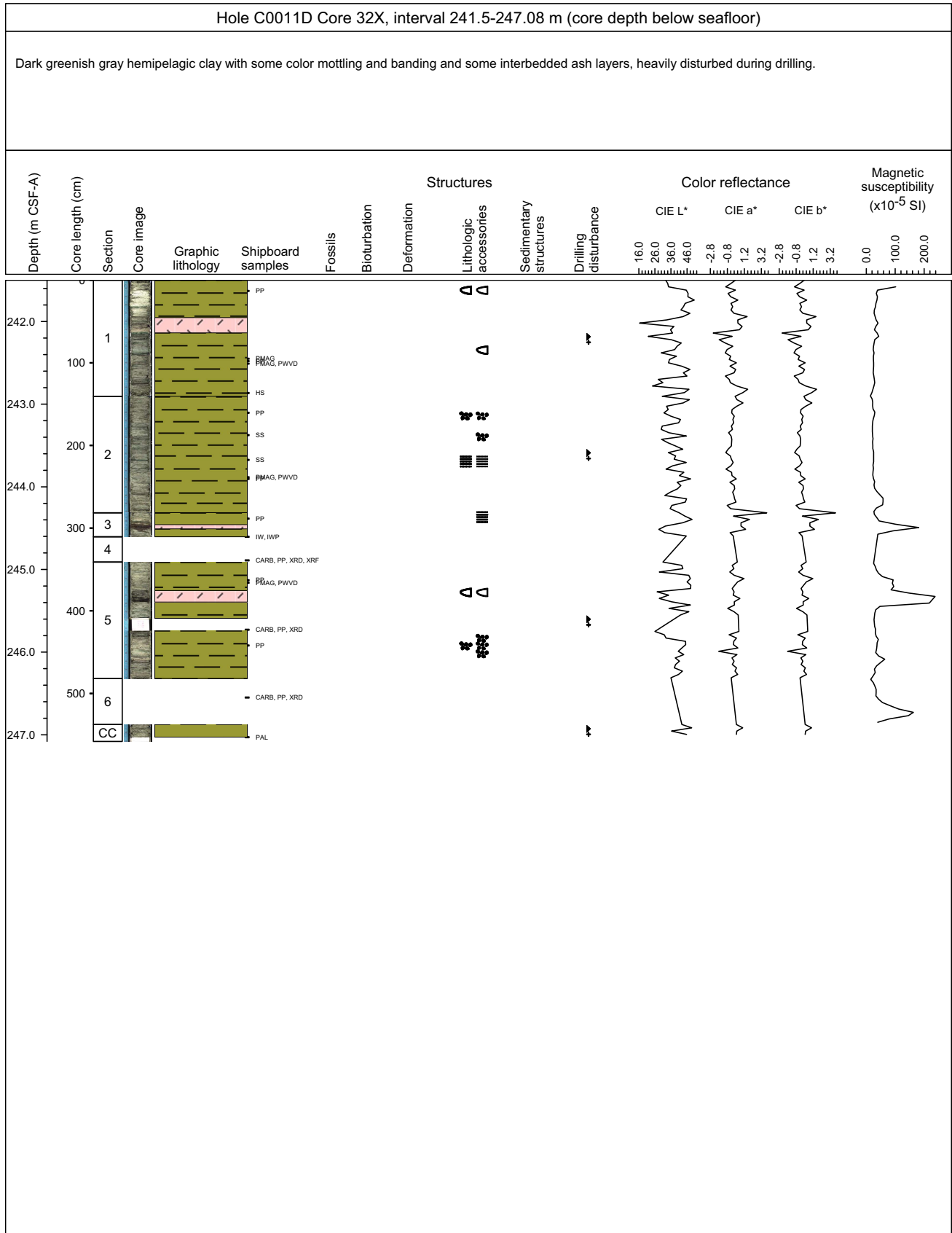
Gray - dark greenish gray clay and some ash layers - heavily disturbed during drilling.



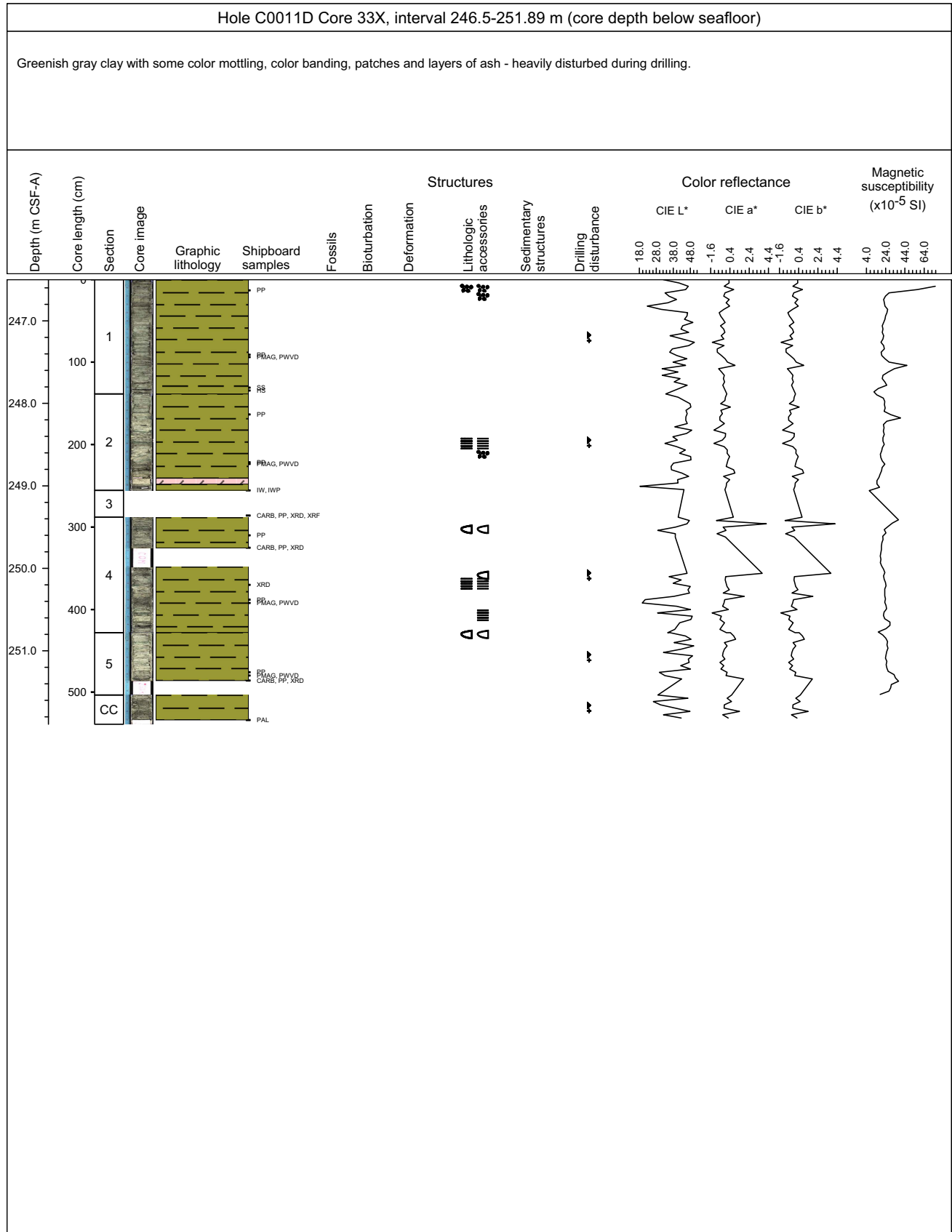
Core Photo



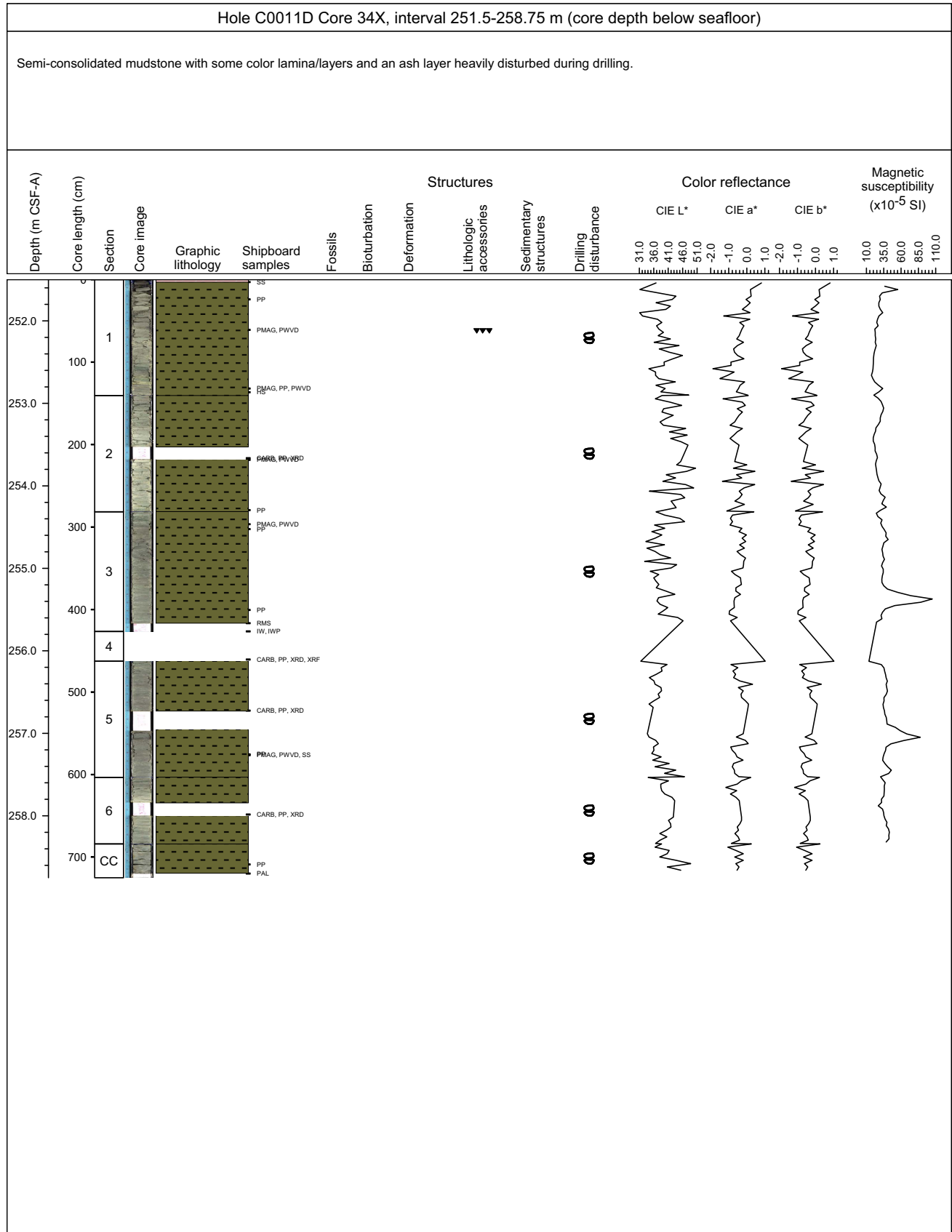
Core Photo



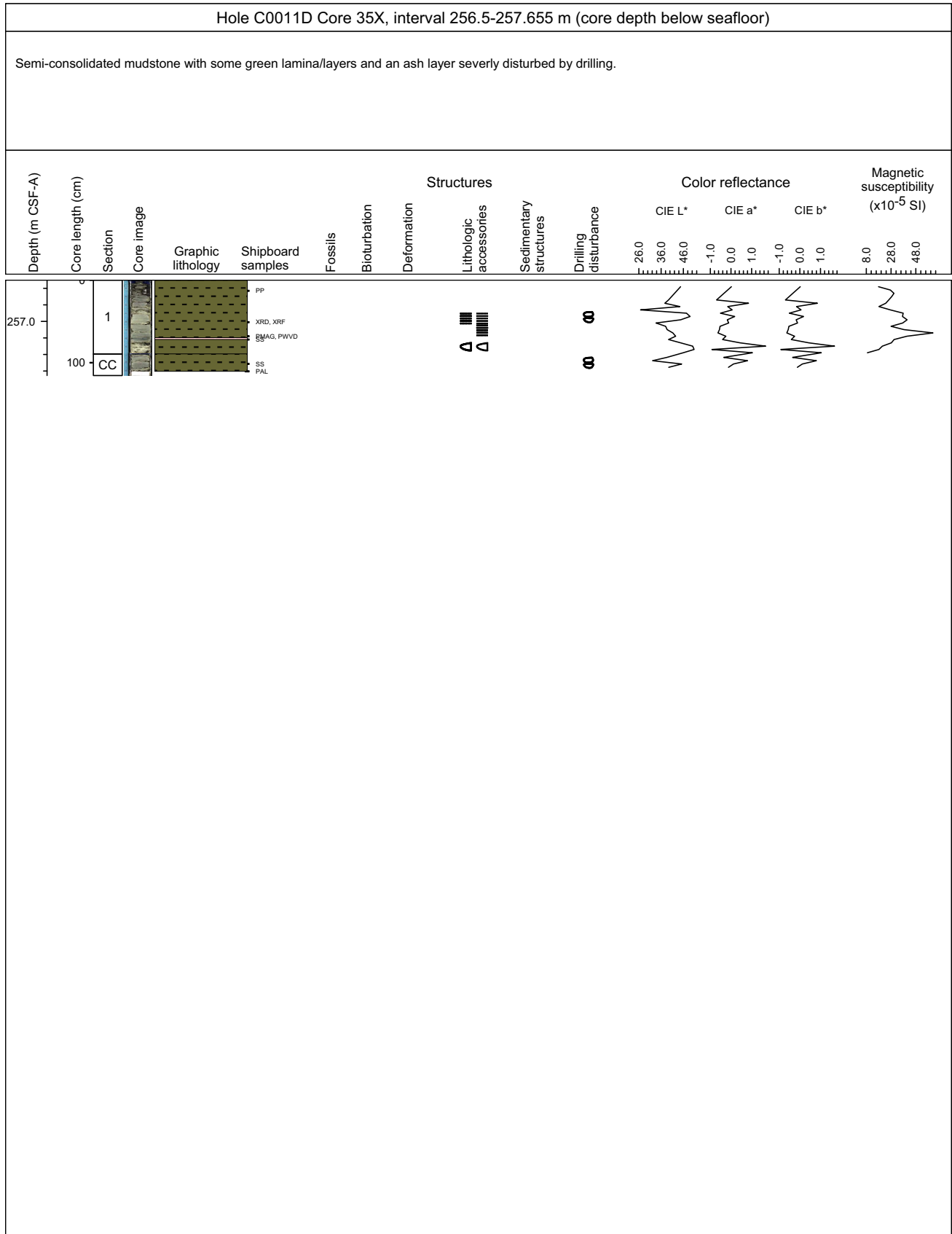
Core Photo



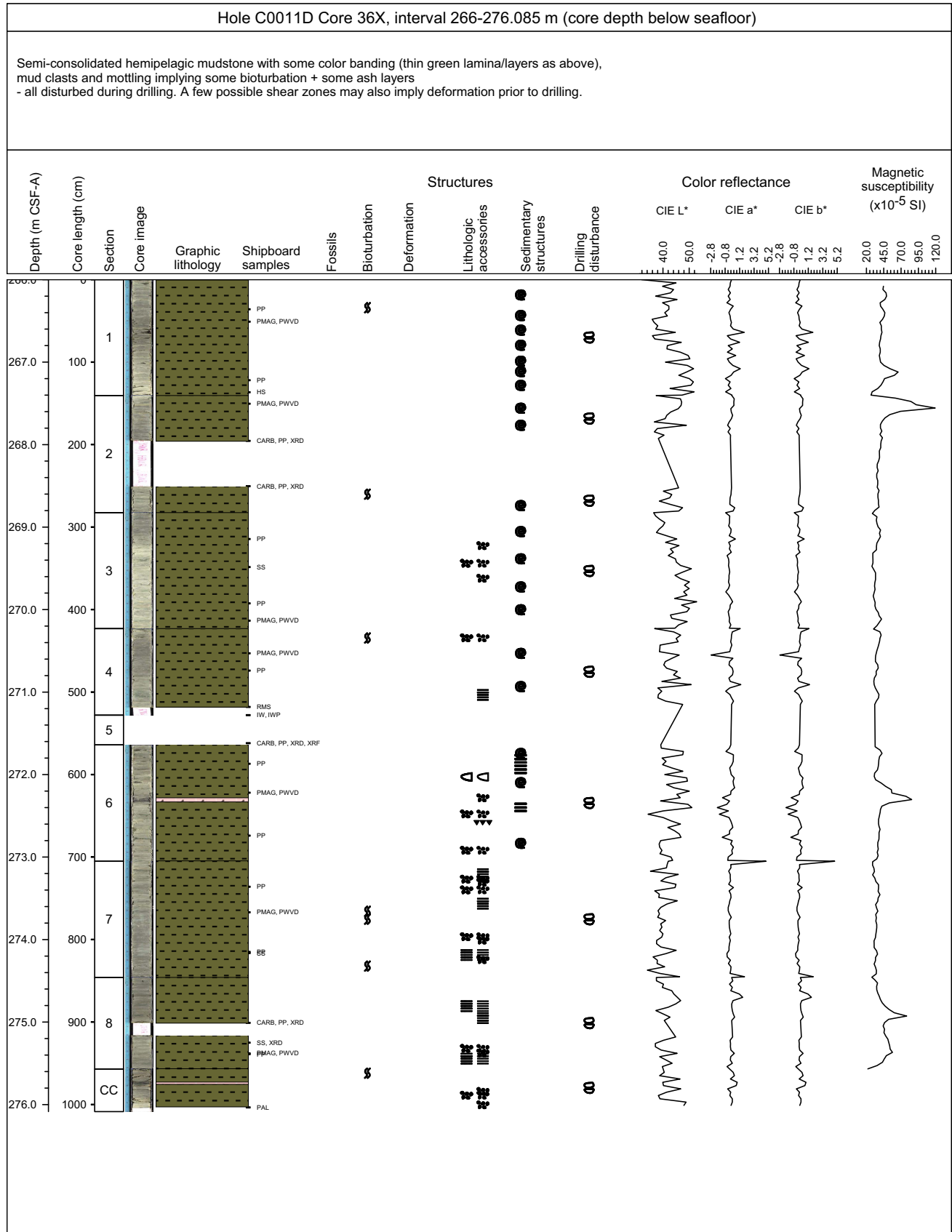
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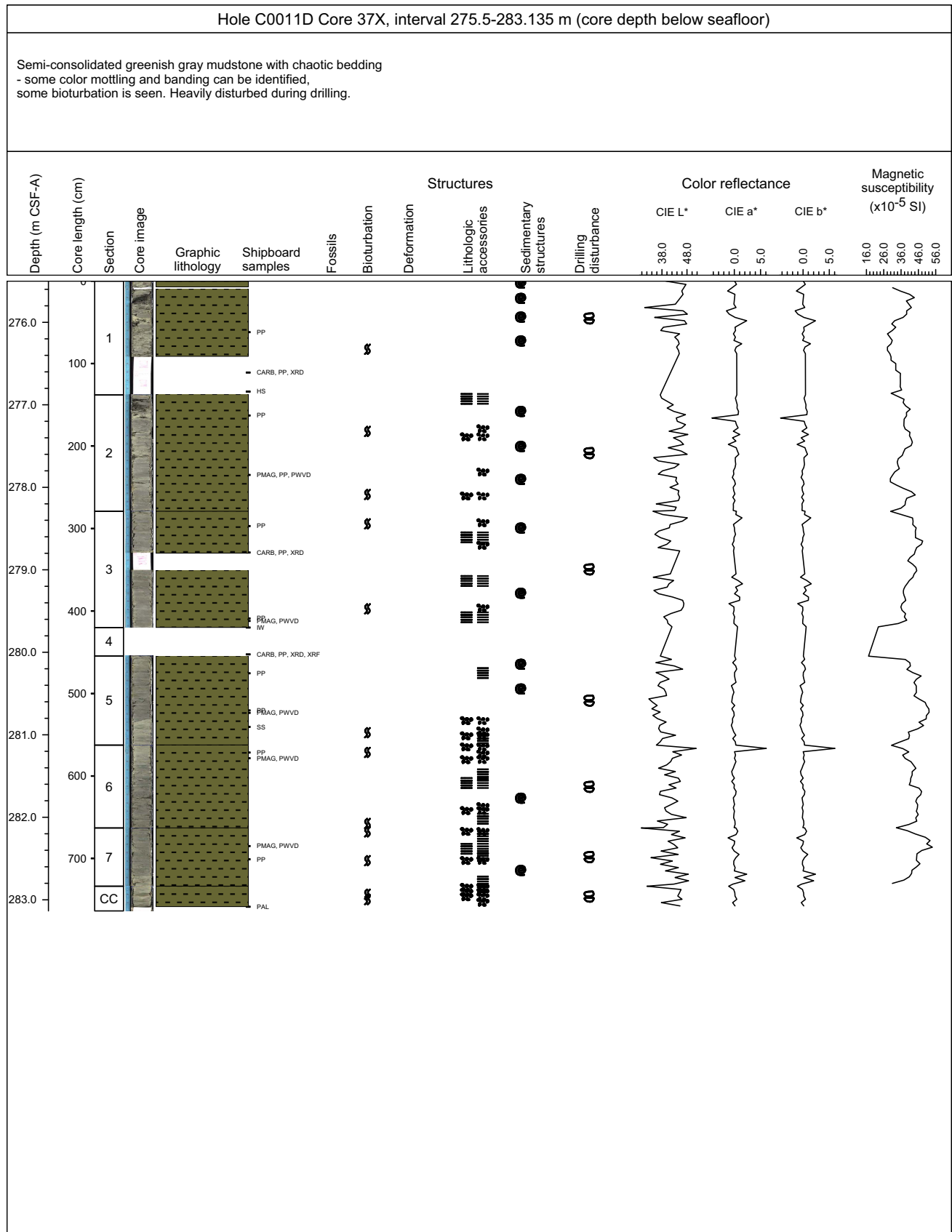
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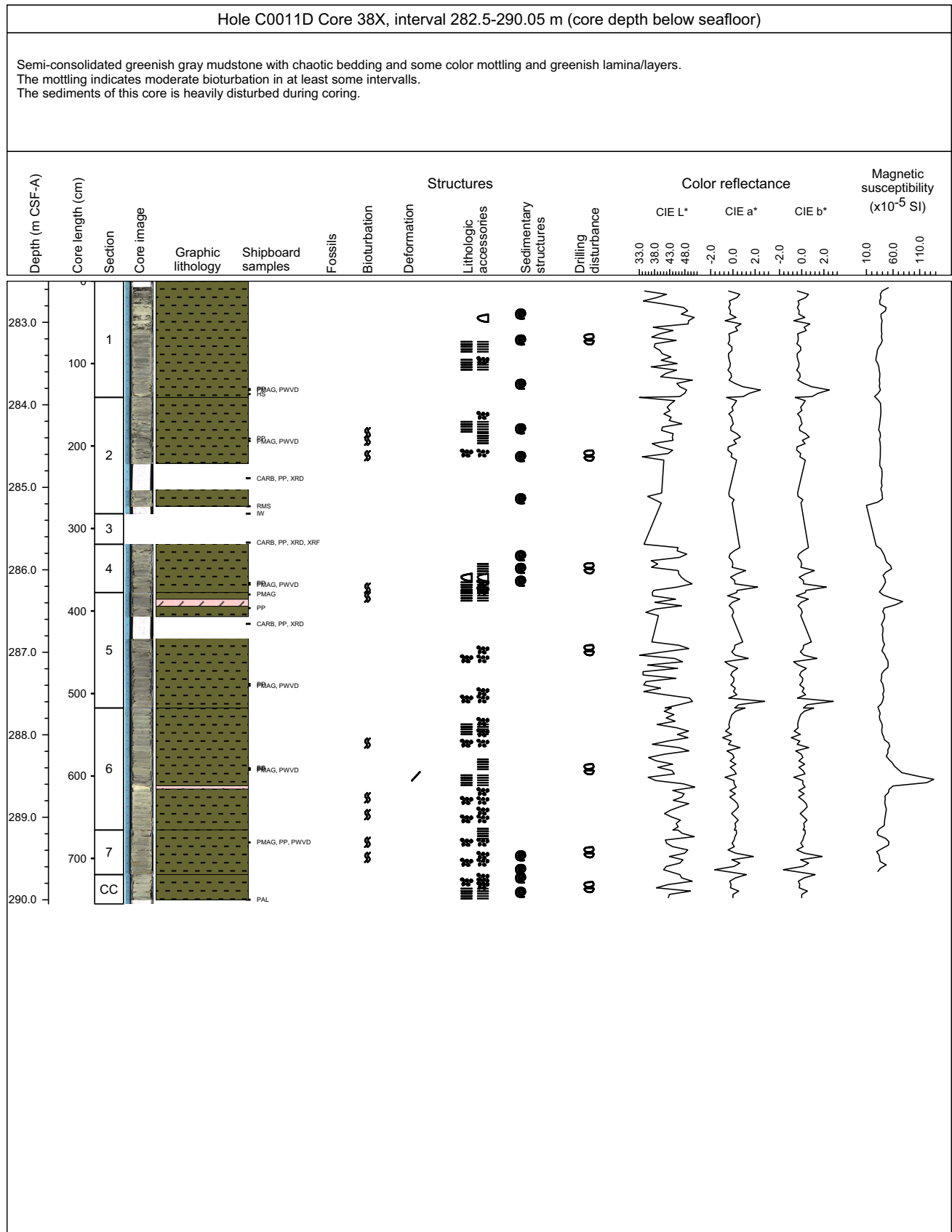
Core Photo



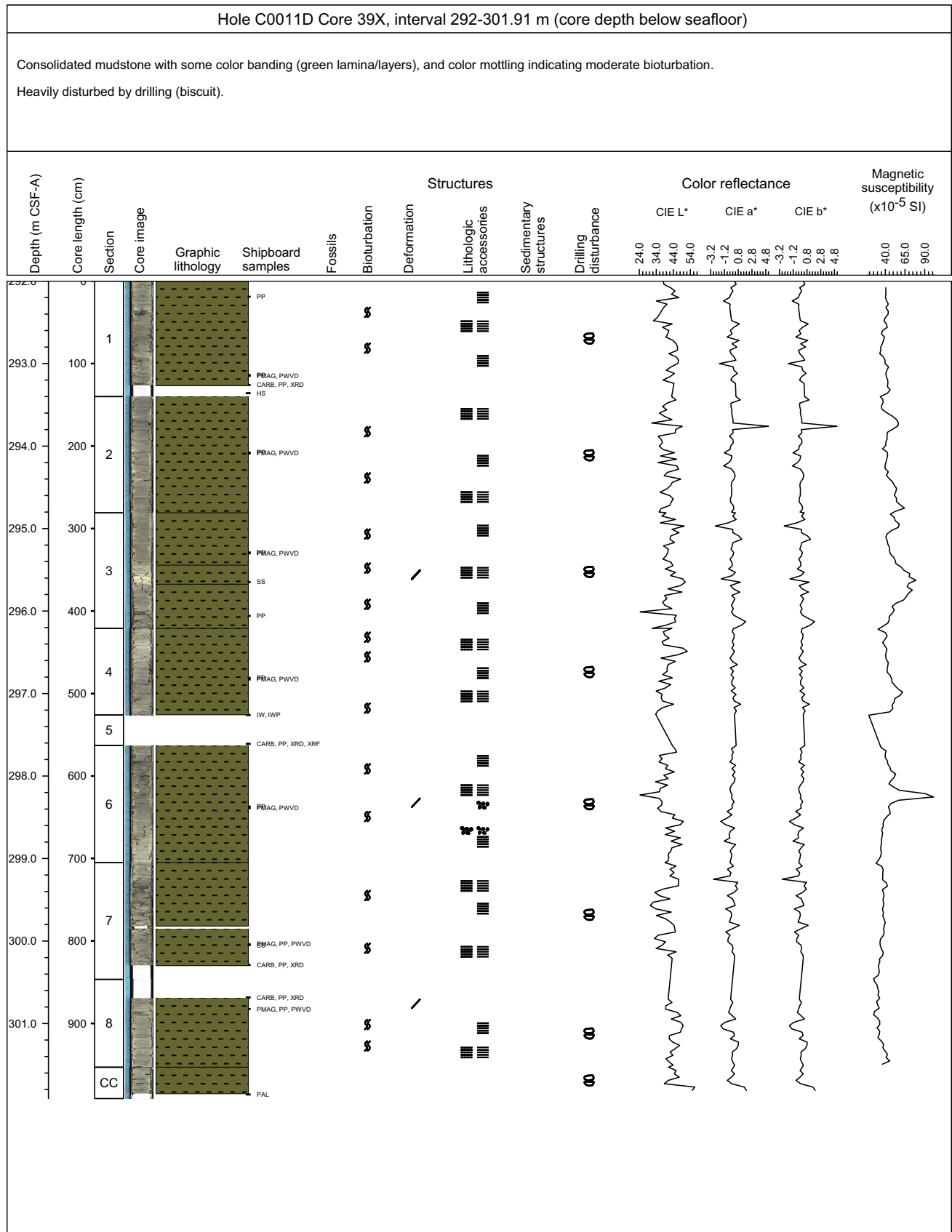
Core Photo



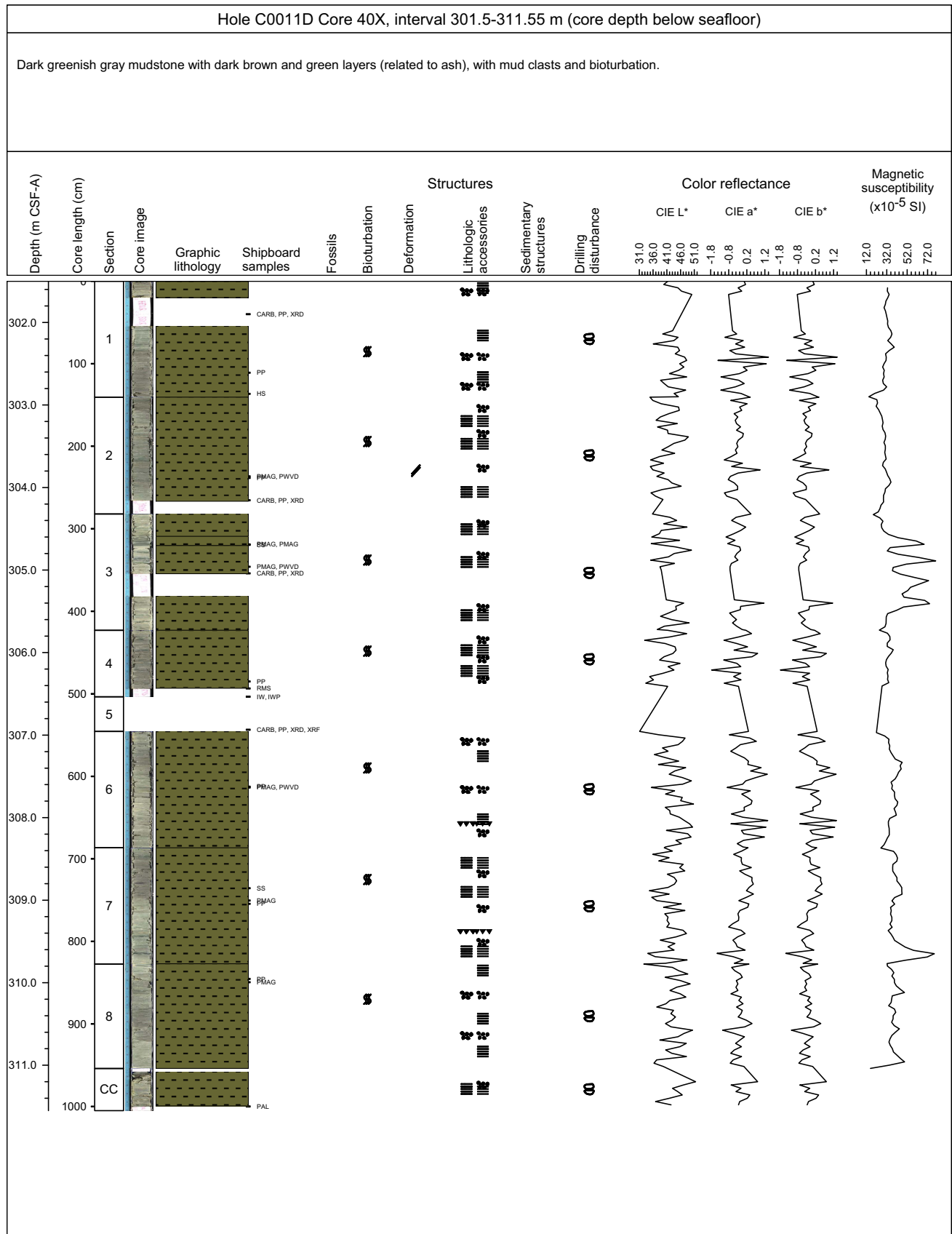
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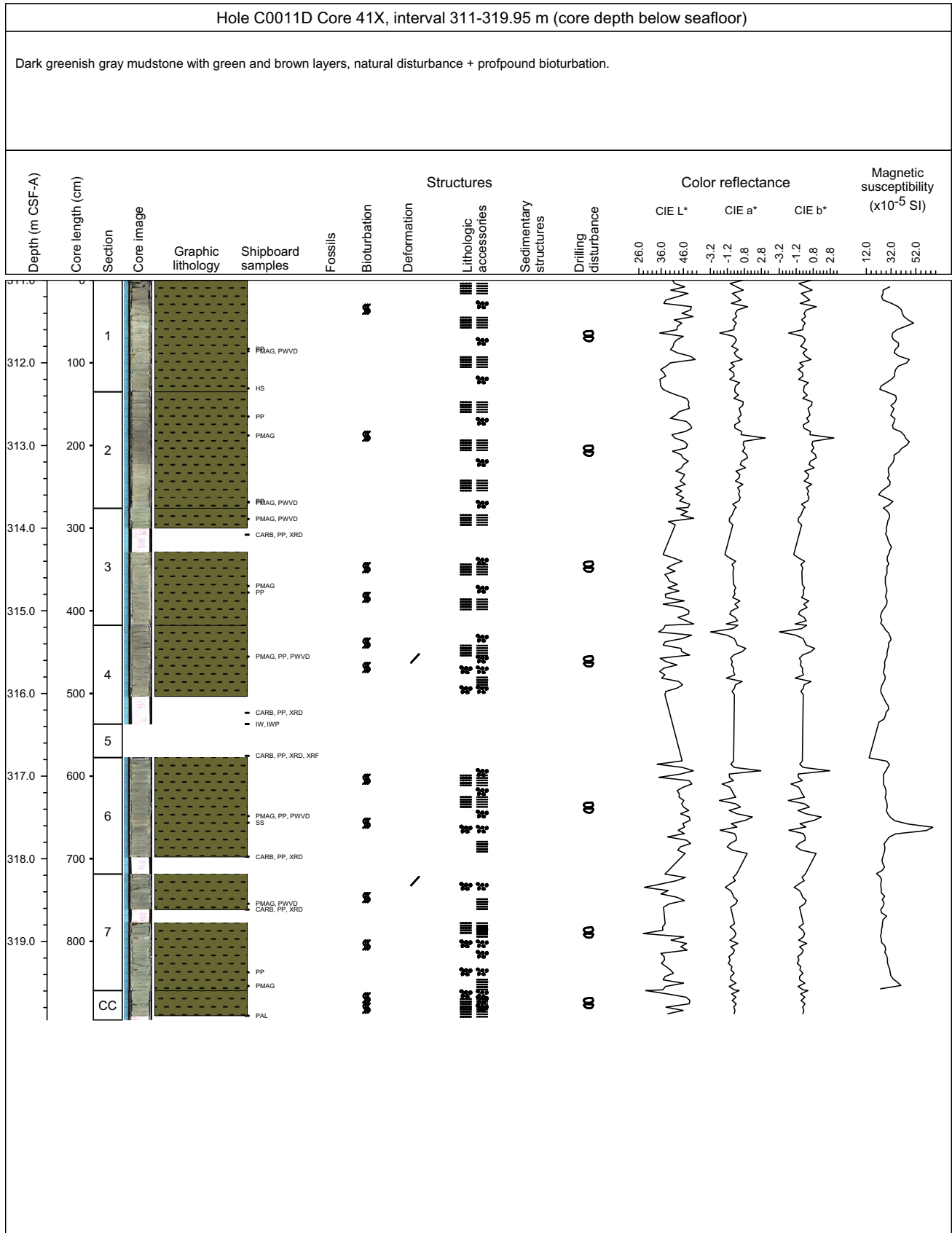
Core Photo



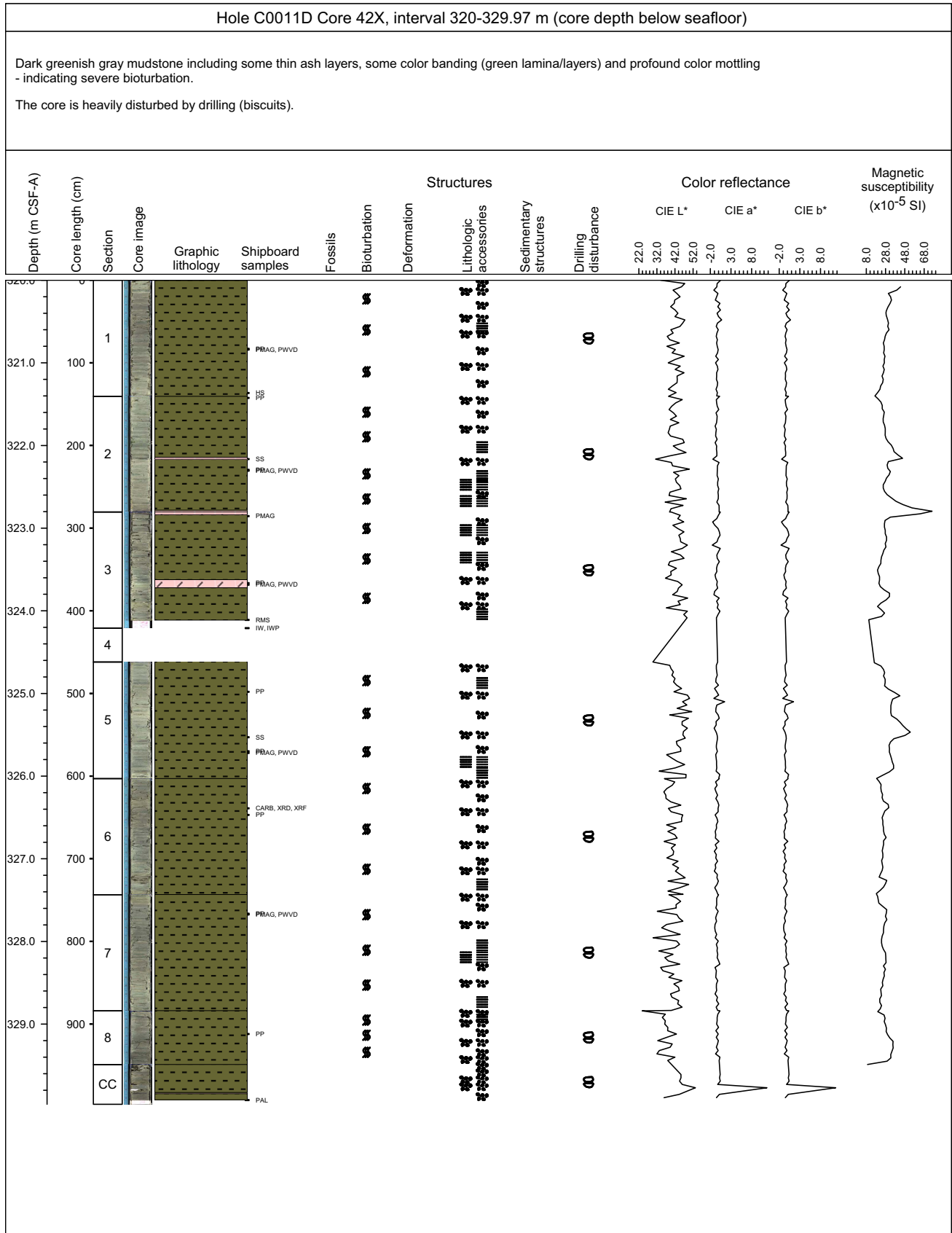
Core Photo



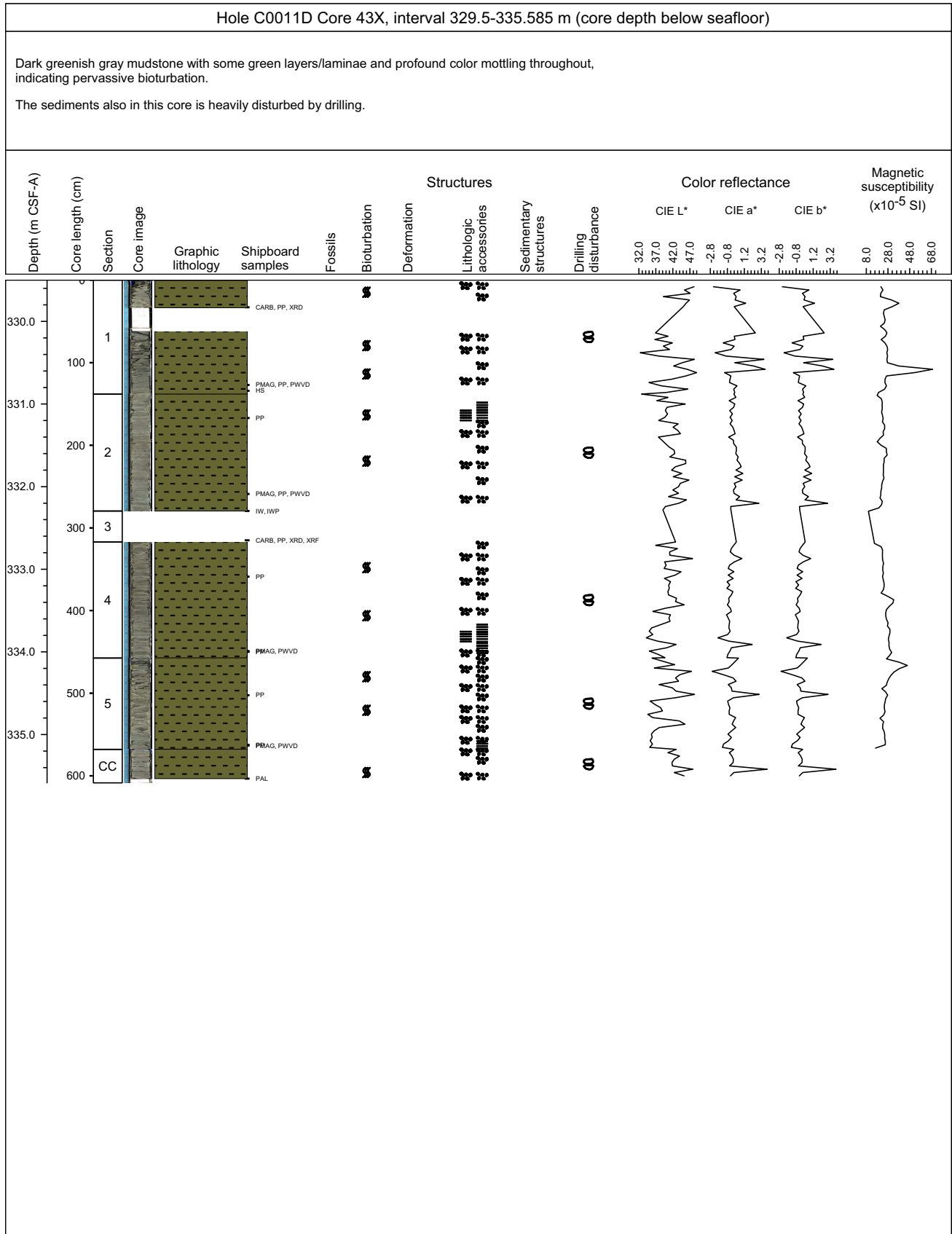
Core Photo



Core Photo



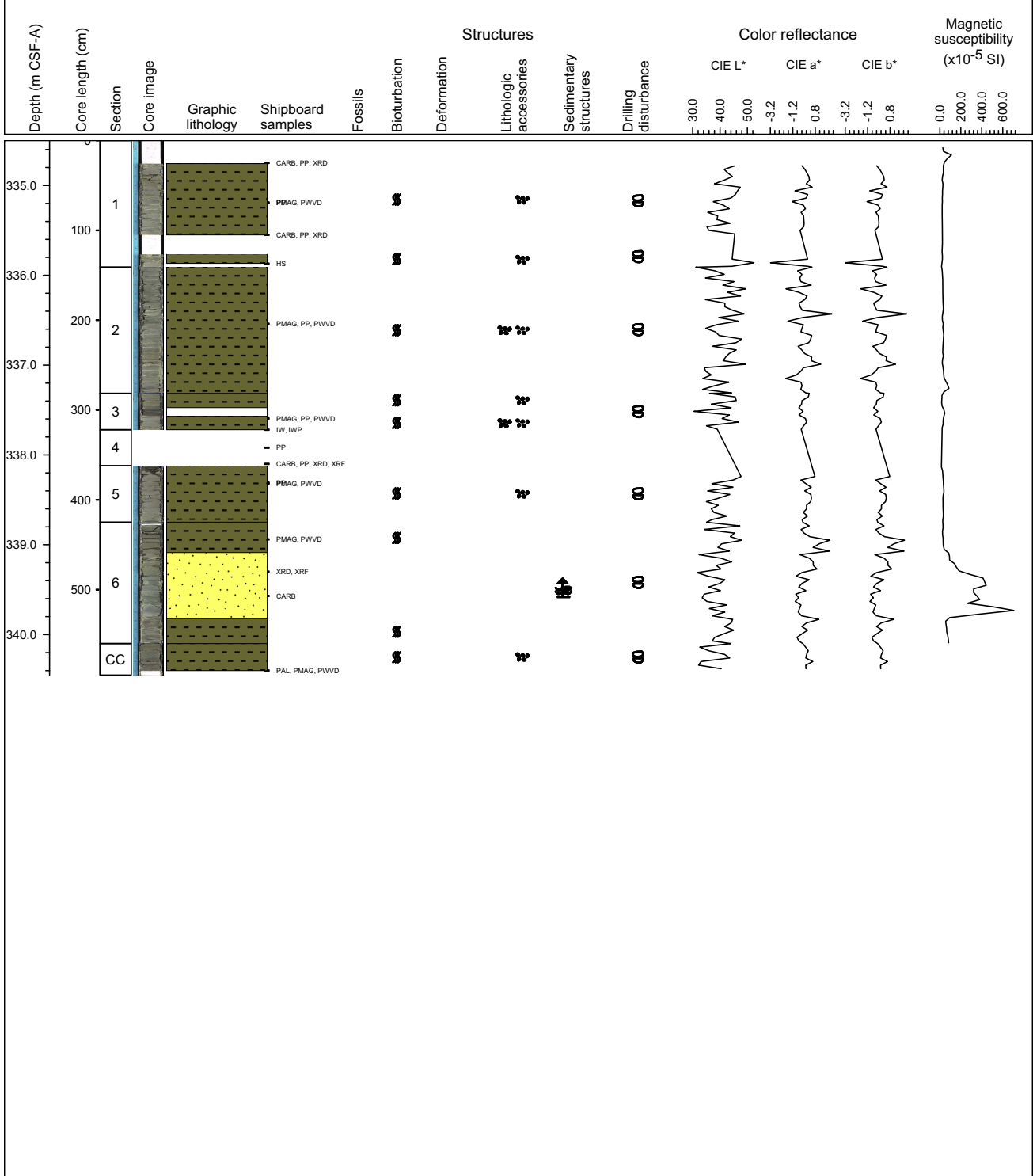
Core Photo



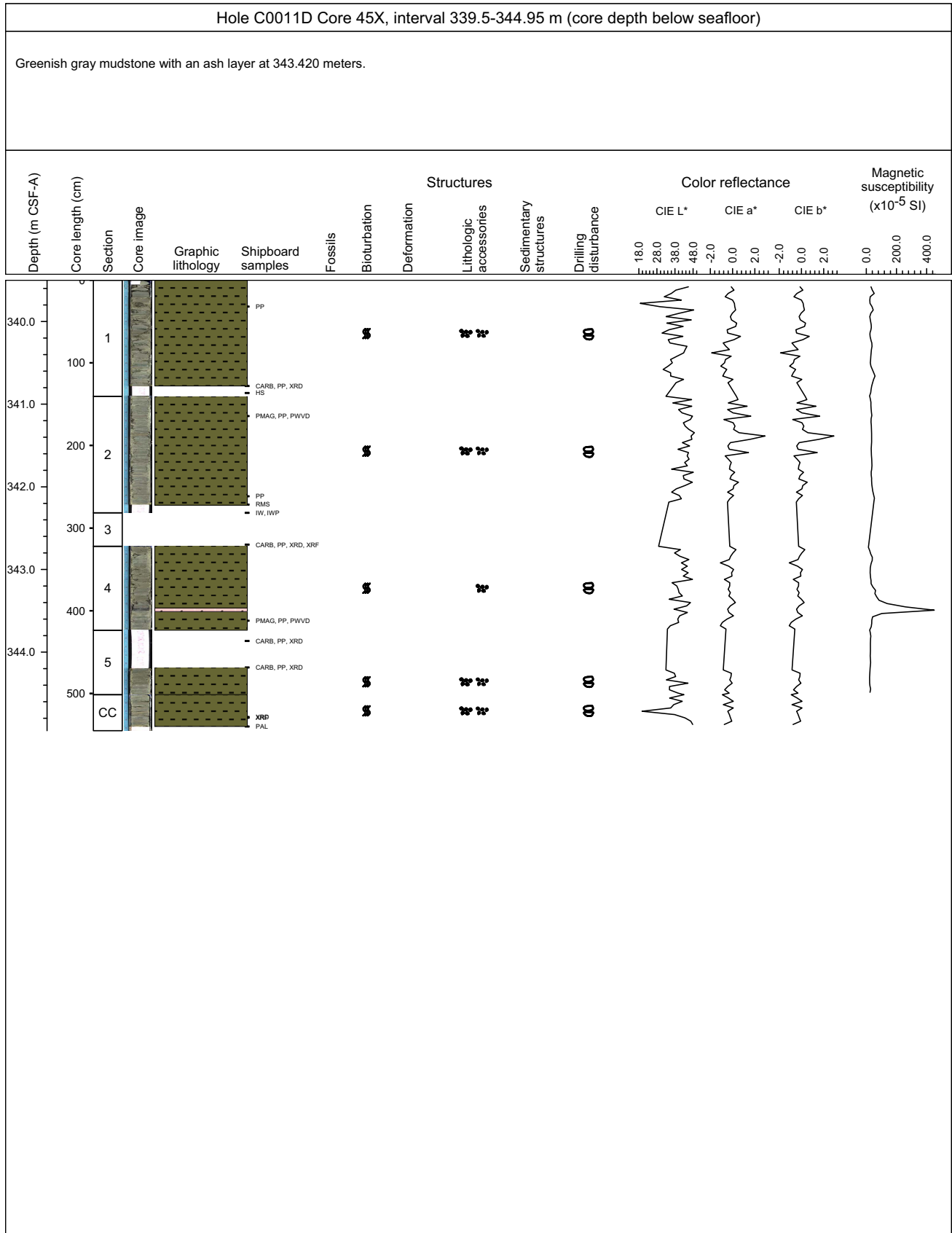
Core Photo

Hole C0011D Core 44X, interval 334.5-340.45 m (core depth below seafloor)

A succession of mottled mudstones with a sand bed at the bottom.
Heavy bioturbation. Biscuits in the succession.



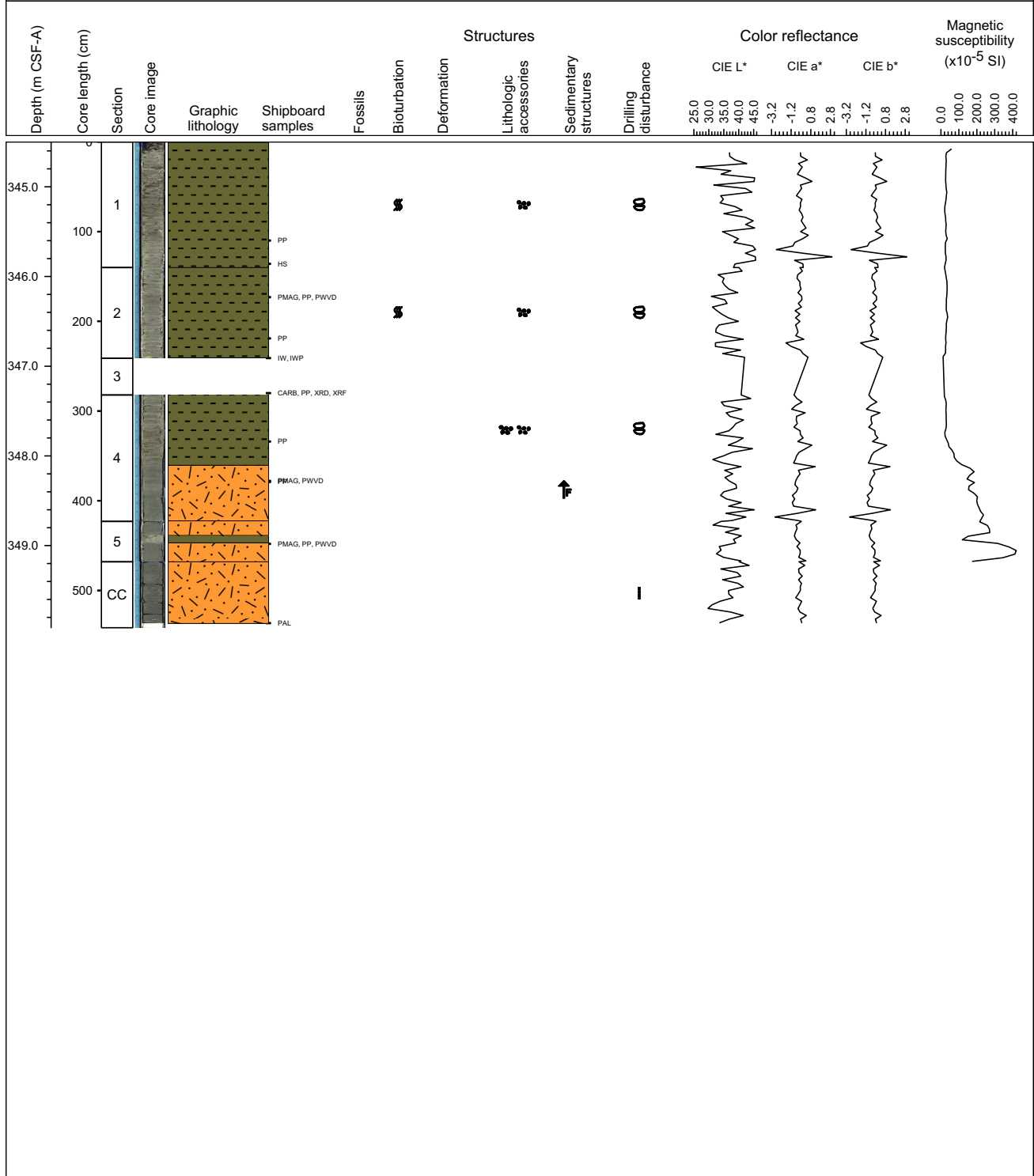
Core Photo



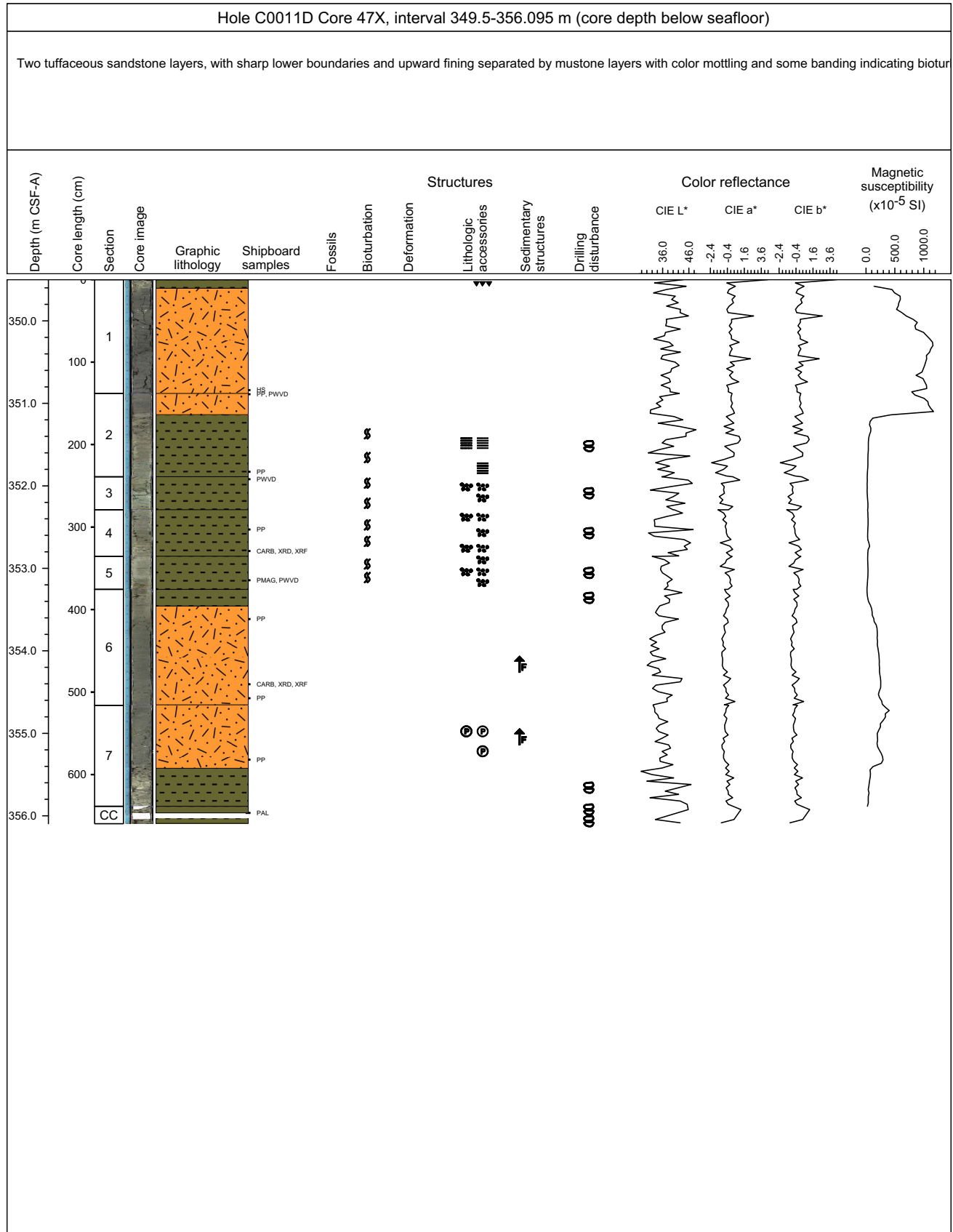
Core Photo

Hole C0011D Core 46X, interval 344.5-349.915 m (core depth below seafloor)

Mottled mudstone with tuffaceous coarse-grained sandstone occurring in the last 1/3 of the core.
 Sandstone is normally graded (finning upwards).



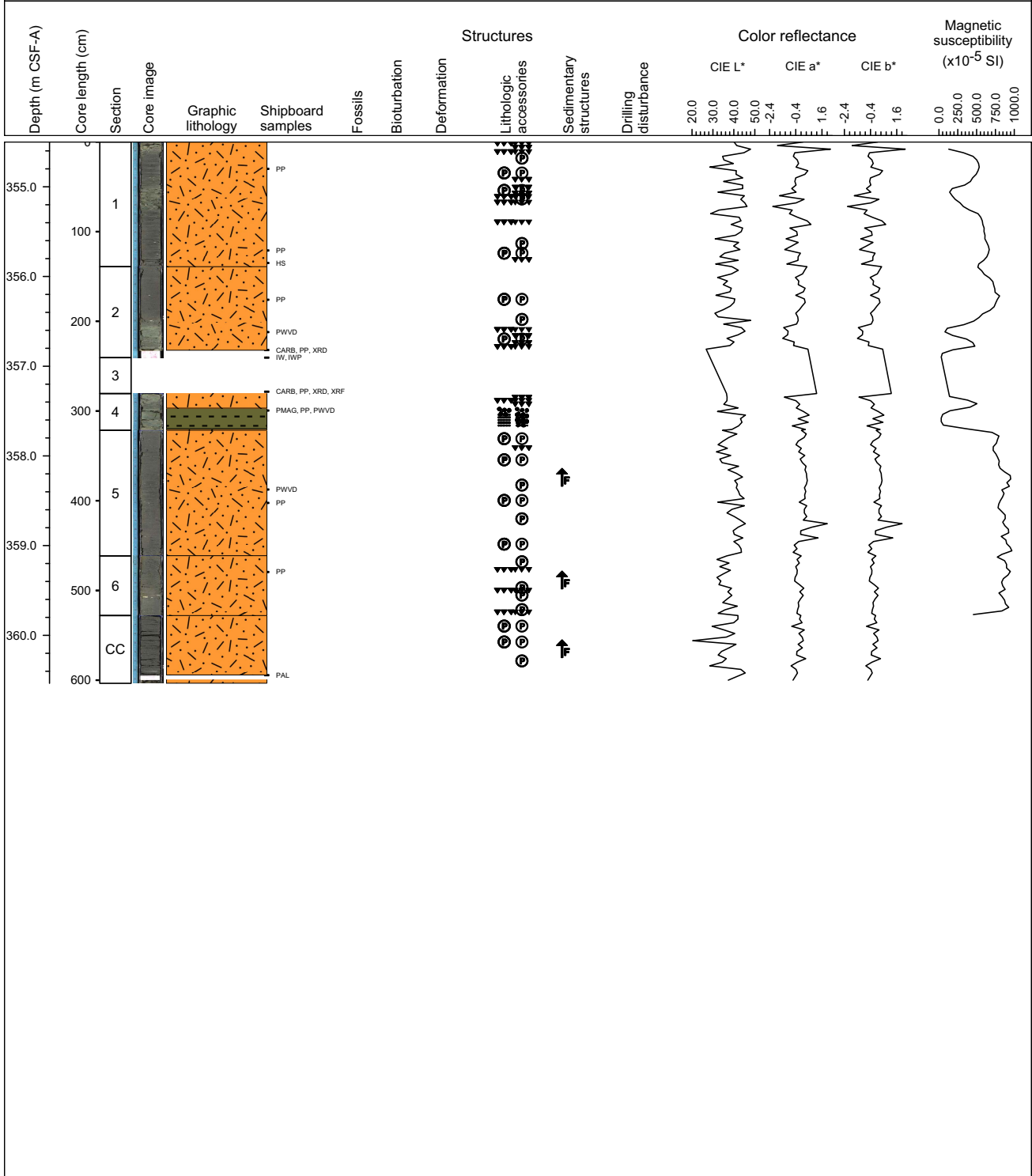
Core Photo



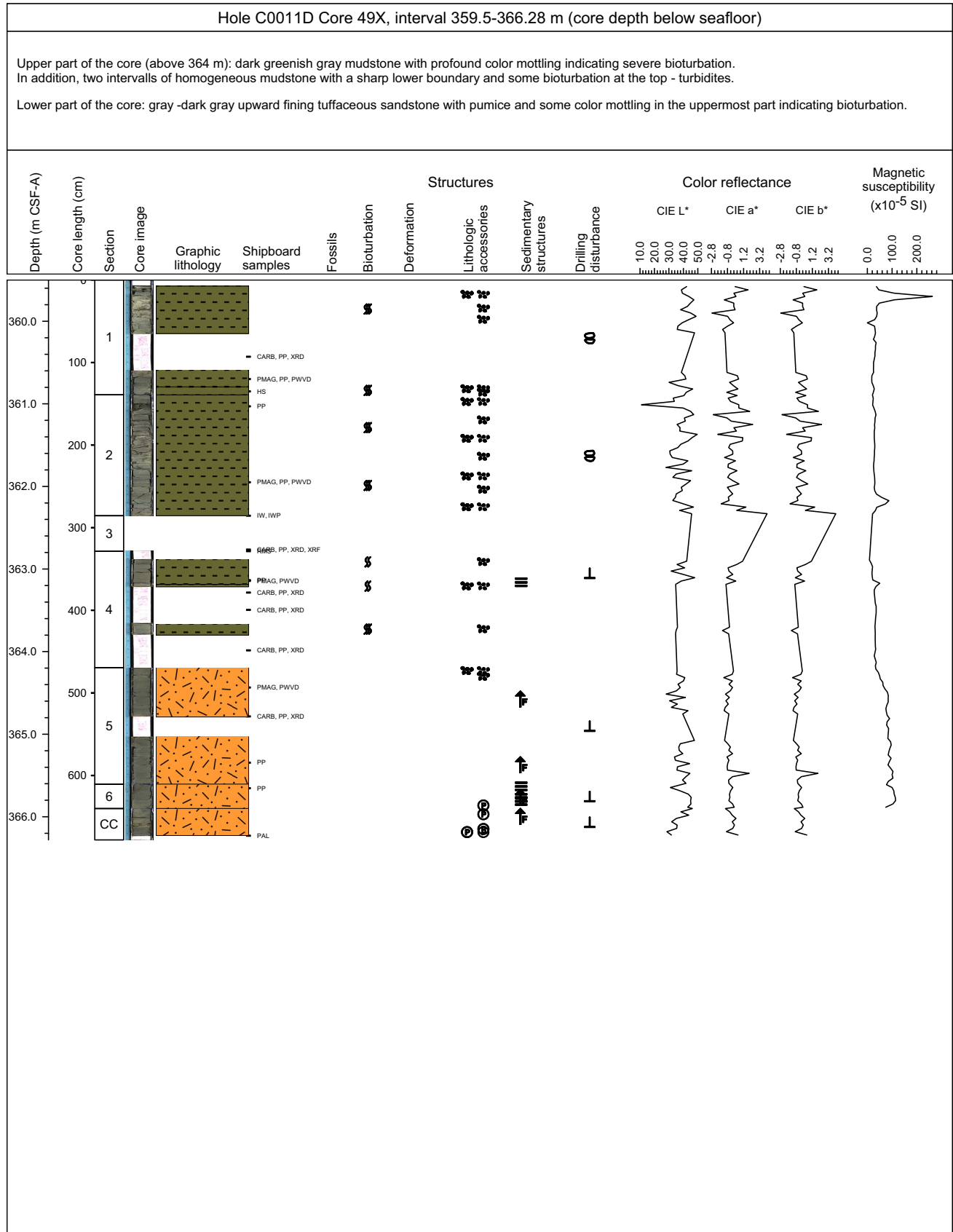
Core Photo

Hole C0011D Core 48X, interval 354.5-360.535 m (core depth below seafloor)

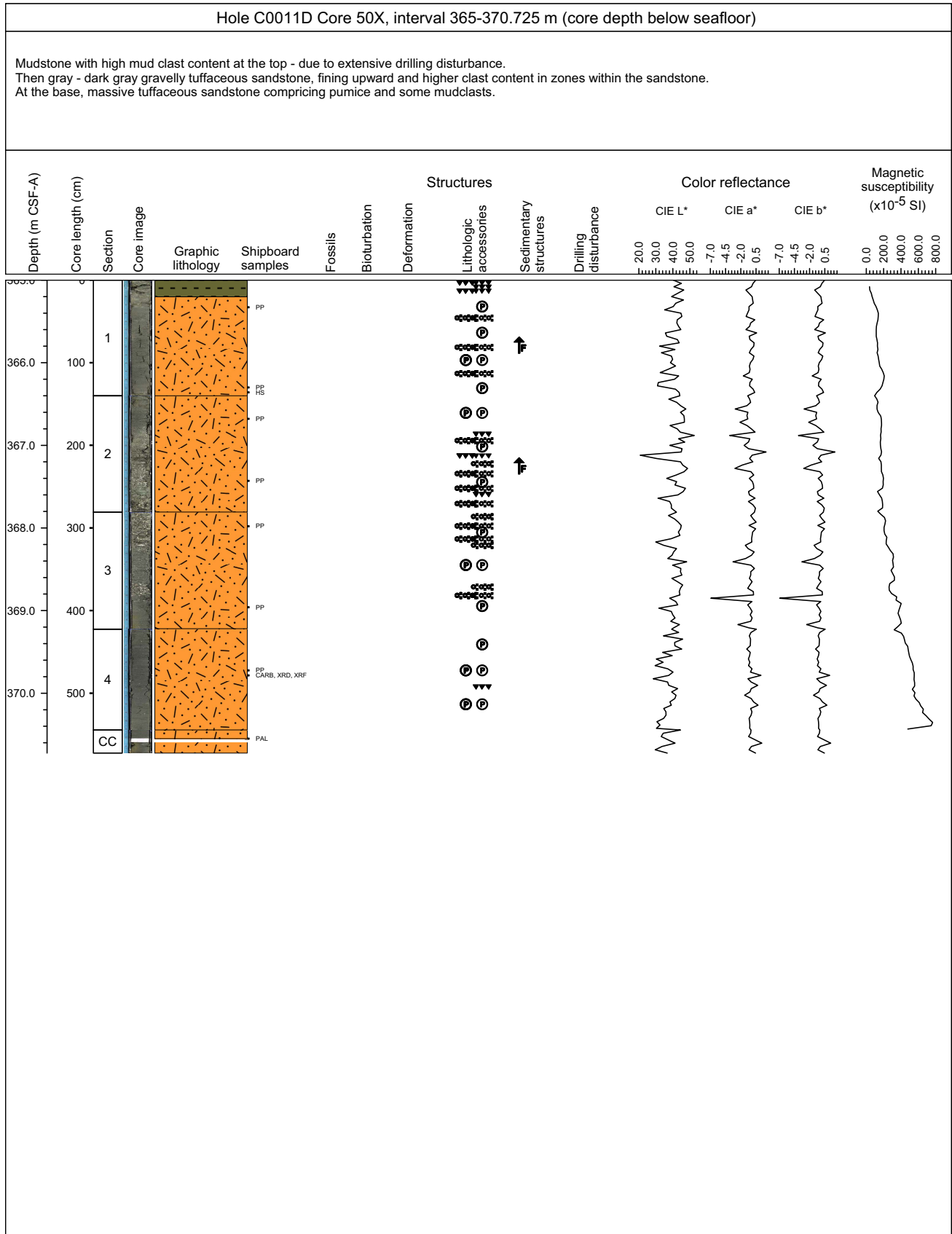
Gray - dark gray massive tuffaceous sand with mud clasts and pumice.
 No grading or structures was seen in the sand layers above the mudstone layer, below the sand is fining upward.
 The sand above the mudstone layer comprises zones of high mud clast and pumice content.
 These zones have a gradual lower boundary and a sharp upper boundary, seem to be matrix (sand) supported and occur in three intervals.
 An interval of mudstone with color mottling and some color banding is similar to the mudstone above.



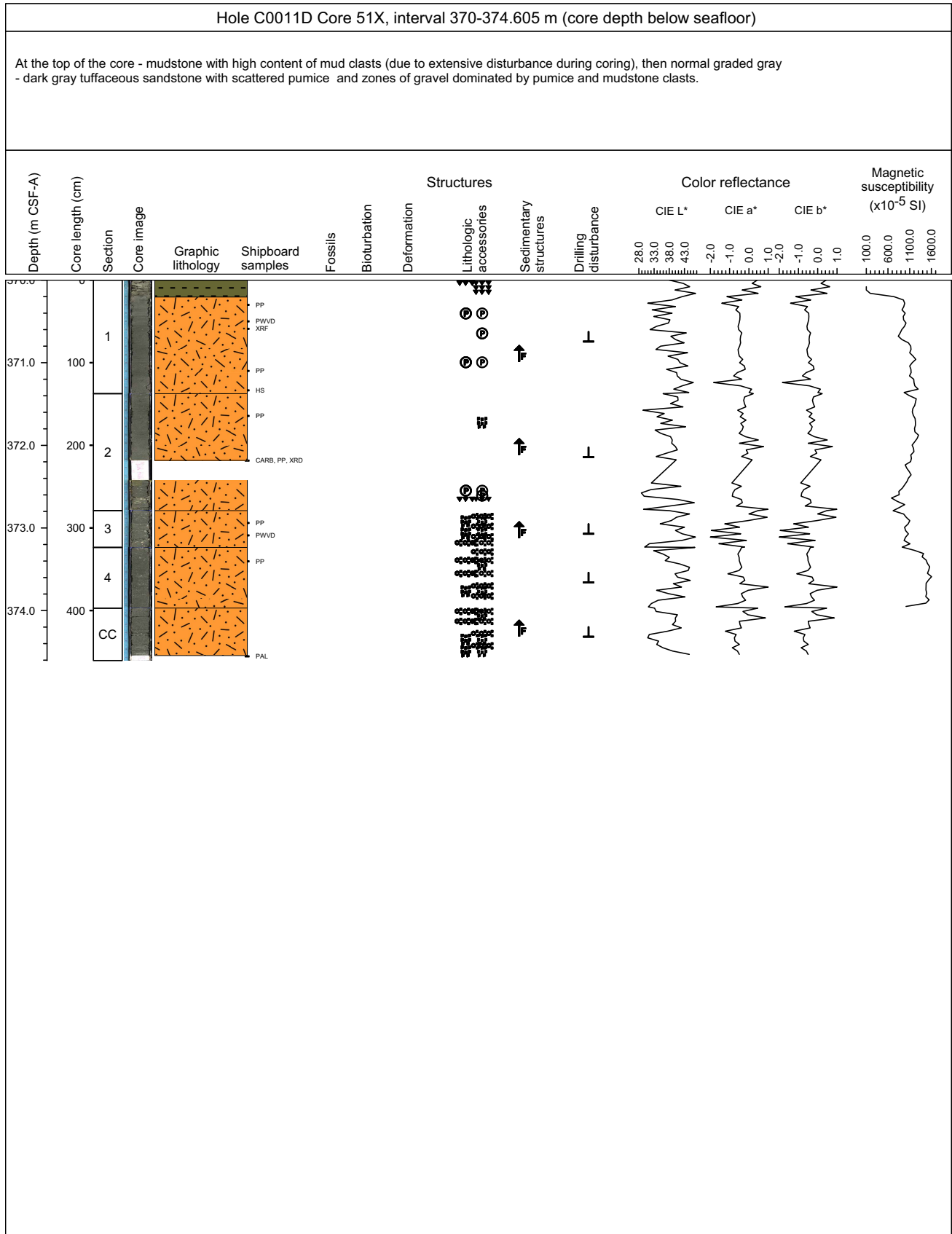
Core Photo



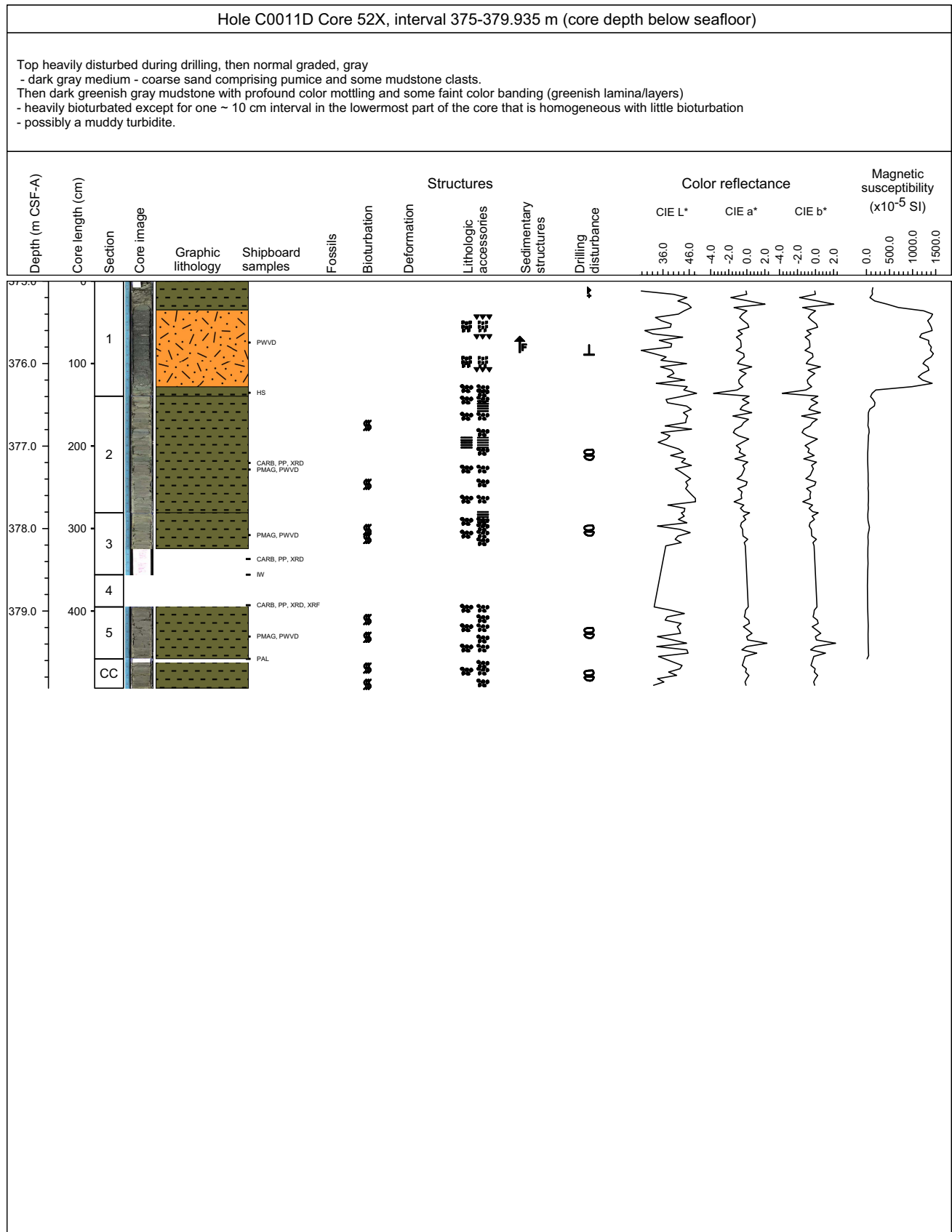
Core Photo



Core Photo



Core Photo



Exp: 333
Site: C0011

[Legend] D: dominant (>50%), A: abundant (>20-50%), C: common (>5-20%), P: present (>1-5%), R: rare (>0.1-1%), T: trace (<0.1%)

Hole-Core-Sec	Int. (cm)	Depth [m CSF-A]	Lithology	Texture			Siliclastic Grain							Lithic Grains or Ash				Pelagic Grains				Other		Comments									
				Sand	Silt	Clay	Quartz	Feldspar	Mica Group	Opaque Min.	Glauconite	Clay Min.	Zeolite	Heavy Min.	Calcite/Carb. Min	Sed. Lithic	Ign. Lithic	Meta. Lithic	Volcanic Lithic	Vol. Glass	Nannofossils	Foraminifers	Diatoms		Radiolarians	Silicoflagellates	Sponge spicules	Clay Mins.	Zeolithe				
C0011C-1H-3	20.0	1.045	Sandy clay	0	25	75	P		R	A	A	A	R				T	C	A	T	R											Hbl, Chl, Scoria	
C0011C-1H-3	59.0	1.435	Sandy clay	25	55	20	P			C	C	C	P				T	A	C	T	P	T	T	R							Bt, Hbl, round shaped vol.glass		
C0011C-1H-3	99.0	1.835	Sandy clay	10	50	40	P			C	C	C	R					A	R	T	C	P	T	R						Hbl, round shaped vol. glass			
C0011C-1H-5	18.0	2.255	Clay	10	10	80	P			C	C	C					T	R	D	R											beta-quartz, Hbl, Opx, Bt		
C0011C-2H-1	30.0	3.800	Volcanic ash	50	45	5	R	P		R	R	R	R					D	R		T										Bt, Hbl, Cpx		
C0011C-2H-1	80.0	4.300	Clay	0	15	85			T	C	C	C	R	T				T	D	T				T							Ap, Hbl		
C0011C-2H-6	76.0	8.495	Clay	0	10	90	R	T	T	T	A	R	R					R	D	T				T							Chl		
C0011C-2H-9	48.0	11.035	Clay	1	10	89	R	T	P	A	T	C	T					P	A	T	R	R		T							Hbl		
C0011C-2H-9	101.0	11.565	Volcanic ash	5	40	55	P	P	T	A	C	C	C					A													Pyr, Scoria, Cpx		
C0011C-3H-1	129.0	14.290	Volcanic ash	60	40	0	P	R		R	T	R	C					D													Hbl, Opx		
C0011C-3H-2	32.0	14.730	Volcaniclastic sand	10	60	30			T			C						A	P	T	R			R							Chl		
C0011C-3H-7	80.0	19.480	Hemipelagic mud	0	10	90	T		T	T		C							A		R			R							Chl, Bt		
C0011C-3H-10	25.0	21.765	Volcanic ash	50	30	20	T	T		T		R	T					D													Hbl, Ap, Opx, Cpx		
C0011C-3H-CC	16.0	22.870	Volcanic ash	20	70	10	T	T		T		T	T					D													Hbl, Opx		
C0011D-1H-5	113.0	26.580	Volcanic ash	60	20	20	R	T				C						A														beta-Quartz	
C0011D-1H-7	5.0	27.125	Volcanic sand	70	15	15	T			R								D	C														
C0011D-1H-9	100.0	30.690	Hemipelagic mud	0	5	95	T		T		A		T					D	D		R	T		P								Chl	
C0011D-2H-1	82.0	31.320	Volcanic ash	5	80	15	R			R		R						D															
C0011D-2H-7	60.0	36.995	Silty clay	0	5	95	P	R	T	T		D						R	P	T	T											Chl	
C0011D-3H-3	101.5	43.840	Volcanic ash	15	80	5	P	R		R		P	R					D	R													Hbl, Opx, Cum, Zr	
C0011D-3H-7	32.0	47.035	Silty clay	0	20	80	R			P	P	P	R					P	D	P	C	R		T								Hbl	
C0011D-4H-6	58.0	53.495	Silty clay	5	40	55	P	R	T	P	A	C	P					A	T		T	T		T									
C0011D-4H-8	13.0	55.655	Hemipelagic silty clay	5	40	55	P	T	R	C	C	C	P					C	C	P	T		P									Ap, Chl, Cpx	
C0011D-5H-4	71.0	60.430	Hemipelagic silty clay	0	30	70	P	T	T	C	A	R	R					C	A		R	T		R								Hbl, Cum	
C0011D-5H-6	24.0	61.395	Hemipelagic silty clay	0	20	80	R		T	C	A	R						P	A	T		T	T	T								Bt	
C0011D-6H-3	114.0	68.960	Volcanic ash	80	10	10	R	T	T	R		R						D	T														Bt, big glass shards, Zr
C0011D-6H-6	29.5	70.940	Volcanic ash	90	10	0	R			R	T	A	T					D														Opx	
C0011D-6H-7	83.0	72.890	Silty clay	0	20	80	R	T		T	A	R						T	C	T				T									
C0011D-7H-1	70.0	75.200	Silty clay	0	30	70	C	R	T	R	D	R						T	R					T								Discoaster, Opx	
C0011D-7H-2	93.0	76.825	Silt	3	70	27	R			P	C	T						A	A		R		T									Pyr, Opx	
C0011D-7H-5	57.0	79.505	Volcanic ash	70	20	10	R	T		P	C	R						D														Discoaster, Bt	
C0011D-8H-2	30.0	80.710	Silty clay	1	5	94	R			T	P	A	T					R	A	T	R	T	T									Opx, Hbl	
C0011D-8H-2	81.0	81.220	Volcanic ash	10	80	10	T	T		T	P	T	T					D	P	R				T									
C0011D-9H-1	98.0	82.480	Silty clay	4	15	81	R	T	T	P	D	P						C			T	T	T	T									
C0011D-9H-5	64.0	86.130	Silty clay	3	10	87	R	T	T	P	D	P						C	T		T	T	T	T									Hbl, Discoaster?
C0011D-10H-3	87.0	94.165	Volcanic ash	68	30	2	R	R		P	P	R						D	R	R				T									turbidate of tephra, Opx, Discoaster
C0011D-10H-7	89.0	98.405	Silty clay	3	15	82	R	R	T	P	D	R						C	R		R	T	T									Discoaster	
C0011D-11H-1	82.0	100.820	Clay	0	10	90	R			T	P	D	P					P	C			T	T									Discoaster, Hbl	
C0011D-12H-6	34.5	115.055	Volcanic ash	40	50	10	T			P	R							D	T	T	T											Pyr	
C0011D-12H-7	69.0	116.815	Silty clay	0	15	85	P	T		R	P	T						P	A	T													
C0011D-13H-4	5.0	122.900	Volcanic ash	2	60	38	T			T	C	T						D	C	T	R												Opx, Hbl, Brown colored glass
C0011D-13H-6	40.0	124.210	Silty clay	0	5	95	R	T	T	R	A	T						R	A					T									Hbl, Chl
C0011D-13H-7	65.0	125.880	Volcanic ash	70	20	10	T			R	T	A	T					D	P		T												Bt, Cpx Opx
C0011D-14H-1	11.0	125.110	Volcanic ash	40	60	0	R	T		R		T	R					D															Bt, Round shaped glass
C0011D-14H-4	80.0	130.025	Clay	0	10	90	T			T		A	T					T	A		T	T		R								Chl, Discoaster	
C0011D-15H-2	107.0	135.990	Silty clay	10	25	65	T			T		A	T					C	C					R									Bt, clear glass
C0011D-15H-6	74.0	140.180	Silty clay	0	40	60	R			T	A	T						P	R			T	T										
C0011D-15H-8	8.0	142.360	Volcanic ash	40	60	0	P	R		D	T	C	T					A															Pyr, Red colored lithic grain
C0011D-16H-3	8.0	144.655	Hemipelagic clay	0	30	70	P	R		C	C	D	R					C	R		R			R									Discoaster, Hbl, beta-Quartz
C0011D-16H-5	87.0	147.265	Clay	0	15	85	P	T		R	P	D						P	C			T	R										Discoaster



Hole-Core-Sec	Int. (cm)	Depth [m CSF-A]	Lithology	Texture			Siliclastic Grain							Lithic Grains or Ash					Pelagic Grains					Other		Comments [Legend] Ap: Apatite, Bt: Biotite, Chl: Chlorite, Cpx: Clinopyroxene, Cum: Cumingtonite, Fel: Feldspar, Hbl: Hornblende, Ogn: Organic materials, Opx: Orthopyroxene, Pyr: Pyrite, Zr: Zircon											
				Sand	Silt	Clay	Quartz	Feldspar	Mica Group	Opaque Min.	Glauconite	Clay Min.	Zeolite	Heavy Min.	Calcite/Carb. Min	Sed. Lithic	Ign. Lithic	Meta. Lithic	Volcanic Lithic	Vol. Glass	Nannofossils	Foraminifers	Diatoms	Radiolarians	Silicoflagellates		Sponge spicules	Clay Mins.	Zeolithe								
C0011D-45X-2	27.0	341.175	Mudstone	0	5	95	R																														
C0011D-45X-4	77.0	343.490	Mudstone	0	20	80	R	P		R																											Pyr?
C0011D-46X-4	91.0	348.230	Sandstone	20	60	20	C	R		T																											Ap, Hbl
C0011D-46X-CC	63.0	349.810	Sandstone	50	30	20	C			T																											Opx, Cpx (many), Hbl
C0011D-46X-CC	64.0	349.820	Sandstone	100	0	0	P	T		T																											Opx, Cpx, Ap, thin glass shards
C0011D-47X-5	30.0	353.155	Mudstone	0	2	98	T																														Discoaster
C0011D-47X-7	22.0	354.880	Sandstone	60	30	10	C	P	T																												Hbl, Cpx, Opx, Zr, Ap
C0011D-48X-4	38.0	357.685	Mudstone	0	2	98	R																														Discoaster
C0011D-48X-5	63.0	358.345	Sandstone	95	4	1	A			T																											Opx, Cpx, Hbl, Ap, fresh vol.glass
C0011D-49X-4	98.0	363.765	Mudstone	0	10	90			T	T	R																										
C0011D-49X-6	26.0	365.865	Sandstone	85	15	0	P	P		T																											Opx, Hbl, Cpx
C0011D-50X-4	100.0	370.225	Sandstone	96	4	0	P	C		R																											round shape vol.glass, Cpx, Hbl, Ap
C0011D-51X-4	70.0	373.935	Sandstone	96	4	0	C	P	T	T																											round shape vol.glass, Cpx, Hbl, Ap
C0011D-52X-1	120.0	376.200	Sandstone	90	9	1	P	C	T	T																											Discoaster, Hbl, Ap, Cpx
C0011D-52X-CC	21.0	379.790	Mudstone	0	1	99				T	R																										Discoaster, Ogn, non-tracefossils