

COLUMBINE LOGGING

Scale: 5" / 100'
Measured Depth Log

Well Name Crow Creek AE06-709

Location Sec. 1 T6N R63W

State Colorado

County Weld

Country USA

Rig Number PD 829

API Number 05-123-40153

AFE # 200449

Region DJ Basin

Field Wattenberg

Spud Date 12/4/2014

Drilling Completed 12/11/2014

Surface Coordinates 290 FNL ; 1175 FEL
40.52208 ; -104.37907

Bottom Hole Coordinates 30 FNL ; 1 FEL
40.50832 ; -104.37484

Ground Elevation 4857'

K.B. Elevation 4873'

Logged Interval 668' **To** 6065'

Total Depth 11500'

Formation Niobrara B chalk

Type of Drilling Fluid FW LSND

Operator

Company Noble Energy Inc

Address 1625 BROADWAY
DENVER, CO 80202

Geologist

Name Holly Duncan

Company Noble Energy, Inc.

Address 1625 BROADWAY
DENVER, CO 80202

Other

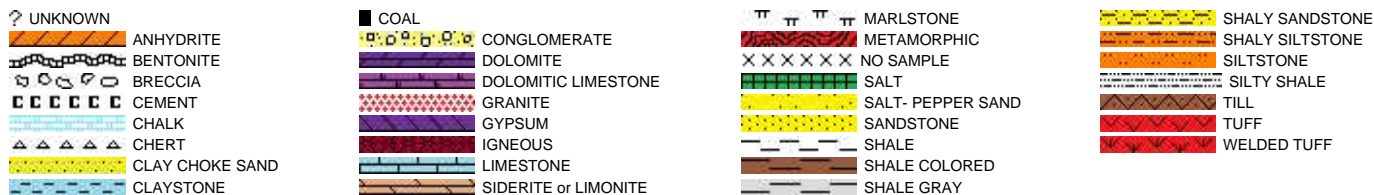
Columbine Logging, Inc.

602 S. Lipan St.
Denver CO, 80223

Well Site Geologists

Ryan Shilling
Ted Stockwell

Rock Types

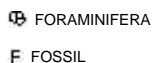


Accessories

Fossils



FISH



GASTROPOD



OOLITE



Minerals



ARGILLITE GRAIN



BITUMENOUS SUBSTANCE



FERRUGINOUS



HEAVY MINERAL



MARLSTONE



TUFFACEOUS

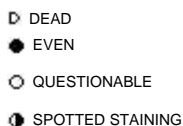
ANHYDRITE STRINGER



Stringer

Other Symbols

Oil Show



Porosity



ORGANIC



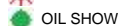
Engineering



FAULT



GAS SHOW



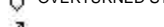
MN DEPTH



NORMAL FAULT



OVERTURNED STRATA



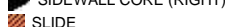
REVERSE FAULT



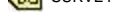
CASING



SIDEWALL CORE (LEFT)

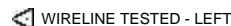


SLIDE



SURVEY

DRILL STEM TEST



WIRELINE TESTED - LEFT



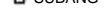
WIRELINE TESTED - RT



ANGULAR



ROUNDED



SUBANG



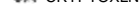
SUBRND



BOUNDSTONE



CHALKY



CRYPTOXLN

E EARTHY



F FINELYXLN



G GRAINSTONE



L LITHOGRAPHIC



MX MICROXLN



MS MUDSTONE



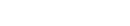
PS PACKSTONE



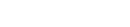
WS WACKSTONE



MODERATE

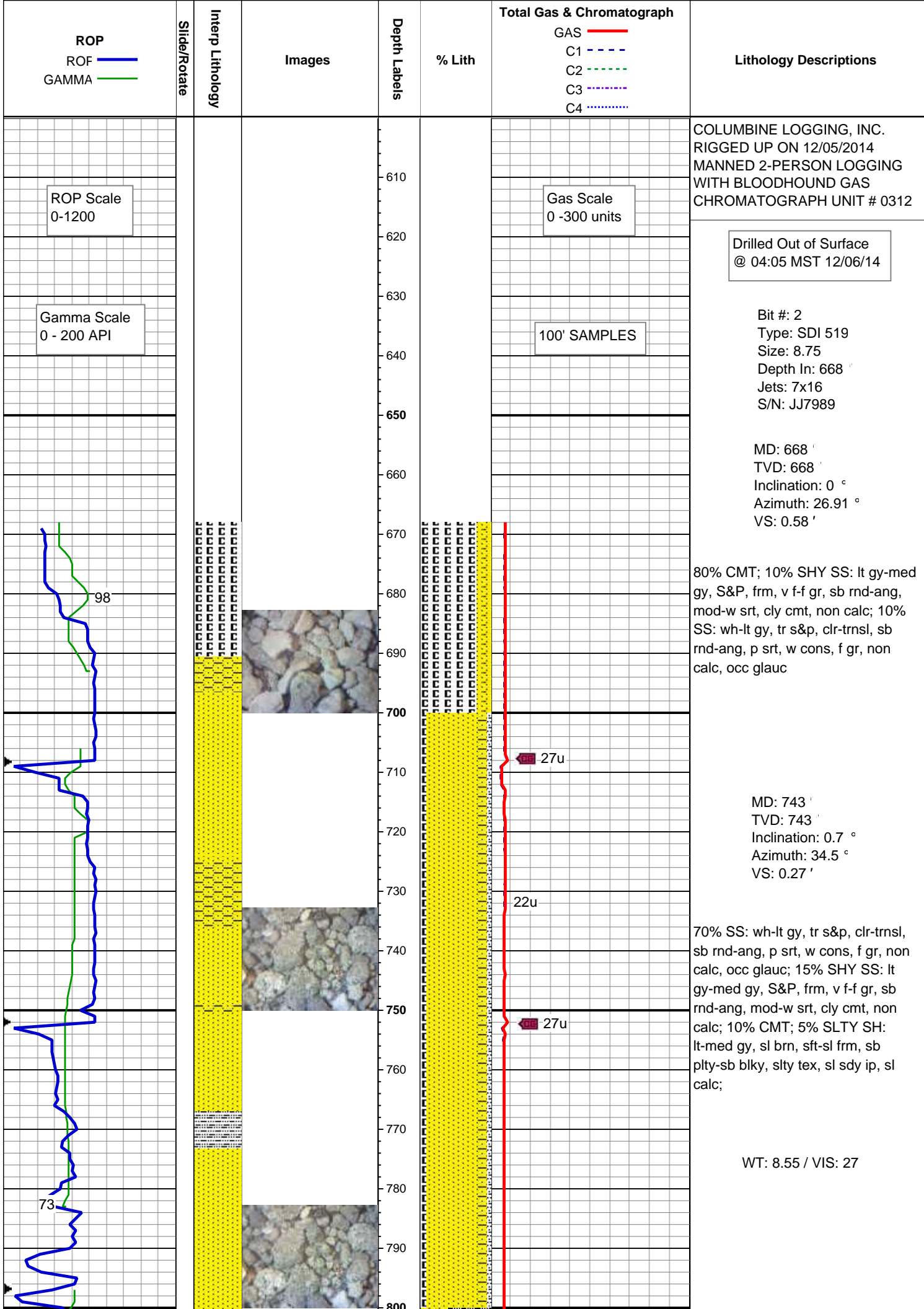


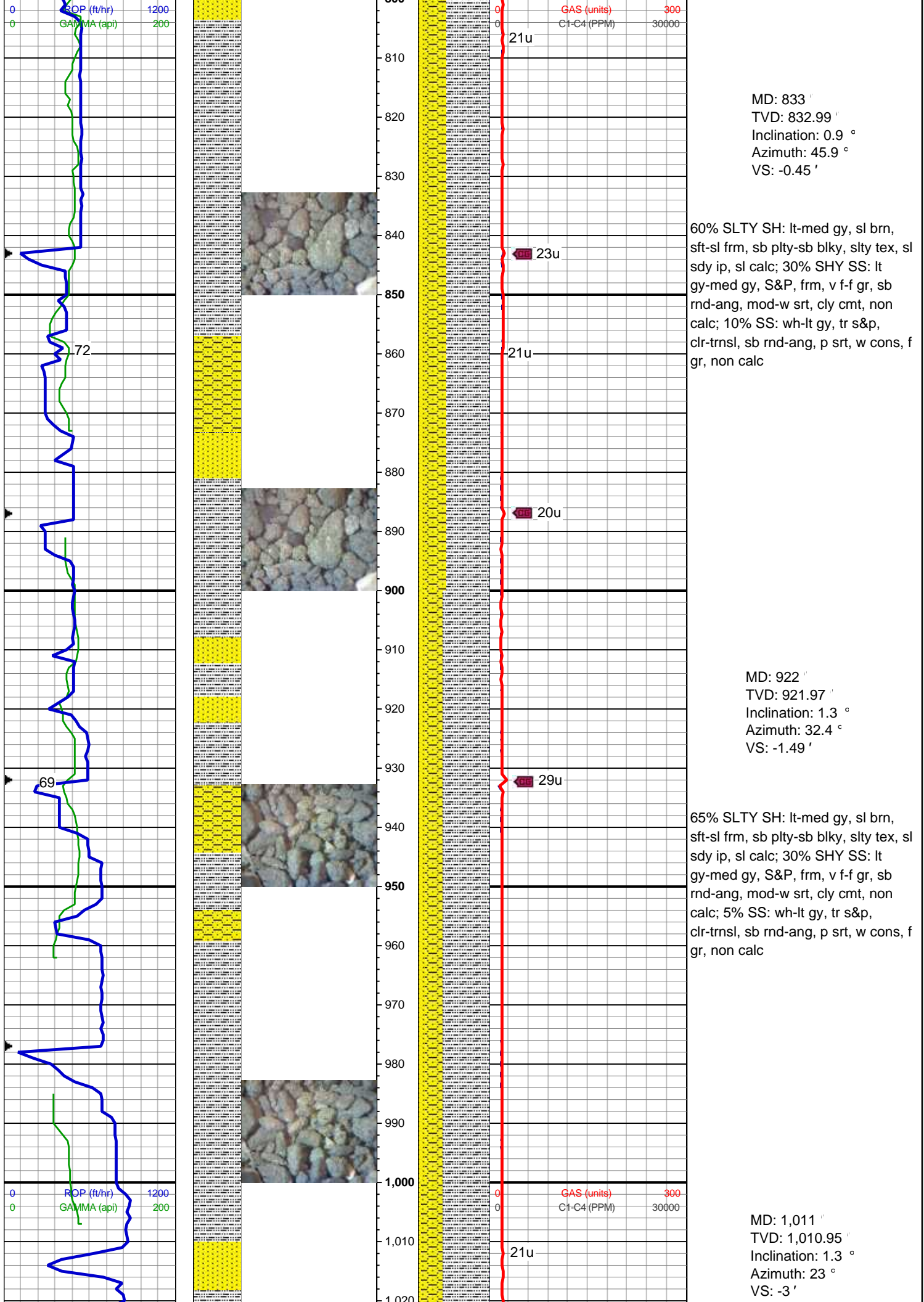
POOR

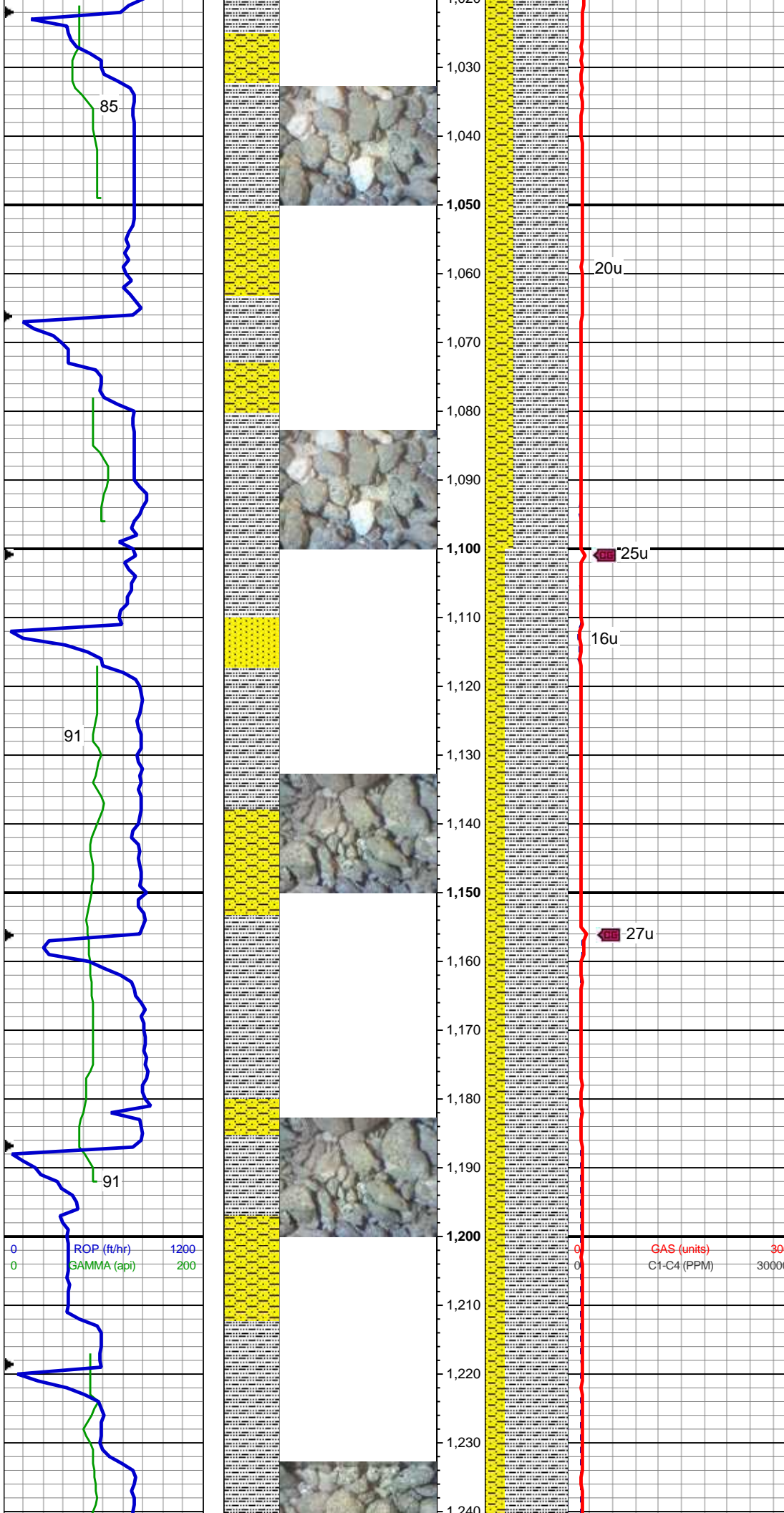


WELL









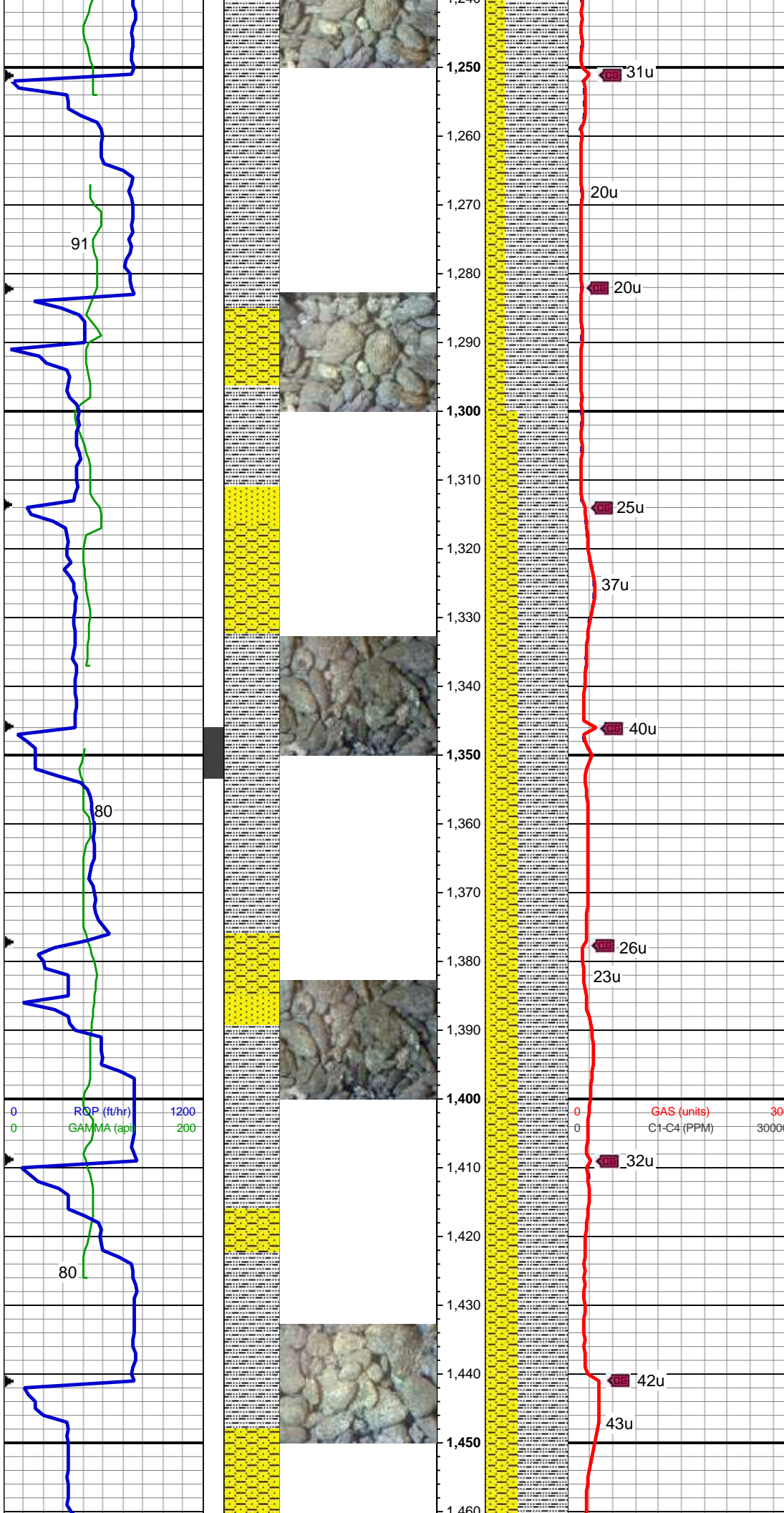
65% SLTY SH: lt-med gy, sl brn, sft-sl frm, sb plty-sb blk, slty tex, sl sdy ip, sl calc; 30% SHY SS: lt gy-med gy, S&P, frm, v f-f gr, sb rnd-ang, mod-w srt, cly cmt, non calc; 5% SS: wh-lt gy, tr s&p, clr-trnsl, sb rnd-ang, p srt, w cons, f gr, non calc

MD: 1,133 '
TVD: 1,132.91 '
Inclination: 1.5 °
Azimuth: 2.7 °
VS: -5.64 '

75% SLTY SH: lt-med gy, sl brn, sft-sl frm, sb plty-sb blk, slty tex, sl sdy ip, sl calc; 20% SHY SS: lt gy-med gy, S&P, frm, v f-f gr, sb rnd-ang, mod-w srt, cly cmt, non calc; 5% SS: wh-lt gy, tr s&p, clr-trnsl, sb rnd-ang, p srt, w cons, f gr, non calc

MD: 1,228 '
TVD: 1,227.89 '
Inclination: 1.8 °
Azimuth: 95.6 °
VS: -6.33 '

75% SLTY SH: lt-med gy, sl brn,



sft-sl frm, sb plty-sb blkly, slty tex, sl
sdy ip, sl calc; 20% SHY SS: lt
gy-med gy, S&P, frm, v f-f gr, sb
rnd-ang, mod-w srt, cly cmt, non
calc; 5% SS: wh-lt gy, tr s&p,
clr-trnsl, sb rnd-ang, p srt, w cons, f
gr, non calc

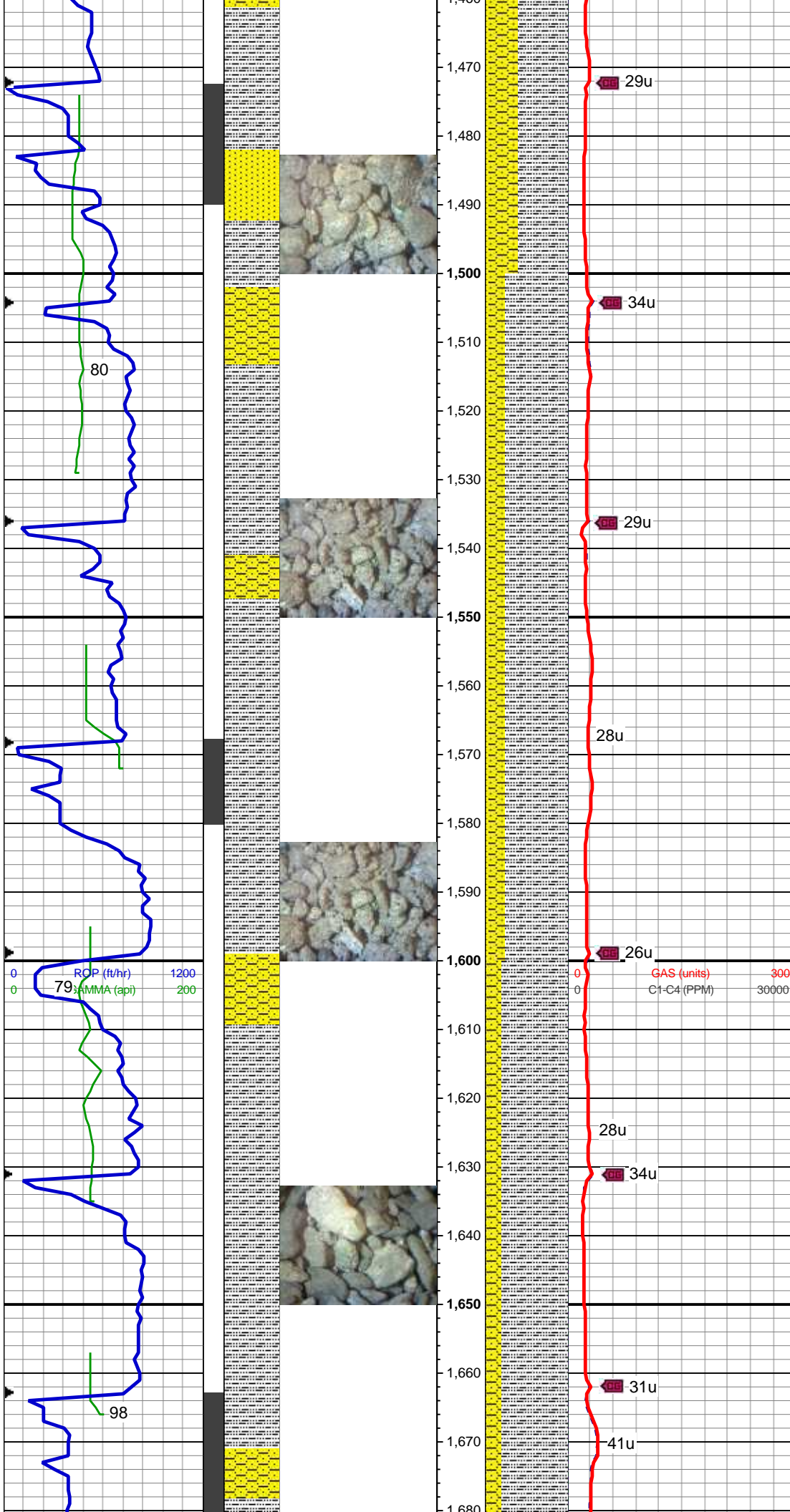
WT: 8.4 / VIS: 27

MD: 1,323 '
TVD: 1,322.79 '
Inclination: 3.4 °
Azimuth: 118.4 °
VS: -3.93 '

60% SLTY SH: lt-med gy, sl brn,
sft-sl frm, sb plty-sb blkly, slty tex, sl
sdy ip, sl calc; 30% SHY SS: lt
gy-med gy, S&P, frm, v f-f gr, sb
rnd-ang, mod-w srt, cly cmt, non
calc; 10% SS: wh-lt gy, tr s&p,
clr-trnsl, sb rnd-ang, p srt, w cons, f
gr, non calc

MD: 1,418 '
TVD: 1,417.51 '
Inclination: 5.3 °
Azimuth: 107.2 °
VS: 0.23 '

60% SLTY SH: lt-med gy, sl brn,
sft-sl frm, sb plty-sb blkly, slty tex, sl
sdy ip, sl calc; 35% SHY SS: lt
gy-med gy, S&P, frm, v f-f gr, sb
rnd-ang, mod-w srt, cly cmt, non
calc; 5% SS: wh-lt gy, tr s&p,
clr-trnsl, sb rnd-ang, p srt, w cons, f



gr, non calc

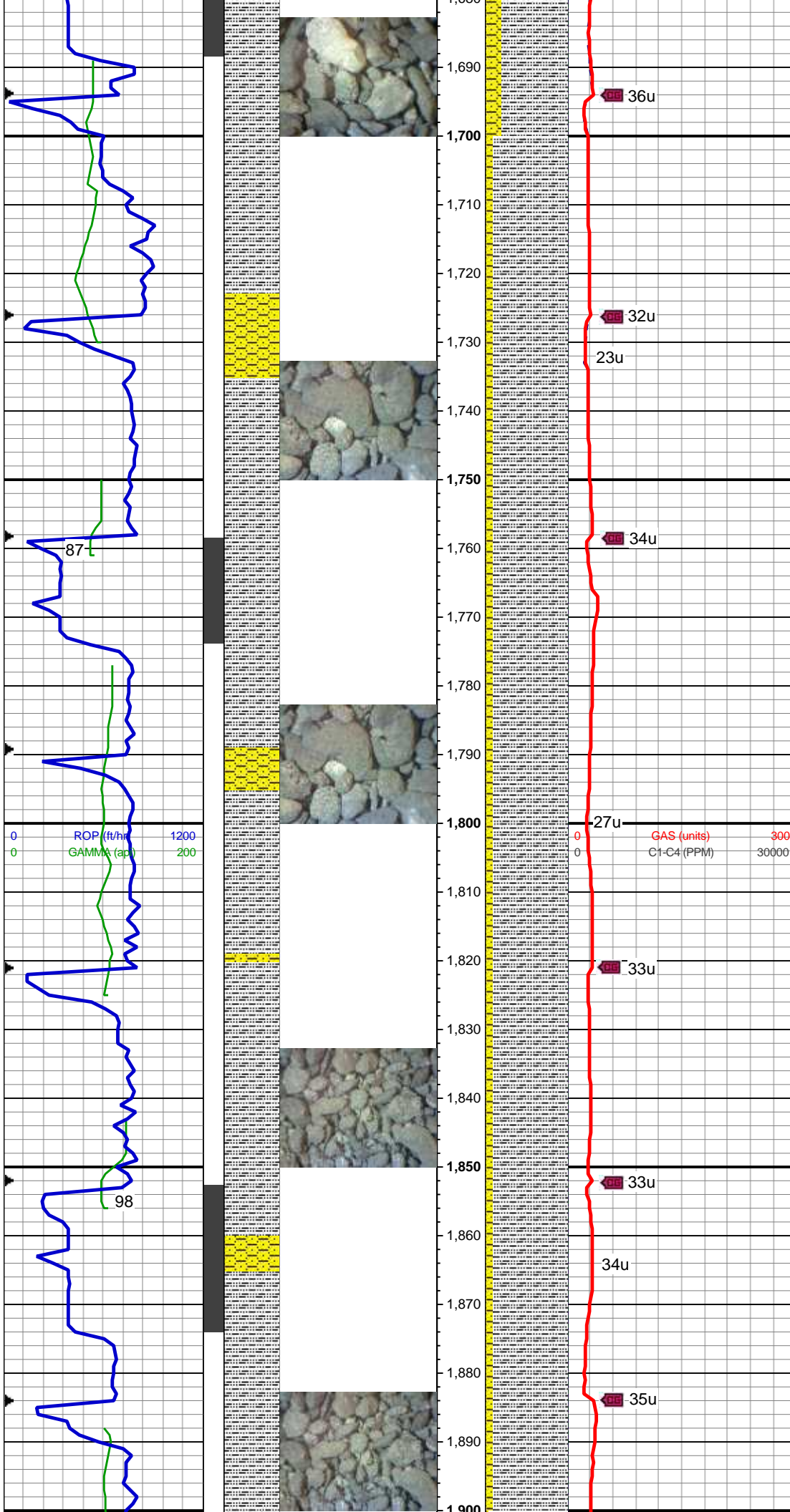
MD: 1,513 '
TVD: 1,511.89 '
Inclination: 7.8 °
Azimuth: 108.8 °
VS: 5.99 '

75% SLTY SH: lt-med gy, sl brn, sft-sl frm, sb plty-sb blk, slty tex, sl sdy ip, sl calc; 20% SHY SS: lt gy-med gy, S&P, frm, v f-f gr, sb rnd-ang, mod-w srt, cly cmt, non calc; 5% SS: wh-lt gy, tr s&p, clr-trnsl, sb rnd-ang, p srt, w cons, f gr, non calc

WT: 8.4 / VIS: 27

MD: 1,608 '
TVD: 1,605.85 '
Inclination: 9.1 °
Azimuth: 109 °
VS: 13.56 '

80% SLTY SH: lt-med gy, sl brn, sft-sl frm, sb plty-sb blk, slty tex, sl sdy ip, sl calc; 20% SHY SS: lt gy-med gy, S&P, frm, v f-f gr, sb rnd-ang, mod-w srt, cly cmt, non calc, tr ss



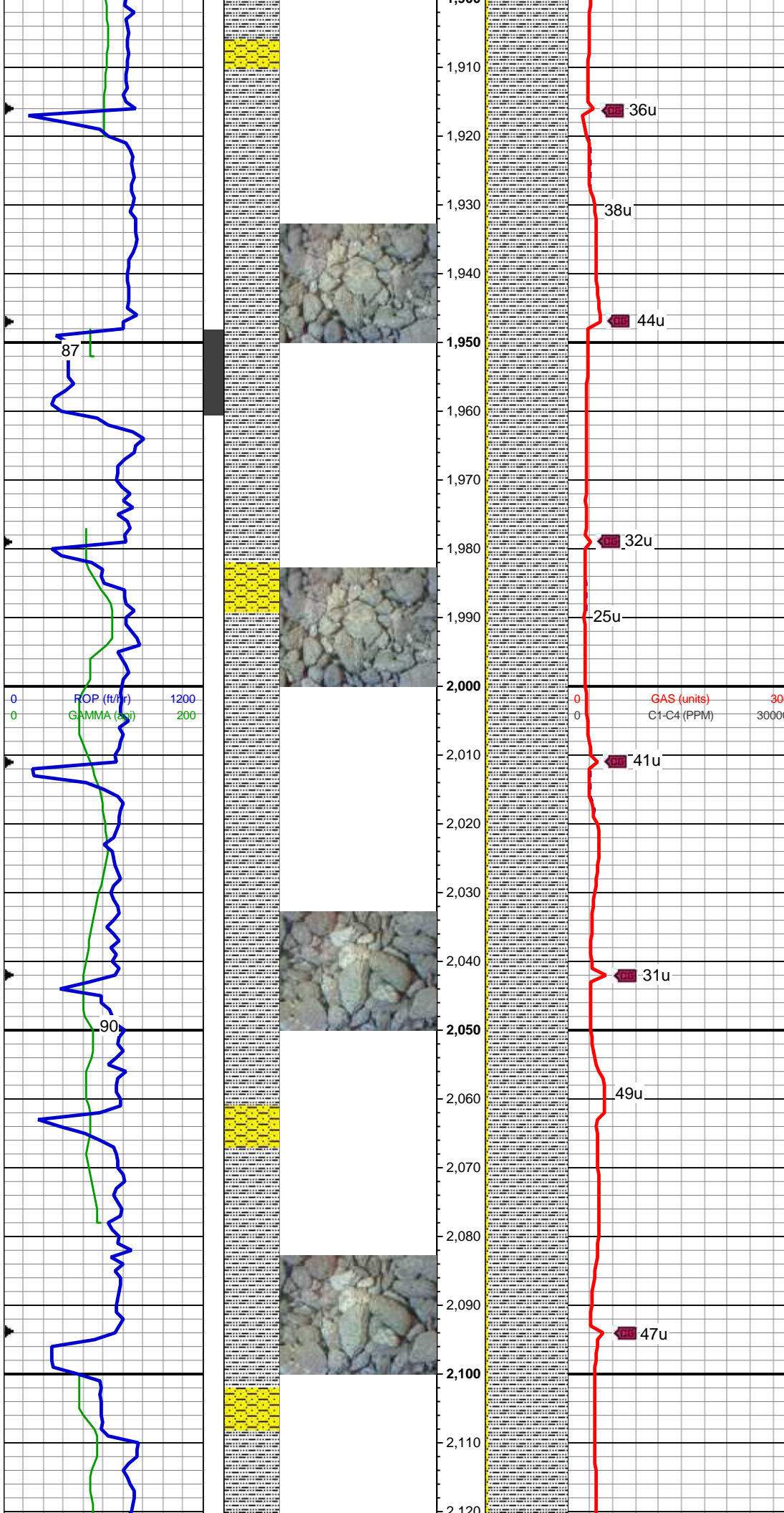
MD: 1,703 '
TVD: 1,699.42 '
Inclination: 10.8 °
Azimuth: 105.5 °
VS: 22.02 '

90% SLTY SH: lt-med gy, sl brn, sft-sl frm, sb plty-sb blk, slty tex, sl sdy ip, sl calc; 10% SHY SS: lt gy-med gy, S&P, frm, v f-f gr, sb rnd-ang, mod-w srt, cly cmt, non calc, tr ss

MD: 1,797 '
TVD: 1,791.62 '
Inclination: 11.7 °
Azimuth: 96.5 °
VS: 29.67 '

90% SLTY SH: lt-med gy, sl brn, sft-sl frm, sb plty-sb blk, slty tex, sl sdy ip, sl calc; 10% SHY SS: lt gy-med gy, S&P, frm, v f-f gr, sb rnd-ang, mod-w srt, cly cmt, non calc

MD: 1,892 '
TVD: 1,884.31 '
Inclination: 13.6 °
Azimuth: 91.3 °
VS: 35.97 '



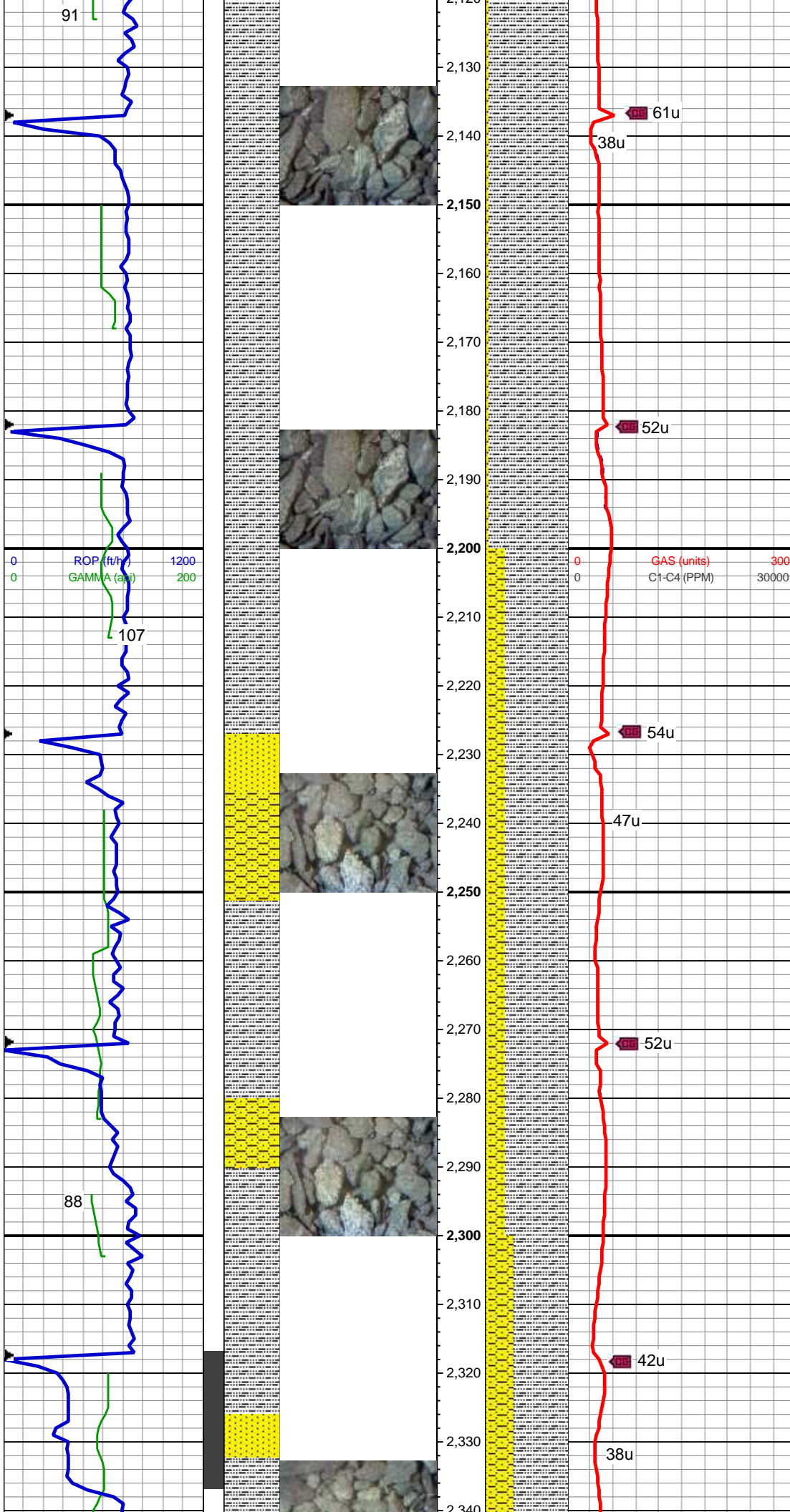
95% SLTY SH: lt-med gy, sl brn, sft-sl frm, sb plty-sb blk, slty tex, sl sdy ip, sl calc; 5% SHY SS: lt gy-med gy, S&P, frm, v f-f gr, sb rnd-ang, mod-w srt, cly cmt, non calc

MD: 1,987 '
TVD: 1,976.5 '
Inclination: 14.4 °
Azimuth: 85.8 °
VS: 40.9 '

WT: 8.4 / VIS: 27

95% SLTY SH: lt-med gy, sl brn, sft-sl frm, sb plty-sb blk, slty tex, sl sdy ip, sl calc; 5% SHY SS: lt gy-med gy, S&P, frm, v f-f gr, sb rnd-ang, mod-w srt, cly cmt, non calc

MD: 2,082 '
TVD: 2,068.69 '
Inclination: 13.5 °
Azimuth: 84.4 °
VS: 44.5 '



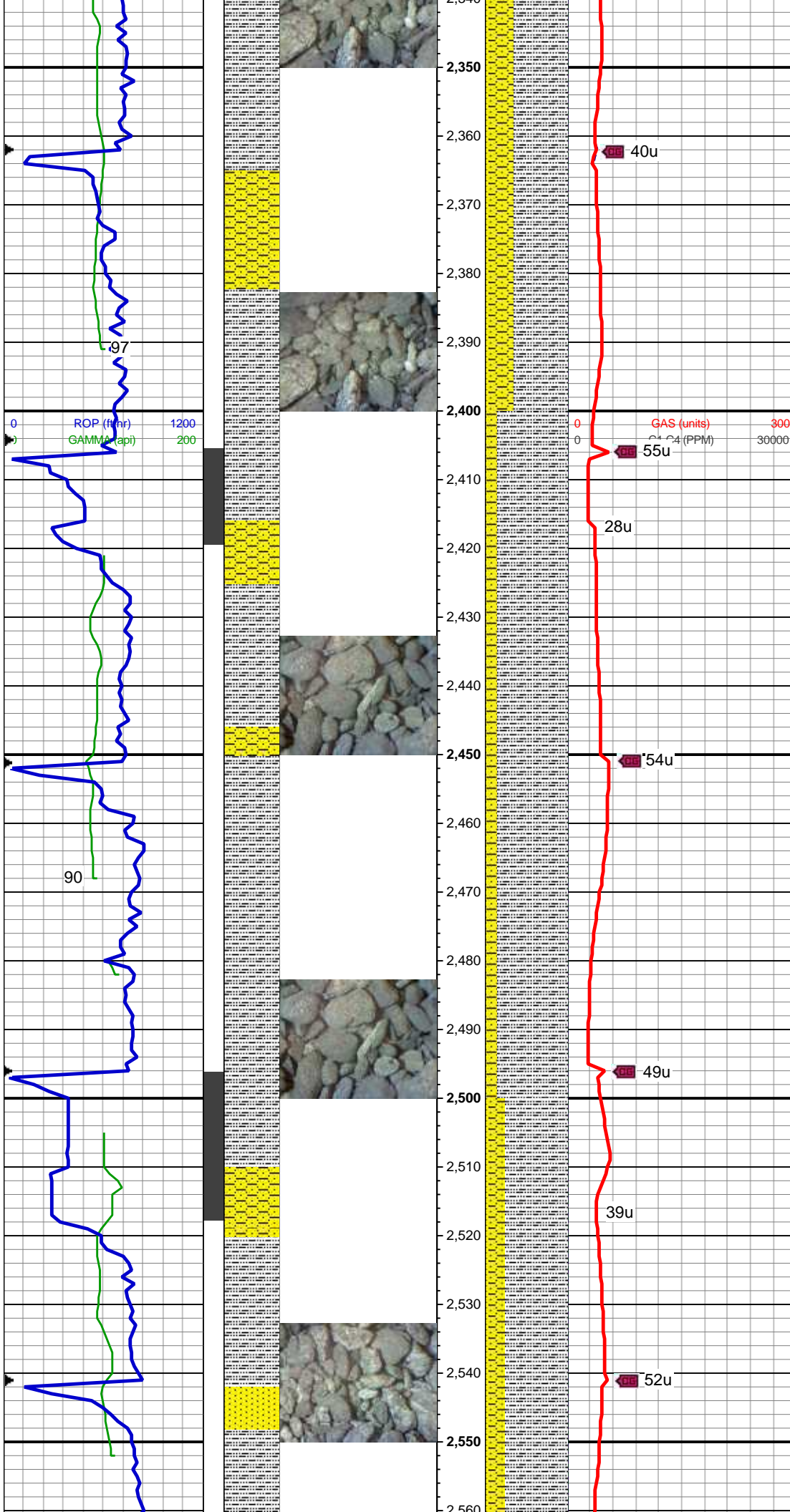
95% SLTY SH: lt-med gy, sl brn, sft-sl frm, sb plty-sb blk, slty tex, sl sdy ip, sl calc; 5% SHY SS: lt gy-med gy, S&P, frm, v f-f gr, sb rnd-ang, mod-w srt, cly cmt, non calc

MD: 2,172 '
TVD: 2,156.3 '
Inclination: 13 °
Azimuth: 78.4 °
VS: 46.44 '

75% SLTY SH: lt-med gy, sl brn, sft-sl frm, sb plty-sb blk, slty tex, sl sdy ip, sl calc; 20% SHY SS: lt gy-med gy, S&P, frm, v f-f gr, sb rnd-ang, mod-w srt, cly cmt, non calc; 5% SS: wh-lt gy, tr s&p, clr-trnsl, sb rnd-ang, p srt, w cons, f gr, non calc

MD: 2,261 '
TVD: 2,243.14 '
Inclination: 12.3 °
Azimuth: 73.1 °
VS: 46.35 '

65% SLTY SH: lt-med gy, sl brn,



sft-sl frm, sb plty-sb blk, slty tex, sl sdy ip, sl calc; 30% SHY SS: lt gy-med gy, S&P, frm, v f-f gr, sb rnd-ang, mod-w srt, cly cmt, non calc; 5% SS: wh-lt gy, tr s&p, clr-trnsl, sb rnd-ang, p srt, w cons, f gr, non calc

40u

55u

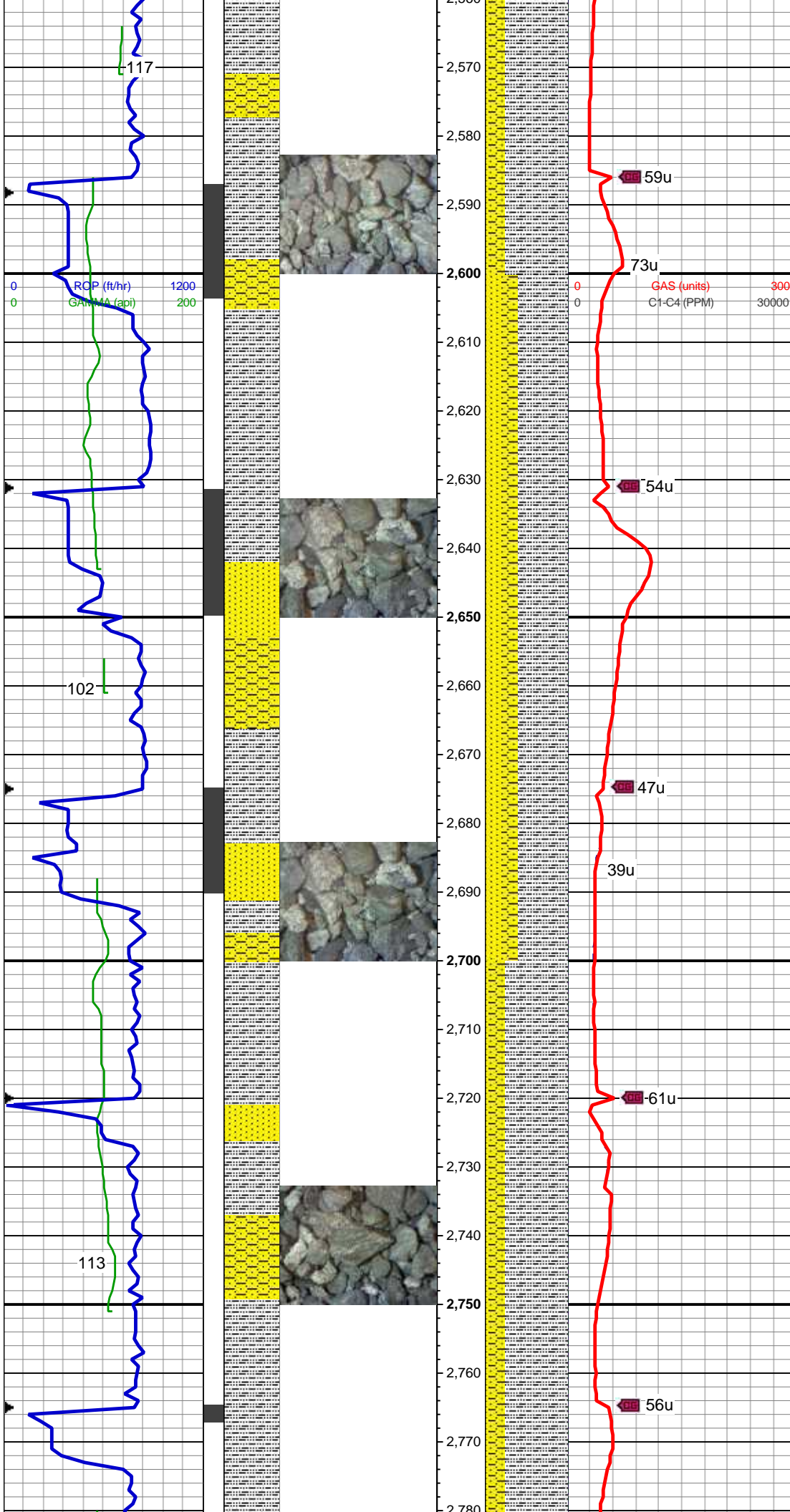
28u

54u

49u

39u

52u



gr, non calc

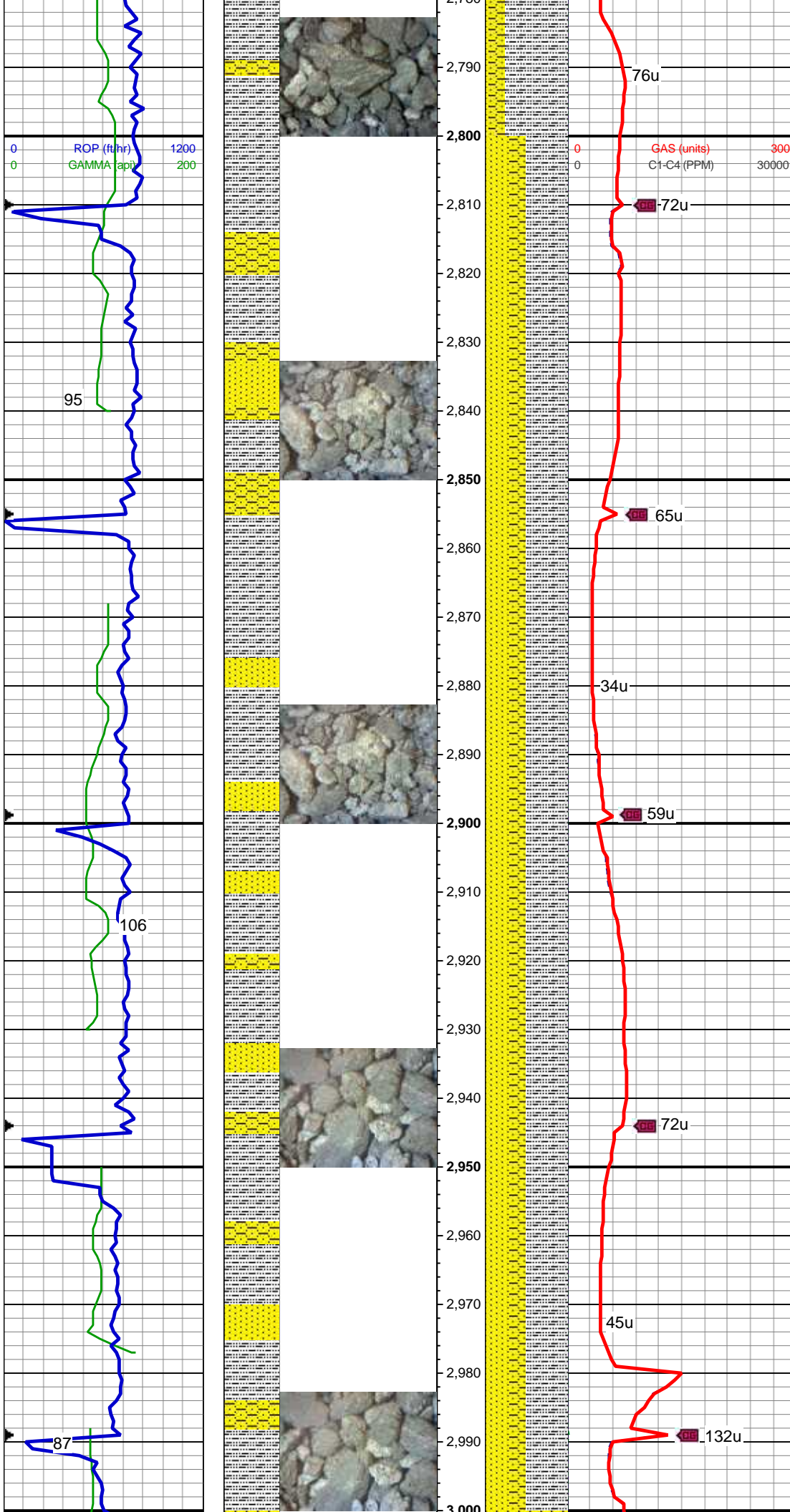
MD: 2,620 '
TVD: 2,593.96 '
Inclination: 13 °
Azimuth: 93.3 °
VS: 55.13 '

60% SLTY SH: lt-med gy, sl brn, sft-sl frm, sb plty-sb blkly, slty tex, sl sdy ip, sl calc; 20% SHY SS: lt gy-med gy, S&P, frm, v f-f gr, sb rnd-ang, mod-w srt, cly cmt, non calc; 20% SS: wh-lt gy, tr s&p, clr-trnsl, sb rnd-ang, p srt, w cons, f gr, non calc

WT: 8.5 / VIS: 27

MD: 2,710 '
TVD: 2,681.4 '
Inclination: 14.4 °
Azimuth: 90.9 °
VS: 61 '

75% SLTY SH: lt-med gy, sl brn, sft-sl frm, sb plty-sb blkly, slty tex, sl sdy ip, sl calc; 20% SHY SS: lt gy-med gy, S&P, frm, v f-f gr, sb rnd-ang, mod-w srt, cly cmt, non calc; 5% SS: wh-lt gy, tr s&p, clr-trnsl, sb rnd-ang, p srt, w cons, f gr, non calc



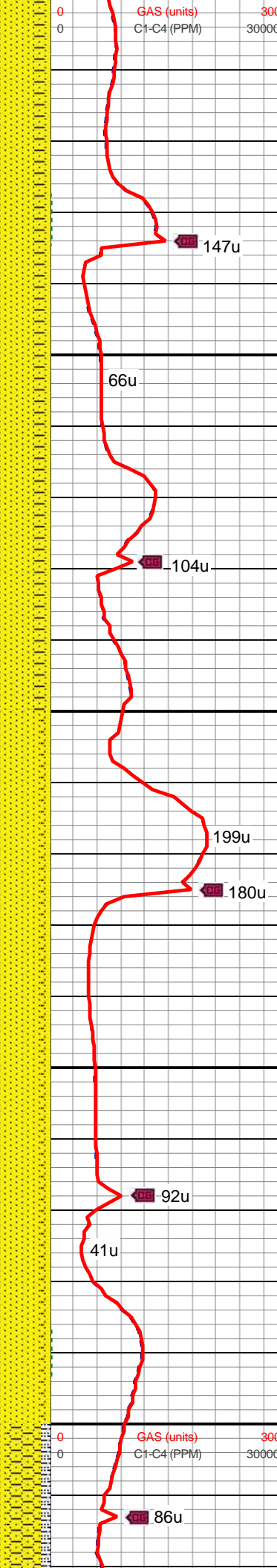
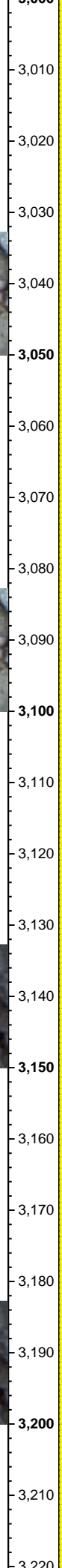
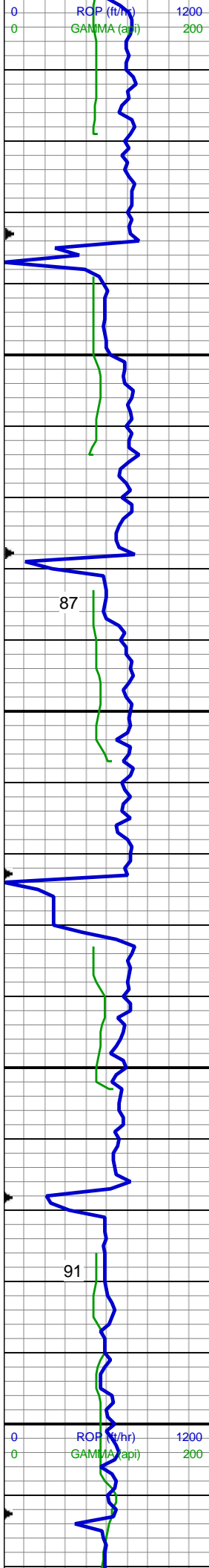
MD: 2,799 '
TVD: 2,767.68 '
Inclination: 14 °
Azimuth: 90.7 °
VS: 66.55 '

50% SLTY SH: lt-med gy, sl brn, sft-sl frm, sb plty-sb blk, slty tex, sl sdy ip, sl calc; 30% SHY SS: lt gy-med gy, S&P, frm, v f-f gr, sb rnd-ang, mod-w srt, cly cmt, non calc; 10% SS: wh-lt gy, tr s&p, clr-trnsl, sb rnd-ang, p srt, w cons, f gr, non calc

MD: 2,889 '
TVD: 2,855.06 '
Inclination: 13.7 °
Azimuth: 89.3 °
VS: 71.74 '

50% SLTY SH: lt-med gy, sl brn, sft-sl frm, sb plty-sb blk, slty tex, sl sdy ip, sl calc; 30% SHY SS: lt gy-med gy, S&P, frm, v f-f gr, sb rnd-ang, mod-w srt, cly cmt, non calc; 10% SS: wh-lt gy, tr s&p, clr-trnsl, sb rnd-ang, p srt, w cons, f gr, non calc

MD: 2,978 '
TVD: 2,941.61 '
Inclination: 13.3 °
Azimuth: 87.4 °
VS: 76.16 '

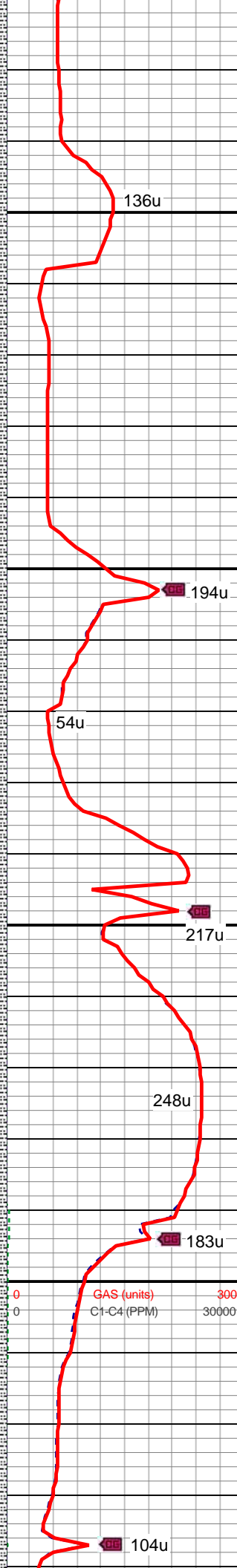
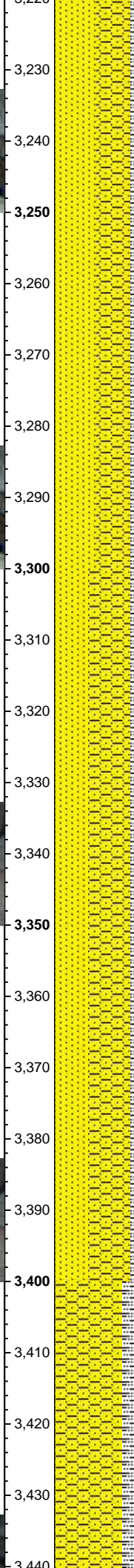
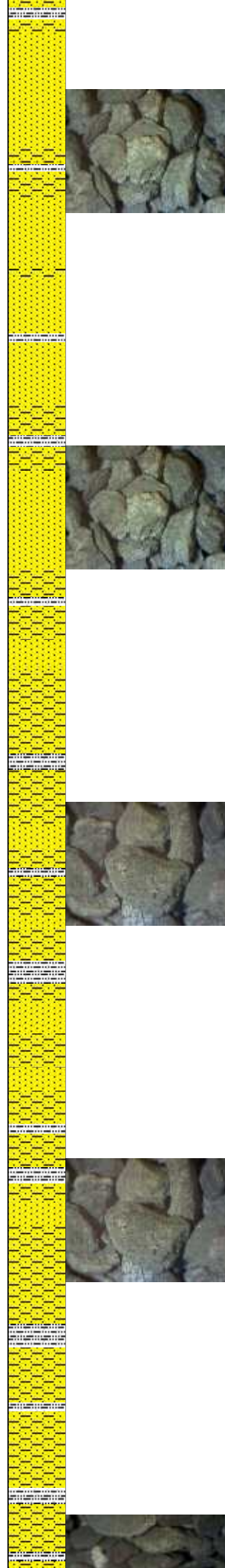
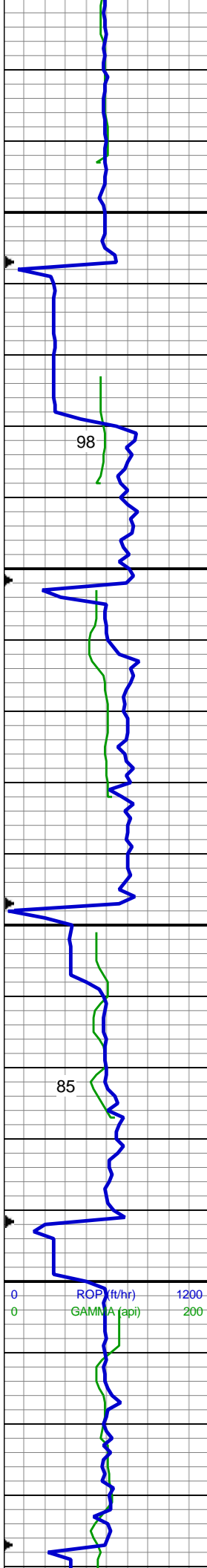


80% SS: wh-lt gy, tr s&p, clr-trnsl, sb rnd-ang, p srt, w cons, f gr, tr glauc, tr sl arg, non calc; 20% SHY SS: lt gy-med gy, S&P, frm, v f-f gr, sb rnd-ang, mod-w srt, cly cmt, non calc

MD: 3,067 '
TVD: 3,028.25 '
Inclination: 13.1 °
Azimuth: 86 °
VS: 79.91 '

90% SS: wh-lt gy, tr s&p, clr-trnsl, sb rnd-ang, p srt, w cons, f gr, tr glauc, tr sl arg, non calc; 10% SHY SS: lt gy-med gy, S&P, frm, v f-f gr, sb rnd-ang, mod-w srt, cly cmt, non calc

MD: 3,157 '
TVD: 3,115.93 '
Inclination: 13 °
Azimuth: 84.4 °
VS: 83.14 '



MD: 3,246 '
TVD: 3,202.68 '
Inclination: 12.8 °
Azimuth: 83.4 °
VS: 85.85 '

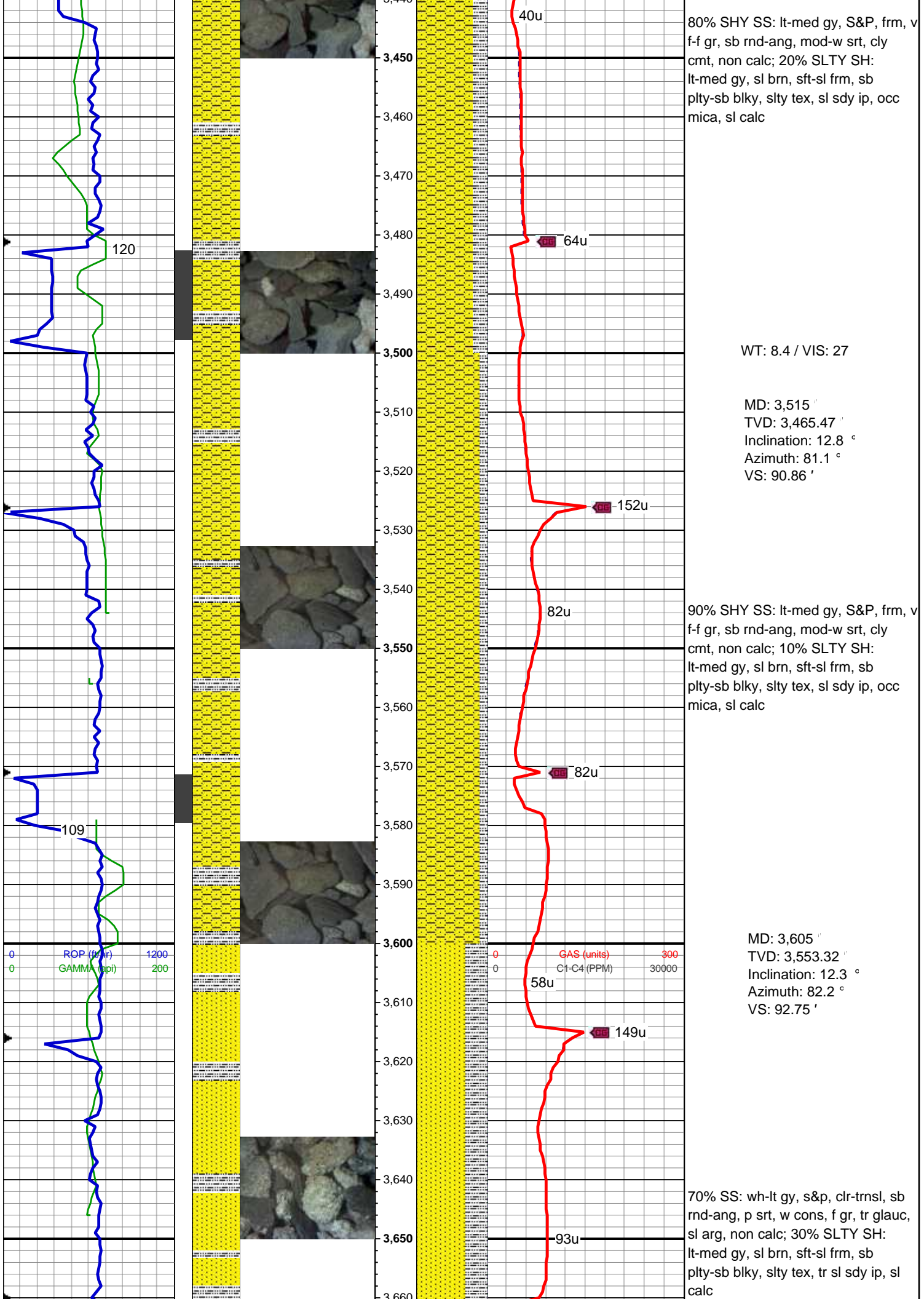
50% SS: wh-lt gy, tr s&p, clr-trnsl, sb rnd-ang, p srt, w cons, f gr, tr glauc, tr sl arg, non calc; 40% SHY SS: lt gy-med gy, S&P, frm, v f-f gr, sb rnd-ang, mod-w srt, cly cmt, non calc; 10% SLTY SH: lt-med gy, sl brn, sft-sl frm, sb plty-sb blkly, slty tex, sl sdy ip, sl calc

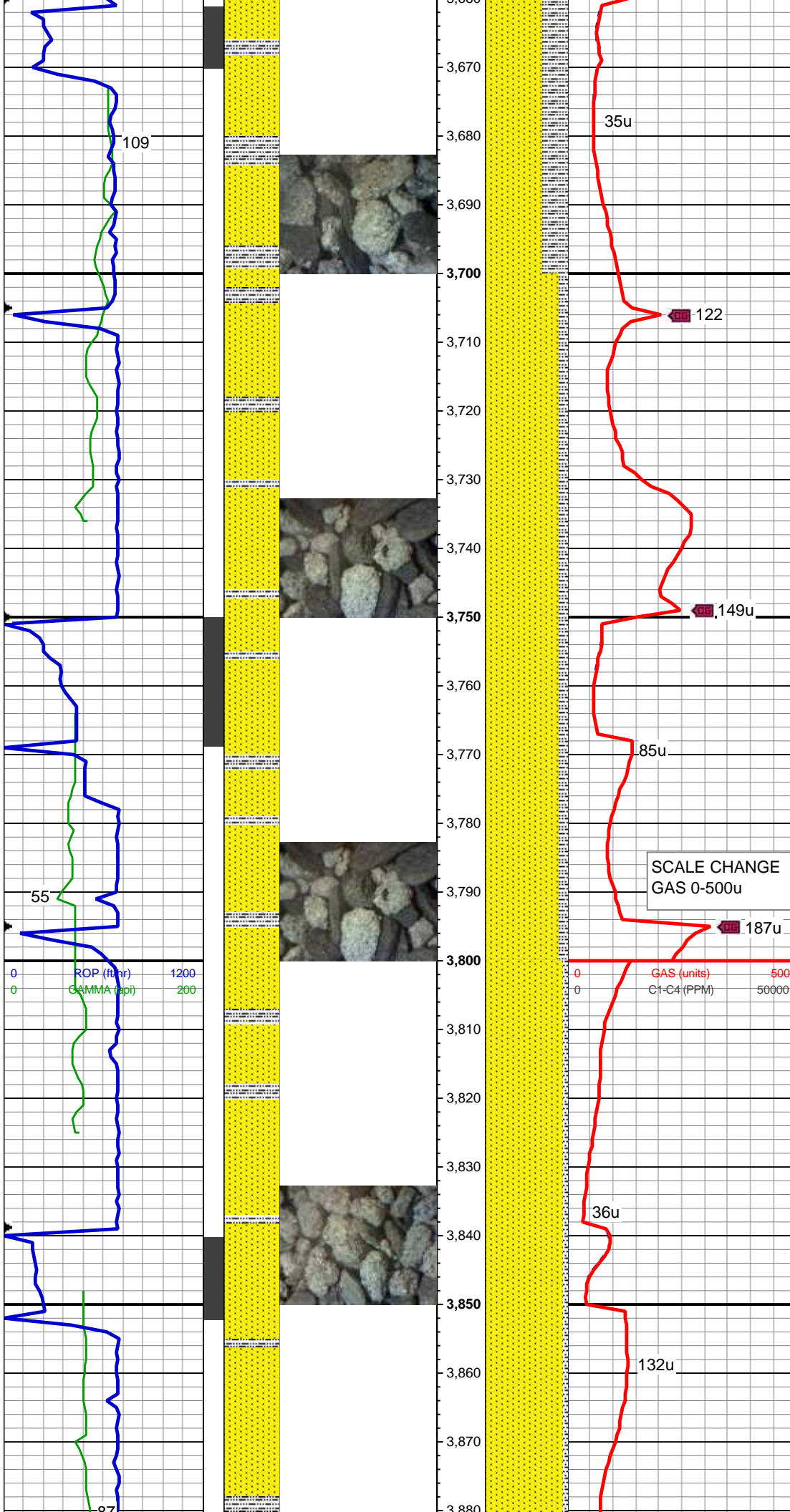
WT: 8.5+ / VIS: 27

MD: 3,336 '
TVD: 3,290.52 '
Inclination: 12.4 °
Azimuth: 80.5 °
VS: 87.86 '

50% SHY SS: lt gy-med gy, S&P, frm, v f-f gr, sb rnd-ang, mod-w srt, cly cmt, non calc; 40% SS: wh-lt gy, tr s&p, clr-trnsl, sb rnd-ang, p srt, w cons, f gr, tr glauc, sl arg, non calc; 10% SLTY SH: lt-med gy, sl brn, sft-sl frm, sb plty-sb blkly, slty tex, sl sdy ip, sl calc

MD: 3,426 '
TVD: 3,378.52 '
Inclination: 11.8 °
Azimuth: 80.4 °
VS: 89.31 '





MD: 3,695 '
TVD: 3,641.48 '
Inclination: 10.9 °
Azimuth: 85.7 °
VS: 95.2 '

WT: 8.45 / VIS: 27

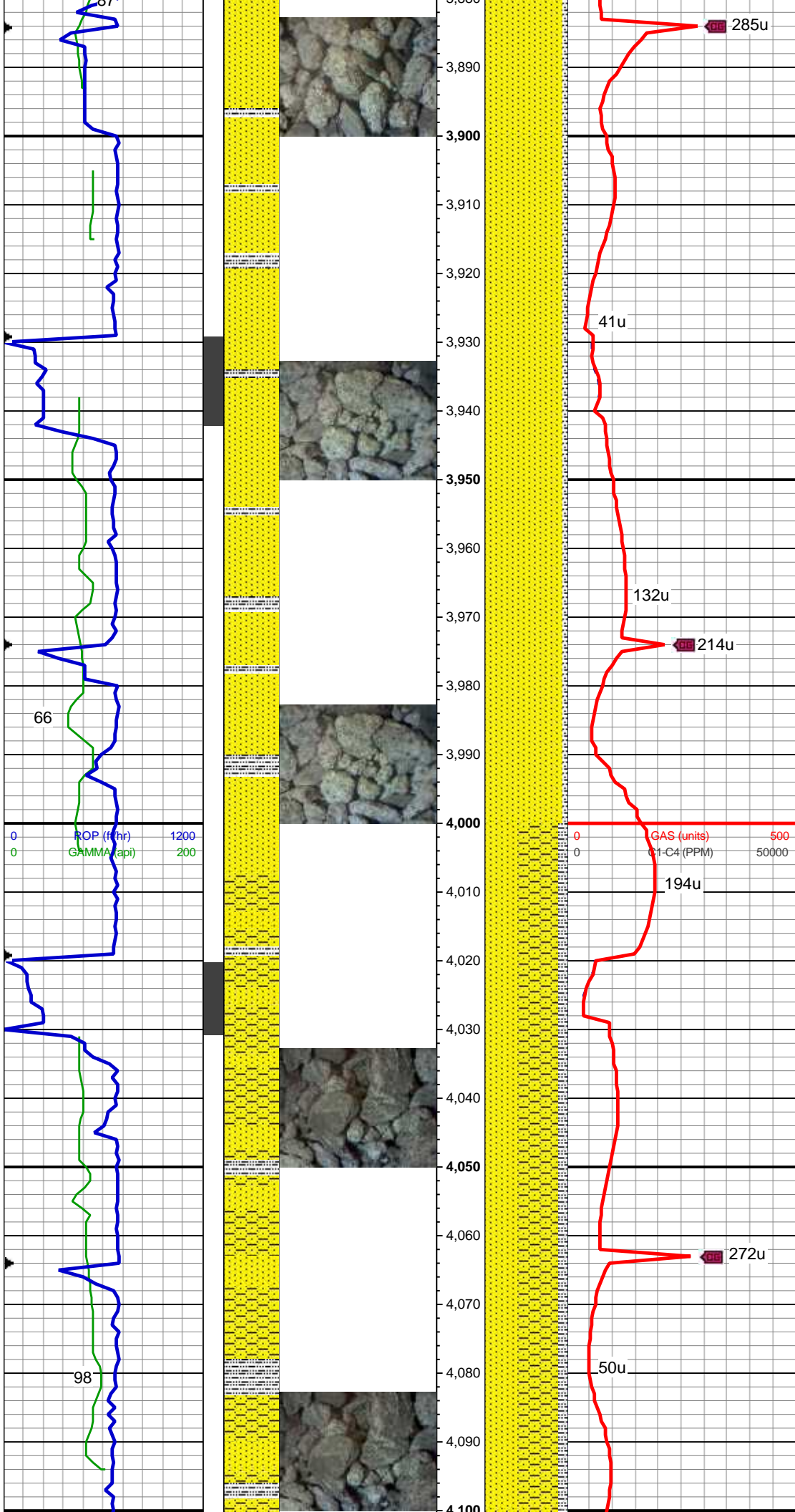
90% SS: wh-lt gy, s&p, clr-trnsl, sb
rnd-ang, p srt, w cons, f gr, tr glauc,
sl arg, non calc; 10% SLTY SH:
lt-med gy, sl brn, sft-sl frm, sb
plty-sb blk, slty tex, tr sl sdy ip, sl
calc

MD: 3,784 '
TVD: 3,729.06 '
Inclination: 9.7 °
Azimuth: 96.9 °
VS: 99.28 '

SCALE CHANGE
GAS 0-500u

95% SS: wh-lt gy, s&p, clr-trnsl, sb
rnd-ang, p srt, w cons, f gr, tr glauc,
sl arg, non calc, tr mica, occ shy ss;
5% SLTY SH: lt-med gy, sl brn,
sft-sl frm, sb plty-sb blk, slty tex, tr
sl sdy ip, sl calc

MD: 3,873 '
TVD: 3,816.62 '
Inclination: 10.9 °
Azimuth: 98.2 °
VS: 105.11 '



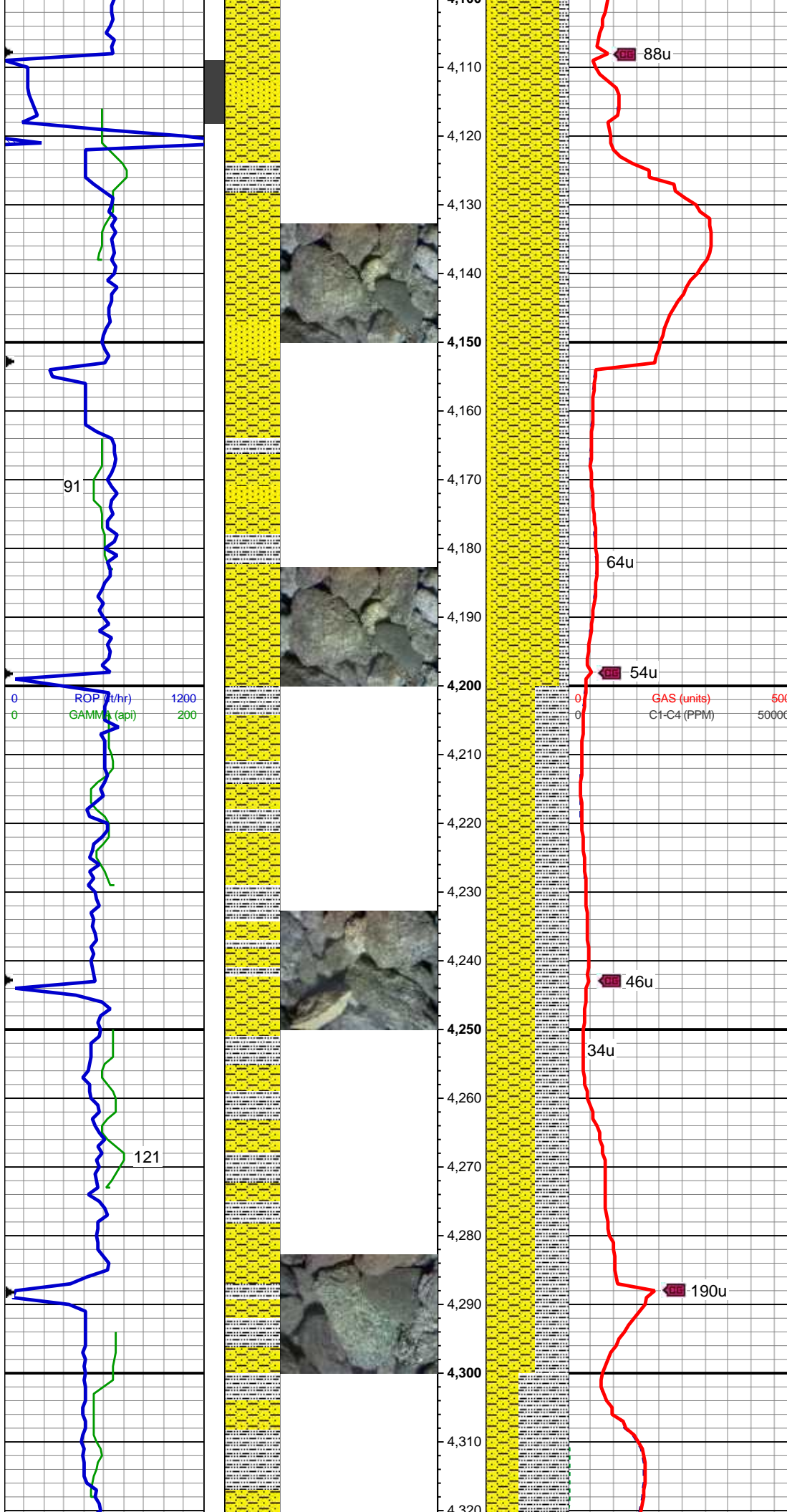
WT: 8.5 / VIS: 27

95% SS: wh-lt gy, s&p, clr-trnsl, sb
rnd-ang, p srt, w cons, f gr, tr glauc,
sl arg, non calc, tr mica, occ shy ss;
5% SLTY SH: lt-med gy, sl brn,
sft-sl frm, sb plty-sb blkly, slty tex, tr
sl sdy ip, sl calc

MD: 3,963 '
TVD: 3,904.75 '
Inclination: 12.5 °
Azimuth: 98.5 °
VS: 112.03 '

50% SHY SS: lt gy-med gy, frm, v f-f
gr, sb rnd-ang, mod-w srt, cly cmt,
non calc; 40% SS: wh-lt gy, tr s&p,
clr-trnsl, sb rnd-ang, p srt, w cons, f
gr, tr glauc, sl arg, non calc; 10%
SLTY SH: lt-med gy, sl brn, sft-sl
frm, sb plty-sb blkly, slty tex, sl sdy
ip, sl calc

MD: 4,053 '
TVD: 3,992.28 '
Inclination: 14.4 °
Azimuth: 96.5 °
VS: 119.66 '



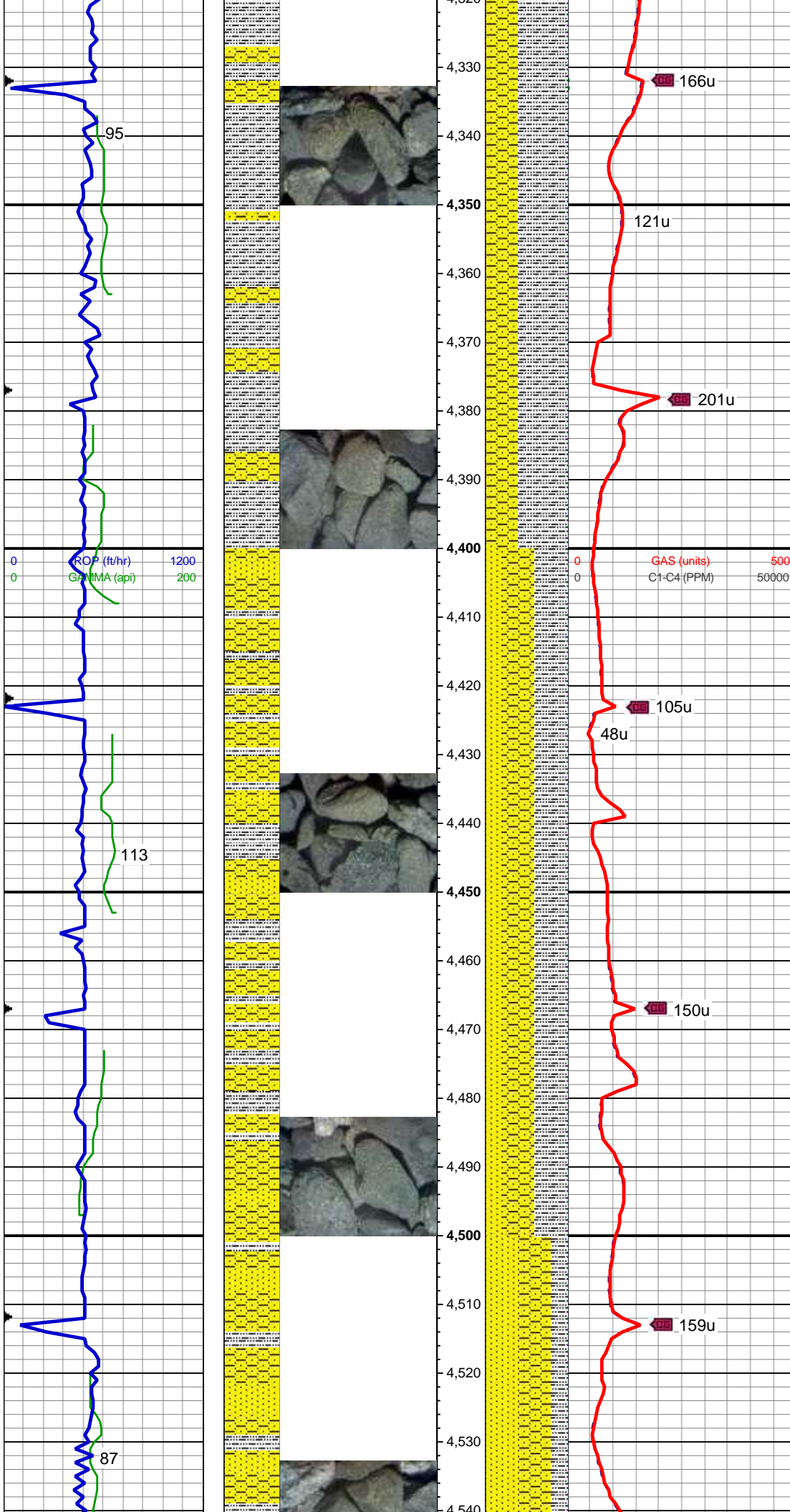
MD: 4,143 '
TVD: 4,079.25 '
Inclination: 15.4 °
Azimuth: 92.1 °
VS: 126.87 '

80% SHY SS: lt gy-med gy, frm, v f-f
gr, sb rnd-ang, mod-w srt, cly cmt,
non calc; 10% SS: wh-lt gy, tr s&p,
clr-trnsl, sb rnd-ang, p srt, w cons, f
gr, tr glauc, sl arg, non calc; 10%
SLTY SH: lt-med gy, sl brn, sft-sl
frm, sb plty-sb blk, slty tex, sl sdy
ip, sl calc

MD: 4,232 '
TVD: 4,165.04 '
Inclination: 15.5 °
Azimuth: 90.5 °
VS: 133.09 '

60% SHY SS: lt gy-med gy, frm, v f-f
gr, sb rnd-ang, mod-w srt, cly cmt,
non calc, tr ss; 40% SLTY SH:
lt-med gy, sl brn, sft-sl frm, sb
plty-sb blk, slty tex, sl sdy ip, sl calc

MD: 4,322 '
TVD: 4,251.89 '



Inclination: 14.9 °
Azimuth: 89.8 °
VS: 138.83 '

60% SLTY SH: lt-med gy, sl brn, sft-sl frm, sb plty-sb blk, slty tex, sl sdy ip, sl calc; 40% SHY SS: lt gy-med gy, frm, v f-f gr, sb rnd-ang, mod-w srt, cly cmt, non calc, tr ss

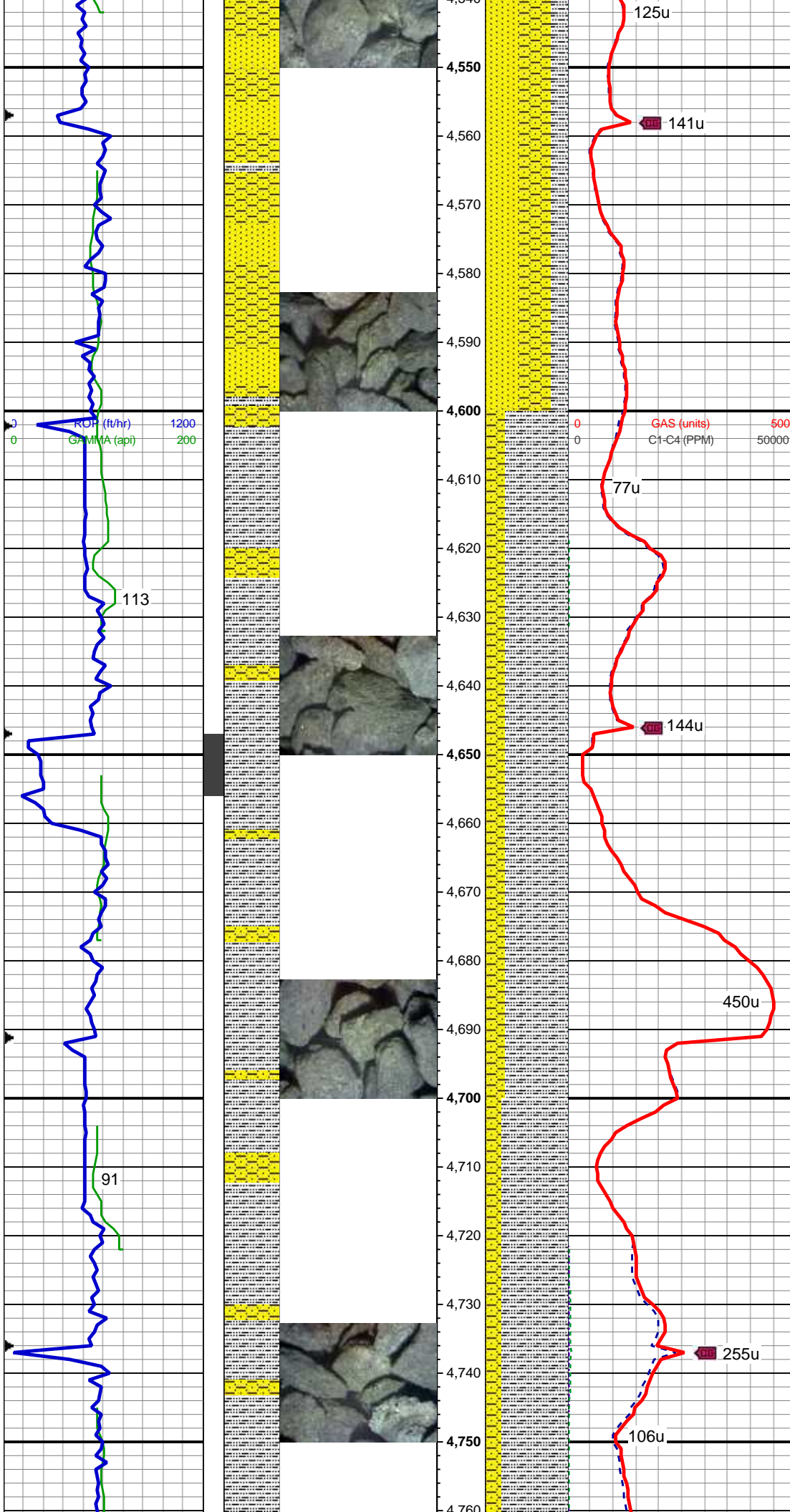
WT: 8.4 / VIS: 27

MD: 4,412 '
TVD: 4,338.88 '
Inclination: 14.8 °
Azimuth: 89.6 °
VS: 144.27 '

40% SLTY SH: lt-med gy, sl brn, sft-sl frm, sb plty-sb blk, slty tex, v sl calc; 40% SHY SS: lt gy-med gy, sl tan, frm, v f gr, sb rnd-ang, mod-w srt, cly cmt, v sl calc; 20% SS: wh-lt gy, s&p, clr-trnsl, sb rnd-ang, p srt, w cons, f gr, tr glauc, sl arg, v sl calc

MD: 4,501 '
TVD: 4,424.99 '
Inclination: 14.5 °
Azimuth: 91.2 °
VS: 149.84 '

40% SLTY SS: lt gy-med gy, sl tan



40% SHY SS: lt gy-med gy, sl tan, frm, v f gr, sb rnd-ang, mod-w srt, cly cmt, v sl calc; 40% SS: wh-lt gy, s&p, clr-trnsl, sb rnd-ang, p srt, w cons, f gr, tr glauc, sl arg, v sl calc; 20% SLTY SH: lt-med gy, sl brn, sft-sl frm, sb plty-sb blk, slty tex, v sl calc

MD: 4,591 '
TVD: 4,512.22 '
Inclination: 14 °
Azimuth: 91.3 °
VS: 155.64 '

WT: 8.5 / VIS: 27

75% SLTY SH: lt-med gy, sl brn, sft-sl frm, sb plty-sb blk, slty tex, non calc; 25% SHY SS: lt gy-med gy, sl tan, frm, v f gr, sb rnd-ang, mod-w srt, cly cmt, sl calc

MD: 4,681 '
TVD: 4,599.68 '
Inclination: 13.3 °
Azimuth: 85 °
VS: 160.11 '

80% SLTY SH: lt-med gy, sl brn, sft-sl frm, sb plty-sb blk, slty tex, non calc; 20% SHY SS: lt gy-med gy, sl tan, frm, v f gr, sb rnd-ang,

mod-w srt, cly cmt, sl calc

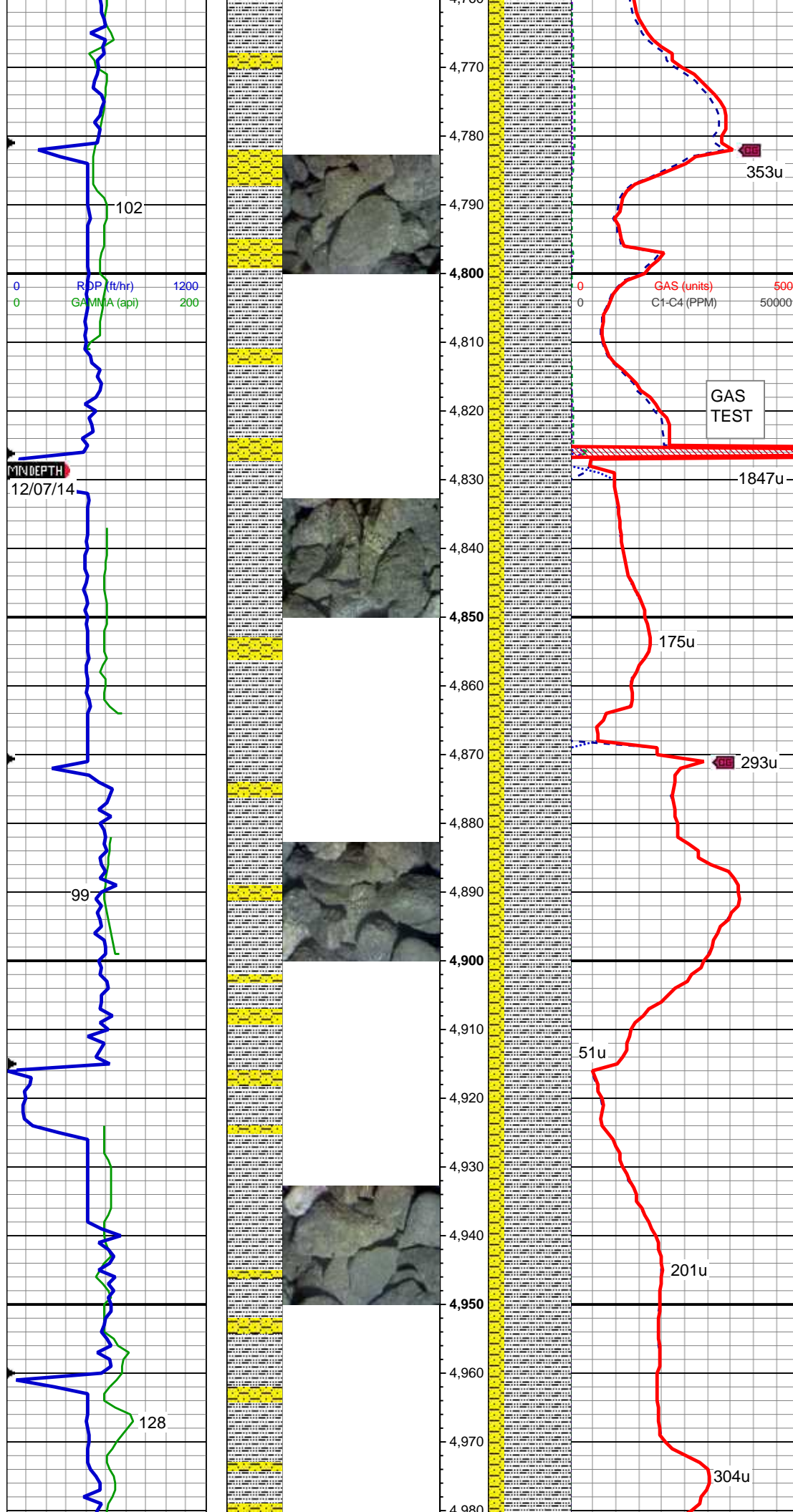
MD: 4,770 '
TVD: 4,686.43 '
Inclination: 12.5 °
Azimuth: 82.3 °
VS: 162.74 '

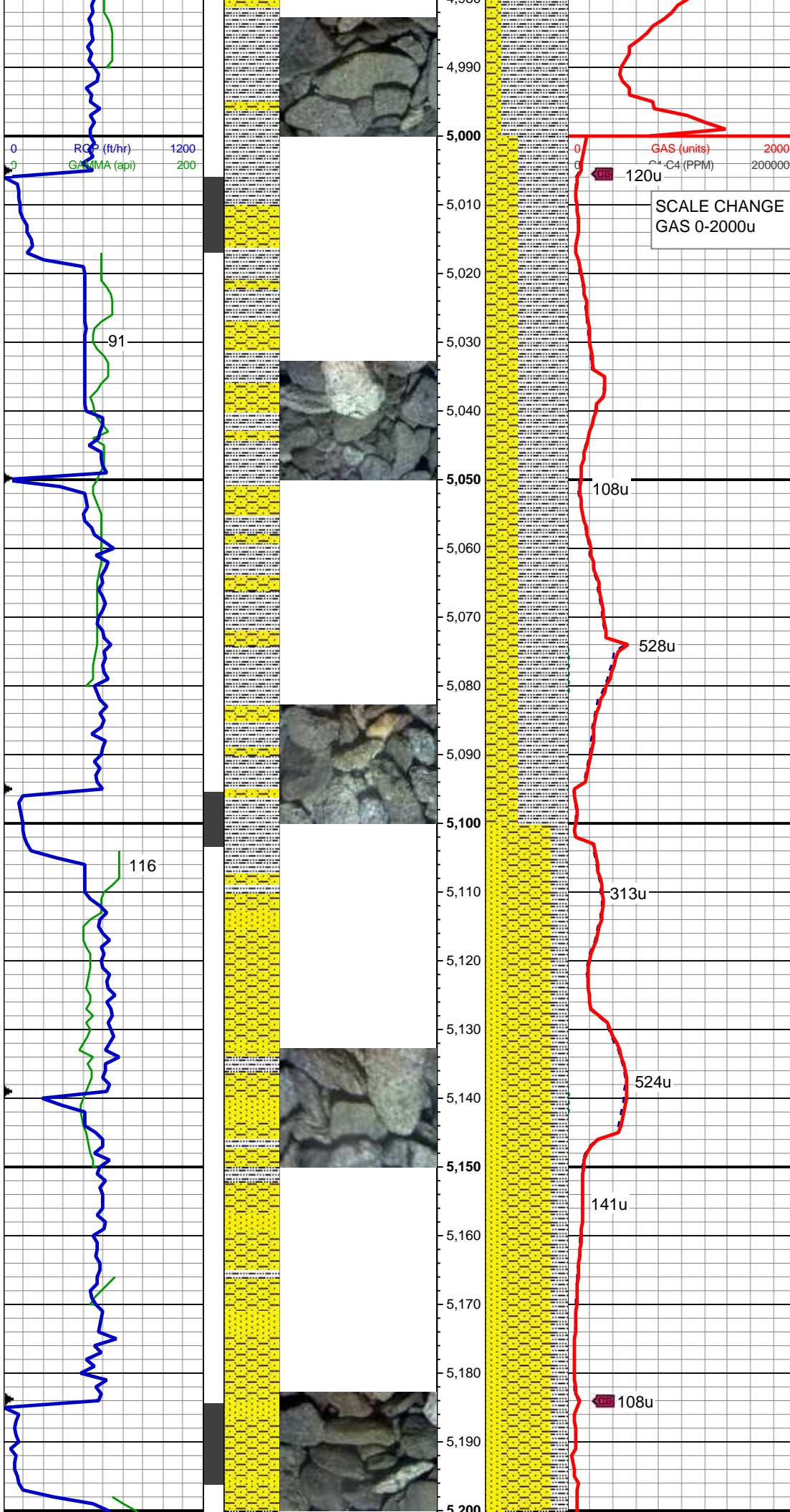
WT: 8.55 / VIS: 27

80% SLTY SH: lt-med gy, sl brn,
sft-sl frm, sb plty-sb blkly, slty tex,
non calc; 20% SHY SS: lt gy-med
gy, sl tan, frm, v f gr, sb rnd-ang,
mod-w srt, cly cmt, sl calc

MD: 4,860 '
TVD: 4,774.4 '
Inclination: 11.9 °
Azimuth: 81.8 °
VS: 164.72 '

80% SLTY SH: lt-med gy, sl brn,
sft-sl frm, sb plty-sb blkly, slty tex,
non calc; 20% SHY SS: lt gy-med
gy, sl tan, frm, v f gr, sb rnd-ang,
mod-w srt, cly cmt, sl calc





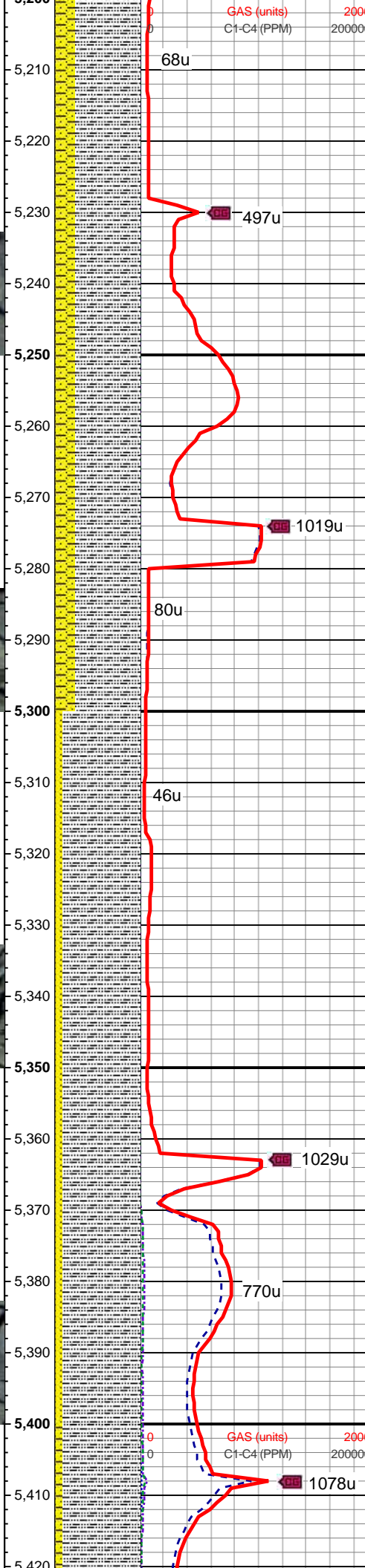
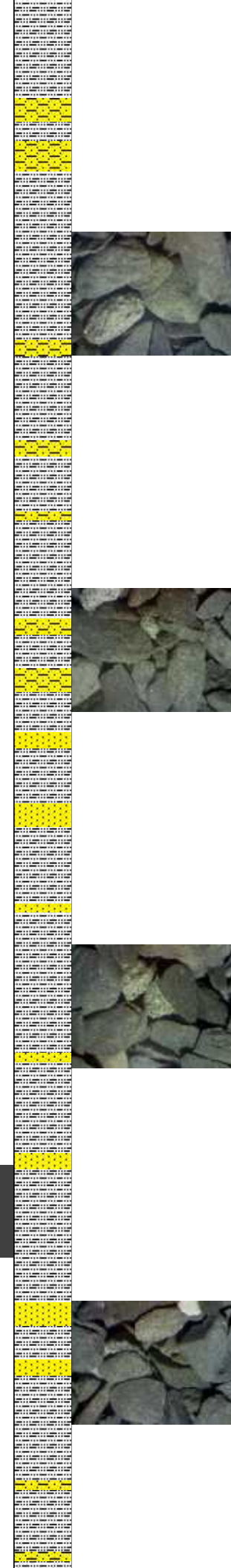
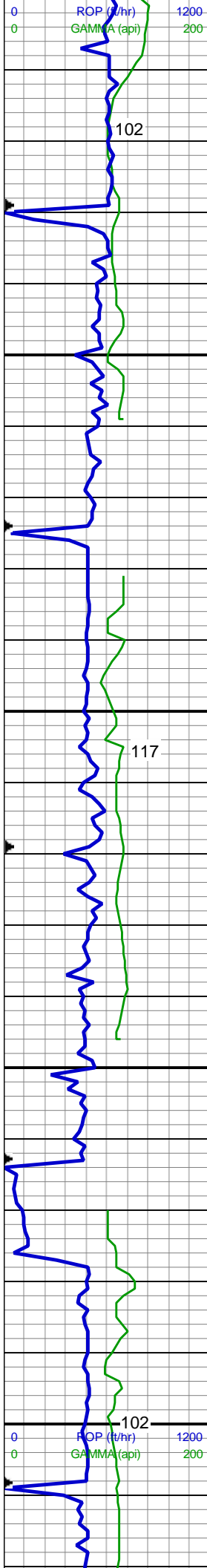
MD: 5,039 '
TVD: 4,949.81 '
Inclination: 10.9 °
Azimuth: 84.6 °
VS: 167.6 '

60% SLTY SH: lt-med gy, sl brn, sft-sl frm, sb plty-sb blkly, slty tex, non calc; 40% SHY SS: lt gy-med gy, sl tan, frm, v f gr, sb rnd-ang, mod-w srt, cly cmt, sl calc

WT: 8.55 / VIS: 27

MD: 5,129 '
TVD: 5,038.05 '
Inclination: 11.8 °
Azimuth: 88.4 °
VS: 170.83 '

60% SHY SS: lt gy-med gy, sl tan, frm, v f gr, sb rnd-ang, mod-w srt, cly cmt, sl calc; 20% SLTY SH: lt-med gy, sl brn, sft-sl frm, sb plty-sb blkly, slty tex, non calc; 20% SS: wh-lt gy, s&p, clr-trnsl, sb rnd-ang, mod srt, w cons, f gr, sl arg, v sl calc



MD: 5,218 '
TVD: 5,125.09 '
Inclination: 12.3 °
Azimuth: 89.5 °
VS: 174.97 '

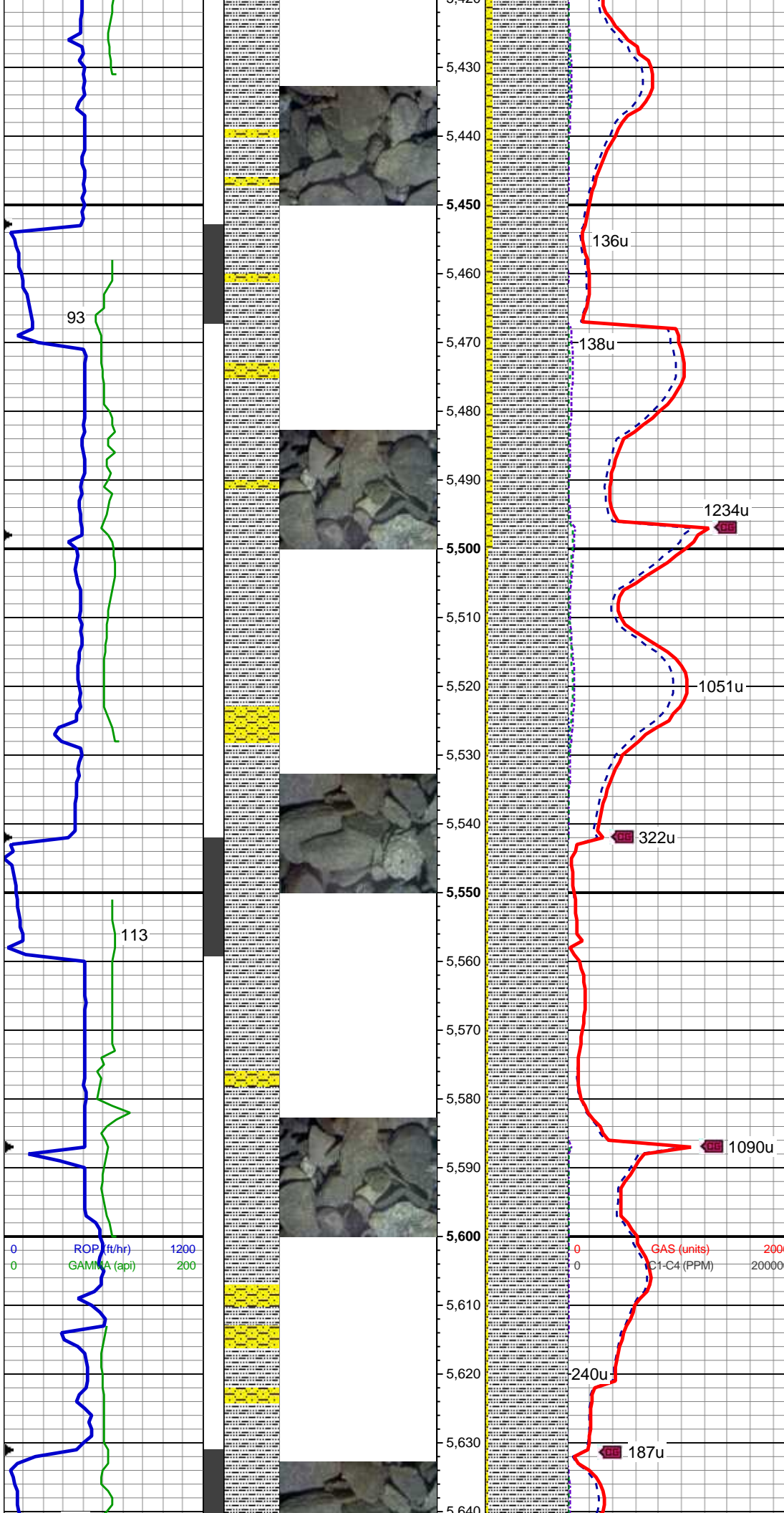
75% SLTY SH: lt-med gy, occ sl
brn, sft-sl frm, sb plty-sb blkly, slty
tex, non calc; 25% SHY SS: lt
gy-med gy, frm, v f gr, sb rnd-ang,
mod-w srt, cly cmt, sl calc

MD: 5,308 '
TVD: 5,213.36 '
Inclination: 10.2 °
Azimuth: 86.2 °
VS: 178.6 '

90% SLTY SH: lt-med gy, occ sl
brn, sft-sl frm, sb plty-sb blkly, slty
tex, non calc; 10% SS: wh-lt gy,
s&p, clr-trnsl, sb rnd-ang, mod srt,
w cons, f gr, sl arg, v sl calc

MD: 5,397 '
TVD: 5,300.88 '
Inclination: 10.7 °
Azimuth: 84.7 °
VS: 181.23 '

WT: 8.6 / VIS: 27

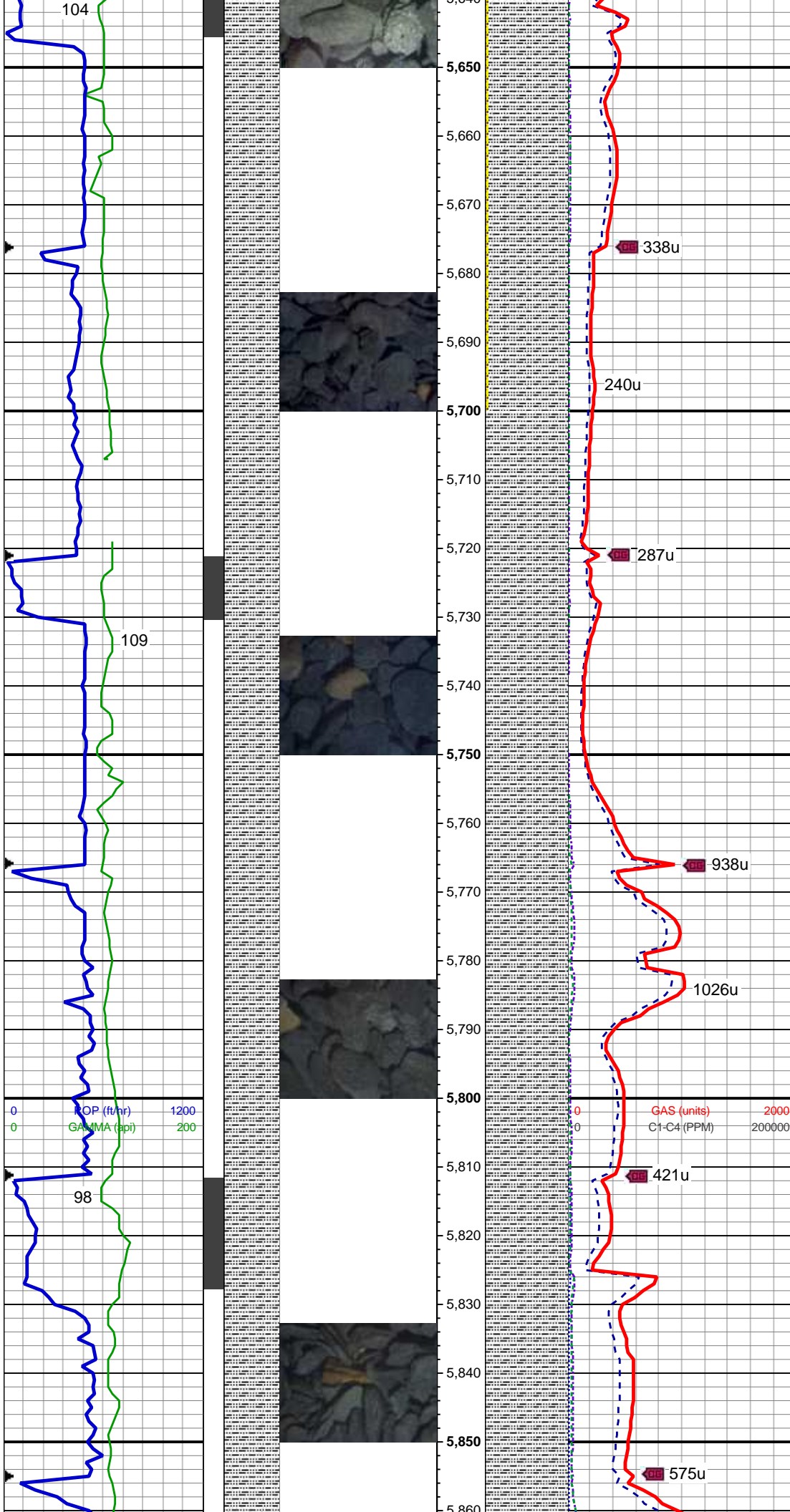


90% SLTY SH: lt-med gy, occ sl
brn, sft-sl frm, sb plty-sb blkly, slty
tex, non calc; 10% SHY SS: lt
gy-med gy, frm, v f gr, sb rnd-ang,
mod-w srt, cly cmt, sl calc

MD: 5,487 '
TVD: 5,389.33 '
Inclination: 10.6 °
Azimuth: 92.3 °
VS: 184.8 '

95% SLTY SH: lt-med gy, occ sl
brn, sft-sl frm, sb plty-sb blkly, slty
tex, non calc; 5% SHY SS: lt gy-med
gy, frm, v f gr, sb rnd-ang, mod-w
srt, cly cmt, sl calc, occ sh

MD: 5,576 '
TVD: 5,476.64 '
Inclination: 11.8 °
Azimuth: 88 °
VS: 188.97 '



95% SLTY SH: lt-med gy, occ sl
brn, sft-sl frm, sb plty-sb blk, slty
tex, non calc; 5% SHY SS: lt gy-med
gy, frm, v f gr, sb rnd-ang, mod-w
srt, cly cmt, sl calc, occ sh

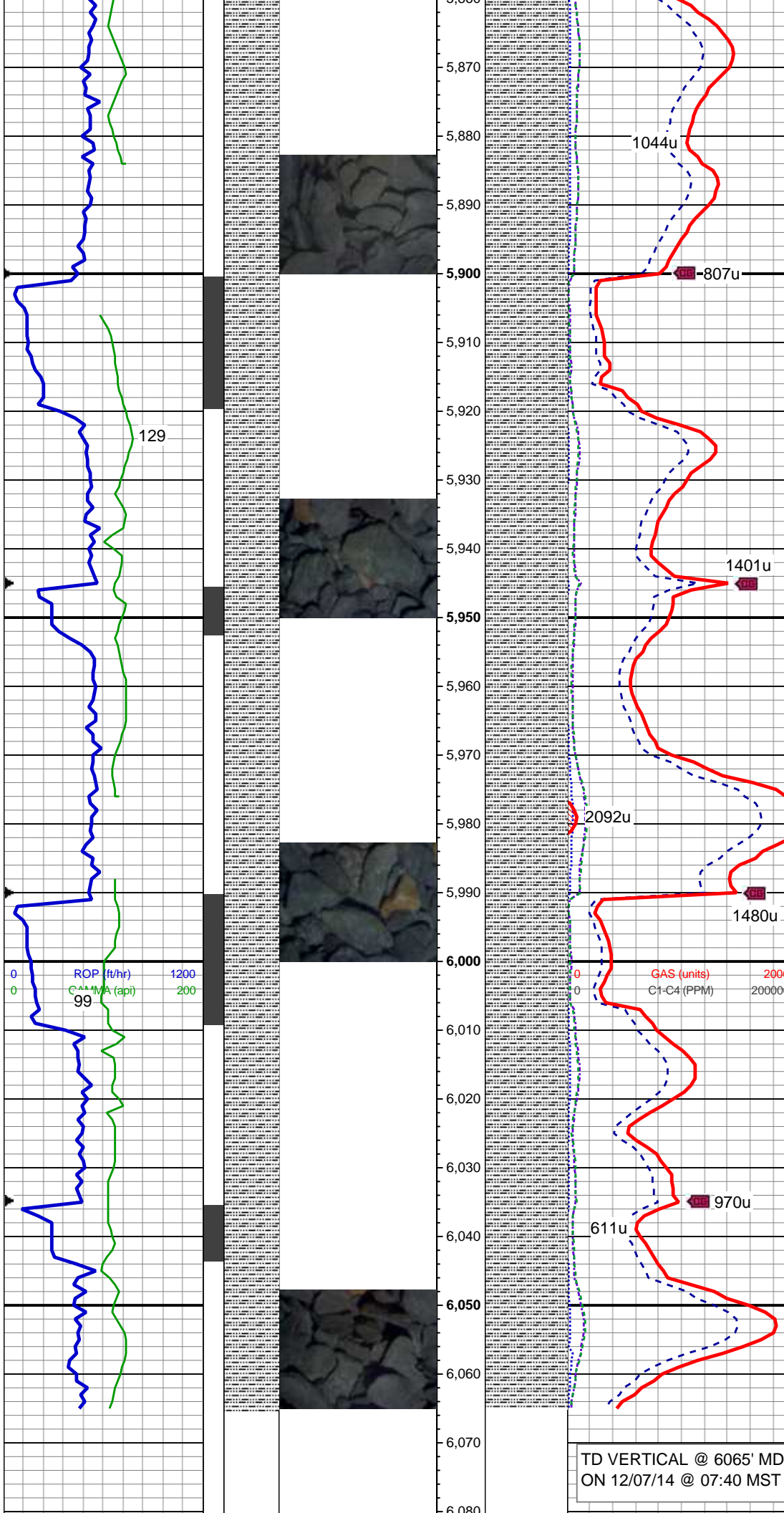
MD: 5,666 '
TVD: 5,564.59 '
Inclination: 12.7 °
Azimuth: 86 °
VS: 192.57 '

100% SLTY SH: lt-med gy, occ sl
brn, sft-sl frm, sb plty-sb blk, slty
tex, non calc, occ sh, tr shy ss

MD: 5,756 '
TVD: 5,652.39 '
Inclination: 12.7 °
Azimuth: 83.3 °
VS: 195.53 '

100% SLTY SH: lt-med gy, occ sl
brn, sft-sl frm, sb plty-sb blk, slty
tex, non calc, occ sh, tr shy ss

MD: 5,846 '
TVD: 5,740.13 '
Inclination: 13 °
Azimuth: 84.4 °
VS: 198.24 '



MD: 5,935 '
TVD: 5,827.08 '
Inclination: 11.7 °
Azimuth: 93.4 °
VS: 202.38 '

100% SLTY SH: lt-med gy, occ sl
brn, sft-sl frm, sb plty-sb blk, slty
tex, non calc, occ sh, tr shy ss

MD: 5,980 '
TVD: 5,871.19 '
Inclination: 11.1 °
Azimuth: 93.3 °
VS: 205.02 '

100% SLTY SH: lt-med gy, occ sl
brn, sft-sl frm, sb plty-sb blk, slty
tex, non calc, occ sh, tr shy ss

MD: 6,025 '
TVD: 5,915.28 '
Inclination: 12 °
Azimuth: 94.6 °
VS: 207.79 '

TD VERTICAL @ 6065' MD
ON 12/07/14 @ 07:40 MST

Log Continues on Crow Creek
AE06-709_Horz

