

# FORMATION EVALUATION LOG

WELL : TREFOIL-2

FROM (m): 900

TO (m): 2550

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

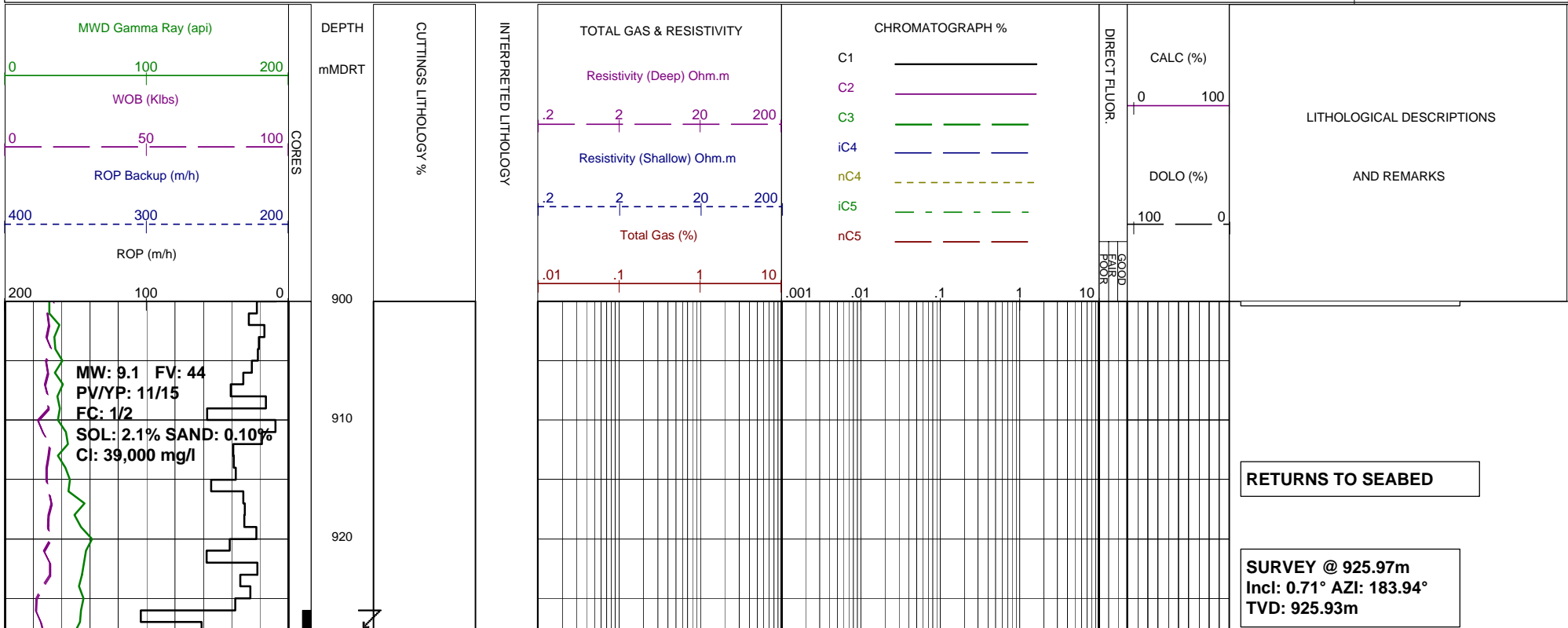
MW MUD WEIGHT	NB NEW BIT
FV FUNNEL VISCOSITY	RR RERUN BIT
PV PLASTIC VISCOSITY	CB CORE BIT
YP YIELD POINT	WOB WEIGHT ON BIT
FC FILTER CAKE	RPM REVS PER MINUTE
SOL SOLIDS	FLC FLOW CHECK
CR CIRCULATE RETURNS	WL FILTRATE
SD SAND - %	PR POOR RETURNS
S SALINITY - PPM	NR NO RETURNS
RM MUD RESISTIVITY	BG BACKGROUND 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
Shoe
Calcmetry



0.5m DATABASE STARTED @ 938m

15-10-2009

BIT # 3: 311mm (12.25")

REED PDC RSX616M

JETS: 8x13

IN: 935m OUT: 2271m

RUN: 1336m HRS: 39.2

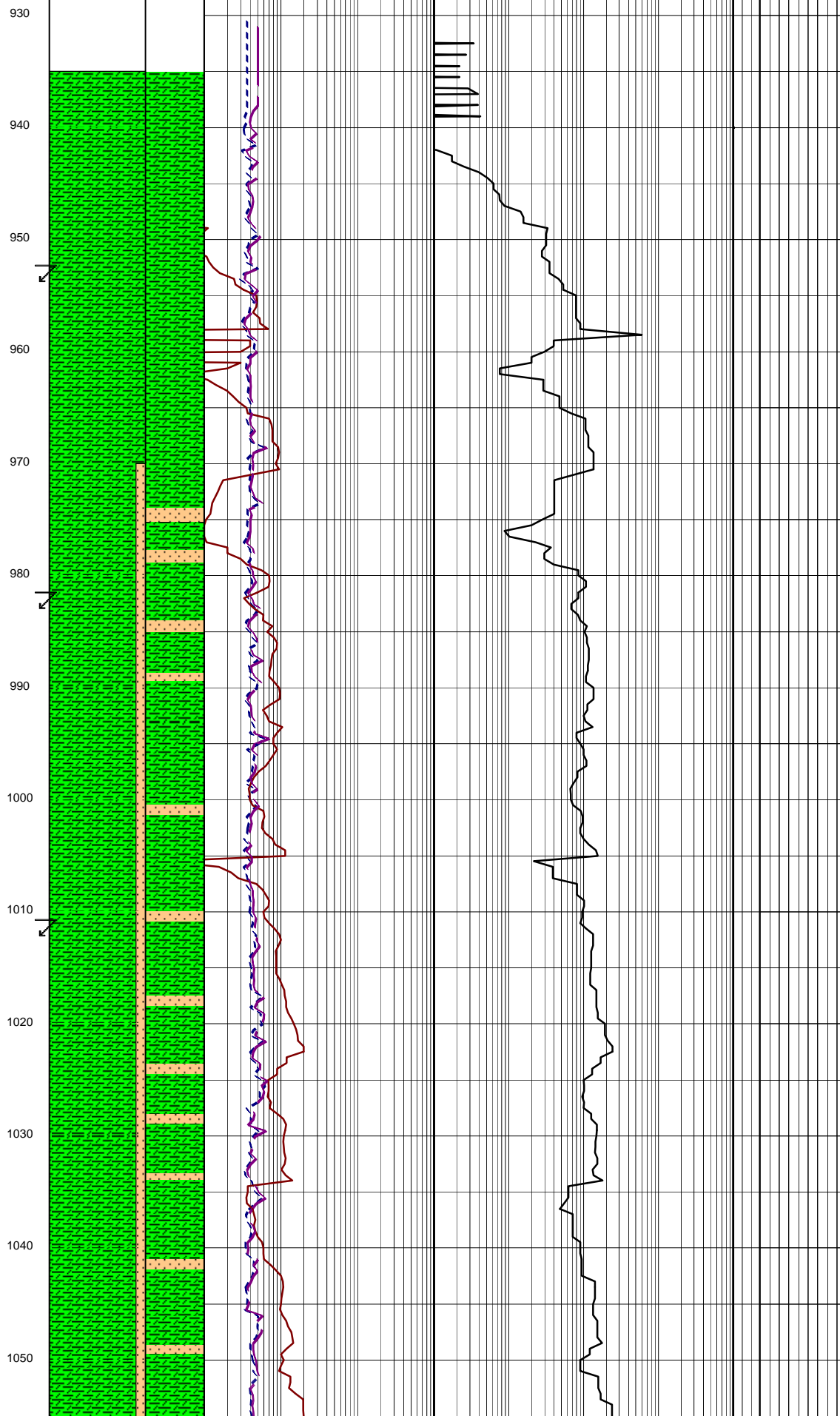
COND: 1-1-BT-N-X-I-CT-PP

WOB: 6-15 klbs

RPM: 119-259

GPM: 916-1120

SPP: 1788-2712 psi



340mm (13.375") CASING SHOE  
SET @ 930m MDRT

445mm (17.5") SECTION TD  
@ 935m MDRT @ 06:00hrs ON  
10th OCTOBER 2009

DRILL AHEAD 311mm(12.25")  
HOLE SECTION FROM 935m MDRT  
@ 16:00HRS on 15th OCT 2009

CONDUCT LOT @ 930m  
15.15ppg EMW.

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

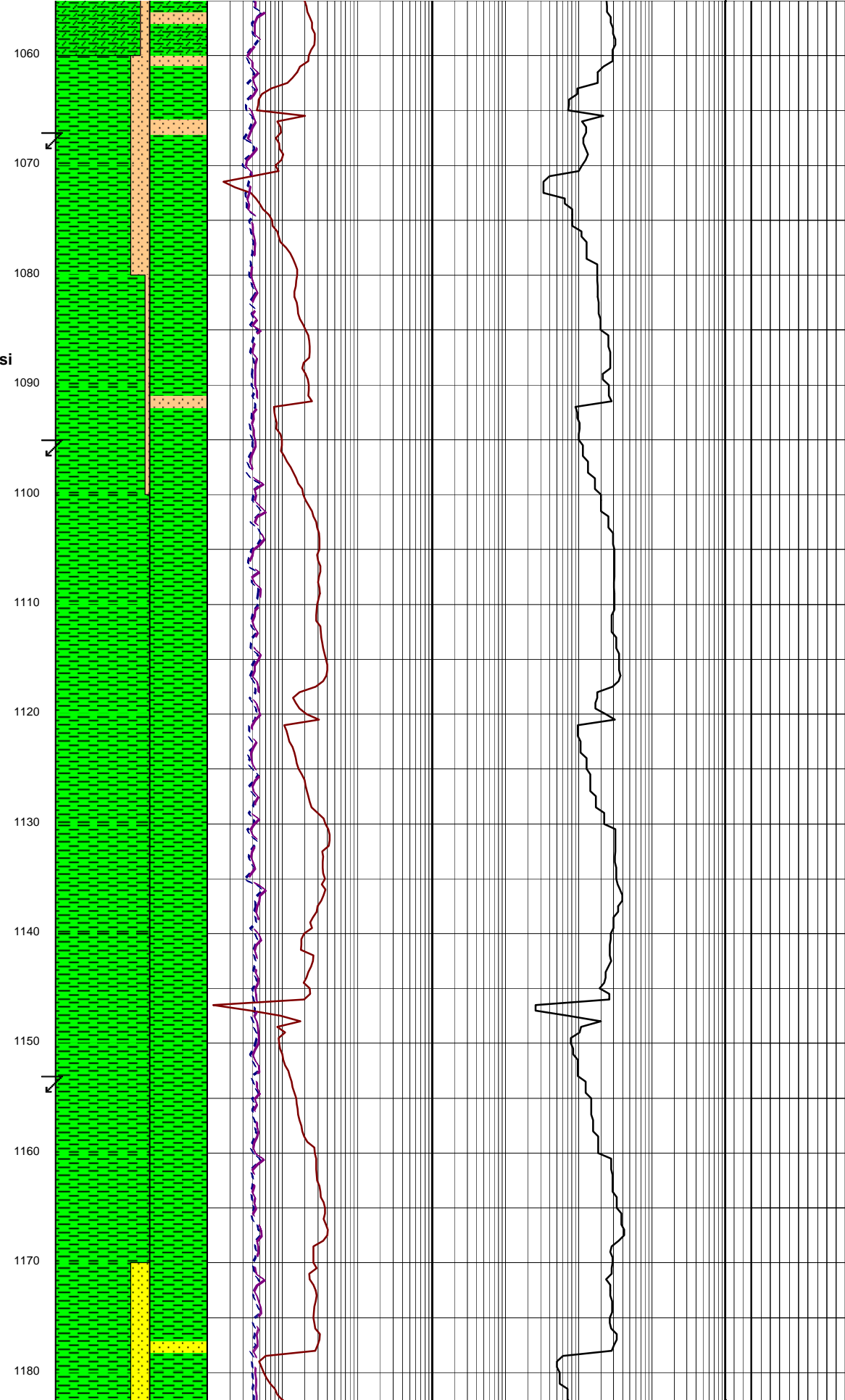
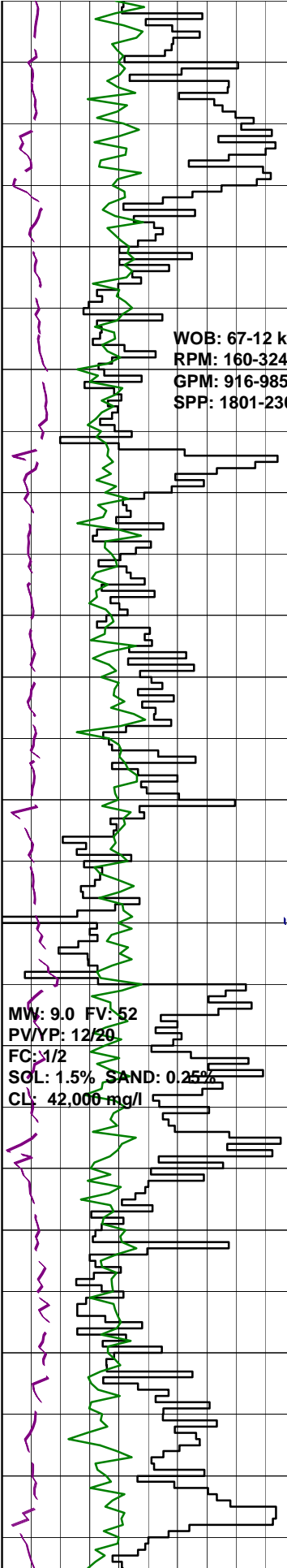
SILTSTONE: med dk gry, frm-  
hd, ang-sbblky, tr byrz & foram,  
tr shell frg, 30% calc clay.

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  
 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.

WOB: 6-10 klbs  
RPM: 109-238  
GPM: 977-992  
SPP: 2304-2322 psi

WOB: 1-12klbs  
RPM: 236-256  
GPM: 998-1008  
SPP: 2323-2304psi



**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.

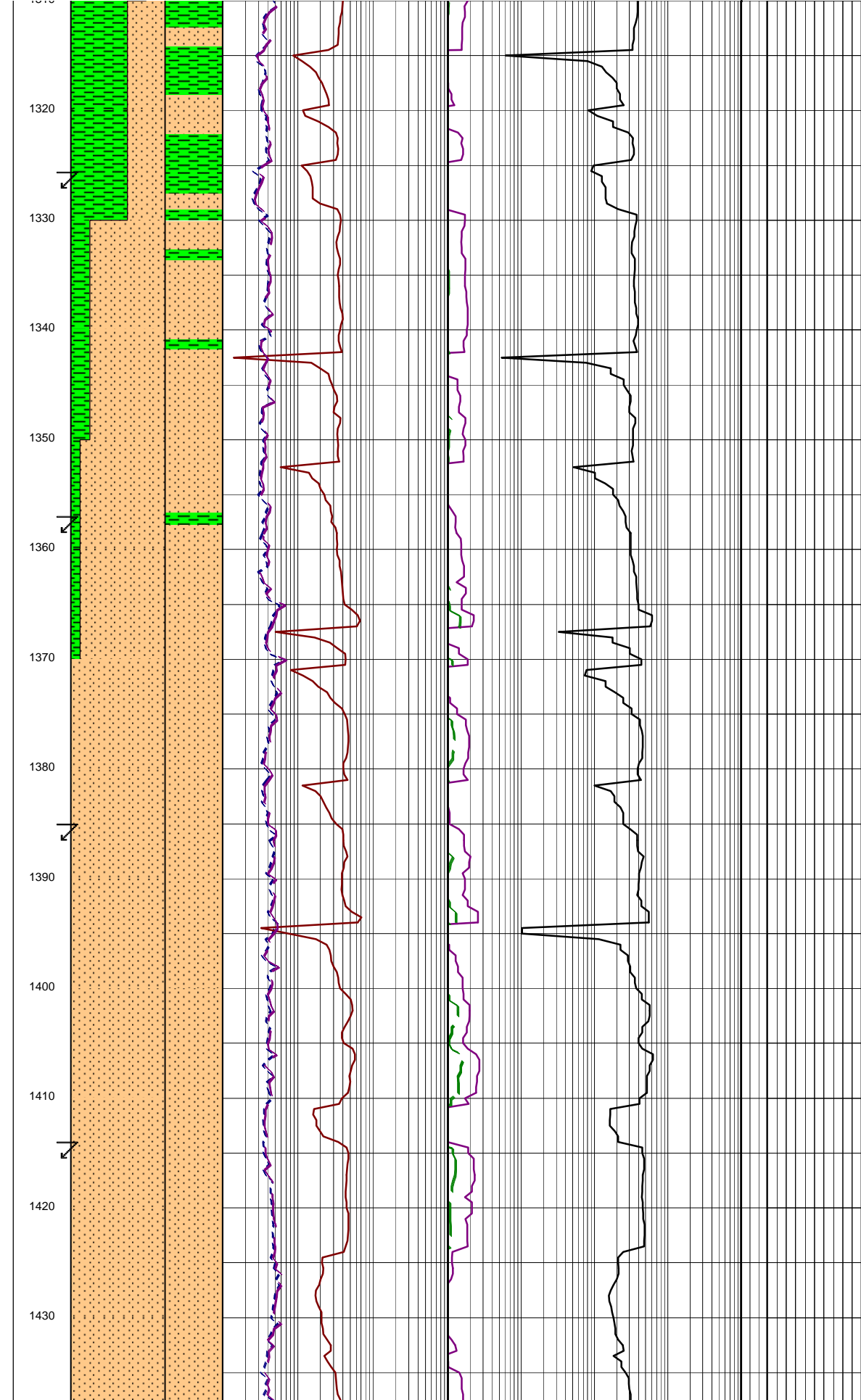
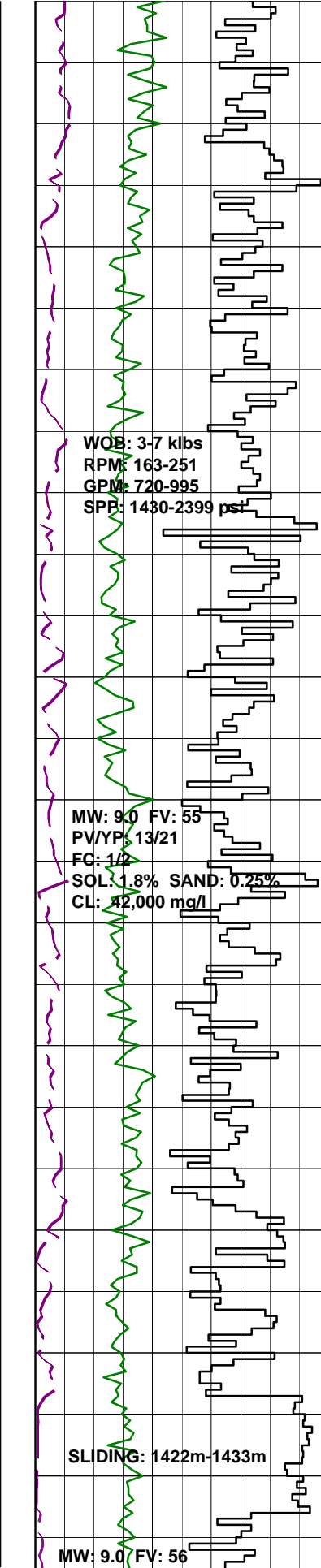
**SURVEY @ 1240.32m**  
Incl: 1.00° AZI: 184.76°  
TVD: 1240.24m

**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, tr carb spks, tr vf disse pyr, tr glauc grns, 5% cly, 15% calc cly, grd to loc arg sltst.

**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 disse 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 disse 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 disse 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-

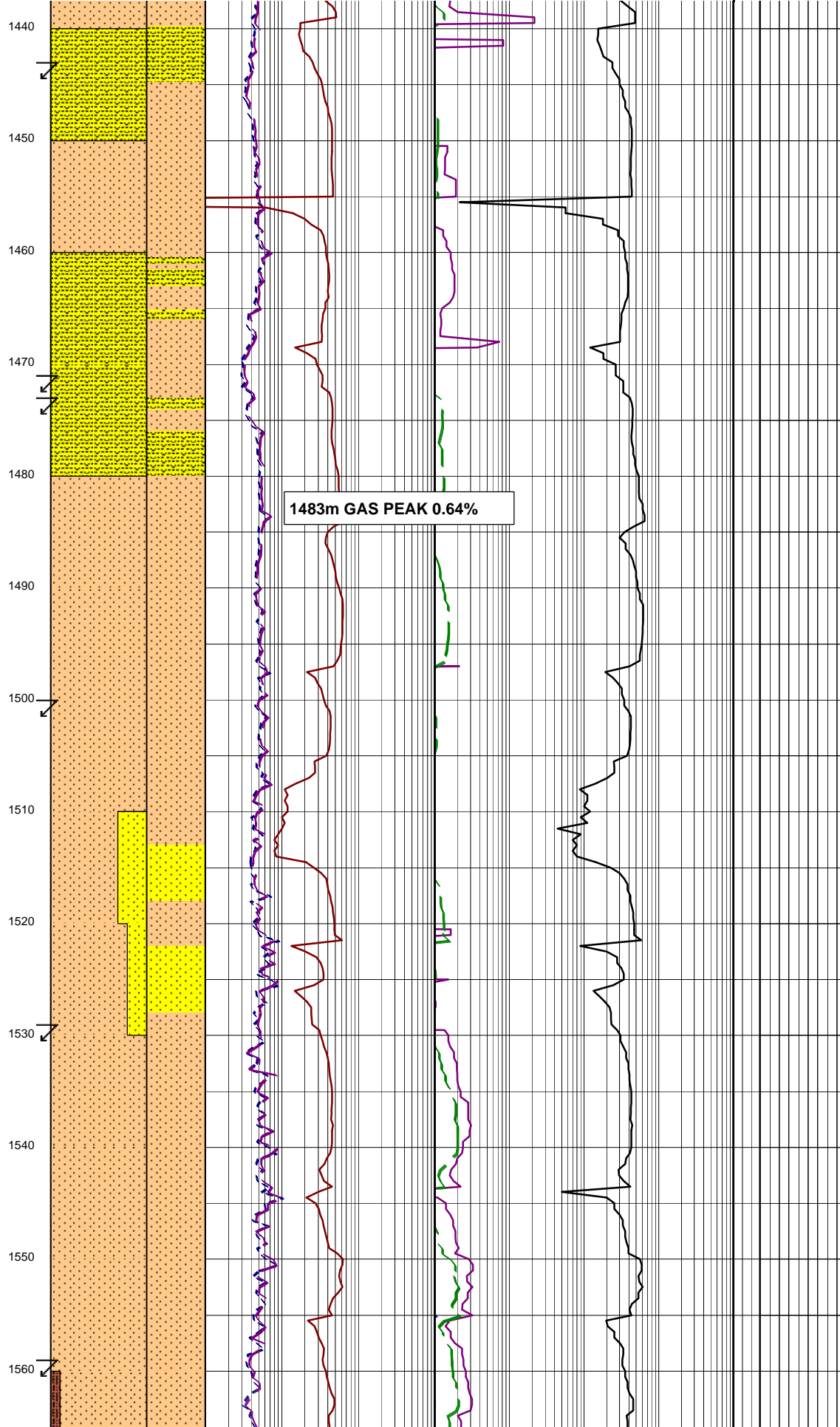
PV/YR: 13/22  
FC: 1/2  
SOL: 1.7% SAND: 0.25%  
CL: 40,800 mg/l

WOB: 1-3 klbs  
RPM: 131-244  
GPM: 994-1005  
SPP: 2379-2440 psi

SLIDING: 1503m-1515m

17-10-2009

WOB: 1-6 klbs  
RPM: 234-251



qtz grns w/ 20% lith compnt,  
frm, sbbly-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 gry, med  
dk gry, vf grns, sbrnd, wl  
srt, sbsphr to sphr qtz grns  
with 0 to 20% lithic compnt,  
sft-frm, sblky-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, sbbly,  
tr carb spks, lithic frags, glauc,  
5% calcareous clay, 10% very fine  
qtz 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 sbbly,  
tr carb spks, calcite crys, glauc,  
lithic frags, 5% calc clay, 10%  
clay, 15% vf qtz sand.

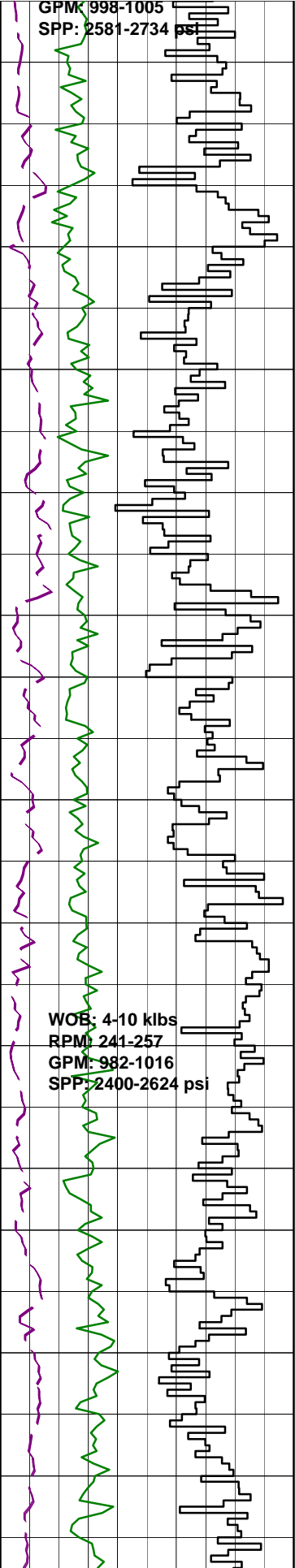
SANDSTONE: med dk gry, dk gry,  
vf grn, sbrnd, wl srt, sbspher-  
spher qtz grns with 10-15%  
lithic frag, 5% calc clay cmt,  
10% clay comp, por vis por, no  
fluor.

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

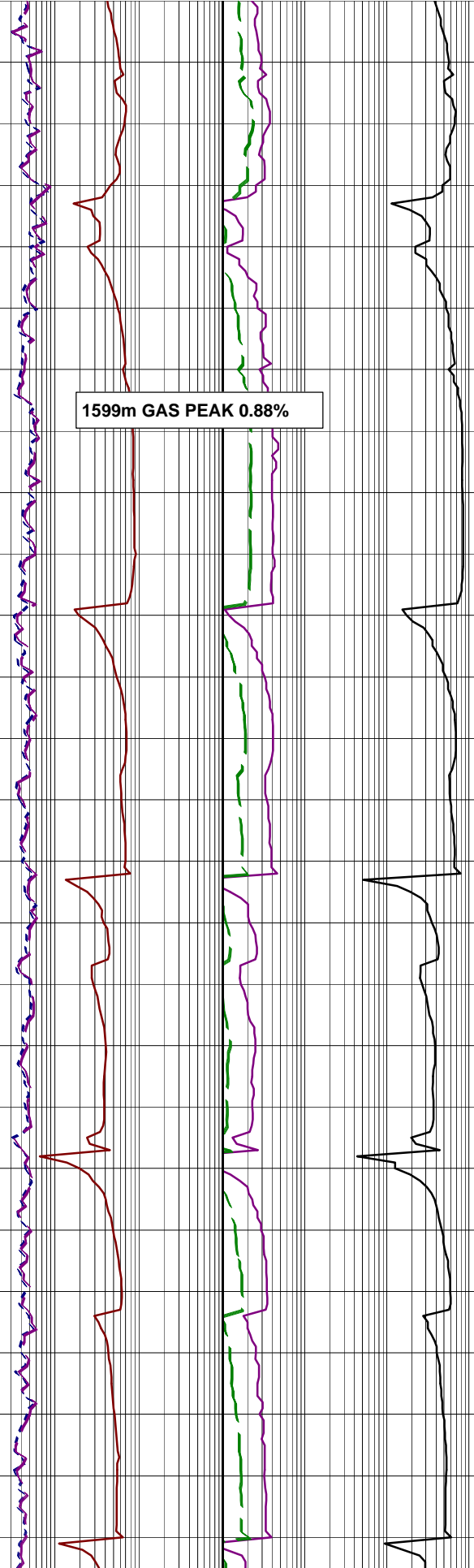
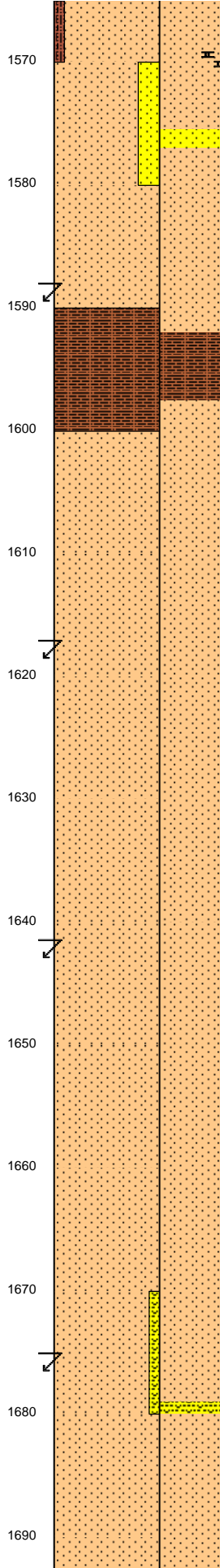
SILTSTONE: olv gry, sft-frm,  
sbbly, tr glauc, lithic frags,  
5% calc clay, 15% clay, 10% vf  
qtz grns, tr v lt gry  
highly degraded volcanics.

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

GPM: 998-1005  
SPP: 2581-2734 psi



WOB: 4-10 klbs  
RPM: 241-257  
GPM: 982-1016  
SPP: 2400-2624 psi



1599m GAS PEAK 0.88%

**SANDSTONE:** med blu gry, vf grn, sbrnd, wl srt to v wl srt, spher qtz grns with 10% lithic comp, mod hd-hd, ang-sbblky, 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 qtz 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

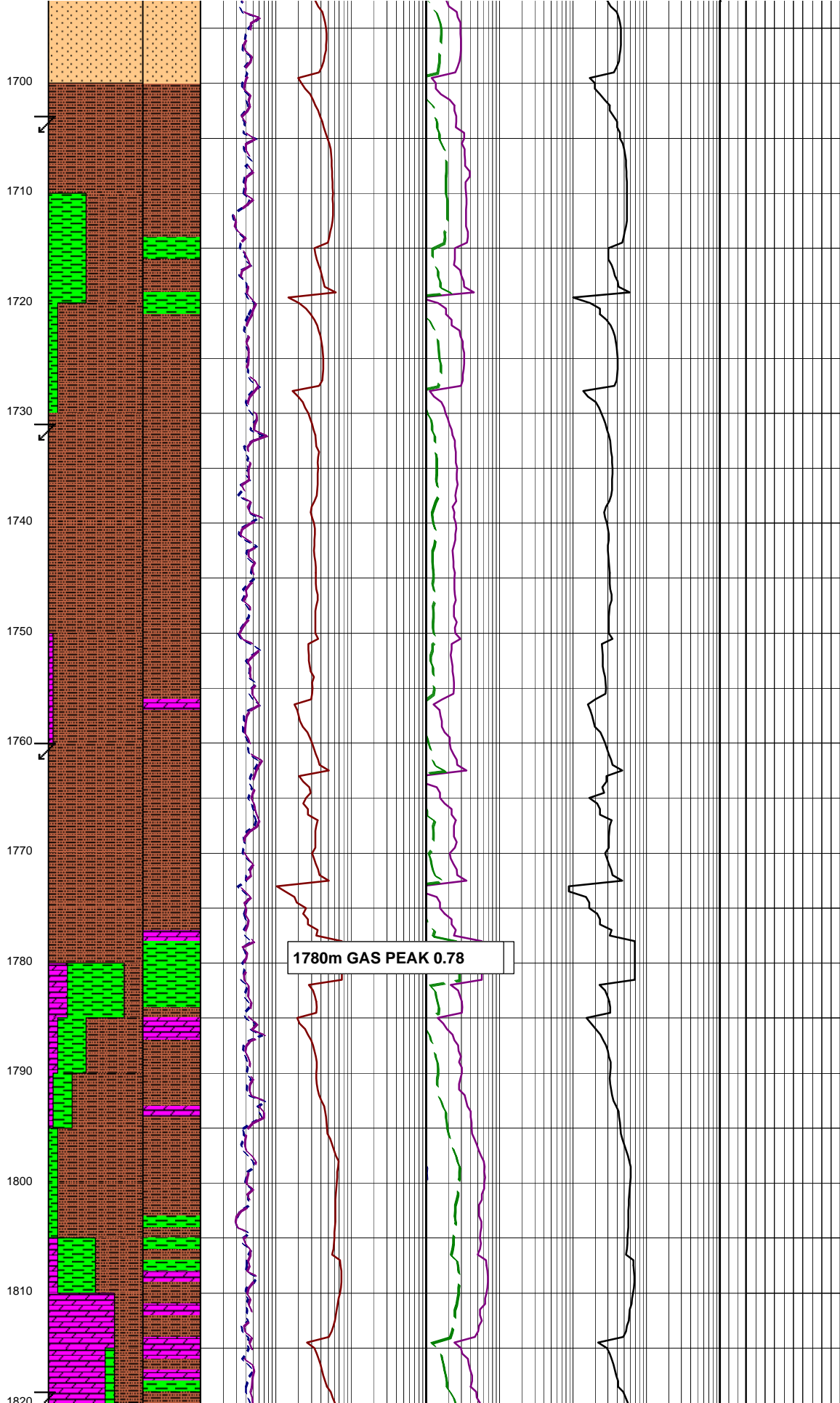
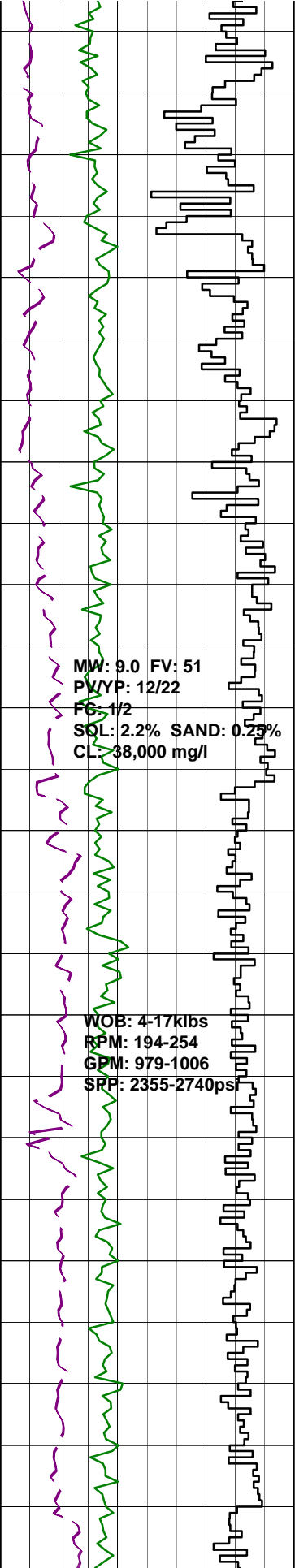
**SILTSTONE:** olv gry, sft frm, sbblky, tr carb spks, glauc, lithic frag, 5% calc clay, 10% clay, 5% very fine qtz sand.

**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 qtz 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% clay comp, 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: 182.72°

MW: 9.0 FV: 51  
 PVYP: 12/22  
 FG: 1/2  
 SOL: 2.2% SAND: 0.25%  
 CL: 38,000 mg/l

WOB: 4-17klbs  
 RPM: 194-254  
 GPM: 979-1006  
 SRP: 2355-2740psi

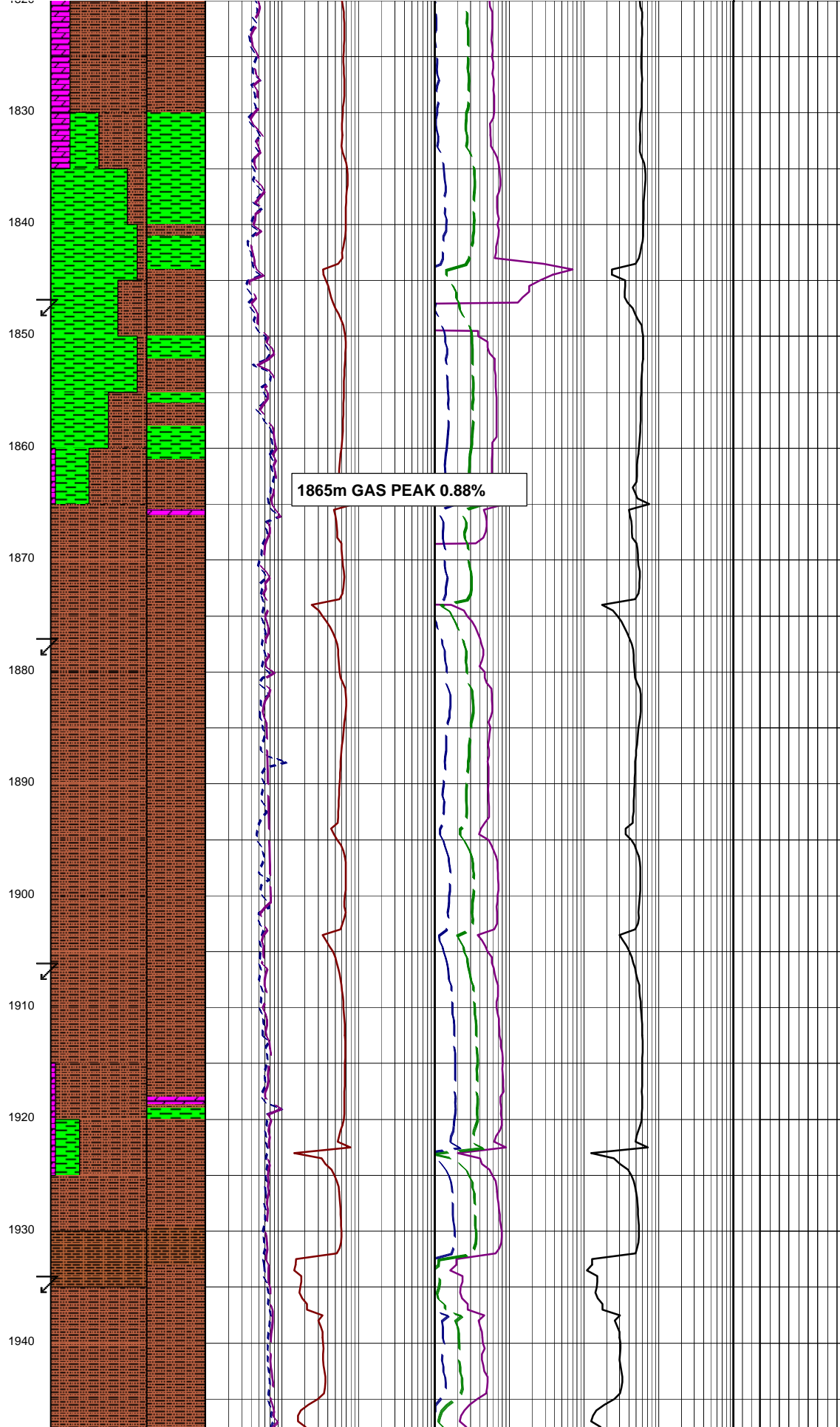
1780m GAS PEAK 0.78



MW: 9.1 / FY: 52  
PV/YP: 13/28  
FC: 1/2  
SOL: 2.4% SAND: 0.25%  
CL: 38,000 mg/l

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

SLIDING: 1936m-1958m



1865m GAS PEAK 0.88%

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

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

CLAYSTONE: olv blk, olv gry, tr dk yel brn, sft frm, sbblky-blky, micromicas.

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

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

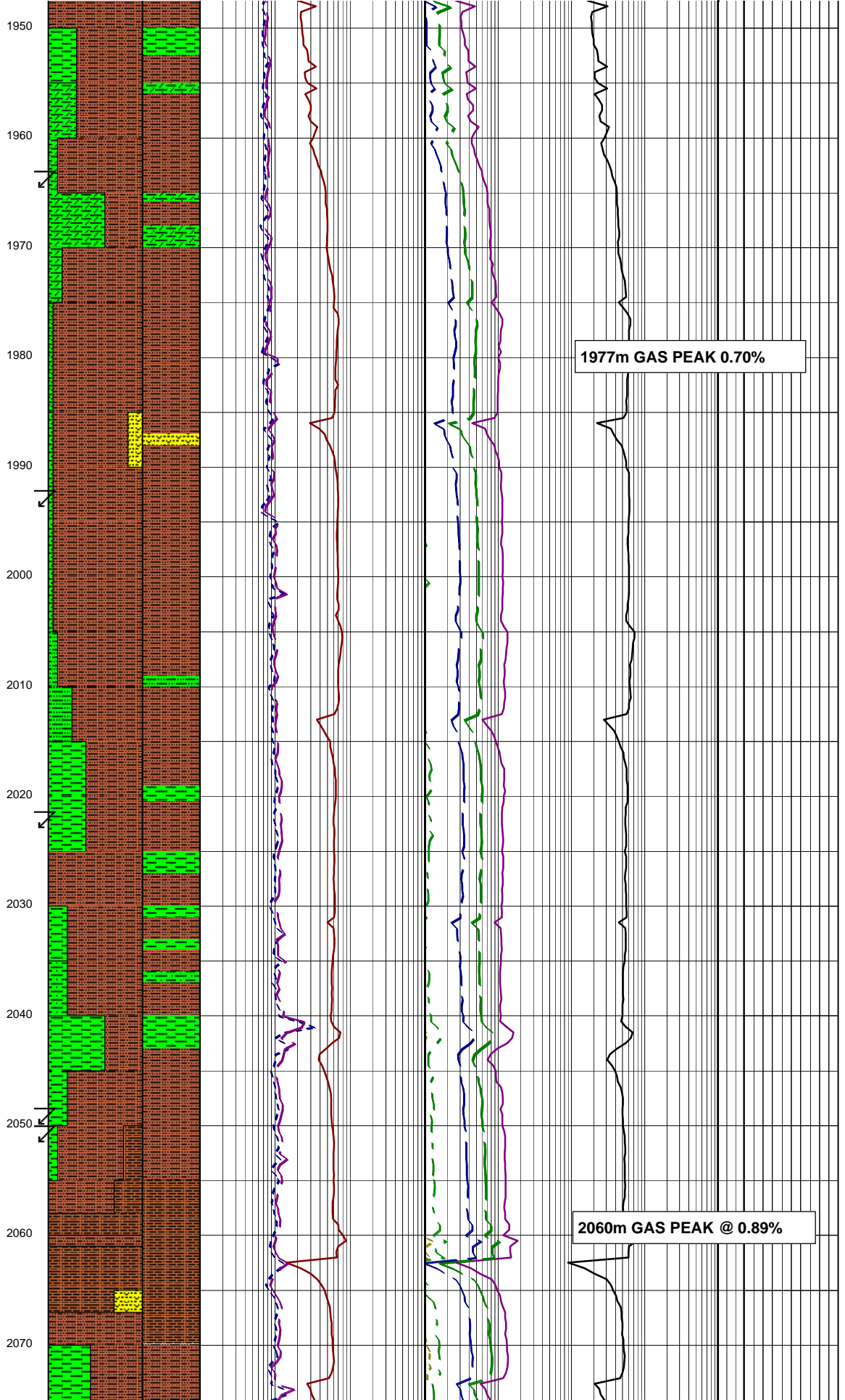
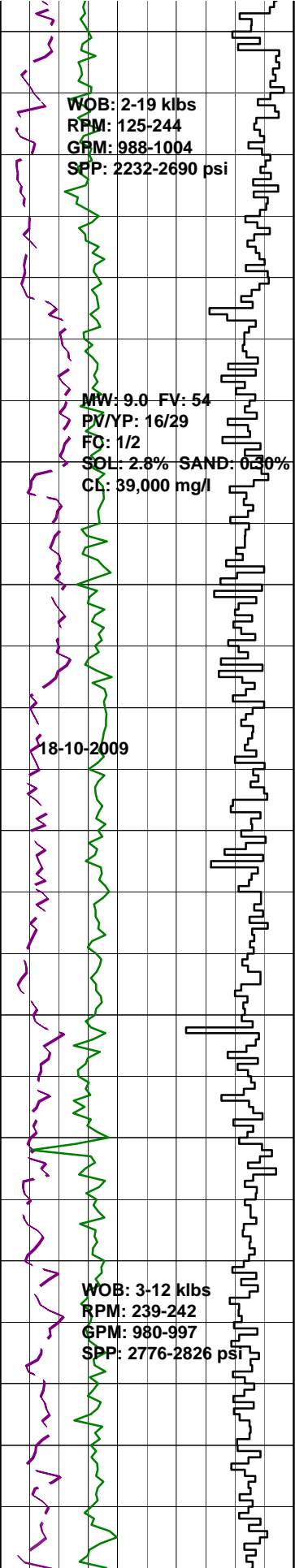
ARGILLACEOUS SILTSTONE: brn blk, olv blk, sft frm, sbblky-blky, tr micmic, lithic frag, glauc grns, pyr, tr dolomite, 30% clay.

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

CLAYSTONE: med gry, drk gry, vf-sft, amorph-sbblky, 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, sbblky, 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-frn,sbbkly,tr shell frag,lithic frag,glauc, 20% clay,5% v fine qrtz sand.

SILTY SANDSTONE:brn blk,olv blk,vf grn,sbrnd,wl-v wl srt, sub spher qrtz grns,sft-fri, sbbkly,tr lithic frag,15% clay, 25% silt.

SURVEY @ 1992.33m  
Incl 0.56° AZI:59.70°  
TVD:2021.23m

CALCAREOUS CLAYSTONE:med gry, med lt gry,frm-mod hd,sbbkly,tr tr calcite vein,lithic frag,shell frag,10% silt.

SURVEY @ 2021.46m  
Incl 0.59° AZI:61.98°  
TVD:2021.23m

ARGILLACEOUS SILTSTONE:brn blk,olv blk,sft-fri,amorph-sbbkly,tr carb spks,lithic frag,35% clay,5% calc clay.

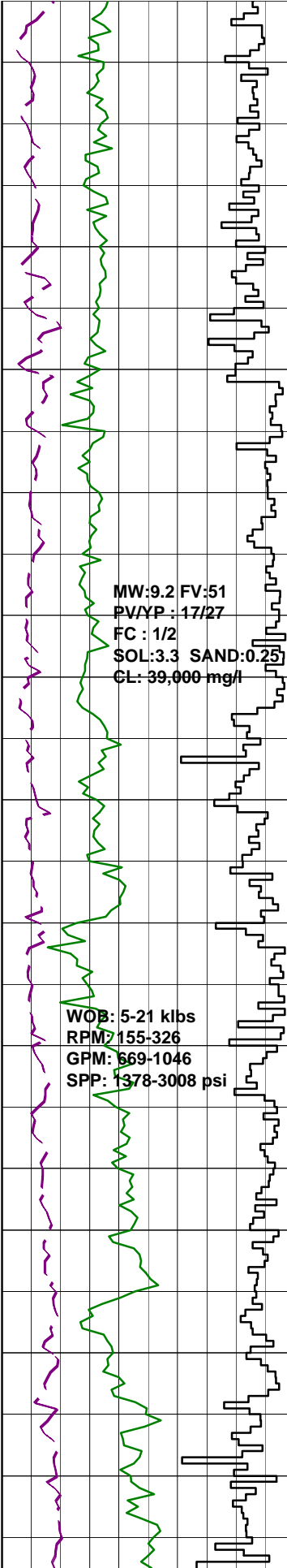
CLAYSTONE:med gry,med dk gry, mod hd-hd,ang-sbbkly,tr shell frag,micmic,calcite vein, 10% calc clay,15% silt.

SURVEY @ 2050.74m  
Incl 0.68° AZI:78.76°  
TVD:2050.5m

SANDY SILTSTONE:brn blk,olv blk,sft-fri,sbbkly,tr lith frag,10% clay,30% vf qrtz sand.

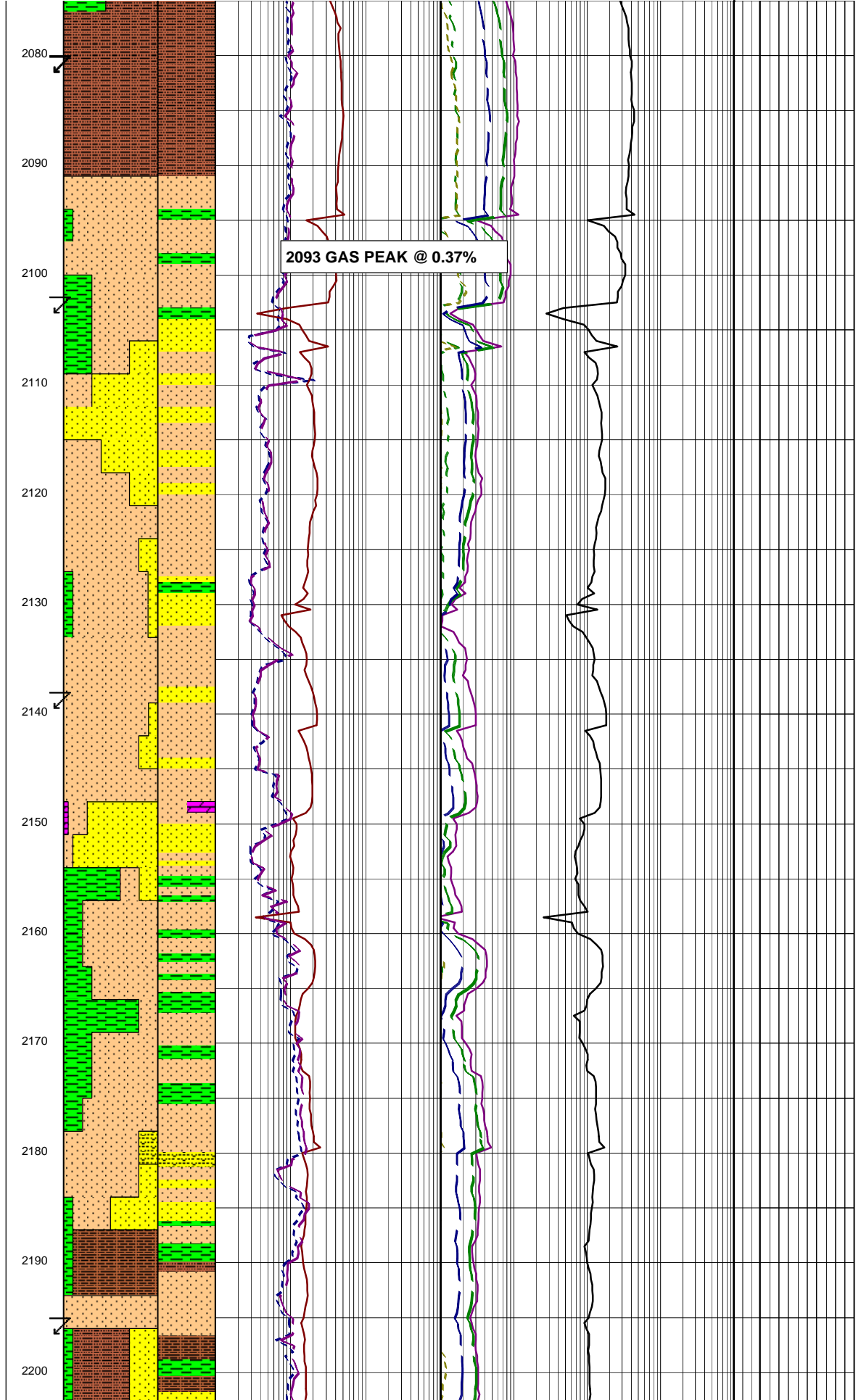
SILTY SANDSTONE:olv gry,lt olv/gry, sbrnd,wl srt,sbsph wtz grns w/ 10% lith comp,frm-mod hd,tr shell frags, micmic,lith frags,10% calc cmt,pr-nil vis por,no fluor.

CLAYSTONE:brn/blk,olv/blk,v sft-sft,



MW:9.2 FV:51  
 PV/YP : 17/27  
 FC : 1/2  
 SOL:3.3 SAND:0.25  
 CL: 39,000 mg/l

WOB: 5-21 klbs  
 RPM: 155-326  
 GPM: 669-1046  
 SPP: 1378-3008 psi



2093 GAS PEAK @ 0.37%

sbblky, tr lith frags, 15% silt.

**SURVEY @ 2080.19m**  
 Incl 0.61° AZI:81.26°  
 TVD:2079.95m

**SILTSTONE:** olv/blk, sft frm, sbblky, tr lith frags, alt i/p, tr micmic, tr carb spks, 10% disseminated clear sbrnd qtz grns, 10% clay.

**SURVEY @ 2102.2m**  
 Incl 0.68° AZI:80.27°  
 TVD:2101.96m

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

**SILTSTONE:** brn/gry, olv/gry, sbblky, 10% clay, 10% vf clear 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, sbling-sph, tr wh cly mtx adh to srf, fr vis por inf, no fluor.

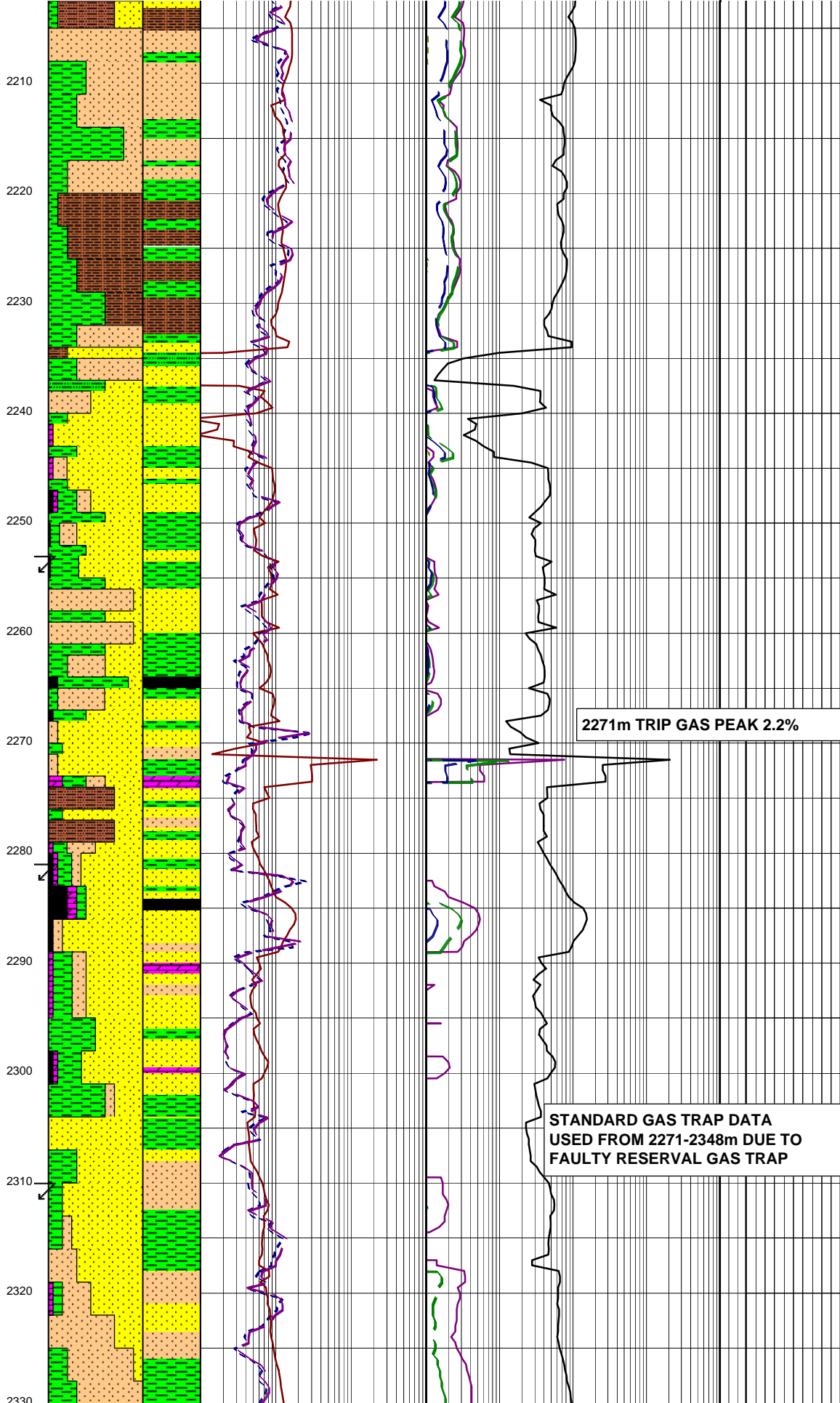
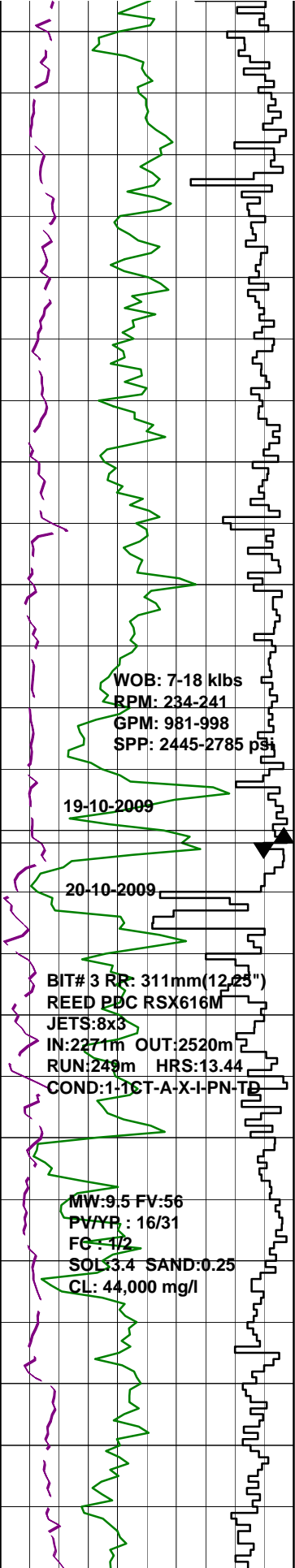
**SILTSTONE:** brn blk, olv blk, sft fri, tr carb lam, lithic frags, 10% clay, 10% vf qrtz sand grns.

**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 lith 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 gry,brn blk,sft-fri,sbblky, tr lithic frags,carb frags,shell frags,20% silt cont.

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

**CLAYSTONE:**olv-gry,med gry,sft-fri, sbblky,tr liths frags,dol,glau.

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

**SURVEY @ 2253.19m**  
 Incl 0.62° AZI:89.29°  
 TVD:2252.94m

**COAL:**blk,frm,sbblky-blky,tr fnly dissem pyrt.

**DOLOMITE:**pl yel orng,mod hd-hd,conch-splnt.

**SANDSTONE:**v lt gry,olv gry,40% crs, 50% v crs,10% gran,clr qrtz grns,sbrnd-sbang(shttd)pr srt,sbspher,fri,ang,tr lithic frags,kaolinite clay mtx,80% rck flr,no fluor.

**SURVEY @ 2281.35m**  
 Incl 0.84° AZI:88.95°  
 TVD:2281.10m

**COAL:**blk,brn.sft-fri,sbblky, tr f dissem pyr.

**SANDSTONE:**v lt gry,40% f,30% med, 20% crs,10% v crs clr qrtz grns,sbrnd-sbang,pr srt,sbsph,fri,ang,kaol cly mtx, 40% rck flr,pr inf por,no fluor.

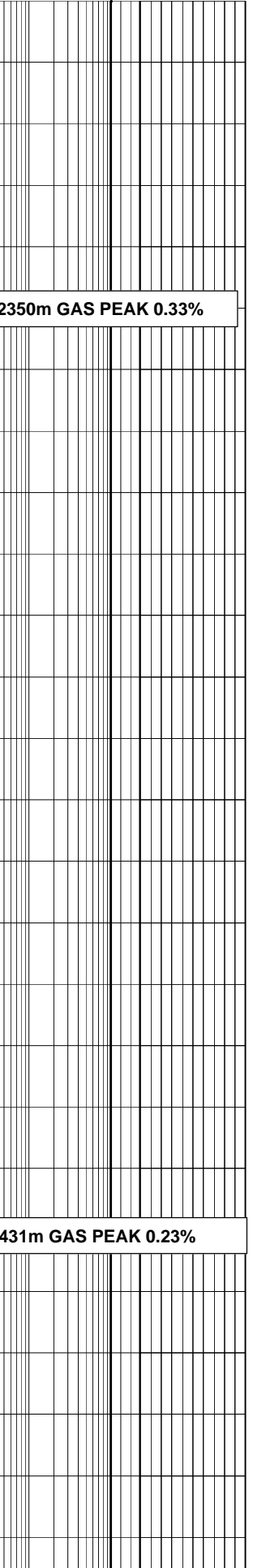
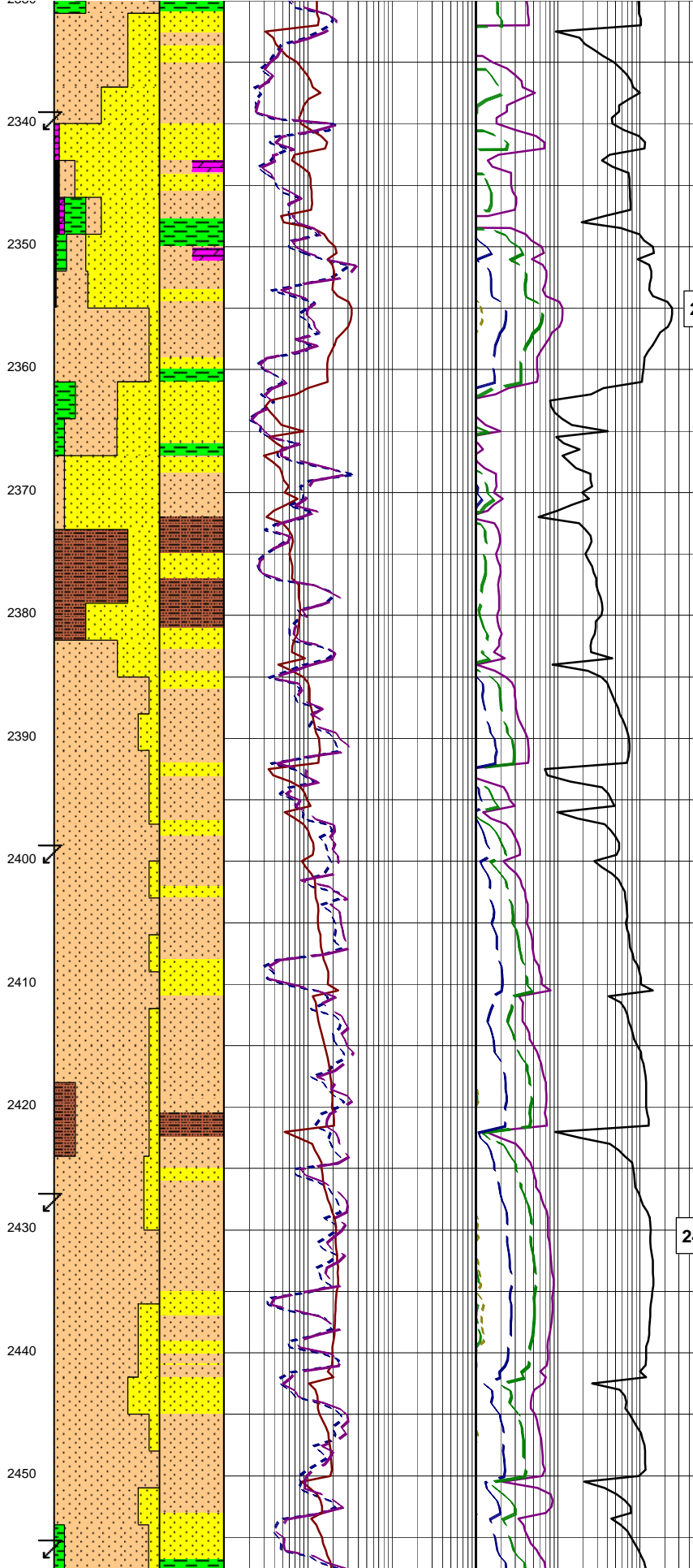
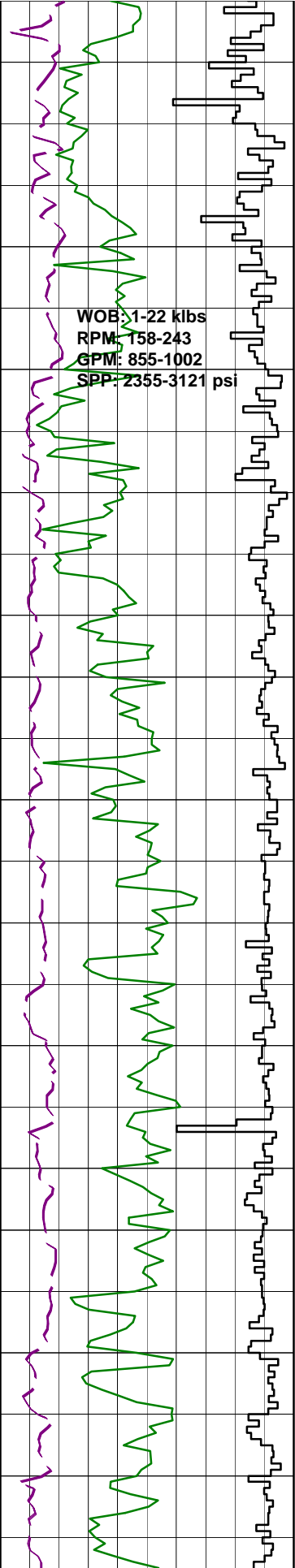
**SURVEY @ 2310.29m**  
 Incl 0.91° AZI:90.74°  
 TVD:2310.04m

**SILTSTONE:**brn gry,brn blk,olv gry,sft-fri,sbblky,tr lithic frags,thn carb lam.

**SANDSTONE:**v lt gry,30% vf,50% f 15% med,5% crs grn clr qrtz grns, sbrnd-sbang(shttd),pr srt,subshpr,

2271m TRIP GAS PEAK 2.2%

STANDARD GAS TRAP DATA  
 USED FROM 2271-2348m DUE TO  
 FAULTY RESERVAL GAS TRAP



fri,ang,tr lithic frags,kaolinite cly mtx,  
 90% rck flr,pr inf vis por,no fluor.

CLAYSTONE:olv gry,med gry,  
 sft-frm,sbblk,lr lithic frags,  
 micmic.

SURVEY @ 2339.67m  
 Incl 0.80° AZI:84.68°  
 TVD:2339.41m

COAL:blk,brn blk,sft,wdy-  
 brt,i/p as lam.

SANDSTONE:olv gry,v lt gry  
 qrtzose,10% vf,10% med,sbrnd-  
 sbang,mod srt,sbshpr,fri,lr  
 lithic frags,i/p wh clay mtx,pr  
 sil cmt,fr vis por,no fluor.

ARGILLACEOUS SILTSTONE:olv gry,  
 sft,amorp-stky,lr coal & carb  
 mat,10% calc clay,30% clay.

SANDSTONE:clr,opq,lt olv gry,  
 v lt gry,lse & fri,pred f grn,  
 10% vf,10% vf,10% v crs grn,pr-  
 v pr srt,sbang-sbrnd,sbshpr-  
 sbelng,15% wh clay mtx,pr sil cmt,  
 lr lithic frags,lr carb mat,pr-  
 fr vis por,no fluor.

SILTSTONE:brn gry,brn blk,  
 olv gry,sft-frm,sbblk,lr  
 lithic frags,thn carb thrds & spks.

SURVEY @ 2398.22m  
 Incl 0.81° AZI:98.78°  
 TVD:2397.96m

SANDSTONE:lt olv gry,v lt gry,  
 f grn,fri,sbang-sbrnd,mod srt,  
 sbshpr,fr vis por,no fluor.

ARGILLACEOUS SILTSTONE:  
 olv gry,lt gry,brn gry,sft,amorph,lr  
 coal & carb mat,30% clay.

SURVEY @ 2426.57m  
 Incl 1.08° AZI:93.16°  
 TVD:2426.30m

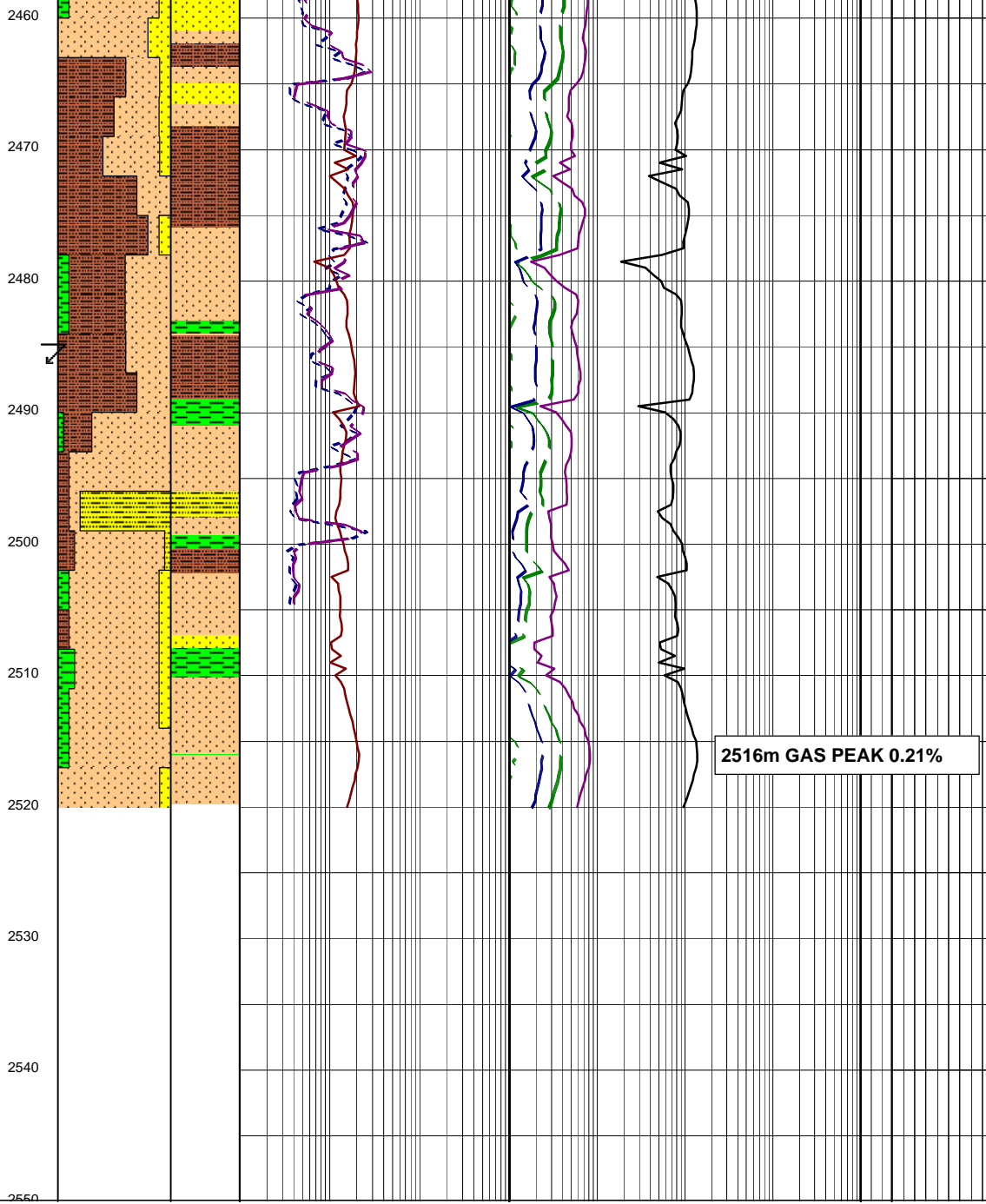
SANDSTONE:lt olv gry,v lt gry,  
 f grn,fri,sbang-sbrnd,mod  
 srt,subshpr,fr vis por,no fluor.

CARBIDE LAG CHECK @ 2449m  
 THEOR. STKS: 9730  
 ACT. STKS: 10505  
 OPEN HOLE O.G : 7.5 %  
 (13.15" equiv)

SURVEY @ 2454.95m  
 Incl 0.96° AZI:91.77°  
 TVD:2454.12m

WOB: 5-19 klbs  
RPM: 181-244  
GPM: 857-982  
SPP: 2546-3090 psi

21-10-2009



IVD:2454.68m

**SANDSTONE:**lt olv gry,v lt gry,  
fri-lse,f grn,10% vf,10% med,  
10% lse crs qrtz grns,sbang  
(shthd i/p)-sbrnd,mod-pr srt,  
sbspnr-sbelng,5% pr sil cmt,fr  
vis por,no fluor.

**ARGILLACEOUS SILTSTONE:**olv  
gry,lt gry,brn gry,sft,amorph-  
stky,tr coal & carb mat,30%  
clay.

**SURVEY @ 2484.55m**  
Incl 1.06° AZI:89.94°  
TVD:2484.27m

**CLAYSTONE:**olv gry,dk grnsh  
gry,frm,sbblky,tr micmic.

**SILTSTONE:**brn gry,brn blk,  
olv gry,sft-frm,sbblky,tr  
lith frgs,thn carb-coaly lam  
& spks.

**ARGILLACEOUS SANDSTONE:**med  
lt gry,olv gry,clr,opq,f grn,10% vf,20%  
med,10% crs,10% v crs,10% gran,fri-lse  
w/- crs,sbang-sbrnd,pr srt,sbshpr-  
sbelng,pr vis por,no fluor.

**TD 311mm (12.25") HOLE**  
**SECTION @ 19:00hrs 21-OCT-09**