

# COLUMBINE LOGGING

Scale: 5" / 100'  
Measured Depth Log

**Well Name** Reliance E23-69-1HN

**Location** NWNW SEC23, T6N, R65W, 6 PM

**State** COLORADO

**County** WELD

**Country** USA

**Rig Number** H&P 326

**API Number** 05-123-38141

**Field** GREELEY

**Region** DJ BASIN

**Drilling Completed** 2/8/2015

**Spud Date** 2/2/2015

**Surface Coordinates** 1258' FNL, 755' FWL  
40.47534/-104.63728

**Bottom Hole Coordinates** (PROJ)  
330' FFNLL, 225' FFELL  
40.477860/-104.621710

**Ground Elevation** 4733'

**K.B. Elevation** 4763'

**Logged Interval** 811' To 6189'

**Total Depth** 11,567'

**Formation** NIOBRARA B-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 INTEROOLITIC

- 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 WACKESTONE

### Sorting

- MODERATE
- POOR
- 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

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

GYPSIFEROUS  
 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

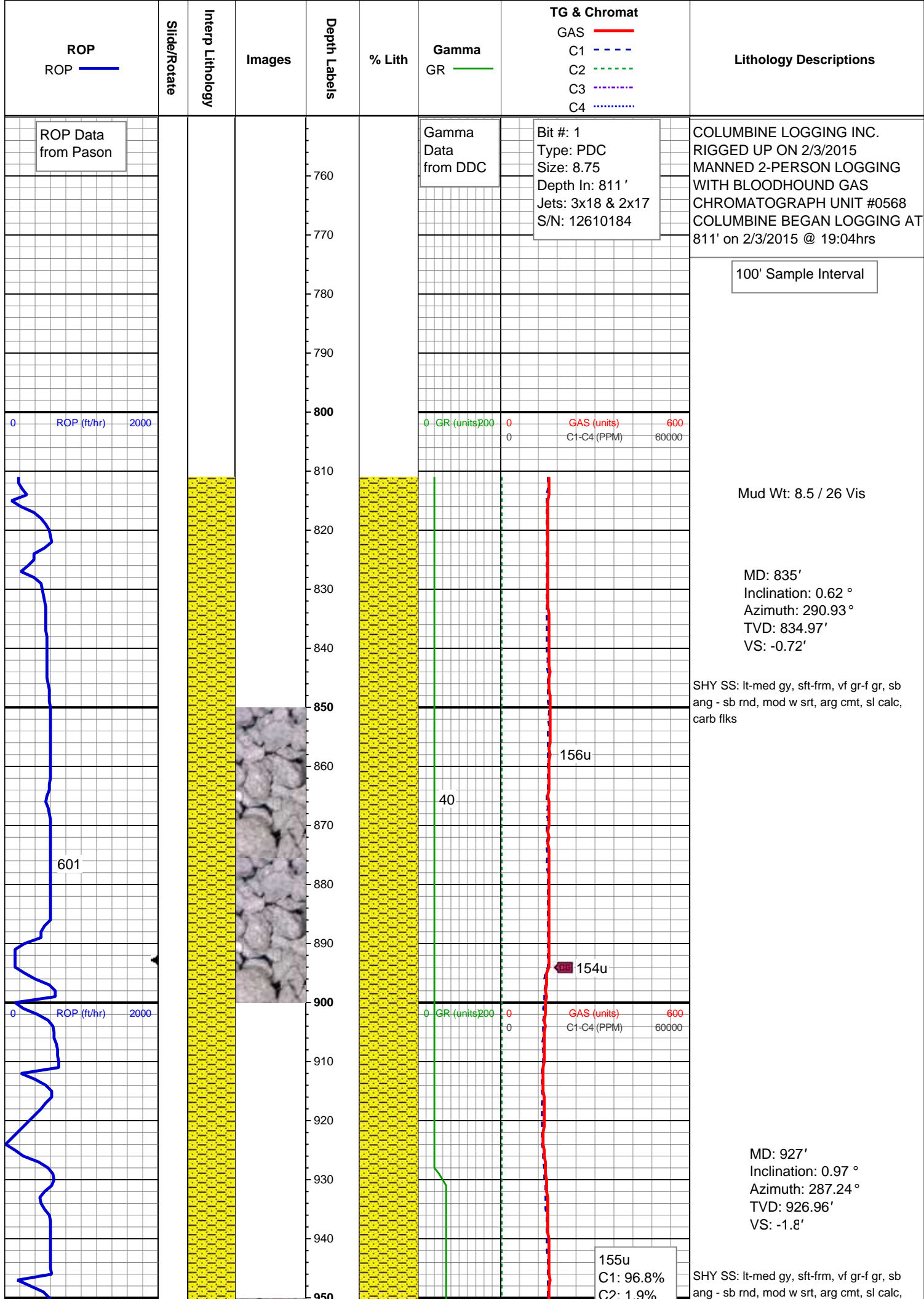
**Name** HOLLY DUNCAN

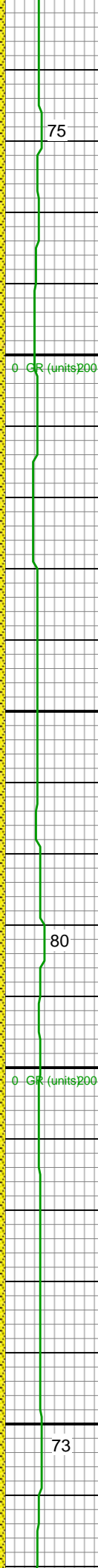
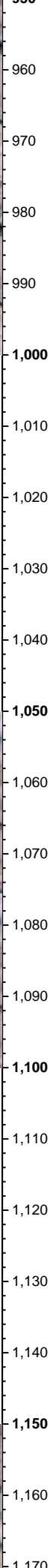
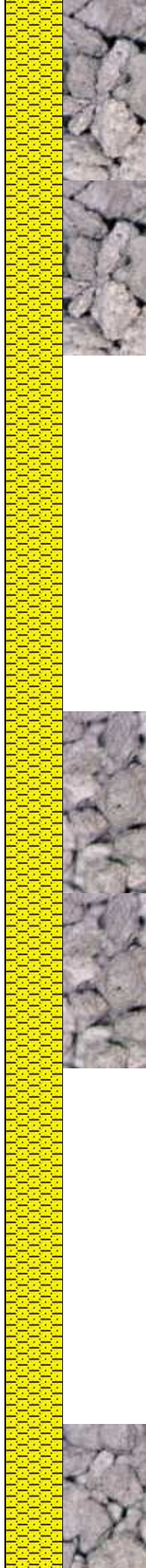
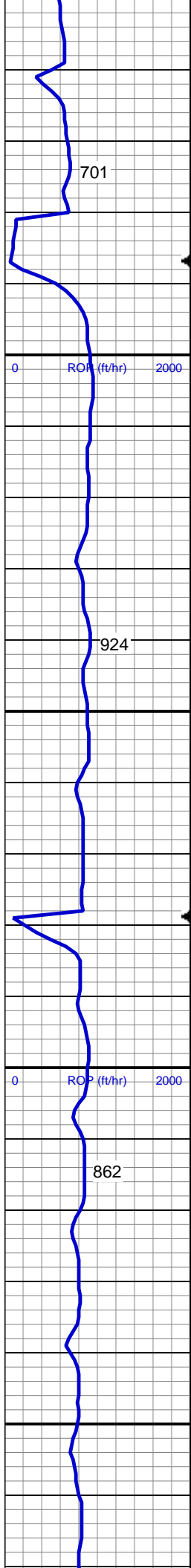
**Company** NOBLE ENERGY INC.

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

## Other

**COLUMBINE LOGGING** MATT HOPKINS  
ANDREW MARTENS





carb flks

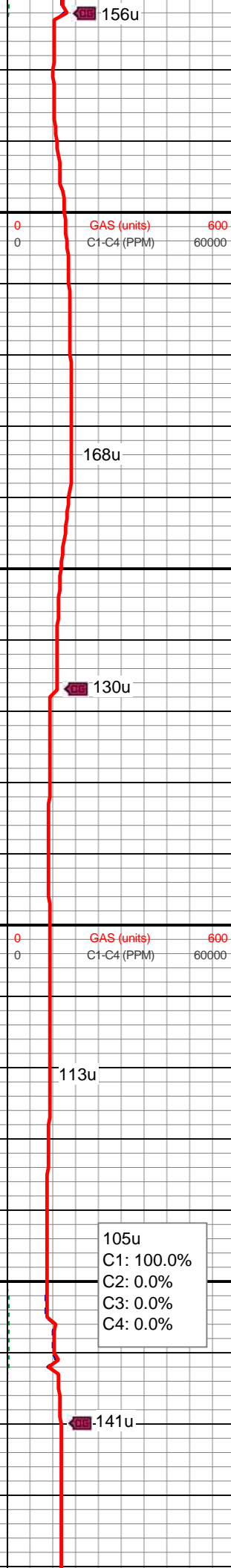
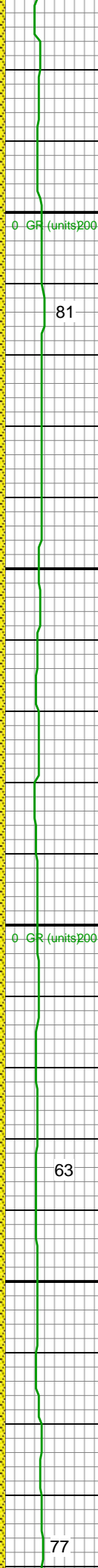
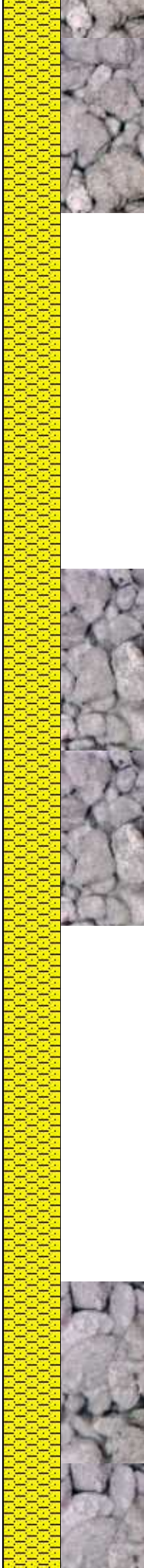
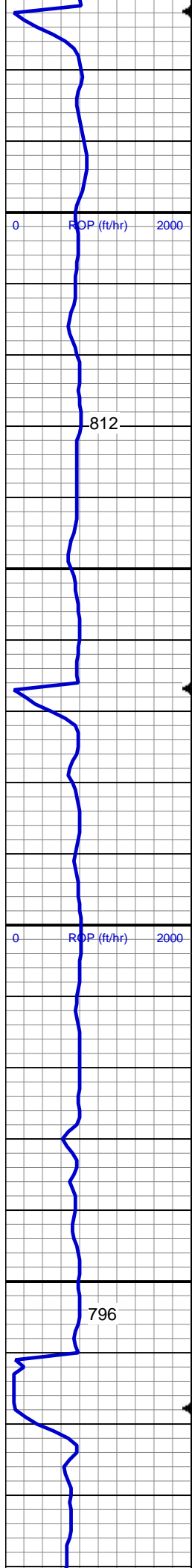
MD: 1,022'  
Inclination: 0.88 °  
Azimuth: 279.16 °  
TVD: 1,021.95'  
VS: -3.18'

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

MD: 1,115'  
Inclination: 0.88 °  
Azimuth: 284.96 °  
TVD: 1,114.94'  
VS: -4.47'

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





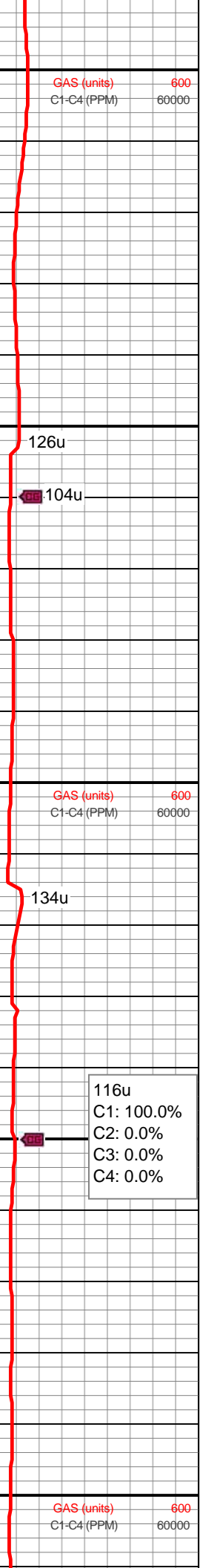
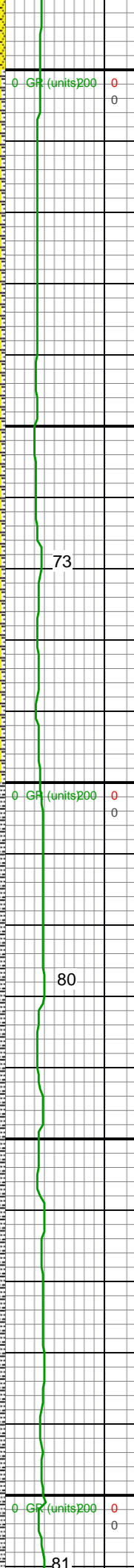
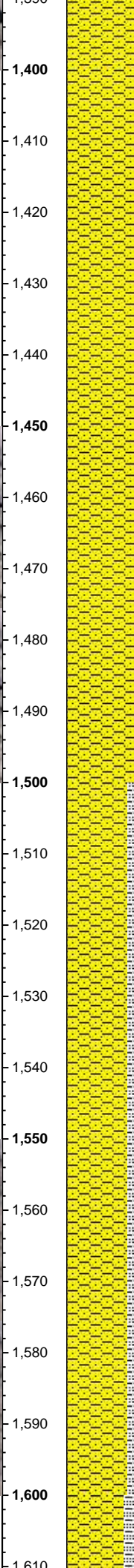
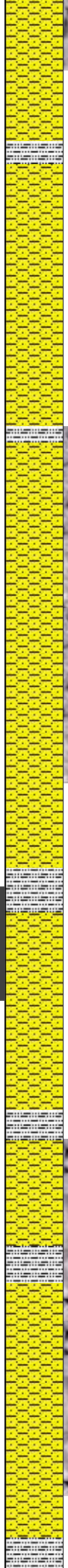
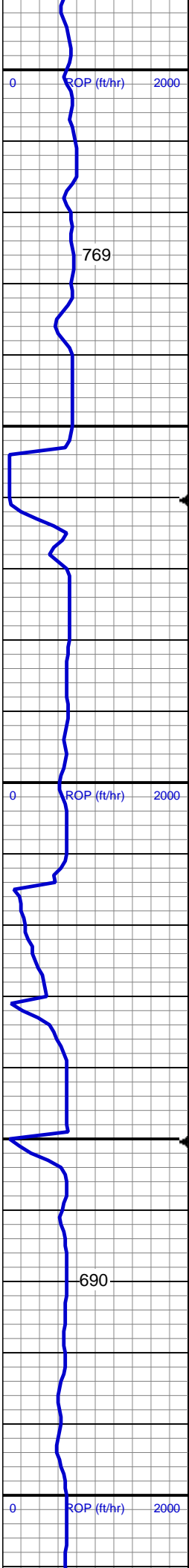
MD: 1,207'  
Inclination: 0.97 °  
Azimuth: 280.56 °  
TVD: 1,206.93'  
VS: -5.81'

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

MD: 1,309'  
Inclination: 1.06 °  
Azimuth: 282.67 °  
TVD: 1,308.91'  
VS: -7.45'

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

105u  
C1: 100.0%  
C2: 0.0%  
C3: 0.0%  
C4: 0.0%



MD: 1,402'  
Inclination: 0.88 °  
Azimuth: 256.3 °  
TVD: 1,401.9'  
VS: -8.94'

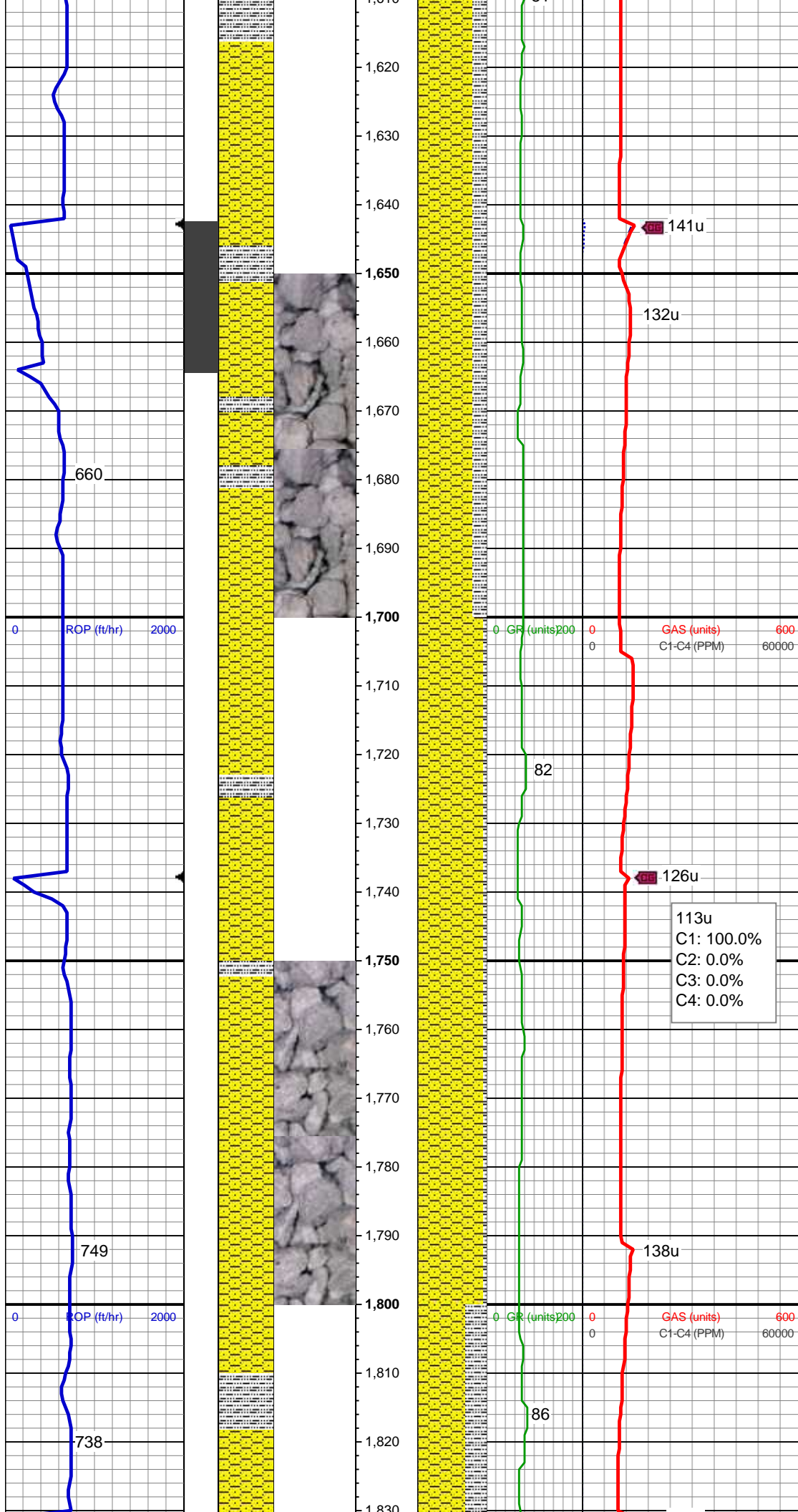
SHY SS: lt-med gy, sft-frn, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks, tr glauc, SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb plty, gritty, abnt cly

MD: 1,494'  
Inclination: 0.88 °  
Azimuth: 253.84 °  
TVD: 1,493.89'  
VS: -10.35'

Mud Wt: 8.5 / 28 Vis

SHY SS: lt-med gy, sft-frn, 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: 1,589'  
Inclination: 2.99 °  
Azimuth: 308.16 °  
TVD: 1,588.83'  
VS: -12.64'



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 glauc, SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb plty, gritty, abnt cly

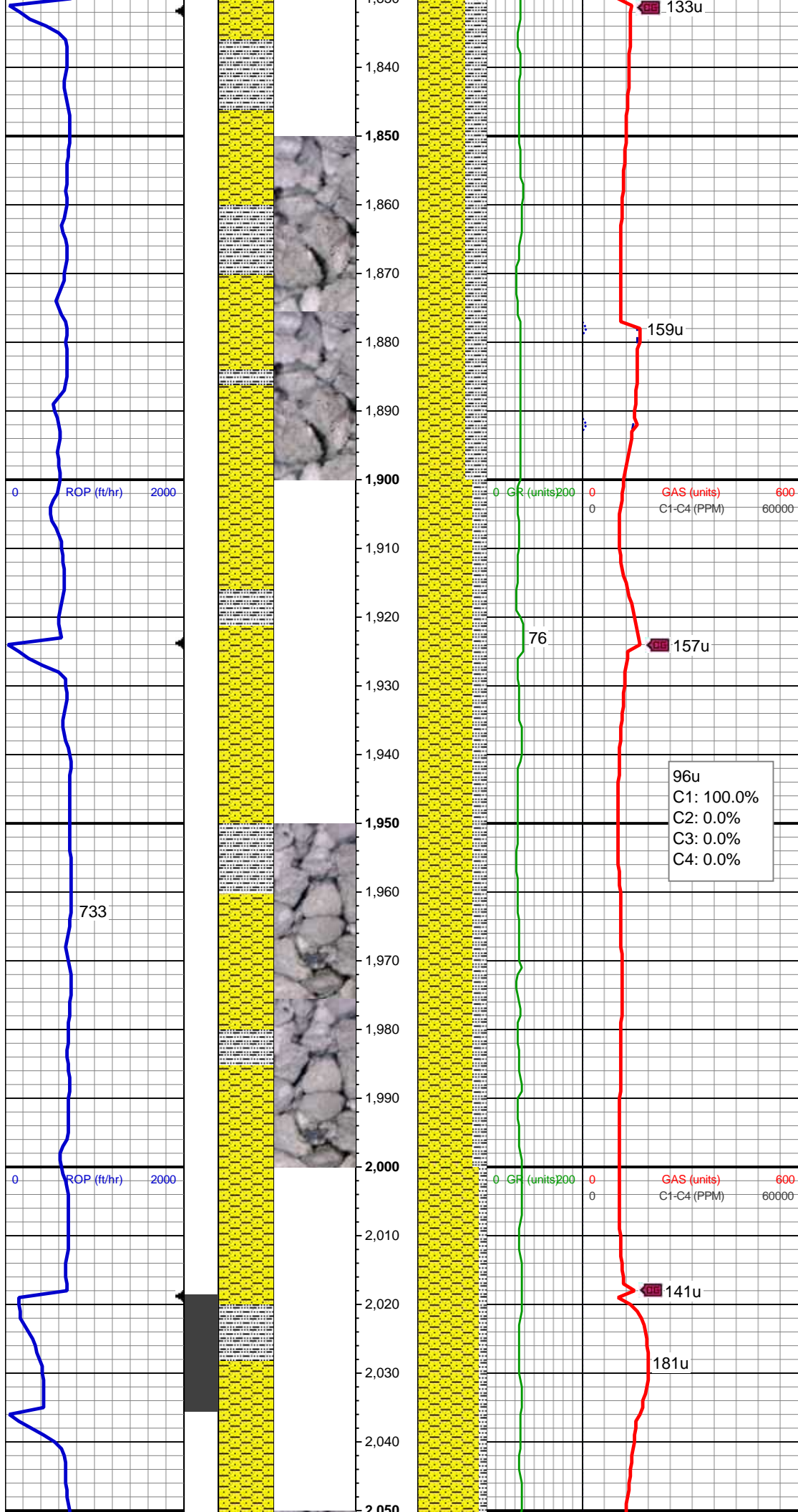
MD: 1,682'  
Inclination: 6.77 °  
Azimuth: 325.39 °  
TVD: 1,681.48'  
VS: -16.2'

Mud Wt: 8.5 / 28 Vis

SHY SS: lt-med gy, sft-firm, vf gr-f gr, rnd - 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: 1,774'  
Inclination: 6.42 °  
Azimuth: 319.41 °  
TVD: 1,772.88'  
VS: -20.61'





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: 1,868'  
Inclination: 6.16 °  
Azimuth: 314.84 °  
TVD: 1,866.31'  
VS: -25.75'

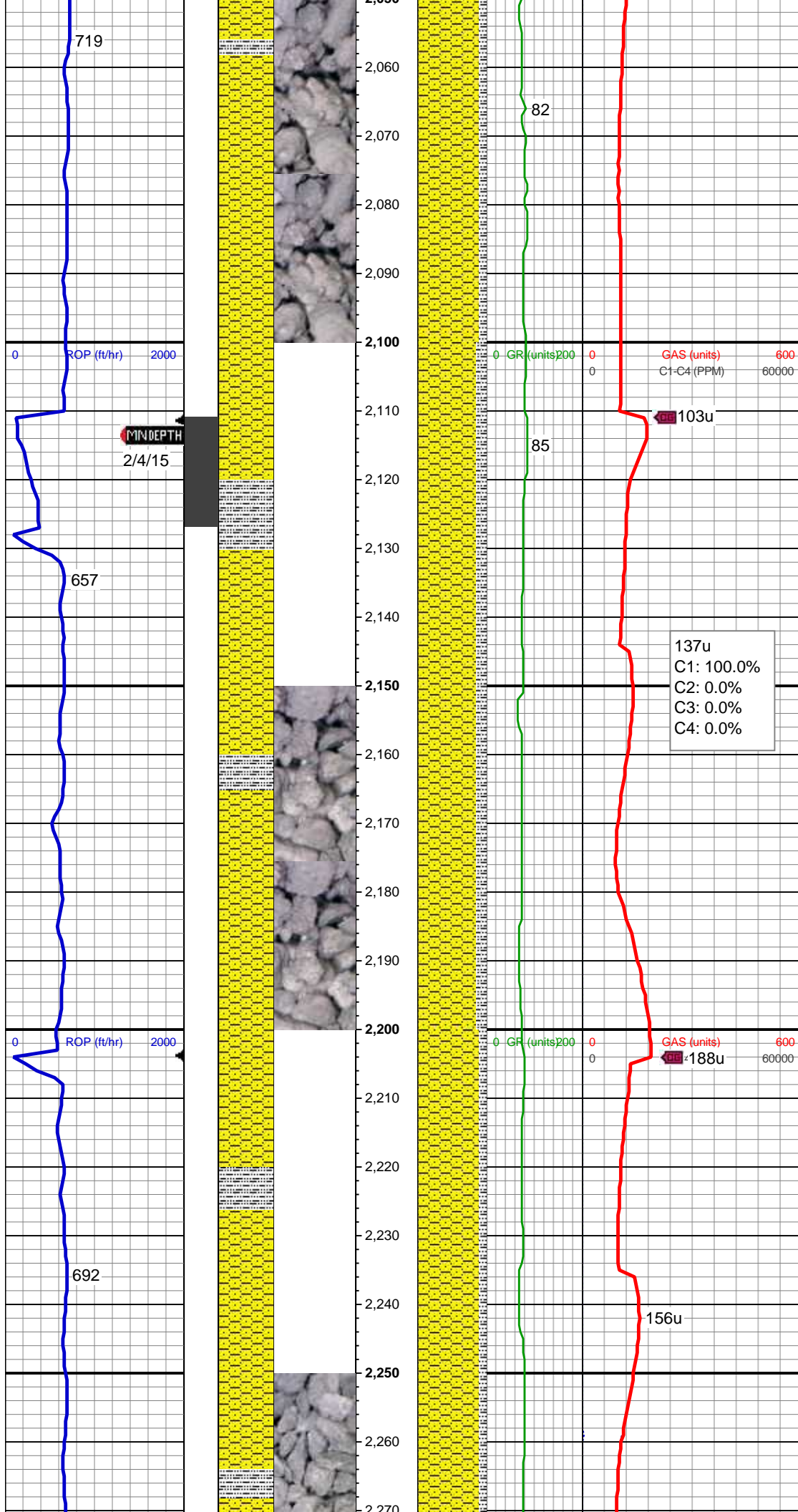
SHY SS: lt-med gy, sft frm, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks, SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb plty, gritty, abnt cly

MD: 1,960'  
Inclination: 5.36 °  
Azimuth: 313.26 °  
TVD: 1,957.85'  
VS: -30.78'

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: 2,053'  
Inclination: 7.47 °  
Azimuth: 326.27 °





TVD: 2,050.26'  
VS: -35.36'

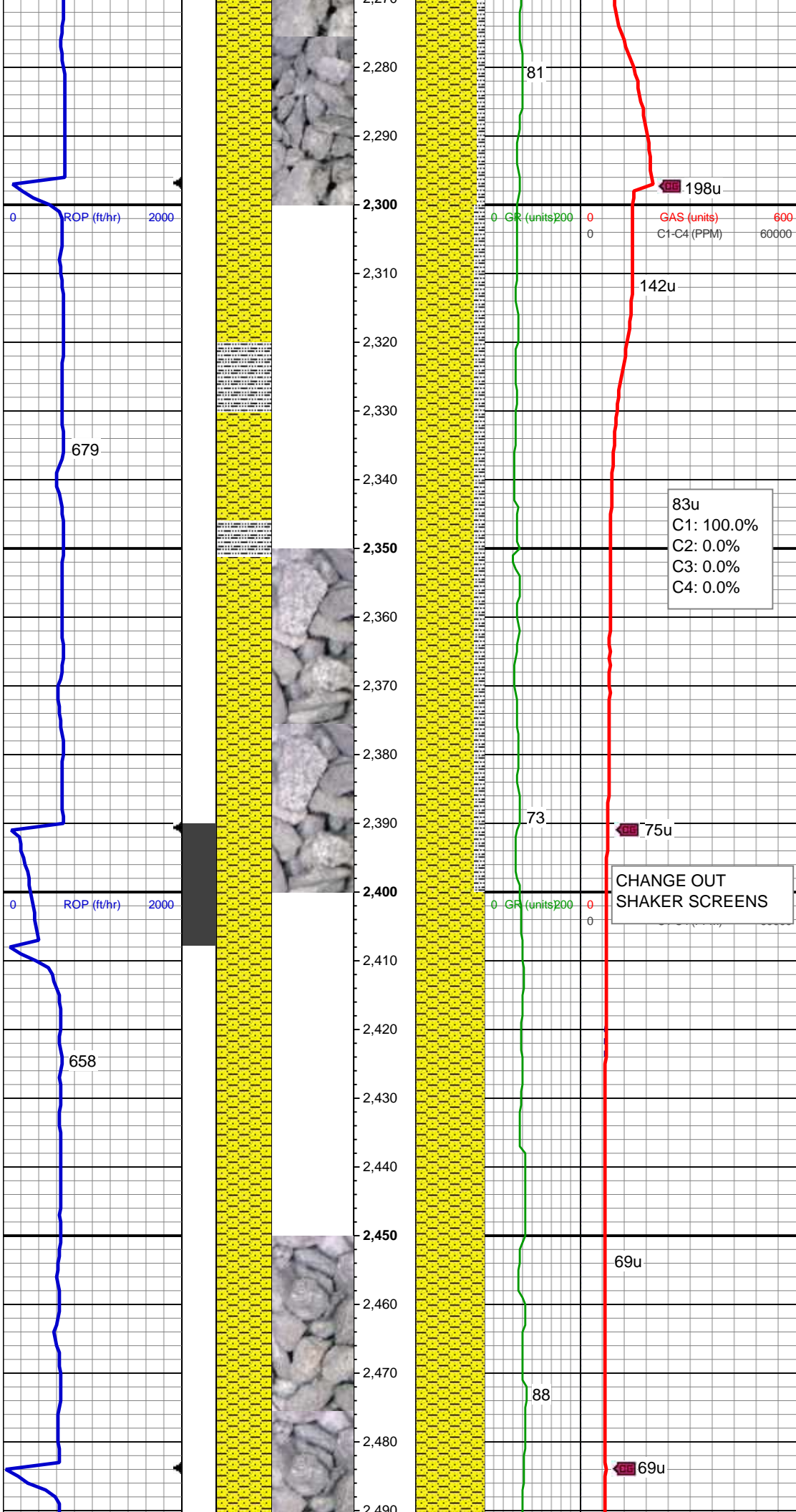
Mud Wt: 8.5 / 28 Vis

MD: 2,146'  
Inclination: 10.02 °  
Azimuth: 320.99 °  
TVD: 2,142.18'  
VS: -41.08'

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: 2,240'  
Inclination: 9.85 °  
Azimuth: 315.02 °  
TVD: 2,234.77'  
VS: -48.96'

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, abnt cly

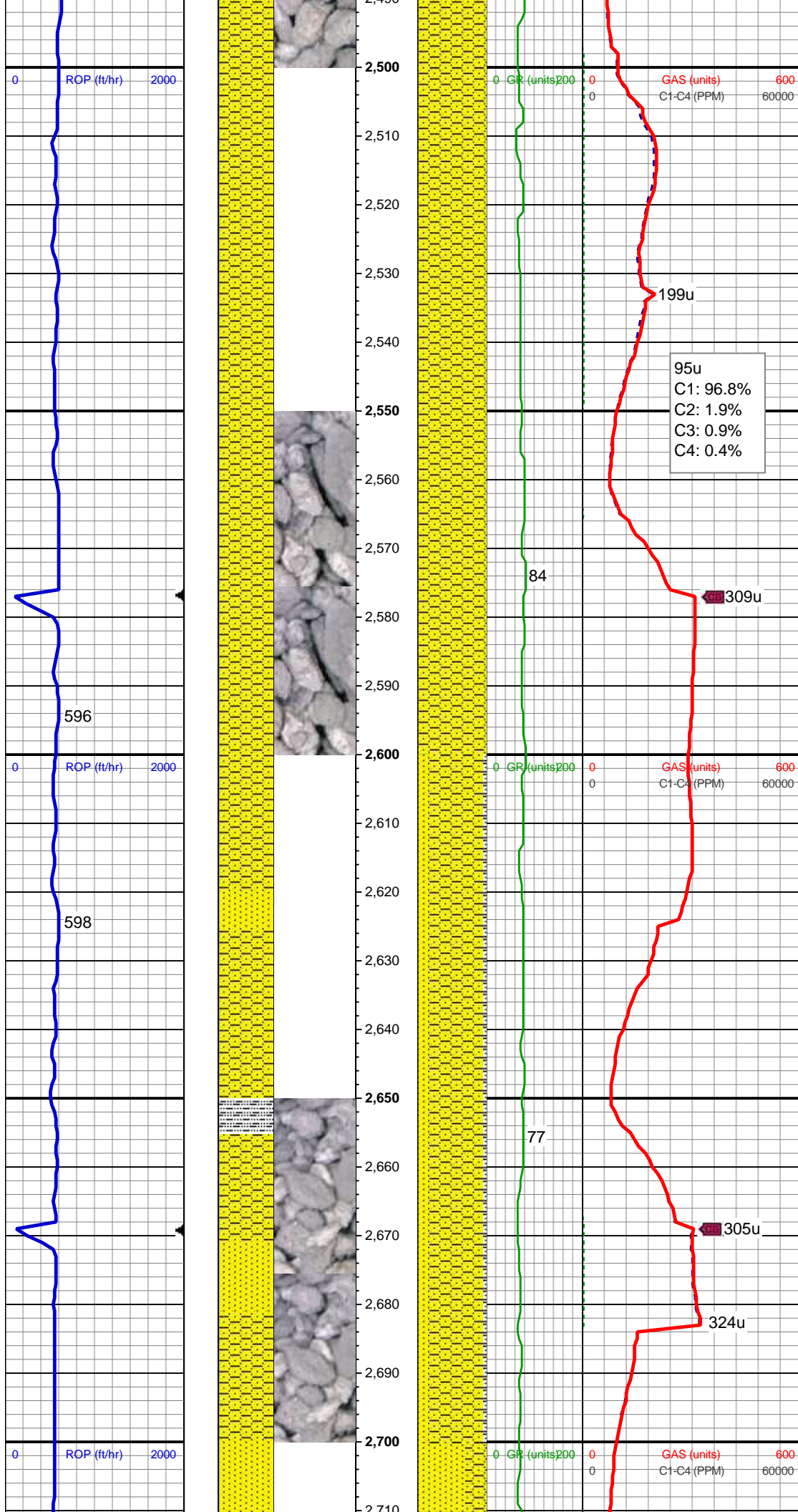


MD: 2,332'  
Inclination: 9.5 °  
Azimuth: 315.89 °  
TVD: 2,325.46'  
VS: -57.09'

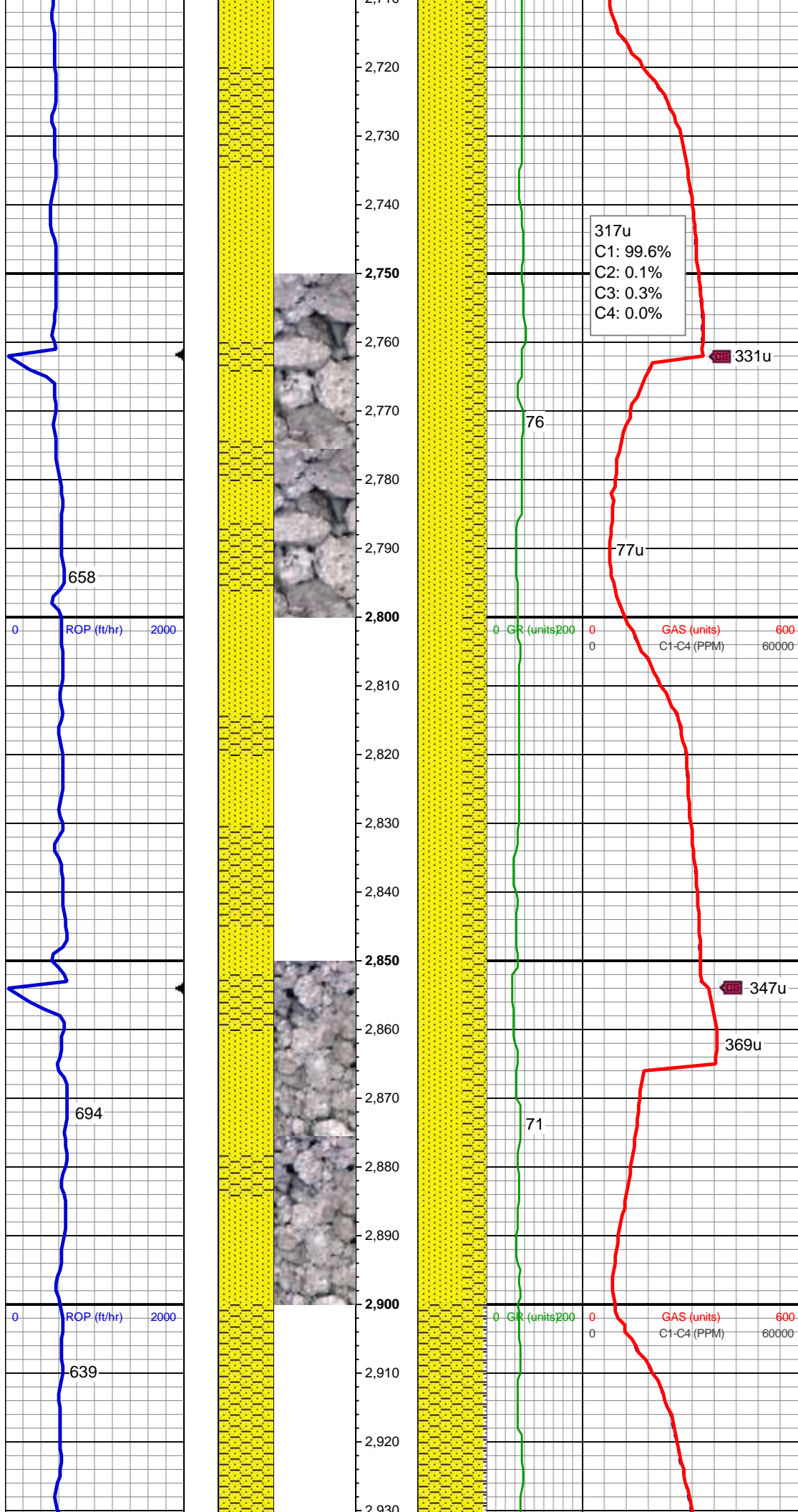
SHY SS: lt-med gy, sft-firm, vf gr-f gr, sb  
ang - sb rnd, mod w srt, arg cmt, sl calc,  
carb flks, tr glauc, SLTY SH: lt-dk gy,  
sft-mod frm, sb blkly-sb plty, gritty, abnt  
cly

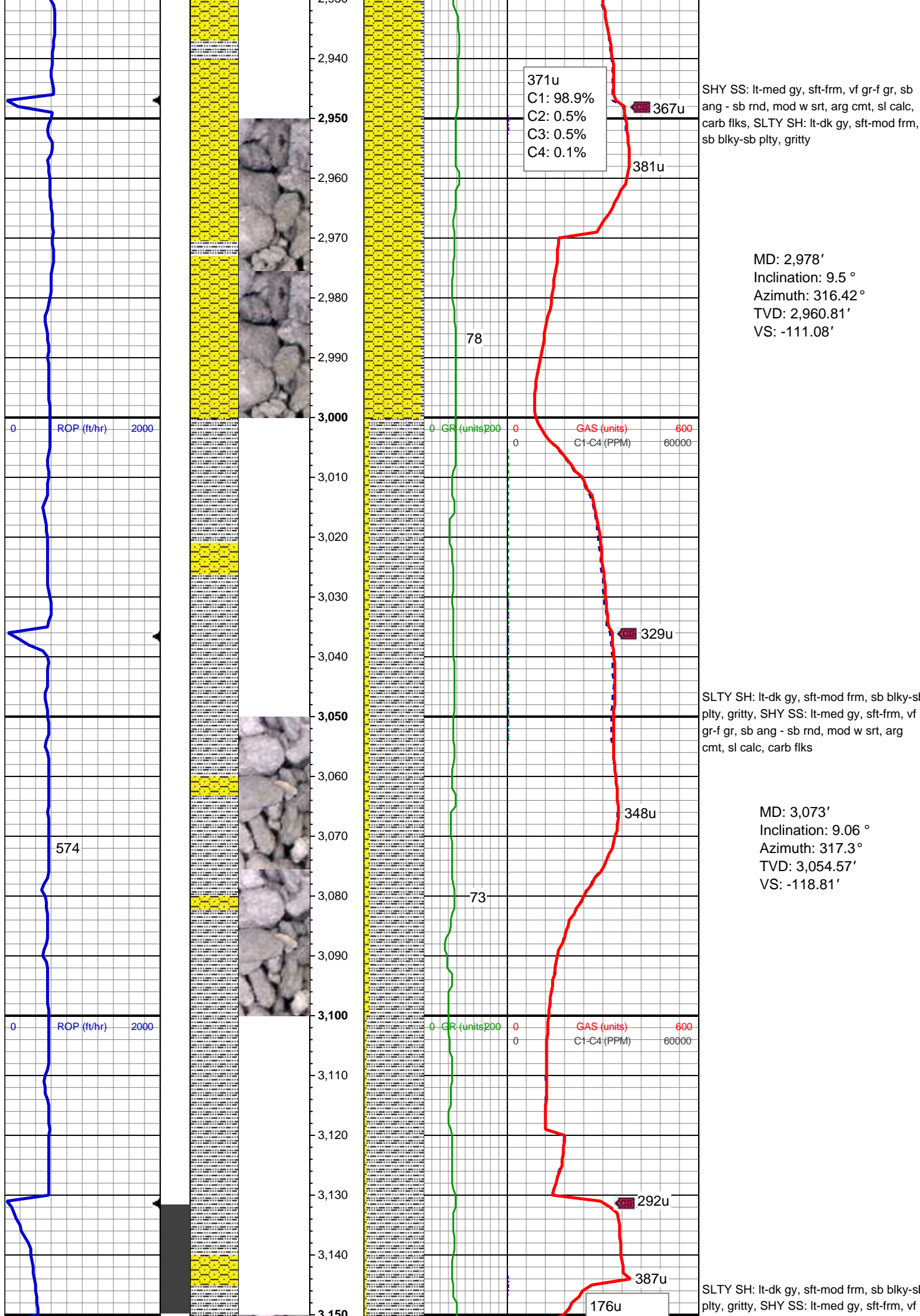
MD: 2,424'  
Inclination: 11.26 °  
Azimuth: 323.98 °  
TVD: 2,415.95'  
VS: -64.56'

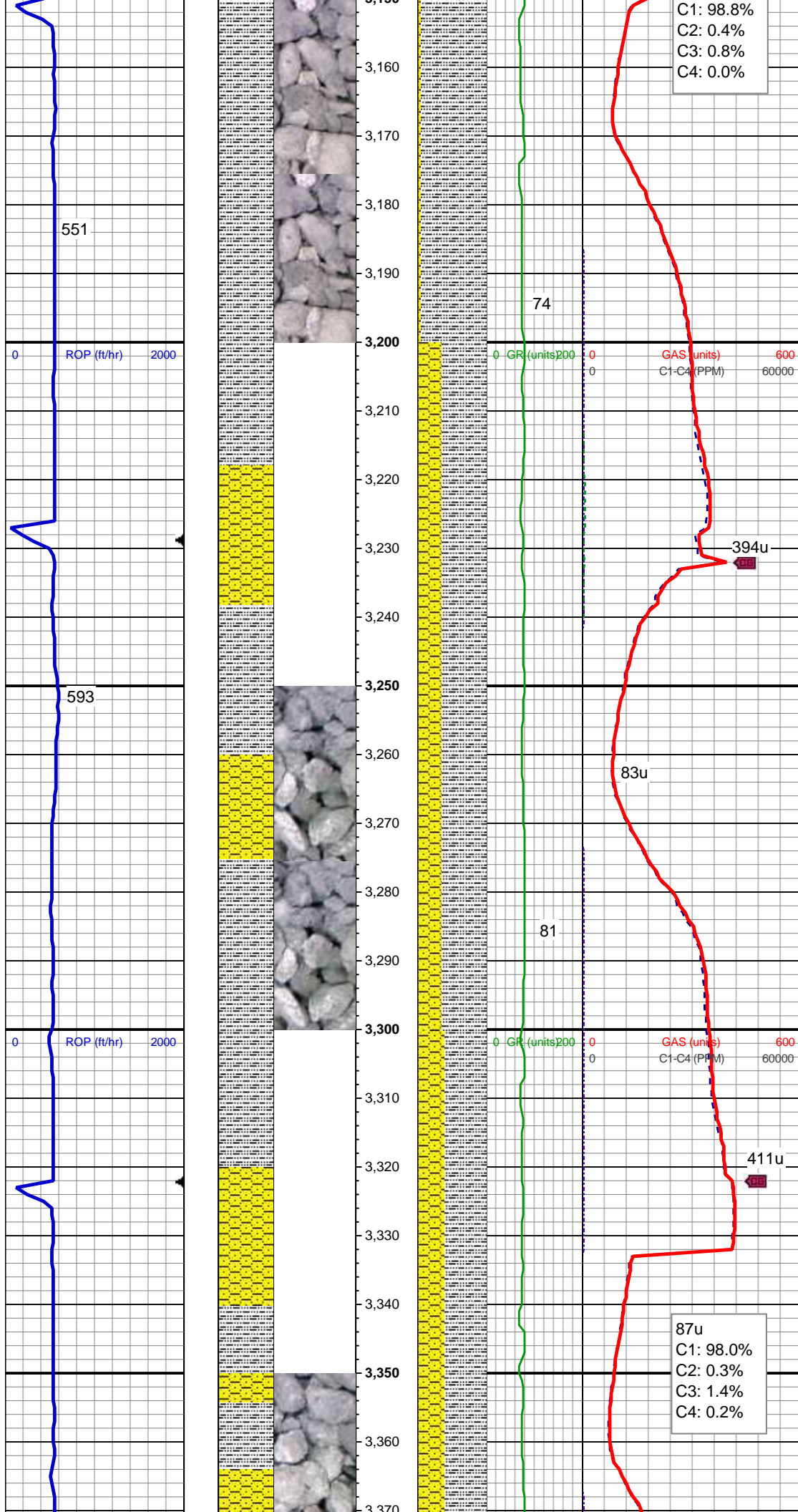
SHY SS: lt-med gy, sft-firm, vf gr-f gr, sb  
ang - sb rnd, mod w srt, arg cmt, sl calc,  
carb flks











gr-f gr, sb ang - sb rnd, mod w srt, arg  
cmt, sl calc, carb flks

MD: 3,167'  
Inclination: 12.31 °  
Azimuth: 320.29 °  
TVD: 3,146.93'  
VS: -127.03'

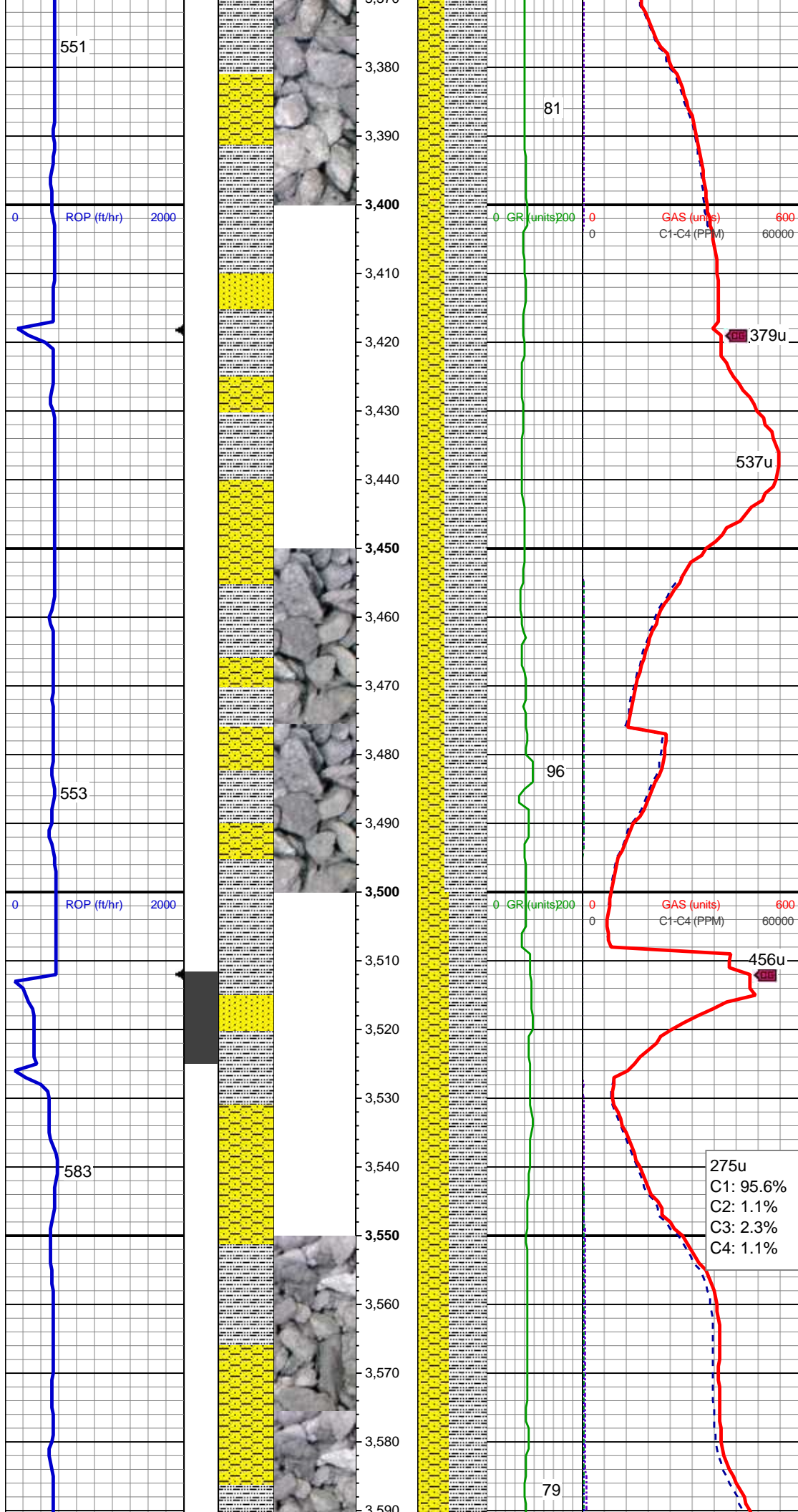
SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb  
plty, gritty, SHY SS: lt-med gy, sft-frm, vf  
gr-f gr, sb ang - sb rnd, mod w srt, arg  
cmt, sl calc, carb flks

MD: 3,261'  
Inclination: 11.34 °  
Azimuth: 318.71 °  
TVD: 3,238.93'  
VS: -135.95'

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, carb flks

MD: 3,355'  
Inclination: 9.5 °  
Azimuth: 316.95 °  
TVD: 3,331.38'  
VS: -144.26'





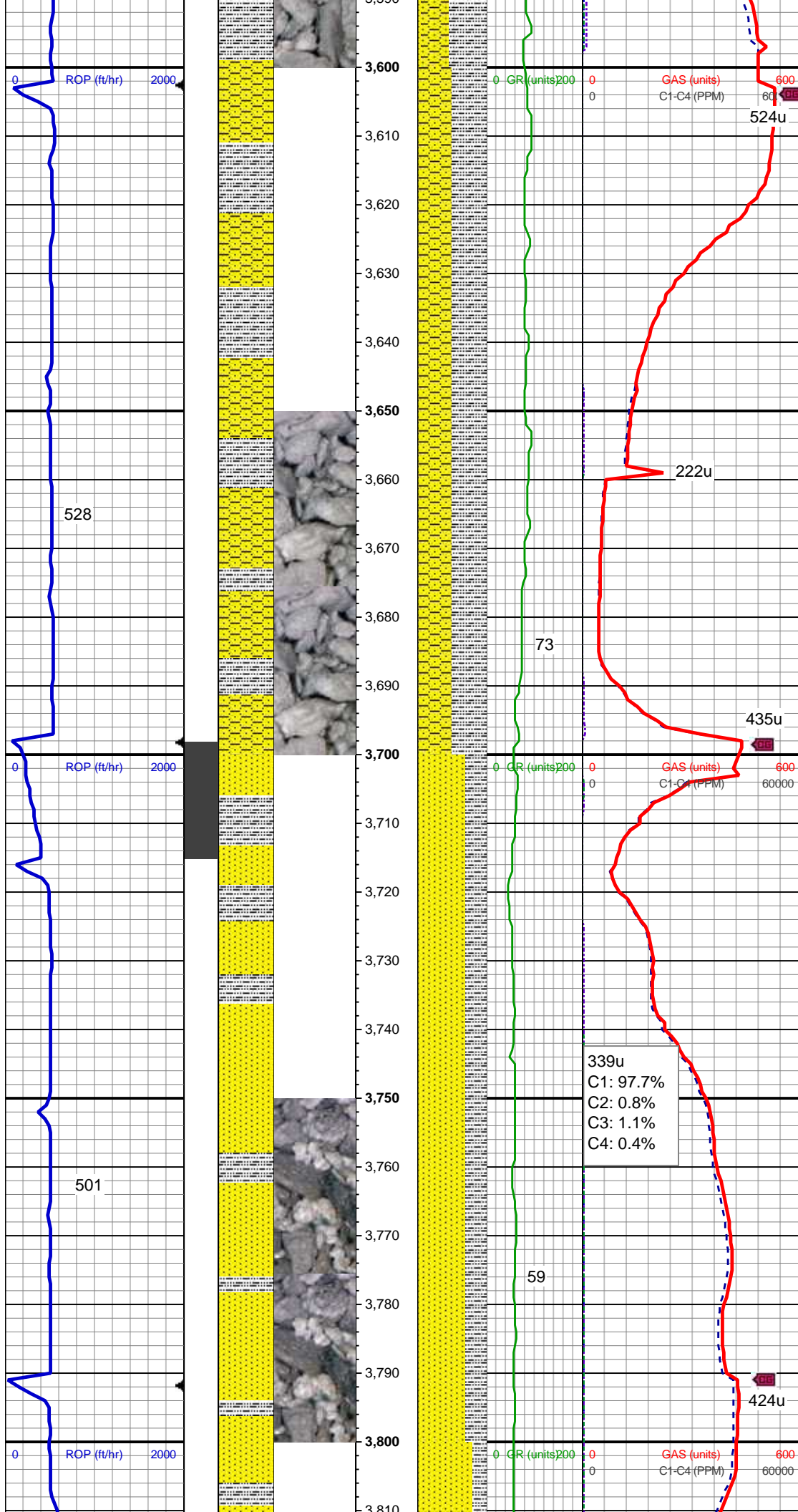
Mud Wt: 8.8 / 29 Vis

MD: 3,450'  
Inclination: 8.18 °  
Azimuth: 314.31 °  
TVD: 3,425.25'  
VS: -151.87'

SLTY SH: lt-dk gy, sft-mod frm, sb blkly-sb  
ply, gritty, 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

MD: 3,544'  
Inclination: 10.46 °  
Azimuth: 310.27 °  
TVD: 3,518'  
VS: -160.62'

SLTY SH: lt-dk gy, sft-mod frm, sb blkly-sb  
ply, gritty, 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



MD: 3,639'  
Inclination: 9.15 °  
Azimuth: 305.7 °  
TVD: 3,611.61'  
VS: -170.79'

SLTY SH: lt-dk gy, sft-mod frm, sb blk-y-sb  
ply, 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

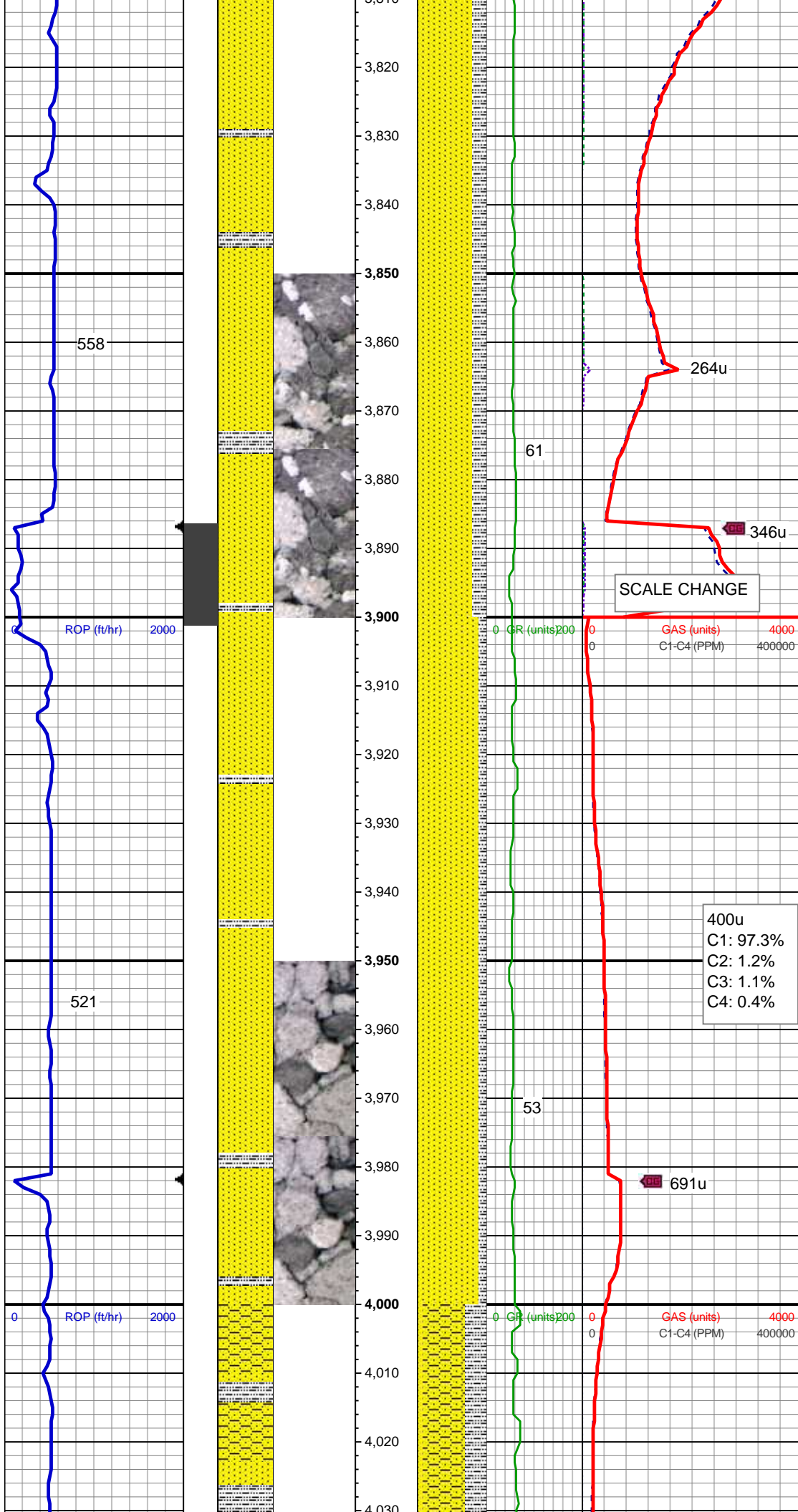
Mud Wt: 8.9 / 28 Vis

MD: 3,733'  
Inclination: 12.13 °  
Azimuth: 310.8 °  
TVD: 3,703.99'  
VS: -181.6'

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 ply, gritty, sl calc,  
tr SHY SS

339u  
C1: 97.7%  
C2: 0.8%  
C3: 1.1%  
C4: 0.4%





MD: 3,828'  
Inclination: 12.75 °  
Azimuth: 310.09 °  
TVD: 3,796.76'  
VS: -193.83'

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

SCALE CHANGE

Mud Wt: 8.8 / 28 Vis

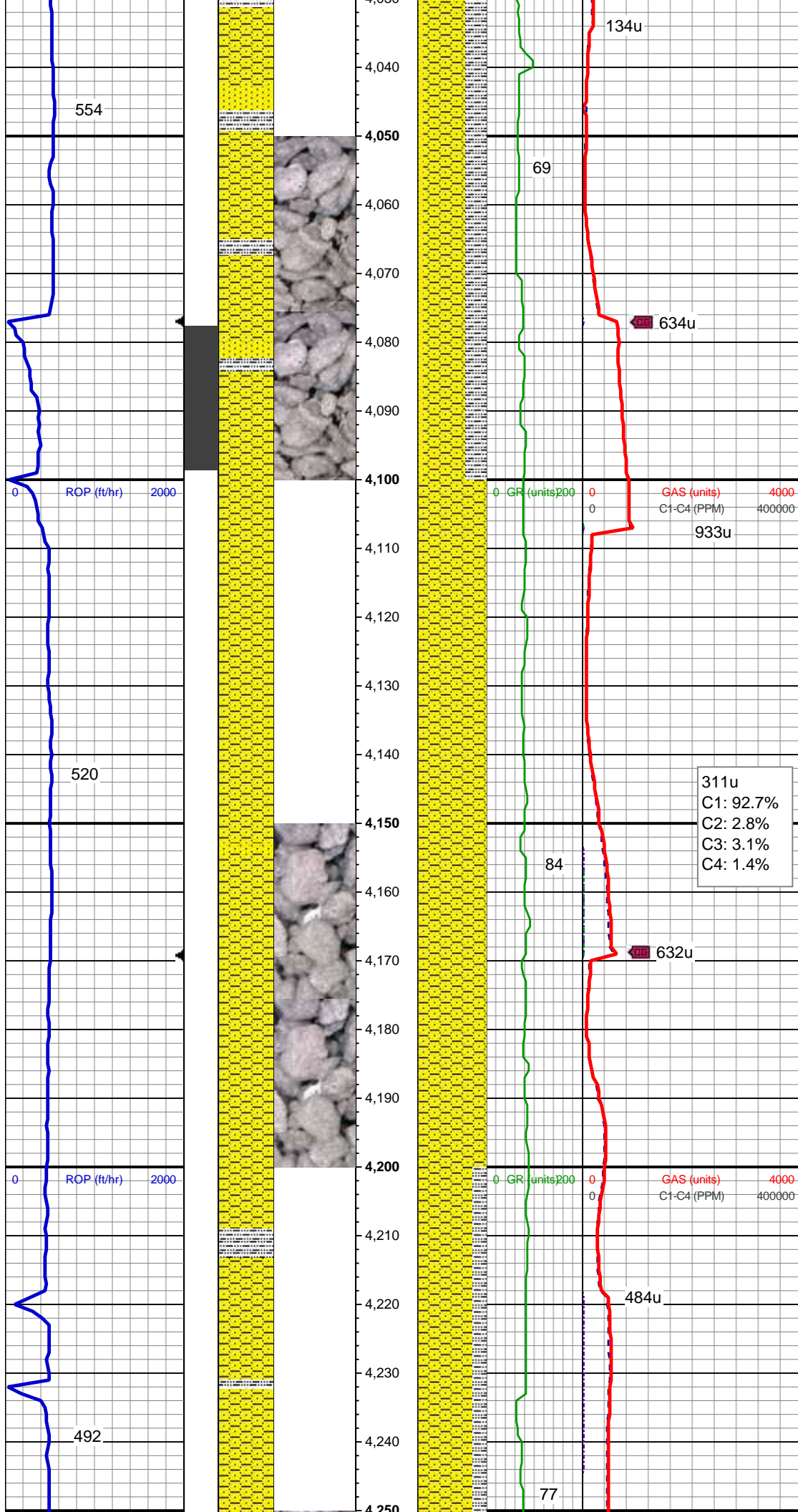
MD: 3,922'  
Inclination: 12.13 °  
Azimuth: 313.79 °  
TVD: 3,888.55'  
VS: -205.51'

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

400u  
C1: 97.3%  
C2: 1.2%  
C3: 1.1%  
C4: 0.4%

MD: 4,016'  
Inclination: 12.31 °  
Azimuth: 313.61 °  
TVD: 3,980.42'  
VS: -216.48'





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, 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

MD: 4,110'  
Inclination: 10.02 °  
Azimuth: 326.09 °  
TVD: 4,072.65'  
VS: -224.96'

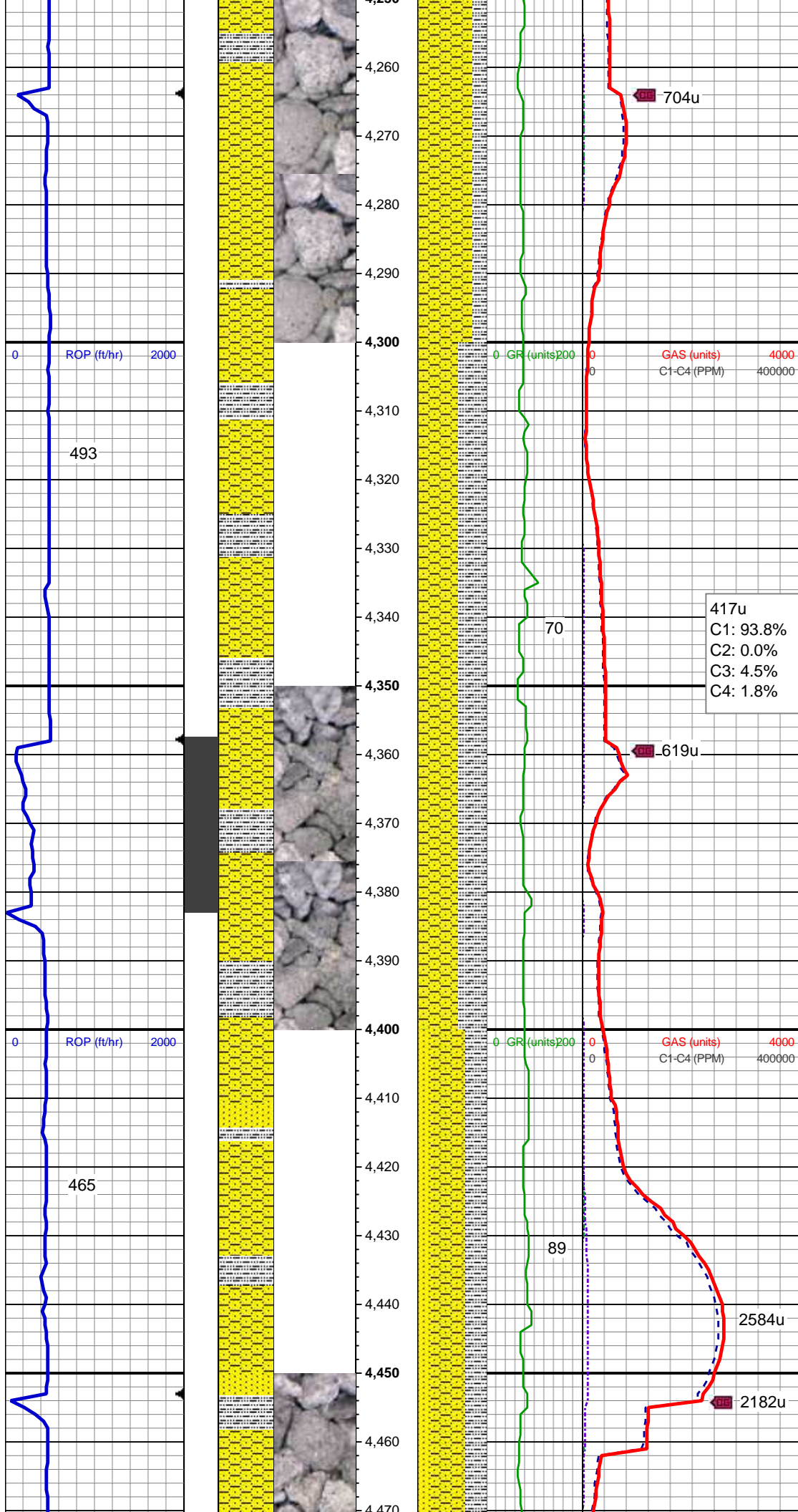
Mud Wt: 8.95 / 28 Vis

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

311u  
C1: 92.7%  
C2: 2.8%  
C3: 3.1%  
C4: 1.4%

MD: 4,205'  
Inclination: 9.06 °  
Azimuth: 325.56 °  
TVD: 4,166.33'  
VS: -230.68'

SHY SS: lt-med gy, s&p ip, sft-frn, 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 blkly-sb plty, gritty, sl calc, tr SS

MD: 4,299'  
Inclination: 8.18 °  
Azimuth: 324.68 °  
TVD: 4,259.27'  
VS: -235.96'

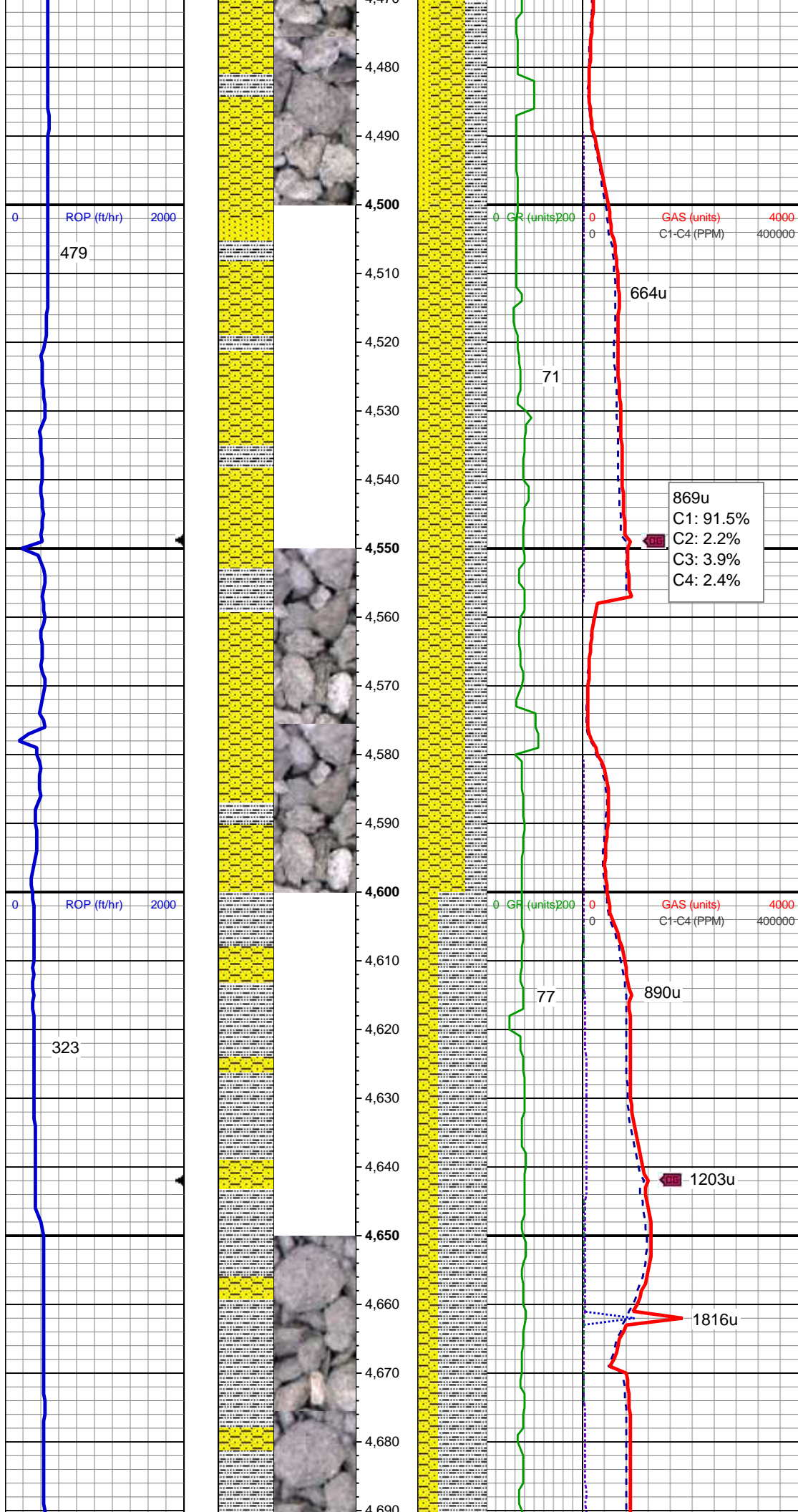
SHY SS: lt-med gy, s&p ip, sft-frm, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks, tr cal, SLTY SH: lt-dk gy, sft-mod frm, sb blkly-sb plty, gritty, sl calc, tr SS

MD: 4,394'  
Inclination: 10.73 °  
Azimuth: 322.57 °  
TVD: 4,352.97'  
VS: -242.22'

Mud Wt: 9.25 / 29 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, SLTY SH: lt-dk gy, sft-mod frm, sb blkly-sb plty, gritty, sl calc, 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





MD: 4,489'  
Inclination: 10.29 °  
Azimuth: 320.64 °  
TVD: 4,446.38'  
VS: -249.69'

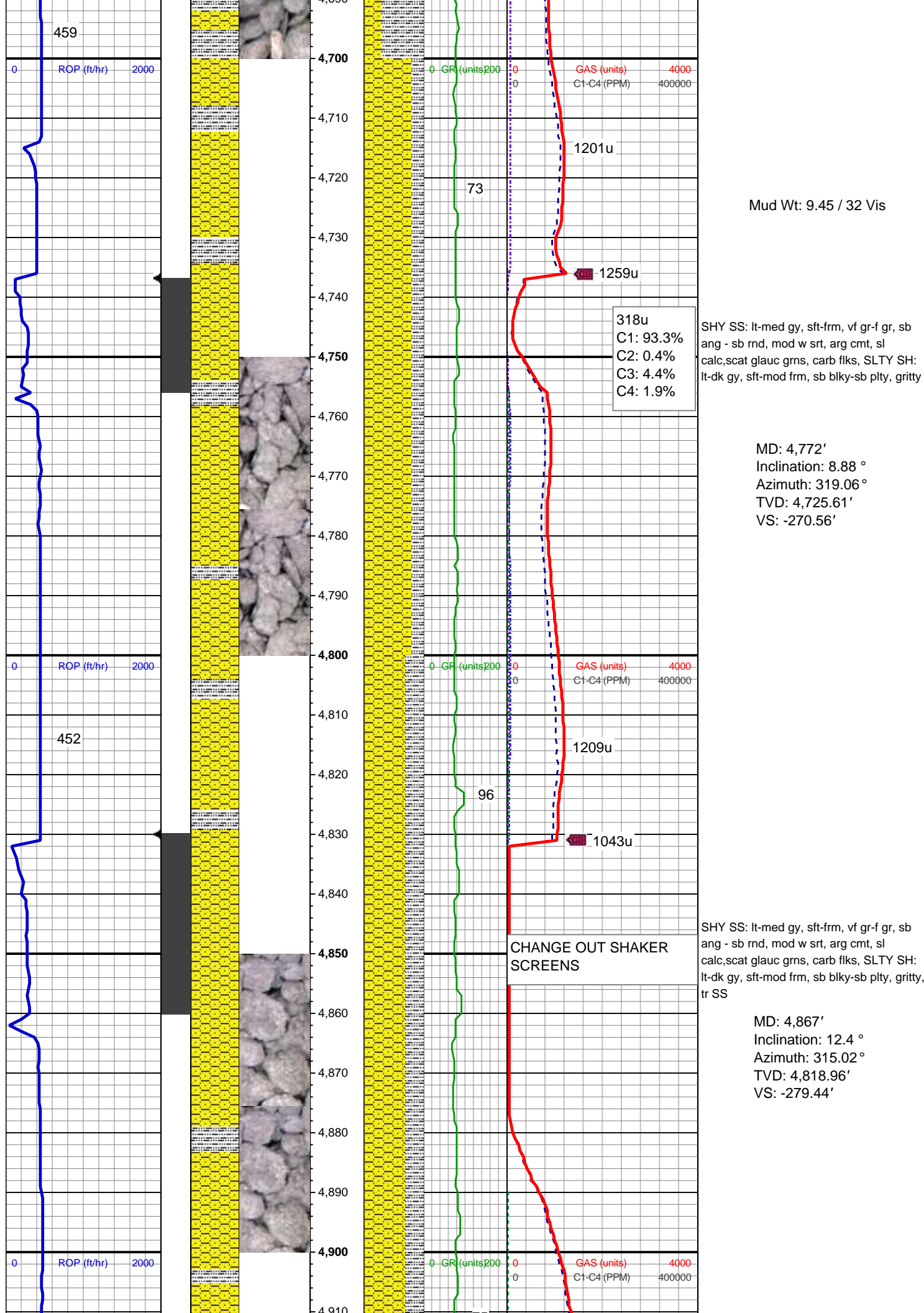
SHY SS: lt-med gy, s&p ip, sft-frm, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, carb flks, tr cal, SLTY SH: lt-dk gy, sft-mod frm, sb blkly-sb plty, gritty, sl calc, tr SS

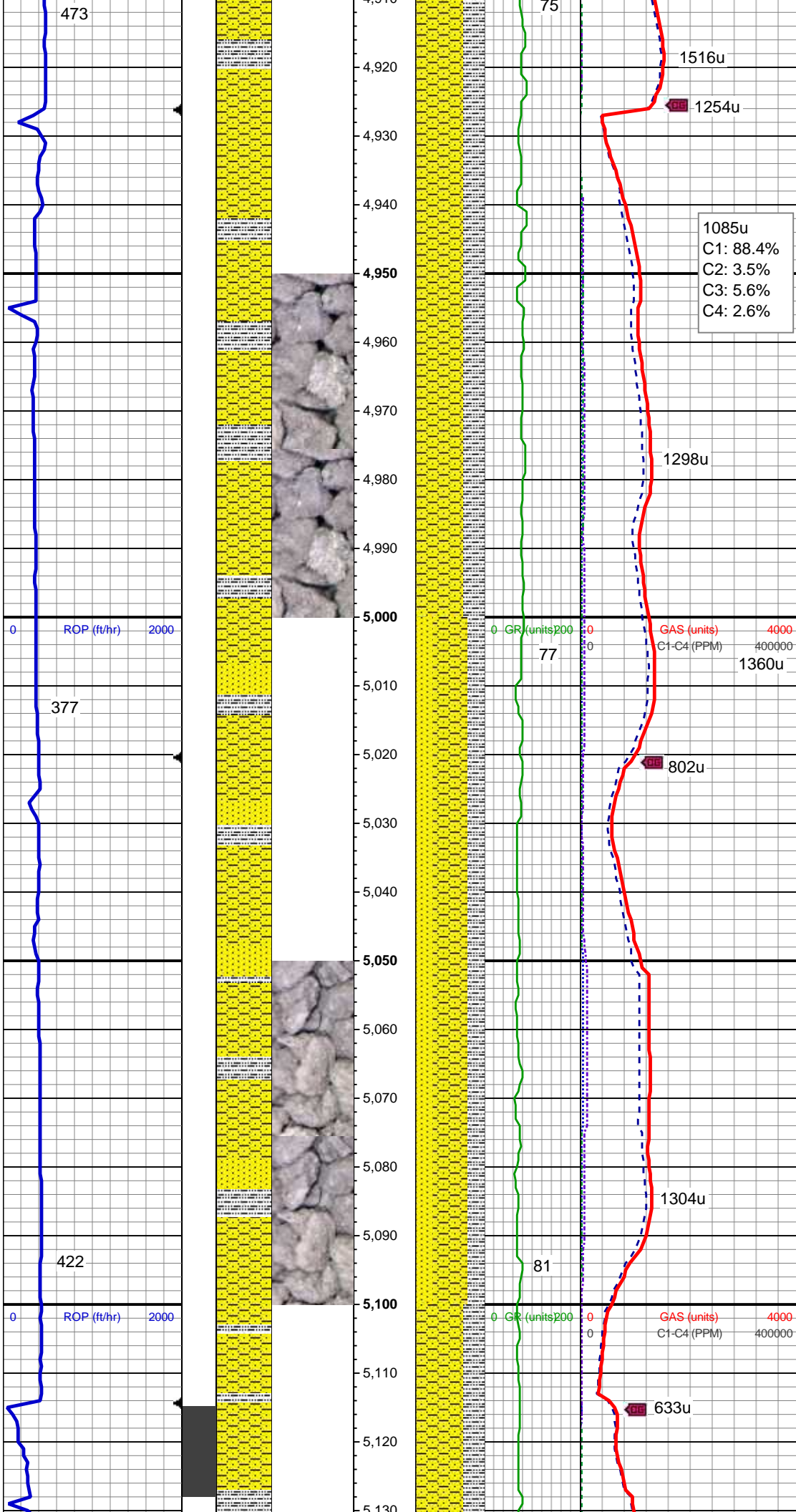
MD: 4,583'  
Inclination: 9.85 °  
Azimuth: 318.71 °  
TVD: 4,538.93'  
VS: -257.26'

SLTY SH: lt-dk gy, sft-mod frm, sb blkly-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: 8.62 °  
Azimuth: 322.05 °  
TVD: 4,632.7'  
VS: -264.15'







SHY SS: lt-med gy, sft-firm, 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

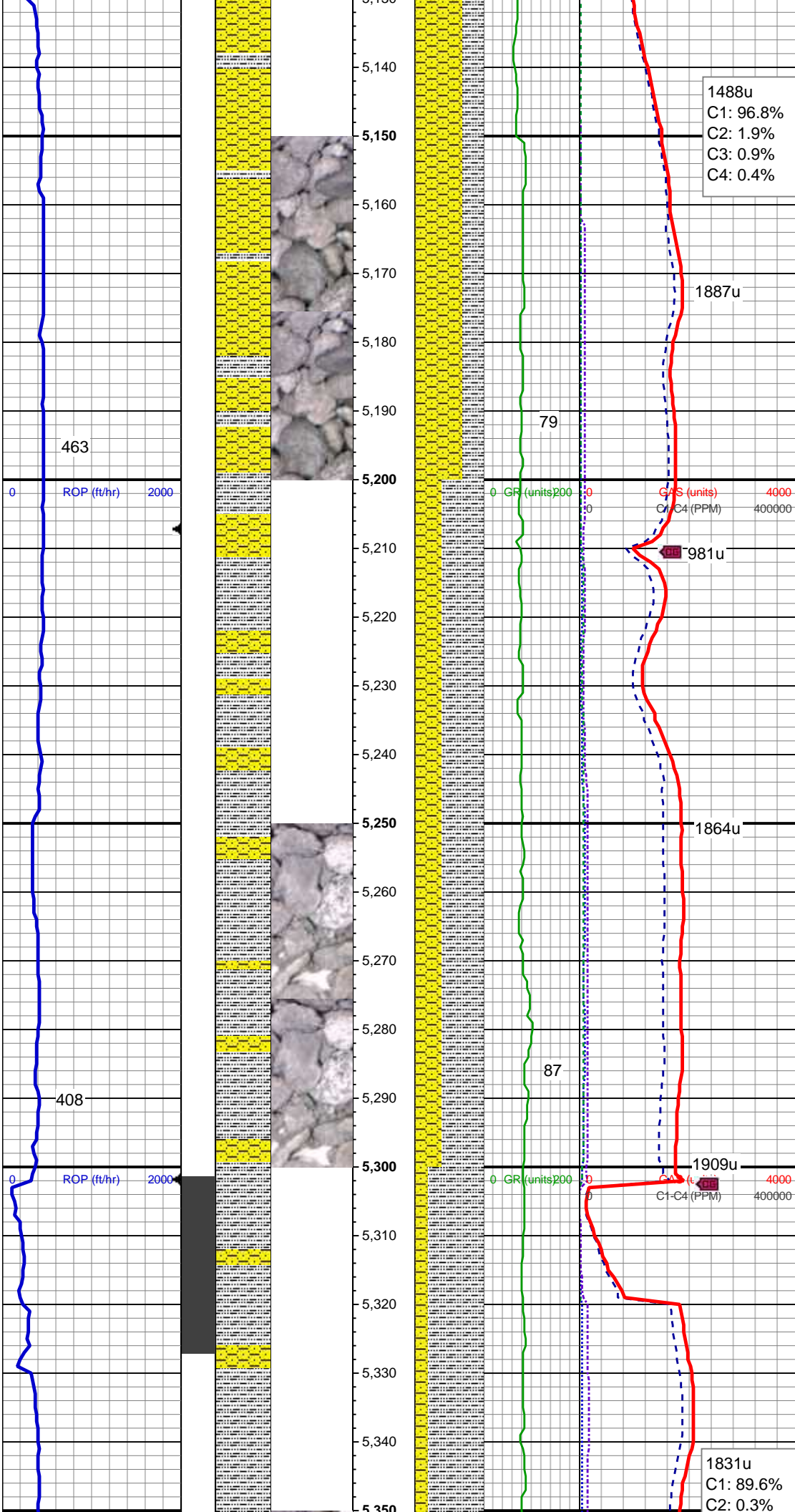
MD: 4,961'  
Inclination: 10.02 °  
Azimuth: 314.31 °  
TVD: 4,911.16'  
VS: -289.24'

Mud Wt: 9.40 / 32 Vis

SHY SS: lt-med gy, sft-firm, vf gr-f gr, sb ang - sb rnd, mod w srt, arg cmt, sl calc, SS: med - lt gy, s&P ip, unconcs, 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: 9.23 °  
Azimuth: 316.42 °  
TVD: 5,003.84'  
VS: -297.53'





MD: 5,149'  
Inclination: 10.55 °  
Azimuth: 313.26 °  
TVD: 5,096.44'  
VS: -306.18'

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: 9.40 / 32 Vis

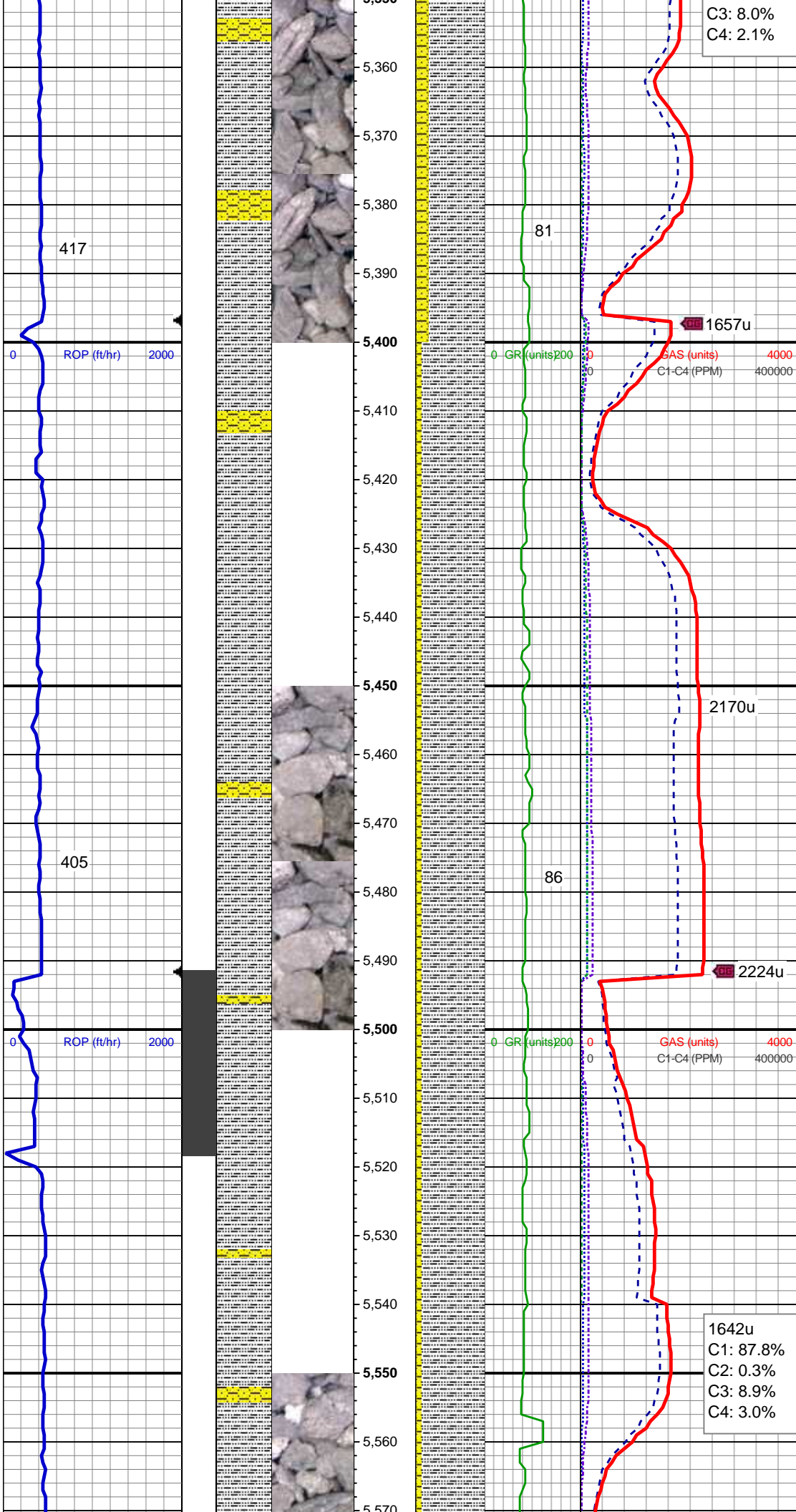
MD: 5,244'  
Inclination: 8.44 °  
Azimuth: 314.66 °  
TVD: 5,190.13'  
VS: -314.78'

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: 9.94 °  
Azimuth: 320.64 °  
TVD: 5,282.92'  
VS: -322.1'

SLTY SH: med-dk gy/ occ lt gy, frm-sl sft, sub blk-v-sub plty, rthv-sltv tex, SHY SS:





off wh-lt/med gy, occ s&p, vf-med gr, sb  
rd-sb ang, mod pors, arg-silic cmt,  
ply-mod srt

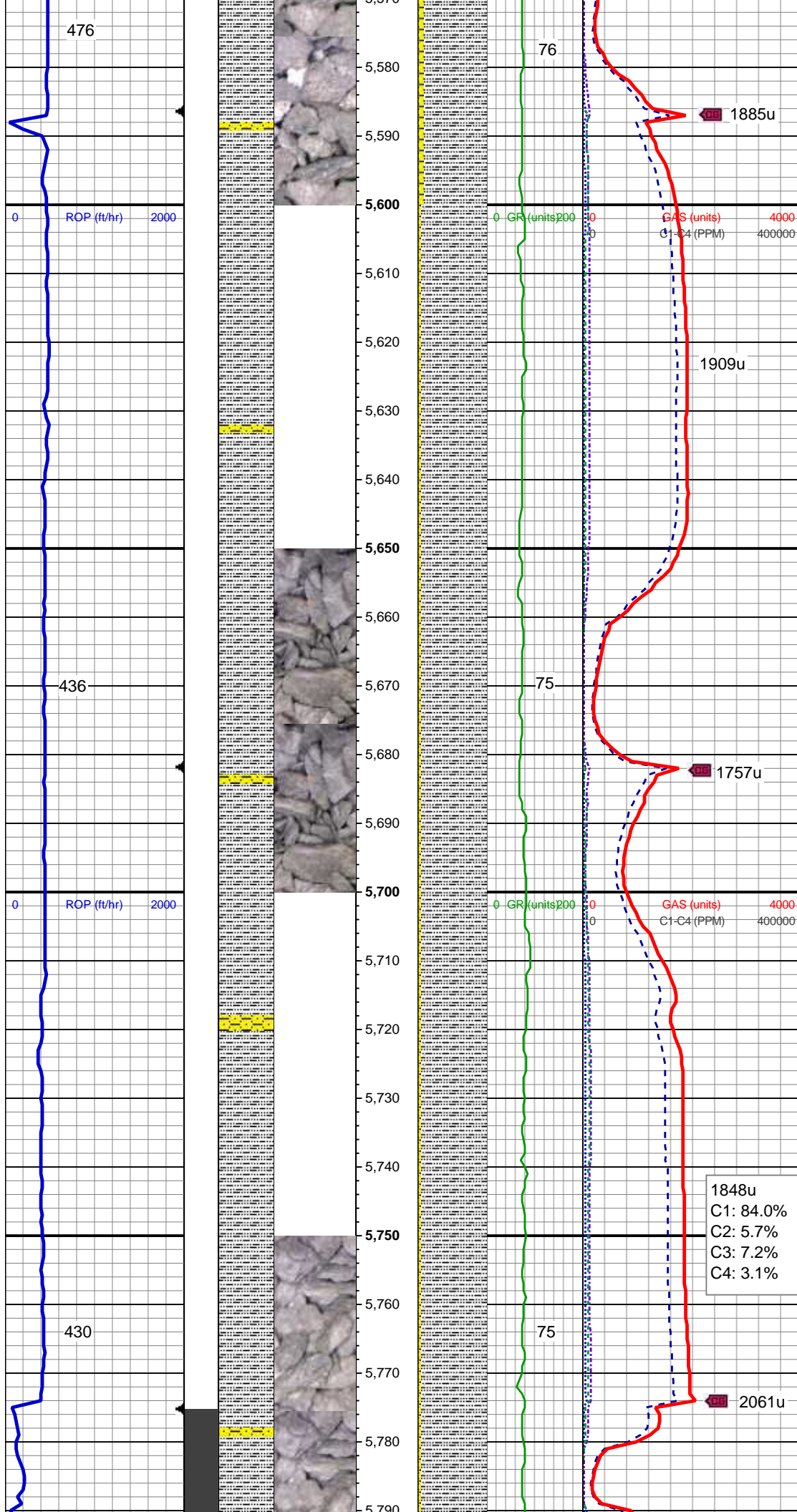
Mud Wt: 9.40 / 31 Vis

MD: 5,433'  
Inclination: 8.62 °  
Azimuth: 318.36 °  
TVD: 5,376.68'  
VS: -329.19'

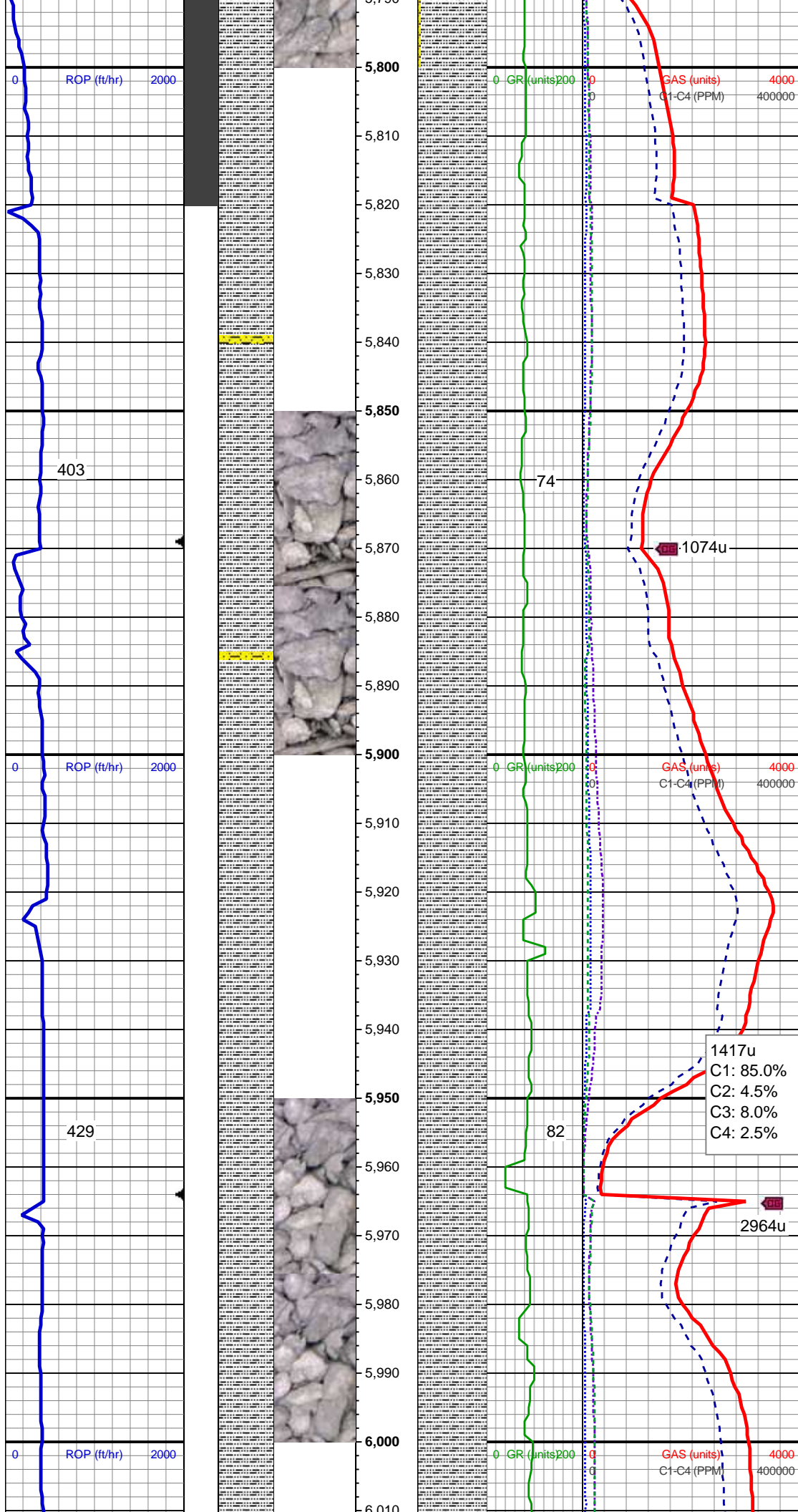
SLTY SH: med-dk gy/ occ lt gy, frm-sl sft,  
sub blkly-sub plty, rthy-sltly tex, SHY SS:  
off wh-lt/med gy, occ s&p, vf-med gr, sb  
rd-sb ang, mod pors, arg-silic cmt,  
ply-mod srt

MD: 5,528'  
Inclination: 11.52 °  
Azimuth: 323.63 °  
TVD: 5,470.21'  
VS: -336.41'

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-silic cmt,  
ply-mod srt







MD: 5,811'  
Inclination: 9.41 °  
Azimuth: 315.72 °  
TVD: 5,749.7'  
VS: -354.53'

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

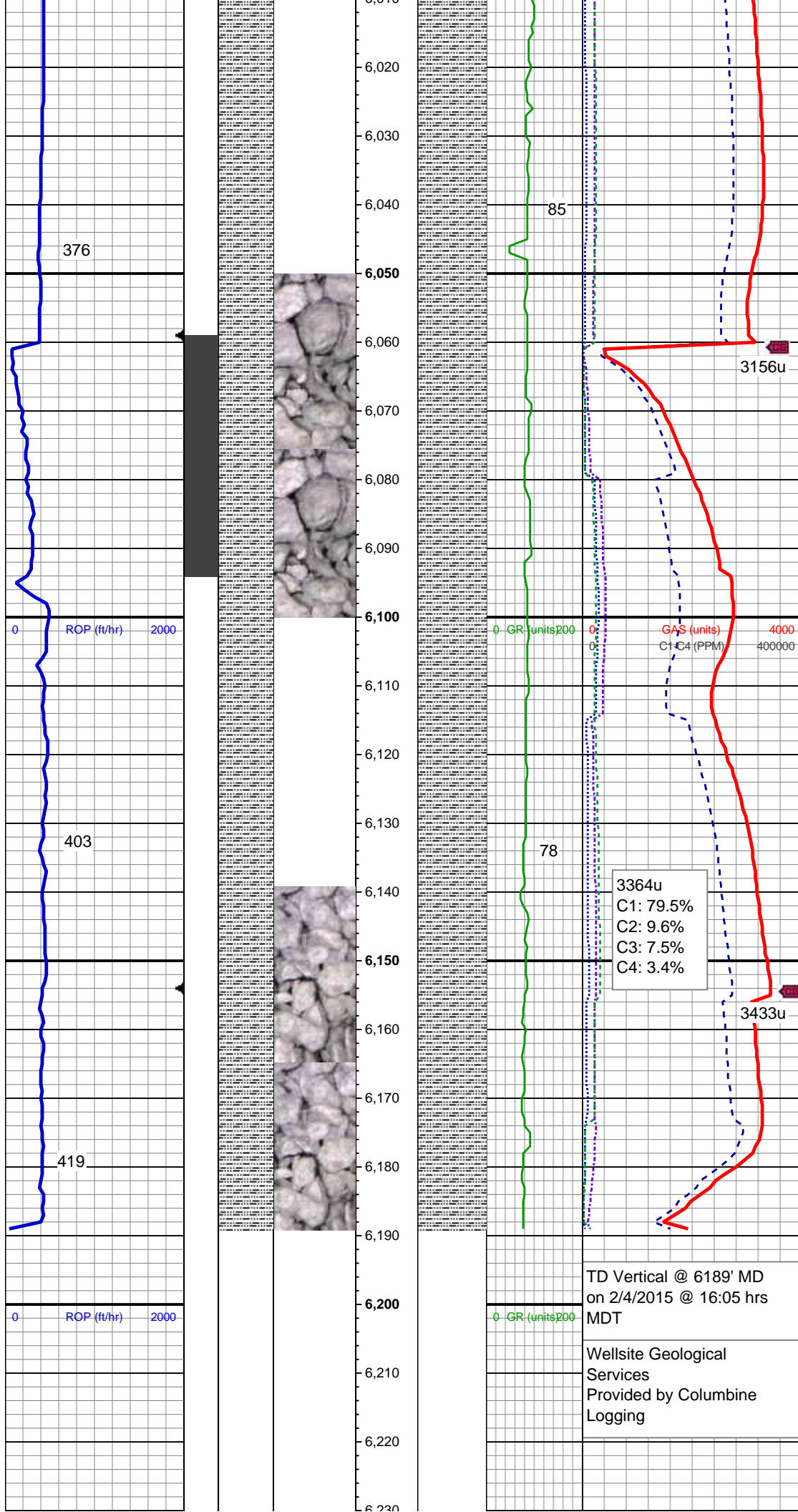
Mud Wt: 9.55 / 40 Vis

MD: 5,906'  
Inclination: 9.94 °  
Azimuth: 316.25 °  
TVD: 5,843.35'  
VS: -362.79'

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

MD: 6,000'  
Inclination: 8 °  
Azimuth: 315.89 °  
TVD: 5,936.2'  
VS: -370.35'





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

MD: 6,095'  
Inclination: 11.26 °  
Azimuth: 316.07 °  
TVD: 6,029.85'  
VS: -378.57'

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

Mud Wt: 9.55 / 40 Vis

MD: 6,189'  
Inclination: 8.97 °  
Azimuth: 322.22 °  
TVD: 6,122.38'  
VS: -386.4'

TD Vertical @ 6189' MD  
on 2/4/2015 @ 16:05 hrs  
MDT

Wellsite Geological  
Services  
Provided by Columbine  
Logging

See Corresponding Horizontal Log  
Reliance E23-69-1HN(HORZ)