



Scale: 5" / 100'
Measured Depth Log

Well Name Herren 1C-33H-H367

Location Sec. 33 T3N R67W

State Colorado

County Weld

Country USA

Rig Number Ensign 153

API Number 05-123-47733

AFE # 16191562

Geographic Region Rockies

Field Wattenberg

Spud Date 12/8/2018

Drilling Completed 12/11/2018

Surface Coordinates Latitude: 40.183282
Longitude: -104.887065

SHL: Sec: 33 Twp: 3N 67W
Footage: 2257 FNL 368 FEL

Bottom Hole Coordinates Proposed BHL: Sec: 33 Twp: 3N 67W
Footages: 105 FNL 460 FWL

Ground Elevation 4,847'

K.B. Elevation 4,870'

Logged Interval 6,500' **To** 12,301'

Total Depth 12,301'

Formation Codell

Type of Drilling Fluid Synthetic Oil Based Mud

Operator

Company Crestone Peak Resources

Address 1801 California Street
Suite 2500
Denver, CO 80202



CRESTONE PEAK
RESOURCES

Geologist

Name John Ready

Company Crestone Peak Resources

Address 1801 California Street
Suite 2500
Denver, CO 80202



Zone Color Coding



Oil



Condensate



Gas



Note



Core



Pressure



Error



Water



Seal

Other

Loggers: Heather Davis / Shana Swirin-Miles

Services Provided: 2-Man Mudlogging / Geosteering

Equipment: ML-567

Contractor: Reservoir Group
6360 West Sam Houston Pkwy N
Houston, Texas, 77041

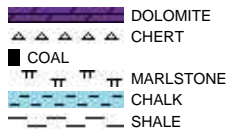
Start Date 12/08/2018

Release Date: TBD

Job #: 1812RK1812

Rock Types

? UNKNOWN

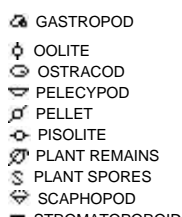


Accessories

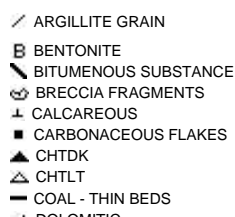
Fossils



F FOSSIL



— ARGILLACEOUS



— GLAUCONITE



Stringer



CRINOID
ECHINOID
FISH
FORAMINIFERA

STROMATOPOROID
Minerals
ANHYDRITIC

DOLOMITIC
FELDSPAR
FERRUGINOUS PELLET
FERRUGINOUS

SANDY
SILICEOUS
SILTY
TUFFACEOUS

SANDSTONE STRINGER
SHALE STRINGER
SILTSTONE STRINGER

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

Other Symbols

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

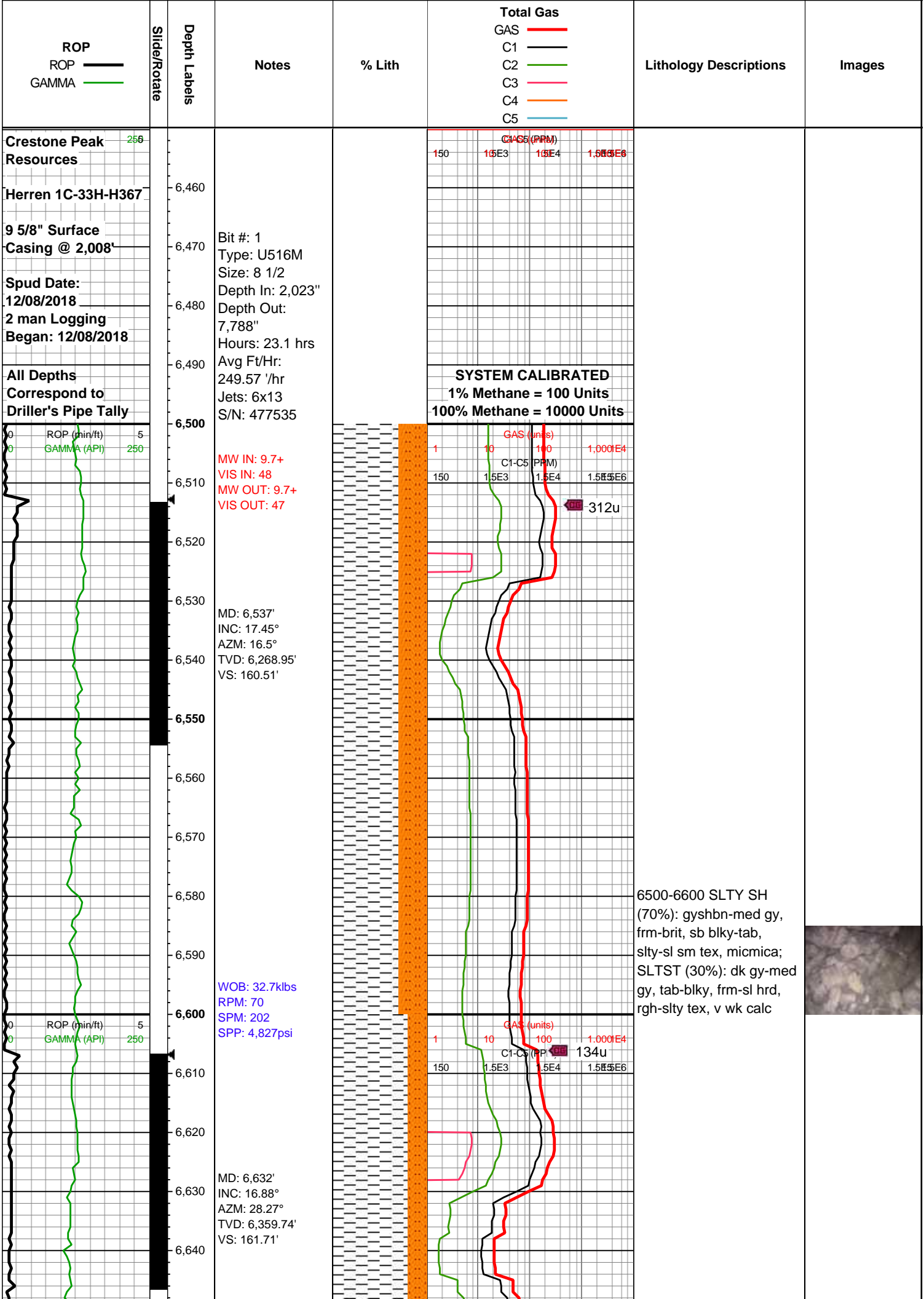
Textures

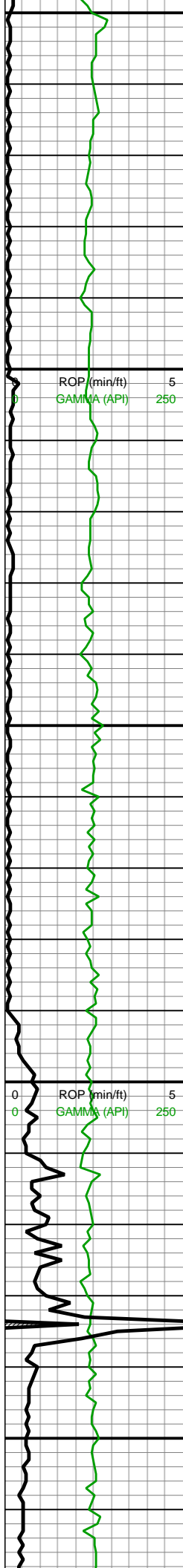
BOUNDSTONE
CHALKY
CRYPTOXLN
EARTHY
FINELYXLN
GRAINSTONE

LITHOGRAPHIC
MICROXLN
MUDSTONE
PACKSTONE
WACKESTONE

Sorting

MODERATE
POOR
WELL





6,650
6,660
6,670
6,680
6,690
6,700
6,710
6,720
6,730
6,740
6,750
6,760
6,770
6,780
6,790
6,800
6,810
6,820
6,830
6,840
6,850
6,860

MW IN: 9.7+
VIS IN: 47
MW OUT: 9.7+
VIS OUT: 46

MD: 6,726'
INC: 13.8°
AZM: 29.42°
TVD: 6,450.38'
VS: 159.96'

KOP @ 6793'
MD

WOB: 23klbs
RPM: 0
SPM: 158
SPP: 3,003psi

MD: 6,821'
INC: 10.28°
AZM: 27.66°
TVD: 6,543.28'
VS: 158.6'

MW IN: 9.8
VIS IN: 47
MW OUT: 9.8
VIS OUT: 46

MD: 6,868'
INC: 12.52°
AZM: 5.05°

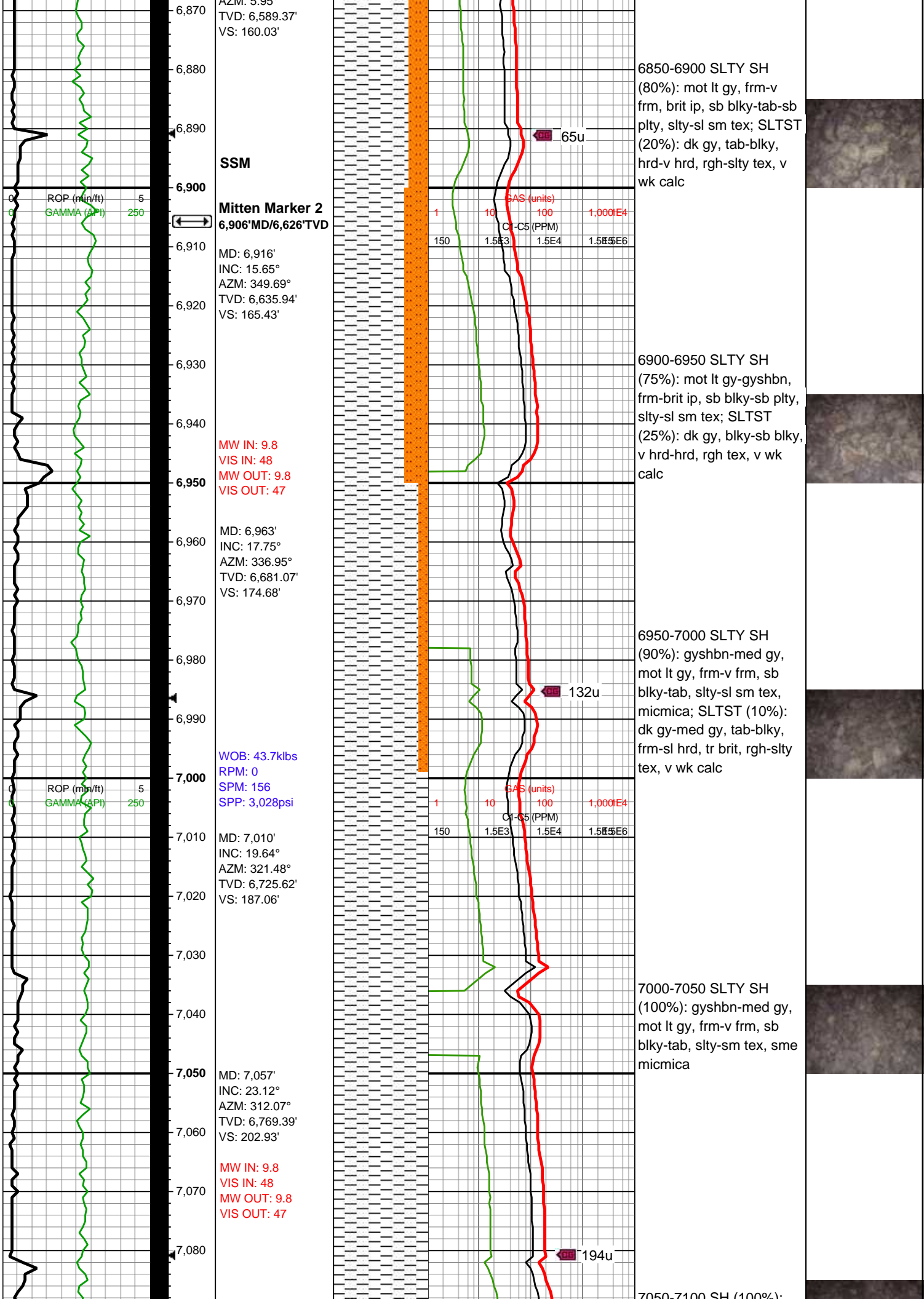


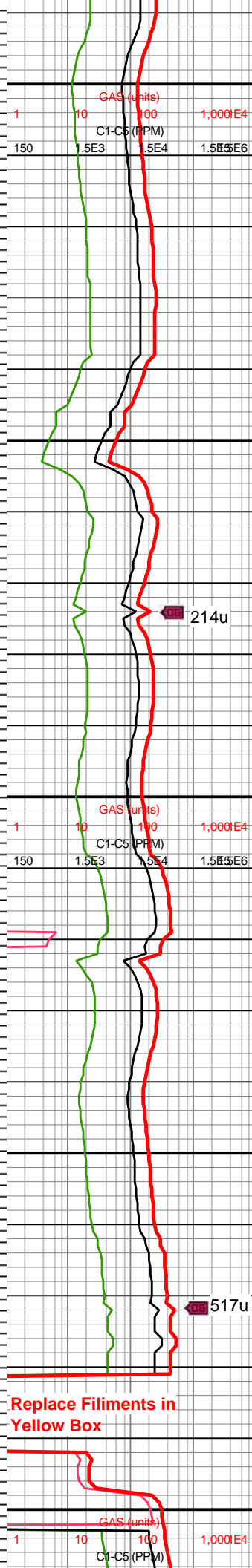
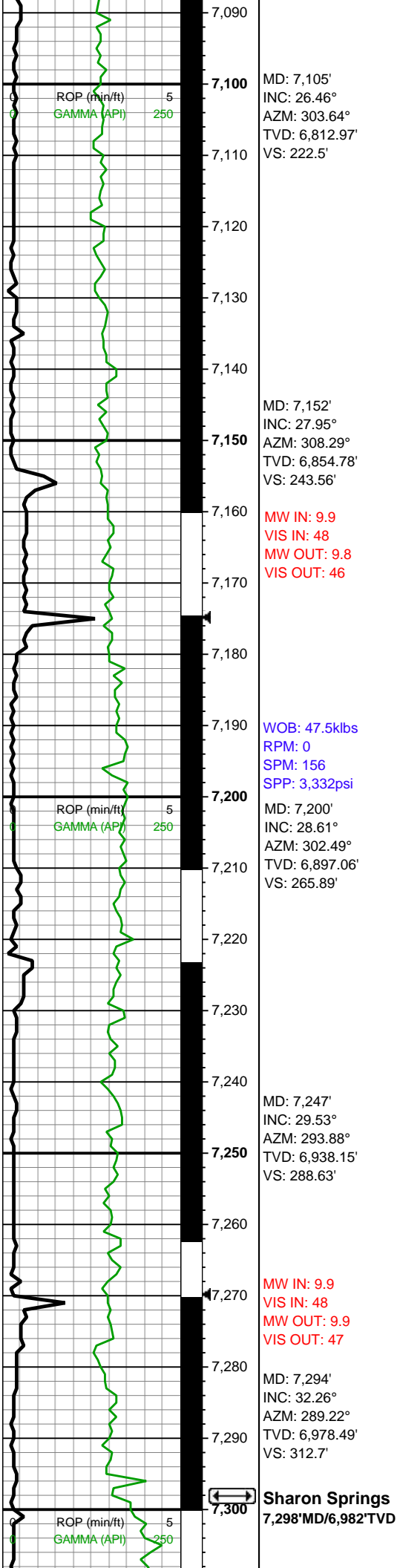
6600-6700 SLTY SH
(80%): gyshbn-med gy,
sme mot lt gy, frm-brit, sb
blky-tab, slty-sl sm tex,
micmica; SLTST (20%):
gy-dk gy, tab-blky,
frm-hrd, rgh-slty tex, v wk
calc

6700-6800 SLTY SH
(85%): gyshbn-mot lt gy,
frm, brit ip, sb blky-tab,
slty-sl sm tex; SLTST
(15%): gy-dk gy, tab-blky,
hrd-frm, rgh-slty tex, v wk
calc

6800-6850 SLTY SH
(65%): mot lt gy, sme
gyshbn, frm-v frm, brit ip,
sb blky-tab, slty tex;
SLTST (35%): dk gy, sme
med gy, tab-blky, hrd-v
hrd, rgh-slty tex, v wk calc







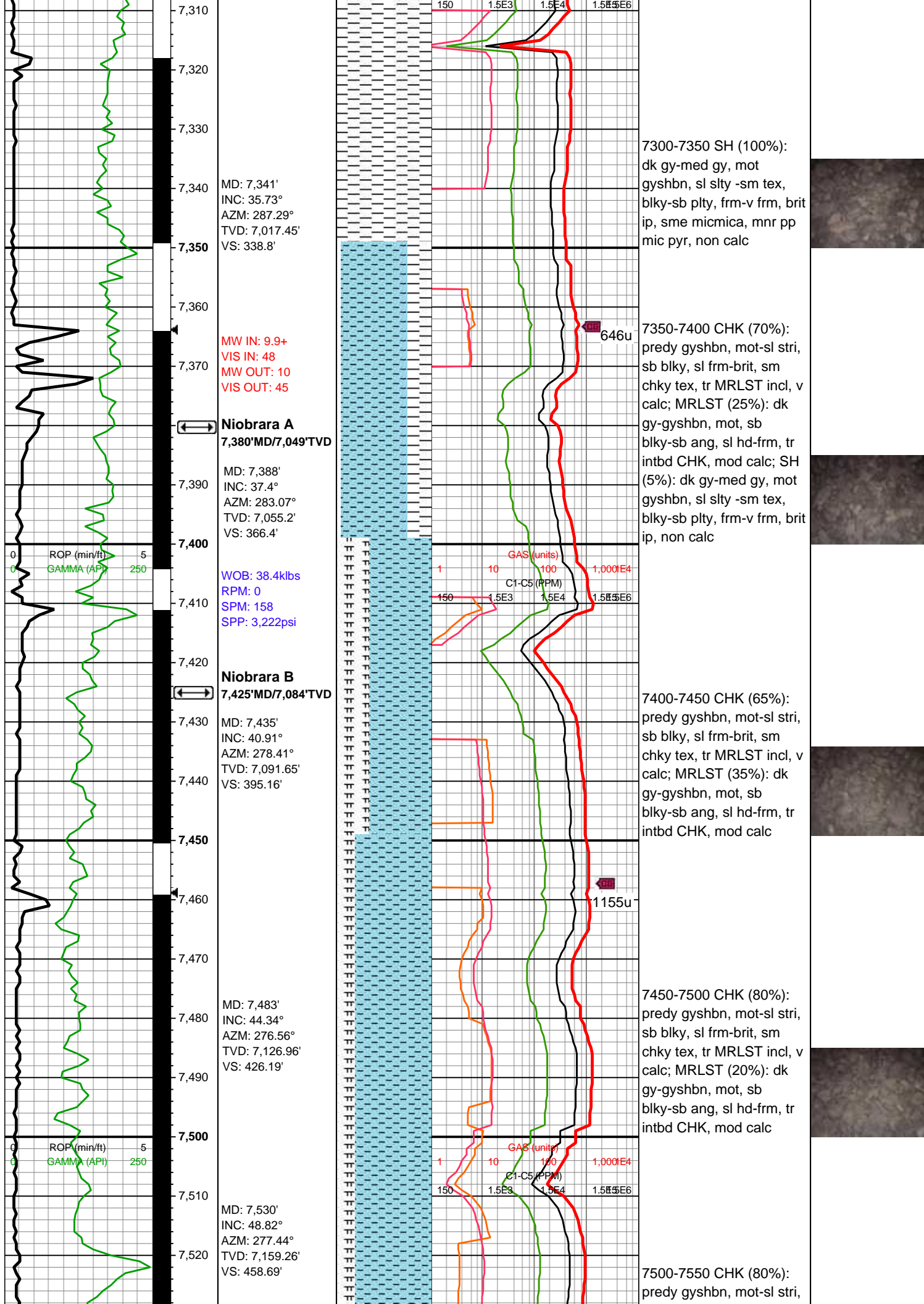
7050-7100 SH (100%):
gyshbn-med gy, mot lt gy,
frm-v frm, tr sft-brit, sb
blky-tab-plty, slty-sm tex

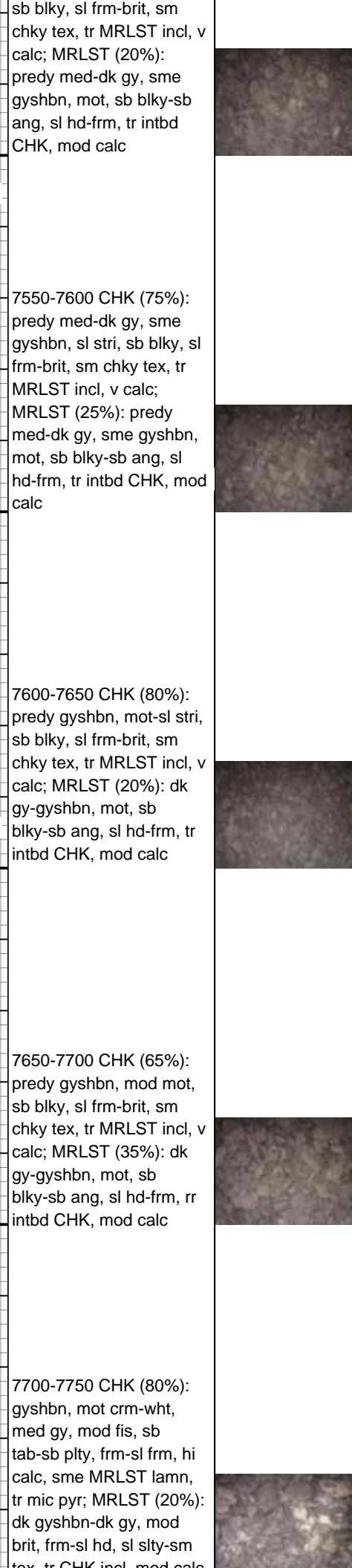
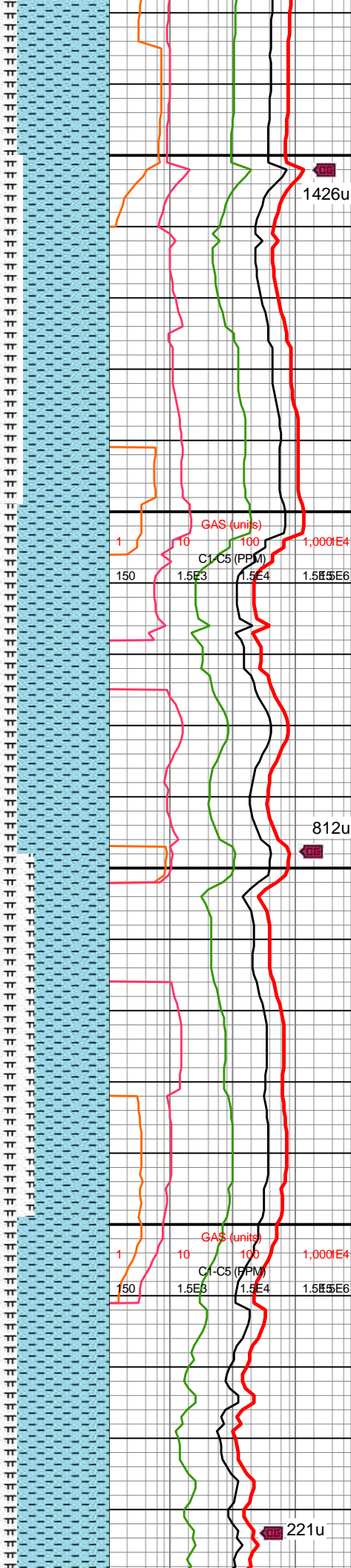
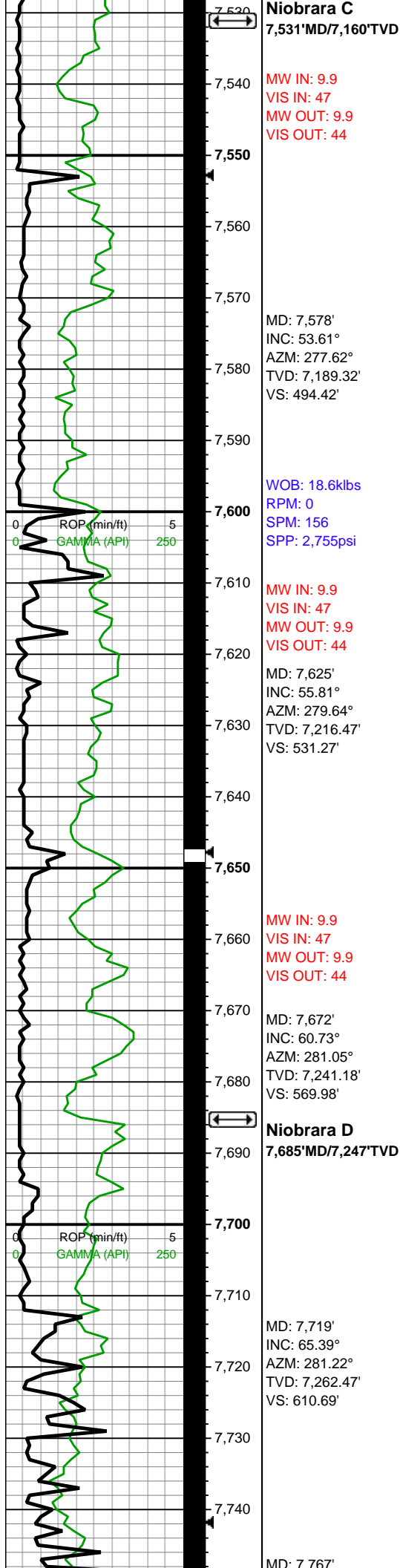
7100-7150 SH (100%):
gyshbn-med gy, mot lt gy,
frm-v frm, occ sft-brit, sb
blky-tab-plty, slty-sm tex

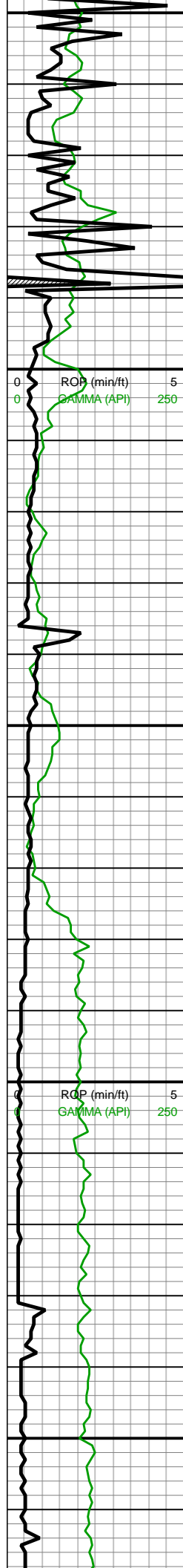
7150-7200 SH (100%):
med gy, mot lt gy, frm-v
frm, tr sft-brit, sb blky-plty,
slty-sm tex

7200-7250 SH (100%):
med gy, mot lt gy, frm-v
frm, tr sft-brit, sb blky-plty,
predy slty tex

7250-7300 SH (100%):
med gy, mot lt gy, frm-v
frm, predy brit, sb
blky-tab-plty, sm-sl slty
tex







7,750
INC: 66.4°
AZM: 282.89°
TVD: 7,282.08'
VS: 653.43'

HD
TOOH for BHA
@ 1800 hrs on
12/09/2018. TIH
@ 0100 hrs on
12/10/2018.

12/10/2018
SSM
WOB: 30.6klbs
RPM: 0
SPM: 154
SPP: 3,009psi

Ft Hays
7,801'MD/7,294'TVD

MD: 7,814'
INC: 70.36°
AZM: 282.63°
TVD: 7,299.39'
VS: 696.17'

Bit #: 2
Type: U516M
Size: 8 1/2
Depth In: 7,788'
Jets: 6x13
S/N: 43955

MW IN: 10.1+
VIS IN: 59
MW OUT: 10+
VIS OUT: 47

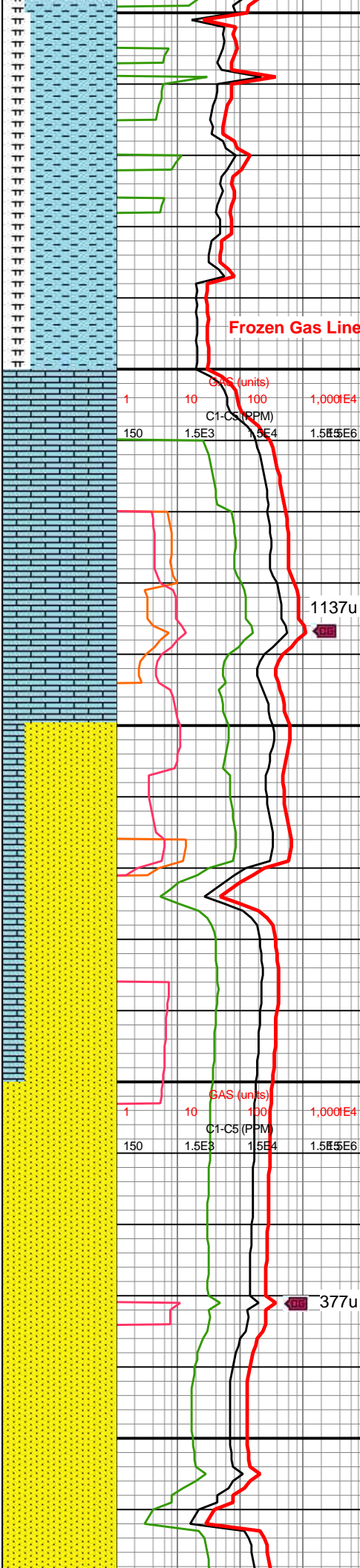
MD: 7,861'
INC: 76.64°
AZM: 283.07°
TVD: 7,312.73'
VS: 740.24'

Codell
7,874'MD/7,315'TVD

MD: 7,908'
INC: 82.79°
AZM: 284.3°
TVD: 7,321.12'
VS: 785.6'

MD: 7,956'
INC: 89.03°
AZM: 282.1°
TVD: 7,324.54'
VS: 832.48'

Curve Landed
@ 7,963'MD

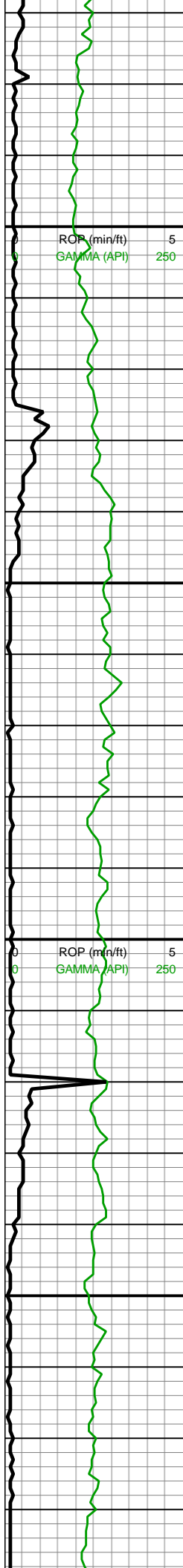


7750-7800 CHK (75%):
gyshbn, mot crm-wht,
med gy, mod fis, sb
tab-sb plty, frm-sl frm, hi
calc, sme MRLST lamn,
tr mic pyr; MRLST (25%):
dk gyshbn-dk gy, mod
brit, sl hd, slty-sm tex, occ
CHK incl, mod calc

7800-7850 LS (100%):
gyshbn-crm, mot wht, sb
tab-sb blkly, pkst, vf
xln-micxln, frm-sl frm, tr
pp/imbd mic pyr cls, hi
calc

7850-7900 SS (80%): lt
brn-bnshgy, med brn, sb
rnd-sb ang, vf-f gr, slt ip,
mtx-gr sup cluss, cons wi
silc/arg cmt; LS (20%):
gyshbn-crm, mot wht, sb
tab-sb blkly, pkst, vf
xln-micxln, frm-sl frm, tr
pp/imbd mic pyr cls, hi
calc





WOB: 27klbs
RPM: 25
SPM: 156
SPP: 3,361psi

MW IN: 9.9+
VIS IN: 509
MW OUT: 9.9+
VIS OUT: 46

MD: 8,050'
INC: 89.96°
AZM: 278.15°
TVD: 7,325.37'
VS: 923.42'

MD: 8,145'
INC: 91.8°
AZM: 276.65°
TVD: 7,323.91'
VS: 1,014.08'

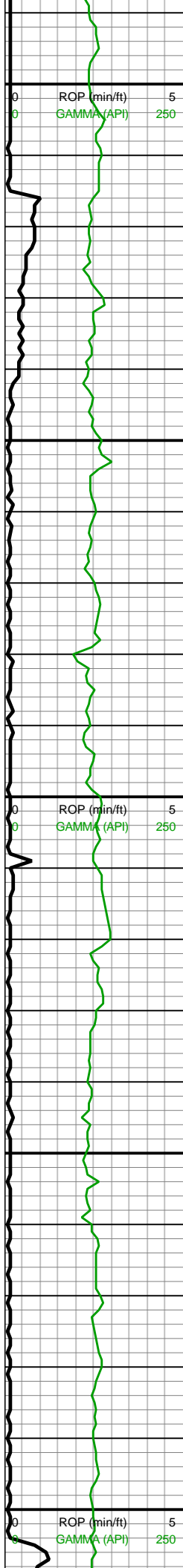


7900-8000 SS (100%):
med brn-bnshgy, lt brn,
gyshbn, sb rnd-sb ang,
vf-slty gr, mtx-gr sup
cluss, cons wi silc / arg
cmt, mod calc, scat sh
frags

8000-8100 SS (100%):
med-dk brn, sme
bnshgy, sb rnd-sb ang,
vf-slty gr, mtx-gr sup
cluss, cons wi silc / arg
cmt, mod calc, scat sh
frags

8100-8200 SS (100%):
med brn-bnshgy, sb
rnd sb ang, vf slty, mtx gr





8,190
8,200
8,210
8,220
8,230
8,240
8,250
8,260
8,270
8,280
8,290
8,300
8,310
8,320
8,330
8,340
8,350
8,360
8,370
8,380
8,390
8,400

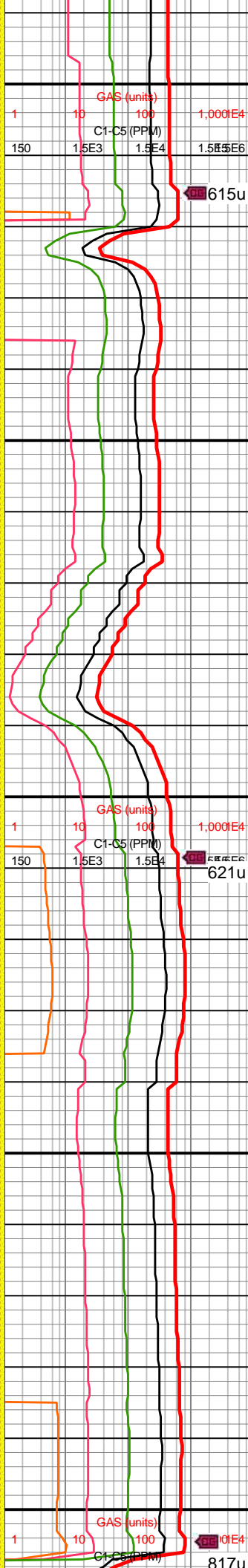
WOB: 32.2klbs
RPM: 70
SPM: 194
SPP: 4,729psi

MW IN: 9.9+
VIS IN: 47
MW OUT: 10
VIS OUT: 45

MD: 8,239'
INC: 90.75°
AZM: 271.47°
TVD: 7,321.82'
VS: 1,101.96'

MD: 8,334'
INC: 90.26°
AZM: 268.04°
TVD: 7,320.98'
VS: 1,188.05'

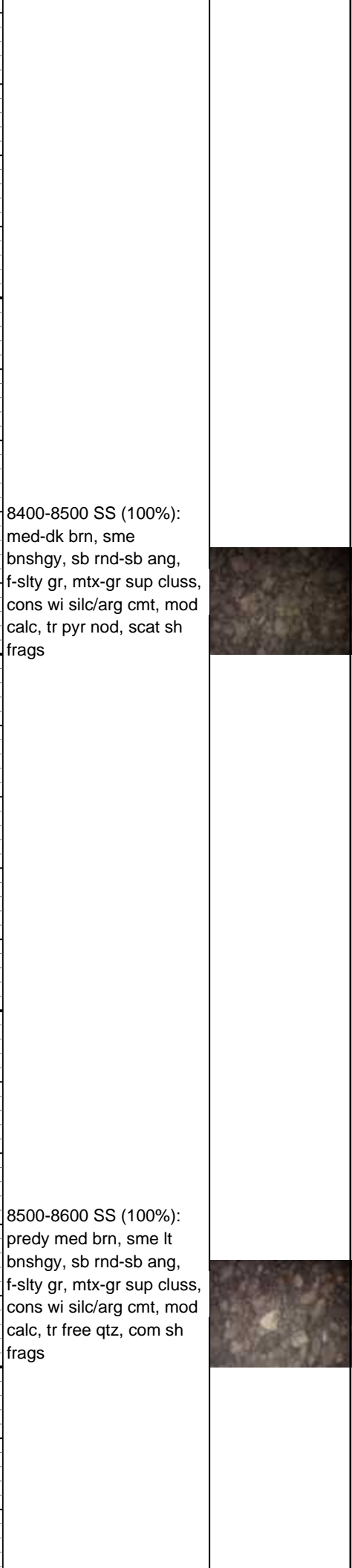
WOB: 38.7klbs
RPM: 70
SPM: 194
SPP: 4,885psi

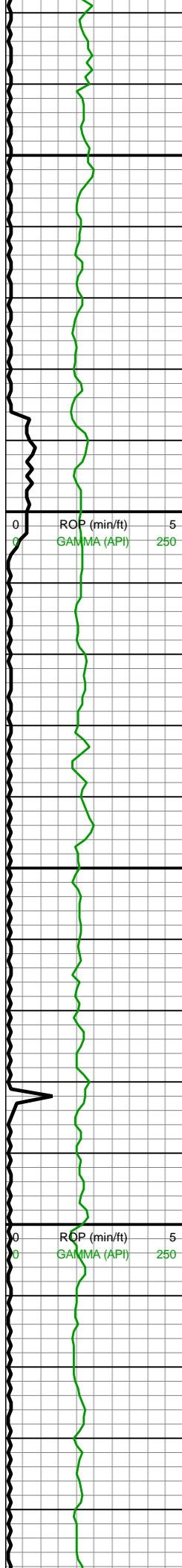


md-sb ang, vi-sity, mix-gr
sup cluss, cons wi
silc/arg cmt, tr free pyr,
mod calc

8200-8300 SS (100%):
med brn-bnshgy, sb
rnd-sb ang, gr sup cluss,
cons wi silc/arg cmt, tr
free pyr, mod calc

8300-8400 SS (100%):
med-dk brn, sme
bnshgy, sb rnd-sb ang,
f-slty gr, mt-x-gr sup cluss,
cons wi silc/arg cmt, mod
calc, scat sh frags



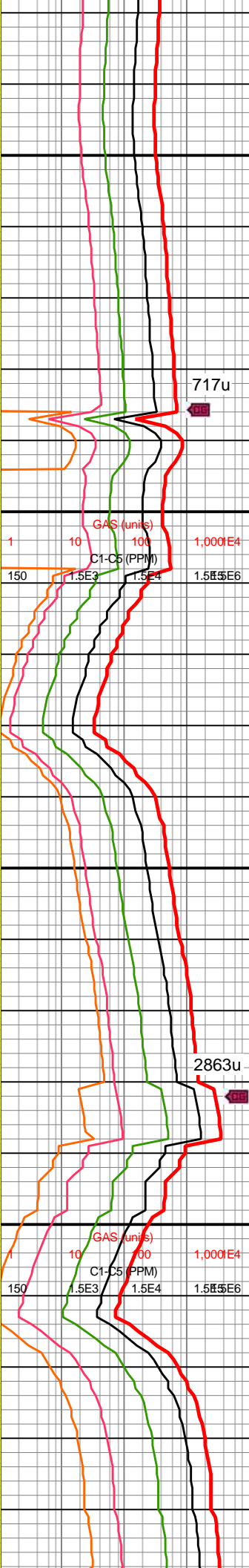
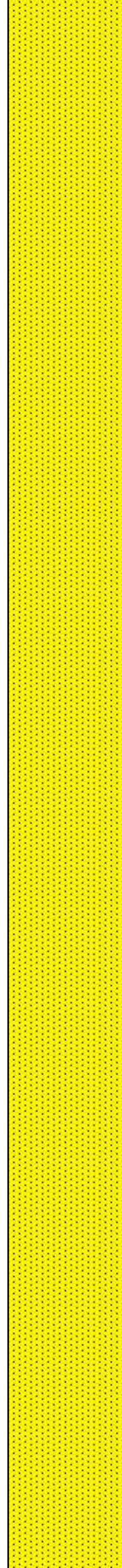


VIS IN: 47
MW OUT: 10
VIS OUT: 44

MD: 8,711'
INC: 89.78°
AZM: 271.56°
TVD: 7,313.56'
VS: 1,528.48'

WOB: 37.6klbs
RPM: 70
SPM: 192
SPP: 4,793psi

MD: 8,806'
INC: 89.65°
AZM: 270.76°
TVD: 7,314.04'
VS: 1,615.54'



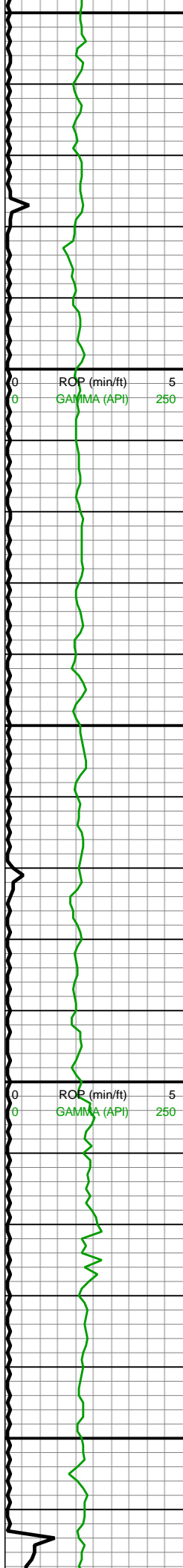
8600-8700 SS (100%):
predy med brn, sme lt
bnshgy, sb rnd-sb ang,
f-slty gr, mtx-gr sup cluss,
cons wi silc/arg cmt, mod
calc, occ free qtz, com sh
frags

717u

8700-8800 SS (100%):
predy med brn, sme lt
bnshgy, predy sb rnd,
sme sb ang-ang, f-slty,
mtx-gr sup cluss, cons wi
silc/arg cmt, mod calc, tr
free qtz

2863u





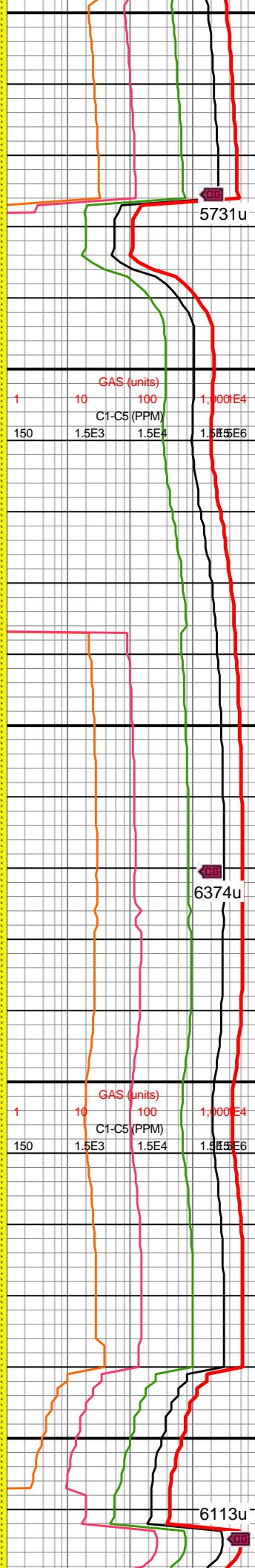
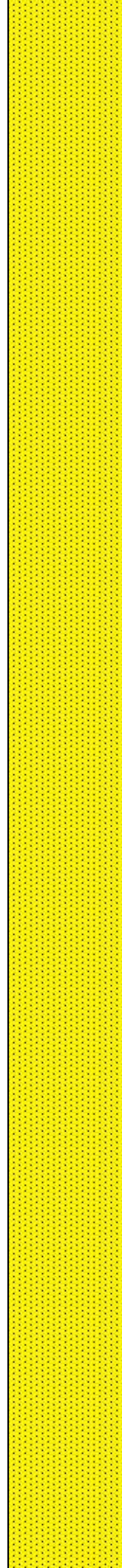
8,850
8,860
8,870
8,880
8,890
8,900
8,910
8,920
8,930
8,940
8,950
8,960
8,970
8,980
8,990
9,000
9,010
9,020
9,030
9,040
9,050
9,060

MD: 8,900'
INC: 89.25°
AZM: 270.5°
TVD: 7,314.94'
VS: 1,701.33'

MD: 8,995'
INC: 88.81°
AZM: 269.62°
TVD: 7,316.55'
VS: 1,787.63'

WOB: 37.6klbs
RPM: 0
SPM: 193
SPP: 4,940psi

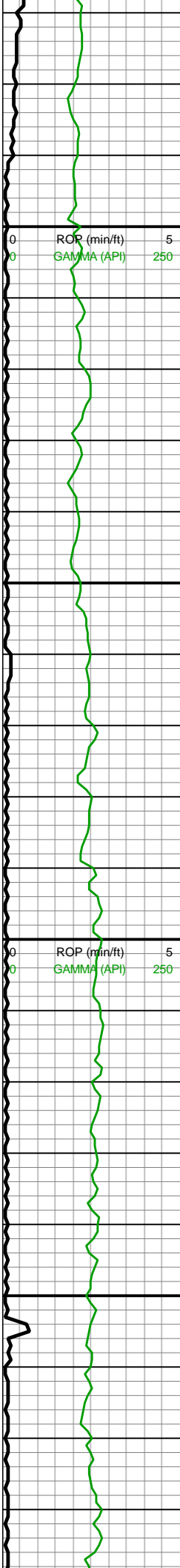
MW IN: 9.9+
VIS IN: 47
MW OUT: 9.9+
VIS OUT: 45



8800-8900 SS (100%):
lt-med bnshgy, sb rnd,
sme sb ang-ang, f-slty,
mtx-gr sup cluss, cons wi
silc/arg cmt, mod calc, tr
free qtz

8900-9000 SS (100%):
lt-med bnshgy, sb rnd,
sme sb ang-ang, vf-slty,
mtx-gr sup cluss, cons wi
silc/arg cmt, mod calc,
occ free qtz



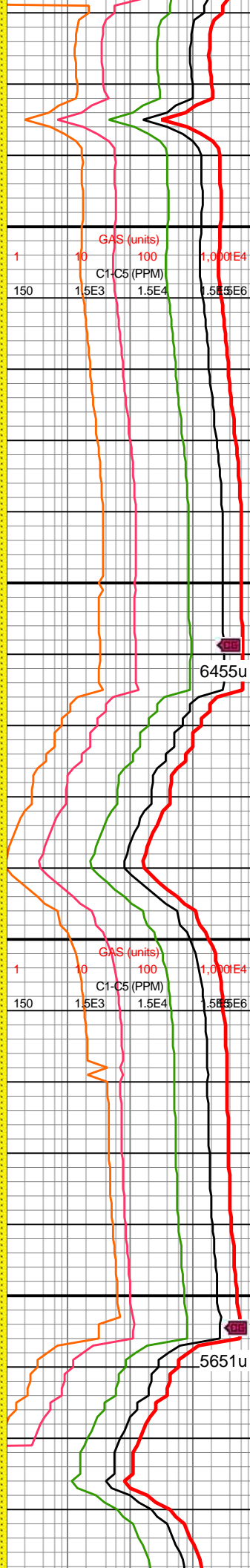


MD: 9,089'
INC: 90.26°
AZM: 272.08°
TVD: 7,317.31'
VS: 1,873.56'

MD: 9,184'
INC: 90.13°
AZM: 271.12°
TVD: 7,316.99'
VS: 1,960.91'

WOB: 38.2klbs
RPM: 70
SPM: 193
SPP: 5,046psi

MD: 9,278'
INC: 90.18°
AZM: 271.12°
TVD: 7,316.73'
VS: 2,047.03'

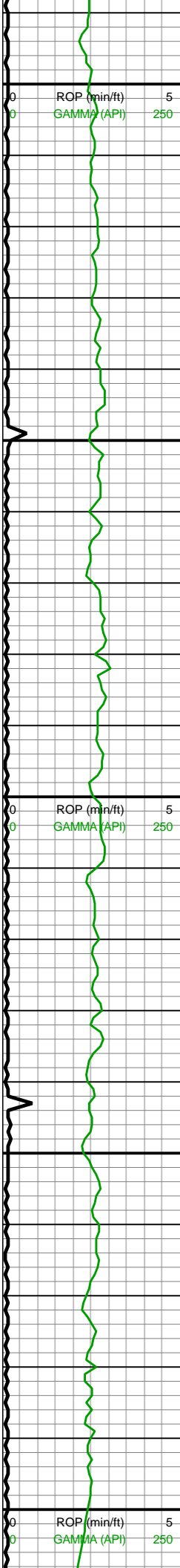


9000-9100 SS (100%):
lt-med bnshgy, sb rnd-sb
ang, scat ang, vf-slty,
mtx-gr sup cluss, cons wi
silc/arg cmt, mod calc,
occ free qtz

9100-9200 SS (100%):
med-dk brn, sme
bnshgy, sb rnd-sb ang,
f-slty gr, mtx-gr sup cluss,
cons wi silc/arg cmt, mod
calc, tr pyr nod, scat sh
frags

9200-9300 SS (100%):
med-dk brn, sme





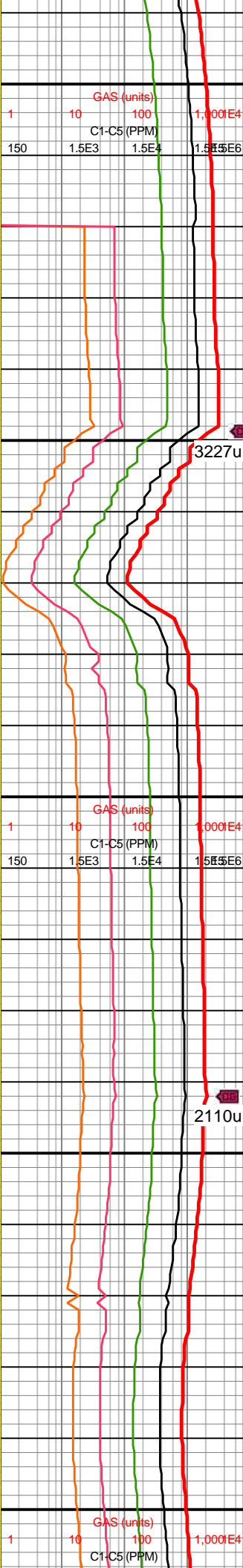
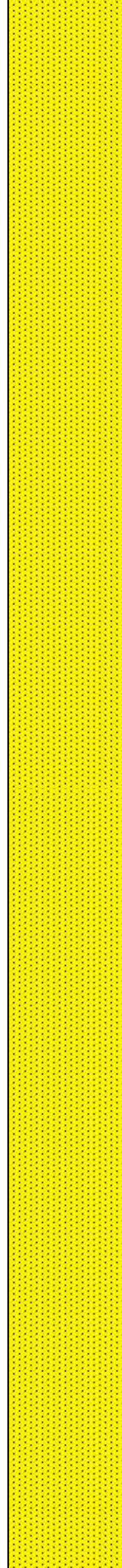
9,290
9,300
9,310
9,320
9,330
9,340
9,350
9,360
9,370
9,380
9,390
9,400
9,410
9,420
9,430
9,440
9,450
9,460
9,470
9,480
9,490
9,500

MD: 9,373'
INC: 89.82°
AZM: 270.68°
TVD: 7,316.73'
VS: 2,133.91'

WOB: 39.7klbs
RPM: 70
SPM: 193
SPP: 5,150psi

MW IN: 10
VIS IN: 46
MW OUT: 10
VIS OUT: 44

MD: 9,467'
INC: 89.34°
AZM: 268.92°
TVD: 7,317.42'
VS: 2,219.14'

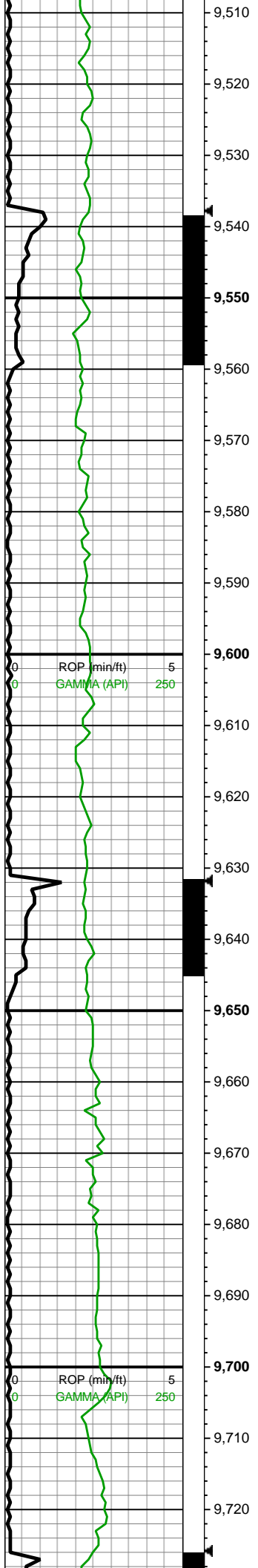


bnshgy, sb rnd-sb ang,
f-slty gr, mtx-gr sup cluss,
cons wi silc/arg cmt, mod
calc, scat sh frags

9300-9400 SS (100%):
med-dk brn, sme
bnshgy, sb rnd-sb ang,
f-slty gr, mtx-gr sup cluss,
cons wi silc/arg cmt, mod
calc, tr sh frags

9400-9500 SS (100%):
lt-med bnshgy, sb rnd-sb
ang, scat ang, vf-slty,
mtx-gr sup cluss, cons wi
silc/arg cmt, mod calc,
occ free qtz



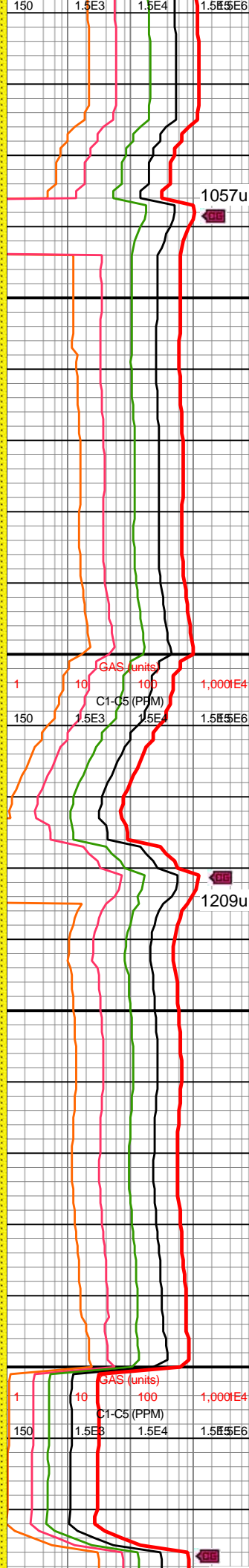
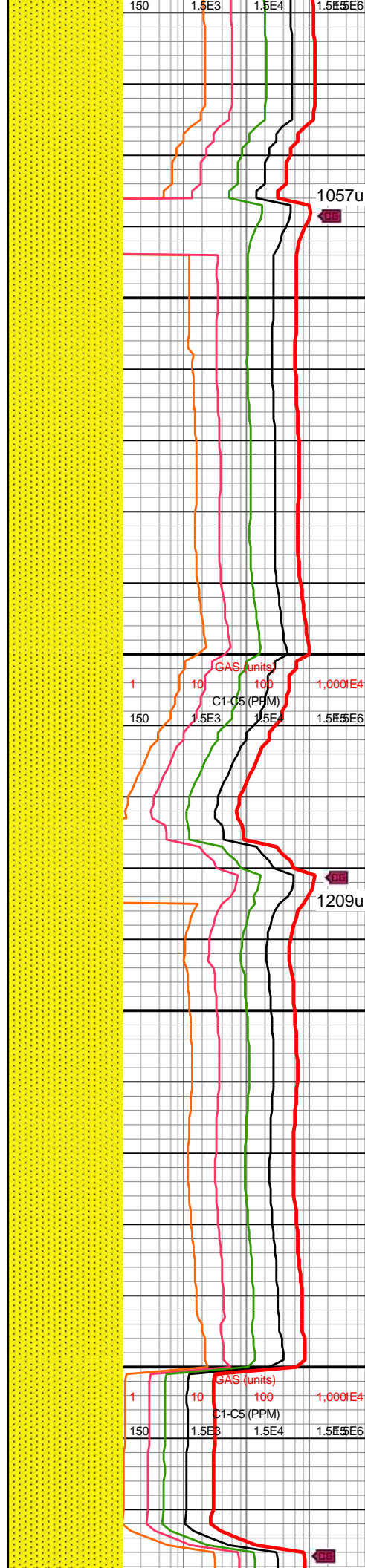


MD: 9,562'
INC: 90.66°
AZM: 270.24°
TVD: 7,317.42'
VS: 2,305.11'

WOB: 38.5klbs
RPM: 70
SPM: 193
SPP: 5,200psi

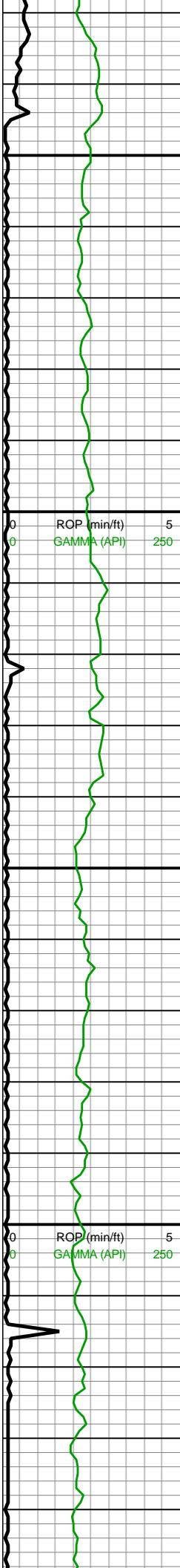
MD: 9,656'
INC: 90.88°
AZM: 270.32°
TVD: 7,316.16'
VS: 2,390.66'

MW IN: 10+
VIS IN: 47
MW OUT: 10.1
VIS OUT: 45



9500-9600 SS (100%):
lt-med bnshgy, sb rnd,
sme sb ang-ang, f-silty,
mtx-gr sup cluss, cons wi
silc/arg cmt, mod calc, tr
free qtz

9600-9700 SS (100%):
lt-med bnshgy, sb rnd-sb
ang, f-silty, mtx-gr sup
cluss, cons wi silc/arg
cmt, mod calc, rr free qtz

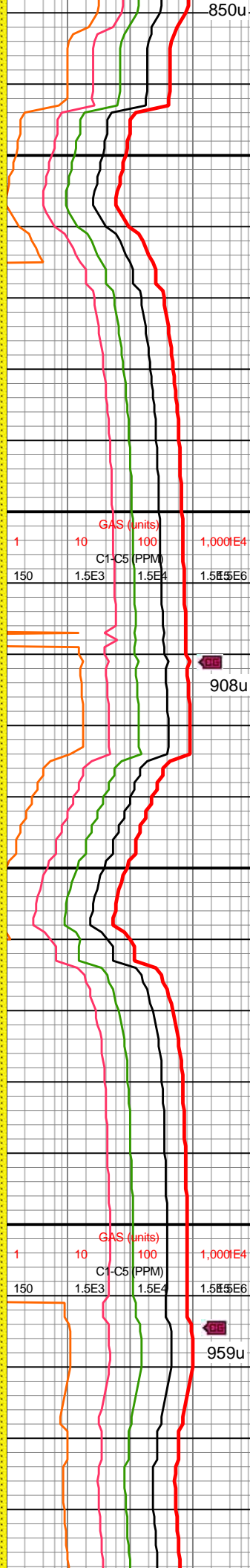


MD: 9,750'
INC: 90.66°
AZM: 272.35°
TVD: 7,314.8'
VS: 2,476.61'

WOB: 39.8klbs
RPM: 70
SPM: 197
SPP: 5,246psi

MD: 9,845'
INC: 90.35°
AZM: 271.82°
TVD: 7,313.96'
VS: 2,564.27'

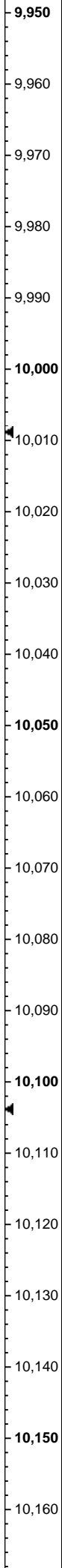
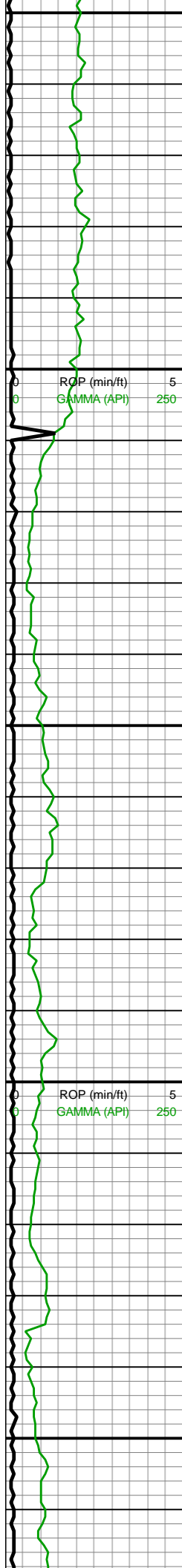
MD: 9,939'
INC: 90°
AZM: 271.29°
TVD: 7,313.67'
VS: 2,650.67'



9700-9800 SS (100%):
med bnshgy, sb rnd-sb
ang, f-slty, mtx-gr sup
cluss, cons wi silc/arg
cmt, mod calc, tr SH

9800-9900 SS (100%):
lt-med bnshgy, sb rnd-sb
ang, f-slty, mtx-gr sup
cluss, cons wi silc/arg
cmt, mod calc, sme SH



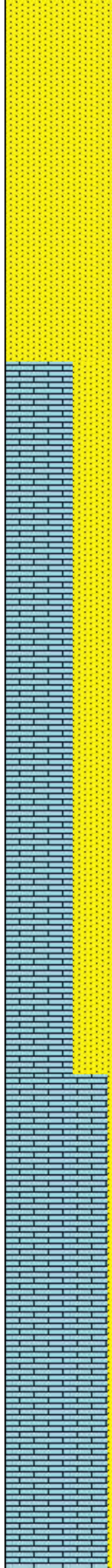


WOB: 39.9klbs
RPM: 70
SPM: 194
SPP: 5,309psi

MW IN: 10.1
VIS IN: 47
MW OUT: 10.1
VIS OUT: 45

MD: 10,033'
INC: 89.78°
AZM: 270.24°
TVD: 7,313.85'
VS: 2,736.55'

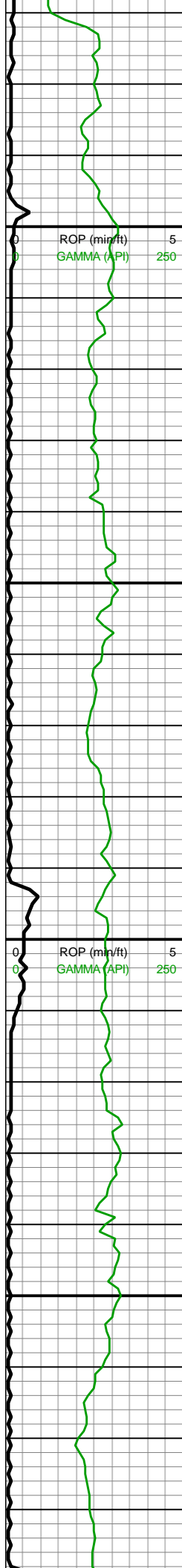
MD: 10,128'
INC: 90.57°
AZM: 269.8°
TVD: 7,313.56'
VS: 2,822.84'



9900-10000 SS (100%):
lt-med bnshgy, dk gy, sb
rnd-sb ang, f-slt, mtx-gr
sup cluss, cons wi
silc/arg cmt, mod calc

10000-10100 LS (60%):
gysbhn-mot crm, sb
tab-sb blk, pkst, vf
xln-micxln, frm-sl frm, hi
calc; SS (40%): dk gy, sb
rnd-sb ang, vf-f gr, slt ip,
mtx-gr sup cluss, cons wi
silc/arg cmt





10,170
10,180
10,190
10,200
10,210
10,220
10,230
10,240
10,250
10,260
10,270
10,280
10,290
10,300
10,310
10,320
10,330
10,340
10,350
10,360
10,370
10,380

MW IN: 10.1
VIS IN: 47
MW OUT: 10.14
VIS OUT: 5

WOB: 17.6klbs
RPM: 70
SPM: 193
SPP: 4,872psi

MD: 10,222'
INC: 90.57°
AZM: 268.48°
TVD: 7,312.63'
VS: 2,907.59'

MD: 10,317'
INC: 89.47°
AZM: 269.89°
TVD: 7,312.59'
VS: 2,993.29'

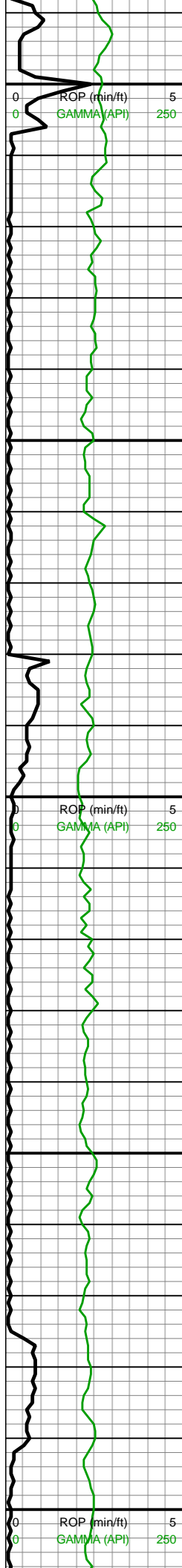
MW IN: 10.1
VIS IN: 47



10100-10200 LS (90%):
mot crm-gyshbn, sb
tab-sb blk, pkst, vf
xln-micxln, frm-sl frm, hi
calc; SS (10%): v dk gy,
sb rnd-sb ang, vf-f gr, slt
ip, mtx-gr sup cluss,
cons wi silc/arg cmt, rr
free pyr

10200-10300 SS (90%):
gyshbn, sme dk gy, sb
rnd-sb ang, vf-f gr, f-slt,
mtx-gr sup cluss, cons wi
silc/arg cmt; LS (10%):
gyshbn-med brn, sb
tab-sb blk, pkst, vf
xln-micxln, frm-sl frm, hi
calc

10300-10400 SS (100%):



VIS IN: 47
MW OUT: 10.1
VIS OUT: 46

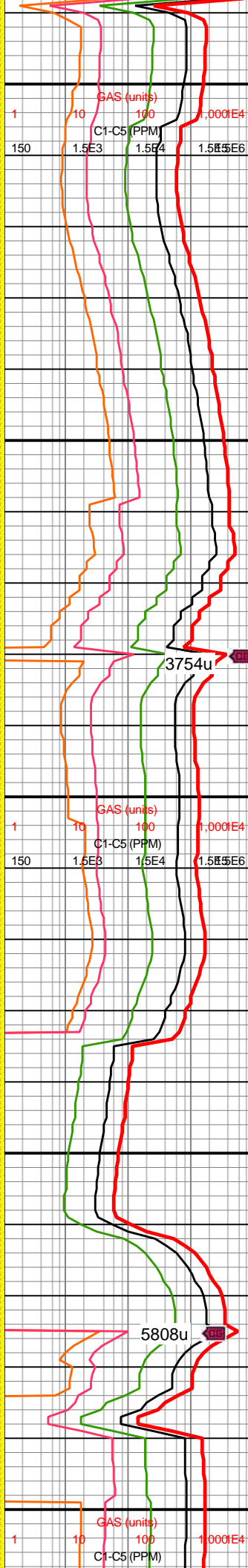
WOB: 28.9klbs
RPM: 13
SPM: 194
SPP: 4,780psi

MD: 10,411'
INC: 88.68°
AZM: 269.89°
TVD: 7,314.11'
VS: 3,078.57'

MD: 10,505'
INC: 88.9°
AZM: 270.85°
TVD: 7,316.1'
VS: 3,164.17'

MW IN: 10.2
VIS IN: 47
MW OUT: 10.1
VIS OUT: 46

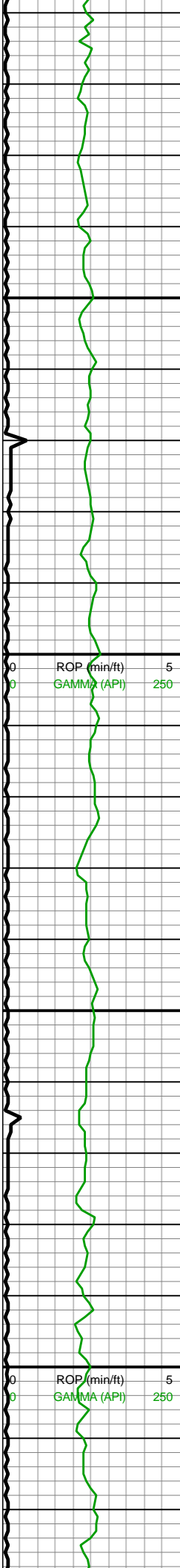
MD: 10,600'
INC: 90.62°
AZM: 272.35°
TVD: 7,316.49'
VS: 3,251.51'



gyshbn-wh, tr dk gy, sb
rnd-sb ang, vf-f gr, f-slty,
mtx-gr sup cluss, cons wi
silc/arg cmt, tr LS

10400-10500 SS (100%):
med gyshbn-lt gy, tr dk
gy, sb rnd-sb ang, vf-f gr,
f-slty, mtx-gr sup cluss,
cons wi silc/arg cmt, sme
SH

10500-10600 SS (100%):
med gyshbn, sme dk gy,
sb rnd-sb ang, vf-f gr,
f-slty, mtx-gr sup cluss,
cons wi silc/arg cmt, tr
SH

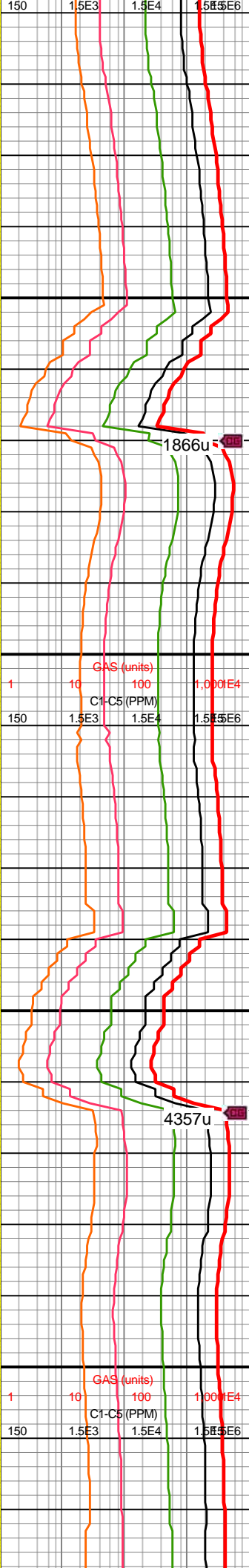
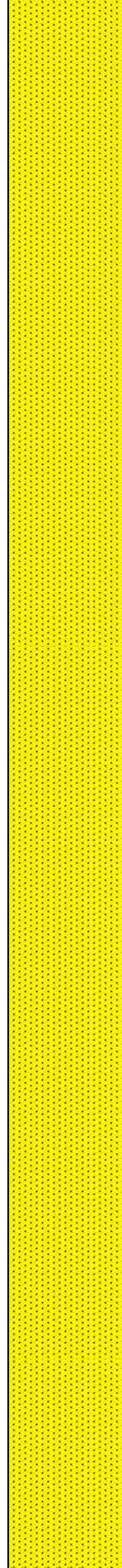


WOB: 25.7kbs
RPM: 70
SPM: 193
SPP: 5,176psi

MD: 10,695'
INC: 90.44°
AZM: 272.35°
TVD: 7,315.61'
VS: 3,339.34'

WOB: 34kbs
RPM: 70
SPM: 194
SPP: 5,429psi

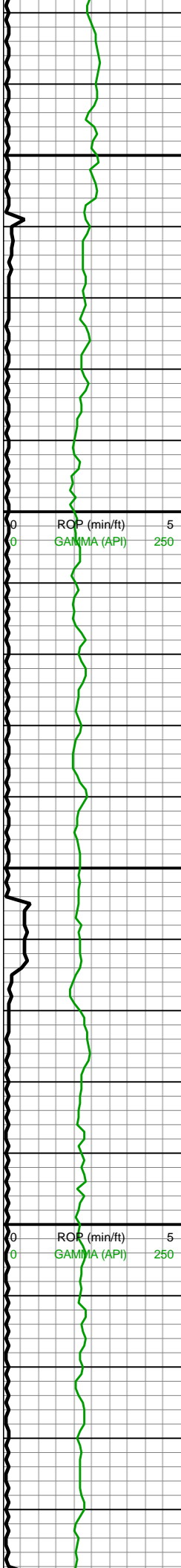
MW IN: 10.2
VIS IN: 47
MW OUT: 10.2
VIS OUT: 46



10600-10700 SS (100%):
med gysbn-dk gy, sb
rnd-sb ang, vf-f gr, slty,
mtx-gr sup cluss, cons wi
silc/arg cmt, tr SH

10700-10800 SS (100%):
med gysbn, sb rnd-sb
ang, vf-f gr, slty, mtx-gr
sup cluss, cons wi
silc/arg cmt, rr SH

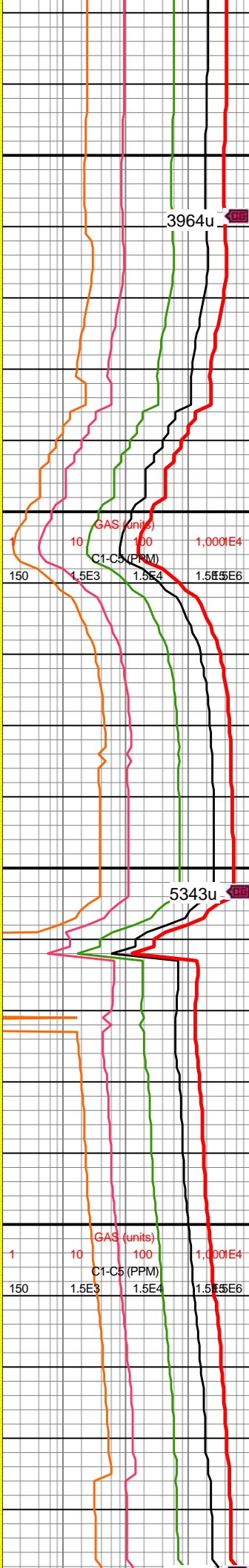
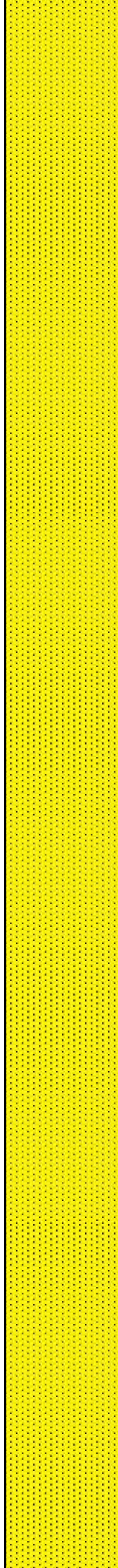




10,830
10,840
10,850
10,860
10,870
10,880
10,890
10,900
10,910
10,920
10,930
10,940
10,950
10,960
10,970
10,980
10,990
11,000
11,010
11,020
11,030
11,040

MD: 10,884'
INC: 90.97°
AZM: 271.64°
TVD: 7,313.36'
VS: 3,513.67'

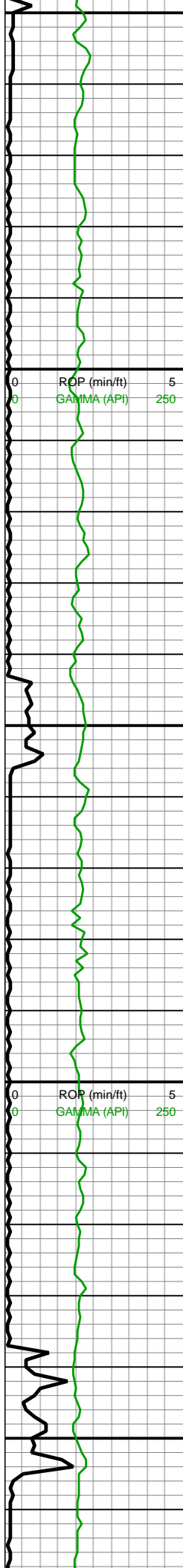
WOB: 37.8klbs
RPM: 70
SPM: 192
SPP: 5,447psi



10800-10900 SS (100%):
med gyshbn, sme dk gy,
sb rnd-sb ang, f gr, slty,
mtx-gr sup cluss, cons wi
silc/arg cmt

10900-11000 SS (100%):
lt gy-med gyshbn, tr dk
gy, sb rnd-sb ang, f gr,
slty, mtx-gr sup cluss,
cons wi silc/arg cmt, rr
SH





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

MW IN: 10.2
VIS IN: 47
MW OUT: 10.2
VIS OUT: 45

MD: 11,073'
INC: 90.4°
AZM: 270.94°
TVD: 7,312.66'
VS: 3,686.58'

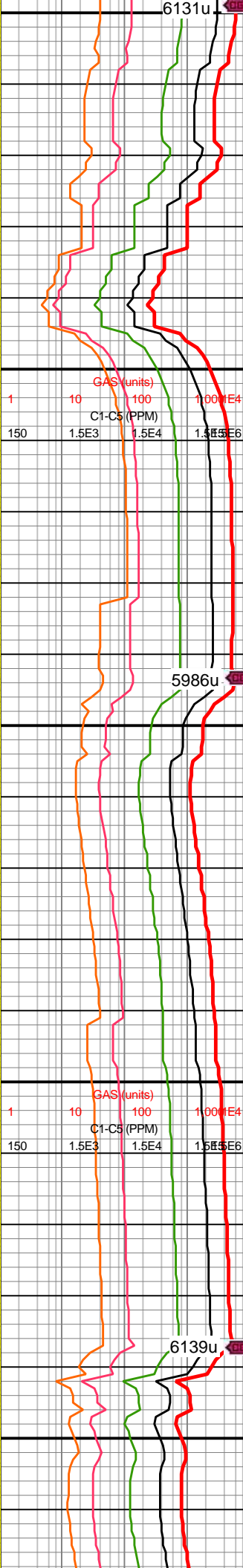
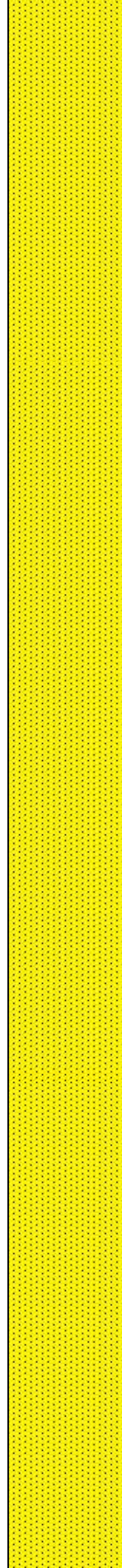
MD: 11,168'
INC: 90.31°
AZM: 270.15°
TVD: 7,312.07'
VS: 3,773.22'

WOB: 37.1klbs
RPM: 70
SPM: 194
SPP: 5,556psi

MW IN: 10.2
VIS IN: 46
MW OUT: 10.2
VIS OUT: 45

12/11/2018

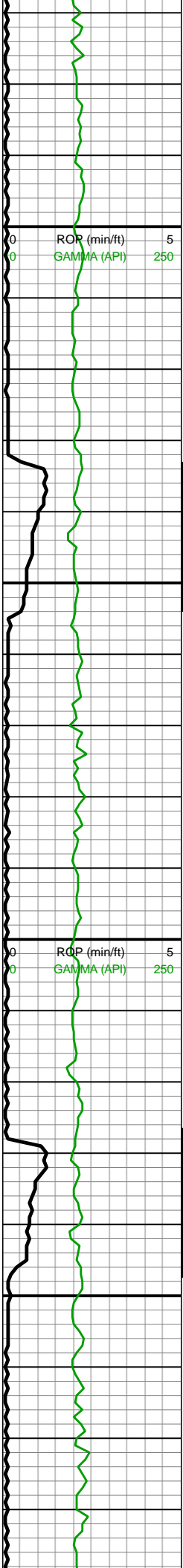
MD: 11,262'
INC: 90.88°
AZM: 268.92°
TVD: 7,311.09'
VS: 3,858.26'



11000-11100 SS (100%):
lt gy-med gyshbn, sme
off wh, sb rnd-sb ang, f
gr, slty, mtx-gr sup cluss,
cons wi silc/arg cmt, rr
free qtz, rr SH

11100-11200 SS (100%):
med gyshbn, sme off wh,
sb rnd-sb ang, f gr, slty,
mtx-gr sup cluss, sme
uncons, cons wi silc/arg
cmt, sme SH





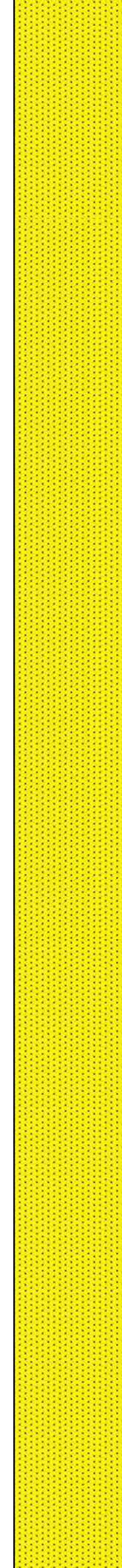
11,270
11,280
11,290
11,300
11,310
11,320
11,330
11,340
11,350
11,360
11,370
11,380
11,390
11,400
11,410
11,420
11,430
11,440
11,450
11,460
11,470
11,480

MW IN: 10.2
VIS IN: 47
MW OUT: 10.2
VIS OUT: 46

MD: 11,357'
INC: 86.66°
AZM: 266.9°
TVD: 7,313.13'
VS: 3,942.98'

WOB: 37.4klbs
RPM: 70
SPM: 192
SPP: 5,467psi

MD: 11,452'
INC: 87.36°
AZM: 267.86°
TVD: 7,318.09'
VS: 4,027.23'

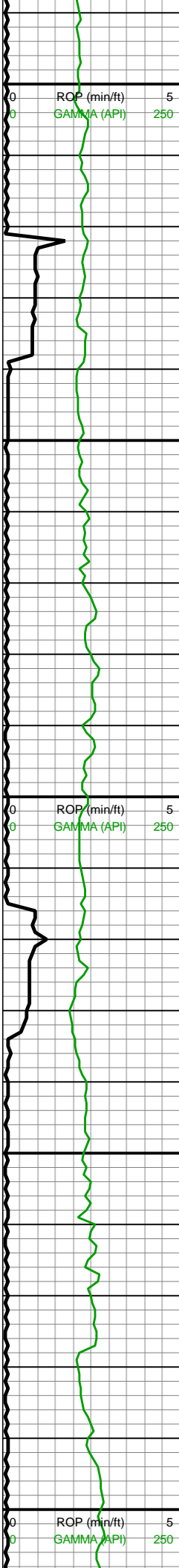


11200-11300 SS (100%):
dk gy, sme med gyshbn,
sb rnd-sb ang, f gr, slty,
mtx-gr sup cluss, sme
uncons, cons wi silc/arg
cmt, sme free qtz

11300-11400 SS (100%):
dk gy, sme lt gyshbn, sb
rnd-sb ang, f gr, slty,
mtx-gr sup cluss, sme
uncons, cons wi silc/arg
cmt, sme free qtz

11400-11500 SS (100%):





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

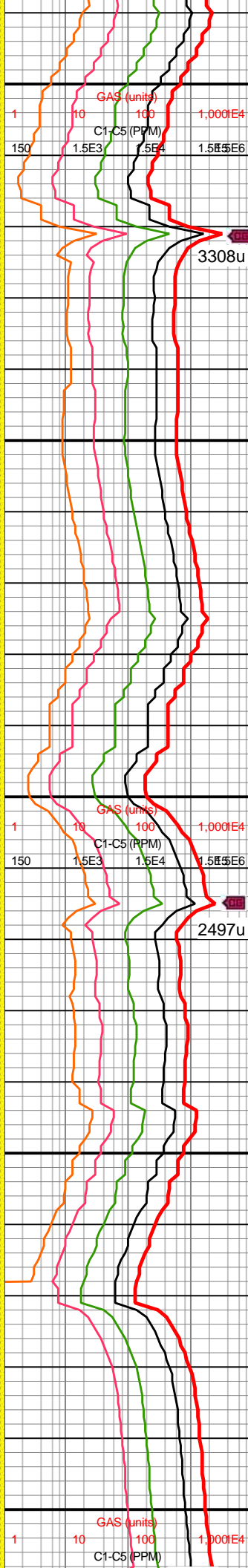
MW IN: 10.2
VIS IN: 48
MW OUT: 10.2
VIS OUT: 46

MD: 11,546'
INC: 87.98°
AZM: 269.89°
TVD: 7,321.91'
VS: 4,111.73'

WOB: 37.6klbs
RPM: 70
SPM: 192
SPP: 5,494psi

MD: 11,640'
INC: 88.68°
AZM: 271.12°
TVD: 7,324.65'
VS: 4,197.4'

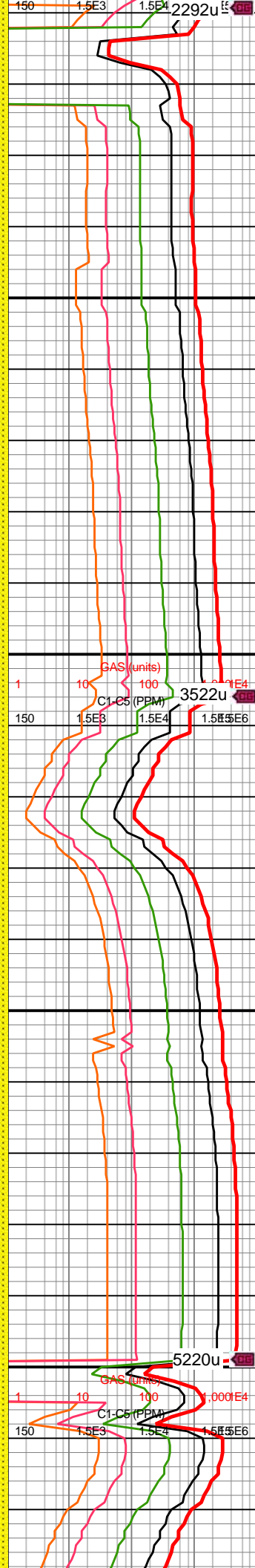
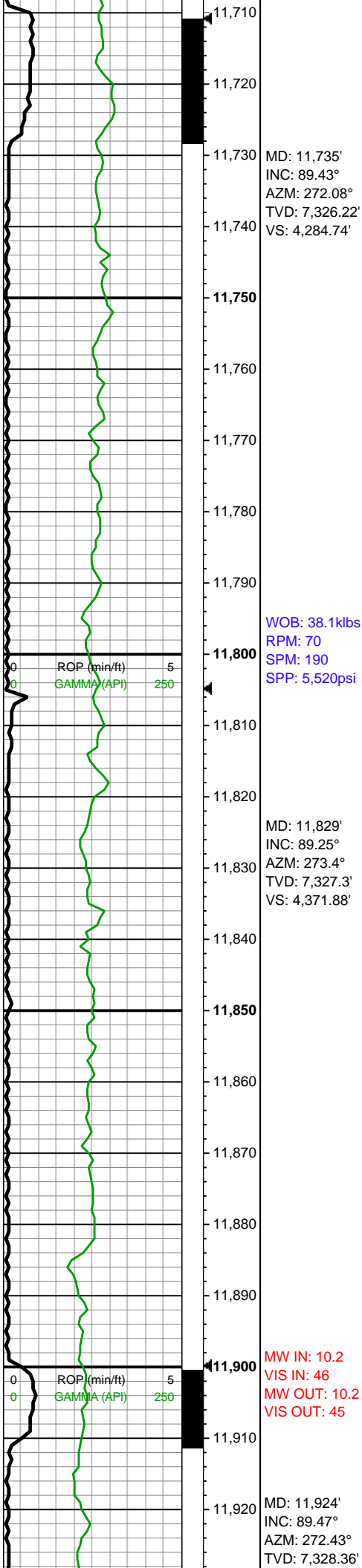
MW IN: 10.2
VIS IN: 47
MW OUT: 10.2
VIS OUT: 46



dk gy, tr gyshbn, sb
rnd-sb ang, f gr, slty,
mtx-gr sup class, cons wi
silc/arg cmt, tr SH

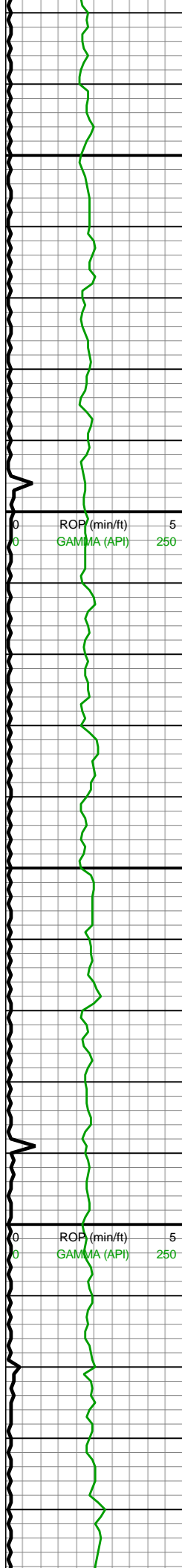
11500-11600 SS (100%):
predy med gyshbn-dk gy,
tr lt gy, sb rnd-sb ang, f
gr, slty, mtx-gr sup class,
sme uncon, cons wi
silc/arg cmt

11600-11700 SS (100%):
predy dk gyshbn-dk gy,
sb rnd-sb ang, f gr, slty,
mtx-gr sup class, abnt
uncon, cons wi silc/arg
cmt



11700-11800 SS (100%):
predy dk gyshbn, sme lt
gy, sb rnd-sb ang, f gr,
silty, mtx-gr sup cluss,
abnt uncon, cons wi
silc/arg cmt, tr SH

11700-11800 SS (100%):
predy dk gyshbn, sme lt
gy, sb rnd-sb ang, f gr,
silty, mtx-gr sup cluss,
abnt uncon, cons wi
silc/arg cmt, tr SH



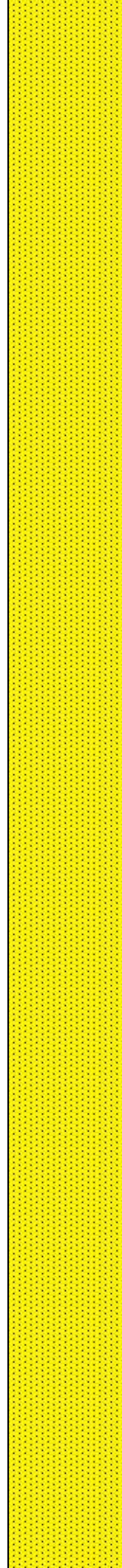
VS: 4,460.06'

WOB: 23klbs
RPM: 70
SPM: 186
SPP: 5,055psi

MD: 12,019'
INC: 89.39°
AZM: 271.56°
TVD: 7,329.3'
VS: 4,547.66'

MD: 12,113'
INC: 88.99°
AZM: 270.59°
TVD: 7,330.73'
VS: 4,634.04'

MW IN: 10.2
VIS IN: 47
MW OUT: 10.2
VIS OUT: 46

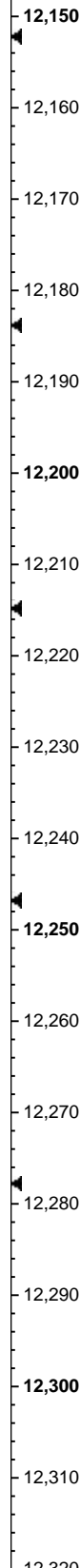
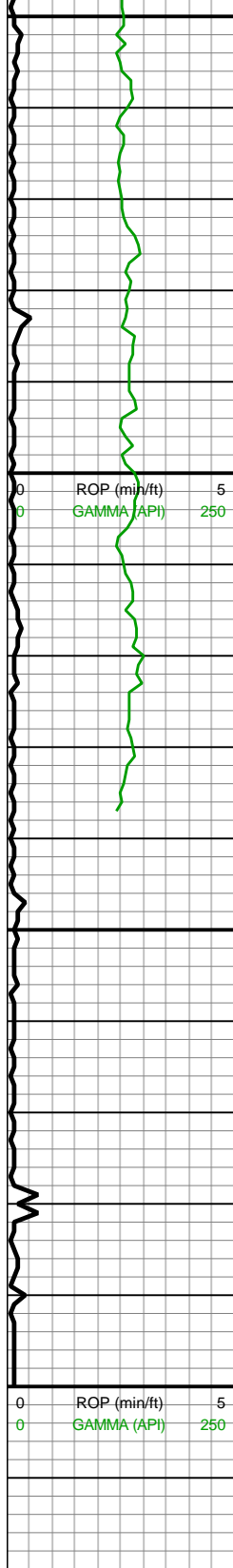


11900-12000 SS (100%):
med-dk brn, sme
bnshgy, sb rnd-sb ang,
f-sltly gr, mtx-gr sup cluss,
cons wi silc/arg cmt, mod
calc, tr sh frags



12000-12100 SS (100%):
med-dk brn, sme
bnshgy, sb rnd-sb ang,
scat ang, f-sltly gr, mtx-gr
sup cluss, cons wi
silc/arg cmt, mod calc, tr
sh frags





WOB: 36.5klbs
RPM: 70
SPM: 7
SPP: 5,439psi

MD: 12,207'
INC: 89.34°
AZM: 270.59°
TVD: 7,332.1'
VS: 4,719.8'

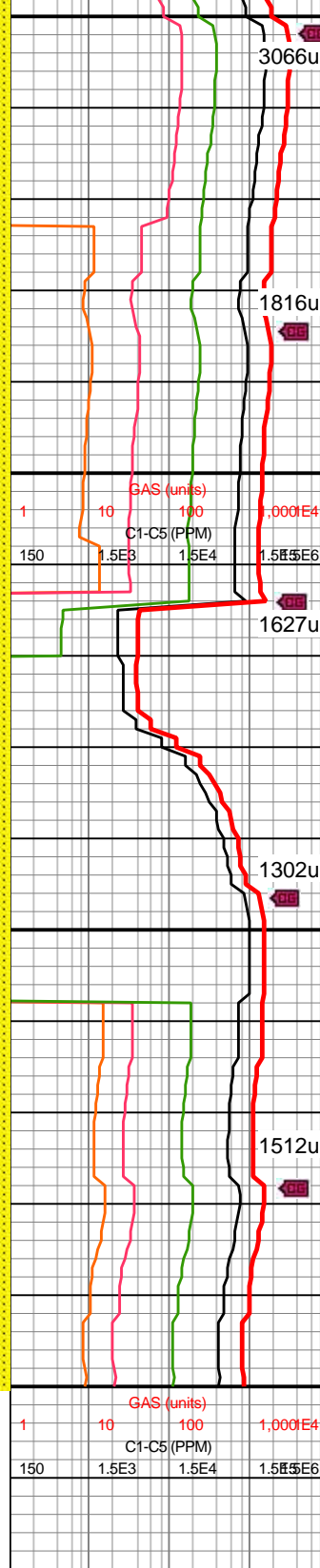
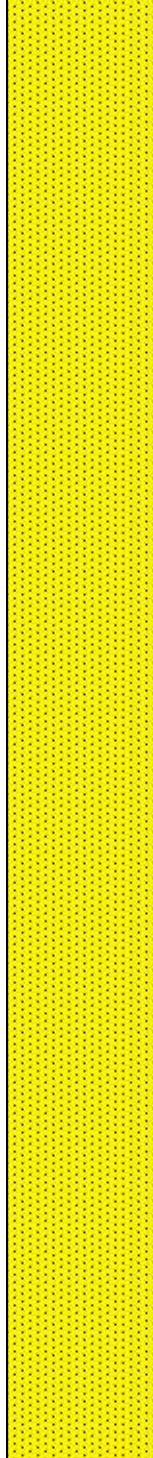
MD: 12,231'
INC: 89.43°
AZM: 270.85°
TVD: 7,332.36'
VS: 4,741.71'

MW IN: 10.3
VIS IN: 48
MW OUT: 10.2+
VIS OUT: 46

Projection to Bit:

MD: 12,301'
INC: 89.43°
AZM: 270.85°
TVD: 7,333.06'
VS: 4,805.71'

**Total Depth of
12,301' MD
Reached on
12/11/2018 @
06:00MST**



12100-12200 SS (100%):
med-dk brn, sme
bnshgy, sb rnd-sb ang,
f-sltly gr, mtx-gr sup cluss,
cons wi silc/arg cmt, mod
calc, scat sh frags



12200-12300 SS (100%):
med-dk brn, sme
bnshgy, sb rnd-sb ang,
f-sltly gr, mtx-gr sup cluss,
cons wi silc/arg cmt, mod
calc, tr sh frags

