



Company : Beach Petroleum Ltd

Well : Fermat-1

Interval : 958.00 - 1861.63 meters

Created : 23/Dec/2008 5:28:24 AM



INTEQ

### FORMATION EVALUATION LOG

DRILLING PARAM		MD meters	Oil Show	LITHOLOGY %	CORE	TOTAL GAS	CHROMATOGRAPH	Calcmetry	Lithology Description
ROP (m/hr)						Total Gas (unit)	Methane ppm		
200   160   120   80   40 <b>WEIGHT ON BIT (klbf)</b> 10   20   30   40   50						10   20   30   40   50	1 Methane ppm 100000 1 Ethane ppm 100000 1 Propane ppm 100000 1 iso-Butane ppm 100000 1 n-Butane ppm 100000 1 iso-Pentane ppm 100000 1 n-Pentane ppm 100000		
WOB: 4-25 Kftlbs RPM: 105-155 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		960							MD: 966.55m Inc: 2.74° TVD: 966.44m Azi: 216.55°  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: olv gry, brn-grysh brn, mod calc, com pyr, com lit frag, frm-hd, blkly-sbfis  SANDSTONE: clr-trnsl, lt smky gry, 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: olv gry-brn -lt gy, mod calc, com pyr, com lit frag, sft-v hd, blkly-sbfis  CLAYSTONE: olv gy-mod olv brn, mod calc, sli slty, tr wh calc spar incl, tr carb mat, sft, mass-amor
19/12/2008		970							
20/12/2008		980							
		990							
		1000							
		1010							
		1020							
		1030							
		1040							
		1050							

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

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

SILTSTONE: dk gry-olv gry, sli calc I.P, loc v arg grd stly Cist I.P, sli aren, micr mic, tr carb spks, tr lit frag

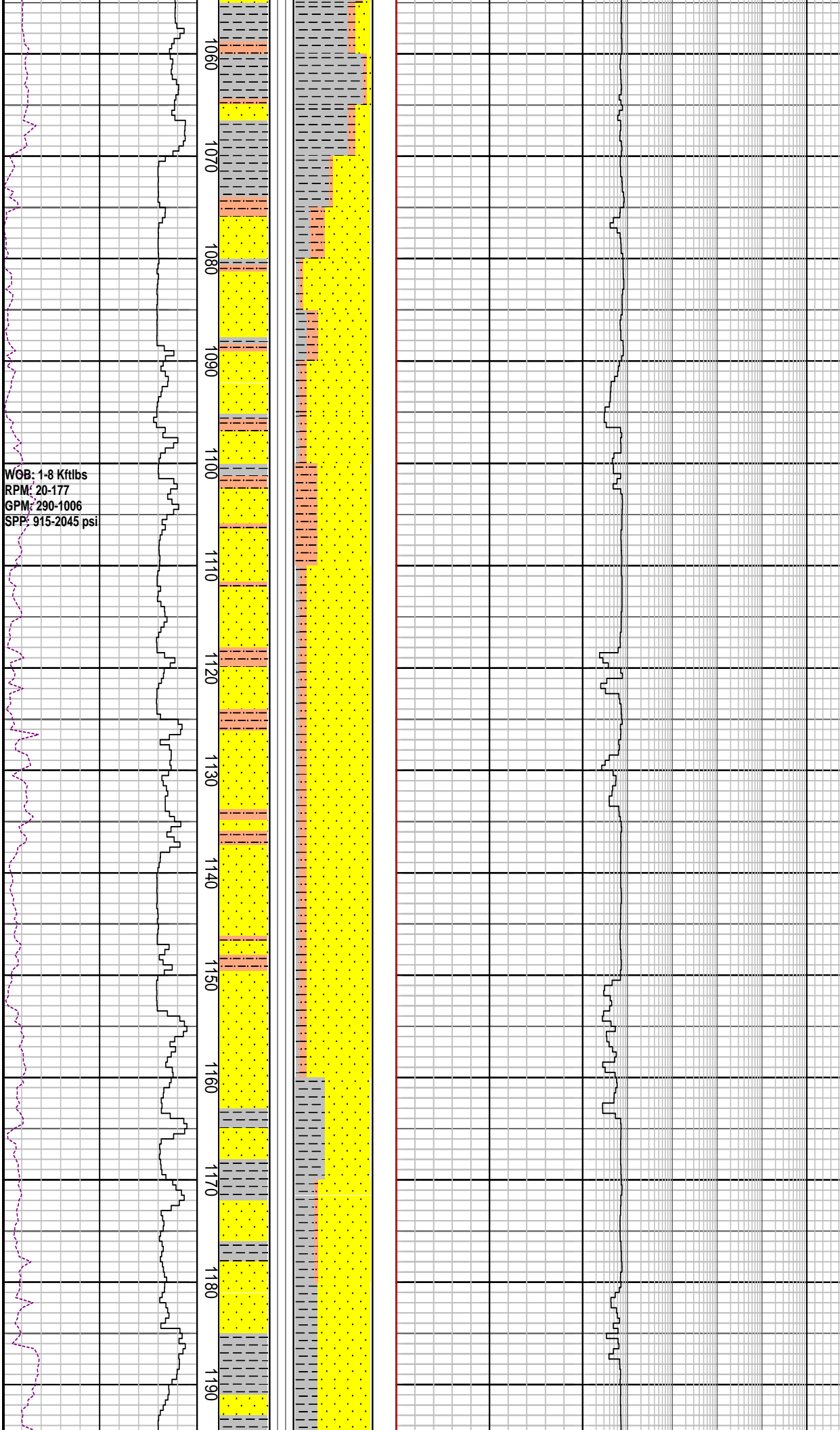
MD: 1112.27m Inc: 2.75°  
TVD: 1112.0m Azi: 224.69°

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

CLAYSTONE: dk gry-brn blk, mod stly, 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-sbrnodd, p-mod srt, arg mtrx I.P. dissem & nod pyr, mnr carb mat, tr Fe stn qtz, fri-pred disagg, p-fr por, n f



WOB: 1-14 Kftlbs  
RPM: 94-177  
GPM: 801-961  
SPP: 1249-1877 psi

WOB: 2-17 Kftlbs  
RPM: 80-130  
GPM: 801-903  
SPP: 1358-1724 psi

1200  
1210  
1220  
1230  
1240  
1250  
1260  
1270  
1280  
1290  
1300  
1310  
1320  
1330

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, fri-pred disagg, fr por, n flu

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

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

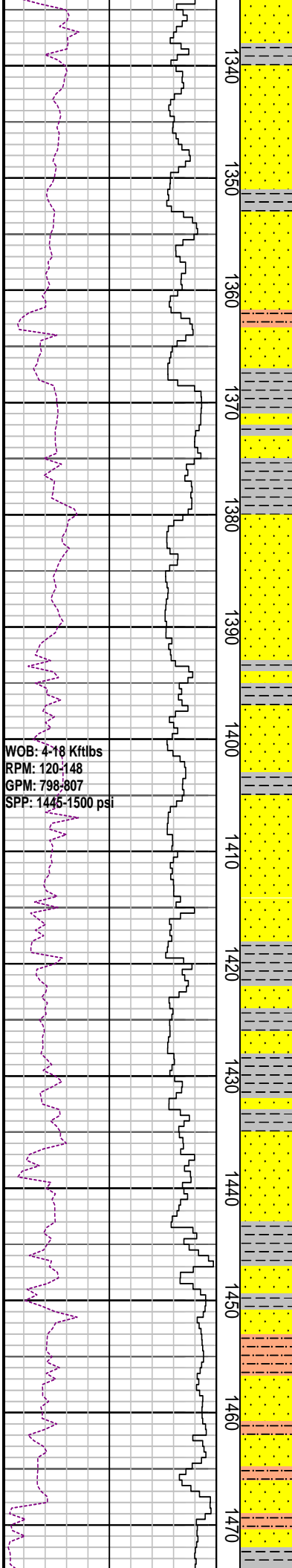
CLAYSTONE: m-dk gy, mod slty, sli calc I.P. com pyr, mnr carb spks, sft-plas, mass-blky I.P.

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 Sltst I.P. mnr carb mat & carb micr lam, sft-plas, mass-amor



WOB: 4-18 Kftlbs  
 RPM: 120-148  
 GPM: 798-807  
 SPP: 1445-1500 psi

1340  
1350  
1360  
1370  
1380  
1390  
1400  
1410  
1420  
1430  
1440  
1450  
1460  
1470

Carbide Run @ 1421.0 m  
 Actual: 4825 strks  
 Theoretical: 4811 strks  
 Avg Hole Diameter : 12.29"  
 Carbide Gas : 18 units

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

**CLAYSTONE:** dk gy-brn blk, sli slty, mnr 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, blk

**SANDSTONE:** qtz, clr-trnsl, fros, smky gy, m-crs gr, sbang-sbrndd, 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, mnr 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. mnr 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, blk

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

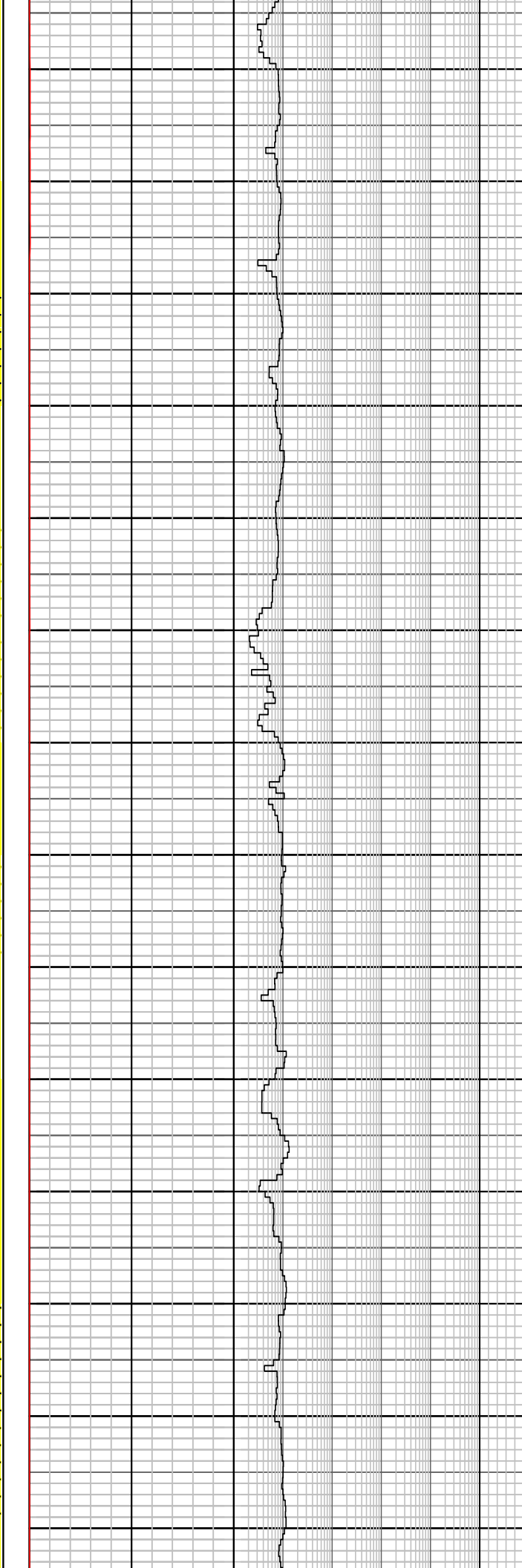
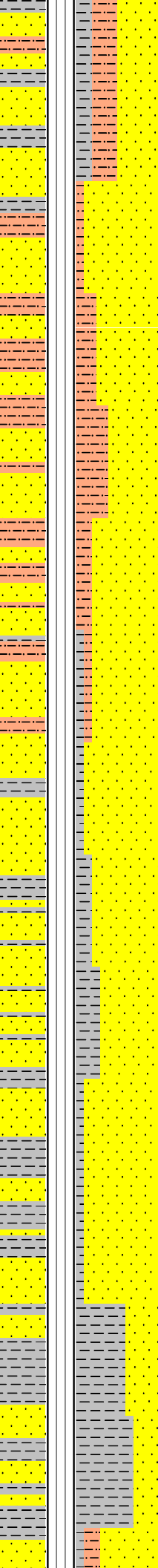
**CLAYSTONE:** dk gy- brn gy, mod calc, slty arg mtrx, gd to Slst I.P. mnr carb

21/12/2008

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

1480  
1490  
1500  
1510  
1520  
1530  
1540  
1550  
1560  
1570  
1580  
1590  
1600  
1610



stly arg mtrx, gd to sist i.P. mmr cal mat & carb micr lam, sft-plas, mass-amor

**SANDSTONE:** qtz, clr-trnsl, smky gy, f-crs gr, ang-sbrnnd, rndd i.P. mod srt, slty arg mtrx i.P, tr musc, tr carb mat, micr mic, p por, n fluor

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, slty 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, mnv v crs, sbang-sbrnnd, mod srt, wk calc cmt i.P, tr nod pyr, tr glau, com carb/c frag, occ crs mlky flt, occ rd lit frag, disagg, fr por,

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

**CLAYSTONE:** brnsh gy-olv gry, yel gy i.P, loc v slty grd to Arg Sltst 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, mnv v crs, sbang-sbrnnd, mod srt, loc mod stg dol cmt, tr nod pyr, com carb mat, tr crs mlky flt, tr lit frag, disagg, fr por, n fluor

**SILTSTONE:** pl yel brn, mod sil, mod arg, tr carb frag, tr lit frag, tr musc, sl

chlor, hd, blkly

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

CLAYSTONE: m dk gy-dk gy, v slty grd to Arg Sttst 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-fr 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

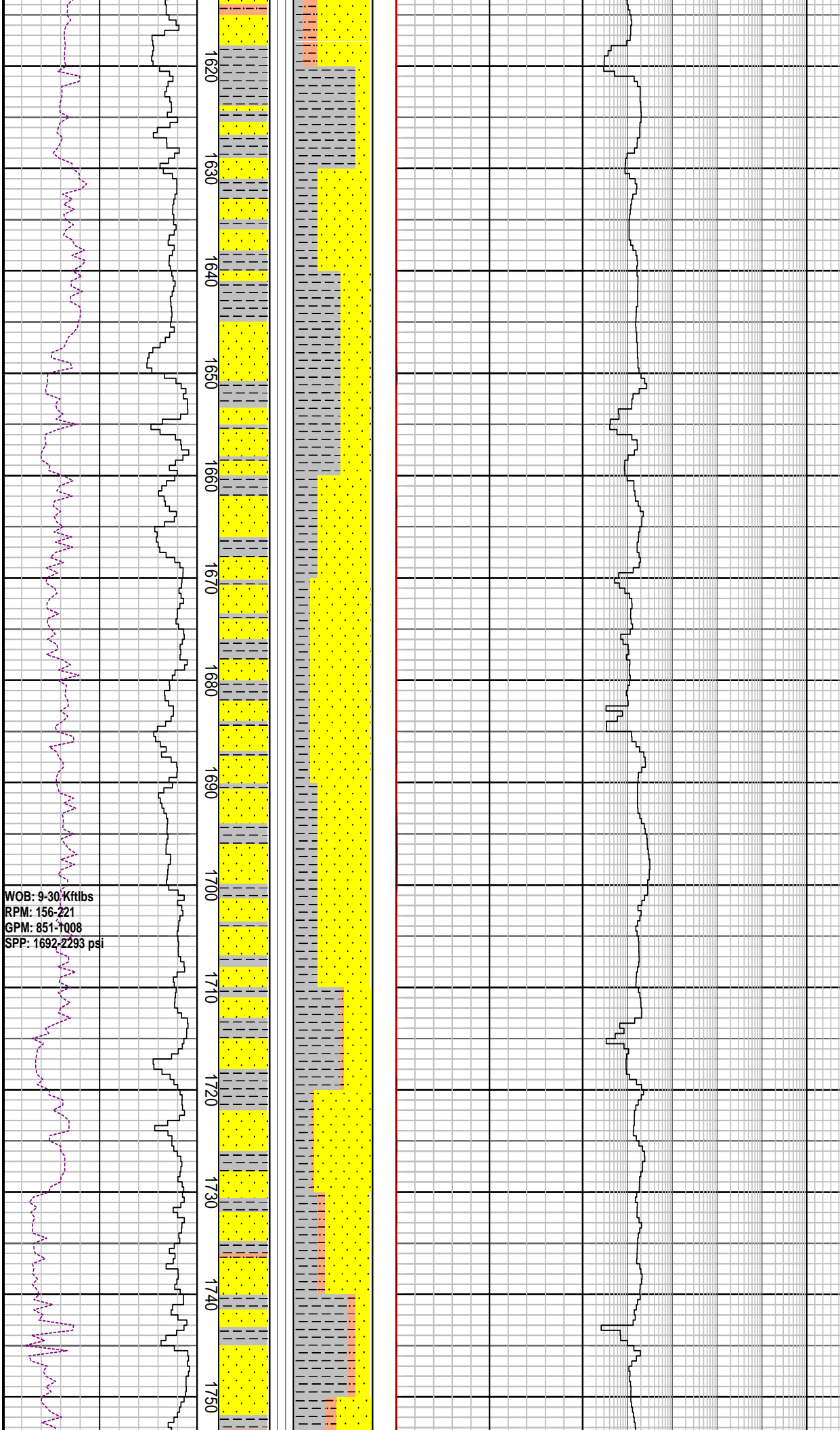
MW: 9.6 ppg	FV: 69
PV: 21	Gel: 10/14/16
YP: 35	pH: 9.0

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



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



