



Scale: 5" / 100'
Measured Depth Log

Well Name Davis 1M-9H-G266

Location Sec. 9 T2N R66W

State Colorado

County Weld

Country USA

Rig Number Ensign 153

API Number 05123465190000

AFE # 16191031

Geographic Region Rockies

Field Wattenberg

Spud Date 7/18/2018

Drilling Completed 7/22/2018

Surface Coordinates Lat/Long: 40.154368/-104.777946

SHL: Sec: 4 Twp: 2N 66W
Footage: 1987 FSL 1438 FEL

Bottom Hole Coordinates Proposed BHL: Sec: 4 Twp: 2N 66W
Footages: 460 FNL 216 FWL

Ground Elevation 4,917'

K.B. Elevation 4,940'

Logged Interval 6,500' **To** 15,612'

Total Depth 15,612'

Formation Codell

Type of Drilling Fluid Synthetic Oil Based Mud

Operator

Company Crestone Peak Resources

Address 370 17th Street #2170
Denver, CO 80202



CRESTONE PEAK
RESOURCES

Geologist

Zone Color Coding

Geologist

Name John Ready

Company Crestone Peak Resources

Address 370 17th Street #2170
Denver, CO 80202



CRESTONE PEAK
RESOURCES

Zone Color Coding



Oil



Condensate



Gas



Note



Core



Pressure



Error



Water



Seal

Other

Loggers: Heather Davis / Mark Gross / Byron Pitulski

Services Provided: 2-Man Mudlogging / Geosteering

Equipment: ML-526

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

Job #: 1419RK1807

Start Date 7/18/2018

Release Date: 7/23/2018

Rock Types

? UNKNOWN

ANHYDRITE

GYPSUM

SALT

SIDERITE or LIMONITE

LIMESTONE

DOLOMITE

CHERT

COAL

MARLSTONE

CHALK

SHALE

SHALE GRAY

SHALE COLORED

SILTSTONE

SANDSTONE

CONGLOMERATE

BRECCIA

TILL

BENTONITE

TUFF

IGNEOUS

METAMORPHIC

CEMENT

Accessories

Fossils

ALGAE
AMPHIPORA
BELEMNITE
BIOCLASTIC
BRACHIOPOD
BRYOZOA
CEPHALPOD
CORAL
CRINOID
ECHINOID
FISH
FORAMINIFERA

F FOSSIL

GASTROPOD
OOLITE
OSTRACOD
PELECYPOD
PELLET
PISOLITE
PLANT REMAINS
PLANT SPORES
SCAPHOPOD
STROMATOPOROID

Minerals

ANHYDRITIC

ARGILLACEOUS

ARGILLITE GRAIN
BENTONITE
BITUMENOUS SUBSTANCE
BRECCIA FRAGMENTS
CALCAREOUS
CARBONACEOUS FLAKES
CHTDK
CHTLT
COAL - THIN BEDS
DOLOMITIC
FELDSPAR
FERRUGINOUS PELLET
FERRUGINOUS

GLAUCONITE

GYPSIFEROUS
HEAVY MINERAL
KAOLIN
MARLSTONE
MINERAL CRYSTALS
NODULES
PHOSPHATE PELLETS
PYRITE
SALT CAST
SANDY
SILICEOUS
SILTY
TUFFACEOUS

Stringer

ANHYDRITE STRINGER
BENTONITE STRINGER
COAL STRINGER
DOLOMITE STRINGER
GYPSUM STRINGER
LIMESTONE STRINGER
MARLSTONE (CALC) STRG
MARLSTONE (DOL) STRG
SANDSTONE STRINGER
SHALE STRINGER
SILTSTONE STRINGER

Other Symbols

Oil Show

- DEAD
- EVEN
- QUESTIONABLE
- SPOTTED STAINING

Porosity

- E EARTHY
- F FENESTRAL
- F FRACTURE
- X INTERCRYSTALLINE
- Q INTEROOLITIC
- MOLDIC

- ORGANIC
- PINPOINT
- VUGGY

Engineering

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

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

Rounding

- ANGULAR
- ROUNDED
- SUBANG
- SUBRND

Textures

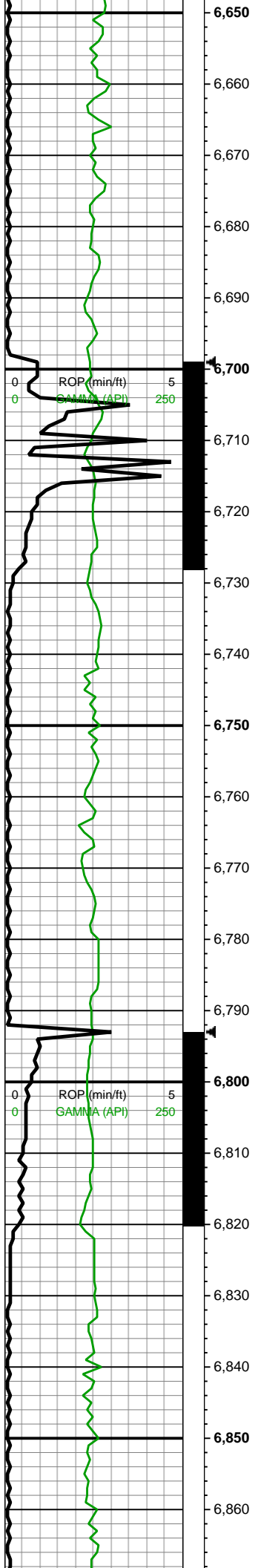
- BOUNDSTONE
- CHALKY
- CRYPTOXLN
- E EARTHY
- F FINELYXLN
- GRAINSTONE

- L LITHOGRAPHIC
- MX MICROXLN
- MS MUDSTONE
- PS PACKSTONE
- WS WACKESTONE

Sorting

- M MODERATE
- P POOR
- W WELL

	Slide/Rotate	Depth Labels	Notes	% Lith	Total Gas GAS C1 C2 C3 C4 C5	Lithology Descriptions	Images
Crestone Peak Resources							
Davis 1M-9H-G266		6,460	Bit #: 2				
9 5/8" Surface Casing @ 2,265'		6,470	Type: PDC				
			Size: 8 1/2				
Spud Date:		6,480	Depth In: 2,280'				
07/18/2018			Depth Out:				
2 man Logging Began: 07/18/2018		6,490	15,612'				
			Hours: 58 hrs				
All Depths Correspond to Driller's Pipe Tally		6,500	Avg Ft/Hr: 230 '/hr				
			Jets: 6x13				
			S/N: 41669				
		6,510					
		6,520					
		6,530	MW IN: 9.9+				
			VIS IN: 54				
		6,540	MW OUT: 10.0				
			VIS OUT: 53				
		6,550	MD: 6,544'				
			INC: 26.06°				
		6,560	AZM: 250.32°				
			TVD: 5,831.53'				
		6,570	VS: 597.55'				
		6,580					
		6,590					
		6,600	WOB: 34.9klbs				
			RPM: 60				
		6,610	SPM: 200				
			SPP: 4,675psi				
		6,620					
		6,630					
		6,640	MD: 6,638'				
			INC: 31.07°				
			AZM: 250.41°				
			TVD: 5,914.06'				
			VS: 604.16'				



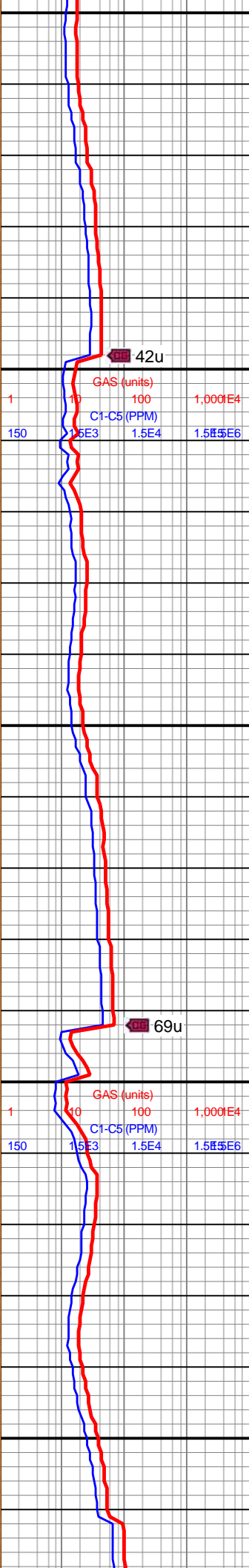
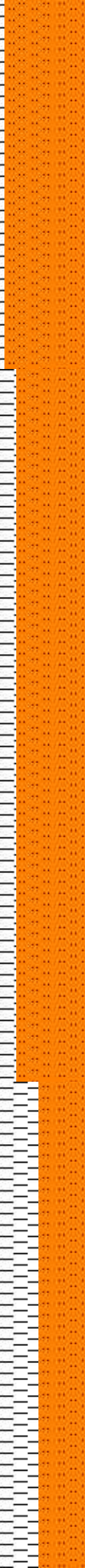
MW IN: 9.9
VIS IN: 54
MW OUT: 9.9
VIS OUT: 52

MD: 6,733'
INC: 30.72°
AZM: 249.18°
TVD: 5,995.58'
VS: 610.86'

MW IN: 9.9
VIS IN: 55
MW OUT: 9.8
VIS OUT: 50

WOB: 17.9klbs
RPM: 0
SPM: 192
SPP: 4,011psi

MD: 6,827'
INC: 30.67°
AZM: 252.34°
TVD: 6,076.42'
VS: 618.24'

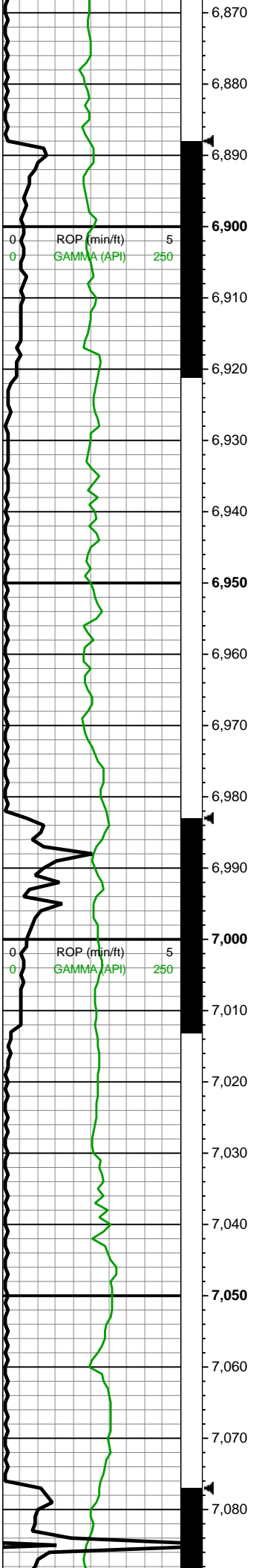


6600-6700 SLTST (70%):
dk gy-med gy, tab-blky,
frm-sl hrd, rgh-sltly tex, v
wk calc; SLTY SH (30%):
gyshbn-med gy, mot lt gy,
frm-v frm, sb blky-tab,
slty-sl sm tex, micmica



6700-6800 SLTST (60%):
dk gy-med gy, tab-blky,
frm-sl hrd, rgh-sltly tex, v
wk calc; SLTY SH (40%):
gyshbn-med gy, mot lt gy,
frm-v frm, sb blky-tab,
slty-sl sm tex, micmica





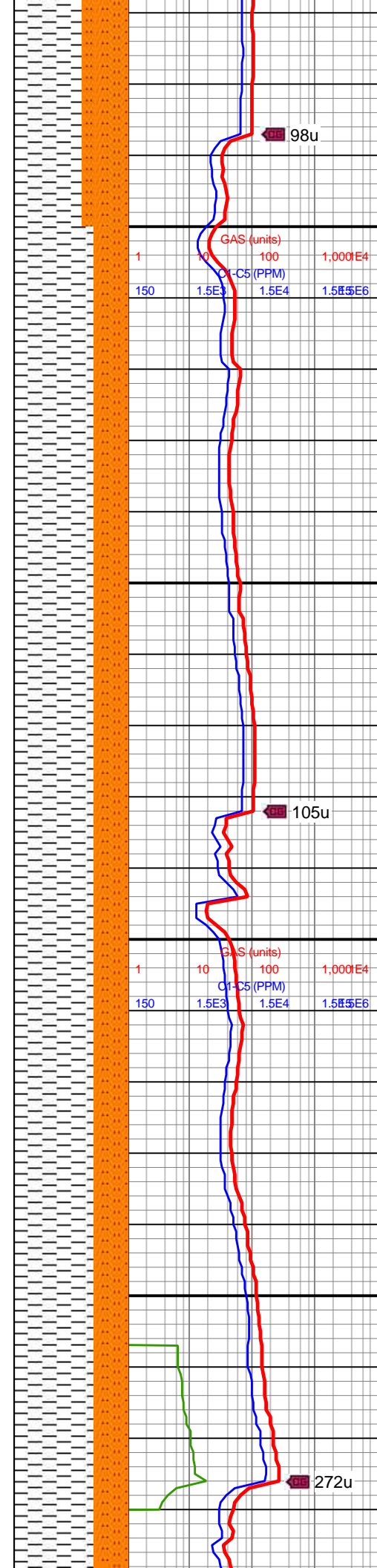
MD: 6,922'
INC: 31.95°
AZM: 249.62°
TVD: 6,157.59'
VS: 625.99'

WOB: 19.7klbs
RPM: 0
SPM: 192
SPP: 3,983psi

MD: 7,017'
INC: 33.14°
AZM: 250.85°
TVD: 6,237.67'
VS: 633.4'

MW IN: 9.8
VIS IN: 54
MW OUT: 9.8
VIS OUT: 47

MW IN: 9.9
VIS IN: 52
MW OUT: 9.8
VIS OUT: 51

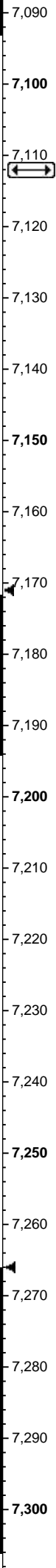
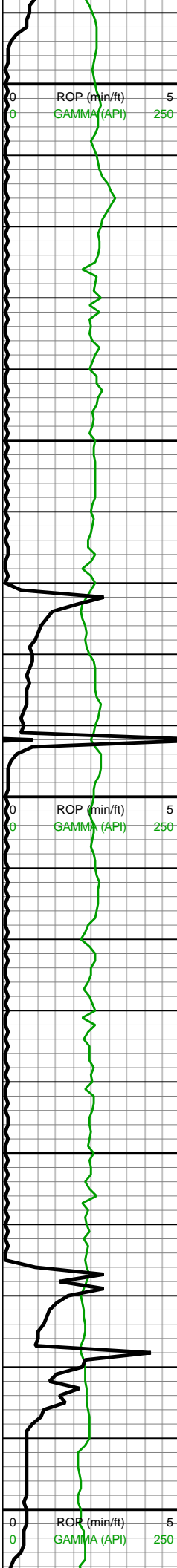


6800-6900 SLTY SH
(60%): gyshbn-med gy,
mot lt gy, frm-v frm, sb
blky-tab, slty-sl sm tex,
micmica, tr py nod;
SLTST (40%): dk gy-med
gy, tab-blky, frm-sl hrd,
rgh-slty tex, v wk calc

6900-7000 SLTY SH
(70%): gyshbn-med gy,
mot lt gy, frm-v frm, sb
blky-tab, slty-sl sm tex,
micmica, tr py nod;
SLTST (30%): dk gy-med
gy, tab-blky, frm-sl hrd,
rgh-slty tex, v wk calc

7000-7100 SLTY SH
(70%): predy med gy,
sme dk gy, frm-v frm, sb
blky-tab, slty-sl sm tex,
micmica, tr py nod





Tepee Buttes
7111'MD/6317'TVD

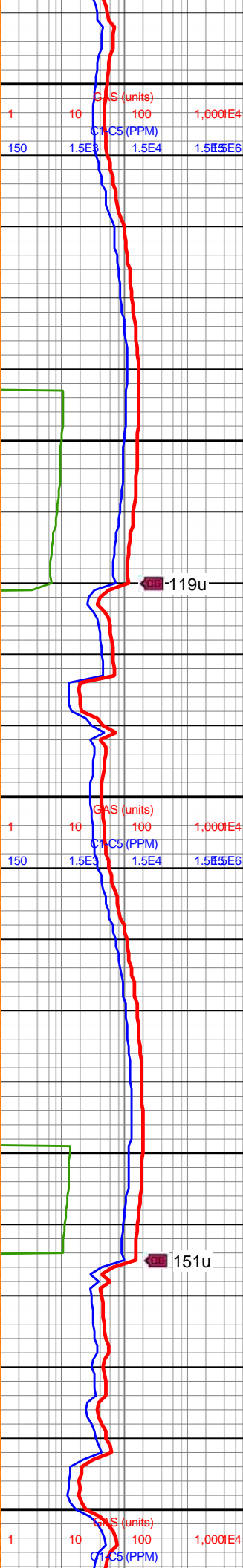
MD: 7,111'
INC: 31.42°
AZM: 253.4°
TVD: 6,317.14'
VS: 642.28'

WOB: 29.1klbs
RPM: 0
SPM: 194
SPP: 3,978psi

MD: 7,205'
INC: 30.63°
AZM: 252.08°
TVD: 6,397.69'
VS: 651.39'

MW IN: 9.8
VIS IN: 52
MW OUT: 9.8
VIS OUT: 47

MD: 7,299'
INC: 30.67°
AZM: 249.44°
TVD: 6,478.56'
VS: 658.76'



OB 119u

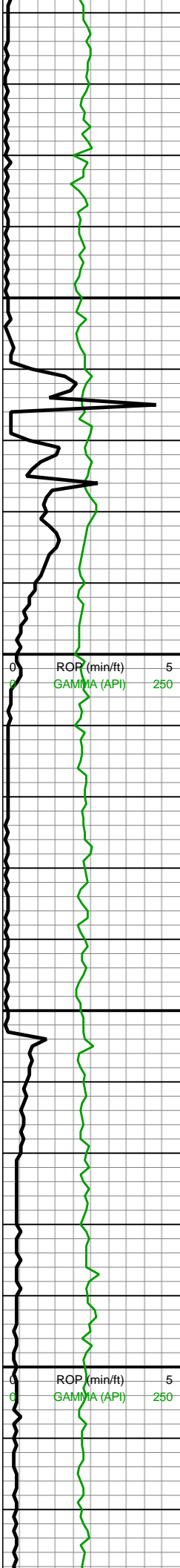
OB 151u

micmica, tr py nod;
SLTST (30%): med gy, tr
lt gy, tab-blky, frm-sl hrd,
rgh-slty tex, v wk calc

7100-7200 SLTY SH
(80%): predy med gy,
sme dk gy, frm-v frm, sb
blky-tab, slty-sl sm tex,
micmica, tr py nod;
SLTST (20%): med gy, tr
lt gy, tab-blky, frm-sl hrd,
rgh-slty tex, v wk calc

7200-7300 SLTY SH
(70%): dk gy-med gy,
gyshbn-lt gy, frm-sl frm,
sb plty-sb blky, slty-sm
tex, vf lam, occ calc
intbds; SLTST (30%): dk
gy-med gy, sft-sl frm,
blky, rgh-slty tex, non calc





MW IN: 9.8
VIS IN: 53
MW OUT: 9.9
VIS OUT: 47

MD: 7,394'
INC: 31.86°
AZM: 252.34°
TVD: 6,559.77'
VS: 666.47'

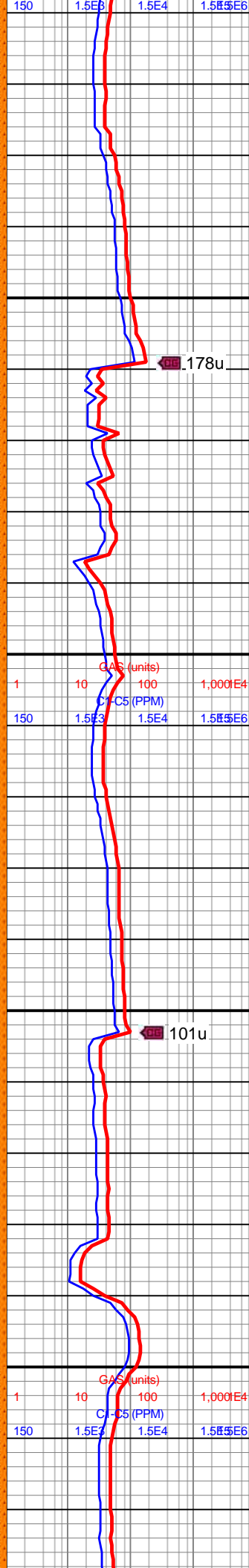
WOB: 29.2klbs
RPM: 0
SPM: 192
SPP: 4,177psi

MW IN: 9.8+
VIS IN: 50
MW OUT: 9.8
VIS OUT: 47

KOP
7454' MD

MW IN: 9.9
VIS IN: 50
MW OUT: 9.9
VIS OUT: 48

MD: 7,488'
INC: 31.69°
AZM: 260.78°
TVD: 6,639.72'
VS: 678.95'



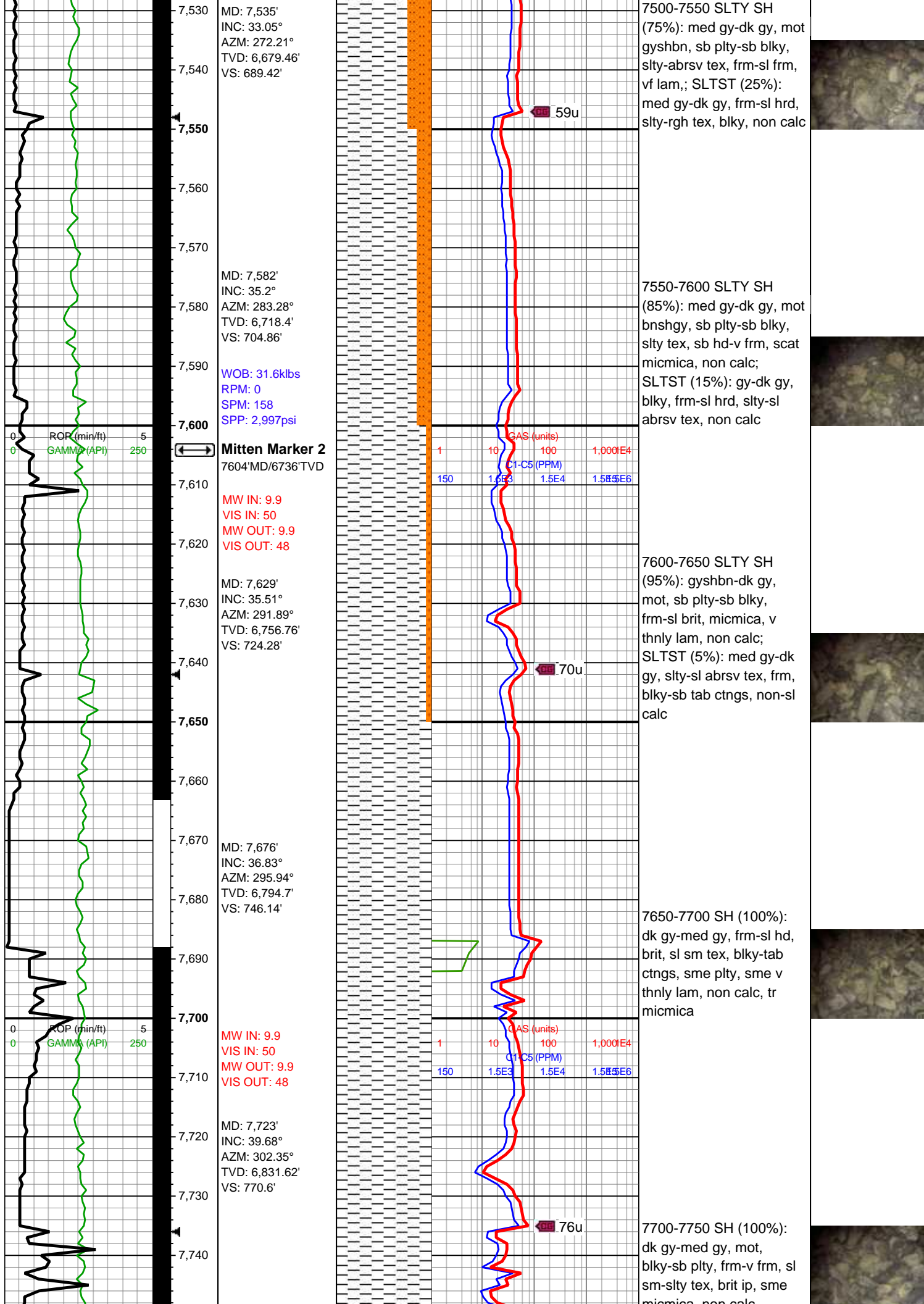
178u

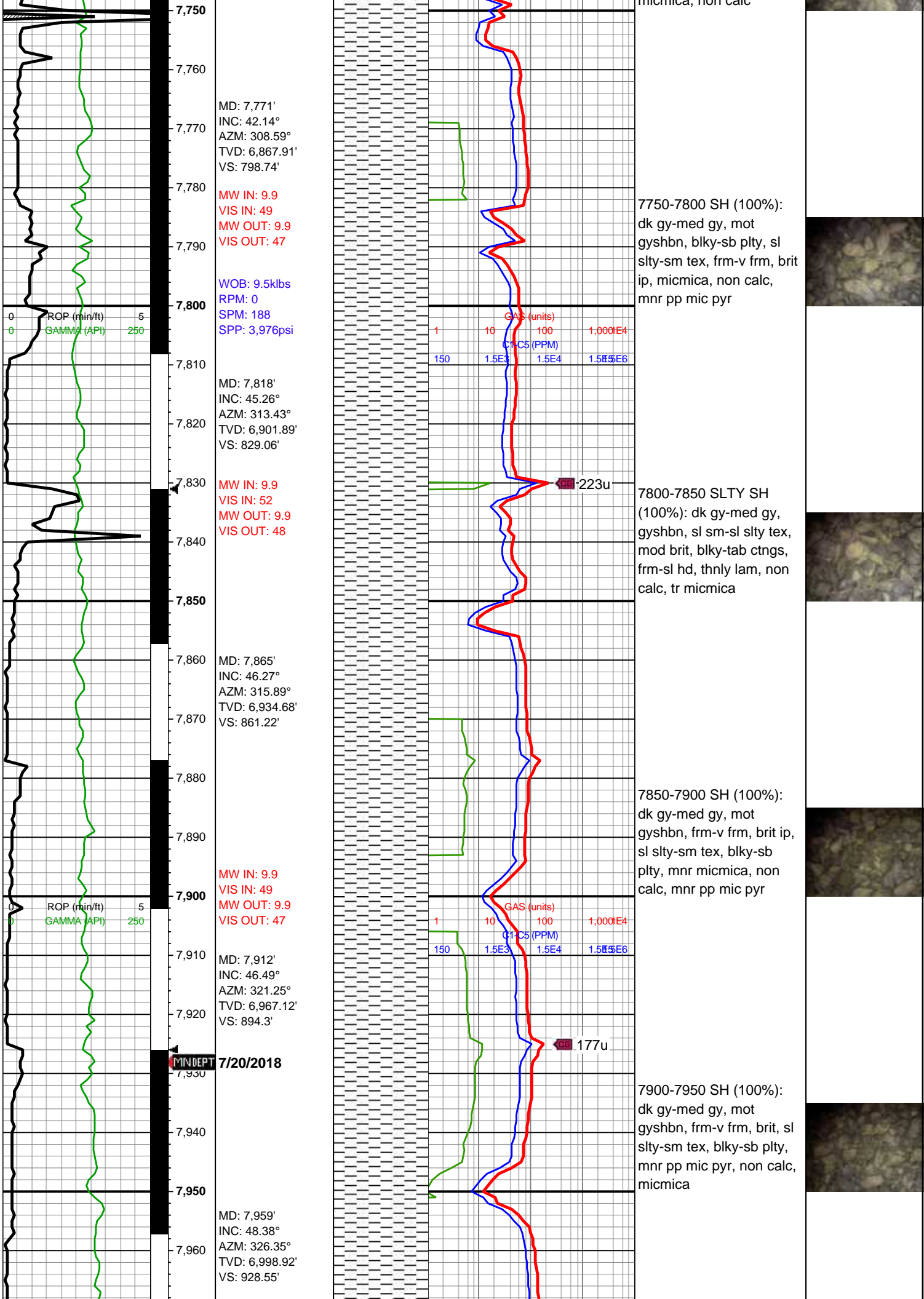
101u

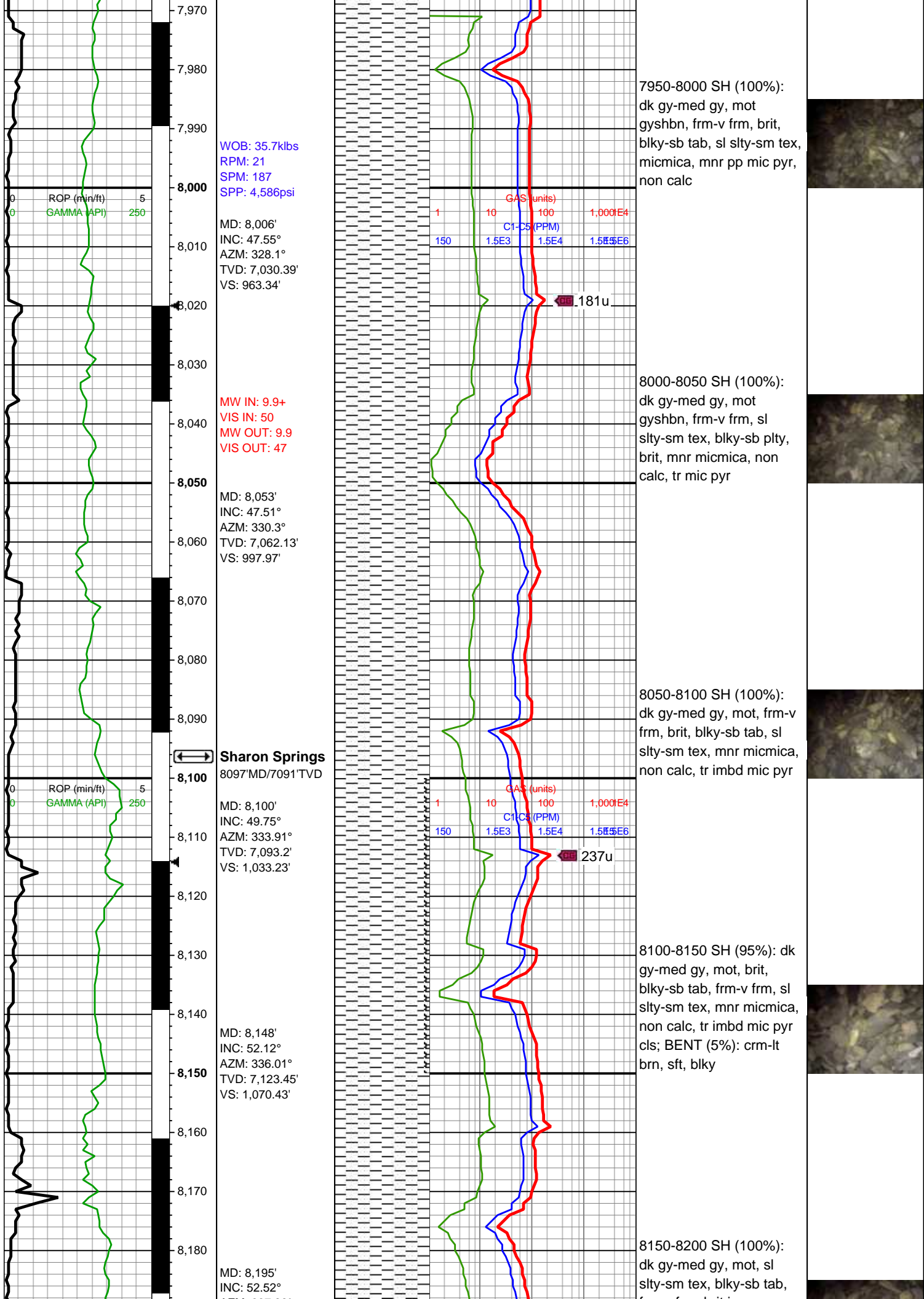
7200-7300 SLTY SH
(75%): dk gy-med gy,
gyshbn-lt gy, frm-sl frm,
sb plty-sb blk, slty-sm
tex, vf lam, occ calc
intbds; SLTST (25%): dk
gy-med gy, sft-sl frm,
blk, rgh-slty tex, non calc

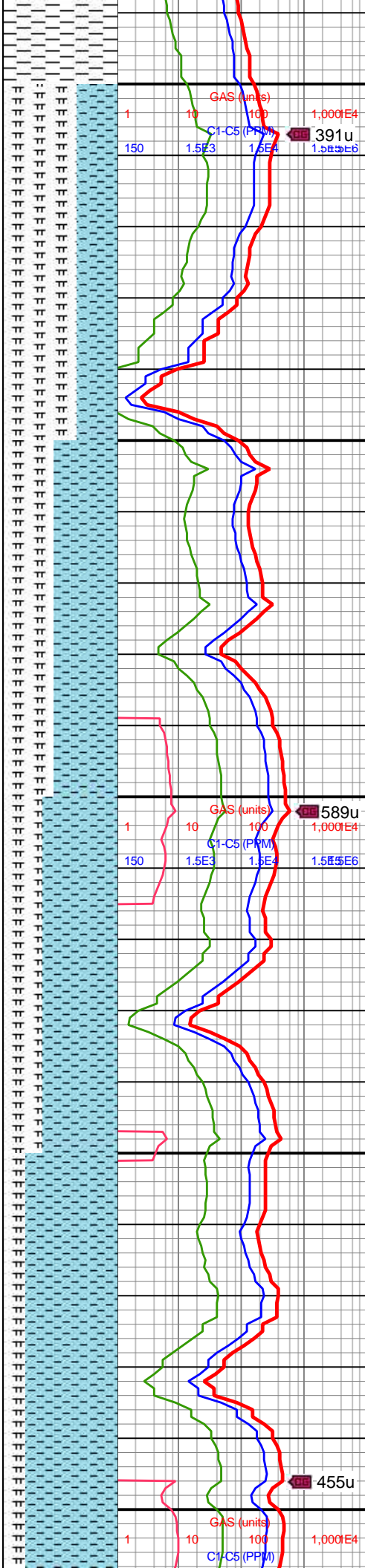
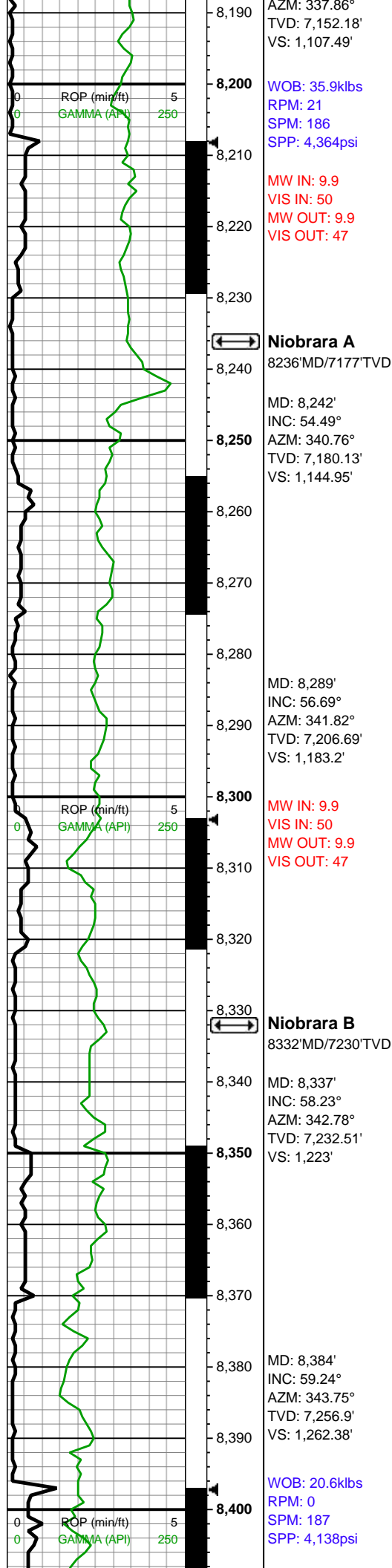
7400-7500 SLTY SH
(65%): predy med gy, dk
gy, slty-sl sm tex, frm-v
frm, sb blk-tab, tr mic
pyr, micmica, non-sl calc;
SLTST (35%): med gy-dk
gy, tab-blky, rgh-slty tex,
frm-sl hrd, v wk calc











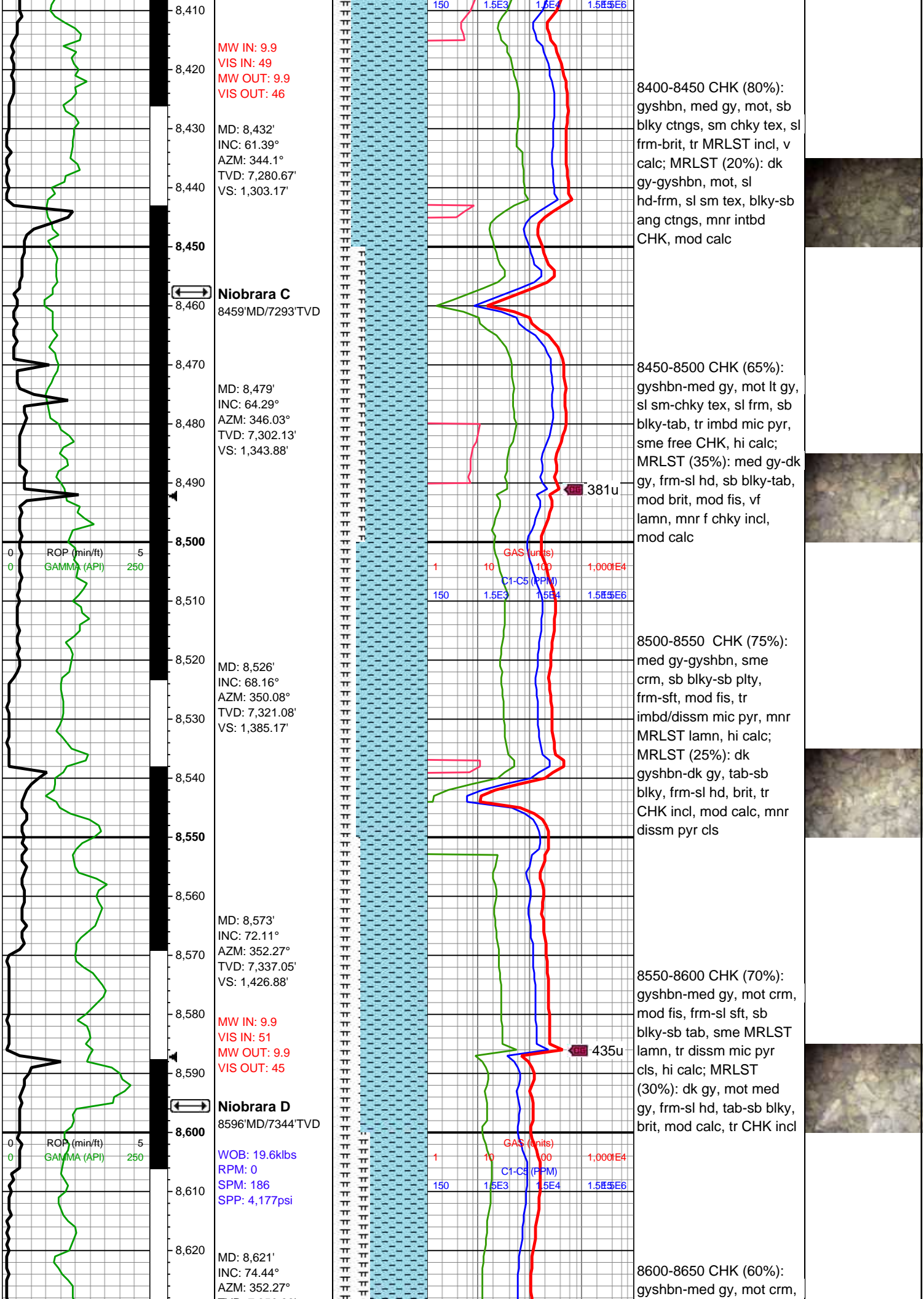
frm-v frm, brit ip, mnr
micmica, mnr diss mic
pyr cls, non calc, tr BENT
frags

8200-8250 MRLST
(65%): dk gy-gyshbn,
mot, sb blkyl-sb ang
ctngs, sl hd-frm, mod
calc, tr intbd CHK; CHK
(35%): predy gyshbn,
mot, sm chky tex, sb blkyl
ctngs, sl frm-brit, tr
MRLST incl, v calc

8250-8300 CHK (55%):
gyshbn-med gy, mot, sl
sm-chky tex, sl frm, sb
blkyl-tab ctngs, sme free
CHK, hi calc, tr mic pyr;
MRLST (45%): med gy-dk
gy, sb blkyl-tab ctngs,
frm-sl hd, brit, vf lamn,
mnr f chky incl, mod calc

8300-8350 CHK (65%):
gyshbn-med gy, mot crm,
frm-sl sft, sb blkyl-sb tab,
mnr MRLST lamn, v calc,
tr mic pyr cls; MRLST
(35%): dk gy, mot med
gy, tab-sb blkyl, frm-sl hd,
brit, mod calc, tr CHK incl

8350-8400 CHK (80%):
gyshbn, med gy, mot, sb
blkyl ctngs, sm chky tex, sl
frm-brit, tr MRLST incl, v
calc; MRLST (20%): dk
gy-gyshbn, mot, sl
hd-frm, sl sm tex, blkyl-sb
ang ctngs, mnr intbd
CHK, mod calc



MW IN: 9.9
VIS IN: 49
MW OUT: 9.9
VIS OUT: 46

MD: 8,432'
INC: 61.39°
AZM: 344.1°
TVD: 7,280.67'
VS: 1,303.17'

Niobrara C
8459' MD/7293' TVD

MD: 8,479'
INC: 64.29°
AZM: 346.03°
TVD: 7,302.13'
VS: 1,343.88'

MD: 8,526'
INC: 68.16°
AZM: 350.08°
TVD: 7,321.08'
VS: 1,385.17'

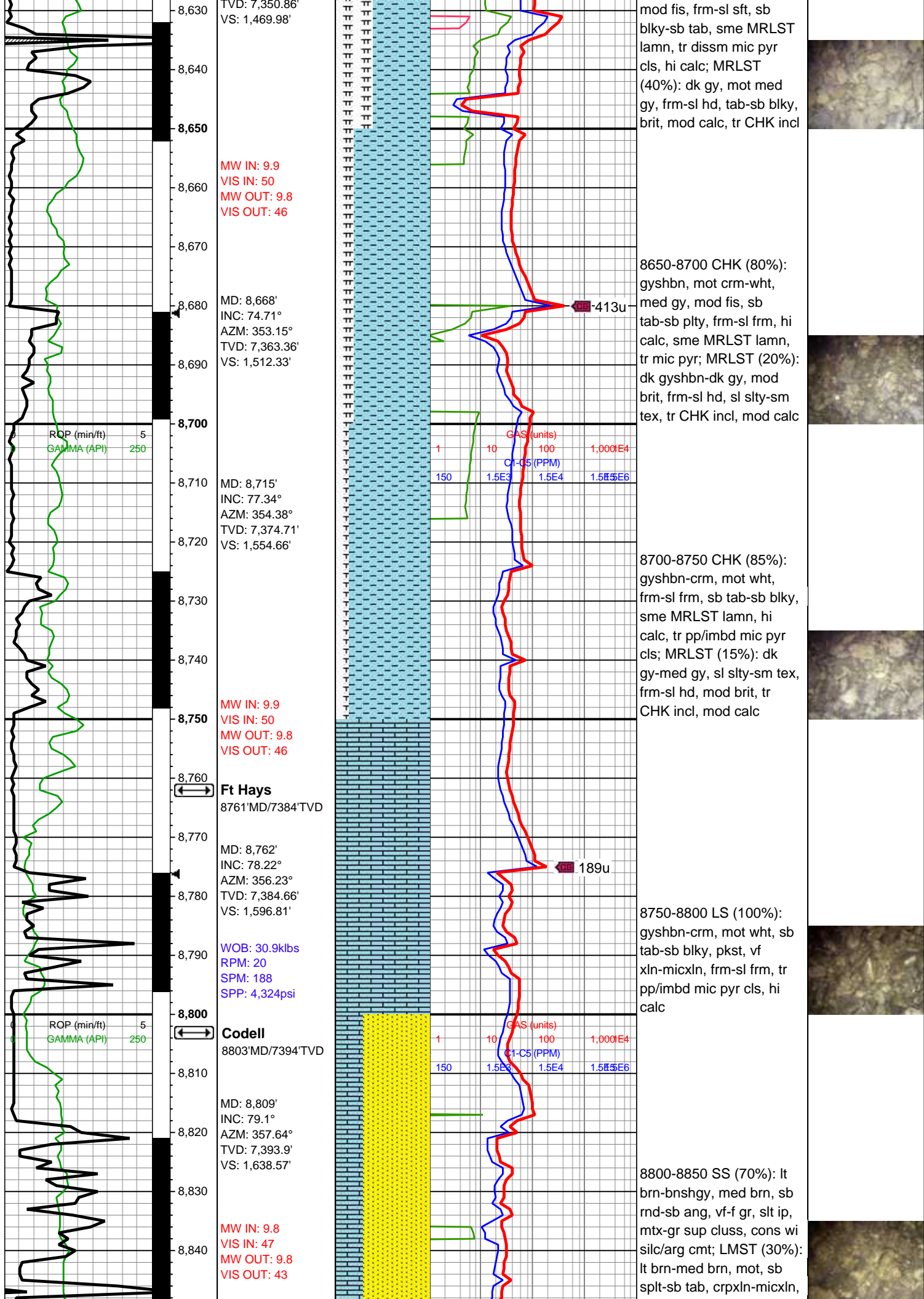
MD: 8,573'
INC: 72.11°
AZM: 352.27°
TVD: 7,337.05'
VS: 1,426.88'

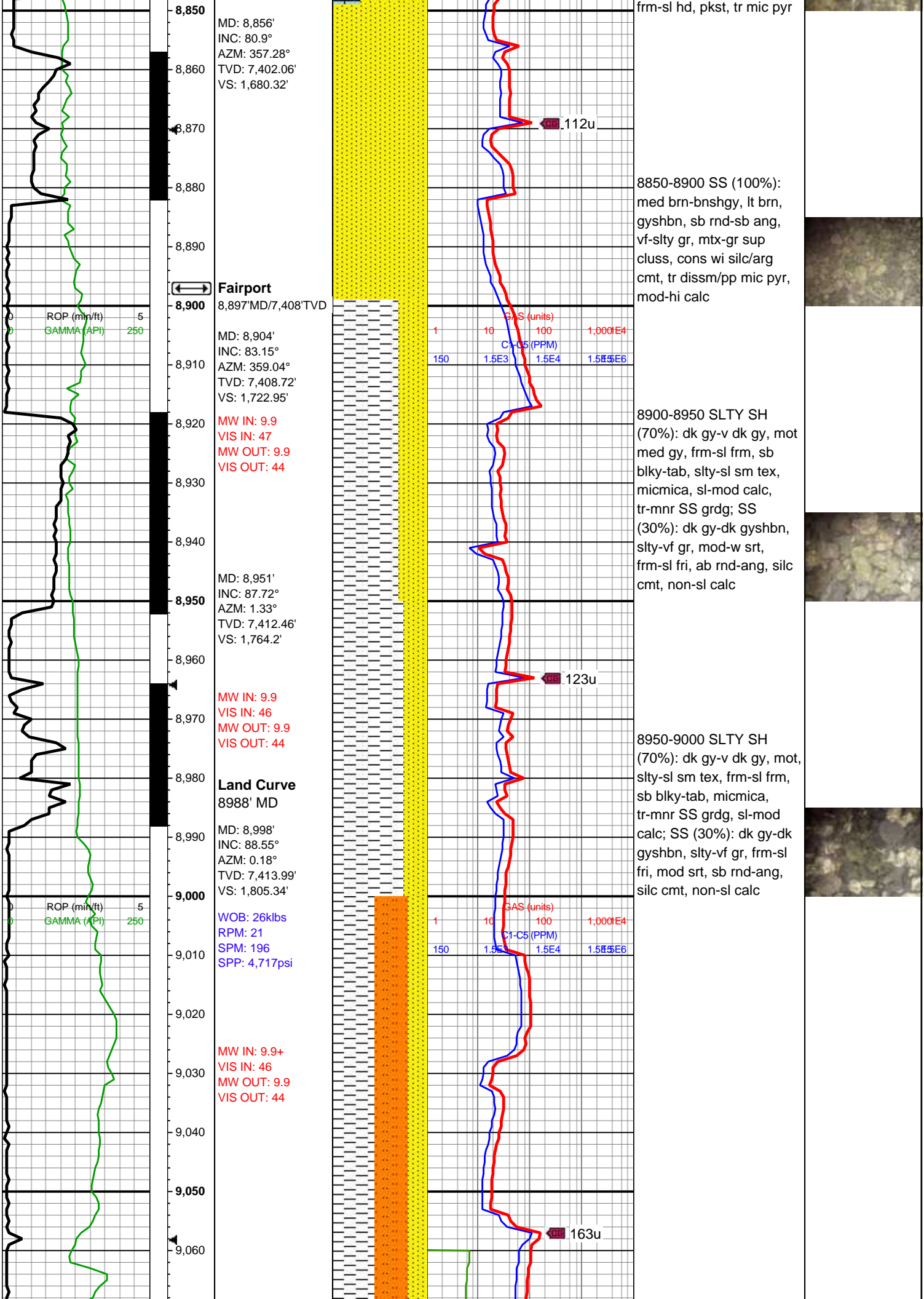
MW IN: 9.9
VIS IN: 51
MW OUT: 9.9
VIS OUT: 45

Niobrara D
8596' MD/7344' TVD

WOB: 19.6klbs
RPM: 0
SPM: 186
SPP: 4,177psi

MD: 8,621'
INC: 74.44°
AZM: 352.27°





MD: 8,856'
INC: 80.9°
AZM: 357.28°
TVD: 7,402.06'
VS: 1,680.32'

Fairport
8,897' MD/7,408' TVD

MD: 8,904'
INC: 83.15°
AZM: 359.04°
TVD: 7,408.72'
VS: 1,722.95'

MW IN: 9.9
VIS IN: 47
MW OUT: 9.9
VIS OUT: 44

MD: 8,951'
INC: 87.72°
AZM: 1.33°
TVD: 7,412.46'
VS: 1,764.2'

MW IN: 9.9
VIS IN: 46
MW OUT: 9.9
VIS OUT: 44

Land Curve
8988' MD

MD: 8,998'
INC: 88.55°
AZM: 0.18°
TVD: 7,413.99'
VS: 1,805.34'

WOB: 26klbs
RPM: 21
SPM: 196
SPP: 4,717psi

MW IN: 9.9+
VIS IN: 46
MW OUT: 9.9
VIS OUT: 44

frm-sl hd, pkst, tr mic pyr

8850-8900 SS (100%):
med brn-bnshgy, lt brn,
gyshbn, sb rnd-sb ang,
vf-sltgy gr, mtx-gr sup
cluss, cons wi silc/arg
cmt, tr dissm/pp mic pyr,
mod-hi calc

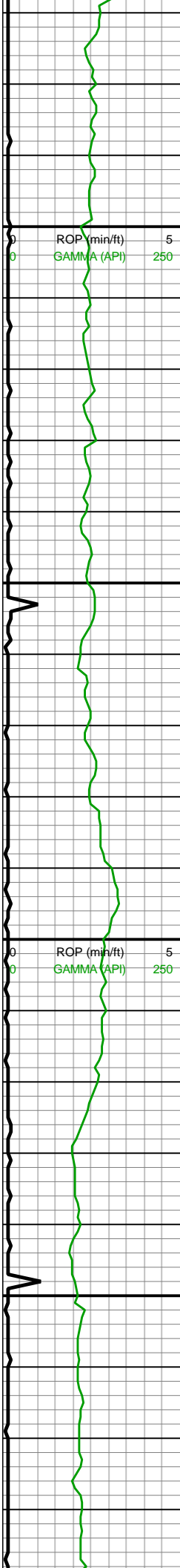
8900-8950 SLTY SH
(70%): dk gy-v dk gy, mot
med gy, frm-sl frm, sb
blkyl-tab, slty-sl sm tex,
micmica, sl-mod calc,
tr-mnr SS grdg; SS
(30%): dk gy-dk gyshbn,
slty-vf gr, mod-w srt,
frm-sl fri, ab rnd-ang, silc
cmt, non-sl calc

8950-9000 SLTY SH
(70%): dk gy-v dk gy, mot,
slty-sl sm tex, frm-sl frm,
sb blkyl-tab, micmica,
tr-mnr SS grdg, sl-mod
calc; SS (30%): dk gy-dk
gyshbn, slty-vf gr, frm-sl
fri, mod srt, sb rnd-ang,
silc cmt, non-sl calc

112u

123u

163u



9,070
9,080
9,090
9,100
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

MD: 9,093'
INC: 88.64°
AZM: 0.01°
TVD: 7,416.32'
VS: 1,889.05'

MW IN: 9.9+
VIS IN: 45
MW OUT: 9.9
VIS OUT: 44

MD: 9,187'
INC: 88.11°
AZM: 359.57°
TVD: 7,418.99'
VS: 1,972.11'

WOB: 31.6klbs
RPM: 59
SPM: 201
SPP: 5,090psi

MD: 9,282'
INC: 88.24°
AZM: 359.75°
TVD: 7,422.01'
VS: 2,056.14'

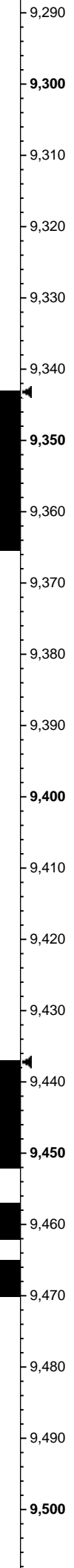
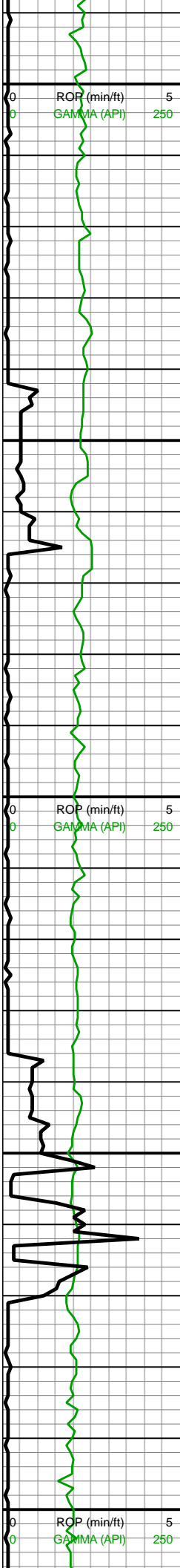


9000-9100 SLTY SH
(80%): dk gy-v dk gy, mot,
sb blk-y-tab, slty-sl sm tex,
frm-sl frm, micmica,
tr-mnr SS grd-g, sl-mod
calc; SS (20%): dk gy-dk
gyshbn, frm-sl fri, mod
srt, slty-vf gr, sb rnd-ang,
non-sl calc, silc cmt

9100-9200 SLTY SH
(90%): dk gy-v dk gy, mot,
sb blk-y-tab, frm-sl frm,
slty-sl sm tex, micmica,
sl calc, tr-mnr SS grd-g;
SS (10%): dk gy-dk
gyshbn, frm-sl fri, mod
srt, slty-vf gr, sb rnd-ang,
silc cmt, non-sl calc

9200-9300 SLTY SH
(95%): dk gy-v dk gy, mot,
sb blk-y-tab, frm-sl frm,
slty-sl sm tex, micmica,
sl calc, tr-mnr SS grd-g, tr
mic pyr; SS (5%): dk





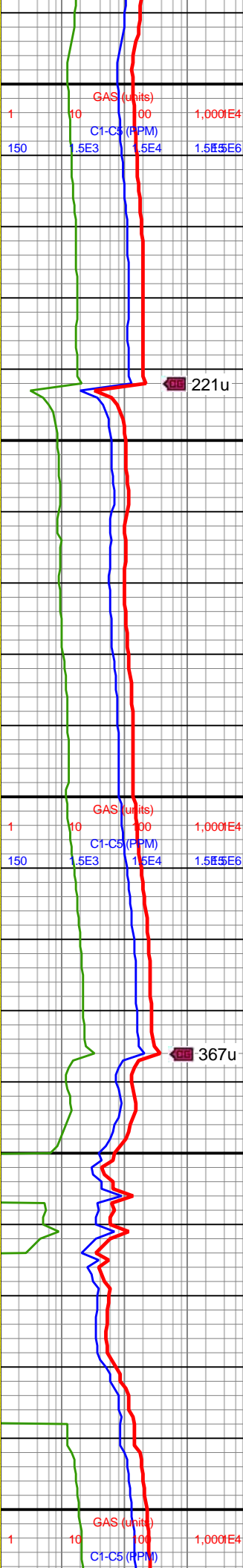
MW IN: 9.9+
VIS IN: 46
MW OUT: 9.9+
VIS OUT: 45

MD: 9,376'
INC: 88.2°
AZM: 359.66°
TVD: 7,424.93'
VS: 2,139.25'

WOB: 35.5klbs
RPM: 60
SPM: 201
SPP: 5,213psi

MW IN: 9.9
VIS IN: 46
MW OUT: 9.9+
VIS OUT: 44

MD: 9,471'
INC: 88.77°
AZM: 0.54°
TVD: 7,427.44'
VS: 2,222.96'

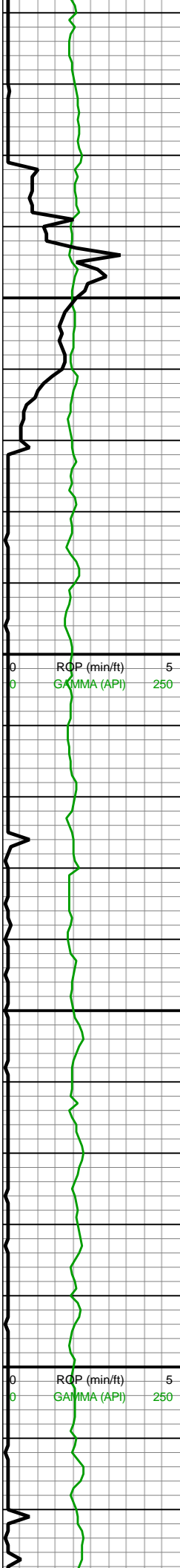


gy-dk gyshbn, slty-vf gr,
frm-sl fri, mod srt, sb
rnd-ang, silc cmt, non-sl
calc

9300-9400 SLTY SH
(90%): dk gy-v dk gy, mot,
frm-sl frm, sb blkly-splt,
slty-sl sm tex, tr-mnr SS
grdg, tr imbd mic pyr,
micmica, sl calc; SS
(10%): dk gy-dk gyshbn,
slty-vf gr, frm-sl fri, sb
rnd-ang, silc cmt, non-sl
calc, mod srt, sme
SLTST grdg

9400-9500 SLTY SH
(95%): dk gy-v dk gy, mot,
sb blkly-tab, frm-sl frm,
slty-sl sm tex, tr-mnr SS
grdg, micmica, tr mic pyr,
sl-non calc; SS (5%): dk
gy-dk gyshbn, sb
rnd-ang, slty-vf gr, frm-sl
fri, mod srt, silc cmt,
non-sl calc



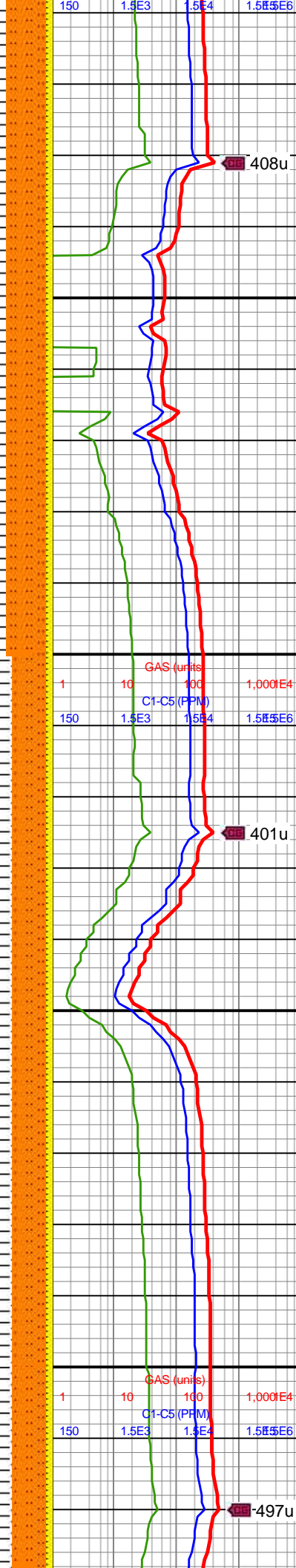


MW IN: 9.9
VIS IN: 45
MW OUT: 9.9+
VIS OUT: 43

MD: 9,566'
INC: 90.62°
AZM: 358.69°
TVD: 7,427.95'
VS: 2,307.06'

WOB: 33.1klbs
RPM: 60
SPM: 200
SPP: 5,183psi

MD: 9,660'
INC: 91.32°
AZM: 358.87°
TVD: 7,426.36'
VS: 2,390.89'



408u

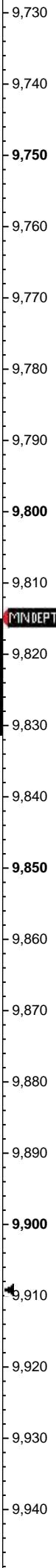
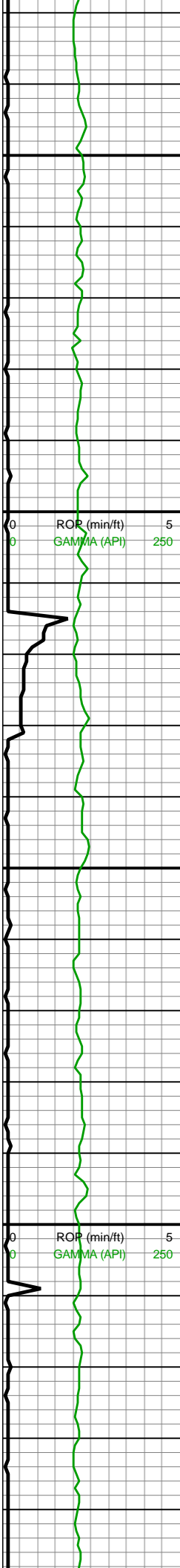
401u

497u

9500-9600 SLTY SH
(95%): dk gy-v dk gy, mot,
silty-sl sm tex, sb blk-tab,
frm-sl frm, micmica,
sl-non calc, tr-mnr SS
grdg, tr mic pyr; SS (5%):
dk gy-dk gyshbn, silty-vf
gr, sb rnd-ang, mod srt,
frm-sl fri, silc cmt, non-sl
calc

9600-9700 SLTY SH
(95%): dk gy-v dk gy, mot,
frm-sl frm, silty-sl sm tex,
sb blk-tab, tr-mnr SS
grdg, mnr imbd mic pyr,
micmica, sl-non calc; SS
(5%): dk gy-dk gyshbn,
silty-vf gr, mod srt, sb
rnd-ang, frm-sl fri, silc
cmt, non-sl calc, sme
SLTST grdg





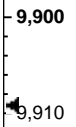
MD: 9,755'
INC: 91.45°
AZM: 359.57°
TVD: 7,424.06'
VS: 2,475.28'

WOB: 35.5klbs
RPM: 60
SPM: 200
SPP: 5,264psi

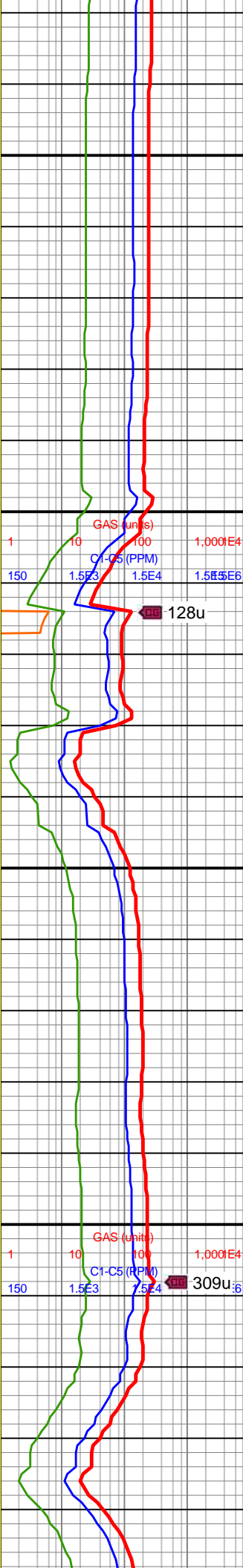
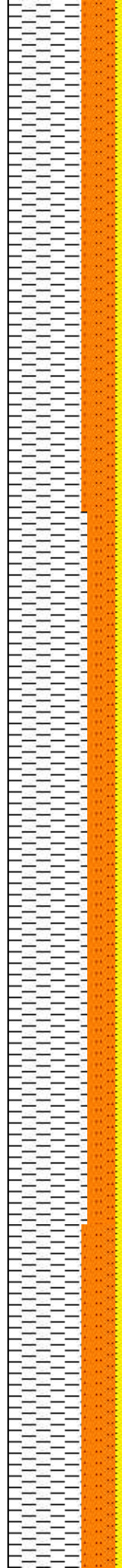
MINDEPTH 7/21/2018

MW IN: 9.9+
VIS IN: 45
MW OUT: 9.9+
VIS OUT: 43

MD: 9,849'
INC: 91.23°
AZM: 357.37°
TVD: 7,421.86'
VS: 2,559.33'



MD: 9,943'
INC: 91.23°
AZM: 357.55°
TVD: 7,419.85'
VS: 2,611.18'

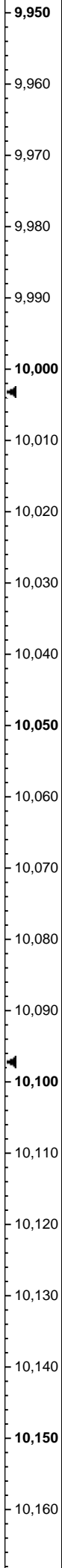
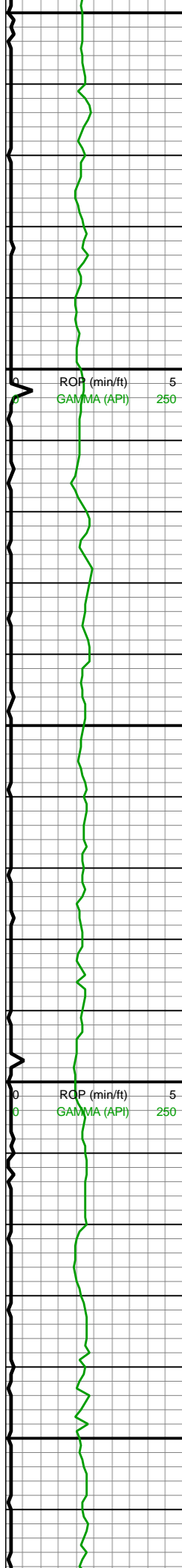


9700-9800 SLTY SH
(95%): dk gy-v dk gy, mot,
frm-sl frm, slty-sl sm tex,
sb blkly-splt, mnr imbd
mic pyr, micmica, sl-non
calc, tr-mnr SS grdg; SS
(5%): dk gy-dk gyshbn,
slty-vf gr, frm-sl fri, mod
srt, sb rnd-ang, silc cmt,
sme SLTST grdg, non-sl
calc



9800-9900 SLTY SH
(95%): dk gy-v dk gy, mot,
slty-sl sm tex, frm-sl frm,
sb blkly-splt, micmica,
mnr mic pyr, sl-non calc,
tr-mnr SS grdg; SS (5%):
dk gy-dk gyshbn, slty-vf
gr, sb rnd-ang, frm-sl fri,
mod srt, silc cmt, sme
SLTST grdg, non-sl calc





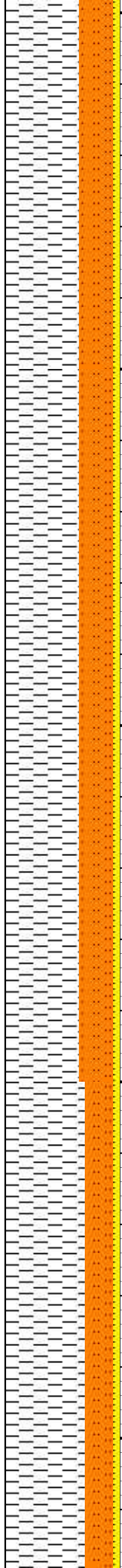
VS: 2,644.12'

WOB: 35.7klbs
RPM: 60
SPM: 201
SPP: 5,387psi

MW IN: 9.9+
VIS IN: 46
MW OUT: 9.9+
VIS OUT: 43

MD: 10,037'
INC: 90.7°
AZM: 358.08°
TVD: 7,418.26'
VS: 2,728.66'

MD: 10,131'
INC: 90°
AZM: 358.08°
TVD: 7,417.69'
VS: 2,813.02'

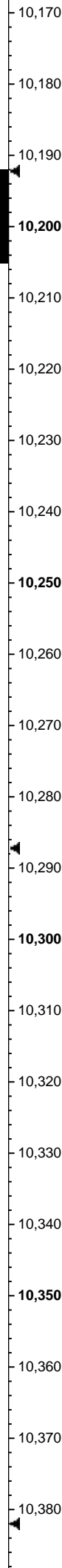
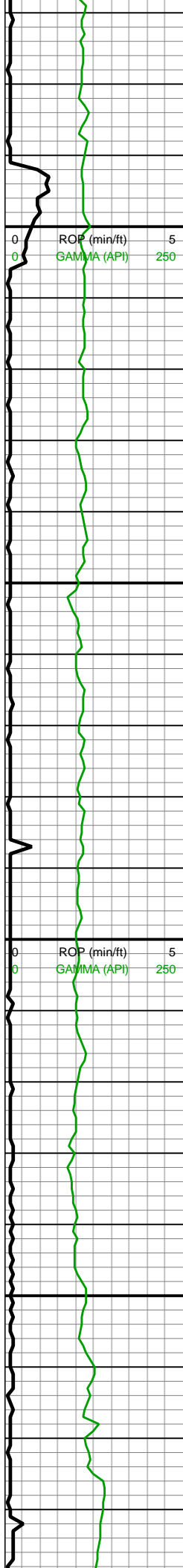


9900-10000 SLTY SH
(95%): dk gy-v dk gy, mot,
silty-sl sm tex, frm-sl frm,
sb blkly-splt, mntr imbd
mic pyr, tr-mnr SS grdg,
micmica, sl-non calc; SS
(5%): dk gy-dk gyshbn,
mod srt, sb rnd-ang,
silty-vf gr, frm-sl fri, silc
cmt, sme SLTST grdg,
non-sl calc



10000-10100 SLTY SH
(95%): dk gy-v dk gy, mot,
sb blkly-splt, silty-sl sm
tex, frm-sl frm, tr-mnr SS
grdg, micmica, sl calc,
mntr imbd mic pyr; SS
(5%): dk gy-dk gyshbn,
mod srt, sb rnd-ang,
silty-vf gr, frm-sl fri, silc
cmt, non-sl calc, sme
SLTST grdg

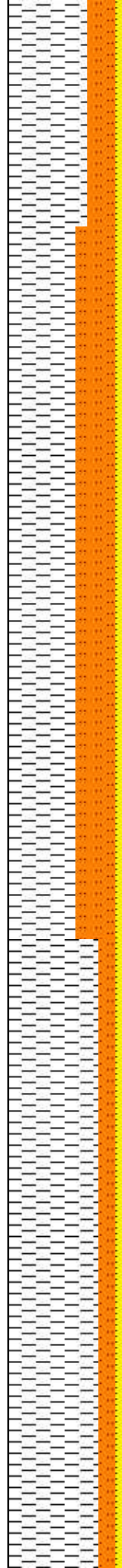




WOB: 43.9klbs
RPM: 0
SPM: 200
SPP: 4,943psi

MD: 10,226'
INC: 91.27°
AZM: 357.64°
TVD: 7,416.64'
VS: 2,898.44'

MW IN: 9.9+
VIS IN: 47
MW OUT: 10.0
VIS OUT: 44

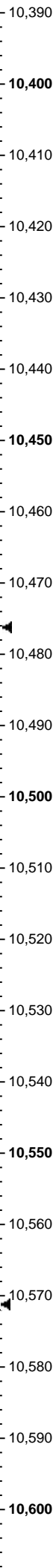
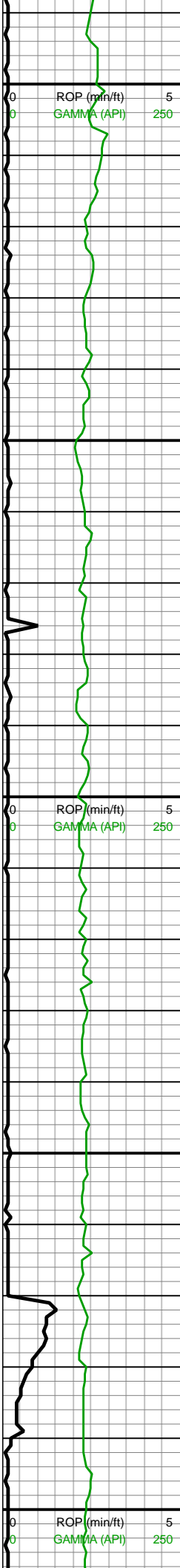


10100-10200 SLTY SH
(95%): dk gy-v dk gy, mot,
sb blkly-splt, slty-sl sm
tex, frm-sl frm, tr SS grdg,
sl-non calc, micmica,
mnr mic pyr; SS (5%): dk
gy-dk gyshbn, sb rnd-sb
ang, frm-sl fri, slty-vf gr,
mod srt, silc cmt, sme
SLTST grdg, non-sl calc

10200-10300 SLTY SH
(95%): dk gy-v dk gy, mot,
frm-sl frm, slty-sl sm tex,
sb blkly-tab, micmica, tr
imbd mic pyr, tr SS grdg,
sl-non calc; SS (5%): dk
gy-dk gyshbn, frm-sl fri,
slty-vf gr, sb rnd-sb ang,
mod srt, silc cmt, non-sl
calc

10300-10400 SLTY SH
(95%): dk gy-v dk gy, mot,
sb blkly-splt, slty-sl sm
tex, frm-sl frm, tr SS grdg,
mnr micmica, sl-non
calc, mnr imbd mic pyr;
SS (5%): dk gy-dk





WOB: 33.9klbs
RPM: 59
SPM: 200
SPP: 5,417psi

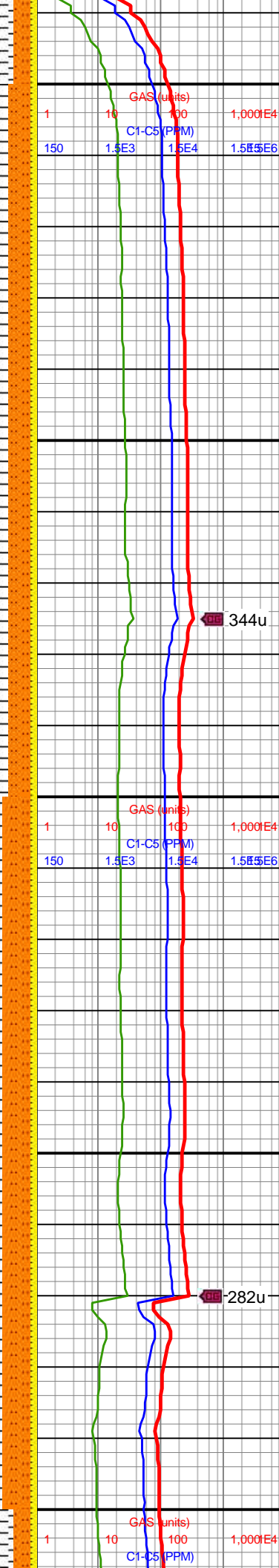
MD: 10,416'
INC: 91.1°
AZM: 358.34°
TVD: 7,412.91'
VS: 3,069.63'

MW IN: 9.9+
VIS IN: 47
MW OUT: 10.0
VIS OUT: 44

MD: 10,510'
INC: 90.57°
AZM: 358.16°
TVD: 7,411.54'
VS: 3,153.86'

WOB: 34.2klbs
RPM: 60
SPM: 200
SPP: 5,461psi

MD: 10,604'
INC: 91.89°
AZM: 359.04°



gyshbn, mod srt, sb
rnd-ang, slty-vf gr, frm-sl
fri, silc cmt, non-sl calc,
sme SLTST grdg

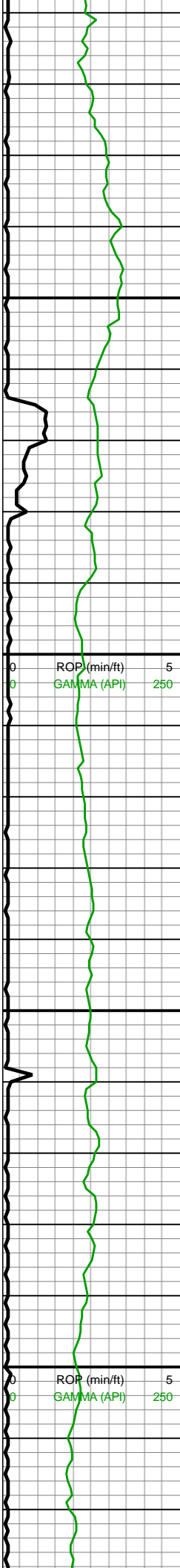
10400-10500 SLTY SH
(95%): dk gy-v dk gy, mot,
frm-sl frm, sb blkly-splt,
slty-sl sm tex, mnr
micmica, tr SS grdg, mnr
mic pyr, sl-non calc; SS
(5%): dk gy-dk gyshbn,
mod srt, frm-sl fri, silc
cmt, sb rnd-ang, slty-vf gr,
sme SLTST grdg, non-sl
calc

344u

10500-10600 SLTY SH
(95%): dk gy-v dk gy, mot,
frm-sl frm, sb blkly-splt,
slty-sl sm tex, micmica,
mnr mic pyr, tr SS grdg,
sl-non calc; SS (5%): dk
gy-dk gyshbn, frm-sl fri,
sb rnd-sb ang, slty-vf gr,
mod srt, silc cmt, non-sl
calc, sme SLTST grdg

282u



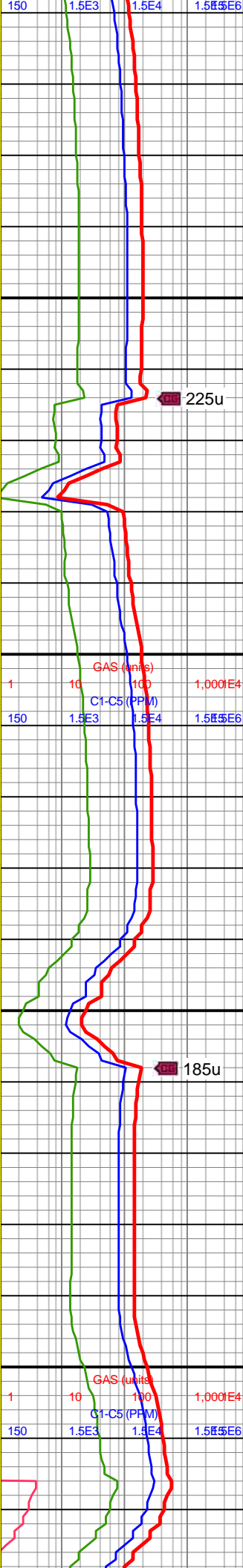
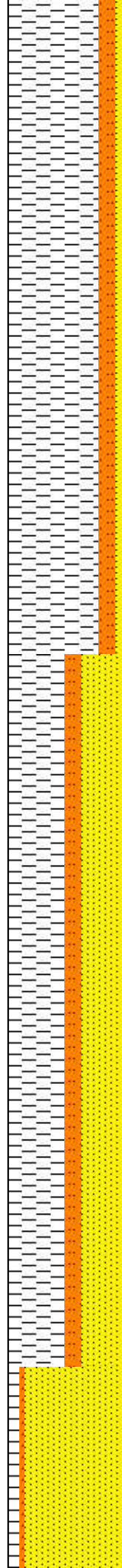


VS: 3,237.82'

MD: 10,699'
INC: 91.36°
AZM: 0.01°
TVD: 7,406.83'
VS: 3,321.97'

MD: 10,793'
INC: 92.29°
AZM: 0.45°
TVD: 7,403.84'
VS: 3,404.67'

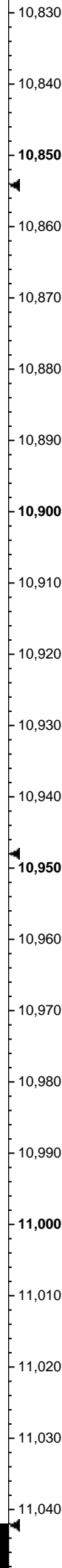
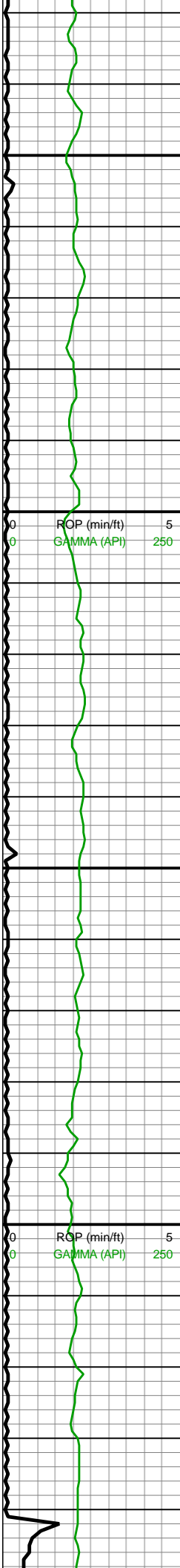
WOB: 34.6klbs
RPM: 60
SPM: 202
SPP: 5,639psi



10600-10700 SLTY SH
(95%): dk gy-v dk gy, mot,
silty-sl sm tex, sb blkyl-tab,
frm-sl frm, micmica, tr SS
grdg, non-sl calc; SS
(5%): dk gy-dk gyshbn,
silty-vf gr, frm-sl fri, mod
srt, sb rnd-ang, silc cmt,
non-sl calc, sme SLTST
grdg

10700-10800 SLTY SH
(65%): dk gy-v dk gy, mot,
sb blkyl-tab, silty-sl sm tex,
frm-sl frm, mnrl SS grdg,
micmica, sl-mod calc; SS
(35%): dk gy-dk gyshbn,
frm-sl fri, silty-vf gr, mod
srt, sb rnd-ang, silc cmt,
non-sl calc





MD: 10,887'
INC: 92.46°
AZM: 1.06°
TVD: 7,399.94'
VS: 3,486.94'

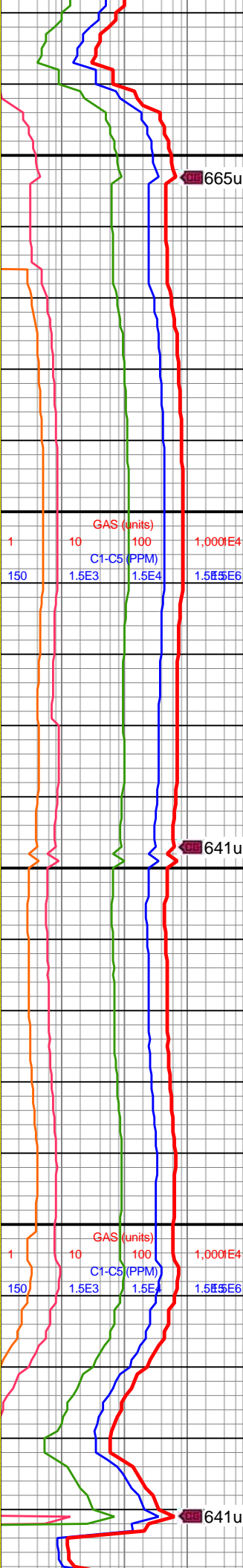
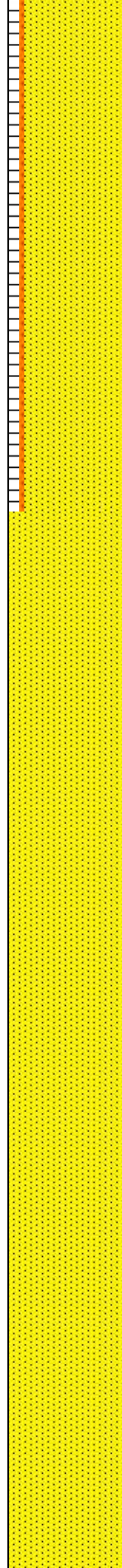
MW IN: 10.0+
VIS IN: 48
MW OUT: 10.1
VIS OUT: 44

MD: 10,982'
INC: 92.64°
AZM: 0.54°
TVD: 7,395.72'
VS: 3,570.03'

WOB: 33.8klbs
RPM: 60
SPM: 192
SPP: 5,349psi

ROP (min/ft) 5
GAMMA (API) 250

ROP (min/ft) 5
GAMMA (API) 250



665u

641u

641u

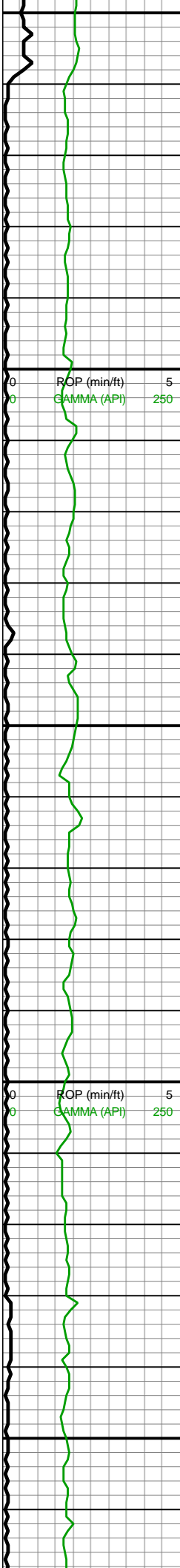
10800-10900 SS (85%):
dk gy-dk gyshbn, frm-sl
fri, slty-vf gr, mod srt, sb
rnd-ang, silc cmt, non-sl
calc; SLTY SH (15%): dk
gy-v dk gy, mot, sb
blky-tab, slty-sl sm tex,
frm-sl frm, mnr SS grdg,
micmica, sl-mod calc

10900-11000 SST
(100%): pred med
gyshbn, occ lt gy-lt brn,
sme red-brn, frm-v frm,
blky, pred mod-w cons gr
sup cls cons wi silc cmt,
non calc, vf-f grnd, occ
grdg to slt, com micmica,
tr imbd pyr, occ sh frags

GAS (units) 1 10 100 1,000E4
C1-C5 (PPM) 150 1.5E3 1.5E4 1.5E5E6

GAS (units) 1 10 100 1,000E4
C1-C5 (PPM) 150 1.5E3 1.5E4 1.5E5E6





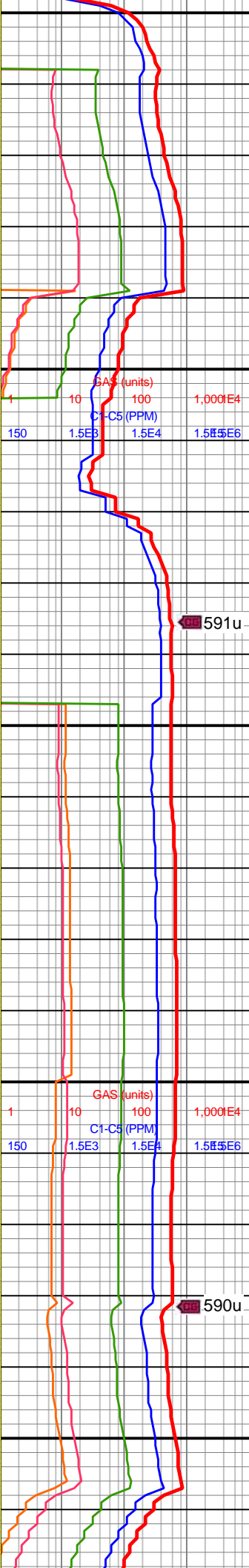
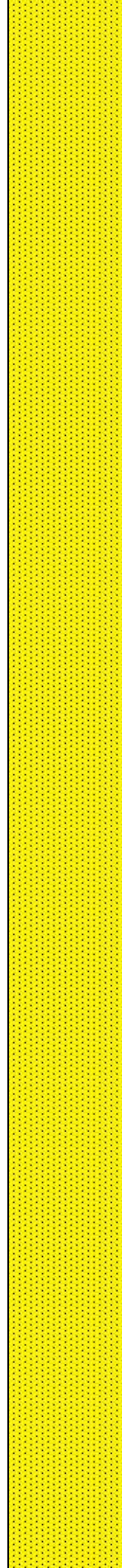
11,050
11,060
11,070
11,080
11,090
11,100
11,110
11,120
11,130
11,140
11,150
11,160
11,170
11,180
11,190
11,200
11,210
11,220
11,230
11,240
11,250
11,260

MD: 11,076'
INC: 90.79°
AZM: 0.8°
TVD: 7,392.9'
VS: 3,651.49'

MD: 11,171'
INC: 90.97°
AZM: 0.62°
TVD: 7,391.44'
VS: 3,734.73'

WOB: 35klbs
RPM: 60
SPM: 194
SPP: 5,443psi

MD: 11,265'
INC: 91.71°
AZM: 1.33°
TVD: 7,390.25'



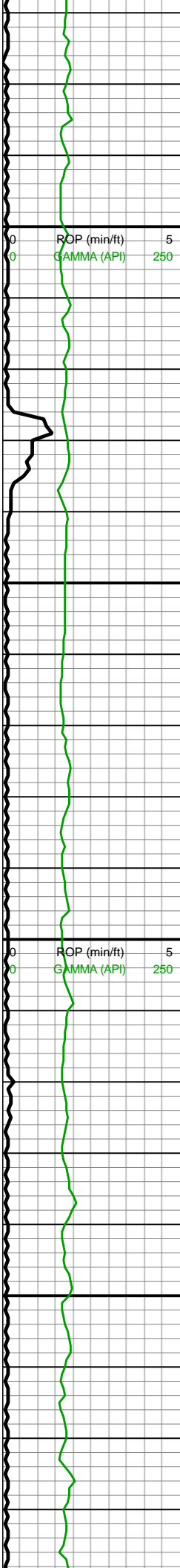
11000-11100 SST
(100%): med gyshbn,
occ lt gy-lt brn, frm-v frm,
blky, pred mod-w cons gr
sup cls cons wi silc cmt,
non calc, suc, vf-f grnd,
occ grdg to slt, tr
micmica, tr imbd pyr, occ
sh frags

11100-11200 SST
(100%): med gyshbn,
occ lt gy-lt brn, frm-v frm,
blky, pred mod-w cons gr
sup cls cons wi silc cmt,
non calc, suc, vf-f grnd,
occ grdg to slt, tr
micmica, tr imbd pyr



591u

590u



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

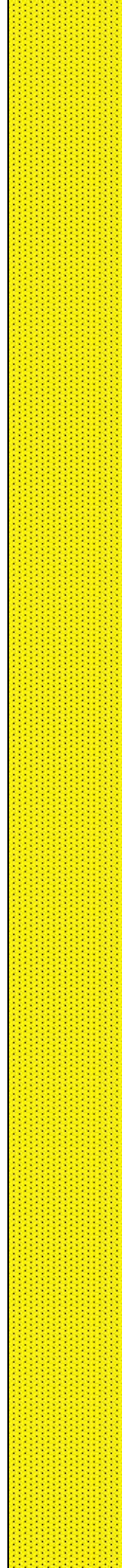
VD: 7,389.23
VS: 3,816.87'

MW IN: 10+
VIS IN: 49
MW OUT: 10+
VIS OUT: 46

MD: 11,360'
INC: 90.31°
AZM: 359.83°
TVD: 7,387.57'
VS: 3,900.21'

WOB: 38klbs
RPM: 60
SPM: 192
SPP: 5,522psi

MD: 11,454'
INC: 90.09°
AZM: 359.48°
TVD: 7,387.24'
VS: 3,983.4'

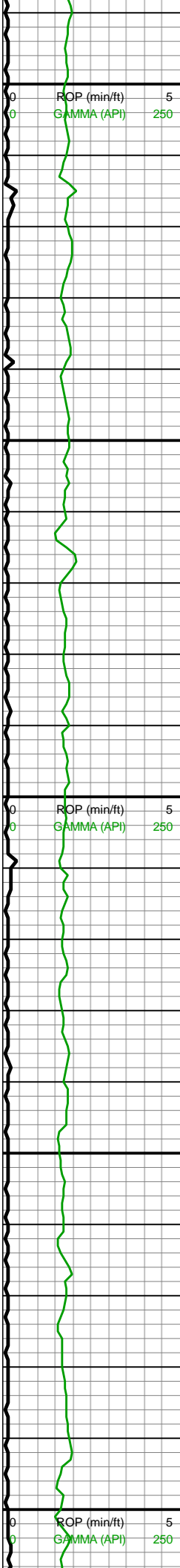


11200-11300 SST
(100%): med gyshbn,
occ lt gy-lt brn, frm-v frm,
blky, cons gr sup cls
cons wi silc cmt, suc, vf-f
grnd, occ grdg-slt, tr
micmica, tr imbd pyr, non
calc

11300-11400 SST
(100%): med gyshbn,
occ lt gy-lt brn, med hd-v
frm, blky-sb blky grns w
cons gr sup cls cons wi
silc cmt, vf-f grnd, occ
grdg-slt, suc, tr imbd pyr,
non calc

11400-11500 SST
(100%): med gyshbn,
occ lt gy-lt brn, med hd-v





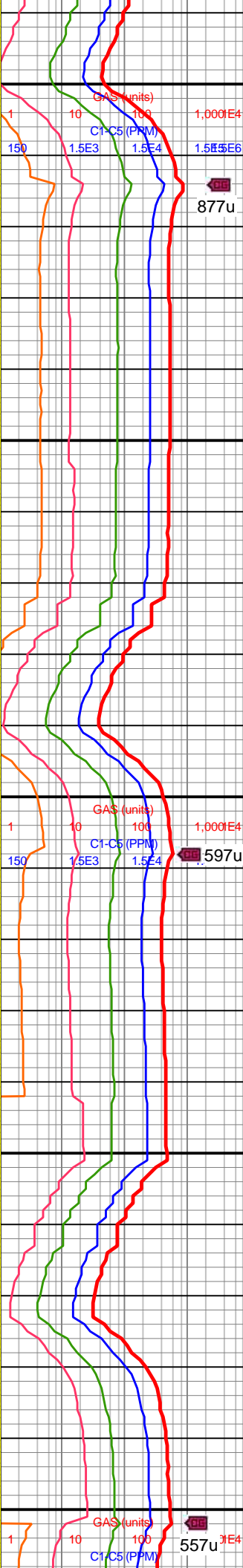
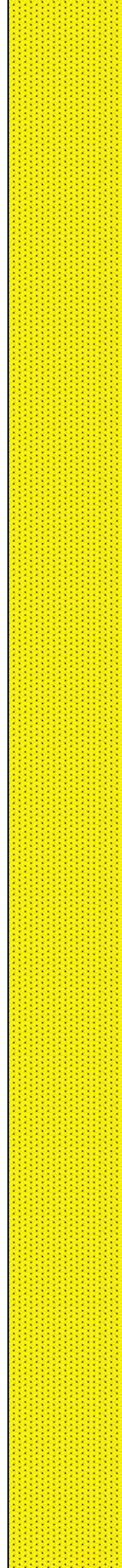
11,490
11,500
11,510
11,520
11,530
11,540
11,550
11,560
11,570
11,580
11,590
11,600
11,610
11,620
11,630
11,640
11,650
11,660
11,670
11,680
11,690
11,700

MW IN: 10+
VIS IN: 48
MW OUT: 10+
VIS OUT: 45

MD: 11,548'
INC: 90.13°
AZM: 359.75°
TVD: 7,387.06'
VS: 4,066.62'

WOB: 36klbs
RPM: 60
SPM: 193
SPP: 5,608psi

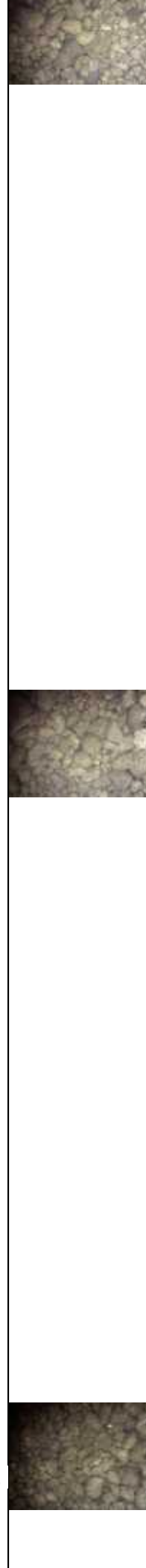
MD: 11,643'
INC: 89.74°
AZM: 359.57°
TVD: 7,387.17'
VS: 4,150.7'

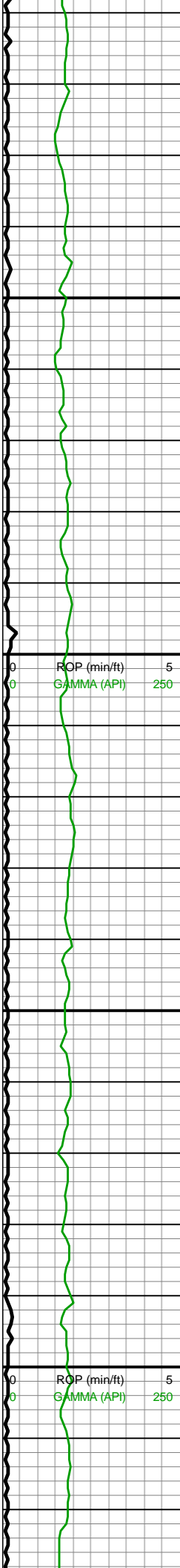


frm, blkly-sb blkly grns, w
cons gr sup cls cons wi
silc cmt, vf-f grnd, occ
grdg-slt, suc, non calc

11500-11600 SST
(100%): predy med
gyshbn, occ lt gy-lt brn,
med hd-v frm, blkly-sb
blkly grns w cons gr sup
cls cons wi silc cmt, vf-f
grnd, occ slt grdg, suc,
non calc

11600-11700 SST
(100%): predy med
gyshbn, occ lt brn, hd-v
frm, blkly-sb blkly suc
grns, cons gr sup cls
cons wi silc cmt, vf-f grnd,
occ slt grdg, non calc





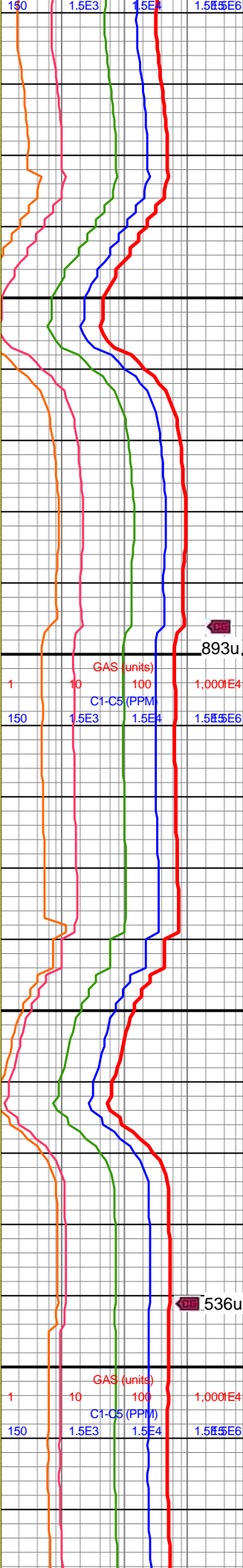
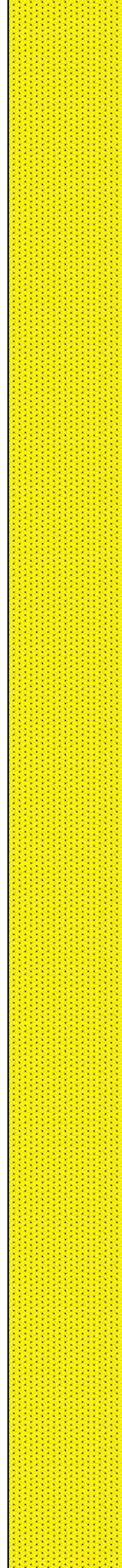
MW IN: 10+
VIS IN: 48
MW OUT: 10+
VIS OUT: 45

MD: 11,737'
INC: 89.43°
AZM: 358.95°
TVD: 7,387.85'
VS: 4,234.19'

WOB: 35klbs
RPM: 60
SPM: 192
SPP: 5,493psi

MD: 11,831'
INC: 89.65°
AZM: 358.69°
TVD: 7,388.61'
VS: 4,318.01'

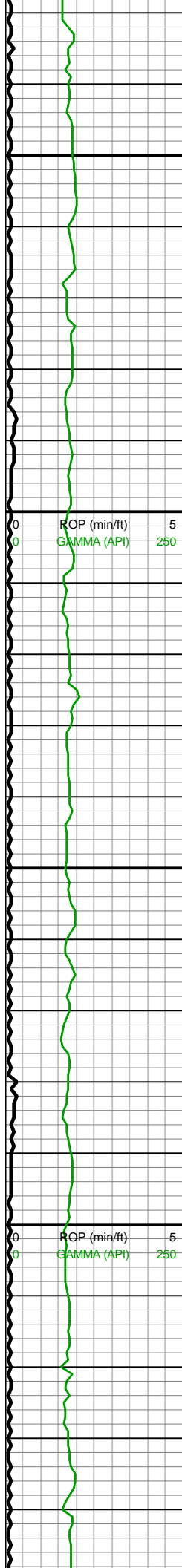
MD: 11,925'
INC: 90.7°
AZM: 0.1°
TVD: 7,388.32'



11700-11800 SST
(100%): med gyshbn-lt
brn, frm-hd, blk-y-sb blk-y
cons gr sup cls cons wi
silc cmt, vf-f grnd, slt
grdg, v wk calc

11800-11900 SST
(100%): med gyshbn-lt
brn, frm-hd, blk-y-sb blk-y
cons gr sup cls cons wi
silc cmt, vf-f grnd, com
amts of slt grdg, v wk calc





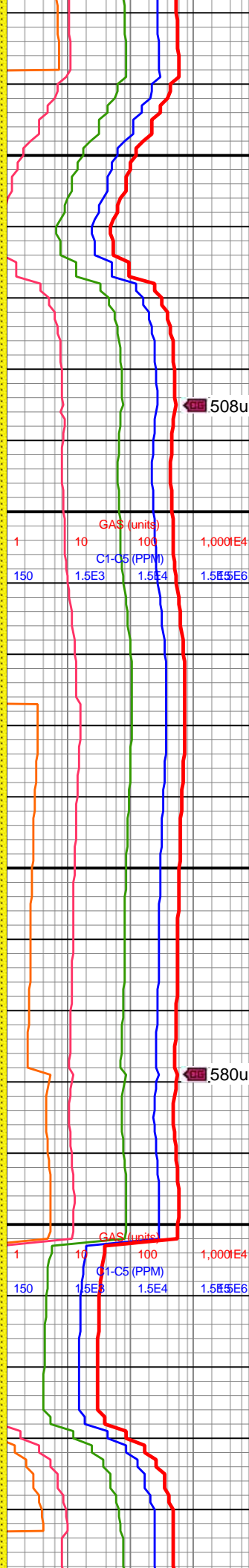
VS: 4,401.39'

WOB: 24klbs
RPM: 60
SPM: 191
SPP: 5,272psi

MD: 12,019'
INC: 90.66°
AZM: 358.78°
TVD: 7,387.2'
VS: 4,484.74'

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

MD: 12,114'
INC: 90.44°
AZM: 357.72°
TVD: 7,386.29'
VS: 4,569.87'

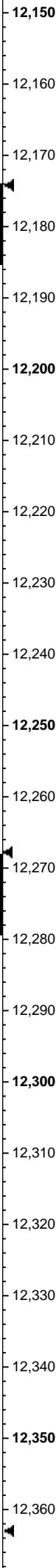
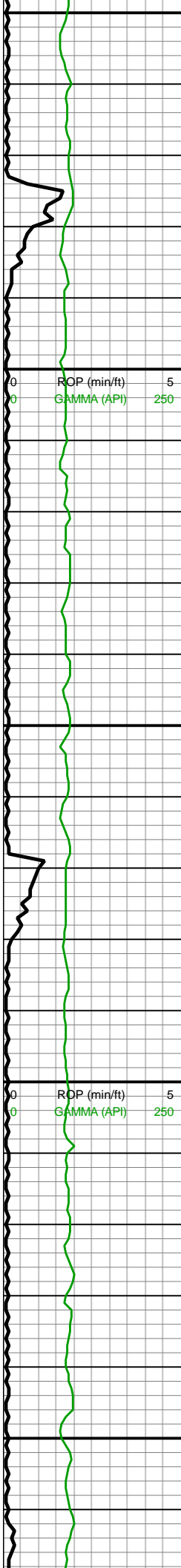


508u

11900-12000 SST
(100%): med bnshgy-lt
brn, frm-hd, blk-y-sb blk-y
cons gr sup cls cons wi
silc cmt, vf-f grnd, com
amts of slt grdg, v wk calc

580u

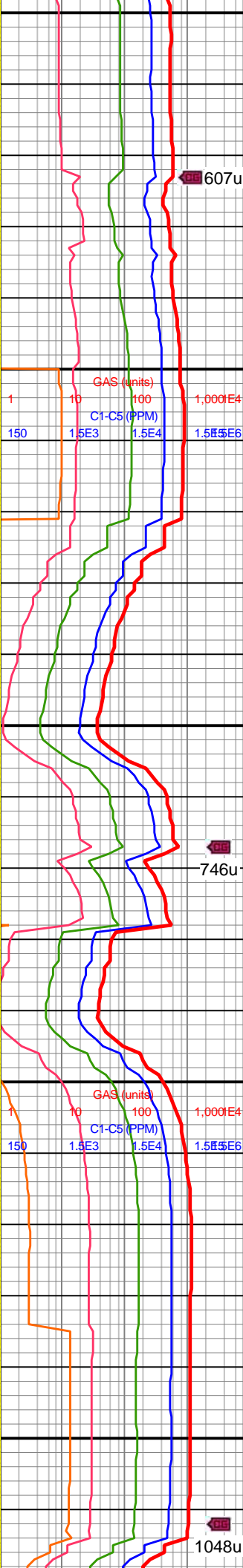
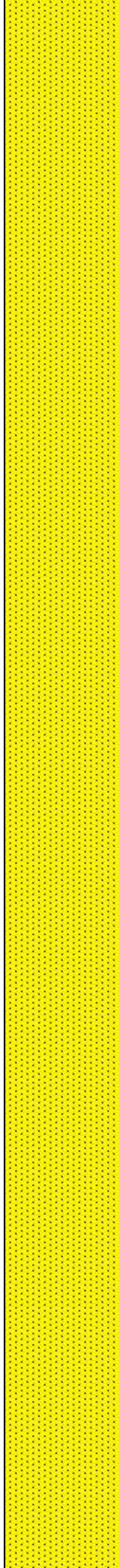
12000-12100 SST
(100%): med bnshgy,
rdshbr-lt brn, frm-hd,
blk-y-sb blk-y cons gr sup
cls cons wi silc cmt, vf-f
grnd, com amts of slt
grdg, v wk calc



WOB: 33klbs
RPM: 59
SPM: 191
SPP: 5,552psi

MD: 12,208'
INC: 90.22°
AZM: 359.13°
TVD: 7,385.75'
VS: 4,653.98'

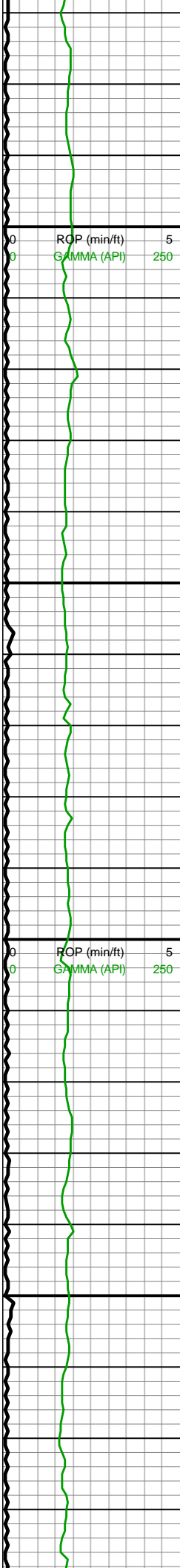
MD: 12,302'
INC: 88.95°
AZM: 0.01°
TVD: 7,386.43'
VS: 4,737.23'



12100-12200 SST
(100%): med bnshgy,
rdshbr-lt brn, frm-hd,
blky-sb blky cons gr sup
cls cons wi silc cmt, vf-f
grnd, com slt grdg, v wk
calc

12200-12300 SST
(100%): med bnshgy,
rdshbr-lt brn, frm-hd,
blky-sb blky cons gr sup
cls cons wi silc cmt, vf-f
grnd, com slt grdg





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

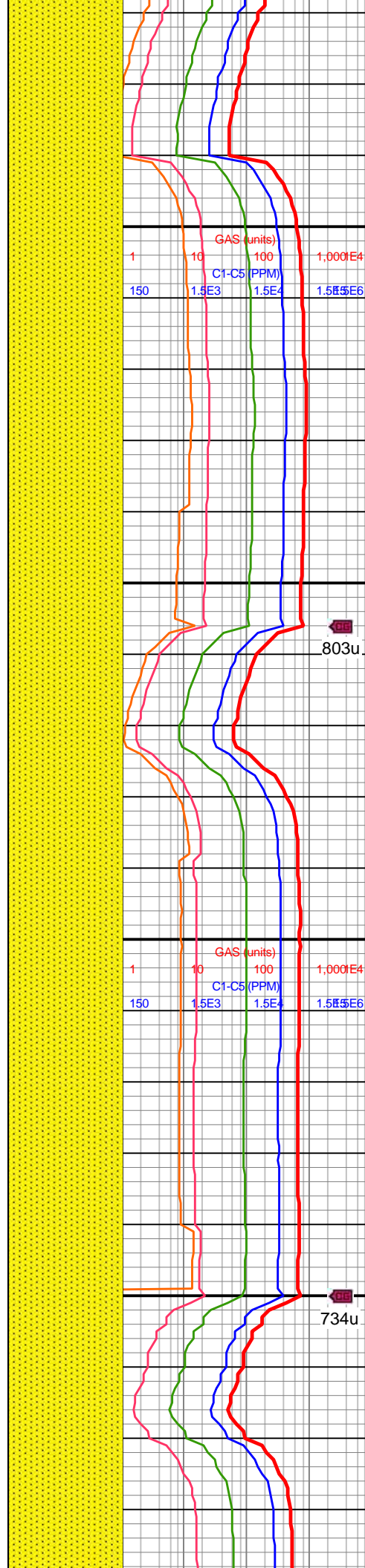
MD: 12,396'
INC: 90.09°
AZM: 0.36°
TVD: 7,387.22'
VS: 4,820.01'

WOB: 34klbs
RPM: 60
SPM: 188
SPP: 5,524psi

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

MD: 12,490'
INC: 89.03°
AZM: 359.31°
TVD: 7,387.94'
VS: 4,903.06'

MD: 12,585'
INC: 89.87°
AZM: 359.92°
TVD: 7,388.85'

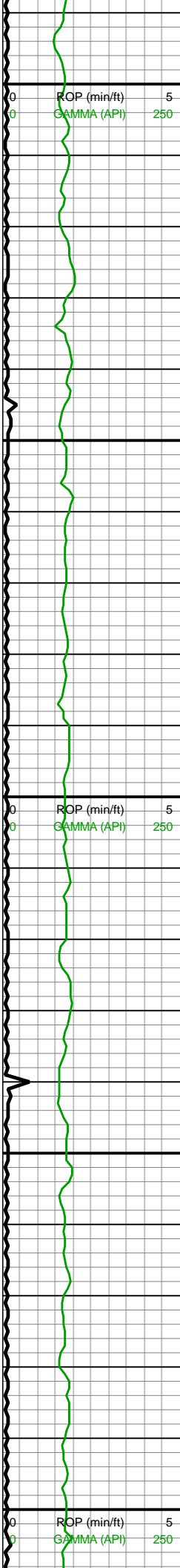


12300-12400 SST
(100%): med bnshgy,
rdshbr-lt brn, frm-hd,
blky-sb blky cons gr sup
cls wi silc cmt, vf-f grnd,
com slt grdg, no calc

12400-12500 SST
(100%): bnshgy, rdshbr-lt
brn, frm-hd, blky-sb blky,
cons silc cmt wi gr sup
cls, vf-f grnd, grdg-slt, no
calc

12500-12600 SST
(100%): bnshgy, rdshbr-lt





VD: 7,888.63
VS: 4,987.17'

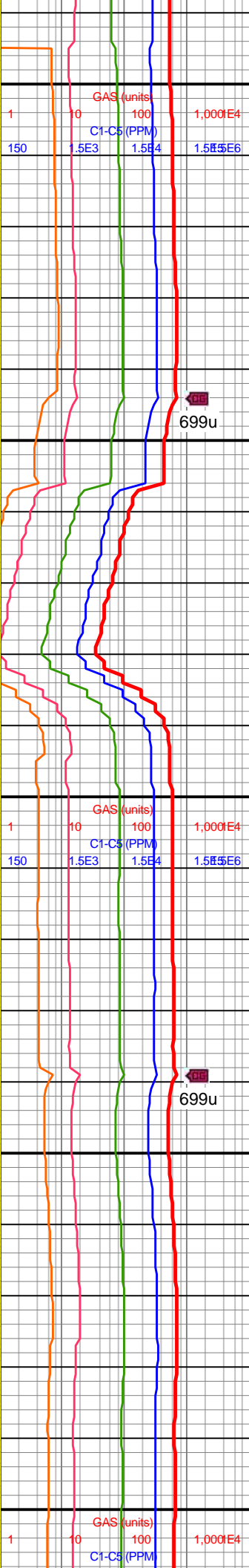
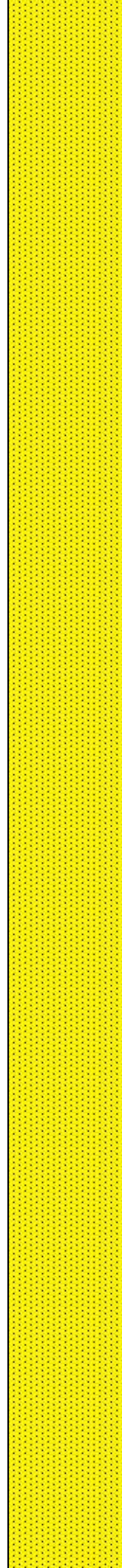
WOB: 36klbs
RPM: 60
SPM: 188
SPP: 5,497psi

MD: 12,680'
INC: 89.34°
AZM: 358.78°
TVD: 7,389.51'
VS: 5,071.48'

MW IN: 10.2
VIS IN: 50
MW OUT: 10.3
VIS OUT: 48

MD: 12,774'
INC: 89.17°
AZM: 358.08°
TVD: 7,390.73'
VS: 5,155.58'

WOB: 34klbs
RPM: 60
SPM: 188
SPP: 5,571psi

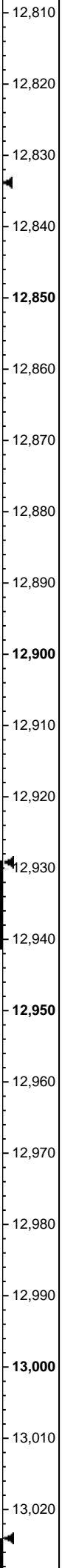
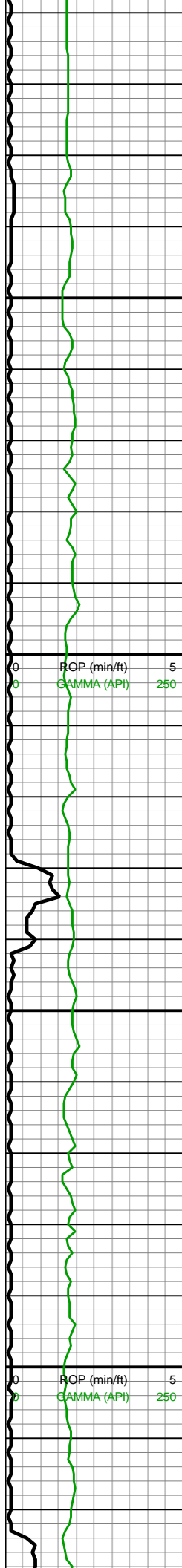


brn, frm-hd, blkly-sb blkly,
cons silc cmt wi gr sup
cls, vf-f grnd, grdg to slt,
no calc

12600-12700 SST
(100%): dk bnshgy, sme
rdshbr-lt brn, frm-hd,
blkly-sb blkly, cons silc
cmt wi gr sup cls, vf-f
grnd, grdg to slt, no calc

12700-12800 SST
(100%): dk bnshgy, sme
rdshbr-lt brn, frm-hd,
blkly-sb blkly, cons silc
cmt wi f gr sup cls, grdg
to slt, no calc, tr micmica
intbds



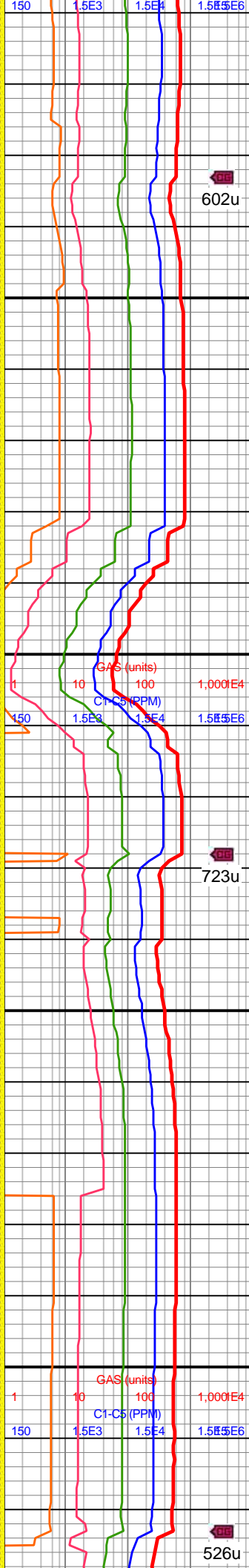
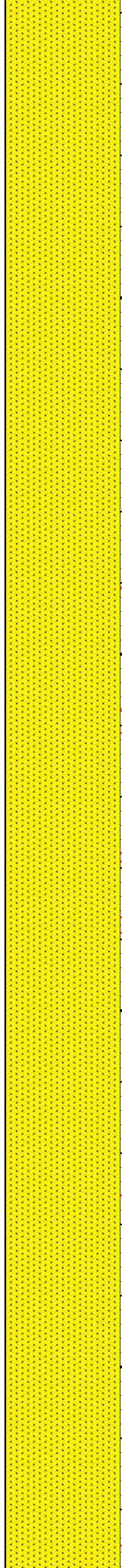


MD: 12,869'
INC: 89.08°
AZM: 357.46°
TVD: 7,392.18'
VS: 5,241.05'

MW IN: 10.3
VIS IN: 50
MW OUT: 10.3
VIS OUT: 48

MD: 12,963'
INC: 90°
AZM: 358.69°
TVD: 7,392.93'
VS: 5,325.42'

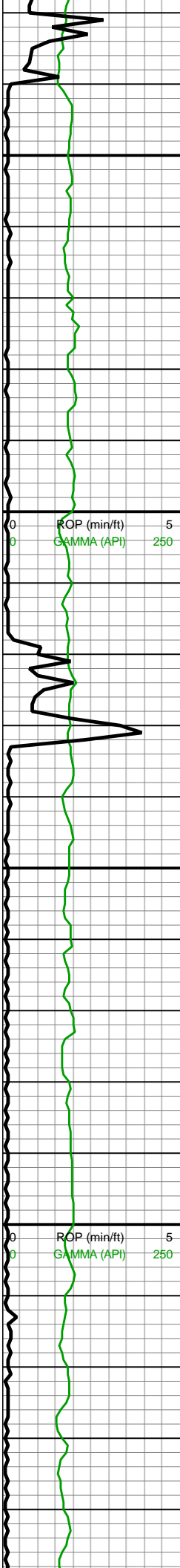
WOB: 35klbs
RPM: 60
SPM: 184
SPP: 5,569psi



12800-12900 SST
(100%): dk bnshgy-lt brn,
frm-hd, blk-y-sb blk-y, cons
silc cmt wi gr sup cls, vf-f
grnd, grdg to slt, no calc,
tr micmica intbds

12900-13000 SST
(100%): dk bnshgy-lt brn,
frm-hd, blk-y-sb blk-y, cons
silc cmt wi gr sup cls, vf-f
grnd, grdg to slt, tr
micmica intbds, v wk calc





13,030
13,040
13,050
13,060
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

MW IN: 10.3
VIS IN: 52
MW OUT: 10.3
VIS OUT: 48

MD: 13,058'
INC: 89.87°
AZM: 359.75°
TVD: 7,393.04'
VS: 5,409.83'

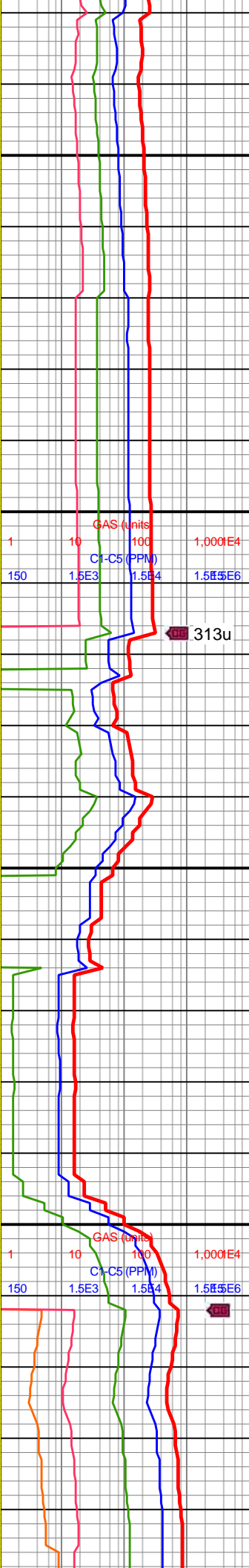
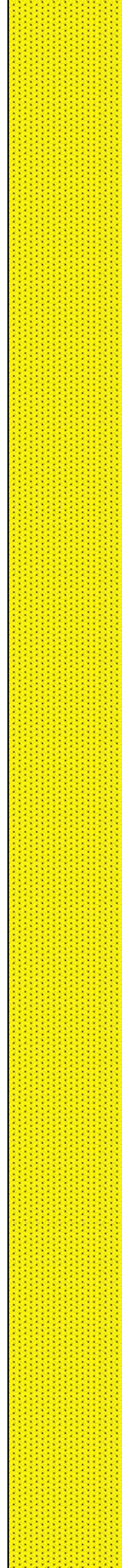
MW IN: 10.2+
VIS IN: 50
MW OUT: 10.2+
VIS OUT: 48

MD: 13,152'
INC: 90.66°
AZM: 0.54°
TVD: 7,392.61'
VS: 5,493.54'

WOB: 32klbs
RPM: 60
SPM: 186
SPP: 5,565psi

MW IN: 10.2
VIS IN: 51
MW OUT: 10.2
VIS OUT: 47

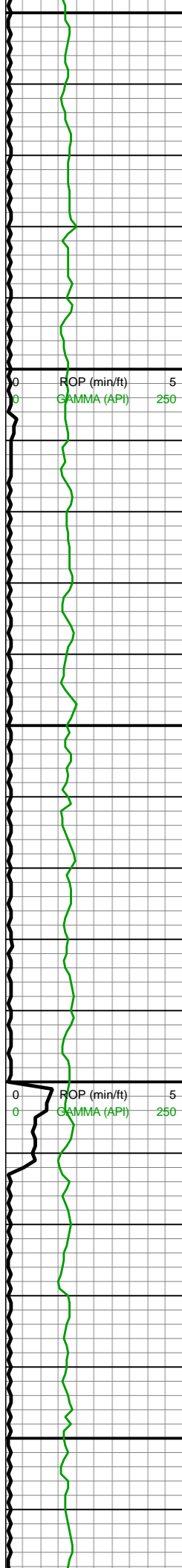
MD: 13,246'
INC: 91.54°
AZM: 0.01°



13000-13100 SS (100%):
dk gy-lt brn, frm-hd,
blky-sb blky, cons silc
cmt wi gr sup cls, vf-f w
srt grns, grdg to slty sh, tr
micmica, v wk calc

13100-13200 SS (100%):
dk gy-med brn, frm-hd,
sb rnd-sb ang, cons silc
cmt, gr sup cls, vf-f w srt
grns, tr micmica, v wk
calc, mn SLTST grdg





13,250 TVD: 7,390.8'
VS: 5,576.24'

ROP (min/ft) 5
GAMMA (API) 250

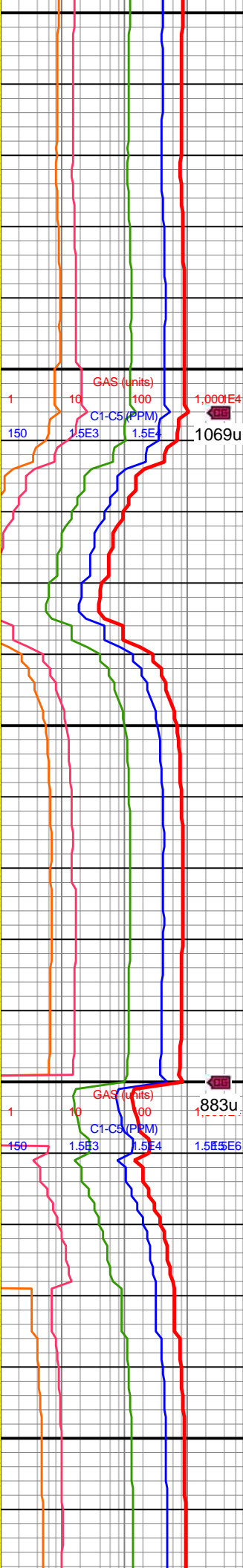
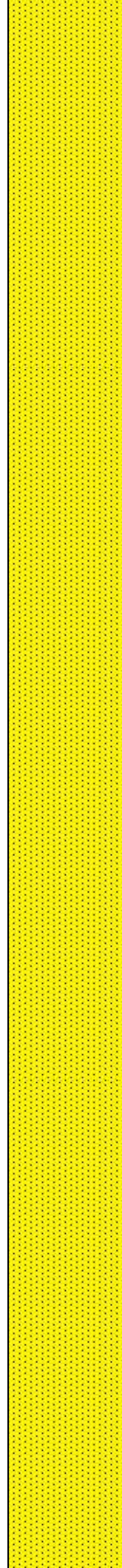
MD: 13,341'
INC: 92.07°
AZM: 0.36°
TVD: 7,387.81'
VS: 5,659.86'

MW IN: 10.1+
VIS IN: 51
MW OUT: 10.2
VIS OUT: 50
WOB: 34klbs
RPM: 59
SPM: 182
SPP: 5,526psi

MD: 13,435'
INC: 90.09°
AZM: 359.92°
TVD: 7,386.04'
VS: 5,742.66'

13,450

13,460

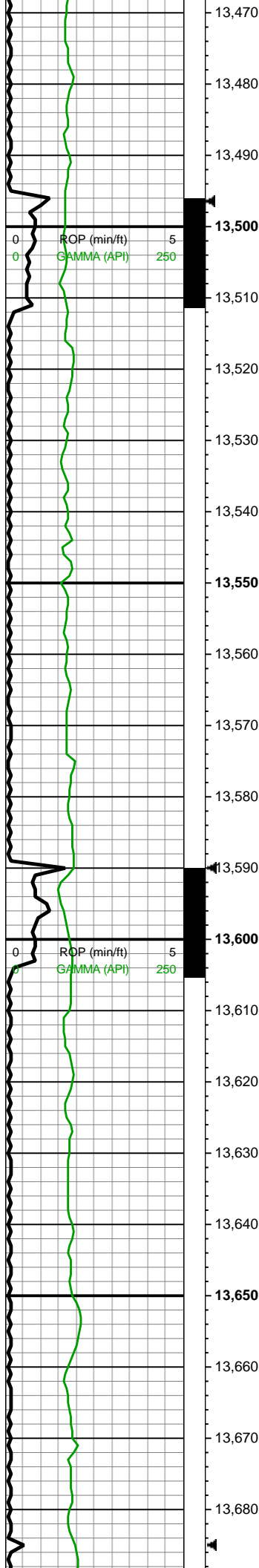


13200-13300 SS (100%):
dk gy-med brn, vf-f grns,
sb rnd-sb ang, mod w
srt, cons silc cmt, gr sup
cls, frm-hd, tr micmica,
mnr SLTST grdg, v wk
calc



13300-13400 SS (100%):
med brn-gyshbn, mot lt
brn, vf-f grns, mod w srt,
sb rnd-sb ang, frm-hd,
cons silc cmt, gr sup cls,
tr micmica, v wk calc, mnr
SLTST grdg



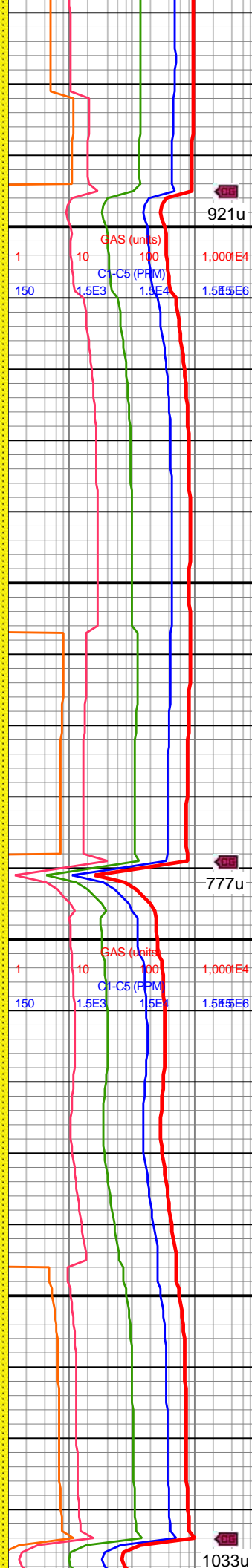


MW IN: 10.3
VIS IN: 53
MW OUT: 10.2+
VIS OUT: 51

MD: 13,530'
INC: 90.26°
AZM: 359.31°
TVD: 7,385.75'
VS: 5,826.77'

WOB: 27.2klbs
RPM: 0
SPM: 183
SPP: 5,078psi

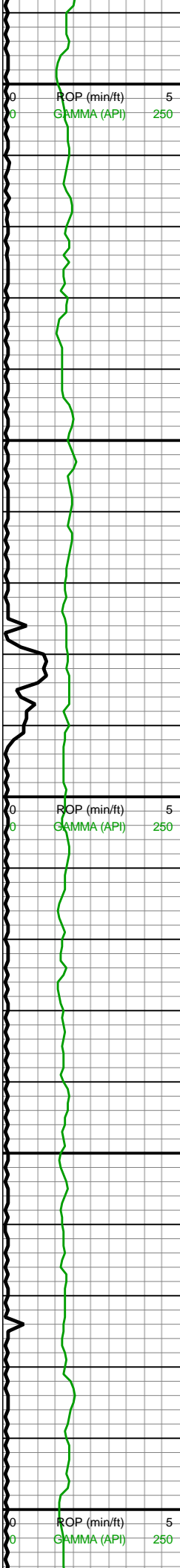
MD: 13,624'
INC: 90.7°
AZM: 1.42°
TVD: 7,384.96'
VS: 5,909.41'



13400-13500 SS (100%):
med brn-gyshbn, mot lt
brn, vf-f grns, sb rnd-sb
ang, frm-hd, mod w srt,
gr sup clus, cons silc
cmt, tr micmica, mnr
SLTST grdg, non-sl calc

13500-13600 SS (100%):
med brn-gyshbn, mot lt
brn, vf-f grns, sb rnd-sb
ang, mod w srt, frm-hd,
gr sup clus, cons silc
cmt, tr micmica, non-sl
calc, mnr SLTST grdg

13600-13700 SS (100%):
med brn-gyshbn, mot lt
brn, vf-f gr, mod w srt,



13,690
13,700
13,710
13,720
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

MW IN: 10.2
VIS IN: 52
MW OUT: 10.2+
VIS OUT: 51

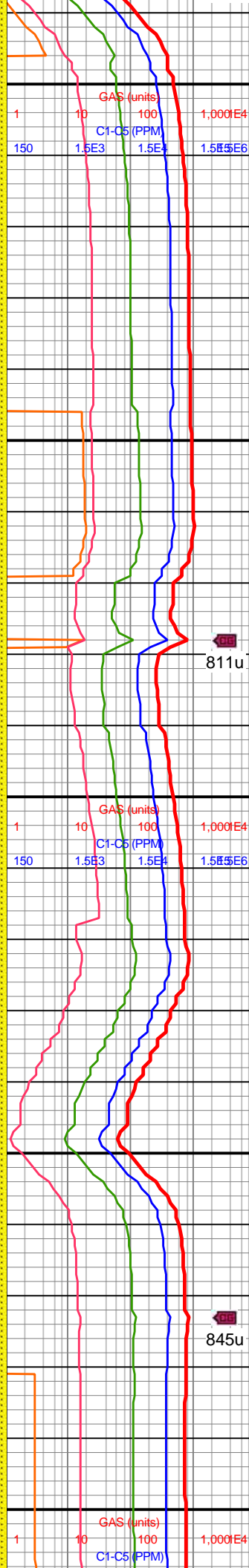
MD: 13,718'
INC: 91.58°
AZM: 1.15°
TVD: 7,383.09'
VS: 5,991.3'

WOB: 36.1klbs
RPM: 59
SPM: 184
SPP: 5,649psi

MD: 13,813'
INC: 89.78°
AZM: 1.59°
TVD: 7,381.96'
VS: 6,074.01'

MW IN: 10.2+
VIS IN: 52
MW OUT: 10.2
VIS OUT: 51

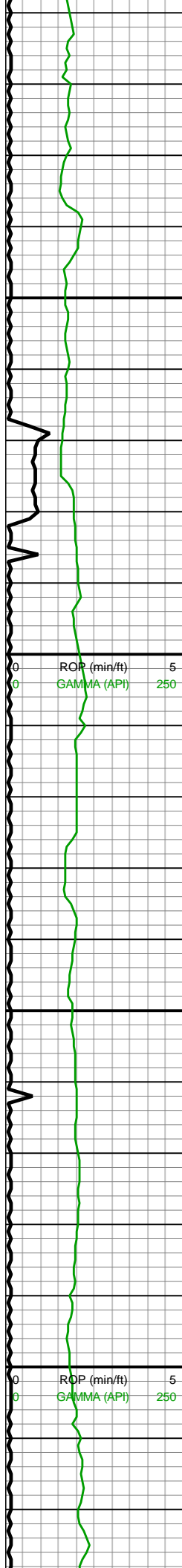
MD: 13,907'
INC: 90.04°
AZM: 0.71°



frn-hd, sb rnd-sb ang, gr
sup clus, cons silc cmt,
non-sl calc, mnrt SLTST
grdg, tr micmica

13700-13800 SS (100%):
med brn-gyshbn, mot lt
brn, vf-f gr, mod w srt, sb
rnd-sb ang, frn-hd, sme
gr sup clus, cons silc
cmt, sme lse vf qtz grns,
mnrt SLTST grdg, non-sl
calc

13800-13900 SS (100%):
gyshbn-med brn, med gy,
mot lt brn, vf-f gr, sb
rnd-sb ang, mod w srt,
frn-hd, sme gr sup clus,
cons silc cmt, mnrt
SLTST grdg, non-sl calc,
sme lse vf sb ang qtz
grns



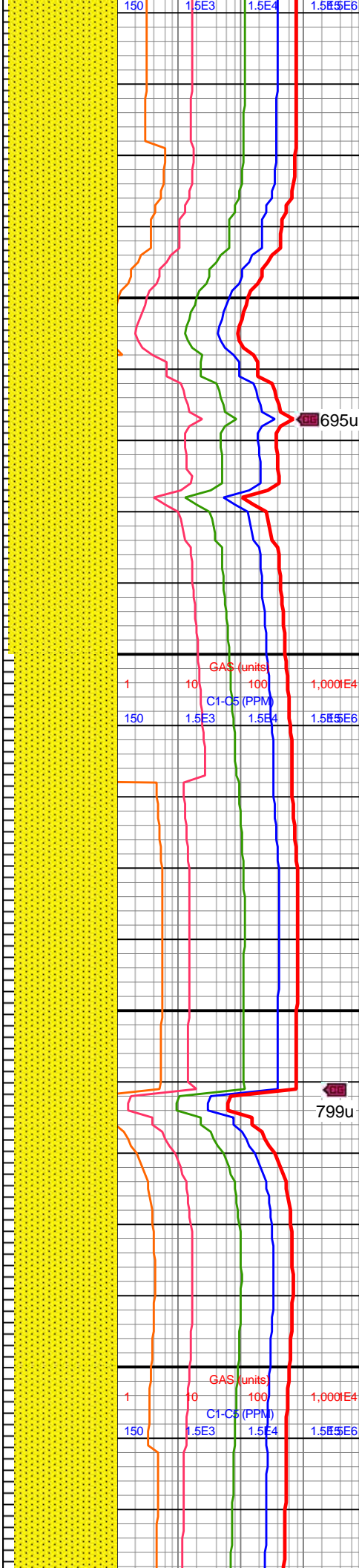
TVD: 7,382.11'
VS: 6,156.03'

WOB: 34.9klbs
RPM: 60
SPM: 184
SPP: 5,730psi

MD: 14,002'
INC: 89.25°
AZM: 1.59°
TVD: 7,382.7'
VS: 6,238.92'

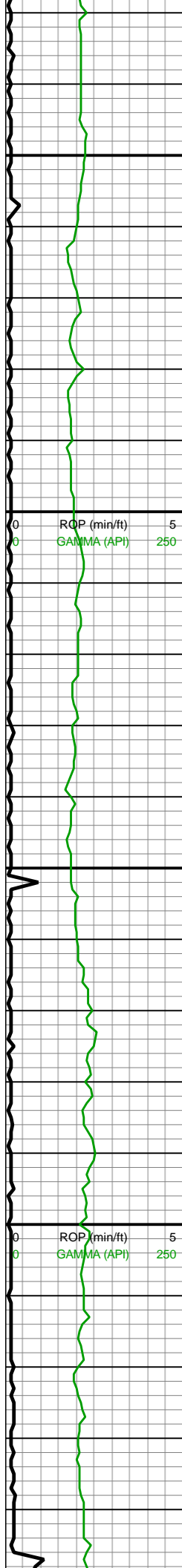
MD: 14,097'
INC: 89.03°
AZM: 0.71°
TVD: 7,384.13'
VS: 6,321.81'

MW IN: 10.2+
VIS IN: 53
MW OUT: 10.2+
VIS OUT: 51



13900-14000 SS (95%):
med brn-dk brn, mot,
frm-hd, sb rnd-sb ang, gr
sup clus, cons silc cmt,
vf-f w srt grns, v wk calc,
mnr SLTST grdg, tr
micmica; SLTY SH (5%):
dk gy-v dk gy, slty tex, sb
blky-splt, frm-sl hd,
micmica

14000-14100 SS (90%):
med brn-dk brn, mot, vf-f
gr, frm-hd, sb rnd-sb ang,
gr sup clus, cons silc
cmt, mnr SLTST grdg, tr
micmica, v wk calc; SLTY
SH (10%): dk gy-v dk gy,
slty tex, frm-sl hd, sb
blky-splt, micmica, non-sl
calc



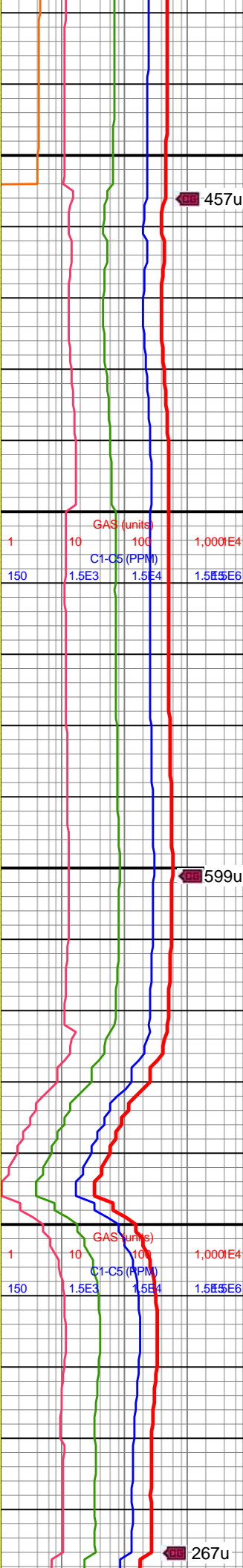
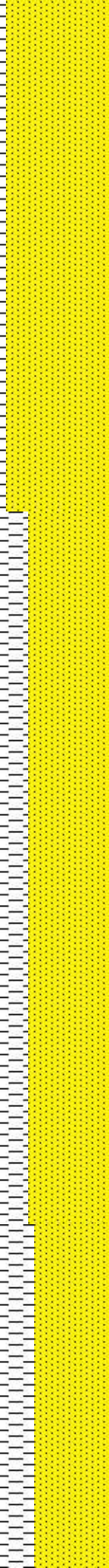
14,130
14,140
14,150
14,160
14,170
14,180
14,190
14,200
14,210
14,220
14,230
14,240
14,250
14,260
14,270
14,280
14,290
14,300
14,310
14,320
14,330
14,340

MD: 14,191'
INC: 88.73°
AZM: 1.24°
TVD: 7,385.96'
VS: 6,403.96'

WOB: 37.8klbs
RPM: 60
SPM: 182
SPP: 5,714psi

MD: 14,286'
INC: 88.55°
AZM: 0.98°
TVD: 7,388.22'
VS: 6,486.86'

MW IN: 10.2+



14100-14200 SS (90%):
med brn-dk brn, mot, vf-f
gr, sb rnd-sb ang, frm-hd,
gr sup clus, cons silc
cmt, tr micmica, v wk
calc, mnr SLTST grdg;
SLTY SH (10%): dk gy-v
dk gy, sb blk-y-splt, slty
tex, frm-sl hd, micmica,
non-sl calc

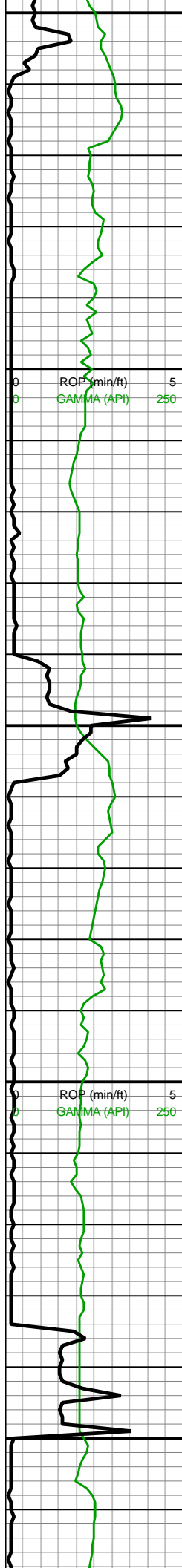
14200-14300 SS (70%):
med brn-dk brn, mot,
frm-hd, sb rnd-sb ang,
vf-f gr, gr sup clus, cons
silc cmt, v wk calc, mnr
SLTST grdg, tr micmica;
SLTY SH (30%): dk gy-v
dk gy, slty tex, splt-sb plty,
frm-sl hd, micmica, non
calc



457u

599u

267u



VIS IN: 55
MW OUT: 10.3
VIS OUT: 53

MD: 14,380'
INC: 88.37°
AZM: 2.12°
TVD: 7,390.74'
VS: 6,568.53'

WOB: 37.3klbs
RPM: 60
SPM: 179
SPP: 5,605psi

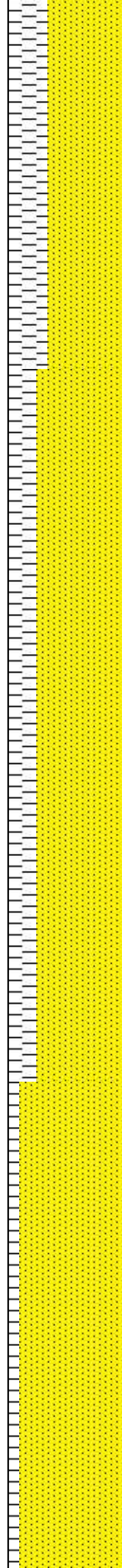
MW IN: 10.2
VIS IN: 56
MW OUT: 10.3
VIS OUT: 53

MIN DEPT 7/22/2018

MD: 14,474'
INC: 89.56°
AZM: 0.98°
TVD: 7,392.44'
VS: 6,650.21'

MW IN: 10.2+
VIS IN: 54
MW OUT: 10.3
VIS OUT: 52

MD: 14,569'
INC: 91.32°

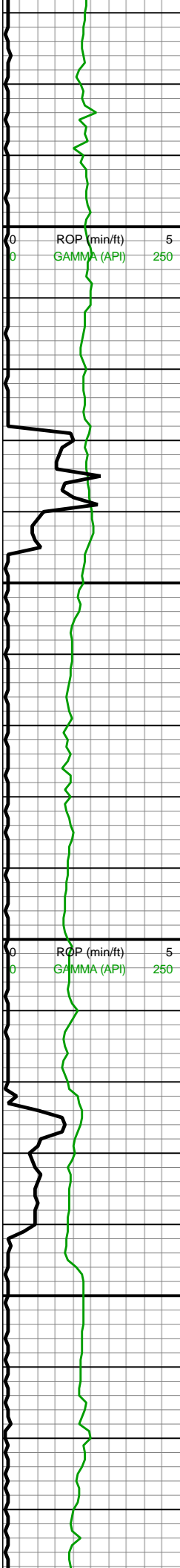


14300-14400 SS (65%):
med brn-dk brn, mot, vf-f
gr, mod-w srt, frm-hd, sb
rnd-sb ang, gr sup clus,
cons silc cmt, mn
SLTST grdg, tr imbd mic
pyr, sl calc; SLTY SH
(35%): dk gy-v dk gy,
spll-sb plty, slty tex, frm-sl
hd, non calc, micmica



14400-14500 SS (65%):
med brn-dk brn, mot, vf-f
gr, mod-w srt, frm-hd, sb
rnd-ang, mn SLTST
grdg, gr sup clus, cons
silc cmt, sl calc, tr imbd
mic pyr; SLTY SH (35%):
dk gy-v dk gy, frm-sl hd,
spll-sb plty, slty tex,
micmica, non calc





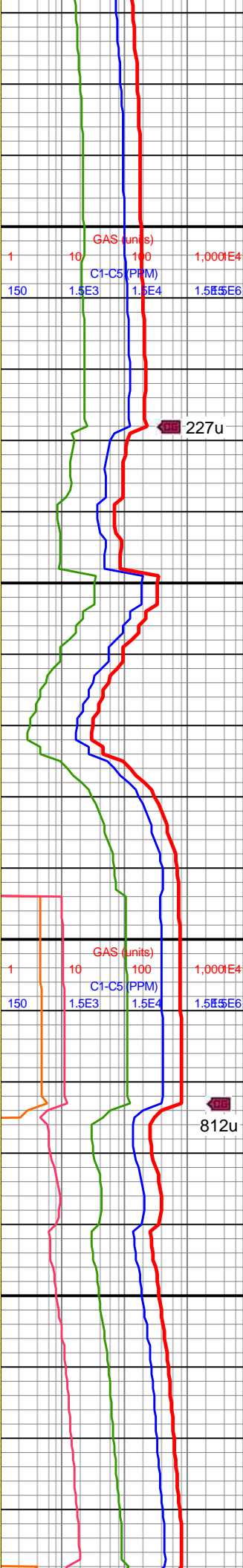
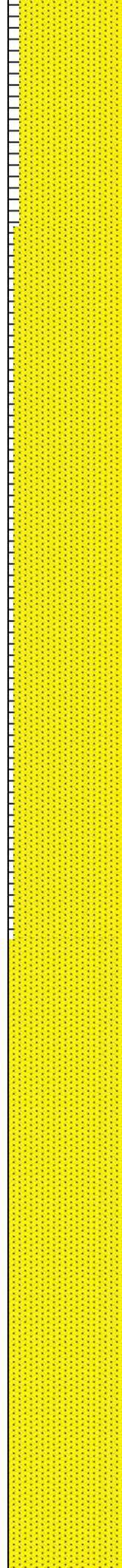
AZM: 1.59°
TVD: 7,391.71'
VS: 6,732.99'

WOB: 34.5klbs
RPM: 60
SPM: 180
SPP: 5,578psi

MW IN: 10.3
VIS IN: 54
MW OUT: 10.2+
VIS OUT: 51

MD: 14,663'
INC: 92.24°
AZM: 0.8°
TVD: 7,388.79'
VS: 6,814.94'

MD: 14,758'
INC: 91.76°
AZM: 359.75°
TVD: 7,385.48'
VS: 6,898.48'

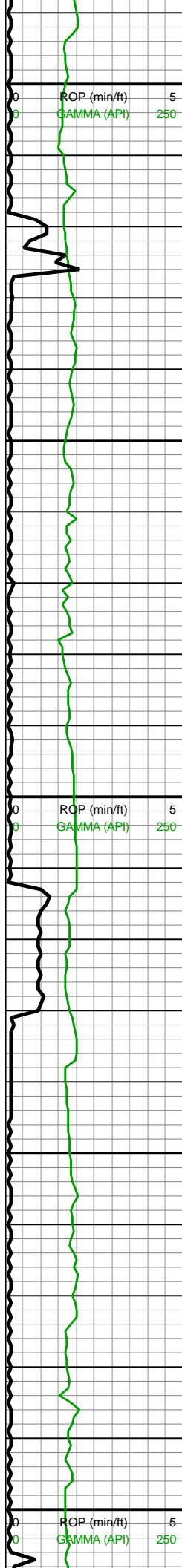


14500-14600 SS (90%):
med brn-dk brn, mot,
frm-hd, vf-f gr, sb rnd-sb
ang, gr sup clus, cons
silc cmt, v wk calc, mn
SLTST grdg, tr micmica;
SLTY SH (10%): dk gy-v
dk gy, frm-sl hd, sb
blky-splt, slty tex, non-sl
calc, micmica

14600-14700 SS (95%):
med brn-gyshbn, mot lt
brn, vf-f gr, frm-hd, sb
rnd-sb ang, w srt, gr sup
clus, cons silc cmt, sl
calc, mn SLTST grdg,
mn pp/imbd mic pyr;
SLTY SH (5%): dk gy-v dk
gy, sb blky-splt, frm-sl hd,
slty tex, micmica, non-sl
calc

14700-14800 SS (100%):
med gyshbn, sme lt gy,





14,790
14,800
14,810
14,820
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

WOB: 36klbs
RPM: 60
SPM: 180
SPP: 5,517psi

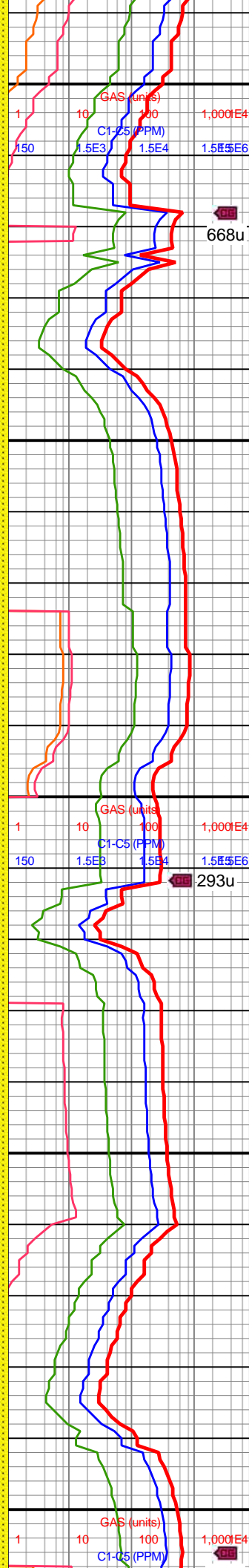
MW IN: 10.2+
VIS IN: 52
MW OUT: 10.2+
VIS OUT: 49

MD: 14,852'
INC: 92.59°
AZM: 0.01°
TVD: 7,381.91'
VS: 6,981.44'

MW IN: 10.2+
VIS IN: 52
MW OUT: 10.3
VIS OUT: 49

MD: 14,947'
INC: 90.66°
AZM: 358.16°
TVD: 7,379.22'
VS: 7,065.91'

WOB: 32.8klbs
RPM: 60
SPM: 180
SPP: 5,557psi

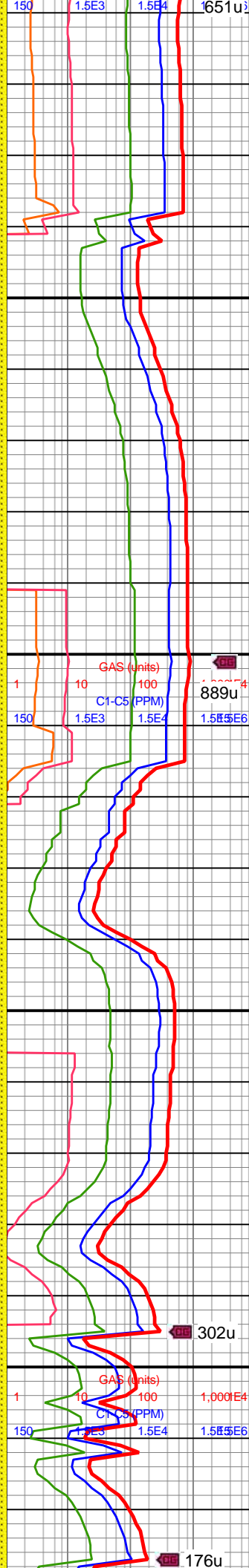
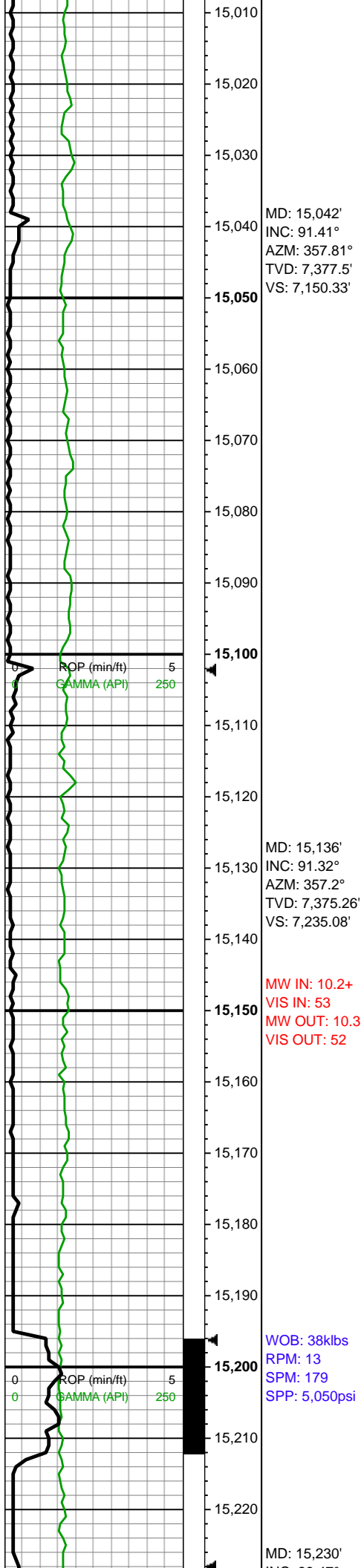


sb rnd-sb ang, w srt, gr
sup clus, cons silc cmt,
sl calc, mnrt SLTST grdg

14800-14900 SS (100%):
predy gyshbn, mot lt brn,
vf-f gr, hd-frn, sb rnd-sb
ang w cons silc cmt grs,
w srt, gr sup mtz, sl calc,
mnrt SLTST grdg

14900-15000 SS (100%):
predy gyshbn, mot lt brn,
sme lt gy, vf-f gr, hd-frn,
sb rnd-sb ang w cons
silc cmt grs, w srt, gr sup
mtz, mnrt grdg to SLTST,
sl calc

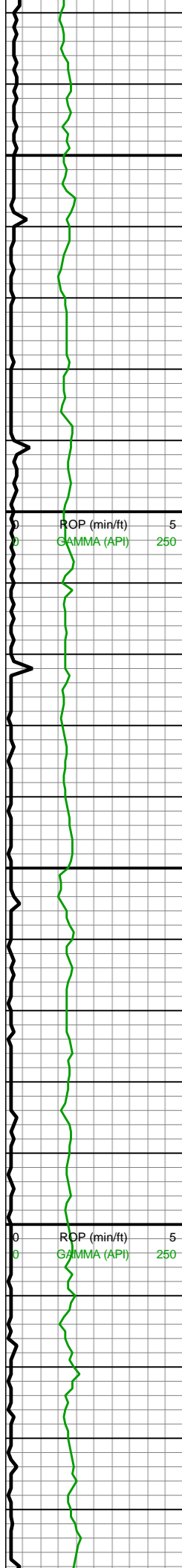




15000-15100 SS (100%):
predy gyshbn, mot lt brn,
sme lt gy, vf-f gr, hd-frm,
sb rnd-sb ang, w cons
grs in silc cmt mtx, v w
srt, gr sup, com grdg to
SLTST, sl calc

15100-15200 SS (100%):
predy gyshbn, mot lt brn
intbds, sme lt gy grns, vf-f
gr, hd-frm, sb rnd-sb ang,
w cons grs in silc cmt
mtx, v w srt, gr sup, com
grdg to SLTST, wk calc





INC: 89.47°
AZM: 358.6°
TVD: 7,374.61'
VS: 7,319.56'

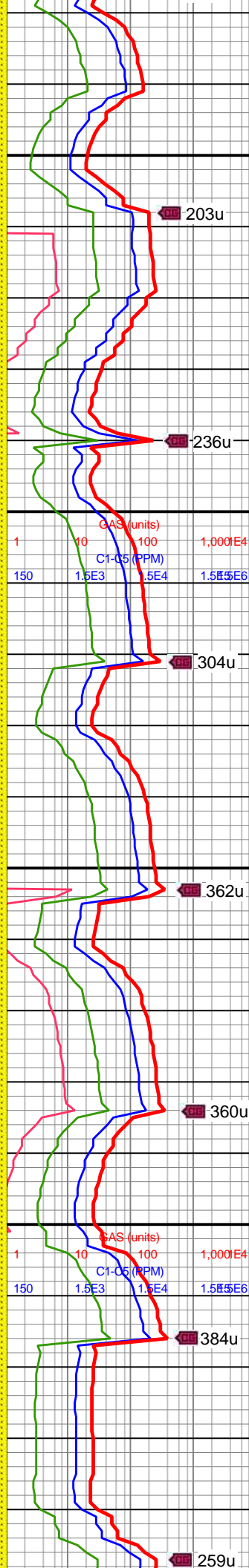
MW IN: 10.2+
VIS IN: 49
MW OUT: 10.3
VIS OUT: 47

MD: 15,325'
INC: 88.86°
AZM: 357.02°
TVD: 7,376'
VS: 7,405.01'

MW IN: 10.2
VIS IN: 51
MW OUT: 10.2+
VIS OUT: 50

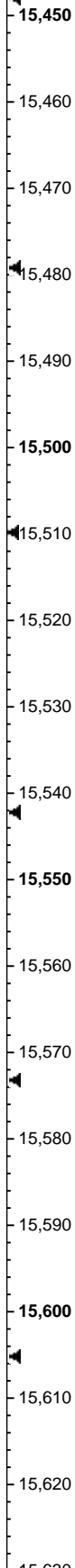
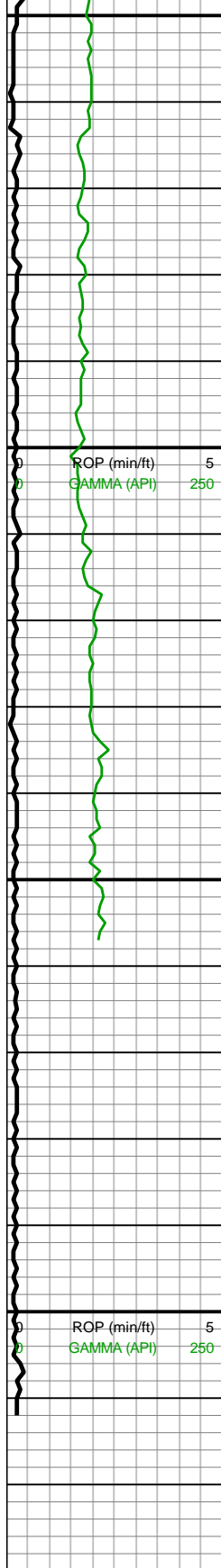
WOB: 34klbs
RPM: 60
SPM: 178
SPP: 5,619psi

MD: 15,419'
INC: 88.95°
AZM: 356.49°
TVD: 7,377.79'
VS: 7,490.29'



15200-15300 SS (100%):
predy gyshbn, mot lt brn
intbds, sme lt gy, vf-f gr,
frm-hd, sb rnd-sb ang
grns, w cons grs in silc
cmt mtx, v w srt, sme
grdg to SLTST, v wk calc

15300-15400 SS (100%):
predy dk gyshbn, mot lt
brn intbd wi scat offwht-lt
gy frags, vf-f gr, frm-hd,
sb rnd-sb ang grns, w
cons grs in silc cmt mtx, v
w srt, sme grdg to
SLTST, v wk calc



MD: 15,513'
INC: 88.59°
AZM: 356.32°
TVD: 7,379.81'
VS: 7,575.81'

MD: 15,552'
INC: 88.59°
AZM: 355.44°
TVD: 7,380.77'
VS: 7,611.44'

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

WOB: 24klbs
RPM: 60
SPM: 178
SPP: 5,447psi

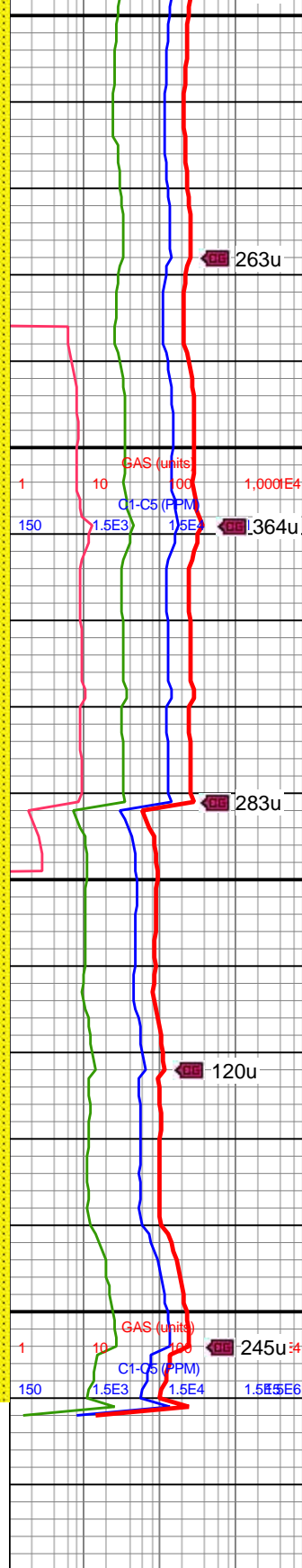
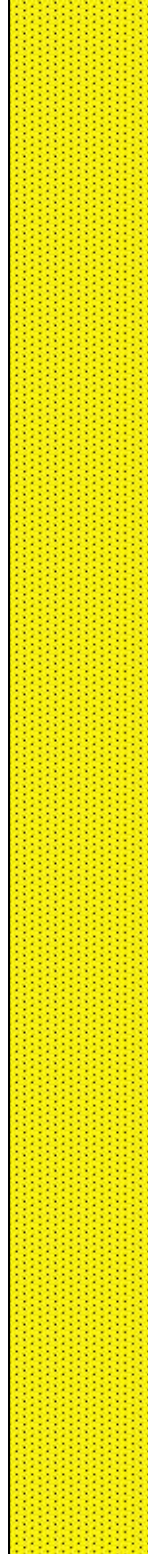
Projection to bit:

MD: 15,612'
INC: 88.59°
AZM: 355.44°
TVD: 7,382.25'
VS: 7,666.43'

TD

15612' MD
10:30 hrs

End of log



15400-15500 SS (100%):
predy dk gyshbn, mot lt
brn intbd, sme offwht-lt gy
frags, vf-f gr, frm-hd, sb
rnd-sb ang grns, w cons
grs in silc cmt mtx, v w
srt, grdg to SLTST, sl calc



15500-15612 SS (100%):
predy dk gyshbn, mot lt
brn intbd, sme offwht-lt
gy, vf-f gr, frm-hd, sb
rnd-sb ang grns, w cons
grs in silc cmt mtx, v w
srt, sme grdg to SLTST,
sl calc

