



Scale: 5" / 100'
Measured Depth Log

Well Name True Ranch Fee 502-2326H

Location Section 23, Township 12 North, Range 65 West

State Colorado

County Weld

Country USA

Rig Number Akita 524

API Number 0512347413000

AFE # 18008

Geographic Region Denver Julesburg Basin

Field Wildcat

Spud Date 10/30/2018

Drilling Completed 11/8/2018

Surface Coordinates Latitude: 40.99872748
Longitude: -104.6229207
1290 FEL
400 FNL

Bottom Hole Coordinates Latitude: 40.97264276
Longitude: -104.6247799
1620 FEL
600 FSL

Ground Elevation 5,852'

K.B. Elevation 5,868'

Logged Interval 5,000' **To** 18,332'

Total Depth 18,332'

Formation Codell

Type of Drilling Fluid Oil Based Mud

Operator

Company Clear Creek Resource Partners

Address 717 17th Street, Suite 1525
Denver, CO 80202



Geologist

Name Steen Jergensen

Company Clear Creek Resource Partners

Address 717 17th Street, Suite 1525

Zone Color Coding

Oil

Condensate

Gas

Note

Core

Pressure

Error

Water

Seal



Other

Loggers: Byron Pitulski, Greg Diefenbach

Services Provided: 2 Man Logging, Mass Spec, Iso Jars/Tubes

Equipment: ML-577, ML-584, MS Future 2008

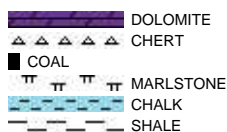
Address: 6360 West Sam Houston PKWY N
Suite 100
Houston, TX 77041

Service Start Date: 11/02/2018

Service End Date: 11/09/2018

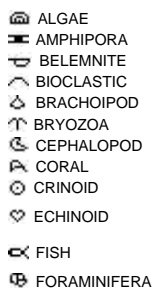
Job#: 1727RK1811

Rock Types



Accessories

Fossils



Fossil



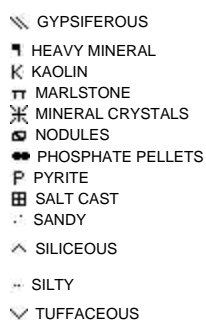
Minerals



ARGILLACEOUS



GLAUCONITE

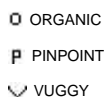
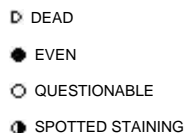


Stringer

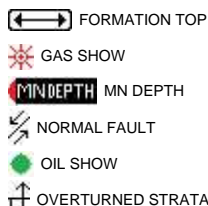


Other Symbols

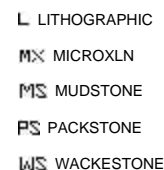
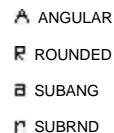
Oil Show



Engineering









Rounding



Porosity

- E EARTHY
- ▣ FENESTRAL
- F FRACTURE
- × INTERCRYSTALLINE
- ⊕ INTEROOLITIC
- ↗ MOLDIC

-  CASING
- ◀ CONNECTION (LEFT)
- ▶ CONNECTION (RIGHT)
-  CONNECTION GAS
- ⬇ CORE - LOST
- CORE - RECOVERED
- ⋮ DST INTERVAL
- ↗ FAULT

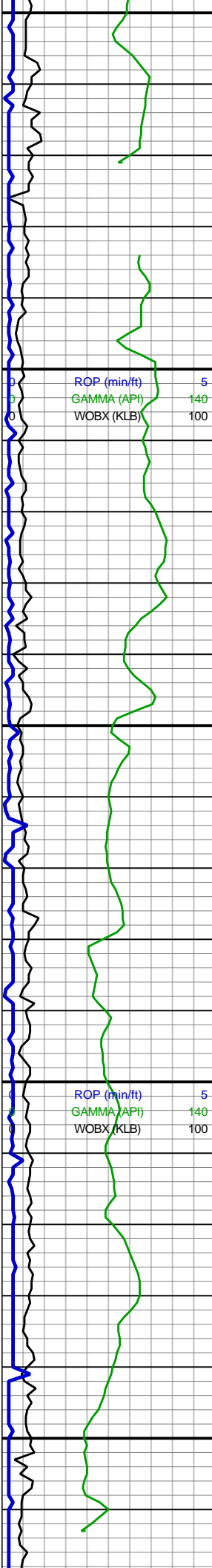
-  REVERSE FAULT
- ◀ SIDEWALL CORE (LEFT)
- ▶ SIDEWALL CORE (RIGHT)
-  SLIDE
-  SURVEY
-  TRIP GAS
- ◀ WIRELINE TESTED - LEFT
- ▶ WIRELINE TESTED - RT

Textures

- BS BOUNDSTONE
- C CHALKY
- CX CRYPTOXLN
- E EARTHY
- FX FINELYXLN
- GS GRAINSTONE

- Sorting
- M MODERATE
 - P POOR
 - W WELL


<div> <div>ROP</div> <div>ROP</div> <div>GAMMA</div> <div>WOBX</div> </div> <div>Slide/Rotate</div>	<div>Depth Labels</div>	<div>Notes</div>	<div>% Lith</div>	<div> <div>Total Gas</div> <div>GAS</div> <div>C1</div> <div>C2</div> <div>C3</div> <div>C4</div> <div>C5</div> </div>	<div>Lithology Descriptions</div>	<div>Images</div>
<div> <div>GAMMA (API)</div> <div>140</div> </div> <div>Clear Creek Resource Partners</div> <div>True Ranch Fee</div> <div>502-2326H</div> <div>Weld County, CO</div> <div>Spud Date: 10/30/2018</div> <div>Surface Casing: 9.625"</div> <div>@</div> <div>2,140'</div> <div>2 Man Logging</div> <div>All Depths Correspond to Driller's Pipe Tally</div>	<div>4,960</div> <div>4,970</div> <div>4,980</div> <div>4,990</div>	<div> <div>Bit #: 2</div> <div>Type: ATD505tT</div> <div>Size: 8.5</div> <div>Depth In: 2,140"</div> <div>Jets: 5x15</div> <div>S/N: 5288979</div> </div>		<div> <div>Yellow Box: ML-577/584</div> <div>Gas, ROP & WOB</div> <div>System Calibrated</div> <div>1% Methane = 100 units</div> <div>100% Methane = 10000 units</div> </div>		
<div> <div>WOBX (KLB)</div> <div>100</div> </div> <div>ROP (min/ft)</div> <div>GAMMA (API)</div> <div>140</div> <div>WOBX (KLB)</div> <div>100</div>	<div>5,000</div> <div>5,010</div> <div>5,020</div> <div>5,030</div> <div>5,040</div> <div>5,050</div> <div>5,060</div> <div>5,070</div> <div>5,080</div> <div>5,090</div>	<div> <div>WOB: 20klbs</div> <div>RPM: 80</div> <div>SPM: 158</div> <div>SPP: 2,228psi</div> <div>Teapot</div> <div>5017"MD/5019"TVD</div> <div>MD: 5,072'</div> <div>INC: 0.24°</div> <div>AZM: 188.34°</div> <div>TVD: 4,984.27'</div> <div>VS: -446.14'</div> <div>MW IN: 9.6</div> <div>VIS IN: 58</div> </div>	<div></div>	<div> <div>GAS (PPM)</div> <div>4000</div> <div>8u</div> <div>8u</div> </div>	<div>100% SH: med-lt gry, sb blk-y-blky, rnd ip, sb fis ip, suc, sft-med frm, dull lstr, kao, cly ip, tuf, non calc</div>	<div></div>
<div>ROP (min/ft)</div> <div>GAMMA (API)</div> <div>140</div> <div>WOBX (KLB)</div> <div>100</div>	<div>5,100</div> <div>5,110</div> <div>5,120</div> <div>5,130</div> <div>5,140</div>			<div> <div>GAS (units)</div> <div>40</div> <div>C1-C5 (PPM)</div> <div>4000</div> </div>		<div></div>



5,150
5,160
5,170
5,180
5,190
5,200
5,210
5,220
5,230
5,240
5,250
5,260
5,270
5,280
5,290
5,300
5,310
5,320
5,330
5,340
5,350
5,360

MD: 5,160'
INC: 0.22°
AZM: 209.97°
TVD: 5,072.27'
VS: -445.8'

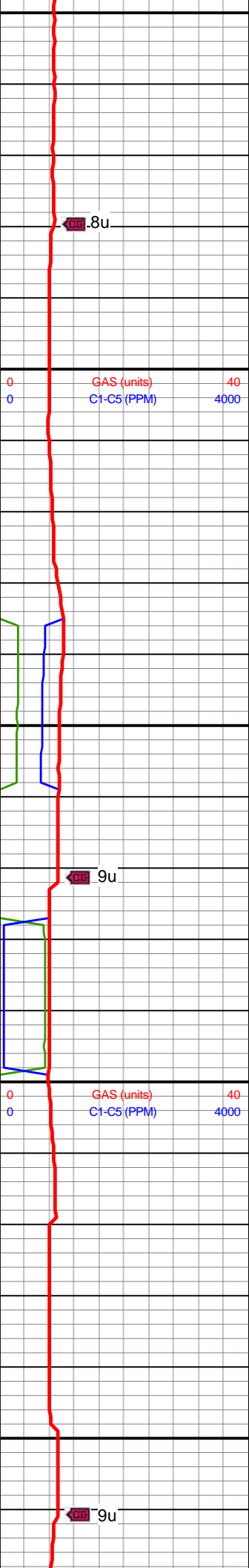
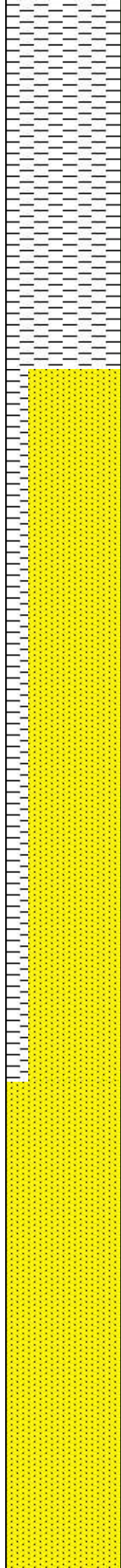
WOB: 8klbs
RPM: 81
SPM: 155
SPP: 2,116psi

 **Parkman**
5233'MD/5145'TVD

MD: 5,249'
INC: 4.14°
AZM: 51.27°
TVD: 5,161.19'
VS: -447.78'

MW IN: 9.3
VIS IN: 60

MD: 5,338'
INC: 4.22°
AZM: 44.01°
TVD: 5,249.96'
VS: -452.38'



100% SH: med-lt gry, sb
blky-blky, rnd ip, sb fis ip,
suc, sft-med frm, dull lstr,
kao, cly ip, tuf, non calc

80% SS: offwht-lt gry,
dolc cmtd, sb ang-sb rnd,
f-vf; 20% SH: med-lt gry,
sb blky-blky, rnd ip, sb fis
ip, suc, sft-med frm, dull,
lstr, kao, cly ip, tuf



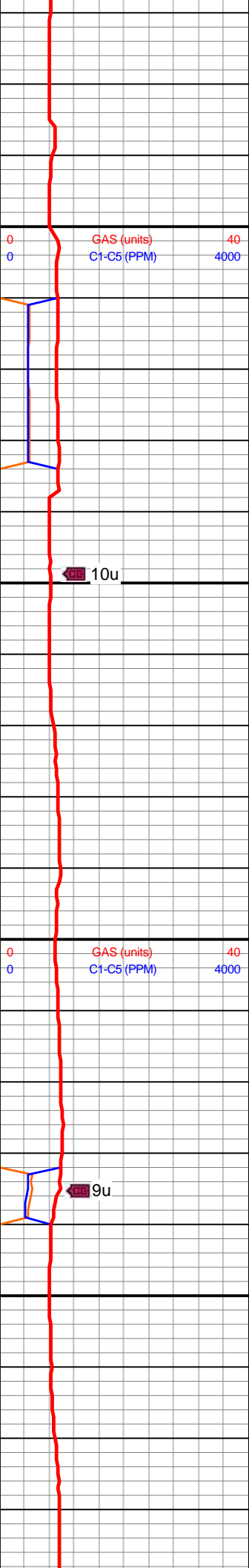
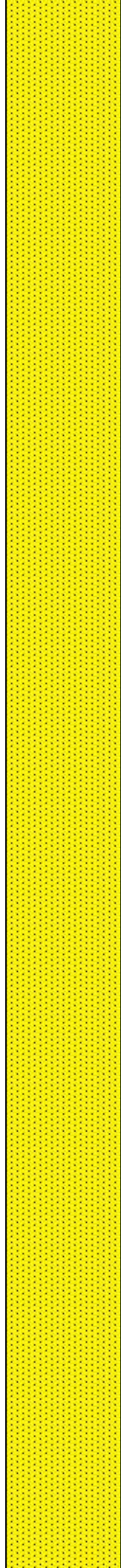


5,370
5,380
5,390
5,400
5,410
5,420
5,430
5,440
5,450
5,460
5,470
5,480
5,490
5,500
5,510
5,520
5,530
5,540
5,550
5,560
5,570
5,580

WOB: 10klbs
RPM: 81
SPM: 156
SPP: 2,225psi

MD: 5,427'
INC: 4.06°
AZM: 42.04°
TVD: 5,338.72'
VS: -457.29'

MD: 5,515'
INC: 4.25°
AZM: 56.18°
TVD: 5,426.5'
VS: -461.65'

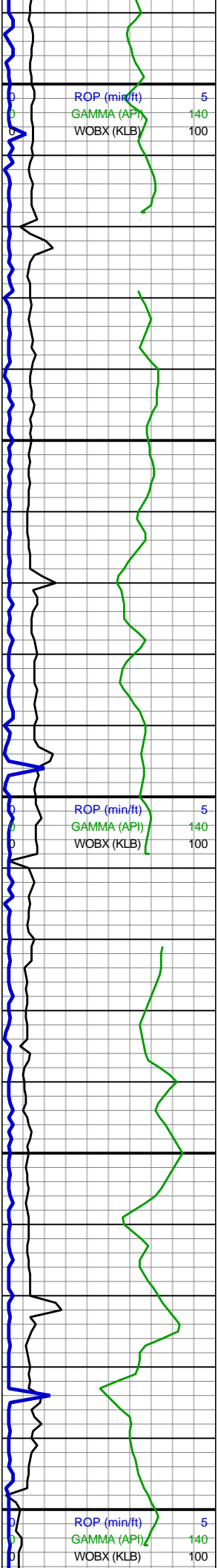


100% SS: wht-brn, sme
blk, fri, ang-sb ang xls,
uncons, sb ang-sb rnd, f
gr, calc

100% SS: predy wht,
brn-occ blk, fri, ang-sb
ang xls, uncons, sb
ang-sb rnd, f gr, calc

100% SS: offwht-med gy





5,590
WOB: 14klbs
RPM: 81
SPM: 156
SPP: 2,361psi

5,600
MD: 5,604'
INC: 3.93°
AZM: 56.01°
TVD: 5,515.27'
VS: -465.44'

5,610

5,620

5,630

5,640

5,650
MW IN: 9.6
VIS IN: 61

5,660

5,670

5,680

5,690
MD: 5,693'
INC: 4.21°
AZM: 45.45°
TVD: 5,604.04'
VS: -469.68'

5,700

5,710

5,720

5,730

5,740

5,750

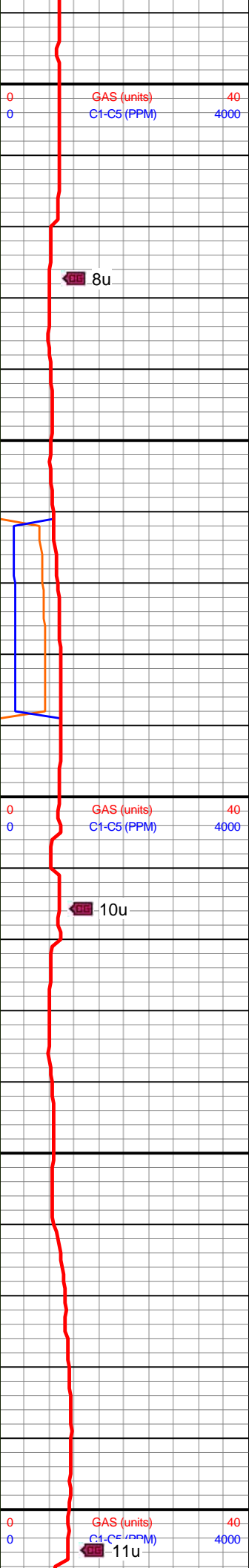
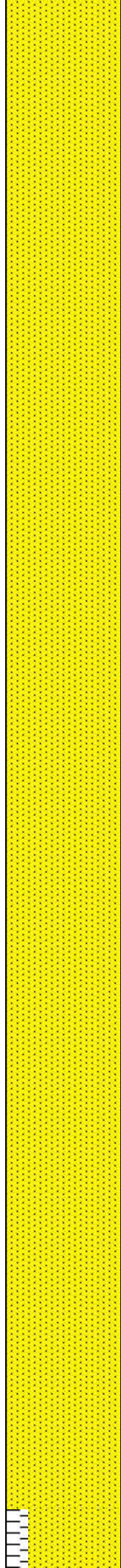
5,760

5,770

5,780
MD: 5,782'
INC: 4.09°
AZM: 33.6°
TVD: 5,692.81'
VS: -474.81'

5,790

5,800
WOB: 14klbs
RPM: 80
SPM: 157
SPP: 2,512psi



fri, ang-sb ang xls,
uncons, sb ang-sb rnd, f
gr, mod calc

8u

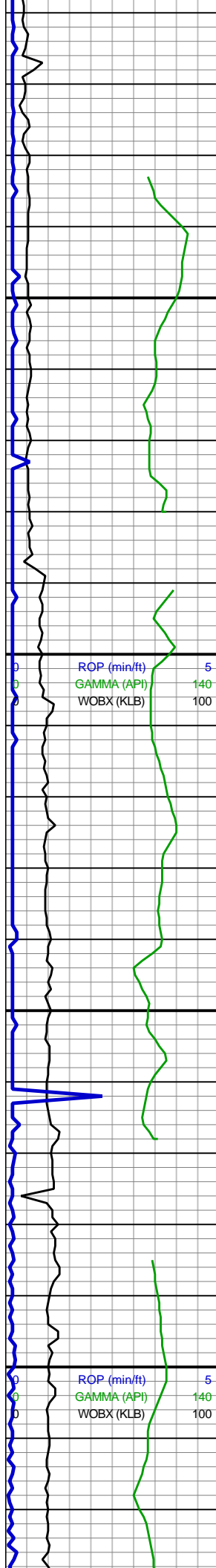
100% SS: offwht-med gy,
fri, ang-sb ang xls,
uncons, sb ang-sb rnd, f
gr, mod-v calc

10u

100% SS: offwht-med gy,
fri, ang-sb ang xls,
uncons, sb ang-sb rnd, f
gr, mod-v calc

11u





Sussex
5818'MD/5729'TVD

MD: 5,871'
INC: 1.93°
AZM: 348.48°
TVD: 5,781.7'
VS: -478.99'

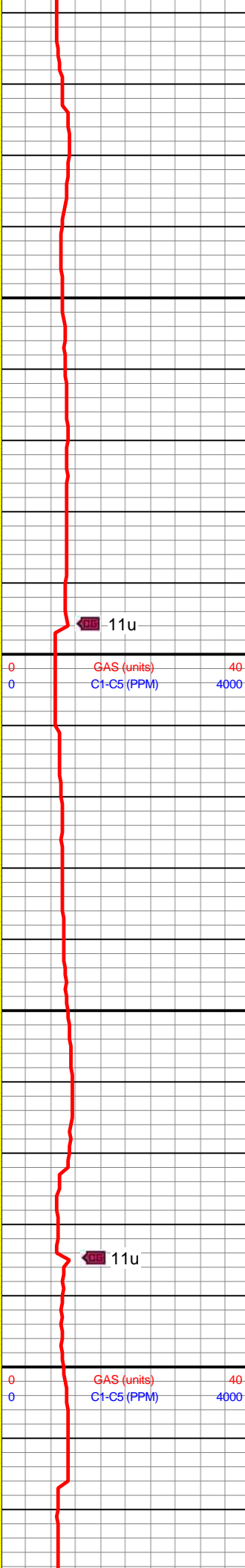
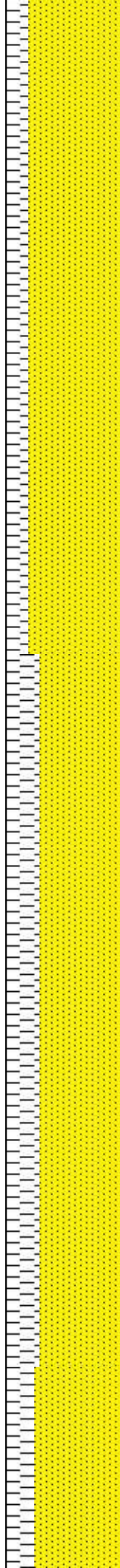
MD: 5,960'
INC: 0.15°
AZM: 30.67°
TVD: 5,870.68'
VS: -480.54'

MW IN: 9.6+
VIS IN: 61

WOB: 25klbs
RPM: 100
SPM: 171
SPP: 3,048psi

ROP (min/ft)
GAMMA (API)
WOBX (KLB)

5
140
100



11u

GAS (units)
C1-C5 (PPM)

40
4000

11u

GAS (units)
C1-C5 (PPM)

40
4000

80% SS: offwht-med gy,
sft-fri, ang-sb ang xls,
uncons, sb ang-sb rnd, f
gr, mod-v calc; 20% SLTY
SH: gy, sft-fri, slty tex, sb
ang, vf gr, calc



70% SS: offwht-med gy,
sft-fri, ang-sb ang xls,
uncons, sb ang-sb rnd, f
gr, mod-v calc; 30% SLTY
SH: gy, sft-fri, slty-rthy tex,
sb ang, vf gr, calc





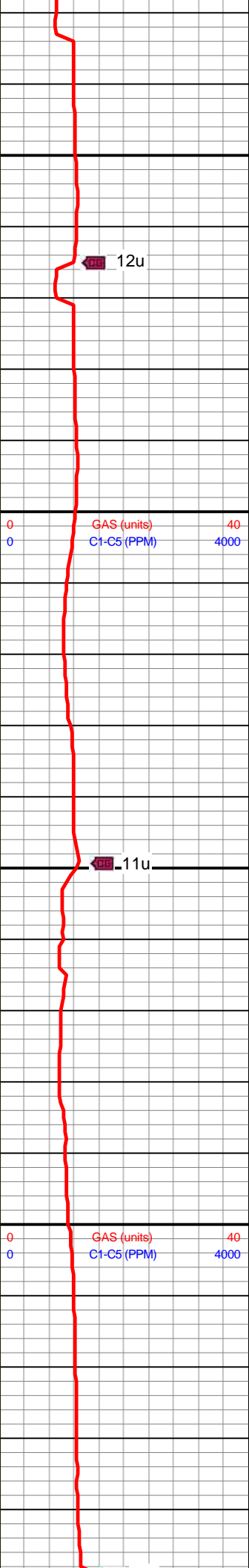
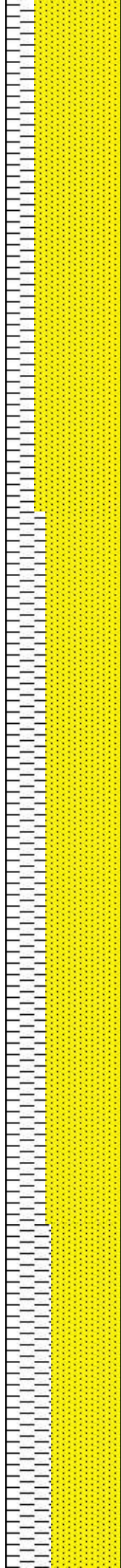
6,030
6,040
6,050
6,060
6,070
6,080
6,090
6,100
6,110
6,120
6,130
6,140
6,150
6,160
6,170
6,180
6,190
6,200
6,210
6,220
6,230
6,240

MD: 6,048'
INC: 0.13°
AZM: 65.73°
TVD: 5,958.68'
VS: -480.69'

MD: 6,137'
INC: 0.18°
AZM: 45.64°
TVD: 6,047.68'
VS: -480.84'

WOB: 16klbs
RPM: 110
SPM: 182
SPP: 3,051psi

MD: 6,225'
INC: 0.13°
AZM: 191.5°
TVD: 6,135.68'
VS: -480.84'



12u

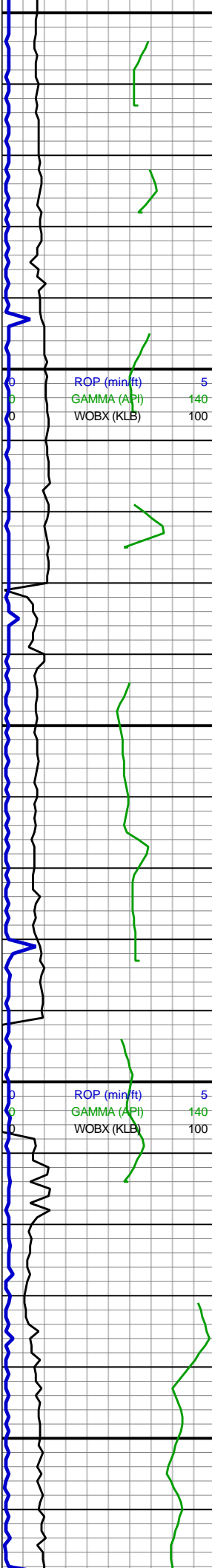
11u

75% SS: predy med gy,
sft-fri, ang-sb ang xls,
uncons, sb ang-sb rnd, f
gr, mod-v calc; 25% SLTY
SH: gy, sft-fri, slty-rthy tex,
sb ang, vf gr, mod calc



65% SS: predy med gy,
sft-fri, ang-sb ang xls,
uncons, sb ang-sb rnd, f
gr, mod-v calc; 35% SLTY
SH: med gy, sft-fri,
slty-rthy tex, sb ang, vf gr,
mod calc





6,250
6,260
6,270
6,280
6,290
6,300
6,310
6,320
6,330
6,340
6,350
6,360
6,370
6,380
6,390
6,400
6,410
6,420
6,430
6,440
6,450
6,460

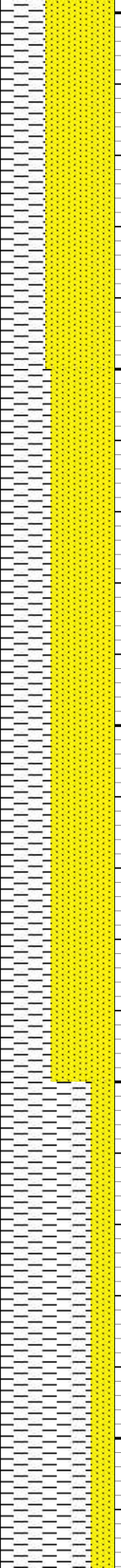
MW IN: 9.6+
VIS IN: 62

MD: 6,314'
INC: 0.11°
AZM: 29.43°
TVD: 6,224.68'
VS: -480.82'

Shannon
6344'MD/6254'TVD

WOB: 20klbs
RPM: 110
SPM: 183
SPP: 3,213psi

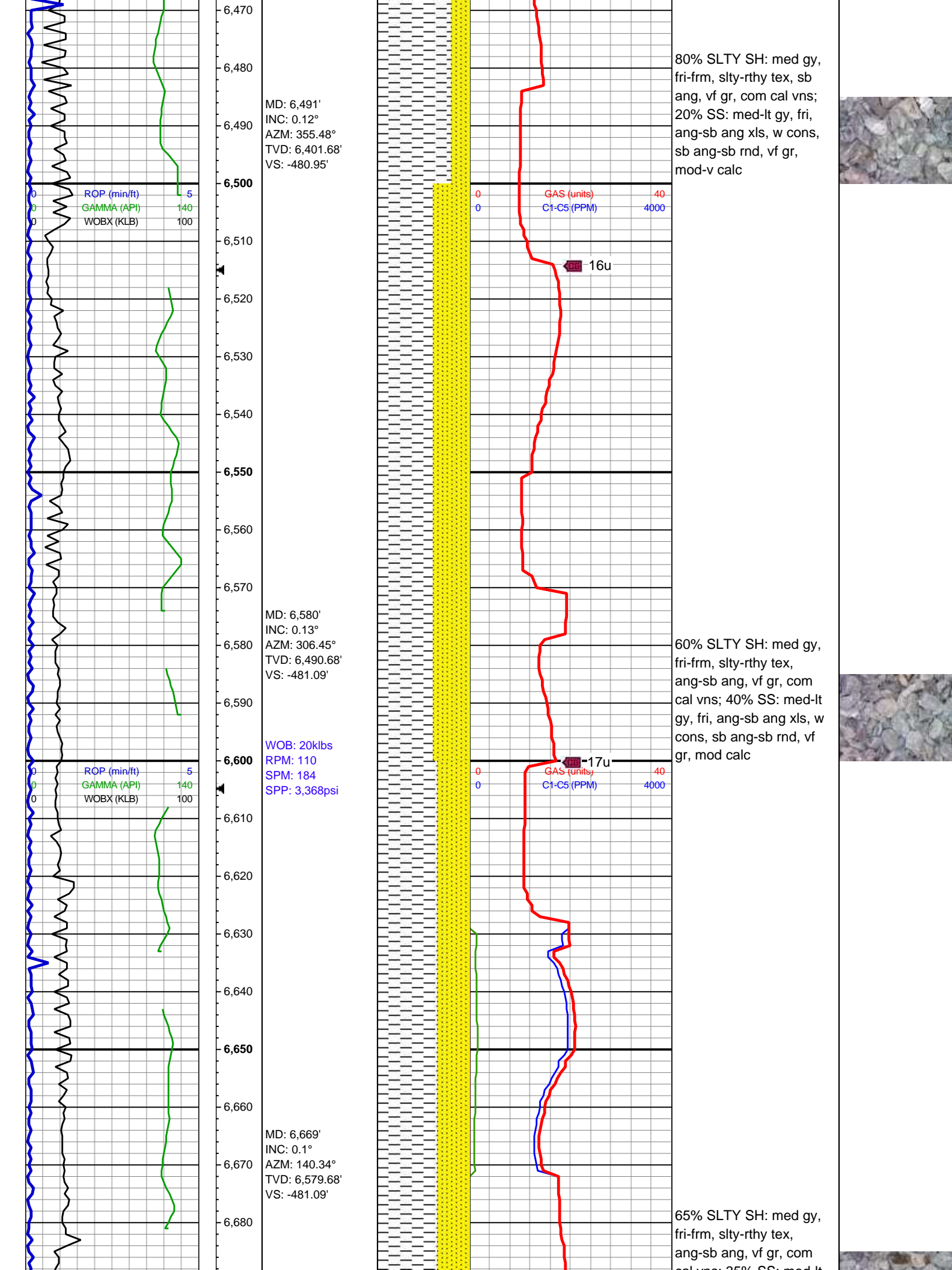
MD: 6,403'
INC: 0.04°
AZM: 232.47°
TVD: 6,313.68'
VS: -480.87'

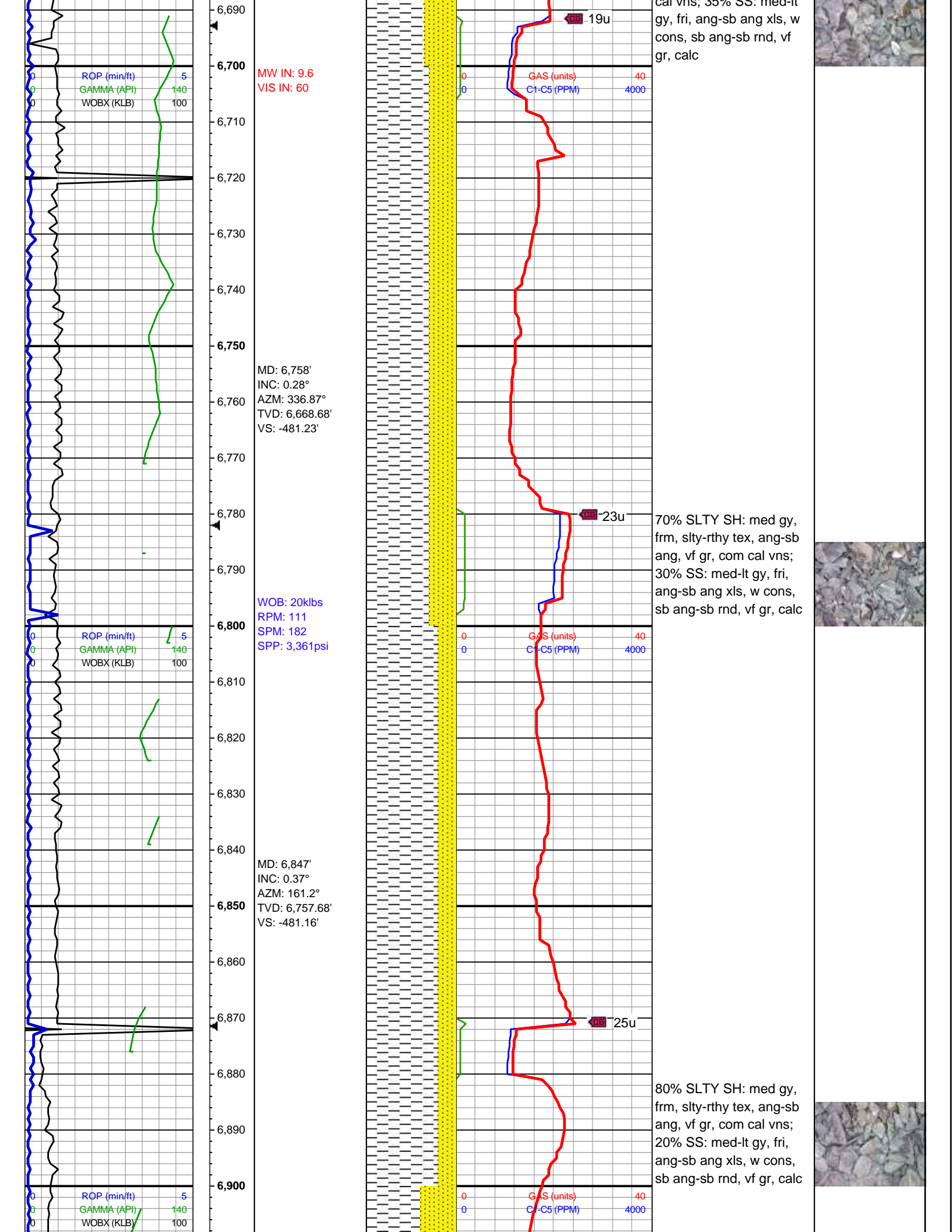


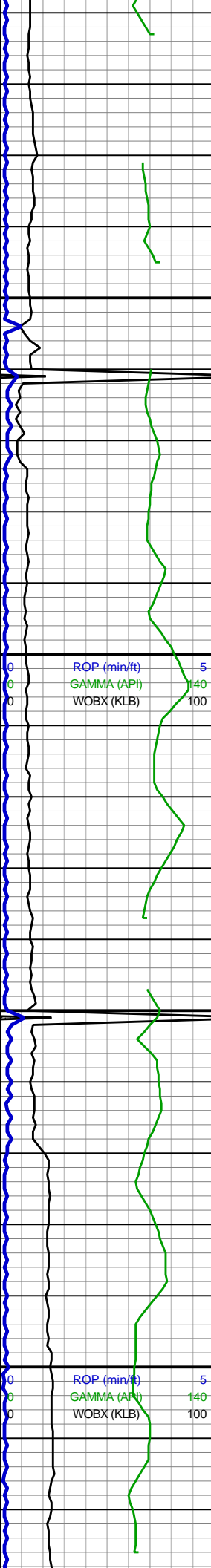
60% SS: predy med gy, sft-fri, ang-sb ang xls, cons, sb ang-sb rnd, f gr, mod-v calc; 40% SLTY SH: med gy, sft-fri, slty-rthy tex, sb ang, vf gr, cal vns

55% SS: med-lt gy, sft-fri, ang-sb ang xls, cons, sb ang-sb rnd, f gr, mod-v calc; 45% SLTY SH: med gy, sft-fri, slty-rthy tex, sb ang, vf gr, decrng SS intbds, cal vns







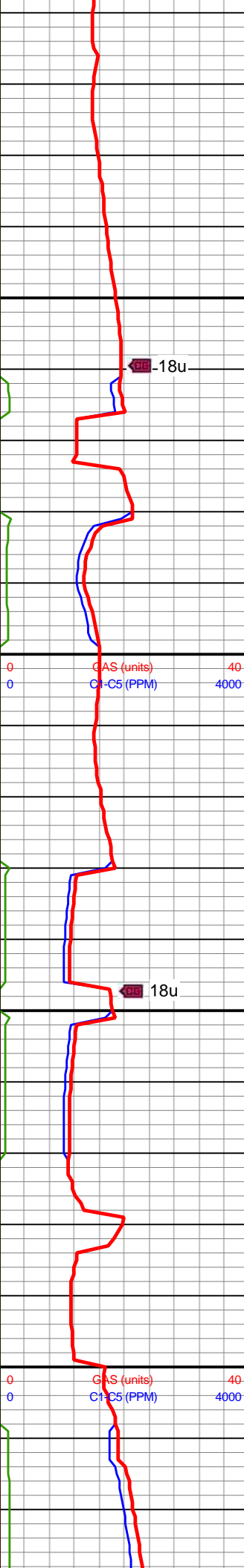
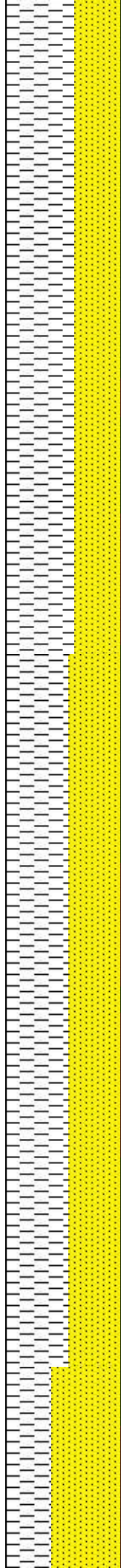


MD: 6,935'
INC: 0.4°
AZM: 329.96°
TVD: 6,845.68'
VS: -481.15'

WOB: 16klbs
RPM: 110
SPM: 183
SPP: 3,293psi

MD: 7,024'
INC: 0.13°
AZM: 336.89°
TVD: 6,934.67'
VS: -481.51'

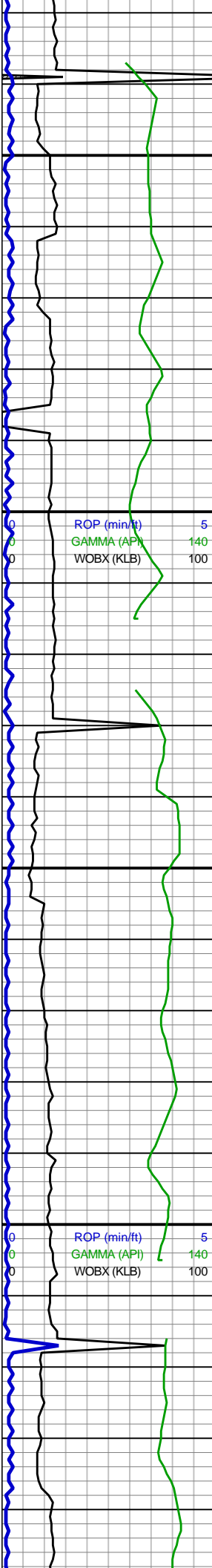
MD: 7,113'
INC: 0.1°
AZM: 197.64°
TVD: 7,023.67'
VS: -481.52'



60% SLTY SH: med gy,
frm, slty-rthy tex, ang-sb
ang, vf gr, com cal vns;
40% SS: med-lt gy, fri,
ang-sb ang xls, w cons,
sb ang-sb rnd, vf gr, calc

55% SLTY SH: med gy,
frm, slty-rthy tex, ang-sb
ang, vf gr, com cal vns;
45% SS: med-lt gy, fri,
ang-sb ang xls, w cons,
sb ang-sb rnd, vf gr, calc



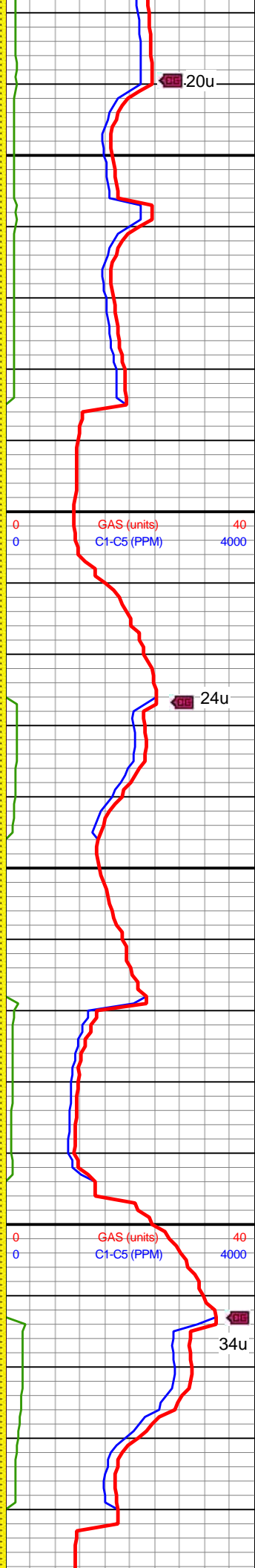
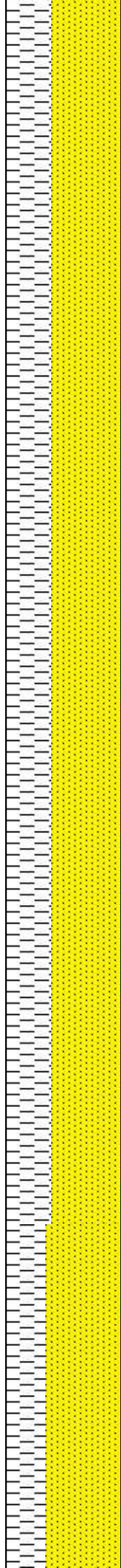


7,130
7,140
7,150
7,160
7,170
7,180
7,190
7,200
7,210
7,220
7,230
7,240
7,250
7,260
7,270
7,280
7,290
7,300
7,310
7,320
7,330
7,340

WOB: 28klbs
RPM: 110
SPM: 183
SPP: 3,566psi

MD: 7,202'
INC: 0.04°
AZM: 292.78°
TVD: 7,112.67'
VS: -481.46'

MD: 7,291'
INC: 0.09°
AZM: 83.14°
TVD: 7,201.67'
VS: -481.48'



60% SS: med-lt gy, fri,
ang-sb ang xls, w cons,
sb ang-sb rnd, vf gr, calc;
40% SLTY SH: med gy,
frm, slty-rthy tex, ang-sb
ang, vf gr, com cal vns



60% SS: med-lt gy, fri,
ang-sb ang xls, w cons,
sb ang-sb rnd, f gr, calc;
40% SLTY SH: predy
med gy, frm, slty-rthy tex,
ang-sb ang, vf gr, com
cal vns





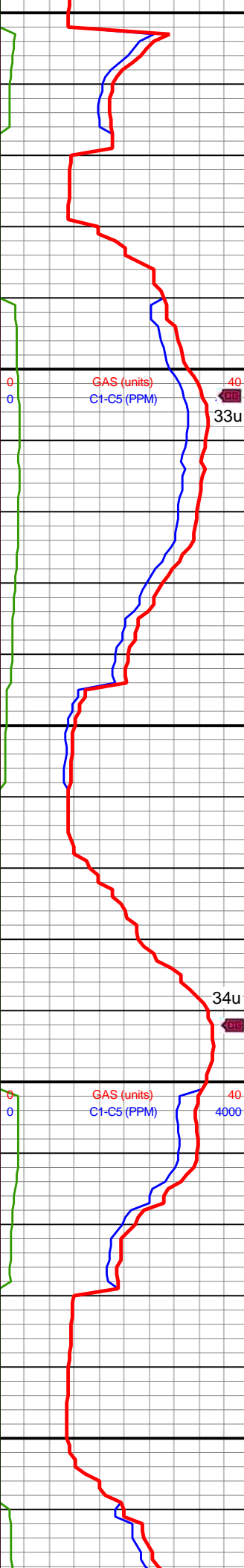
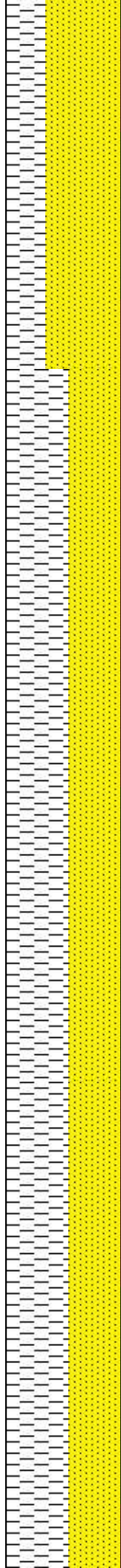
7,350
7,360
7,370
7,380
7,390
7,400
7,410
7,420
7,430
7,440
7,450
7,460
7,470
7,480
7,490
7,500
7,510
7,520
7,530
7,540
7,550
7,560

MD: 7,379'
INC: 0.13°
AZM: 37.87°
TVD: 7,289.67'
VS: -481.57'

WOB: 25klbs
RPM: 110
SPM: 183
SPP: 3,502psi

MW IN: 9.6+
VIS IN: 60

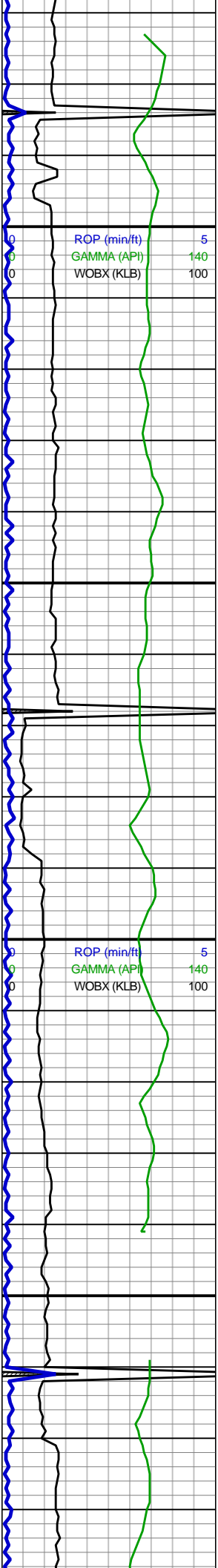
MD: 7,468'
INC: 0.14°
AZM: 85.45°
TVD: 7,378.67'
VS: -481.67'



65% SS: med-lt gy, fri,
ang-sb ang xls, w cons,
sb ang-sb rnd, f gr, calc;
35% SLTY SH: predy
med gy, frm, slty-rthy tex,
ang-sb ang, vf gr, cal vns

55% SLTY SH: med gy,
frm, slty-rthy tex, ang-sb
ang, vf gr, com cal vns;
45% SS: med-lt gy, fri,
ang-sb ang xls, w cons,
sb ang-sb rnd, vf gr, calc





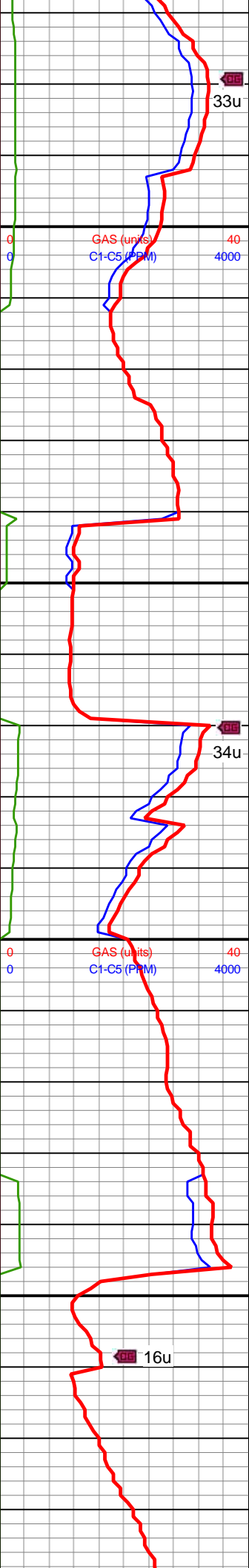
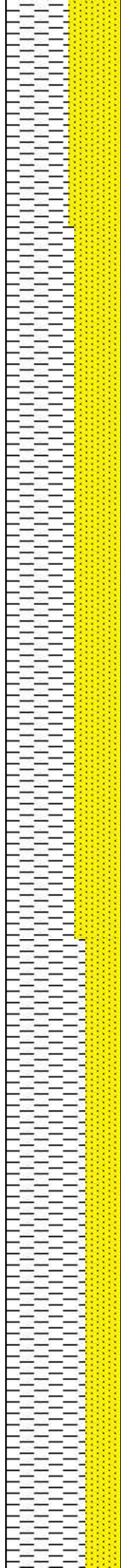
7,570
7,580
7,590
7,600
7,610
7,620
7,630
7,640
7,650
7,660
7,670
7,680
7,690
7,700
7,710
7,720
7,730
7,740
7,750
7,760
7,770
7,780

MD: 7,557'
INC: 0.28°
AZM: 228.35°
TVD: 7,467.67'
VS: -481.53'

WOB: 24klbs
RPM: 110
SPM: 183
SPP: 3,502psi

MD: 7,646'
INC: 0.17°
AZM: 69.08°
TVD: 7,556.67'
VS: -481.43'

MD: 7,735'
INC: 0.09°
AZM: 169.68°
TVD: 7,645.67'
VS: -481.42'

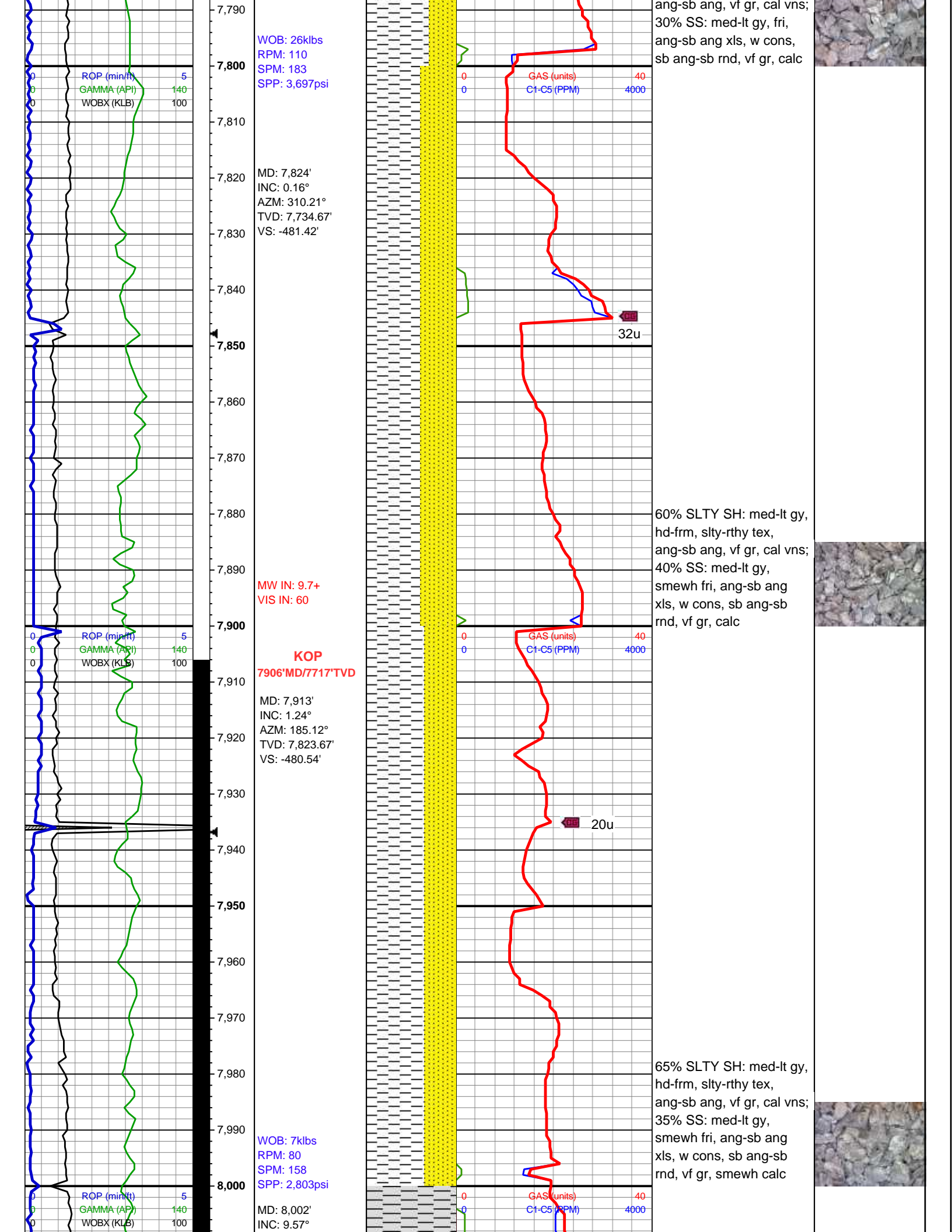


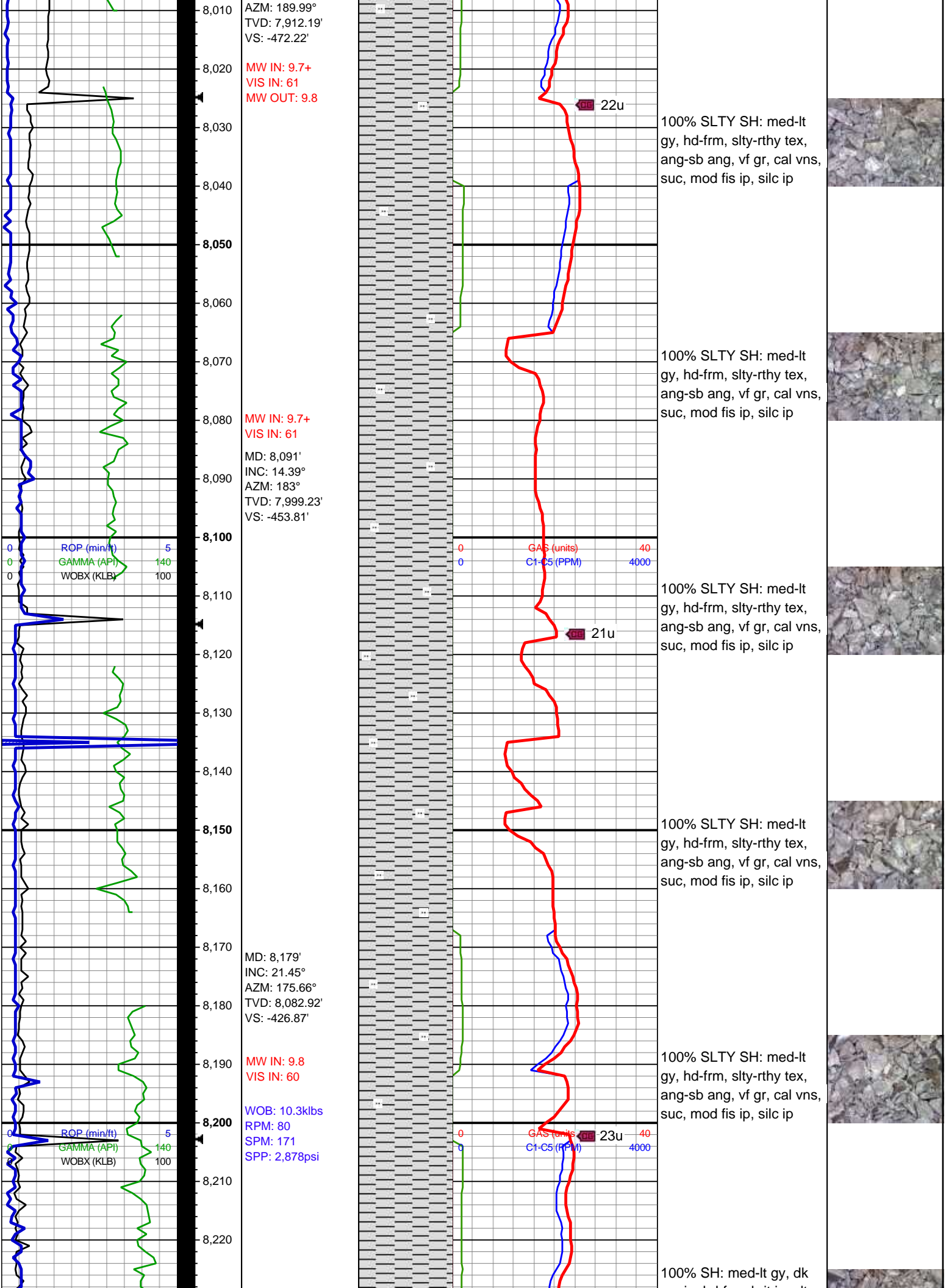
55% SLTY SH: med-lt gy,
hd-frm, slty-rthy tex,
ang-sb ang, vf gr, cal vns;
45% SS: med-lt gy, fri,
ang-sb ang xls, w cons,
sb ang-sb rnd, vf gr, calc

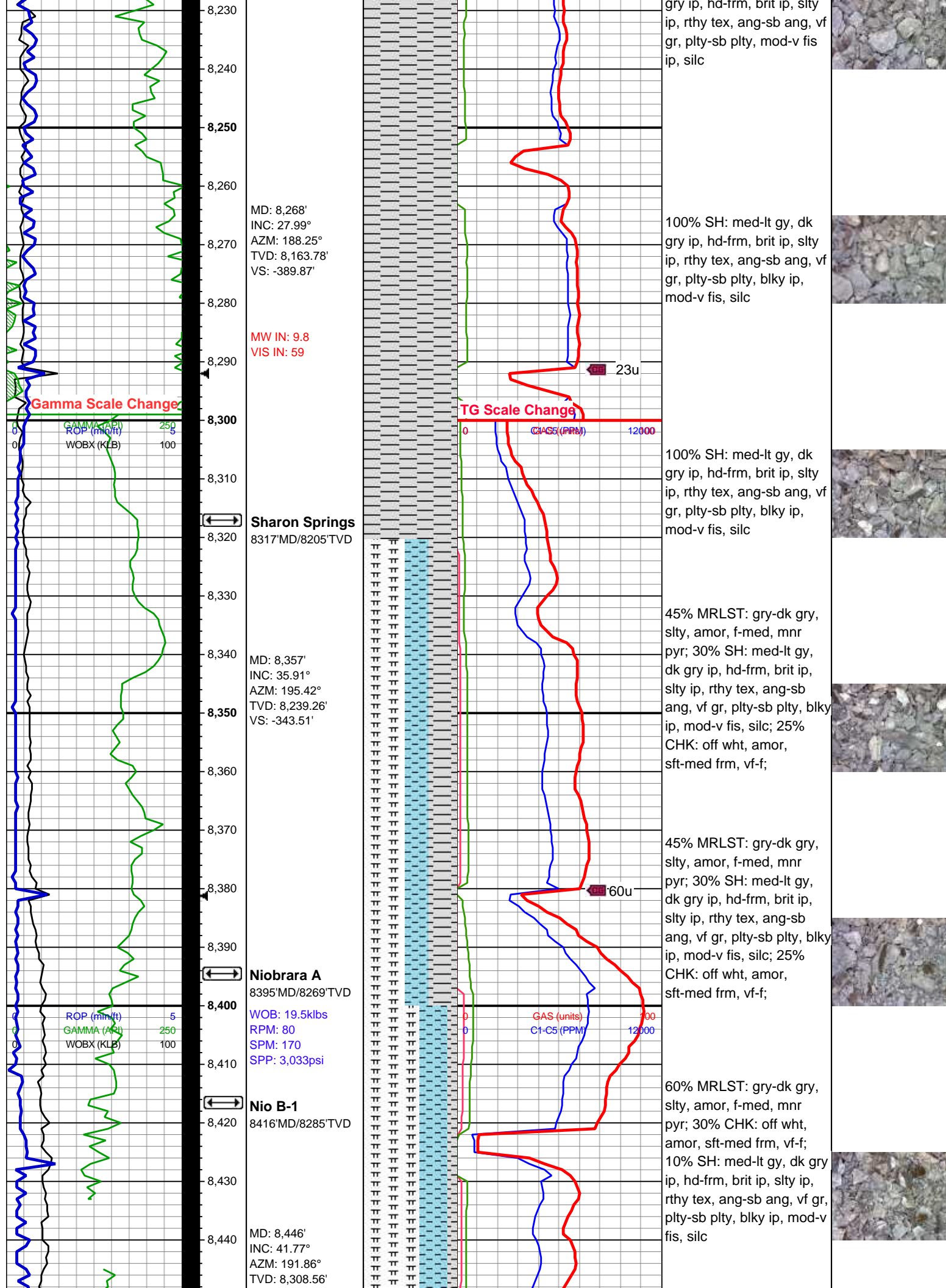
60% SLTY SH: med-lt gy,
hd-frm, slty-rthy tex,
ang-sb ang, vf gr, cal vns;
40% SS: med-lt gy, fri,
ang-sb ang xls, w cons,
sb ang-sb rnd, vf gr, calc

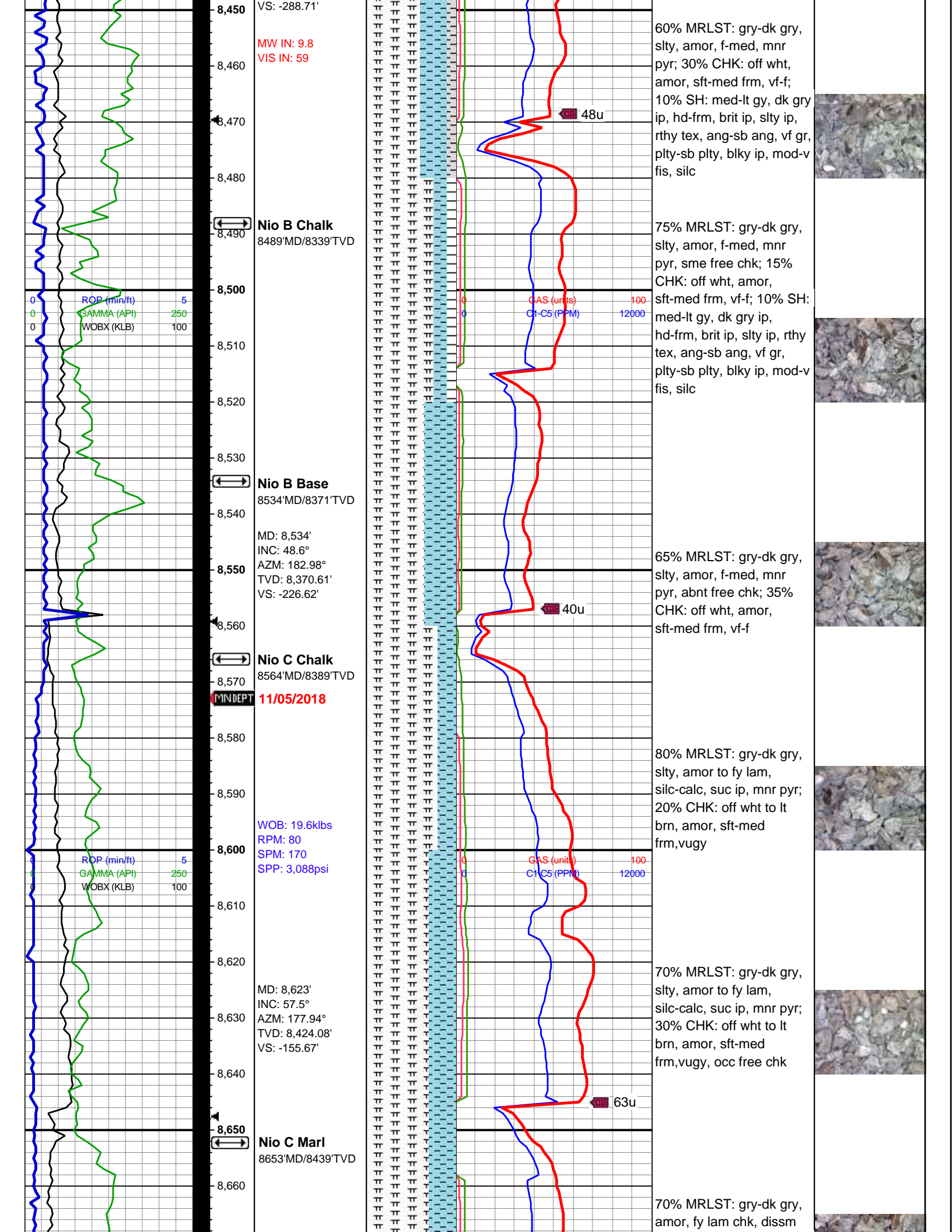
70% SLTY SH: med-lt gy,
hd-frm, slty-rthy tex,

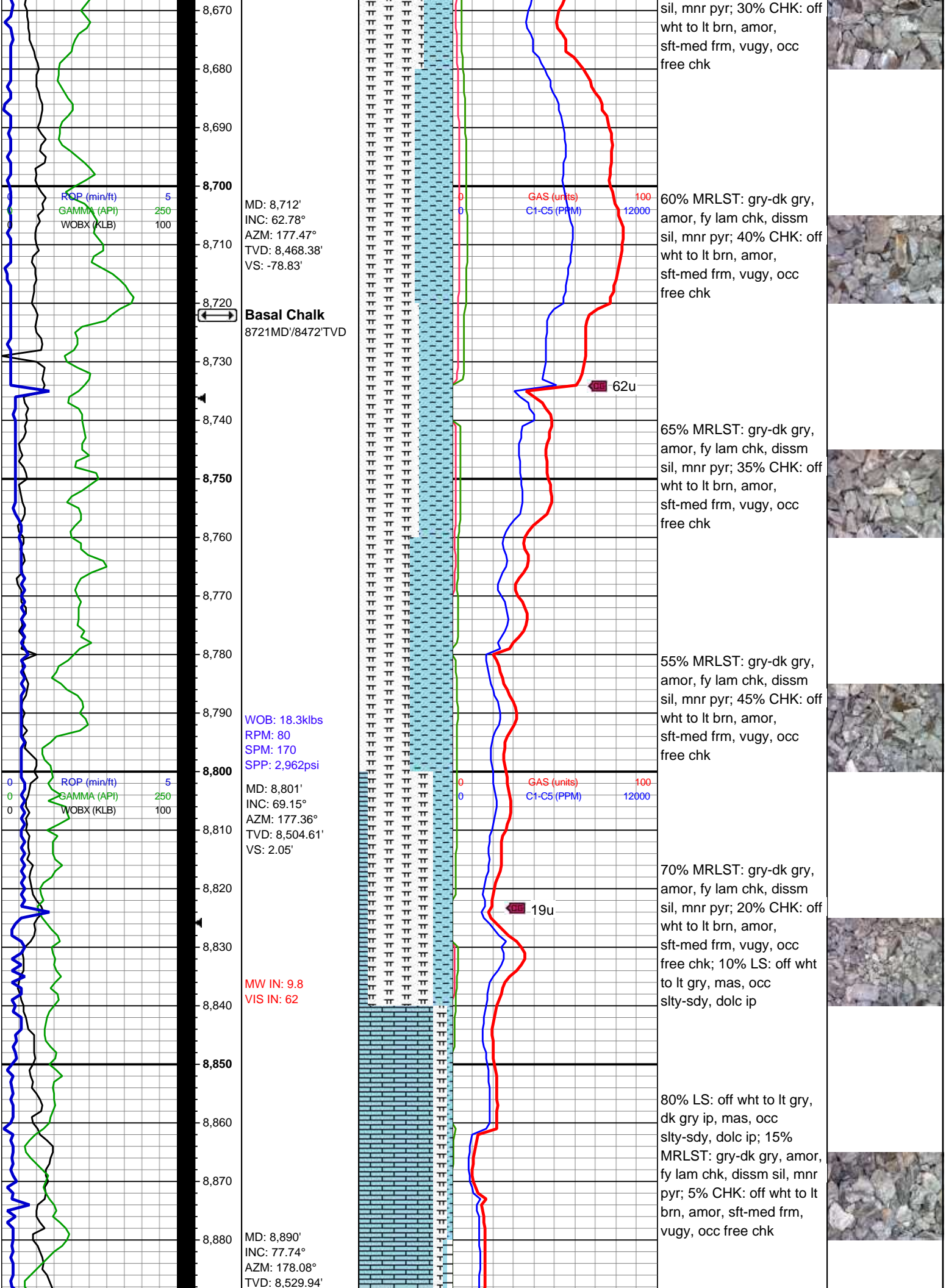


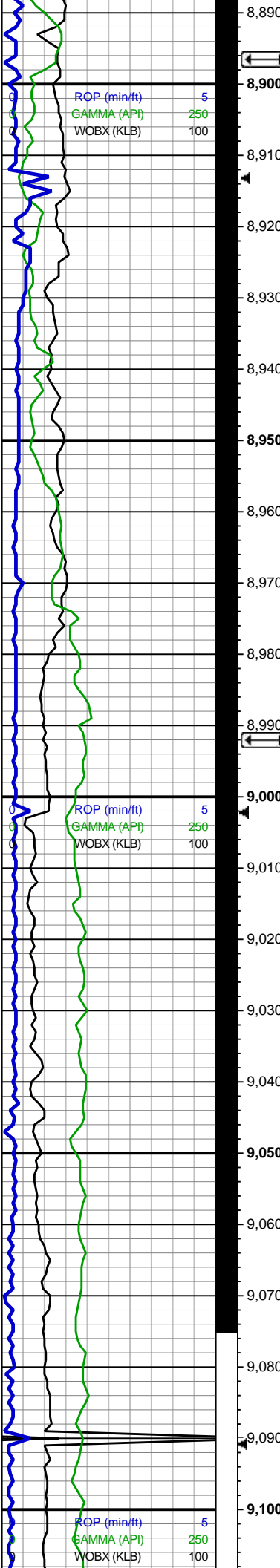












VS: 86.94'

Ft. Hays
8897'MD/8531'TVD

MW IN: 9.8
VIS IN: 60

MD: 8,978'
INC: 83.73°
AZM: 178.32°
TVD: 8,544.1'
VS: 173.47'

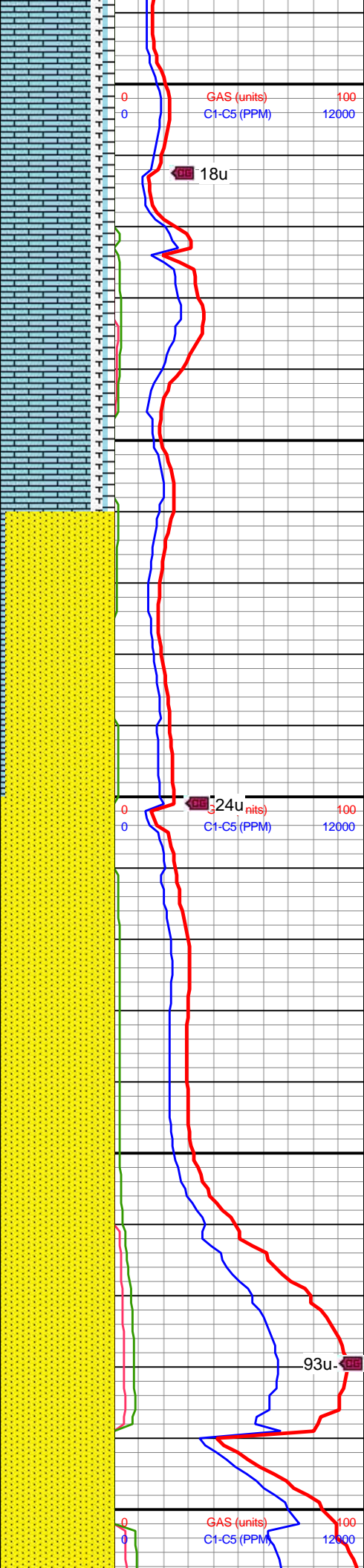
Codell
8991'MD/8545'TVD

WOB: 16.5klbs
RPM: 100
SPM: 170
SPP: 3,112psi

MD: 9,067'
INC: 87.97°
AZM: 178.67°
TVD: 8,550.54'
VS: 4.78'

Land Curve
9075'MD/8551'TVD

MW IN: 9.8
VIS IN: 60



80% LS: off wht to lt gry, dk gry ip, mas, occ slty-sdy, dolc ip; 10% MRLST: gry-dk gry, amor, fy lam chk, diss sil, mnr pyr; 5% CHK: off wht to lt brn, amor, sft-med frm, vugy, occ free chk, 5% SH: lt-dk gy, sb blkly-blky, brit ip, mod fis, silc

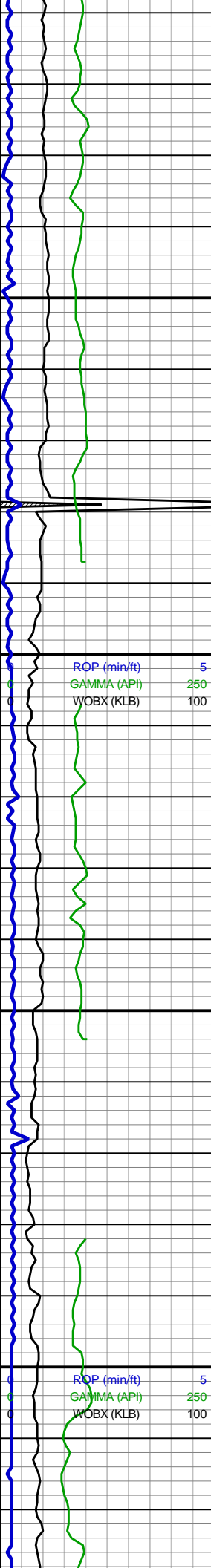
80% LS: off wht to lt gry, dk gry ip, mas, occ slty-sdy, dolc ip; 10% MRLST: gry-dk gry, amor, fy lam chk, diss sil, mnr pyr; 5% CHK: off wht to lt brn, amor, sft-med frm, vugy, occ free chk, 5% SH: lt-dk gy, sb blkly-blky, brit ip, mod fis, silc

100% SS: med-dk brn-bnshgy, sb rnd-sb ang, vf-f gr, slt ip, mtx-gr sup cluss, cons wi silc/arg cmt; tr LMST

100% SS: gyshbn-lt brn, mot med brn, vf-f gr, sb ang-sb rd, sb frm-frm, mod srted, grn sup clus, silc cmt, sme med gy-dk gy gr sup ss clus, tr pp mic pyr cls, no-sl calc

100% SS: gyshbn-lt brn, mot med brn, vf-f gr, sb ang-sb rd, sb frm-frm, mod srted, grn sup clus, silc cmt, tr pp mic pyr cls, sme med gy-dk gy gr sup ss clus, no-sl calc





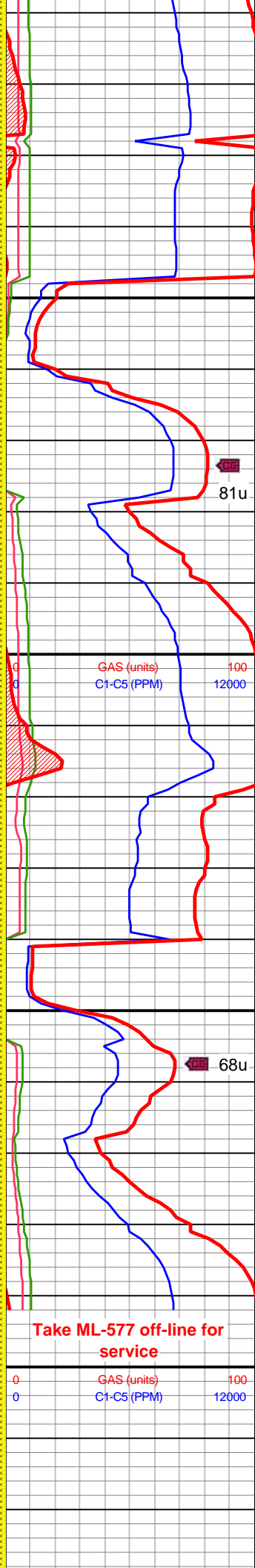
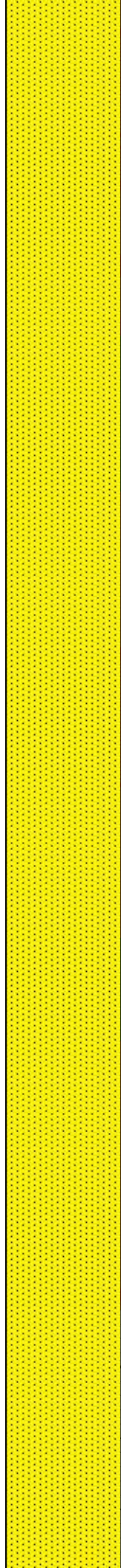
9,110
9,120
9,130
9,140
9,150
9,160
9,170
9,180
9,190
9,200
9,210
9,220
9,230
9,240
9,250
9,260
9,270
9,280
9,290
9,300
9,310
9,320

MD: 9,156'
INC: 89.48°
AZM: 176.94°
TVD: 8,552.52'
VS: 2.58'

WOB: 16klbs
RPM: 100
SPM: 171
SPP: 3,240psi

MD: 9,245'
INC: 89.78°
AZM: 174.87°
TVD: 8,553.1'
VS: 2.35'

MD: 9,334'

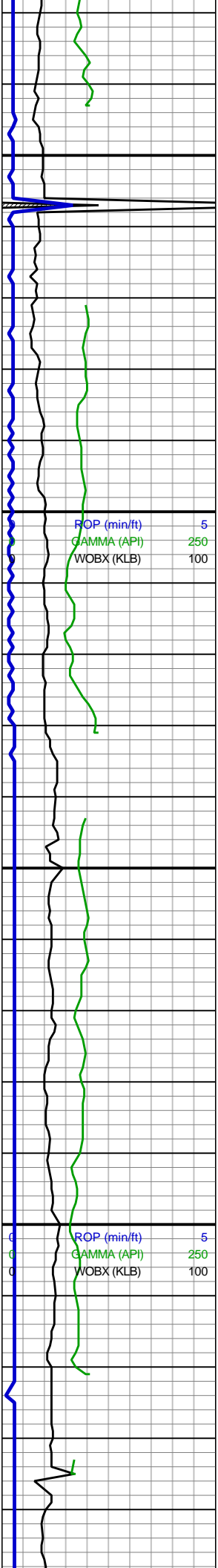


100% SS: gyshbn-lt brn,
mot med brn, vf-f gr, sb
ang-sb rd, sb frm-frm,
mod srted, grn sup clus,
silc cmt, tr pp mic pyr cls,
sme med gy-dk gy gr sup
ss clus, sl calc

100% SS: lt brn, mot med
brn, vf-f gr, sb ang-sb rd,
sb frm-frm, mod srted, grn
sup clus, silc cmt, tr pp
mic pyr cls, sme med
gy-dk gy gr sup ss clus,
sl calc



Take ML-577 off-line for
service



MD: 9,334'
INC: 89.6°
AZM: 176.36°
TVD: 8,553.58'
VS: 1.69'

MW IN: 9.8
VIS IN: 61

WOB: 21klbs
RPM: 100
SPM: 171
SPP: 3,317psi

MD: 9,423'
INC: 89.63°
AZM: 178.52°
TVD: 8,554.18'
VS: 2.43'

MD: 9,512'
INC: 89.88°
AZM: 178.07°
TVD: 8,554.56'
VS: 0.58'

ROP (min/ft) 5
GAMMA (API) 250
WOBX (KLB) 100

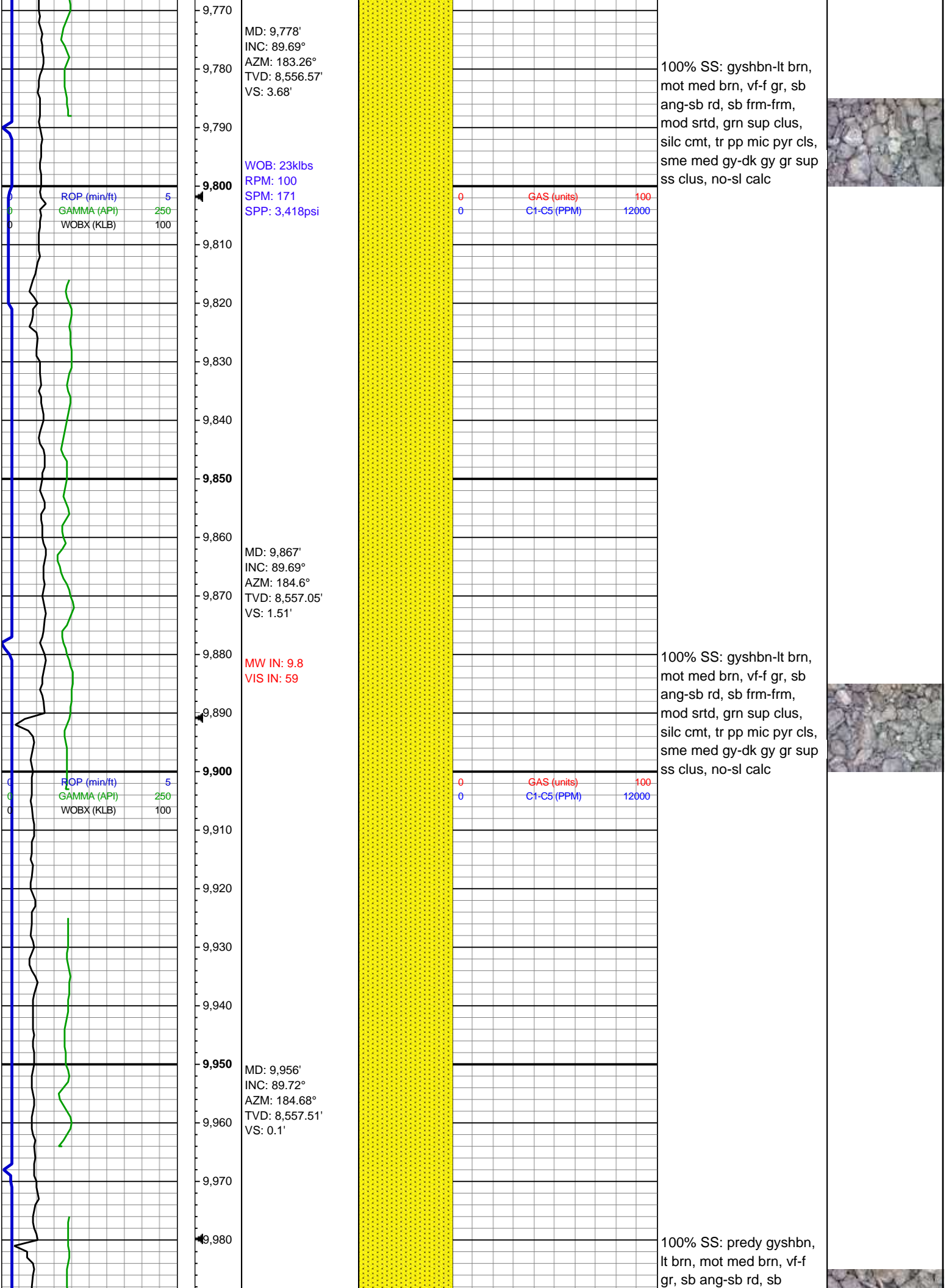
GAS (units) 100
C1-C5 (PPM) 12000

100% SS: lt brn, mot med
brn, vf-f gr, sb ang-sb rd,
sb frm-frm, mod srtd, grn
sup clus, silc cmt, sme
med gy-dk gy gr sup ss
clus, sl calc



100% SS: lt brn, mot med
brn, vf-f gr, sb ang-sb rd,
sb frm-frm, mod srtd, grn
sup clus, silc cmt, sme
med gy-dk gy gr sup ss
clus, sl calc





MD: 9,778'
INC: 89.69°
AZM: 183.26°
TVD: 8,556.57'
VS: 3.68'

WOB: 23klbs
RPM: 100
SPM: 171
SPP: 3,418psi

100% SS: gyshbn-lt brn,
mot med brn, vf-f gr, sb
ang-sb rd, sb frm-frm,
mod srted, grn sup clus,
silc cmt, tr pp mic pyr cls,
sme med gy-dk gy gr sup
ss clus, no-sl calc

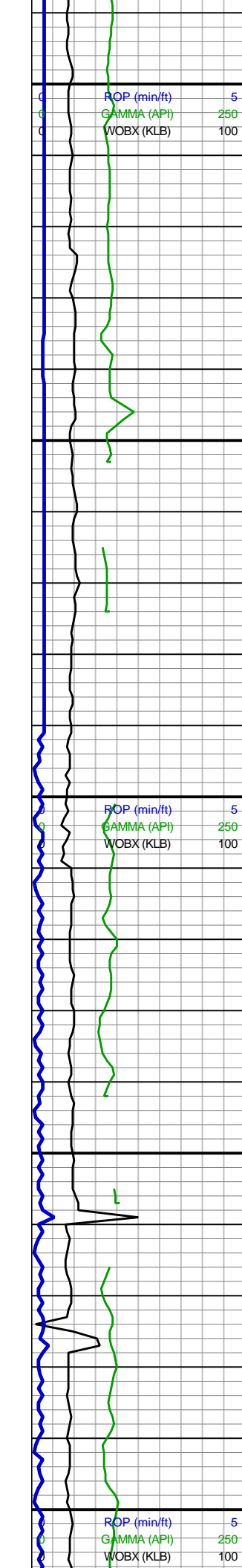
MD: 9,867'
INC: 89.69°
AZM: 184.6°
TVD: 8,557.05'
VS: 1.51'

MW IN: 9.8
VIS IN: 59

100% SS: gyshbn-lt brn,
mot med brn, vf-f gr, sb
ang-sb rd, sb frm-frm,
mod srted, grn sup clus,
silc cmt, tr pp mic pyr cls,
sme med gy-dk gy gr sup
ss clus, no-sl calc

MD: 9,956'
INC: 89.72°
AZM: 184.68°
TVD: 8,557.51'
VS: 0.1'

100% SS: predy gyshbn,
lt brn, mot med brn, vf-f
gr, sb ang-sb rd, sb



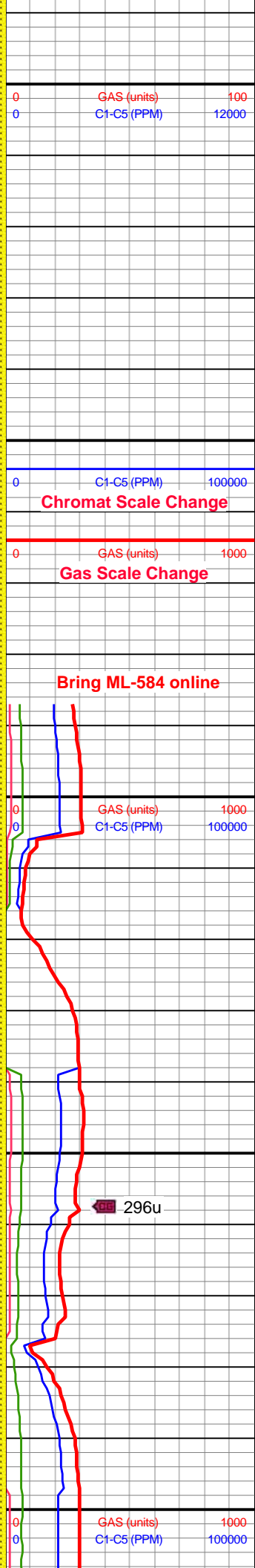
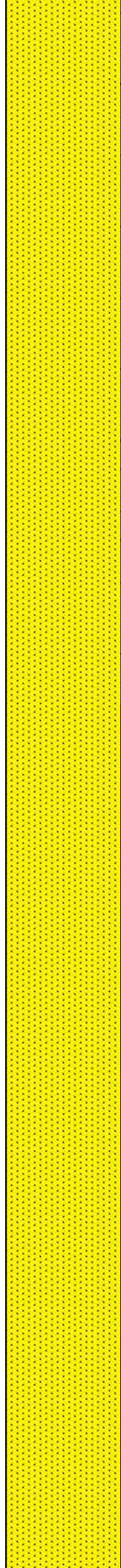
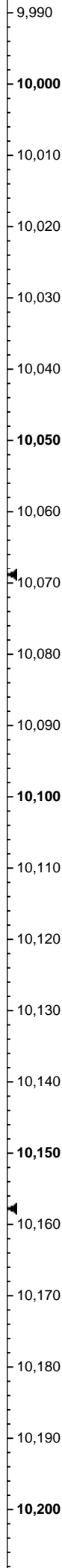
WOB: 17klbs
RPM: 100
SPM: 172
SPP: 3,444psi

MD: 10,045'
INC: 89.88°
AZM: 185.39°
TVD: 8,557.82'
VS: 0.82'

MD: 10,134'
INC: 89.69°
AZM: 185.36°
TVD: 8,558.15'
VS: 0.22'

MW IN: 9.8
VIS IN: 60

WOB: 19klbs
RPM: 100
SPM: 173
SPP: 3,471psi



GAS (units) 100
C1-C5 (PPM) 12000

C1-C5 (PPM) 100000

Chromat Scale Change

GAS (units) 1000

Gas Scale Change

Bring ML-584 online

GAS (units) 1000
C1-C5 (PPM) 100000

296u

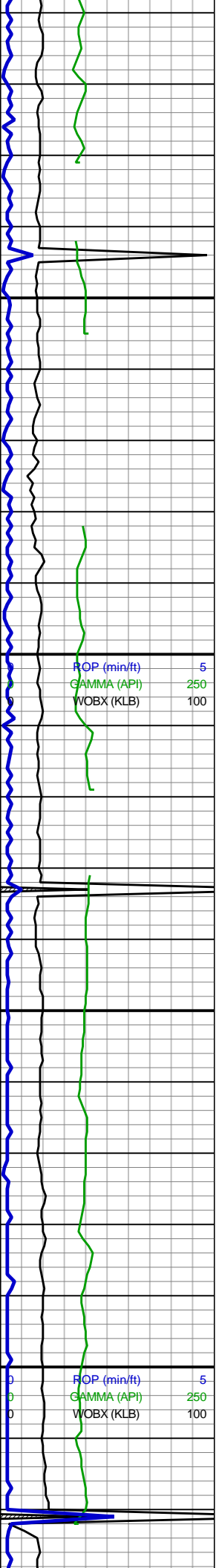
GAS (units) 1000
C1-C5 (PPM) 100000

frm-frm, mod srted, grn
sup clus, silc cmt, tr pp
mic pyr cls, sme med
gy-dk gy gr sup ss clus,
no-sl calc

100% SS: predy gyshbn,
lt brn, mot med brn, vf-f
gr, sb ang-sb rd, sb
frm-frm, mod srted, grn
sup clus, silc cmt, tr pp
mic pyr cls, sme med
gy-dk gy gr sup ss clus,
no-sl calc

100% SS: predy gyshbn,
lt brn, mot med brn, vf-f
gr, sb ang-sb rd, sb
frm-frm, mod srted, grn
sup clus, silc cmt, tr pp
mic pyr cls, sme med
gy-dk gy gr sup ss clus,
mod calc





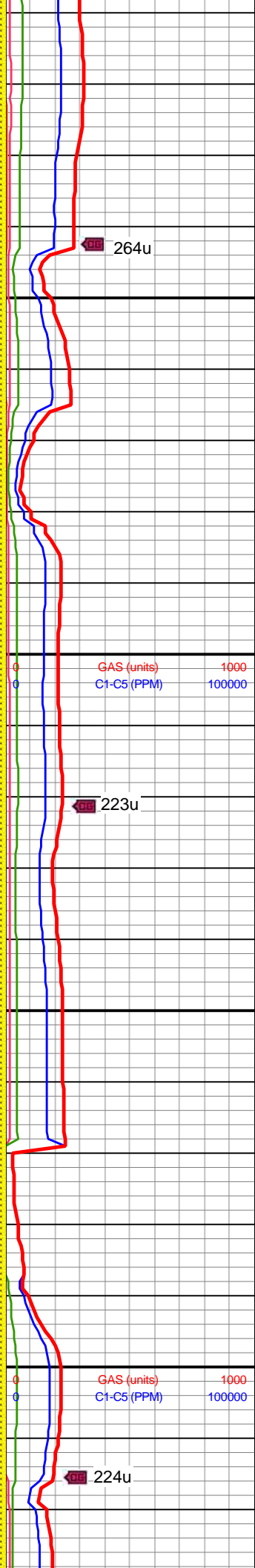
10,210
10,220
10,230
10,240
10,250
10,260
10,270
10,280
10,290
10,300
10,310
10,320
10,330
10,340
10,350
10,360
10,370
10,380
10,390
10,400
10,410
10,420

MD: 10,223'
INC: 89.78°
AZM: 185.68°
TVD: 8,558.56'
VS: 0.37'

MD: 10,312'
INC: 89.38°
AZM: 185.19°
TVD: 8,559.21'
VS: 0.71'

WOB: 21klbs
RPM: 101
SPM: 173
SPP: 3,570psi

MD: 10,401'
INC: 89.54°
AZM: 183.79°
TVD: 8,560.05'
VS: 1.58'



264u

223u

224u

100% SS: predy gyshbn,
lt brn, mot med brn, vf-f
gr, sb ang-sb rd, sb
frm-frm, mod srted, grn
sup clus, silc cmt, tr pp
mic pyr, sme med gy-dk
gy gr sup ss clus, mod
calc

100% SS: predy gyshbn,
lt brn, mot med brn, vf-f
gr, sb ang-sb rd, sb
frm-frm, mod srted, grn
sup clus, silc cmt, tr pp
mic pyr nod, sme med
gy-dk gy gr sup ss clus,
mod calc





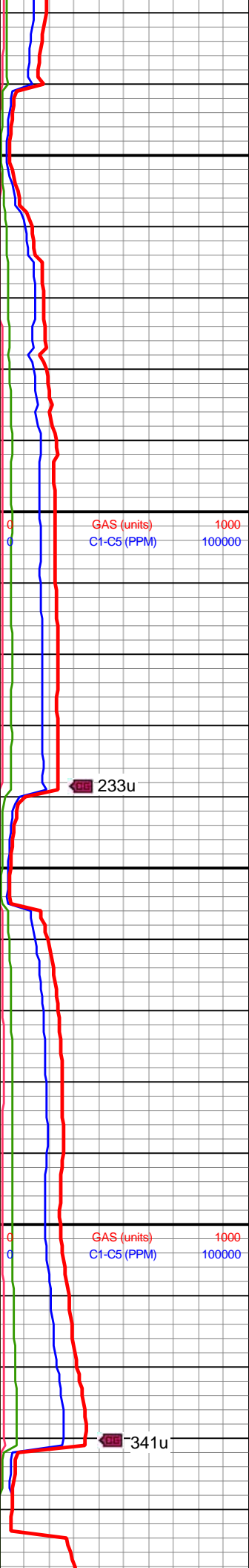
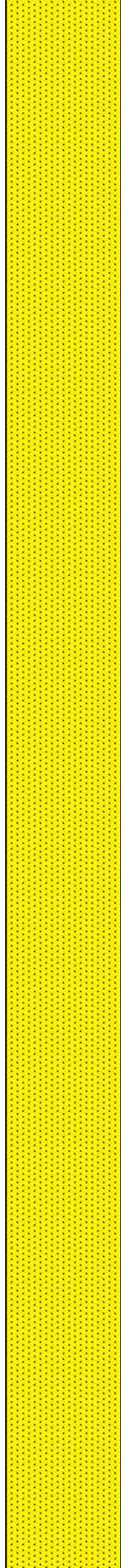
MW IN: 9.8
VIS IN: 60

10,430
10,440
10,450
10,460
10,470
10,480
10,490
10,500
10,510
10,520
10,530
10,540
10,550
10,560
10,570
10,580
10,590
10,600
10,610
10,620
10,630
10,640

MD: 10,532'
INC: 89.51°
AZM: 180.78°
TVD: 8,561.14'
VS: 2.3'

WOB: 22klbs
RPM: 100
SPM: 172
SPP: 3,817psi

MD: 10,622'
INC: 89.08°
AZM: 178.37°
TVD: 8,562.25'
VS: 2.72'



233u

341u

100% SS: predy gyshbn,
lt brn, mot med brn, vf-f
gr, sb ang-sb rd, sb
frm-frm, mod srted, grn
sup, silc cmt, tr pp mic
pyr nod, sme med gy-dk
gy gr sup ss clus, mod
calc



100% SS: predy gyshbn,
lt brn, mot med brn, vf-f
gr, sb ang-sb rd, sb
frm-frm, mod srted, grn
sup, silc cmt, tr pp mic
pyr nod, sme med gy-dk
gy gr sup ss clus, mod
calc



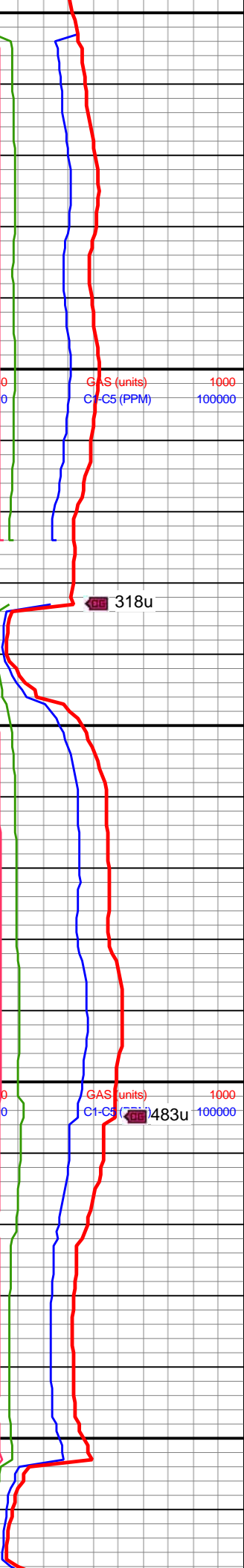
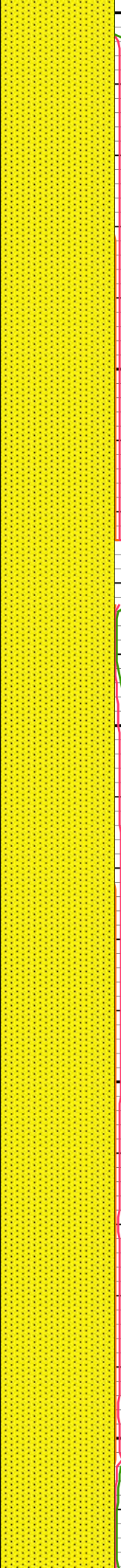


10,650
10,660
10,670
10,680
10,690
10,700
10,710
10,720
10,730
10,740
10,750
10,760
10,770
10,780
10,790
10,800
10,810
10,820
10,830
10,840
10,850
10,860

MD: 10,710'
INC: 89.26°
AZM: 178.52°
TVD: 8,563.52'
VS: 0.27'

MD: 10,799'
INC: 89.04°
AZM: 179.7°
TVD: 8,564.84'
VS: 1.35'

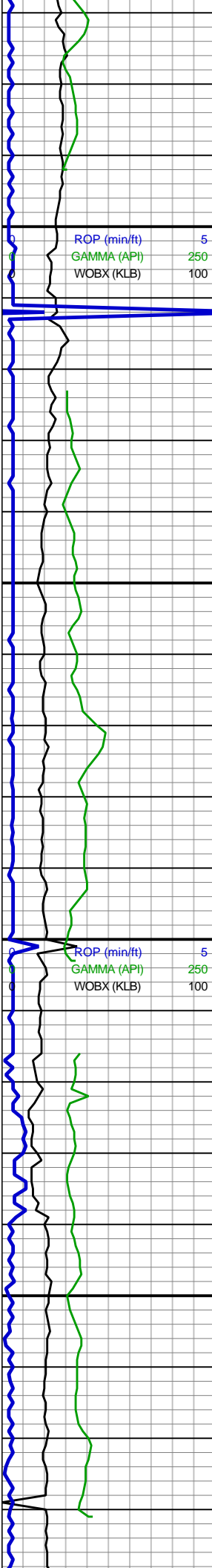
WOB: 26klbs
RPM: 100
SPM: 172
SPP: 3,823psi



100% SS: predy gyshbn,
lt brn, mot med brn, vf-f
gr, sb ang-sb rd, sb
frm-frm, mod srted, grn
sup, silc cmt, tr pp mic
pyr nod, sme med gy-dk
gy gr sup ss clus, mod
calc

100% SS: gyshbn-lt brn,
mot med brn, vf-f gr, sb
ang-sb rd, sb frm-frm,
mod srted, grn sup, silc
cmt, tr pp mic pyr nod,
sme med gy-dk gy gr sup
ss clus, mod calc





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
11,050
11,060
11,070
11,080

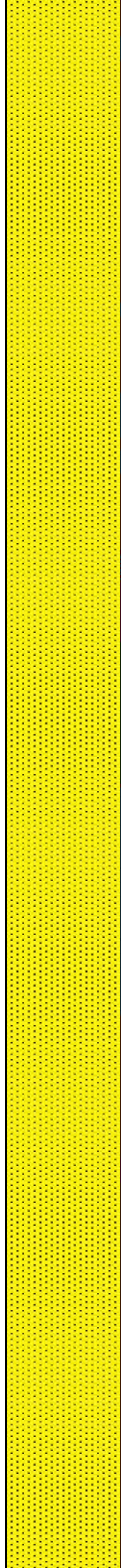
MD: 10,888'
INC: 89.14°
AZM: 181.53°
TVD: 8,566.26'
VS: 2.06'

MD: 10,977'
INC: 88.95°
AZM: 182.54°
TVD: 8,567.74'
VS: 2,167.85'

WOB: 20klbs
RPM: 101
SPM: 172
SPP: 3,750psi

MD: 11,066'
INC: 89.85°
AZM: 183.5°
TVD: 8,568.67'
VS: 2,256.84'

MW IN: 9.9

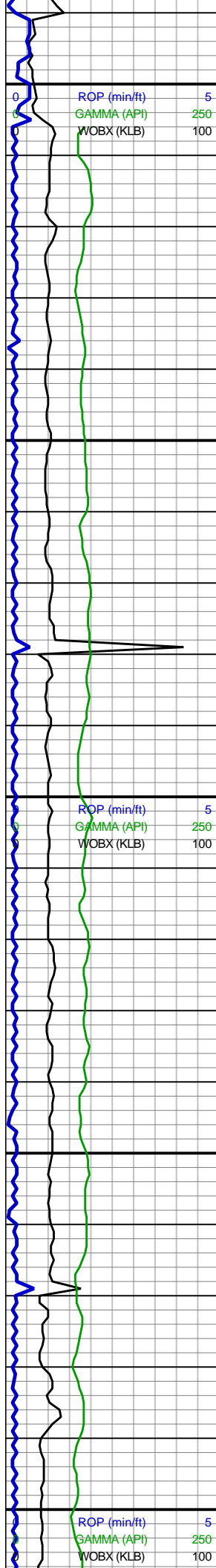


100% SS: gyshbn-lt brn,
mot med brn, vf-f gr, sb
ang-sb rd, sb frm-frn,
mod srted, grn sup, silc
cmt, tr pp mic pyr nod,
sme med gy-dk gy gr sup
ss clus, mod calc

100% SS: lt brn-gyshbn,
mot med brn, vf-f gr, sb
ang-sb rd, sb frm-frn,
mod srted, grn sup, silc
cmt, sme med gy-dk gy
gr sup ss clus, mod calc

100% SS: lt brn-gyshbn,
mot med brn, vf-f gr, sb
ang-sb rd, sb frm-frn,





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
11,270
11,280
11,290
11,300

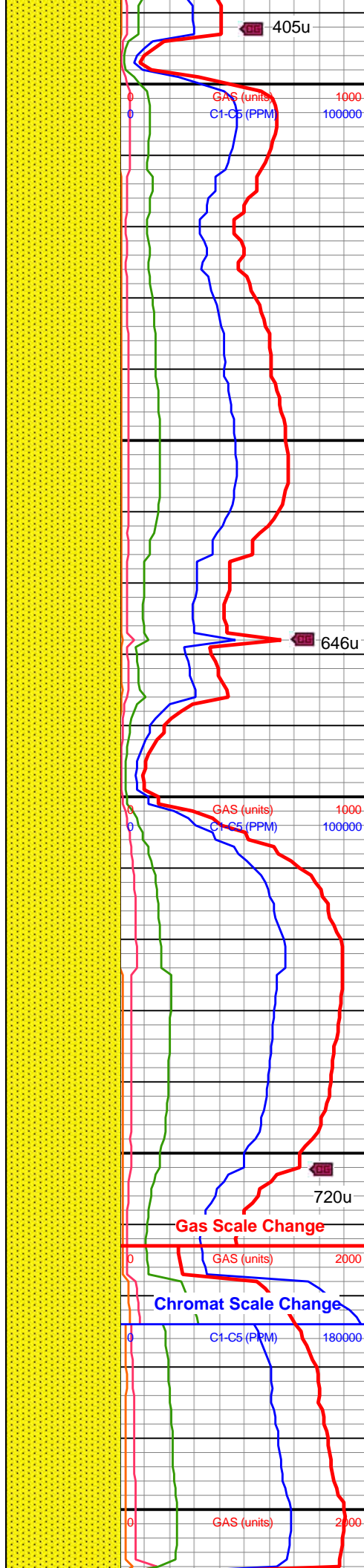
MD: 11,155'
INC: 90.18°
AZM: 182.96°
TVD: 8,568.65'
VS: 2,345.84'

MD: 11,243'
INC: 90.22°
AZM: 182.74°
TVD: 8,568.34'
VS: 2,433.84'

WOB: 20.2klbs
RPM: 100
SPM: 173
SPP: 3,844psi

MW IN: 9.9
VIS IN: 59

MW IN: 10
VIS IN: 60



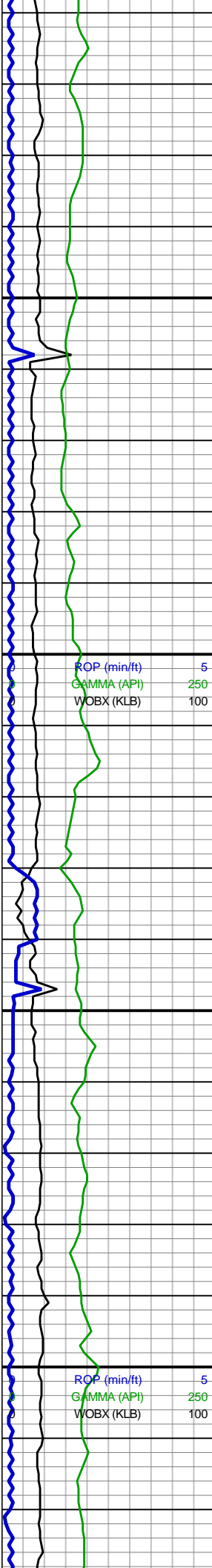
405u
1000
100000
646u
1000
100000
720u
2000
180000
2000

mod strd, grn sup, silc
cmt, sme med gy-dk gy
gr sup ss clus, mod calc

100% SS: lt brn-gyshbn,
mot med brn, vf-f gr, sb
ang-sb rd, sb frm-frm,
mod strd, grn sup, silc
cmt, sme med gy-dk gy
gr sup ss clus, mod calc

100% SS: lt brn-gyshbn,
mot med brn, vf-f gr, sb
ang-sb rd, sb frm-frm,
mod strd, grn sup, silc
cmt, sme med gy-dk gy
gr sup ss clus, mod calc





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
11,490
11,500
11,510
11,520

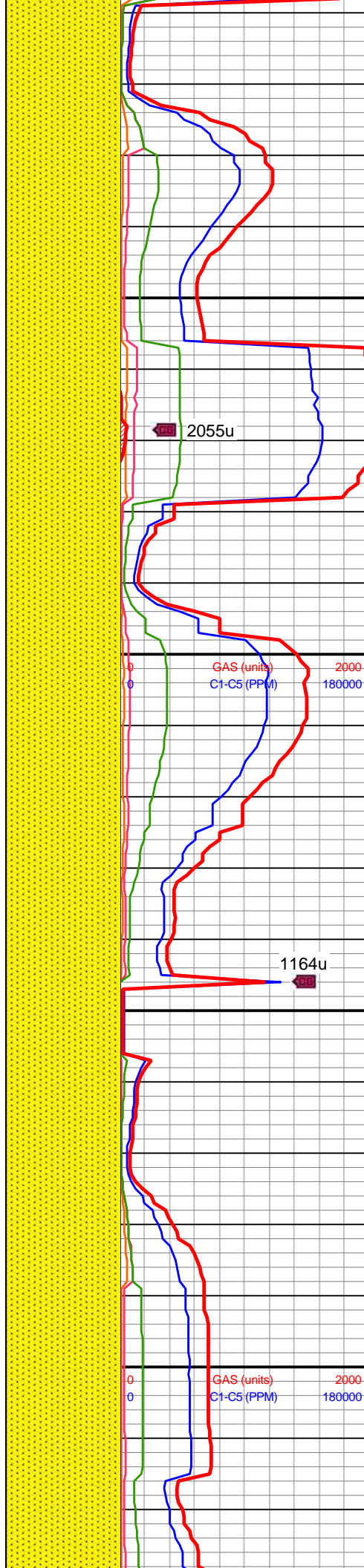
MD: 11,332'
INC: 89.94°
AZM: 181.93°
TVD: 8,568.22'
VS: 2,522.83'

WOB: 14.4klbs
RPM: 100
SPM: 172
SPP: 3,786psi

MD: 11,421'
INC: 90°
AZM: 181.64°
TVD: 8,568.26'
VS: 2,611.82'

MW IN: 10
VIS IN: 62

MD: 11,510'
INC: 90.71°
AZM: 180.76°
TVD: 8,567.71'
VS: 2,700.78'



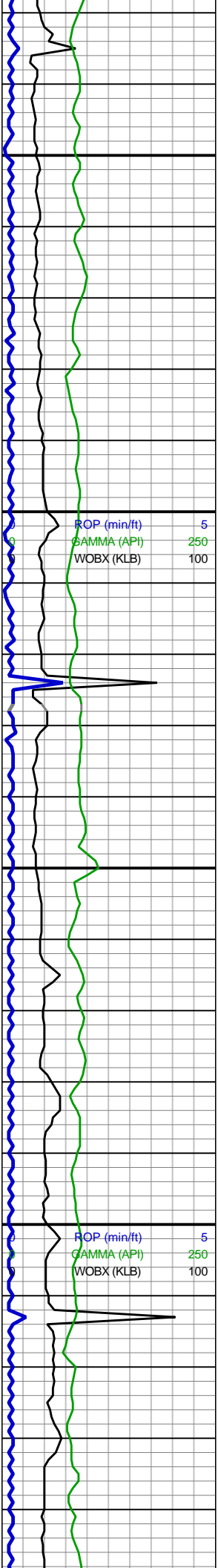
2055u

1164u

100% SS: lt brn-gyshbn,
mot med brn, vf-f gr, sb
ang-sb rd, sb frm-frm,
mod srted, grn sup, silc
cmt, sme med gy-dk gy
gr sup ss clus, mod calc

100% SS: lt brn-gyshbn,
mot med brn, vf-f gr, sb
ang-sb rd, sb frm-frm,
mod srted, grn sup, silc
cmt, sme med gy-dk gy
gr sup ss clus, mod calc





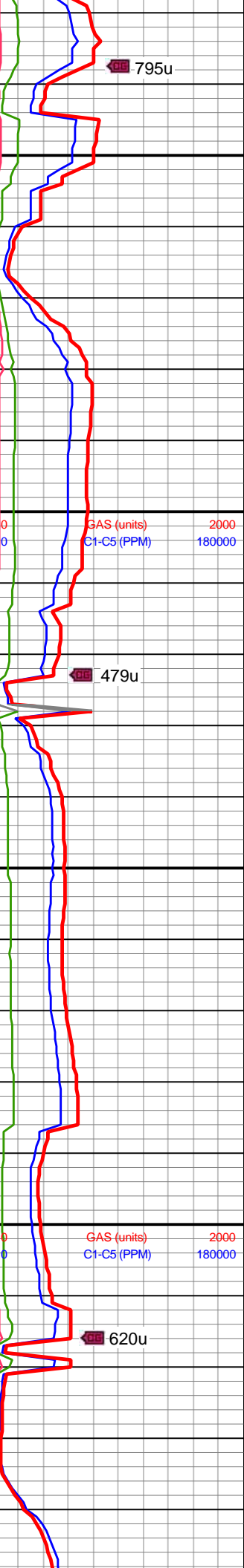
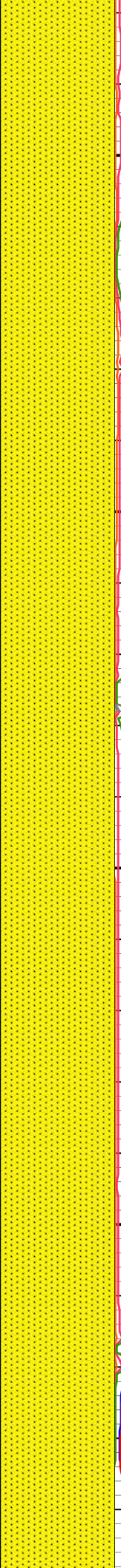
11,530
11,540
11,550
11,560
11,570
11,580
11,590
11,600
11,610
11,620
11,630
11,640
11,650
11,660
11,670
11,680
11,690
11,700
11,710
11,720
11,730
11,740

MD: 11,599'
INC: 90.65°
AZM: 181.09°
TVD: 8,566.66'
VS: 2,789.72'

WOB: 19.6klbs
RPM: 100
SPM: 173
SPP: 3,262psi

MD: 11,687'
INC: 90.4°
AZM: 180.62°
TVD: 8,565.85'
VS: 2,877.67'

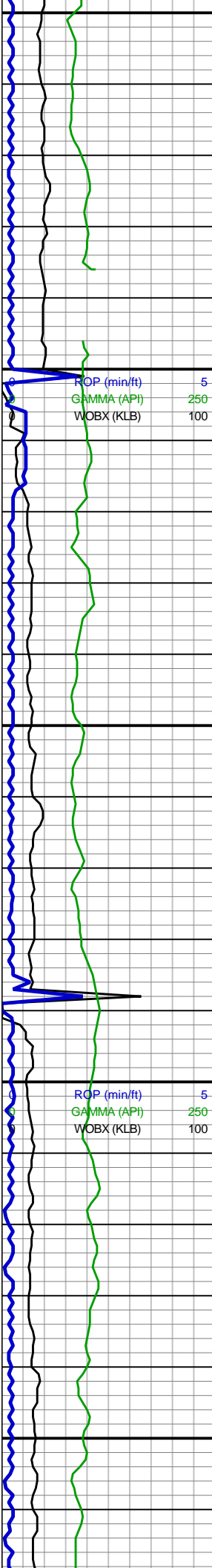
MW IN: 9.9
VIS IN: 60



100% SS: lt brn-gyshbn,
mot med brn, vf-f gr, sb
ang-sb rd, sb frm-frm,
mod srted, grn sup, silc
cmt, sme med gy-dk gy
gr sup ss clus, mod calc

100% SS: lt brn-gyshbn,
mot med brn, vf-f gr, sb
ang-sb rd, sb frm-frm,
mod srted, grn sup, silc
cmt, sme med gy-dk gy
gr sup ss clus, mod calc





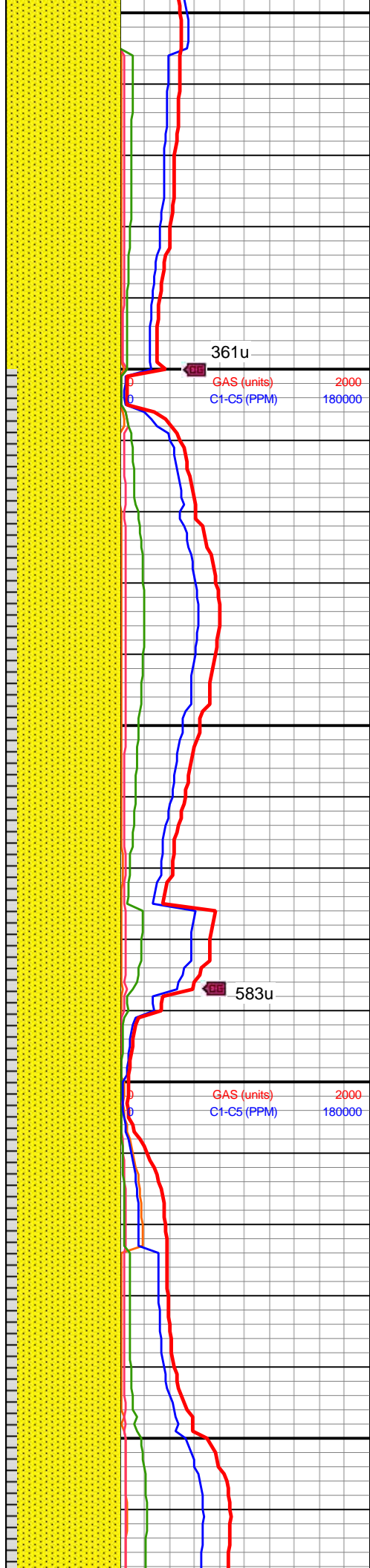
11,750
11,760
11,770
11,780
11,790
11,800
11,810
11,820
11,830
11,840
11,850
11,860
11,870
11,880
11,890
11,900
11,910
11,920
11,930
11,940
11,950
11,960

MD: 11,776'
INC: 90.49°
AZM: 179.4°
TVD: 8,565.16'
VS: 2,966.55'

WOB: 18.4klbs
RPM: 101
SPM: 172
SPP: 3,416psi

MD: 11,865'
INC: 90.25°
AZM: 179.93°
TVD: 8,564.58'
VS: 3,055.41'

MD: 11,954'
INC: 89.94°
AZM: 179.13°
TVD: 8,564.44'
VS: 3,144.27'



361u
GAS (units) 2000
C1-C5 (PPM) 180000

583u
GAS (units) 2000
C1-C5 (PPM) 180000

100% SS: lt brn-gyshbn,
mot med brn, vf-f gr, sb
ang-sb rd, sb frm-frm,
mod srtd, grn sup, silc
cmt, sme med gy-dk gy
gr sup ss clus, mod calc

90% SS: lt brn-gyshbn,
mot med brn, vf-f gr, sb
ang-sb rd, sb frm-frm,
mod srtd, grn sup, silc
cmt, sme med gy-dk gy
gr sup ss clus, mod calc;
10% SH: med-dk gy, sb
blky-blky, brit ip, mod fis,
silc





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
12,150
12,160
12,170
12,180

WOB: 21.5klbs
RPM: 100
SPM: 172
SPP: 3,944psi

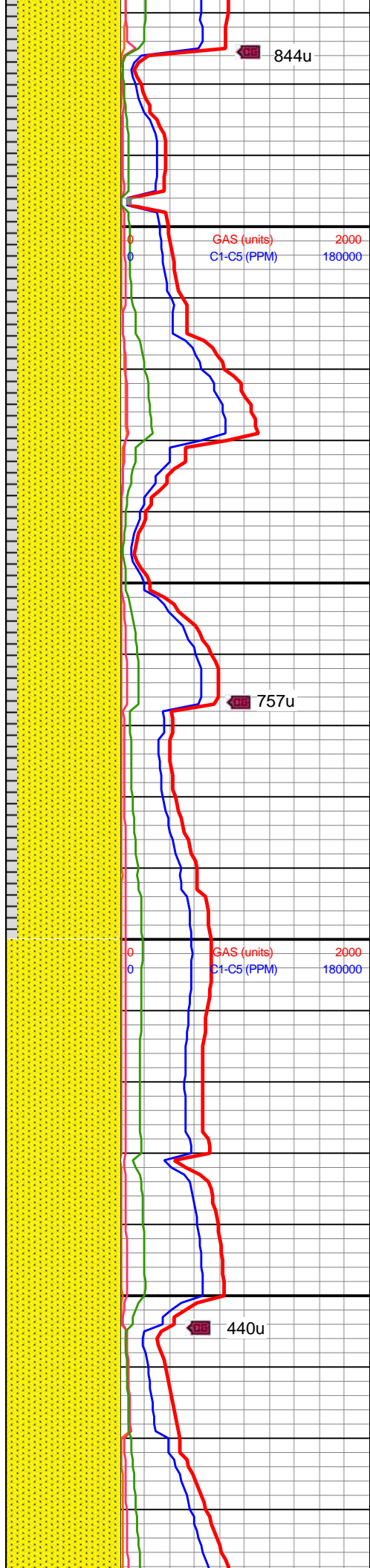
MW IN: 9.9
VIS IN: 60

MD: 12,043'
INC: 89.91°
AZM: 180.17°
TVD: 8,564.55'
VS: 3,233.13'

MD: 12,131'
INC: 89.91°
AZM: 180.38°
TVD: 8,564.69'
VS: 3,321.04'

MIN DEPT 11/06/2018

MW IN: 9.9
VIS IN: 63



844u

90% SS: lt brn-gyshbn, mot med brn, vf-f gr, sb ang-sb rd, sb frm-frm, mod srtd, grn sup, silc cmt, sme med gy-dk gy gr sup ss clus, mod calc; 10% SH: med-dk gy, sb blk-y-blky, brit ip, mod fis, silc

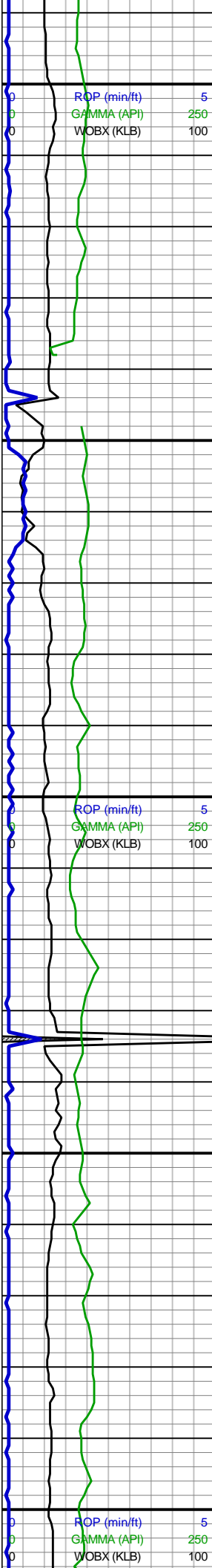
757u

90% SS: lt brn-gyshbn, mot med brn, vf-f gr, sb ang-sb rd, sb frm-frm, mod srtd, grn sup, silc cmt, sme med gy-dk gy gr sup ss clus, mod calc; 10% SH: med-dk gy, sb blk-y-blky, brit ip, mod fis, silc

440u

100% SS: lt brn-gyshbn, mot med brn, vf-f gr, sb ang-sb rd, sb frm-frm, mod srtd, grn sup, silc cmt, sme med gy-dk gy gr sup ss clus, mod calc; 10% SH: med-dk gy, sb blk-y-blky, brit ip, mod fis, silc





12,190
12,200
12,210
12,220
12,230
12,240
12,250
12,260
12,270
12,280
12,290
12,300
12,310
12,320
12,330
12,340
12,350
12,360
12,370
12,380
12,390
12,400

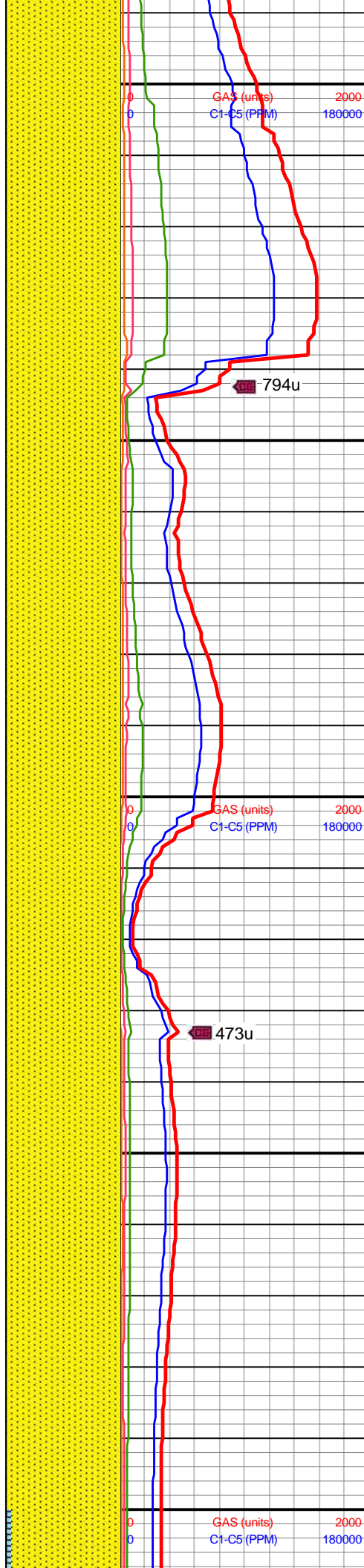
WOB: 13klbs
RPM: 100
SPM: 173
SPP: 3,060psi

MD: 12,220'
INC: 90.12°
AZM: 181.08°
TVD: 8,564.67'
VS: 3,409.98'

MD: 12,309'
INC: 89.94°
AZM: 181.5°
TVD: 8,564.62'
VS: 3,498.94'

MD: 12,398'
INC: 89.94°
AZM: 180.93°
TVD: 8,564.71'
VS: 3,587.91'

WOB: 12.2klbs
RPM: 100
SPM: 172
SPP: 3,125psi



794u

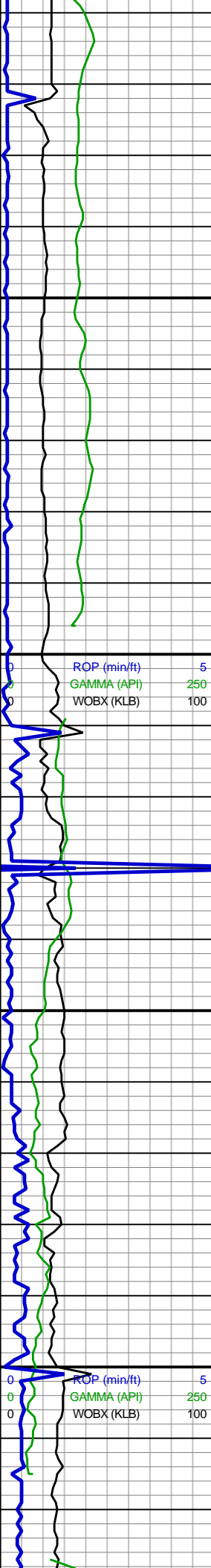
473u

ang-sb rd, sb frm-frm,
mod srted, grn sup, silc
cmt, sme med gy-dk gy
gr sup ss clus, mod calc

100% SS: lt brn-gyshbn,
mot med brn, vf-f gr, sb
ang-sb rd, sb frm-frm,
mod srted, grn sup, silc
cmt, sme med gy-dk gy
gr sup ss clus, mod calc

100% SS: lt brn-gyshbn,
mot med brn, vf-f gr, sb
ang-sb rd, sb frm-frm,
mod srted, grn sup, silc
cmt, sme med gy-dk gy
gr sup ss clus, mod calc





SPP: 3,423psi

MW IN: 9.9
VIS IN: 63

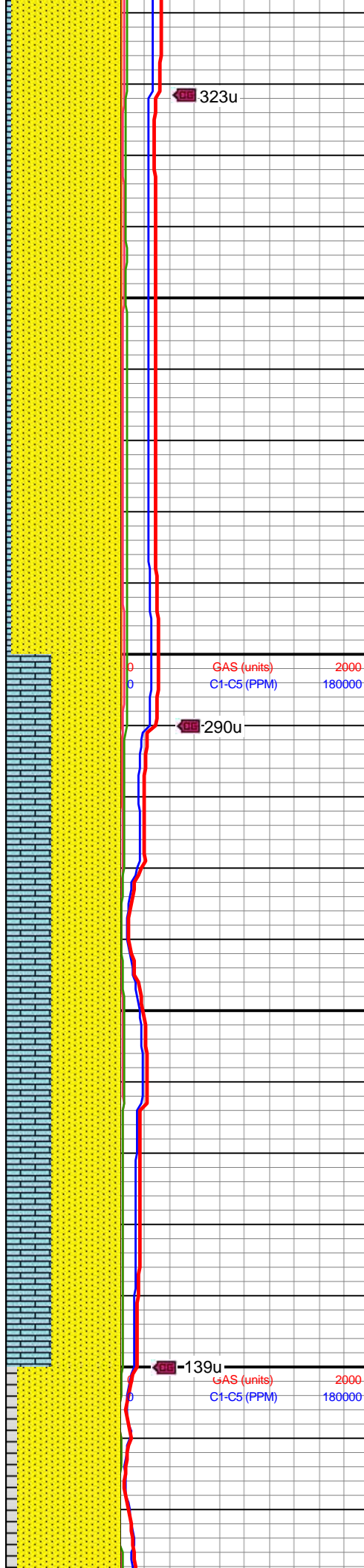
MD: 12,487'
INC: 89.97°
AZM: 179.7°
TVD: 8,564.78'
VS: 3,676.82'

ROP (min/ft) 5
GAMMA (API) 250
WOBX (KLB) 100

MD: 12,576'
INC: 89.08°
AZM: 179.74°
TVD: 8,565.52'
VS: 3,765.68'

WOB: 26.2klbs
RPM: 81
SPM: 171
SPP: 3,852psi

MW IN: 9.8
VIS IN: 63



323u

290u

139u

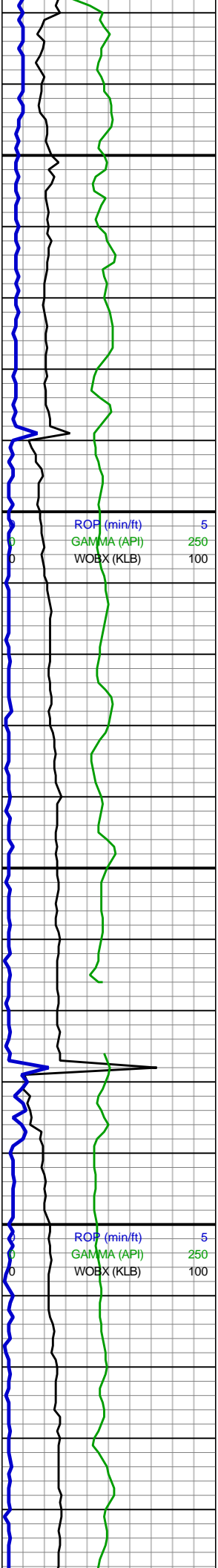
GAS (units) 2000
C1-C5 (PPM) 180000

GAS (units) 2000
C1-C5 (PPM) 180000

100% SS: lt brn-gyshbn,
mot med brn, vf-f gr, sb
ang-sb rd, sb frm-frm,
mod srted, grn sup, silc
cmt, sme med gy-dk gy
gr sup ss clus, mod calc

60% SS: lt brn-gyshbn,
mot med brn, vf-f gr, sb
ang-sb rd, sb frm-frm,
mod srted, grn sup, silc
cmt, sme med gy-dk gy
gr sup ss clus, mod calc;
40% LS: off wht to lt gry,
dk gry ip, mas, occ
silty-sdy, dolc ip





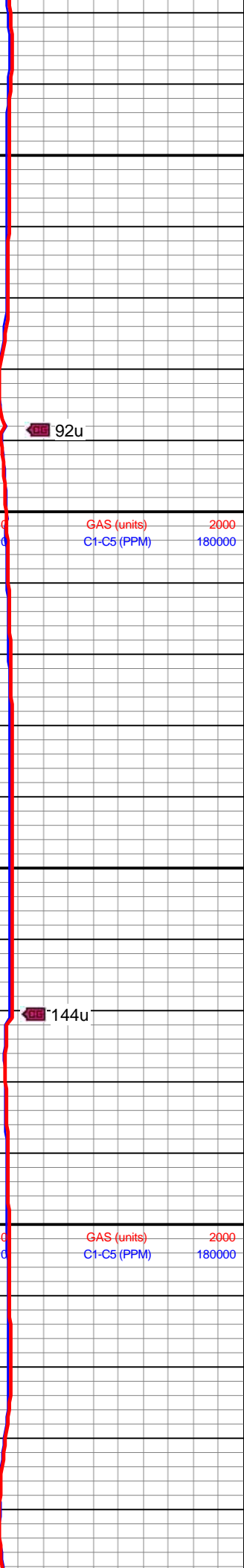
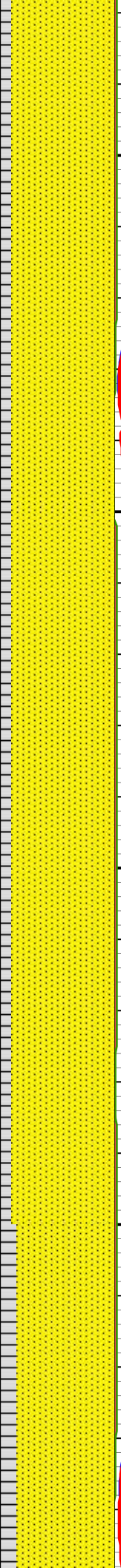
12,630
12,640
12,650
12,660
12,670
12,680
12,690
12,700
12,710
12,720
12,730
12,740
12,750
12,760
12,770
12,780
12,790
12,800
12,810
12,820
12,830
12,840

MD: 12,665'
INC: 88.03°
AZM: 180.31°
TVD: 8,567.77'
VS: 3,854.55'

MD: 12,754'
INC: 90.09°
AZM: 181.52°
TVD: 8,569.23'
VS: 3,943.48'

WOB: 25klbs
RPM: 99
SPM: 173
SPP: 3,914psi

MD: 12,842'
INC: 90.09°
AZM: 181.45°
TVD: 8,569.09'
VS: 4,031.45'



92u

144u

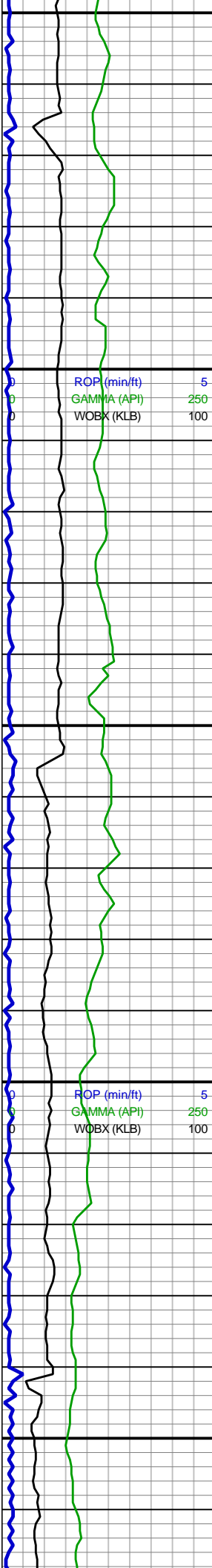
GAS (units) 2000
C1-C5 (PPM) 180000

GAS (units) 2000
C1-C5 (PPM) 180000

90% SS: lt brn-gyshbn,
mot med brn, vf-f gr, sb
ang-sb rd, sb frm-frm,
mod srted, grn sup, silc
cmt, sme med gy-dk gy
gr sup ss clus, mod calc;
10% SH: med-dk gy, sb
blky-blky, brit ip, mod fis,
silc

90% SS: lt brn-gyshbn,
mot med brn, vf-f gr, sb
ang-sb rd, sb frm-frm,
mod srted, grn sup, silc
cmt, sme med gy-dk gy
gr sup ss clus, mod calc;
10% SH: med-dk gy, sb
blky-blky, brit ip, mod fis,
silc





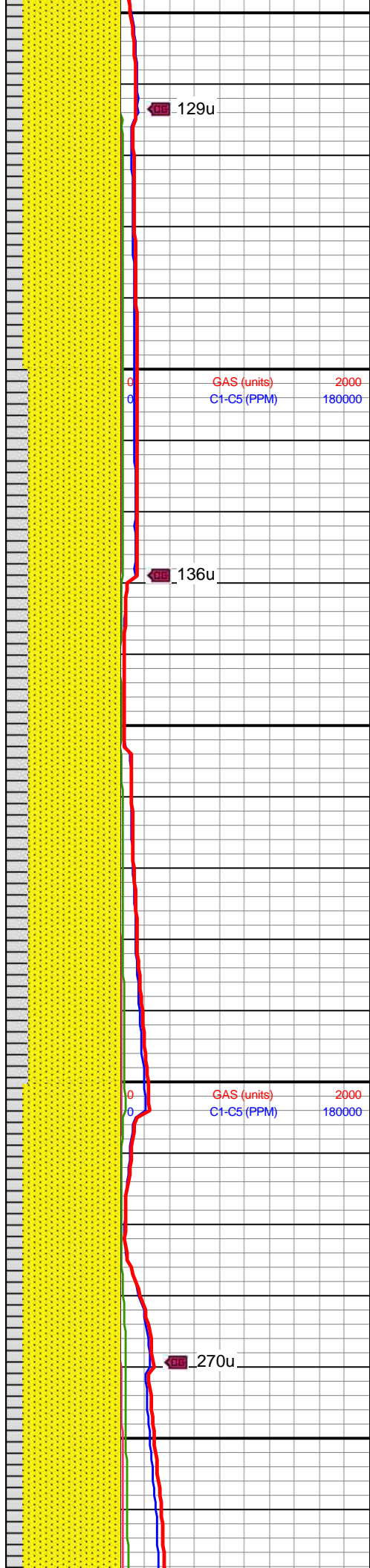
12,850
12,860
12,870
12,880
12,890
12,900
12,910
12,920
12,930
12,940
12,950
12,960
12,970
12,980
12,990
13,000
13,010
13,020
13,030
13,040
13,050
13,060

MD: 12,931'
INC: 90.12°
AZM: 181.13°
TVD: 8,568.92'
VS: 4,120.42'

WOB: 24klbs
RPM: 101
SPM: 172
SPP: 4,112psi

MD: 13,020'
INC: 90.06°
AZM: 181.47°
TVD: 8,568.78'
VS: 0.39'

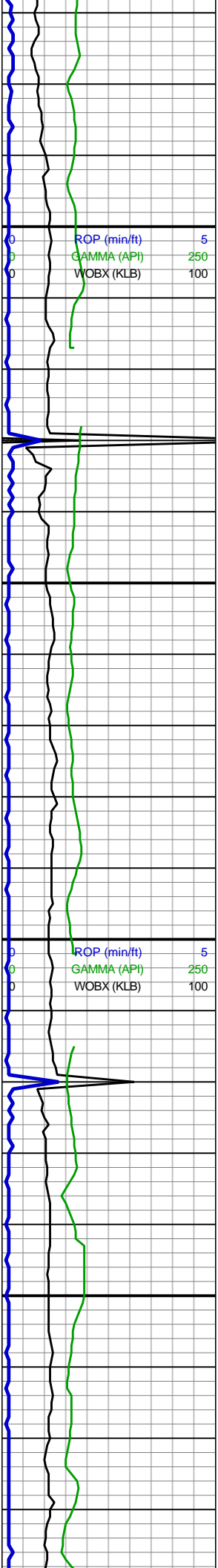
MW IN: 9.9
VIS IN: 63



85% SS: gyshbn, vf gr, sb
ang-sb rd grs, sb
frm-frm, w srted, grn sup,
silc cmt, med gy-dk gy gr
sup ss clus, intbd SH,
mod calc; 15% SH:
med-dk gy, sb blkyl-blky,
brit ip, mod fis, silc

80% SS: gyshbn, vf gr, sb
ang-sb rd grs, sb
frm-frm, w srted, grn sup,
silc cmt, med gy-dk gy gr
sup ss clus, intbd SH,
mod calc; 20% SH:
med-dk gy, sb blkyl-blky,
brit ip, mod fis, silc





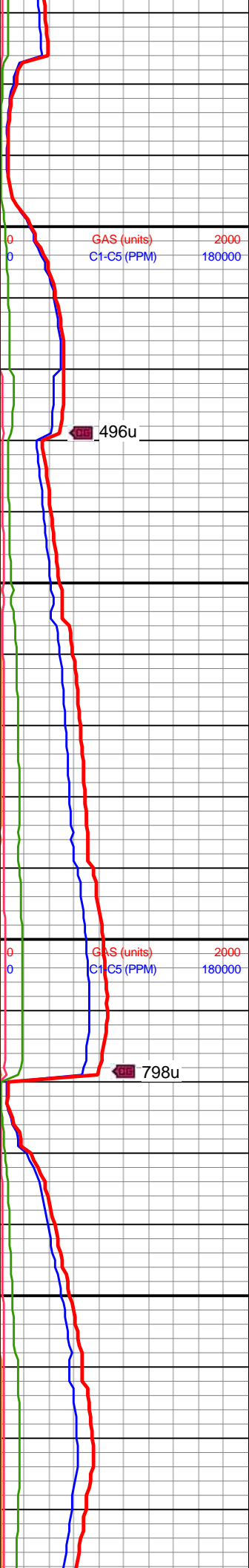
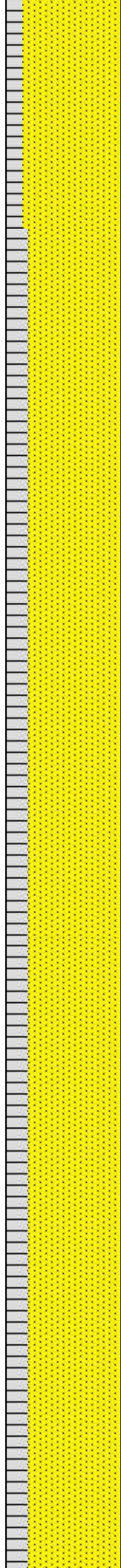
13,070
13,080
13,090
13,100
13,110
13,120
13,130
13,140
13,150
13,160
13,170
13,180
13,190
13,200
13,210
13,220
13,230
13,240
13,250
13,260
13,270
13,280

MD: 13,109'
INC: 90.18°
AZM: 181.49°
TVD: 8,568.6'
VS: 0.14'

MD: 13,198'
INC: 89.97°
AZM: 181.69°
TVD: 8,568.48'
VS: 0.33'

WOB: 23klbs
RPM: 100
SPM: 172
SPP: 4,230psi

MD: 13,286'
INC: 90.06°
AZM: 181.46°

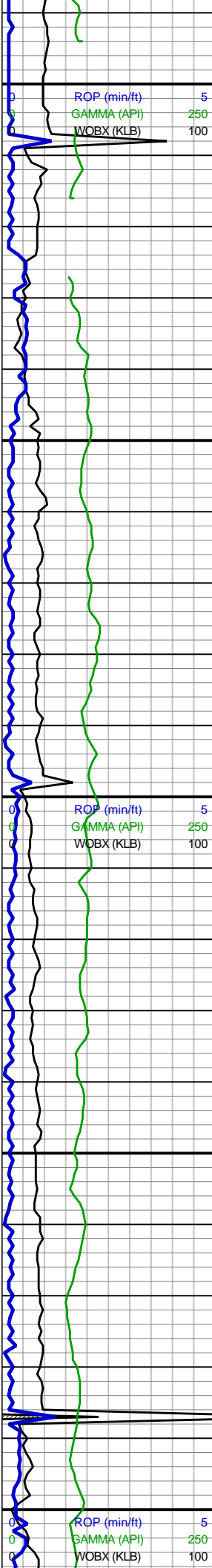


85% SS: gyshbn, vf gr, sb
ang-sb rd grs, sb
frm-frm, w srted, grn sup,
silc cmt, med gy-dk gy gr
sup ss clus, intbd SH,
mod calc; 15% SH:
med-dk gy, sb blkyl-blky,
brit ip, silc, mod fis

80% SS: gyshbn, vf gr, sb
ang-sb rd grs, sb
frm-frm, w srted, grn sup,
silc cmt, med gy-dk gy gr
sup ss clus, intbd SH,
mod calc; 20% SH:
med-dk gy, sb blkyl-blky,
brit ip, mod fis, silc

80% SS: gyshbn, vf gr, sb
ang-sb rd grs, sb
frm-frm, w srted, grn sup,
silc cmt, med gy-dk gy gr
sup ss clus, intbd SH,





13,290
TVD: 8,568.46'
VS: 0.28'

13,300

13,310

13,320

13,330

13,340

13,350

13,360

13,370 MD: 13,375'
INC: 89.75°
AZM: 181.18°
TVD: 8,568.61'
VS: 0.47'

13,380

13,390

13,400 WOB: 9klbs
RPM: 100
SPM: 171
SPP: 3,753psi

13,410

13,420

13,430

13,440

13,450

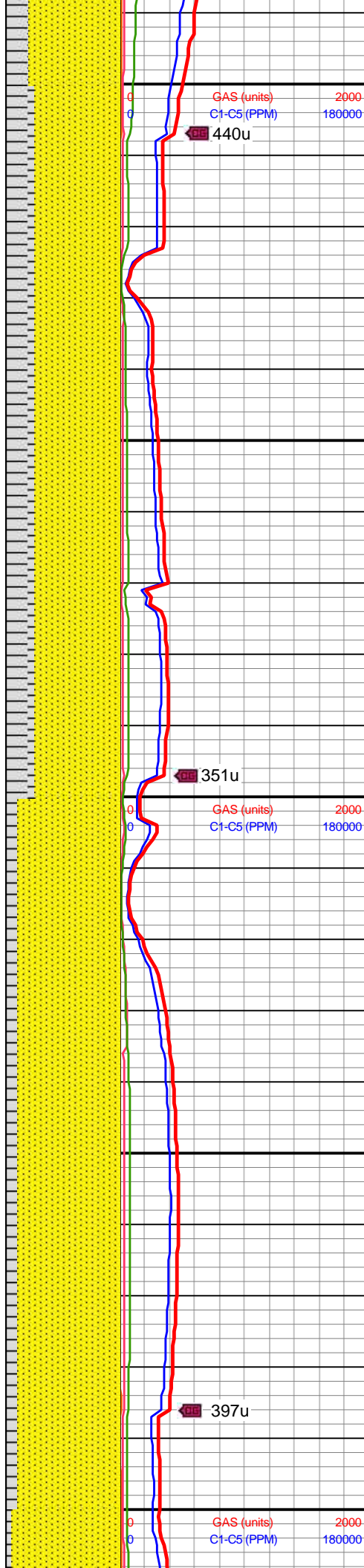
13,460 MD: 13,464'
INC: 89.82°
AZM: 180.99°
TVD: 8,568.94'
VS: 0.23'

13,470

13,480 MW IN: 9.9+
VIS IN: 62

13,490

13,500



sup ss clus, intbd SH,
mod calc; 20% SH:
med-dk gy, sb blkly-blky,
brit ip, mod fis, silc

440u

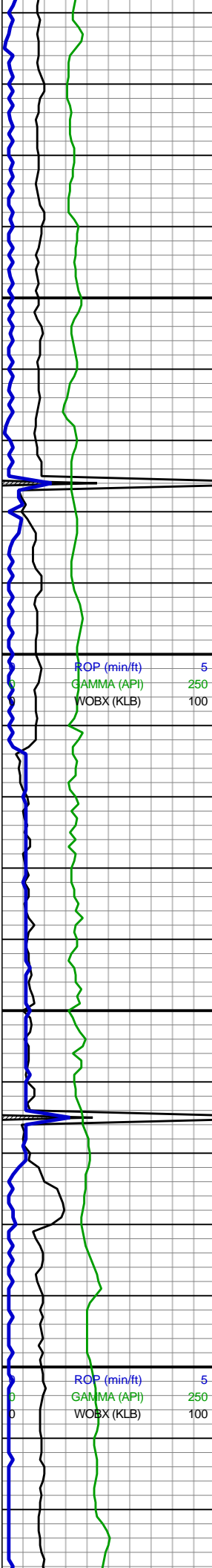
75% SS: gyshbn, vf gr, sb
ang-sb rd grs, sb
frm-frm, w srted, grn sup,
silc cmt, med gy-dk gy gr
sup ss clus, intbd SH,
mod calc; 25% SH:
med-dk gy, sb blkly-incrg
ang, brit ip, mod fis, silc

351u

90% SS: gyshbn-dk gy, vf
gr, sb ang-sb rd grs, sb
frm-frm, w srted, grn sup,
silc cmt, med gy-dk
gyshbn, gr sup ss clus,
intbd SH, mod calc; 10%
SH: med-dk gy, sb
blkly-blky, brit ip, mod fis,
silc

397u





13,510
13,520
13,530
13,540
13,550
13,560
13,570
13,580
13,590
13,600
13,610
13,620
13,630
13,640
13,650
13,660
13,670
13,680
13,690
13,700
13,710
13,720

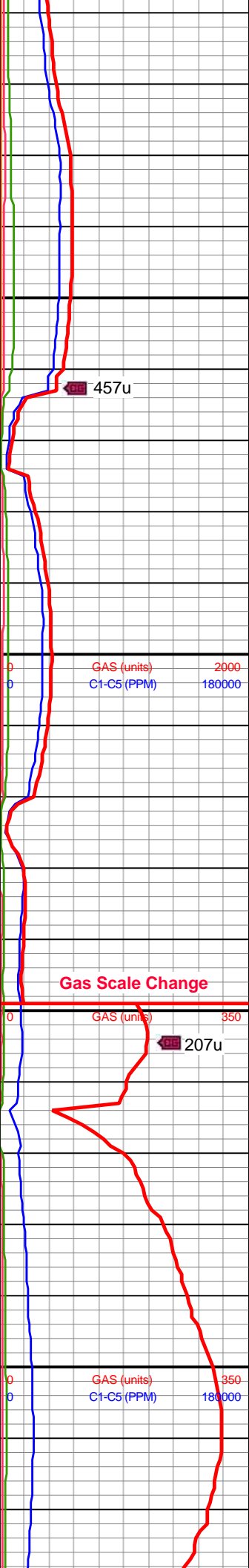
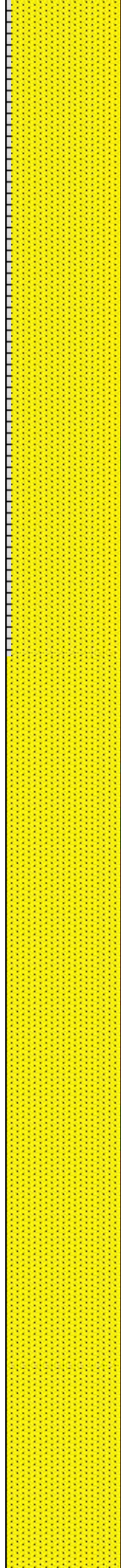
MD: 13,553'
INC: 89.85°
AZM: 180.82°
TVD: 8,569.2'
VS: 0.19'

WOB: 17.2klbs
RPM: 100
SPM: 171
SPP: 4,152psi

MD: 13,642'
INC: 89.38°
AZM: 181.17°
TVD: 8,569.79'
VS: 0.66'

MW IN: 9.9
VIS IN: 60

MD: 13,731'
INC: 89.62°



457u

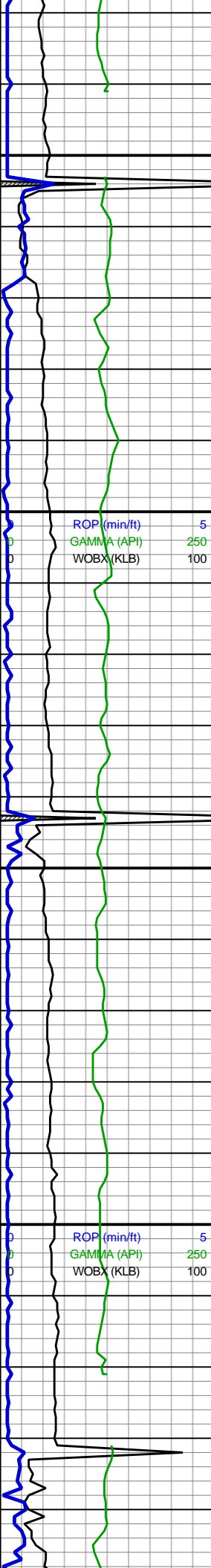
Gas Scale Change

207u

95% SS: gyshbn-dk gy, vf gr, sb ang-sb rd grs, sb frm-frm, w srted, grn sup, silc cmt, med gy-dk gyshbn, gr sup ss clus, intbd SH, mod calc; 5% SH: med-dk gy, sb blkly-blky, brit ip, mod fis, silc

100% SS: offwht, vf-f gr, sb ang-sb rd, sb frm-frm, v w srted, sme med gy-dk gy uncons grs, mod cal





13,730
13,740
13,750
13,760
13,770
13,780
13,790
13,800
13,810
13,820
13,830
13,840
13,850
13,860
13,870
13,880
13,890
13,900
13,910
13,920
13,930
13,940

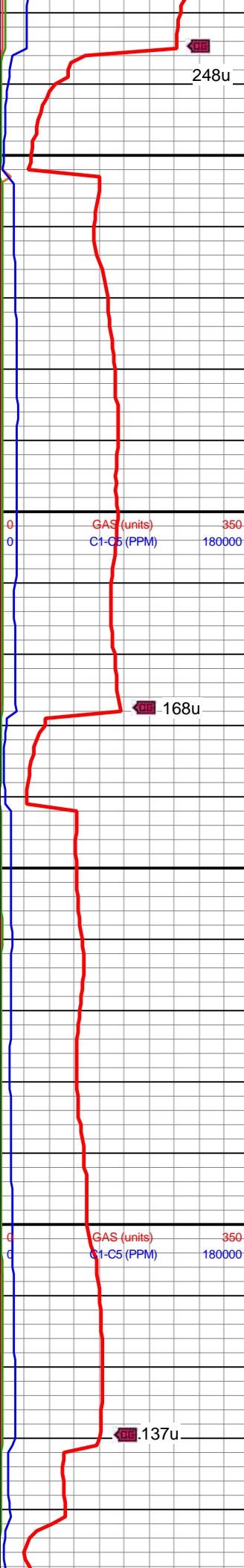
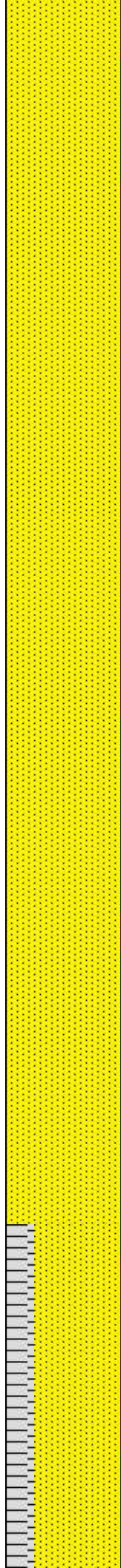
INC: 89.03°
AZM: 179.67°
TVD: 8,570.56'
VS: 1.71'

WOB: 24klbs
RPM: 100
SPM: 4,230
SPP: 109psi

MD: 13,819'
INC: 89.82°
AZM: 180.27°
TVD: 8,570.99'
VS: 0.72'

MW IN: 10
VIS IN: 62

MD: 13,908'
INC: 89.54°
AZM: 181.35°
TVD: 8,571.48'
VS: 1.25'

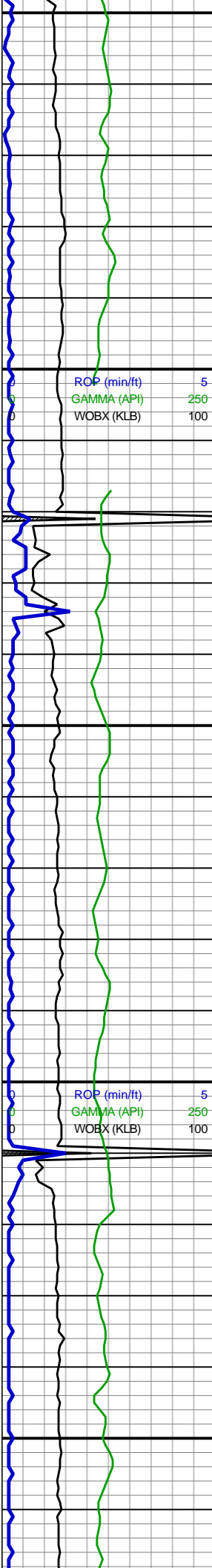


248u
168u
137u

100% SS: offwht, vf-f gr,
sb ang-sb rd, sb frm-frm,
v w srtd, sme med gy-dk
gy uncons grs, mod cal

100% SS: offwht, vf-f gr,
sb ang-sb rd, sb frm-frm,
v w srtd, sme med gy-dk
gy uncons grs, mod cal





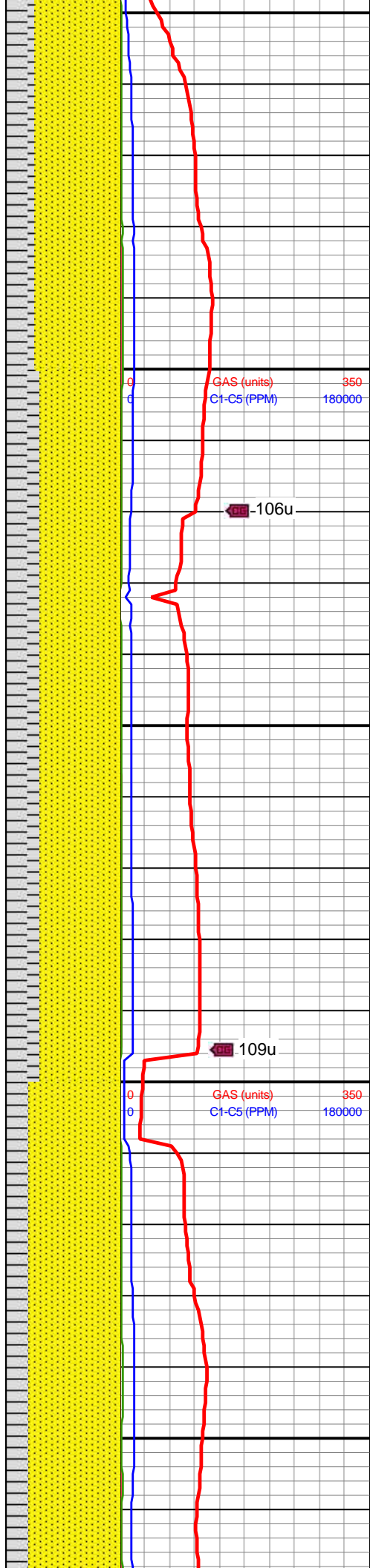
13,950
13,960
13,970
13,980
13,990
14,000
14,010
14,020
14,030
14,040
14,050
14,060
14,070
14,080
14,090
14,100
14,110
14,120
14,130
14,140
14,150
14,160

MD: 13,996'
INC: 89.75°
AZM: 182.58°
TVD: 8,572.03'
VS: 1.42'

WOB: 29klbs
RPM: 100
SPM: 172
SPP: 4,374psi

MD: 14,085'
INC: 88.95°
AZM: 183.24°
TVD: 8,573.04'
VS: 1.17'

MD: 14,174'



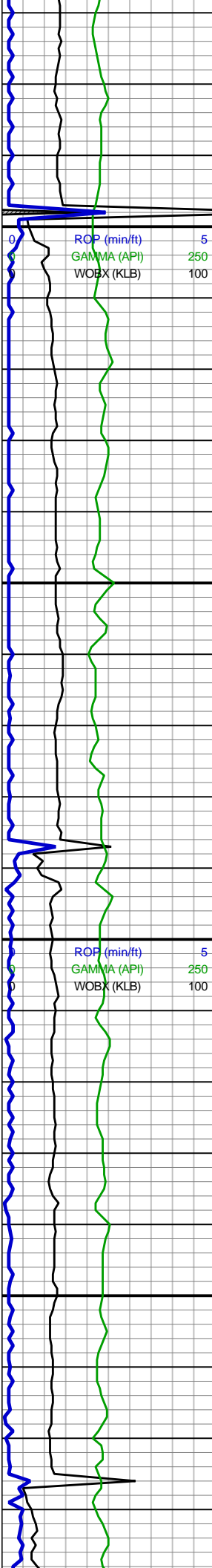
GAS (units) 350
C1-C5 (PPM) 180000

GAS (units) 350
C1-C5 (PPM) 180000

75% SS: gyshbn, vf gr, sb
ang-sb rd grs, sb
frm-frm, w srted, grn sup,
silc cmt, med gy-dk gy gr
sup ss clus, intbd SH,
mod calc; 25% SH:
med-dk gy, sb blkyl-blky,
brit ip, mod fis, silc

70% SS: gyshbn, vf gr, sb
ang-sb rd grs, sb
frm-frm, w srted, grn sup
silc cmt, med gy-dk gy gr
sup ss clus, intbd SH
lam, mod calc; 30% SH:
med-dk gy, sb blkyl-blky,
brit ip, mod fis, silc





INC: 89.02°
AZM: 182.37°
TVD: 8,574.61'
VS: 0.98'

MW IN: 10
VIS IN: 60

WOB: 14klbs
RPM: 100
SPM: 172
SPP: 3,931psi

MD: 14,262'
INC: 89.23°
AZM: 181.37°
TVD: 8,575.96'
VS: 1.16'

MD: 14,351'
INC: 88.95°
AZM: 180.7°
TVD: 8,577.37'
VS: 0.82'

80% SS: predy gy, sme
brn, vf gr, sb ang-sb rd
grs, sb frm-frm, w srted,
grn sup silc cmt, med
gy-dk gy gr sup ss clus,
intbd SH lam, mod calc;
20% SH: med-dk gy, sb
blky-blky, brit ip, mod fis,
silc

70% SS: predy gy, sme
brn, vf gr, sb ang-sb rd
grs, sb frm-frm, w srted,
grn sup silc cmt, med
gy-dk gy gr sup ss clus,
intbd SH lam, mod calc;
30% SH: med-dk gy,
ang-sb blky, brit ip, mod
fis, silc

65% SS: gy, sme brn, vf
gr, sb ang-sb rd grs, sb
frm-frm, w srted, grn sup
silc cmt, med gy-dk gy gr
sup ss clus, intbd SH

83u

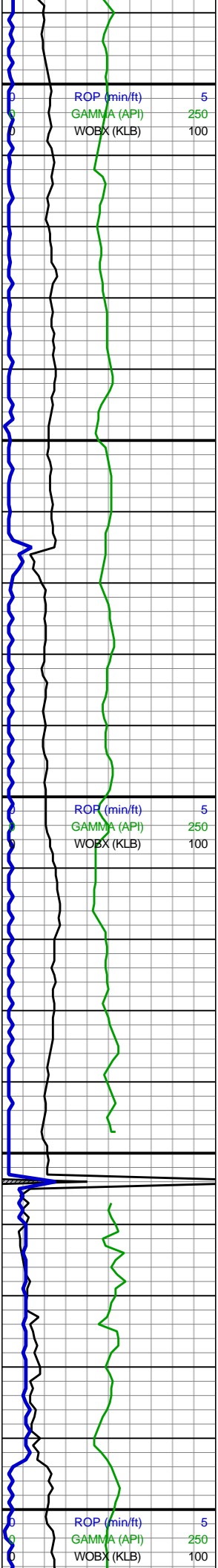
94u

62u

GAS (units) 350
C1-C5 (PPM) 180000

GAS (units) 350
C1-C5 (PPM) 180000





14,390
14,400
14,410
14,420
14,430
14,440
14,450
14,460
14,470
14,480
14,490
14,500
14,510
14,520
14,530
14,540
14,550
14,560
14,570
14,580
14,590
14,600

WOB: 23klbs
RPM: 100
SPM: 171
SPP: 4,251psi

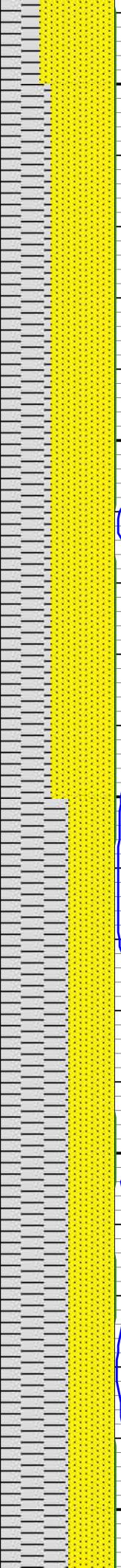
MD: 14,440'
INC: 89.14°
AZM: 180.81°
TVD: 8,578.85'
VS: 0.25'

MW IN: 9.9+
VIS IN: 60

ROP (min/ft) 5
GAMMA (API) 250
WOBX (KLB) 100

MD: 14,529'
INC: 88.77°
AZM: 179.95°
TVD: 8,580.48'
VS: 1.05'

WOB: 25klbs
RPM: 100
SPM: 171
SPP: 4,205psi



GAS (units) 350
C1-C5 (PPM) 180000

75u

GAS (units) 350
C1-C5 (PPM) 180000

97u

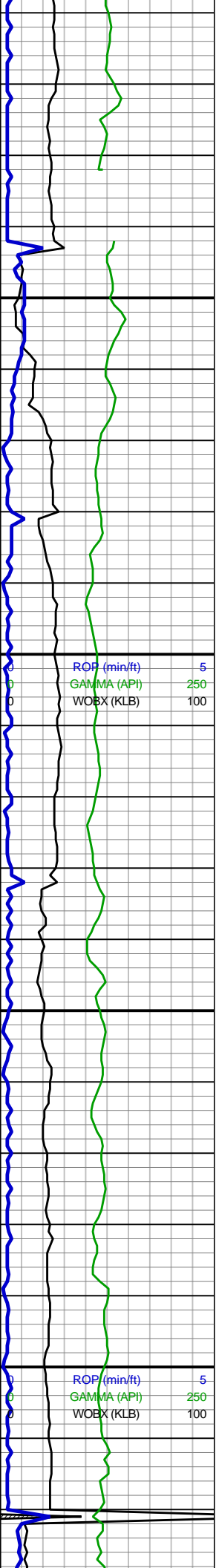
GAS (units) 350
C1-C5 (PPM) 180000

sup ss clus, intbd SH
lam, mod calc; 35% SH:
med-dk gy, ang-sb blkly,
brit ip, mod fis, silc

55% SS: predy gy, sme
brn, vf gr, sb ang-sb rd
grs, sb frm-frm, w srtd,
grn sup silc cmt, med
gy-dk gy gr sup ss clus,
intbd SH lam, mod calc;
45% SH: med-dk gy,
ang-sb blkly, brit ip, sl sm,
fis, silc

60% SH: med-dk gy,
ang-sb blkly, brit ip, sl sm,
fis, silc; 40% SS: predy
gy, sme brn, vf gr, sb
ang-sb rd grs, sb
frm-frm, w srtd, grn sup
silc cmt, med gy-dk gy gr
sup ss clus, intbd SH
lam, mod calc





MD: 14,618'
INC: 90.09°
AZM: 180.42°
TVD: 8,581.36'
VS: 1.57'

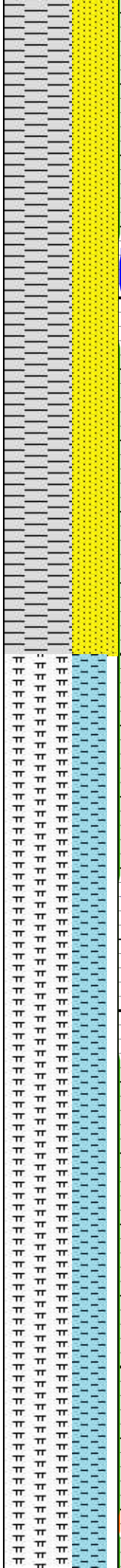
MD: 14,707'
INC: 89.14°
AZM: 182.09°
TVD: 8,581.96'
VS: 5,895.46'

MD: 14,796'
INC: 88.98°
AZM: 181.84°
TVD: 8,583.42'
VS: 5,984.44'

WOB: 23klbs
RPM: 100
SPM: 171
SPP: 4,299psi

MW IN: 9.9
VIS IN: 62

14,610
14,620
14,630
14,640
14,650
14,660
14,670
14,680
14,690
14,700
14,710
14,720
14,730
14,740
14,750
14,760
14,770
14,780
14,790
14,800
14,810
14,820



89u

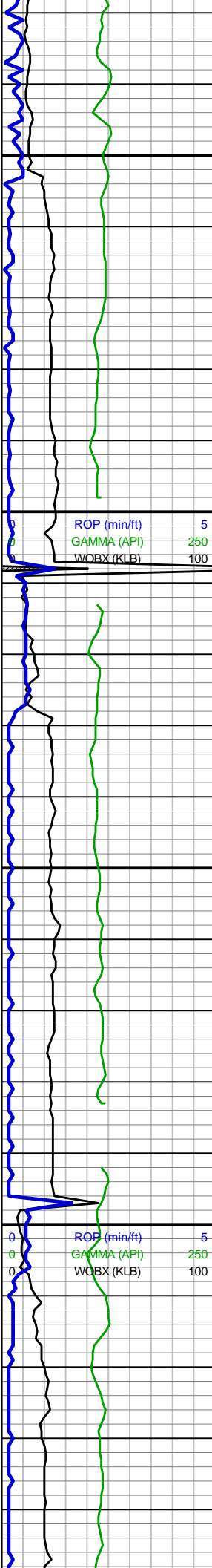
85u

92u

60% SH: med-dk gy,
ang-sb blk, brit ip, sl sm,
fis, silc; 40% SS: predy
gy, sme brn, vf gr, sb
ang-sb rd grs, sb
frm-frm, w srtd, grn sup
silc cmt, med gy-dk gy gr
sup ss clus, intbd SH
lam, mod calc

60% MRLST: gry-dk gry,
slty, micxln, calc, chk
intbds, mn pyr; 30%
CHK: wht-off wht,
lam-amor, sft-med frm,
mrlst intbds; 10% SH:
med-dk gy, hd-v hd, brit
ip, suc ip, rthy tex, ang-sb
ang, vf gr, blk-sub blk,
mod fis, silc





14,830
14,840
14,850
14,860
14,870
14,880
14,890
14,900
14,910
14,920
14,930
14,940
14,950
14,960
14,970
14,980
14,990
15,000
15,010
15,020
15,030
15,040

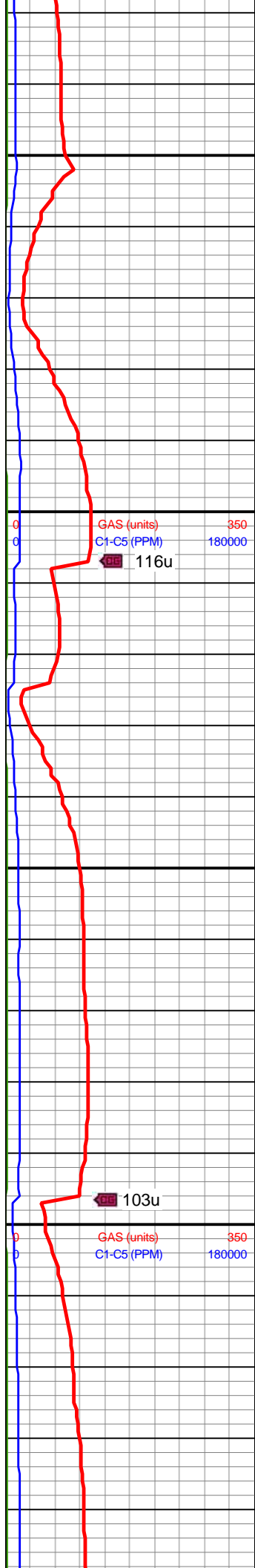
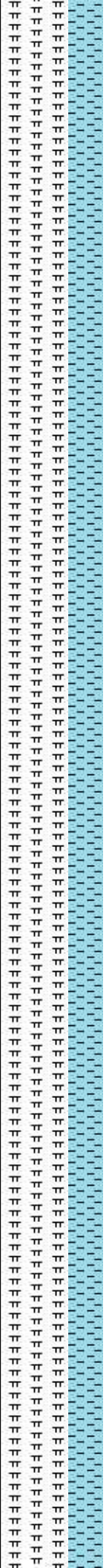
MD: 14,884'
INC: 89.32°
AZM: 182.63°
TVD: 8,584.73'
VS: 6,072.43'

ROP (min/ft) 5
GAMMA (API) 250
WOBX (KLB) 100

ROP (min/ft) 5
GAMMA (API) 250
WOBX (KLB) 100

WOB: 11klbs
RPM: 103
SPM: 171
SPP: 3,843psi

MW IN: 9.9
VIS IN: 62



GAS (units) 350
C1-C5 (PPM) 180000
WOB (KLB) 116u

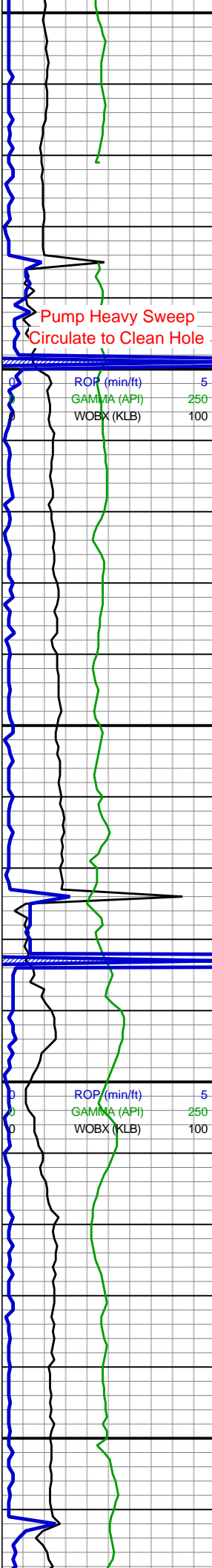
GAS (units) 350
C1-C5 (PPM) 180000
WOB (KLB) 103u

60% MRLST: gry-dk gry,
slty, micxln, calc, chk
intbds, mnpr pyr; 30%
CHK: wht-off wht,
lam-amor, sft-med frm,
mrlst intbds; 10% SH:
med-dk gy, hd-v hd, brit
ip, suc ip, rthy tex, ang-sb
ang, vf gr, blkly-sub blkly,
mod fis, silc



60% MRLST: gry-dk gry,
slty, micxln, calc, chk
intbds, mnpr pyr; 30%
CHK: wht-off wht,
lam-amor, sft-med frm,
mrlst intbds; 10% SH:
med-dk gy, hd-v hd, brit
ip, suc ip, rthy tex, ang-sb
ang, vf gr, blkly-sub blkly,
mod fis, silc





15,050
15,060
15,070
15,080
15,090
15,100
15,110
15,120
15,130
15,140
15,150
15,160
15,170
15,180
15,190
15,200
15,210
15,220
15,230
15,240
15,250
15,260

MD: 15,061'
INC: 89.85°
AZM: 185.42°
TVD: 8,585.32'
VS: 6,249.34'

MD: 15,150'
INC: 91.17°
AZM: 184.04°
TVD: 8,584.53'
VS: 6,338.29'

WOB: 18.2klbs
RPM: 120
SPM: 171
SPP: 4,196psi

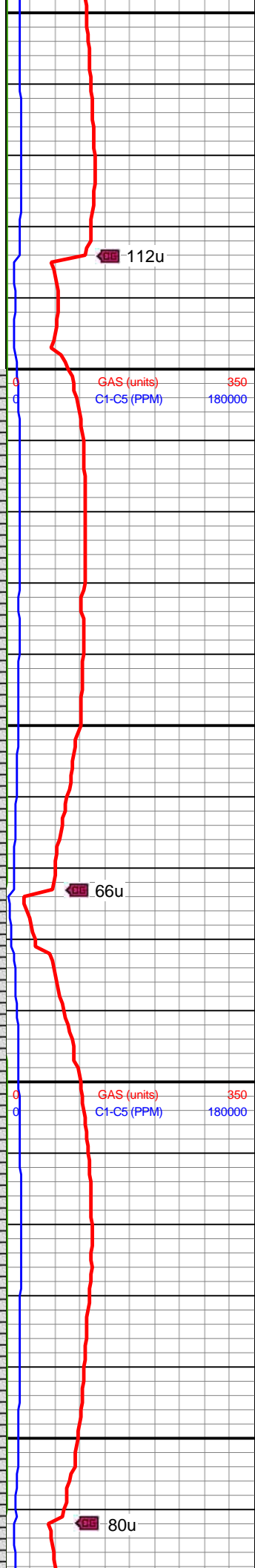
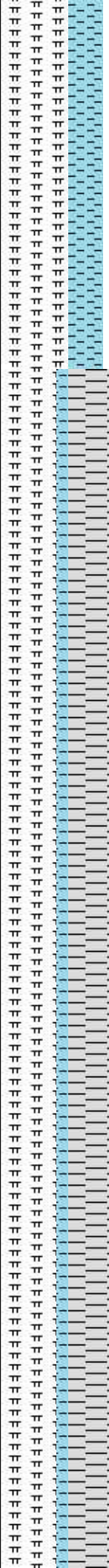
MW IN: 9.9
VIS IN: 59

MD: 15,239'
INC: 92.09°
AZM: 182.18°
TVD: 8,582'
VS: 6,427.25'

Pump Heavy Sweep
Circulate to Clean Hole

ROP (min/ft) 5
GAMMA (API) 250
WOBX (KLB) 100

ROP (min/ft) 5
GAMMA (API) 250
WOBX (KLB) 100



112u

66u

80u

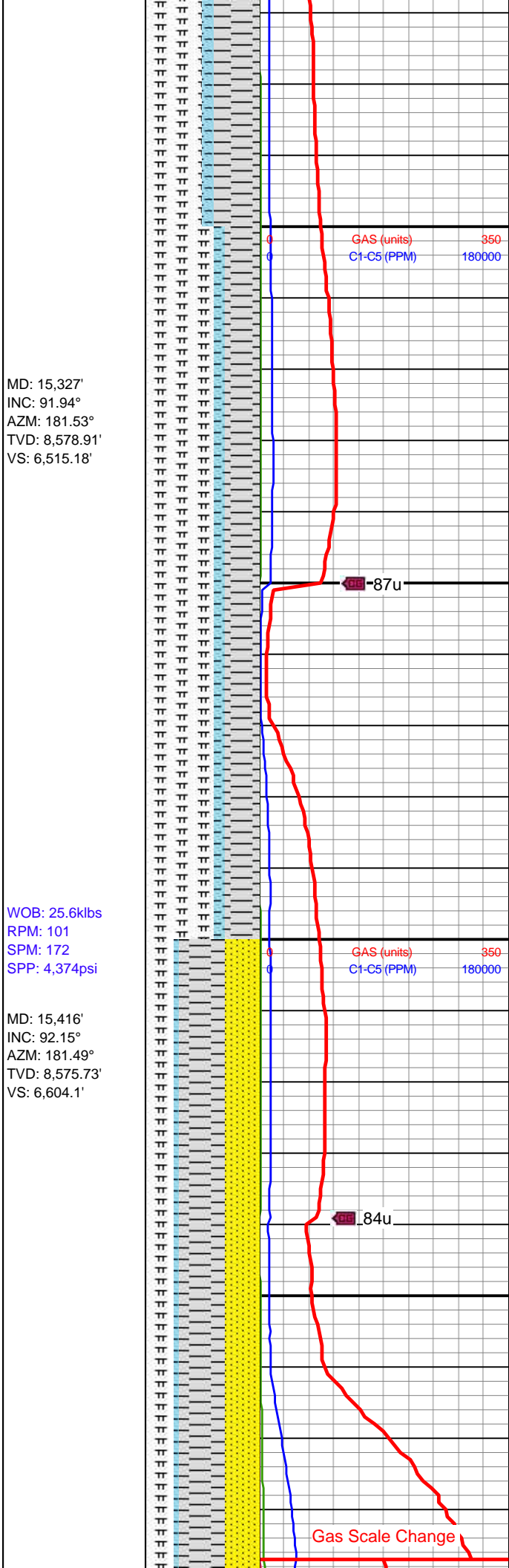
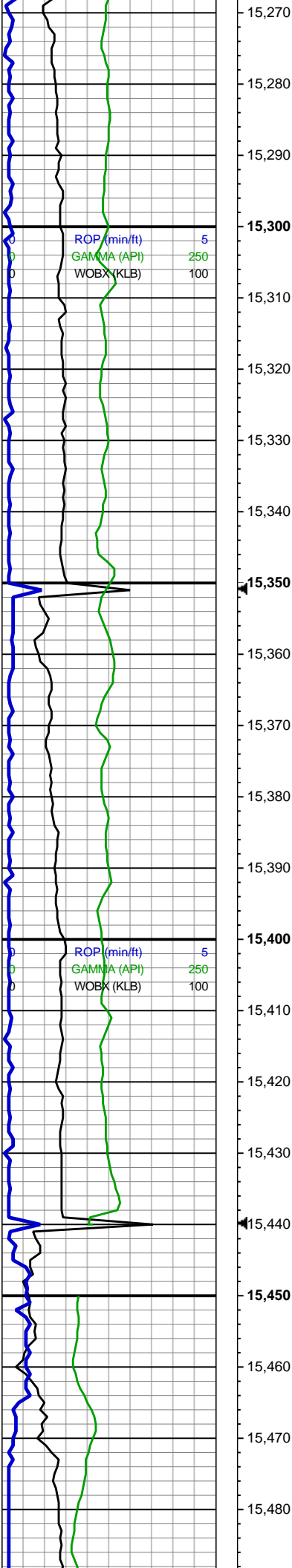
GAS (units) 350
C1-C5 (PPM) 180000

60% MRLST: gry-dk gry,
slty, micxln, calc, chk
intbds, mntr pyr; 30%
CHK: wht-off wht to lt
orng-brn, lam-amor,
sft-med frm, mrlst intbds;
10% SH: med-dk gy, hd-v
hd, brit ip, suc ip, rthy tex,
ang-sb ang, vf gr,
blky-sub blky, mod fis,
silc

50% MRLST: gry-dk gry,
slty, micxln, calc, chk
intbds, mntr pyr; 40% SH:
med-dk gy, hd-v hd, brit
ip, suc ip, rthy tex, ang-sb
ang, vf gr, blky-sub blky,
mod fis, silc; 10% CHK:
wht-off wht to lt orng-brn,
lam-amor, sft-med frm,
mrlst intbds, abnt free
chk

50% MRLST: gry-dk gry,



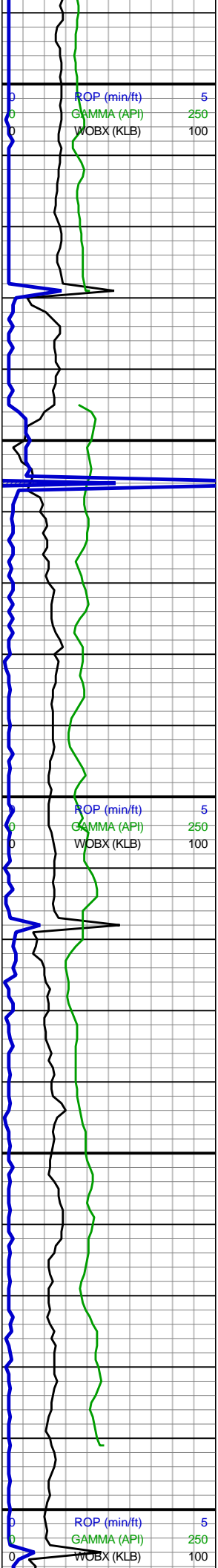


slty, micxln, calc, chk
intbds, mntr pyr; 40% SH:
med-dk gy, hd-v hd, brit
ip, suc ip, rthy tex, ang-sb
ang, vf gr, blkly-sub blkly,
mod fis, silc; 10% CHK:
wht-off wht to lt orng-brn,
lam-amor, sft-med frm,
mrlst intbds, abnt free
chk

60% MRLST: gry-dk gry,
slty, micxln, calc, chk
intbds, mntr pyr; 30% SH:
med-dk gy, hd-v hd, brit
ip, suc ip, rthy tex, ang-sb
ang, vf gr, blkly-sub blkly,
mod fis, silc; 10% CHK:
wht-off wht to lt orng-brn,
lam-amor, sft-med frm,
mrlst intbds, abnt free
chk

40% SH: med-dk gy, hd-v
hd, brit ip, suc ip, rthy tex,
ang-sb ang, vf gr,
blkly-sub blkly, mod fis,
silc; 30% SS: predy gy,
sme brn, vf gr, sb ang-sb
rd grs, sb frm-frm, w srtd,
grn sup silc cmt, med
gy-dk gy gr sup ss clus,
intbd SH lam, mod calc;
25% MRLST: gry-dk gry,
slty, micxln, calc, chk
intbds, mntr pyr; 5% CHK:





15,490
15,500
15,510
15,520
15,530
15,540
15,550
15,560
15,570
15,580
15,590
15,600
15,610
15,620
15,630
15,640
15,650
15,660
15,670
15,680
15,690
15,700

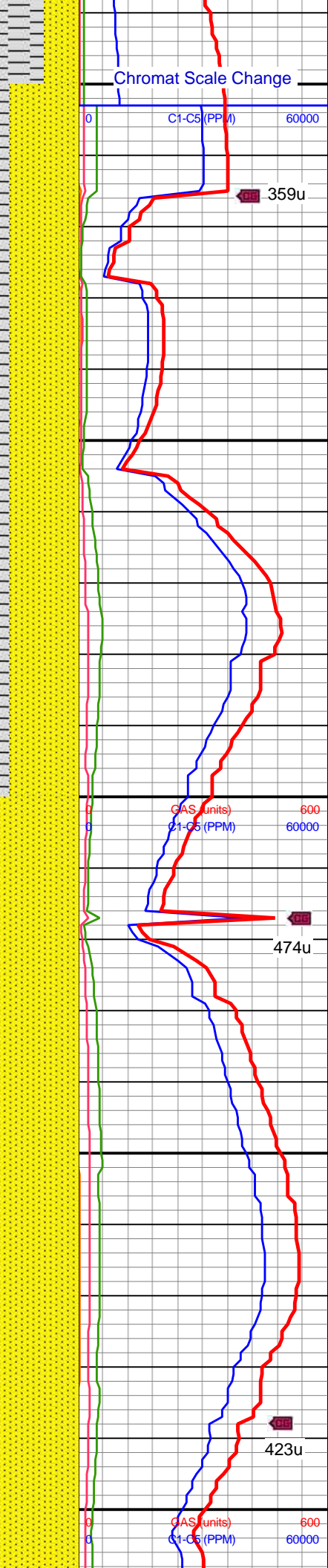
MD: 15,505'
INC: 92.13°
AZM: 179.44°
TVD: 8,572.41'
VS: 6,692.95'

MIN DEPT 11/07/2018

MW IN: 9.9
VIS IN: 58
MD: 15,594'
INC: 92.12°
AZM: 178.39°
TVD: 8,569.11'
VS: 6,781.68'

WOB: 25.2klbs
RPM: 100
SPM: 170
SPP: 4,269psi

MD: 15,682'
INC: 92.12°
AZM: 177.09°
TVD: 8,565.85'
VS: 6,869.27'

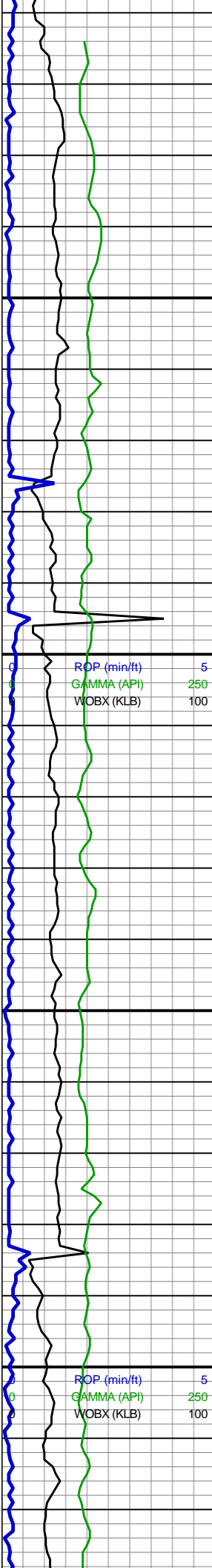


wht-off wht to lt orng-brn,
lam-amor, sft-med frm,
mrlist intbds, abnt free
chk

60% SS: predy gy, sme
brn, vf gr, sb ang-sb rd
grs, sb frm-frm, w srtd,
grn sup silc cmt, med
gy-dk gy gr sup ss clus,
intbd SH lam, mod calc;
30% SH: med-dk gy, hd-v
hd, brit ip, suc ip, rthy tex,
ang-sb ang, vf gr,
blky-sub blky, mod fis,
silc; 10% LS: off wht to lt
gry, dk gry ip, mas, occ
silty-sdy, dolc ip

80% SS: predy gy, sme
brn, vf gr, sb ang-sb rd
grs, sb frm-frm, w srtd,
grn sup silc cmt, med
gy-dk gy gr sup ss clus,
intbd SH lam, mod calc;
15% SH: med-dk gy, hd-v
hd, brit ip, suc ip, rthy tex,
ang-sb ang, vf gr,
blky-sub blky, mod fis,
silc; 5% LS: off wht to lt
gry, dk gry ip, mas, occ
silty-sdy, dolc ip





15,710
15,720
15,730
15,740
15,750
15,760
15,770
15,780
15,790
15,800
15,810
15,820
15,830
15,840
15,850
15,860
15,870
15,880
15,890
15,900
15,910
15,920

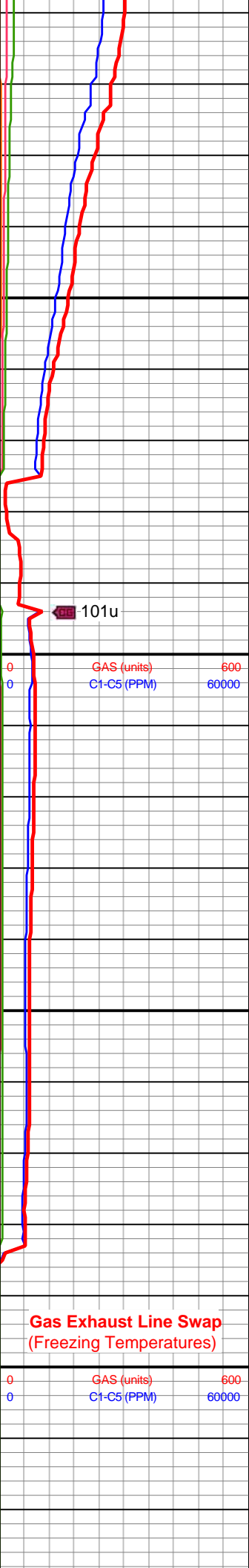
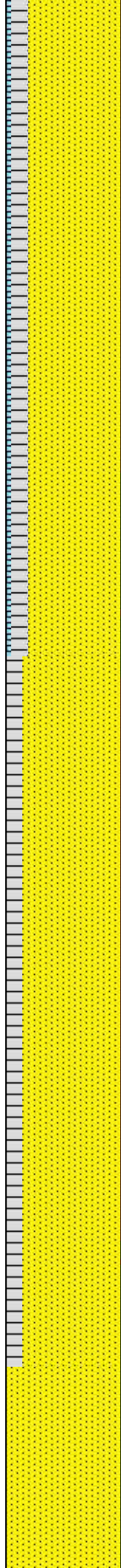
MD: 15,771'
INC: 91.94°
AZM: 174.81°
TVD: 8,562.7'
VS: 6,957.57'

WOB: 23.9klbs
RPM: 100
SPM: 171
SPP: 4,236psi

MW IN: 9.9
VIS IN: 58

MD: 15,860'
INC: 90°
AZM: 174.74°
TVD: 8,561.19'
VS: 7,045.67'

ROP (min/ft) 5
GAMMA (API) 250
WOBX (KLB) 100



101u

Gas Exhaust Line Swap
(Freezing Temperatures)

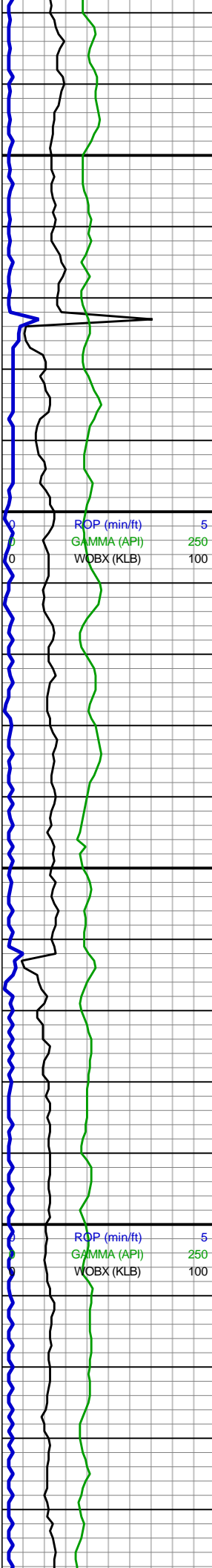
GAS (units) 600
C1-C5 (PPM) 60000

80% SS: predy gy, sme brn, vf gr, sb ang-sb rd grs, sb frm-frm, w srted, grn sup silc cmt, med gy-dk gy gr sup ss clus, intbd SH lam, mod calc; 15% SH: med-dk gy, hd-v hd, brit ip, suc ip, rthy tex, ang-sb ang, vf gr, blk-sb blk, mod fis, silc; 5% LS: offwht-lt gry, dk gry ip, mas, occ slty-sdy, dolc ip



85% SS: gy-brn, vf gr, sb ang-sb rd grs, sb frm-hd, w srted, grn sup silc cmt, med gy-dk gy gr sup ss clus, intbd SH lam, mod calc; 15% SH: med-dk gy, hd-v hd, brit ip, suc ip, rthy tex, ang-sb ang, vf gr, blk-sb blk, mod fis, silc





15,930
15,940
15,950
15,960
15,970
15,980
15,990
16,000
16,010
16,020
16,030
16,040
16,050
16,060
16,070
16,080
16,090
16,100
16,110
16,120
16,130
16,140

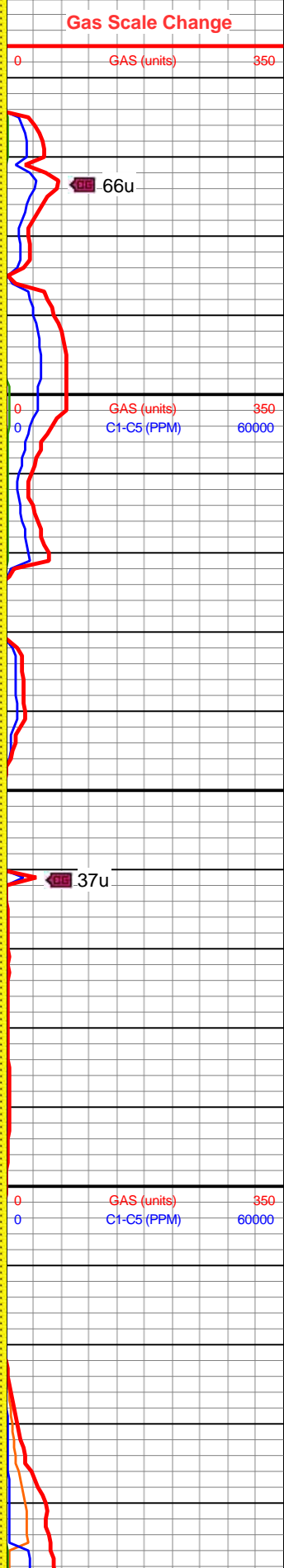
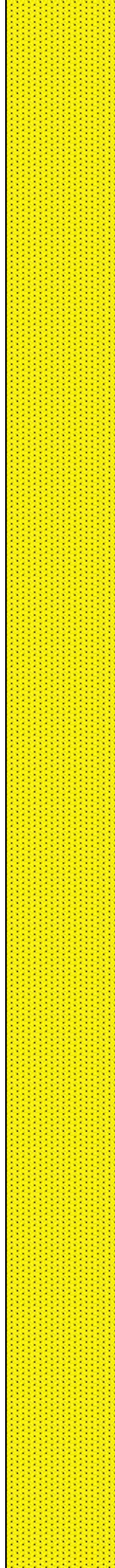
MD: 15,948'
INC: 90.15°
AZM: 175.26°
TVD: 8,561.08'
VS: 7,132.85'

WOB: 25klbs
RPM: 100
SPM: 171
SPP: 4,361psi

MW IN: 9.9
VIS IN: 60

MD: 16,037'
INC: 90.09°
AZM: 174.56°
TVD: 8,560.89'
VS: 0.79'

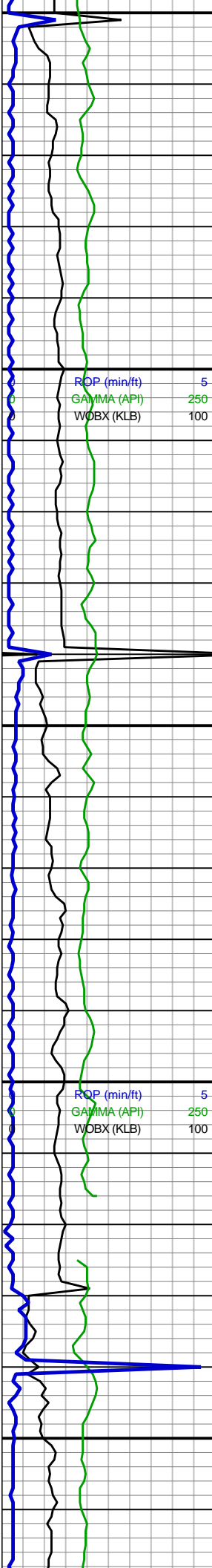
MD: 16,126'
INC: 90.25°
AZM: 175.54°
TVD: 8,560.63'
VS: 1.12'



100% SS: predy gy, sme
brn, vf gr, sb ang-sb rd
grs, sb frm-frm, v w srtd,
grn sup cal cmt, v
uncons, med gy-dk gy gr
sup ss clus, intbd SH
lam, tr free SH

100% SS: predy gy, sme
brn, vf gr, sb ang-sb rd
grs, sb frm-frm, v w srtd,
grn sup silc cmt, med
gy-dk gy gr sup ss clus,
intbd SH lam, mod calc





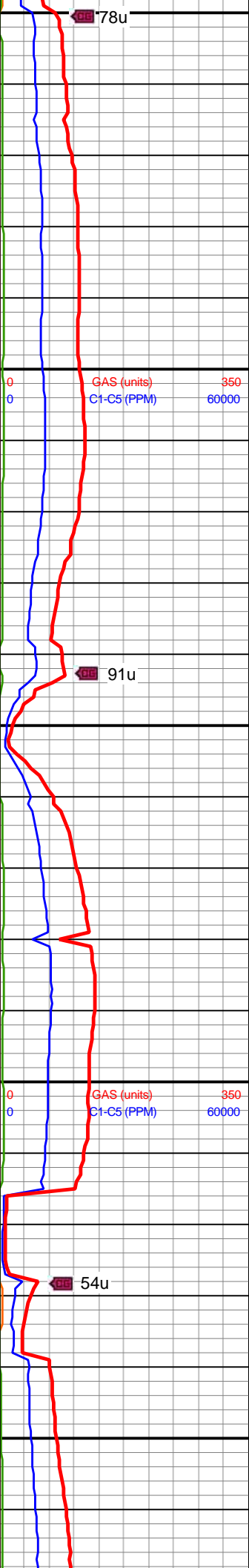
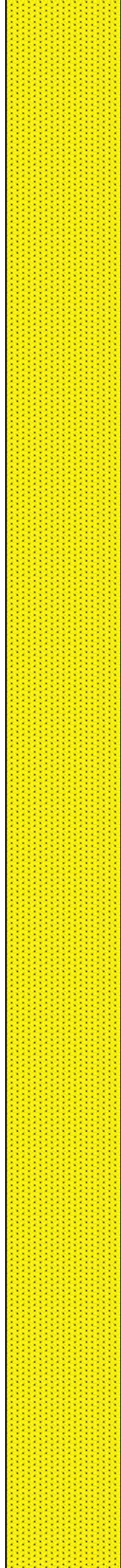
16,150
16,160
16,170
16,180
16,190
16,200
16,210
16,220
16,230
16,240
16,250
16,260
16,270
16,280
16,290
16,300
16,310
16,320
16,330
16,340
16,350
16,360

MW IN: 9.9
VIS IN: 60

WOB: 26klbs
RPM: 101
SPM: 171
SPP: 4,339psi

MD: 16,215'
INC: 90.18°
AZM: 176.98°
TVD: 8,560.29'
VS: 1.62'

MD: 16,304'
INC: 89.94°
AZM: 178.01°
TVD: 8,560.2'
VS: 1.19'



78u

91u

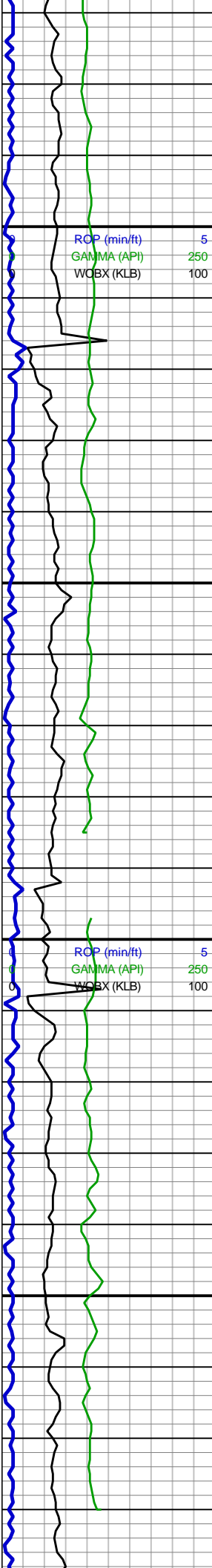
GAS (units) 350
C1-C5 (PPM) 60000

54u

100% SS: gy-lt gy, vf gr, sb rd grs, sb frm-frm, v w srted, grn sup cal cmt, v uncon, med gy-dk gy gr sup ss clus, decrng tr free SH

100% SS: gy-lt gy, vf gr, sb rd grs, sb frm-frm, v w srted, grn sup cal cmt, v uncon, med gy-dk gy gr sup ss clus, tr mic pp pyr





16,370
16,380
16,390
16,400
16,410
16,420
16,430
16,440
16,450
16,460
16,470
16,480
16,490
16,500
16,510
16,520
16,530
16,540
16,550
16,560
16,570
16,580

MD: 16,393'
INC: 89.72°
AZM: 179.53°
TVD: 8,560.46'
VS: 1.73'

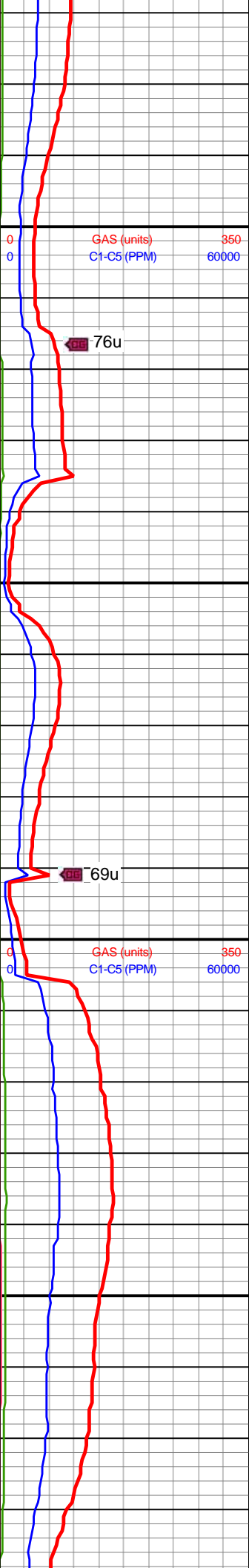
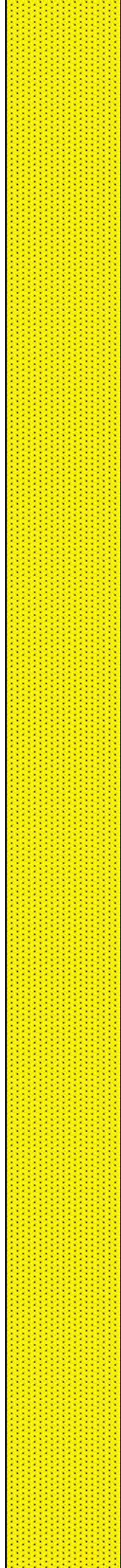
WOB: 28klbs
RPM: 120
SPM: 170
SPP: 4,330psi

MW IN: 9.9
VIS IN: 57

MD: 16,482'
INC: 89.66°
AZM: 180.66°
TVD: 8,560.94'
VS: 1.27'

MW IN: 9.95
VIS IN: 57

MD: 16,571'
INC: 89.11°
AZM: 181.5°
TVD: 8,561.9'
VS: 1.13'



76u

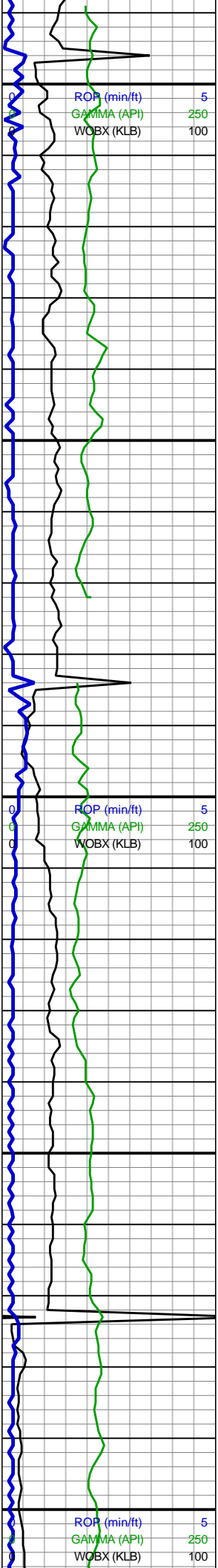
69u

100% SS: predy lt gy,
med gy, f-vf gr, sb rd grs,
sb frm-frm, w srted, grn
sup cal cmt,
uncons-smewh cons,
med gy-dk gy gr sup ss
clus, tr mic pp pyr

100% SS: lt-med gy, brn
ip, f-vf gr, sb rd grs, sb
frm-frm, w srted, grn sup
cal cmt, uncons-smewh
cons, med gy-dk gy gr
sup ss clus, tr mic pp pyr,
tr SH frags

100% SS: predy lt gy,
med gy, f-vf gr, sb rd grs,
sb frm-frm, w srted, grn
sup cal cmt





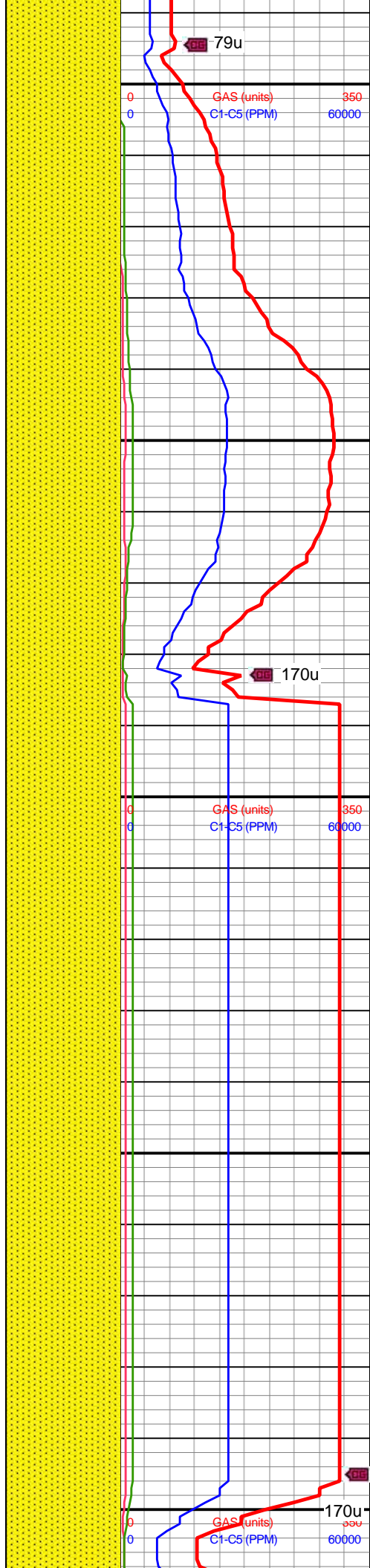
16,590
16,600
16,610
16,620
16,630
16,640
16,650
16,660
16,670
16,680
16,690
16,700
16,710
16,720
16,730
16,740
16,750
16,760
16,770
16,780
16,790
16,800

WOB: 18klbs
RPM: 118
SPM: 170
SPP: 4,130psi

MD: 16,659'
INC: 88.92°
AZM: 182.34°
TVD: 8,563.41'
VS: 0.98'

MD: 16,748'
INC: 89.26°
AZM: 183.41°
TVD: 8,564.83'
VS: 1.26'

WOB: 11klbs
RPM: 120
SPM: 169
SPP: 4,236psi

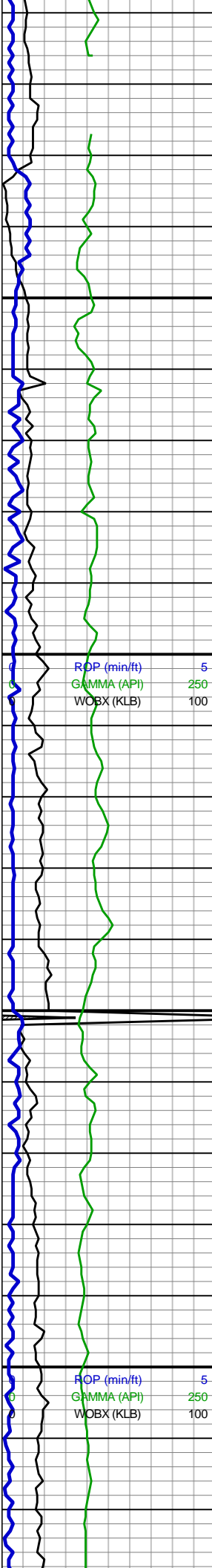


sup cal cmt,
uncons-smewh cons,
med gy-dk gy gr sup ss
clus

100% SS: predy lt gy,
med gy, f-vf gr, sb rd grs,
sb frm-frm, w srted,
uncons-smewh cons,
med gy-dk gy gr sup ss
clus, grn sup cal cmt

100% SS: lt gy-med gy,
med gy, f-vf gr, sb rd grs,
sb frm-frm, w srted,
uncons-smewh cons,
med gy-dk gy gr sup ss
clus, grn sup cal cmt





16,810
16,820
16,830
16,840
16,850
16,860
16,870
16,880
16,890
16,900
16,910
16,920
16,930
16,940
16,950
16,960
16,970
16,980
16,990
17,000
17,010
17,020

MD: 16,836'
INC: 89.63°
AZM: 180.71°
TVD: 8,565.68'
VS: 3.1'

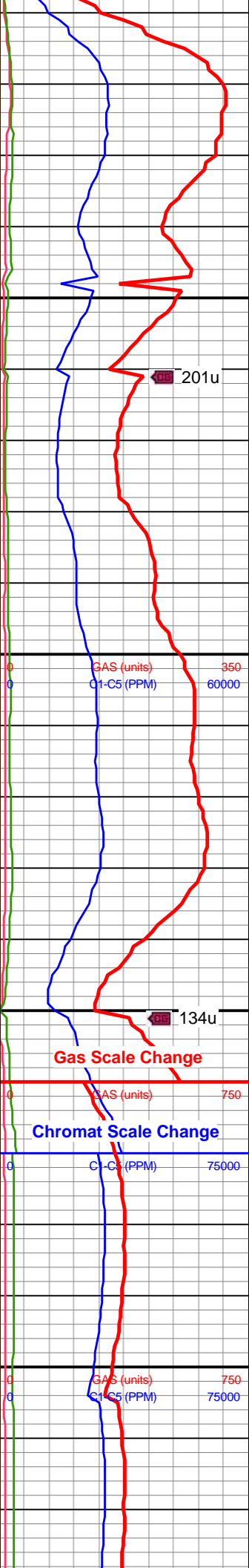
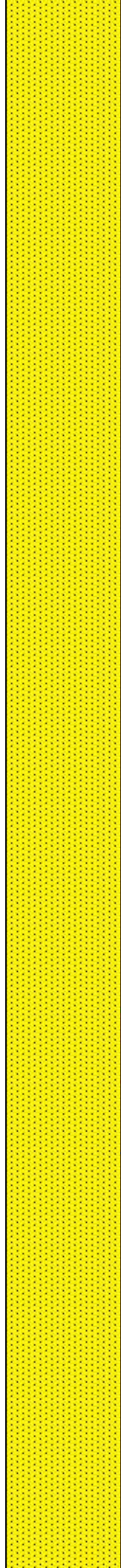
MW IN: 9.95
VIS IN: 55

MW IN: 9.9
VIS IN: 55

MD: 16,925'
INC: 89.2°
AZM: 179.49°
TVD: 8,566.59'
VS: 1.45'

WOB: 18klbs
RPM: 120
SPM: 169
SPP: 4,323psi

MD: 17,014'
INC: 88.98°
AZM: 179.27°
TVD: 8,568'
VS: 0.35'

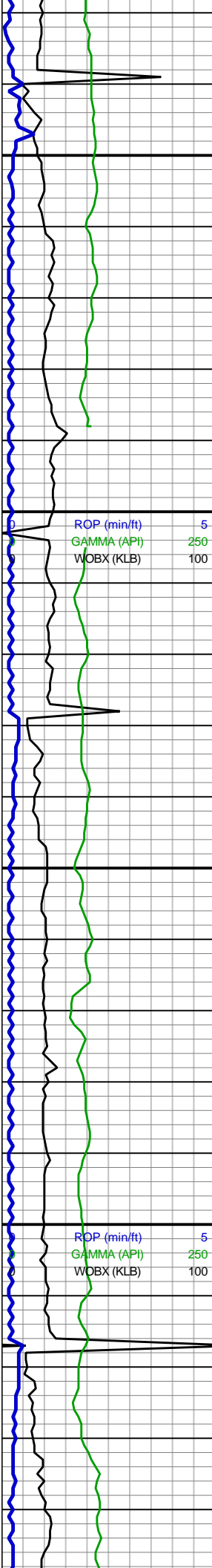


100% SS: lt gy-med gy,
occ dk gy, f-vf gr, sb rd
grs, sb frm-frm, w srtd,
uncons-smewh cons,
med gy-dk gy gr sup ss
clus, grn sup cal cmt



100% SS: lt gy-med gy,
f-vf gr, sb rd-sb ang grs,
sb frm-frm, w srtd,
uncons-smewh cons,
med gy-dk gy gr sup ss
clus, grn sup cal cmt





17,030
17,040
17,050
17,060
17,070
17,080
17,090
17,100
17,110
17,120
17,130
17,140
17,150
17,160
17,170
17,180
17,190
17,200
17,210
17,220
17,230
17,240

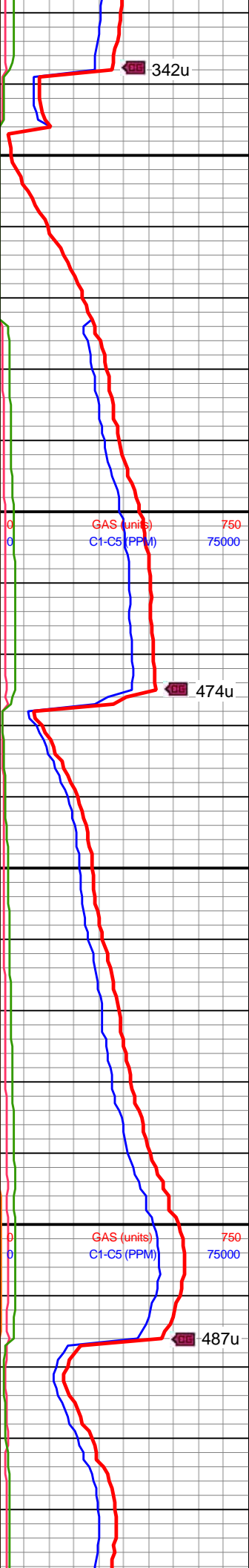
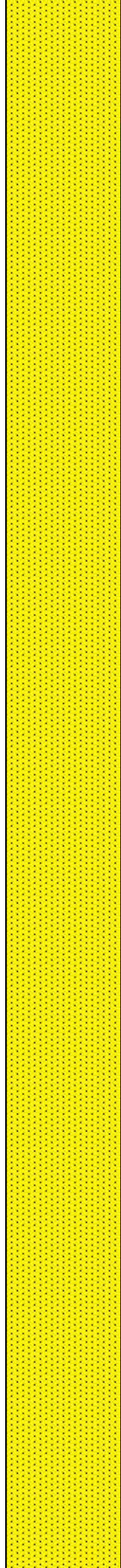
MW IN: 9.9
VIS IN: 54

MD: 17,103'
INC: 89.75°
AZM: 180.22°
TVD: 247.33'
VS: 1.37'

MW IN: 9.9
VIS IN: 55

MD: 17,192'
INC: 89.72°
AZM: 180.67°
TVD: 250.03'
VS: 0.51'

WOB: 19klbs
RPM: 116
SPM: 169
SPP: 4,368psi



342u

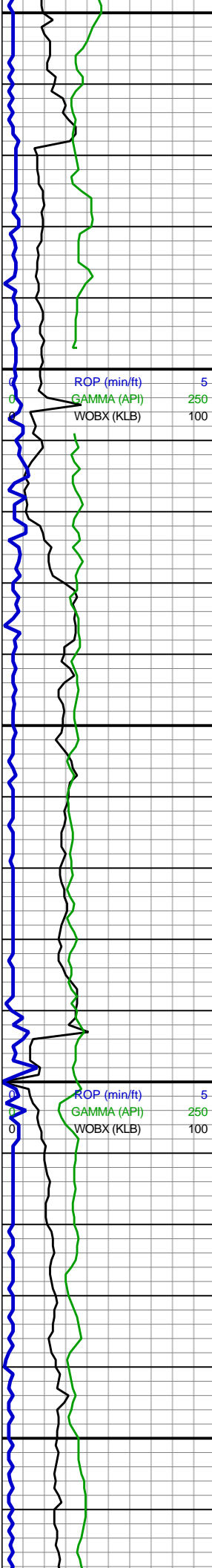
474u

487u

100% SS: lt gy-med gy,
f-vf gr, sb rd-sb ang grs,
sb frm-frm, w srtd,
uncons-smewh cons,
med gy-dk gy gr sup ss
clus, grn sup cal cmt

100% SS: lt gy-med gy,
f-vf gr, sb rd-sb ang grs,
sb frm-frm, w srtd,
uncons-smewh cons,
med gy-dk gy gr sup ss
clus, grn sup cal cmt





17,250
17,260
17,270
17,280
17,290
17,300
17,310
17,320
17,330
17,340
17,350
17,360
17,370
17,380
17,390
17,400
17,410
17,420
17,430
17,440
17,450
17,460

MD: 17,281'
INC: 89.94°
AZM: 182.35°
TVD: 250.03'
VS: 1.9'

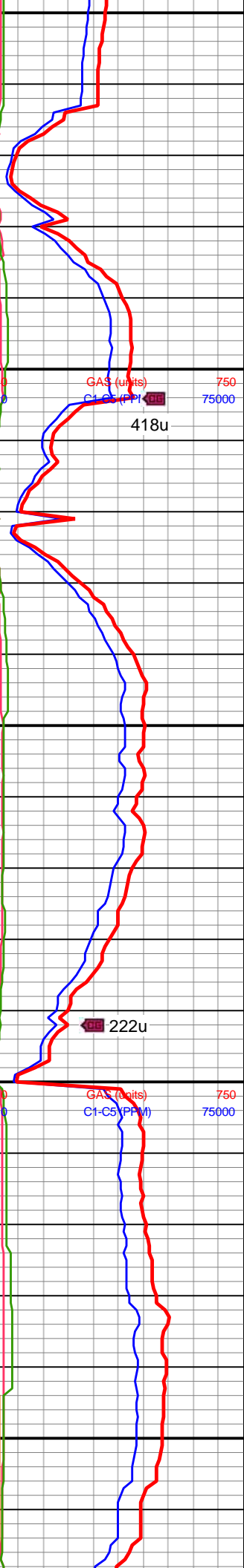
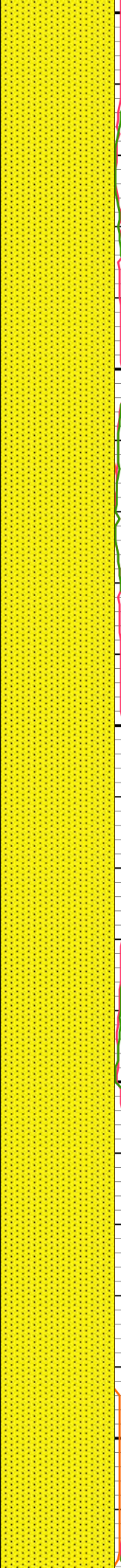
MW IN: 9.9
VIS IN: 56

MD: 17,370'
INC: 89.75°
AZM: 184.05°
TVD: 250.03'
VS: 1.92'

WOB: 12.6klbs
RPM: 109
SPM: 170
SPP: 4,174psi

MW IN: 9.95
VIS IN: 55

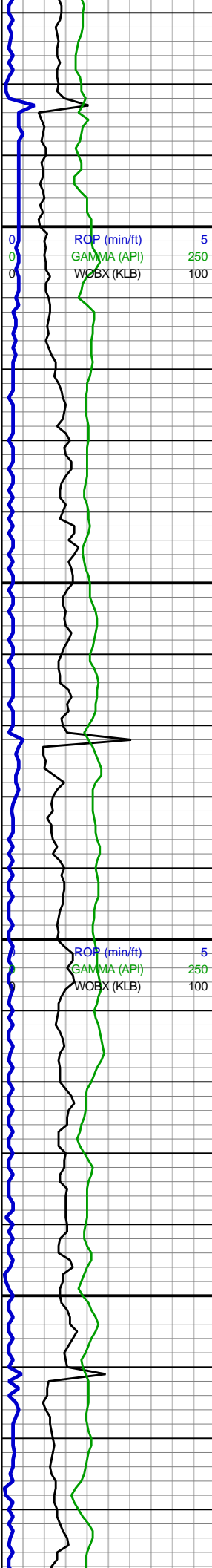
MD: 17,458'
INC: 89.57°
AZM: 183.39°
TVD: 252.73'
VS: 0.78'



100% SS: lt gy-med gy,
f-vf gr, sb rd-sb ang grs,
sb frm-frm, w srtd,
uncons-smewh cons,
med gy-dk gy gr sup ss
clus, grn sup cal cmt

100% SS: lt gy-med gy,
f-vf gr, sb rd-sb ang grs,
sb frm-frm, w srtd,
uncons-smewh cons,
med gy-dk gy gr sup ss
clus, grn sup cal cmt



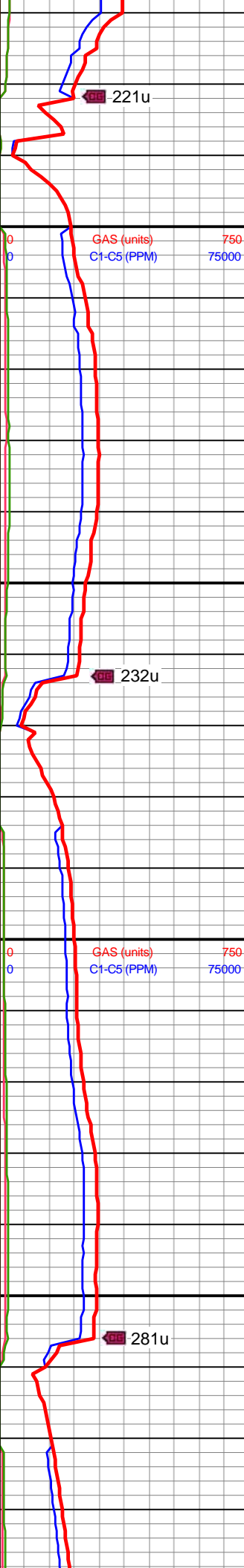
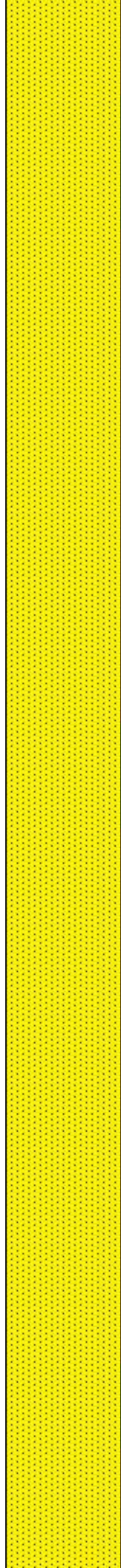


17,470
17,480
17,490
17,500
17,510
17,520
17,530
17,540
17,550
17,560
17,570
17,580
17,590
17,600
17,610
17,620
17,630
17,640
17,650
17,660
17,670
17,680

MW IN: 9.95
VIS IN: 55
MD: 17,547'
INC: 89.57°
AZM: 181.85°
TVD: 252.73'
VS: 1.73'

WOB: 27.3klbs
RPM: 110
SPM: 156
SPP: 4,178psi

MD: 17,636'
INC: 90.28°
AZM: 181.35°
TVD: 252.73'
VS: 0.98'



221u

232u

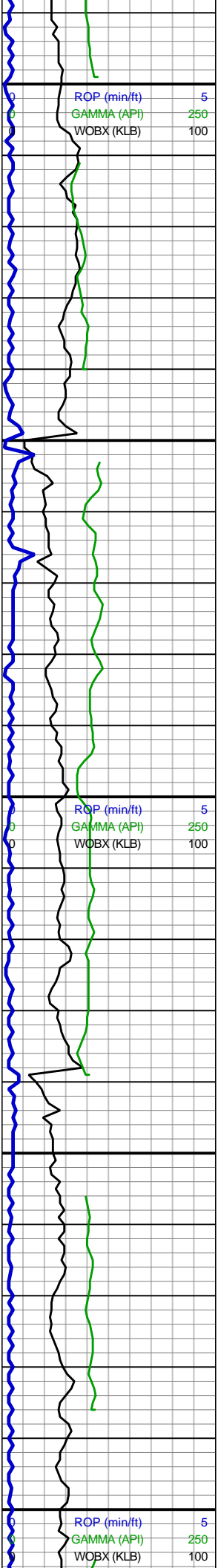
281u

100% SS: lt gy-med gy,
f-vf gr, sb rd-sb ang grs,
sb frm-frm, w srted,
uncons-smewh cons,
med gy-dk gy gr sup ss
clus, grn sup cal cmt

100% SS: lt gy-med gy,
f-vf gr, sb rd-sb ang grs,
sb frm-frm, w srted,
uncons-smewh cons,
med gy-dk gy gr sup ss
clus, grn sup cal cmt

100% SS: lt gy-med gy,
f-vf gr, sb rd-sb ang grs,
sb frm-frm, w srted,
uncons-smewh cons,
med gy-dk gy gr sup ss
clus, grn sup cal cmt





17,690
17,700
17,710
17,720
17,730
17,740
17,750
17,760
17,770
17,780
17,790
17,800
17,810
17,820
17,830
17,840
17,850
17,860
17,870
17,880
17,890
17,900

MW IN: 10
VIS IN: 55

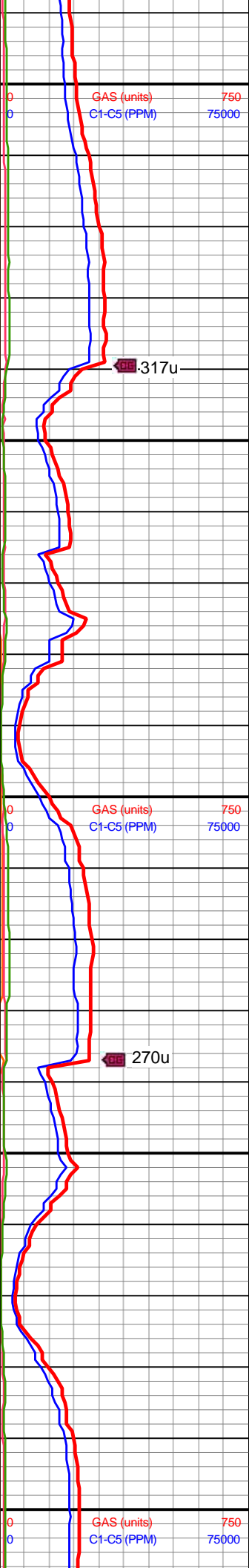
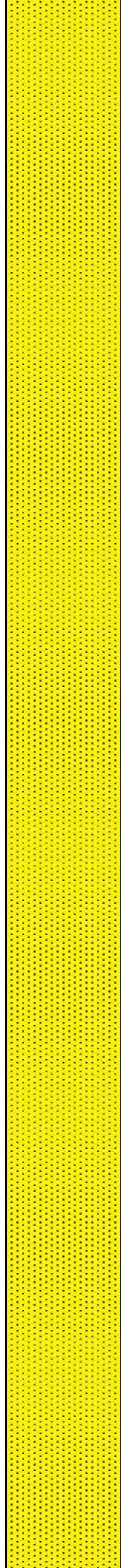
MD: 17,725'
INC: 90.99°
AZM: 182.17°
TVD: 252.73'
VS: 1.22'

MW IN: 10
VIS IN: 56

WOB: 29.8klbs
RPM: 110
SPM: 156
SPP: 4,181psi

MD: 17,814'
INC: 89.94°
AZM: 181.54°
TVD: 252.73'
VS: 1.38'

MD: 17,902'
INC: 89.57°
AZM: 180.83°
TVD: 252.73'

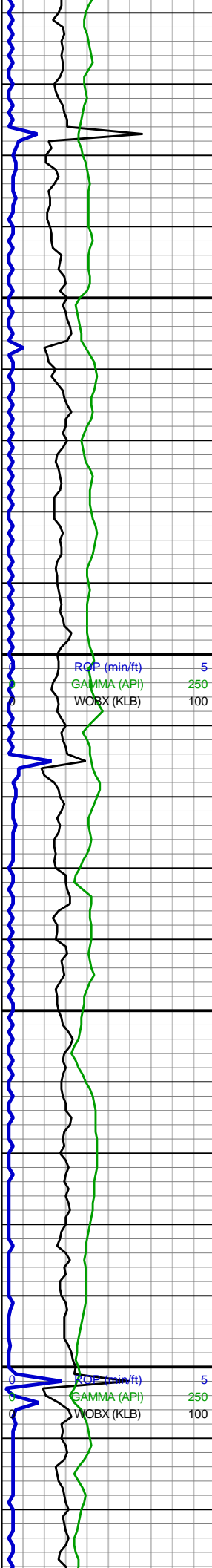


sb frm-frm, w srted,
med gy-dk gy gr sup ss
clus, grn sup cal cmt

100% SS: lt gy-med gy,
f-vf gr, sb rd-sb ang grs,
sb frm-frm, w srted,
uncons-smewh cons,
med gy-dk gy gr sup ss
clus, grn sup cal cmt

100% SS: lt gy-med gy,
f-vf gr, sb rd-sb ang grs,
sb frm-frm, w srted,
uncons-smewh cons,
med gy-dk gy gr sup ss
clus, grn sup cal cmt





17,910
17,920
17,930
17,940
17,950
17,960
17,970
17,980
17,990
18,000
18,010
18,020
18,030
18,040
18,050
18,060
18,070
18,080
18,090
18,100
18,110
18,120

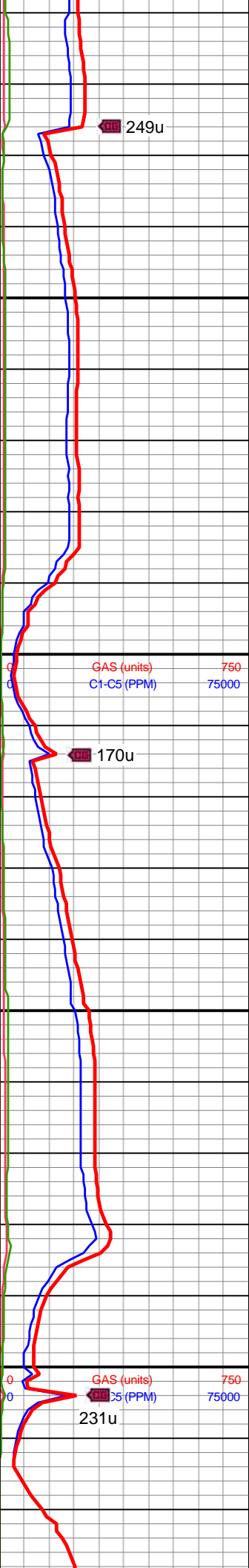
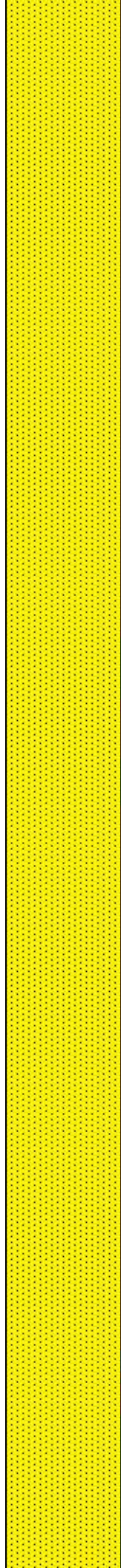
MD: 17,991'
INC: 89.88°
AZM: 180.36°
TVD: 255.44'

WOB: 26.1klbs
RPM: 110
SPM: 155
SPP: 4,143psi

MW IN: 10
VIS IN: 56

MD: 18,080'
INC: 89.72°
AZM: 179.92°
TVD: 255.44'
VS: 0.53'

ROP (min/ft) 5
GAMMA (API) 250
WOBX (KLB) 100



249u

170u

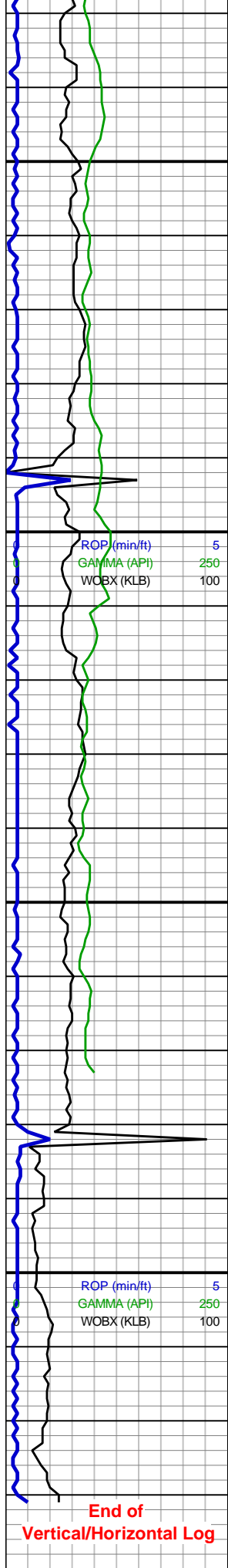
231u

GAS (units) 750
C1-C5 (PPM) 75000

100% SS: lt gy-med gy,
f-vf gr, sb rd-sb ang grs,
sb frm-frm, w srtd,
uncons-smewh cons,
med gy-dk gy gr sup ss
clus, grn sup cal cmt

100% SS: lt gy-med gy,
f-vf gr, sb rd-sb ang grs,
sb frm-frm, w srtd,
uncons-smewh cons,
med gy-dk gy gr sup ss
clus, grn sup cal cmt





18,130
18,140
18,150
18,160
18,170
18,180
18,190
18,200
18,210
18,220
18,230
18,240
18,250
18,260
18,270
18,280
18,290
18,300
18,310
18,320
18,330
18,340

MD: 18,169'
INC: 89.66°
AZM: 180.62°
TVD: 255.44'
VS: 0.79'

MIN DEPT 11/08/2018

WOB: 29.6klbs
RPM: 110
SPM: 156
SPP: 4,216psi

ROP (min/ft) 5
GAMMA (API) 250
WOBX (KLB) 100

MD: 18,258'
INC: 88.83°
AZM: 178.41°
TVD: 255.44'
VS: 2.65'

MW IN: 10.05
VIS IN: 55

MD: 18,308'
INC: 89.78°
AZM: 177.59°
TVD: 250.03'
VS: 2.51'

TD
18,332' MD
8,574.6' TVD
11/08/2018
0130 hrs

**End of
Vertical/Horizontal Log**



100% SS: lt gy-med gy,
f-vf gr, sb rd-sb ang grs,
sb frm-frm, w srtd,
uncons-smewh cons,
med gy-dk gy gr sup ss
clus, grn sup cal cmt

98u

GAS (units) 750
C1-C5 (PPM) 75000

282u

GAS (units) 750
C1-C5 (PPM) 75000

100% SS: lt gy-med gy,
f-vf gr, sb rd-sb ang grs,
sb frm-frm, w srtd,
uncons-smewh cons,
med gy-dk gy gr sup ss
clus, grn sup cal cmt