

# COLUMBINE LOGGING

Scale: 5" / 100'  
Measured Depth Log

**Well Name** Cutthroat LC28-78HNB(VERT)

**Location** SESW, SEC 28, T9N, R59W

**State** COLORADO

**County** WELD

**Country** USA

**Rig Number** H&P 326

**API Number** 05-123-38846

**Region** DJ BASIN

**Field** WILDCAT

**Spud Date** 8/14/2014

**Drilling Completed** 8/20/2014

**Surface Coordinates** SESW, SEC28, T9N, R59W  
340' FSL, 1355' FWL  
40.71499  
-103.98751

**Ground Elevation** 4862'

**K.B. Elevation** 4892'

**Logged Interval** 628' **To** 10424'

**Total Depth** 10424'

**Formation** NIOBRARA-B MARL

**Type of Drilling Fl...** LSND

## Operator

**Company** NOBLE ENERGY INC.

**Address** 1625 Broadway Suite 2200  
Denver, CO 80202

## Geologist

**Name** EVAN HOWELL

**Company** NOBLE ENERGY INC.

**Address** 1625 Broadway Suite 2200  
Denver, CO 80202

## Other

## Rock Types

|           |                 |           |                      |                 |                 |
|-----------|-----------------|-----------|----------------------|-----------------|-----------------|
| UNKNOWN   | ANHYDRITE       | COAL      | CONGLOMERATE         | METAMORPHIC     | SHALY SILTSTONE |
| BENTONITE | BRECCIA         | DOLOMITE  | GRANITE              | NO SAMPLE       | SILTSTONE       |
| CEMENT    | CHALK           | GYPSUM    | IGNEOUS              | SALT            | SILTY SHALE     |
| CHERT     | CLAY CHOKE SAND | LIMESTONE | SIDERITE or LIMONITE | SANDSTONE       | TILL            |
| CLAYSTONE |                 | MARLSTONE | SHALE                | SHALE COLORED   | TUFF            |
|           |                 |           | SHALE GRAY           | SHALY SANDSTONE | WELDED TUFF     |

## Accessories

## Fossils

|              |
|--------------|
| ALGAE        |
| AMPHIPORA    |
| BELEMNITE    |
| BIOCLASTIC   |
| BRACHIOPOD   |
| BRYOZOA      |
| CEPHALOPOD   |
| CORAL        |
| CRINOID      |
| ECHINOID     |
| FISH         |
| FORAMINIFERA |

## F 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   |

## X FERRUGINOUS

## X GLAUCONITE

|                   |
|-------------------|
| GYPSIFEROUS       |
| HEAVY MINERAL     |
| KAOLIN            |
| MARLSTONE         |
| MINERAL CRYSTALS  |
| NODULES           |
| PHOSPHATE PELLETS |
| PYRITE            |
| SALT CAST         |
| SANDY             |
| SILICEOUS         |
| SILTY             |

## V TUFFACEOUS

## Stringer

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

## Other Symbols

## Oil Show

|                  |
|------------------|
| DEAD             |
| EVEN             |
| QUESTIONABLE     |
| SPOTTED STAINING |

## Porosity

|                    |
|--------------------|
| E EARTHY           |
| F FENESTRAL        |
| F FRACTURE         |
| X INTERCRYSTALLINE |
| O INTEROOLITIC     |

## MOLDIC

## O ORGANIC

## P PINPOINT

## V VUGGY

## Engineering

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

## FAULT

## FORMATION TOP

## GAS SHOW

## MNDEPTH 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

## A ANGULAR

## R ROUNDED

## B SUBANG

## P SUBRND

## Textures

|              |
|--------------|
| B BOUNDSTONE |
| C CHALKY     |
| CX CRYPTOXLN |

## E EARTHY

## FX FINELYXLN

## GS GRAINSTONE

## L LITHOGRAPHIC

## MX MICROXLN

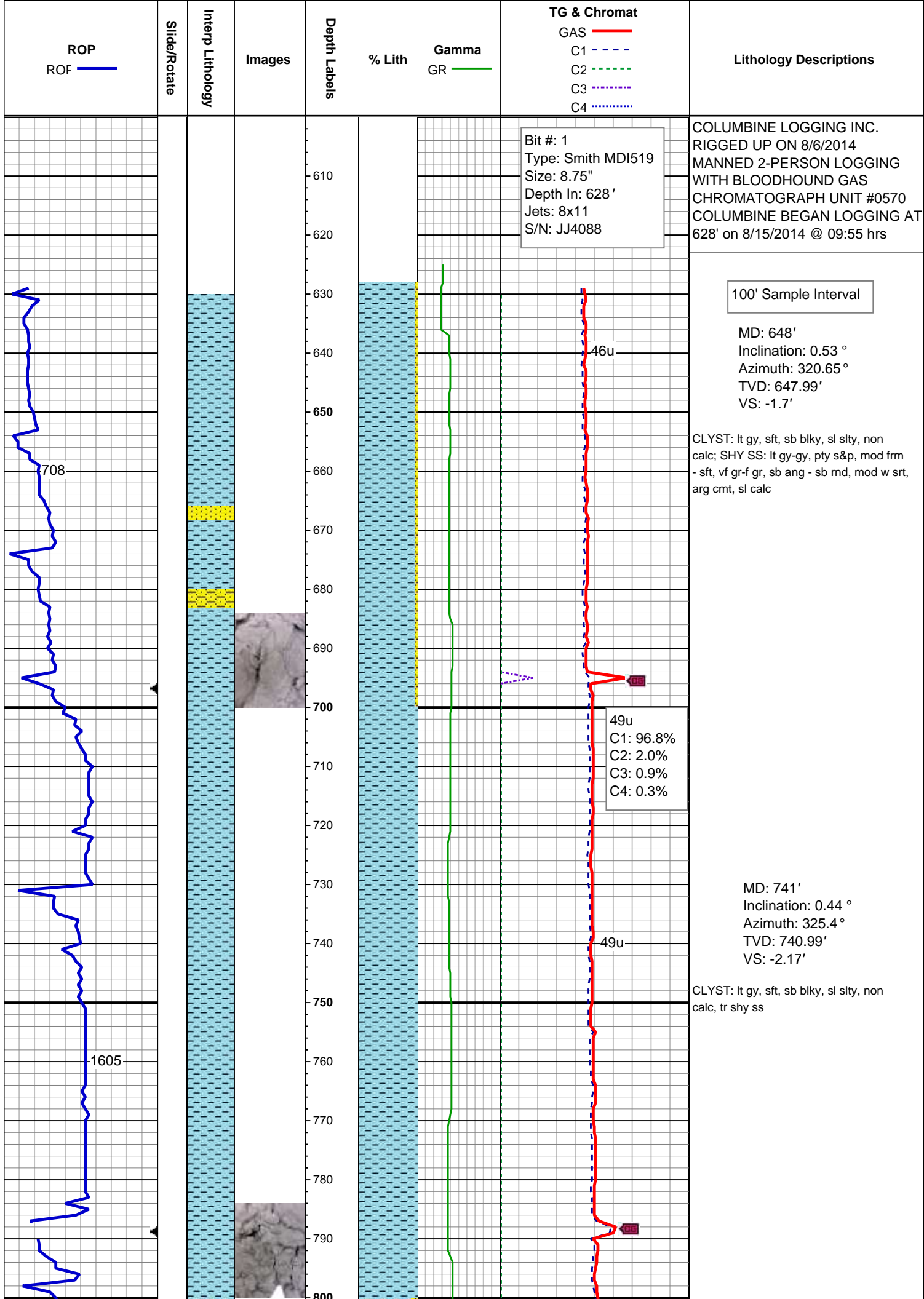
## MS MUDSTONE

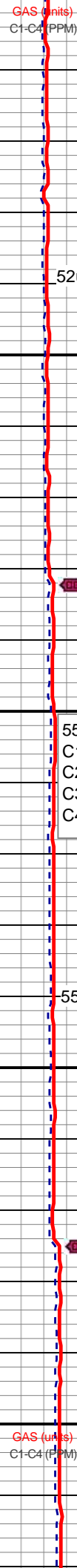
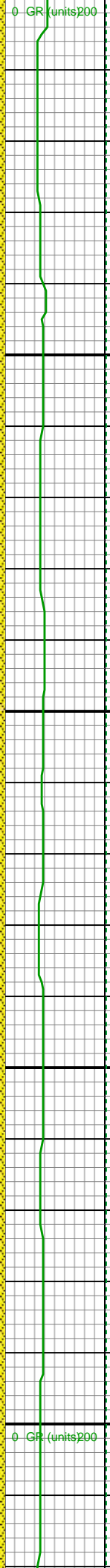
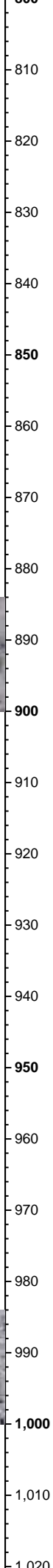
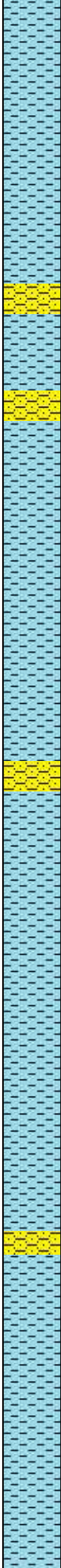
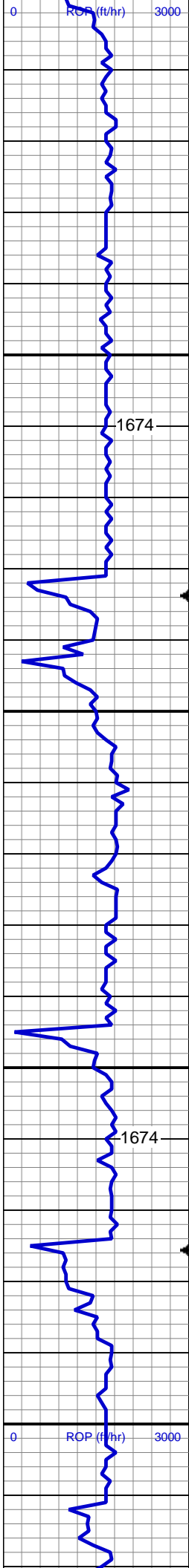
## PS PACKSTONE

## WS WACKESTONE

## Sorting

|            |
|------------|
| M MODERATE |
| P POOR     |
| W WELL     |





52u

55u

C1: 96.8%  
C2: 2.0%  
C3: 0.9%  
C4: 0.3%

55u

55u

MD: 834'  
Inclination: 0.26 °  
Azimuth: 356.16 °  
TVD: 833.99'  
VS: -2.39'

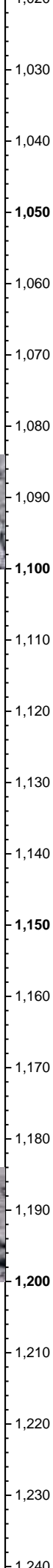
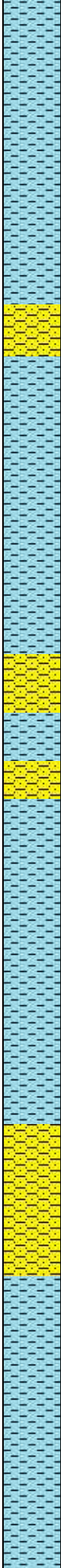
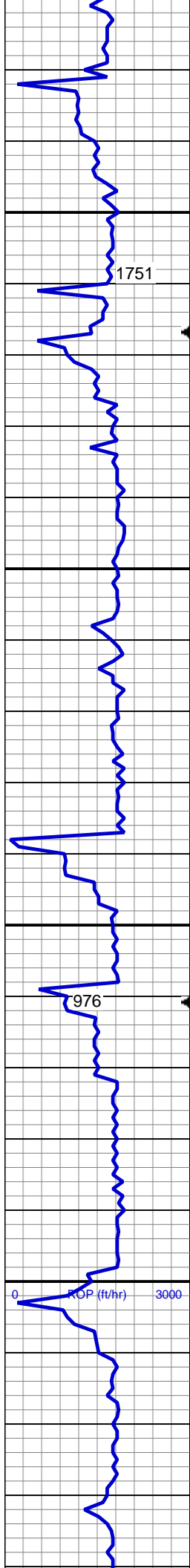
CLYST: lt gy, sft, sb blkly, sl slty, non  
calc; SHY SS: lt gy-gy, pty s&p, mod frm  
- sft, vf gr-f gr, sb ang - sb rnd, mod w srt,  
arg cmt, sl calc

MD: 927'  
Inclination: 0.26 °  
Azimuth: 359.85 °  
TVD: 926.99'  
VS: -2.4'

CLYST: lt gy, sft, sb blkly, sl slty, non  
calc; SHY SS: lt gy-gy, pty s&p, mod frm  
- sft, vf gr-f gr, sb ang - sb rnd, mod w srt,  
arg cmt, sl calc

Mud Wt: 8.65 /30 Vis

MD: 1,019'  
Inclination: 0.35 °  
Azimuth: 347.9 °



GR (units)

0

200

0

GAS (units)

0

100

10000

59u  
C1: 96.8%  
C2: 2.0%  
C3: 0.9%  
C4: 0.3%

58u

62u

63u

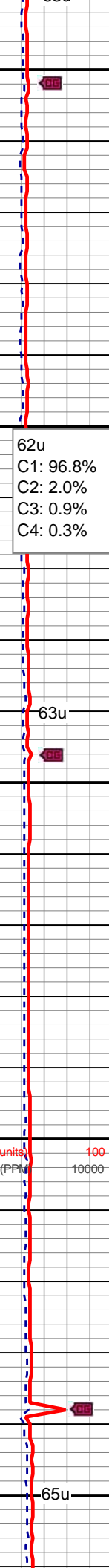
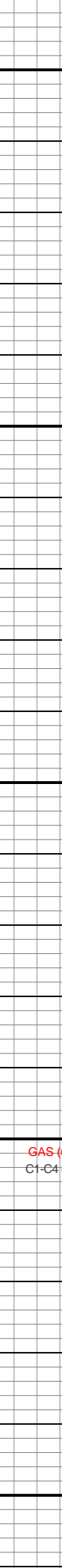
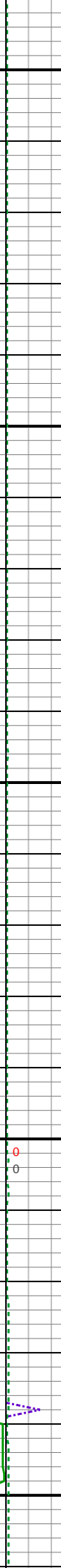
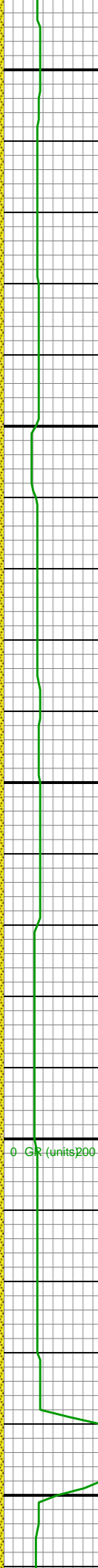
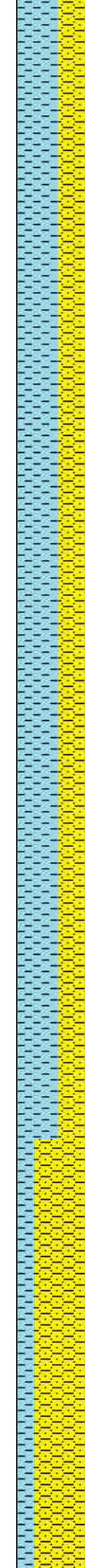
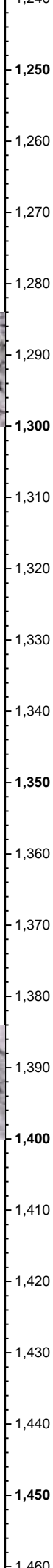
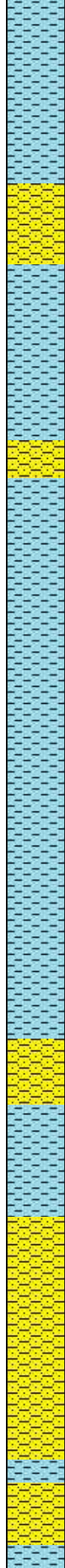
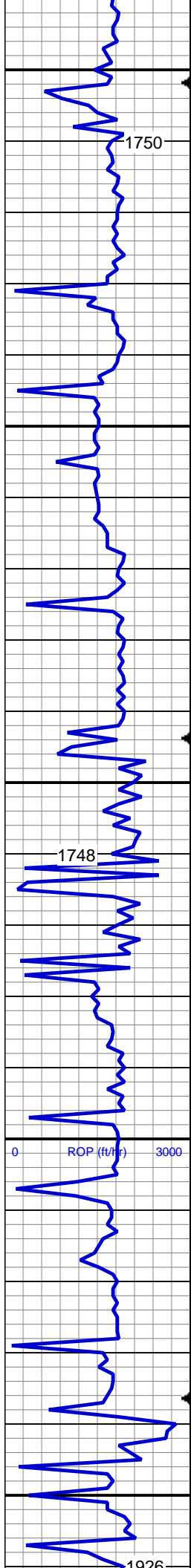
CLYST: lt gy, sft, sb blk, sl slty, non calc; SHY SS: lt gy-gy, pty s&p, mod frm - sft, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc

MD: 1,111'  
Inclination: 0.26 °  
Azimuth: 337.53 °  
TVD: 1,110.99'  
VS: -2.6'

CLYST: lt gy, sft, sb blk, sl slty, non calc; SHY SS: lt gy-gy, pty s&p, mod frm - sft, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc

MD: 1,203'  
Inclination: 0.35 °  
Azimuth: 350.01 °  
TVD: 1,202.98'  
VS: -2.73'





CLYST: lt gy, sft, sb blk, sl slty, non calc; SHY SS: lt gy-gy, pty s&p, mod frm - sft, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc

Mud Wt: 8.65 /31 Vis

MD: 1,296'  
Inclination: 0.44 °  
Azimuth: 356.16 °  
TVD: 1,295.98'  
VS: -2.8'

62u

C1: 96.8%  
C2: 2.0%  
C3: 0.9%  
C4: 0.3%

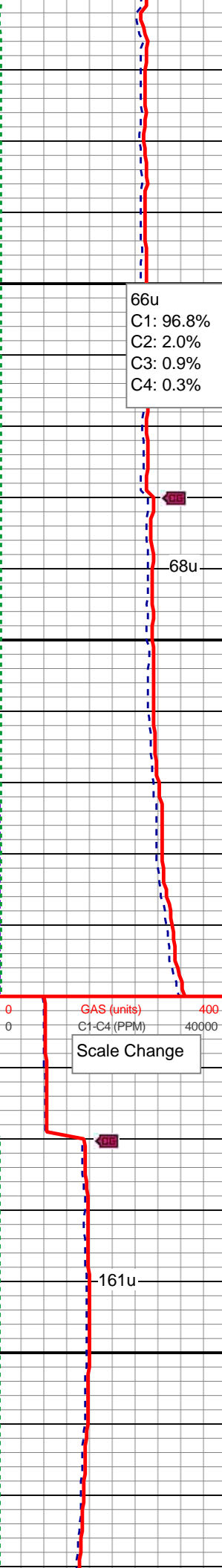
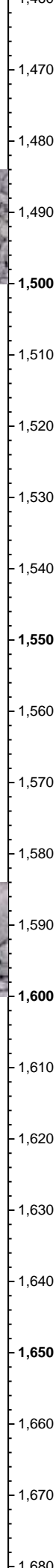
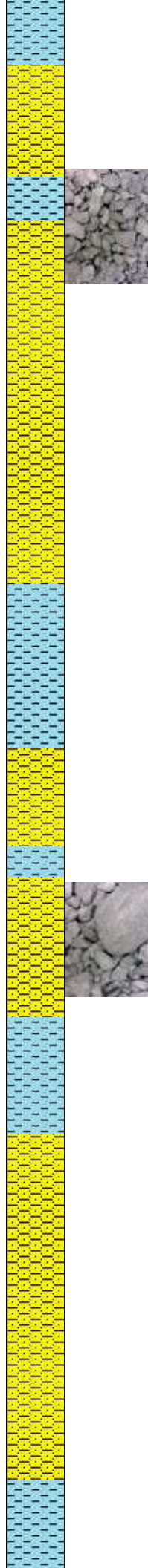
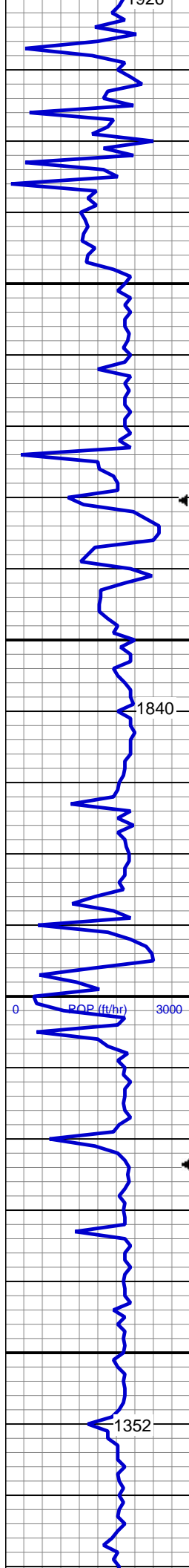
63u

CLYST: lt gy, sft, sb blk, sl slty, non calc; SHY SS: lt gy-gy, pty s&p, mod frm - sft, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc

MD: 1,388'  
Inclination: 0.62 °  
Azimuth: 350.71 °  
TVD: 1,387.98'  
VS: -2.91'

65u

SHY SS: lt gy-gy, pty s&p, mod frm - sft, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc CLYST: lt gy, sft, sb blk, sl slty, non calc



66u  
C1: 96.8%  
C2: 2.0%  
C3: 0.9%  
C4: 0.3%

68u

161u

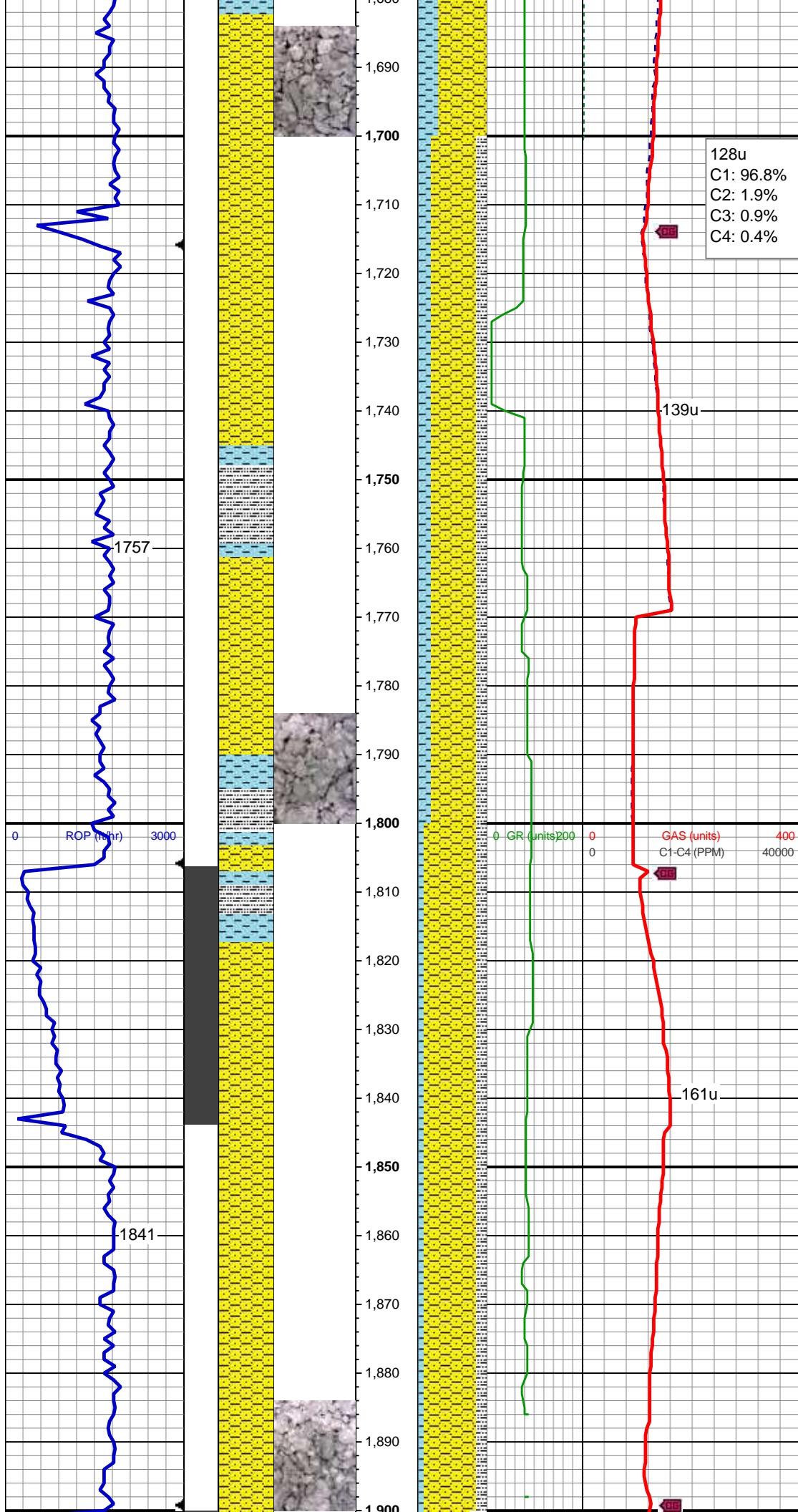
MD: 1,481'  
Inclination: 0.7 °  
Azimuth: 315.73 °  
TVD: 1,480.97'  
VS: -3.39'

SHY SS: lt gy-gy, pty s&p, mod frm - sft,  
vf gr-f gr, sb ang - sb rnd, mod w srt, arg  
cmt, sl calc CLYST: lt gy, sft, sb blk, sl  
silty, non calc

MD: 1,574'  
Inclination: 0.79 °  
Azimuth: 307.12 °  
TVD: 1,573.96'  
VS: -4.29'

SHY SS: lt gy-gy, pty s&p, mod frm - sft,  
vf gr-f gr, sb ang - sb rnd, mod w srt, arg  
cmt, sl calc CLYST: lt gy, sft, sb blk, sl  
silty, non calc

MD: 1,666'  
Inclination: 0.79 °  
Azimuth: 294.29 °  
TVD: 1,665.96'  
VS: -5.38'



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

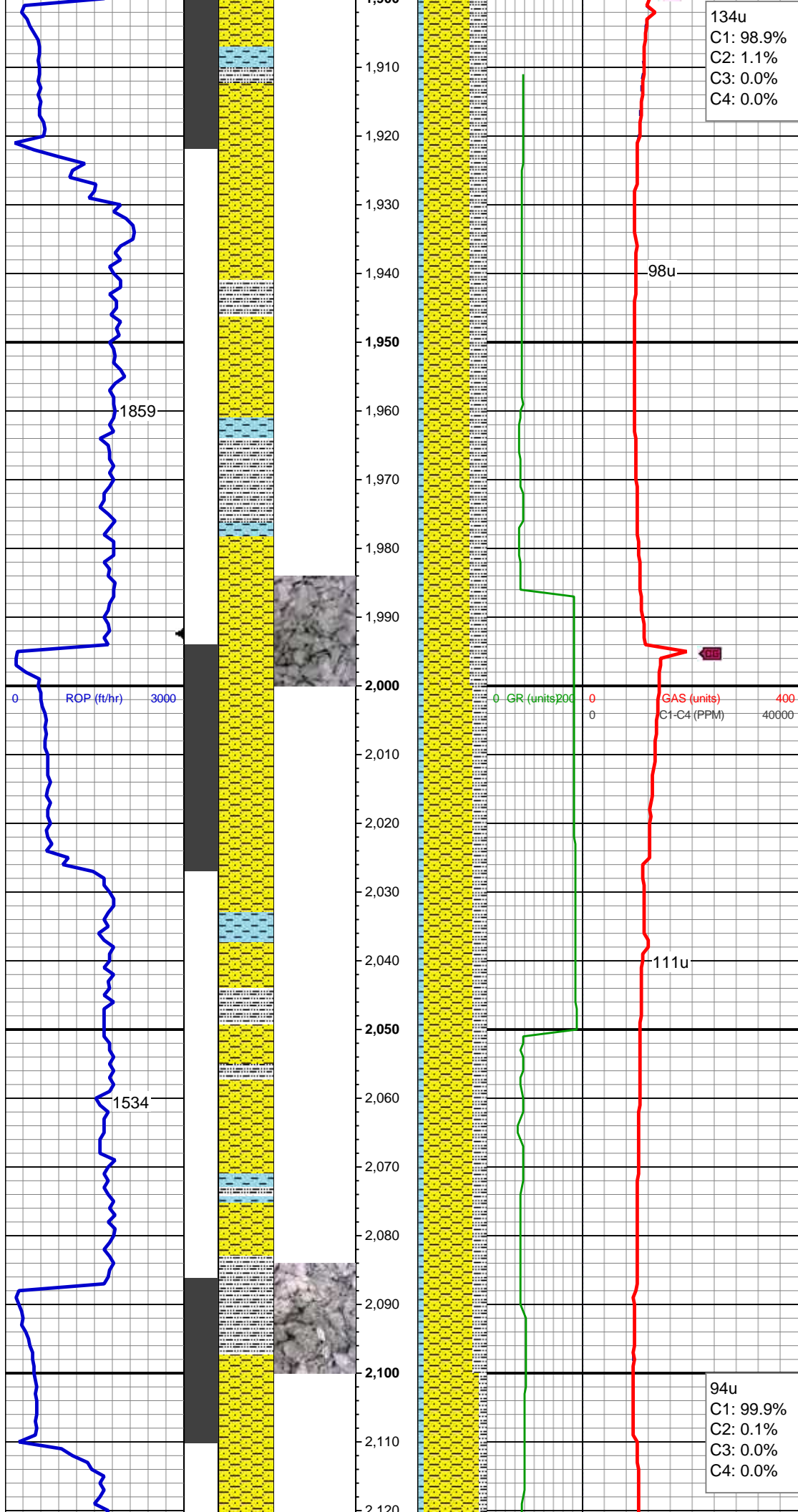
MD: 1,757'  
Inclination: 0.97 °  
Azimuth: 299.03 °  
TVD: 1,756.95'  
VS: -6.62'

Mud Wt: 8.70 /30 Vis

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

MD: 1,851'  
Inclination: 3.52 °  
Azimuth: 277.59 °  
TVD: 1,850.87'  
VS: -10.18'



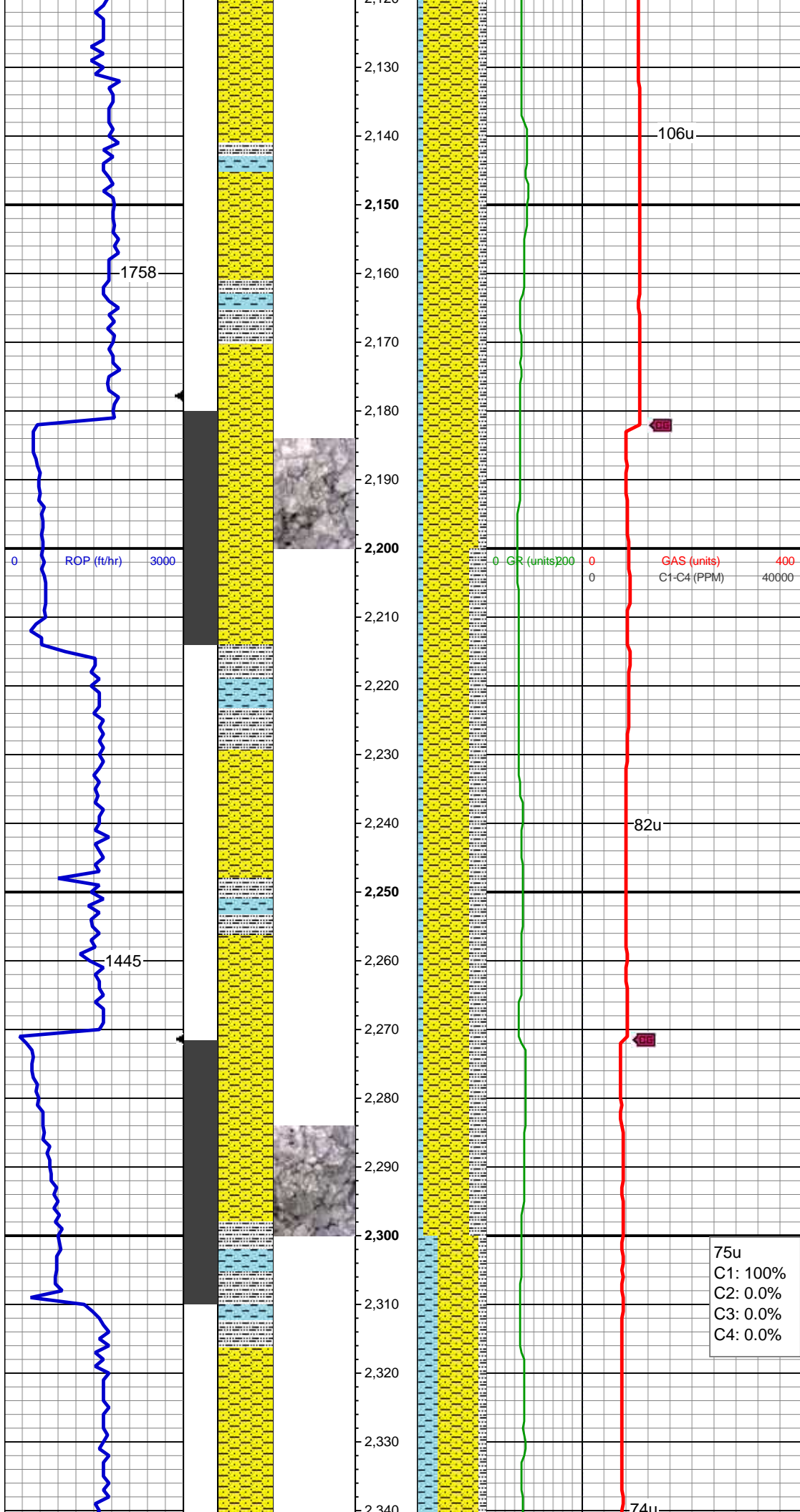


SHY SS: lt-med gy, mod frm - sft, vf gr-f  
gr, sb ang - sb rnd, mod w srt, arg cmt, sl  
calc CLYST: lt gry, sft, sub-blky, non calc  
SLTY SH: lt-dk gy, sft-frm, sb blk-y-sb plty,  
gritty

MD: 1,944'  
Inclination: 4.92 °  
Azimuth: 271.43 °  
TVD: 1,943.61'  
VS: -17'

MD: 2,036'  
Inclination: 6.86 °  
Azimuth: 254.91 °  
TVD: 2,035.13'  
VS: -26.25'

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



MD: 2,128'  
Inclination: 7.74 °  
Azimuth: 243.84 °  
TVD: 2,126.39'  
VS: -37.11'

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

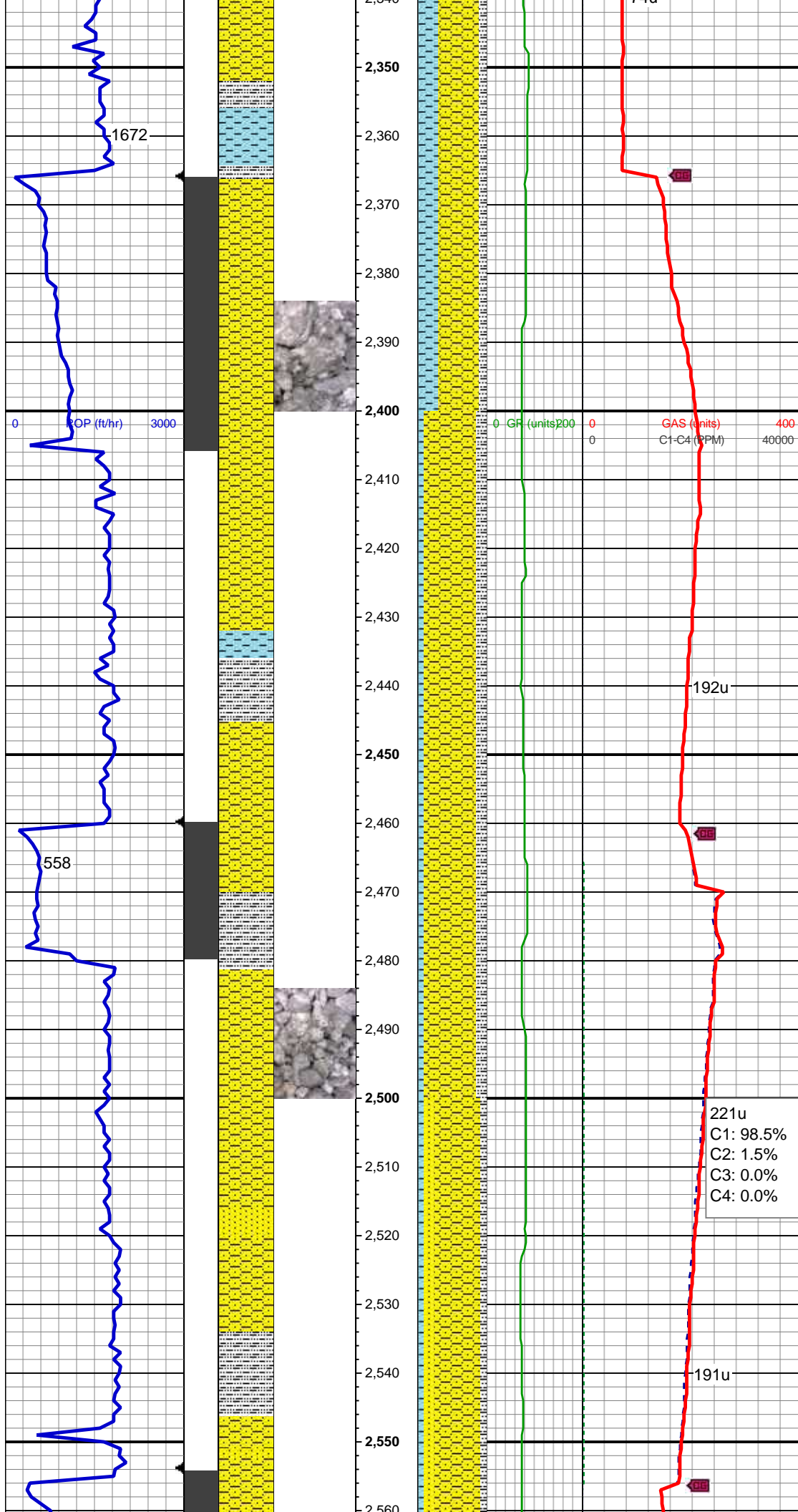
Mud Wt: 8.75 /31 Vis

MD: 2,223'  
Inclination: 10.02 °  
Azimuth: 247 °  
TVD: 2,220.24'  
VS: -50.46'

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

75u  
C1: 100%  
C2: 0.0%  
C3: 0.0%  
C4: 0.0%

MD: 2,317'  
Inclination: 12.31 °  
Azimuth: 245.07 °  
TVD: 2,312.46'  
VS: -67.08'



SHY SS: lt-med gy, mod frm - sft, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc CLYST: lt gry, sft, sub-blky, non calc SLTY SH: lt-dk gy, sft-frm, sb blkgy-sb plty, gritty

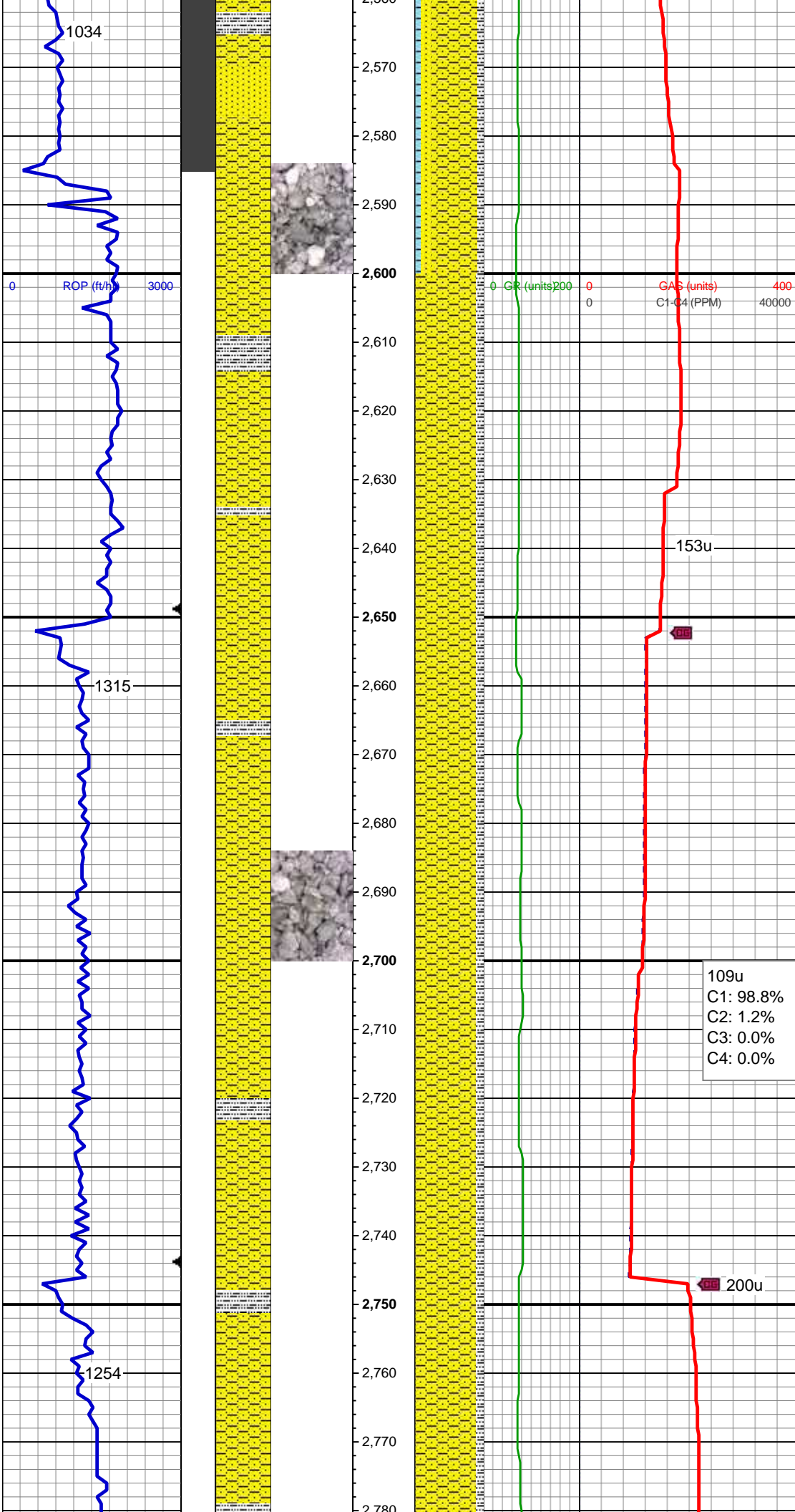
MD: 2,411'  
Inclination: 14.95 °  
Azimuth: 246.83 °  
TVD: 2,403.8'  
VS: -87.32'

SHY SS: lt-med gy, mod frm - sft, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc CLYST: lt gry, sft, sub-blky, non calc SLTY SH: lt-dk gy, sft-frm, sb blkgy-sb plty, gritty

MD: 2,506'  
Inclination: 14.86 °  
Azimuth: 242.08 °  
TVD: 2,495.61'  
VS: -109.35'

SHY SS: lt-med gy, mod frm - sft, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc CLYST: lt gry, sft, sub-blky, non calc SLTY SH: lt-dk gy, sft-frm, sb blkgy-sb plty, gritty SS:lt-gy, frm,vf gr-f gr, rare med grns, sb ang-sb rnd, mod w srt





Mud Wt: 8.90 /36 Vis

MD: 2,600'  
Inclination: 16.09 °  
Azimuth: 238.04 °  
TVD: 2,586.2'  
VS: -131.05'

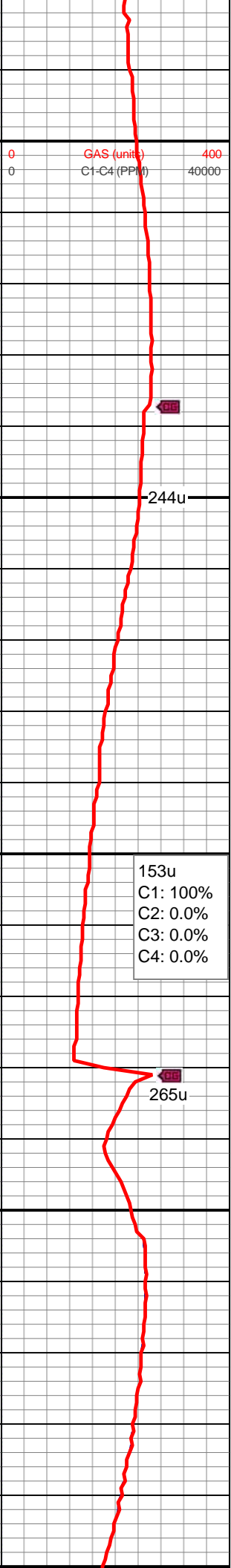
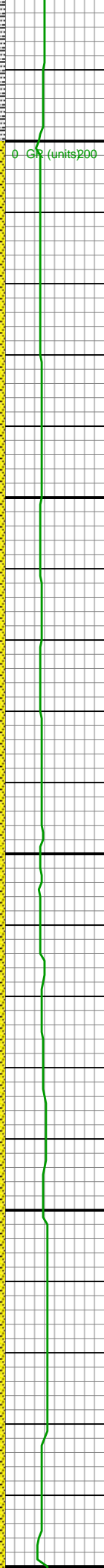
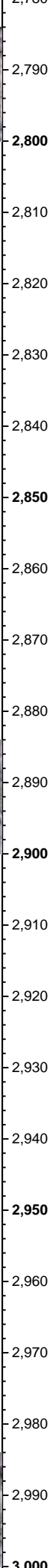
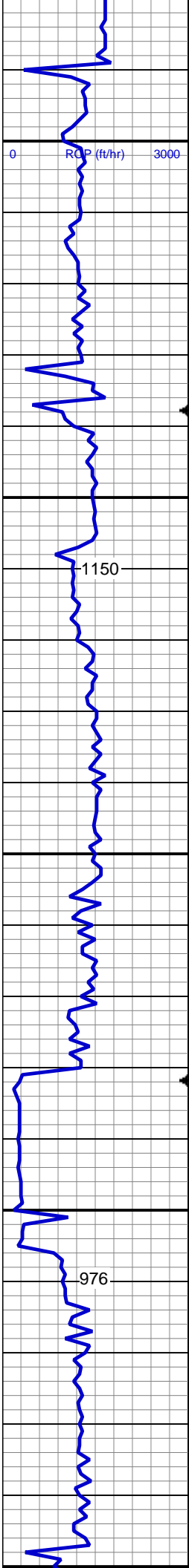
SHY SS: lt-med gy, mod frm - sft, vf gr-f  
gr, sb ang - sb rnd, mod w srt, arg cmt, sl  
calc SLTY SH: lt-dk gy, sft-frm, sb blk-y-sb  
plty, gritty

MD: 2,695'  
Inclination: 16.27 °  
Azimuth: 237.51 °  
TVD: 2,677.44'  
VS: -153.45'

109u  
C1: 98.8%  
C2: 1.2%  
C3: 0.0%  
C4: 0.0%

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





MD: 2,790'  
Inclination: 16.18 °  
Azimuth: 237.68 °  
TVD: 2,768.66'  
VS: -175.86'

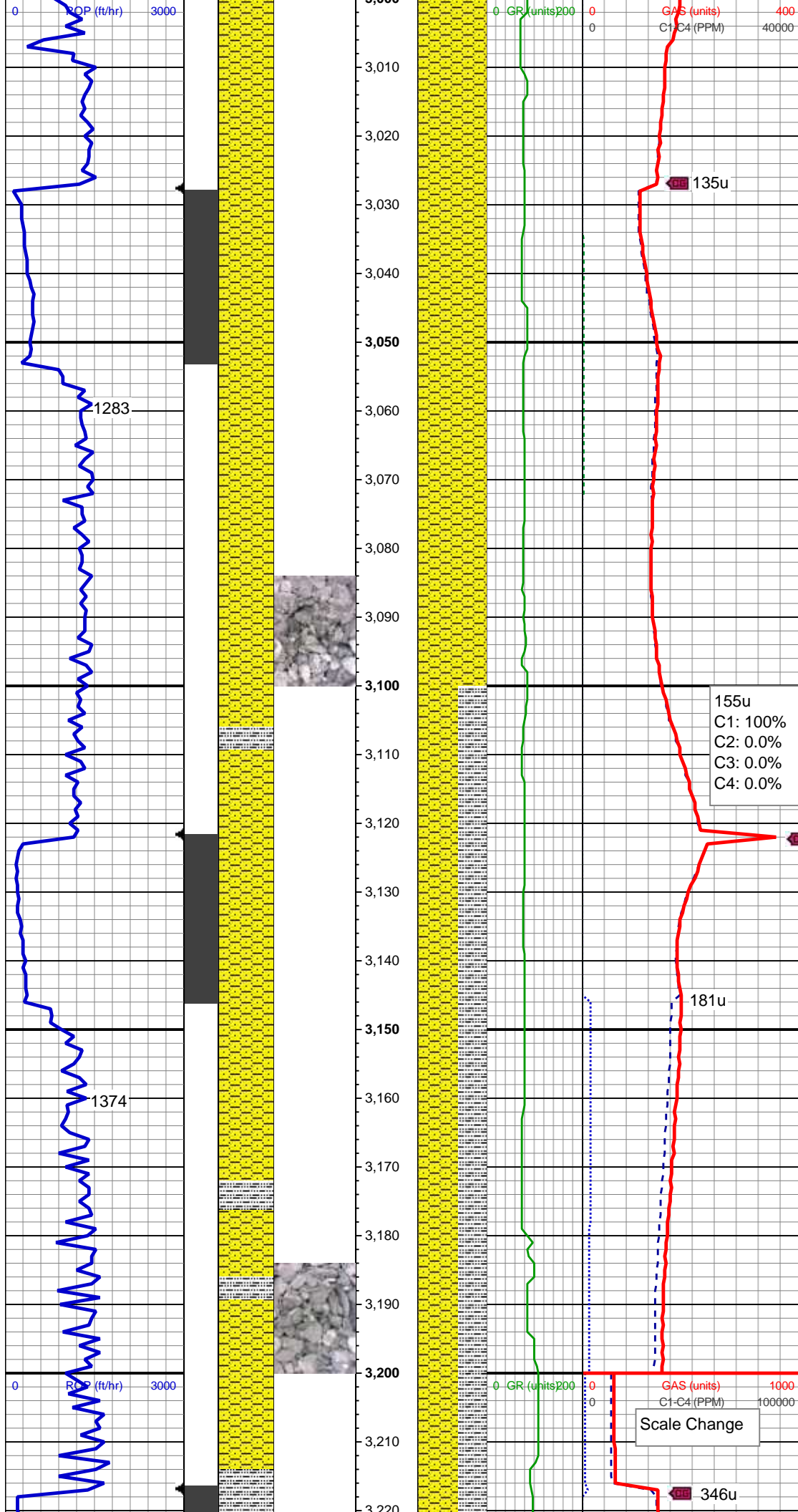
SHY SS: lt-med gy, mod frm - sft, vf gr-f  
gr, sb ang - sb rnd, mod w srt, arg cmt, sl  
calc, tr ss

MD: 2,884'  
Inclination: 15.83 °  
Azimuth: 236.81 °  
TVD: 2,859.01'  
VS: -197.65'

153u  
C1: 100%  
C2: 0.0%  
C3: 0.0%  
C4: 0.0%

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

MD: 2,978'  
Inclination: 15.3 °  
Azimuth: 241.73 °  
TVD: 2,949.57'  
VS: -219.31'



Mud Wt: 9.15 /31 Vis

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

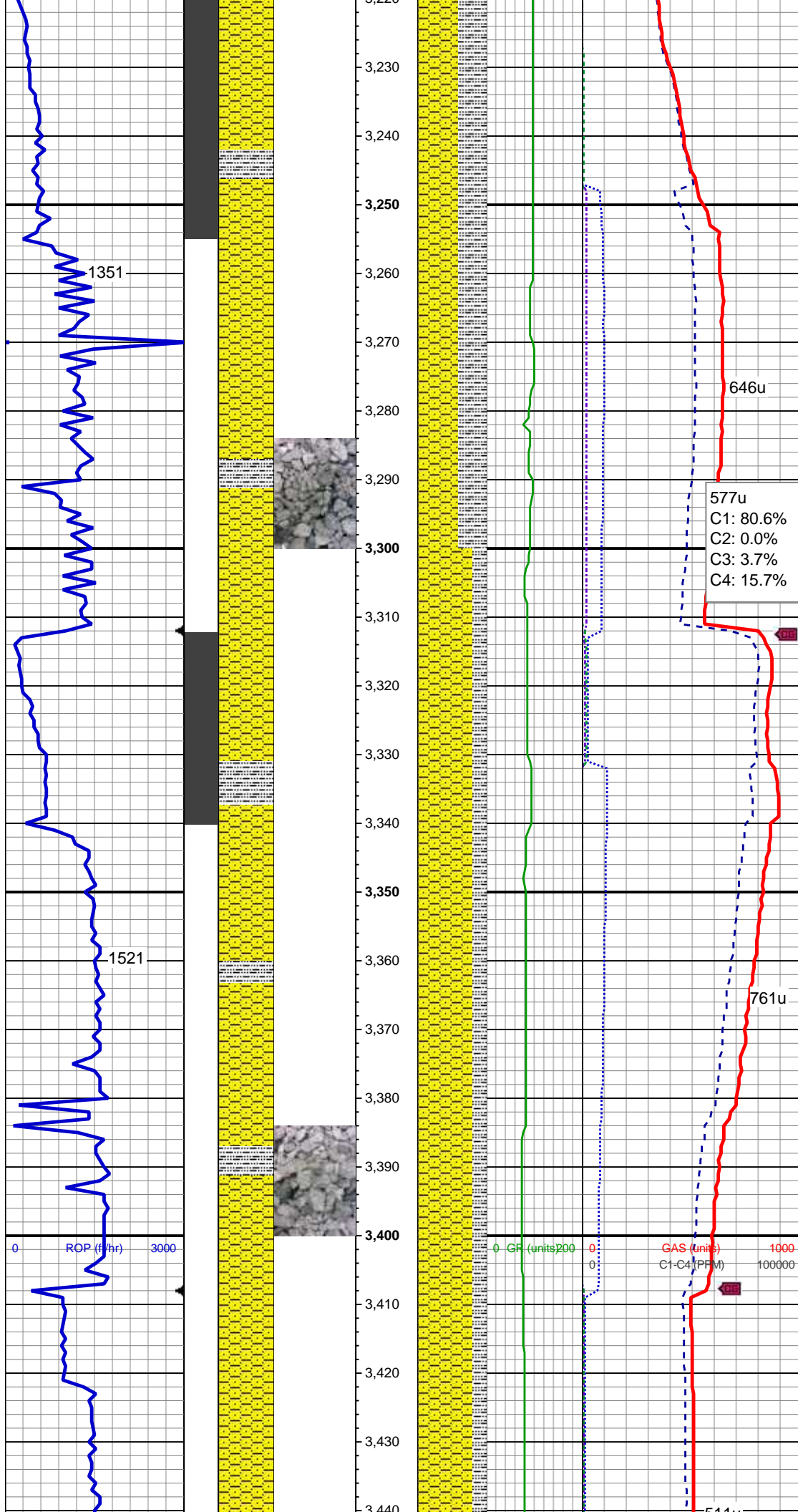
MD: 3,073'  
Inclination: 14.25 °  
Azimuth: 247.7 °  
TVD: 3,041.43'  
VS: -60.84'

155u  
C1: 100%  
C2: 0.0%  
C3: 0.0%  
C4: 0.0%

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

MD: 3,167'  
Inclination: 13.45 °  
Azimuth: 249.46 °  
TVD: 3,132.7'  
VS: -65.14'

Scale Change



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

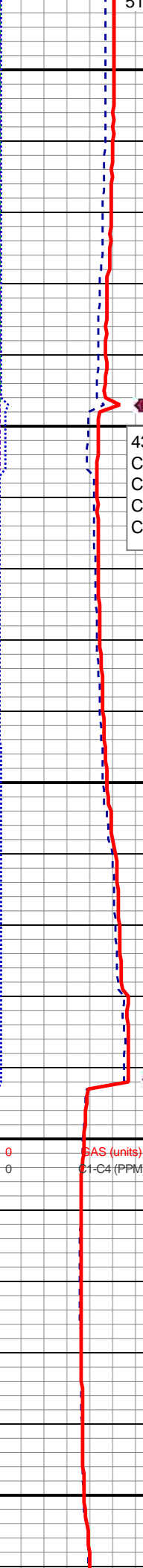
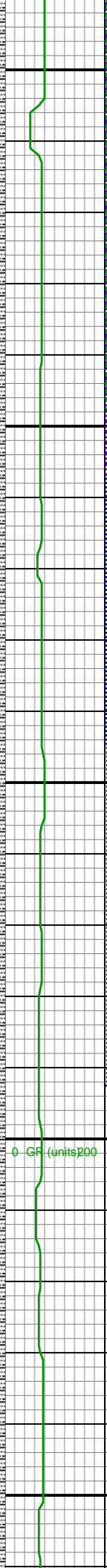
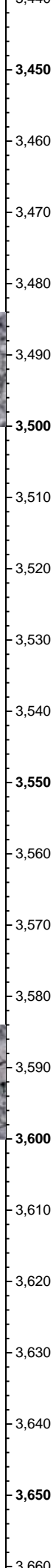
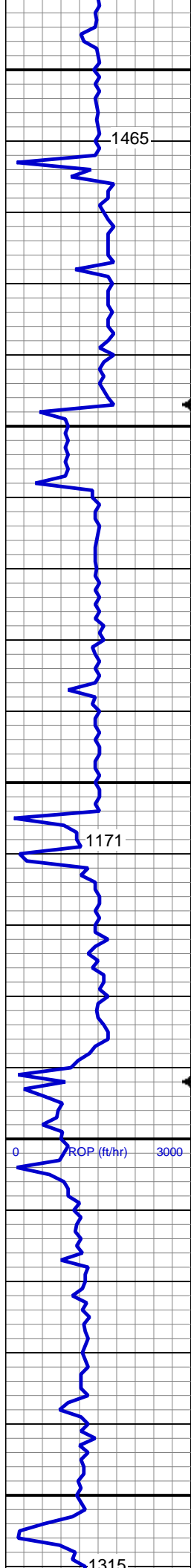
MD: 3,261'  
Inclination: 13.98 °  
Azimuth: 250.52 °  
TVD: 3,224.02'  
VS: -68.84'

MD: 3,356'  
Inclination: 15.83 °  
Azimuth: 252.98 °  
TVD: 3,315.82'  
VS: -72.13'

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

Mud Wt: 9.1 / 32 Vis





438u  
C1: 89.7%  
C2: 1.3%  
C3: 1.8%  
C4: 7.2%

570u

MD: 3,451'  
Inclination: 16.44 °  
Azimuth: 252.1 °  
TVD: 3,407.08'  
VS: -75.36'

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

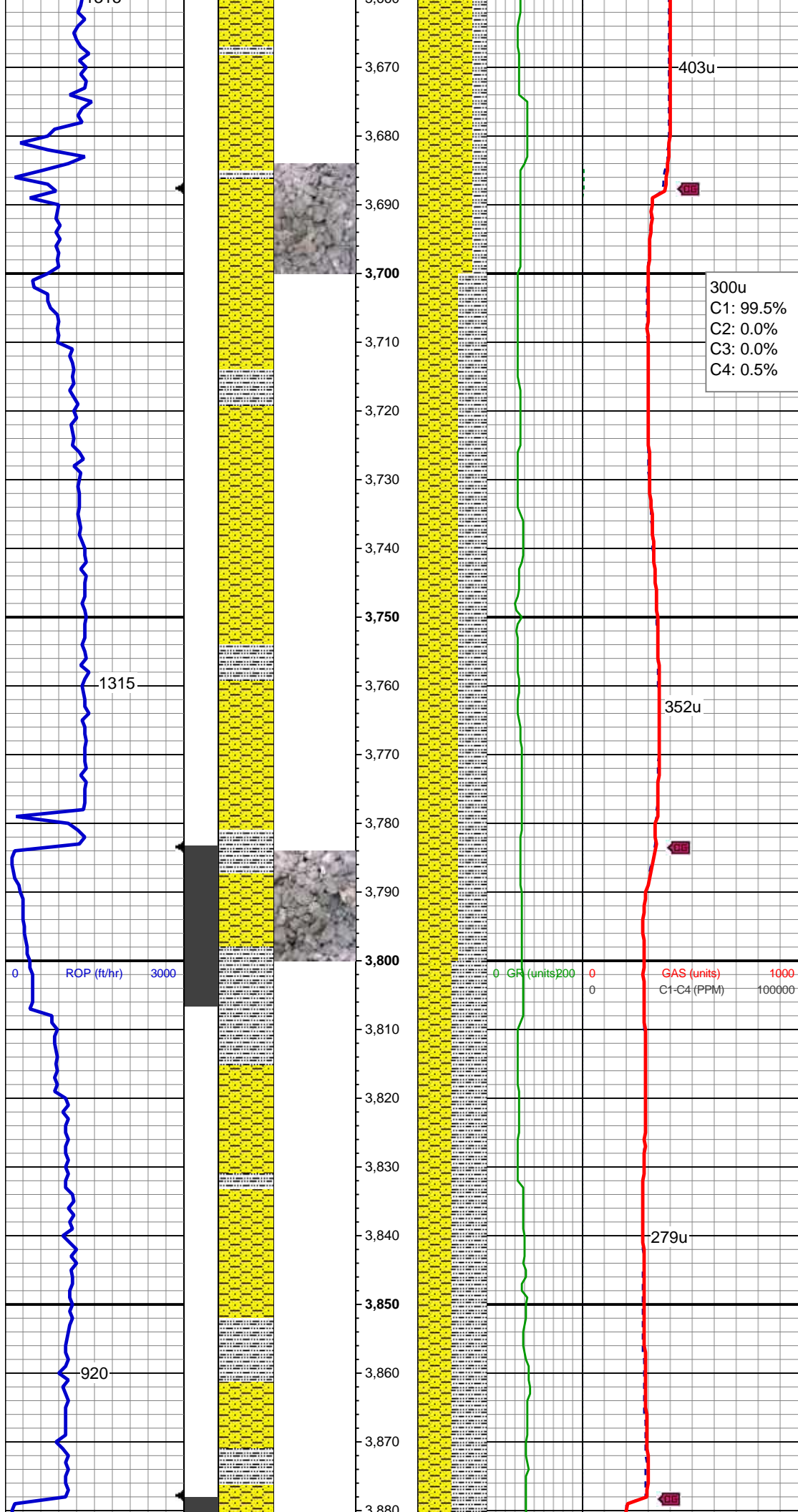
MD: 3,545'  
Inclination: 17.5 °  
Azimuth: 251.04 °  
TVD: 3,496.98'  
VS: -79.18'

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

MD: 3,640'  
Inclination: 18.55 °  
Azimuth: 250.34 °  
TVD: 3,587.32'  
VS: -83.71'

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





arg cmt, tr glau, tr pyr SLTY SH: lt-dk gy, sft-frm, sb blkly-sb plty, gritty

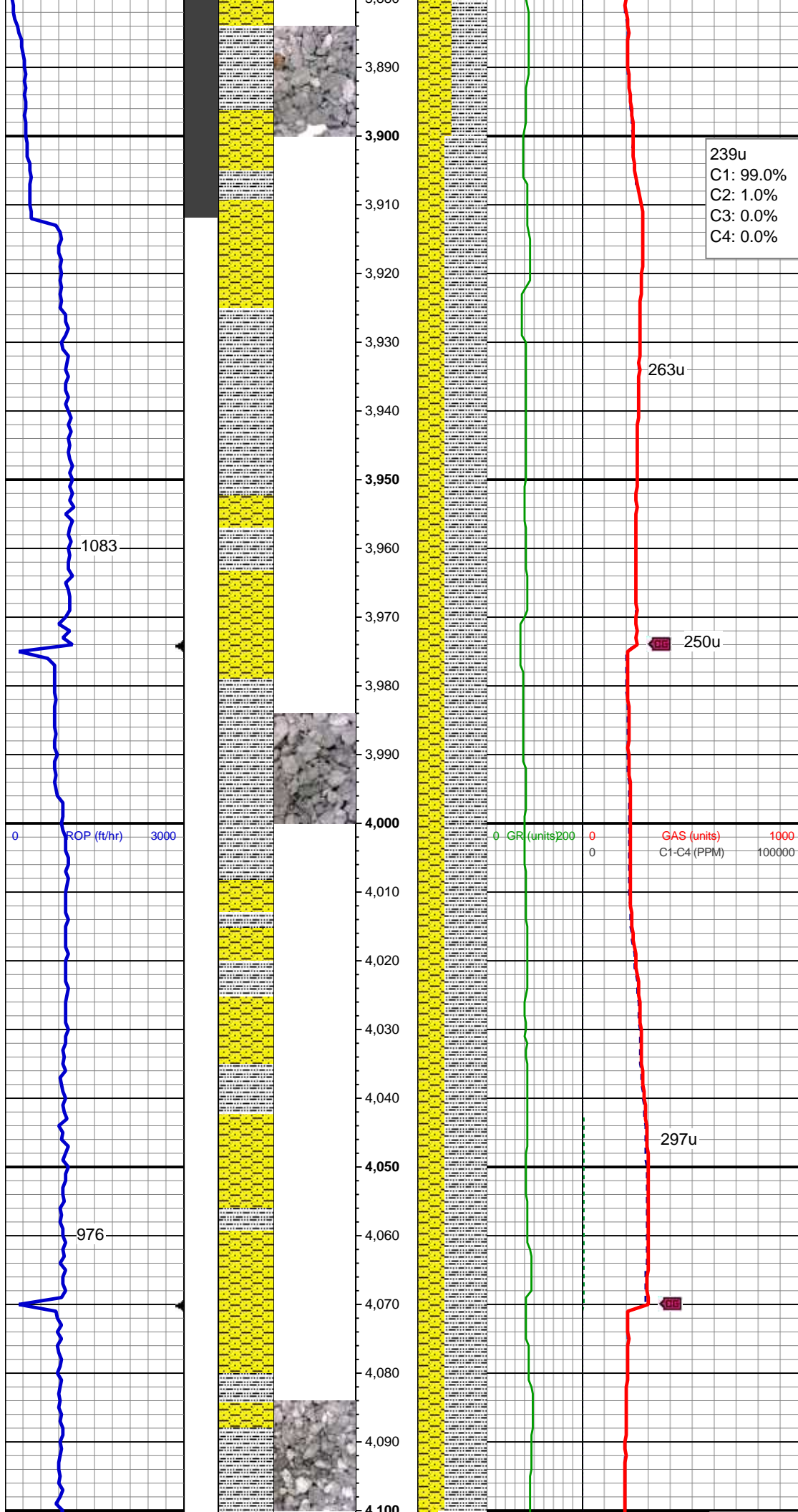
MD: 3,734'  
Inclination: 19.43 °  
Azimuth: 249.99 °  
TVD: 3,676.2'  
VS: -88.71'

SHY SS: lt-med gy, sft-mod frm, vf gr-f gr, occ med grns, sb ang - sb rnd, mod w srt, arg cmt, tr glau, tr pyr SLTY SH: lt-dk gy, sft-frm, sb blkly-sb plty, gritty

Mud Wt: 9.1 / 36 Vis

MD: 3,828'  
Inclination: 17.85 °  
Azimuth: 246.3 °  
TVD: 3,765.27'  
VS: -94.61'

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



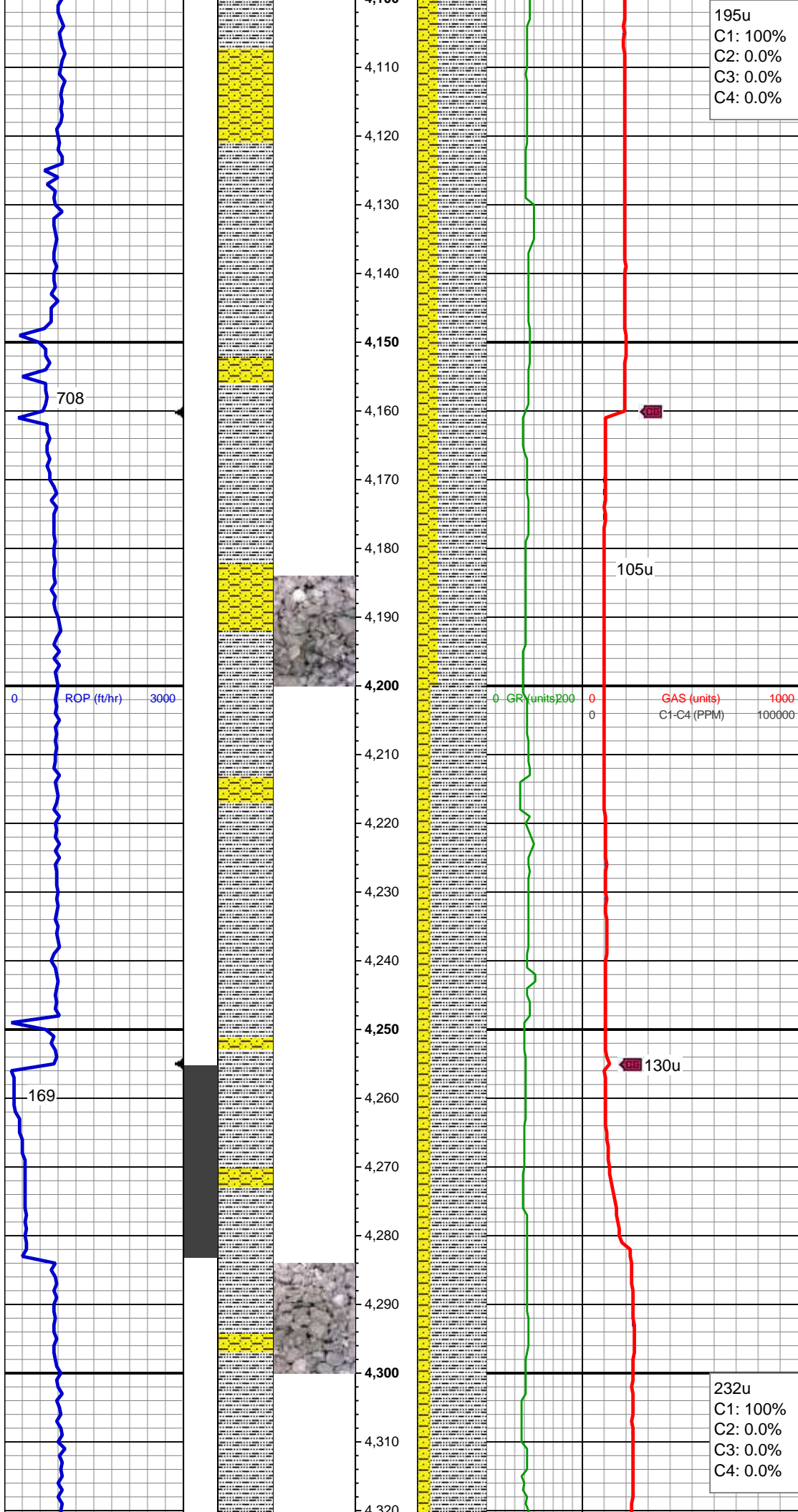
239u  
C1: 99.0%  
C2: 1.0%  
C3: 0.0%  
C4: 0.0%

MD: 3,923'  
Inclination: 14.25 °  
Azimuth: 248.06 °  
TVD: 3,856.55'  
VS: -100.29'

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

MD: 4,017'  
Inclination: 13.19 °  
Azimuth: 246.83 °  
TVD: 3,947.87'  
VS: -104.96'

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



195u  
C1: 100%  
C2: 0.0%  
C3: 0.0%  
C4: 0.0%

MD: 4,111'  
Inclination: 10.82 °  
Azimuth: 246.3 °  
TVD: 4,039.81'  
VS: -109.34'

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

Mud Wt: 9.25 / 35 Vis

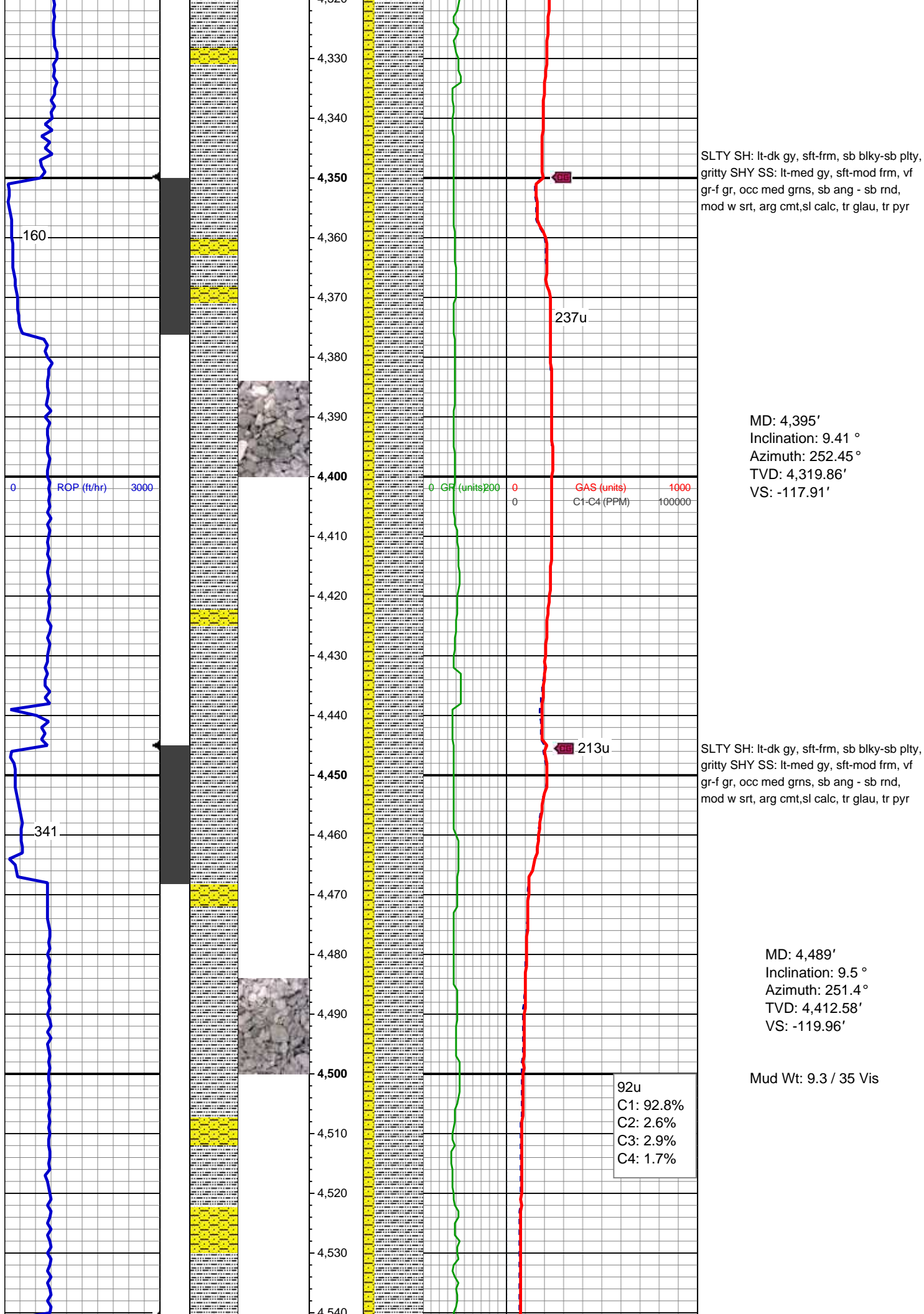
MD: 4,206'  
Inclination: 9.5 °  
Azimuth: 245.42 °  
TVD: 4,133.32'  
VS: -113.3'

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

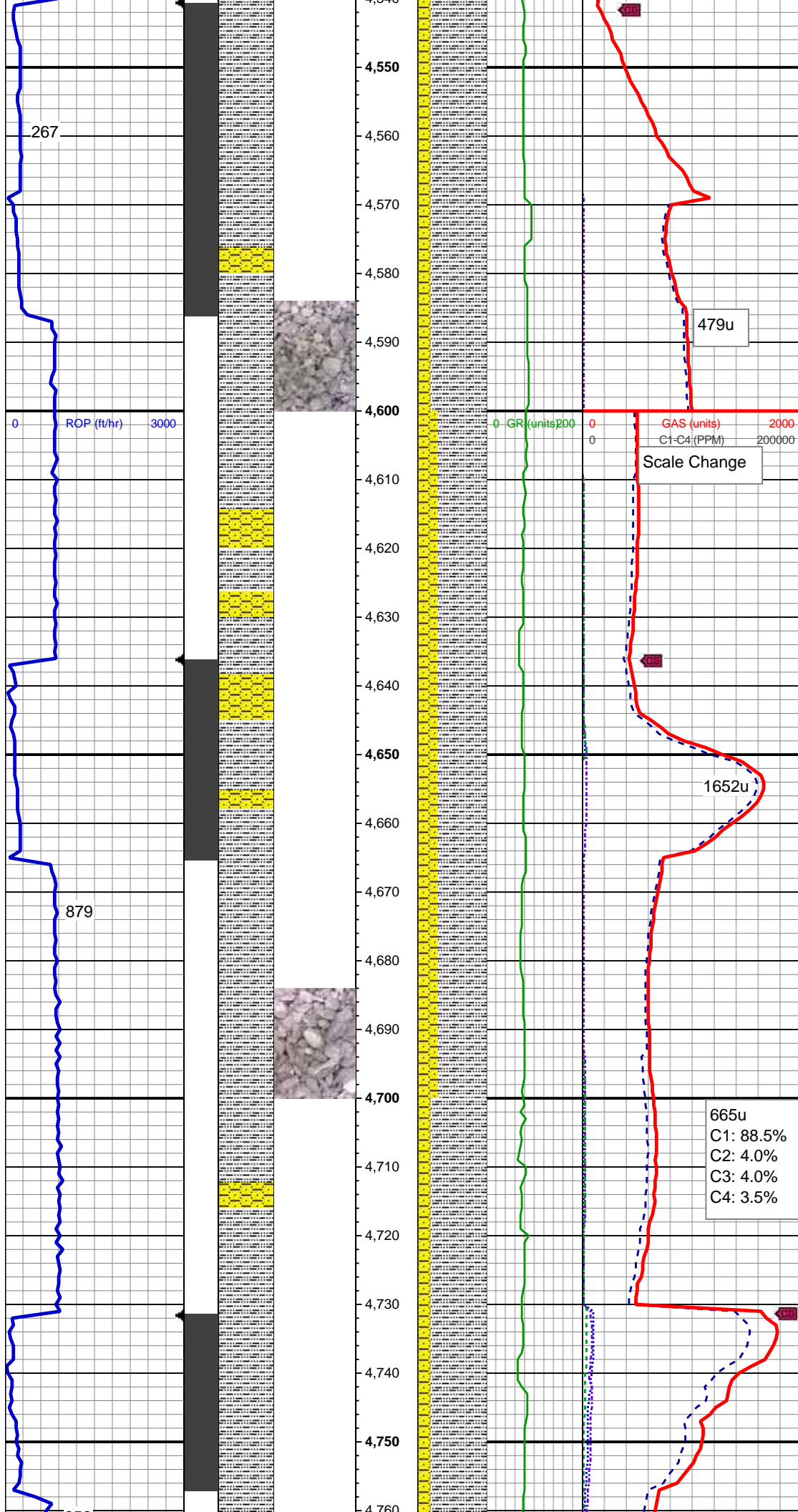
232u  
C1: 100%  
C2: 0.0%  
C3: 0.0%  
C4: 0.0%

MD: 4,300'  
Inclination: 9.06 °  
Azimuth: 252.8 °  
TVD: 4,226.09'  
VS: -116.07'









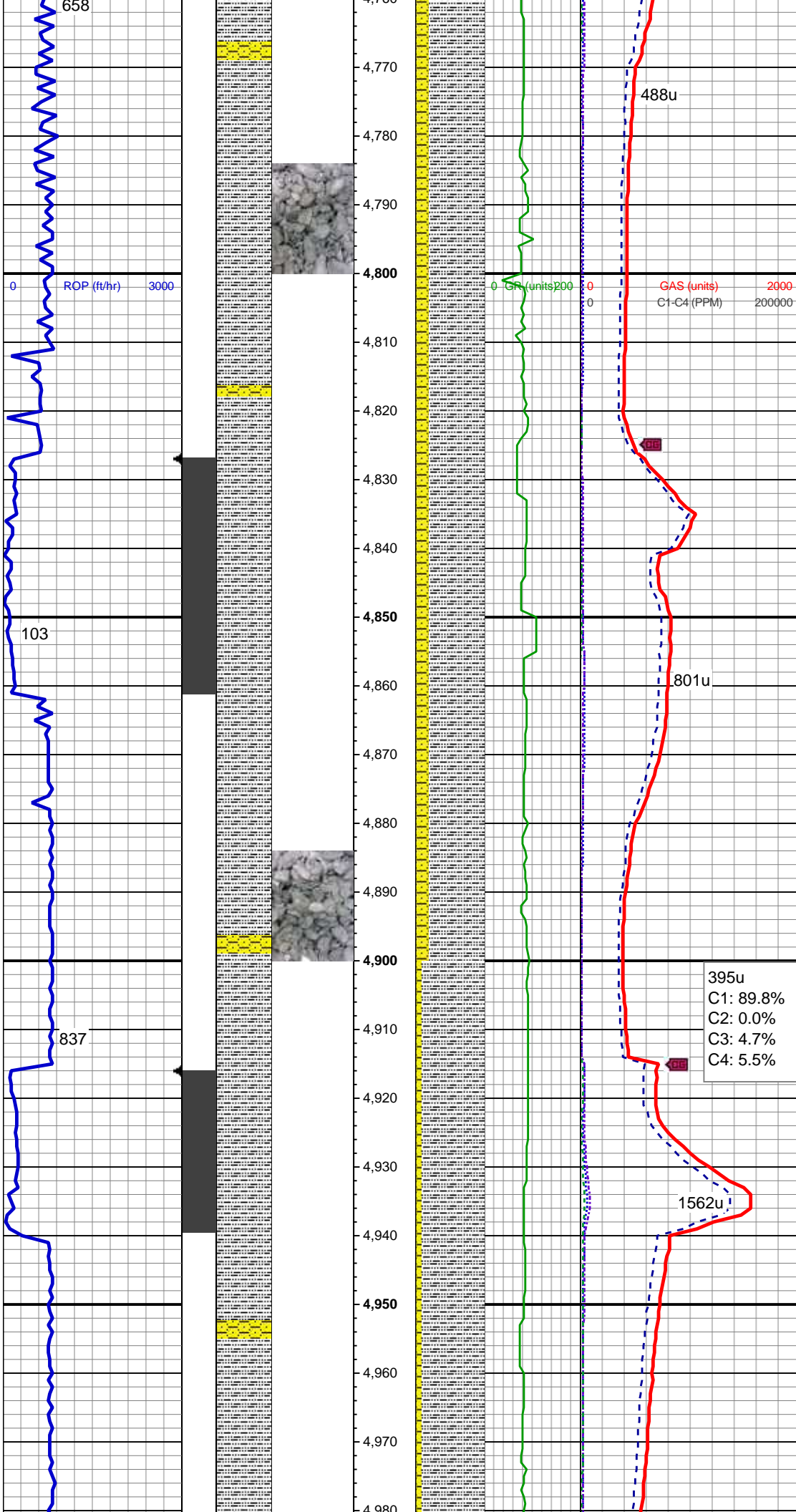
SLTY SH: lt-dk gy, sft frm, sb blk-y-sb plty,  
grtty SHY SS: lt-med gy, sft-mod frm, vf  
gr-f gr, occ med grns, sb ang - sb rnd,  
mod w srt, arg cmt, sl calc, tr glau, tr pyr

MD: 4,584'  
Inclination: 9.58 °  
Azimuth: 253.86 °  
TVD: 4,506.27'  
VS: -121.86'

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

MD: 4,679'  
Inclination: 9.94 °  
Azimuth: 248.76 °  
TVD: 4,599.89'  
VS: -124.18'

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



MD: 4,773'  
Inclination: 9.32 °  
Azimuth: 249.11 °  
TVD: 4,692.57'  
VS: -127.08'

Mud Wt: 9.3 / 35 Vis

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

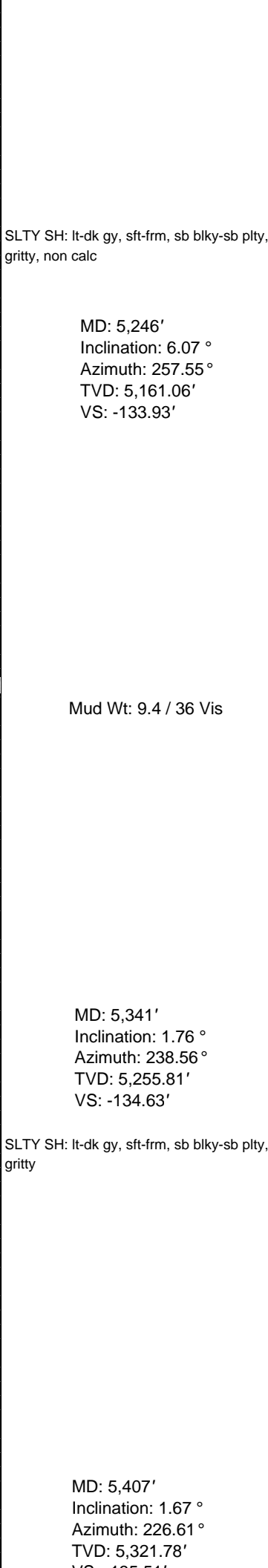
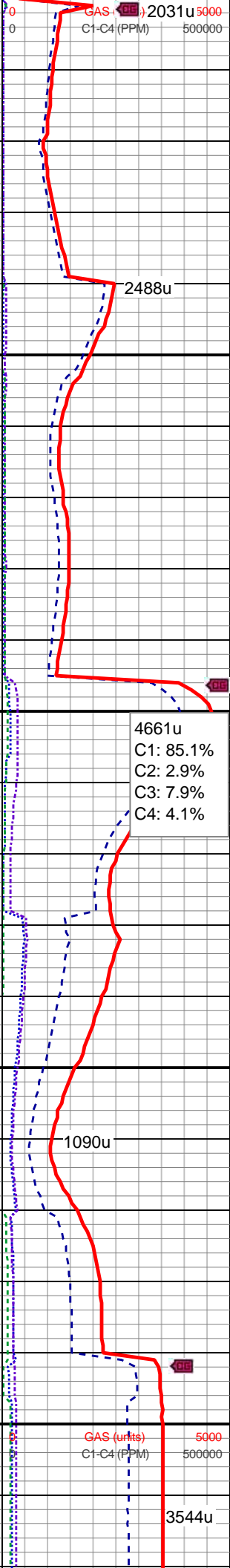
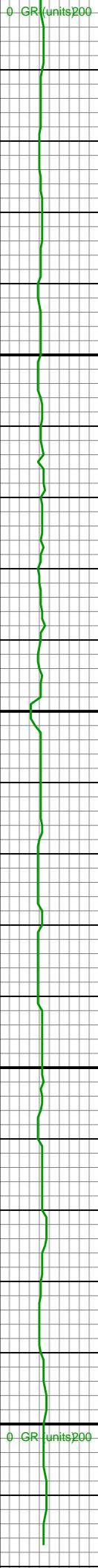
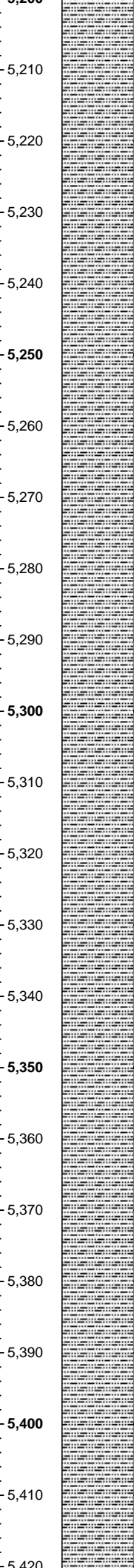
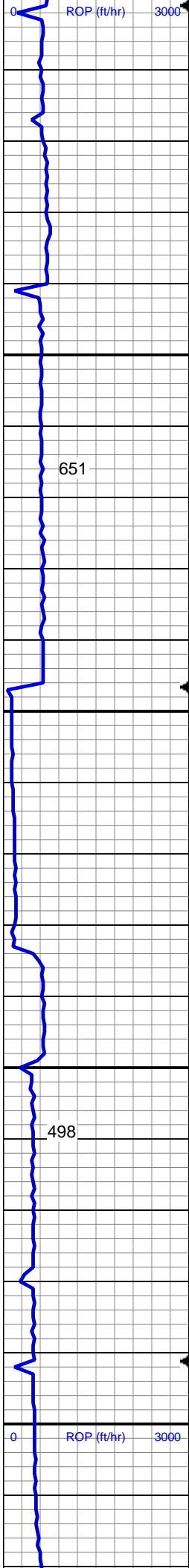
MD: 4,867'  
Inclination: 8.71 °  
Azimuth: 253.15 °  
TVD: 4,785.41'  
VS: -129.26'

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

MD: 4,962'  
Inclination: 7.3 °  
Azimuth: 253.86 °  
TVD: 4,879.48'  
VS: -130.66'







VS: -135.51'

SLTY SH: lt-dk gy, sft frm, sb blkly-sb plty,  
gritty, non calc

Mud Wt: 9.4 / 36 Vis

TOOH FOR BHA #2 @ 5455' MD  
LOG CONTINUES ON MPLOT  
Cutthroat LC28-78HNB Horz

