



Scale: 5" / 100'
Measured Depth Log

Well Name Herbers 11-20H-B167

Location Sec. 20 T1N R67W

State Colorado

County Weld

Country USA

Rig Number Ensign 153

API Number 05-123-49800

Field Wattenberg

Geographic Region Rockies

Drilling Completed 3/29/2020

Spud Date 10/19/2019

Surface Coordinates Lat/Long (NAD83): 40.041523/-104.913261

SHL: Sec 20 T1N R67W
Footage: 830 FNL 2302 FEL

Bottom Hole Coordinates Proposed BHL: Sec 29 T1N R67W
Footage: 2172 FNL 580 FEL

Ground Elevation 5,107'

K.B. Elevation 5,130'

Logged Interval 7,088' **To** 15,298'

Total Depth 15,298'

Formation C Chalk

Type of Drilling Fluid Oil Based Mud

Operator

Company Crestone Peak Resources

Address 1801 California Street, Suite 2500
Denver, CO 80202



CRESTONE PEAK
RESOURCES

Geologist

Name John Ready

Company Crestone Peak Resources

Address 1801 California Street, Suite 2500
Denver, CO 80202



Color Coding

Oil	Condensate	Gas
Note	Core	Pressure
Error	Water	Seal

Other

Loggers: Tom Yull, Tom Anderson

Services Provided: 2-Man Mudlogging

Equipment: ML 568

Contractor: Reservoir Group
14103 Interdrive
W. Houston, Texas, 77032

Service Start Date: 03/25/2020

Service End Date: 03/31/2020

Job # 0168 RMC Crestone

Rock Types

UNKNOWN	CHERT	SILTSTONE	IGNEOUS
ANHYDRITE	COAL	SANDSTONE	METAMORPHIC
GYPSUM	MARLSTONE	CONGLOMERATE	CEMENT
SALT	CHALK	BRECCIA	No Sample
SIDERITE or LIMONITE	SHALE	TILL	
LIMESTONE	SHALE GRAY	BENTONITE	
DOLOMITE	SHALE COLORED	TUFF	

Accessories

Fossils

ALGAE
 AMPHIPORA
 BELEMNITE
 BIOCLASTIC
 BRACHIOPOD
 BRYOZOA
 CEPHALOPOD
 CORAL
 CRINOID
 ECHINOID

F FOSSIL

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

ARGILLACEOUS



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


GLAUCONITE



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



Stringer

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

 FISH
 FORAMINIFERA

Minerals
 ANHYDRITIC





 FERRUGINOUS PELLET
 FERRUGINOUS

 SILTY
 TUFFACEOUS

 SILTSTONE STRINGER

Other Symbols

Oil Show










-  DEAD
-  EVEN
-  QUESTIONABLE
-  SPOTTED STAINING

Porosity


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

-  ORGANIC
-  PINPOINT
-  VUGGY

Engineering


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

 FORMATION TOP

 GAS SHOW

 MN DEPTH


 NORMAL FAULT

 OIL SHOW


 OVERTURNED STRATA

 REVERSE FAULT


 SIDEWALL CORE (LEFT)

 SIDEWALL CORE (RIGHT)

 SLIDE





 SURVEY

 TRIP GAS







 WIRELINE TESTED - LEFT

 WIRELINE TESTED - RT

Rounding


-  ANGULAR
-  ROUNDED
-  SUBANG
-  SUBRND

Textures

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

 LITHOGRAPHIC




 MICROXLN

 MUDSTONE

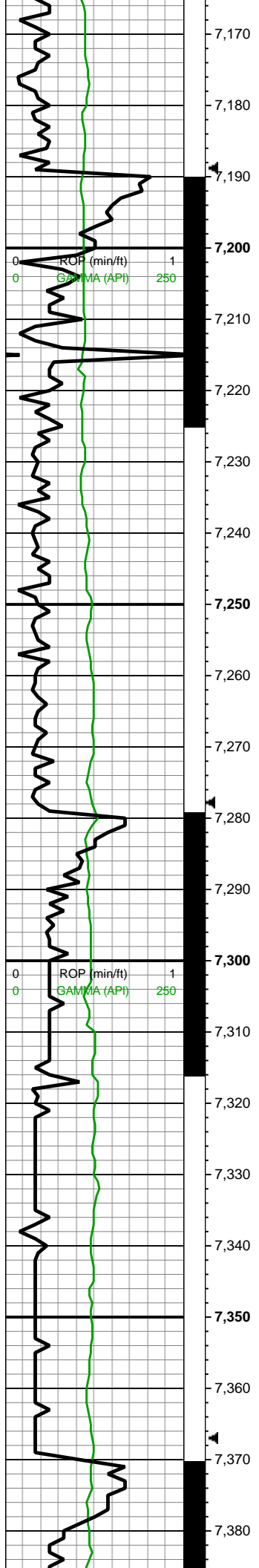
 PACKSTONE

 WACKESTONE

Sorting

-  MODERATE
-  POOR
-  WELL

[illegible]



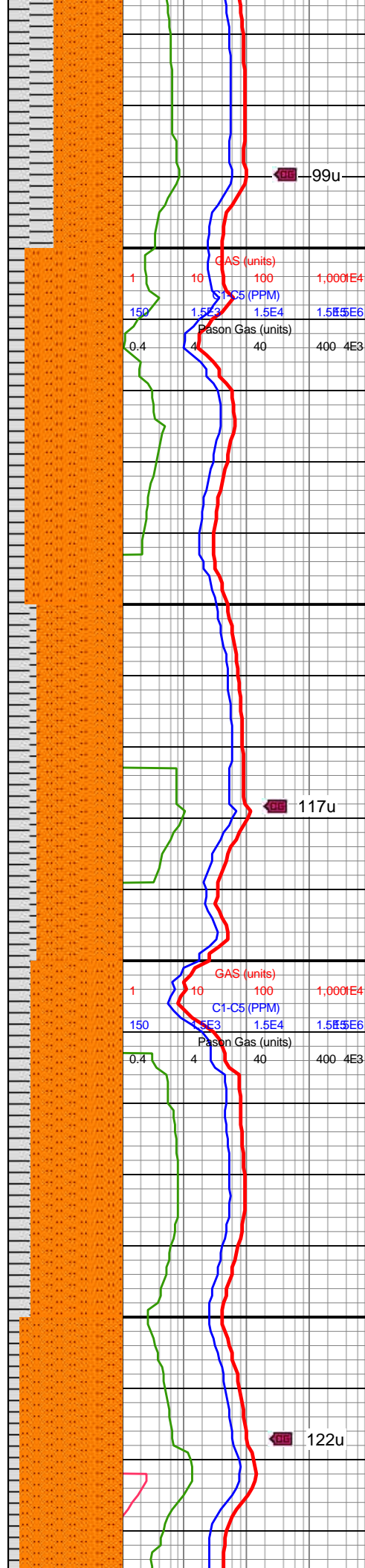
WOB: 24klbs
RPM: 8
SPM: 198
SPP: 3,118psi

MD: 7,212'
INC: 14.51°
AZM: 97.92°
TVD: 6,943.12'
VS: -633.69'

MW IN: 9.6
VIS IN: 44
MW OUT: 9.6
VIS OUT: 43

MD: 7,302'
INC: 15.04°
AZM: 123.76°
TVD: 7,030.24'
VS: -620.55'

MD: 7,391'



7150-7200 60% SLTST,
med-dk gy, lt-med
bnshgy, frm-sl hd, sb
blky-sb plty, sl arg cmt,
w-mod cmt; 40% SLTY
SH, med-lt gy, frm-hrd, sb
blky-sb ang, rthy tex, sl
calc

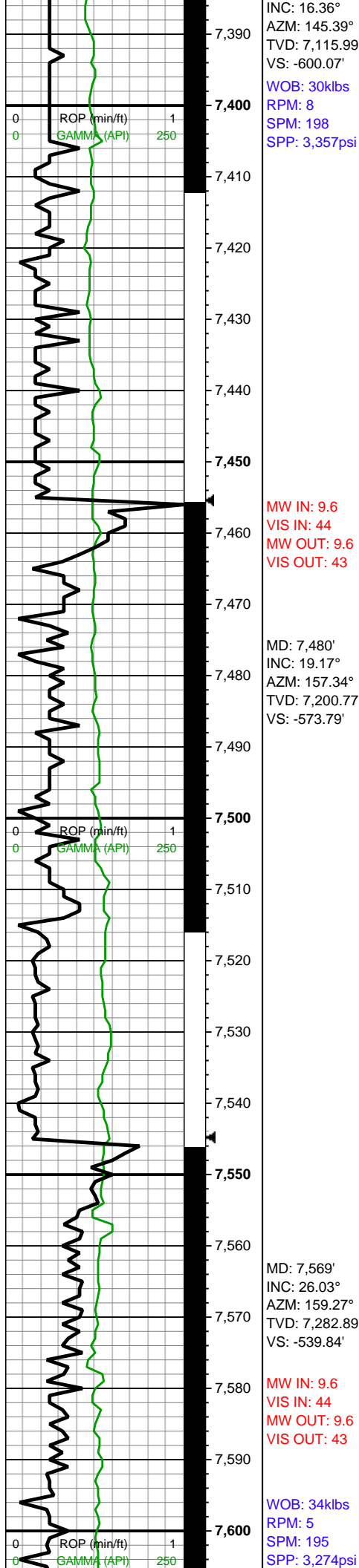
7200-7250 85% SLTST,
med-lt gy, lt-med bnshgy,
frm-sl hd, sb blky-sb plty,
sl arg cmt, w-mod cmt;
15% SLTY SH, med-lt gy,
frm-hrd, sb blky-sb ang,
rthy tex, sl calc

7250-7300 75% SLTST,
med-lt gy, lt-med bnshgy,
frm-sl hd, sb blky-sb plty,
sl arg cmt, w-mod cmt;
25% SLTY SH, med-lt gy,
frm-hrd, sb blky-sb ang,
rthy tex, sl calc

7300-7350 80% SLTST,
med-lt gy, lt-med bnshgy,
frm-sl hd, sb blky-sb plty,
arg cmt, w-mod cmt,
non calc; 20% SLTY SH,
med-lt gy, frm-hrd, sb
blky-sb ang, rthy tex, non
calc

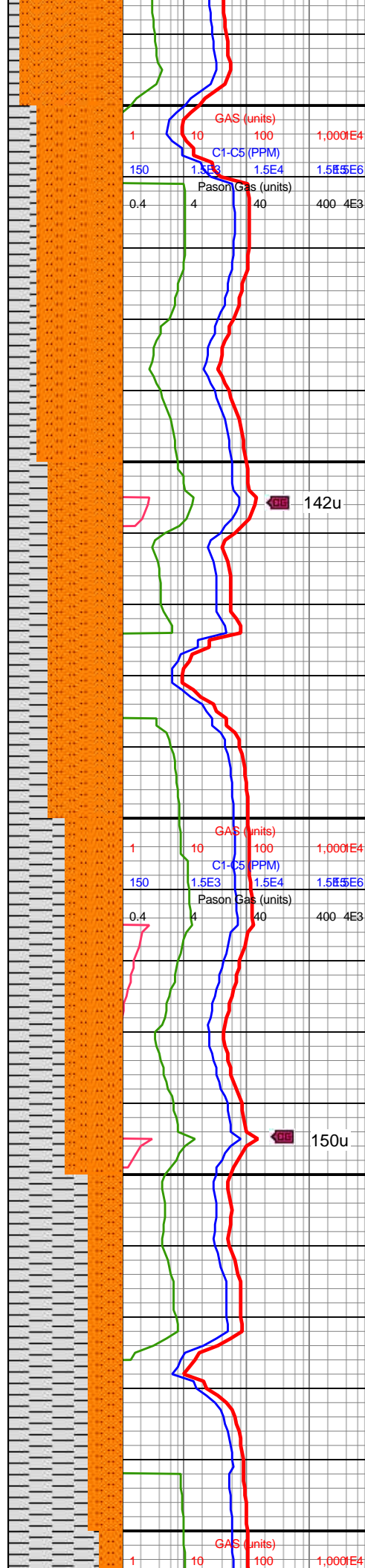
7350-7400 90% SLTST,
med-lt gy, dk gy ip, frm-sl
hd, sb blky-sb plty, arg
cmt, w-mod cmt, non





MW IN: 9.6
VIS IN: 44
MW OUT: 9.6
VIS OUT: 43

MW IN: 9.6
VIS IN: 44
MW OUT: 9.6
VIS OUT: 43



calc; 10% SLTY SH,
med-lt gy, frm-hrd, sb
blky-sb ang, rthy tex, non
calc

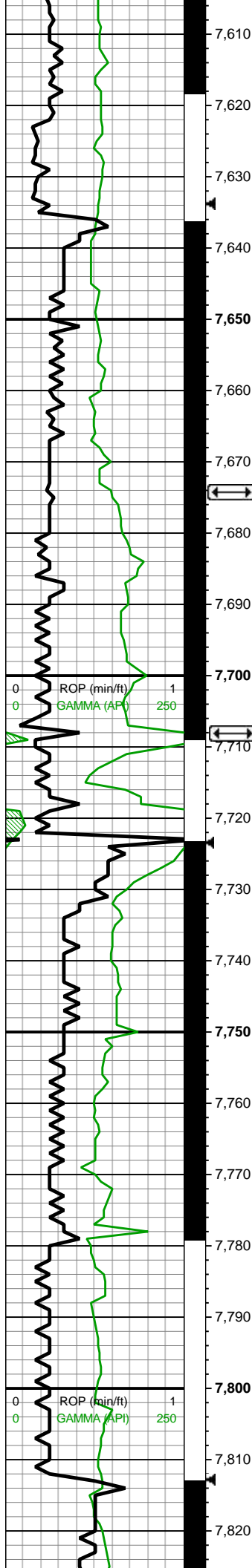
7400-7450 75% SLTST,
med-dk gy, frm-sl hd, sb
blky-sb plty, arg cmt,
w-mod cmt, non calc;
25% SLTY SH, med-lt gy,
frm-hrd, sb blky-sb ang,
rthy tex, non calc

7450-7500 65% SLTST,
med-dk gy, frm-sl hd, sb
blky-sb plty, arg cmt,
w-mod cmt, non calc;
35% SLTY SH, med-lt gy,
frm-hrd, sb blky-sb ang,
rthy tex, non calc

7500-7550 50% SLTST,
med-dk gy, frm-sl hd, sb
blky-sb plty, arg cmt,
w-mod cmt, non calc;
50% SLTY SH, med-lt gy,
frm-hrd, sb blky-sb ang,
rthy tex, non calc

7550-7600 70% SLTY
SH, med-lt gy, frm-hrd, sb
blky-sb ang, rthy tex, non
calc; 30% SLTST,
med-dk gy, frm-sl hd, sb
blky-sb plty, arg cmt,
w-mod cmt, non calc





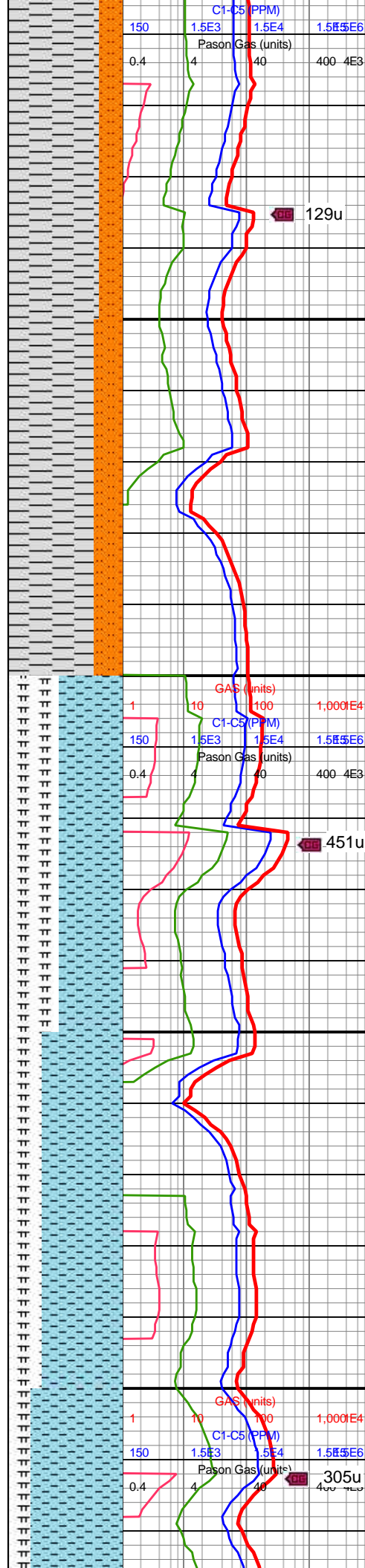
MD: 7,658'
INC: 36.76°
AZM: 163.67°
TVD: 7,358.76'
VS: -493.66'

Sharon Springs
7674'MD
7371'TVD

Nio A Chalk
7708'MD
7397'TVD

MD: 7,747'
INC: 48.01°
AZM: 168.06°
TVD: 7,424.4'
VS: -433.79'

WOB: 34klbs
RPM: 30
SPM: 197
SPP: 3,618psi



7600-7650 80% SH,
med-dk gy, frm-hrd, sb
blky-sb ang, rthy tex, non
calc; 20% SLTST,
med-dk gy, frm-sl hd, sb
blky-sb plty, arg cmt,
w-mod cmtd, non calc

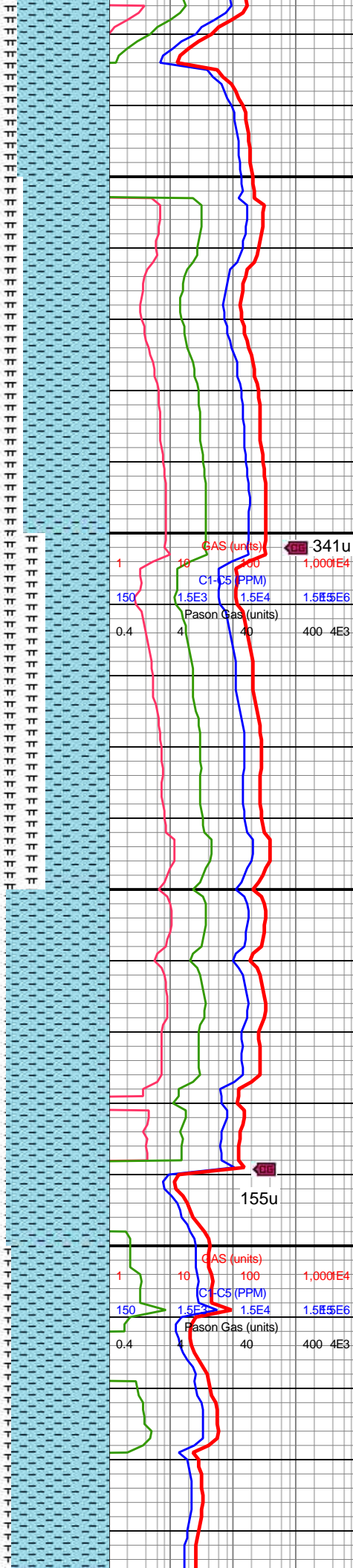
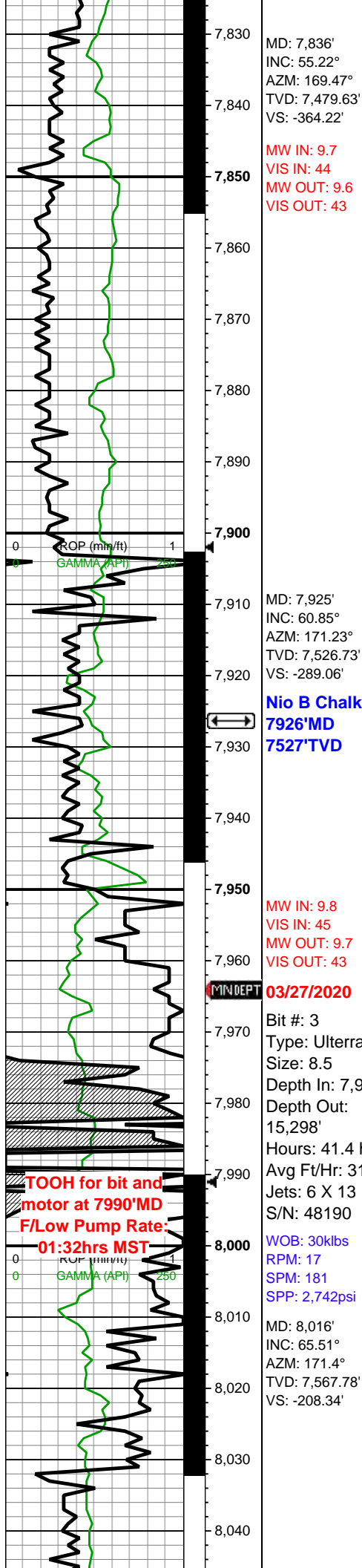
7650-7700 75% SH, dk
gy-gyshblk, med gy ip,
frm-hrd, sb blky-sb ang,
rthy tex, non calc; 25%
SLTST, med-dk gy, frm-sl
hd, sb blky-sb plty, arg
cmt, w-mod cmtd, sl calc
ip, tr chk

7700-7750 55% CHK:
med-dk bnshgy, med-lt
gy, micxln-vf xln, sl fri-frm,
ang-sb ang, rthy tex, v
calc, arg ip; 45% MRLST:
med-dk gy, micxln-vf xln,
frm-hd, sb blky-ang, rthy
tex, calc, arg

7750-7800 70% CHK:
med bnshgy, med-lt gy,
micxln-vf xln, sl fri-frm,
ang-sb ang, rthy tex, v
calc, arg ip; 30% MRLST:
med-dk gy, micxln-vf xln,
frm-hd, sb blky-ang, rthy
tex, calc, arg, occ pyr incl



7800-7850 80% CHK



med bnshgy, med-lt gy,
micxln-vf xln, sl fri-frn,
ang-sb ang, rthy tex, v
calc, arg ip; 20% MRLST:
med-dk gy, micxln-vf xln,
frm-hd, sb blk-ang, rthy
tex, calc, arg, occ pyr incl

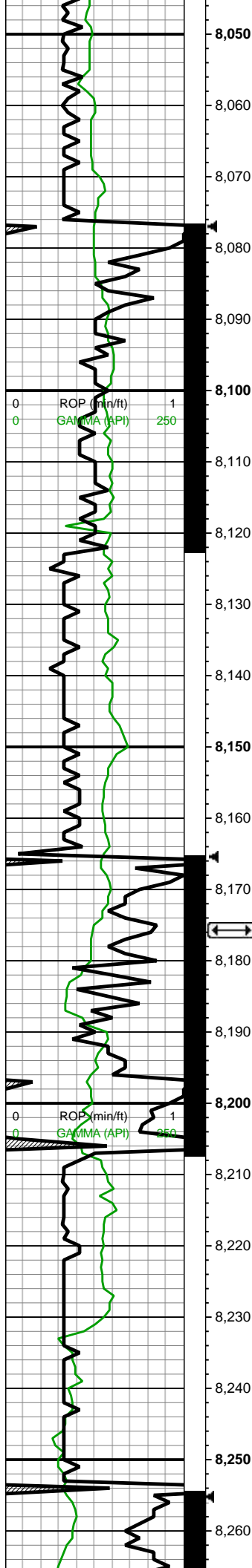
med-lt bnshgy, med-lt gy,
micxln-vf xln, sl fri-frn,
ang-sb ang, rthy tex, v
calc, arg ip; 25% MRLST:
dk gy, micxln-vf xln,
frm-hd, sb blk-ang, rthy
tex, calc, arg, occ pyr incl

med-lt bnshgy, med-lt gy,
micxln-vf xln, sl fri-frn,
ang-sb ang, rthy tex, v
calc, arg ip; 45% MRLST:
dk gy, micxln-vf xln,
frm-hd, sb blk-ang, rthy
tex, calc, arg, occ pyr incl

med-lt bnshgy, med-lt gy,
micxln-vf xln, sl fri-frn,
ang-sb ang, rthy tex, v
calc, arg ip; 10% MRLST:
dk gy, micxln-vf xln,
frm-hd, sb blk-ang, rthy
tex, calc, arg, occ wht,
anhy, tr pp pyr incl

med-lt bnshgy, med-lt gy,
micxln-vf xln, sl fri-frn,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
15% MRLST: dk gy,
micxln-vf xln, frm-hd, sb
blk-ang, rthy tex, calc,
arg, occ wht anhy, tr pp





MW IN: 9.9
VIS IN: 44
MW OUT: 9.9
VIS OUT: 43

MD: 8,105'
INC: 71.23°
AZM: 171.58°
TVD: 7,600.57'
VS: -126.15'

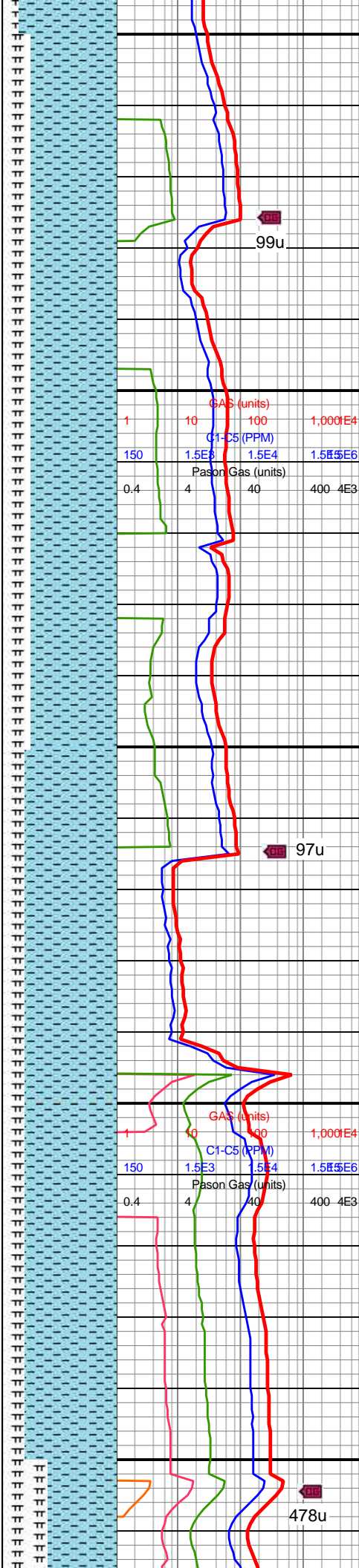
MW IN: 9.9
VIS IN: 44
MW OUT: 9.9
VIS OUT: 43

Nio C Chalk
8174'MD
7621'TVD

MD: 8,194'
INC: 75.71°
AZM: 174.04°
TVD: 7,625.89'
VS: -41.62'

WOB: 34klbs
RPM: 17
SPM: 191
SPP: 2,813psi

MW IN: 9.9
VIS IN: 43
MW OUT: 9.9
VIS OUT: 41



99u

97u

478u

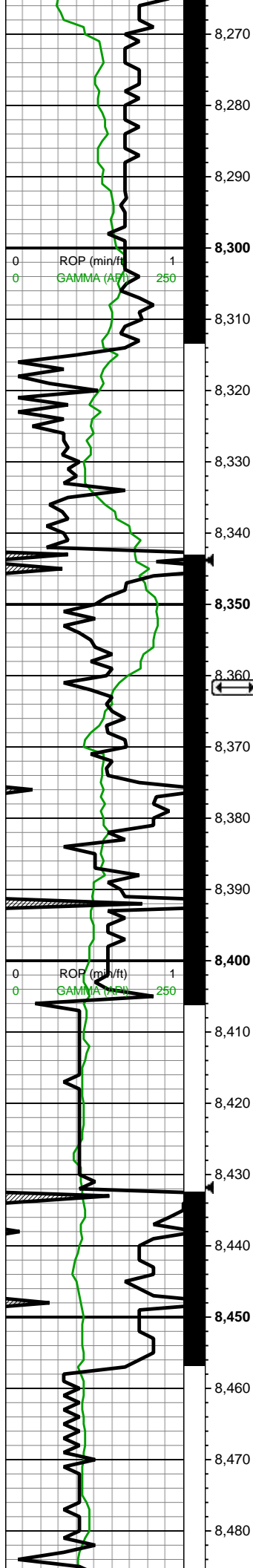
8050-8100 75% CHK:
med-lt bnshgy, med-lt gy,
micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
25% MRLST: dk gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr pp pyr incl

8100-8150 75% CHK:
med-lt bnshgy, med-lt gy,
micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
25% MRLST: dk gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr pp pyr incl

8150-8200 80% CHK:
med-lt bnshgy, med-lt gy,
micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
20% MRLST: dk gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr pp pyr incl

8200-8250 80% CHK:
med-lt bnshgy, med-lt gy,
micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
20% MRLST: dk gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr pp pyr incl





MD: 8,283'
INC: 79.58°
AZM: 175.97°
TVD: 7,644.93'
VS: 44.02'

MW IN: 9.9
VIS IN: 43
MW OUT: 9.9
VIS OUT: 41

Nio D Chalk
8362'MD
7654'TVD

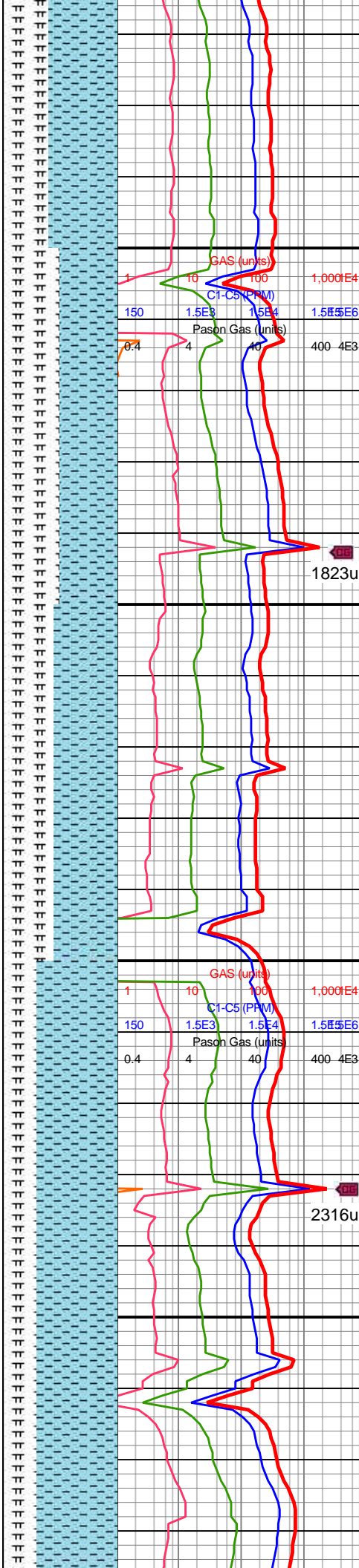
MD: 8,372'
INC: 86.88°
AZM: 176.5°
TVD: 7,655.42'
VS: 130.69'

WOB: 45klbs
RPM: 17
SPM: 182
SPP: 2,967psi

MW IN: 9.9
VIS IN: 43
MW OUT: 9.9
VIS OUT: 41

Landed @
8457'MD

MD: 8,462'
INC: 91.36°
AZM: 179.84°
TVD: 7,656.8'
VS: 218.34'



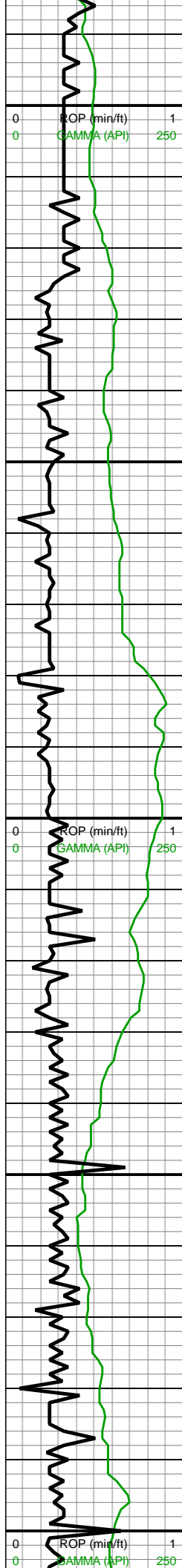
8250-8300 60% CHK:
med-lt bnshgy, med-lt gy,
micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
40% MRLST: dk gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc, arg

8300-8350 50% CHK:
med-lt bnshgy, med-lt gy,
micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
50% MRLST: dk gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc, arg

8350-8400 55% CHK:
med-lt bnshgy, med-lt gy,
micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
45% MRLST: dk gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, occ pyr incl

8400-8500 70% CHK:
med-lt gy, med-lt bnshgy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;





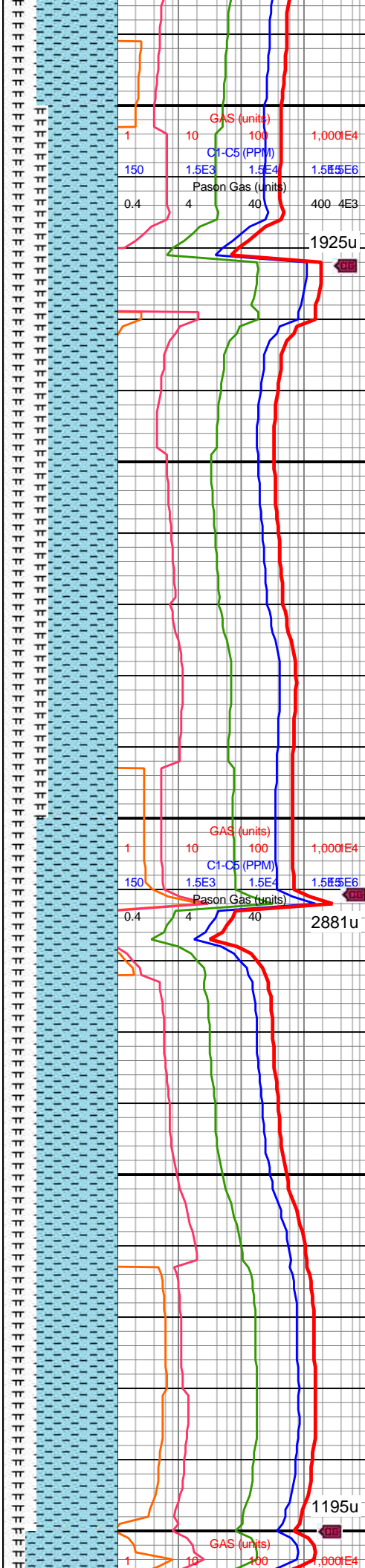
8,490
8,500
8,510
8,520
8,530
8,540
8,550
8,560
8,570
8,580
8,590
8,600
8,610
8,620
8,630
8,640
8,650
8,660
8,670
8,680
8,690
8,700

MD: 8,551'
INC: 91.45°
AZM: 180.89°
TVD: 7,654.62'
VS: 304.19'

MW IN: 9.9
VIS IN: 43
MW OUT: 9.9
VIS OUT: 41

WOB: 35klbs
RPM: 60
SPM: 181
SPP: 3,237psi

MD: 8,640'
INC: 91.45°
AZM: 180.01°
TVD: 7,652.37'
VS: 390.01'

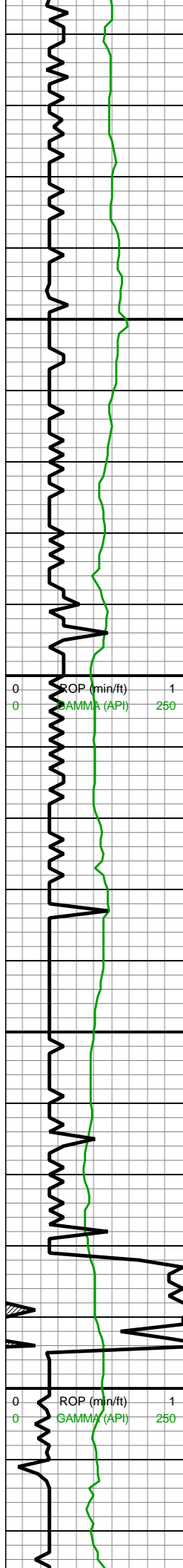


rthy tex, v calc, arg ip,
30% MRLST: dk gy,
micxln-vf xln, frm-hd, sb
blk-ply, rthy tex, calc,
arg, occ pyr incl

8500-8600 60% CHK:
med-lt gy, med-lt bnsghy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
40% MRLST: dk gy,
micxln-vf xln, frm-hd, sb
blk-ply, rthy tex, calc, arg

8600-8700 70% CHK:
med-dk bnsghy, micxln-vf
xln, sl fri-frm, dns struc,
ang-sb ang, rthy tex, v
calc, arg ip; 30% MRLST:
dk gy, micxln-vf xln,
frm-hd, sb blk-ply, rthy
tex, calc, arg





8,710
8,720
8,730
8,740
8,750
8,760
8,770
8,780
8,790
8,800
8,810
8,820
8,830
8,840
8,850
8,860
8,870
8,880
8,890
8,900
8,910
8,920

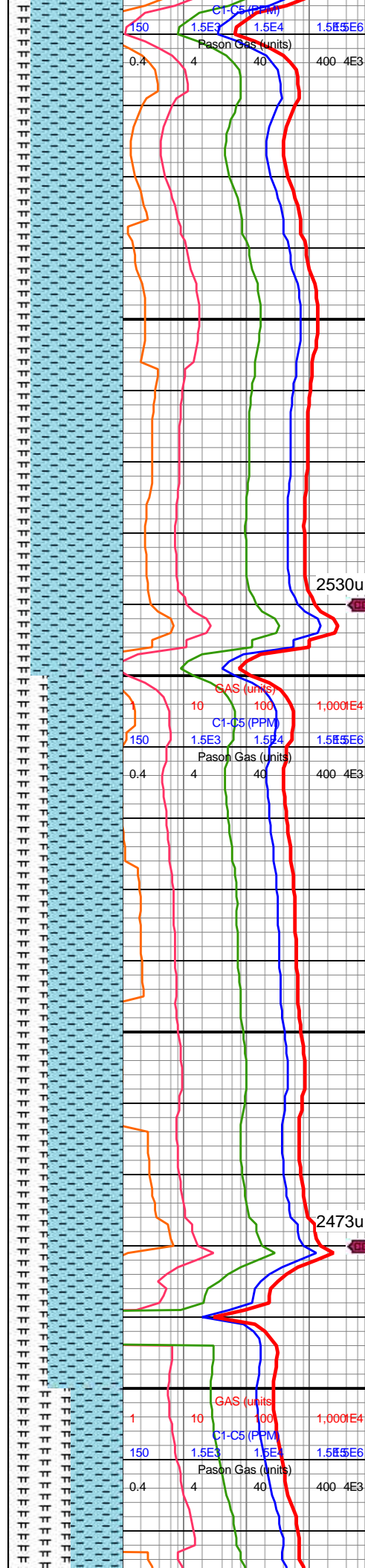
MD: 8,729'
INC: 91.8°
AZM: 179.66°
TVD: 7,649.84'
VS: 476.08'

MW IN: 9.9
VIS IN: 43
MW OUT: 9.9
VIS OUT: 41

WOB: 36klbs
RPM: 60
SPM: 182
SPP: 3,255psi

MD: 8,818'
INC: 92.77°
AZM: 178.96°
TVD: 7,646.29'
VS: 562.31'

MD: 8,907'
INC: 90.92°
AZM: 178.78°
TVD: 7,643.43'
VS: 648.72'

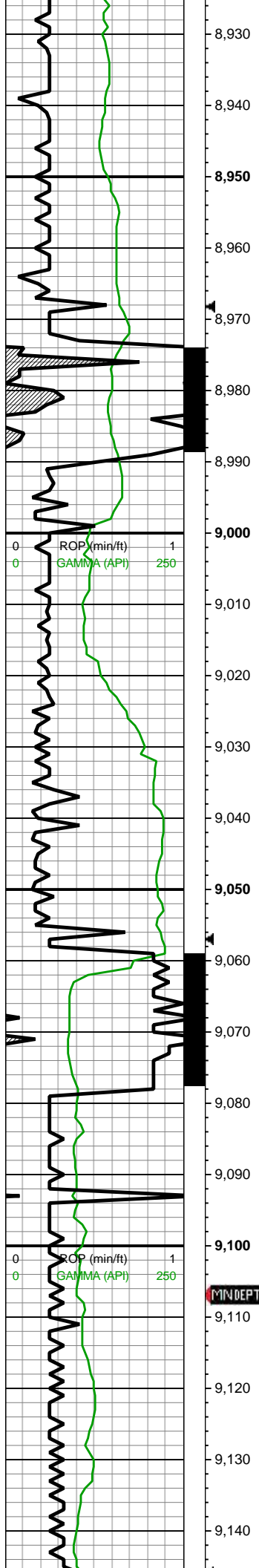


150 1.5E3 1.5E4 1.5E6
0.4 4 40 400 4E3
GAS (units)
C1-C5 (PPM)
Pason Gas (units)
150 1.5E3 1.5E4 1.5E6
0.4 4 40 400 4E3
GAS (units)
C1-C5 (PPM)
Pason Gas (units)
1 10 100 1,000
150 1.5E3 1.5E4 1.5E6
0.4 4 40 400 4E3
GAS (units)
C1-C5 (PPM)
Pason Gas (units)

8700-8800 80% CHK:
med-dk bnshgy, med-dk
gy, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
20% MRLST: dk gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc, arg

8800-8900 65% CHK:
med-dk bnshgy, med-dk
gy, tr wht, micxln-vf xln, sl
fri-frm, dns struc, ang-sb
ang, rthy tex, v calc, arg
ip; 35% MRLST: dk gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc, arg





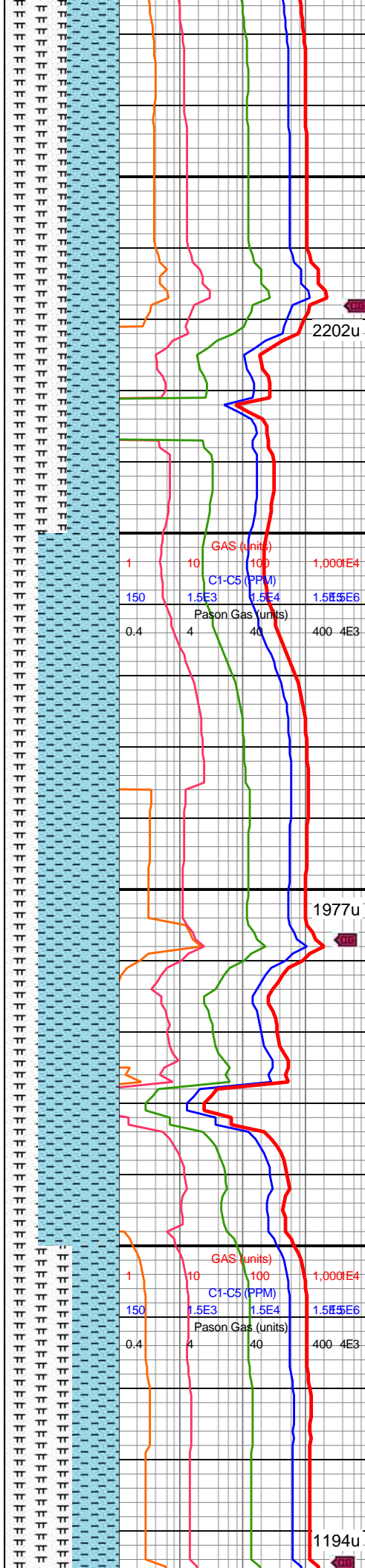
MW IN: 10
VIS IN: 43
MW OUT: 10
VIS OUT: 41

MD: 8,996'
INC: 90.84°
AZM: 179.31°
TVD: 7,642.06'
VS: 735.11'

WOB: 35klbs
RPM: 60
SPM: 184
SPP: 3,490psi

MD: 9,085'
INC: 90.31°
AZM: 180.17°
TVD: 7,641.17'
VS: 821.13'

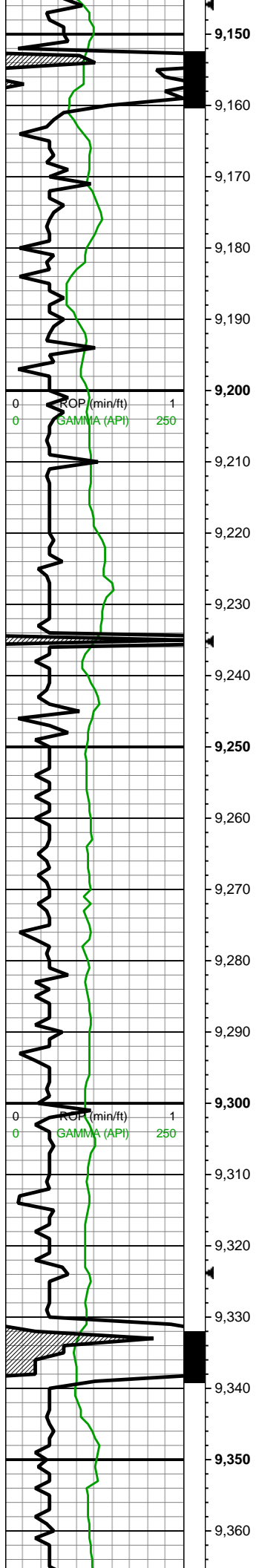
MIN DEPT 03/28/2020



8900-9000 55% MRLST:
dk gy, micxln-vf xln,
frm-hd, sb blkly-plty, rthy
tex, calc, arg; 45% CHK:
med-dk bnshgy, med-dk
gy, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip

9000-9100 70% CHK:
med-dk bnshgy, med-dk
gy, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
30% MRLST: dk gy,
micxln-vf xln, frm-hd, sb
blkly-plty, rthy tex, calc, arg





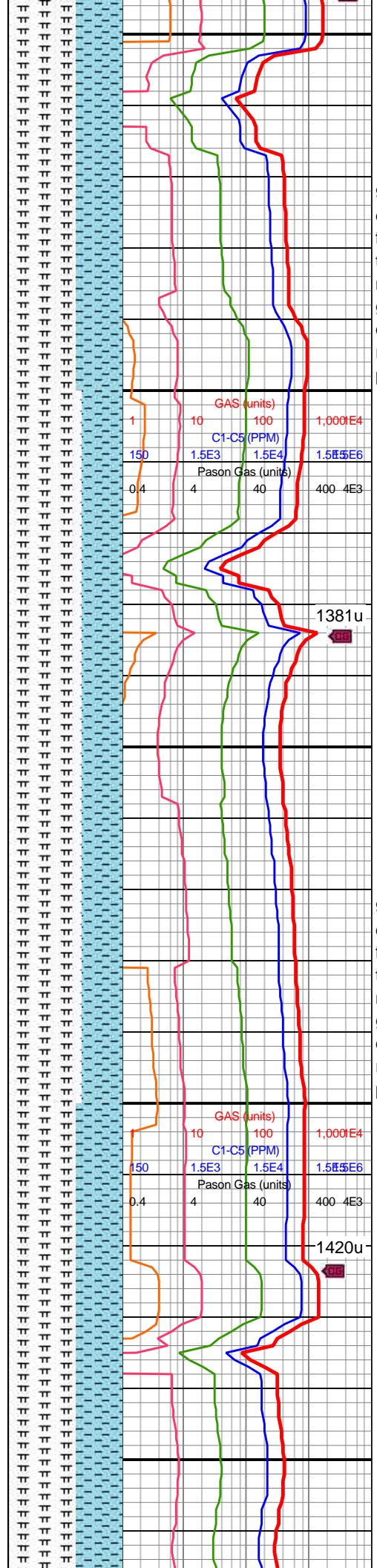
MD: 9,174'
INC: 88.9°
AZM: 180.72°
TVD: 7,641.78'
VS: 906.86'
MW IN: 10
VIS IN: 43
MW OUT: 10
VIS OUT: 41

WOB: 34klbs
RPM: 60
SPM: 181
SPP: 3,351psi

MD: 9,263'
INC: 89.08°
AZM: 181.42°
TVD: 7,643.35'
VS: 992.44'

MW IN: 10
VIS IN: 44
MW OUT: 10
VIS OUT: 42

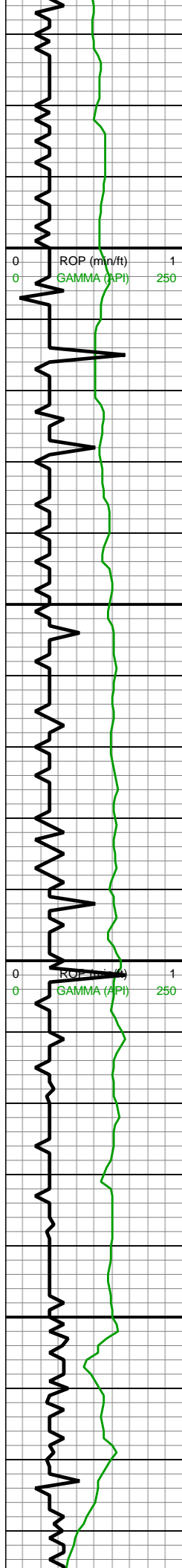
MD: 9,353'
INC: 89.16°
AZM: 180.19°
TVD: 7,644.73'
VS: 1,079.09'



9100-9200 60% MRLST:
dk gy, micxn-vf xln,
frm-hd, sb blkylt, rthy
tex, calc, arg; 40% CHK:
med-dk bnshgy, med-dk
gy, micxn-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip, tr
pyr incl

9200-9300 65% MRLST:
dk gy, micxn-vf xln,
frm-hd, sb blkylt, rthy
tex, calc, arg; 35% CHK:
med-dk bnshgy, med-dk
gy, micxn-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip, tr
pyr incl



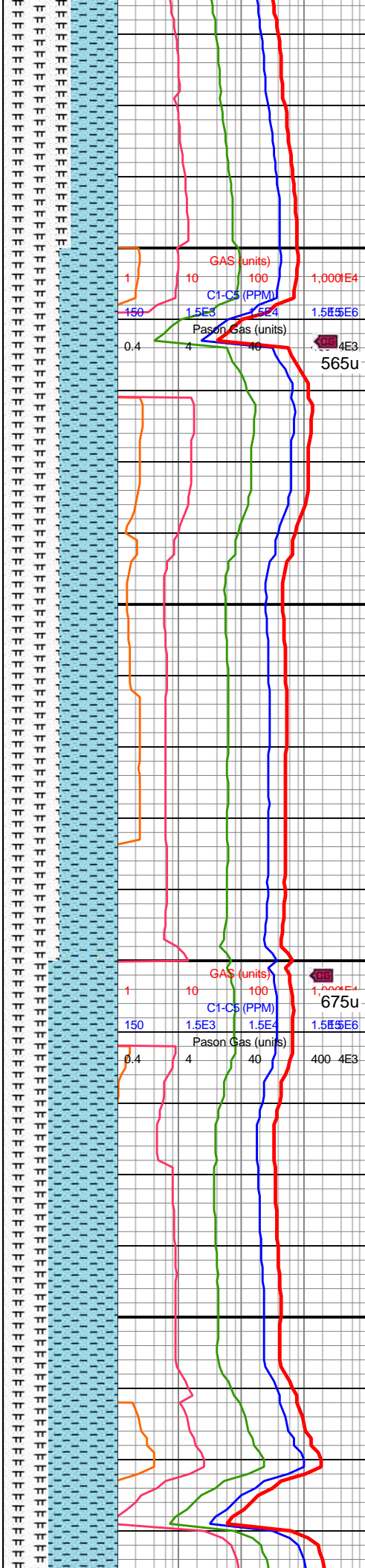


9,370
9,380
9,390
9,400
9,410
9,420
9,430
9,440
9,450
9,460
9,470
9,480
9,490
9,500
9,510
9,520
9,530
9,540
9,550
9,560
9,570
9,580

WOB: 34klbs
RPM: 60
SPM: 182
SPP: 3,426psi

MD: 9,442'
INC: 89.78°
AZM: 179.84°
TVD: 7,645.56'
VS: 1,165.11'

MW IN: 10
VIS IN: 44
MW OUT: 10
VIS OUT: 42
MD: 9,531'
INC: 90.66°
AZM: 179.31°
TVD: 7,645.21'
VS: 1,251.31'

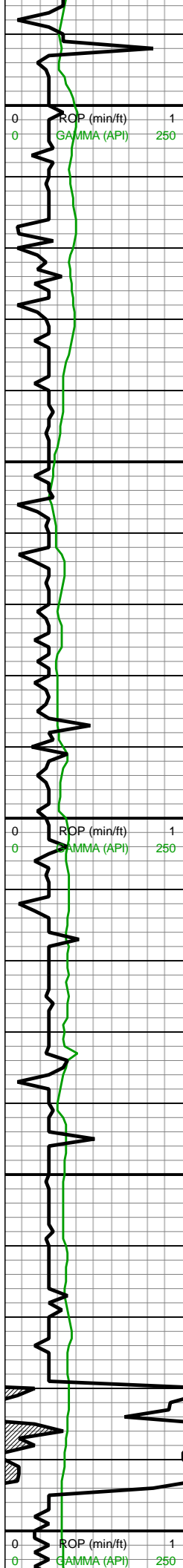


9300-9400 60% MRLST:
dk gy, micxn-vf xln,
frm-hd, sb blkyl-pty, rthy
tex, calc, arg; 40% CHK:
med-dk bnshgy, med-dk
gy, micxn-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip, tr
pyr incl

9400-9500 50% MRLST:
dk gy, micxn-vf xln,
frm-hd, sb blkyl-pty, rthy
tex, calc, arg; 50% CHK:
med-dk bnshgy, med-dk
gy, micxn-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip, tr
pyr incl

9500-9600 60% CHK:
med bnshgy-med gy, lt
gy-wht ip, micxn-vf xln, sl





WOB: 35klbs
RPM: 60
SPM: 182
SPP: 3,457psi

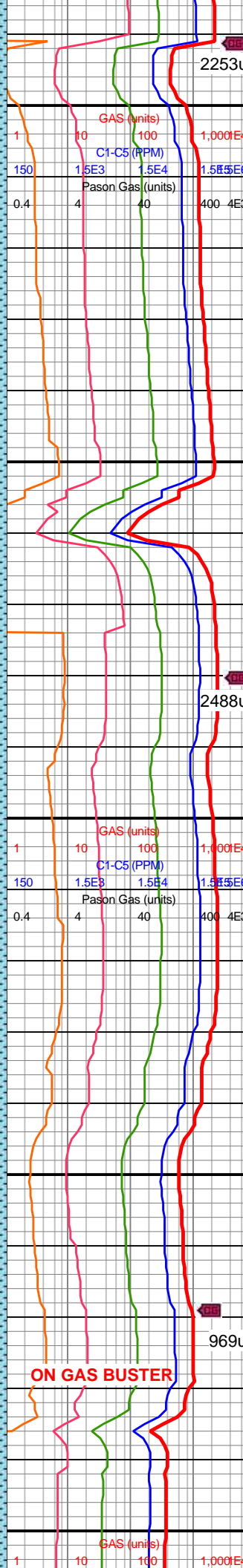
MD: 9,620'
INC: 90.92°
AZM: 179.14°
TVD: 7,643.99'
VS: 1,337.63'

MW IN: 10
VIS IN: 44
MW OUT: 10
VIS OUT: 42

MD: 9,709'
INC: 92.07°
AZM: 179.66°
TVD: 7,641.66'
VS: 1,423.87'

MD: 9,798'
INC: 90.13°
AZM: 178.96°
TVD: 7,639.96'
VS: 1,510.15'

WOB: 30klbs
RPM: 60

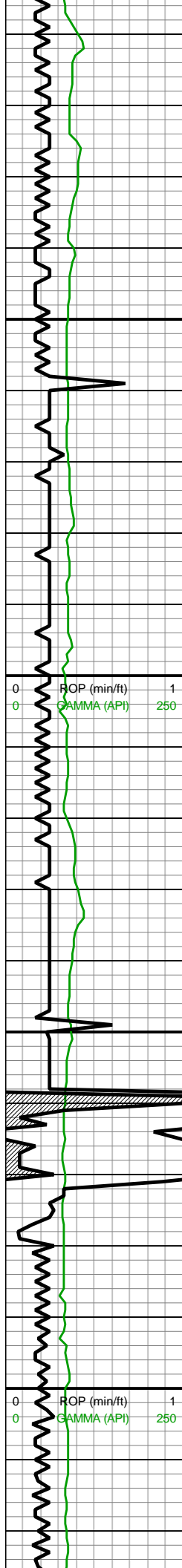


fri-frm, dns struc, ang-sb
ang, rthy tex, v calc, arg
ip; 40% MRLST: dk gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc, arg

9600-9700 65% CHK:
predy med bnshgy-med
gy, lt gy-wht ip, micxln-vf
xln, sl fri-frm, dns struc,
ang-sb ang, rthy tex, v
calc, arg ip; 35% MRLST:
dk gy, micxln-vf xln,
frm-hd, sb blky-plty, rthy
tex, calc, arg

9700-9800 65% CHK:
predy med bnshgy-med
gy, lt gy-wht ip, micxln-vf
xln, sl fri-frm, dns struc,
ang-sb ang, rthy tex, v
calc, arg ip; 35% MRLST:
dk gy, micxln-vf xln,
frm-hd, sb blky-plty, rthy
tex, calc, arg, v tr pp pyr





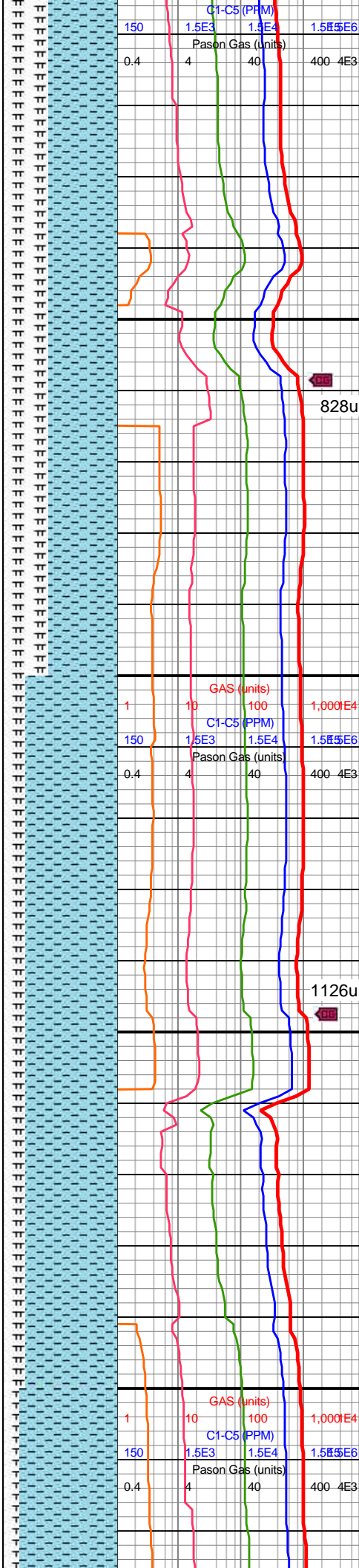
SPM: 182
SPP: 3,509psi

MW IN: 10
VIS IN: 45
MW OUT: 10
VIS OUT: 44

MD: 9,887'
INC: 91.45°
AZM: 180.37°
TVD: 7,638.73'
VS: 1,596.3'

WOB: 33klbs
RPM: 60
SPM: 182
SPP: 3,501psi

MW IN: 10
VIS IN: 44
MW OUT: 10
VIS OUT: 42



150 1.5E3 1.5E4 1.5E6
Pason Gas (units)
0.4 4 40 400 4E3

1 10 100 1,000
GAS (units)
C1-C5 (PPM)
150 1.5E3 1.5E4 1.5E6
Pason Gas (units)
0.4 4 40 400 4E3

1 10 100 1,000
GAS (units)
C1-C5 (PPM)
150 1.5E3 1.5E4 1.5E6
Pason Gas (units)
0.4 4 40 400 4E3

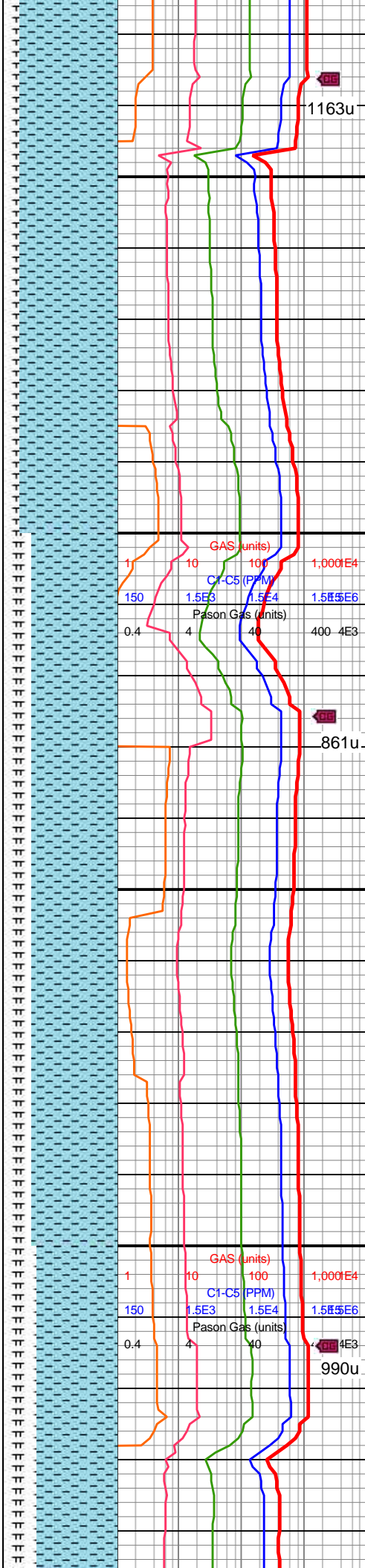
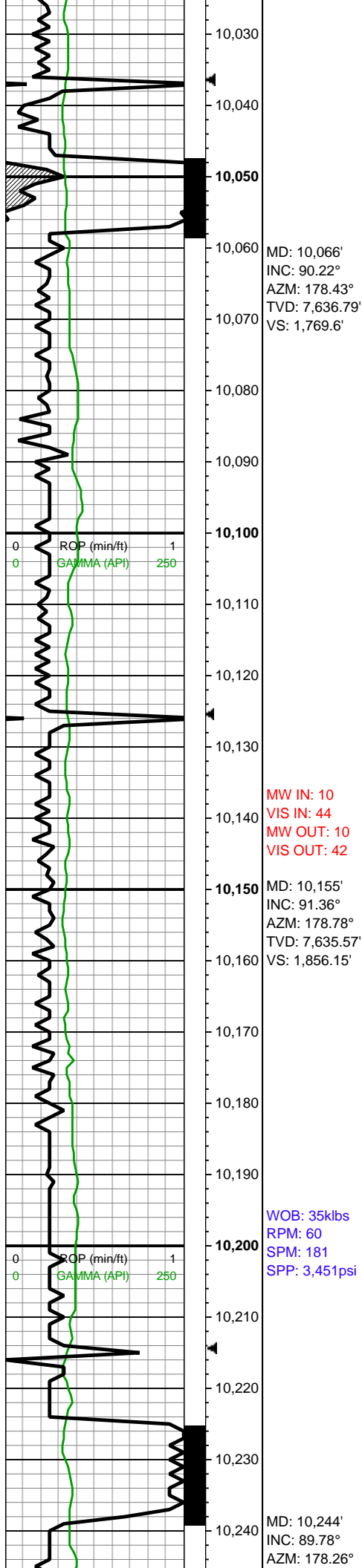
828u

1126u

9800-9900 60% CHK:
predy med bnshgy-med
gy, lt gy-wht ip, micxln-vf
xln, sl fri-frm, dns struc,
ang-sb ang, rthy tex, v
calc, arg ip; 40% MRLST:
dk gy, micxln-vf xln,
frm-hd, sb blkylt, rthy
tex, calc, arg, v tr pp pyr

9900-10000 80% CHK:
predy med bnshgy-med
gy, lt gy-wht ip, micxln-vf
xln, sl fri-frm, dns struc,
ang-sb ang, rthy tex, v
calc, arg ip; 20% MRLST:
dk gy, micxln-vf xln,
frm-hd, sb blkylt, rthy
tex, calc, arg, v tr pp pyr

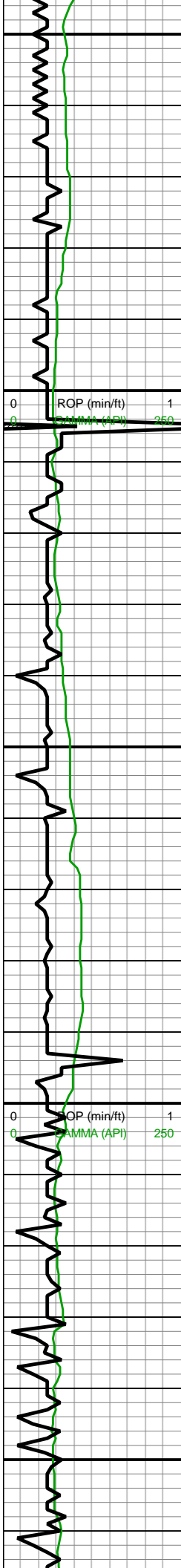




10000-10100 85% CHK:
predy med bnshgy-med
gy, lt gy-wht ip, micxln-vf
xln, sl fri-frm, dns struc,
ang-sb ang, rthy tex, v
calc, arg ip; 15% MRLST:
dk gy, micxln-vf xln,
frm-hd, sb blkyltly, rthy
tex, calc, arg, v tr pp pyr

10100-10200 75% CHK:
predy med bnshgy-med
gy, lt gy-wht ip, micxln-vf
xln, sl fri-frm, dns struc,
ang-sb ang, rthy tex, v
calc, arg ip; 25% MRLST:
dk gy, micxln-vf xln,
frm-hd, sb blkyltly, rthy
tex, calc, arg, v tr pp pyr





TVD: 7,634.68'
VS: 1,942.74'

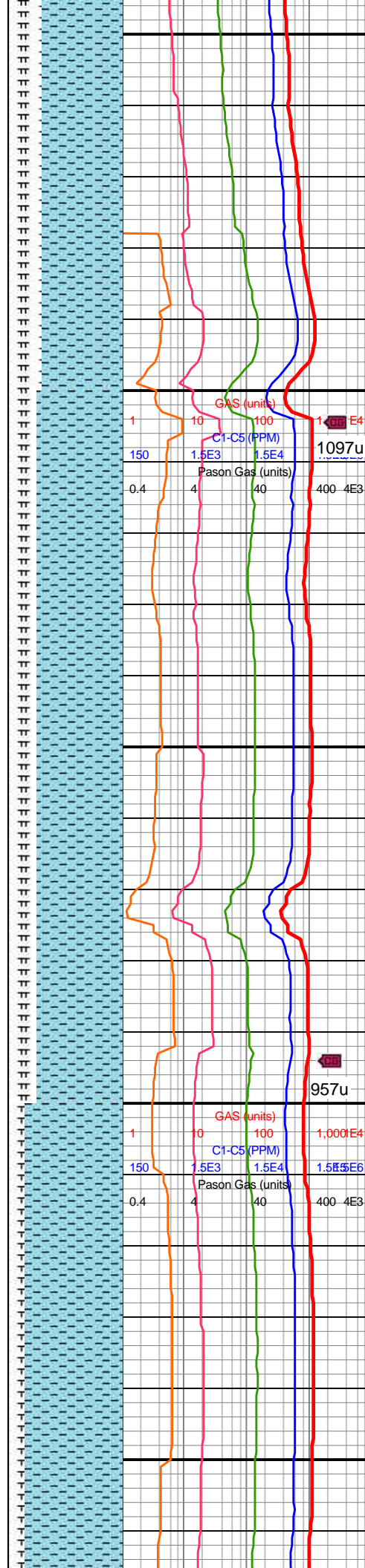
MW IN: 10
VIS IN: 44
MW OUT: 10
VIS OUT: 42

MD: 10,333'
INC: 90.84°
AZM: 178.61°
TVD: 7,634.2'
VS: 2,029.36'

WOB: 33klbs
RPM: 60
SPM: 180
SPP: 3,435psi

MD: 10,422'
INC: 91.71°
AZM: 178.43°
TVD: 7,632.22'
VS: 2,115.93'

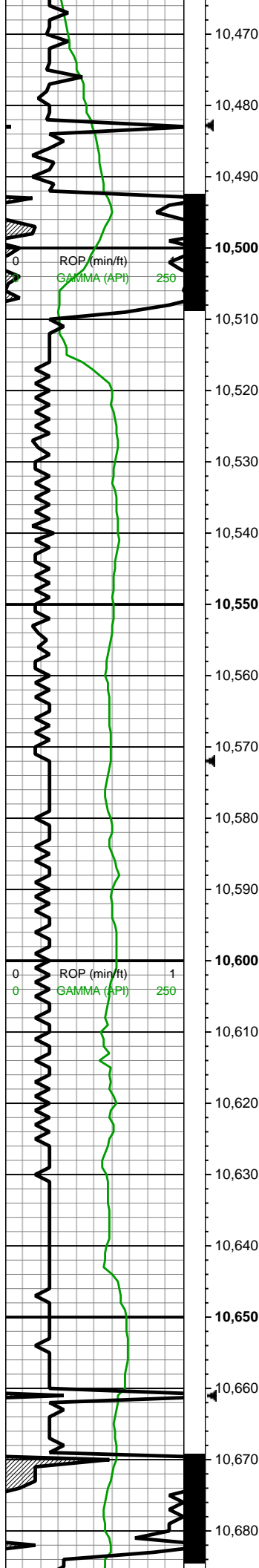
MW IN: 10
VIS IN: 44
MW OUT: 10
VIS OUT: 42



10200-10300 70% CHK:
predy med bnshgy-med
gy, lt gy-wht ip, micxln-vf
xln, sl fri-frm, dns struc,
ang-sb ang, rthy tex, v
calc, arg ip; 30% MRLST:
dk gy, micxln-vf xln,
frm-hd, sb blkly-plty, rthy
tex, calc, arg

10300-10400 75% CHK:
predy med bnshgy-med
gy, lt gy-wht ip, micxln-vf
xln, sl fri-frm, dns struc,
ang-sb ang, rthy tex, v
calc, arg ip; 25% MRLST:
dk gy, micxln-vf xln,
frm-hd, sb blkly-plty, rthy
tex, calc, arg



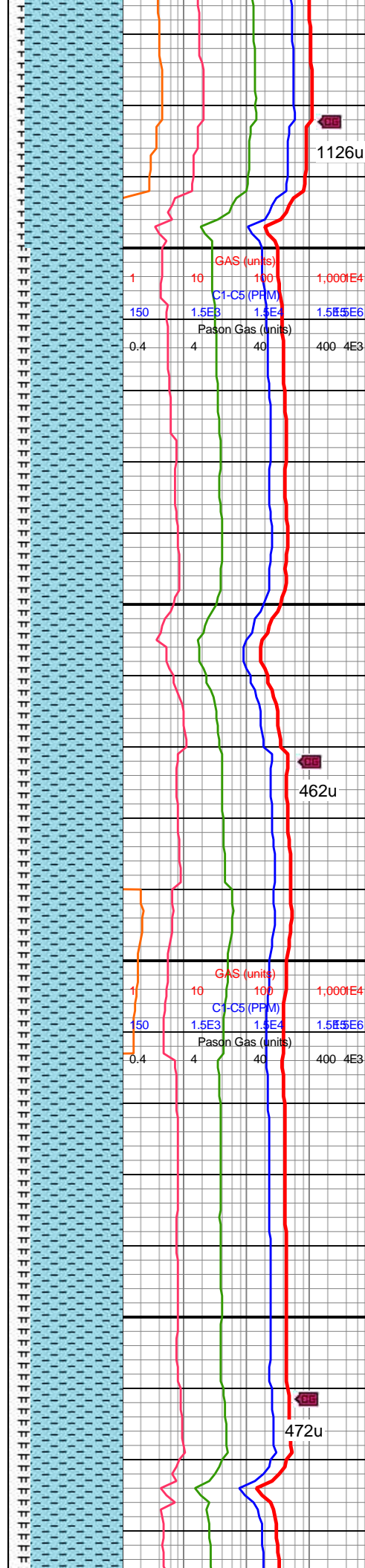


MD: 10,511'
INC: 90.31°
AZM: 178.78°
TVD: 7,630.65'
VS: 2,202.47'

MW IN: 10
VIS IN: 44
MW OUT: 10
VIS OUT: 42

MD: 10,600'
INC: 90.92°
AZM: 178.61°
TVD: 7,629.7'
VS: 2,288.99'

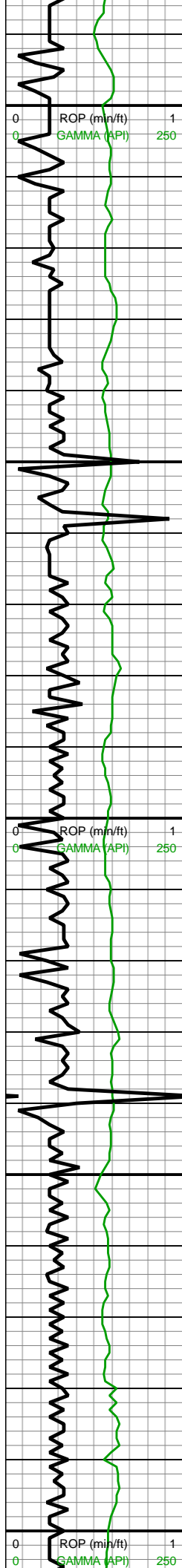
MD: 10,690'



10400-10500 85% CHK:
predy med bnshgy-med
gy, lt gy-wht ip, micxln-vf
xln, sl fri-frm, dns struc,
ang-sb ang, rthy tex, v
calc, arg ip; 15% MRLST:
dk gy, micxln-vf xln,
frm-hd, sb blkly-plty, rthy
tex, calc, arg, tr pp pyr

10500-10600 80% CHK:
predy med bnshgy-med
gy, lt gy-wht ip, micxln-vf
xln, sl fri-frm, dns struc,
ang-sb ang, rthy tex, v
calc, arg ip; 20% MRLST:
dk gy, micxln-vf xln,
frm-hd, sb blkly-plty, rthy
tex, calc, arg, tr pp pyr

10600-10700 80% CHK:
predy med bnshgy-med
gy, lt gy-wht ip, micxln-vf
xln, sl fri-frm, dns struc,
ang-sb ang, rthy tex, v
calc, arg ip; 20% MRLST:
dk gy, micxln-vf xln,
frm-hd, sb blkly-plty, rthy
tex, calc, arg, tr pp pyr



INC: 89.78°
AZM: 180.72°
TVD: 7,629.15'
VS: 2,376.12'

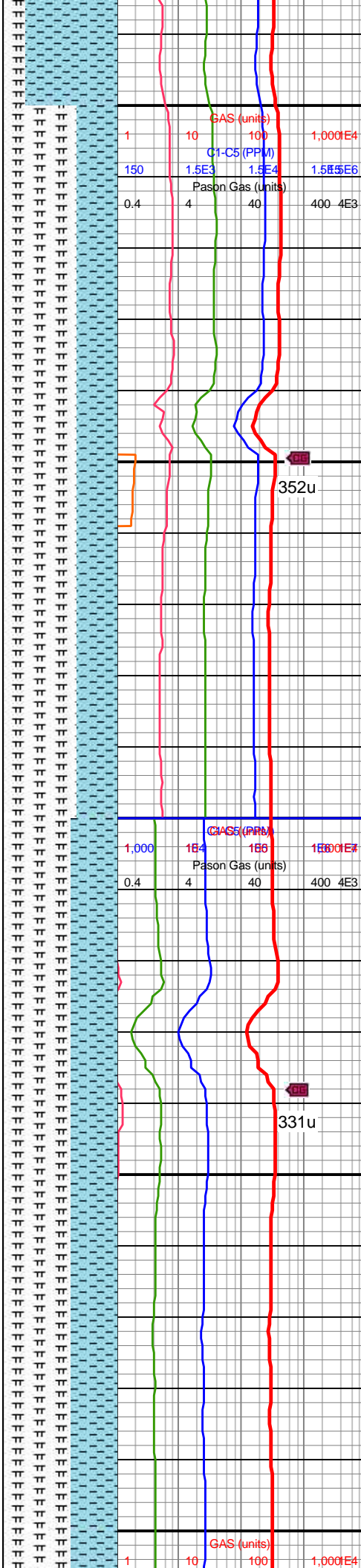
MW IN: 10
VIS IN: 44
MW OUT: 10
VIS OUT: 43

MD: 10,779'
INC: 89.69°
AZM: 180.37°
TVD: 7,629.56'
VS: 2,461.93'

WOB: 35klbs
RPM: 60
SPM: 181
SPP: 3,455psi

MD: 10,868'
INC: 90.84°
AZM: 180.01°
TVD: 7,629.15'
VS: 2,547.88'

MW IN: 10
VIS IN: 43
MW OUT: 10
VIS OUT: 42

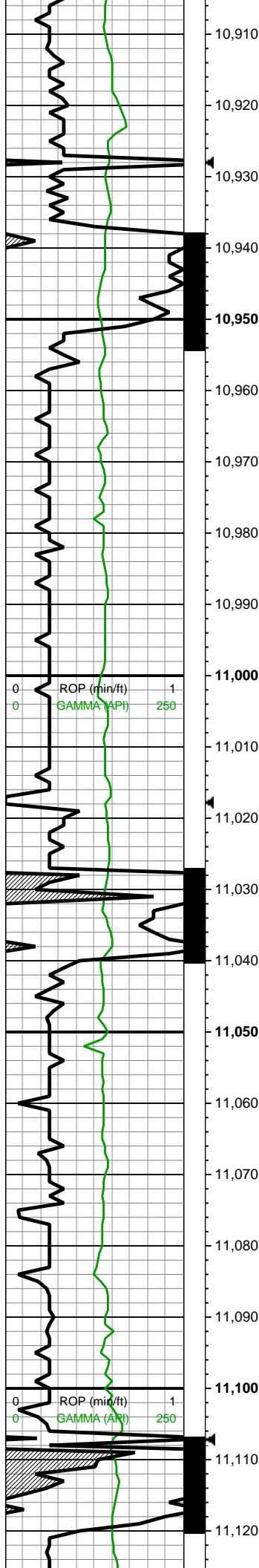


ang-sb ang, rthy tex, v
calc, arg ip; 20% MRLST:
dk gy, micxn-vf xln,
frm-hd, sb blkyl-plty, rthy
tex, calc, arg, tr pp pyr

10700-10800 65%
MRLST: dk gy, micxn-vf
xln, frm-hd, sb blkyl-plty,
rthy tex, calc, arg; 35%
CHK: predy med
bnshgy-med gy, lt gy-wht
ip, micxn-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip, tr
pp pyr

10800-10900 60%
MRLST: dk gy, micxn-vf
xln, frm-hd, sb blkyl-plty,
rthy tex, calc, arg; 40%
CHK: predy med
bnshgy-med gy, lt gy-wht
ip, micxn-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip, tr
pp pyr





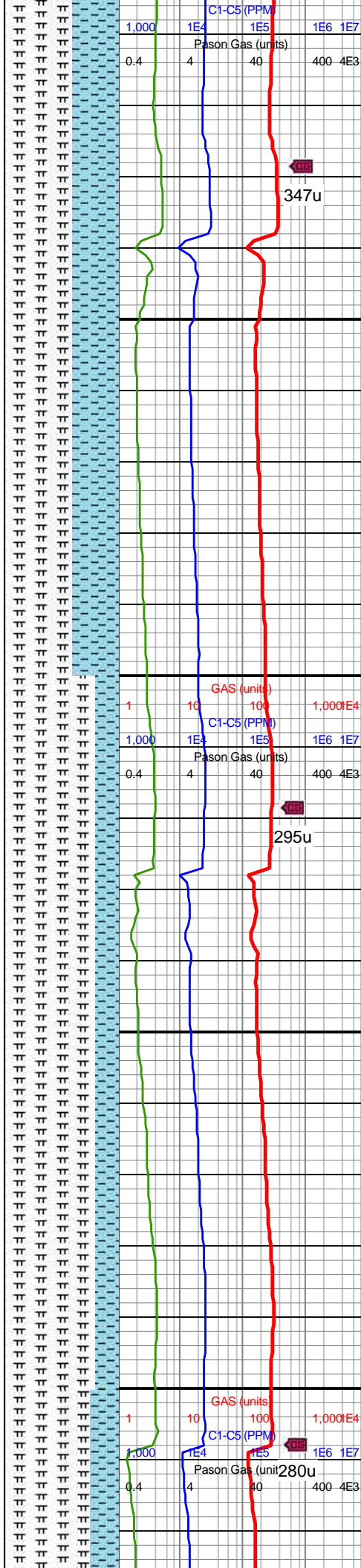
MD: 10,957'
INC: 89.69°
AZM: 182.48°
TVD: 7,628.73'
VS: 2,633.39'

WOB: 34klbs
RPM: 60
SPM: 181
SPP: 3,550psi

MW IN: 10
VIS IN: 44
MW OUT: 10
VIS OUT: 42

MD: 11,046'
INC: 88.81°
AZM: 185.46°
TVD: 7,629.9'
VS: 2,717.62'

MW IN: 10
VIS IN: 43
MW OUT: 10
VIS OUT: 41



347u

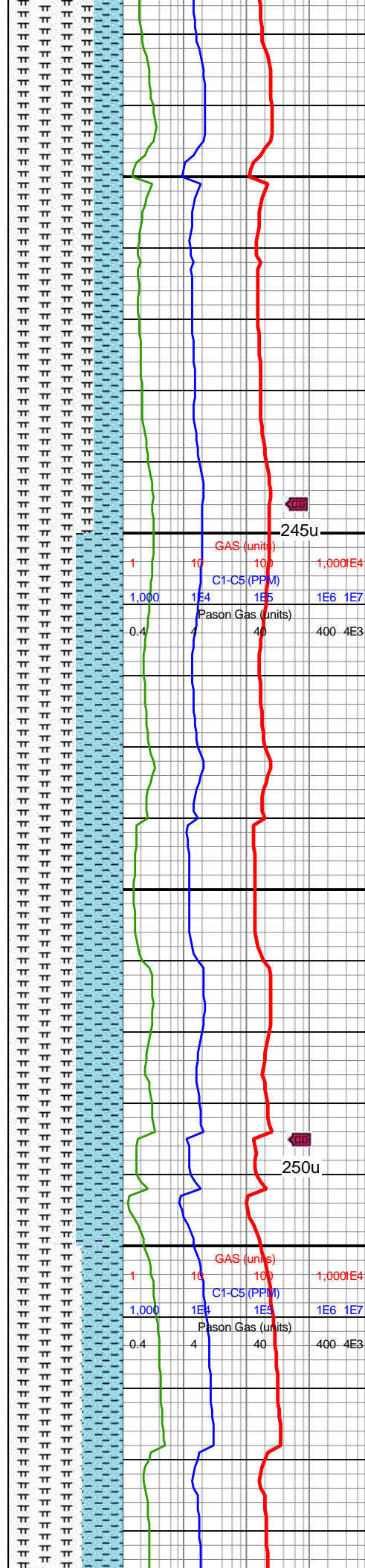
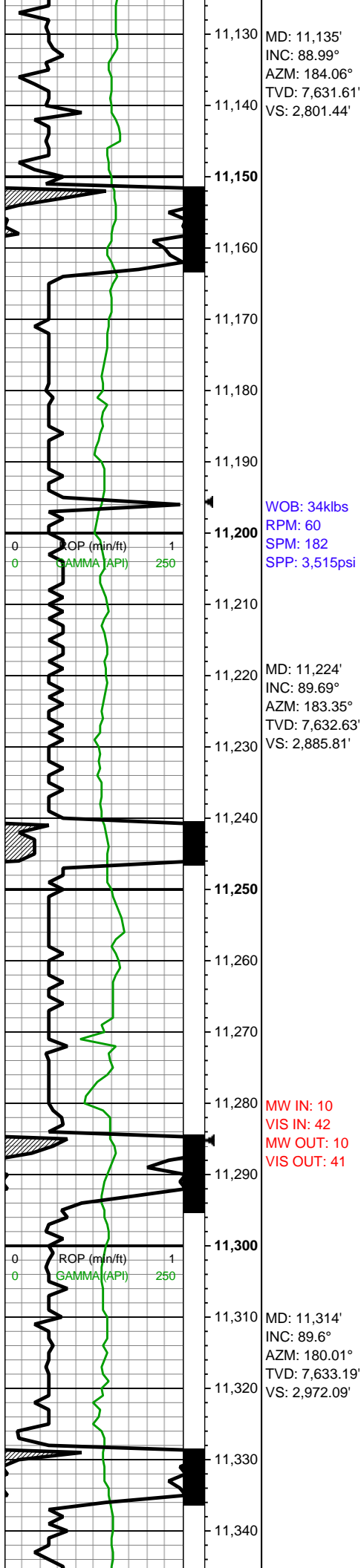
295u

280u

10900-11000 65%
MRLST: dk gy, micxln-vf
xln, frm-hd, sb blkyl-pty,
rthy tex, calc, arg; 35%
CHK: predy med
bnshgy-med gy, lt gy-wht
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip, tr
pp pyr

11000-11100 80%
MRLST: dk gy, micxln-vf
xln, frm-hd, sb blkyl-pty,
rthy tex, calc, arg; 20%
CHK: predy med
bnshgy-med gy, lt gy-wht
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip, v tr
pp pyr



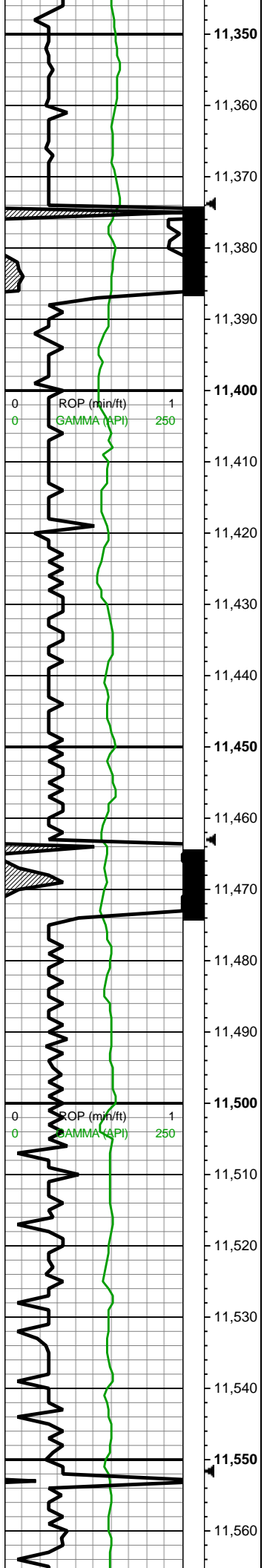


11100-11200 75%
MRLST: dk gy, micxln-vf
xln, frm-hd, sb blkyl-plty,
rthy tex, calc, arg; 25%
CHK: predy med
bnshgy-med gy, lt gy-wht
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip, v tr
pp pyr, tr bent



11200-11300 60%
MRLST: dk gy, micxln-vf
xln, frm-hd, sb blkyl-plty,
rthy tex, calc, arg; 40%
CHK: predy med
bnshgy-med gy, lt gy-wht
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip, v tr
pp pyr, tr bent



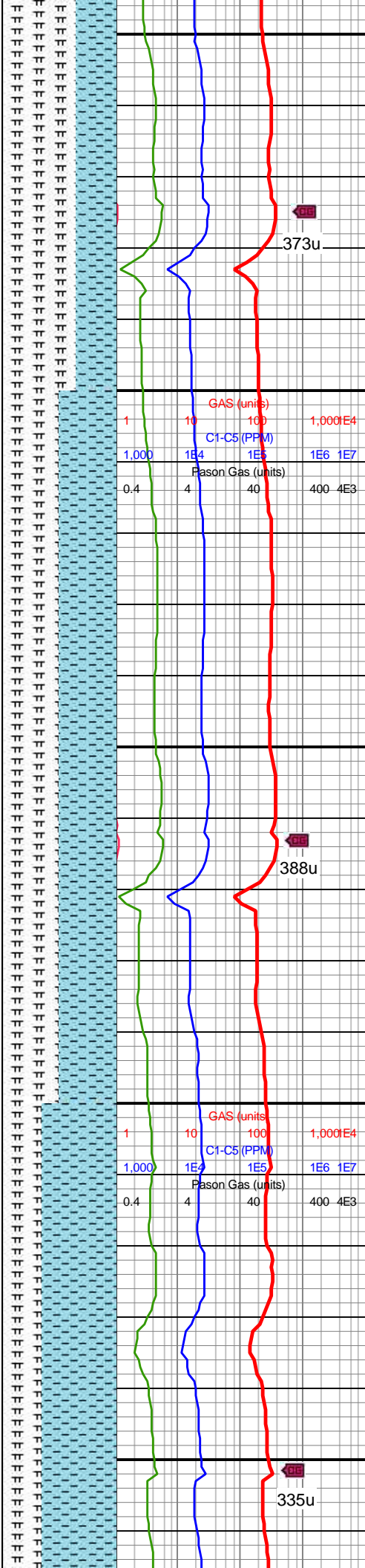


WOB: 34klbs
RPM: 60
SPM: 183
SPP: 3,592psi

MD: 11,403'
INC: 88.37°
AZM: 177.38°
TVD: 7,634.77'
VS: 3,058.59'

MW IN: 10
VIS IN: 43
MW OUT: 10
VIS OUT: 41

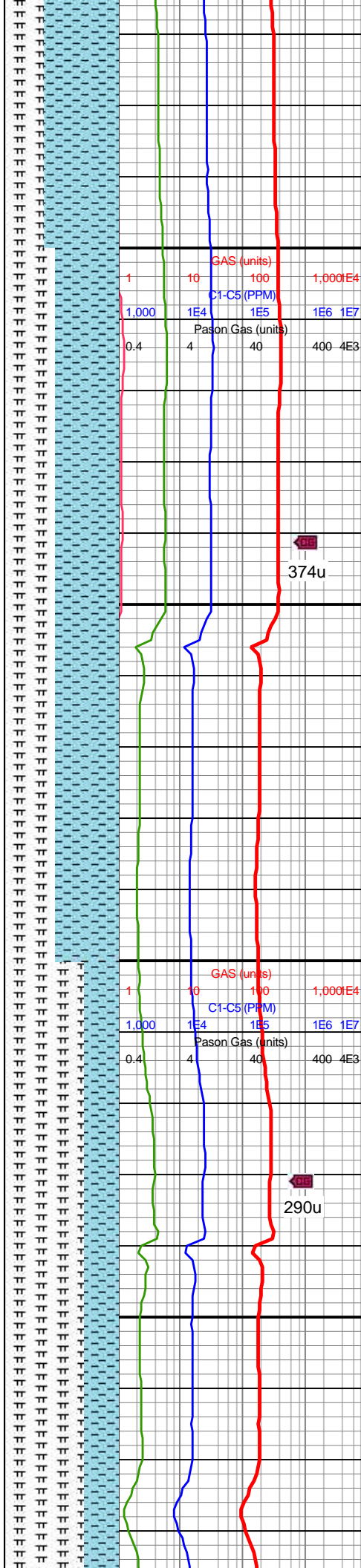
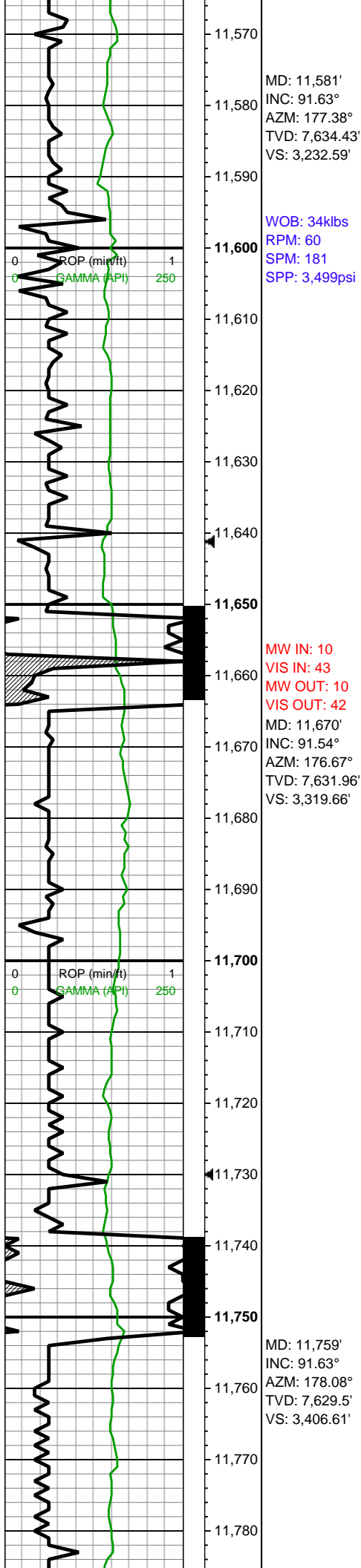
MD: 11,492'
INC: 90.22°
AZM: 177.2°
TVD: 7,635.86'
VS: 3,145.59'



11300-11400 65%
MRLST: dk gy, micxln-vf xln, frm-hd, sb blkylt, rthy tex, calc, arg; 35%
CHK: predy med bnsghy-med gy, lt gy-wht ip, micxln-vf xln, sl fri-frm, dns struc, ang-sb ang, rthy tex, v calc, arg ip, v tr pp pyr, tr bent

11400-11500 50%
MRLST: dk gy, micxln-vf xln, frm-hd, sb blkylt, rthy tex, calc, arg; 50%
CHK: med-dk gy, micxln-vf xln, sl fri-frm, dns struc, ang-sb ang, rthy tex, v calc, arg ip, tr pyr, com bent

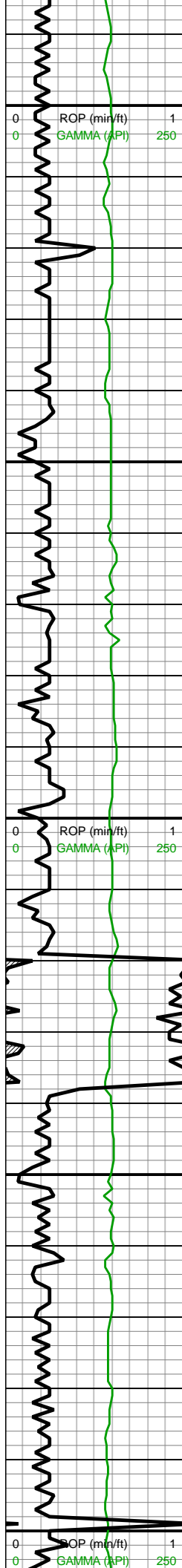




11500-11600 65% CHK:
med-dk gy, micxln-vf xln,
sl fri-frm, dns struc,
ang-sb ang, rthy tex, v
calc, arg ip, tr pyr, com
bent; 35% MRLST: dk gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc, arg

11600-11700 55% CHK:
med-dk gy, micxln-vf xln,
sl fri-frm, dns struc,
ang-sb ang, rthy tex, v
calc, arg ip, tr pyr, com
bent; 45% MRLST: dk gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc, arg

11700-11800 70%
MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,



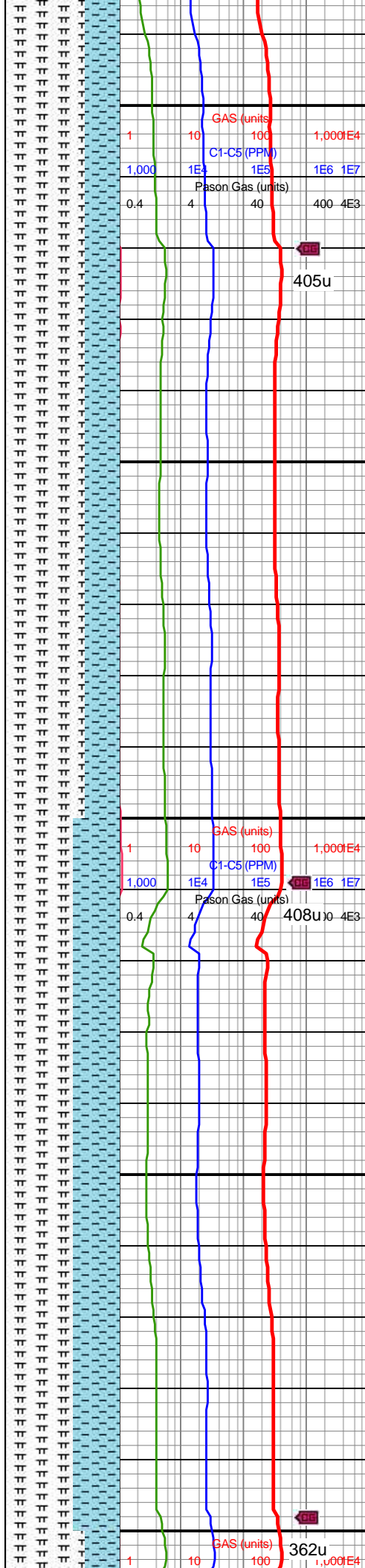
MW IN: 10
VIS IN: 44
MW OUT: 10
VIS OUT: 42

WOB: 35klbs
RPM: 60
SPM: 182
SPP: 3,590psi

MD: 11,848'
INC: 92.42°
AZM: 177.55°
TVD: 7,626.36'
VS: 3,493.39'

MD: 11,938'
INC: 91.19°
AZM: 179.31°
TVD: 7,623.52'
VS: 3,580.94'

WOB: 35klbs
RPM: 60
SPM: 182
SPP: 3,551psi

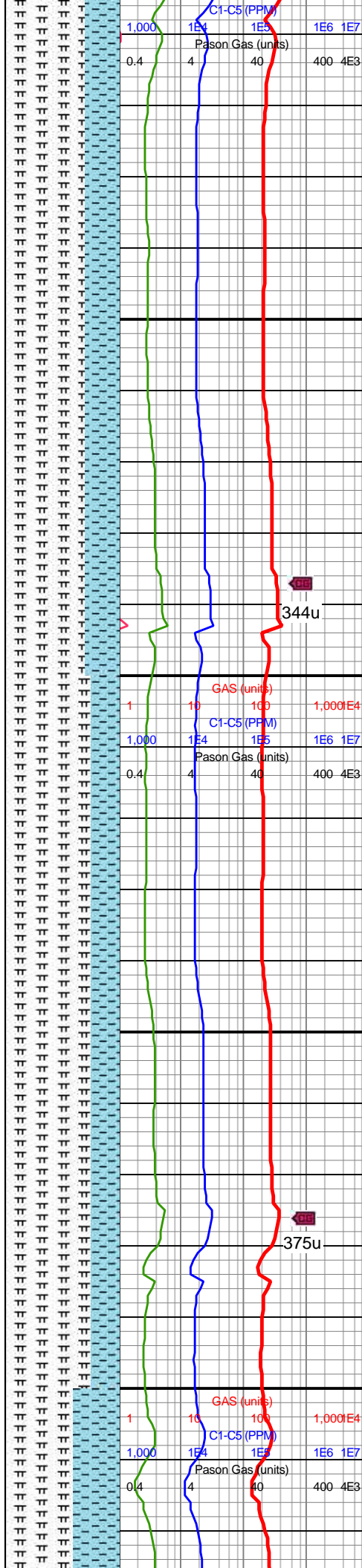
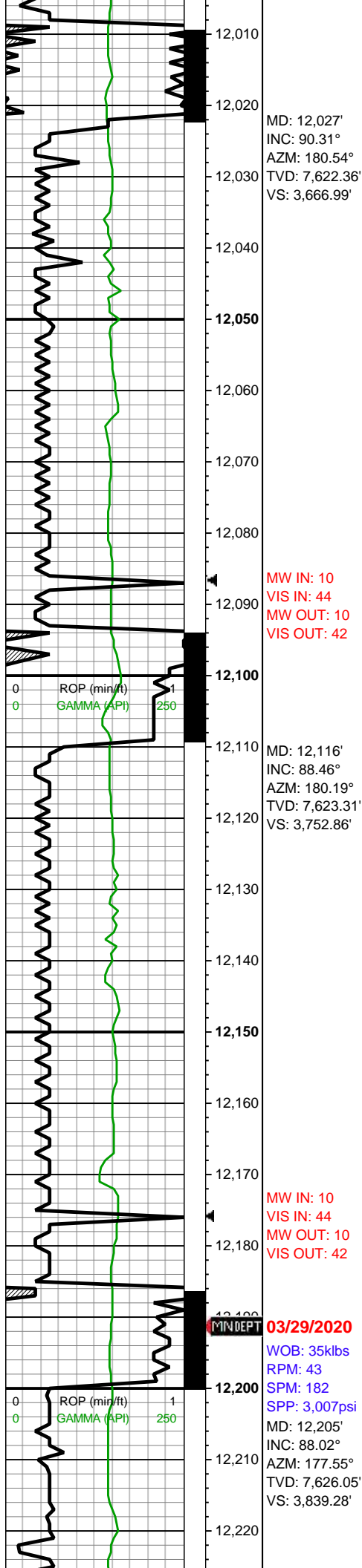


arg; 30% CHK: med
gy-med bnshgy, micxln-vf
xln, sl fri-frm, dns struc,
ang-sb ang, rthy tex, v
calc, arg ip, tr pyr

11800-11900 70%
MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg; 30% CHK: med
gy-med bnshgy, micxln-vf
xln, sl fri-frm, dns struc,
ang-sb ang, rthy tex, v
calc, arg ip, tr pyr, tr bent

11900-12000 60%
MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg; 40% CHK: med
gy-med bnshgy, micxln-vf
xln, sl fri-frm, dns struc,
ang-sb ang, rthy tex, v
calc, arg ip, tr pyr, tr bent

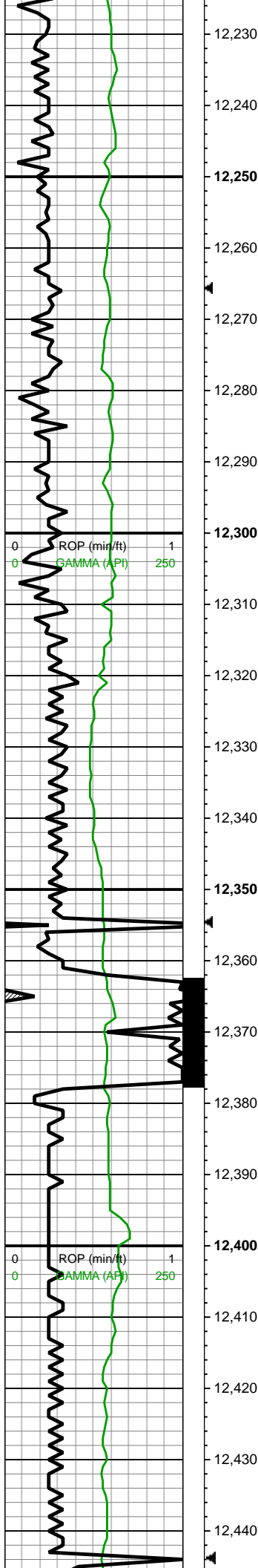




12000-12100 70%
MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg; 30% CHK: med
gy-med bnshgy, micxln-vf
xln, sl fri-frm, dns struc,
ang-sb ang, rthy tex, v
calc, arg ip, tr pyr, tr bent

12100-12200 75%
MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg; 25% CHK: med
gy-med bnshgy, lt gy ip,
micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip, tr
pyr, tr bent



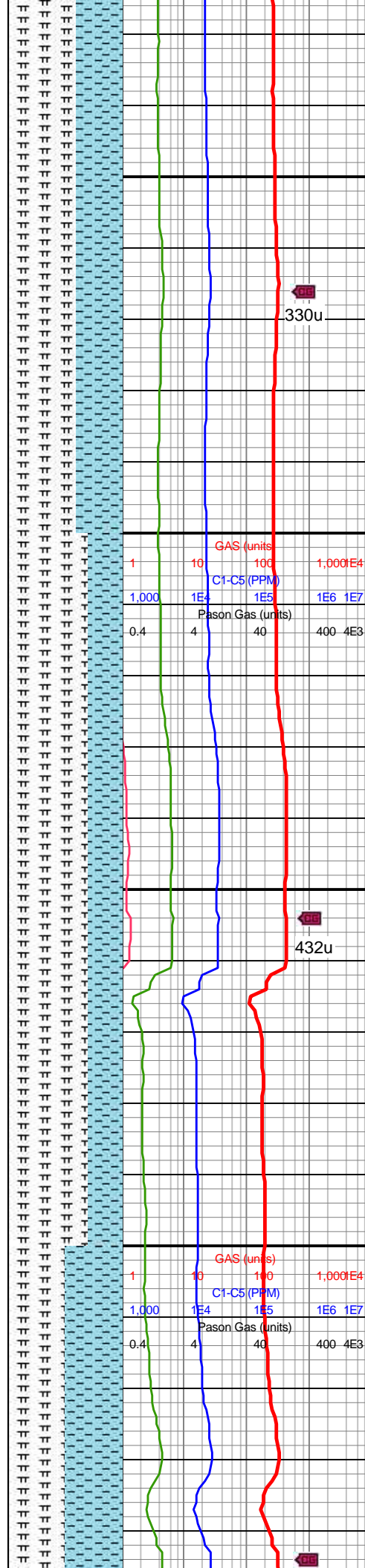


MD: 12,294'
INC: 88.64°
AZM: 177.38°
TVD: 7,628.64'
VS: 3,926.2'

MW IN: 10
VIS IN: 43
MW OUT: 10
VIS OUT: 41

MD: 12,383'
INC: 88.2°
AZM: 179.14°
TVD: 7,631.09'
VS: 4,012.85'

WOB: 35klbs
RPM: 60
SPM: 180
SPP: 3,596psi



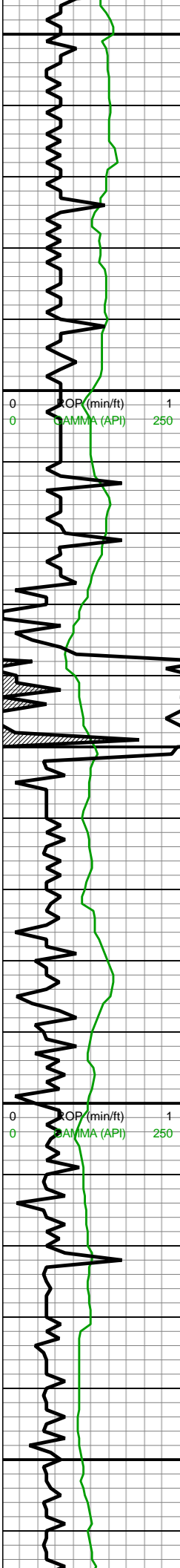
330u

432u

12200-12300 60%
MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg; 40% CHK: med
gy-med bnshgy, lt gy ip,
micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip

12300-12400 70%
MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg; 30% CHK: med
gy-med bnshgy, lt gy ip,
micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip, rr tr
pp pyr, tr bent





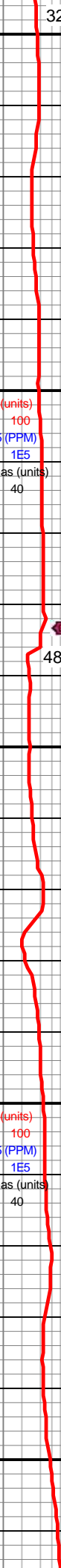
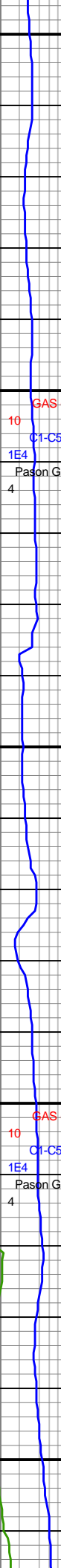
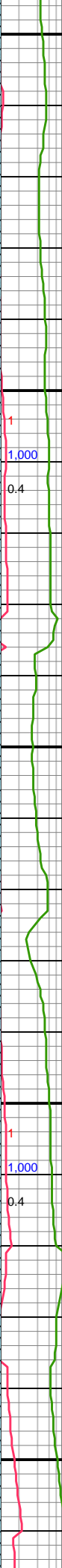
12,450
12,460
12,470
12,480
12,490
12,500
12,510
12,520
12,530
12,540
12,550
12,560
12,570
12,580
12,590
12,600
12,610
12,620
12,630
12,640
12,650
12,660

MD: 12,472'
INC: 88.46°
AZM: 178.96°
TVD: 7,633.69'
VS: 4,099.21'

MD: 12,562'
INC: 87.67°
AZM: 180.54°
TVD: 7,636.73'
VS: 4,186.25'

MW IN: 10
VIS IN: 43
MW OUT: 10
VIS OUT: 41
WOB: 35klbs
RPM: 60
SPM: 182
SPP: 3,607psi

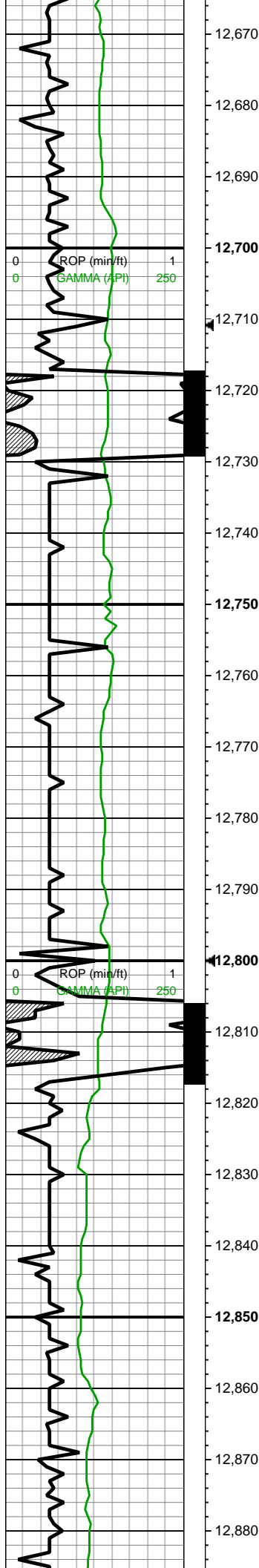
MD: 12,651'
INC: 88.29°
AZM: 180.37°
TVD: 7,639.86'
VS: 4,272.04'



12400-12500 50%
MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg; 50% CHK: med
gy-med bnshgy, lt gy ip,
micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip, rr tr
pp pyr

12500-12600 60%
MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg; 40% CHK: med
gy-med bnshgy, lt gy ip,
micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip, tr
pyr





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
12,850
12,860
12,870
12,880

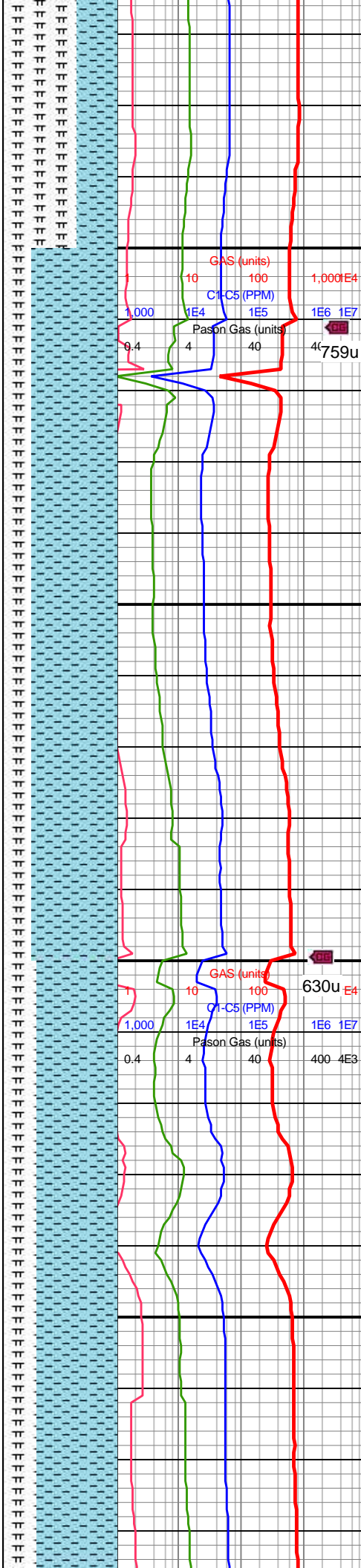
MW IN: 10
VIS IN: 43
MW OUT: 10
VIS OUT: 41

MD: 12,740'
INC: 88.72°
AZM: 179.14°
TVD: 7,642.19'
VS: 4,358.14'

WOB: 35klbs
RPM: 60
SPM: 182
SPP: 3,675psi

MW IN: 10
VIS IN: 43
MW OUT: 10
VIS OUT: 41

MD: 12,829'
INC: 87.58°
AZM: 179.31°
TVD: 7,645.06'
VS: 4,444.43'

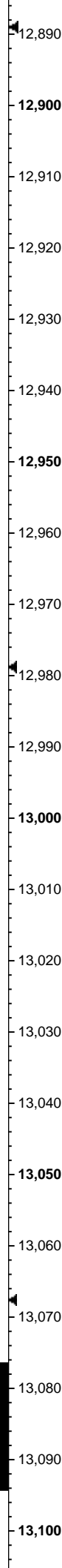
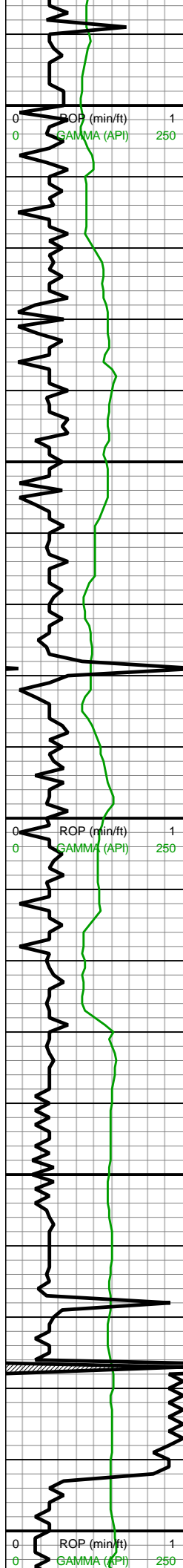


12600-12700 65%
MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-pty, rthy tex, calc,
arg; 35% CHK: med
gy-med bnshgy, lt gy ip,
micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip, tr
pyr, tr bent

12700-12800 75% CHK:
med gy-med bnshgy, lt gy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
65% MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-pty, rthy tex, calc,
arg, tr pyr

12800-12900 70% CHK:
med gy-med bnshgy, lt gy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,





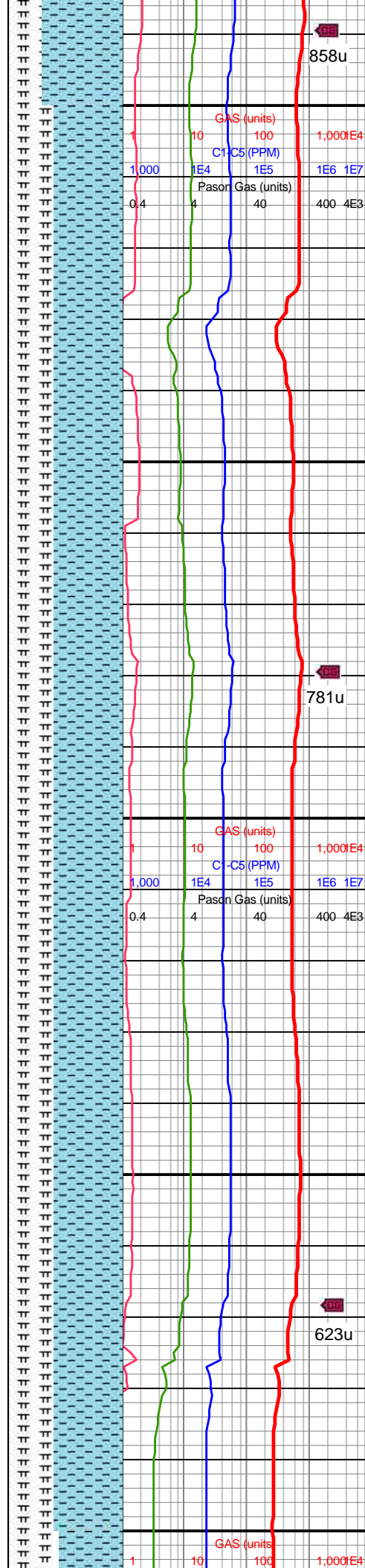
MD: 12,918'
INC: 88.64°
AZM: 179.14°
TVD: 7,648'
VS: 4,530.71'

MW IN: 10
VIS IN: 43
MW OUT: 10
VIS OUT: 41

WOB: 33klbs
RPM: 60
SPM: 182
SPP: 3,697psi

MD: 13,007'
INC: 90.04°
AZM: 178.26°
TVD: 7,649.02'
VS: 4,617.23'

MD: 13,096'
INC: 88.46°
AZM: 178.61°
TVD: 7,650.19'
VS: 4,703.84'

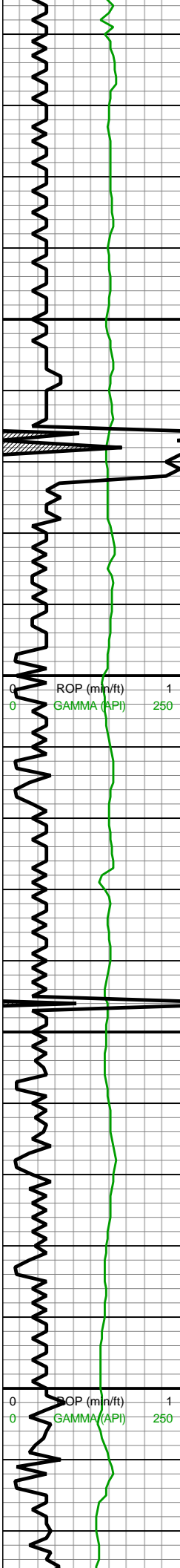


rthy tex, v calc, arg ip;
30% MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr pyr

12900-13000 60% CHK:
med gy-med bnshgy, lt gy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
40% MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr pyr, tr bent

13000-13100 60% CHK:
med gy-med bnshgy, lt gy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
40% MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr pyr, tr bent





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
13,290
13,300
13,310
13,320

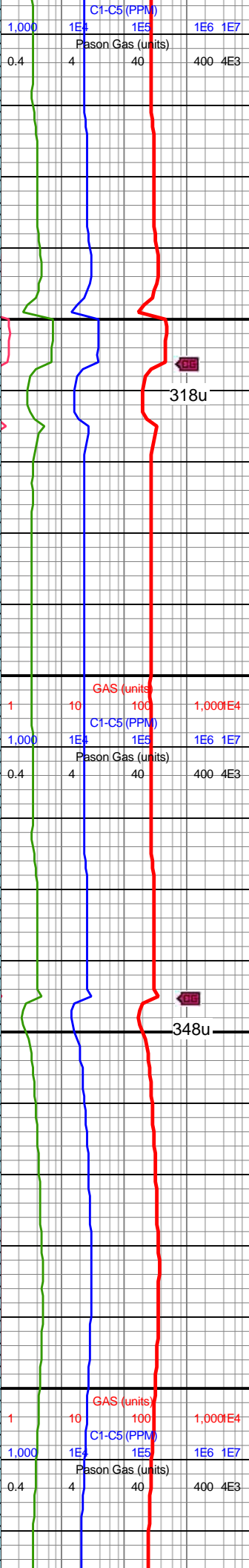
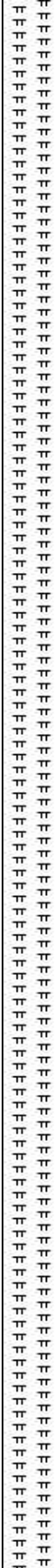
MW IN: 10
VIS IN: 43
MW OUT: 10
VIS OUT: 41

MD: 13,185'
INC: 87.49°
AZM: 178.96°
TVD: 7,653.33'
VS: 4,790.28'

WOB: 34klbs
RPM: 60
SPM: 181
SPP: 3,893psi

MD: 13,275'
INC: 88.37°
AZM: 178.78°
TVD: 7,656.58'
VS: 4,877.66'

MW IN: 10
VIS IN: 43
MW OUT: 10
VIS OUT: 41



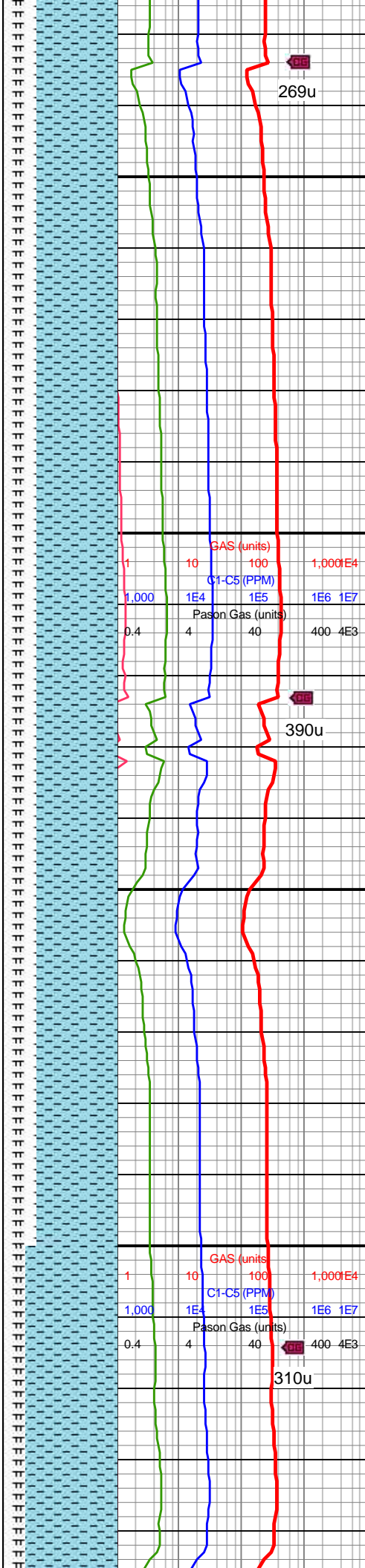
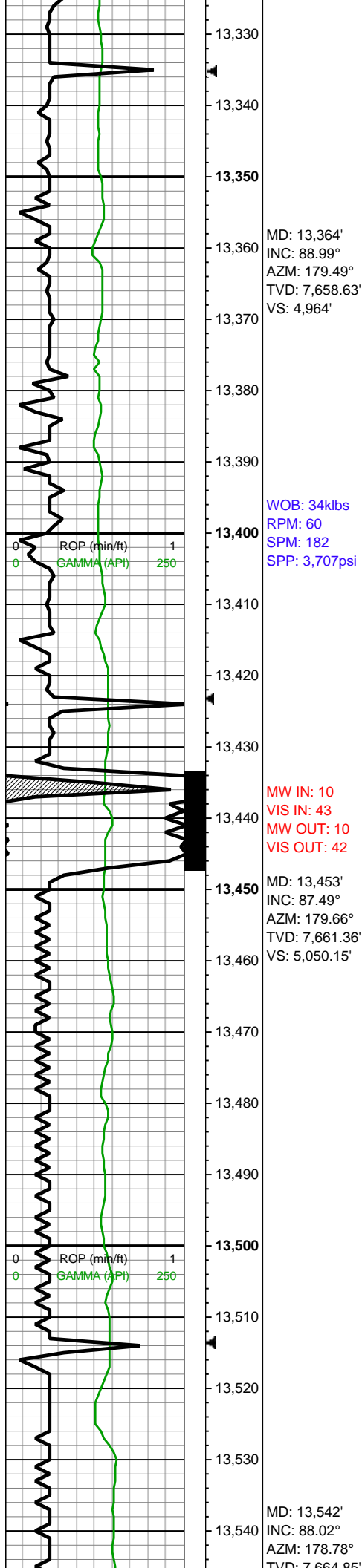
318u

348u

13100-13200 55% CHK:
med gy-med bnshgy, lt gy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
45% MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr bent

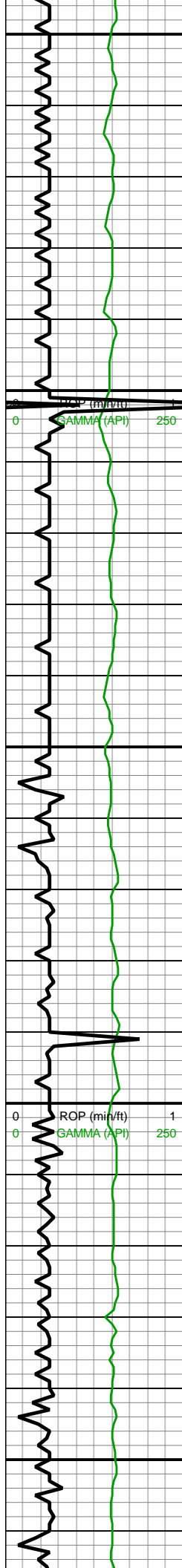
13200-13300 55% CHK:
med gy-med bnshgy, lt gy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
45% MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr bent





13300-13400 70% CHK:
med gy-med bnshgy, lt gy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
30% MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr bent, tr pp pyr

13400-13500 70% CHK:
med gy-med bnshgy, lt gy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
30% MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr bent, tr pp pyr



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
13,730
13,740
13,750
13,760

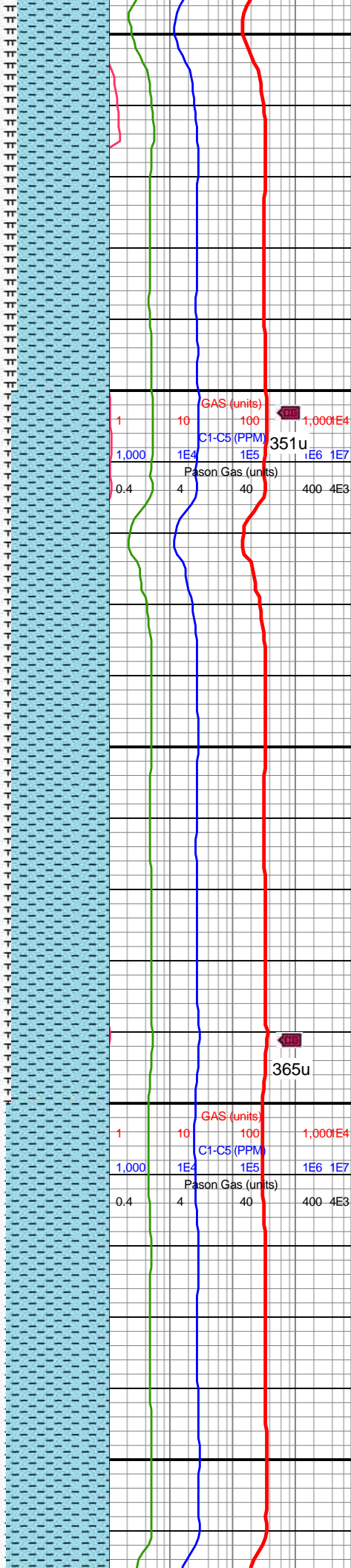
V.D: 7,004.63'
VS: 5,136.42'

WOB: 34klbs
RPM: 60
SPM: 182
SPP: 3,663psi

MW IN: 10
VIS IN: 43
MW OUT: 10
VIS OUT: 41

MD: 13,631'
INC: 88.64°
AZM: 178.78°
TVD: 7,667.44'
VS: 5,222.88'

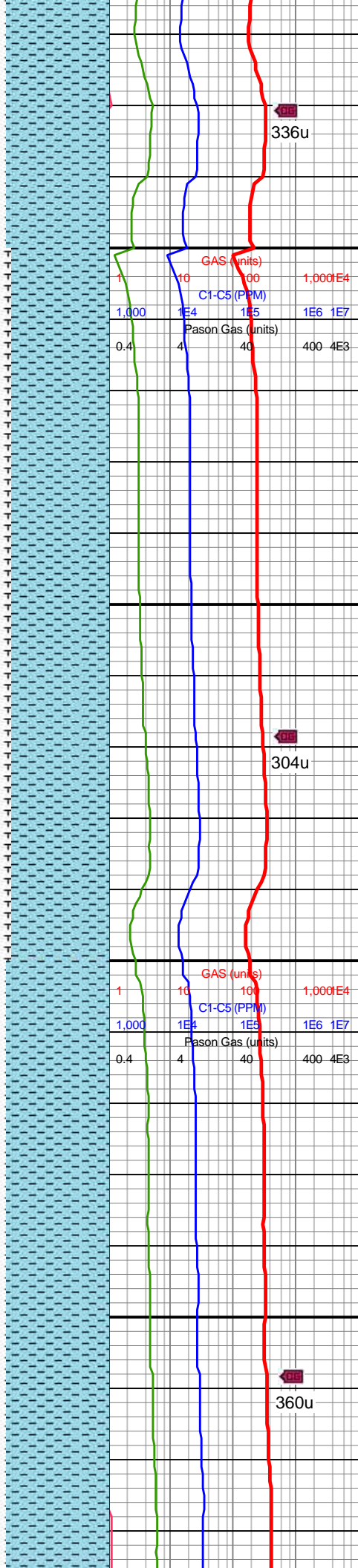
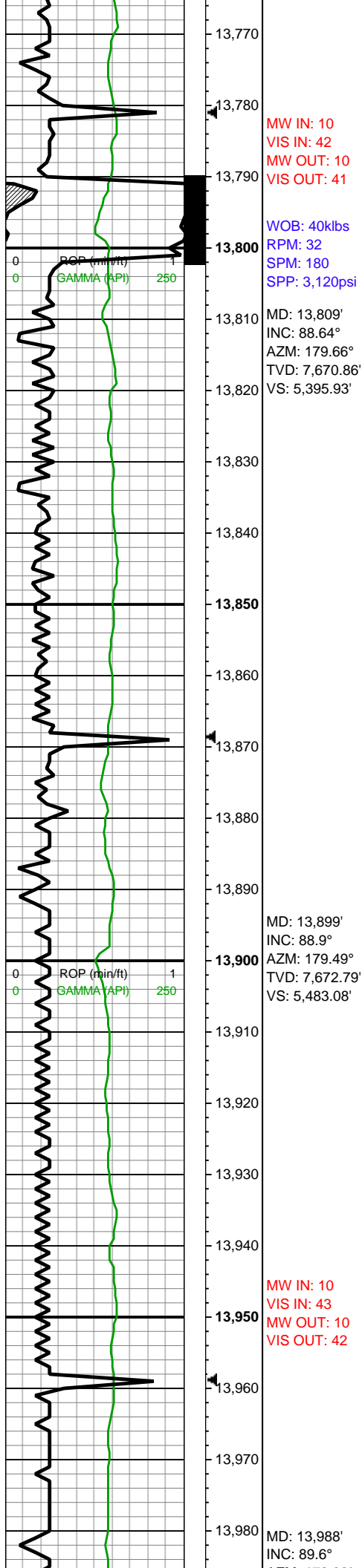
MD: 13,720'
INC: 89.16°
AZM: 178.08°
TVD: 7,669.15'
VS: 5,309.49'



13500-13600 80% CHK:
med gy-med bnshgy, lt gy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
20% MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr bent

13600-13700 85% CHK:
med gy-med bnshgy, lt gy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
15% MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr bent



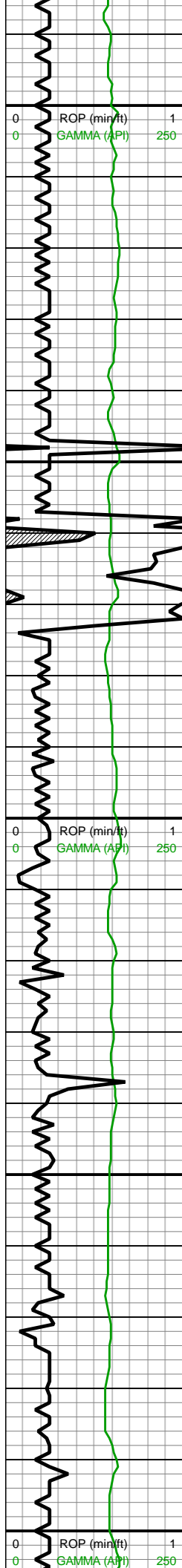


13700-13800 90% CHK:
med gy-med bnshgy, lt gy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
10% MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr bent

13800-13900 85% CHK:
med gy-med bnshgy, lt gy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
15% MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr bent

13900-14000 90% CHK:
med gy-med bnshgy, lt gy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;





AZM: 178.96°
TVD: 7,673.96'
VS: 5,569.4'

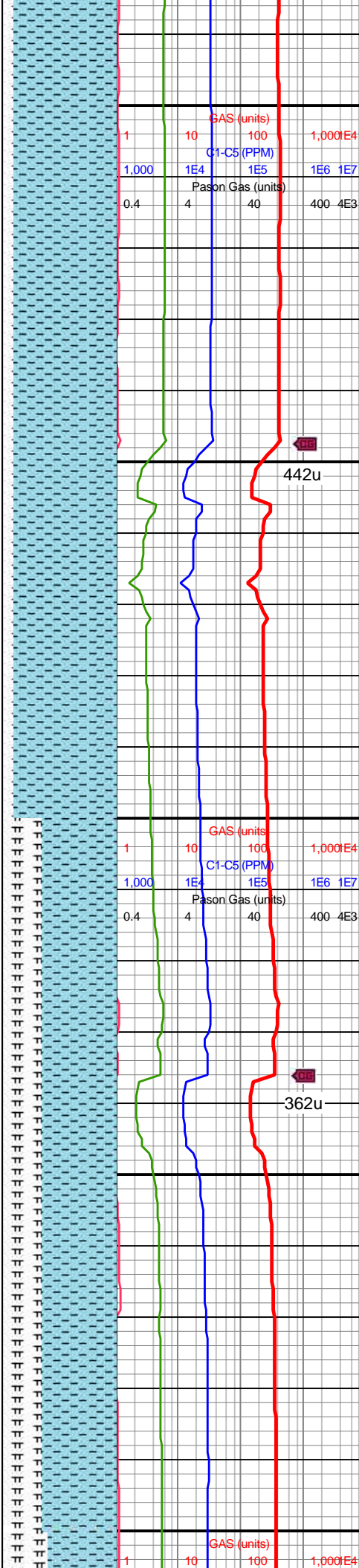
WOB: 31klbs
RPM: 60
SPM: 181
SPP: 3.867psi

MW IN: 10
VIS IN: 43
MW OUT: 10
VIS OUT: 42

MD: 14,077'
INC: 88.29°
AZM: 180.01°
TVD: 7,675.6'
VS: 5,655.62'

MD: 14,166'
INC: 88.99°
AZM: 179.84°
TVD: 7,677.71'
VS: 5,741.65'

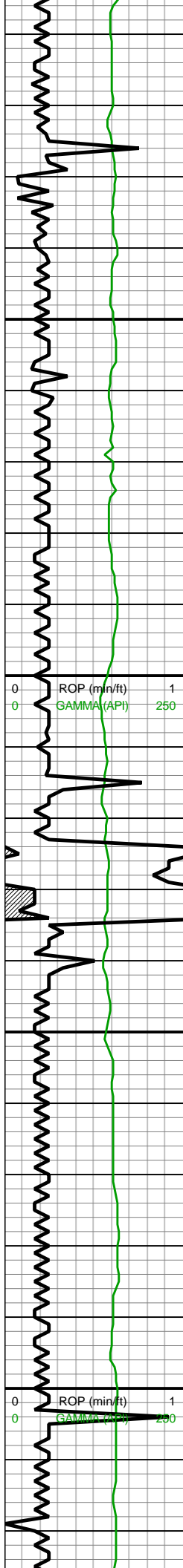
WOB: 31klbs
RPM: 60
SPM: 182
SPP: 3.615psi



10% MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr bent, v tr pp pyr

14000-14100 90% CHK:
med gy-med bnshgy, lt gy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
10% MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr bent, v tr pp pyr

14100-14200 65% CHK:
med gy-med bnshgy, lt gy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
35% MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr bent, tr pp pyr



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
14,350
14,360
14,370
14,380
14,390
14,400
14,410
14,420

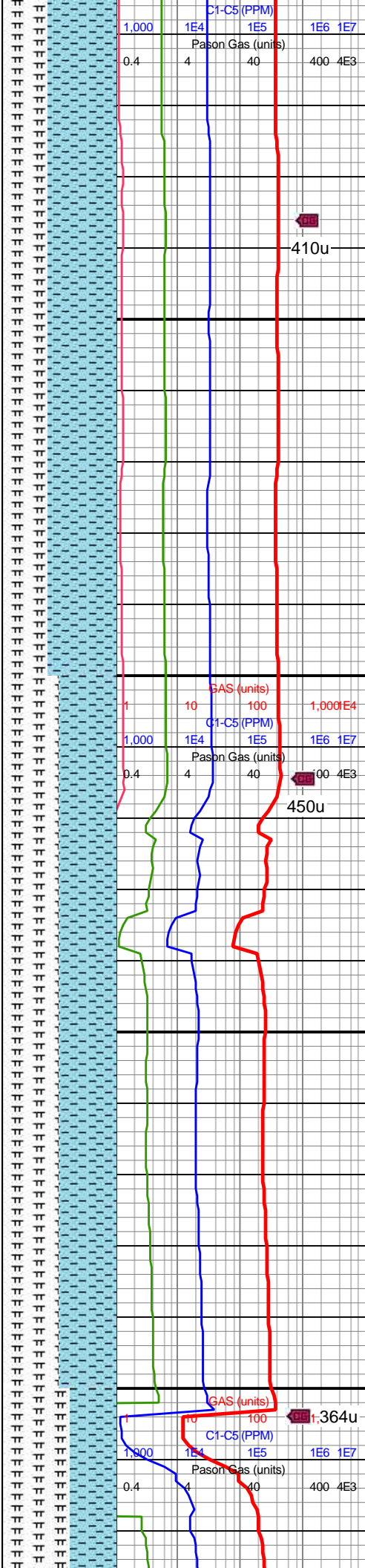
MD: 14,255'
INC: 89.43°
AZM: 179.49°
TVD: 7,678.94'
VS: 5,827.81'

MW IN: 10
VIS IN: 43
MW OUT: 10
VIS OUT: 42

MD: 14,344'
INC: 88.29°
AZM: 180.54°
TVD: 7,680.71'
VS: 5,913.81'

MW IN: 10
VIS IN: 43
MW OUT: 10
VIS OUT: 42

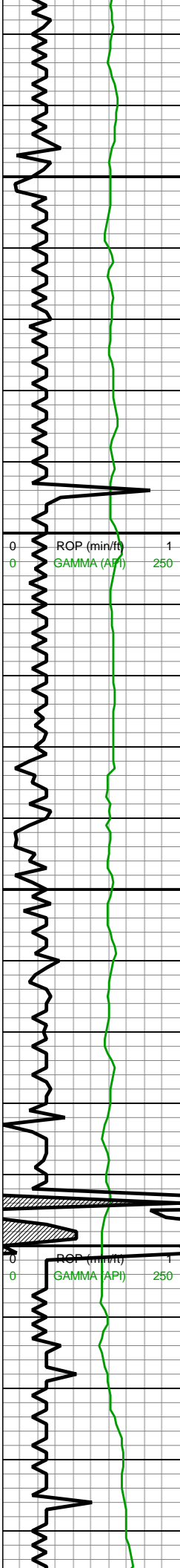
WOB: 34klbs
RPM: 60
SPM: 181
SPP: 3,675psi



14200-14300 60% CHK:
med gy-med bnshgy, lt gy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
40% MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr bent, tr pp pyr

14300-14400 50% CHK:
med gy-med bnshgy, lt gy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip;
50% MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr pyr



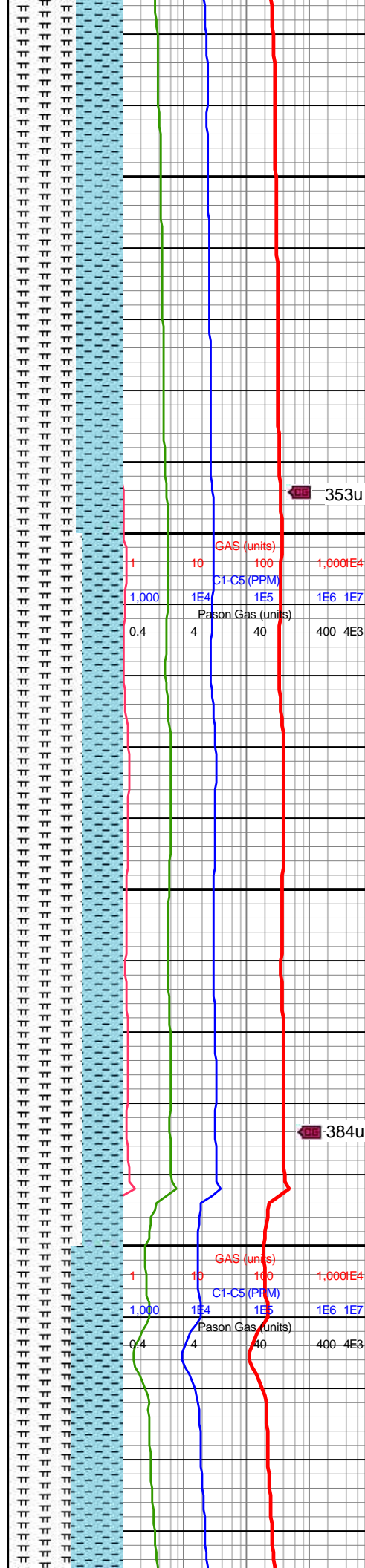


MD: 14,433'
INC: 88.64°
AZM: 180.37°
TVD: 7,683.09'
VS: 5,999.63'

MD: 14,523'
INC: 89.16°
AZM: 179.66°
TVD: 7,684.82'
VS: 6,086.61'

MW IN: 10
VIS IN: 43
MW OUT: 10
VIS OUT: 42
WOB: 38klbs
RPM: 32
SPM: 180
SPP: 3,135psi

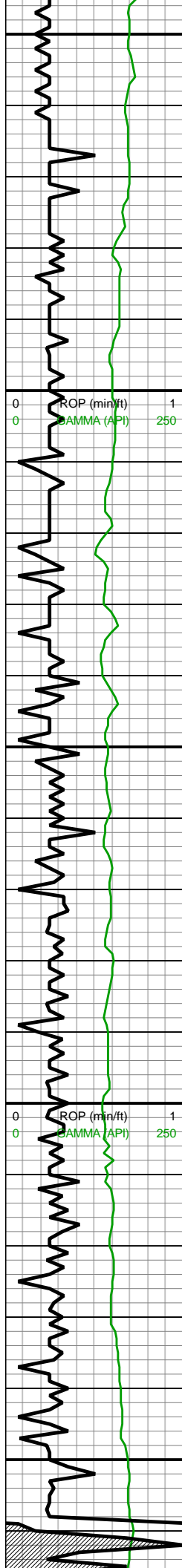
MD: 14,612'
INC: 87.93°
AZM: 179.66°
TVD: 7,687.08'
VS: 6,172.74'



14400-14500 60%
MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr pyr; 40% CHK:
med gy-med bnshgy, lt gy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip

14500-14600 65%
MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr pyr; 35% CHK:
med gy-med bnshgy, lt gy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip





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
14,830
14,840
14,850
14,860

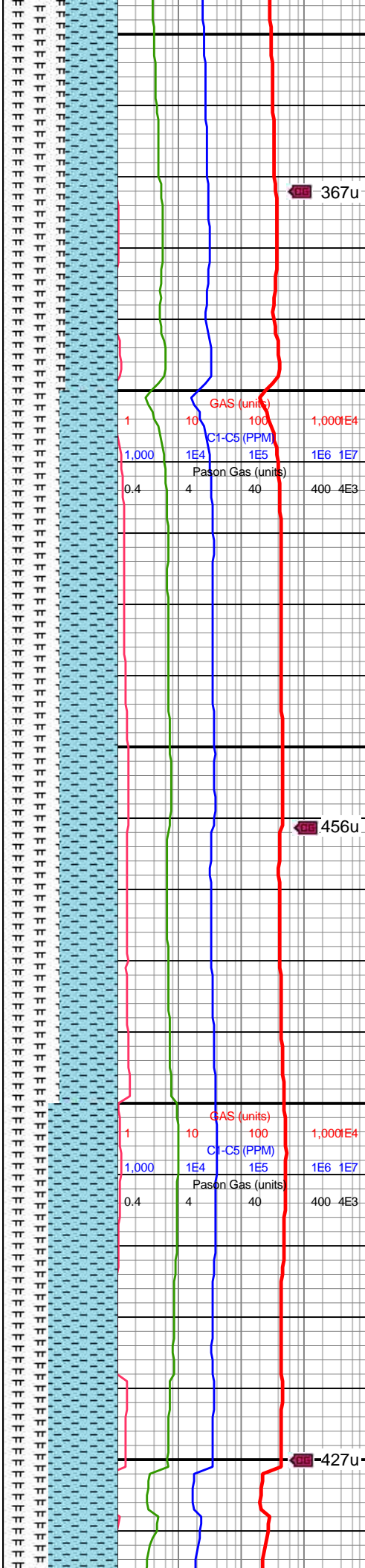
MD: 14,701'
INC: 88.55°
AZM: 180.37°
TVD: 7,689.81'
VS: 6,258.73'

MW IN: 10
VIS IN: 43
MW OUT: 10
VIS OUT: 41

MD: 14,790'
INC: 89.6°
AZM: 179.84°
TVD: 7,691.25'
VS: 6,344.7'

WOB: 33klbs
RPM: 60
SPM: 181
SPP: 3,730psi

MW IN: 10
VIS IN: 44



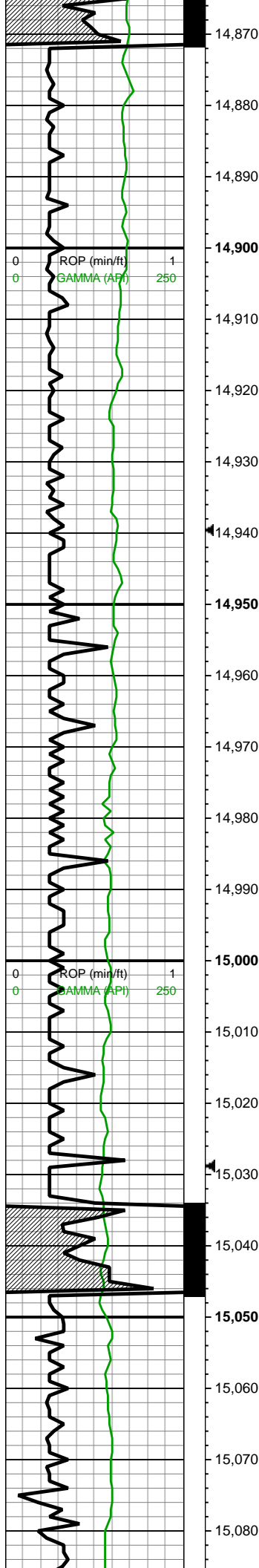
367u

14600-14700 55%
MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr pyr; 45% CHK:
med gy-med bnshgy, lt gy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip

456u

14700-14800 50%
MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr pyr; 50% CHK:
med gy-med bnshgy, lt gy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip

427u



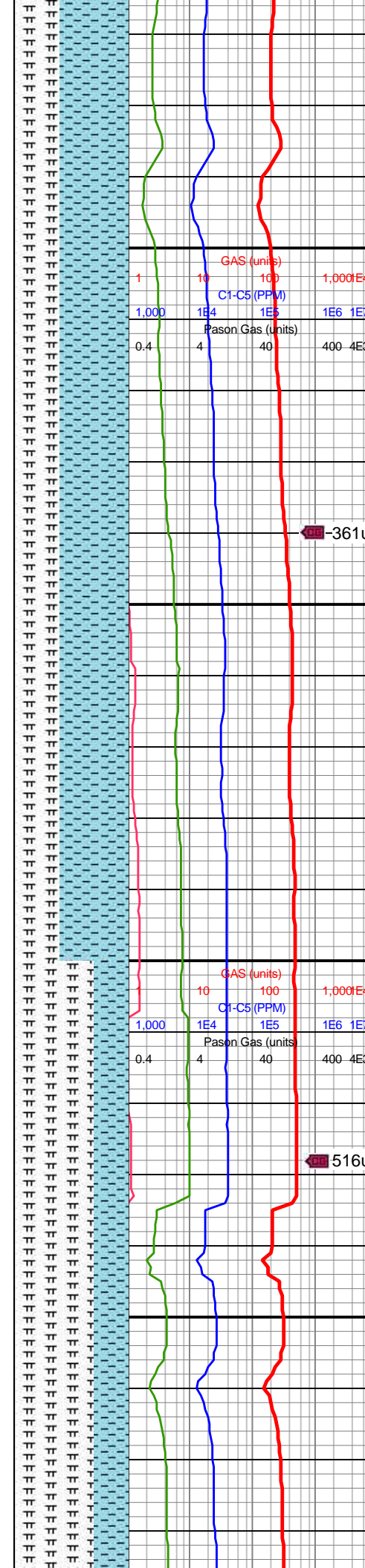
MW OUT: 10
VIS OUT: 42

MD: 14,879'
INC: 88.55°
AZM: 180.19°
TVD: 7,692.69'
VS: 6,430.72'

MD: 14,968'
INC: 89.16°
AZM: 180.89°
TVD: 7,694.47'
VS: 6,516.51'

WOB: 35klbs
RPM: 60
SPM: 182
SPP: 3,702psi

MD: 15,057'
INC: 88.29°
AZM: 178.96°
TVD: 7,696.45'
VS: 6,602.55'

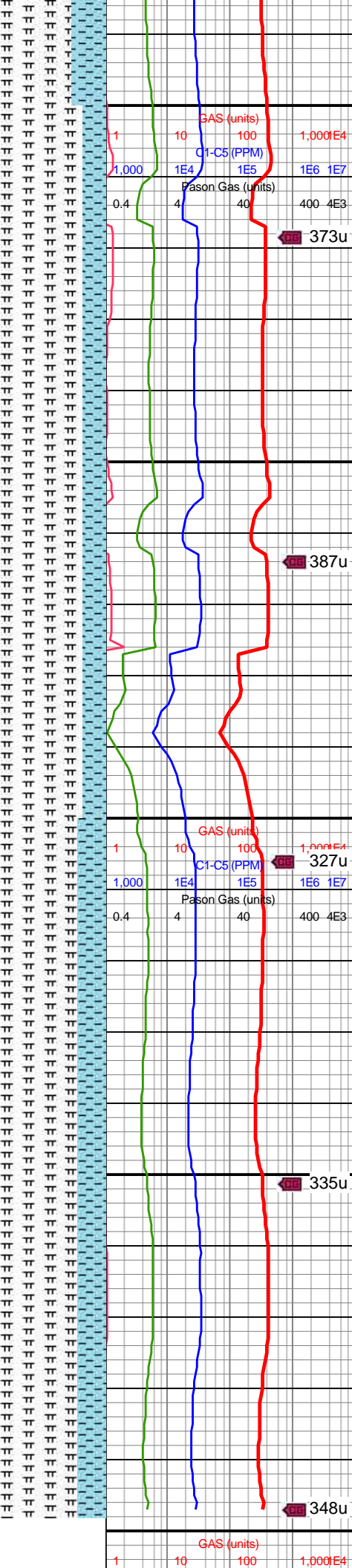
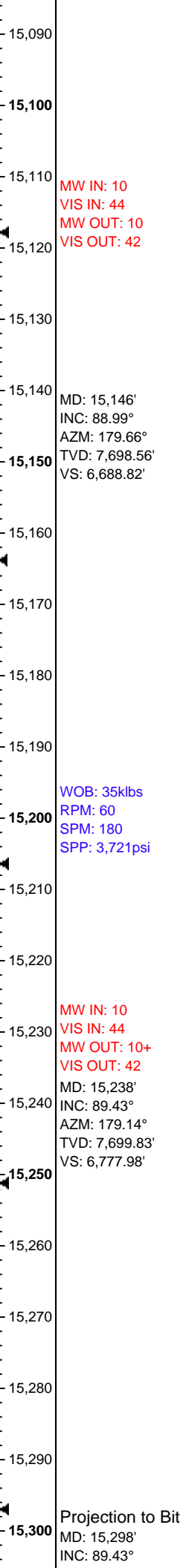
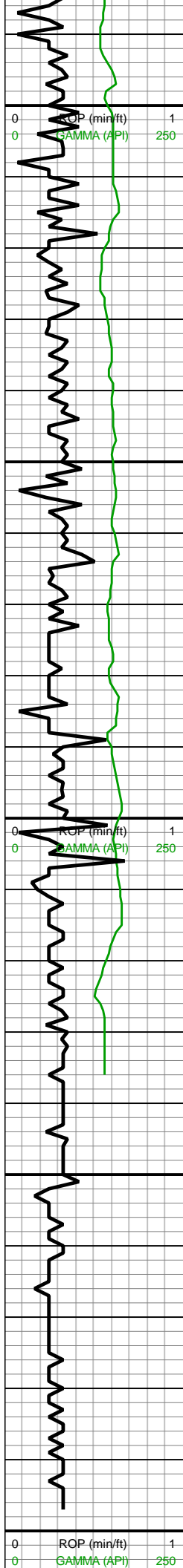


14800-14900 60% CHK:
med gy-med bnshgy, lt gy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip 40%
MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, occ wht chk incl, tr
pyr

14900-15000 60% CHK:
med gy-med bnshgy, lt gy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip 40%
MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, occ wht chk incl, tr
pyr

15000-15100 70%
MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, occ wht chk incl, tr
pyr





arg, tr pyr; 30% CHK:
med gy-med bnshgy, lt gy
ip, micxln-vf xln, sl fri-frm,
dns struc, ang-sb ang,
rthy tex, v calc, arg ip

15100-15200 80%
MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr pyr; 20% CHK:
med-dk gy, micxln-vf xln,
sl fri-frm, dns struc,
ang-sb ang, rthy tex, v
calc, arg ip; tr bent

15200-15298 75%
MRLST: dk-med gy,
micxln-vf xln, frm-hd, sb
blky-plty, rthy tex, calc,
arg, tr pyr; 25% CHK:
med-dk gy, micxln-vf xln,
sl fri-frm, dns struc,
ang-sb ang, rthy tex, v
calc, arg ip; com bent



TD well at
15,298' MD at 22:26
MST on 03/29/2020

TD well at
15,298' MD at 22:26
MST on 03/29/2020

15,310

15,320

L 15 220

AZM: 179.14°
TVD: 7,700.42'
VS: 6,836.2'

C1-C5 (PPM)				
1,000	1E4	1E5	1E6	1E7
Pason Gas (units)				
-0.4	4	40	400	4E3