



Company : Beach Petroleum Ltd

Well : Fermat-1

Interval : 975.00 - 2821.93 meters

Created : 29/Dec/2008 5:02:35 AM



INTEQ

FORMATION EVALUATION LOG

DRILLING PARAM		MD meters	Oil Show	LITHOLOGY %	CORE	TOTAL GAS					CHROMATOGRAPH					Calcimetry	Lithology Description
ROP (m/hr)						Total Gas (unit)					Methane ppm						
200	160	1:500	P F G			50	100	150	200	250	1	100000	1	100000			
WEIGHT ON BIT (klbf)						10	20	30	40	50	1	100000	1	100000	1	100000	1

GPM: 1200-1210
SPP: 2300-2800 psi

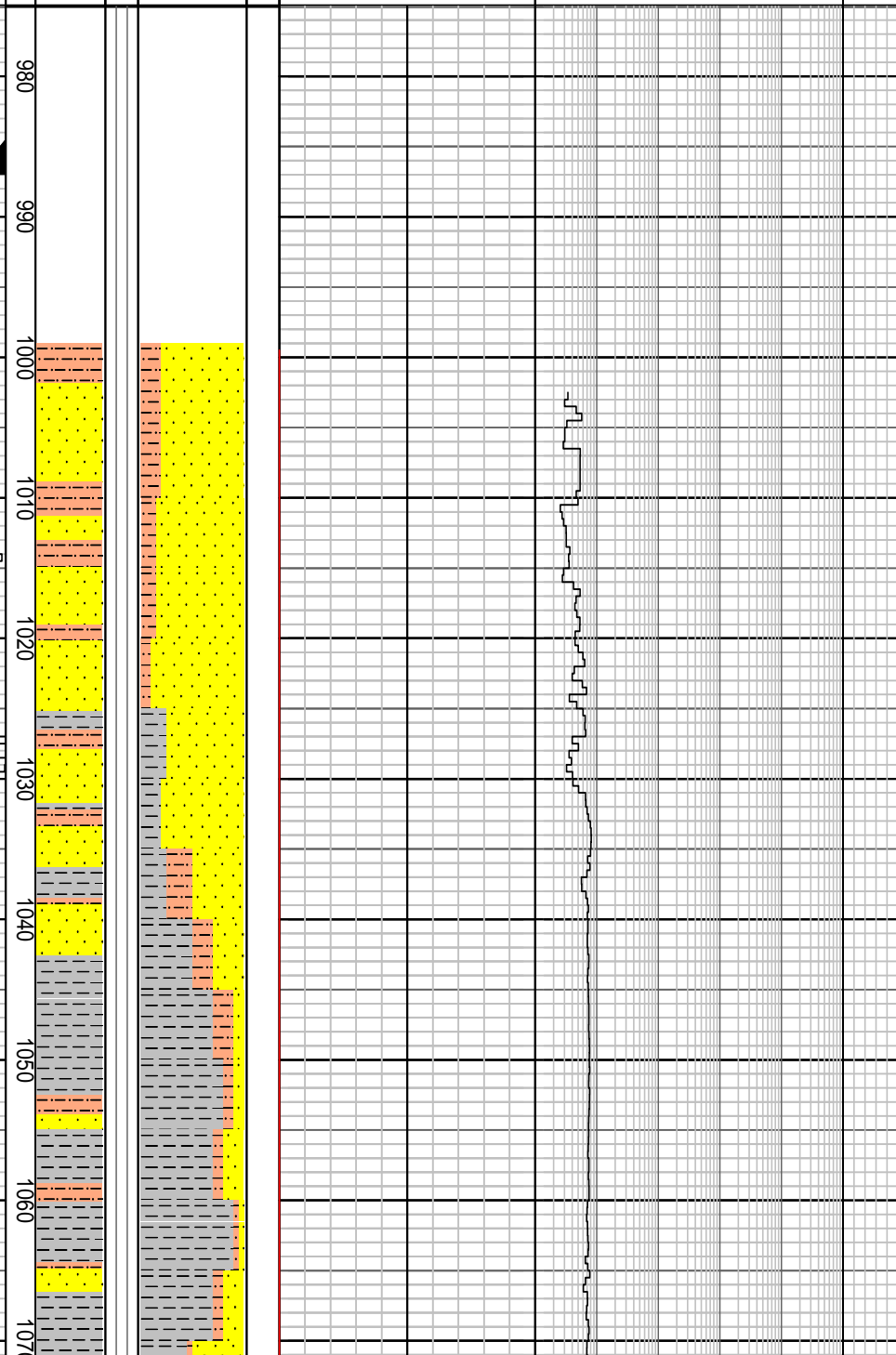
Set 13-3/8" Casing at 987.0 m

NB3: 311mm(12-1/4")
Make: Hughes
Type: GT-1
Jets: 3 x 16
Depth In: 999.0 m
Depth Out: 1027.0 m
Drilled 28.0m in 1.1 hrs
Grade: O-O-NO-A-E-I-NO-BHA

19/12/2008

NB4: 311mm(12-1/4")
Make: Reed
Type: RSR616M-A10
Jets: 3 x 13, 3 x 14
Depth In: 1027.0 m
Depth Out: 2396.5 m
Drilled 1369.5m in 83.3 hrs
Grade: 5-3-RO-C-I-LT-BHA

20/12/2008



Drill with KCL-Polymer Mud from 999.0m

MW: 9.3 ppg FV: 180
PV: 17 Gel: 11/14/16
YP: 26 pH: 10.5

MD: 990.90m Inc: 2.28°
TVD: 990.8m Azi: 226.38

444 mm (17-1/2") Section TD @ 999.0m

FIT @ 987.0 m with 9.3 ppg
EMW: 15.0 ppg @ 960 psi

SILTSTONE: ol gy, brn-gy, mod calc, com pyr, com lit frag, frm-hd, blkly-sbfis

SANDSTONE: clr-trnsl, lt smky gy, fros, w/ mnr yel-wh mky qtz & mnr musc, f-gran, sbang -sbrndd, p srt (bimodal), nod & dissem pyr, disagg, n fluor

MW: 9.5 ppg FV: 153
PV: 30 Gel: 10/15/17
YP: 42 pH: 9.5

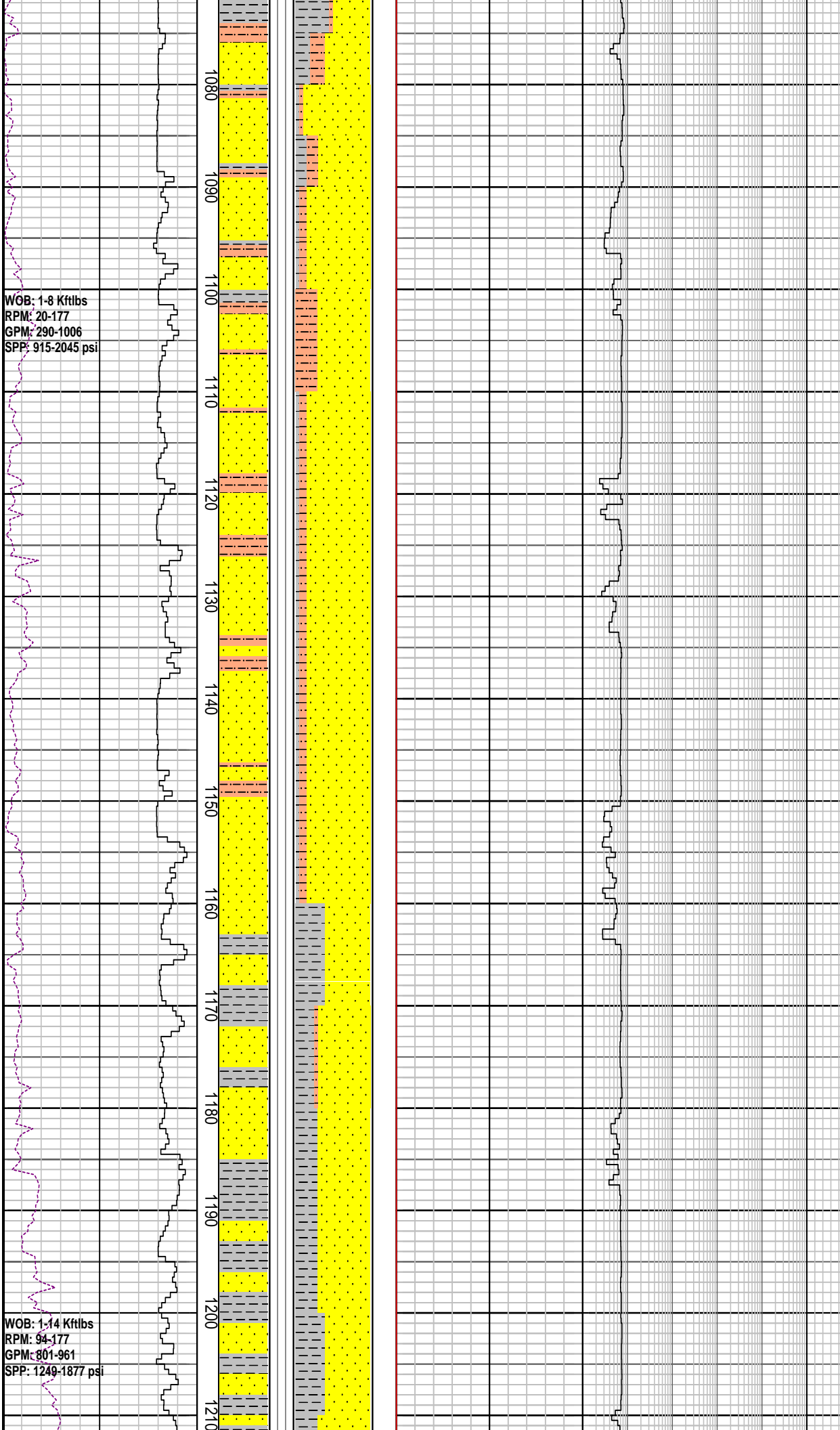
MD: 1023.76m Inc: 2.63°
TVD: 1023.6m Azi: 224.84

SILTSTONE: ol gy-brn -lt gy, mod calc, com pyr, com lit frag, sft-v hd, blkly-sbfis

CLAYSTONE: ol gy-mod ol brn, mod calc, sli stly, tr wh calc spar incl, tr carb mat, sft, mass-amor

MD: 1053.62m Inc: 2.63°
TVD: 1053.4m Azi: 224.67

SANDSTONE: clr-transl. lt smky gy, fros



w/ mod abd fspr , f-v crs, sbang-sbrnndd,
p srt (binodal), nod & dissem pyr, tr
musc, disagg w/ mnr pyr cmt f-m sd agg,
n fluor

MD: 1083.09m	Inc: 2.60°
TVD: 1082.9m	Azi: 225.86

SANDSTONE: clr-transl, lt smky gy, fros,
w/ mod abd fspr , f-v crs, sbang-sbrnndd,
p srt (binodal), nod & dissem pyr, tr
musc, disagg w/ mnr pyr cmt, f-m sd
agg, n fluor

SILTSTONE: dk gy-ol gy, sli calc I.P. loc
v arg grd slty Clst I.P. sli aren, micr mic,
tr carb spks, tr lit frag

MD: 1112.27m	Inc: 2.75°
TVD: 1112.0m	Azi: 224.69

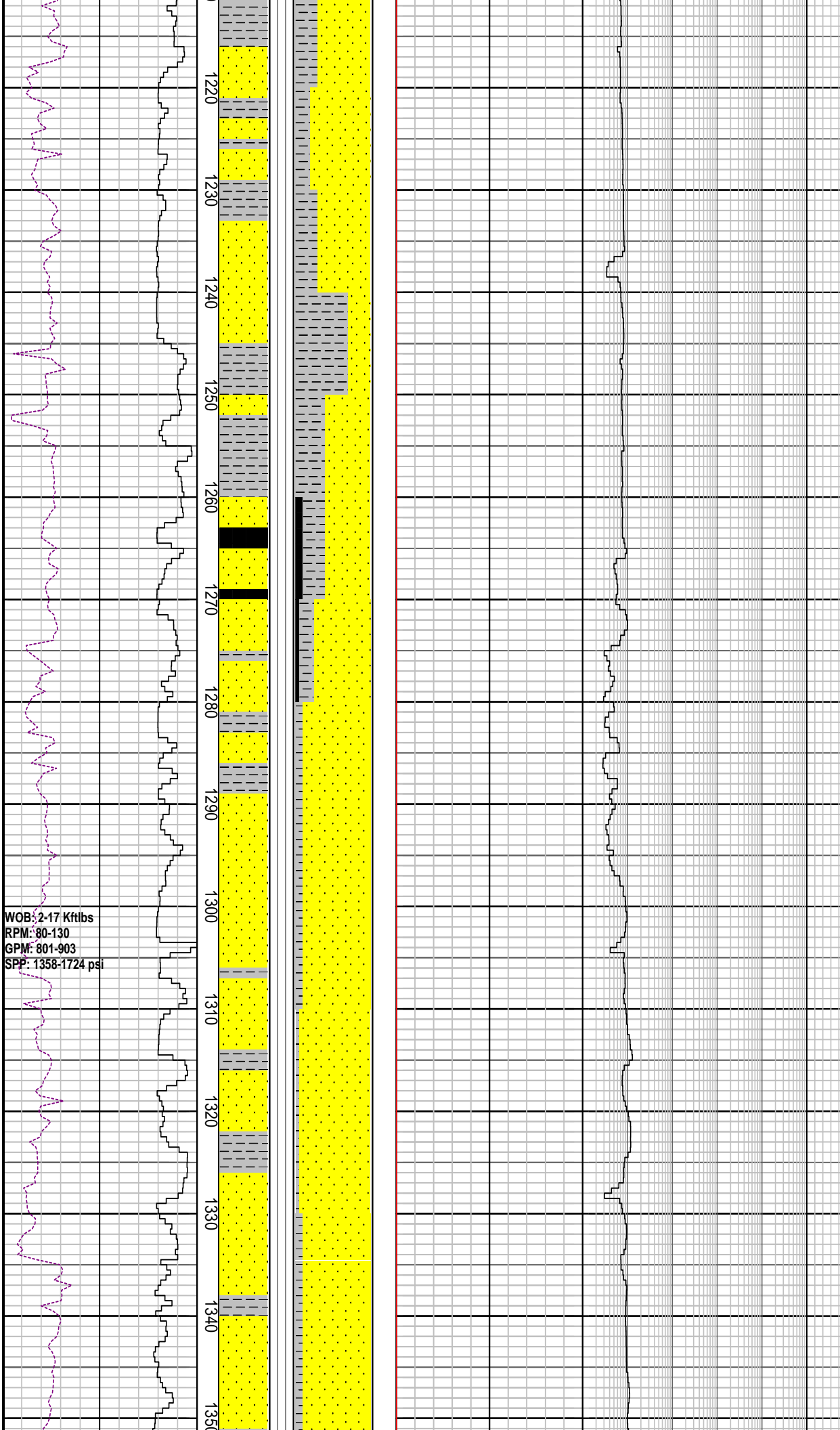
MD: 1141.27m	Inc: 2.61°
TVD: 1141.4m	Azi: 223.95

CLAYSTONE: dk gy-brn blk, mod slty, sli
calc I.P. com carb/c frag, micr mic, tr
musc, sft-plas, mass-blky I.P.

MD: 1171.39m	Inc: 2.66°
TVD: 1171.1m	Azi: 223.80

SANDSTONE: clr-trnsl, fros, smky gy,
f-m gr, mnr crs, tr v crs, sbang-sbrnndd,
p-mod srt, arg mtrx I.P. dissem & nod
pyr, mnr carb mat, tr Fe stn qtz, fri-pred
disagg, p-f por

MD: 1200.78m	Inc: 2.64°
TVD: 1200.4m	Azi: 223.80



CLAYSTONE: m-dk gy, mod slty, sli calc I.P. com pyr, mnr carb spks, sft-plas, mass-blky I.P.

MD: 1230.79m	Inc: 2.72°
TVD: 1230.4m	Azi: 225.15

SANDSTONE: clr-trnsl, fros, smky gy, f-m gr, mnr crs, tr v crs, sbang-sbrndd, p-mod srt, arg mtrx I.P. dissem & nod pyr, mnr carb mat, tr Fe stn qtz, f por, n fluor

MW: 9.65 ppg	FV: 74
PV: 23	Gel: 9/14/15
YP: 27	pH: 8.5

COAL: blk, sbbit, dll-sbvit lstr, plty fract, brit, bilky-plty I.P.

CLAYSTONE: m-dk gy, mod slty, sli calc I.P. com pyr, mnr carb spks, sft-plas, mass-blky I.P.

MD: 1288.88m	Inc: 2.77°
TVD: 1288.4m	Azi: 225.56

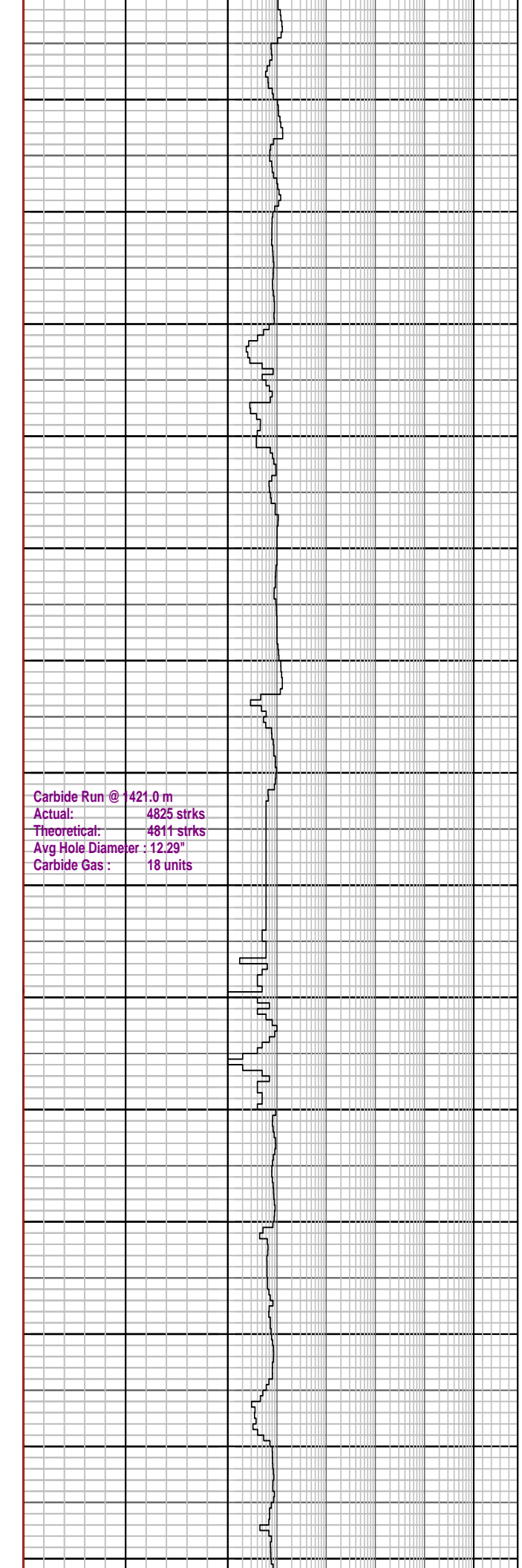
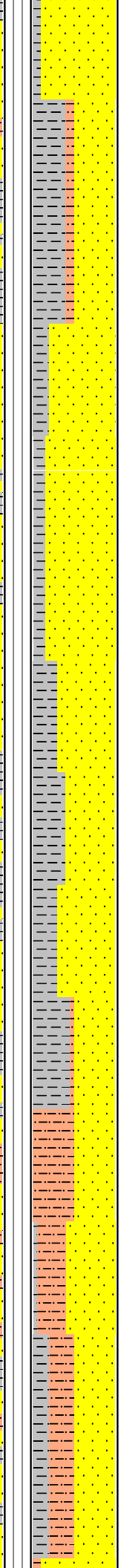
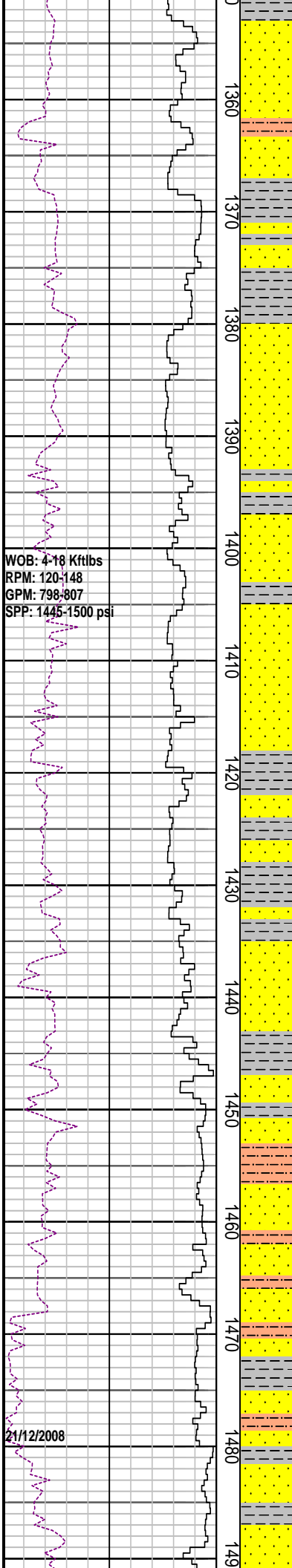
SANDSTONE: clr-trnsl, fros, smky gy, m-crs gr, sbang-sbrndd, mod srt, arg mtrx I.P. dissem pyr cmt & nod pyr, com carb mat, micr mic, tr Fe stn qtz, p por, n fluor

MD: 1318.86m	Inc: 2.69°
TVD: 1318.4m	Azi: 226.89

CLAYSTONE: dk gy-brn blk, mod slty grd to arg Slst I.P. mnr carb mat & carb micr lam, sft-plas, mass-amor

SANDSTONE: qtz, clr-trnsl, fros, smky gy, m-crs gr, ang-sbrndd, rmd I.P. mod srt, slty arg mtrx I.P. dissem pyr cmt & nod pyr, tr carb mat, micr mic, tr fspr, p por, n fluor

CLAYSTONE: dk gy-brn blk, sli slty, m...



CLAYSTONE: dk gy-brn brk, sli slty, mn carb mat & carb micr lam, sft-plas, mass-amor

SILTSTONE: dk gy-brn gy, mod calc, loc v arg grd slty Clst I.P. micr mic, tr carb spks, tr lit frag, sft, blkly

SANDSTONE: qtz, clr-trnsl, fros, smky gy, m-crs gr, sbang-sbrnodd, rndd I.P. mod srt, slty arg mtrx I.P. tr nod pyr, tr musc, tr carb mat, micr mic, tr fspr, p por, n fluor

CLAYSTONE: dk gy-brn gy, sli slty, gd to Slst, mn carb mat & carb micr lam, sft-plas, mass-amor

MD: 1407.48m	Inc: 2.91°
TVD: 1406.9m	Azi: 229.04

CLAYSTONE: dk gy-dk brn gy, mod-v slty arg mtrx, gd to Slst I.P. mn carb mat & carb micr lam, sft-plas, mass-amor

MD: 1436.37m	Inc: 2.94°
TVD: 1435.7m	Azi: 228.54°

MW: 9.6 ppg	FV: 76
PV: 12	Gel: 9/14/17
YP: 49	pH: 9.5

SILTSTONE: dk gy-brn gy, mod calc, loc arg mtrx, grd slty Clst I.P. micr mic, tr carb spks, tr lit frag, sft, blkly

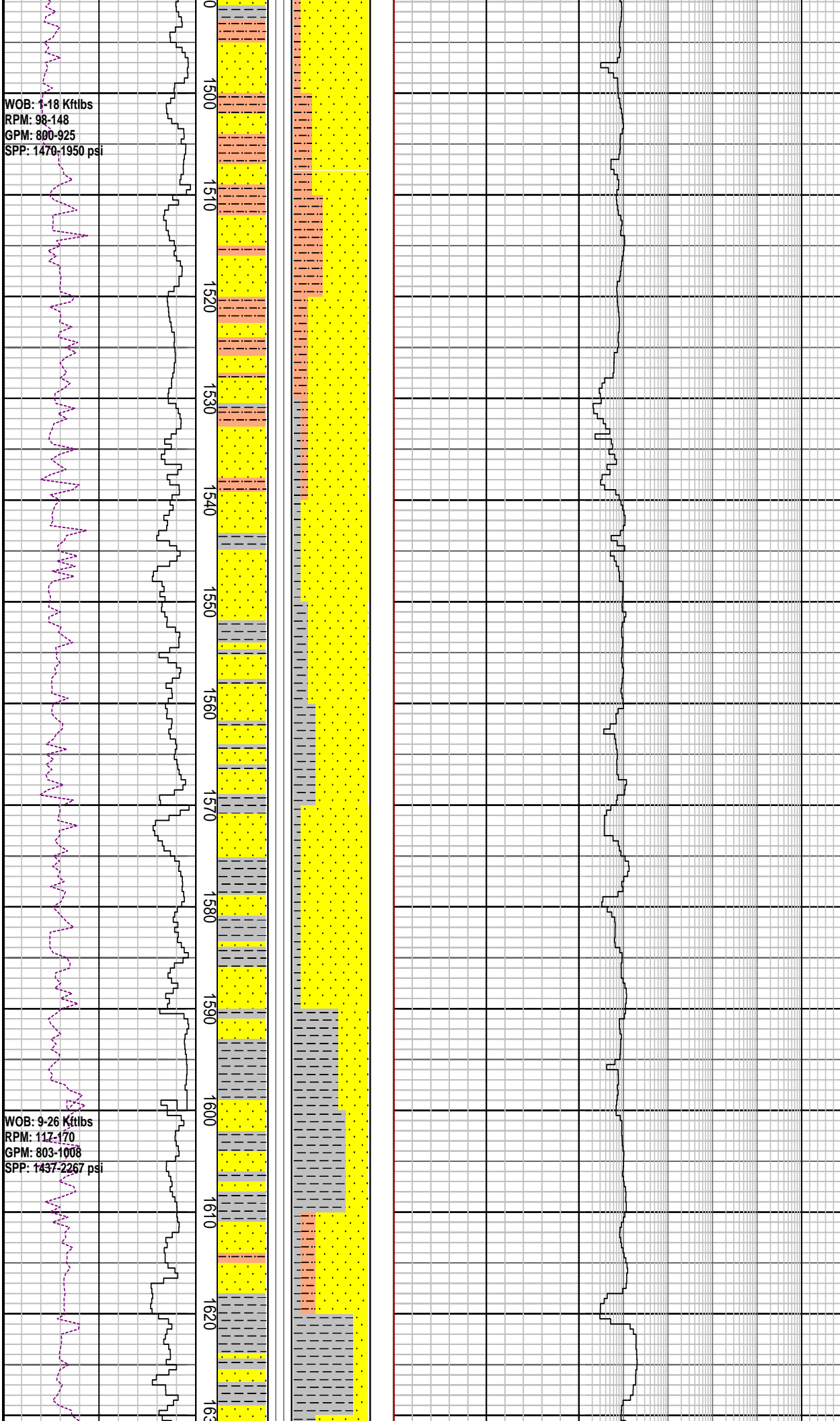
MD: 1465.90m	Inc: 3.02°
TVD: 1465.2m	Azi: 227.97

CLAYSTONE: dk gy- brn gy, mod calc, slty arg mtrx, gd to Slst I.P. mn carb mat & carb micr lam, sft-plas, mass-amor

SANDSTONE: qtz, clr-trnsl, smky gy, f-crs gr, ang-sbrnodd, rndd I.P. mod srt, slty arg mtrx I.P. tr musc, tr carb mat

WOB: 1-18 Kftlbs
RPM: 98-148
GPM: 800-925
SPP: 1470-1950 psi

WOB: 9-26 Kftlbs
RPM: 117-170
GPM: 803-1008
SPP: 1437-2267 psi



MD: 1495.44m Inc: 3.02°
TVD: 1494.2m Azi: 227.27

SILTSTONE: dk gy- lt brn gy, mod calc, loc arg mtrx, micr mic, tr carb spks, tr lit frag, sft, blkly

SANDSTONE: qtz, clr-trnsl, lt gy, v f-f gr, ang-sbrnnd, mod srt, sity arg mtrx I.P. tr carb mat, micr mic, p por, n fluor

MD: 1525.13m Inc: 3.06°
TVD: 1524.4m Azi: 228.31

SANDSTONE: qtz, clr-trnsl, fros, f-m gr, mnr v crs, sbang-sbrnnd, mod srt, wk calc cmt I.P. tr nod pyr, tr glau, com carb/c frag, occ crs milky fit, occ rd lit frag, disagg, f por

MD: 1554.71m Inc: 3.12°
TVD: 1553.9m Azi: 227.55

CLAYSTONE: brnsh gy-olv gry, yel gy I.P. loc v sity grd to arg Siltst I.P. sli aren I.P. tr lit frag, com carb mat, micr mic, sft-plas, mass-blky

MD: 1584.40m Inc: 3.16°
TVD: 1583.6m Azi: 227.33

SANDSTONE: qtz, clr-trnsl, fros, f-m gr, mnr v crs, sbang-sbrnnd, mod srt, loc mod stg dolcalc cmt, tr nod pyr, com carb mat, tr crs milky fit, tr lit frag, disagg, fr por, n fluor

SILTSTONE: pl yel brn, mod sil, mod arg, tr carb frag, tr lit frag, tr musc, sli chlor, hd, blkly

MD: 1614.18m Inc: 3.15°
TVD: 1613.3m Azi: 227.26

CLAYSTONE: m dk gy-dk gy, v slty gr
to arg slitst I.P. sli aren I.P. tr lit frag, mnr
carb mat, micr mic, sft-plas, mass-blky

MD: 1643.45m	Inc: 3.22°
TVD: 1642.5m	Azi: 227.15

SANDSTONE: qtz, clr-trnsl, fros, f-m gr,
mnr v crs, sbang-sbrndd, mod srt, loc
stg dol/sil cmt, tr nod pyr, com carb mat,
mnr crs mlky flt, mod hd agg, disagg, v
p-f por, n fluor

CLAYSTONE: m dk gy-dk gy, slty, sli
aren I.P. tr lit frag, tr carb mat, micr mic,
sft-plas, mass-blky

MW: 9.6 ppg	FV: 69
PV: 21	Gel: 10/14/16
YP: 35	pH: 9.0

SANDSTONE: qtz, clr-trnsl, fros, f-m gr,
mnr v crs, sbang-sbrndd, mod srt, loc
stg dolcalc cmt, tr nod pyr, com carb
mat, mnr crs mlky flt, tr lit frag, disagg, f
por, n fluor

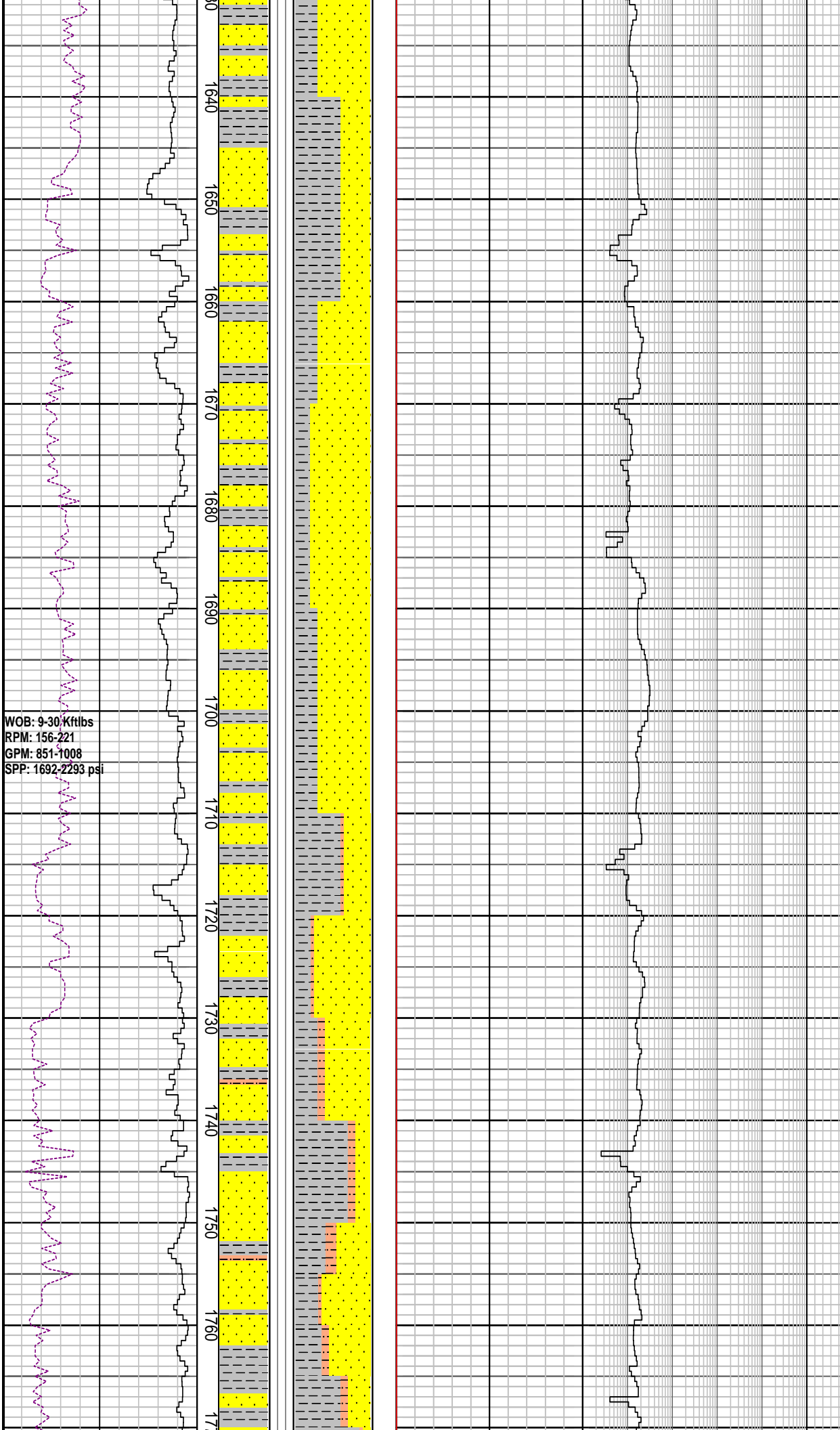
MD: 1732.53m	Inc: 3.23°
TVD: 1731.5m	Azi: 229.06

MW: 9.65 ppg	FV: 76
PV: 21	Gel: 10/14/17
YP: 34	pH: 9.0

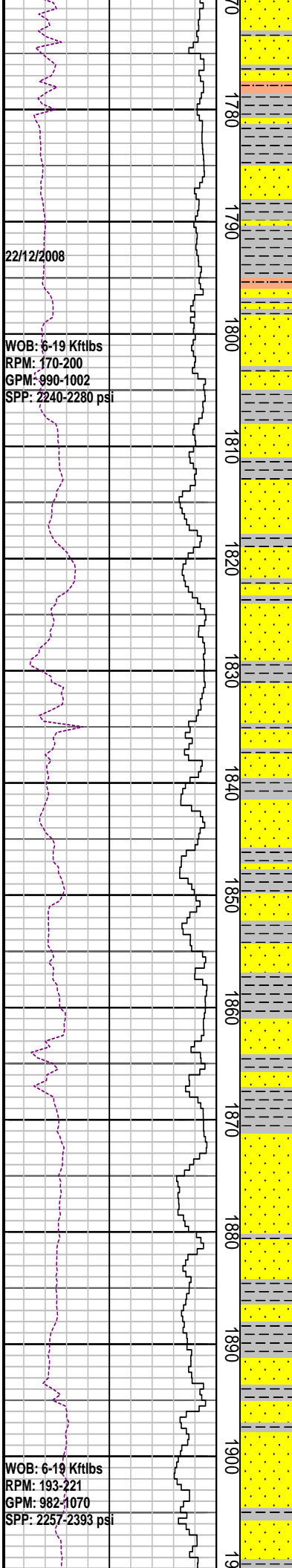
SANDSTONE: qtz, clr-trnsl, fros, v f-m,
sbang-sbrndd, mod-wl srt, loc dolcalc
cmt, occ pyr cmt, tr m nod pyr, tr m mlky
qtz flt, mnr hd dol cmt f agg, v p-f por, n
fluor

MD: 1761.71m	Inc: 3.31°
TVD: 1760.6m	Azi: 229.32

CLAYSTONE: m dk gy-dk gy, slty, sli



WOB: 9-30 Kftlbs
RPM: 156-221
GPM: 851-1008
SPP: 1692-2293 psi



1770
1780
1790
1800
1810
1820
1830
1840
1850
1860
1870
1880
1890
1900
19

22/12/2008

WOB: 6-19 Kftlbs
RPM: 170-200
GPM: 990-1002
SPP: 2240-2280 psi

WOB: 6-19 Kftlbs
RPM: 193-221
GPM: 982-1070
SPP: 2257-2393 psi

aren I.P. tr lit frag, tr carb mat, micr mic
sft-plas, mass-blky

MD: 1791.33m Inc: 3.27°
TVD: 1790.2m Azi: 229.40

SANDSTONE: qtz, clr-trnsl, fros, v f-m,
sbang-sbrndd, mod-wl srt, loc dolcalc
cmt, occ pyr cmt, tr m nod pyr, tr m mlky
qtz fit, mnr hd dol cmt f agg, v p-f por, n
fluor

MD: 1820.98m Inc: 3.35°
TVD: 1819.8m Azi: 229.44

CLAYSTONE: m dk gy-dk gy, slty, sli
aren I.P. tr lit frag, tr carb mat, micr mic,
sft-plas, mass-blky

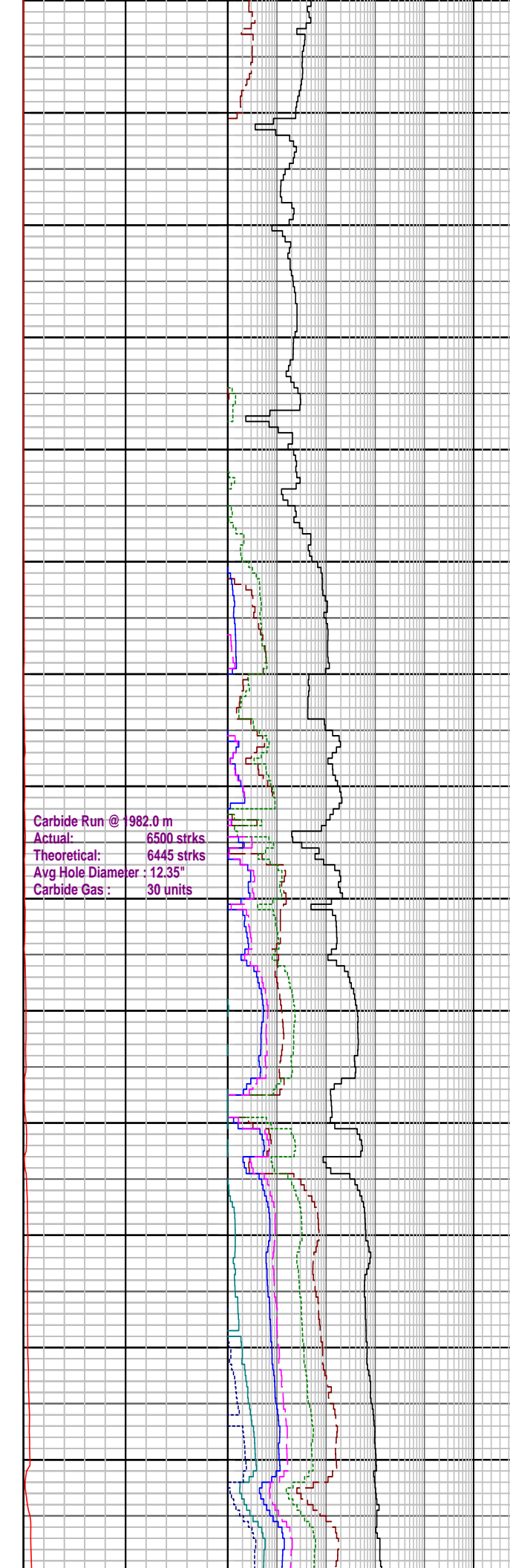
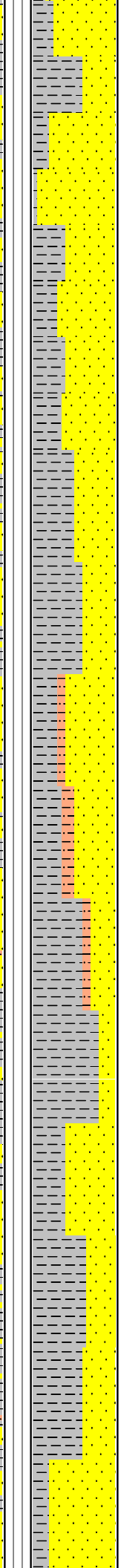
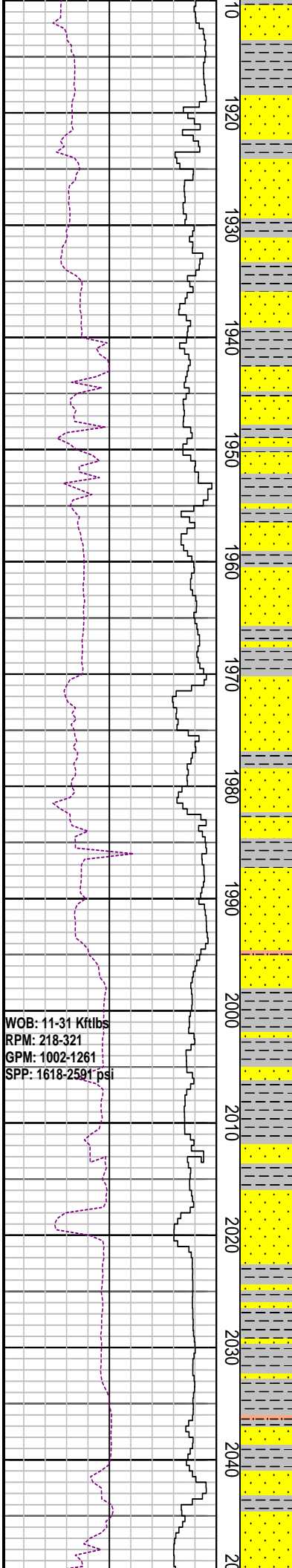
CLAYSTONE: m dk gy-olv blk, slty grd to
Arg Sltst I.P. tr lit frag, tr carb mat, micr
mic, sft-plas, mass-blky

SANDSTONE: qtz, clr-trnsl, f-m gr,
sbrndd-rndd, wl srt, loc dolcalc cmt, tr
nod pyr, mnr kao, tr m mlky qtz fit,
disagg p-f por, n fluor

MD: 1880.19m Inc: 3.46°
TVD: 1878.9m Azi: 227.97

CLAYSTONE: m dk gy-ol blk, slty grd to
arg Sltst I.P. tr lit frag, tr carb mat, micr
mic, sft-plas, mass-blky

SANDSTONE: qtz, clr-trnsl, v f-f gr, com
m gr, sbang-sbrndd, wl srt, loc dolcalc
cmt, tr sil cmt, tr nod pyr, tr carb mat, tr
Fe stn, tr f mlky qtz fit, disagg, p por, n
fluor



MW: 9.7 ppg FV: 52
 PV: 15 Gel: 11/16/19
 YP: 34 pH: 8.8

MD: 1939.47m Inc: 3.51°
 TVD: 1938.0m Azi: 227.37

CLAYSTONE: m dk gy-ol blk, slty grd to arg Sltst, sli calc, mnr carb spk, micr mic, sft-plas, mass-blky

SANDSTONE: qtz, clr-trnsl, v f-m gr, mnr crs gr, sbang-sbrndd, wl srt, loc dolcalc cmt, tr stg sil cmt, tr nod & dissem pyr, com carb mat, tr Fe stn, tr f mlky qtz flt, disagg

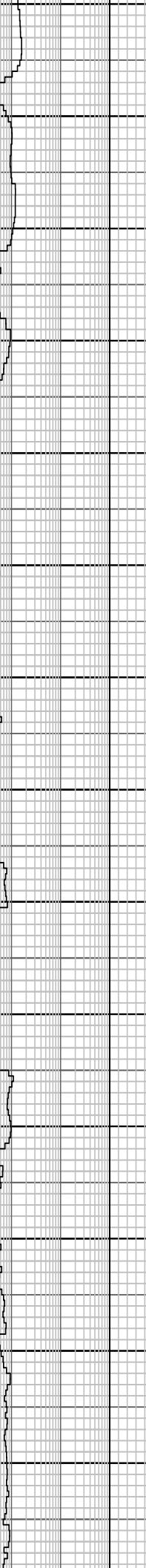
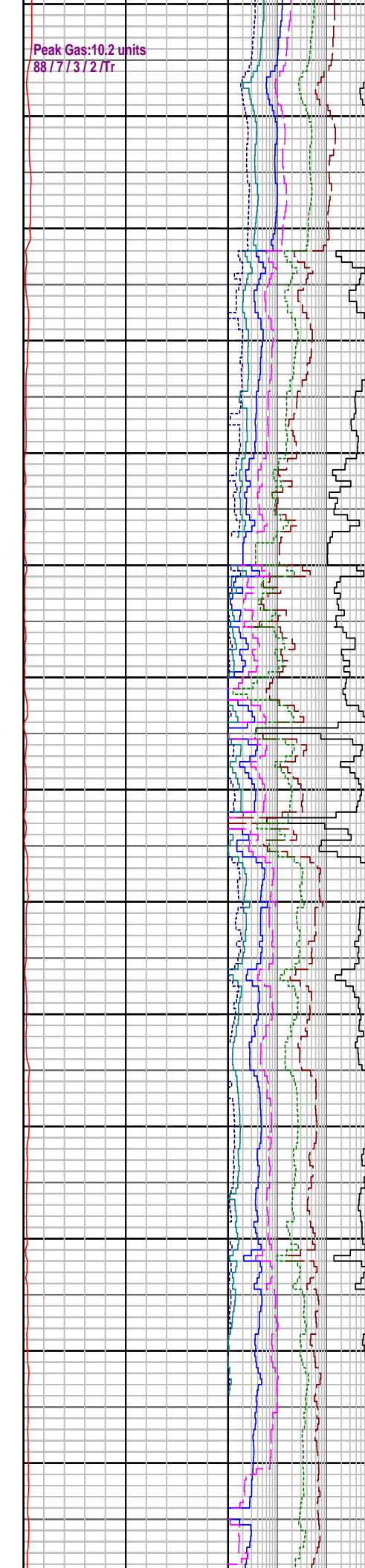
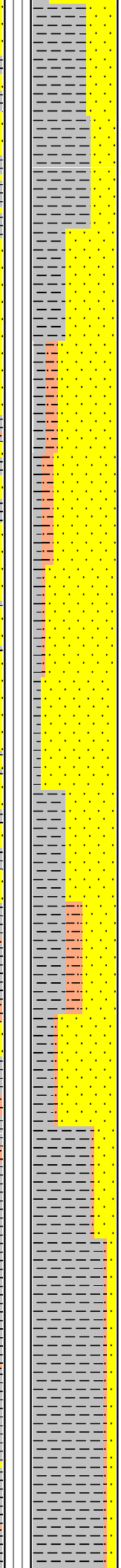
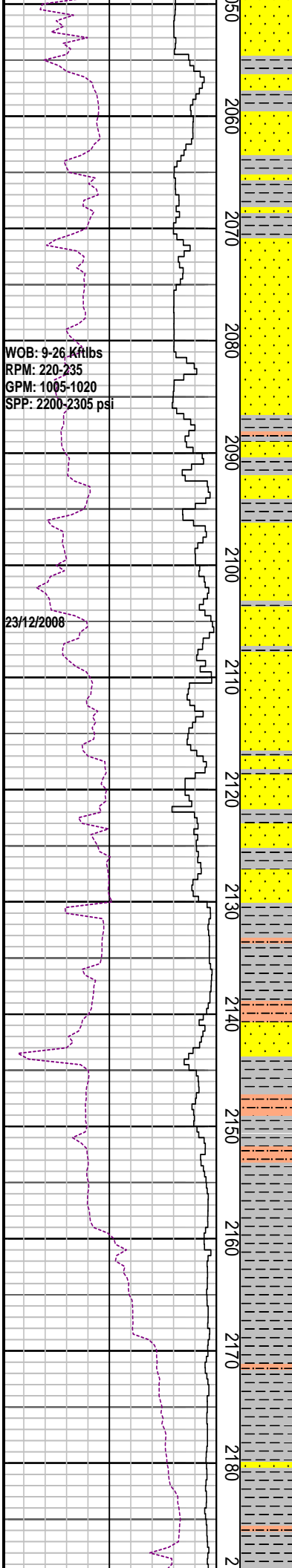
Carbide Run @ 1982.0 m
 Actual: 6500 strks
 Theoretical: 6445 strks
 Avg Hole Diameter : 12.35"
 Carbide Gas : 30 units

CLAYSTONE: m dk gy- brn gy, slty grd to arg Sltst, sli calc, mnr carb spk, micr mic, sft-plas, mass-blky

SANDSTONE: qtz, clr-trnsl, v f-m, ang-sbrndd f gr, mod-wl srt, loc dolcalc/sil cmt, tr stg sil cmt, tr nod & dissem pyr, com carb mat, p-f por, n fluor

MD: 2028.16m Inc: 3.39°
 TVD: 2026.6m Azi: 229.51

CLAYSTONE: m dk gy- brn gy, slty grd to arg Sltst, sli calc, mnr carb spk, micr mic, sft-plas, mass-blky



MD: 2057.35m Inc: 3.37°
TVD: 2055.7m Azi: 231.70

SANDSTONE: qtz, clr-trnsl, v f-m, sbang-sbrnnd, mod-wl srt, loc dolcalc/sil cmt, tr stg sil cmt, tr nod & dissem pyr, com carb mat, tr Fe stn, p-f por, n fluor

MD: 2086.92m Inc: 3.34°
TVD: 2085.2m Azi: 227.82

MW: 9.7 ppg FV: 53
PV: 13 Gel: 11/17/20
YP: 38 pH: 9.0

SANDSTONE: qtz, dull gy-lt yel brn, clr-trnsl, v f-m crs, sbang-sbrnnd, v wl srt, loc dolcalc/sil cmt, tr stg sil cmt, tr nod & dissem pyr, tr carb mat, tr Fe stn, p-f por, n fluor

MD: 2116.75m Inc: 3.44°
TVD: 2115.0m Azi: 227.04

SANDSTONE: qtz, trnsp-trnsl, v f-m, sbang-sbrnnd, v wl srt, loc dolcalc/sil cmt, tr nod & dissem pyr, com carb mat, tr Fe stn, p-f por, n fluor

MD: 2146.4m Inc: 3.29°
TVD: 2144.6m Azi: 227.47

SILTSTONE: dk gy-blk, v hd, sbblky-blky, splin, occ elong, fis I.P. non calc

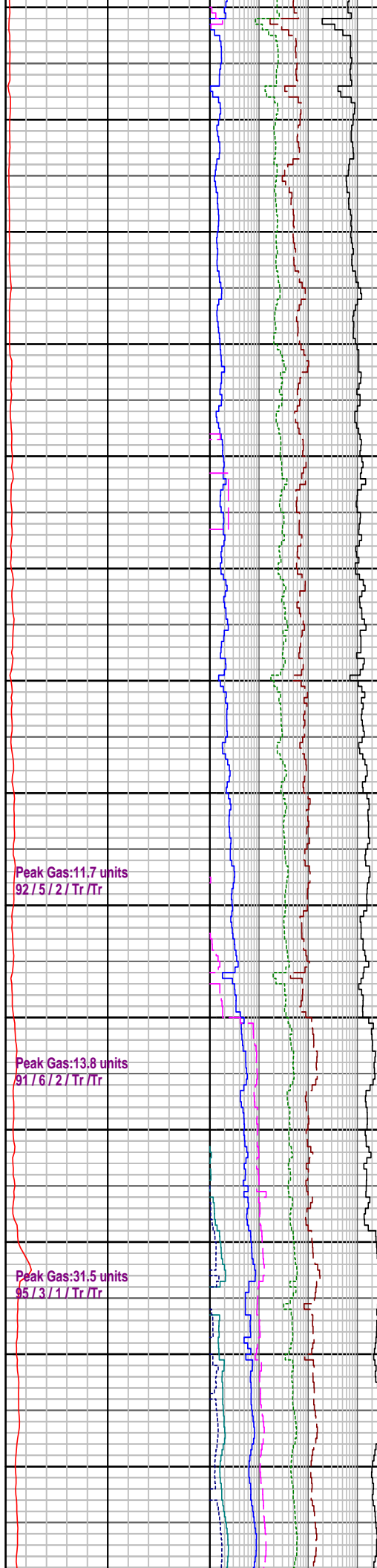
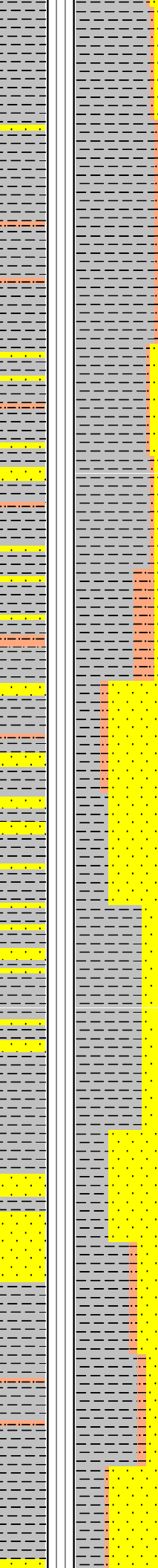
MD: 2175.52m Inc: 3.42°
TVD: 2173.2m Azi: 228.06

WOB: 3-41 Kftlbs
RPM: 121-247
GPM: 896-1028
SPP: 2202-2364psi

24/12/2008

WOB: 15-40 Kftlbs
RPM: 175-250
GPM: 1019-1021
SPP: 2210-2440 psi

190
2200
2210
2220
2230
2240
2250
2260
2270
2280
2290
2300
2310
2320



CLAYSTONE: m dk gy-lt gy, slty grd to Arg Siltst, sli calc, mnr carb spk, micr mic, sft-plas, mass-blky

SILTSTONE: dk gy-blk, v hd, sbblky-blky, splin, occ elong, fis I.P. non calc

MW: 9.7 ppg FV: 49
PV: 14 Gel: 12/10/21
YP: 31 pH: 9.0

MD: 2235.0m Inc: 3.46°
TVD: 2233.0m Azi: 227.38

CLAYSTONE: dk gy- m dk gy, sft- m hd, slty grd to arg Siltst, sli calc, mnr carb spk, micr mic, mass-blky

MW: 9.7 ppg FV: 49
PV: 14 Gel: 11/17/20
YP: 34 pH: 9.0

SANDSTONE: smky qtz, trnsp-trnsl, v f gr, ang-sbrndd, v wl srt, loc dolcalc/sil cmt, tr nod & dissep pyr, com carb mat, p-f por, n fluor

MD: 2264.44m Inc: 3.46°
TVD: 2262.0m Azi: 227.56

Peak Gas: 11.7 units
92 / 5 / 2 / Tr / Tr

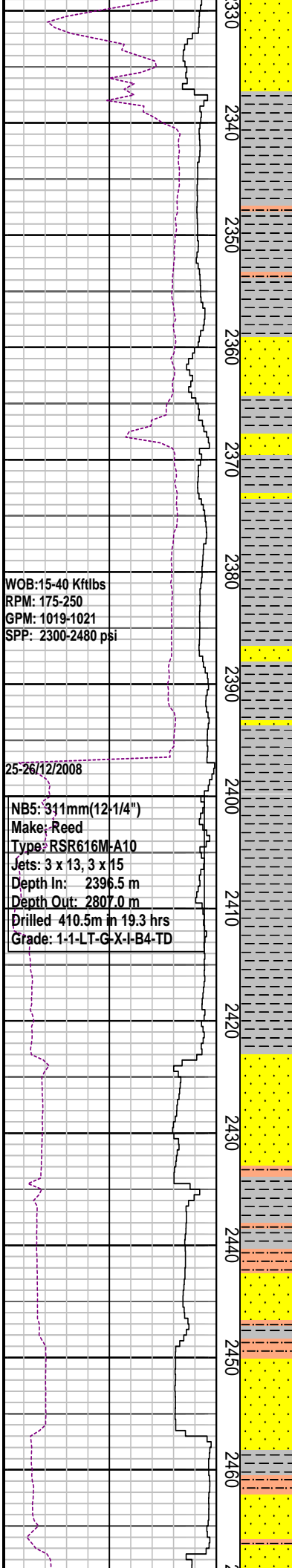
Peak Gas: 13.8 units
91 / 6 / 2 / Tr / Tr

Peak Gas: 31.5 units
95 / 3 / 1 / Tr / Tr

SANDSTONE: smky qtz, trnsp-trnsl, v f gr, sbang-sbrndd, p-wl srt, loc dolcalc/sil cmt, tr nod & dissep pyr, com carb spks, p-f por, n fluor

SILTSTONE: dk gy-blk, hd-v hd, sbblky-blky, splin, occ elong, fis (Shale), non calc

MD: 2323.6m Inc: 3.26°
TVD: 2321.5m Azi: 226.76



WOB: 15-40 Kftlbs
 RPM: 175-250
 GPM: 1019-1021
 SPP: 2300-2480 psi

25-26/12/2008

NB5: 311mm (12-1/4")
 Make: Reed
 Type: RSR616M-A10
 Jets: 3 x 13, 3 x 15
 Depth In: 2396.5 m
 Depth Out: 2807.0 m
 Drilled 410.5m in 19.3 hrs
 Grade: 1-1-LT-G-X-I-B4-TD

Peak Gas: 22.0 units
 95 / 3 / 1 / Tr / Tr

Peak Gas: 22.5 units
 92 / 4 / 2 / 1 / Tr

Peak Gas: 11.7 units
 91 / 5 / 2 / 1 / Tr

SANDSTONE: smky qtz, trnsp-trnsl, v f gr, occ m-crs gr, sbang-sbrnnd, mod-wl srt, loc dolcalc/sil cmt, occ arg, tr nod & dissem pyr, com carb spks, p-f por, n fluor

CLAYSTONE: pred m dk gy, occ m gy, sft-frm, m hd i.p., blkly-sbbkly, v slty, grd to arg Slstst I.P. sli calc, mnr carb spk, micr mic

SANDSTONE: qtz, trnsp-trnsl, occ med gy, v f gr, occ m-crs gr, sbang-sbrnnd, mod srt, v slty, loc dolcalc/sil cmt, occ arg, tr nod & dissem pyr, com carb spks, p-f por, n fluor

MD: 2382.7m	Inc: 3.36°
TVD: 2380.5m	Azi: 228.47

Bit Trip @ 2396.5m

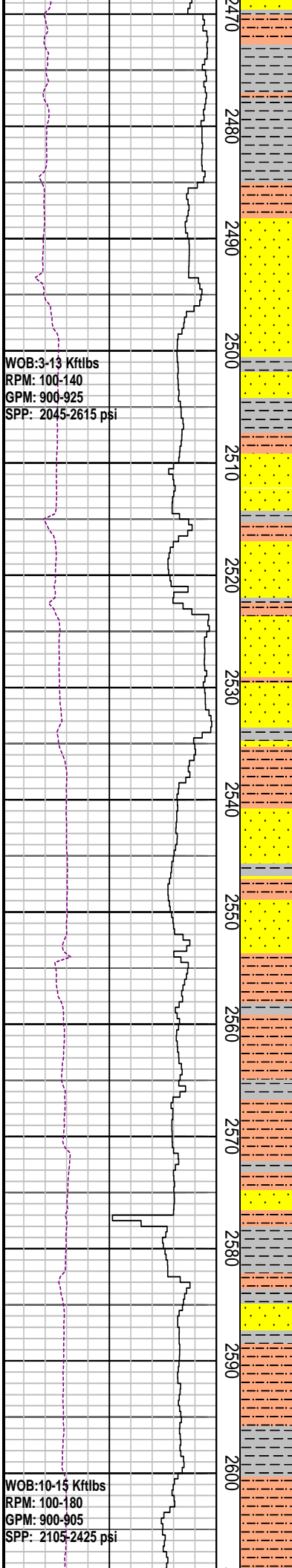
MW: 9.8 ppg	FV: 57
PV: 14	Gel: 11/17/23
YP: 32	pH: 8.5

MD: 2412.78m	Inc: 2.64°
TVD: 2410.5m	Azi: 231.04

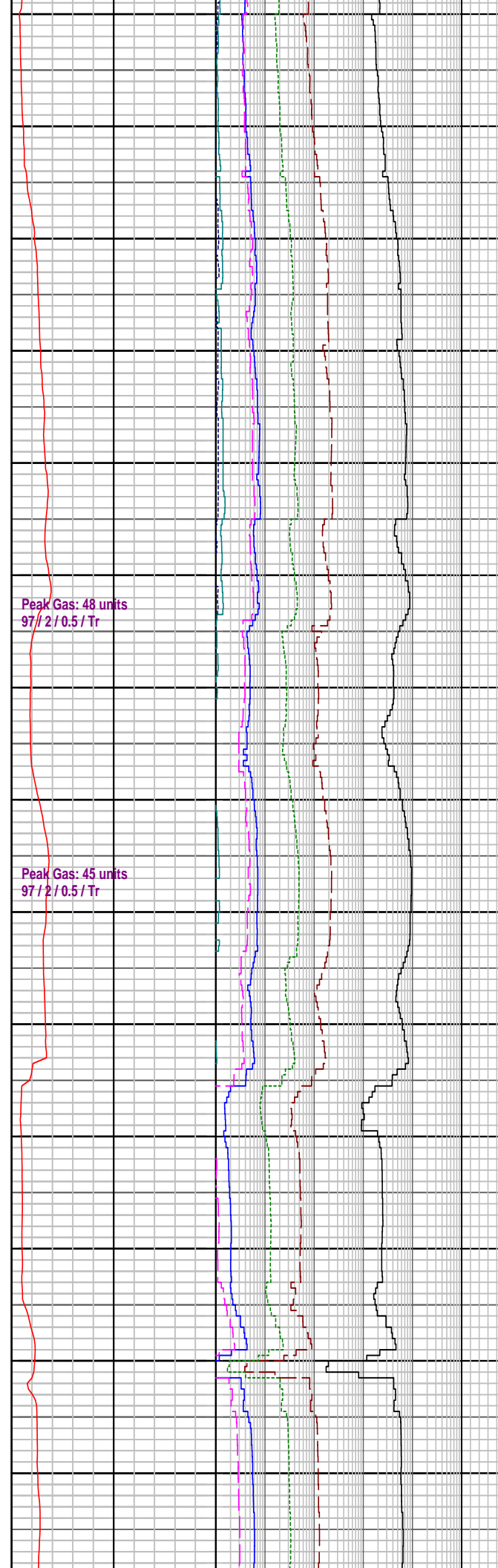
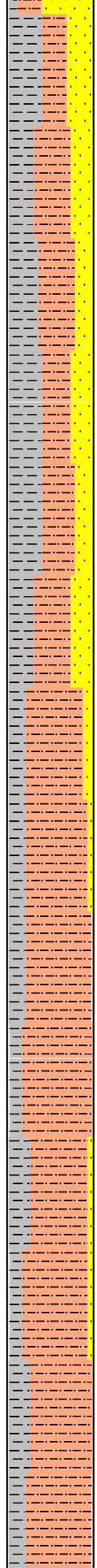
SANDSTONE: m gy-m dk gy, frm-hd, occ v hd, v f gr, sbang-sbrnnd, mod srt, v slty, grd to aren Slstst I.P., calc/sil cmt, arg com carb spks, tr mic, tr glauc, p por, n fluor

MD: 24419m	Inc: 1.53°
TVD: 2439.6m	Azi: 213.64

SILTSTONE: pred dk gy-blk, occ med gy, hd-v hd, sbbkly-blky, fis, grd to Shale I.P., loc aren, com carb spks, calc, tr mic



2470
2480
2490
2500
2510
2520
2530
2540
2550
2560
2570
2580
2590
2600



MD: 2471.6m Inc: 0.59°
TVD: 2469.3m Azi: 128.12

CLAYSTONE: dk gy-m dk gy, sft frm, m hd I.P. blkly-sbbkly, v slty mtrx, grd to arg Sltst, sli calc, mnr carb spk, micr mic

MD: 2491.42m Inc: 1.38°
TVD: 2489.1m Azi: 68.51

MD: 2500.84m Inc: 1.41°
TVD: 2498.6m Azi: 68.97

SANDSTONE: m gy-m dk gy, frm-hd, v f gr, sbang-sbrndd, p-mod srt, v slty arg mtrx, grdg to aren Sltst I.P. calc/sil cmt, arg com carb spks, tr mic, tr glauc, p por, n fluor

MD: 2530.68m Inc: 2.33°
TVD: 2528.4m Azi: 71.51

SILTSTONE: dk gy- lt gy, sft frm, sbbkly-blky, fis, grdg to Shale I.P. loc aren, com carb spks, calc, tr mic

SANDSTONE: m gy-m dk gy, frm-hd, v f gr, sbang-sbrndd, p-mod srt, v slty arg mtrx, grdg to aren Sltst I.P. arg com carb spks, tr mic, p por, n fluor

MD: 2589.92m Inc: 2.26°
TVD: 2587.6m Azi: 73.52

SILTSTONE: dk gy- blk, sft frm, sbbkly-blky, fis, grdg to Shale I.P. loc

aren, com carb spks, calc, tr mic

MW: 9.9 ppg FV: 48
PV: 16 Gel: 14/21/25
YP: 35 pH: 9.0

MD: 2648.85m Inc: 2.04°
TVD: 2646.5m Azi: 82.08

SANDSTONE: m gy-m dk gy, frm-hd, v f gr, sbang-sbrndd, p-mod srt, v slty arg mtrx, grdg to aren Sltst I.P. arg com carb spks, tr mic, p por, n fluor

MD: 2678.97m Inc: 2.06°
TVD: 2676.6m Azi: 86.66

SILTSTONE: dk gy- blk, hd-v hd, sbblky-blky, fis, grdg to Shale I.P. loc aren, tr carb spks, calc, tr mic

MD: 2708.38m Inc: 2.64°
TVD: 2706.0m Azi: 86.80

SANDSTONE: m gy-m dk gy, frm-hd, v f gr, sbang-sbrndd, p-mod srt, v slty arg mtrx, loc dolcalc/sil cmt, grdg to aren Sltst I.P. arg com carb spks, tr mic, p por, n fluor

MD: 2737.95m Inc: 2.76°
TVD: 2735.5m Azi: 86.66

