LITHOLOGY STRIP LOG
WellSight Systems
Scale 1:240 (5"=100') Imperial

Well Name: Beaver Hill Corehole
Location: Sec 12, T27S R14W Coos County Oregon
Licence Number:
Spud Date: 3/31/2005
Surface Coordinates: 1047' FSL 2175' FWL
Region: Coos County, OR
Drilling Completed: 4/20/05

Bottom Hole Coordinates: same

Ground Elevation (ft): 319'
K.B. Elevation (ft): 328.5'
Logged Interval (ft): sfc To: 4488'
Total Depth (ft): 4488'
Formation: Coaledo
Type of Drilling Fluid: Water/E-Z Mud

Printed by STRIP.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Methane Energy Corporation
Address: 241 N Baxter St
Coquille, OR
97423

GEOLOGIST

Name: Brian Reddick
Company: Hampton Waechter & Associates
Address: 11 Inverness Way South
Englewood Co 80112

Mudlogging

Mudlogging by Hampton, Waechter & Associates
Logger: Brian Reddick
Platinum Filament Hotwire and Chromatograph by MSI, Inc.

Lithology based on drilled depth, not corrected for e-logs

ROCK TYPES

Anhy	Coal	Lmst	Shcol	Till
Bent	Congl	Meta	Shgy	VVVVV Volcanics
Brec	Dol	Mrlst	Sltst	??????? unknown lithc
Cht	Gyp	Salt	XXXX cement	
Clyst	Igne	Shale	Ss	

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
???? unknown
mica
Slickensides
Lithic frag

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
BS Boundst
C Chalky
CX Cryxln
Earthy
Finexln
GS Grainst
Lithogr
MX Microxln
MS Mudst
PS Packst
WS Wackest

OTHER SYMBOLS

POROSITY
E Earthy
Fenest
F Fracture
Inter
Moldic
Organic
P Pinpoint
Vuggy

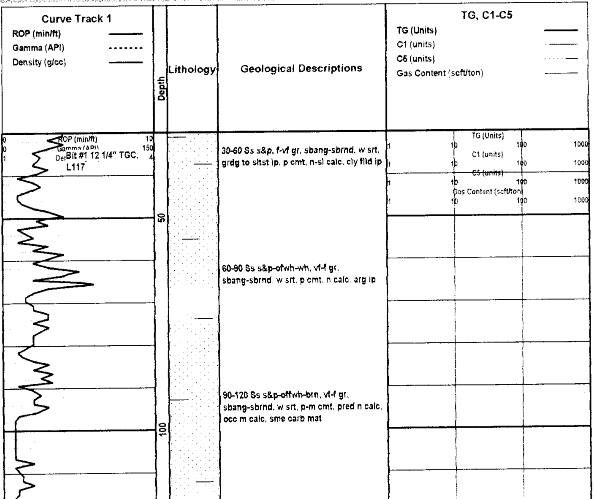
SORTING
W Well
M Moderate
P Poor

ROUNDING
R Rounded
Subrnd
Subang
A Angular

OIL SHOW
● Even
Spotted
Ques
D Dead

INTERVAL
Core
Dst

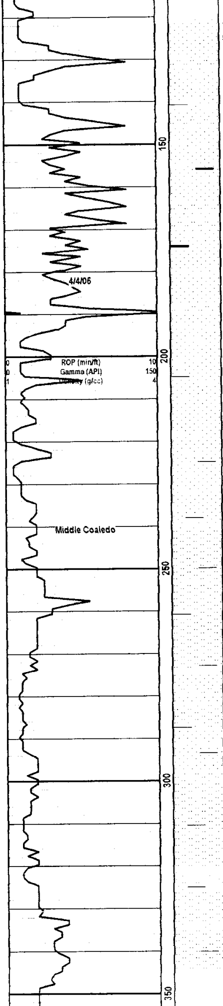
EVENT
Rft
Sidewall



30-60 Ss *s&p, f-vf gr, sbang-sbrnd*, w srt, grdg to sltst ip, p cmt, n-sl calc, cly flld ip

60-90 Ss s&p-ofwh-wh, vf-f gr, sbang-sbrnd, w srt, p cmt, n calc, arg ip

90-120 Ss s&p-offwh-brn, vf-f gr, sbang-sbrnd, w srt, p-m cmt, pred n calc, occ m calc, sme carb mat



120-150 Ss s&p-gy brn, sb rnd-sb ang, w srt, m-p cmt, fri ip, n calc

150-180 Ss s&p-gy, sb ang-sbrnd, vf gr, grdg to sltst ip, lam ip, sme carb lams, *p-m cmt, n calc*

180-210 Ss m gy-offwh-s&p-gy, vf gr, grdg to sltst ip, sme carb lams a/a, g tr *mica, n calc*

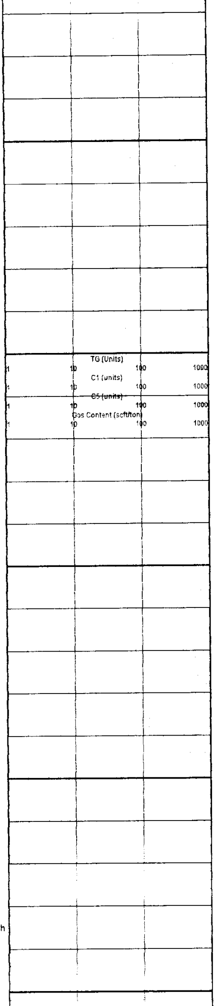
210-240 Ss cont a/a, sme lt gy brn, sltst, hd, arg, n calc

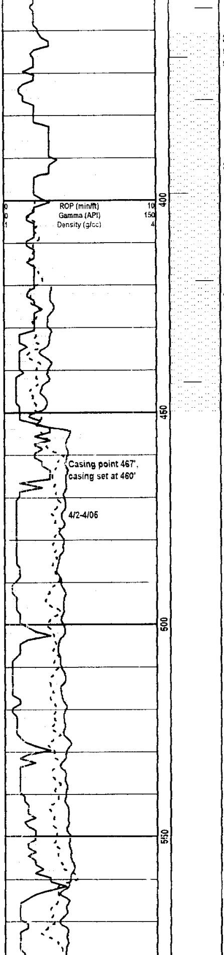
240-270 Sltst gy-tn-brn, blky, hd, sl-m calc, arg, grdg to vf gr ss ip

270-300 Ss & sltst a/a,sme carb mat

300-330 Sltst gy-tn-gybrn, sb blky-blky, frm-hd, arg, grdg to vf gr ss ip, sl-m calc

330-360 Sltst gybrn-s&p, sme grdg to vf gr ss, sme carb mat, arg, v sft, pred mush





Casing point 467', casing set at 460'

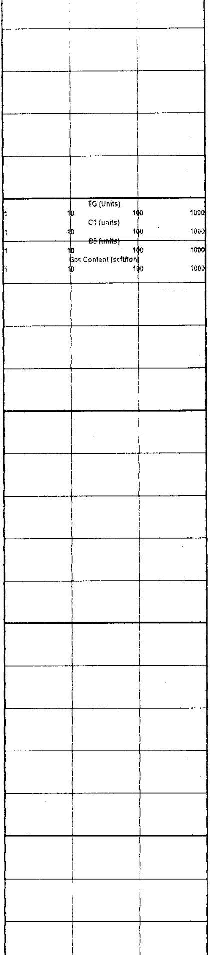
4/2-4/06

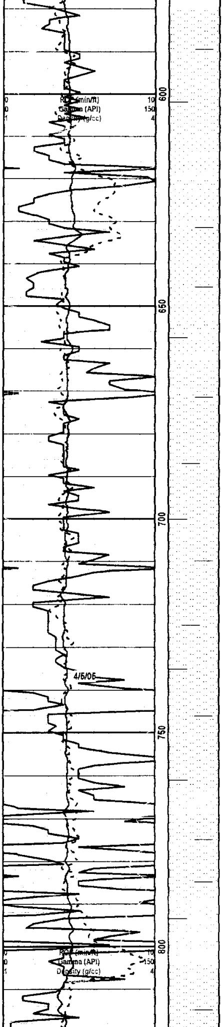
360-390 Sltst gy- brn, sb blky-blky, sft-frm, sl-m calc, sme sdy, grdg to vf gr ss ip

390-420 Sltst a/a, sme vf trnsl uncns sd

420-450 Sltst gy-brn, sb blky-blky, sft-frm, arg, sme uncns sd a/a, tr carb mat

450-580 No Samples, likely to be sltst based on corellation and drill rate





580-610 Sltst gy-brn, sb blky-blky, frm-sft, arg, sdy ip, grdg to vf gr ss ip, sme shell frags

610-640 Ss brn-s&p-trnsl, vf-f gr, sbang-sbrnd, occ c-vc gr, rnd sd, m calc, grdg to sltst ip

640-670 Ss s&p-gy, occ tn-brn, vf gr, sbang-sbrnd, m srt, m cmt-uncns, g tr vf gr uncns sd, sl-m calc

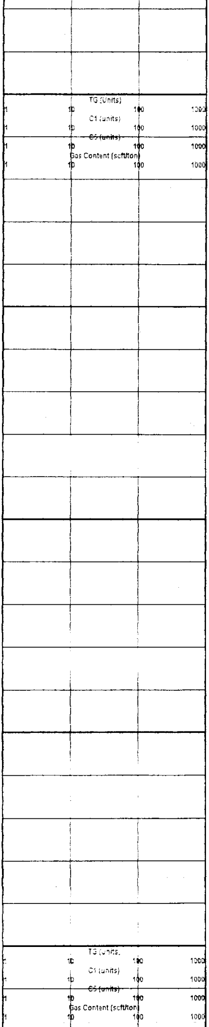
670-700 Sltst gy-gy brn, sb blky, sft, pred mush, sme uncns sd a/a, sl-n calc

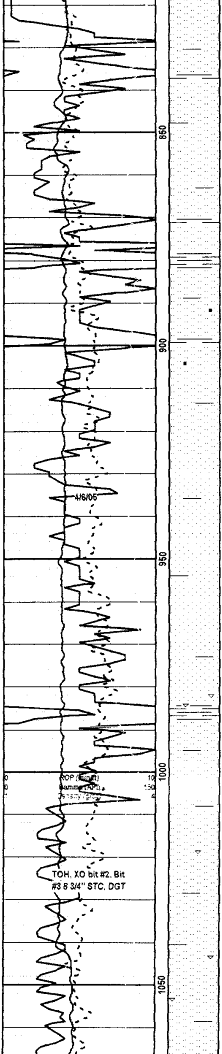
700-730 Sltst cont a/a

730-760 Sltst gy-brn, sb blky, arg, sft, pred mush, sme intbd ss

760-790 Sltst gy-gybrn, sb blky, sft, sl-m calc, arg, grdg to slty sh ip, pred mush

800-830 Sltst gy-offwh-tan, sb blky-blky, sft-frm, arg, grdg to slty sh ip, sme intbd ss





830-860 Sltst gy-brn, sb blky-blky, frm-sft, *n-sl calc, arg, grdg to slty sh ip*

860-890 Sltst cont a/a

890-920 Sltst brn-gy-lt gy, sb blky-blky, frm arg, sme intbd lt gy ss, tr carb mat, n-sl calc

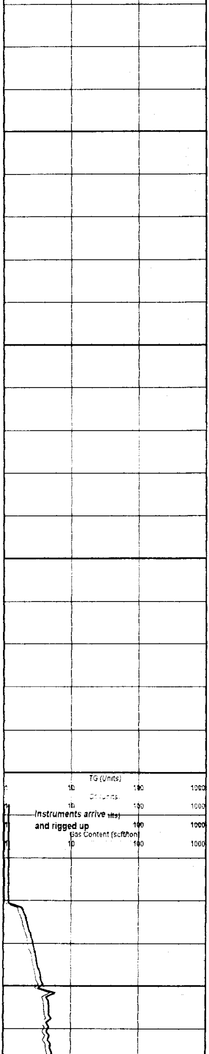
920-950 Ss s&p-lt gy-brn, vf gr, ang-sbang, g tr mica, g tr carb mat, *tuffaceous*

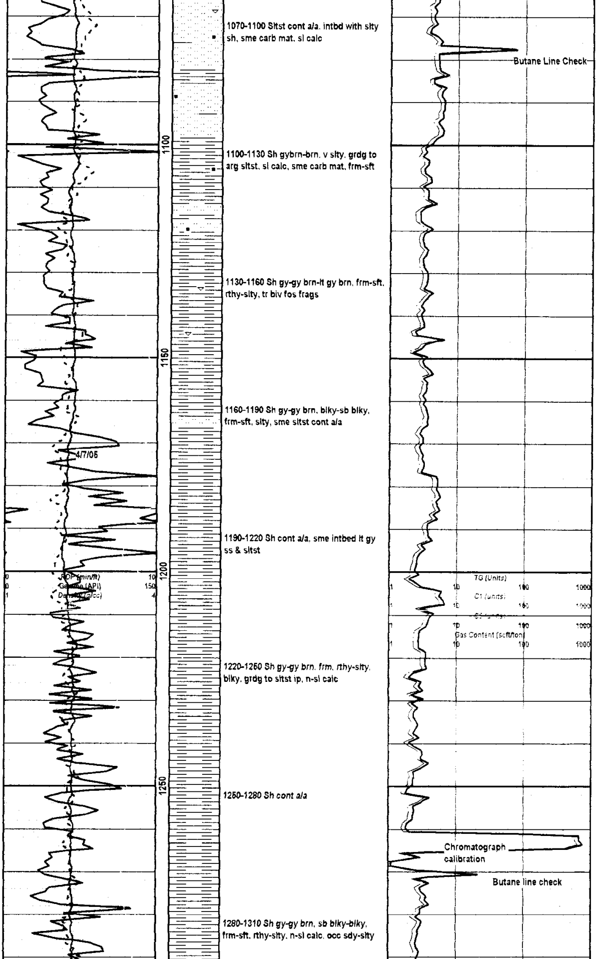
950-980 Tuffaceous ss a/a, lam, tr coal

980-1010 Ss offwh-s&p, vf gr, ang-sbang, w srt, lam, sl-m calc, tr shell frags

1010-1040 Sltst gybrn-brn, sb blky-blky, frm-sft, sdy ip, arg, sme shell frags

1040-1070 Sltst gy brn-brn, blky, frm, arg, grdg to slty sh ip, sl calc, tr fos frags





1070-1100 Sltst cont a/a, intbd with slty sh, sme carb mat, sl calc

1100-1130 Sh gybrn-brn, v slty, grdg to arg sltst, sl calc, sme carb mat, frm-sft

1130-1160 Sh gy-gy brn-lt gy brn, frm-sft, rthy-slty, tr biv fos frags

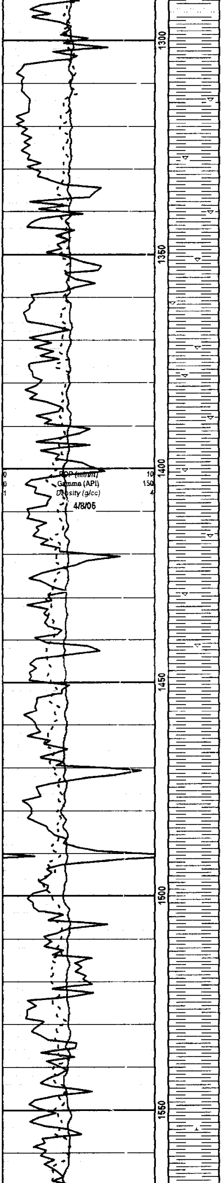
1160-1190 Sh gy-gy brn, blky-sb blky, frm-sft, slty, sme sltst cont a/a

1190-1220 Sh cont a/a, sme intbed lt gy ss & sltst

1220-1250 Sh gy-gy brn, frm, rthy-slty, blky, grdg to sltst ip, n-sl calc

1250-1280 Sh cont a/a

1280-1310 Sh gy-gy brn, sb blky-blky, frm-sft, rthy-slty, n-sl calc, occ sdy-slty



1310-1340 Sh gy-gy brn, blky, frm-sft, rthy-slty, grdg to sltst ip, g tr pelec fos frags

1340-1370 Sh gy brn-gy, sme carb mat, fr tr pelec fos frags, blky-sb blky, rthy-sl slty, sl-m calc

1370-1400 Sh lt gy-gy brn, blky-sb blky, rthy, frm-sft, n-sl calc

1400-1430 Sh cont a/a, sme fos frags

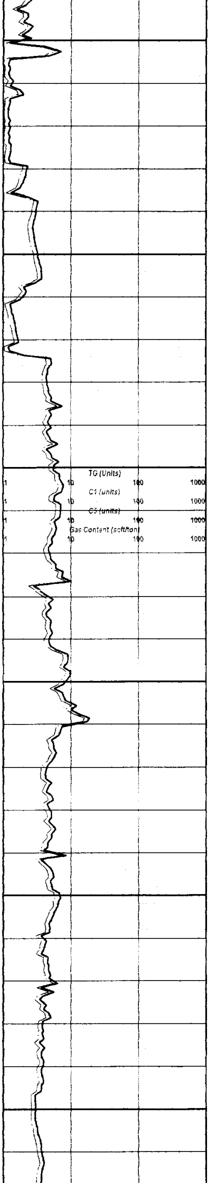
1430-1460 Sh gy brn-tn, lam, m calc, occ pelec fos frags

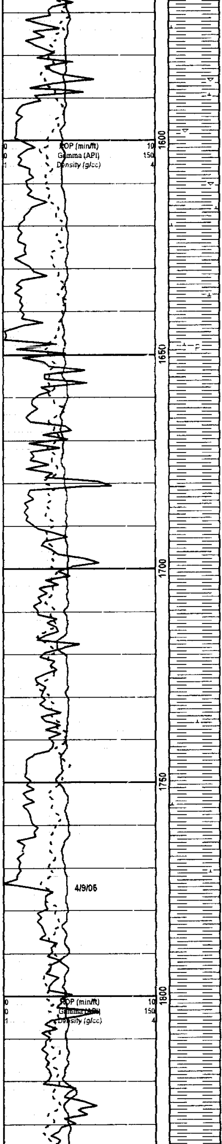
1460-1490 Sh gy brn, blky-sb blky, rthy-slty, grdg to sltst ip, frm-sft, sl-m calc

1490-1520 Sh gy-gybrn, sb blky-blky, frm, slty-rthy, sl calc

1520-1550 Sh gy-brn, sb blky-blky, frm-sft, sl calc, rthy-slty

1550-1580 Sh gy-gy brn-brn, rthy-slty, occ grdg to sltst, sl calc, occ thin calc micro veins





1580-1610 Sh gy- gybrn, sb blky-blky, frm, slty-rthy, sme calc veins, tr fos frags

1610-1640 Sh gy-gybrn, sb blky-blky, frm-sl sft, sl-m calc, rthy-slty, tr calc flld microveins

1640-1670 Sh gy brn, blky, frm-sl sft, rthy-sl slty, sl-m calc, rr calc & pyr vein filling

1670-1700 Sh gy-gy brn, sb blky-blky, sft-frm, rthy-sl slty, sl-m calc

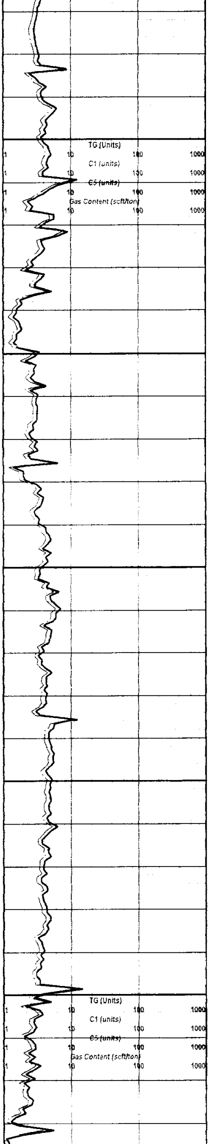
1700-1730 Sh cont a/a

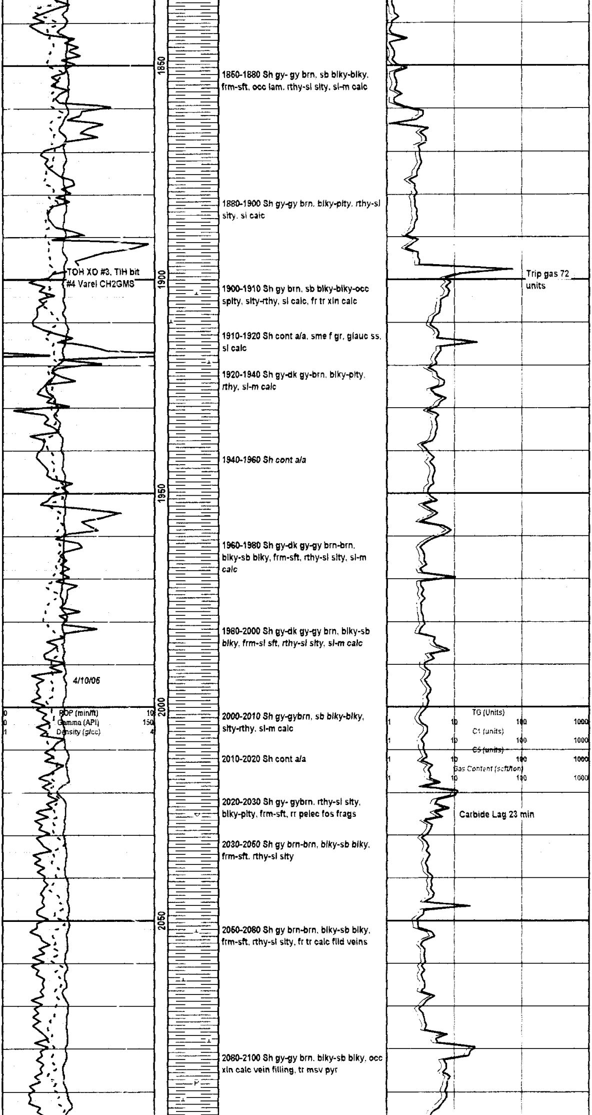
1730-1760 Sh gy-gy brn, blky, frm-sft, rthy-sl slty, sl-m calc, tr xln calc vein filling

1760-1790 Sh gy -gy brn, blky, frm-sl sft, rthy, lam ip, occ calc a/a

1790-1820 Sh cont a/a, sme ss tan-blk, s&p, f-m gr, sbang-sbrnd, w srt, m-w cmt, sl calc, glauconitic, cly flld, no vis por

1820-1850 Sh gy brn, blky-sb blky, frm-sft, rthy, sl calc





1850-1880 Sh gy- gy brn, sb blky-blky, frm-sft, occ lam, rthy-sl slty, sl-m calc

1880-1900 Sh gy-gy brn, blky-plty, rthy-sl slty, sl calc

1900-1910 Sh gy brn, sb blky-blky-occ splty, slty-rthy, sl calc, fr tr xln calc

1910-1920 Sh cont a/a, sme f gr, glauc ss, sl calc

1920-1940 Sh gy-dk gy-brn, blky-plty, rthy, sl-m calc

1940-1960 Sh cont a/a

1960-1980 Sh gy-dk gy-gy brn-brn, blky-sb blky, frm-sft, rthy-sl slty, sl-m calc

1980-2000 Sh gy-dk gy-gy brn, blky-sb blky, frm-sl sft, rthy-sl slty, sl-m calc

2000-2010 Sh gy-gybrn, sb blky-blky, slty-rthy, sl-m calc

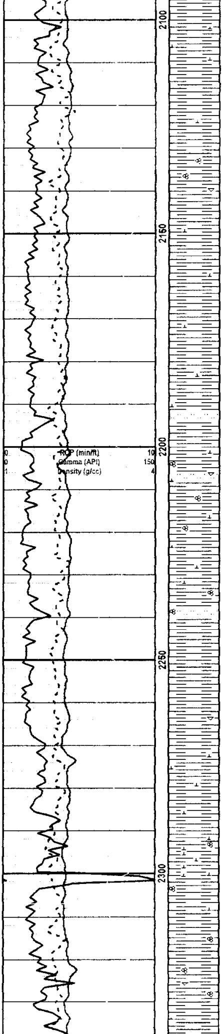
2010-2020 Sh cont a/a

2020-2030 Sh gy- gybrn, rthy-sl slty, blky-plty, frm-sft, rr pelec fos frags

2030-2050 Sh gy brn-brn, blky-sb blky, frm-sft, rthy-sl slty

2050-2080 Sh gy brn-brn, blky-sb blky, frm-sft, rthy-sl slty, fr tr calc flld veins

2080-2100 Sh gy-gy brn, blky-sb blky, occ xln calc vein filling, tr msv pyr



2100-2110 Sh gy-gy brn, blky, frm, rthy-slty, fr tr xln calc flld veins

2110-2130 Sh gy-gy brn, blky, sl calc, frm-sft, rthy-sl slty, tr calc vein fill

2130-2140 Sh gybrn, rthy-slty, sl calc, g tr calc flld veins, tr pelec fos frags, occ *planispiral forams, <1mm dia,* Lenticulinus sp?

2140-2170 Sh gy-gy brn, blky-sb blky, sl calc, slty, grdg to sltst ip, g tr xln calc

2170-2180 Sh gy-gy brn, blky, slty, sl-m calc, g tr calc flld veins, slty, grdg to sltst, sme intbed sltst

2180-2200 Sh cont a/a, intbed with gy-brn sltst, frm, lam, sl calc, arg, occ sl sdy, tr xln calc

2200-2220 Sh & *sltst a/a, intbd, tr vf gr* ss, g tr xln calc, occ pelec fos frags, fr tr planispiral forams

2220-2230 Sh gy-gy brn, blky-sb blky, sl calc, rthy-sl slty, tr xln calc, tr fos frags

2230-2240 Sh *a/a*, sme sltst, occ forams a/a

2240-2260 Sh gy-gy brn, sb blky- blky, rthy-sl slty, sl-m calc

2260-2270 Sh gy, rthy-slty, sl-m calc, blky-sb blky, tr fos frags

2270-2280 Sh gy, rthy-slty, sl calc, blky-splty, occ fos frags, g tr xln calc

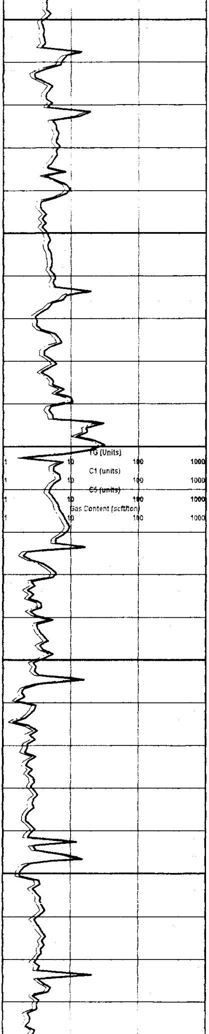
2280-2290 Sh cont a/a, grdg to sltst ip

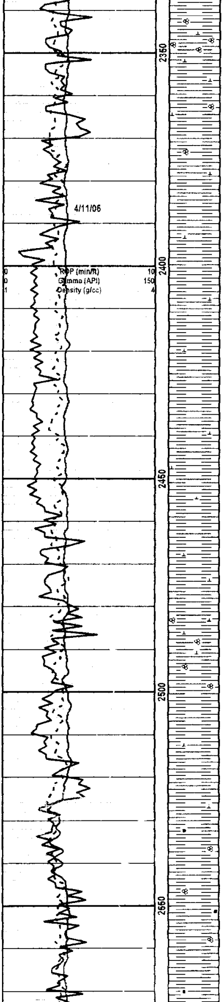
2290-2300 Sh gy, blky-splty, frm, g tr xln calc vein fill, occ planispiral forams

2300-2320 Sh gy-gybrn, blky-splty, frm, rthy-sl slty, abdt calc flld veins, occ forams a/a

2320-2330 Sh cont gy-gy brn, blky-splty, frm, rthy-sl slty, tr calc flld veins, cont occ forams, rr pelec fos frags

2330-2340 Sh gy-gy brn, blky-splty, g tr xln calc, g tr offwh-tan altered pumice clasts, rthy-sl slty, occ sbwxy





2340-2350 Sh gy, blky-splty, frm-sl sft, sl-m calc, , g tr xln calc, tr planispiral *forams a/a, tr globular & trochospiral or* rotated bi-serial forams

2350-2360 Sh gy-gy brn, blky, rthy, sl-m calc, g tr xln calc, sme fos frags

2360-2380 Sh gy-gy brn, blky-splty, rthy-sl slty, m calc, g tr xln calc, occ *planispiral forams*

2380-2400 Sh gy-gybrn, sb blky-blky, *frm-sl sft, rthy-slty, tr xln calc*

2400-2410 Sh *cont a/a, occ xln calc*

2410-2440 Sh gy-gy brn, blky-sb blky, m *calc, rthy-slty, tr xln calc*

2440-2450 Sh gy-gy brn, blky-splty, *sft-frm, rhty-slty, sl-m calc, tr xln calc*

2450-2480 Sh gy-gy brn, blky-splty, sft-frm, rhty-slty, sl-m calc, tr xln calc

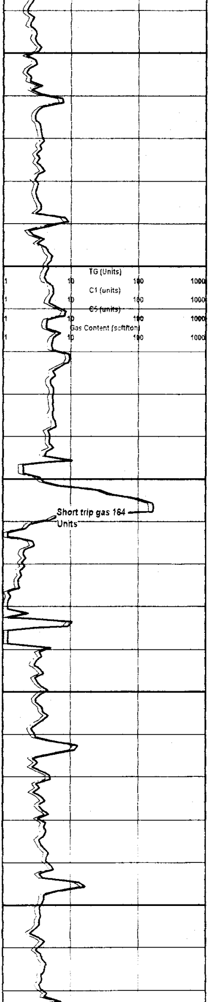
2480-2490 Sh gy-gybrn, blky-splty, rthy, sl-m calc, occ planispiral forams, g tr xln calc

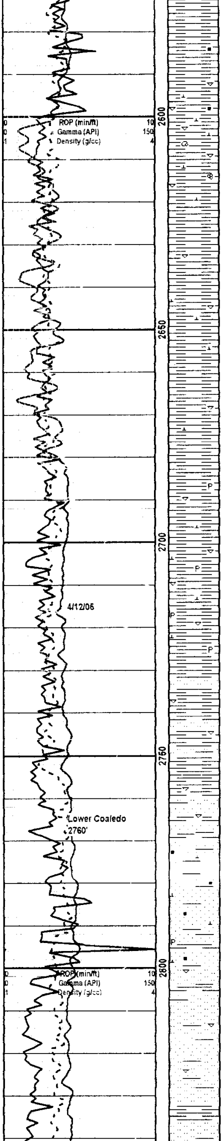
2490-2500 Sh gy-gybrn, blky-splty, rthy, sl-m calc, occ planispiral forams, g tr xln calc

2500-2530 Sh gy-gybrn, blky-splty, rthy-sl slty, *sl-m calc, tr xln calc*

2530-2560 Sh gy-gybrn, blky-sb blky, frm-sft, rthy-slty, grdg to sltst ip, tr carb mat, rr globular & planispiral forams

2560-2590 Sh gy-gybrn, blky-sb blky, frm-sft, rthy-slty, grdg to sltst ip, tr carb mat





2590-2600 Sh gy-gy brn, blky-splty, frm-sl sft, m calc, slty, grdg to sltst ip, tr carb mat, g tr xln calc, tr pelec fos frags

2600-2620 Sh cont a/a, occ planispiral forams, rr calc flld gast fos, sme intbed sltst

2620-2640 Sh gy-gy brn, blky-sb blky, frm-sl sft, rthy-slty, calc, occ pelec fos

2640-2660 Sh cont a/a, tr xln calc

2650-2680 Sh gy brn-gy, blky-sb blky, frm-sl sft, rthy-sl slty, fr tr xln calc, sme *pelec frags*

2680-2710 Sh gy brn-gy, blky-sb blky-splty, frm, rthy-slty, calc, occ pelec frags, *occ framb pyr*

2710-2740 Sh cont a/a, g tr intbd gy calc sltst

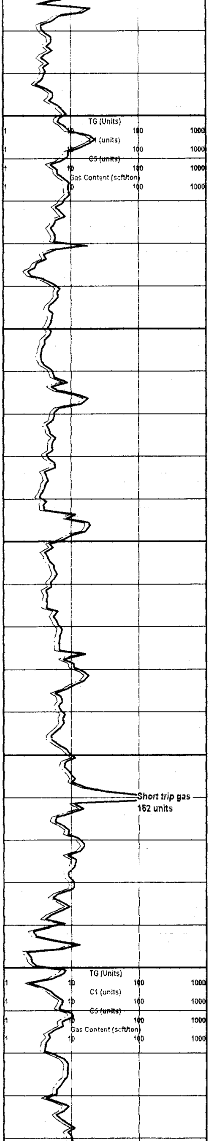
2740-2760 Sltst gy, sb blky-blky, frm, arg, occ sdy, grdg to slty ss ip, occ pelec fos frags

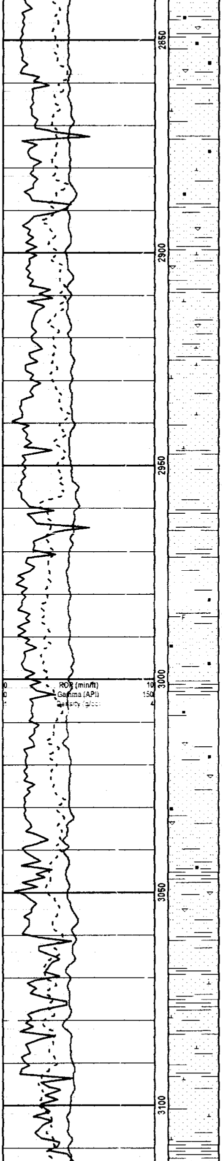
2760-2770 Ss gy-gy brn, f-vf gr-slty, arg mtx, sbang-ang, p srt, m cmt, calc, occ pelec frag, intbed with sh & sltst a/a

2780-2800 Ss lt gy-s&p, f-vf gr, occ c gr uncns sd, calc, arg mtx ip, m srt, m cmt-uncns, sme xln calc, tr carb mat, occ pyr, sme intbd sltst

2800-2830 Sltst gy-gy brn, sb blky, arg, grdg to slty sh ip, sme sdy, occ intbed ss a/a, tr coal, occ pelec fos frags

2830-2840 Sltst gy brn, sb blky-blky, calc, abdt pelec fos frags, v arg, grdg to slty sh, abdt intbed sh





2840-2860 Ss s&p-lt gy, f-vf gr, occ slty, calc, arg mtx, abdt intbed slty sh & sltst a/a, sme pelec frags, occ coal frags, sbvit, blky, chonch frac

2860-2870 Ss s&p-offwh-lt gy, f-vf gr, sbang, m srt, arg ip, calc, g tr xln calc, g tr intbed sltst

2870-2890 Ss s&p-offwh-lt gy, f-vf gr, sbang, m srt, arg ip, calc, occ carb lam, g tr xln calc, g tr intbed sltst

2890-2920 Sltst gy-gy brn, sb blky-blky, calc, tr xln calc, occ pelec fos frags

2920-2950 Ss s&p-lt gy, vf-f gr, sbang-sbrnd, p srt, mica, calc, arg ip, grdg to sltst ip, g tr sltst & sh a/a

2950-2980 Ss cont a/a, g tr gy-brn sltst, g tr intbed sh

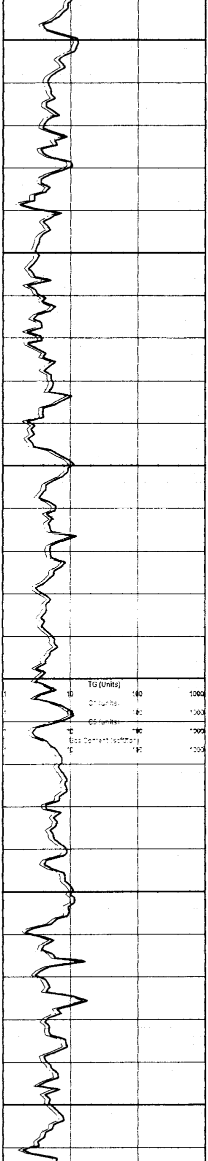
2980-3010 Sltst gy-gy brn, sb blky-blky, frm, calc, sdy ip, g tr intbed vf-f gr ss, tr carb mat, rr dentalia scaphopod or echinoderm fos frag

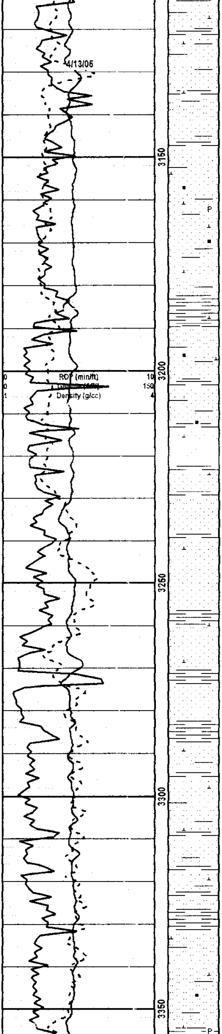
3010-3040 Ss lt gy-s&p-gy brn, f-vf gr sbang-sbrnd, m srt, m cmt, calc, arg mtx, grdg to sltst ip, tr carb mat, occ pelec fos frags

3040-3070 Sltst gy-gy brn, sb blky, frm, carb, sdy ip, arg, grdg to slty sh ip, tr carb mat, tr pelec frags

3070-3100 Ss gy-s&p, f-vf gr, sbang-sbrnd, m srt, m cmt, calc, arg ip, grdg to sltst ip, occ xln calc, g tr intbed sltst

3100-3130 Ss gy-s&p-lt gy, sbang-sbrnd, m srt, m cmt, calc, arg ip, g tr xln calc, cont g tr intbed sltst, occ intbed sh





3130-3150 Ss cont a/a, abdt vf-c gr *ang-sbang uncns qtz sd*

3150-3170 Ss trnsl-s&p-gy, vf-c gr, ang-sbang, v p srt, sl-m calc, occ carb mat, rr pyr, uncns-p cmt, pred uncns sd, *sme intbed sltst & sh*

3170-3200 Ss trnsl-offwh-s&p-gy, vf-c gr, v p srt, uncns-p cmt, sl-m calc, pred *uncns sd, occ carb mat*

3200-3230 Ss s&p-trnsl, f-c gr, occ v c gr-granules, wh cly flld ip, arg ip, g tr intbed sltst & sh, mica ip, sl-m calc

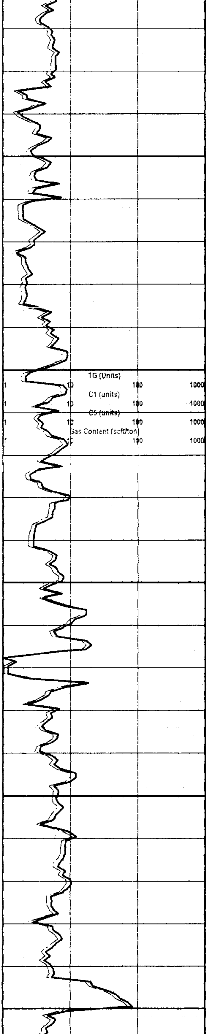
3230-3260 Ss cont a/a, interbedded with sltst & sh gy-gy brn, blky-splty, frm, rthy-slty, tr carb mat

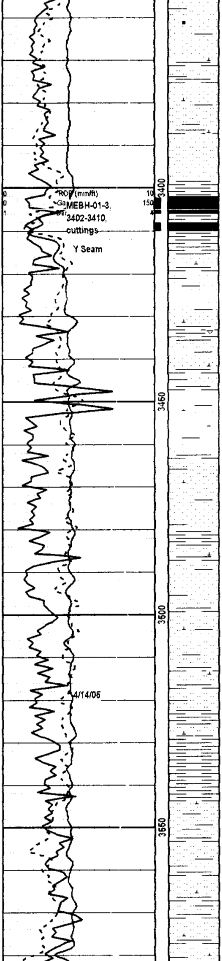
3260-3290 Ss gy-s&p, f-vf gr, occ m-c gr, rr terminated qtz xls, probably fracture fill, g tr intbed sltst & sh a/a

3290-3310 Ss *gy-gy brn, arg mtx, vf-c gr,* ang-sbang, v p srt, sl-m calc, sme xln calc, abdt intbd sltst

3310-3340 Sltst gy-gy brn, blky-sb blky, sdy ip, arg, sl-m calc, occ carb mat, occ pyr, *mica, rr doubly terminated qtz xls*

3340-3370 Sltst gy-gy brn, abdt intbed ss, sl calc, arg, occ xln calc frac fill





3370-3402 Sltst brn-gy, spec, sdy, arg mtx, grdg to arg ss, occ carb mat, sl calc, blky-sb blky, frm, sme intbed sh, g tr uncns sd

3402-3410 Coal blk, sbvit-dull, occ bright bands, abdt chonch frac, tr pyr

3410-3430 Ss gy-gy brn-s&p, vf-f gr, sbang-sbrnd, w srt, m cmt, calc, intbed with sltst a/a

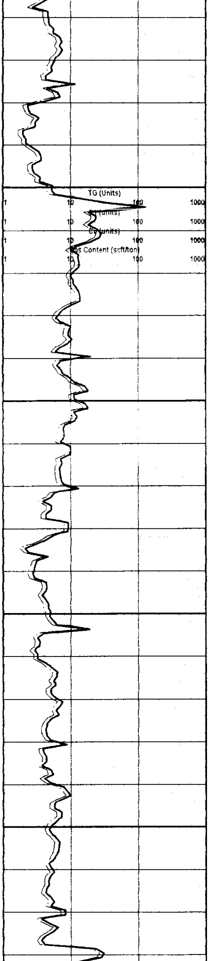
3430-3460 Ss offwh-s&p, f-vf gr, sbang-ang, cly flld, abdt lg mica flakes, sl-m calcg tr intbed sltst, tr coal, rr pelec frag

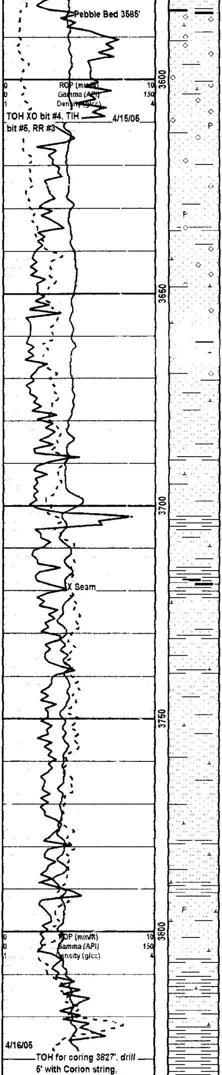
3460-3490 Sltst gy, s&p ip, sdy, grdg to ss ip, arg mtx, mica, g tr intbed ss & uncns sd

3490-3520 Sltst cont a/a, intbed with ss s&p-gy, sbang-ang, m-p srt, abdt uncns sd, v mica, occ lithic frags

3520-3550 Sh gy-gy brn, sb blky-splty, frm-sl sft, slty, grdg to sltst a/a, abdt intbed ss

3550-3580 Sltst gy, s&p ip, sdy, grdg to ss ip, arg mtx, mica, g tr intbed ss & uncns sd





3580-3590 Ss s&p-gy-brn, f-vf gr, occ c gr-pbbl, v p srt, sbang-rnd, pbbls pred basaltic rock frags and trnsl qtz, g tr coal

3600-3620 Ss s&p-brn, vf-m gr, occ v c-pbbl, arg mtx, m-p cmt, g tr uncns sd, mica, occ pyr cmt, pbbls basaltic rock frags & qtz

3620-3640 Ss s&p-brn, vf-m gr, occ v c-pbbl, arg mtx, m-p cmt, g tr uncns sd, mica, occ pyr cmt, pbbls basaltic rock frags & qtz

3640-3670 Ss s&p-brn, vf-m gr, occ v c-pbbl, arg mtx, m-p cmt, g tr uncns sd, mica, tr xln calc vein fill, pbbls volcanic rock frags & qtz, sme intbed gy-brn sh

3670-3700 Ss s&p-gy-brn, f-vf gr, sbang-sbrnd, m srt, m-p cmt, calc ip, arg mtx-wh cly flld, mica, g tr intbd sltst

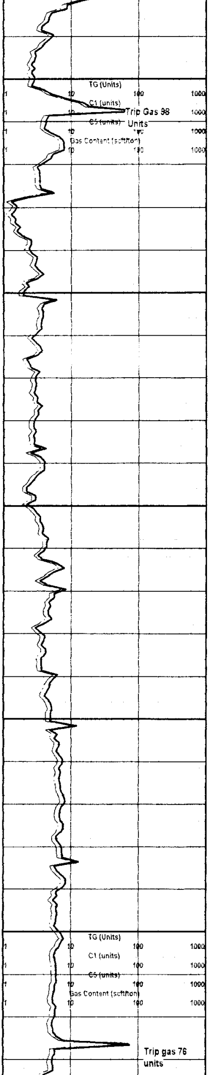
3700-3730 Ss s&p- lt gy, f-vf gr, sbang-sbrnd, m srt, g tr intbed sltst & sh, tr coal, mica, calc

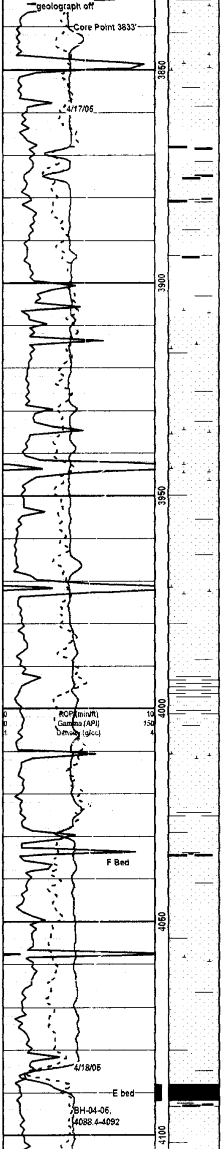
3730-3760 Sltst gy-gy brn, sb blky-blky, sft-frm, rthy-sl slty, abdt intbed ss & sh

3760-3790 Sltst a/a, sh gy-gy brn, sb blky-splty, frm, rhty-slty, grdg to sltst ip, rr Lenticulina sp. foram, probable caving from Middle Coaledo

3790-3820 Sh & sltst cont a/a, g tr glauc ss, tr pyr, tr xln calc

3820-3833 Sh gy-gy brn, sb blky-splty, frm, rhty-slty, grdg to sltst ip





3833-3834.3 Ss ltgy-s&p, m-c gr, occ calc flld frac, hd, w cmt, msv-flat lam, lam @15

3834.3-3845 Ss lt gy-s&p, m-c gr, frm-sft, cly flld, g tr burrows, sme flat lam a/a

3845-3847 Ss ltgy-s&p, m-c gr, occ calc flld frac, hd, w cmt, flat lam-msv

3847-3857 Ss ltgy-s&p, m-c gr, cly flld, g tr bioturb, sme flat lam @ 15 deg, sft, fri

3857-3868 Ss lt gy-s&p, m gr, cly flld, sft, biot, 0.2' arg coal @ base, pred rbbl, sme cleat

3868-3875 Ss ltgy-s&p, m-c gr, cly flld, sft, bioturb ip, 0.3' carb sh with coal lams

3875-3881 Ss lt gy-tn, f-m gr, tuffaceous , at top, 1' *intlam with thin coal stringers &*

3881-3884 Ss tan, c gr, tuffaceous, carb

3884-3905 Ss gy, c gr, thin carb sh bed @ 3903'

3905-3929 Ss gy-s &p, f-m gr, pred sft, fri, *occ hd, calc, abdt coring induced fracs,* msv-flat lam, dip @ 20 deg, heavily bioturb ip

3929-3942 *Ss s&p-lt gy, msv-flat lam,* sft-hd, calc cmt ip, 3933'-3934' hd calc

3942-3944.5 Ss s&p-lt gy, msv-flat lam,

3944.5-3955 Ss lt-m gy, msv, m gr, sme burrows, hd, calc

3955-3971 Ss lt-m gy, msv, m-f gr, v frac ip, sme burrows

3971-3975 Ss lt gy, frm-hd, calc, lam-msv, 10 deg dip, sme calc, flld fracs, occ sm burrows up to 1 cm

3984-3992 Ss gy, lam, f- vf gr, occ bioturb, rr rip up clasts, 10-20 deg dip, grdg to sltst ip, sme sft sed def

3992-4003 Sltst & sh interbedded, lam-msv, sme intbed ss, 10-20 deg dips

4003-4010 Ss lt gy, c gr, sme coal rip up clasts & lam, sme calc flld sb vert fracs

4010-4022 Ss lt-m gy, f-m gr, occ c gr, dip 10 deg, sft-hd, calc ip, pred cly flld

4022-4027 Sltst intbed with ss & sh a/a

4027-4034 Ss lt-m gy, f-m gr, occ c gr, dip 10-15 deg, cly flld, 0.1' m cleat coal @ *base, 15 deg dip*

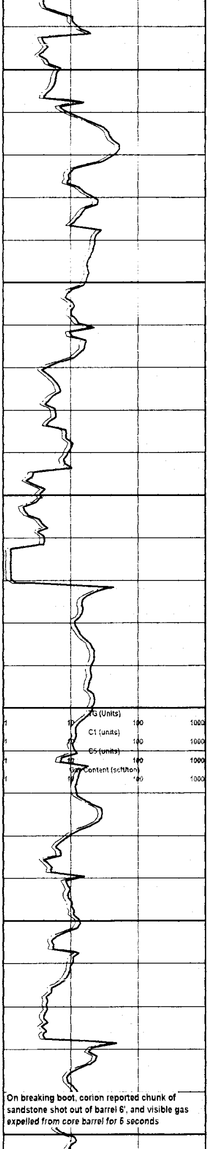
4034-4057 Ss lt-m gy, msv, sft, cly flld, *sme carb spec, 0.2' carb sh at top*

4057-4081 Ss lt gy, msv-lam, m gr, occ coal rip up clasts, occ calc flld sb vert frac

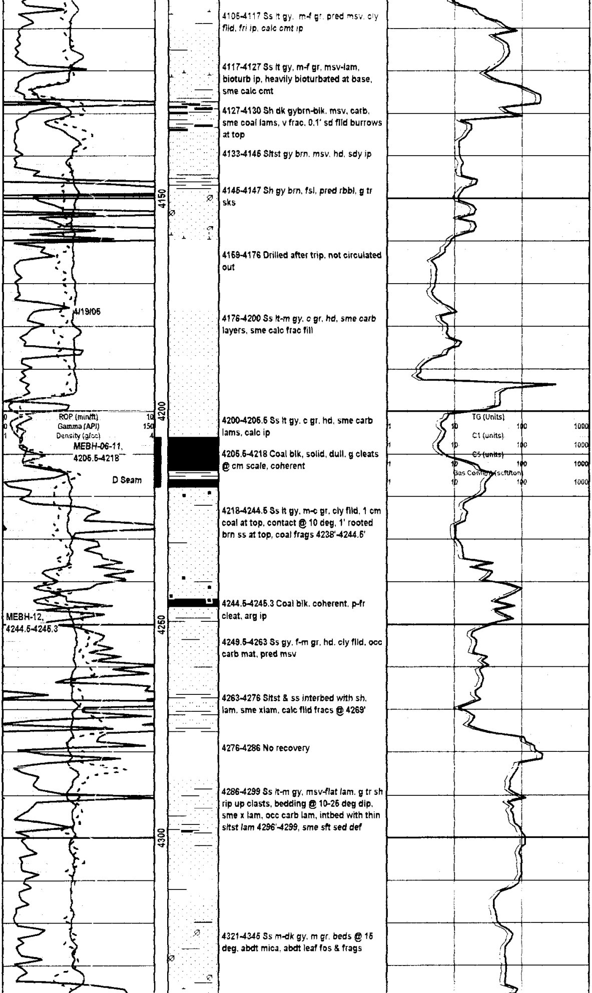
4081-4088 Ss lt gy, msv-lam, f-m gr, *sft-frm, fri*

4088.4-4090.4 Coal blk, sbvit-dull, arg ip, p-w cleated

4093.5-4105 Ss lt gy-s&p, msv-f gr



On breaking boot, corion reported chunk of sandstone shot out of barrel 6', and visible gas *expelled from core barrel for 5 seconds*



4106-4117 Ss lt gy, m-f gr, pred msv, cly flld, fri ip, calc cmt ip

4117-4127 Ss lt gy, m-f gr, msv-lam, bioturb ip, heavily bioturbated at base, sme calc cmt

4127-4130 Sh dk gybrn-blk, msv, carb, sme coal lams, v frac, 0.1' sd flld burrows at top

4133-4146 Sltst gy brn, msv, hd, sdy ip

4146-4147 Sh gy brn, fsl, pred rbbl, g tr sks

4159-4176 Drilled after trip, not circulated out

4176-4200 Ss lt-m gy, c gr, hd, sme carb layers, sme calc frac fill

4200-4206.5 Ss lt gy, c gr, hd, sme carb lams, calc ip

4206.5-4218 Coal blk, solid, dull, g cleats @ cm scale, coherent

4218-4244.5 Ss lt gy, m-c gr, cly flld, 1 cm coal at top, contact @ 10 deg, 1' rooted brn ss at top, coal frags 4238'-4244.5'

4244.5-4245.3 Coal blk, coherent, p-fr cleat, arg ip

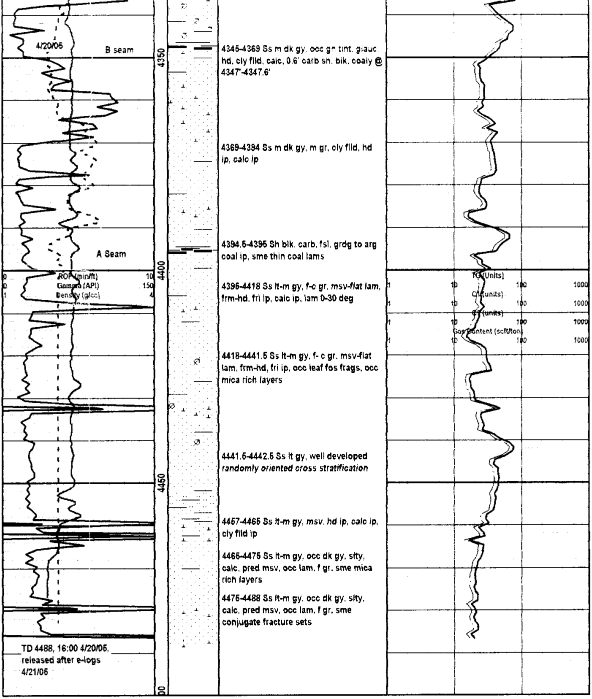
4249.5-4263 Ss gy, f-m gr, hd, cly flld, occ carb mat, pred msv

4263-4276 Sltst & ss interbed with sh, lam, sme xlam, calc flld fracs @ 4269'

4276-4286 No recovery

4286-4299 Ss lt-m gy, msv-flat lam, g tr sh rip up clasts, bedding @ 10-25 deg dip, sme x lam, occ carb lam, intbed with thin sltst lam 4296'-4299, sme sft sed def

4321-4345 Ss m-dk gy, m gr, beds @ 15 deg, abdt mica, abdt leaf fos & frags



4345-4369 Ss m dk gy, occ gn tint, glauc, hd, cly flld, calc, 0.6' carb sh, blk, coaly @ 4347'-4347.6'

4369-4394 Ss m dk gy, m gr, cly flld, hd *ip, calc ip*

4394.5-4395 Sh blk, carb, fsl, grdg to arg coal ip, sme thin coal lams

4395-4418 Ss lt-m gy, *f-c gr, msv-flat lam,* frm-hd, fri ip, calc ip, lam 0-30 deg

4418-4441.5 Ss lt-m gy, f- c gr, msv-flat lam, frm-hd, fri ip, occ leaf fos frags, occ mica rich layers

4441.5-4442.5 Ss lt gy, well developed *randomly oriented cross stratification*

4457-4465 Ss *lt-m* gy, *msv. hd ip*, calc ip, cly flld ip

4465-4475 Ss lt-m gy, occ dk gy, slty, calc, pred msv, occ lam, f gr, sme mica rich layers

4475-4488 Ss lt-m gy, occ dk gy, slty, calc, pred msv, occ lam, f gr, sme conjugate fracture sets

TD 4488, 16:00 4/20/05, released after e-logs 4/21/05