



Company : Apache

Well : Elver-1

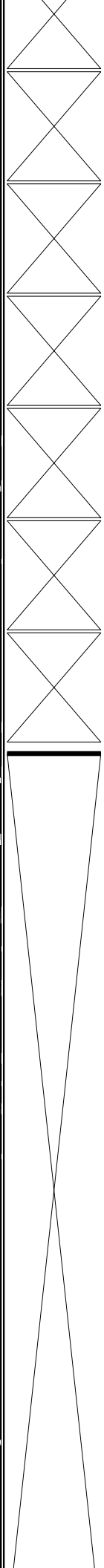
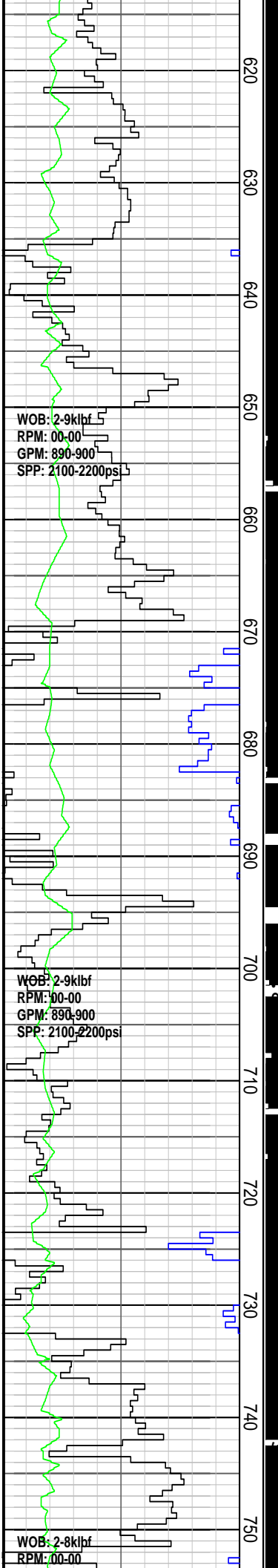
Interval : 516.00 - 5272.46 meters

Created : 11/Jan/2009 8:04:54 PM

INTEQ

FORMATION EVALUATION LOG

Drilling Rate ROP (m/hr)	MD meters 1:500	TVDRT meters	Cuttings Lithology	Oil Show	Visual Inferred Porosity	Gas Data Gas Hydrocarbon Avg %	Chromatograph Data Methane ppm	Calcmetry	Interpreted Lithology	Lithology Description
<p>ROP (m/hr) scale: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200</p> <p>ROP (m/hr) scale: 240, 260, 280, 300, 320, 340, 360, 380, 400</p> <p>Gamma Ray scale: 0, 200</p> <p>API scale: 200</p>						<p>Resistivity Shallow ohm.m scale: 0.1, 1, 10, 100, 1000</p> <p>Resistivity Deep ohm.m scale: 0.1, 1000</p>	<p>Ethane ppm scale: 100000</p> <p>Propane ppm scale: 100000</p> <p>iso-Butane ppm scale: 100000</p> <p>n-Butane ppm scale: 100000</p> <p>iso-Pentane ppm scale: 100000</p> <p>n-Pentane ppm scale: 100000</p>			
<p>RR1 Smith XR+C 914 mm (36") Jets: 4x18, (HO) 4x18 Depth In: 526.4 mMDRT Depth Out: 572.0 mMDRT Drilled: 46.5 m in 1.1 hrs Grade: 1-1-WT-A-E-N-NO-TD</p> <p>WOB: 2-14klbf RPM: 80-155 GPM: 650-1300 SPP: 900-3550psi</p> <p>20/12/08 21/12/08</p> <p>NB2 Smith MD1619HPX 406 mm (16") Jets: 9x13 Depth In: 572.9 mMDRT Depth Out: 1741.7 mMDRT Drilled: 1168.8 m in 16.1 hrs Grade: 1-3-CT-T-X-I-NO-TD</p> <p>WOB: 2-9klbf RPM: 00-00 GPM: 890-900 SPP: 2100-2200psi</p>	520, 530, 540, 550, 560, 570, 580, 600, 610	0.0, 540.0, 560.0, 580.0, 607.1				<p>Survey @ 525.37 mMDRT Incl: 0.00deg Azi: 0.00deg TVD: 525.37 m</p> <p>Survey @ 554.25 mMDRT Incl: 0.49 deg Azi: 285.86 deg TVD: 554.25 m</p> <p>Survey @ 607.72 mMDRT Incl: 1.25 deg Azi: 215.61 deg TVD: 607.71 m</p>			<p>Elver-1 spudded @ 17:40 hrs on 20th December 2008</p> <p>All measurements in meters referenced from rotary table (RT) RT - AHD = 21.5 m Water Depth = 504.9 m RT - Seabed = 526.4 m</p> <p>Drill 914mm (36") hole w/ seawater and hi-vis sweeps>Returns to seabed</p> <p>Set 762mm (30") casing @ 572.9 mMDRT</p> <p>Drill 914mm (36") hole to 572.9 mMDRT</p> <p>Drill 406mm (16") hole w/ seawater and hi-vis gel sweeps. Returns to seabed.</p>	



Survey @ 636.20 mMDRT
Incl: 2.69 deg
Azi: 198.79 deg
TVD: 636.18 m

Survey @ 654.71 mMDRT
Incl: 3.59 deg
Azi: 194.36 deg
TVD: 654.66 m

Survey @ 665.02 mMDRT
Incl: 4.20 deg
Azi: 195.11 deg
TVD: 664.95 m

Survey @ 683.35 mMDRT
Incl: 5.50 deg
Azi: 193.27 deg
TVD: 683.21 m

Survey @ 693.33 mMDRT
Incl: 6.32 deg
Azi: 191.54 deg
TVD: 693.14 m

Survey @ 722.44 mMDRT
Incl: 8.89 deg
Azi: 187.05 deg
TVD: 721.99 m

Survey @ 750.81 mMDRT
Incl: 11.95 deg

Drill 406mm (16") hole w/ seawater and hi-vis gel sweeps. Returns to seabed.

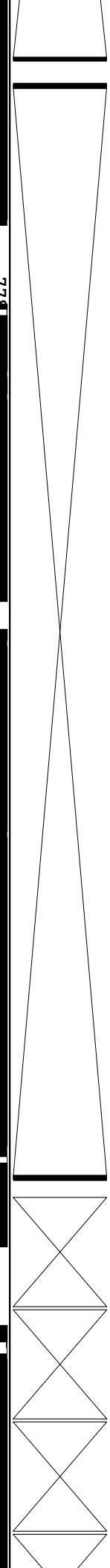
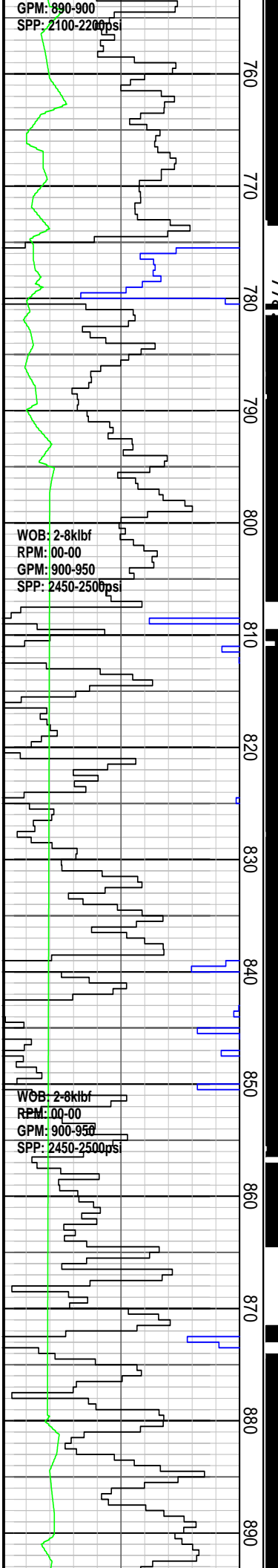
Drill 406mm (16") hole w/ seawater and hi-vis gel sweeps. Returns to seabed.

Drill 406mm (16") hole w/ seawater and hi-vis gel sweeps. Returns to seabed.

GPM: 890-900
SPP: 2100-2200psi

WOB: 2-8klbf
RPM: 00-00
GPM: 900-950
SPP: 2450-2500psi

WOB: 2-8klbf
RPM: 00-00
GPM: 900-950
SPP: 2450-2500psi



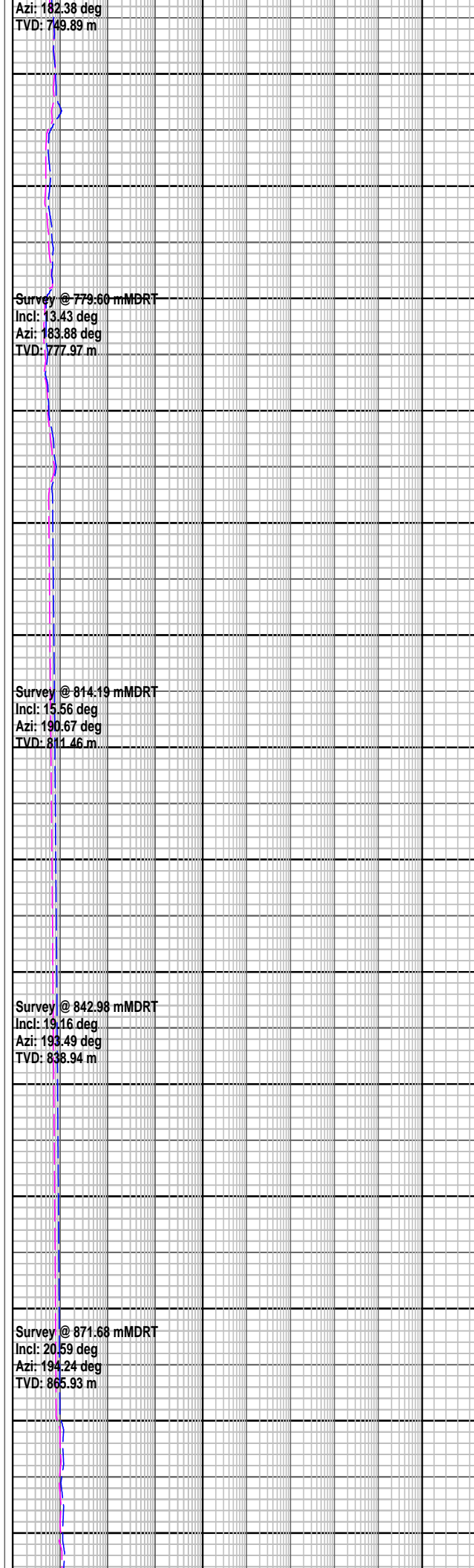
Azi: 182.38 deg
TVD: 749.89 m

Survey @ 779.60 mMDRT
Incl: 13.43 deg
Azi: 183.88 deg
TVD: 777.97 m

Survey @ 814.19 mMDRT
Incl: 15.56 deg
Azi: 190.67 deg
TVD: 811.46 m

Survey @ 842.98 mMDRT
Incl: 19.16 deg
Azi: 193.49 deg
TVD: 838.94 m

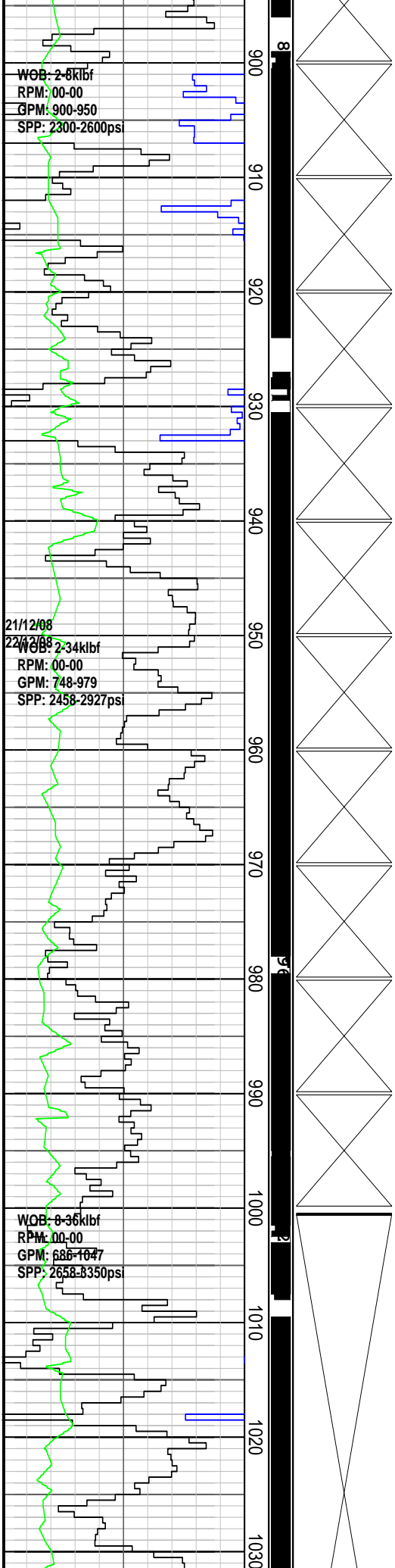
Survey @ 871.68 mMDRT
Incl: 20.59 deg
Azi: 194.24 deg
TVD: 865.93 m



seabed.

Drill 406mm (16") hole w/ seawater and hi-vis gel sweeps. Returns to seabed.

Drill 406mm (16") hole w/ seawater and hi-vis gel sweeps. Returns to seabed.



Survey @ 895.45 mMDRT
Incl: 22.54 deg
Azi: 192.98 deg
TVD: 888.03 m

Survey @ 924.90 mMDRT
Incl: 24.17 deg
Azi: 197.67 deg
TVD: 915.07 m

Survey @ 952.68 mMDRT
Incl: 25.43 deg
Azi: 194.75 deg
TVD: 940.29 m

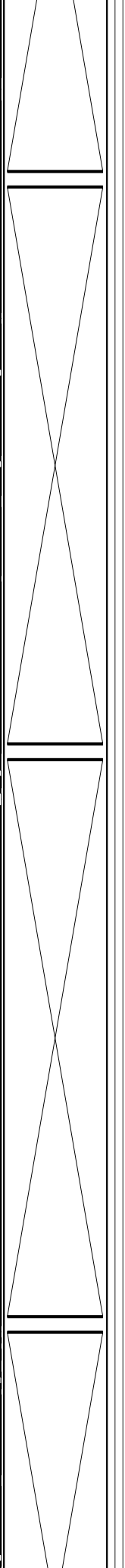
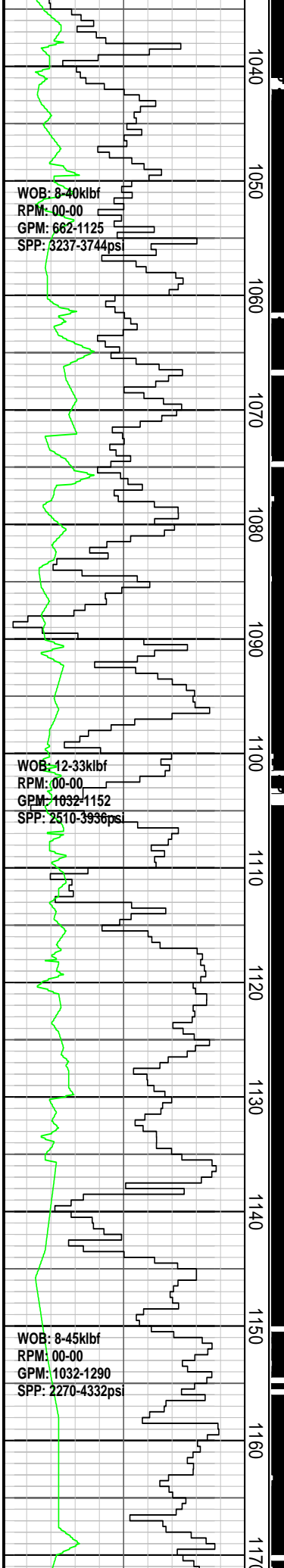
Survey @ 981.86 mMDRT
Incl: 28.33 deg
Azi: 192.25 deg
TVD: 966.31 m

Survey @ 1009.78 mMDRT
Incl: 30.89 deg
Azi: 192.87 deg
TVD: 990.59 m

Drill 406mm (16") hole w/ seawater and hi-vis gel sweeps. Returns to seabed.

Drill 406mm (16") hole w/ seawater and hi-vis gel sweeps. Returns to seabed.

Drill 406mm (16") hole w/ seawater and hi-vis gel sweeps. Returns to seabed.



Survey @ 1039.49 mMDRT
Incl: 33.00 deg
Azi: 194.59 deg
TVD: 1015.80 m

Survey @ 1067.30 mMDRT
Incl: 35.27 deg
Azi: 196.86 deg
TVD: 1038.81 m

Survey @ 1097.02 mMDRT
Incl: 36.45 deg
Azi: 198.93 deg
TVD: 1062.90 m

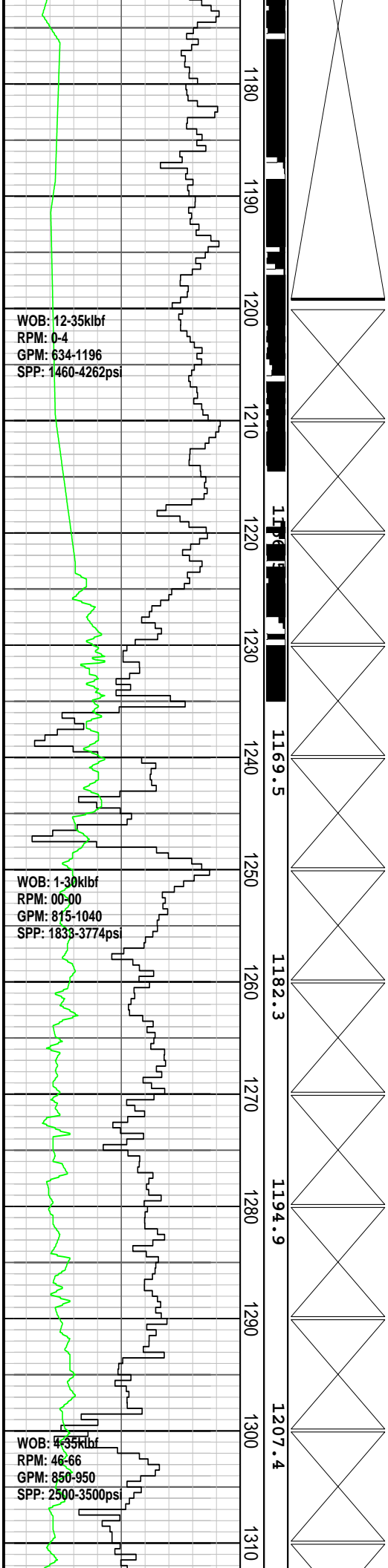
Survey @ 1125.42 mMDRT
Incl: 37.84 deg
Azi: 194.76 deg
TVD: 1085.54 m

Survey @ 1159.67 mMDRT
Incl: 38.80 deg
Azi: 196.50 deg
TVD: 1112.57 m

Drill 406mm (16") hole w/ seawater and hi-vis gel sweeps. Returns to seabed.

Drill 406mm (16") hole w/ seawater and hi-vis gel sweeps. Returns to seabed.

Drill 406mm (16") hole w/ seawater and hi-vis gel sweeps. Returns to seabed.



Survey @ 1188.66 mMDRT
Incl: 42.22 deg
Azi: 197.27 deg
TVD: 1134.46 m

Survey @ 1217.27 mMDRT
Incl: 48.00 deg
Azi: 197.87 deg
TVD: 1154.64 m

Survey @ 1238.31 mMDRT
Incl: 50.18 deg
Azi: 196.12 deg
TVD: 1168.42 m

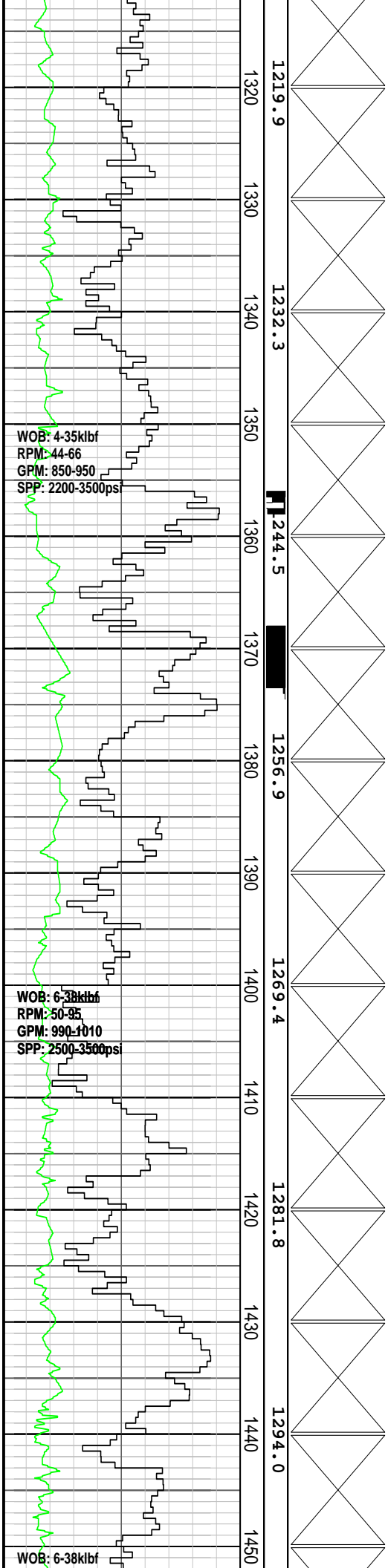
Survey @ 1270.80 mMDRT
Incl: 50.76 deg
Azi: 196.28 deg
TVD: 1189.10 m

Survey @ 1299.61 mMDRT
Incl: 51.35 deg
Azi: 196.03 deg
TVD: 1207.21 m

Drill 406mm (16") hole w/ seawater and hi-vis gel sweeps. Returns to seabed.

Drill 406mm (16") hole w/ seawater and hi-vis gel sweeps. Returns to seabed.

Drill 406mm (16") hole w/ seawater and hi-vis gel sweeps. Returns to seabed.



1219.9
1320
1330
1232.3
1340
1350
1244.5
1360
1370
1256.9
1380
1390
1269.4
1400
1410
1281.8
1420
1430
1294.0
1440
1450

Survey @ 1328.78 mMDRT
Incl: 51.81 deg
Azi: 196.26 deg
TVD: 1225.33 m

Survey @ 1353.89 mMDRT
Incl: 52.32 deg
Azi: 196.05 deg
TVD: 1240.77 m

Survey @ 1384.89 mMDRT
Incl: 51.23 deg
Azi: 195.60 deg
TVD: 1259.95 m

Survey @ 1415.19 mMDRT
Incl: 51.86 deg
Azi: 195.80 deg
TVD: 1278.79 m

Survey @ 1443.77 mMDRT
Incl: 52.76 deg
Azi: 195.36 deg
TVD: 1296.27 m

Drill 406mm (16") hole w/ seawater and hi-vis gel sweeps. Returns to seabed.

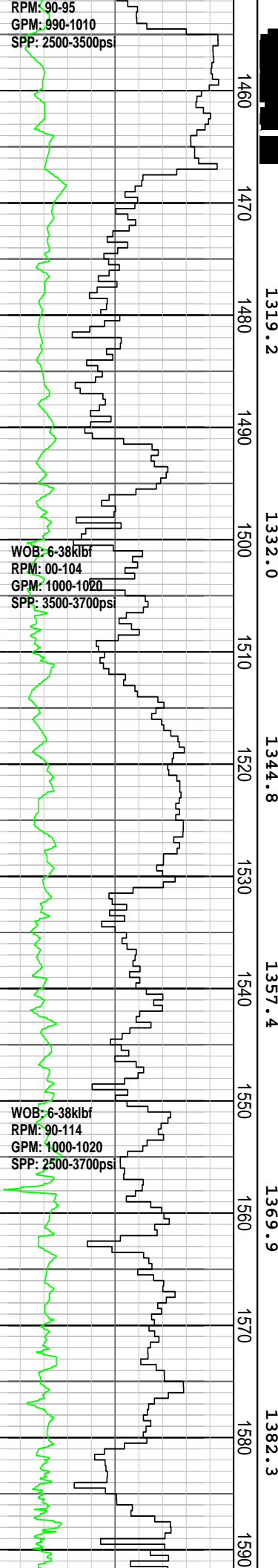
Drill 406mm (16") hole w/ seawater and hi-vis gel sweeps. Returns to seabed.

Drill 406mm (16") hole w/ seawater

RPM: 90-95
GPM: 990-1010
SPP: 2500-3500psi

WOB: 6-38klbf
RPM: 00-104
GPM: 1000-1020
SPP: 3500-3700psi

WOB: 6-38klbf
RPM: 90-114
GPM: 1000-1020
SPP: 2500-3700psi



1460
1470
1480
1490
1500
1510
1520
1530
1540
1550
1560
1570
1580
1590

1319.2
1332.0
1344.8
1357.4
1369.9
1382.3

Survey @ 1501.31 mMDRT
Incl: 50.19 deg
Azi: 194.07 deg
TVD: 1332.88 m

Survey @ 1530.05 mMDRT
Incl: 50.97 deg
Azi: 193.61 deg
TVD: 1351.13 m

Survey @ 1558.72 mMDRT
Incl: 51.56 deg
Azi: 193.54 deg
TVD: 1369.07 m

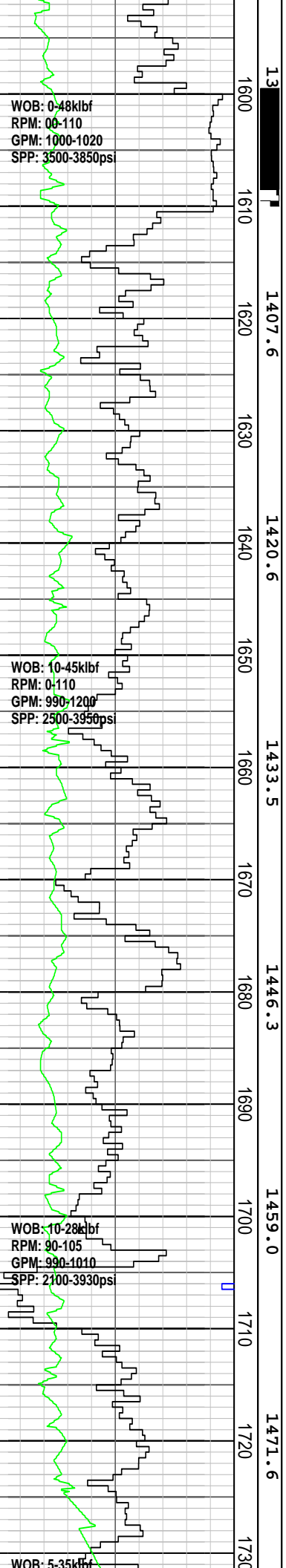
Survey @ 1587.68 mMDRT
Incl: 52.03 deg
Azi: 193.35 deg

and hi-vis gel sweeps. Returns to seabed.

Survey @ 1472.48 mMDRT
Incl: 49.48 deg
Azi: 194.11 deg
TVD: 1314.29 m

Drill 406mm (16") hole w/ seawater and hi-vis gel sweeps. Returns to seabed.

Drill 406mm (16") hole w/ seawater and hi-vis gel sweeps. Returns to seabed.



13
1600
1610
1620
1630
1640
1650
1660
1670
1680
1690
1700
1710
1720
1730

1407.6
1420.6
1433.5
1446.3
1459.0
1471.6

TVD: 1386.98 m

Survey @ 1616.26 mMDRT
Incl: 49.02 deg
Azi: 192.15 deg
TVD: 1405.15 m

Survey @ 1645.25 mMDRT
Incl: 49.77 deg
Azi: 191.73 deg
TVD: 1424.02 m

Survey @ 1674.25 mMDRT
Incl: 50.37 deg
Azi: 191.91 deg
TVD: 1442.63 m

Survey @ 1703.46 mMDRT
Incl: 50.90 deg
Azi: 191.79 deg
TVD: 1461.16 m

Drill 406mm (16") hole w/ seawater and hi-vis gel sweeps. Returns to seabed.

Drill 406mm (16") hole w/ seawater and hi-vis gel sweeps. Returns to seabed.

Drill 406mm (16") hole w/ seawater and hi-vis gel sweeps. Returns to seabed.

RPM: 66-105
GPM: 990-1020
SPP: 2800-4050psi

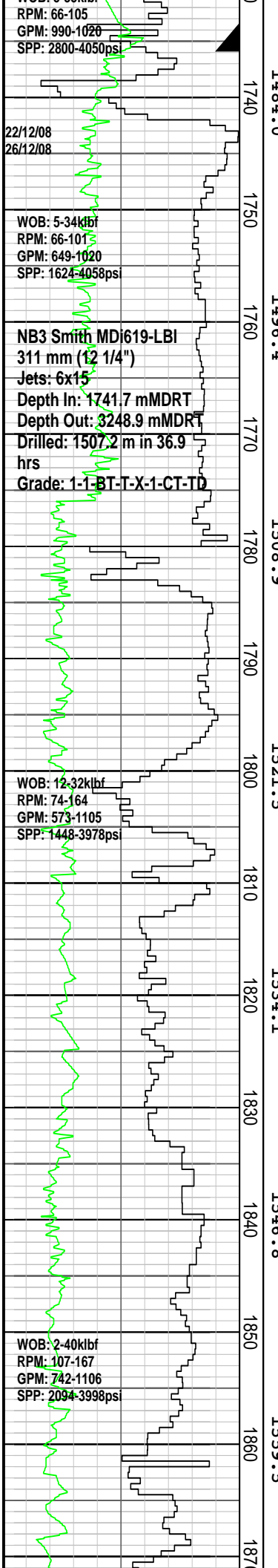
22/12/08
26/12/08

WOB: 5-34klbf
RPM: 66-105
GPM: 649-1020
SPP: 1624-4058psi

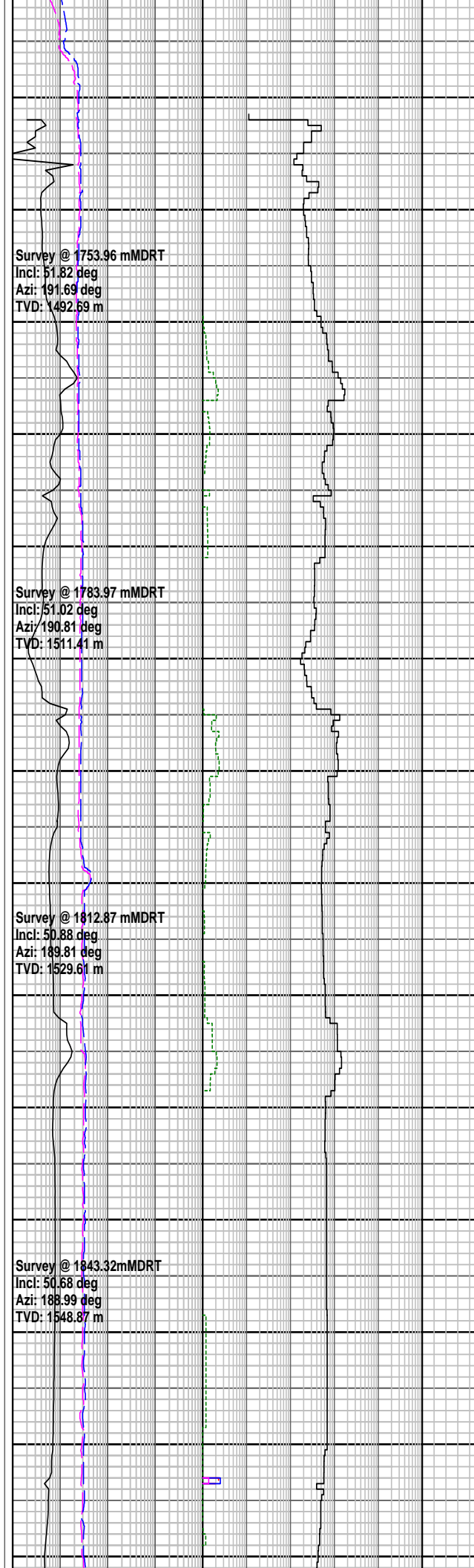
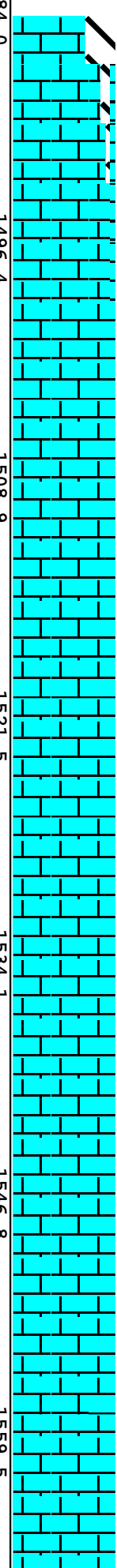
NB3 Smith MD|619-LBI
311 mm (12 1/4")
Jets: 6x15"
Depth In: 1741.7 mMDRT
Depth Out: 3248.9 mMDRT
Drilled: 1507.2 m in 36.9 hrs
Grade: 1-1-BT-T-X-1-CT-TD

WOB: 12-32klbf
RPM: 74-164
GPM: 573-1105
SPP: 1448-3978psi

WOB: 2-40klbf
RPM: 107-167
GPM: 742-1106
SPP: 2094-3998psi



1484.0
1496.4
1508.9
1521.5
1534.1
1546.8
1559.5



Survey @ 1753.96 mMDRT
Incl: 51.82 deg
Azi: 191.69 deg
TVD: 1492.69 m

Survey @ 1783.97 mMDRT
Incl: 51.02 deg
Azi: 190.81 deg
TVD: 1511.41 m

Survey @ 1812.87 mMDRT
Incl: 50.88 deg
Azi: 189.81 deg
TVD: 1529.61 m

Survey @ 1843.32mMDRT
Incl: 50.68 deg
Azi: 188.99 deg
TVD: 1548.87 m

340mm (13 3/8") casing shoe @
1735.9 mMDRT

Reached 406mm (16") Section TD @
1741.7m at 22:50 hrs on 22/12/2008

CALCARENITE: v lt gy-lt gnsh gy, off wh-pl yl or, tr med-crs sbang qtz grs, slt i/p grd to CLSLT, tr v f glauc gr, frm-mod hd, p vis por, no hydc fluor

DOLOMITE: lt brn, dk yelsh brn, xln, v calc, grd to DOL LST, mod hd-hd, brit

CALCILUTITE: v lt gy-lt gnsh gy, off wh, slty i/p, grd to CLSLT, tr v f glauc, tr lt brn hd dol frags, sft-frm, amor-sbblky, sbfiss i/p

MW: 1.15	FV: 65
PV: 15	YP: 30
pH: 11.3	CK: 5.9
GELS: 5/7/9	CL: 48000

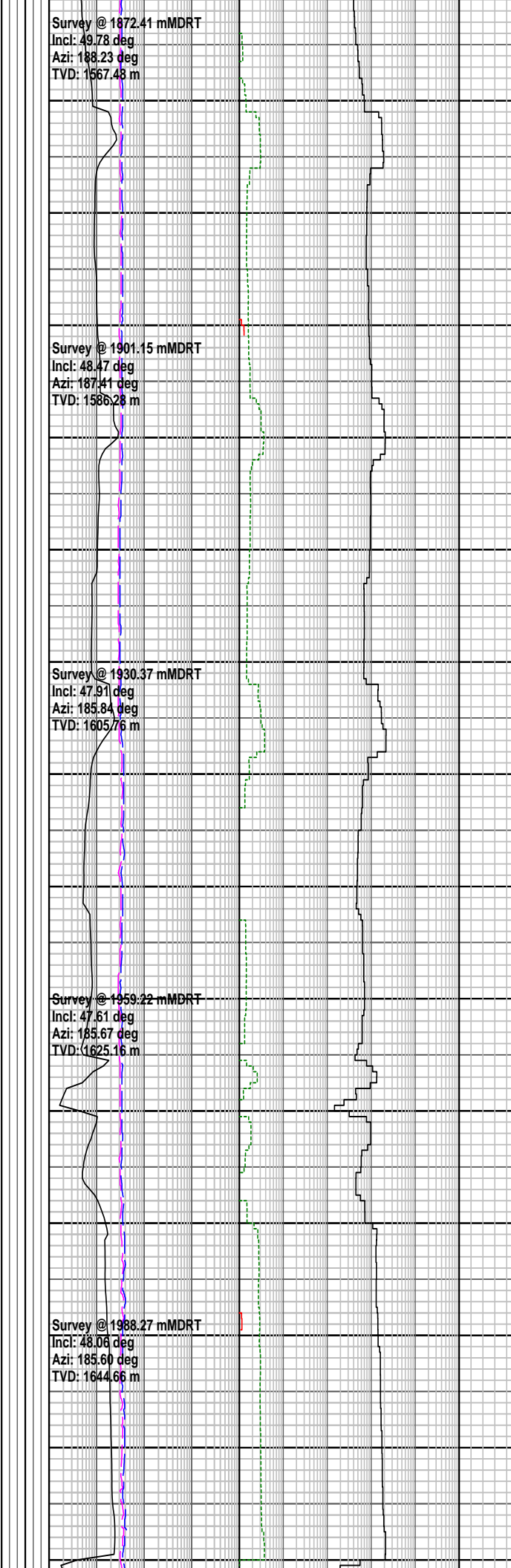
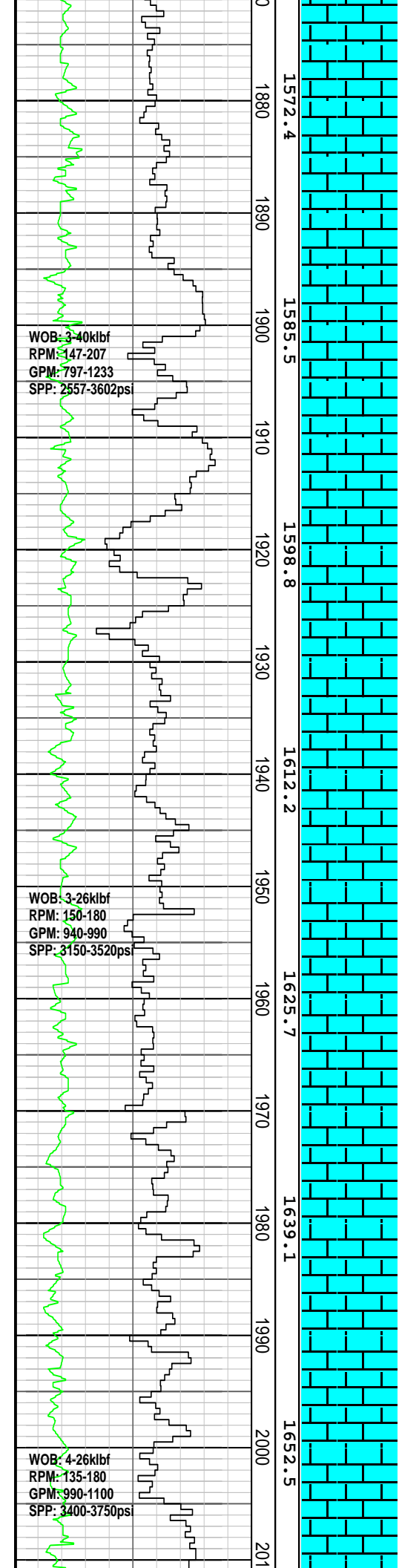
CALCISILTITE: med lt gy-lt olv gy, lt gnsh gy, argl i/p grd to CLCLT, tr v f sd grs, tr v f glauc, tr micmic, sft-frm, sbfiss-sbblky

CALCARENITE: v lt gy-lt gnsh gy, off wh-pl yel org, tr f-crs sbang qtz grs, slty i/p grd to CLSLT, tr v f glauc grs, frm-mod hd, p vis por, no hydc fluor

CALCILUTITE: v lt gy-lt gnsh gy, off wh, slty i/p grd to CLSLT, tr v f glauc grs, tr forams, tr oo, sft-frm, amor-sbblky

CALCISILTITE: med lt gy-lt olv gy, lt gnsh gy, argl i/p grd to CLCLT, tr v f sd grs, tr v f glauc, tr micmic, sft-frm, sbfiss-sbblky

CALCILUTITE: v lt gy-lt gnsh gy, off wh, slty i/p, grd to CLSLT, tr v f glauc, tr lt brn hd dol frags, sft-frm, amor-sbblky, sbfiss i/p



gy, off wh, slty i/p grd to CLSLT, tr v f glauc grs, tr forams, tr oo, sft-frm, amor-sbblky

CALCARENITE: v lt gy-lt gnsh gy, off wh-pl yel org, tr f-crs sbang qtz grs, slty i/p grd to CLSLT, tr v f glauc grs, frm-mod hd, p vis por, no hydc fluor

CALCISILTITE: med lt gy-lt olv gy, lt gnsh gy, argl i/p grd to CLCLT, tr v f sd grs, tr v f glauc, tr micmic, sft-frm, sbfiss-sbblky

CALCARENITE: v lt gy-lt gnsh gy, off wh-pl yel org, tr f-crs sbang qtz grs, slty i/p grd to CLSLT, tr v f glauc grs, frm-mod hd, p vis por, no hydc fluor

CALCISILTITE: med lt gy-lt olv gy, lt gnsh gy, argl i/p grd to CLCLT, tr v f sd grs, tr v f glauc, tr micmic, sft-frm, sbfiss-sbblky

CALCARENITE: v lt gy-lt gnsh gy, off wh-pl yel org, tr f-crs sbang qtz grs, slty i/p grd to CLSLT, tr v f glauc grs, frm-mod hd, p vis por, no hydc fluor

CALCILUTITE: v lt gy-lt gnsh gy, off wh, slty i/p grd to CLSLT, tr v f glauc grs, tr forams, tr oo, sft-frm, amor-sbblky

Survey @ 1872.41 mMDRT
Incl: 49.78 deg
Azi: 188.23 deg
TVD: 1567.48 m

Survey @ 1901.15 mMDRT
Incl: 48.47 deg
Azi: 187.41 deg
TVD: 1586.28 m

Survey @ 1930.37 mMDRT
Incl: 47.91 deg
Azi: 185.84 deg
TVD: 1605.76 m

Survey @ 1959.22 mMDRT
Incl: 47.61 deg
Azi: 185.67 deg
TVD: 1625.16 m

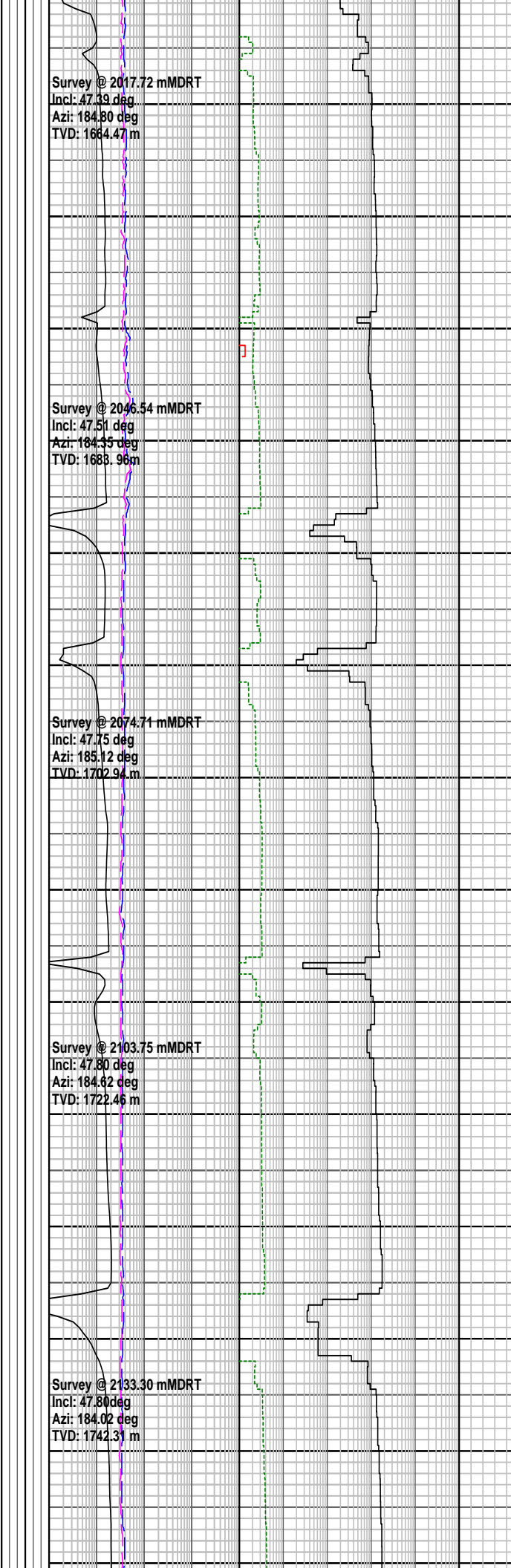
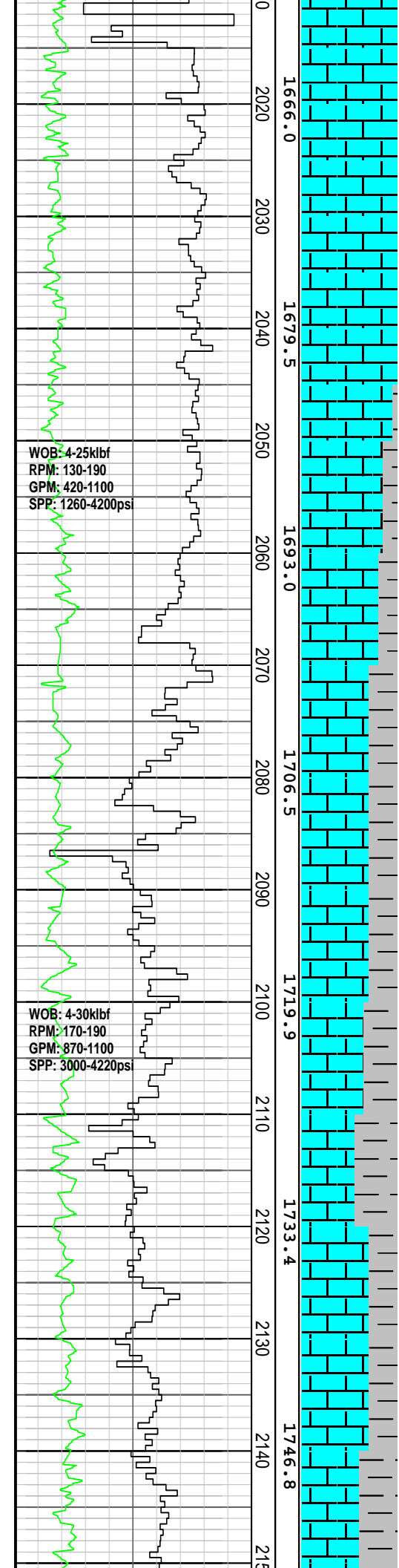
Survey @ 1988.27 mMDRT
Incl: 48.06 deg
Azi: 185.60 deg
TVD: 1644.66 m

WOB: 3-40klbf
RPM: 147-207
GPM: 797-1233
SPP: 2557-3602psi

WOB: 3-26klbf
RPM: 150-180
GPM: 940-990
SPP: 3150-3520psi

WOB: 4-26klbf
RPM: 135-180
GPM: 990-1100
SPP: 3400-3750psi

1572.4
1880
1890
1585.5
1900
1910
1598.8
1920
1930
1612.2
1940
1950
1625.7
1960
1970
1639.1
1980
1990
1652.5
2000
2010



CALCARENITE: v lt gy-lt gnsH gy, off wh-pl yel org, tr f-crs sbang qtz grs, slty i/p grd to CLSLT, tr v f glauc grs, frm-mod hd, p vis por, no hydc fluor

CALCILUTITE: v lt gy-lt gnsH gy, off wh, slty i/p grd to CLSLT, tr v f glauc grs, tr forams, tr oo, sft-frm, amor-sbblky

MW: 1.15	FV: 69
PV: 15	YP: 34
pH: 11.2	CK: 6.0
GELS: 8/9/11	CL: 48000

CALCAREOUS CLAYSTONE: med gy- lt olv gy, v calc grd to CLCLT, tr micmic, tr v f glauc, slty, sft-dom frm, sbblky-blky

CALCILUTITE: v lt gy-lt gnsH gy, off wh, slty i/p grd to CLSLT, tr v f glauc grs, tr forams, tr oo, sft-frm, amor-sbblky

CALCISILTITE: med lt gy-lt olv gy, lt gnsH gy, argl i/p grd to CLCLT, tr v f sd grs, tr v f glauc, tr micmic, sft-frm, sbfiss-sbblky

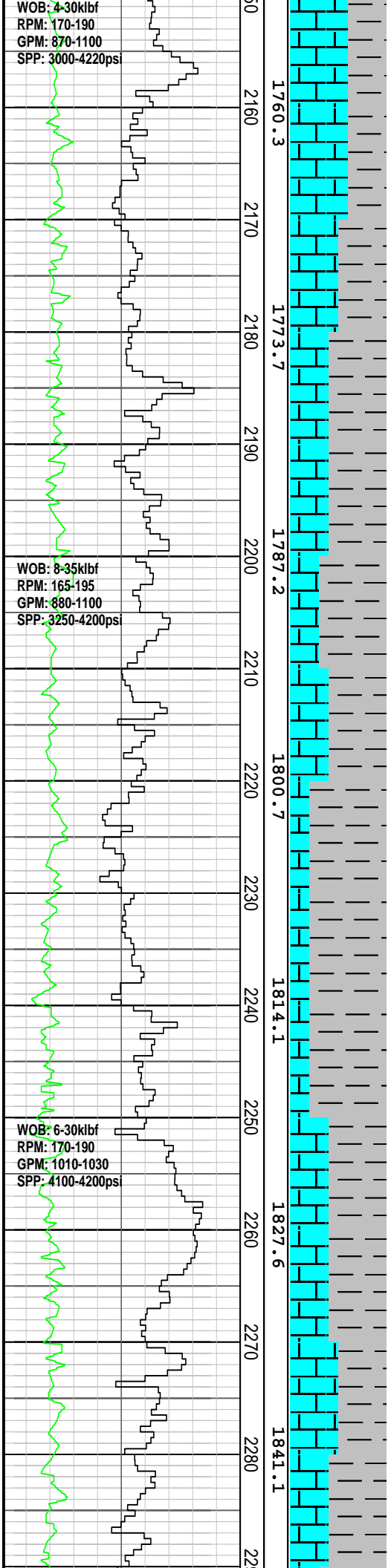
CALCAREOUS CLAYSTONE: med gy- lt olv gy, v calc grd to CLCLT, tr micmic, tr v f glauc, slty, sft-dom frm, sbblky-blky

CALCISILTITE: med lt gy-lt olv gy, lt gnsH gy, argl i/p grd to CLCLT, tr v f sd grs, tr v f glauc, tr micmic, sft-frm, sbfiss-sbblky

WOB: 4-30klbf
RPM: 170-190
GPM: 870-1100
SPP: 3000-4220psi

WOB: 8-35klbf
RPM: 165-195
GPM: 880-1100
SPP: 3250-4200psi

WOB: 6-30klbf
RPM: 170-190
GPM: 1010-1030
SPP: 4100-4200psi



1760.3
1773.7
1787.2
1800.7
1814.1
1827.6
1841.1

Survey @ 2162.82 mMDRT
Incl: 47.68 deg
Azi: 184.06 deg
TVD: 1762.16 m

Survey @ 2191.69 mMDRT
Incl: 47.71 deg
Azi: 185.00 deg
TVD: 1781.59 m

Survey @ 2220.09 mMDRT
Incl: 47.67 deg
Azi: 186.56 deg
TVD: 1800.74 m

Survey @ 2248.12 mMDRT
Incl: 47.64 deg
Azi: 188.19 deg
TVD: 1819.59 m

Survey @ 2276.75 mMDRT
Incl: 47.48 deg
Azi: 189.09 deg
TVD: 1838.91 m

CALCAREOUS CLAYSTONE:
med gy- lt olv gy, abdt calc
grd to CLCLT, tr micmic, tr v f
glauc, tr v f carb spks, sft-
frm, sbbkly-blky

CALCISILTITE: med lt gy-lt
olv gy, lt gnsh gy, com slty,
argl i/p grd to CLCLT, tr v f sd
grs, tr v f glauc, tr micmic,
sft-frm, sbfiss-sbbkly

CALCILUTITE: v lt gy-lt gnsh
gy, off wh, slty i/p grd to
CLSLT, argl i/p grd to CALC
CLYST, tr v f glauc grs, tr v f
carb spks, sft-frm,
amor-sbbkly

CALCAREOUS CLAYSTONE:
lt gy- lt olv gy, abdt grd to
CLCLT, tr micmic, tr v f
glauc, tr v f carb spks, dom
sft-fr, amor-sbbkly

CALCISILTITE: med lt gy-lt
olv gy, lt gnsh gy, com slty,
argl i/p grd to CLCLT, tr v f sd
grs, tr v f glauc, tr micmic,
sft-frm, sbfiss-sbbkly

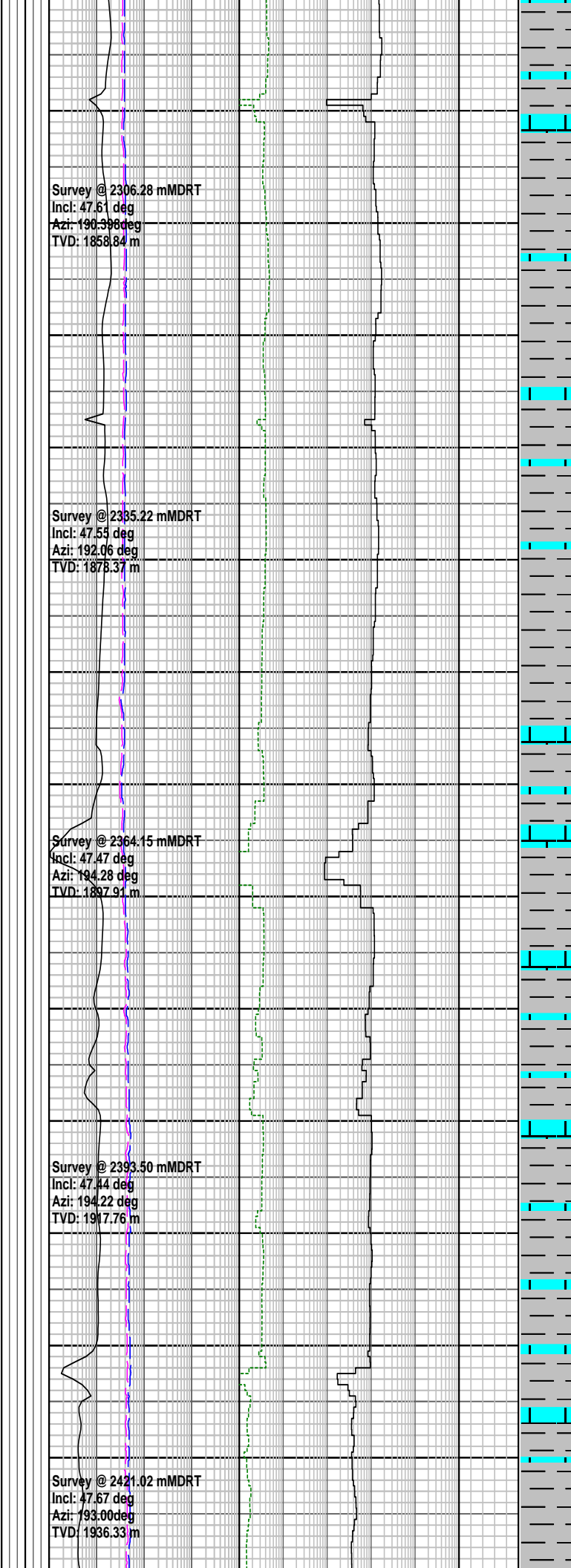
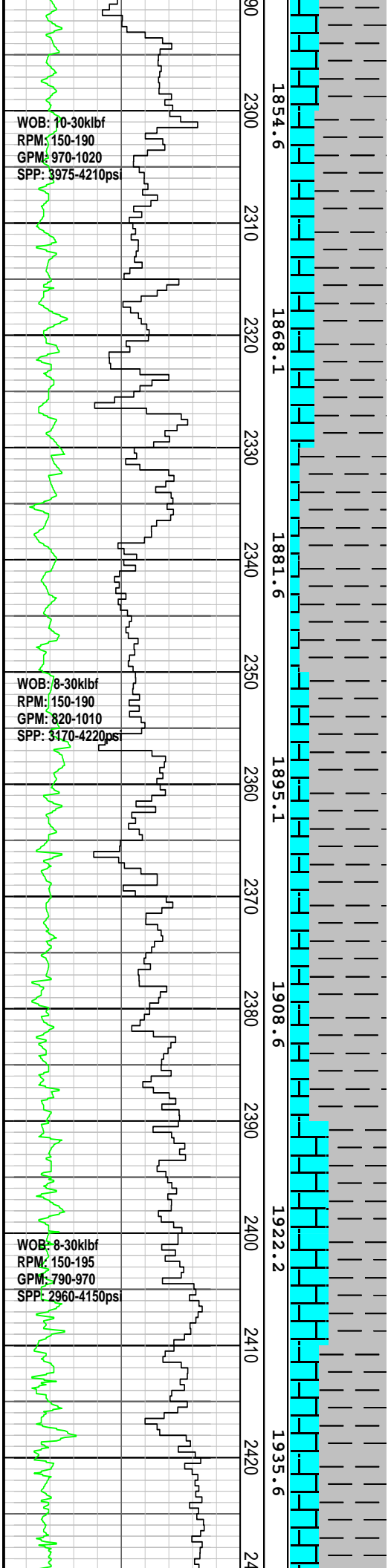
CALCAREOUS CLAYSTONE:
med gy- lt olv gy, v calc grd
to CLCLT, tr micmic, tr v f
glauc, tr v f carb spks, dom
sft-frm, amor-sbbkly

CALCISILTITE: med lt gy-lt
olv gy, lt gnsh gy, com slty,
argl i/p grd to CLCLT, tr v f sd
grs, tr v f glauc, tr micmic,
sft-frm, sbfiss-sbbkly

CALCAREOUS CLAYSTONE:
med gy- lt olv gy, v calc grd
to CLCLT, tr micmic, tr v f
glauc, tr v f carb spks, dom
sft-frm, amor-sbbkly

CALCISILTITE: v lt gy-lt olv
gy, grd to CLCLT, tr v f aren,
tr v f glauc, tr micmic, tr v f
carb spks, dom sft-frm,
amor-sbbkly

CALCAREOUS CLAYSTONE:
lt gy-lt olv gy, abdt calc grd
to CLCLT, tr micmic, tr v f
glauc, tr v f carb spks, dom
sft-frm, amor-sbbkly



CALCAREOUS CLAYSTONE:
lt gy-med lt gy, lt olv gy, abdt calc grd to CALCILUTITE, tr micmic, tr v f glauc, tr v f carb spks, dom sft-frm, amor-sbblky

MW: 1.16	FV: 64
PV: 19	YP: 35
pH: 11.0	CK: 4.8
GELS: 10/12/13	CL: 49000

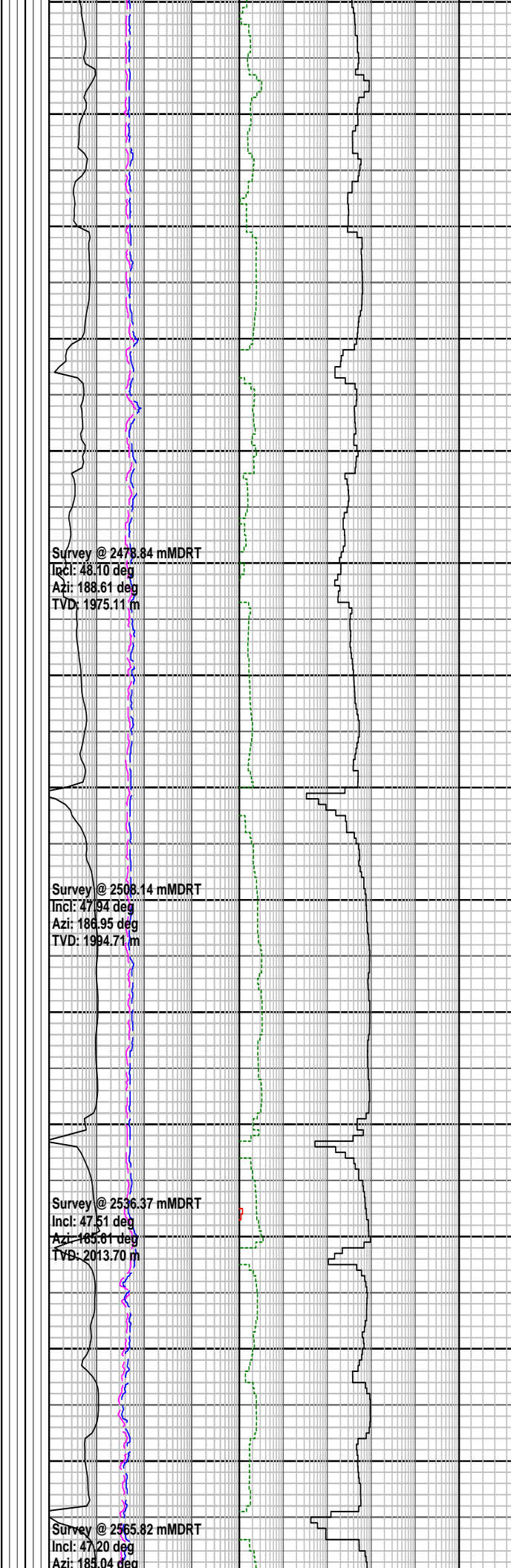
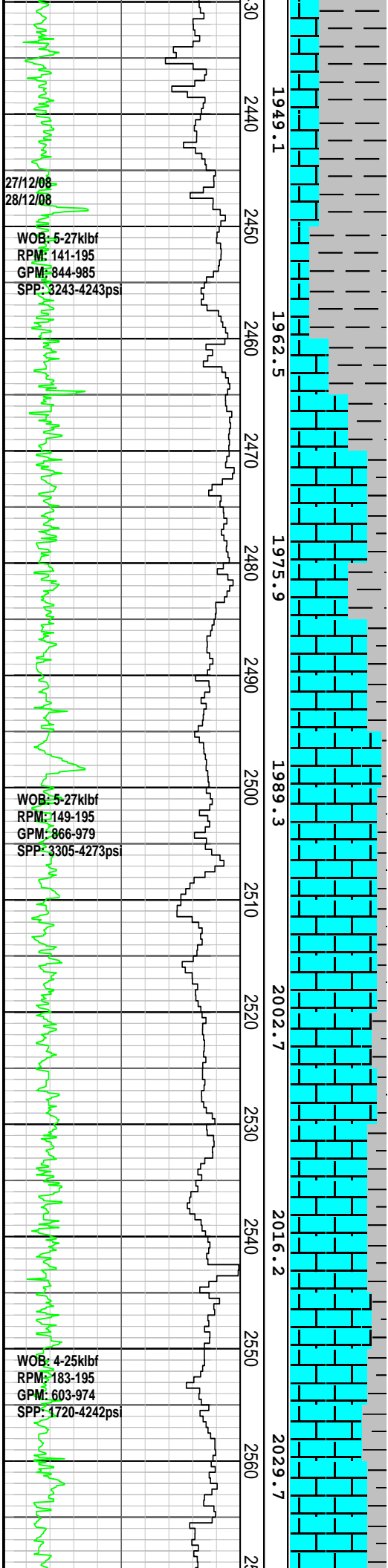
CALCAREOUS CLAYSTONE:
lt gy-med lt gy, lt olv gy, abdt calc grd to CALCILUTITE, tr micmic, tr v f glauc, tr v f carb spks, dom sft-frm, amor-sbblky

CALCAREOUS CLAYSTONE:
lt gy-med lt gy, lt olv gy, abdt calc grd to CLCLT, tr micmic, tr v f glauc, tr v f carb spks, dom sft-frm, amor-sbblky

SILTY CALCISILTITE: v lt gy-lt olv gy, grd to Argillaceous SILTSTONE, tr v f aren, tr v f glauc, tr micmic, tr v f carb spks, dom sft-frm, amor-sbblky

1854.6
1868.1
1881.6
1895.1
1908.6
1922.2
1935.6

90
2300
2310
2320
2330
2340
2350
2360
2370
2380
2390
2400
2410
2420
2430



CALCAREOUS CLAYSTONE: lt gy-med lt gy, lt olv gy, abdt calc grd to CLCLT, tr micmic, tr v f glauc, tr v f carb spks, dom sft-frm, amor-sbbkly

MW: 1.15	FV: 69
PV: 19	YP: 35
pH: 11.0	CK: 4.8
GELS: 10/12/13	CL: 49000

CALCARENITE: lt gy-med lt gy, v f-f, wl srt, slt i/p grd to CLSLT, tr v f glauc grs, mod hd, p vis por, no hydc fluor

CALCISILTITE: v lt gy-lt olv gy, grd to SLT CLCLT and CALC SLTST, tr v f aren, tr v f glauc, tr micmic, tr v f carb spks, dom sft-frm, amor-sbbkly, tr blkly

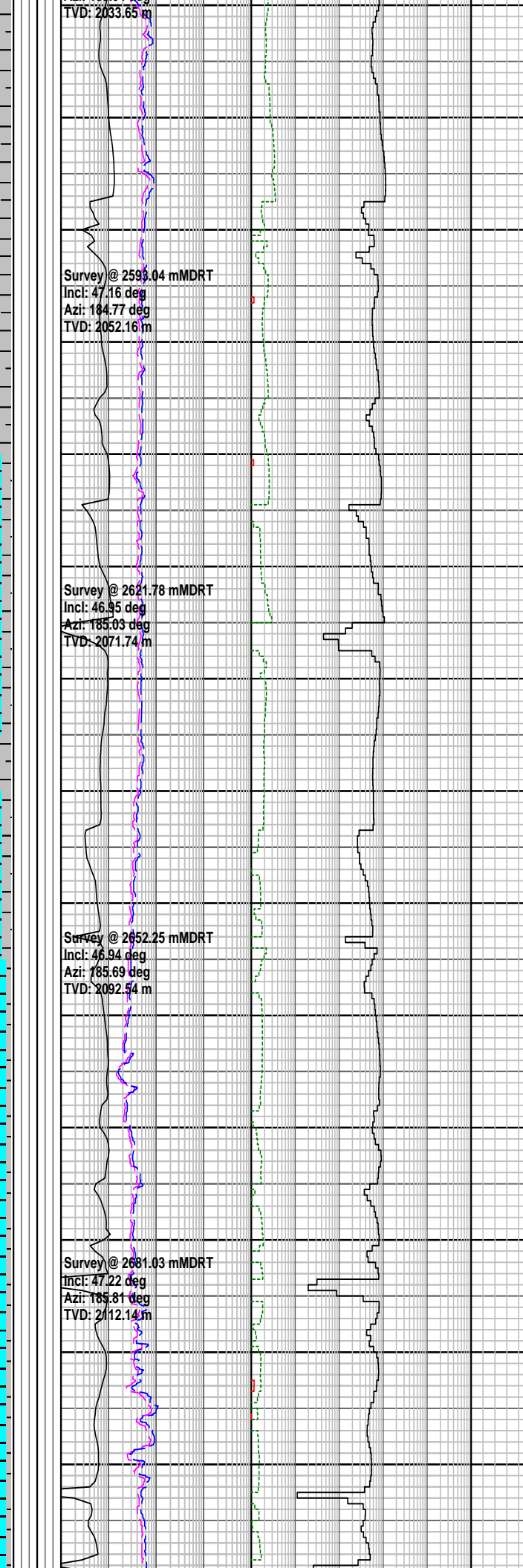
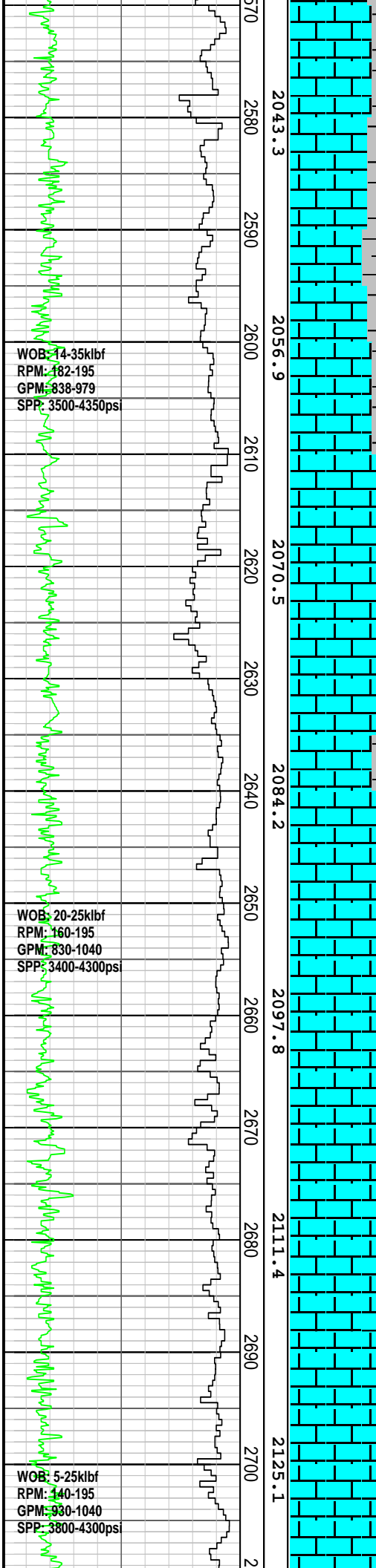
CALCISILTITE: v lt gy-lt olv gy, grd to SLT CLCLT and CALC SLTST, tr v f aren, tr v f glauc, tr micmic, tr v f carb spks, dom sft-frm, amor-sbbkly, tr blkly

CALCARENITE: lt gy-med lt gy, v f-f, wl srt, slt i/p grd to CLSLT, tr v f glauc grs, mod hd, p vis por, no hydc fluor

CALCAREOUS CLAYSTONE: med gy-med lt gy, lt olv gy, abdt calc grd to CLCLT, tr micmic, tr v f glauc, sft-frm, amor-sbbkly

CALCISILTITE: v lt gy-lt olv gy, abdt slt grd to SLT CLCLT and CALC SLTST, tr v f aren, tr v f glauc, tr micmic, tr v f carb spks, dom sft-frm, amor-sbbkly, tr blkly

CALCARENITE: lt gy-med lt gy, v f-f, wl srt, slt i/p grd to CLSLT, tr v f glauc grs, mod hd, p vis por, no hydc fluor



CALCAREOUS CLAYSTONE:
lt gy-med lt gy, lt olv gy, abdt calc grd to CLCLT, tr micmic, tr v f glauc, sft frm, amor-sbbiky

CALCISILTITE: v lt gy-lt olv gy, v slty grd to CALC SILTST, tr v f aren, tr v f glauc, tr micmic, sft frm, amor-sbbiky, tr blk

CALCARENITE: lt gy-med lt gy, v f-f, wl srt, slty i/p grd to CLSLT, tr v f glauc grs, mod hd, p vis por, no hydc fluor

CALCAREOUS CLAYSTONE:
lt gy-med lt gy, lt olv gy, abdt calc grd to CLCLT, tr micmic, tr v f glauc, sft frm, amor-sbbiky

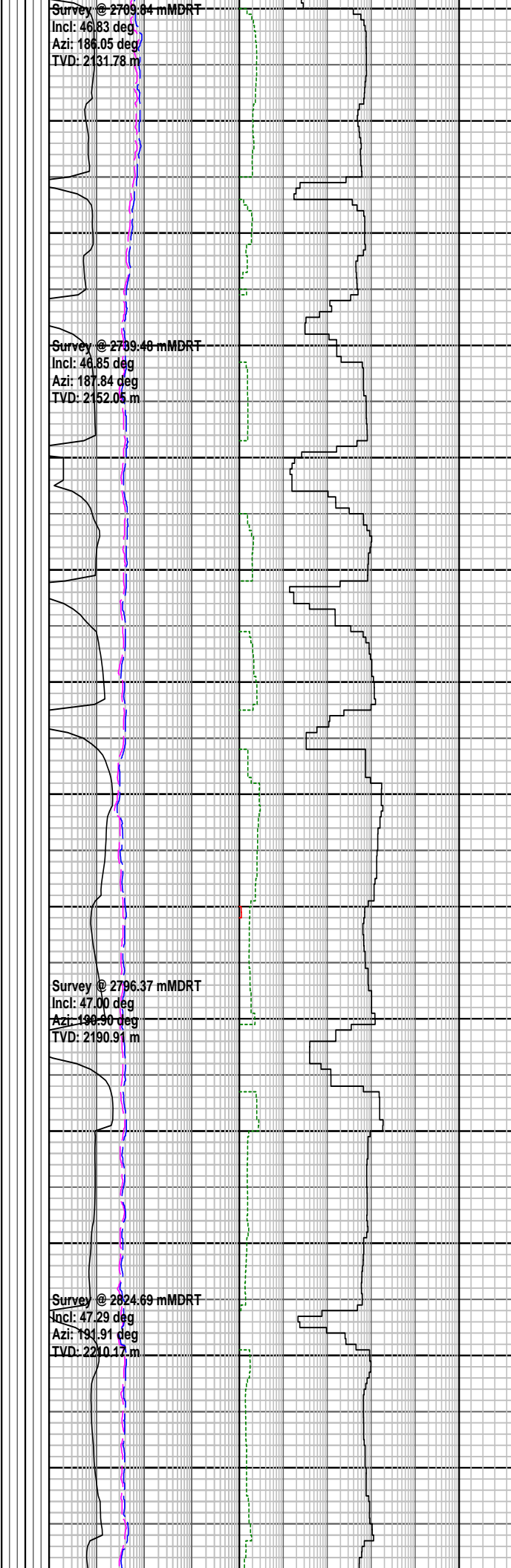
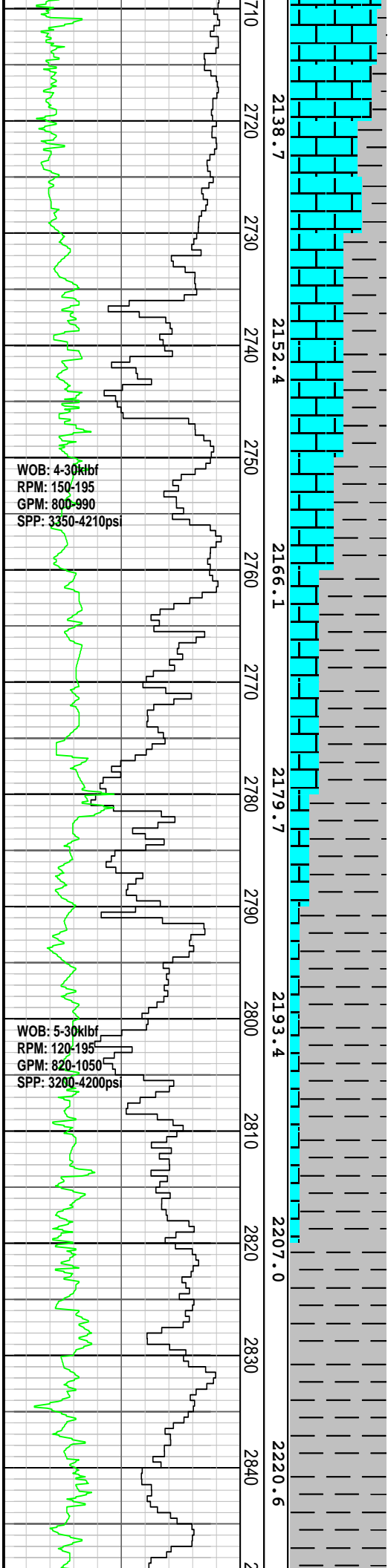
CALCISILTITE: v lt gy-lt olv gy, v slty grd to CALC SILTST, tr v f aren, tr v f glauc, tr micmic, sft frm, amor-sbbiky, tr blk

CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy, abdt calc grd to CLCLT, tr micmic, tr v f glauc, sft frm, amor-sbbiky

CALCARENITE: lt gy-med lt gy, v f-f, wl srt, slty i/p grd to CLSLT, tr v f glauc grs, mod hd, p vis por, no hydc fluor

CALCISILTITE: v lt gy-lt olv gy, v slty grd to CALC SILTST, tr v f aren, tr v f glauc, tr micmic, sft frm, amor-sbbiky, tr blk

CALCARENITE: lt gy-med lt gy, v f-f, wl srt, slty i/p grd to CLSLT, tr v f glauc grs, mod hd, p vis por, no hydc fluor



CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy, abdt calc grd to CLCLT, tr micmic, tr v f glauc, sft-frm, amor-sbblky

CALCISILTITE: v lt gy-lt olv gy, v slty grd to CALC SILTST, tr v f aren, tr v f glauc, tr micmic, tr carb spks, sft-frm, amor-sbblky, tr blky

CALCARENITE: lt gy-med lt gy, lt olv gy, v f-f, wl srt, slty i/p grd to CLSLT, tr v f glauc grs, fri-mod hd, p vis por, no hydc fluor

CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy, abdt calc grd to CLCLT, tr micmic, tr v f glauc, sft-frm, amor-sbblky

CALCISILTITE: v lt gy-lt olv gy, v slty grd to CALC SILTST, tr v f aren, tr v f glauc, tr micmic, tr carb spks, sft-frm, amor-sbblky, tr blky

CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy, abdt calc grd to CLCLT, tr micmic, tr v f glauc, sft-frm, amor-sbblky

CALCISILTITE: v lt gy-lt olv gy, v slty grd to CALC SILTST, tr v f aren, tr v f glauc, tr micmic, tr carb spks, sft-frm, amor-sbblky, tr blky

CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy, abdt calc grd to CLCLT, tr micmic, tr v f glauc, sft-frm, amor-sbblky

CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy, abdt calc grd to CLCLT, tr micmic, tr v f glauc, tr v f carb spks, sft-frm

carb spks, sft-frm,
amor-sbbiky

WOB: 6-30klbf
RPM: 100-195
GPM: 890-1200
SPP: 3820-4250psi

WOB: 7-30klbf
RPM: 129-194
GPM: 897-909
SPP: 4046-4194psi

28/12/08
29/12/08

WOB: 5-39klbf
RPM: 155-194
GPM: 811-912
SPP: 3699-4269psi

2850
2860
2870
2880
2890
2900
2910
2920
2930
2940
2950
2960
2970
2980

2234.2
2247.8
2261.4
2275.0
2288.6
2302.2
2315.7

Survey @ 2854.10 mMDRT
Incl: 47.11 deg
Azi: 191.50 deg
TVD: 2230.15 m

Survey @ 2883.26 mMDRT
Incl: 47.10 deg
Azi: 190.89 deg
TVD: 2250.00 m

Survey @ 2911.89 mMDRT
Incl: 47.08 deg
Azi: 192.83 deg
TVD: 2269.50 m

Survey @ 2940.84 mMDRT
Incl: 47.29 deg
Azi: 192.22 deg
TVD: 2289.17 m

Survey @ 2970.00 mMDRT
Incl: 47.44 deg
Azi: 190.87 deg
TVD: 2308.92 m

CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy,
abdt calc grd to CLCLT, tr
micmic, tr v f glauc, tr v f
carb spks, sft-frm,
amor-sbbiky

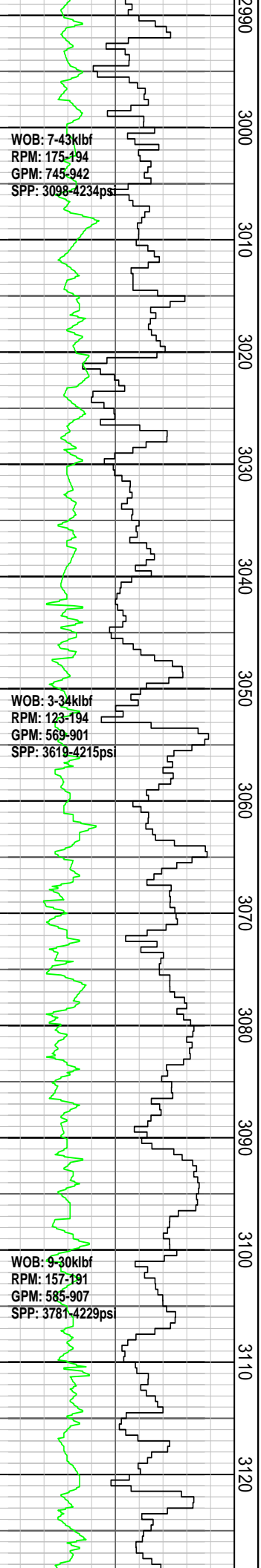
CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy,
abdt calc grd to CLCLT, tr
micmic, tr v f glauc, tr v f
carb spks, sft-frm,
amor-sbbiky

MW: 1.16	FV: 61
PV: 19	YP: 30
pH: 10.8	CK: 6.0
GELS: 9/12/15	CL: 51000

CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy,
abdt calc grd to CLCLT, tr
micmic, tr v f glauc, tr v f
carb spks, sft-frm,
amor-sbbiky

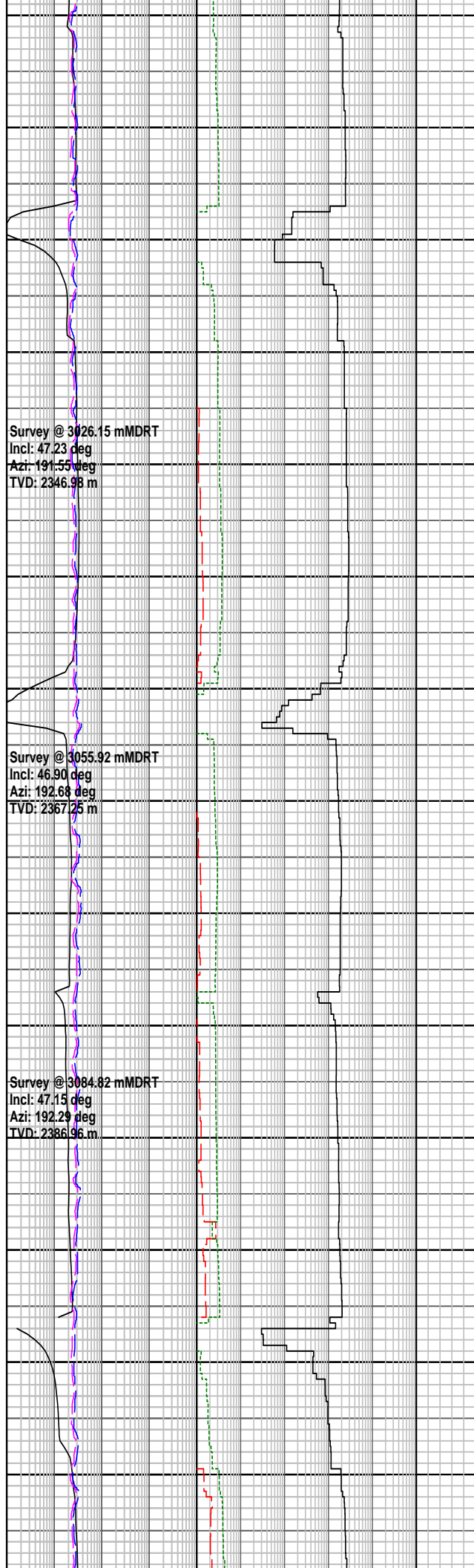
CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy,
abdt calc grd to CLCLT, tr
micmic, tr v f glauc, tr v f
carb spks, sft-frm,
amor-sbbiky

carb spks, sft-frm, amor-sbblky



2990
3000
3010
3020
3030
3040
3050
3060
3070
3080
3090
3100
3110
3120

2329.2
2342.8
2356.4
2370.0
2383.7
2397.3
2410.9

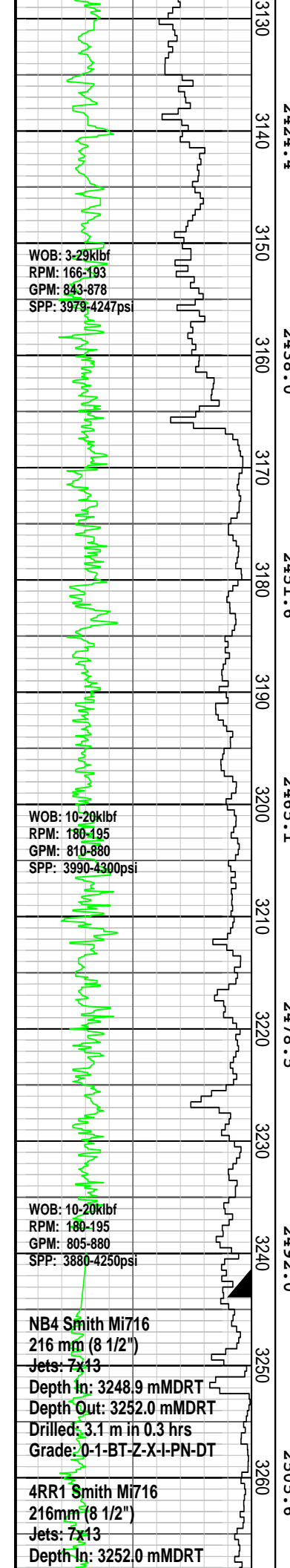


CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy,
abdt calc grd to CLCLT, tr
micmic, tr v f glauc, tr v f
carb spks, sft-frm,
amor-sbblky

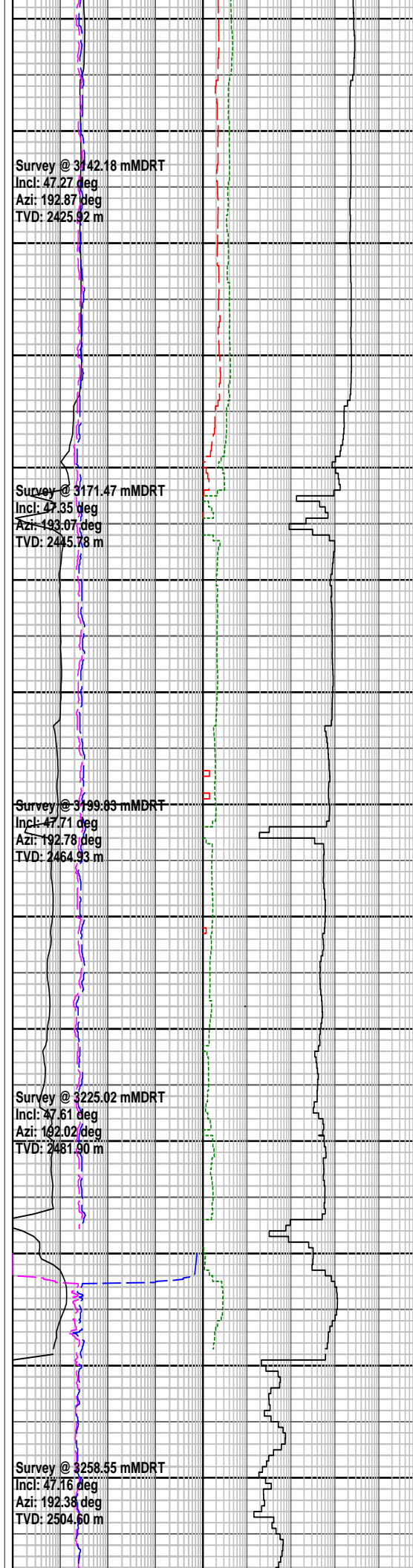
CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy,
abdt calc grd to CLCLT, tr
micmic, tr v f glauc, tr v f
carb spks, sft-frm,
amor-sbblky

CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy,
abdt calc grd to CLCLT, tr
micmic, tr v f glauc, tr v
f-med carb spks, sft-frm,
amor-sbblky

CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy,
abdt calc grd to CLCLT, tr
micmic, tr v f glauc, tr v
f-med carb spks, sft-frm,
amor-sbblky



2424.4
2438.0
2451.6
2465.1
2478.5
2492.0
2505.6



CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy,
abdt calc grd to CLCLT, tr
micmic, tr v f glauc, tr v
f-med carb spks, tr microfos,
sft-frm, amor-sbblky,

CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy,
abdt calc grd to CLCLT, tr
micmic, tr v f glauc, tr v
f-med carb spks, tr microfos,
sft-frm, amor-sbblky,

CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy,
abdt calc grd to CLCLT, tr
micmic, tr v f glauc, tr v
f-med carb spks, tr microfos,
sft-frm, amor-sbblky,

CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy,
abdt calc grd to CLCLT, tr
micmic, tr v f glauc, tr v
f-med carb spks, tr microfos,
sft-frm, amor-sbblky,

CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy,
abdt calc grd to CLCLT, tr
micmic, tr v f glauc, tr v
f-med carb spks, tr dissem
pyr, tr microfos, sft-frm,
amor-sbblky,

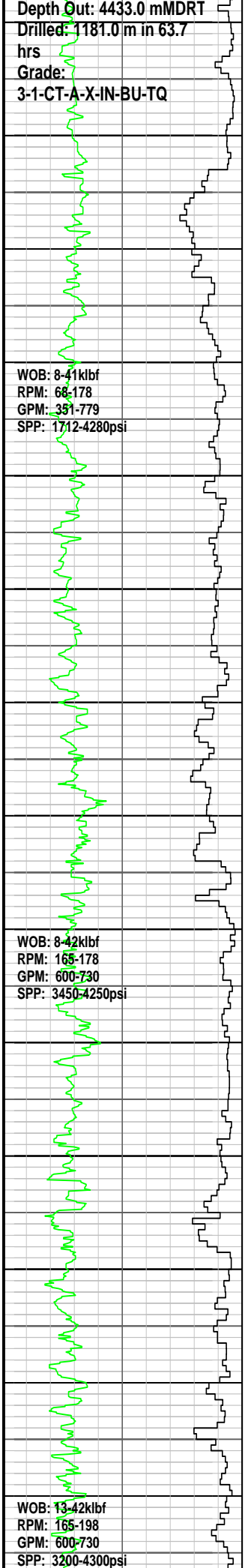
CALCAREOUS CLAYSTONE:
med gy-med lt gy, lt olv gy,
abdt calc grd to CLCLT, tr
micmic, tr v f glauc, tr v
f-med carb spks, tr com pyr
nod, tr microfos, sft-frm,
amor-sbblky,

244mm (9 5/8") casing shoe @ 3243.9
mMDRT

Reached 311mm (12 1/4") section TD
@ 3248.9 mMDRT @ 1300 hrs on
29th December 2008

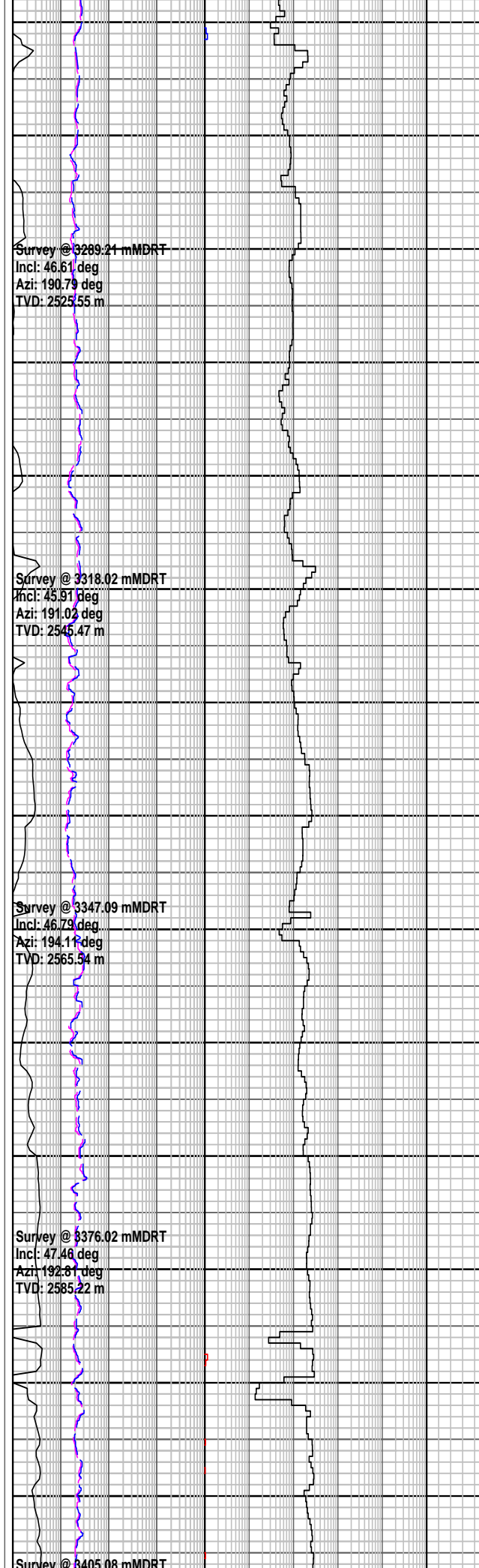
Conducted FIT to 1.60 sg EMW @
3252.0 mMDRT using 1.13 sg mud

POOH @ 3252.0 mMDRT to change
the failed MWD tool



3270
3280
3290
3300
3310
3320
3330
3340
3350
3360
3370
3380
3390
3400

2519.2
2533.0
2546.9
2560.7
2574.4
2587.9
2601.5



CALCAREOUS CLAYSTONE:
 med gy-med lt gy, lt olv gy, abdt calc grd to CLCLT, tr micmic, tr v f glauc, tr v f-med carb spks, tr dissem pyr, tr ang qtz, tr microfos, sft-frm, amor-sbblky

CALCAREOUS CLAYSTONE:
 med gy-med lt gy, lt olv gy, abdt calc grd to MARL, tr micmic, tr v f glauc, tr v f-med carb spks, tr dissem pyr, tr ang qtz, tr microfos, sft-frm, amor-sbblky

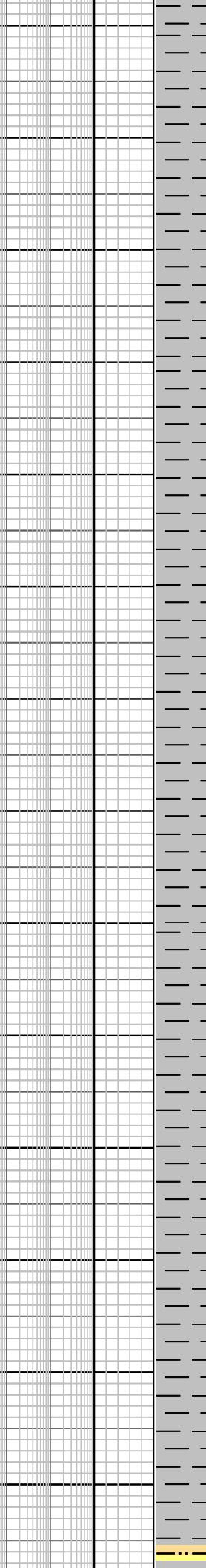
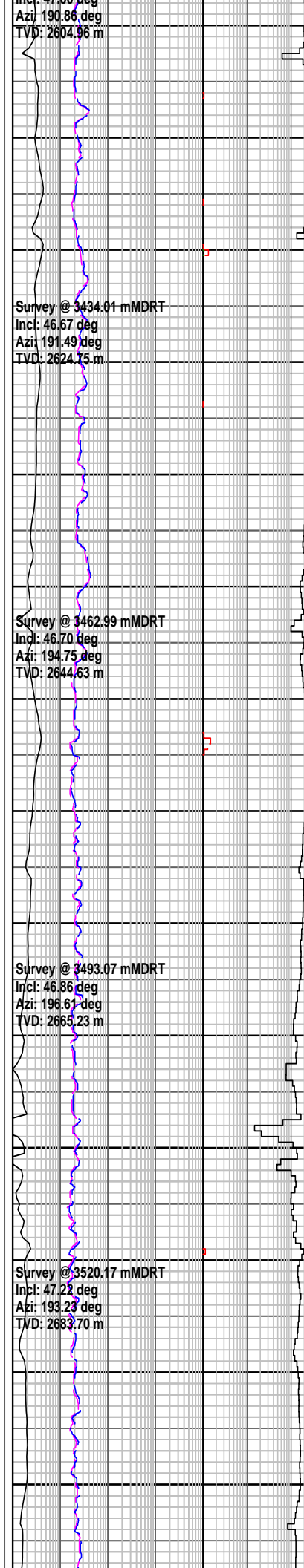
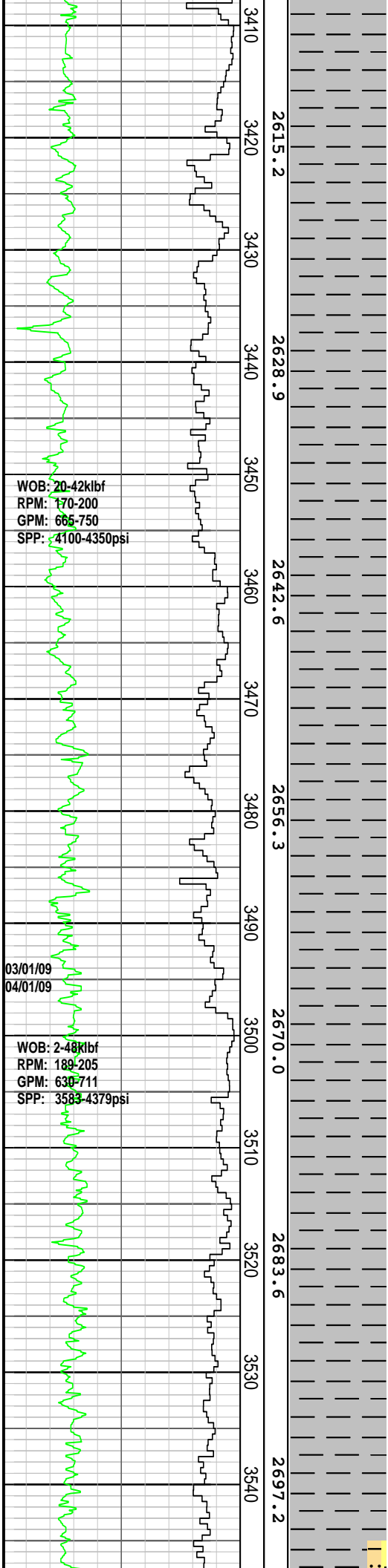
CALCAREOUS CLAYSTONE:
 med gy-med lt gy, lt olv gy, abdt calc grd to MARL, tr micmic, tr v f glauc, tr v f-med carb spks, tr dissem pyr, tr ang qtz, tr microfos, sft-frm, amor-sbblky

CALCAREOUS CLAYSTONE:
 med gy-med lt gy, lt olv gy, abdt calc grd to MARL, tr micmic, tr v f glauc, tr v f-med carb spks, tr dissem pyr, tr ang qtz, tr microfos, sft-frm, amor-sbblky

CALCAREOUS CLAYSTONE:
 med gy-med lt gy, lt olv gy, tr micmic, tr v f glauc, tr v f-med carb spks, tr pyr nod, tr ang qtz, tr microfos, sft-frm, amor-sbblky, sbfiss i/p

CALCAREOUS CLAYSTONE:
 med gy-med lt gy, lt olv gy, tr micmic, tr v f glauc, tr v f-med carb spks, tr pyr nod, tr ang qtz, tr microfos, sft-frm, amor-sbblky, sbfiss i/p

CALCAREOUS CLAYSTONE:
 med gy-med lt gy, lt olv gy, tr micmic, tr f aren, tr v f glauc, tr v f-med carb spks, tr pyr nod, tr ang qtz, tr microfos, sft-frm, amor-sbblky, sbfiss i/p



CALCAREOUS CLAYSTONE:
 med lt gy-med dk gy, lt olv gy-lt gnsh gy, mod calc, slit i/p, tr imcmic, tr v f glauc, tr v f aren, tr v f carb spks, dom frm-mod hd, amor-sbblky, tr sbfiss i/p

CALCAREOUS CLAYSTONE:
 med lt gy-med dk gy, lt olv gy-lt gnsh gy, mod calc, slit i/p, tr imcmic, tr v f glauc, tr v f aren, tr v f carb spks, tr nod-dissem pyr, dom frm-mod hd, amor-sbblky

CALCAREOUS CLAYSTONE:
 med lt gy-med dk gy, lt olv gy-lt gnsh gy, mod calc, slit i/p, tr imcmic, tr v f glauc, tr v f aren, tr v f carb spks, tr dissem pyr, dom frm-mod hd, amor-sbblky

CALCAREOUS CLAYSTONE:
 med lt gy-med dk gy, lt olv gy-lt gnsh gy, mod calc, slit i/p, tr imcmic, tr v f glauc, tr v f aren, tr v f carb spks, tr dissem pyr, dom frm-mod hd, amor-sbblky

CALCAREOUS CLAYSTONE:
 med lt gy-med dk gy, lt olv gy-lt gnsh gy, mod calc, slit i/p, tr imcmic, tr v f glauc, tr v f aren, tr v f carb spks, tr dissem pyr, dom frm-mod hd, amor-sbblky

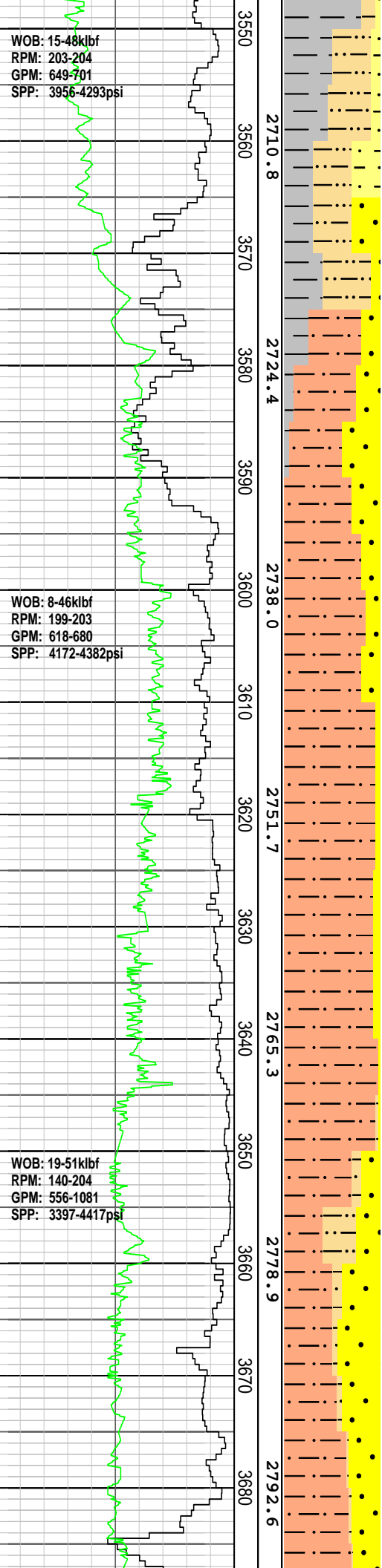
CALCAREOUS CLAYSTONE:
 med lt gy-med dk gy, lt olv gy-lt gnsh gy, mod calc, slit i/p, tr imcmic, tr v f glauc, tr v f aren, tr v f carb spks, tr dissem pyr, dom frm-mod hd, amor-sbblky

CALCAREOUS CLAYSTONE:

WOB: 15-48klbf
RPM: 203-204
GPM: 649-701
SPP: 3956-4293psi

WOB: 8-46klbf
RPM: 199-203
GPM: 618-680
SPP: 4172-4382psi

WOB: 19-51klbf
RPM: 140-204
GPM: 556-1081
SPP: 3397-4417psi



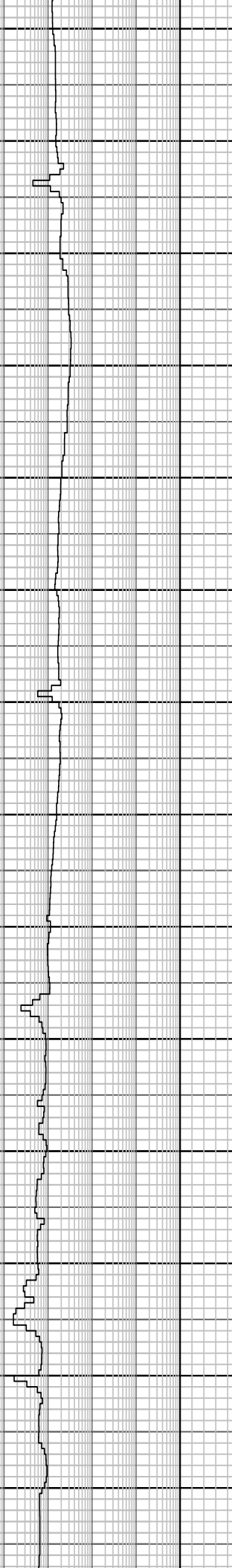
3550
3560
3570
3580
3590
3600
3610
3620
3630
3640
3650
3660
3670
3680

2710.8
2724.4
2738.0
2751.7
2765.3
2778.9
2792.6

Survey @ 3578.15 mMDRT
Incl: 47.07 deg
Azi: 189.29 deg
TVD: 2723.15 m

Survey @ 3634.59 mMDRT
Incl: 47.03 deg
Azi: 190.06 deg
TVD: 2761.60 m

Survey @ 3665.11 mMDRT
Incl: 46.98 deg
Azi: 192.85 deg
TVD: 2782.42 m



med lt gy-med dk gy, lt olv gy, lt gnsh gy, mod calc, v slt, tr imcmic, tr v f glauc, com v f aren grd to SDY SLTST, tr v f carb spks, dom frm-mod hd, amor-sbblky

SANDY SILTSTONE: clr-trnsl, dom v f-f, wl srt, dom sbrndd-rndd, abdt slt mtx sft-frm agg, tr v f glauc, tr calc, p vis por, no hydc fluor

SILTSTONE: gy brn-dus brn, n calc, v aren grd to SANDY SILTSTONE, tr-com micmic, tr glauc, frm, dom sbfiss-sbblky

SANDSTONE: clr-trnsl, lt olv gy-pl yel brn, v f-dom f, tr med-crs, mod srt, dom sbrndd-rndd, occ sft-frm agg wt slt mtx, tr v f glauc, tr pyr nod, dom lse,p-fr vis por, no hydc fluor

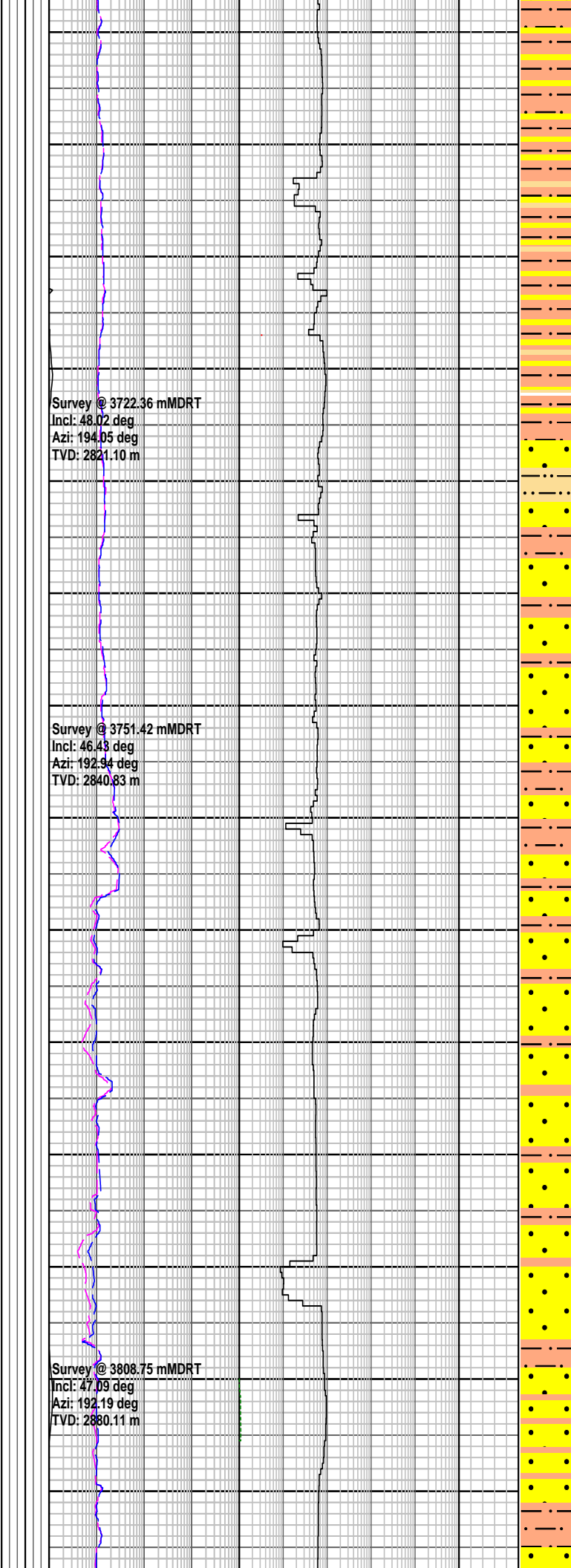
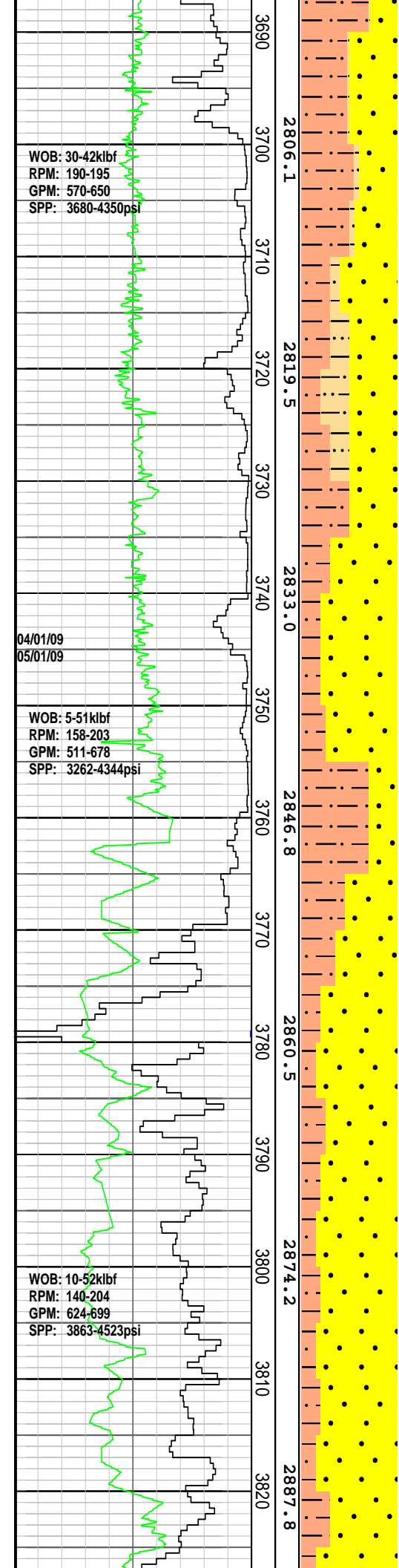
SILTSTONE: gy brn-dus brn, dk olv gy, n calc, v aren grd to SANDY SILTSTONE, tr-com micmic, tr glauc, frm, dom sbfiss-sbblky

SILTSTONE: gy brn-dus brn, dk olv gy, n calc, v aren grd to SANDY SILTSTONE, tr-com micmic, tr glauc, frm, dom sbfiss-sbblky

SANDSTONE: clr-trnsl, lt olv gy-pl yelsh brn, v f-dom f, tr med & crs, mod srt, dom sbrndd-rndd, occ sft-frm agg w/ v disp argl mtrx, tr-com v f glauc grd i/p to GLUAC SST, tr pyr nod, dom lse, p-por vis, no hydc fluor

GLAUCONITIC SANDSTONE: clr-trnsl, lt gnsh gy, dom v f-f, wl srt, dom sbrndd-rndd, sft to frm agg w/v disp argl & glauc mtrx, com to abdt v f glauc & glauc pel, occ lse, p vis por, no hydc fluor

SILTSTONE: gysh brn-dsky olv gy, non calc, v aren, grd to SDY SLTST, tr dissem pyr, tr pyr nod, tr-com micmic, tr-com glauc grd to GLAUC SLTST, frm, dom



sbriiss-sbblky

SANDY SILTSTONE: off wh-v lt gy, lt gnsh gy, com v f aren grs grd i/p to SLTY SST, tr calc, tr v f glauc, tr micmic, sft-dom frm, sbfiss-sbblky

GLAUCONITIC SANDSTONE: clr-trnsl, lt gnsh gy, dom v f-f, wl srt, dom sbrndd-rndd, sft to frm agg w/ v disp lt gy-dk gnsh gy glauc argl mtrx, com-abdt v f-med glauc grs, occ lse, p vis por, no hydc fluor

SILTSTONE: olv gy-lt gy, gysh brn-dsky brn, non calc, v aren, grd to SDY SLTST, tr disse pyr, tr pyr nod, tr-com micmic, tr-com glauc grd to GLAUC SLTST, frm, dom sbfiss-sbblky

GLAUCONITIC SANDSTONE: clr-trnsl, lt gnsh gy, dom v f-f, tr crs grs, wl srt, dom sbrndd-rndd, sft to frm agg w/ v disp lt gy-dk gnsh gy glauc argl mtrx, com-abdt v f-med glauc grs, occ lse, p vis por, no hydc fluor

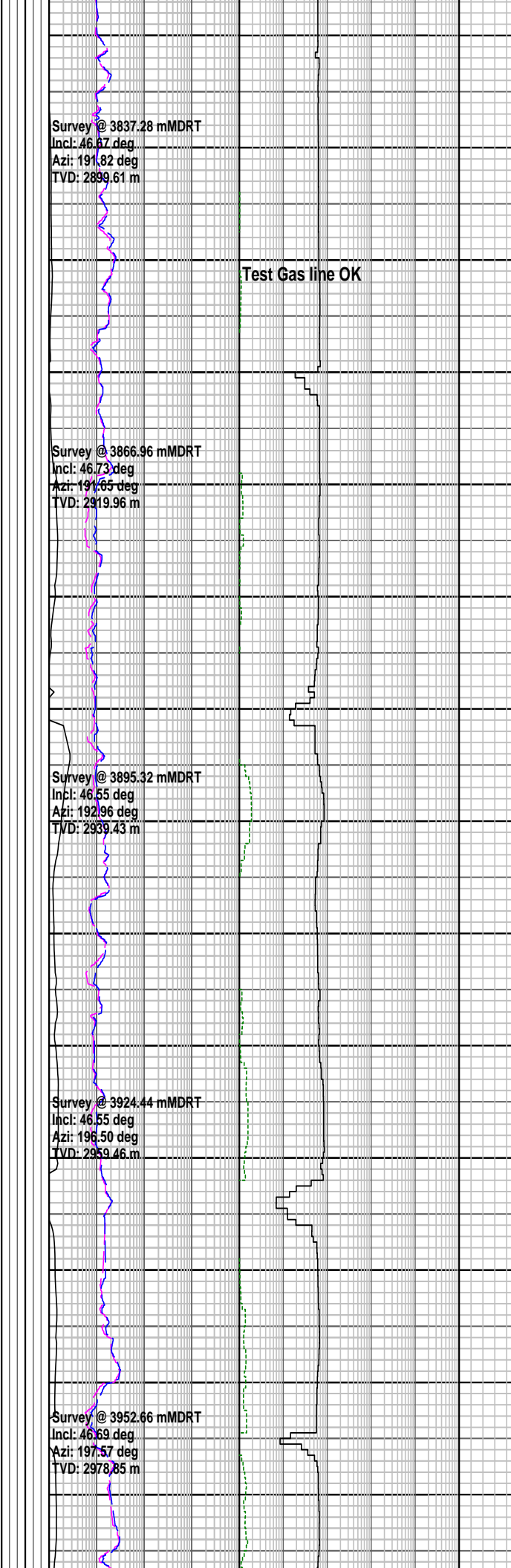
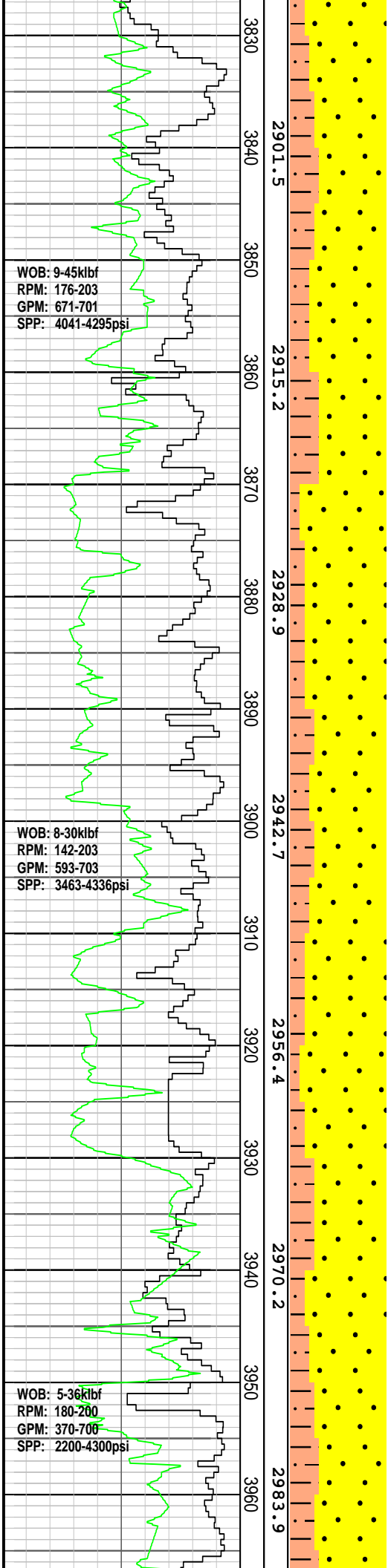
SILTSTONE: olv gy-dk olv gy, gysh brn-dsky brn, non calc, v aren grd to SDY SLTST, tr pyr nod, tr-com micmic, tcom f com glauc grd to GLAUC SLTST, frm, dom sbfiss-sbblky

SANDSTONE: clr-trnsl, tr frs, med-v crs, dom crs, mod srt, ang-sbang, r sbrndd, clr, lse, p-fr por, no hydc fluor

SANDSTONE: clr-trnsl, tr lt gy, tr frs, dom crs-v crs, mod srt, ang-sbang, r sbrndd, clr, lse, tr pyt nod, p-fr por, no hydc fluor

SILTSTONE: olv gy-dk olv gy, gysh brn-dsky brn, non calc, v aren grd to SDY SLTST, tr pyr nod, tr-com micmic, tcom f com glauc grd to GLAUC SLTST, frm, dom sbfiss-sbblky

SANDSTONE: clr-trnsl, tr v lt



gy, tr fros, med-v crs, dom crs-v crs, wl srt, ang-dom sbang, r sbrnrd, wk sil cmt, wk pyr cmt, tr pyr nod, cln, lse, pr-fr inf por, no hydc fluor

SILTSTONE: olv gy-dk olv gy, med gy, gysh brn, non calc, tr v f aren, tr-com micmic, tr dissep pyr, tr nod pyr, frm, dom sbfiss-sbblky

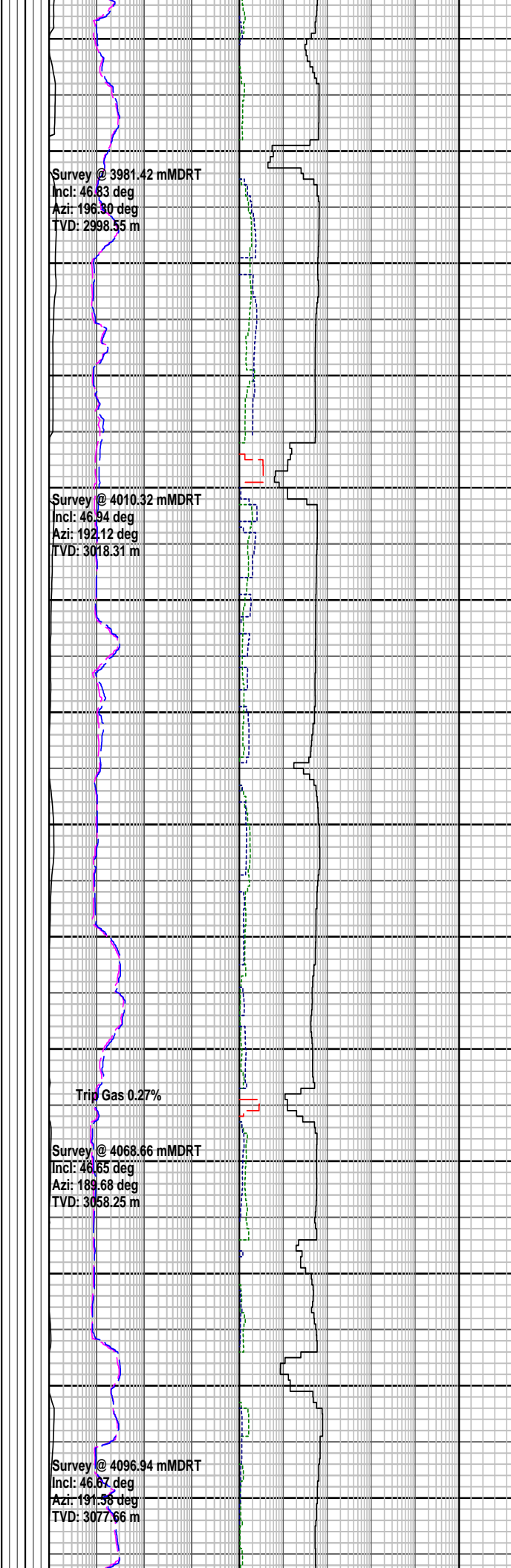
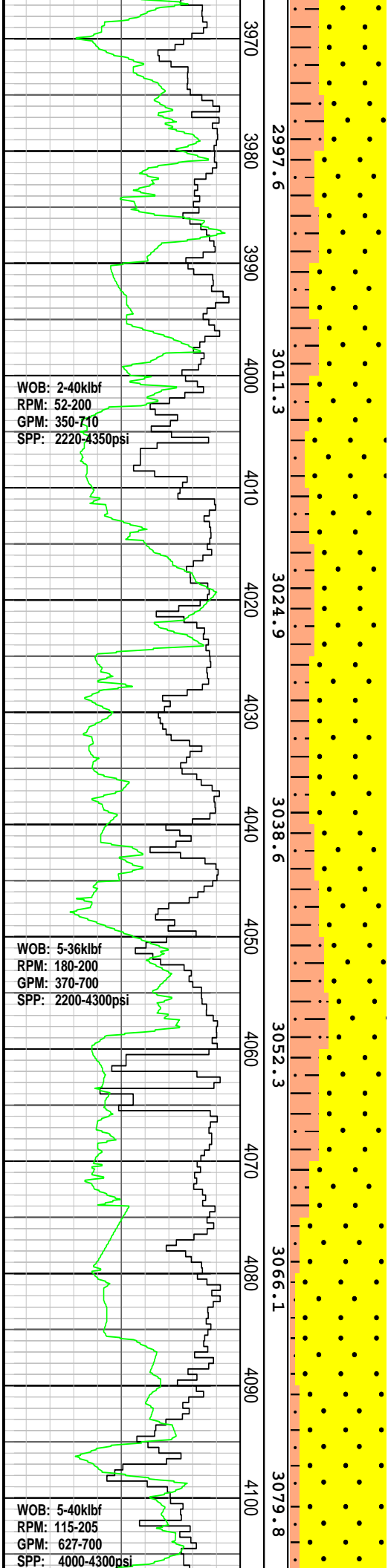
SANDSTONE: clr-trnsl, tr v lt gy, tr fros, v f-v crs, com v f-f, com v crs, p srt, ang-dom sbang, r sbrnrd, dom sbrnrd, wk sil cmt, wk pyr cmt on crs grs, tr pyr nod, cln, lse, pr-fr inf por, no hydc fluor

SILTSTONE: olv gy-dk olv gy, med gy, gysh brn, non calc, tr v f aren, tr-com micmic, tr dissep pyr, tr nod pyr, frm, dom sbfiss-sbblky

SANDSTONE: clr-trnsl, tr v lt gy, tr fros, v f-v crs, com v f-f, com v crs, p srt, ang-dom sbang, r sbrnrd, dom sbrnrd, wk sil cmt, wk pyr cmt tr pyr nod, cln, lse, p-fr inf por, no hydc fluor

SILTSTONE: olv gy-dk olv gy, med gy, gysh brn, non calc, tr v f aren, tr-com micmic, tr dissep pyr, sft-dom frm, dom sbfiss-sbblky

SANDSTONE: clr-trnsl, tr v lt gy, tr fros, med-v crs, com v f-f, com v crs, mod srt, ang-dom sbang, r sbrnrd, dom sbrnrd, wk sil cmt, wk pyr cmt, tr pyr nod, cln, lse, p-fr inf por, no hydc fluor



SILTSTONE: olv gy-dk olv gy, med gy, gysh brn, non calc, tr v f aren, tr-com micmic, tr dissep pyr, sft-dom frm, dom sbfiss-sbblky

SANDSTONE: clr-trnsl, tr v lt gy, tr fros, med-v crs, r med, com v crs, mod srt, ang-dom sbang, r sbrnrd, dom sbrnrd, wk sil cmt, wk pyr cmt, tr pyr nod, cln, lse, p-fr inf por, no hydc fluor

SILTSTONE: olv gy-dk olv gy, med gy, gysh brn, non calc, tr v f aren, tr-com micmic, tr dissep pyr, sft-dom frm, dom sbfiss-sbblky

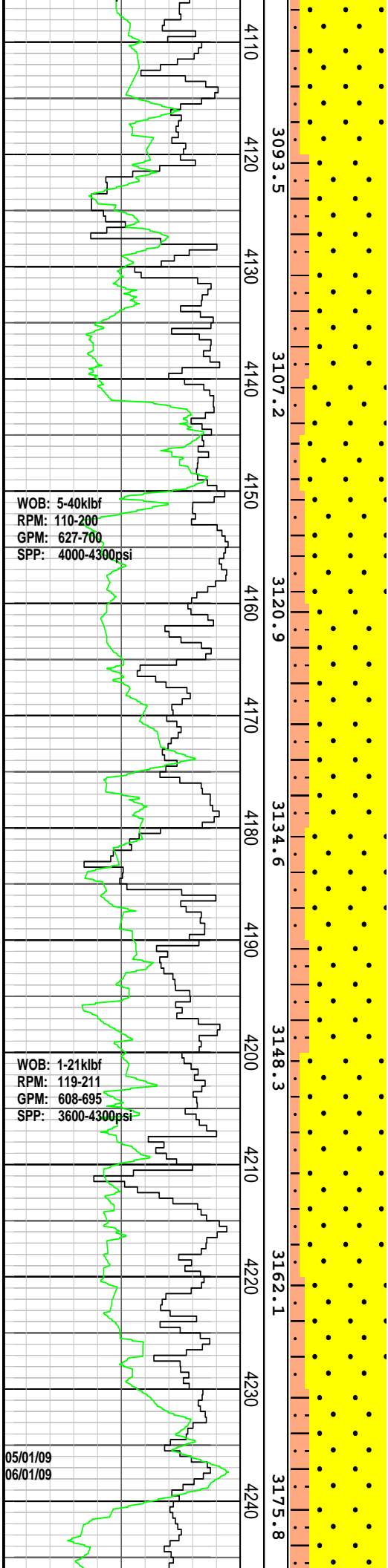
SANDSTONE: clr-trnsl, com pl yelsh gy, tr fros, f-v crs, com f, com v crs, p srt, ang-dom sbang, r sbrnrd, dom sbrnrd, wk sil cmt, wk pyr cmt, tr pyr nod, cln, lse, p-fr inf por, no hydc fluor

SILTSTONE: olv gy-dk gnsh gy, med dk gy, non calc, tr v f aren, tr-com micmic, tr dissep pyr, tr v f glauc grs, sft-dom frm, dom sbfiss-sbblky

SANDSTONE: clr-trnsl, com pl yelsh gy-pl yelsh or, tr fros, med-v crs, dom crs-v crs, mod srt, ang-dom sbang, r sbrnrd, dom sbrnrd, wk sil cmt, wk pyr cmt, cln, lse, p-fr inf por, no hydc fluor

SILTSTONE: olv gy-dk gnsh gy, med dk gy, non calc, tr v f aren, tr-com micmic, tr dissep pyr, tr v f glauc grs, sft-dom frm, dom sbfiss-sbblky

SANDSTONE: clr-trnsl, com pl yelsh gy-pl yelsh or, tr fros, med-v crs, dom crs-v



Survey @ 4126.70 mMDRT
 Incl: 46.65 deg
 Azi: 193.29 deg
 TVD: 3098.09 m

Survey @ 4183.93 mMDRT
 Incl: 46.62 deg
 Azi: 191.00 deg
 TVD: 3137.31 m

Survey @ 4241.84 mMDRT
 Incl: 46.72 deg
 Azi: 182.92 deg

3093.5
 3107.2
 3120.9
 3134.6
 3148.3
 3162.1
 3175.8

crs, p srt, ang-dom sbang, r
 sbrndd, wk sil cmt, wk pyr
 cmt, lse, p-fr inf por, no hydc
 fluor

SILTSTONE: olv gy-dk gnsh
 gy, med dk gy, non calc, tr v f
 aren, tr-com micmic, tr
 dissep pyr, tr v f glauc grs,
 sft-dom frm, dom
 sbfiss-sbbkly

SANDSTONE: clr-trnsl, r pl
 yelsh gy-pl yelsh or, tr fros,
 med-v crs, dom crs-v crs,
 mod srt, ang-dom sbang, r
 sbrndd, wk sil cmt, wk pyr
 cmt, cln, lse, p-fr inf por, no
 hydc fluor

SANDSTONE: clr-trnsl, r pl
 yelsh gy-pl yelsh or, tr fros,
 med-v crs, dom crs-v crs,
 mod srt, ang-dom sbang, r
 sbrndd, wk sil cmt, wk pyr
 cmt, tr nod pyr, cln, lse, p-fr
 inf por, no hydc fluor

SILTSTONE: olv gy-dk gnsh
 gy, med dk gy, non calc, tr v f
 aren, tr-com micmic, tr
 dissep pyr, tr v f glauc grs,
 sft-dom frm, dom
 sbfiss-sbbkly

SANDSTONE: clr-trnsl, r pl
 yelsh gy-pl yelsh or, tr fros,
 f-v crs, dom crs-v crs, tr f, p
 srt, ang-dom sbang, r
 sbrndd, wk sil cmt, wk pyr
 cmt, tr nod pyr, cln, lse, p-fr
 inf por, no hydc fluor

SILTSTONE: olv gy-dk gnsh
 gy, med dk gy, non calc, tr v f
 aren, tr-com micmic, tr
 dissep pyr, tr v f glauc grs,
 sft-dom frm, dom
 sbfiss-sbbkly

SANDSTONE: clr-trnsl, r pl
 yelsh gy-pl yelsh or, tr fros,
 f-v crs, dom crs-v crs, tr f, p
 srt, ang-dom sbang, r
 sbrndd, wk sil cmt, wk pyr
 cmt, tr nod pyr, cln, lse, p-fr
 inf por, no hydc fluor

SANDSTONE: clr-trnsl, r pl
 yelsh gy-pl yelsh or, tr fros,
 f-v crs, dom crs-v crs, tr f, p
 srt, ang-dom sbang, r

WOB: 1-23klbf
RPM: 186-203
GPM: 668-689
SPP: 4103-4262psi

WOB: 4-39klbf
RPM: 186-203
GPM: 543-688
SPP: 3214-4352psi

WOB: 4-49klbf
RPM: 188-203
GPM: 668-678
SPP: 4121-4327psi

4250
4260
4270
4280
4290
4300
4310
4320
4330
4340
4350
4360
4370
4380

3189.5
3203.2
3217.0
3230.7
3244.5
3258.2
3272.0

TVD: 3177.01 m

Survey @ 4270.08 mMDRT
Incl: 46.63 deg
Azi: 179.35 deg
TVD: 3196.39 m

Survey @ 4327.69 mMDRT
Incl: 46.56 deg
Azi: 183.66 deg
TVD: 3235.99 m

sbrnndd, wk sil cmt, wk pyr cmt, tr nod pyr, cln, lse, p-fr inf por, no hydc fluor

SANDSTONE: clr-trnsl, tr fros, f-v crs, com f, com v crs, tr f, p srt, ang-dom sbang, r sbrnndd, wk sil cmt, wk pyr cmt, cln, lse, p-fr inf por, no hydc fluor

SANDSTONE: clr-trnsl, tr fros, f-v crs, min f, com v crs, p srt, ang-dom sbang, r sbrnndd, wk sil cmt, wk pyr cmt, tr nod pyr, cln, lse, p-fr inf por, no hydc fluor

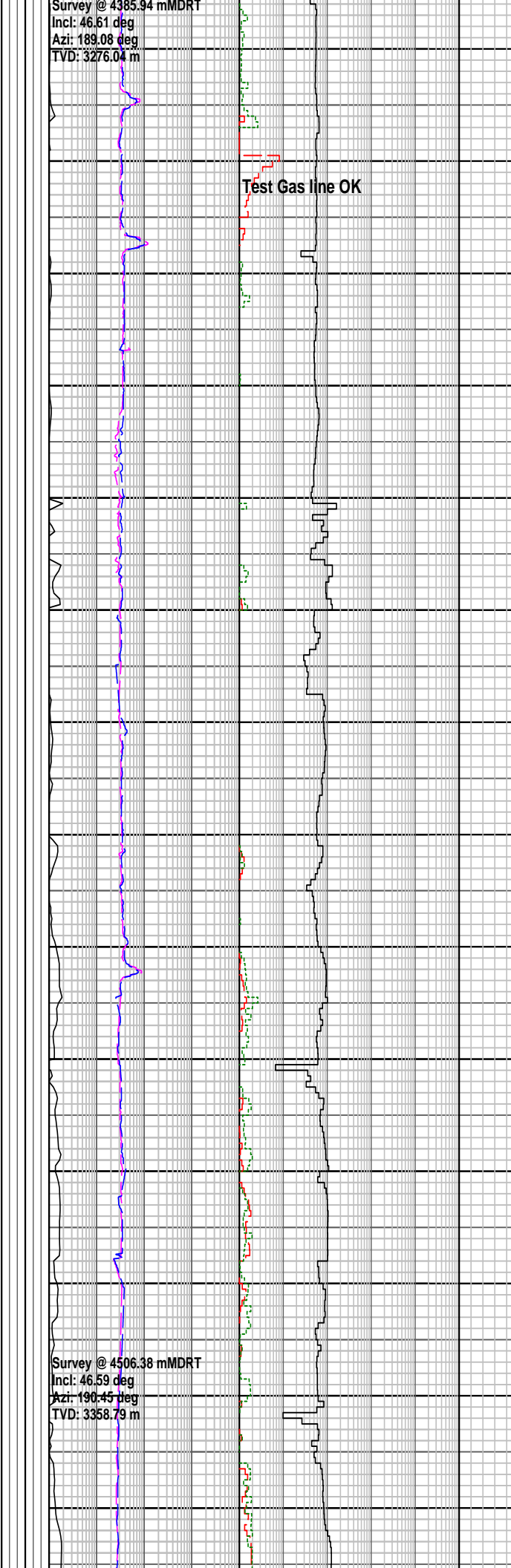
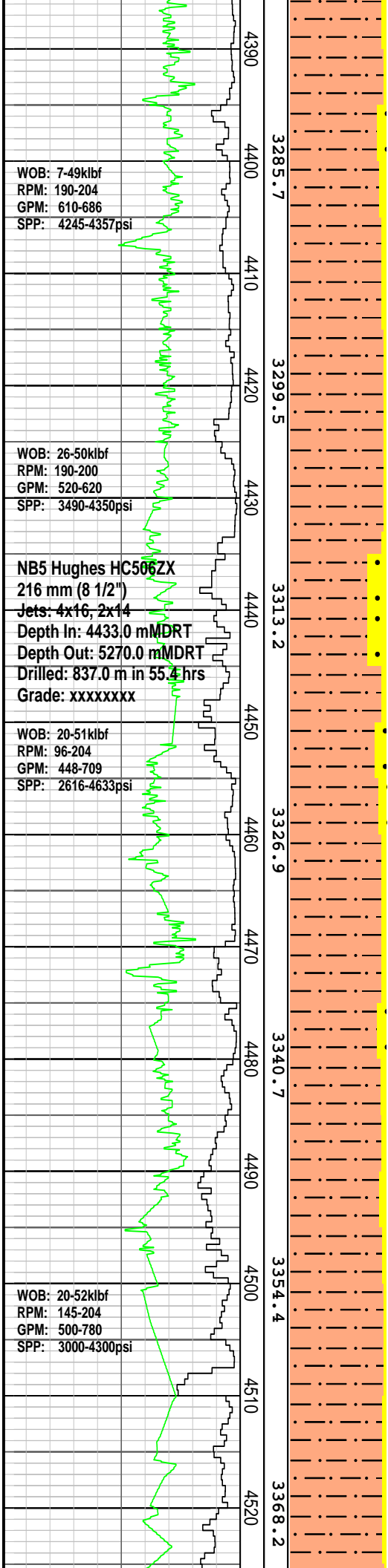
SILTSTONE: olv gy-dk gnsh gy, med dk gy, non calc, tr v f aren, tr-mnr micmic, tr disse pyr, tr v f glauc grs, sft-dom frm, dom sbfiss-sbblky

SANDSTONE: clr-trnsl, tr fros, med-v crs, dom crs-v crs, tr f, mod srt, ang-dom sbang, mnr sbrnndd, wk sil cmt, wk pyr cmt, cln, tr pyr nod, lse, p-fr inf por, no hydc fluor

SANDSTONE: clr-trnsl, tr fros, med-v crs, dom crs-v crs, tr f, mod srt, ang-dom sbang, mnr sbrnndd, wk sil cmt, wk pyr cmt, cln, r pyr nod, lse, p-fr inf por, no hydc fluor

SILTSTONE: olv gy-dk gnsh gy, med dk gy, non calc, tr v f aren, tr-mnr micmic, tr v f glauc grs, sft-dom frm, dom sbfiss-sbblky

SILTSTONE: lt gy-med gy, med dk gy-tr gy blk, non calc, tr v f aren, tr-mnr micmic, tr-com disse pyr, tr-com pyr nod, tr v f glauc, sft-dom frm, dom sbfiss-sbblky



frn, dom sbfiss-sbbkly

SILTSTONE: lt gy-med gy, med dk gy-tr gy blk, non calc, tr v f aren, tr-mnr micmic, tr-com dissep pyr, tr-com pyr nod, tr v f glauc, sft-dom frm, dom sbfiss-sbbkly

SILTSTONE: lt gy-med gy, med dk gy-tr gy blk, non calc, tr v f aren, tr-mnr micmic, tr-com dissep pyr, tr-com pyr nod, tr v f glauc, sft-dom frm, dom sbfiss-sbbkly

SANDSTONE: clr-trnsl, tr fros, med-v crs, dom crs-v crs, tr f, mod srt, ang-dom sbang, mnr sbrnnd, wk sil cmt, wk pyr cmt, cln, r pyr nod, lse, p-fr inf por, no hydc fluor

POOH @ 4433.0 mMDRT to pick up drill pipe & change Bit

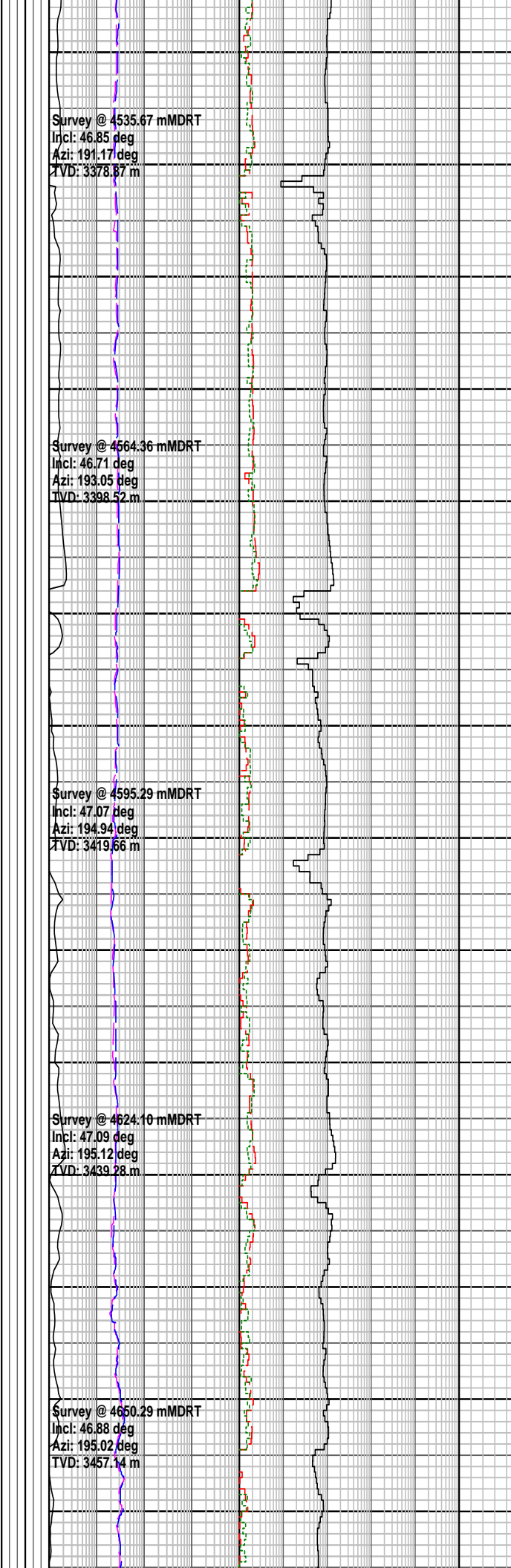
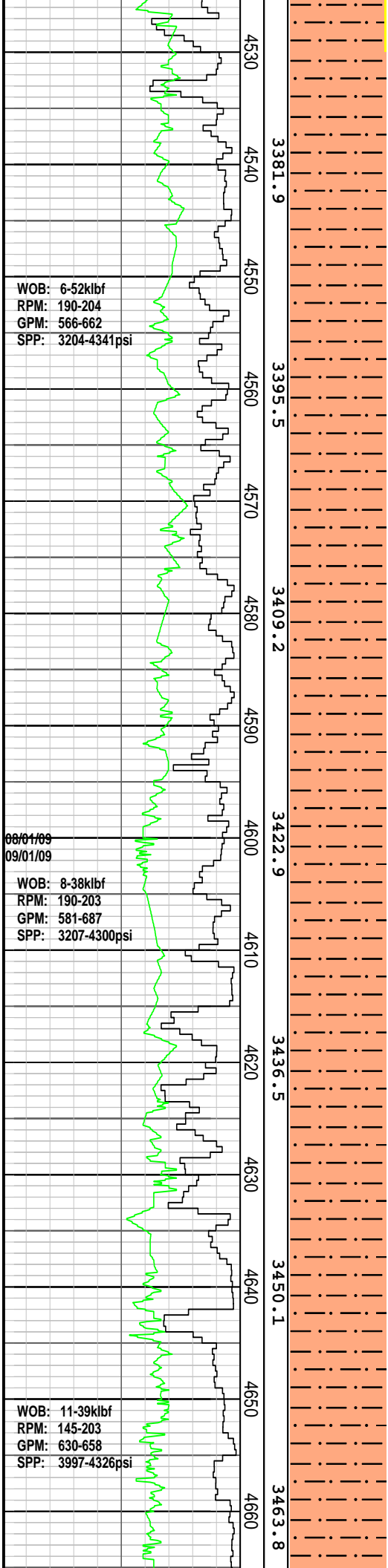
SILTSTONE: lt gy-med gy, med dk gy-tr gy blk, com dsk brn, non calc, tr v f aren, tr-mnr micmic, tr-com dissep pyr, tr-com pyr nod, tr v f glauc, sft-dom frm, dom sbfiss-sbbkly

SILTSTONE: lt gy-med gy, med dk gy-gy blk gy, com dsky brn, non calc, tr v f aren, tr-mnr micmic, tr dissep pyr, tr pyr nod, tr v f glauc, sft-dom frm, r mod hd, disp, sbfiss-sbbkly, amor i/p

SANDSTONE: 1:3% clr-trnsl, tr v lt gy, dom v f-f, wl srt, dom sbrnnd-sbang, v f-f grs, occ w/ v disp lt gy argl mtrx that is washed out, p-fr inf por, no hydc fluor

SANDSTONE: 2:3% (possible cavings), clr-trnsl, tr v lt gy, crs-v crs, wl srt, dom sbang-sbrnnd, wl sil cmt & wk pyr cmt on crs grs, tr nod pyr, dom cln, lse, p-fr inf por, no hydc fluor

SILTSTONE: med lt gy-gy blk, tr brnsh blk, tr gnsh gy, non calc, tr v f aren, tr-mnr



calc, tr v f aren, tr-mnr micmic, tr dissem pyr, tr pyr nod, tr v f glauc, sft-dom frm, sbfiss-sbblky, amor i/p

SILTSTONE: med lt gy-gy blk, tr brnsh blk, tr gnsh gy, non calc, tr v f aren, tr-mnr micmic, tr dissem pyr, tr pyr nod, tr v f glauc, sft-dom frm, r mod hd, disp, sbfiss-sbblky, amor i/p

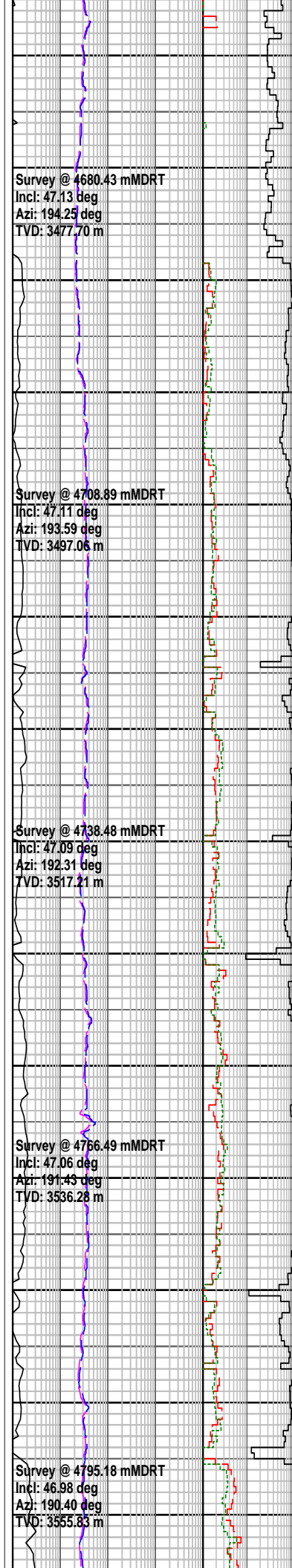
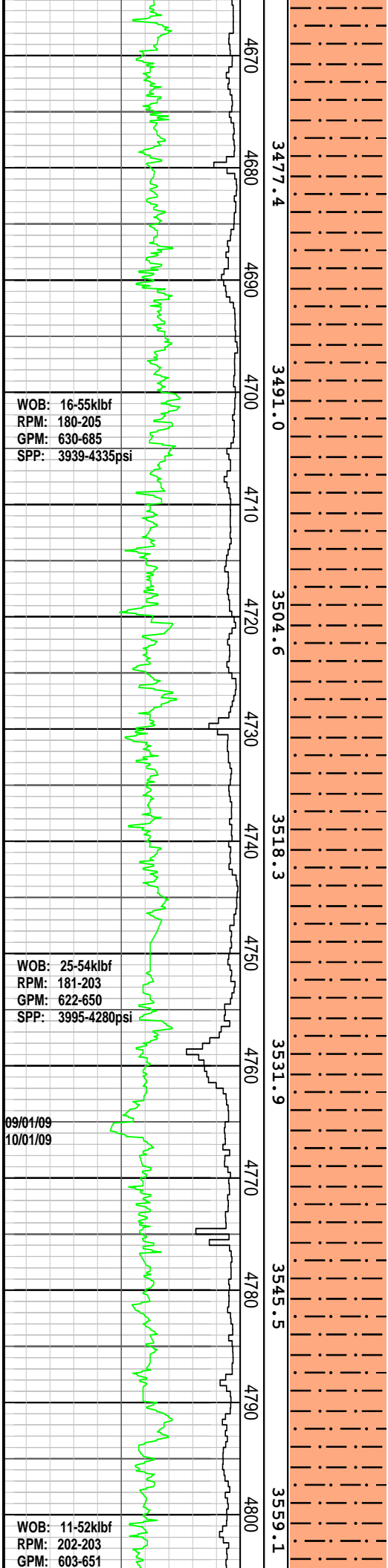
SILTSTONE: med lt gy-gy blk, tr brnsh blk, tr gnsh gy, non calc, tr v f aren, tr-mnr micmic, tr dissem pyr, tr pyr nod, tr v f glauc, sft-dom frm, r mod hd, disp, sbfiss-sbblky, amor i/p

SILTSTONE: med lt gy-gy blk, tr brnsh blk, tr dk gnsh gy, non calc, tr-r v f aren, tr-mnr micmic, tr nod&dissem pyr, tr v f glauc, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: med lt gy-gy blk, tr brnsh blk, tr dk gnsh gy, non calc, tr-r v f aren, tr micmic, tr dissem pyr, tr v f glauc, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: med lt gy-gy blk, tr brnsh blk, tr dk gnsh gy, non calc, tr-r v f aren, tr micmic, tr dissem pyr, tr v f glauc, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: med lt gy-gy blk, tr brnsh blk, tr dk gnsh gy, non calc, tr-r v f aren, tr micmic, tr dissem pyr, tr v f glauc, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p



SILTSTONE: med lt gy-gy blk, tr brnsh blk, r-mnr dk gnsh gy, non calc, tr v f aren, tr v f lse qtz grs, arg grd to SLTY CLYST i/p, tr micmic, tr dissem pyr, tr v f glauc, tr glauc cl pel, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: med lt gy-olv gy, tr brnsh blk, r-mnr dk gnsh gy, non calc, tr v f aren, tr v f lse qtz grs, arg grd to SLTY CLYST i/p, tr micmic, tr dissem pyr, tr v f glauc, tr glauc cl pel, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: med lt gy-dk gnsh gy, tr brnsh blk, non calc, tr v f aren, arg grd to SLTY CLYST i/p, tr micmic, tr dissem pyr, tr v f glauc, tr glauc cl pel, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: med lt gy-dk gnsh gy, tr brnsh blk, non calc, tr v f aren, arg grd to SLTY CLYST i/p, tr micmic, tr dissem pyr, tr v f glauc, tr glauc cl pel, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: med lt gy-dk gnsh gy, tr brnsh blk, non calc, tr v f aren, arg grd to SLTY CLYST i/p, tr micmic, tr nod-dissem pyr, tr v f glauc, tr glauc cl pel, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SPP: 3985-4320psi

WOB: 13-53klbf
RPM: 126-203
GPM: 514-644
SPP: 3208-4351psi

WOB: 6-34klbf
RPM: 127-143
GPM: 556-652
SPP: 3291-4327psi

4810
4820
4830
4840
4850
4860
4870
4880
4890
4900
4910
4920
4930
4940

3572.8
3586.4
3600.1
3614.3
3629.0
3644.2
3659.9

Survey @ 4821.23 mMDRT
Incl: 46.96 deg
Azi: 190.52 deg
TVD: 3573.60 m

Survey @ 4850.51 mMDRT
Incl: 47.14 deg
Azi: 190.85 deg
TVD: 3593.55 m

Survey @ 4879.65 mMDRT
Incl: 43.51 deg
Azi: 190.18 deg
TVD: 3614.18 m

Survey @ 4911.69 mMDRT
Incl: 40.37 deg
Azi: 190.03 deg
TVD: 3637.86 m

Survey @ 4943.08 mMDRT

SILTSTONE: med lt gy-dk gنش gy, tr brنش blk,non calc, tr v f aren, bcm sd, tr micmic, tr disseminated pyr, tr v f glauc, sft-dom frm, r mod hd, amor-sbbلكy, sbfiss i/p

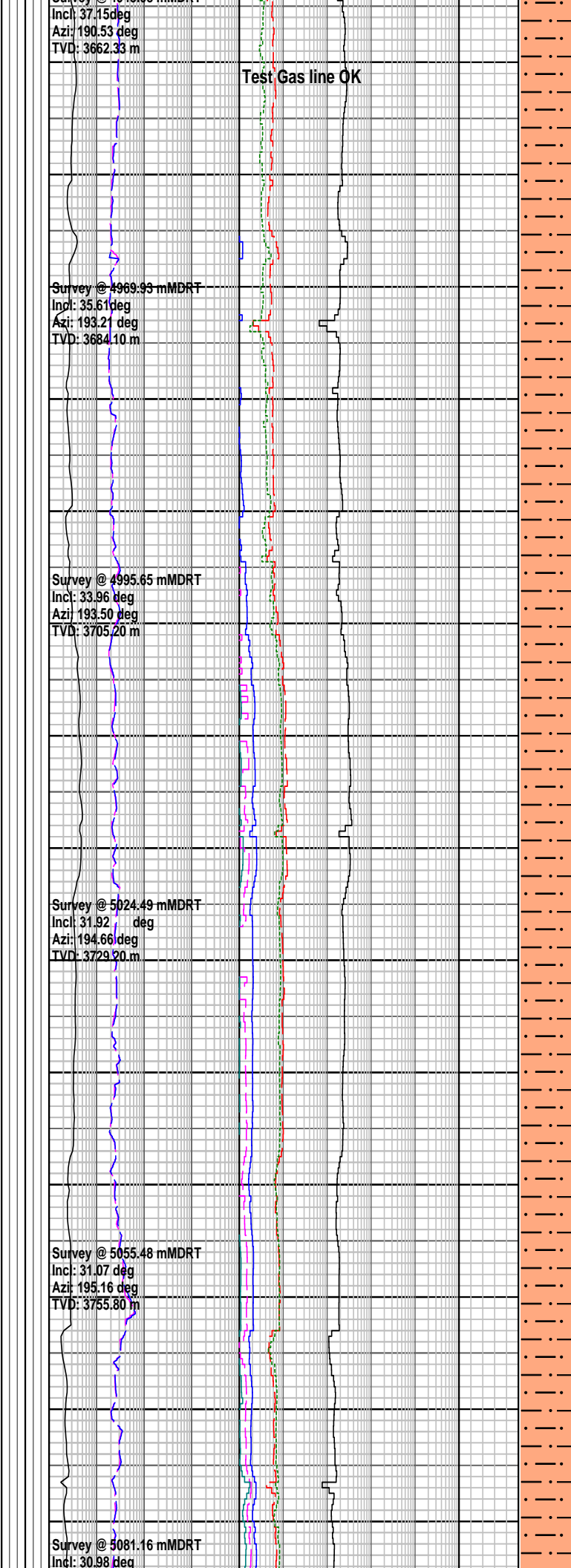
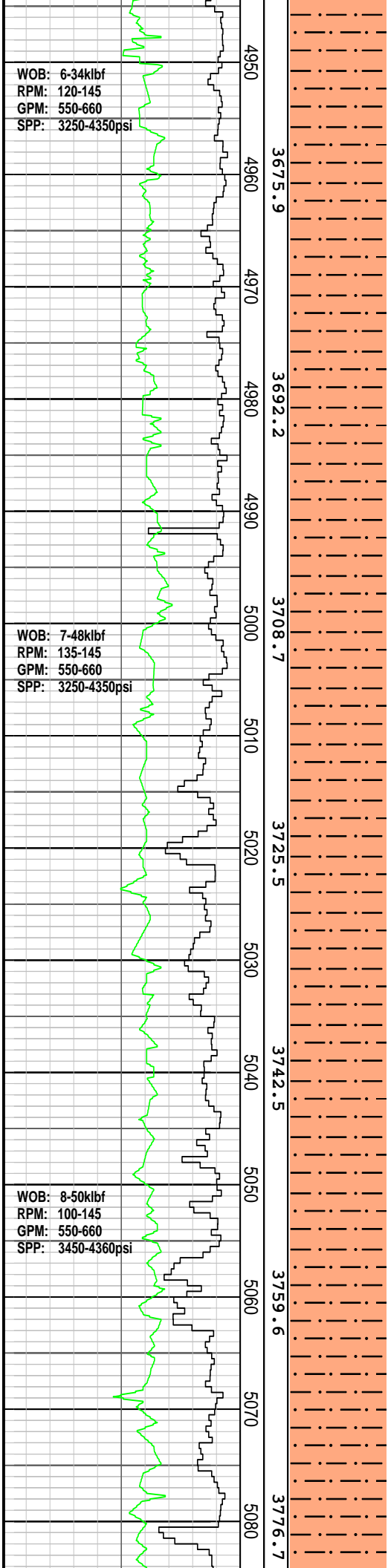
SILTSTONE: dom olv gy-med lt gy, tr brنش blk,non calc, tr v f aren, tr micmic, tr disseminated pyr, tr v f glauc, sft-dom frm, r mod hd, amor-sbbلكy, sbfiss i/p

SANDSTONE: clr-trنشl, tr lt brنش gy, dom v f-f, wl srt, dom sbang-sbrنشd, v sft agg w/ disp lt brنش gy argl mtrx, p inf por, no hydc fluor

SILTSTONE: dom olv gy-med lt gy, tr brنش blk,non calc, tr v f aren, argl i/p grd to SLTY CLYST, tr micmic, tr disseminated pyr, tr v f glauc, sft-dom frm, r mod hd, amor-sbbلكy, sbfiss i/p

SILTSTONE: dom olv gy-med lt gy, tr brنش blk,non calc, tr v f aren, argl i/p grd to SLTY CLYST, tr micmic, tr disseminated pyr, tr v f glauc, sft-dom frm, r mod hd, amor-sbbلكy, sbfiss i/p

SANDSTONE: clr-trنشl, tr lt brنش gy, dom v f-f, r med, wl srt, dom sbang-sbrنشd, v sft agg w/ disp lt brنش gy argl mtrx, p inf por, no hydc fluor



SILTSTONE: dom olv gy-lt brnsh gy, tr med lt gy, non calc, tr v f aren, argl i/p grd to SLTY CLYST, tr gysh blk carb spks, tr micmic, tr dissem pyr, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: dom olv gy-lt brnsh gy, tr med lt gy, non calc, tr v f aren, argl i/p grd to SLTY CLYST, tr gysh blk carb spks, tr micmic, tr dissem pyr, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

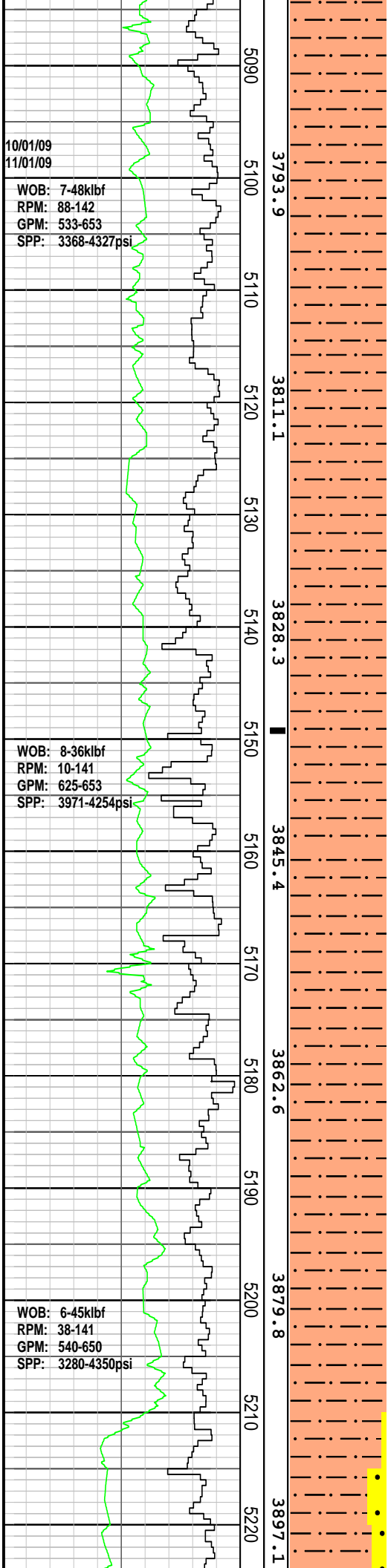
SILTSTONE: dom olv gy-lt brnsh gy, tr med lt gy, non calc, tr v f aren, argl i/p grd to SLTY CLYST, tr gysh blk carb spks, tr micmic, tr dissem pyr, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: dom olv gy-lt brnsh gy, tr med lt gy, non calc, tr v f aren, argl i/p grd to SLTY CLYST, tr gysh blk carb spks, tr v f glauc, tr micmic, tr dissem pyr, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: dom olv gy-brnsh gy, tr med lt gy, non calc, tr v f aren, argl i/p grd to SLTY CLYST, tr gysh blk carb spks, tr v f glauc, tr micmic, tr dissem pyr, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

SILTSTONE: dom olv gy-brnsh gy, tr med lt gy, non calc, tr v f aren, arg i/p grd to SLTY CLYST, tr gysh blk carb spks, tr v f glauc grs, tr micmic, tr dissem pyr, sft-dom frm, r mod hd, amor-sbblky, sbfiss i/p

amor-sbbiky, sbfiss i/p



Azi: 195.87 deg
TVD: 3777.90 m

Survey @ 5110.73 mMDRT
Incl: 30.78 deg
Azi: 192.40 deg
TVD: 3803.20 m

Survey @ 5168.59 mMDRT
Incl: 30.87 deg
Azi: 189.66 deg
TVD: 3852.90 m

Survey @ 5198.97 mMDRT
Incl: 30.63 deg
Azi: 190.03 deg
TVD: 3879.00 m

Test Gas line OK

SILTSTONE: dom olv gy-brnsh gy, tr med lt gy, non calc, tr v f aren, arg i/p grd to SLTY CLYST, tr gysh blk carb spks, tr v f glauc grs, tr micmic, tr dissem pyr, sft-dom frm, r mod hd, amor-sbbiky, sbfiss i/p

SILTSTONE: dom olv gy-brnsh gy, tr med lt gy, non calc, tr v f aren, arg i/p grd to SLTY CLYST, tr gysh blk carb spks, tr v f glauc grs, tr micmic, tr dissem pyr, sft-dom frm, r mod hd, amor-sbbiky, sbfiss i/p

SILTSTONE: dom olv gy-brnsh gy, tr med lt gy, non calc, tr v f aren, arg i/p grd to SLTY CLYST, tr gysh blk carb spks grd to CARB SLTST, tr v f glauc grs, tr micmic, tr dissem pyr, sft-dom frm, r mod hd, amor-sbbiky, sbfiss i/p

SILTSTONE: dom olv gy-brnsh gy, tr med lt gy, non calc, tr v f aren, arg i/p grd to SLTY CLYST, tr sit gysh blk carb spks, tr v f glauc grs, tr micmic, tr dissem pyr, sft-dom frm, r mod hd, amor-sbbiky, sbfiss i/p

SANDSTONE:clr-trnsl, tr v lt gy, v f-crs, dom f, mod srt, sbang-sbrnnd, tr-com lt brnsh gy argl mtrx, v disp, wk pyr cmt on crs grs, wk sil

