



End of Well Report

[RESTRICTED]

MSD-GT-01

PREPARED FOR
Energie Transitie Partners
Jadestraat 1
1812 RD Alkmaar

ENERGIE
TRANSITIE
PARTNERS

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Publication date: 23/06/2023
Version: 1.0
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Revision change notice

Version	Date	Brief description of Change	Author
0.1	15-01-2023	Initial draft for internal review	ESM
1.0	19-06-2023	Version including feedback after reviews	BJK

AUTHORIZED SIGNATURES

Title	Name	Date	Signature
Drilling Manager	Gerrit Schurink	19-7-2023	[Redacted]
WEP Operations Manager	Peter Hoving	Peter H	[Redacted]
WEP Sr. Drilling Engineer	B.J. Koers	19-7-2023	[Redacted]

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ABBREVIATION LIST

°C	Degrees Celsius	MOC	Management of change
API	American petroleum institute	MT	Milled tooth (bit)
BHA	Bottom hole assembly	mT	Metric tonne
BOP	Blow-out preventer	MUT	Make-up torque
BPV	Back pressure valve	MW	Mud Weight
BTC	Buttress thread casing	MWD	Measurement while drilling
CBL	Cement bond log	NPT	Non-productive time
CCL	Casing collar locator	OBM	Oil based mud
CT	Coil tubing	OD	Outside diameter
DC	Drill collar	PDC	Polycrystalline diamond compact
DFCV	Double flapper check valve	PDM	Positive displacement motor
DLS	Dog leg severity	POOH	Pull out of hole
DP	Drill pipe	psi	Pounds per square inch
ETRS	European Terrestrial Reference System	PUW	Pick-up weight
ETP	Energie Transitie Partners	PV	Plastic viscosity
FIT	Formation Integrity Test	OTS	Quick test sub
Fm	Formation	RD	Rijksdriehoekmeting
GR	Gamma ray	RIH	Run in hole
GRE	Glassfiber Reinforced Epoxy	ROP	Rate of penetration
HWDP	Heavy weight drill pipe	RSS	Rotary steerable system
HUD	Hold-Up Depth	SBM	Synthetic based mud
ID	Internal diameter	sg	Specific gravity
LCC	Last cemented Casing	T&D	Torque and drag
LCM	Lost circulation material	TCI	Tungsten carbide insert
LIM	Limit test	TD	Total depth
LOT	Leak off test	TDS	Top drive system
lpm	Litres per minute	THH	Tubing head housing
LWD	Logging while drilling	TOC	Top of cement
mAH	Meters along hole	TVD	True vertical depth
Mb	Member	TWCV	Two-way check valve
mBGL	Meters below ground level	WBM	Water based mud
MD	Measured depth	WEP	Well Engineering Partners
MFC	Multi finger caliper	WOC	Wait on cement
		XO	Cross-over
		YP	Yield point

1. PROJECT DETAILS

1.1 Organization

Project Director	Marco van Soerland
Project Manager	Geert van Ek
Drilling Manager	Gerrit Schurink
Sr. Drilling Engineer	Bert Jan Koers
Production Engineer	Axel Sanden
Sr. Well Site Geologist	Julien Smeulders
HSE Manager	Peter v.d. Burg

Drilling Supervisors on 2-week rotational scheme:

Drilling Supervisor	Mark de Jong	01-12-2022 / 15-12-2022 29-12-2022 / 12-01-2023
Drilling Supervisor	Gerjan Hazelaar	17-11-2022 / 01-12-2022 15-12-2022 / 29-12-2022
Night Drilling Supervisor	Regilio Kasirin	29-12-2022 / 13-12-2022 27-12-2022 / 01-01-2023
Night Drilling Supervisor	Ruud Schot	15-11-2022 / 29-12-2022 15-12-2022 / 29-12-2022

1.2 Operational summary

Field	Maasdijk	
Well Number:	MSD-GT-01	
Well Name	MAASDIJK-GT-01	
Well Type	Geothermal producer	
Start operations	27-11-2022; 14:15 hr (Rig skidded from GT-02)	
Spud date	29-11-2022; 07:15 hr	
Start rig down (end of well)	03-01-2023; 06:00 hr	
Days Operational	29,7 days	
Operator	Energie Transitie Partners	
Surface coordinates	X: 73.456,45 (RD) Y: 442.449,68 (RD)	N 51° 57.869 (ETRS89) E 004° 12.040 (ETRS89)
Ground level (NAP)	+1.40 m above NAP	
Rotary table (Ground level)	+9.35 m	
NAP (Rotary table)	+10.75 m	

1.3 Drilling rig

Drilling Contractor KCA Deutag
Drilling Rig T-207



2. WELL SUMMARY

The table below gives a summary of the drilling operation per hole section.

Table 1: Well summary

Item	MD (m)	TVD (m)	Comments
24" Conductor	154	154	Haijema installed the 24" conductor to 145 m below ground level (154m BRT). The conductor is cemented to surface.
16" Hole	1157	1154	Successfully drilled this section with a 16" TCI (IADC: 415) on a 9-5/8" PDM directional BHA. Drilled with KCL + glycol WBM. Section TD was reached at 1157m in the Ommelanden Chalk.
13 3/8" Casing running	1153	1152	The 13 3/8" casing 68# - L80 – Vam Top was successfully ran to setting depth at 1153m. Conventional spider elevator, power tong and fill-up circulation tool was used for running this casing. RIH stab-in sub on 5 1/2" drill pipe in preparation for the cement job.
13 3/8" Casing cementing	1153	1152	Pumped 12m3, 1.27 s.g, spacer followed by 103m3 - 1,35 s.g. Hoz-Lite, once cement reached surface pumped 14.7m3 1.60s.g. Hoz tail slurry and displaced with WBM. No losses were recorded. Floats were holding.
12 1/4" Hole (TD)	3306	2926	RIH 12 1/4" Vion-716, Dtech RST900, tagged TOC at 1101m. Displaced well to OBM. Drilled out shoetrack and 3m. Performed FIT to 1.50 s.g. Drilled with ahead with RSS using various parameter in attempt to build inclination. No success, at 1383m decided to POOH and p/u the back-up RSS. Drilled ahead to 1462m but RSS did not steer as per downlinks made. Decided to POOH and p/u motor BHA. RIH 8" Bico-MM 1.15° and continues drilling as per plan to 1812m. POOH due to failed stator (rubber coming over shakers). RIH 8" Bico-MM 0.78° continued drilling as per plan to TD at 3306m. BHA showed strong dropping tendency, hence corrective steering was required. POOH on elevators without problems. MM sleeve was worn causing the dropping tendency.
10 3/4" x 9 5/8" Casing running	3305	2925	The 9-5/8" x 10 3/4" casing was successfully installed as per plan. While circulating bottoms up circulation was lost while staggering up the flowrate to 1500LPM, loss rate 18m3/hr. Landed hanger and installed cement head. Broke circulation with 300lpm but got almost no returns.
10 3/4" x 9 5/8" Casing cementing	3305	2925	Pumped 10m3 base oil, 10m3 soap pill and 15m3 1.08 brine (pH 10.5) using the rig pumps. Subsequently cement unit pumped 61.7 m3 1.35sg Hozlite Lead slurry (added fibers to cement) and 20.4m3, 1.84sg HMR + Tail slurry. Released top plug and displaced with 125.1m3 brine 1.08sg. No bump observed. Total volume lost to formation throughout the job was 158m3. Bleeds off pressure, float holding. Rig down cementing well head. Unable to release hanger running tool, decided to cut landing joint.

2.1 Depths and trajectory

Primary Objective		Lower Cretaceous reservoir (sandy unit of Alblasserdam)	
Primary Objective	Depth (Top)	2864 m MD	2562 m TVD
Alblasserdam)			
Total Depth		3306 m MD	2926 m TVD
Elevation		RT - GL	+ 9,34 m
		GL - NAP	+ 1,40 m
		NAP - RT	+ 10,74 m

2.2 Vertical Section and Plan View MSD-GT-01

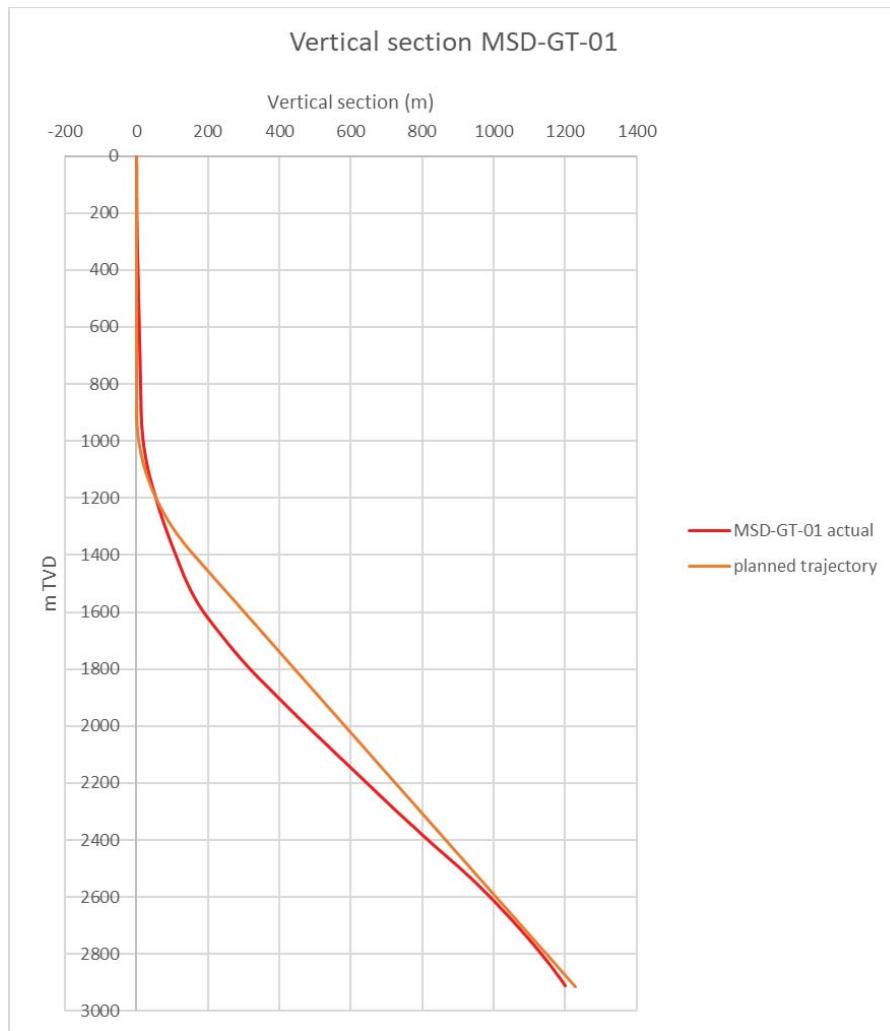


Figure 1: MSD-GT-01 vertical section

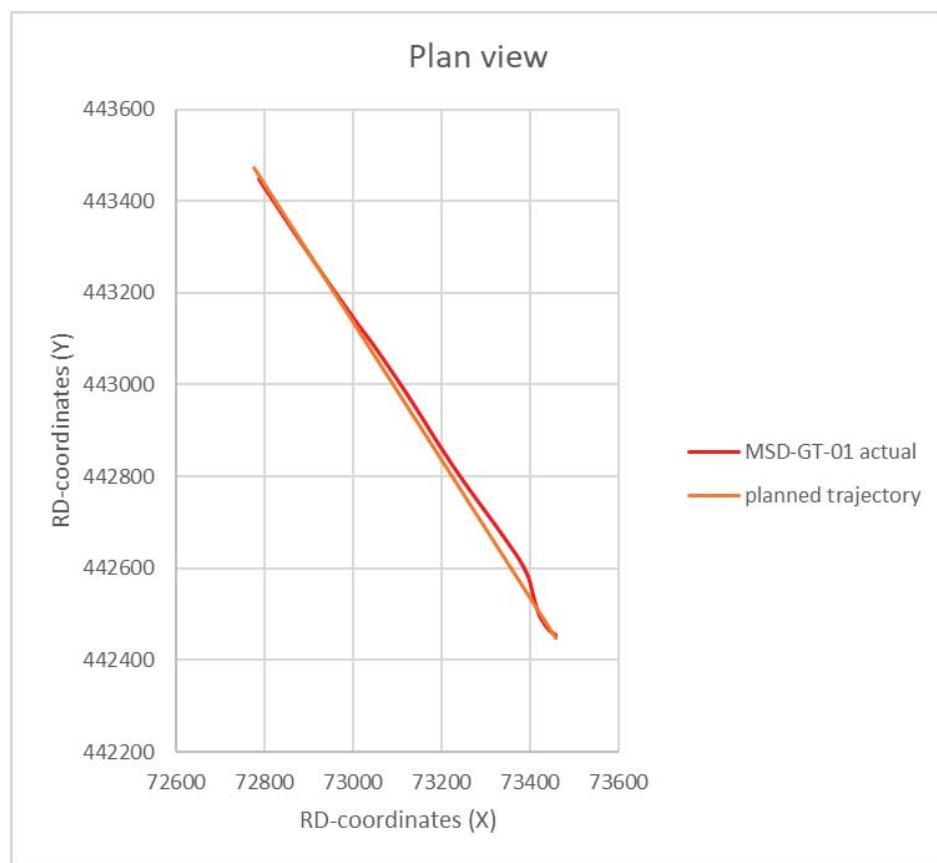


Figure 2: MSD-GT-01 plan view

2.3 Technical summary

2.3.1 Casing

Table 2: MSD-GT-01 tubular summary

Item OD [in]	Top (m MD)	Bottom (m MD)	Weight	Grade	Connection
24" conductor	0	145	0,5" WT	S355	Welded
13 3/8" Casing	0	1153	68 #	L80	VAM TOP
10 3/4" GRE lined csg	0	958	51/57,4 #	L80	VAM TOP
9 5/8" GRE lined csg	958	2839	47/51,9 #	L80	VAM TOP
9 5/8" Cr13 casing	2839	3281	47#	L8013Cr	VAM TOP
9 5/8" L80 casing	3281	3305	47#	L80	VAM TOP

2.3.2 Cement

Table 3: MSD-GT-01 cement summary

Item	TOC (m MD)	Lead Slurry Volume (m³)	Lead Slurry Weight (s.g.)	Tail Slurry Volume (m³)	Tail Slurry Weight (s.g.)	Type
13 5/8" Casing	0m	103.5	1,35	14.7	1,60	HOZ Lite lead and HOZ tail
10 3/4" x 9 5/8" Casing	To be confirmed by CBL	61.7	1,35	20.4	1,84	HOZlite lead HMR+ tail

2.4 Well schematic

Nr.	Item Description	MSD-GT-01 Geothermal Producer	Depth	Depth	Hole ID	Pipe OD	Collar OD	Pipe ID	Pipe ID	Geology
			m tvd	m ah	in	in	in (nom)	in	in (drift)	
1	All depths from RT <i>RT=+9,32m above ground level</i> <i>RT=+10,72m above NAP</i>	24" Conductor								
3d	10 3/4" 51# L80 VAMTOP - GRE Lined (57.4#) 2x Swell packers Top of cement	Kick-off point	155	155	24,000	welded	23,000	-		North Sea Group
2	13 3/8" 68# L80 VAMTOP Casing	End of build at 40° inclination	900	900						
3c	9 5/8" 47# L80 VAMTOP - GRE Lined (51.9#)		958	958	10,750	11,488	9,350	9,225	907	907
3b	9 5/8" 47# L80 VAMTOP 13%Chrome HUD (WL - 04/23) Top of float collar		1054	1054	Not confirmed by CBL					
3a	9 5/8" 47# L80 VAMTOP (2 joint shoe track)		1151	1153	16,00	13,375	14,176	12,415	12,259	Chalk Group
			2046	2183						
			2543	2839	12 1/4"	9,625	10,396	8,250	8,125	KN (Holland)
			2858	3229						KN (Vlieland)
			2889	3281	12 1/4"	9,625	t.b.d.	8,681	8,525	Top Alblasserdam
			2909	3305	12 1/4"	9,625	10,396	8,681	8,525	2870 3242
			2926	3306	TD					Schieland Group
										Altena

*Not in scale.

Figure 3: MSD-GT-01 well schematic

3. DRILLING FLUID SUMMARY

Per section the following drilling fluid types have been used:

Table 4: MSD-GT-01 drilling fluid summary

Section	Type	Density (s.g.) Min – Max	PV (cP) Min – Max	YP (lbf/100ft ²) Min – Max	LSRV (lbf/100ft ²) Min – Max
16"	Spud mud (Viscous Brine)	1.05 - 1.18	5 - 9	15 - 25	7 - 9
16"	KCl Glydril WBM	1,15 – 1,25	16 – 21	25	11 - 19
12 1/4"	VERSACLEAN MKII OBM	1,20 – 1,24	25 - 36	20 – 28	15 - 18

The figures below show the mud weight, LSRV and YP versus depth during drilling operations.

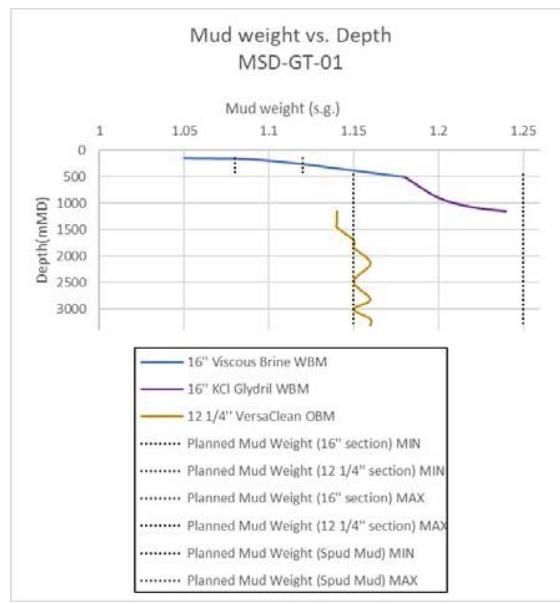


Figure 4: Mud weight vs. depth

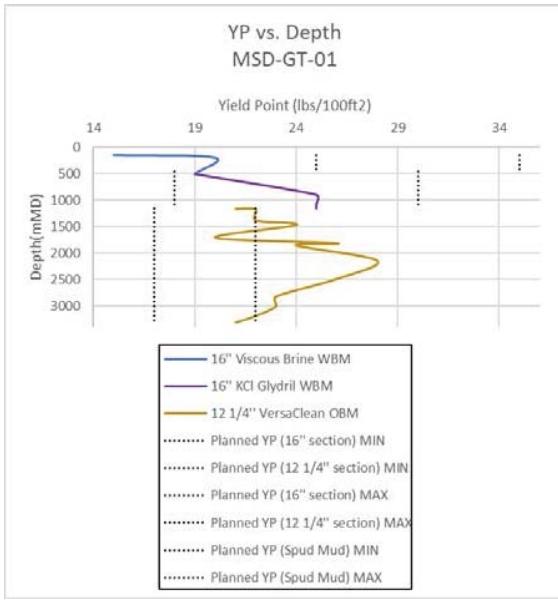


Figure 5: YP vs. depth

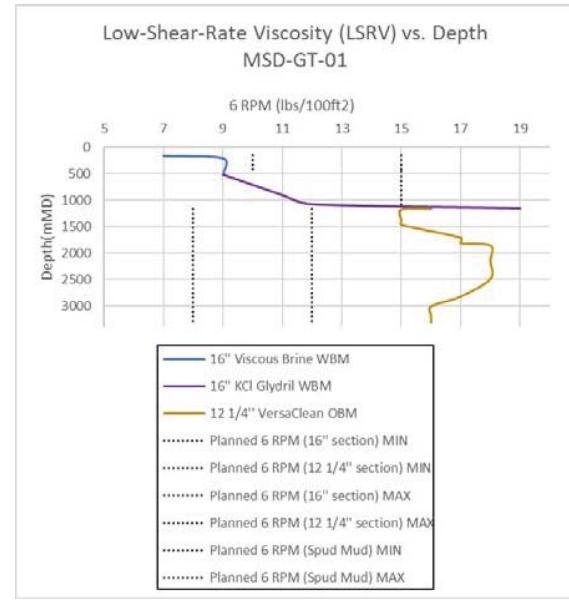


Figure 6: LSRV vs. depth

4. GEOLOGY

4.1 Lithostratigraphic column

Below the geological column with vertical and along hole depths below RT.

Lithostratigraphic Column Maasdijk MSD-GT-01						Expected		Actual		
Era	Group	Period	Formation	Epoch / Age	Member	Lithology	TV-RT Depth (m)	AH-RT Depth (m)	TV-RT Depth (m)	AH-RT Depth (m)
Cenozoicum	Upper North Sea NU	Quaternary	"Diverse"	Holocene-Pleistocene		Diverse continental deposits, mostly fluvial sands and silts intercalated by some thin layers of grey or greenish-grey, silty clays or peat, wood...	9,3	9,3	9,3	9,3
			Maassluis NUMS	Early Pleistocene		CU. Grey very fine to medium sand, micaceous and calcareous, shelly, slightly glauconitic. Intercalated light to dark grey clay, micaceous & calcareous with marine shells. Locally gravel.	100	100	no GR	
			Oosterhout NUOO	Late Miocene to Pliocene		Light grey to greyish green very fine to medium sand, locally clayey, glauconitic, with shells. At the top, dark grey to greyish brown clay, silty or sandy. Shell banks (crags).	199	199	198	198
			Breda NUBR	Late Oligocene - early Pliocene		Greyish to blackish green very fine to medium sand, silty, (very) glauconitic, calcareous, and locally micaceous or organic. Clay, very sandy to moderately silty. Intercalated sand and clay with goethite and phosphorite concretions.	303	303	303	303
			Rupel NMIRU	Early Oligocene Rupelian to Chattian	Boom (Rupel Clay) NMIRUBO	Clay that becomes more silty towards base and top. Rich in pyrite, poor in glauconite and calcium carbonate tends to be concentrated in the septaria layers.	394	394	395	395
	Middle North Sea NM	Tertiary	Rupel NMIRU	Rupelian	Berg (vessem) NMIRUBE	Silty to clayey sands with a low glauconite content, flint pebbles or phosphorite nodules commonly occur at the base.	440	440	440	440
			Dongen NLDO	Middle to Late Eocene Lutetian to Bartonian	Asse NLDOAS	Marine dark greenish-grey and blue-grey, plastic clays. The unit locally shows indications of bioturbation, and may be glauconitic and micaceous.	448	448	444	444
			Dongen NLDO	Early to Middle Eocene Ypresian to Lutetian	Brussels Sand NLDOBR	Green-grey, glauconitic, very fine-grained sand with, mainly in the upper part, a number of hard, calcareous sandstone layers of some dm's thickness (high-resistivity).	476	476	482	482
				Early Eocene Ypresian	Ieper NLDOIE	Soft, tough and sticky to hardened and friable clay. The lower part has a brown-grey colour, tending to beige or red-brown locally w/ pyrite and coalified plant remains. The upper two-thirds have a characteristic green-grey colour.	577	577	574	574
					De Wijk (B.D.Tuffite) NLDOWY	Tuffaceous clays, blue to violet-grey in colour, alternating with dark-grey and red-brown clays. Contains volcanic ashes.	839	839	834	834
	Chalk CK		Landen NLLA	Late Paleocene Thanetian	Liessel NLLALI (Landen Clay)	Generally dark-green, hard, flaky clay, somewhat silty, containing glauconite, pyrite and mica. The basal part of the member can be marly and of a lighter colour.	854	854	847,5	847,5
			Ekofisk CKEK	Late Paleocene Danian		White, chalky limestones containing rare white and grey nodular and bedded chert layers, and thin, grey to green clay laminae. Some glauconite can occur in the basal interval.	904	904	907	907
			Ommelanden CKGR	Upper Cretaceous Turonian to Maastrichtian		Succession of white, yellowish-white or light-grey, fine grained, dense limestones. Thick intervals of chert are present. Tongues of sandstone can occur in the middle section. The fm comprises mainly hard, dense limestones but in its upper part it tends to be softer and more chalky in texture.	953	953	957	957
			Texel CKTX	Cenomanian	Plenus Marl CKTXP	Dark-grey, partly black, calcareous, laminated claystone.	1559	1628	1633	1666,5
					Texel Marlstone CKTXM	Interval of white to light grey chalks, chalky marls and limestones. Increasingly marly with depth.	1561	1630	1635	1668,5
					Texel Greensand CKTXG	Greenish, glauconitic, calcareous sandstones with intercalated marls and limestone.	1586	1661	1657,5	1695,5

Table 5: MSD-GT-01 geological lithostratigraphic column (part 1/2)

Rijnland KN Mesozoicum	Cretaceous	Holland KNGL	Lower Cretaceous	Upper Holland Marl	Grey and red-brown (argillaceous) marlstone. Acc. very fine mica, glauconite, pyrite, Inoceramidae, Foraminifera.	1600	1679	1669	1708,5
			Late Aptian to Early Albian	Middle Holland Claystone	Mainly dark grey, sandy claystone (calcareous, shaly) with a distinctly lower lime content than the under- and overlying members. Acc. Pyrite, glauconite.	1783	1902	1783,5	1852,5
			Early Albian	Holland Greensand	Alternation of greenish grey, very glauconitic, very fine- to fine-grained, argillaceous sandstones, locally silt-stones with calcareous or sideritic cement, and olive-grey claystones or grey marlstones. Acc.: pyrite.	1828	1958	1831,5	1906,5
			Early Aptian	Lower Holland Marl	Fossiliferous, glauconitic and intensely bioturbated, greenish grey, silty to very silty or sandy, glauconitic (grey + red-brown) marls and fissile claystones.	1948	2104	1965	2078
		Vlieland Sandstone KNNS	Late Barremian to Early Aptian	De Lier Sandstone	Alternation of thin-bedded, (very) fine-grained argillaceous sandstones; glauconitic & lignitic, and sandy claystones with shell fragm's & bioturbation. Acc.: mica, pyrite, siderite, shells.	2044	2222	2065	2208
			Late Barremian	Vlieland Clay	Alteration of calcareous dark brownish-grey to medium grey (sticky) claystone, siltstone and very fine to fine grained sandstone. The member is calcareous. Acc. Pyrite, glauconite, lignite, mica.	2122	2317	2151,5	2321
			Late Hauterivian to Mid Barremian	Berkel Clastics	Alteration of calcareous or argillaceous sandstone (very fine- to coarse-grained), siltstone and claystone. Especially in the upper part calcareous cemented beds are common. Acc. Lignite/coal, glauconite, siderite, shell fragments, dolomite.	2302	2538	2279,5	2488
			Hauterivian	Rijswijk Sandstone	White to l. grey sandstones with a fine to medium, locally gravelly grained. Top section is calcareous. Acc.: mica, lignite/coal, siderite, glauconite, dolomite.	2427	2691	2425	2681,5
		Nieuwerkerk SLDN	Late Valanginian to Early Hauterivian	Rodenrijs Claystone	Medium- to dark-grey and dark brown, silty to sandy lignitic claystones with laminated or contorted bedding, and lignite/coal beds. The lower half has more and thicker layers of coal and sand. Traces of mollusc shells, pyrite and siderite.	2497	2776	2498	2780,5
			Berriasian - Valanginian	Alblasserdam	A succession of red and dark to light (brownish) grey clay(stones) and siltstones, fine to medium grained sandstones and massive, thick-bedded, coarse grained sandstones. Coal & lignite beds.	2588	2888	2562	2864
Altena AT	Jurassic	Brabant ATBR	Middle Jurassic	Lower Brabant Marl	Sandy marl interval, which is often ferruginous at the top. Locally, some thin, sandy limestone beds are intercalated.	2888	3255	2889	3264,5
		Werkendam ATWD	Late Bathonian	Upper Werkendam	A medium to dark grey, somewhat marly claystone, exhibiting a uniform, low acoustic-velocity and resistivity response on wire-line logs. Acc.: tr. Limestone.		2899,5		3276
						TD	2926	3306	

Table 6: MSD-GT-01 geological lithostratigraphic column (part 2/2)

4.2 Presumed geologic faults

No geological faults were observed in the trajectory of this well.

4.3 Hydrocarbons

No shallow gas was observed.

5. WELL SUSPENSION STATUS

5.1 Well status

Well is suspended with 1.08 s.g. formation brine. Horizontal mastervalve (7 1/16" 3 KSI ball valves with blind flange) and 2 1/16" 5 KSI side outlet valves are installed. A blind flange is installed on top of the well head, no tubing hanger is installed.



Figure 6. Wellhead MSD-GT-01

5.2 Well barrier schematic

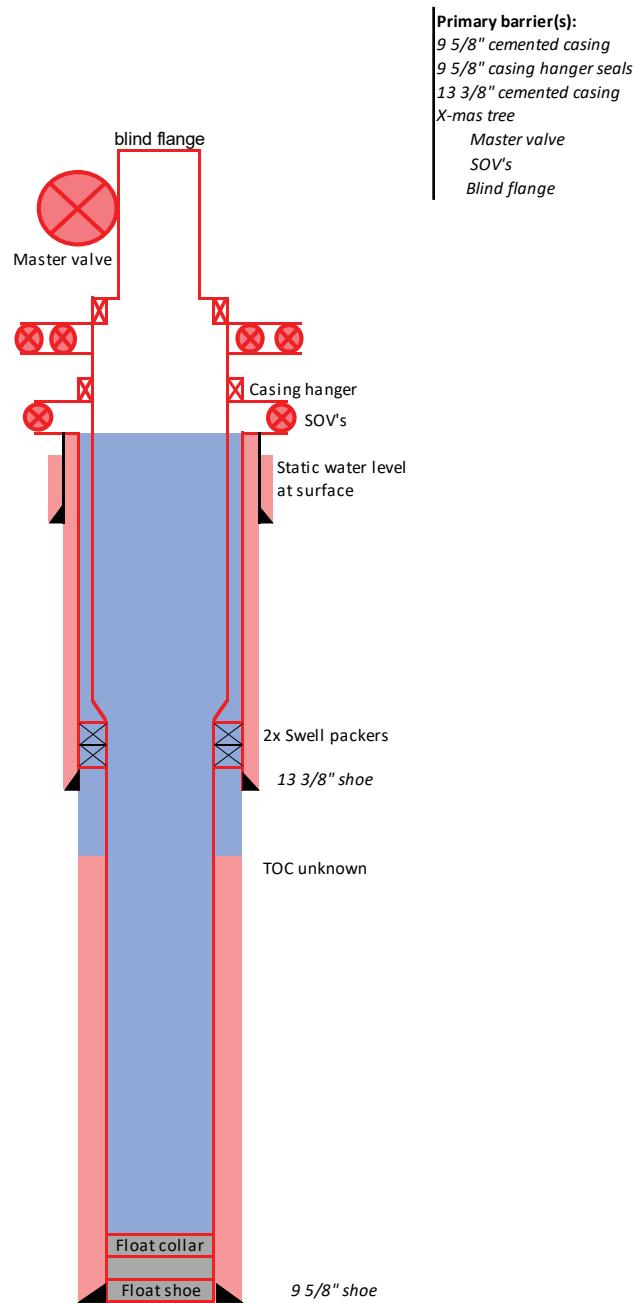


Figure 7: Well barrier schematic after the drilling phase.

5.3 Wellhead and Christmas tree drawing

A slip-lock wellhead was installed on the 13 $\frac{3}{8}$ " Casing. While drilling a temporary 13 $\frac{3}{8}$ " 5K flange was installed on the wellhead housing to install the drilling BOP.

The wellhead has a horizontal X-mas tree allowing intervention without the need to remove the flowline.

Technical specifications:

Supplier / Manufacturer:	Liberty
Pressure rating:	3000 psi
Temperature class:	PU (-29 to 121 °C)
Material class:	CC / FF for all wet parts

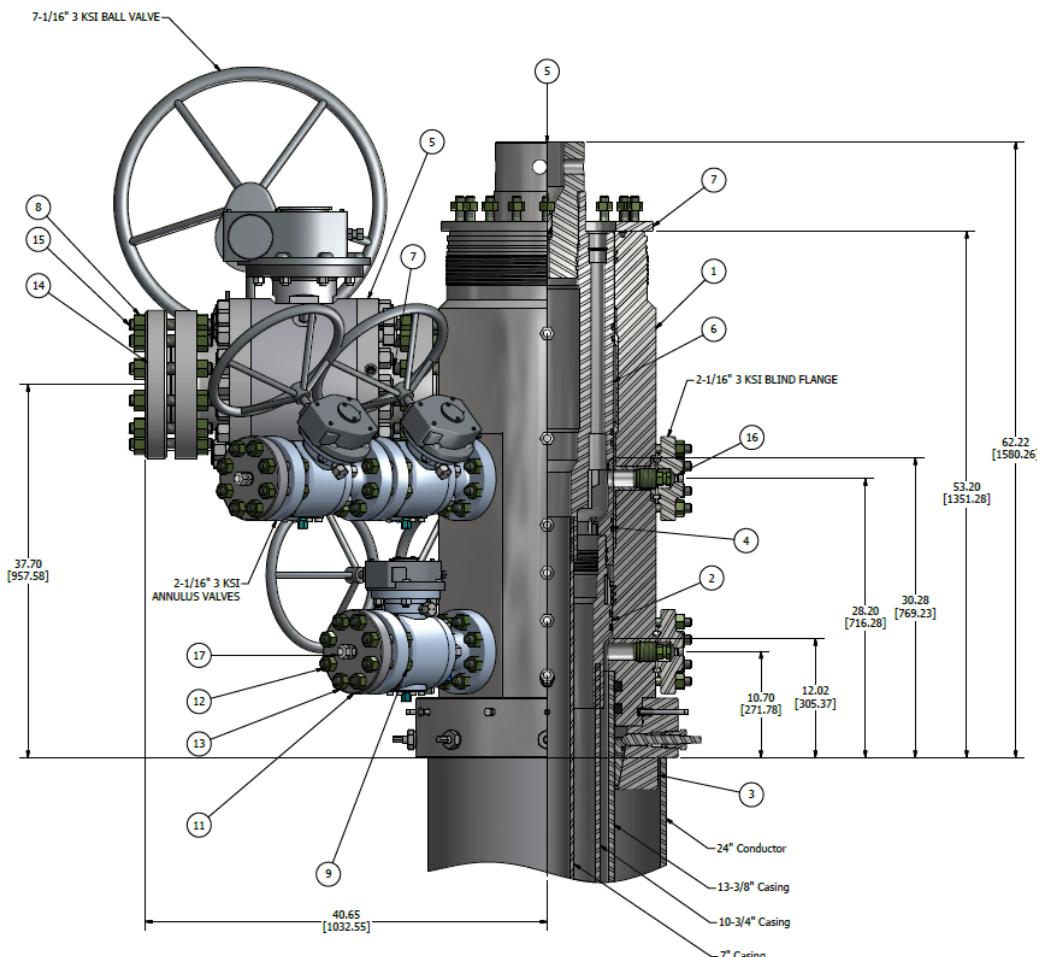


Figure 8: wellhead schematic. (Note: casing size is 13 3/8")

The orientation shall be done as shown in Figure 9 with the 7 1/16" horizontal valve pointed towards the MSD-GT-02 well.

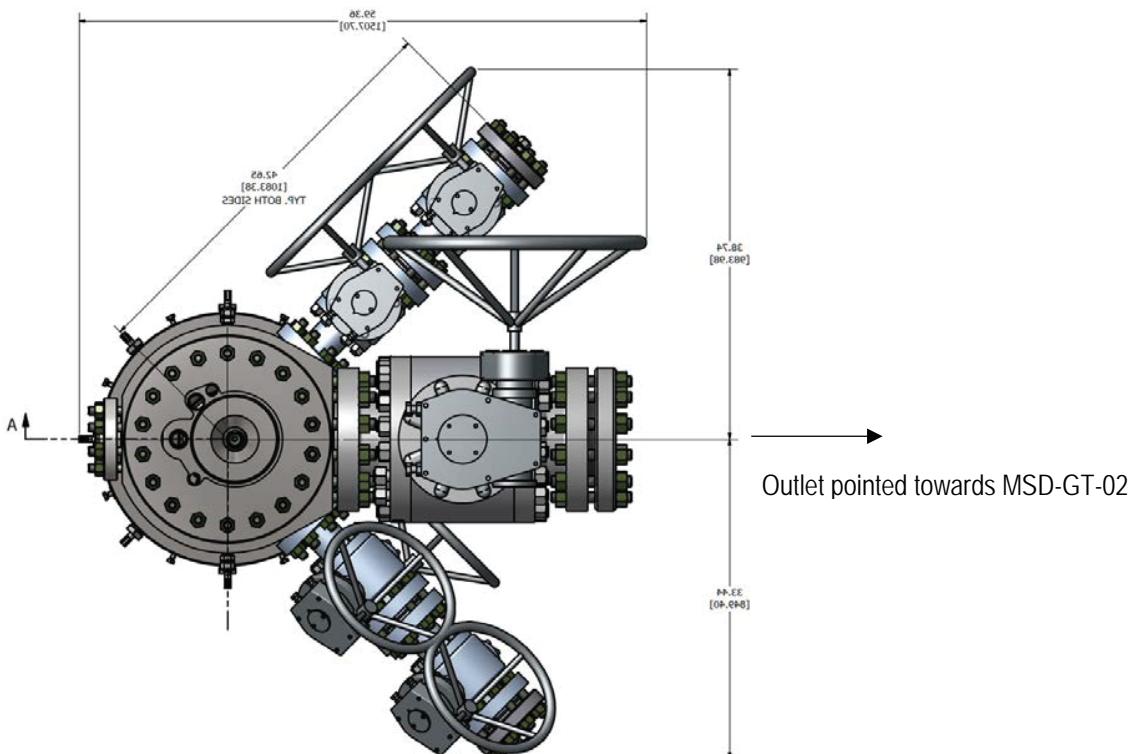
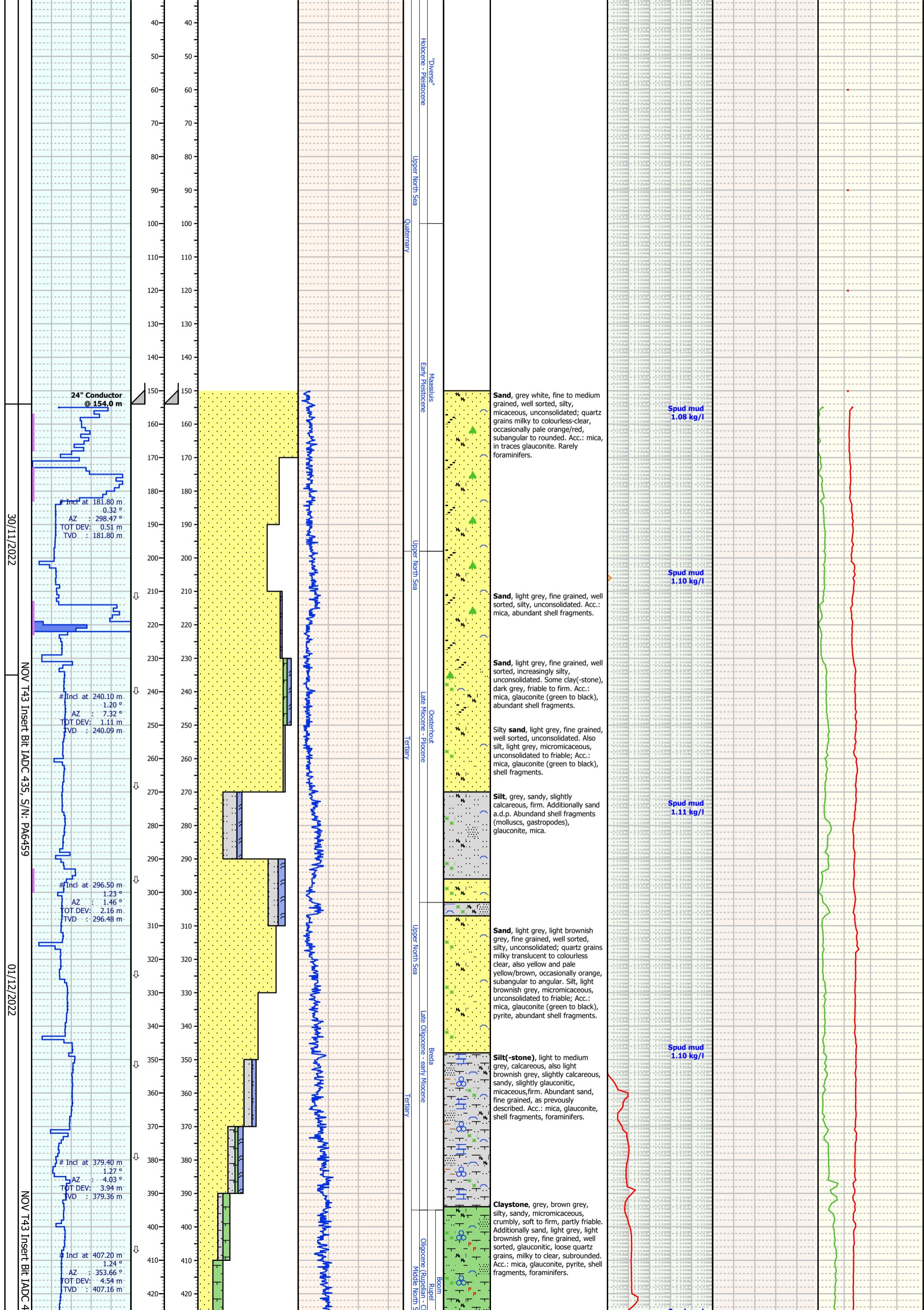
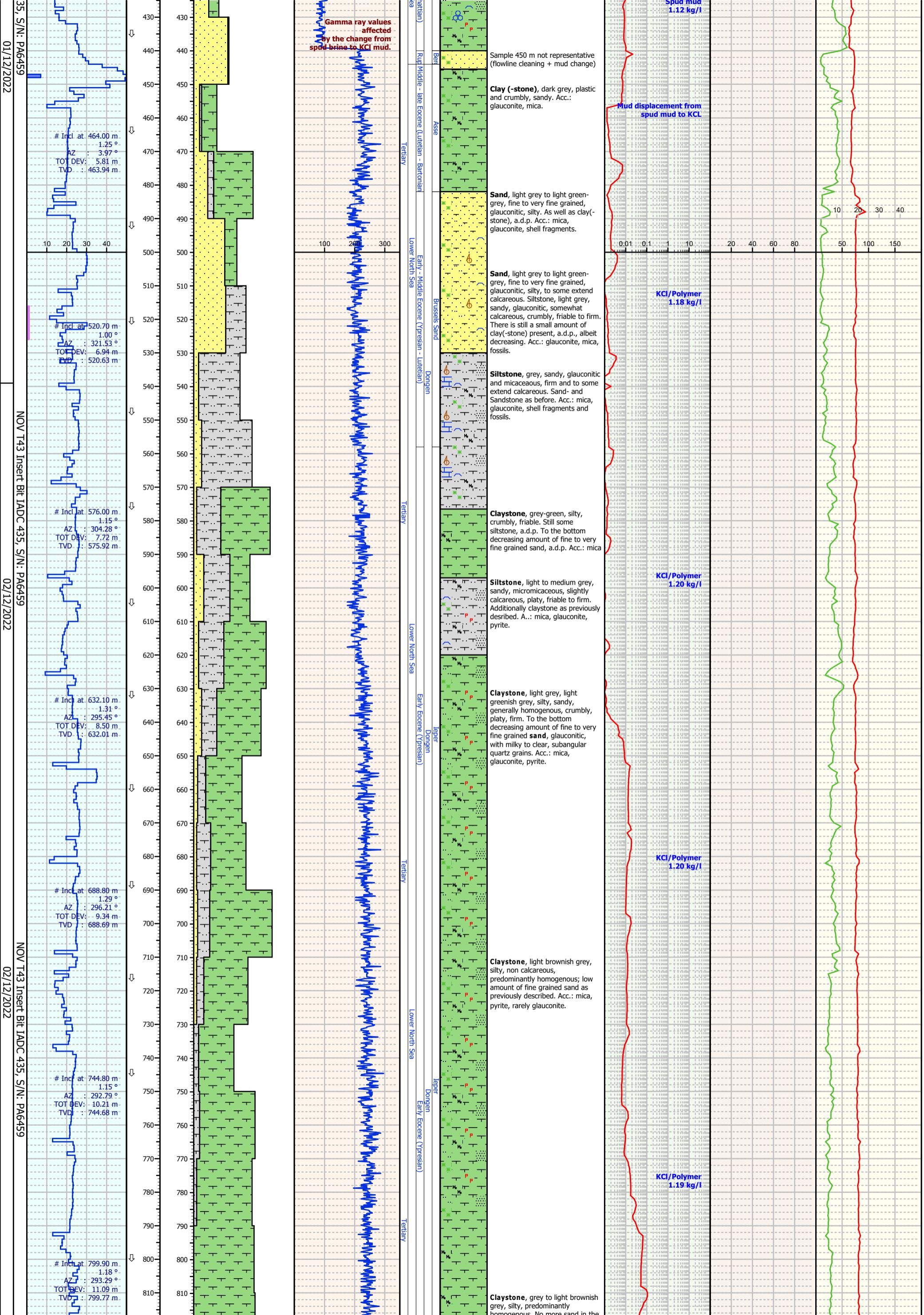


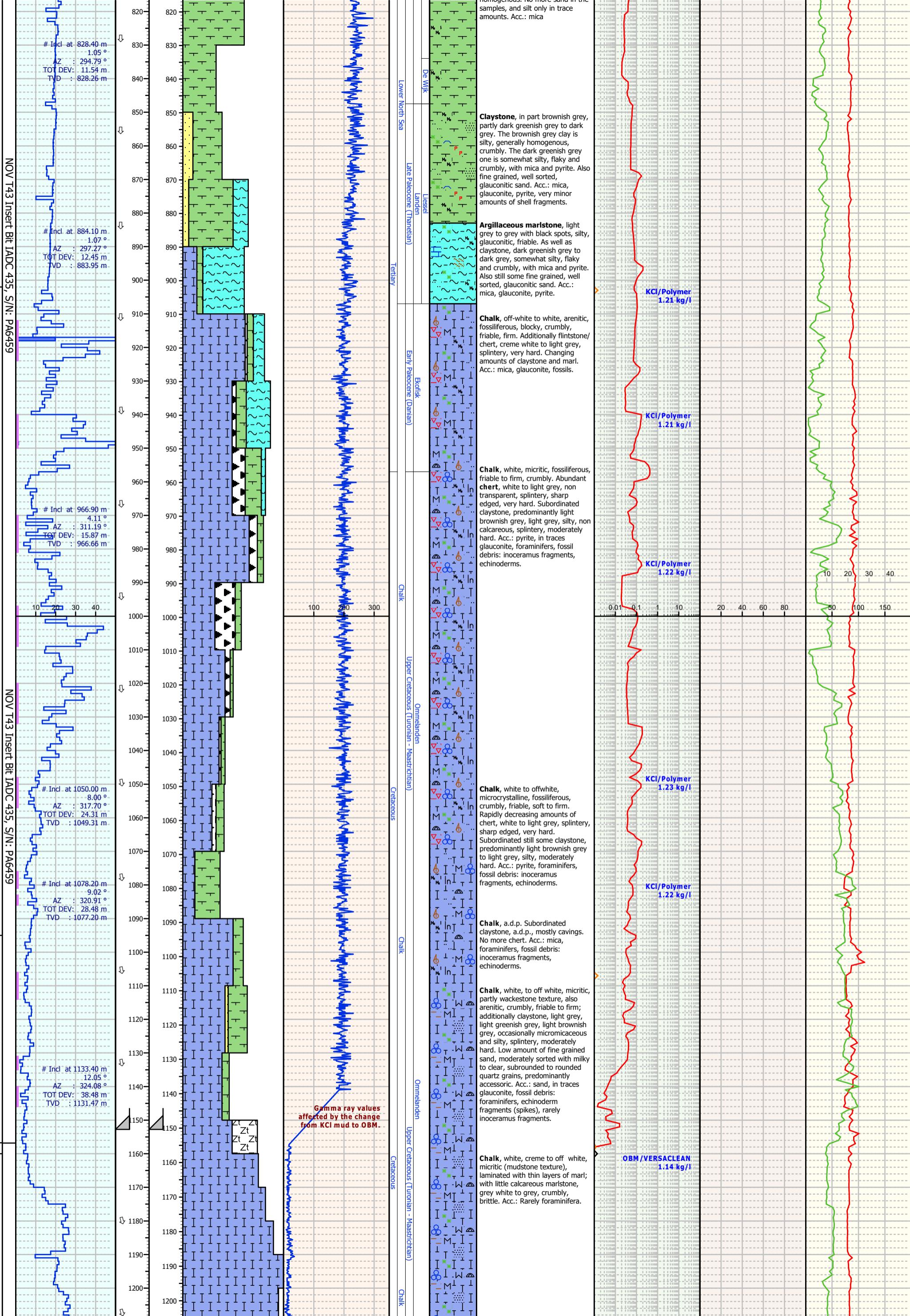
Figure 9: Orientation of wellhead.

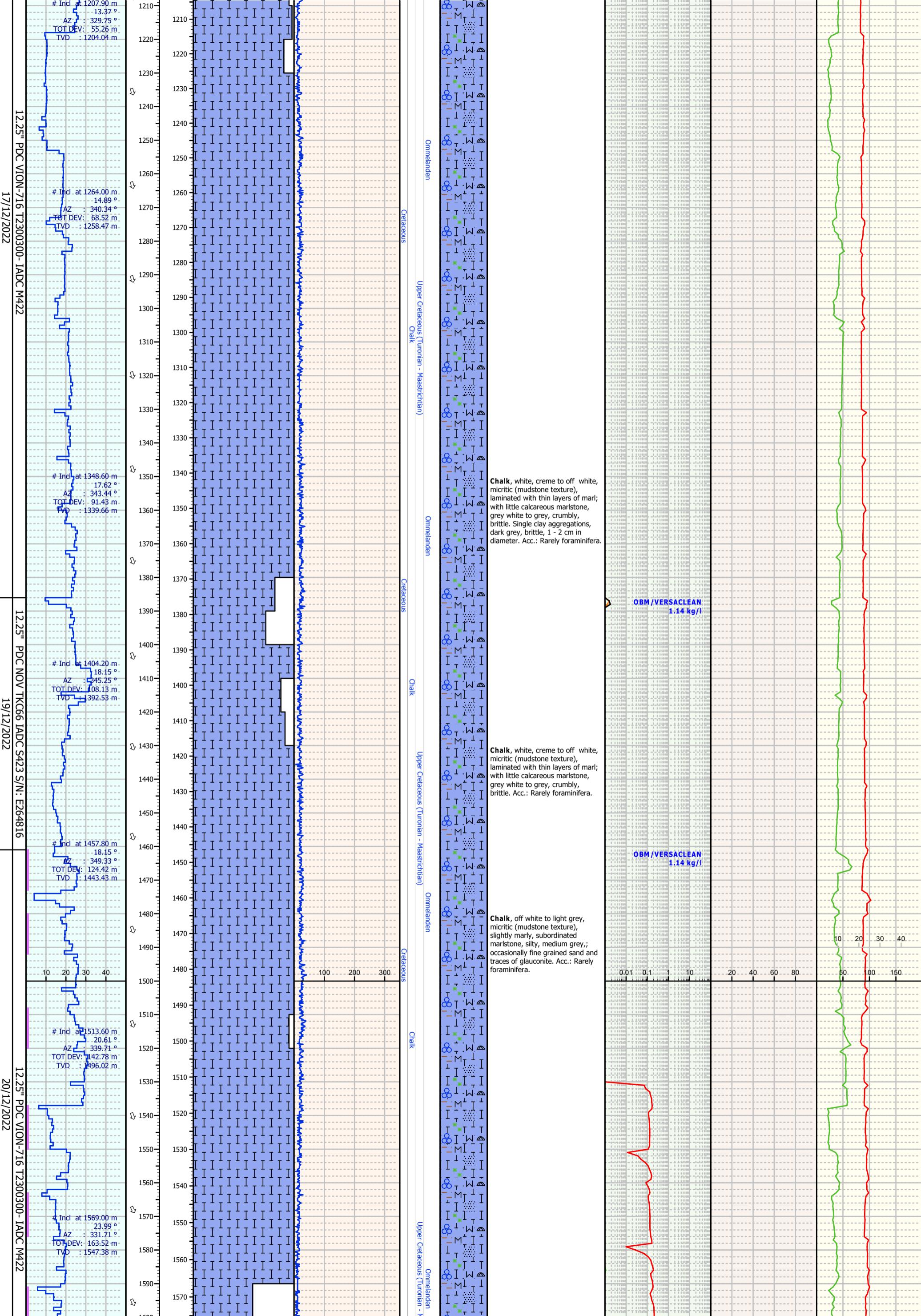
6. HSE PERFORMANCE

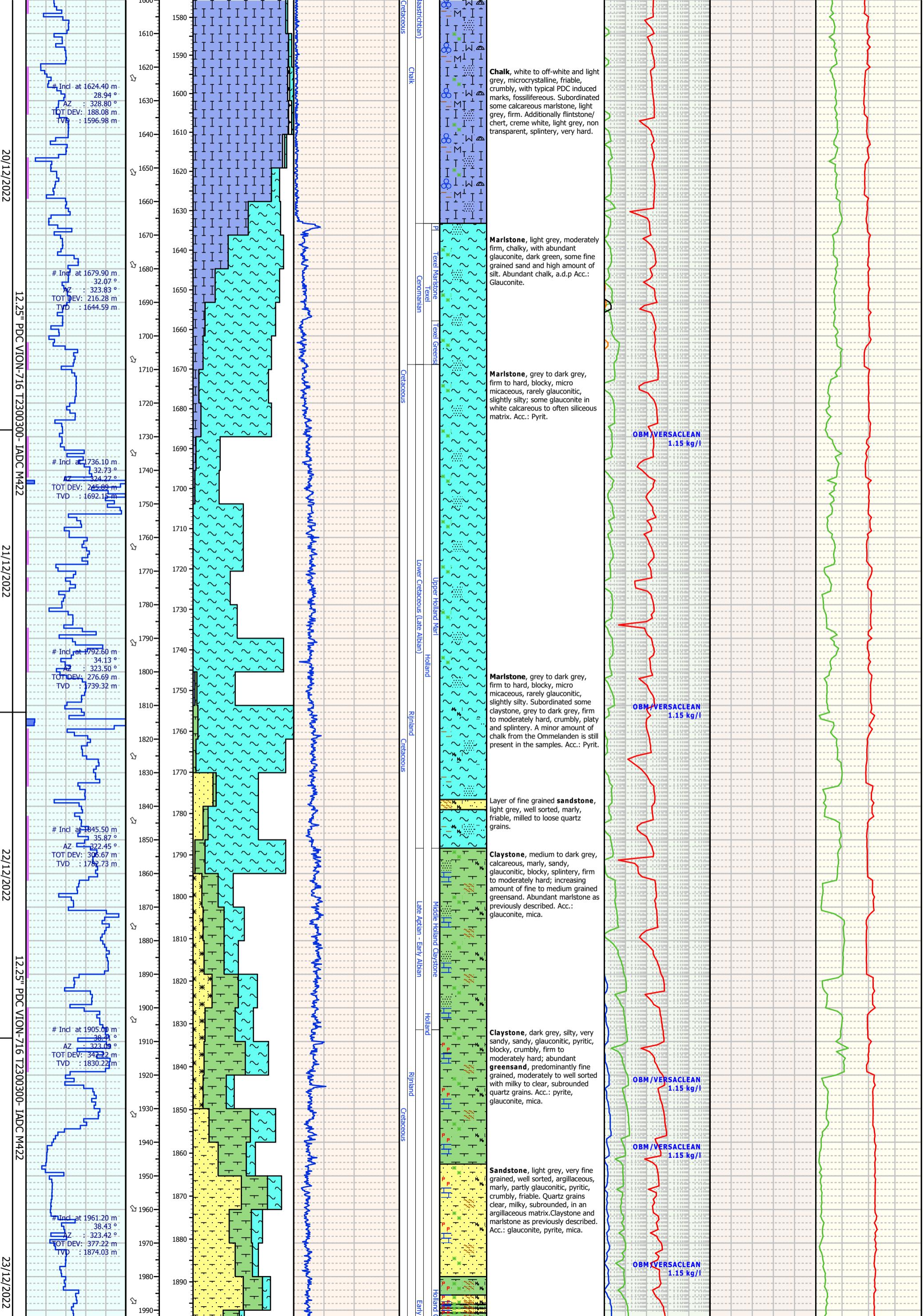
No incidents or accidents occurred during the operational phase of this project.

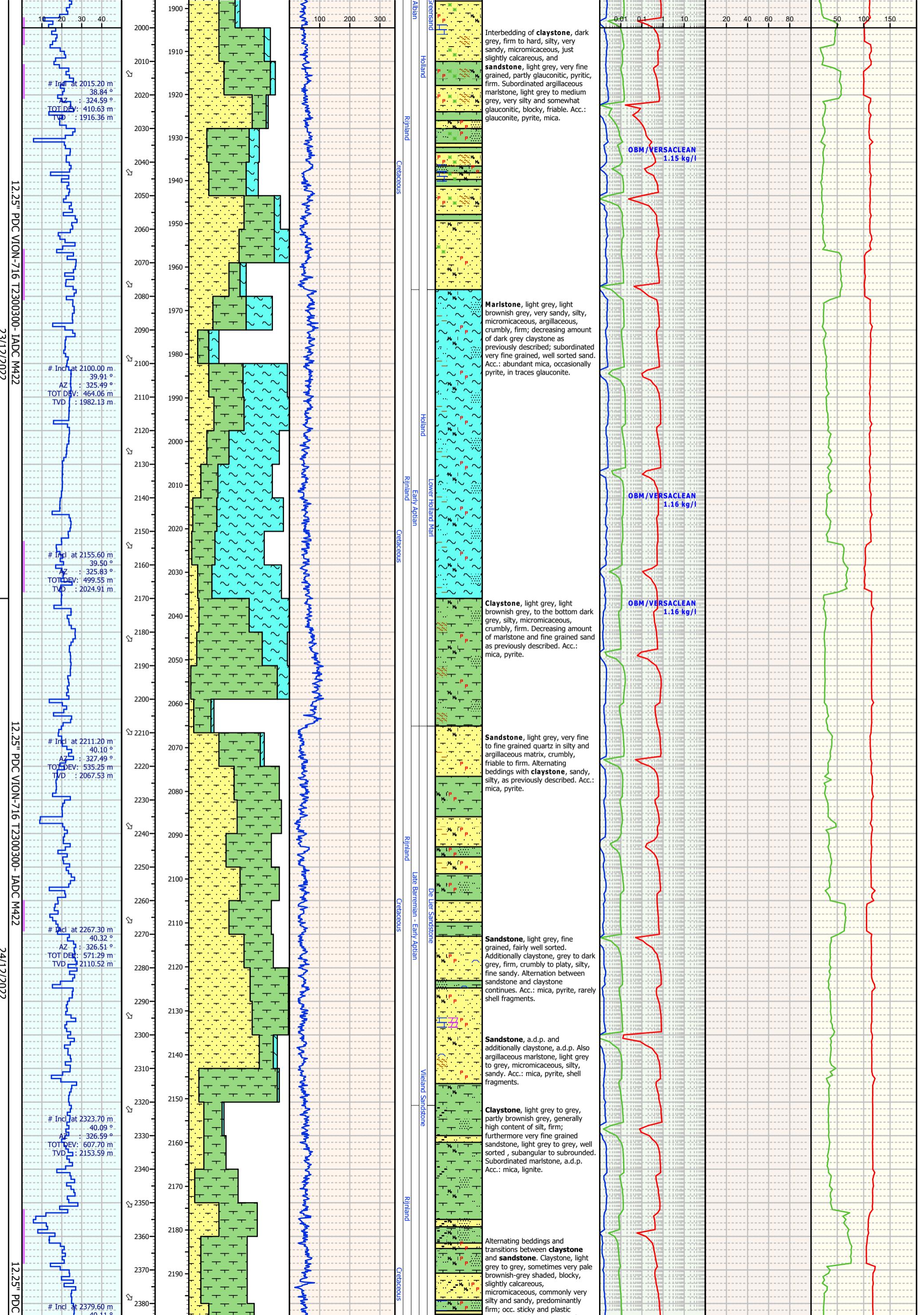












40.11 °
AZ : 325.19 °
TOT DEV: 643.55 m
TVD : 2196.46 m

Incl at 2436.20 m
39.85 °
AZ : 324.92 °
TOT DEV: 679.90 m
TVD : 2239.81 m

Incl at 2492.70 m
40.46 °
AZ : 324.43 °
TOT DEV: 716.24 m
TVD : 2283.04 m

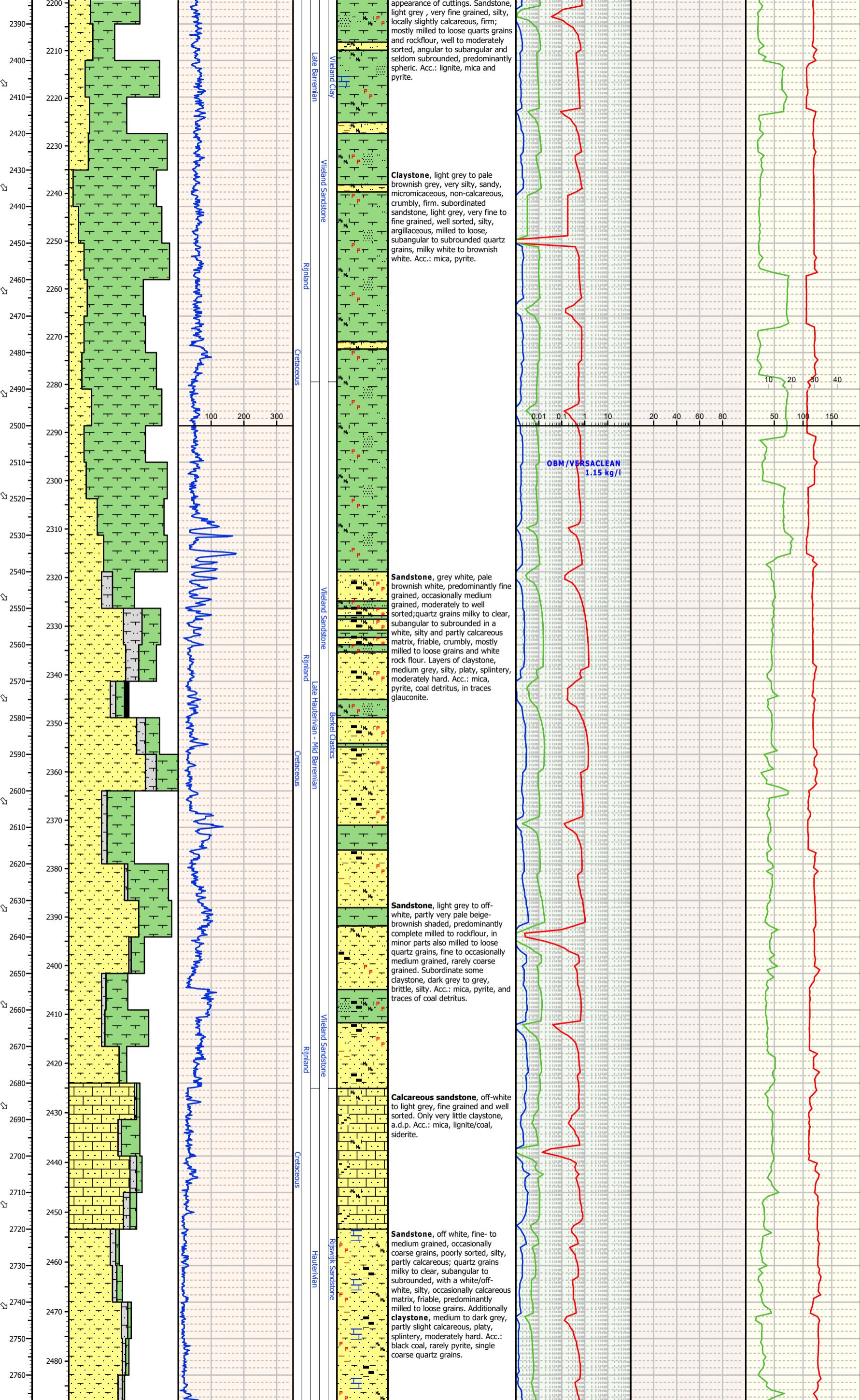
Incl at 2518.50 m
41.45 °
AZ : 324.48 °
TOT DEV: 752.76 m
TVD : 2325.18 m

Incl at 2604.20 m
41.07 °
AZ : 320.68 °
TOT DEV: 789.33 m
TVD : 2367.09 m

Incl at 2659.90 m
41.56 °
AZ : 323.56 °
TOT DEV: 825.88 m
TVD : 2409.03 m

Incl at 2714.81 m
43.01 °
AZ : 323.52 °
TOT DEV: 862.84 m
TVD : 2449.59 m

12.25" PDC VION-716 T2300300-IADC M422
25/12/2022



40.11 °
AZ : 325.19 °
TOT DEV: 643.55 m
TVD : 2196.46 m

Incl at 2436.20 m
39.85 °
AZ : 324.92 °
TOT DEV: 679.90 m
TVD : 2239.81 m

Incl at 2492.70 m
40.46 °
AZ : 324.43 °
TOT DEV: 716.24 m
TVD : 2283.04 m

Incl at 2518.50 m
41.45 °
AZ : 324.48 °
TOT DEV: 752.76 m
TVD : 2325.18 m

Incl at 2604.20 m
41.07 °
AZ : 320.68 °
TOT DEV: 789.33 m
TVD : 2367.09 m

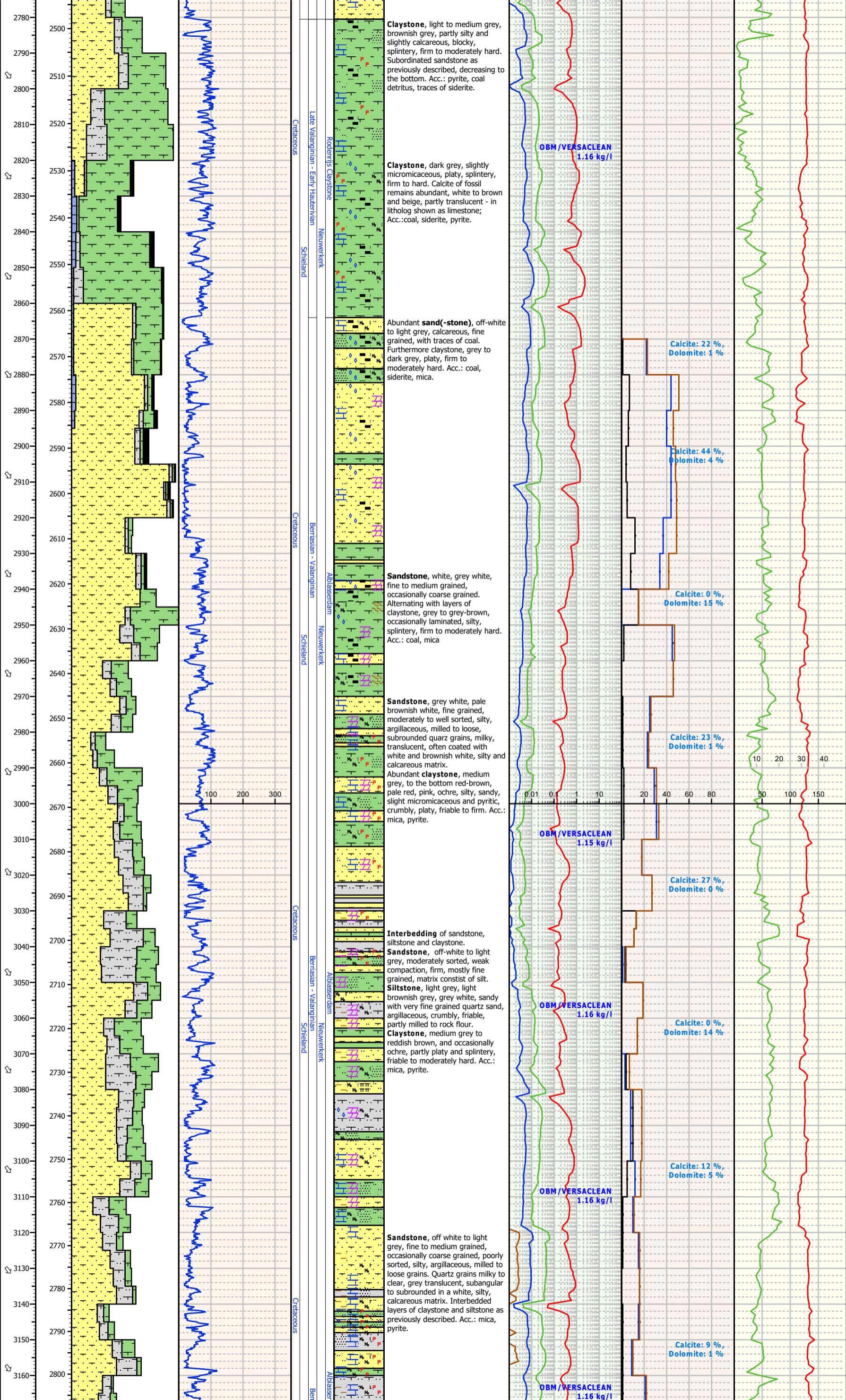
Incl at 2659.90 m
41.56 °
AZ : 323.56 °
TOT DEV: 825.88 m
TVD : 2409.03 m

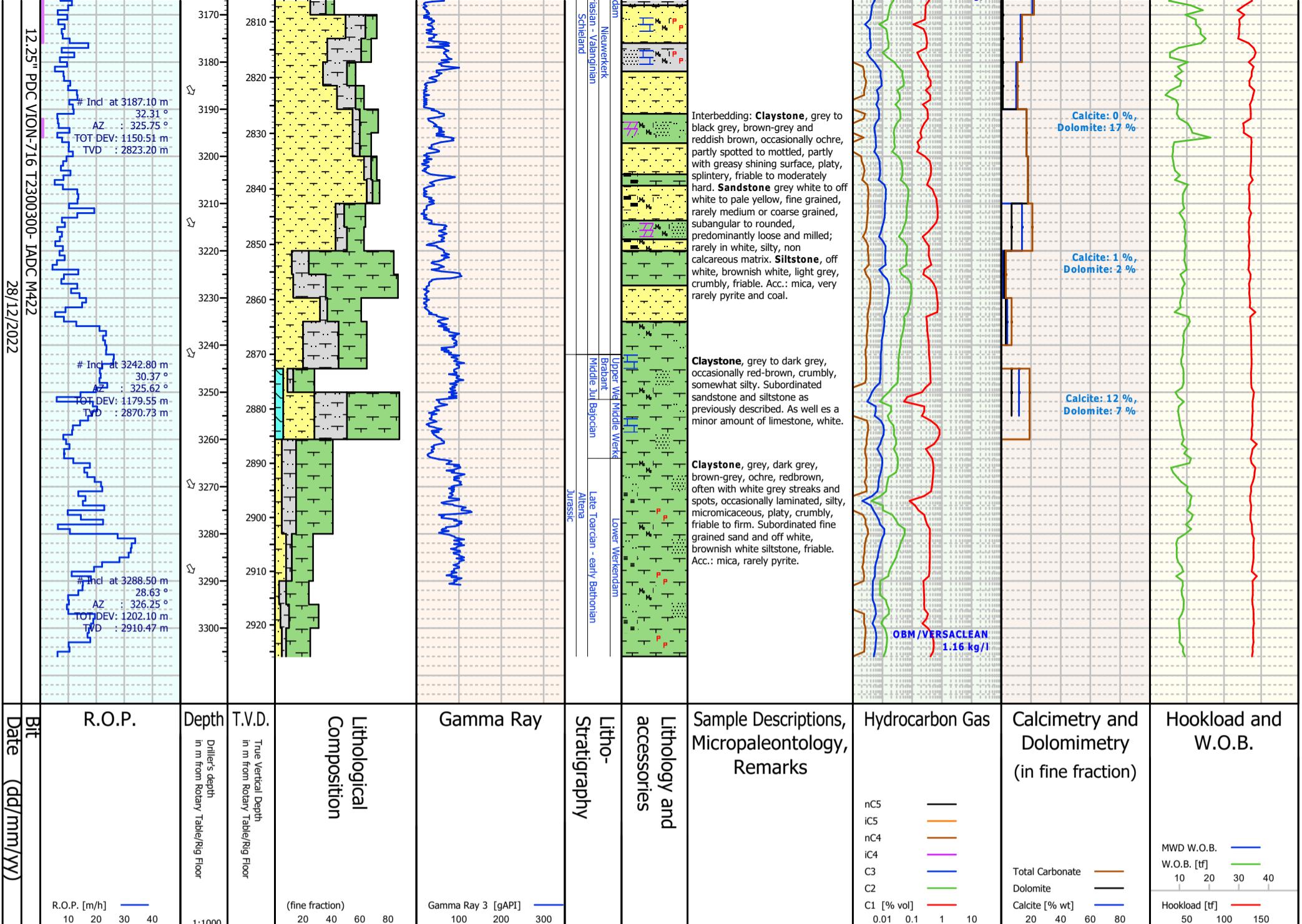
Incl at 2714.81 m
43.01 °
AZ : 323.52 °
TOT DEV: 862.84 m
TVD : 2449.59 m

12.25" PDC VION-716 T2300300-IADC M422
25/12/2022

12.25" PDC VION-716 T2300300-IADC M422

26/12/2022





R.O.P.	Depth	T.V.D.	Lithological Composition	Gamma Ray	Litho-Stratigraphy	Sample Descriptions, Micropaleontology, Remarks	Hydrocarbon Gas	Calcmetry and Dolomimetry (in fine fraction)	Hookload and W.O.B.
Bit Date (dd/mm/yy)	R.O.P. [m/h]	True Vertical Depth in m from Rotary Table/Rig Floor	(fine fraction)	Gamma Ray 3 [gAPI]			nC5 iC5 nC4 iC4 C3 C2 C1 [% vol]	Total Carbonate Dolomite Calcite [% wt]	MWD W.O.B. W.O.B. [tf] Hookload [tf]



**HVC Aardwarmte Maasdijk B.V.
Westland
Maasdijk Westland
MSD-GT-01
MSD-GT-01
MSD-GT-01 Actual Well**

**Survey Report
28 December 2022**

**Innova Drilling & Intervention
+44 (0) 7740 618 272
www.innova-drilling.com**

Operator	HVC Aardwarmte Maasdijk B.V.	Local co-ord ref	Well Centered												
Field	Westland	TVD Reference	RT												
Facility	Maasdijk Westland	North Reference	GRID												
Well	MSD-GT-01	Survey Calc Method	Minimum Curvature												
Wellbore	MSD-GT-01 Actual Well														
Field	Westland														
CRS	Netherlands Coordinate System / Netherlands National System (RD)	North Reference	GRID												
Apply Scale Factor	YES	Scale Factor	1.000												
System Datum	MSL	Depth Datum->MSL	10.74m												
Facility	Maasdijk Westland														
Map Northing	442449.676m	Map Easting	73456.448m												
Latitude	51° 57' 55.601" N	Longitude	4° 12' 3.369" E												
Vertical Uncertainty	0.00m	Horizontal Uncertainty	0.00m												
Grid Convergence	-0.937														
Well	MSD-GT-01														
Local North	0.000m	Local East	0.000m												
Map Northing	442449.676m	Map Easting	73456.448m												
Latitude	51° 57' 55.601" N	Longitude	4° 12' 3.369" E												
Depth Datum / Rig	RT / T-207	Datum Elevation	10.74m												
GL Elevation	1.40m	Grid Convergence	-0.937												
Wellbore	MSD-GT-01 Actual Well														
Magnetic Model	igrf13.cof	Date	28/11/2022												
Total Field (nT)	49303.47	Dip Angle (deg)	67.066												
Declination	2.013														
VS Origin	Well	VS Azimuth	326.34												
VS Origin NS	0.00m	VS Origin EW	0.00m												
Survey Program	MSD-GT-01 Actual Well														
Depth From m	Depth To m	Survey	Survey Tool												
0.00	1133.40	16in Section MWD Survey MSD-GT-01	MWD+IGRF+AX+SAG												
1133.40	3288.50	1225in Section MWD	MWD+IGRF+AX+SAG												
Survey Report															
MD m	INC deg	AZI deg	TVD m	NS m	EW m	VS m	DLS deg/30m	BR deg/30m	TR deg/30m	TF deg	CL m	TVD SS m	Up(+)/Dn(-) m	Left(-)/Right m	Dist m
0.00	0.00	0.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-10.74	-0.68	-0.00	0.68
181.80	0.32	298.47	181.80	0.24	-0.45	0.45	0.05	0.05	0.00	298.47	181.80	171.06	0.24	-0.45	0.51
211.70	0.86	4.39	211.70	0.51	-0.50	0.70	0.79	0.54	66.14	87.75	29.90	200.96	0.51	-0.50	0.71
240.10	1.19	7.32	240.09	1.01	-0.45	1.09	0.35	0.35	3.10	10.49	28.40	229.35	1.01	-0.45	1.11
268.50	1.06	5.22	268.49	1.56	-0.39	1.52	0.14	-0.14	-2.22	-163.45	28.40	257.75	1.56	-0.39	1.61
296.50	1.23	1.46	296.48	2.12	-0.36	1.96	0.20	0.18	-4.03	-25.73	28.00	285.74	2.12	-0.36	2.15
324.90	1.20	0.73	324.88	2.73	-0.34	2.46	0.04	-0.03	-0.77	-153.07	28.40	314.14	2.73	-0.34	2.75
351.90	1.28	5.76	351.87	3.31	-0.31	2.93	0.15	0.09	5.59	56.22	27.00	341.13	3.31	-0.31	3.32
379.40	1.27	4.03	379.36	3.92	-0.26	3.40	0.04	-0.01	-1.89	-105.43	27.50	368.62	3.92	-0.26	3.93
407.20	1.24	353.66	407.16	4.52	-0.27	3.91	0.25	-0.03	11.19	-102.69	27.80	396.42	4.52	-0.27	4.53
435.20	1.32	358.83	435.15	5.15	-0.31	4.46	0.15	0.09	5.54	57.89	28.00	424.41	5.15	-0.31	5.16
464.00	1.25	3.97	463.94	5.79	-0.29	4.98	0.14	-0.07	5.35	123.82	28.80	453.20	5.79	-0.29	5.80
492.30	1.26	3.23	492.23	6.41	-0.26	5.48	0.02	0.01	-0.78	-58.70	28.30	481.49	6.41	-0.26	6.42
520.70	1.00	321.53	520.63	6.92	-0.39	5.97	0.89	-0.27	44.05	-127.65	28.40	509.89	6.92	-0.39	6.93
547.80	1.11	312.02	547.73	7.28	-0.73	6.46	0.23	0.12	-10.53	-62.68	27.10	536.99	7.28	-0.73	7.31
576.00	1.15	304.28	575.92	7.62	-1.17	6.99	0.17	0.04	-8.23	-79.21	28.20	565.18	7.62	-1.17	7.71
604.70	1.22	297.68	604.61	7.92	-1.68	7.53	0.16	0.07	-6.90	-66.17	28.70	593.87	7.92	-1.68	8.10
632.10	1.31	295.45	632.01	8.19	-2.22	8.05	0.11	0.10	-2.44	-29.80	27.40	621.27	8.19	-2.22	8.49
659.90	1.29	289.92	659.80	8.44	-2.80	8.58	0.14	-0.02	-5.97	-101.81	27.80	649.06	8.44	-2.80	8.89
688.80	1.29	296.21	688.69	8.69	-3.40	9.12	0.15	0.00	6.53	90.00	28.90	677.95	8.69	-3.40	9.33
716.40	1.25	290.32	716.29	8.93	-3.96	9.63	0.15	-0.04	-6.40	-109.97	27.60	705.55	8.93	-3.96	9.77
744.80	1.15	292.39	744.68	9.15	-4.52	10.12	0.12	-0.11	2.19	157.60	28.40	733.94	9.15	-4.52	10.20
772.00	1.16	294.96	771.87	9.37	-5.02	10.58	0.06	0.01	2.83	80.36	27.20	761.13	9.37	-5.02	10.63
799.90	1.18	293.29	799.77	9.60	-5.54	11.06	0.04	0.02	-1.80	-60.44	27.90	789.03	9.60	-5.54	11.08
828.40	1.05	294.79	828.26	9.83	-6.04	11.53	0.14	-0.14	1.58	168.09	28.50	817.52	9.83	-6.04	11.54
855.70	1.12	297.47	855.56	10.06	-6.51	11.98	0.09	0.08	2.95	37.29	27.30	844.82	10.06	-6.51	11.98
884.10	1.07	297.27	883.95	10.31	-6.99	12.45	0.05	-0.05	-0.21	-175.73	28.40	873.21	10.31	-6.99	12.45
911.30	1.80	299.50	911.14	10.63	-7.59	13.05	0.81	0.81	4.51	18.15	27.50	1010.70	11.89	-2.68	12.19
939.10	3.06	307.13	938.92	11.30	-8.56	14.15	1.40	1.36	5.49	21.37	28.10	1038.57	10.89	-3.32	11.39
966.90	4.11	311.19	966.66	12.40	-9.90	15.81	1.17	1.13	4.38	26.57	28.20	1066.46	9.61	-3.83	10.34
994.40	5.05	309.38	994.08	13.82	-11.58	17.92	1.04	1.03	-1.97	-9.64	27.50	983.34	12.71	-1.98	12.87
1021.90	6.49	313.51	1021.44	15.65	-13.64	20.59	1.63	1.57	4.47	18.15	27.50	1010.70	11.89	-2.68	12.19
1050.00	8.00	317.70	1049.31	18.19	-16.11	24.07	1.71	1.61	4.47	21.37	28.10	1038.57	10.89	-3.32	11.39
1078.20	9.02	320.91	1077.20	21.36	-18.82	28.21	1.20	1.09	3.41	26.57	28.20	1066.46	9.61	-3.83	10.34
1105.90	10.41	323.68	1104.50	25.06	-21.67	32.87	1.59	1.51	3.00	19.96	27.70	1093.76	8.03	-4.15	9.04
1133.40	12.05	324.08	1131.47	29.39	-24.83	38.22	1.79	1.79	0.44	2.92	27.50	1120.73	6.32	-4.38	7.69
1180.50	13.65	327.53	1177.39	38.06	-30.70	48.69	1.13	1.02	2.20	27.31	47.10	1166.65	2.66	-4.46	5.19
1207.90	13.37	329.75	1204.04	43.53	-34.03	55.09	0.65	-0.31	2.43	119.44	27.40	1193.30	-0.33	-4.20	4.22
1236.20	13.91	335.66	1231.54	49.45	-37.08	61.71	1.58	0.57	6.27	71.71	28.30	1220.80	-4.31	-3.46	5.53

Survey Report

MD m	INC deg	AZI deg	TVD m	NS m	EW m	VS m	DLS deg/30m	BR deg/30m	TR deg/30m	TF deg	CL m	TVD SS m	Up(+)/Dn(-) Left(-)/Right m	Top m	
1264.00	14.89	340.34	1258.47	55.86	-39.66	68.48	1.64	1.06	5.05	52.18	27.80	1247.73	-8.82	-2.05	9.06
1291.90	15.96	341.75	1285.36	62.88	-42.07	75.65	1.22	1.15	1.52	20.00	27.90	1274.62	-13.81	-0.17	13.81
1320.50	16.68	342.89	1312.81	70.54	-44.51	83.38	0.83	0.76	1.20	24.53	28.60	1302.07	-19.43	2.05	19.53
1348.60	17.62	343.44	1339.66	78.47	-46.90	91.31	1.02	1.00	0.59	10.05	28.10	1328.92	-25.45	4.45	25.83
1375.90	18.13	343.68	1365.64	86.50	-49.28	99.31	0.57	0.56	0.26	8.33	27.30	1354.90	-31.80	6.93	32.54
1404.20	18.15	345.25	1392.53	94.99	-51.63	107.69	0.52	0.02	1.66	88.40	28.30	1381.79	-39.11	9.67	40.29
1431.13	18.39	346.34	1418.11	103.18	-53.71	115.64	0.47	0.27	1.21	55.44	26.93	1407.37	-46.82	12.48	48.46
1457.80	18.15	349.33	1443.43	111.35	-55.47	123.42	1.09	-0.27	3.36	105.78	26.67	1432.69	-55.05	15.54	57.20
1485.60	19.66	343.12	1469.74	120.08	-57.63	131.89	2.71	1.63	-6.70	-56.08	27.80	1459.00	-63.30	18.58	65.97
1513.60	20.61	339.71	1496.03	129.21	-60.71	141.19	1.62	1.02	-3.65	-52.63	28.00	1485.29	-70.85	21.08	73.92
1540.90	21.72	335.55	1521.48	138.31	-64.46	150.85	2.05	1.22	-4.57	-55.49	27.30	1510.74	-77.63	23.00	80.97
1569.00	23.99	331.71	1547.38	148.08	-69.32	161.68	2.90	2.42	-4.10	-35.09	28.10	1536.64	-83.72	24.37	87.19
1596.40	26.34	330.08	1572.18	158.25	-75.00	173.29	2.68	2.57	-1.78	-17.17	27.40	1561.44	-88.53	25.28	92.07
1624.40	28.94	328.80	1596.98	169.43	-81.60	186.26	2.86	2.79	-1.37	-13.43	28.00	1586.24	-92.23	25.98	95.82
1652.40	31.33	324.69	1621.20	181.17	-89.32	200.31	3.38	2.56	-4.40	-42.60	28.00	1610.46	-94.71	26.06	98.23
1679.90	32.07	323.83	1644.59	192.90	-97.76	214.75	0.95	0.81	-0.94	-31.78	27.50	1633.85	-96.40	25.53	99.72
1708.10	31.99	324.11	1668.50	205.00	-106.56	229.69	0.18	-0.09	0.30	118.43	28.20	1657.76	-97.97	24.91	101.09
1736.10	32.73	324.27	1692.15	217.15	-115.33	244.67	0.80	0.79	0.17	6.67	28.00	1681.41	-99.37	24.35	102.31
1764.10	33.35	323.40	1715.62	229.47	-124.34	259.92	0.84	0.66	-0.93	-37.78	28.00	1704.88	-100.44	23.68	103.19
1792.60	34.13	323.50	1739.32	242.19	-133.77	275.73	0.82	0.82	0.11	4.11	28.50	1728.58	-101.18	22.88	103.74
1821.20	34.97	323.11	1762.88	255.19	-143.46	291.92	0.91	0.88	-0.41	-14.91	28.60	1752.14	-101.53	22.02	103.89
1848.50	35.87	322.45	1785.13	267.79	-153.03	307.71	1.07	0.99	-0.73	-23.30	27.30	1774.39	-101.45	21.04	103.61
1877.00	36.99	323.01	1808.06	281.26	-163.28	324.60	1.23	1.18	0.59	16.76	28.50	1797.32	-100.87	19.97	102.83
1905.00	38.41	323.09	1830.21	294.95	-173.57	341.70	1.52	1.52	0.09	2.00	28.00	1819.47	-99.67	18.99	101.47
1933.10	39.14	322.82	1852.12	308.99	-184.17	359.27	0.80	0.78	-0.29	-13.15	28.10	1841.38	-97.95	17.95	99.58
1961.20	38.43	323.42	1874.02	323.07	-194.74	376.84	0.86	-0.76	0.64	152.34	28.10	1863.28	-96.22	16.96	97.70
1988.70	38.14	323.69	1895.61	336.78	-204.86	393.86	0.37	-0.32	0.29	150.13	27.50	1884.87	-94.76	16.13	96.12
2015.20	38.84	324.59	1916.35	350.14	-214.52	410.34	1.01	0.79	1.02	39.02	26.50	1905.61	-93.25	15.50	94.53
2044.60	38.67	324.79	1939.28	365.16	-225.16	428.73	0.22	-0.17	0.20	143.71	29.40	1928.54	-91.43	14.96	92.65
2077.90	39.52	325.45	1965.12	382.39	-237.16	449.73	0.85	0.77	0.59	26.35	33.30	1954.38	-89.18	14.52	90.35
2100.00	39.91	325.49	1982.12	394.02	-245.17	463.85	0.53	0.53	0.05	3.76	22.10	1971.38	-87.44	14.30	88.60
2127.60	39.69	325.76	2003.32	408.60	-255.14	481.51	0.30	-0.24	0.29	141.95	27.60	1992.58	-85.23	14.08	86.39
2155.60	39.50	325.83	2024.90	423.36	-265.18	499.36	0.21	-0.20	0.08	166.81	28.00	2014.16	-83.09	13.91	84.25
2183.50	40.12	326.86	2046.33	438.23	-275.07	517.22	0.97	0.67	1.11	47.16	27.90	2035.59	-80.85	13.91	82.04
2211.20	40.01	327.49	2067.53	453.21	-284.74	535.05	0.46	-0.12	0.68	105.42	27.70	2056.79	-78.51	14.17	79.77
2239.20	39.75	327.46	2089.02	468.35	-294.39	553.00	0.28	-0.28	-0.03	-175.78	28.00	2078.28	-76.23	14.52	77.60
2267.30	40.32	326.51	2110.53	483.51	-304.24	571.07	0.89	0.61	-1.01	-47.36	28.10	2099.79	-73.86	14.73	75.32
2295.80	40.23	326.70	2132.28	498.89	-314.38	589.50	0.16	-0.09	0.20	126.30	28.50	2121.54	-71.34	14.81	72.86
2323.70	40.09	326.59	2153.60	513.92	-324.27	607.49	0.17	-0.15	-0.12	-153.17	27.90	2142.86	-68.93	14.91	70.53
2352.00	39.72	326.09	2175.31	529.03	-334.34	625.64	0.52	-0.39	-0.53	-139.27	28.30	2164.57	-66.61	14.90	68.26
2379.60	40.11	325.19	2196.48	543.65	-344.33	643.35	0.76	0.42	-0.98	-56.31	27.60	2185.74	-64.35	14.69	66.00
2407.60	40.05	325.00	2217.90	558.43	-354.65	661.38	0.15	-0.06	-0.20	-116.20	28.00	2207.16	-61.97	14.29	63.60
2436.20	39.85	324.92	2239.83	573.47	-365.19	679.73	0.22	-0.21	-0.08	-165.63	28.60	2229.09	-59.61	13.85	61.20
2464.50	40.11	324.80	2261.51	588.34	-375.66	697.91	0.29	0.28	-0.13	-16.56	28.30	2250.77	-57.26	13.38	58.80
2492.70	40.26	324.33	2283.06	603.16	-386.21	716.10	0.36	0.16	-0.50	-63.86	28.20	2272.32	-54.82	12.82	56.30
2520.60	41.07	324.15	2304.22	617.92	-396.83	734.27	0.88	0.87	-0.19	-8.31	27.90	2293.48	-52.18	12.15	53.57
2548.50	41.45	323.48	2325.19	632.77	-407.70	752.65	0.63	0.41	-0.72	-49.56	27.90	2314.45	-49.25	11.34	50.53
2576.10	41.13	323.02	2345.93	647.36	-418.59	770.83	0.48	-0.35	-0.50	-136.68	27.60	2335.19	-46.34	10.35	47.49
2604.20	41.07	320.68	2367.11	661.88	-430.00	789.25	1.64	-0.06	-2.50	-93.12	28.10	2356.37	-43.51	8.91	44.41
2633.60	41.01	323.48	2389.28	677.11	-441.86	808.49	1.88	-0.06	2.86	92.92	29.40	2378.54	-40.57	7.47	41.25
2659.90	41.56	323.56	2409.05	691.06	-452.18	825.83	0.63	0.63	0.09	5.51	26.30	2398.31	-37.80	6.62	38.37
2687.70	42.49	323.74	2429.70	706.05	-463.21	844.42	1.01	1.00	0.19	7.45	27.80	2418.96	-34.51	5.74	34.99
2714.81	43.01	323.52	2449.61	720.87	-474.12	862.80	0.60	0.58	-0.24	-16.10	27.11	2438.87	-30.97	4.87	31.35
2742.70	42.62	323.75	2470.06	736.13	-485.36	881.73	0.45	-0.42	0.25	158.24	27.89	2459.32	-27.29	3.98	27.58
2770.30	42.07	324.01	2490.46	751.15	-496.32	900.30	0.63	-0.60	0.28	162.43	27.60	2479.72	-23.88	3.18	24.09
2797.60	41.13	324.57	2510.88	765.87	-506.90	918.42	1.11	-1.03	0.62	158.63	27.30	2500.14	-20.85	2.53	21.00
2825.80	40.72	324.29	2532.19	780.89	-517.65	936.88	0.48	-0.44	-0.30	-156.00	28.20	2521.45	-18.04	1.91	18.14
2853.90	39.29	324.58	2553.71	795.59	-528.15	954.93	1.54	-1.53	0.31	172.68	28.10	2542.97	-15.70	1.31	15.75
2881.40	38.77	324.73	2575.07	809.71	-538.17	972.24	0.58	-0.57	0.16	169.76	27.50	2564.33	-13.87	0.80	13.89
2909.60	38.15	324.53	2597.15	824.01	-548.32	989.78	0.67	-0.66	-0.21	-168.73	28.20	2586.41	-12.28	0.27	12.28
2937.00	37.31	324.72	2618.82	837.68	-558.03	1006.54	0.93	-0.92	0.21	172.19	27.40	2608.08	-11.08	-0.23	11.08
2964.80	37.05	324.78</													

Date: 06-12-2022	13 3/8" Casing Tally			Rig: KCAD T207			Well: MSD-GT-01p		
DSV: Kasirin / de Jong	13 3/8" 68# L80 VAM TOP			Final					
Weight Lbs/ft	68,00	lbs/ft							
Casing ID inch	12,415	inch							
Capacity	78,10	l/m							
Connection	VAM TOP	M/U Loss	0,1447	m		Mud weight	1,25	sg	
M/U Torque Min	20,850	ft.lbs				Bouyancy fact.	0,84		
M/U Torque Opt	23,150	ft.lbs				Block weight	82	Klbs	
M/u Torque Max	25,450	ft.lbs				Rathole:	4,00	m	
Burst	346	bar		RT to Ground Level	9,34 m	Section TD:	1156,75	m	
Collapse	156	bar		Stick up	0,85 m	Shoe Depth :	1152,75	m	
Tensile Strength	692	ton							
Tally Joint no	Length	Less	Cum	Jt Btm	Jt Top	No.of	Remarks	Centraliser	Hookload
	m	m/u loss	Length	m	m	joints			T
assy									
13 3/8" Shoe	1,20	1,20	1,20	1152,75	1151,55	shoe	double float v/v		37
SHOE jnt #9	10,80	10,80	12,00	1151,55	1140,75		Bakerlocked pin & box	1x bowspring @ 3m	38
IM-5	11,05	10,91	22,90	1140,75	1129,85	2	Bakerlock pin & box	Bow spring	39
113	11,53	11,39	34,29	1129,85	1118,46	3	Bakerlock Pin	Bow spring	40
112	11,12	10,98	45,26	1118,46	1107,49	4	top row	Bow spring	41
111	10,64	10,50	55,76	1107,49	1096,99	5	top row	Bow spring	42
110	11,17	11,03	66,79	1096,99	1085,96	6	top row	Bow spring	43
109	11,06	10,92	77,70	1085,96	1075,05	7	top row	Bow spring	44
108	10,87	10,73	88,43	1075,05	1064,32	8	top row	Bow spring	45
107	10,97	10,83	99,25	1064,32	1053,50	9	top row	Bow spring	46
106	11,01	10,87	110,12	1053,50	1042,63	10	top row	Bow spring	47
105	10,90	10,76	120,87	1042,63	1031,88	11	top row	Bow spring	47
104	11,19	11,05	131,92	1031,88	1020,83	12	top row	Bow spring	48
103	11,02	10,88	142,79	1020,83	1009,96	13	top row	Bow spring	49
102	11,09	10,95	153,74	1009,96	999,01	14	top row		50
101	11,69	11,55	165,28	999,01	987,47	15	top row	Bow spring	51
100	11,16	11,02	176,30	987,47	976,45	16	top row		52
99	11,02	10,88	187,17	976,45	965,58	17	top row		53
98	10,98	10,84	198,01	965,58	954,74	18	top row	Bow spring	54
97	11,17	11,03	209,03	954,74	943,72	19	top row		55
96	11,07	10,93	219,96	943,72	932,79	20	top row		56
95	11,12	10,98	230,93	932,79	921,82	21	top row	Bow spring	57
94	11,00	10,86	241,79	921,82	910,96	22	top row		58
93	10,91	10,77	252,55	910,96	900,20	23	top row		59
92	10,96	10,82	263,37	900,20	889,38	24	top row	Bow spring	60
91	11,06	10,92	274,29	889,38	878,46	25	top row		61
90	10,80	10,66	284,94	878,46	867,81	26	top row		61
89	11,08	10,94	295,88	867,81	856,87	27	top row	Bow spring	62
88	11,96	11,82	307,69	856,87	845,06	28	3rd row		63
87	11,69	11,55	319,24	845,06	833,51	29	3rd row		64
86	10,73	10,59	329,82	833,51	822,93	30	3rd row	Bow spring	65
85	11,19	11,05	340,87	822,93	811,88	31	3rd row		66
84	11,13	10,99	351,85	811,88	800,90	32	3rd row		67
83	11,06	10,92	362,77	800,90	789,98	33	3rd row	Bow spring	68
82	11,67	11,53	374,29	789,98	778,46	34	3rd row		69
81	10,03	9,89	384,18	778,46	768,57	35	3rd row	Bow spring	70
80	10,91	10,77	394,94	768,57	757,81	36	3rd row		71
79	10,70	10,56	405,50	757,81	747,25	37	3rd row		72
78	10,91	10,77	416,26	747,25	736,49	38	3rd row	Bow spring	73
77	11,64	11,50	427,76	736,49	724,99	39	3rd row		74
76	9,28	9,14	436,89	724,99	715,86	40	3rd row		74
75	11,62	11,48	448,37	715,86	704,38	41	3rd row	Bow spring	75
74	11,11	10,97	459,34	704,38	693,41	42	3rd row		76
73	11,09	10,95	470,28	693,41	682,47	43	3rd row		77
72	11,57	11,43	481,71	682,47	671,04	44	3rd row	Bow spring	78
71	11,55	11,41	493,11	671,04	659,64	45	3rd row		79
70	11,35	11,21	504,32	659,64	648,43	46	3rd row		80
69	11,54	11,40	515,71	648,43	637,04	47	3rd row	Bow spring	81
68	11,55	11,41	527,12	637,04	625,63	48	3rd row		82
67	11,54	11,40	538,51	625,63	614,24	49	3rd row		83
66	11,19	11,05	549,56	614,24	603,19	50	3rd row	Bow spring	84
65	11,66	11,52	561,07	603,19	591,68	51	3rd row		85
64	10,73	10,59	571,66	591,68	581,09	52	3rd row		86
63	11,08	10,94	582,59	581,09	570,16	53	3rd row	Bow spring	87
62	11,13	10,99	593,58	570,16	559,17	54	3rd row		88
61	11,03	10,89	604,46	559,17	548,29	55	3rd row		89

60	11,69	11,55	616,01	548,29	536,74	56	3rd row	Bow spring	90	
59	10,93	10,79	626,79	536,74	525,96	57	3rd row		91	
58	11,14	11,00	637,79	525,96	514,96	58	2nd row		91	
57	11,23	11,09	648,87	514,96	503,88	59	2nd row	Bow spring	92	
56	11,17	11,03	659,90	503,88	492,85	60	2nd row		93	
55	10,74	10,60	670,50	492,85	482,25	61	2nd row		94	
54	11,15	11,01	681,50	482,25	471,25	62	2nd row	Bow spring	95	
53	11,14	11,00	692,50	471,25	460,25	63	2nd row		96	
52	10,91	10,77	703,26	460,25	449,49	64	2nd row		97	
51	11,16	11,02	714,28	449,49	438,47	65	2nd row	Bow spring	98	
50	10,76	10,62	724,89	438,47	427,86	66	2nd row		99	
49	11,00	10,86	735,75	427,86	417,00	67	2nd row		100	
48	11,08	10,94	746,68	417,00	406,07	68	2nd row	Bow spring	101	
47	10,89	10,75	757,43	406,07	395,32	69	2nd row		102	
46	10,70	10,56	767,98	395,32	384,77	70	2nd row		103	
45	11,17	11,03	779,01	384,77	373,74	71	2nd row	Bow spring	103	
44	11,00	10,86	789,86	373,74	362,89	72	2nd row		104	
43	10,81	10,67	800,53	362,89	352,22	73	2nd row		105	
42	11,61	11,47	811,99	352,22	340,76	74	2nd row	Bow spring	106	
41	10,96	10,82	822,81	340,76	329,94	75	2nd row		107	
40	11,10	10,96	833,76	329,94	318,99	76	2nd row		108	
39	11,05	10,91	844,67	318,99	308,08	77	2nd row	Bow spring	109	
38	11,20	11,06	855,72	308,08	297,03	78	2nd row		110	
37	10,68	10,54	866,26	297,03	286,49	79	2nd row		111	
36	11,18	11,04	877,30	286,49	275,45	80	2nd row	Bow spring	112	
35	11,05	10,91	888,20	275,45	264,55	81	2nd row		113	
34	11,08	10,94	899,14	264,55	253,61	82	2nd row		114	
33	11,68	11,54	910,67	253,61	242,08	83	2nd row		115	
32	11,12	10,98	921,65	242,08	231,10	84	2nd row		116	
31	11,10	10,96	932,60	231,10	220,15	85	2nd row		117	
30	11,31	11,17	943,77	220,15	208,98	86	2nd row		117	
29	11,54	11,40	955,17	208,98	197,58	87	2nd row		118	
28	11,42	11,28	966,45	197,58	186,30	88	Bottom row		119	
27	11,53	11,38	977,83	186,30	174,92	89	Bottom row		120	
26	11,40	11,25	989,08	174,92	163,67	90	Bottom row		121	
25	11,44	11,30	1000,38	163,67	152,37	91	Bottom row	Bow spring	122	
24	11,39	11,25	1011,63	152,37	141,12	92	Bottom row		123	
23	11,57	11,43	1023,05	141,12	129,70	93	Bottom row		124	
21	11,41	11,27	1034,32	129,70	118,43	94	Bottom row	Bow spring	125	
20	11,41	11,27	1045,59	118,43	107,16	95	Bottom row		126	
18	11,12	10,97	1056,56	107,16	96,19	96	Bottom row	Bow spring	127	
17	11,12	10,97	1067,53	96,19	85,22	97	Bottom row		128	
16	10,74	10,59	1078,12	85,22	74,63	98	Bottom row	Bow spring	129	
14	11,13	10,99	1089,11	74,63	63,64	99	Bottom row		130	
13	11,01	10,86	1099,98	63,64	52,77	100	Bottom row	Bow spring	131	
12	11,18	11,03	1111,01	52,77	41,74	101	Bottom row		132	
11	11,19	11,05	1122,06	41,74	30,69	102	Bottom row	Bow spring	133	
10	10,67	10,52	1132,58	30,69	20,17	103	Bottom row		134	
7	10,64	10,50	1143,08	20,17	9,67	104	Bottom row	2x Bow spring	134	
3	10,67	10,52	1153,60	9,67	-0,85	105	Bottom row		135	
1	11,11	10,96	1164,56	-0,85	-11,81		Bottom row	Landing joint	136	
2	11,19						Bottom row			
4	10,92						Bottom row			
5	11,19						Bottom row			
6	11,08						Bottom row			
8	10,98						Bottom row			
9	11,24						Bottom row			
22	11,57						Bottom row			
19	11,57						Bottom row			
15	11,68						Bottom row			
Tally Joint no		Length	Less	Cum	Jt Btm	Jt Top	No.of	Remarks	Centraliser	Hookload
		[m]	m/u loss	Length	[m]	[m]	joints			T

Date: 01-01-2023		10 3/4" x 9 5/8" Tally		Rig: KCAD T207			Well: MSD-GT-01				
DSV: M de Jong & R. Kasirin		FINAL									
9 5/8" - 13Cr	Weight	47,00	lbs/ft								
	Casing ID	8,681	inch								
9 5/8" - GRE-lined	Weight	51,90	lbs/ft								
	Casing ID	8,250	inch								
9 5/8" (threads)	Connection	Vam Top	M/U Loss	0,142	m		Mud weight	1,16	sg		
	M/U Torque Min	14400	ft.lbs				Bouancy fact.	0,85			
	M/U Torque Opt	15900	ft.lbs				Block weight	84	klbs		
	M/U Torque Max	17400	ft.lbs								
10 3/4" GRE-lined	Weight	57,40	lbs/ft								
	Casing ID	9,350	inch	44,30 l/m							
	Connection	Vam Top	M/U Loss	0,143	m		13 5/8" Shoe	1152,75	m		
	M/U Torque Min	14400	ft.lbs				16" Drilled	1156,75	m		
	M/U Torque Opt	15900	ft.lbs								
	M/U Torque Max	17400	ft.lbs				Rathole:	4,28	m		
	90% Burst	364	bar	RT to Ground Level		9,34m	Section TD:	3309,00	m		
assy	90% Collapse	200	bar	RT to Hang Off Point		9,01m	Shoe Depth :	3304,72	m		
Joint no	Check TK-ring	Length m	Less m/u loss	Cum Length	Jt Btm m	Jt Top m	No.of joints	Remarks	Centraliser	Hookload T	
9 5/8" Shoe		0,62	0,62	0,62	3304,72	3304,10		VamTop		38	
Shoe joint		11,43	11,43	12,05	3304,10	3292,67		VamTop	Slip-on & 2x collar	39	
Intermediate joint		11,72	11,58	23,63	3292,67	3281,09		VamTop	Slip-on & 2x collar	40	
Float Collar		0,69	0,55	24,18	3281,09	3280,54		VamTop		40	
Float joint & X/O to CR13		11,36	11,36	35,54	3280,54	3269,18		VamTop CR13	Slip-on & 2x collar	40	
C38		11,53	11,39	46,92	3269,18	3257,80	1	VamTop CR13	Slip-on & 2x collar	41	
C37		11,54	11,40	58,32	3257,80	3246,40	2	VamTop CR13	Slip-on & 2x collar	42	
C36		11,56	11,42	69,74	3246,40	3234,98	3	VamTop CR13	Slip-on & 2x collar	42	
C35		11,52	11,38	81,12	3234,98	3223,60	4	VamTop CR13	Slip-on & 2x collar	43	
C34		11,52	11,38	92,50	3223,60	3212,22	5	VamTop CR13	Slip-on & 2x collar	44	
C33		11,28	11,14	103,63	3212,22	3201,09	6	VamTop CR13	Slip-on & 2x collar	44	
C32		11,53	11,39	115,02	3201,09	3189,70	7	VamTop CR13	Slip-on & 2x collar	45	
C31		11,52	11,38	126,40	3189,70	3178,32	8	VamTop CR13	Slip-on & 2x collar	46	
C30		11,55	11,41	137,81	3178,32	3166,91	9	VamTop CR13	Slip-on & 2x collar	46	
C29		11,52	11,38	149,19	3166,91	3155,53	10	VamTop CR13	Slip-on & 2x collar	47	
C28		11,34	11,20	160,38	3155,53	3144,34	11	VamTop CR13	Slip-on & 2x collar	48	
C27		11,36	11,22	171,60	3144,34	3133,12	12	VamTop CR13	Slip-on & 2x collar	48	
C26		11,52	11,38	182,98	3133,12	3121,74	13	VamTop CR13	Slip-on & 2x collar	49	
C25		11,44	11,30	194,28	3121,74	3110,44	14	VamTop CR13	Slip-on & 2x collar	50	
C24		11,55	11,41	205,69	3110,44	3099,03	15	VamTop CR13	Slip-on & 2x collar	50	
C23		11,21	11,07	216,75	3099,03	3087,97	16	VamTop CR13	Slip-on & 2x collar	51	
C22		11,38	11,24	227,99	3087,97	3076,73	17	VamTop CR13	Slip-on & 2x collar	52	
C21		11,52	11,38	239,37	3076,73	3065,35	18	VamTop CR13	Slip-on & 2x collar	52	
C20		11,52	11,38	250,75	3065,35	3053,97	19	VamTop CR13	Slip-on & 2x collar	53	
C19		11,27	11,13	261,88	3053,97	3042,84	20	VamTop CR13	Slip-on & 2x collar	54	
C18		11,42	11,28	273,15	3042,84	3031,57	21	VamTop CR13	Slip-on & 2x collar	54	
C17		11,51	11,37	284,52	3031,57	3020,20	22	VamTop CR13	Slip-on & 2x collar	55	
C16		11,45	11,31	295,83	3020,20	3008,89	23	VamTop CR13	Slip-on & 2x collar	56	
C15		11,51	11,37	307,20	3008,89	2997,52	24	VamTop CR13	Slip-on & 2x collar	56	
C14		11,51	11,37	318,57	2997,52	2986,15	25	VamTop CR13	Slip-on & 2x collar	57	
C13		11,50	11,36	329,93	2986,15	2974,79	26	VamTop CR13	Slip-on & 2x collar	58	
C12		11,33	11,19	341,11	2974,79	2963,61	27	VamTop CR13	Slip-on & 2x collar	58	
C11		11,50	11,36	352,47	2963,61	2952,25	28	VamTop CR13	Slip-on & 2x collar	59	
C10		11,35	11,21	363,68	2952,25	2941,04	29	VamTop CR13	Slip-on & 2x collar	60	
C9		11,36	11,22	374,90	2941,04	2929,82	30	VamTop CR13	Slip-on & 2x collar	60	
C8		11,52	11,38	386,28	2929,82	2918,44	31	VamTop CR13	Slip-on & 2x collar	61	
C7		11,31	11,17	397,44	2918,44	2907,28	32	VamTop CR13	Slip-on & 2x collar	62	
C6		11,55	11,41	408,85	2907,28	2895,87	33	VamTop CR13	Slip-on & 2x collar	62	
C5		11,51	11,37	420,22	2895,87	2884,50	34	VamTop CR13	Slip-on & 2x collar	63	
C4		11,26	11,12	431,34	2884,50	2873,38	35	VamTop CR13	Slip-on & 2x collar	64	
C3		11,05	10,91	442,25	2873,38	2862,47	36	VamTop CR13	Slip-on & 2x collar	64	
C2		11,52	11,38	453,62	2862,47	2851,10	37	VamTop CR13	Slip-on & 2x collar	65	
C1		11,51	11,37	464,99	2851,10	2839,73	38	VamTop CR13	Slip-on & 2x collar	66	
X/O collar		0,62	0,48	465,47	2839,73	2839,25		VamTop CR13		66	
X/O joint 4	i	11,64	11,64	477,11	2839,25	2827,61		GRE VAM TOP		67	
259	i	11,57	11,43	488,54	2827,61	2816,18	1	GRE VAM TOP	Slip-on & 2x collar	67	
258	i	12,44	12,30	500,84	2816,18	2803,88	2	GRE VAM TOP	Slip-on & 2x collar	68	
257	i	11,51	11,37	512,20	2803,88	2792,52	3	GRE VAM TOP	Slip-on & 2x collar	69	
256	i	12,17	12,03	524,23	2792,52	2780,49	4	GRE VAM TOP	Slip-on & 2x collar	69	
255	i	11,64	11,50	535,73	2780,49	2768,99	5	GRE VAM TOP	Slip-on & 2x collar	70	
254	i	10,88	10,74	546,47	2768,99	2758,25	6	GRE VAM TOP	Slip-on & 2x collar	71	
253	i	11,86	11,72	558,19	2758,25	2746,53	7	GRE VAM TOP	Slip-on & 2x collar	71	
252	i	12,18	12,04	570,22	2746,53	2734,50	8	GRE VAM TOP	Slip-on & 2x collar	72	

251	i	11,78	11,64	581,86	2734,50	2722,86	9	GRE VAM TOP	Slip-on & 2x collar	73
250	i	11,86	11,72	593,58	2722,86	2711,14	10	GRE VAM TOP	Slip-on & 2x collar	73
249	i	11,83	11,69	605,27	2711,14	2699,45	11	GRE VAM TOP	Slip-on & 2x collar	74
248	i	12,42	12,28	617,55	2699,45	2687,17	12	GRE VAM TOP	Slip-on & 2x collar	75
247	i	11,62	11,48	629,02	2687,17	2675,70	13	GRE VAM TOP	Slip-on & 2x collar	76
246	i	11,76	11,62	640,64	2675,70	2664,08	14	GRE VAM TOP	Slip-on & 2x collar	76
245	i	11,76	11,62	652,26	2664,08	2652,46	15	GRE VAM TOP	Slip-on & 2x collar	77
244	i	11,79	11,65	663,91	2652,46	2640,81	16	GRE VAM TOP	Slip-on & 2x collar	78
243	i	11,66	11,52	675,43	2640,81	2629,29	17	GRE VAM TOP	Slip-on & 2x collar	78
242	i	11,80	11,66	687,08	2629,29	2617,64	18	GRE VAM TOP	Slip-on & 2x collar	79
241	i	11,72	11,58	698,66	2617,64	2606,06	19	GRE VAM TOP	Slip-on & 2x collar	80
240	i	11,70	11,56	710,22	2606,06	2594,50	20	GRE VAM TOP	Slip-on & 2x collar	80
239	i	11,75	11,61	721,83	2594,50	2582,89	21	GRE VAM TOP	Slip-on & 2x collar	81
238	i	11,56	11,42	733,25	2582,89	2571,47	22	GRE VAM TOP	Slip-on & 2x collar	82
237	i	11,68	11,54	744,78	2571,47	2559,94	23	GRE VAM TOP	Slip-on & 2x collar	82
236	i	11,81	11,67	756,45	2559,94	2548,27	24	GRE VAM TOP	Slip-on & 2x collar	83
235	i	11,84	11,70	768,15	2548,27	2536,57	25	GRE VAM TOP	Slip-on & 2x collar	84
234	i	11,79	11,65	779,80	2536,57	2524,92	26	GRE VAM TOP	Slip-on & 2x collar	85
233	i	11,83	11,69	791,49	2524,92	2513,23	27	GRE VAM TOP	Slip-on & 2x collar	85
232	i	11,82	11,68	803,16	2513,23	2501,56	28	GRE VAM TOP	Slip-on & 2x collar	86
231	i	11,83	11,69	814,85	2501,56	2489,87	29	GRE VAM TOP	Slip-on & 2x collar	87
230	i	11,84	11,70	826,55	2489,87	2478,17	30	GRE VAM TOP	Slip-on & 2x collar	87
229	i	11,83	11,69	838,24	2478,17	2466,48	31	GRE VAM TOP	Slip-on & 2x collar	88
228	i	11,69	11,55	849,79	2466,48	2454,93	32	GRE VAM TOP	Slip-on & 2x collar	89
227	i	11,85	11,71	861,49	2454,93	2443,23	33	GRE VAM TOP	Slip-on & 2x collar	89
226	i	11,45	11,31	872,80	2443,23	2431,92	34	GRE VAM TOP	Slip-on & 2x collar	90
225	i	11,86	11,72	884,52	2431,92	2420,20	35	GRE VAM TOP	Slip-on & 2x collar	91
224	i	11,38	11,24	895,76	2420,20	2408,96	36	GRE VAM TOP	Slip-on & 2x collar	91
223	i	12,36	12,22	907,98	2408,96	2396,74	37	GRE VAM TOP	Slip-on & 2x collar	92
222	i	12,36	12,22	920,20	2396,74	2384,52	38	GRE VAM TOP	Slip-on & 2x collar	93
221	i	11,51	11,37	931,56	2384,52	2373,16	39	GRE VAM TOP	Slip-on & 2x collar	94
220	i	11,81	11,67	943,23	2373,16	2361,49	40	GRE VAM TOP	Slip-on & 2x collar	94
219	i	11,48	11,34	954,57	2361,49	2350,15	41	GRE VAM TOP	Slip-on & 2x collar	95
218	i	11,81	11,67	966,24	2350,15	2338,48	42	GRE VAM TOP	Slip-on & 2x collar	96
217	i	11,21	11,07	977,31	2338,48	2327,41	43	GRE VAM TOP	Slip-on & 2x collar	96
216	i	11,71	11,57	988,87	2327,41	2315,85	44	GRE VAM TOP	Slip-on & 2x collar	97
215	i	11,77	11,63	1000,50	2315,85	2304,22	45	GRE VAM TOP	Slip-on & 2x collar	98
214	i	11,45	11,31	1011,81	2304,22	2292,91	46	GRE VAM TOP	Slip-on & 2x collar	98
213	i	11,83	11,69	1023,50	2292,91	2281,22	47	GRE VAM TOP	Slip-on & 2x collar	99
212	i	11,69	11,55	1035,05	2281,22	2269,67	48	GRE VAM TOP	Slip-on & 2x collar	100
211	i	12,23	12,09	1047,13	2269,67	2257,59	49	GRE VAM TOP	Slip-on & 2x collar	101
210	i	11,85	11,71	1058,84	2257,59	2245,88	50	GRE VAM TOP	Slip-on & 2x collar	101
209	i	11,87	11,73	1070,57	2245,88	2234,15	51	GRE VAM TOP	Slip-on & 2x collar	102
208	i	11,64	11,50	1082,07	2234,15	2222,65	52	GRE VAM TOP	Slip-on & 2x collar	103
207	i	11,79	11,65	1093,72	2222,65	2211,00	53	GRE VAM TOP	Slip-on & 2x collar	103
206	i	11,40	11,26	1104,97	2211,00	2199,75	54	GRE VAM TOP	Slip-on & 2x collar	104
205	i	11,76	11,62	1116,59	2199,75	2188,13	55	GRE VAM TOP	Slip-on & 2x collar	105
204	i	11,80	11,66	1128,25	2188,13	2176,47	56	GRE VAM TOP	Slip-on & 2x collar	105
203	i	11,85	11,71	1139,96	2176,47	2164,76	57	GRE VAM TOP	Slip-on & 2x collar	106
202	i	11,87	11,73	1151,69	2164,76	2153,03	58	GRE VAM TOP	Slip-on & 2x collar	107
201	i	11,38	11,24	1162,92	2153,03	2141,80	59	GRE VAM TOP	Slip-on & 2x collar	107
200	i	11,49	11,35	1174,27	2141,80	2130,45	60	GRE VAM TOP	Slip-on & 2x collar	108
199	i	11,87	11,73	1186,00	2130,45	2118,72	61	GRE VAM TOP	Slip-on & 2x collar	109
198	i	11,72	11,58	1197,58	2118,72	2107,14	62	GRE VAM TOP	Slip-on & 2x collar	109
197	i	11,78	11,64	1209,22	2107,14	2095,50	63	GRE VAM TOP	Slip-on & 2x collar	110
196	i	11,76	11,62	1220,83	2095,50	2083,89	64	GRE VAM TOP	Slip-on & 2x collar	111
195	i	11,86	11,72	1232,55	2083,89	2072,17	65	GRE VAM TOP	Slip-on & 2x collar	112
194	i	11,71	11,57	1244,12	2072,17	2060,60	66	GRE VAM TOP	Slip-on & 2x collar	112
193	i	11,85	11,71	1255,83	2060,60	2048,89	67	GRE VAM TOP	Slip-on & 2x collar	113
192	i	11,73	11,59	1267,42	2048,89	2037,30	68	GRE VAM TOP	Slip-on & 2x collar	114
191	i	11,79	11,65	1279,06	2037,30	2025,66	69	GRE VAM TOP	Slip-on & 2x collar	114
190	i	11,68	11,54	1290,60	2025,66	2014,12	70	GRE VAM TOP	Slip-on & 2x collar	115
189	i	11,69	11,55	1302,15	2014,12	2002,57	71	GRE VAM TOP	Slip-on & 2x collar	116
188	i	11,31	11,17	1313,32	2002,57	1991,40	72	GRE VAM TOP	Slip-on & 2x collar	116
187	i	11,86	11,72	1325,04	1991,40	1979,68	73	GRE VAM TOP	Slip-on & 2x collar	117
186	i	11,84	11,70	1336,73	1979,68	1967,99	74	GRE VAM TOP	Slip-on & 2x collar	118
185	i	11,81	11,67	1348,40	1967,99	1956,32	75	GRE VAM TOP	Slip-on & 2x collar	118
184	i	11,85	11,71	1360,11	1956,32	1944,61	76	GRE VAM TOP	Slip-on & 2x collar	119
183	i	11,80	11,66	1371,77	1944,61	1932,95	77	GRE VAM TOP	Slip-on & 2x collar	120
182	i	11,87	11,73	1383,50	1932,95	1921,22	78	GRE VAM TOP	Slip-on & 2x collar	121
181	i	11,81	11,67	1395,16	1921,22	1909,56	79	GRE VAM TOP	Slip-on & 2x collar	121
180	i	11,83	11,69	1406,85	1909,56	1897,87	80	GRE VAM TOP	Slip-on & 2x collar	122
179	i	11,65	11,51	1418,36	1897,87	1886,36	81	GRE VAM TOP	Slip-on & 2x collar	123
178	i	11,84	11,70	1430,06	1886,36	1874,66	82	GRE VAM TOP	Slip-on & 2x collar	123

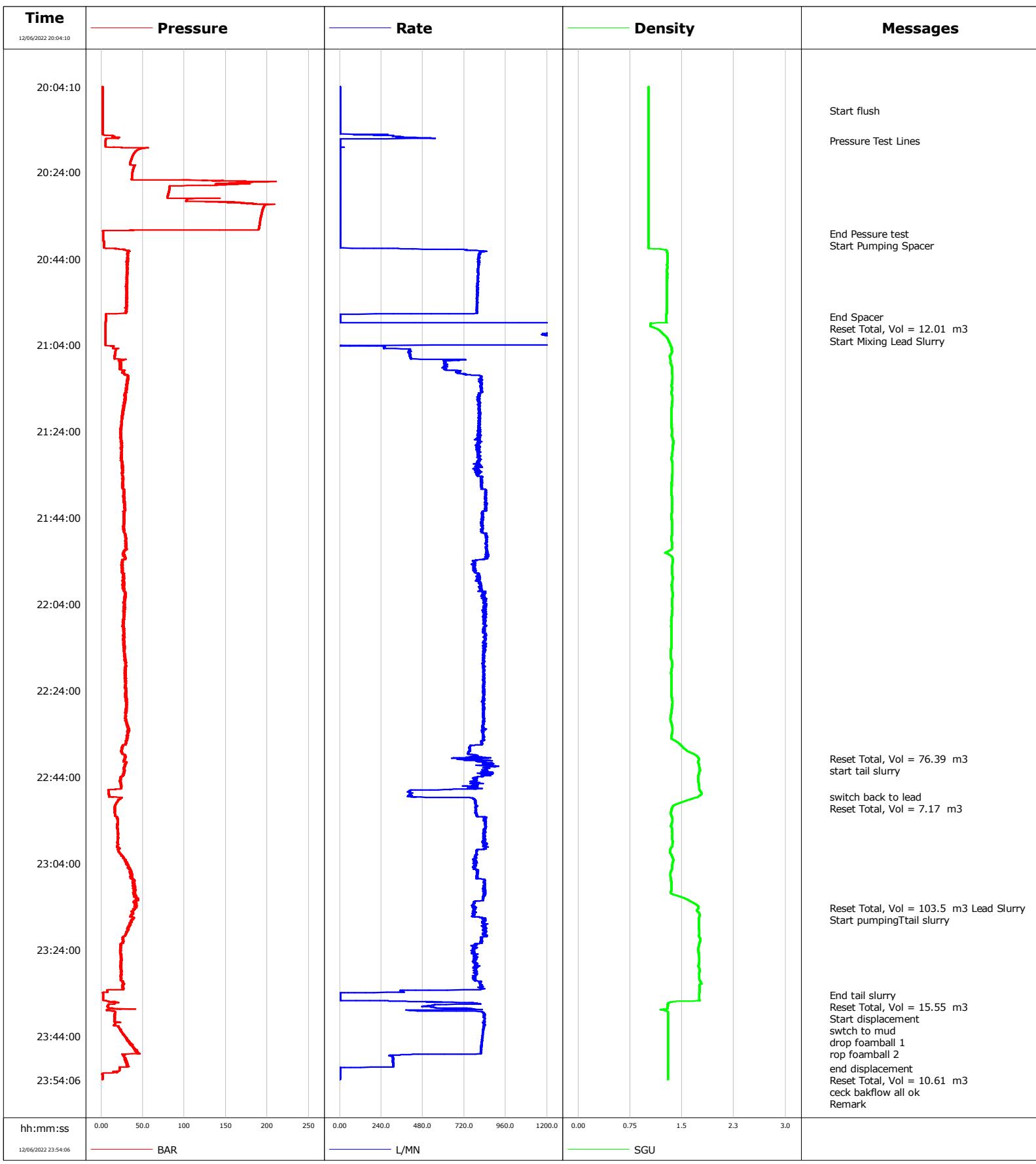
177	i	11,87	11,73	1441,79	1874,66	1862,93	83	GRE VAM TOP	Slip-on & 2x collar	124
176	i	11,86	11,72	1453,50	1862,93	1851,22	84	GRE VAM TOP	Slip-on & 2x collar	125
175	i	12,11	11,97	1465,47	1851,22	1839,25	85	GRE VAM TOP	Slip-on & 2x collar	125
174	i	11,83	11,69	1477,16	1839,25	1827,56	86	GRE VAM TOP	Slip-on & 2x collar	126
173	i	11,86	11,72	1488,88	1827,56	1815,84	87	GRE VAM TOP	Slip-on & 2x collar	127
172	i	11,46	11,32	1500,20	1815,84	1804,52	88	GRE VAM TOP	Slip-on & 2x collar	128
171	i	12,51	12,37	1512,57	1804,52	1792,15	89	GRE VAM TOP	Slip-on & 2x collar	128
170	i	11,80	11,66	1524,22	1792,15	1780,50	90	GRE VAM TOP	Slip-on & 2x collar	129
169	i	10,67	10,53	1534,75	1780,50	1769,97	91	GRE VAM TOP	Slip-on & 2x collar	130
168	i	11,86	11,72	1546,47	1769,97	1758,25	92	GRE VAM TOP	Slip-on & 2x collar	130
167	i	11,73	11,59	1558,06	1758,25	1746,66	93	GRE VAM TOP	Slip-on & 2x collar	131
166	i	11,76	11,62	1569,68	1746,66	1735,04	94	GRE VAM TOP	Slip-on & 2x collar	132
165	i	11,74	11,60	1581,27	1735,04	1723,45	95	GRE VAM TOP	Slip-on & 2x collar	132
164	i	11,85	11,71	1592,98	1723,45	1711,74	96	GRE VAM TOP	Slip-on & 2x collar	133
163	i	11,64	11,50	1604,48	1711,74	1700,24	97	GRE VAM TOP	Slip-on & 2x collar	134
162	i	11,70	11,56	1616,04	1700,24	1688,68	98	GRE VAM TOP	Slip-on & 2x collar	134
161	i	11,79	11,65	1627,69	1688,68	1677,03	99	GRE VAM TOP	Slip-on & 2x collar	135
160	i	11,80	11,66	1639,34	1677,03	1665,38	100	GRE VAM TOP	Slip-on & 2x collar	136
159	i	11,20	11,06	1650,40	1665,38	1654,32	101	GRE VAM TOP	Slip-on & 2x collar	136
158	i	11,80	11,66	1662,06	1654,32	1642,66	102	GRE VAM TOP	Slip-on & 2x collar	137
157	i	11,79	11,65	1673,71	1642,66	1631,01	103	GRE VAM TOP	Slip-on & 2x collar	138
156	i	11,63	11,49	1685,20	1631,01	1619,52	104	GRE VAM TOP	Slip-on & 2x collar	139
155	i	11,85	11,71	1696,90	1619,52	1607,82	105	GRE VAM TOP	Slip-on & 2x collar	139
154	i	11,62	11,48	1708,38	1607,82	1596,34	106	GRE VAM TOP	Slip-on & 2x collar	140
153	i	11,60	11,46	1719,84	1596,34	1584,88	107	GRE VAM TOP	Slip-on & 2x collar	141
152	i	11,84	11,70	1731,54	1584,88	1573,18	108	GRE VAM TOP	Slip-on & 2x collar	141
151	i	11,51	11,37	1742,91	1573,18	1561,81	109	GRE VAM TOP	Slip-on & 2x collar	142
150	i	11,85	11,71	1754,61	1561,81	1550,11	110	GRE VAM TOP	Slip-on & 2x collar	143
149	i	11,75	11,61	1766,22	1550,11	1538,50	111	GRE VAM TOP	Slip-on & 2x collar	143
148	i	11,77	11,63	1777,85	1538,50	1526,87	112	GRE VAM TOP	Slip-on & 2x collar	144
147	i	11,76	11,62	1789,47	1526,87	1515,25	113	GRE VAM TOP	Slip-on & 2x collar	145
146	i	11,58	11,44	1800,91	1515,25	1503,81	114	GRE VAM TOP	Slip-on & 2x collar	145
145	i	11,55	11,41	1812,31	1503,81	1492,41	115	GRE VAM TOP	Slip-on & 2x collar	146
144	i	11,47	11,33	1823,64	1492,41	1481,08	116	GRE VAM TOP	Slip-on & 2x collar	147
143	i	11,85	11,71	1835,35	1481,08	1469,37	117	GRE VAM TOP	Slip-on & 2x collar	147
142	i	11,85	11,71	1847,06	1469,37	1457,66	118	GRE VAM TOP	Slip-on & 2x collar	148
141	i	11,84	11,70	1858,76	1457,66	1445,96	119	GRE VAM TOP	Slip-on & 2x collar	149
140	i	11,74	11,60	1870,35	1445,96	1434,37	120	GRE VAM TOP	Slip-on & 2x collar	150
139	i	11,73	11,59	1881,94	1434,37	1422,78	121	GRE VAM TOP	Slip-on & 2x collar	150
138	i	11,47	11,33	1893,27	1422,78	1411,45	122	GRE VAM TOP	Slip-on & 2x collar	151
137	i	11,64	11,50	1904,77	1411,45	1399,95	123	GRE VAM TOP	Slip-on & 2x collar	152
136	i	11,67	11,53	1916,30	1399,95	1388,42	124	GRE VAM TOP	Slip-on & 2x collar	152
135	i	11,69	11,55	1927,84	1388,42	1376,88	125	GRE VAM TOP	Slip-on & 2x collar	153
134	i	11,44	11,30	1939,14	1376,88	1365,58	126	GRE VAM TOP	Slip-on & 2x collar	154
133	i	11,84	11,70	1950,84	1365,58	1353,88	127	GRE VAM TOP	Slip-on & 2x collar	154
132	i	11,35	11,21	1962,05	1353,88	1342,67	128	GRE VAM TOP	Slip-on & 2x collar	155
131	i	11,84	11,70	1973,75	1342,67	1330,97	129	GRE VAM TOP	Slip-on & 2x collar	156
130	i	11,86	11,72	1985,46	1330,97	1319,26	130	GRE VAM TOP	Slip-on & 2x collar	156
129	i	11,72	11,58	1997,04	1319,26	1307,68	131	GRE VAM TOP	Slip-on & 2x collar	157
128	i	11,64	11,50	2008,54	1307,68	1296,18	132	GRE VAM TOP	Slip-on & 2x collar	158
127	i	11,57	11,43	2019,97	1296,18	1284,75	133	GRE VAM TOP	Slip-on & 2x collar	158
126	i	11,76	11,62	2031,59	1284,75	1273,13	134	GRE VAM TOP	Slip-on & 2x collar	159
125	i	11,73	11,59	2043,17	1273,13	1261,55	135	GRE VAM TOP	Slip-on & 2x collar	160
124	i	11,64	11,50	2054,67	1261,55	1250,05	136	GRE VAM TOP	Slip-on & 2x collar	161
123	i	11,23	11,09	2065,76	1250,05	1238,96	137	GRE VAM TOP	Slip-on & 2x collar	161
122	i	11,69	11,55	2077,31	1238,96	1227,41	138	GRE VAM TOP	Slip-on & 2x collar	162
121	i	11,75	11,61	2088,92	1227,41	1215,80	139	GRE VAM TOP	Slip-on & 2x collar	163
120	i	11,75	11,61	2100,53	1215,80	1204,19	140	GRE VAM TOP	Slip-on & 2x collar	163
119	i	11,79	11,65	2112,17	1204,19	1192,55	141	GRE VAM TOP	Slip-on & 2x collar	164
118	i	11,75	11,61	2123,78	1192,55	1180,94	142	GRE VAM TOP	Slip-on & 2x collar	165
117	i	11,84	11,70	2135,48	1180,94	1169,24	143	GRE VAM TOP	Slip-on & 2x collar	165
116	i	11,60	11,46	2146,94	1169,24	1157,78	144	GRE VAM TOP	Slip-on & 2x collar	166
115	i	11,81	11,67	2158,61	1157,78	1146,11	145	GRE VAM TOP	Slip-on & 2x collar	167
114	i	11,19	11,05	2169,65	1146,11	1135,07	146	GRE VAM TOP	Slip-on & 2x collar	167
113	i	11,86	11,72	2181,37	1135,07	1123,35	147	GRE VAM TOP	Slip-on & 2x collar	168
112	i	11,70	11,56	2192,93	1123,35	1111,79	148	GRE VAM TOP	Slip-on & 2x collar	169
111	i	11,75	11,61	2204,54	1111,79	1100,18	149	GRE VAM TOP	Slip-on & 2x collar	170
110	i	11,78	11,64	2216,18	1100,18	1088,54	150	GRE VAM TOP	Slip-on & 2x collar	170
109	i	11,76	11,62	2227,79	1088,54	1076,93	151	GRE VAM TOP	Slip-on & 2x collar	171
108	i	11,80	11,66	2239,45	1076,93	1065,27	152	GRE VAM TOP	Slip-on & 2x collar	172
107	i	11,76	11,62	2251,07	1065,27	1053,65	153	GRE VAM TOP	Slip-on & 2x collar	172
106	i	11,70	11,56	2262,63	1053,65	1042,09	154	GRE VAM TOP	2x Swell packer	173
105	i	11,52	11,38	2274,01	1042,09	1030,71	155	GRE VAM TOP	Slip-on & 2x collar	174
104	i	11,71	11,57	2285,57	1030,71	1019,15	156	GRE VAM TOP	Slip-on & 2x collar	174

103	i	11,84	11,70	2297,27	1019,15	1007,45	157	GRE VAM TOP	175
102	i	11,70	11,56	2308,83	1007,45	995,89	158	GRE VAM TOP	176
101	i	11,68	11,54	2320,37	995,89	984,35	159	GRE VAM TOP	176
100	i	11,79	11,65	2332,02	984,35	972,70	160	GRE VAM TOP	177
99	i	11,84	11,70	2343,71	972,70	961,01	161	GRE VAM TOP	178
Assy XO Collar - D	Pup below	2,37	2,23	2345,94	961,01	958,78		GRE VAM TOP	178
	0,66	0,66	2346,60	958,78	958,12				178
Pup above	i	2,37	2,37	2348,97	958,12	955,75		10 3/4" GRE VAM TOP	178
	88	i	11,46	11,32	2360,29	955,75	944,43	1	10 3/4" GRE VAM TOP
87	i	11,50	11,36	2371,65	944,43	933,07	2	10 3/4" GRE VAM TOP	179
86	i	11,56	11,42	2383,06	933,07	921,66	3	10 3/4" GRE VAM TOP	180
85	i	11,40	11,26	2394,32	921,66	910,40	4	10 3/4" GRE VAM TOP	181
84	i	11,36	11,22	2405,54	910,40	899,18	5	10 3/4" GRE VAM TOP	181
83	i	11,51	11,37	2416,90	899,18	887,82	6	10 3/4" GRE VAM TOP	182
82	i	11,56	11,42	2428,32	887,82	876,40	7	10 3/4" GRE VAM TOP	183
81	i	11,49	11,35	2439,67	876,40	865,05	8	10 3/4" GRE VAM TOP	184
80	i	11,54	11,40	2451,06	865,05	853,66	9	10 3/4" GRE VAM TOP	184
79	i	11,57	11,43	2462,49	853,66	842,23	10	10 3/4" GRE VAM TOP	185
78	i	11,57	11,43	2473,92	842,23	830,80	11	10 3/4" GRE VAM TOP	186
77	i	11,56	11,42	2485,33	830,80	819,39	12	10 3/4" GRE VAM TOP	186
76	i	11,34	11,20	2496,53	819,39	808,19	13	10 3/4" GRE VAM TOP	187
75	i	11,52	11,38	2507,91	808,19	796,81	14	10 3/4" GRE VAM TOP	188
74	i	11,57	11,43	2519,34	796,81	785,38	15	10 3/4" GRE VAM TOP	188
73	i	11,57	11,43	2530,76	785,38	773,96	16	10 3/4" GRE VAM TOP	189
72	i	11,41	11,27	2542,03	773,96	762,69	17	10 3/4" GRE VAM TOP	190
71	i	11,55	11,41	2553,44	762,69	751,28	18	10 3/4" GRE VAM TOP	190
70	i	11,55	11,41	2564,84	751,28	739,88	19	10 3/4" GRE VAM TOP	191
69	i	11,46	11,32	2576,16	739,88	728,56	20	10 3/4" GRE VAM TOP	192
68	i	11,56	11,42	2587,58	728,56	717,14	21	10 3/4" GRE VAM TOP	192
67	i	11,57	11,43	2599,00	717,14	705,72	22	10 3/4" GRE VAM TOP	193
66	i	11,57	11,43	2610,43	705,72	694,29	23	10 3/4" GRE VAM TOP	194
65	i	11,48	11,34	2621,77	694,29	682,95	24	10 3/4" GRE VAM TOP	194
64	i	11,19	11,05	2632,81	682,95	671,91	25	10 3/4" GRE VAM TOP	195
63	i	11,54	11,40	2644,21	671,91	660,51	26	10 3/4" GRE VAM TOP	196
62	i	11,52	11,38	2655,59	660,51	649,13	27	10 3/4" GRE VAM TOP	196
61	i	11,39	11,25	2666,84	649,13	637,88	28	10 3/4" GRE VAM TOP	197
60	i	11,56	11,42	2678,25	637,88	626,47	29	10 3/4" GRE VAM TOP	198
59	i	11,57	11,43	2689,68	626,47	615,04	30	10 3/4" GRE VAM TOP	198
58	i	11,40	11,26	2700,94	615,04	603,78	31	10 3/4" GRE VAM TOP	199
57	i	11,38	11,24	2712,17	603,78	592,55	32	10 3/4" GRE VAM TOP	200
56	i	11,55	11,41	2723,58	592,55	581,14	33	10 3/4" GRE VAM TOP	200
55	i	11,56	11,42	2735,00	581,14	569,72	34	10 3/4" GRE VAM TOP	201
54	i	11,49	11,35	2746,34	569,72	558,38	35	10 3/4" GRE VAM TOP	202
53	i	11,57	11,43	2757,77	558,38	546,95	36	10 3/4" GRE VAM TOP	202
52	i	11,53	11,39	2769,16	546,95	535,56	37	10 3/4" GRE VAM TOP	203
51	i	11,57	11,43	2780,58	535,56	524,14	38	10 3/4" GRE VAM TOP	204
50	i	11,43	11,29	2791,87	524,14	512,85	39	10 3/4" GRE VAM TOP	205
49	i	11,56	11,42	2803,29	512,85	501,43	40	10 3/4" GRE VAM TOP	205
48	i	11,50	11,36	2814,64	501,43	490,08	41	10 3/4" GRE VAM TOP	206
47	i	11,56	11,42	2826,06	490,08	478,66	42	10 3/4" GRE VAM TOP	207
46	i	11,11	10,97	2837,03	478,66	467,69	43	10 3/4" GRE VAM TOP	207
45	i	11,54	11,40	2848,43	467,69	456,29	44	10 3/4" GRE VAM TOP	208
44	i	11,50	11,36	2859,78	456,29	444,94	45	10 3/4" GRE VAM TOP	209
43	i	11,49	11,35	2871,13	444,94	433,59	46	10 3/4" GRE VAM TOP	209
42	i	11,27	11,13	2882,26	433,59	422,46	47	10 3/4" GRE VAM TOP	210
41	i	11,50	11,36	2893,61	422,46	411,11	48	10 3/4" GRE VAM TOP	211
40	i	11,52	11,38	2904,99	411,11	399,73	49	10 3/4" GRE VAM TOP	211
39	i	11,57	11,43	2916,42	399,73	388,30	50	10 3/4" GRE VAM TOP	212
38	i	11,51	11,37	2927,78	388,30	376,94	51	10 3/4" GRE VAM TOP	213
37	i	11,41	11,27	2939,05	376,94	365,67	52	10 3/4" GRE VAM TOP	213
36	i	11,46	11,32	2950,37	365,67	354,35	53	10 3/4" GRE VAM TOP	214
35	i	11,56	11,42	2961,78	354,35	342,94	54	10 3/4" GRE VAM TOP	215
34	i	11,52	11,38	2973,16	342,94	331,56	55	10 3/4" GRE VAM TOP	215
33	i	11,18	11,04	2984,20	331,56	320,52	56	10 3/4" GRE VAM TOP	216
32	i	11,55	11,41	2995,61	320,52	309,11	57	10 3/4" GRE VAM TOP	217
31	i	11,48	11,34	3006,94	309,11	297,78	58	10 3/4" GRE VAM TOP	217
30	i	11,52	11,38	3018,32	297,78	286,40	59	10 3/4" GRE VAM TOP	218
29	i	11,56	11,42	3029,74	286,40	274,98	60	10 3/4" GRE VAM TOP	219
28	i	11,24	0,00	3029,74	274,98	274,98		10 3/4" GRE VAM TOP	No M/u shoulder @pin
27	i	11,56	11,42	3041,15	274,98	263,57	61	10 3/4" GRE VAM TOP	219
26	i	11,57	11,43	3052,58	263,57	252,14	62	10 3/4" GRE VAM TOP	220
25	i	11,54	11,40	3063,98	252,14	240,74	63	10 3/4" GRE VAM TOP	221
24	i	11,57	11,43	3075,40	240,74	229,32	64	10 3/4" GRE VAM TOP	221
23	i	11,35	11,21	3086,61	229,32	218,11	65	10 3/4" GRE VAM TOP	222

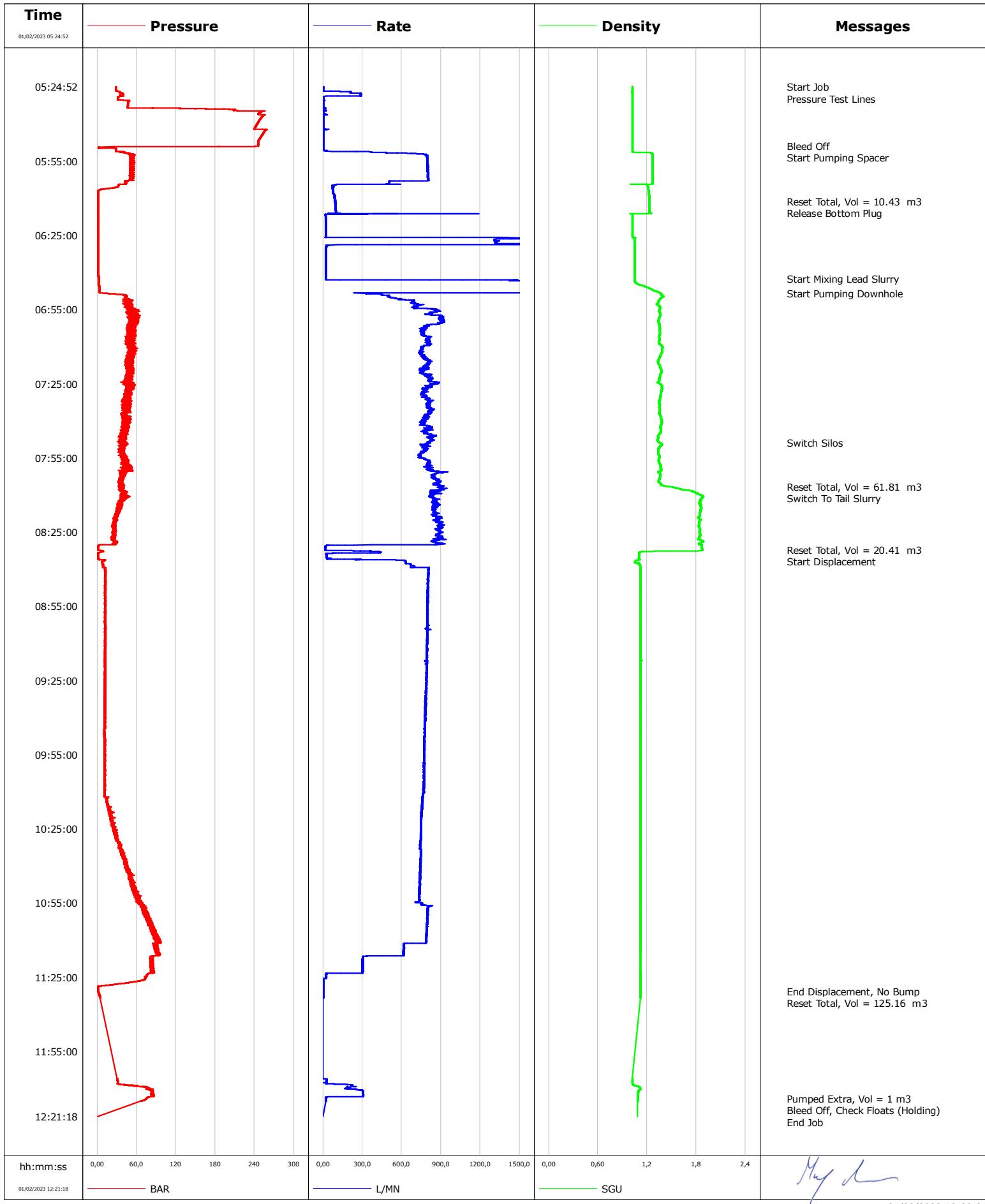
22	i	11,49	11,35	3097,96	218,11	206,76	66	10 3/4" GRE VAM TOP		223
21	i	11,54	11,40	3109,35	206,76	195,37	67	10 3/4" GRE VAM TOP		223
20	i	11,55	11,41	3120,76	195,37	183,96	68	10 3/4" GRE VAM TOP		224
19	i	11,54	11,40	3132,16	183,96	172,56	69	10 3/4" GRE VAM TOP		225
18	i	11,54	11,40	3143,55	172,56	161,17	70	10 3/4" GRE VAM TOP		225
17	i	11,51	11,37	3154,92	161,17	149,80	71	10 3/4" GRE VAM TOP		226
16	i	11,50	11,36	3166,28	149,80	138,44	72	10 3/4" GRE VAM TOP		227
15	i	11,57	11,43	3177,71	138,44	127,01	73	10 3/4" GRE VAM TOP		228
14	i	11,57	11,43	3189,13	127,01	115,59	74	10 3/4" GRE VAM TOP		228
13	i	11,19	11,05	3200,18	115,59	104,54	75	10 3/4" GRE VAM TOP		229
12	i	11,55	11,41	3211,59	104,54	93,13	76	10 3/4" GRE VAM TOP		230
11	i	11,35	11,21	3222,79	93,13	81,93	77	10 3/4" GRE VAM TOP		230
10	i	11,50	11,36	3234,15	81,93	70,57	78	10 3/4" GRE VAM TOP		231
9	i	11,55	11,41	3245,56	70,57	59,16	79	10 3/4" GRE VAM TOP		232
8	i	11,51	11,37	3256,92	59,16	47,80	80	10 3/4" GRE VAM TOP		232
7	i	11,46	11,32	3268,24	47,80	36,48	81	10 3/4" GRE VAM TOP		233
6	i	11,49	11,35	3279,59	36,48	25,13	82	10 3/4" GRE VAM TOP		234
5	i	11,55	11,41	3290,99	25,13	13,73	83	10 3/4" GRE VAM TOP		234
4	i	11,58	0,00	3290,99	13,73	13,73		10 3/4" GRE VAM TOP		234
3	i	11,57	0,00	3290,99	13,73	13,73		10 3/4" GRE VAM TOP		234
2	i	11,51	0,00	3290,99	13,73	13,73		10 3/4" GRE VAM TOP		234
1	i	11,56	0,00	3290,99	13,73	13,73		10 3/4" GRE VAM TOP		234
Space out pup #11	i	2,57	2,42	3293,42	13,73	11,30	1	10 3/4" GRE VAM TOP		234
Pup joint below Hng		2,22	2,08	3295,49	11,30	9,23		10 3/4" GRE VAM TOP		235
Hanger - Below LOP		0,20	0,20	3295,69	9,23	9,03		to be 9,03m below RKB		235
Hanger - Above LOP		0,12	0,12	3295,81	9,03	8,91				235
Running tool		0,42	0,42	3296,23	8,91	8,49				235
9 5/8" Landing joint		9,85	9,85	3306,08	8,49	-1,36				235

Joint no	Check TK-ring	Length m	Less m/u loss	Cum Length	Jt Btm m	Jt Top m	No.of joints	Remarks	Centraliser	Hookload T
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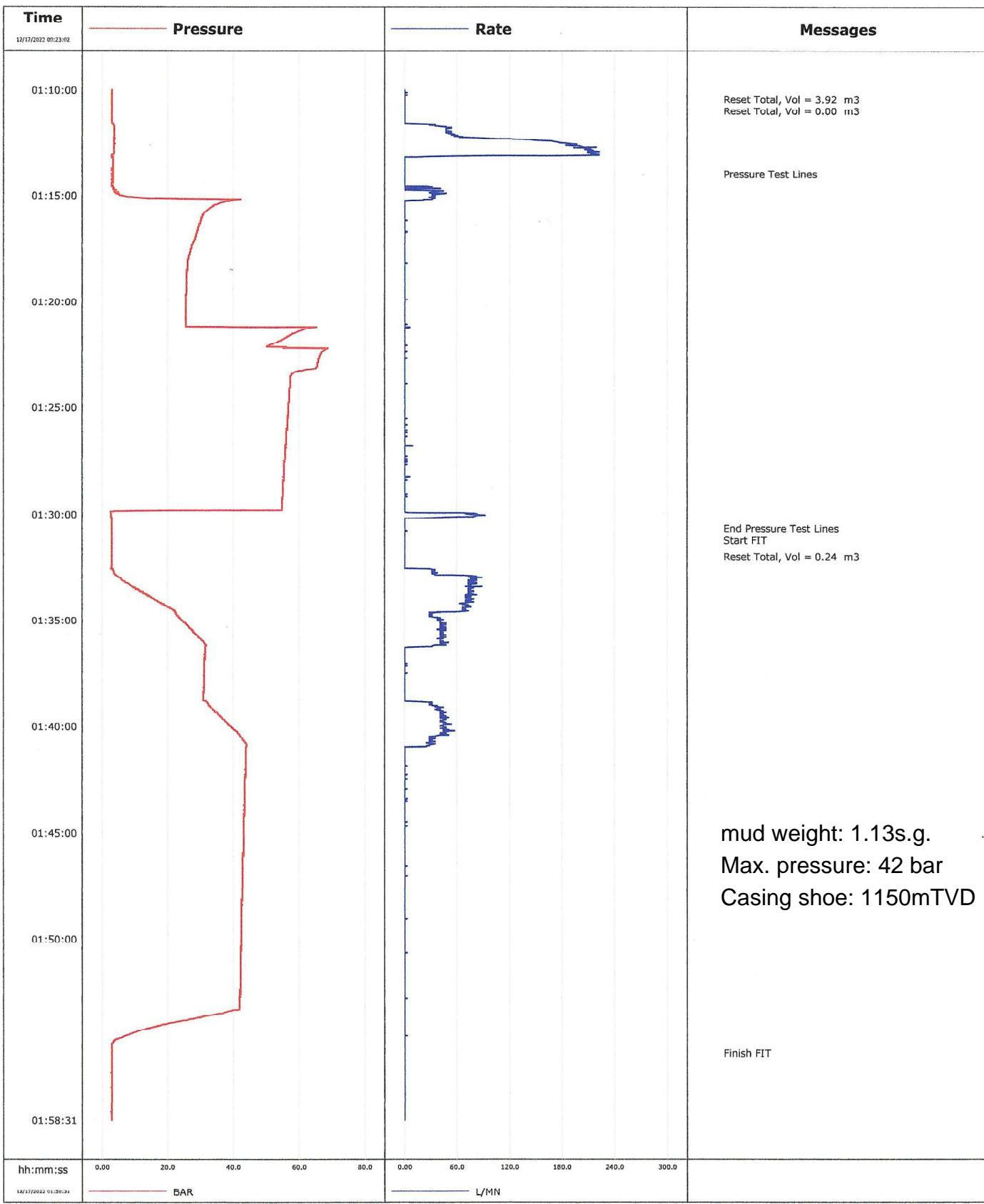
Well	GT01		Client	HVC
Field	MSD-GT-01		SIR No.	
Engineer	Marcel Sijbom		Job Type	13 3/8 Csg
Country	Netherlands		Job Date	12-06-2022



Well	GT-01	Client	HVC
Field		SIR No.	A.1028873.01.02
Engineer	Max McCallum	Job Type	Casing Job
Country	Netherlands	Job Date	01-02-2023



Well	MSD-GT01	Client	HVC
Field	Masdejk	SIR No.	
Engineer	Bartosz Sobanski	Job Type	FIT test
Country	Netherlands	Job Date	12-16-2022



Bit record

Rig: KCA-Deutag T207
Well No : MSD-GT-01
Well type : Geothermal producer

Spud date & time: 30112022; 16:15
TD date & time: 28122022;18:30



Total rotating hrs =