



Santos

INTEQ

Company	Santos Ltd
Well	Callister-1
Permit	Vic/P51
Region	Offshore Vic, Otway Basin
Designation	New Field Wildcat
Coordinates	015° 11' 17.77" S Lat 122° 10' 35.37" E Long
Ref Elevation	RT 29.0 m above Sealevel MSL
Total Depth	3914mRT
Contractor	Transocean Sedco Forex
Rig	MODU Jack Bates
Type	Semi-Submersible

LOG INTERVAL	
Depth	158.4 mRT to 3914mRT
Date	13 th Oct – 4 th November 2004
Scale	1 : 500
Data Engineers	J.Concepcion, R. Ronquillo A. Lengenber, D. Hatton
Logging Geologists	T. Rukmubroto, K. Krivan

INTEQ LOG SUITE

Formation Evaluation
Drilling Data Plot
Gas Ratio Plot

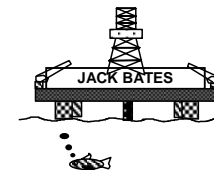
Drilling Data Pressure Plot
Pressure Summary Plot

ABBREVIATIONS

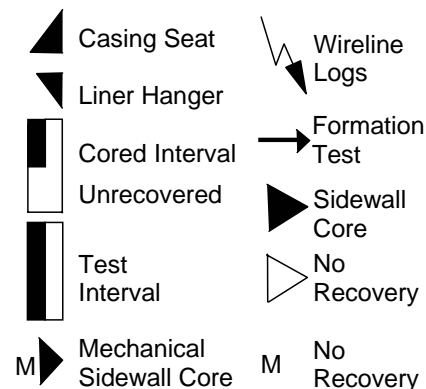
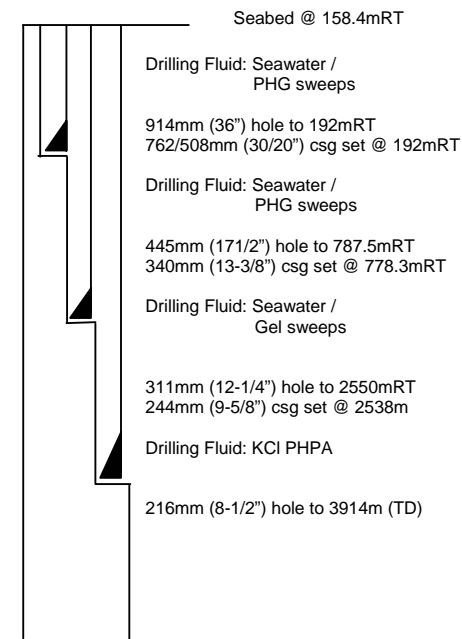
NB	New Bit	MD	Measured Depth
RR	Rerun Bit	GPM	Gallons per Min
CB	Core Bit	PP	Pump Pressure
WOB	Weight on Bit	MW	Mud Weight sg
RPM	Revs per Minute	FV	Funnel Viscosity
FLC	Flow Check	F	Filtrate - API
CR	Circulate Returns	FC	Filter Cake
PR	Poor Returns	PV	Plastic Viscosity
NR	No Returns	YP	Yield Point
BG	Background Gas	Sol	Solids %
WTG	Wiper Trip Gas	Sd	Sand %
TG	Trip Gas	Cl	Chlorides
POG	Pumps Off	RM	Mud Resistivity
CG	Connection Gas	RMF	Filtrate Resistivty
SG	Swab Gas	TVD	True Vertical Depth

LITHOLOGY SYMBOLS

Calcarenite Ca	Calcsiltite Cs	Calcilutite Cl	Glauconite Glauc
Dolomite Dol	Marl Mrl	Conglomerate Cgl	Pyrite Pyr
Sandstone Sst	Siltstone Slst	Claystone Clst	Chert Cht
Mica Mic	Cement Cmt	Coal C	Calcareous Calc



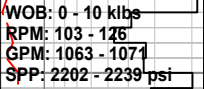
Datum, Rotary Table (RT)
Sealevel 29.0 mRT (MSL)

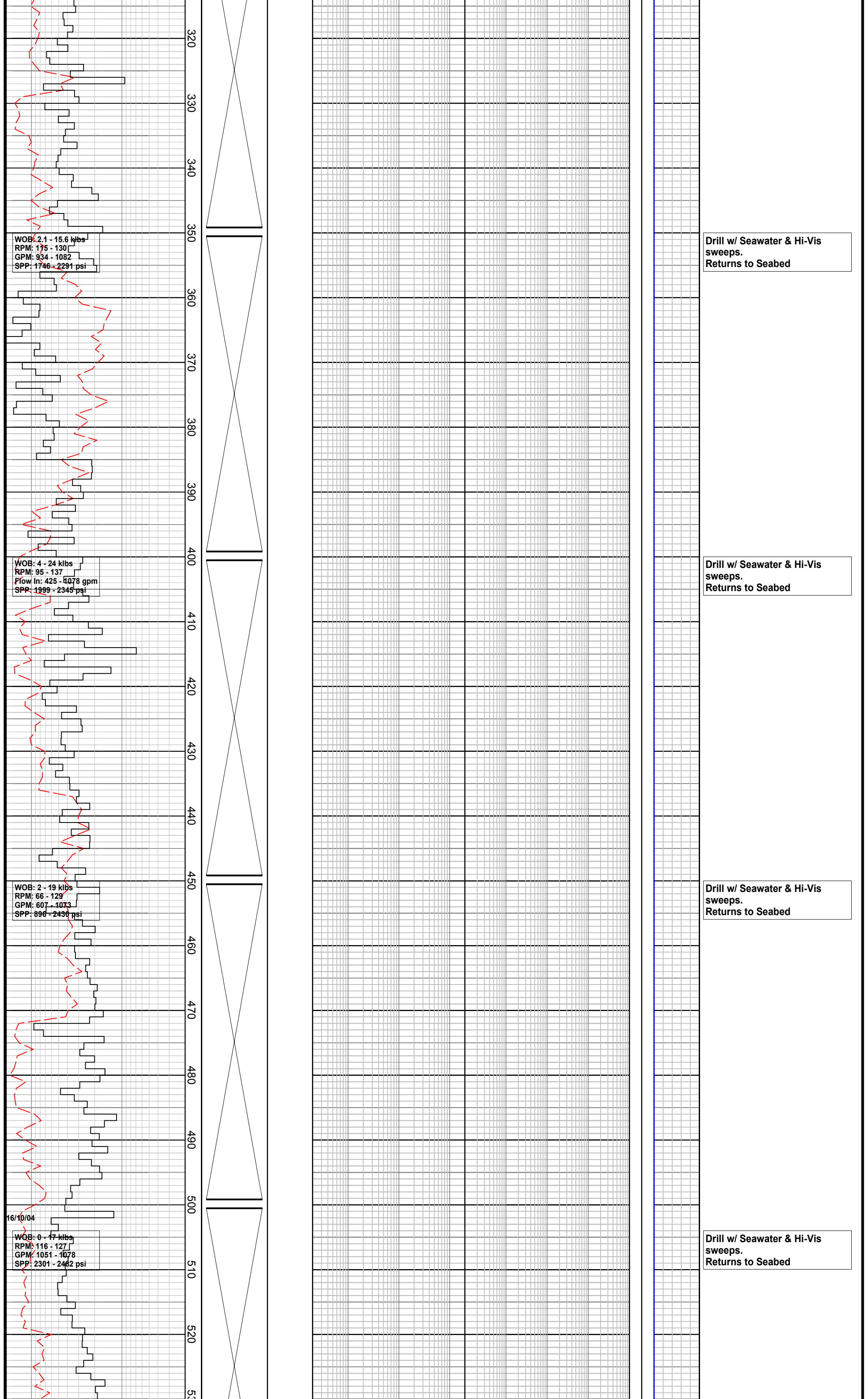


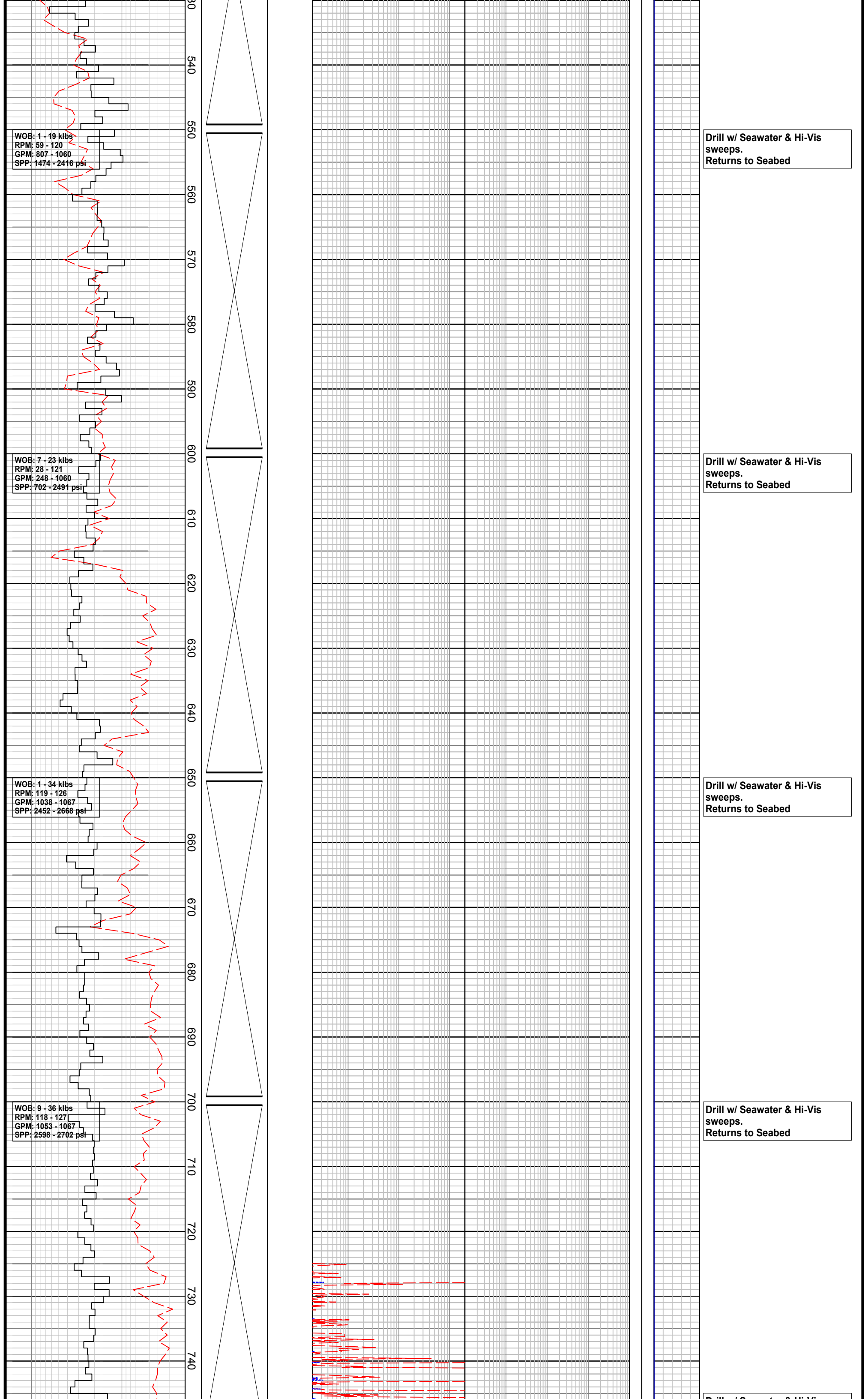


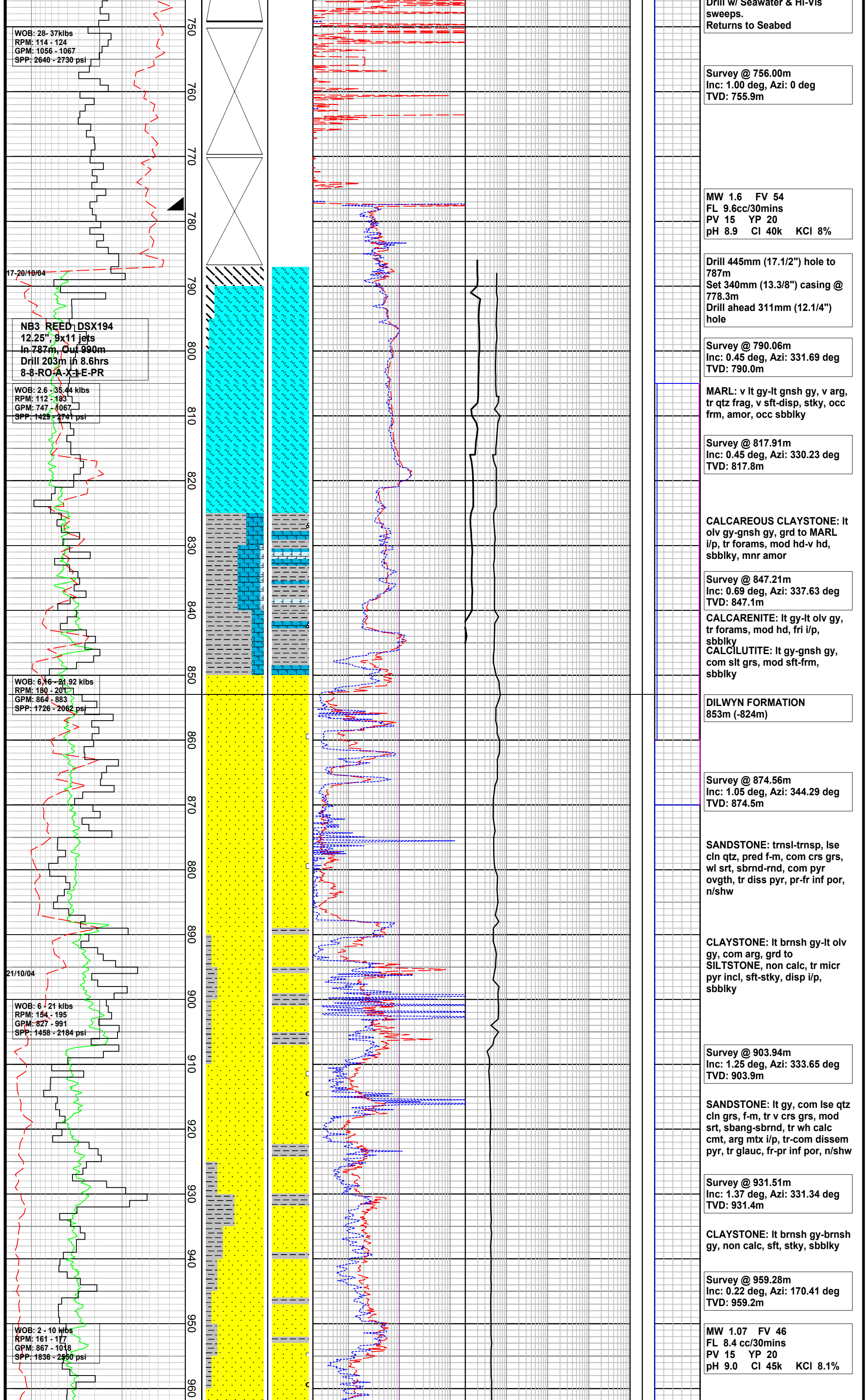
Santos

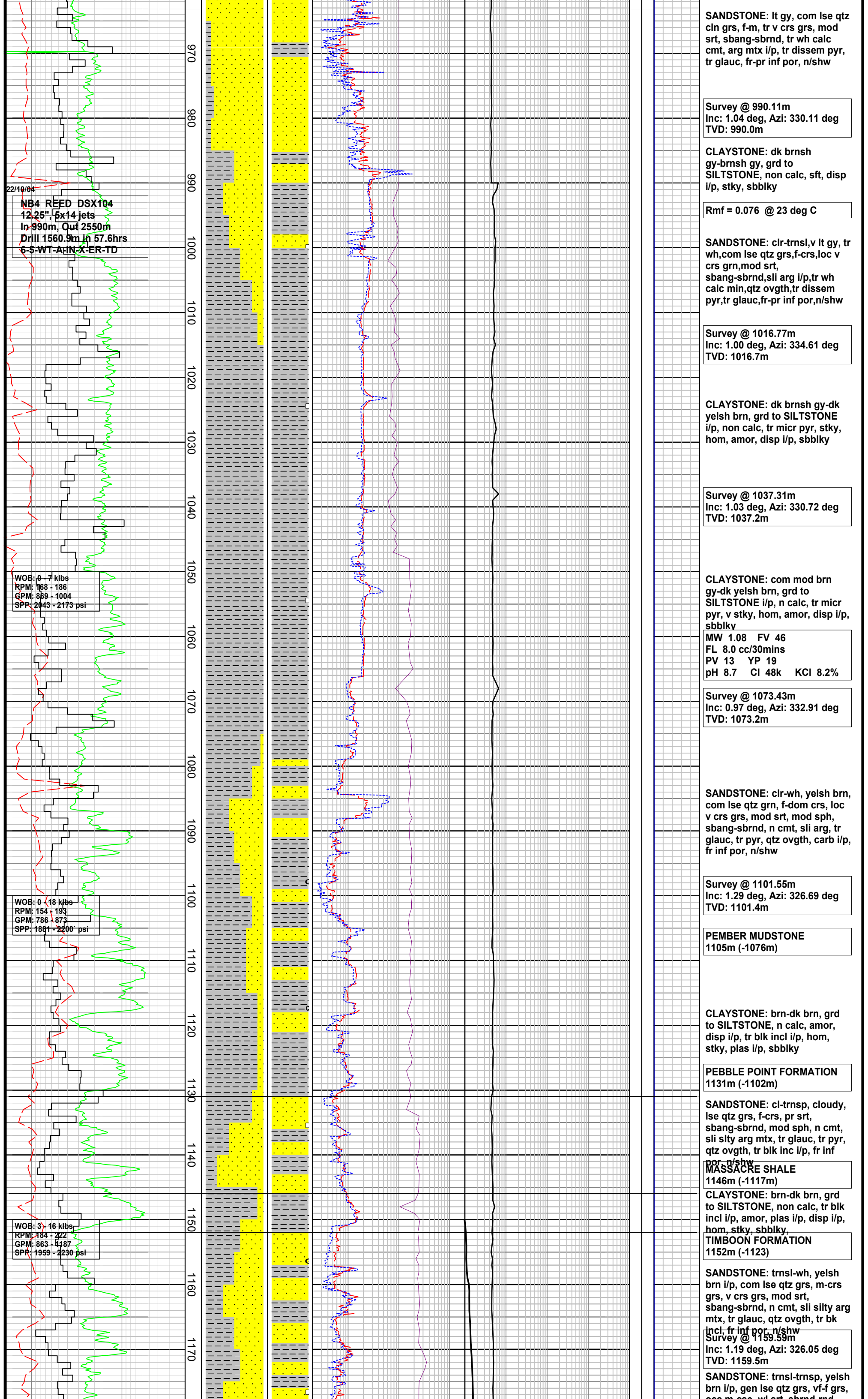
FORMATION EVALUATION LOG

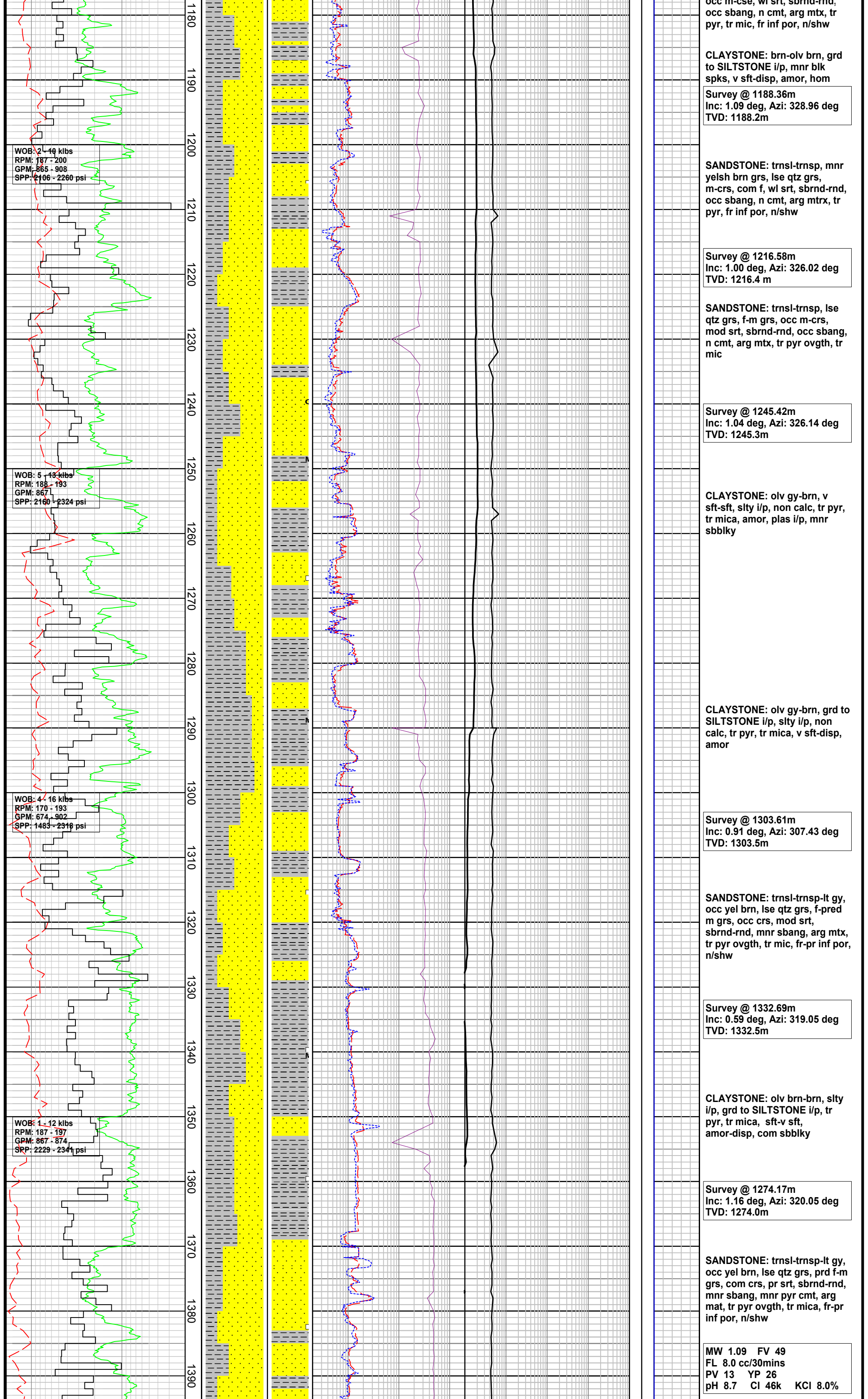












WOB: 2 - 49 klbs
RPM: 187 - 200
GPM: 865 - 908
SPP: 2106 - 2260 psi

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

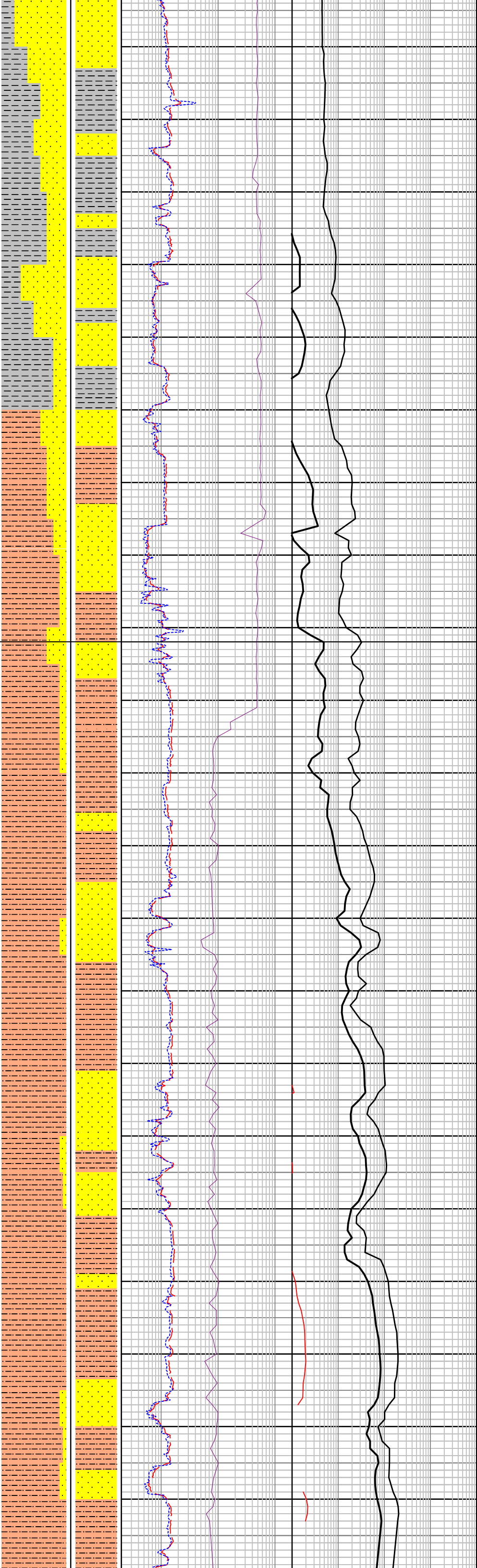
WOB: 1 - 8 klbs
RPM: 186 - 197
GPM: 854 - 883
SPP: 2127 - 2432 psi

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, mnrcrs, mod srt, sbrnd-rnd, mnrrpyr cmt, sli arg mtx, tr pyr, rrglauc, 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, mnrcrs, mod srt, sbrnd-sbang, mnrrpyr cmt, sli arg mtx, 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

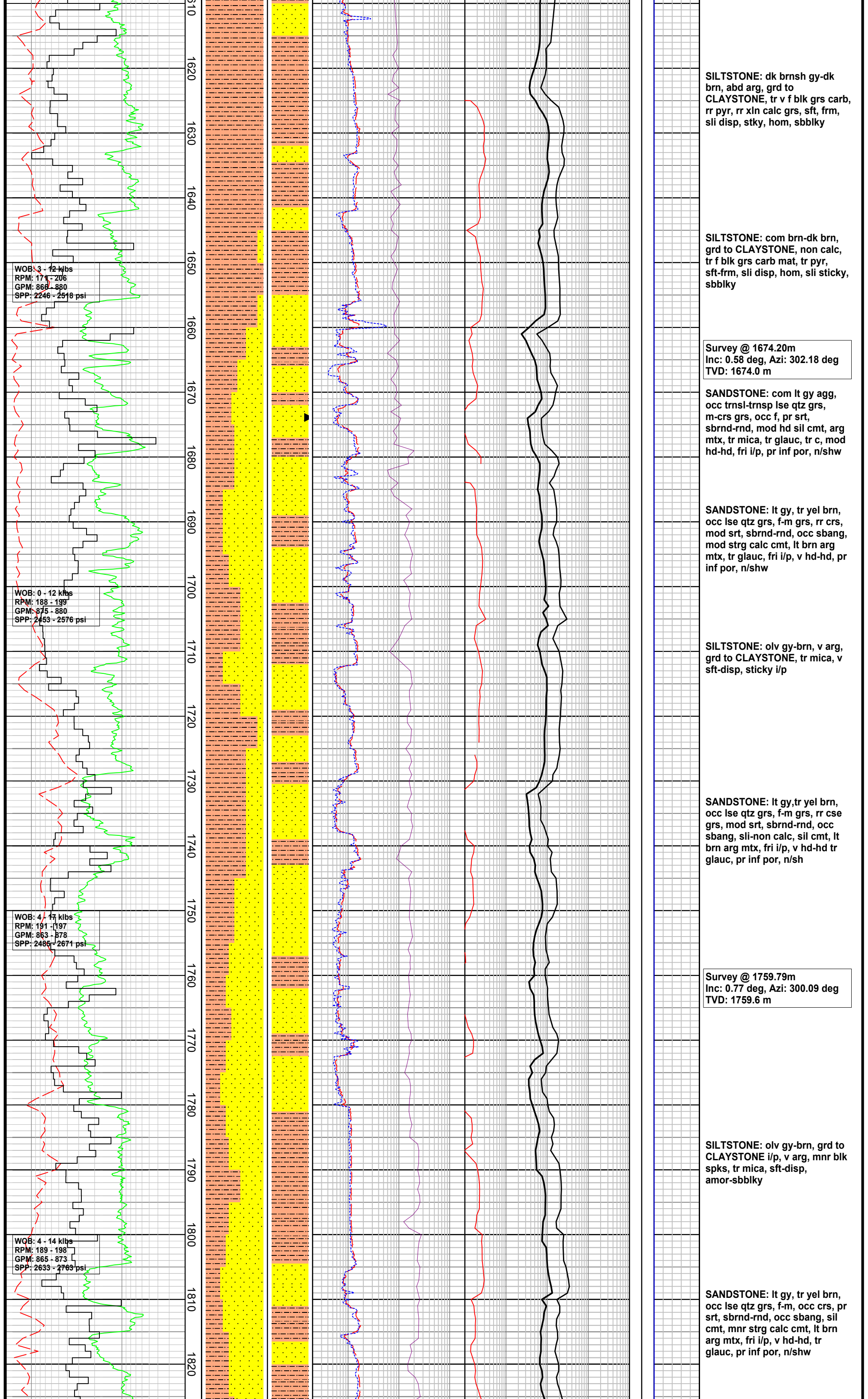
Survey @ 1560.05m
Inc: 0.41 deg, Azi: 312.01 deg
TVD: 1559.9 m

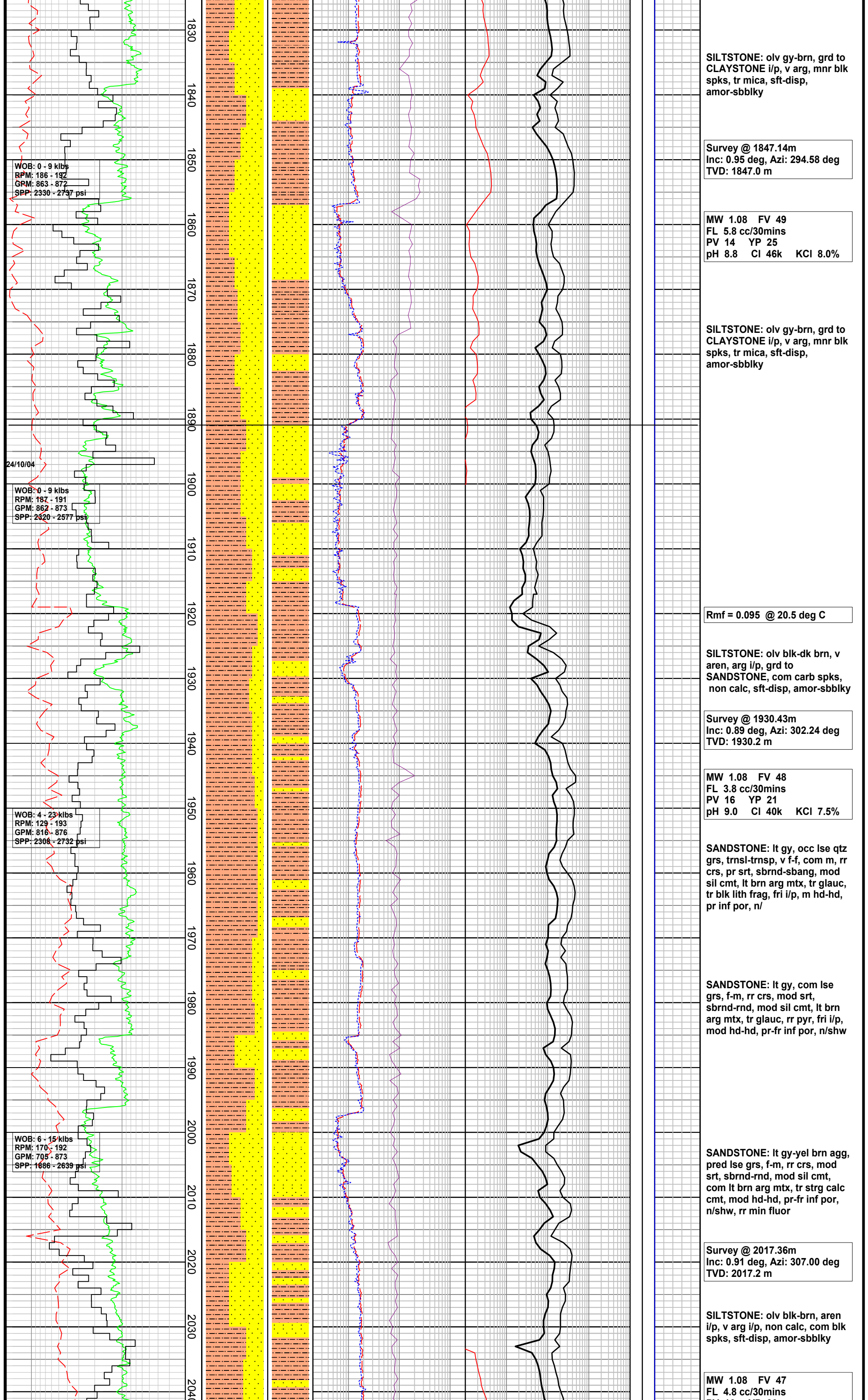
SILTSTONE: dk brnsh gy-dk brn, grd to CLAYSTONE, v arg, carb i/p, rr pyr, tr calc grs, sft-frm, sli disp, hom, sbblky

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-sbbiky

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

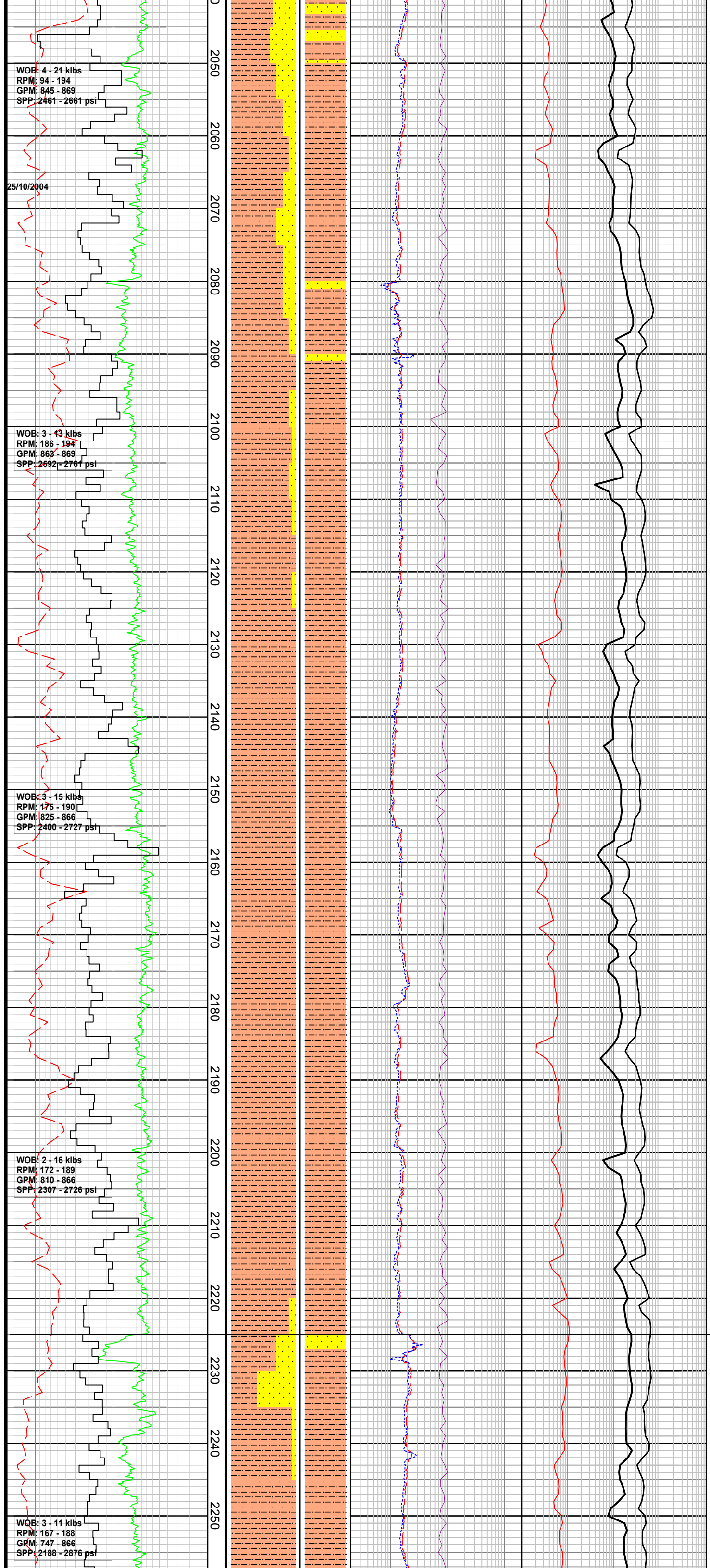
Survey @ 2187.51m
Inc: 0.94 deg, Azi: 306.90 deg
TVD: 2187.3 m

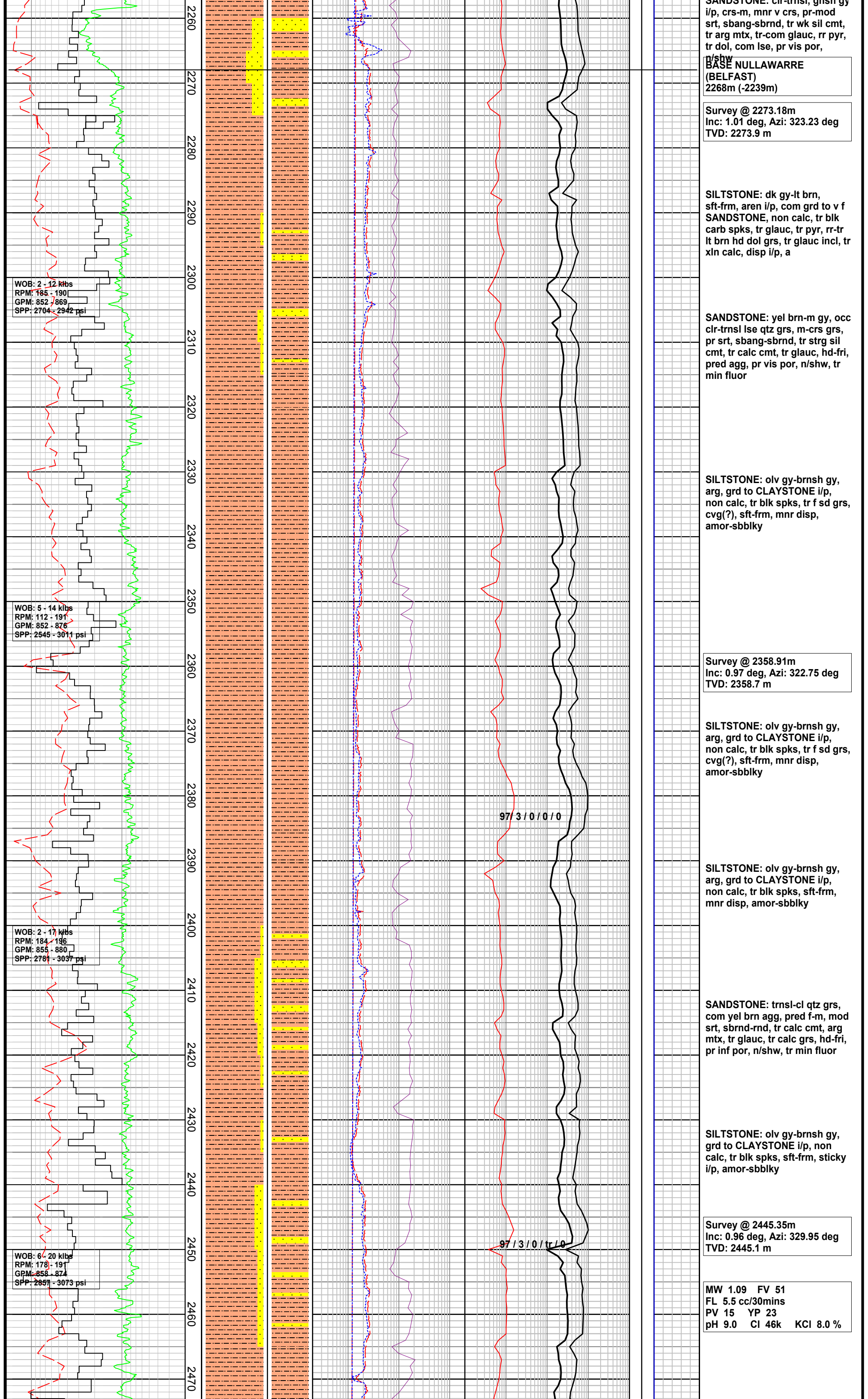
SILTSTONE: gen dk brn-olv blk,
v aren, grd to v f **SANDSTONE**,
non calc, com carb spks, tr pyr,
tr-com dissem glauc, tr tan dol
grs, sft-tr frm, amor-sli stky,
sbbiky

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 mtx, 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

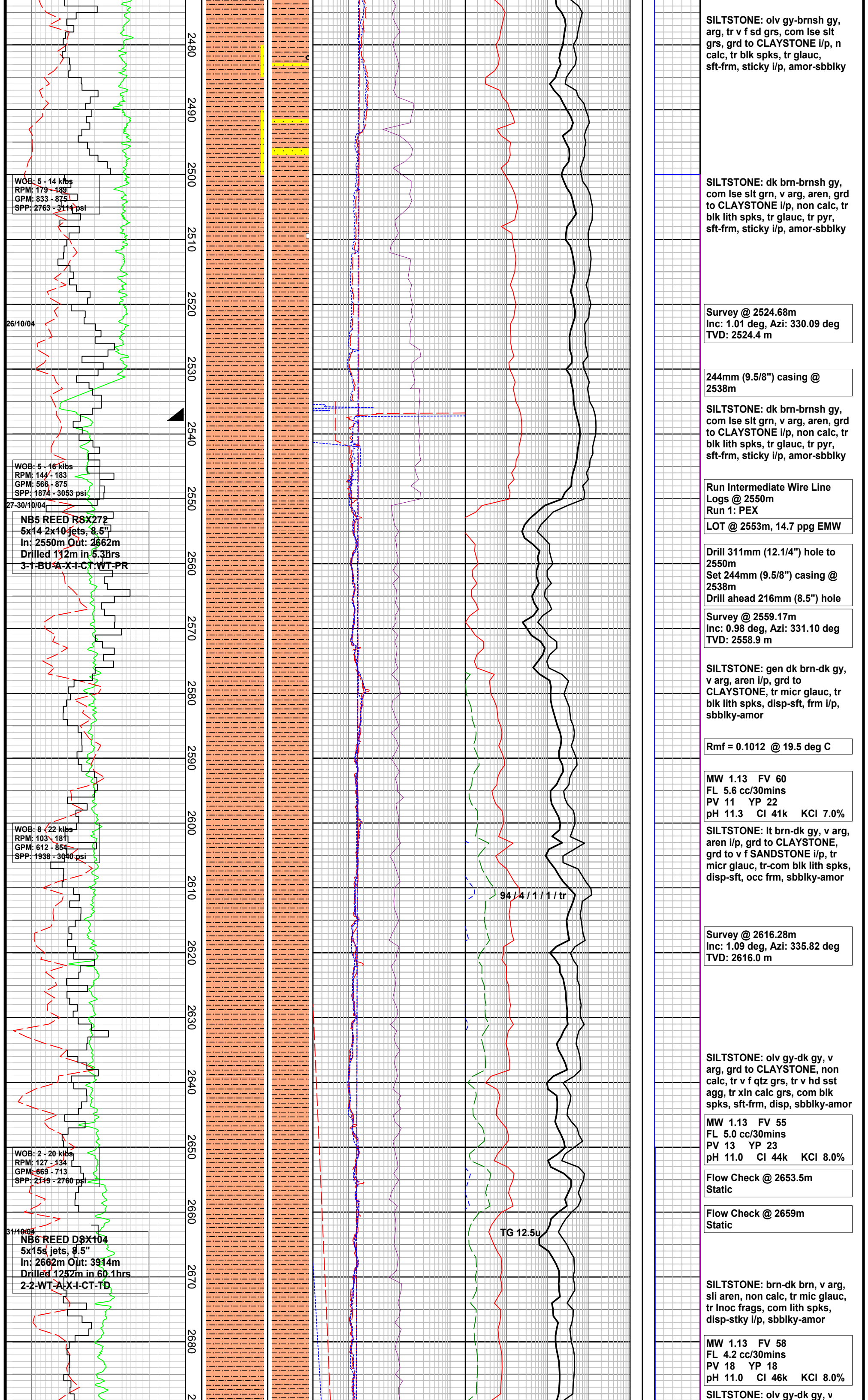
SILTSTONE: olv gy-brnsh gy,
arg, grd to CLAYSTONE i/p,
non calc, tr blk spks, sft-frm,
mntr disp, amor-sbblky

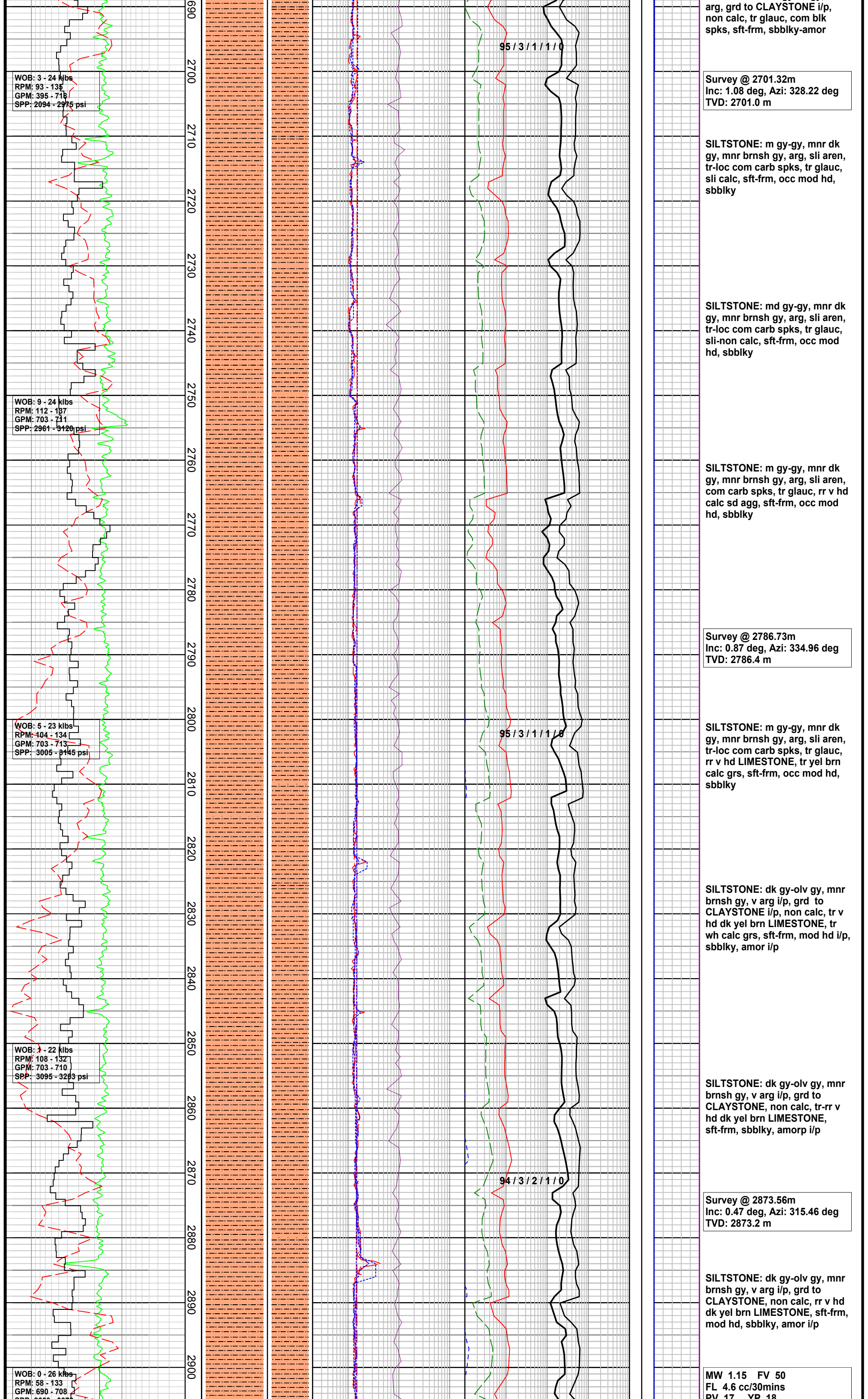
SANDSTONE: trnsi-cl qtz grs,
com yel brn agg, pred f-m, mod
srt, sbrnd-rnd, tr calc cmt, arg
mtx, tr glauc, tr calc grs, hd-fri,
pr inf por, n/shw, tr min fluor

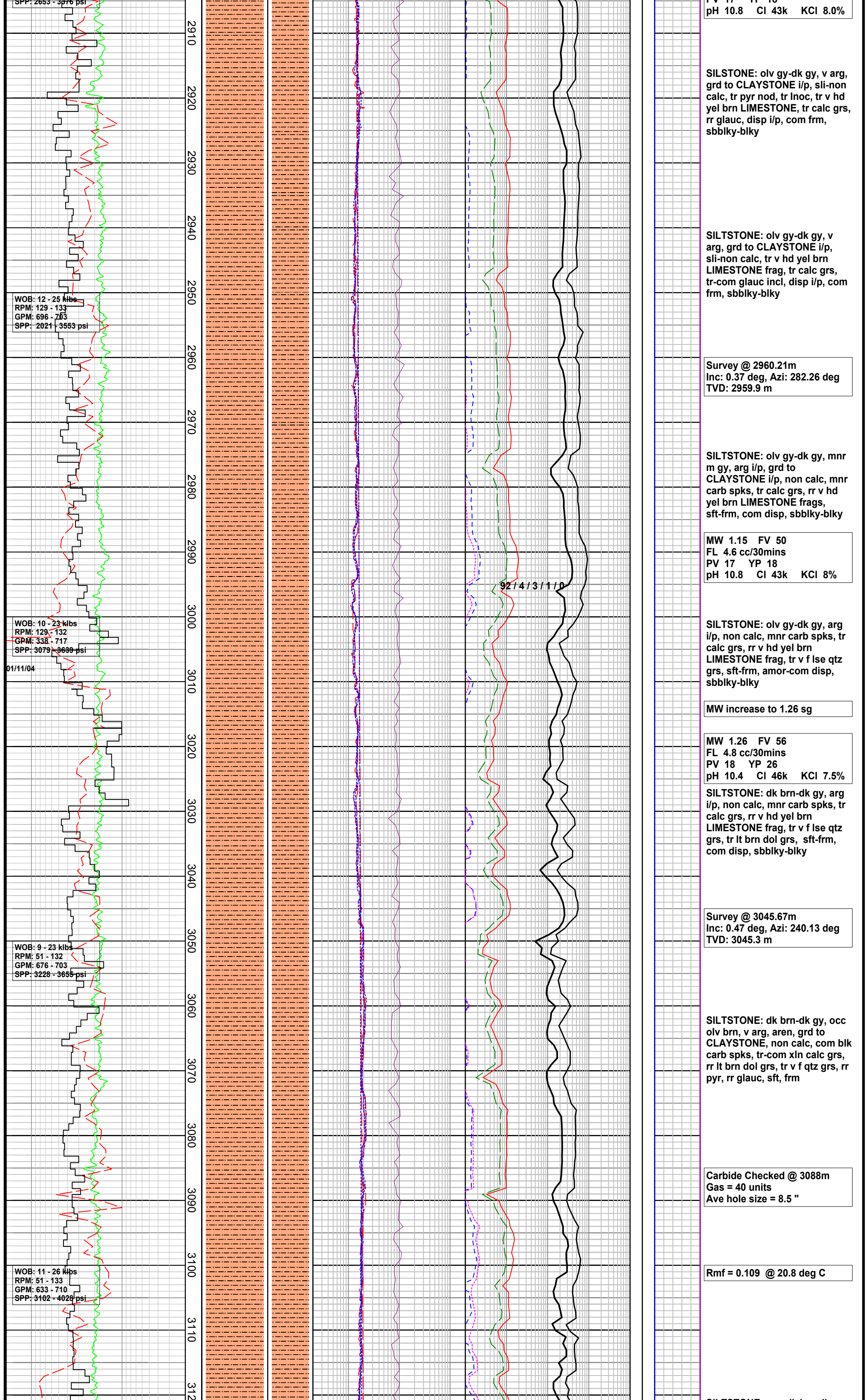
SILTSTONE: olv gy-brnsh gy,
grd to CLAYSTONE i/p, non
calc, tr blk spks, sft-frm, sticky
i/p, amor-sbblky

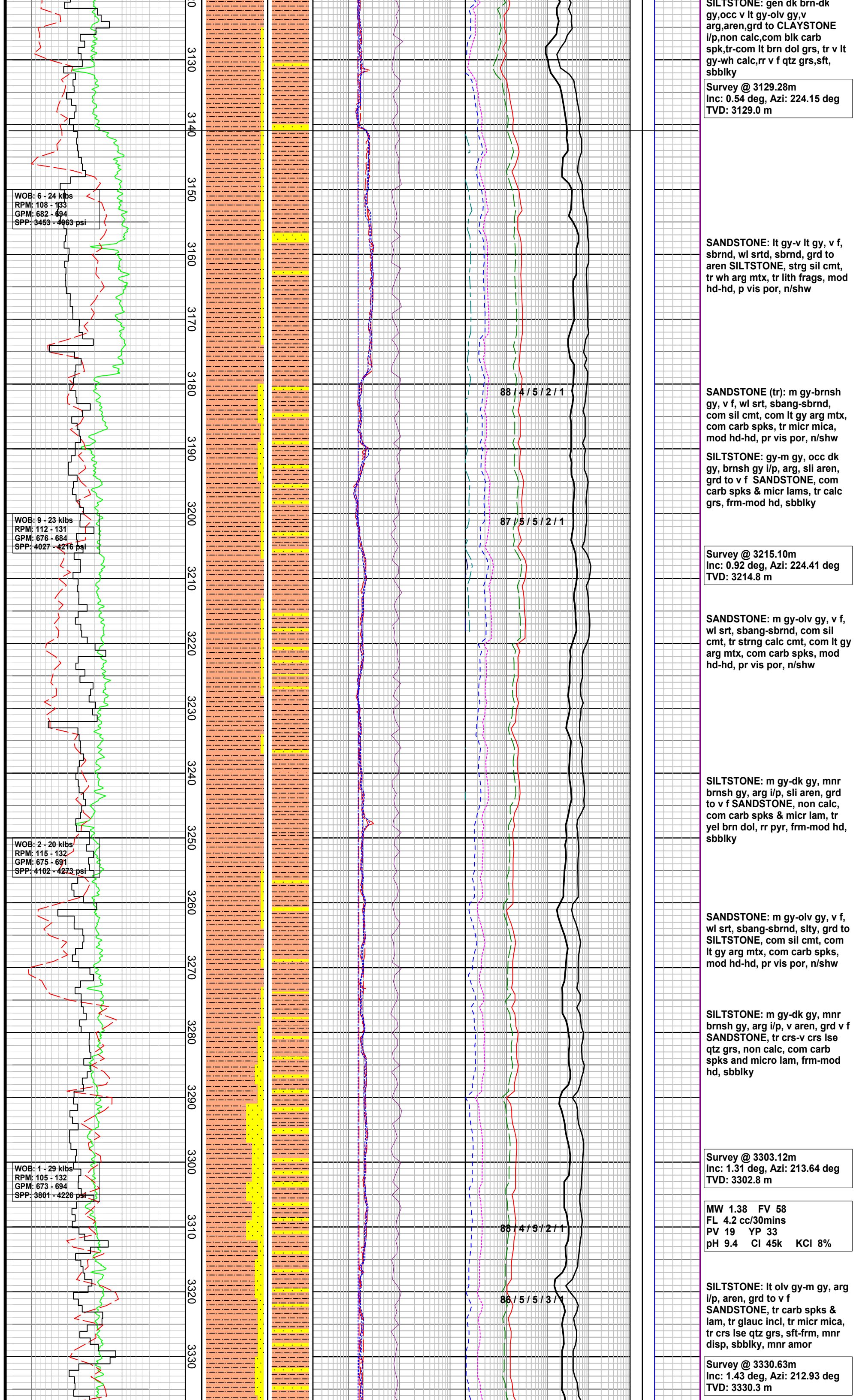
Survey @ 2445.35m
Inc: 0.96 deg, Azi: 329.95 deg
TVD: 2445.1 m

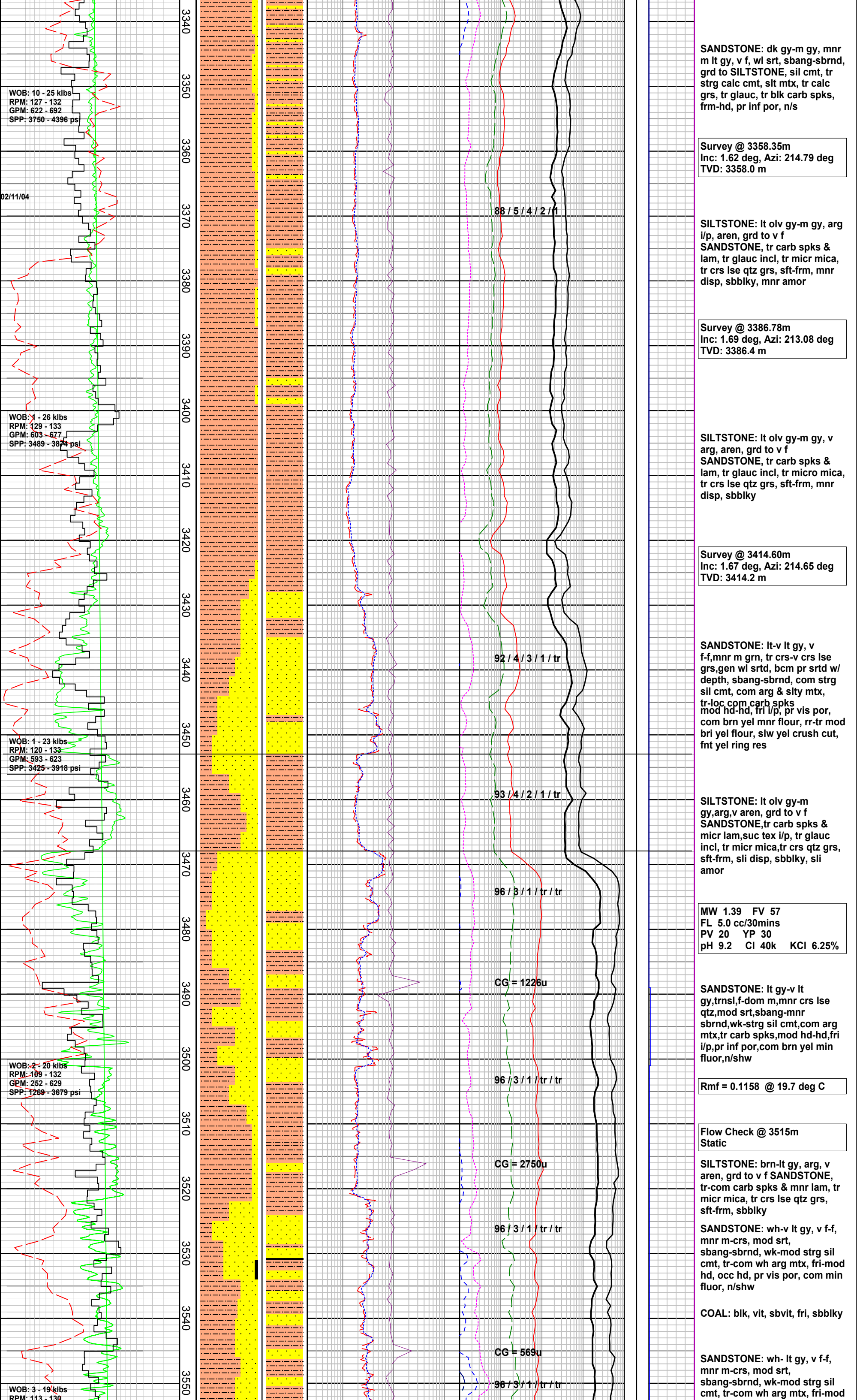
MW 1.09 FV 51
FL 5.5 cc/30mins
PV 15 YP 23
pH 9.0 CI 46k KCl 8.0 %

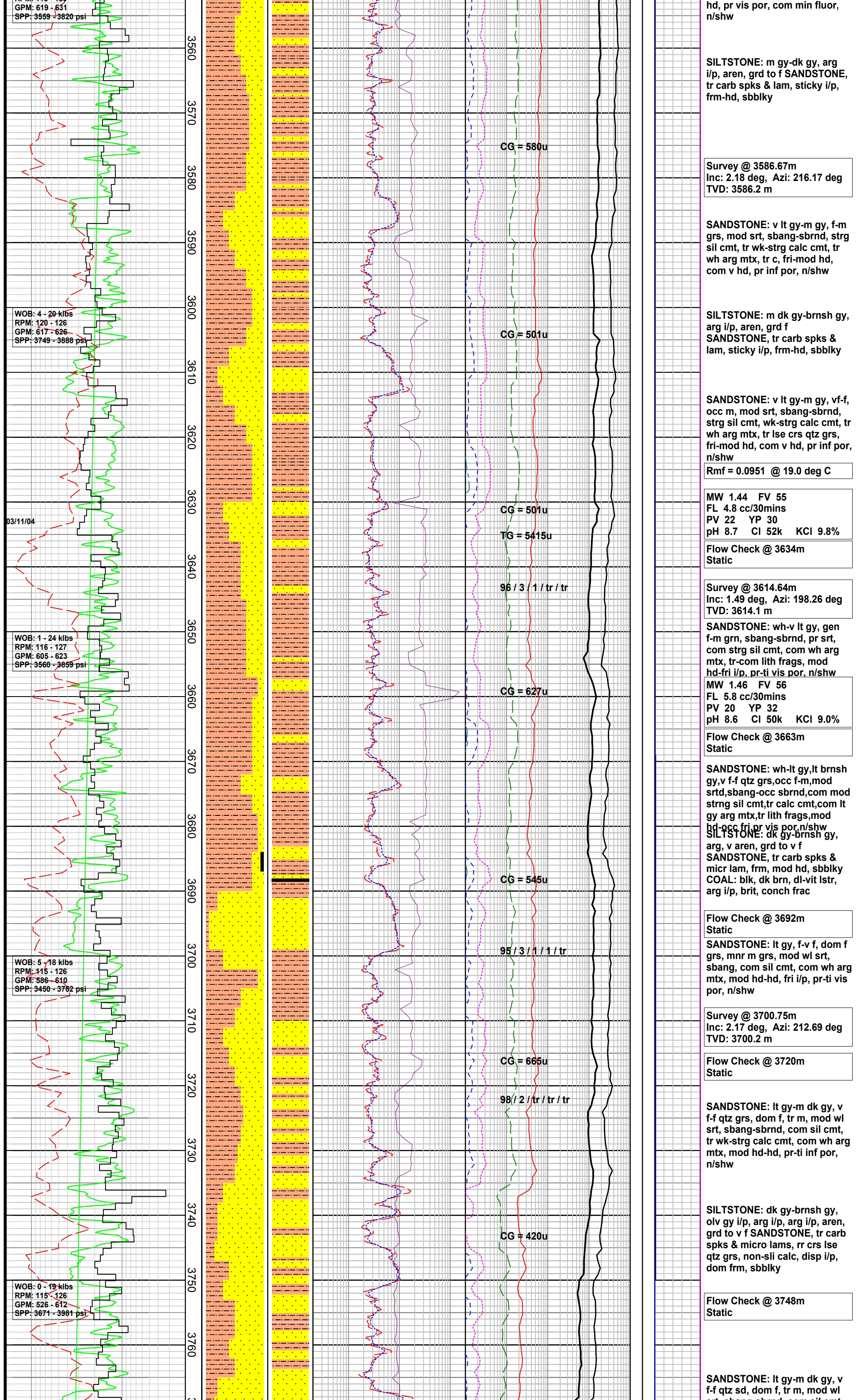












Gamma Ray				MD meters 1:500	LITHOLOGY %	INTERPRETED LITHOLOGY	RESISTIVITY		CHROMATOGRAPH				DIRECT FLUORESCENCE	CUT FLUORESCENCE	CALC	REMARKS		
API							Resistivity (Deep)		Total Gas (Units)		Methane ppm							
WOB (Klbs)							Ohm.m		Ethane ppm							0	100	
WOB (MT)							Ohm.m		Propane ppm							100	0	
ROP (m/hr)							CO2		iso-Butane ppm									
							ppm		n-Butane ppm									
									iso-Pentane ppm									
									n-Pentane ppm									