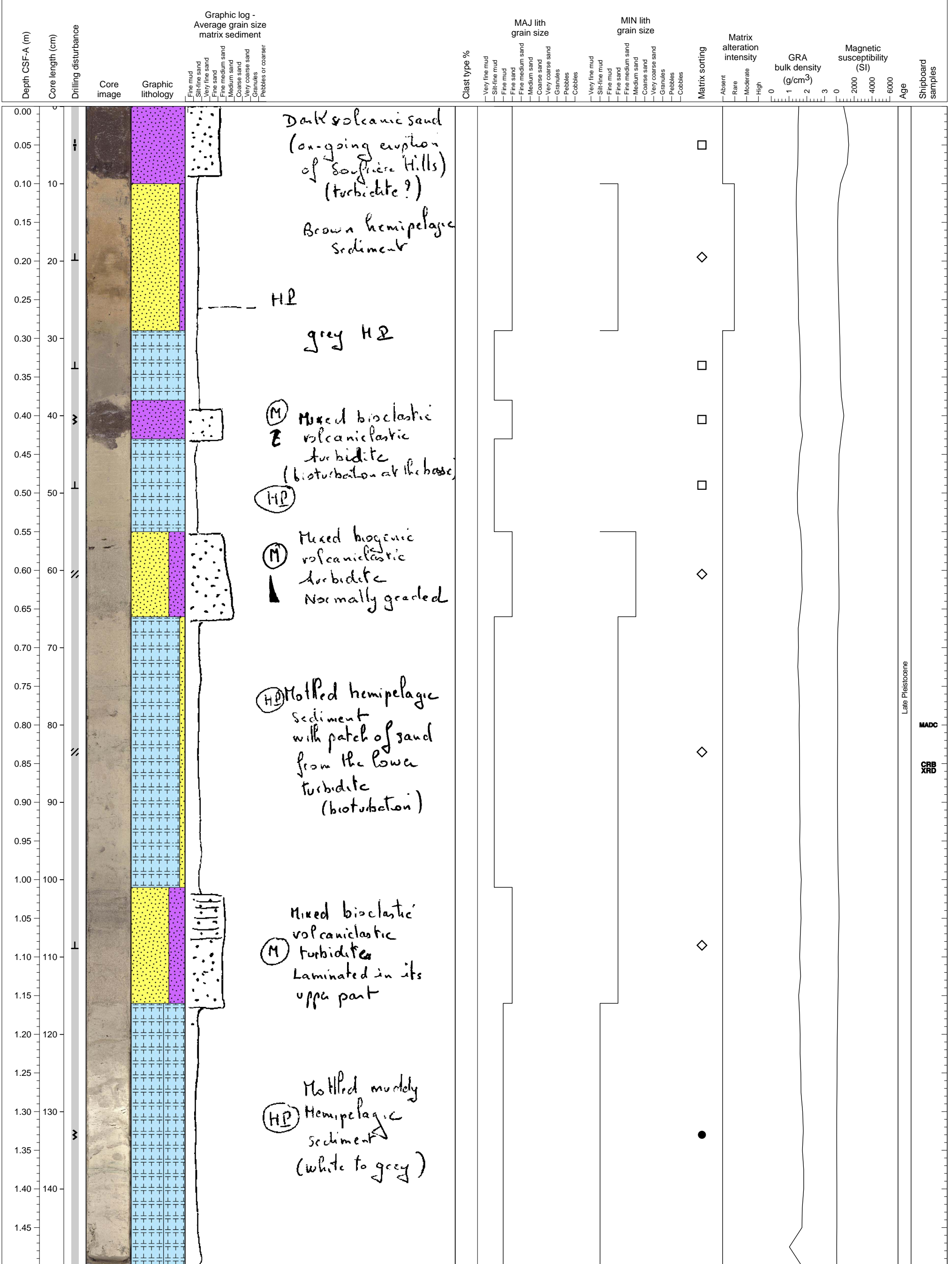


Mostly mottled hemipelagic sediments intercalated with volcanoclastic sand layers and/or turbidites.



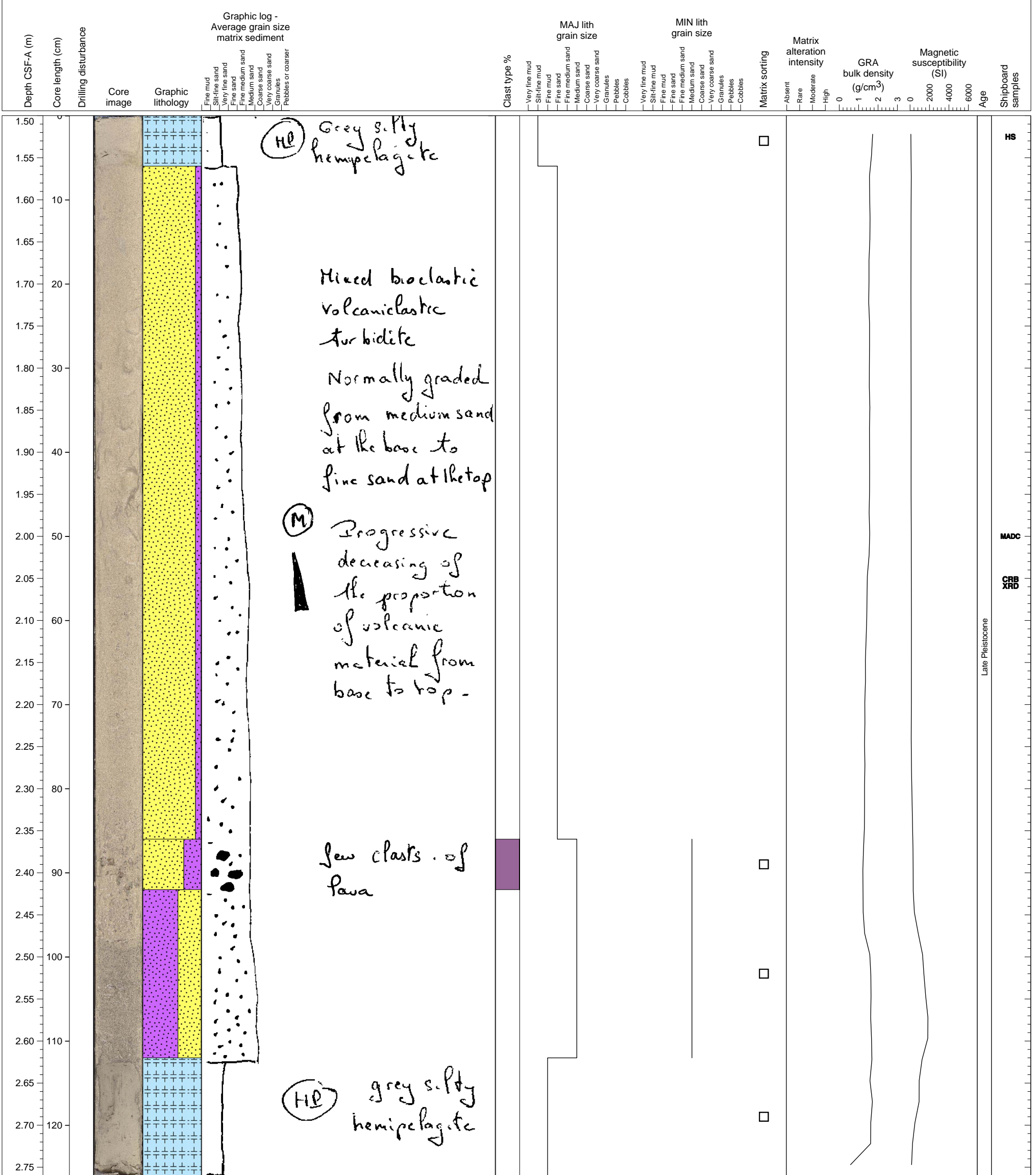
Late Pleistocene

MADC

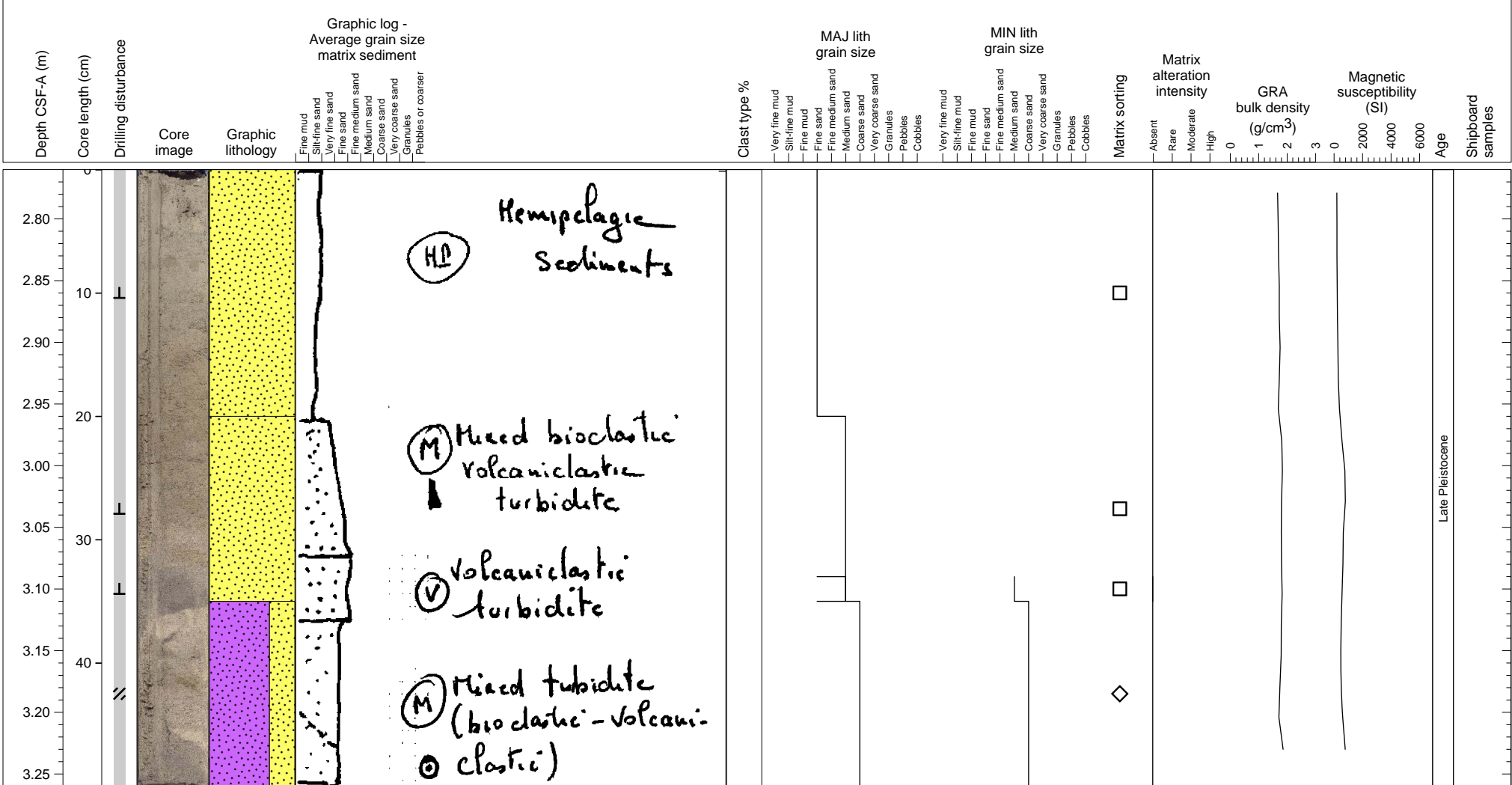
CRB XRD

Sample	Top (cm)	Bottom (cm)	Top Depth (m)	Bottom Depth (m)	Groundmass percentage [%]	Groundmass modal grain size (mm)	Groundmass comments	Volcanic grain [%]	Volcanic grain modal size (mm)	Biogenic grain [%]	Mineral grain [%]	Mineral grain modal size (mm)	Lithic grain [%]	Lithic grain modal size (mm)	Olivine present [%]	Olivine size MIN (mm)	Olivine shape	Olivine comment	Plagioclase present [%]	Plagioclase size MAX (mm)	Plagioclase shape	Plagioclase habit	Plagioclase comment	Clinopyroxene present [%]	Clinopyroxene size MAX (mm)	Clinopyroxene shape	Clinopyroxene habit	Clinopyroxene special features	Orthopyroxene present [%]	Orthopyroxene size MAX (mm)	Orthopyroxene shape	Orthopyroxene habit	Orthopyroxene comments	Amphibolite present [%]	Amphibolite size MAX (mm)	Amphibolite shape	Amphibolite habit	Amphibolite comments	Oxides present [%]	Oxides size MAX (mm)	Oxides shape	Oxides habit	Oxides comments	Quartz present [%]	Quartz size MAX (mm)	Quartz shape	Quartz habit	Comment
340-U1395A-6H-2-W 132/133-TSB-TS#14	0	0.5	71.73	41.735	10	2					90	2.0							40	2	lath	elongate		25	2	lath	elongate		15	1	tabular	equant		15	3	euhedral	equant		5	0.6	subrounded			5	1	subrounded		Grain mount volcaniclastic sand; potentially some carbonate mixed in.
340-U1395A-14H-CC-W 6/7-TSB-TS#15	0	1	116.89	116.9																																									Pumice clast - too thin to properly log.			

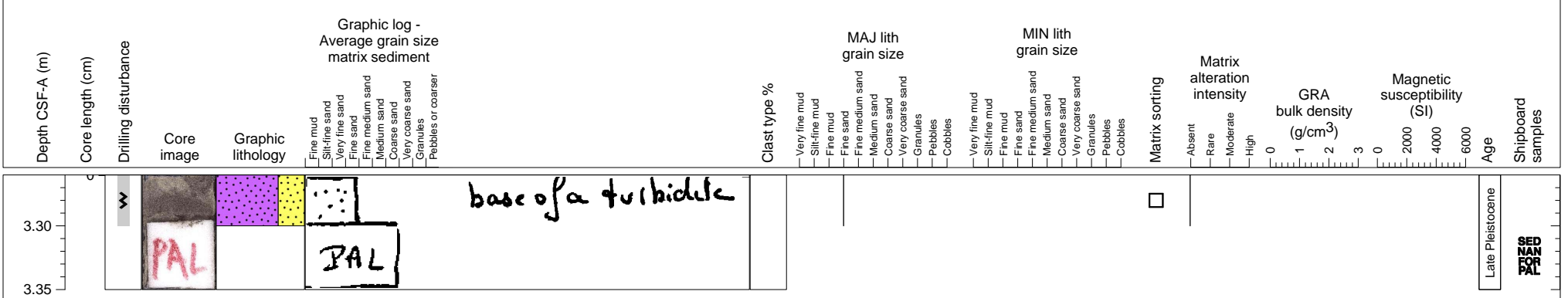
Approximately a 1m thick mixed bioclastic/volcaniclastic turbidite within hemipelagic sediments.



Hemipelagic sediments with two turbidite sands, one carbonate, the other mixed volcanoclastic-bioclastic sand.

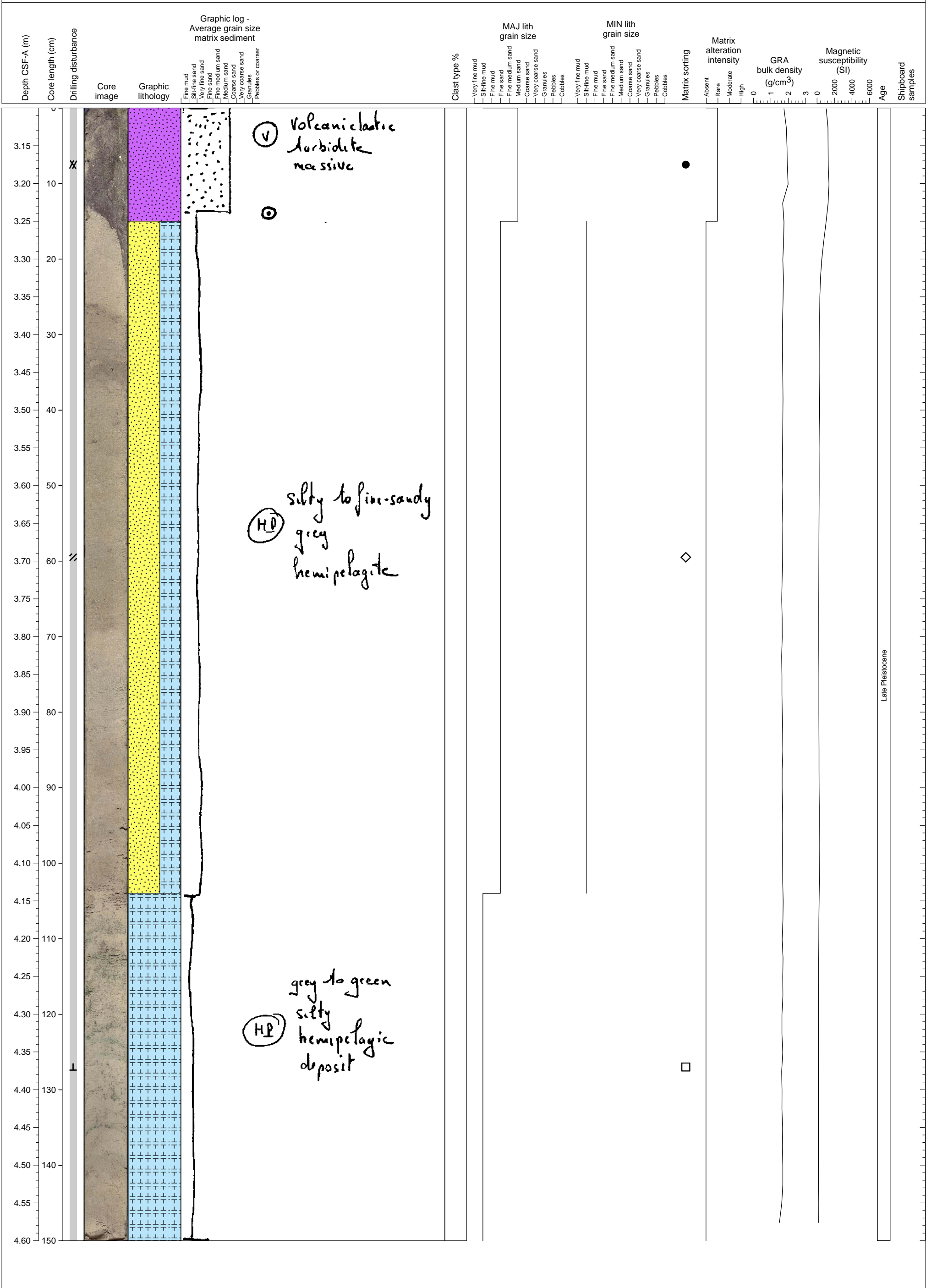


Mixed volcanoclastic-bioclastic sand. Bioturbated and disturbed.

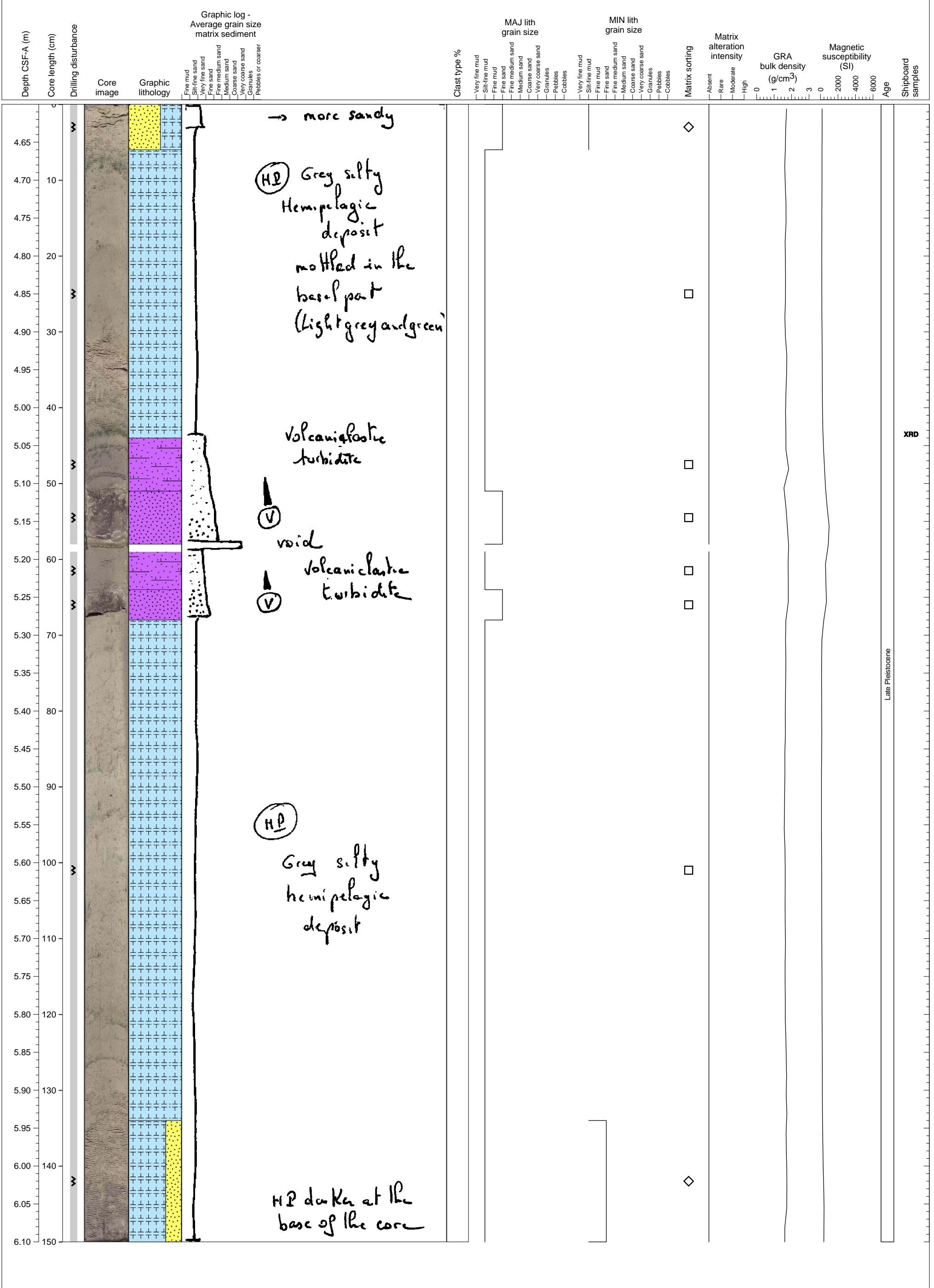


Late Pleistocene  
SED  
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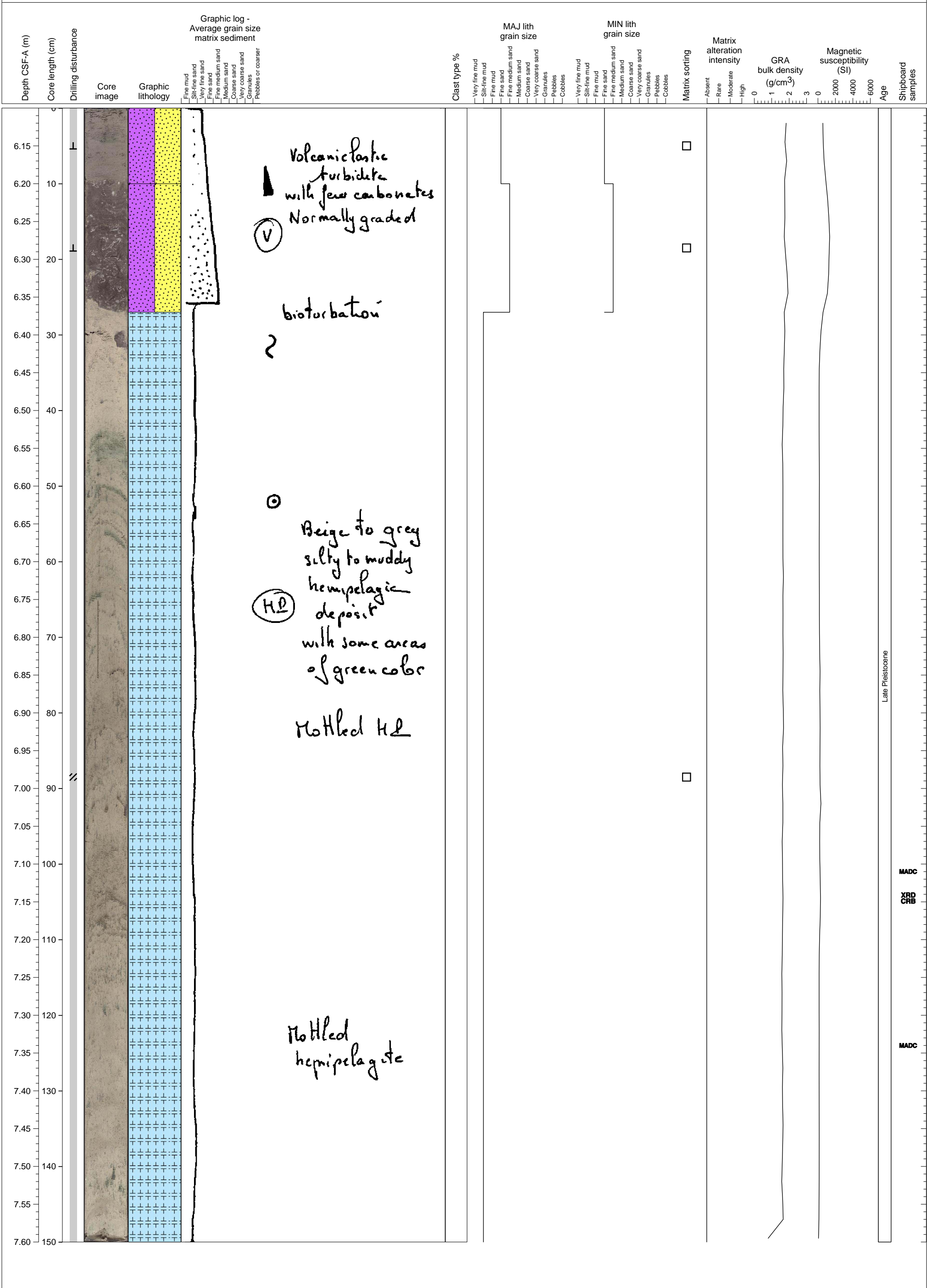
Mottled, grey colored hemipelagic sediments, top 15 cm depth is occupied by volcanoclastic turbidite.



Hemipelagic sediments with two units of volcanoclastic turbidites.

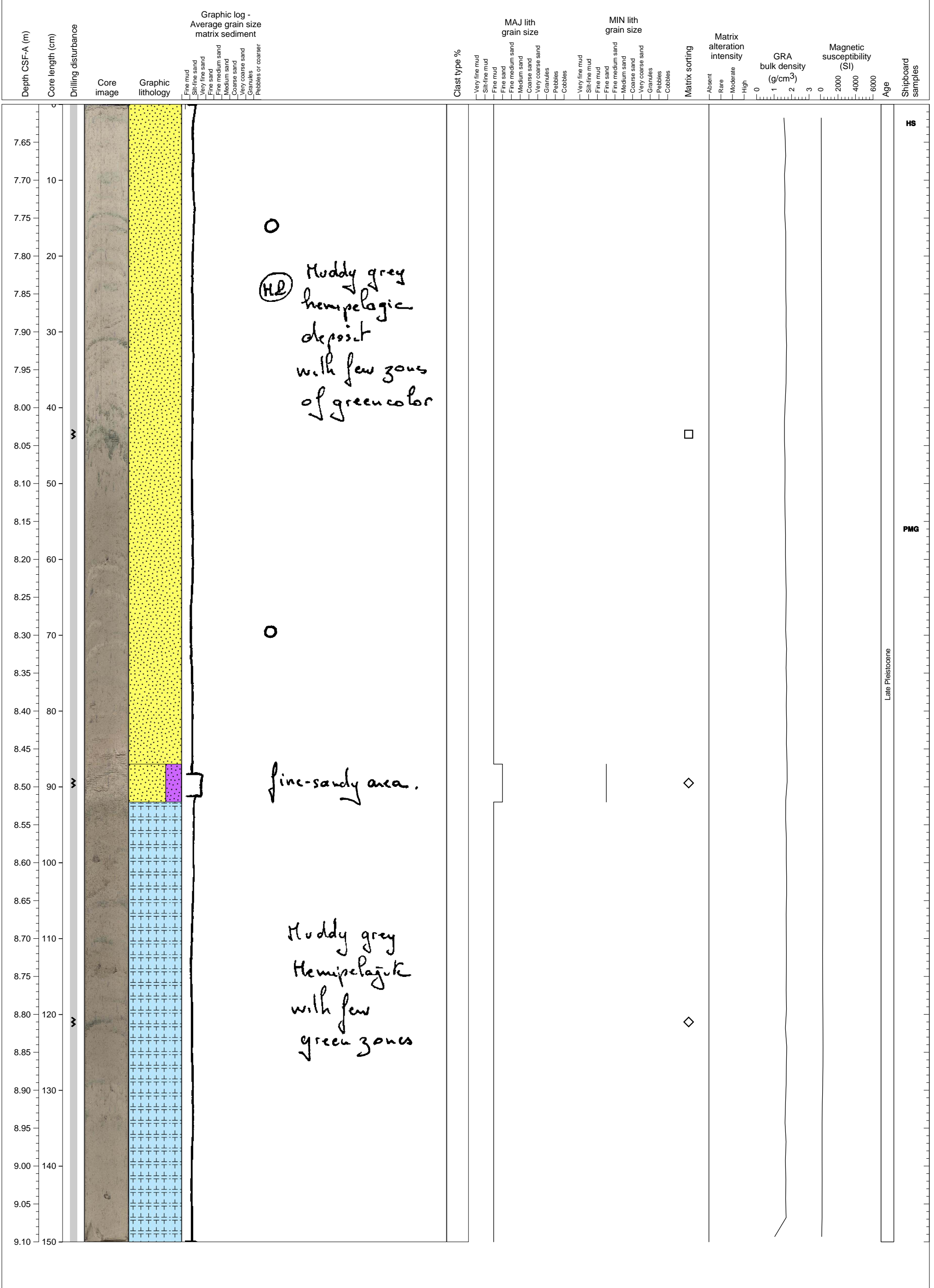


Two thin mixed volcanoclastic-bioclastic turbidites overlying a thick hemipelagic sediment.

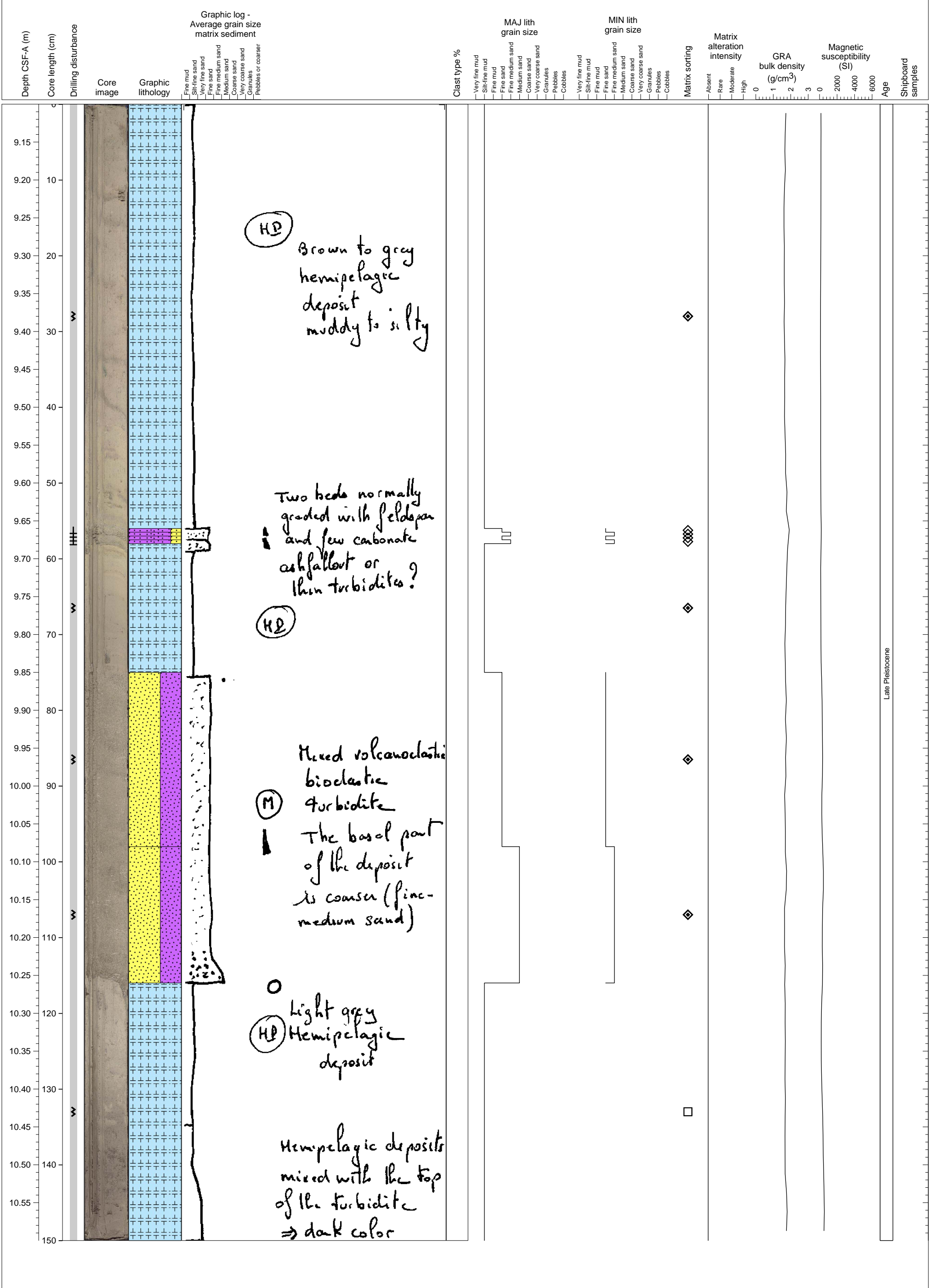




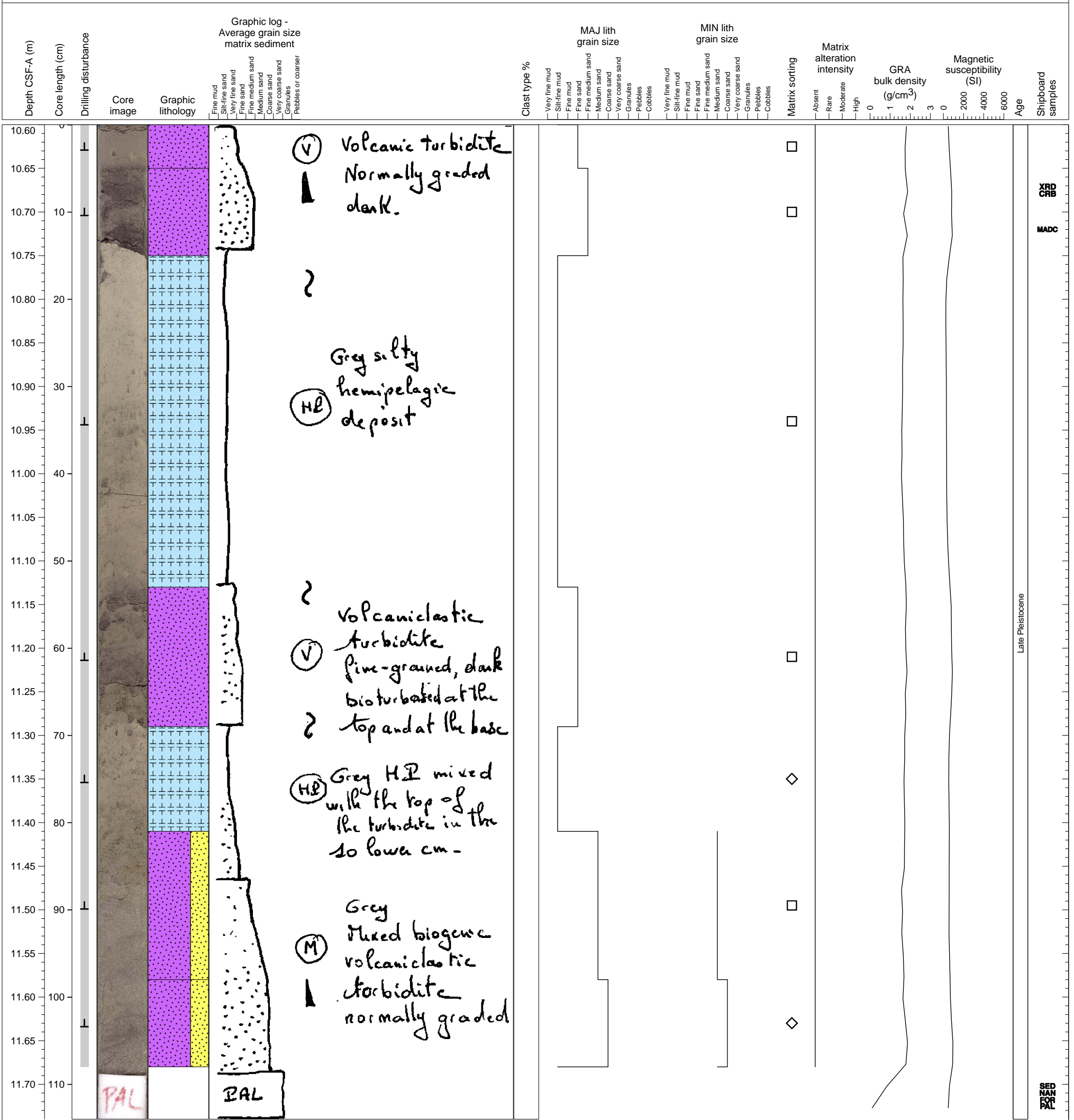
Hemipelagic sediments.



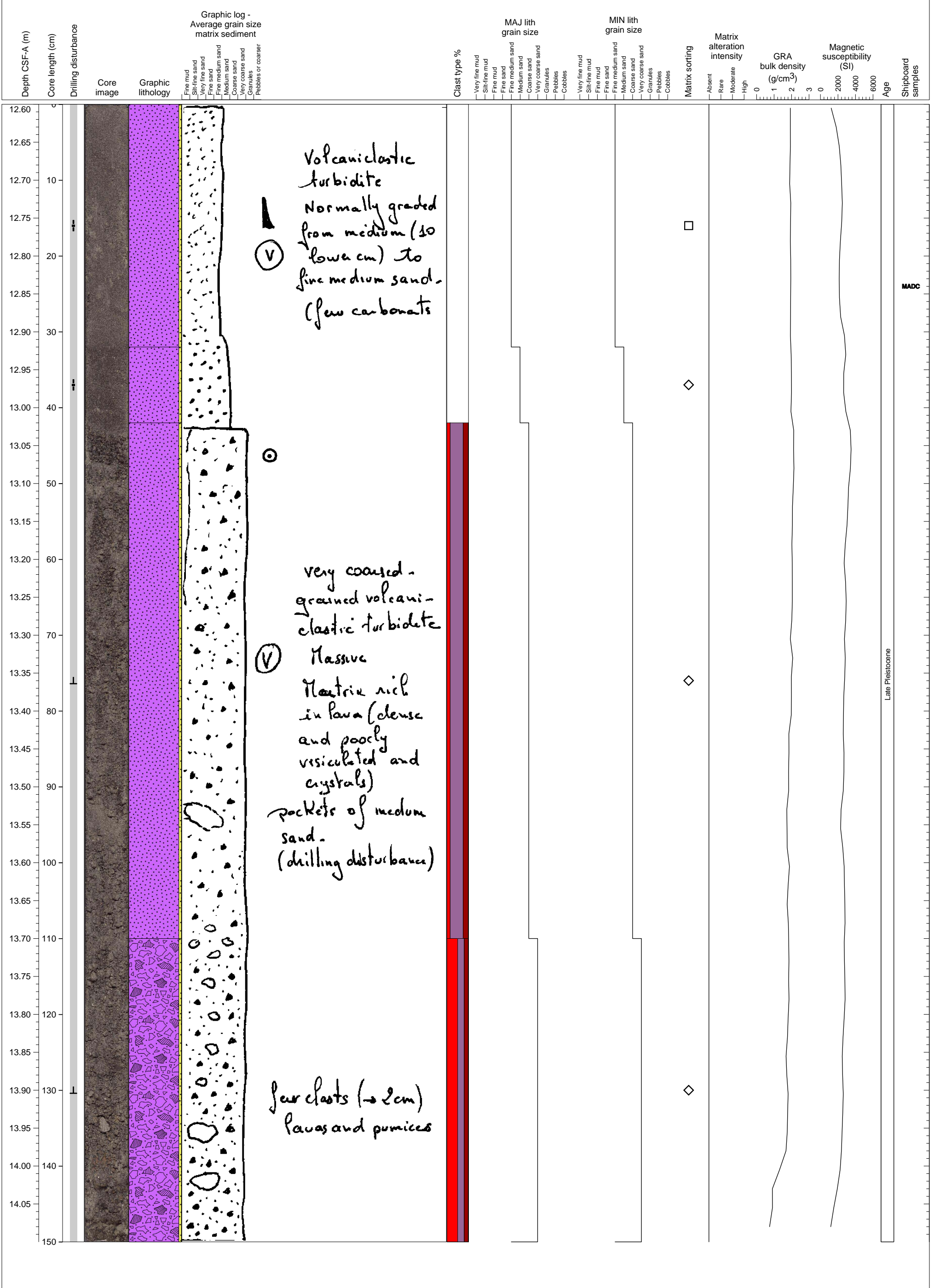
Hemipelagic sediments interbedded with mixed volcanoclastic-bioclastic turbidites.



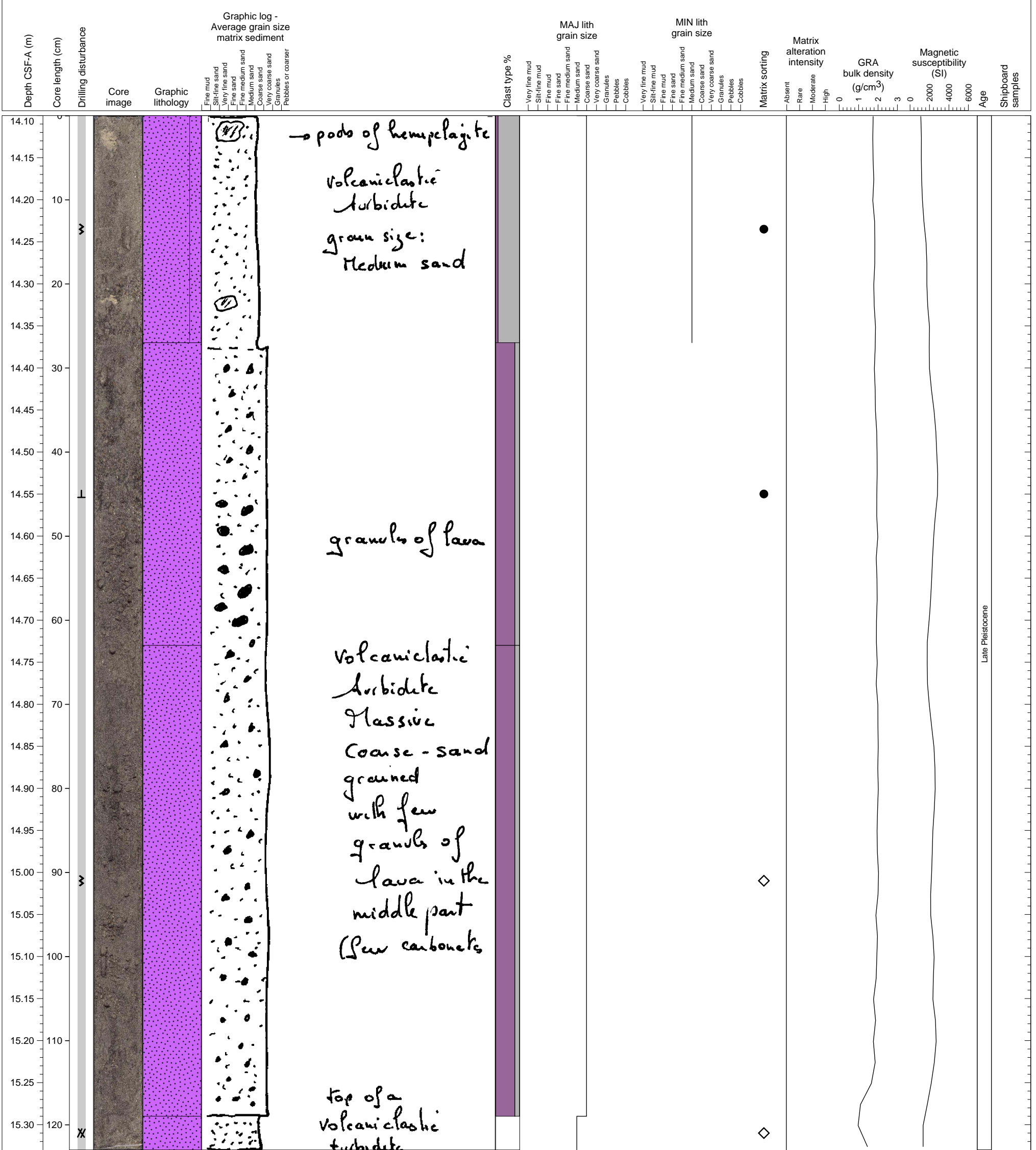
Predominantly volcanoclastic and mixed volcanoclastic/bioclastic turbidites, with thin hemipelagic sediments interbedded.



Two volcanoclastic turbidites, with very minor component of carbonate material.



Poorly to moderately sorted volcanoclastic turbidites.



→ pods of hemipelagite  
volcanoclastic turbidite  
grain size:  
Medium sand

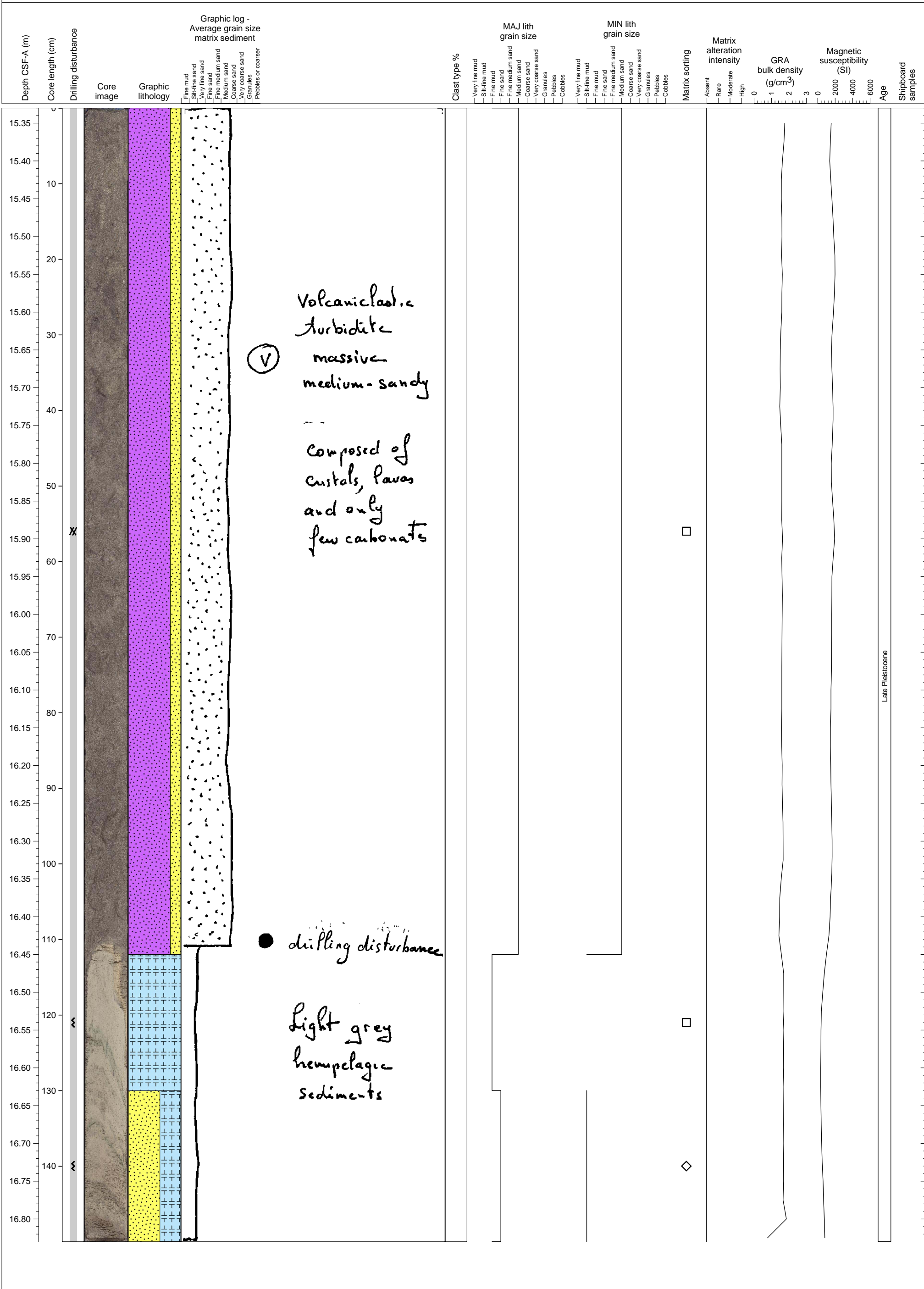
granules of lava

Volcanoclastic turbidite  
Massive  
Coarse-sand  
grained  
with few  
granules of  
lava in the  
middle part  
(few carbonates)

top of a  
volcanoclastic  
turbidite

Late Pleistocene

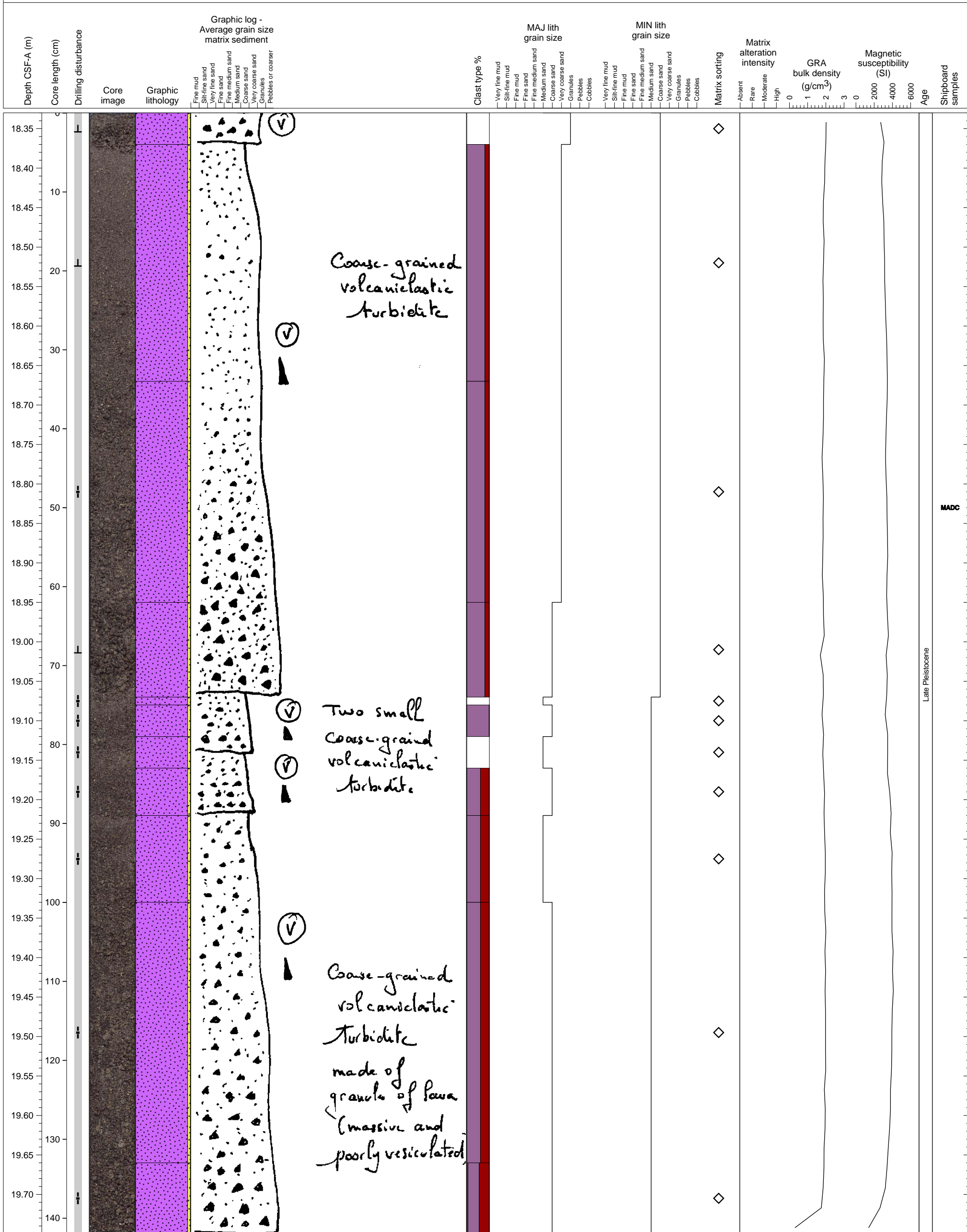
Bottom unit of volcanoclastic turbidite overlying hemipelagic fines.



Multistoried, medium to very coarse-grained volcanoclastic turbidites.

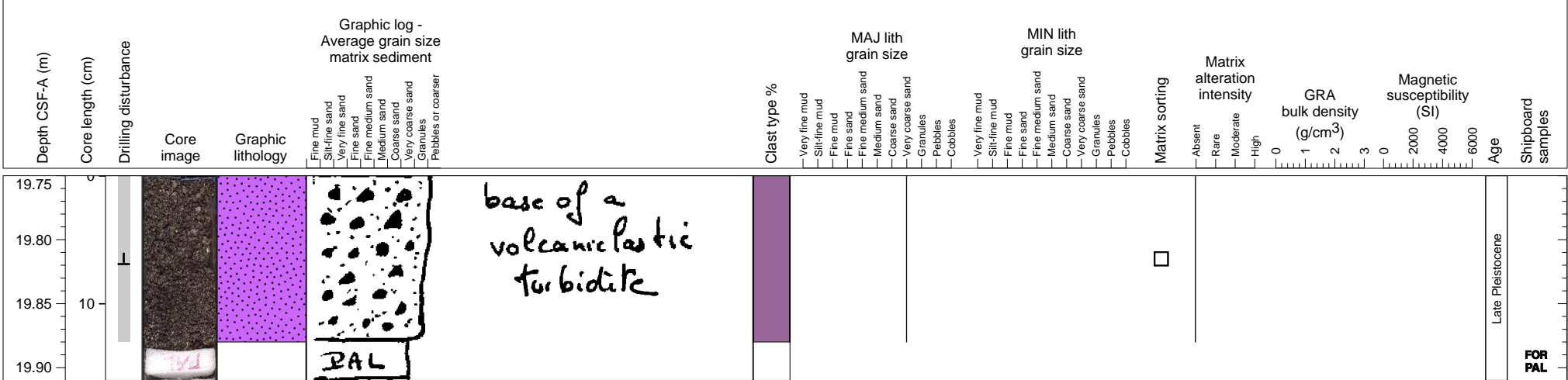


Series of stacked volcanoclastic turbidite sands, all with minor bioclastic material. All normally graded and massive. Lower two have more clasts, mostly dense lava.

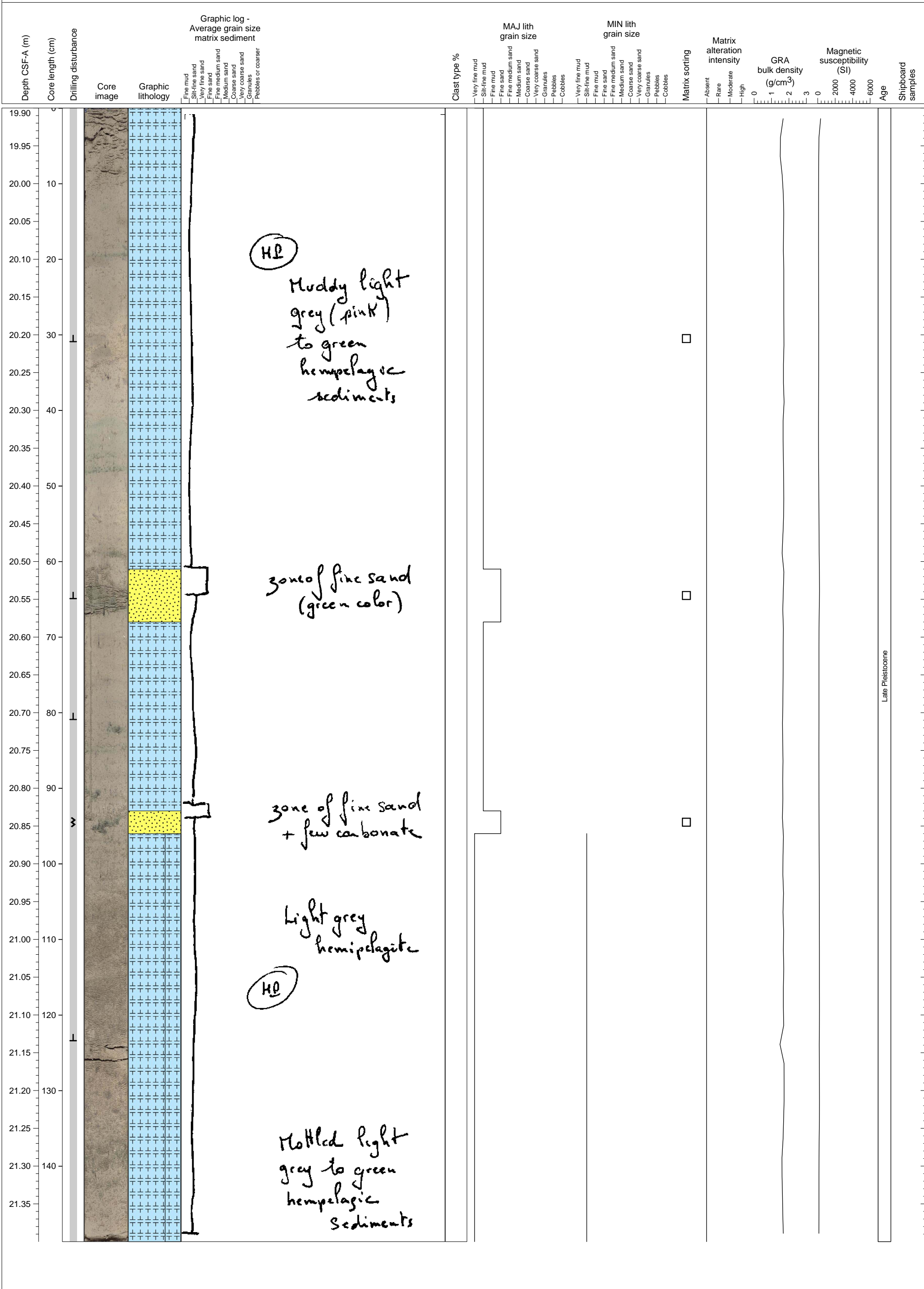




Volcaniclastic sand with 5% granule clasts of volcanics.



Mottled, fine grained hemipelagic sediments with thin green layers.



HP  
Muddy light grey (pink) to green hemipelagic sediments

zone of fine sand (green color)

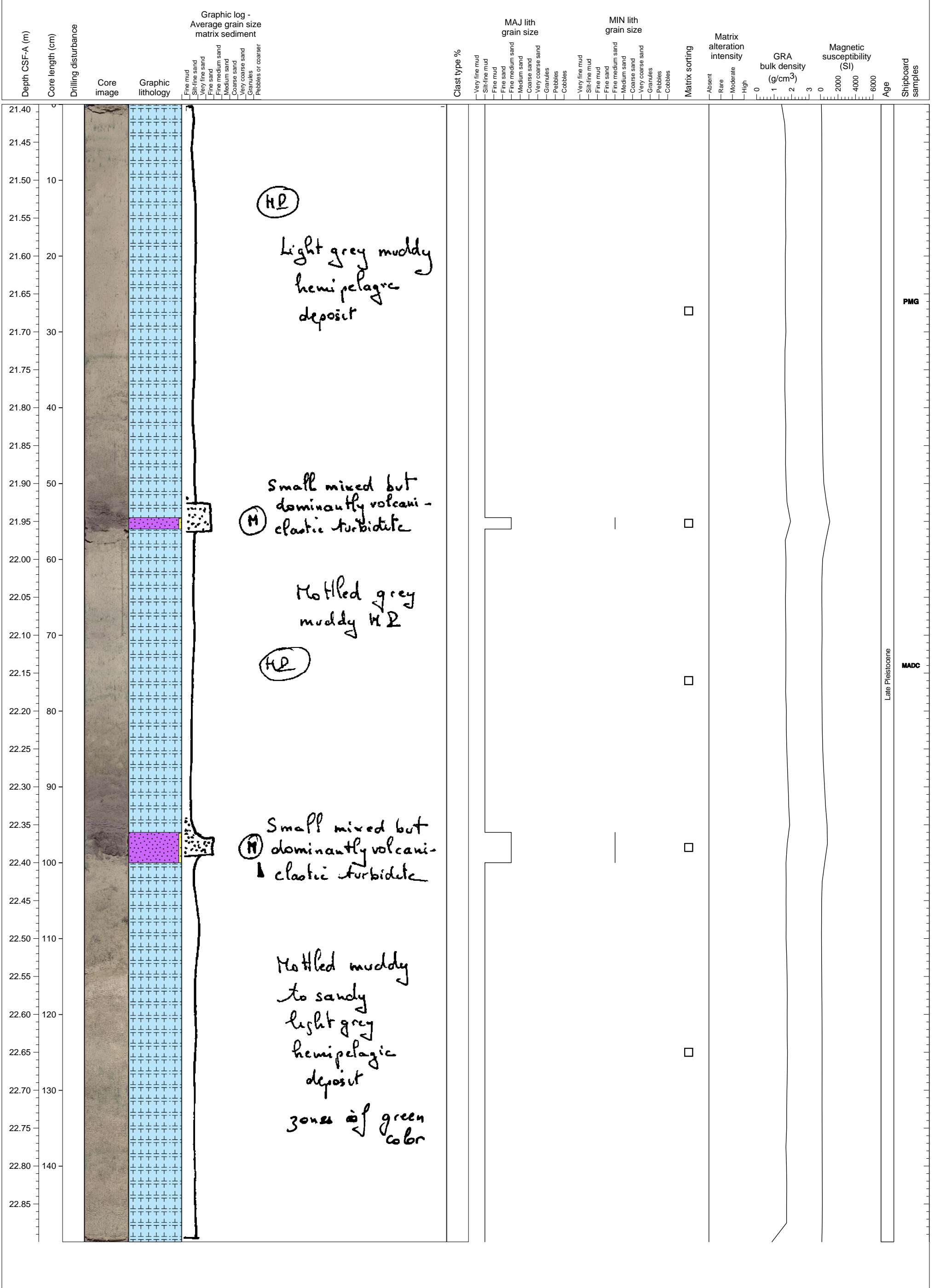
zone of fine sand + few carbonate

light grey hemipelagite

HP  
Mottled light grey to green hemipelagic sediments

Late Pleistocene

Predominantly hemipelagic sediments with two thin mixed volcanoclastic-bioclastic turbidite sands.



HP

Light grey muddy hemipelagic deposit

M

Small mixed but dominantly volcanoclastic turbidite

Mottled grey muddy HP

HP

M

Small mixed but dominantly volcanoclastic turbidite

Mottled muddy to sandy light grey hemipelagic deposit

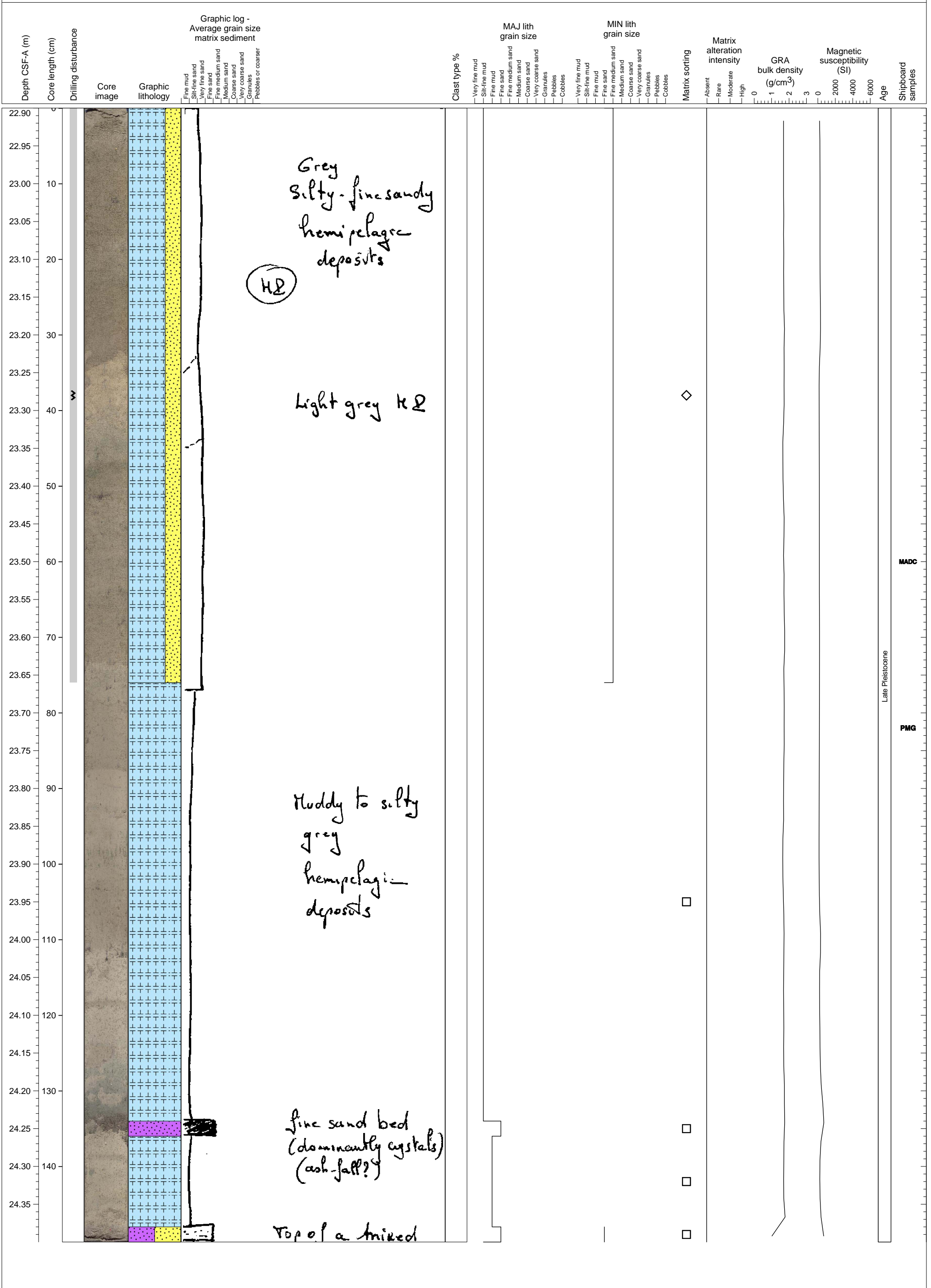
zones of green color

PMG

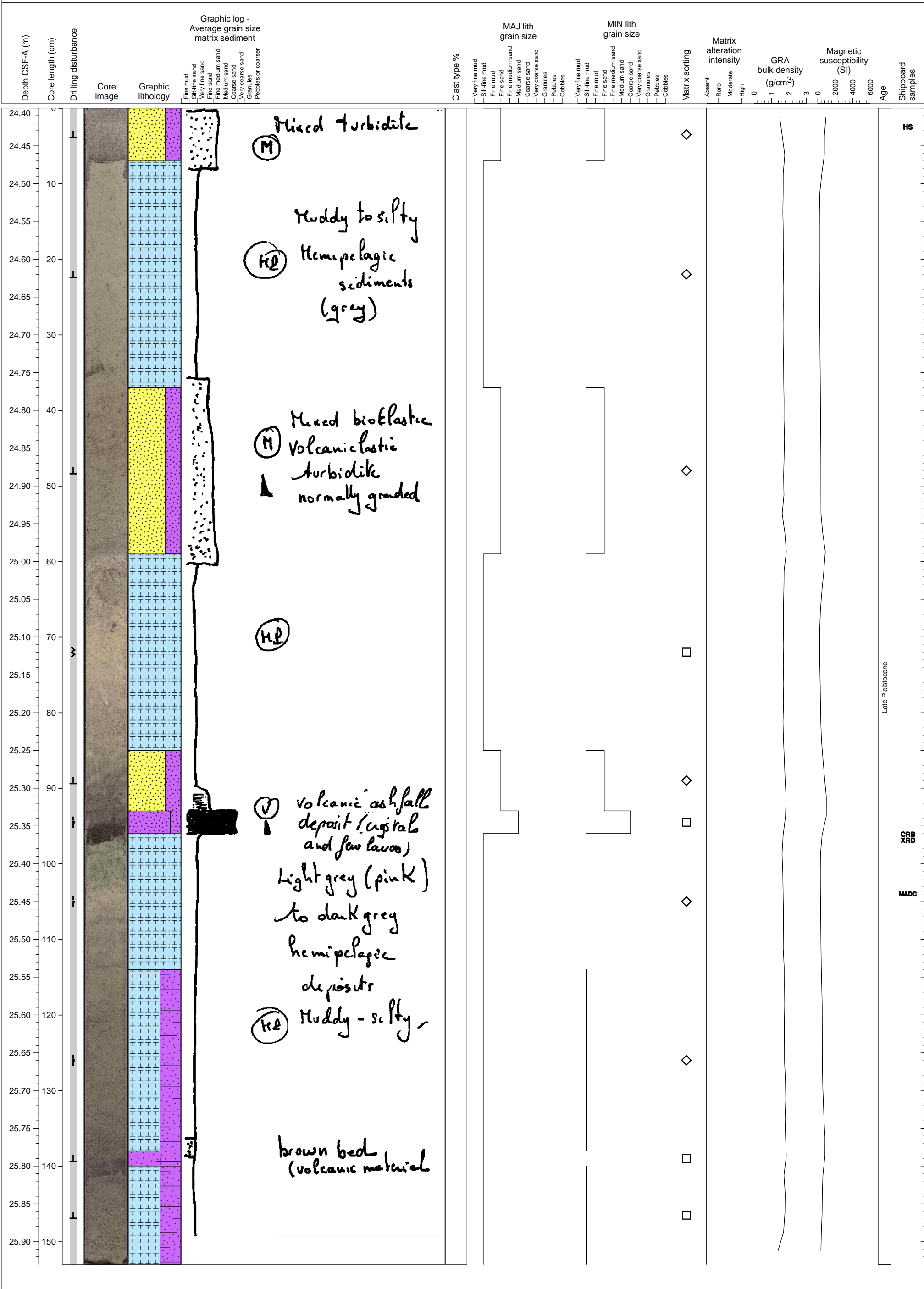
MADC

Late Pleistocene

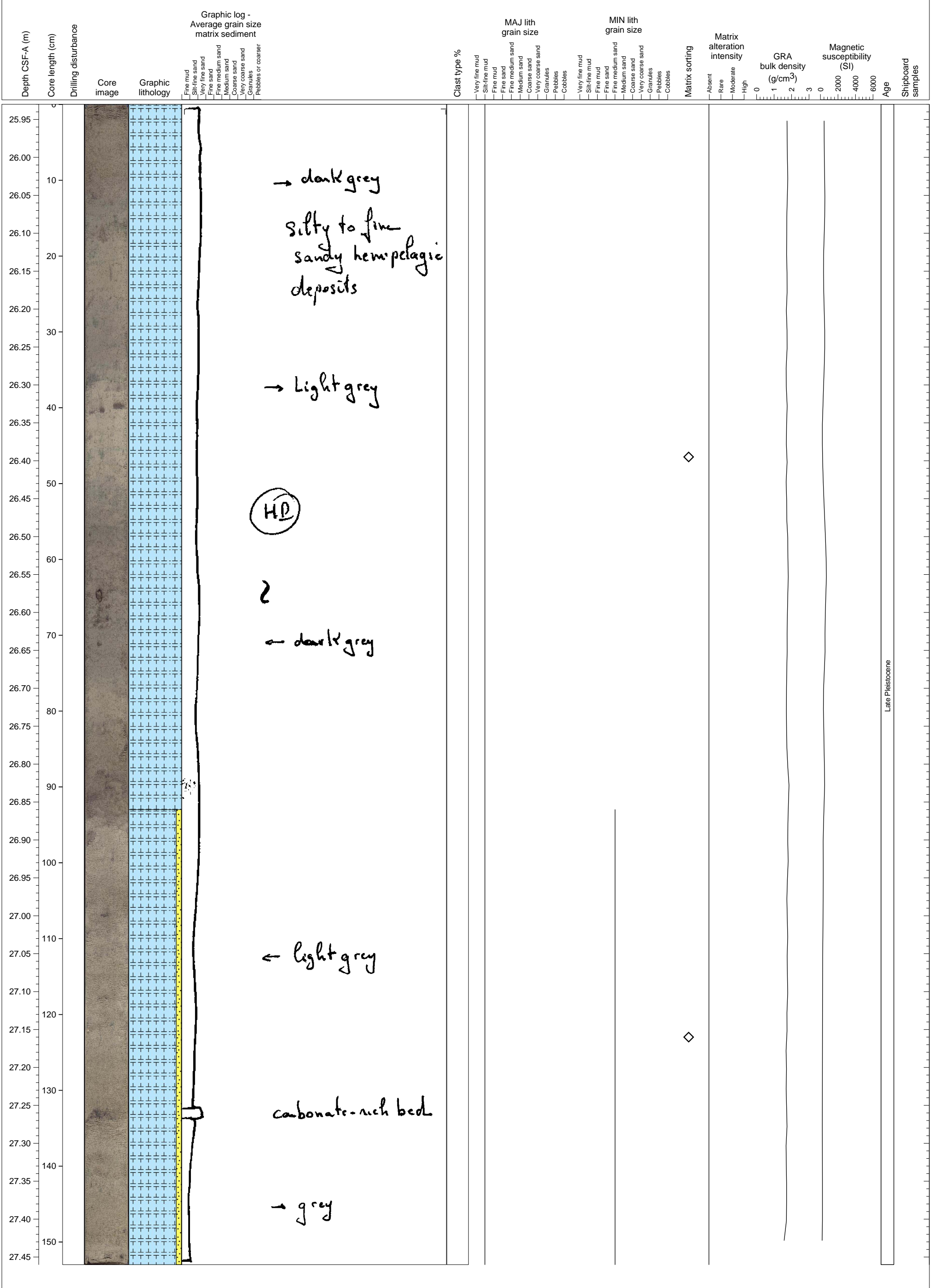
Mainly composed of hemipelagic fine sediments.



Alternation of hemipelagic sediment and mixture of bioclastic and volcanoclastic materials and occasionally intercalated with volcanoclastics.



Hemipelagic sediments.



→ dark grey  
 Silty to fine sandy hemipelagic deposits

→ Light grey

HD

2

← dark grey

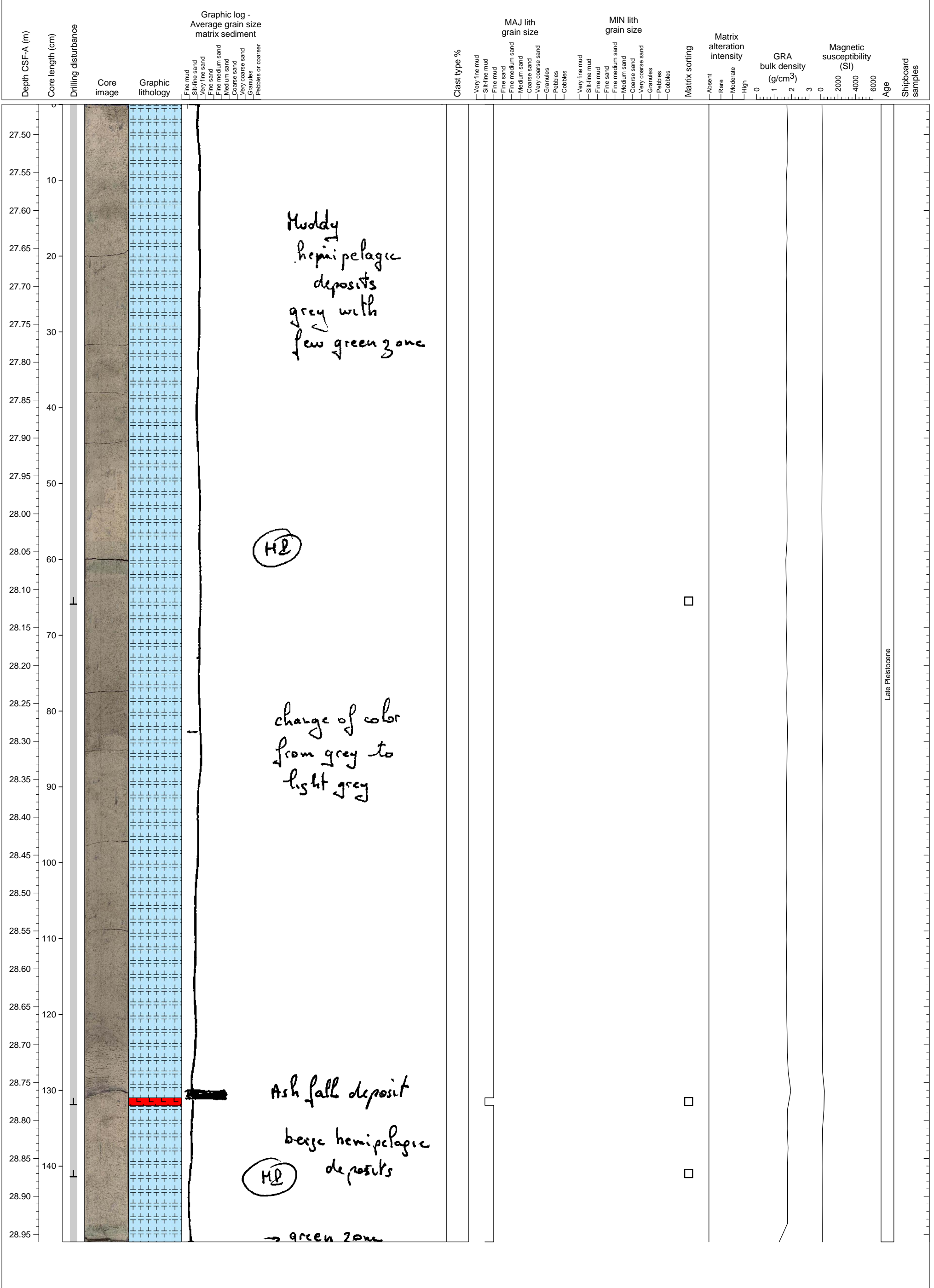
← light grey

carbonate-rich bed

→ grey

Late Pleistocene

Thick hemipelagic sediment with a very thin ash layer.



Muddy hemipelagic deposits grey with few green zone

HP

change of color from grey to light grey

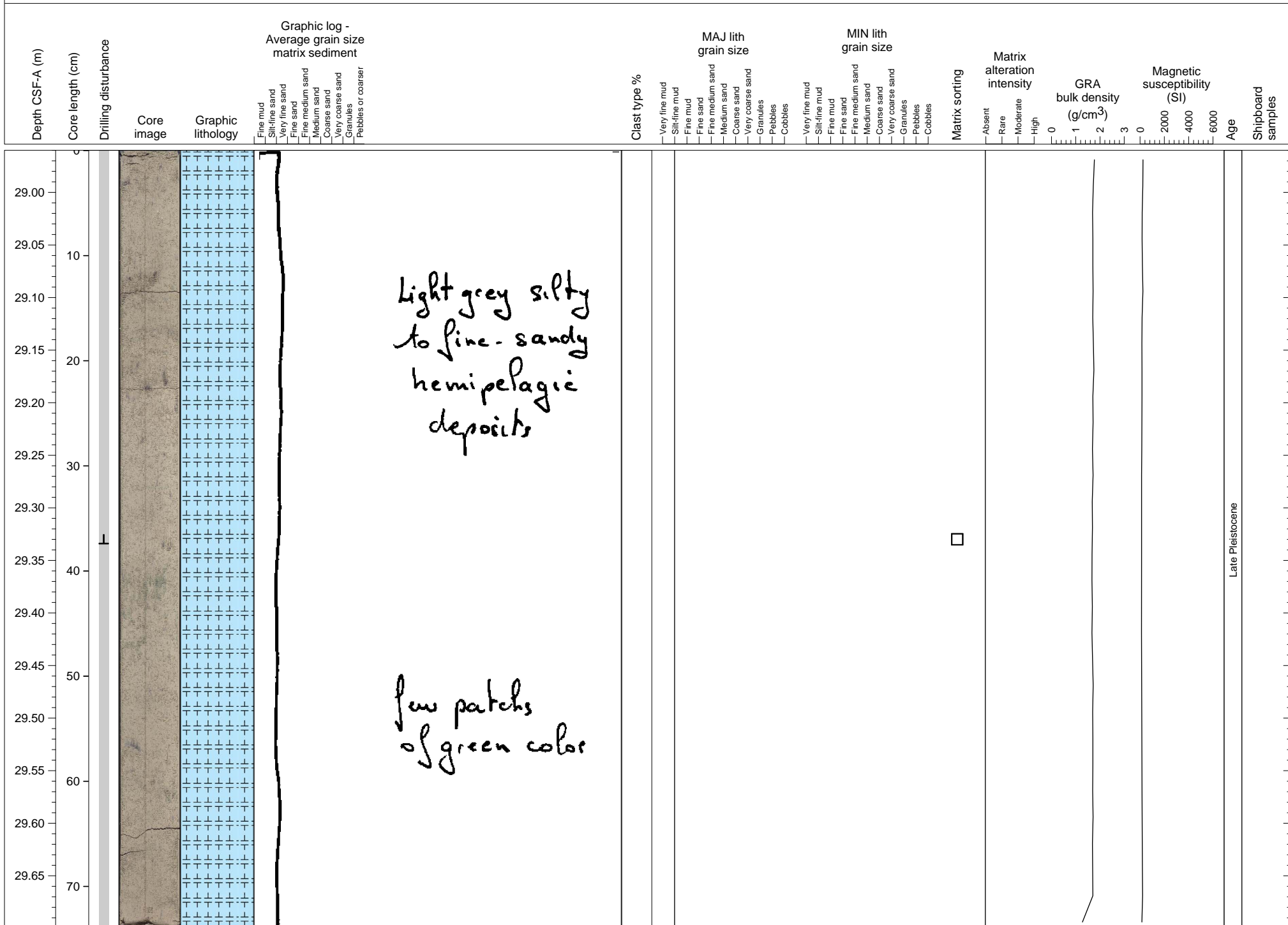
Ash fall deposit  
base hemipelagic deposits

HP

→ green zone

Late Pleistocene

Hemipelagic sediment.



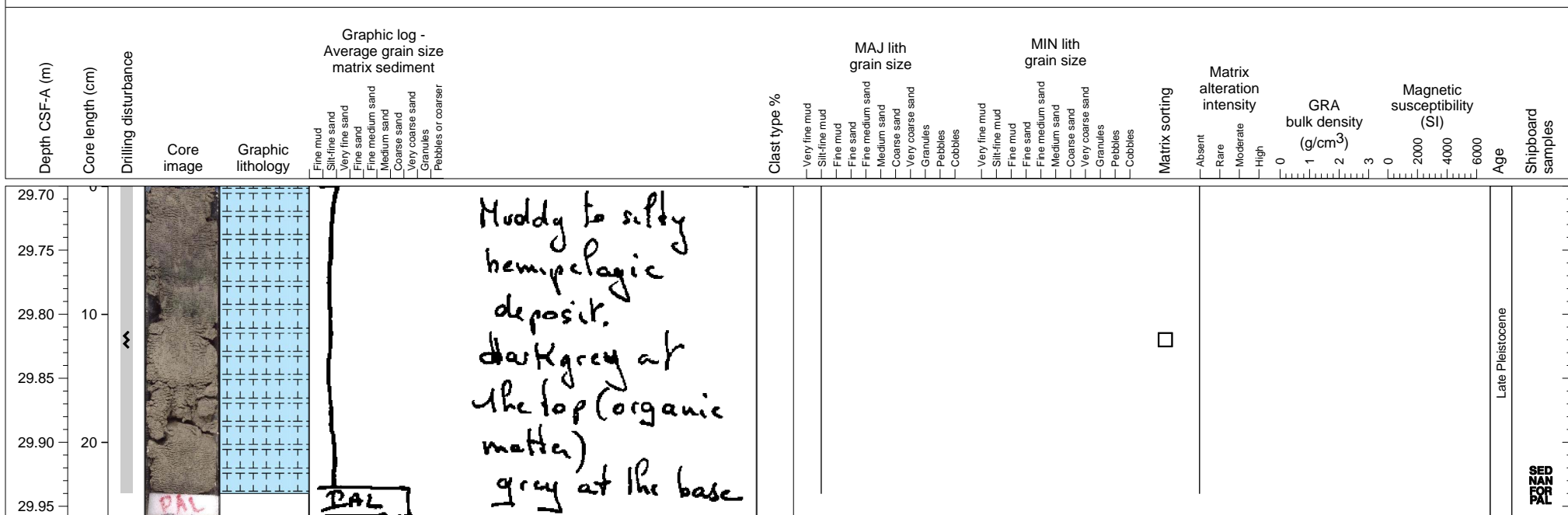
Light grey silty to fine-sandy hemipelagic deposits

few patches of green color

Late Pleistocene



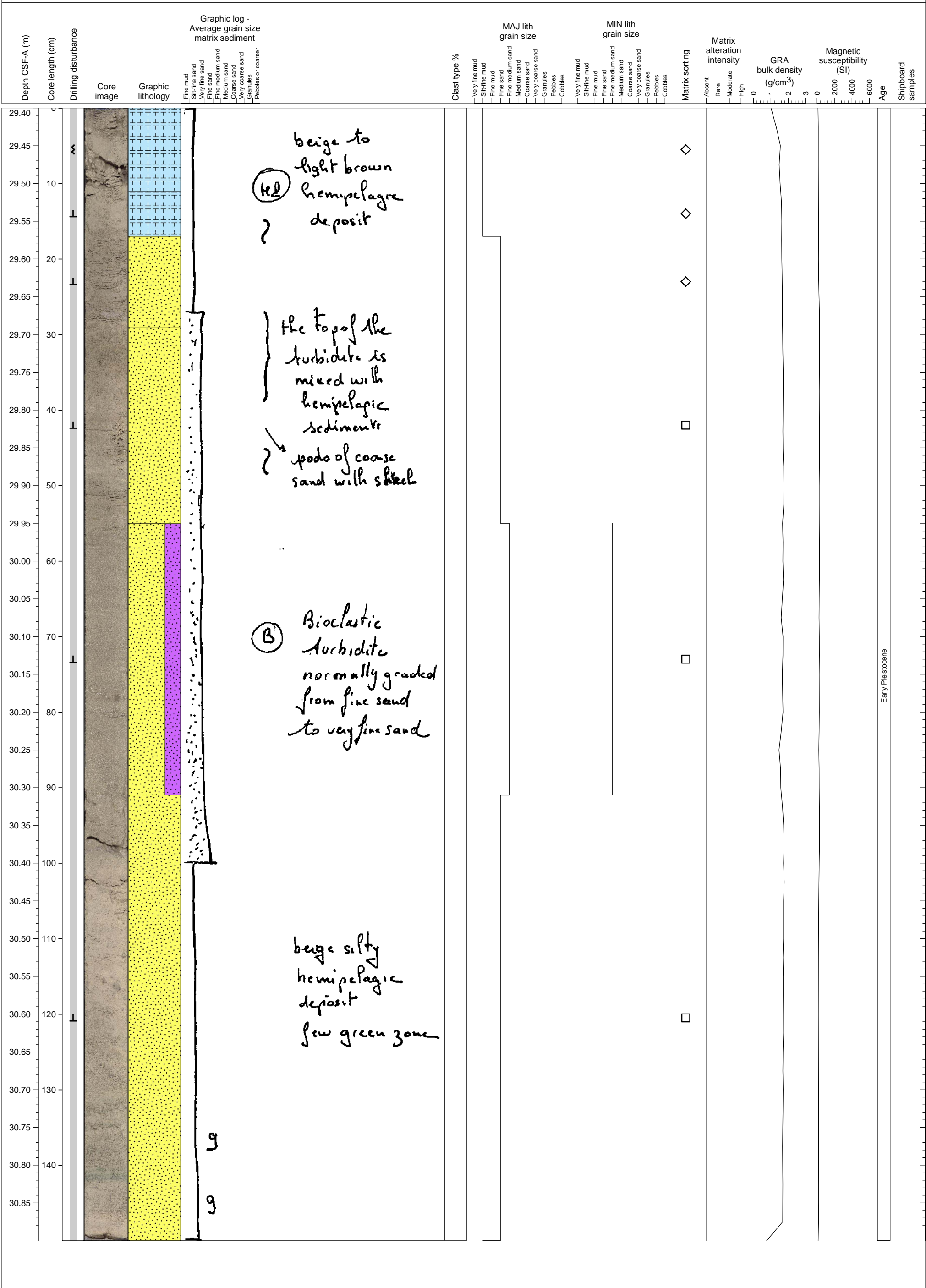
Hemipelagic sediment.



Late Pleistocene

SED NAN FOR PAL

Predominantly hemipelagic sediments, some fine sand, with a mixed carbonate-volcaniclastic turbidite.



beige to light brown hemipelagic deposit

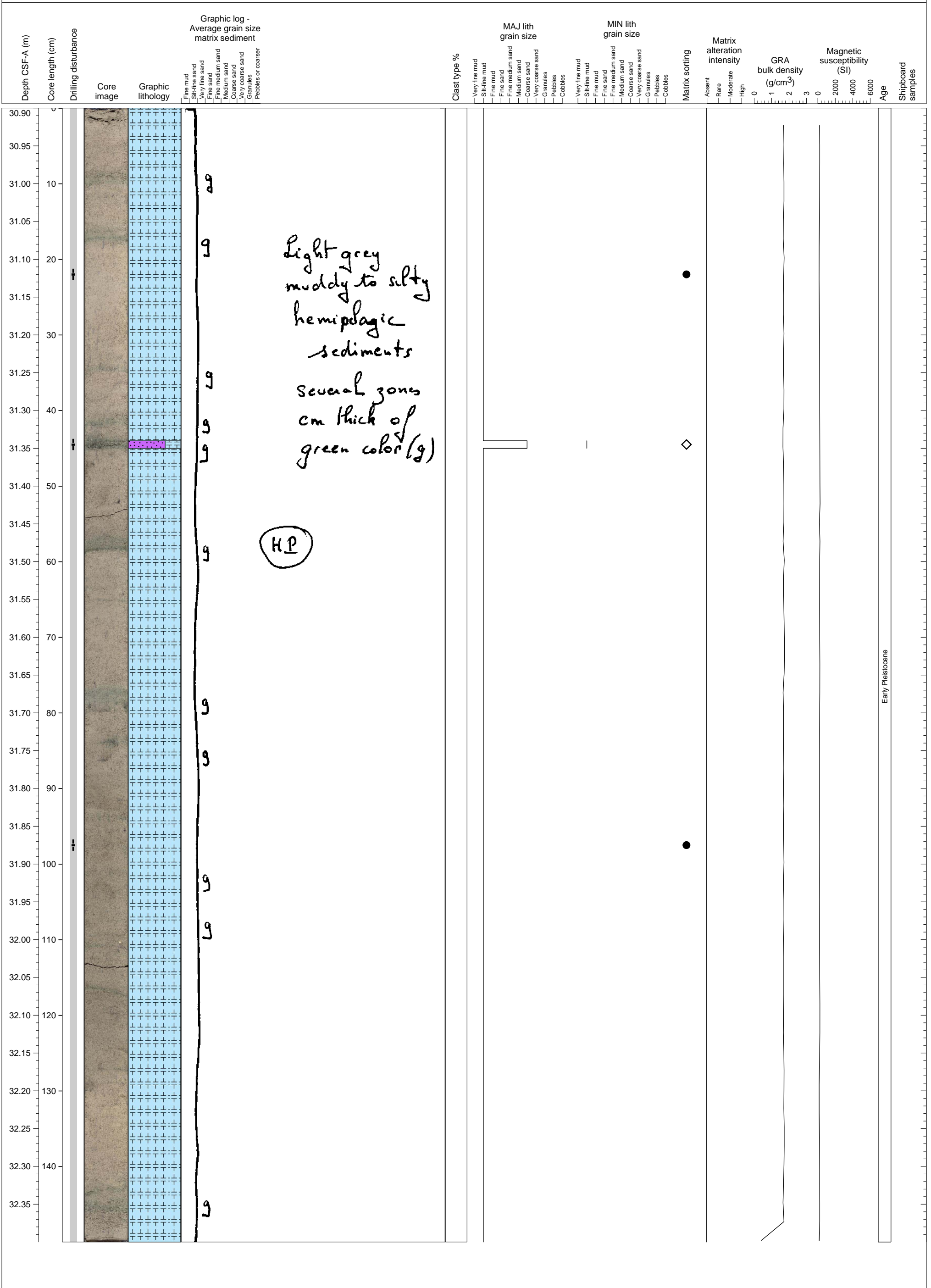
the top of the turbidite is mixed with hemipelagic sediments  
spots of coarse sand with shell

Bioclastic turbidite normally graded from fine sand to very fine sand

beige silty hemipelagic deposit few green zones

Early Pleistocene

Silty-muddy hemipelagic sediments with greenish colored bands, and with a potential tephra layer.

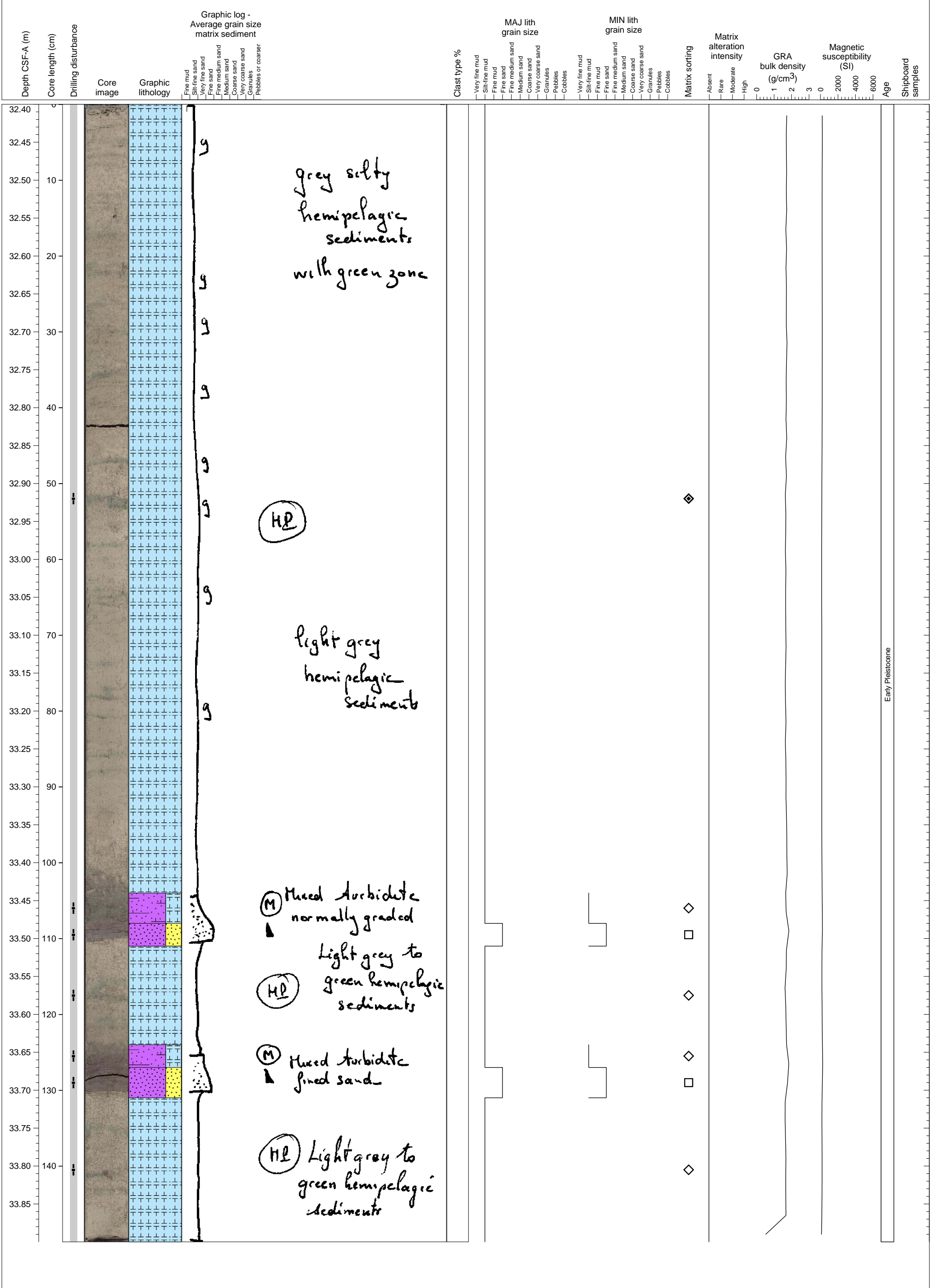


Light grey  
muddy to silty  
hemipelagic  
sediments  
several zones  
cm thick of  
green color (g)

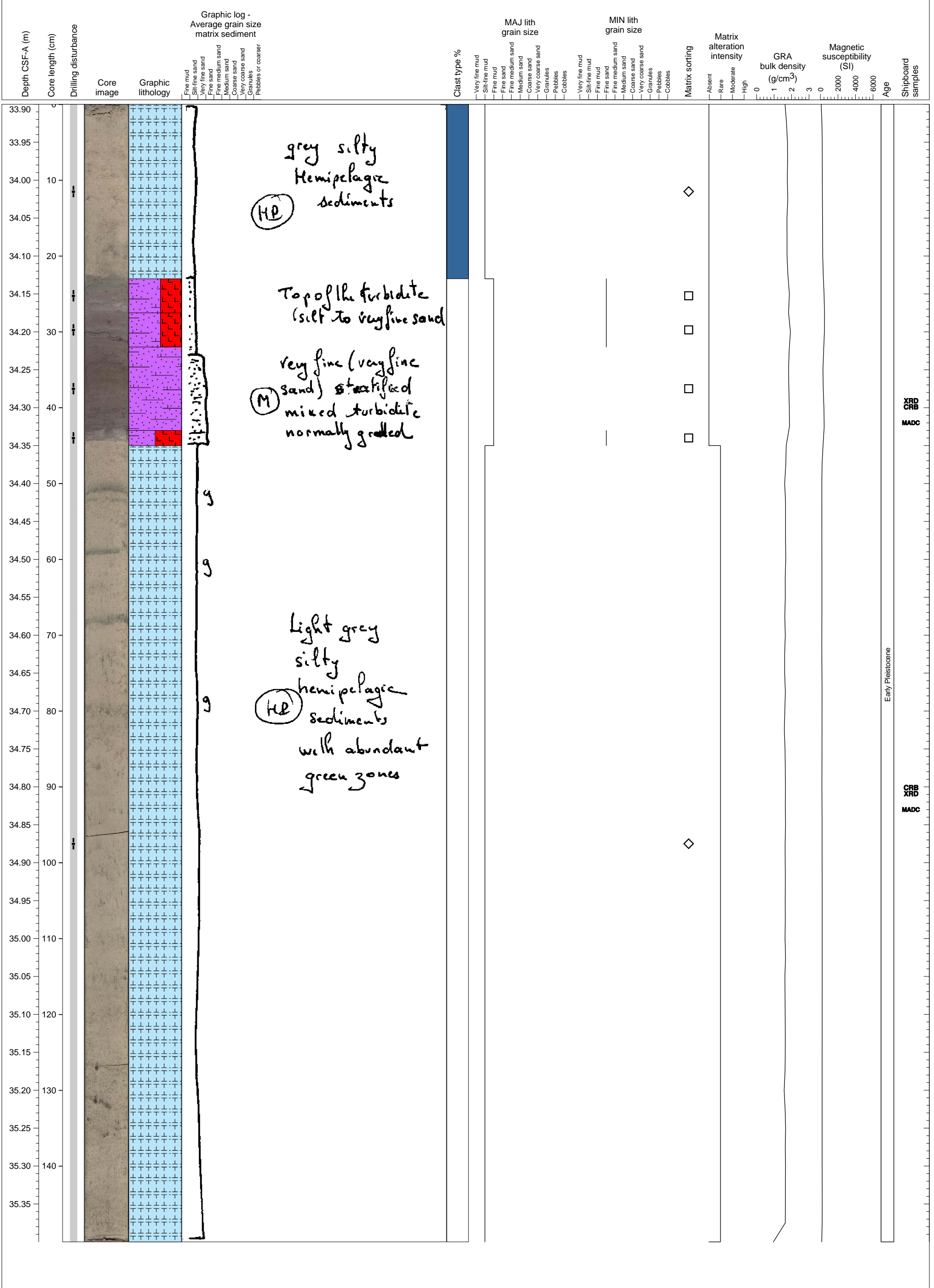
HP

Early Pleistocene

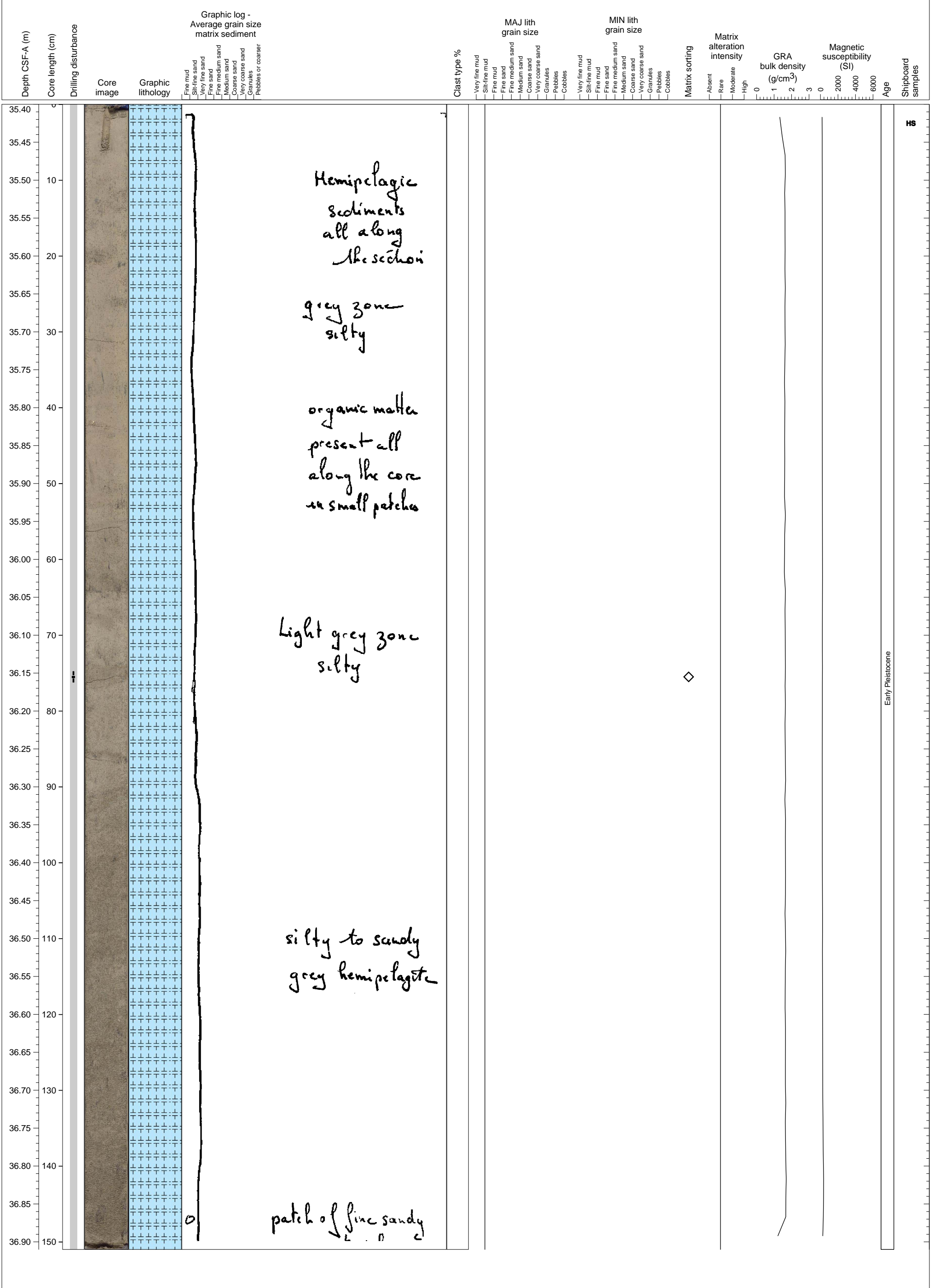
Hemipelagic sediments with thin layers of mixed bioclastic and volcanoclastic turbidites.



Hemipelagic sediment, one mixed turbidite.



Pale yellowish gray colored hemipelagic carbonate ooze with disperse greenish layers, tiny black organic clasts and sandy patches. Clast content is less than 0.5 %.



Hemipelagic sediments all along the section

grey zone silty

organic matter present all along the core in small patches

Light grey zone silty

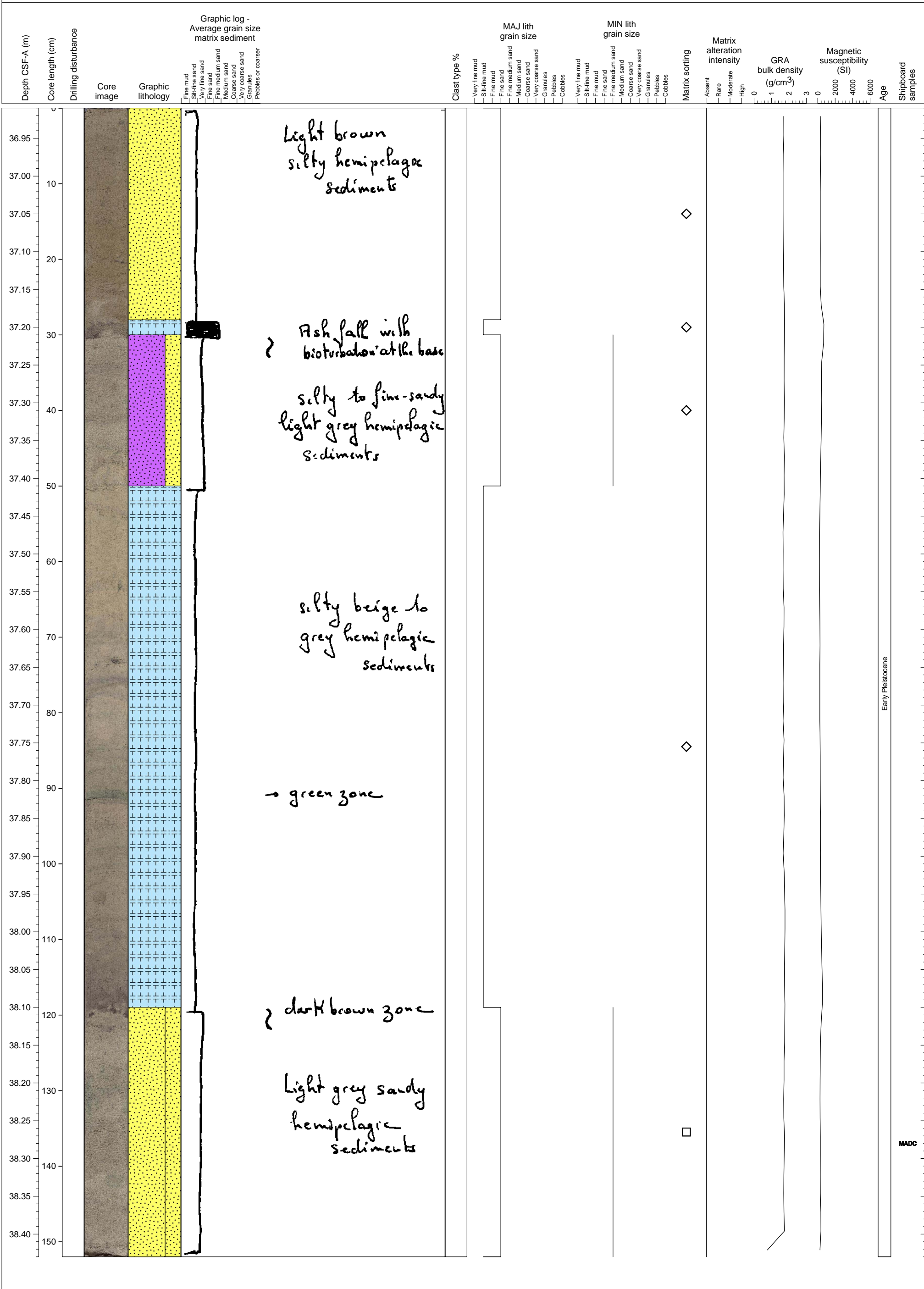
silty to sandy grey hemipelagite

patch of fine sandy

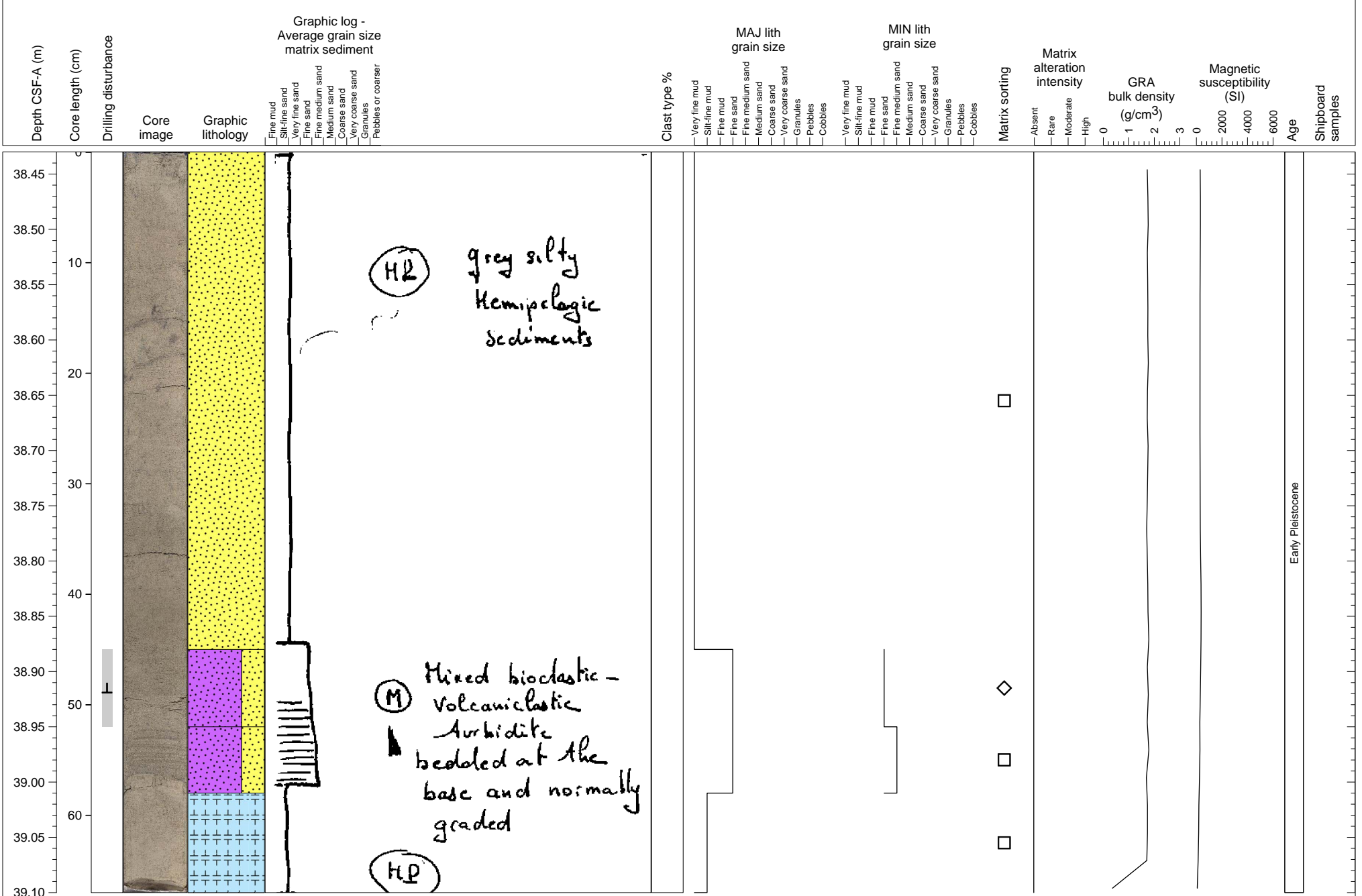
Early Pleistocene

HS

Hemipelagic sediments with one ashfall layer intercalation.

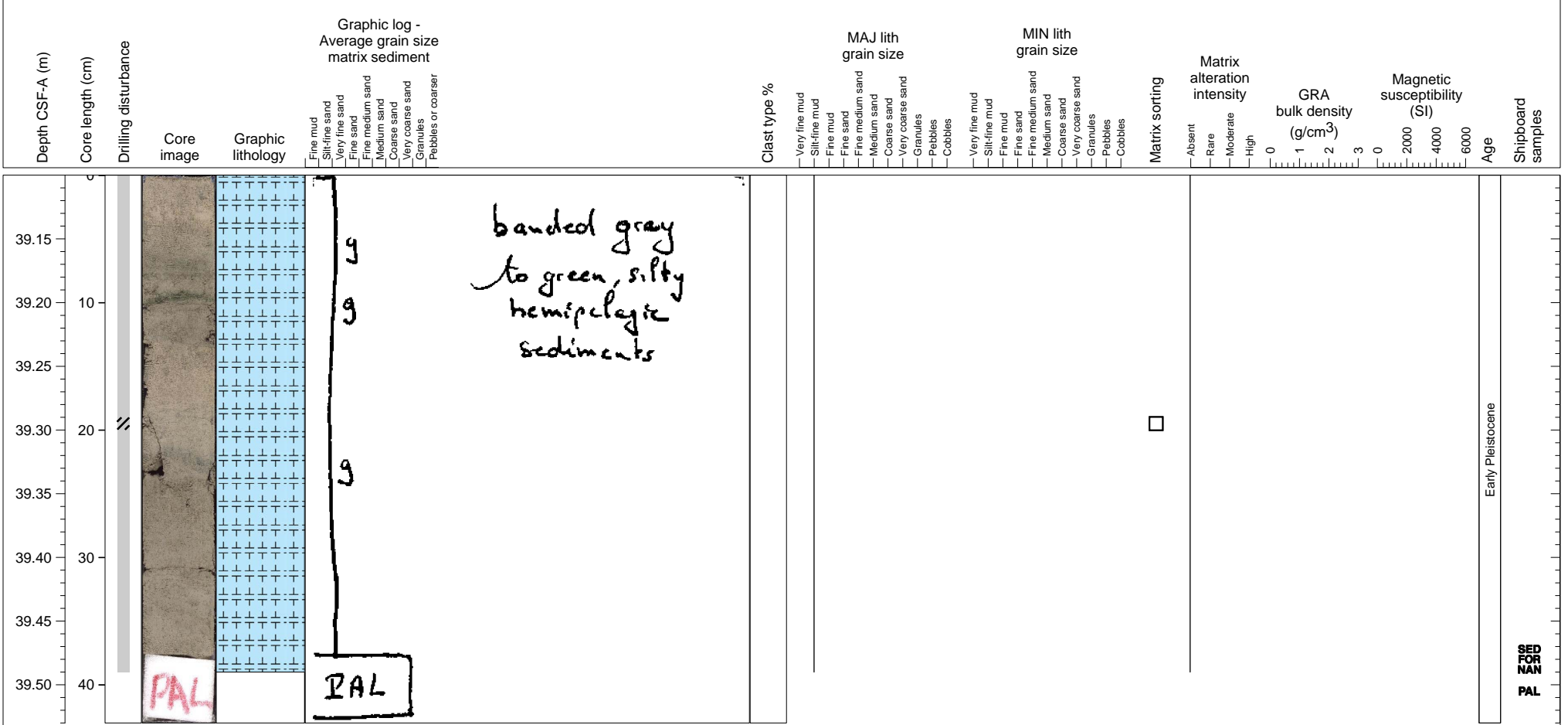


Hemipelagic sediment with a thinly bedded, normally graded sandy turbidite.

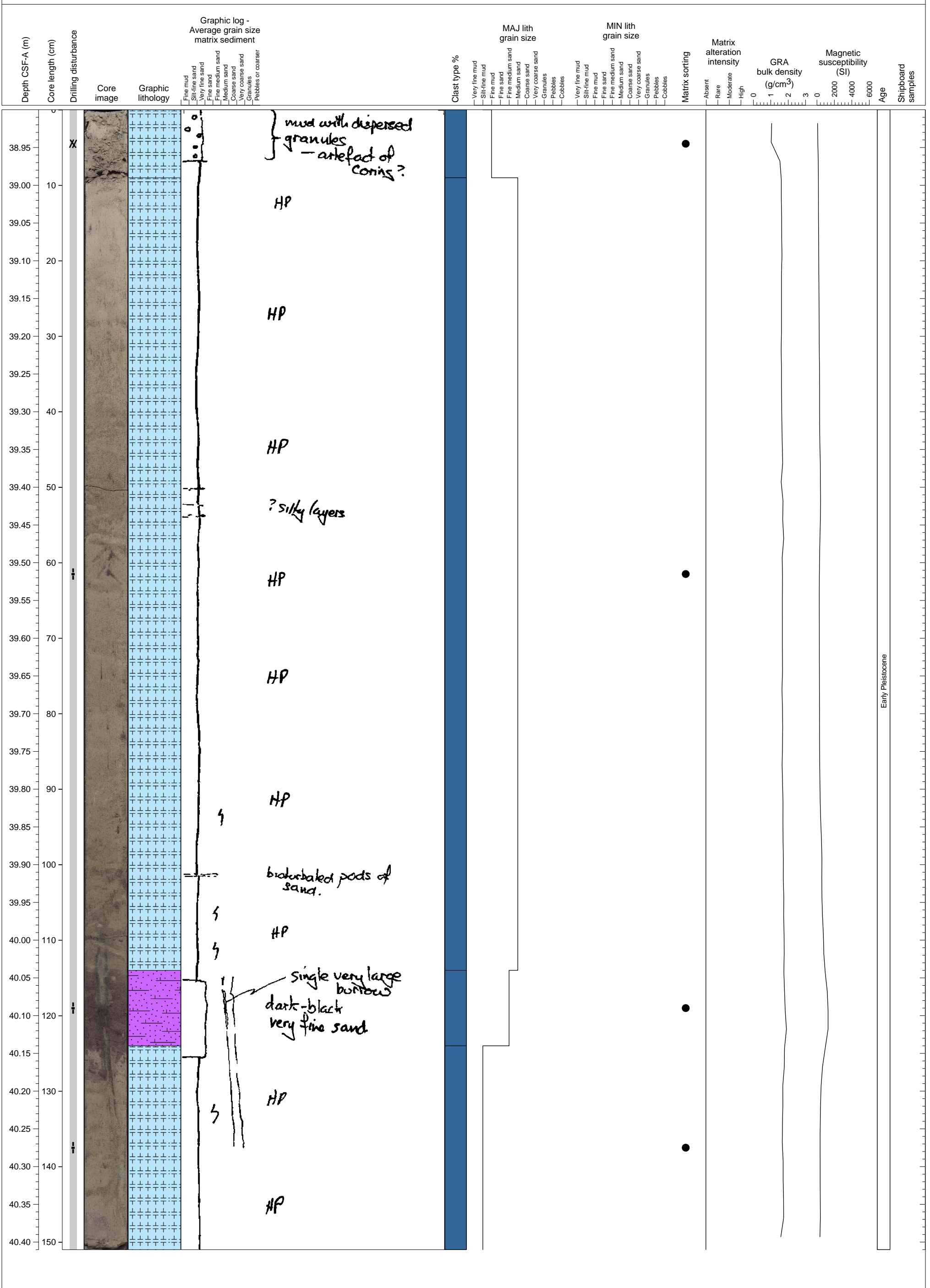




Hemipelagic sediment.

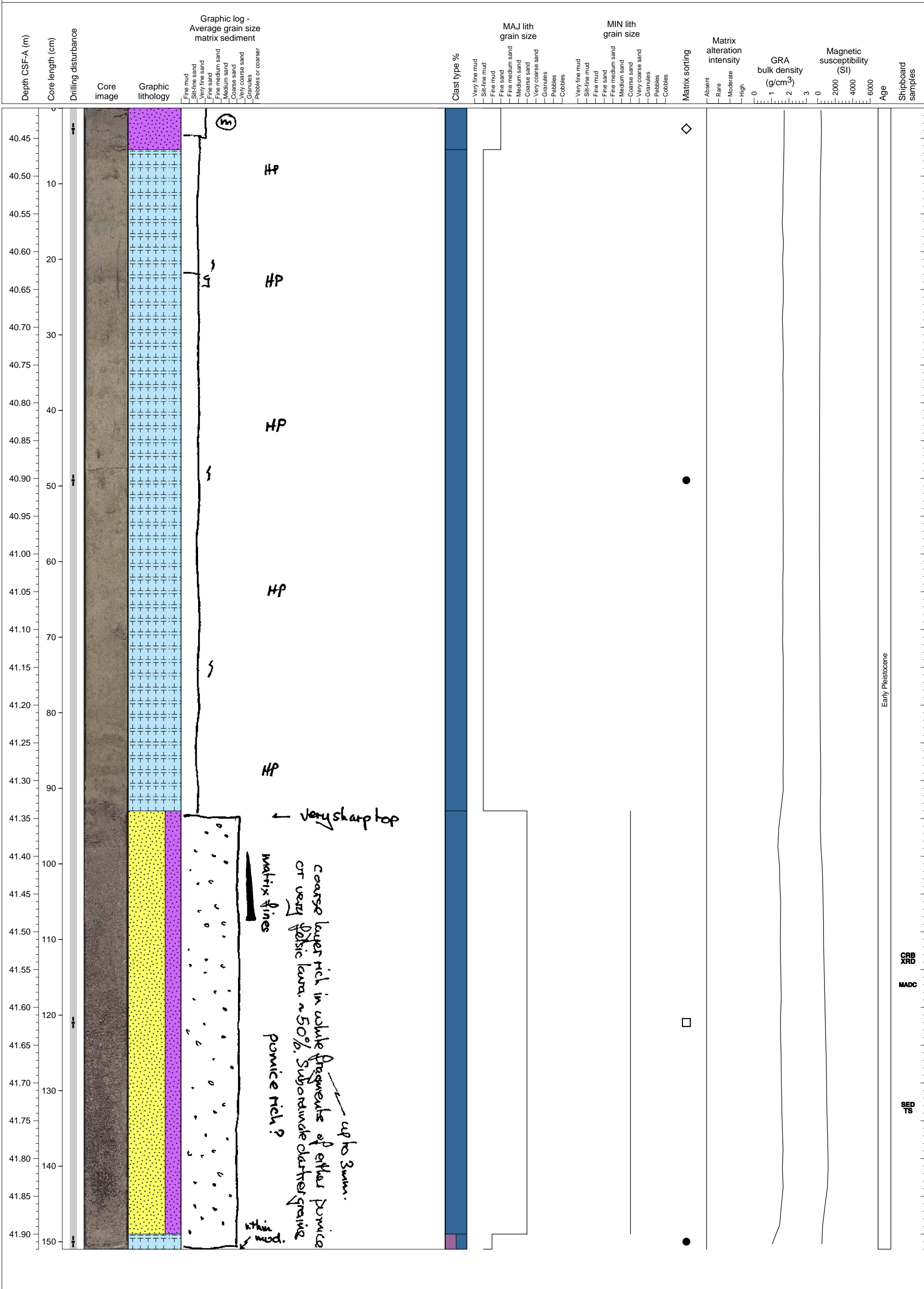


Alternating layers of hemipelagic clay and volcanoclastic mud. Significant bioturbation is present.

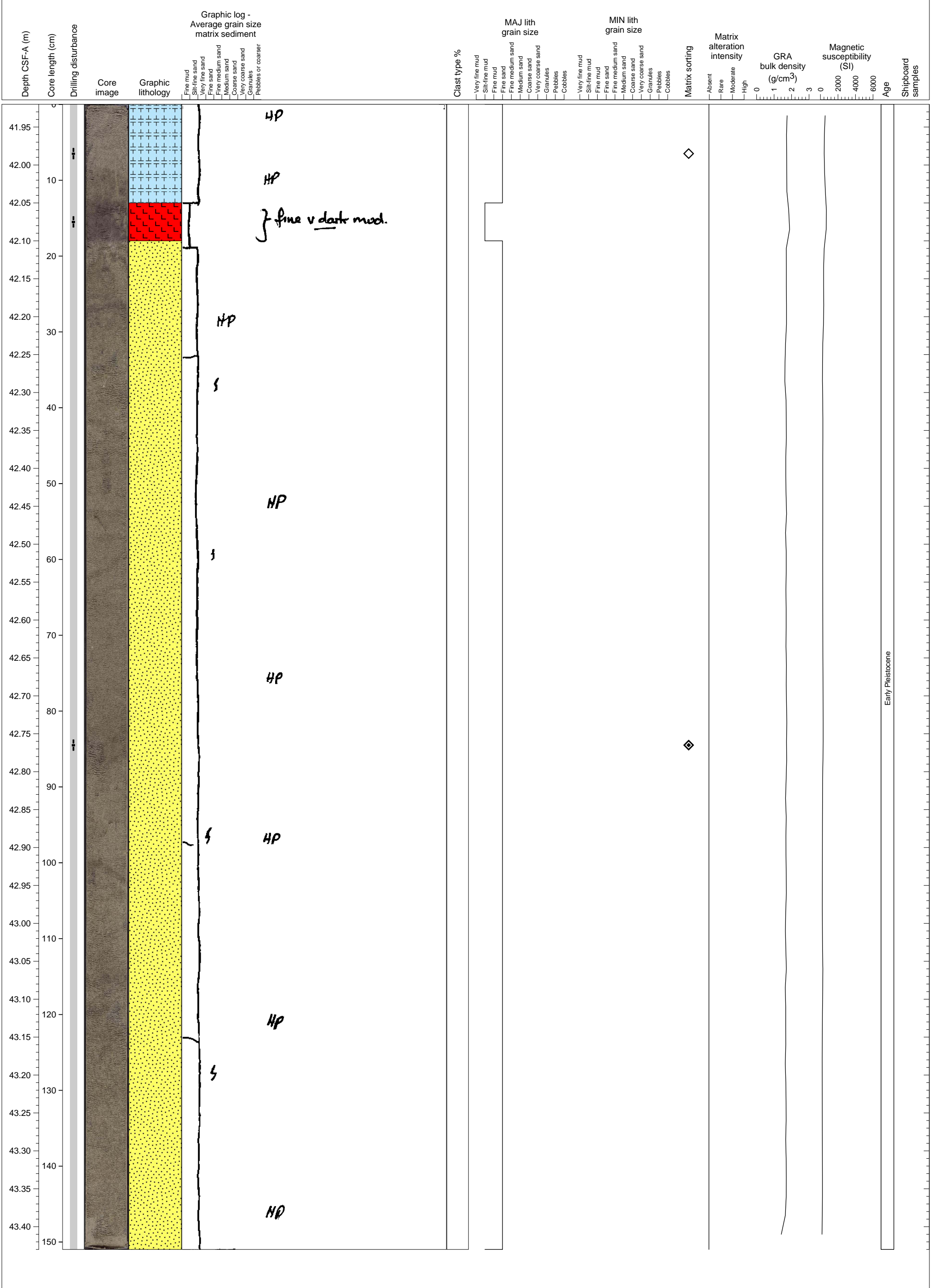


Early Pleistocene

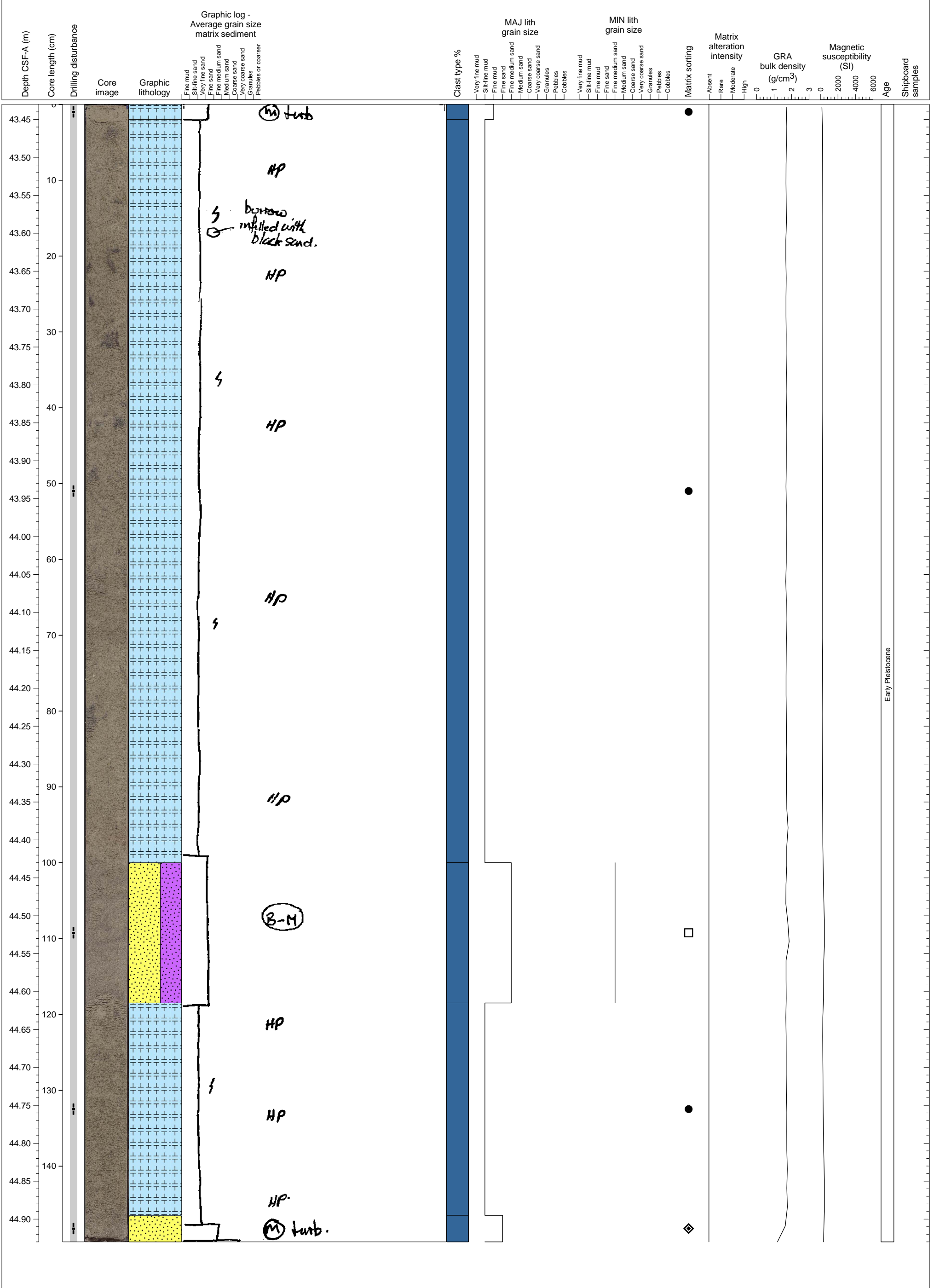
Alternating layers of hemipelagic clay and volcanoclastic/bioclastic sand.



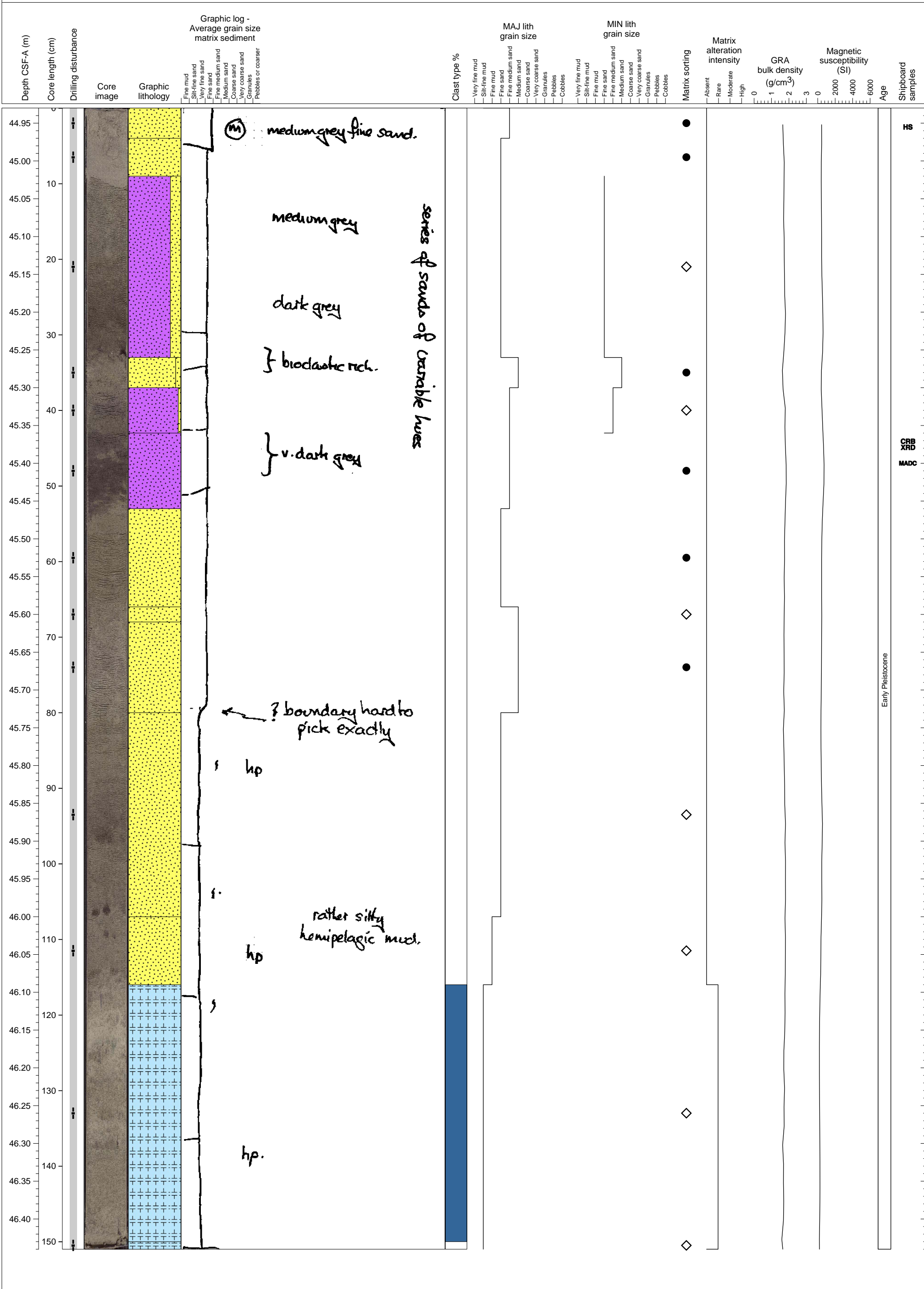
This is mostly hemipelagic calcareous fine sand, which contains shell fragments. In the upper part of the section from 13 to 18 cm, well sorted silt-fine mud gray layer appears, which could be an ash layer.



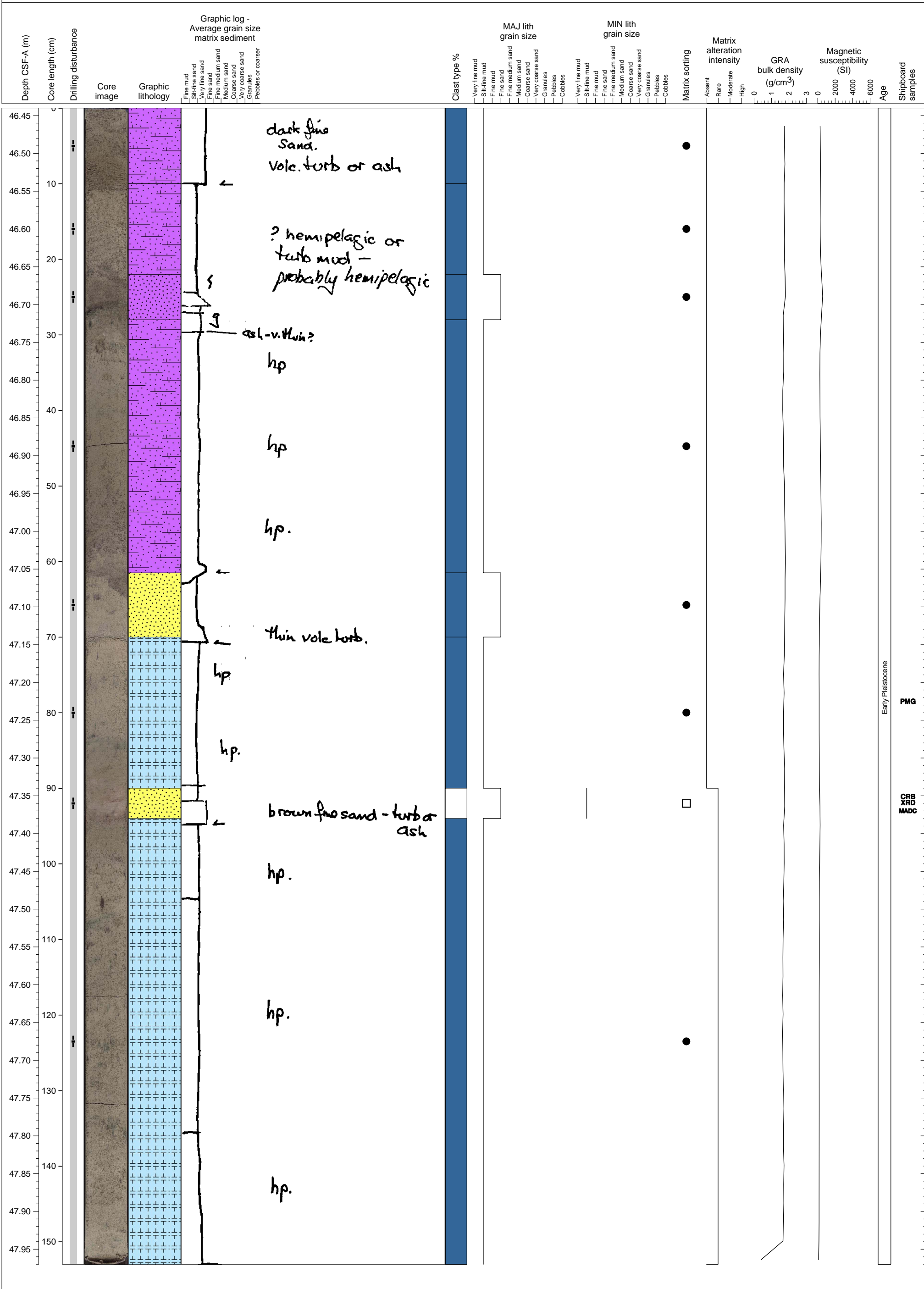
Interlayered hemipelagic clay and bioclastic/volcaniclastic sand layers.



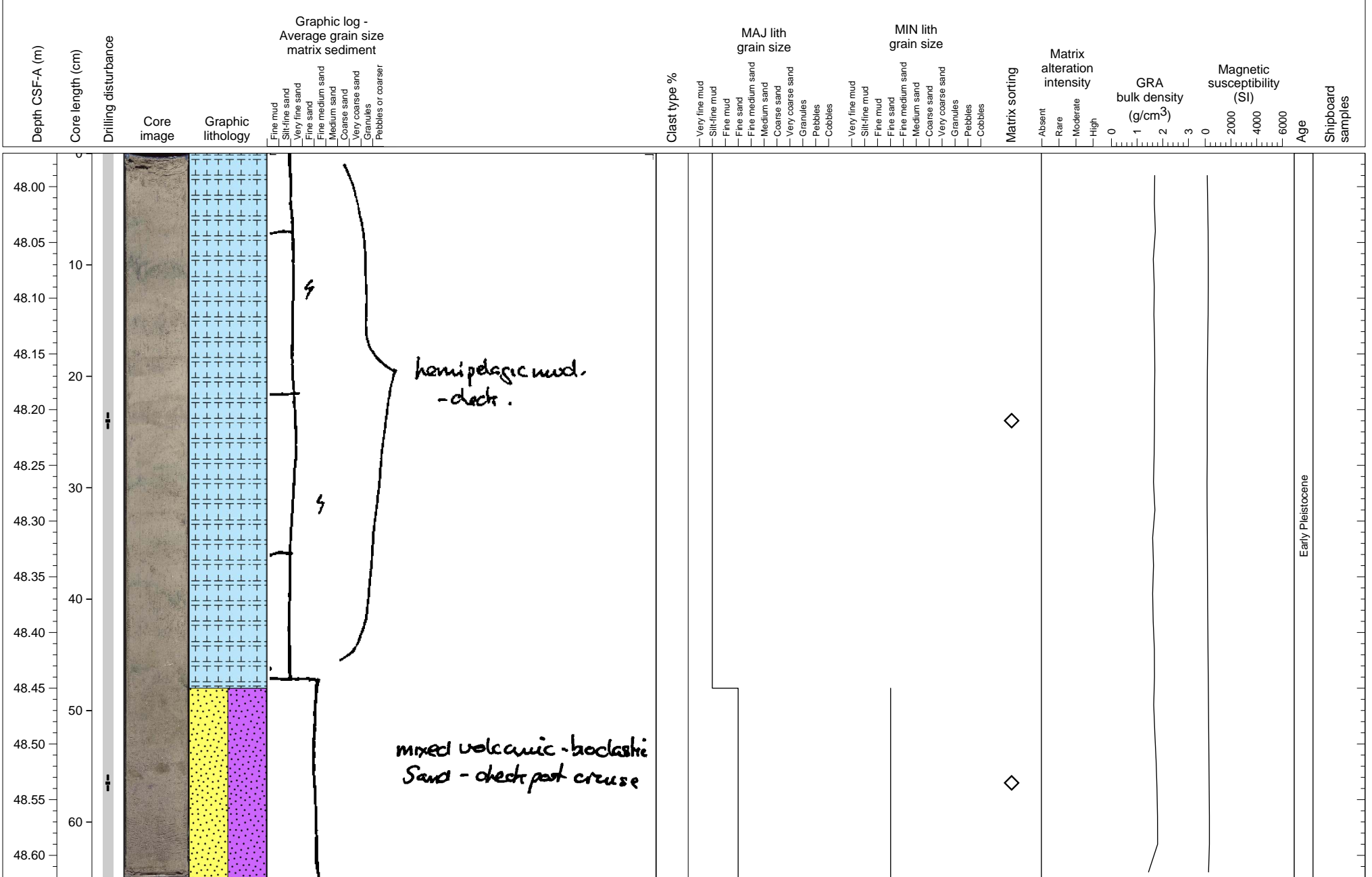
Upper part is stacked sand, lower part hemipelagite.



Interlayered hemipelagic clay and bioclastic sand units overtopped with fining upward volcaniclastic sand to mud layers.

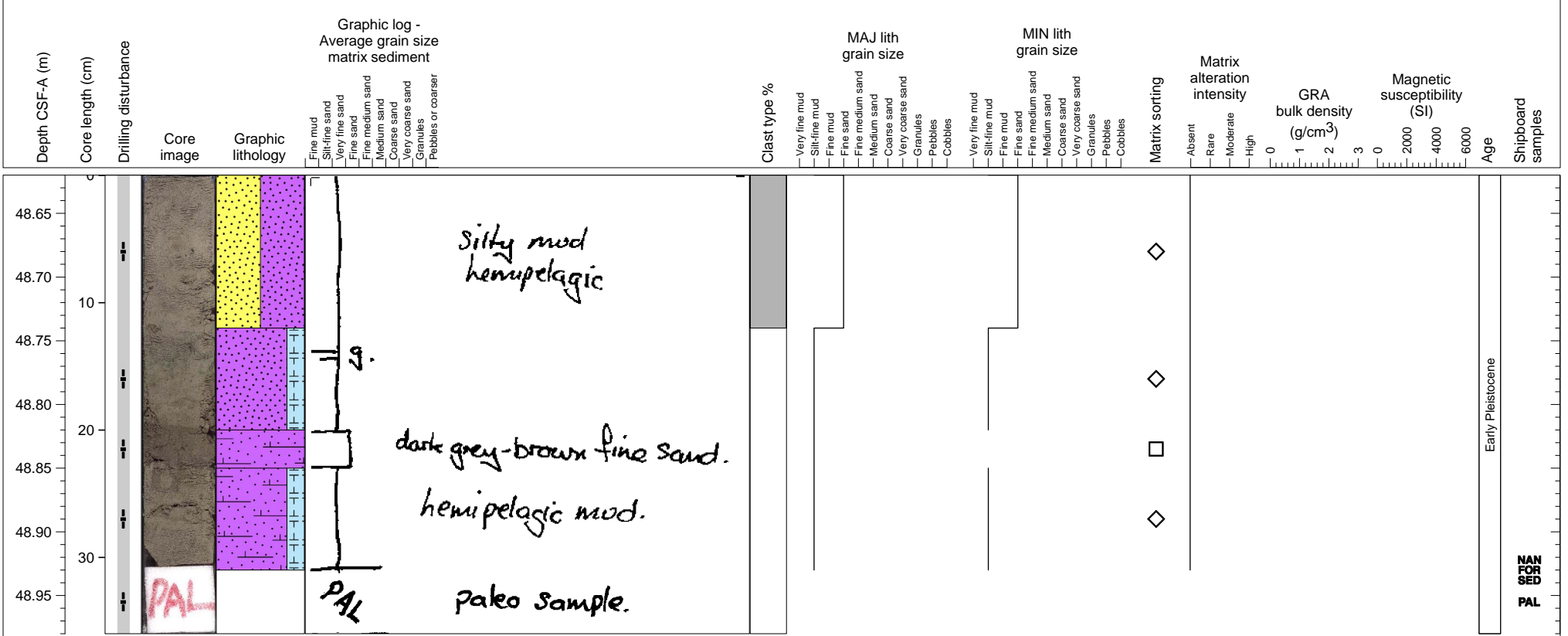


Turbidite layer is overlain by hemipelagic calcareous ooze. The turbidite continues to 6HCC. Hemipelagic sediment have several colored diffuse layers, which might represent thin ash layers.

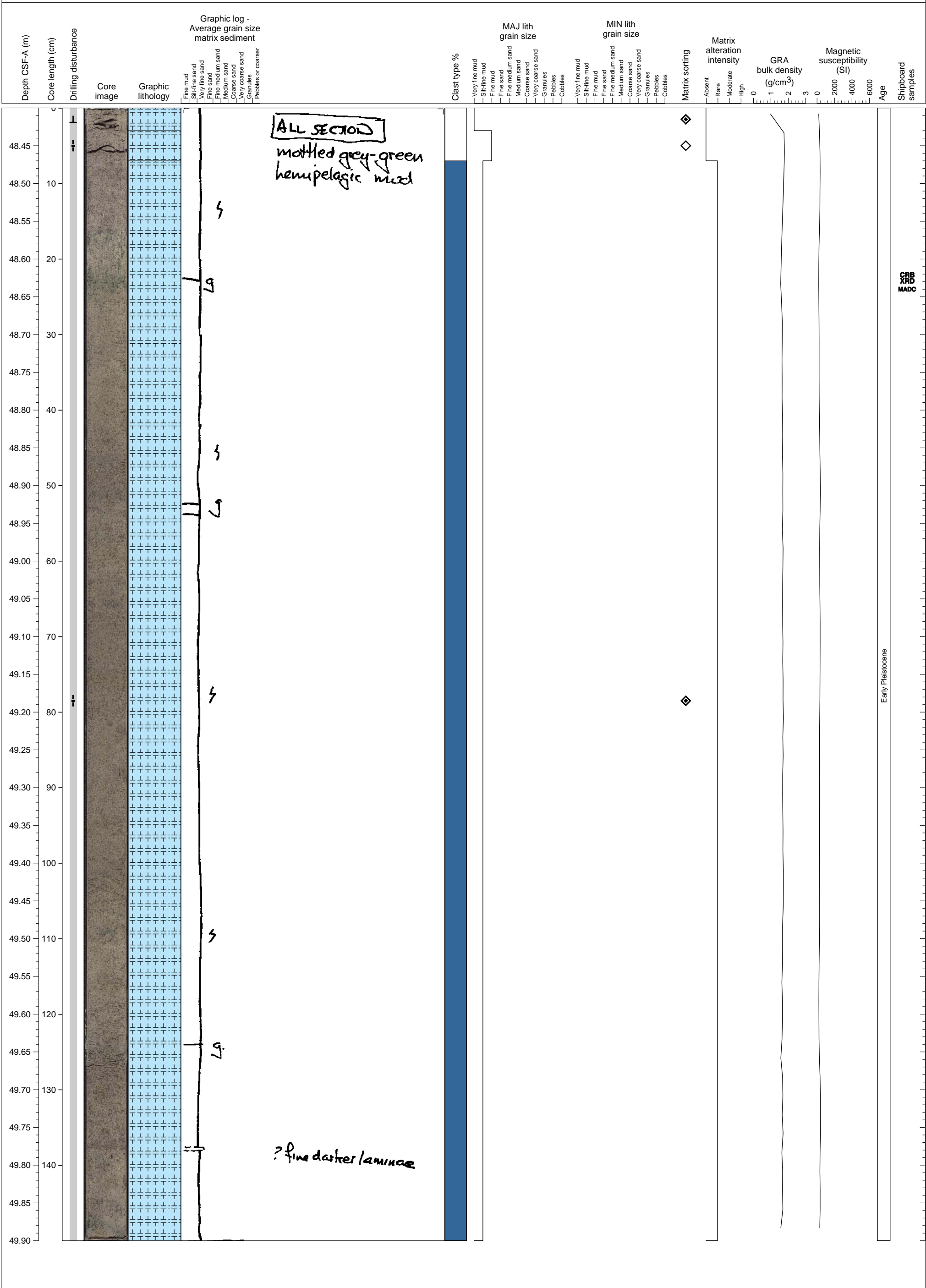




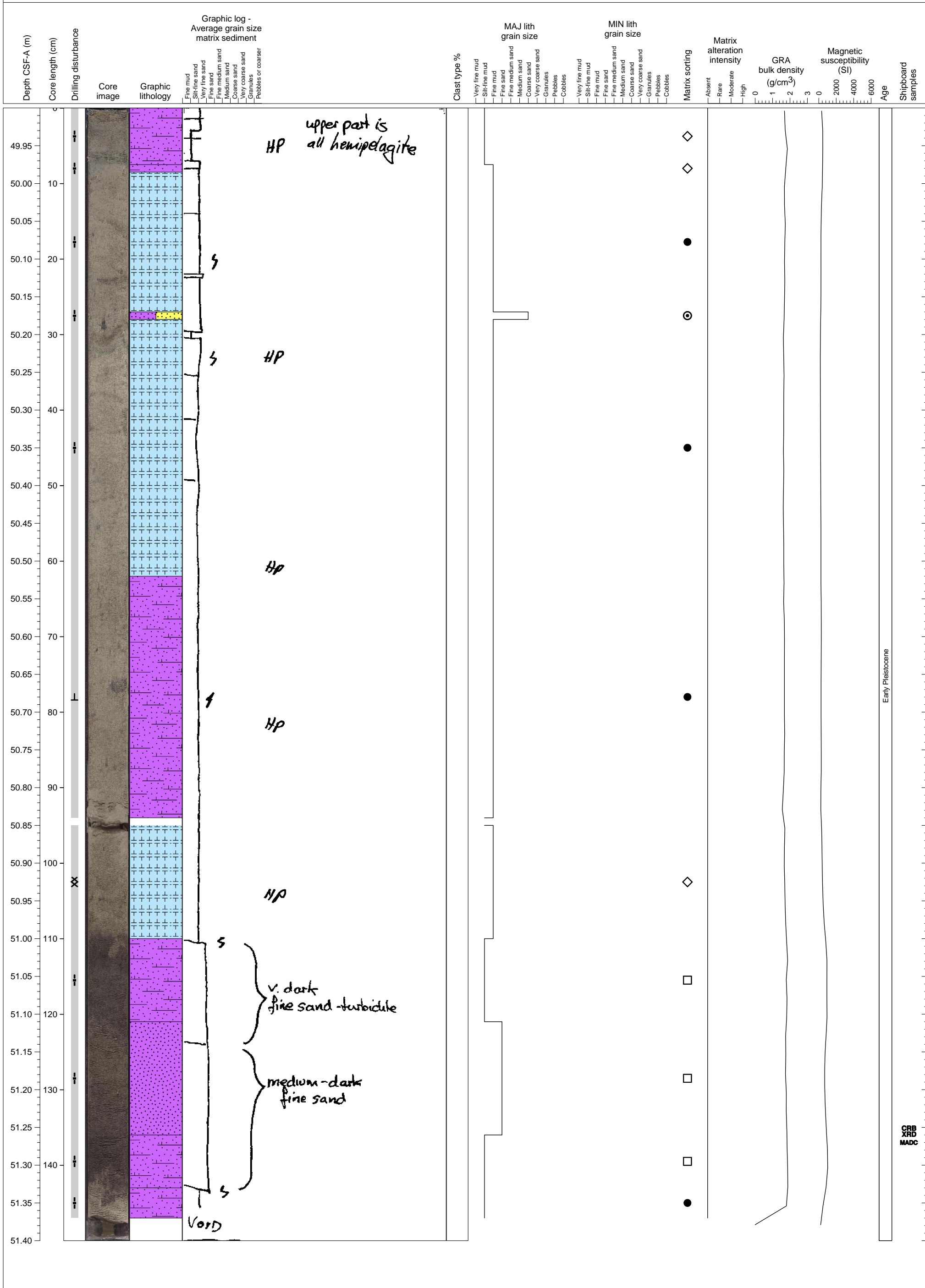
Upper part is the base of turbidite, which continues from the upper section 6H7. Below the turbidite, there are volcanic mud and ash layers, which may suggest that turbidites (landslide?) has happened after the eruption and deposition of ash layer.



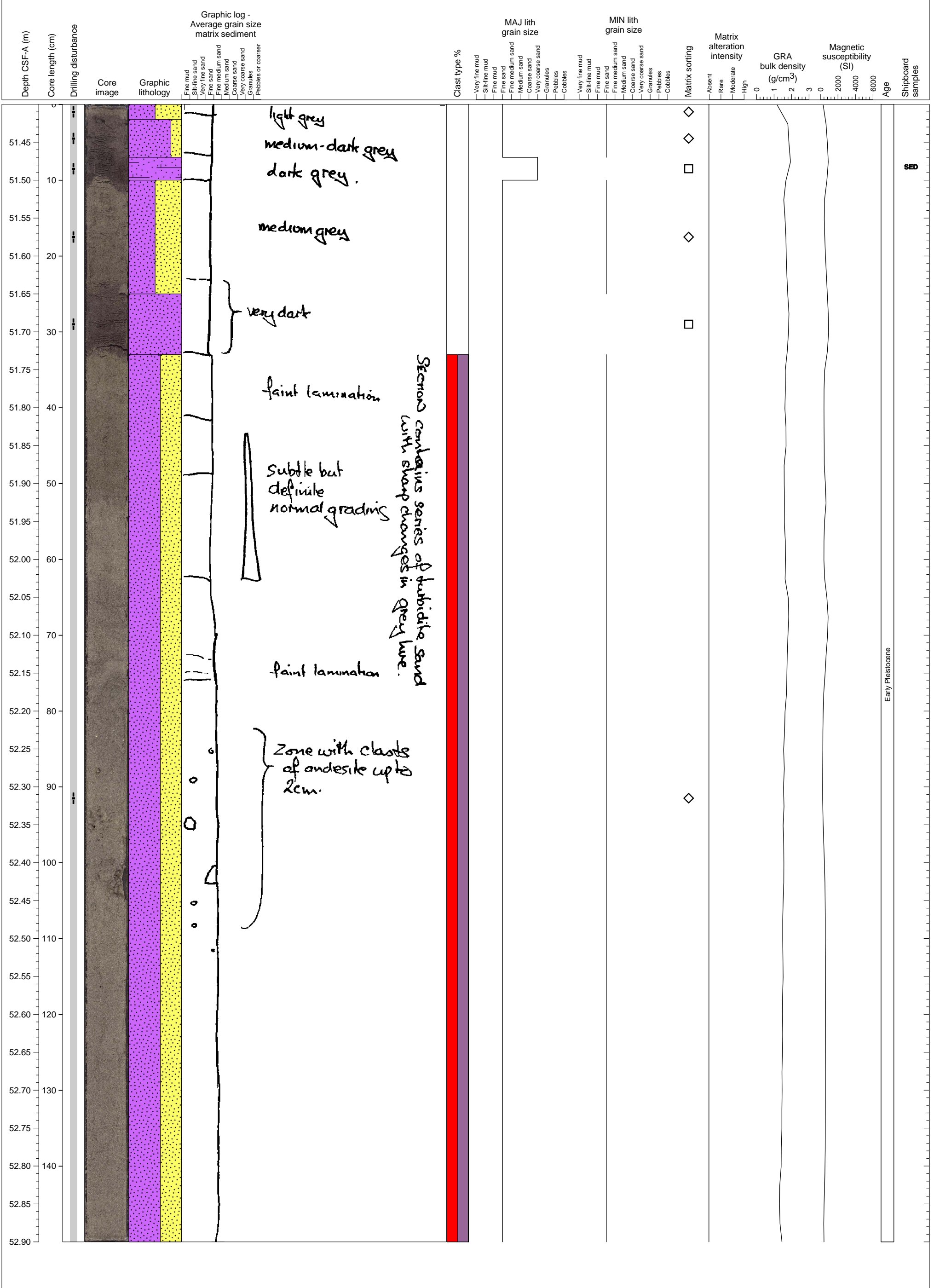
Homogeneous hemipelagic carbonate ooze with minor amount of biogenic clasts. Thin greenish layers are interbedded at 22 cm and 125 cm.



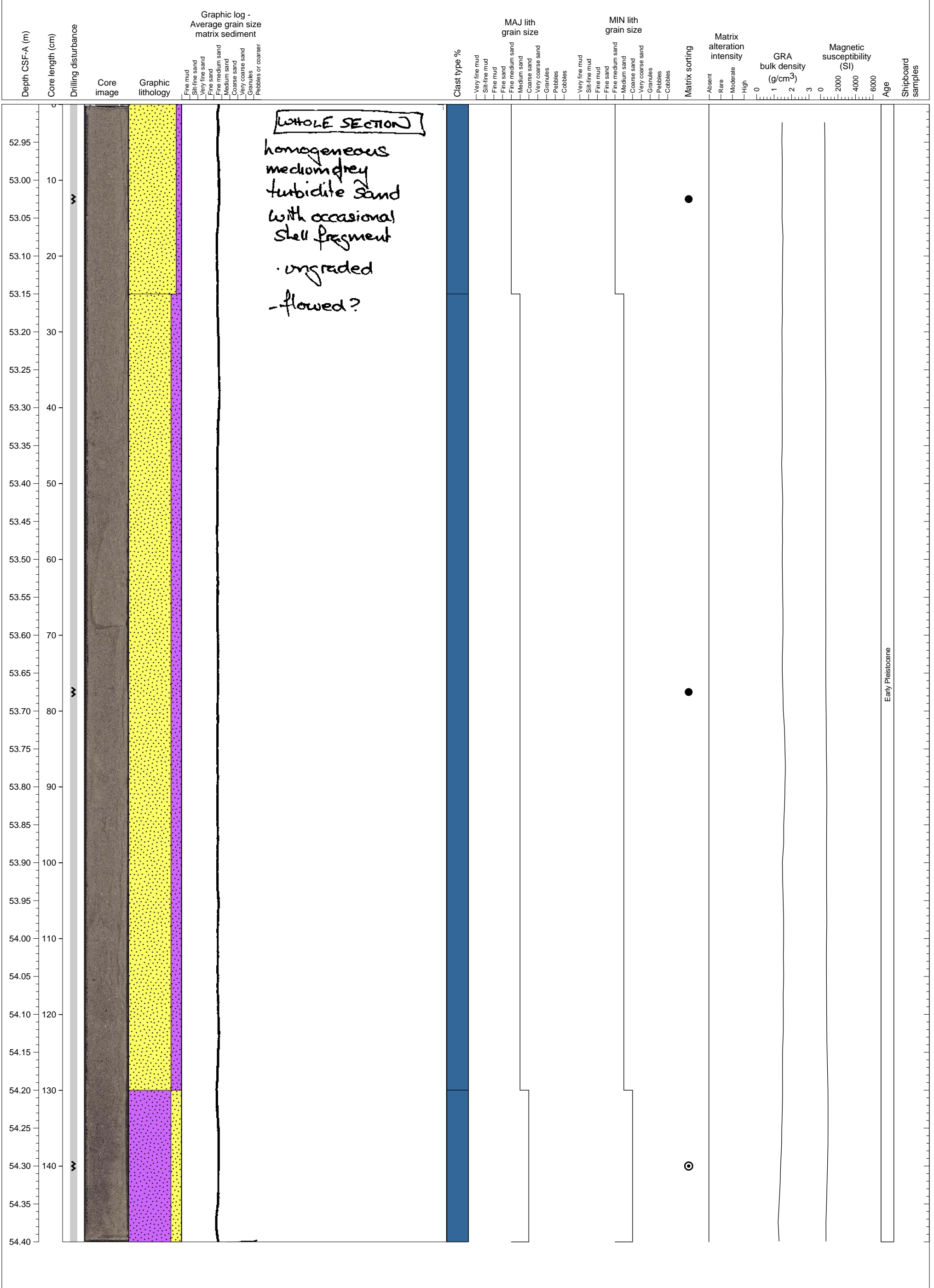
Carbonate ooze and interlayered dark gray colored turbidites.



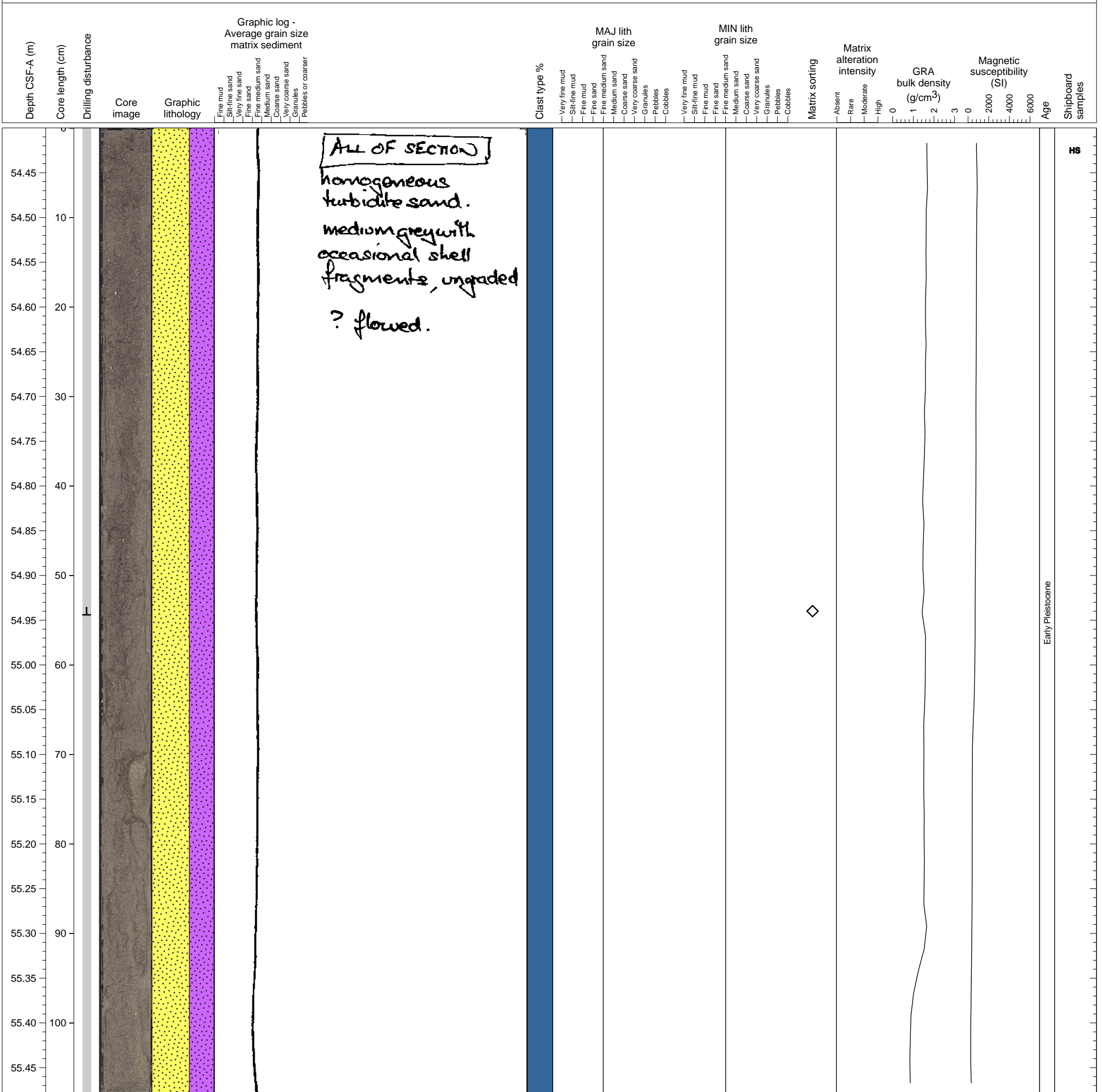
This section consists of three turbidites, which range from 0-10 cm, 10-33 cm and 33-150 cm. The upper two turbidites show dark gray in the bottom and gradually change into gray in color upward. The contents of volcanic materials are most abundant in the bottom and decrease upward, which can explain gradual upward lighter color. It also suggested that the bottom dark gray layer also contain small amount of biogenic materials, which support turbidite origin. These are not ash layers as was thought previously.



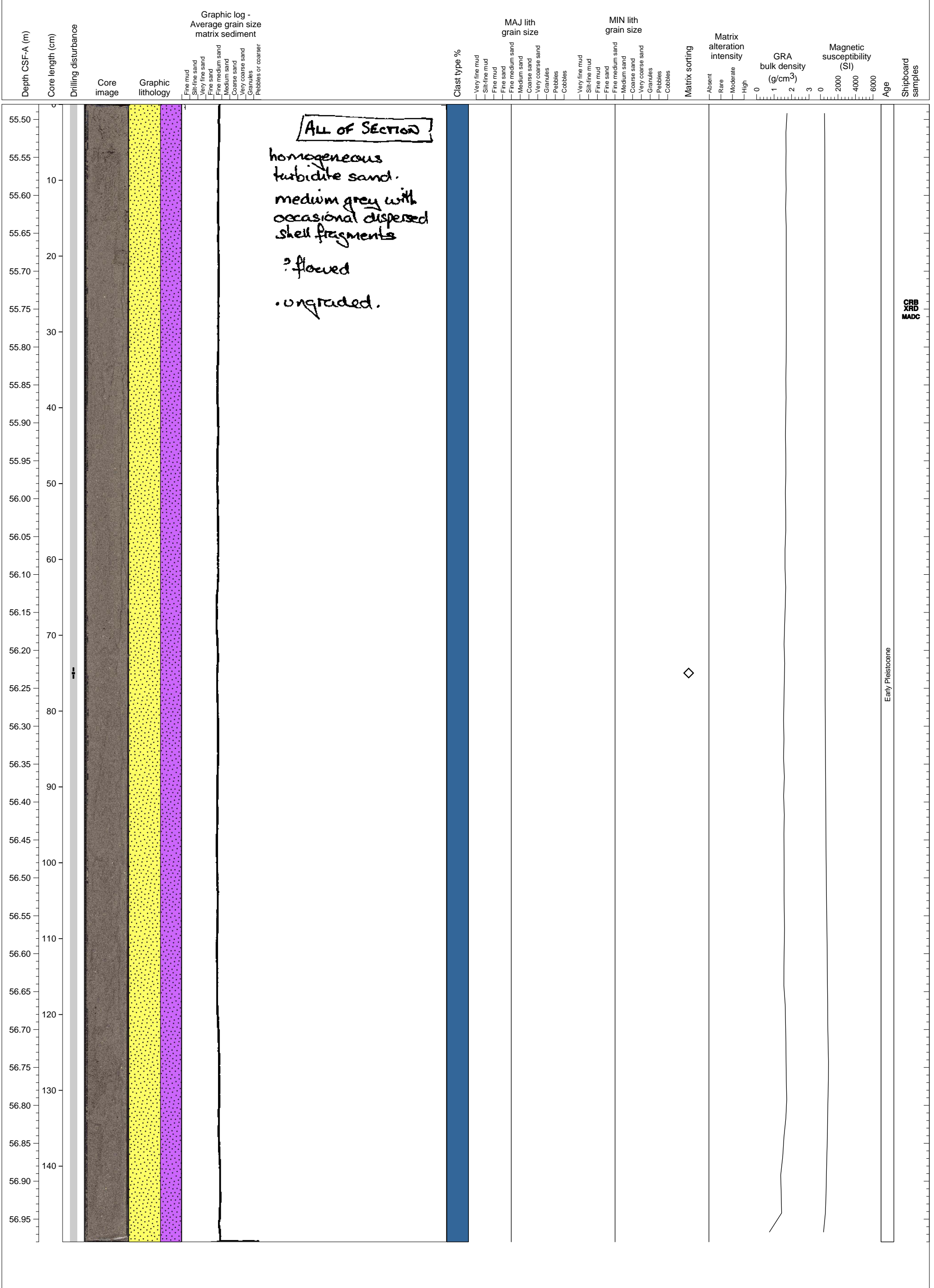
Mixture of biogenic calcareous sand and volcanoclastic sand turbidite.



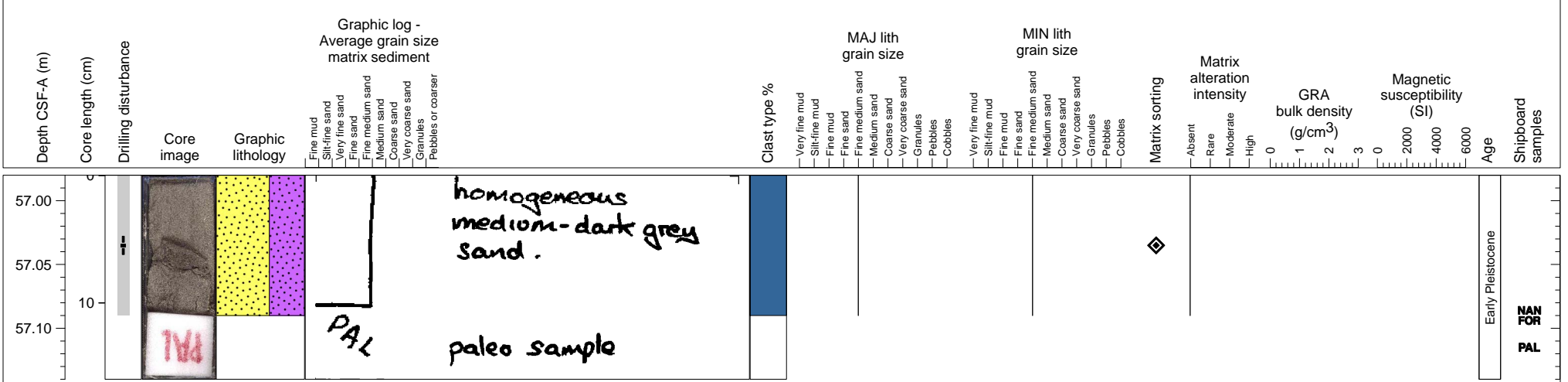
Massive bioclastic/volcaniclastic layer.



Massive bioclastic/volcaniclastic sand unit..



Massive bioclastic/volcaniclastic sand. PAL sample from base.

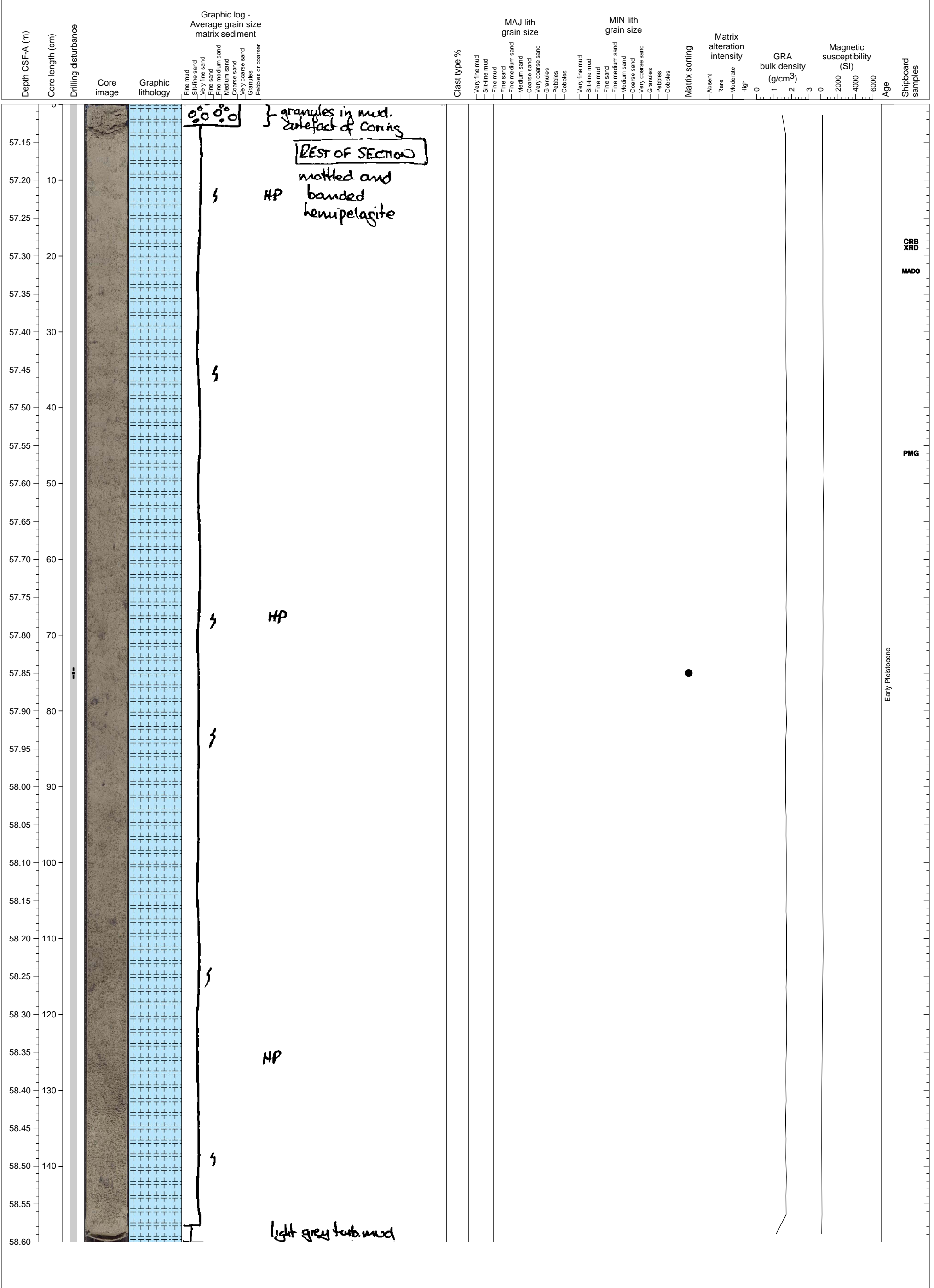


Early Pleistocene

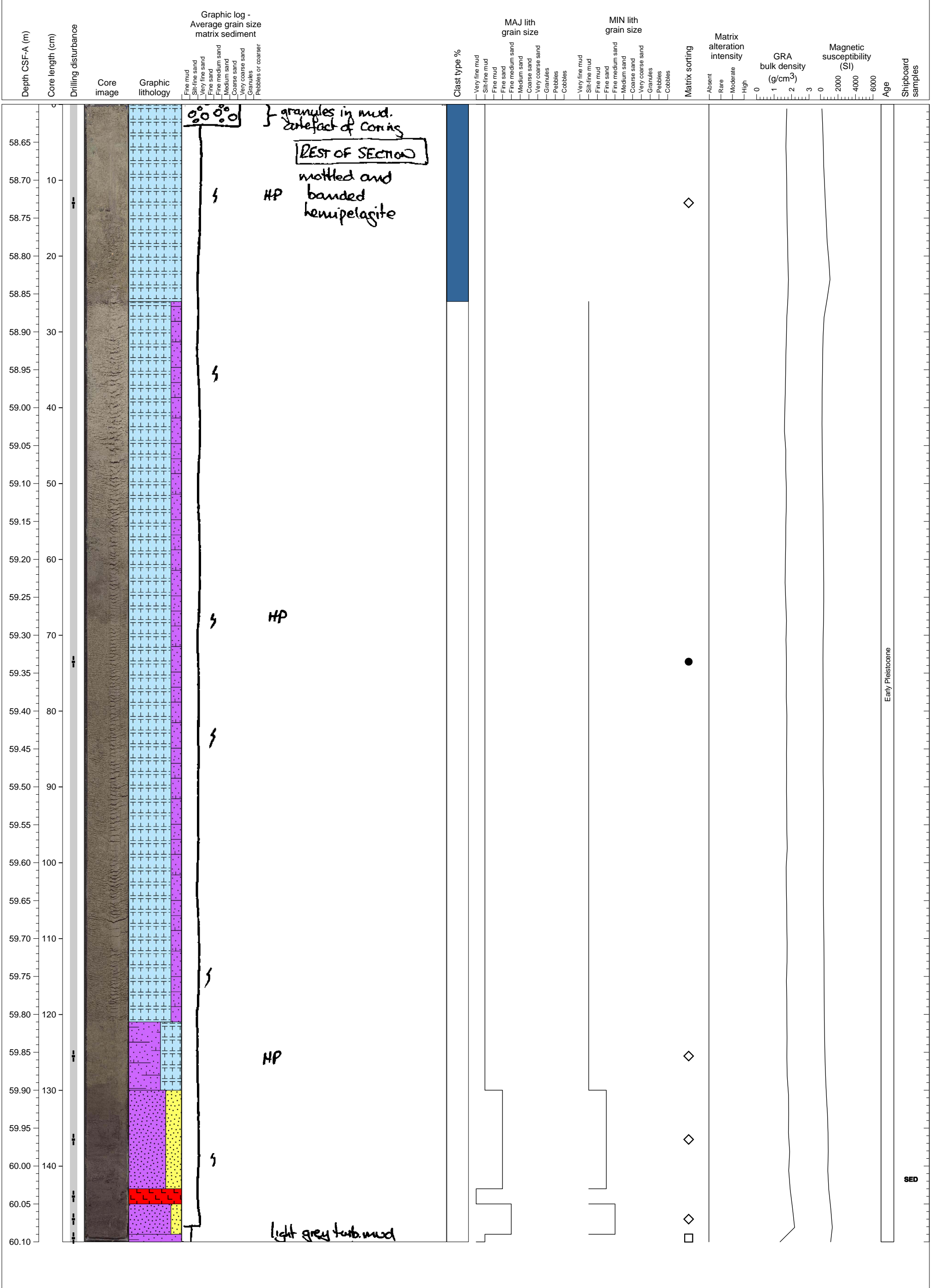
NAN FOR PAL



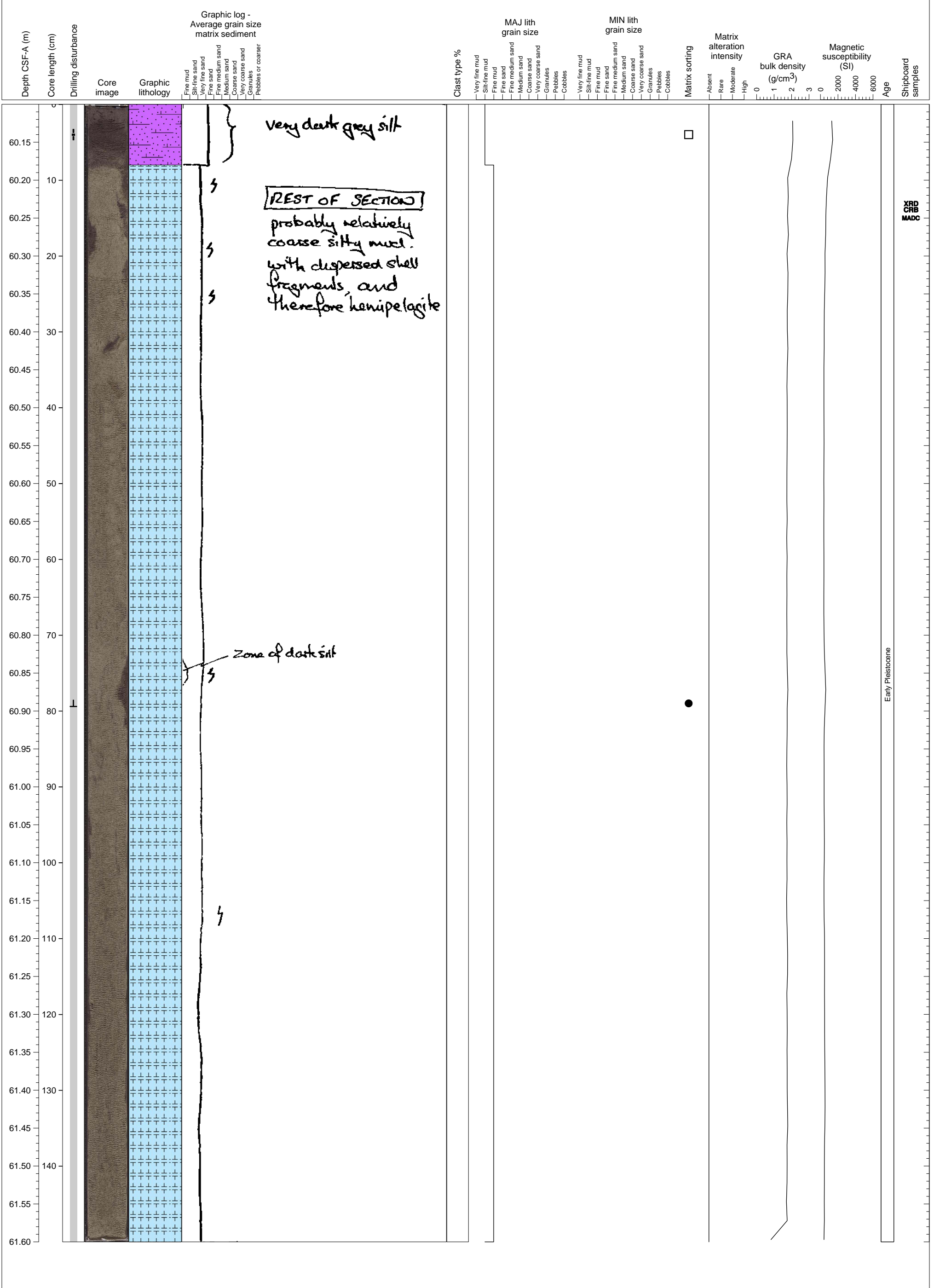
Hemipelagic mud with some shell fragments up to granule size, occasionally black colored sandy pods consisting of coarse shell fragments.



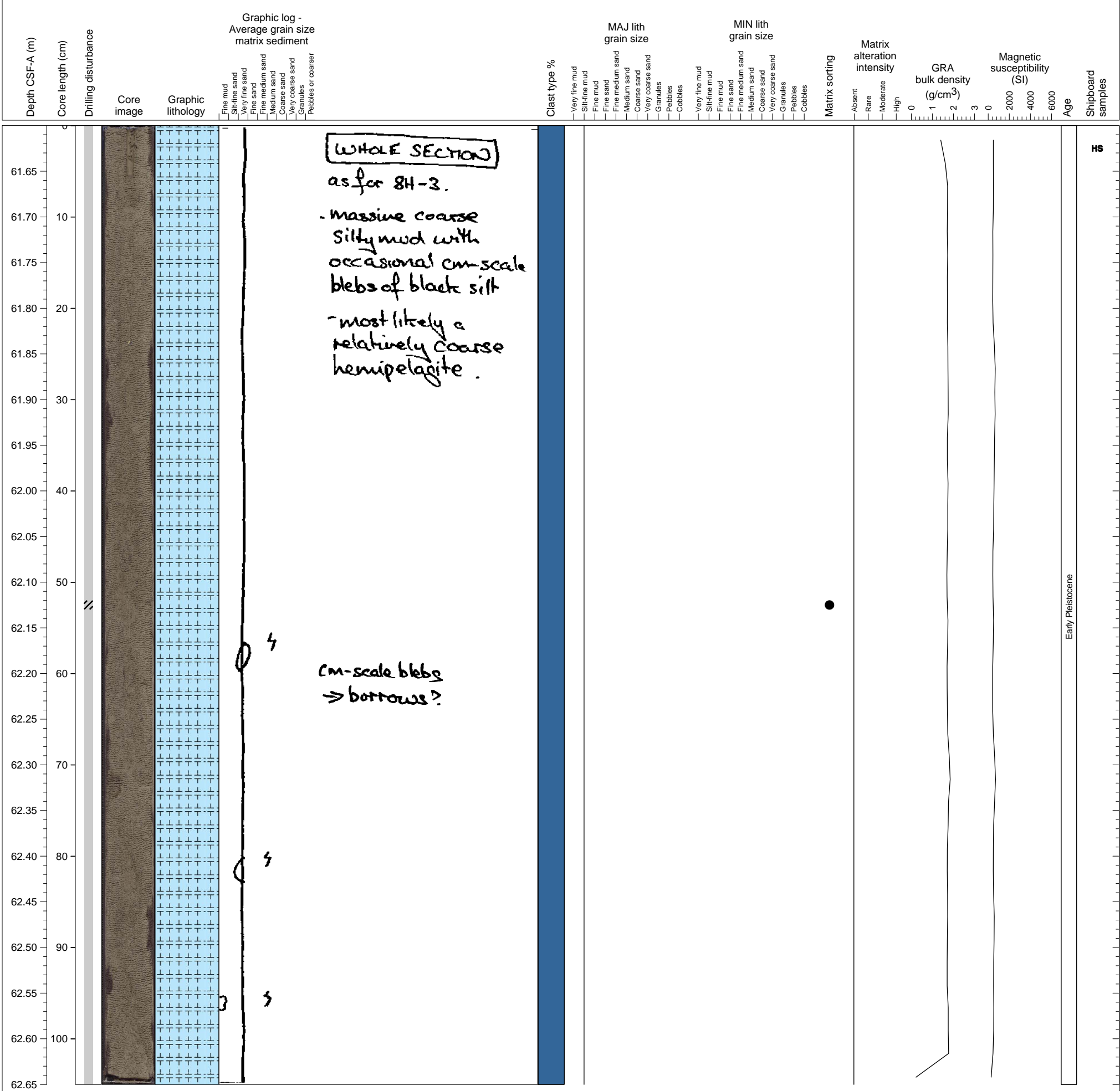
Alternation of carbonate rich hemipelagic mud and calcareous sand. Two mafic ash layers sit in lowermost part.



Top 8 cm is black to dark gray colored well-sorted turbidite and the lower part is hemipelagic sediment



Hemipelagic clay with significant bioturbation. The burrowing may be responsible for darkening the color of the clay.



**WHOLE SECTION**

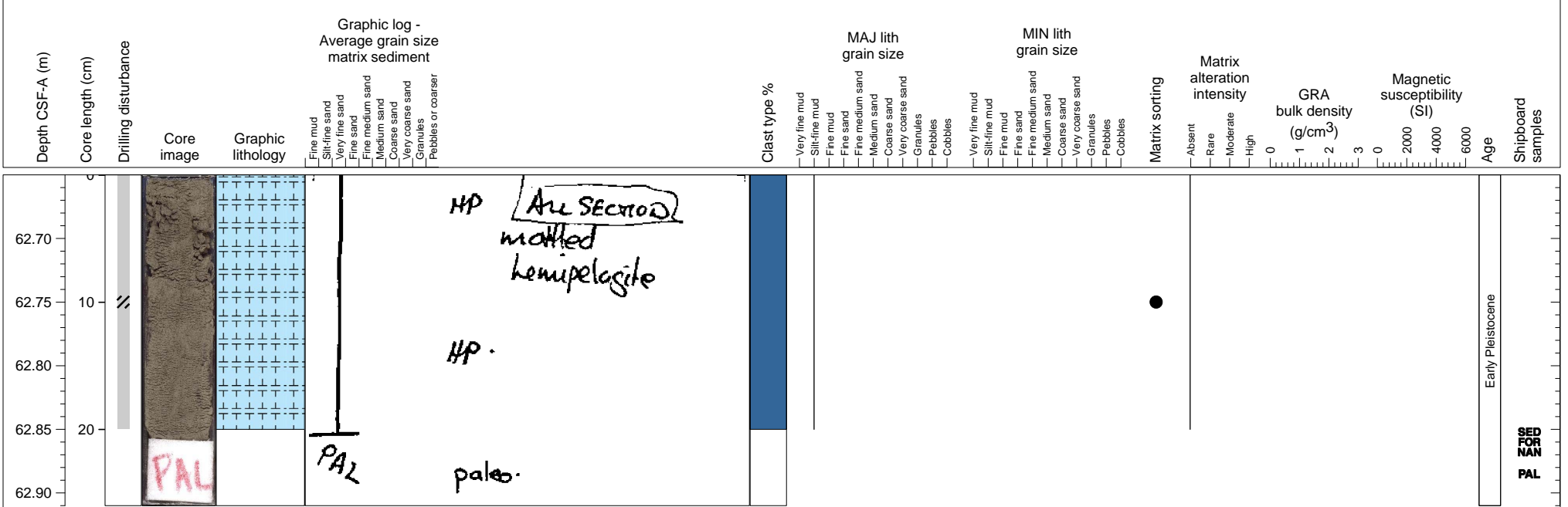
as for 8H-3.  
 - massive coarse silty mud with occasional cm-scale blebs of black silt  
 - most likely a relatively coarse hemipelagite.

cm-scale blebs  
 → burrows?

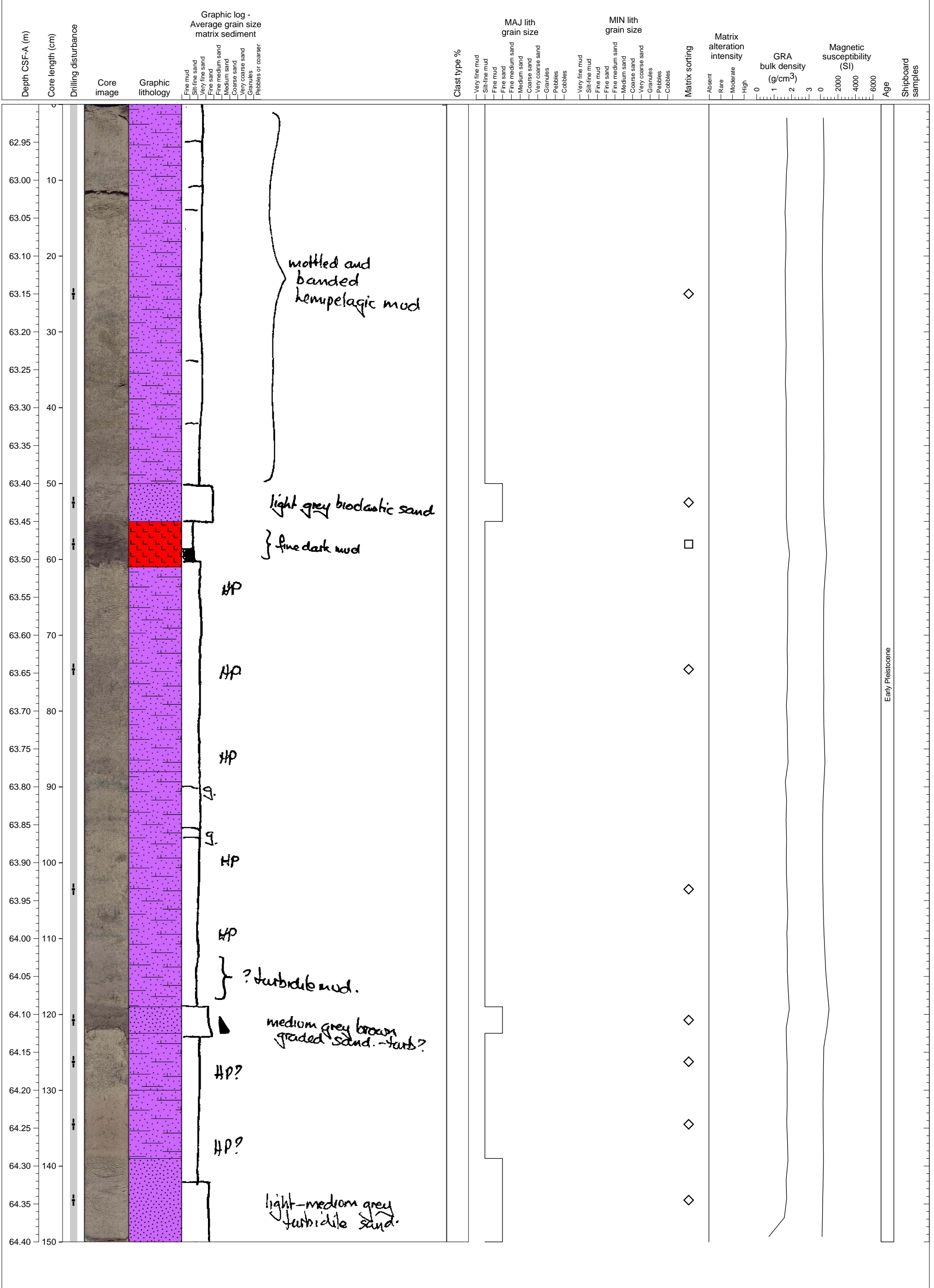
Early Pleistocene

HS

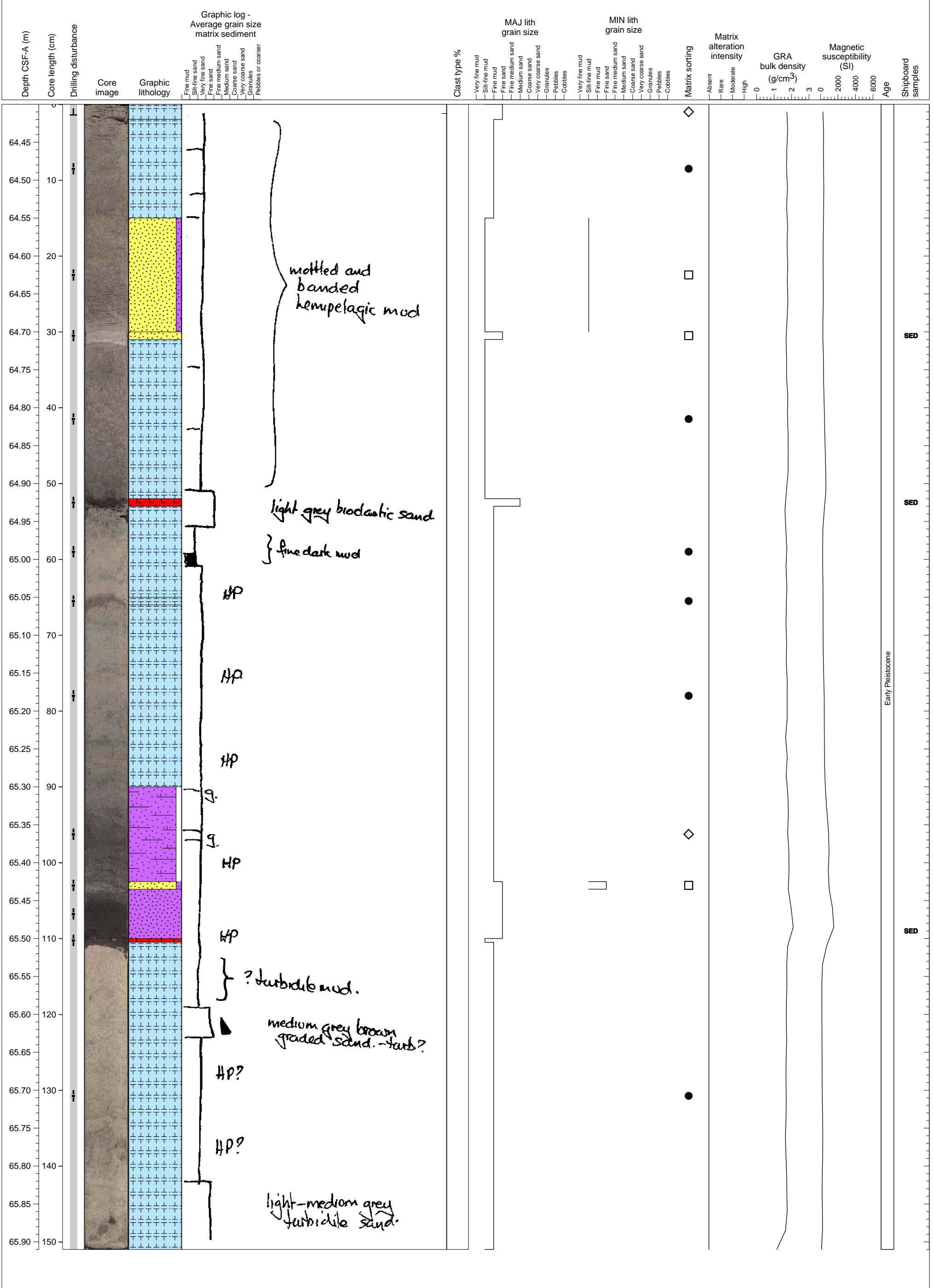
Hemipelagic clay with significant bioturbation. Bioturbation may be responsible for introducing material to darken the clay.



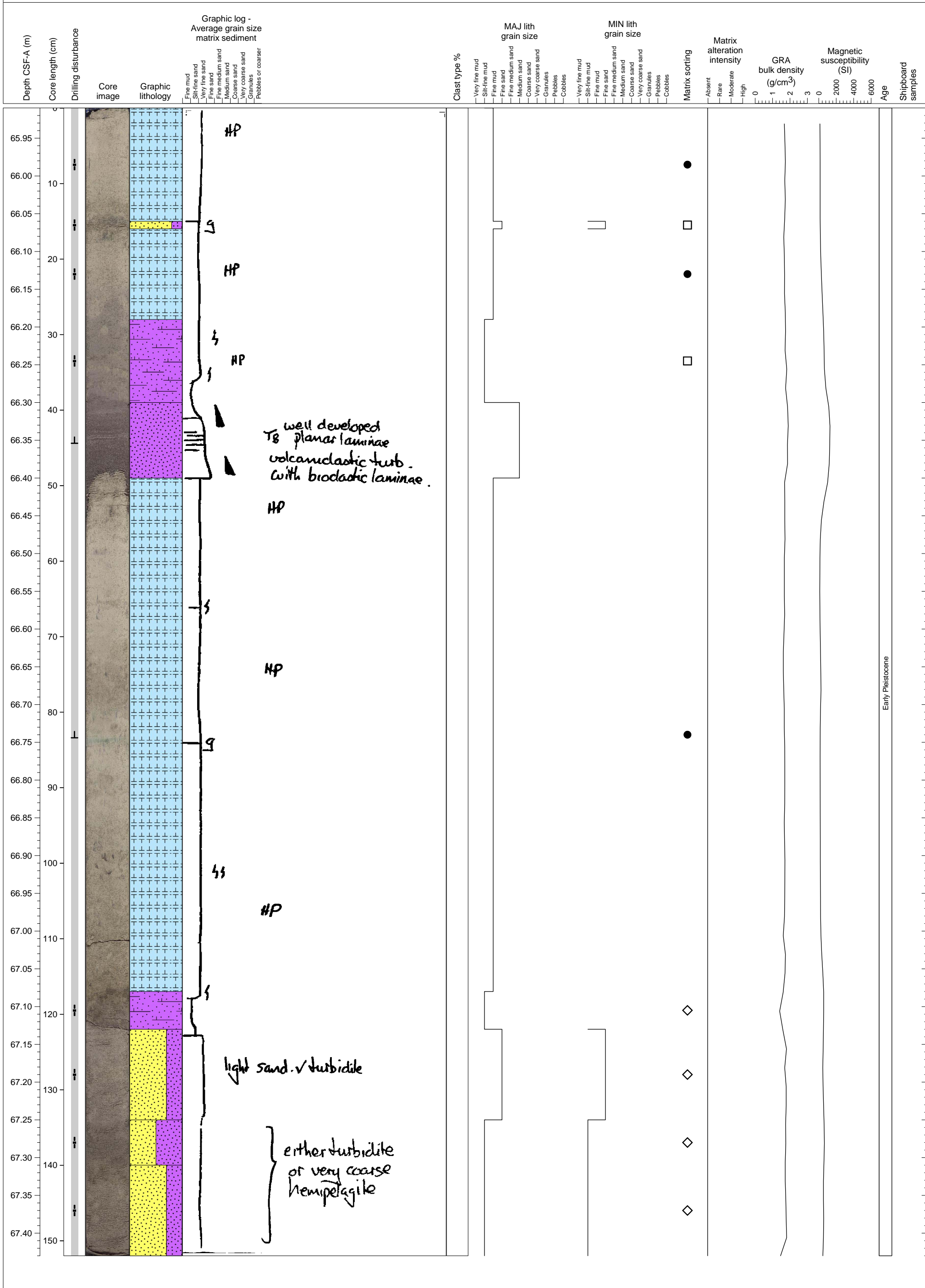
One ash layer is recognized from 55-61 cm, which is dark gray in color and stands out from underlying light gray color turbidites. The upper part and lower part of the section consist of turbidites: three turbidites below the ash layer and one turbidite on the ash layer.



Hemipelagic sediments interlayered with bioclastic turbidites and tephra. At 52-53 cm thin basaltic scoriaceous tephra is embedded. At 110 cm there is a very sharp boundary. Hemipelagic sediment is covered by mafic tephra and turbidite. This boundary must be a very good key marker.

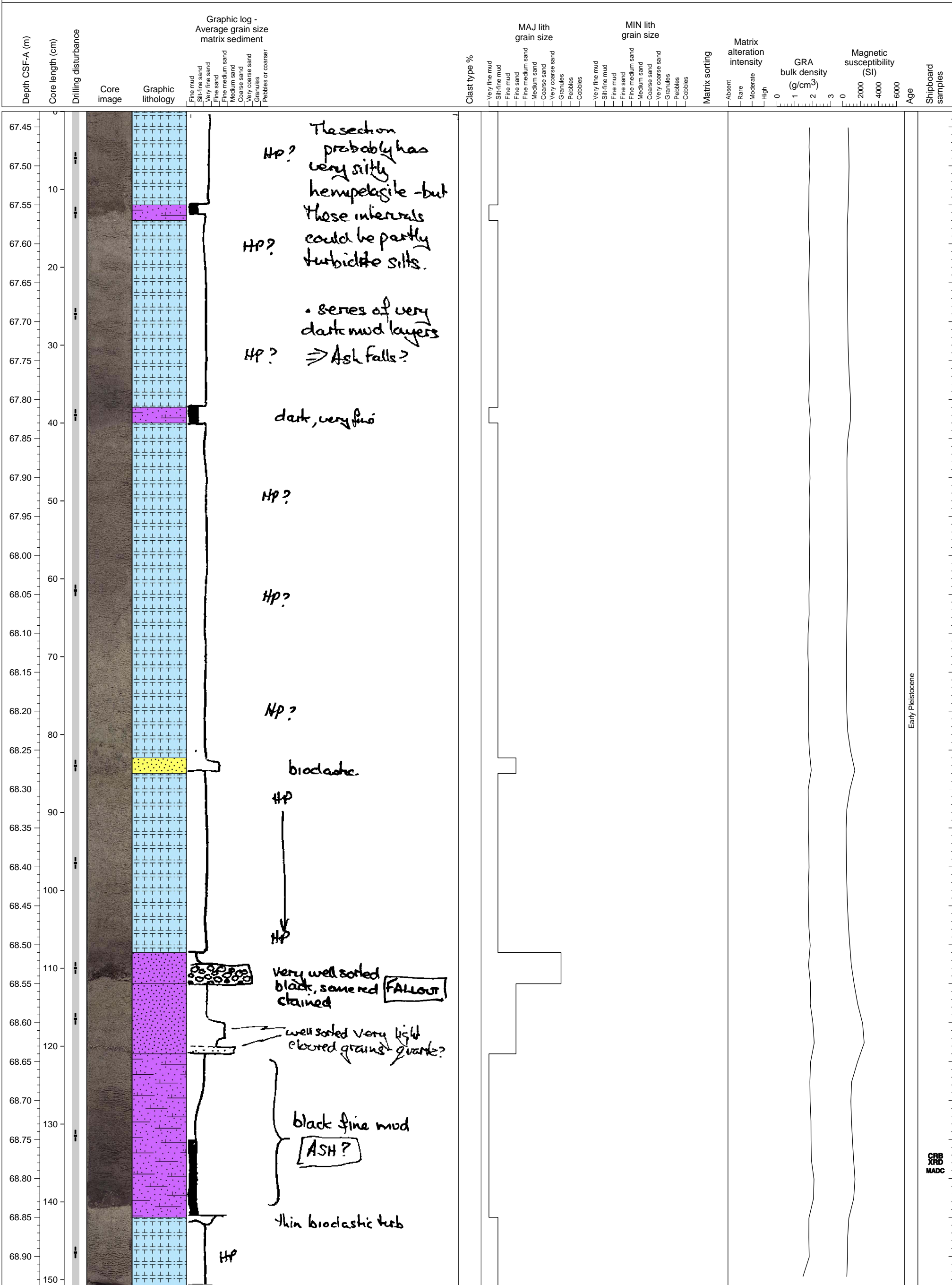


Hemipelagic sediment interlayered with turbidites. At 50 cm, there is a sharp boundary which is separated by a turbidite with typical normal grading.

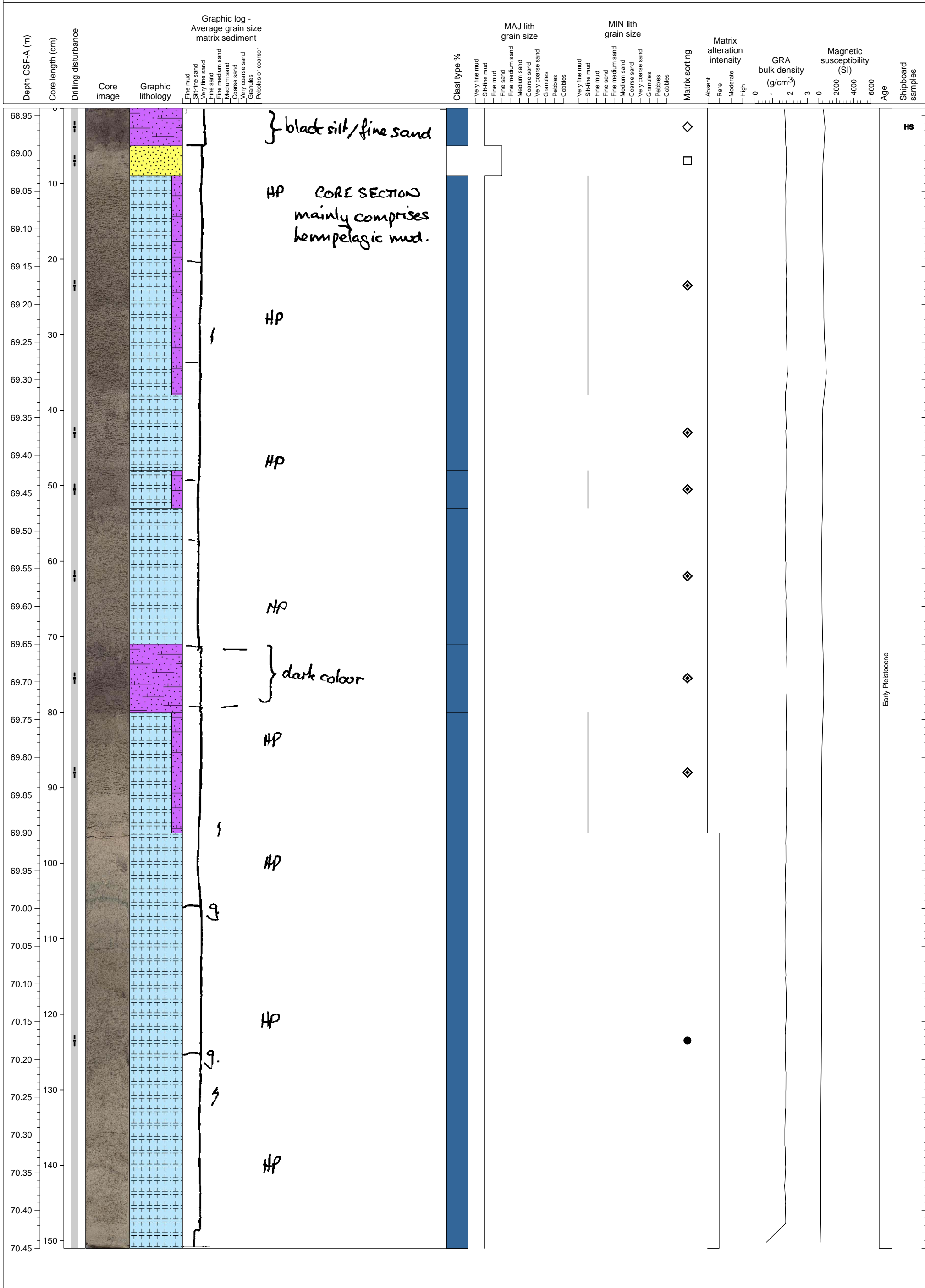




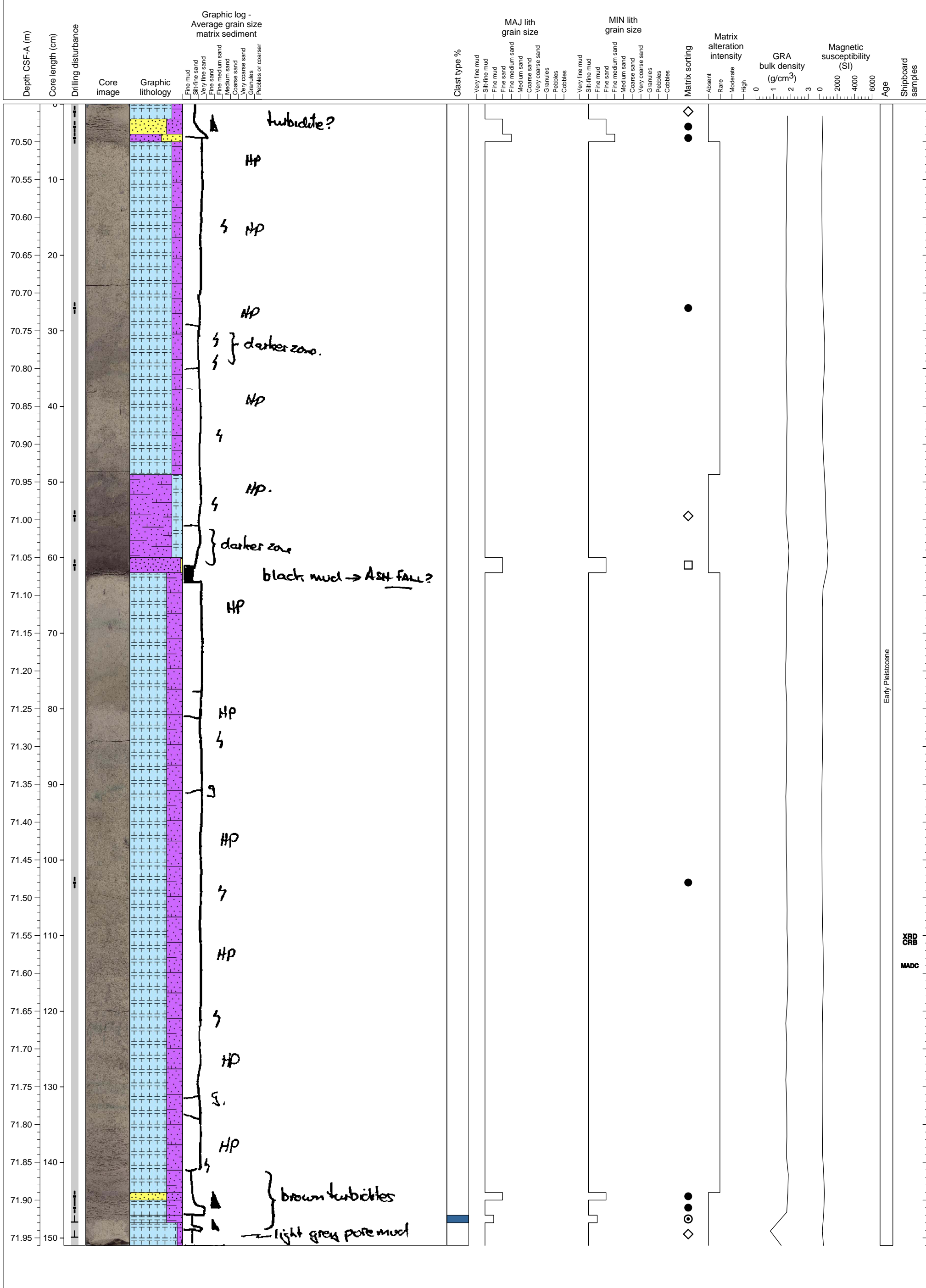
Hemipelagic clay with several thin black fine mud layers (ashes?) and one well sorted granule layer (fallout) plus thin turbidites.



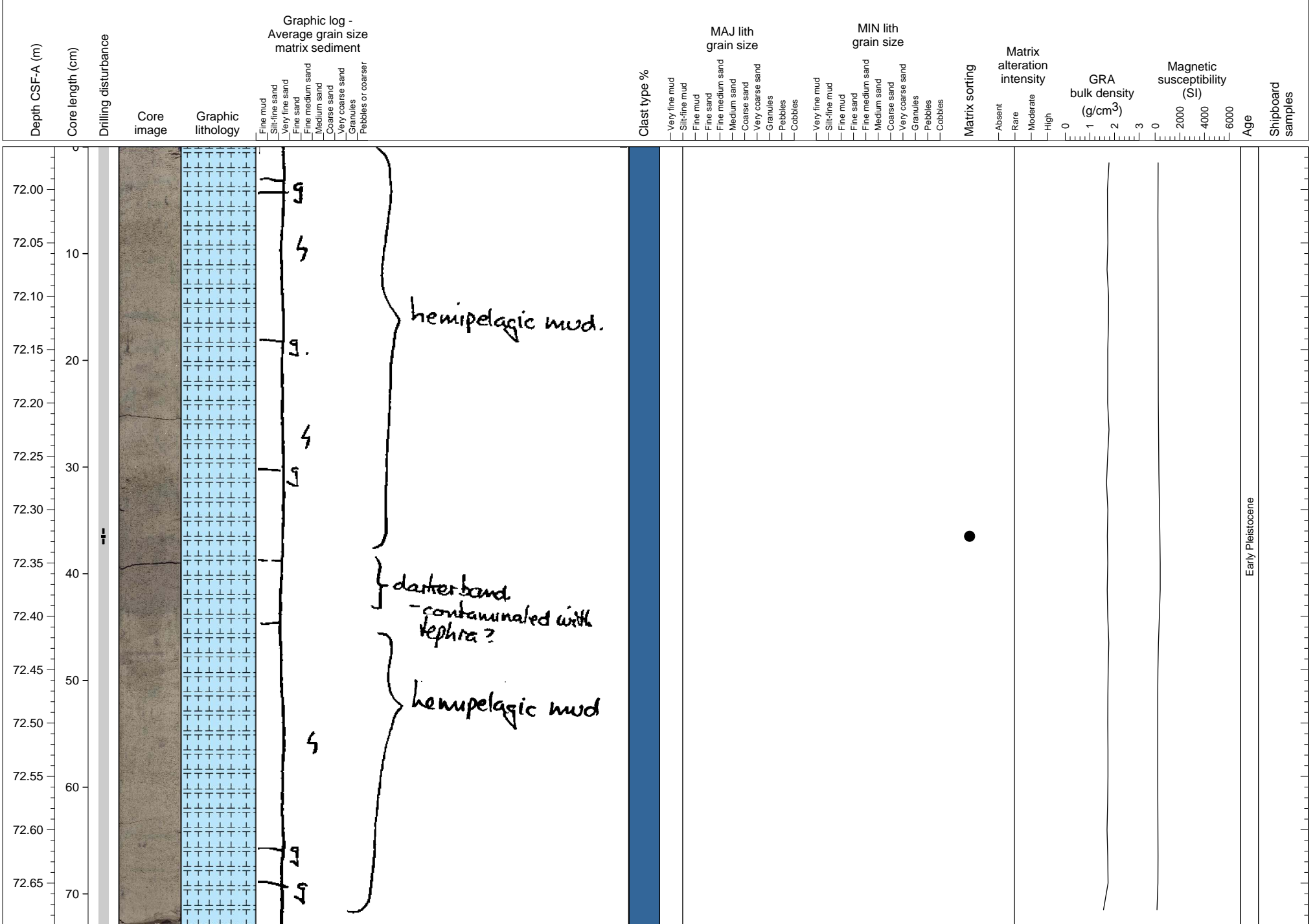
Interlayered hemipelagic clay and volcanoclastic mud. The hemipelagic clay and mud are often intimately mixed leading to darker clay bands. Significant bioturbation is present.



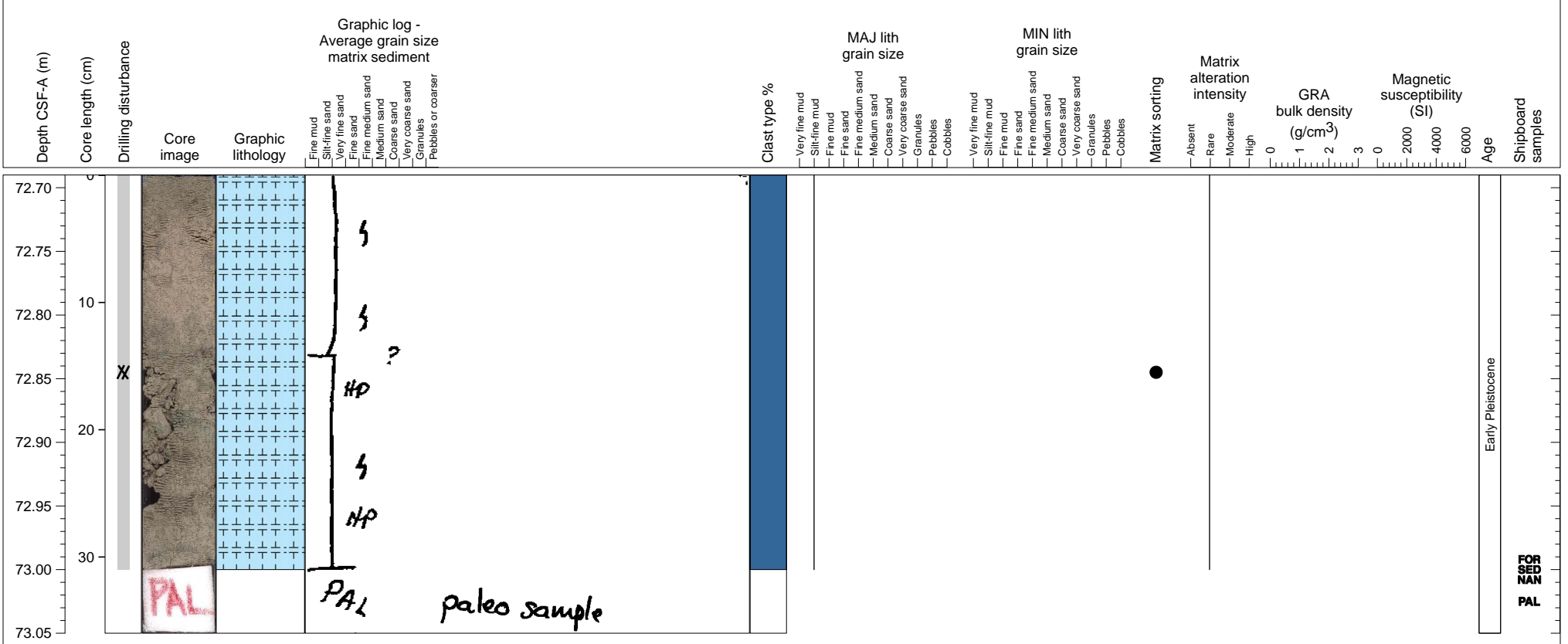
Interbedded hemipelagic ooze and volcanoclastic turbidite in various matrix contents. Three successions of normal graded volcanoclastic turbidite.



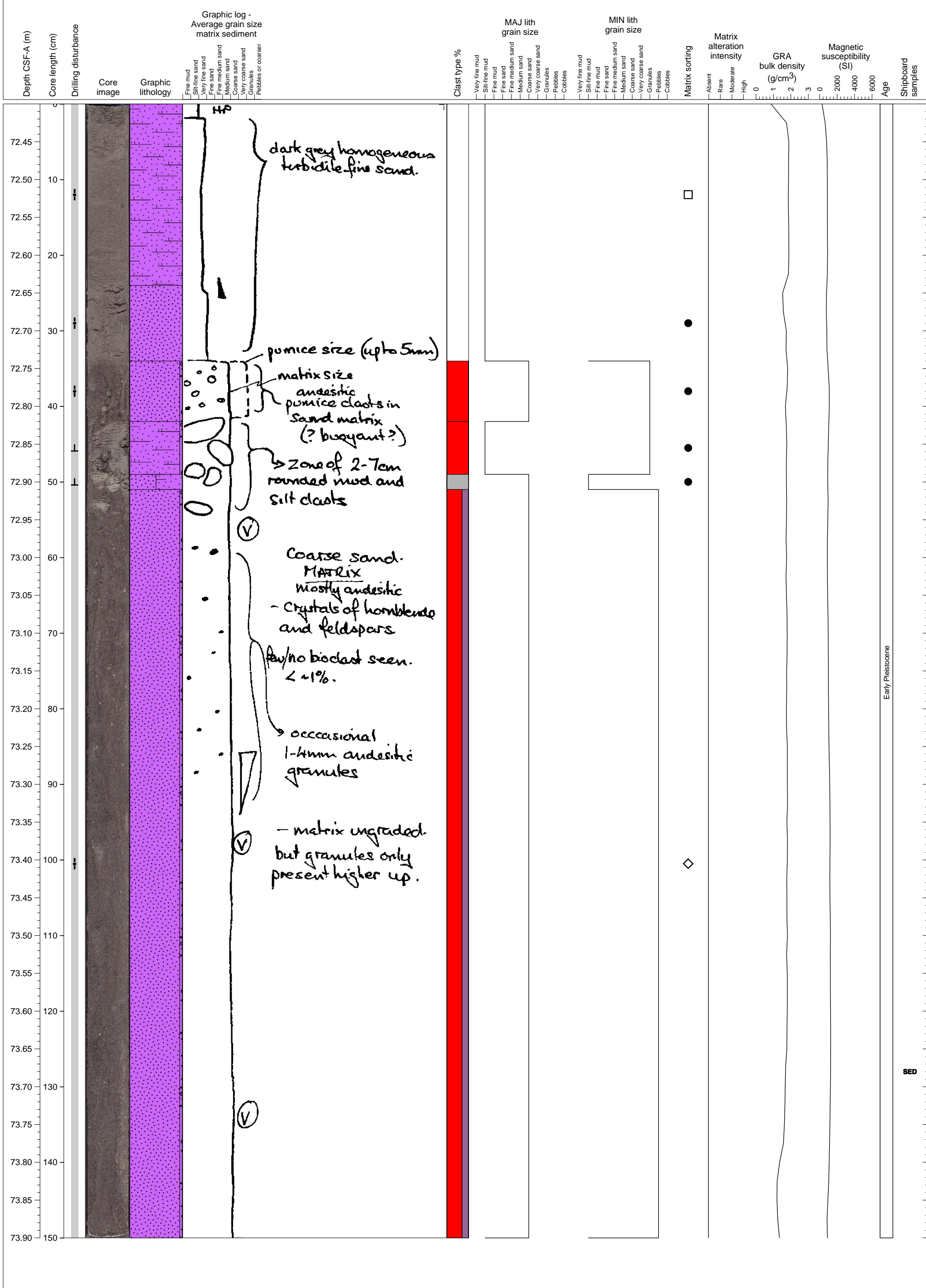
Hemipelagic clay with significant bioturbation. Darker colored lenses may reflect bioturbation or diffuse glauconite layers.



Hemipelagic clay with significant bioturbation. PAL sample from base of section.



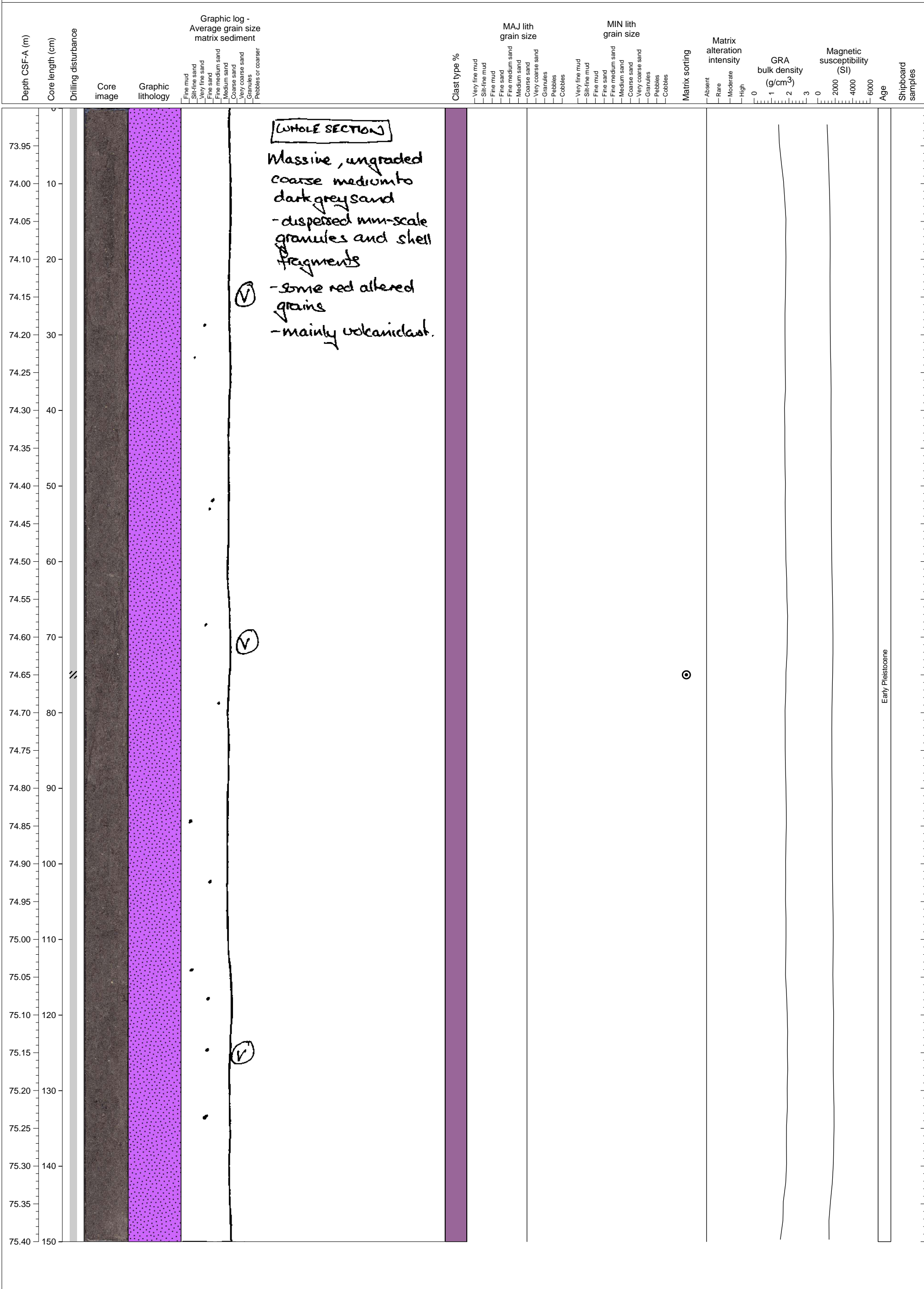
Upper part of thick turbidite. Pebble sized pumice and silt-mud clasts look concentrated in the top of the turbidite. This is covered by a fine grained layer, and a thin turbidite.



Early Pleistocene

SED

This section is a middle part of one massive turbidite, which continues from lower section and continues upward to higher section. Pumice clasts concentrate at the top of the turbidite in upper section, and the lower boundary of the turbidite, which is observed in the lower section seems eroded the lower layer. Most part of the turbidite consist of ill-sorted coarse sand, containing small amount of small pebbles of rounded andesite lava fragments.

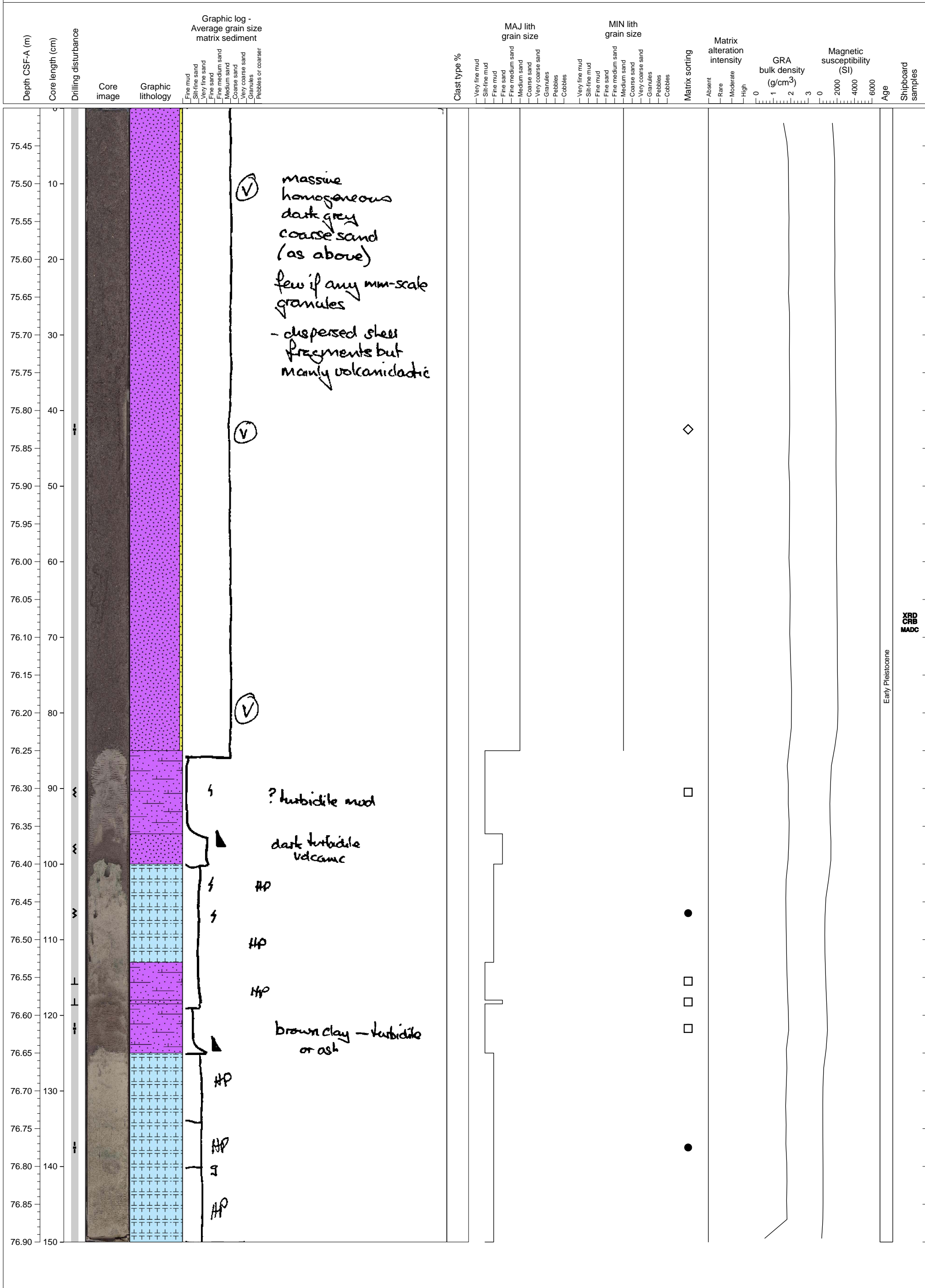


**WHOLE SECTION**

Massive, ungraded coarse medium to dark grey sand  
 - dispersed mm-scale granules and shell fragments  
 (V) - some red altered grains  
 - mainly volcaniclast.

Early Pleistocene

Successive turbidites interlayered with hemipelagic sediments.

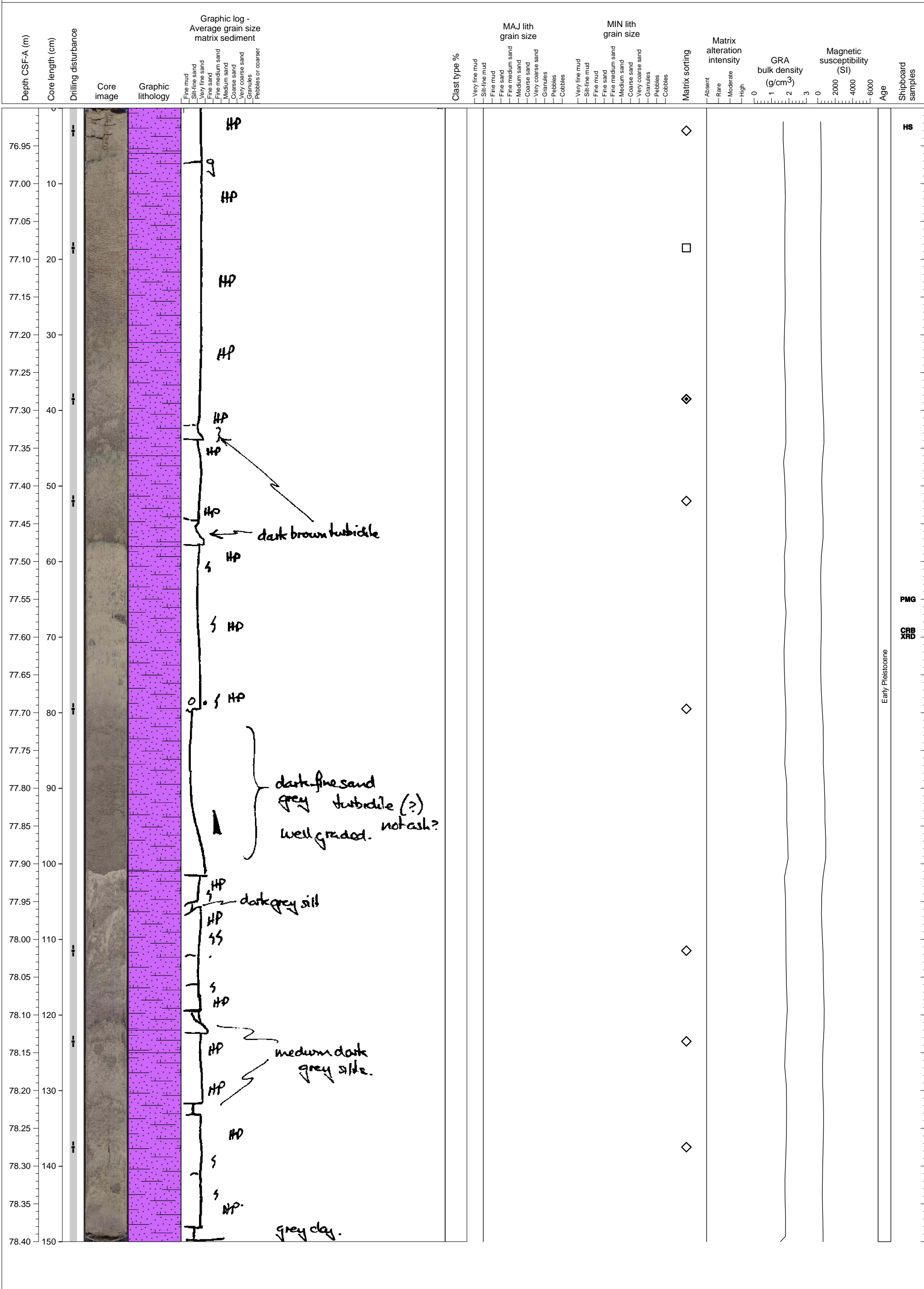


XRD  
CRB  
MADC

Early Pleistocene

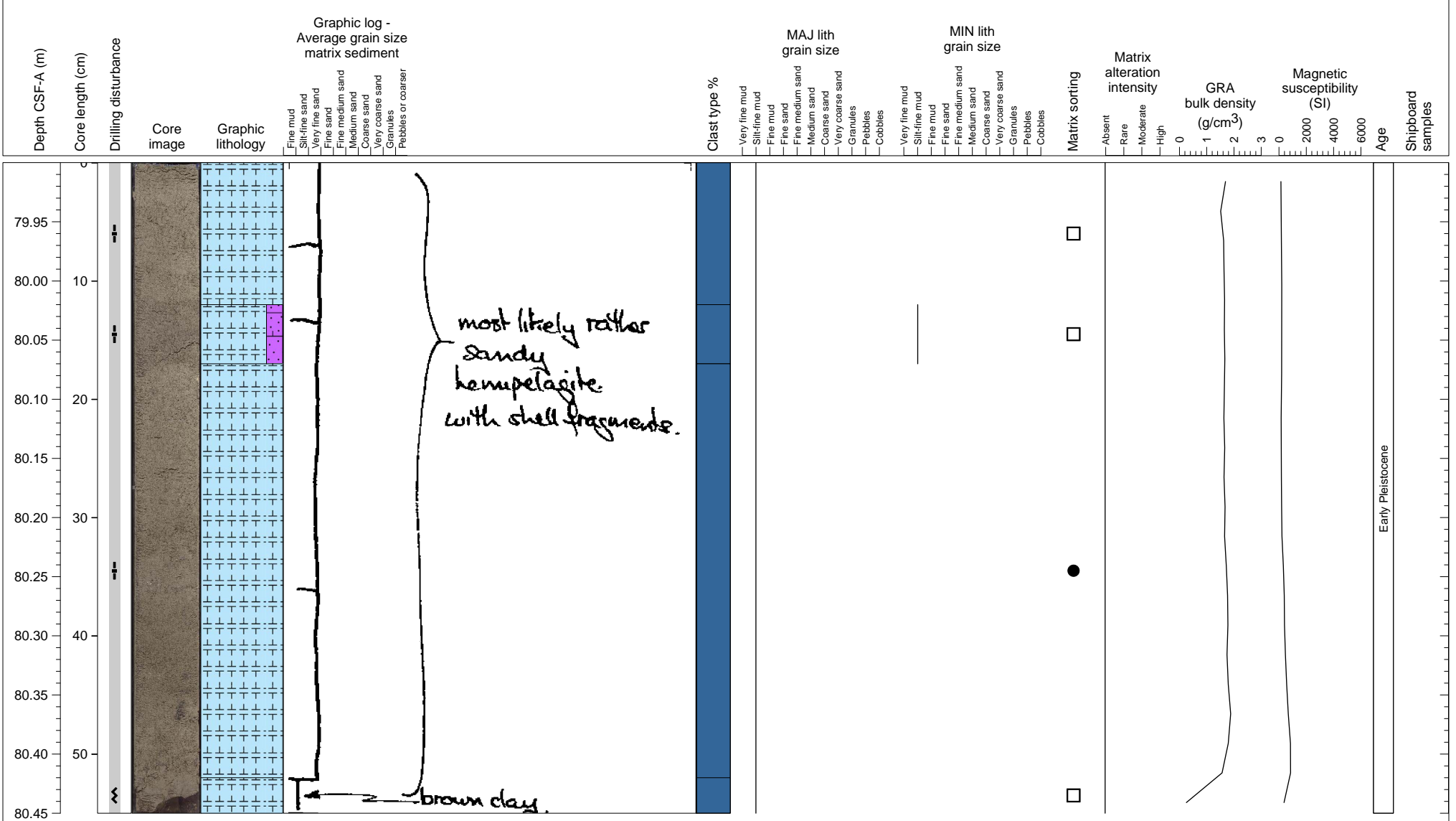


Hemipelagic mud with two dark silts.

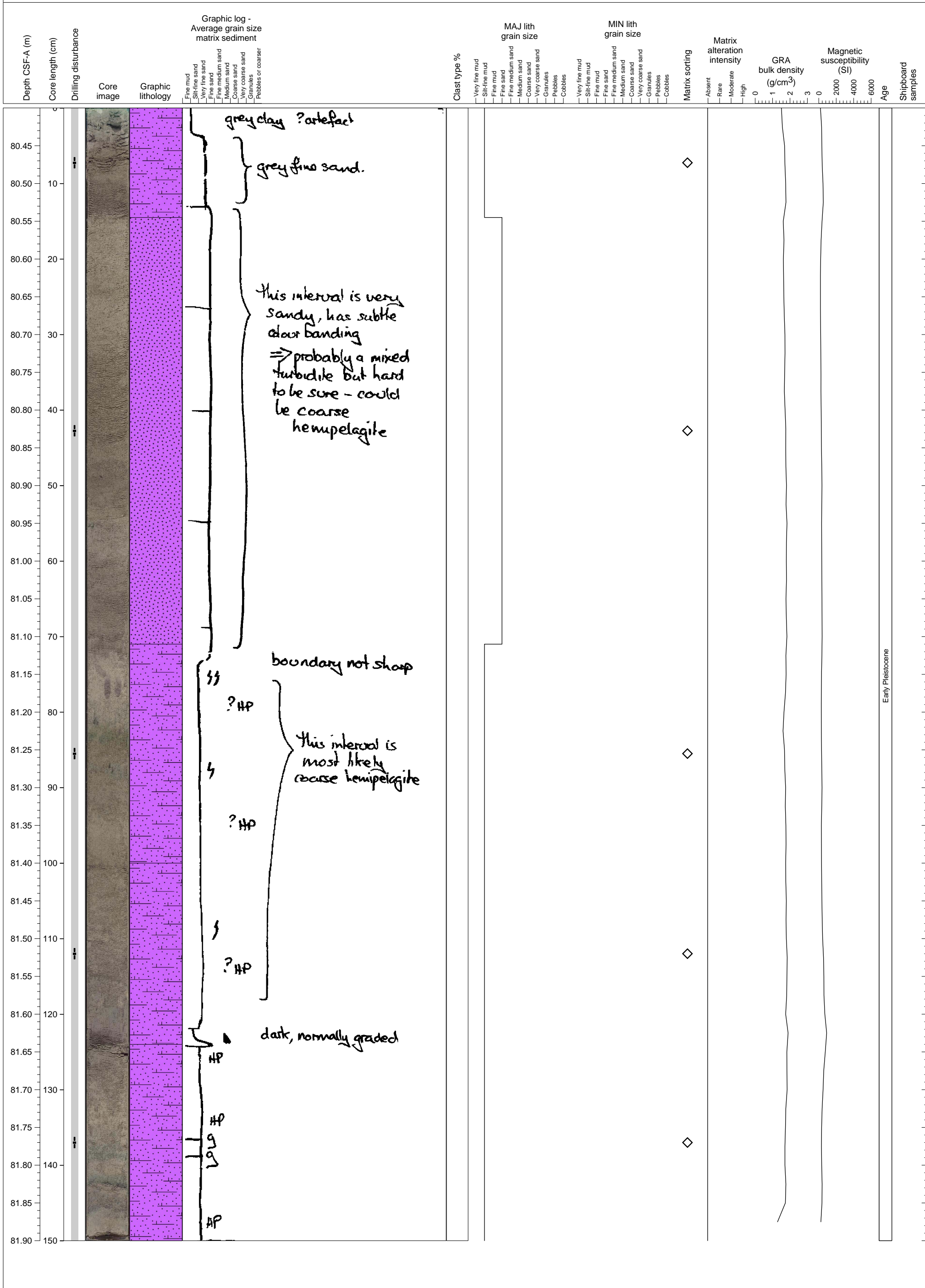




Interlayered hemipelagic clay and darker volcanoclastic mud/hemipelagic clay unit. Significant bioturbation present in some layers.

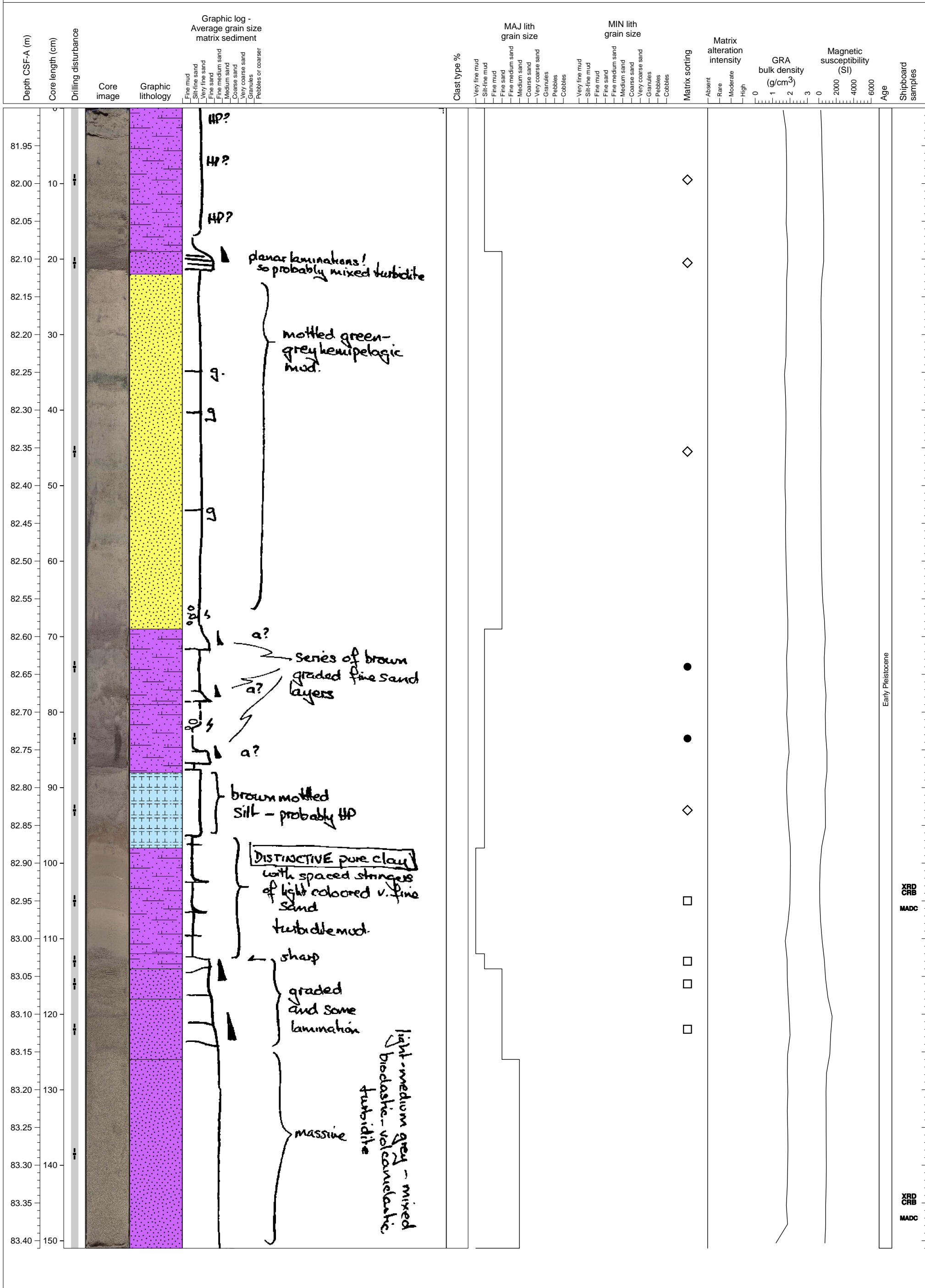


This section is mostly composed of four sets of turbidites fining upward from very fine sand at the bottom and fining upward, mostly silt-fine mud. From 14.5-71 cm, no clear grading is observed (massive sand). This part is a mixture of volcanic and biogenic materials. The volcanic mud at the base of the section (124-150 cm) is an upper part of turbidite, whose lower part is observed in the next section 2-A.



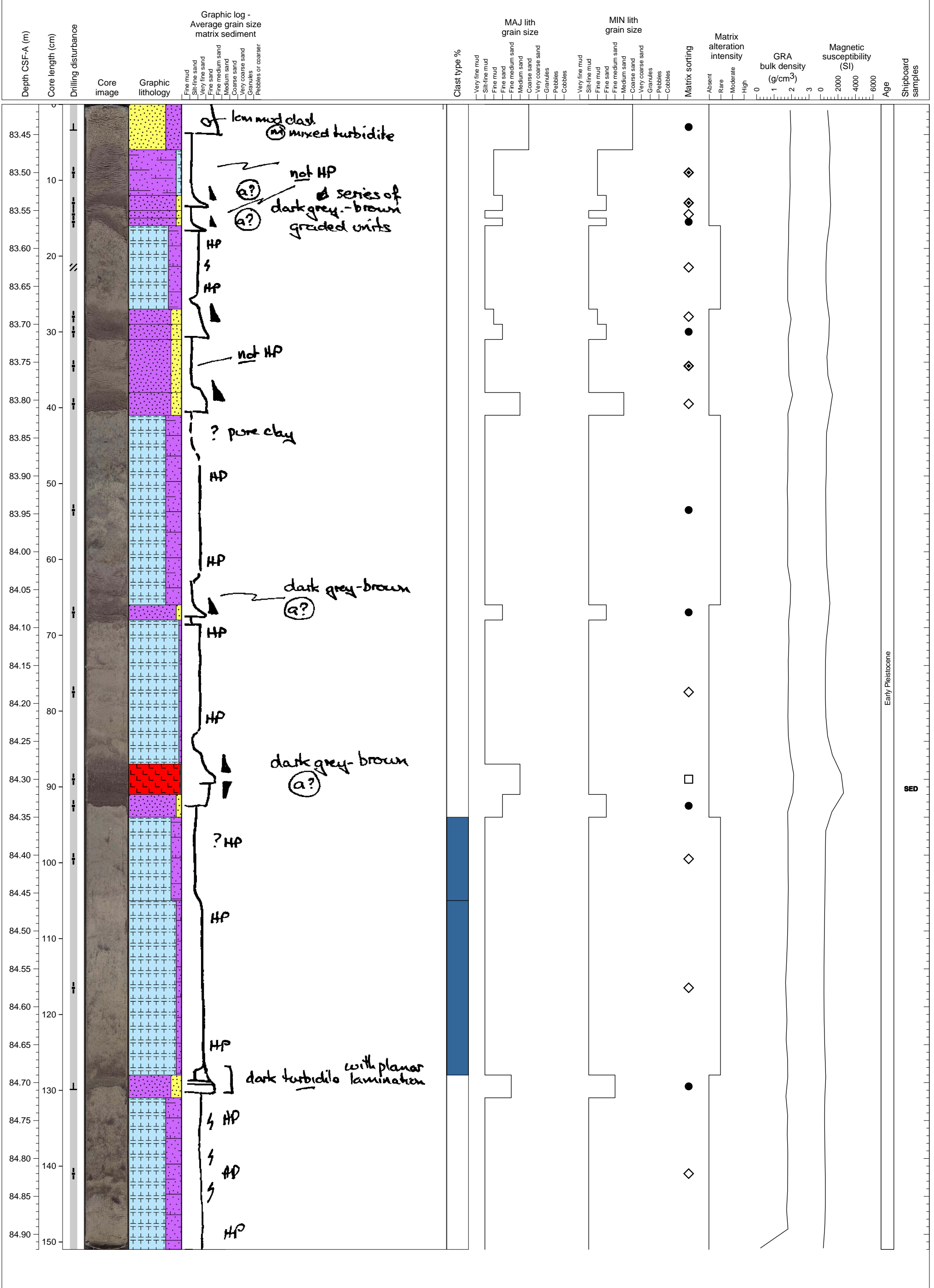
Early Pleistocene

This section has four sets of turbidites; hemipelagic sand and hemipelagic mud sits between these turbidites at 22-69 cm and 88-98 cm. The turbidite from 98-150 cm continues to the next section. It is a beautiful sequence grading upward from medium sand through fine sand, very fine sand, silt to very fine mud.



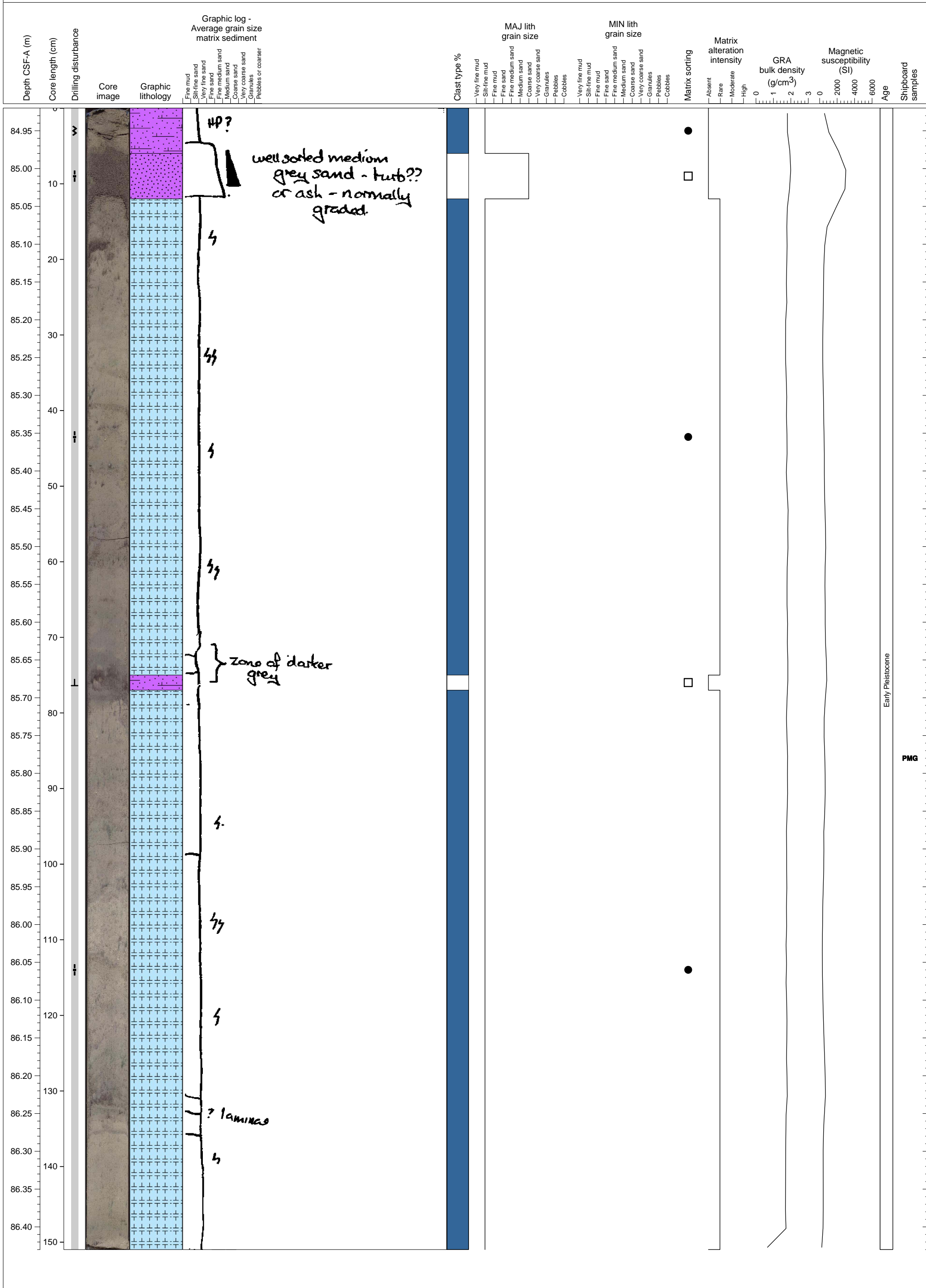
"Five successions of volcanoclastic turbidites and hemipelagic carbonate ooze. A well sorted coarser-grained ash layer (tephra, which contains plagioclase and amphibole crystals) is observed at 87 cm.

"



Hole 340-U1395A-11H Section 4, Top of Section: 84.92 CSF-A (m)

Hemipelagic clay containing a diffuse volcanoclastic mud or ash layer at section base. Top of section is a volcanoclastic fall or turbidite deposit which fines upward from coarse sand to mud.



HP?  
well sorted medium grey sand - turb?? or ash - normally graded

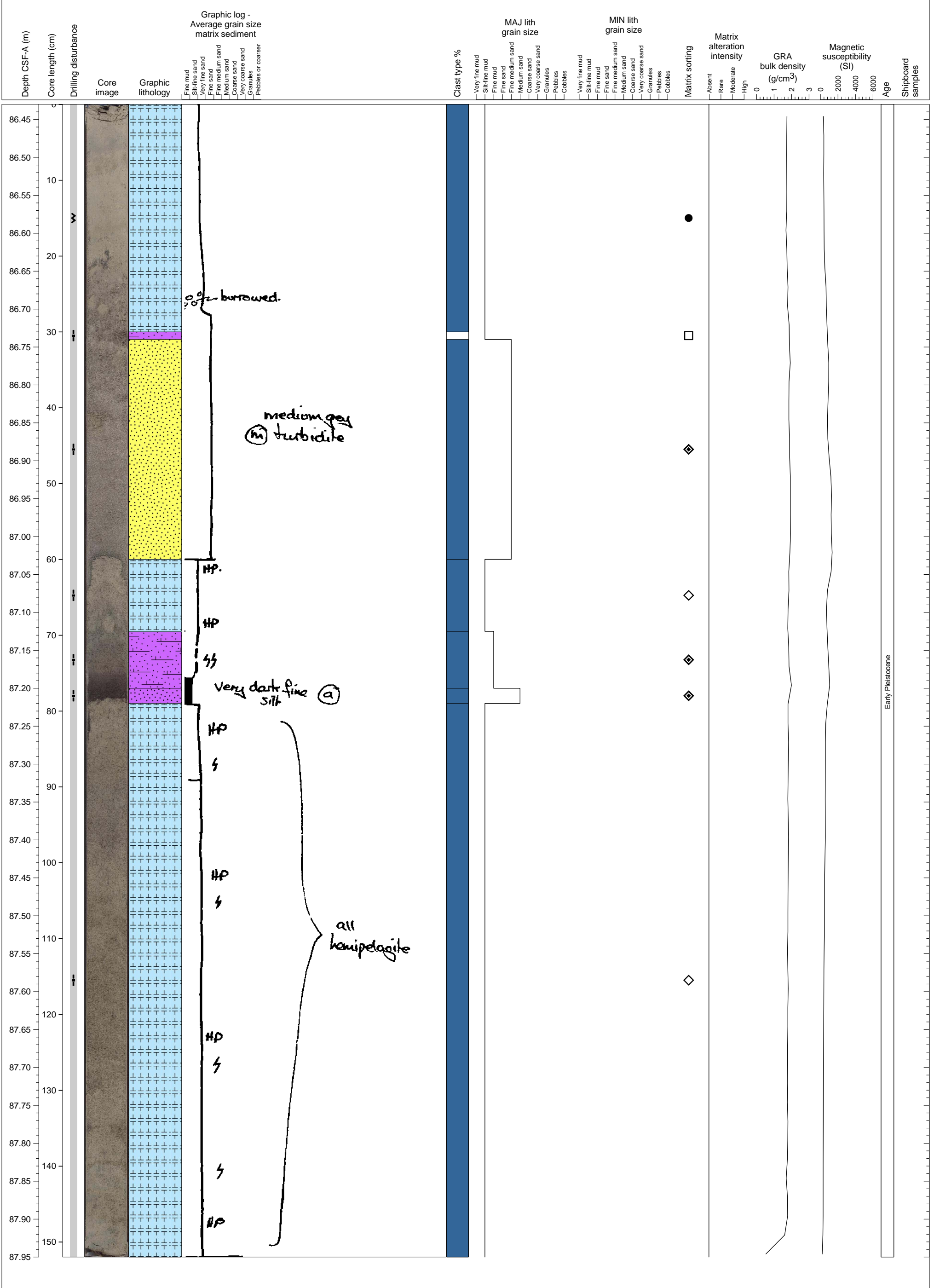
zone of darker grey

? laminae

Early Pleistocene

PMG

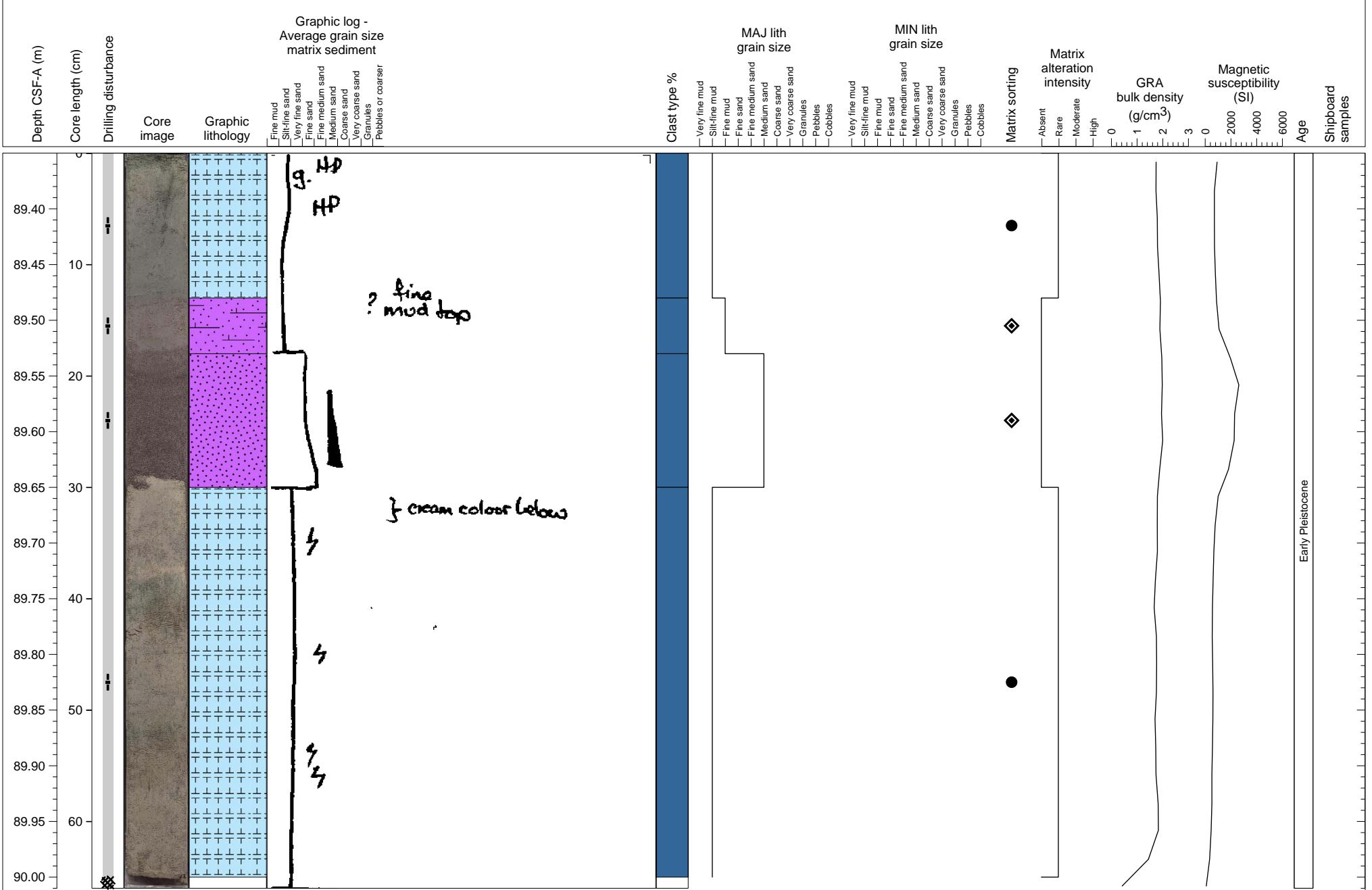
Hemipelagic clay with massive bioturbation interlayered with a fining upward volcaniclastic turbidite sequence and a diffuse volcaniclastic mud or ash layer.



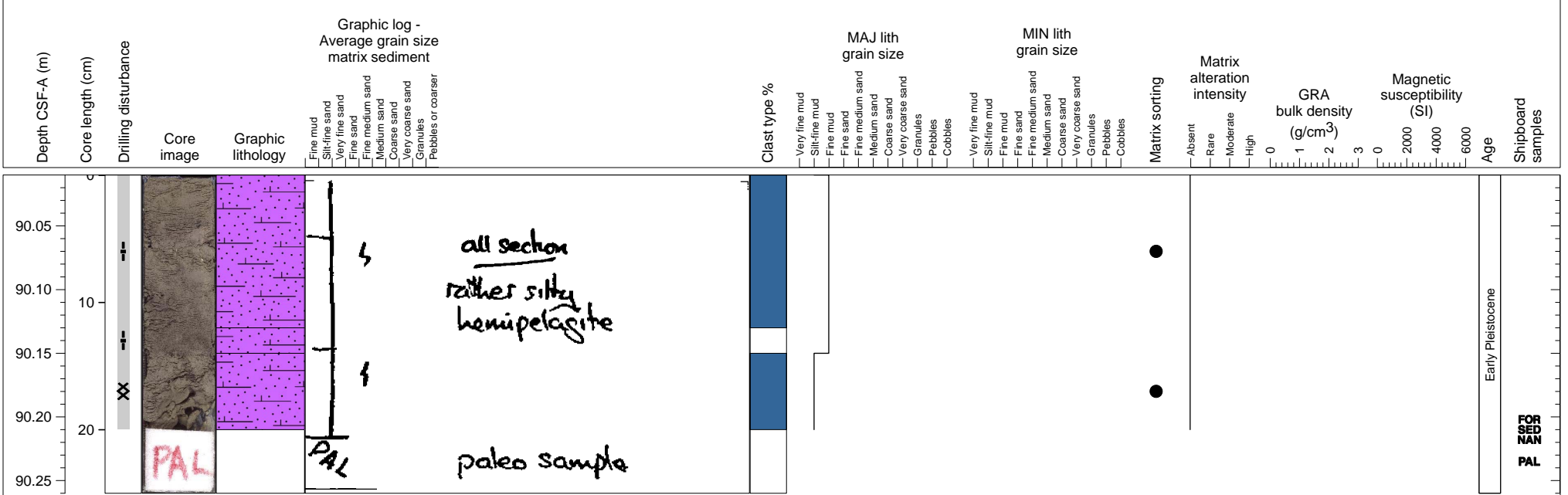




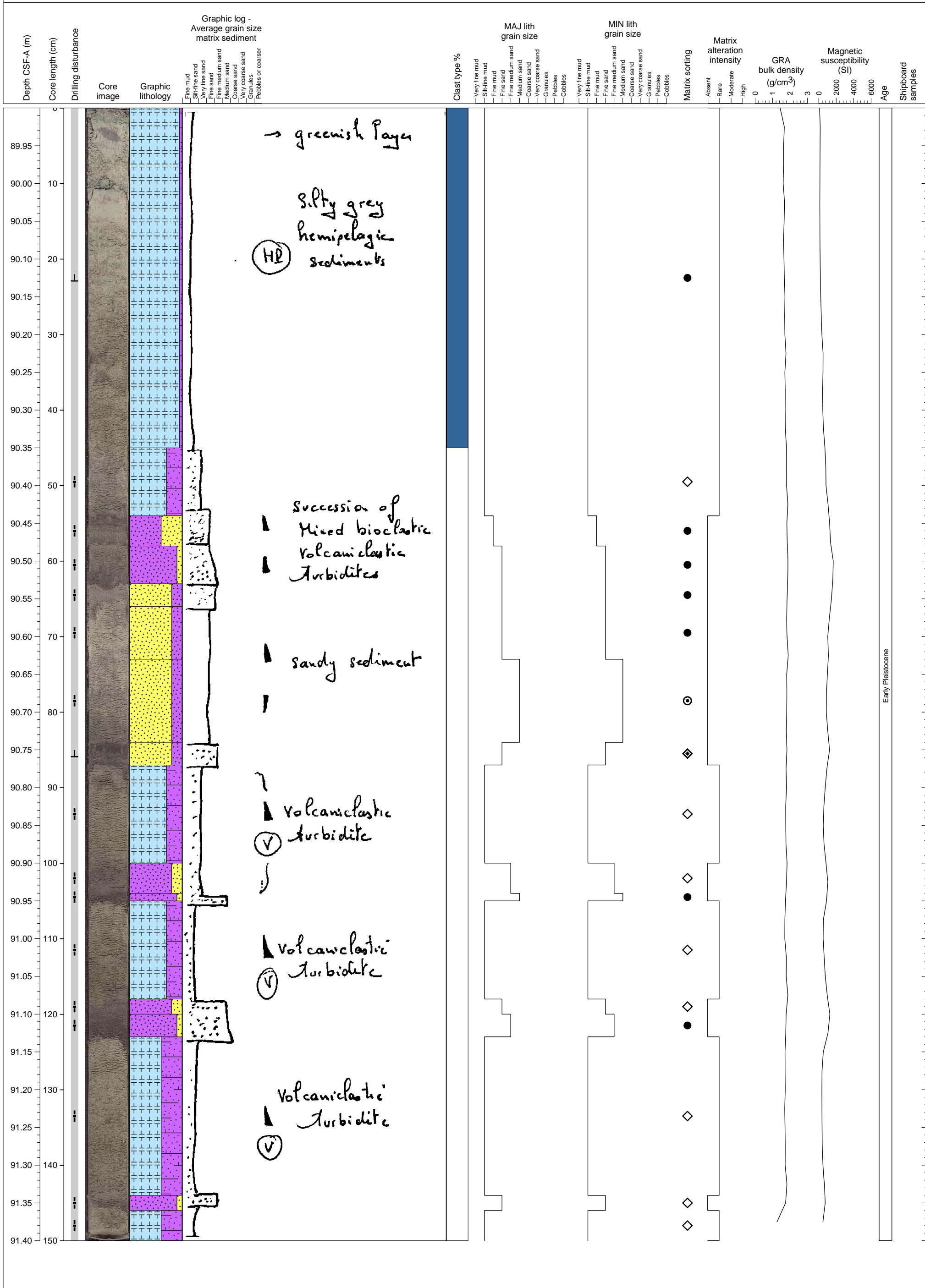
Hemipelagic clay showing massive bioturbation bracketing a fining upward volcanoclastic turbidite unit. Void at section base.



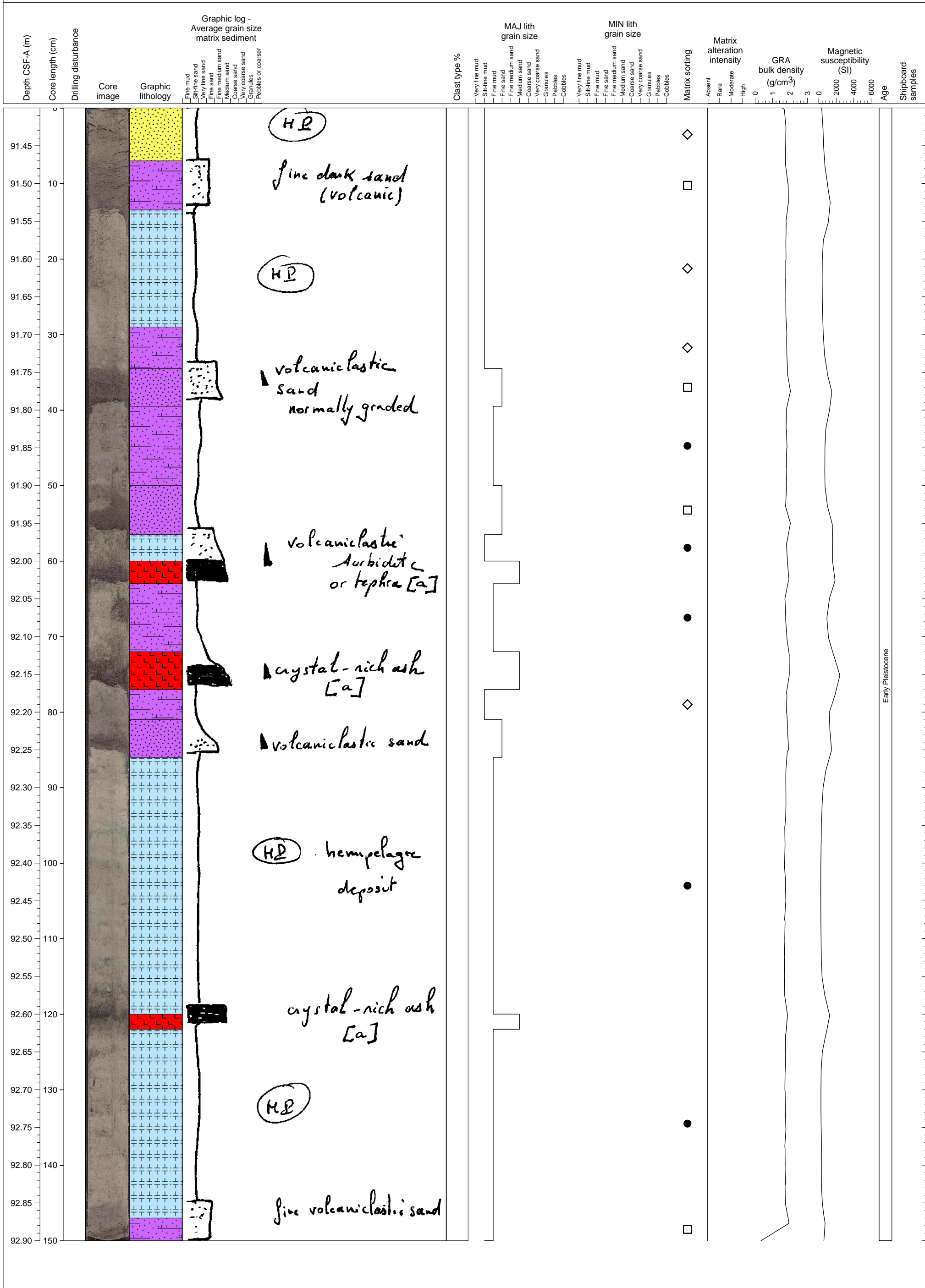
Heavily bioturbated volcanoclastic mud with a diffuse volcanoclastic mud or ash layer interlayered. PAL sample taken from base.



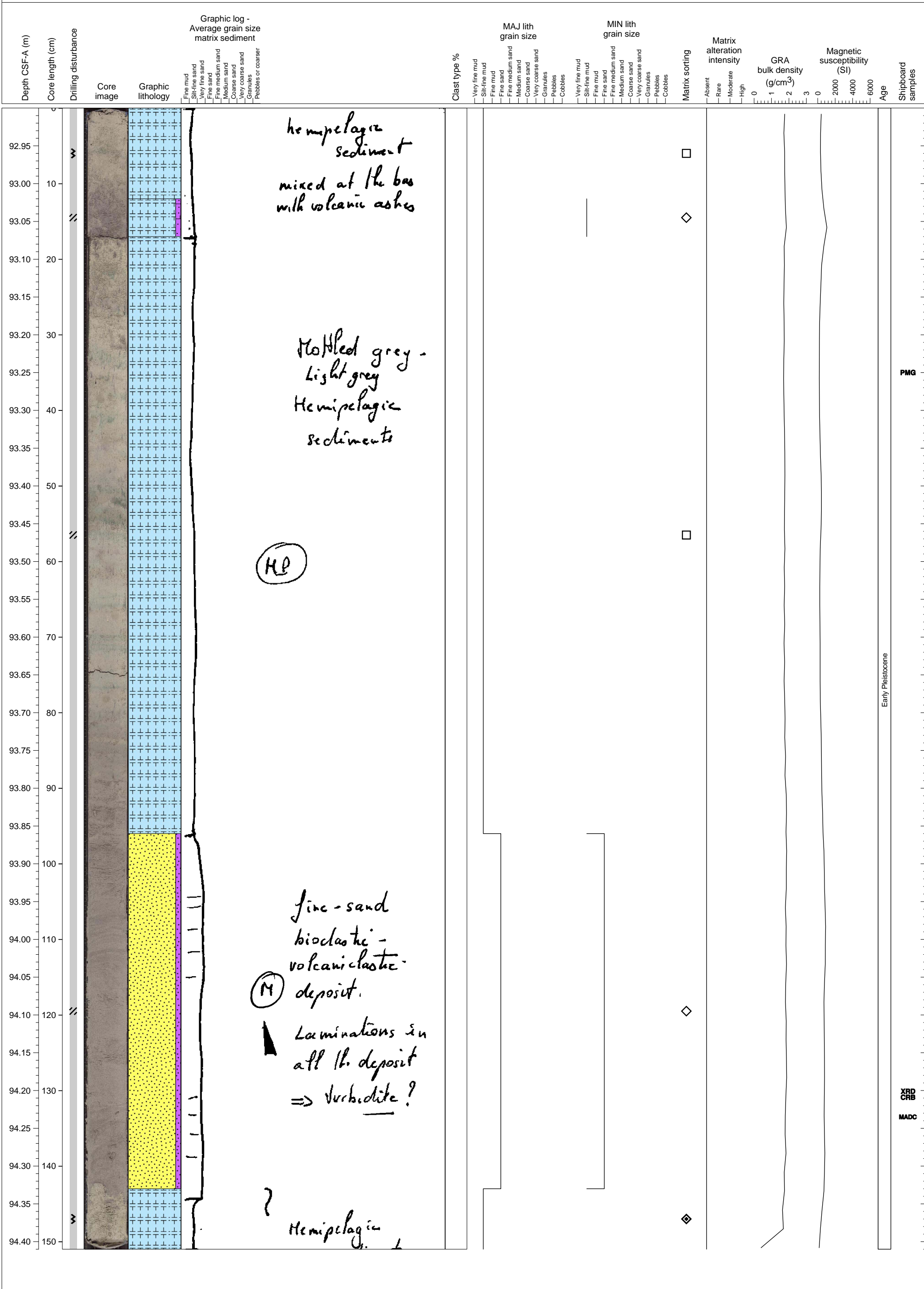
Uppermost part is a strongly bioturbated hemipelagic carbonate ooze. It is followed by a succession of volcanoclastic turbidites. Each sequence gradually varies from lower volcanoclast rich to upper carbonate ooze rich parts.



Hemipelagic sediments interlayered by at least three crystal-rich tephra layers and turbidites.

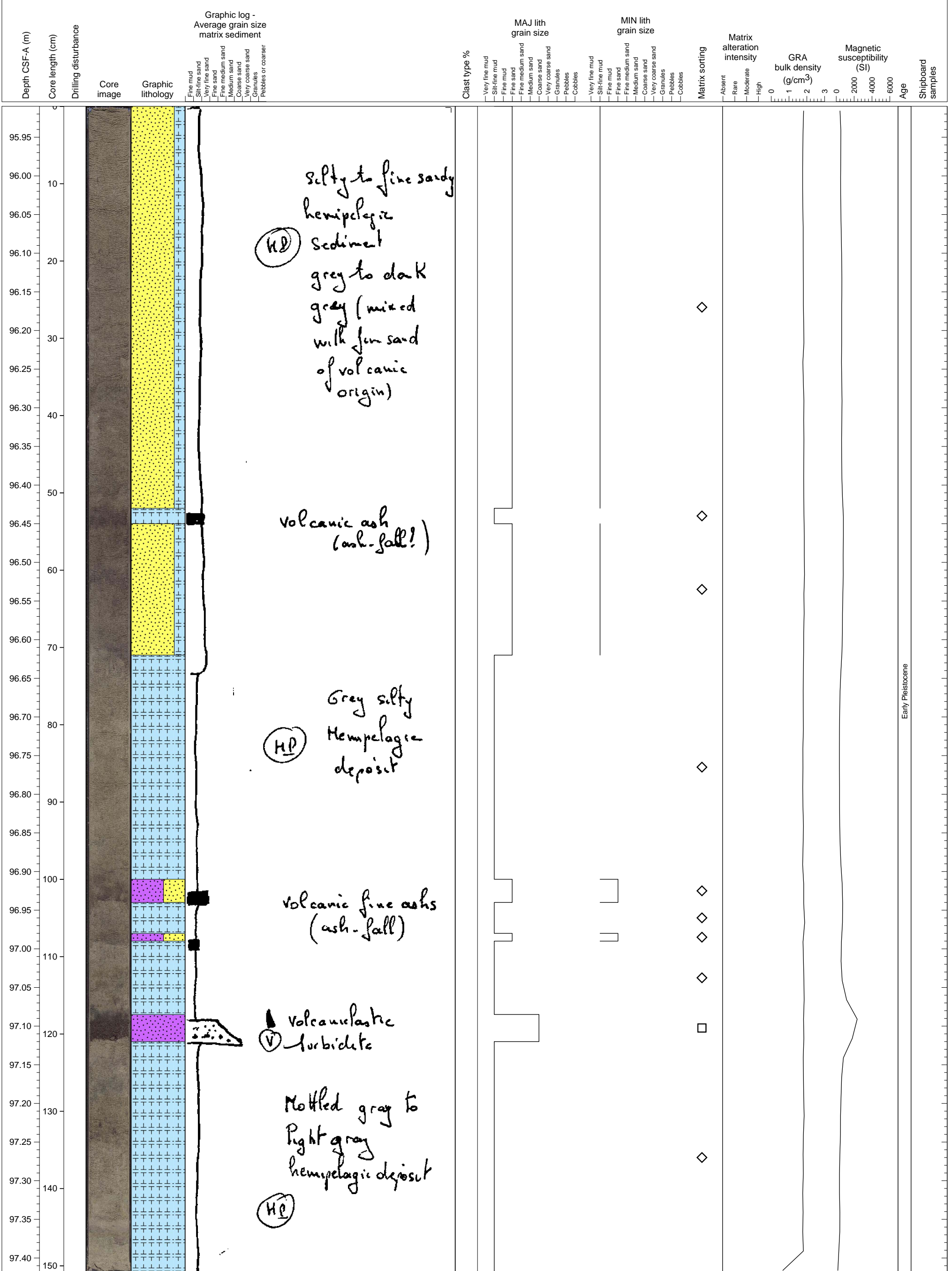


Hemipelagic sediments intercalated with laminated mixture of bioclastic and volcanoclastic turbidite layers.



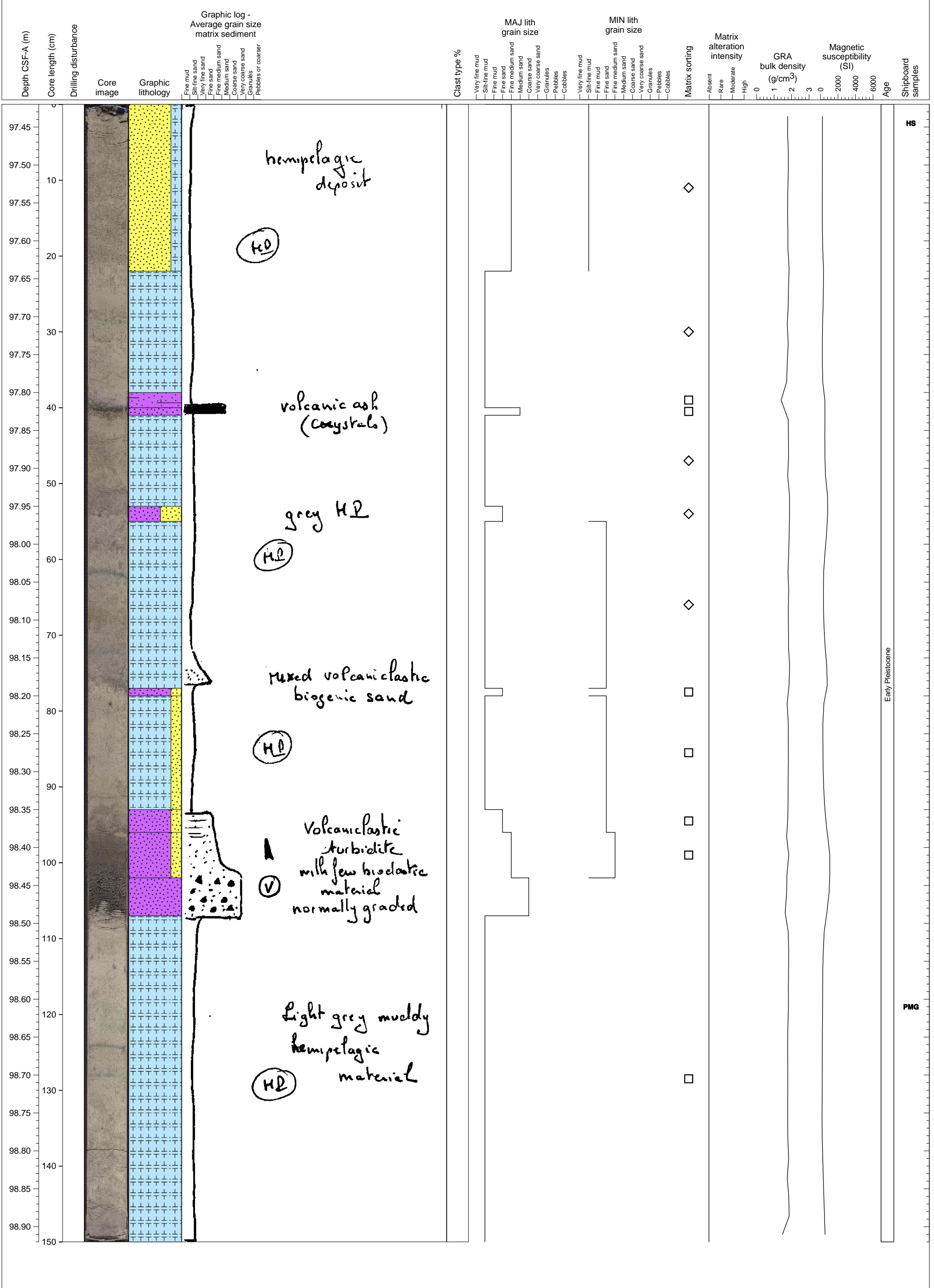


Hemipelagic sediments with a couple of intercalations of volcanoclastic and mixed turbidites.

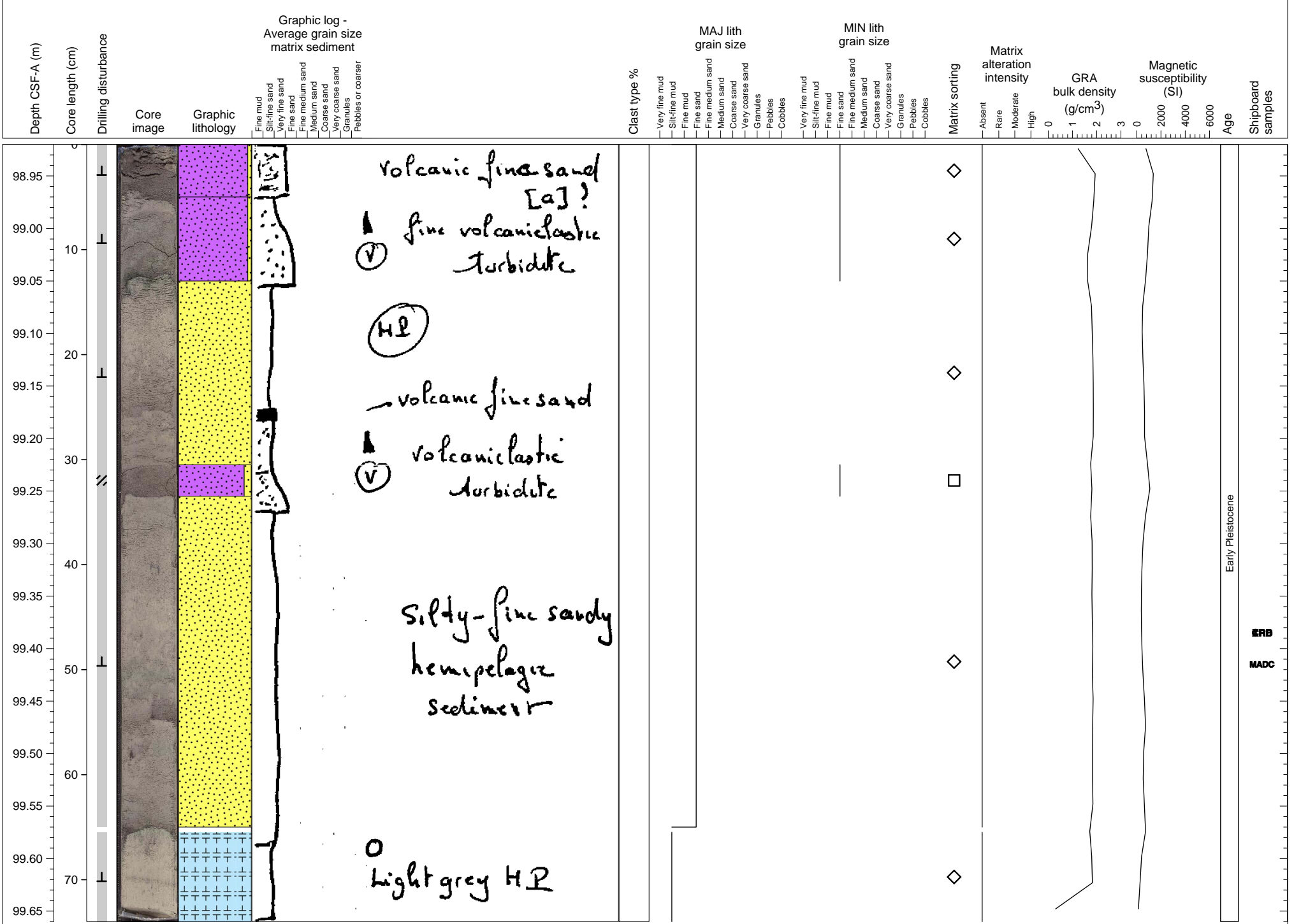




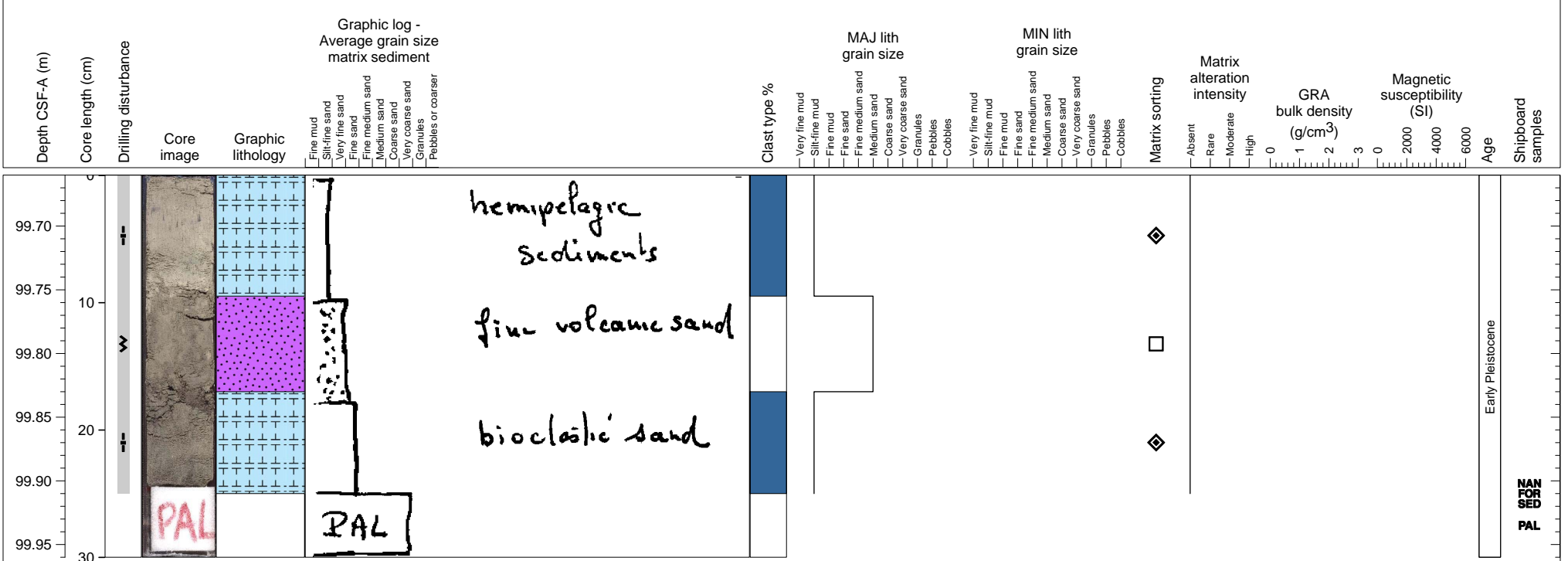
Hemipelagic fines with intercalations of volcanoclastic turbidite with one crystal rich ashfall layer.



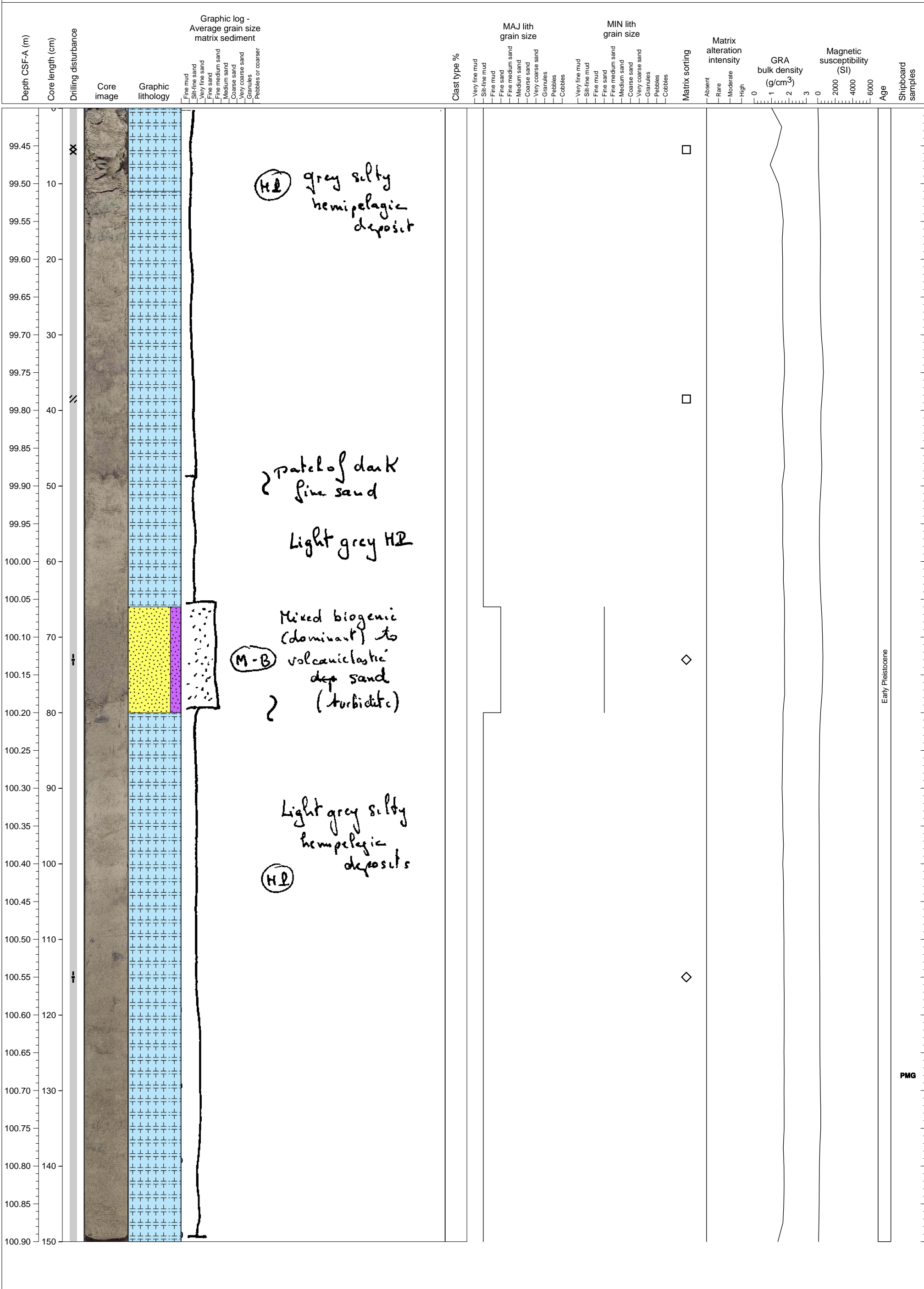
Predominantly hemipelagic sediments with two stacked turbidites atop and a thin ash layer.



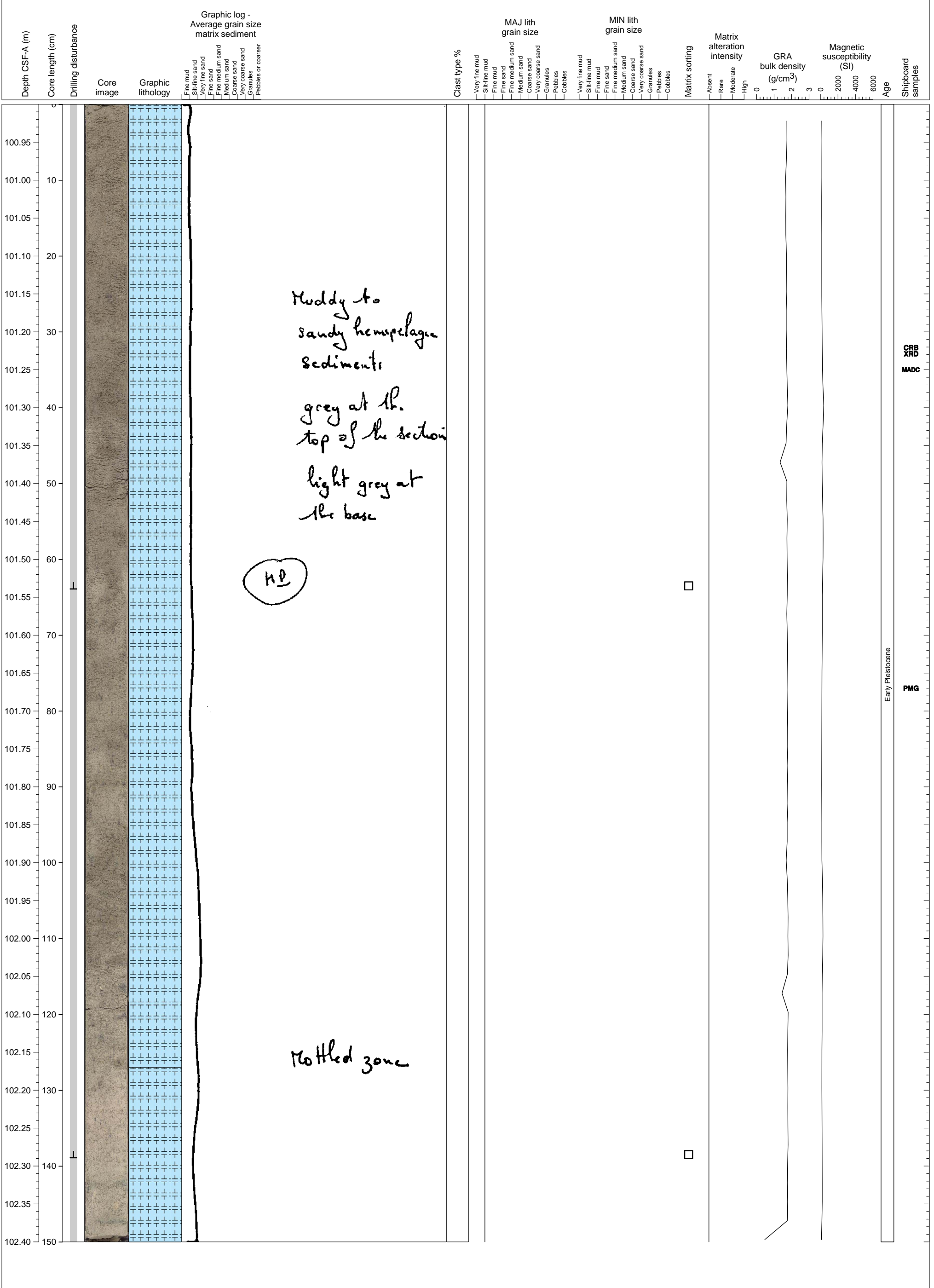
Interlayered hemipelagic clay with volcanoclastic turbidite. Significant bioturbation is present.



Hemipelagic sediment with a mixed bioclastic-volcaniclastic turbidite.



Hemipelagic sediments, heavily disturbed, but not by drilling.



Muddy to sandy hemipelagic sediments  
grey at the top of the section  
light grey at the base

HP

Mottled zone

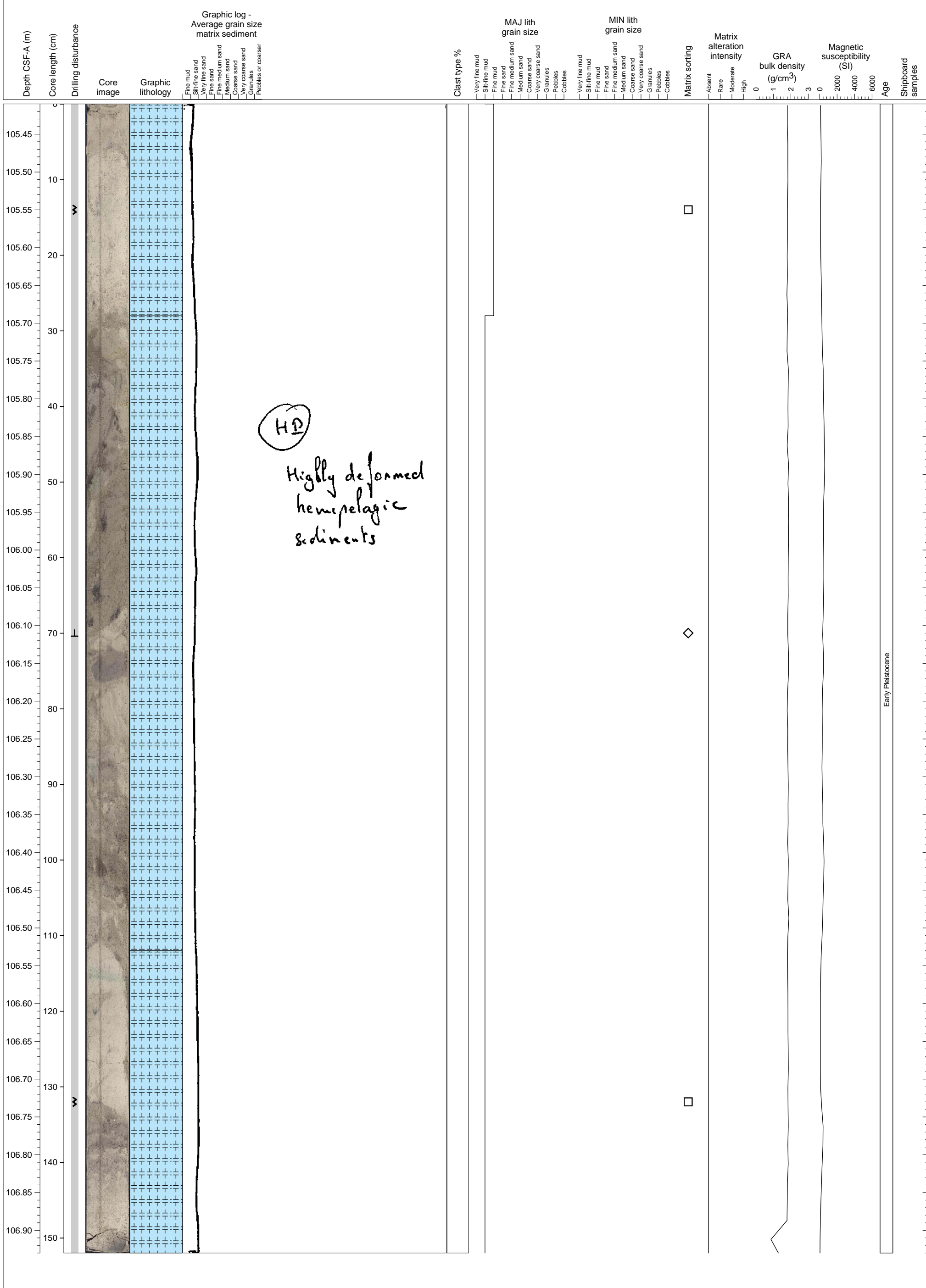
CRB  
XRD  
MADC

Early Pleistocene  
PMG



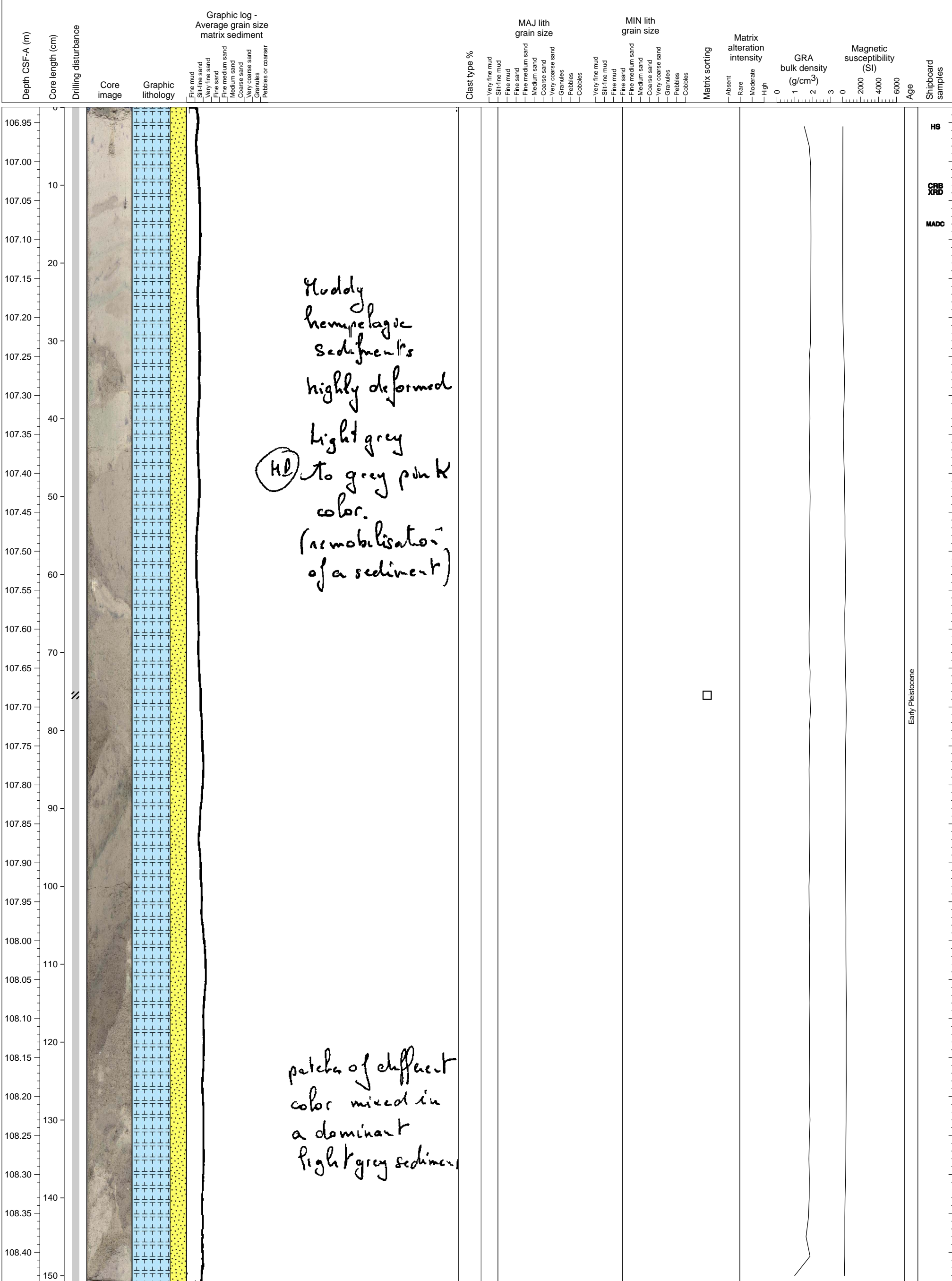


Grey colored totally deformed hemipelagic sediments (slump deposits?).

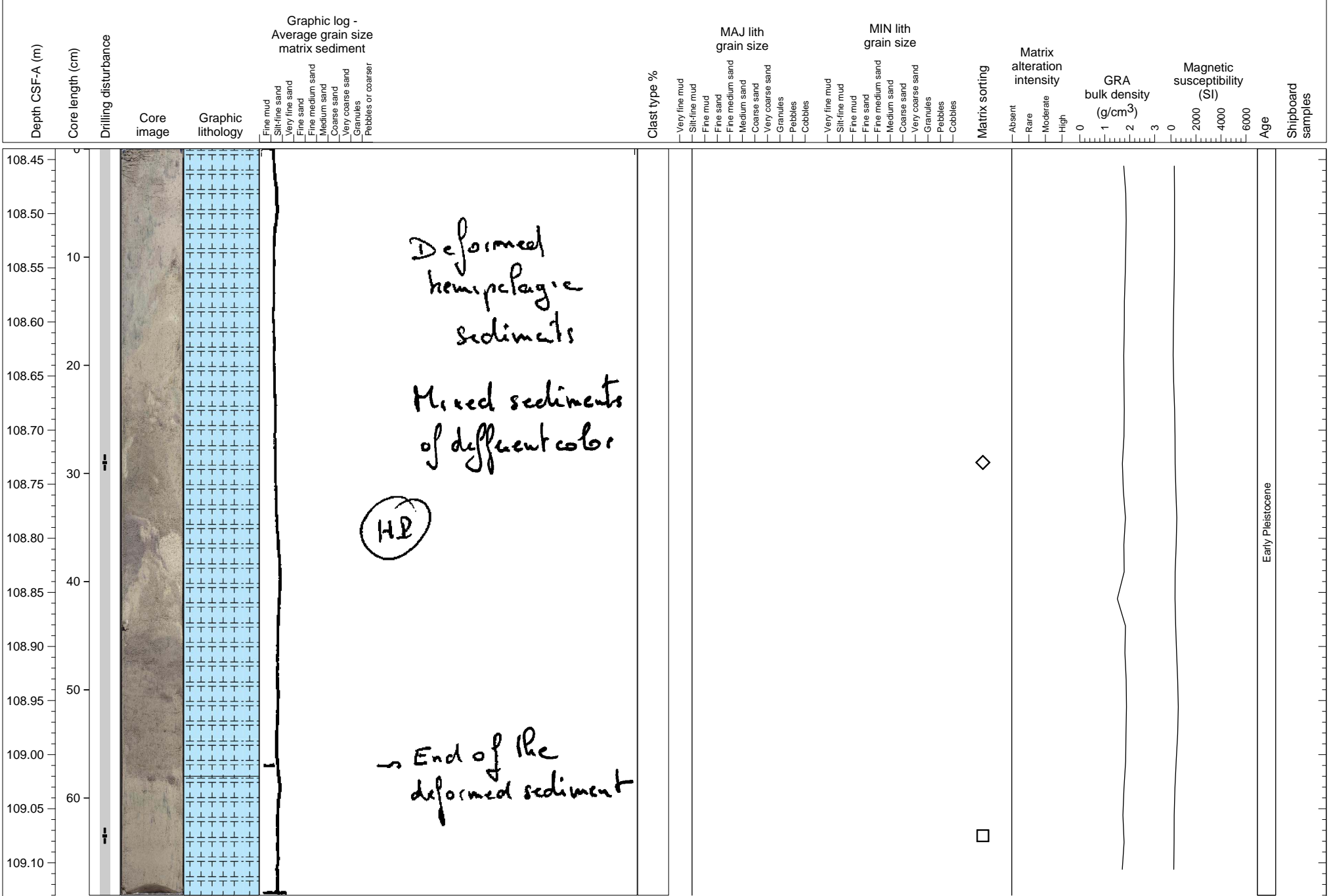




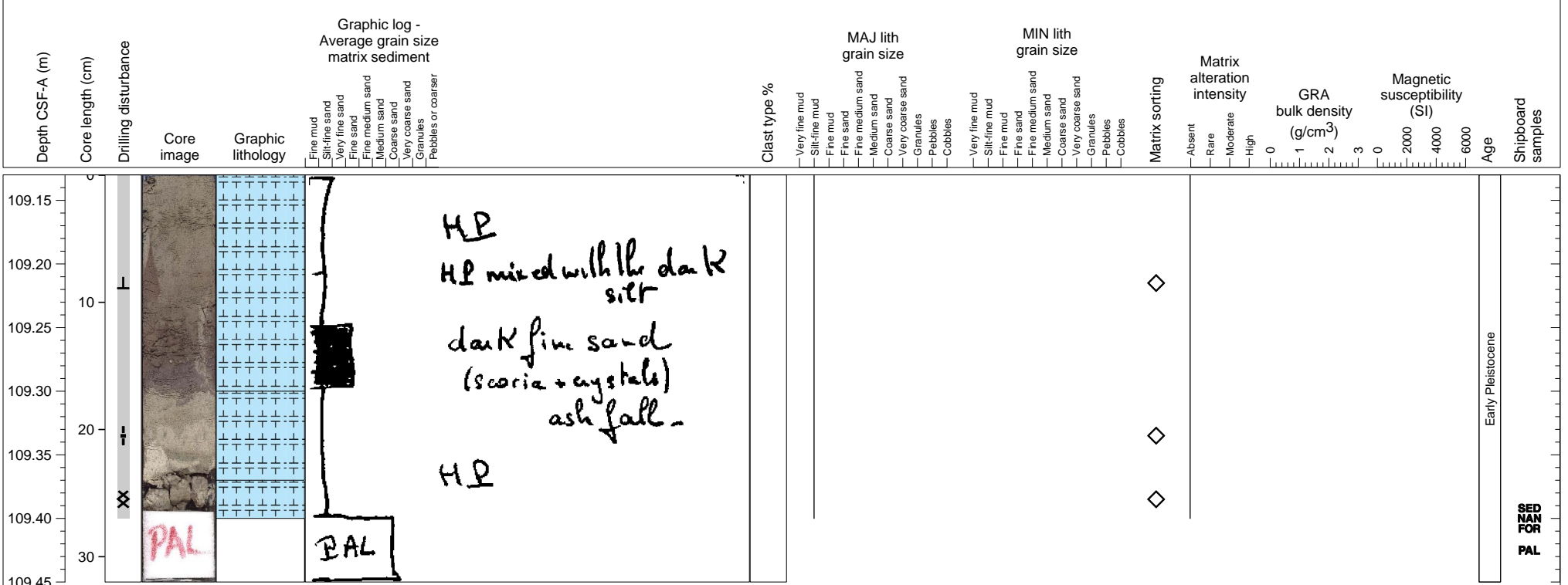
Highly deformed muddy hemipelagic sediment with light grey to greyish pink color. There are many patches of various shapes and colors especially lower part of this section. Deformation might be due to slumping.



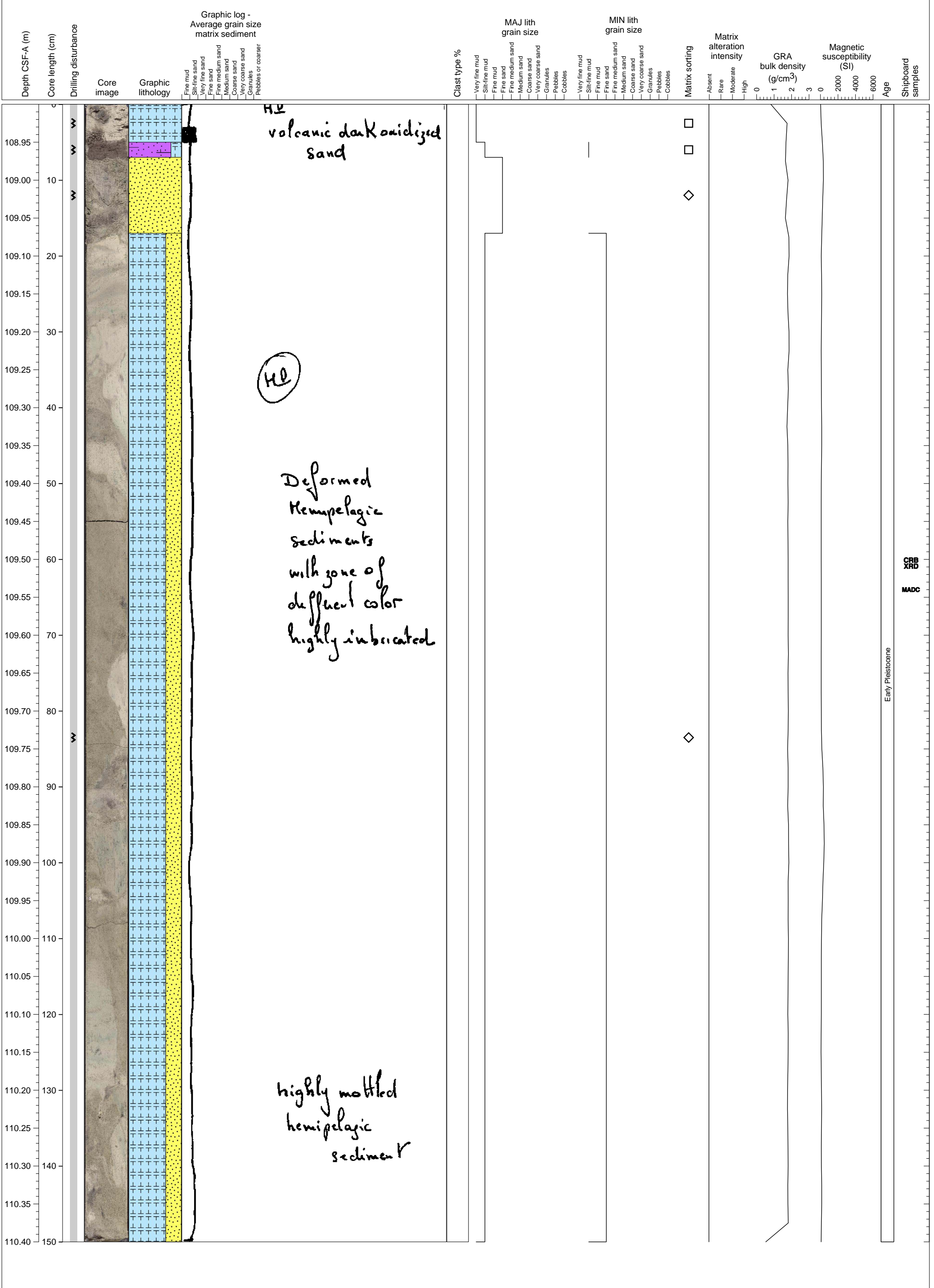
Hemipelagic sediments, heavily disturbed in upper part of section.



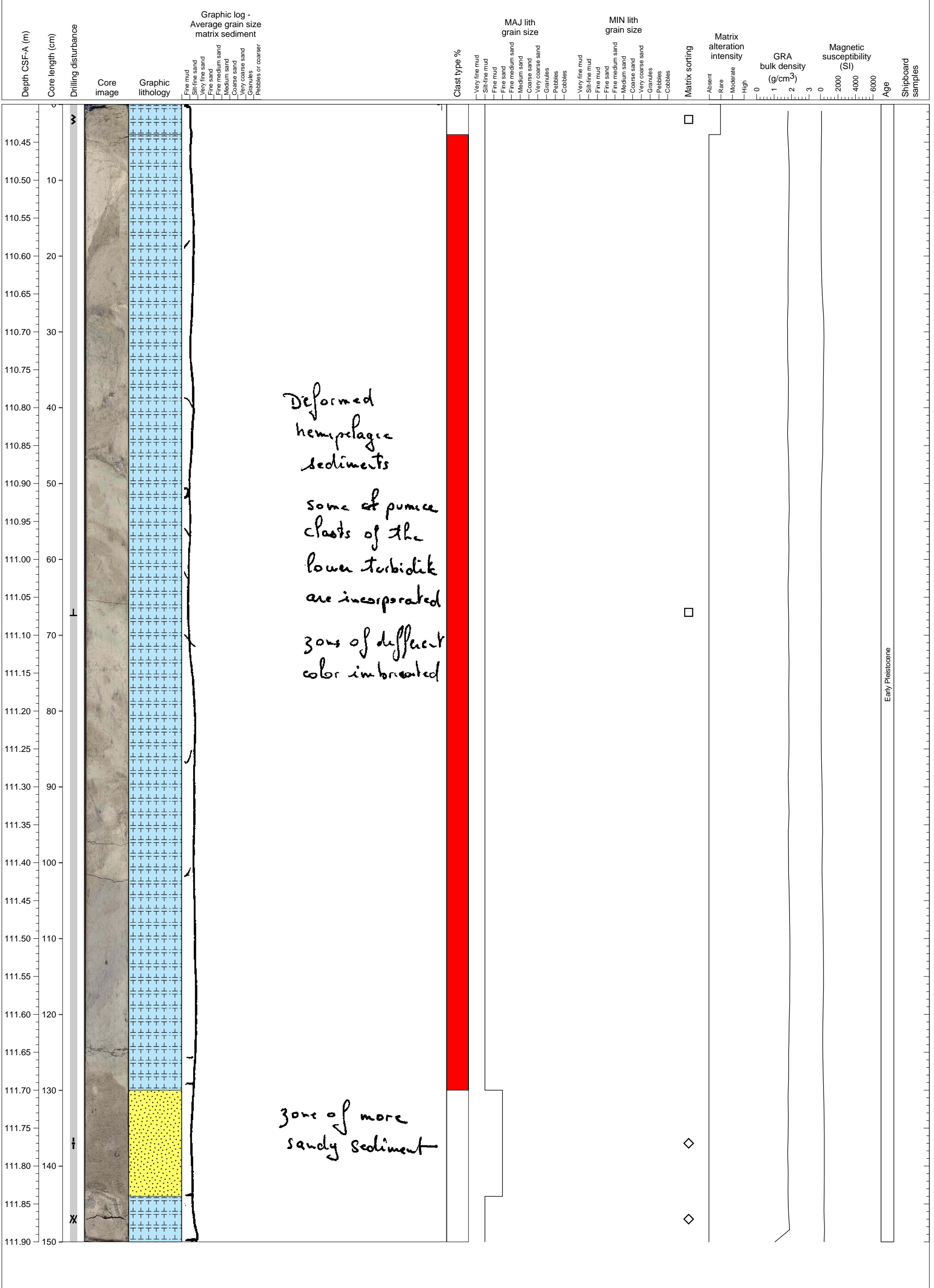
Heavily disturbed hemipelagic sediments.



Deformed hemipelagic sediments with a brown colored volcanoclastic mud layer in the upper part of this section.



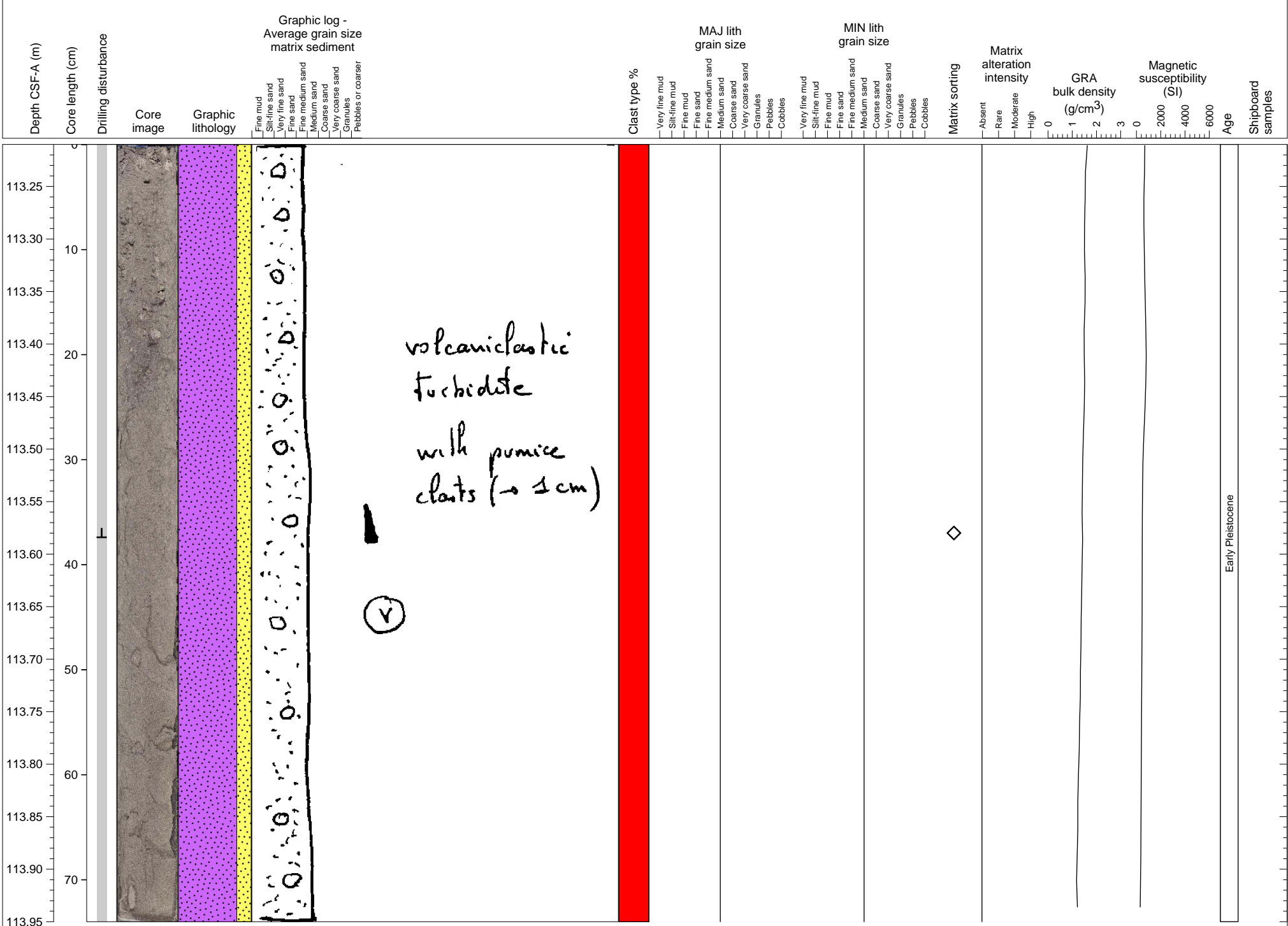
Hemipelagic sediments, sometimes heavily distorted and slightly bioturbated.



Part of pumiceous, volcanoclastic turbidite sequence; 4 cm size pumice.



Mixed volcanoclastic/carbonate turbidite with rounded pumice clasts.

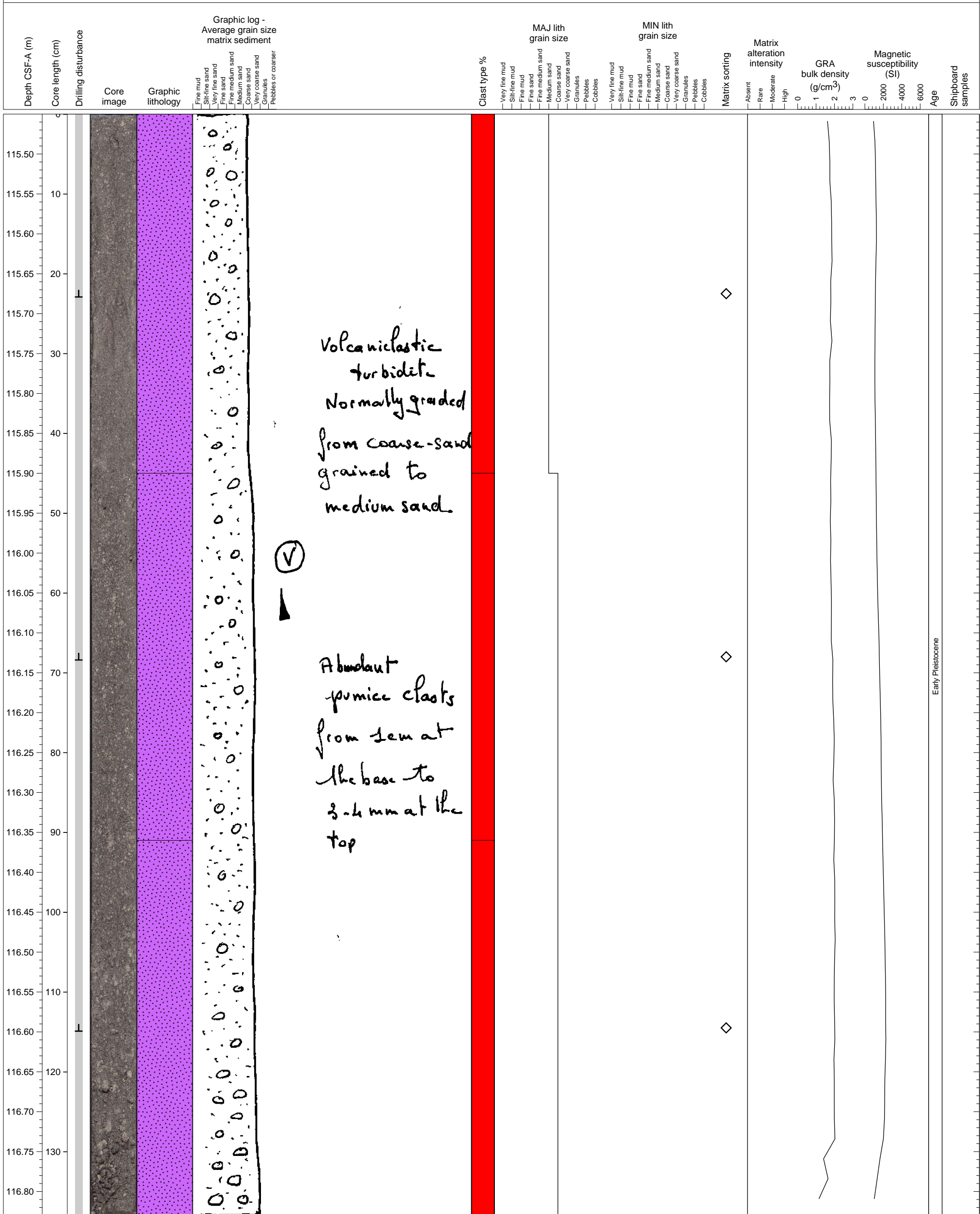


Middle part of a volcanoclastic turbidite with pumice clasts. Normal grading from the bottom of the section to the top. Pumice clasts (up to 1.5cm size), feldspar, and amphibole grains are present.





Volcaniclastic turbidite normally graded from coarse sand to medium sand in size, with angular pumice clasts of up to 1 cm.



Volcaniclastic turbidite normally graded from coarse-sand grained to medium sand.

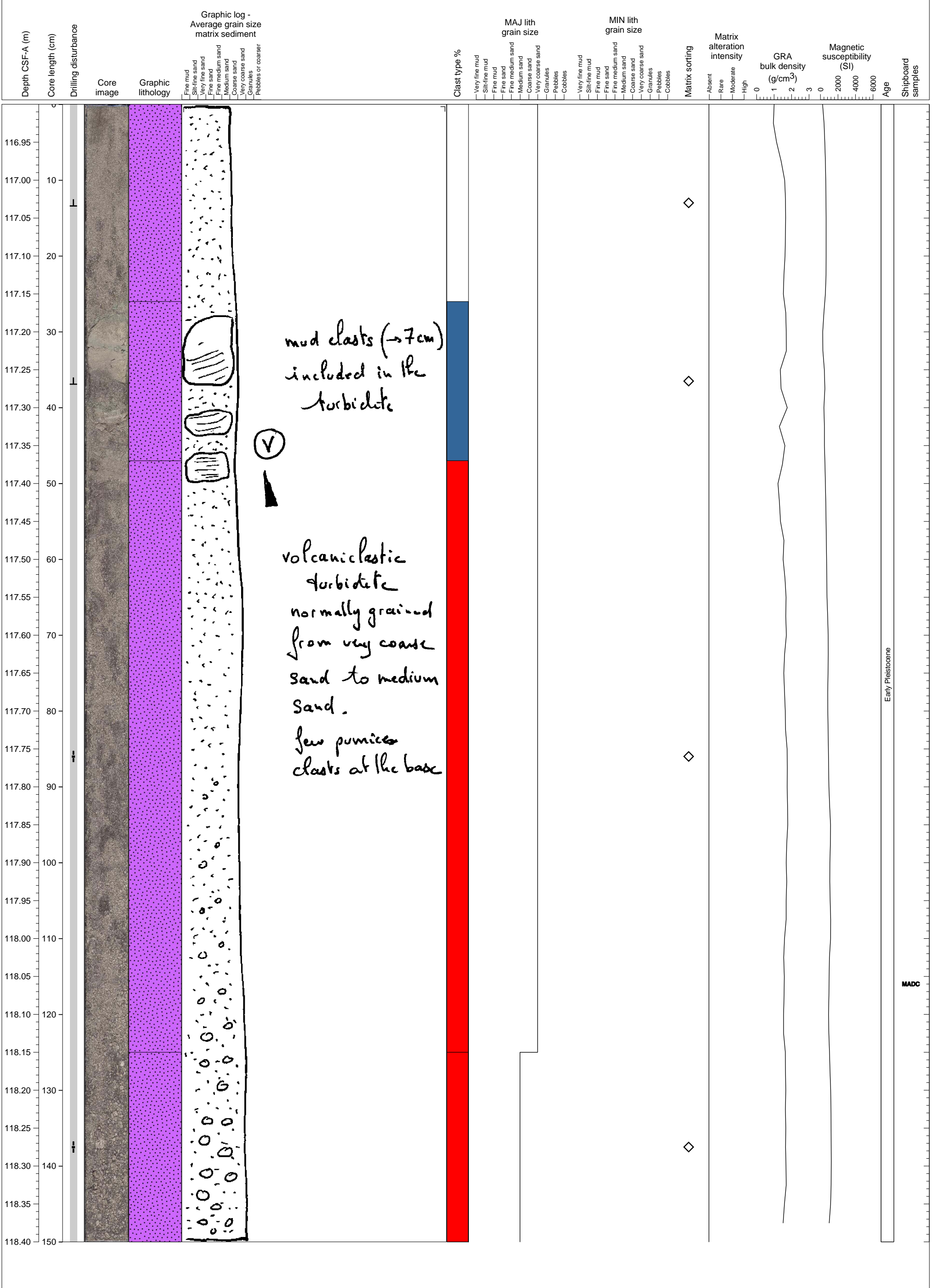
Ⓟ  
▲

Abundant pumice clasts from 1cm at the base to 2-4 mm at the top

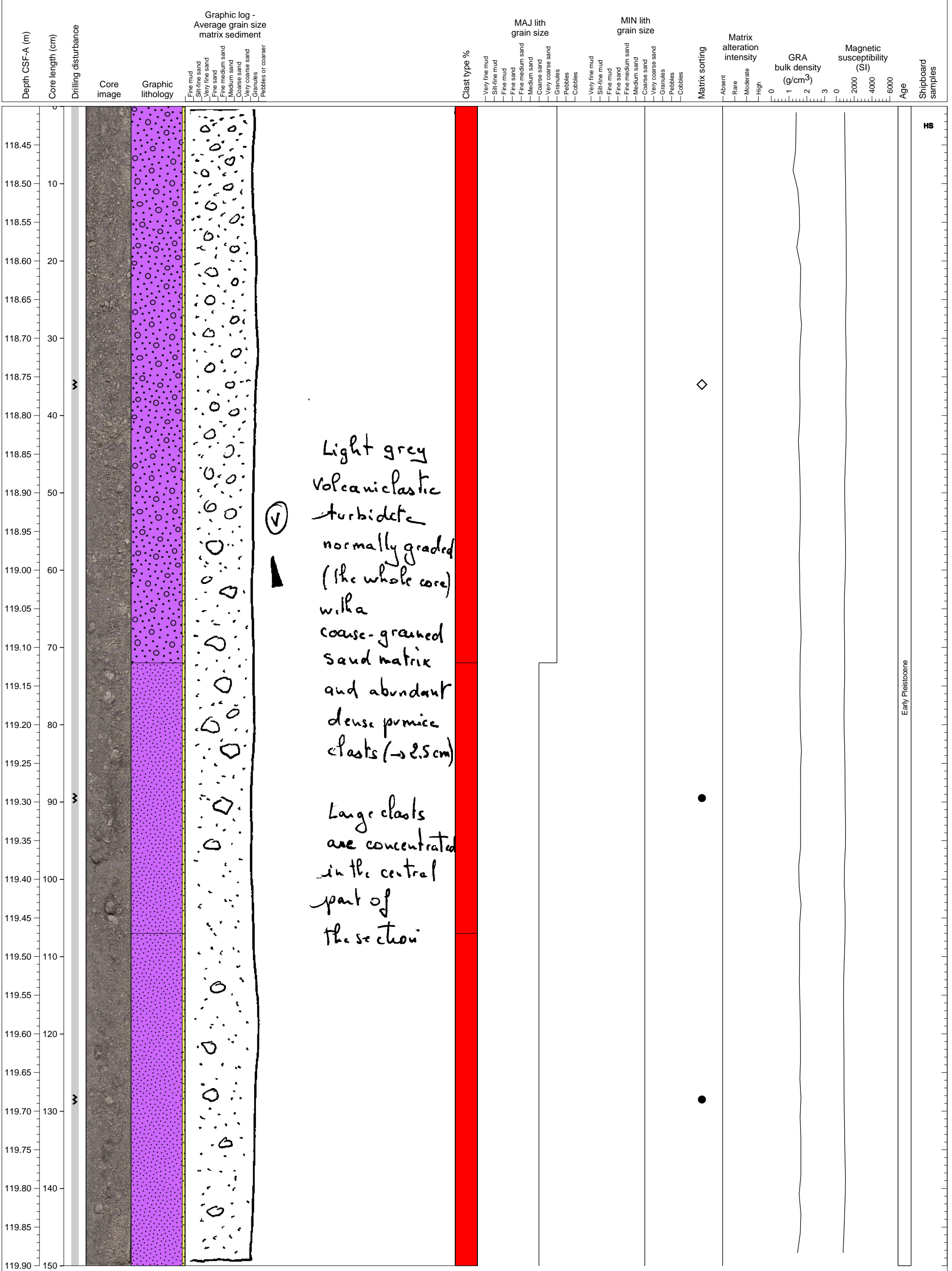
Early Pleistocene



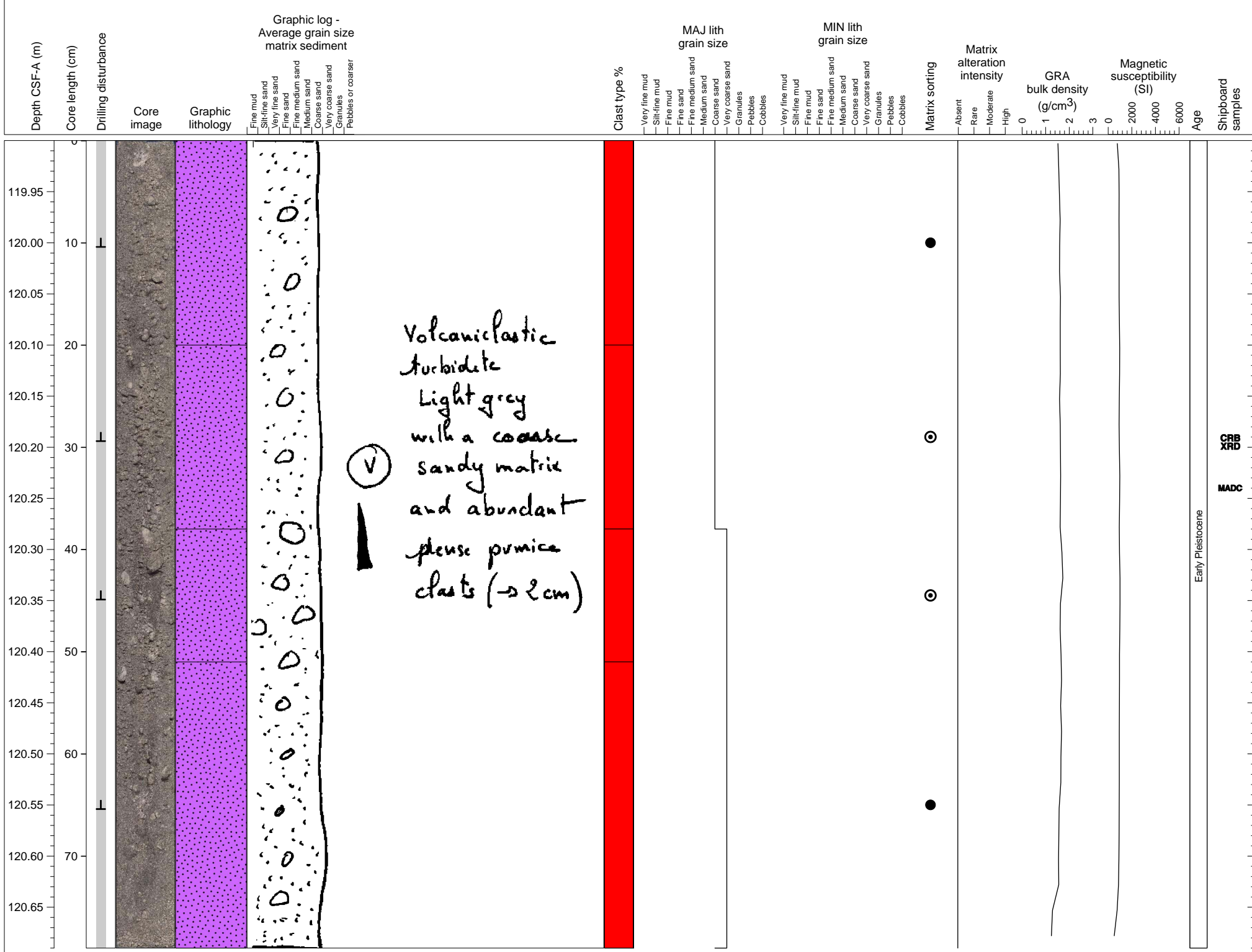
Thick volcanoclastic turbidite with pumice-rich matrix and clasts.



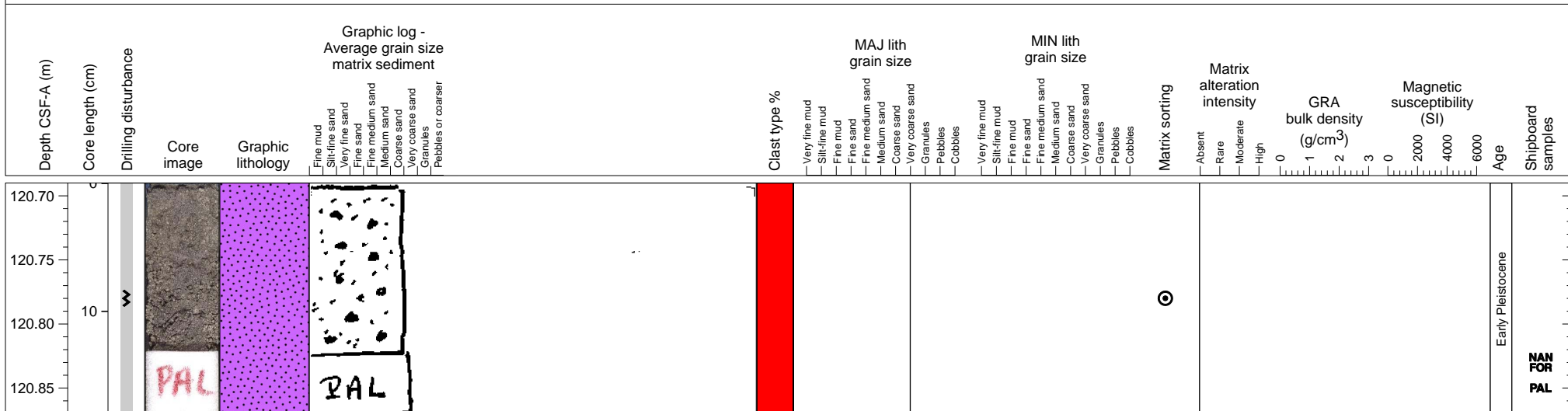
Pumiceous massive unit; pumice clasts (up to 2 cm) and amphibole are present.



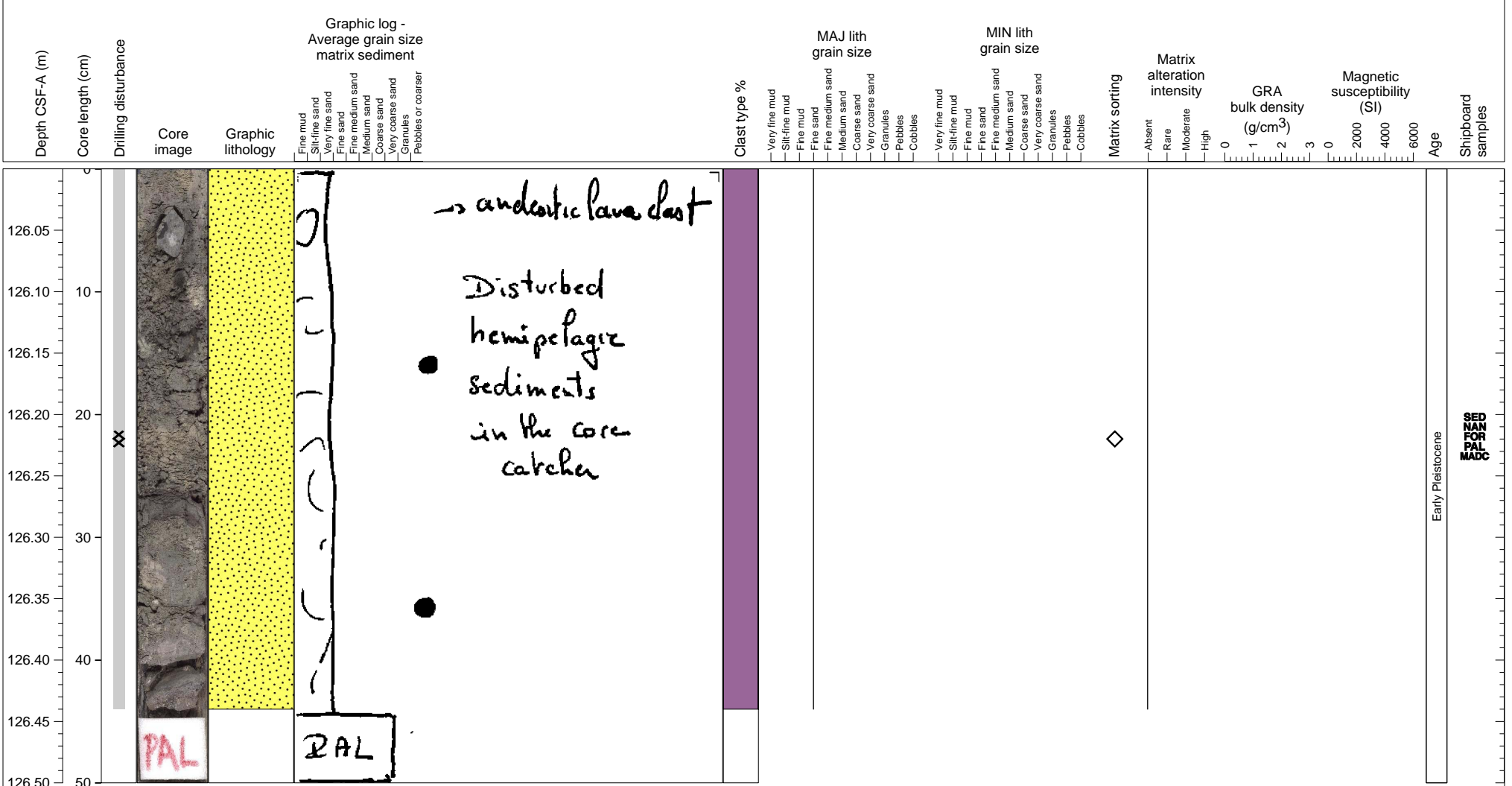
Coarse grained volcanoclastic turbidite, probably lower portion of the pumiceous volcanoclastic turbidite sequence.



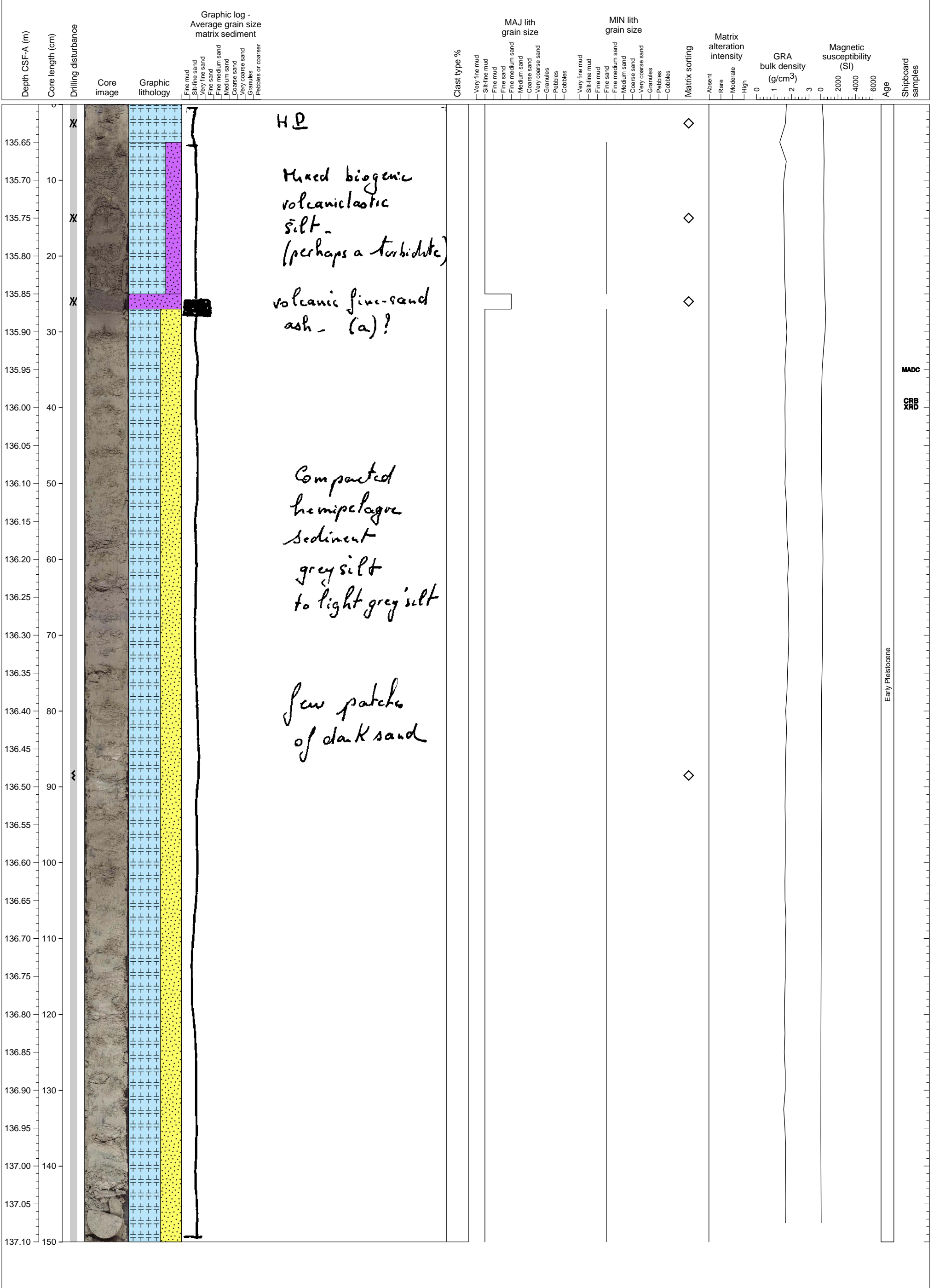
Lowermost part? of pumiceous volcaniclastic turbidite.



Highly disturbed (by coring) hemipelagic sediment with a single large (40 mm) andesite lava clast.



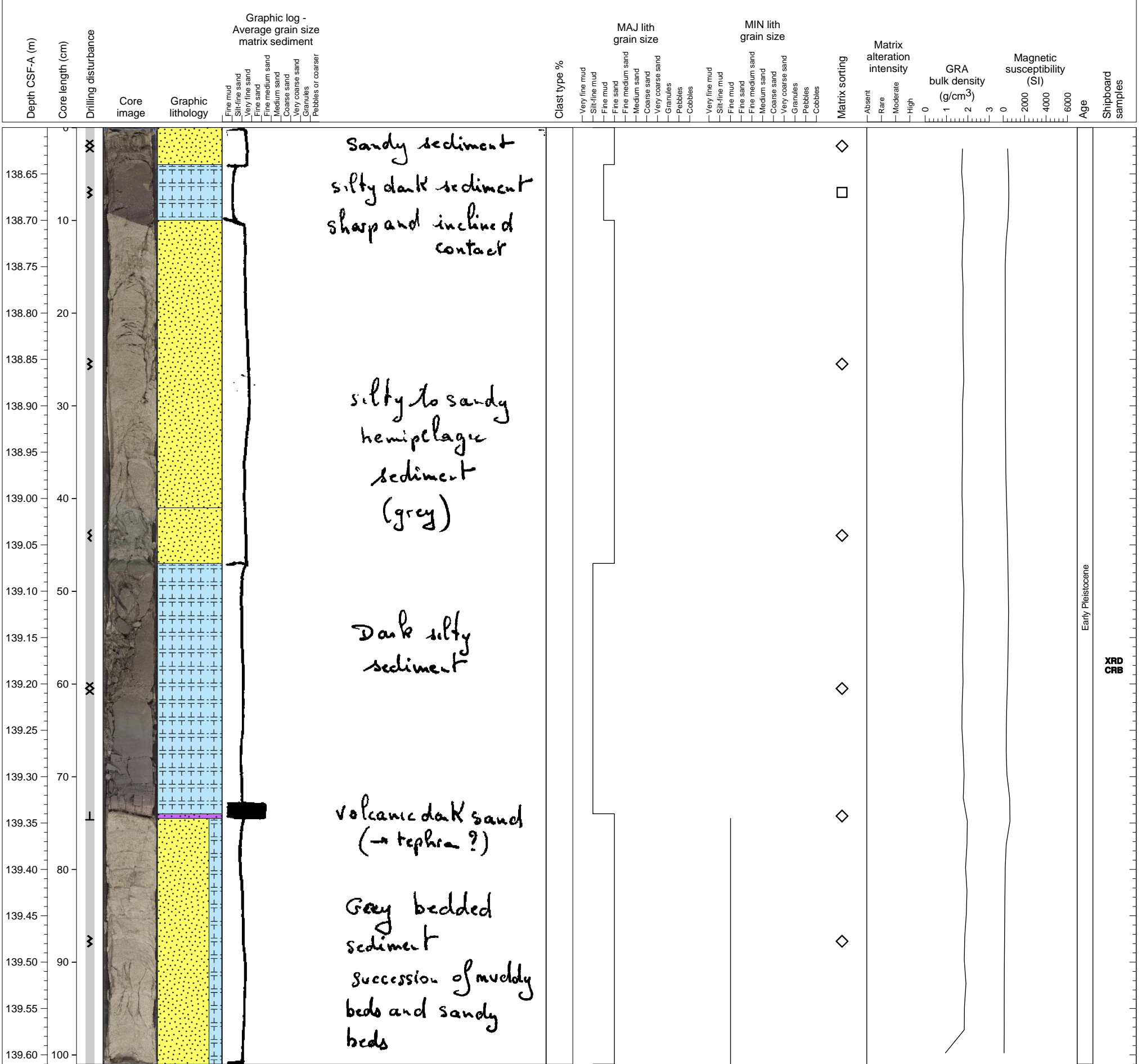
Hemipelagic fines.



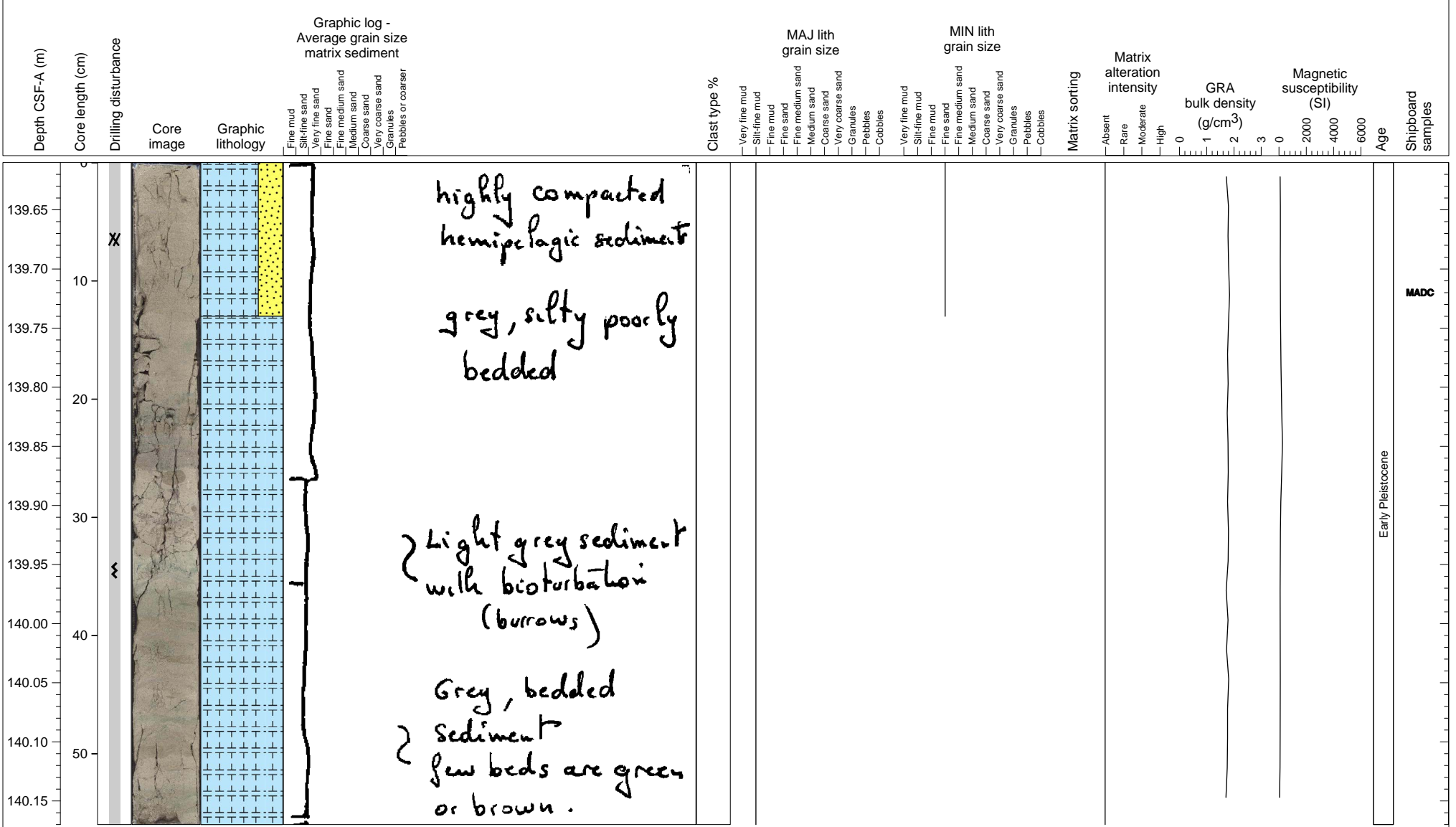




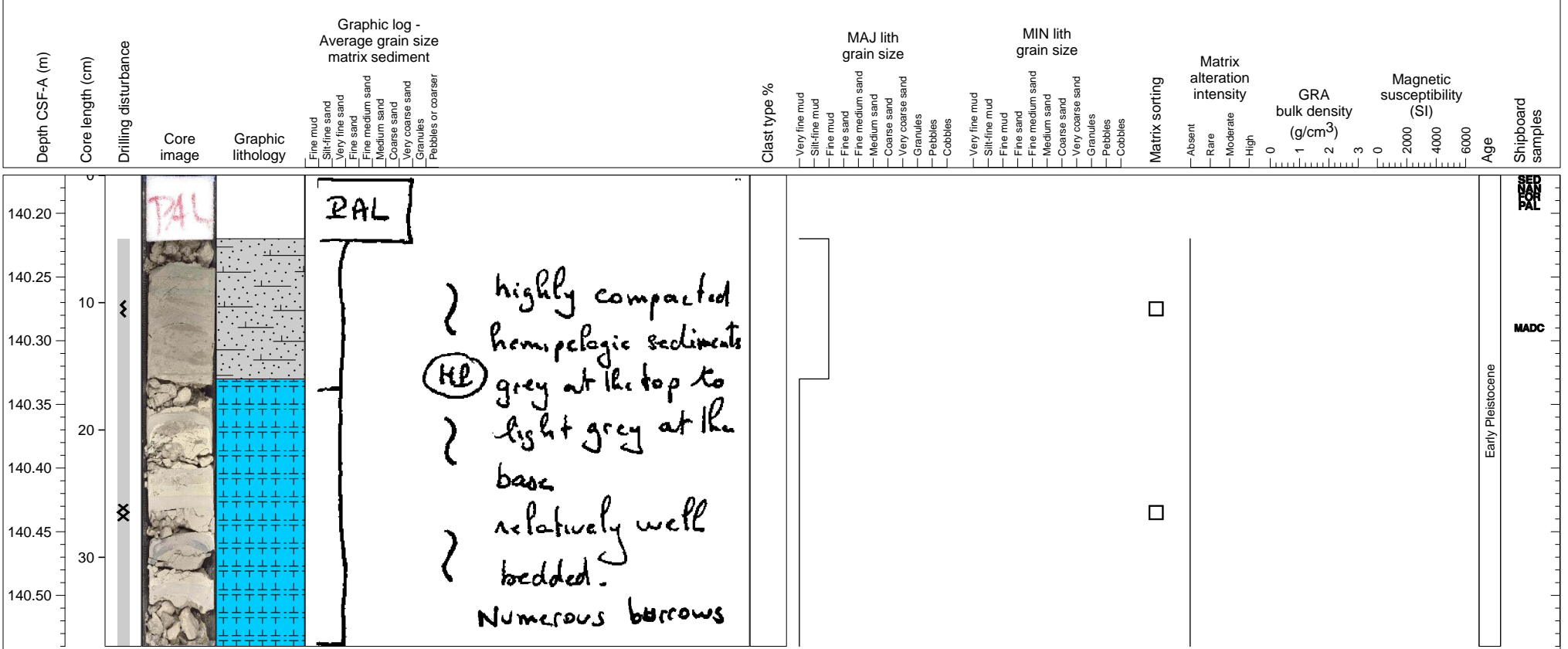
Sequence of slightly to moderately lithified calcareous sands with a thin ash-rich layer.



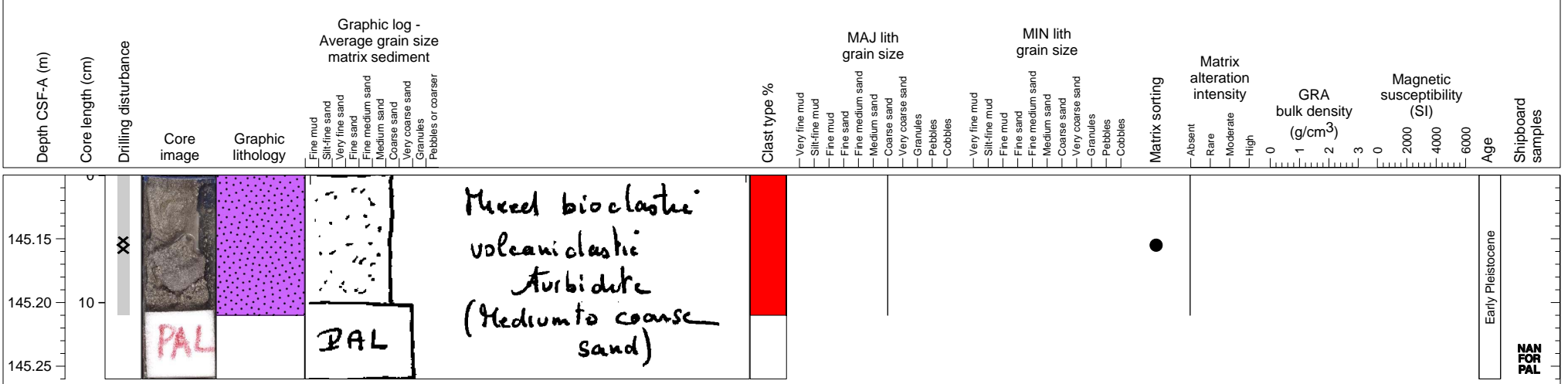
Laminated, bioturbated, hemipelagic sediments.



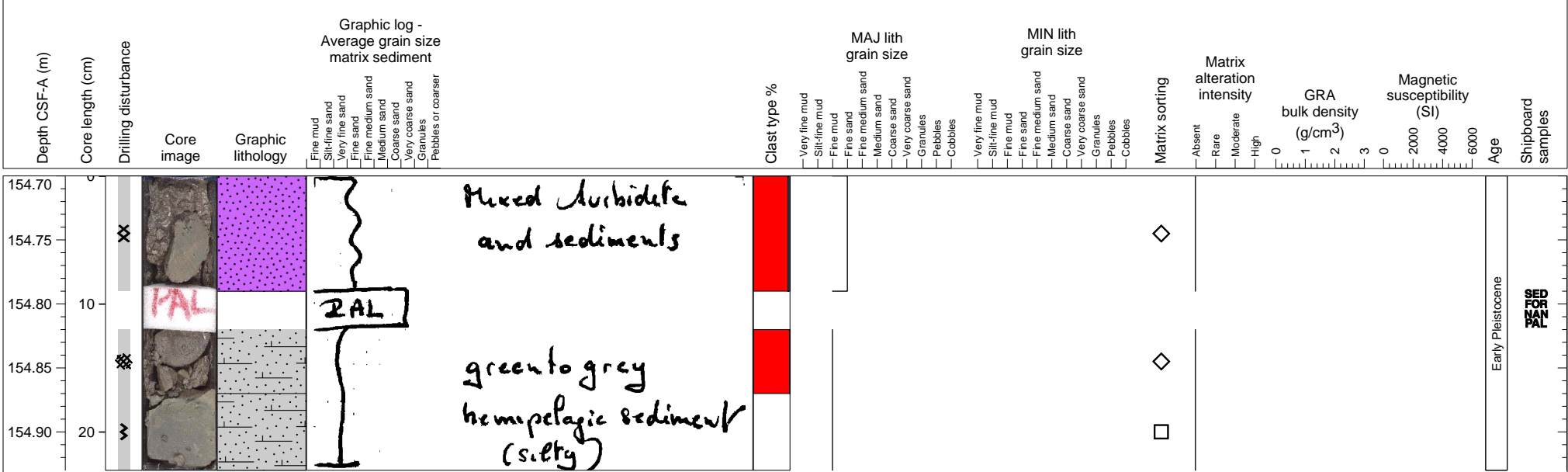
Grey, laminated, bioturbated, hemipelagic sediments.



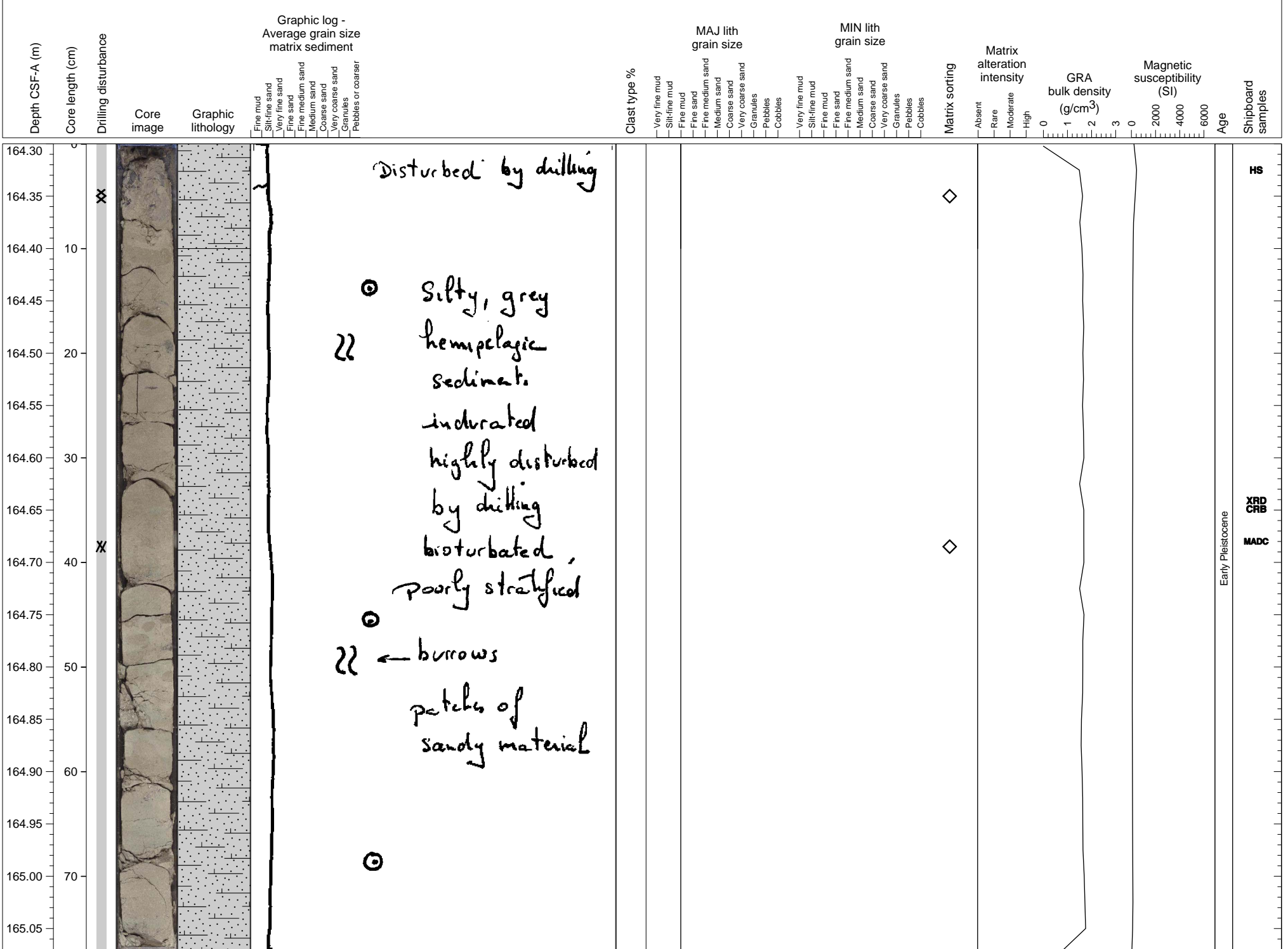
Severely disturbed (by drilling) sample of pumice-rich volcanoclastic turbidite.



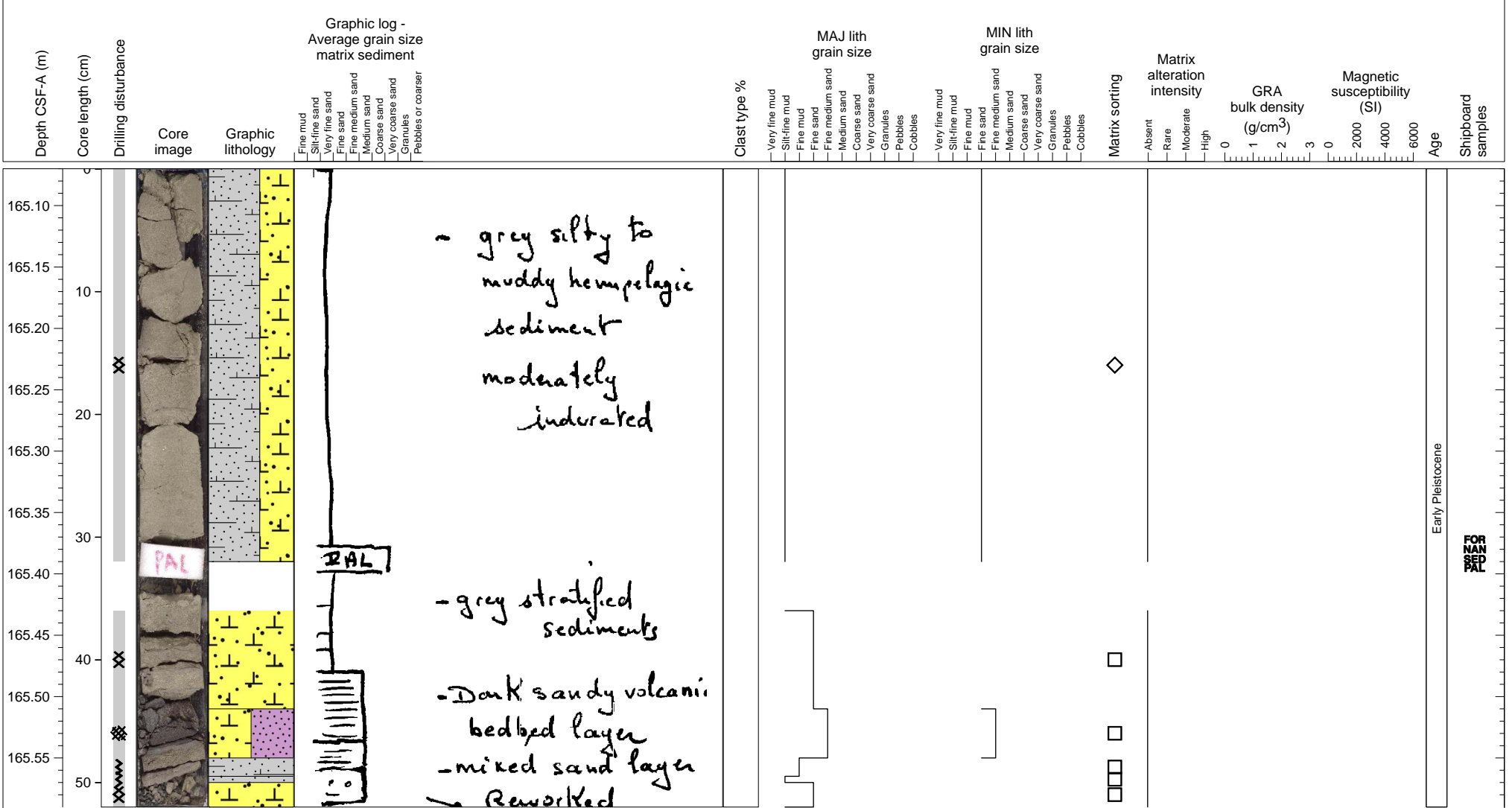
Heavily disturbed pieces of volcanoclastic sand with pumice and bioturbated hemipelagic sediments.



Moderately lithified hemipelagic sediment with strong bioturbation, including patches of medium sand in burrows. Top 10 cm severely damaged by drilling.



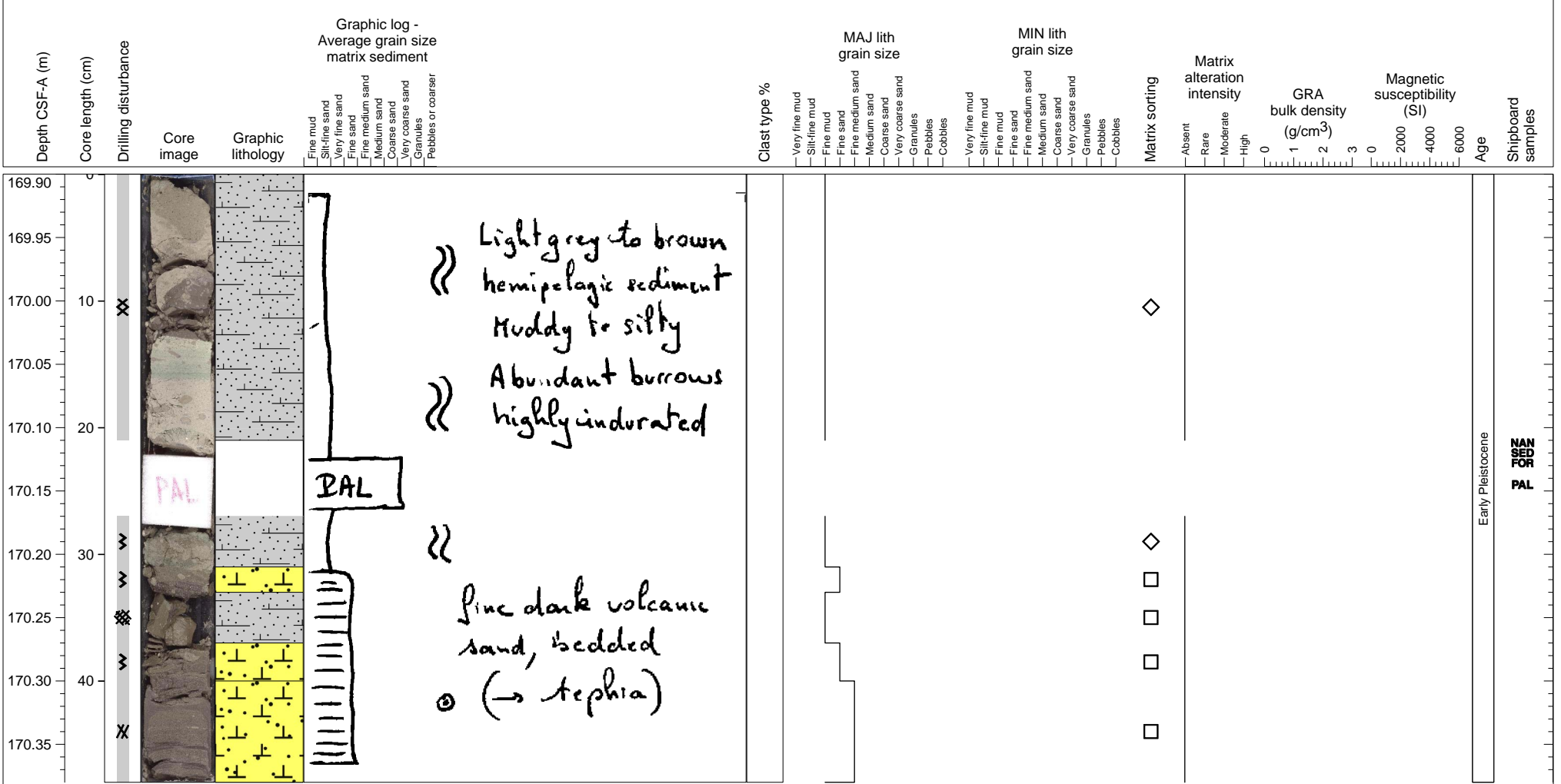
Hemipelagic sediment with turbidites.



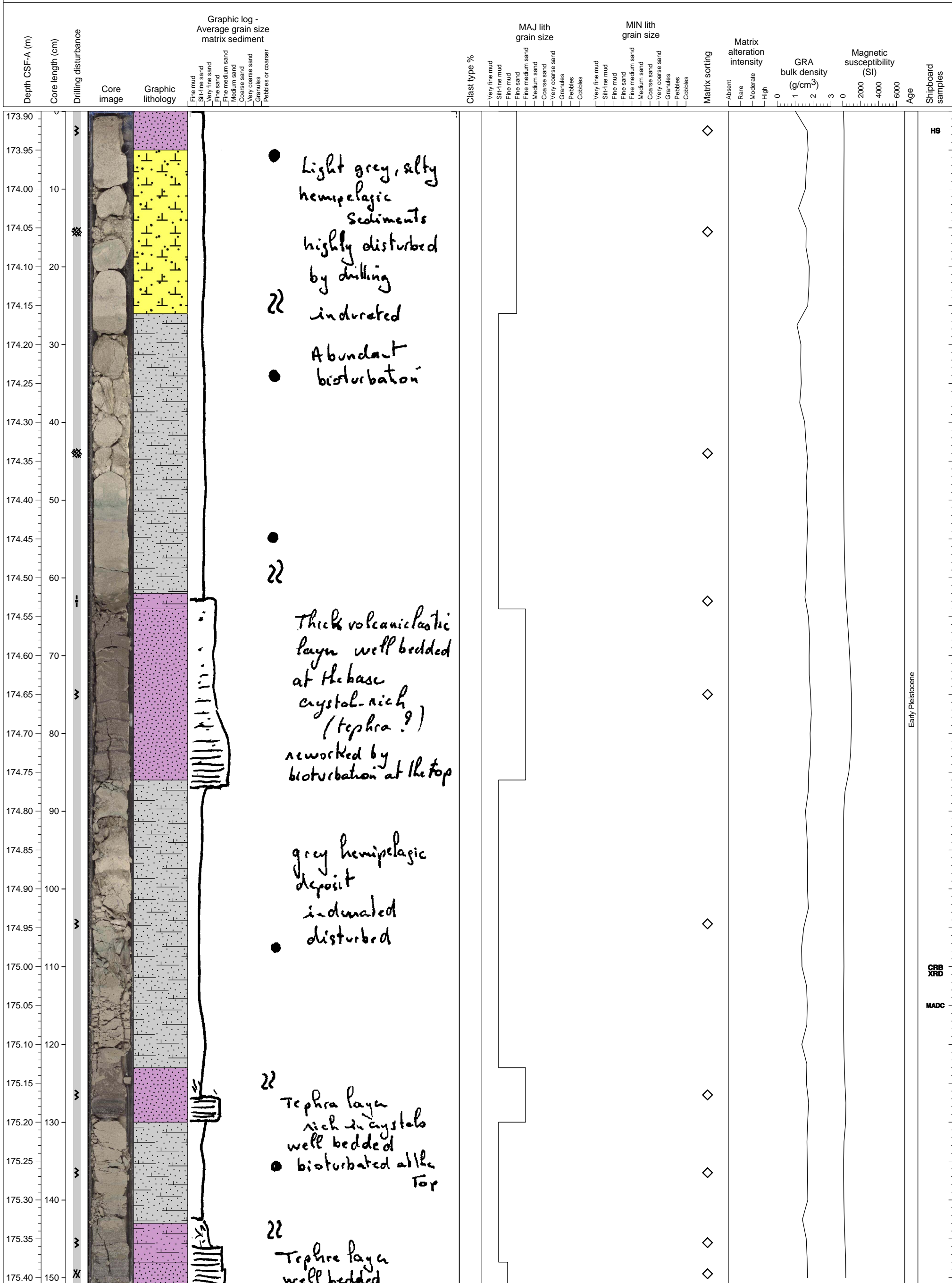




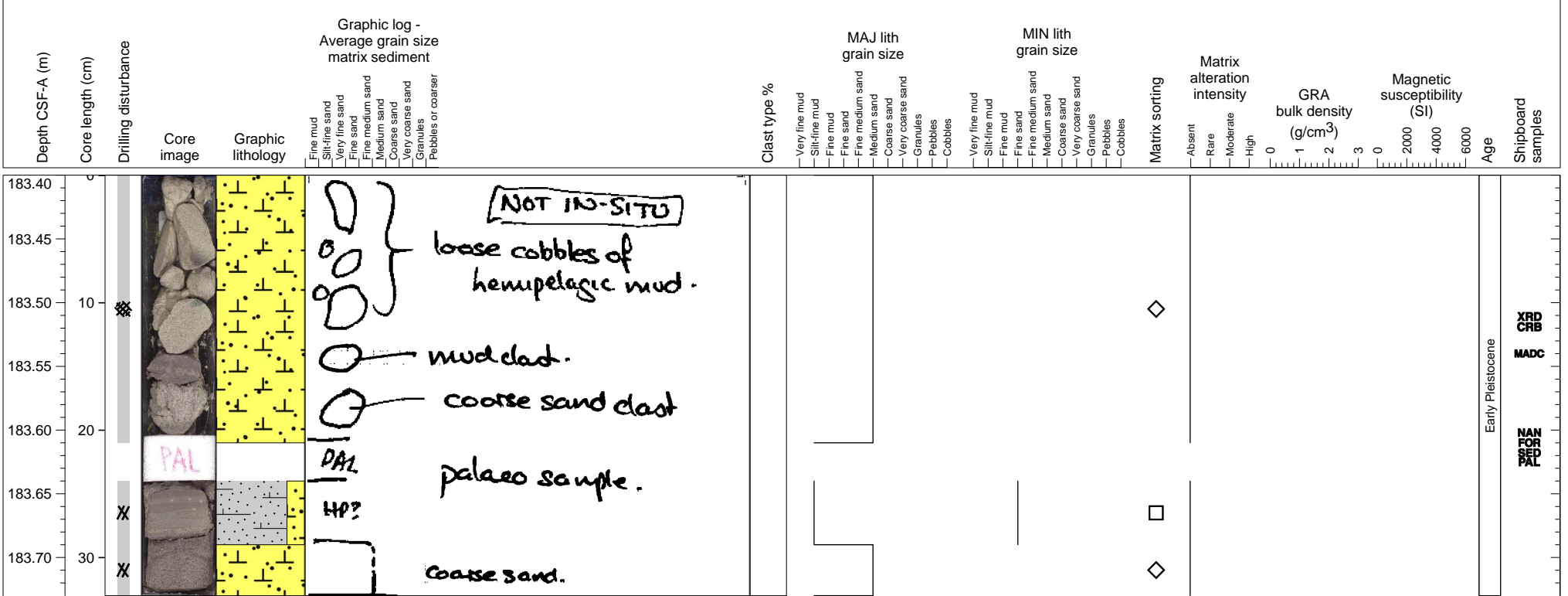
Hemipelagic sediment and turbidite.



This section contains three turbidites having normal grading at 62-86, 123-130, and 143-151 cm intervals. The upper parts of turbidites are commonly bioturbated and the boundaries with the upper hemipelagic sediment are often diffuse.



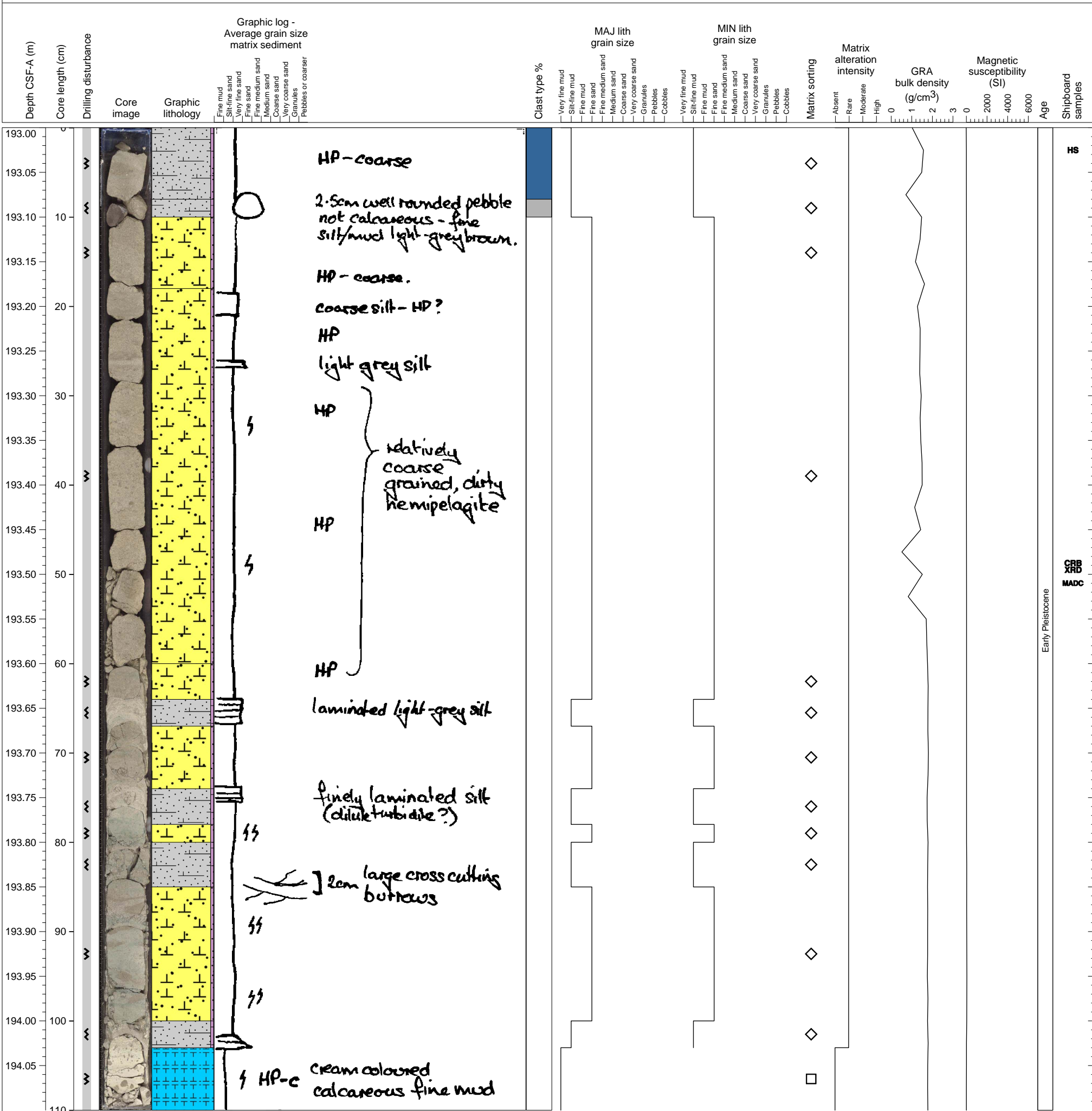
Bedded hemipelagic sediment.



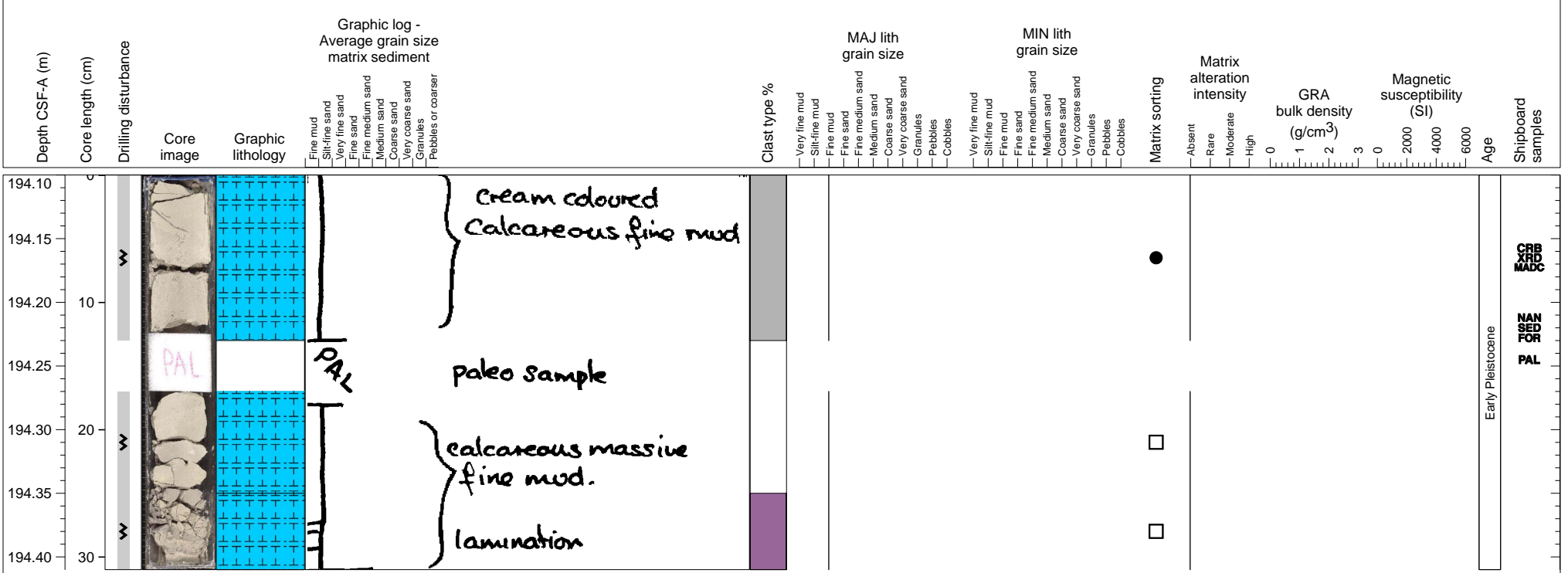
**NOT IN-SITU**  
 loose cobbles of hemipelagic mud.  
 mud clast.  
 coarse sand clast  
 PAL palaeo sample.  
 HP?  
 coarse sand.

Early Pleistocene  
 XRD CRB  
 MADC  
 NAN FOR SED PAL

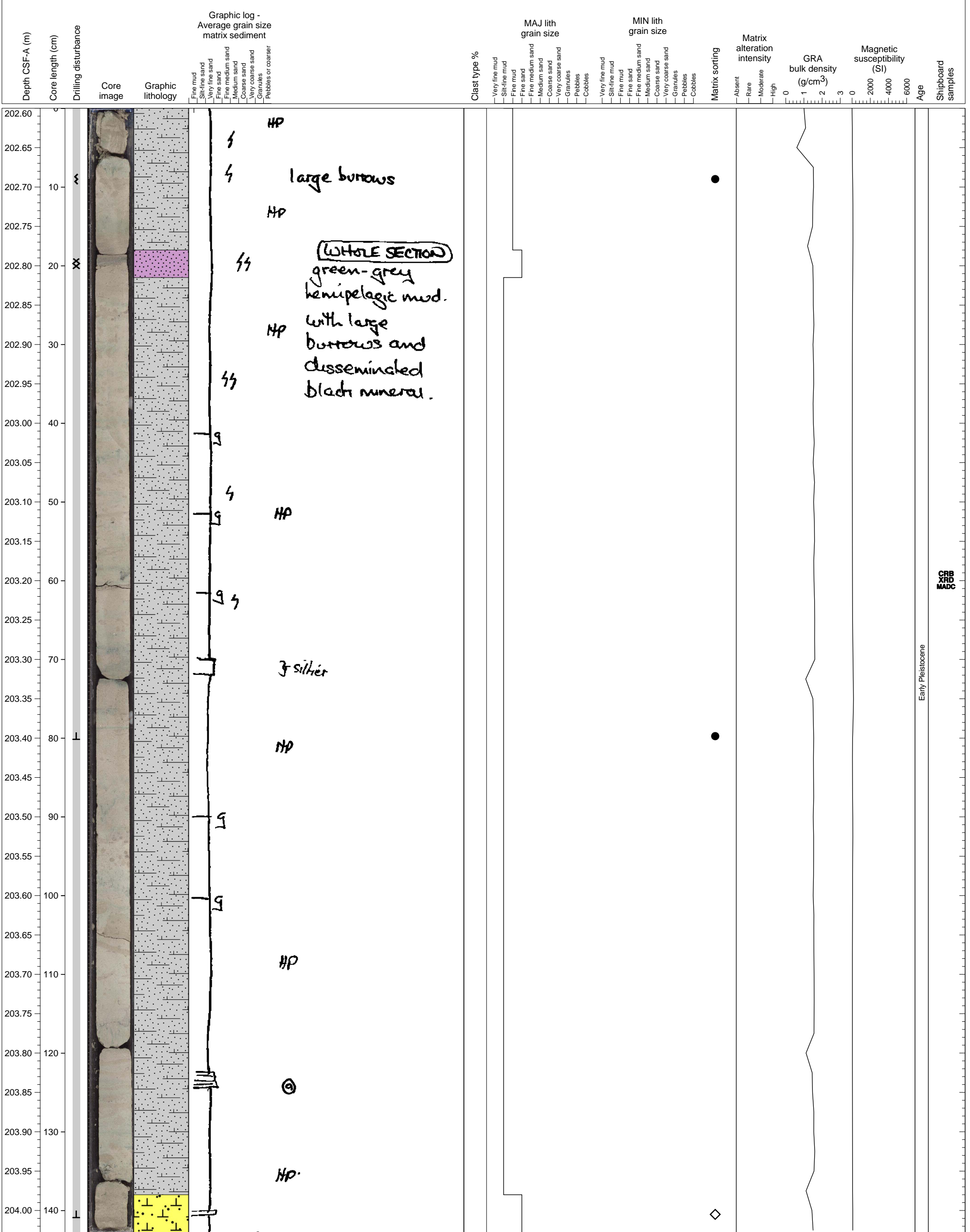
Upper 100 cm is strongly bioturbated (with burrowings rich) carbonate sand-ooze, which makes consolidated-unconsolidated alternations. Lowermost part is made of slightly bioturbated pure lime mud.



Discontinuous clasts of fine grained carbonate. One large carbonate clast is present in the upper layer. Bioturbation is common throughout. Color differences are likely due to introduction of material by bioturbation. Bottom layer has thick beds of grey to white carbonate. Color differences due to microscopic clast differences.



Hemipelagic mud



CRB XRD MADC

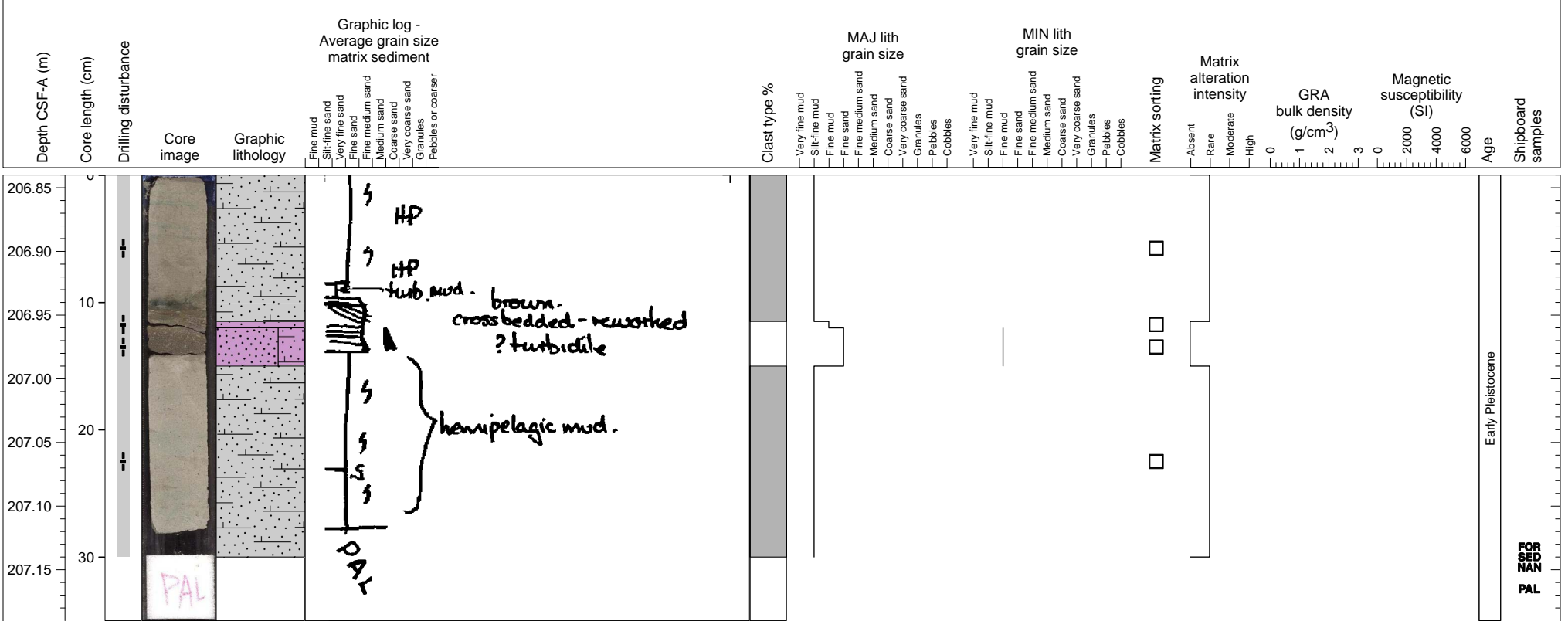
Early Pleistocene



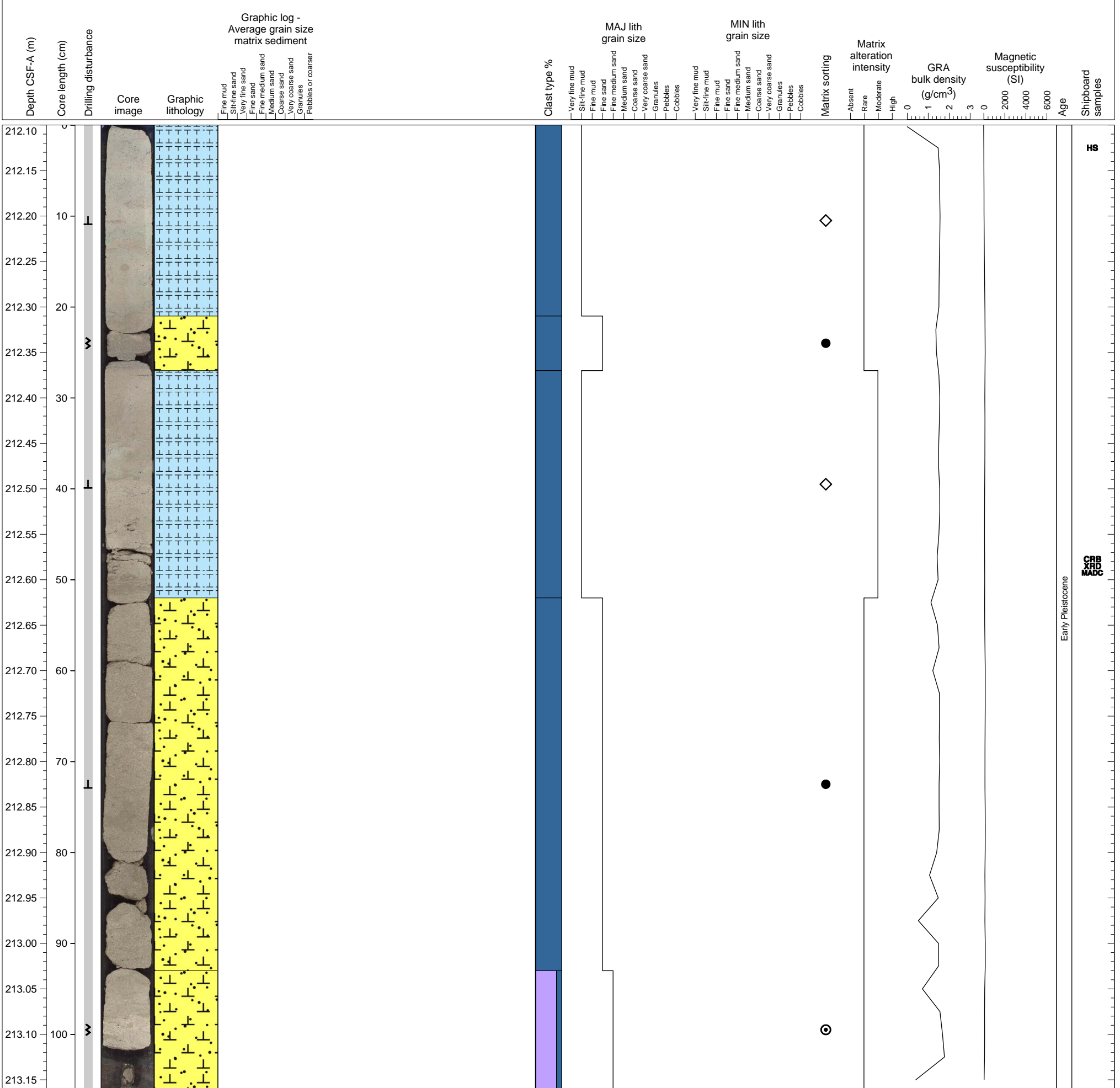




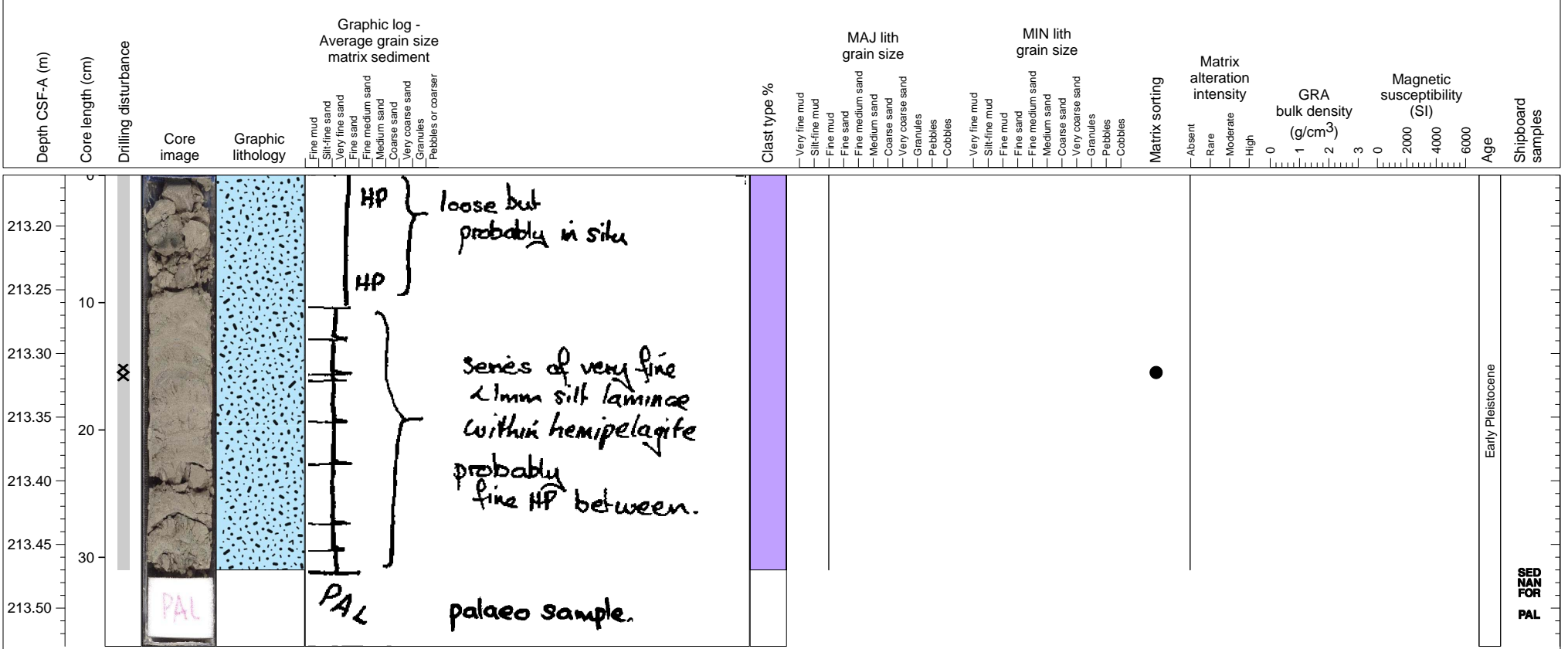
Hemipelagic clay interlayered with normally graded volcanoclastic unit, from fine sand to fine mud.



Consolidated, hemiplegitic fine sediments.



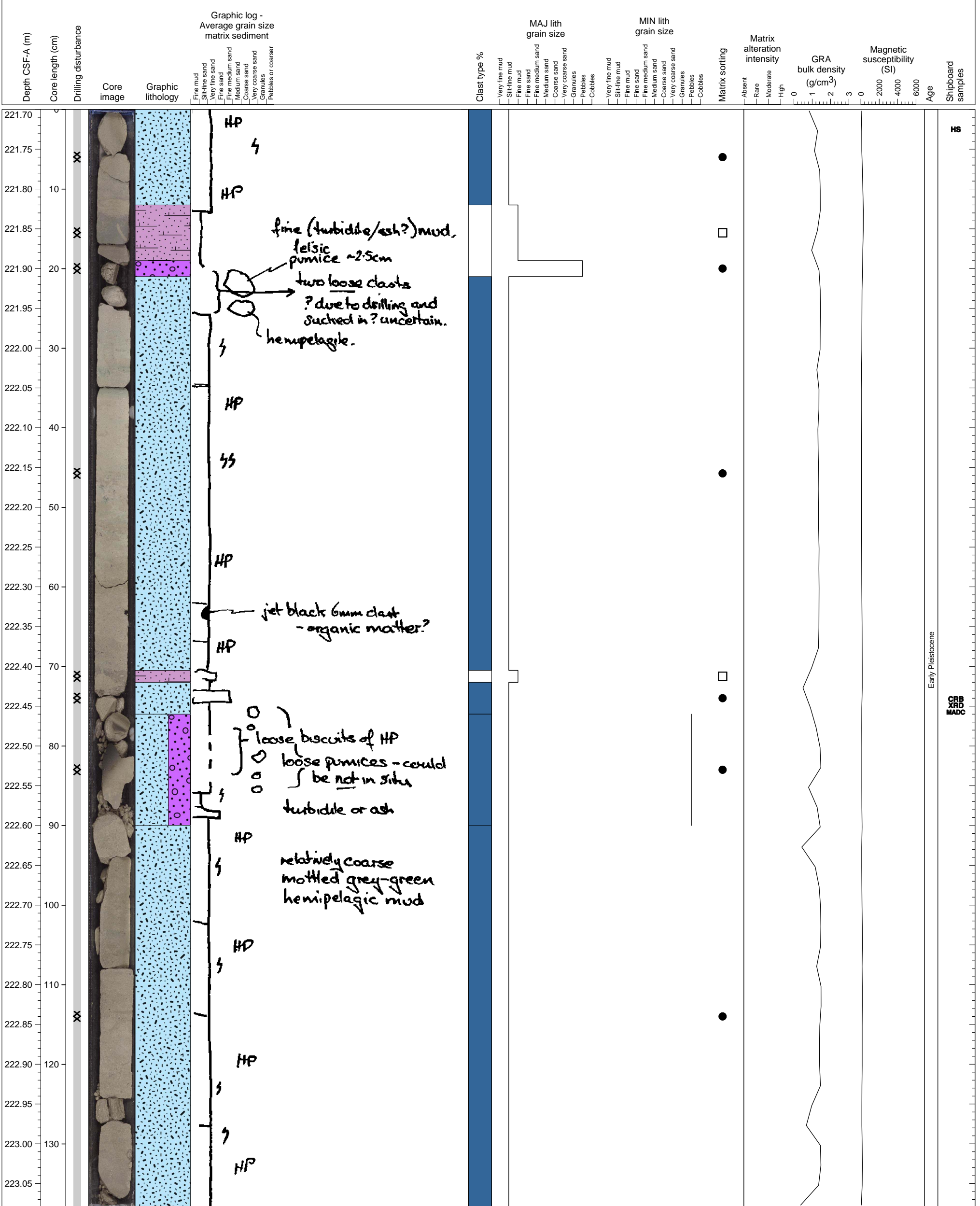
Calcareous mudstone pebbles. PAL sample from base.



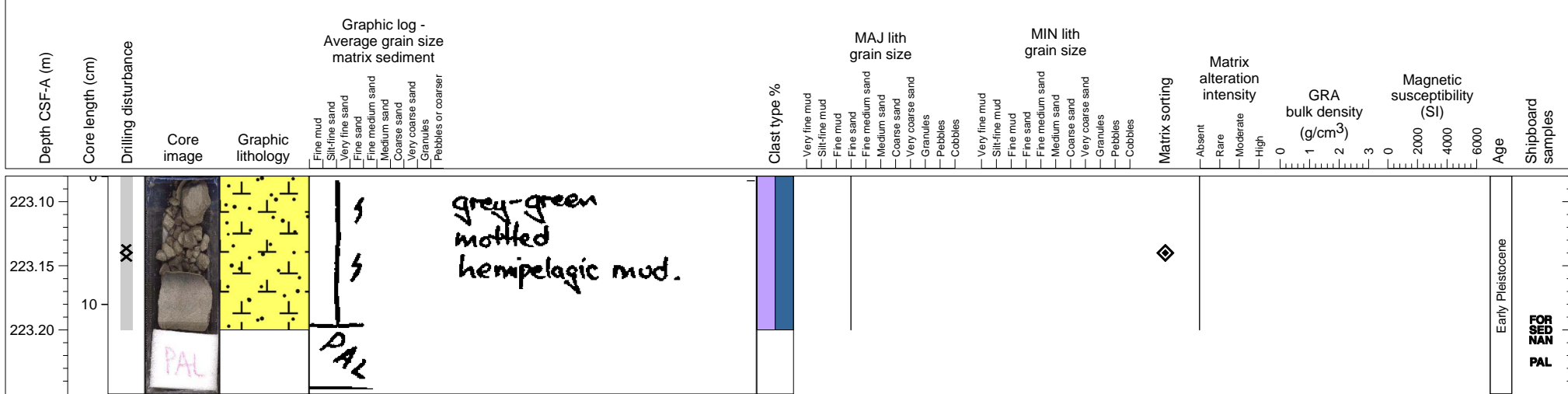
Early Pleistocene

SED  
MAN  
FOR  
PAL

Mix of calcareous mudstone and pumice pebbles.



Calcareous sandstone cobbles. PAL sample from base.



Thin sections

Sample	Top (cm)	Bottom (cm)	Top Depth (m)	Bottom Depth (m)	Groundmass percentage [%]	Groundmass modal grain size (mm)	Groundmass comments	Volcanic grain [%]	Volcanic grain modal size (mm)	Biogenic grain [%]	Mineral grain [%]	Mineral grain modal size (mm)	Lithic grain [%]	Lithic grain modal size (mm)	Olivine present [%]	Olivine size MIN (mm)	Olivine shape	Olivine comment	Plagioclase present [%]	Plagioclase size MAX (mm)	Plagioclase shape	Plagioclase habit	Plagioclase comment	Clinopyroxene present [%]	Clinopyroxene size MAX (mm)	Clinopyroxene shape	Clinopyroxene habit	Clinopyroxene special features	Orthopyroxene present [%]	Orthopyroxene size MAX (mm)	Orthopyroxene shape	Orthopyroxene habit	Orthopyroxene comments	Amphibolite present [%]	Amphibolite size MAX (mm)	Amphibolite shape	Amphibolite habit	Amphibolite comments	Oxides present [%]	Oxides size MAX (mm)	Oxides shape	Oxides habit	Oxides comments	Quartz present [%]	Quartz size MAX (mm)	Quartz shape	Quartz habit	Comment
340-U1395A-6H-2-W 132/133-TSB-TS#14	0	0.5	71.73	41.735	10	2					90	2.0							40	2	lath	elongate		25	2	lath	elongate		15	1	tabular	equant		15	3	euhedral	equant		5	0.6	subrounded			5	1	subrounded		Grain mount volcaniclastic sand; potentially some carbonate mixed in.
340-U1395A-14H-CC-W 6/7-TSB-TS#15	0	1	116.89	116.9																																								Pumice clast - too thin to properly log.				