



RESERVOIR GROUP

Scale: 5" / 100'
Measured Depth Log

Well Name Sam 3G-25H-M166

Location Sec. 25 T1N R66W

State Colorado

County Weld

Country USA

Rig Number Ensign 140

API Number 05123461320000

AFE # 16190873

Geographic Region Rockies

Field Wattenberg

Spud Date 8/25/2018

Drilling Completed 8/27/2018

Surface Coordinates Lat/Long: 40.01873/-104.733854
SHL: Sec: 25 Twp: 1N 66W
Footage: 1353 FSL 310 FWL

Bottom Hole Coordinates Proposed BHL: Sec: 25 Twp: 1N 66W
Footages: 1440 FFSLL 460 FFELL

Ground Elevation 5,086'

K.B. Elevation 5,109'

Logged Interval 6,700' **To** 11,770'

Total Depth 11,770'

Formation B Chalk

Type of Drilling Fluid Synthetic Oil Based Mud

Operator

Company Crestone Peak Resources

Address 1801 California Street, Suite 2500
Denver, CO 80202

Geologist

Name John Ready

Company Crestone Peak Resources

Address 1801 California Street, Suite 2500
Denver, CO 80202

Zone Color Coding

Oil	Condensate	Gas
Note	Core	Pressure
Error	Water	Seal

Other

Loggers: Brian Ferwerda / Nicholas Watkins

Services Provided: 2-Man Mudlogging / Geosteering

Equipment: ML-522

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

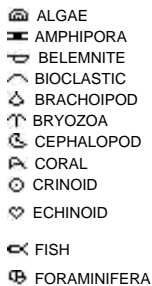
Service Start Date: 8/25/2018

Rock Types



Accessories

Fossils



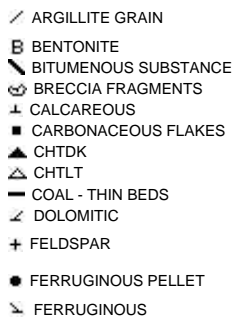
Fossil



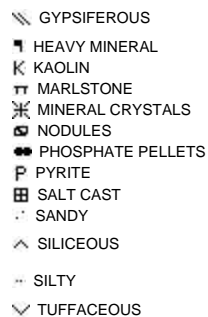
Minerals



Argillaceous



Glauconite

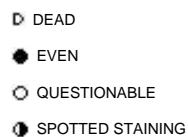


Stringer



Other Symbols

Oil Show



Porosity



Organic



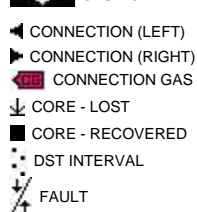
Pinpoint



Vuggy



Engineering



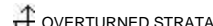
Formation Top



Gas Show



MN DEPTH



Normal Fault



Oil Show



OVERTURNED STRATA



Reverse Fault



Slide

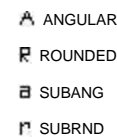
Survey

Trip Gas

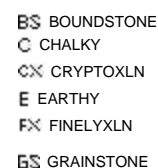
Wireline Tested - Left

Wireline Tested - RT

Rounding



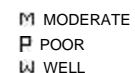
Textures

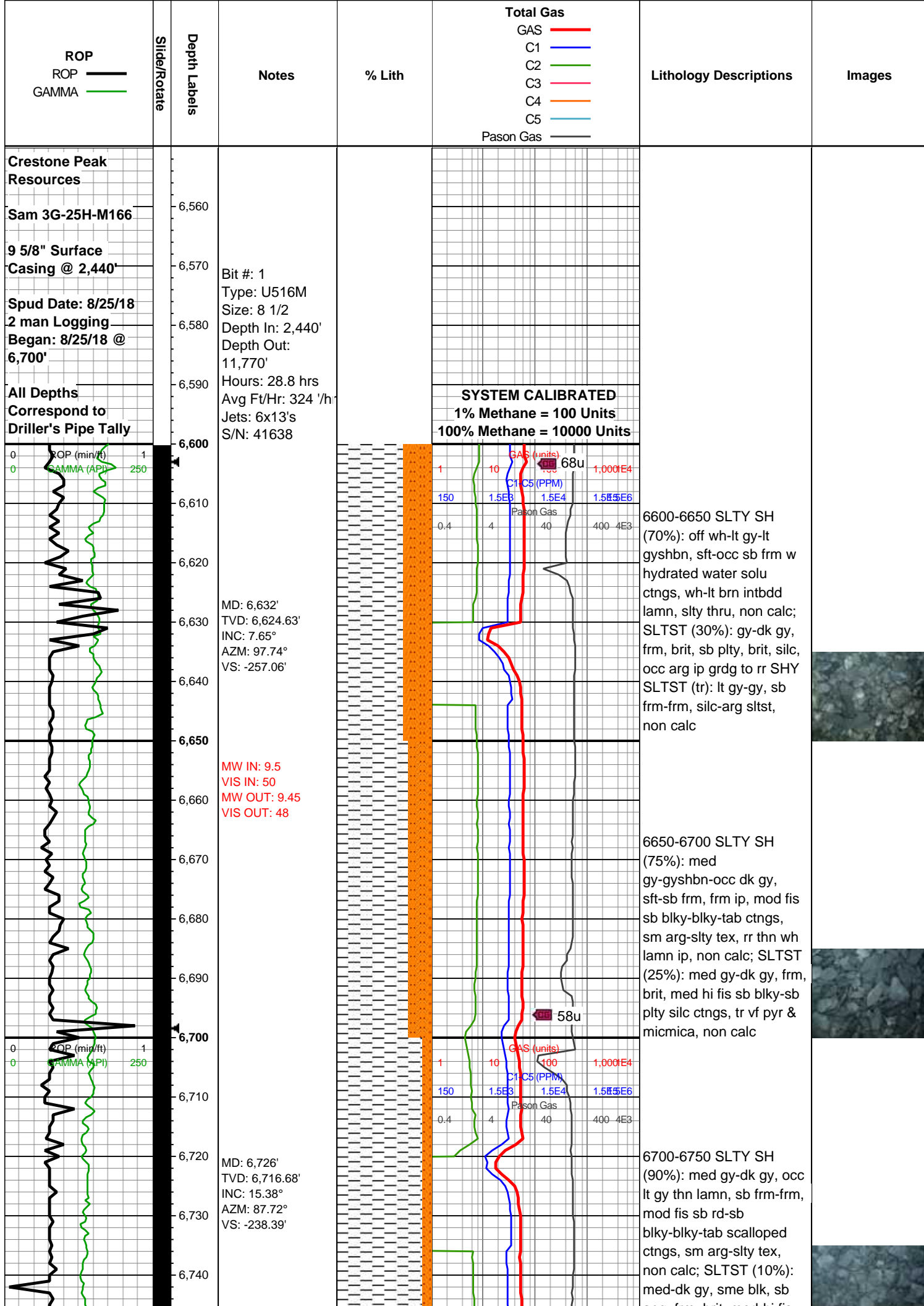


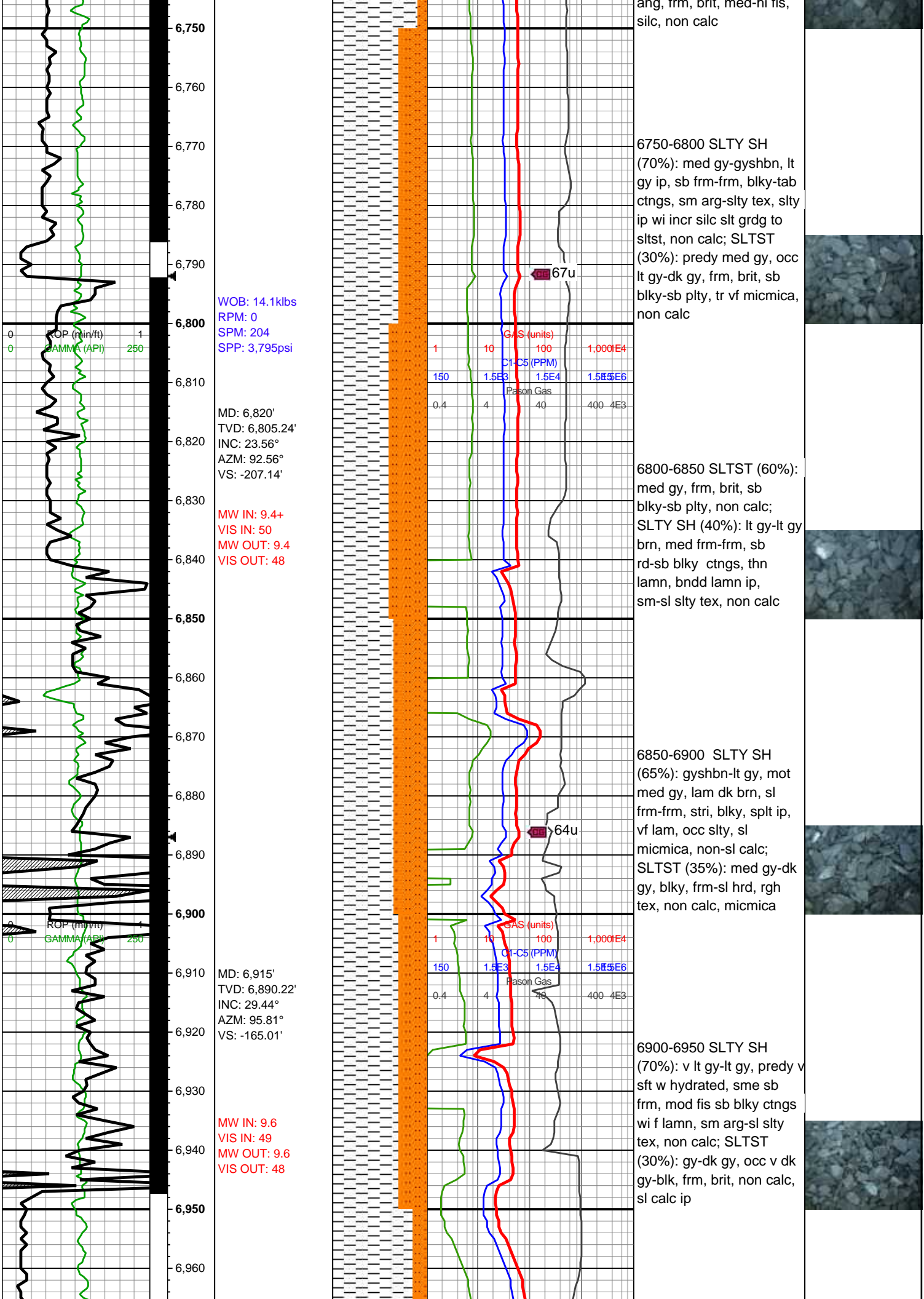
Lithographic

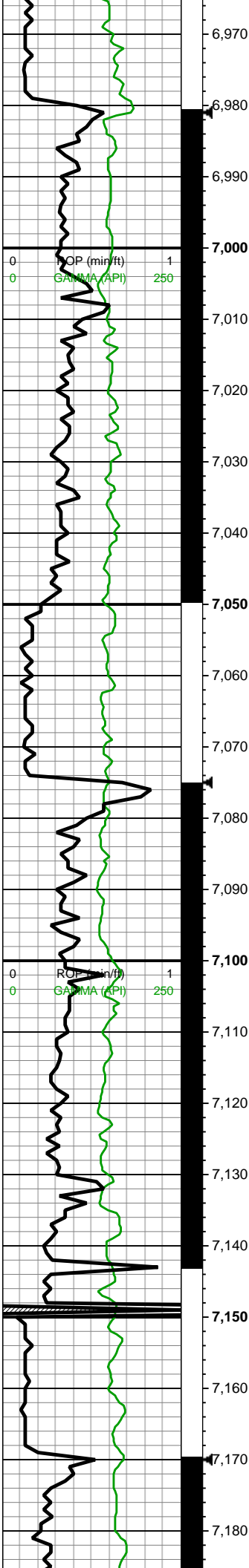


Sorting







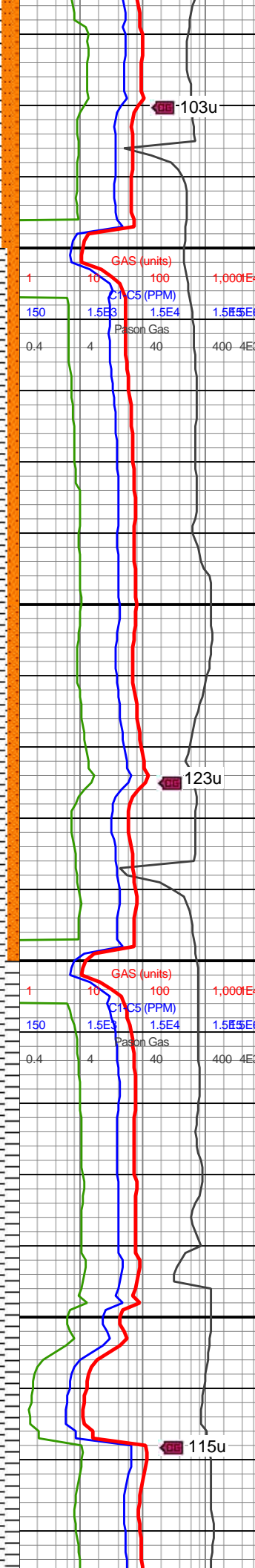


WOB: 15.4klbs
RPM: 0
SPM: 200
SPP: 3,671psi

MD: 7,009'
TVD: 6,970.58'
INC: 33.05°
AZM: 97.21°
VS: -116.77'

MD: 7,103'
TVD: 7,046.56'
INC: 39.07°
AZM: 90.36°
VS: -61.76'

MW IN: 9.7
VIS IN: 45
MW OUT: 9.6
VIS OUT: 44



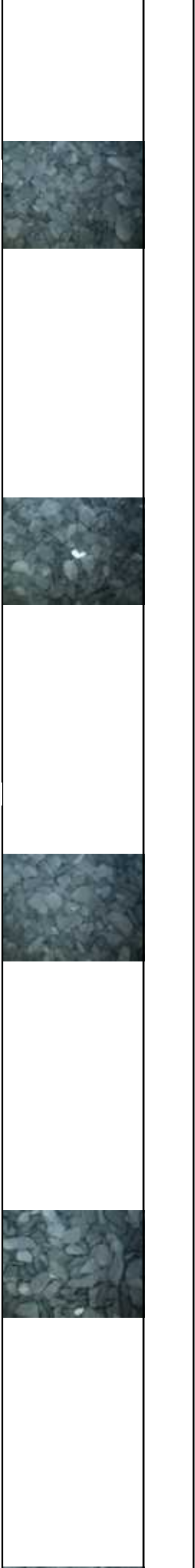
6950-7000 SLTY SH
(85%): med
gy-gyshbn-occ dk gy,
sft-sb frm, frm ip, mod fis
sb blkyl-blky-tab ctngs,
sm arg-sltly tex, rr thn wh
lamn ip, non calc; SLTST
(15%): med gy-dk gy, frm,
brit, med hi fis sb blkyl-sb
plty silc ctngs, tr vf pyr &
micmica, non calc

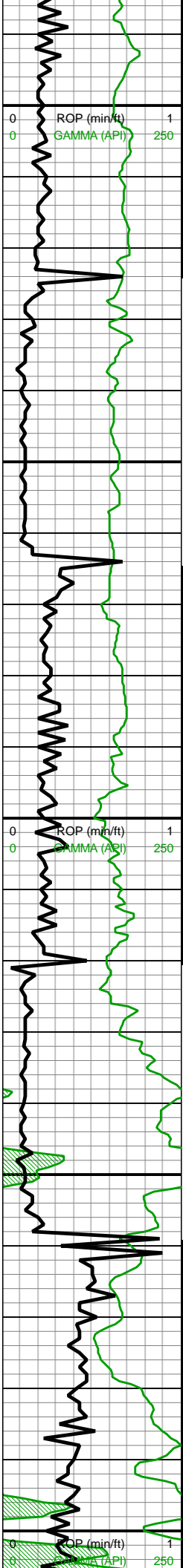
7000-7050 SLTY SH
(90%): med gy-med
gyshbn-dk gy, sft-sb
frm-frm-brit, mod fis sb
blkyl-blky ctngs, sl slty tex,
rr vf-c sp pyr strg, non
calc; SLTST (10%): lt
gy-dk gy, frm-v frm-brit
silc sltst, non calc

7050-7100 SLTY SH
(90%): med gy-dk gy, occ
lt gy thn lamn, sb frm-frm,
mod fis sb rd-sb
blkyl-blky-tab scalloped
ctngs, sm arg-sltly tex,
non calc; SLTST (10%):
med-dk gy, sme tn, sb
ang, frm, brit, med-hi fis,
silc, non calc

7100-7150 SLTY SH
(100%): med gy-gyshbn,
occ lt gy thn lamn, sb
frm-frm, mod fis sb rd-sb
blkyl-blky-tab scalloped
ctngs, sm arg-sltly tex,
wxy lstr, non calc

7150-7200 SLTY SH
(100%): gyshbn-med gy,
mot lt gy, lam dk brn,





WOB: 24.8klbs
RPM: 0
SPM: 202
SPP: 4,009psi

MD: 7,293'
TVD: 7,181.89'
INC: 49.4°
AZM: 92.03°
VS: 71.16'

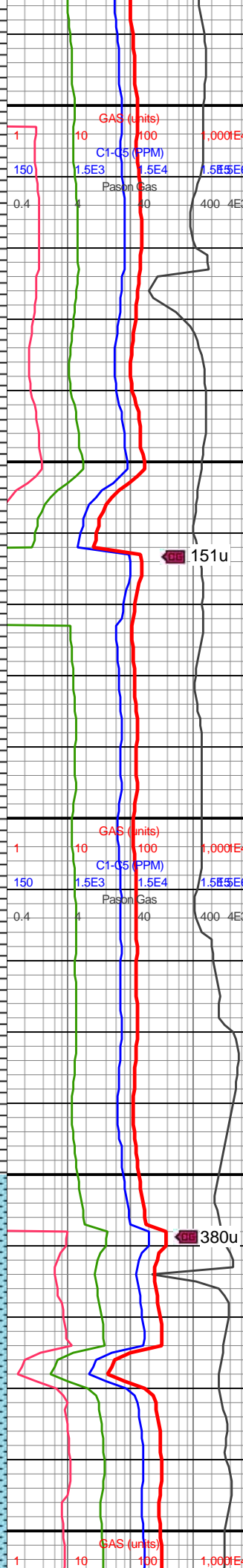
Sharon Springs
7330 MD/7205 TVD

MW IN: 9.6+
VIS IN: 47
MW OUT: 9.6+
VIS OUT: 45

Niobrara
7352 MD/7219 TVD

MD: 7,387'
TVD: 7,239.55'
INC: 54.89°
AZM: 89.48°
VS: 145.27'

WOB: 26.9klbs
RPM: 0
SPM: 204
SPP: 4,080psi



blkly-sb tab ctngs, sl
tex, sl micmica, non-sl
calc, mn r imbd/dissm
mic pyr

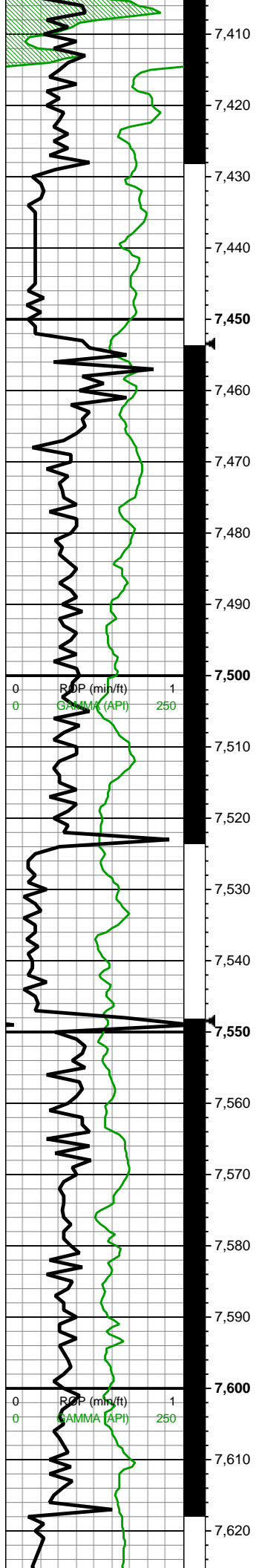
7200-7250 SLTY SH
(100%): gy-gyshbn wi sp
blk lith incl, frm, brit, sb
frm ip, med-hi fis blkly-tab
ctngs wi wxy lstr, slty arg
tex, mod calc

7250-7300 SLTY SH
(100%): gyshbn-med gy,
mot lt gy, lam dk brn,
blkly-sb tab ctngs, sl
frm-frm, stri, vf lam, sl slty
tex, sl micmica, non-sl
calc, mn r imbd/dissm
mic pyr

7300-7350 SLTY SH
(100%): med-dk gy, occ lt
gy, dk bnshgy, frm-v frm,
sb plty, pred non calc,
sm-v f slty tex, occ dissr
pyr, scat tn BENT

7350-7400 MRLST
(65%): gyshbn-dk gy mot
wi brn mrly incl, sb
frm-frm, l-mod fis sb
ang-sb rd-sb blkly ctngs,
sm arg-sl slty tex, rr vf
pyr-c pyr strg, hi calc;
CHK (35%): med gy-dk
gy wi rr f wh chky incl,
l-mod fis sb rd-sb blkly
ctngs, tr vf pyr, hi calc





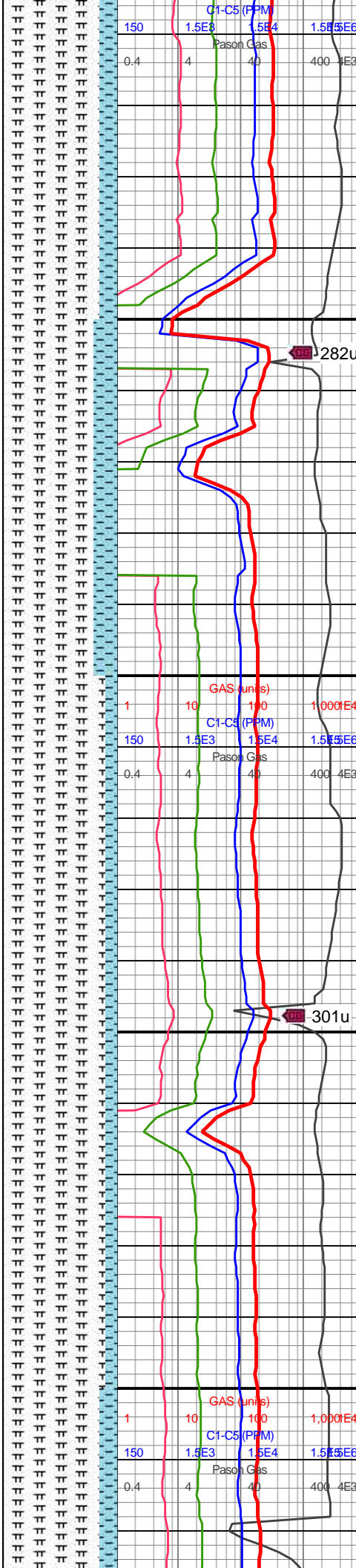
MD: 7,482'
TVD: 7,288.92'
INC: 62.45°
AZM: 88.16°
VS: 226.36'

MW IN: 9.7
VIS IN: 47
MW OUT: 9.6+
VIS OUT: 45

MIN DEPTH 8/27/18

MD: 7,577'
TVD: 7,325.5'
INC: 72.2°
AZM: 88.34°
VS: 313.91'

WOB: 29.2klbs
RPM: 0
SPM: 206
SPP: 4,196psi



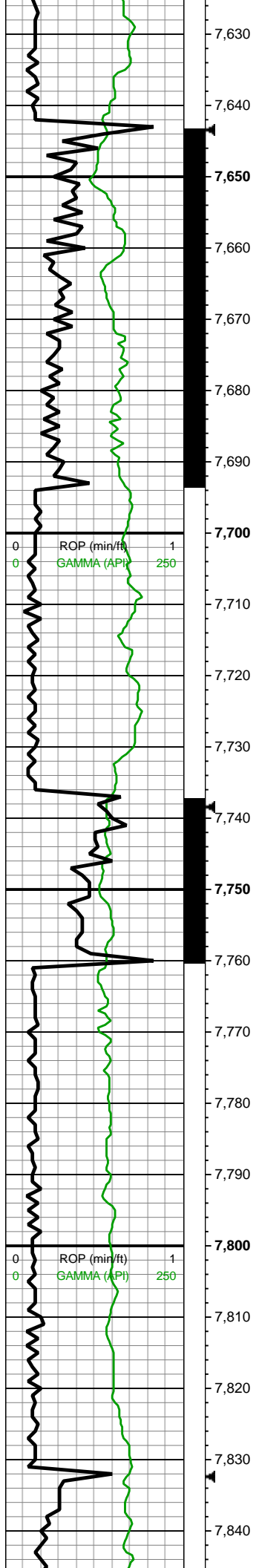
7400-7450 MRLST
(85%): dk gy-dk gyshbn-v
dk gy, sme blk, frm-brit,
med-hi fis blkly-plty ctngs,
sm slty tex, rr ptch pyr
strg, mod calc wi brn mrlly
resdl; CHK (15%): predy
med gy-dk gy wi rr f wh
chky incl, frm-brit sb
blkly-blky mod fis ctngs, sl
slty tex, dul rthy lstr, tr vf
pyr, hi calc

7450-7500 MRLST
(80%): gysh bn-dk gy-v dk
gy, brit mod fis ctngs, sb
blkly-blky, sl slty tex, tr vf
pyr, mod calc; CHK
(20%): med gy-occ dk gy
mot wi f wh chky incl,
frm-brit, mod fis sb blkly
ctngs, tr mict cal vn, hi
calc

7500-7550 MRLST
(90%): med gy-dk gy wi
sp brn marl incl & o stn,
frm-brit, sb frm ip, l-mod
fis sb rd-sb blkly ctngs,
sm arg-sl slty tex, tr vf pyr,
tr bent, mod calc wi brn
mrlly resdl; CHK (10%):
med gy, lt gy ip, frm, brit,
l-mod fis sb rd-sb
blkly-blky ctngs, chky tex

7550-7600 MRLST
(90%): dk gy-v dk gy,
frm-hd, brit, med-hi fis sb
blkly-blky-sb plty ctngs, sl
slty tex, mod calc; CHK
(10%): predy lt gy, med gy
ip, com f wh chky incl,
mod fis, sb blkly-blky,
frm-brit, crunchy ip, sm-sl
slty tex, rr vf pyr, hi calc

7600-7650 MRLST
(85%): dk gy-dk gyshbn-v
dk gy, sme blk, frm-brit,
med-hi fis blkly-plty ctngs,
sm slty tex, rr ptch pyr

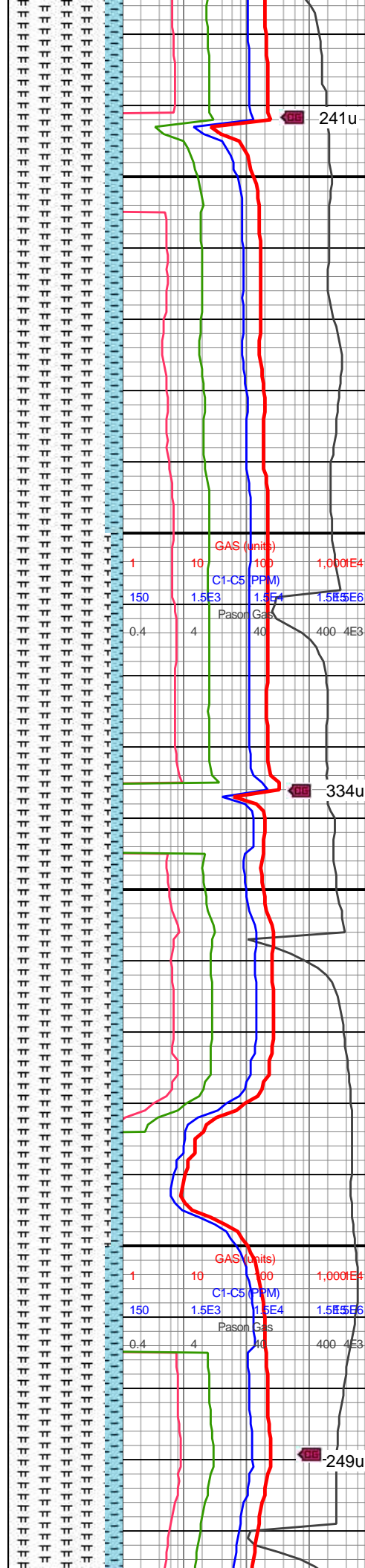


MD: 7,672'
TVD: 7,346.78'
INC: 81.87°
AZM: 89.13°
VS: 406.37'

MW IN: 9.7
VIS IN: 46
MW OUT: 9.7
VIS OUT: 45

MD: 7,766'
TVD: 7,355.24'
INC: 87.8°
AZM: 89.04°
VS: 499.94'

WOB: 35.6klbs
RPM: 31
SPM: 204
SPP: 4,666psi



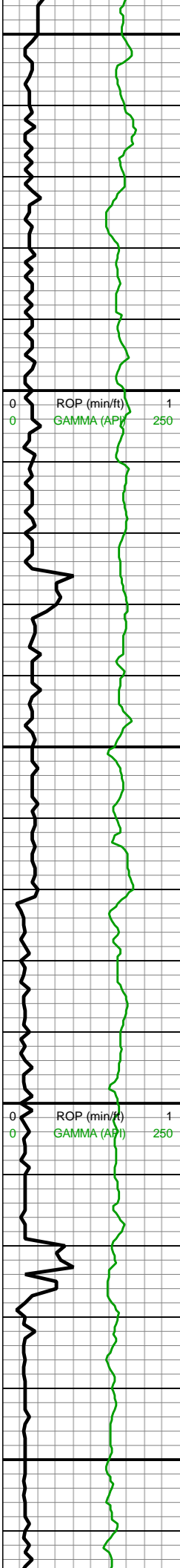
strg, mod calc wi brn mrly
resdl; CHK (15%): predy
med gy-dk gy wi rr f wh
chky incl, frm-brit sb
blky-blky mod fis ctngs, sl
silty tex, dul rthy lstr, tr vf
pyr, hi calc

7650-7700 MRLST
(85%): gyshbn-dk gy-v dk
gy, brit mod fis ctngs, sb
blky-blky, sl silty tex, tr vf
pyr, mod calc; CHK
(15%): med gy-occ dk gy
mot wi f wh chky incl,
frm-brit, mod fis sb blky
ctngs, tr mict cal vn, hi
calc

7700-7750 MRLST
(90%): med
gy-gyshbn-dk gy, sb
frm-frm-brit, sb rd-sb blky
l-mod fis ctngs, sm
arg-sl silty tex, tr vf pyr, hi
calc; CHK (10%): med gy,
lt gy ip, frm, brit, l-mod fis
sb rd-sb blky-blky ctngs,
chky tex, rr forams & tr fos
frags, hi calc

7750-7800 MRLST
(90%): med
gy-gyshbn-dk gy, sb
frm-frm-brit, sb rd-sb blky
l-mod fis ctngs, sm
arg-sl silty tex, rr vf pyr,
mod calc; CHK (10%):
med gy, lt gy ip, frm, brit,
mod fis sb blky-blky
ctngs, sl silty tex, tr fos
frags, hi calc





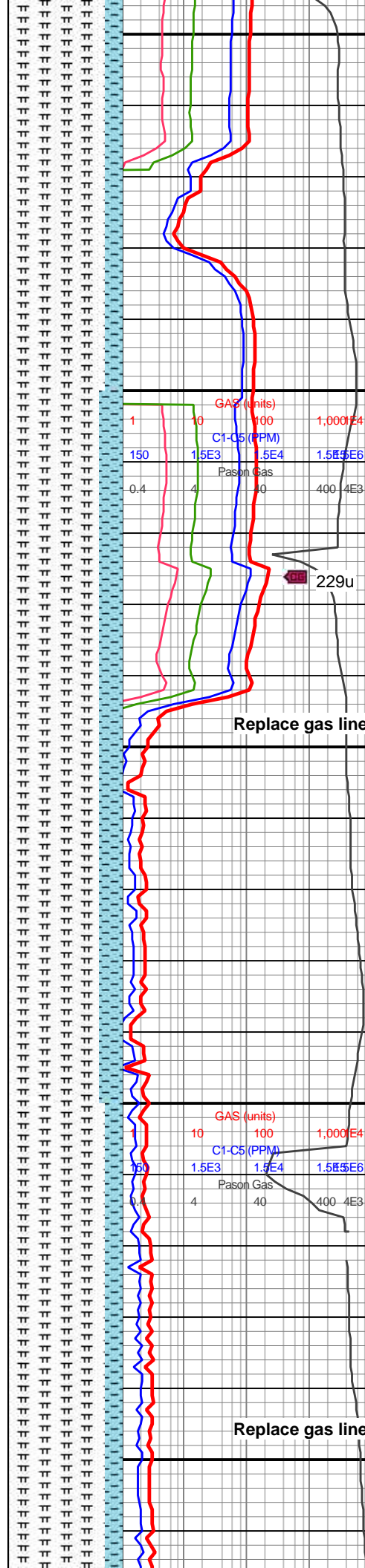
MD: 7,861'
TVD: 7,358.48'
INC: 88.29°
AZM: 89.83°
VS: 594.87'

MD: 7,955'
TVD: 7,361.4'
INC: 88.15°
AZM: 89.57°
VS: 688.79'

WOB: 32.7klbs
RPM: 61
SPM: 202
SPP: 4,775psi

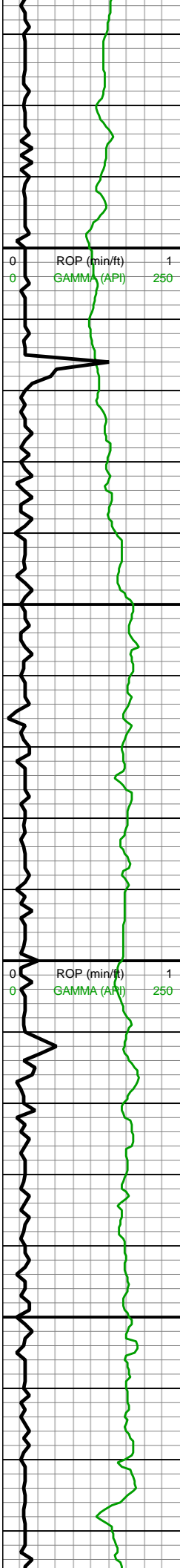
MW IN: 9.8
VIS IN: 45
MW OUT: 9.7+
VIS OUT: 44

MD: 8,050'
TVD: 7,364.79'
INC: 87.76°
AZM: 89.04°
VS: 783.72'



7800-7900 MRLST
(85%): med
gy-gyshbn-dk gy, sb
frm-frm-brit, sb rd-sb blk
l-mod fis ctngs, sm
arg-sl slty tex, rr vf pyr,
mod calc wi brn mrly
resdl; CHK (15%): med
gy, lt gy ip, frm, brit, mod
fis sb blk-bkly ctngs,
chky tex, hi calc

7900-8000 MRLST
(80%): med gy-dk gy wi
sp brn marl, frm-brit, sb
frm ip, l-mod fis sb rd-sb
blkly ctngs, sm arg-sl slty
tex, tr vf pyr, rr-occ bent,
mod calc wi brn mrly
resdl; CHK (20%): med
gy, lt gy ip, frm, brit, l-mod
fis sb rd-sb blkly-bkly
ctngs, chky tex, hi calc



8,070
8,080
8,090
8,100
8,110
8,120
8,130
8,140
8,150
8,160
8,170
8,180
8,190
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8,210
8,220
8,230
8,240
8,250
8,260
8,270
8,280

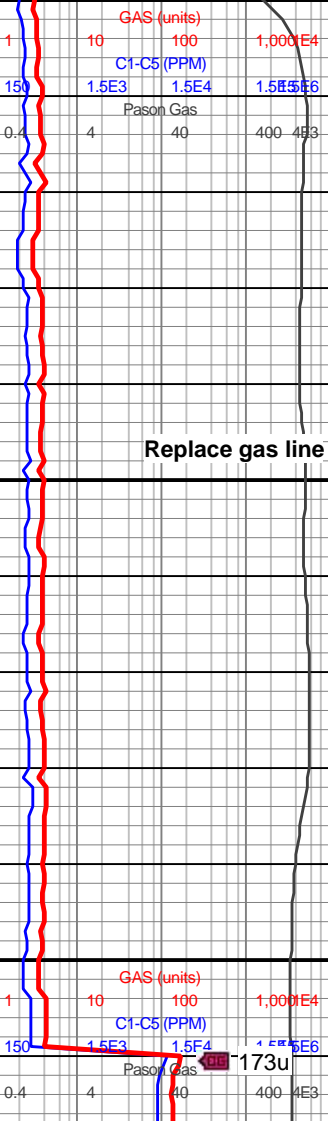
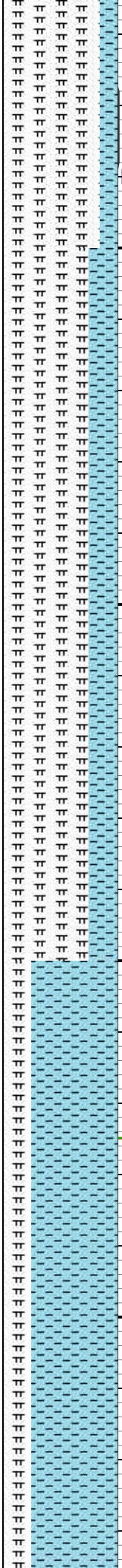
MD: 8,144'
TVD: 7,368.62'
INC: 87.58°
AZM: 88.69°
VS: 877.64'

WOB: 34.2klbs
RPM: 60
SPM: 202
SPP: 4,895psi

MD: 8,239'
TVD: 7,372.92'
INC: 87.23°
AZM: 88.78°
VS: 972.54'

MW IN: 9.8
VIS IN: 46
MW OUT: 9.8
VIS OUT: 45

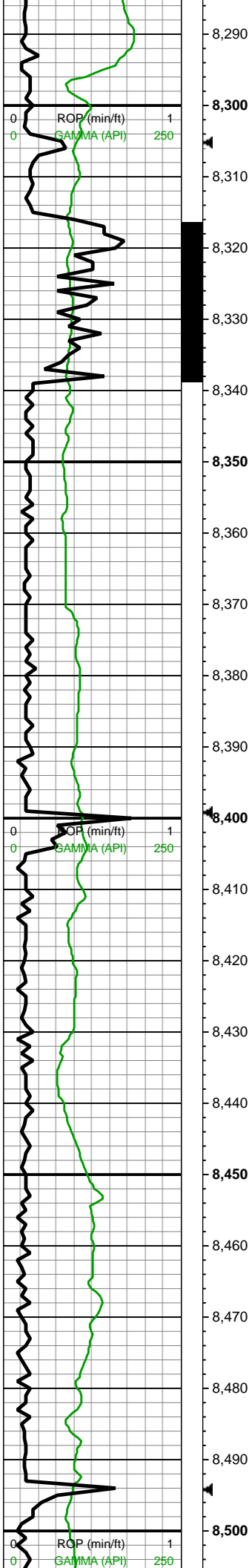
B Chalk
8278 MD/7374 TVD
↔



8000-8100 MRLST
(85%): dk gy-dk gyshbn-v
dk gy, sme blk, frm-brit,
med-hi fis blk-ilty ctngs,
sm slty tex, rr ptch pyr
strg, mod calc wi brn mrly
resdl; CHK (15%): dk
gy-dk gyshbn-med gy,
frm-brit sb blk-ilty mod
fis ctngs, sl slty-rgh tex ip
wi lamn, tr vf pyr, hi calc

8100-8200 MRLST
(75%): med
gy-gyshbn-dk gy, sb
frm-frm-brit, sb rd-sb blk-
l-mod fis ctngs, sm
arg-sl slty tex, rr vf pyr,
mod calc wi brn mrly
resdl; CHK (25%): med
gy, lt gy ip, frm, brit, mod
fis sb blk-ilty ctngs, sl
chky tex, tr fos frags, hi
calc

8200-8300 CHK (75%):
predy gyshbn-med gy,
sme lt gy, sb blk-sb ang
ctngs, fri-frm, tr intbd
MRLST, sm chky tex,
calc, scat imbd pyr, com
frc flck; MRLST (25%):

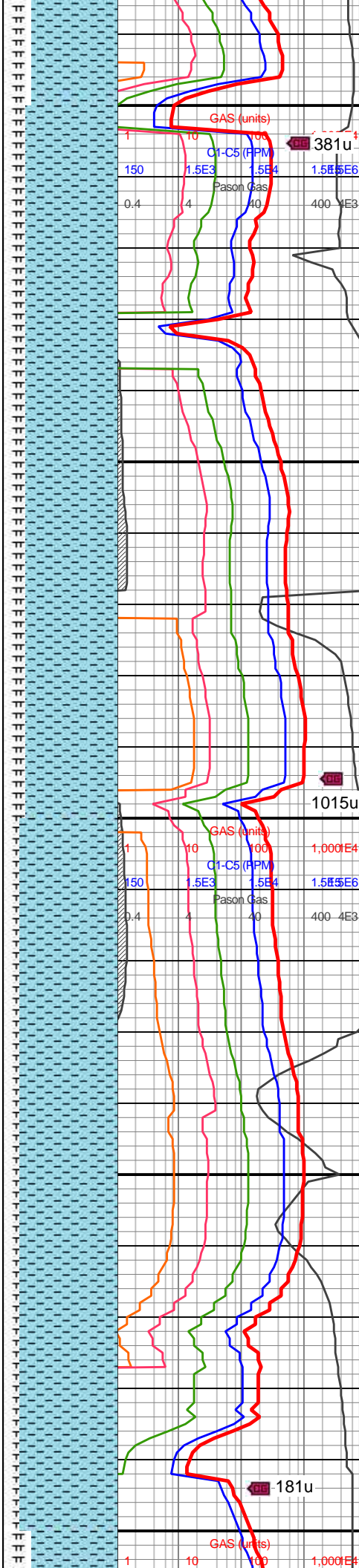


MD: 8,333'
TVD: 7,375.44'
INC: 89.69°
AZM: 87.81°
VS: 1,066.5'

WOB: 14.9klbs
RPM: 61
SPM: 202
SPP: 4,164psi

MD: 8,428'
TVD: 7,375.59'
INC: 90.13°
AZM: 87.19°
VS: 1,161.48'

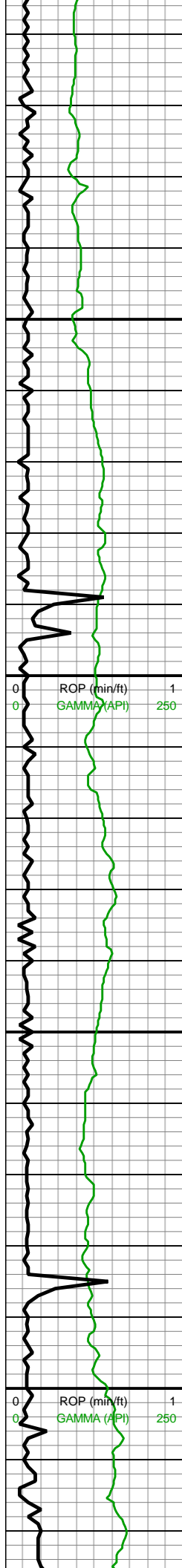
On Buster



dk gyshbn-dk gy, frm-sl
hd, sb blk-ang ctngs, sl
sm-rgh tex, com intbd
CHK, hi calc

8300-8400 CHK (80%):
predy med gyshbn-med
brn, sme dk brn, mot ip,
occ stri, pred sft-sl frm,
blk-yl, hi calc, chky tex,
com mic fos, scat pyrc
nod, com frac fl cal;
MRLST (20%): pred v dk
gy, occ blk, frm-hrd, occ v
hrd, blk-yl, sme pty, calc-v
calc, occ slty, tr pp pyr

8400-8500 CHK (85%):
med gy-dk gy-gyshbn
frm-brit, sb blk-yl mod
fis ctngs, sm-sl slty tex,
occ f wh chky incl ip, rr yel
o stn, scat forams, rr vf
pyr, hi calc; MRLST
(15%): med gy-dk gy-blk,
sb frm-frm, brit ip, med-hi
fis sb rd-sb blk-yl-sb
pty ctngs, sl slty tex, mod
calc



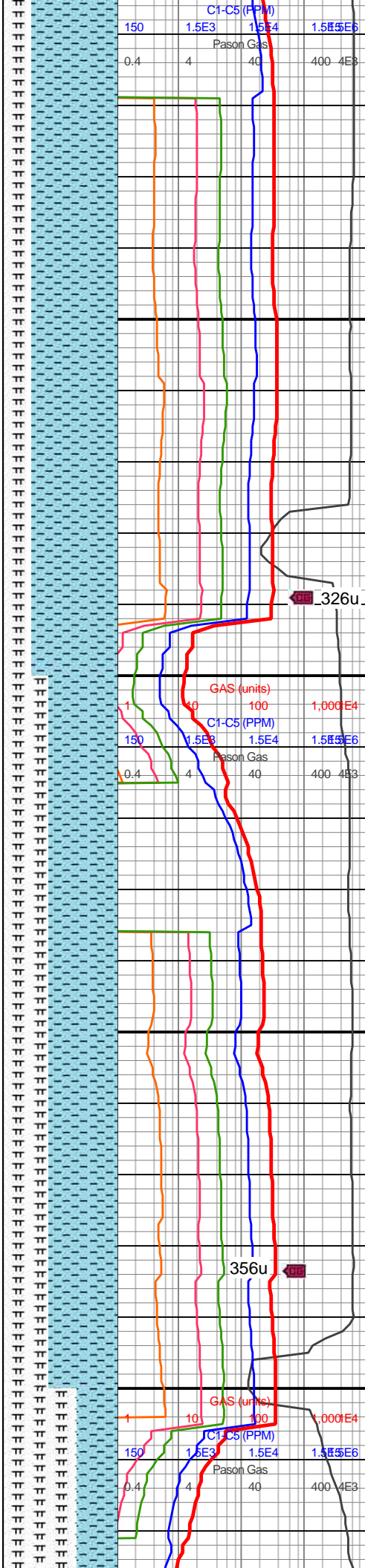
MD: 8,522'
TVD: 7,375.77'
INC: 89.65°
AZM: 86.84°
VS: 1,255.46'

WOB: 42.4klbs
RPM: 60
SPM: 202
SPP: 5,020psi

MD: 8,616'
TVD: 7,375.52'
INC: 90.66°
AZM: 87.46°
VS: 1,349.44'

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

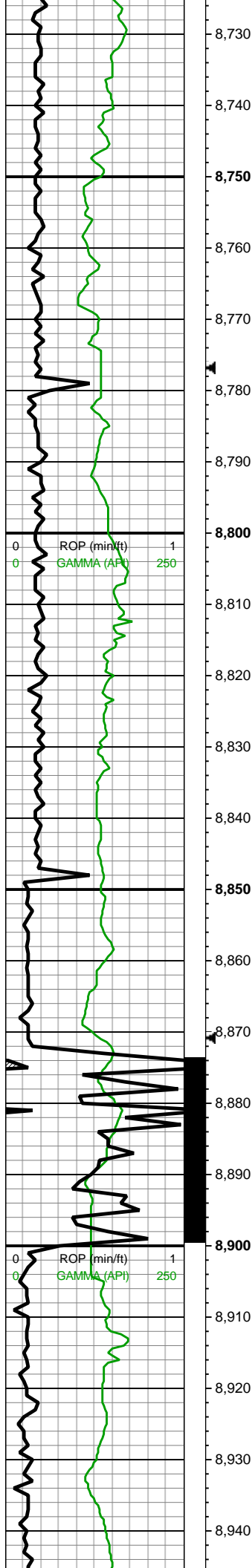
MD: 8,711'
TVD: 7,373.84'
INC: 91.36°
AZM: 86.93°
VS: 1,444.4'



8500-8600 CHK (75%):
predy med gyshbn-med
brn, sme dk brn, mot ip,
occ stri, pred sft-sl frm,
blky, hi calc, chky tex, tr-rr
mic fos, scat frac fl cal;
MRLST (25%): pred v dk
gy, occ blk, frm-hrd, occ v
hrd, blky, sme plty, calc-v
calc, occ slty, tr pp pyr

8600-8700 CHK (60%):
lt-med gy, sl brn hue ip,
sb frm-frm, sb rd-sb blky,
sm-sl slty tex, occ rgh tex
wi rr-tr fos frags &
forams, tr vf pyr, hi calc;
MRLST (40%): med gy-dk
gy, frm, brit, med-hi fis sb
blky-sb plty ctngs, mod
calc

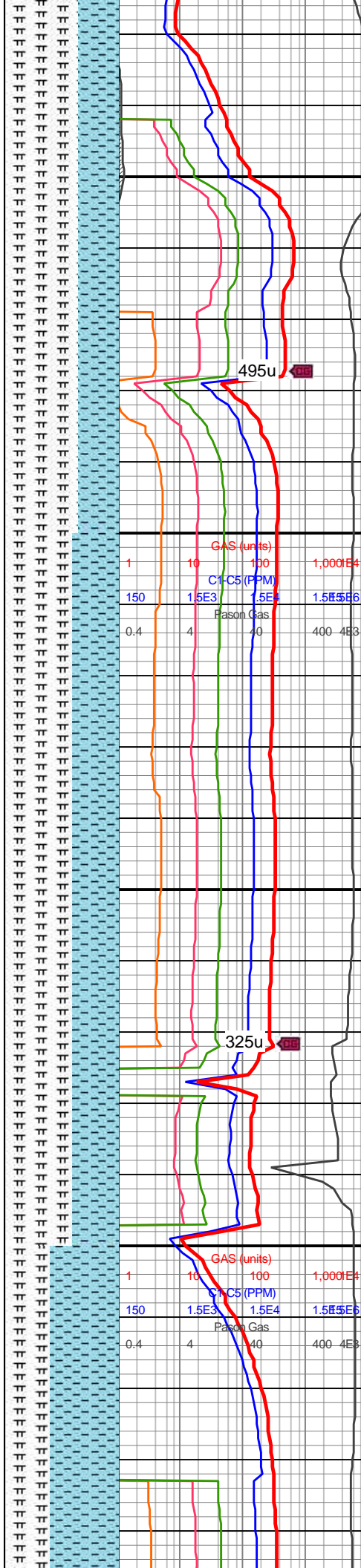




WOB: 44klbs
RPM: 60
SPM: 202
SPP: 5,028psi

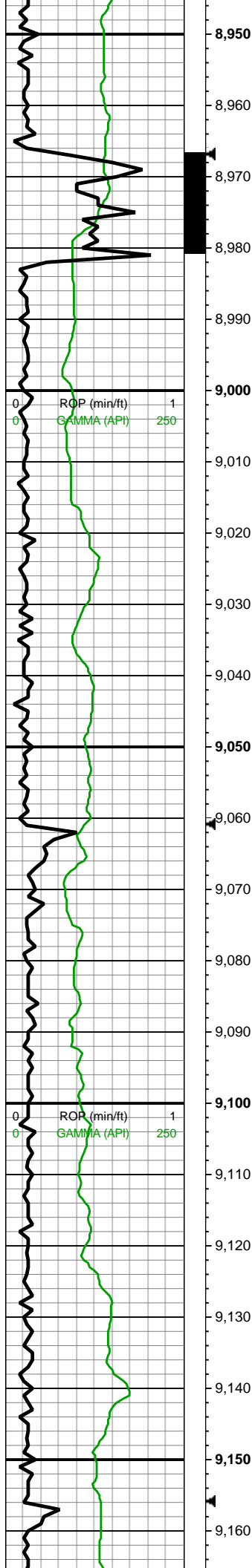
MD: 8,805'
TVD: 7,371.54'
INC: 91.45°
AZM: 86.14°
VS: 1,538.33'

MD: 8,900'
TVD: 7,369.46'
INC: 91.06°
AZM: 88.42°
VS: 1,633.28'



8700-8800 MRLST
(65%): dk gy-dk gyshbn,
frm-hd, predy brit,
crunchy ip, med-hi fis sb
blky-blky-tab ctngs, sm
arg-sl slty-sl gt tex, rr-tr vf
pyr, mod calc; CHK
(35%): dk gy mot wi f wh
chky & foram incl, sb
frm-frm, brit, mod fis sb
blky-blky ctngs, sl gt tex
wi forams, hi calc

8800-8900 MRLST
(60%): dk gy-dk gyshbn,
frm-hd, crunchy-brit,
med-hi fis sb
blky-blky-tab ctngs, sm
arg-sl slty-sl gt tex, dul
rthy-wxy lstr, rr-tr vf pyr,
mod calc wi brn mrly
resdl; CHK (40%): dk gy
mot wi f wh chky & foram
incl, sb frm-frm, brit, mod
fis sb blky-blky ctngs, sl
gt tex wi forams, hi calc

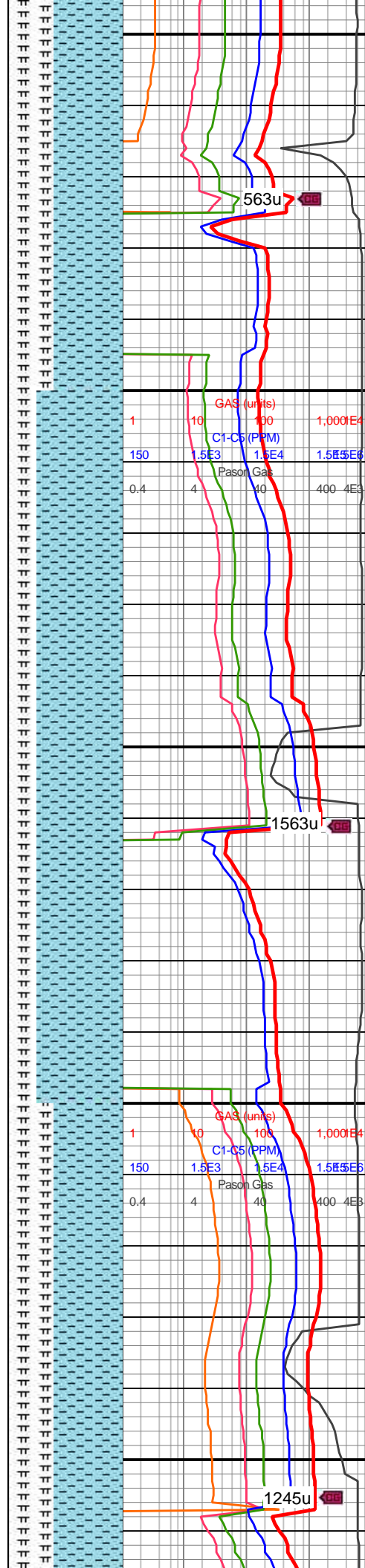


MD: 8,995'
TVD: 7,369.75'
INC: 88.59°
AZM: 88.25°
VS: 1,728.27'

WOB: 40klbs
RPM: 60
SPM: 200
SPP: 5,050psi

MD: 9,090'
TVD: 7,371.54'
INC: 89.25°
AZM: 87.9°
VS: 1,823.26'

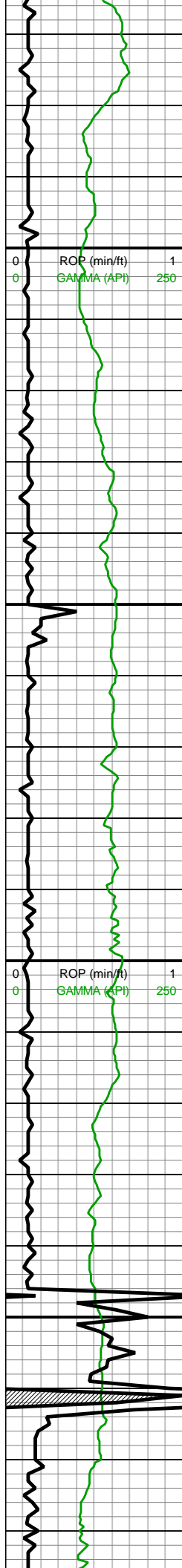
MW IN: 9.8
VIS IN: 49
MW OUT: 9.8
VIS OUT: 45



8900-9000 CHK (60%):
predy med-dk gy wi f wh
incl, occ lt gy, mod fis
ang-sb blkly ctngs, sm sl
silty tex, occ wh foram &
chky incl, tr vf pyr, hi calc;
MRLST (40%): dk gy-v dk
gy, dk gyshbn ip wi sp
mrly incl, frm-hd, brit,
med-hi fis sb
blkly-blky-tab ctngs, sl silty
tex, tr bent, tr vf pyr, mod
calc

9000-9100 CHK (75%): lt
gy-med, occ dk gy wi f wh
chky & foram incl, mod fis
ang-sb blkly ctngs, sm sl
silty tex, tr vf pyr, hi calc;
MRLST (25%): dk gy-v dk
gy, dk gyshbn ip wi sp
mrly incl, frm-hd, brit,
med-hi fis sb
blkly-blky-tab ctngs, sl silty
tex, tr bent, tr vf pyr, mod
calc

9100-9200 CHK (60%):



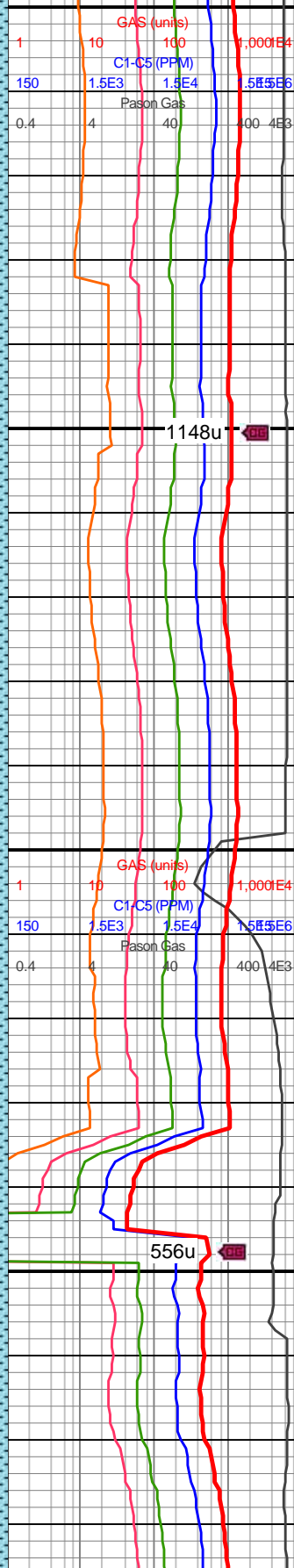
9,170
9,180
9,190
9,200
9,210
9,220
9,230
9,240
9,250
9,260
9,270
9,280
9,290
9,300
9,310
9,320
9,330
9,340
9,350
9,360
9,370
9,380

MD: 9,185'
TVD: 7,372.89'
INC: 89.12°
AZM: 87.19°
VS: 1,918.24'

WOB: 40klbs
RPM: 60
SPM: 200
SPP: 5,020psi

MD: 9,279'
TVD: 7,374.59'
INC: 88.81°
AZM: 86.58°
VS: 2,012.19'

MD: 9,374'
TVD: 7,377.83'
INC: 87.28°
AZM: 88.6°
VS: 2,107.12'

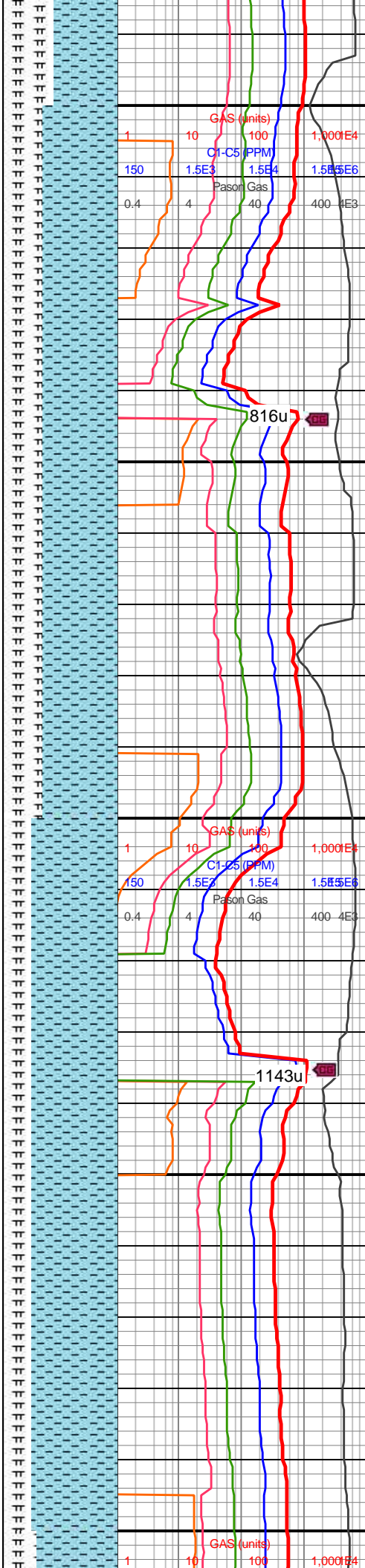
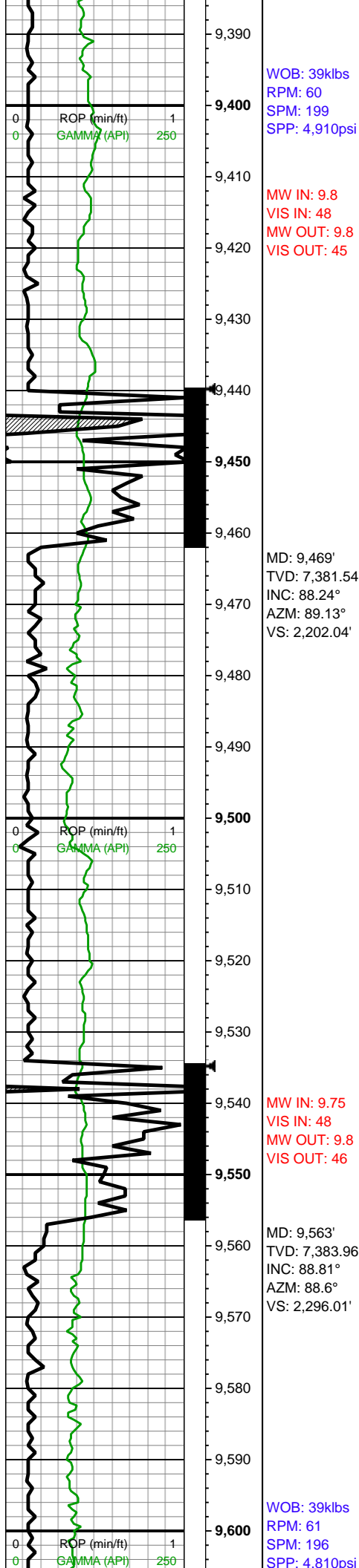


predy lt gy, com med gy,
occ dk gy wi f wh chky
incl, l-mod fis sb rd-sb
blky ctngs, sm sl slty tex,
rr sp forams, tr vf pyr, hi
calc; MRLST (40%): dk
gy-v dk gy, frm-hd, brit,
med-hi fis sb
blky-blky-tab ctngs, sl slty
tex, tr bent, tr vf pyr, mod
calc

9200-9300 CHK (55%): lt
gy-med gy, occ dk gy wi f
wh chky incl, occ yel o stn
l-mod fis sb rd-sb blky
ctngs, sm sl slty tex, rr sp
forams, tr fos frags, tr vf
pyr, hi calc; MRLST
(45%): dk gy-v dk gy wi
occ yel o drop & stn,
frm-hd, brit, med-hi fis sb
blky-blky-tab ctngs, sl slty
tex, tr bent, tr vf pyr, mod
calc

9300-9400 CHK (55%):
predy lt gy, com med gy,
occ dk gy wi f wh chky
incl, l-mod fis sb rd-sb
blky ctngs, sm sl slty tex,
rr sp forams, tr vf pyr, hi
calc; MRLST (45%): dk
gy-v dk gy, frm-hd, brit

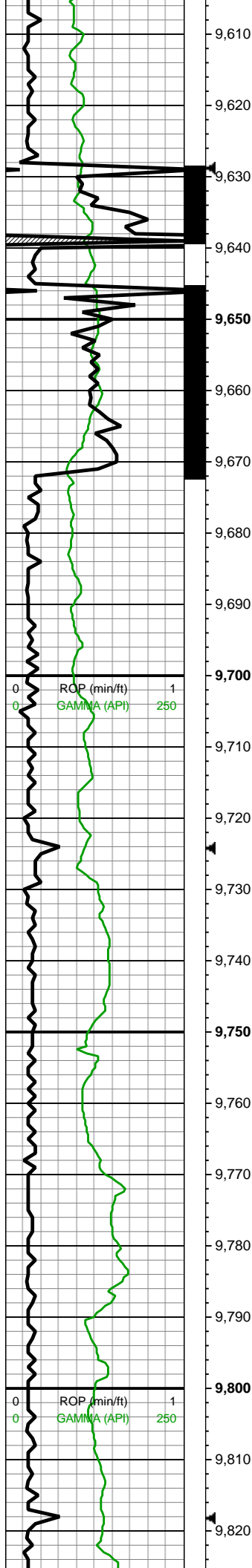




gy-v dk gy, frm-hd, brit,
med-hi fis sb
blky-blky-tab ctngs, sl slty
tex, tr vf pyr, mod calc

9400-9500 CHK (65%):
com med gy-occ dk gy wi
f wh chky incl, l-mod fis
sb rd-sb blky ctngs, dul
rthy lstr, rr wh forams, tr vf
pyr, hi calc; MRLST
(35%): dk gy-v dk gy,
frm-hd, brit, med-hi fis sb
blky-blky-tab ctngs, sl slty
tex, tr vf pyr, mod calc

9500-9600 CHK (75%): lt
gy-med gy, sl gyshbn hue
ip, occ dk gy wi f wh chky
incl, l-mod fis sb rd-sb
blky ctngs, sm sl slty tex,
tr forams, tr vf pyr, hi calc;
MRLST (25%): dk gy-v dk
gy, frm-hd, brit, med-hi fis
sb blky-blky-tab ctngs, sl
slty tex, tr vf pyr, mod calc

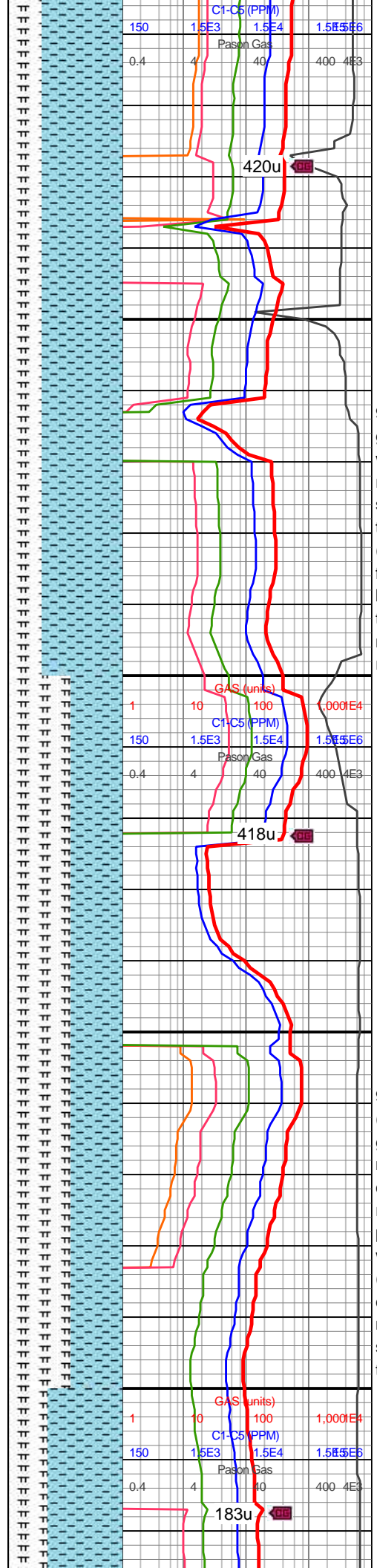


MD: 9,658'
TVD: 7,384.4'
INC: 90.66°
AZM: 88.95°
VS: 2,391'

MW IN: 9.9
VIS IN: 48
MW OUT: 9.75
VIS OUT: 45

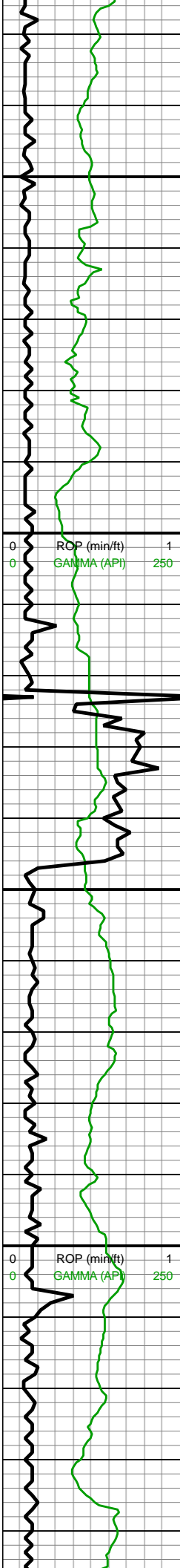
MD: 9,752'
TVD: 7,381.87'
INC: 92.42°
AZM: 89.3°
VS: 2,484.95'

WOB: 39klbs
RPM: 60
SPM: 202
SPP: 4,950psi



9600-9700 CHK (70%): It
gy-med gy, occ dk gy wi f
wh chky incl, l-mod fis sb
rd-sb blkly ctngs, sm sl
silty tex, rr forams & bent,
tr vf pyr, hi calc; MRLST
(30%): dk gy-v dk gy,
frm-hd, brit, med-hi fis sb
blkly-blky-tab ctngs, sl slty
tex, rr vf pyr-rr c pyr strg,
mod calc wi brn mrly
resdl

9700-9800 MRLST
(55%): dk gy-v dk gy, occ
gyshbn ip,, frm-hd-brit,
med fis sb blkly-blky
ctngs, sl slty tex, dul
rthy-wxy lstr, rr-tr vf pyr &
pyr strg, tr bent, mod calc
wi brn mrly resdl; CHK
(45%): dk gy mot wi f wh
chky & foram incl, occ
med gy,frm-brit, mod fis
sb blkly-blky ctngs, sl gt
tex wi forams, hi calc

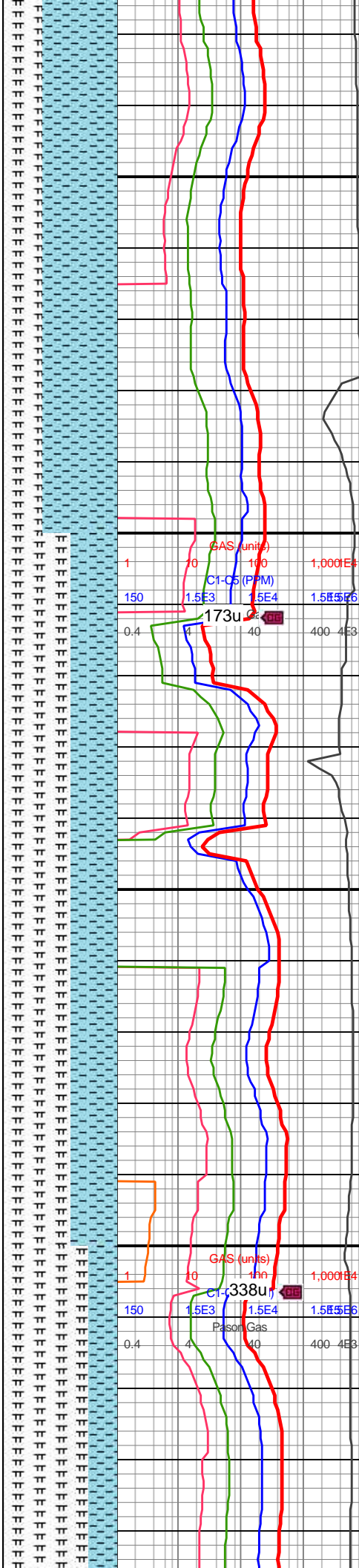


MD: 9,846'
TVD: 7,377.4'
INC: 93.03°
AZM: 89.13°
VS: 2,578.83'

MD: 9,941'
TVD: 7,373.54'
INC: 91.63°
AZM: 89.39°
VS: 2,673.74'

WOB: 39klbs
RPM: 60
SPM: 202
SPP: 4,760psi

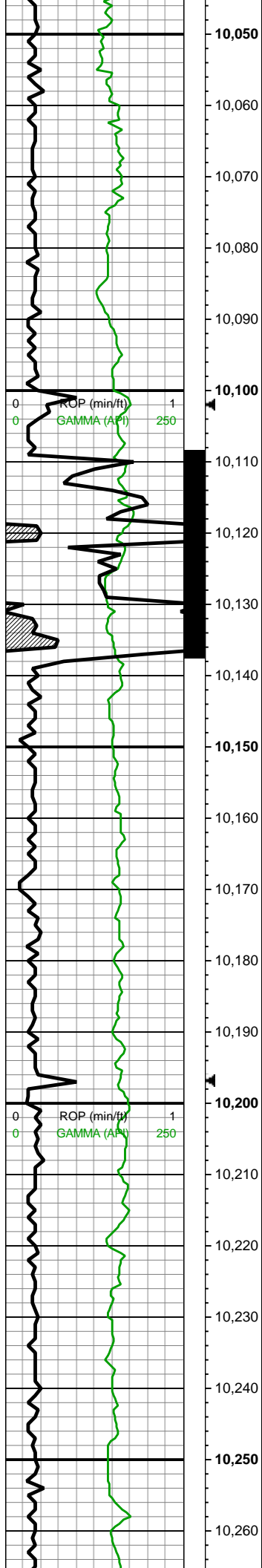
MD: 10,035'
TVD: 7,370.44'
INC: 92.15°
AZM: 89.3°
VS: 2,767.67'



9800-9900 CHK (65%): lt gy-med gy, sl gyshbn hue ip, occ dk gy wi f wh chky incl, l-mod fis sb rd-sb blkly ctngs, sm sl slty tex, tr forams, tr vf pyr, hi calc; MRLST (35%): dk gy-v dk gy, occ yel o stn & o drop, frm-hd, brit, med-hi fis sb blkly-blky-tab ctngs, sl slty tex, tr vf pyr, mod calc wi brn mrly resdl

9900-10000 MRLST (55%): dk gy-v dk gy, occ gyshbn ip,, frm-hd-brit, med fis sb blkly-blky ctngs, sl slty tex, dul rthy-wxy lstr, rr-tr vf pyr & pyr strg, tr bent, mod calc wi brn mrly resdl; CHK (45%): dk gy mot wi f wh chky & foram incl, occ med gy,frm-brit, mod fis sb blkly-blky ctngs, sl gt tex wi forams, hi calc



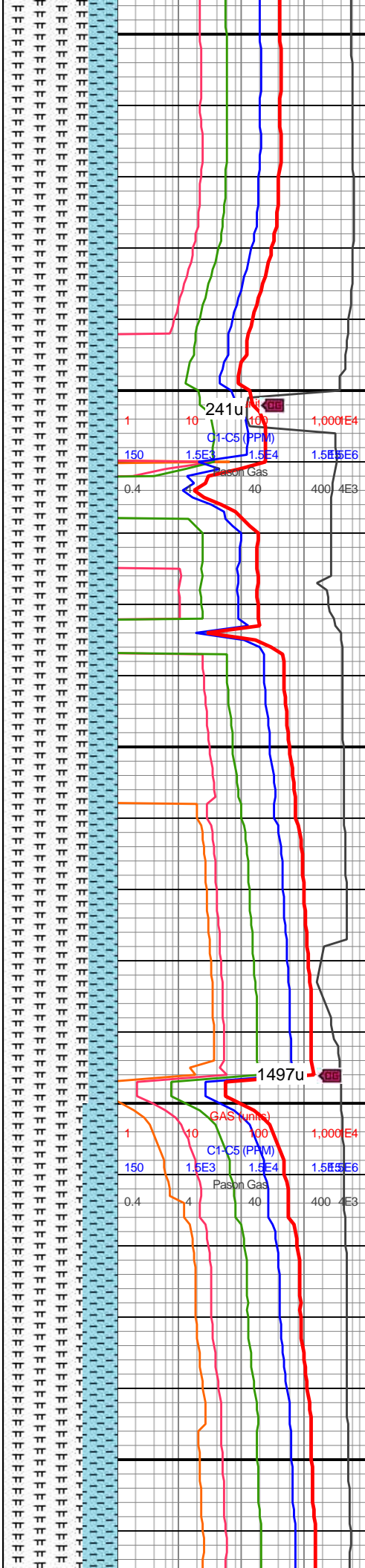


MW IN: 9.9
VIS IN: 46
MW OUT: 9.9
VIS OUT: 44

MD: 10,130'
TVD: 7,367.64'
INC: 91.23°
AZM: 87.9°
VS: 2,862.63'

WOB: 33klbs
RPM: 61
SPM: 200
SPP: 4,730psi

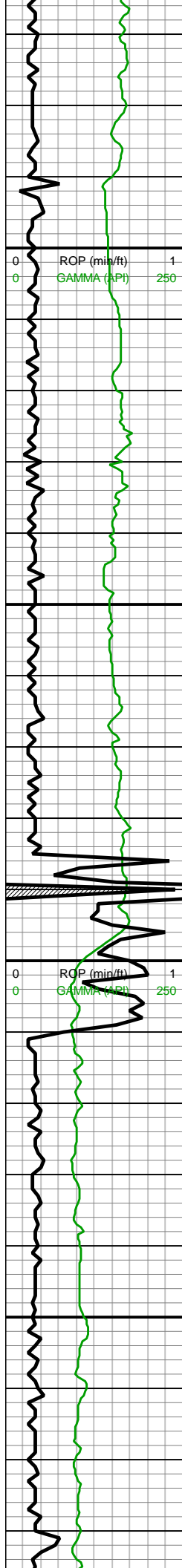
MD: 10,225'
TVD: 7,366.22'
INC: 90.48°
AZM: 86.84°
VS: 2,957.6'



10000-10100 MRLST
(75%): dk gy-dk gyshbn,
frm-hd, predy brit,
crunchy ip, med-hi fis sb
blky-blky-tab ctngs, sm
arg-sl slty-sl gt tex, rr-tr vf
pyr, mod calc; CHK
(25%): dk gy mot wi f wh
chky & foram incl, sb
frm-frm, brit, mod fis sb
blky-blky ctngs, sl gt tex
wi forams, hi calc

10100-10200 MRLST
(75%): dk gy-dk gyshbn,
sb frm-frm, med-hi fis sb
blky-blky-tab ctngs, sm
arg-sl slty tex, rr-tr vf pyr,
mod calc; CHK (25%): dk
gy mot wi f wh chky &
foram incl, sb frm-frm,
brit, mod fis sb blky-blky
ctngs, sl gt tex wi forams,
hi calc

10200-10300 MRLST
(70%): dk gy-dk gyshbn



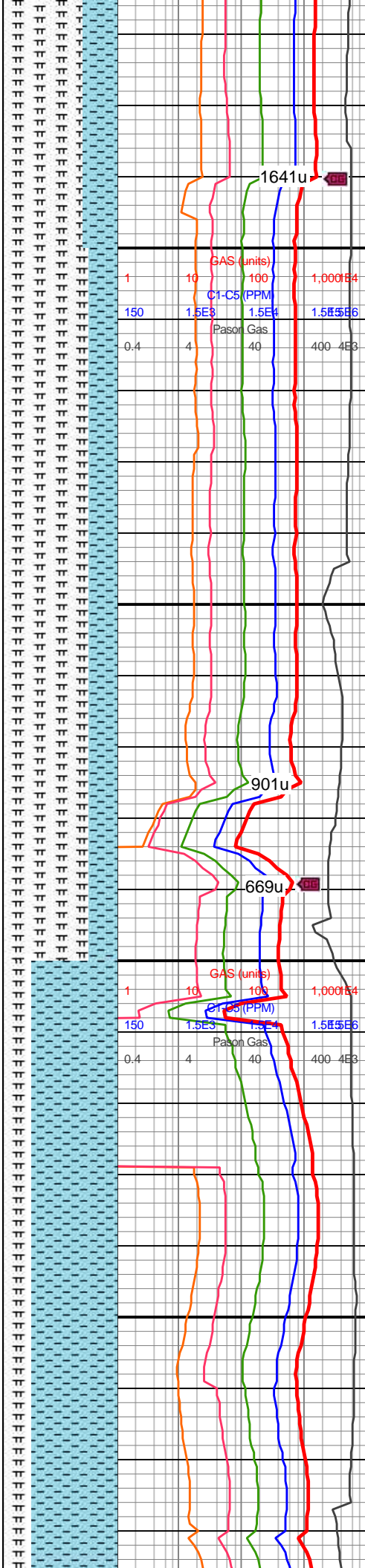
10,270
10,280
10,290
10,300
10,310
10,320
10,330
10,340
10,350
10,360
10,370
10,380
10,390
10,400
10,410
10,420
10,430
10,440
10,450
10,460
10,470
10,480

MW IN: 9.8
VIS IN: 48
MW OUT: 9.9
VIS OUT: 45

MD: 10,320'
TVD: 7,364.99'
INC: 91.01°
AZM: 86.84°
VS: 3,052.56'

WOB: 44klbs
RPM: 0
SPM: 202
SPP: 4,270psi

MD: 10,415'
TVD: 7,365.2'
INC: 88.73°
AZM: 88.25°
VS: 3,147.54'

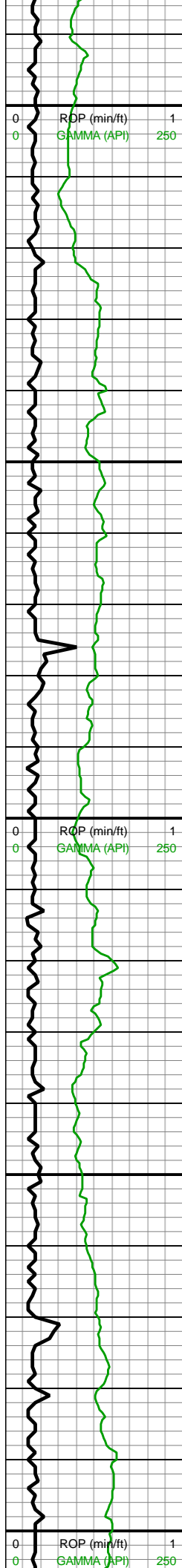


wi rr yel o drops, sb
frm-frm, med-hi fis sb
blky-blky-tab ctngs, sm
arg-sl slty tex, rr-tr vf pyr,
mod calc wi brn mrly
resdl; CHK (30%): med
gy-dk gy, sb frm-frm, brit,
l-mod fis sb rd-sb
blky-blky ctngs wi occ
f-elong wh chky incl &
lamn, sl slty tex, hi calc

10300-10400 MRLST
(75%): dk gy,frm-brit
med-hi fis sb blky-blky
ctngs, sm arg-sl slty tex,
rr-tr vf pyr, mod calc wi
brn mrly resdl; CHK
(25%): med gy-dk gy wi vf
wh chky lamn & occ f incl,
sb frm-frm, brit, mod fis
sb blky-blky ctngs, sl slty
tex, tr vf pyr, tr forams & v
tr fos frags, hi calc

10400-10500 CHK
(75%): med gy wi vf wh
chky lamn, occ dk gy wi f
wh chky incl & forams, sb
frm-frm, brit, mod fis sb
blky-blky ctngs, sl slty tex,
tr vf pyr, tr forams, hi calc;
MRLST (25%): dk gy,
frm-brit med-hi fis sb





10,490

10,500 MD: 10,509'
TVD: 7,367'
INC: 89.08°
AZM: 87.99°
VS: 3,241.53'

10,510

10,520 MW IN: 9.85
VIS IN: 46
MW OUT: 9.85
VIS OUT: 45

10,530

10,540

10,550

10,560

10,570

10,580

10,590

10,600 WOB: 40klbs
RPM: 62
SPM: 202
SPP: 4,910psi

10,610 MD: 10,604'
TVD: 7,368.63'
INC: 88.95°
AZM: 87.72°
VS: 3,336.51'

10,620

10,630

10,640

10,650

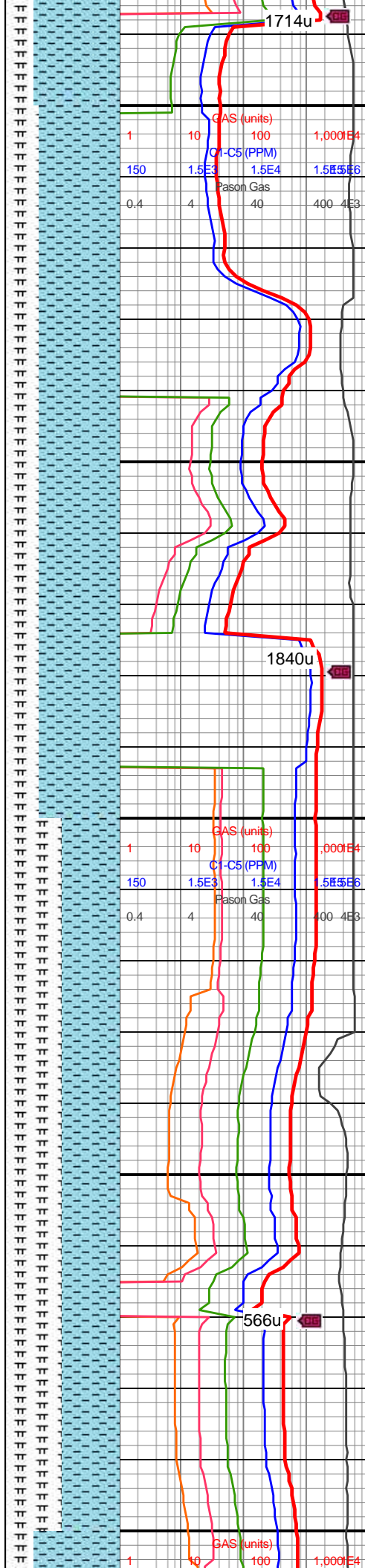
10,660

10,670

10,680

10,690

10,700 MD: 10,699'
TVD: 7,370.96'
INC: 88.24°



1714u

blky-blky ctngs, sm arg-sl
silty tex, rr-tr vf pyr, rr-tr
bent, mod calc wi brn
mrly resdl

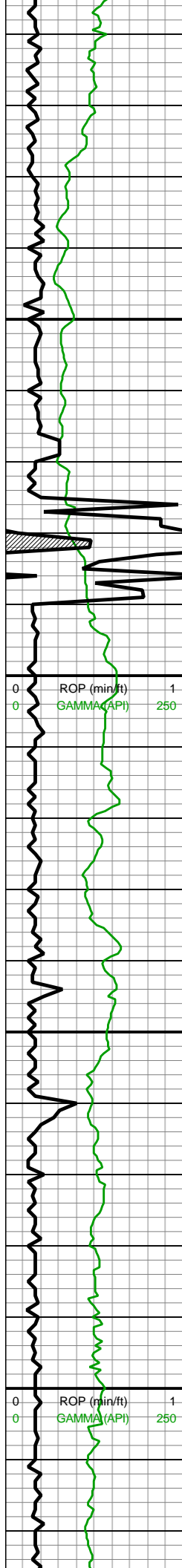
10500-10600 CHK
(70%): med gy wi vf wh
chky lamn, occ dk gy wi f
wh chky incl & forams, sb
frm-frm, brit, mod fis sb
blky-blky ctngs, sl silty tex,
tr vf pyr, tr forams, hi calc;
MRLST (30%): dk gy,
frm-brit med-hi fis sb
blky-blky ctngs, sm arg-sl
silty tex, rr-tr vf pyr, rr-tr
bent, mod calc wi brn
mrly resdl

1840u

10600-10700 MRLST
(50%): dk gy-dk gyshbn,
frm-hd, crunchy-brit,
med-hi fis sb blky-blky
ctngs, sm arg-sl silty tex,
rr-tr vf pyr-pyr strg, mod
calc wi brn mrly resdl;
CHK (50%): lt gy-med
gy-dk gy, sb frm-frm, brit,
l-mod fis sb rd-sb
blky-blky ctngs wi occ
f-elong wh chky incl &
lamn, sl silty tex, hi calc

566u





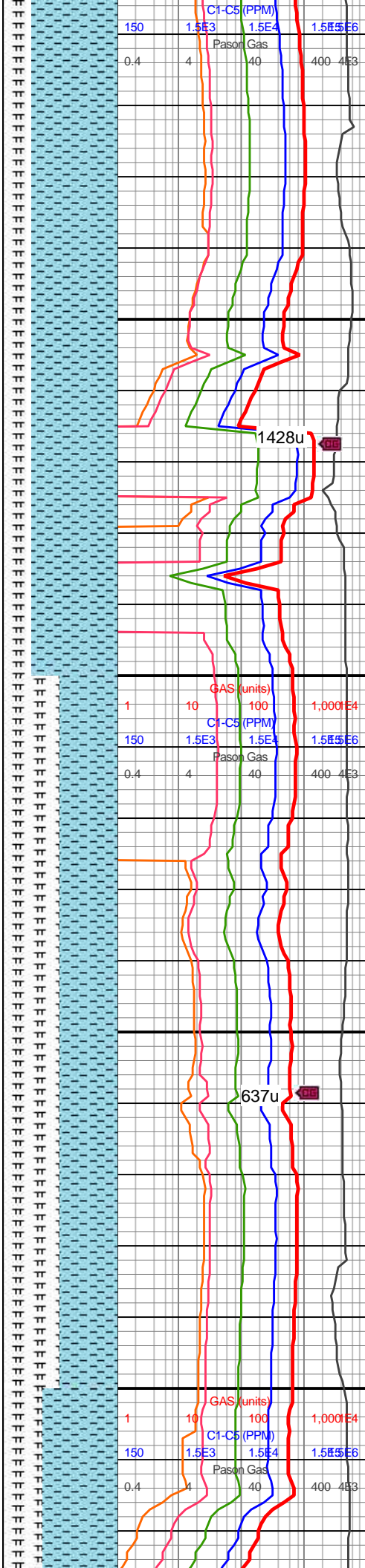
AZM: 87.55°
VS: 3,431.47'

MW IN: 9.85
VIS IN: 47
MW OUT: 9.85
VIS OUT: 44

MD: 10,793'
TVD: 7,372.59'
INC: 89.78°
AZM: 86.84°
VS: 3,525.44'

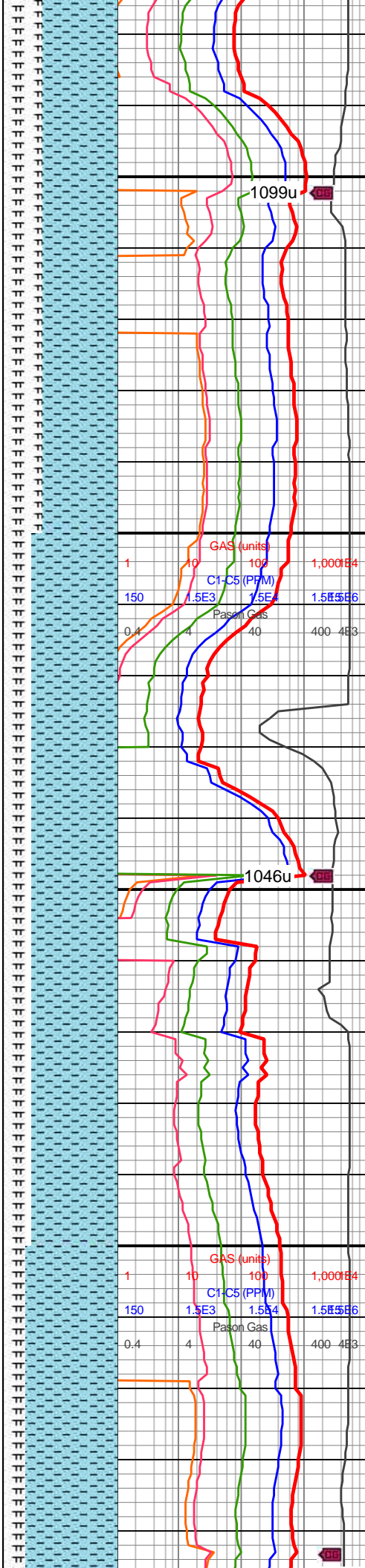
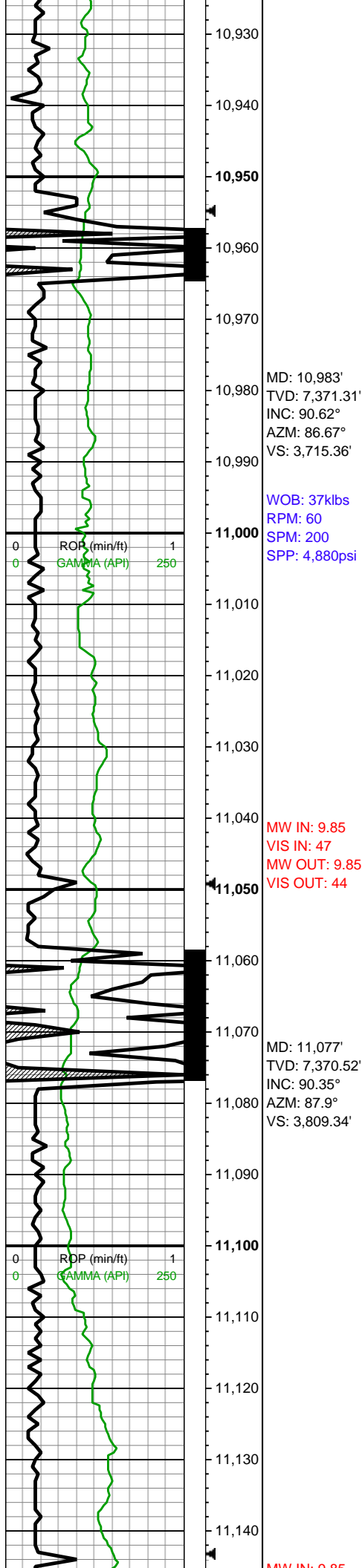
WOB: 40klbs
RPM: 60
SPM: 200
SPP: 4,810psi

MD: 10,888'
TVD: 7,372.3'
INC: 90.57°
AZM: 86.84°
VS: 3,620.4'



10700-10800 CHK
(75%): predy lt gy-med gy
wi vf thn chky lamn, occ
dk gy wi occ f-elong chky
incl, sb frm-frm,
crunchy-brit, l-mod fis sb
rd-sb blkyl-blkyl ctngs, sl
slyt tex, tr vf pyr, rr-tr
forams, hi calc; MRLST
(25%): dk gy, frm-brit
med-hi fis sb blkyl-blkyl
ctngs, sm arg-sl slyt tex,
rr-tr vf pyr & ptch pyr strg,
rr-tr bent, mod calc wi brn
mrly resdl

10800-10900 MRLST
(50%): dk gy-dk gyshbn,
frm-hd, crunchy-brit,
med-hi fis sb blkyl-blkyl
ctngs, sm arg-sl slyt tex,
rr-tr vf pyr-pyr strg, rr tn
bent, mod calc wi brn
mrly resdl; CHK (50%): lt
gy-med gy-dk gy, sb
frm-frm, brit, l-mod fis sb
rd-sb blkyl-blkyl ctngs wi
occ f-elong wh chky incl &
lamn, sl slyt tex, hi calc



10900-11000 CHK
(65%): lt gy-med gy wi vf
wh chky lamn, occ dk gy
wi f wh chky incl &
forams, sb frm-frm, brit,
mod fis sb blkyl-blky
ctngs, sl slty tex, tr vf pyr,
tr forams, hi calc; MRLST
(35%): dk gy, frm-brit
med-hi fis sb blkyl-blky
ctngs, sm arg-sl slty tex,
rr-tr vf pyr, rr-tr bent, pyrc
bent ip, mod calc wi brn
mrly resdl

11000-11100 CHK
(75%): predy lt gy-med gy
wi vf thn chky lamn, occ
dk gy wi occ f-elong chky
incl, sb frm-frm,
crunchy-brit, l-mod fis sb
rd-sb blkyl-blky ctngs, sl
slty tex, tr vf pyr, rr-tr
forams, hi calc; MRLST
(25%): dk gy, frm-brit
med-hi fis sb blkyl-blky
ctngs, sm arg-sl slty tex,
rr-tr vf pyr & ptch pyr strg,
rr-tr bent, mod calc wi brn
mrly resdl



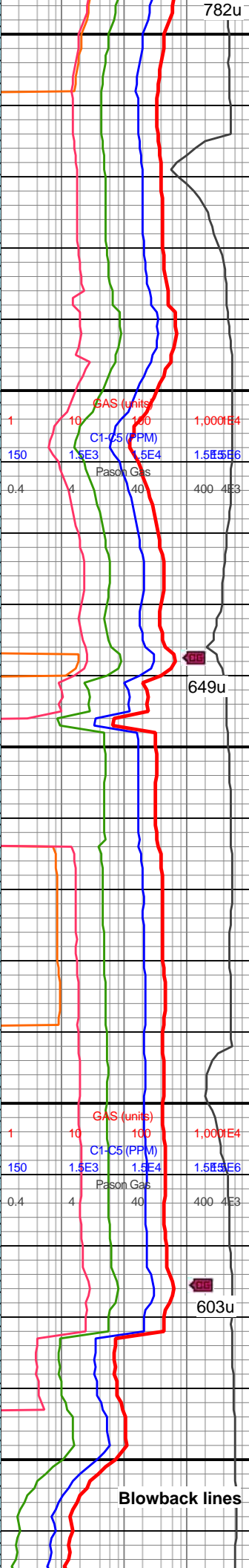
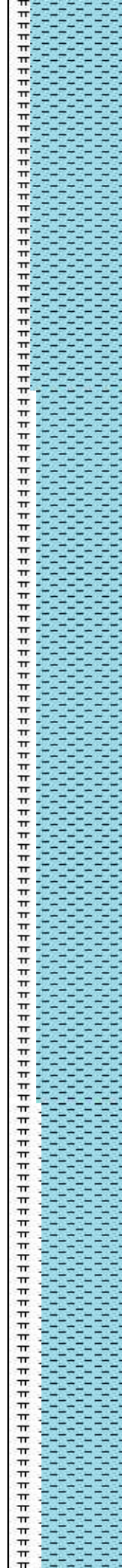
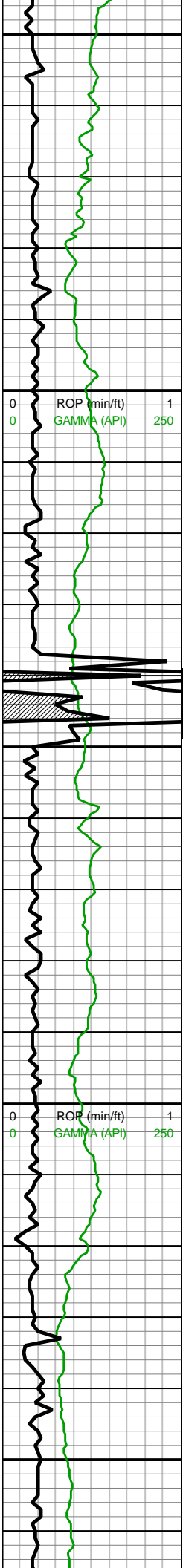
MW IN: 9.63
VIS IN: 45
MW OUT: 9.9
VIS OUT: 44

MD: 11,172'
TVD: 7,369.79'
INC: 90.53°
AZM: 88.16°
VS: 3,904.34'

WOB: 38klbs
RPM: 60
SPM: 200
SPP: 4,880psi

MD: 11,266'
TVD: 7,369.56'
INC: 89.74°
AZM: 88.69°
VS: 3,998.34'

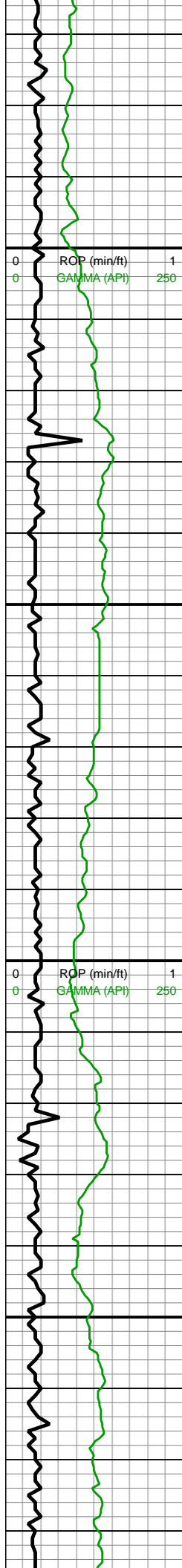
MD: 11,361'
TVD: 7,370.47'
INC: 89.17°
AZM: 88.78°



11100-11200 CHK
(80%): predy
gyshbn-med gy, sme lt
gy, sb blk-y-sb ang ctngs,
fri-frm, tr intbd MRLST,
sm chky tex, calc; MRLST
(20%): dk gyshbn-dk gy,
frm-sl hd, sb blk-y-ang
ctngs, sl sm-rgh tex, com
intbd CHK, hi calc

11200-11300 CHK
(75%): pred lt-med gry wi
lt brn, sme sl med gy-brn,
frm-sl brit, sb blk-y-sl plty,
sl sft ip, v calc, tr pyr, scat
cal vns & frac fl cal;
MRLST (25%): v dk
gy-blk, occ gyshbn, frm-v
frm, blk-y, calc, sl rgh tex
wi com micmica



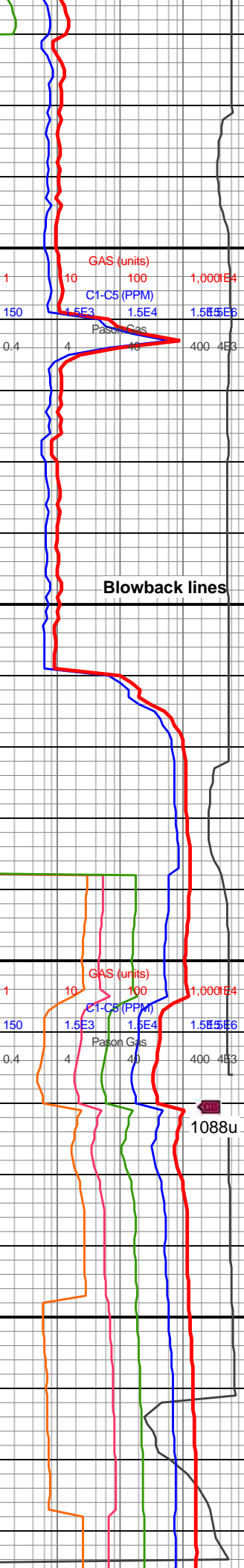
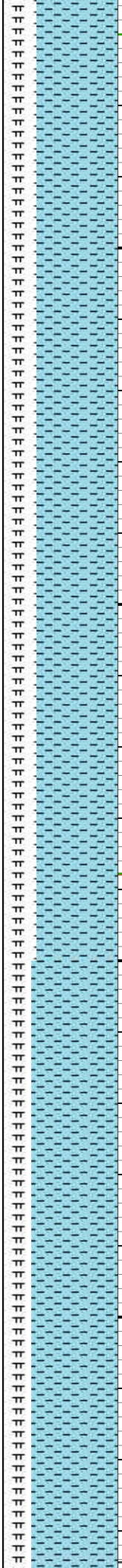


11,370
11,380
11,390
11,400
11,410
11,420
11,430
11,440
11,450
11,460
11,470
11,480
11,490
11,500
11,510
11,520
11,530
11,540
11,550
11,560
11,570
11,580

VS: 4,093.33'
WOB: 42.9klbs
RPM: 60
SPM: 202
SPP: 5,075psi

MD: 11,456'
TVD: 7,371.81'
INC: 89.21°
AZM: 88.95°
VS: 4,188.31'

MD: 11,551'
TVD: 7,373.12'
INC: 89.21°
AZM: 88.86°
VS: 4,283.3'

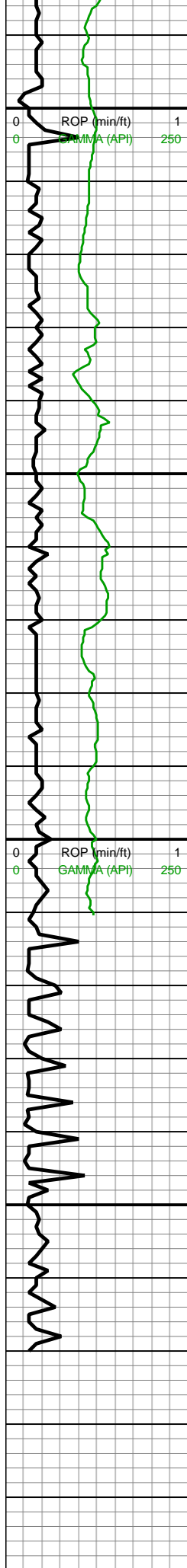


11300-11400 CHK
(70%): med gy-gyshbn, sb blkly ctngs, fri-frm, tr MRLST intbd, sm chky tex, v calc; MRLST (30%): dk gyshbn-dk gy, frm-sl hd, sb blkly-ang ctngs, sl sm tex-rgh ip, com CHK intbd, hi calc, tr diss mic pyr

11400-11500 CHK
(70%): med gy, gyshbn, sb tab ctngs, frm, brit, tr vf lam, hi calc, scat inoc fos frags; MRLST (30%): dk gy, dk gyshbn, sb tab-blky ctngs, brit, sl hd, tr CHK intbds, tr pp mic pyr, mod calc

11500-11600 CHK
(75%): com med gy-occ dk gy wi f wh chky incl, l-mod fis sb rd-sb blkly ctngs, dul rthy lstr, rr wh





11,590
11,600
11,610
11,620
11,630
11,640
11,650
11,660
11,670
11,680
11,690
11,700
11,710
11,720
11,730
11,740
11,750
11,760
11,770
11,780
11,790
11,800

WOB: 36.7klbs
RPM: 60
SPM: 204
SPP: 4,728psi

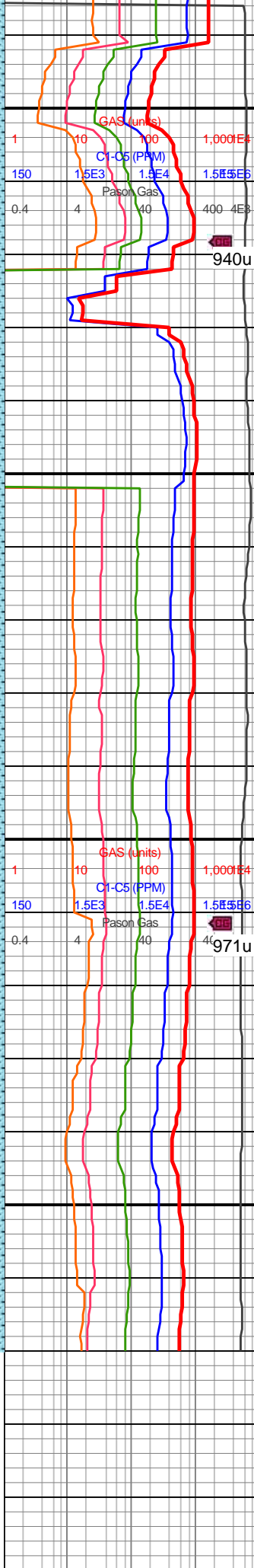
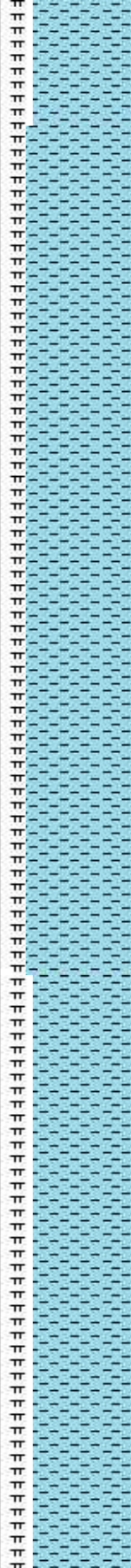
MD: 11,645'
TVD: 7,373.98'
INC: 89.74°
AZM: 88.6°
VS: 4,377.29'

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

MD: 11,704'
TVD: 7,374.05'
INC: 90.13°
AZM: 88.42°
VS: 4,436.29'

Bit Projection
MD: 11,770'
TVD: 7,373.9'
INC: 90.13°
AZM: 88.42°
VS: 4,502.29'

TD well
@11,770' MD
20:00hrs 8/2718



forams, tr vf pyr, hi calc;
MRLST (25%): dk gy-v dk
gy, frm-hd, brit, med-hi fis
sb blkly-blky-tab ctngs, sl
silty tex, tr vf pyr, mod calc

11600-11700 CHK
(80%): lt gy-med gy,
frm-brit l-mod fis sb rd-sb
blkly ctngs, sm arg-sl silty
tex, tr vf pyr, rr c wh
forams, hi calc; MRLST
(20%): dk gy, occ sp brn
marl incl, frm-hd-brit mod
hi fis sb blkly-blky-sb plty
ctngs, thn lamn, sl
silty-silty tex, mod calc

11700-11770 CHK
(75%): predy
gyshbn-med gy, sme lt
gy, sb blkly-sb ang ctngs,
fri-frm, tr intbd MRLST,
sm chky tex, scat mic fos
frags, calc; MRLST
(25%): dk gyshbn-dk gy,
frm-sl hd, sb blkly-ang
ctngs, sl sm-rgh tex, com
intbd CHK, hi calc