

**Client:**  
Client: N.V. HVC  
Operator: N.V. HVC

**Project:**  
Borehole Section: MSD-GT-01  
Well Name: MSD-GT-01

**Location:**  
Country: Netherlands  
Region or oilfield: Westland  
Location: Maasdiik

**Coordinates:**  
 Longitude / Latitude: E 4° 12' 0.40" N 51° 57' 8.69"  
 Elev. Ground level (MSL) 1.40 m  
 Elev. Rig Floor (GL) 9.34 m  
 Depth datum: Rotary Table/Rig Floor

**Well Type:**  
Production/exploitation well

**Duration:**

Spud:	30.11.2022
Last day drilled:	28.12.2022
Start depth (Tie-in)	0.00 m
Total depth:	3306.00 m

**Rig:**  
DEUTAG T-207  
KCA DEUTAG Drilling GmbH

**Team:**

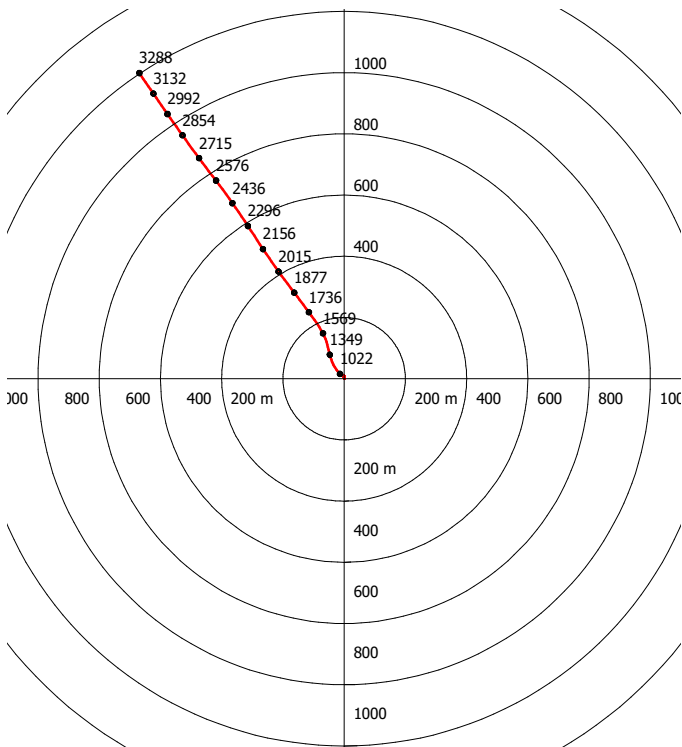
Company Man:	B. Koers, G. Schurink
Toolpusher:	R. Thiel de Gafenco
Supervisor:	G. Hazelaar; R. Kasirin, M. de Jong
Project- and operations geologist:	C. de Wijkerslooth
Wellsite geologist:	J. Smeulders

**Mudlogging:**  
GeoService GmbH  
Kreuzstraße 19  
D-26603 Aurich  
Germany  
dirks@geoservice.de  
Mudloggers: A. Alin, A. Grekowitz, F. Hinz, M. Zaun

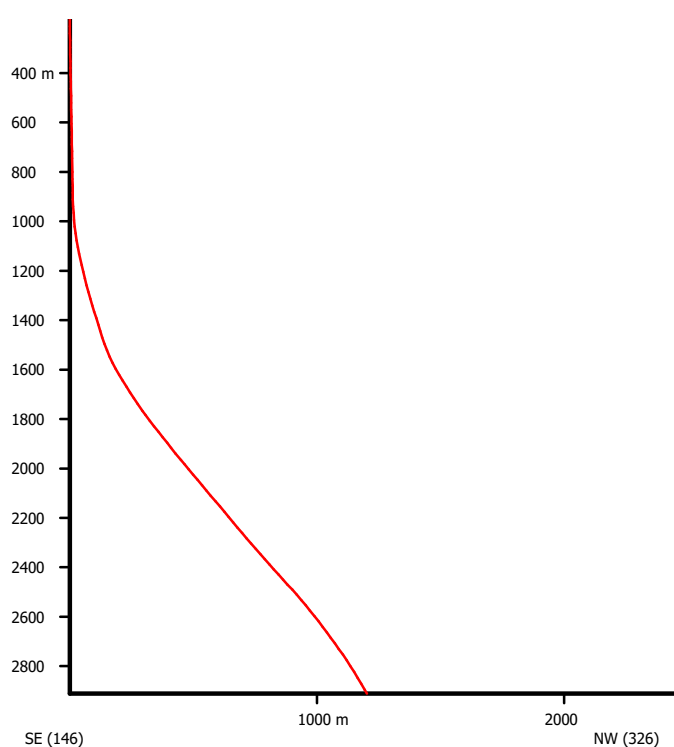
**Service:**  
Fluid Services: M-I SWACO

**Remarks:**  
Print Date: 30.12.2022 09:10

## H-Projection



## V-Projection



Clastic sediments		Artificial		Plants	Shell fragments			
calc. Sandstone 	Greensand 	Sand 	Sandstone 	Cement 	No sample 			
Silt 	Siltstone 	Claystone 	Flint 					
Carbonates and Biogenic sediments		Accessories		Framework				
Chalk 	Limestone 	Shell beds 	Marl (-stone) 	Lime-Mudstone 	Lime-Wackestone 			
Marl, argillaceous 	Coal 			Technical symbols				
		Argillaceous 	Calcareous 	Calcite 	Carbonaceous 	Chert 		
		Dolomitic 	Glaucinite 	Laminated 	Lignite 	Marly 		
		Mica (unspec.) 	Pyrite 	Quartz 	Sandy 	Silty 		
		Fossils		Casing shoe 	Liner head 	Sidewall core 	(unrecovered) 	Hydrocarbon show 
		Echinoids 	Foraminifera 	Fossiliferous 	Inoceramus 	Molluscs 		
				Gains 	Losses 	FIT or leakoff test 	Directional drilling 	

**Vertical axis is measured depth.**

[illegible]

30/11/2022

NOV T43 Insert Bit IADC 435, S/N: PA6459

01/12/2022

NOV T43 Insert Bit IADC 4

24" Conductor  
@ 154.0 m

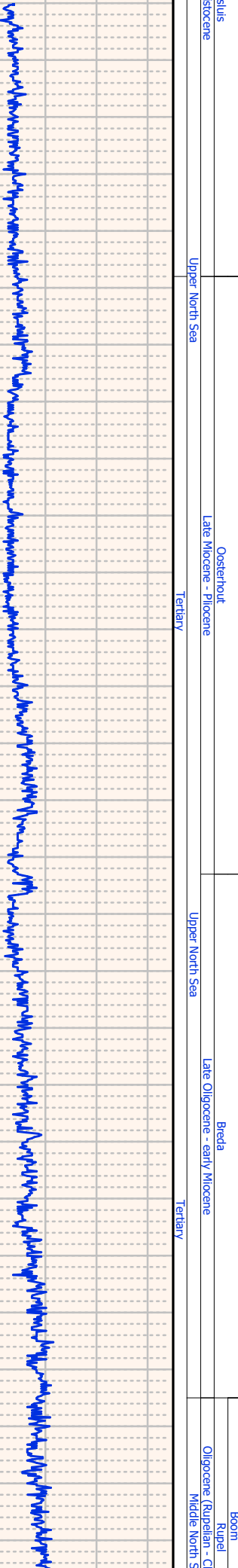
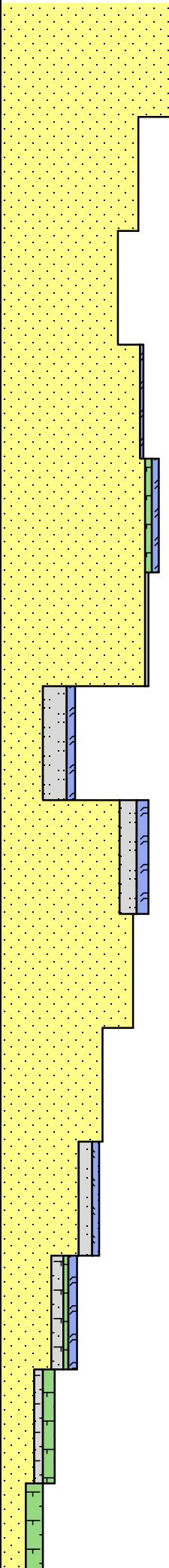
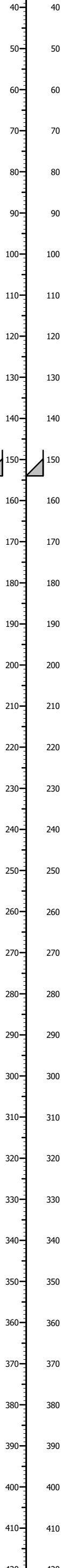
# Incl at 181.80 m  
AZ : 298.47 °  
TOT DEV: 0.51 m  
TVD : 181.80 m

# Incl at 240.10 m  
AZ : 7.32 °  
TOT DEV: 1.11 m  
TVD : 240.09 m

# Incl at 296.50 m  
AZ : 1.23 °  
TOT DEV: 2.16 m  
TVD : 296.48 m

# Incl at 379.40 m  
AZ : 4.03 °  
TOT DEV: 3.94 m  
TVD : 379.36 m

# Incl at 407.20 m  
AZ : 353.66 °  
TOT DEV: 4.54 m  
TVD : 407.16 m



**Sand**, grey white, fine to medium grained, well sorted, silty, micaceous, unconsolidated; quartz grains milky to colourless-clear, occasionally pale orange/red, subangular to rounded. Acc.: mica, in traces glauconite. Rarely foraminifers.

**Sand**, light grey, fine grained, well sorted, silty, unconsolidated. Acc.: mica, abundant shell fragments.

**Sand**, light grey, fine grained, well sorted, increasingly silty, unconsolidated. Some clay(-stone), dark grey, friable to firm. Acc.: mica, glauconite (green to black), abundant shell fragments.

Silty **sand**, light grey, fine grained, well sorted, unconsolidated. Also silt, light grey, micromicaceous, unconsolidated to friable; Acc.: mica, glauconite (green to black), shell fragments.

**Silt**, grey, sandy, slightly calcareous, firm. Additionally sand a.d.p. Abundant shell fragments (molluscs, gastropodes), glauconite, mica.

**Sand**, light grey, light brownish grey, fine grained, well sorted, silty, unconsolidated; quartz grains milky translucent to colourless clear, also yellow and pale yellow/brown, occasionally orange, subangular to angular. Silt, light brownish grey, micromicaceous, unconsolidated to friable; Acc.: mica, glauconite (green to black), pyrite, abundant shell fragments.

**Silt(-stone)**, light to medium grey, calcareous, also light brownish grey, slightly calcareous, sandy, slightly glauconitic, micaceous, firm. Abundant sand, fine grained, as previously described. Acc.: mica, glauconite, shell fragments, foraminifers.

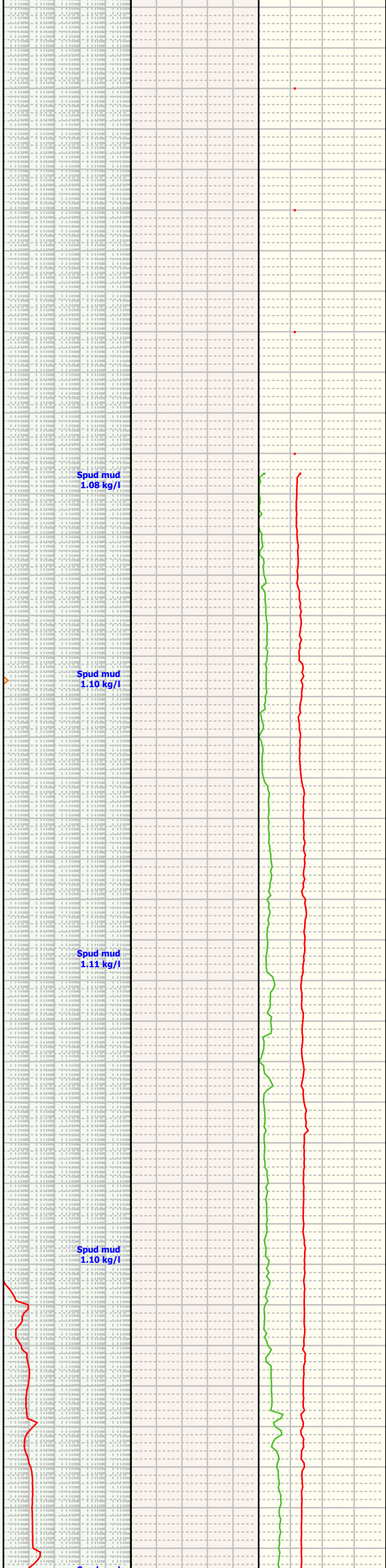
**Claystone**, grey, brown grey, silty, sandy, micromicaceous, crumbly, soft to firm, partly friable. Additionally sand, light grey, light brownish grey, fine grained, well sorted, glauconitic, loose quartz grains, milky to clear, subrounded. Acc.: mica, glauconite, pyrite, shell fragments, foraminifers.

Spud mud  
1.08 kg/l

Spud mud  
1.10 kg/l

Spud mud  
1.11 kg/l

Spud mud  
1.10 kg/l









02/12/2022

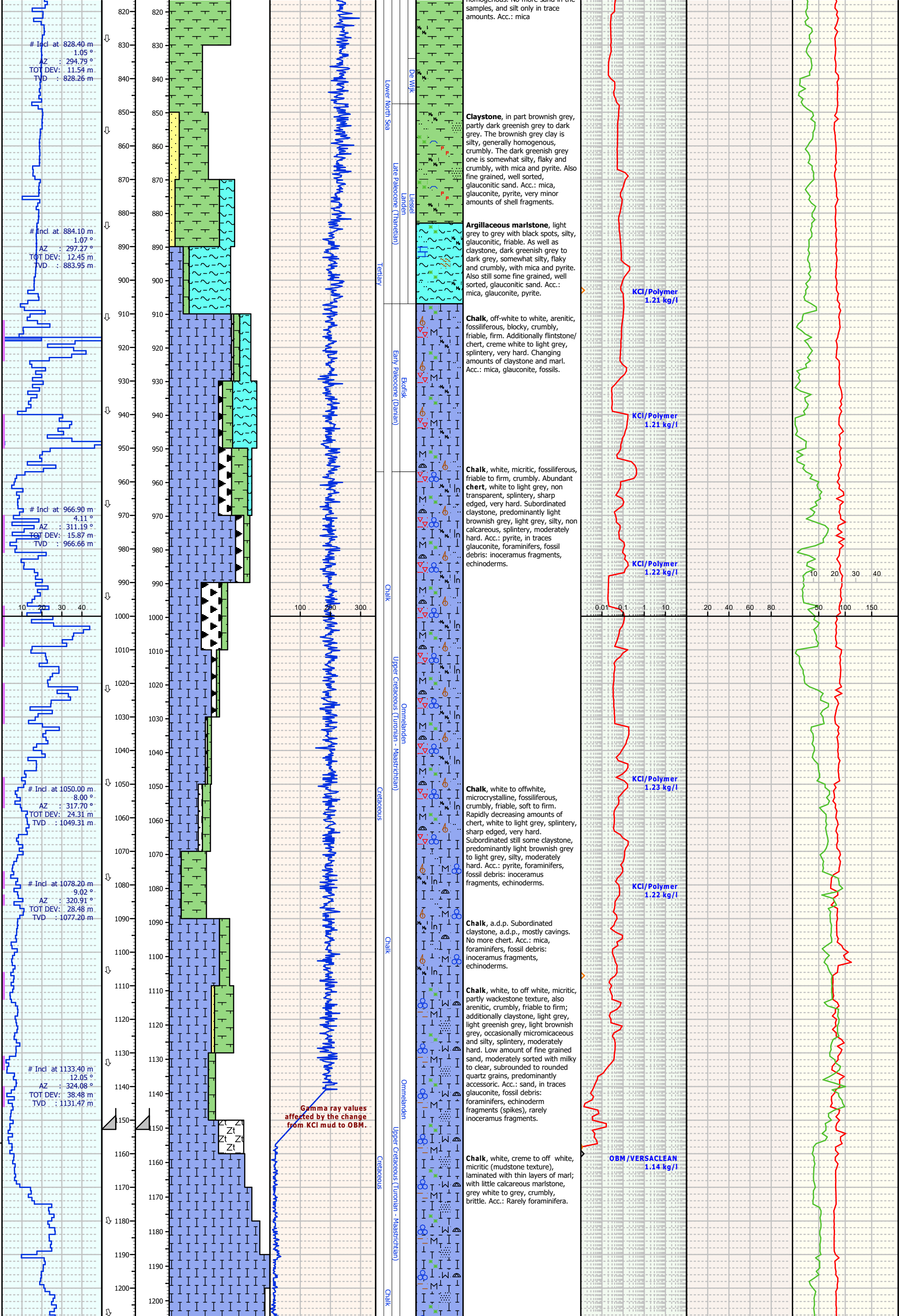
NOV T43 Insert Bit IADC 435, S/N: PA6459

03/12/2022

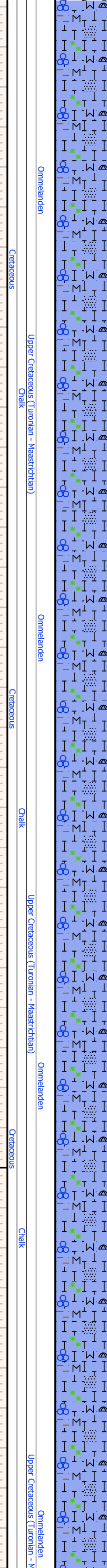
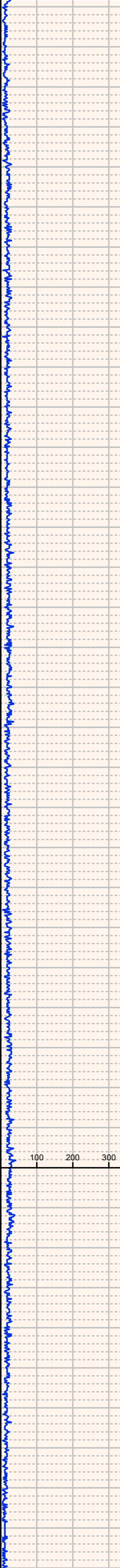
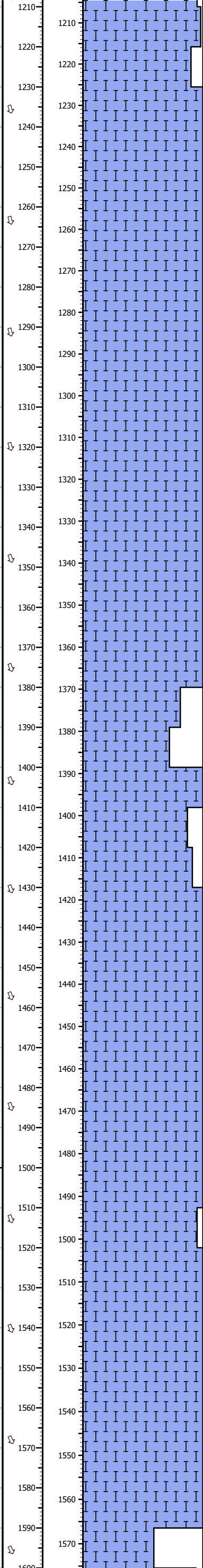
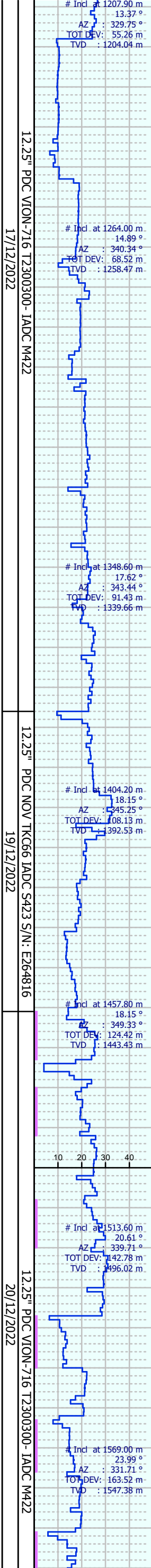
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04/12/2022

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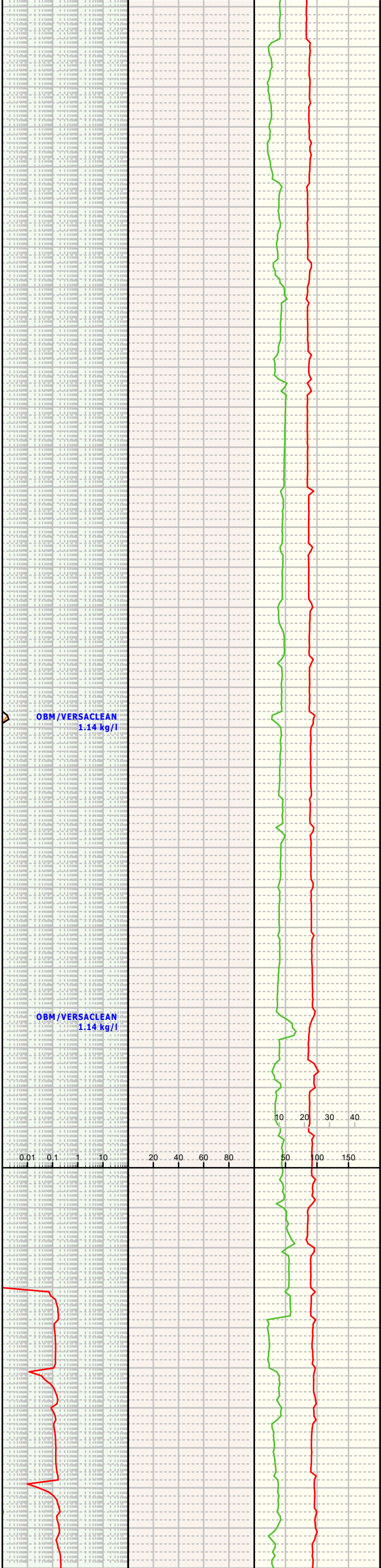




**Chalk**, white, creme to off white, micritic (mudstone texture), laminated with thin layers of marl; with little calcareous marlstone, grey white to grey, crumbly, brittle. Single clay aggregations, dark grey, brittle, 1 - 2 cm in diameter. Acc.: Rarely foraminifera.

**Chalk**, white, creme to off white, micritic (mudstone texture), laminated with thin layers of marl; with little calcareous marlstone, grey white to grey, crumbly, brittle. Acc.: Rarely foraminifera.

**Chalk**, off white to light grey, micritic (mudstone texture), slightly marly, subordinated marlstone, silty, medium grey,; occasionally fine grained sand and traces of glauconite. Acc.: Rarely foraminifera.





20/12/2022

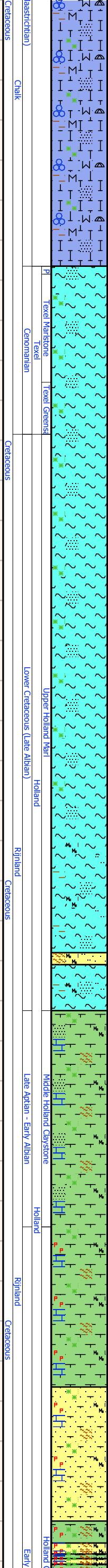
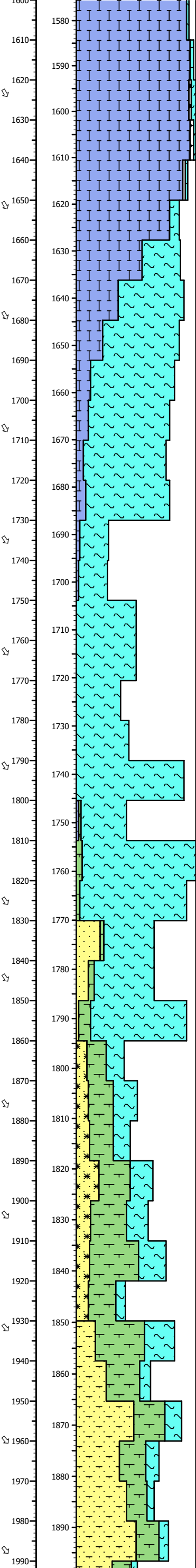
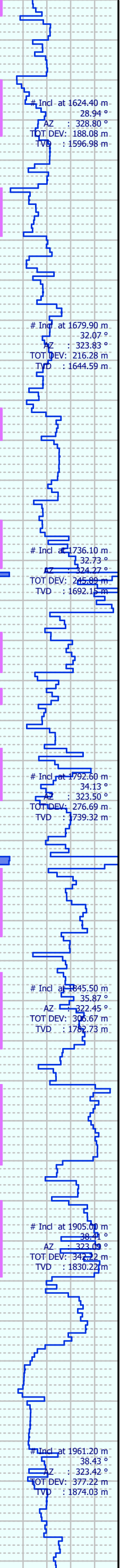
21/12/2022

22/12/2022

23/12/2022

12.25" PDC VION-716 T2300300- IADC M422

12.25" PDC VION-716 T2300300- IADC M422



**Chalk**, white to off-white and light grey, microcrystalline, friable, crumbly, with typical PDC induced marks, fossiliferous. Subordinated some calcareous marlstone, light grey, firm. Additionally flintstone/chert, creme white, light grey, non transparent, splintery, very hard.

**Marlstone**, light grey, moderately firm, chalky, with abundant glauconite, dark green, some fine grained sand and high amount of silt. Abundant chalk, a.d.p Acc.: Glauconite.

**Marlstone**, grey to dark grey, firm to hard, blocky, micro micaceous, rarely glauconitic, slightly silty; some glauconite in white calcareous to often siliceous matrix. Acc.: Pyrit.

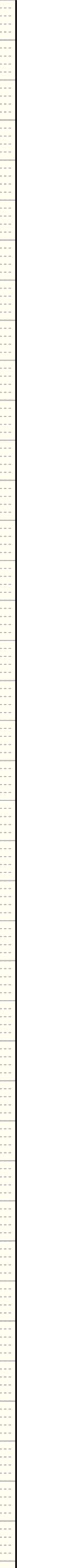
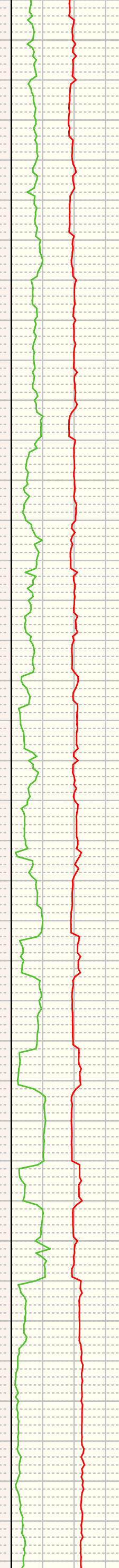
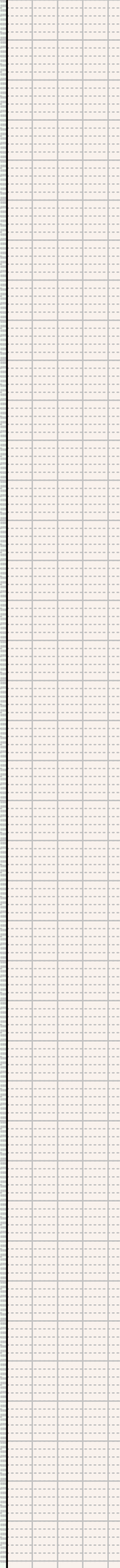
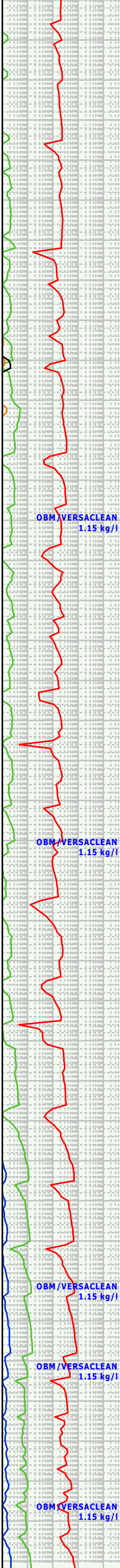
**Marlstone**, grey to dark grey, firm to hard, blocky, micro micaceous, rarely glauconitic, slightly silty. Subordinated some claystone, grey to dark grey, firm to moderately hard, crumbly, platy and splintery. A minor amount of chalk from the Ommelanden is still present in the samples. Acc.: Pyrit.

Layer of fine grained **sandstone**, light grey, well sorted, marly, friable, milled to loose quartz grains.

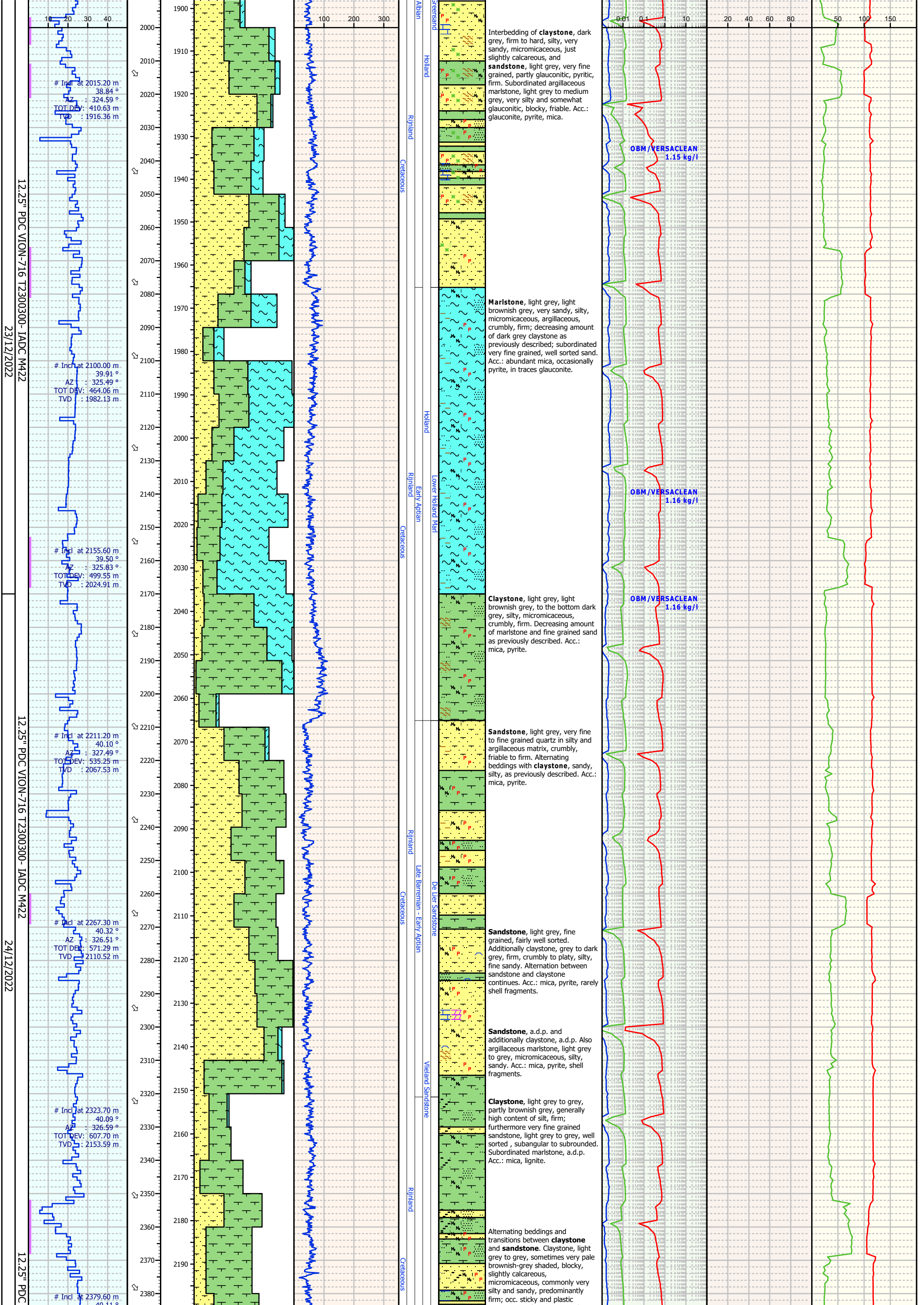
**Claystone**, medium to dark grey, calcareous, marly, sandy, glauconitic, blocky, splintery, firm to moderately hard; increasing amount of fine to medium grained greensand. Abundant marlstone as previously described. Acc.: glauconite, mica.

**Claystone**, dark grey, silty, very sandy, sandy, glauconitic, pyritic, blocky, crumbly, firm to moderately hard; abundant **greensand**, predominantly fine grained, moderately to well sorted with milky to clear, subrounded quartz grains. Acc.: pyrite, glauconite, mica.

**Sandstone**, light grey, very fine grained, well sorted, argillaceous, marly, partly glauconitic, pyritic, crumbly, friable. Quartz grains clear, milky, subrounded, in an argillaceous matrix. Claystone and marlstone as previously described. Acc.: glauconite, pyrite, mica.









24/12/2022

12.25" PDC VION-716 T2300300- IADC M422

25/12/2022

12.25" PDC VION-716 T2300300- IADC M422

25/12/2022

AZ : 325.19 °  
TOT DEV: 643.55 m  
TVD : 2196.46 m

# Incl at 2436.20 m  
AZ : 324.92 °  
TOT DEV: 679.90 m  
TVD : 2239.81 m

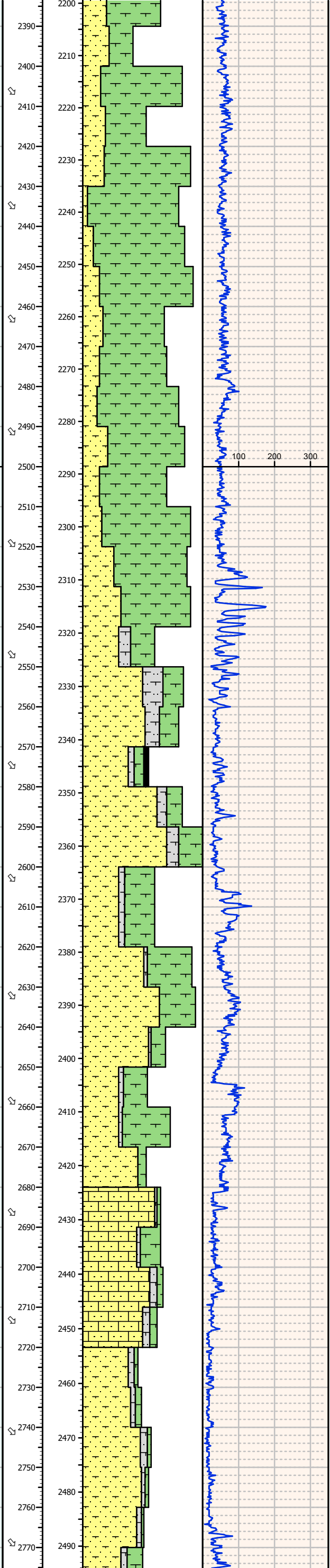
# Incl at 2492.70 m  
AZ : 324.33 °  
TOT DEV: 716.24 m  
TVD : 2283.04 m

# Incl at 2548.50 m  
AZ : 323.48 °  
TOT DEV: 752.76 m  
TVD : 2325.18 m

# Incl at 2604.20 m  
AZ : 320.68 °  
TOT DEV: 789.33 m  
TVD : 2367.09 m

# Incl at 2659.90 m  
AZ : 323.56 °  
TOT DEV: 825.88 m  
TVD : 2409.03 m

# Incl at 2714.81 m  
AZ : 323.52 °  
TOT DEV: 862.84 m  
TVD : 2449.59 m



Late Barremian

Vieland Sandstone

Rijnland

Cretaceous

Vieland Sandstone

Late Hauterivian - Mid Barremian

Cretaceous

Rijnland

Cretaceous

Hauterivian

Vieland Clay

Vieland Sandstone

Rijnland

Cretaceous

Vieland Sandstone

Late Hauterivian - Mid Barremian

Cretaceous

Rijnland

Cretaceous

Hauterivian

Rijswijk Sandstone

appearance of cuttings. Sandstone, light grey , very fine grained, silty, locally slightly calcareous, firm; mostly milled to loose quarts grains and rockflour, well to moderately sorted, angular to subangular and seldom subrounded, predominantly spheric. Acc.: lignite, mica and pyrite.

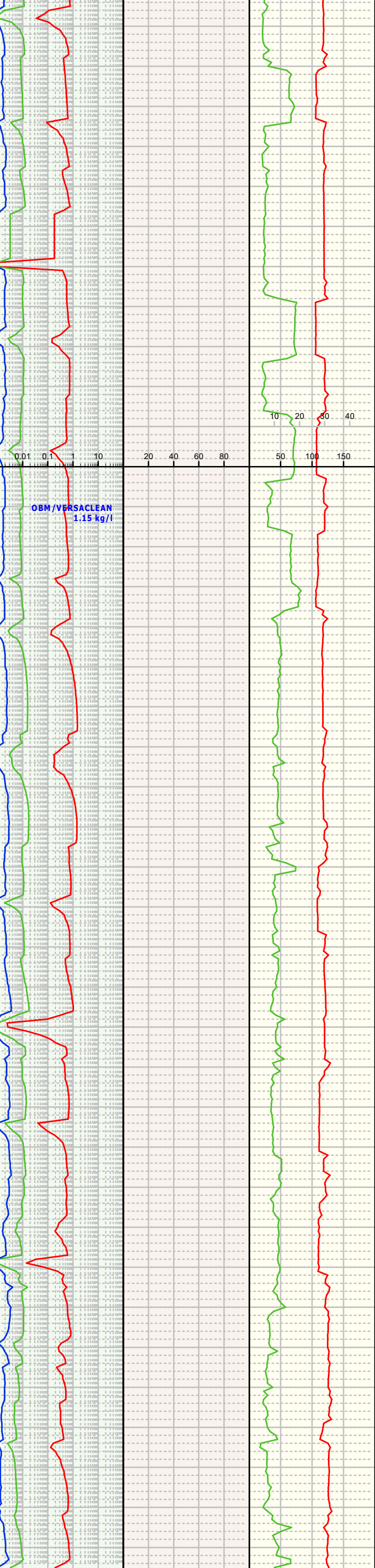
**Claystone**, light grey to pale brownish grey, very silty, sandy, micromicaceous, non-calcareous, crumbly, firm. subordinated sandstone, light grey, very fine to fine grained, well sorted, silty, argillaceous, milled to loose, subangular to subrounded quartz grains, milky white to brownish white. Acc.: mica, pyrite.

**Sandstone**, grey white, pale brownish white, predominantly fine grained, occasionally medium grained, moderately to well sorted;quartz grains milky to clear, subangular to subrounded in a white, silty and partly calcareous matrix, friable, crumbly, mostly milled to loose grains and white rock flour. Layers of claystone, medium grey, silty, platy, splintery, moderately hard. Acc.: mica, pyrite, coal detritus, in traces glauconite.

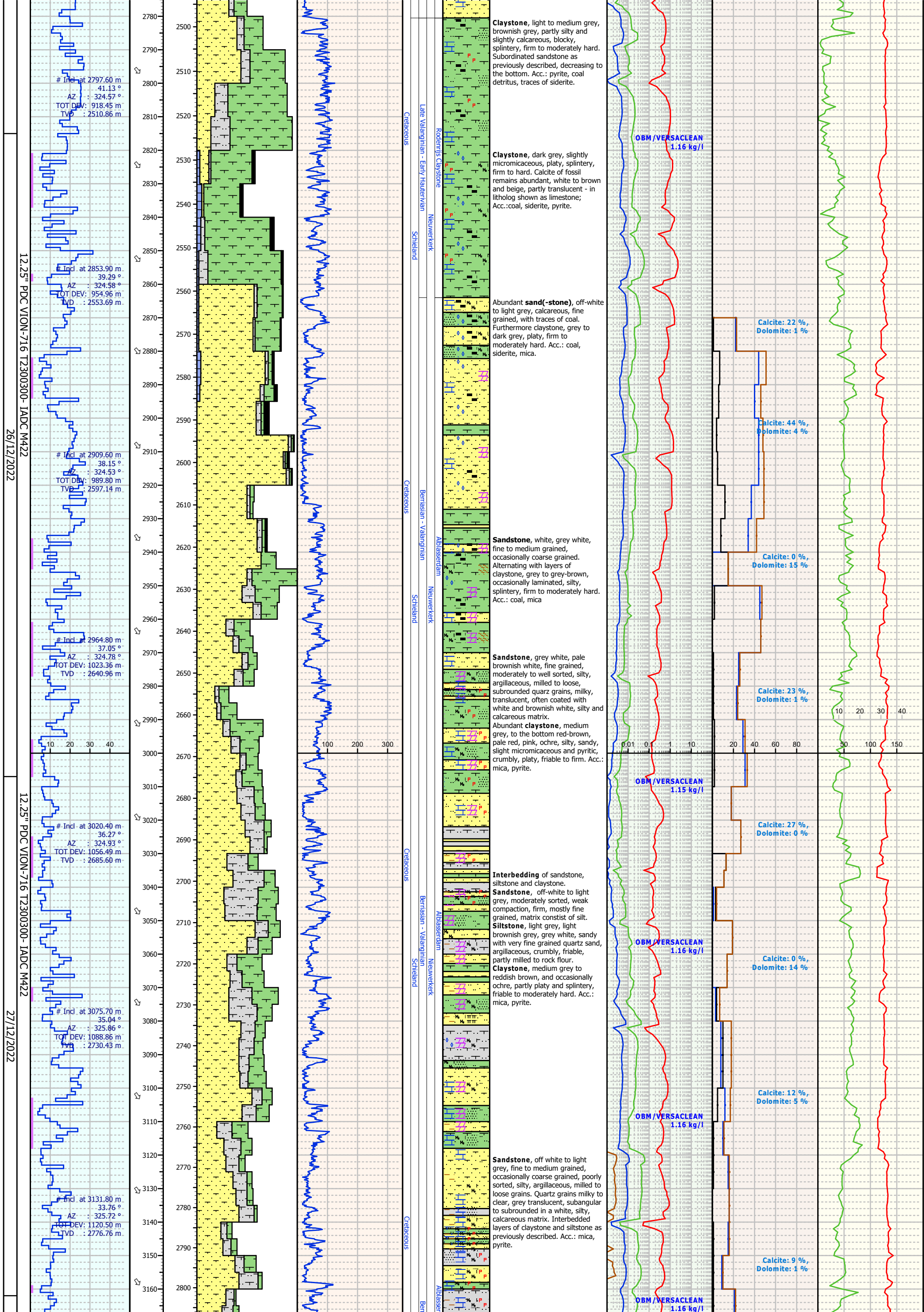
**Sandstone**, light grey to off-white, partly very pale beige-brownish shaded, predominantly complete milled to rockflour, in minor parts also milled to loose quartz grains, fine to occasionally medium grained, rarely coarse grained. Subordinate some claystone, dark grey to grey, brittle, silty. Acc.: mica, pyrite, and traces of coal detritus.

**Calcareous sandstone**, off-white to light grey, fine grained and well sorted. Only very little claystone, a.d.p. Acc.: mica, lignite/coal, siderite.

**Sandstone**, off white, fine- to medium grained, occasionally coarse grains, poorly sorted, silty, partly calcareous; quartz grains milky to clear, subangular to subrounded, with a white/off-white, silty, occasionally calcareous matrix, friable, predominantly milled to loose grains. Additionally **claystone**, medium to dark grey, partly slight calcareous, platy, splintery, moderately hard. Acc.: black coal, rarely pyrite, single coarse quartz grains.









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