

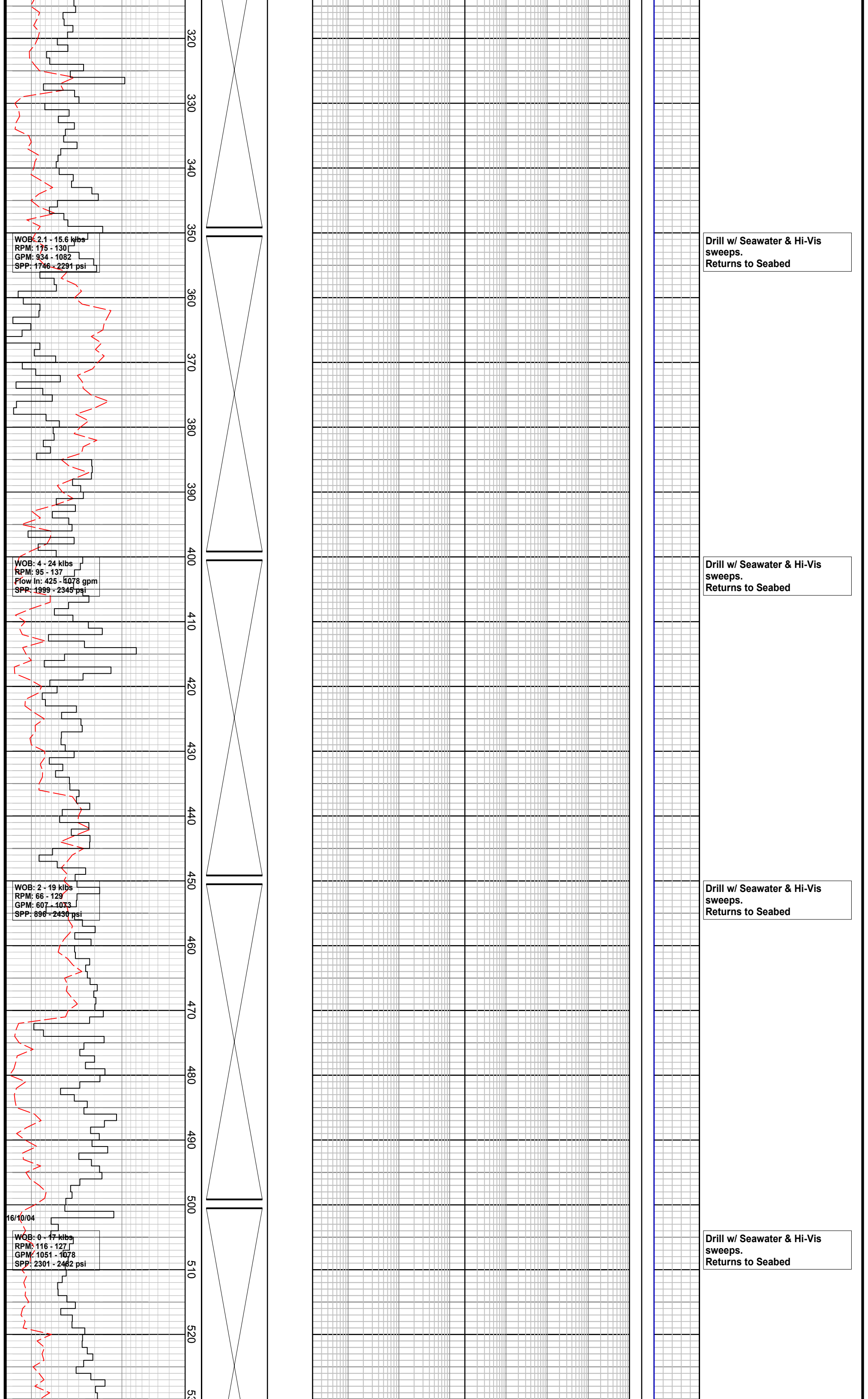


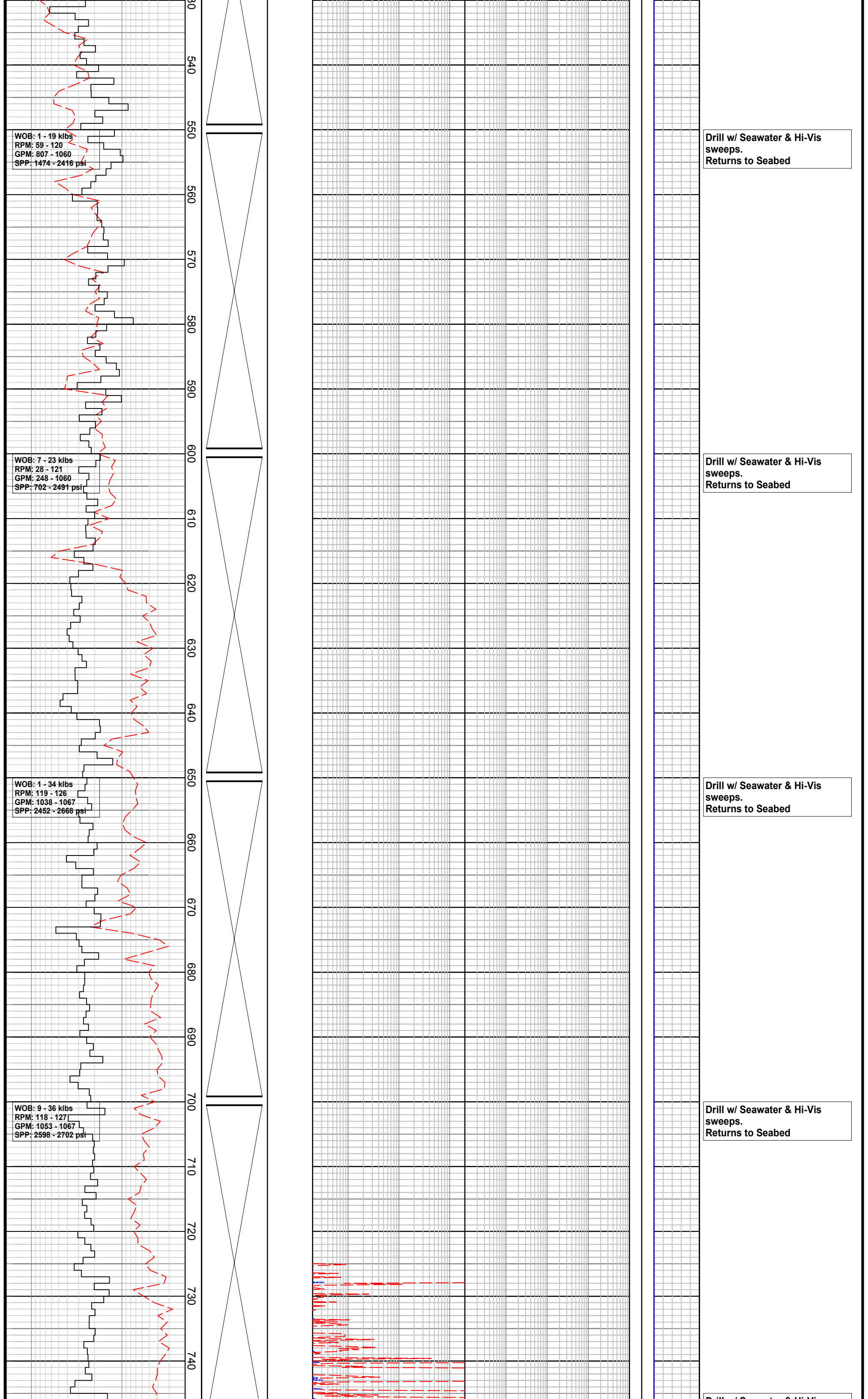
**Company** : Santos  
**Well** : CALLISTER-1  
**Interval** : 150.51 - 3914.95 meters  
**Created** : 25/11/2004 2:09:13 PM



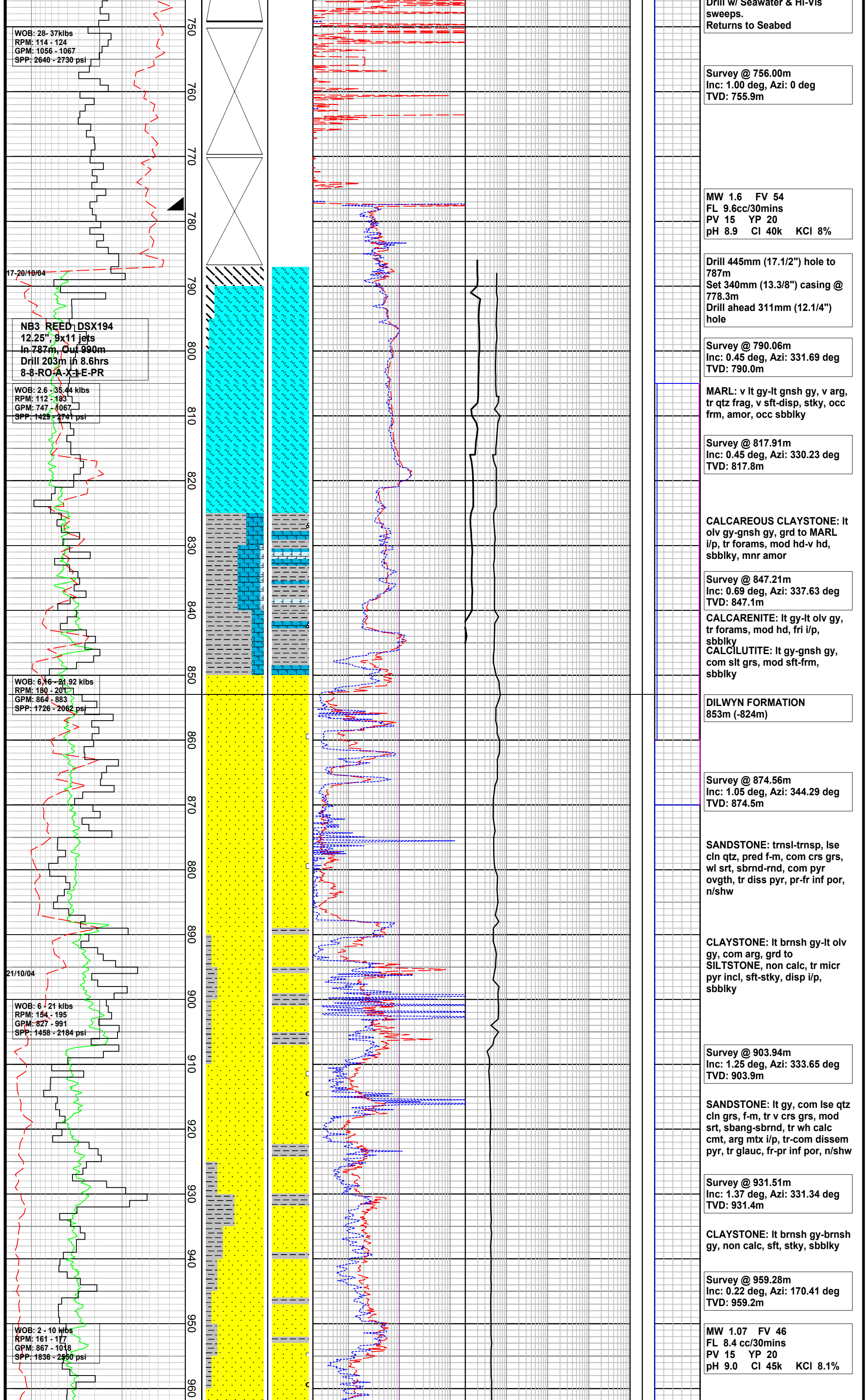
# FORMATION EVALUATION LOG

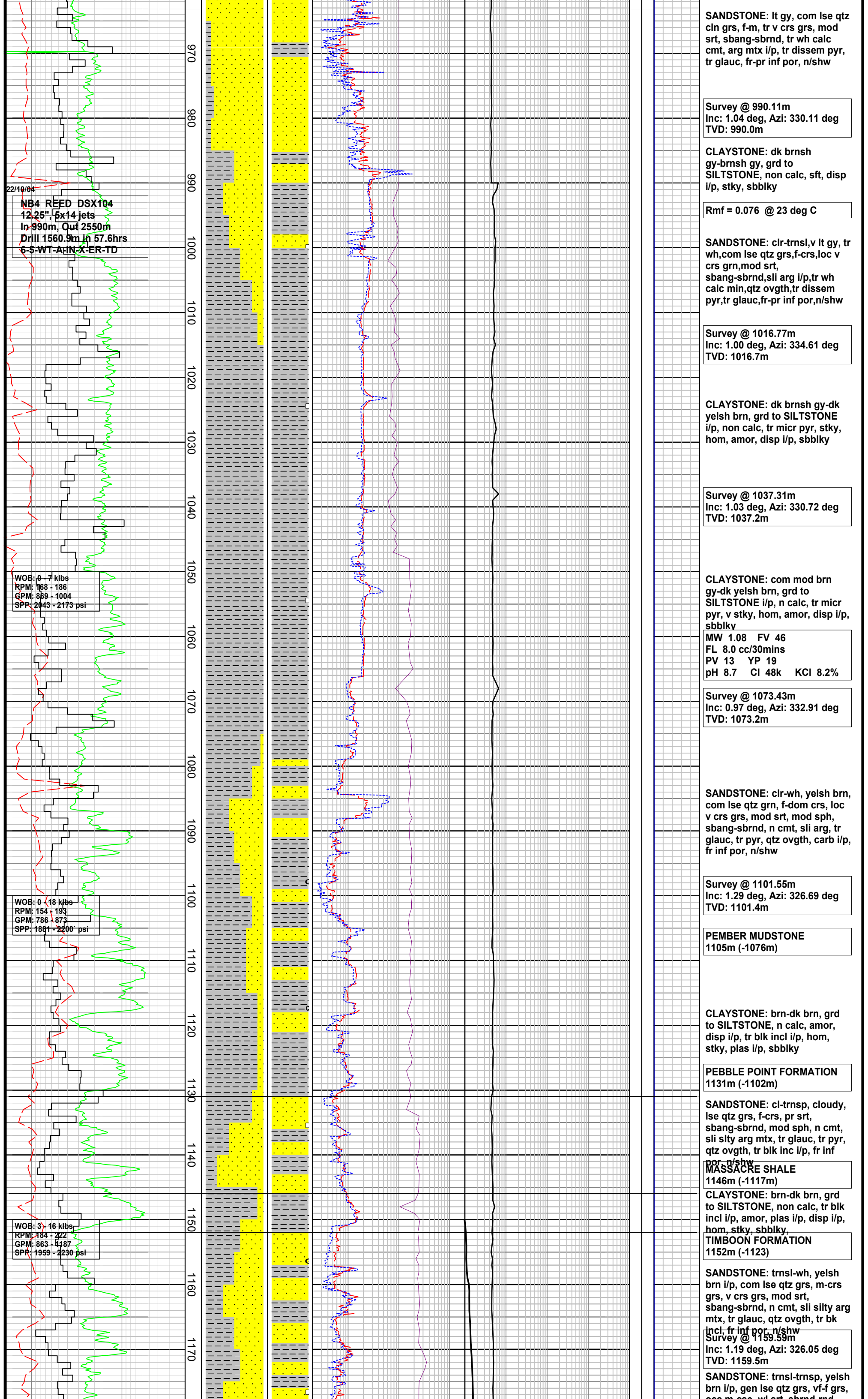
[illegible]











22/10/04  
NB4 REED DSX104  
12.25" 5x14 jets  
In 990m, Out 2550m  
Drill 1560.9m in 57.6hrs  
6-5-WT-A-IN-X-ER-TD

WOB: 0 - 7 klbs  
RPM: 168 - 186  
GPM: 869 - 1004  
SPP: 2043 - 2173 psi

WOB: 0 - 18 klbs  
RPM: 154 - 193  
GPM: 786 - 873  
SPP: 1881 - 2200 psi

WOB: 3 - 16 klbs  
RPM: 184 - 222  
GPM: 863 - 1187  
SPP: 1959 - 2230 psi

SANDSTONE: lt gy, com lse qtz  
cln grs, f-m, tr v crs grs, mod  
srt, sbang-sbrnd, tr wh calc  
cmt, arg mtx i/p, tr disse pyr,  
tr glauc, fr-pr inf por, n/shw

Survey @ 990.11m  
Inc: 1.04 deg, Azi: 330.11 deg  
TVD: 990.0m

CLAYSTONE: dk brnsh  
gy-brnsh gy, grd to  
SILTSTONE, non calc, sft, disp  
i/p, stky, sbblky

Rmf = 0.076 @ 23 deg C

SANDSTONE: clr-trnsl, v lt gy, tr  
wh, com lse qtz grs, f-crs, loc v  
crs grn, mod srt,  
sbang-sbrnd, sli arg i/p, tr wh  
calc min, qtz ovgt, tr disse  
pyr, tr glauc, fr-pr inf por, n/shw

Survey @ 1016.77m  
Inc: 1.00 deg, Azi: 334.61 deg  
TVD: 1016.7m

CLAYSTONE: dk brnsh gy-dk  
yelsh brn, grd to SILTSTONE  
i/p, non calc, tr micr pyr, stky,  
hom, amor, disp i/p, sbblky

Survey @ 1037.31m  
Inc: 1.03 deg, Azi: 330.72 deg  
TVD: 1037.2m

CLAYSTONE: com mod brn  
gy-dk yelsh brn, grd to  
SILTSTONE i/p, n calc, tr micr  
pyr, v stky, hom, amor, disp i/p,  
sbblky

MW 1.08 FV 46  
FL 8.0 cc/30mins  
PV 13 YP 19  
pH 8.7 CI 48k KCl 8.2%

Survey @ 1073.43m  
Inc: 0.97 deg, Azi: 332.91 deg  
TVD: 1073.2m

SANDSTONE: clr-wh, yelsh brn,  
com lse qtz grn, f-dom crs, loc  
v crs grs, mod srt, mod sph,  
sbang-sbrnd, n cmt, sli arg, tr  
glauc, tr pyr, qtz ovgt, carb i/p,  
fr inf por, n/shw

Survey @ 1101.55m  
Inc: 1.29 deg, Azi: 326.69 deg  
TVD: 1101.4m

PEMBER MUDSTONE  
1105m (-1076m)

CLAYSTONE: brn-dk brn, grd  
to SILTSTONE, n calc, amor,  
disp i/p, tr blk incl i/p, hom,  
stky, plas i/p, sbblky

PEBBLE POINT FORMATION  
1131m (-1102m)

SANDSTONE: cl-trnsp, cloudy,  
lse qtz grs, f-crs, pr srt,  
sbang-sbrnd, mod sph, n cmt,  
sli slty arg mtx, tr glauc, tr pyr,  
qtz ovgt, tr blk inc i/p, fr inf  
por, n/shw

MASSACRE SHALE  
1146m (-1117m)

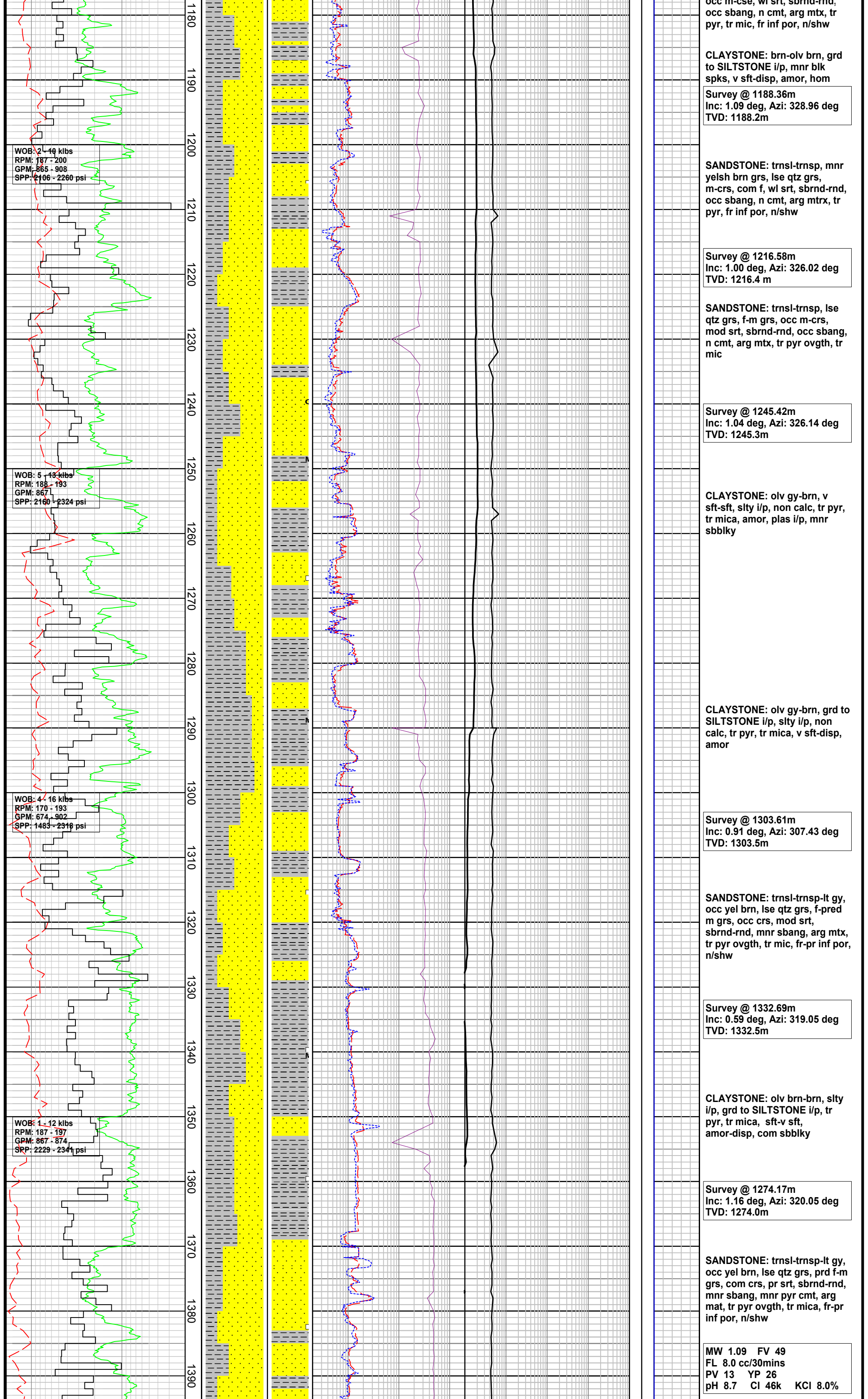
CLAYSTONE: brn-dk brn, grd  
to SILTSTONE, non calc, tr blk  
incl i/p, amor, plas i/p, disp i/p,  
hom, stky, sbblky,  
TIMBOON FORMATION  
1152m (-1123)

SANDSTONE: trnsl-wh, yelsh  
brn i/p, com lse qtz grs, m-crs  
grs, v crs grs, mod srt,  
sbang-sbrnd, n cmt, sli silty arg  
mtx, tr glauc, qtz ovgt, tr bk  
incl, fr inf por, n/shw

Survey @ 1159.59m  
Inc: 1.19 deg, Azi: 326.05 deg  
TVD: 1159.5m

SANDSTONE: trnsl-trnsp, yelsh  
brn i/p, gen lse qtz grs, vf-f grs,  
ccc m ccs, vlf-rt, sbrnd, rnd





WOB: 2 - 49 klbs  
RPM: 187 - 200  
GPM: 865 - 908  
SPP: 2106 - 2260 psi

WOB: 5 - 43 klbs  
RPM: 188 - 193  
GPM: 867  
SPP: 2160 - 2324 psi

WOB: 4 - 16 klbs  
RPM: 170 - 193  
GPM: 674 - 902  
SPP: 1483 - 2318 psi

WOB: 1 - 12 klbs  
RPM: 187 - 197  
GPM: 867 - 874  
SPP: 2229 - 2341 psi

occ m-cse, wl srt, sbrnd-rnd,  
occ sbang, n cmt, arg mtx, tr  
pyr, tr mic, fr inf por, n/shw

CLAYSTONE: brn-olv brn, grd  
to SILTSTONE i/p, mnr blk  
spks, v sft-disp, amor, hom

Survey @ 1188.36m  
Inc: 1.09 deg, Azi: 328.96 deg  
TVD: 1188.2m

SANDSTONE: trnsI-trnsp, mnr  
yelsh brn grs, lse qtz grs,  
m-crs, com f, wl srt, sbrnd-rnd,  
occ sbang, n cmt, arg mtrx, tr  
pyr, fr inf por, n/shw

Survey @ 1216.58m  
Inc: 1.00 deg, Azi: 326.02 deg  
TVD: 1216.4 m

SANDSTONE: trnsI-trnsp, lse  
qtz grs, f-m grs, occ m-crs,  
mod srt, sbrnd-rnd, occ sbang,  
n cmt, arg mtx, tr pyr ovgt, tr  
mic

Survey @ 1245.42m  
Inc: 1.04 deg, Azi: 326.14 deg  
TVD: 1245.3m

CLAYSTONE: olv gy-brn, v  
sft-sft, slty i/p, non calc, tr pyr,  
tr mica, amor, plas i/p, mnr  
sbbiky

CLAYSTONE: olv gy-brn, grd to  
SILTSTONE i/p, slty i/p, non  
calc, tr pyr, tr mica, v sft-disp,  
amor

Survey @ 1303.61m  
Inc: 0.91 deg, Azi: 307.43 deg  
TVD: 1303.5m

SANDSTONE: trnsI-trnsp-lt gy,  
occ yel brn, lse qtz grs, f-pred  
m grs, occ crs, mod srt,  
sbrnd-rnd, mnr sbang, arg mtx,  
tr pyr ovgt, tr mic, fr-pr inf por,  
n/shw

Survey @ 1332.69m  
Inc: 0.59 deg, Azi: 319.05 deg  
TVD: 1332.5m

CLAYSTONE: olv brn-brn, slty  
i/p, grd to SILTSTONE i/p, tr  
pyr, tr mica, sft-v sft,  
amor-disp, com sbbiky

Survey @ 1274.17m  
Inc: 1.16 deg, Azi: 320.05 deg  
TVD: 1274.0m

SANDSTONE: trnsI-trnsp-lt gy,  
occ yel brn, lse qtz grs, prd f-m  
grs, com crs, pr srt, sbrnd-rnd,  
mnr sbang, mnr pyr cmt, arg  
mat, tr pyr ovgt, tr mica, fr-pr  
inf por, n/shw

MW 1.09 FV 49  
FL 8.0 cc/30mins  
PV 13 YP 26  
pH 8.7 CI 46k KCl 8.0%

23/10/04

WOB: 1 - 14 klbs  
RPM: 178 - 197  
GPM: 854 - 866  
SPP: 2209 - 2372 psi

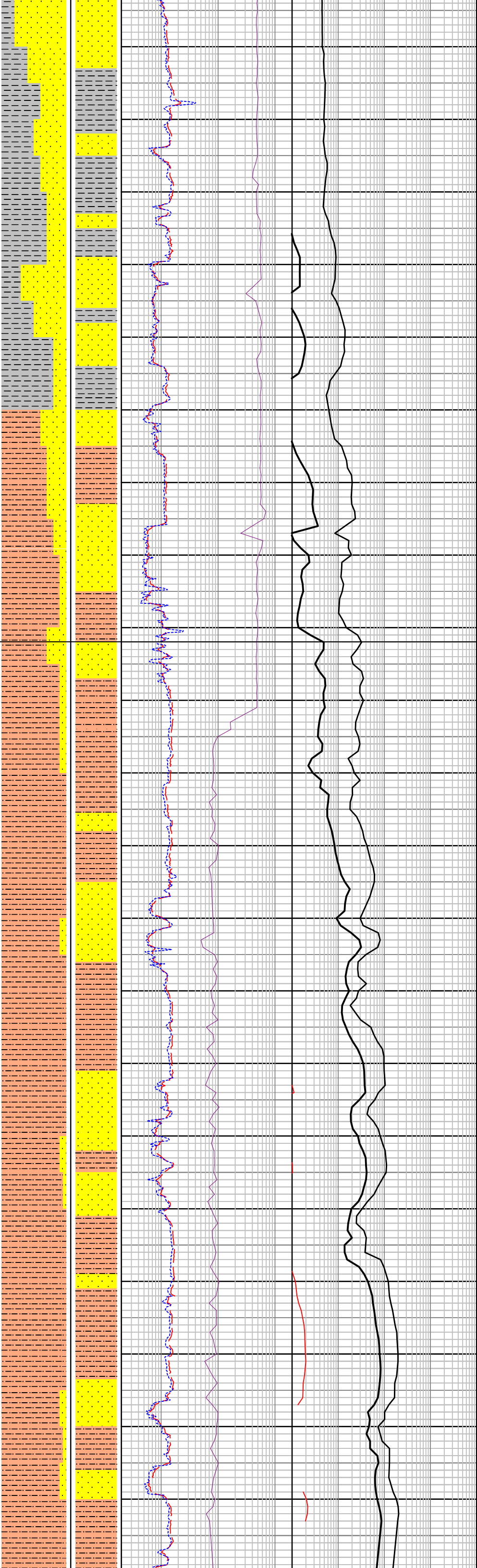
WOB: 1 - 8 klbs  
RPM: 186 - 197  
GPM: 854 - 883  
SPP: 2127 - 2432 psi

WOB: 2 - 13 klbs  
RPM: 184 - 198  
GPM: 838 - 880  
SPP: 2178 - 2451 psi

WOB: 2 - 12 klbs  
RPM: 182 - 196  
GPM: 865 - 876  
SPP: 2244 - 2431 psi

WOB: 3 - 13 klbs  
RPM: 190 - 202  
GPM: 868 - 876  
SPP: 2209 - 2316 psi

1400  
1410  
1420  
1430  
1440  
1450  
1460  
1470  
1480  
1490  
1500  
1510  
1520  
1530  
1540  
1550  
1560  
1570  
1580  
1590  
1600



CLAYSTONE: olv brn-brn, slty  
i/p, grd to SILTSTONE i/p, tr  
pyr, tr glauc, tr mica, sft-v sft,  
amor-disp, com sbblky

Survey @ 1390.36m  
Inc: 0.53 deg, Azi: 314.61 deg  
TVD: 1390.2m

Survey @ 1417.46m  
Inc: 0.62 deg, Azi: 318.06 deg  
TVD: 1417.3m

SANDSTONE: clr-trnsp, v lt gy,  
lse qtz grs, pred f-m grn, mn  
crs, mod srt, sbrnd-rnd, mn  
pyr cmt, sli arg mtz, tr pyr, rr  
glauc, tr pyr ovgt, pr-fr inf por,  
n/shw

Survey @ 1447.76m  
Inc: 0.51 deg, Azi: 316.13 deg  
TVD: 1447.6m

SILTSTONE: brn-dk brn, v arg,  
grd to CLAYSTONE i/p, non  
calc, tr pyr, tr glauc, sft, amor,  
disp i/p, sbblky

Rmf = 0.0873 @ 23.2 deg C

Survey @ 1476.30m  
Inc: 0.56 deg, Azi: 320.25 deg  
TVD: 1476.1m

PAARATTE FORMATION  
1482m (-1453m)

SANDSTONE: clr, wh-v lt gy,  
lse qtz grs, pred f-m, mn crs,  
mod srt, sbrnd-sbang, mn pyr  
cmt, sli arg mtz, tr pyr ovgt,  
pr-fr inf por, n/shw

MW 1.08 FV 47  
FL 6.8 cc/30mins  
PV 17 YP 21  
pH 8.2 CI 46k KCl 8.0%

Survey @ 1503.90m  
Inc: 0.49 deg, Azi: 302.77 deg  
TVD: 1503.7 m

SILTSTONE: dk brnsh gy-dk  
brn, grd to CLAYSTONE, v arg,  
non calc, carb i/p, rr pyr,  
sft-frm, sli stky, hom, sbblky

Survey @ 1532.52m  
Inc: 0.49 deg, Azi: 296.48 deg  
TVD: 1532.4 m

SILTSTONE: dk brnsh gy-dk  
brn, v arg, grd to CLAYSTONE,  
carb i/p, rr pyr, tr calc grs,  
sft-frm, sli disp, hom, sbblky

Survey @ 1560.05m  
Inc: 0.41 deg, Azi: 312.01 deg  
TVD: 1559.9 m

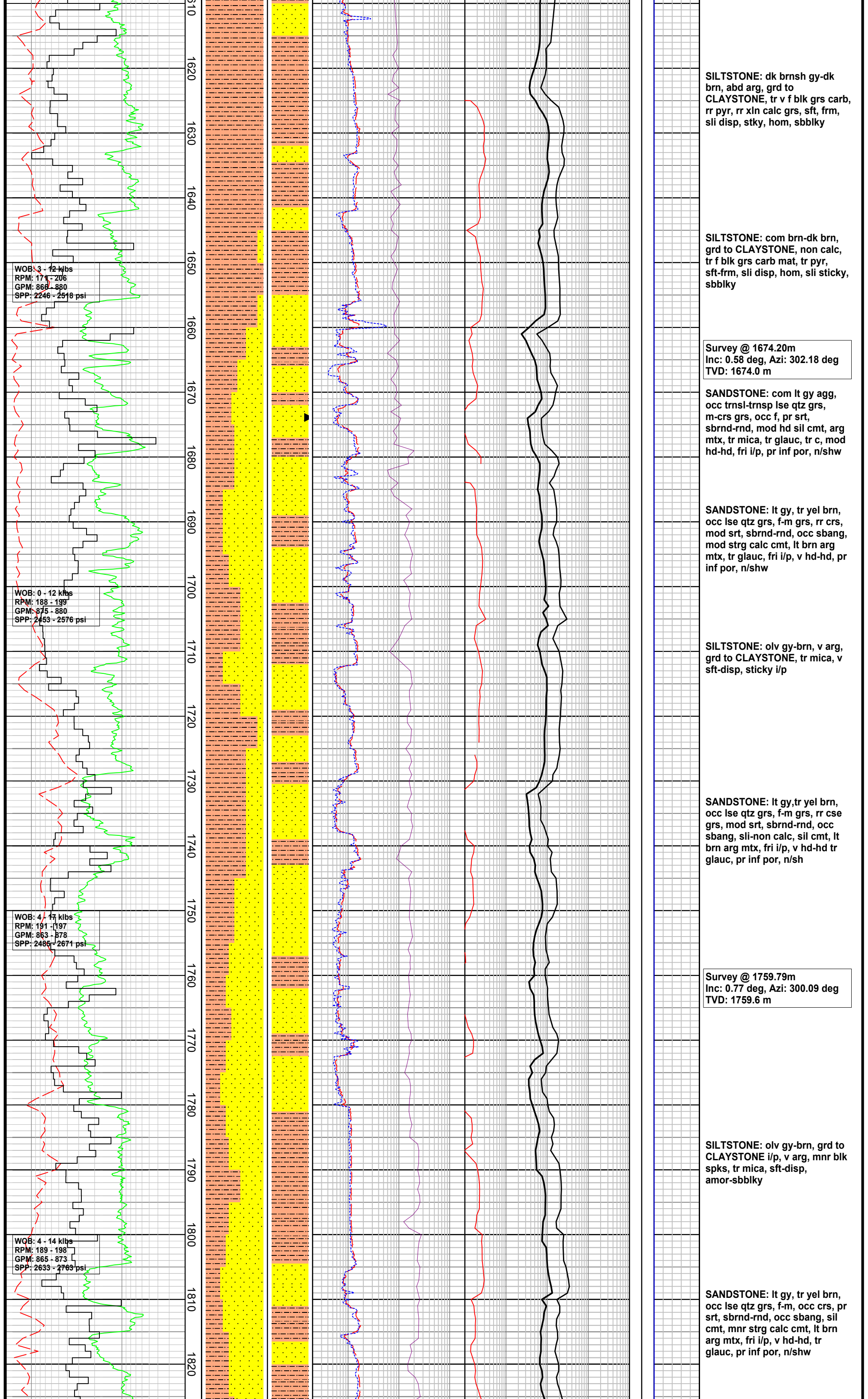
SILTSTONE: dk brnsh gy-dk  
brn, grd to CLAYSTONE, v arg,  
carb i/p, rr pyr, tr calc grs,  
sft-frm, sli disp, hom, sbblky

Carbide Checked @ 1587m  
Gas = 14 units  
Ave hole size = 14.73 "

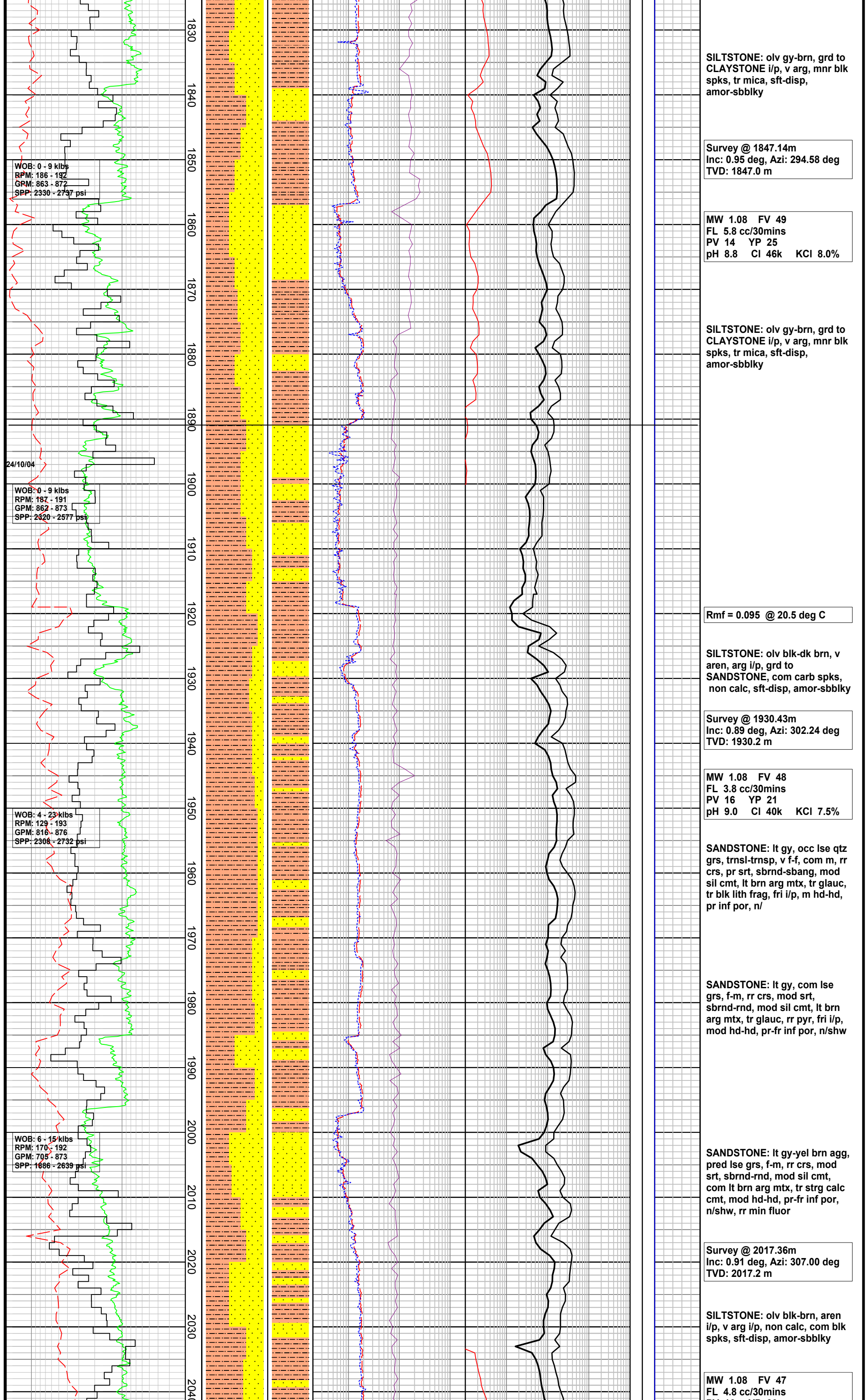
Survey @ 1588.76m  
Inc: 0.41 deg, Azi: 306.97 deg  
TVD: 1588.6 m

SANDSTONE: clr-trnsl, lse qtz,  
m-crs, occ crs grs, pr srt,  
sbang-ang, tr pyr nod, pr-fr inf  
por, n/shw









PV 16	YP 20	
pH 9.1	Cl 44k	KCl 7.7%

**SILTSTONE:** olv blk-brn, aren  
i/p, v arg i/p, non calc, com blk  
spks, sft-disp, amor-sbblky

**SILTSTONE:** olv blk-dk brn,  
aren i/p, arg, gen non calc,  
com-abd blk spks, tr glauc, tr  
pyr, tr yelsh brn xln calc grs,  
sft-disp, frm i/p, amor-sbblky

**Survey @ 2103.93m**  
**Inc: 0.96 deg, Azi: 309.22 deg**  
**TVD: 2103.7 m**

**SILTSTONE:** olv blk-dk brn, dk  
gy, sdy i/p, arg, grd to v f  
**SANDSTONE,** non calc, com  
carb spks, tr yelsh brn-tan dol  
grs, sft-disp, frm i/p,  
amor-sbblky

Rmf = 0.1022 @ 20.6 deg C

MW 1.10 FV 59  
FL 5.8 cc/30mins  
PV 15 YP 32  
pH 9.1 Cl 44k KCl 7.0 %

**SILTSTONE:** olv blk-dk brn, dk  
gy, sdy i/p, arg, grd to v f  
**SANDSTONE,** non calc, com  
carb spks, tr tan dol grs,  
sft-disp, frm i/p, amor-sbblky

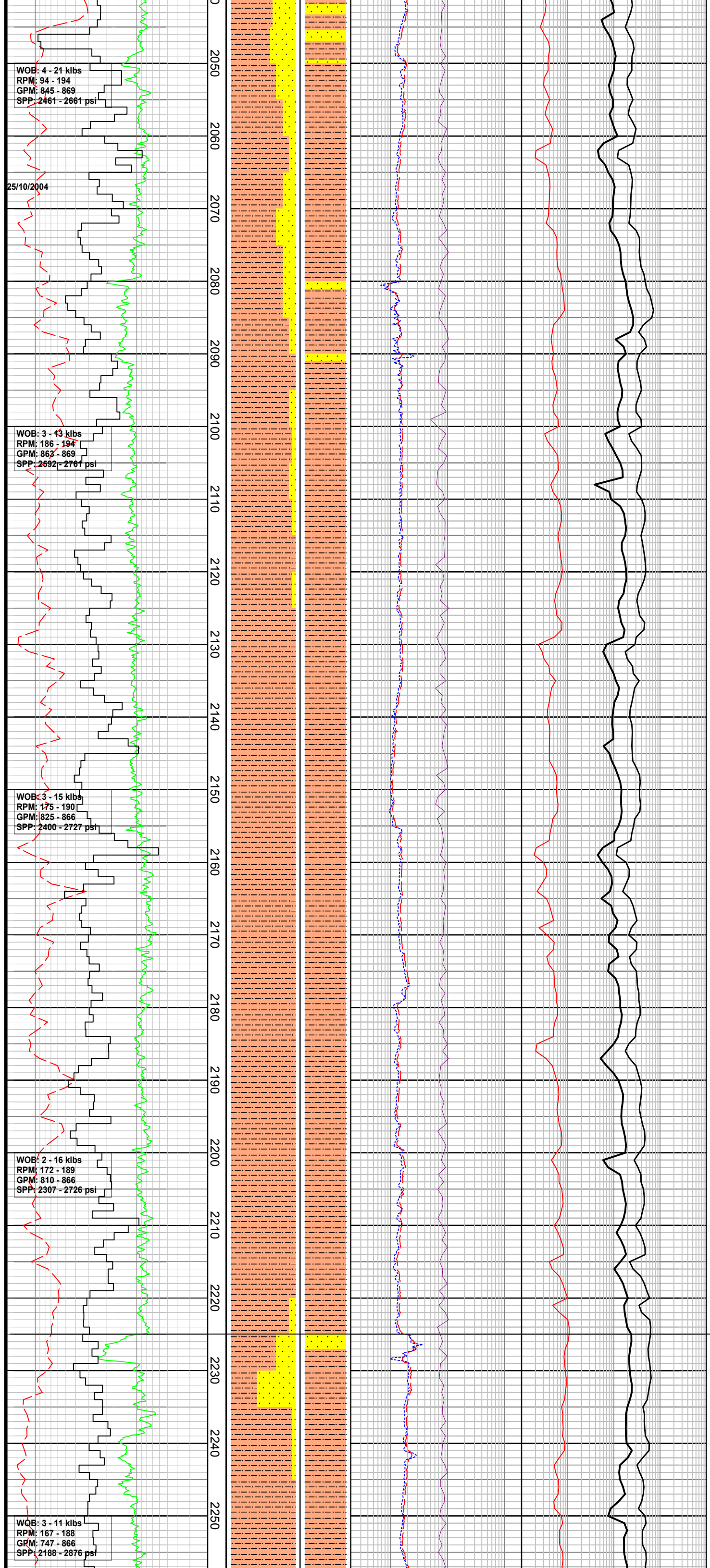
**Survey @ 2187.51m**  
**Inc: 0.94 deg, Azi: 306.90 deg**  
**TVD: 2187.3 m**

**SILTSTONE:** gen dk brn-olv blk,  
v aren, grd to v f **SANDSTONE**,  
non calc, com carb spks, tr pyr,  
tr-com dissem glauc, tr tan dol  
grs, sft-tr frm, amor-sli stky,  
sbbiky

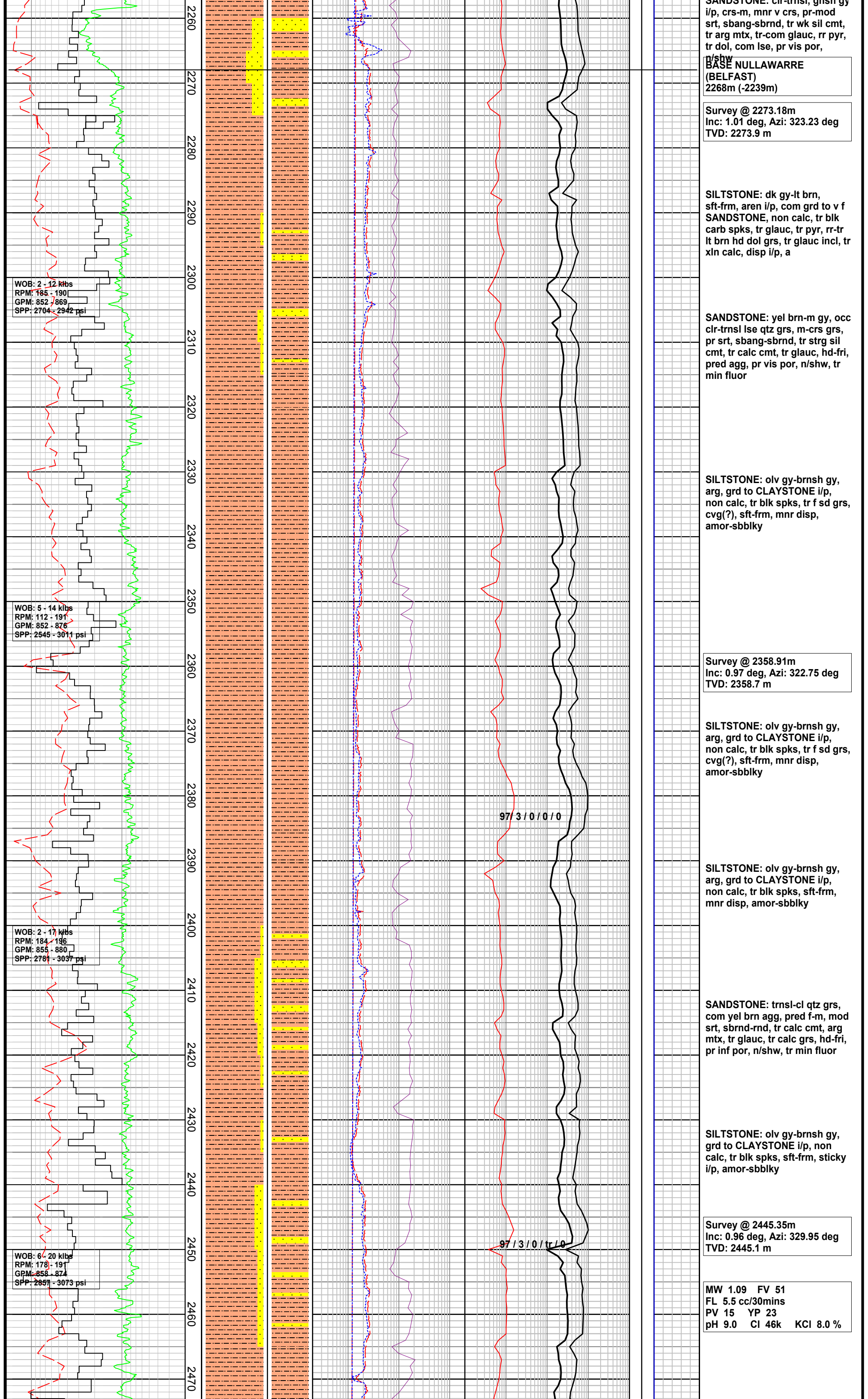
**NULLAWARRE GREENSAND**  
**2225m (-2196m)**

**SANDSTONE:** clr-trnsl, crs-m,  
mnr v crs, pr-mod srt,  
sbang-sbrnd, tr wk sil cmt, tr  
arg mtx, tr-com glauc, rr pyr, tr  
dol, lse, pr vis por, pr inf por,  
n/shw

**SANDSTONE:** clr trnsl, gnsb, gy







SANDSTONE: cl-trnsi, glnsh gy  
i/p, crs-m, mntr v crs, pr-mod  
srt, sbang-sbrnd, tr wk sil cmt,  
tr arg mtz, tr-com glauc, rr pyr,  
tr dol, com lse, pr vis por,

n/shw  
BASE NULLAWARRE  
(BELFAST)  
2268m (-2239m)

Survey @ 2273.18m  
Inc: 1.01 deg, Azi: 323.23 deg  
TVD: 2273.9 m

SILTSTONE: dk gy-lt brn,  
sft-frm, aren i/p, com grd to v f  
SANDSTONE, non calc, tr blk  
carb spks, tr glauc, tr pyr, rr-tr  
lt brn hd dol grs, tr glauc incl, tr  
xln calc, disp i/p, a

SANDSTONE: yel brn-m gy, occ  
clr-trnsi lse qtz grs, m-crs grs,  
pr srt, sbang-sbrnd, tr strg sil  
cmt, tr calc cmt, tr glauc, hd-fri,  
pred agg, pr vis por, n/shw, tr  
min fluor

SILTSTONE: olv gy-brnsh gy,  
arg, grd to CLAYSTONE i/p,  
non calc, tr blk spks, tr f sd grs,  
cvg(?), sft-frm, mntr disp,  
amor-sbblky

Survey @ 2358.91m  
Inc: 0.97 deg, Azi: 322.75 deg  
TVD: 2358.7 m

SILTSTONE: olv gy-brnsh gy,  
arg, grd to CLAYSTONE i/p,  
non calc, tr blk spks, tr f sd grs,  
cvg(?), sft-frm, mntr disp,  
amor-sbblky

SILTSTONE: olv gy-brnsh gy,  
arg, grd to CLAYSTONE i/p,  
non calc, tr blk spks, sft-frm,  
mntr disp, amor-sbblky

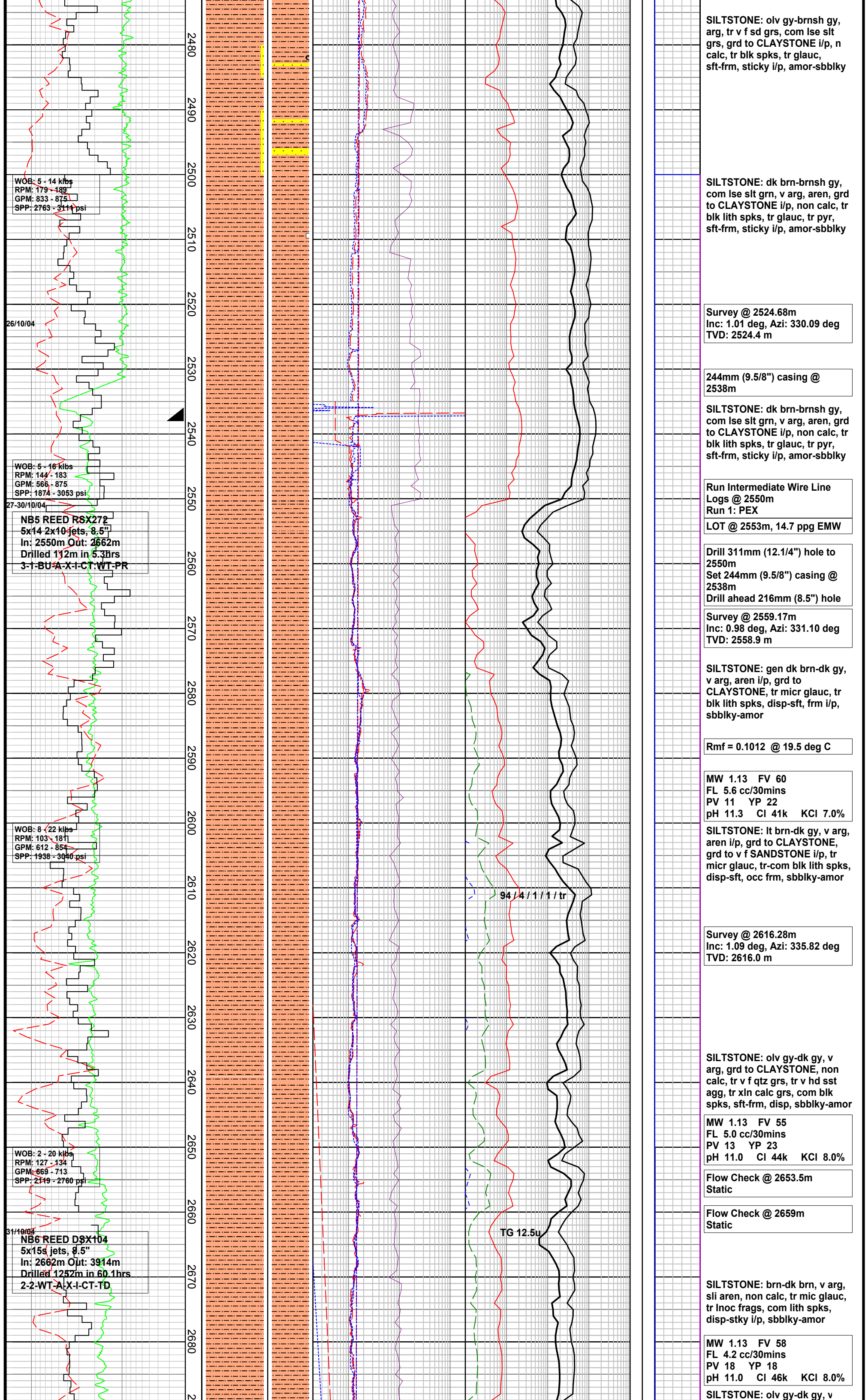
SANDSTONE: trnsi-cl qtz grs,  
com yel brn agg, pred f-m, mod  
srt, sbrnd-rnd, tr calc cmt, arg  
mtz, tr glauc, tr calc grs, hd-fri,  
pr inf por, n/shw, tr min fluor

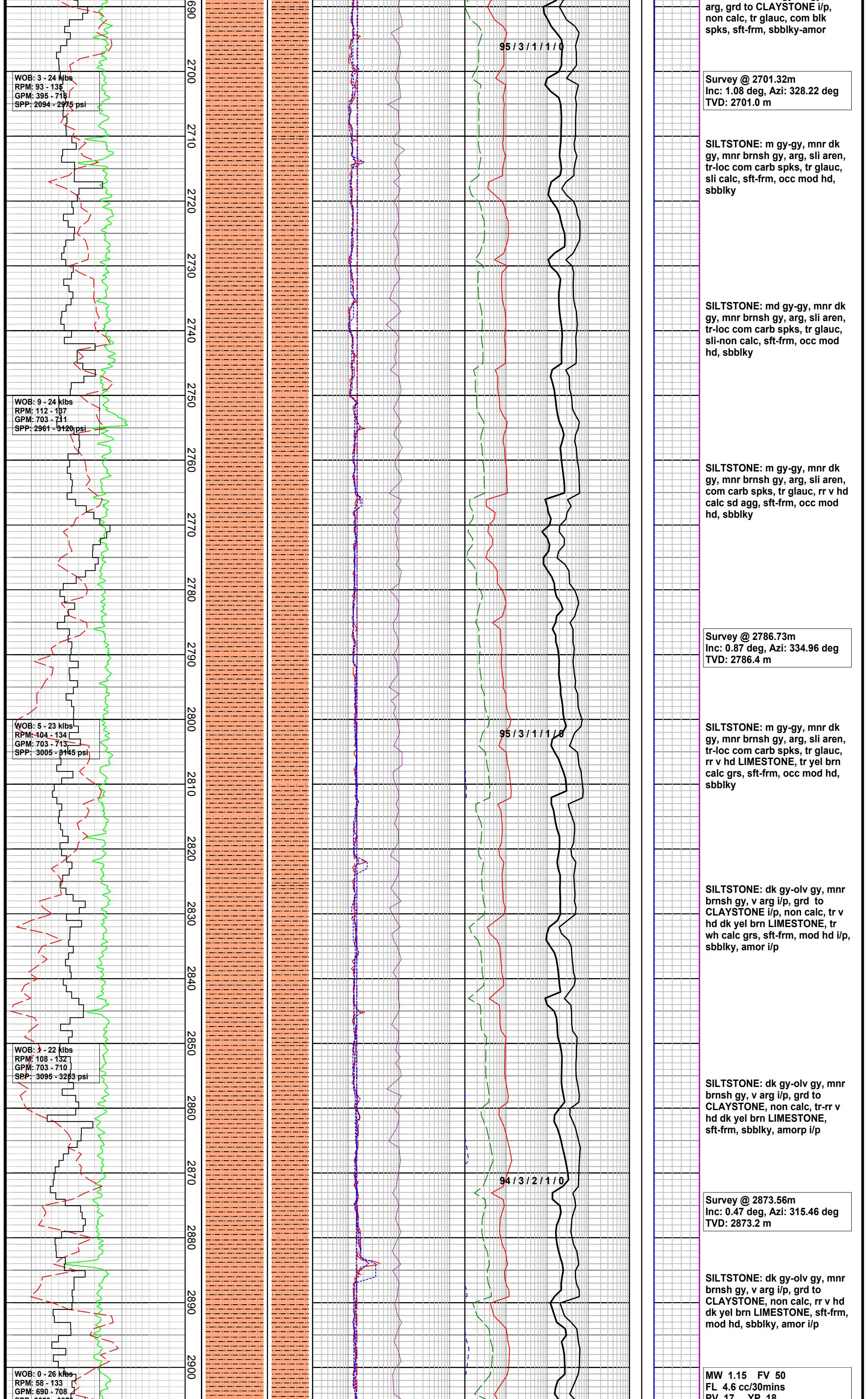
SILTSTONE: olv gy-brnsh gy,  
grd to CLAYSTONE i/p, non  
calc, tr blk spks, sft-frm, sticky  
i/p, amor-sbblky

Survey @ 2445.35m  
Inc: 0.96 deg, Azi: 329.95 deg  
TVD: 2445.1 m

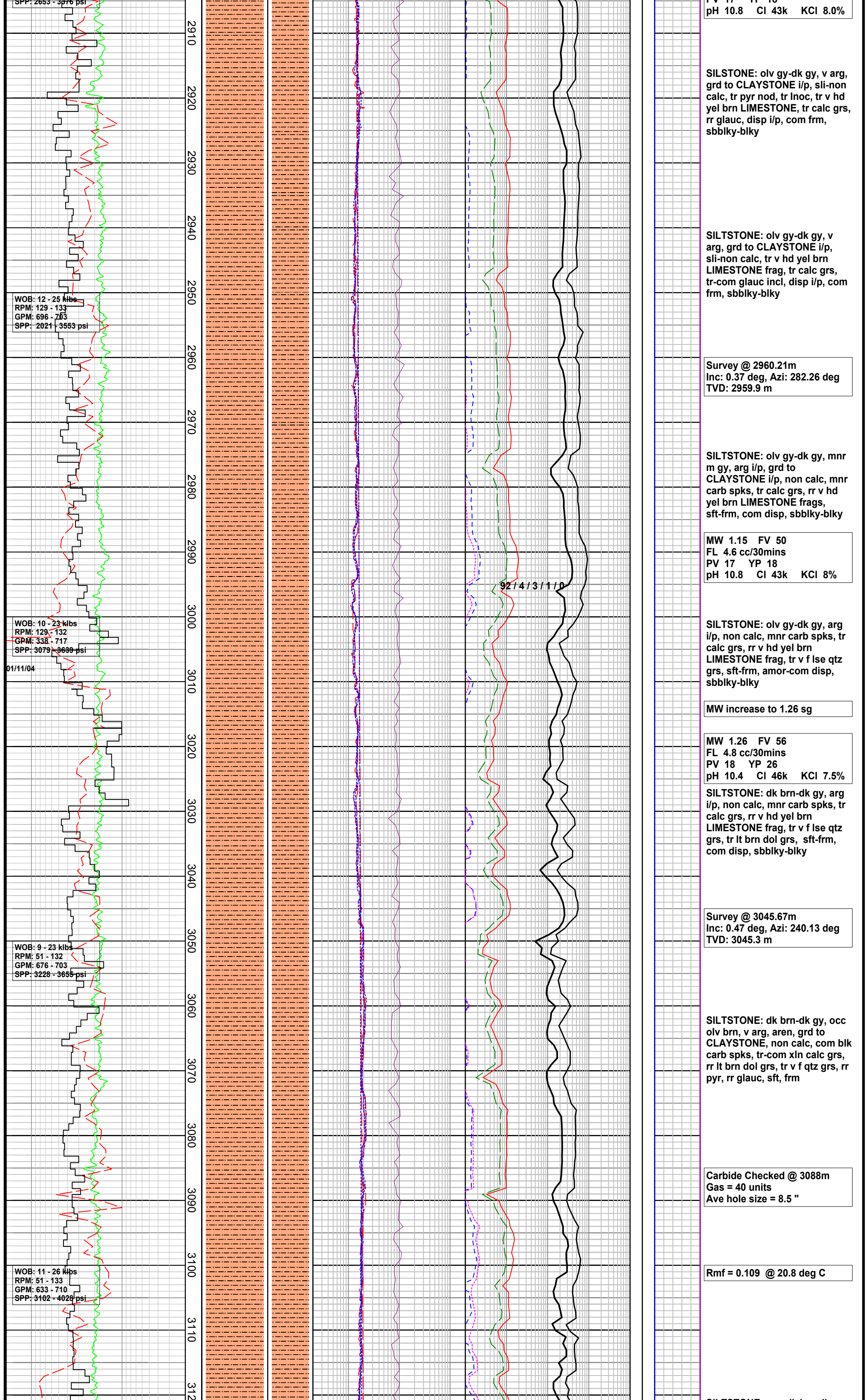
MW 1.09 FV 51  
FL 5.5 cc/30mins  
PV 15 YP 23  
pH 9.0 CI 46k KCl 8.0 %



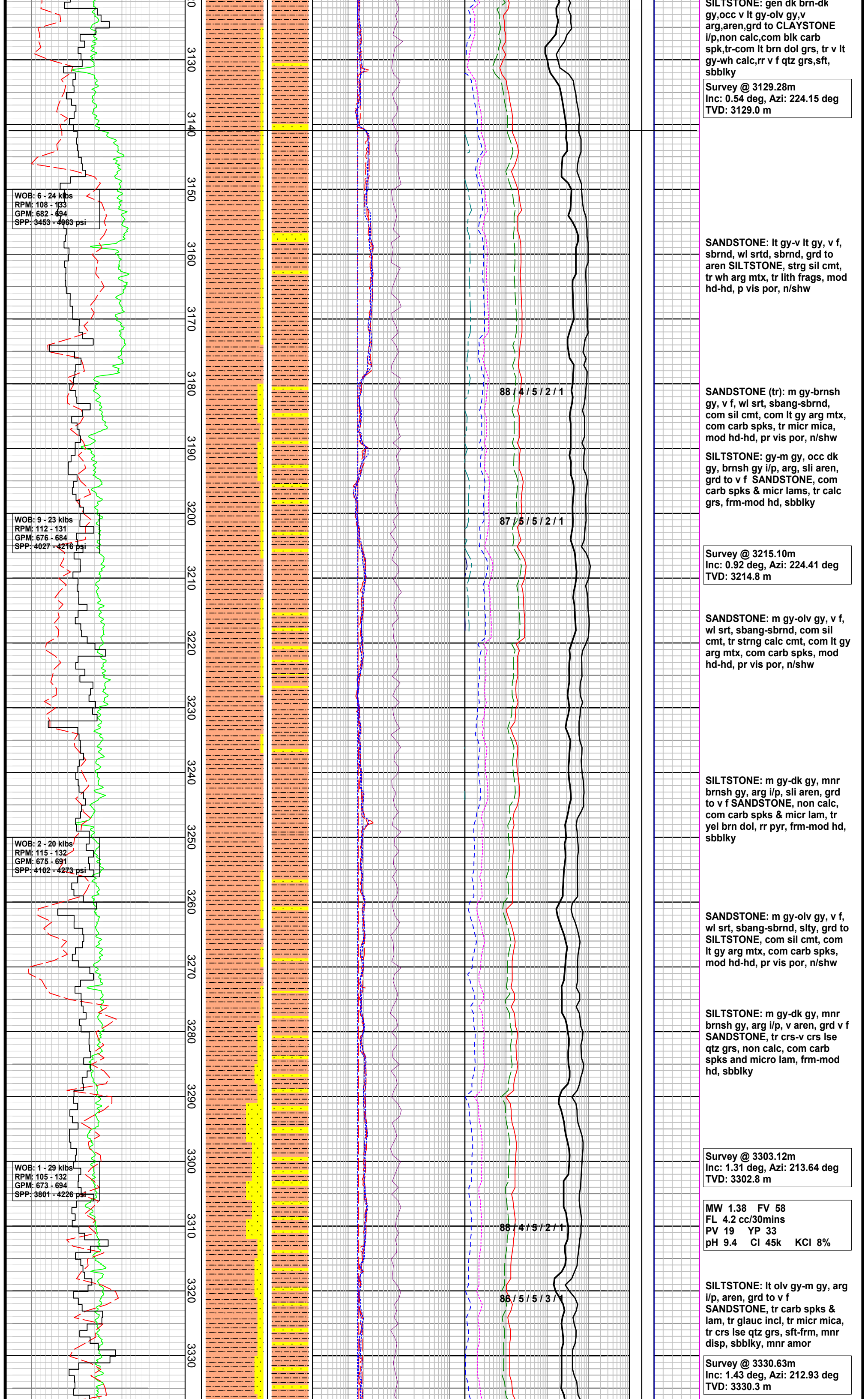


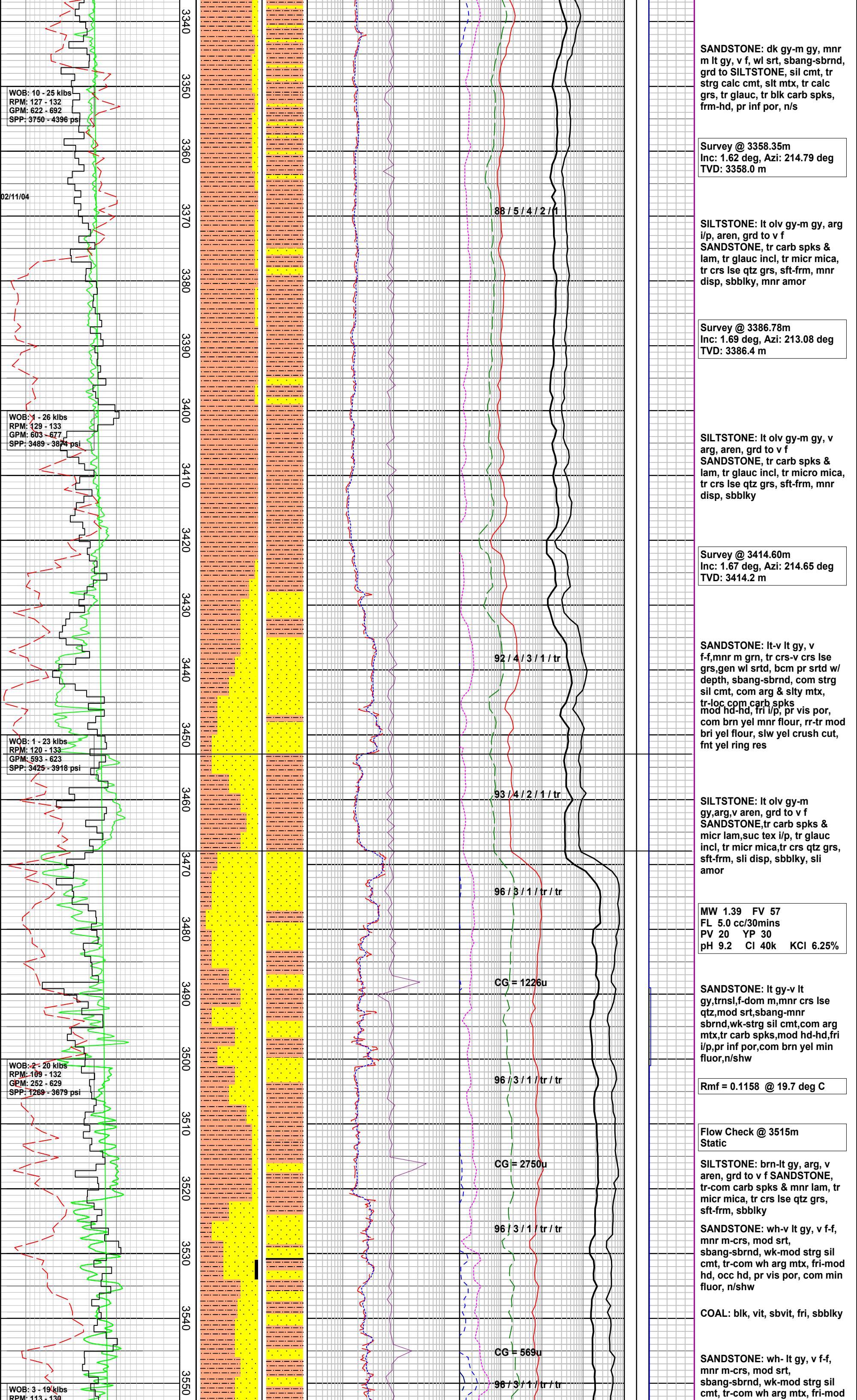




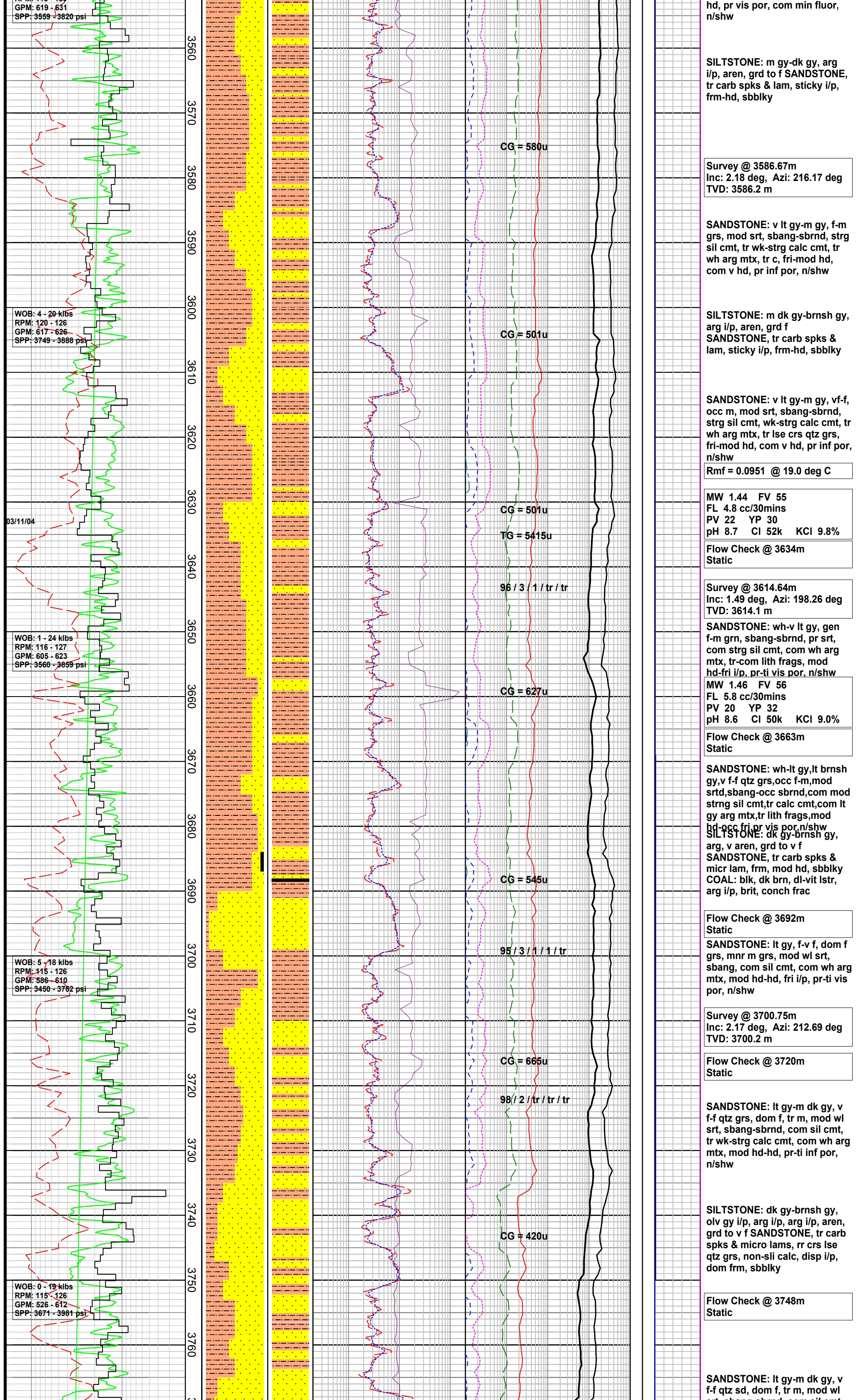














## Run E-Logs

Gamma Ray				MD meters 1:500	LITHOLOGY %	INTERPRETED LITHOLOGY	RESISTIVITY		CHROMATOGRAPH				DIRECT FLUORESCENCE	CUT FLUORESCENCE	CALC	REMARKS
50   100   150   200							Total Gas (Units)		1   10   100   1000							
API							Resistivity (Deep)		Methane ppm							
WOB (Klbs)							0.2 200		Ethane ppm							
10   20   30   40							Resistivity (Shallow)		Propane ppm							
WOB (MT)							0.2 200		iso-Butane ppm							
4.5   9   13.5   18							Ohm.m		n-Butane ppm							
ROP (m/hr)				10 10000		iso-Pentane ppm										
200   20				ppm		n-Pentane ppm										
						10 100000										