

COLUMBINE LOGGING

Scale: 5" / 100'
Measured Depth Log

Well Name Reliance E23-68-1HN

Location NWNW SEC23, T6N, R65W, 6 PM

State COLORADO

County WELD

Country USA

Rig Number H&P 326

API Number 05-123-38142

Field GREELEY

Region DG BASIN

Drilling Completed 2/1/2015

Spud Date 1/26/2015

Surface Coordinates 1280' FNL, 755' FWL
40.47528/-104.63728

Bottom Hole Coordinates (PROJ)
990' FFNLL, 225' FFELL
40.476050/-104.621690

Ground Elevation 4732'

K.B. Elevation 4762'

Logged Interval 809' To 6381'

Total Depth 11,719'

Formation NIOBRARA C-CHALK

Type of Drilling Fluid LSND

Other Symbols

Oil Show

- DEAD
- EVEN
- QUESTIONABLE
- SPOTTED STAINING

Porosity

- E EARTHY
- F FENESTRAL
- F FRACTURE
- X INTERCRYSTALLINE
- Q INTERCOLLITIC

- MOLDIC
- ORGANIC
- PINPOINT
- VUGGY

Engineering

- BIT
- CONNECTION (LEFT)
- CONNECTION (RIGHT)
- CONNECTION GAS
- CORE - LOST
- CORE - RECOVERED
- DST INTERVAL

- FAULT
- FORMATION TOP
- GAS SHOW
- MINDEPTH 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
- FINELYXLN
- GRAINSTONE
- L LITHOGRAPHIC
- MX MICROXLN
- MS MUDSTONE
- PS PACKSTONE
- WS WACKSTONE

Sorting

- M MODERATE
- P POOR
- W WELL

Zone Color Coding

- Oil
- Condensate
- Gas
- Note
- Core
- Pressure
- Error
- Water
- Seal

Accessories

Fossils

- F FOSSIL
- GASTROPOD
- ALGAE
- INOCERAMUS

- ANHYDRITIC
- ARGILLACEOUS
- ARGILLITE GRAIN

- FERRUGINOUS
- GLAUCONITE
- GYPSIFEROUS

- TUFFACEOUS

Stringer

ALGAL
AMPHIPORA
BELEMNITE
BIOCLASTIC
BRACHIOPOD
BRYOZOA
CEPHALOPOD
CORAL
CRINOID
ECHINOID
FISH
FORAMINIFERA

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

Minerals

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

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

ANHYDRITE STRINGER
BENTONITE STRINGER
COAL STRINGER
DOLOMITE STRINGER
GYPSUM STRINGER
LIMESTONE STRINGER
MARLSTONE (CALC) STRG
MARLSTONE (DOL) STRG
SANDSTONE STRINGER
SHALE STRINGER
SILTSTONE STRINGER

Rock Types

UNKNOWN
ANHYDRITE
BENTONITE
BRECCIA
CEMENT
CHALK
CHERT
CLAY CHOKE SAND
CLAYSTONE

COAL
CONGLOMERATE
DOLOMITE
GRANITE
GYPSUM
IGNEOUS
LIMESTONE
SIDERITE or LIMONITE
MARLSTONE

METAMORPHIC
NO SAMPLE
SALT
SALT- PEPPER SAND
SANDSTONE
SHALE
SHALE COLORED
SHALE GRAY
SHALY SANDSTONE

SHALY SILTSTONE
SILTSTONE
SILTY SHALE
TILL
TUFF
WELDED TUFF

Operator

Company NOBLE ENERGY INC.

Address 1625 Broadway Suite 2200
Denver, CO 80202

Geologist

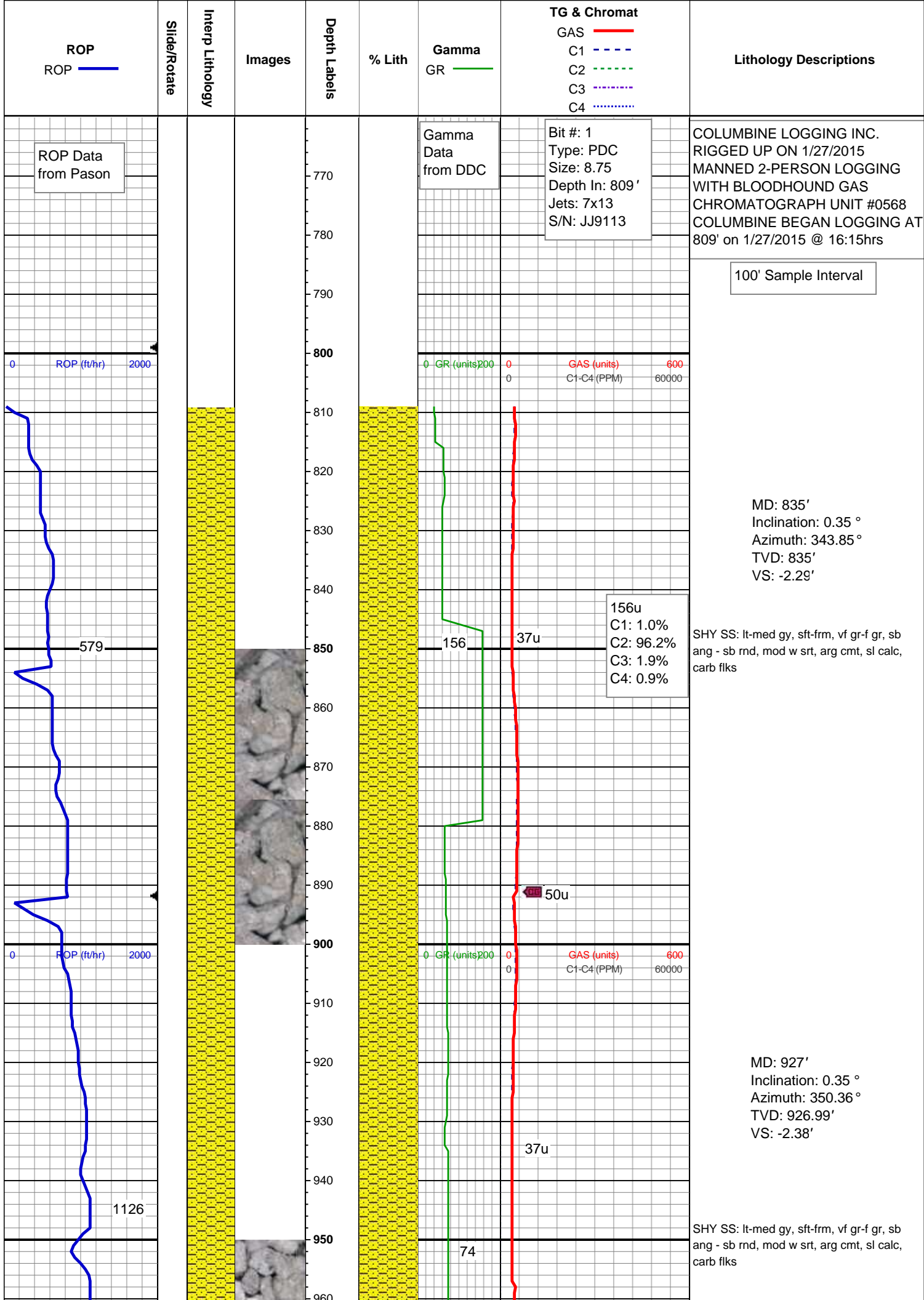
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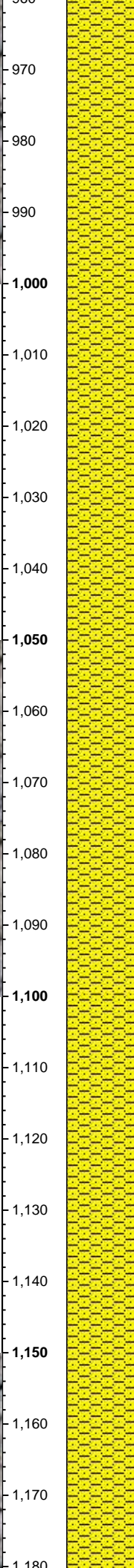
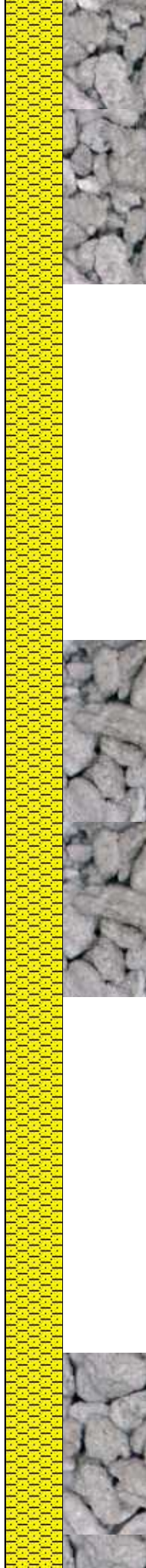
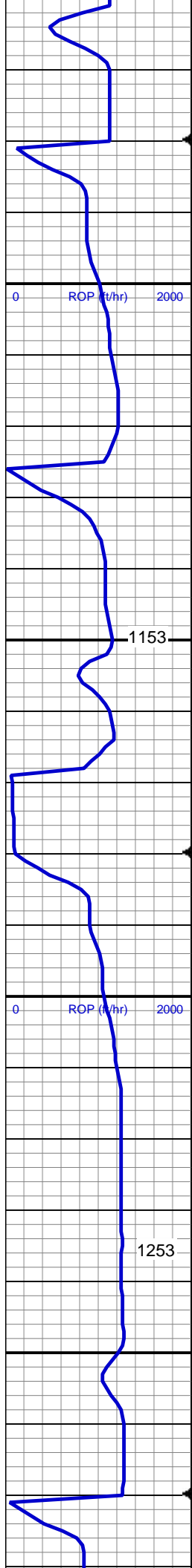
Company NOBLE ENERGY INC.

Address 1625 Broadway Suite 2200
Denver, CO 80202

Other

COLUMBINE LOGGING MATT HOPKINS
IAN CONTRERAS



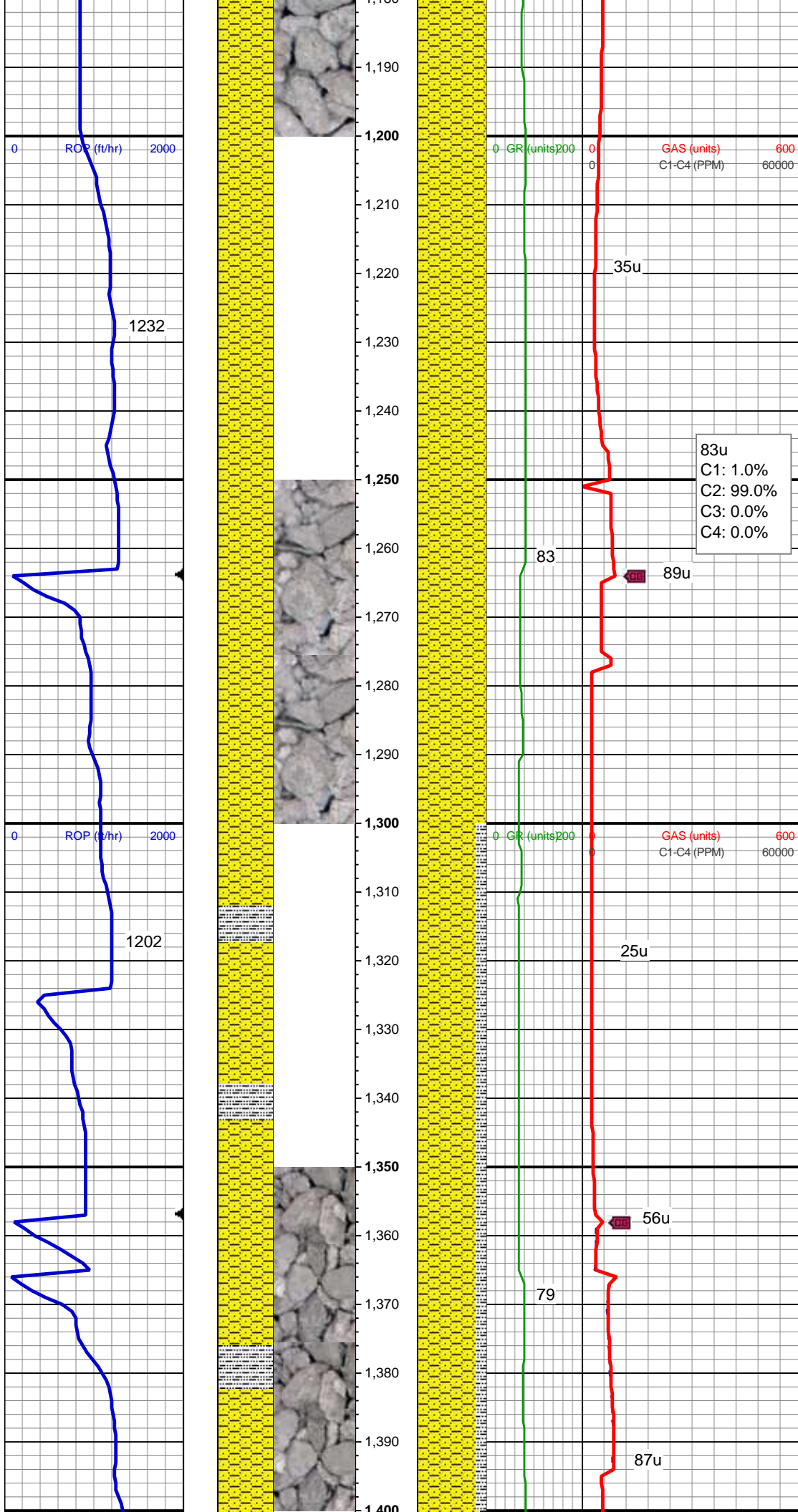


MD: 1,022'
Inclination: 0.44 °
Azimuth: 352.82 °
TVD: 1,021.99'
VS: -2.42'

SHY SS: lt-med gy, sft frm, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks

MD: 1,115'
Inclination: 0.35 °
Azimuth: 334.89 °
TVD: 1,114.99'
VS: -2.54'

SHY SS: lt-med gy, sft frm, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks

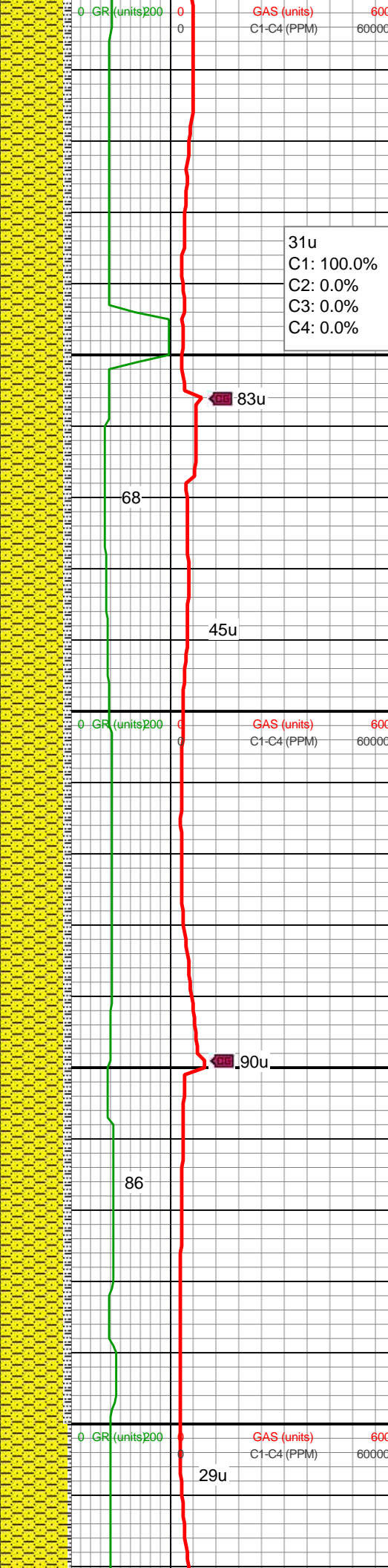
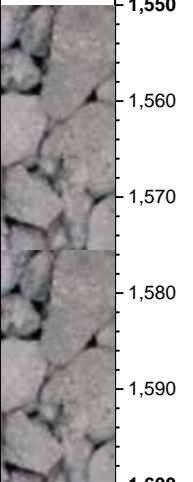
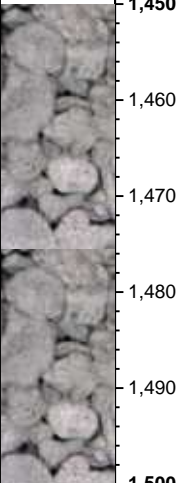
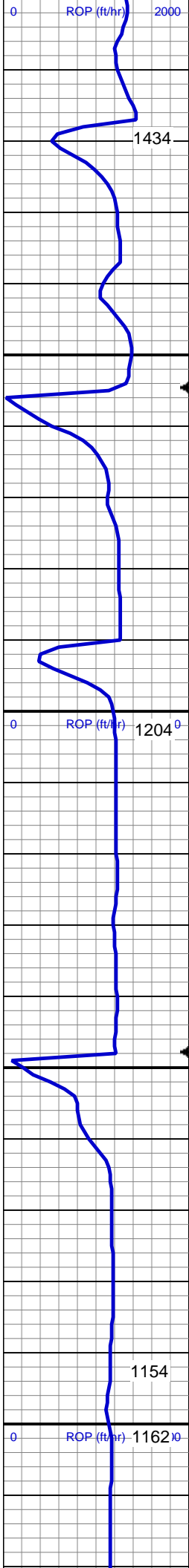


SHY SS: lt-med gy, sft-frm, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks

MD: 1,301'
Inclination: 0.44 °
Azimuth: 317.66 °
TVD: 1,300.99'
VS: -3.18'

SHY SS: lt-med gy, sft-frm, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks, tr glauc, SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb plty, gritty, abnt cly

MD: 1,402'
Inclination: 0.18 °



Normal

Azimuth: 318.54 °

TVD: 1,401.98'

VS: -3.52'

SHY SS: lt-med gy, sft frm, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks, SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb plty, gritty

MD: 1,494'

Inclination: 0.35 °

Azimuth: 281.45 °

TVD: 1,493.98'

VS: -3.88'

SHY SS: lt-med gy, sft frm, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks, SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb plty, gritty

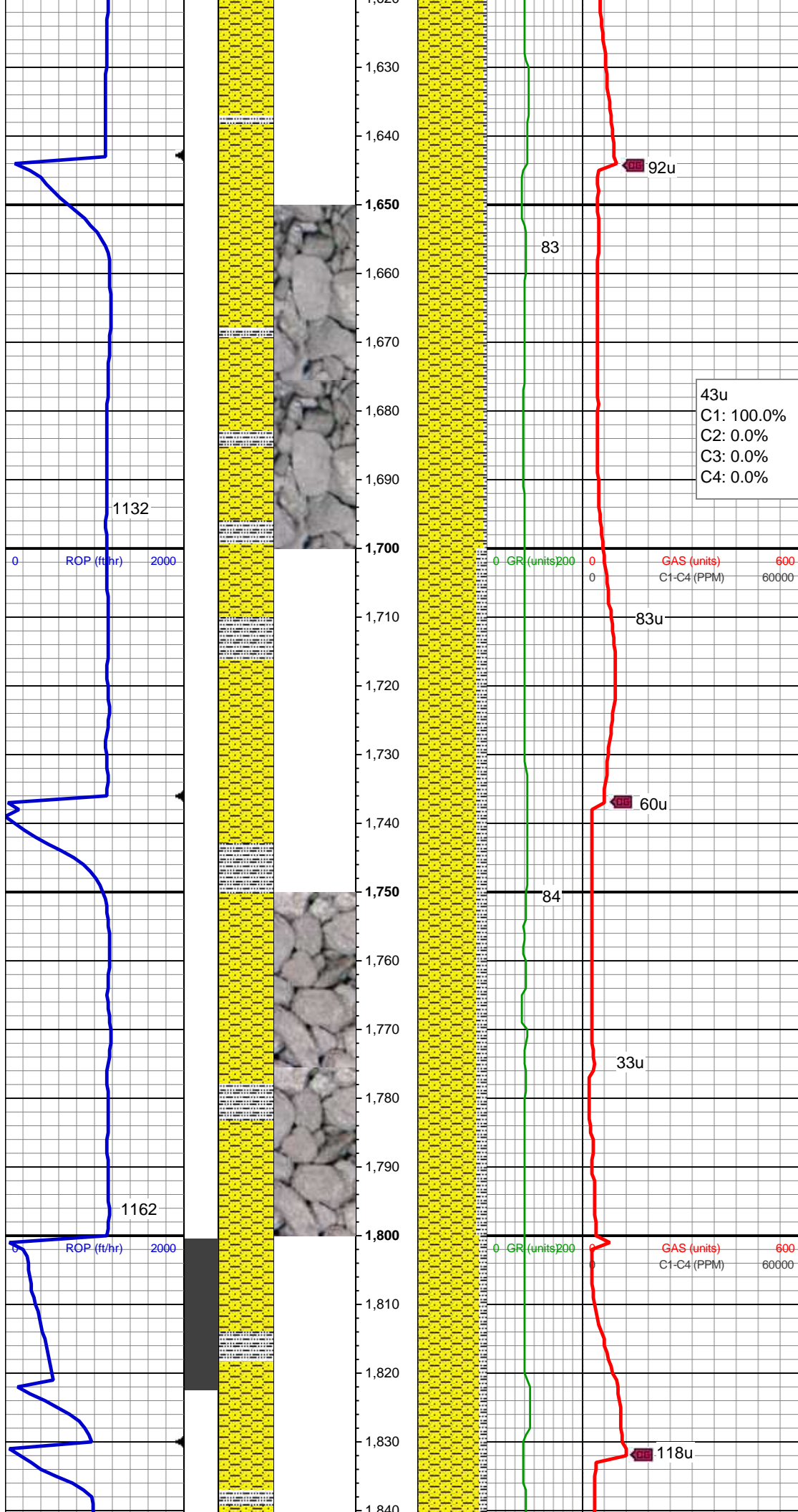
MD: 1,589'

Inclination: 0.44 °

Azimuth: 289.01 °

TVD: 1,588.98'

VS: -4.49'

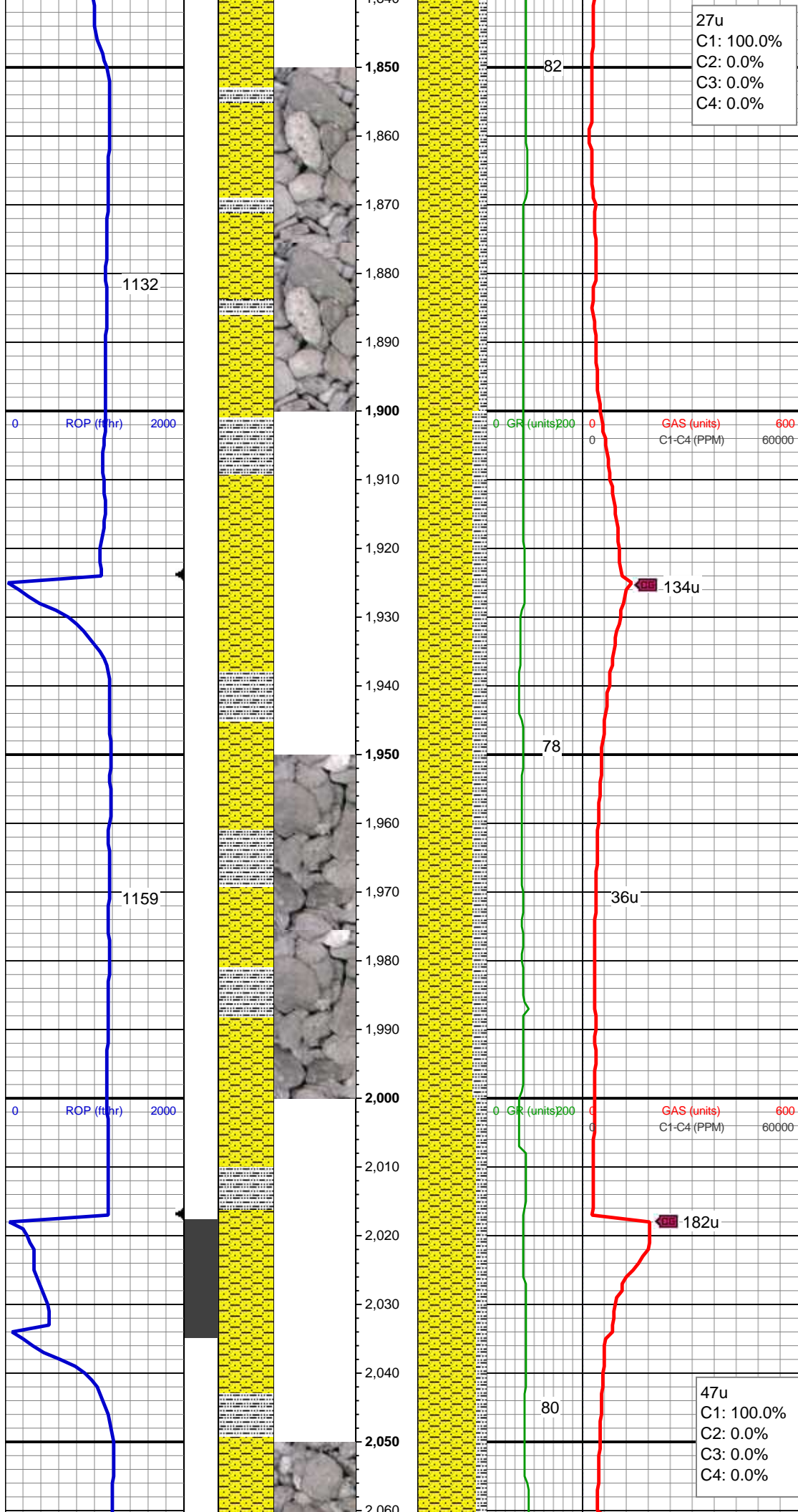


SHY SS: lt-med gy, sft-frm, vf gr, sb ang -
sb rnd, mod w srt, arg cmt, sl calc, carb
flks, SLTY SH: lt-dk gy, sft-mod frm, sb
blky-sb plty, gritty

MD: 1,682'
Inclination: 0.44 °
Azimuth: 270.2 °
TVD: 1,681.98'
VS: -5.17'

SHY SS: lt-med gy, sft-frm, vf gr-f gr, sb
ang - sb rnd, mod w srt, arg cmt, sl calc,
carb flks, tr glauc SLTY SH: lt-dk gy,
sft-mod frm, sb blky-sb plty, gritty

MD: 1,774'
Inclination: 0.26 °
Azimuth: 230.65 °
TVD: 1,773.98'
VS: -5.7'



SHY SS: lt-med gy, sft-frn, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks, SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb plty, gritty, abnt cly

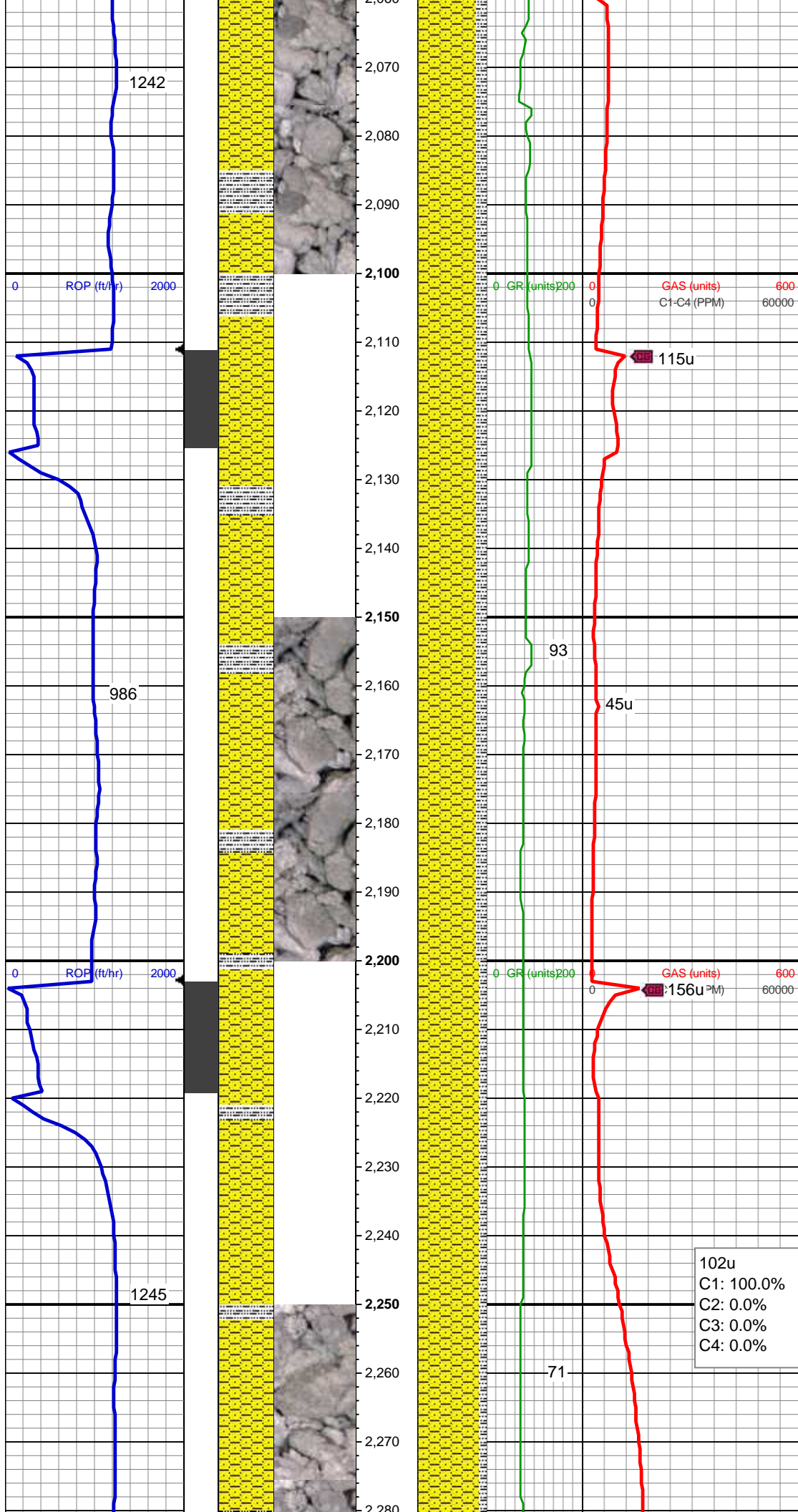
MD: 1,868'
Inclination: 3.87 °
Azimuth: 308.7 °
TVD: 1,867.9'
VS: -8.19'

SHY SS: lt-med gy, sft-frn, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks, SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb plty, gritty, abnt cly

MD: 1,960'
Inclination: 2.81 °
Azimuth: 293.76 °
TVD: 1,959.75'
VS: -12.46'

SHY SS: lt-med gy, sft-frn, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks, SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb plty, gritty

MD: 2,054'



Inclination: 5.63 °
Azimuth: 301.31 °
TVD: 2,053.48'
VS: -18.24'

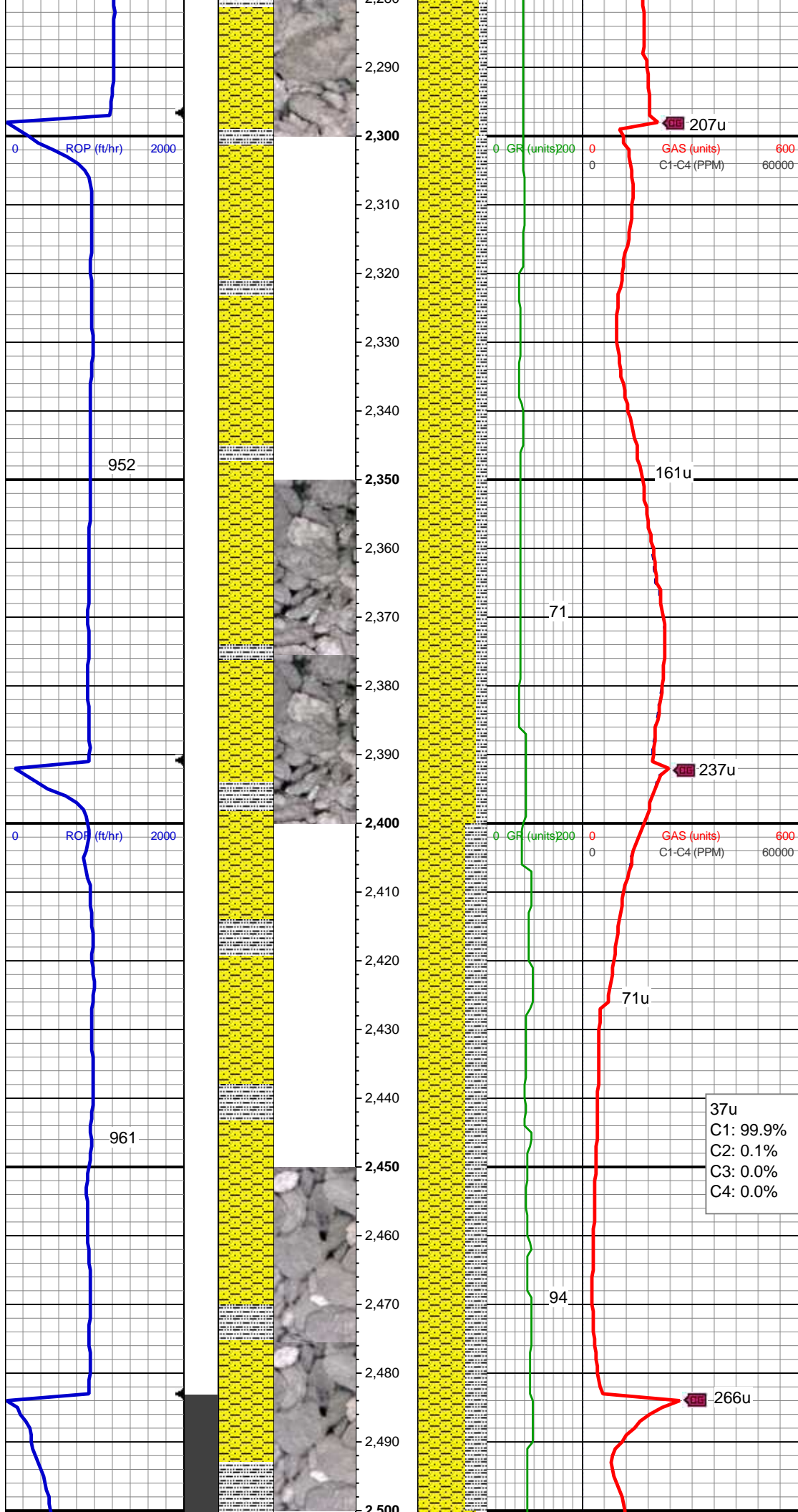
Mud Wt: 8.80 / 28 Vis

MD: 2,146'
Inclination: 7.21 °
Azimuth: 287.25 °
TVD: 2,144.91'
VS: -27.29'
SHY SS: lt-med gy, sft-frm, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks, SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb plty, gritty

MD: 2,239'
Inclination: 9.41 °
Azimuth: 290.06 °
TVD: 2,236.93'
VS: -39.65'

SHY SS: lt-med gy, sft-frm, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks, SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb plty, gritty

102u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%

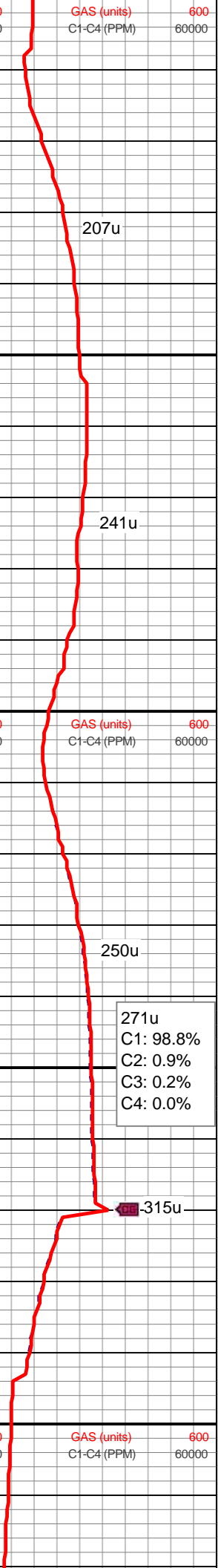
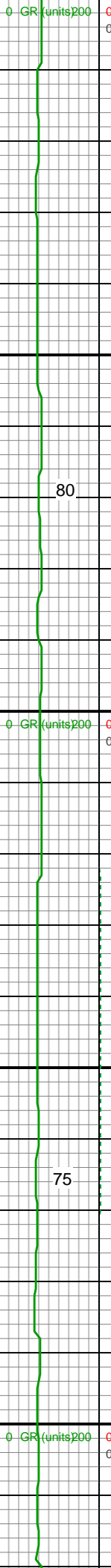
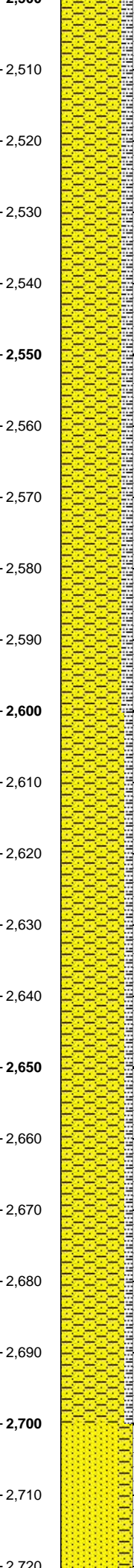
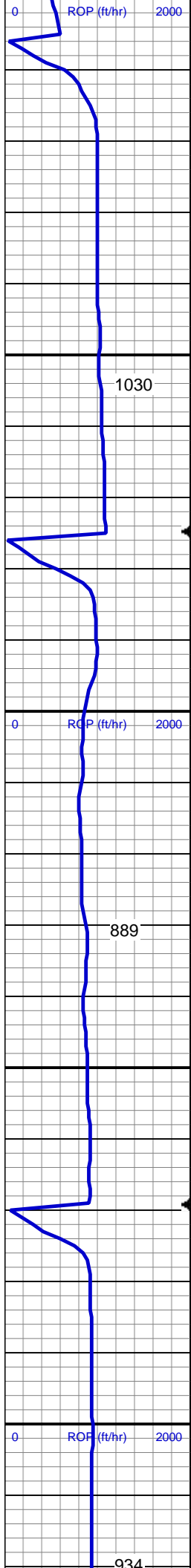


SHY SS: lt-med gy, sft-frn, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks, SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb plty, gritty, sl calc

MD: 2,424'
Inclination: 8.18 °
Azimuth: 281.98 °
TVD: 2,419.76'
VS: -66.07'

SHY SS: lt-med gy, sft-frn, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks, SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb plty, gritty, sl calc

37u
C1: 99.9%
C2: 0.1%
C3: 0.0%
C4: 0.0%



Mud Wt: 8.80 / 28 Vis

MD: 2,515'
Inclination: 10.99 °
Azimuth: 291.12 °
TVD: 2,509.48'
VS: -80.12'

207u

241u

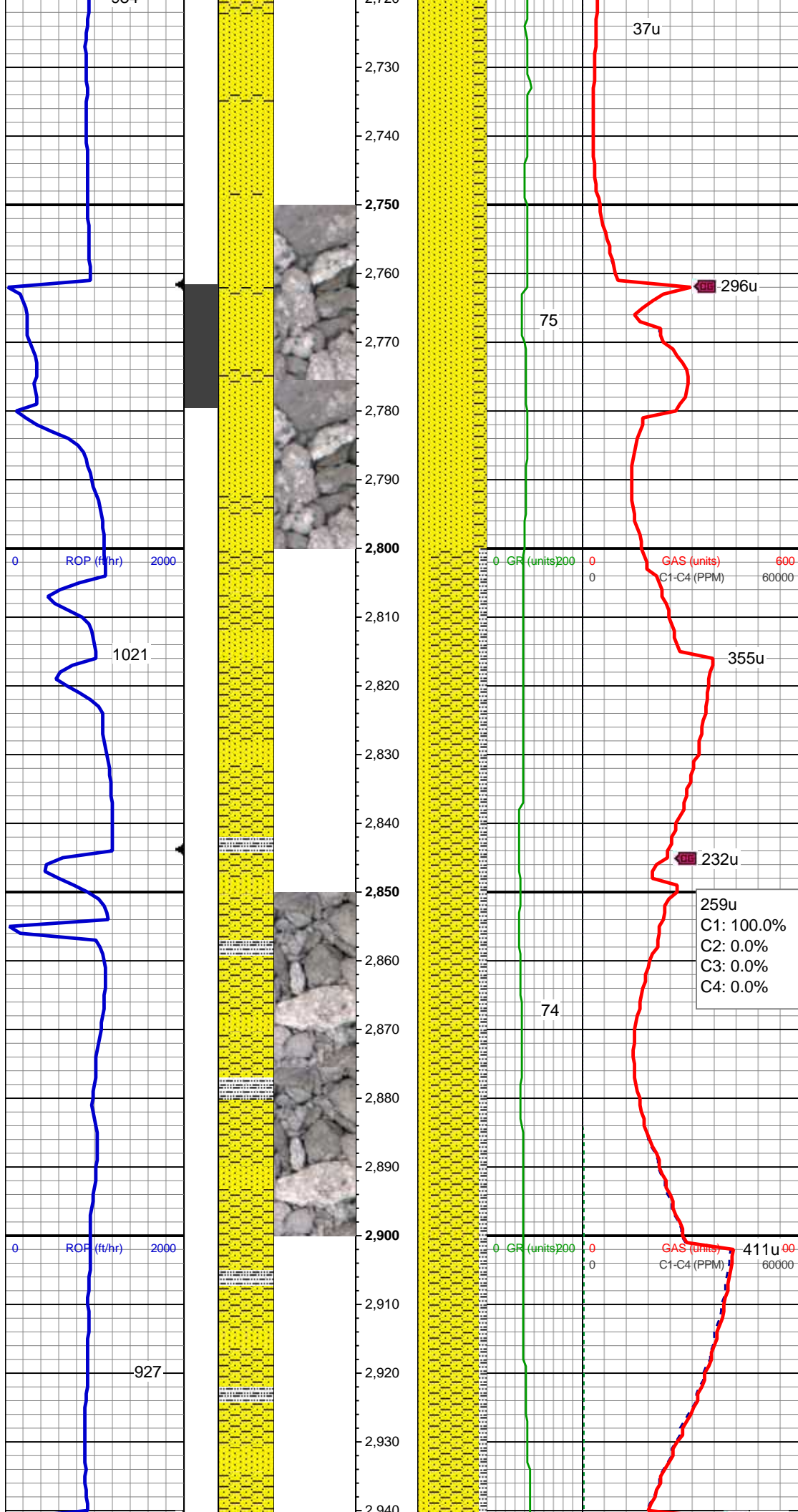
250u

271u
C1: 98.8%
C2: 0.9%
C3: 0.2%
C4: 0.0%

315u

SHY SS: lt-med gy, sft frm, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks, SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb plty, gritty, sl calc

MD: 2,699'
Inclination: 10.11 °
Azimuth: 286.02 °
TVD: 2,690.37'
VS: -111.12'



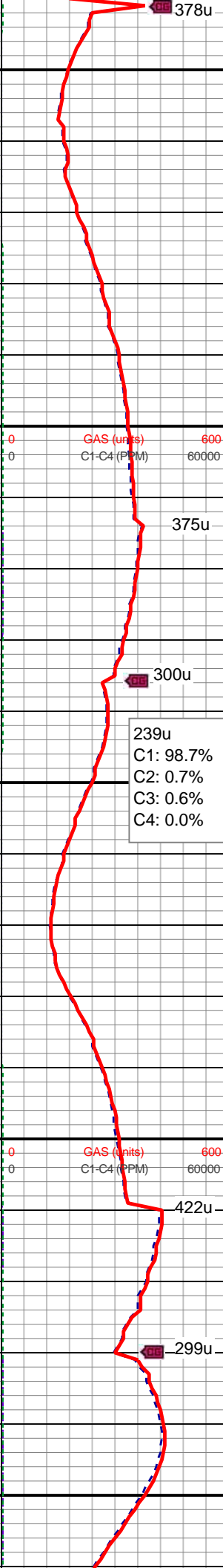
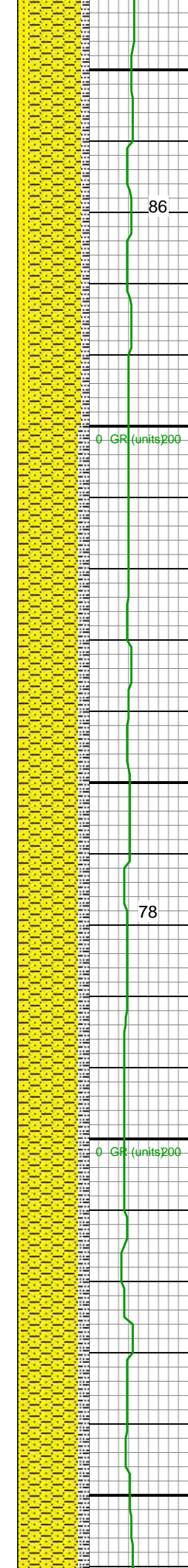
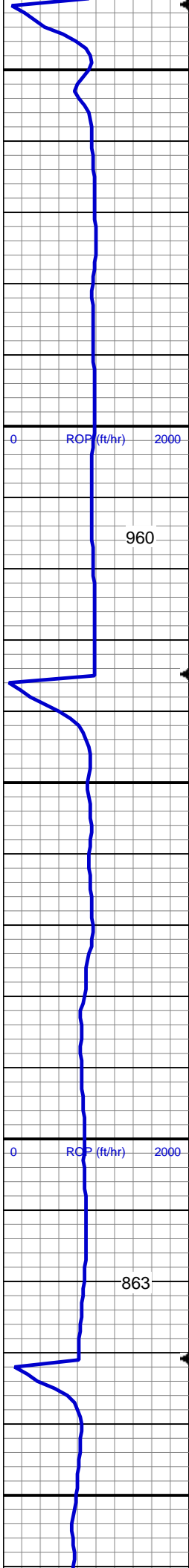
SS: wh-lt gy, occ s&p, sb rd-sb ang, mod
srt, f-med gr, silc & calc cmt, ply-mod
cons, tr glau, SHY SS: lt-med gy, sft-frm,
vf gr-f gr, sb ang - sb rnd, mod w srt, arg
cmt, sl calc, carb flks

MD: 2,791'
Inclination: 10.64 °
Azimuth: 298.5 °
TVD: 2,780.88'
VS: -125.84'

Mud Wt: 8.90 / 30 Vis

SHY SS: lt-med gy, sft-frm, vf gr-f gr, sb
ang - sb rnd, mod w srt, arg cmt, sl calc,
carb flks, SS: wh-lt gy, occ s&p, sb rd-sb
ang, mod srt, f-med gr, silc & calc cmt,
ply-mod cons, tr glau, SLTY SH: lt-dk gy,
sft-mod frm, sb blk-y-sb plty, gritty, sl calc

MD: 2,884'
Inclination: 10.9 °
Azimuth: 297.62 °
TVD: 2,872.24'
VS: -140.52'



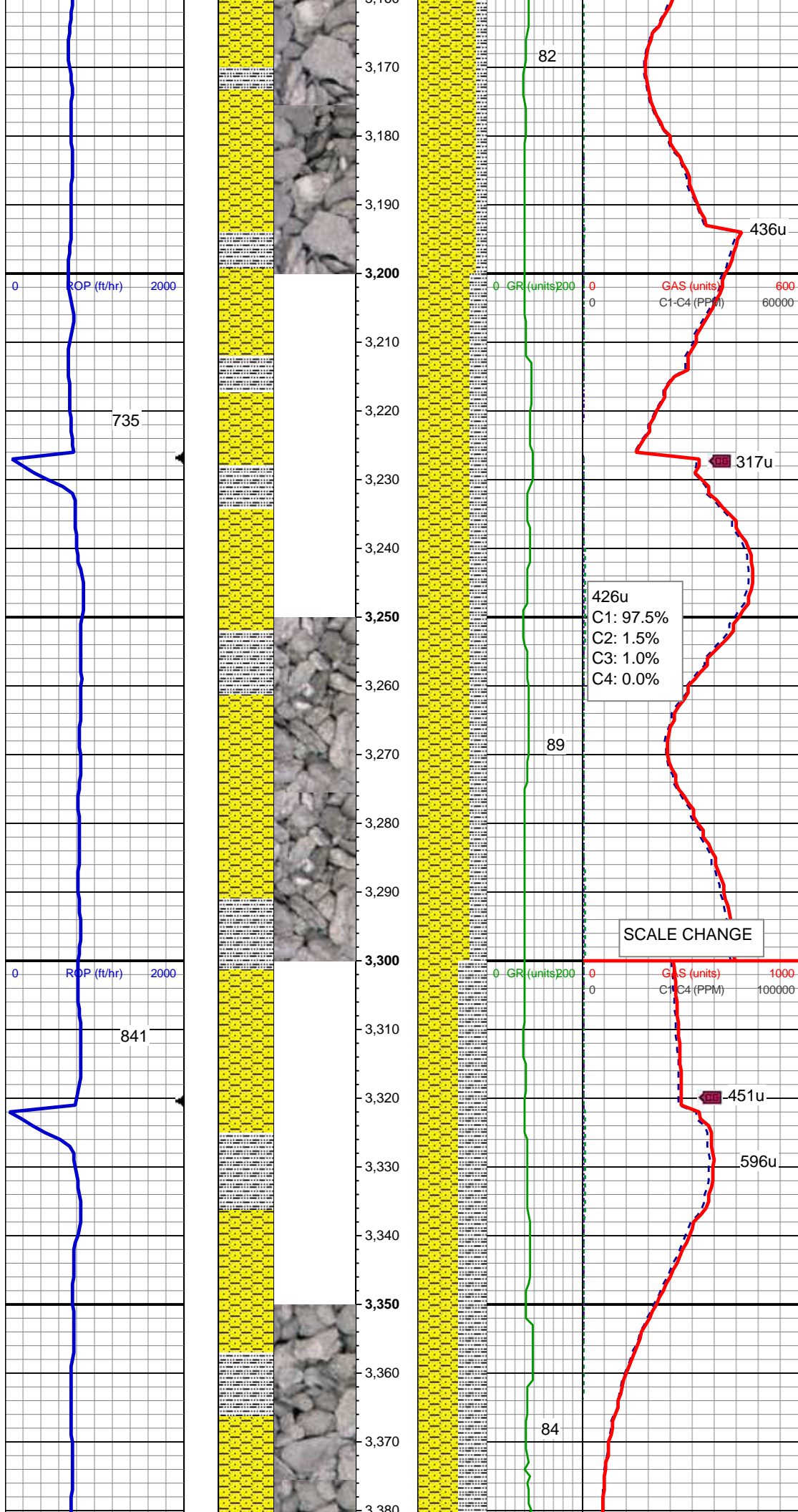
SHY SS: lt-med gy, sft-firm, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks, SS: wh-lt gy, occ s&p, sb rd-sb ang, mod srt, f-med gr, silc & calc cmt, ply-mod cons, tr glau, SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb plty, gritty, sl calc

MD: 2,978'
Inclination: 10.2 °
Azimuth: 294.99 °
TVD: 2,964.65'
VS: -155.33'

SHY SS: lt-med gy, sft-firm, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks, tr calc, SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb plty, gritty, sl calc, tr SS

MD: 3,073'
Inclination: 9.85 °
Azimuth: 295.69 °
TVD: 3,058.2'
VS: -169.71'

SHY SS: lt-med gy, sft-firm, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks, SS: wh-lt gy, occ s&p, sb rd-sb ang, mod srt, f-med gr, silc & calc cmt, ply-mod cons, tr glau, SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb plty, gritty, sl calc

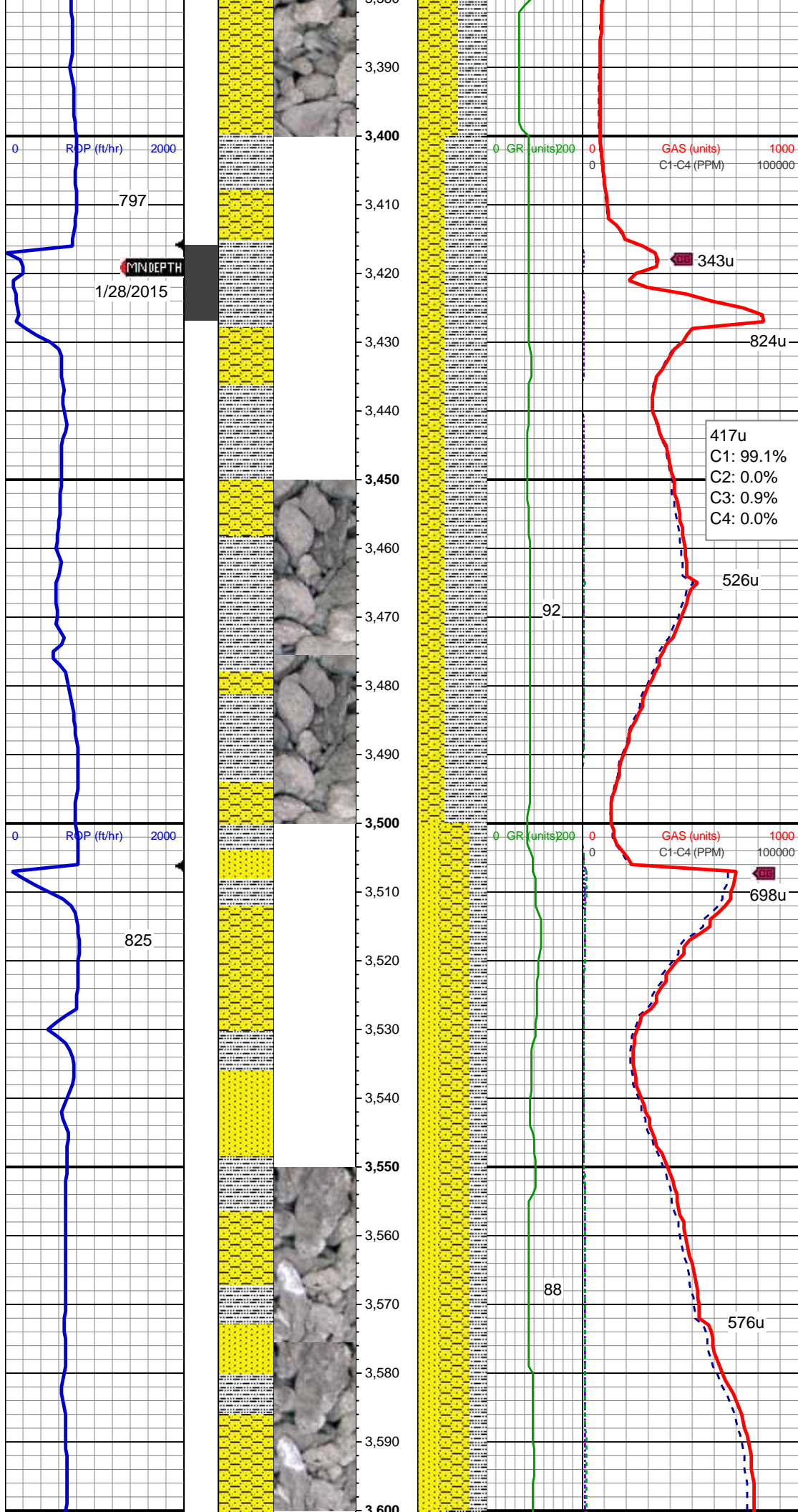


MD: 3,167'
Inclination: 9.5 °
Azimuth: 293.76 °
TVD: 3,150.87'
VS: -183.53'

SHY SS: lt-med gy, sft-frm, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks, tr calc, SLTY SH: lt-dk gy, sft-mod frm, sb blk-ly-sb plty, gritty, sl calc, tr SS

SHY SS: lt-med gy, sft-frm, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks, tr calc, SLTY SH: lt-dk gy, sft-mod frm, sb blk-ly-sb plty, gritty, sl calc, tr SS

MD: 3,355'
Inclination: 8.18 °
Azimuth: 291.12 °
TVD: 3,336.63'
VS: -209.31'



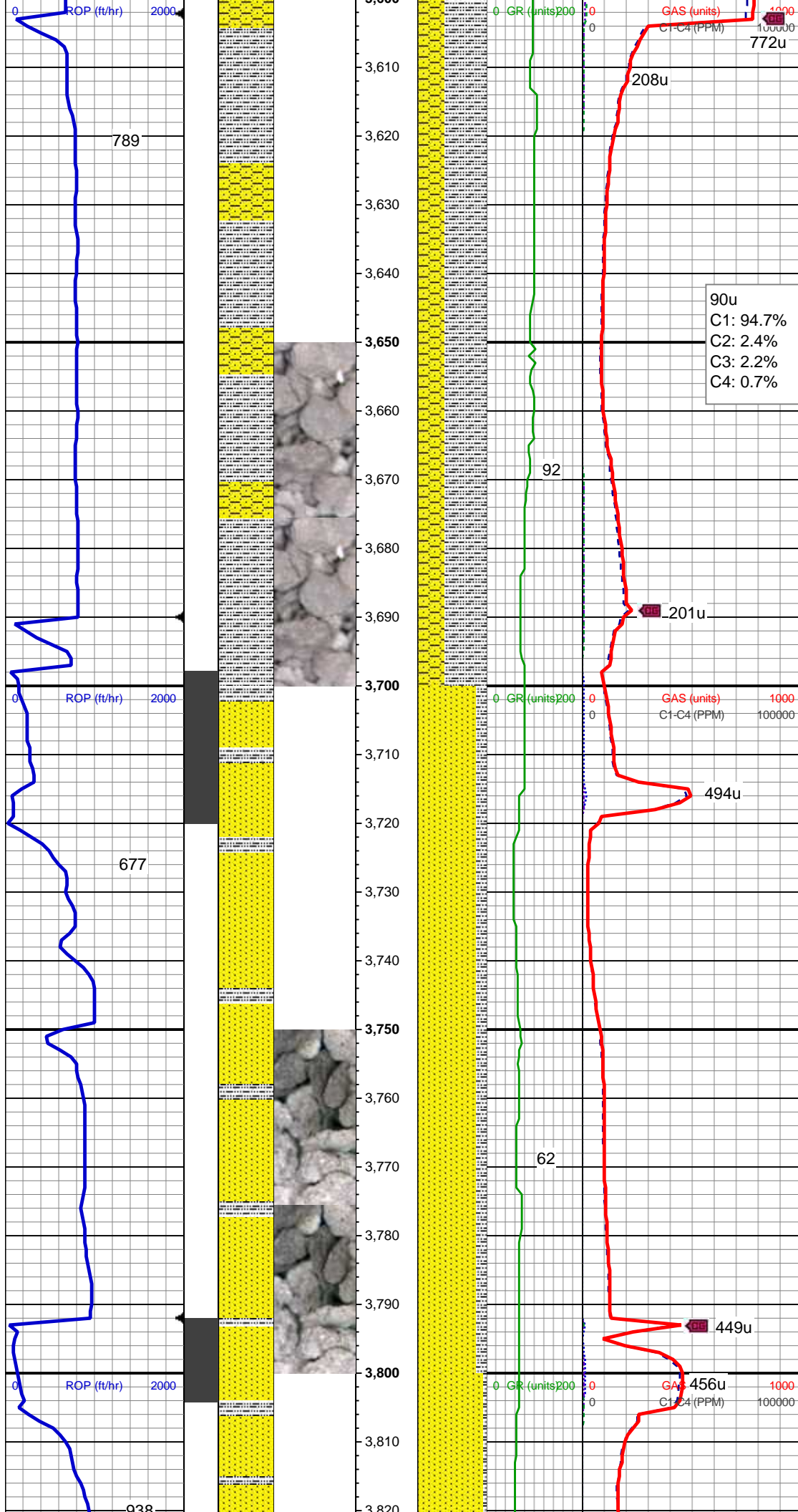
SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb pty, gritty, sl calc, SHY SS: lt-med gy, sft-frm, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks, SS: wh-lt gy, occ s&p, sb rd-sb ang, mod srt, f-med gr, silc & calc cmt, ply-mod cons, tr glau,

MD: 3,450'
Inclination: 7.83 °
Azimuth: 298.15 °
TVD: 3,430.71'
VS: -220.88'

Mud Wt: 9.00 / 30 Vis

MD: 3,544'
Inclination: 7.21 °
Azimuth: 292.88 °
TVD: 3,523.9'
VS: -231.53'

SHY SS: lt-med gy, sft-frm, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks, SS: wh-lt gy, occ s&p, sb rd-sb ang, mod srt, f-med gr, silc & calc cmt, ply-mod cons, abnt glau, SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb pty, gritty, sl calc

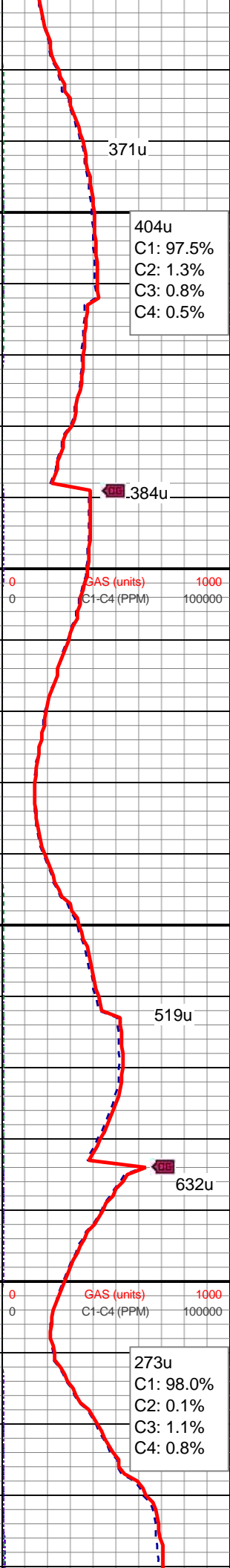
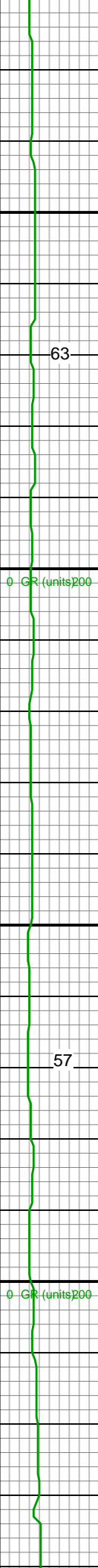
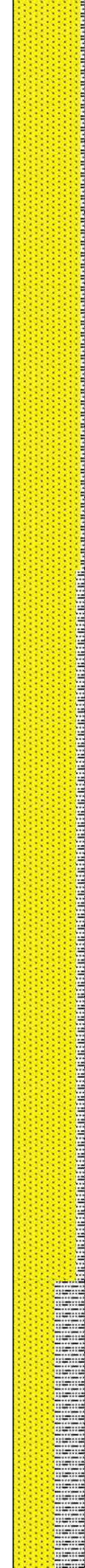
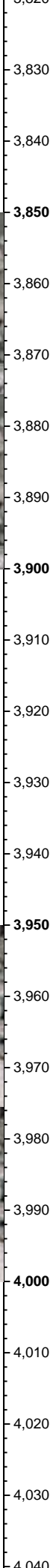
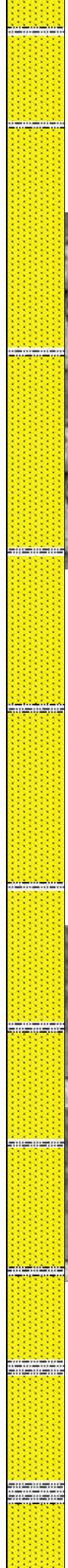
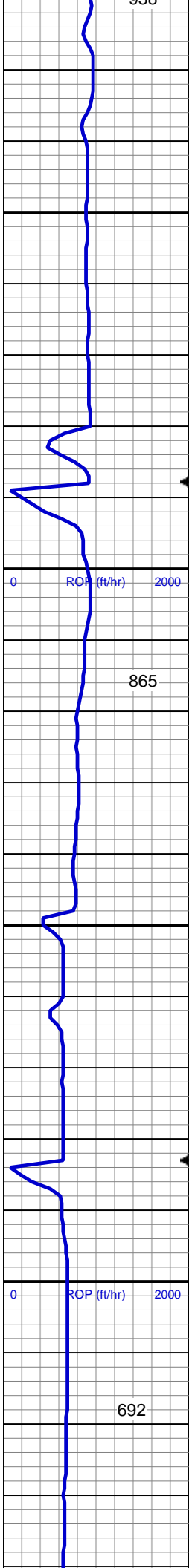


MD: 3,639'
Inclination: 6.68 °
Azimuth: 292 °
TVD: 3,618.2'
VS: -241.79'

SLTY SH: lt-dk gy, sft-mod frm, sb blkly-sb plty, gritty, sl calc, SHY SS: lt-med gy, sft-frm, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks, tr SS

MD: 3,733'
Inclination: 9.23 °
Azimuth: 298.15 °
TVD: 3,711.29'
VS: -253.06'

SS: wh-lt gy, occ s&p, sb rd-sb ang, mod srt, f-med gr, silc & calc cmt, ply-mod cons, abnt glau, SLTY SH: lt-dk gy, sft-mod frm, sb blkly-sb plty, gritty, sl calc, tr SHY SS



MD: 3,828'
Inclination: 11.52 °
Azimuth: 297.27 °
TVD: 3,804.73'
VS: -267.58'

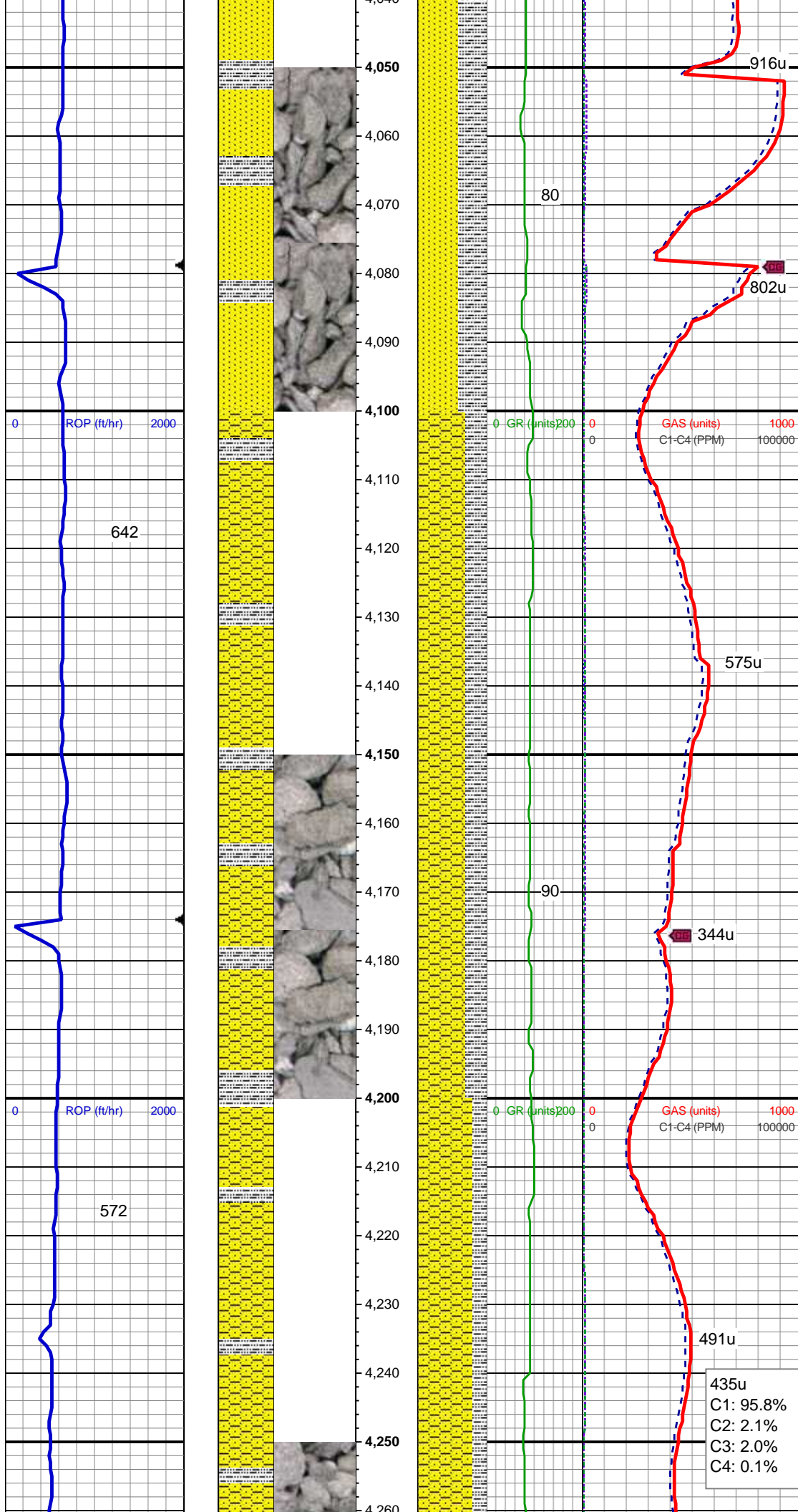
SS: wh-lt gy, occ s&p, sb rd-sb ang, mod srt, f-med gr, silc & calc cmt, ply-mod cons, v abnt glau, SLTY SH: lt-dk gy, sft-mod frm, sb blkly-sb plty, gritty, sl calc, tr SHY SS

MD: 3,922'
Inclination: 11.78 °
Azimuth: 294.81 °
TVD: 3,896.8'
VS: -283.97'

SS: wh-lt gy, occ s&p, sb rd-sb ang, mod srt, f-med gr, silc & calc cmt, ply-mod cons, v abnt glau, SLTY SH: lt-dk gy, sft-mod frm, sb blkly-sb plty, gritty, sl calc, tr SHY SS

Mud Wt: 9.20 / 31 Vis

MD: 4,016'
Inclination: 11.96 °
Azimuth: 293.23 °
TVD: 3,988.79'
VS: -300.99'



SS: wh-lt gy, occ s&p, sb rd-sb ang, mod
srt, f-med gr, silc & calc cmt, ply-mod
cons, v abnt glau, SLTY SH: lt-dk gy,
sft-mod frm, sb blk-y-sb plty, gritty, sl calc,
tr SHY SS

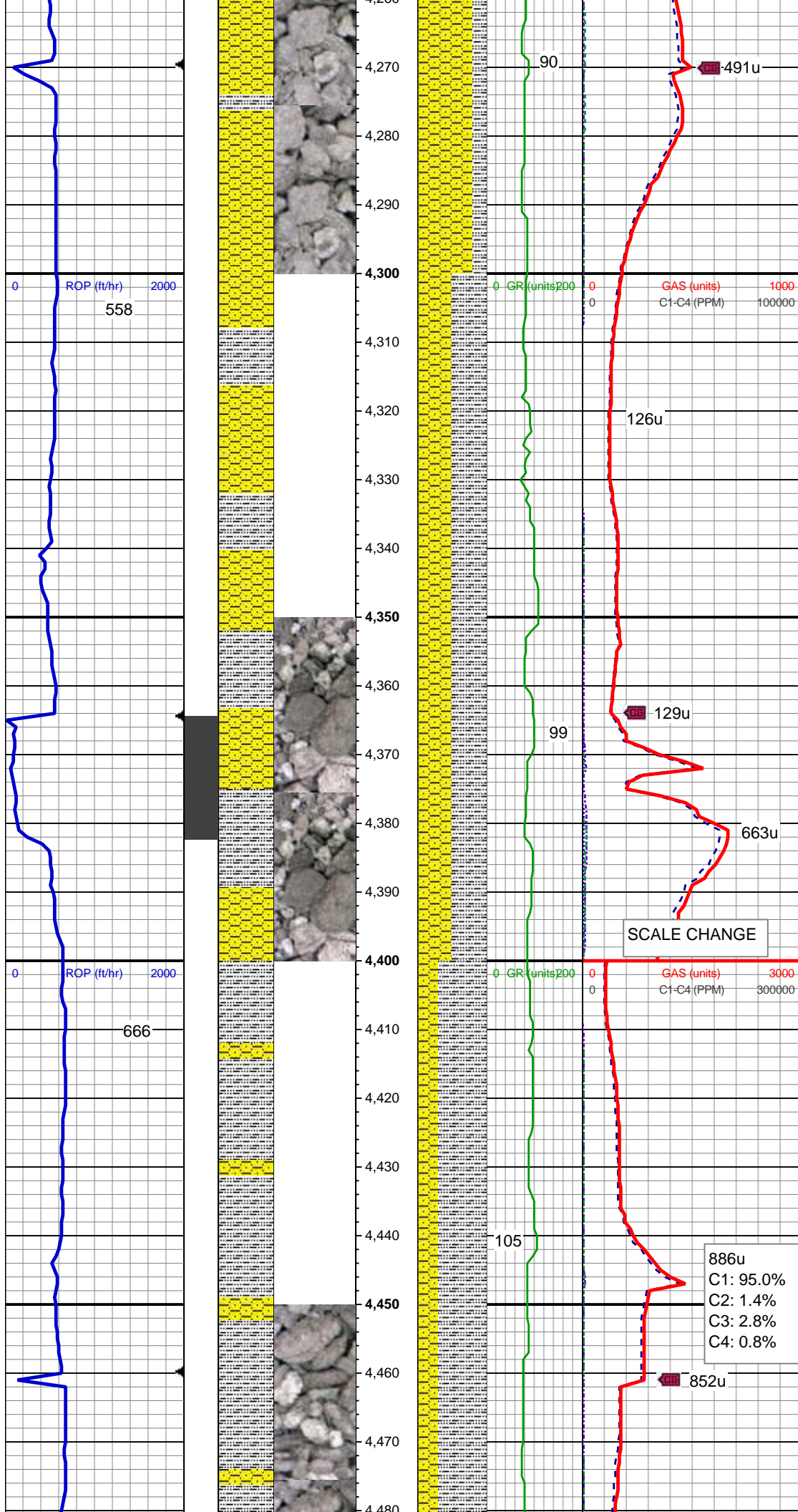
MD: 4,110'
Inclination: 11.7 °
Azimuth: 291.82 °
TVD: 4,080.79'
VS: -318.2'

SHY SS: lt-med gy, sft-frm, vf gr-f gr, sb
ang - sb rnd, mod w srt, arg cmt, sl calc,
carb flks, SLTY SH: lt-dk gy, sft-mod frm,
sb blk-y-sb plty, gritty, sl calc, tr SS

MD: 4,205'
Inclination: 11.08 °
Azimuth: 290.59 °
TVD: 4,173.92'
VS: -335.13'

SHY SS: lt-med gy, sft-frm, vf gr-f gr, sb
ang - sb rnd, mod w srt, arg cmt, sl calc,
carb flks, tr cal, SLTY SH: lt-dk gy,
sft-mod frm, sb blk-y-sb plty, gritty, sl calc,
tr SS

435u
C1: 95.8%
C2: 2.1%
C3: 2.0%
C4: 0.1%

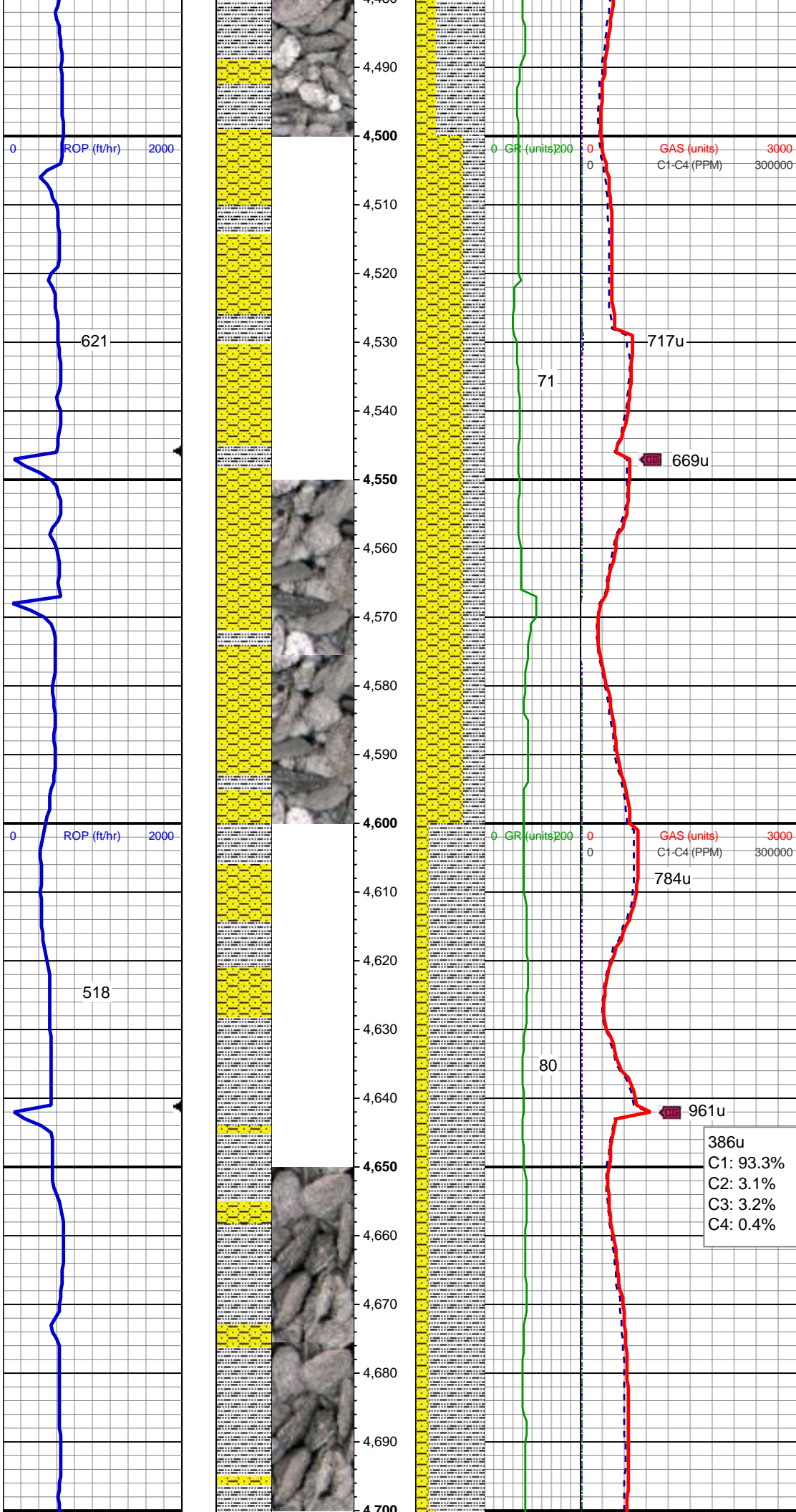


MD: 4,299'
Inclination: 10.82 °
Azimuth: 290.06 °
TVD: 4,266.21'
VS: -351.37'

SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb
plty, gritty, SHY SS: lt-med gy, sft-frm, vf
gr-f gr, sb ang - sb rnd, mod w srt, arg
cmt, sl calc, scat glauc grns, carb flks

MD: 4,394'
Inclination: 10.55 °
Azimuth: 295.87 °
TVD: 4,359.56'
VS: -367.01'

SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb
plty, gritty, SHY SS: lt-med gy, sft-frm, vf
gr-f gr, sb ang - sb rnd, mod w srt, arg
cmt, sl calc, scat glauc grns, carb flks



MD: 4,489'
Inclination: 10.2 °
Azimuth: 295.34 °
TVD: 4,453.01'
VS: -381.85'

SHY SS: lt-med gy, sft frm, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, scat glauc grns, carb flks, SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb plty, gritty

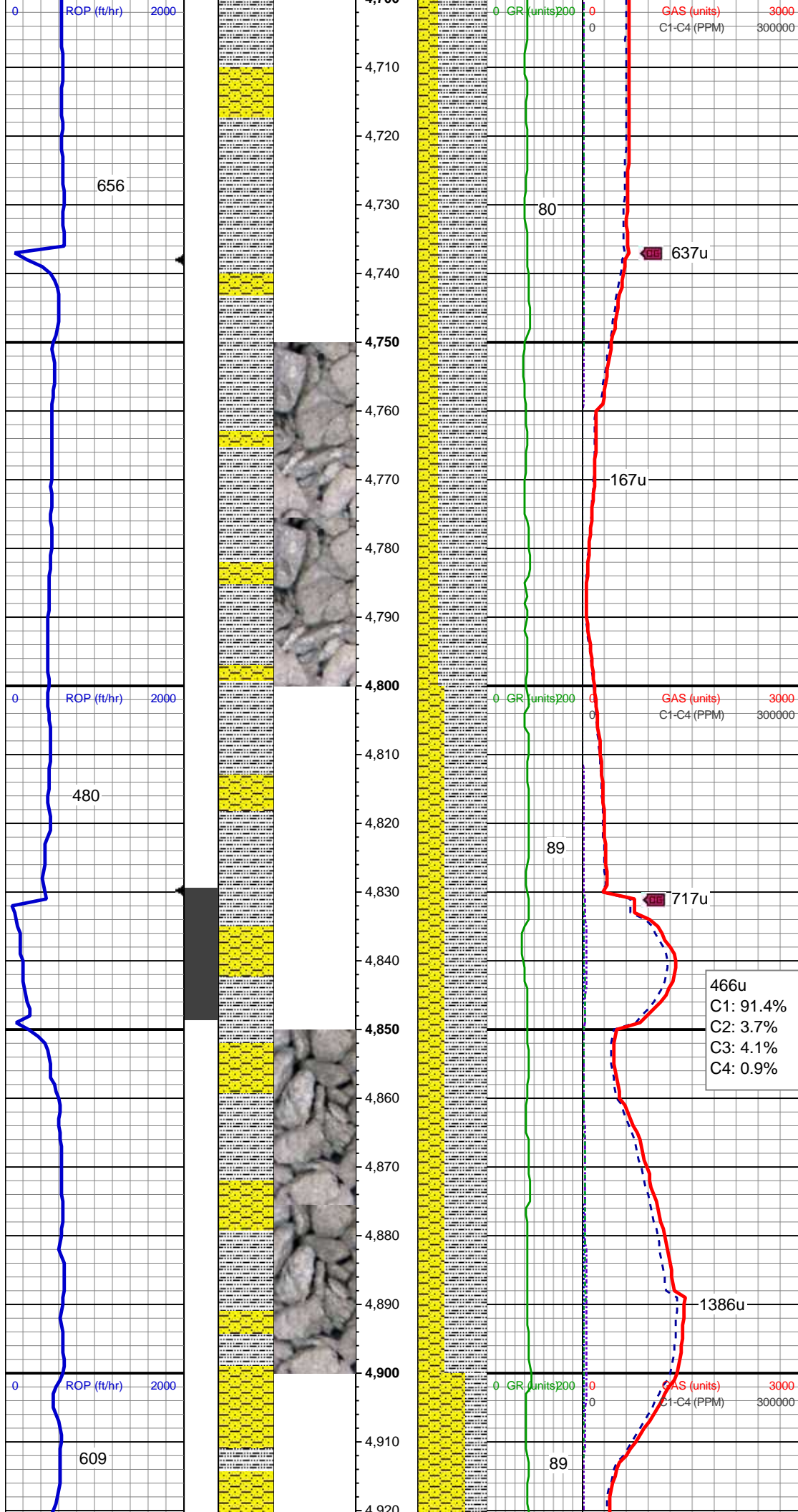
Mud Wt: 9.30 / 30 Vis

MD: 4,583'
Inclination: 9.15 °
Azimuth: 295.51 °
TVD: 4,545.67'
VS: -395.58'

SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb plty, gritty, SHY SS: lt-med gy, sft frm, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc

MD: 4,678'
Inclination: 8.44 °
Azimuth: 294.99 °
TVD: 4,639.55'
VS: -408.21'

386u
C1: 93.3%
C2: 3.1%
C3: 3.2%
C4: 0.4%

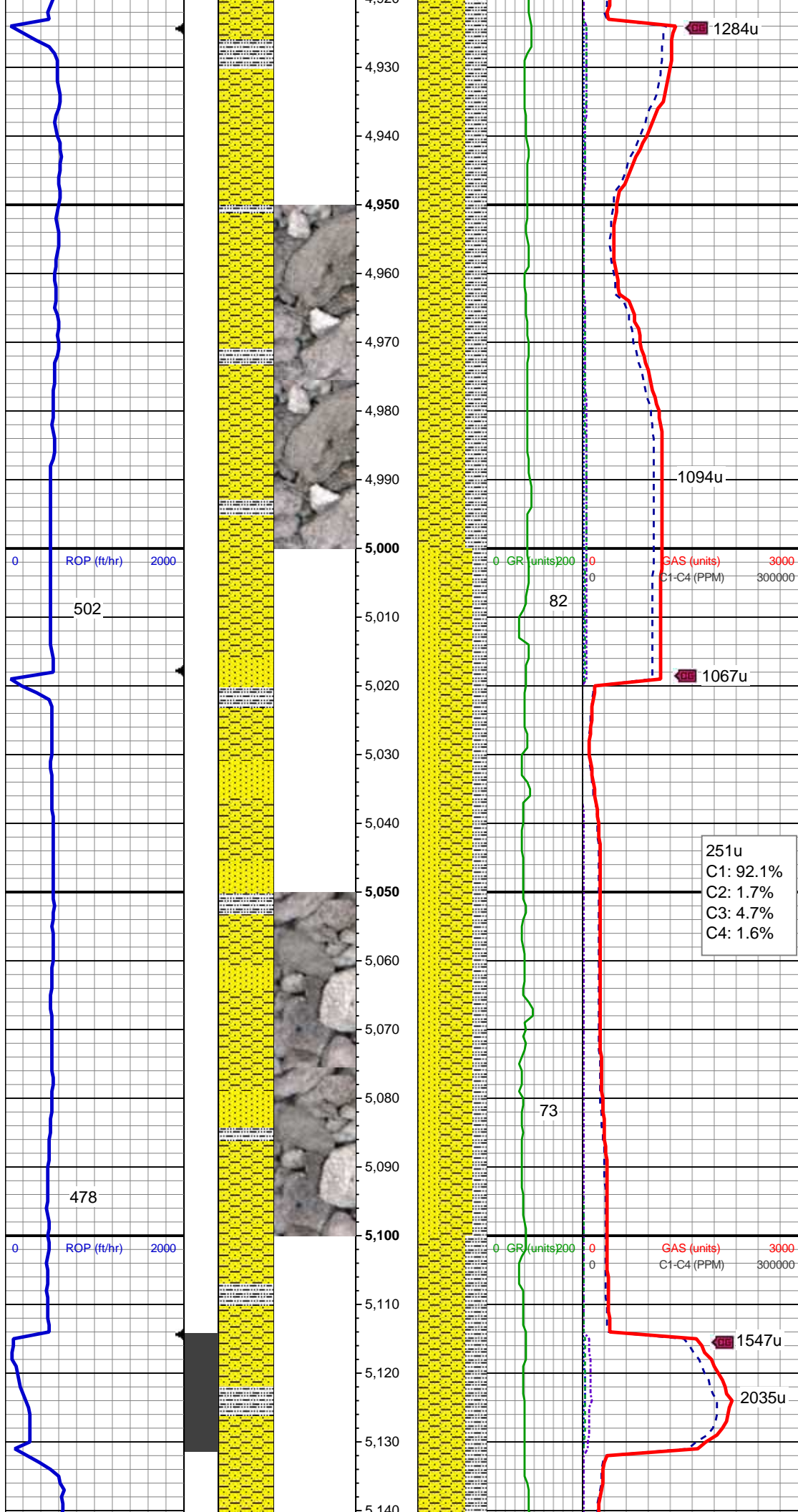


SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb
plty, gritty, SHY SS: lt-med gy, sft-frm, vf
gr-f gr, sb ang - sb rnd, mod w srt, arg
cmt, sl calc

MD: 4,772'
Inclination: 7.74 °
Azimuth: 295.16 °
TVD: 4,732.62'
VS: -419.75'

SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb
plty, gritty, SHY SS: lt-med gy, sft-frm, vf
gr-f gr, sb ang - sb rnd, mod w srt, arg
cmt, sl calc

MD: 4,867'
Inclination: 9.85 °
Azimuth: 299.73 °
TVD: 4,826.5'
VS: -432.06'



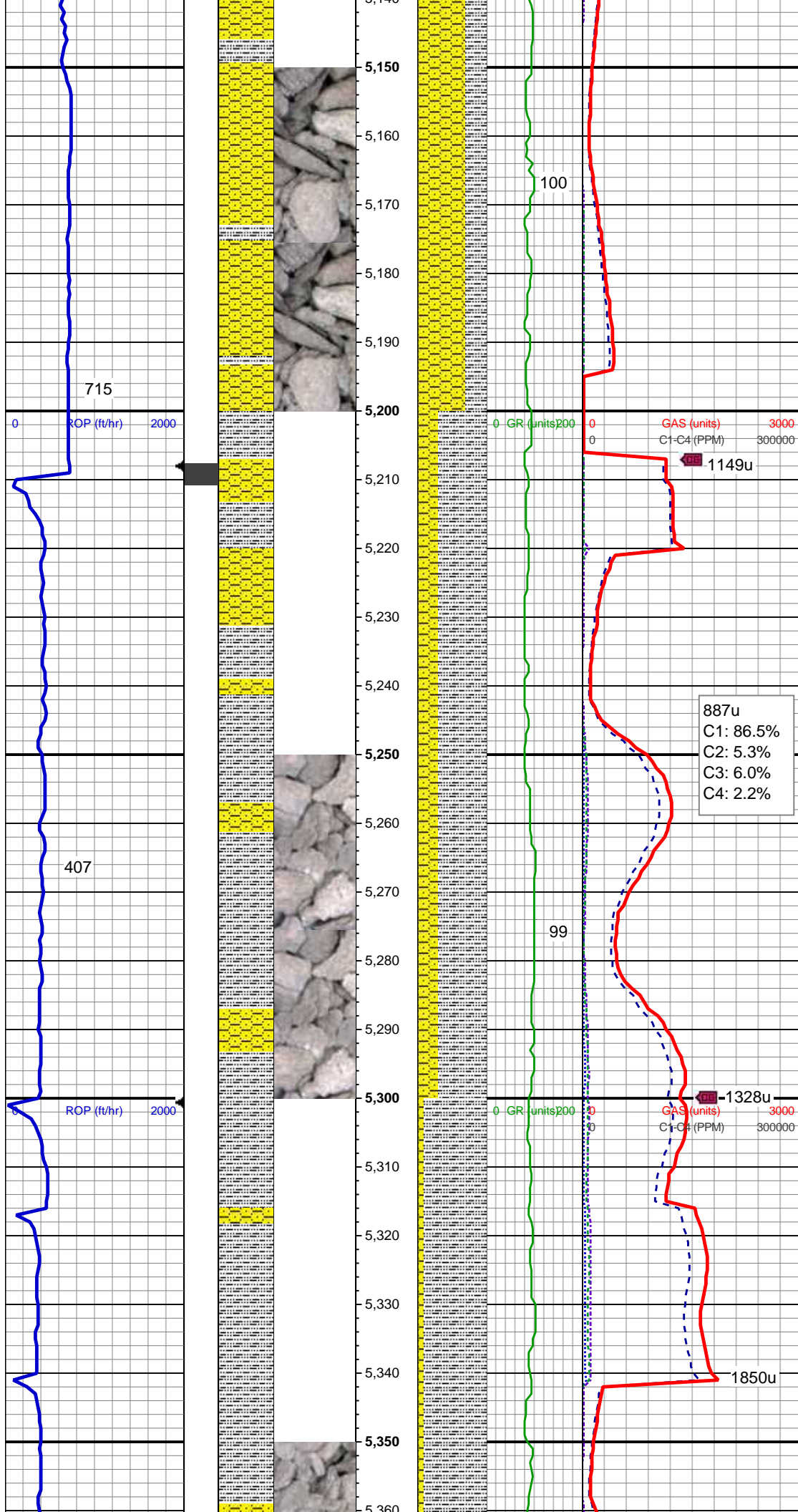
SHY SS: lt-med gy, sft-frm, vf gr-f gr, sb
ang - sb rnd, mod w srt, arg cmt, sl
calc,scat glauc grns, carb flks, SLTY SH:
lt-dk gy, sft-mod frm, sb blk-y-sb plty, gritty

MD: 4,961'
Inclination: 8.62 °
Azimuth: 299.73 °
TVD: 4,919.27'
VS: -444.57'

SHY SS: lt-med gy, sft-frm, vf gr-f gr, sb
ang - sb rnd, mod w srt, arg cmt, sl calc,
SS: med - lt gy, s&P ip, uncon, speckl wi
glau, f gr, hd brit clus, ang - sb ang, calc
cmt, SLTY SH: lt-dk gy, sft-mod frm, sb
blk-y-sb plty, gritty

MD: 5,055'
Inclination: 8.44 °
Azimuth: 301.31 °
TVD: 5,012.24'
VS: -456.02'

251u
C1: 92.1%
C2: 1.7%
C3: 4.7%
C4: 1.6%



MD: 5,149'
Inclination: 9.5 °
Azimuth: 294.81 °
TVD: 5,105.09'
VS: -468.41'

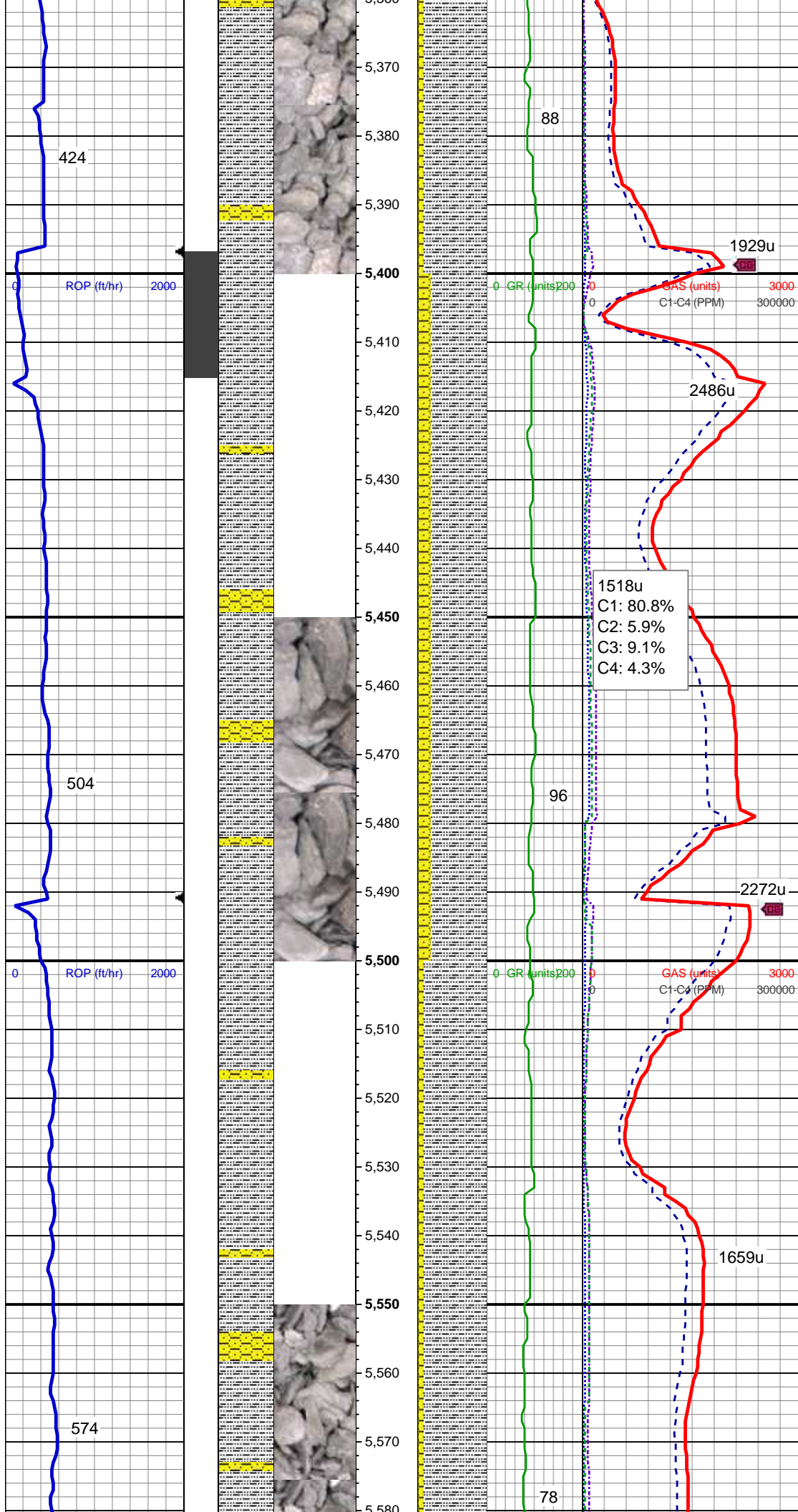
SHY SS: lt-med gy, sft-frm, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, scat glauc grns, carb flks, SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb plty, gritty

MD: 5,244'
Inclination: 8.79 °
Azimuth: 290.06 °
TVD: 5,198.88'
VS: -481.88'

SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb plty, gritty SHY SS: lt-med gy, sft-frm, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc

MD: 5,338'
Inclination: 7.65 °
Azimuth: 285.49 °
TVD: 5,291.91'
VS: -494.31'

SLTY SH: med-dk gy/ occ lt gy, frm-sl sft, sub blk-y-sub plty, rthy-slt tex, SHY SS: off wh-lt/med gy, occ s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply, med crt



MD: 5,433'
Inclination: 7.65 °
Azimuth: 296.92 °
TVD: 5,386.07'
VS: -505.67'

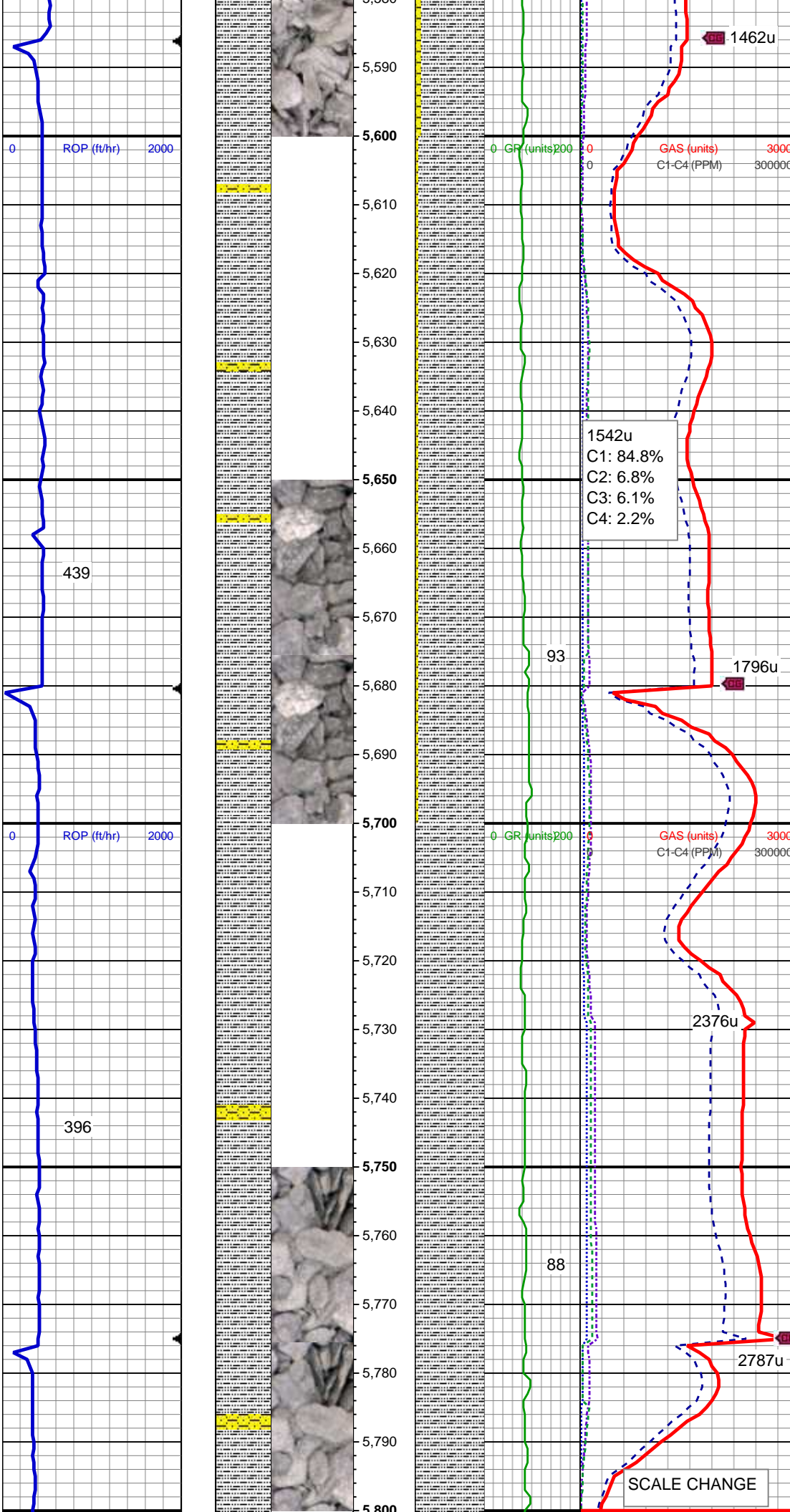
SLTY SH: med-dk gy/ occ lt gy, frm-sl sft,
sub blkly-sub plty, rthy-sltly tex, SHY SS:
off wh-lt/med gy, occ s&p, vf-med gr, sb
rd-sb ang, mod pors, arg-silc cmt,
ply-mod srt

MD: 5,528'
Inclination: 7.12 °
Azimuth: 296.04 °
TVD: 5,480.29'
VS: -516.17'

SLTY SH: med-dk gy/ occ lt gy, frm-sl sft,
sub blkly-sub plty, rthy-sltly tex, SHY SS:
off wh-lt/med gy, occ s&p, vf-med gr, sb
rd-sb ang, mod pors, arg-silc cmt,
ply-mod srt

ply-mod srt

Mud Wt: 9.65 / 40 Vis IN
9.80 / 36 OUT



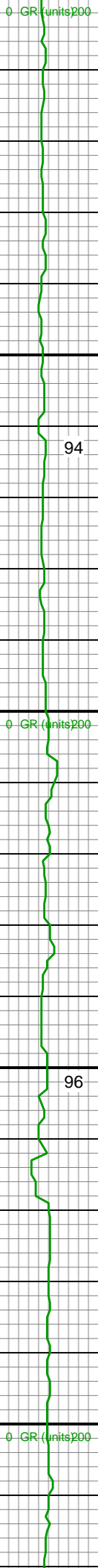
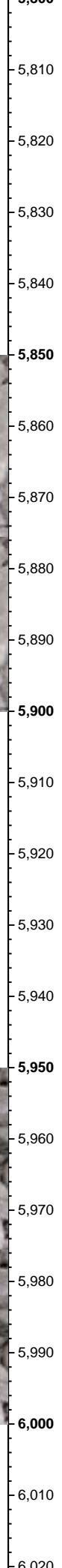
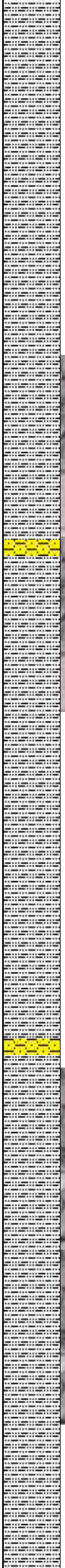
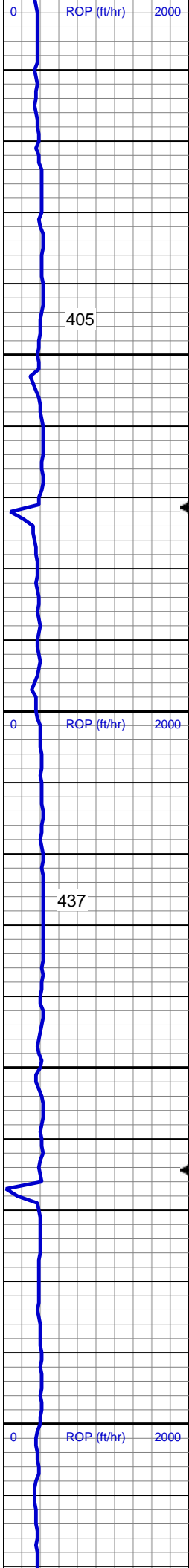
MD: 5,622'
Inclination: 6.51 °
Azimuth: 296.92 °
TVD: 5,573.62'
VS: -525.75'

SLTY SH: med-dk gy/ occ lt gy, frm-sl sft, sub blk-sub plty, rthy-slt tex, SHY SS: off wh-lt/med gy, occ s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply-mod srt

MD: 5,717'
Inclination: 6.16 °
Azimuth: 295.34 °
TVD: 5,668.04'
VS: -534.79'

SLTY SH: lt-dk gy, sft-mod frm, sb blk-sub plty, gritty, tr SHY SS

Mud Wt: 9.60 / 39 Vis IN
9.65 / 42 OUT



CHANGE OUT SHAKER SCREENS

5290u
C1: 85.8%
C2: 7.4%
C3: 5.9%
C4: 0.9%

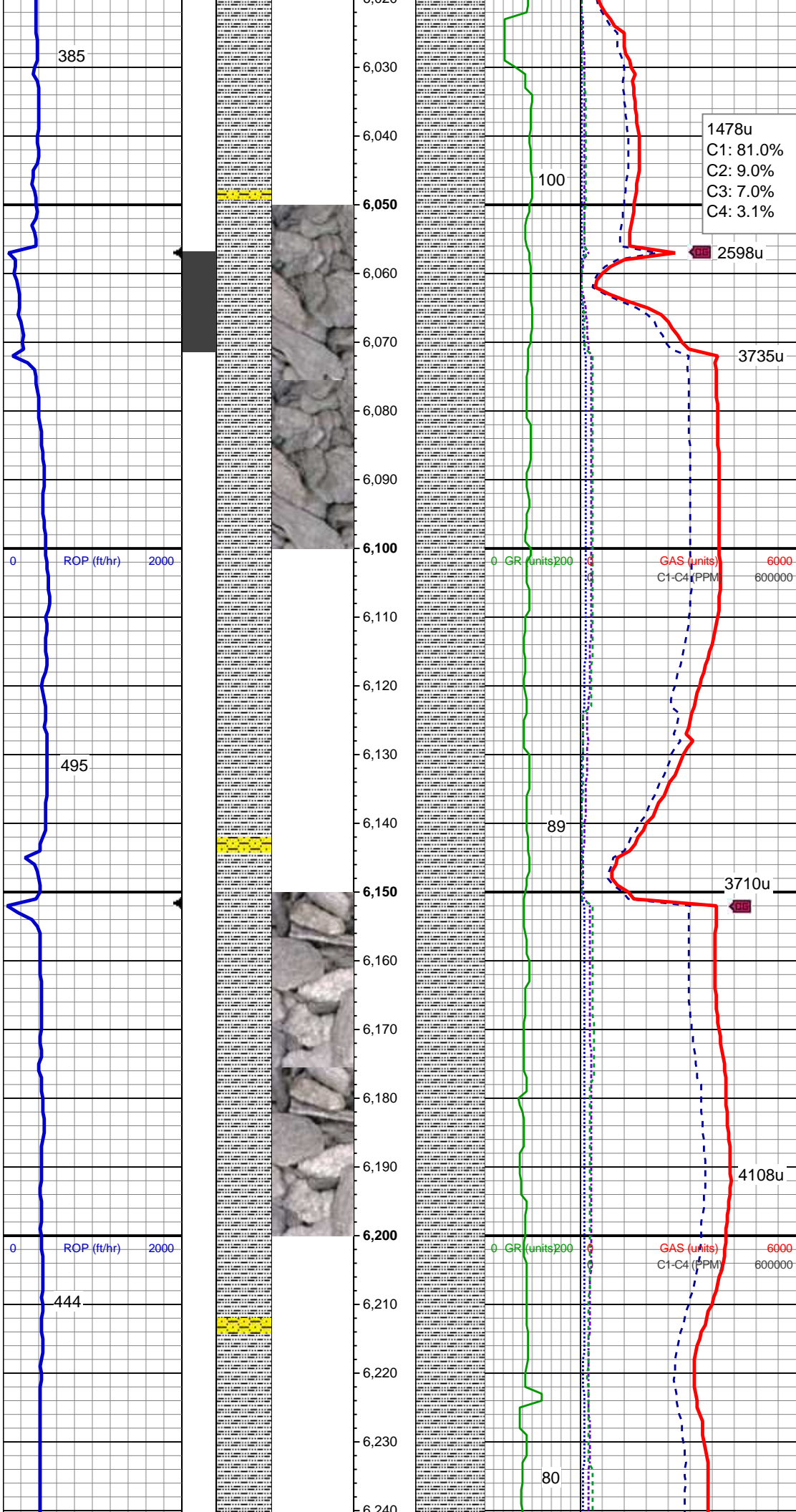
MD: 5,811'
Inclination: 5.36 °
Azimuth: 293.93 °
TVD: 5,761.57'
VS: -543.05'

SLTY SH: lt-dk gy, sft-mod frm, sb blkly-sb pty, gritty, tr SHY SS

MD: 5,906'
Inclination: 5.01 °
Azimuth: 288.13 °
TVD: 5,856.18'
VS: -550.8'

SLTY SH: lt-dk gy, sft-mod frm, sb blkly-sb pty, gritty, tr SHY SS

MD: 6,000'
Inclination: 4.48 °
Azimuth: 291.82 °
TVD: 5,949.85'
VS: -557.89'



SLTY SH: lt-dk gy, sft-mod frm, sb blkly-sb pty, gritty, tr SHY SS

Mud Wt: 9.70 / 39 Vis IN
9.70 / 41 OUT

MD: 6,095'
Inclination: 3.96 °
Azimuth: 288.83 °
TVD: 6,044.6'
VS: -564.24'

SLTY SH: lt-dk gy, sft-mod frm, sb blkly-sb pty, gritty, tr SHY SS

MD: 6,190'
Inclination: 3.52 °
Azimuth: 292 °
TVD: 6,139.39'
VS: -569.87'

