

# FORMATION EVALUATION LOG

WELL : TREFOIL-2



FROM (m): 930

TO (m): 2300

SCALE: 1/ 500

Country : AUSTRALIA  
 Region : TASMANIA  
 Field : TREFOIL  
 Permit : T/18P  
 Well Type : APPRAISAL  
 Rig Name : KAN TAN 4

POSITION  
 Latitude : 39 53' 07.93" S  
 Longitude : 145 22' 14.62" E  
 X (m) : 360690.389  
 Y (m) : 5583676.588  
 RT-Sealevel (m MSL) : 26  
 RT-Seabed (m) : 95

CASING SHOE SIZE / DEPTH  
 762mm (30") at (m MDRT) : 153.00  
 340mm (13 3/8") at (m MDRT) : 930.00  
 245mm (9 5/8") at (m MDRT) :

Spud Date : 06-10-2009  
 Total Depth Date :  
 Total Depth (m MDRT) :  
 Total Depth (m TVSS) :  
 Status :

## ABBREVIATIONS

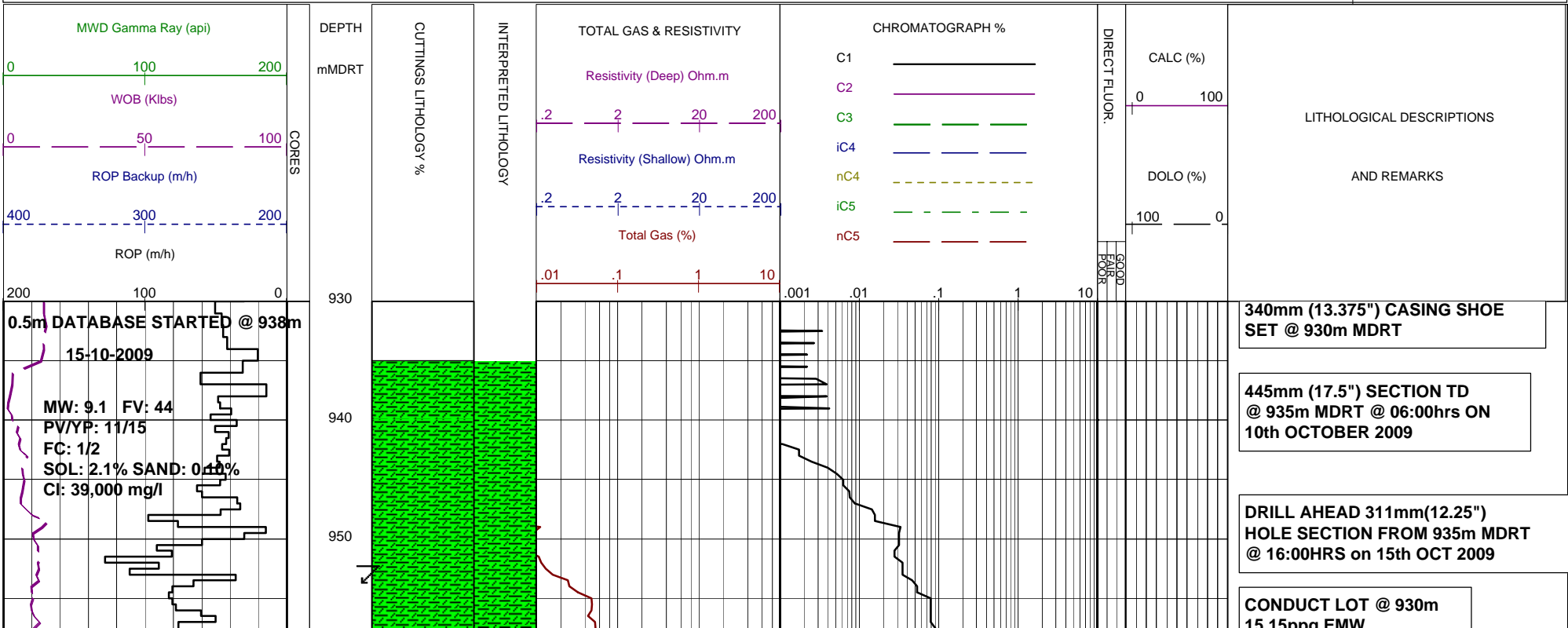
MW MUD WEIGHT	NB NEW BIT
FV FUNNEL VISCOSITY	RR RERUN BIT
PV PLASTIC VISCOSITY	CB CORE BIT
YP YIELD POINT	WOB WEIGHT ON BIT
FC FILTER CAKE	RPM REVS PER MINUTE
SOL SOLIDS	FLC FLOW CHECK
CR CIRCULATE RETURNS	WL FILTRATE
SD SAND - %	PR POOR RETURNS
S SALINITY - PPM	NR NO RETURNS
RM MUD RESISTIVITY	BG BACKGROUND GAS
RMF MUD FILTRATE	TG TRIP GAS
C CARBIDE TEST	STG SHORT TRIP GAS
LAT LOGGED AFTER TRIP	CG CONNECTION GAS
DS DEVIATION SURVEY	SG SWAB GAS
	SVG SURVEY GAS

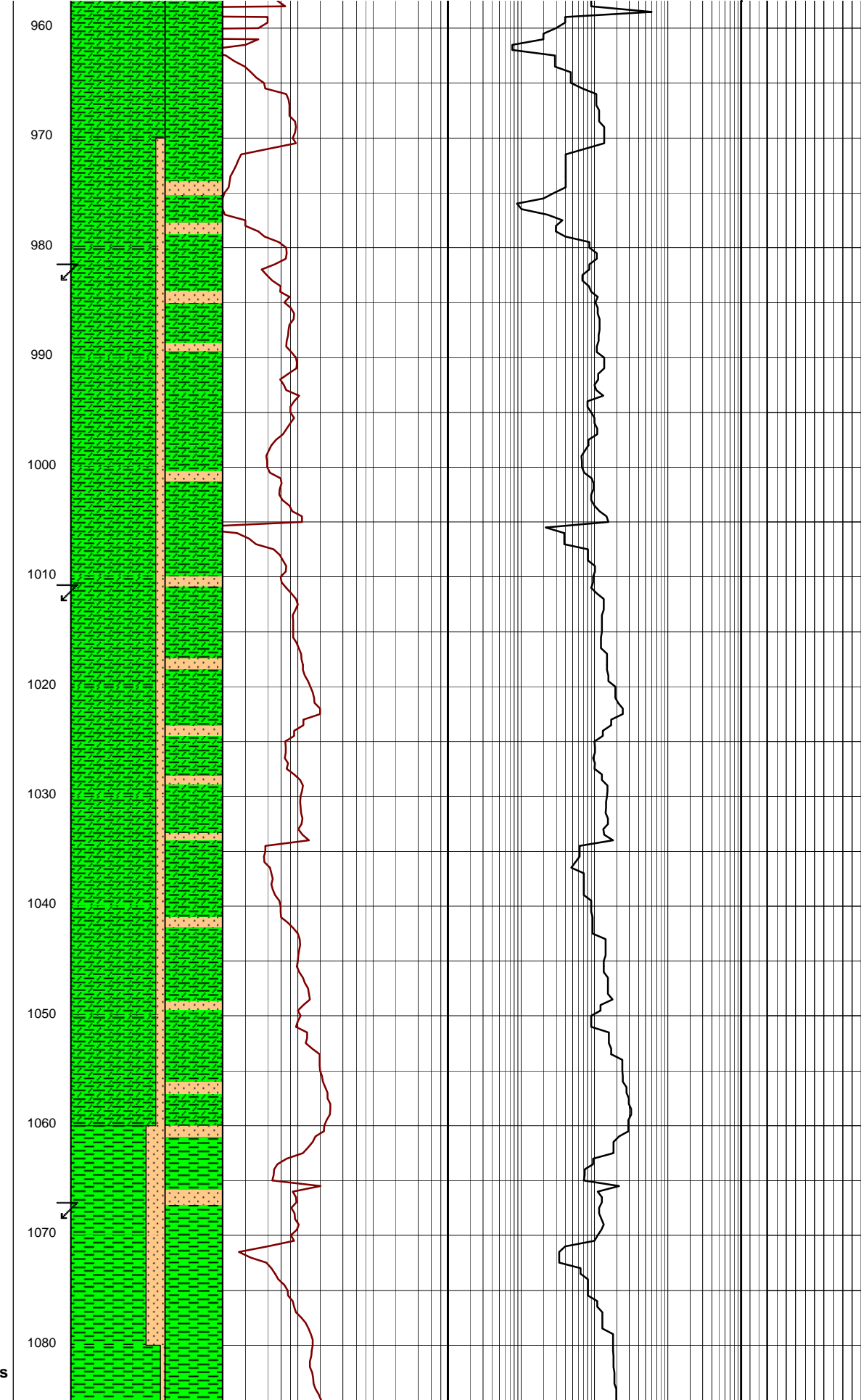
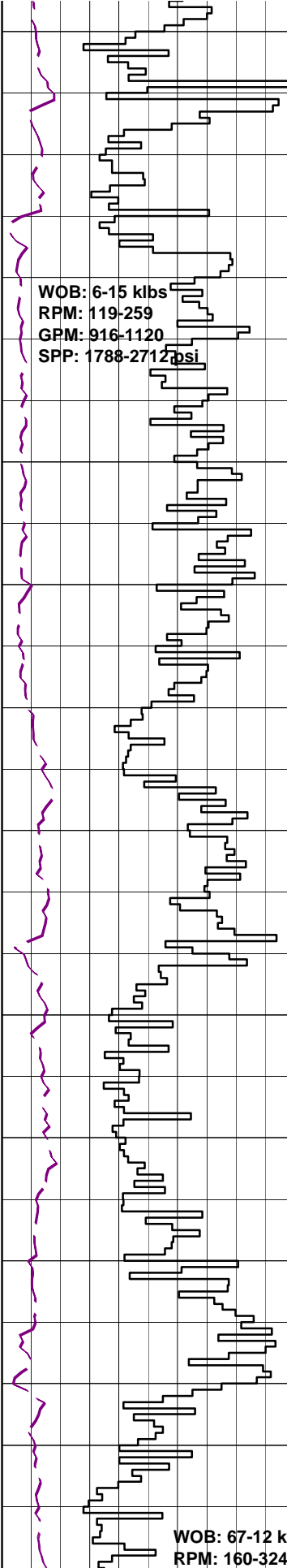
## LITHOLOGY LEGEND

	Dolomite		Claystone		Argil Siltstone		Calcareous
	Calcurudite		Siltstone		Sandy Siltstone		Dolomitic
	Calcarenite		Sandstone		Calcareous Siltstone		Fossils
	Calcsiltite		Coal		Argil Sandstone		Foraminiferae
	Calculutite		Intrusive Volcanics		Calcareous sandstone		Carbonaceous
	Sandy claystone		Volcaniclastics		Dolomitic sandstone		Chert
	Silty claystone		tuff		Silty sandstone		Pyrite
	Calcareous Claystone		Cement				Glauconite
	Argil Calculutite						Mica

## ENGINEERING

	Test
	FIT or LOT
	Mud loss
	Mud gain
	Deviation survey
	Core
	Casing shoe
	Calcimetry





CLAYSTONE: med gry, v sft-sft, rr frm, amorph-sblky, tr bryz & shell frgs, tr pyr, 35% calc clay.

SURVEY @ 952.44m  
 Incl: 0.80° AZI: 188.49°  
 TVD: 952.40m

SILTSTONE: med dk gry, frm-hd, ang-sbblky, tr bryz & foram, tr shell frg, 30% calc clay.

SURVEY @ 981.35m  
 Incl: 0.71° AZI: 192.99°  
 TVD: 981.31m

SURVEY @ 1010.2m  
 Incl: 0.83° AZI: 198.72°  
 TVD: 1010.16m

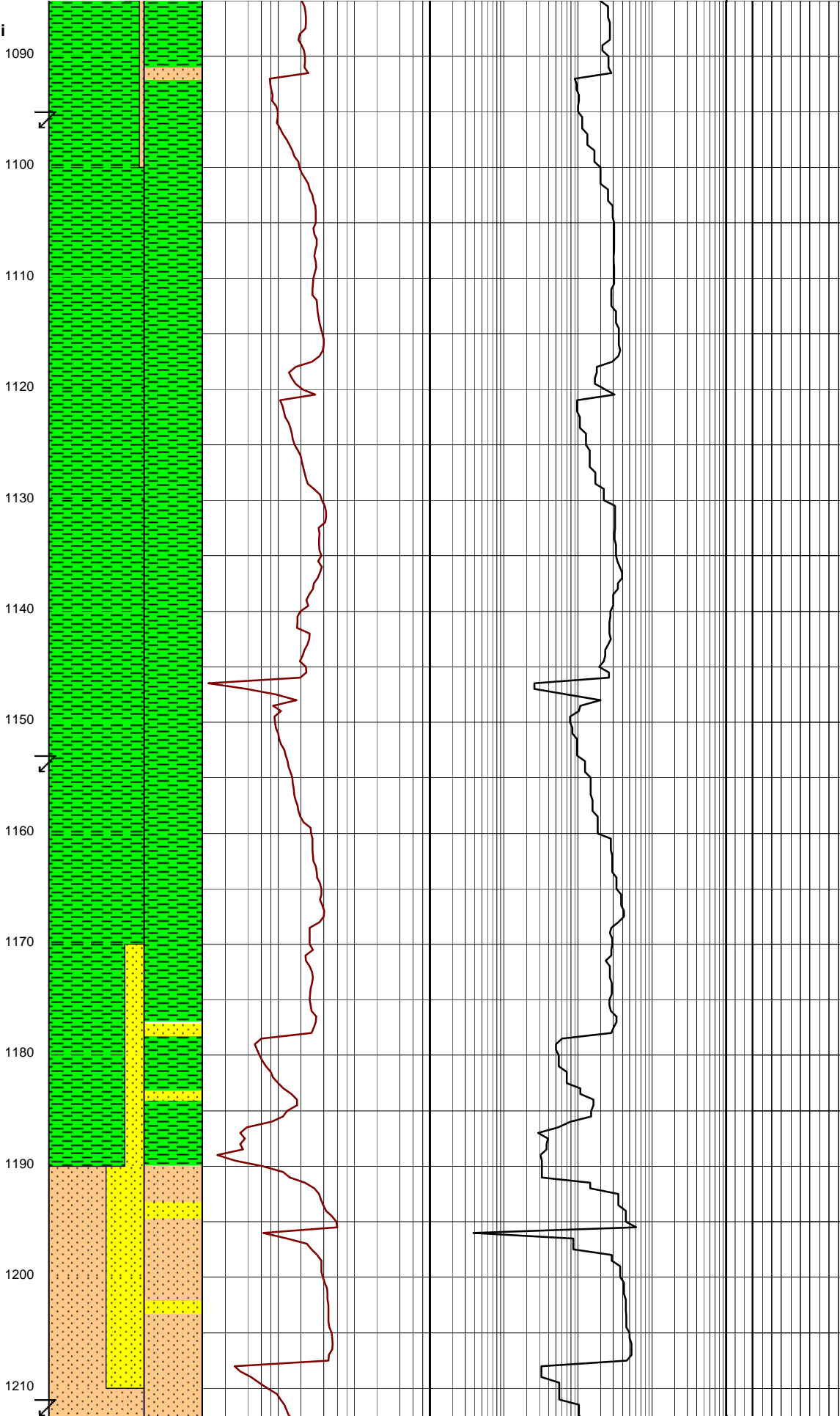
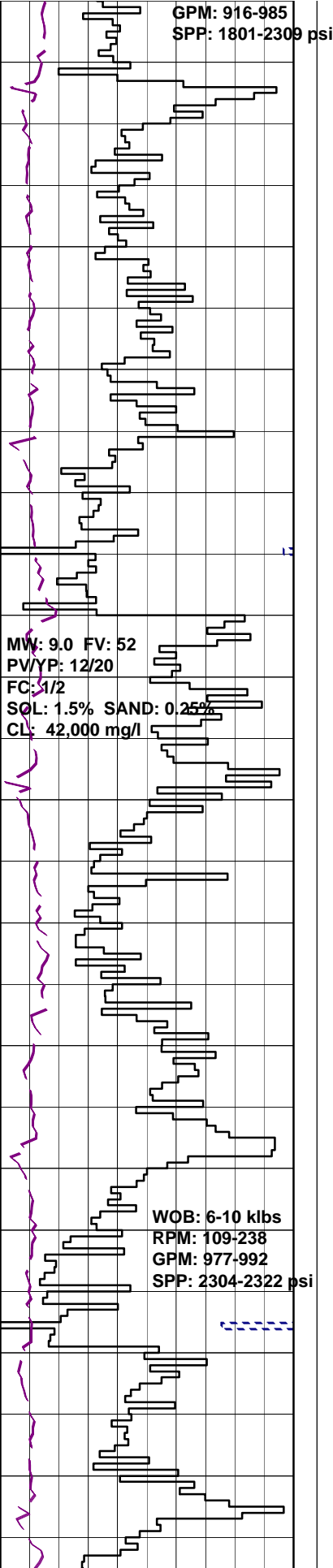
CLAYSTONE: med-occ lt gry, sft-occ frm, amorph-sblky, mnr micmic, tr bryz, tr forams, tr shell frg, 30% calc.

CLAYSTONE: med-occ lt gry, sft-occ frm, amorph-sblky, mnr micmic, tr bryz, tr forams, tr shell frg, 30% calc.

SURVEY @ 1067.16m  
 Incl: 0.87° AZI: 190.96°  
 TVD: 1067.16m

CALCAREOUS CLAYSTONE: med-dk gry, sft-frm, blk-sbblky, tr micmic, foss

GPM: 916-985  
SPP: 1801-2309 psi



frags,forams,10% calc cly.

**SURVEY @ 1095.87m**  
Incl: 0.84° AZI: 194.49°  
TVD: 1095.82m

**CLAYSTONE:med- dk gry,sft-frm, sbblky-blky,tr micmic,shell frags, corals,tr vf pyr aggs,10% calc cly.**

**SURVEY @ 1153.51m**  
Incl: 1.11° AZI: 191.81°  
TVD: 1153.45m

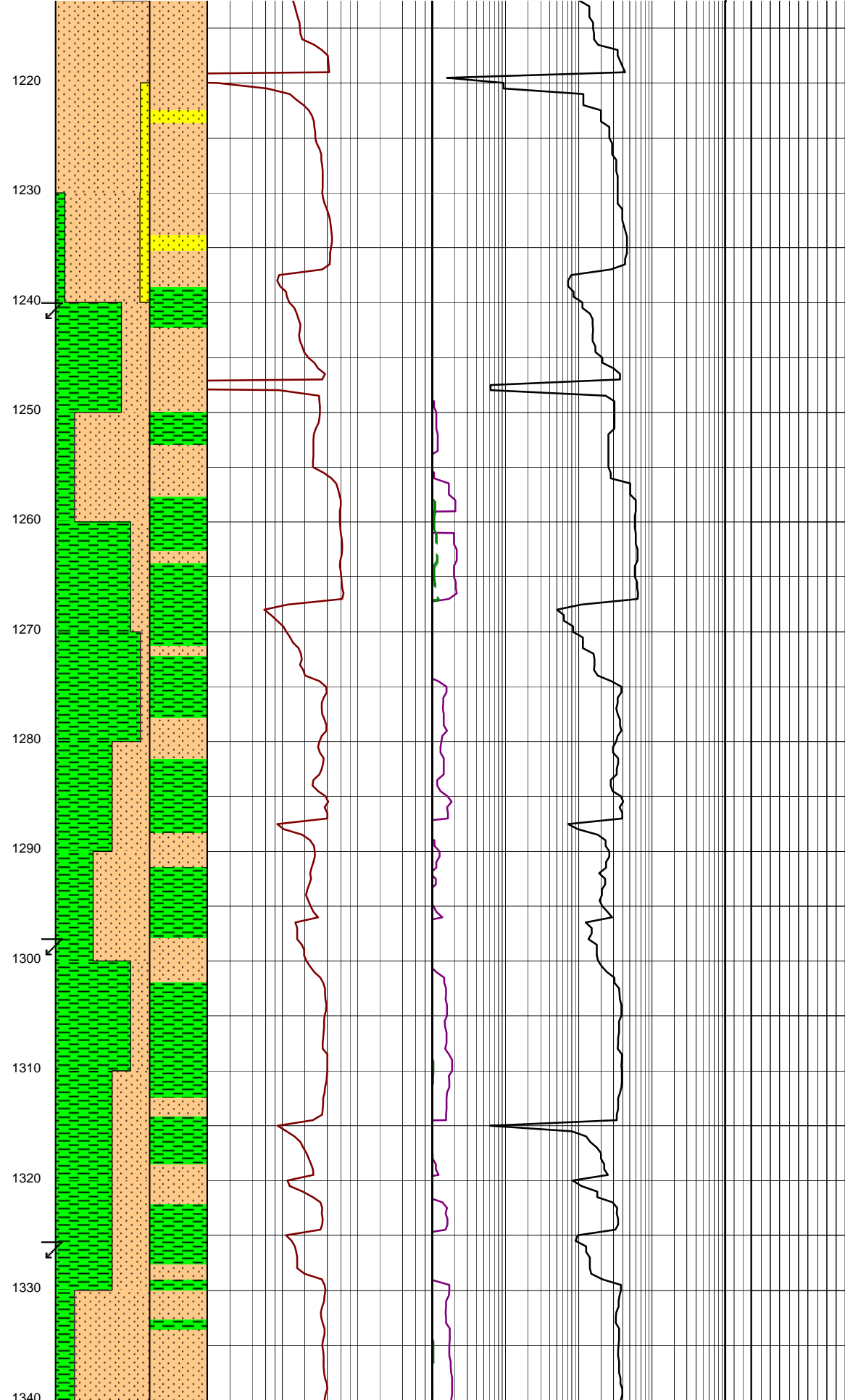
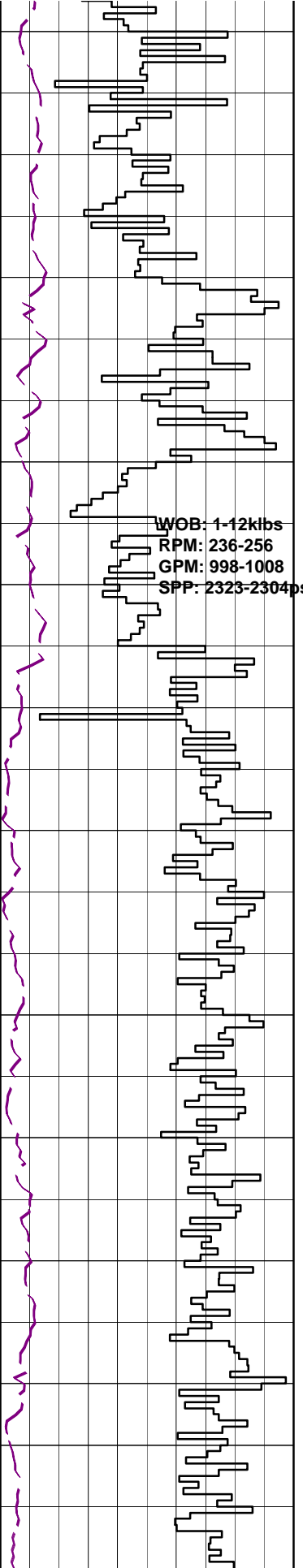
**CLAYSTONE:med-dk gry,olv gry, sft-frm,sbblky-blky,tr micmic,shell frags,5% calc cly.**

**CLAYSTONE:olv gry,drk grn/gry, sft-frm,sbblky-blky,tr grd to sbfiss, tr vfg pyg as repl,tr shell frags, tr micmic,5% calc cly.**

**SURVEY @ 1152.36m**  
Incl: 1.27° AZI: 187.06°  
TVD: 1182.29m

**SANDSTONE:lt olv gry,med gry,v sft-fri,vf grns,sbang-sbrnd,wl srt,sph-sbsph,tr lith frags,10% pr calc cmt, gd vis por,no fluor.**

**SURVEY @ 1211.30m**  
Incl: 0.97° AZI: 182.631°



TVD: 1211.23m

SILTSTONE: med gry, med-lt gry, sft, sbblky, tr carb lam, tr lith frags, tr calc cly.

SANDSTONE: lt olv gry, med gry, v sft-fri aggs, vf grns, sbang-sbrnd, wl srt, sph-sbsph, tr lith frags, 10% pr calc cmt, gd vis por, no fluor.

SURVEY @ 1240.32m  
 Incl: 1.00° AZI: 184.76°  
 TVD: 1240.24m

CLAYSTONE: olv gry, sft frm, sbblky-blky, tr shell frags, lith frags, forams, 5% calc cly, 10% cly.

SURVEY @ 1298.71m  
 Incl: 1.13° AZI: 178.12°  
 TVD: 1298.62m

SILTSTONE: med gry, med-lt gry, sft-frm, sbblky, tr shell frags, lith frags, forams, 5% calc clay, 10% cly.

CLAYSTONE: olv gry, dk grn/gry, sft-frm, sbblky, tr forams, 2% micmic, tr f grn pyr aggs, 10% calc cly.

SILTSTONE: med gry, med-lt gry, sft-frm, sbblky, 1% shell frags, tr rd/brn, dol lmst, tr lith frags, forams, f grn pyr aggs, 5% calc cly, 10% cly.

SURVEY @ 1327.95m  
 Incl: 1.27° AZI: 184.82°  
 TVD: 1327.86m

SILTSTONE: olv gry, med-dk gry, sft-frm sbblky-blky tr alt lith frags

WOB: 3-7 klbs  
RPM: 163-251  
GPM: 720-995  
SPP: 1430-2399 psi

MW: 9.0 FV: 55  
PV/YP: 13/21  
FC: 1/2  
SOL: 1.8% SAND: 0.25%  
CL: 42,000 mg/l

SLIDING: 1422m-1433m

MW: 9.0 FV: 56  
PV/YP: 13/22  
FC: 1/2  
SOL: 1.7% SAND: 0.25%  
CL: 40,000 mg/l



**SURVEY @ 1357.12m**  
Incl: 1.31° AZI: 184.97°  
TVD: 1357.02m

**SILTSTONE:**olv gry,med-dk gry,sft-frm,sbblky-blky,tr lith frags,tr carb spks,tr vf disseminated pyr,tr glauc grns,5% calc cly.

**SURVEY @ 1385.95m**  
Incl: 1.43° AZI: 187.08°  
TVD: 1385.84m

**SILTSTONE:**olv gry,med-dk gry,med gry,sft-frm,sbblky-blky, tr alt lith frags,tr carb spks, tr vf disseminated pyr,tr glauc grns, 5% calc cly,15% cly,grd to arg sltst.

**SURVEY @ 1414.18m**  
Incl: 1.33° AZI: 186.15°  
TVD: 1414.68m

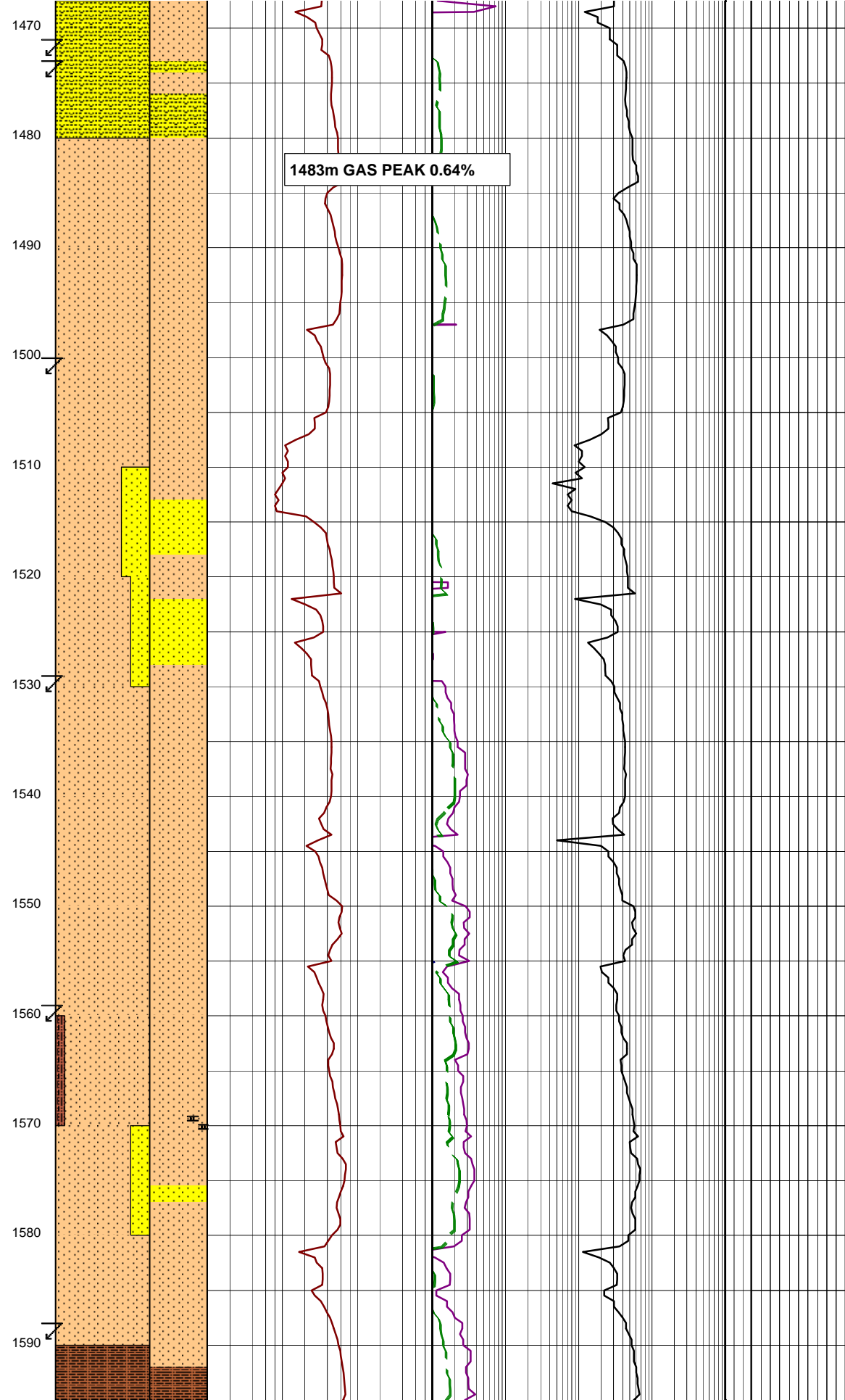
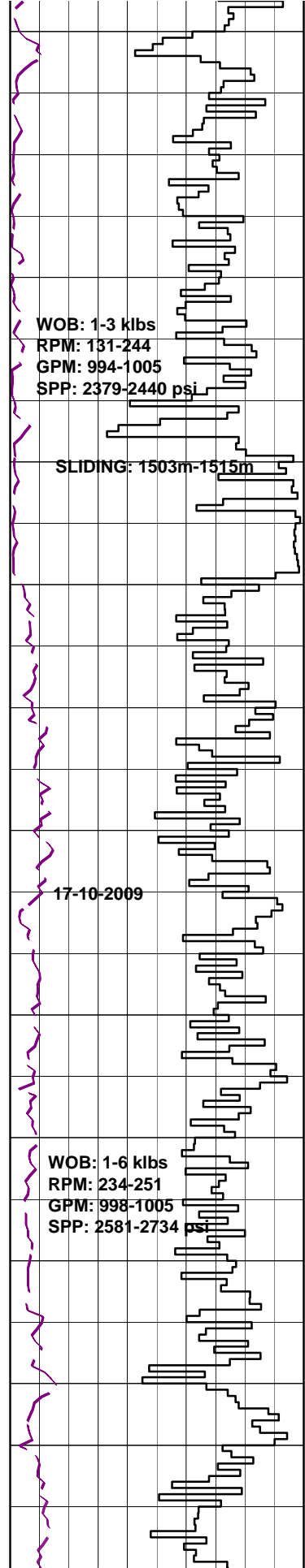
**SILTSTONE:**olv gry,med-dk gry, med gry,sft-frm,sbblky-blky, i/p with 10 % vf grn qtz grns, tr alt lith frags,tr carb spks, tr vf disseminated pyr,tr glauc grns, 5% calc cly,15% cly,grd to arg sltst.

**SILTY SANDSTONE:**olv gry,med-dk gry,vf grns,sbrnd,wl srt,sbsph-sph qtz grns w/ 0-20% lith comp,sft-frm,sbblky-sbfiss,tr carb spks,5% calc cmt,pr vis por,no fluor.

**CARBIDE LAG CHECK @ 1438m**  
THEOR. STKS: 5872  
ACTUAL STKS: 6090  
OPEN HOLE O.G: 4.2%

**SURVEY @ 1443.26m**  
Incl: 1.42° AZI: 189.23°  
TVD: 1443.14m

**SILTY SANDSTONE:** olv arv. med



1483m GAS PEAK 0.64%

dk gry,vf grns, sbrnd, wl srt, sbsphr to sphr qrtz grns with 0 to 20% lithic cmpnt, sft frm, sbllky-sbfiss, tr carb spks, 5% calc cmt, pr vis por, no fluor.

**SURVEY @ 1471.76m**  
 Incl: 1.41° AZI: 188.77°  
 TVD: 1471.63m

**SILTSTONE:**olv gry,med gry, tr dk gry,sft frm,sbllky, tr carb spks,lithic frags,glauc, 5% calcareous clay,10% very fine qrtz sand.

**SURVEY @ 1500.56m**  
 Incl: 1.44° AZI: 186.77°  
 TVD: 1500.42m

**SILTSTONE:**olv gry,med dk gry, sft frm,tr fri,ang to sbllky, tr carb spks,calcite crys,glauc, lithic frags,5% calc clay,10% clay,15% vf qrtz sand.

**SANDSTONE:**med dk gry,dk gry, vf grn,sbrnd,wl srt,sbspher-spher qrtz grns with 10-15% lithic frag,5% calc clay cmt, 10% clay comp,por vis por,no fluor.

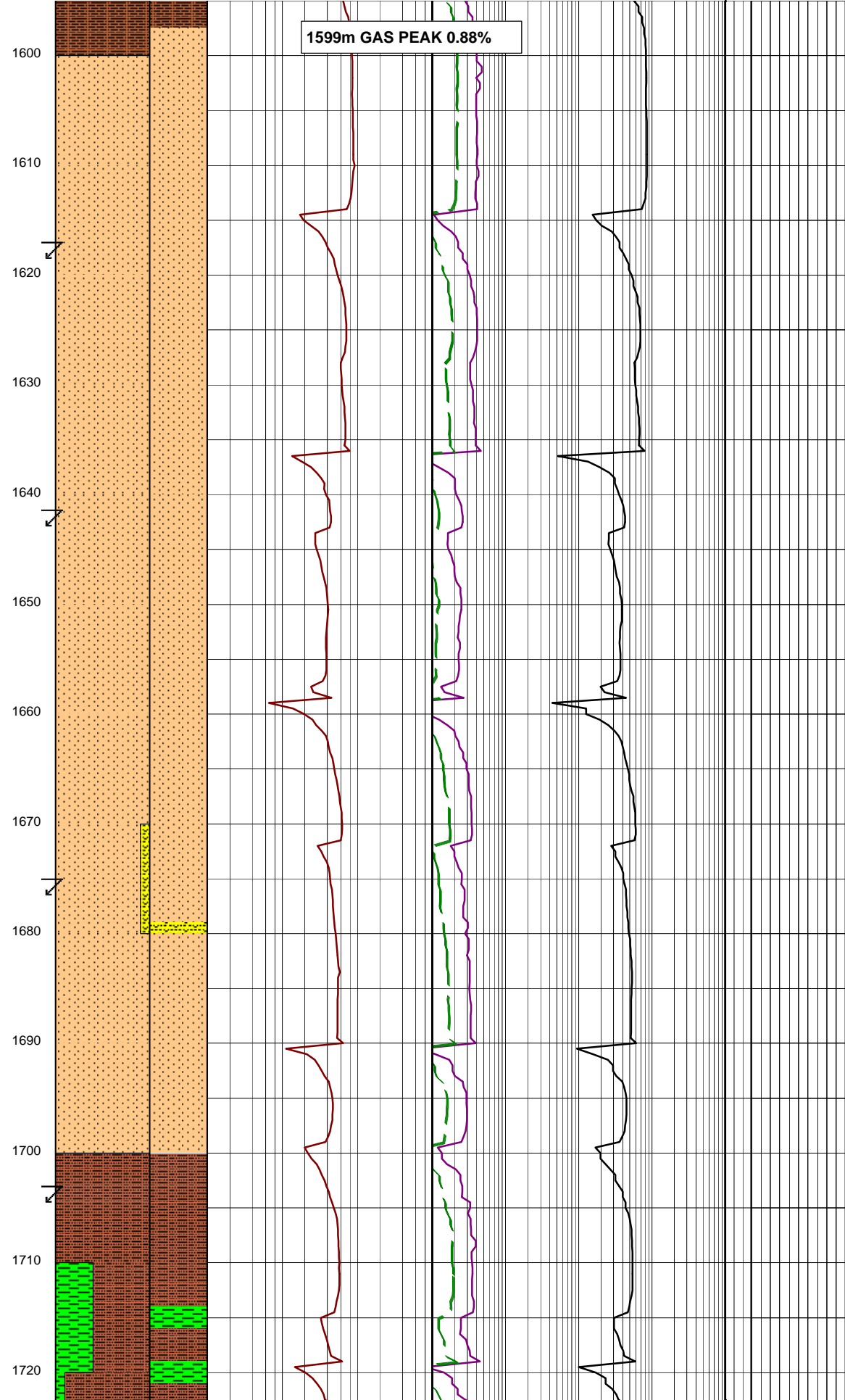
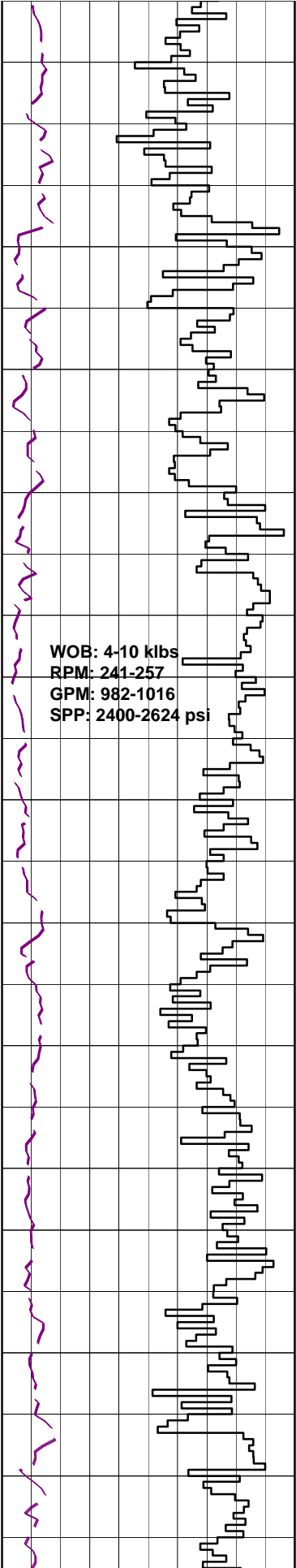
**SURVEY @ 1529.74m**  
 Incl: 1.02° AZI: 177.87°  
 TVD: 1529.59m

**SILTSTONE:**olv gry,sft frm, sbllky,tr glauc,lithic frags, 5% calc clay,15% clay,10% vf qrtz grns,tr v lt gry highly degraded volcanics.

**SURVEY @ 1559m**  
 Incl: 1.11° AZI: 183.32°  
 TVD: 1558.85m

**SANDSTONE:**med blu gry, vf grn,sbrnd,wl srt to v wl srt,spher qrtz grns with 10% lithic comp,mod hd-hd,ang-sbllky,tr micmic, hgly cmt,10% calc cmt, 10% clay comp,no vis por, no fluor.

**SURVEY @ 1588.15m**  
 Incl: 1.05° AZI: 181.86°



TVD: 1587m

**SANDY SILTSTONE:**olv gry,med dk gry,sft frm,ang-sbblky, tr carb spks,glauc,lithic frags,micmic,shell frags,5% calc clay,10% clay, 20% vf qrtz sand.

**SILTSTONE:**olv gry,med gry,sft frm,sbblky,tr carb spks,glauc, lithic frags,shell frags,5% calc clay,15% clay.

**SURVEY @ 1617.27m**  
 Incl: 1.14° AZI: 175.03°  
 TVD: 1617.11m

**SILTSTONE:**olv gry,sft frm, sbblky,tr carb spks,glauc, lithic frag,5% calc clay,10% clay,5% very fine qrtz sand.

**SURVEY @ 1646.32m**  
 Incl: 1.17° AZI: 184.16°  
 TVD: 1646m

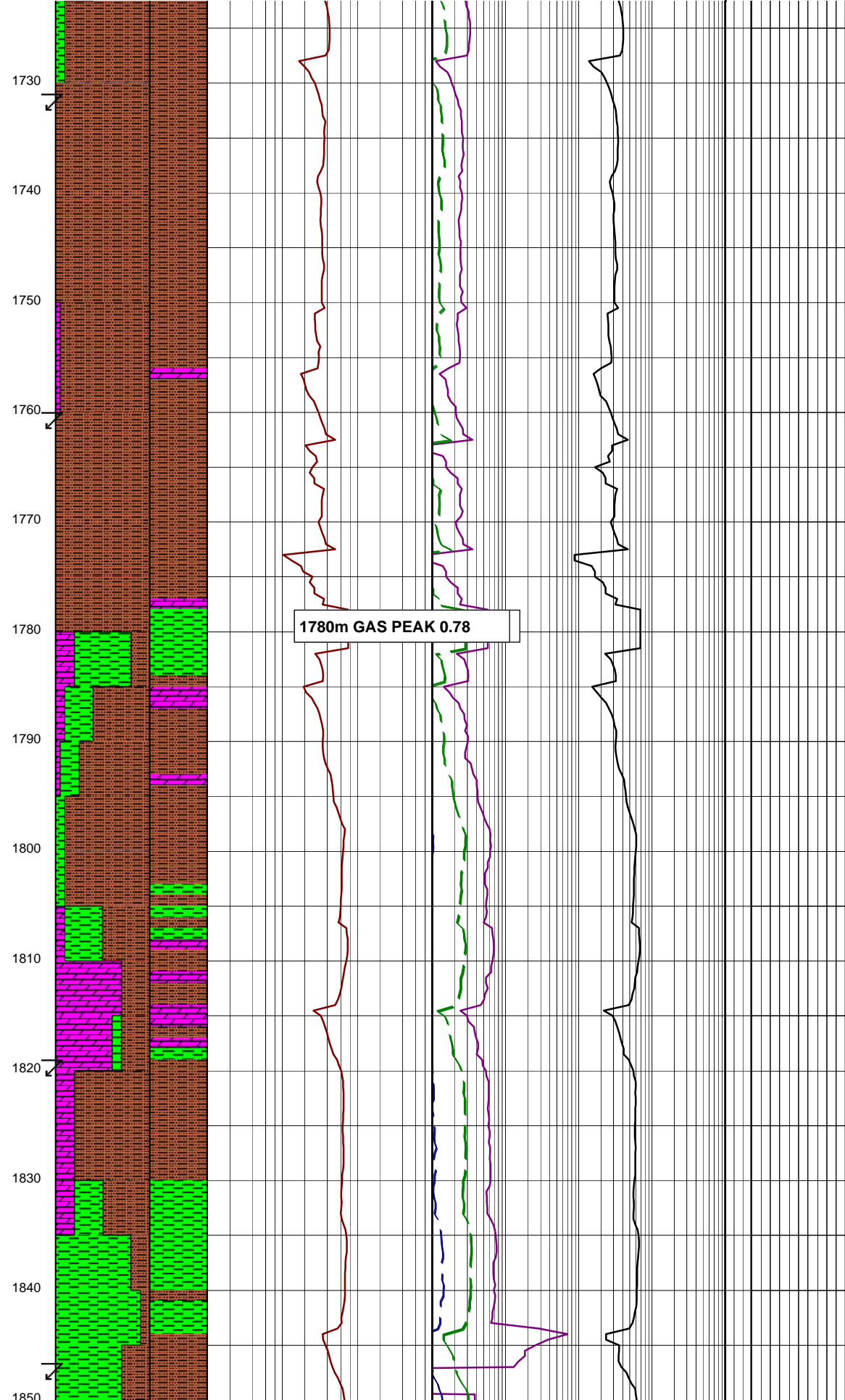
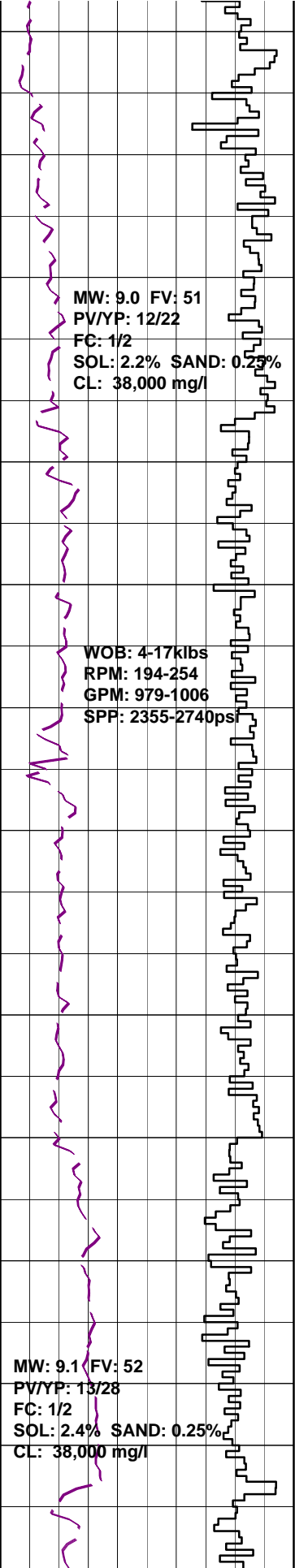
**SILTSTONE:**olv gry,sft frm, sbblky,tr carb spks,glauc, tr lithic frag,tr shell frag, 5% calc clay,10% clay,5% vf qrtz sand.

**SURVEY @ 1675.15m**  
 Incl: 1.31° AZI: 182.99°  
 TVD: 1672.97m

**SILTY SANDSTONE:**med blu/gry,med gry, vf grns,sbrnd,wl-v wl srt,sbspher qtz grns w/ 10% lith comp,mod hd-hd aggs, ang-sbblky,tr micmic,tr calc xtal,tr shell frags,high cmted,10% calc cmt, 25% slt,no vis por,no fluor.

**SURVEY @ 1703.61m**  
 Incl: 1.02° AZI: 183.90°  
 TVD: 1703.43m

**CLAYSTONE:**olv/blk,sft frm,sbblky,tr micmic,tr carb spks,5% calc clay.



**SURVEY @ 1731.98m**  
 Incl: 1.12° AZI: 176.27°  
 TVD: 1731.79m

**ARGILLACEOUS SILTSTONE:**olv/gry,sft-frm,sbblky,tr micmic,tr pyr aggs, tr lith frags,tr foss frags,tr glauc, tr dol,5% calc clay,25% vf qrtz sand.

**SURVEY @ 1760.71m**  
 Incl: 1.20° AZI: 179.48°  
 TVD: 1760.52m

**ARGILLACEOUS SILTSTONE:**olv/gry,sft-frm,sbblky,tr micmic,tr glauc,5% calc clay,25% clay.

**DOLOMITE:**pl yel/brn,dk yel/brn,sft-v hd,spil-sbconch frac,xln-ea i/p,tr opq cal xtal.

**ARGILLACEOUS SILTSTONE:**olv/gry,sft-frm,sbblky,tr micmic,tr pyr aggs,tr lith frags,tr foss frags,5% calc clay, 5% vf qrtz sand.

**SURVEY @ 1790.08m**  
 Incl: 1.13° AZI: 181.99°  
 TVD: 1789.88m

**CLAYSTONE:**dsky brn,brn/gry,sft,sbblky-stky,tr micmic & glauc.

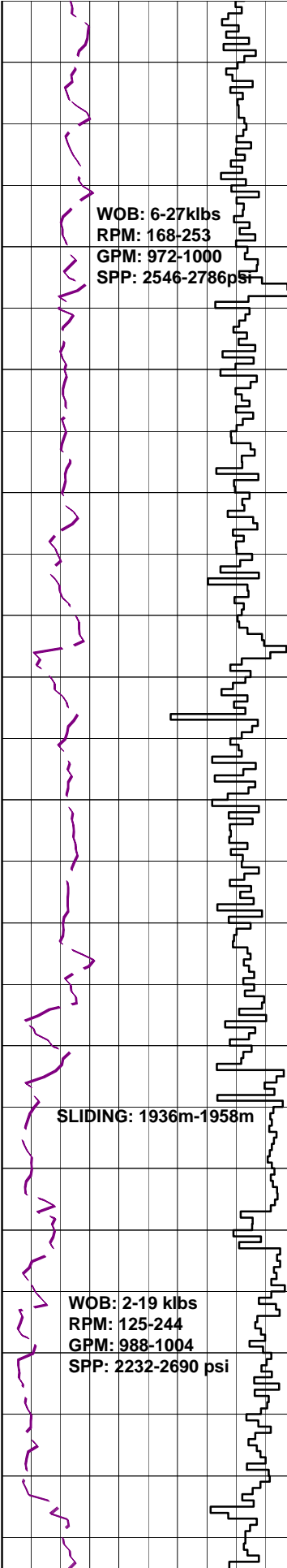
**SURVEY @ 1819.45m**  
 Incl: 1.17° AZI: 182.73°  
 TVD: 1819.24m

**ARGILLACEOUS SILTSTONE:**olv/gry,yel/brn i/p,olb/blk,sft-frm,sbblky,tr micmic,25% clay.

**DOLOMITE:**pl yel/brn,dk yel/brn,sft-v hd,splin-sbconch frac,xln-ea i/p.

**CARBIDE LAG CHECK @ 1843m**  
 THEOR. STKS: 7680  
 ACTUAL STKS: 8502  
 OPEN HOLE O.G: 4.2

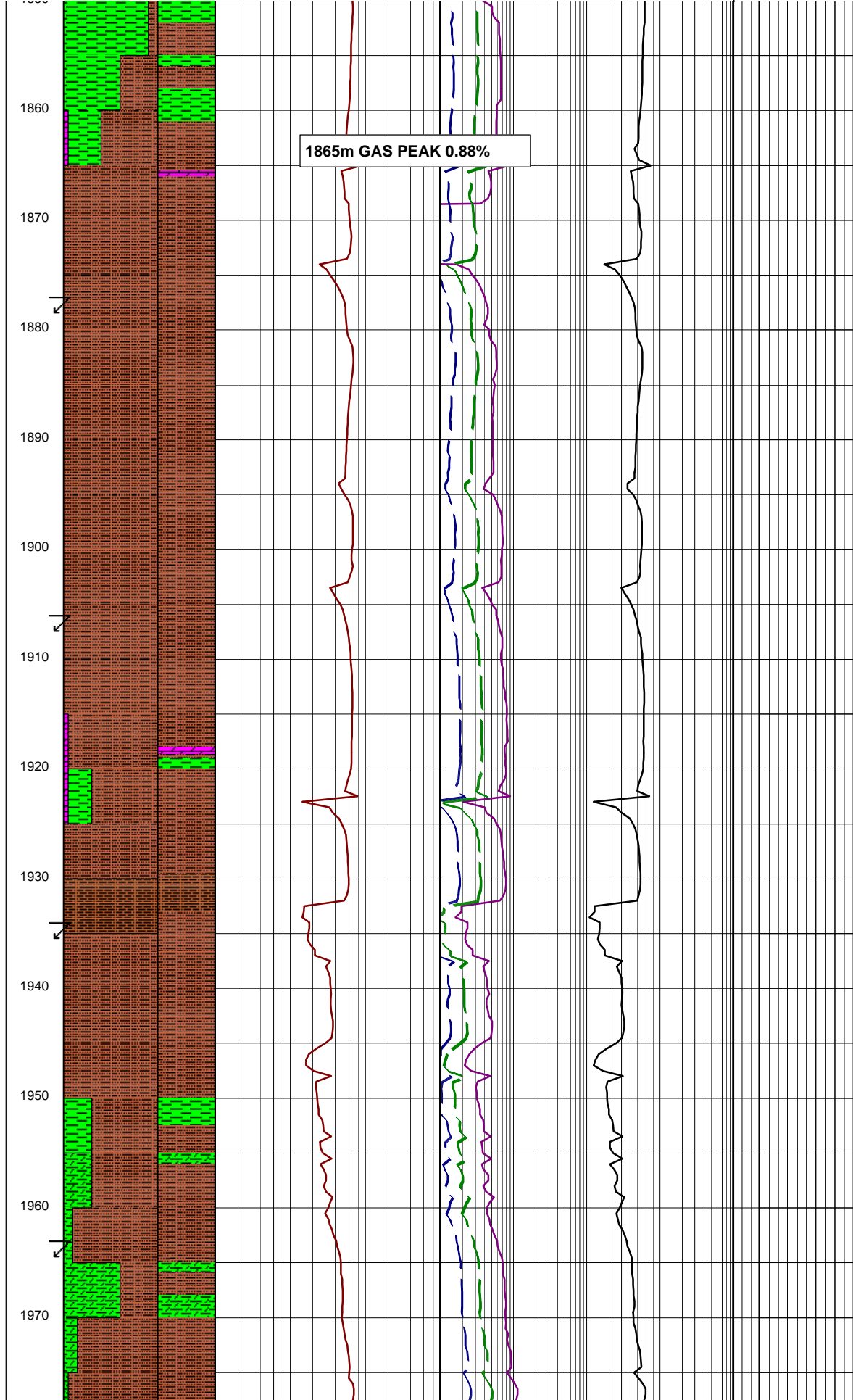




WOB: 6-27klbs  
 RPM: 168-253  
 GPM: 972-1000  
 SPP: 2546-2786psi

SLIDING: 1936m-1958m

WOB: 2-19 klbs  
 RPM: 125-244  
 GPM: 988-1004  
 SPP: 2232-2690 psi



1865m GAS PEAK 0.88%

**SURVEY @ 1848.52m**  
 Incl: 1.17° AZI: 190.32°  
 TVD: 1848.314m

**CLAYSTONE:**olv blk,olv gry,  
 tr dk yel brn,sft frm,sbbkly-  
 blk,y micromicas.

**DOLOMITE:**pl yel brn,frm-hd,  
 splin-conch frac i/p,ea.

**ARGILLACEOUS SILTSTONE:**brn  
 blk,sft frm,sbbkly,tr micmic,  
 lithic frag,glauc grns,pyr,  
 5% vf qrtz grns,25% clay.

**SURVEY @ 1877.80m**  
 Incl: 1.13° AZI: 190.92°  
 TVD: 1877.58m

**ARGILLACEOUS SILTSTONE:**brn blk  
 olv blk,sft frm,sbbkly-blky,tr  
 micmic,lithic frag,glauc grns,  
 tr pyr,25% clay.

**ARGILLACEOUS SILTSTONE:**brn blk,  
 olv blk,sft frm,sbbkly-blky,  
 tr micmic,lithic frag,glauc grns,  
 pyr,tr dolomite,30% clay.

**DOLOMITE:**pl yel brn,dk yel brn,  
 frm-hd,splin frac,xln-microxln  
 i/p.

**CLAYSTONE:**med gry,drk gry,vf-  
 sft,amorph-sbbkly,tr micmic,  
 lithic frag,10% silt sized  
 frac.

**SURVEY @ 1934.67m**  
 Incl: 1.08° AZI: 194.42°  
 TVD: 1934.44m

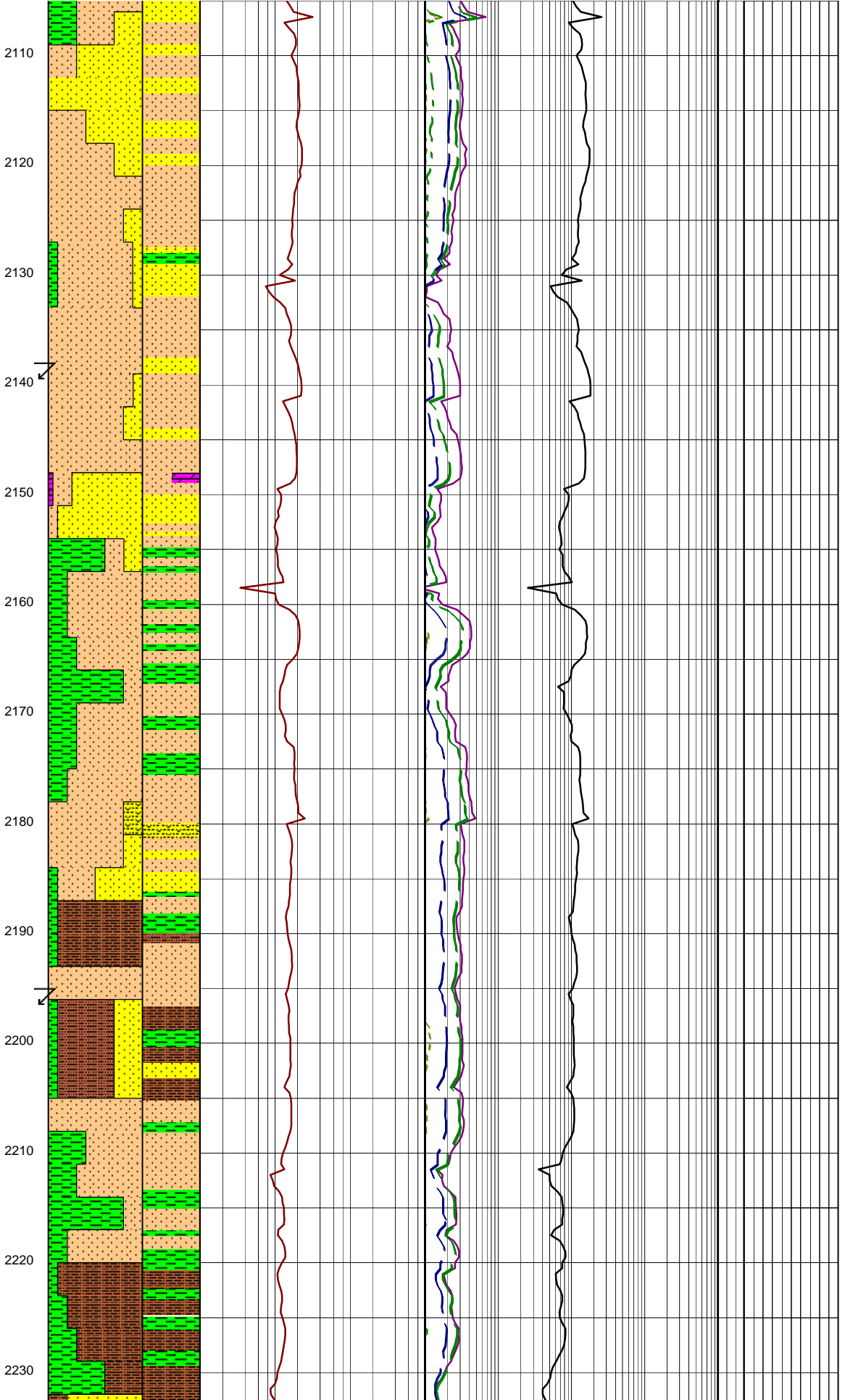
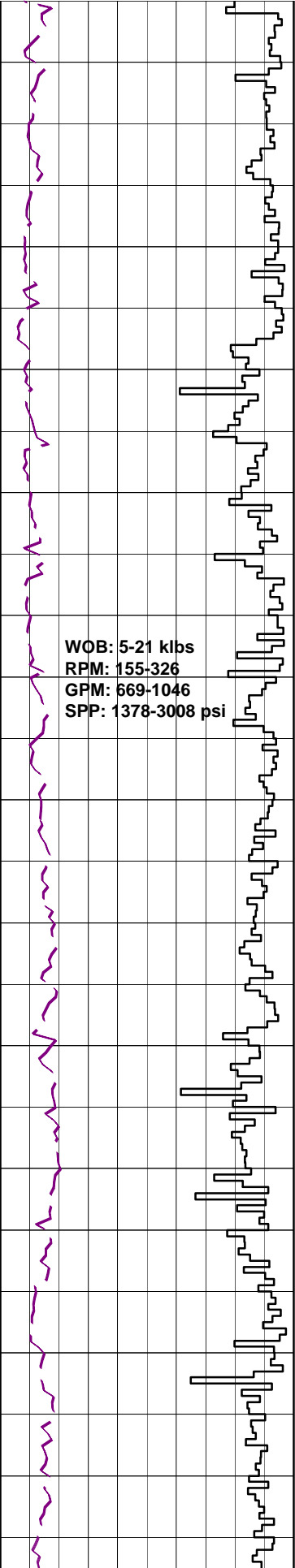
**ARGILLACEOUS SILTSTONE:**brn blk,  
 olv blk,sft frm,sbbkly,,tr  
 micmic,dolomite,20% clay,10% vf  
 qrtz sand grns.

**CLAYSTONE:**brn blk,olv blk,v  
 sft-sft,amorph to sbbkly,tr  
 micmic,tr glauc,10% silt sized  
 frac.

**SURVEY @ 1963.22m**  
 Incl 0.48° AZI:64.50°  
 TVD:1962.99m

**ARGILLACEOUS SILTSTONE:**brn blk,  
 olv blk,sft frm,sbbkly,tr  
 shell frag,lithic frag,glauc,  
 20% clay 5% v fine qrtz sand





**SANDSTONE:**dk grn/gry,mott,dsky yel/grn,lt gry,vf grns,30% f grns,v sft-frm,sbrnd-sbang,mod wl srt,10% glauc grns & cly,15% cly,pr vis por,no fluor.

**CLAYSTONE:**dk yel/brn,gry/grn,frm,sbblky,tr carb mat,tr vd pyr,tr cal.

**SANDSTONE:**mult col,olv/gry,dark grn/gry,mott,dsky yel/grn,lt gry,qtzos,vf grns,30% f grns,v sft-frm,sbrnd-sbang,mod-wl srt,0-10% glauc grns,15% cly,pr vis por,no fluor.

**SILTSTONE:**brn/gry,olv/gry,sbblyk,10% cly,10% vf clr qtz grns,

**SURVEY @ 2138.04m**  
 Incl 0.69° AZI:75.36°  
 TVD:2137.80m

**DOLOMITE:**brn/gry,mod hd,conch-splin frac,tr glauc grns.

**SANDSTONE:**clr,opq,pol,frstd,lse qtz grns,20% med,40% crs,30% v crs,10% gran,ang-rnd,v pr-pr srt,sblng-sph, tr wh cly mtx adh to srf,fr vis por inf,no fluor.

**SILTSTONE:**brn blk,olv blk,sft-fri,tr carb lam,lithic frags,10% clay,10% vf qrtz sand grns.

**CLAYSTONE:**med blu gry,olv gry,med gry,sft-frm,sbblky, tr micmic,5% clac clay.

**SILTY SANDSTONE:**brn blk,olv gry,sbrnd,wl srt sbspher,vf,clr,pol qrtz grns,sft-fri,tr liths frags,10% calc cmt,5% rock fluor,pr vis por,no fluor.

**SURVEY @ 2195.19m**  
 Incl 0.63° AZI:82.85°  
 TVD:2194.94m

**CLAYSTONE:**med blu gry,olv gry,med gry,frm,sbblky,tr micmic,calcite veining.

**SILTSTONE:**olv gry,dk yel brn,sft-fri,sbblky,tr carb lam,lithic frags,shell frags,15% clay,vf qrtz sand,10% rock flr.

**SANDY SILTSTONE:**brn blk,brn gry,olv gry,sft-fri,sbblky, tr f carb lams,lith frags,crs clr qrtz grns,20% vf clr qrtz, 5% rck flr.

**SILTY CLAYSTONE:**olv gry,med arv,brn blk,sft-frm,sbblky.

19-10-2009

WOB: 7-18 klbs  
RPM: 234-241  
GPM: 981-998  
SPP: 2445-2785 psi

2240

2250

2260

2270

2280

2290

2300

gry, med gry, sbrnd, shld, shll  
tr lithic frags, carb frags, shell  
frags, 20% silt cont.

SANDSTONE: v lt gry, olv gry, vf  
clr qtz grns, sbrnd to sbang (shld)  
wl srt, subspher, fri, tr lith  
frag, 80% rck flr, no fluor.

CLAYSTONE: olv-gry, med gry, sft frm,  
sbbly, tr liths frags, dol, glauc.

SANDSTONE: v lt gry, olv gry, vf  
clr qtz grns, sbrnd to sbang (shld)  
wl srt, subspher, fri, tr lith  
frag, 90% rck flr, no fluor.

COAL: blk, frm, sbbly-blky, tr fny  
dissem pyrt.

SANDSTONE: v lt gry, olv-gry, 40% vf,  
30% f, 20% crs, 10% v crs clr qtz grns,  
sbrnd-sbang, pr srt, sbsph, fri, amorph-  
ang, tr lith frags, 80% rck flr, no  
fluor.