

COLUMBINE LOGGING

Scale: 5" / 100'
Measured Depth Log

Well Name Tahoma E22-69HC

Location Sec. 14 T6N R65W

State Colorado

County Weld

Country USA

Rig Number PD 829

API Number 05-123-38866

AFE # 139628

Region DJ Basin

Field Wattenberg

Spud Date 6/6/2014

Drilling Completed 6/14/2014

Surface Coordinates 293' FSL ; 530' FWL
40.4796 ; -104.63816

Bottom Hole Coordinates 75' FNL ; 75' FWL
40.47878 ; -104.65878

Ground Elevation 4739'

K.B. Elevation 4755'

Logged Interval 661' **To** 6381'

Total Depth 11989'

Formation Codell

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

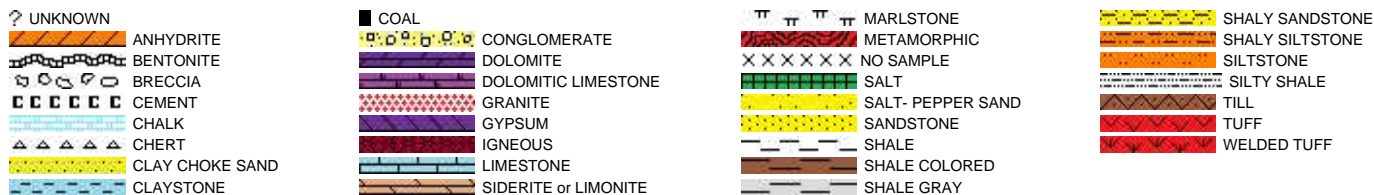
Columbine Logging, INC.

2385 S. LIPAN STREET
DENVER, CO 80223

Well site Geologists

Ryan Shilling
Aclam Kpekpassse

Rock Types



Accessories

Fossils



FISH

FORAMINIFERA

FOSSIL

GASTROPOD

INOCERAMUS

OOLITE

OSTRACOD

PELECYPOD

PELLET

PISOLITE

PLANT REMAINS

PLANT SPORES

SCAPHOPOD

STROMATOPOROID

Minerals

ANHYDRITIC

ARGILLACEOUS

ARGILLITE GRAIN

BENTONITE

BITUMENOUS SUBSTANCE

BRECCIA FRAGMENTS

CALCAREOUS

CARBONACEOUS FLAKES

CHTDK

CHTLT

COAL - THIN BEDS

DOLOMITIC

FELDSPAR

FERRUGINOUS PELLET

FERRUGINOUS

GLAUCONITE

GYPHIFEROUS

HEAVY MINERAL

KAOLIN

MARLSTONE

MICACEOUS

MINERAL CRYSTALS

NODULES

PHOSPHATE PELLETS

PYRITE

SALT CAST

SANDY

SILICEOUS

SILTY

TUFFACEOUS

ANHYDRITE STRINGER

BENTONITE STRINGER

COAL STRINGER

DOLOMITE STRINGER

GYPHUM STRINGER

LIMESTONE STRINGER

MARLSTONE (CALC) STRG

MARLSTONE (DOL) STRG

SANDSTONE STRINGER

SHALE STRINGER

SILTSTONE STRINGER

Stringer

Other Symbols

Oil Show

DEAD

EVEN

QUESTIONABLE

SPOTTED STAINING

Porosity

E EARTHY

FENESTRAL

FRACTURE

INTERCRYSTALLINE

INTEROOLITIC

MOLDIC

ORGANIC

PINPOINT

VUGGY

Engineering

BIT CHANGE

CONNECTION (LEFT)

CONNECTION (RIGHT)

CONNECTION GAS

TRIP GAS

DOWN TIME GAS

CORE - LOST

CORE - RECOVERED

DST INTERVAL

FAULT

FORMATION TOP

GAS SHOW

OIL SHOW

MN DEPTH

MN DEPTH (RIGHT)

NORMAL FAULT

OVERTURNED STRATA

REVERSE FAULT

CASING

SIDEWALL CORE (LEFT)

SIDEWALL CORE (RIGHT)

SLIDE

SURVEY

DRILL STEM TEST

WIRELINE TESTED - LEFT

WIRELINE TESTED - RT

Rounding

ANGULAR

ROUNDED

SUBANG

SUBRND

Textures

BOUNDSTONE

CHALKY

CRYPTOXLN

E EARTHY

FINELYXLN

GRAINSTONE

L LITHOGRAPHIC

MX MICROXLN

MS MUDSTONE

PS PACKSTONE

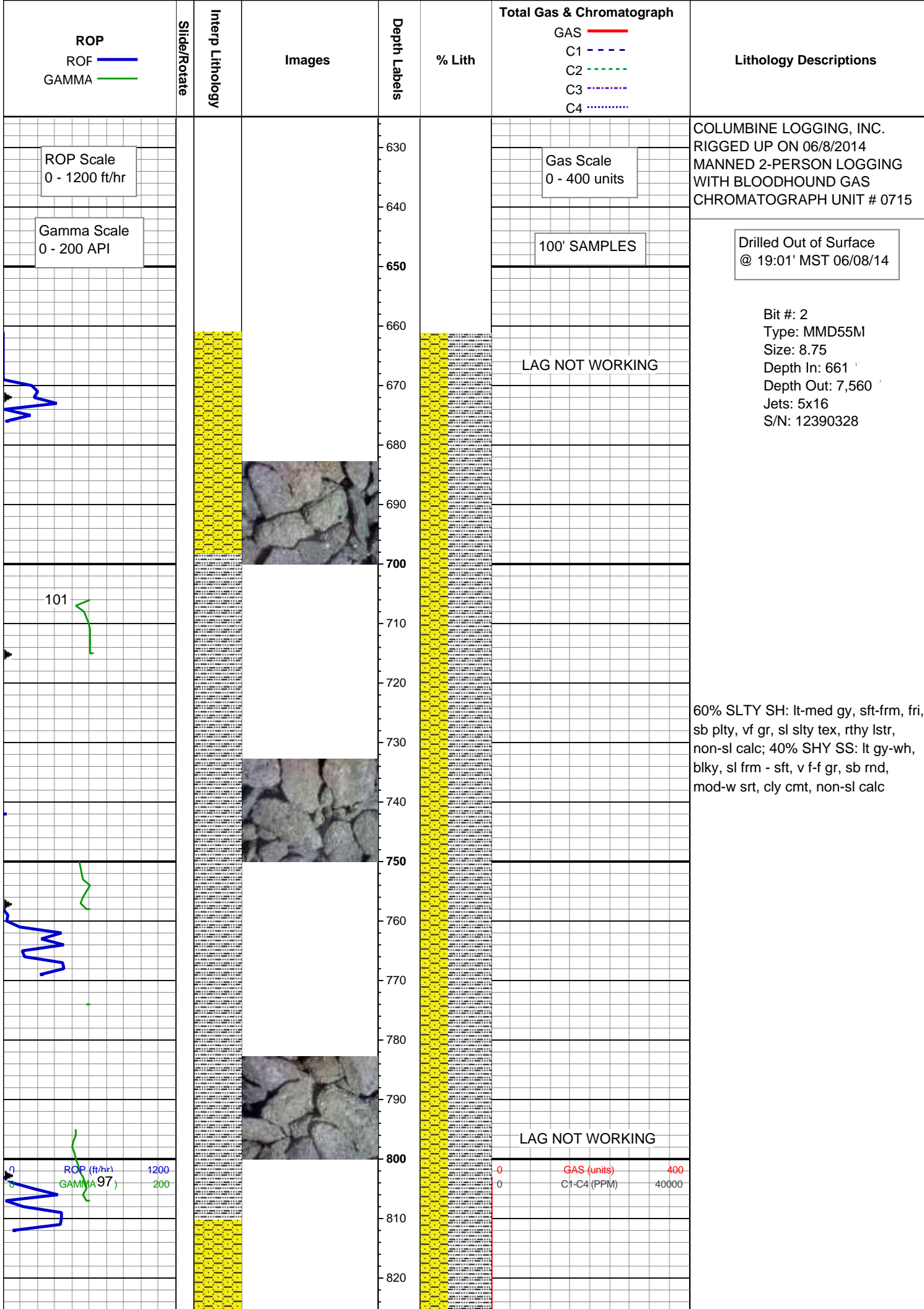
WS WACKESTONE

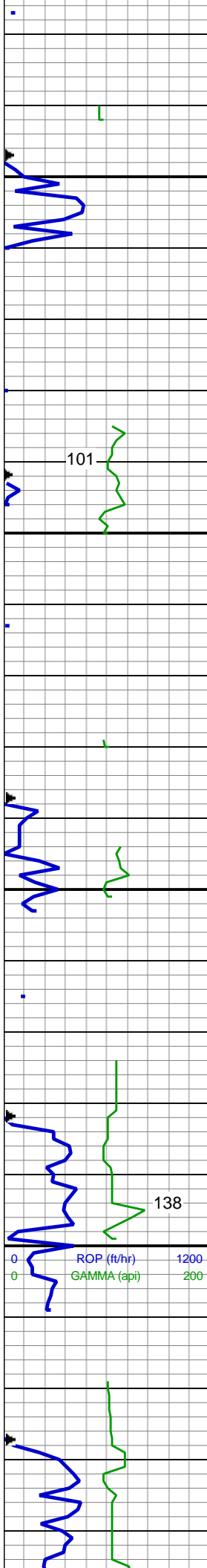
Sorting

M MODERATE

P POOR

W WELL





830
840
850
860
870
880
890
900
910
920
930
940
950
960
970
980
990
1,000
1,010
1,020
1,030
1,040

60% SLTY SH: lt-med gy, sft-frm, fri,
sb plty, vf gr, sl slty tex, rthy lstr,
non-sl calc; 40% SHY SS: lt gy-wh,
blky, sl frm - sft, v f-f gr, sb rnd,
mod-w srt, cly cmt, non-sl calc

65% SLTY SH: lt-med gy, sft-frm, fri,
sb plty, vf gr, sl slty tex, rthy lstr,
non-sl calc; 35% SHY SS: lt gy-wh,
blky, sl frm - sft, v f-f gr, sb rnd,
mod-w srt, cly cmt, non-sl calc

MD: 976 '
TVD: 975.94 '
Inclination: 0.1 °
Azimuth: 276.4 °
VS: -3.05 '

LAG NOT WORKING

GAS (units) 400
C1-C4 (PPM) 40000

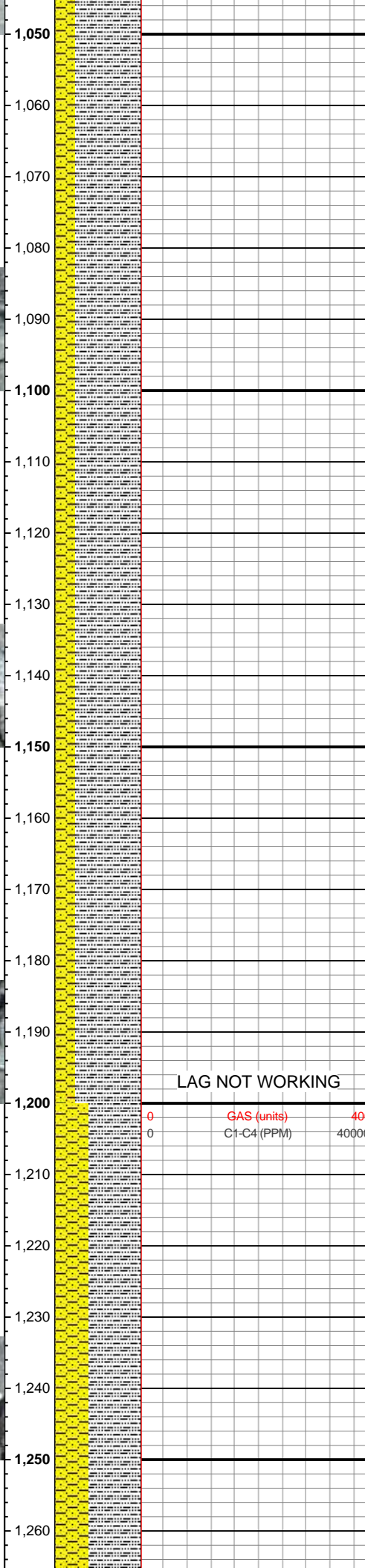
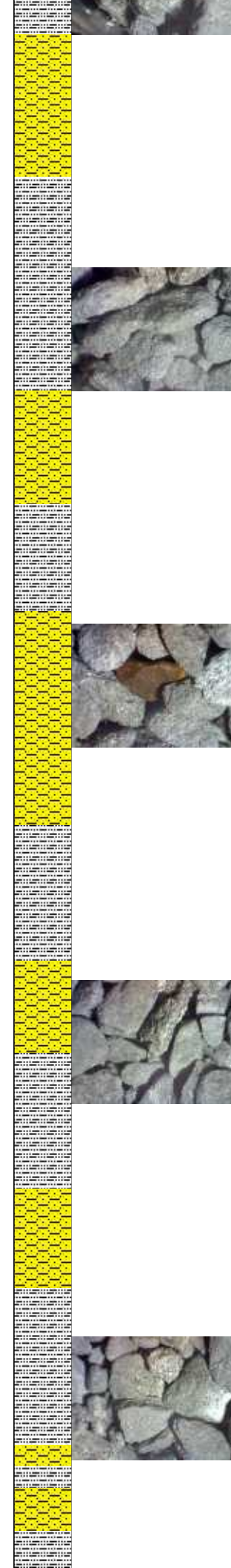
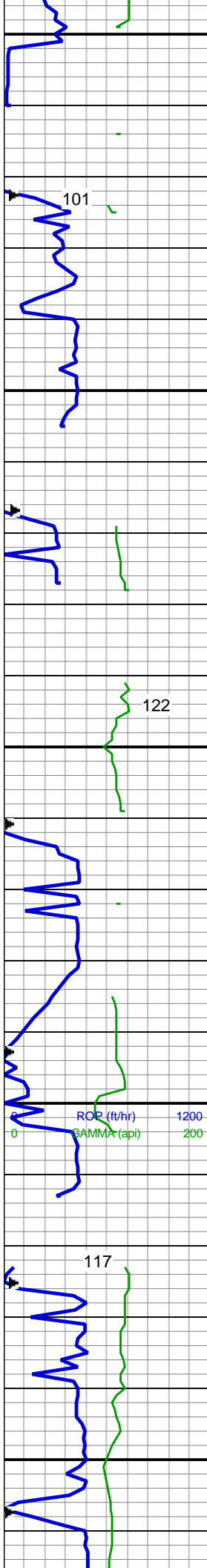
WT: 8.6 / VIS: 27

75% SLTY SH: lt-med gy, sft-frm, fri,
sb plty, vf gr, sl slty tex, rthy lstr,
non-sl calc; 35% SHY SS: lt gy-wh,

LAG NOT WORKING

GAS (units) 400
C1-C4 (PPM) 40000

WT: 8.6 / VIS: 27



non-sl calc; 25% SHY SS: lt gy-wh, blkly, sl frm - sft, v f-f gr, sb rnd, mod-w srt, cly cmt, non-sl calc

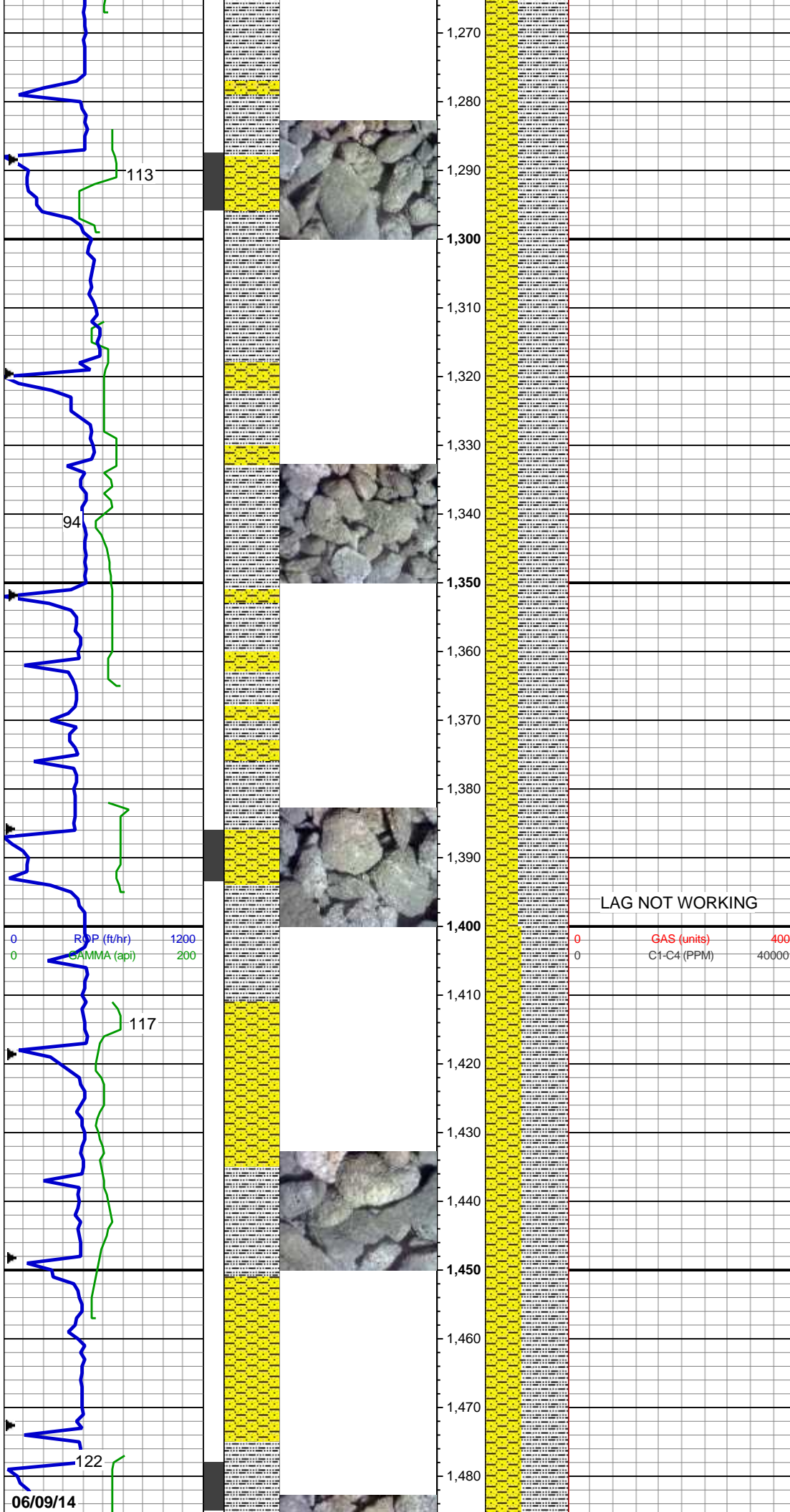
MD: 1,066 '
TVD: 1,065.94 '
Inclination: 0.5 °
Azimuth: 173.7 °
VS: -2.99 '

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

MD: 1,143 '
TVD: 1,142.94 '
Inclination: 0.3 °
Azimuth: 190.9 °
VS: -2.96 '

65% SLTY SH: lt-med gy, sft frm, fri, sb plty, vf gr, sl slty tex, rthy lstr, non-sl calc; 35% SHY SS: lt gy-wh, blkly, sl frm - sft, v f-f gr, sb rnd, mod-w srt, cly cmt, non-sl calc

MD: 1,238 '
TVD: 1,237.92 '
Inclination: 1.5 °
Azimuth: 228 °
VS: -1.92 '



60% SLTY SH: lt-med gy, sft frm, fri, sb plty, vf gr, sl slty tex, rthy lstr, non-sl calc; 40% SHY SS: lt gy-wh, blk, sl frm - sft, v f-f gr, sb rnd, mod-w srt, cly cmt, non-sl calc

MD: 1,336 '
TVD: 1,335.88 '
Inclination: 1.8 °
Azimuth: 229.3 °
VS: 0.31 '

WT: 8.4 / VIS: 27

LAG NOT WORKING

0 GAS (units) 400
0 C1-C4 (PPM) 40000

MD: 1,430 '
TVD: 1,429.81 '
Inclination: 2.6 °
Azimuth: 1,429.81 °
VS: 3.51 '

55% SLTY SH: lt-med gy, s&p, sft frm, fri, sb plty, vf gr, sl slty tex, rthy lstr, non-sl calc; 45% SHY SS: lt gy-wh, blk, sl frm - sft, v f-f gr, sb rnd, mod-w srt, cly cmt, non-sl calc

MINDEPTH

126

126

0

113

1700

POP (f/hr)

GAMMA(api)

1200

200

1,490
1,500
1,510
1,520
1,530
1,540
1,550
1,560
1,570
1,580
1,590
1,600
1,610
1,620
1,630
1,640
1,650
1,660
1,670
1,680
1,690
1,700



1,490
1,500
1,510
1,520
1,530
1,540
1,550
1,560
1,570
1,580
1,590
1,600
1,610
1,620
1,630
1,640
1,650
1,660
1,670
1,680
1,690
1,700

1,490
1,500
1,510
1,520
1,530
1,540
1,550
1,560
1,570
1,580
1,590
1,600
1,610
1,620
1,630
1,640
1,650
1,660
1,670
1,680
1,690
1,700

MD: 1,523 '
TVD: 1,522.68 '
Inclination: 3.6 °
Azimuth: 249.8 °
VS: 8.3 '

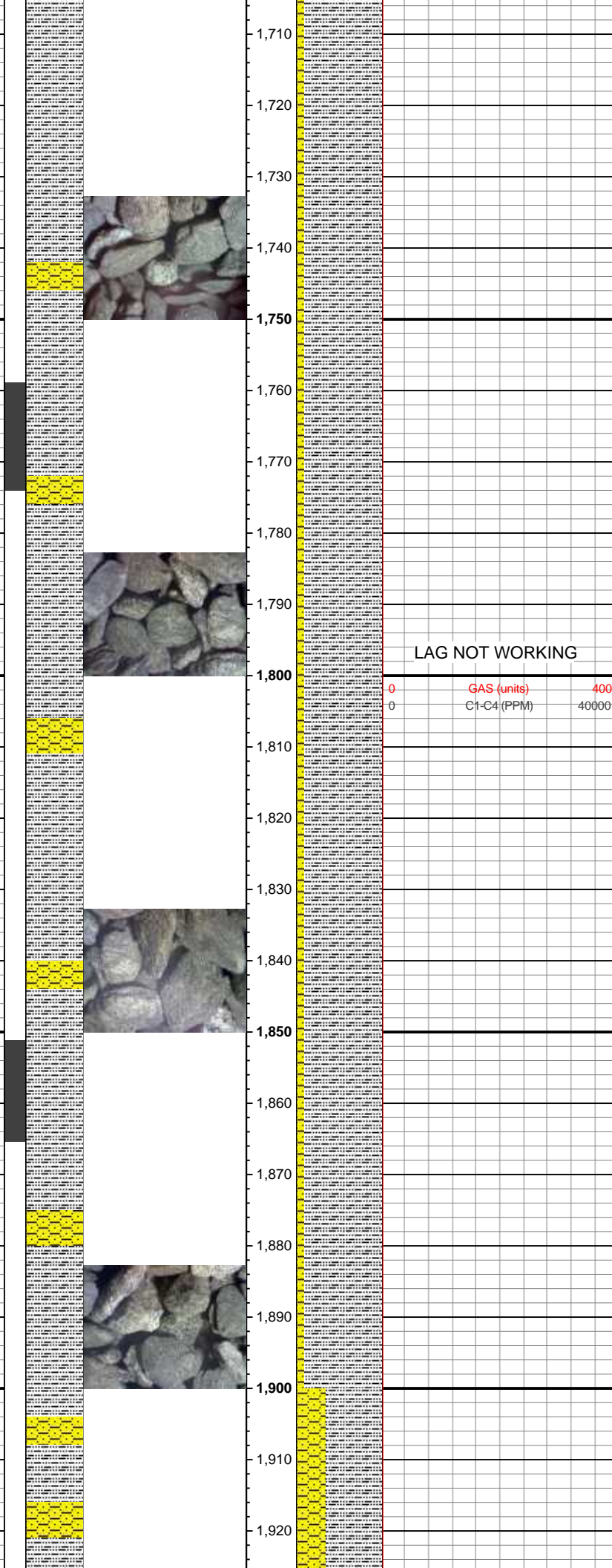
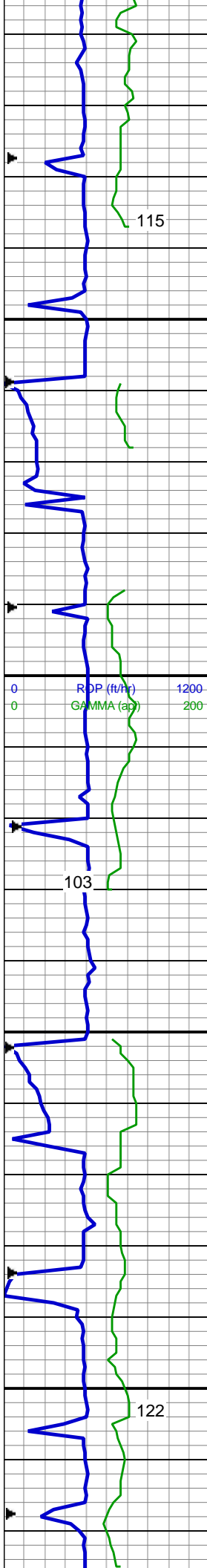
50% SLTY SH: lt-med gy, s&p, sft frm, fri, sb plty, vf gr, sl slty tex, rthy lstr, non-sl calc; 50% SHY SS: lt gy-wh, blkly, sl frm - sft, v f-f gr, sb rnd, mod-w srt, cly cmt, non-sl calc

LAG NOT WORKING

GAS(units) 400
C1-C4(PPM) 40000

MD: 1,616 '
TVD: 1,615.44 '
Inclination: 4.5 °
Azimuth: 243.5 °
VS: 14.46 '

90% SLTY SH: lt-med gy, s&p, sft frm, fri, sb plty, vf gr, sl slty tex, rthy lstr, non-sl calc; 10% SHY SS: lt gy-wh, blkly, sl frm - sft, v f-f gr, sb rnd, mod-w srt, cly cmt, non-sl calc



MD: 1,710'
TVD: 1,709.05'
Inclination: 5.9°
Azimuth: 237.7°
VS: 22.09'

90% SLTY SH: lt-med gy, s&p, sft frm, fri, sb plty, vf gr, sl slty tex, rthy lstr, non-sl calc; 10% SHY SS: lt gy-wh, blkly, sl frm - sft, v f-f gr, sb rnd, mod-w srt, cly cmt, non-sl calc

WT: 8.5 / VIS: 27

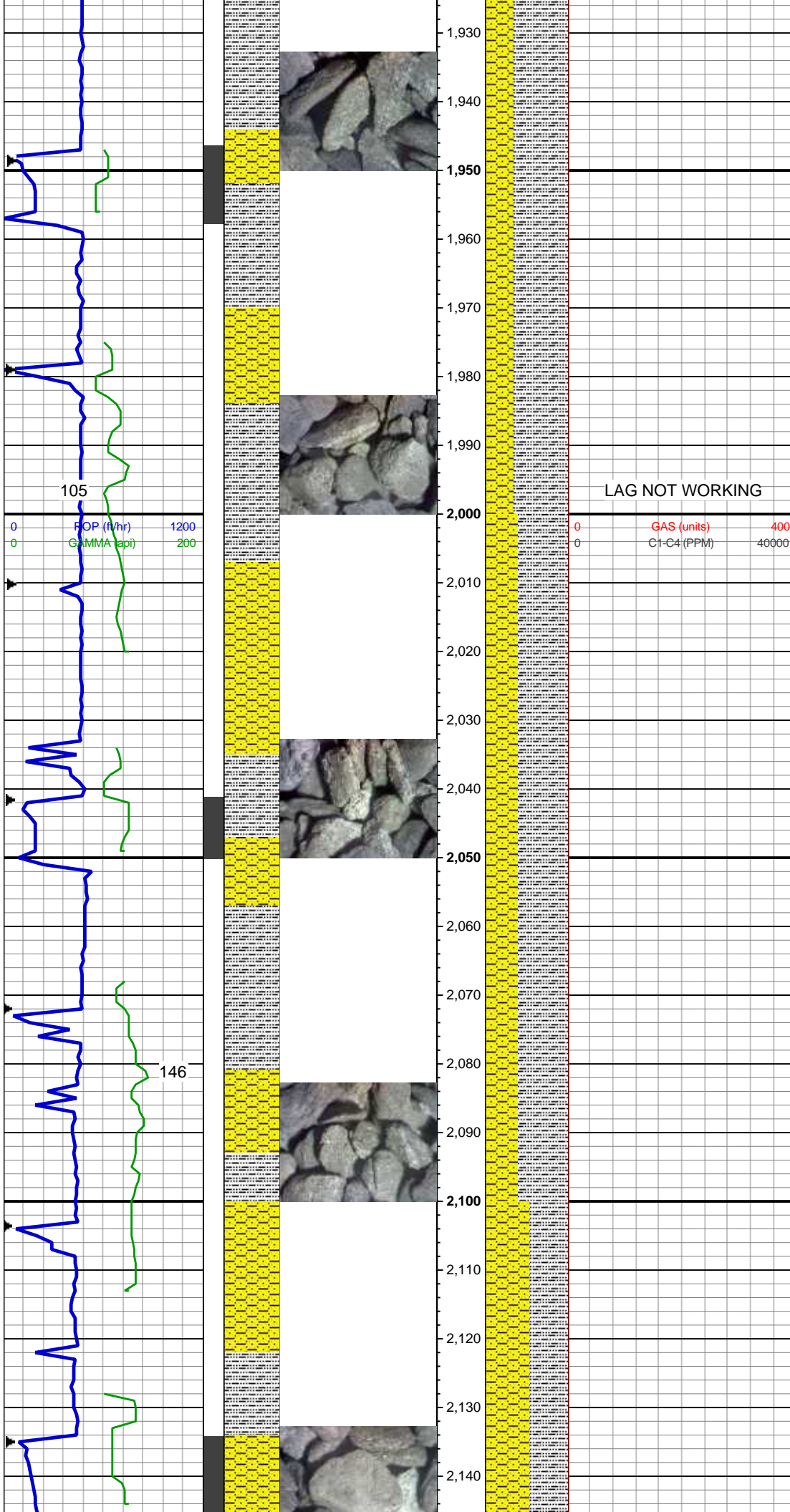
MD: 1,804'
TVD: 1,802.42'
Inclination: 7.4°
Azimuth: 236.6°
VS: 31.57'

LAG NOT WORKING

GAS (units) 400
C1-C4 (PPM) 40000

90% SLTY SH: lt-med gy, s&p, sft frm, fri, sb plty, vf gr, sl slty tex, rthy lstr, non-sl calc; 10% SHY SS: lt gy-wh, blkly, sl frm - sft, v f-f gr, sb rnd, mod-w srt, cly cmt, non-sl calc

MD: 1,898'
TVD: 1,895.57'
Inclination: 8°
Azimuth: 236.2°
VS: 42.47'



65% SLTY SH: lt-med gy, s&p,
sft frm, fri, sb plty, vf gr, sl slty tex,
rthy lstr, non-sl calc; 35% SHY SS: lt
gy-wh, blk, sl frm - sft, v f-f gr, sb
rnd, mod-w srt, cly cmt, non-sl calc

MD: 1,991 '
TVD: 1,987.62 '
Inclination: 8.4 °
Azimuth: 234 °
VS: 53.79 '

LAG NOT WORKING

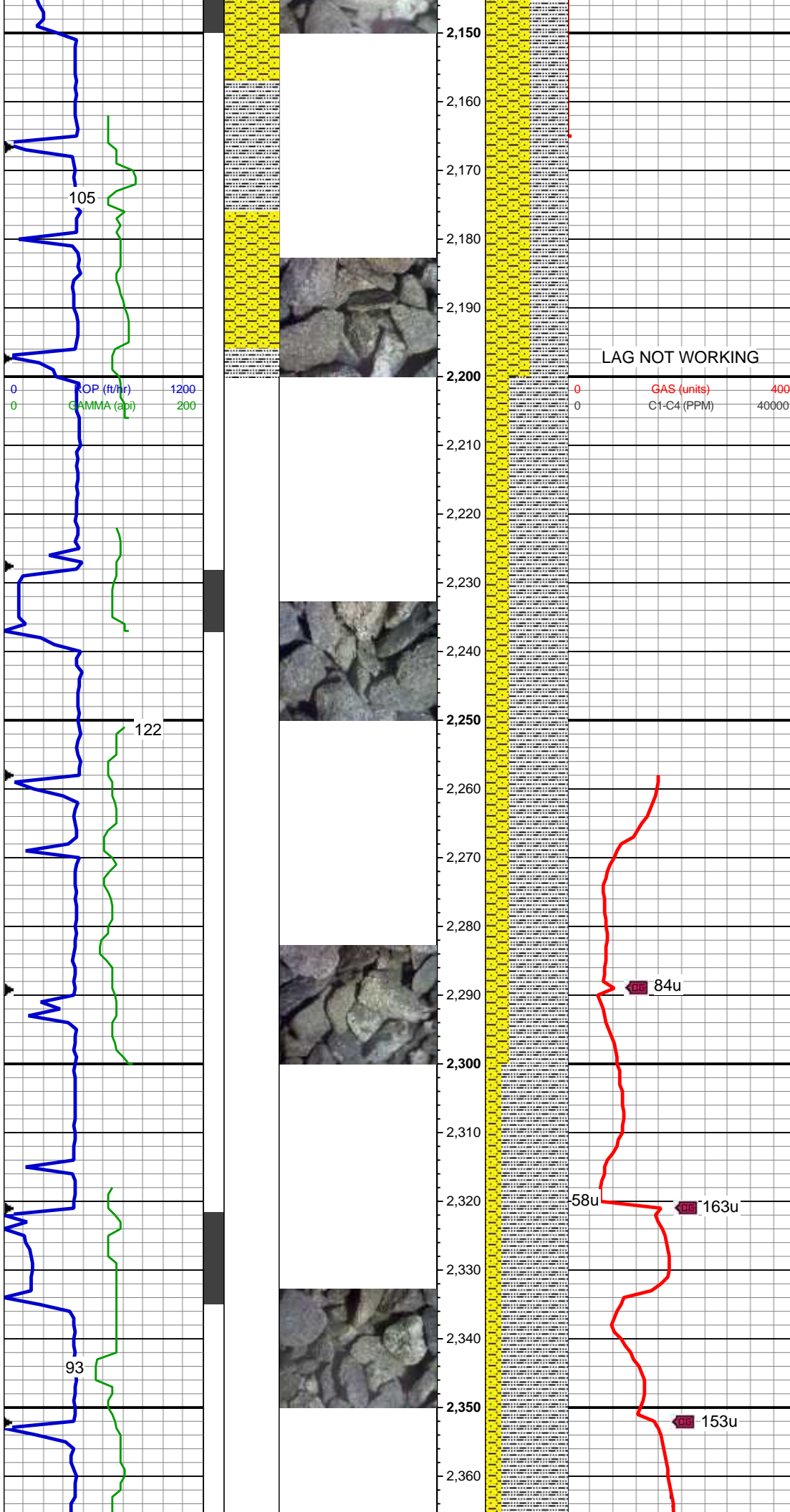
GAS (units) 400
C1-C4 (PPM) 40000

60% SLTY SH: lt-med gy, s&p,
sft frm, fri, sb plty, vf gr, sl slty tex,
rthy lstr, non-sl calc; 40% SHY SS: lt
gy-wh, cl, blk, sl frm - sft, v f-f gr, sb
rnd, mod-w srt, cly cmt, non-sl calc

MD: 2,085 '
TVD: 2,080.67 '
Inclination: 7.9 °
Azimuth: 232.1 °
VS: 64.92 '

WT: 8.5 / VIS: 27

55% SHY SS: lt gy-wh, lt brn gy,
blk, sl frm - sft, v f-f gr, sb rnd



slty, srt, cly cmt, non-sl calc;
mod-w srt, cly cmt, non-sl calc;
45% SLTY SH: lt-med gy, sft-frm, fri,
sb plty, vf gr, sl slty tex, rthy lstr,
non-sl calc, occ ss

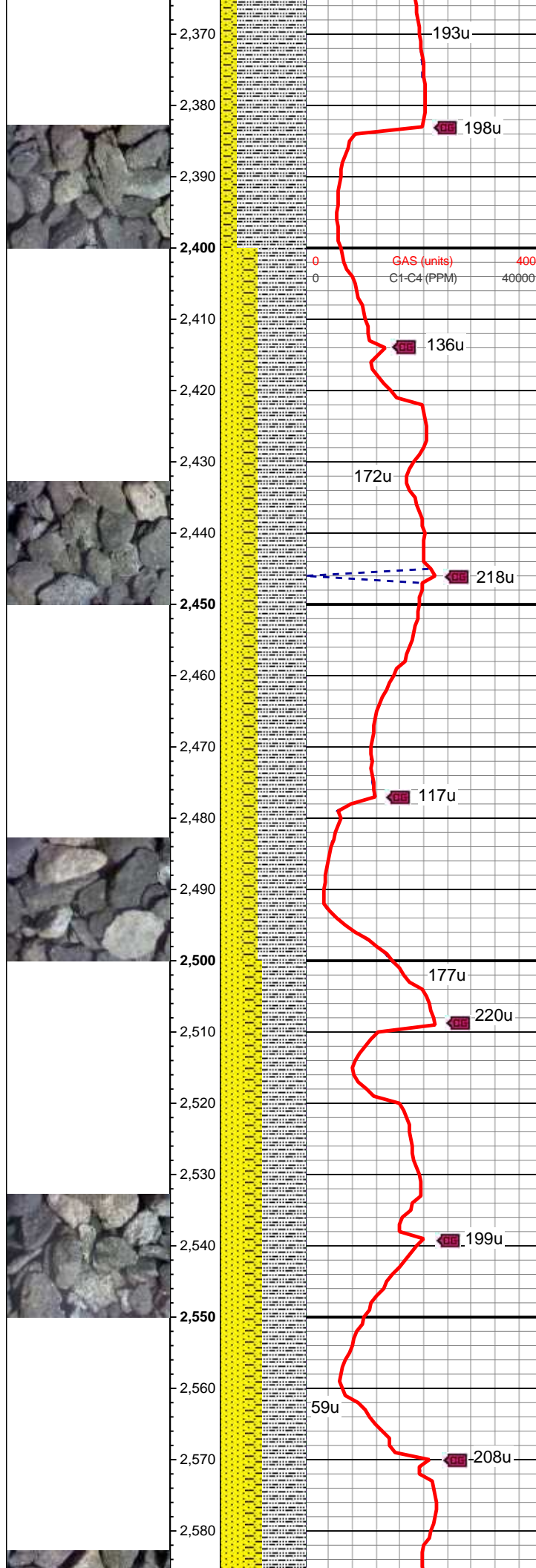
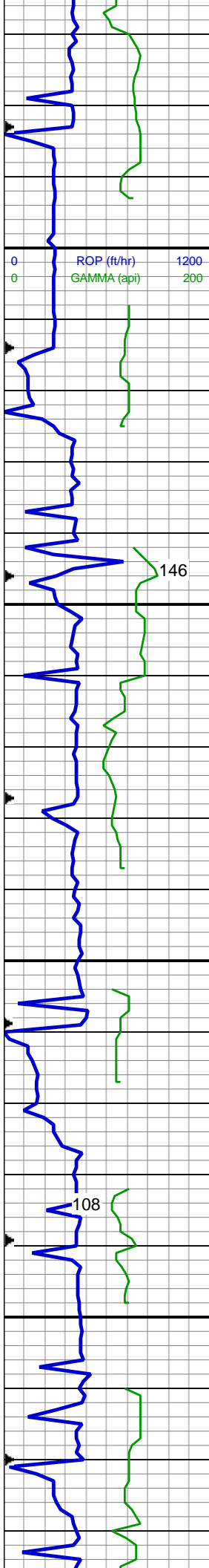
MD: 2,178 '
TVD: 2,172.61 '
Inclination: 9.4 °
Azimuth: 232.8 °
VS: 76.51 '

LAG NOT WORKING

70% SLTY SH: lt-med gy, sft-frm, fri,
sb plty, vf gr, sl slty tex, rthy lstr,
non-sl calc; 30% SHY SS: lt gy-wh,
lt brn gy, blk, sl frm - sft, v f-f gr, sb
rnd, mod-w srt, cly cmt, non-sl calc,
occ ss

MD: 2,272 '
TVD: 2,265.3 '
Inclination: 9.8 °
Azimuth: 232.3 °
VS: 89.52 '

80% SLTY SH: lt-med gy, occ dk gy,
sft-sl frm, sb plty-blky, vf gr, slty tex,
sl clac; 15% SHY SS: wh-lt gy, s&p,
blky, frm, v f-f gr, sb rnd-ang, mod-w
srt, cl sup, cly cmt, non-sl calc; 5%
SS: wh-lt gy, clr-trnsl, speckl blk, sb
rnd-ang, p srt, w cons, f gr, non calc



MD: 2,365 '
TVD: 2,356.84 '
Inclination: 10.5 °
Azimuth: 233.2 °
VS: 103.15 '

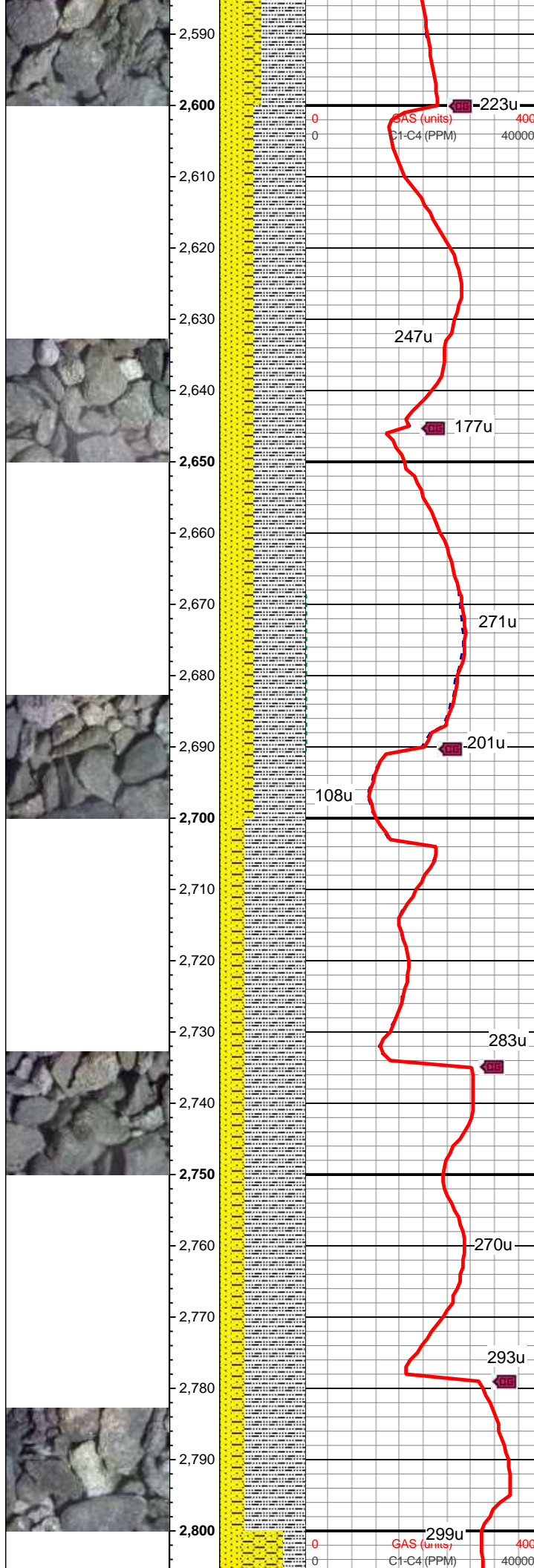
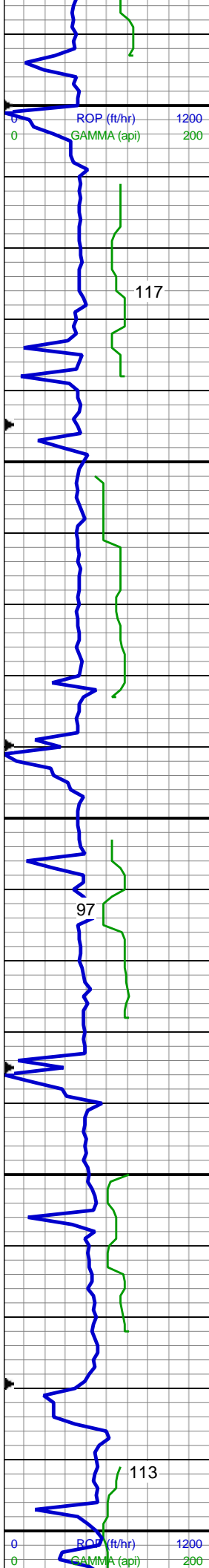
55% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl cacI; 25% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc; 20% SHY SS: wh-lt gy, s&p, blk, frm, v f-f gr, sb rnd-ang, mod-w srt, cl sup, cly cmt, non calc

MD: 2,459 '
TVD: 2,449.32 '
Inclination: 10.1 °
Azimuth: 233.6 °
VS: 117.24 '

WT: 8.5 / VIS: 27

MD: 2,551 '
TVD: 2,539.93 '
Inclination: 9.9 °
Azimuth: 240.8 °
VS: 131.14 '

50% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl cacI; 30% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc; 20% SHY SS: wh-lt gy, s&p, blk, frm, v f-f gr, sb rnd-ang, mod-w srt, cl sup, cly cmt, non calc

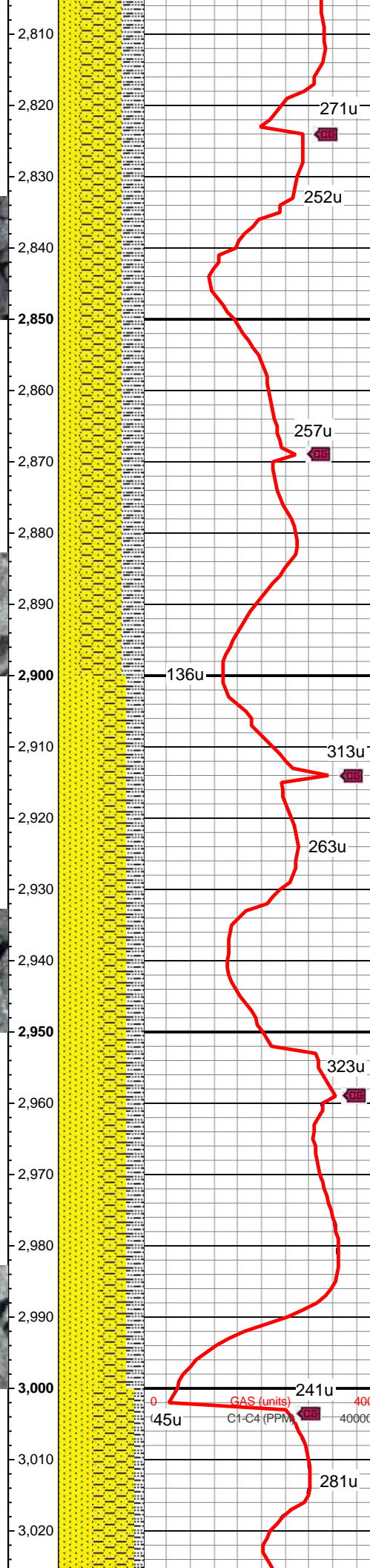
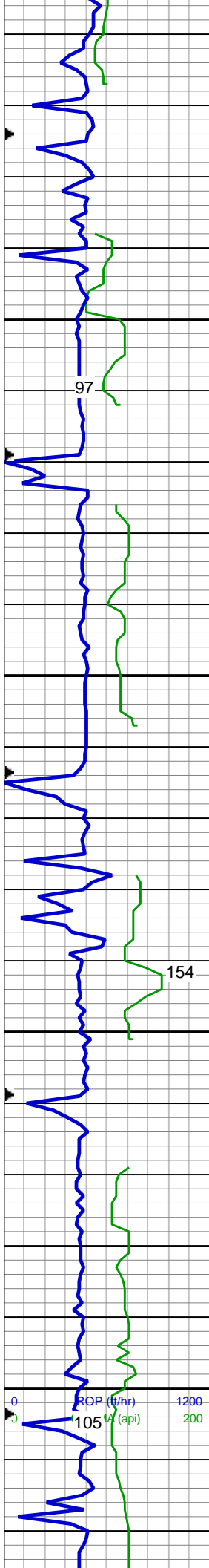


MD: 2,641 '
TVD: 2,628.62 '
Inclination: 9.7 °
Azimuth: 239.4 °
VS: 144.87 '

60% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl clac; 30% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc; 10% SHY SS: wh-lt gy, s&p, blk, frm, v f-f gr, sb rnd-ang, mod-w srt, cl sup, cly cmt, non calc

MD: 2,730 '
TVD: 2,716.4 '
Inclination: 9.3 °
Azimuth: 236.8 °
VS: 157.79 '

70% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl clac; 15% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc; 15% SHY SS: wh-lt gy, s&p, blk, frm, v f-f gr, sb rnd-ang, mod-w srt, cl sup, cly cmt, non calc



MD: 2,820 '
TVD: 2,805.23 '
Inclination: 9.2 °
Azimuth: 235.8 °
VS: 170.3 '

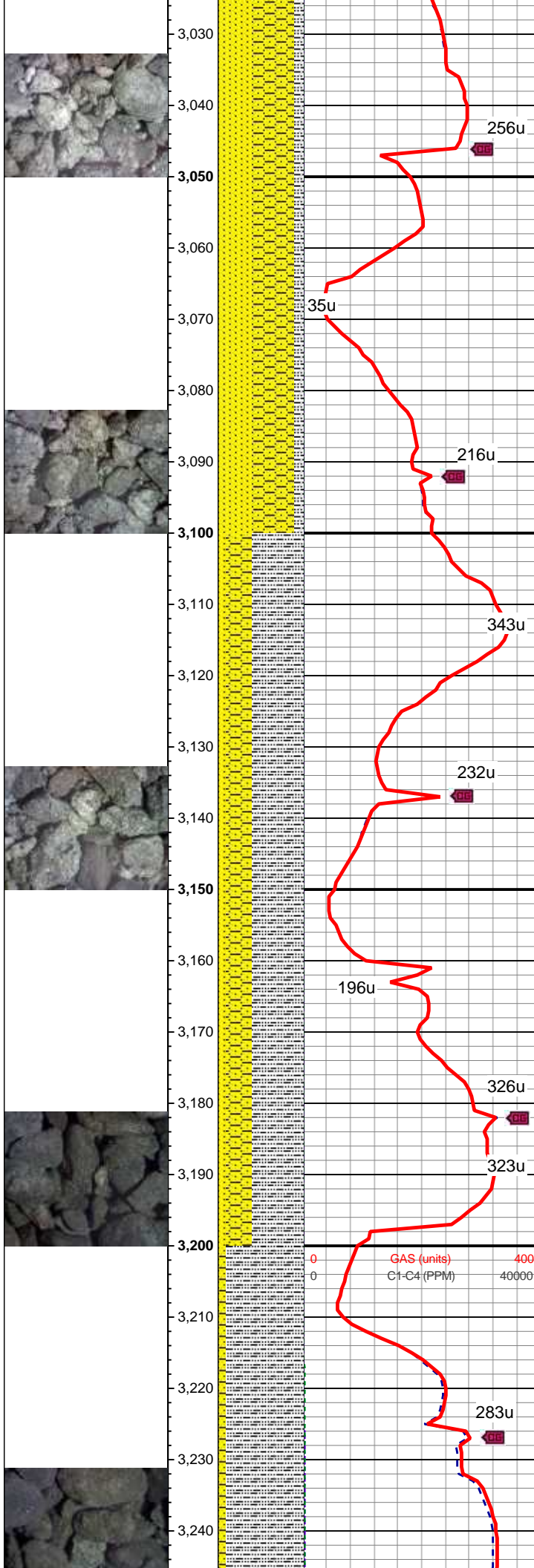
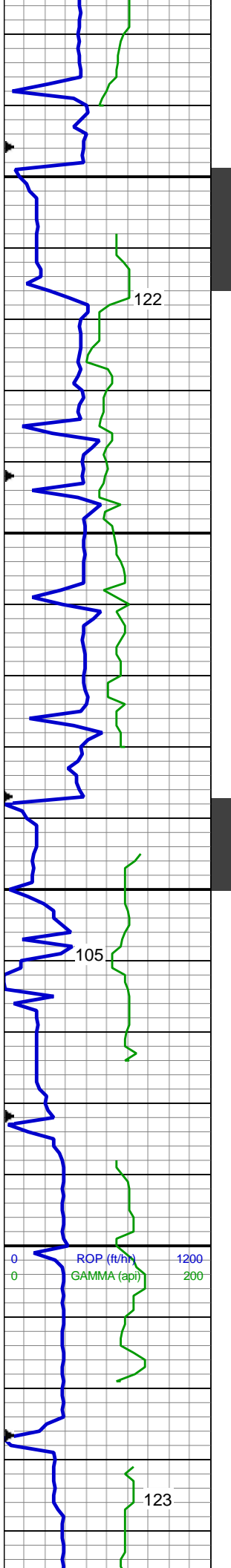
WT: 8.6 / VIS: 27

50% SHY SS: wh-lt gy, s&p, blk, frm, v f-f gr, sb rnd-ang, mod-w srt, cl sup, cly cmt, non calc, 25% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl cacl, 25% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc

MD: 2,910 '
TVD: 2,894.09 '
Inclination: 9 °
Azimuth: 234.8 °
VS: 182.48 '

50% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc; 30% SHY SS: wh-lt gy, s&p, blk, frm, v f-f gr, sb rnd-ang, mod-w srt, cl sup, cly cmt, non calc; 20% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl cacl

MD: 2,999 '
TVD: 2,982.08 '
Inclination: 8.3 °
Azimuth: 233.7 °
VS: 193.8 '



50% SHY SS: wh-lt gy, s&p, blk, frm, v f-f gr, sb rnd-ang, mod-w srt, cl sup, cly cmt, non calc; 40% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc; 10% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl cacl

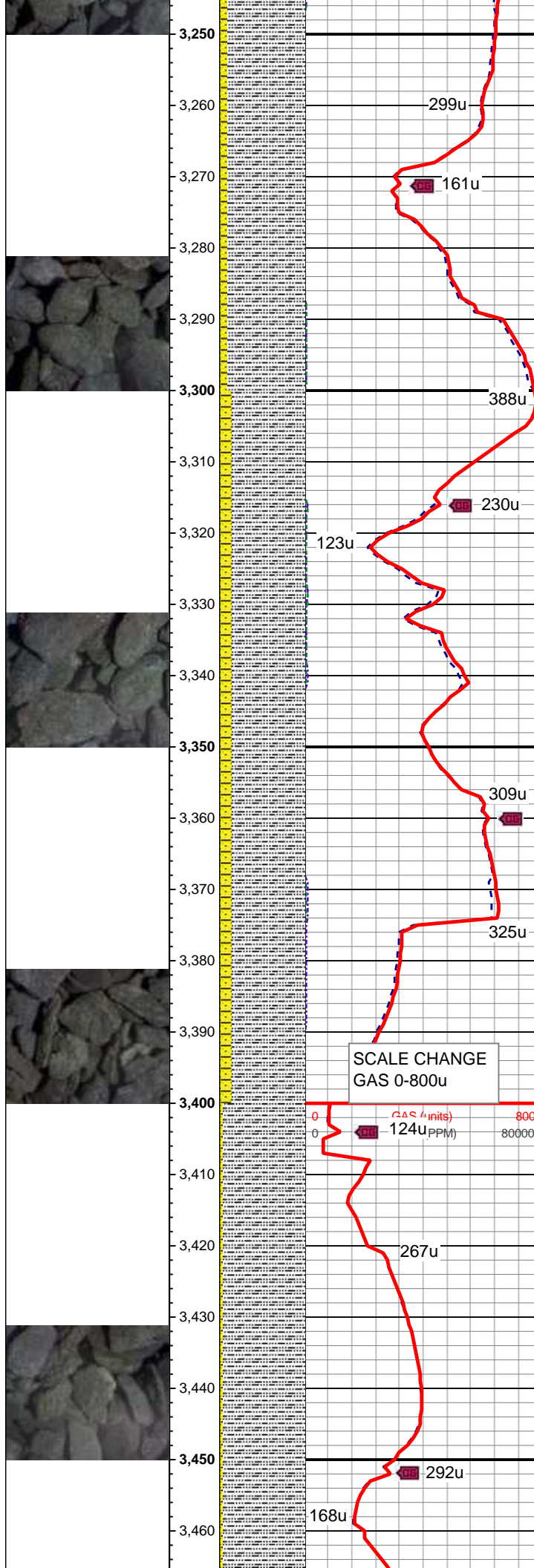
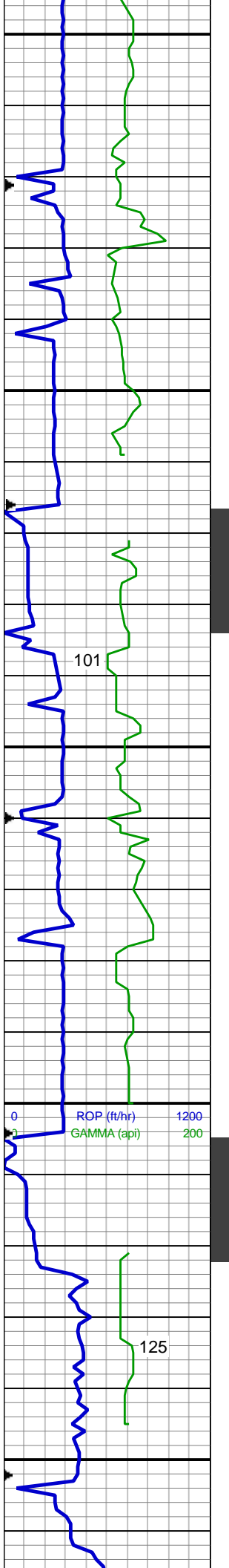
MD: 3,089 '
TVD: 3,071.08 '
Inclination: 8.8 °
Azimuth: 242.3 °
VS: 205.55 '

WT: 8.6 / VIS: 27

60% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl cacl; 30% SHY SS: wh-lt gy, s&p, blk, frm, v f-f gr, sb rnd-ang, mod-w srt, cl sup, cly cmt, non calc; 10% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc

MD: 3,178 '
TVD: 3,159 '
Inclination: 9.1 °
Azimuth: 235.6 °
VS: 217.8 '

90% SLTY SH: lt-med gy, occ dk gy,



sft-sl frm, sb plty-blky, vf gr, slty tex,
sl clac; 10% SHY SS: wh-lt gy, s&p,
blky, frm, v f-f gr, sb rnd-ang, mod-w
srt, cl sup, cly cmt, non-sl calc, tr ss

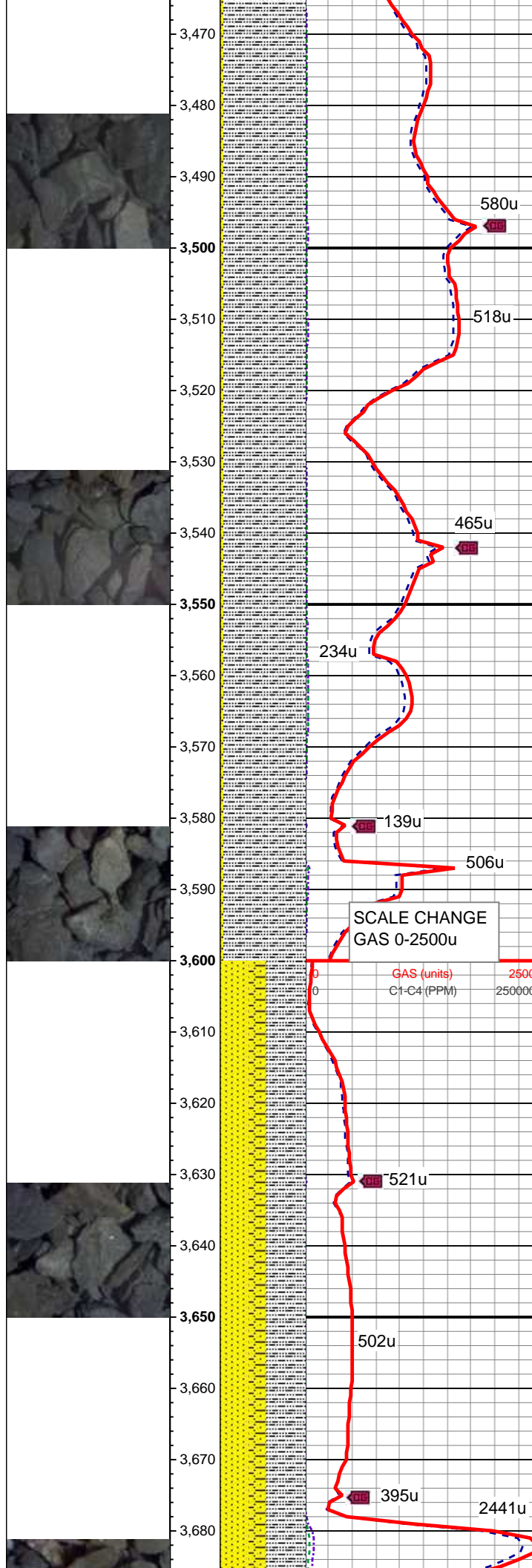
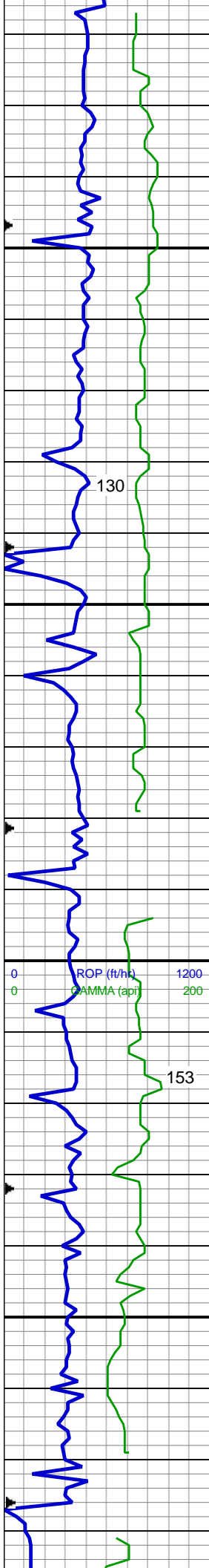
MD: 3,268 '
TVD: 3,248.04 '
Inclination: 7.7 °
Azimuth: 231.7 °
VS: 228.86 '

WT: 8.5 / VIS: 27

90% SLTY SH: lt-med gy, occ dk gy,
sft-sl frm, sb plty-blky, vf gr, slty tex,
sl clac; 10% SHY SS: wh-lt gy, s&p,
blky, frm, v f-f gr, sb rnd-ang, mod-w
srt, cl sup, cly cmt, non-sl calc, tr
ss, tr sh

MD: 3,358 '
TVD: 3,337.19 '
Inclination: 8 °
Azimuth: 235.5 °
VS: 239.19 '

95% SLTY SH: lt-med gy, occ dk gy,
sft-sl frm, sb plty-blky, vf gr, slty tex,
sl clac; 5% SHY SS: wh-lt gy, s&p,
blky, frm, v f-f gr, sb rnd-ang, mod-w
srt, cl sup, cly cmt, non-sl calc, tr
ss, tr sh



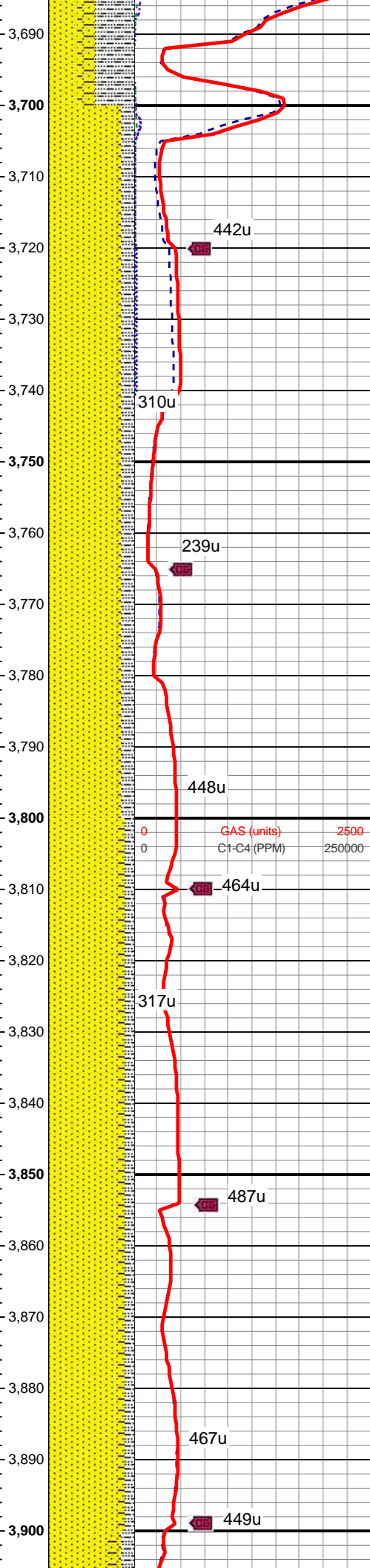
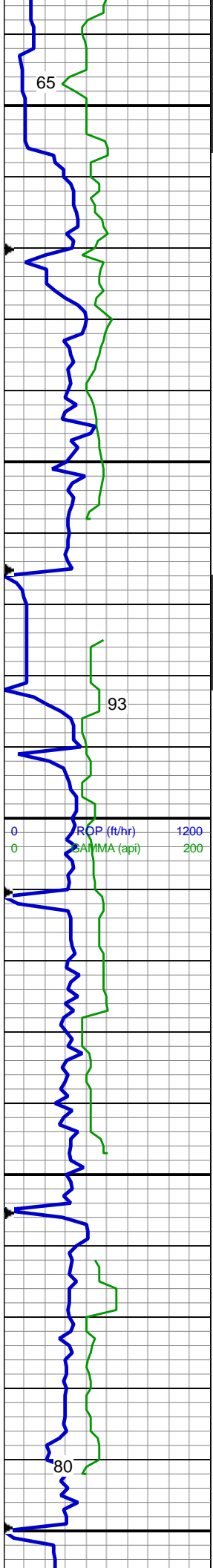
MD: 3,537 '
TVD: 3,514.52 '
Inclination: 6.9 °
Azimuth: 236 °
VS: 260.62 '

95% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl cac; 5% SHY SS: wh-lt gy, s&p, blk, frm, v f-f gr, sb rnd-ang, mod-w srt, cl sup, cly cmt, non-sl calc, tr sh

MD: 3,627 '
TVD: 3,603.98 '
Inclination: 5.7 °
Azimuth: 239.7 °
VS: 269.27 '

WT: 8.5 / VIS: 27

45% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl cac; 35% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc; 20% SHY SS: wh-lt gy, s&p, blk, frm, v f-f gr, sb rnd-ang, mod-w srt, cl sup, cly cmt, non calc



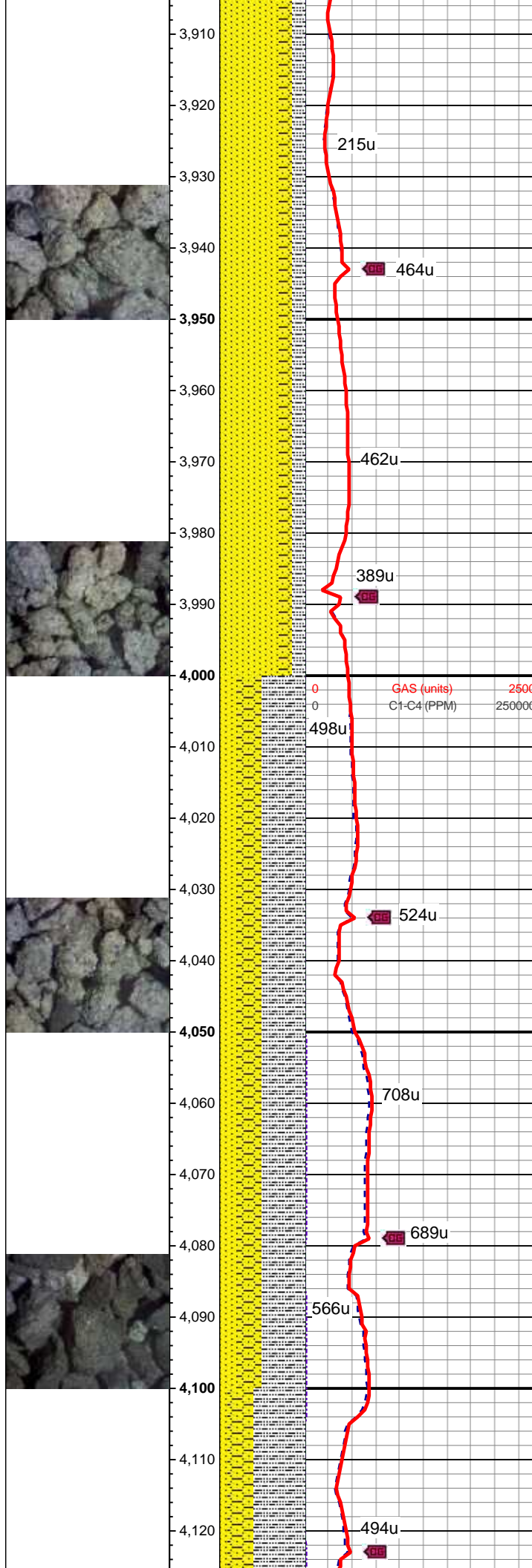
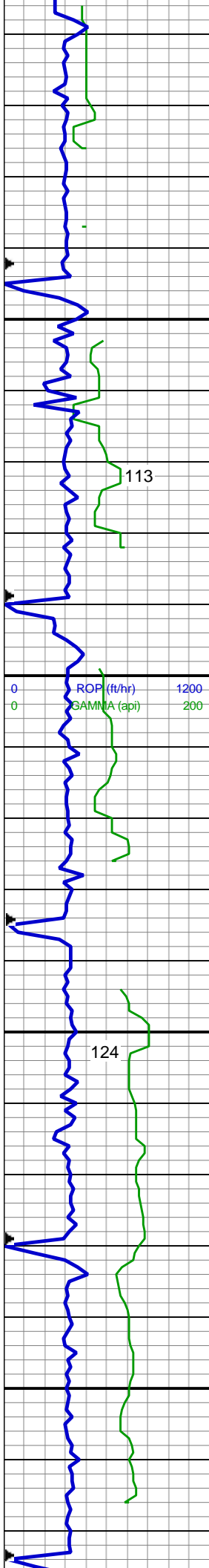
MD: 3,716 '
TVD: 3,692.48 '
Inclination: 6.5 °
Azimuth: 234 °
VS: 277.47 '

80% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc; 15% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl cacl; 5% SHY SS: wh-lt gy, s&p, blk, frm, v f-f gr, sb rnd-ang, mod-w srt, cl sup, cly cmt, non calc

MD: 3,806 '
TVD: 3,781.65 '
Inclination: 9 °
Azimuth: 236.1 °
VS: 287.84 '

80% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc; 10% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl cacl; 10% SHY SS: wh-lt gy, s&p, blk, frm, v f-f gr, sb rnd-ang, mod-w srt, cl sup, cly cmt, non calc

MD: 3,895 '
TVD: 3,869.46 '
Inclination: 9.7 °
Azimuth: 235.6 °
VS: 300.28 '



70% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc; 15% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl cacl; 15% SHY SS: wh-lt gy, s&p, blk, frm, v f-f gr, sb rnd-ang, mod-w srt, cl sup, cly cmt, non calc

WT: 8.5 / VIS: 27

MD: 3,985 '

TVD: 3,958.18 '

Inclination: 9.7 °

Azimuth: 235.6 °

VS: 313.3 '

50% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl cacl; 30% SHY SS: wh-lt gy, s&p, blk, frm, v f-f gr, sb rnd-ang, mod-w srt, cl sup, cly cmt, non calc; 20% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc

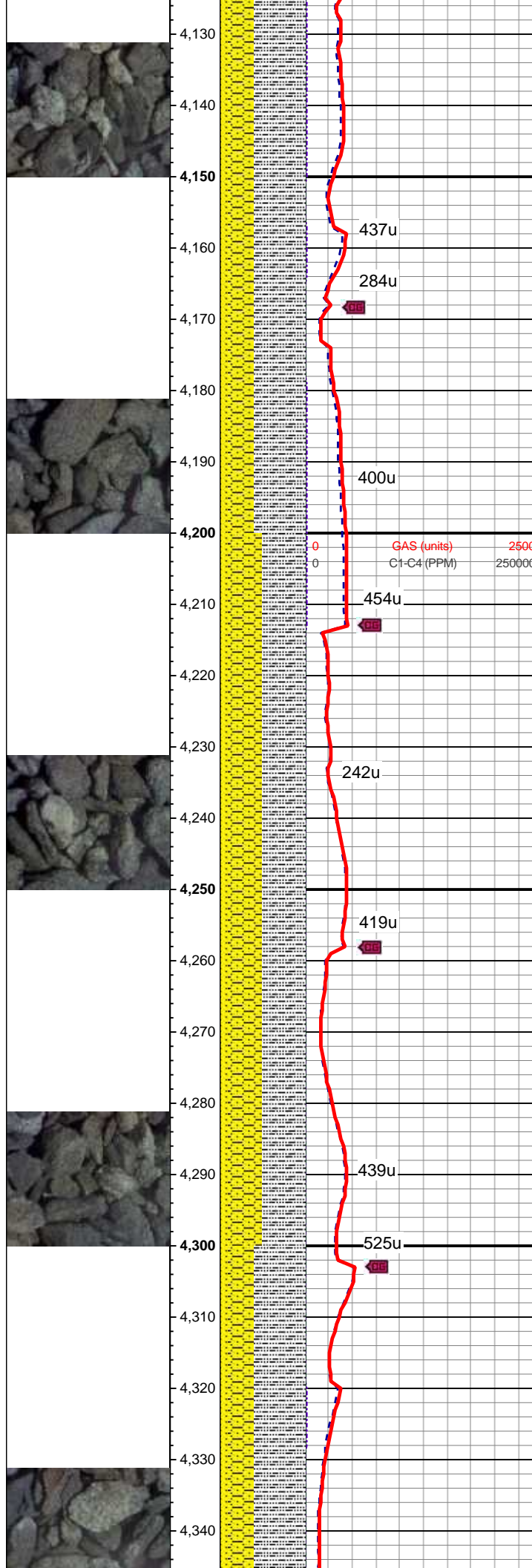
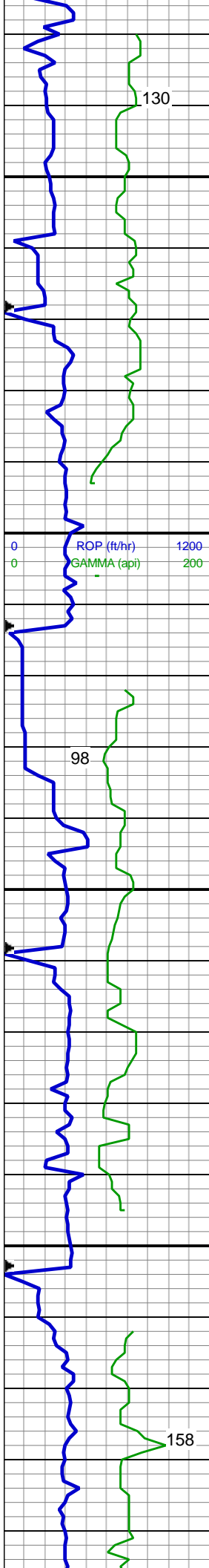
MD: 4,074 '

TVD: 4,046.01 '

Inclination: 8.9 °

Azimuth: 234.8 °

VS: 325.6 '



60% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl cacl; 30% SHY SS: wh-lt gy, s&p, blky, frm, v f-f gr, sb rnd-ang, mod-w srt, cl sup, cly cmt, non calc; 10% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc

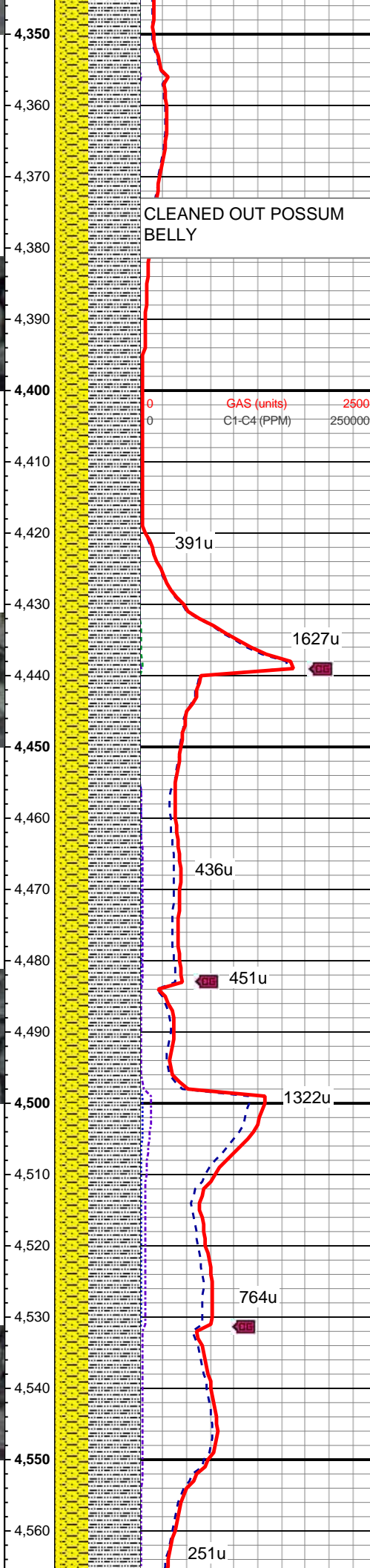
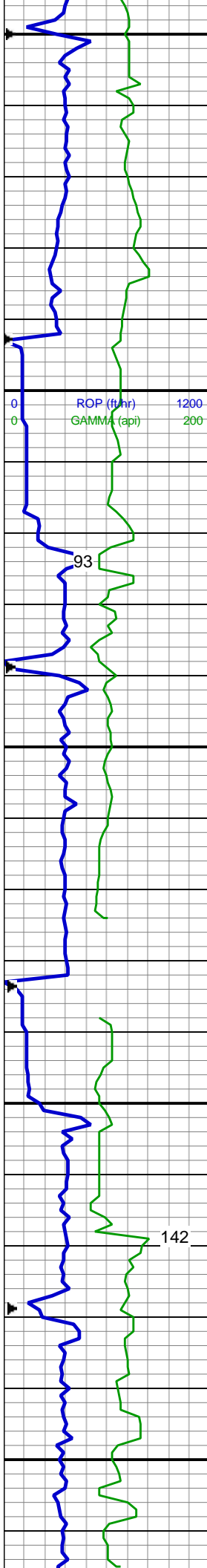
MD: 4,164 '
TVD: 4,135.05 '
Inclination: 7.8 °
Azimuth: 229.5 °
VS: 336.4 '

50% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl cacl; 40% SHY SS: wh-lt gy, s&p, blky, frm, v f-f gr, sb rnd-ang, mod-w srt, cl sup, cly cmt, non calc; 10% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc

MD: 4,254 '
TVD: 4,224.12 '
Inclination: 8.7 °
Azimuth: 232.9 °
VS: 346.95 '

MD: 4,343 '
TVD: 4,312.19 '
Inclination: 7.9 °
Azimuth: 229.9 °
VS: 357.47 '

60% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex,



sl clac; 30% SHY SS: wh-lt gy, s&p, blk, frm, v f-f gr, sb rnd-ang, mod-w srt, cl sup, cly cmt, non calc; 10% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc

MD: 4,433 '
TVD: 4,401.28 '
Inclination: 8.4 °
Azimuth: 237 °
VS: 368.16 '

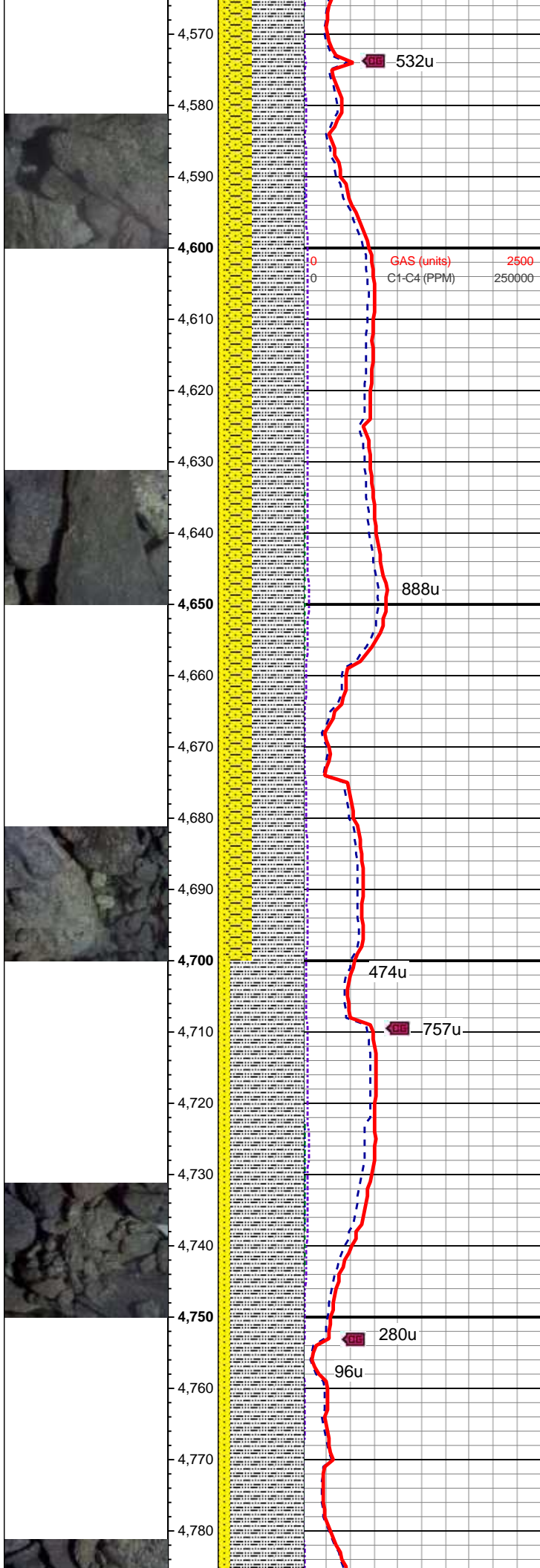
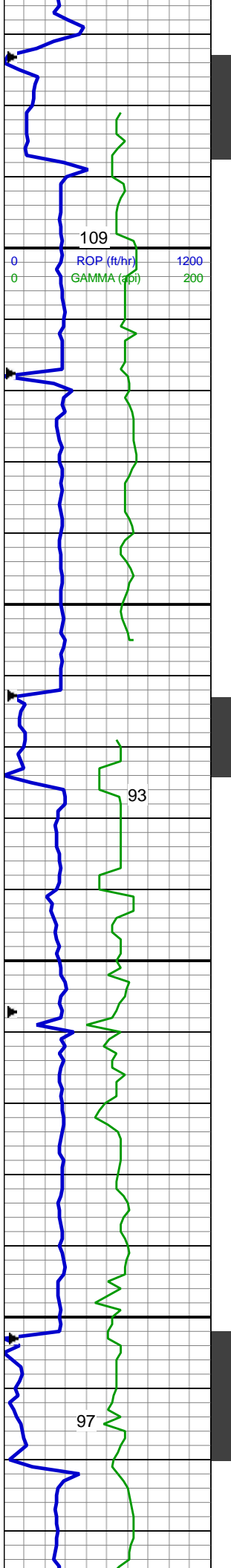
WT: 8.4 / VIS: 27

60% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl clac; 30% SHY SS: wh-lt gy, s&p, blk, frm, v f-f gr, sb rnd-ang, mod-w srt, cl sup, cly cmt, non calc; 10% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc

WT: 8.4 / VIS: 27

MD: 4,523 '
TVD: 4,490.21 '
Inclination: 9.3 °
Azimuth: 236.8 °
VS: 380.21 '

60% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl clac; 30% SHY SS: wh-lt gy, s&p, blk, frm, v f-f gr, sb rnd-ang, mod-w srt, cl sup, cly cmt, non calc; 10% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc



MD: 4,612 '
TVD: 4,578.21 '
Inclination: 7.9 °
Azimuth: 234.7 °
VS: 391.65 '

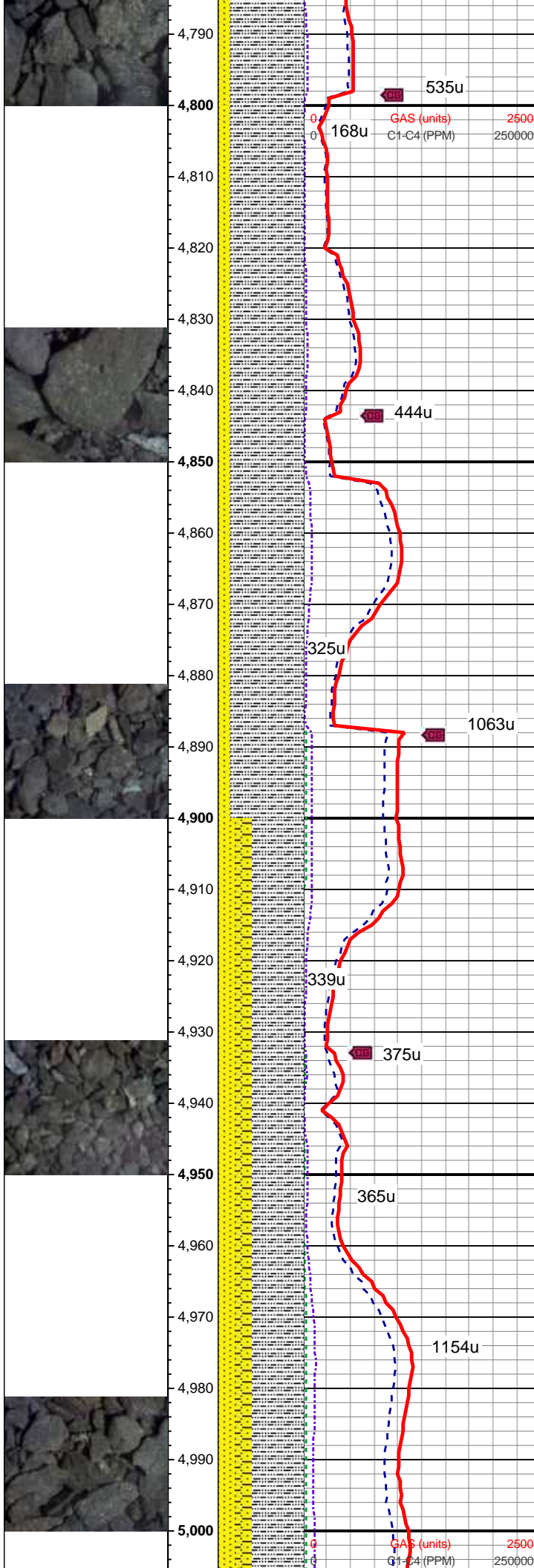
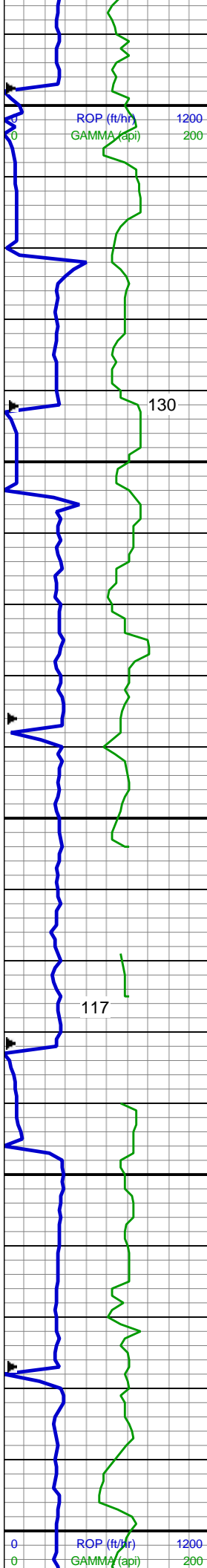
60% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl clac; 30% SHY SS: wh-lt gy, s&p, blk, frm, v f-f gr, sb rnd-ang, mod-w srt, cl sup, cly cmt, non calc; 10% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc

MD: 4,702 '
TVD: 4,667.42 '
Inclination: 7.3 °
Azimuth: 227.9 °
VS: 401.38 '

85% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl clac; 15% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc

WT: 8.45 / VIS: 28

MD: 4,792 '
TVD: 4,756.85 '
Inclination: 5.5 °



Inclination: 9.5 °
Azimuth: 230.7 °
VS: 409.35 '

WT: 8.45 / VIS: 28

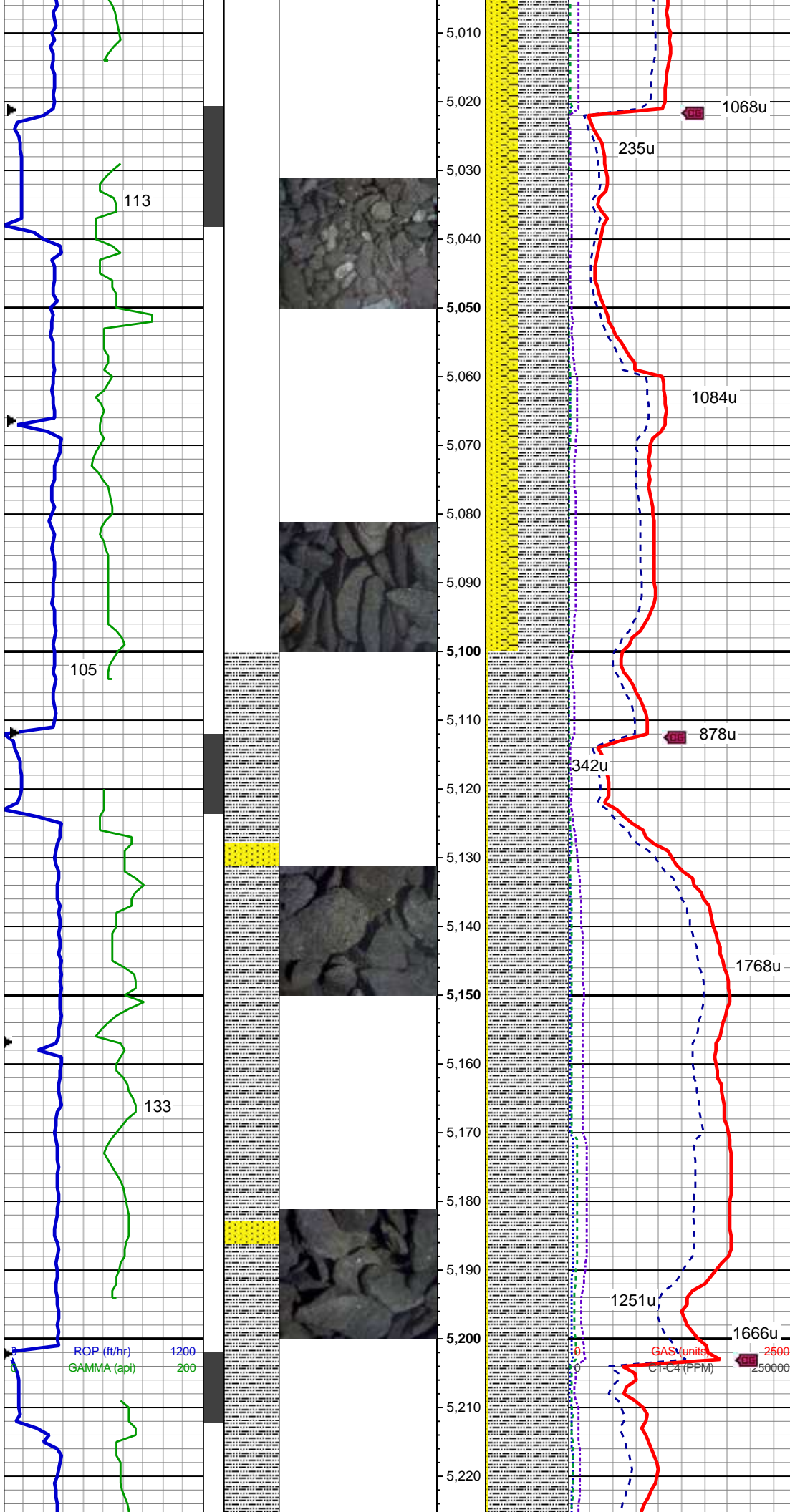
85% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl cacl; 15% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc

MD: 4,881 '
TVD: 4,845.18 '
Inclination: 8.5 °
Azimuth: 242.6 °
VS: 418.83 '

60% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl cacl; 20% SHY SS: wh-lt gy, s&p, blk, frm, v f-f gr, sb rnd-ang, mod-w srt, cl sup, cly cmt, non calc; 20% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc

MD: 4,971 '
TVD: 4,934.08 '
Inclination: 9.5 °
Azimuth: 236.8 °
VS: 431.37 '

WT: 8.5 / VIS: 27



60% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl cacI; 20% SHY SS: wh-lt gy, s&p, blky, frm, v f-f gr, sb rnd-ang, mod-w srt, cl sup, cly cmt, non calc; 20% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc

MD: 5,060 '
TVD: 5,021.71 '
Inclination: 10.6 °
Azimuth: 233.9 °
VS: 444.65 '

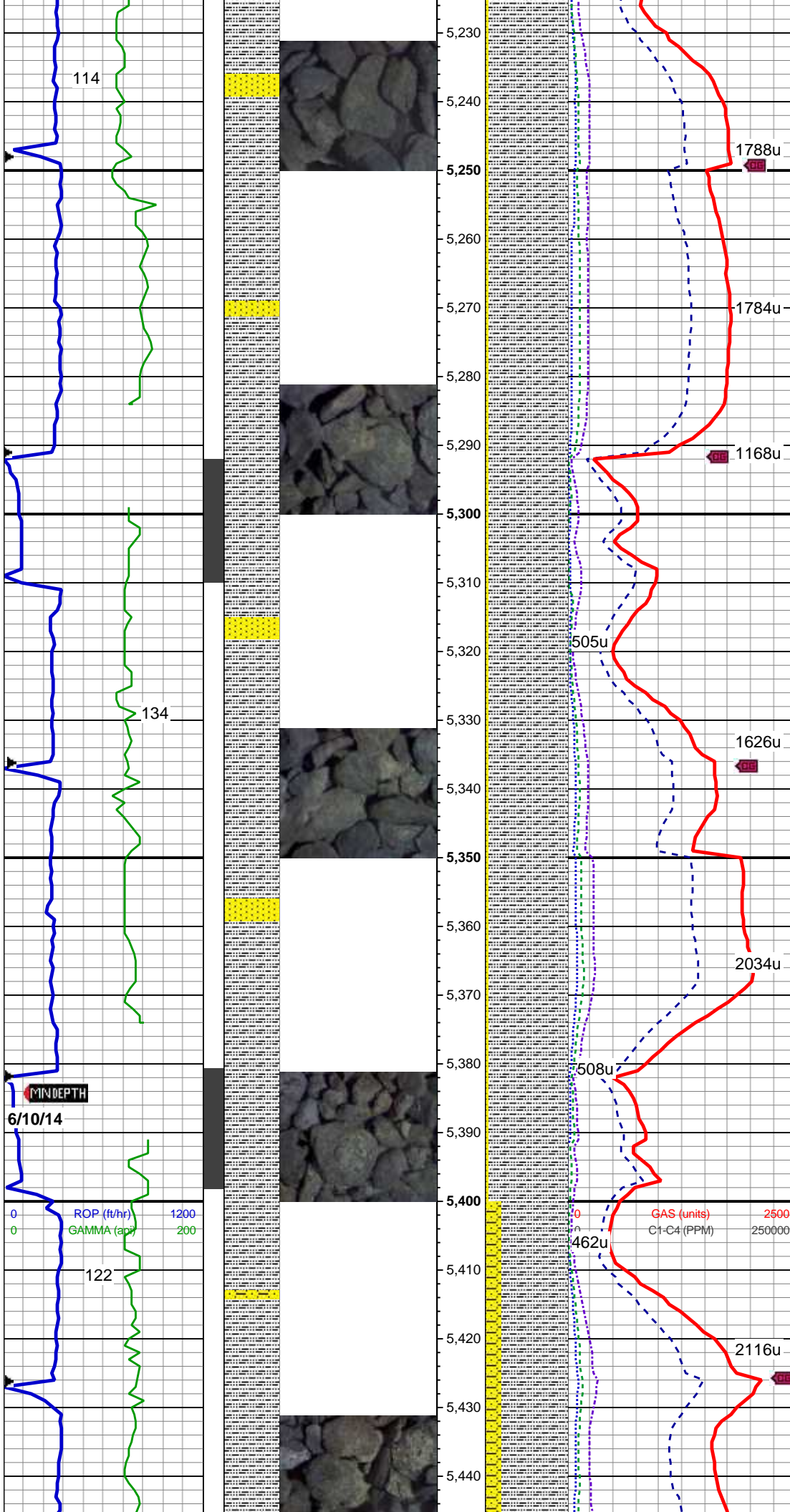
WT: 8.5 / VIS: 27

95% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl cacI; 5% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc

MD: 5,150 '
TVD: 5,110.23 '
Inclination: 10.2 °
Azimuth: 237.6 °
VS: 458.6 '

WT: 8.5 / VIS: 27

MD: 5,240 '
TVD: 5,201.71 '
Inclination: 10.2 °
Azimuth: 237.6 °
VS: 458.6 '



TVD: 5,199.05 '
Inclination: 8.4 °
Azimuth: 237.9 °
VS: 471.36 '

95% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl cac; 5% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc

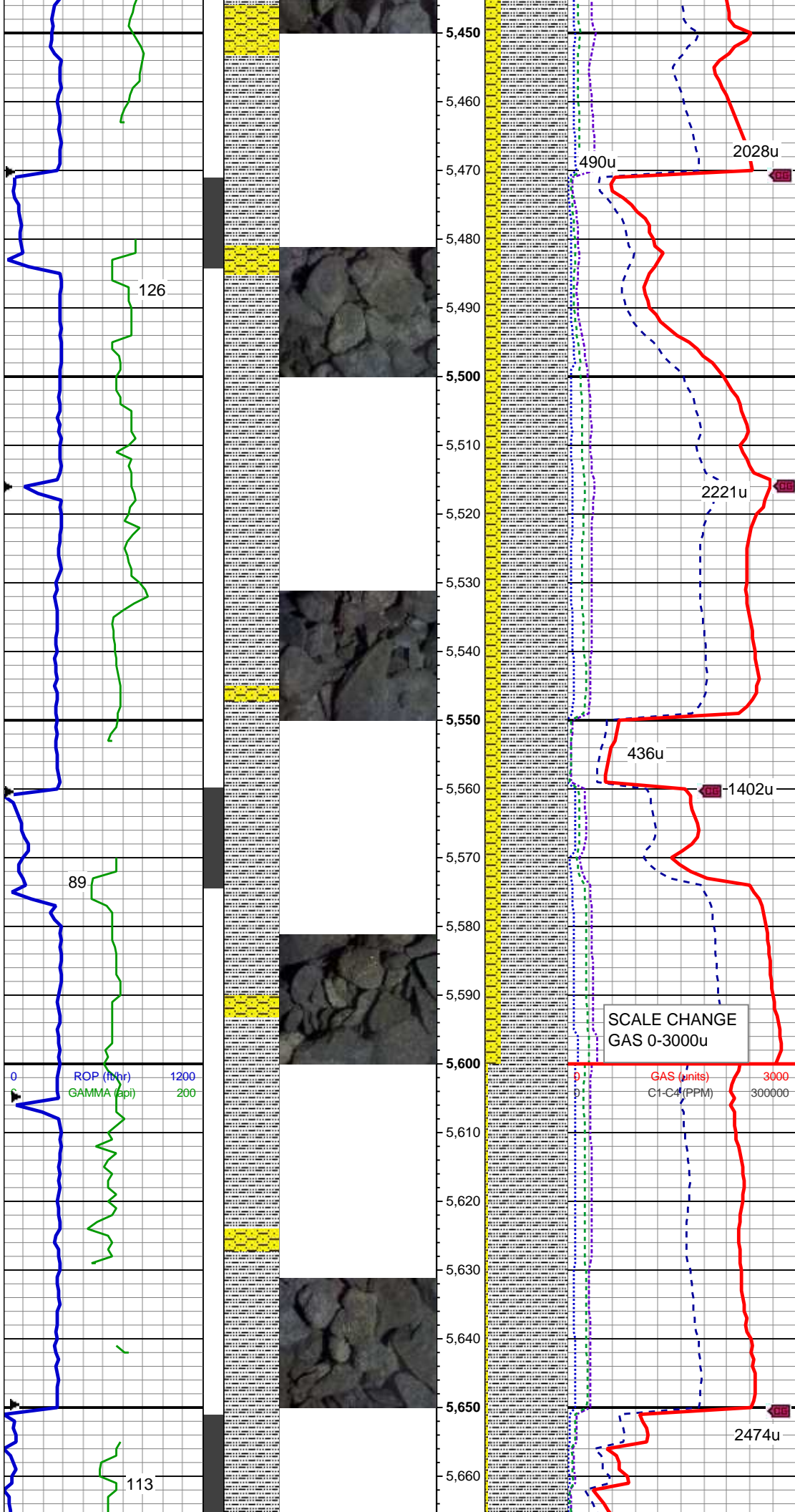
MD: 5,330 '
TVD: 5,288.01 '
Inclination: 9 °
Azimuth: 242.5 °
VS: 483.56 '

95% SLTY SH: lt-med gy, occ dk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, sl cac; 5% SS: wh-lt gy, clr-trnsl, speckl blk, sb rnd-ang, p srt, w cons, f gr, non calc

MD: 5,419 '
TVD: 5,375.89 '
Inclination: 9.2 °
Azimuth: 242 °
VS: 496.4 '

WT: 8.5 / VIS: 27

80% SLTY SH: lt-med gy, occ dk gy,



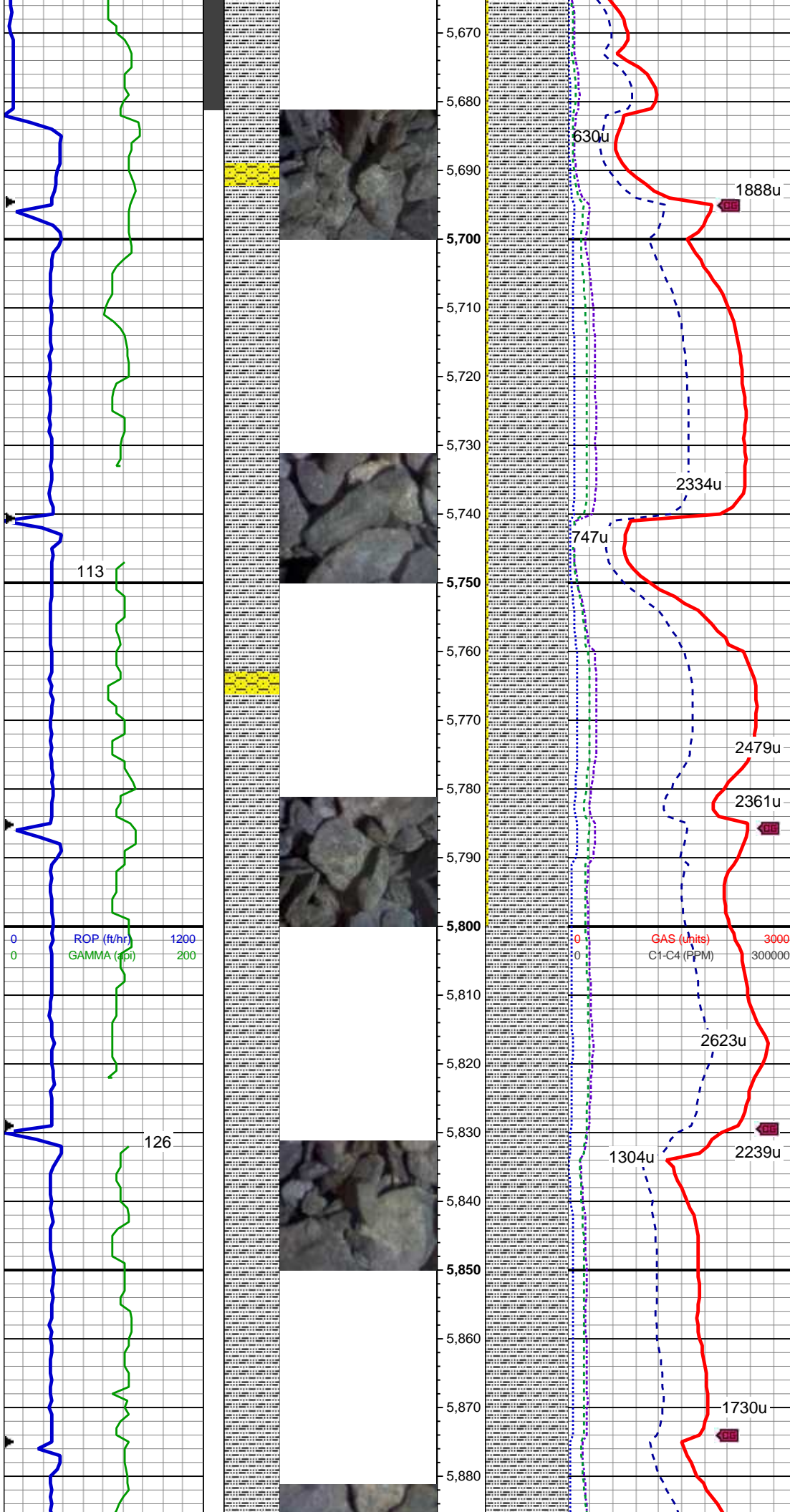
sft-sl frm, sb plty-blky, vf gr, slty tex,
sl clac; 20% SHY SS: wh-lt gy, s&p,
blky, frm, v f-f gr, sb rnd-ang, mod-w
srt, cl sup, cly cmt, non calc

MD: 5,509 '
TVD: 5,464.72 '
Inclination: 9.3 °
Azimuth: 240.8 °
VS: 509.5 '

80% SLTY SH: lt-med gy, occ dk gy,
sft-sl frm, sb plty-blky, vf gr, slty tex,
non-sl calc; 20% SHY SS: wh-lt gy,
blky, frm, v f-f gr, sb rnd-ang, mod-w
srt, non-sl calc

MD: 5,599 '
TVD: 5,553.74 '
Inclination: 7.6 °
Azimuth: 241.4 °
VS: 521.45 '

95% SLTY SH: med-dk gy, occ lk
gy, sft-sl frm, sb plty-blky, vf gr, slty
tex, non-sl calc; 5% SHY SS: wh-lt
gy, blky, frm, v f-f gr, sb rnd-ang,
mod-w srt, non-sl calc



MD: 5,688 '
TVD: 5,641.92 '
Inclination: 8 °
Azimuth: 241.6 °
VS: 532.4 '

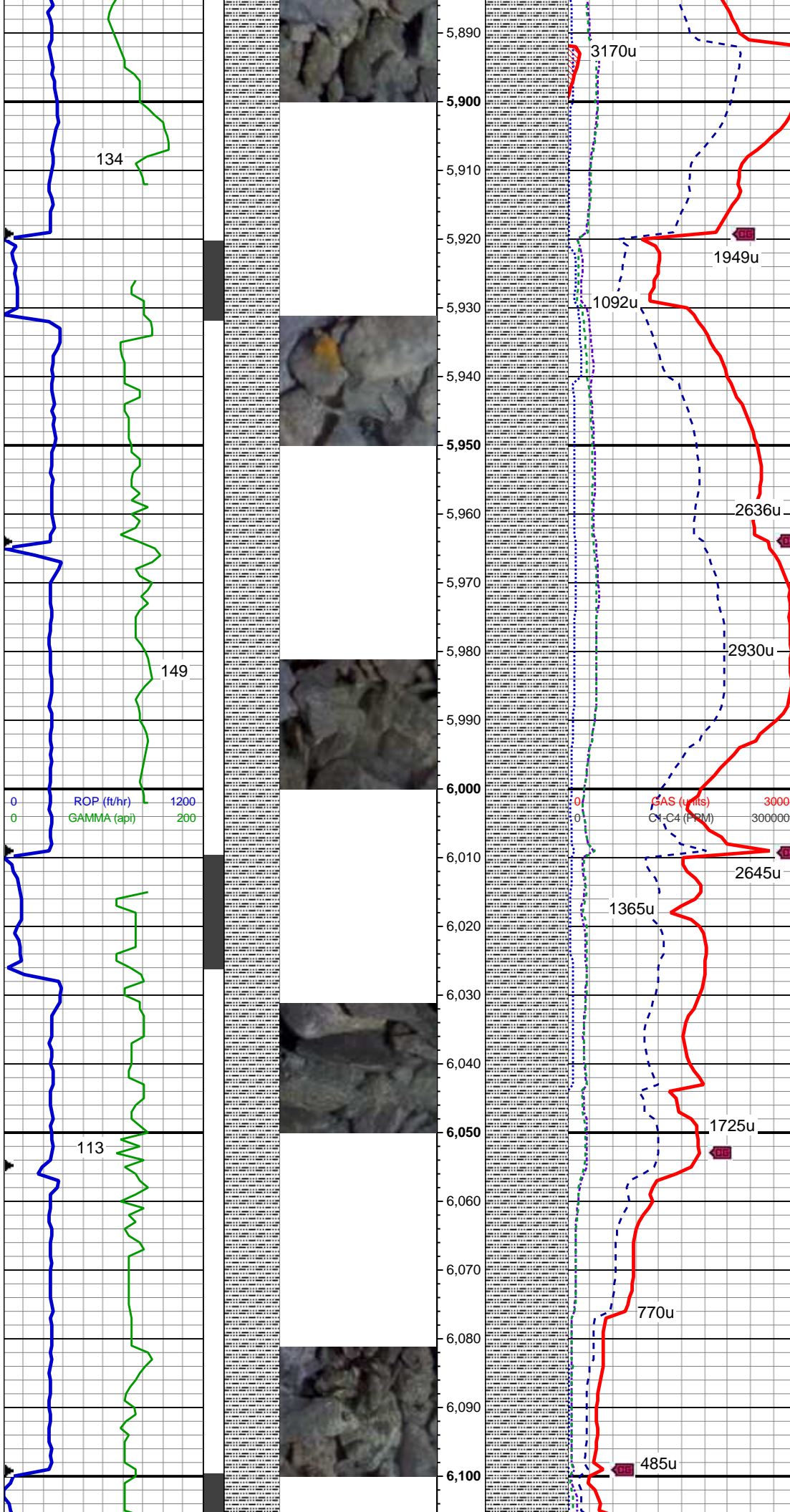
95% SLTY SH: med-dk gy, occ lk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, non-sl calc; 5% SHY SS: wh-lt gy, blk, frm, v f-f gr, sb rnd-ang, mod-w srt

MD: 5,778 '
TVD: 5,731.2 '
Inclination: 6.5 °
Azimuth: 236.1 °
VS: 542.48 '

WT: 8.5 / VIS: 27

100% SLTY SH: med-dk gy, occ lk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, non-sl calc, tr pyr, tr shy ss

MD: 5,868 '
TVD: 5,820.71 '
Inclination: 5.4 °
Azimuth: 232 °
VS: 550.36 '

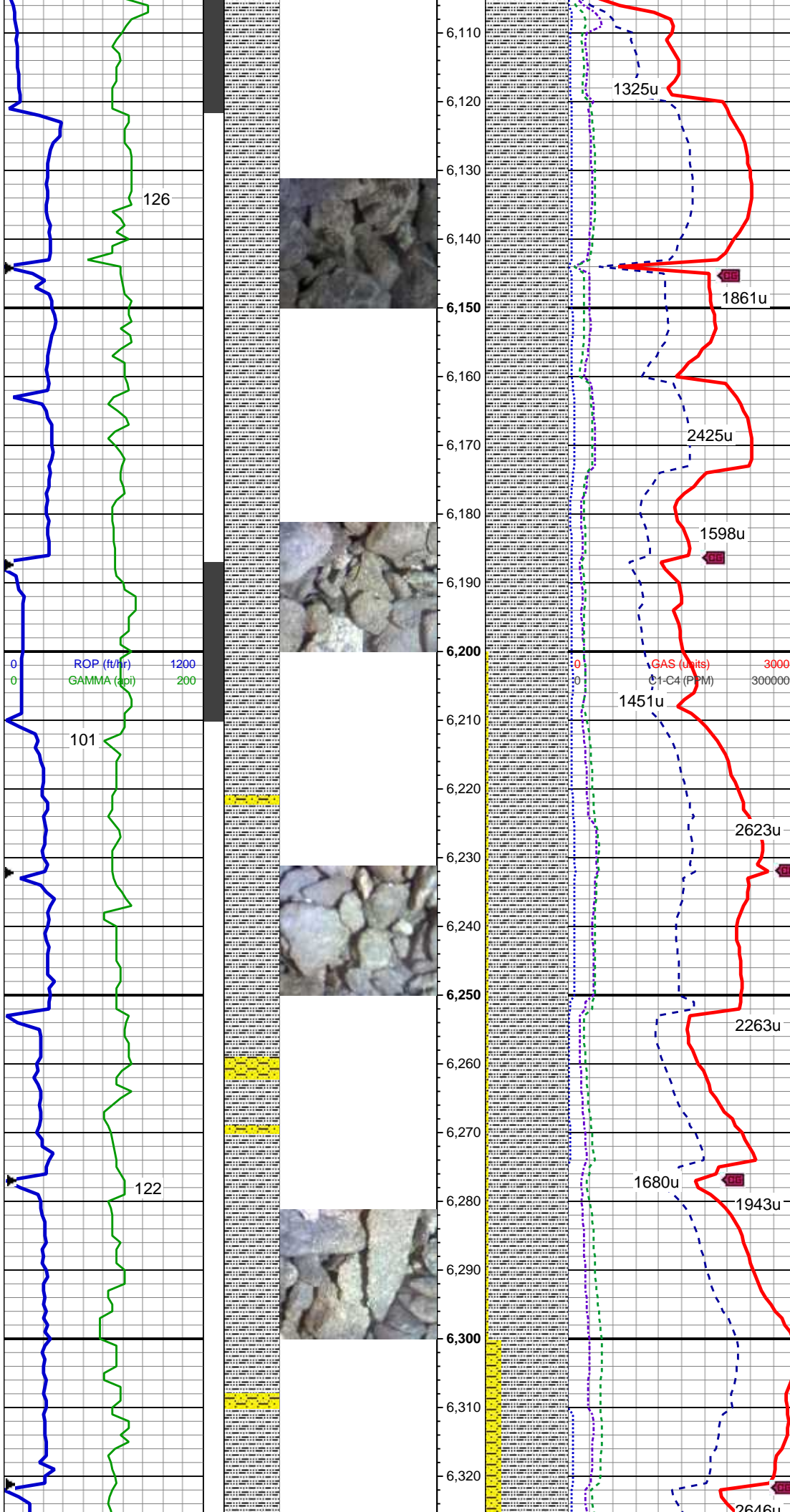


100% SLTY SH: med-dk gy, occ lk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, non-sl calc, tr pyr, tr shy ss

MD: 5,957 '
TVD: 5,909.4 '
Inclination: 4.2 °
Azimuth: 241.4 °
VS: 556.77 '

MD: 6,047 '
TVD: 5,999.19 '
Inclination: 3.6 °
Azimuth: 230.2 °
VS: 562.03 '

100% SLTY SH: med-dk gy, occ lk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, non-sl calc, tr pyr, tr shy ss



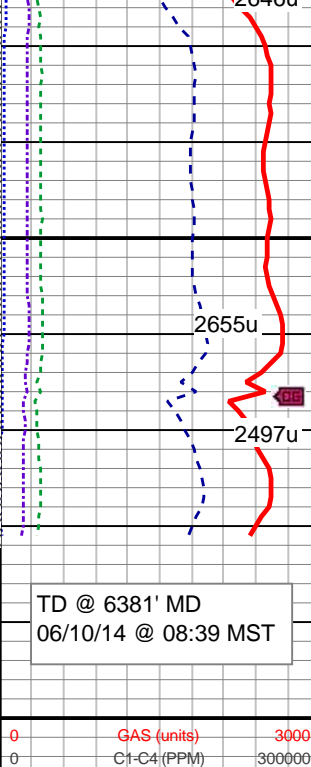
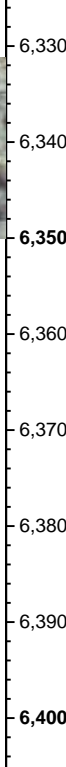
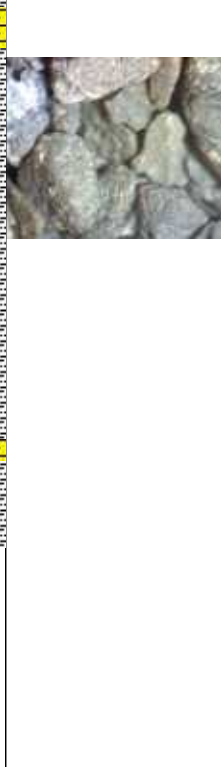
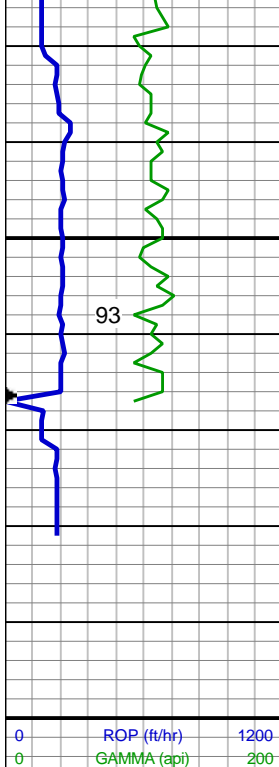
MD: 6,137 '
TVD: 6,089.06 '
Inclination: 2.9 °
Azimuth: 272.2 °
VS: 566.58 '

100% SLTY SH: med-dk gy, occ lk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, non-sl calc, tr pyr, tr shy ss

MD: 6,226 '
TVD: 6,178.01 '
Inclination: 0.6 °
Azimuth: 290.6 °
VS: 569.24 '

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

MD: 6,316 '
TVD: 6,268 '
Inclination: 0.7 °
Azimuth: 276.4 °
VS: 570.21 '



80% SLTY SH: med-dk gy, occ lk gy, sft-sl frm, sb plty-blky, vf gr, slty tex, non-sl calc; 20% SHY SS: wh-lt gy, blkly, frm, v f-f gr, sb rnd-ang, mod-w srt, non-sl calc

MD: 6,361 '
TVD: 6,313 '
Inclination: 0.7 °
Azimuth: 271.9 °
VS: 570.76 '

TD @ 6381' MD
06/10/14 @ 08:39 MST

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