



Scale: 5" / 100'
Measured Depth Log

Well Name Davis 1O-9H-G266

Location Sec. 4 T2N R66W

State Colorado

County Weld

Country USA

Rig Number Ensign 153

API Number 05123465040000

AFE # 16191033

Geographic Region Rockies

Field Wattenberg

Spud Date 7/6/2018

Drilling Completed 7/10/2018

Surface Coordinates Lat/Long: 40.154321/-104.777982

SHL: Sec: 9 Twp: 2N 66W
Footage: 2004 FNL 1448 FEL

Bottom Hole Coordinates Proposed BHL:
Sec: 4 Twp: 2N 66W
Footage: 460 FNL 1000 FWL

Ground Elevation 4,917'

K.B. Elevation 4,940'

Logged Interval 6,500' MD **To** 14,548' MD

Total Depth 14,548' MD

Formation B Chalk

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

Name John Ready

Company Crestone Peak Resources

Address 370 17th Street #2170
Denver, CO 80202



Zone Color Coding

Oil	Condensate	Gas
Note	Core	Pressure
Error	Water	Seal

Other

Loggers: Mark Gross / Byron Pitulski

Services Provided: 2-Man Mudlogging / Geosteering

Equipment: ML-526

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

Start Date 7/6/2018

Release Date: 7/12/2018

Job #: 1328RK1806

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
CEPHALOPOD
CORAL
CRINOID
ECHINOID
FISH

F FOSSIL

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

Minerals

- ARGILLACEOUS

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

- GLAUCONITE

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

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

FORMATION

FORAMINIFERA

ANHYDRITIC

FERRUGINOUS FEELE

FERRUGINOUS

GIETT

TUFFACEOUS

SLISTONE STRINGER

Other Symbols

Oil Show

DEAD

EVEN

QUESTIONABLE

SPOTTED STAINING

Porosity

E EARTHY

F FENESTRAL

F FRACTURE

X INTERCRYSTALLINE

Q INTEROOLITIC

M MOLDIC

O ORGANIC

P PINPOINT

V VUGGY

Engineering

BIT

CASING

CONNECTION (LEFT)

CONNECTION (RIGHT)

CONNECTION GAS

CORE - LOST

CORE - RECOVERED

DST INTERVAL

FAULT

FORMATION TOP

GAS SHOW

MN DEPTH 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

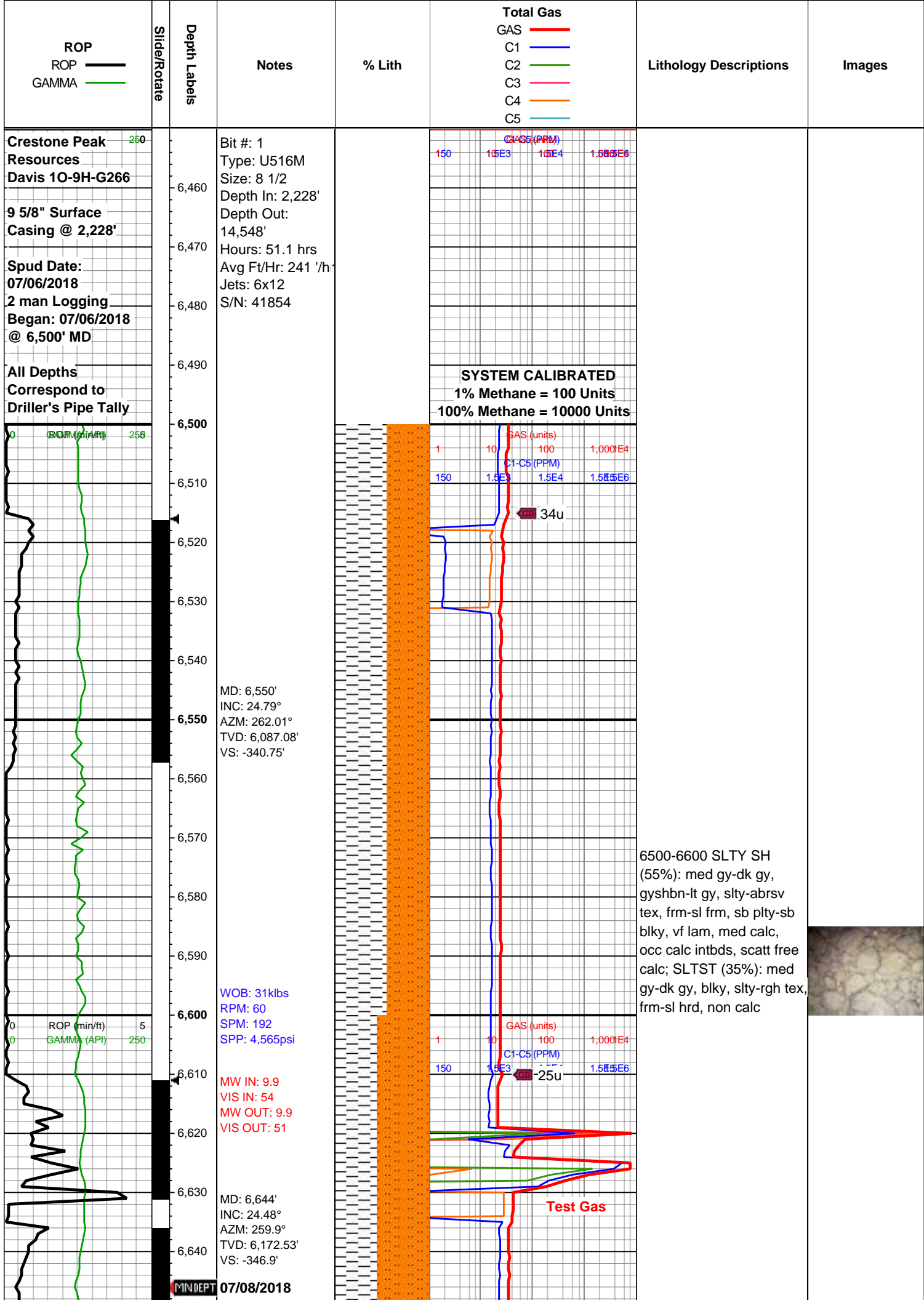
WS WACKESTONE

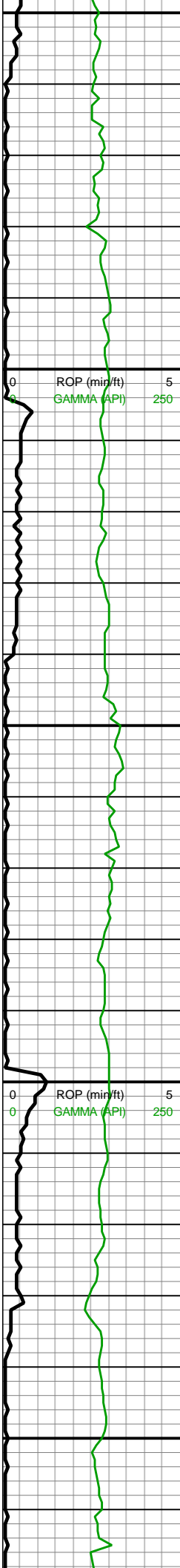
Sorting

M MODERATE

P POOR

W WELL





MW IN: 9.9
VIS IN: 55
MW OUT: 9.9
VIS OUT: 51

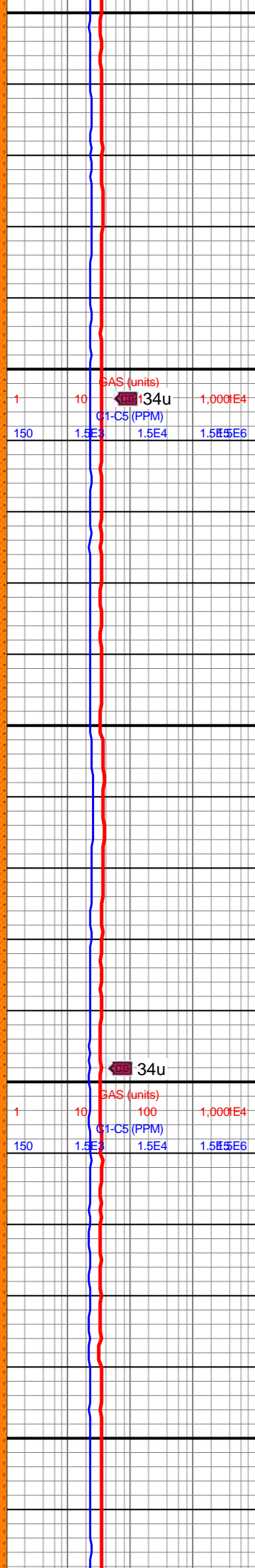
MD: 6,739'
INC: 25.23°
AZM: 266.23°
TVD: 6,258.74'
VS: -351.69'

WOB: 13klbs
RPM: 0
SPM: 178
SPP: 3,479psi

Tepee Buttes
6812'MD/6324'TVD

MW IN: 9.9
VIS IN: 56
MW OUT: 9.9
VIS OUT: 55

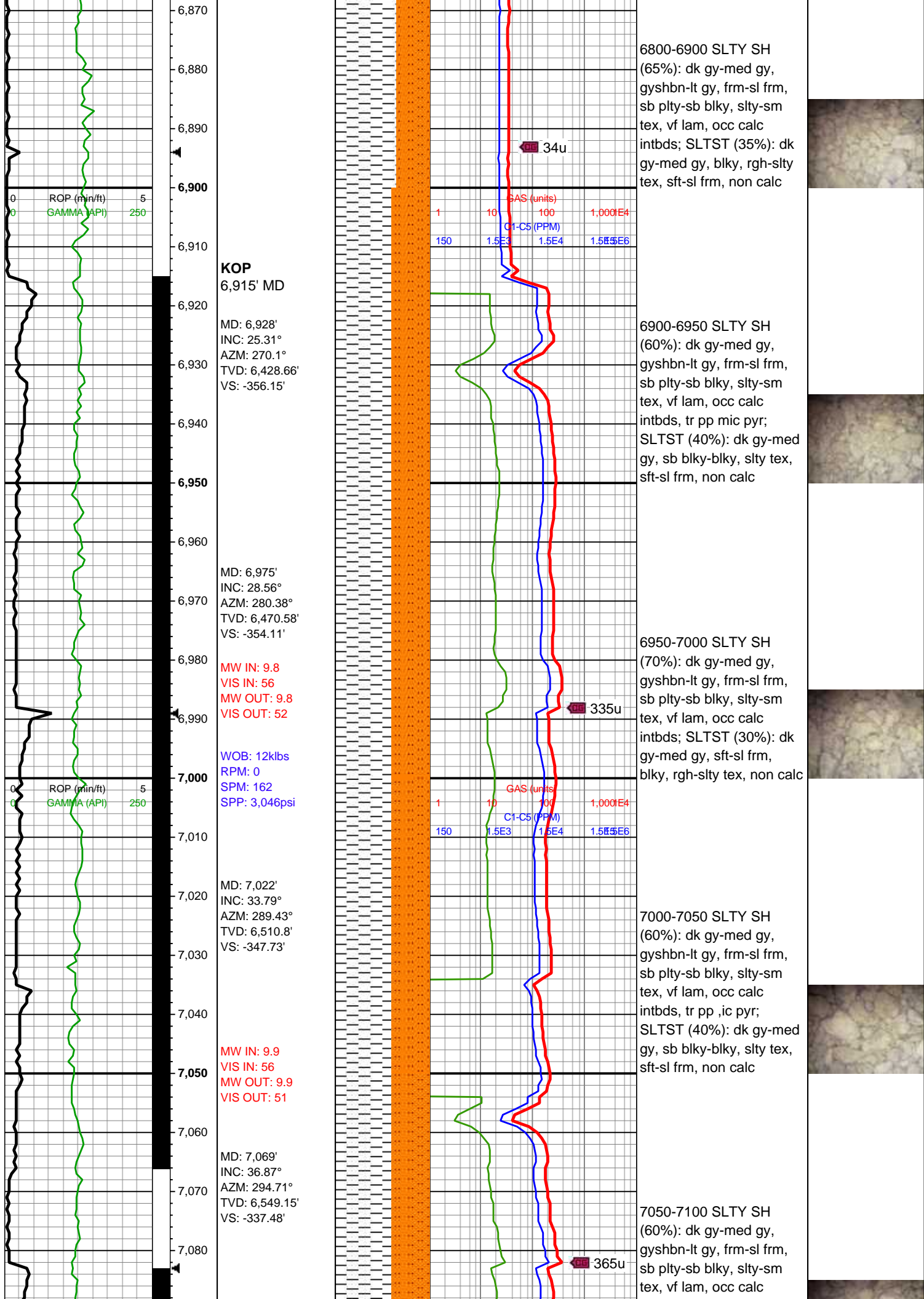
MD: 6,833'
INC: 26.68°
AZM: 265.7°
TVD: 6,343.26'
VS: -354.59'

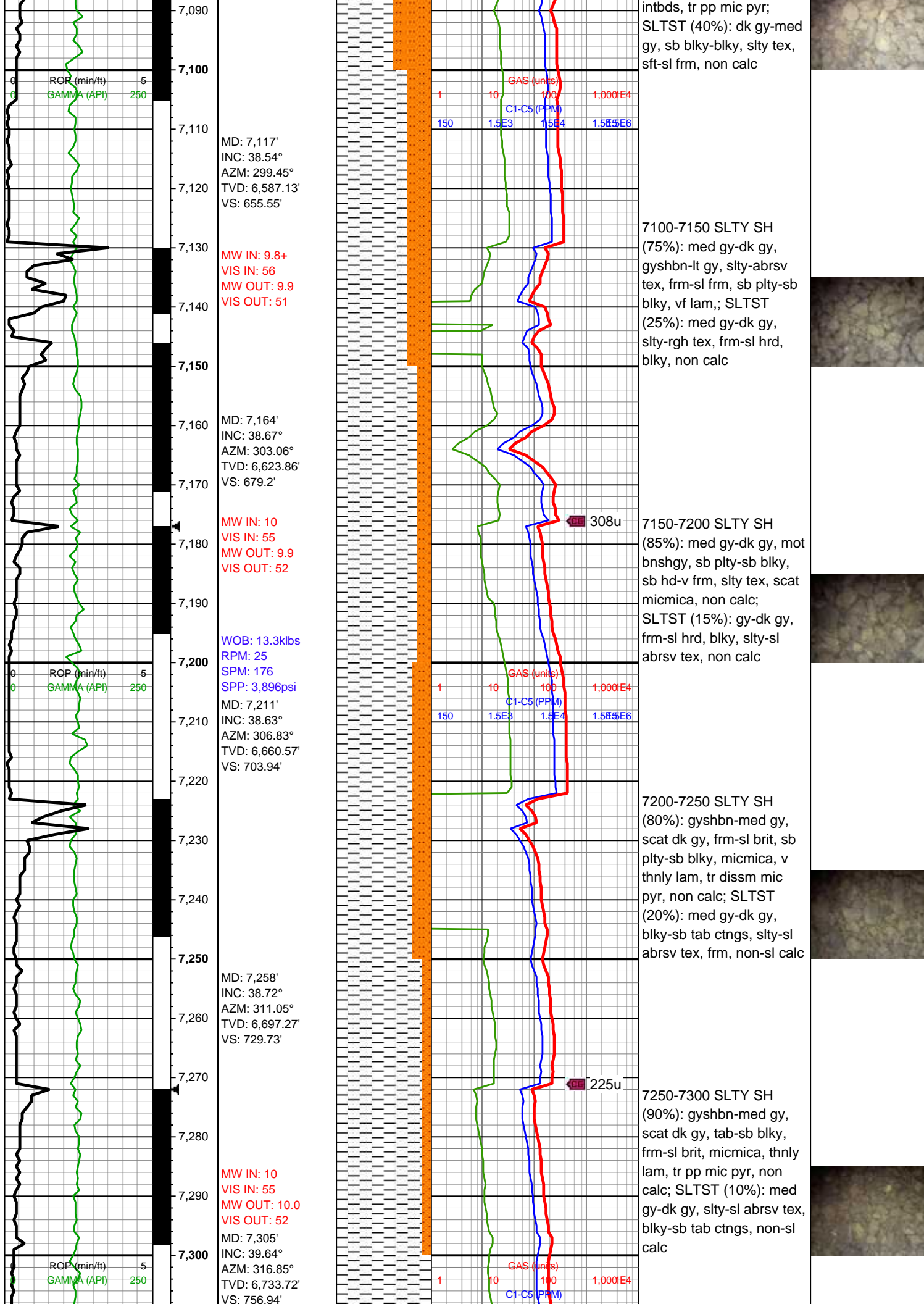


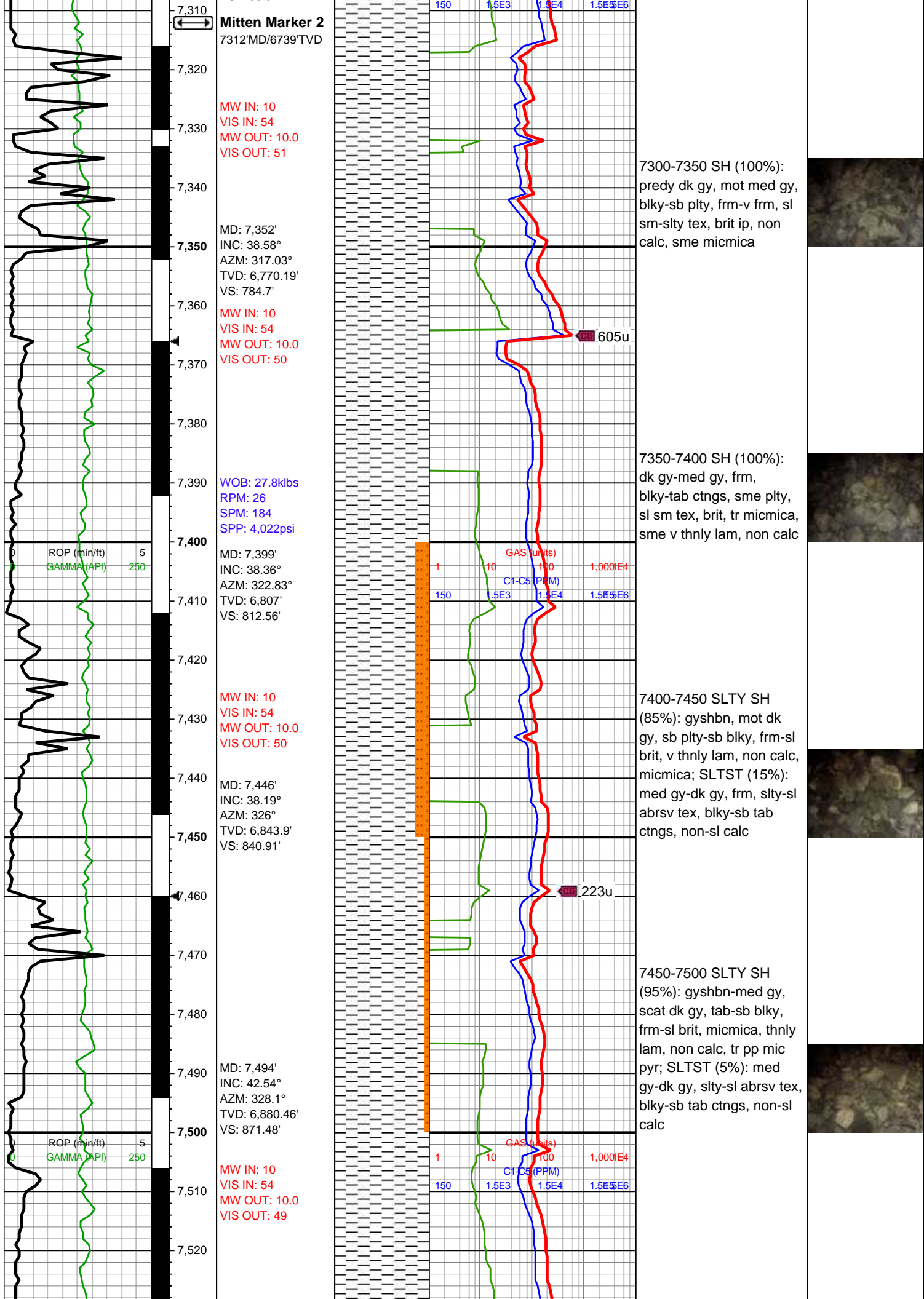
6600-6700 SLTST (55%):
med gy-dk gy, blk, slty-rgh tex, frm-sl hrd, non calc; SLTY SH (45%): med gy-dk gy, gyshbn-lt gy, slty-abrsv tex, frm-sl frm, sb plty-sb blk, vf lam, med calc, occ calc intbds, scatt free calc

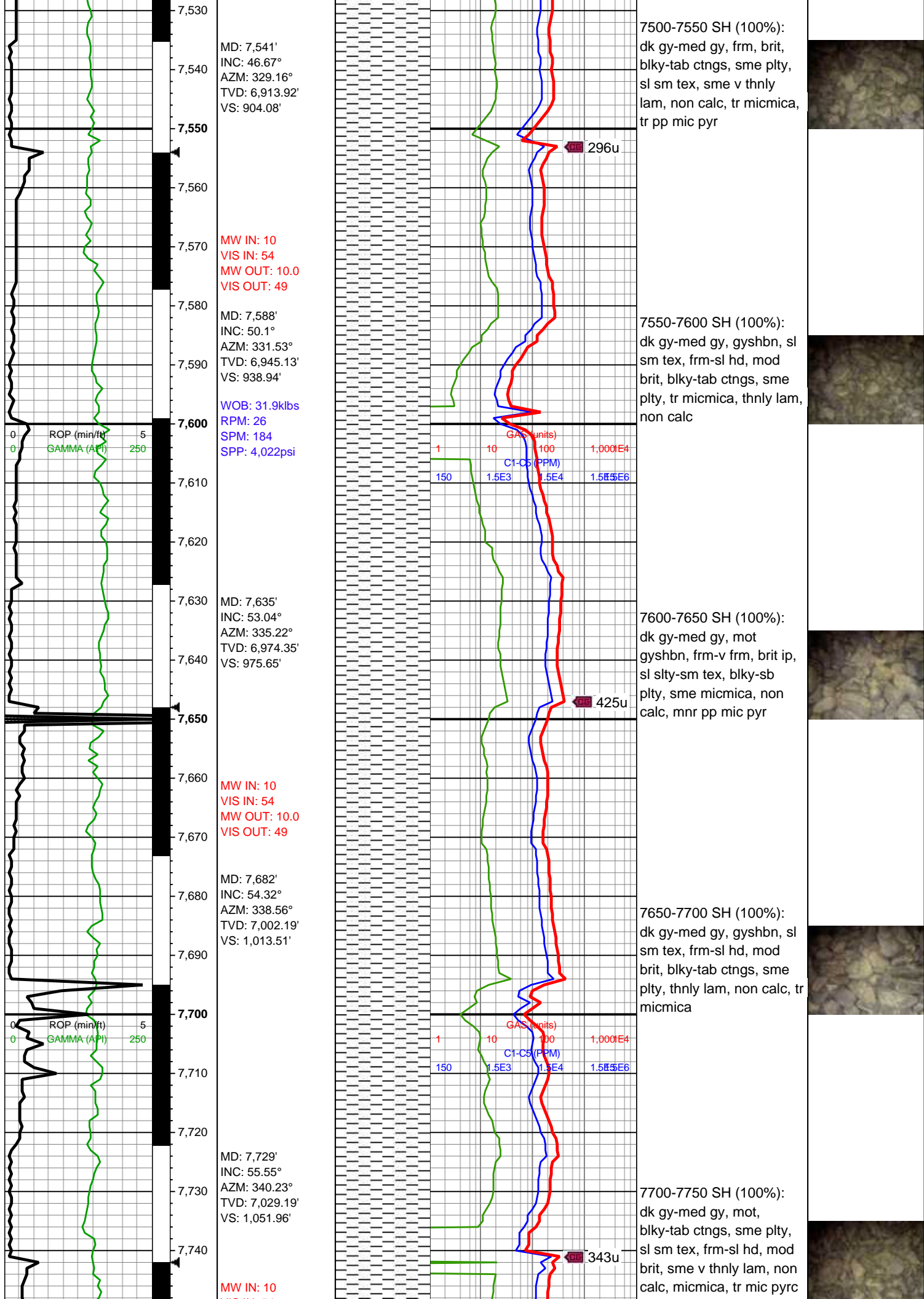
6700-6800 SLTY SH (60%): med gy-dk gy, gyshbn-lt gy, frm-sl frm, slty-sm tex, sb plty-sb blk, vf lam, occ calc intbds; SLTST (40%): med gy-dk gy, blk, rgh-slty tex, sft-sl frm, non calc

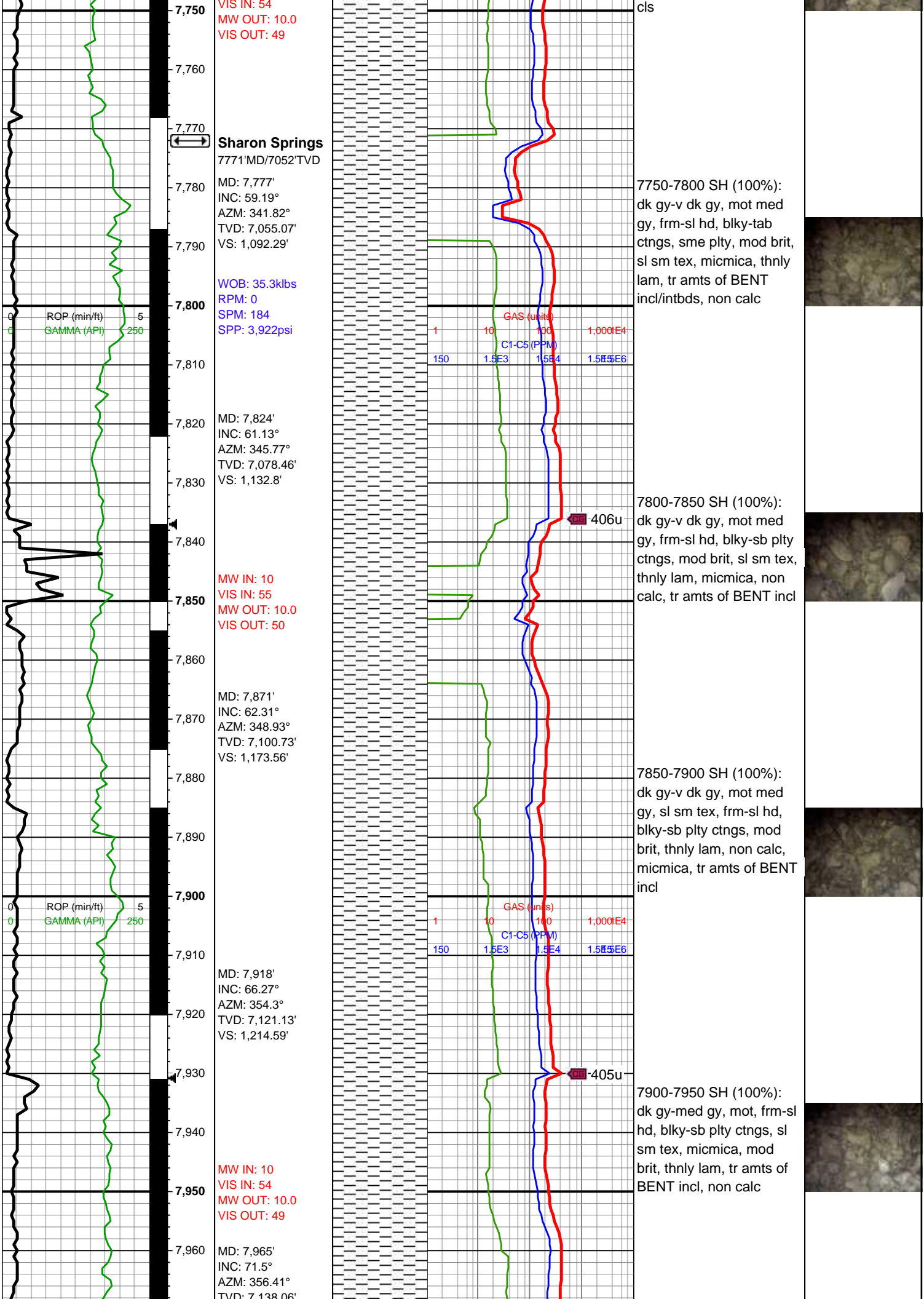


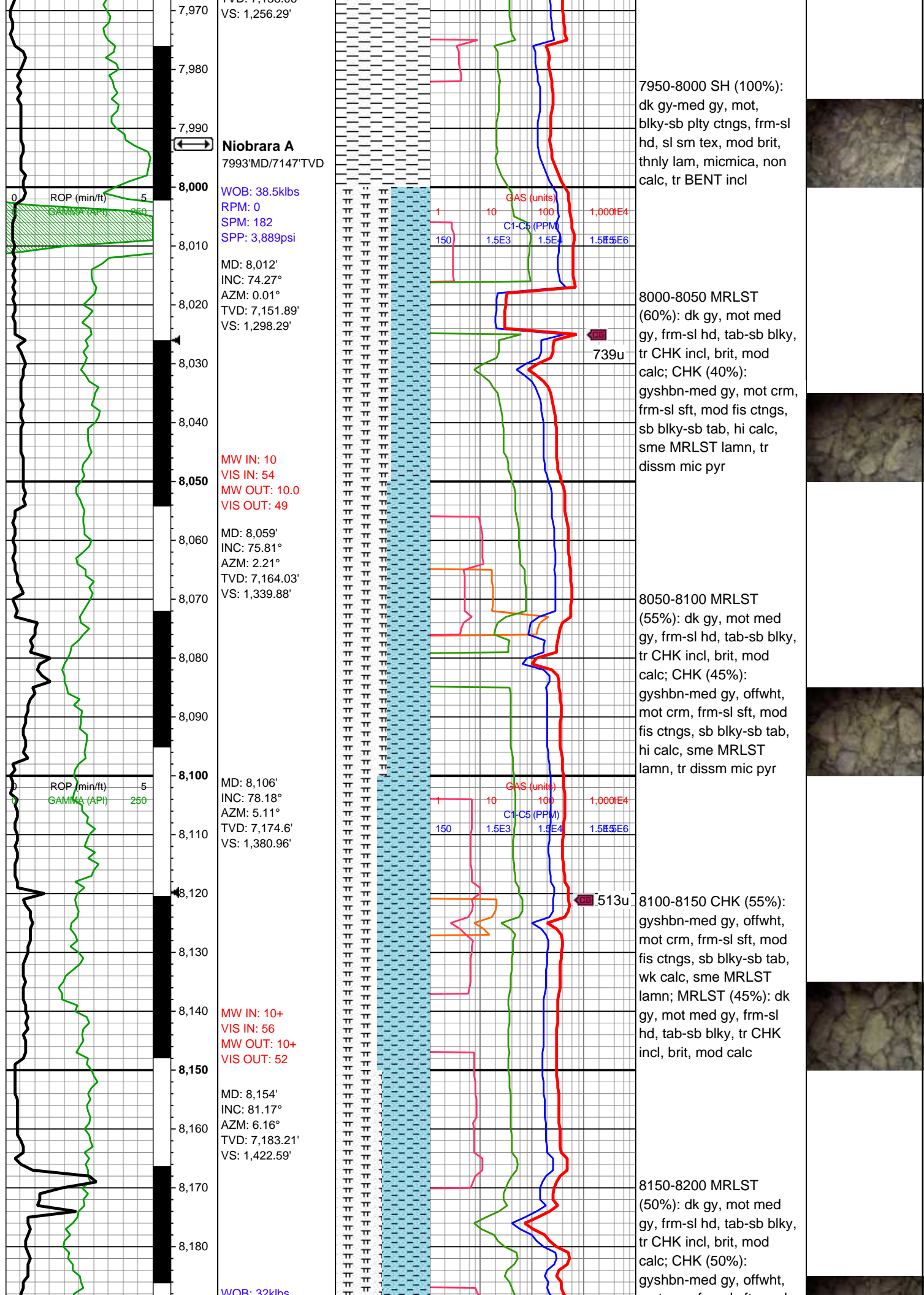


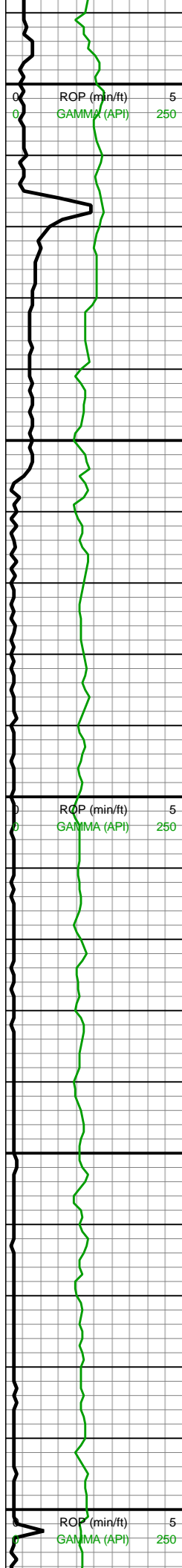












WOB: 32klbs
RPM: 26
SPM: 184
SPP: 4,140psi

MD: 8,201'
INC: 83.72°
AZM: 4.32°
TVD: 7,189.39'
VS: 1,463.81'

MW IN: 10
VIS IN: 57
MW OUT: 10.1
VIS OUT: 52

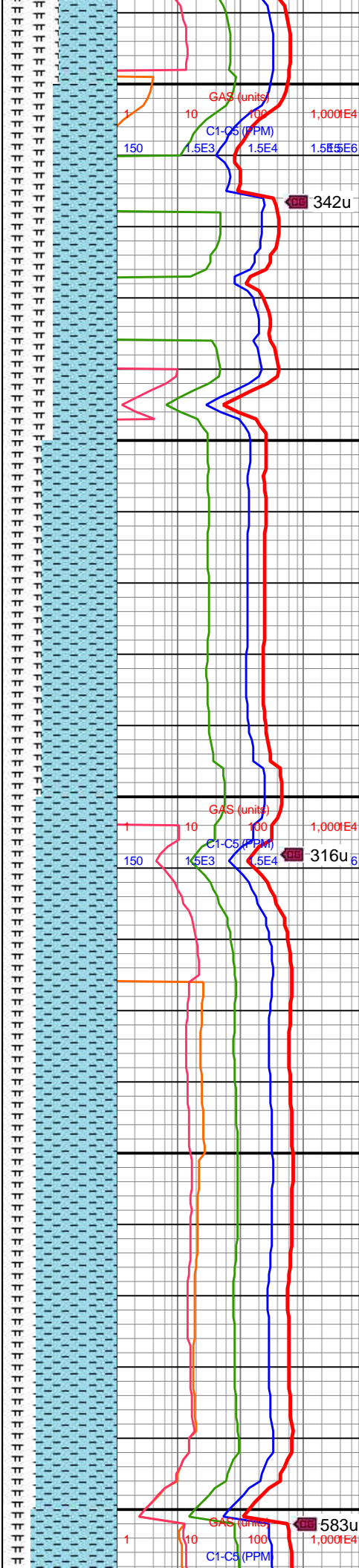
MD: 8,248'
INC: 89.12°
AZM: 2.12°
TVD: 7,192.32'
VS: 1,506.04'

Land curve
8,252' MD

MW IN: 10
VIS IN: 56
MW OUT: 10.1
VIS OUT: 53

MD: 8,343'
INC: 89.03°
AZM: 1.94°
TVD: 7,193.85'
VS: 1,592.43'

WOB: 36klbs
RPM: 25
SPM: 182
SPP: 4,469psi

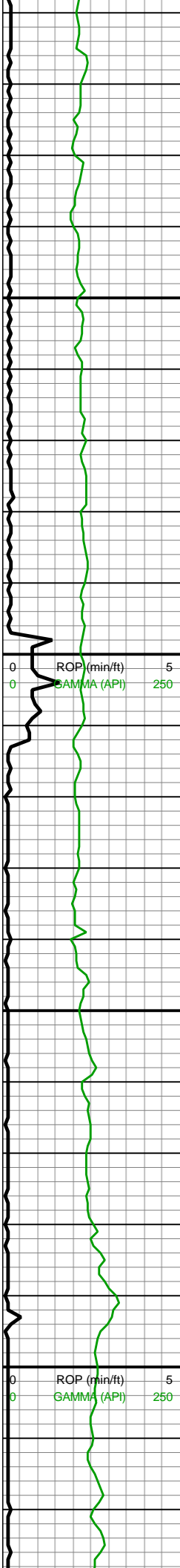


mot crm, frm-sl sft, mod
fis ctngs, sb blkyl-sb tab,
wk calc, sme MRLST
lamn

8200-8250 CHK (55%):
gyshbn-med gy, offwht,
mot crm, frm-sl sft, mod
fis ctngs, sb blkyl-sb tab,
wk calc, sme MRLST
lamn; MRLST (45%): dk
gy, mot med gy, frm-sl
hd, tab-sb blkyl, tr CHK
incl, brit, mod calc

8250-8300 CHK (65%):
med gy-gyshbn, mot crm,
frm-sl sft, mod fis ctngs,
sb blkyl-sb tab, mod-wk
calc, sme MRLST lamn;
MRLST (35%): dk gy, mot
med gy, frm-sl hd, tab-sb
blkyl, tr CHK incl, brit,
hi-mod calc

8300-8400 CHK (70%):
med gy-gyshbn, mot crm,
frm-sl sft, mod fis ctngs,
sb blkyl-sb tab, mod-wk
calc, sme MRLST lamn;
MRLST (30%): dk gy, mot
med gy, frm-sl hd, tab-sb
blkyl, incrg brit CHK incl,
hi calc



8,410
8,420
8,430
8,440
8,450
8,460
8,470
8,480
8,490
8,500
8,510
8,520
8,530
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8,550
8,560
8,570
8,580
8,590
8,600
8,610
8,620

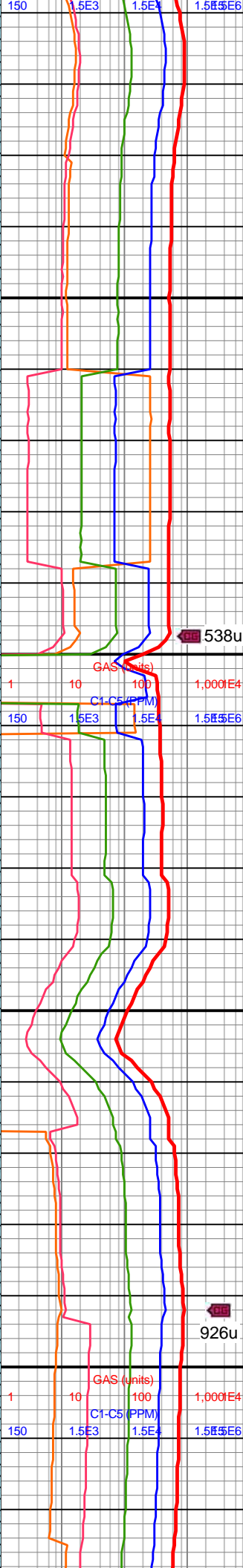
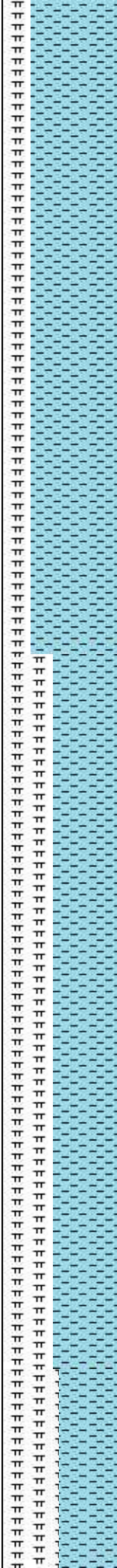
MD: 8,438'
INC: 87.45°
AZM: 359.83°
TVD: 7,196.77'
VS: 1,679.56'

MW IN: 10+
VIS IN: 56
MW OUT: 10.1
VIS OUT: 52

MD: 8,532'
INC: 88.9°
AZM: 2.12°
TVD: 7,199.77'
VS: 1,765.71'

WOB: 32klbs
RPM: 60
SPM: 190
SPP: 4,955psi

MD: 8,627'
INC: 89.3°
AZM: 0.71°



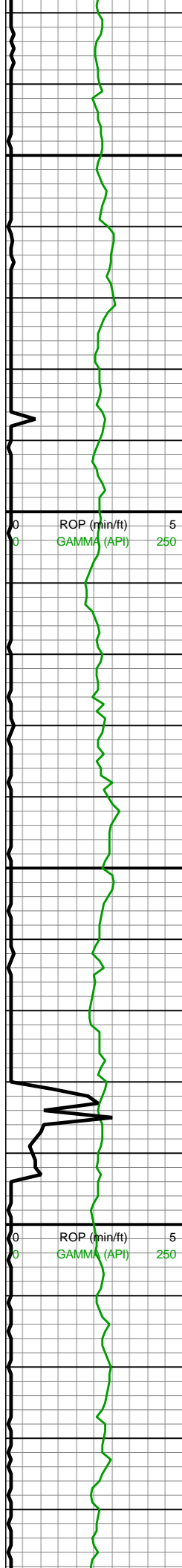
8400-8500 CHK (75%):
med gy-gyshbn, mot crm,
frm-sl sft, mod fis ctngs,
sb blk-y-sb tab, w srt,
mod-wk calc, sme
MRLST lamn; MRLST
(25%): dk gy, mot med
gy, frm-sl hd, tab-sb blk-y,
incrg brit CHK incl, hi calc

538u

8500-8600 CHK (55%):
med gy-gyshbn, mot crm,
frm-sl sft, mod fis ctngs,
sb blk-y-sb tab, w srt,
mod-wk calc, sme
MRLST lamn; MRLST
(45%): dk gy, mot med
gy, frm-sl hd, tab-sb blk-y,
brit CHK incl, hi calc, tr
dissm mic pyr

926u





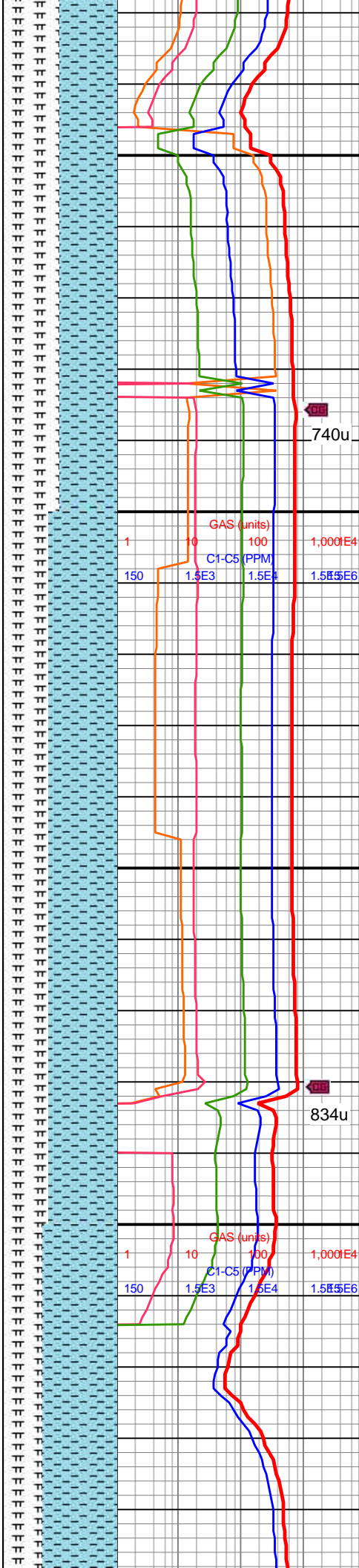
TVD: 7,201.26'
VS: 1,852.52'

MW IN: 10+
VIS IN: 58
MW OUT: 10.1+
VIS OUT: 52

MD: 8,721'
INC: 88.68°
AZM: 359.83°
TVD: 7,202.91'
VS: 1,939.16'

WOB: 34klbs
RPM: 60
SPM: 190
SPP: 4,982psi

MD: 8,815'
INC: 91.14°
AZM: 0.62°
TVD: 7,203.06'
VS: 2,025.84'

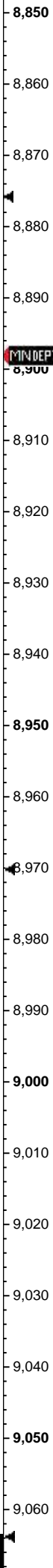
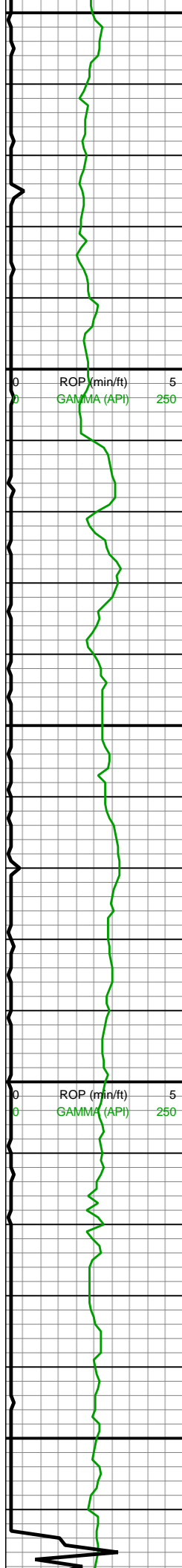


8600-8700 CHK (50%):
predy med gy-gyshbn,
mot crm, frm, mod fis
ctngs, sb blkysb tab, w
srt, rthy tex, mod-wk calc,
sme MRLST lamn;
MRLST (50%): dk gy, mot
med gy, frm-sl hd, tab-sb
blkys, brit CHK incl, hi calc,
tr diss mic pyr

740u

8700-8800 CHK (60%):
predy med gy-gyshbn,
mot crm, frm, mod fis
ctngs, sb blkysb tab, w
srt, rthy tex, mod-wk calc,
sme MRLST lamn;
MRLST (40%): dk gy, mot
med gy, frm-sl hd, tab-sb
blkys, brit CHK incl, mod
calc

834u



MW IN: 10+
VIS IN: 59
MW OUT: 10+
VIS OUT: 52

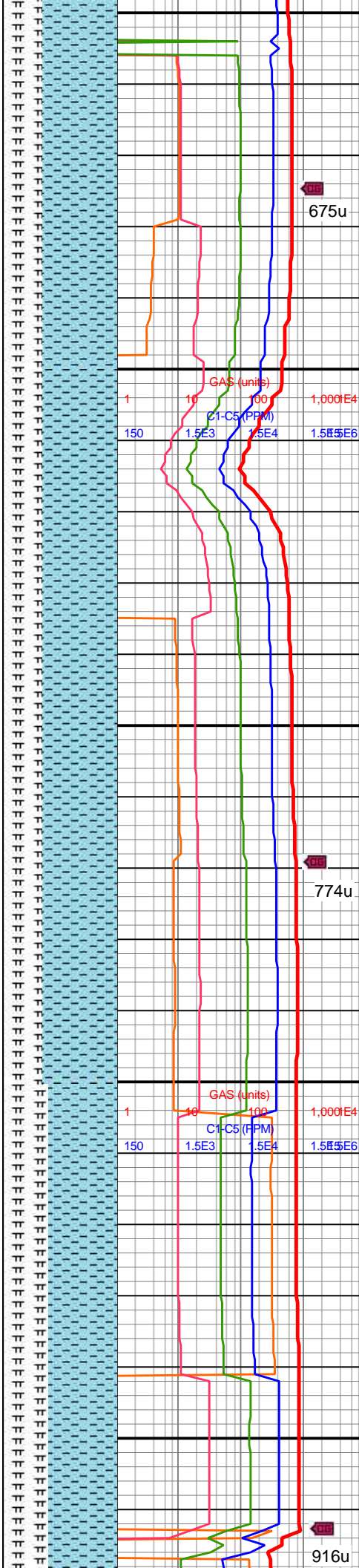
MINDEPTH 8,900 07/09/2018

MD: 8,910'
INC: 91.14°
AZM: 359.66°
TVD: 7,201.17'
VS: 2,113.48'

WOB: 32klbs
RPM: 52
SPM: 189
SPP: 5,022psi

MD: 9,004'
INC: 90.75°
AZM: 358.69°
TVD: 7,199.62'
VS: 2,200.8'

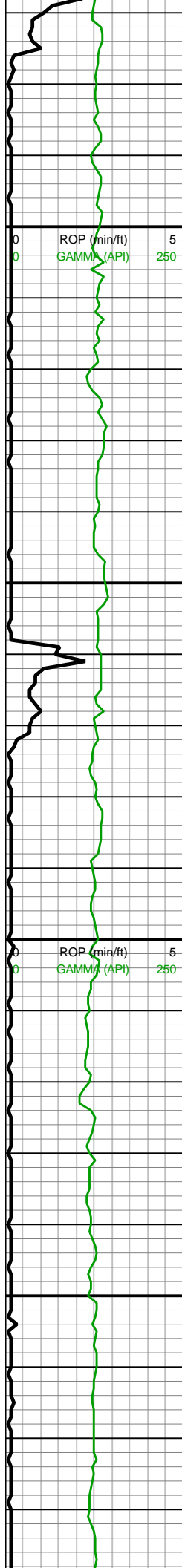
MW IN: 10+
VIS IN: 60
MW OUT: 10.1+



8800-8900 CHK (65%):
predy med gy-gyshbn,
mot crm, frm, mod fis
ctngs, sb blk-y-sb tab, w
srt, rthy tex, mod-wk calc,
sme MRLST lamn;
MRLST (35%): dk gy, mot
med gy, frm-sl hd, tab-sb
blk-y, mod calc, intbd brit
CHK

8900-9000 CHK (65%):
med gy-gyshbn, mot crm,
frm, mod fis ctngs, sb
blk-y-sb tab, w srt, rthy tex,
mod-wk calc, sme
MRLST lamn; MRLST
(35%): dk gy, mot med
gy, frm-sl hd, tab-sb blk-y,
sl sm tex, mod calc, com
intbd brit CHK





VIS OUT: 54

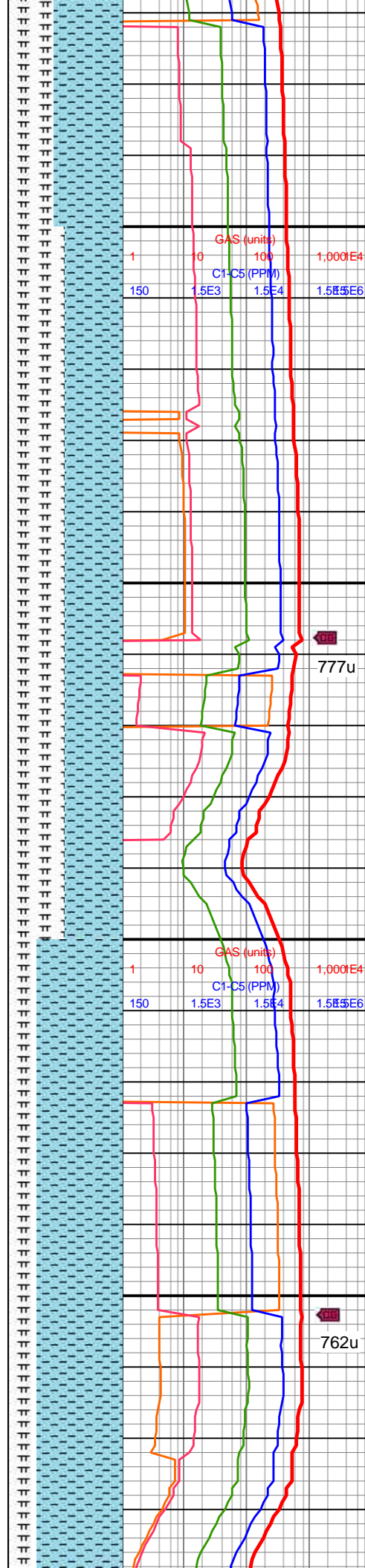
MD: 9,099'
INC: 91.49°
AZM: 359.75°
TVD: 7,197.77'
VS: 2,289.02'

MD: 9,193'
INC: 90.53°
AZM: 1.85°
TVD: 7,196.11'
VS: 2,375.31'

WOB: 34klbs
RPM: 60
SPM: 189
SPP: 4,945psi

MW IN: 10+
VIS IN: 58
MW OUT: 10.1
VIS OUT: 54

MD: 9,288'
INC: 91.01°

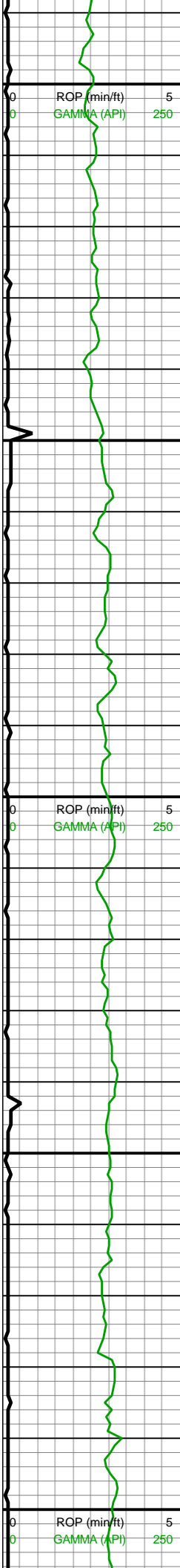


9000-9100 CHK (60%):
med gy-gyshbn, mot crm,
frm, mod fis ctngs, sb
blky-sb tab, w srt, rthy tex,
mod-wk calc, sme
MRLST lamn; MRLST
(40%): dk gy, mot med
gy, frm-sl hd, tab-sb blky,
sl sm tex, mod calc,
decrng intbd CHK lam

9100-9200 CHK (50%):
gyshbn-med gy, mot crm,
frm, mod fis ctngs, sb
blky-sb tab, w srt, rthy tex,
mod calc, sme MRLST
lamn; MRLST (50%): dk
gy, mot med gy, frm-sl
hd, tab-sb blky, sl sm tex,
mod calc, decrng intbd
CHK lam

9200-9300 CHK (75%):
gyshbn-med gy, mot crm,
frm, mod fis ctngs, sb
blky-sb tab, w srt, rthy tex,
mod calc, sme MRLST
lamn; MRLST (25%): dk





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

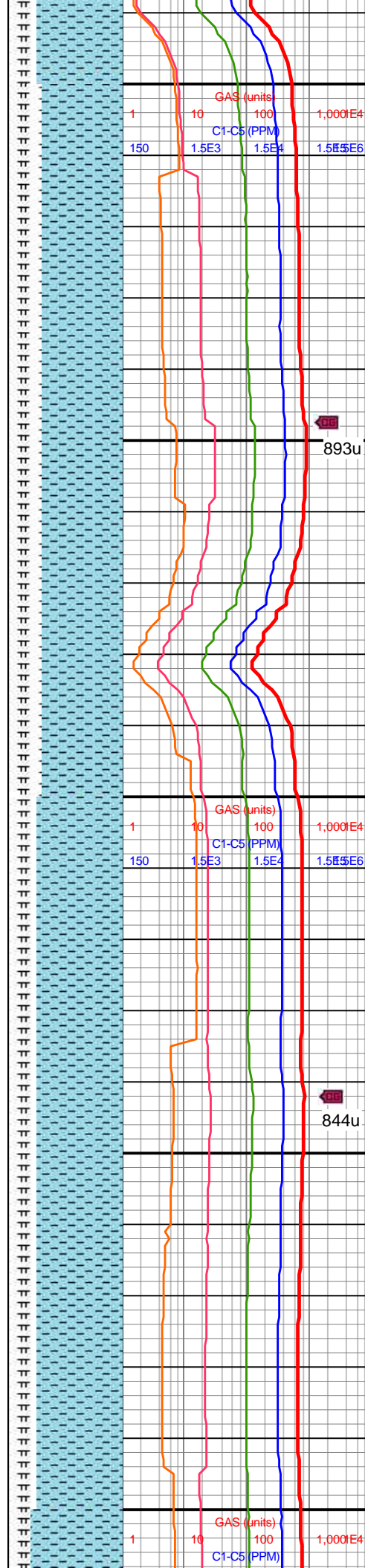
AZM: 0.36°
TVD: 7,194.83'
VS: 2,462.34'

MD: 9,382'
INC: 90.84°
AZM: 359.39°
TVD: 7,193.31'
VS: 2,549.23'

WOB: 35klbs
RPM: 60
SPM: 189
SPP: 5,074psi

MW IN: 10.1
VIS IN: 58
MW OUT: 10.1+
VIS OUT: 56

MD: 9,477'
INC: 90.48°
AZM: 357.81°
TVD: 7,192.22'
VS: 2,637.83'



gy, mot med gy, frm-sl
hd, tab-sb blk, sl sm tex,
incrg intbd CHK, hi calc

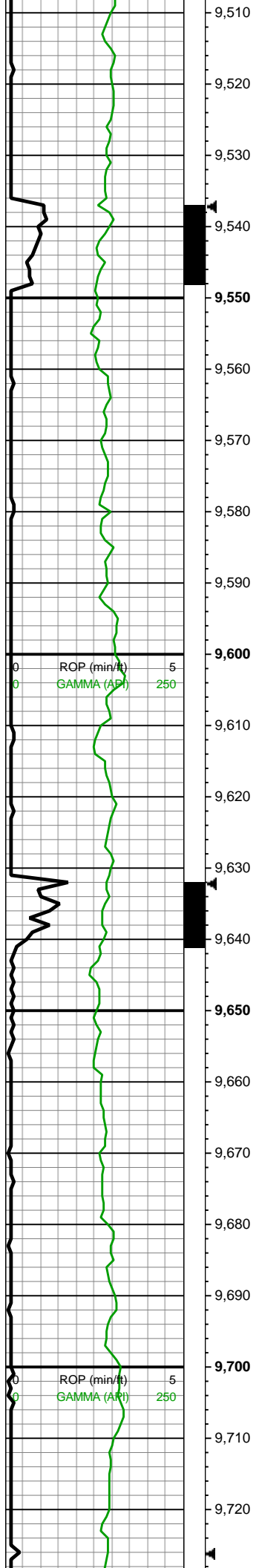
893u

9300-9400 CHK (70%):
gyshbn-med gy, mot crm,
frm-fri, mod fis ctngs, sb
blk-sb tab, w-mod srt,
rthy tex, mod calc, sme
MRLST lamn; MRLST
(30%): dk gy, mot med
gy, frm-sl hd, tab-sb blk,
sl sm tex, sme intbd
CHK, hi calc

844u

9400-9500 CHK (75):
gyshbn-med gy, mot crm,
frm-fri, mod fis ctngs, sb
blk-sb tab, w-mod srt,
rthy tex, mod calc, sme
MRLST lamn; MRLST
(25%): dk gy, mot med
gy, frm-sl hd, tab-sb blk,
sl sm tex, com intbd
CHK, mod-hi calc



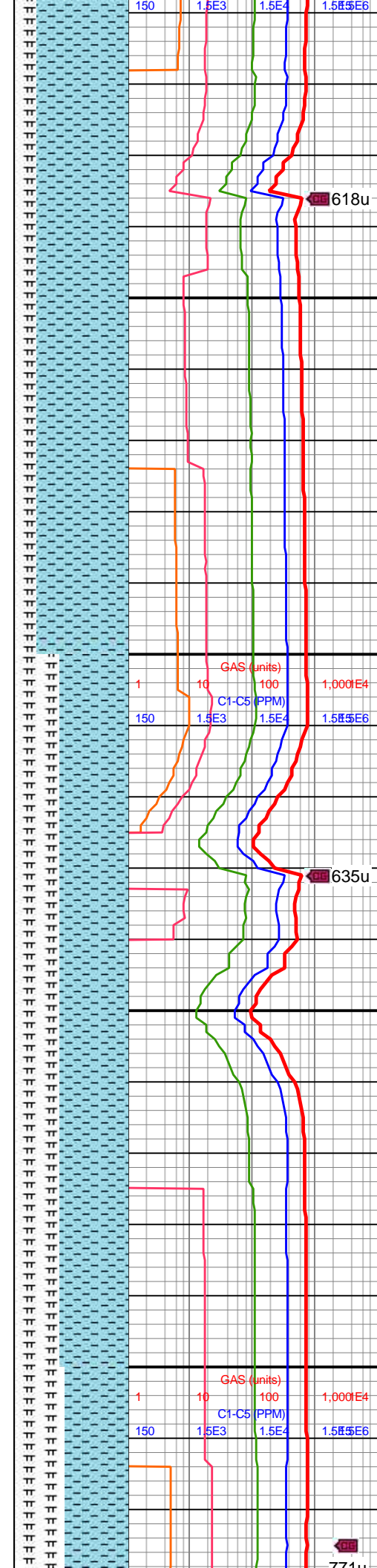


MD: 9,572'
INC: 89.3°
AZM: 359.31°
TVD: 7,192.4'
VS: 2,726.46'

WOB: 33klbs
RPM: 60
SPM: 191
SPP: 5,095psi

MW IN: 10+
VIS IN: 58
MW OUT: 10.1
VIS OUT: 56

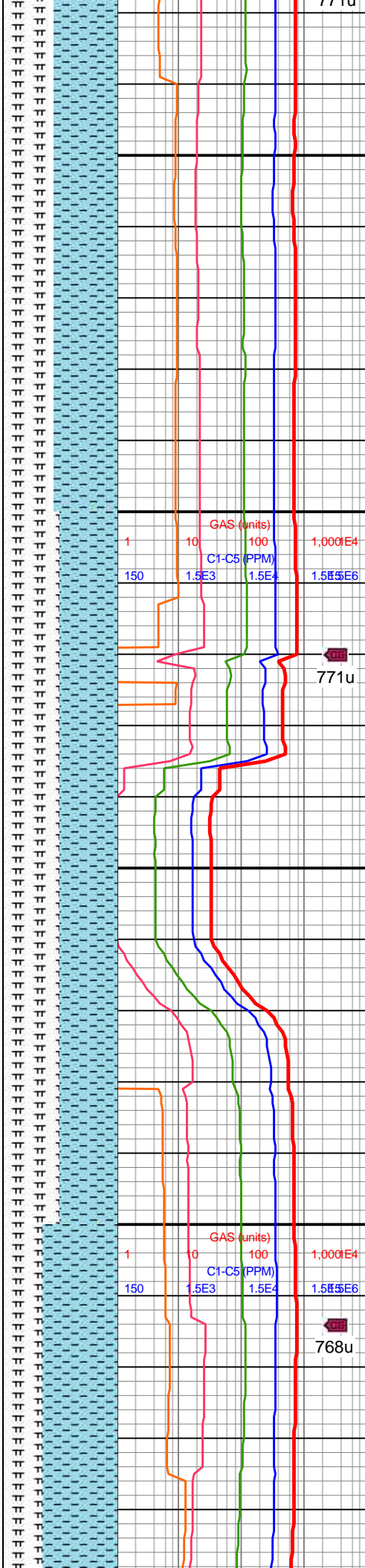
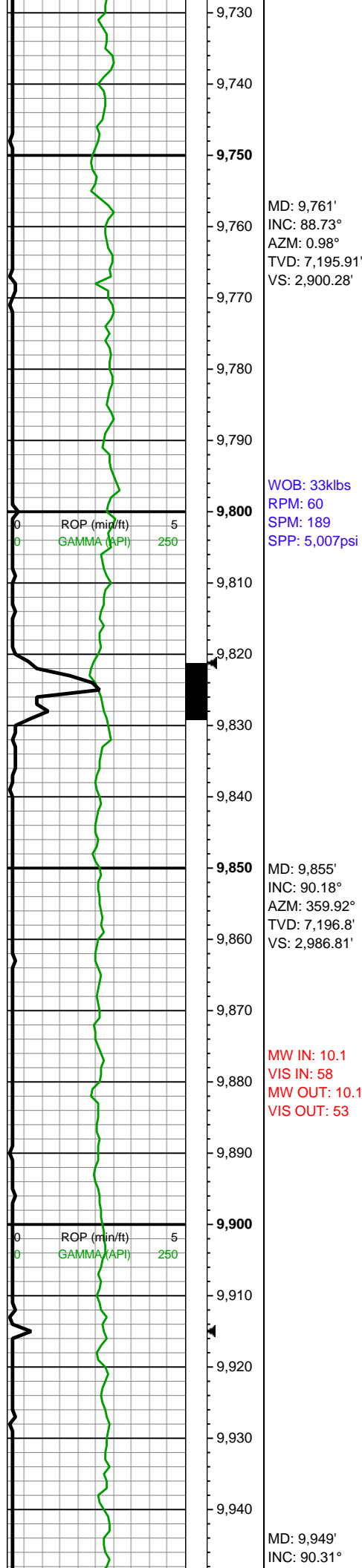
MD: 9,666'
INC: 88.86°
AZM: 0.98°
TVD: 7,193.91'
VS: 2,813.18'



9500-9600 CHK (80%):
gyshbn-med gy, mot crm,
frm-fri, mod fis ctngs, sb
blky-sb tab, w-mod srt,
rthy tex, mod calc, sme
MRLST lamn; MRLST
(20%): dk gy, mot med
gy, frm-sl hd, p srt, tab-sb
blky, sl sm tex, lam CHK
incl, mod-hi calc

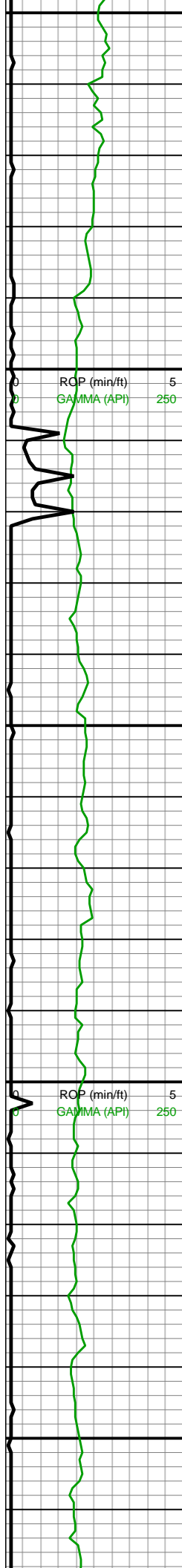
9600-9700 CHK (60%):
gyshbn-med gy, mot crm,
frm-fri, mod fis ctngs, sb
blky-sb tab, w-mod srt,
rthy tex, mod calc, sme
MRLST lamn; MRLST
(40%): dk gy, mot med
gy, frm-sl hd, tab-sb blky,
sl sm tex, lam CHK incl,
mod-hi calc





9700-9800 CHK (55%):
med gy-gyshbn, mot crm,
frm-fri, mod fis ctngs, sb
blky-sb tab, w-mod srt,
rthy tex, mod calc, sme
MRLST lamn; MRLST
(45%): dk gy, mot med
gy, frm-sl hd, tab-sb blky,
sl sm tex, lam CHK incl,
mod-hi calc

9800-9900 CHK (50%):
gyshbn-med gy, mot,
tab-sb blkly ctngs, fri-frm,
sm chky tex, tr intbd
MRLST, tr offwht CHK
frags, v calc; MRLST
(50%): dk gyshbn-dk gy,
sb blkly-tab, frm-sl hd, sl
sm-rgh tex, sme intbd
CHK, mod-hi calc



9,950
9,960
9,970
9,980
9,990
10,000
10,010
10,020
10,030
10,040
10,050
10,060
10,070
10,080
10,090
10,100
10,110
10,120
10,130
10,140
10,150
10,160

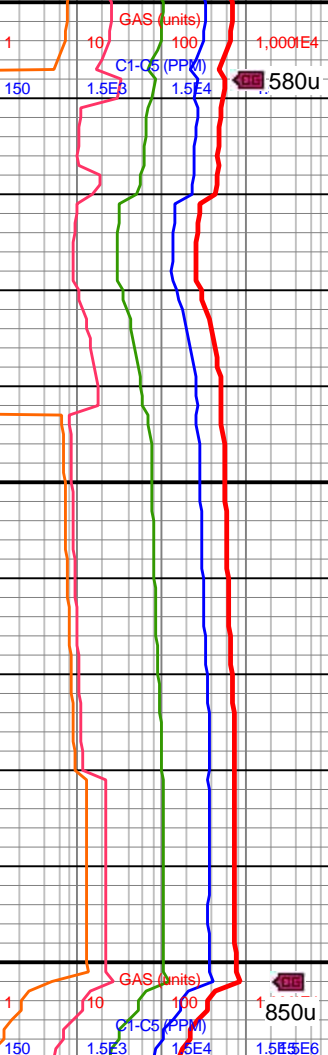
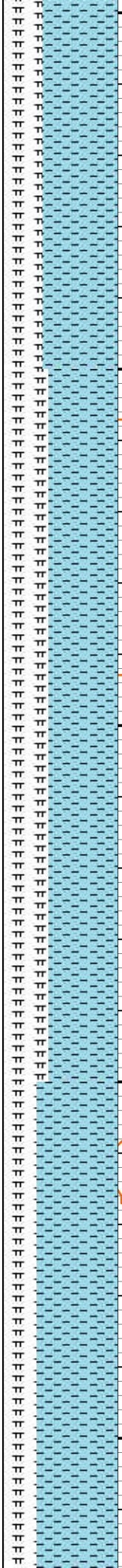
AZM: 359.66°
TVD: 7,196.4'
VS: 3,073.77'

WOB: 34.7klbs
RPM: 60
SPM: 189
SPP: 5,077psi

MD: 10,043'
INC: 89.82°
AZM: 1.33°
TVD: 7,196.29'
VS: 3,160.28'

MW IN: 10.0+
VIS IN: 57
MW OUT: 10.1
VIS OUT: 53

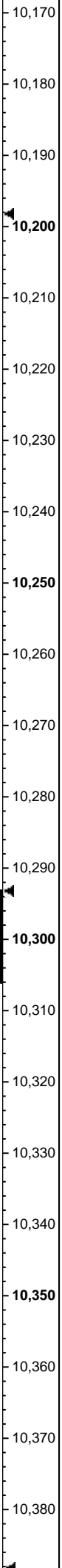
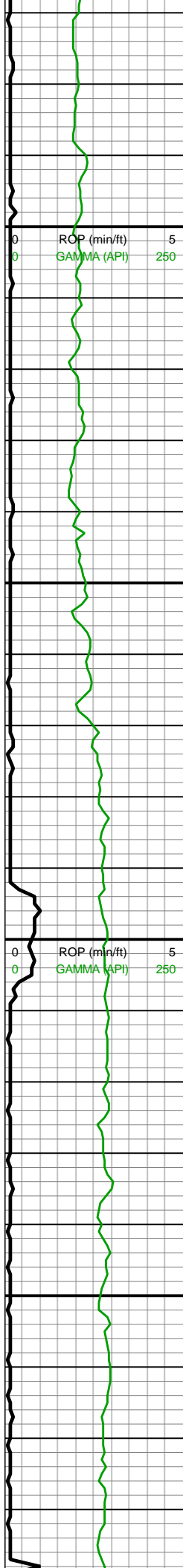
MD: 10,137'
INC: 90.22°
AZM: 0.8°
TVD: 7,196.26'
VS: 3,246.42'



9900-10000 CHK (65%):
med gy-gyshbn, sme
wht-crm, sb blk-y-sb plty,
frm-sft, med fis ctngs, tr
imbd mic pyr, mnr
MRLST lamn, hi calc;
MRLST (35%): dk
gyshbn-dk gy, brit, frm-sl
hd, tab-sb blk-y, tr CHK
incl, mod calc

10000-10100 CHK
(60%): med gy-gyshbn,
mot crm, sb blk-y-sb plty,
frm-sft, mnr MRLST
lamn, med fis ctngs, tr
imbd/pp mic pyr, hi calc;
MRLST (40%): dk gy-med
gy, brit, tab-sb blk-y, frm-sl
hd, mod calc, tr CHK incl



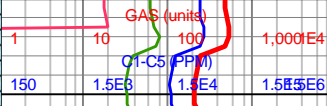
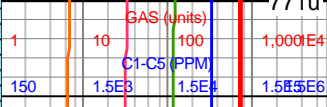


WOB: 26.1klbs
RPM: 60
SPM: 192
SPP: 4,719psi

MD: 10,232'
INC: 91.1°
AZM: 0.18°
TVD: 7,195.17'
VS: 3,333.84'

MW IN: 10
VIS IN: 57
MW OUT: 10.0+
VIS OUT: 53

MD: 10,327'
INC: 90.92°
AZM: 2.29°
TVD: 7,193.49'
VS: 3,420.77'

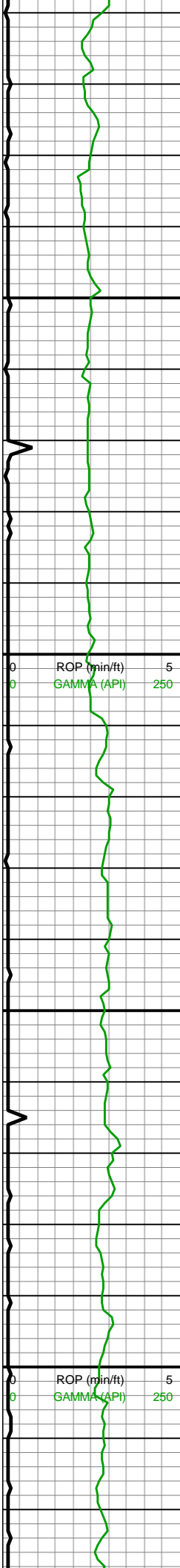


10100-10200 CHK
(70%): med gy-gyshbn,
sme crm, frm-sft, sb
blky-sb plty, tr imbd mic
pyr, mnr free CHK, mnr
MRLST lamn, hi calc;
MRLST (30%): dk gy-dk
gyshbn, tab-sb blky, brit,
frm-sl hd, tr CHK incl,
mod calc

10200-10300 CHK
(50%): gyshbn-med gy,
mot crm, sm chky tex,
fri-frm, tab-sb blky, tr
intbd MRLST, calc;
MRLST (50%): dk
gyshbn-dk gy, frm-sl hd,
sb blky-tab, sl sm-rgh tex,
com intbd CHK, v hi calc,
mnr imbd mic pyr

10300-10400 CHK
(55%): med gy-gyshbn,
mot crm, frm-sft, mod fis
ctngs, sb blky-sb plty, tr
pp mic pyr, mnr MRLST
lamn, hi calc; MRLST





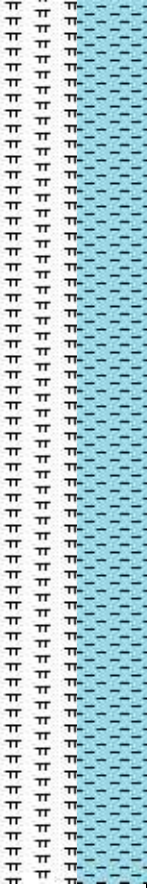
MD: 10,610'
INC: 89.21°
AZM: 1.94°
TVD: 7,192.58'
VS: 3,677.96'

MD: 10,704'
INC: 89.25°
AZM: 1.42°
TVD: 7,193.84'
VS: 3,763.69'

MW IN: 10
VIS IN: 57
MW OUT: 10.0+
VIS OUT: 52

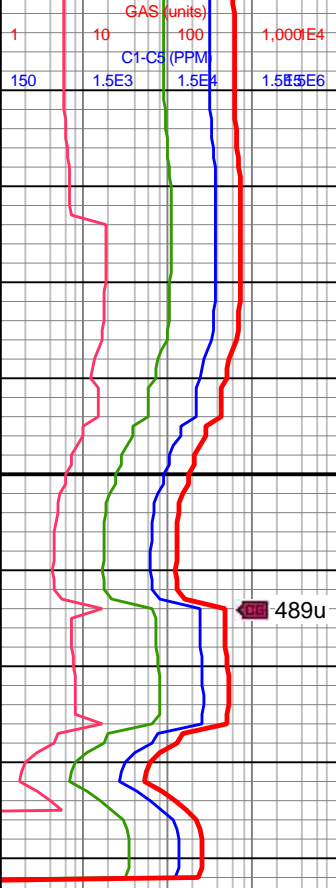
MD: 10,799'
INC: 89.08°
AZM: 0.36°
TVD: 7,195.23'
VS: 3,850.85'

WOB: 31klbs
RPM: 60
SPM: 191
SPP: 5,315psi



662u

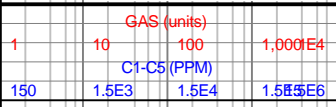
10600-10700 MRLST (55%): dk gyshbn-dk gy, brit, frm-sl hd, tab-sb blk, tr CHK incl, mod calc, tr imbd mic pyr; CHK (45%): gyshbn, mot med gy, crm, sl sm tex, frm-sft, sb blk-sb plty, mnr MRLST lamn, hi calc

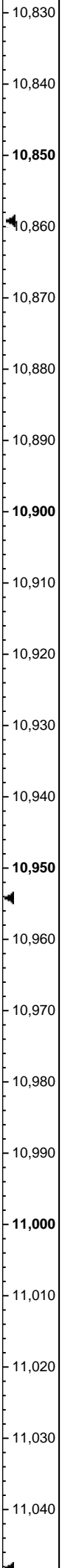
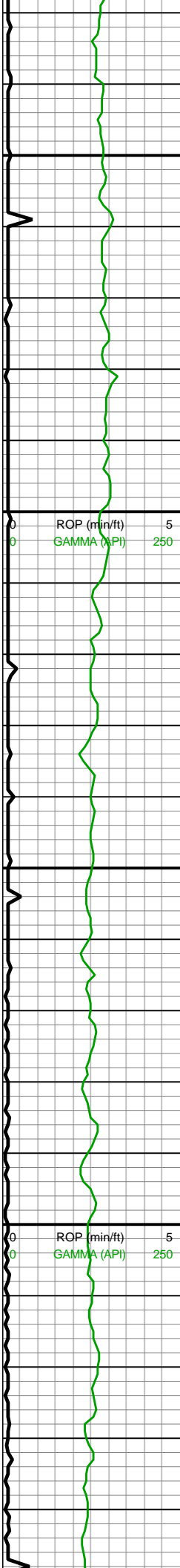


489u

No Sample Collected

Note: Sample Not Circulated prior to Short Trip





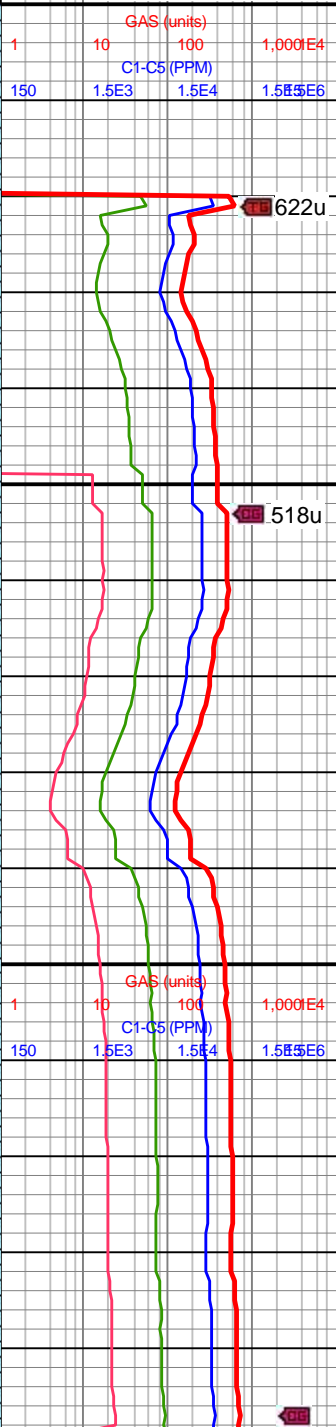
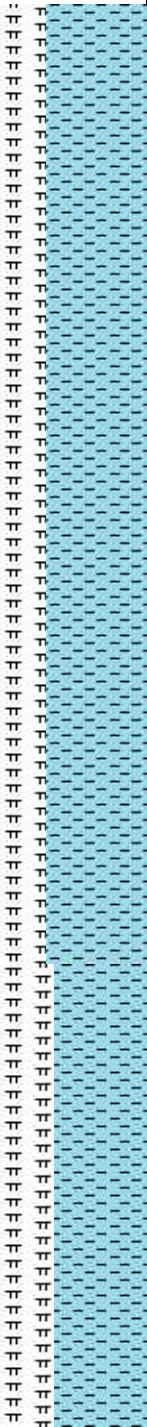
MD: 10,893'
INC: 88.73°
AZM: 359.66°
TVD: 7,197.02'
VS: 3,937.65'

Note:
Troubleshoot
SPP loss.

MW IN: 10
VIS IN: 57
MW OUT: 10.0+
VIS OUT: 53

MD: 10,988'
INC: 89.03°
AZM: 358.78°
TVD: 7,198.88'
VS: 4,025.87'

WOB: 30.9klbs
RPM: 59
SPM: 190
SPP: 5,498psi



No Sample Collected

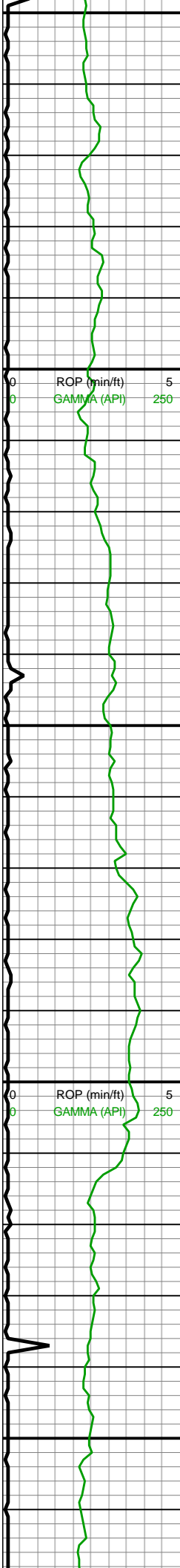
Note: Sample Not
Circulated prior to Short
Trip

622u

518u

10900-11000 CHK
(65%): med gy-gyshbn,
mot crm, chky tex, frm-sft,
sb blkly-sb plty, mnr
MRLST lamn, hi calc, tr
imbd mic pyr; MRLST
(35%): dk gyshbn-dk gy,
brit, tab-sb blkly, frm-sl
hd, tr CHK incl, mod calc,
mnr cal frac fl cls





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

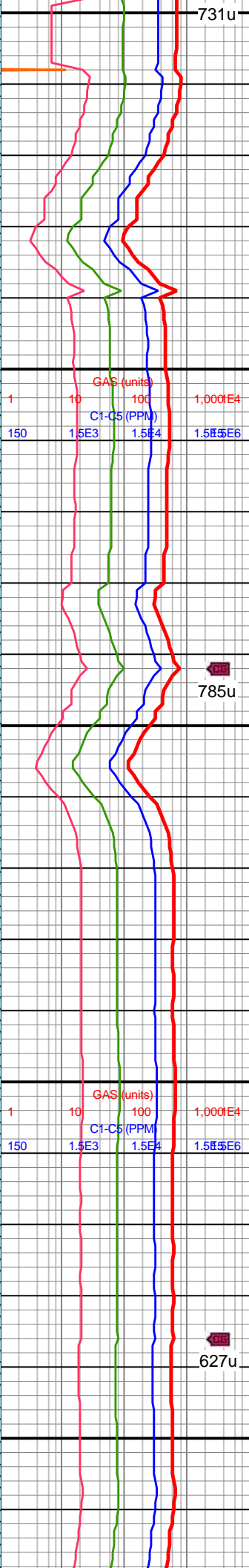
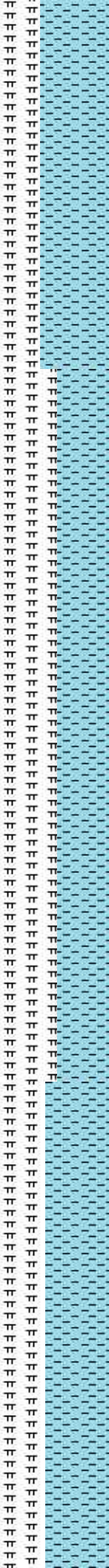
MD: 11,082'
INC: 89.47°
AZM: 358.95°
TVD: 7,200.11'
VS: 4,113.39'

MW IN: 10
VIS IN: 54
MW OUT: 10.0+
VIS OUT: 51

MD: 11,177'
INC: 89.69°
AZM: 358.08°
TVD: 7,200.81'
VS: 4,202.05'

WOB: 30.2klbs
RPM: 60
SPM: 191
SPP: 5,553psi

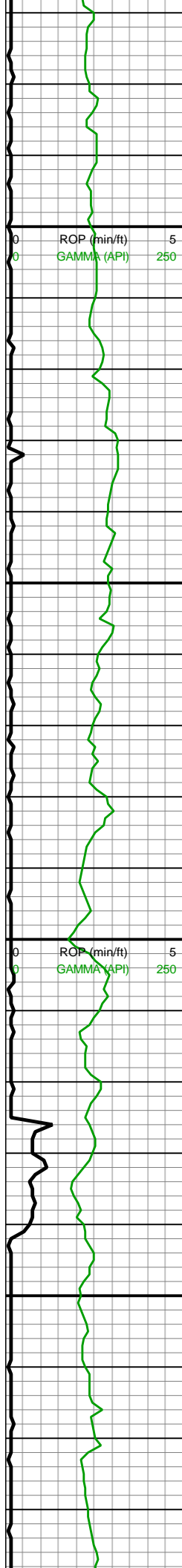
MD: 11,271'



11000-11100 CHK
(60%): med gy-gyshbn, crm, mot, frm-sft, sb blkyl-sb plty, chky-sl sm tex, mnr MRLST lamn, tr pp mic pyr, hi calc; MRLST (40%): dk gyshbn-dk gy, brit, frm-sl hd, tab-sb blkyl, tr CHK incl, mod calc

11100-11200 MRLST
(55%): dk gy-med gy, mot, sl slty tex, sl hd-frm, sb blkyl-sb ang ctngs, sme CHK intbds, mod calc; CHK (45%): predy gyshbn, mot-sl stri, sm chky tex, sl frm-brit, sb blkyl ctngs, tr free CHK, v calc, tr cal frac fl





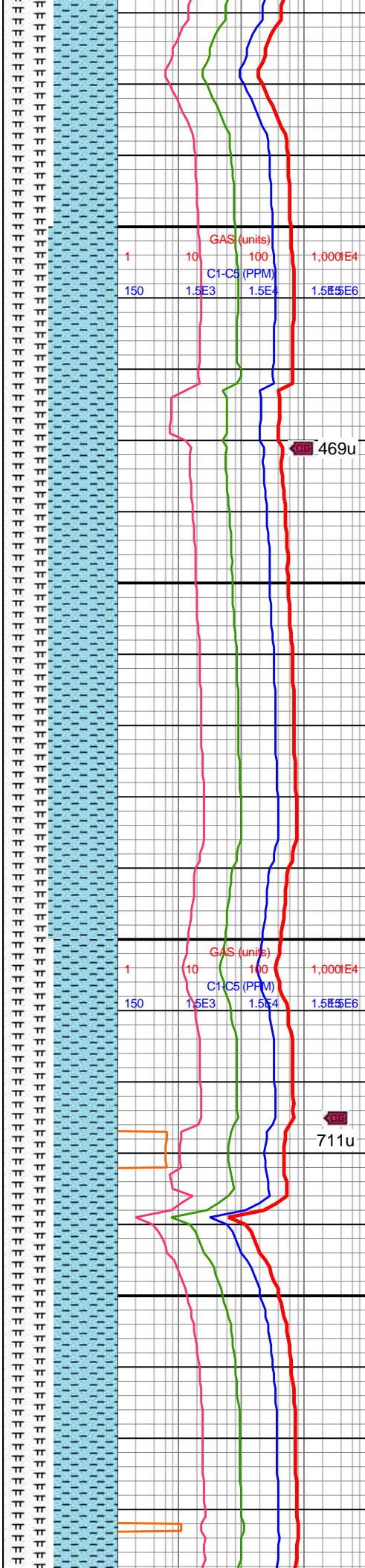
INC: 89.47°
AZM: 358.51°
TVD: 7,201.49'
VS: 4,289.9'

MD: 11,366'
INC: 89.78°
AZM: 357.72°
TVD: 7,202.12'
VS: 4,378.8'

WOB: 30.9klbs
RPM: 60
SPM: 191
SPP: 5,542psi

MW IN: 10
VIS IN: 54
MW OUT: 10.0+
VIS OUT: 50

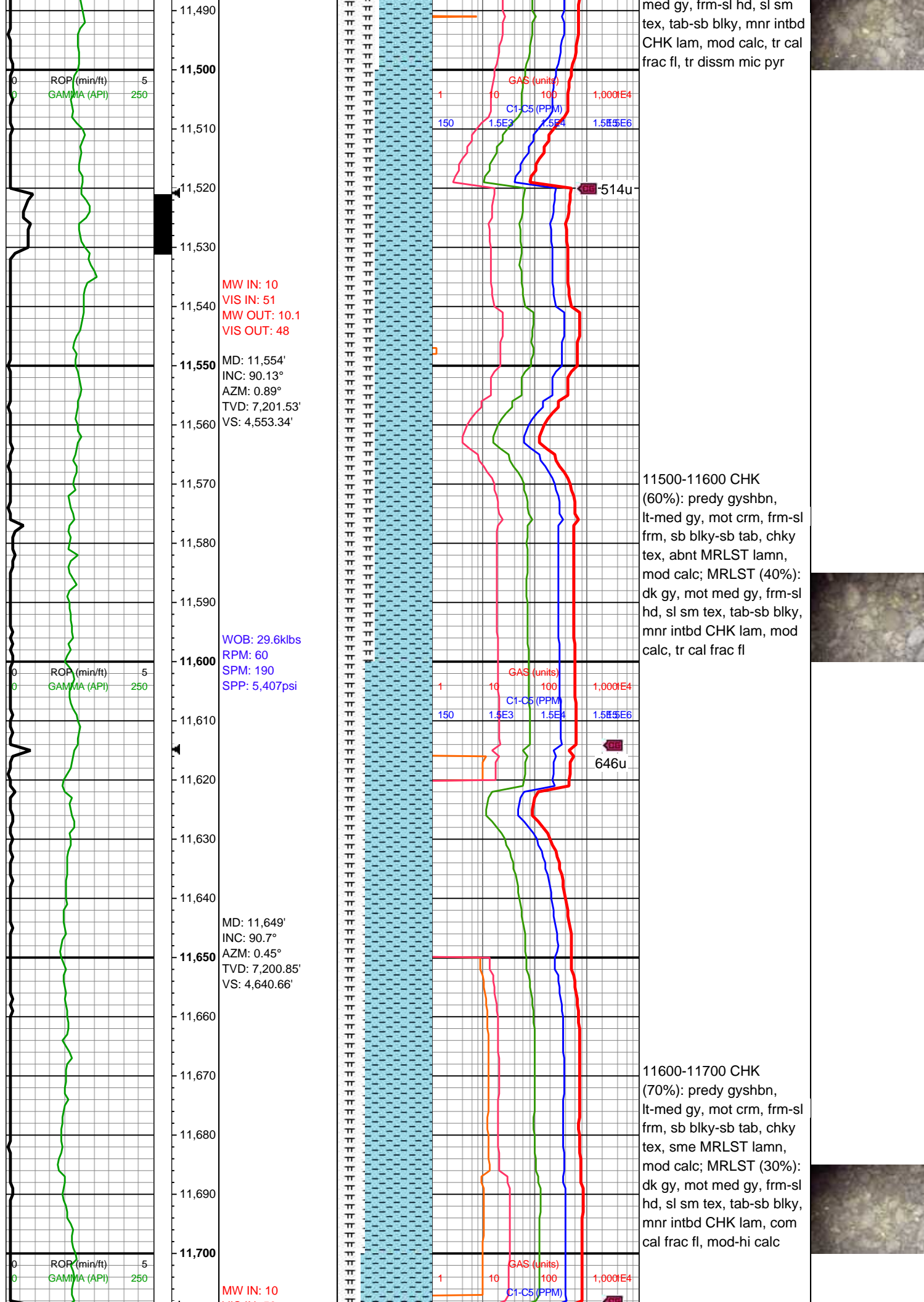
MD: 11,460'
INC: 90.4°
AZM: 359.22°
TVD: 7,201.97'
VS: 4,466.55'

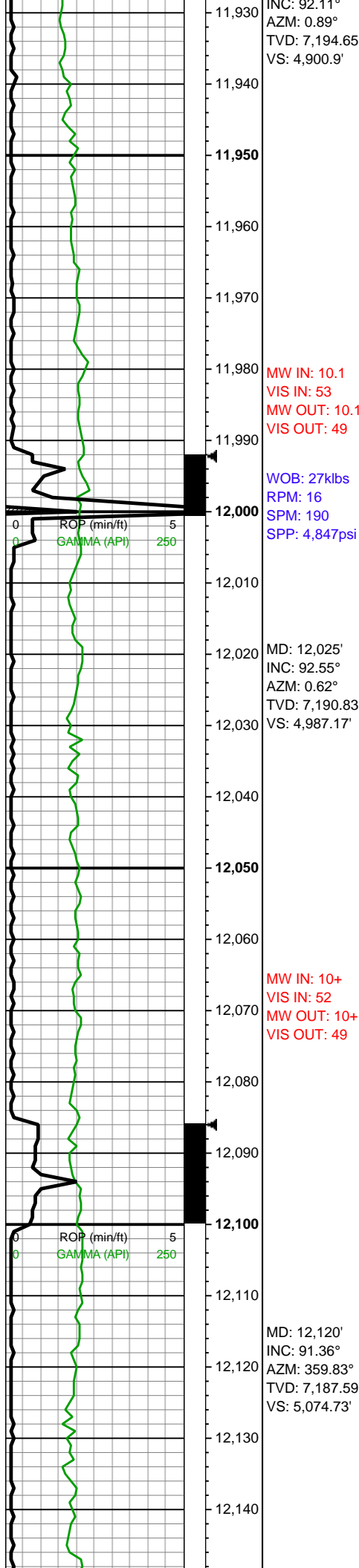


11200-11300 CHK
(55%): med gy-gyshbn,
sme wht-crm, frm-sft, sb
blky-sb plty, tr dissm mic
pyr, mnr MRLST lamn, hi
calc; MRLST (45%): dk
gyshbn-dk gy, brit, frm-sl
hd, tab-sb blky, tr CHK
incl, mod calc

11300-11400 CHK
(60%): gyshbn-med gy,
mot crm, chky tex, frm-sl
frm, sb blk-y-sb tab, sme
MRLST lamn, mod calc,
tr pp mic pyr; MRLST
(40%): dk gy, mot med
gy, frm-sl hd, sl sm tex,
tab-sb blk-y, mnr intbd
CHK lam, mod calc, tr cal
frac fl

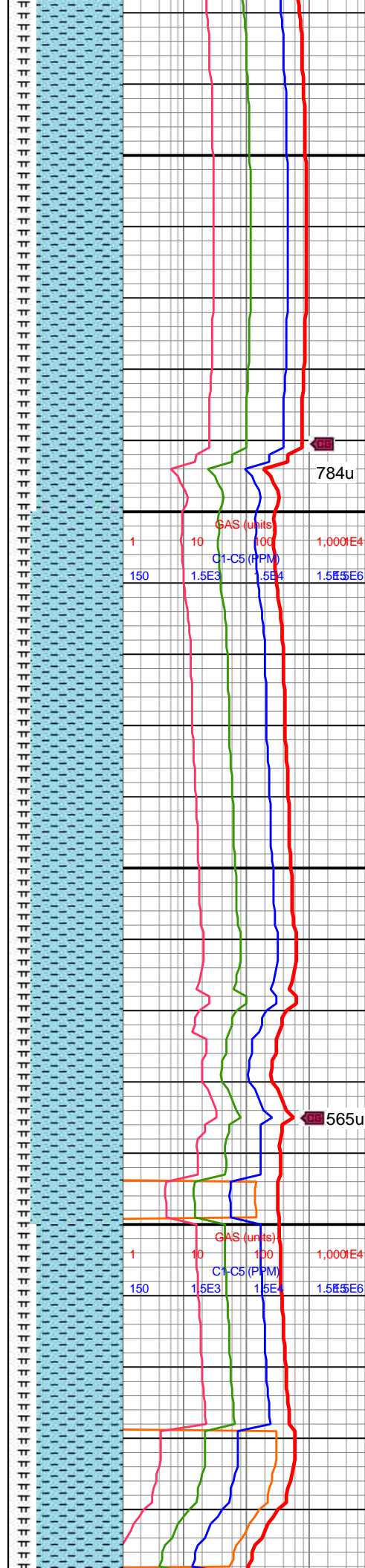
11400-11500 CHK
(55%): gyshbn-med gy,
mot crm, frm-sl frm, sb
blky-sb tab, chky tex, abnt
MRLST lamn, mod calc;
MRLST (45%): dk gy, mot

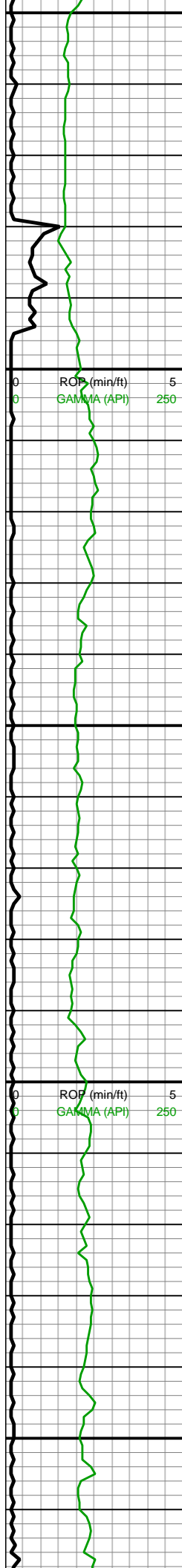




MW IN: 10.1
VIS IN: 53
MW OUT: 10.1+
VIS OUT: 49

MW IN: 10+
VIS IN: 52
MW OUT: 10+
VIS OUT: 49





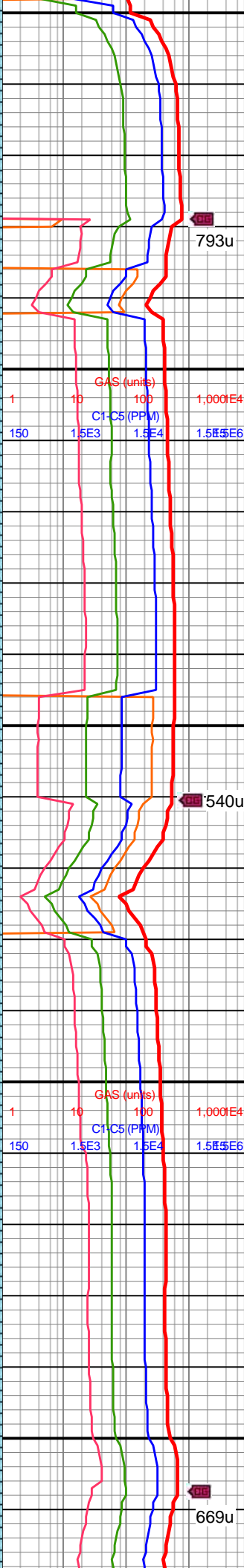
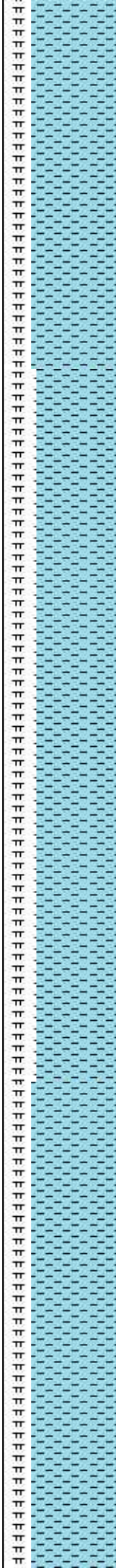
12,150
12,160
12,170
12,180
12,190
12,200
12,210
12,220
12,230
12,240
12,250
12,260
12,270
12,280
12,290
12,300
12,310
12,320
12,330
12,340
12,350
12,360

MW IN: 10+
VIS IN: 53
MW OUT: 10+
VIS OUT: 49

WOB: 32klbs
RPM: 60
SPM: 189
SPP: 5,287psi

MD: 12,214'
INC: 89.91°
AZM: 1.5°
TVD: 7,186.55'
VS: 5,161.12'

MD: 12,308'
INC: 89.6°
AZM: 1.5°
TVD: 7,186.95'
VS: 5,246.97'

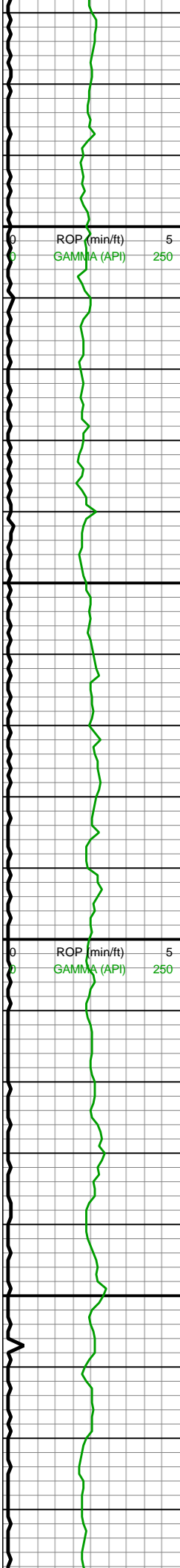


12100-12200 CHK
(75%): gyshbn-gy, mot
crm ip, sl frm-frm, sb
blky-sb tab, chky tex, wk
calc, sme MRLST lamn;
MRLST (25%): dk gy-med
gy, mot, frm-sl hd, tab-sb
blky, sl sm tex, incrg intbd
CHK lam, scat cal frac fl,
hi-mod calc

12200-12300 CHK
(70%): gyshbn-gy, mot
crm ip, sl frm-frm, sb
blky-sb tab, chky tex, wk
calc, decrng MRLST
lamn; MRLST (30%): v dk
gy-med gy, mot, frm-sl
hd, tab-sb blky, sl sm tex,
incrg intbd CHK lam, scat
cal frac fl, mod calc



12300-12400 CHK



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

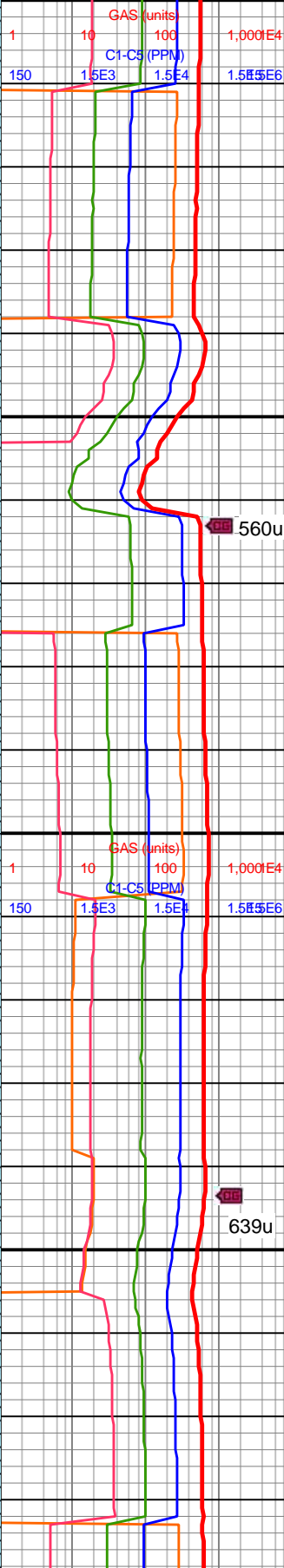
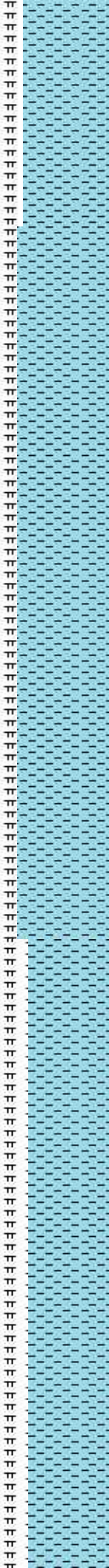
WOB: 32klbs
RPM: 60
SPM: 188
SPP: 5,420psi

MD: 12,402'
INC: 89.52°
AZM: 1.15°
TVD: 7,187.67'
VS: 5,332.94'

MW IN: 10+
VIS IN: 53
MW OUT: 10+
VIS OUT: 49

MD: 12,496'
INC: 89.08°
AZM: 0.36°
TVD: 7,188.82'
VS: 5,419.27'

MD: 12,591'
INC: 89.21°
AZM: 358.95°
TVD: 7,199.34'

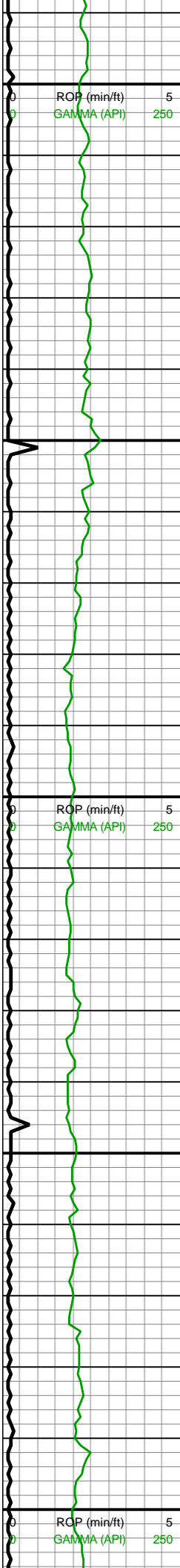


12300-12400 CHK
(75%): gyshbn-gy, mot
crm ip, sl frm-frm, sb
blky-sb tab, chky tex, wk
calc, tr MRLST lamn;
MRLST (25%): v dk
gy-med gy, mot, frm-sl
hd, tab-sb blky, sl sm tex,
scat cal frac fl, abunt
intbd CHK lam, mod calc

12400-12500 CHK
(80%): gyshbn-gy, mot
crm ip, sl frm-frm, sb
blky-sb tab, chky tex, wk
calc, sme MRLST lamn;
MRLST (20%):
bnshblk-med gy, mot,
frm-sl hd, tab-sb blky, sl
sm tex, scat cal frac fl,
abunt intbd CHK lam,
mod calc

12500-12600 CHK
(70%): gyshbn-gy, mot
crm ip, sl frm-frm, sb
blky-sb tab, chky tex, wk
calc, sme MRLST lamn;
MRLST (30%): dk gy-med
gy, mot bnshblk frm-sl





VD: 7,190.24'
VS: 5,507.23'

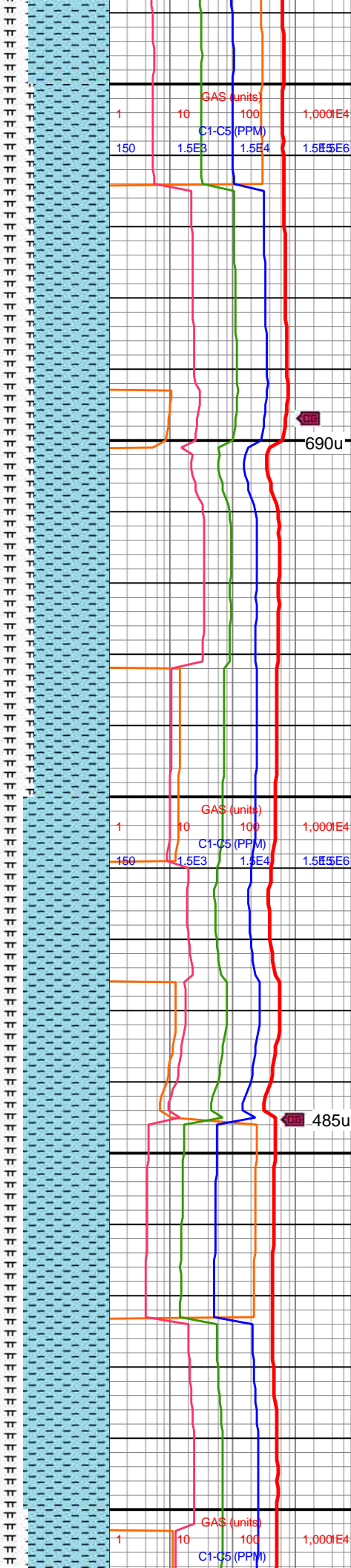
WOB: 32klbs
RPM: 60
SPM: 190
SPP: 5,541psi

MD: 12,685'
INC: 89.56°
AZM: 358.95°
TVD: 7,191.25'
VS: 5,594.69'

MW IN: 10+
VIS IN: 55
MW OUT: 10.1
VIS OUT: 49

MD: 12,780'
INC: 90°
AZM: 358.34°
TVD: 7,191.61'
VS: 5,683.28'

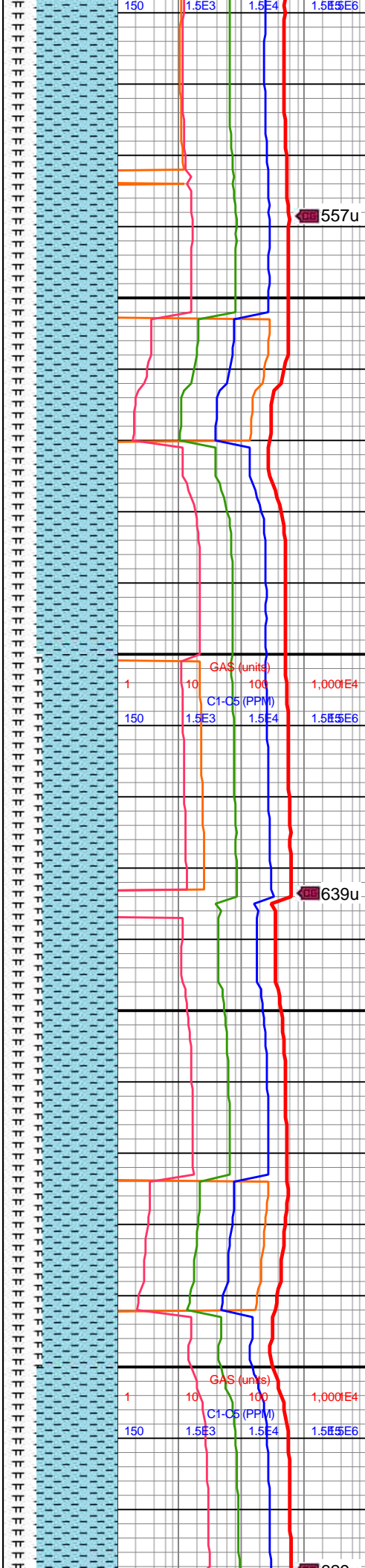
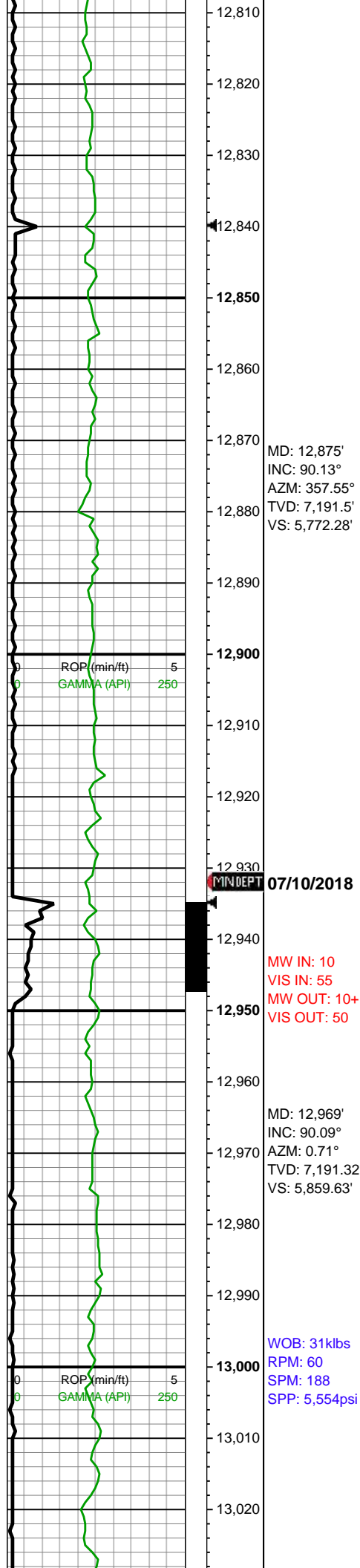
WOB: 33klbs
RPM: 60
SPM: 189
SPP: 5,517psi



gy, mot bnshblk, frm-sl
hd, tab-sb blkly, sl sm tex,
scat cal frac fl, abunt
intbd CHK lam, mod calc

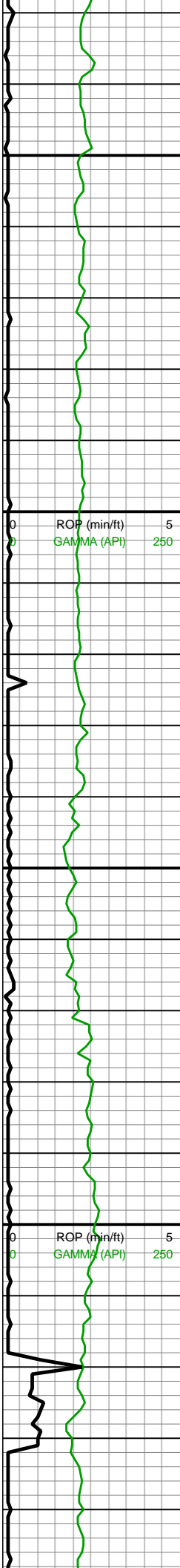
12600-12700 CHK
(65%): gyshbn-gy, mot
crm ip, sl frm-frm, sb
blkly-sb tab, chky tex, wk
calc, com MRLST lamn;
MRLST (35%): dk gy-med
gy, mot bnshblk, frm-sl
hd, tab-sb blkly, sl sm tex,
scat cal frac fl, abunt
intbd CHK lam, mod-hi
calc

12700-12800 CHK
(75%): gyshbn-gy, mot
crm ip, sl frm-frm, sb
blkly-sb tab, chky tex, wk
calc, tr MRLST lamn;
MRLST (25%): dk gy-med
gy, mot gyshbn, frm-sl
hd, tab-sb blkly, sl sm tex,
scat cal frac fl, abunt
intbd CHK lam, hi calc



12800-12900 CHK
(70%): gyshbn-gy, mot
crm ip, sl frm-frm, sb
blky-sb tab, rthy-chky tex,
wk calc, occ MRLST
lamn; MRLST (30%): dk
gy-med gy, mot gyshbn,
frm-sl hd, tab-sb blky, sl
sm tex, scat cal frac fl,
abunt intbd CHK lam,
calc

12900-13000 CHK
(65%): gyshbn-gy, mot
crm ip, sl frm-frm, sb
blky-sb tab ctngs,
rthy-chky tex, wk calc, tr
MRLST lamn; MRLST
(35%): dk gy-med gy, mot
gyshbn, frm-sl hd, tab-sb
blky ctngs, sl sm tex, scat
cal frac fl, abunt intbd
CHK lam, mod 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

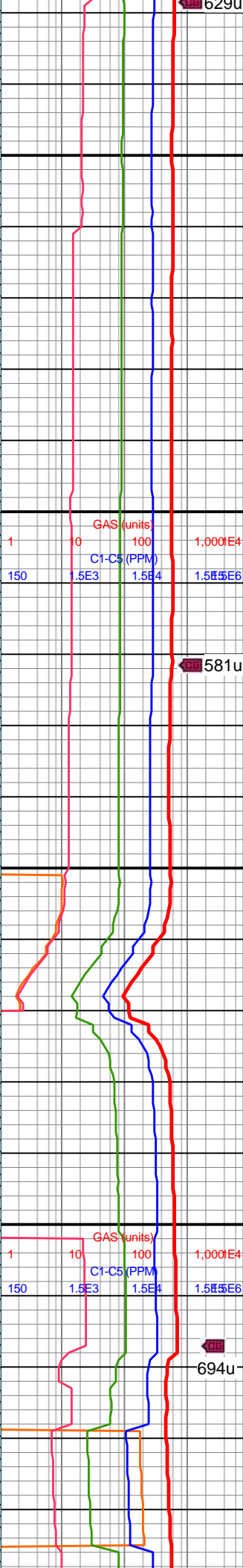
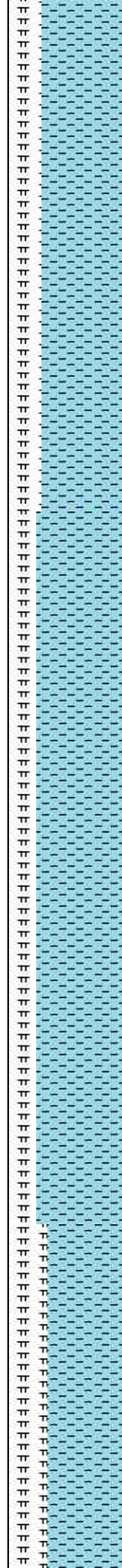
MD: 13,063'
INC: 89.6°
AZM: 359.39°
TVD: 7,191.58'
VS: 5,946.42'

MW IN: 10
VIS IN: 54
MW OUT: 10
VIS OUT: 49

MD: 13,158'
INC: 89.17°
AZM: 356.58°
TVD: 7,192.6'
VS: 6,035.38'

WOB: 30klbs
RPM: 60
SPM: 188
SPP: 5,460psi

MD: 13,252'



13000-13100 CHK
(70%): gyshbn-gy, mot
crm ip, sl frm-frm, sb
blky-sb tab ctngs,
rthy-chky tex, v wk calc,
occ MRLST incl; MRLST
(30%): dk gy-med gy, mot
gyshbn, frm-sl hd, tab-sb
blky ctngs, sl sm tex, scat
cal frac fl, abunt intbd
CHK incl, mod calc

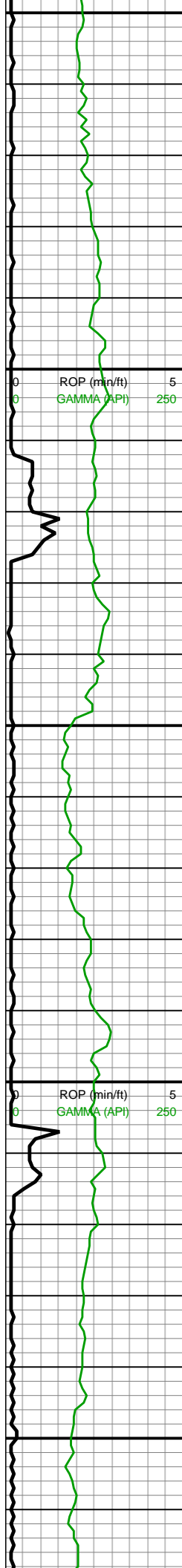
13100-13200 CHK
(75%): gyshbn-gy, mot
crm ip, sl frm-frm, sb
blky-sb tab ctngs,
rthy-chky tex, v wk calc, tr
MRLST lam; MRLST
(25%): dk gy-med gy, mot
gyshbn, frm-sl hd, tab-sb
blky ctngs, sl sm tex, scat
cal frac fl, abunt intbd lam
CHK, mod calc



629u

581u

694u



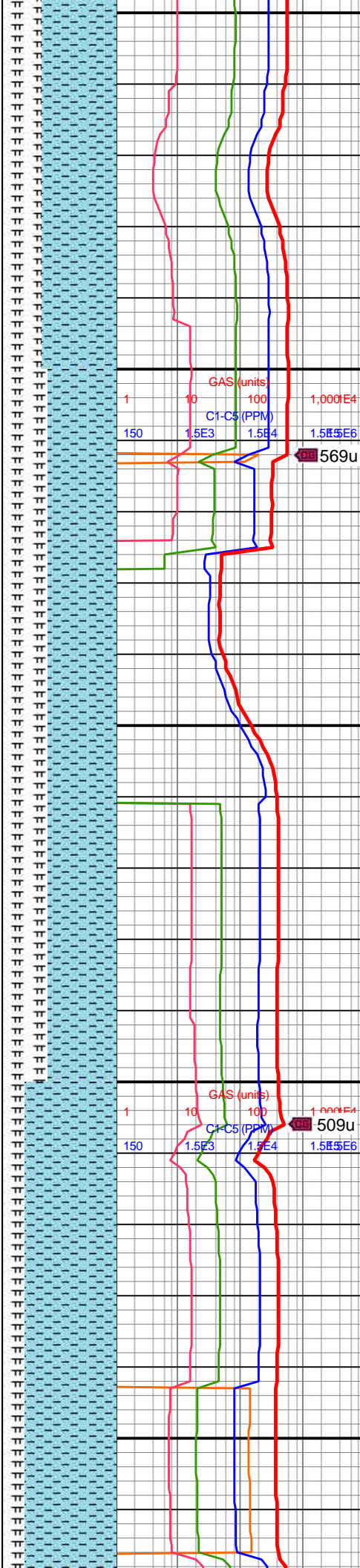
13,250
INC: 88.07°
AZM: 357.46°
TVD: 7,194.86'
VS: 6,123.93'

13,300
MW IN: 10
VIS IN: 54
MW OUT: 10.1
VIS OUT: 49

13,350
MD: 13,347'
INC: 89.65°
AZM: 359.83°
TVD: 7,196.75'
VS: 6,212.49'

13,400
WOB: 31klbs
RPM: 60
SPM: 188
SPP: 5,577psi

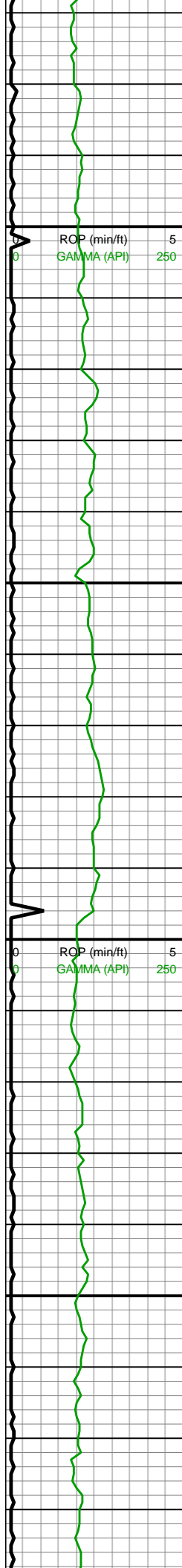
13,450
MD: 13,441'
INC: 90.18°
AZM: 0.18°
TVD: 7,196.89'
VS: 6,299.31'



13200-13300 CHK
(65%): predy gyshbn,
gy-mot crm ip, sl frm-frm,
sb blk-y-sb tab ctngs,
rthy-chky tex, v wk calc,
incrg MRLST lam;
MRLST (35%): dk gy-med
gy, mot gyshbn, frm-sl
hd, tab-sb blk-y ctngs, sl
sm tex, scat cal frac fl, tr
intbd lam CHK, mod calc

13300-13400 CHK
(60%): predy gyshbn,
gy-mot crm ip, sl frm-frm,
sb blk-y-sb tab ctngs,
rthy-chky tex, wk calc,
abnt MRLST lam; MRLST
(40%): dk gy-med gy, mot
gyshbn, frm-sl hd, tab-sb
blk-y ctngs, sl sm tex, scat
lgr cal frac strgs, tr imbd
CHK lam, hi-mod calc

13400-13500 CHK



13,470
13,480
13,490
13,500
13,510
13,520
13,530
13,540
13,550
13,560
13,570
13,580
13,590
13,600
13,610
13,620
13,630
13,640
13,650
13,660
13,670
13,680

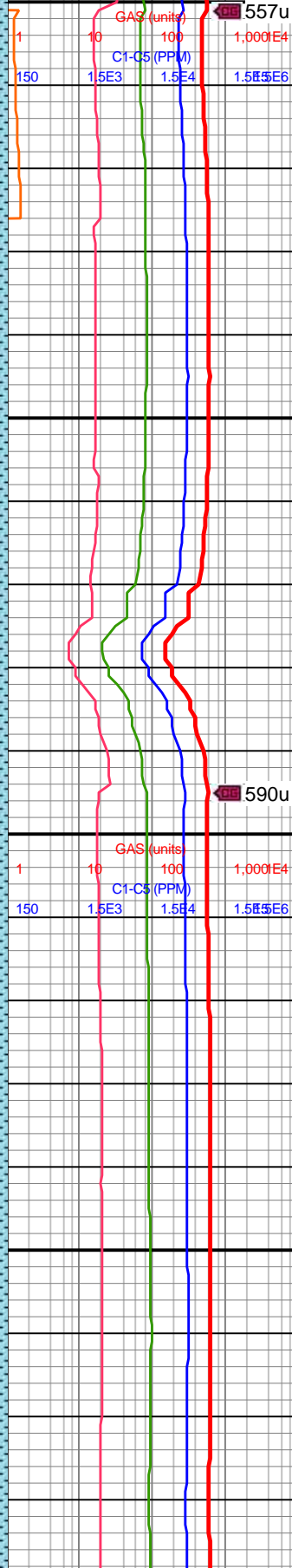
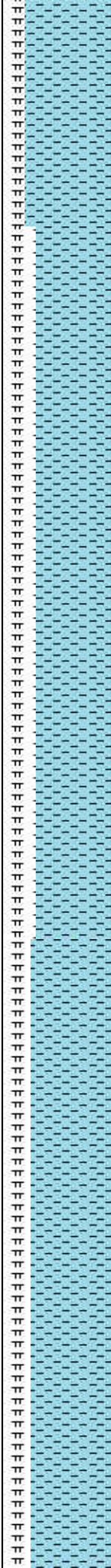
MW IN: 10+
VIS IN: 56
MW OUT: 10+
VIS OUT: 50

MD: 13,536'
INC: 90.53°
AZM: 359.66°
TVD: 7,196.3'
VS: 6,387.11'

WOB: 26klbs
RPM: 60
SPM: 190
SPP: 5,382psi

MD: 13,630'
INC: 91.06°
AZM: 358.34°
TVD: 7,195'
VS: 6,474.54'

MW IN: 10+
VIS IN: 56
MW OUT: 10.1+
VIS OUT: 51

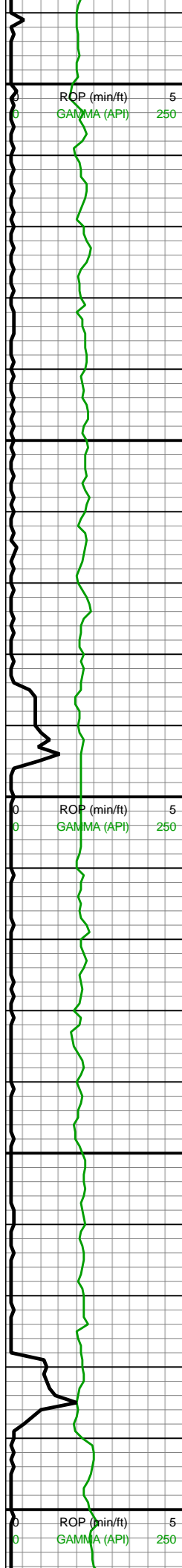


(80%): gyshbn, gy-mot
crm ip, sl frm-frm, sb
blky-sb tab ctngs,
rthy-chky tex, sme MRLST
lam, wk calc; MRLST
(20%): dk gy-med gy, mot
gyshbn, frm-sl hd, tab-sb
blky ctngs, sl sm tex, scat
cal frac strgs, com lam
CHK incl, mod calc

13500-13600 CHK
(70%): com gyshbn,
gy-mot crm ip, sl frm-frm,
sb blky-sb tab ctngs,
rthy-chky tex, sme MRLST
lam, scat cal frac strgs,
wk calc; MRLST (30%):
dk gy-med gy, mot
gyshbn, frm-sl hd, tab-sb
blky ctngs, sl sm tex, com
lam CHK incl, mod calc

13600-13700 CHK
(75%): med gy-gyshbn,
crm, mot, frm-sft, sb
blky-pty ctngs, tr mic pyr,
hi calc, mnr MRLST





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

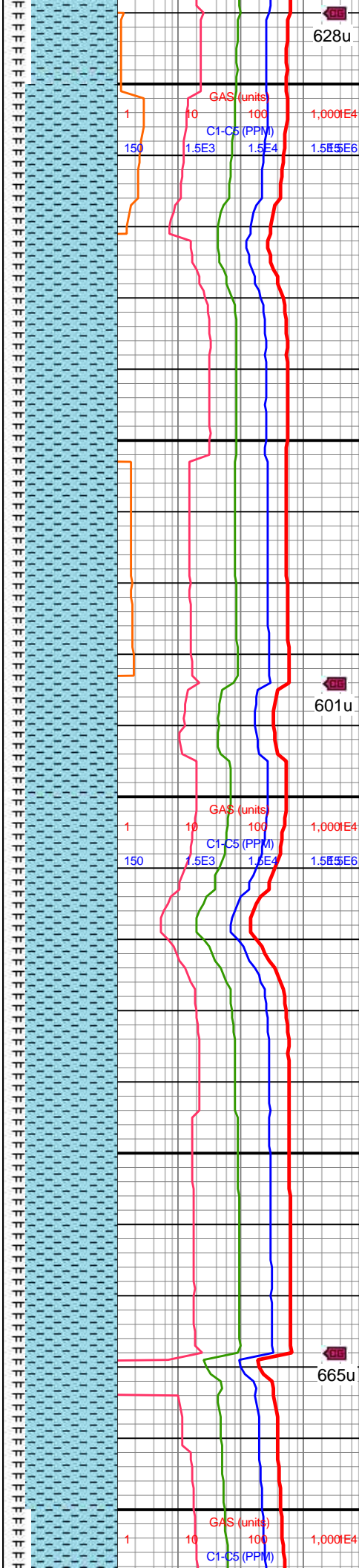
MD: 13,724'
INC: 91.45°
AZM: 0.45°
TVD: 7,192.94'
VS: 6,561.72'

WOB: 30klbs
RPM: 59
SPM: 183
SPP: 5,354psi

MD: 13,819'
INC: 90.09°
AZM: 0.45°
TVD: 7,191.66'
VS: 6,649.17'

MW IN: 10.1
VIS IN: 57
MW OUT: 10.1+
VIS OUT: 51

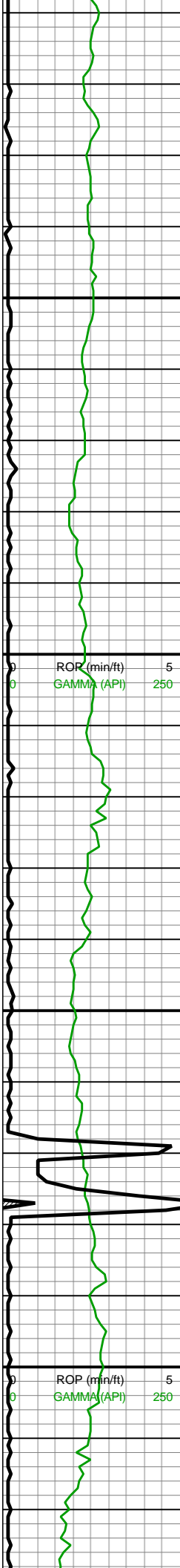
MD: 13,912'



lamn; MRLST (25%): dk
gyshbn-dk gy, brit, frm-sl
hd, tab-sb blk, tr CHK
incl, mod calc

13700-13800 CHK
(70%): med gy-gyshbn,
crm, mot, chky-rthy tex,
frm-sft, split-sb plty, mnr
free CHK, mnr MRLST
lamn, hi calc, tr imbd mic
pyr; MRLST (30%): dk
gy-dk gyshbn, brit, frm-sl
hd, tab-sb blk, mod calc,
tr CHK incl

13800-13900 CHK
(70%): gyshbn, med gy,
crm, mot, chky-rthy tex,
frm-sft, split-sb plty, mnr
MRLST lamn, hi calc,
mnr free CHK, tr mic pyr;
MRLST (30%): dk gy-med
gy, frm-sl hd, sl sm tex,
brit, tab-sb blk, sme
CHK incl, mod calc



13,910
13,920
13,930
13,940
13,950
13,960
13,970
13,980
13,990
14,000
14,010
14,020
14,030
14,040
14,050
14,060
14,070
14,080
14,090
14,100
14,110
14,120

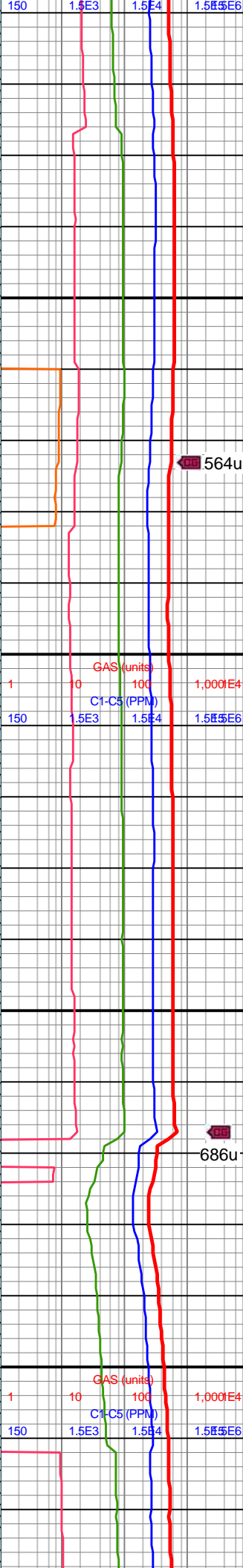
MD: 13,913'
INC: 89.52°
AZM: 358.43°
TVD: 7,191.98'
VS: 6,736.34'

WOB: 32.9klbs
RPM: 60
SPM: 185
SPP: 5,641psi

MD: 14,008'
INC: 88.9°
AZM: 358.34°
TVD: 7,193.29'
VS: 6,825.07'

MW IN: 10.1+
VIS IN: 55
MW OUT: 10.1+
VIS OUT: 48

MD: 14,102'
INC: 88.59°
AZM: 357.81°
TVD: 7,195.35'
VS: 6,913.03'



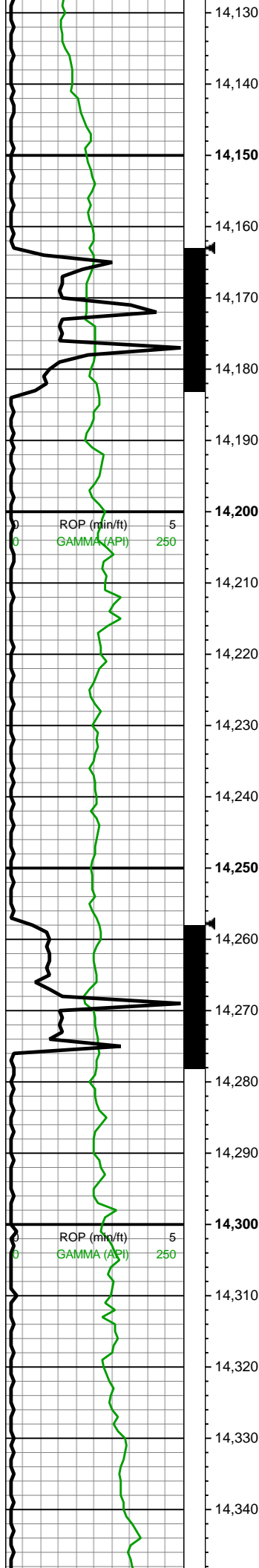
13900-14000 CHK
(75%): gyshbn-gy, mot
crm ip, sl frm-frm, sb
blky-tab ctngs, rthy-chky
tex, tr MRLST lam, sme
free CHK frags, v calc;
MRLST (25%): dk gy-med
gy, mot gyshbn, frm-sl
hd, tab-sb blky ctngs, sl
sm tex, occ CHK incl,
mod calc

564u

14100-14200 CHK
(65%): med gy-gyshbn,
crm, mot, blky-sb tab
ctngs, frm-sft, mnr
MRLST lamn, sme free
CHK frags, hi calc, tr
dissm mic pyr; MRLST
(35%): dk gy-med gy,
tab-sb blky, brit, frm-sl
hd, mod calc, sme CHK
incl, mnr cal frac fl

686u





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

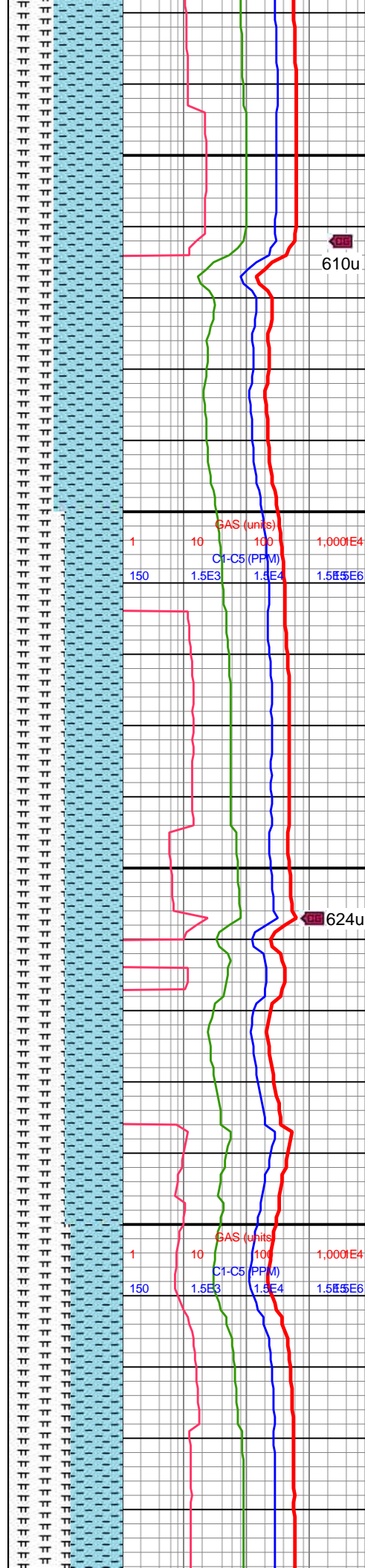
MW IN: 10.1+
VIS IN: 53
MW OUT: 10.1
VIS OUT: 47

MD: 14,197'
INC: 87.41°
AZM: 356.58°
TVD: 7,198.67'
VS: 7,002.4'

WOB: 27.7klbs
RPM: 60
SPM: 182
SPP: 5,400psi

MW IN: 10.1+
VIS IN: 53
MW OUT: 10.1
VIS OUT: 48

MD: 14,292'
INC: 87.8°
AZM: 356.32°
TVD: 7,202.64'
VS: 7,092.16'



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

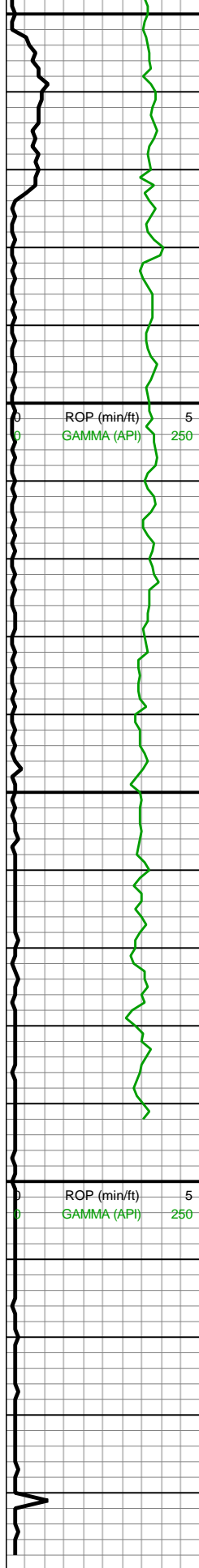
610u

14100-14200 CHK
(65%): med gy-gyshbn,
crm, mot, frm-sft, blk-y-sb
tab ctngs, mnr MRLST
lamn, sme free CHK
frags, tr diss mic pyr, hi
calc; MRLST (35%): dk
gy-med gy, sl sm-sl slty
tex, frm-sl hd, tab-sb blk-y,
brit, sme CHK incl, tr cal
frac fl, mod calc

624u

14200-14300 CHK
(50%): gyshbn-med gy,
mot, frm, mod fis ctngs,
sb blk-y-sb tab, chky-rthy
tex, sme MRLST lamn,
mod calc, tr pp mic pyr;
MRLST (50%): dk gy, mot
med gy, tab-sb blk-y,
frm-sl hd, sl sm tex, mnr
intbd CHK lam, mod calc,
mnr cal frac fl





MD: 14,386'
INC: 90.53°
AZM: 356.84°
TVD: 7,204.01'
VS: 7,180.96'

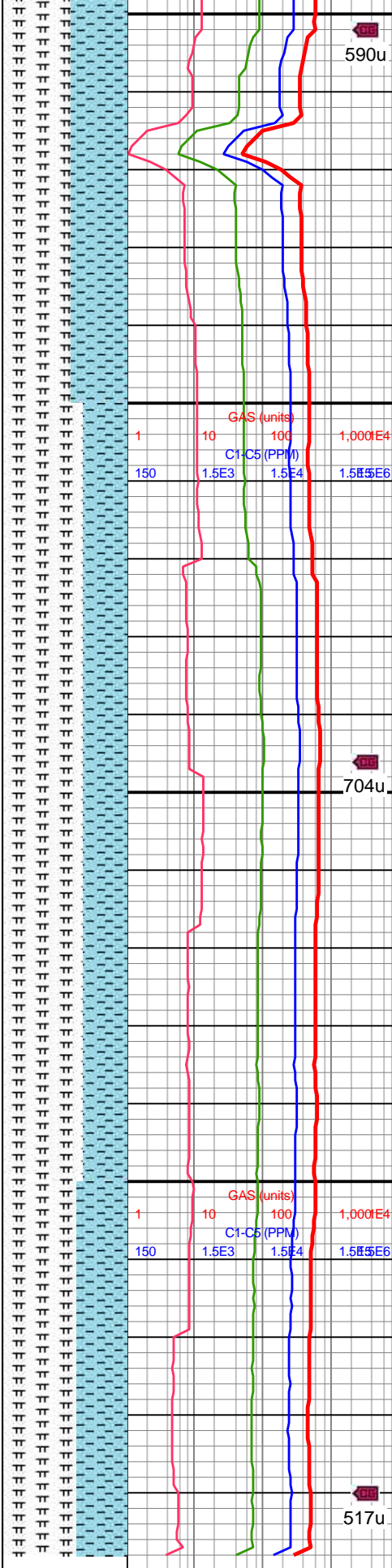
WOB: 26.7klbs
RPM: 59
SPM: 181
SPP: 5,504psi

MW IN: 10.2
VIS IN: 52
MW OUT: 10.1+
VIS OUT: 48

MD: 14,480'
INC: 90.79°
AZM: 356.58°
TVD: 7,202.92'
VS: 7,269.7'

MD: 14,548'
INC: 90.79°
AZM: 356.58°
TVD: 7,201.99'
VS: 7,333.95'

**Note: TD Well @
14,548' MD
(7,202' TVD) on
7/10/2018**



14300-14400 MRLST
(55%): dk gy-med gy,
mot, sl slty tex, sl hd frm,
sb blkly-sb ang ctngs,
sme CHK intbds/incl,
mod calc; CHK (45%):
predy gyshbn, mot-sl stri,
sl frm-brit, sm chky tex,
sb blkly ctngs, tr free
CHK, tr cal frac fl, v calc

14400-14500 MRLST
(65%): dk gy, mot med
gy, frm-sl hd, tab-sb blkly,
brit, mod calc, tr CHK
incl, tr pp mic pyr; CHK
(35%): gyshbn-med gy,
mot crm, frm-sl sft, sb
blkly-sb tab, sme MRLST
lamn, hi calc

14500-14548 MRLST
(60%): dk gy, mot med
gy, sl sm tex, tab-sb blkly,
frm-sl hd, brit, tr CHK incl,
tr pp mic pyr, mod calc;
CHK (40%): gyshbn-med
gy, mot crm, sb blkly-sb
tab, chky tex, frm-sl sft, hi
calc, sme MRLST lamn

[illegible]

L 11 570

[illegible]