



Scale: 5" / 100'  
Measured Depth Log

**Well Name** File 3T-32H-K268

**Location** Sec. 32 T2N R68W

**State** Colorado

**County** Weld

**Country** USA

**Rig Number** Ensign 140

**API Number** 05123458310000

**AFE #** 16190781

**Geographic Region** Rockies

**Field** Wattenberg

**Spud Date** 12/1/2017

**Drilling Completed** 12/4/2017

**Surface Coordinates** Lat/Long: 40.092573/-105.030539

SHL: Sec: 32 Twp: 2N 68W  
Footage: 1760 FSL 1782 FWL

**Bottom Hole Coordinates** Proposed BHL: Sec: 29 Twp: 2N 68W  
Footages: 2215 FSL 2500 FWL

**Ground Elevation** 4,970'

**K.B. Elevation** 4,993'

**Logged Interval** 6,500' **To** 13,562'

**Total Depth** 13,562'

**Formation** B Chalk

**Type of Drilling Fluid** Synthetic Oil Based Mud

## Operator

**Company** Crestone Peak Resources

**Address** 370 17th Street #2170  
Denver, CO 80202



**CRESTONE PEAK**  
RESOURCES

Geologist

Zone Color Coding

## Geologist

**Name** John Ready

**Company** Crestone Peak Resources

**Address** 370 17th Street #2170  
Denver, CO 80202



**CRESTONE PEAK**  
RESOURCES

## Zone Color Coding



Oil



Condensate



Gas



Note



Core



Pressure



Error



Water



Seal

## Other

**Loggers:** Nick Watkins / Brian Ferwerda

**Services Provided:** 2-Man Mudlogging / Geosteering

**Equipment:** ML-597

**Contractor:** Empirica, Reservoir Group  
6510 Guhn Road  
Houston, TX 77040

## Rock Types

? UNKNOWN

ANHYDRITE

GYPSUM

SALT

SIDERITE or LIMONITE

LIMESTONE

DOLOMITE

CHERT

COAL

MARLSTONE

CHALK

SHALE

SHALE GRAY

SHALE COLORED

SILTSTONE

SANDSTONE

CONGLOMERATE

BRECCIA

TILL

BENTONITE

TUFF

IGNEOUS

METAMORPHIC

CEMENT

## Accessories

### Fossils

ALGAE

AMPHIPORA

BELEMNITE

BIOCLASTIC

BRACHIOPOD

BRYOZOA

CEPHALPOD

CORAL

CRINOID

ECHINOID

FISH

FORAMINIFERA

F FOSSIL

GASTROPOD

OOLITE

OSTRACOD

PELECYPOD

PELLET

PISOLITE

PLANT REMAINS

PLANT SPORES

SCAPHOPOD

STROMATOPOROID

### Minerals

ANHYDRITIC

ARGILLACEOUS

ARGILLITE GRAIN

BENTONITE

BITUMENOUS SUBSTANCE

BRECCIA FRAGMENTS

CALCAREOUS

CARBONACEOUS FLAKES

CHTDK

CHTLT

COAL - THIN BEDS

DOLOMITIC

FELDSPAR

FERRUGINOUS PELLET

FERRUGINOUS

GLAUCONITE

GYPSIFEROUS

HEAVY MINERAL

KAOLIN

MARLSTONE

MINERAL CRYSTALS

NODULES

PHOSPHATE PELLETS

PYRITE

SALT CAST

SANDY

SILICEOUS

SILTY

TUFFACEOUS

### Stringer

ANHYDRITE STRINGER

BENTONITE STRINGER

COAL STRINGER

DOLOMITE STRINGER

GYPSUM STRINGER

LIMESTONE STRINGER

MARLSTONE (CALC) STRG

MARLSTONE (DOL) STRG

SANDSTONE STRINGER

SHALE STRINGER

SILTSTONE STRINGER

Other Symbols

Oil Show

- DEAD
- EVEN
- QUESTIONABLE
- SPOTTED STAINING

Porosity

- EARTHY
- FENESTRAL
- FRACTURE
- INTERCRYSTALLINE
- INTEROOLITIC
- MOLDIC

- ORGANIC
- PINPOINT
- VUGGY

Engineering

- BIT
- CASING
- CONNECTION (LEFT)
- CONNECTION (RIGHT)
- CONNECTION GAS
- CORE - LOST
- CORE - RECOVERED
- DST INTERVAL
- FAULT

- FORMATION TOP
- GAS SHOW
- MN DEPTH
- NORMAL FAULT
- OIL SHOW
- OVERTURNED STRATA
- REVERSE FAULT
- SIDEWALL CORE (LEFT)
- SIDEWALL CORE (RIGHT)
- SLIDE
- SURVEY
- TRIP GAS
- WIRELINE TESTED - LEFT
- WIRELINE TESTED - RT

Rounding

- ANGULAR
- ROUNDED
- SUBANG
- SUBRND

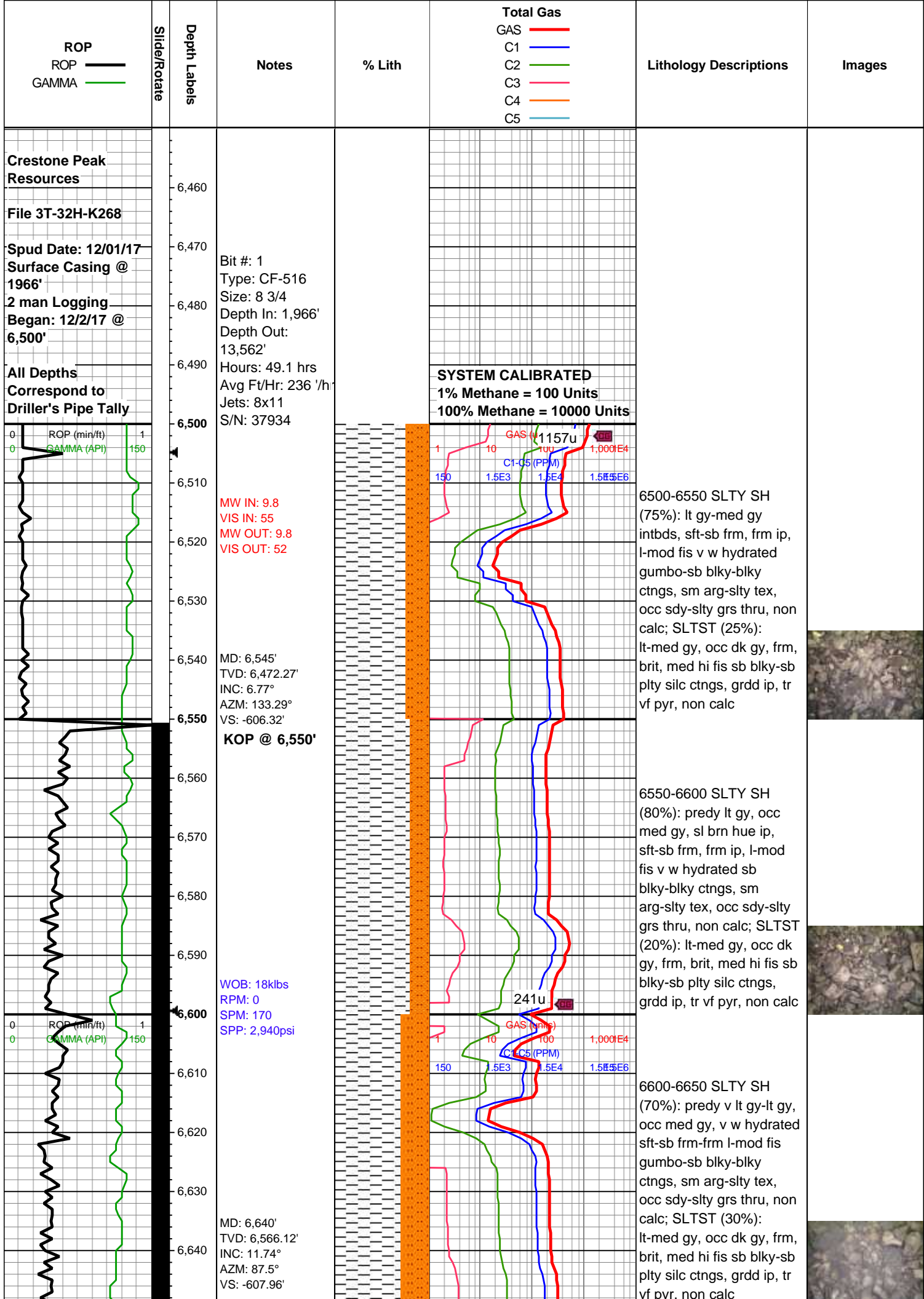
Textures

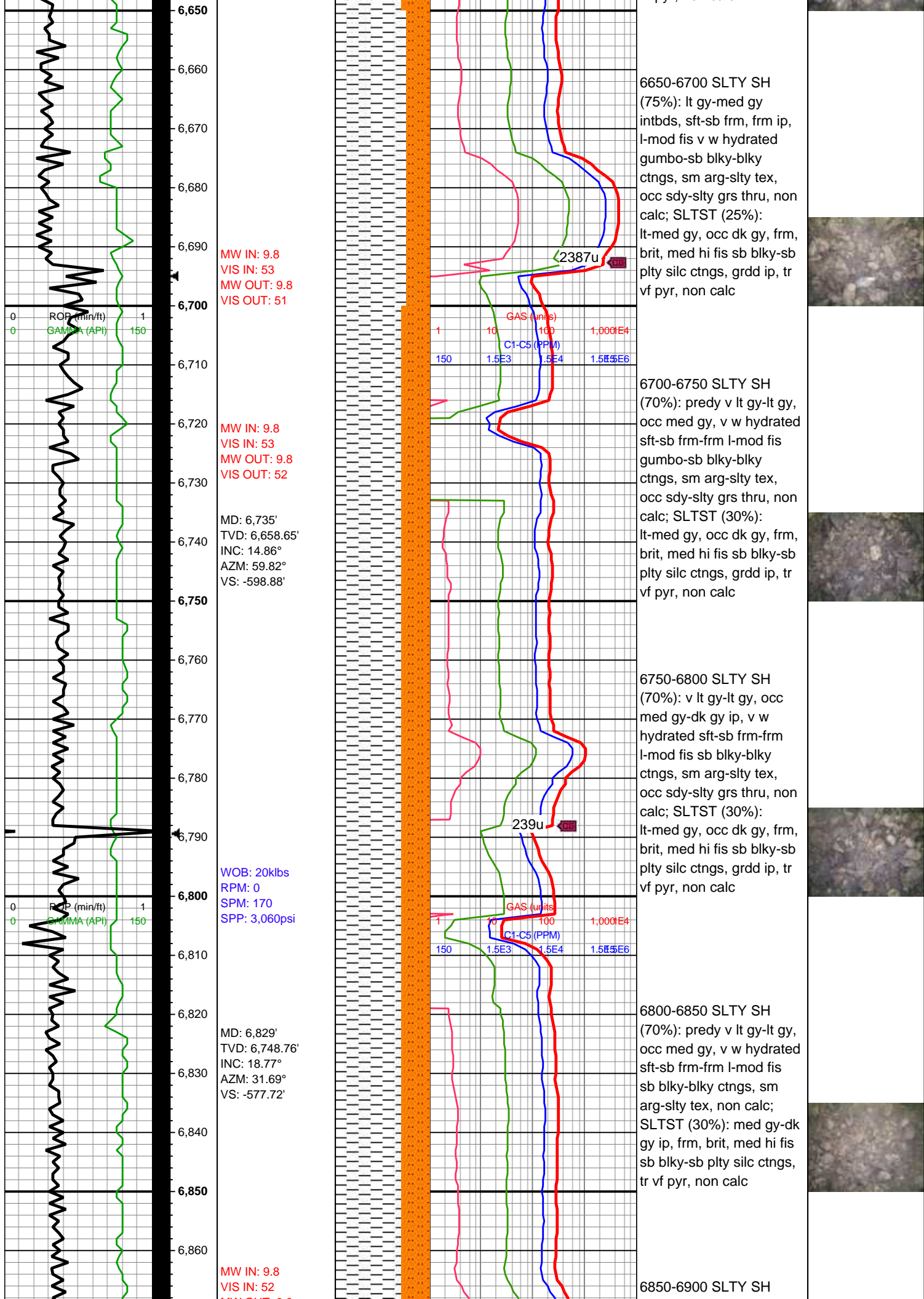
- BOUNDSTONE
- CHALKY
- CRYPTOXLN
- EARTHY
- FINELYXLN
- GRAINSTONE

- LITHOGRAPHIC
- MICROXLN
- MUDSTONE
- PACKSTONE
- WACKESTONE

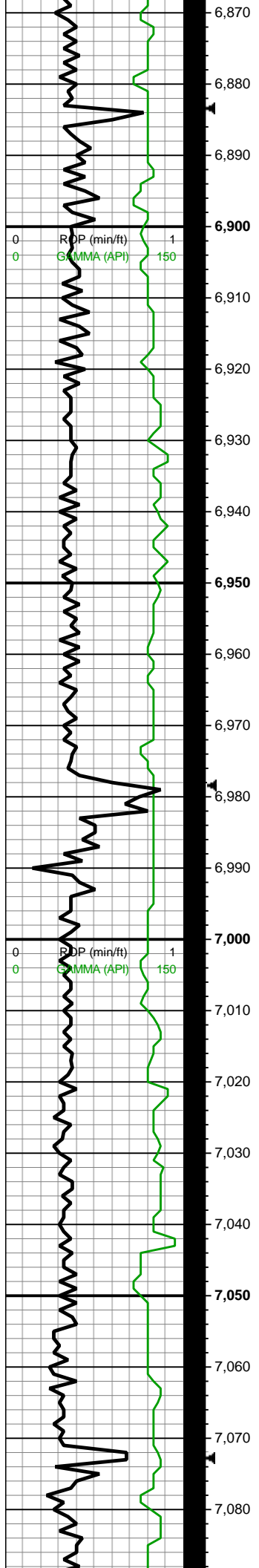
Sorting

- MODERATE
- POOR
- WELL









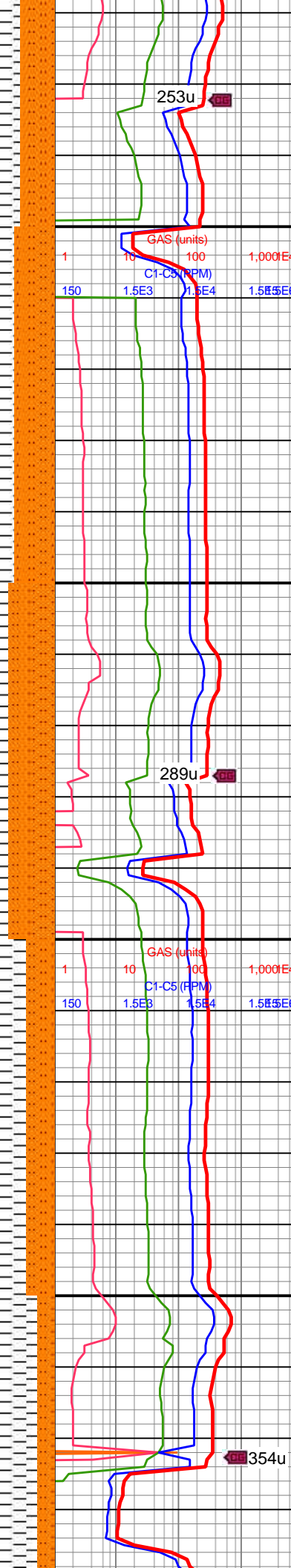
MW OUT: 9.8  
VIS OUT: 50

MD: 6,924'  
TVD: 6,838.32'  
INC: 20.53°  
AZM: 11.92°  
VS: -547.15'

MW IN: 9.8  
VIS IN: 52  
MW OUT: 9.8  
VIS OUT: 50

WOB: 18klbs  
RPM: 0  
SPM: 170  
SPP: 3,150psi

MD: 7,018'  
TVD: 6,924.85'  
INC: 25.58°  
AZM: 357.59°  
VS: -510.67'



(70%): predy v lt gy-lt gy,  
occ med gy, w-v w  
hydrated, mod fis, sb  
blky-blky sb frm-frm  
ctngs, sm arg-sltly tex, sl  
sltly thru, non calc; SLTST  
(30%): lt-med gy, occ dk  
gy, frm, brit, med hi fis sb  
blky-sb plty silc ctngs,  
grdd ip, tr vf pyr, non calc

6900-6950 SLTY SH  
(65%): med gy-gyshbn, lt  
gy ip, mod fis sl hydrated  
sb frm-frm blky-tab ctngs,  
sm arg-sltly tex, slty ip wi  
incr silc slt grdg to sltst,  
non calc; SLTST (35%):  
predy med gy, occ lt gy-dk  
gy, rr wh vn & incl, frm,  
brit, med hi fis sb blky-sb  
plty silc ctngs, tr vf  
micmica, non calc

6950-7000 SLTY SH  
(60%): lt-med gy-gyshbn,  
sb frm-frm, mod fis sl  
hydrated sb blky-blky-tab  
ctngs, sm arg-sltly tex, slty  
ip wi decr clay grdg to  
sltst, non calc; SLTST  
(40%): predy med gy, occ  
lt gy-dk gy, rr wh vn & incl,  
frm, brit, med hi fis sb  
blky-sb plty silc ctngs, tr vf  
micmica, non calc

7000-7050 SLTY SH  
(75%): med  
gy-gyshbn-occ dk gy,  
sft-sb frm, frm ip, mod fis  
sb blky-blky-tab ctngs,  
sm arg-sltly tex, rr thn wh  
lamn ip, non calc; SLTST  
(25%): med gy-dk gy, frm,  
brit, med hi fis sb blky-sb  
plty silc ctngs, tr vf pyr &  
micmica, non calc

7050-7100 SLTY SH  
(75%): med  
gy-gyshbn-occ dk gy,  
sft-sb frm, frm ip, mod fis  
sb blky-blky-tab ctngs,  
sm arg-sltly tex, rr thn wh  
lamn ip, non calc; SLTST  
(25%): med gy-dk gy, frm,  
brit, med hi fis sb blky-sb  
plty silc ctngs, tr vf pyr &  
micmica, non calc





7,090  
7,100  
7,110  
7,120  
7,130  
7,140  
7,150  
7,160  
7,170  
7,180  
7,190  
7,200  
7,210  
7,220  
7,230  
7,240  
7,250  
7,260  
7,270  
7,280  
7,290  
7,300

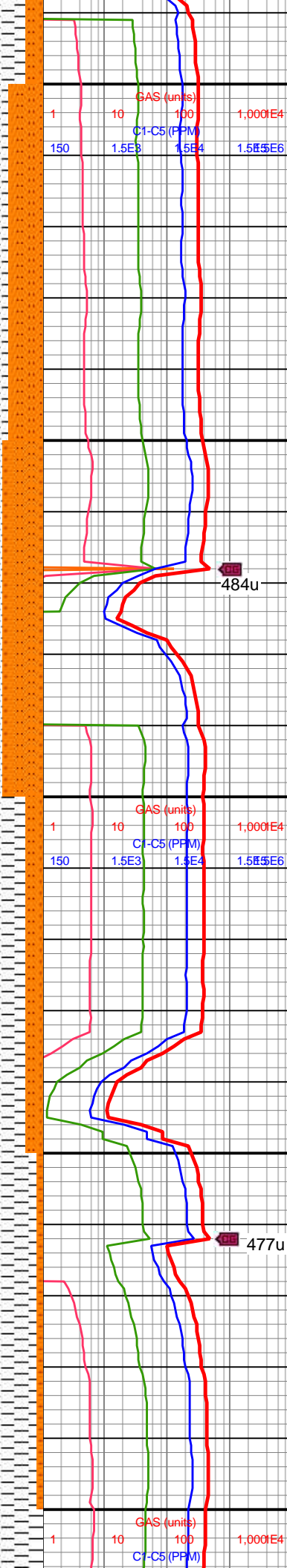
MD: 7,113'  
TVD: 7,008.08'  
INC: 32°  
AZM: 1.81°  
VS: -465.35'

WOB: 25kls  
RPM: 0  
SPM: 170  
SPP: 3,220psi

MD: 7,208'  
TVD: 7,084.94'  
INC: 39.87°  
AZM: 5.15°  
VS: -409.78'

MW IN: 9.8  
VIS IN: 51  
MW OUT: 9.8  
VIS OUT: 49

MD: 7,302'  
TVD: 7,151.67'  
INC: 49.54°  
AZM: 4.36°  
VS: -343.8'



(25%): med gy-dk gy, frm,  
brit, med hi fis sb blkly-sb  
ply silc ctngs, tr vf pyr &  
micmica, non calc

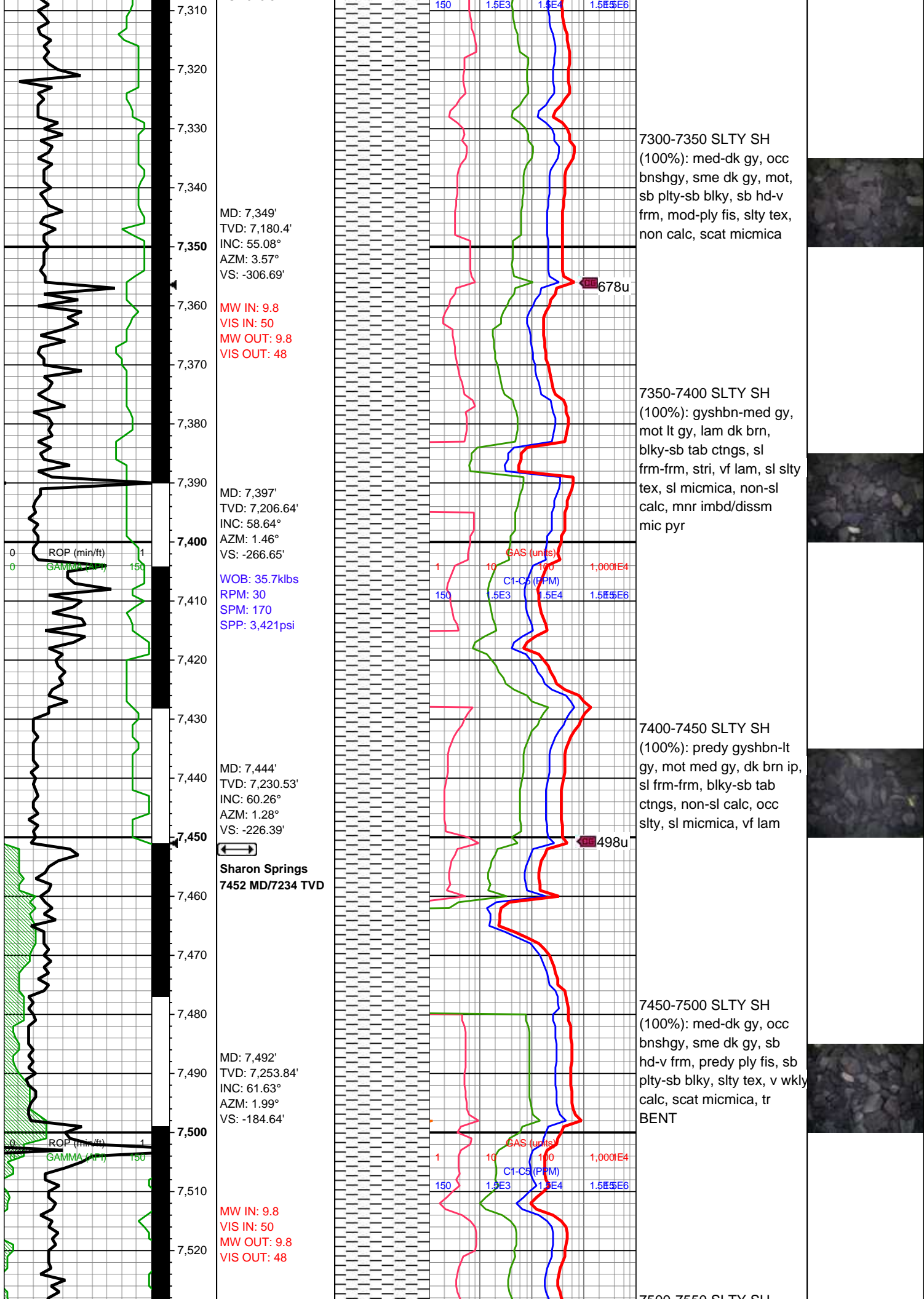
7100-7150 SLTY SH  
(70%): med  
gy-gyshbn-dk gy, predy  
sb frm-frm, occ sft ip,  
l-mod fis sl hydrated sb  
rd-sb blkly-blky-tab ctngs,  
sm arg-sltly tex, non calc;  
SLTST (30%): med gy-dk  
gy, rr tn, rr wh vn & incl,  
brit, med hi fis sb blkly-sb  
ply silc ctngs, tr vf pyr  
non calc

7150-7200 SLTY SH  
(65%): med gy-gyshbn, lt  
gy ip, mod fis sl hydrated  
sb frm-frm blkly-tab ctngs,  
sm arg-sltly tex, slty ip wi  
incr silc slt grdg to sltst,  
non calc; SLTST (35%):  
predy med gy, occ lt gy-dk  
gy, rr wh vn & incl, frm,  
brit, med hi fis sb blkly-sb  
ply silc ctngs, tr vf pyr &  
micmica non calc

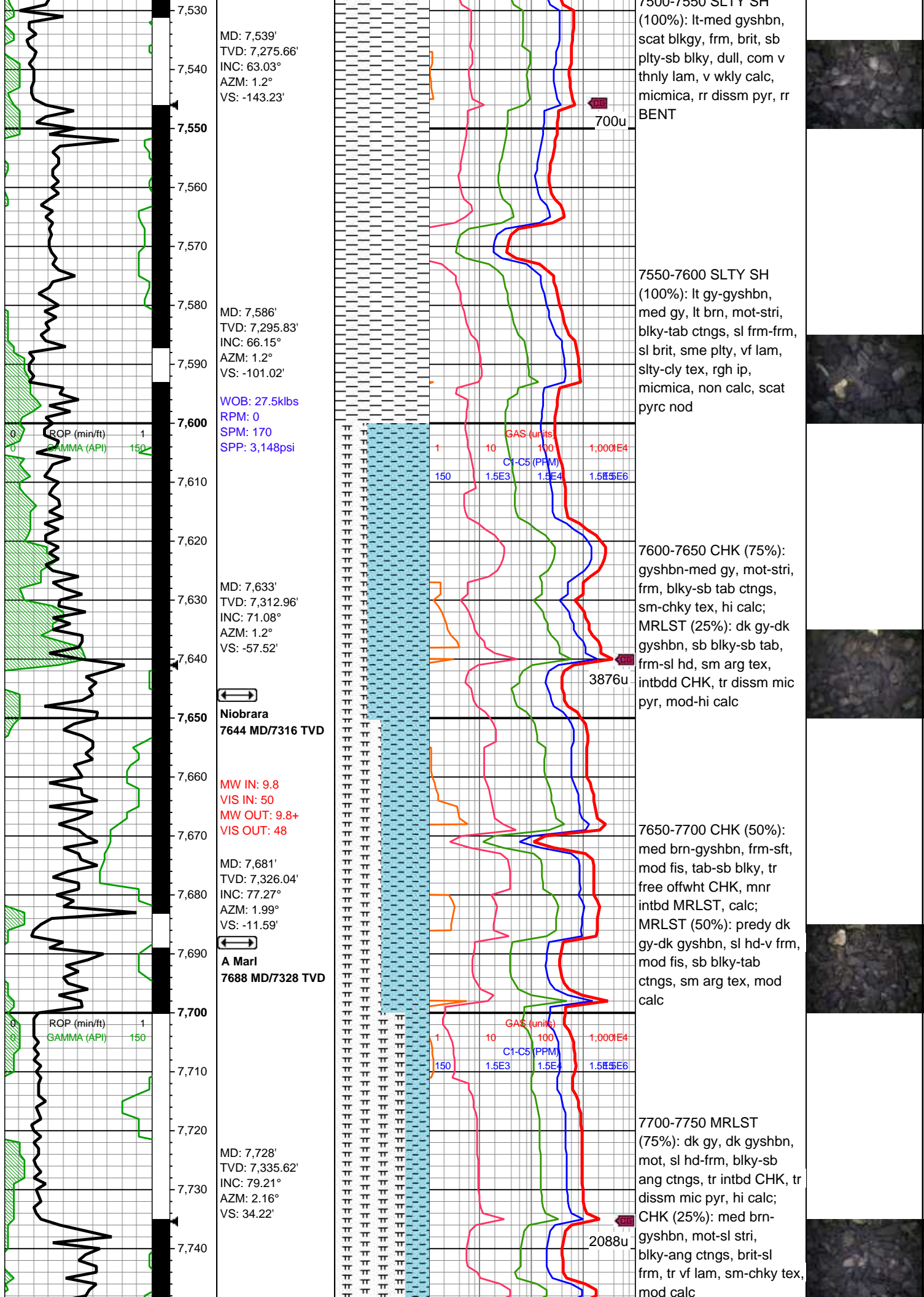
7200-7250 SLTY SH  
(85%): predy v lt gy-lt gy,  
occ med gy, v w hydrated  
sft-sb frm-frm l-mod fis  
sb blkly-blky ctngs, sm  
arg-sltly tex, non calc;  
SLTST (15%): med gy-dk  
gy ip, frm, brit, med hi fis  
sb blkly-sb ply silc ctngs,  
tr vf pyr, non calc

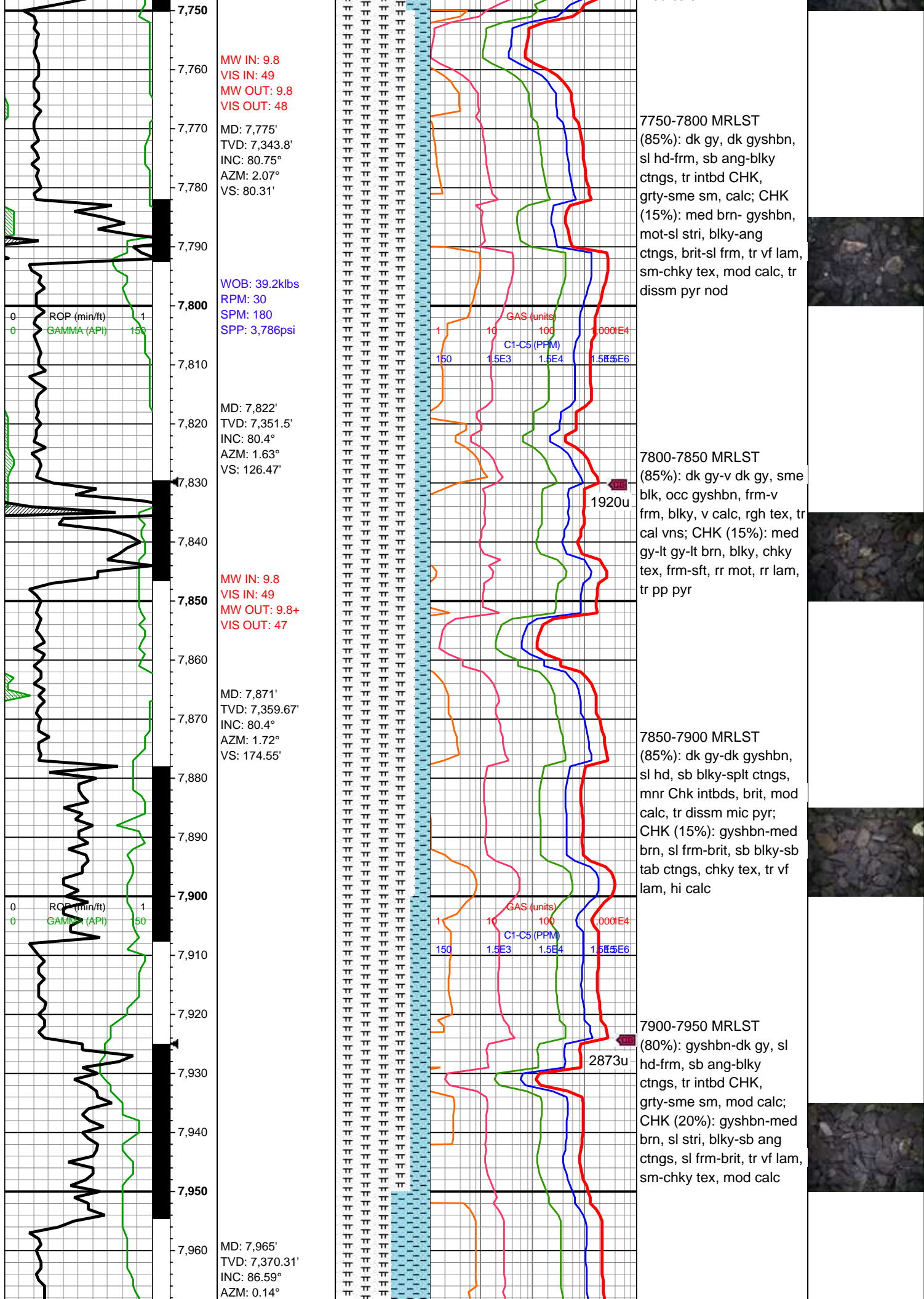
7250-7300 SLTY SH  
(95%): predy dk gy-med  
gy, occ lt gy, frm-med frm,  
l-mod fis sb rd-sb ang-sb  
blkly-blky ctngs, sm  
arg-sltly tex wi incr silc slt  
grdg, non calc; SLTST  
(5%): med-dk gy, sme tn,  
sb ang, frm, brit, med-hi  
fis, silc, non calc













VS: 267.31'

**Curve Landed**

**B Chalk**  
7991 MD/7372 TVD

WOB: 41klbs  
RPM: 30  
SPM: 179  
SPP: 3,710psi

**On Buster**

MD: 8,059'  
TVD: 7,375.32'  
INC: 87.3°  
AZM: 359.35°  
VS: 360.35'

MW IN: 9.9  
VIS IN: 49  
MW OUT: 9.8  
VIS OUT: 48

**Off Buster**

MD: 8,154'  
TVD: 7,378.85'  
INC: 88.44°  
AZM: 359.17°  
VS: 454.35'



GAS (units)  
C1-C5 (PPM)

1 10 100 1,000E4  
150 1.5E3 1.5E4 1.5E5E6

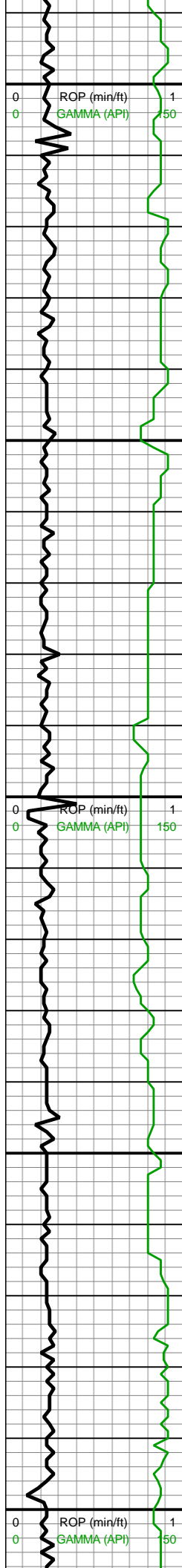
7950-8000 CHK (50%):  
med brn-gyshbn, frm-sft,  
mod fis, tab-sb blk, tr  
free offwht CHK, mn  
intbd MRLST, calc;  
MRLST (50%): predy dk  
gy-dk gyshbn, sl hd-v frm,  
mod fis, sb blk-tab  
ctngs, sm arg tex, mod  
calc

8000-8100 CHK (50%): lt  
gy-med gy, rr lt gyshbn,  
med frm-frm-brit, fis, sb  
rd-sb blk-blky, scat fos  
frags, tr vf pyr-tr c pyr strg,  
rr cal vn, hi calc; MRLST  
(50%): pred dk gy, occ  
med gy, frm, mod fis sb  
blk-blky ctngs, pred  
sm-sl slty tex, mod calc

8100-8200 CHK (70%):  
med brn-gyshbn, mot, sl  
frm-frm, sb blk-sb tab  
ctngs, brit, tr CHK incl,  
mn vf lam, v calc; MRLST  
(50%): pred dk gy, occ  
med gy, frm, mod fis sb  
blk-blky ctngs, pred  
sm-sl slty tex, mod calc







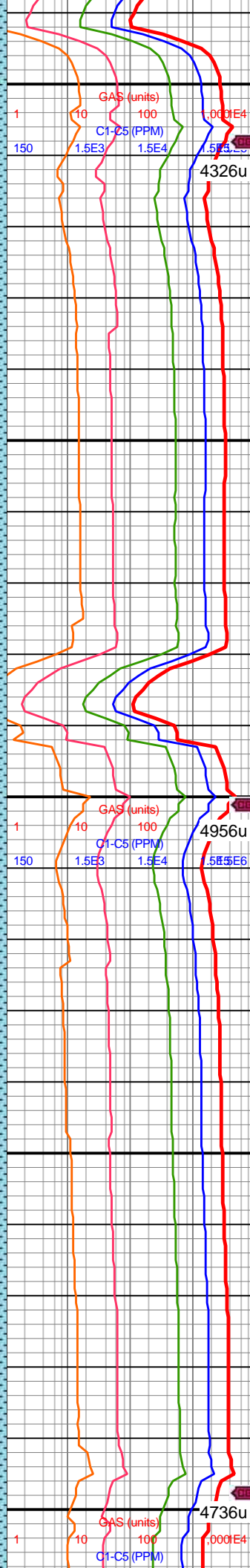
WOB: 34.6klbs  
RPM: 70  
SPM: 178  
SPP: 3,739psi

MD: 8,249'  
TVD: 7,380.39'  
INC: 89.71°  
AZM: 358.56°  
VS: 548.3'

MW IN: 9.9  
VIS IN: 49  
MW OUT: 9.8+  
VIS OUT: 48

MD: 8,344'  
TVD: 7,379.59'  
INC: 91.25°  
AZM: 357.94°  
VS: 642.1'

WOB: 36klbs  
RPM: 70  
SPM: 185  
SPP: 3,986psi



(30%): dk gy-dk gyshbn, sb blk-y-splt ctngs, brit, sl hd-frm, mnr CHK intbds, tr pp mic pyr, mod calc

8200-8300 CHK (70%): med brn-gyshbn, frm-brit, mod fis, sb blk-y-blky ctngs, sm-chky tex, tr pp mic pyr, tr free CHK, v calc; MRLST (30%): dk gy-dk gyshbn, mot dk brn, ang-sb blk-y, frm-brit, mod fis ctngs, sm-sl slty tex, mod calc, tr imbd mic pyr

8300-8400 CHK (70%): predy med brn-gyshbn, mot, blk-y-tab-elg ctngs, chky tex, frm-sl sft, tr diss mic pyr, v calc; MRLST (30%): predy dk gy, med gy, frm-sl hrd, blk-y-sb tab, tr CHK incl, mod-v calc, tr imbd/pp pyr





On Buster  
MINDEPTH 12/3/17

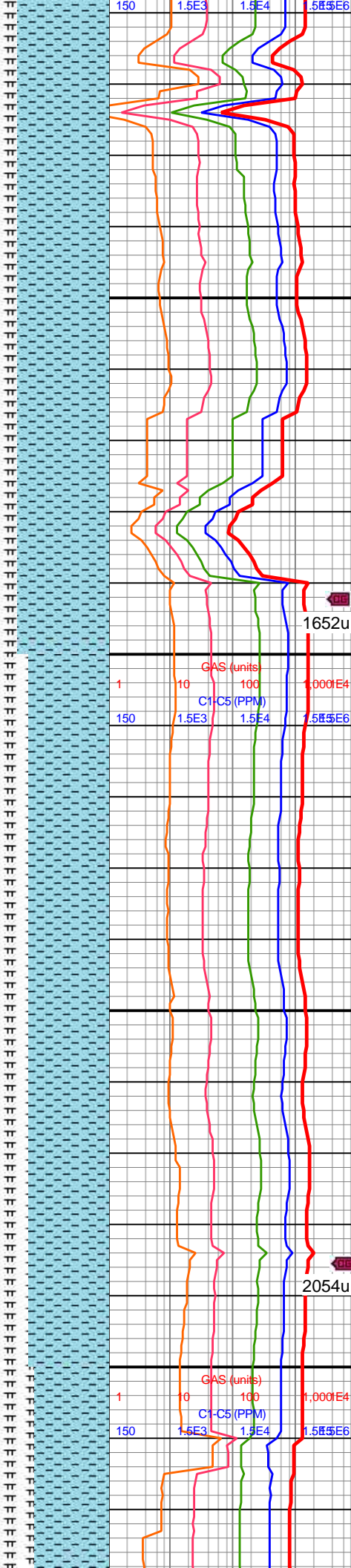
MD: 8,438'  
TVD: 7,377.79'  
INC: 90.95°  
AZM: 359.17°  
VS: 734.98'

MW IN: 10  
VIS IN: 50  
MW OUT: 10.0  
VIS OUT: 48

MD: 8,532'  
TVD: 7,375.83'  
INC: 91.43°  
AZM: 359.26°  
VS: 828.02'

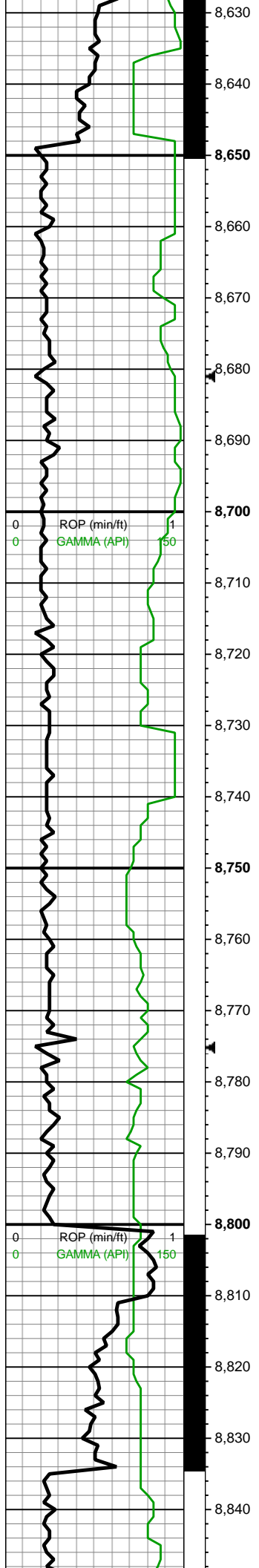
WOB: 34klbs  
RPM: 75  
SPM: 178  
SPP: 3,848psi

MD: 8,626'  
TVD: 7,373.13'  
INC: 91.87°



8400-8500 CHK (80%):  
med gy-gyshbn, lt gy ip,  
frm, brit, l-mod fis sb  
rd-sb blkly ctngs, slty-rgh  
tex ip, tr thn chky lamn, tr  
bent, tr vf pyr, hi calc;  
MRLST (20%): med gy-dk  
gy, mot wi brn mrly incl ip,  
frm, brit, l-mod fis, mod  
calc

8500-8600 CHK (70%):  
med brn-gyshbn, mot ip,  
blkly-sb tab, sft-frm, chky  
tex, vf MRLST intbds, v  
calc; MRLST (30%): dk  
gy-dk gyshbn, sme v dk  
gy, blkly-sb splt, sme plty,  
sl rgh-sm tex, mnr imbd  
mic pyr, mod calc



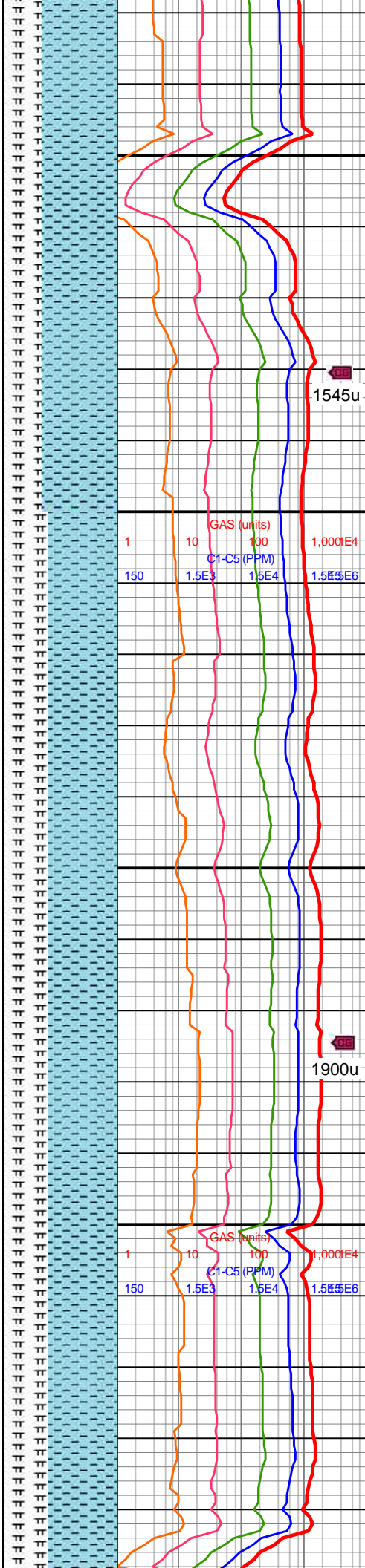
AZM: 359.79°  
VS: 921.11'

MW IN: 10  
VIS IN: 50  
MW OUT: 10.0  
VIS OUT: 48

MD: 8,721'  
TVD: 7,371.27'  
INC: 90.37°  
AZM: 359.09°  
VS: 1,015.19'

WOB: 37.4klbs  
RPM: 0  
SPM: 178  
SPP: 3,564psi

MD: 8,816'  
TVD: 7,371.49'  
INC: 89.36°  
AZM: 359.17°  
VS: 1,109.22'

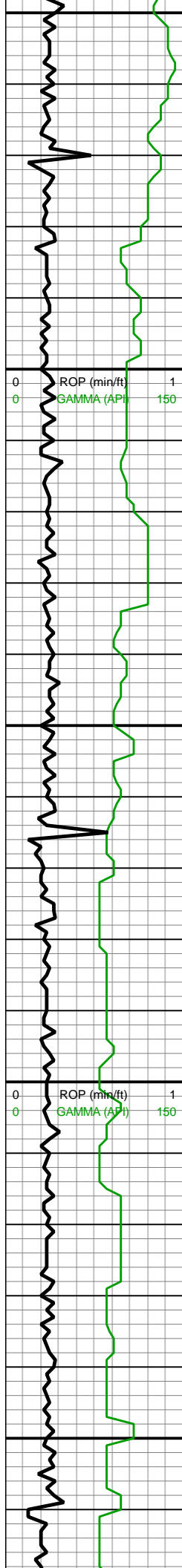


8600-8700 CHK (65%):  
med gy-gyshbn, mod fis,  
frm-brit, sb blkyl-bkly  
ctngs, sl slty-chky tex, tr  
free CHK, hi calc; MRLST  
(35%): dk gy-v dk gy, mod  
fis sb blkyl-bkly ctngs,  
frm-brit, sm-sl slty tex, tr  
CHK intbds/incl, mnr  
dissm mic pyr, mod calc

1545u

8700-8800 CHK (60%):  
lt-med gy, sme dk gy wi  
occ f crm chky incl,  
frm-brit, mod fis, blkyl-sb  
blkyl ctngs, sm tex ip, rr  
rgh tex, tr fos frags, hi  
calc; (40%) MRLST: med  
gy-dk gy, frm, brit, l-mod  
fis, sb ang-blkyl ctngs,  
mot, mod calc

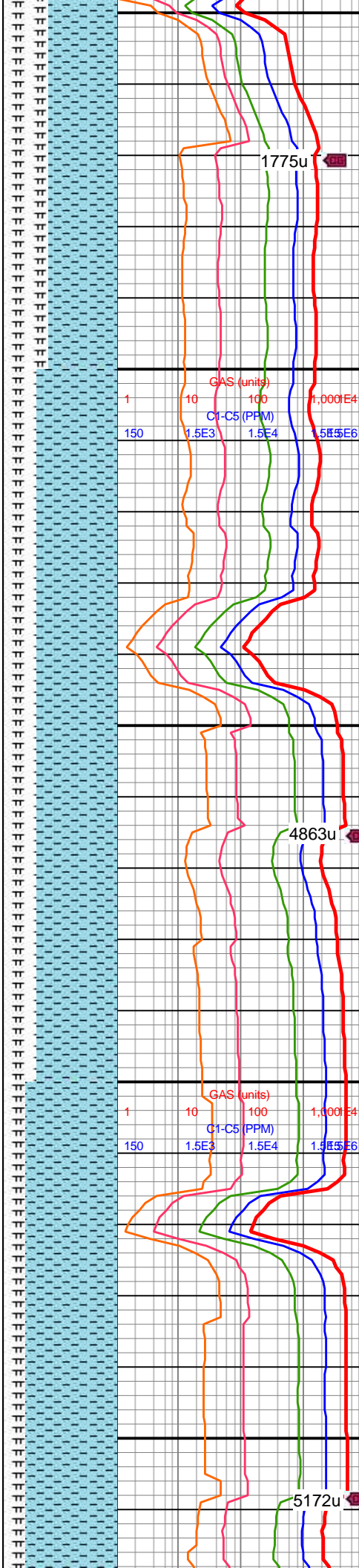
1900u



MW IN: 10  
VIS IN: 51  
MW OUT: 10.0  
VIS OUT: 49

MD: 8,911'  
TVD: 7,373.76'  
INC: 87.91°  
AZM: 358.82°  
VS: 1,203.18'

WOB: 35.6klbs  
RPM: 72  
SPM: 178  
SPP: 3,838psi  
MD: 9,006'  
TVD: 7,375.91'  
INC: 89.49°  
AZM: 358.12°  
VS: 1,297.02'



1775u

8800-8900 CHK (60%):  
predy lt gy, sme med gy,  
frm-brit, mod fis, blkly-sb  
blkly ctngs, sm tex ip, rr  
rgh tex, tr fos frags, hi  
calc; (40%) MRLST: med  
gy-dk gy, frm, brit, l-mod  
fis, sb ang-blky ctngs,  
mot, mod calc

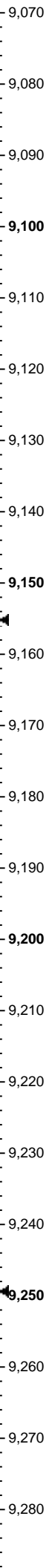
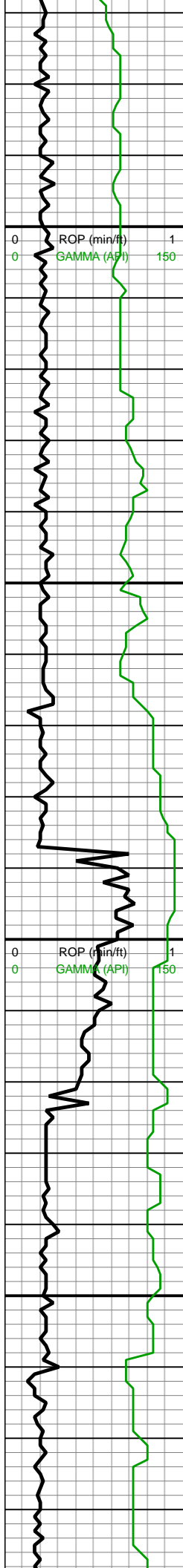
4863u

8900-9000 CHK (70%):  
med gy, lt gy ip wi vf thn  
chky lamn, frm-brit mod  
fis sb blkly-blky ctngs, sl  
sly tex-rr rgh tex ip, rr fos  
frags, rr forams, tr vf pyr,  
hi calc; MRLST (30%):  
med gy-dk gy mot wi occ  
brn mrly incl-gyshbn, frm,  
brit, mod fis sb blkly-blky  
ctngs, mod calc wi brn  
mrly resdl

5172u

9000-9100 CHK (80%):  
predy lt gy, sme med gy,





MW IN: 10  
VIS IN: 50  
MW OUT: 10.05  
VIS OUT: 48

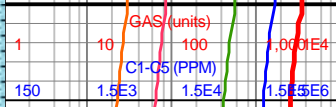
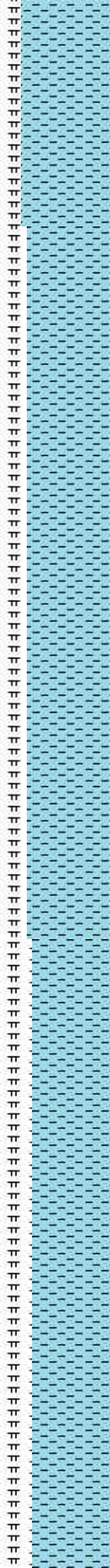
MD: 9,101'  
TVD: 7,375.37'  
INC: 91.16°  
AZM: 357.77°  
VS: 1,390.75'

MD: 9,195'  
TVD: 7,374.3'  
INC: 90.15°  
AZM: 357.77°  
VS: 1,483.43'

WOB: 51klbs  
RPM: 0  
SPM: 182  
SPP: 3,860psi

MW IN: 10  
VIS IN: 50  
MW OUT: 10.05  
VIS OUT: 49

MD: 9,290'  
TVD: 7,374.56'



2082u

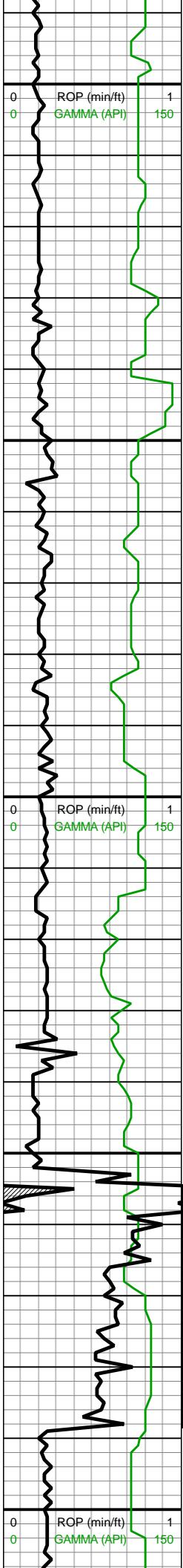
1811u

frm-brit, mod fis, blk-sb  
blk ctns, sm-sl slty tex,  
rr bent, rr forams, tr vf  
pyr-c pyr strg, hi calc;  
(20%) MRLST: med gy-dk  
gy-gyshbn mot wi brn  
mrly incl, frm, brit, l-mod  
fis, sb ang-blky ctns,  
mot, mod calc wi brn mrly  
resdl

9100-9200 CHK (75%):  
med gy-gyshbn, lt gy ip wi  
vf thn chky lamn, frm-brit  
mod fis sb blk-blky  
ctns, sl slty tex, rr-occ  
bent, rr forams, tr vf pyr, hi  
calc; MRLST (25%): med  
gy-dk gy mot wi occ brn  
mrly incl-gyshbn, frm, brit,  
mod fis sb blk-blky  
ctns, mod calc wi brn  
mrly resdl

9200-9300 CHK (70%):  
med gy-gyshbn, frm-brit  
mod fis sb blk-blky  
ctns, sm arg-sl slty tex,  
o-wxy lstr, dull rthy lstr ip,  
rr-occ bent, rr forams, tr vf  
pyr, hi calc; MRLST  
(30%): med gy-dk gy mot  
wi occ brn mrly  
incl-gyshbn, frm, brit





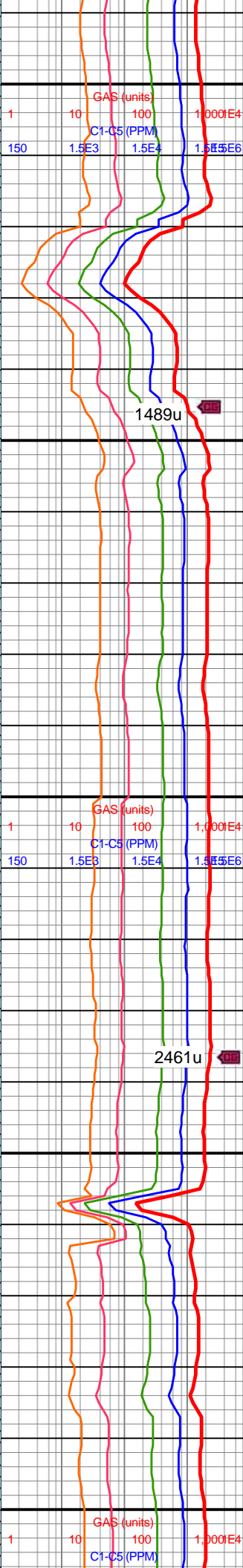
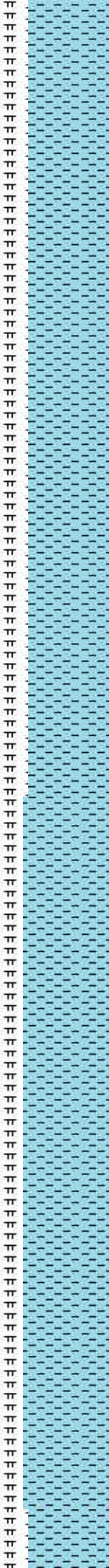
INC: 89.54°  
AZM: 357.15°  
VS: 1,577.03'

MD: 9,384'  
TVD: 7,373.83'  
INC: 91.34°  
AZM: 356.71°  
VS: 1,669.47'

WOB: 35klbs  
RPM: 75  
SPM: 180  
SPP: 3,980psi

MW IN: 10  
VIS IN: 50  
MW OUT: 10.0  
VIS OUT: 48

MD: 9,477'  
TVD: 7,372.66'  
INC: 90.11°  
AZM: 357.24°  
VS: 1,760.95'

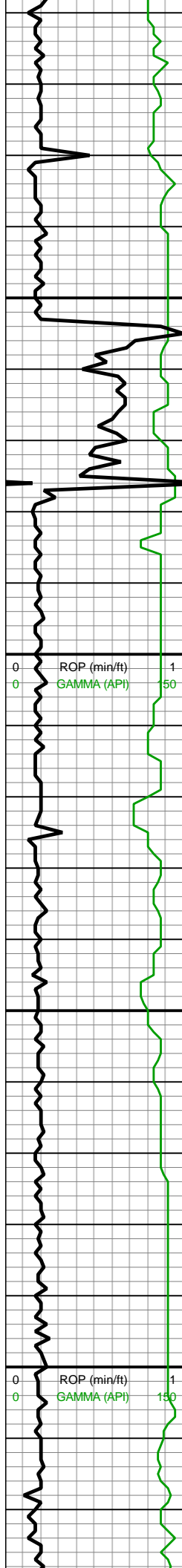


incl-gyshbn, frm, brit,  
mod fis sb blkyl-blky  
ctngs, mod calc wi brn  
mrly resdl

9300-9400 CHK (70%):  
med gy-gyshbn, frm-brit  
mod fis sb blkyl-blky  
ctngs, sm arg-sl slty tex,  
o-wxy lstr, dull rthy lstr ip,  
rr-occ bent, rr forams, tr vf  
pyr, hi calc; MRLST  
(30%): med gy-dk gy mot  
wi occ brn mrly  
incl-gyshbn, frm, brit,  
mod fis sb blkyl-blky  
ctngs, mod calc wi brn  
mrly resdl

9400-9500 CHK (75%):  
med gy-gyshbn, occ lt  
gy-lt gyshbn, frm-brit mod  
fis sb blkyl-blky ctngs, sl  
slty tex, vf thn chky lamn  
ip, rr bent, rr forams, rr-tr  
vf pyr-c pyr strg, hi calc;  
MRLST (25%): med gy-dk  
gy mot wi occ brn mrly  
incl-gyshbn, frm, brit,  
mod fis sb blkyl-blky  
ctngs, mod calc wi brn  
mrly resdl





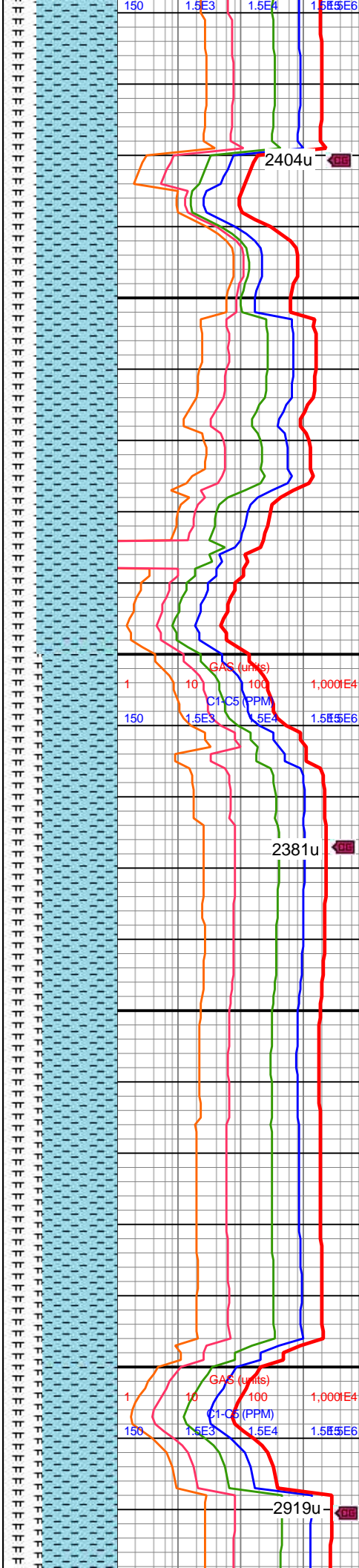
MW IN: 10  
VIS IN: 50  
MW OUT: 10.0  
VIS OUT: 49

MD: 9,572'  
TVD: 7,373.1'  
INC: 89.36°  
AZM: 358.65°  
VS: 1,854.67'

WOB: 36klbs  
RPM: 75  
SPM: 188  
SPP: 4,550psi

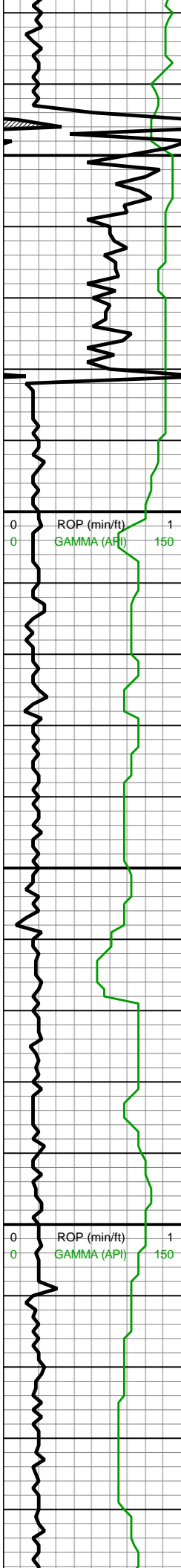
MD: 9,666'  
TVD: 7,373.46'  
INC: 90.2°  
AZM: 358.73°  
VS: 1,947.61'

MW IN: 10  
VIS IN: 50  
MW OUT: 10.0  
VIS OUT: 48



9500-9600 CHK (70%):  
med gy-gyshbn, occ lt  
gy-lt gyshbn, frm-brit mod  
fis sb blkyl-bkyl ctngs, sl  
slty tex, vf thn chky lamn  
ip, rr bent, rr forams, rr-tr  
vf pyr-c pyr strg, hi calc;  
MRLST (30%): med gy-dk  
gy mot wi occ brn mrly  
incl-gyshbn, frm, brit,  
mod fis sb blkyl-bkyl  
ctngs, mod calc wi brn  
mrly resdl

9600-9700 CHK (65%):  
med gy-dk gy wi rr thn wh  
chky lamn, frm-brit mod  
fis sb ang-sb rd-sb blkyl  
ctngs, slty arg tex, rr-occ  
bent, rr-occ forams, rr-tr vf  
pyr-c pyr strg, hi calc;  
MRLST (35%): med gy-dk  
gy-dk gyshbn, frm, brit,  
mod fis sb blkyl-bkyl  
ctngs, mod calc wi brn  
mrly resdl



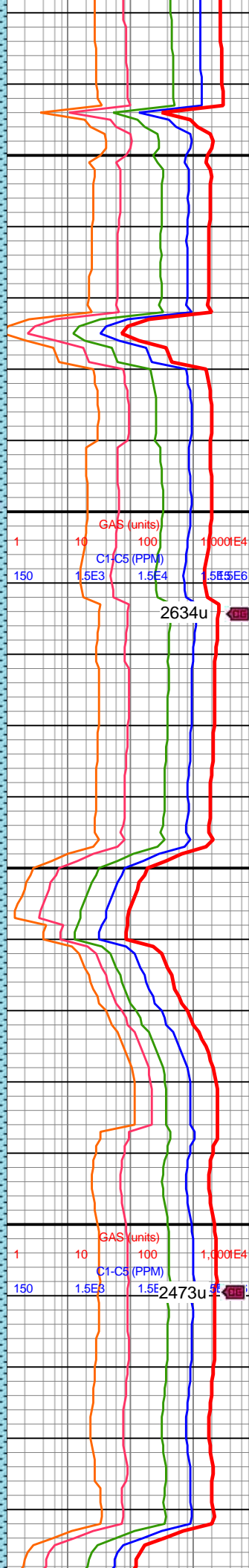
MD: 9,761'  
TVD: 7,374.08'  
INC: 89.05°  
AZM: 359.79°  
VS: 2,041.66'

MW IN: 10  
VIS IN: 50  
MW OUT: 10.0  
VIS OUT: 49

WOB: 36klbs  
RPM: 75  
SPM: 188  
SPP: 4,380psi

MD: 9,855'  
TVD: 7,377.07'  
INC: 87.3°  
AZM: 359.53°  
VS: 2,134.77'

MD: 9,950'  
TVD: 7,380.64'

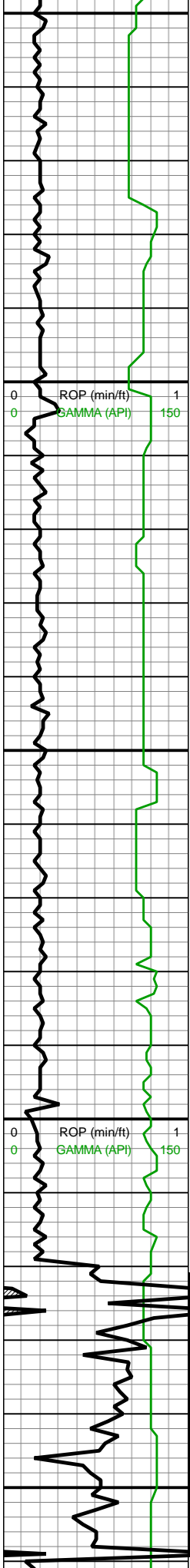


9700-9800 CHK (65%):  
med gy-dk gy wi rr thn wh  
chky lamn, frm-brit mod  
fis sb ang-sb rd-sb blk  
ctngs, slty arg tex,  
occ-com bent, occ-com  
forams, rr-tr vf pyr-c pyr  
strg, hi calc; MRLST  
(35%): med gy-dk gy mot  
wi occ brn mrly  
incl-gyshbn, frm, brit,  
mod fis sb blk-bkly  
ctngs, mod calc wi brn  
mrly resdl

9800-9900 CHK (75%):  
med gy-dk gy, occ lt gy,  
frm-brit mod fis sb  
ang-sb blk ctngs, slty  
arg tex, occ-com bent,  
occ-com forams, rr-tr vf  
pyr-c pyr strg, tr thn chky  
lamn, hi calc; MRLST  
(25%): med gy-dk gy mot  
wi occ brn mrly  
incl-gyshbn, frm, brit,  
mod fis sb blk-bkly  
ctngs, mod calc wi brn  
mrly resdl







9,950  
9,960  
9,970  
9,980  
9,990  
10,000  
10,010  
10,020  
10,030  
10,040  
10,050  
10,060  
10,070  
10,080  
10,090  
10,100  
10,110  
10,120  
10,130  
10,140  
10,150  
10,160

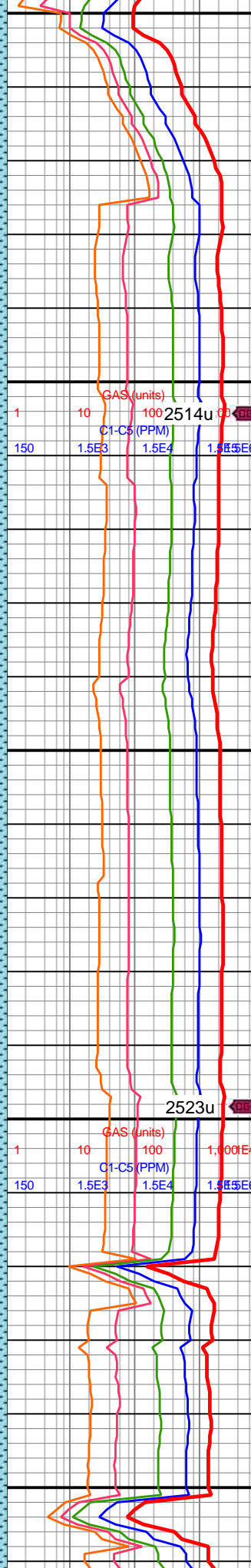
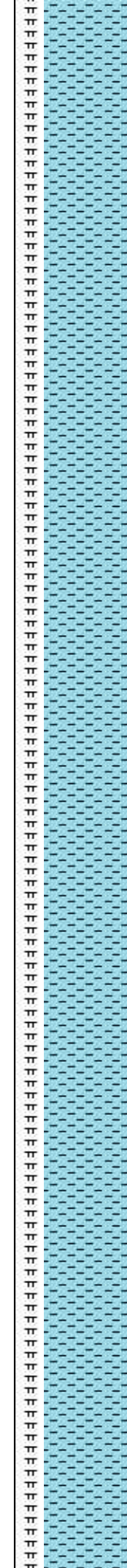
VD: 7,300.04'  
INC: 88.4°  
AZM: 358.82°  
VS: 2,228.74'

WOB: 35klbs  
RPM: 75  
SPM: 190  
SPP: 4,470psi

MD: 10,044'  
TVD: 7,382.22'  
INC: 89.67°  
AZM: 358.38°  
VS: 2,321.64'

MW IN: 10  
VIS IN: 50  
MW OUT: 10.0  
VIS OUT: 48

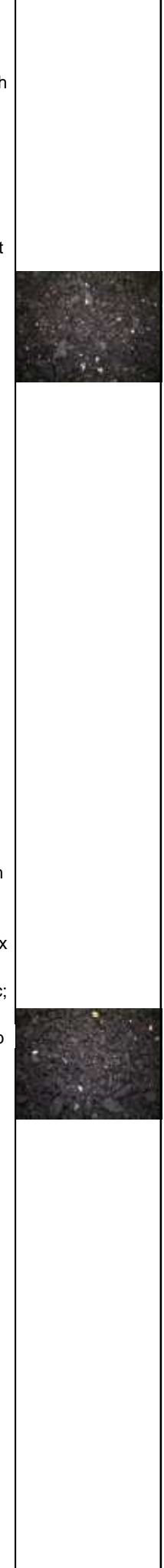
MD: 10,138'  
TVD: 7,382.01'  
INC: 90.59°  
AZM: 0.32°  
VS: 2,414.72'



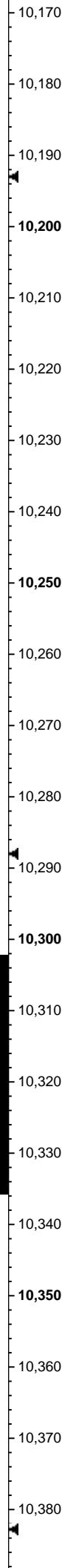
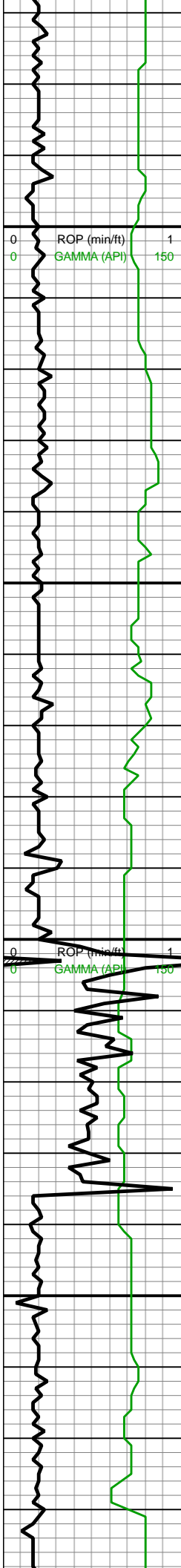
9900-10000 CHK (75%):  
med gy-dk gy wi rr thn wh  
chky lamn, frm-brit mod  
fis sb ang-sb rd-sb blk  
ctngs, slty arg tex,  
occ-com bent, occ-com  
forams, rr-tr vf pyr-c pyr  
strg, hi calc; MRLST  
(25%): med gy-dk gy mot  
wi occ brn mrly  
incl-gyshbn, frm, brit,  
mod fis sb blk-bkly  
ctngs, mod calc wi brn  
mrly resdl

10000-10100 CHK  
(75%): lt-med gy wi rr thn  
wh chky lamn, frm-brit  
mod fis sb rd-sb blk  
ctngs, slty arg tex, rgh tex  
ip, rr bent, rr forams, tr  
fos frags, tr vf pyr, hi calc;  
25% MRLST: med gy-dk  
gy, sb frm-brit, mod fis sb  
blk-bkly ctngs, mot wi  
brn marl ip, mod calc wi  
brn mrly resdl

10100-10200 CHK  
(75%): predy lt gy, sme  
med gy, frm-brit mod fis





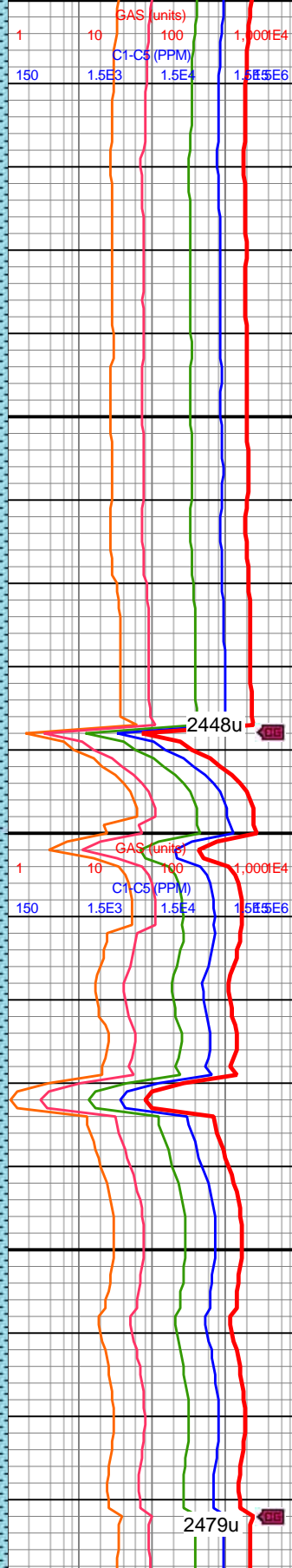
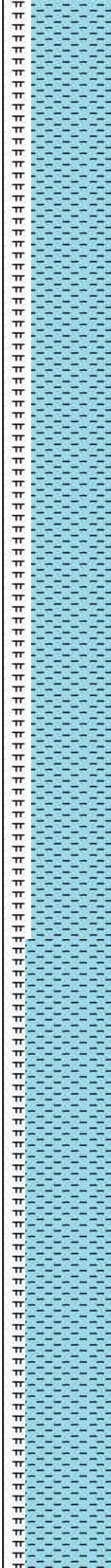


WOB: 36klbs  
RPM: 75  
SPM: 189  
SPP: 4,450psi

MD: 10,233'  
TVD: 7,380.3'  
INC: 91.47°  
AZM: 1.9°  
VS: 2,509.14'

MW IN: 10  
VIS IN: 50  
MW OUT: 10.0  
VIS OUT: 48

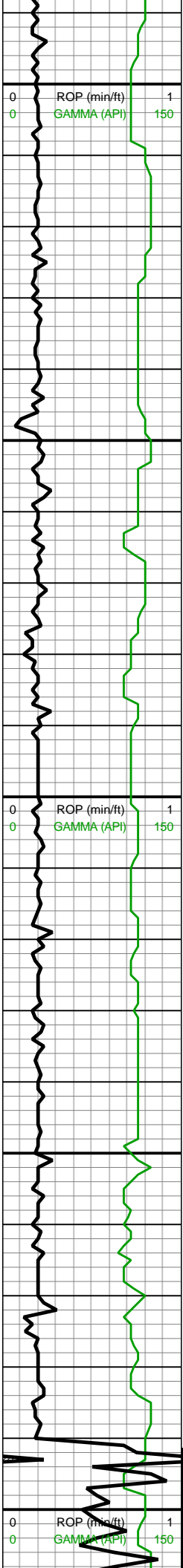
MD: 10,328'  
TVD: 7,379.93'  
INC: 88.97°  
AZM: 0.93°  
VS: 2,603.63'



sb rd-sb blkly ctngs, slty arg tex, rgh tex ip, occ vf-f wh chky incl & thn chky lamn, rr bent, rr forams, tr fos frags, tr vf pyr, hi calc; MRLST (25%): med gy-dk gy, sp wi brn mrl incl ip, sb frm-brit, mod fis sb blkly-blky ctngs, mod calc wi brn mrly resdl

10200-10300 CHK (75%): lt-med gy wi vf-f wh chky incl & rr thn wh lamn, frm-brit mod fis sb rd-sb blkly ctngs, slty tex, occ forams, rr bent, tr vf pyr, hi calc; 25% MRLST: med gy-dk gy, sb frm-brit, mod fis sb blkly-blky ctngs, mot wi brn marl ip, mod calc wi brn mrly resdl

10300-10400 CHK (80%): predy lt gy, sme med gy, frm-brit mod fis sb rd-sb blkly ctngs, slty arg tex, rgh tex ip, occ vf-f wh chky incl & thn chky lamn, rr bent, rr forams, tr fos frags, tr vf pyr, hi calc; MRLST (20%): med gy-dk



WOB: 35klbs  
RPM: 75  
SPM: 189  
SPP: 4,470psi

MD: 10,422'  
TVD: 7,381.56'  
INC: 89.05°  
AZM: 0.23°  
VS: 2,696.96'

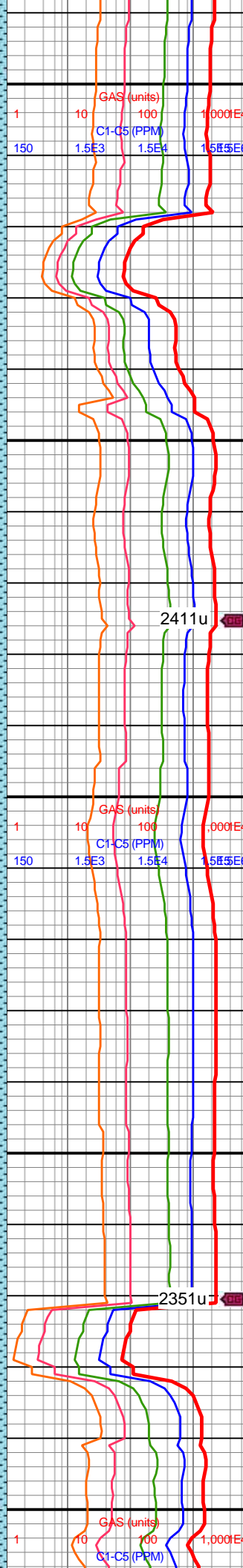
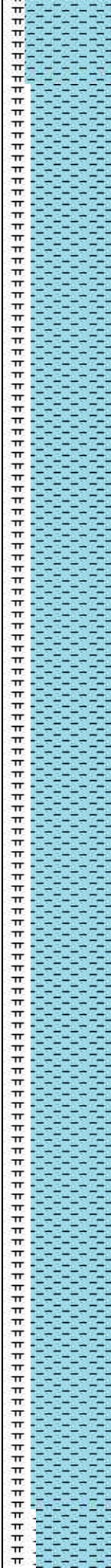
MW IN: 10.1  
VIS IN: 49  
MW OUT: 10.1  
VIS OUT: 48

MD: 10,517'  
TVD: 7,381.6'  
INC: 90.9°  
AZM: 359.53°  
VS: 2,791.15'

MW IN: 10.1  
VIS IN: 50  
MW OUT: 10.1  
VIS OUT: 48

WOB: 54klbs  
RPM: 0  
SPM: 190  
SPP: 4,260psi

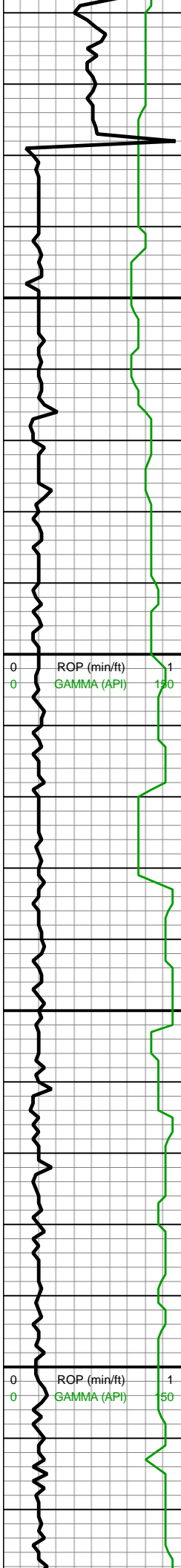
MD: 10,611'



gy-gyshbn sp wi brn mrl  
incl ip, sb frm-brit, mod  
fis sb blkly-blky ctngs,  
mod calc wi brn resd

10400-10500 CHK  
(75%): lt-med gy wi vf-f  
wh chky incl & rr thn wh  
lamn, frm-brit mod fis sb  
rd-sb blkly ctngs, slty tex,  
occ forams, rr bent, tr vf  
pyr, hi calc; 25% MRLST:  
med gy-dk gy, sb frm-brit,  
mod fis sb blkly-blky  
ctngs, mot wi brn marl ip,  
mod calc wi brn mrlly  
resdl

10500-10600 CHK  
(75%): predy lt gy, sme  
med gy, frm-brit mod fis  
sb rd-sb blkly ctngs, slty  
arg tex, rgh tex ip, occ vf-f  
wh chky incl & thn chky  
lamn, rr bent, rr forams, tr  
fos frags, tr vf pyr, hi calc;  
MRLST (25%): med gy-dk  
gy-gyshbn sp wi brn mrl  
incl ip, sb frm-brit, mod  
fis sb blkly-blky ctngs,  
mod calc wi brn resd



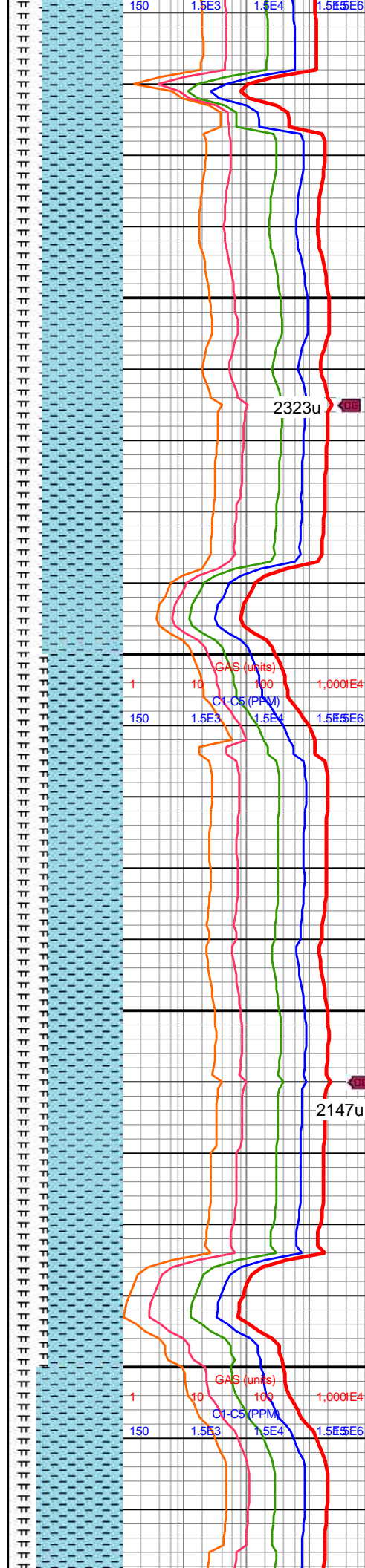
TVD: 7,380.92'  
INC: 89.93°  
AZM: 0.93°  
VS: 2,884.43'

MD: 10,706'  
TVD: 7,381.65'  
INC: 89.19°  
AZM: 0.76°  
VS: 2,978.82'

MW IN: 10.1  
VIS IN: 50  
MW OUT: 10.1  
VIS OUT: 48

WOB: 36klbs  
RPM: 75  
SPM: 189  
SPP: 4,600psi

MD: 10,801'  
TVD: 7,382.05'  
INC: 90.33°  
AZM: 0.23°  
VS: 3,073.14'



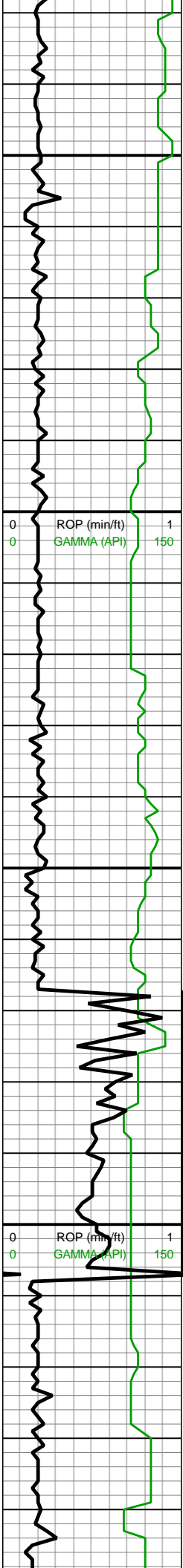
10600-10700 CHK  
(70%): lt-med gy-gyshbn  
wi occ f-u f wh-lt gy chky  
incl & forams & rr thn wh  
lamn, frm-brit mod fis sb  
rd-sb blkly ctngs, arg-sl  
sly tex, rr forams, tr vf pyr,  
hi calc; 30% MRLST:  
med gy-dk gy-gyshbn  
mot wi brn mrly incl, sb  
frm-brit, mod fis sb  
blkly-blkly ctngs, mod calc  
wi brn mrly resdl

2323u

10700-10800 CHK  
(65%): med gy-dk gy wi rr  
thn wh chky lamn, frm-brit  
mod fis sb ang-sb rd-sb  
blkly ctngs, sly arg tex, rr  
forams, rr-tr vf pyr-c pyr  
strg, hi calc; MRLST  
(35%): med gy-dk gy mot  
wi occ brn mrly  
incl-gyshbn, frm, brit,  
mod fis sb blkly-blkly  
ctngs, mod calc wi brn  
mrly resdl

2147u





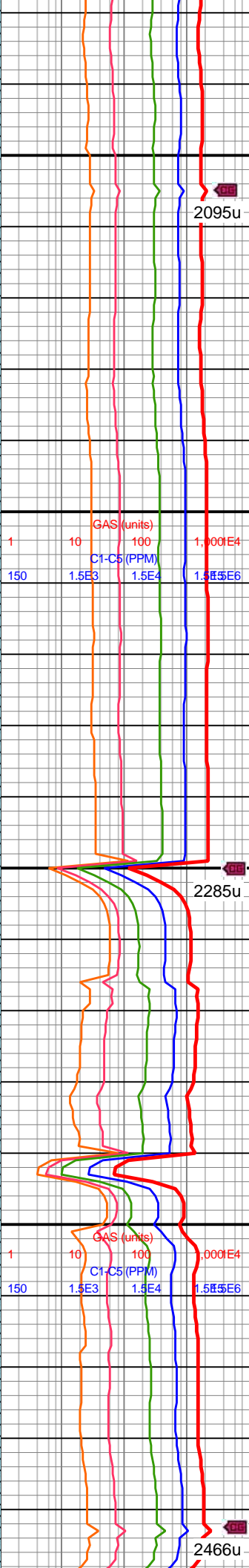
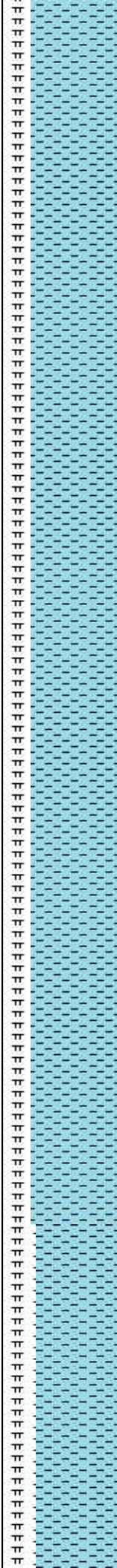
10,830  
10,840  
10,850  
10,860  
10,870  
10,880  
10,890  
10,900  
10,910  
10,920  
10,930  
10,940  
10,950  
10,960  
10,970  
10,980  
10,990  
11,000  
11,010  
11,020  
11,030  
11,040

MD: 10,895'  
TVD: 7,380.21'  
INC: 91.91°  
AZM: 359.96°  
VS: 3,166.37'

MW IN: 10.15  
VIS IN: 49  
MW OUT: 10.15  
VIS OUT: 47

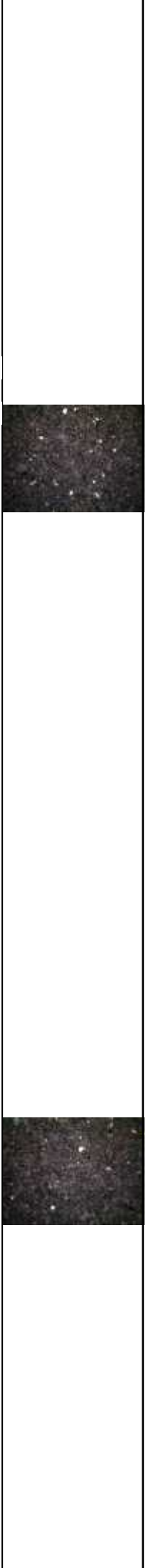
MD: 10,989'  
TVD: 7,378.59'  
INC: 90.07°  
AZM: 0.05°  
VS: 3,259.59'

WOB: 35klbs  
RPM: 0  
SPM: 189  
SPP: 4,370psi

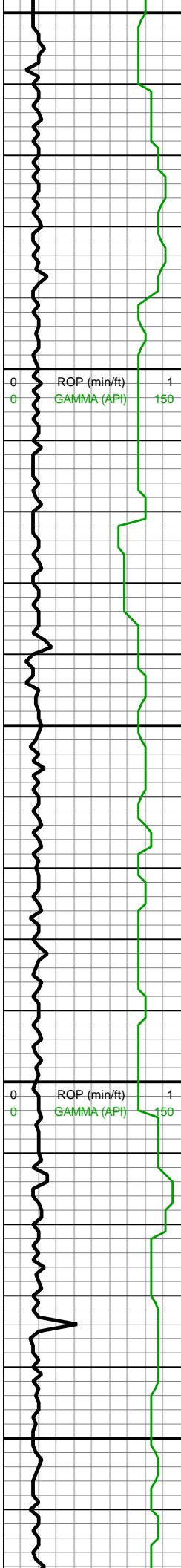


10800-10900 CHK  
(75%): predy lt gy, sme med gy, frm-brit mod fis sb rd-sb blk cy ctngs, slty arg tex, rgh tex ip, occ vf-f wh chky incl & thn chky lamn, rr bent, rr forams, tr fos frags, tr vf pyr, hi calc; MRLST (25%): med gy-dk gy-gyshbn sp wi brn mrl incl ip, sb frm-brit, mod fis sb blk cy-blky ctngs, mod calc wi brn resd

10900-11000 CHK  
(75%): lt-med gy wi vf-f wh chky incl & rr thn wh lamn, frm-brit mod fis sb rd-sb blk cy ctngs, slty tex, occ forams, rr bent, tr vf pyr, hi calc; 25% MRLST: med gy-dk gy, sb frm-brit, mod fis sb blk cy-blky ctngs, mot wi brn marl ip, mod calc wi brn mrlly resd







11,050  
11,060  
11,070  
11,080  
11,090  
11,100  
11,110  
11,120  
11,130  
11,140  
11,150  
11,160  
11,170  
11,180  
11,190  
11,200  
11,210  
11,220  
11,230  
11,240  
11,250  
11,260

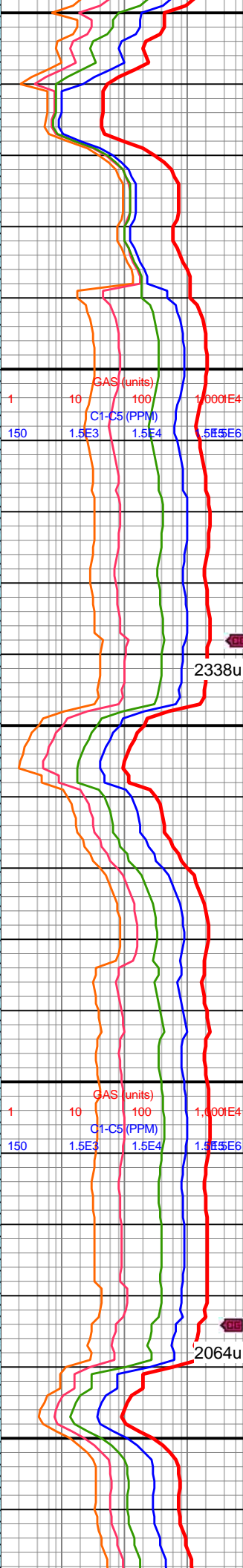
MD: 11,084'  
TVD: 7,379.71'  
INC: 88.57°  
AZM: 359.79°  
VS: 3,353.78'

MW IN: 10.1  
VIS IN: 48  
MW OUT: 10.1  
VIS OUT: 47

MD: 11,179'  
TVD: 7,381.21'  
INC: 89.63°  
AZM: 359.53°  
VS: 3,447.92'

WOB: 38.4klbs  
RPM: 75  
SPM: 189  
SPP: 4,690psi

MD: 11,272'

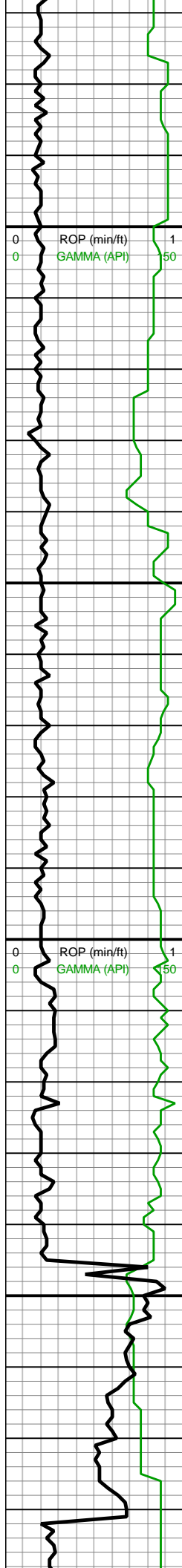


11000-11100 CHK  
(70%): med brn-gyshbn,  
mot, sl frm-frm, sb  
blky-sb tab ctngs, brit, tr  
CHK incl, mnv vf lam, v  
calc; MRLST (30%): dk  
gy-dk gyshbn, sb  
blky-splt ctngs, brit, sl  
hd-frm, mnv CHK intbds,  
tr pp mic pyr, mod calc

11100-11200 CHK  
(65%): predy med-dk gy  
wi rr f chky incl, occ lt gy,  
frm-brit mod fis sb  
blky-blky ctngs, sl slty tex,  
rr bent,rr forams & fos  
frags, tr vf pyr, hi calc;  
MRLST (35%): med gy-dk  
gy-gyshbn, frm, brit,  
l-mod fis, mot wi occ brn  
mrly incl, mod calc

11200-11300 CHK  
(70%): predy med-gy dk





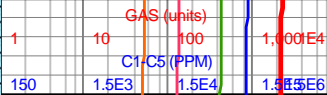
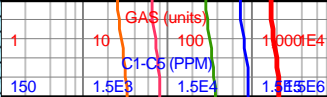
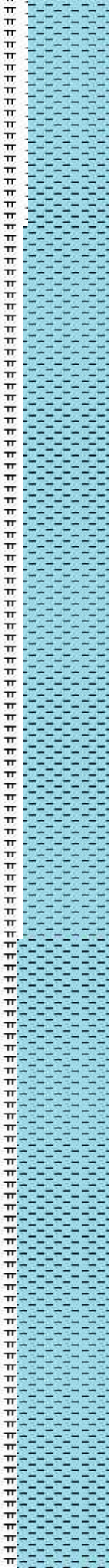
MD: 11,275'  
TVD: 7,380.98'  
INC: 90.64°  
AZM: 359.17°  
VS: 3,541.01'

MW IN: 10.1+  
VIS IN: 49  
MW OUT: 10.2  
VIS OUT: 47

MD: 11,368'  
TVD: 7,379.13'  
INC: 91.6°  
AZM: 359.09°  
VS: 3,635.02'

WOB: 35.9klbs  
RPM: 75  
SPM: 188  
SPP: 4,566psi

MD: 11,463'  
TVD: 7,377.97'  
INC: 89.8°  
AZM: 359.88°  
VS: 3,729.12'

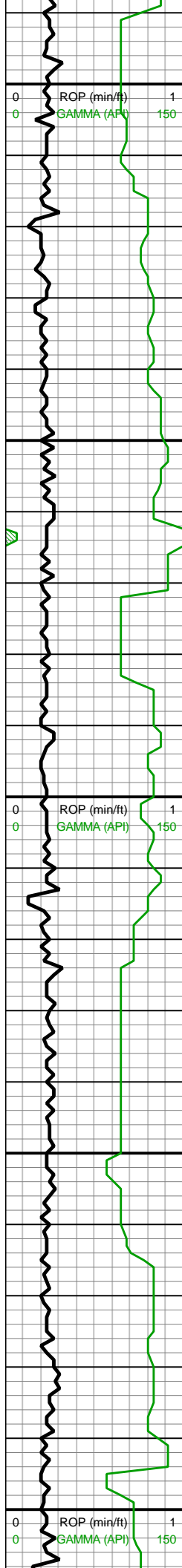


(70%): predy med gy-ak  
gy wi mnr f w chky incl,  
brit-frm, mod fis, sb  
blky-blky ctngs, sm tex,  
rgh tex ip, calc; (30%)  
MRLST: med gy-dk gy,  
brit, l-mod fis, sb  
ang-blky ctngs, mot wi  
brn mrly incl, hi calc, tr pp  
mic pyr

11300-11400 CHK  
(75%): lt-med gy, dk gy wi  
occ f chky incl ip, brit-frm,  
mod fis, sb blky-blky  
ctngs, sm tex, occ rgh tex,  
mod calc; (25%) MRLST:  
med gy-dk gy, brit, l-mod  
fis, sb ang-blky ctngs,  
mot wi brn mrly incl, v hi  
calc, tr pp mic pyr

11400-11500 CHK  
(80%): med-lt gy, sme dk  
gy wi occ f crm chky incl,  
brit-frm, mod fis, blky  
ctngs, sm tex ip, rr rgh  
tex, tr fos frags, mod calc;  
(20%) MRLST: med gy-dk





11,490  
11,500  
11,510  
11,520  
11,530  
11,540  
11,550  
11,560  
11,570  
11,580  
11,590  
11,600  
11,610  
11,620  
11,630  
11,640  
11,650  
11,660  
11,670  
11,680  
11,690  
11,700

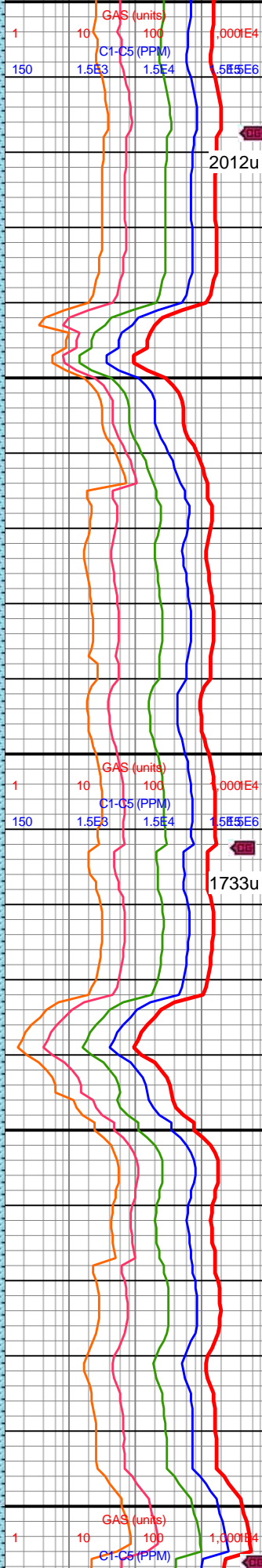
MD: 11,558'  
TVD: 7,378.88'  
INC: 89.1°  
AZM: 359.79°  
VS: 3,823.3'

MW IN: 10.1  
VIS IN: 49  
MW OUT: 10.1+  
VIS OUT: 47

WOB: 35.3klbs  
RPM: 75  
SPM: 188  
SPP: 4,597psi

MD: 11,653'  
TVD: 7,379.72'  
INC: 89.89°  
AZM: 359.44°  
VS: 3,917.44'

Off Buster



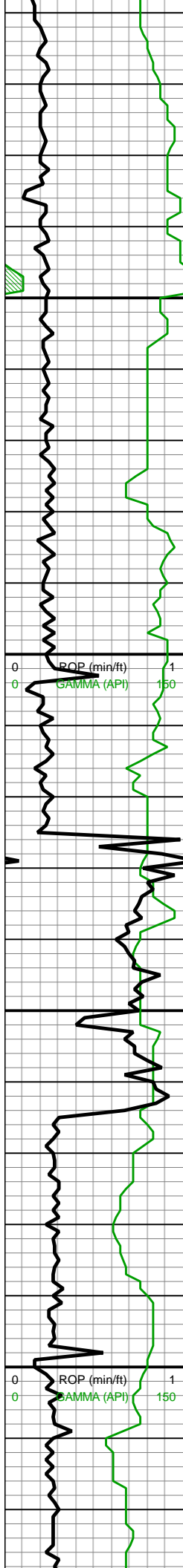
gy, frm, brit, l-mod fis, sb  
ang-blky ctngs, mot wi  
brn mrly incl, rr scat bent,  
hi calc, tr pp mic pyr

11500-11600 CHK  
(90%): lt-med gy, sme dk  
gy wi occ f crm chky incl,  
frm-brit, mod fis, blky-sb  
blky ctngs, sm tex ip, rr  
rgh tex, tr fos frags, mod  
calc; (10%) MRLST: med  
gy-dk gy, frm, brit, l-mod  
fis, sb ang-blky ctngs,  
mot wi brn mrly incl, tr  
bent frag, mod calc

11600-11700 CHK  
(75%): med-lt gy, occ dk  
gy wi occ f crm chky incl,  
sme free occ offwht,  
brit-frm, mod fis, blky-sb  
blky ctngs, sm tex ip, rr  
rgh tex, tr fos frags, mod  
calc; MRLST (25%): med  
gy-dk gy, frm, brit, l-mod  
fis, sb ang-blky ctngs,  
mot wi brn mrly incl, tr  
scat bent frag, mod calc







11,710  
11,720  
11,730  
11,740  
11,750  
11,760  
11,770  
11,780  
11,790  
11,800  
11,810  
11,820  
11,830  
11,840  
11,850  
11,860  
11,870  
11,880  
11,890  
11,900  
11,910  
11,920

MD: 11,747'  
TVD: 7,378.85'  
INC: 91.16°  
AZM: 358.82°  
VS: 4,010.47'

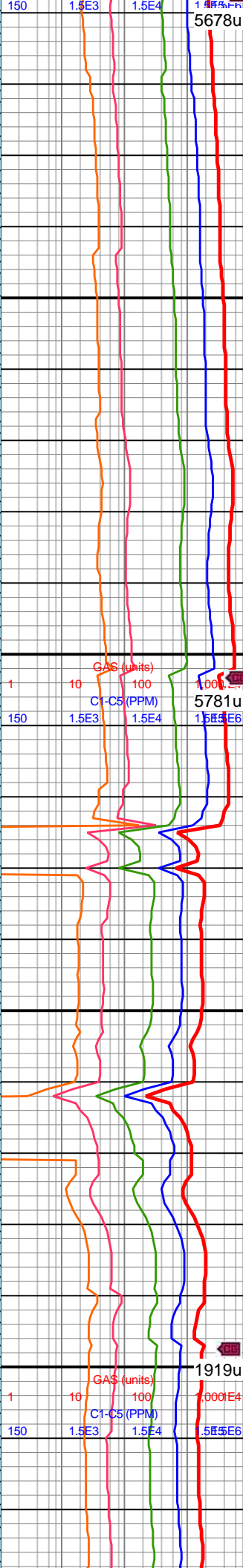
MW IN: 10.1+  
VIS IN: 49  
MW OUT: 10.2  
VIS OUT: 47

WOB: 36.4klbs  
RPM: 70  
SPM: 184  
SPP: 4,517psi

On Buster

MD: 11,842'  
TVD: 7,377.44'  
INC: 90.55°  
AZM: 0.58°  
VS: 4,104.61'

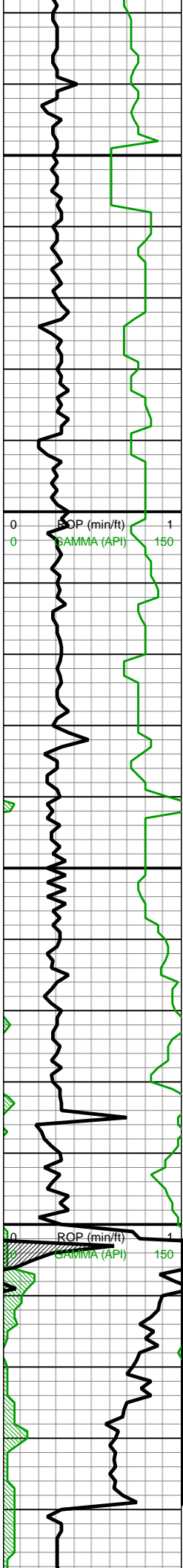
MW IN: 10.1  
VIS IN: 50  
MW OUT: 10.2  
VIS OUT: 48



11700-11800 CHK  
(60%): med gyshbn-lt gy,  
mot med gy, thn chky  
lamn, frm-brit, mod fis,  
sb tab-sb blk cytns, v  
calc; MRLST (0%): dk  
gy-dk gyshbn, mod fis,  
frm-brit, sb blk cytns,  
sl sm tex, tr mic  
pyr, mod calc

11800-11900 CHK  
(80%): med brn-gyshbn,  
mot, sl frm-frm, sb  
blk cytns, brit, tr  
CHK incl, mnr vf lam, v  
calc; MRLST (20%): dk  
gy-dk gyshbn, sb  
blk cytns, brit, sl  
hd-frm, mnr CHK intbds,  
tr pp mic pyr, mod calc





11,930  
11,940  
11,950  
11,960  
11,970  
11,980  
11,990  
12,000  
12,010  
12,020  
12,030  
12,040  
12,050  
12,060  
12,070  
12,080  
12,090  
12,100  
12,110  
12,120  
12,130  
12,140

MD: 11,937'  
TVD: 7,376.67'  
INC: 90.37°  
AZM: 0.58°  
VS: 4,198.95'

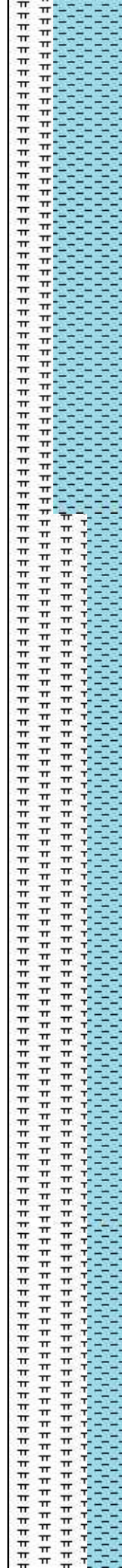
WOB: 35.1klbs  
RPM: 75  
SPM: 187  
SPP: 4,395psi

MD: 12,031'  
TVD: 7,374.55'  
INC: 92.22°  
AZM: 0.32°  
VS: 4,292.25'

MW IN: 10.1+  
VIS IN: 52  
MW OUT: 10.2  
VIS OUT: 48

MINDEPTH 12/04/17

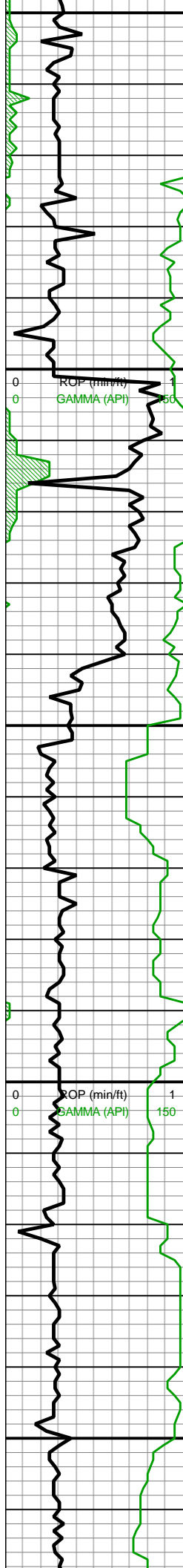
MD: 12,126'  
TVD: 7,371.67'  
INC: 91.25°  
AZM: 0.4°  
VS: 4,386.5'



11900-12000 CHK  
(60%): med-lt gy, sme dk gy wi occ f crm chky incl, brit-frn, mod fis, sb blkyl-bkly ctngs, sm tex ip, rr rgh tex, mod calc; MRLST (40%): med gy-dk gy, frm-brit, l-mod fis, sb ang-blky ctngs, mot wi brn mrlly incl, rr scat bent, mod calc, tr scat pyr nod

12000-12100 MRLST  
(70%): pred med gy-dk gy, sme dk gy-dk gyshbn, sl hd-v frm, mod fis, sb blkyl-tab ctngs, sm arg-sl slty tex, mod calc, tr mic pyr; CHK (30%): med brn-gyshbn, frm-brit, mod fis, tab-sb blkyl ctngs, tr diss mic pyr, v calc



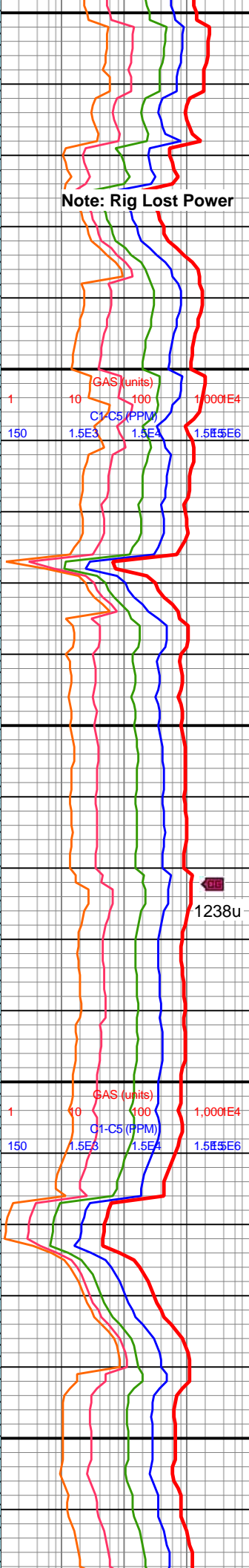


MW IN: 10.1  
VIS IN: 50  
MW OUT: 10.1+  
VIS OUT: 48

WOB: 35.1klbs  
RPM: 75  
SPM: 168  
SPP: 3,960psi

MD: 12,221'  
TVD: 7,371.78'  
INC: 88.62°  
AZM: 2.25°  
VS: 4,480.97'

MD: 12,316'  
TVD: 7,375.71'  
INC: 86.64°  
AZM: 3.39°  
VS: 4,575.58'



Note: Rig Lost Power

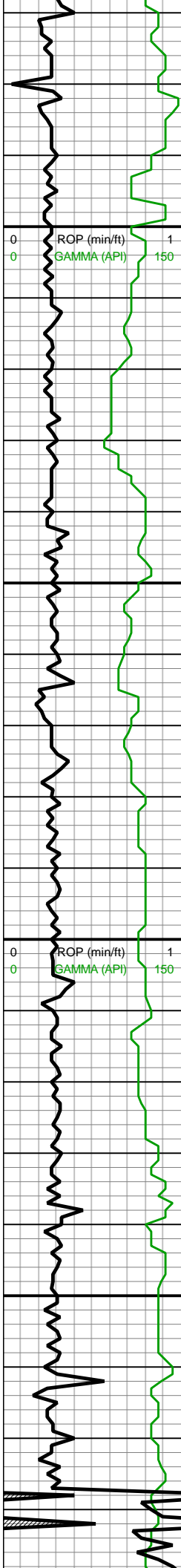
12100-12200 MRLST  
(70%): mot med gy-lt gy,  
sme dk gy-dk gyshbn, sb  
tab-sb splt ctngs, frm-sl  
hrd, tr imbd/pp pyr, mnr  
lam CHK, mod calc; CHK  
(30%): med brn-dk  
gyshbn, mot, chky tex,  
frm-sl sft, blk-y-sb splt, tr  
free CHK, tr dissm mic  
pyr, v calc

12200-12300 CHK  
(50%): med brn-gyshbn,  
mot, sl frm-frm, sb  
blk-y-sb tab ctngs, brit, tr  
CHK incl, mnr vf lam, v  
calc; MRLST (50%): dk  
gy-dk gyshbn, sb  
blk-y-spl ctngs, brit, sl  
hd-frm, mnr CHK intbds,  
tr pp mic pyr, mod calc

12300-12400 CHK







12,370  
12,380  
12,390  
12,400  
12,410  
12,420  
12,430  
12,440  
12,450  
12,460  
12,470  
12,480  
12,490  
12,500  
12,510  
12,520  
12,530  
12,540  
12,550  
12,560  
12,570  
12,580

WOB: 34.8klbs  
RPM: 75  
SPM: 156  
SPP: 3,588psi

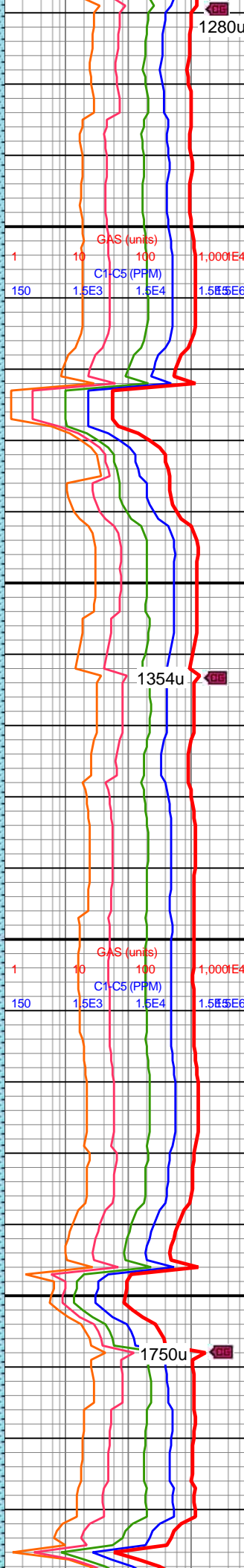
MD: 12,410'  
TVD: 7,380.79'  
INC: 87.16°  
AZM: 3.04°  
VS: 4,669.2'

MW IN: 10.1+  
VIS IN: 49  
MW OUT: 10.1+  
VIS OUT: 48

MD: 12,505'  
TVD: 7,384.99'  
INC: 87.78°  
AZM: 3.22°  
VS: 4,763.86'

MW IN: 10.1  
VIS IN: 49  
MW OUT: 10.1+  
VIS OUT: 46

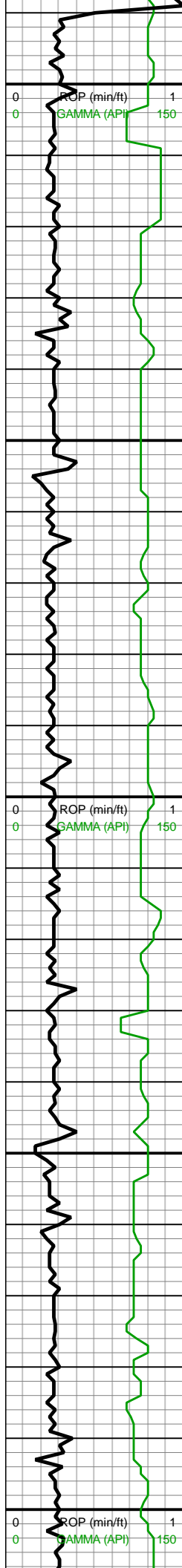
MD: 12,599'



(80%): lt-med gy, sme dk gy wi occ f crm chky incl, frm-brit, mod fis, blk-y-sb blk-y ctngs, sm tex ip, rr rgh tex, tr fos frags, mod calc; (20%) MRLST: med gy-dk gy, frm, brit, l-mod fis, sb ang-blky ctngs, mot wi occ brn mrly incl, mod calc

12400-12500 CHK  
(65%): med brn-gyshbn, mot, sl frm-frm, sb blk-y-sb tab ctngs, brit, tr free CHK, mn-r vf lam, hi calc; MRLST (35%): dk gy-dk gyshbn, brit, sb blk-y-splt ctngs, sl hd-frm, mn-r CHK intbds/incl, tr diss-m mic pyr, mod calc

12500-12600 CHK  
(65%): lt-med gy wi vf-f wh chky incl & rr thn wh lamn, frm-brit mod fis sb rd-sb blk-y ctngs, slty tex, occ forams, rr fos frags, tr bent, tr vf pyr, hi calc; 35% MRLST: med gy-dk gy, sb



TVD: 7,387.11'  
INC: 89.63°  
AZM: 1.9°  
VS: 4,857.5'

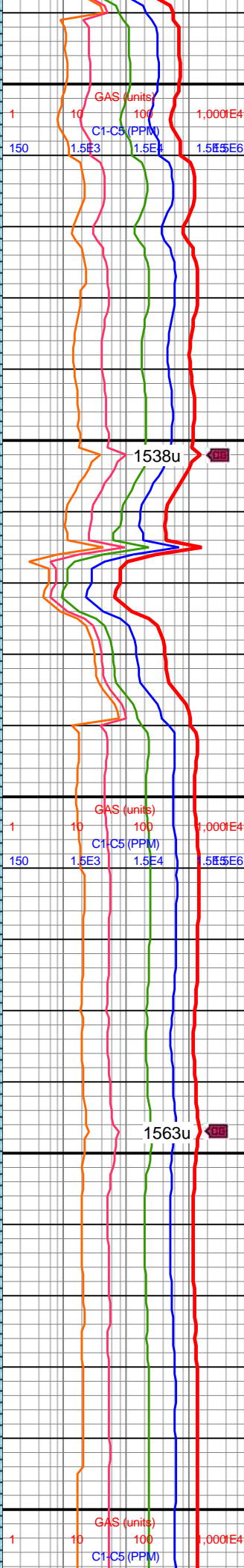
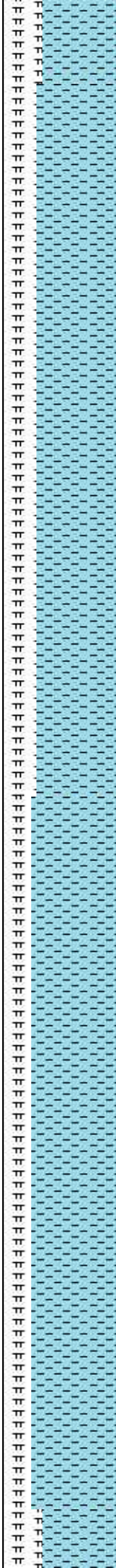
WOB: 37klbs  
RPM: 70  
SPM: 158  
SPP: 3,580psi

MD: 12,694'  
TVD: 7,386.89'  
INC: 90.64°  
AZM: 1.9°  
VS: 4,952.07'

MW IN: 10.1  
VIS IN: 49  
MW OUT: 10.15  
VIS OUT: 47

MD: 12,789'  
TVD: 7,384.52'  
INC: 92.22°  
AZM: 1.72°  
VS: 5,046.6'

WOB: 37klbs  
RPM: 70  
SPM: 160  
SPP: 3,750psi



frm-brit, mod fis sb  
blky-blky ctngs, mot wi  
brn marl ip, mod calc wi  
brn mrly resdl

12600-12700 CHK  
(70%): lt-med gy, frm-brit  
mod fis sb rd-sb blky  
ctngs, vf-f wh-lt gy chky  
incl & rr thn chky lamn,  
sly tex, occ forams, rr fos  
frags, tr vf pyr, hi calc;  
MRLST (30%): med gy-dk  
gy wi occ sp brn incl, sb  
frm-brit, mod fis sb  
blky-blky ctngs, mod calc  
wi brn mrly resdl

12700-12800 CHK  
(75%): predy lt gy, sme  
med gy wi vf-f wh chky  
incl & rr thn wh lamn,  
frm-brit mod fis sb rd-sb  
blky ctngs, sly tex, occ  
forams, rr fos frags, tr vf  
pyr, hi calc; 25% MRLST:  
med gy-dk gy, sb frm-brit,  
mod fis sb blky-blky  
ctngs, mot wi brn marl ip,  
mod calc wi brn mrly  
resdl





12,810  
12,820  
12,830  
12,840  
12,850  
12,860  
12,870  
12,880  
12,890  
12,900  
12,910  
12,920  
12,930  
12,940  
12,950  
12,960  
12,970  
12,980  
12,990  
13,000  
13,010  
13,020

MW IN: 10.1  
VIS IN: 49  
MW OUT: 10.1  
VIS OUT: 47

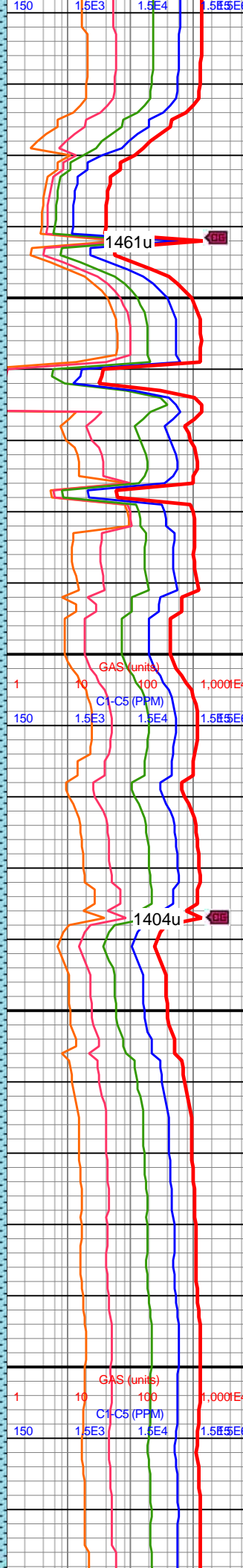
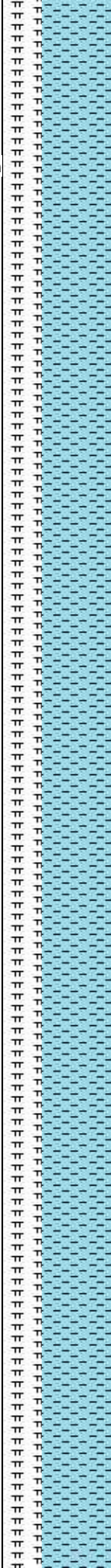
Working on #2  
shaker/redirectin  
flow through  
possum belly

MD: 12,884'  
TVD: 7,382.87'  
INC: 89.76°  
AZM: 1.81°  
VS: 5,141.13'

MW IN: 10.1  
VIS IN: 50  
MW OUT: 10.1  
VIS OUT: 48

MD: 12,979'  
TVD: 7,383.27'  
INC: 89.76°  
AZM: 1.55°  
VS: 5,235.67'

WOB: 34klbs  
RPM: 75  
SPM: 171  
SPP: 4,230psi

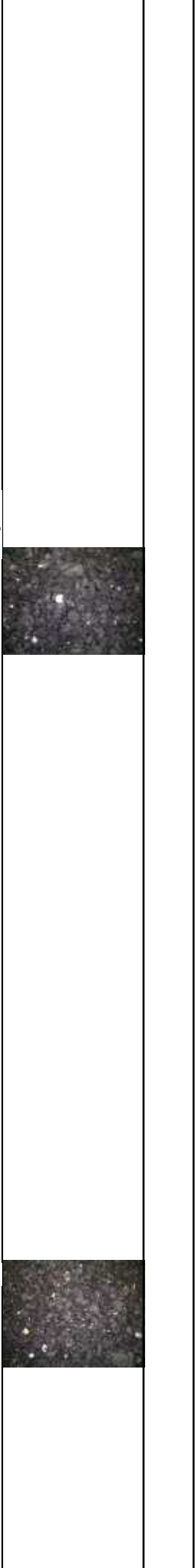


1461u

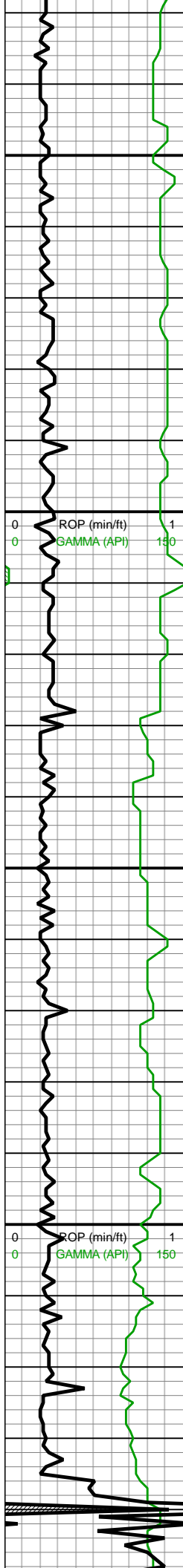
12800-12900 CHK  
(65%): lt-med gy wi vf-f  
wh chky incl & rr thn wh  
lamn, frm-brit mod fis sb  
rd-sb blkly ctngs, slty tex,  
occ forams, rr fos frags, tr  
bent, tr vf pyr, hi calc; 35%  
MRLST: med gy-dk gy, sb  
frm-brit, mod fis sb  
blkly-blky ctngs, mot wi  
brn marl ip, mod calc wi  
brn mrly resdl

1404u

12900-13000 CHK  
(65%): lt-med gy wi vf-f  
wh chky incl & rr thn wh  
lamn, frm-brit mod fis sb  
rd-sb blkly ctngs, slty tex,  
occ-mod forams, tr fos  
frags, tr vf pyr, hi calc;  
35% MRLST: med gy-dk  
gy, sb frm-brit, mod fis sb  
blkly-blky ctngs, mot wi  
brn marl ip, mod calc wi  
brn mrly resdl







MW IN: 10.1  
VIS IN: 50  
MW OUT: 10.1  
VIS OUT: 48

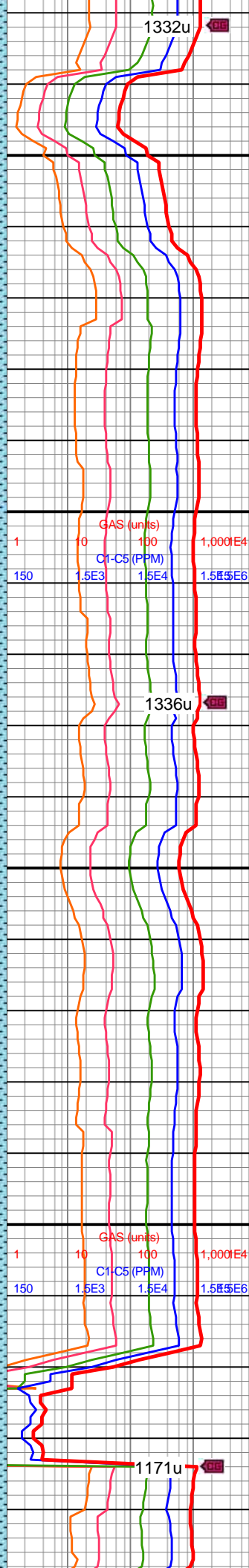
MD: 13,074'  
TVD: 7,382.65'  
INC: 90.99°  
AZM: 1.63°  
VS: 5,330.19'

MD: 13,168'  
TVD: 7,379.76'  
INC: 92.53°  
AZM: 1.11°  
VS: 5,423.63'

WOB: 35klbs  
RPM: 75  
SPM: 172  
SPP: 4,300psi

Gas line  
disconnected

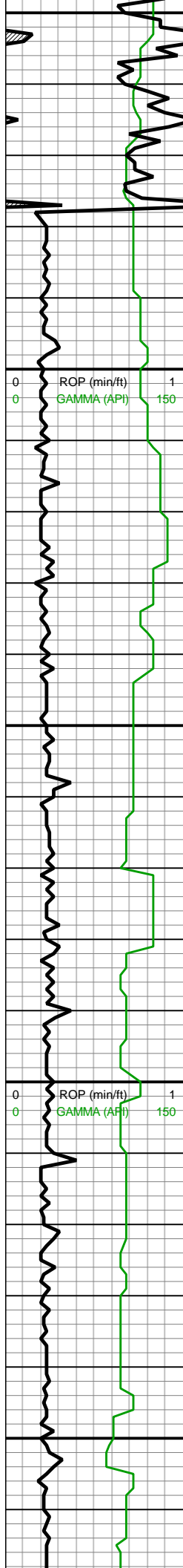
MW IN: 10.1  
VIS IN: 49  
MW OUT: 10.1  
VIS OUT: 47



13000-13100 CHK  
(65%): lt-med gy, frm-brit  
sb rd-sb blkly l-mod fis  
ctngs, slty tex, occ-mod  
forams, tr vf pyr, hi calc;  
MRLST (35%): med gy-dk  
gy-gyshbn ip wi brn mrly  
incl, sb frm-brit, mod fis  
sb blkly-blky ctngs, mod  
calc wi brn mrly resdl

13100-13200 CHK  
(70%): lt-med gy wi vf-f  
wh chky incl, frm-brit mod  
fis sb rd-sb blkly ctngs,  
slty tex, occ forams, tr fos  
frags, tr vf pyr, hi calc;  
35% MRLST: med gy-dk  
gy, sb frm-brit, mod fis sb  
blkly-blky ctngs, mot wi  
brn marl ip, mod calc wi  
brn mrly resdl





13,250  
13,260  
13,270  
13,280  
13,290  
13,300  
13,310  
13,320  
13,330  
13,340  
13,350  
13,360  
13,370  
13,380  
13,390  
13,400  
13,410  
13,420  
13,430  
13,440  
13,450  
13,460

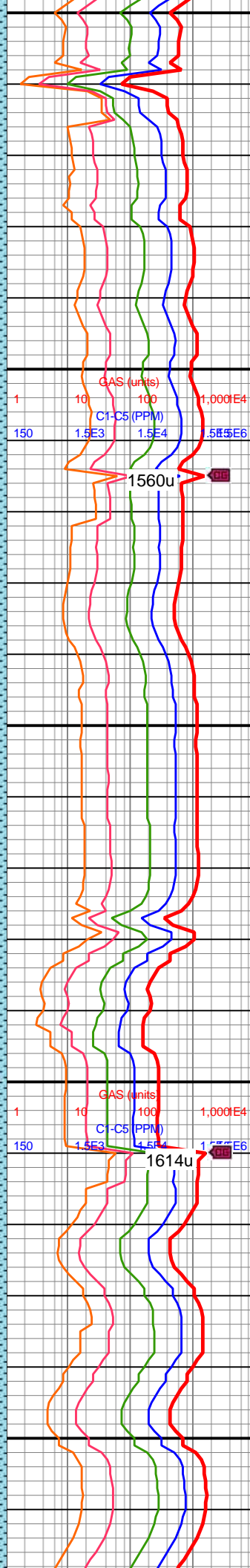
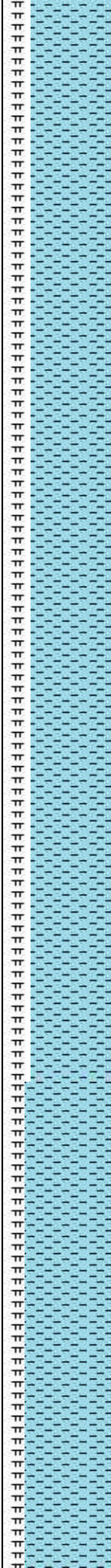
MD: 13,263'  
TVD: 7,378.05'  
INC: 89.54°  
AZM: 1.63°  
VS: 5,518.09'

MW IN: 10.1  
VIS IN: 50  
MW OUT: 10.1  
VIS OUT: 48

MD: 13,358'  
TVD: 7,378.92'  
INC: 89.41°  
AZM: 1.81°  
VS: 5,612.63'

WOB: 36klbs  
RPM: 75  
SPM: 169  
SPP: 4,260psi

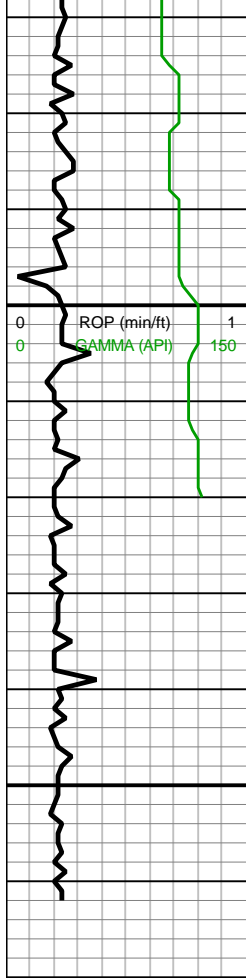
MD: 13,452'  
TVD: 7,378.84'  
INC: 90.68°  
AZM: 1.55°  
VS: 5,706.17'



13200-13300 CHK  
(75%): lt gy-med gy-dk gy  
wi occ f chky incl & thn  
chky lamn, frm-brit sb  
rd-sb blkly l-mod fis  
ctngs, slty tex, occ  
forams, rr fos frags, tr vf  
pyr, hi calc; MRLST  
(35%): med gy-dk  
gy-gyshbn ip wi brn mrly  
incl, sb frm-brit, mod fis  
sb blkly-blky ctngs, mod  
calc wi brn mrly resdl

13300-13400 CHK  
(75%): predy lt gy, sme  
med gy wi rr f wh chky  
incl, frm-brit l-mod fis sb  
rd-sb blkly ctngs, sm-sl  
slty tex, occ spec forams,  
rr fos frags & mict cal, tr vf  
pyr, hi calc; MRLST  
(25%): med gy-dk gy, sb  
frm-frm-brit, mod fis sb  
blkly-blky ctngs, spec wi  
dk brn mrly incl ip, mod  
calc wi brn mrly resdl

13400-13500 CHK  
(80%): lt gy-lt  
gyshbn-med gy ip wi f  
chky incl & forams & thn  
chky incl, frm-brit sb



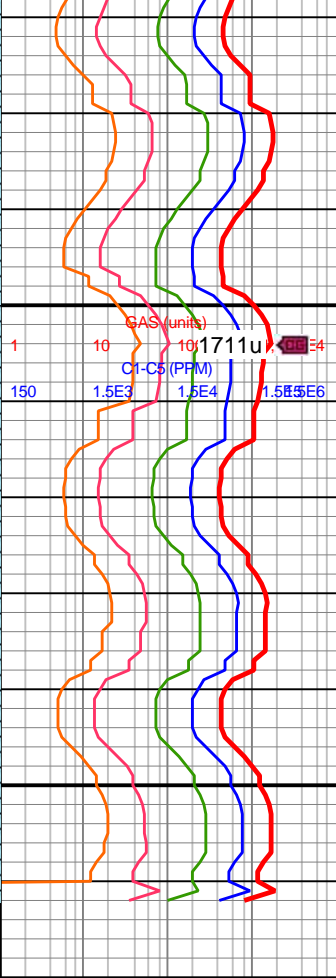
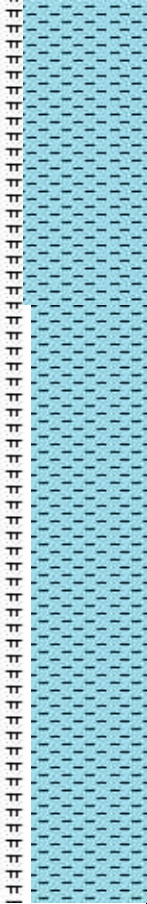
13,470  
13,480  
13,490  
13,500  
13,510  
13,520  
13,530  
13,540  
13,550  
13,560  
13,570

MW IN: 10.1  
VIS IN: 49  
MW OUT: 10.1  
VIS OUT: 48

MD: 13,508'  
TVD: 7,377.6'  
INC: 91.87°  
AZM: 1.11°  
VS: 5,761.85'

Reach TD @  
11:45AM MST  
on 12/04/17

\*Bit Projection\*  
MD: 13,562'  
TVD: 7,375.84'  
INC: 91.87°  
AZM: 1.11°  
VS: 5,815.5'



rd-sb blkly l-mod fis  
ctngs, slty tex, occ  
forams, rr fos frags &  
mict cal, tr vf pyr, hi calc;  
MRLST (20%): med gy-dk  
gy-gyshbn ip wi brn mrly  
incl, sb frm-brit, mod fis  
sb blkly-blky ctngs, mod  
calc wi brn mrly resdl

13500-13562 CHK  
(80%): lt gy-lt  
gyshbn-med gy ip, l-mod  
fis frm-brit sb rd-sb blkly  
ctngs, sl slty tex, rr wi f  
chky incl & forams  
forams, rr fos frags &  
mict cal, tr vf pyr, hi calc;  
MRLST (20%): med gy-dk  
gy-gyshbn-blk ip, sb  
frm-brit, mod fis sb  
blkly-blky ctngs, rr plty, brn  
mrly incl, mod calc wi brn  
mrly resdl

