



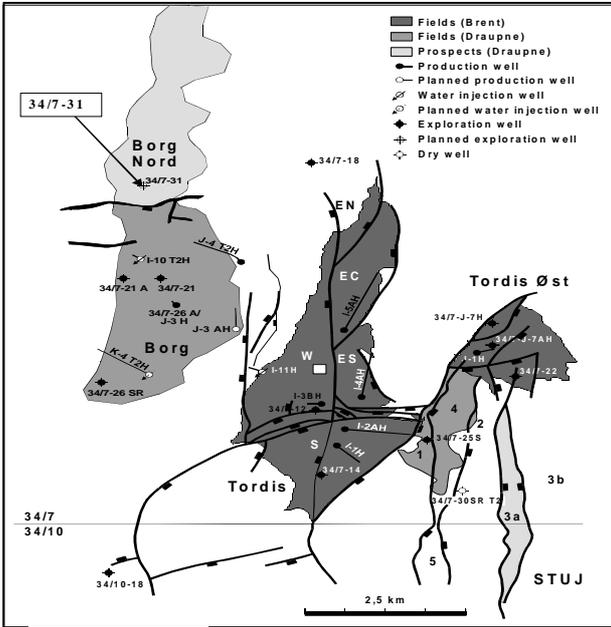
COMPOSITE LOG

BORG NORD

Scale: 1 / 500

Well: 34/7-31

Location Map



KB Elevation	26.0 m	Country	Norway
Water Depth	207.0 m	Licence	PL 089
Depth Reference	RKB	Owners	Norsk Hydro ASA, Statoil, Idemitsu, TotalFinaElf, RWE-DEA, ExxonMobil
Total Depth (Driller)	2650.0 m MD 2649.6 mTVD	Formation at Total Depth	Tarbert Formation (Brent Grp.)
Total Depth (Logger)	N/A N/A	Field Platform	BORG NORD SCARABEO 6
Date Spudded	10.03.2001	Drilling Contractor	Saipem
Date Reached TD	08.04.2001	Mudlogging Company	Halliburton Sperry-sun
Date Completed	25.04.2001	Logging Company	Schlumberger Anadrill
Well Status	Permanently plugged and abandoned	MWD Company	Schlumberger WL
Well Classification	Exploration	Geologists	B.Schønningsen, C.Dons, Å.Halvorsen, K.Kalgraff, E.Skottlien
Prepared by	Halvorsen, Dons, Schønningsen, Kalgraff, Skottlien		
Controlled by	A.E.Lea		
Date	15.12..2001		
Well Coordinates	Surface location ED50-UTM zone 31 SM 3 deg East	UTM: 6 797 888.5 mN 450 009.2 mE	GEO: 61°18' 37.69" N 02° 03' 59.81" E

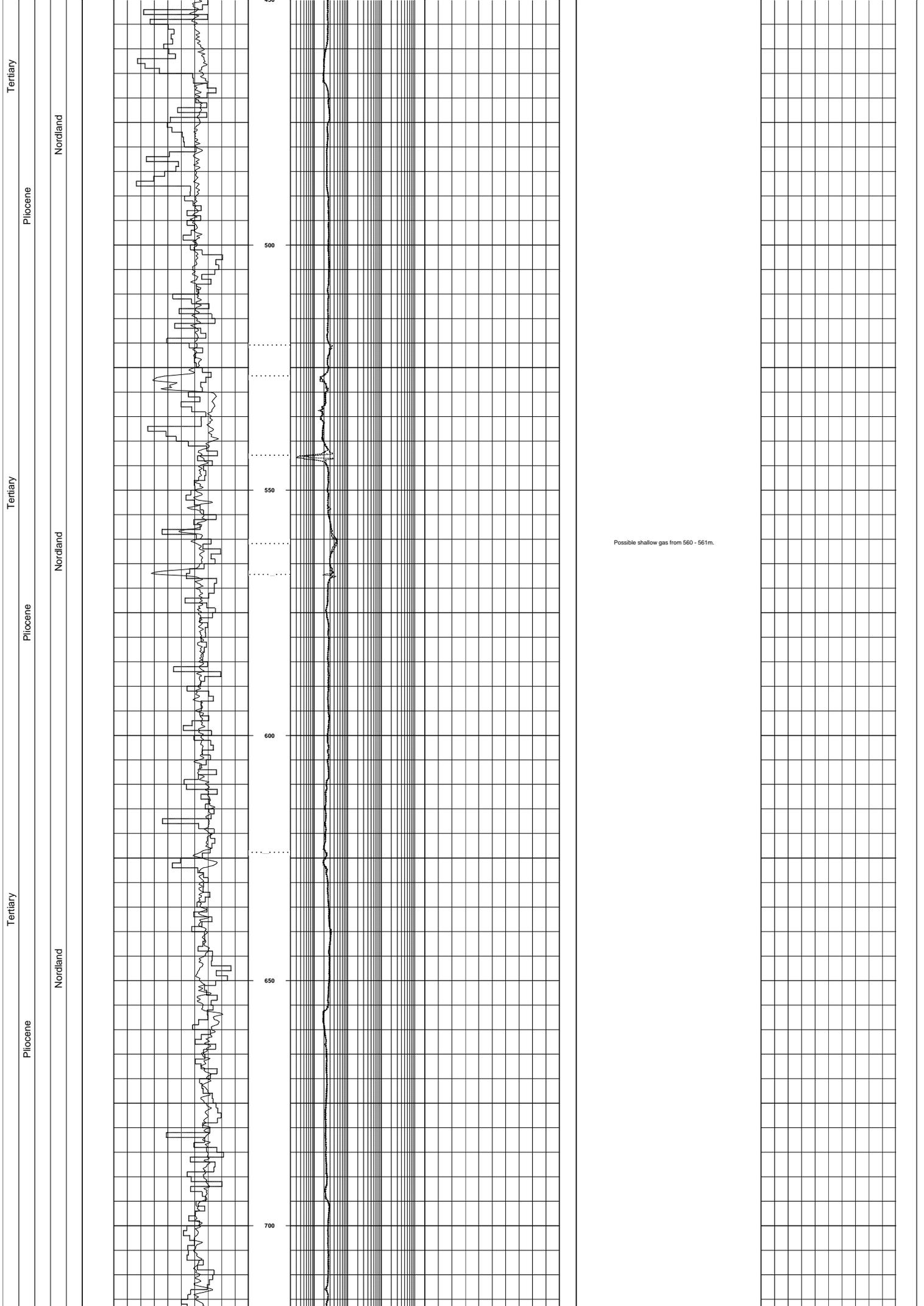
Winlog well ID : 34.7.31_composite.log
Winlog template version : 20010131 - A/C

Casing Records			LOT / FIT				Comments
Diameter	Shoe depth m MD RKB	Shoe depth m TVD RKB	Type	Result SG	Depth m MD RKB	Depth m TVD RKB	
30" Casing shoe	306	306	LOT	1.83	1153.0	1152.9	A 9 7/8" pilot hole was drilled from seabed 233m to 1150m. Logs (MWD) presented from seabed 233m to 1150m were recorded in the 9-7/8" pilot hole. The 9 7/8" pilot hole was then opened to 36" and 30" casing run to 306m. The 26" hole (Using 26" hole opener) deviated from the original 9 7/8" pilot hole below 306m and the two holes were approx. 27 m apart at 1150m. Well 34/7-31 was drilled with returns to Seabed down to 1150m. Sampling started at 1170m. After reaching TD=2650 m a sidetrack was performed from 1802m (Well named 34/7-31 A)
20" Casing shoe	1144	1144	LOT	1.82	1788.0	1787.9	
13 3/8" Casing shoe	1779	1779					

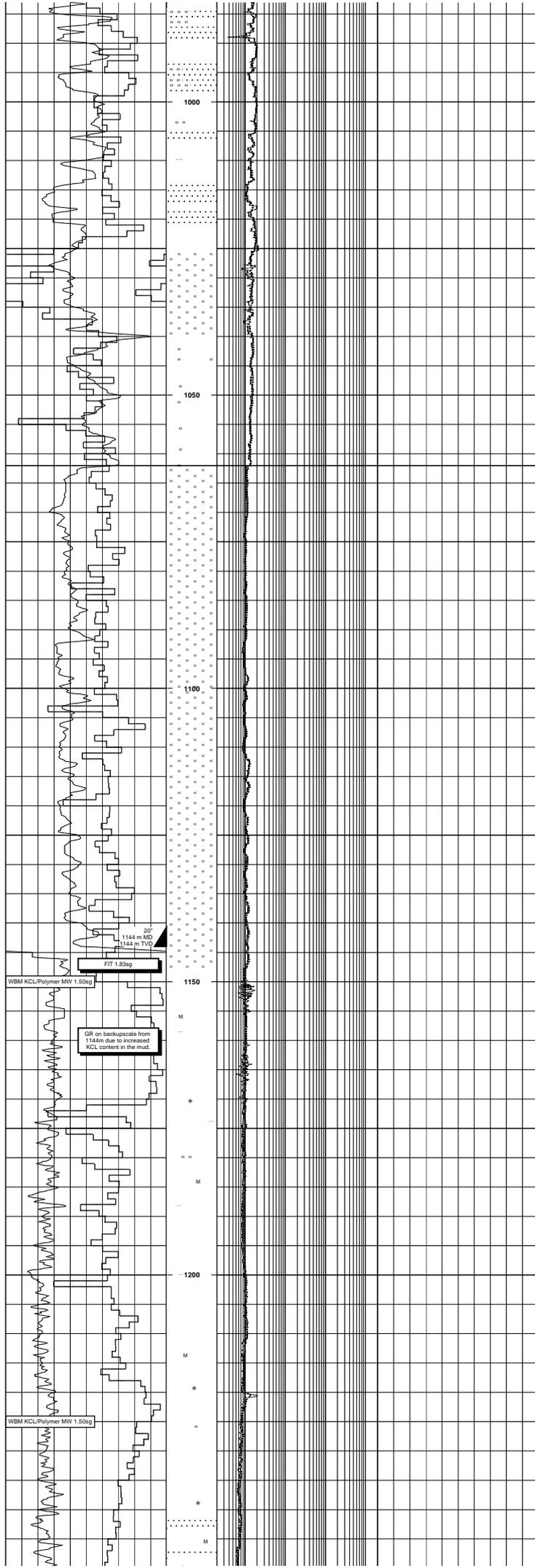
Logs			Cores					Pressure points (MDT)			
Run no.	Log type	Logged interval	Core no.	Cored interval m MD RKB	Recovered interval m MD RKB	Rec. mMD	Rec. %	Test no.	Depth m MD RKB	Depth m TVD RKB	Fmn. Press. Bars
1	MWD(CDR) - GR/RES	233-1147(Pilot hole)	1	2472.0 - 2499.3	2472.0 - 2499.3	27.3	100.0	4	1853.5	1853.4	255.49
4	MWD(CDR) - GR/RES	1145-1295	2	2499.3 - 2506.3	2499.3 - 2506.3	7.0	100.0	6	1850.7	1850.6	254.73
5	MWD(CDR) - GR/RES	1295-1775						7	1848.8	1848.7	254.57
6	MWD(RAB-ADN)GR/RES	1788-2092						8	1846.2	1846.1	254.23
7	MWD(RAB-ADN)GR/RES	2092-2213						9	1842.0	1841.9	253.77
8	MWD(RAB-ADN)GR/RES	2213-2268						11	2503.4	2503.2	307.61
9	MWD(RAB-ADN)GR/RES	2268-2472						12	2500.0	2499.8	307.37
10	MWD - GR/RES/DENS/NEU	2506-2650						13	2495.0	2494.8	307.04
1A	MDT	2621.5 - 1842						14	2492.0	2491.8	306.84
1A	PEX/DSI/VSP	2626 - 1700						15	2486.5	2486.3	306.46
1A	MSCT	1840 - 2471						16	2484.5	2484.3	306.33
								17	2479.0	2478.8	305.96
								20	2470.3	2470.1	305.37
								22	2621.5	2621.2	324.54
								23	2618.5	2618.2	324.24
								24	2613.5	2613.2	323.73
								25	2611.5	2611.2	323.55
								26	2606.0	2605.7	323.00
								27	2604.5	2604.2	322.83
								28	2603.5	2603.2	322.72

Lithology Legend

Symbol legend



Tertiary		Tertiary		Tertiary		Miocene	
Gap	Upper Oligocene	Hordaland		Hordaland		Nordland	
Gap	Chattian	Hordaland		Hordaland		Utsira	

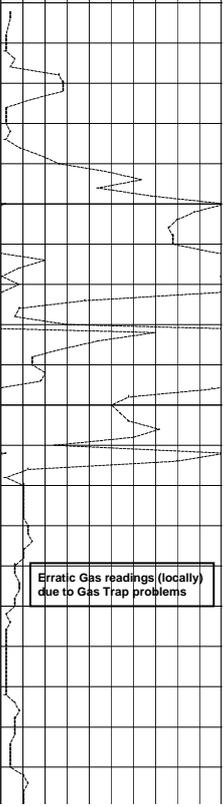


Hordaland Group at 1062 m MD / 1062 m TVD RKB

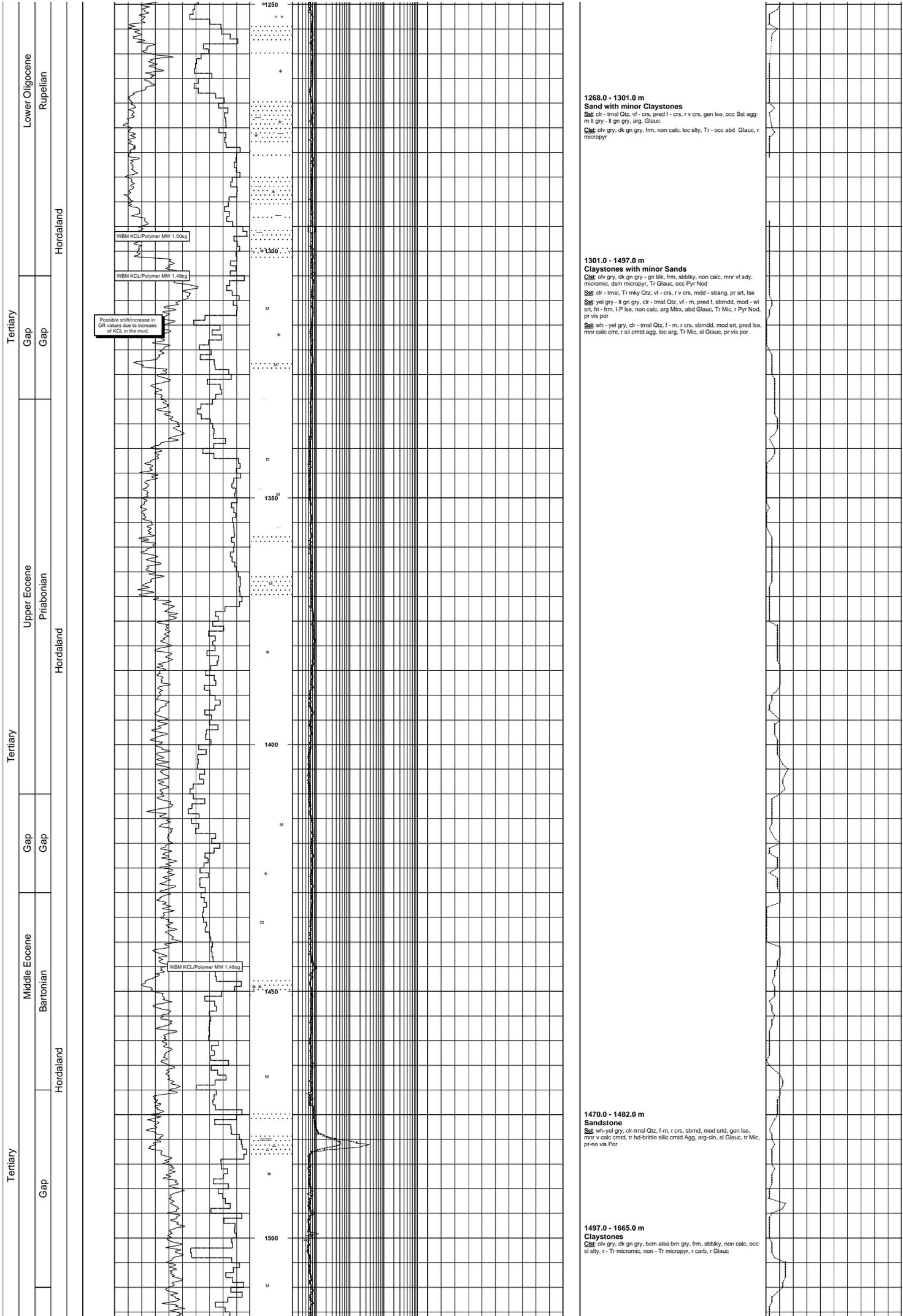
Sampling interval 20m: 1170 - 1785m

1153.0 - 1230.0 m
Claystones
 Clst: dk, yel, bm - olv, gry, frm - sft, non calc, sl sily - vl sdy, tr blk spk, tr spg spic, Tr Mic, Tr micromic, r Glauc

1230.0 - 1268.0 m
Claystones with minor Sand
 Clst: dk, gn, gry - gn, blk, frm, loc sily, non calc, tr Glauc, r micromic
 Sst: clr - mky, Qtz, f - m, r crs, sbnd, mod srt



Erratic Gas readings (locally due to Gas Trap problems)



Possible shift/increase in CR values due to increase of KCL in the mud.

WBM KCL/Polymer MW 1.50kg

WBM KCL/Polymer MW 1.48kg

WBM KCL/Polymer MW 1.48kg

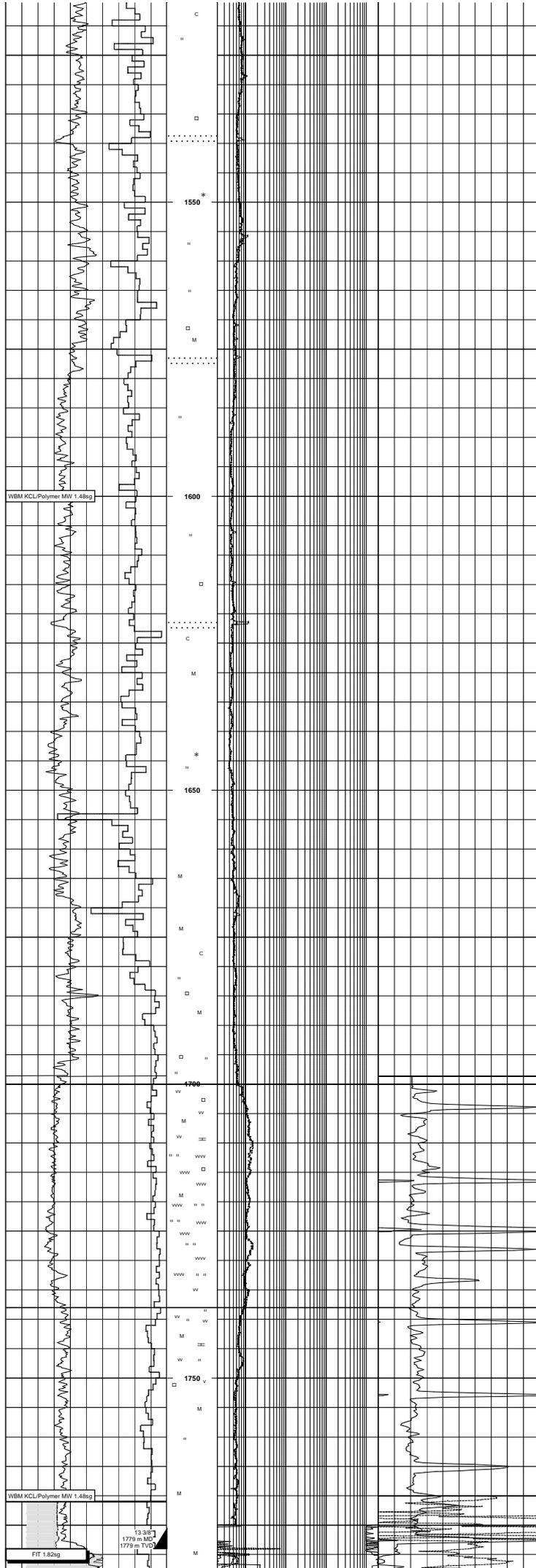
1268.0 - 1301.0 m
Sand with minor Claystones
 Sst: cl- trmsl Qtz, vl - crs, pred f - crs, r v crs, gen lse, occ Sst agg, m fl gry - lt gn gry, arg, Glauc
 Clst: olv gry, dk gn gry, frm, non calc, loc sily, Tr - occ abd Glauc, r microphyt

1301.0 - 1497.0 m
Claystones with minor Sands
 Clst: olv gry, dk gn gry - gn blk, frm, sbbly, non calc, mnv vl sdy, micromic, dsm microphyt, Tr Glauc, occ Pyr Nod
 Sst: cl- trmsl, Tr mky Qtz, vl - crs, r v crs, mdd - sbang, pr srt, lse
 Sst: yel gry - lt gn gry, cl- trmsl Qtz, vl - m, pred f, sbmdd, mod - vl srt, fn - frm, lP lse, non calc, arg Mtr, abd Glauc, Tr Mic, r Pyr Nod, pr vis por
 Sst: wh - yel gry, cl- trmsl Qtz, f - m, r crs, sbmdd, mod srt, pred lse, mnv calc cmt, r sil cmtd agg, loc arg, Tr Mic, sl Glauc, pr vis por

1470.0 - 1482.0 m
Sandstone
 Sst: wh-yel gry, cl-trmsl Qtz, f-m, r crs, sbmdd, mod srt, gen lse, mnv v calc cmt, tr hd-brittle silic cmtd Agg, arg-oln, sl Glauc, tr Mic, pr-no vis Por

1497.0 - 1665.0 m
Claystones
 Clst: olv gry, dk gn gry, bcm also brn gry, frm, sbbly, non calc, occ sl sily, r - Tr micromic, non - Tr microphyt, r carb, r Glauc

Tertiary		Tertiary		Tertiary	
Lower Eocene	Gap	Middle Eocene	Gap	Middle Eocene	Middle Eocene
Ypresian	Gap		Gap		
Rogaland		Hordaland		Hordaland	
Balder					
Sele					



1665.0 - 1700.0 m
Claystones
 Clst: Varicol, olv gry - brn gry, mod brn, r mod yel brn, r lt gn gry, r gn gry, fm, sbblky, sl sily, r - Tr micromic, r - Tr micropyr, r carb

Rogaland Group at 1700 m MD / 1699,9 m TVD RKB
 Balder Formation at 1700 m MD / 1699,9 m TVD RKB

1700.0 - 1737.0 m
Claystones interbedded with Tuff
 Clst: Varicol, olv gry, gn gry, brn blk, frm - mod hd, sbply - sbblky, non calc, Tr micromic
 frm, bcm frm - mod hd, sbblky, loc sily, non - sl calc, r - Tr micromic, r - Tr micropyr
 Tf: m bl gry - dk gn gry, gry bl gn, gn blk, stf - frm, sbblky, loc amor, sily, non calc, trml - wh - blk spks (volcanic shards)

Sele Formation at 1738 m MD / 1737,9 m TVD RKB
1737.0 - 1785.0 m
Claystones with rare Tuff
 Clst: brn gry, olv gry, brn blk, frm - mod hd, sbply - sbblky, non calc, Tr micromic
 Clst: varicol, olv gry, gn gry, bl gry, brn gry, mod brn - mod rd brn, frm - mod hd, sbblky, loc sily, non - sl calc, r - Tr micromic, r - Tr micropyr
 If: m bl gry - dk gn gry, gry bl gn, gn blk, stf - frm, sbblky, loc amor, sily, non calc, trml - wh - blk spks (volac shards)

Logs above 13 3/8" casing shoe are MWD data.
 Logs below 13 3/8" casing shoe are Wireline data. (RES from MWD)

GR increase below casing shoe may be due to KCL effect

Cretaceous

Upper Cretaceous

Early Maastrichtian

Shetland

Cretaceous

Upper Cretaceous

Late-Middle Campanian

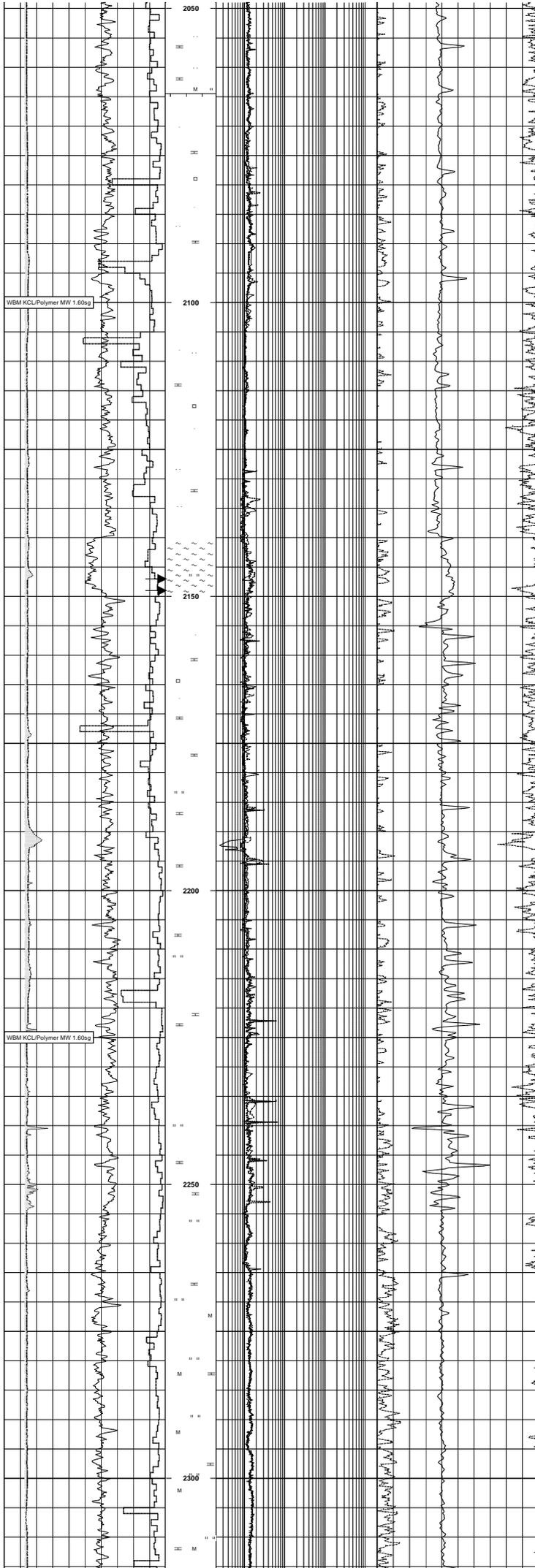
Shetland

Cretaceous

Upper Cretaceous

Middle Campanian

Shetland



2080.0 - 2140.0 m
Claystones with rare Traces of Limestone
 Clst: olv gry-olv blk, dk gry-grysh blk, blk, stf-fm, mod hd, sli calc, occ sli stly, r sdy, r pyr nod
 Ls: v lt gry, stf, sbblky, arg, microxin

2140.0 - 2170.0 m
Claystones with minor Limestones
 Clst: (1) m dk gry-dk gry-grysh blk, blk, stf-fm, mod hd, sli calc, occ sli stly
 Clst: (2) mod bm-grysh brn, blk, sbblky, stf-fm, calc grad Mrl, sli stly
 Ls: v lt gry-lt olv gry, stf, blk, arg, microxin

2170.0 - 2210.0 m
Claystones
 Clst: m dk gry-dk gry-grysh blk, blk, stf-fm, mod hd, sli calc, occ sli stly

2210.0 - 2270.0 m
Claystones with rare Traces of Limestones
 Clst: m dk gry-dk gry-grysh blk, dk gnsh gry, blk, frm-mod hd, pred frm, non-sli calc, occ sli stly
 Ls: lt gry-dk gry, blk, stf, v arg, microxin

2270.0 - 2340.0 m
Claystones
 Clst: olv gry-dk gry-grysh blk, r dk-gnsh gry, blk, frm-mod hd, non-sli calc, pred non calc, occ sli stly, r micromic

