# DRILLING PARAMETER LOG

FROM (m) : 100 TO (m) : 2670 SCALE : 1/ 1000

DPM2_N1Q.PR1

| | | | | | |
|---|---|---|---|---|---|
| Well name | : 16/7-9 | Location | : 2° 17' 24.953" E 58° 15' 17.47" N | Rig Name | : Transocean Winner |
| Company name | : Lundin | Country | : Norway | Rig Type | : Semi-Submersible |
| Reference depth | : ROTARY TABLE (RKB) | Final TD (m) | : 2665 | UTM coordinate N (m) | : 6457451 |
| Water depth (m) | : 78 | Final TVD (m) | : 2664.95 | UTM coordinate E (m) | : 458345 |
| Rot table - MSL (m) | : 26 | Spud date | : 5th December 2010 | Well type | : Exploration |
| Rot table - seabed (m) | : 104 | Reached TD | : 26th December 2010 | Area | : North Sea |

Generated by ALX Package

Clay-shale | Calcareous clay-shal | Dolomitic clay-shale | Silty clay-shale | Sandy clay-shale | Marl | Dolomitic marl | Silty marl

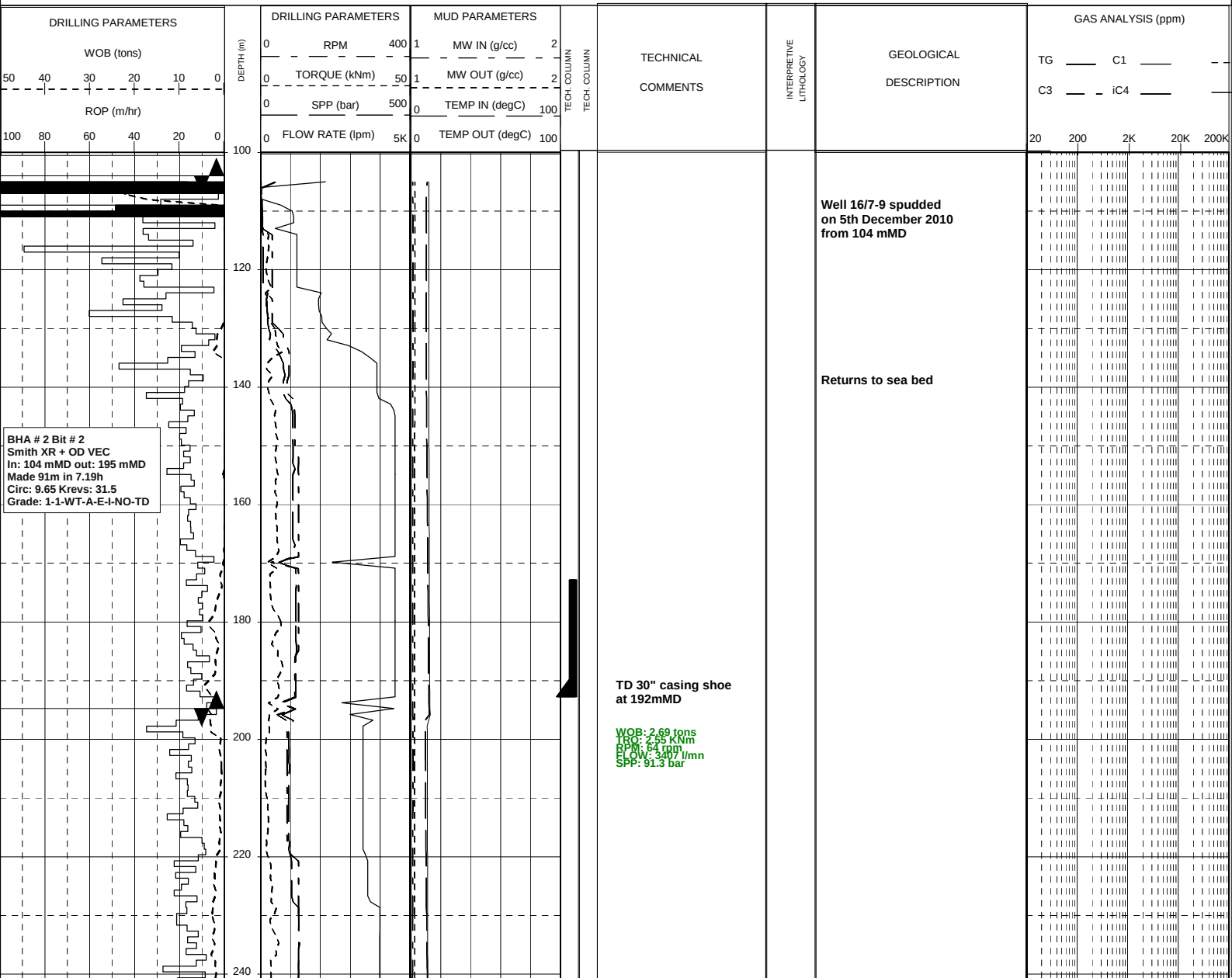
Dolomite | Calcareous dolomite | Argillaceous dolomit | Sandy dolomite | Argill and calc dolo | Sandy and calc dolom | Argill and sandy dol | Cargneule

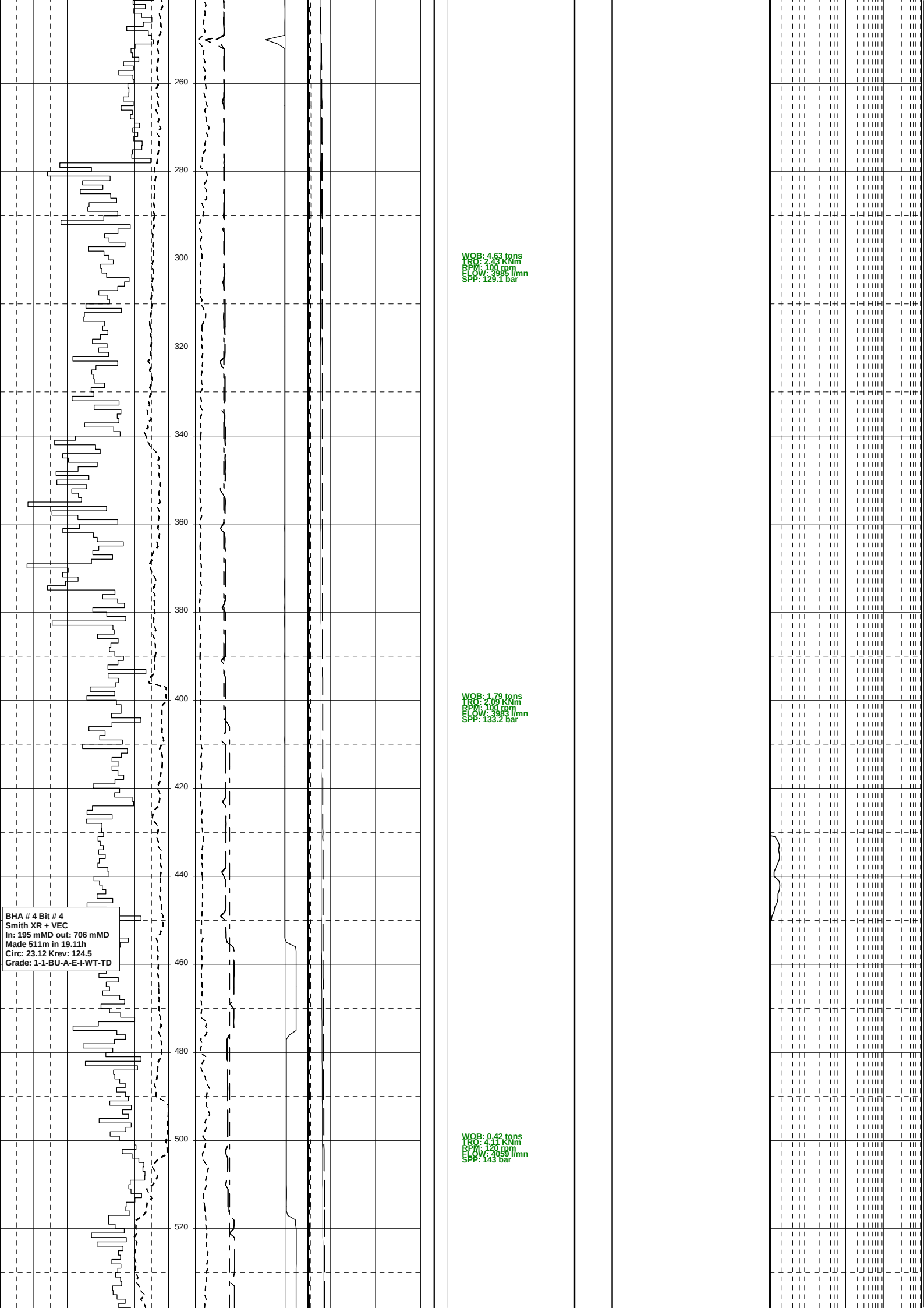
Limestone | Dolomitic limestone | Argillaceous limesto | Sandy limestone | Argill and dol lime | Argill and sandy lim | Sandy and dol limest | Chalk

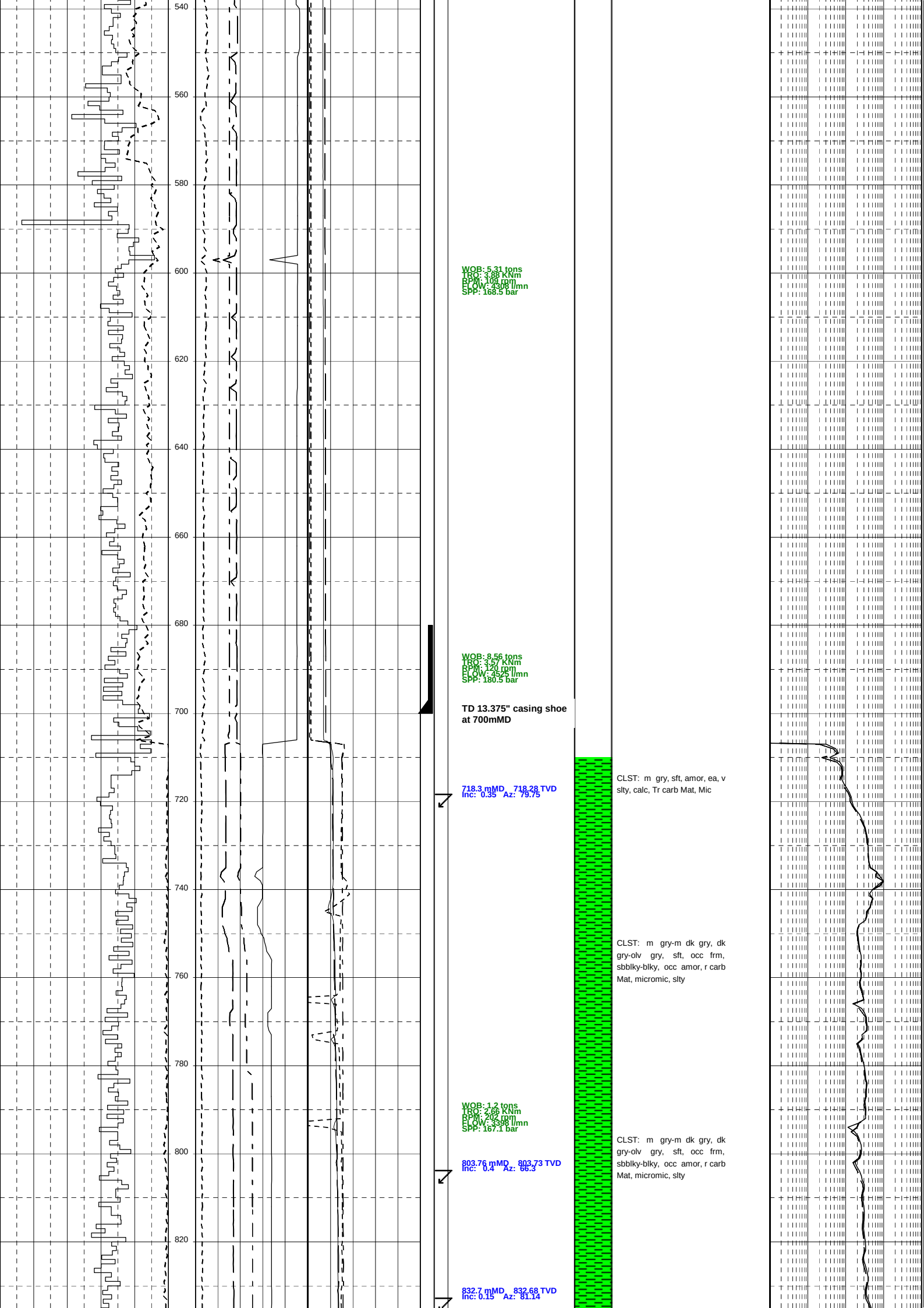
Silt | Fine sand | Medium sand | Coarse sand | Silstone | Fine sandstone | Medium sandstone | Coarse sandstone

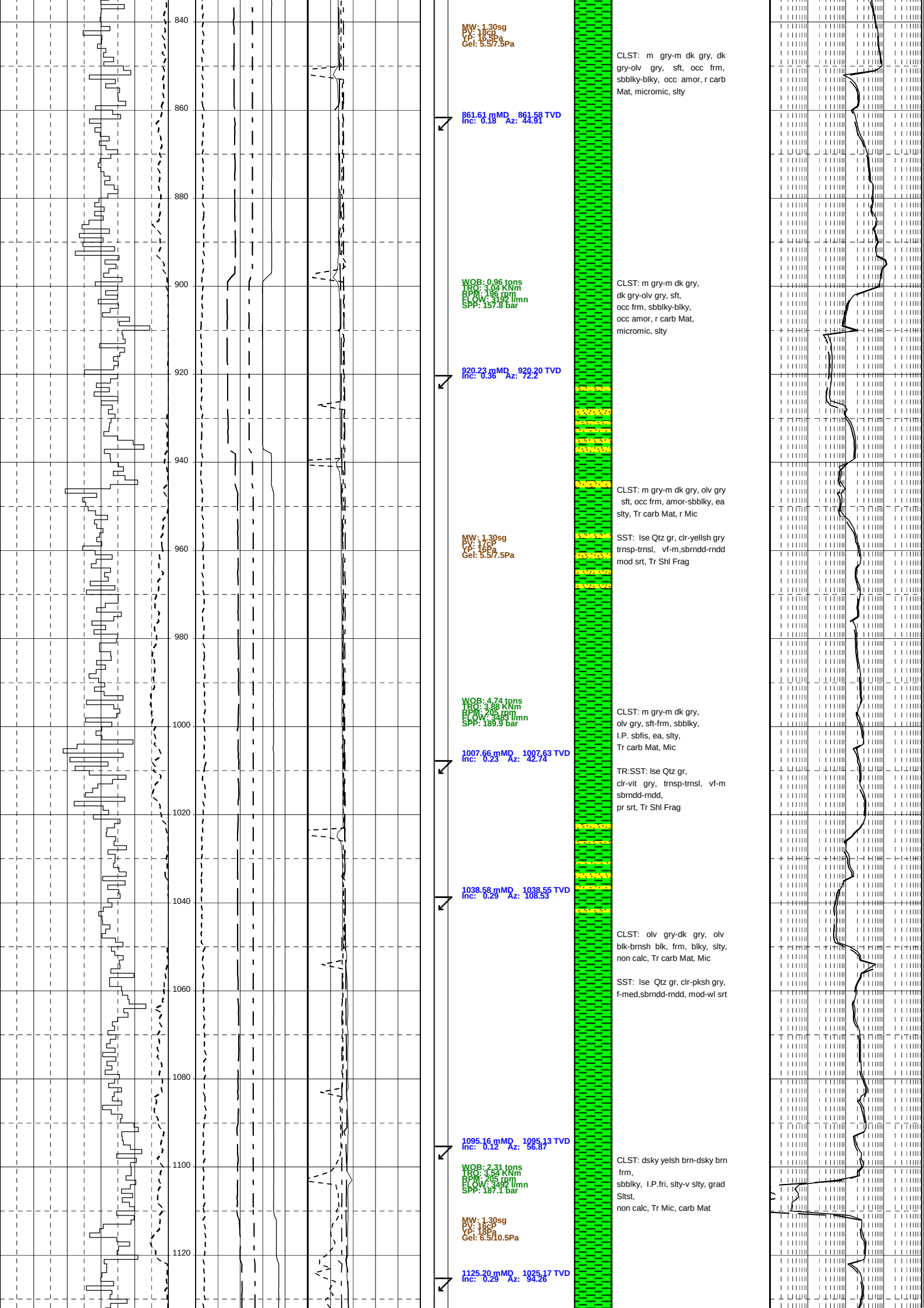
Argillaceous sandsto | Calcareous sandstone | Dolomitic sandstone | Calc and dol sandsto | Argill and calc sand | Argill and dol sands | Bitumeous sandstone | Glauconitic sandston

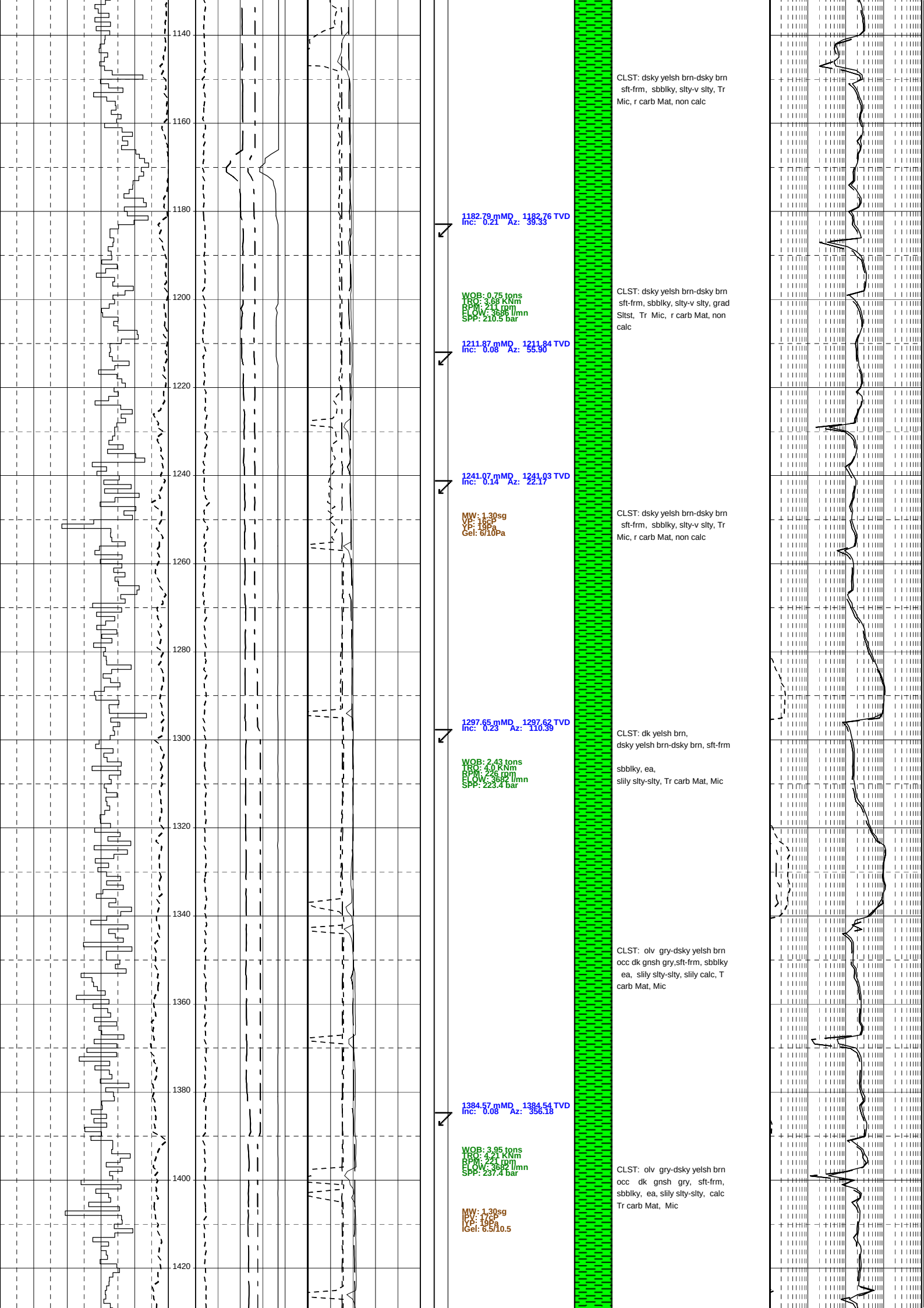
Chert | Halite | Anhydrite | Gypsum | Sylvite | Volcanics | Granit | Volcanic elements

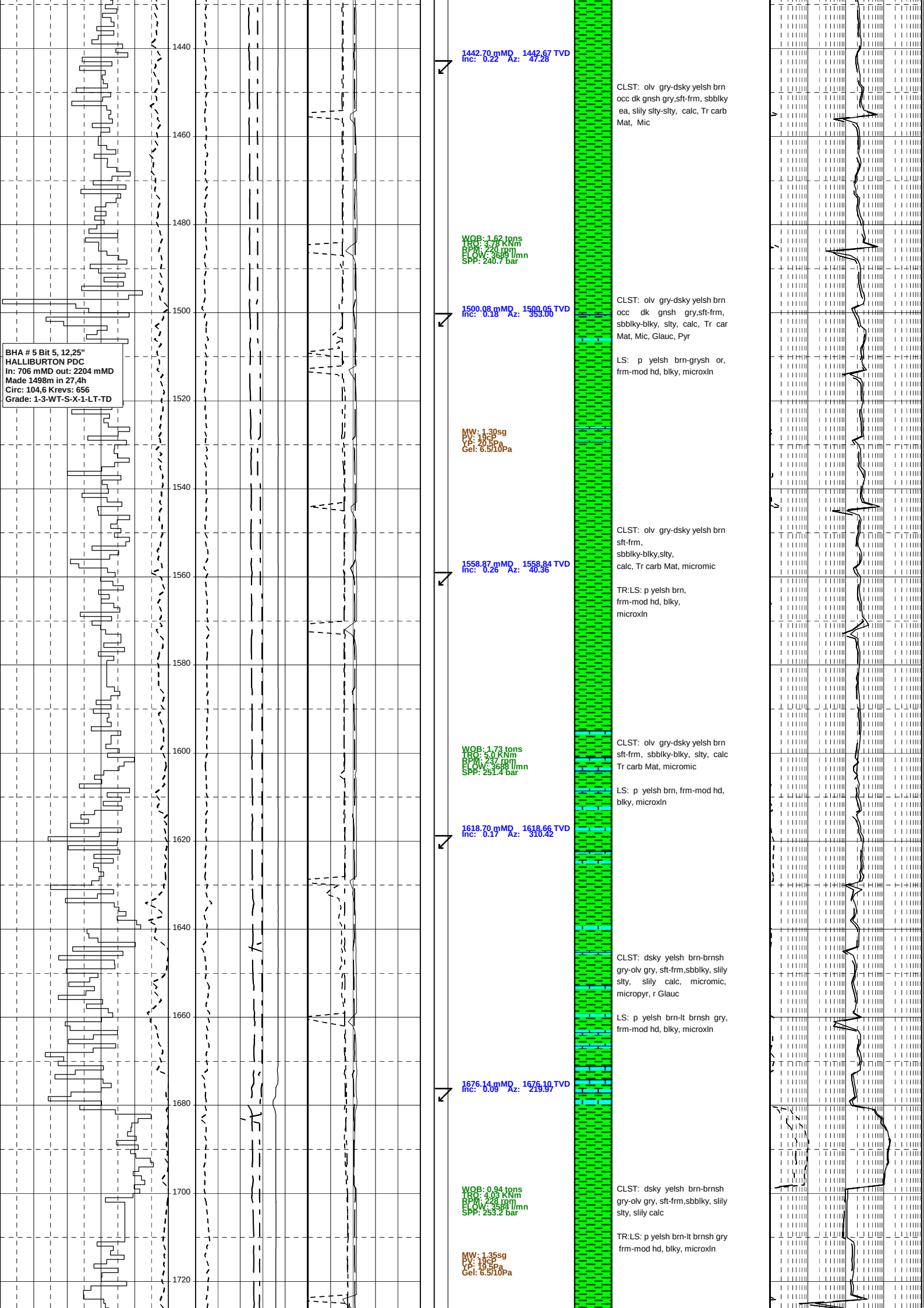


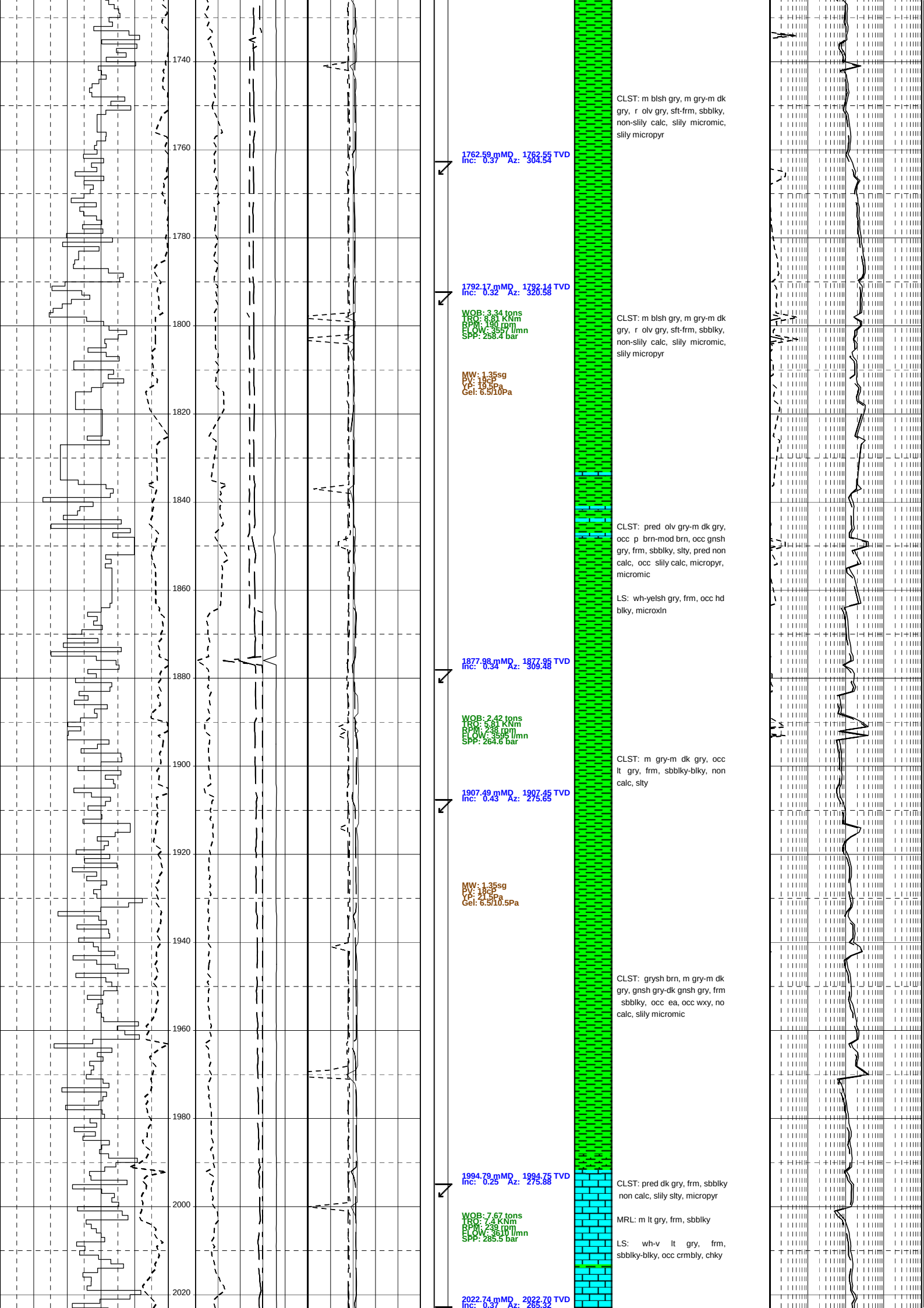

260
280
300
320
340
360
380
400
420
440
460
480
500
520
WOB: 4.63 tons
TRQ: 2.43 KNm
RPM: 100 rpm
FLOW: 3985 l/mn
SPP: 129.1 bar
WOB: 1.79 tons
TRQ: 2.09 KNm
RPM: 100 rpm
FLOW: 3983 l/mn
SPP: 133.2 bar
WOB: 0.42 tons
TRQ: 4.11 KNm
RPM: 120 rpm
FLOW: 4059 l/mn
SPP: 143 bar
BHA # 4 Bit # 4
Smith XR + VEC
In: 195 mMD out: 706 mMD
Made 511m in 19.11h
Circ: 23.12 Krev: 124.5
Grade: 1-1-BU-A-E-I-WT-TD

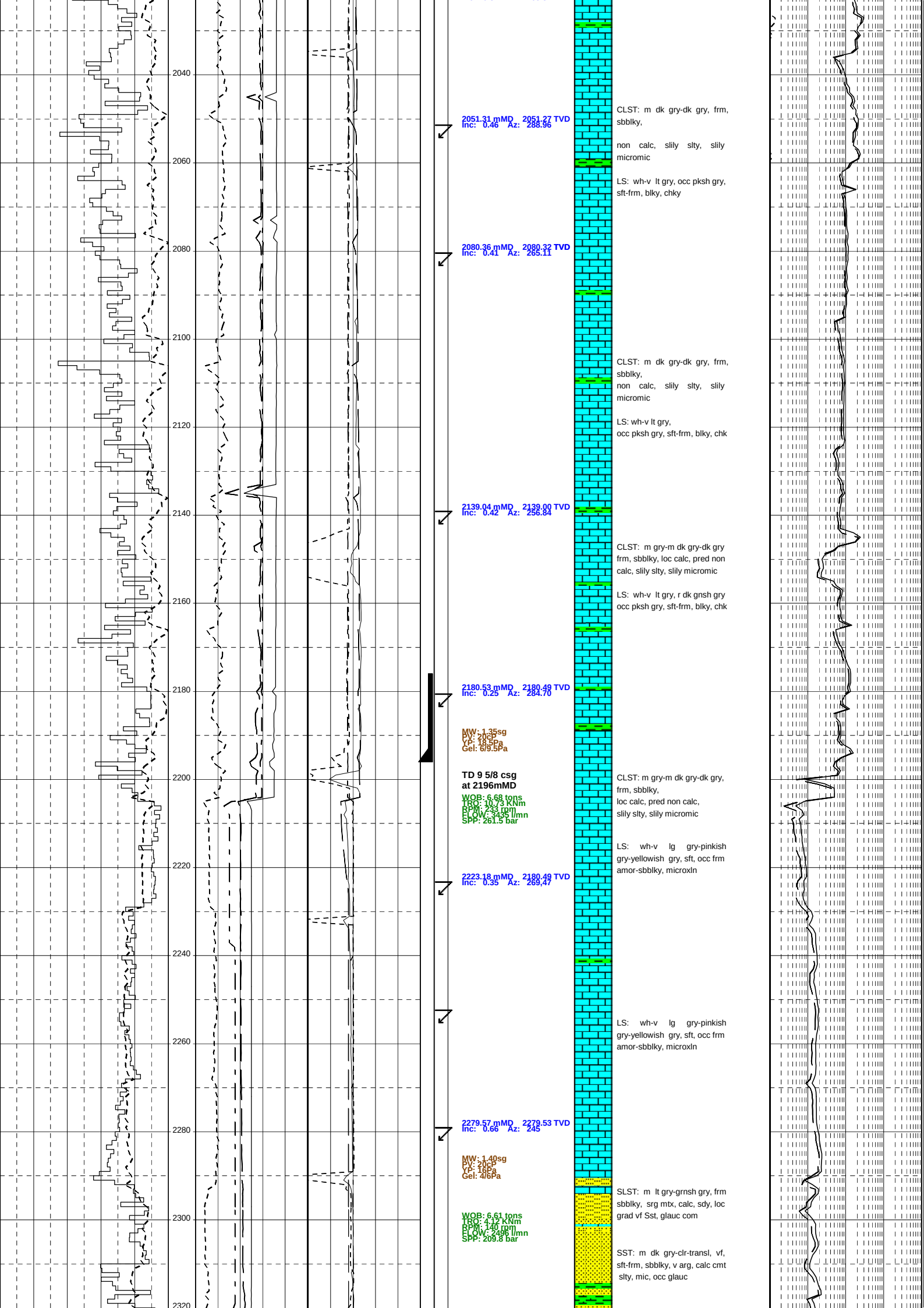

540
560
580
600
620
640
660
680
700
720
740
760
780
800
820
WOB: 5.31 tons
TRQ: 3.88 KNm
RPM: 109 rpm
FLOW: 4306 l/mn
SPP: 168.5 bar
WOB: 8.56 tons
TRQ: 3.57 KNm
RPM: 120 rpm
FLOW: 4525 l/mn
SPP: 180.5 bar
TD 13.375" casing shoe at 700mMD
718.3 mMD 718.28 TVD
Inc: 0.35 Az: 79.75
CLST: m gry, sft, amor, ea, v slty, calc, Tr carb Mat, Mic
CLST: m gry-m dk gry, dk gry-olv gry, sft, occ frm, sbblky-blky, occ amor, r carb Mat, micromic, slty
WOB: 1.2 tons
TRQ: 2.66 KNm
RPM: 102 rpm
FLOW: 3398 l/mn
SPP: 167.1 bar
803.76 mMD 803.73 TVD
Inc: 0.4 Az: 66.3
CLST: m gry-m dk gry, dk gry-olv gry, sft, occ frm, sbblky-blky, occ amor, r carb Mat, micromic, slty
832.7 mMD 832.68 TVD
Inc: 0.15 Az: 81.14

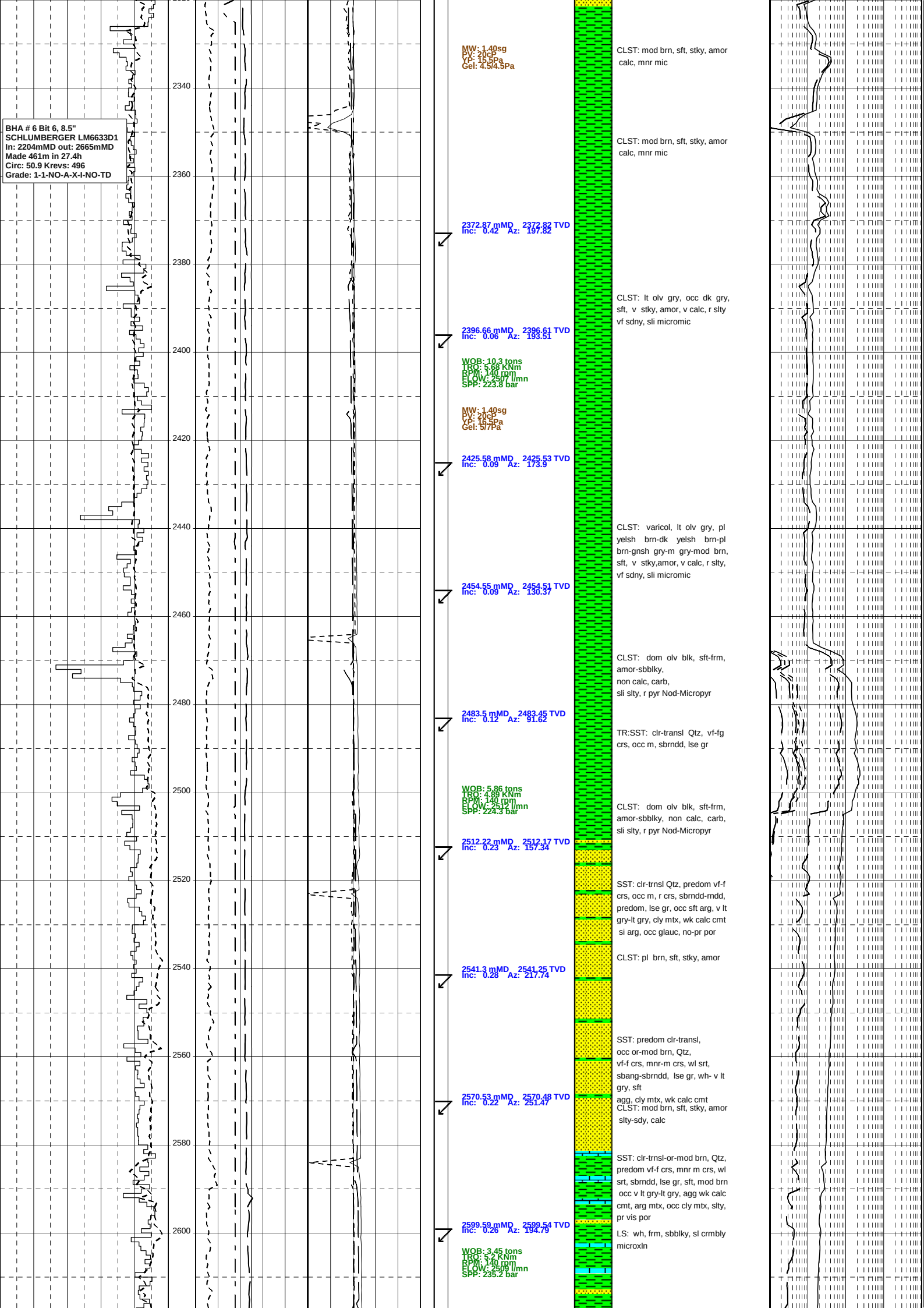

840
860
880
900
920
940
960
980
1000
1020
1040
1060
1080
1100
1120
MW: 1.30sg
PV: 18cP
YP: 16Pa
Gel: 5.5/7.5Pa
861.61 mMD 861.58 TVD
Inc: 0.18 Az: 44.91
WOB: 0.96 tons
TRQ: 3.04 KNm
RPM: 196 rpm
FLOW: 3492 l/mn
SPP: 157.8 bar
920.23 mMD 920.20 TVD
Inc: 0.36 Az: 72.2
MW: 1.30sg
PV: 17cP
YP: 16Pa
Gel: 5.5/7.5Pa
WOB: 4.74 tons
TRQ: 3.88 KNm
RPM: 205 rpm
FLOW: 3493 l/mn
SPP: 189.9 bar
1007.66 mMD 1007.63 TVD
Inc: 0.23 Az: 42.74
1038.58 mMD 1038.55 TVD
Inc: 0.29 Az: 108.53
1095.16 mMD 1095.13 TVD
Inc: 0.12 Az: 56.87
WOB: 2.31 tons
TRQ: 3.54 KNm
RPM: 205 rpm
FLOW: 3492 l/mn
SPP: 187.1 bar
MW: 1.30sg
PV: 16cP
YP: 18Pa
Gel: 6.5/10.5Pa
1125.20 mMD 1025.17 TVD
Inc: 0.29 Az: 94.26
CLST: m gry-m dk gry, dk gry-olv gry, sft, occ frm, sbblky-blky, occ amor, r carb Mat, micromic, slty
CLST: m gry-m dk gry, dk gry-olv gry, sft, occ frm, sbblky-blky, occ amor, r carb Mat, micromic, slty
CLST: m gry-m dk gry, olv gry sft, occ frm, amor-sbblky, ea slty, Tr carb Mat, r Mic
SST: lse Qtz gr, clr-yellsh gry trnsp-trnsl, vf-m,sbrndd-rndd mod srt, Tr Shl Frag
CLST: m gry-m dk gry, olv gry, sft-frm, sbblky, l.P. sbfis, ea, slty, Tr carb Mat, Mic
TR:SST: lse Qtz gr, clr-vit gry, trnsp-trnsl, vf-m sbrndd-rndd, pr srt, Tr Shl Frag
CLST: olv gry-dk gry, olv blk-brnsh blk, frm, blky, slty, non calc, Tr carb Mat, Mic
SST: lse Qtz gr, clr-pksh gry, f-med,sbrndd-rndd, mod-wl srt
CLST: dsky yelsh brn-dsky brn frm, sbblky, I.P.fri, slty-v slty, grad Sltst, non calc, Tr Mic, carb Mat

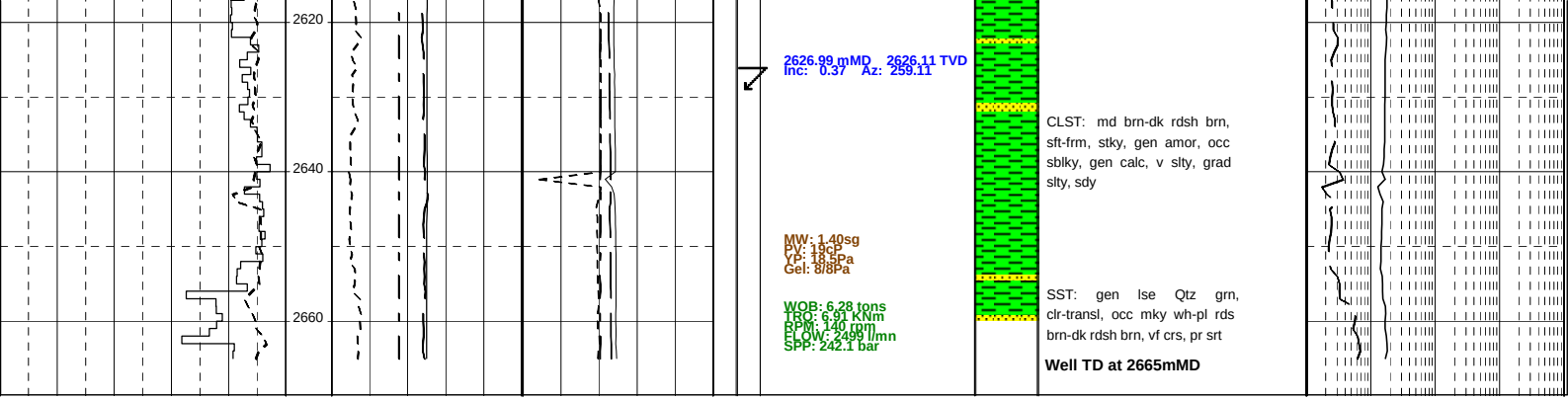

1140
1160
1180
1200
1220
1240
1260
1280
1300
1320
1340
1360
1380
1400
1420
1182.79 mMD 1182.76 TVD
Inc: 0.21 Az: 39.33
CLST: dsky yelsh brn-dsky brn sft-frm, sbblky, slty-v slty, Tr Mic, r carb Mat, non calc
WOB: 0.75 tons
TRQ: 3.68 KNm
RPM: 211 rpm
FLOW: 3686 l/mn
SPP: 210.5 bar
1211.87 mMD 1211.84 TVD
Inc: 0.08 Az: 55.90
CLST: dsky yelsh brn-dsky brn sft-frm, sbblky, slty-v slty, grad Sltst, Tr Mic, r carb Mat, non calc
1241.07 mMD 1241.03 TVD
Inc: 0.14 Az: 22.17
MW: 1.30sg
YP: 19Pa
Gel: 6/10Pa
CLST: dsky yelsh brn-dsky brn sft-frm, sbblky, slty-v slty, Tr Mic, r carb Mat, non calc
1297.65 mMD 1297.62 TVD
Inc: 0.23 Az: 110.39
CLST: dk yelsh brn, dsky yelsh brn-dsky brn, sft-frm
WOB: 2.43 tons
TRQ: 4.0 KNm
RPM: 226 rpm
FLOW: 3682 l/mn
SPP: 223.4 bar
sbblky, ea, slily slty-slty, Tr carb Mat, Mic
CLST: olv gry-dsky yelsh brn occ dk gnsh gry,sft-frm, sbblky ea, slily slty-slty, slily calc, T carb Mat, Mic
1384.57 mMD 1384.54 TVD
Inc: 0.08 Az: 356.18
WOB: 3.95 tons
TRQ: 4.21 KNm
RPM: 221 rpm
FLOW: 3682 l/mn
SPP: 237.4 bar
CLST: olv gry-dsky yelsh brn occ dk gnsh gry, sft-frm, sbblky, ea, slily slty-slty, calc Tr carb Mat, Mic
MW: 1.30sg
PV: 17cP
YP: 19Pa
Gel: 6.5/10.5


1440
1460
1480
1500
1520
1540
1560
1580
1600
1620
1640
1660
1680
1700
1720
BHA # 5 Bit 5, 12,25"
HALLIBURTON PDC
In: 706 mMD out: 2204 mMD
Made 1498m in 27,4h
Circ: 104,6 Krevs: 656
Grade: 1-3-WT-S-X-1-LT-TD
1442.70 mMD 1442.67 TVD
Inc: 0.22 Az: 47.28
CLST: olv gry-dsky yelsh brn occ dk gnsh gry,sft-frm, sbblky ea, slily slty-slty, calc, Tr carb Mat, Mic
WOB: 1.62 tons
TRQ: 3.76 KNm
RPM: 220 rpm
FLOW: 3689 l/mn
SPP: 240.7 bar
1500.08 mMD 1500.05 TVD
Inc: 0.18 Az: 353.00
CLST: olv gry-dsky yelsh brn occ dk gnsh gry,sft-frm, sbblky-blky, slty, calc, Tr car Mat, Mic, Glauc, Pyr
LS: p yelsh brn-grysh or, frm-mod hd, blky, microxln
MW: 1.30sg
PV: 19cP
YP: 20.5Pa
Gel: 6.5/10Pa
1558.87 mMD 1558.84 TVD
Inc: 0.26 Az: 40.36
CLST: olv gry-dsky yelsh brn sft-frm, sbblky-blky,slty, calc, Tr carb Mat, micromic
TR:LS: p yelsh brn, frm-mod hd, blky, microxln
WOB: 1.73 tons
TRQ: 5.0 KNm
RPM: 237 rpm
FLOW: 3688 l/mn
SPP: 251.4 bar
1618.70 mMD 1618.66 TVD
Inc: 0.17 Az: 310.42
CLST: olv gry-dsky yelsh brn sft-frm, sbblky-blky, slty, calc Tr carb Mat, micromic
LS: p yelsh brn, frm-mod hd, blky, microxln
CLST: dsky yelsh brn-brnsh gry-olv gry, sft-frm,sbblky, slily slty, slily calc, micromic, micropyr, r Glauc
LS: p yelsh brn-lt brnsh gry, frm-mod hd, blky, microxln
1676.14 mMD 1676.10 TVD
Inc: 0.09 Az: 219.97
WOB: 0.94 tons
TRQ: 4.03 KNm
RPM: 228 rpm
FLOW: 3584 l/mn
SPP: 253.2 bar
CLST: dsky yelsh brn-brnsh gry-olv gry, sft-frm,sbblky, slily slty, slily calc
TR:LS: p yelsh brn-lt brnsh gry frm-mod hd, blky, microxln
MW: 1.35sg
PV: 19cP
YP: 19.5Pa
Gel: 6.5/10Pa


1740
1760
1780
1800
1820
1840
1860
1880
1900
1920
1940
1960
1980
2000
2020
1762.59 mMD 1762.55 TVD
Inc: 0.37 Az: 304.54
1792.17 mMD 1792.14 TVD
Inc: 0.32 Az: 320.58
WOB: 3.34 tons
TRQ: 8.81 KNm
RPM: 190 rpm
FLOW: 3557 l/mn
SPP: 258.4 bar
MW: 1.35sg
PV: 19cP
YP: 19.5Pa
Gel: 6.5/10Pa
1877.98 mMD 1877.95 TVD
Inc: 0.34 Az: 309.48
WOB: 2.42 tons
TRQ: 5.81 KNm
RPM: 238 rpm
FLOW: 3595 l/mn
SPP: 264.6 bar
1907.49 mMD 1907.45 TVD
Inc: 0.43 Az: 275.65
MW: 1.35sg
PV: 18cP
YP: 21.5Pa
Gel: 6.5/10.5Pa
1994.79 mMD 1994.75 TVD
Inc: 0.25 Az: 275.88
WOB: 7.67 tons
TRQ: 7.4 KNm
RPM: 239 rpm
FLOW: 3610 l/mn
SPP: 285.5 bar
2022.74 mMD 2022.70 TVD
Inc: 0.37 Az: 265.32
CLST: m blsh gry, m gry-m dk gry, r olv gry, sft-frm, sbblky, non-slily calc, slily micromic, slily micropyr
CLST: m blsh gry, m gry-m dk gry, r olv gry, sft-frm, sbblky, non-slily calc, slily micromic, slily micropyr
CLST: pred olv gry-m dk gry, occ p brn-mod brn, occ gnsh gry, frm, sbblky, slty, pred non calc, occ slily calc, micropyr, micromic
LS: wh-yelsh gry, frm, occ hd blky, microxln
CLST: m gry-m dk gry, occ lt gry, frm, sbblky-blky, non calc, slty
CLST: grysh brn, m gry-m dk gry, gnsh gry-dk gnsh gry, frm sbblky, occ ea, occ wxy, no calc, slily micromic
CLST: pred dk gry, frm, sbblky non calc, slily slty, micropyr
MRL: m lt gry, frm, sbblky
LS: wh-v lt gry, frm, sbblky-blky, occ crmbly, chky


2040
2060
2080
2100
2120
2140
2160
2180
2200
2220
2240
2260
2280
2300
2320
2051.31 mMD 2051.27 TVD
Inc: 0.46 Az: 288.96
2080.36 mMD 2080.32 TVD
Inc: 0.41 Az: 265.11
2139.04 mMD 2139.00 TVD
Inc: 0.42 Az: 256.84
2180.53 mMD 2180.49 TVD
Inc: 0.25 Az: 284.70
MW: 1.35sg
PV: 20cP
YP: 18.5Pa
Gel: 6/9.5Pa
TD 9 5/8 csg
at 2196mMD
WOB: 6.68 tons
TRQ: 10.73 KNm
RPM: 233 rpm
FLOW: 3435 l/mn
SPP: 261.5 bar
2223.18 mMD 2180.49 TVD
Inc: 0.35 Az: 269.47
2279.57 mMD 2279.53 TVD
Inc: 0.66 Az: 245
MW: 1.40sg
PV: 20cP
YP: 16Pa
Gel: 4/6Pa
WOB: 6.61 tons
TRQ: 4.12 KNm
RPM: 140 rpm
FLOW: 2496 l/mn
SPP: 209.8 bar
CLST: m dk gry-dk gry, frm, sbblky,
non calc, slily slty, slily micromic
LS: wh-v lt gry, occ pksh gry, sft-frm, blky, chky
CLST: m dk gry-dk gry, frm, sbblky,
non calc, slily slty, slily micromic
LS: wh-v lt gry,
occ pksh gry, sft-frm, blky, chk
CLST: m gry-m dk gry-dk gry frm, sbblky, loc calc, pred non calc, slily slty, slily micromic
LS: wh-v lt gry, r dk gnsh gry occ pksh gry, sft-frm, blky, chk
CLST: m gry-m dk gry-dk gry, frm, sbblky,
loc calc, pred non calc,
slily slty, slily micromic
LS: wh-v lg gry-pinkish gry-yellowish gry, sft, occ frm amor-sbblky, microxln
LS: wh-v lg gry-pinkish gry-yellowish gry, sft, occ frm amor-sbblky, microxln
SLST: m lt gry-grnsh gry, frm sbblky, srg mtx, calc, sdy, loc grad vf Sst, glauc com
SST: m dk gry-clr-transl, vf, sft-frm, sbblky, v arg, calc cmt slty, mic, occ glauc


BHA # 6 Bit 6, 8.5"
SCHLUMBERGER LM6633D1
In: 2204mMD out: 2665mMD
Made 461m in 27.4h
Circ: 50.9 Krevs: 496
Grade: 1-1-NO-A-X-I-NO-TD
2340
2360
2380
2400
2420
2440
2460
2480
2500
2520
2540
2560
2580
2600
MW: 1.40sg
PV: 20cP
YP: 15.5Pa
Gel: 4.5/4.5Pa
CLST: mod brn, sft, stky, amor calc, mnr mic
CLST: mod brn, sft, stky, amor calc, mnr mic
2372.87 mMD 2372.82 TVD
Inc: 0.42 Az: 197.82
CLST: lt olv gry, occ dk gry, sft, v stky, amor, v calc, r slty vf sdny, sli micromic
2396.66 mMD 2396.61 TVD
Inc: 0.06 Az: 193.51
WOB: 10.3 tons
TRQ: 5.68 KNm
RPM: 140 rpm
FLOW: 2507 l/mn
SPP: 223.8 bar
MW: 1.40sg
PV: 20cP
YP: 15.5Pa
Gel: 5/7Pa
2425.58 mMD 2425.53 TVD
Inc: 0.09 Az: 173.9
CLST: varicol, lt olv gry, pl yelsh brn-dk yelsh brn-pl brn-gnsh gry-m gry-mod brn, sft, v stky,amor, v calc, r slty, vf sdny, sli micromic
2454.55 mMD 2454.51 TVD
Inc: 0.09 Az: 130.37
CLST: dom olv blk, sft-frm, amor-sbblky, non calc, carb, sli slty, r pyr Nod-Micropyr
2483.5 mMD 2483.45 TVD
Inc: 0.12 Az: 91.62
TR:SST: clr-transl Qtz, vf-fg crs, occ m, sbrndd, lse gr
WOB: 5.86 tons
TRQ: 4.89 KNm
RPM: 140 rpm
FLOW: 2512 l/mn
SPP: 224.3 bar
CLST: dom olv blk, sft-frm, amor-sbblky, non calc, carb, sli slty, r pyr Nod-Micropyr
2512.22 mMD 2512.17 TVD
Inc: 0.23 Az: 157.34
SST: clr-trnsl Qtz, predom vf-f crs, occ m, r crs, sbrndd-rndd, predom, lse gr, occ sft arg, v lt gry-lt gry, cly mtx, wk calc cmt si arg, occ glauc, no-pr por
CLST: pl brn, sft, stky, amor
2541.3 mMD 2541.25 TVD
Inc: 0.28 Az: 217.74
SST: predom clr-transl, occ or-mod brn, Qtz, vf-f crs, mnr-m crs, wl srt, sbang-sbrndd, lse gr, wh- v lt gry, sft agg, cly mtx, wk calc cmt
2570.53 mMD 2570.48 TVD
Inc: 0.22 Az: 251.47
CLST: mod brn, sft, stky, amor slty-sdy, calc
SST: clr-trnsl-or-mod brn, Qtz, predom vf-f crs, mnr m crs, wl srt, sbrndd, lse gr, sft, mod brn occ v lt gry-lt gry, agg wk calc cmt, arg mtx, occ cly mtx, slty, pr vis por
2599.59 mMD 2599.54 TVD
Inc: 0.26 Az: 194.79
LS: wh, frm, sbblky, sl crmbly microxln
WOB: 3.45 tons
TRQ: 5.2 KNm
RPM: 140 rpm
FLOW: 2509 l/mn
SPP: 235.2 bar


2620
2640
2660
2626.99 mMD 2626.11 TVD
Inc: 0.37 Az: 259.11
MW: 1.40sg
PV: 19cP
YP: 18.5Pa
Gel: 8/8Pa
WOB: 6.28 tons
TRQ: 6.91 KNm
RPM: 140 rpm
FLOW: 2499 l/mn
SPP: 242.1 bar
CLST: md brn-dk rdsh brn, sft-frm, stky, gen amor, occ sblky, gen calc, v slty, grad slty, sdy
SST: gen lse Qtz grn, clr-transl, occ mky wh-pl rds brn-dk rdsh brn, vf crs, pr srt
Well TD at 2665mMD