



Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name: Cow Skull 11-89-18-1
 Location: Sec. 18 T11S R89W, Gunnison County, Colorado
 License Number: 05-051-06094
 Spud Date: 08/29/2010
 Surface Coordinates: 1981' FSL 1760' FWL
 Longitude: -107.38075
 Bottom Hole Same
 Coordinates:
 Ground Elevation (ft): 7387' K.B. Elevation (ft): 7408'
 Logged Interval (ft): 442' To: 8959' Total Depth (ft): 8959'
 Formation: Coal Ridge Group, South Canyon Group, Cameo Coal, Rollins Ss, Cozette Ss, Corcoran
 Type of Drilling Fluid: LSND

Region: Bull Mountain Unit A

Drilling Completed: 11/02/2010

Latitude: 39.09839

Printed by WellSight Log Viewer from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: SG Interests
 Address: 100 Waugh Drive
 Suite 400
 Houston, TX 77007

GEOLOGIST

Name: Lisa Guttery, Max Schroder, and Monty Churchill
 Company: Acme Geologic Consulting
 Address: 108 Berry Street
 Little Rock, AR 72205
 www.acmegeo.com

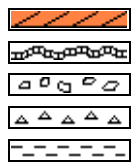
Drilling Company

Precision Drilling Rig #18

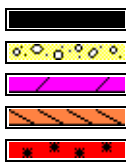
Comments

Lithologies and tops at drilled depths, not corrected to elogs. Where the well bore gas is 100% methane, the C1 line is moved to 85% for graphical purposes only.

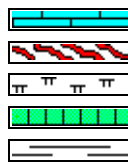
ROCK TYPES



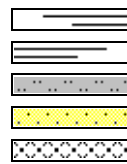
Anhy
Bent
Brec
Cht
Clyst



Coal
Congl
Dol
Gyp
Igne



Lmst
Meta
Mrlst
Salt
Shale



Shcol
Shgy
Sltst
Ss
Till

ACCESSORIES

MINERAL

Anhy
 Arggrn
 Arg
 Bent
 Bit
 Brecfrag
 Calc
 Carb
 Chtdk
 Chtlt
 Dol
 Feldspar
 Ferrpel
 Ferr
 Glau
 Gyp
 Hvymin
 Kaol
 Marl



Minxl
 Nodule
 Phos
 Pyr
 Salt
 Sandy
 Silt
 Sil
 Sulphur
 Tuff

FOSSIL

Algae
 Amph
 Belm
 Bioclst
 Brach
 Bryozoa
 Cephal
 Coral



Crin
 Echin
 Fish
 Foram
 Fossil
 Gastro
 Oolite
 Ostra
 Pelec
 Pellet
 Pisolite
 Plant
 Strom

STRINGER

Anhy
 Arg
 Bent
 Coal
 Dol



Gyp
 Ls
 Mrst
 Sltstrg
 Ssstrg

TEXTURE

Boundst
 Chalky
 Cryxln
 Earthy
 Finexln
 Grainst
 Lithogr
 Microxln
 Mudst
 Packst
 Wackest

OTHER SYMBOLS

POROSITY TYPE

Earthy
 Fenest
 Fracture
 Inter
 Moldic
 Organic
 Pinpoint
 Vuggy

SORTING

Well
 Moderate
 Poor

ROUNDING

Rounded
 Subrnd
 Subang
 Angular

OIL SHOWS

Good
 Fair
 Poor
 Dead

INTERVALS

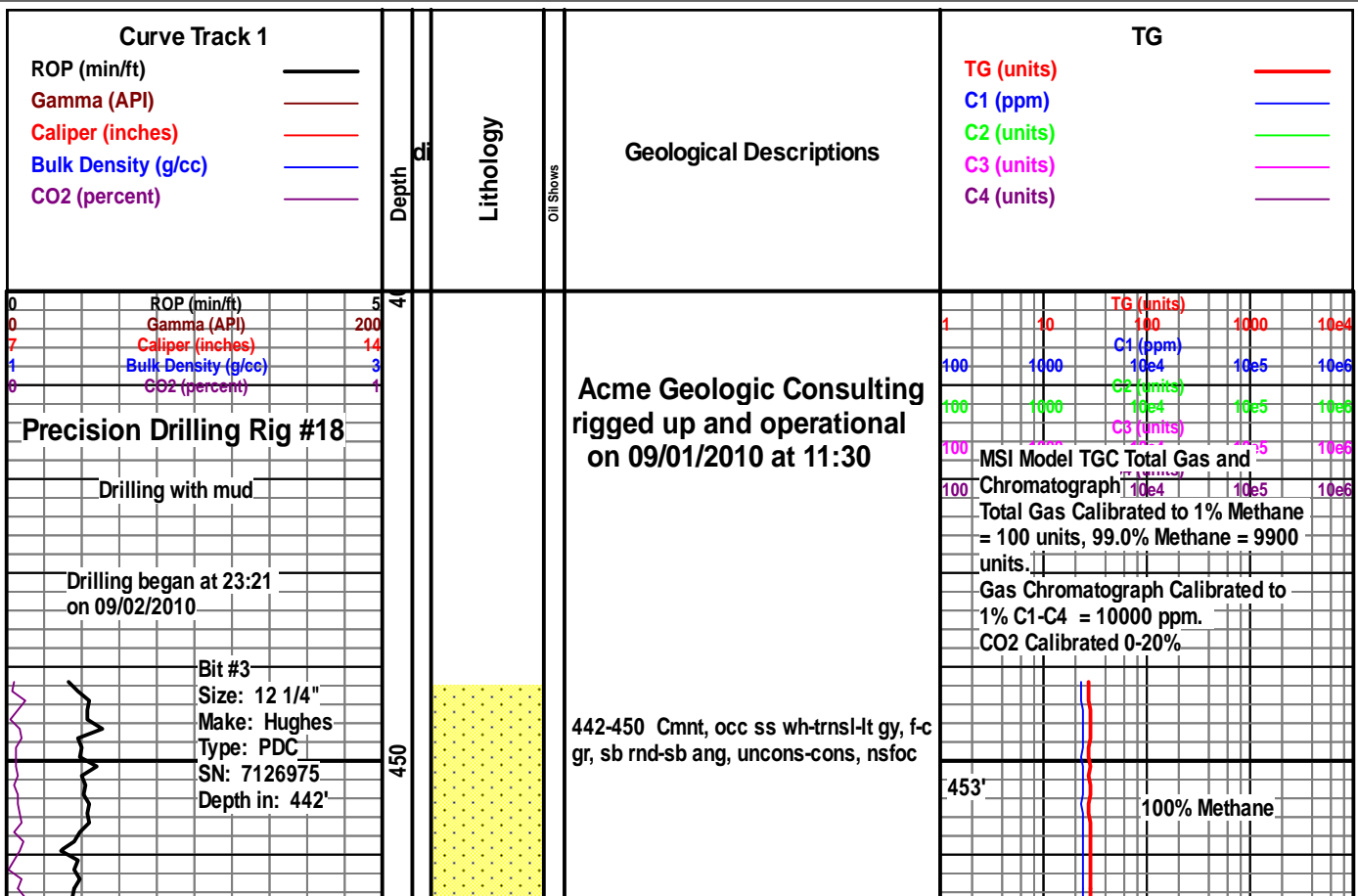
Core
 Dst
 Srfcsg

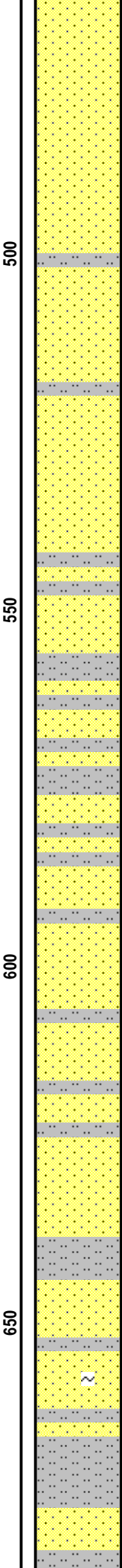
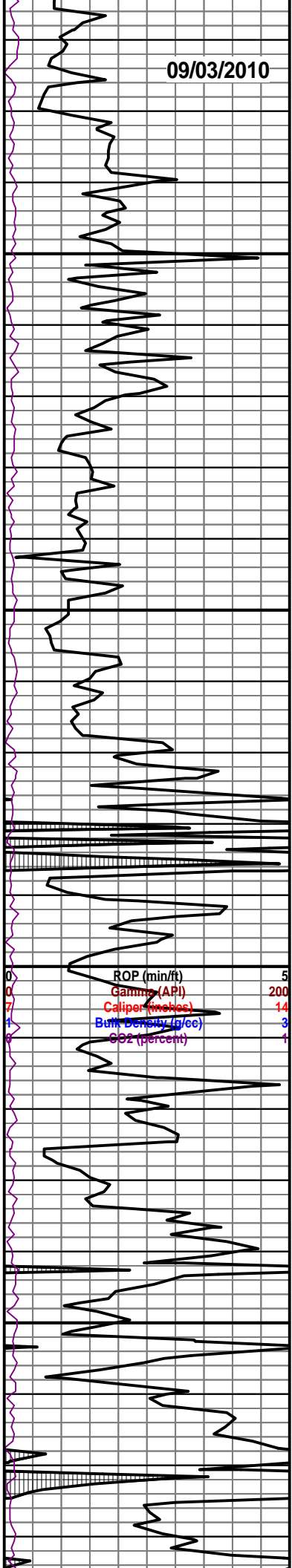


Cv-v
 Cv-c
 Conductor

EVENTS

Rft
 Sidewall
 Srfcsg





450-480 Ss wh-trnsl-lt gy, f-c gr, sb
rnd-sb ang, uncons-cons, occ cmnt,
nsfoc

Wt 9.0
Vis 36

480-510 Ss off wh-trnsl-lt gy, vf-med
gr, sb rnd-sb ang, mod-w srt, cons, rr
sltst gy, sb blkly, frm, n calc, nsfoc

510-540 Ss trnsl-op-off wh-lt gy, s&p
ip, vf-c gr, sb ang-sb rnd, p srt,
cons-uncons ip, rr sltst gy, sb blkly,
frm, nsfoc

Wt 8.9
Vis 40

540-570 Slstst lt-gy-tan, sb blkly, mod
frm, grdg to vf gr ss ip, v sl calc, tr ss
a/a, nsfoc

579'

570-600 Ss off wh-trnsl-lt gy, f-c gr, sb
ang, p srt, cons-uncons, tr sltst gy,
blkly, frm, n calc, nsfoc

Wt 8.8
Vis 38

600-630 Ss trnsl-lt gy-off wh, f-med gr,
sb ang-sb rnd, p srt, pred uncons, n
calc, tr lt gy sltst, nsfoc

Wt 8.9+
Vis 37

630-660 Ss trnsl-lt gy-off wh, f-med gr,
sb ang-sb rnd, p srt, pred uncons, n
calc, rr glau, tr lt gy sltst, nsfoc

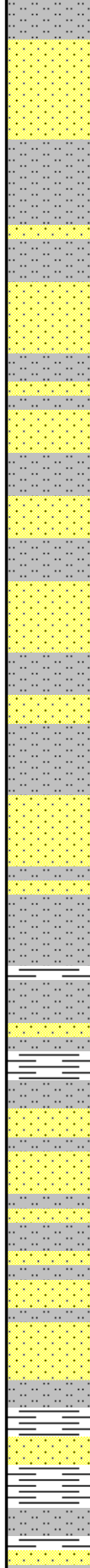
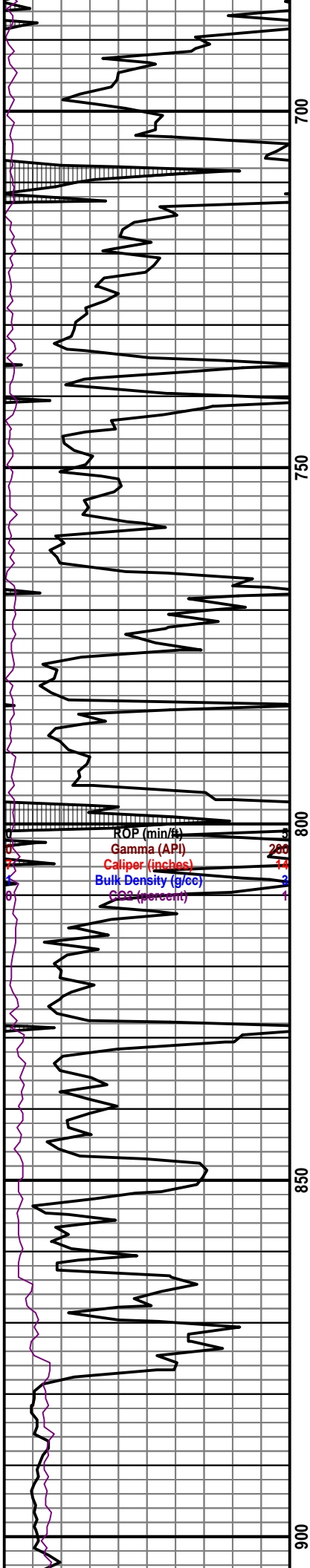
642'

100% Methane

660-690 Ss trnsl-lt gy-off wh, vf-f gr, sb
ang-sb rnd, p-mod srt, pred uncons, n
calc, abnt sltst lt-med gy, sb blkly, mod

674'

1	10	TG (units)	100	1000	10e4
100	1000	C1 (ppm)	10e4	10e5	10e6
100	1000	C2 (units)	10e4	10e5	10e6
100	1000	C3 (units)	10e4	10e5	10e6
100	1000	C4 (units)	10e4	10e5	10e6



frm, n-v sl calc, nsfoc

690-720 Slstst med-lt gy, sb blkly, mod frm, sdy, n calc, abnt ss a/a, nsfoc

720-750 Slstst med-lt gy, sb blkly, mod frm, sdy, n calc, abnt ss lt gy-trnsl-off wh, vf-f gr, sb ang-sb rnd, p-mod srt, pred uncons, n calc, nsfoc

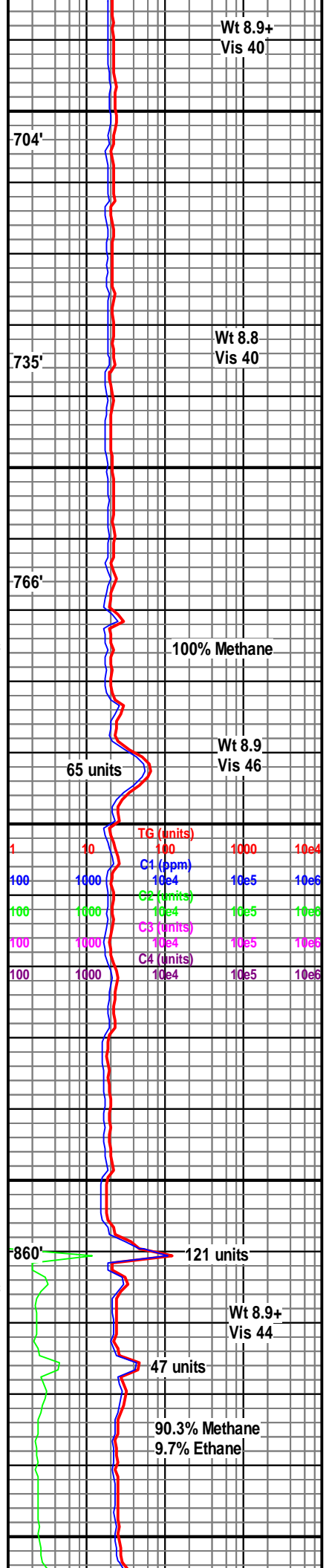
750-780 Ss lt gy-trnsl-off wh, vf-med gr, sb ang-sb rnd, p-mod srt, pred uncons, n calc, occ slstst med-lt gy, sb blkly, mod frm, grdg to vf gr ss ip, nsfoc

780-810 Ss lt gy-trnsl-off wh, f-c gr, sb ang-sb rnd, p srt, uncons, n calc, occ slstst med-lt gy, sb blkly, mod frm, grdg to vf gr ss ip, nsfoc

810-840 Slstst gy-gn-trnsl, sb blkly-sb plty, mod frm, grdg to vf gr ss ip, occ sh brn-med gy, slty ip, n calc, nsfoc

840-870 Ss lt gy-trnsl-off wh, s&p ip, vf-med gr, sb ang-sb rnd, mod srt, cons, n calc, occ slstst med-lt gy, sb blkly, mod frm, grdg to vf gr ss ip, nsfoc

870-900 Ss trnsl-op, med-vc gr, mod-w srt, sb ang-sb rnd, uncons, occ sh brn-org, n calc, sft-mod frm, n calc, rr slstst a/a, nsfoc



Wt 8.9+
Vis 40'

704'

Wt 8.8
Vis 40'

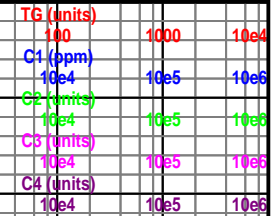
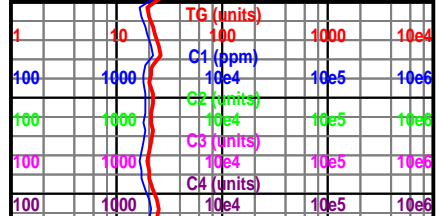
735'

766'

100% Methane

Wt 8.9
Vis 46'

65 units



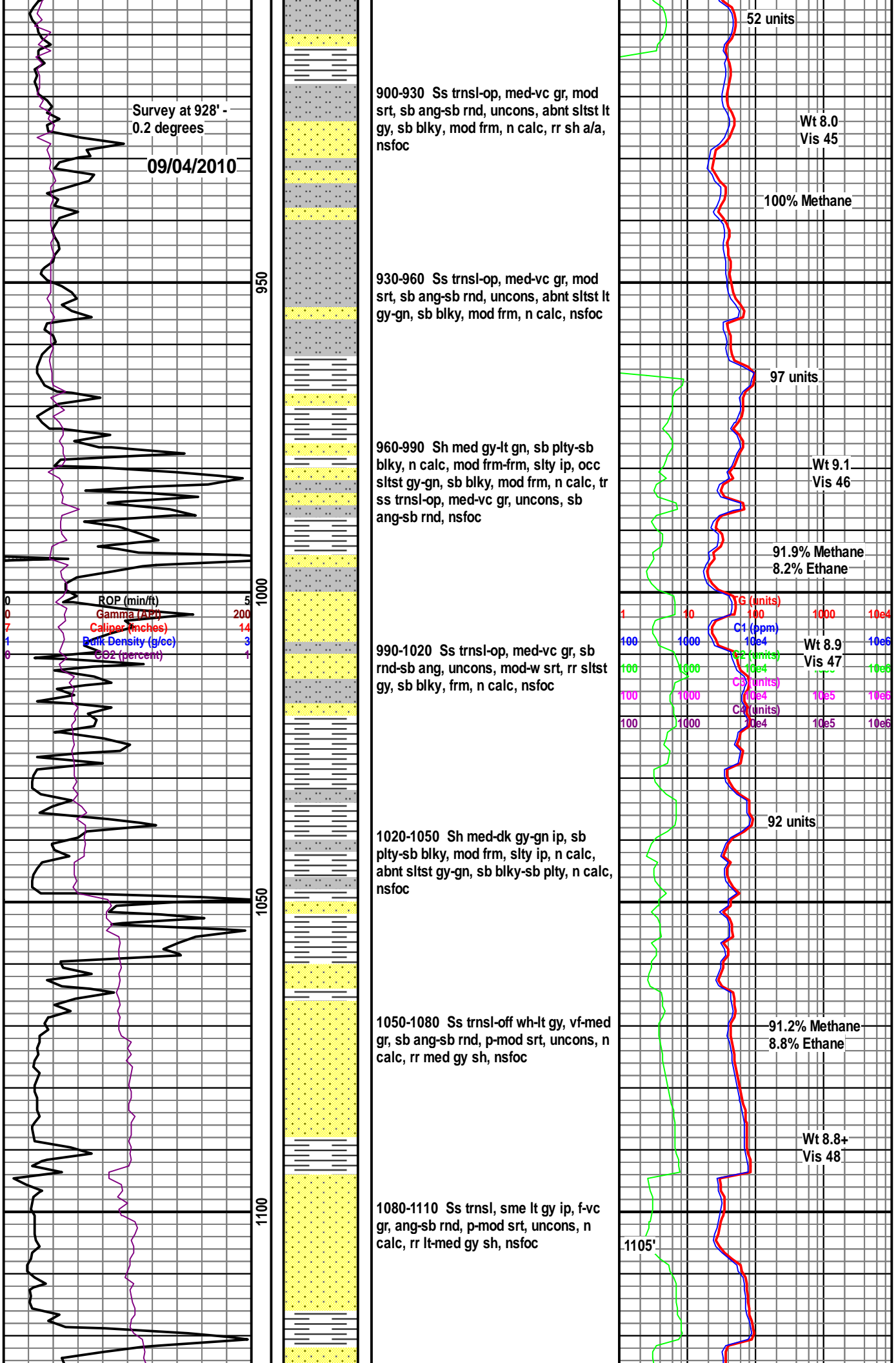
860'

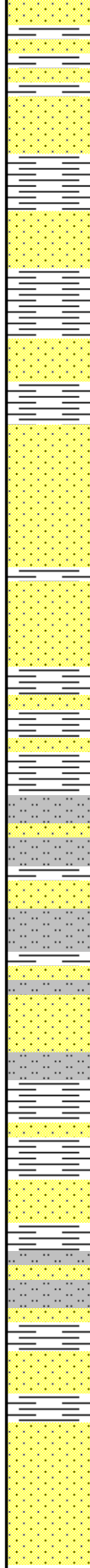
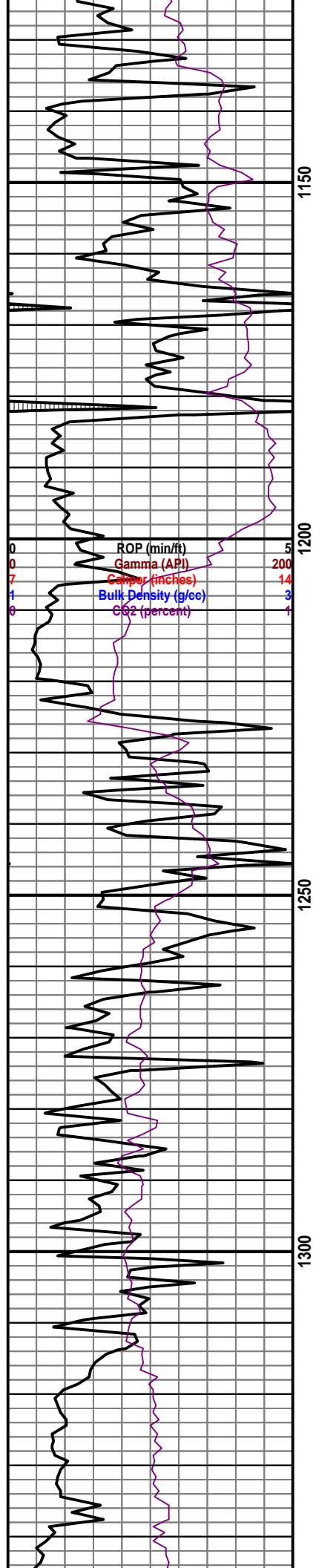
121 units

Wt 8.9+
Vis 44'

47 units

90.3% Methane
9.7% Ethane





1110-1140 Ss trns-lt gy, f-c gr, sme vc ang qtz gr, sb ang-sb rnd, p-mod srt, uncons, n calc, sme sh lt-med gy, rr redbrn, sb blk-y-sb plty, mod frm, slty ip, n calc, nsfoc

1140-1170 Ss trns-lt gy, f-c gr, sb ang-sb rnd, p-mod srt, uncons, n calc, occ sh lt-med gy, rr redbrn, sb blk-y-sb plty, mod sft-mod frm, slty ip, sl-n calc, nsfoc

1170-1200 Ss trns-lt gy, vf-med gr, sb ang-sb rnd, p-mod srt, uncons, n calc, occ sh lt-med gy, rr redbrn, sb blk-y-sb plty, mod sft-mod frm, slty ip, sl-n calc, nsfoc

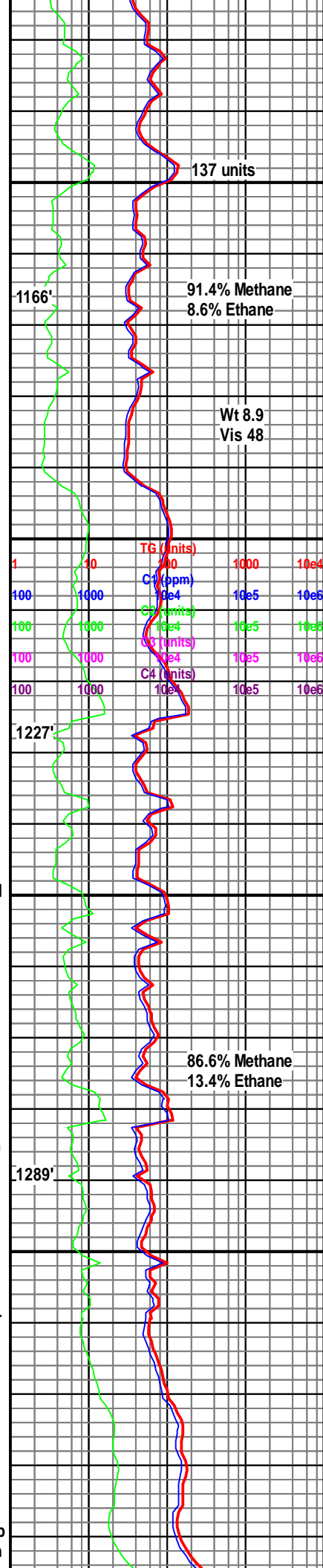
1200-1230 Ss trns-lt gy-off wh, f-med gr, sb ang-sb rnd, mod srt, uncons, sl calc, sme sh a/a, nsfoc

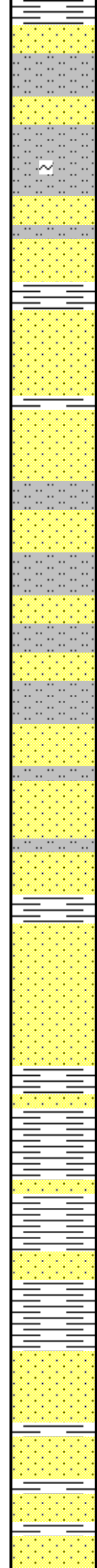
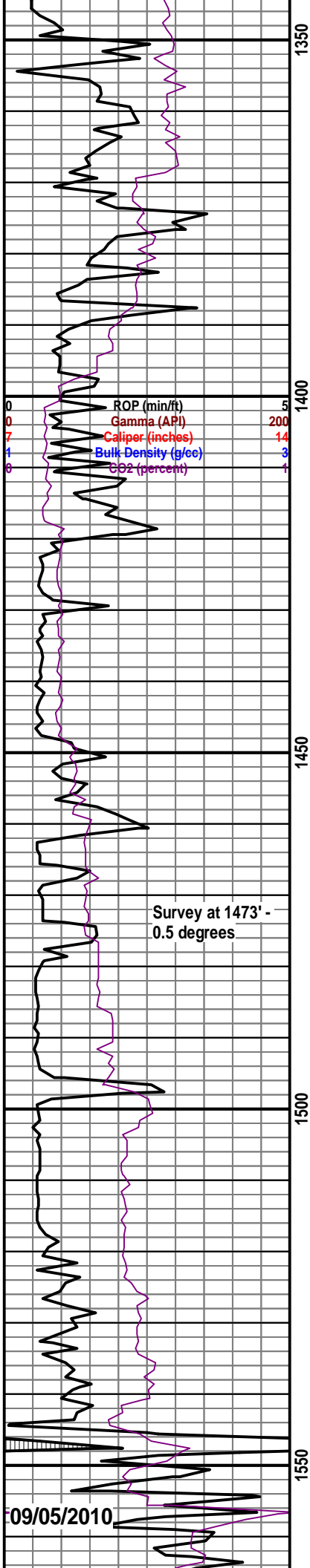
1230-1260 Ss trns-lt gy-off wh, vf-med gr, sb ang-sb rnd, mod srt, cons, slty, sl calc, occ sltst lt-med gy, sb blk-y, mod frm, n calc, nsfoc

1260-1290 Slstst lt-med gy, occ dk gy, sb blk-y-sb plty, sft-mod frm, sdy, sl calc, occ ss a/a, sme sh lt-med gy, sb blk-y-sb plty, mod sft-mod frm, slty ip, n calc, nsfoc

1290-1320 Slstst lt-med gy, occ dk gy, sb blk-y-sb plty, mod sft-mod frm, sdy, sl calc, occ ss a/a, occ sh lt-med gy, rr gn, sb blk-y-sb plty, mod sft-mod frm, slty ip, n-sl calc, nsfoc

1320-1350 Ss trns-l-op, f-c gr, sb rnd-sb ang, uncons, mod-w srt, v sl calc, tr sh





lt-med gy-gn ip, sb blkly-sb plty, mod frm-frm, nsfoc

1350-1380 Sltst lt-dk gy-gn ip, grdg to vf gr ss ip, sb blkly, n calc, occ ss trnsf-off wh-lt gy, vf-f gr, cons, w srt, rr glau, nsfoc

1380-1410 Ss trnsf-op, f-c gr, sb rnd-sb ang, uncon, mod-w srt, v sl calc, rr sh lt-med gy-gn ip, sb blkly-sb plty, mod frm-frm, nsfoc

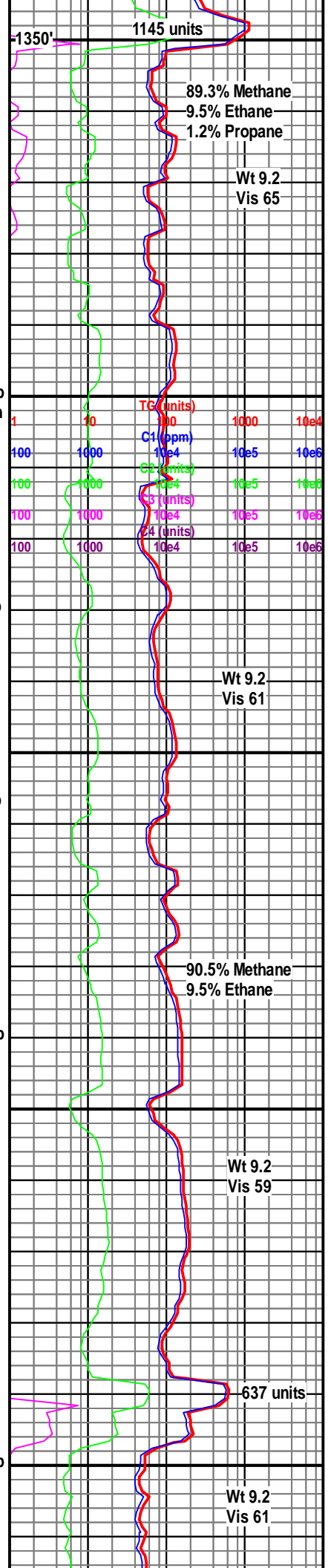
1410-1440 Ss trnsf-op-off wh, f-c gr, sb rnd-sb ang, cons-uncons, mod srt, n calc, abnt sltst gy-dk gy, sb blkly, grdg to vf gr ss, nsfoc

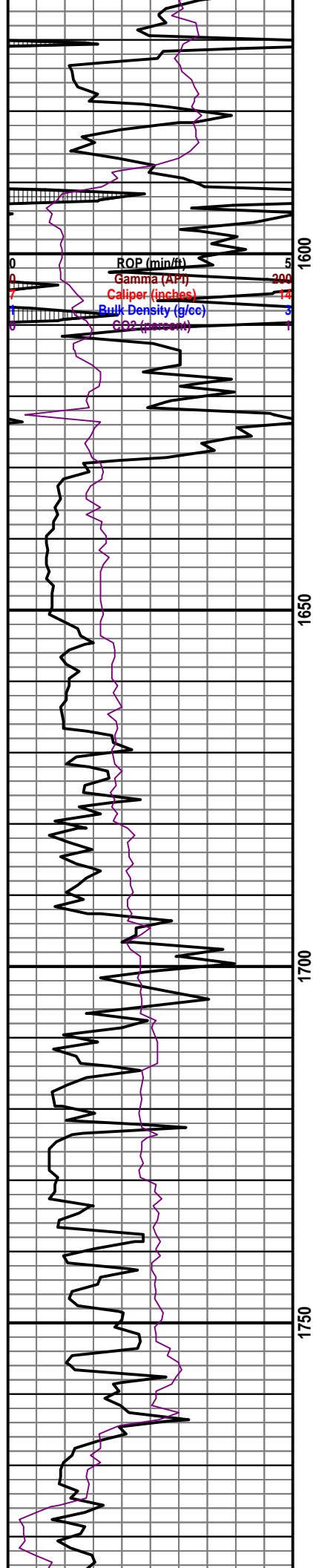
1440-1470 Ss trnsf-op-off wh, f-c gr, sb rnd-sb ang, cons-uncons, mod srt, n calc, abnt sltst gy-dk gy, sb blkly, grdg to vf gr ss, rr sh lt-med gy, sb blkly-sb plty, mod frm, nsfoc

1470-1500 Ss trnsf-op, f-c gr, sb rnd-sb ang, uncon, mod-w srt, n calc, rr sh lt-med gy, sb blkly-sb plty, mod frm, n calc, nsfoc

1500-1530 Sh lt-med gy, sb blkly-sb plty, mod frm, n calc, occ ss trnsf-op, f-c gr, sb rnd-sb ang, uncon, mod-w srt, n calc, nsfoc

1530-1560 Ss trnsf-op, f-c gr, sb rnd-sb ang, uncon, mod-w srt, n calc, tr sh lt-med gy, sb blkly-sb plty, mod frm, n calc, nsfoc





1560-1590 Ss trnsi-op, f-c gr, sb rnd-sb ang, uncon, mod-w srt, n calc, abnt sltst gy-dk gy, sb blk, grdg to vf gr ss, tr sh lt-med gy, sb blk-sb pty, mod frm, n calc, nsfoc

1590-1620 Sltst lt-med gy-gn, grdg to vf gr ss ip, sb blk, cly ip, n calc, tr glau, nsfoc

1620-1650 Ss trnsi-op, med-c gr, sb rnd-sb ang, uncon, mod-w srt, n calc, tr sh med gy, sb blk-sb pty, mod frm, n calc, nsfoc

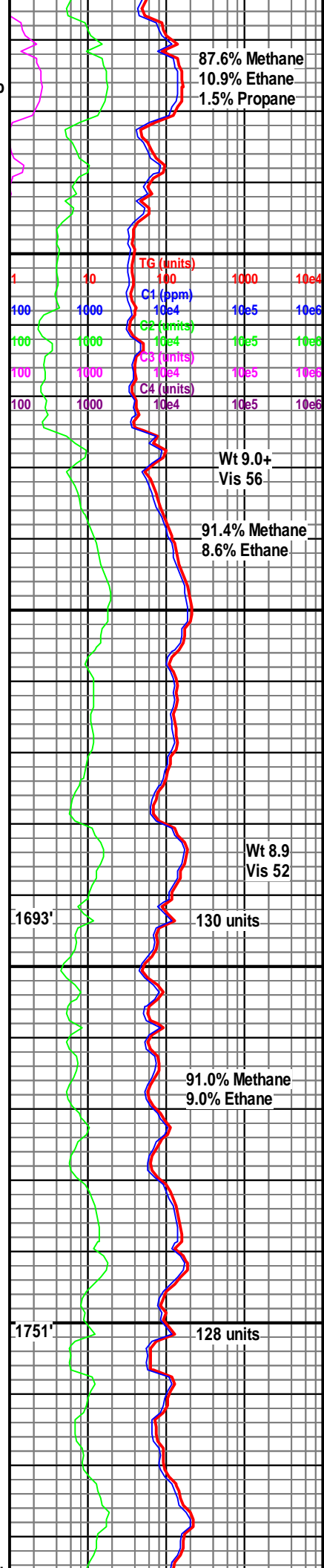
1650-1680 Ss trnsi-off wh, f-med gr, sme c gr, sb ang-sb rnd, mod srt, uncon, n calc, rr sh a/a, nsfoc

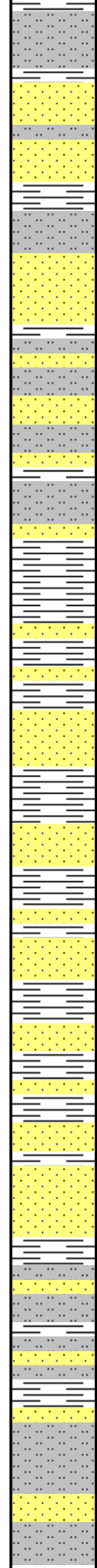
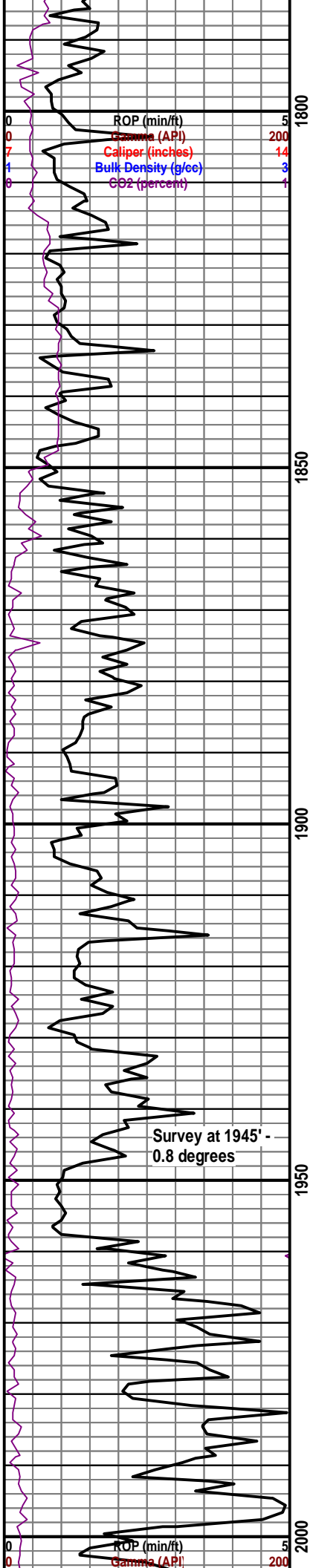
1680-1710 Ss trnsi-lt gy-off wh, f-med gr, sb ang-sb rnd, mod srt, uncon, n calc, abnt sh med-dk gy, occ lt gy, rr gn, sb blk-sb pty, mod sft-mod frm, slty ip, n calc, nsfoc

1710-1740 Ss trnsi-off wh-lt gy, vf-med gr, sb ang-sb rnd, mod srt, uncon, n calc, rr sh a/a, nsfoc

1740-1770 Ss trnsi-off wh-lt gy, f-med gr, sb ang-sb rnd, mod srt, uncon, n calc, rr sh a/a, nsfoc

1770-1800 Sltst med-dk gy, occ lt gy, sb blk-sb pty, mod frm, sdv ip, n calc.





abnt ss lt gy-trnsl, vf-c gr, sb ang-sb rnd, mod-w srt, cons, n calc, occ sh med-dk gy, sb plty-sb blkly, mod sft, slty ip, n calc, nsfoc

1800-1830 Ss trnsl-lt gy, vf-f gr, sb ang-sb rnd, w-mod srt, cons, n calc, abnt sltst a/a, sme sh a/a, nsfoc

1830-1860 Ss trnsl-lt gy-off wh, vf-f gr, sb ang-sb rnd, w-mod srt, cons, sl calc, abnt sltst a/a, sme sh a/a, nsfoc

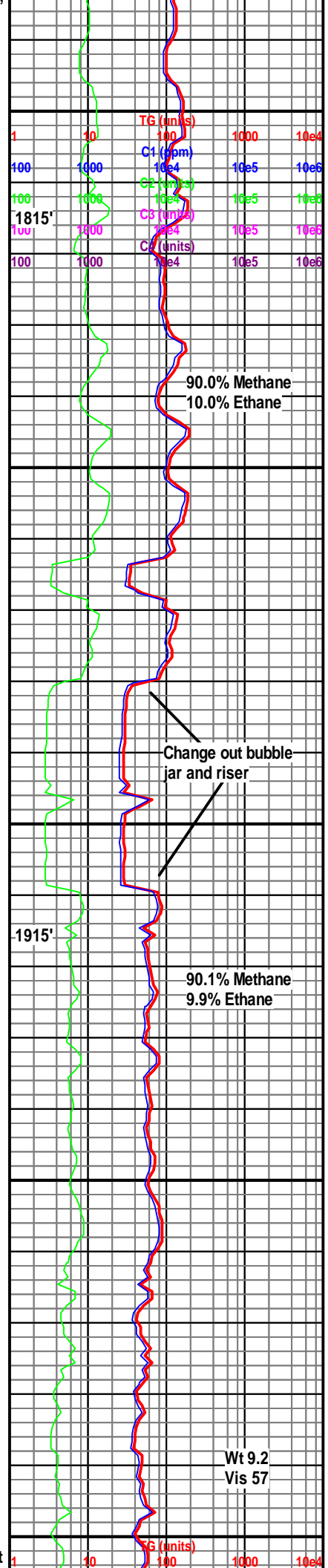
1860-1890 Ss trnsl-off wh, f-med gr, ang-sb rnd, p-mod srt, pred uncon, n calc, tr sh lt-med gy, rr gn, sb plty-sb blkly, mod sft, n calc, nsfoc

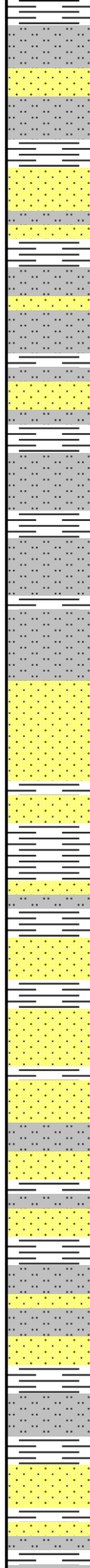
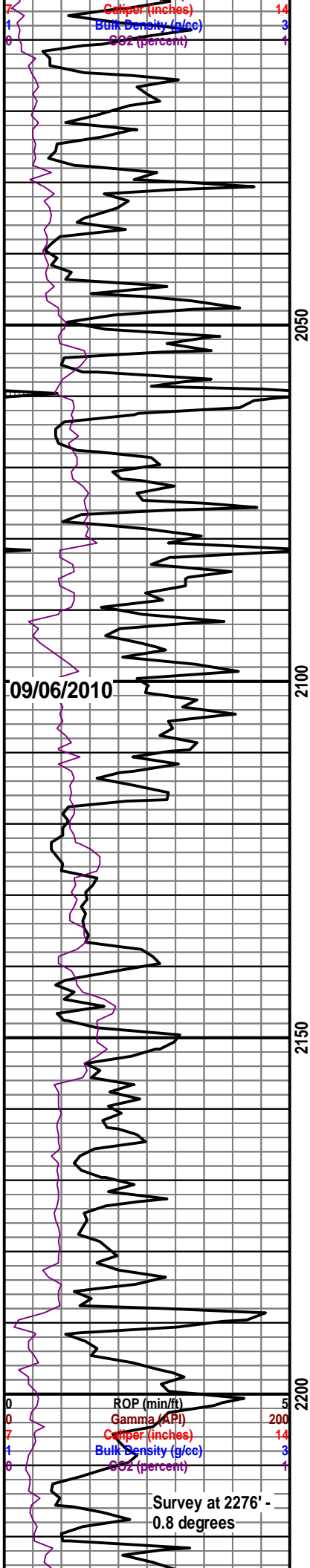
1890-1920 Ss trnsl-off wh, f-med gr, ang-sb rnd, p-mod srt, uncon, n calc, tr sh lt-med gy, rr gn, sb plty-sb blkly, mod sft, n calc, nsfoc

1920-1950 Ss off wh-trnsl, f-med gr, ang-sb rnd, p-mod srt, uncon, n calc, tr sh lt gy, rr gn, sb plty-sb blkly, mod sft, n calc, nsfoc

1950-1980 Sltst med-dk gy, occ lt gy, rr gn, sb blkly-sb plty, sdy, grdg to vf gr ss ip, n calc, occ sh med-dk gy, rr gn, sb plty-sb blkly, slty ip, n calc, sme ss lt gy-trnsl, f-vf gr, sb ang-sb rnd, mod-p srt, cons, n calc, nsfoc

1980-2010 Sltst med-dk gy, occ lt gy, rr gn, sb blkly-sb plty, sdy, grdg to vf gr ss ip, n calc, occ sh med-dk gy, rr gn, sb plty-sb blkly, slty ip, n calc, occ ss lt





gy-trnsf-off wh, vf-med gr, sb ang-sb
rnd, mod srt, cons, n calc, nsfoc

2010-2040 Ss trnsf-off wh, f-c gr, sb
rnd-sb ang, pred uncon-scons, wh cly
fld, rr sh a/a, nsfoc

2040-2070 Slst med-dk gy, sb blk-sb
plty, sdy, grdg to vf gr ss ip, n calc,
occ sh med-dk gy, rr gn, sb plty-sb
blk, slty ip, n calc, occ ss lt
gy-trnsf-off wh, vf-med gr, sb ang-sb
rnd, mod srt, cons, n calc, nsfoc

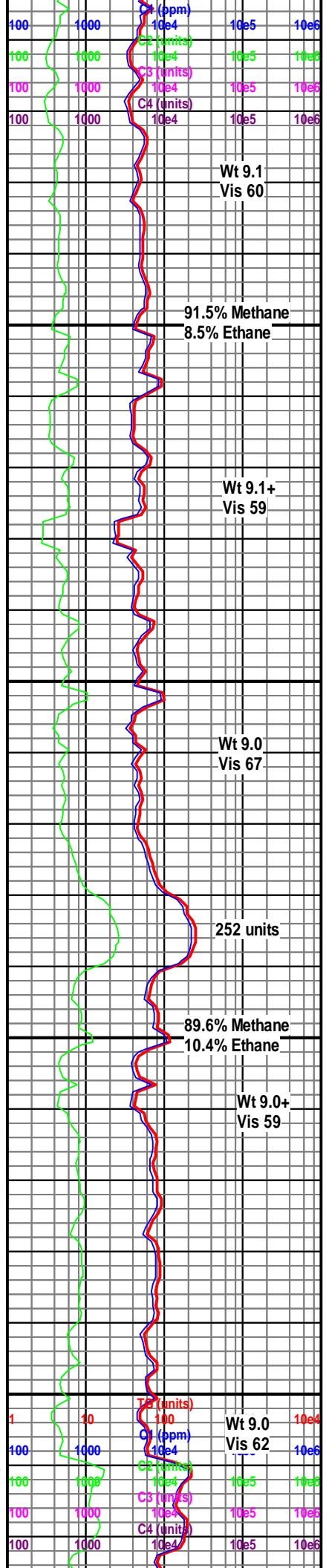
2070-2100 Slst med-lt gy, sb blk-sb
plty, grdg to vf gr ss, n calc, tr sh
med-dk gy, sb plty-sb blk, slty ip, n
calc, nsfoc

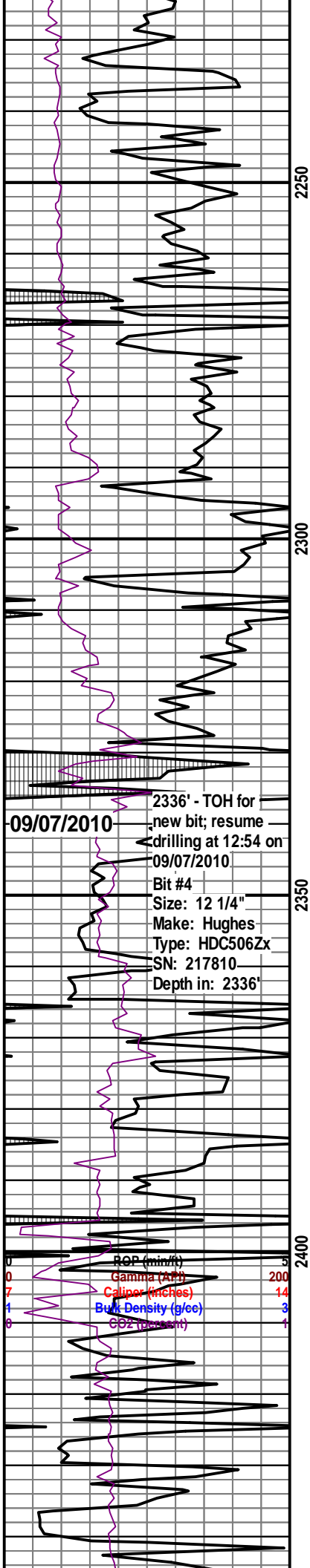
2100-2130 Ss trnsf-op, med-c gr, w srt,
uncons, sb rnd-sb ang, tr sh med-dk
gy, sb blk, frm, n calc, slty, nsfoc

2130-2160 Ss trnsf-op, f-c gr, w srt,
uncons, sb rnd-sb ang, tr sh med-dk
gy, sb blk, mod frm, n calc, slty, nsfoc

2160-2190 Slst lt-dk gy-gn ip, sb
blk-sb plty, grdg to vf gr ss ip, n calc,
abnt sh med-dk gy, sb plty-sb blk, slty
ip, n calc, rr ss trnsf-off wh, vf-med gr,
sb ang-sb rnd, mod srt, cons, n calc,
nsfoc

2190-2220 Ss trnsf-op, f-c gr, w srt,
uncons, sb rnd-sb ang, tr slst lt-dk
gy-gn ip, sb blk, mod frm, grdg to vf gr
ss ip, tr sh med-dk gy, sb blk, mod
frm, n calc, slty, nsfoc

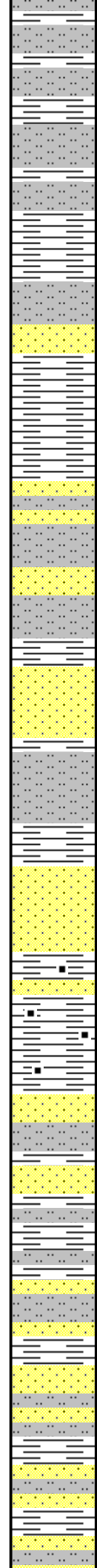




09/07/2010

2336' - TOH for
new bit; resume
drilling at 12:54 on
09/07/2010
Bit #4
Size: 12 1/4"
Make: Hughes
Type: HDC506Zx
SN: 217810
Depth in: 2336'

ROP (min/ft)
Gamma (API)
Caliper (inches)
Bulk Density (g/cc)
GOR (percent)



2220-2250 Sh lt-med gy, sb plty-sb
blky, sft, slty ip, n calc, occ sltst lt-med
gy, sme wh-off wh, sb blky-sb plty, n
calc, nsfoc

2250-2280 Sh lt-med gy, sb plty-sb
blky, sft, slty ip, n calc, occ sltst lt-med
gy, rr wh-off wh, sb blky-sb plty, grdg to
vf gr ss ip, n calc, sme ss lt gy-trnsf-off
wh, vf-f gr, sb ang-sb rnd, mod-w srt,
cons, n calc, nsfoc

2280-2310 Ss lt gy-trnsf-off wh, vf-f gr,
sb ang-sb rnd, mod-w srt, cons, n calc,
abnt sltst a/a, sme sh a/a, nsfoc

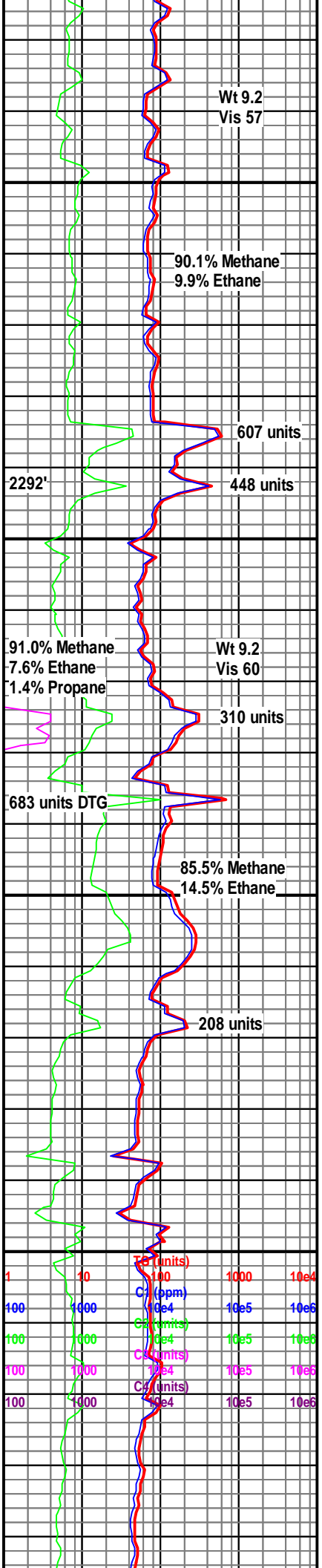
2310-2340 Ss trnsf-off wh-lt gy, vf-f gr,
sb ang-sb rnd, mod-p srt, cons-fri, n
calc, tr sh lt-med gy, sb plty-sb blky,
sft, slty ip, n calc, tr sltst lt-med gy, rr
wh-off wh, sb blky-sb plty, grdg to vf gr
ss ip, n calc, nsfoc

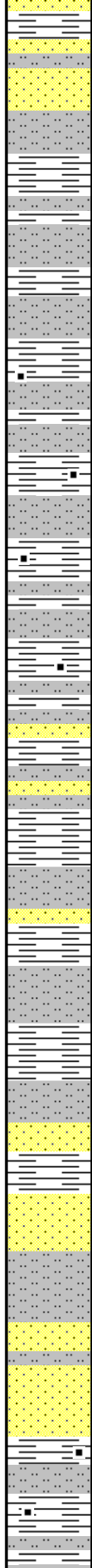
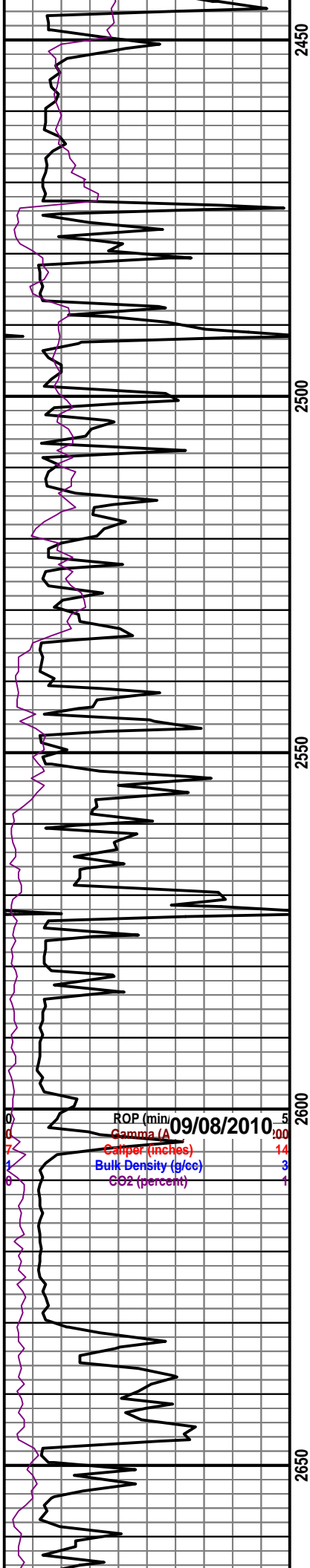
2340-2370 Ss trnsf-off wh-lt gy, wh cly
fld ip, vf-f gr, sb ang-sb rnd, mod-w srt,
cons-fri, n calc, occ carb sh, sme sh
lt-med gr, sb plty-sb blky, mod frm, n
calc, nsfoc

2370-2400 Ss lt gy-trnsf, sme off wh,
vf-f gr, sb ang-sb rnd, mod-w srt, cons,
n calc, abnt sh med-dk gy, occ lt gy, sb
plty-sb blky, mod frm, slty ip, n calc,
occ sltst med-dk gy, sb blky-sb plty,
mod frm, sdy, n calc, nsfoc

2400-2430 Ss lt gy-trnsf-off wh ip, vf-f
gr, sb ang-sb rnd, w srt, cons, n calc,
abnt sh med-dk gy, occ lt gy, sb plty-sb
blky, mod frm, slty ip, n calc, abnt sltst
med-dk gy, sb blky-sb plty, mod frm,
sdy, n calc, nsfoc

2430-2460 Ss lt gy-trnsf-off wh ip





2430-2460 ss lt gy-trnsl, off wh ip, vf-med gr, sb ang-sb rnd, mod-w srt, cons, n calc, abnt sh med-dk gy, occ lt gy, sb pty-sb blkly, mod frm, slty ip, n calc, occ sltst a/a, nsfoc

2460-2490 Sh med-dk gy-gn ip, sb pty-sb blkly, slty ip, n-sl calc, mod frm-frm, abnt sltst med-dk gy, sb blkly-sb pty, mod frm, grdg to vf gr ss ip, n calc, rr ss lt gy-trnsl-off wh, vf-f gr, cons, n calc, nsfoc

2490-2520 Sltst lt-dk gy, sb blkly-sb pty, grdg to vf gr ss ip, mod frm, n calc, abnt sh med-dk gy, carb ip, sb pty-sb blkly, slty ip, mod frm, n calc, nsfoc

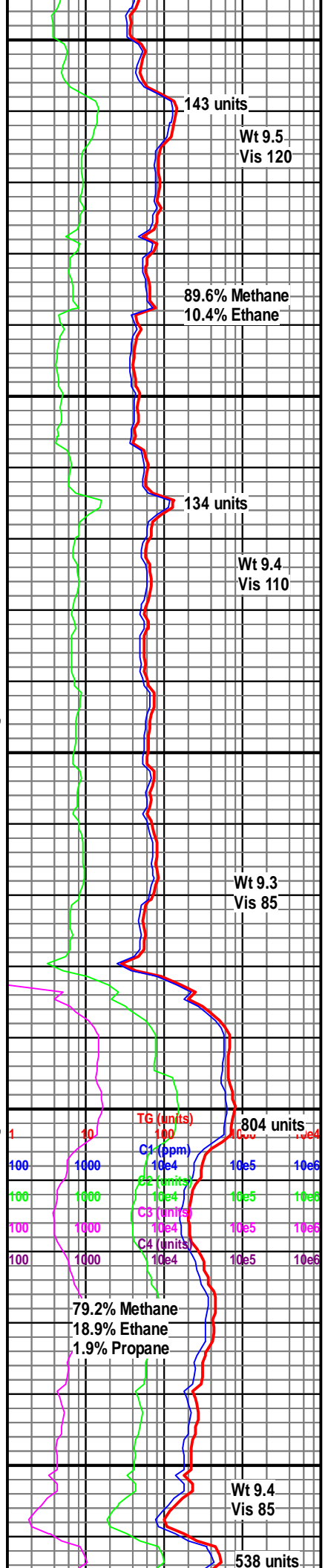
2520-2550 Sltst lt-dk gy, sb blkly-sb pty, grdg to vf gr ss ip, mod frm, n calc, abnt sh med-dk gy-gn ip, carb ip, sb pty-sb blkly, slty ip, mod frm, n calc, nsfoc

2550-2580 Sh med-dk gy-gn ip, sb pty-sb blkly, slty ip, n-sl calc, mod frm-frm, abnt sltst med-dk gy, sb blkly-sb pty, mod frm, grdg to vf gr ss ip, n calc, rr ss lt gy-trnsl-off wh, vf-f gr, cons, n calc, nsfoc

2580-2610 Sltst lt-dk gy, sb blkly-sb pty, grdg to vf gr ss ip, mod frm, n calc, abnt sh med-dk gy-gn ip, carb ip, sb pty-sb blkly, slty ip, mod frm, n calc, tr ss off wh-trnsl, f-c gr, uncon, sb rnd-sb ang, nsfoc

2610-2640 Ss off wh-trnsl, vf-c gr, sb ang-sb rnd, mod srt, uncon-cons, n calc, tr sh med-dk gy, occ lt gy, sb pty-sb blkly, mod frm, slty ip, n calc, tr sltst a/a, nsfoc

2640-2670 Sh med-dk gy-carb ip, sb pty-sb blkly, slty, n-sl calc, mod frm-frm, abnt sltst off wh-med-dk gy, sb blkly-sb pty, mod frm, grdg to vf gr ss ip, n calc, rr ss lt gy-trnsl-off wh, s&p



143 units

Wt 9.5
Vis 120

89.6% Methane
10.4% Ethane

134 units

Wt 9.4
Vis 110

Wt 9.3
Vis 85

804 units

79.2% Methane
18.9% Ethane
1.9% Propane

Wt 9.4
Vis 85

538 units

ip, vf-f gr, cons, n calc, nsfoc

2670-2700 Ss trns-lt-wh, sme lt gy, vf-f gr, sb ang-sb rnd, mod-w srt, wh cly fld, cons-fri, n calc, occ sh lt-med gy, sb plty-sb blk, mod frm, slty ip, sme carb ip, grdg to sltst ip, n-sl calc, nsfoc

2700-2730 Ss lt gy-trns-lt, vf-f gr, sb ang-sb rnd, mod-w srt, cons-fri, n calc, abnt sh a/a, sme sltst med-dk gy, sb blk-sb plty, mod frm, sdy, grdg to vf gr ss ip, n-sl calc, nsfoc

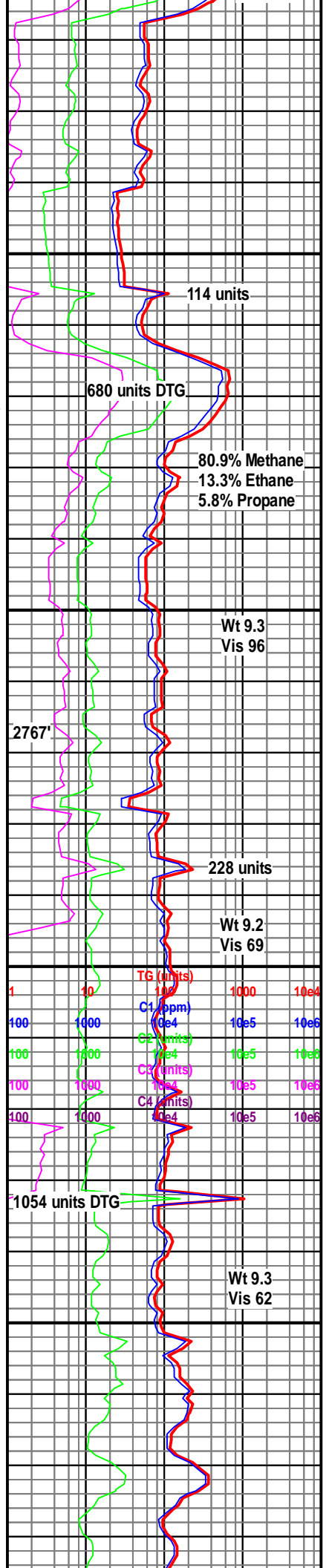
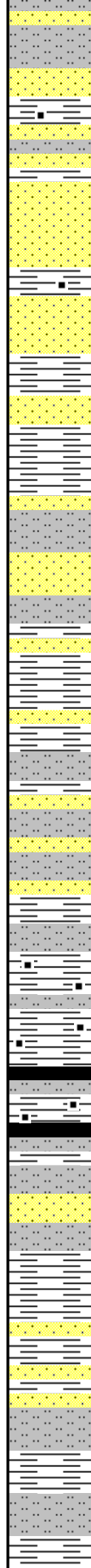
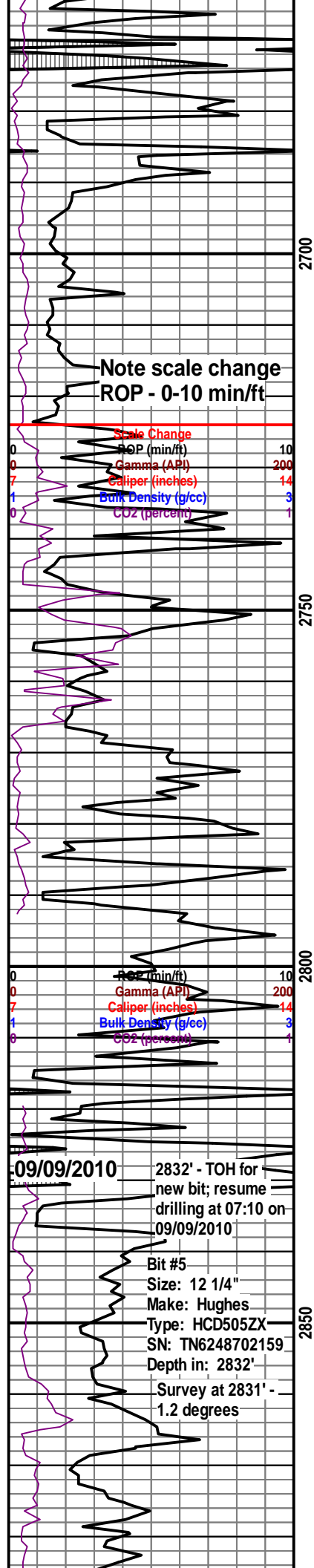
2730-2760 Ss trns-lt-wh, sme lt gy, vf-f gr, sb ang-sb rnd, mod-w srt, wh cly fld, cons-fri, n calc, occ sh lt-med gy, sb plty-sb blk, mod frm, slty ip, sme carb ip, grdg to sltst ip, n-sl calc, nsfoc

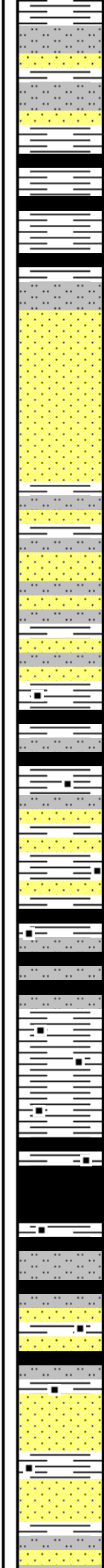
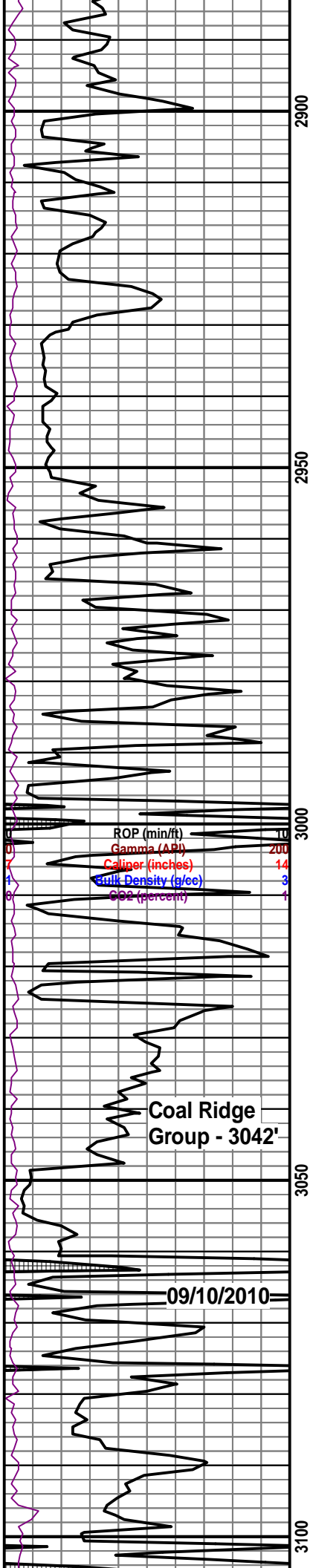
2760-2790 Ss trns-lt gy-off wh, sme wh cly fld, vf-f gr, sb ang-sb rnd, mod-w srt, cons-fri, sl calc, abnt sh med-dk gy, sb plty-sb blk, mod frm, n calc, sme sltst med-dk gy, sb blk-sb plty, mod frm, sdy, grdg to vf gr ss ip, n-sl calc, nsfoc

2790-2820 Sh med-dk gy-blk, carb, sb plty-sb blk, sft-mod frm, n calc, slty, occ coal blk, rthy ip, tr sltst med-dk gy, sb blk-sb plty, mod frm, grdg to vf gr ss ip, sl calc, nsfoc

2820-2850 Sh dk gy-blk, sme med gy, sb plty-sb blk, mod sft-mod frm, n calc, sme sltst med-dk gy, sb blk-sb plty, mod frm, sdy, n-sl calc, sme ss trns-lt gy-off wh, vf-f gr, sb ang-sb rnd, mod-w srt, cons-fri, sl calc, nsfoc

2850-2880 Slstst med-dk gy, sb blk-sb plty, mod frm, sdy, grdg to vf gr ss, n-sl calc, abnt sh lt-med gy, sb plty-sb blk, mod sft-mod frm, slty ip, n calc, sme ss trns-lt gy-off wh, vf-f gr, sb ang-sb rnd, mod-w srt, pred cons-fri, sl calc, nsfoc





2880-2910 Slstst med-dk gy, sb blkly-sb plty, mod frm, sdy, grdg to vf gr ss, n-sl calc, abnt sh a/a, sme ss trns-lt gy-off wh, wh cly fld, vf-f gr, sb ang-sb rnd, mod-w srt, pred cons-fri, sl calc, g tr coal frags, nsfoc

2910-2940 Ss trns-l-off wh-lt gy, wh cly fld, vf-f gr, sb ang-sb rnd, mod-w srt, pred cons-fri, n-sl calc, occ sh lt-med gy, sb plty-sb blkly, mod sft, n calc, sme sltst a/a, tr coal frags, nsfoc

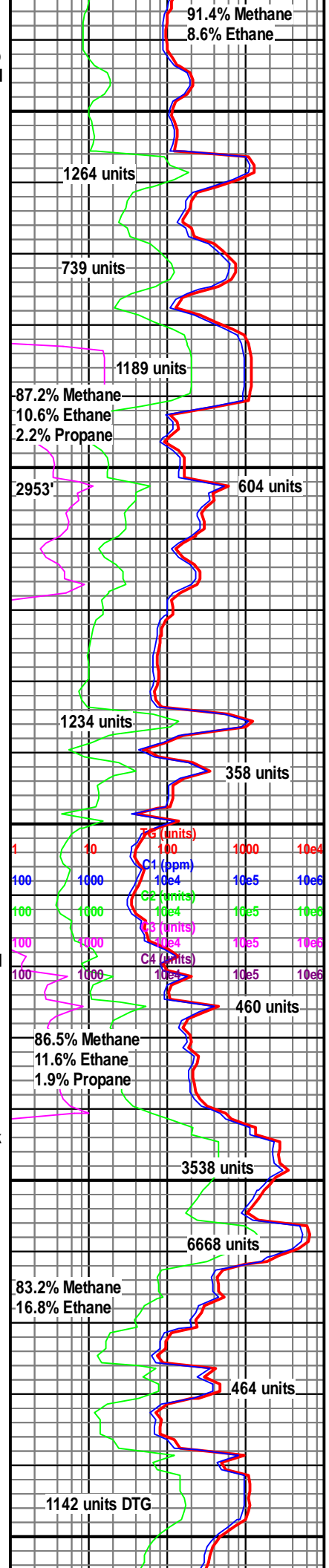
2940-2970 Sh med-dk gy, tr lt gy, sb plty-sb blkly, mod sft, slty ip, n calc, abnt ss a/a, sme sltst a/a, nsfoc

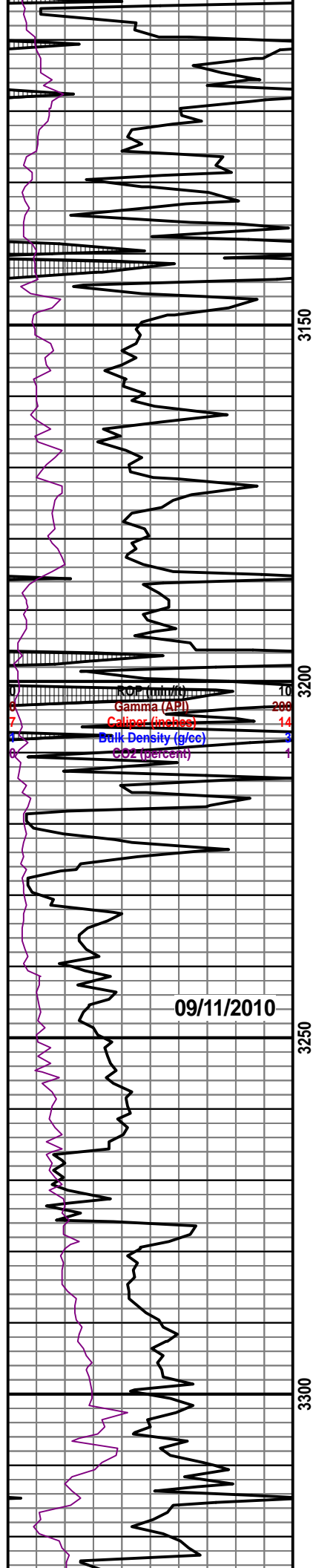
2970-3000 Ss trns-l-off wh-lt gy, wh cly fld, vf-f gr, sb ang-sb rnd, mod-w srt, pred cons-fri, n-sl calc, occ sh lt-med gy-blk ip, carb ip, sb plty-sb blkly, mod sft, n calc, tr sltst med-dk gy, sb blkly-sb plty, mod frm, grdg to vf gr ss, n-sl calc, tr coal frags, nsfoc

3000-3030 Ss trns-l-off wh-lt gy, wh cly fld, vf-med gr, sb ang-sb rnd, mod-w srt, pred cons-fri, n-sl calc, tr sh lt-med gy-blk ip, carb ip, sb plty-sb blkly, mod sft, n calc, rr sltst a/a, tr coal frags, nsfoc

3030-3060 Coal blk, rthy, occ sh gy-dk gy-blk, carb ip, slty, sb plty-sb blkly, mod sft-mod frm, n calc, tr sltst off wh-lt gy, grdg to vf gr ss, sb blkly, mod frm, sl calc, nsfoc

3060-3090 Ss trns-l-off wh, wh cly fld, vf-f gr, cons-fri, sb ang-sb rnd, abnt coal, blk, rthy, occ sh dk gy-blk, carb, sb plty-sb blkly, slty ip, sft-mod frm, n calc, nsfoc





3090-3120 Ss trnsf-off wh, wh cly fld, vf-f gr, sb ang-sb rnd, pred cons-fri, n-sl calc, sme coal frags, sme sh a/a, nsfoc

3120-3150 Ss trnsf-off wh-lt gy, wh cly fld, vf-f gr, sb ang-sb rnd, pred cons-fri, n-sl calc, tr sh a/a, nsfoc

3150-3180 Ss trnsf-off wh, wh cly fld, vf-f gr, sb ang-sb rnd, cons-fri, sl calc, abnt coal frags, tr sh a/a, nsfoc

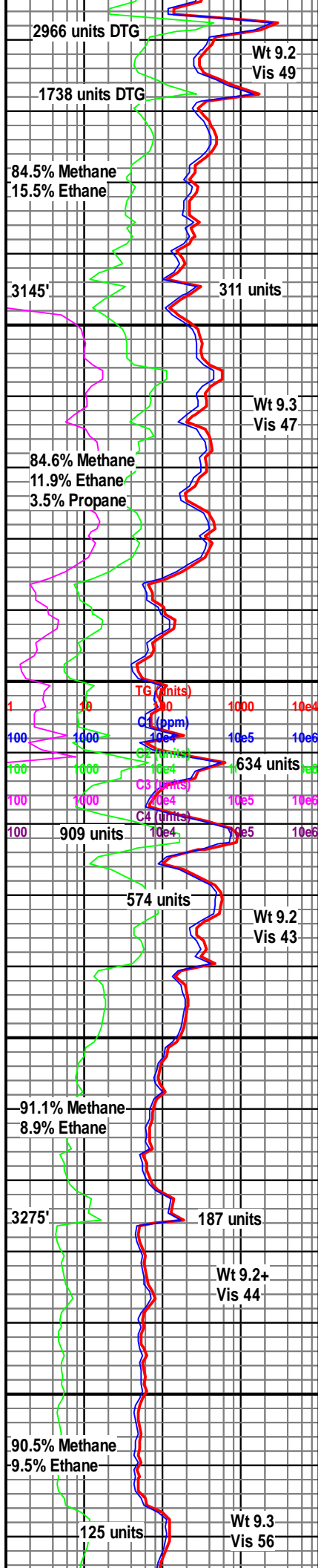
3180-3210 Sh med-dk gy-blk, carb, sb plty-sb blk, slty ip, mod frm, n calc, abnt coal frags, occ sltst lt-med gy, grd to vf gr ss ip, sb blk, mod frm, n calc, nsfoc

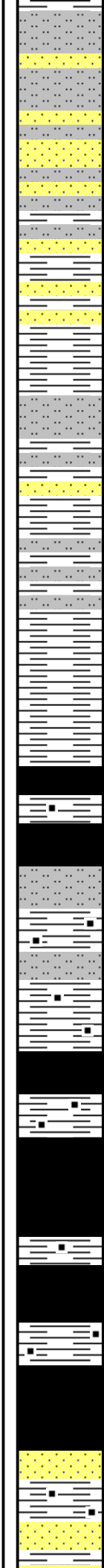
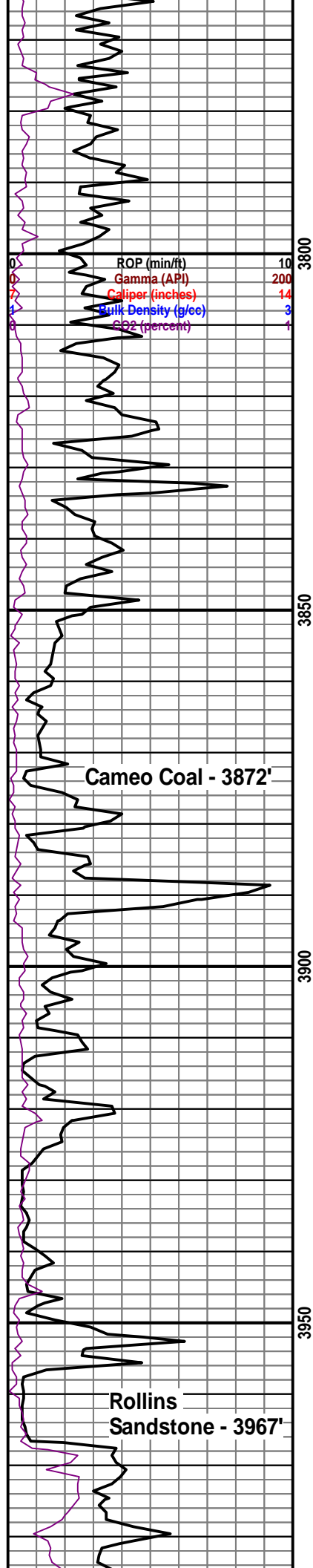
3210-3240 Coal blk, abnt sh med-dk gy-blk, carb, sb plty-sb blk, slty ip, mod frm, n calc, occ sltst lt-med gy, grd to vf gr ss ip, sb blk, mod frm, n calc, tr ss trnsf-off wh, f-med gr, cly fld, cons, n calc, nsfoc

3240-3270 Ss trnsf-op, f-med gr, sb ang-sb rnd, uncon, n calc, occ coal frags, rr sh a/a, nsfoc

3270-3300 Ss trnsf-op, vf-med gr, sb ang-sb rnd, uncon-cons-fri ip, mod srt, n calc, abnt sh, gy-dk gy, sb plty-sb blk, slty, mod frm, n calc, occ coal frags, nsfoc

3300-3330 Ss trnsf-off wh-lt gy, vf-f gr, sb ang-sb rnd, mod-w srt, pred cons-fri, n-sl calc, abnt sh med-dk gy, sb plty-sb blk, mod sft-mod frm, slty ip, n calc, occ sltst med-dk av. sb blk-sb plty.





3750-3780 Sltst med-dk gy, sb blkly-sb plty, mod frm, sdy, grdg to vf gr ss, n-v sl calc, occ ss trns-l-gy, vf-f gr, mod-w srt, cons, sl calc, occ sh a/a, tr dull orgn min flr, nsoc

3780-3810 Sltst med-dk gy, sb blkly-sb plty, mod frm, sdy, grdg to vf gr ss, sl calc, abnt ss trns-l-gy, sme wh cly fld, vf-f gr, mod-w srt, cons, sl calc, occ sh a/a, nsfoc

3810-3840 Sltst med-dk gy, sb blkly-sb plty, mod frm, sdy, grdg to vf gr ss, n calc, occ ss trns-l-gy, vf-f gr, mod-w srt, cons, sl calc, sme sh a/a, nsfoc

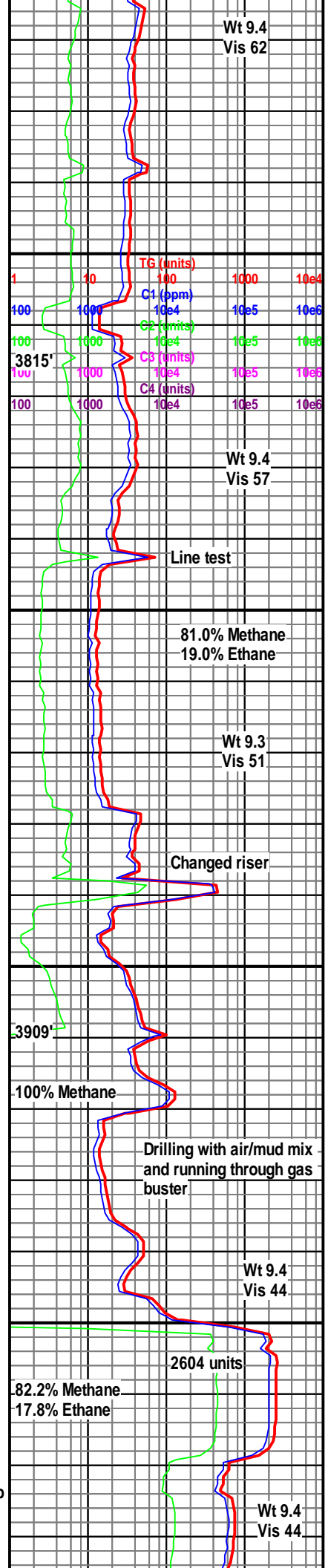
3840-3870 Coal blk, dull-sb vit, rthy, vis degas, sme sh med-dk gy, sme lt gy, sb plty-sb blkly, mod frm, slty ip, n calc, nsfoc

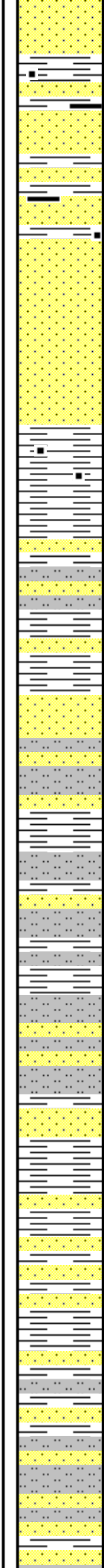
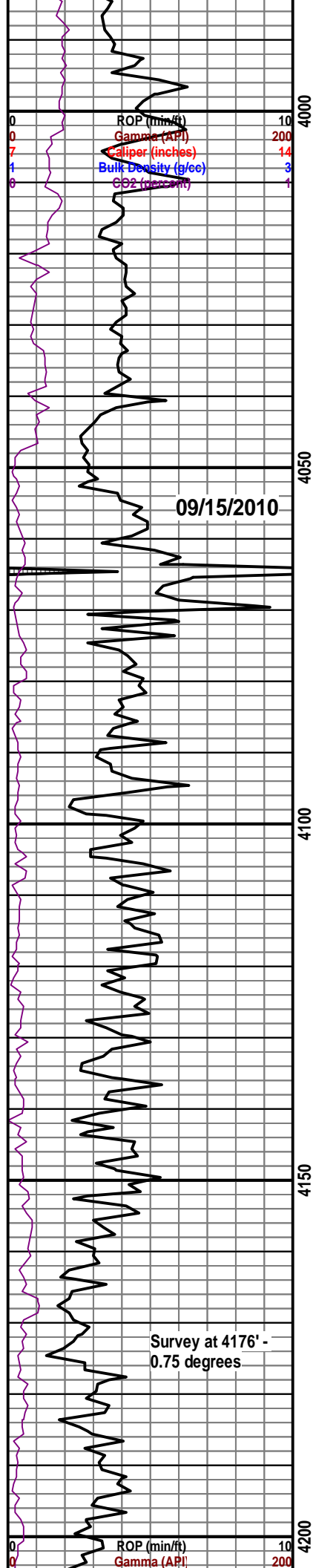
3870-3900 Sh med-dk gy, sb plty-sb blkly, mod frm, slty ip, carb ip, calc, abnt sltst med-dk gy, sb blkly-sb plty, mod frm, sdy ip, calc, occ coal frags, nsfoc

3900-3930 Sh med-dk gy, sb plty-sb blkly, mod frm, slty ip, carb ip, n calc, occ sltst lt-med gy, sb blkly-sb plty, mod frm, calc, abnt coal blk, vit, vis degas, nsfoc

3930-3960 Coal blk, vit, blkly, mod hd, nsfoc

3960-3990 Ss trns-l-op, f-c gr, sb rnd-sb ang, pred uncons-cons ip, mod-p srt, n calc, occ coal blk, vit, rr sh med-dk gy-blk, carb ip, sft-mod frm, sb blkly-sb





3990-4020 Ss trns-lt op, f-c gr, sb rnd-sb ang, pred uncon-cons ip, mod-p srt, n calc, occ coal blk, vit, rr sh med-dk gy-blk, carb ip, sft-mod frm, sb blk-y-sb plty, n calc, rr dull orng min flor, nsoc

4020-4050 Ss trns-lt gy, s&p ip, f-med gr, sb rnd-sb ang, cons-uncons, mod-w srt, n calc, occ sh med-dk gy-blk, carb ip, sft-mod frm, sb blk-y-sb plty, n calc, occ coal blk, rthy, nsoc

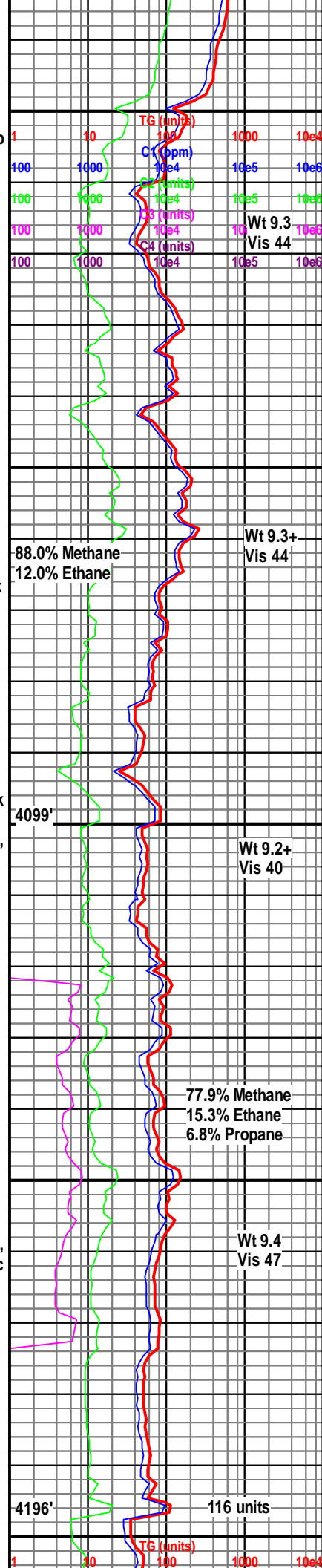
4050-4080 Sh dk gy, sb blk-y-sb plty, slty, sft-mod frm, n calc, abnt ss trns-lt gy, s&p ip, vf-f gr, sb rnd-sb ang, pred cons, v sl calc, occ sltst gy-dk gy, sb blk-y, mod frm, n calc, rr dull orng min flor, nsoc

4080-4110 Sh dk gy, sb plty-sb blk-y, slty, sft-mod frm, n calc, occ sltst gy-dk gy, sb blk-y, mod frm, n calc, tr ss trns-lt gy, s&p ip, vf-f gr, sb rnd-sb ang, sl calc, tr dull orng min flor, nsoc

4110-4140 Sh dk gy, sb plty-sb blk-y, slty, sft-mod frm, n calc, abnt sltst gy-dk gy, sb blk-y, mod frm, n calc, rr ss trns-lt gy, s&p ip, vf-f gr, sb rnd-sb ang, cons, sl calc, rr dull orng min flor, nsoc

4140-4170 Sh dk gy, sb plty-sb blk-y, slty, mod frm, n calc, abnt sltst gy-dk gy, sb blk-y, mod frm, n calc, occ ss trns-lt gy, s&p ip, vf-f gr, sb rnd-sb ang, cons, sl calc, rr dull orng min flor, nsoc

4170-4200 Sltst med-dk gy, sb blk-y-sb plty, mod frm, sdy, grd to vf gr ss, sl calc, abnt ss trns-lt gy-off wh, vf-f gr, sb ang-sb rnd, mod-w srt, sl calc, sme sh med-dk gy, sb plty-sb blk-y, mod sft, n calc, rr dull orng min flor, nsoc



3990-4020 Ss trns-lt op, f-c gr, sb rnd-sb ang, pred uncon-cons ip, mod-p srt, n calc, occ coal blk, vit, rr sh med-dk gy-blk, carb ip, sft-mod frm, sb blk-y-sb plty, n calc, rr dull orng min flor, nsoc

4020-4050 Ss trns-lt gy, s&p ip, f-med gr, sb rnd-sb ang, cons-uncons, mod-w srt, n calc, occ sh med-dk gy-blk, carb ip, sft-mod frm, sb blk-y-sb plty, n calc, occ coal blk, rthy, nsoc

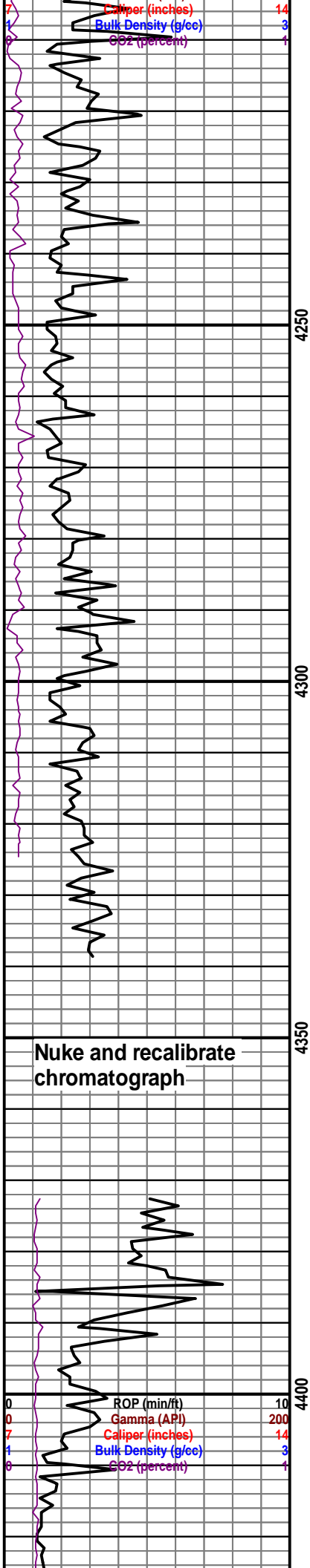
4050-4080 Sh dk gy, sb blk-y-sb plty, slty, sft-mod frm, n calc, abnt ss trns-lt gy, s&p ip, vf-f gr, sb rnd-sb ang, pred cons, v sl calc, occ sltst gy-dk gy, sb blk-y, mod frm, n calc, rr dull orng min flor, nsoc

4080-4110 Sh dk gy, sb plty-sb blk-y, slty, sft-mod frm, n calc, occ sltst gy-dk gy, sb blk-y, mod frm, n calc, tr ss trns-lt gy, s&p ip, vf-f gr, sb rnd-sb ang, sl calc, tr dull orng min flor, nsoc

4110-4140 Sh dk gy, sb plty-sb blk-y, slty, sft-mod frm, n calc, abnt sltst gy-dk gy, sb blk-y, mod frm, n calc, rr ss trns-lt gy, s&p ip, vf-f gr, sb rnd-sb ang, cons, sl calc, rr dull orng min flor, nsoc

4140-4170 Sh dk gy, sb plty-sb blk-y, slty, mod frm, n calc, abnt sltst gy-dk gy, sb blk-y, mod frm, n calc, occ ss trns-lt gy, s&p ip, vf-f gr, sb rnd-sb ang, cons, sl calc, rr dull orng min flor, nsoc

4170-4200 Sltst med-dk gy, sb blk-y-sb plty, mod frm, sdy, grd to vf gr ss, sl calc, abnt ss trns-lt gy-off wh, vf-f gr, sb ang-sb rnd, mod-w srt, sl calc, sme sh med-dk gy, sb plty-sb blk-y, mod sft, n calc, rr dull orng min flor, nsoc



4200-4230 Sltst med-dk gy, sme blk, sb blk-ly-sb plty, mod frm, sdy, grdg to vf gr ss, sl calc, abnt ss trns-ly-off wh, vf-f gr, sb ang-sb rnd, mod-w srt, sl calc, sme sh med-dk gy, sb plty-sb blk-ly, mod sft, n calc, nsfoc

4230-4260 Sltst dk gy-blk, sb blk-ly-sb plty, mod frm, sdy, grdg to vf gr ss, n calc, occ sh dk-med gy, sme blk, sb plty-sb blk-ly, mod sft, slty, sl calc, sme ss a/a, nsfoc

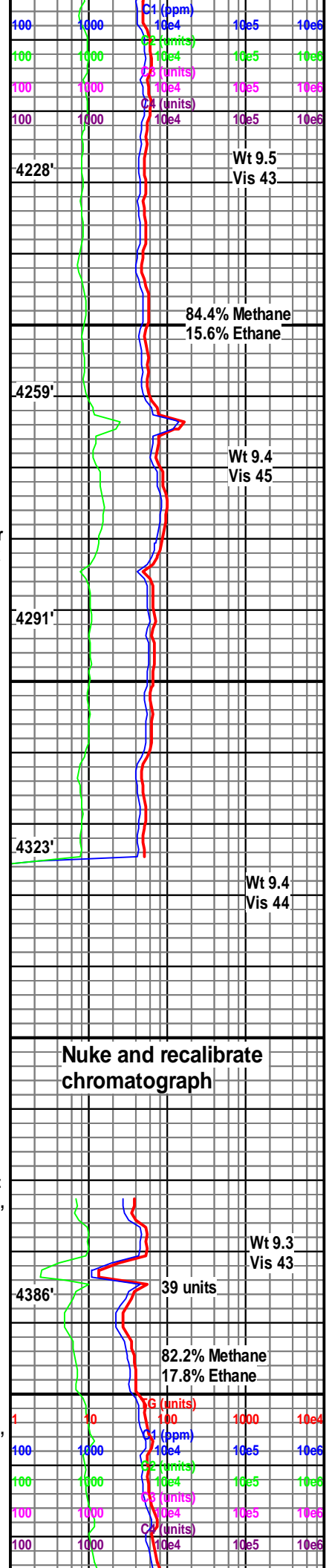
4260-4290 Sltst med-dk gy-blk, sb blk-ly-sb plty, mod frm, sdy, grdg to vf gr ss, sl calc, abnt ss a/a, occ sh med-dk gy, sb plty-sb blk-ly, mod sft, slty, n calc, nsfoc

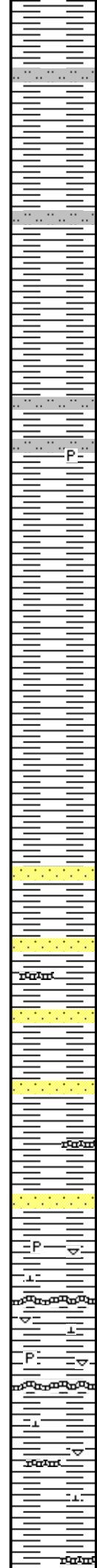
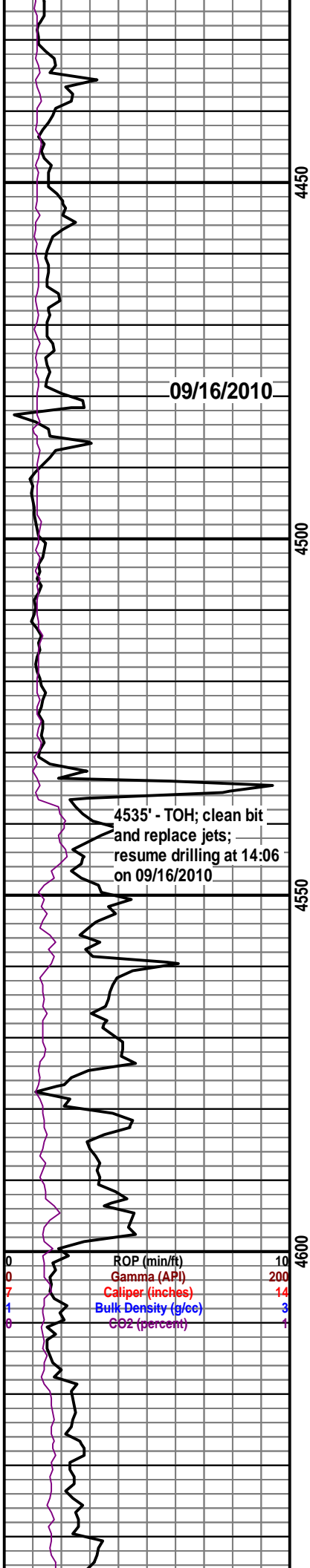
4290-4320 Sltst dk gy-blk, sb blk-ly-sb plty, mod frm, sdy, grdg to vf gr ss, sme sh a/a, sme ss a/a, nsfoc

4320-4350 Sh med-dk gy, sb plty-sb blk-ly, slty, mod frm, n calc, abnt sltst gy-dk gy, sb blk-ly-sb plty, mod frm, grdg to vf gr ss ip, n calc, rr ss gy, vf-f gr, cons, sl calc, nsfoc

4350-4380 Sh med-dk gy-blk, sb plty-sb blk-ly, slty, mod frm, n calc, abnt sltst gy-dk gy, sb blk-ly-sb plty, mod frm, grdg to vf gr ss ip, n calc, nsfoc

4380-4410 Sh med-dk gy-blk, sb plty-sb blk-ly, slty, mod frm, n calc, tr sltst gy-dk gy, sb blk-ly-sb plty, mod frm, grdg to vf gr ss ip, n calc, nsfoc





4410-4440 Sh dk gy-blk, sb plty-sb blk, slty, mod frm, n calc, rr sltst a/a, nsfoc

4440-4470 Sh dk gy-blk, sb plty-sb blk, slty, mod frm, n calc, rr sltst gy-brn, sb blk, sb plty, mod frm, n calc, nsfoc

4470-4500 Sh dk gy-blk, sb plty-sb blk, slty, mod frm, n calc, rr dis pyr, nsfoc

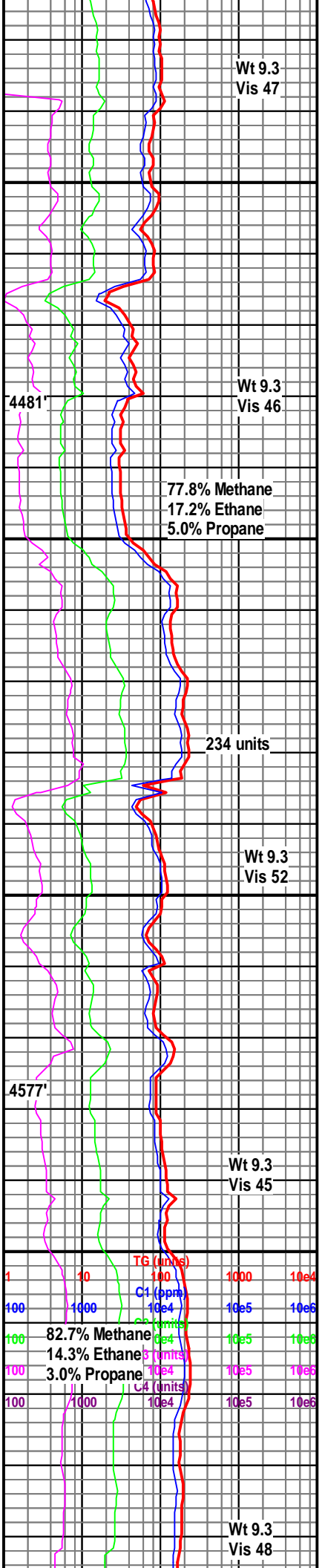
4500-4530 Sh dk gy-blk, sb plty-sb blk, slty, mod frm, n calc, nsfoc

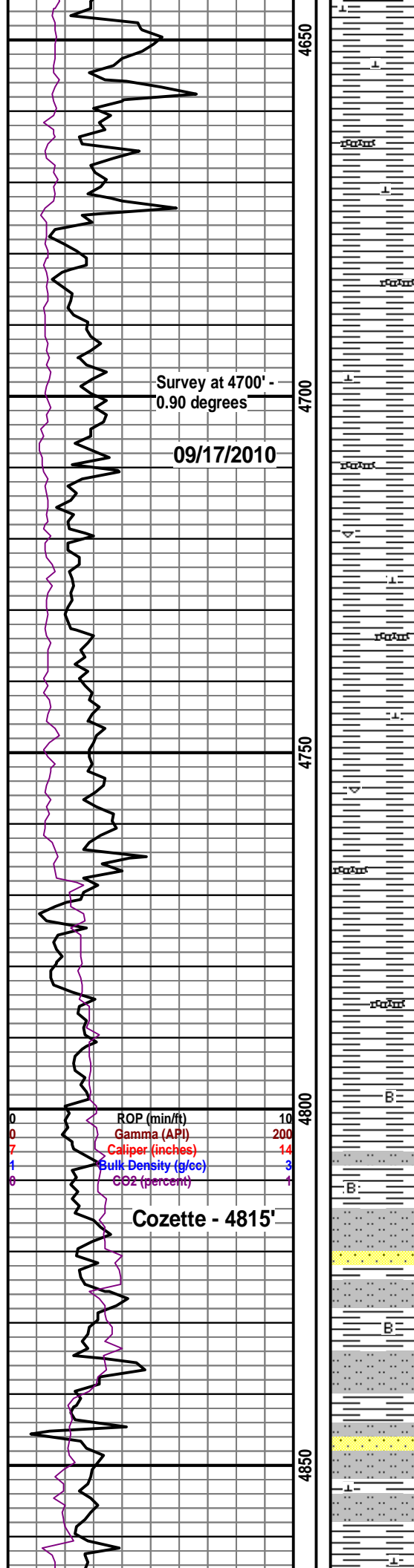
4530-4560 Sh blk, rr lt gy, sb plty-sb blk, mod sft, slty ip, n calc, rr ss trns-lt gy, vf-f gr, sb ang-sb rnd, mod-w srt, n calc, nsfoc

4560-4590 Sh blk, rr gn, sb plty-sb blk, mod sft, slty ip, n calc, rr ss trns-lt gy, vf-f gr, sb ang-sb rnd, mod-w srt, n calc, rr bent, tr bri org min flor, nsoc

4590-4620 Sh blk, sb plty-sb blk, mod sft-mod frm, n calc, sme cal fld fracs, sme inoc frags, abnt lt gy bent, tr dis pyr, abnt bri org min flor, nsoc

4620-4650 Sh blk, sb plty-sb blk, mod sft-mod frm, slty ip, n calc, sme cal fld fracs, sme lt gy bent, rr inoc frags, tr





bri orng min flor, nsoc

4650-4680 Sh dk gy-blk, sb plty-sb blkly, mod sft-mod frm, slty ip, n calc, tr cal fld fracs, rr lt gy-crm bent, rr bri orng min flor, nsoc

4680-4710 Sh dk gy-blk, sb plty-sb blkly, mod sft-mod frm, slty ip, n calc, rr cal fld fracs, rr lt gy-crm bent, rr bri orng min flor, nsoc

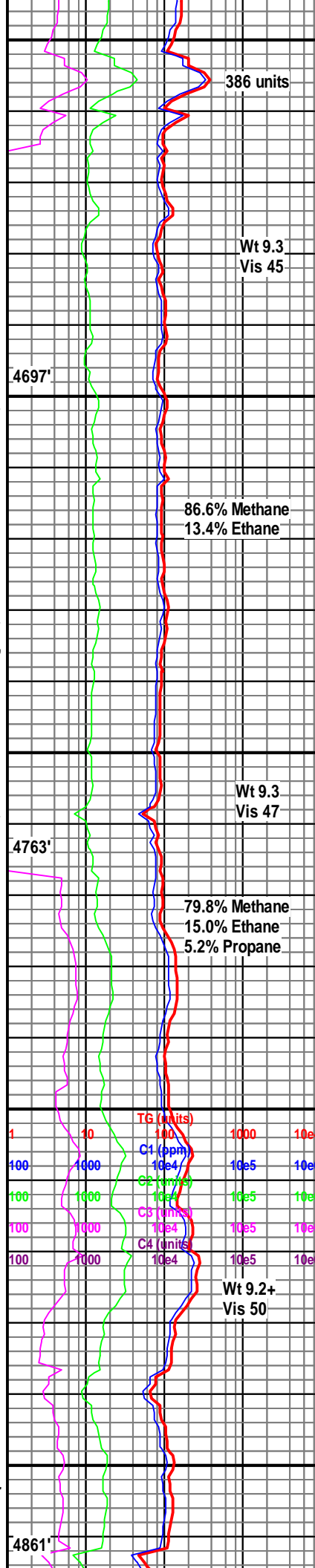
4710-4740 Sh dk gy-blk, sb plty-sb blkly, mod sft-mod frm, slty ip, n calc, rr cal fld fracs, rr inoc frags, rr lt gy bent, nsfoc

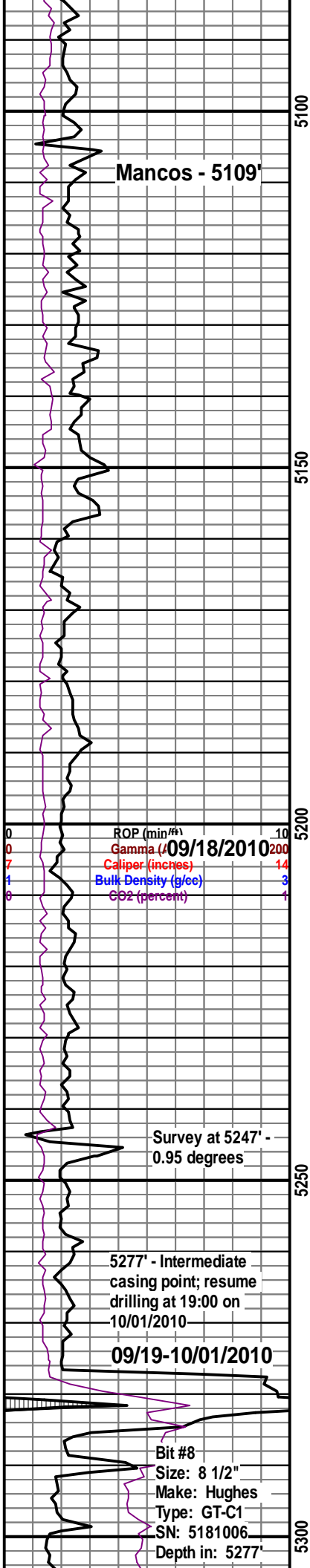
4740-4770 Sh dk gy-blk, sb plty-sb blkly, mod sft-mod frm, slty ip, n calc, rr cal fld fracs, rr inoc frags, rr lt gy-tan bent, tr bri orng min flor, nsfoc

4770-4800 Sh dk gy-blk, sb plty-sb blkly, mod sft-mod frm, slty, n calc, rr lt gy bent, rr bri orng min flor, nsoc

4800-4830 Slstt dk gy-blk, sb blkly-sb plty, mod frm, sdy, grdg to vf gr ss, n-v sl calc, occ sh a/a, tr sb ang f gr qtz gr, rr lt gy bent, rr bri orng min flor, nsoc

4830-4860 Slstt dk gy-blk, sb blkly-sb plty, mod frm, sdy, grdg to vf gr ss, n calc, sme sh a/a, tr sb ang f gr qtz gr, rr xln cal, nsfoc





Mancos - 5109'

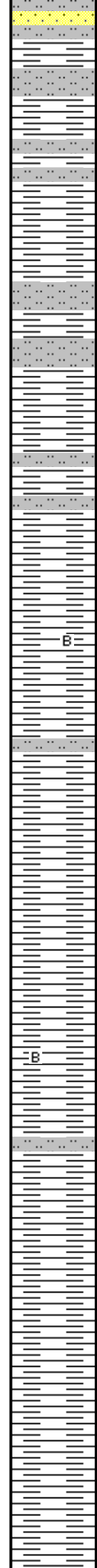
ROP (min/hr)
Gamma (API)
Caliper (inches)
Bulk Density (g/cc)
GOR (percent)

Survey at 5247' -
0.95 degrees

5277' - Intermediate
casing point; resume
drilling at 19:00 on
10/01/2010

09/19-10/01/2010

Bit #8
Size: 8 1/2"
Make: Hughes
Type: GT-C1
SN: 5181006
Depth in: 5277'



blky-sb plty, grdg to vf gr ss, mod frm,
n calc, abnt sh dk gy-blk, slty, sb
blky-sb plty, mod sft, n calc, rr ss
trnsi-gy, vf gr, sb rnd-sb ang, w srt,
cons, n-sl calc, nsfoc

5100-5130 Sh dk gy, sb plty-sb blky,
slty, mod frm, n calc, abnt sltst gy-dk
gy-blk, sb blky-sb plty, mod frm, n calc,
nsfoc

5130-5160 Sh dk gy, sb plty-sb blky,
slty, mod frm, n calc, tr sltst gy-dk
gy-blk, sb blky-sb plty, mod frm, n calc,
nsfoc

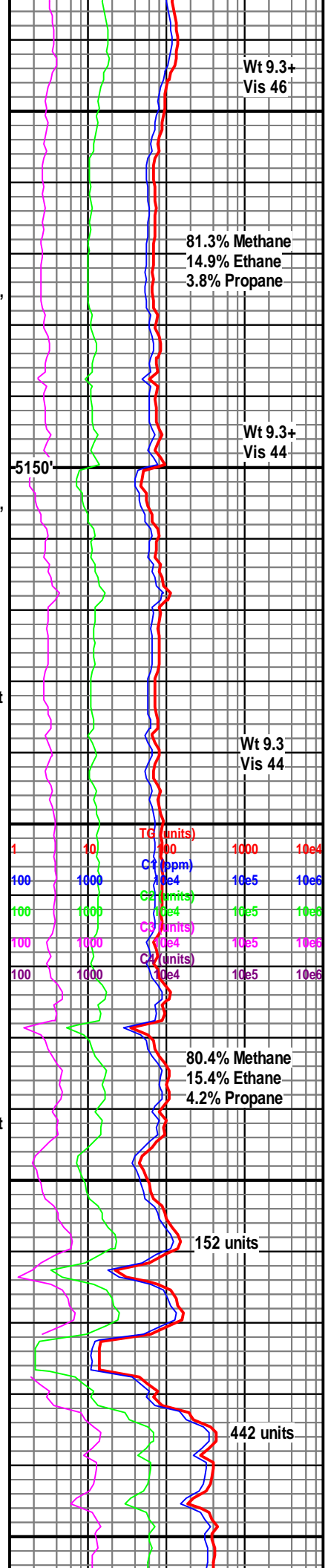
5160-5190 Sh med-dk gy, sb plty-sb
blky, mod frm-mod sft, grdg to sltst, tr lt
gy-tan bent, rr bri orng min flor, nsoc

5190-5220 Sh dk gy-blk, sb blky-sb
plty, slty, mod sft-mod frm, n calc,
nsfoc

5220-5250 Sh med-dk gy, sb plty-sb
blky, mod frm-mod sft, grdg to sltst, tr lt
gy-tan bent, rr bri orng min flor, nsoc

5250-5280 Sh dk gy-blk, sb blky-sb
plty, slty, mod sft-mod frm, n calc,
nsfoc

5280-5310 Sh med-dk gy-blk, sb



Wt 9.3+
Vis 46

81.3% Methane
14.9% Ethane
3.8% Propane

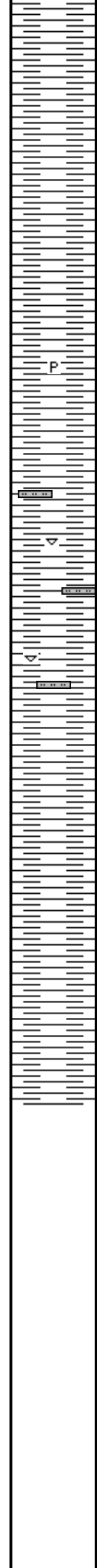
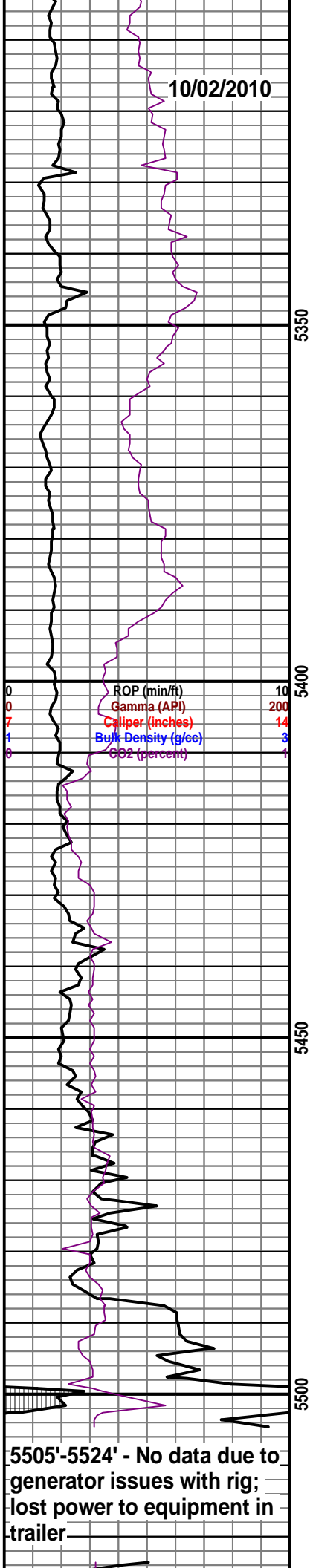
Wt 9.3+
Vis 44

Wt 9.3
Vis 44

80.4% Methane
15.4% Ethane
4.2% Propane

152 units

442 units



blky-sb plty, slty, mod sft-mod frm, n calc, nsfoc

5310-5340 Sh med-dk gy-blk, sb blky-sb plty, slty, mod sft-mod frm, n calc, nsfoc

5340-5370 Sh med-dk gy-blk, sb blky-sb plty, slty, mod sft-mod frm, n calc, rr pyr, nsfoc

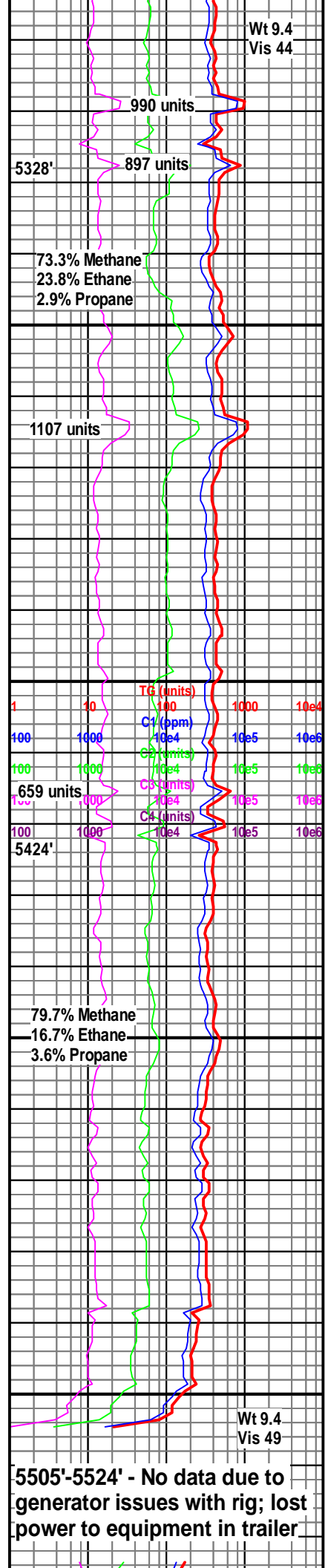
5370-5400 Sh med-dk gy-blk, sb blky-sb plty, slty, mod sft-mod frm, n calc, tr sltst lt-med gy, sb blky, mod frm, sl calc, tr inoc frags, nsfoc

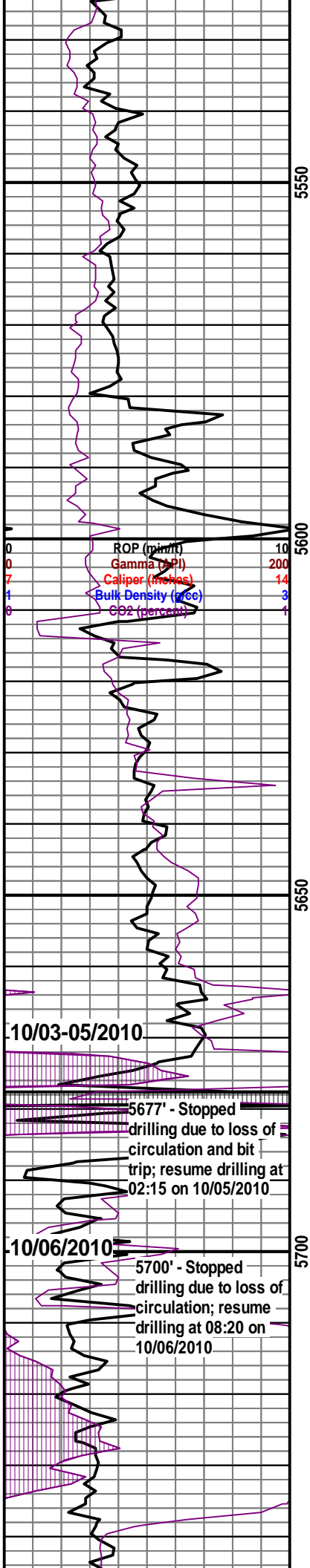
5400-5430 Sh med-dk gy-blk, sb blky-sb plty, slty, mod sft-mod frm, n calc, nsfoc

5430-5460 Sh med-dk gy-blk, sb blky-sb plty, slty, mod sft-mod frm, n calc, nsfoc

5460-5490 No sample due to by-passing shakers

5490-5520 No sample due to by-passing shakers





5520-5550 No sample due to by-passing shakers

5550-5580 No sample due to by-passing shakers

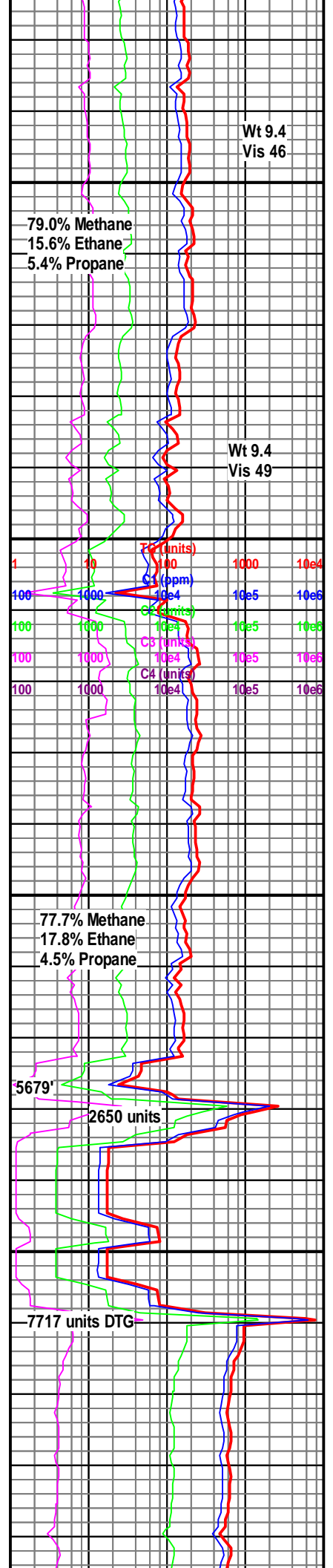
5580-5610 No sample due to by-passing shakers

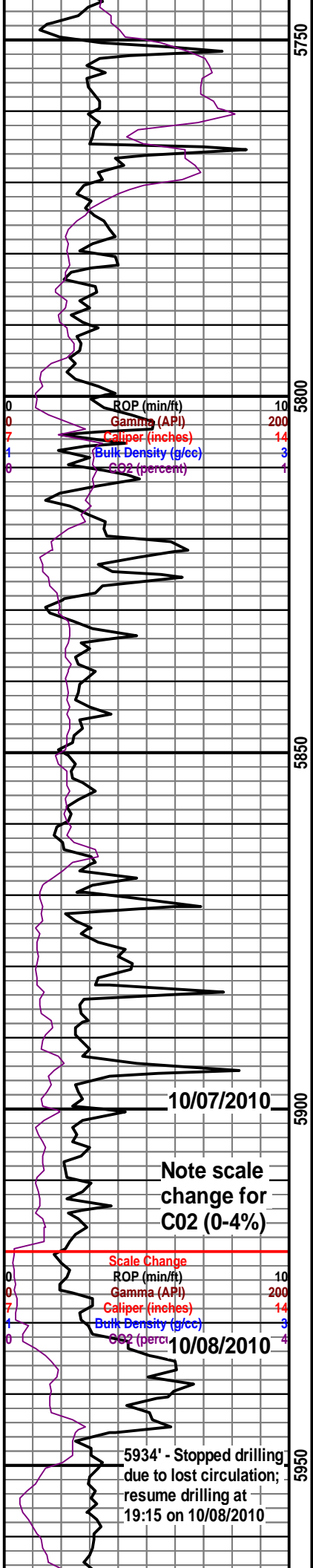
5610-5640 No sample due to by-passing shakers

5640-5670 No sample due to by-passing shakers

5670-5700 No sample due to by-passing shakers

5700-5730 No sample due to by-passing shakers





5730-5760 No sample due to by-passing shakers

5760-5790 No sample due to by-passing shakers

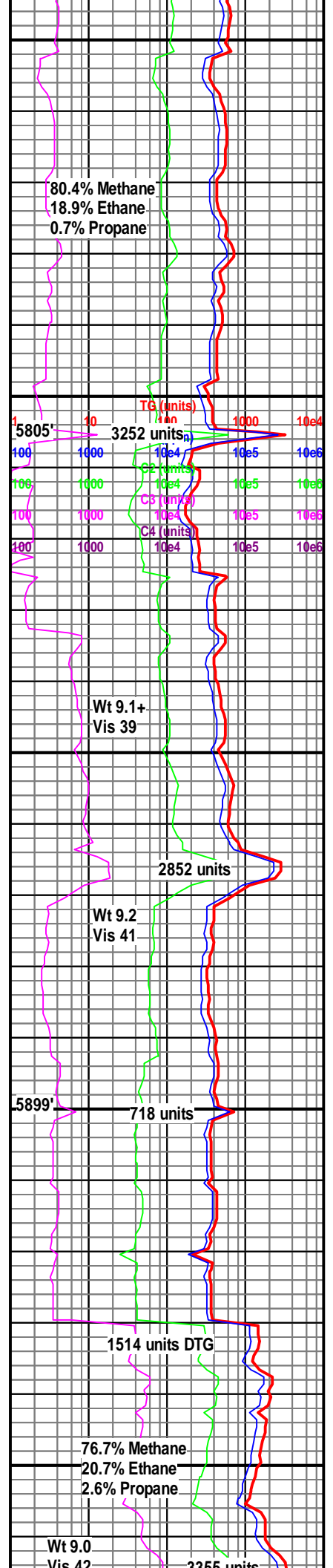
5790-5820 Abnt LCM, Sh med-dk gy-blk, sb blk-y-sb plty, slty, mod sft-mod frm, n calc, nsfoc

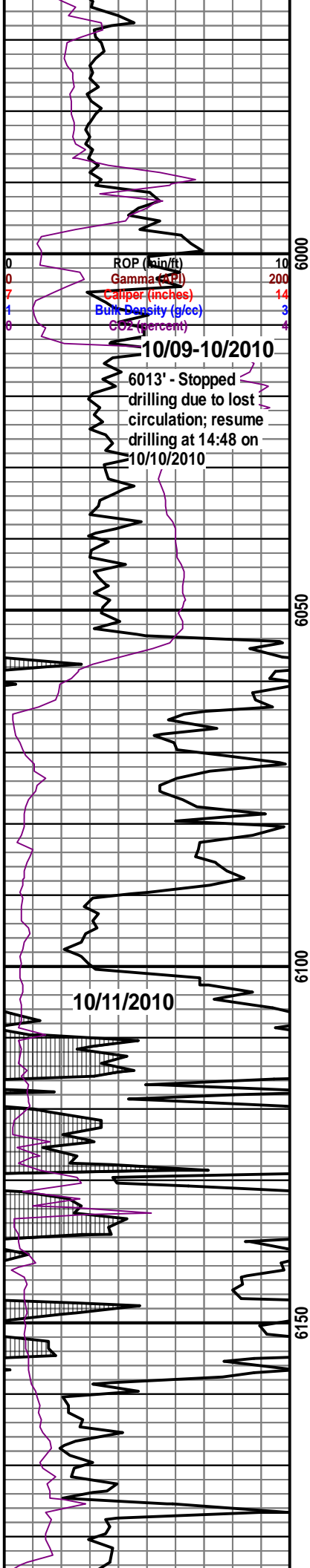
5820-5850 No sample due to by-passing shakers

5850-5880 No sample due to by-passing shakers

5880-5910 Abnt LCM, Sh med-dk gy-blk, sb blk-y-sb plty, slty, mod sft-mod frm, n calc, nsfoc

5910-5940 No sample due to by-passing shakers





5940-5970 No sample due to by-passing shakers

5970-6000 No sample due to by-passing shakers

6000-6030 No sample due to by-passing shakers

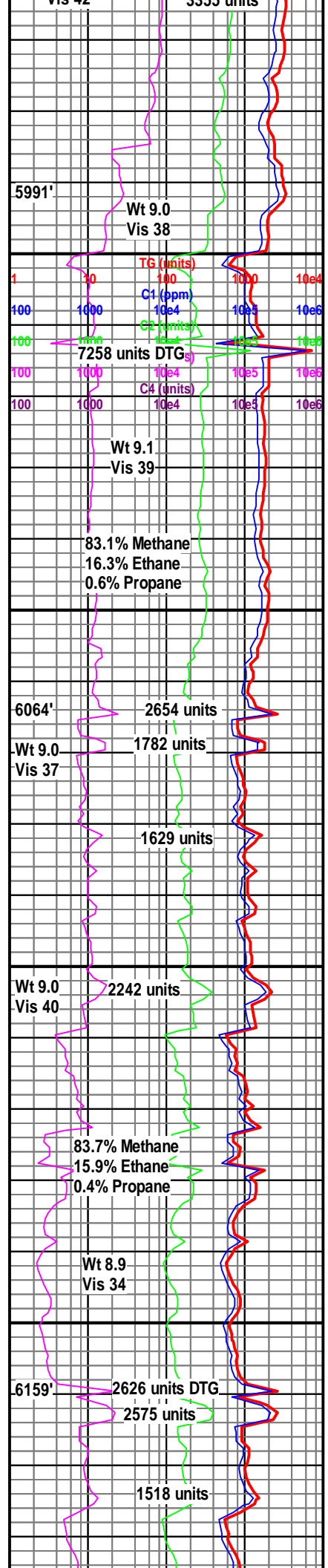
6030-6060 No sample due to by-passing shakers

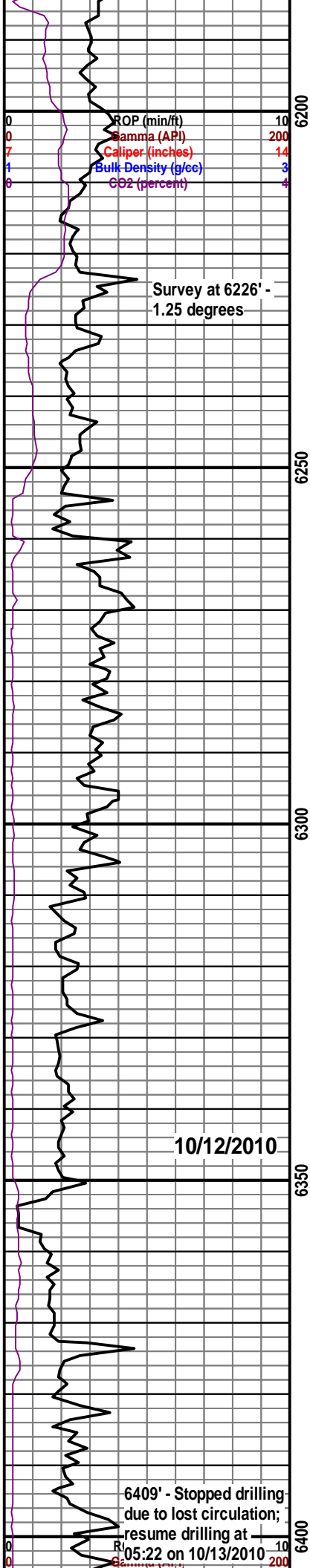
6060-6090 No sample due to by-passing shakers

6090-6120 No sample due to by-passing shakers

6120-6150 No sample due to by-passing shakers

6150-6180 No sample due to by-passing shakers





6180-6210 No sample due to by-passing shakers

6210-6240 No sample due to by-passing shakers

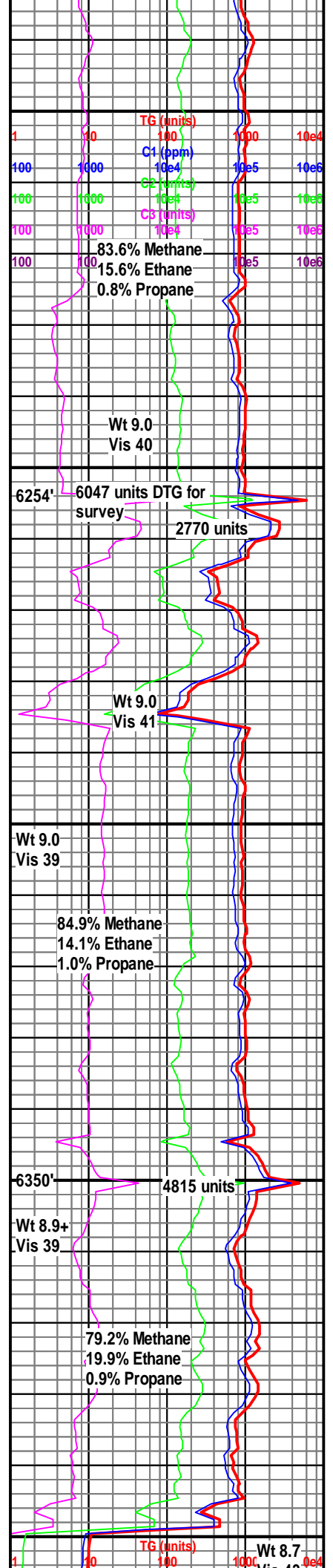
6240-6270 No sample due to by-passing shakers

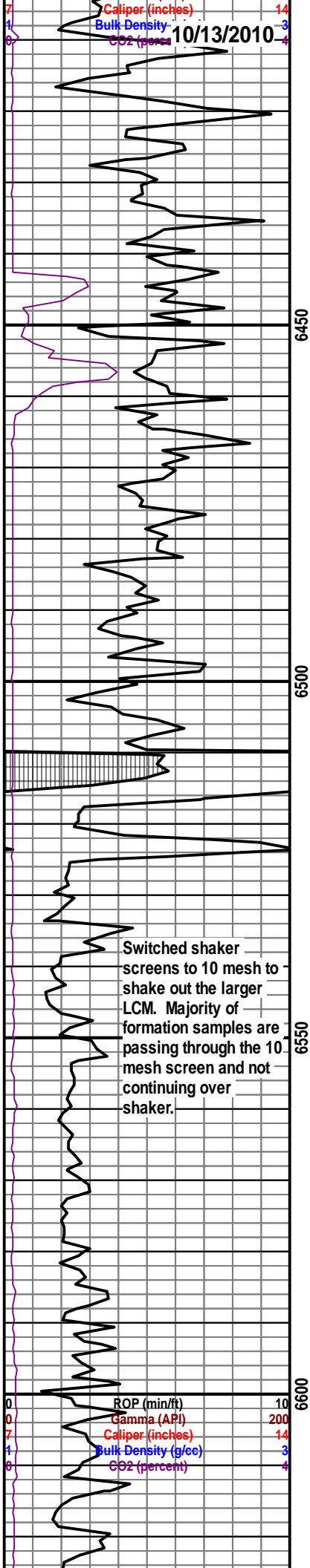
6270-6300 No sample due to by-passing shakers

6300-6330 No sample due to by-passing shakers

6330-6360 No sample due to by-passing shakers

6360-6390 No sample due to by-passing shakers





6390-6420 No sample due to by-passing shakers

6420-6450 No sample due to by-passing shakers

6450-6480 No sample due to by-passing shakers

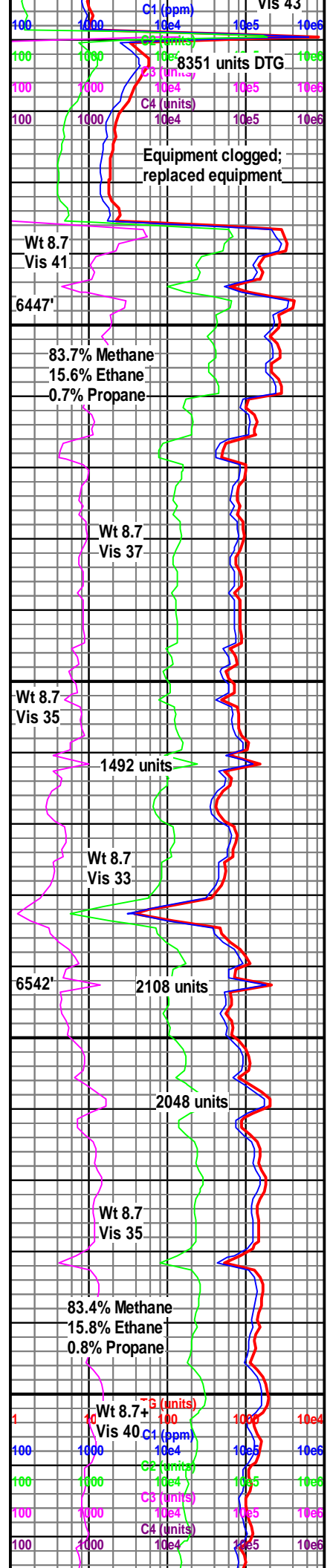
6480-6510 No sample due to by-passing shakers

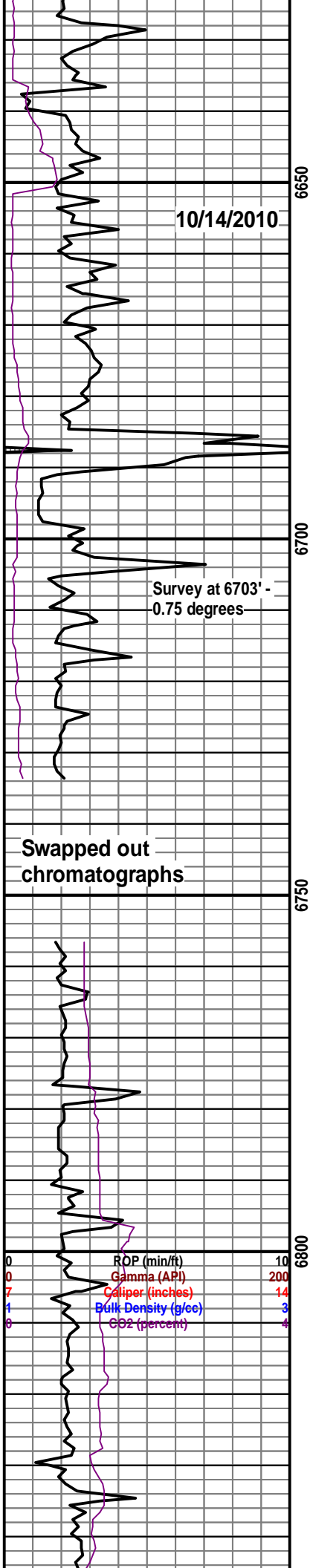
6510-6540 Attempted to retrieve sample; 100% LCM

6540-6570 Attempted to retrieve sample; 100% LCM

6570-6600 V poor sample recovery; 99% LCM, 1% Sh dk gy-blk, sb plty-sb blk, slty, mod frm, nsfoc

6600-6630 V poor sample recovery; 99% LCM, 1% Sh dk gy-blk, sb plty-sb blk, slty, mod frm, nsfoc





blky, slty, mod frm, nsfoc

6630-6660 V poor sample recovery;
99% LCM, 1% Sh dk gy-blk, sb plty-sb
blky, slty, mod frm, nsfoc

6660-6690 V poor sample recovery;
99% LCM, 1% Sh dk gy-blk, sb plty-sb
blky, slty, mod frm, nsfoc

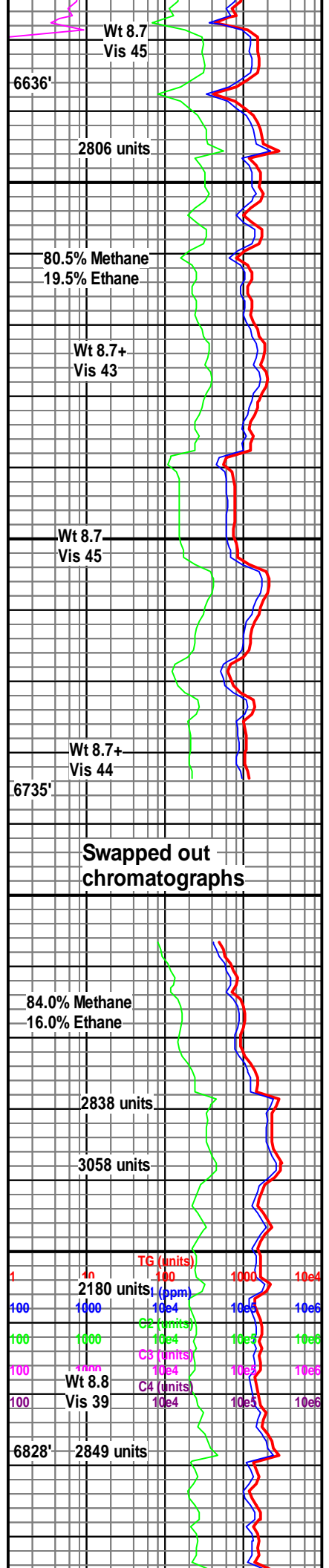
6690-6720 Poor sample recovery;
95% LCM, 5% Sh dk gy-blk, sb plty-sb
blky, slty, mod frm, n calc, nsfoc

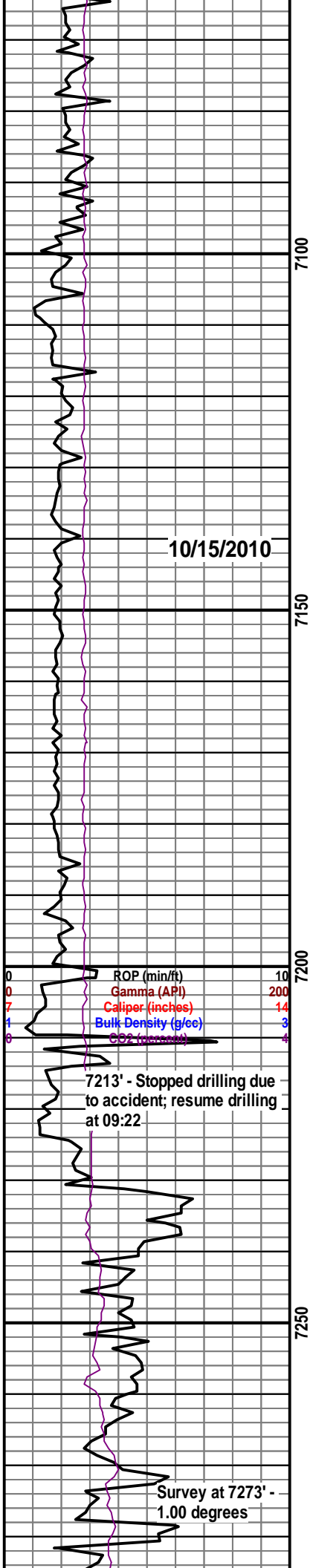
6720-6750 V poor sample recovery;
98% LCM, 2% Sh dk gy-blk, sb blky-sb
plty, mod frm, n calc, nsfoc

6750-6780 V poor sample recovery;
98% LCM, 2% Sh dk gy-blk, sb blky-sb
plty, mod frm, n calc, nsfoc

6780-6810 Poor sample recovery;
90% LCM, 10% Sh blk, sb blky-sb plty,
mod frm, n calc, nsfoc

6810-6840 Abnt LCM, Sh blk, sb
blky-sb plty, mod frm, slty ip, n calc,
nsfoc





7050-7080 Abnt LCM, Sh blk, sb blk, sb blk, sb blk, mod frm, slty, sl calc, tr sltst gy-dk gy, sb blk, grdg to vf gr ss ip, mod frm, sl calc, nsfoc

7080-7110 Abnt LCM, Sh blk, sb blk, sb blk, sb blk, mod frm, slty, sl calc, tr sltst gy-dk gy, sb blk, grdg to vf gr ss ip, mod frm, sl calc, nsfoc

7110-7140 Abnt LCM, Sh blk, sb blk, sb blk, sb blk, mod frm, slty, sl calc, tr sltst gy-dk gy, sb blk, grdg to vf gr ss ip, mod frm, sl calc, nsfoc

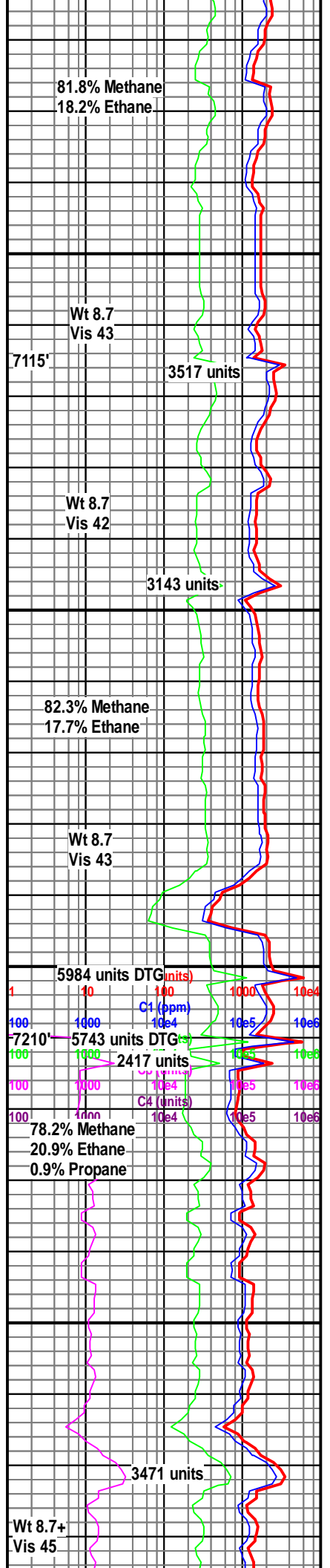
7140-7170 Abnt LCM, Sh blk, sb blk, sb blk, sb blk, mod frm, slty, sl calc, nsfoc

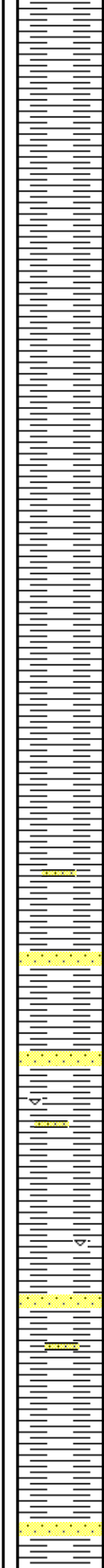
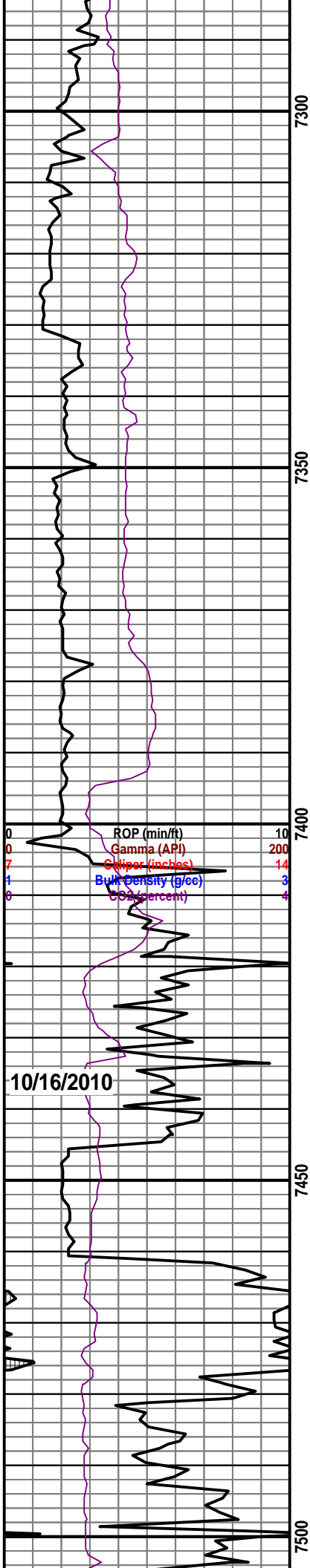
7170-7200 Abnt LCM, Sh dk gy-blk, sb blk, sb blk, sb blk, mod frm, slty, sl calc, nsfoc

7200-7230 Abnt LCM, Sh dk gy-blk, sb blk, sb blk, sb blk, mod frm, slty, sl calc, tr bent, rr bri orng min flr, nsoc

7230-7260 Abnt LCM, Sh dk gy-blk, sb blk, sb blk, sb blk, mod frm, slty, sl calc, tr bent, rr bri orng min flr, nsoc

7260-7290 Abnt LCM, Sh dk gy-blk, sb blk, sb blk, sb blk, mod frm, slty, sl calc, tr





bent, rr bri orng min flor, nsoc

7290-7320 Abnt LCM, Sh dk gy-blk, sb
blky-sb plty, mod frm, slty, sl calc,
nsfoc

7320-7350 Abnt LCM, Sh dk gy-blk, sb
blky-sb plty, mod frm, slty, sl calc,
nsfoc

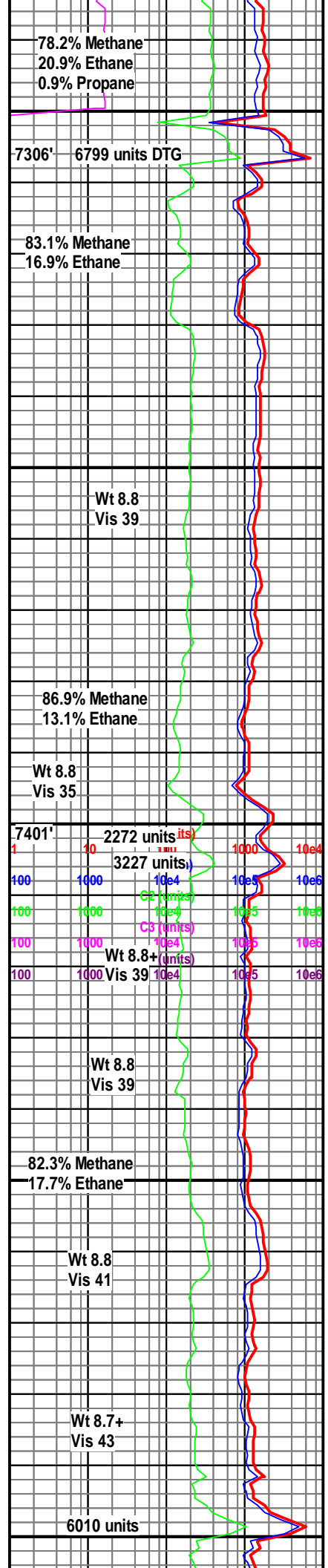
7350-7380 Abnt LCM, Sh dk gy-blk, sb
blky-sb plty, mod frm, slty, sl calc,
nsfoc

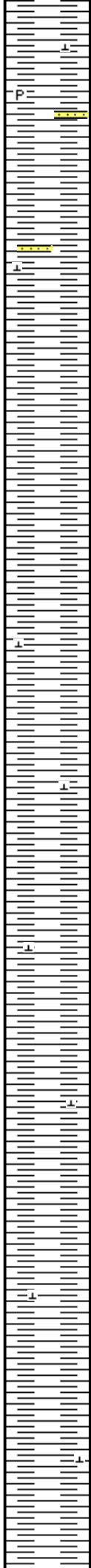
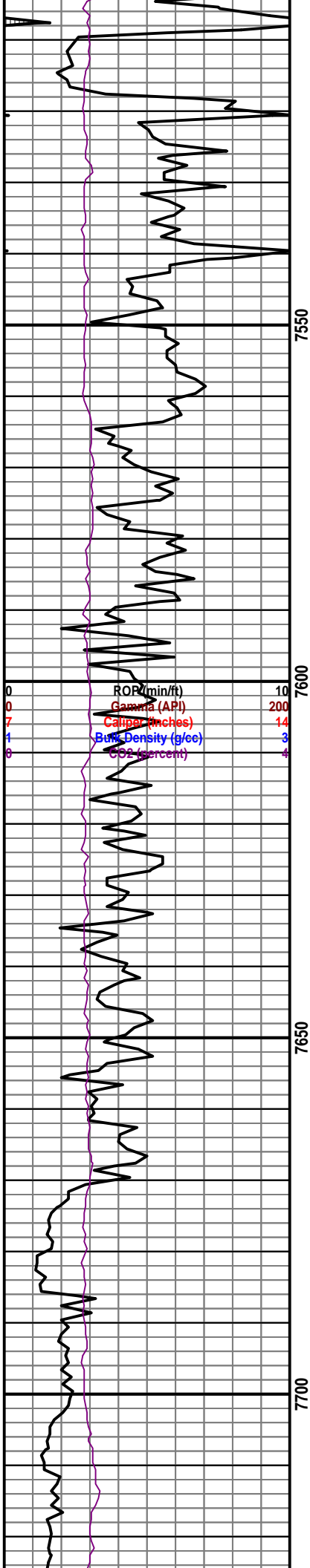
7380-7410 Abnt LCM, Sh gy-dk gy, sb
blky-sb plty, mod frm-frn, slty ip, sl
calc, nsfoc

7410-7440 Abnt LCM, Sh gy-dk gy, sb
blky-sb plty, frm, slty ip, sl calc, rr ss
off wh-trnsl, f-c gr cons, sl calc cmt, tr
xln qtz, nsfoc

7440-7470 Abnt LCM, Sh gy-dk gy, sb
blky-sb plty, frm, slty ip, calc, rr ss off
wh-trnsl, f-med gr, cons, sl calc cmt, rr
xln qtz, rr inoc, nsfoc

7470-7500 Abnt LCM, Sh gy-dk gy, sb
blky-sb plty, frm, slty ip, calc, rr ss off
wh-trnsl, f-med gr, cons, sl calc cmt,
nsfoc





7500-7530 Abnt LCM, Sh blk, sb
pty-sb blk, mod sft-mod frm, slty ip, sl
calc, rr cal fld fracs, rr dis pyr, rr ss
trns-lt gy, vf-f gr, cons, mod srt, n-sl
calc, rr dull orng min flor, nsoc

7530-7560 Abnt LCM, Sh blk, sb
pty-sb blk, mod sft-mod frm, slty ip,
calc, rr cal fld fracs, rr dull orng min
flor, nsoc

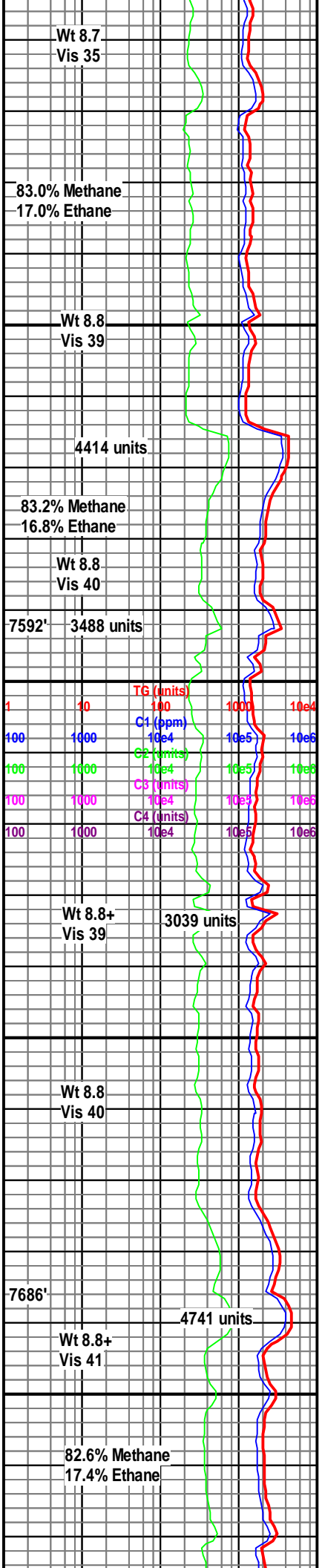
7560-7590 Abnt LCM, Sh blk, sb
pty-sb blk, mod sft-mod frm, slty ip, sl
calc, rr dull orng min flor, nsoc

7590-7620 Abnt LCM, Sh dk gy-blk, sb
pty-sb blk, mod frm, slty ip, sl calc, tr
cal fld fracs, rr orng min flor, nsoc

7620-7650 Abnt LCM, Sh dk gy-blk, sb
pty-sb blk, mod frm, slty ip, sl calc, tr
cal fld fracs, rr orng min flor, nsoc

7650-7680 Abnt LCM, Sh gy-blk, sb
pty-sb blk, mod frm, slty ip, sl calc, rr
cal fld fracs, rr orng min flor, nsoc

7680-7710 Abnt LCM, Sh gy-dk gy-blk,
sb pty-sb blk, mod frm, slty ip, sl
calc, rr cal fld fracs, rr orng min flor,
nsoc



10/17/2010

7750

7800

7850

7900

ROP (min/ft) 10
Gamma (API) 200
Caliper (inches) 14
Bulk Density (g/cc) 3
G2 (percent) 4

10/18/2010

7877' - Stopped
drilling to weight up
mud; resumed
drilling at 01:07 on
10/18/2010

7710-7740 Abnt LCM, Sh gy-dk gy-blk,
sb plty-sb blk, mod frm, slty ip, sl
calc, tr cal fld fracs, nsfoc

7740-7770 Abnt LCM, Sh gy-dk gy-blk,
sb plty-sb blk, mod frm, slty ip, sl
calc, tr cal fld fracs, nsfoc

7770-7800 Sh gy-dk gy-blk, rr lt gy, sb
plty-sb blk, mod frm, slty ip, sl calc, tr
cal fld fracs, nsfoc

7800-7830 Sh gy-dk gy-blk, sb plty-sb
blk, mod sft-mod frm, slty ip, calc, rr
cal fld fracs, nsfoc

7830-7860 Sh dk gy-blk, sb plty-sb
blk, slty ip, mod frm, calc, rr pyr,
nsfoc

7860-7890 No sample due to
by-passing shakers

7890-7920 No sample due to
by-passing shakers

Wt 8.8
Vis 43

Flaring gas and
running through gas
buster

8846 units

81.8% Methane
18.2% Ethane

7781'

7671 units

Wt 8.8
Vis 43

1	10	TG (units)	100	1000	10e4
100	1000	C1 (ppm)	10e4	10e5	10e6
100	1000	C2 (units)	10e4	10e5	10e6
100	1000	C3 (units)	10e4	10e5	10e6
100	1000	C4 (units)	10e4	10e5	10e6

82.8% Methane
17.2% Ethane

Bypassing gas buster

9176 units

80.5% Methane
19.5% Ethane

7877'

Wt 9.0
Vis 40

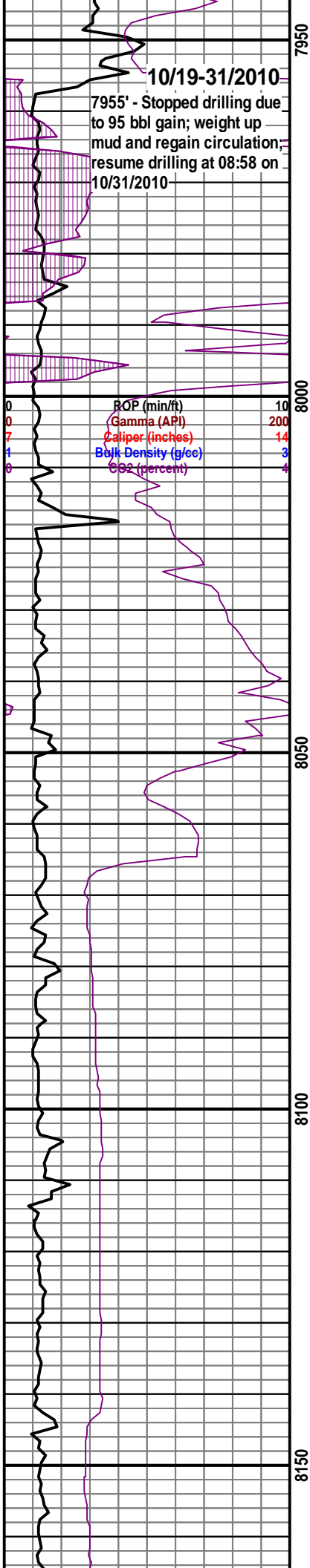
Bypassing shaker
and possum belly

going through gas
buster

Wt 9.0
Vis 42

81.9% Methane
18.1% Ethane

6857 units



7920-7950 No sample due to by-passing shakers

7950-7980 Abnt LCM, Sh blk, sb plty-sb blk, mod sft-mod frm, slty ip, sl calc, nsfoc

7980-8010 Abnt LCM, Sh blk, sb plty-sb blk, mod sft-mod frm, slty ip, sl calc, nsfoc

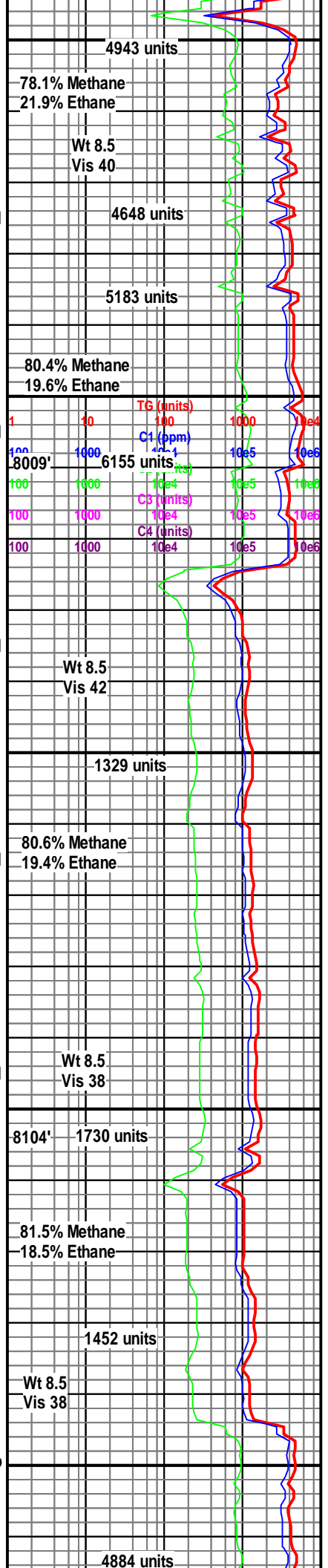
8010-8040 Abnt LCM, Sh blk, sb plty-sb blk, mod sft-mod frm, slty ip, sl calc, nsfoc

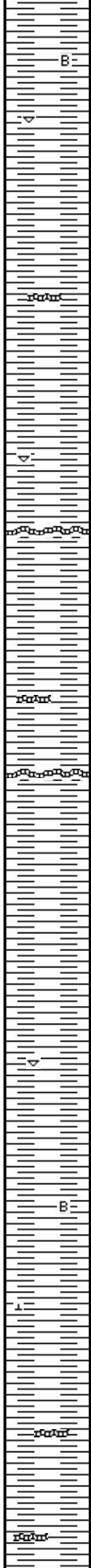
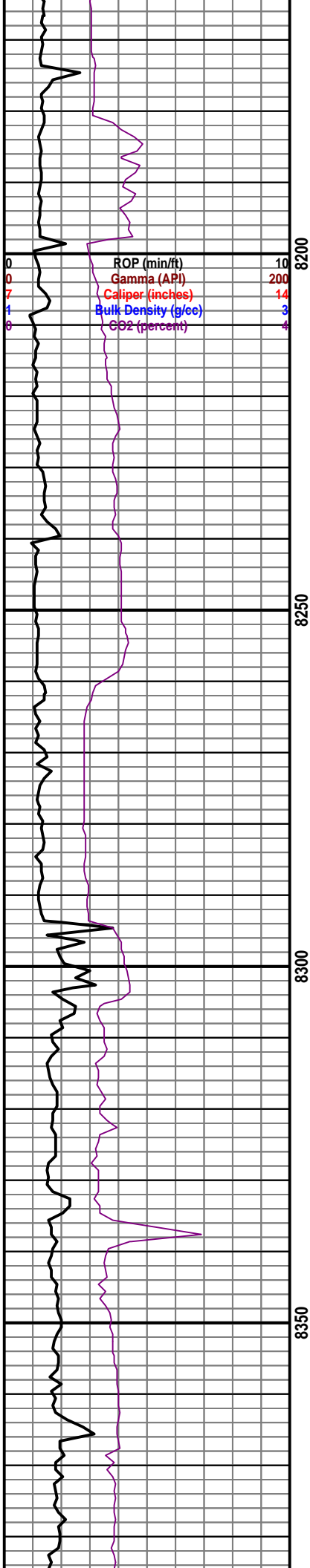
8040-8070 Abnt LCM, Sh blk, sb plty-sb blk, mod sft-mod frm, slty ip, sl calc, nsfoc

8070-8100 Abnt LCM, Sh blk, sb plty-sb blk, mod sft-mod frm, slty ip, sl calc, nsfoc

8100-8130 Occ LCM, Sh blk, rr dk gy, sb plty-sb blk, mod frm, slty ip, calc, rr msv pyr, tr lt gy-buff bent, occ dull orng min flor, nsoc

8130-8160 Occ LCM, Sh blk, sb plty-sb blk, mod frm, slty ip, calc, rr lt gy bent, occ dull orng min flor, nsoc





8160-8190 Abnt LCM, Sh blk, sb
plty-sb blk, mod frm, slty ip, calc, rr
inoc frags, tr lt gy bent, occ dull orng
min flor, nsoc

8190-8220 Occ LCM, Sh blk, sb plty-sb
blk, mod frm, slty ip, sl calc-calc, tr lt
gy-buff bent, occ dull orng min flor,
nsoc

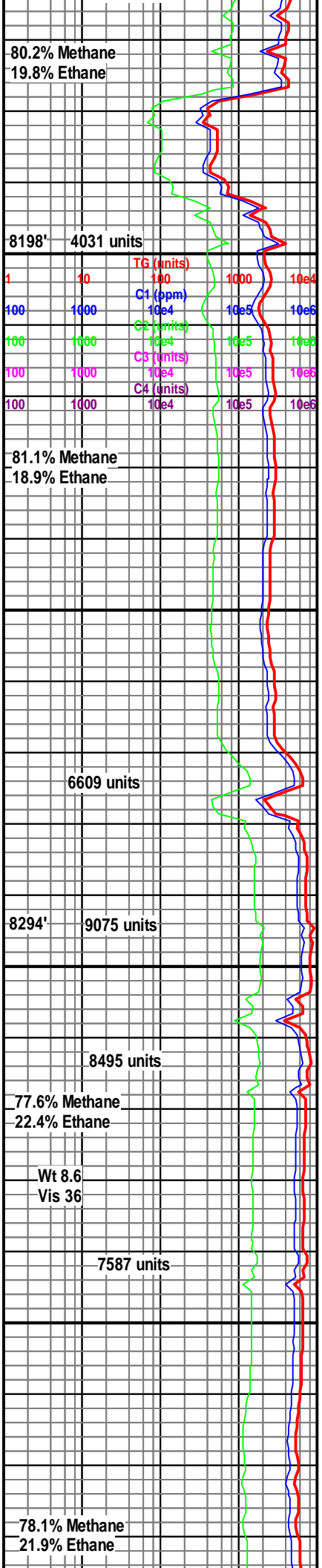
8220-8250 Occ LCM, Sh blk, sb plty-sb
blk, mod frm, slty ip, calc, rr inoc
frags, occ gy-lt brn bent, occ dull orng
min flor, nsoc

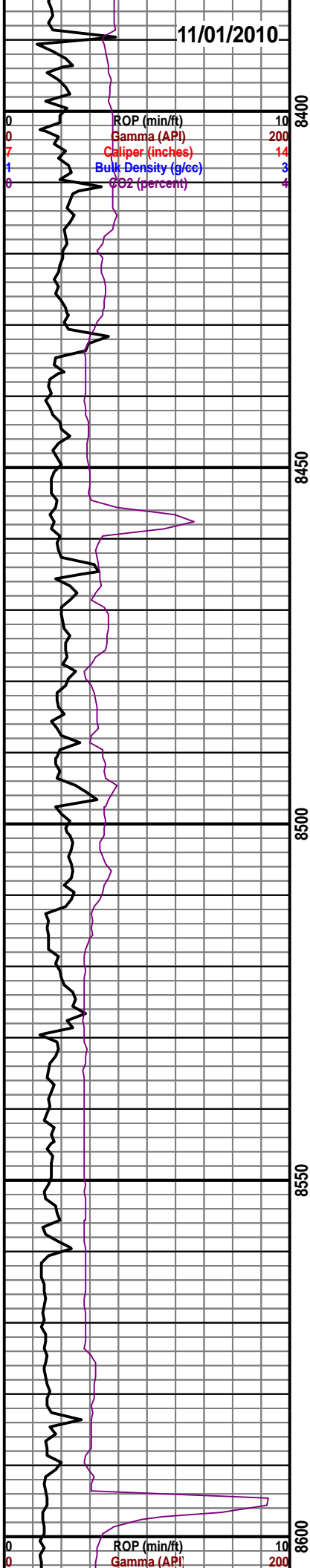
8250-8280 Occ LCM, Sh blk, sb plty-sb
blk, mod sft-mod frm, slty ip, sl calc,
occ lt gy-buff bent, occ bri orng min
flor, nsoc

8280-8310 Pred LCM, Sh blk, sb
plty-sb blk, mod frm, slty ip, sl-n calc,
nsfoc

8310-8340 Occ LCM, Sh blk, sb plty-sb
blk, mod frm, slty ip, sl calc, rr inoc
frags, rr lt gy bent, tr bri orng min flor,
nsoc

8340-8370 Occ LCM, Sh blk, sb plty-sb
blk-splty, mod frm, slty ip, n-sl calc, rr
cal fld frags, tr lt gy-buff bent, tr bri
orng min flor, nsoc





8370-8400 Occ LCM, Sh blk, sb
plty-plty-sb blk, mod frm, slty ip, sl
calc, tr lt gy-buff bent, tr bri orng min
flor, nsoc

8400-8430 Pred LCM sweep, Sh blk,
plty-sb blk, mod frm, slty ip, calc, rr lt
gy bent, g tr bri orng min flor, nsoc

8430-8460 Abnt LCM, Sh blk, sb
plty-sb blk, mod frm, slty ip, sl calc, g
tr lt gy-buff bent, occ bri orng min flor,
nsoc

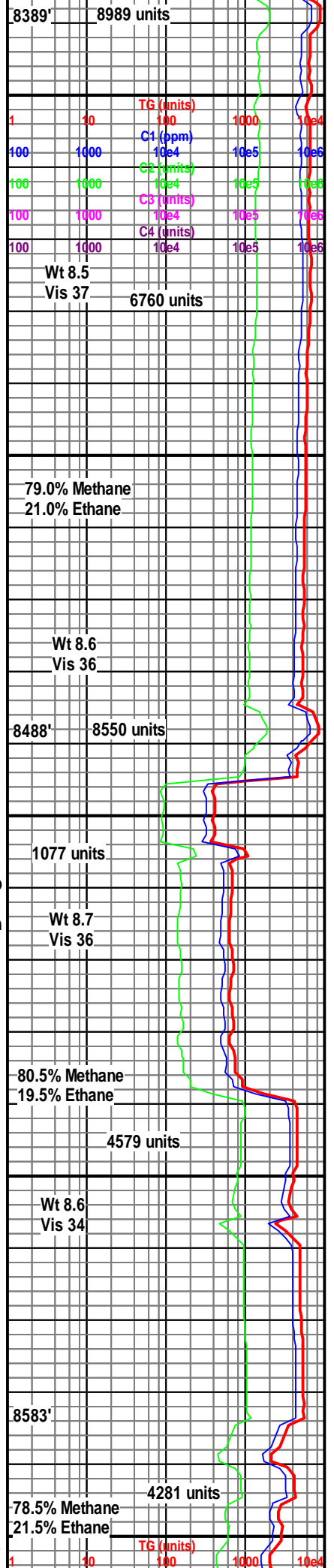
8460-8490 Abnt LCM, Sh blk, sb
plty-sb blk, mod frm, slty ip, n calc, rr
lt gy splty sh with dis pyr, rr msv pyr,
rr lt gy bent, tr bri orng min flor, nsoc

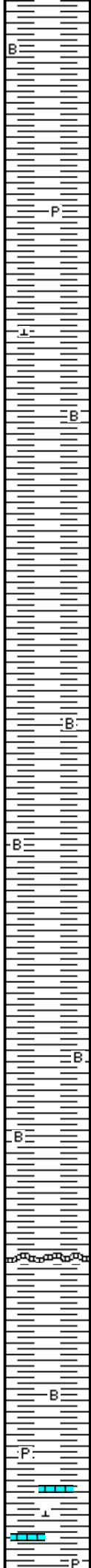
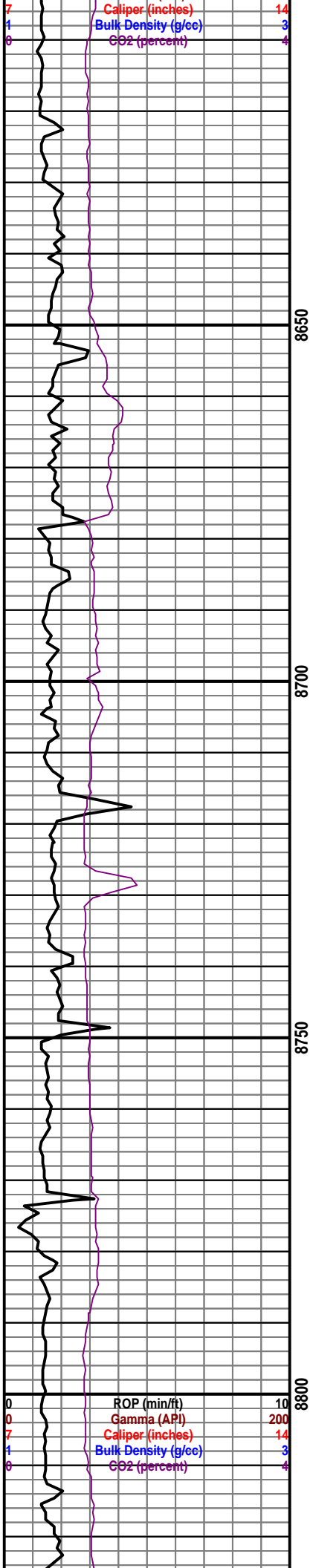
8490-8520 Occ LCM, Sh blk, sb plty-sb
blk, mod frm, slty ip, n calc, g tr lt gy
microxln ls, rr lt gy bent, tr bri orng min
flor, nsoc

8520-8550 Abnt LCM, Sh blk, sb
plty-sb blk, mod frm, slty ip, n calc, g
tr lt gy microxln ls, occ lt gy splty bent,
occ bri orng min flor, nsoc

8550-8580 Abnt LCM, Sh blk, sb
plty-sb blk, mod frm, slty ip, n calc, tr
lt gy splty bent, tr bri orng min flor,
nsoc

8580-8610 Abnt LCM, Sh blk, sb
plty-sb blk, mod frm, slty ip, sl calc, rr





lt gy bent, rr bri org min flr, nsoc

8610-8640 Abnt LCM, Sh blk, sb
plty-sb blk, mod frm, slty ip, n calc, rr
lt gy bent, rr msv pyr, rr bri org min
flr, nsoc

8640-8670 Abnt LCM, Sh blk, sb
plty-sb blk-splty, mod frm, slty ip, n-v
sl calc, rr xln cal, rr lt gy bent, rr bri
org min flr, nsoc

8670-8700 Abnt LCM, Sh blk, sb
plty-sb blk, mod frm, slty ip, n calc,
nsfoc

8700-8730 Abnt LCM, Sh blk, sb
plty-sb blk, sme splty, mod frm, slty
ip, n calc, tr lt gy bent, rr bri org min
flr, nsoc

8730-8760 Abnt LCM, Sh blk, sb
plty-plty-sb blk, mod frm, slty ip, n-sl
calc, rr lt gy-lt brn bent, rr bri org min
flr, nsoc

8760-8790 Occ LCM, Sh blk, sb plty-sb
blk-splty, mod frm, slty ip, n calc, occ
lt gy bent, occ bri org min flr, nsoc

8790-8820 Occ LCM, Sh blk, sb plty-sb
blk, tr splty, mod frm, slty ip, n calc, rr
lt gy v sft microxln ls, rr dk gy hd c xln
ls, rr msv pyr, rr xln cal, rr lt gy bent, rr
bri org min flr, nsoc

