

COLUMBINE LOGGING

Scale: 5" / 100'
Measured Depth Log

Well Name Scooter D18-79HN_VERT

Location NWNW SEC. 18, T3N, R64W

State COLORADO

County WELD

Country USA

Rig Number PRECISION 829

API Number 05-123-37980

Region DJ BASIN

Field WATTENBERG

Spud Date 12/13/2013

Drilling Completed 12/21/2013

Surface Coordinates 305' FNL x 657' FWL

Bottom Hole Coordinates 535' FSL x 75' FEL

Ground Elevation 4811'

K.B. Elevation 4827'

Logged Interval 838' To 6317'

Total Depth 6317'

Formation PIERRE SHALE

Type of Drilling Fluid LSND

Operator

Company Noble Energy, Inc.

Address 1625 BROADWAY, SUITE 2200
DENVER, COLORADO 80202

Geologist

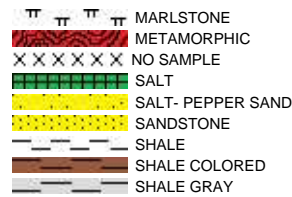
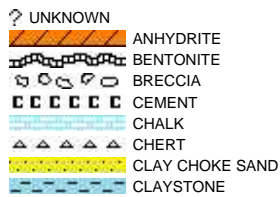
Name Holly Duncan

Company Noble Energy, Inc.

Address 1625 BROADWAY, SUITE 2200
DENVER, COLORADO 80202
303.389.3600

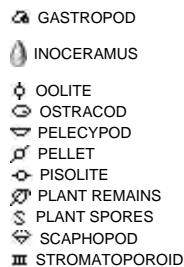
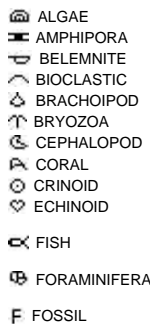
Other

Rock Types

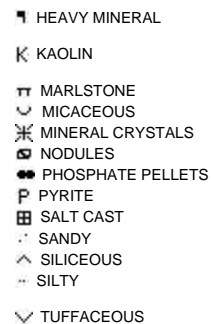
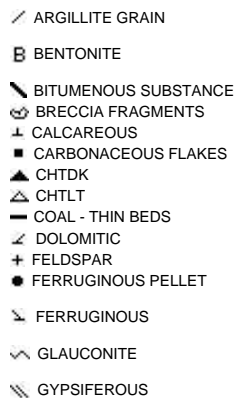
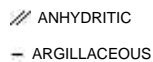


Accessories

Fossils



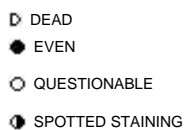
Minerals



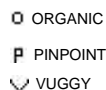
Stringer

Other Symbols

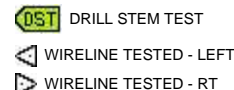
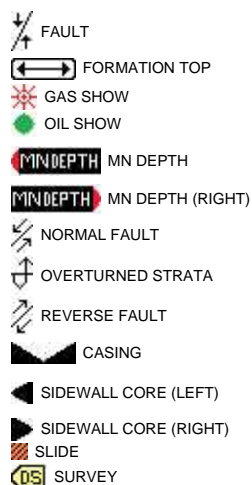
Oil Show



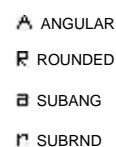
Porosity



Engineering



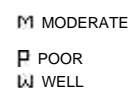
Rounding

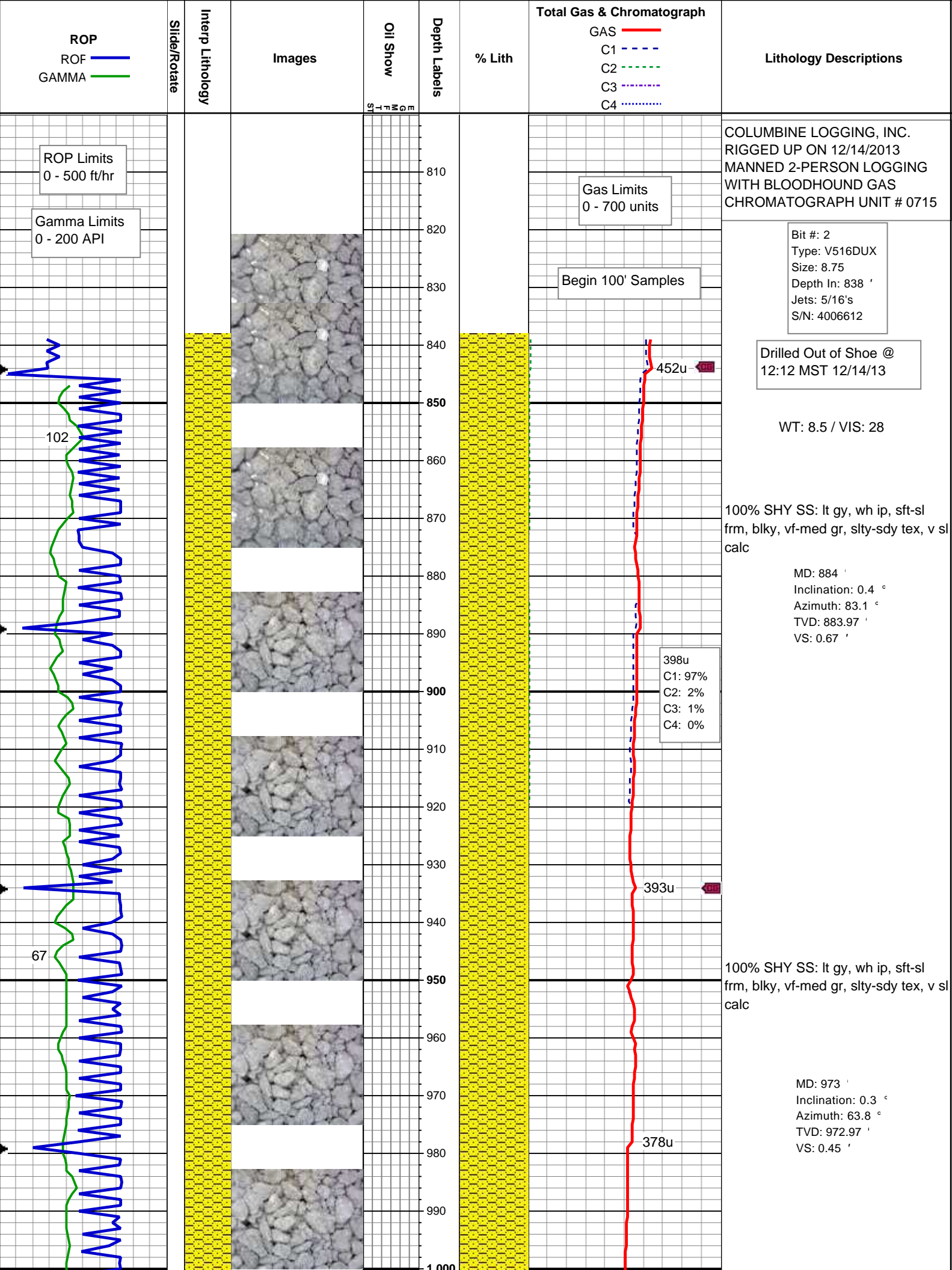


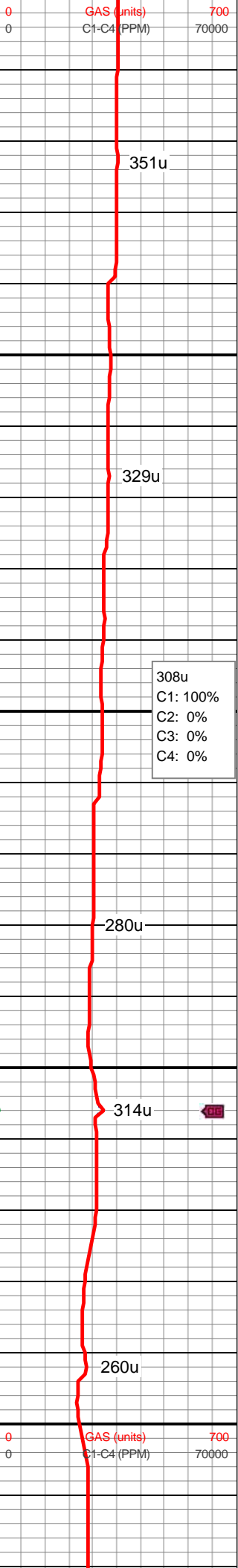
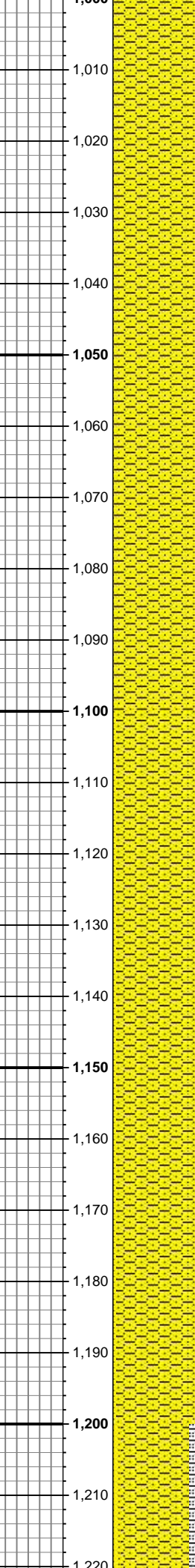
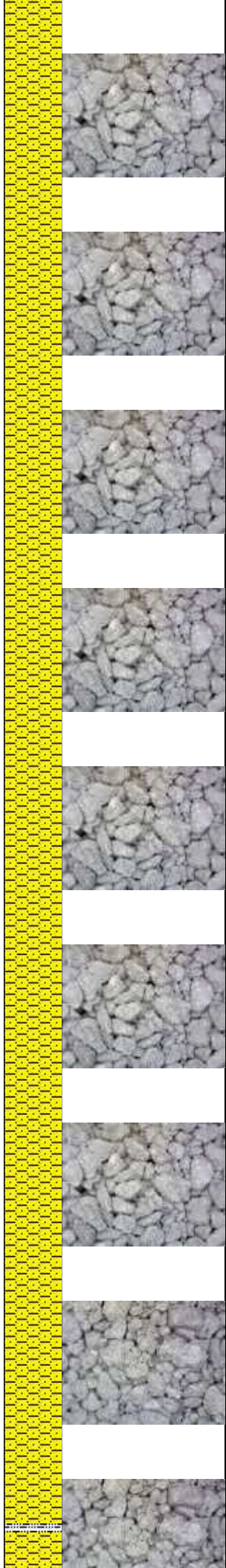
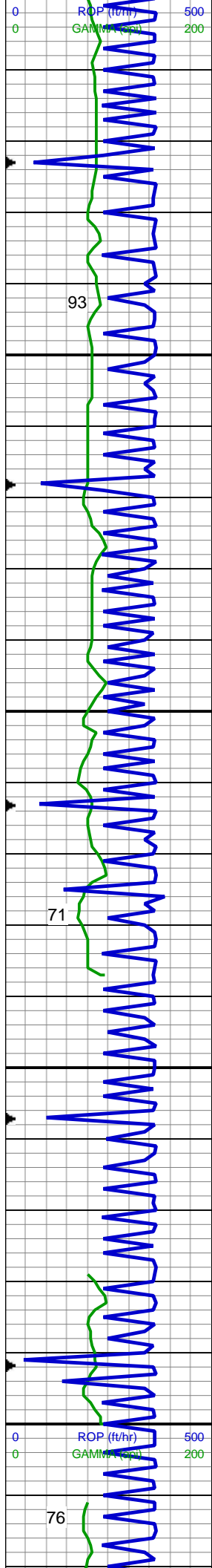
Textures



Sorting





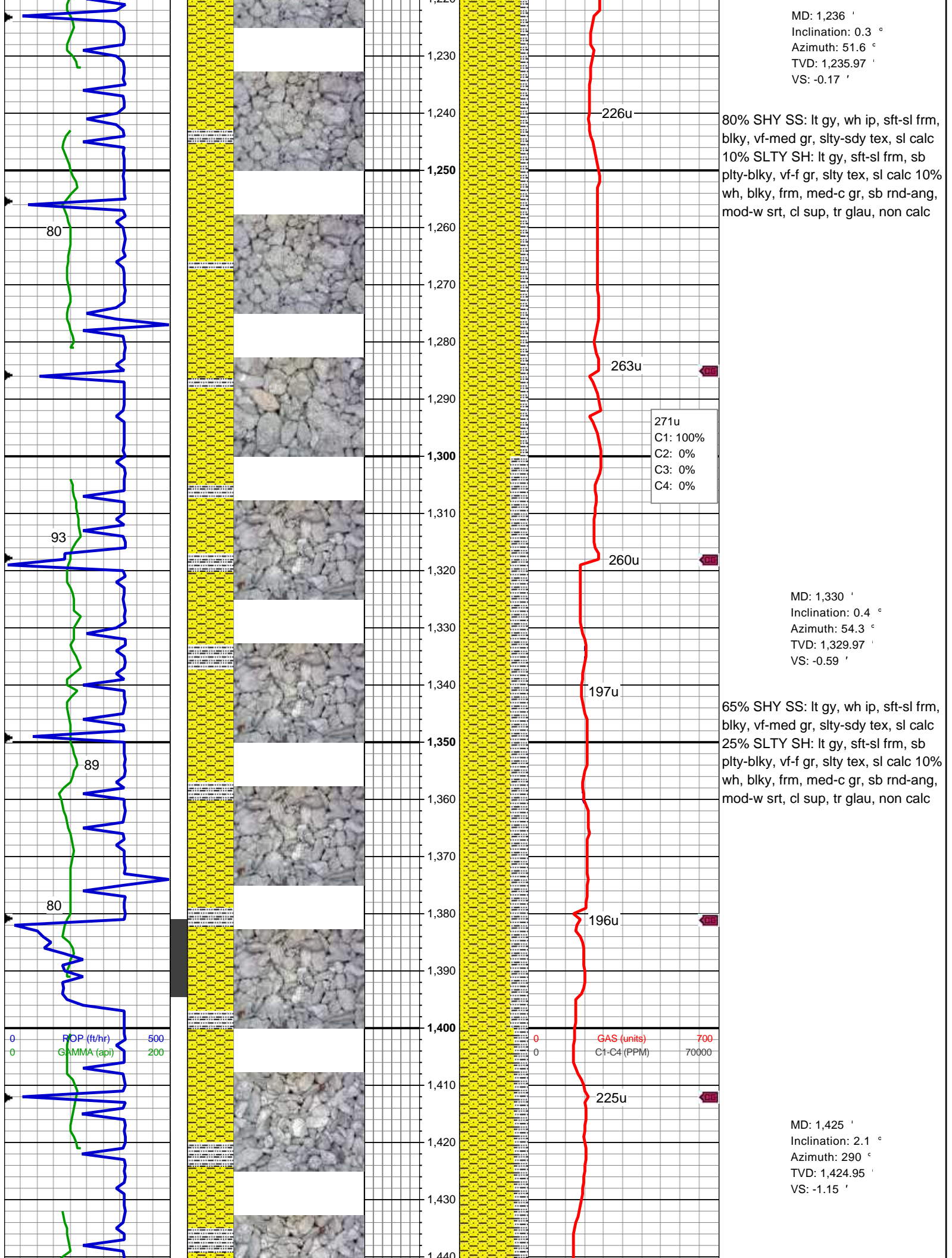


100% SHY SS: lt gy, wh ip, sft-sl
frm, blk, vf-med gr, slty-sdy tex, v sl
calc

MD: 1,063 '
Inclination: 0.4 °
Azimuth: 81.2 °
TVD: 1,062.97 '
VS: 0.22 '

MD: 1,142 '
Inclination: 0.2 °
Azimuth: 74.3 °
TVD: 1,141.97 '
VS: 0.08 '

95% SHY SS: lt gy, wh ip, sft-sl frm,
blk, vf-med gr, slty-sdy tex, v sl calc
5% wh, blk, frm, med gr, sb
rnd-ang, mod-w srt, cl sup, non
calc



MD: 1,236 '
Inclination: 0.3 °
Azimuth: 51.6 °
TVD: 1,235.97 '
VS: -0.17 '

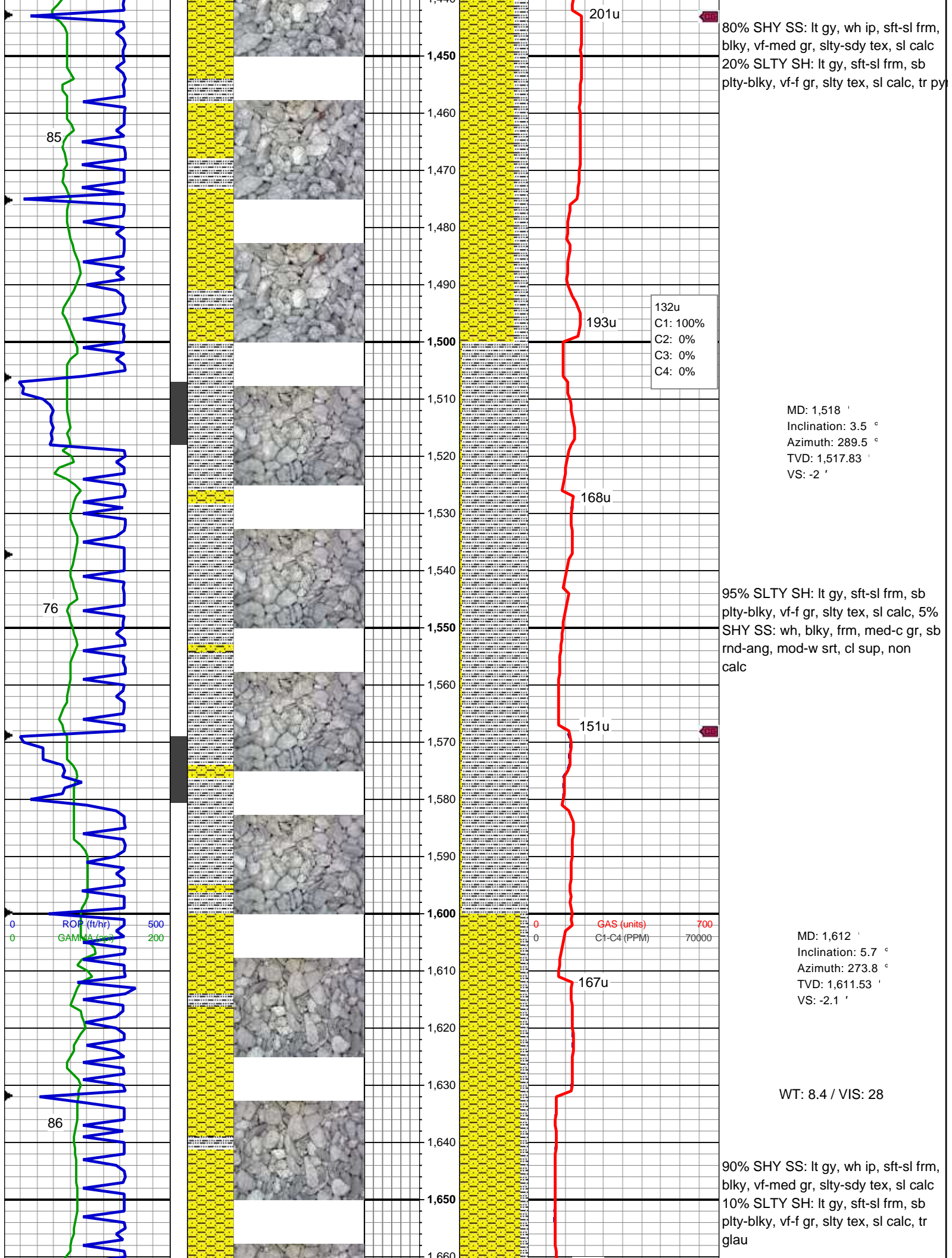
80% SHY SS: lt gy, wh ip, sft-sl frm, blk, vf-med gr, slty-sdy tex, sl calc 10%
SLTY SH: lt gy, sft-sl frm, sb plty-blky, vf-f gr, slty tex, sl calc 10%
wh, blk, frm, med-c gr, sb rnd-ang, mod-w srt, cl sup, tr glau, non calc

271u
C1: 100%
C2: 0%
C3: 0%
C4: 0%

MD: 1,330 '
Inclination: 0.4 °
Azimuth: 54.3 °
TVD: 1,329.97 '
VS: -0.59 '

65% SHY SS: lt gy, wh ip, sft-sl frm, blk, vf-med gr, slty-sdy tex, sl calc 25%
SLTY SH: lt gy, sft-sl frm, sb plty-blky, vf-f gr, slty tex, sl calc 10%
wh, blk, frm, med-c gr, sb rnd-ang, mod-w srt, cl sup, tr glau, non calc

MD: 1,425 '
Inclination: 2.1 °
Azimuth: 290 °
TVD: 1,424.95 '
VS: -1.15 '



80% SHY SS: lt gy, wh ip, sft-sl frm, blk, vf-med gr, slty-sdy tex, sl calc
20% SLTY SH: lt gy, sft-sl frm, sb plty-blky, vf-f gr, slty tex, sl calc, tr py

132u
C1: 100%
C2: 0%
C3: 0%
C4: 0%

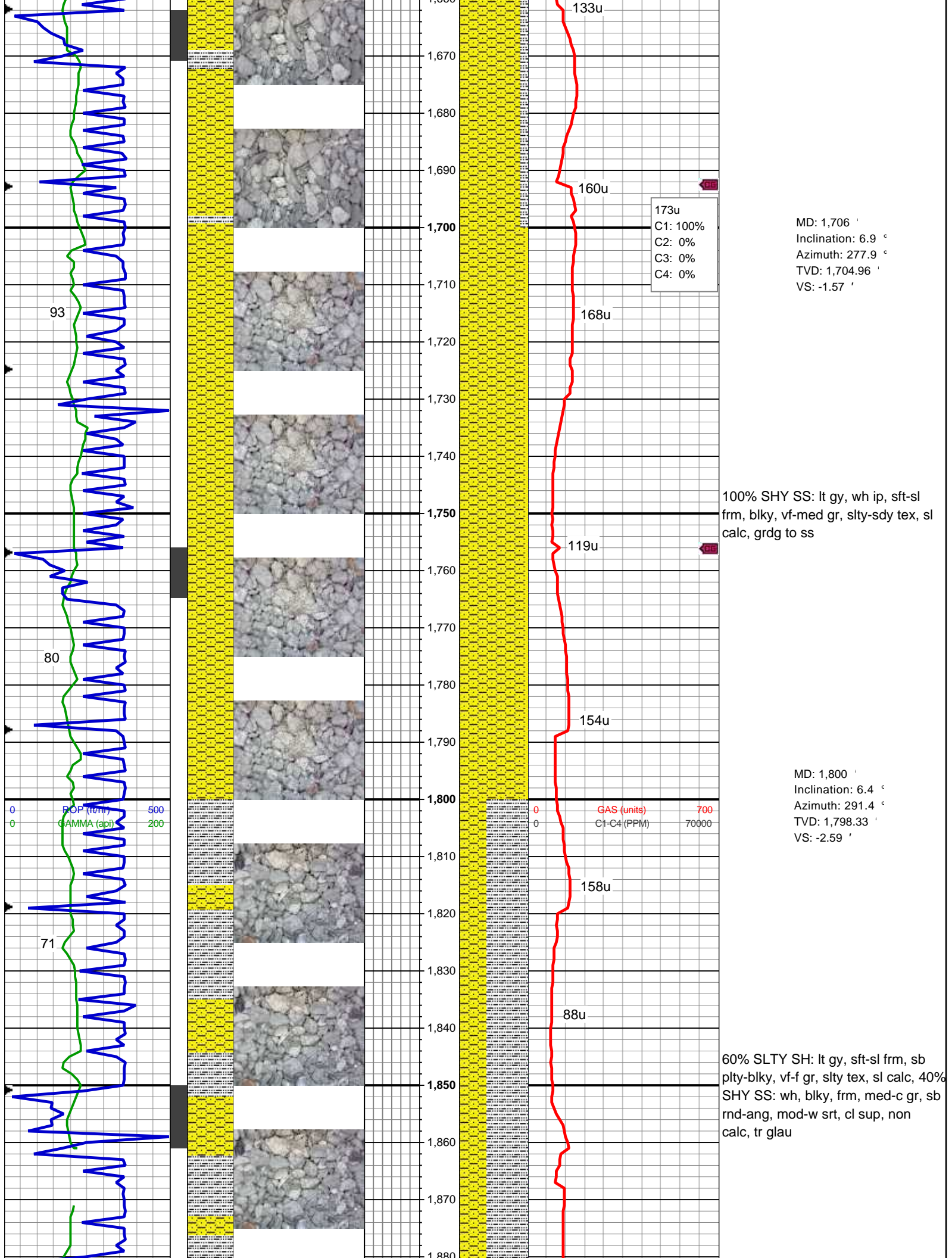
MD: 1,518 '
Inclin: 3.5 °
Azimuth: 289.5 °
TVD: 1,517.83 '
VS: -2 '

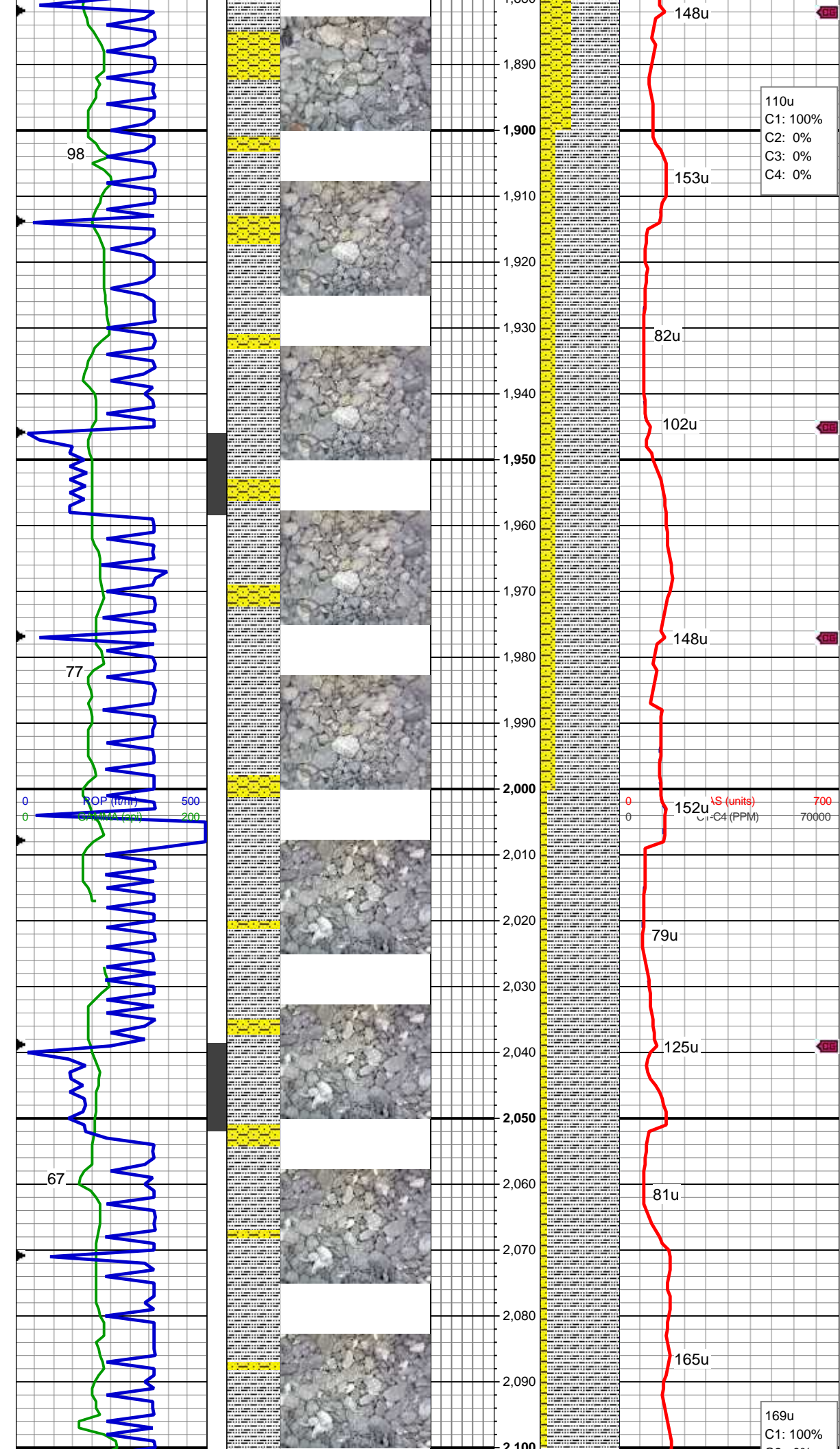
95% SLTY SH: lt gy, sft-sl frm, sb plty-blky, vf-f gr, slty tex, sl calc, 5% SHY SS: wh, blk, frm, med-c gr, sb rnd-ang, mod-w srt, cl sup, non calc

MD: 1,612 '
Inclin: 5.7 °
Azimuth: 273.8 °
TVD: 1,611.53 '
VS: -2.1 '

WT: 8.4 / VIS: 28

90% SHY SS: lt gy, wh ip, sft-sl frm, blk, vf-med gr, slty-sdy tex, sl calc
10% SLTY SH: lt gy, sft-sl frm, sb plty-blky, vf-f gr, slty tex, sl calc, tr glau





WT: 8.4 / VIS: 28

MD: 1,894 '
Inclination: 6.8 °
Azimuth: 288.2 °
TVD: 1,891.71 '
VS: -4.61 '

80% SLTY SH: lt gy, sft-sl frm, sb
ply-blky, vf-f gr, slty tex, sl calc, grdg
to 20% SHY SS: wh, lt gy, blky, frm,
med-c gr, sb rnd-ang, mod-w srt, cl
sup, non calc, tr glau

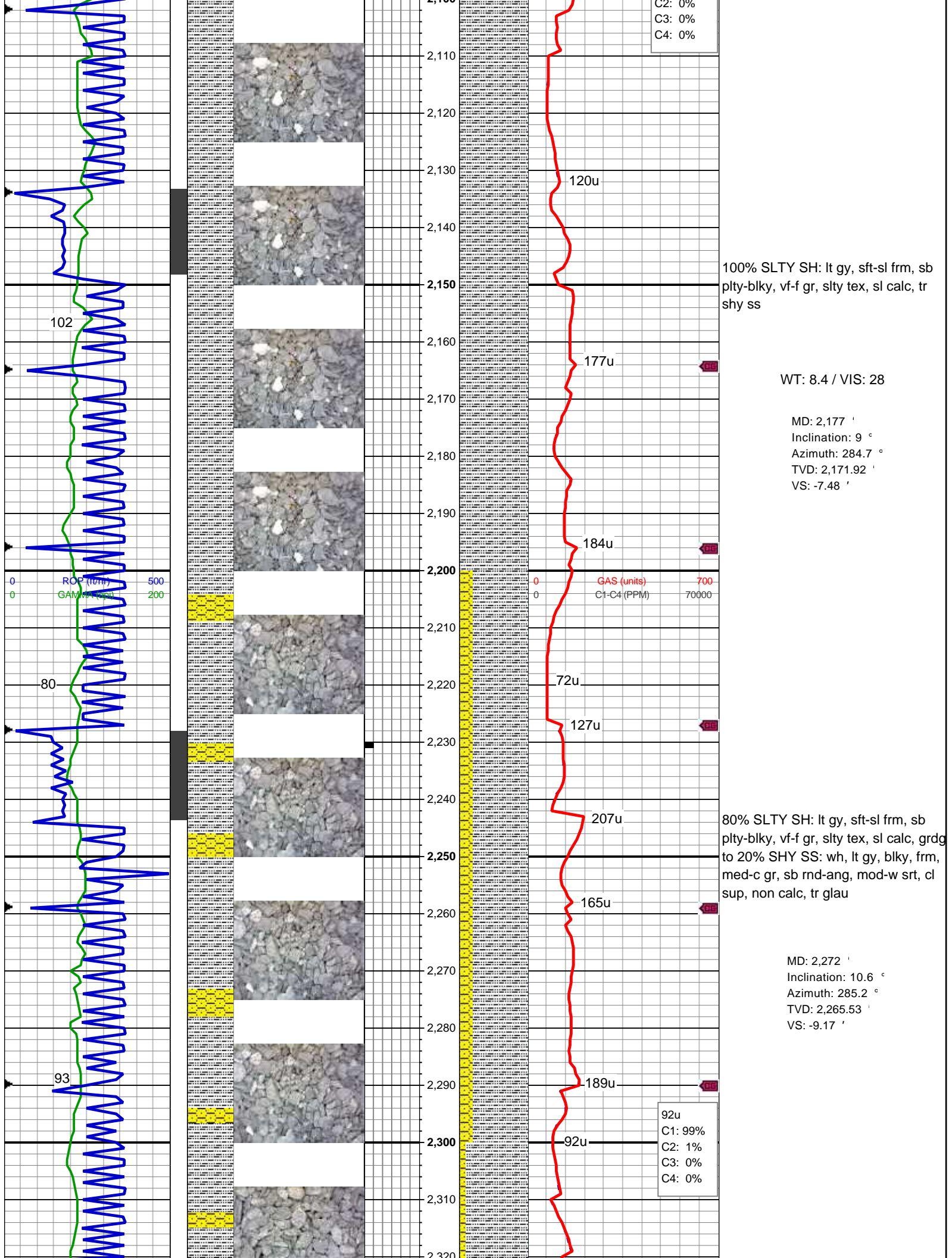
MD: 1,989 '
Inclination: 7.8 °
Azimuth: 283.1 °
TVD: 1,985.94 '
VS: -5.97 '

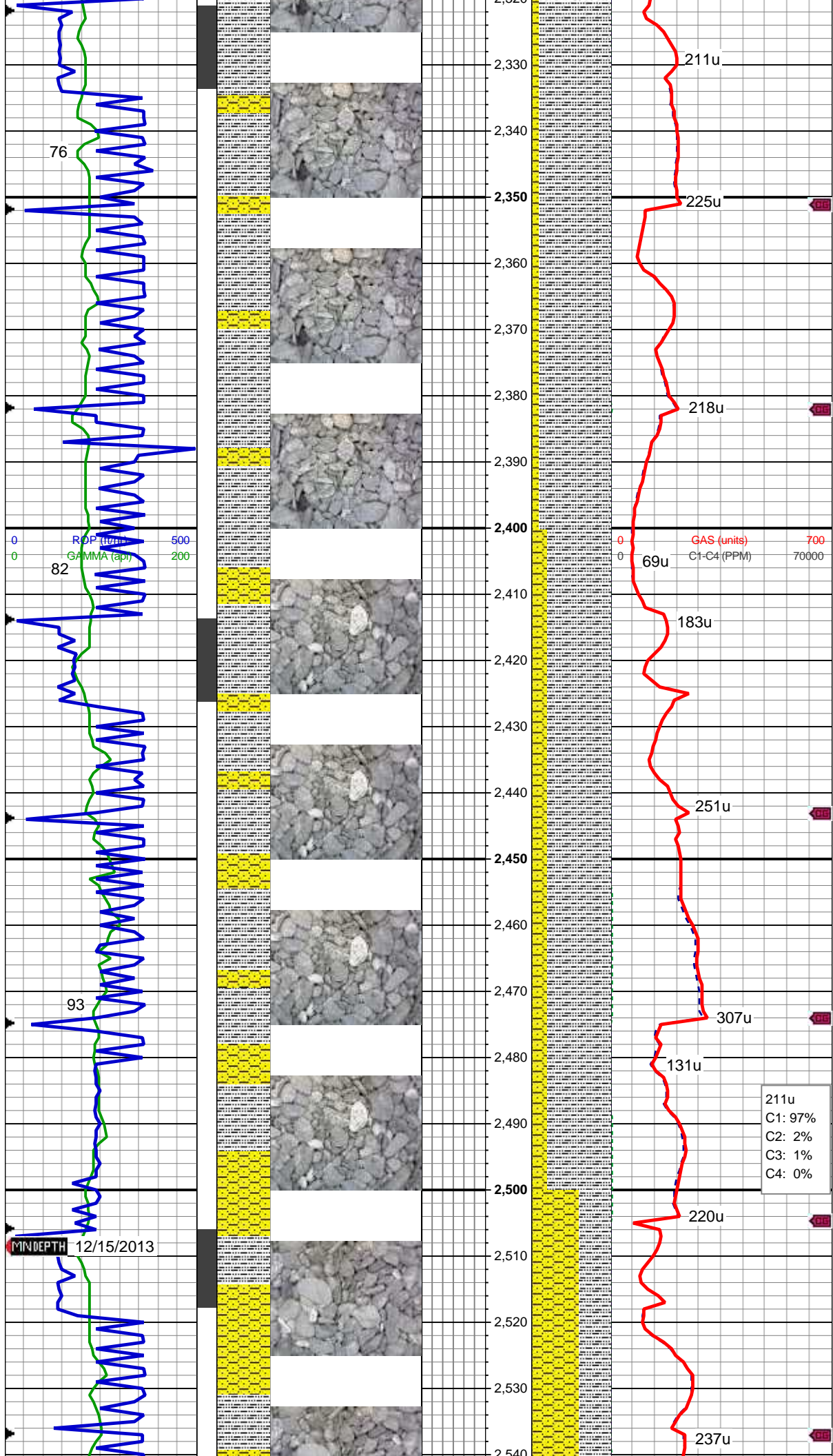
90% SLTY SH: lt gy, sft-sl frm, sb
ply-blky, vf-f gr, slty tex, sl calc, grdg
to 10% SHY SS: wh, lt gy, blky, frm,
med-c gr, sb rnd-ang, mod-w srt, cl
sup, non calc, tr glau

MD: 2,083 '
Inclination: 8.4 °
Azimuth: 280.3 °
TVD: 2,079 '
VS: -6.59 '

110u
C1: 100%
C2: 0%
C3: 0%
C4: 0%

169u
C1: 100%
C2: 0%
C3: 0%
C4: 0%





90% SLTY SH: lt gy, sft-sl frm, sb
ply-blky, vf-f gr, slty tex, sl calc, grdg
to 10% SHY SS: wh, lt gy, blky, frm,
med-c gr, sb rnd-ang, mod-w srt, cl
sup, non calc, tr glau

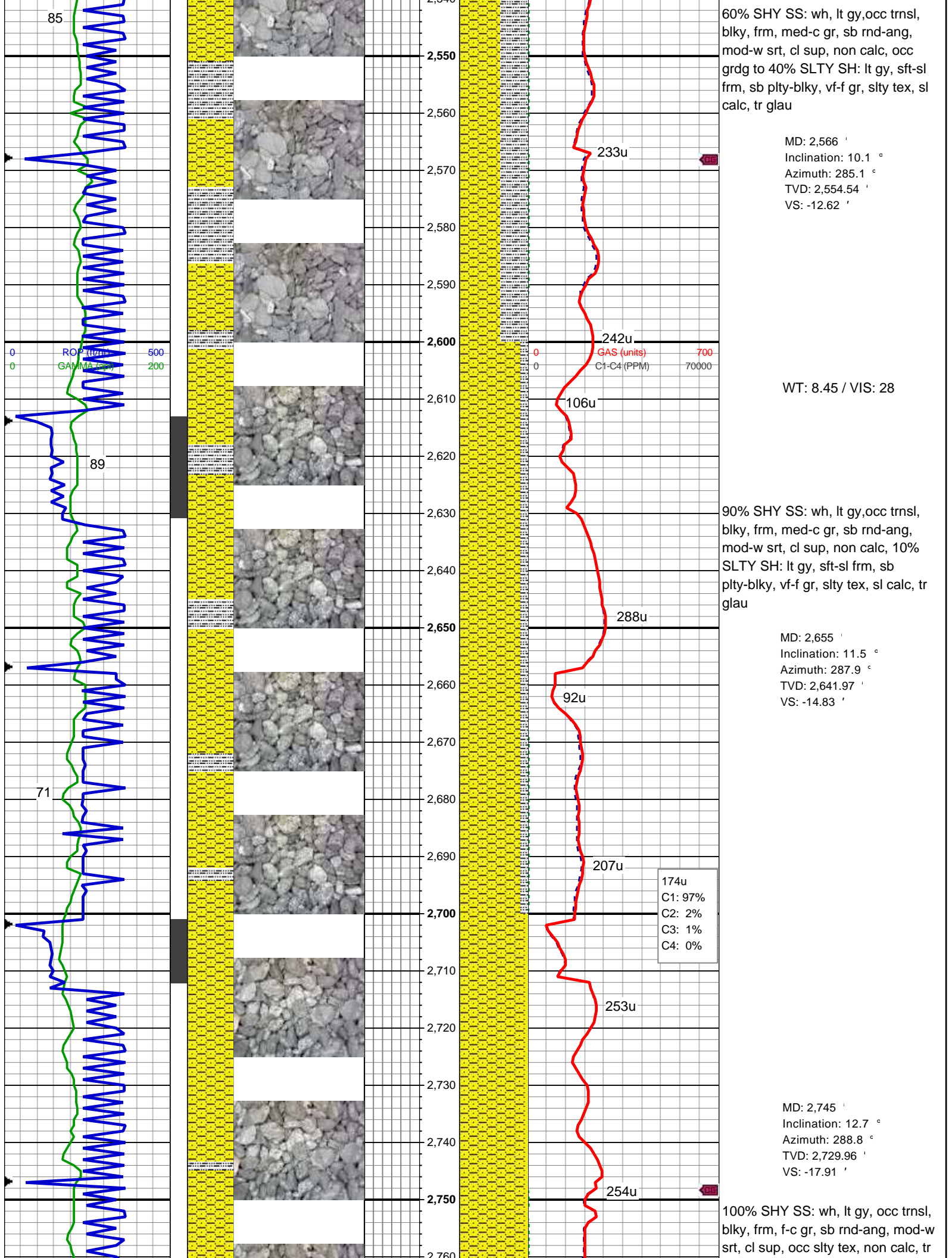
MD: 2,366 '
Inclination: 11 °
Azimuth: 281.4 °
TVD: 2,357.87 '
VS: -10.48 '

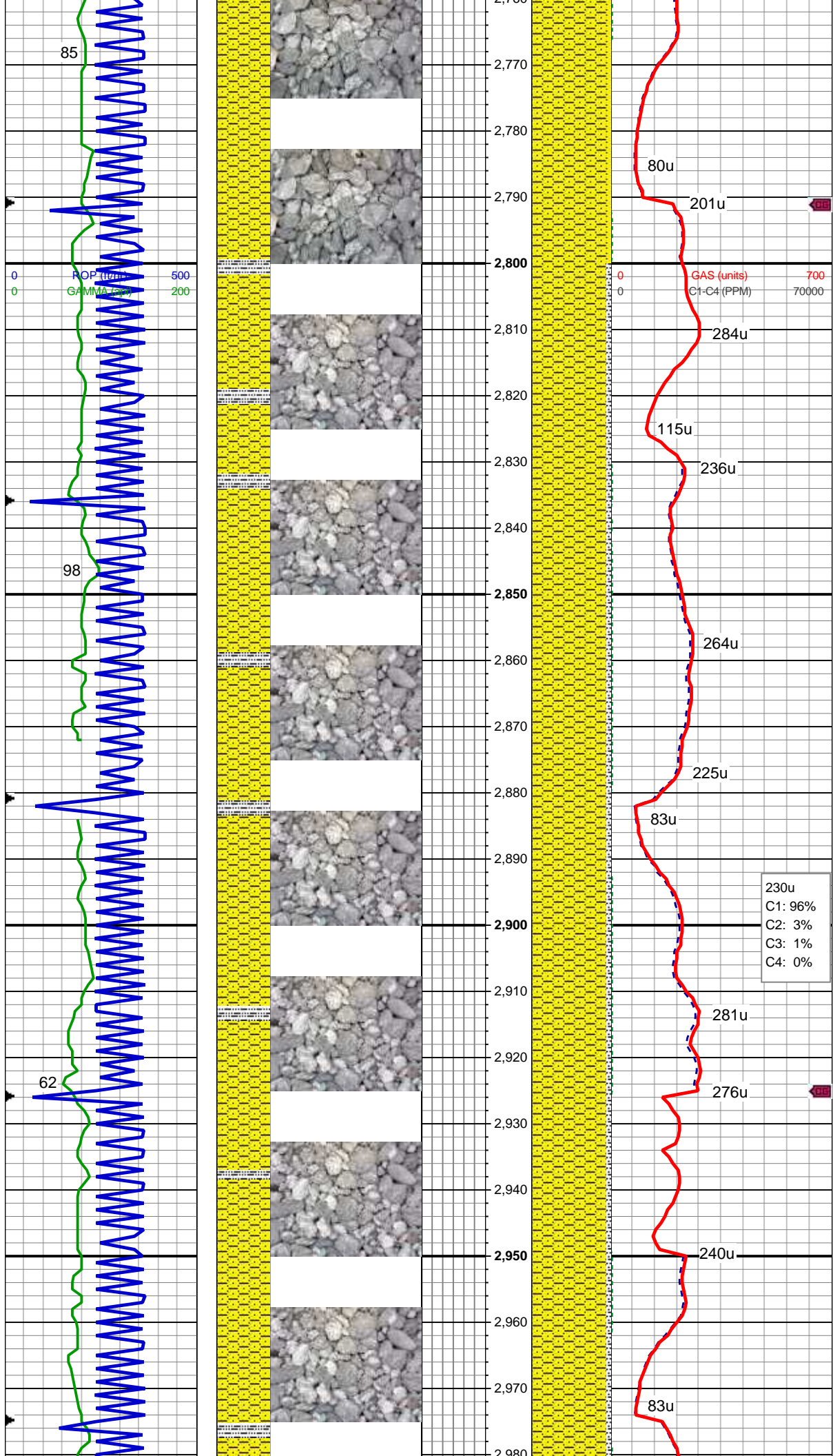
80% SLTY SH: lt gy, sft-sl frm, sb
ply-blky, vf-f gr, slty tex, sl calc, grdg
to 20% SHY SS: wh, lt gy, blky, frm,
med-c gr, sb rnd-ang, mod-w srt, cl
sup, non calc, tr glau

MD: 2,459 '
Inclination: 10.4 °
Azimuth: 281.4 °
TVD: 2,449.25 '
VS: -11.21 '

211u
C1: 97%
C2: 2%
C3: 1%
C4: 0%

MINDEPTH 12/15/2013





glau

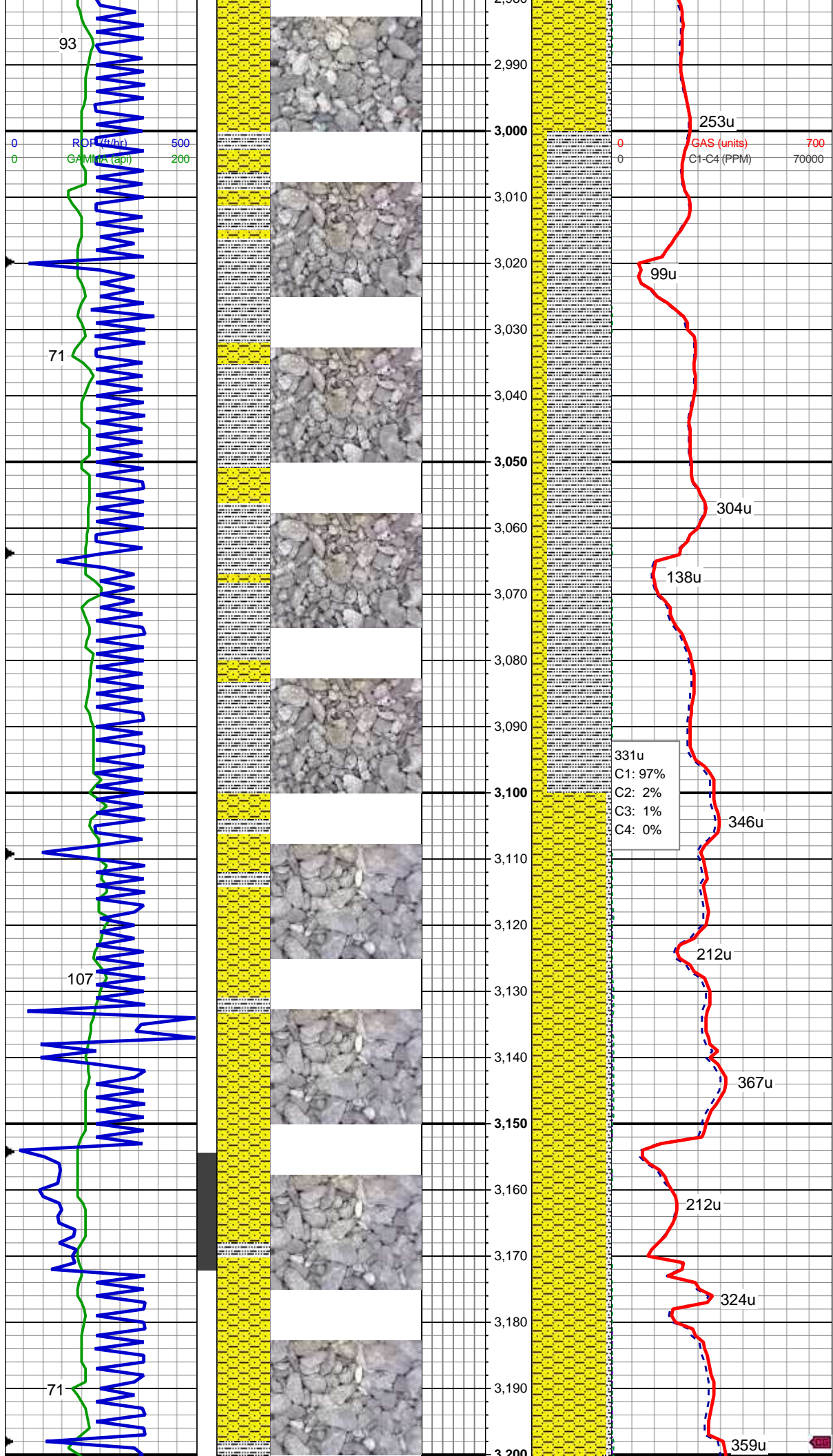
MD: 2,835 '
Inclination: 12.3 °
Azimuth: 287.9 °
TVD: 2,817.83 '
VS: -21.08 '

95% SHY SS: wh, lt gy, occ trnsl, blkly, frm, f-c gr, sb rnd-ang, mod-w srt, cl sup, occ slty tex, non calc, grdg to 5% SLTY SH: lt gy, sft-sl frm, sb plty-blky, vf-f gr, slty tex, sl calc, tr glau

230u
C1: 96%
C2: 3%
C3: 1%
C4: 0%

MD: 2,924 '
Inclination: 12 °
Azimuth: 287.2 °
TVD: 2,904.84 '
VS: -23.87 '

95% SHY SS: wh, lt gy, occ trnsl, blkly, frm, f-c gr, sb rnd-ang, mod-w srt, cl sup, occ slty tex, non calc, occ grdg to 5% SLTY SH: lt gy, sft-sl frm, sb plty-blky, vf-f gr, slty tex, sl calc, tr glau, tr pyr



MD: 3,014 '
Inclination: 11.7 °
Azimuth: 286.8 °
TVD: 2,992.92 '
VS: -26.45 '

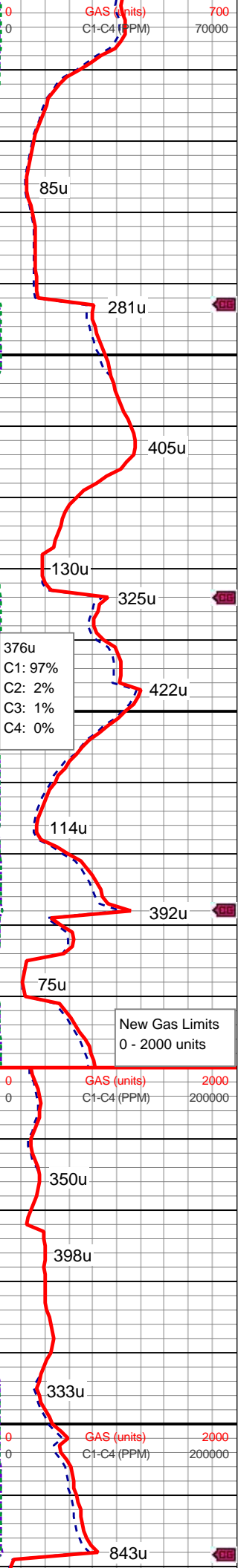
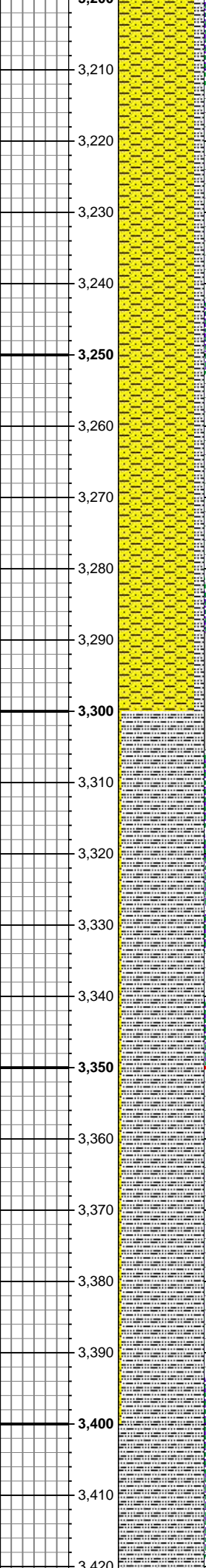
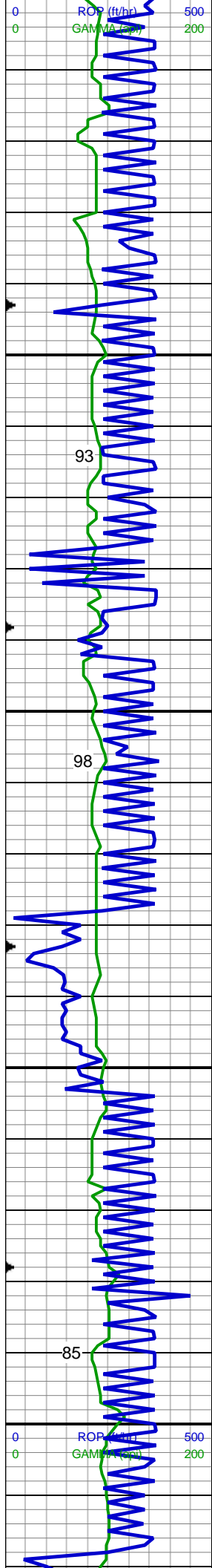
WT: 8.45 / VIS: 28

80% SLTY SH: lt gy, sft-sl frm, sb
plty-blky, vf-f gr, slty tex, sl calc 20%
SHY SS: wh, lt gy, blky, frm, f-c gr,
sb rnd-ang, p srtg, slty-sdy tex, sl
calc

MD: 3,104 '
Inclination: 10.5 °
Azimuth: 285.9 °
TVD: 3,081.23 '
VS: -28.68 '

95% SHY SS: wh, lt gy, blky, frm, f-c
gr, sb rnd-ang, p srtg, slty-sdy tex,
sl calc 5% SLTY SH: lt gy, sft-sl frm,
sb plty-blky, vf-f gr, slty tex, sl calc

MD: 3,193 '
Inclination: 11.6 °
Azimuth: 289.3 °
TVD: 3,168.58 '
VS: -31.26 '



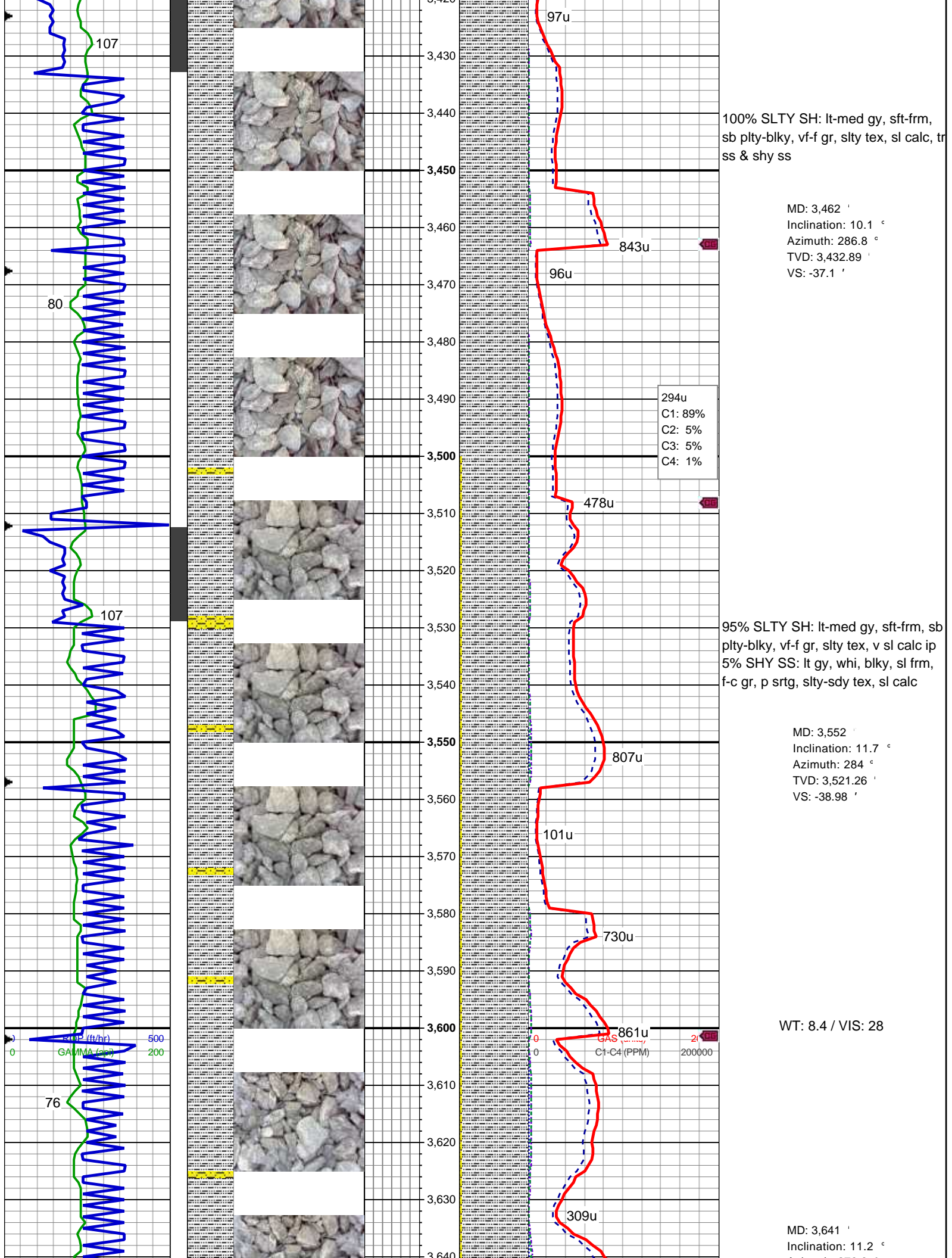
90% SHY SS: wh, lt gy, blk, frm, f-c gr, p srtg, slty-sdy tex, sl calc, grdg to slty sh 10% SLTY SH: lt gy, sft-sl frm, sb plty-blky, vf-f gr, slty tex, sl calc

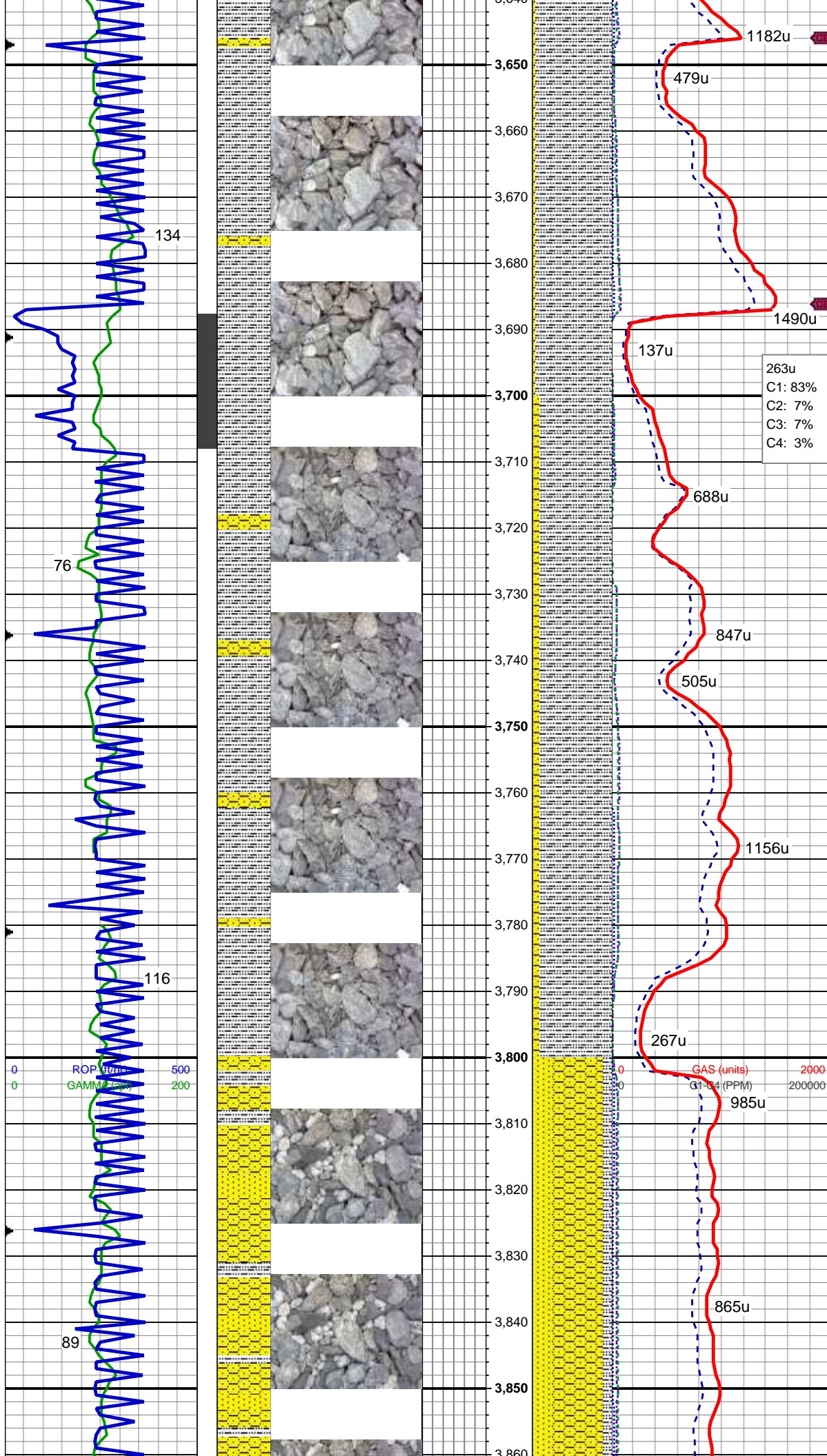
MD: 3,283 '
Inclination: 10.6 °
Azimuth: 286.1 °
TVD: 3,256.9 '
VS: -33.91 '

WT: 8.4 / VIS: 28

95% SLTY SH: lt-med gy, sft-frm, sb plty-blky, sb fis ip, vf-f gr, slty tex, sl calc 5% SHY SS: lt gy, whi ip, blk, sl frm, f-c gr, p srtg, slty-sdy tex, sl calc, grdg to slty sh

MD: 3,373 '
Inclination: 10.7 °
Azimuth: 282.8 °
TVD: 3,345.35 '
VS: -35.49 '





Azimuth: 279.3 °
TVD: 3,608.49 '
VS: -39.81 '

95% SLTY SH: lt-dk gy, sft-frm, sb
plty-blky, vf-f gr, slty tex, v sl calc ip
5% SHY SS: lt gy, whi, blky, sl frm,
f-c gr, p srtg, slty-sdy tex, sl calc

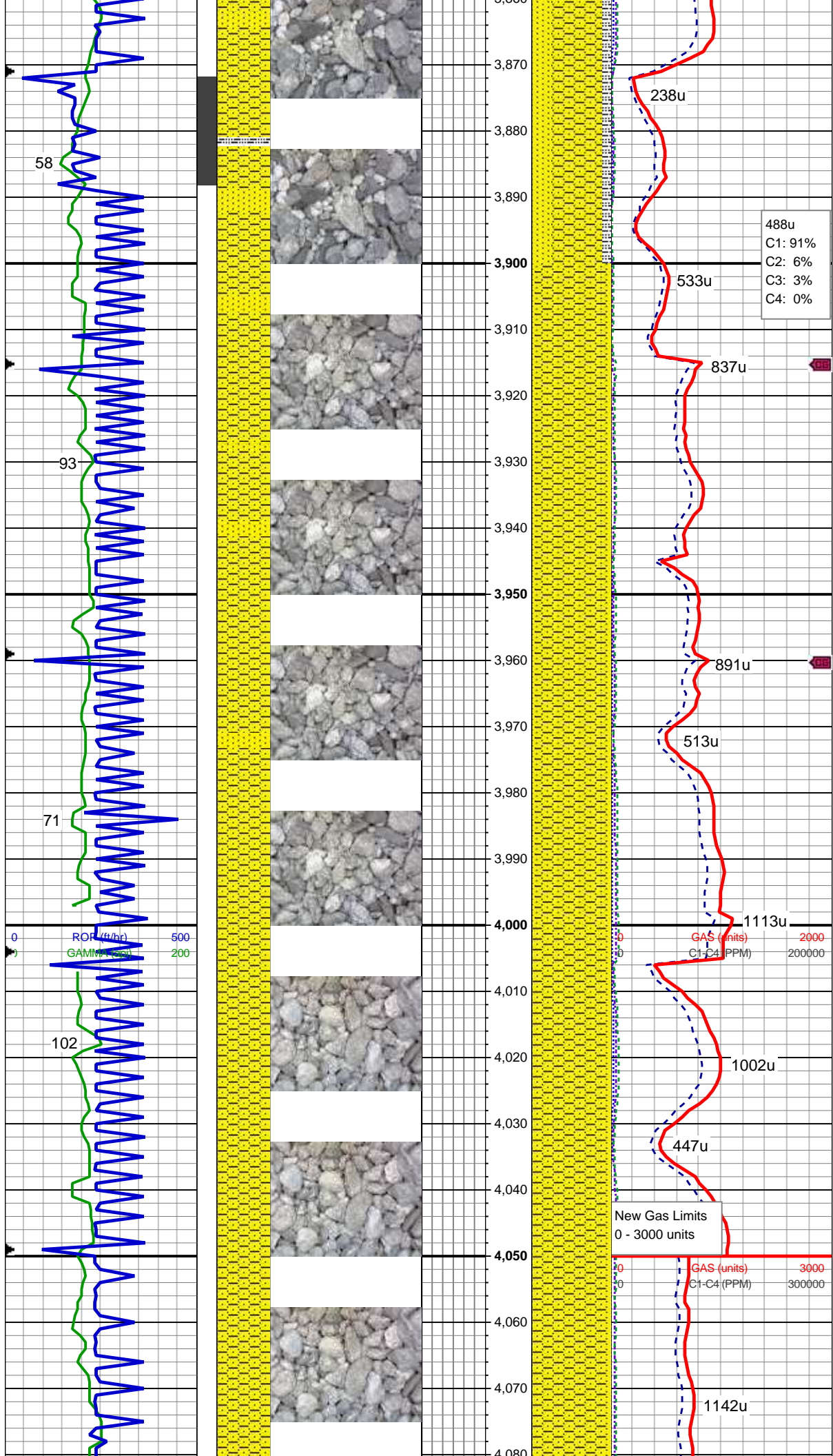
MD: 3,731 '
Inclination: 11.4 °
Azimuth: 284.4 °
TVD: 3,696.75 '
VS: -40.7 '

90% SLTY SH: lt-med gy, sft-frm, sb
plty-blky, vf-f gr, slty tex, v sl calc ip,
occlly grdg to shy ss 10% SHY SS: lt
gy, whi, blky, sl frm, f-c gr, p srtg,
slty-sdy tex, sl calc

WT: 8.4 / VIS: 28

MD: 3,820 '
Inclination: 10.9 °
Azimuth: 283 °
TVD: 3,784.07 '
VS: -42.12 '

65% SHY SS: lt gy, bnshgy, sft-sl
frm, blky, f-c gr, p srtg, slty-sdy tex,
sl calc 25% SS: whi, trnsl, med-c
gr, sb rnd-ang, mod-w srt, frm, cl
sup, sl calc cmt 10% SLTY SH:
lt-med gy, sft-frm, sb plty-blky, vf-f



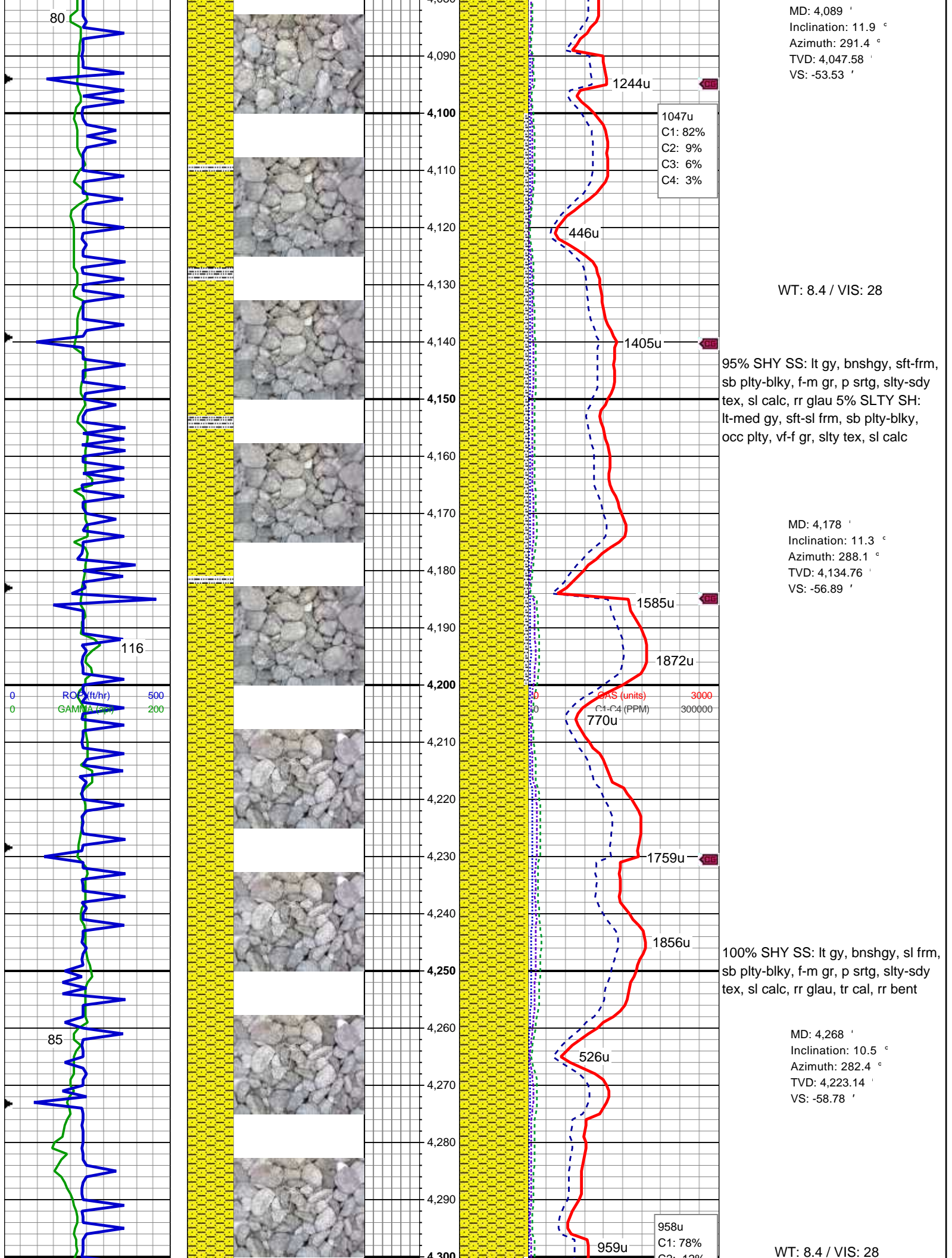
gr, sity tex, sl calc

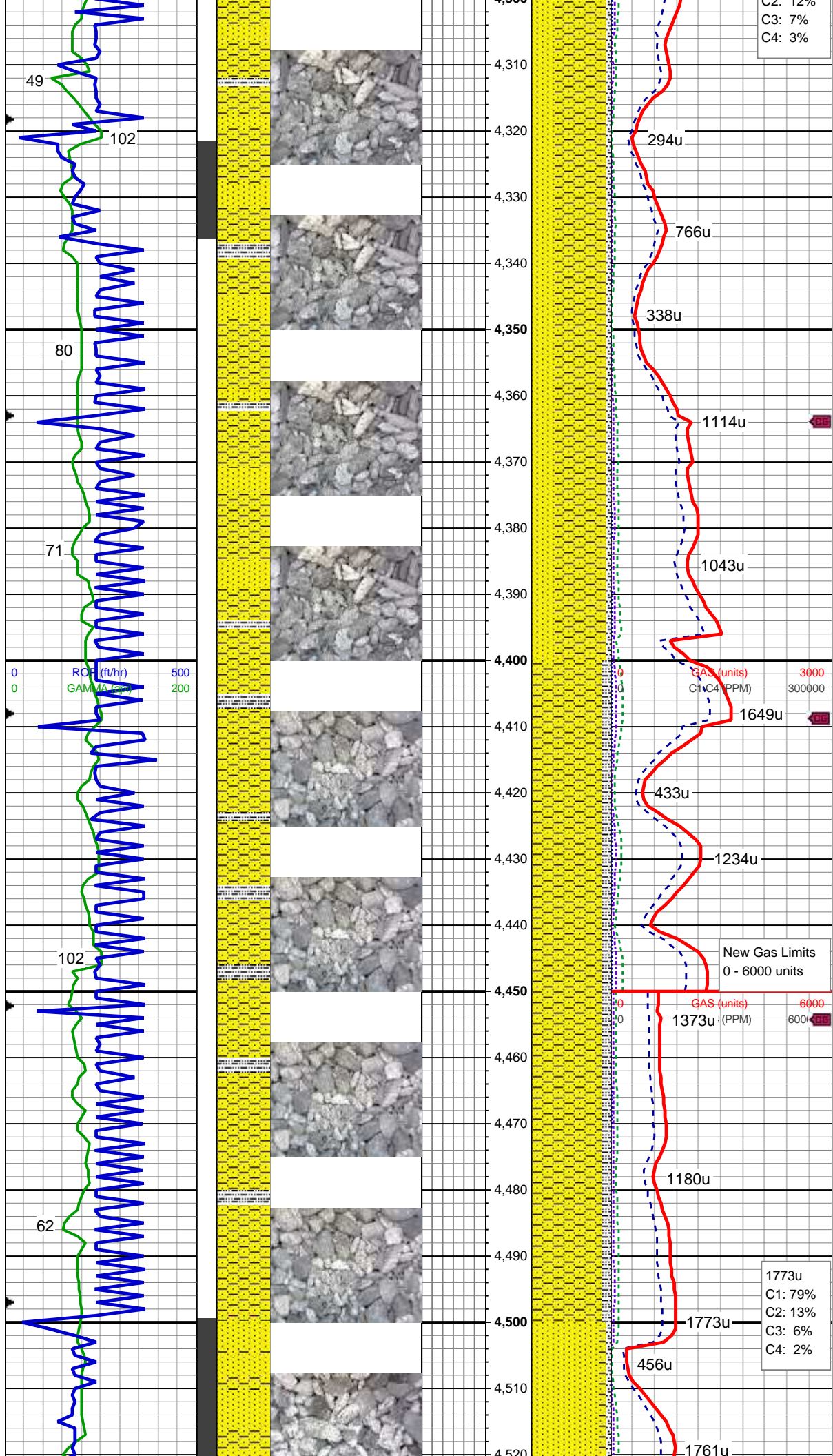
MD: 3,909 '
Inclination: 11.4 °
Azimuth: 292.8 °
TVD: 3,871.4 '
VS: -44.82 '

95% SHY SS: lt gy, bnshgy, sft-sl
frm, sb plty-blky, f-m gr, p srtg,
silty-sdy tex, sl calc 5% SS: whi,
trnsl, med-c gr, sb rnd-ang, mod-w
srt, frm, cl sup, sl calc cmt

MD: 3,999 '
Inclination: 12 °
Azimuth: 293.2 °
TVD: 3,959.53 '
VS: -49.24 '

100% SHY SS: lt gy, bnshgy, frm,
sb plty-blky, f-m gr, p srtg, slty-sdy
tex, sl calc, rr glau





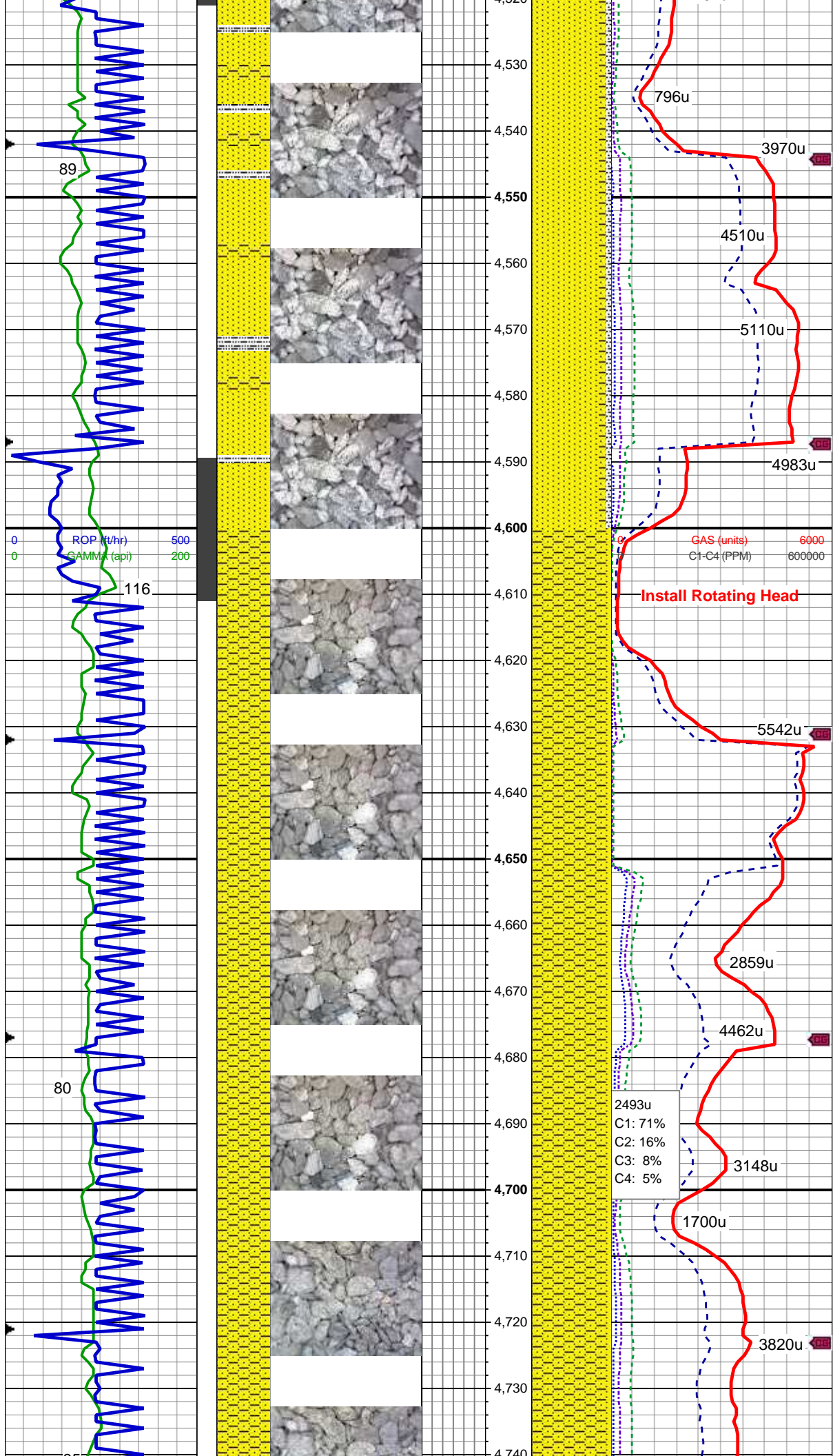
65% SHY SS: lt gy, bnshgy, sft-sl frm, blk, f-c gr, p srtg, slty-sdy tex, sl calc, tr glau 30% SS: whi, trnsl, med-c gr, sb rnd-ang, mod-w srt, sl frm, cl sup, sl calc cmt 5% SLTY SH: lt gy, bnsh gy, sft-frm, sb plty-blky, vf-f gr, slty tex, sl calc

MD: 4,358 '
Inclination: 11.7 °
Azimuth: 288.6 °
TVD: 4,311.46 '
VS: -60.79 '

MD: 4,447 '
Inclination: 10.6 °
Azimuth: 285.4 °
TVD: 4,398.78 '
VS: -63.21 '

90% SHY SS: lt gy, bnshgy, whi, frm, sb plty-blky, f-m gr, p srtg, slty-sdy tex, sl calc, tr glau 10% SLTY SH: lt-med gy, sft-sl frm, plty-sb blk, vf-f gr, slty tex, sl calc, tr inoc fos frags

WT: 8.4 / VIS: 28



MD: 4,537 '
Inclination: 11.2 °
Azimuth: 283.7 °
TVD: 4,487.15 '
VS: -64.86 '

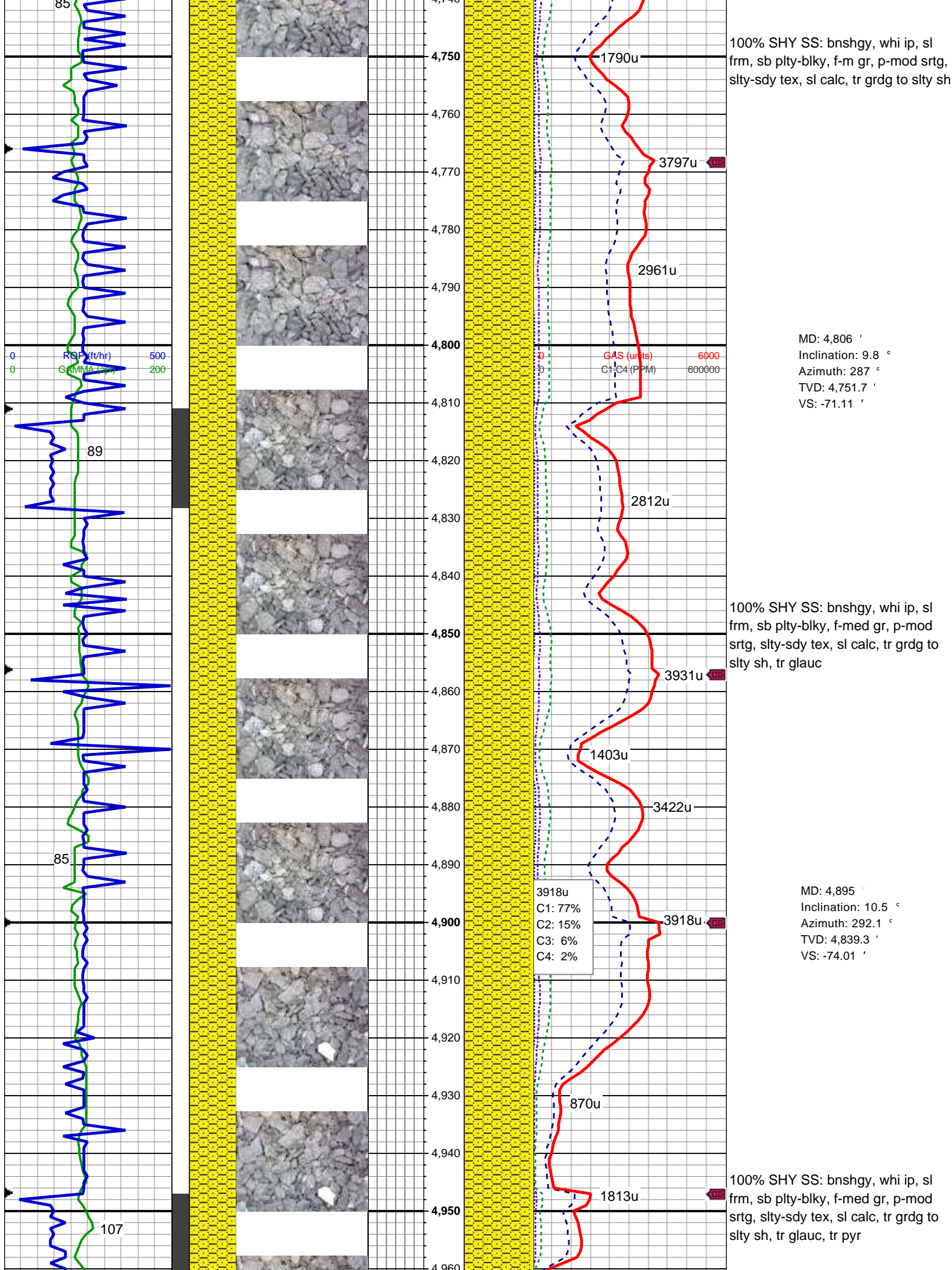
85% SS: whi, trnsl, med-c gr, sb
rnd-ang, w srt, frm, cl sup, sl calc
cmt, tr glau 10% SHY SS: lt gy,
bnshgy, sft-sl frm, blk, f-c gr, p srtg,
slty-sdy tex, sl calc, tr glau 5% SLTY
SH: lt-med gy, bnsh gy, sft-sl frm,
sb plty-blky, vf-f gr, slty tex, sl calc

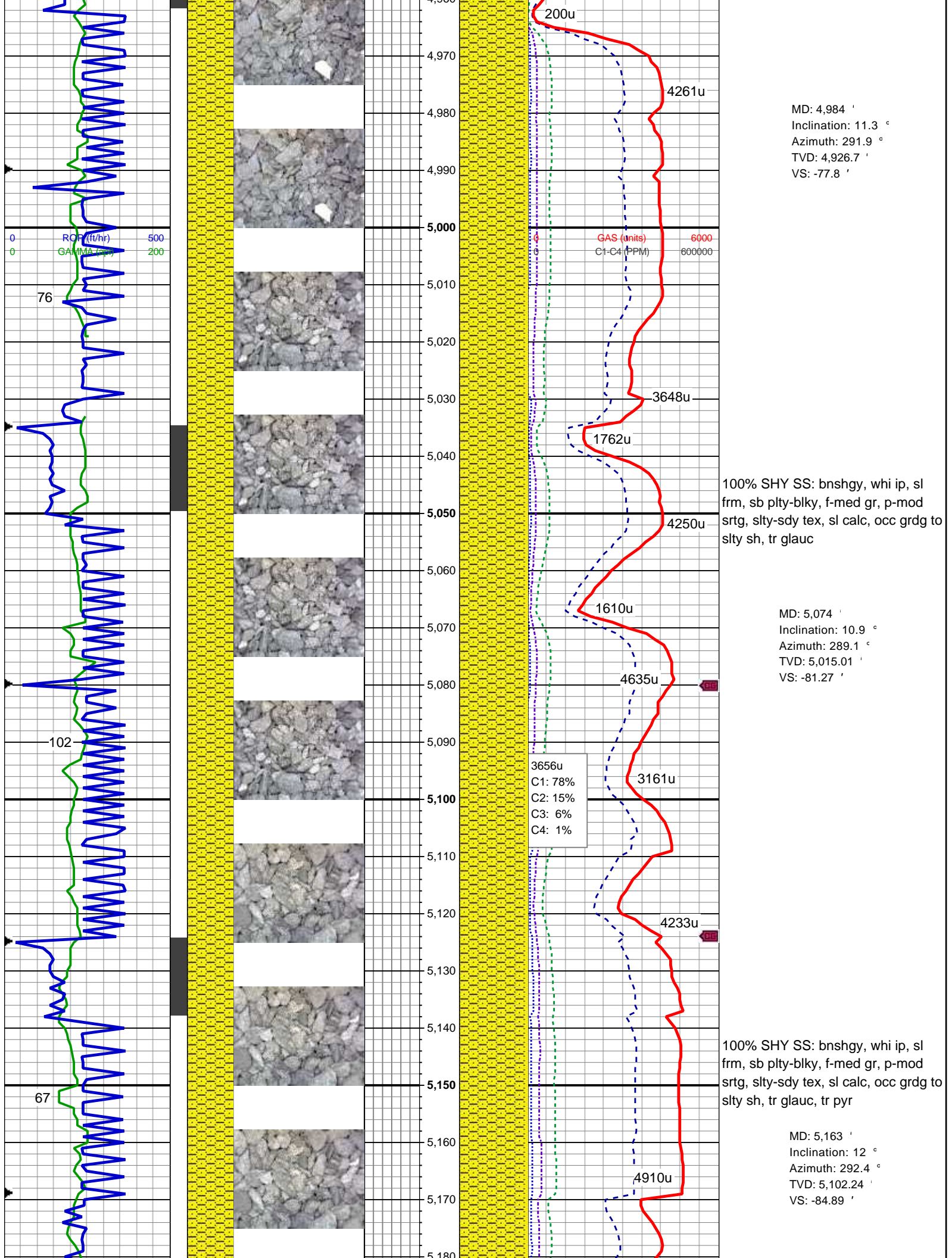
MD: 4,626 '
Inclination: 11 °
Azimuth: 287.2 °
TVD: 4,574.49 '
VS: -66.78 '

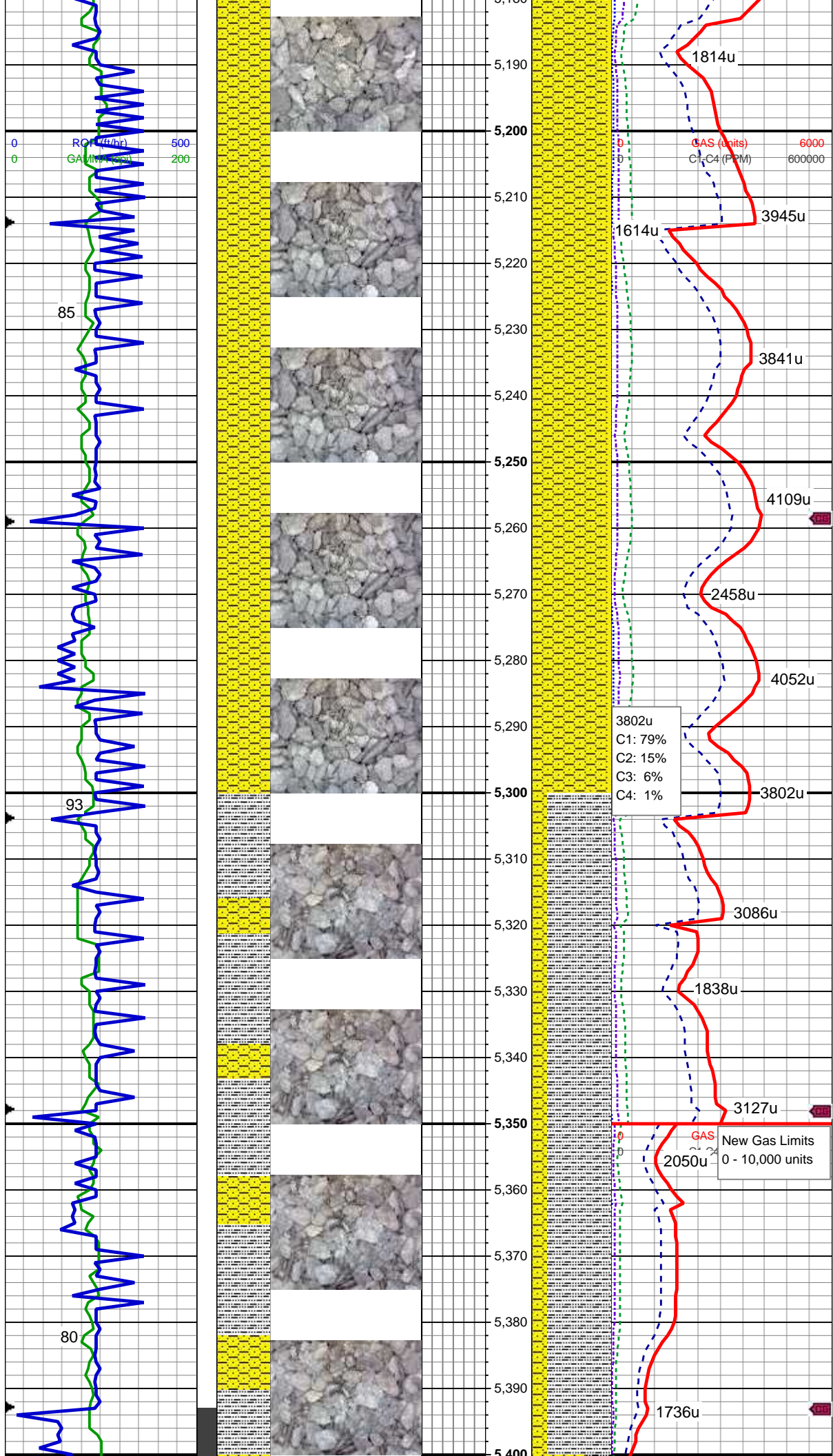
100% SHY SS: bnshgy, whi ip, sl
frm, sb plty-blky, f-m gr, p-mod srtg,
slty-sdy tex, sl calc, rr Inoc fos frags

MD: 4,716 '
Inclination: 9.8 °
Azimuth: 286.6 °
TVD: 4,663.01 '
VS: -69.03 '

WT: 8.4 / VIS: 28







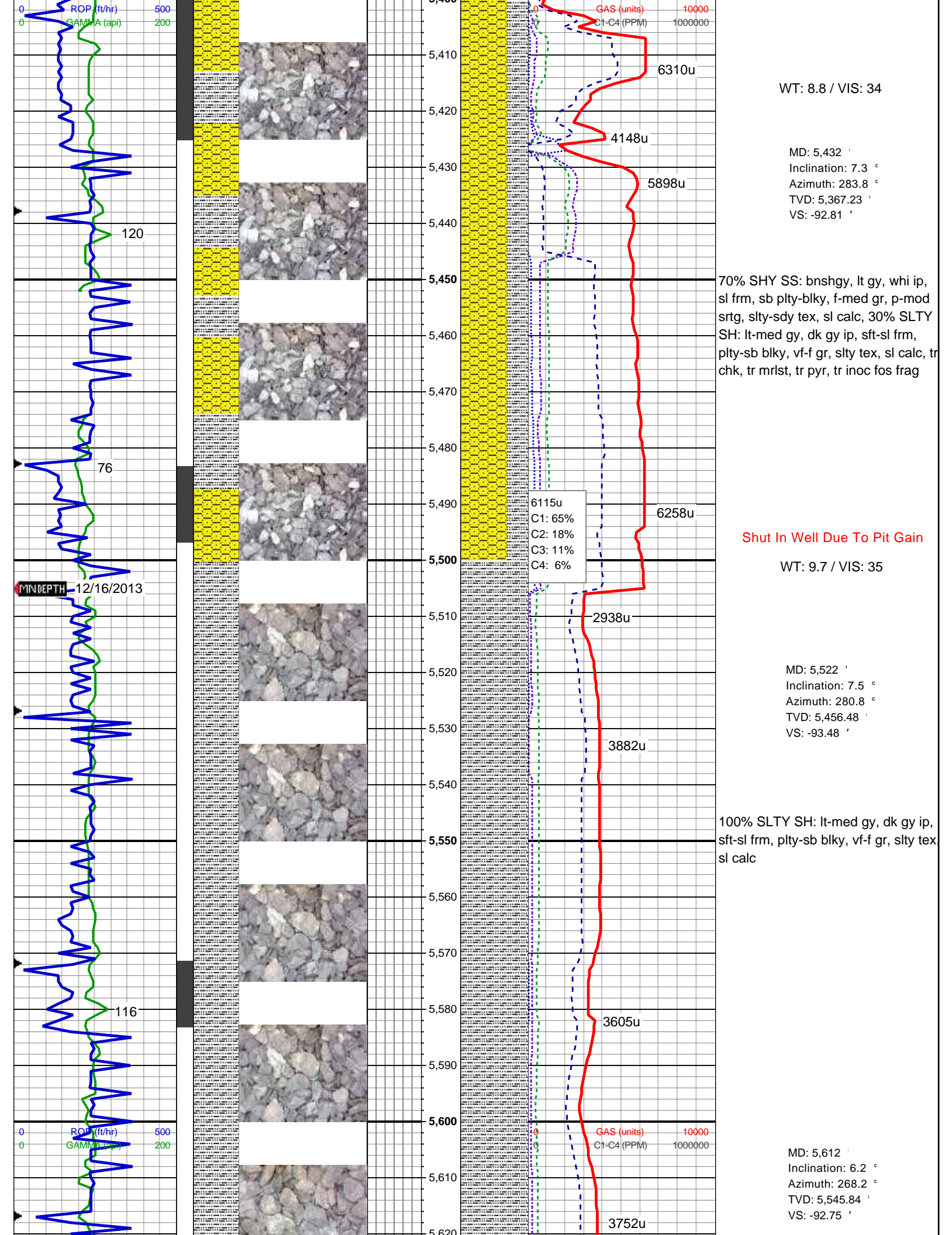
100% SHY SS: bnshgy, whi ip, sl frm, sb plty-blky, f-med gr, p-mod srtg, slty-sdy tex, sl calc, grdg to slty sh, tr pyr

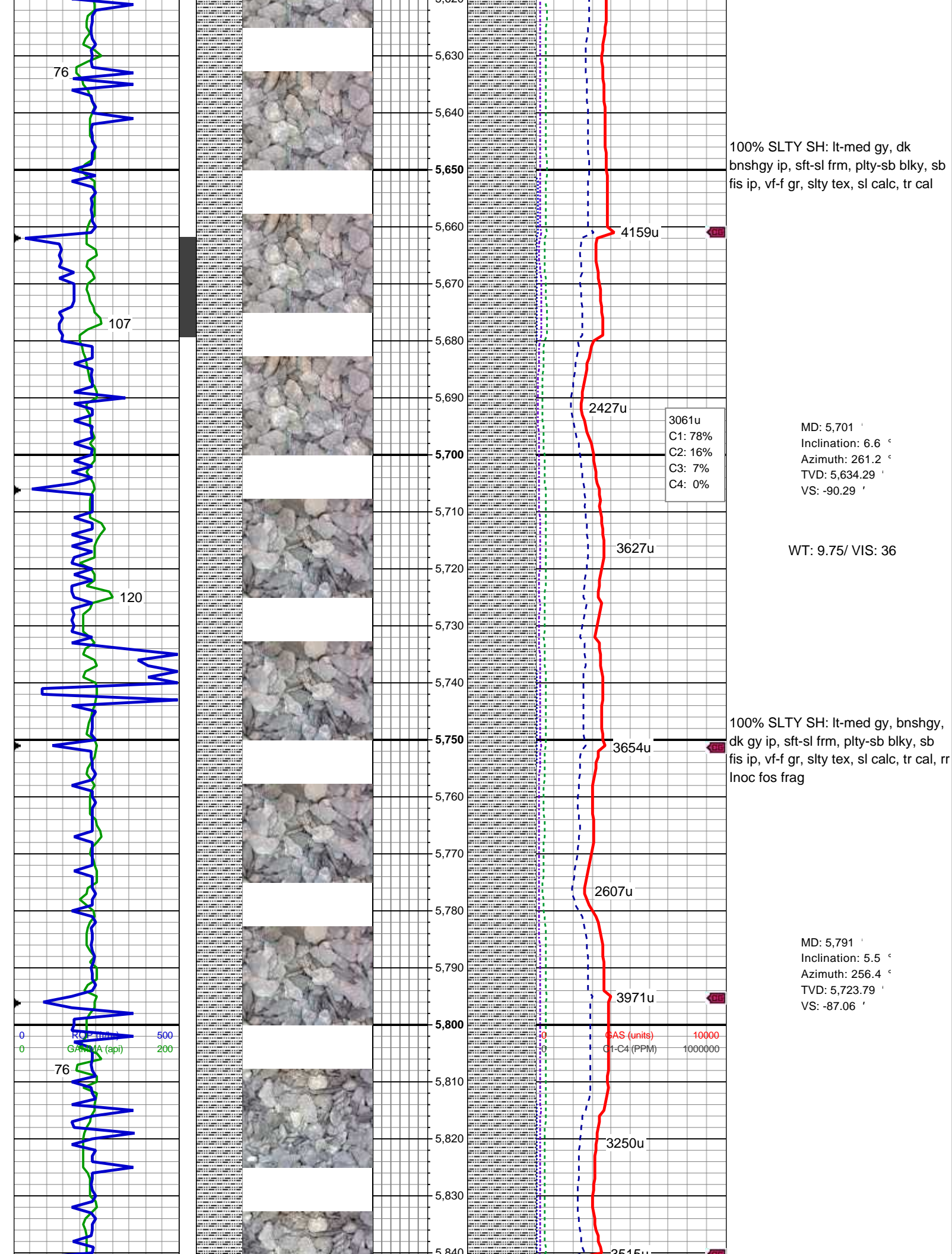
MD: 5,253 '
Inclination: 10.6 °
Azimuth: 289.6 °
TVD: 5,190.5 '
VS: -88.59 '

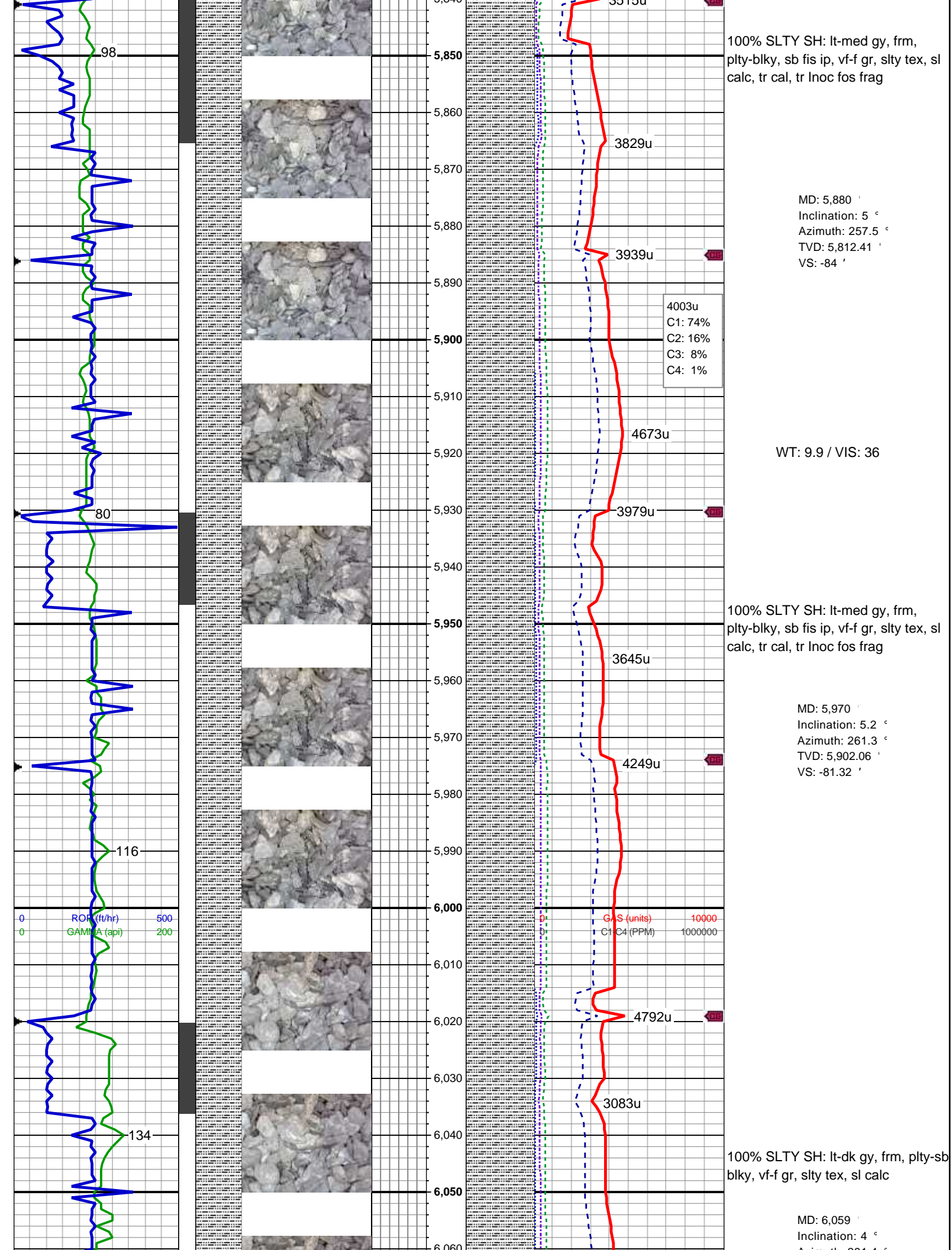
WT: 8.7 / VIS: 30

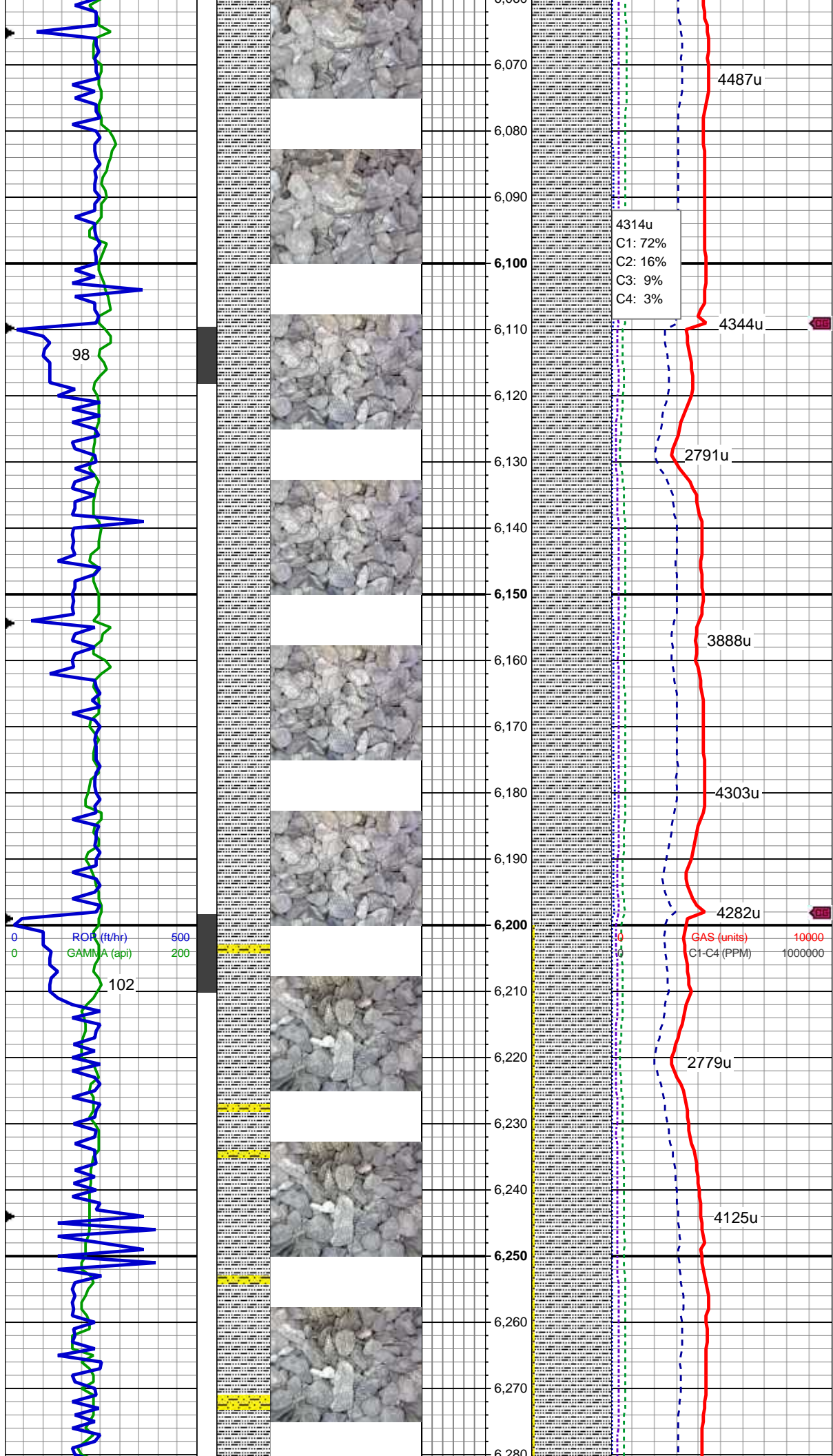
MD: 5,343 '
Inclination: 9.2 °
Azimuth: 287.9 °
TVD: 5,279.15 '
VS: -91.23 '

80% SLTY SH: lt-med gy, sft-sl frm, plty-sb blky, vf-f gr, slty tex, sl calc, grdg to 20% SHY SS: bnshgy, whi ip, sl frm, sb plty-blky, f-med gr, mod srtg, slty tex, sl calc









Azimuth: 291.4 °
TVD: 5,990.78 '
VS: -80.77 '

MD: 6,149 '
Inclination: 2.5 °
Azimuth: 298.3 °
TVD: 6,080.63 '
VS: -82.09 '

100% SLTY SH: lt-med gy, occ dk gy, frm, plty-sb blkly, vf-f gr, slty tex, sl calc

WT: 10.0 / VIS: 37

MD: 6,239 '
Inclination: 2 °
Azimuth: 252.4 °
TVD: 6,170.57 '
VS: -82.04 '

95% SLTY SH: lt-med gy, occ dk gy, frm, plty-sb blkly, vf-f gr, slty tex, sl calc 5% SHY SS: whi, lt gy, frm-hd, blkly, med gr, w srt, sl calc cmt

MD: 6,283 '
Inclination: 1.8 °



**Thank You For Choosing
Columbine Logging, Inc.**