



Company : Lakes Oil N.L.

Well : Wombat-4

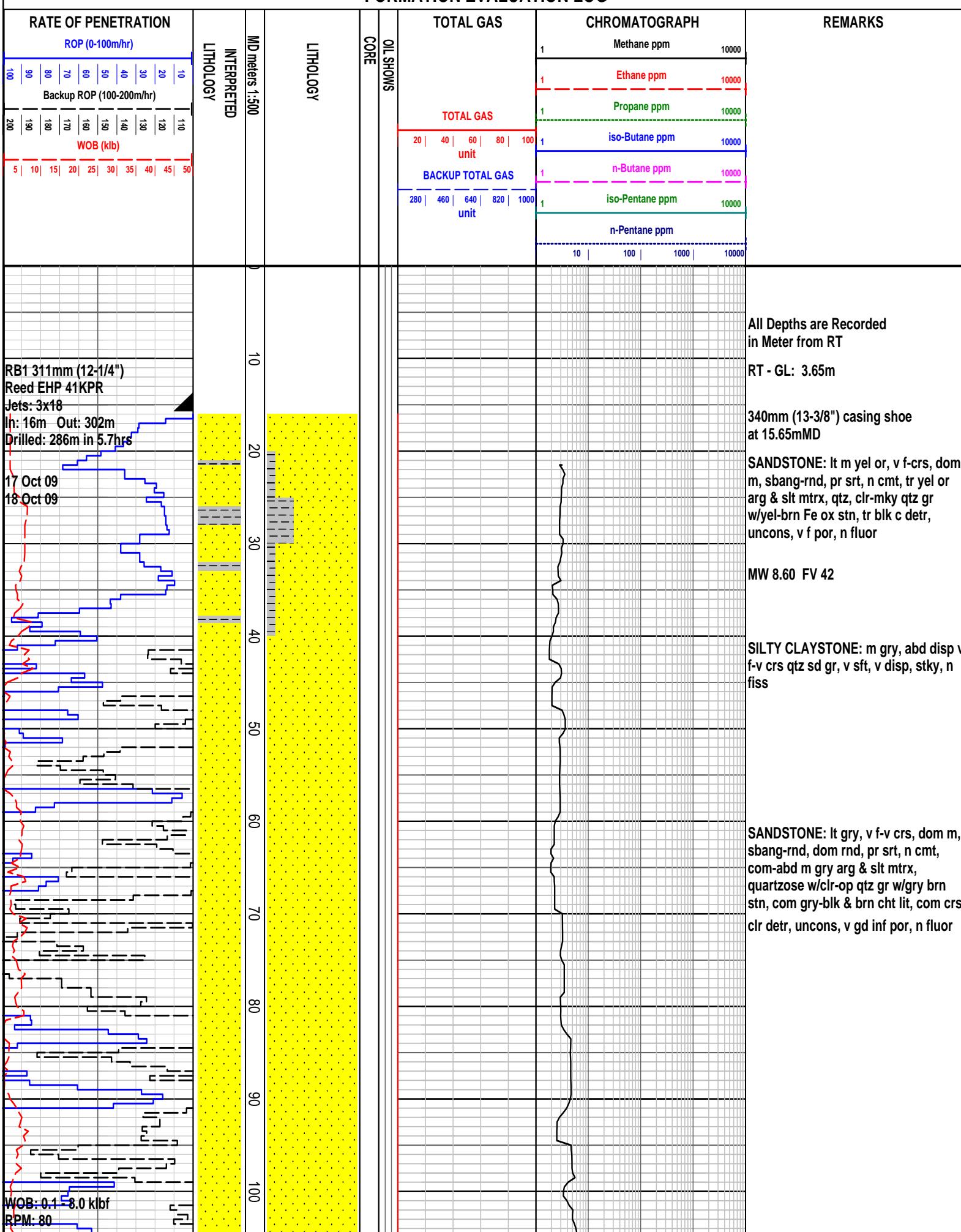
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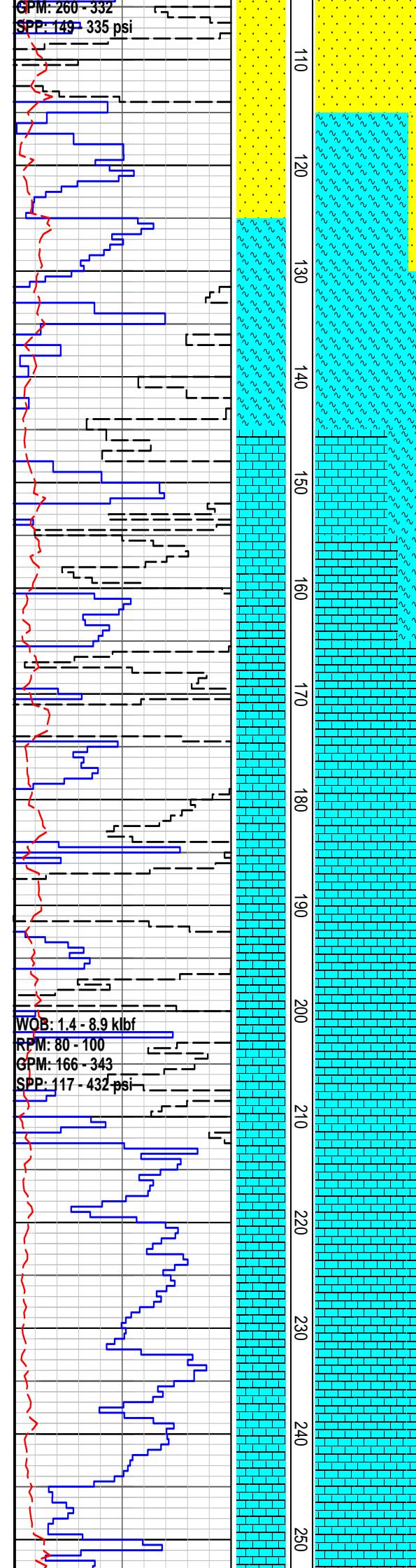
INTEQ



Created : 09/Nov/2009 3:05:51 AM

FORMATION EVALUATION LOG





MARL: It gry-m gry, m gn gry-m brn
 gry, com-abd foss frags incl bry, shell
 frags, forams, v sft, v disp, n fiss

CALCARENITE: It gry-lt brn gry, f-m
 gr, wk calc cmt, abd foss frag incl bry,
 forams, shell frags, mod argill, tr-com
 vf-f qtz gr, rr m gn glauc, p vis por, n
 fluor

CALCARENITE: It gry-lt brn gry, f-m
 gr, wk calc cmt, abd foss frags incl
 bry, forams, shell frags, mod argill,
 tr-com v f-f qtz gr, rr m gn glauc, p vis
 por, n fluor

MW 9.20 FV 48 PV 10 YP 23
 Gels 5/7 F n/c Ck - Sol 6.1
 pH 10.0 Cl 1100

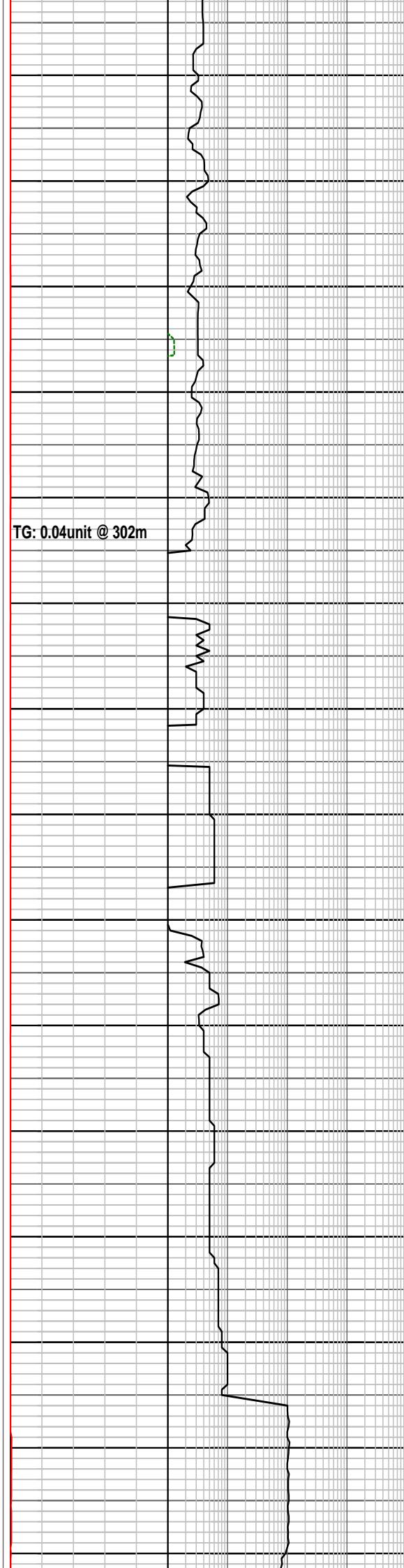
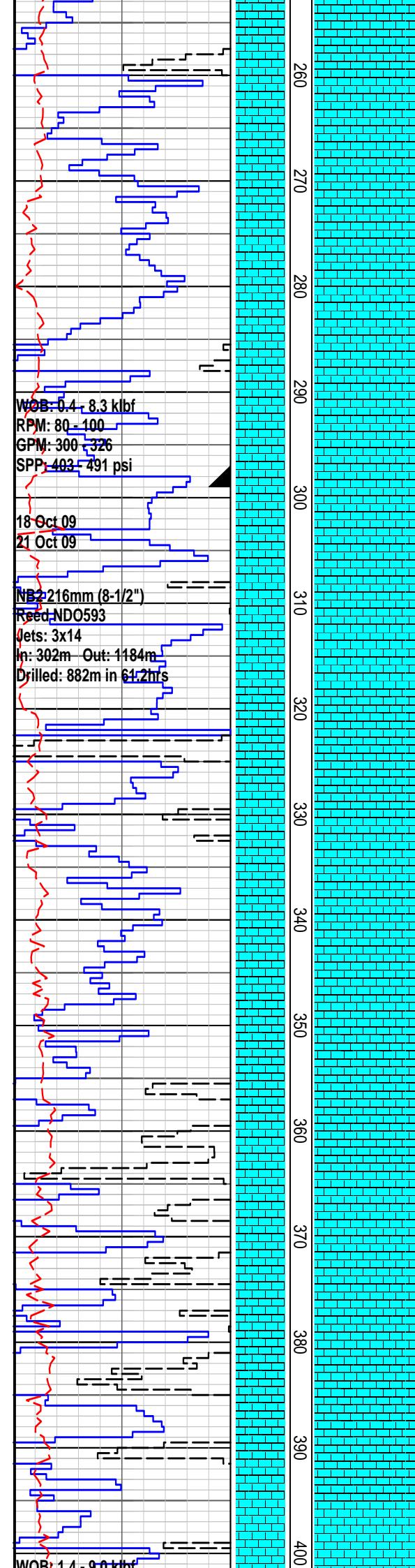
CALCARENITE: It gry-lt brn gry, f-m
 gr, wk calc cmt, abd foss frags incl
 bry, forams, shell frags, mod argill,
 tr-com v f-f qtz gr, rr m gn glauc, p vis
 por, n fluor

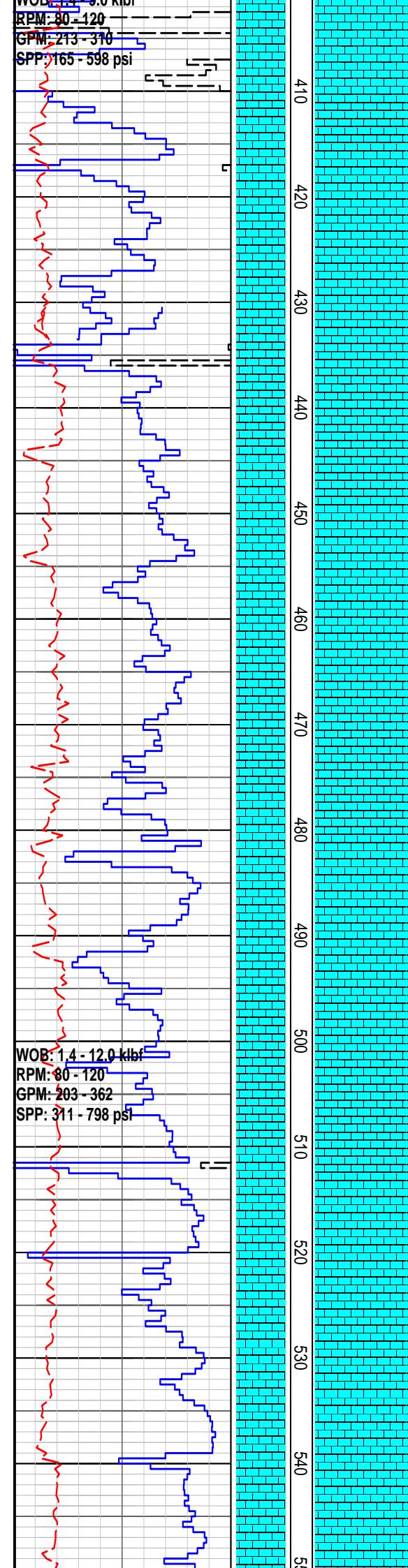
WOB: 1.4 - 8.9 klf

RPM: 80 - 100

GPM: 166 - 343

SPP: 117 - 432 psi





CALCARENITE: off wh-lt m gry-lt brn gry, f-m gr, wk-mod strong calc cmt, abd bry, forams, shell frags, mod argill, rr v f-f qtz gr, tr gn glauc, p vis por, n fluor

CALCARENITE: off wh-lt m gry-lt brn gry, f-m gr, wk-mod strong calc cmt, abd bry, forams, shell frags, n-mod argill, rr v f-f qtz gr, tr gn glauc, p vis por, n fluor

Survey at 472m
N25degE
2 degs

CALCARENITE: off wh-lt m gry-lt brn gry, f-m gr, wk-mod strong calc cmt, abd bry, forams, shell frags, mod argill, rr v f-f qtz gr, tr gn glauc, p vis por, n fluor

MW 8.90 FV 43 PV 11 YP 19
Gels 4/6 F 11.1 Ck 1.0 Sol 3.0
pH 9.5 CI 17.0k

CALCARENITE: off wh-lt m gry-lt brn
gry, f-m gr, wk-strong calc cmt, com
bry, tr echinoid spines, forams & shell
frags, n-mod argill, rr v f-f qtz gr,
tr-com gn glauc, fri, v p vis

21 Oct 09
22 Oct 09

WOB: 1.4 - 17.8 klf
RPM: 48 - 187
GPM: 200 - 367
SPP: 278 - 978 psi

MARL: m gry-m brn, v calc grd to
CLCLT, tr foss frags, sft, stky, n fiss

CALCILUTITE: lt gry-m gry-m lt gry,
sli-v argill, grd i/p to MRL, oft v f
calcerenitic, grd CLCAR, tr foss frags,
sft, stky, n fiss

MW 9.0 FV 42 PV 10 YP 18
Gels 4/6 F 11.1 Ck 1.0 Sol 3.5
pH 9.5 Cl 19.0k

MARL: v lt-m gry-gn gry-brn gry,
calc grd i/p to off wh argil calc CLCLT
tr foss frags, sft, stky, n fiss

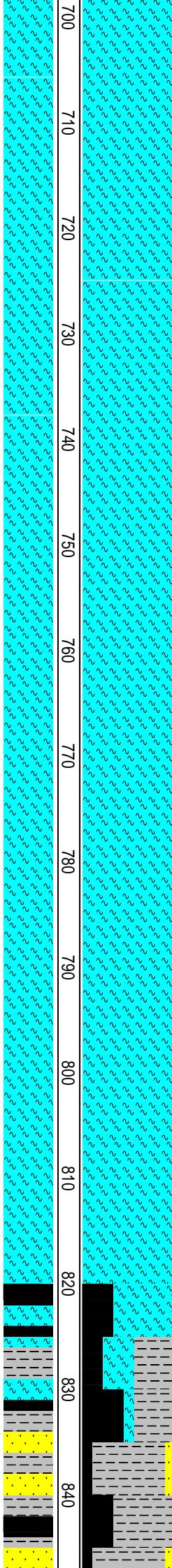
Survey at 687m
N86degE
2 degs

Run Carbide at 699m
MW: 9.0ppg Vis: 41
Average hole size: 8.90inch

WOB: 5.0 - 14.0 klf
RPM: 80 - 128
GPM: 167 - 379
SPP: 278 - 978 psi

22 Oct 09
23 Oct 09

WOB: 3.0 - 15.0 klf
RPM: 50 - 116
GPM: 104 - 320
SPP: 420 - 940 psi



MARL: v lt-m gry-gn gry-brn gry, occ
lt-m brn gry, mod-v calc, tr foss frags,
sft, stky, n fiss

MW 9.05 FV 42 PV 9 YP 21
Gels 3/5 F 10.6 Ck 1.0 Sol 3.9
pH 9.5 CI 19.0k

MARL: lt-m gn gry-lt m gry, mod-v
calc, tr foss frags, sft, stky, n fiss

MARL: lt-m gn gry-lt m gry, mod-v
calc, tr foss frags, sft, tr glauc, stky, n
fiss

COAL: m brn-blk, irreg-blky frac, ea
istr, sli-dom v argil, frm-mod hd

MW 9.5 FV 43 PV 10 YP 20
Gels 3/5 F 10.4 Ck 1.0 Sol 5.0
pH 9.0 CI 21.0k

SANDSTONE: lt-m brn, vf-m gr, dom
vf, ang-sbrnd, p-mod std, v wk sil
cmt, abd lt brn argil & slt mtrix,
quartzose w/clr-opq qtz gr, tr crs cl
mic flks, tr blk c detr, rr pyr, fri, v p
por, n fluor

CLAYSTONE: lt-dk brn, dom m brn, sltly and f aren i/p, v sli-mod carb, tr blk coal flk, tr amber, sft, v disp, n fiss

SANDSTONE: lt brn gry, vf-v crs, dom m-crs, sbang-rnd, p-mod srtd, wk sil cmt, tr-com lt brn argill & slt mtrx, quartzose w/clr-op qtz gr w/mnr brn stn, tr gr gry & blk cht lit, tr blk c detr, fri, gd-v gd inf por, n fluor

CLAYSTONE: lt-dk brn, dom m brn, sltly and f aren i/p, v sli-mod carb, tr blk coal flk, tr amb, sft, v disp, n fiss

Survey at 917m
N50degE
3 degs

SANDSTONE: lt brn gry, vf-v crs, dom m-crs, sbang-rnd, p srtd, wk sil cmt, tr-com lt brn argill & slt mtrx, quartzose w/clr-op qtz gr w/mnr brn stn, tr gr gry & blk cht lit, tr blk c detr, fri, gd-v gd inf por, n fluor

MW 9.7 FV 41 PV 10 YP 19
Gels 3/5 F 9.8 Ck 1.0 Sol 6.9
pH 9.0 CI 21.0k

CLAYSTONE: m-dk brn, sli silt & aren i/p, mod-v carb, tr blk c flks, sft, v disp, n fiss

COAL: m brn-blk, irr-blky frac, ea lstr, sli-dom v argill, tr amb, frm-mod hd

WOB: 2.0 - 11.1 klf
RPM: 46 - 111
GPM: 191 - 365
SPP: 621 - 1288 psi

23 Oct 09
24 Oct 09

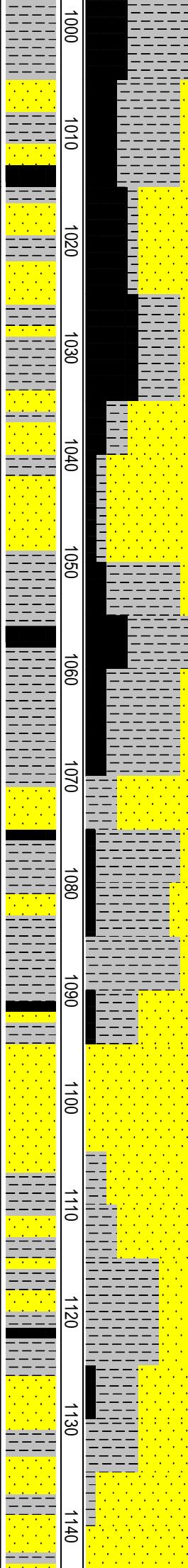
CLAYSTONE: m-dk brn, sli silt & aren, mod-v carb, tr blk c flks, sft, v disp, n fiss

WOB: 0.5 - 11.9 klf

RPM: 14 - 141

GPM: 150 - 355

SPP: 364 - 1233 psi



COAL: m brn-blk, irr-blky frac, ea lstr, sli-dom v argill, tr amb, frm-mod hd

COAL: m brn-blk, irr-blky frac, ea lstr, sli-dom v argill, tr amb, frm-mod hd

Survey at 1079m
N88degE
3 degs

SANDSTONE: lt brn gry, vf-pbl, dom m-crs, sbang-rnd, v p srtd, wk sil cmt, com lt brn argill & silt mtrix, qtz w/clr-op quartzose gr w/mnr or brn stn, tr gn gry & blk cht lith, tr-com blk c detr, fri, g inf por, n fluor

COAL: m brn-dom blk, irr-blky frac, ea-sbvt lstr, sli-v argill, tr amb, mod hd. The Coal has no natural fluor but gives a wk dull lt yel rn crsh cut fluor. The amb has mod bri sol lt-m yel natural fluor and gives a wk v slo strmg lt yell cut fluor

MW 9.75 FV 42 PV 9 YP 20
Gels 3/6 F 9.4 Ck 1.0 Sol 5.9
pH 8.5 CI 18.0k

MW 10.1 FV 47 PV 16 YP 23
Gels 4/6 F 8.0 Ck 1.0 Sol 8.8
pH 8.5 CI 20.0k

SANDSTONE: v lt gry-lt brn gy, v f-gt, dom m-crs, ang-sbrnd, v p srtd, wk sil cmt, com wh-lt brn argill & silt mtrix, quartzose w/clr-op qtz gr, tr gn & blk cht lith, tr-com blk c detr, fri, gd inf por, no fluor

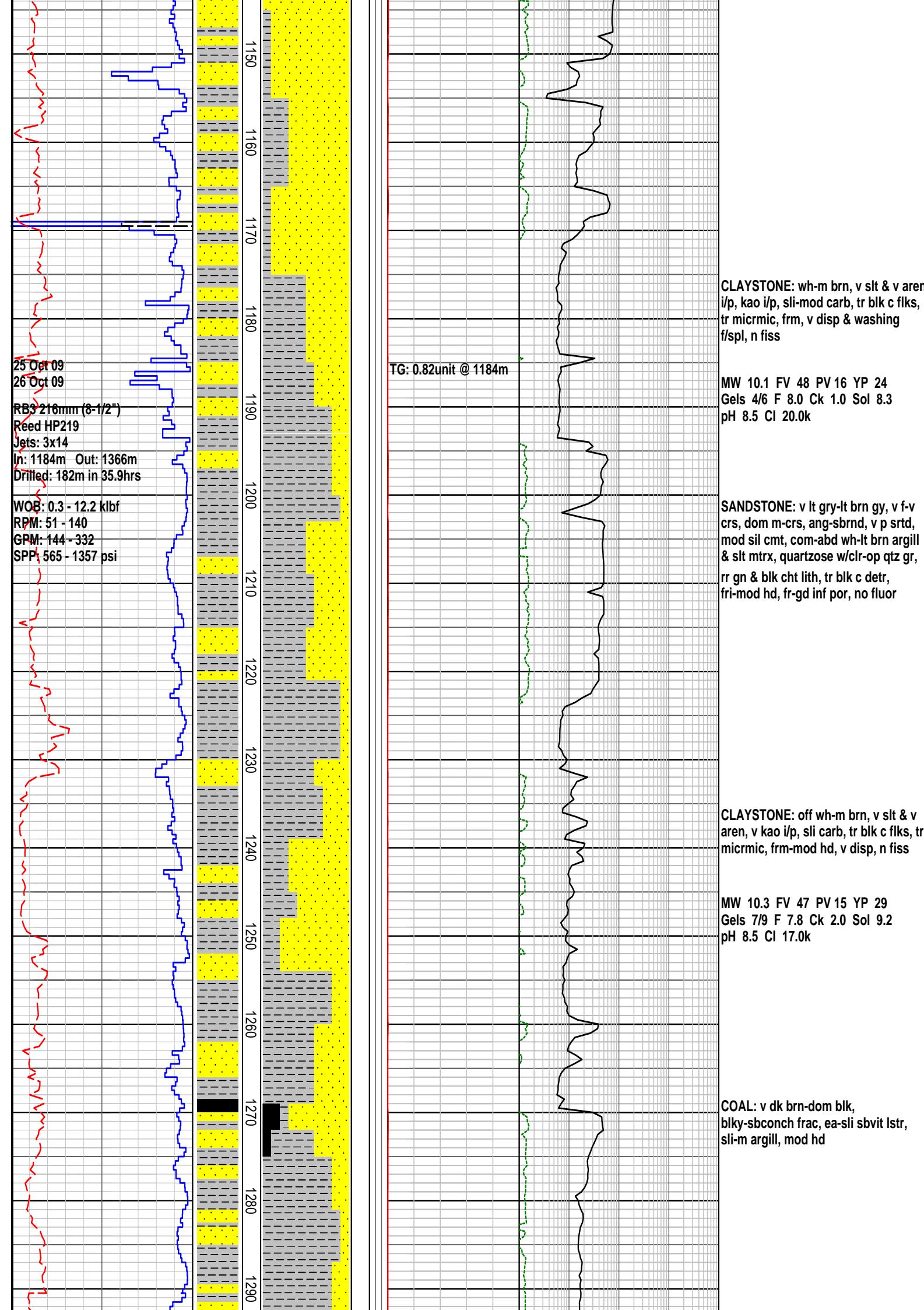
WOB: 0.5 - 9.1 klf

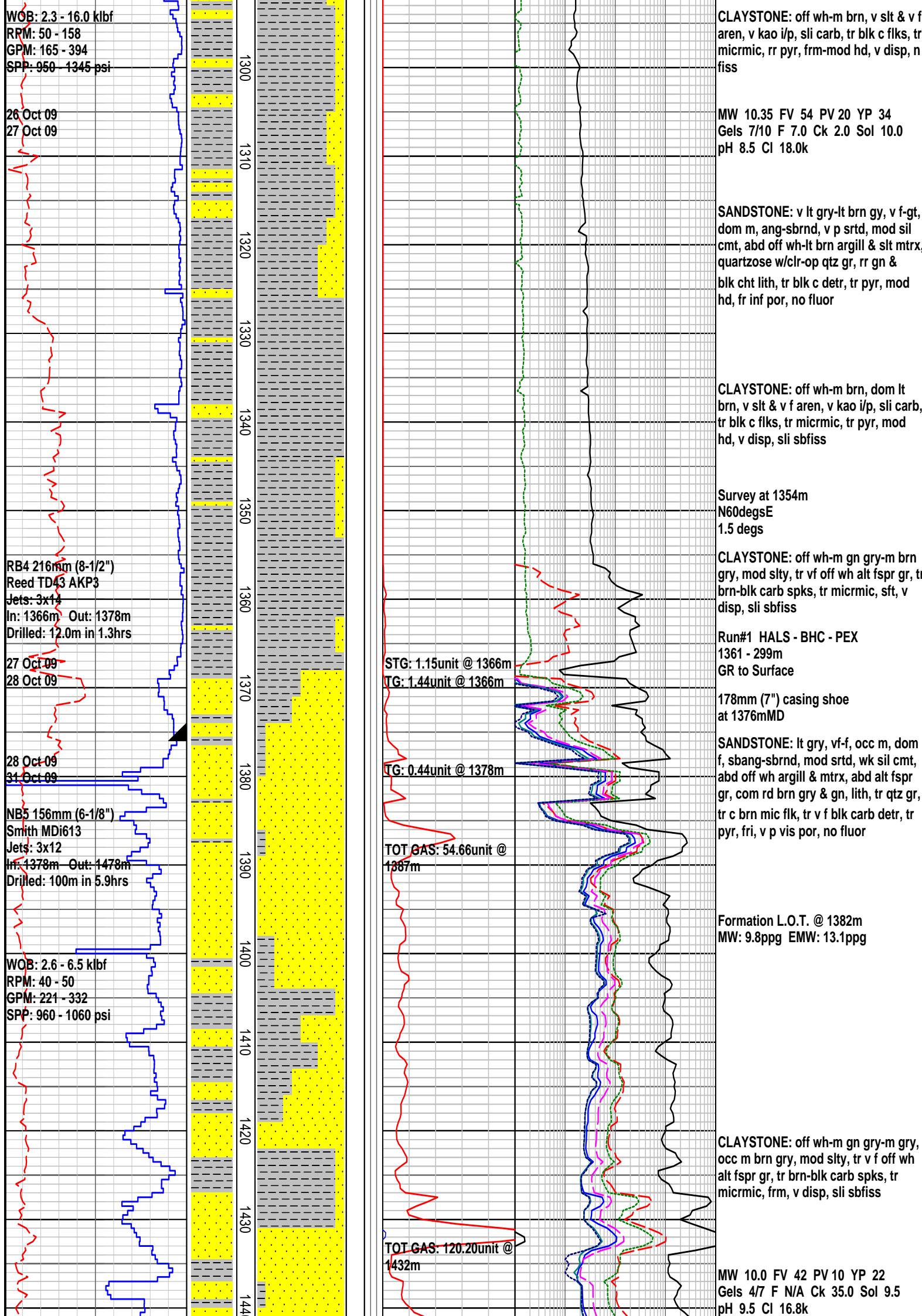
RPM: 31 - 121

GPM: 215 - 332

SPP: 287 - 1234 psi

24 Oct 09
25 Oct 09





31 Oct 09
01 Nov 09

01 Nov 09
03 Nov 09

RB6 156mm (6-1/8")
Smith MDI613
Jets: 3x12
In: 1478m Out: 2403m
Drilled: 925m in 96.8hrs

WOB: 2.3 - 8.7 klf
RPM: 49 - 54
GPM: 201 - 277
SPR: 890 - 1610 psi

03 Nov 09
04 Nov 09

TOT GAS: 153.29unit @
1456m

TOT GAS: 96.09unit @
1471m

TG: 802.43unit @
1478m

TOT GAS: 75.97unit @
1498m

TOT GAS: 122.61unit @
1561m

TOT GAS: 139.76unit @
1585m

SANDSTONE: It gry-It gn gry, v f-rr m, dom f, dom f, sbang-sbrnd, mod srtd, mod sil cmt, wk calc cmt i/p, abd off wh argill mtrx, abd alt fspr gr & rd brn gry & gn lith, 10% qtz gr, tr crs brn mic flks, tr v f blk carb detr, tr pyr, fri, v p vis por, no fluor

DST #1 1383m - 1478m
IF 15 min
ISI 90 min
FF 180 min
FSI 540 min
GTS 5 min into FF @ RTSM
Rec 140m gas cut rathole mud

SANDSTONE: It gn gry, v f-occ m, dom f, sbang-sbrnd, mod srtd, mod sil cmt, wk calc cmt i/p, abd off wh argill mtrx, abd alt fspr gr & rd brn gry & gn lith, 10% qtz gr, tr crs brn mic flks, tr v f blk carb detr, rr pyr, fria, v p vis por, no fluor

CLAYSTONE: It-m brn gry-m gry-occ m gn gry, v slty i/p grdg to argill SLTST, v f aren i/p, tr v f off wh alt fspr gr, tr-com brn-blk carb spks, tr micrmic, frm, v disp, sli sbfiss

MW 9.8 FV 46 PV 15 YP 22
Gels 5/7 F N/A Ck 28 Sol 7.8
pH 9.5 CI 18.0k

SANDSTONE: It gn gry, v f-f, dom f, sbang-sbrnd, mod srtd, mod sil cmt, wk calc cmt i/p, abd off wh argill mtrx, abd alt fspr gr & rd brn gry & gn lith, com qtz gr, tr crs brn mic flks, tr v f blk carb detr, tr calc lined frac, fria, no vis por, no fluor

MW 9.7 FV 39 PV 10 YP 17
Gels 3/4 F 9.0 Ck 1.0 Sol 7.3
pH 9.5 CI 12.0k

CLAYSTONE: It-m gn gry-m gry-m brn gry, mod-v slty grdg to argill SLTST

i/p, v f aren i/p, tr v f off wh alt fspr gr
tr-com brn-blk carb spks & c detr, tr
micrmic, frm, v disp, sli sbfiss

WOB: 0.9 - 12.1 klf
RPM: 25 - 60
GPM: 195 - 252
SPP: 870 - 1451 psi

WOB: 1.2 - 15.6 klf
RPM: 14 - 56
GPM: 189 - 248
SPP: 1010 - 1540 psi

SANDSTONE: It gn gry, v f-m, dom m,
sbang-sbrnd, mod srtd, mod sil cmt,
wk calc cmt i/p, abd off wh argill mtrx,
abd alt fspr gr & rd brn gry & gn lith,
com qtz gr, tr crs brn mic flks, tr blk c
detr, fria, no vis por, no fluor

SANDSTONE: It gn gry, v f-m, dom f,
sbang-sbrnd, mod srtd, mod sil cmt,
mod-strong calc cmt i/p, abd off wh
argill mtrx, abd alt fspr gr & rd brn gry
& gn lith, com qtz gr, tr crs brn mic
flks, tr blk c detr, rr calc infilled frac,
fria, p vis por, no fluor

MW 9.75 FV 42 PV 13 YP 22
Gels 3/5 F 7.5 Ck 1.0 Sol 7.6
pH 9.5 CI 10.5k

CLAYSTONE: It-m gn gry-m gry-m brn
gry, mod-v sly grdg to argill SLTST
i/p, v f aren i/p, tr v f off wh alt fspr gr,
tr-com brn-blk carb spks & c detr,
tr micrmic, tr calc infilled frac,
frm-mod hd, v disp, sli sbfiss

SANDSTONE: It gn gry, v f-f, dom f,
sbang-sbrnd, mod srtd, mod sil cmt,
mod-strong calc cmt i/p, abd off wh
argill mtrx, abd alt fspr gr & rd brn gry
& gn lith, com qtz gr, tr crs brn mic
flks, tr blk c detr, rr calc infilled frac,
fria, p vis por, no fluor

CLAYSTONE: lt-m gn gry-m gry-m brn
gry, mod-v sly grdg to argill SLTST
i/p, v f aren i/p, tr v f off wh alt fspr gr,
tr com brn-blk carb spks & c detr, tr
micrmic, rr calc infilled frac, frm-mod
hd, v disp, sli sbfiss

Survey at 1768m
N340degsW
4 degs

WTG: 46.89 unit @
1780m

CLAYSTONE: lt-m gn gry-m gry-m brn
gry, mod-v sly grdg to argill SLTST
i/p, v f aren i/p, tr v f off wh alt fspr gr,
tr brn-blk carb spks & c detr, tr
micrmic, tr calc infilled frac, frm-mod
hd, v disp, sbfiss

MW 9.9 FV 44 PV 14 YP 21
Gels 2/4 F 8.0 Ck 1.0 Sol 8.7
pH 9.5 CI 10.0k

TOT GAS: 379.18 unit @
1834m

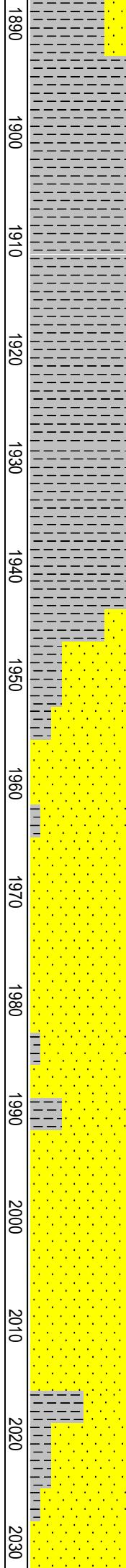
SANDSTONE: lt gn gry-m gn, v f-m,
dom f, sbang-sbrnd, mod srtd, mod si
cmt, mod calc cmt i/p, com-abd off
wh-m gn argill mtrx, abd alt fspr gr &
rd brn gry & gn lith, com qtz gr, tr crs
brn mic flks, tr blk c detr, tr calc
infilled frac, fria, fr vis por, no fluor

SANDSTONE: off wh-lt gn gry-lt pk, v
f-f, dom f, sbang-sbrnd, mod srtd,
strong sil cmt, mod calc cmt i/p, abd
off wh-m gn argill mtrx, abd wh & pk
fspr gr, com gn rd brn gry & blk lith, tr
qtz gr, tr crs gn brn mic flks, tr blk c
detr, tr calc infilled frac, hd, no vis
por, no fluor

WOB: 4.7 - 9.9 klf
RPM: 45 - 62
GPM: 162 - 244
SPR: 830 - 1650 psi

04 Nov 09
05 Nov 09

WOB: 3.2 - 15.3 klf
RPM: 42 - 79
GPM: 157 - 241
SPP: 858 - 1648 psi



WOB: 4.5 - 9.8 klf
RPM: 54 - 79
GPM: 153 - 291
SPP: 858 - 1648 psi

05 Nov 09
06 Nov 09

TOT GAS: 94.83unit @
1943m

TOT GAS: 119.44unit @
1971m

CLAYSTONE: lt-m gn gry, occ m gn
gry-m brn gry, mod-v sly grdg to
argill SLTST i/p, v f aren i/p, tr-com v f
off wh alt fspr gr, tr brn-blk carb spks
& c detr i/p, tr-com micrmic, rr calc
infilled frac, mod hd, v disp, sbfiss

MW 10.0 FV 41 PV 12 YP 18
Gels 3/4 F 8.5 Ck 1.0 Sol 9.6
pH 9.0 CI 10.0k

SANDSTONE: off wh-lt gn gry, v f-m,
dom f, sbang-sbrnd, mod srtid, strong
sil cmt, mod calc cmt i/p, abd off
wh-occ pk argill mtrx, abd wh &
occ pk fspr gr, com gn rd brn gry &
blk lith, tr qtz gr, tr crs gn brn mic
flks, tr blk c detr, tr calc & rd min vn
hd, no vis intgran por, no fluor

CLAYSTONE: lt-m gry-occ m brn gry,
mod-v sly, v f aren i/p, tr-com v f off
wh alt fspr gr, tr -com brn-blk carb
spks & c detr, tr-com micrmic,
tr calc & rd min infilled frac, com
slick, mod hd, v disp, sbfiss

MW 9.8 FV 39 PV 13 YP 14
Gels 2/4 F 11.5 Ck 1.0 Sol 8.3
pH 8.5 CI 10.0k

SANDSTONE: off wh-lt gn gry-lt pk
gry, v f-occ m, dom f, sbang-sbrnd,
mod srtid, strong sil cmt, strong calc

mod srt, strong sil cmt, strong calc
cmt i/p, abd off wh & tr pk argill mtrx,
abd wh & occ pk fspr gr, com gn rd
brn gry & blk lith, 10% qtz gr, tr gn brn
mic flks, rr blk c detr, tr calc & rd min
vn, hd, no vis intgran por, no fluor

CLAYSTONE: m gn gry-m gry-m brn
gry, mod-v sity, v f aren i/p, tr-com v f
off wh alt fspr gr, tr -com brn-blk carb
spks & c detr, com micrmic,
tr calc & rd min infilled frac, com
slick, mod hd, v disp, sbfiss

SANDSTONE: off wh-lt gn gry, lt pk
gry, v f-occ m, dom f, sbang-sbrnd,
mod srt, strong sil cmt, strong calc
cmt i/p, abd off wh & tr pk argill mtrx,
abd wh & pk fspr gr, com gn rd brn
gry & blk lith, 10% qtz gr, tr gn brn
mic flks, com-abd blk c detr, tr calc &
rd min vn, hd, no vis intgran por, no
fluor. The c has no fluor but gives a
mod brt slow stmg-crush milky wh cu
fluor

Survey at 2105m
12 degs

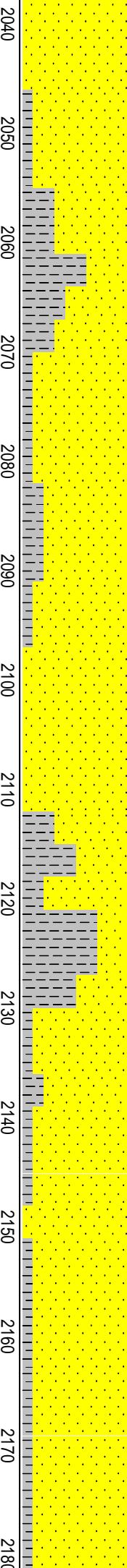
CLAYSTONE: m gry, occ m gn gry-m
brn gry, mod-v sity, v f aren i/p,
tr-com v f off wh alt fspr gr, com
brn-blk carb spks & c detr, com
micrmic, tr calc infilled frac, com
slick, mod hd, v disp, sbfiss

MW 9.4 FV 34 PV 7 YP 14
Gels 3/7 F 25.6 Ck 2.0 Sol 5.6
pH 8.3 CI 7.0k

SANDSTONE: off wh-lt gn gry, lt pk
gry, v f-occ m, dom f, sbang-sbrnd,
mod srt, strong sil cmt, strong calc
cmt i/p, abd off wh & tr pk argill mtrx,
abd wh & pk fspr gr, com gn rd brn
gry & blk lith, 10% qtz gr, tr gn brn
mic flks, com-abd blk c detr, com calc
& rd min vn, hd, no vis intgran por, no
fluor

WOB: 1.1 - 20.8 klf
RPM: 17 - 81
GPM: 166 - 247
SPP: 964 - 1835 psi

06 Nov 09
07 Nov 09



STG: 33.09unit @
2105m

SANDSTONE: off wh-lt gn gry, lt pk gry, v f-occ m, dom f, sbang-sbrnd, mod srtd, strong sil cmt, strong calc cmt i/p, abd off wh & tr pk argill mtrx, abd wh & pk fspr gr, com gn rd brn gry & blk lith, com qtz gr, tr gn brn mic flks, com-abd blk c detr, com calc & rd min vn, hd, no vis intgran por, no fluor

SANDSTONE: off wh-lt gn gry, lt pk gry, v f-occ m, dom f, sbang-sbrnd, mod srtd, strong sil cmt, strong calc cmt i/p, abd off wh & tr pk argill mtrx, abd wh & pk fspr gr, com gn rd brn gry & blk lith, com qtz gr, tr gn brn mic flks, com-abd blk c detr, com calc & rd min vn, hd, no vis intgran por, no fluor

Survey at 2235m
N340degsW
18.50 degs

CLAYSTONE: m gry-m gn gry, mod-v sly, v f aren i/p, tr-com v f off wh alt fspr gr, tr brn-blk carb spks & c detr, com micmic, tr calc & rd min infilled frac, com slick, hd, v disp, sbfiss

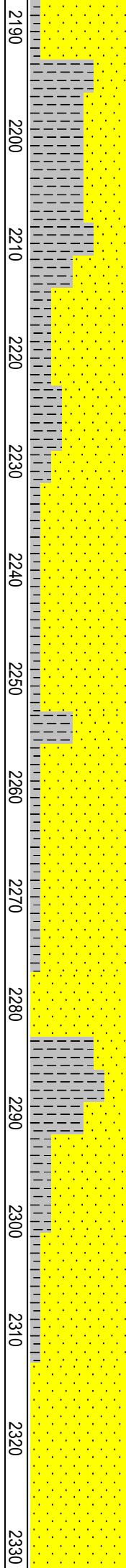
SANDSTONE: off wh-lt gn gry, lt pk gry, v f-rr m, dom f, sbang-sbrnd, mod srtd, strong sil cmt, strong calc cmt i/p, abd off wh & tr pk argill mtrx, abd wh & pk fspr gr, com gn rd brn gry & blk lith, com qtz gr, tr-com blk c detr, tr calc & rd min vn, hd, no vis intgran por, no fluor

TOT GAS: 80.15unit @
2327m

WOB: 4.9 - 12.3 klf
RPM: 57 - 75
GPM: 221 - 241
SPP: 1470 - 1668 psi

07 Nov 09
08 Nov 09

WOB: 2.2 - 15.9 klf
RPM: 19 - 96
GPM: 137 - 237
SPP: 860 - 1676 psi



COAL: blk, ea-vit, pty frac, sli argill, hd, brit. The c has no natural fluor but gives a mod brt slow stmg-crush mky wh cut fluor

SANDSTONE: off wh-lt gn gry, lt pk gry, v f-rr m, dom f, sbang-sbrnd, mod srtd, strong sil cmt, strong calc cmt i/p, abd off wh & tr pk argill mtrx, abd wh & pk fspr gr, com gn rd brn gry & blk lith, com qtz gr, abd blk c detr, tr calc & rd min vn, hd, no vis intgran por, no fluor

CLAYSTONE: m-dk gn gry-m gn gry-m brn gry, mod-v slty-grd to SLTST, tr-abd v f off wh alt fspr gr, com-abd dk brn-blk carb spks & c detr, com micrmic, com slick, mod hd v disp, sbfiss

WOB: 2.6 - 15.2 klf
RPM: 57 - 90
GPM: 206 - 225
SPP: 1443 - 1609 psi

08 Nov 09
09 Nov 09

FORMATION EVALUATION LOG

RATE OF PENETRATION ROP (0-100m/hr)	LITHOLOGY	TOTAL GAS	CHROMATOGRAPH		REMARKS	
			OIL SHOWS	CORE		
100 95 88 82 80 85 80 70 60 50	INTERPRETED	TOTAL GAS 20 40 60 80 100 unit	1 1 1 1 1 1 1 1 1	Methane ppm Ethane ppm Propane ppm iso-Butane ppm n-Butane ppm iso-Pentane ppm n-Pentane ppm	10000 10000 10000 10000 10000 10000 10000	
Backup ROP (100-200m/hr)		BACKUP TOTAL GAS 280 460 640 820 1000 unit				
200 190 180 170 160 150 140 130 120 110						
WOB (klb) 5 10 15 20 25 30 35 40 45 50						
MD meters 1:500						