



Scale: 5" / 100'
Measured Depth Log

Well Name Winder South 2

Location Sec. 9-T6N-R67W

State Colorado

County Weld

Country USA

Rig Number Patterson 346

API Number 05-123-43404-00

Field Wattenberg

Geographic Region DJ Basin

Drilling Completed 8/26/2016

Spud Date 8/22/2016

Surface Coordinates SHL: 2306'FNL, 508' FEL, Sec. 9

Lat: 40° 30' 9.63"
Long: -104° 53' 26.5158"

Bottom Hole Coordinates BHL: 2530'FFSLL, 460' FFWLL, Sec. 8

Ground Elevation 4,854'

K.B. Elevation 4,878.5'

Logged Interval 5,000' MD To 6,800'

Total Depth 17,075'

Formation Codell

Type of Drilling Fluid Oil Based Mud

Operator

Company Extaction Oil & Gas

Address 1888 Sherman St., Suite 200
Denver, CO 80203

Geologist

Name Jared Rouse

Company Extraction Oil & Gas

Zone Color Coding

Oil	Condensate	Gas
Note	Core	Pressure
Error	Water	Seal

Address 1888 Sherman St., Suite 200
Denver, CO 80203

Other

Equipment ML-574

Comments Start: 8-22-16
TD: 8-26-16

Services Provided 2-man Logging
On Site Geosteering

Logger Names Dominic Pitre/ Mark Gross

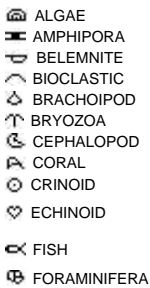
Address ALS Empirica
6510 Guhn Road
Houston, Texas 77040

Rock Types



Accessories

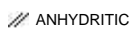
Fossils



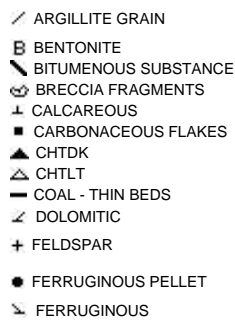
Fossil



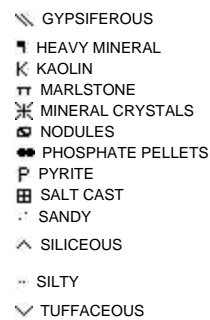
Minerals



ARGILLACEOUS



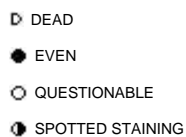
GLAUCONITE



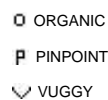
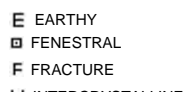
Stringer



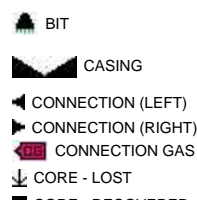
Oil Show



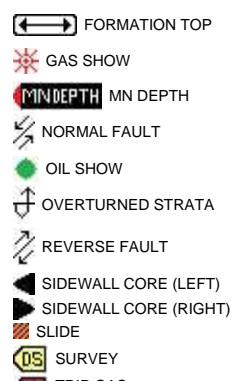
Porosity



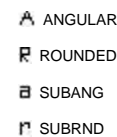
Engineering



Other Symbols



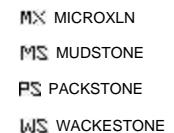
Rounding



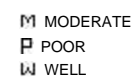
Textures



LITHOGRAPHIC



Sorting



✕ INTERCRYSTALLINE

⊕ INTEROOLITIC

↗ MOLDIC

■ CORE - RECOVERED

⋮ DST INTERVAL

↗ FAULT

🔴 TRIP GAS

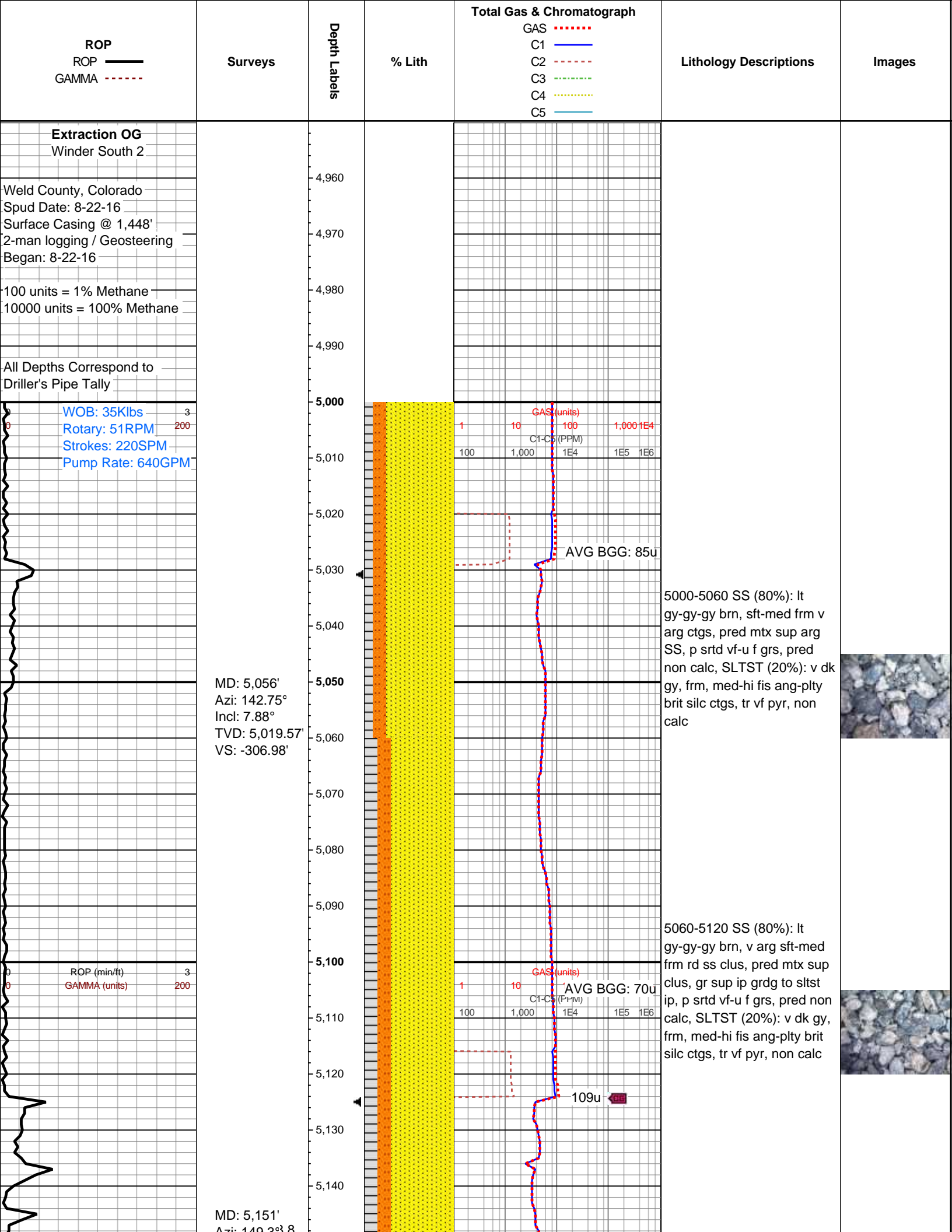
◀ WIRELINE TESTED - LEFT

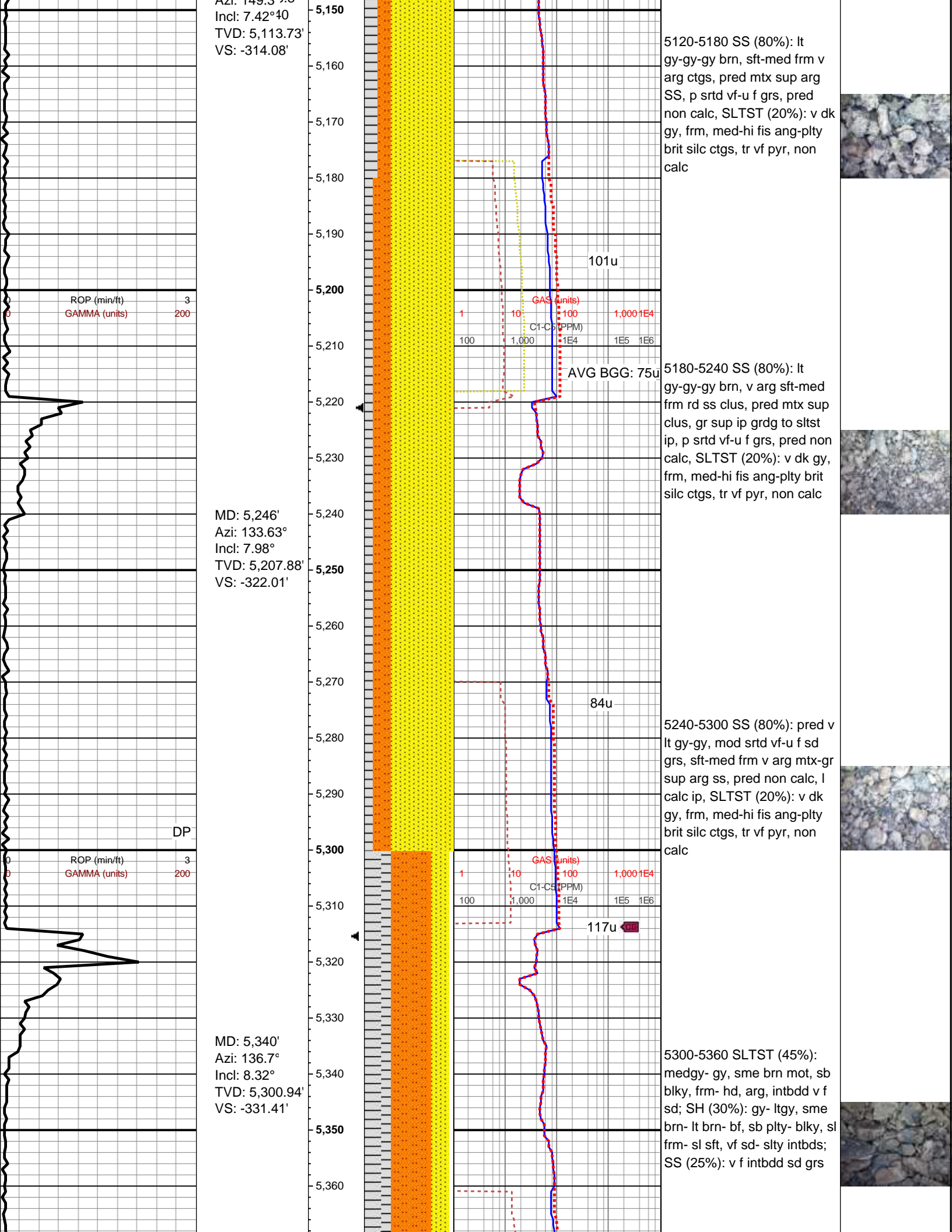
▶ WIRELINE TESTED - RT

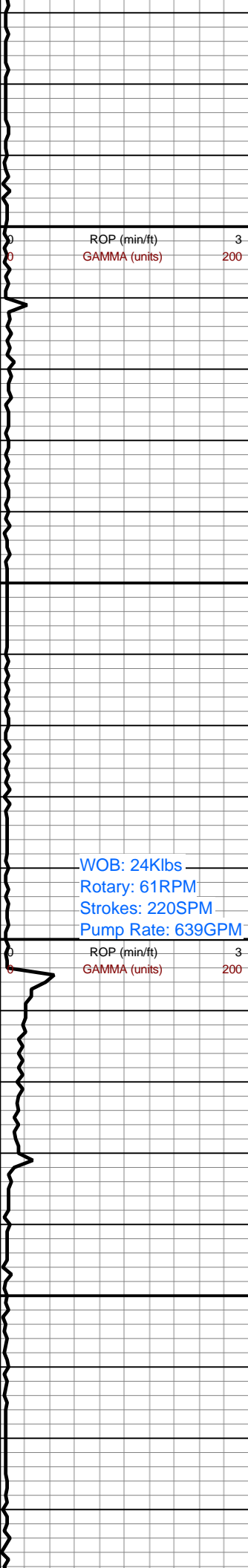
⊞ EARTHY

FX FINELYXLN

SS GRAINSTONE





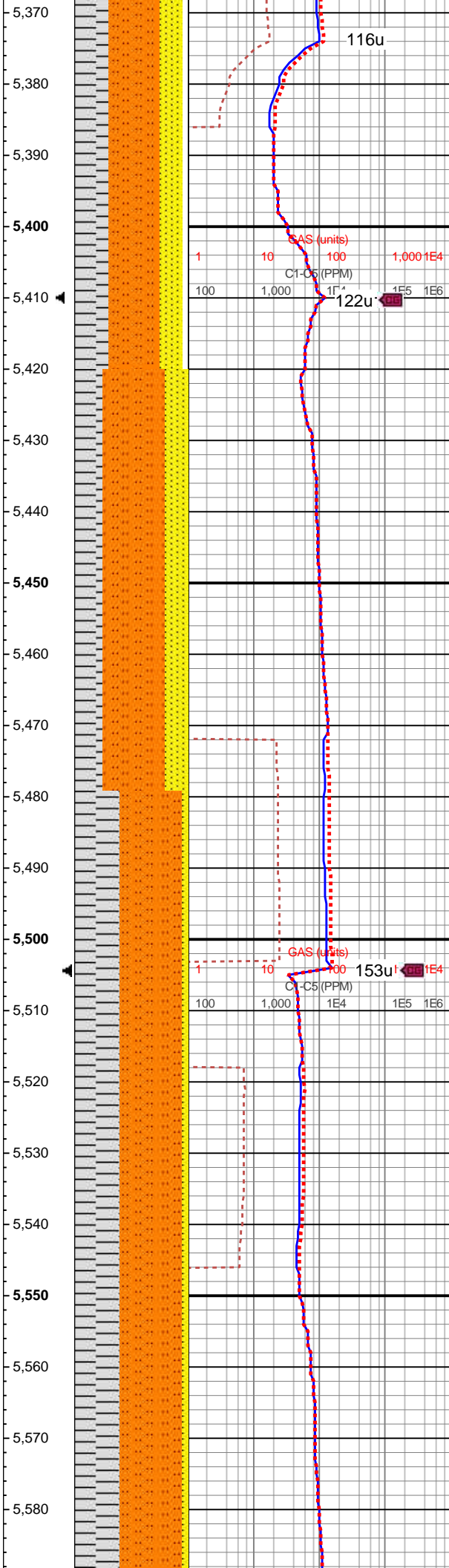


MD: 5,435'
Azi: 134.32°
Incl: 5.92°
TVD: 5,395.2'
VS: -339.66'

WOB: 24Klbs
Rotary: 61RPM
Strokes: 220SPM
Pump Rate: 639GPM

ROP (min/ft) 3
GAMMA (units) 200

MD: 5,530'
Azi: 146.21°
Incl: 7.23°
TVD: 5,489.57'
VS: -346.51'

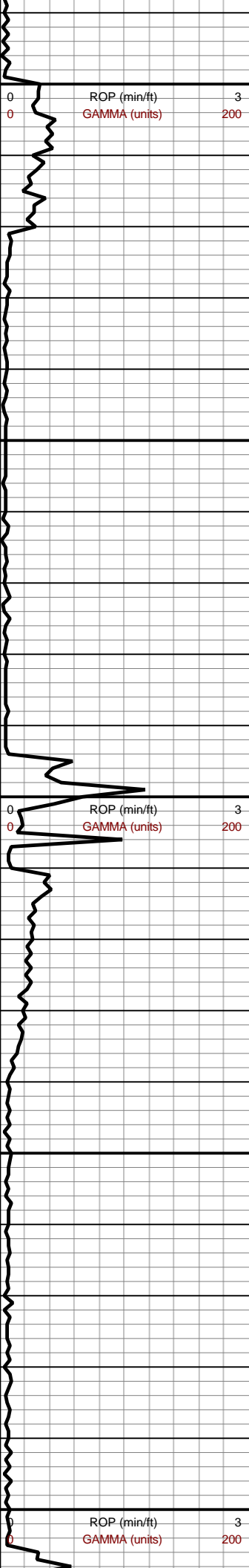


5360-5420 SLTST (45%):
medgy- gy, sme brn mot, sb
blky, frm- hd, arg, intbdd v f
sd; SH (30%): gy- ltgy, sme
brn- lt brn- bf, sb plty- blky, sl
frm- sl sft, vf sd- slty intbds;
SS (25%): v f intbdd sd grs

5420-5480 SLTST (55%):
medgy- gy, sme brn mot, sb
blky, frm- hd, arg, intbdd v f
sd; SH (25%): gy- ltgy, sme
brn- lt brn- bf, sb plty- blky, sl
frm- sl sft, vf sd- slty intbds;
SS (20%): v f intbdd sd grs,
sme sil- arg mtx sup clus

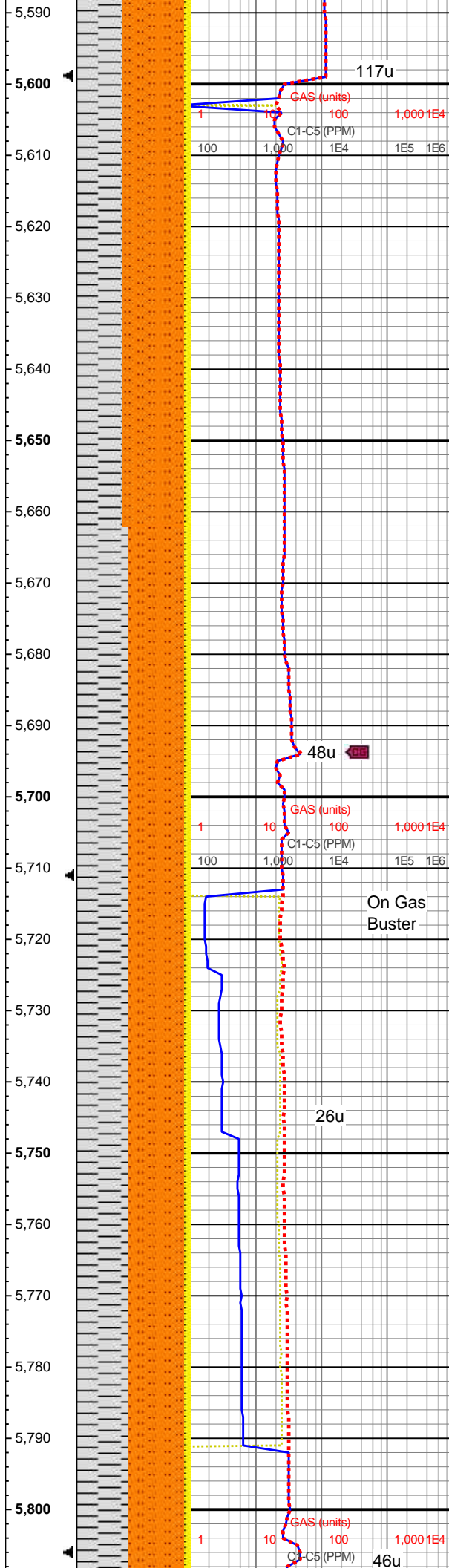
5480-5540 SLTST (55%):
medgy- gy, sme brn mot, sb
blky, frm- hd, arg, intbdd v f
sd; SH (45%): gy- ltgy, sme
brn- lt brn- bf, sb plty- blky, sl
frm- sl sft, mod vf sd- slty
intbds

5540-5600 SLTST (55%):
medgy- gy, sme brn mot, sb
blky, frm- hd, arg, intbdd v f
sd; SH (45%): gy- ltgy, sme
brn- lt brn- bf, sb plty- blky, sl
frm- sl sft, mod vf sd- slty
intbds



MD: 5,625'
Azi: 155.72°
Incl: 7.12°
TVD: 5,583.83'
VS: -352.29'

MD: 5,744'
Azi: 139.54°
Incl: 8.81°
TVD: 5,701.69'
VS: -361.28'



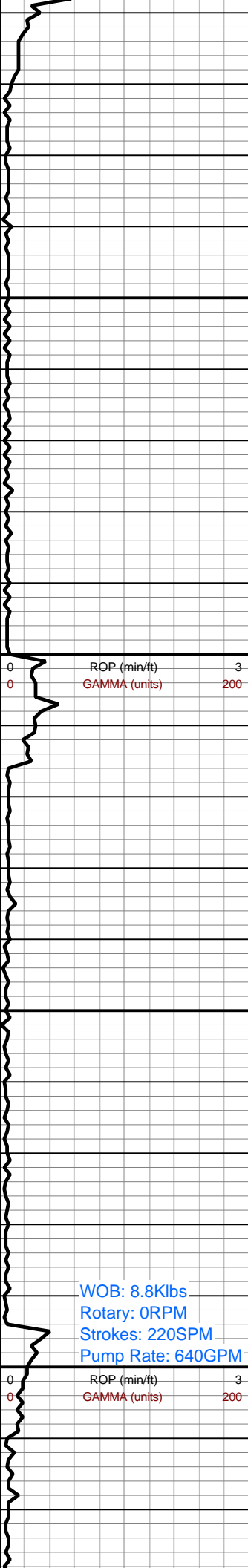
sd, SH (45%): gy- ltgy, sme
brn- lt brn- bf, sb plty- blkly, sl
frm- sl sft, mod vf sd- slty
intbds

5600-5660 SLTST (55%):
medgy- gy, sme brn mot, sb
blkly, frm- hd, arg, intbdd v f
sd; SH (45%): gy- ltgy, sme
brn- lt brn- bf, sb plty- blkly, sl
frm- sl sft, mod vf sd- slty
intbds

5660-5720 SLTST (50%):
medgy- gy, sme brn mot, sb
blkly, frm- hd, arg, intbdd v f
sd; SH (50%): gy- ltgy, sme
brn- lt brn- bf, sb plty- blkly, sl
frm- sl sft, sme vf sd- slty
intbds, occ vf sd clus

5720-5780 SLTST (55%):
medgy- gy, sme brn mot, sb
blkly, frm- hd, arg, intbdd v f
sd; SH (45%): gy- ltgy, sme
brn- lt brn- bf, sb plty- blkly, sl
frm- sl sft, mod vf sd- slty
intbds





MD: 5,839'
Azi: 128.95°
Incl: 8.91°
TVD: 5,795.57'
VS: -371.75'

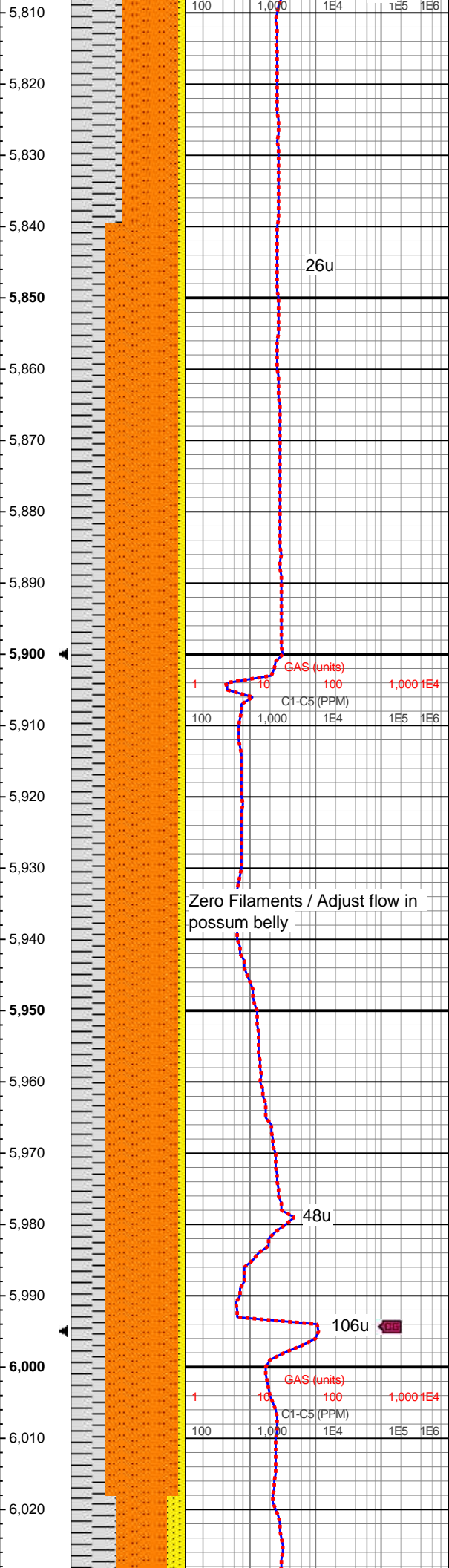
MD: 5,934'
Azi: 124.03°
Incl: 8.28°
TVD: 5,889.5'
VS: -383.16'

MD: 6,028'
Azi: 124.98°
Incl: 8.47°

ROP (min/ft) 3
GAMMA (units) 200

WOB: 8.8Klbs
Rotary: 0RPM
Strokes: 220SPM
Pump Rate: 640GPM

ROP (min/ft) 3
GAMMA (units) 200



GAS (units) 1,000 1E4 1E5 1E6
C1-C5 (PPM) 100 1,000 1E4 1E5 1E6

GAS (units) 1,000 1E4 1E5 1E6
C1-C5 (PPM) 100 1,000 1E4 1E5 1E6

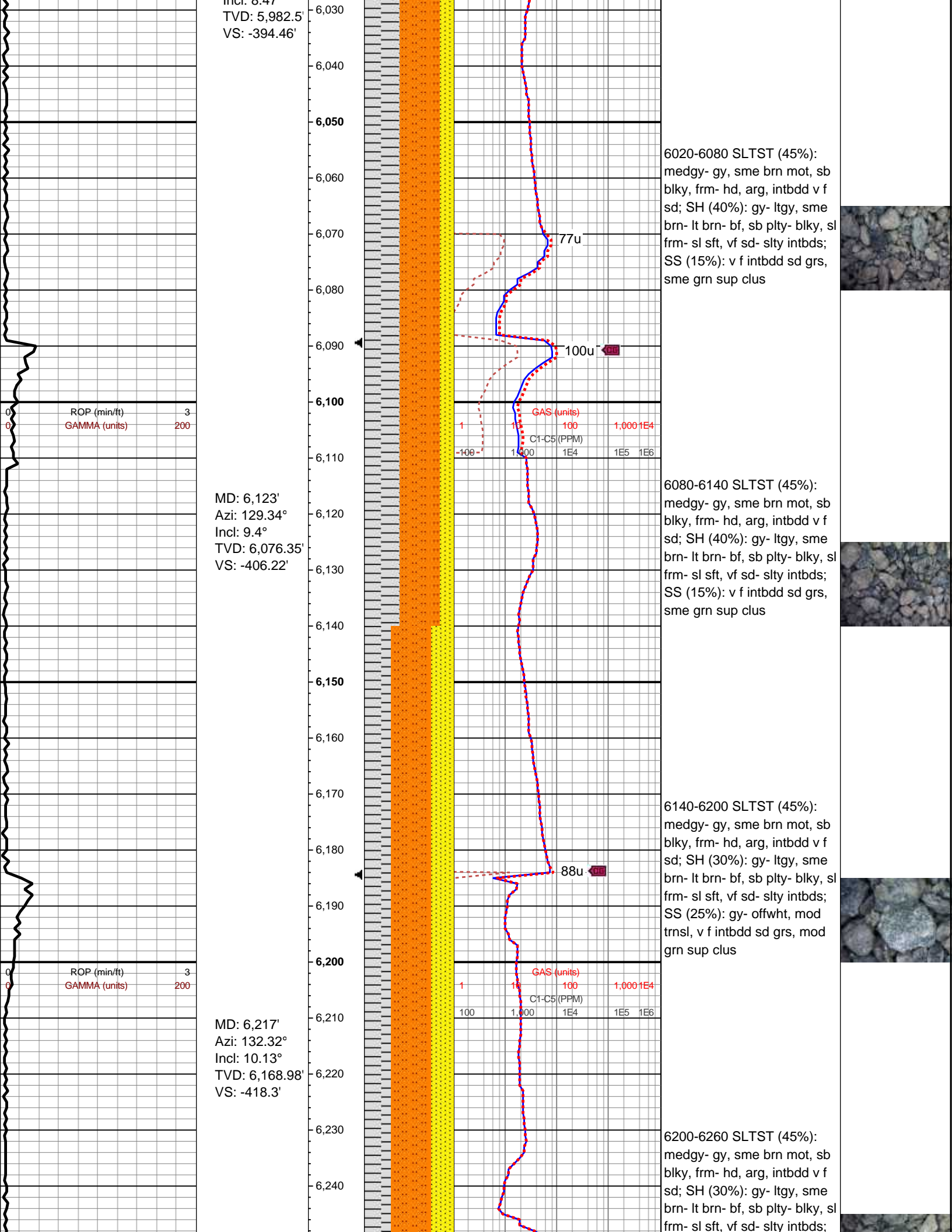
5780-5840 SLTST (55%):
medgy- gy, sme brn mot, sb
blky, frm- hd, arg, intbdd v f
sd; SH (45%): gy- ltgy, sme
brn- lt brn- bf, sb plty- blky, sl
frm- sl sft, mod vf sd- slty
intbds

5840-5900 SLTST (65%):
medgy- gy, sme brn mot, sb
blky- sb plty, frm- hd, arg,
intbdd v f sd; SH (35%): ltgy-
med gy, mod brn- lt brn- bf,
sb plty- blky, sl frm- sl sft,
mod vf sd- slty intbds

5900-5960 SLTST (65%):
medgy- gy, sme brn mot, sb
blky- sb plty, frm- hd, arg,
intbdd v f sd; SH (35%): ltgy-
med gy, mod brn- lt brn- bf,
sb plty- blky, sl frm- sl sft,
mod vf sd- slty intbds

5960-6020 SLTST (65%):
medgy- gy, sme brn mot, sb
blky- sb plty, frm- hd, arg,
intbdd v f sd; SH (35%): ltgy-
med gy, mod brn- lt brn- bf,
sb plty- blky, sl frm- sl sft,
mod vf sd- slty intbds





Incl: 8.47°
TVD: 5,982.5'
VS: -394.46'

MD: 6,123'
Azi: 129.34°
Incl: 9.4°
TVD: 6,076.35'
VS: -406.22'

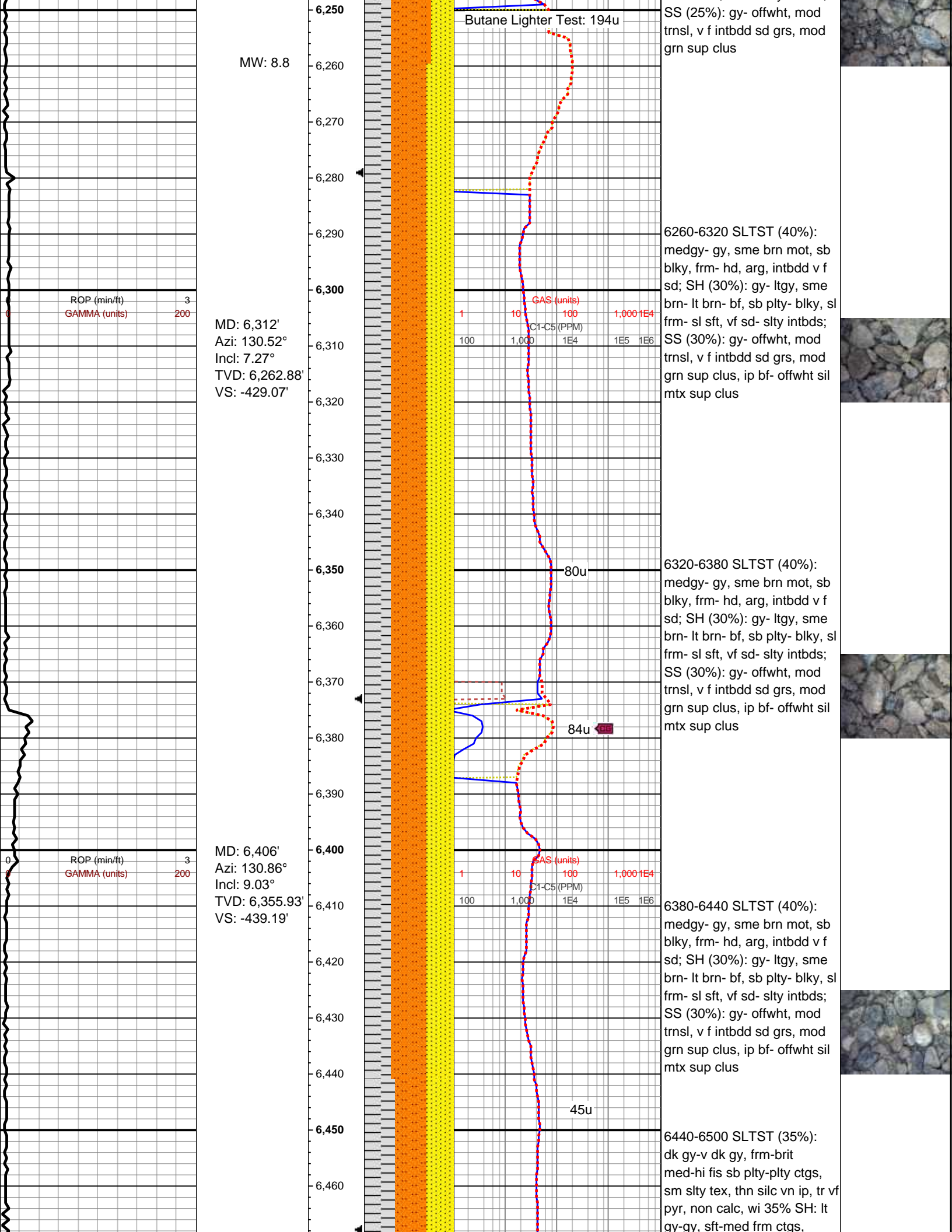
MD: 6,217'
Azi: 132.32°
Incl: 10.13°
TVD: 6,168.98'
VS: -418.3'

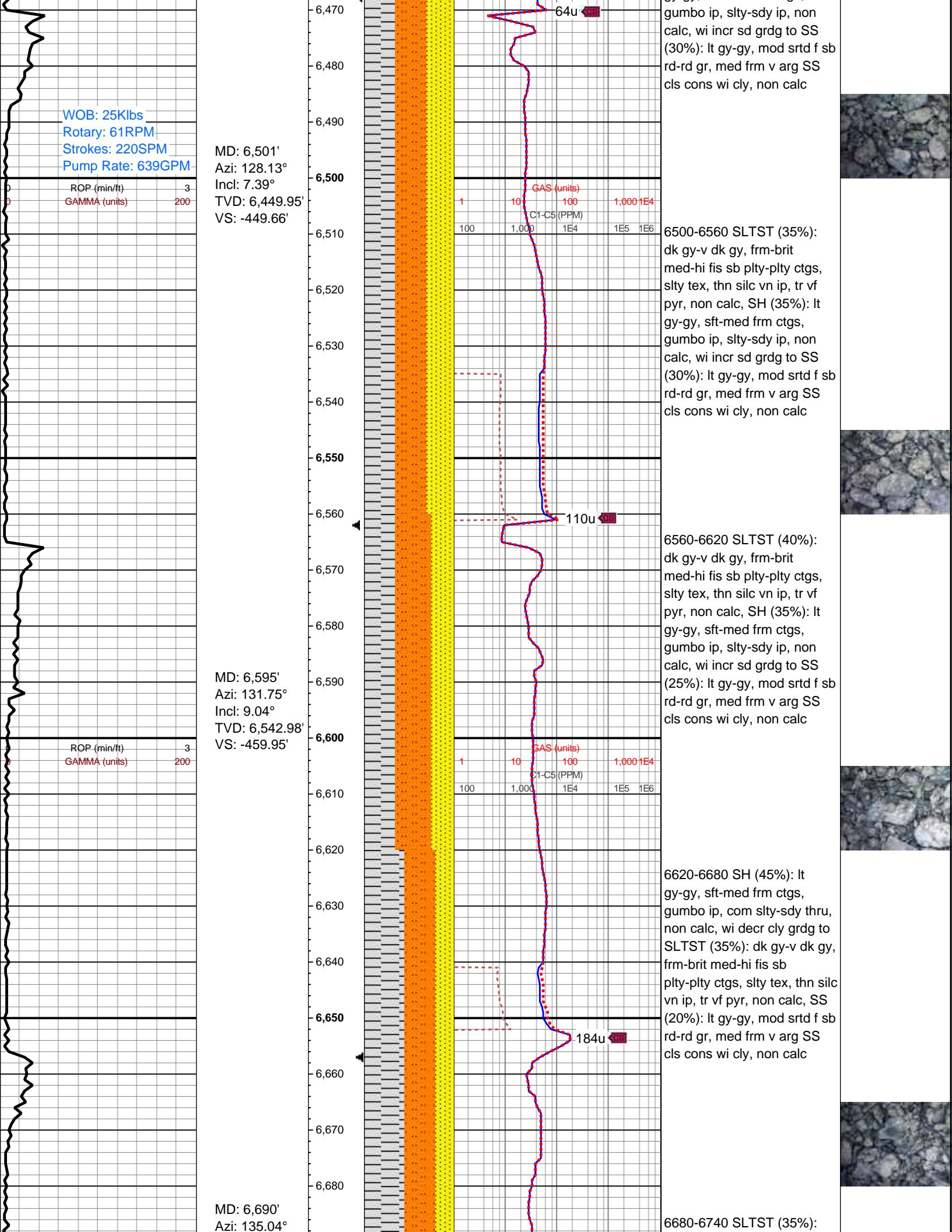
6020-6080 SLTST (45%):
medgy- gy, sme brn mot, sb
blk, frm- hd, arg, intbdd v f
sd; SH (40%): gy- ltgy, sme
brn- lt brn- bf, sb plty- blk, sl
frm- sl sft, vf sd- slty intbds;
SS (15%): v f intbdd sd grs,
sme grn sup clus

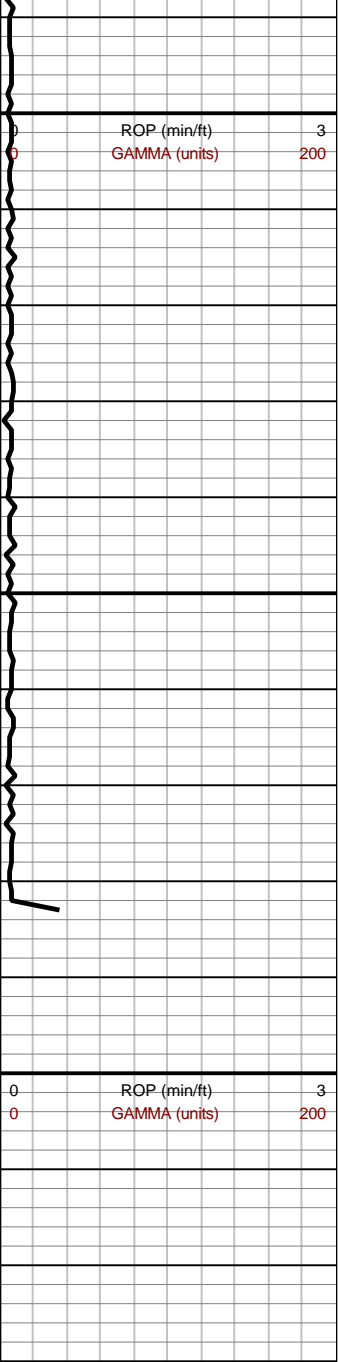
6080-6140 SLTST (45%):
medgy- gy, sme brn mot, sb
blk, frm- hd, arg, intbdd v f
sd; SH (40%): gy- ltgy, sme
brn- lt brn- bf, sb plty- blk, sl
frm- sl sft, vf sd- slty intbds;
SS (15%): v f intbdd sd grs,
sme grn sup clus

6140-6200 SLTST (45%):
medgy- gy, sme brn mot, sb
blk, frm- hd, arg, intbdd v f
sd; SH (30%): gy- ltgy, sme
brn- lt brn- bf, sb plty- blk, sl
frm- sl sft, vf sd- slty intbds;
SS (25%): gy- offwht, mod
trnsl, v f intbdd sd grs, mod
grn sup clus

6200-6260 SLTST (45%):
medgy- gy, sme brn mot, sb
blk, frm- hd, arg, intbdd v f
sd; SH (30%): gy- ltgy, sme
brn- lt brn- bf, sb plty- blk, sl
frm- sl sft, vf sd- slty intbds;

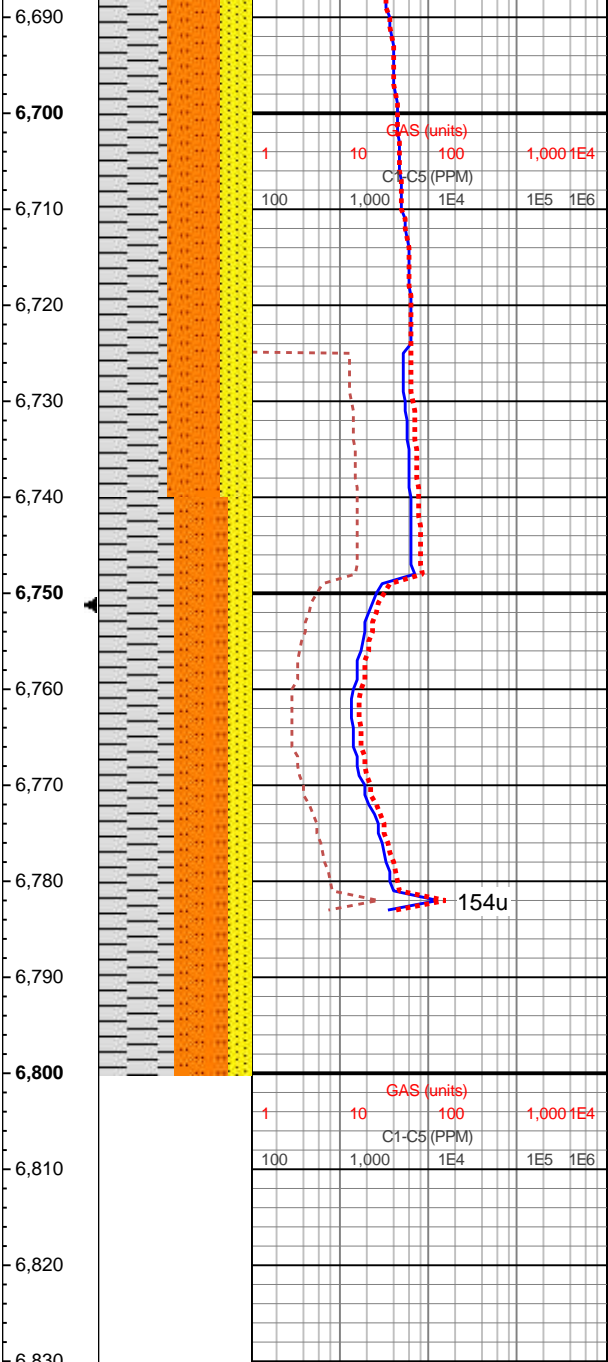






Incl: 7.35°
TVD: 6,637.01'
VS: -469.83'

MD: 6,785'
Azi: 140.75°
Incl: 6.15°
TVD: 6,731.35'
VS: -477.37'



dk gy-v dk gy, frm-brit med-hi fis sb plty-plty ctgs, slty tex, thn silc vn ip, tr vf pyr, non calc, wi incr cly grd to SH (45%): lt gy-gy, sft-med frm ctgs, gumbo ip, slty-sdy ip, non calc, wi incr sd grd to SS (20%): lt gy-gy, mod srtd f sb rd-rd gr, med frm v arg SS cls cons wi cly, non calc

6740-6800 SH (50%): lt gy-gy, sft-med frm ctgs, gumbo ip, com slty-sdy thru, non calc, wi decr cly grd to SLTST (35%): dk gy-v dk gy, frm-brit med-hi fis sb plty-plty ctgs, slty tex, thn silc vn ip, tr vf pyr, non calc, SS (15%): lt gy-gy, mod srtd f sb rd-rd gr, med frm v arg SS cls cons wi cly, non calc



****log continued on horizontal log****