

COLUMBINE LOGGING

Scale: 5" / 100'
Measured Depth Log

Well Name NCLP AA06-62-1AHNC

Location SEC5-T6N-R63W

State COLORADO

County WELD

Country USA

Rig Number H&P 322

API Number 05-123-39106

AFE # 141151

Region DJ BASIN

Field WATTENBERG

Spud Date 7/1/2014

Drilling Completed 7/10/2014

Surface Coordinates LAT: 40.51048°N
LONG: 104.45086°W
535' FSL
780' FEL

Bottom Hole Coordinates PROJECTED:
535' FSL
2360' FEL

Ground Elevation 4709'

K.B. Elevation 4733'

Logged Interval 1000' To 6082'

Total Depth 14502

Formation NIOBRARA 'C' CHALK

Type of Drilling Fluid MUD;WATER;POLY

Other Symbols

Oil Show

- ORGANIC
- PINPOINT
- DEAD
- EVEN
- QUESTIONABLE
- SPOTTED STAINING

Porosity

- E EARTHY
- FENESTRAL
- F FRACTURE
- X INTERCRYSTALLINE
- INTEROOLITIC
- MOLDIC

Engineering

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

- GAS SHOW
- 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
- CONNECTION GAS(vert)

Rounding

- ANGULAR
- ROUNDED
- SUBANG
- SUBRND

Textures

- BOUNDSTONE
- CHALKY
- CRYPTOXLN
- E EARTHY
- FINELYXLN
- GRAINSTONE

LITHOGRAPHIC

- MICROXLN
- MUDSTONE
- PACKSTONE
- WACKESTONE

Sorting

- MODERATE
- POOR
- WELL

Zone Color Coding

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

Accessories

Fossils

ALGAE
 AMPHIPORA
 BELEMNITE
 BIOCLASTIC
 BRACHIOPOD
 BRYOZOA
 CEPHALOPOD
 CORAL
 CRINOID
 ECHINOID
 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
 GYPSIFEROUS
 HEAVY MINERAL
 KAOLIN
 MARLSTONE
 MINERAL CRYSTALS
 NODULES
 PHOSPHATE PELLETS
 PYRITE
 SALT CAST
 SANDY
 SILICEOUS
 SILTY

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

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

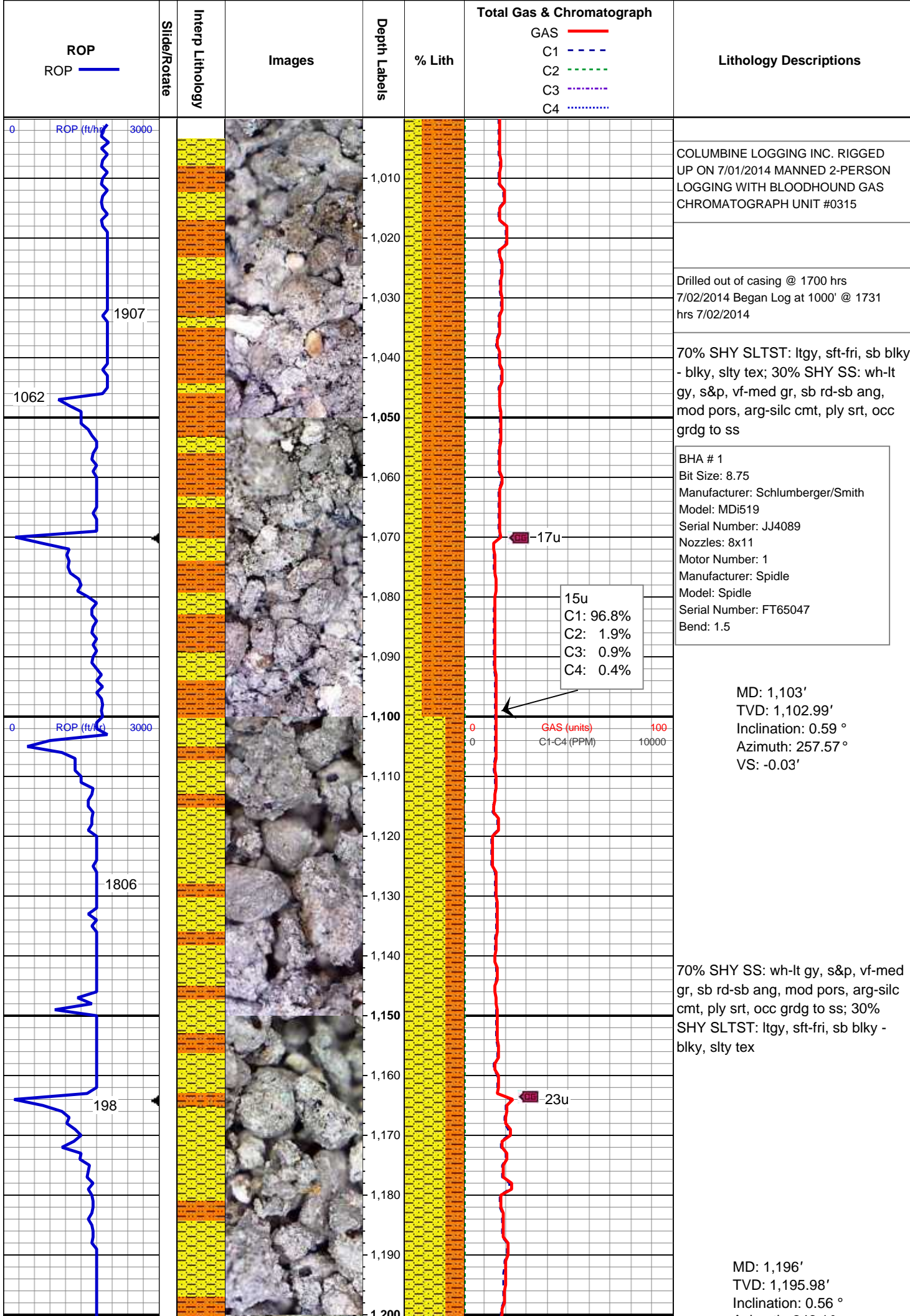
Address 1625 Broadway Suite 2200
Denver, CO 80202

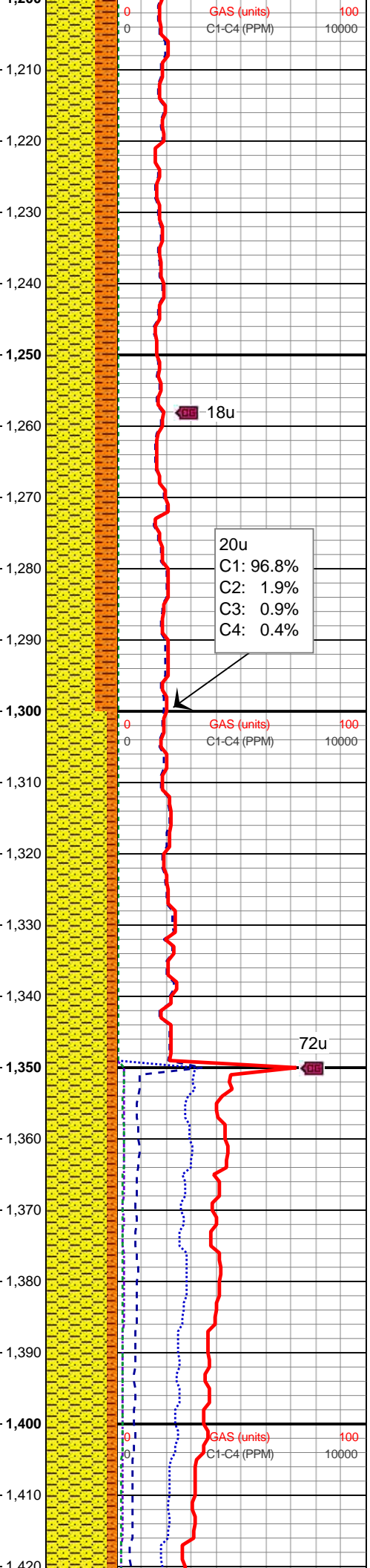
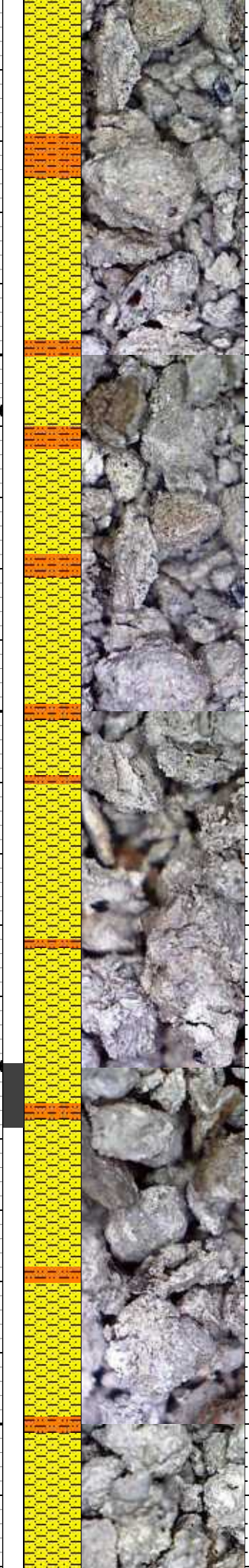
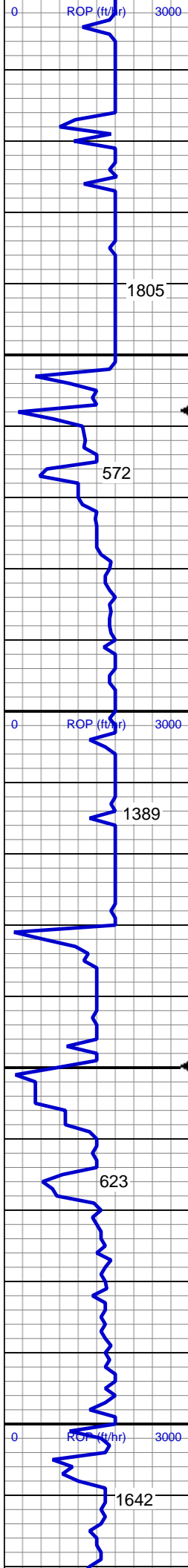
Geologist

Name MIKE GREENE;JERED KARR

Company COLUMBINE LOGGING, INC.

Address 2385 S. LIPAN ST
DENVER, COLORADO 80223
(303) 289-7764





Azimuth: 246.1°

VS: 0.87'

70% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt, occ grd to ss; 30% SHY SLTST: ltgy, sft-fri, sb blkly - blkly, slty tex

MD: 1,289'

TVD: 1,288.98'

Inclination: 0.59 °

Azimuth: 254.7 °

VS: 1.76'

85% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt, occ grd to ss; 15% SHY SLTST: ltgy, sft-fri, sb blkly - blkly, slty tex

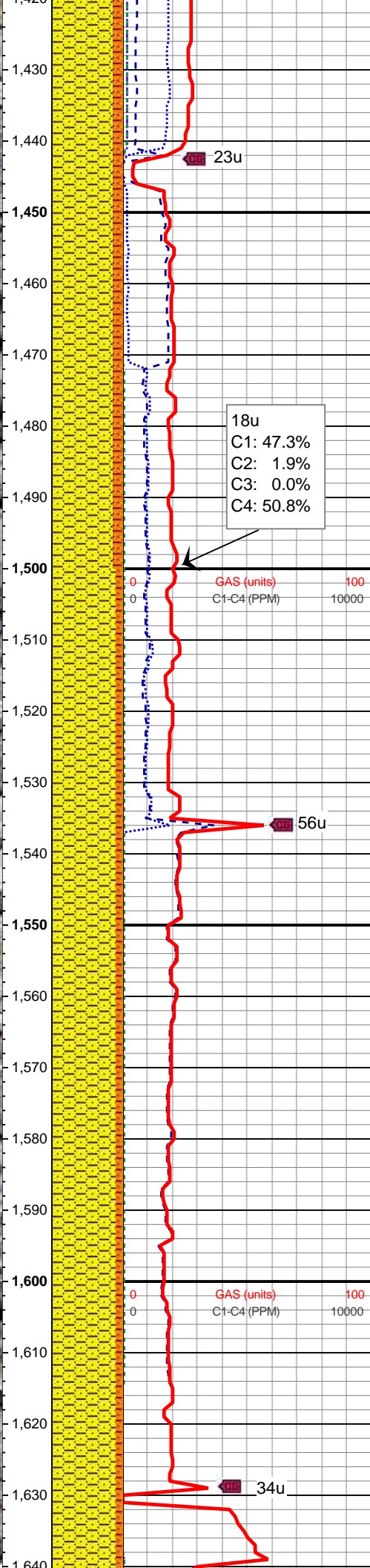
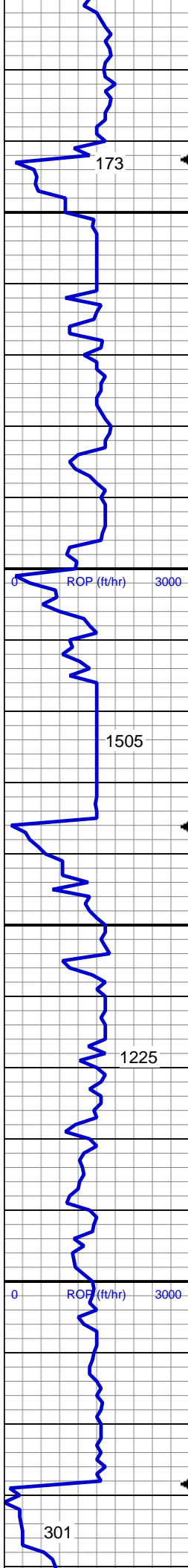
MD: 1,382'

TVD: 1,381.97'

Inclination: 0.73 °

Azimuth: 259.01 °

VS: 2.81'



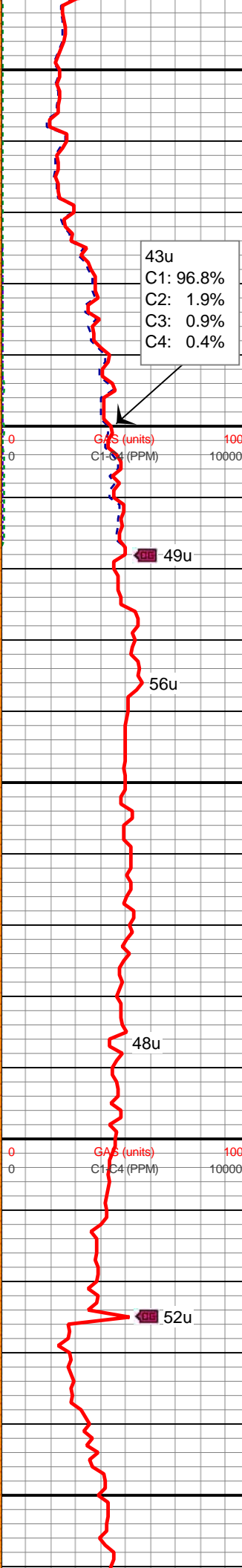
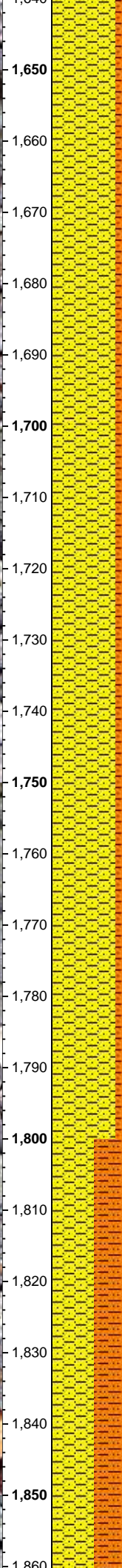
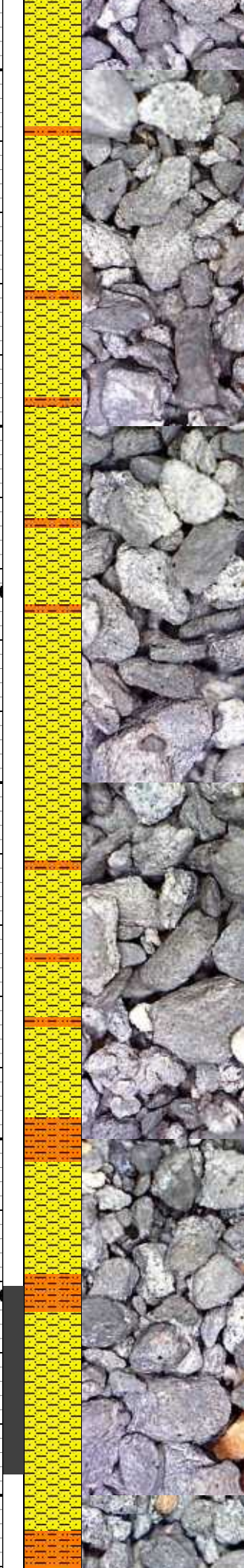
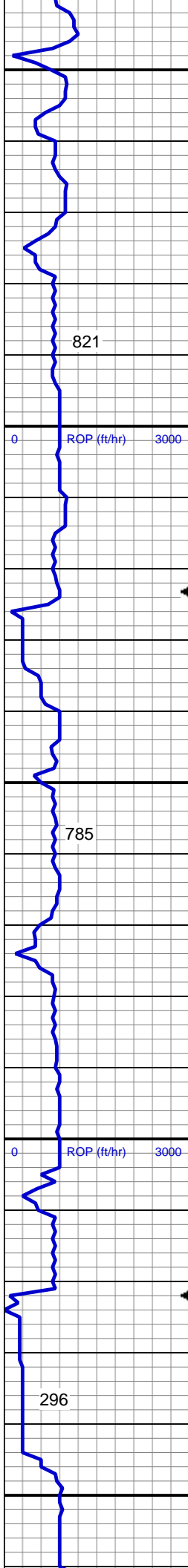
85% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt, occ grdg to ss; 15% SHY SLTST: ltgy, sft-fri, sb blkly - blkly, slty tex

MD: 1,475'
TVD: 1,474.97'
Inclination: 0.57 °
Azimuth: 257.43 °
VS: 3.85'

MUD WT 8.7 VIS 36

90% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt, occ grdg to ss; 10% SHY SLTST: ltgy, sft-fri, sb blkly - blkly, slty tex

MD: 1,569'
TVD: 1,568.96'
Inclination: 0.46 °
Azimuth: 240.27 °
VS: 4.65'



90% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt, occ grd to ss; 10% SHY SLTST: ltgy, sft-fri, sb blkly - blkly, slty tex

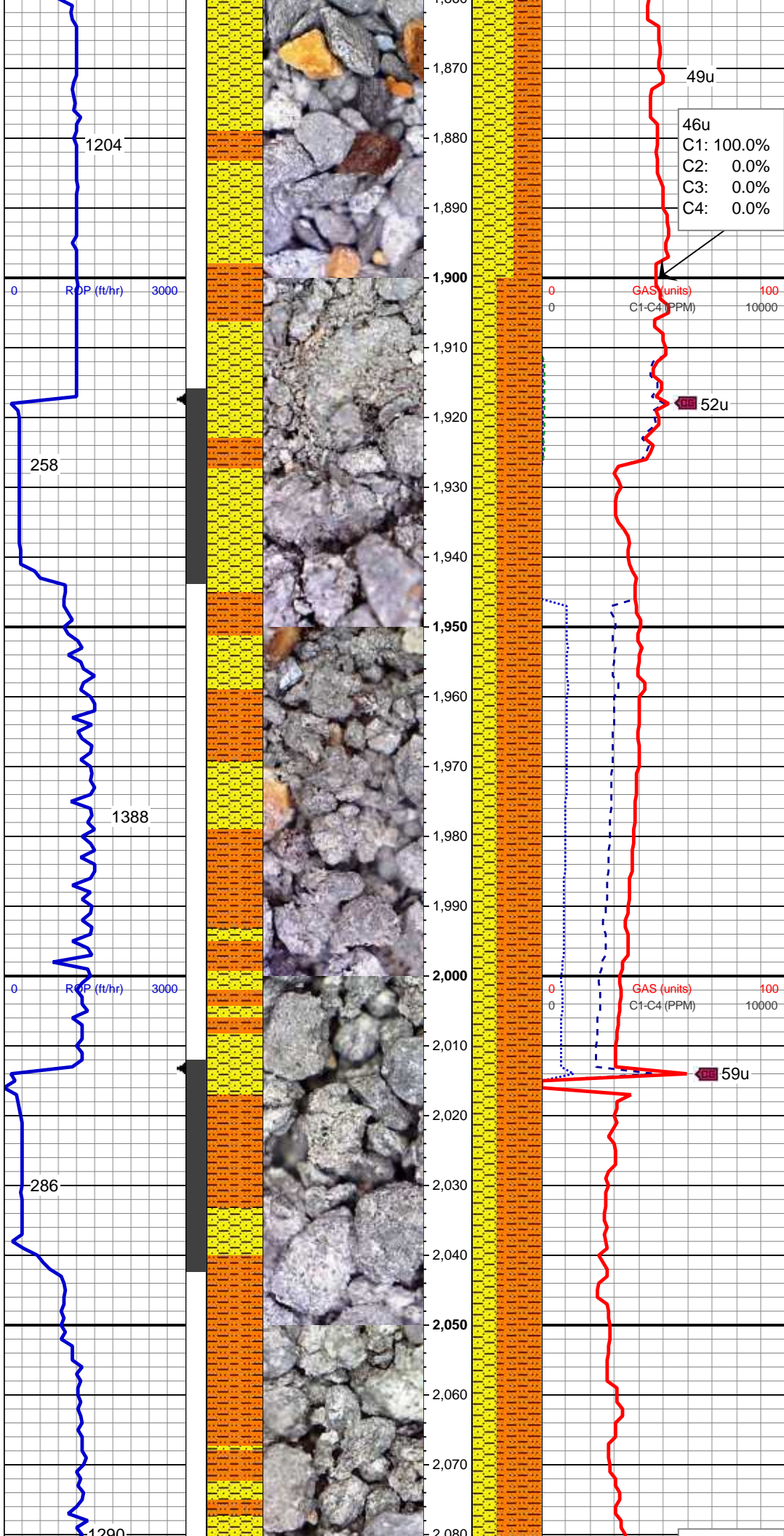
MD: 1,664'
TVD: 1,663.96'
Inclination: 0.34 °
Azimuth: 260.74 °
VS: 5.27'

MD: 1,759'
TVD: 1,758.96'
Inclination: 0.58 °
Azimuth: 263.42 °
VS: 6.03'

90% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt, occ grd to ss; 10% SHY SLTST: ltgy, sft-fri, sb blkly - blkly, slty tex

MD: 1,853'
TVD: 1,852.94'
Inclination: 1.67 °
Azimuth: 281.89 °
VS: 7.83'

60% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt, occ grd to ss; 40% SHY SLTST: ltgy, sft-fri, sb blkly - blkly, slty tex



46u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%

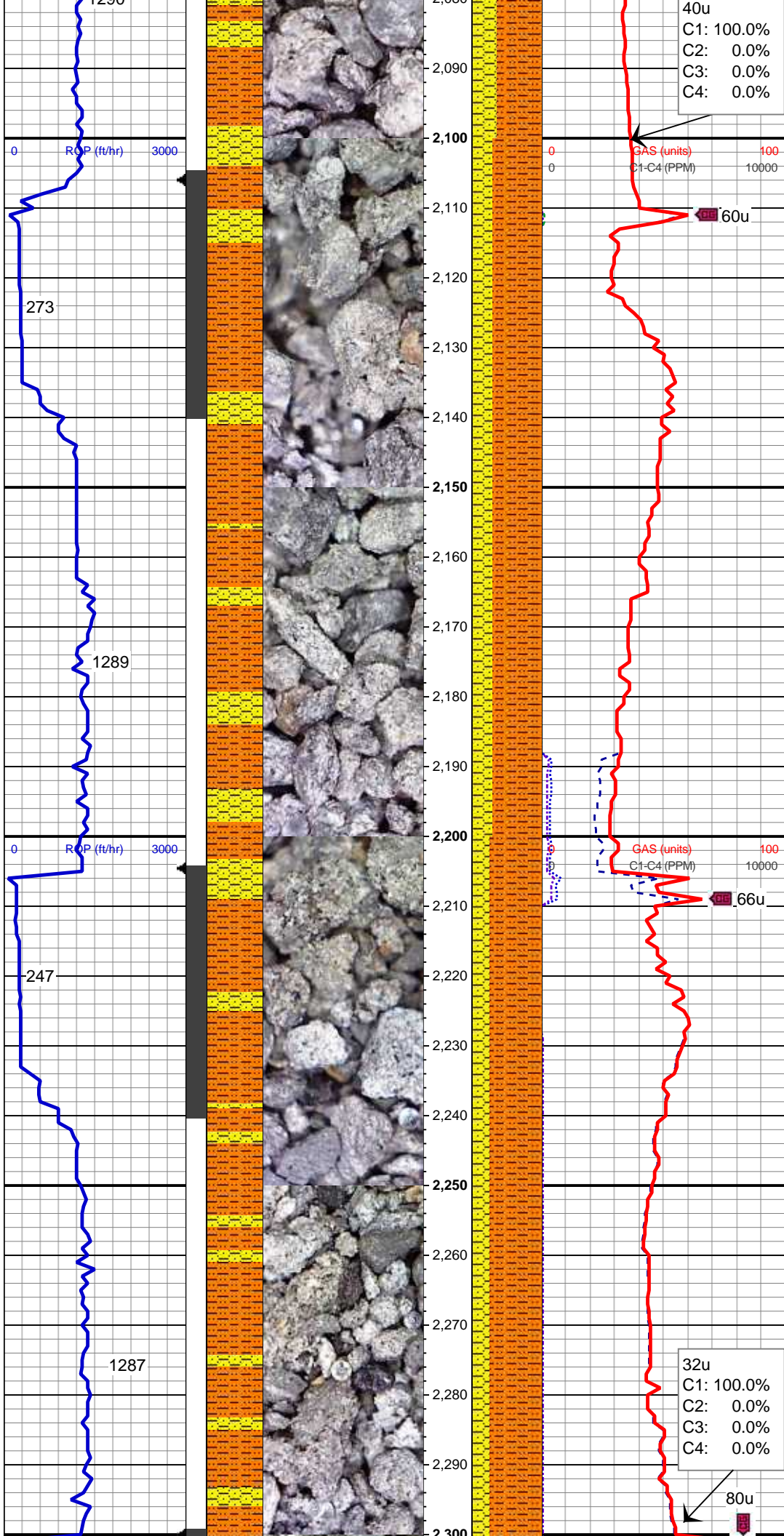
MD: 1,948'
TVD: 1,947.86'
Inclination: 3.11 °
Azimuth: 252.16 °
VS: 11.66'

65% SHY SLTST: ltgy, sft-fri, sb blk
- blk, slty tex; 35% SHY SS: wh-lt
gy, s&p, vf-med gr, sb rd-sb ang,
mod pors, arg-silc cmt, ply srt, occ
grdg to ss

MUD WT 8.8 VIS 36

MD: 2,043'
TVD: 2,042.65'
Inclination: 4.39 °
Azimuth: 241.47 °
VS: 17.43'

65% SHY SLTST: ltgy, sft-fri, sb blk
- blk, slty tex; 35% SHY SS: wh-lt
gy, s&p, vf-med gr, sb rd-sb ang,
mod pors, arg-silc cmt, ply srt, occ
grdg to ss



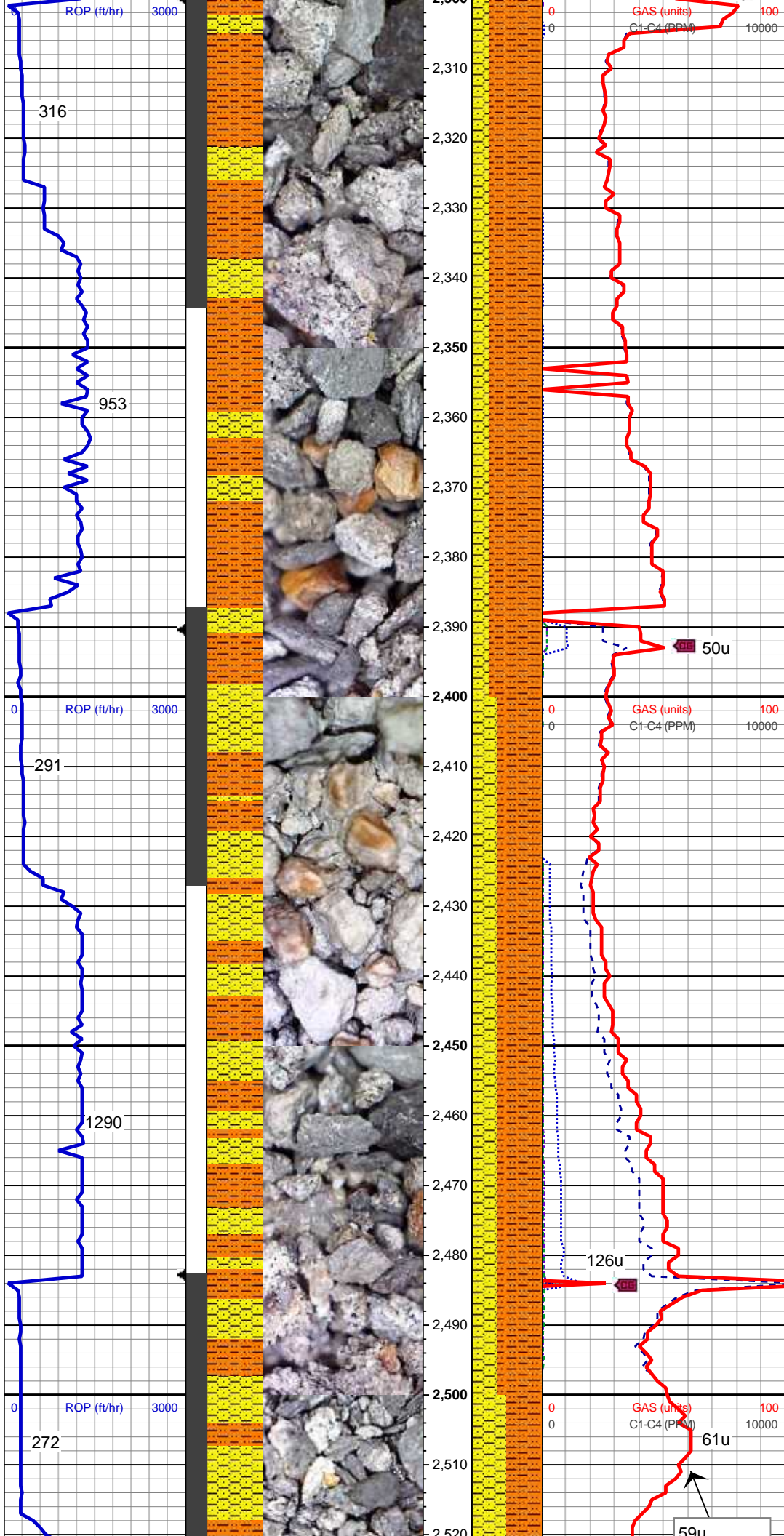
MUD WT 8.8 VIS 36

MD: 2,138'
TVD: 2,137.35'
Inclination: 4.8 °
Azimuth: 232.01 °
VS: 23.95'

70% SHY SLTST: ltgy, sft-fri, sb blkly
- blkly, slty tex; 30% SHY SS: wh-lt
gy, s&p, vf-med gr, sb rd-sb ang,
mod pors, arg-silc cmt, ply srt, occ
grdg to ss

MD: 2,233'
TVD: 2,231.94'
Inclination: 5.8 °
Azimuth: 222.95 °
VS: 30.65'

75% SHY SLTST: ltgy, sft-fri, sb blkly
- blkly, slty tex; 25% SHY SS: wh-lt
gy, s&p, vf-med gr, sb rd-sb ang,
mod pors, arg-silc cmt, ply srt, occ
grdg to ss



MD: 2,327'
TVD: 2,325.4'
Inclination: 6.48 °
Azimuth: 218.74 °
VS: 37.57'

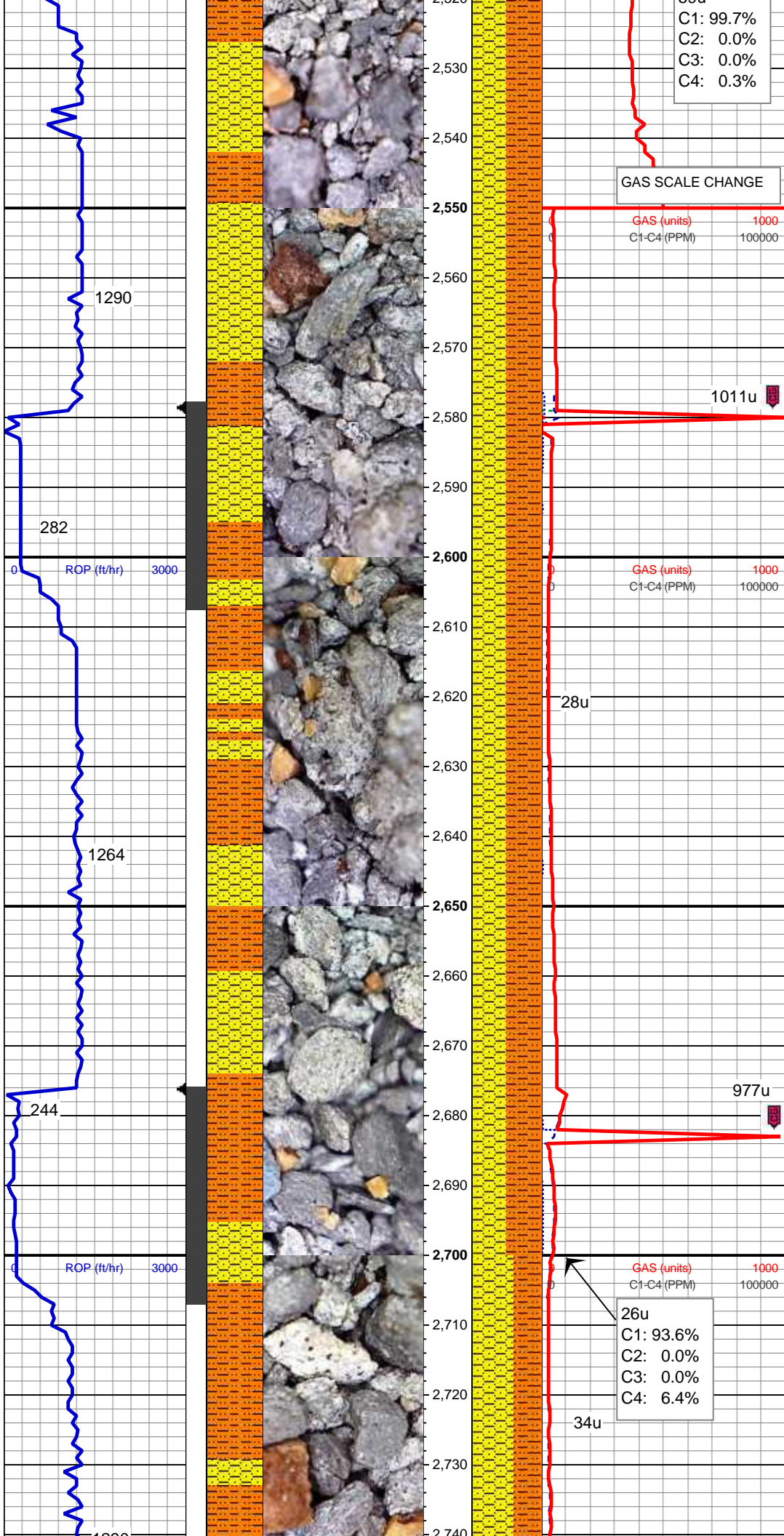
75% SHY SLTST: ltgy, sft-fri, sb blk
- blk, slty tex; 25% SHY SS: wh-lt
gy, s&p, vf-med gr, sb rd-sb ang,
mod pors, arg-silc cmt, ply srt, occ
grdg to ss

MD: 2,422'
TVD: 2,419.66'
Inclination: 7.88 °
Azimuth: 220.43 °
VS: 45.6'

MUD WT 9.0 VIS 37

65% SHY SLTST: ltgy, sft-fri, sb blk
- blk, slty tex; 35% SHY SS: wh-lt
gy, s&p, vf-med gr, sb rd-sb ang,
mod pors, arg-silc cmt, ply srt, occ
grdg to ss

MD: 2,517'
TVD: 2,513.6'
Inclination: 9.22 °



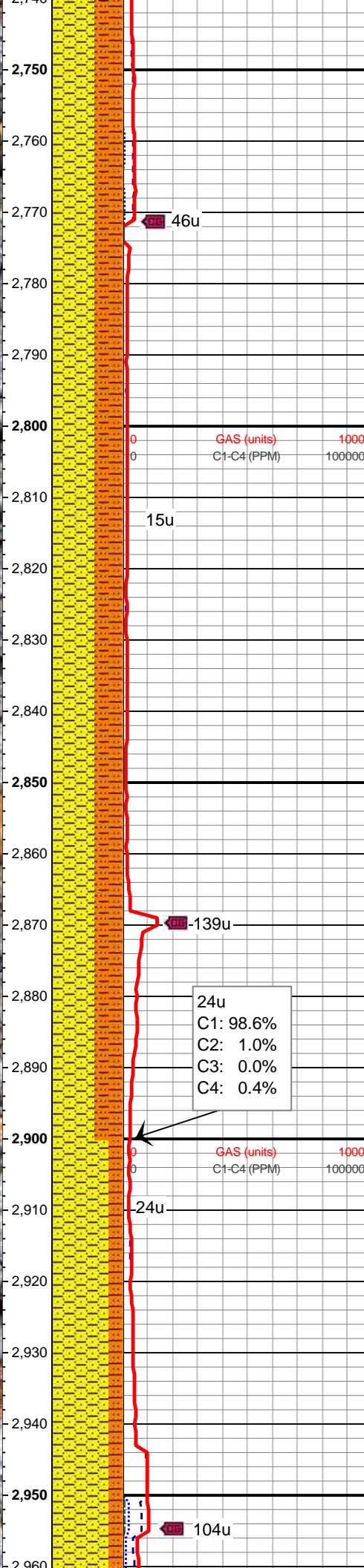
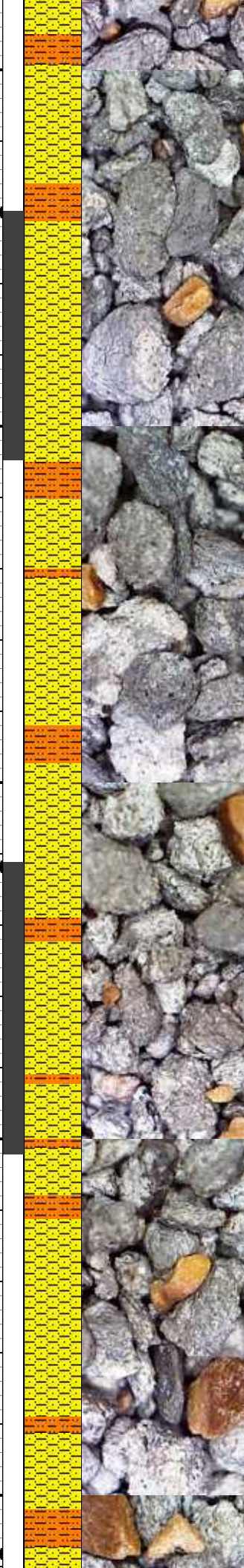
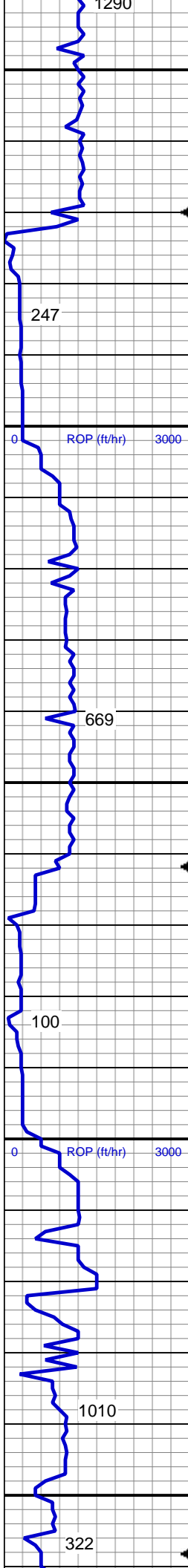
Azimuth: 218.05°
VS: 55.05'

50% SHY SLTST: ltgy, sft-fri, sb blk
- blk, slty tex; 50% SHY SS: wh-lt
gy, s&p, vf-med gr, sb rd-sb ang,
mod pors, arg-silc cmt, ply srt, occ
grdg to ss

MD: 2,611'
TVD: 2,606.37'
Inclination: 9.34°
Azimuth: 219.89°
VS: 65.16'

50% SHY SLTST: ltgy, sft-fri, sb blk
- blk, slty tex; 50% SHY SS: wh-lt
gy, s&p, vf-med gr, sb rd-sb ang,
mod pors, arg-silc cmt, ply srt, occ
grdg to ss

MUD WT 9.1 VIS 39
MD: 2,706'
TVD: 2,700.15'
Inclination: 9.04°
Azimuth: 219.98°
VS: 75.47'



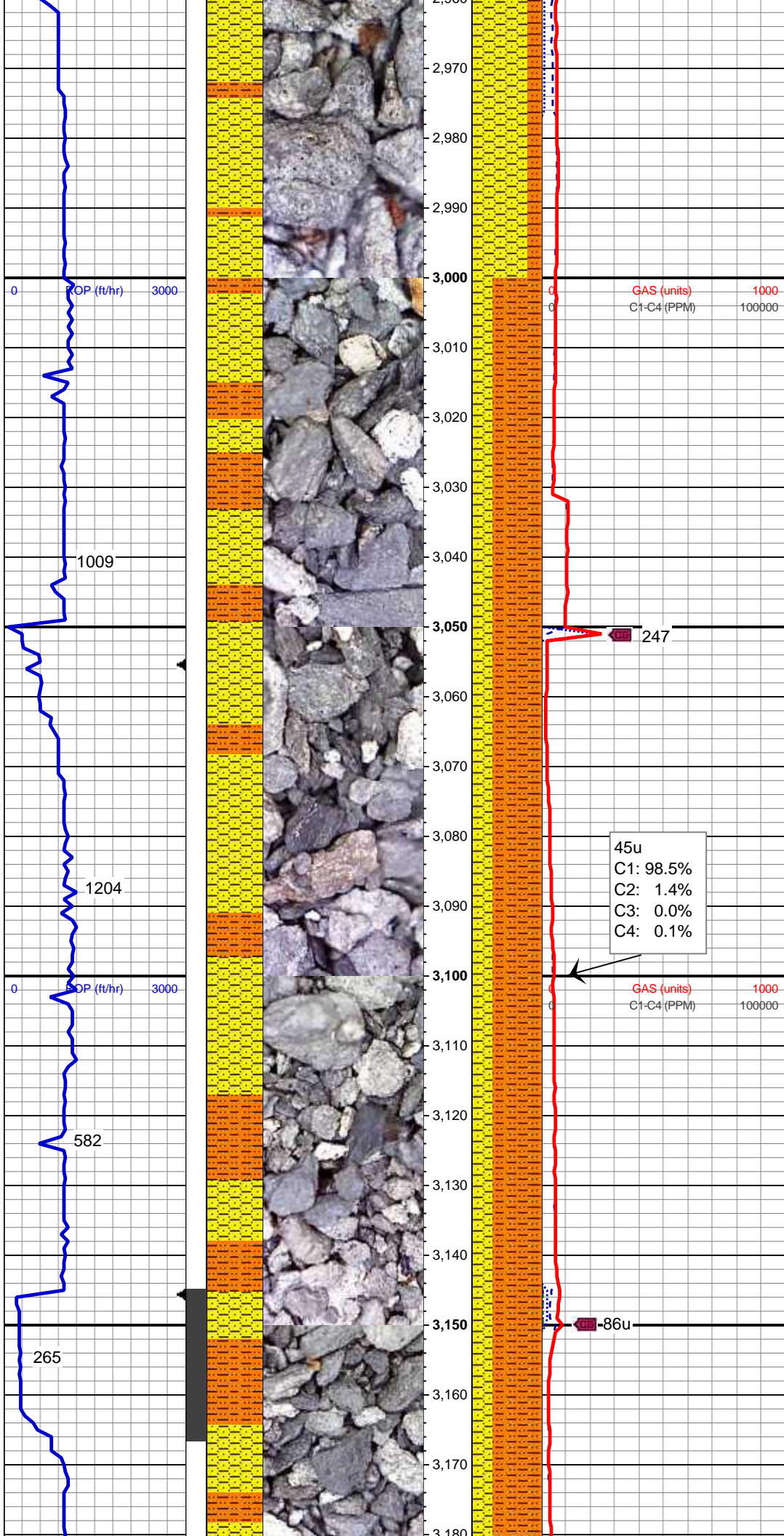
60% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt, occ grd to ss; 40% SHY SLTST: ltgy, sft-fri, sb blkly - blkly, slty tex

MD: 2,800'
TVD: 2,792.88'
Inclination: 9.8 °
Azimuth: 220.84 °
VS: 86.01'

60% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt, occ grd to ss; 40% SHY SLTST: ltgy, sft-fri, sb blkly - blkly, slty tex

MD: 2,895'
TVD: 2,886.46'
Inclination: 10.05 °
Azimuth: 218.81 °
VS: 97.11'

80% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt, occ grd to ss; 20% SHY SLTST: ltgy, sft-fri, sb blkly - blkly, slty tex, tr cln qtz ss



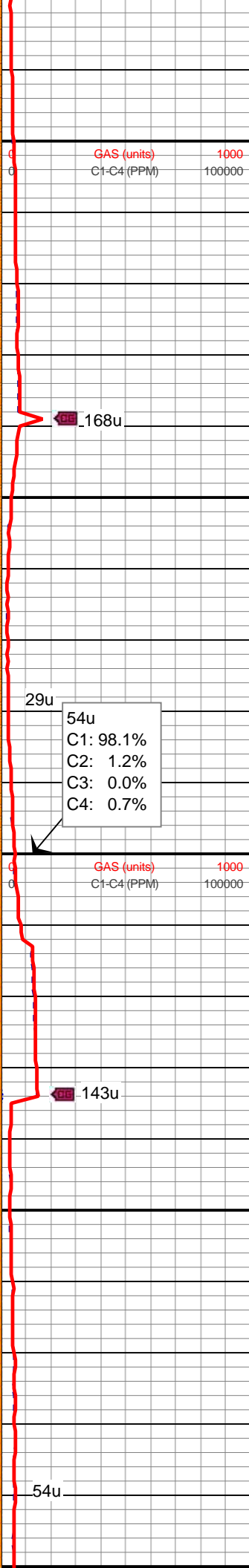
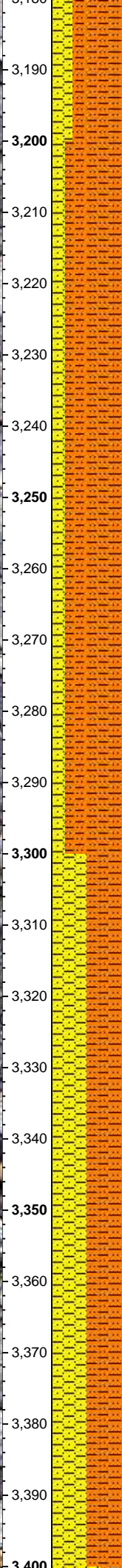
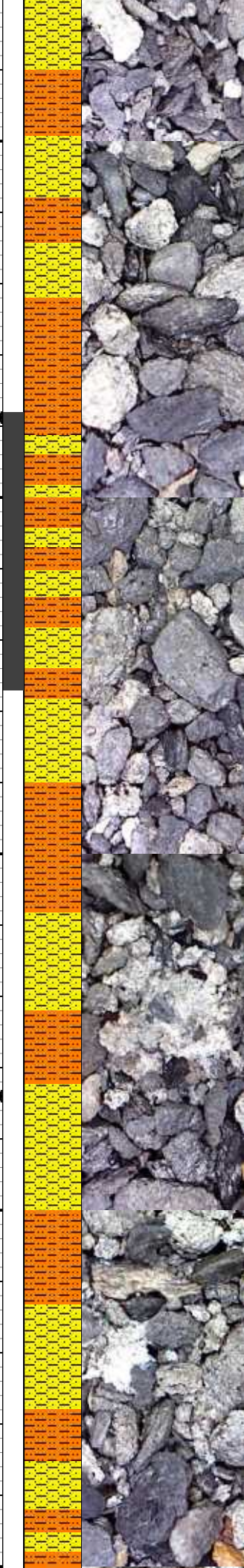
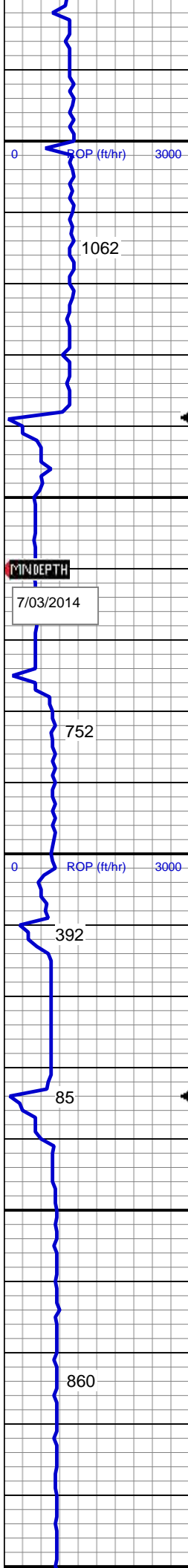
MD: 2,990'
TVD: 2,980.02'
Inclination: 9.91 °
Azimuth: 218.7 °
VS: 108.04'

70% SHY SLTST: ltgy to dk brn-gy,
sft-fri, sb blk - blk, slty tex; 30%
SHY SS: wh-lt gy, s&p, vf-med gr,
sb rd-sb ang, mod pors, arg-silc
cmt, ply srt, occ grd to ss

MD: 3,084'
TVD: 3,072.75'
Inclination: 8.92 °
Azimuth: 220.16 °
VS: 118.38'

70% SHY SLTST: ltgy to dk brn-gy,
sft-fri, sb blk - blk, slty tex; 30%
SHY SS: wh-lt gy, s&p, vf-med gr,
sb rd-sb ang, mod pors, arg-silc
cmt, ply srt, occ grd to ss

MD: 3,179'
TVD: 3,166.53'
Inclination: 9.49 °



Azimuth: 220.9°
VS: 128.82'

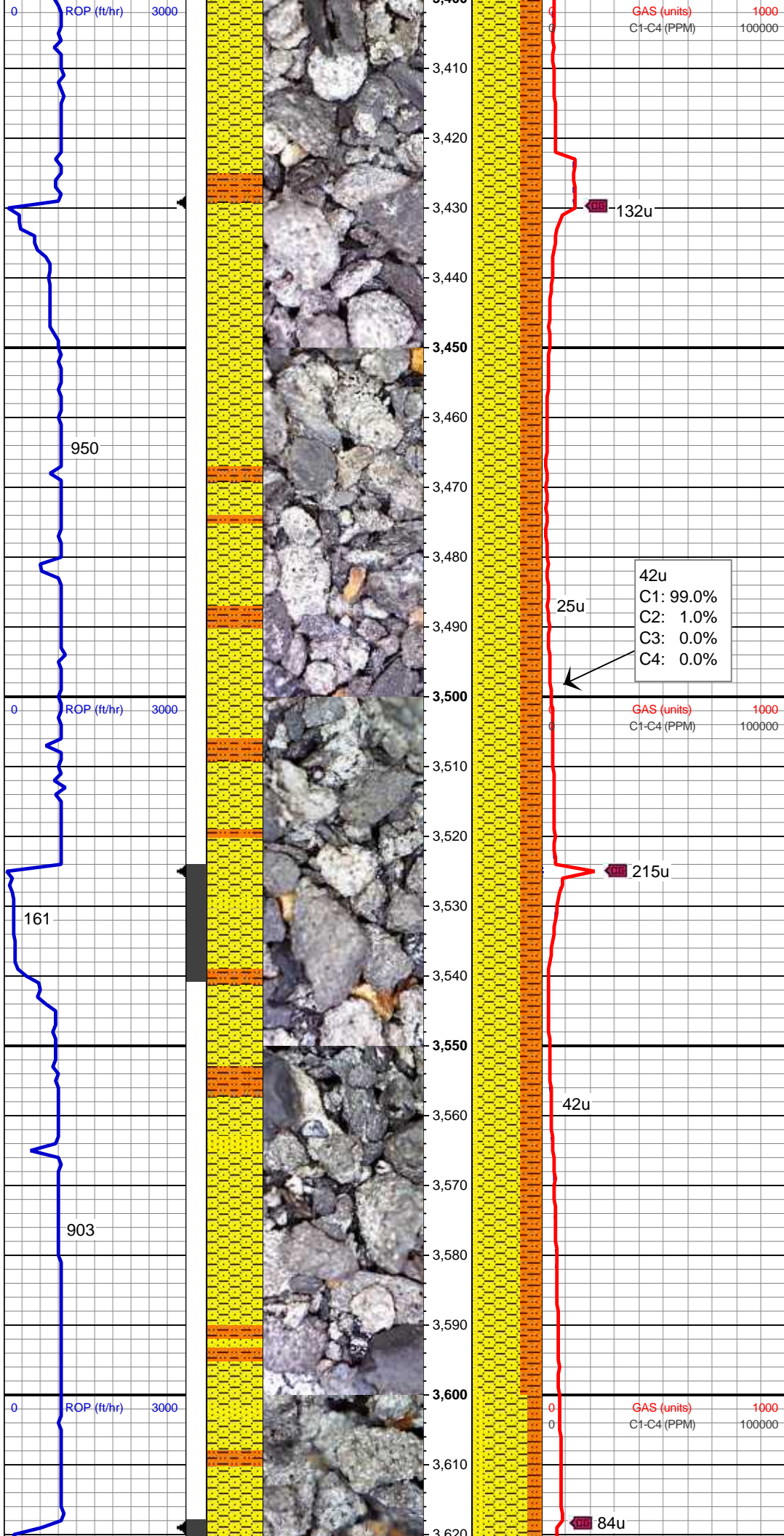
MUD WT 9.1 VIS 39

80% SHY SLTST: ltgy to dk brn-gy, sft-fri, sb blk - blk, slty tex; 20% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt, occ grd to ss

MD: 3,274'
TVD: 3,260.36'
Inclination: 8.53 °
Azimuth: 221.67 °
VS: 139.18'

50% SHY SLTST: ltgy to dk brn-gy, sft-fri, sb blk - blk, slty tex; 50% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt, occ grd to ss

MD: 3,369'
TVD: 3,354.5'
Inclination: 6.83 °
Azimuth: 227.82 °
VS: 148.49'



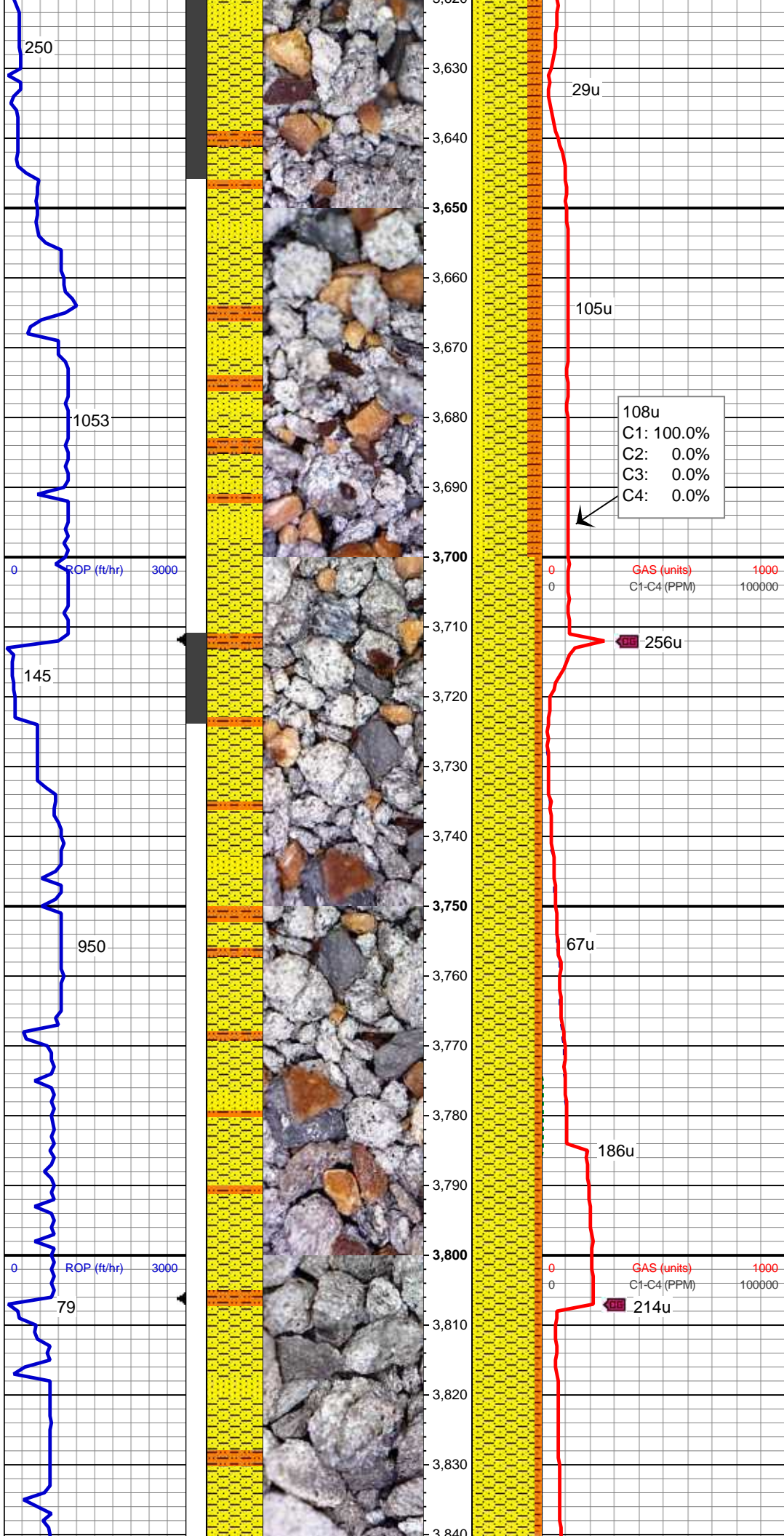
60% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt, occ grd to ss; 30% SHY SLTST: ltgy to dk brn-gy, sft-fri, sb blk - blk, slty tex; 10% SS: offwht to bf, s&p, sb rd-sb ang, mod srt, v f-f gr, silc cmt

MD: 3,464'
TVD: 3,448.99'
Inclination: 5.06 °
Azimuth: 220.34 °
VS: 155.73'

MUD WT 9.2 VIS 40

MD: 3,559'
TVD: 3,543.66'
Inclination: 4.49 °
Azimuth: 213.96 °
VS: 160.83'

60% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt, occ grd to ss; 30% SHY SLTST: ltgy to dk brn-gy, sft-fri, sb blk - blk, slty tex; 10% SS: offwht to bf, s&p, sb rd-sb ang, mod srt, v f-f gr, silc cmt



MD: 3,653'
TVD: 3,637.4'
Inclination: 3.97 °
Azimuth: 217.26 °
VS: 165.13'

60% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt, occ grdg to ss; 20% SHY SLTST: ltgy to dk brn-gy, sft-fri, sb blkly - blkly, slty tex; 20% SS: offwht to bf, s&p, sb rd-sb ang, mod srt, v f-f gr, silc cmt

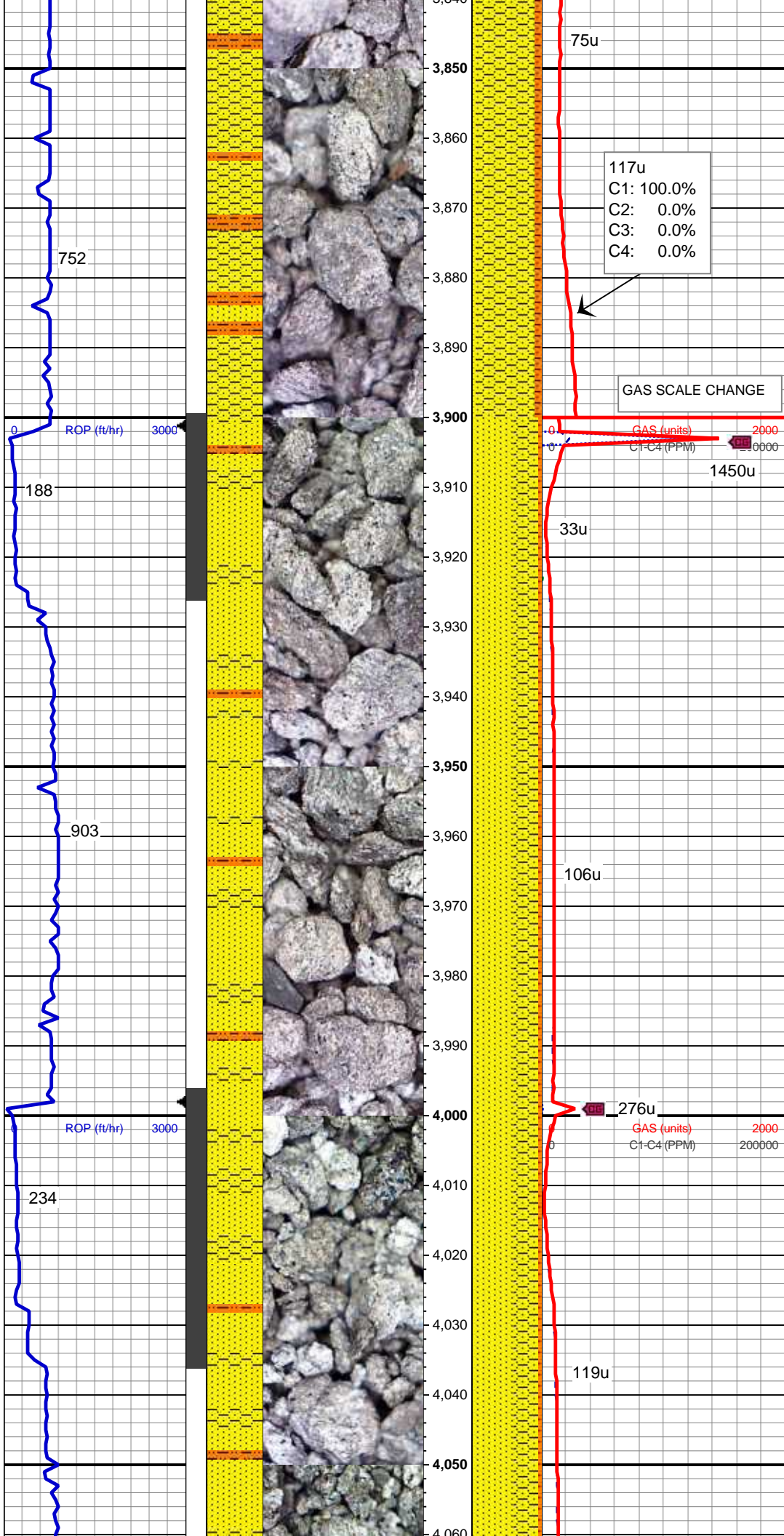
108u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%

MD: 3,748'
TVD: 3,732.12'
Inclination: 4.81 °
Azimuth: 216.31 °
VS: 169.77'

85% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt, occ grdg to ss; 10% SHY SLTST: ltgy to dk brn-gy, sft-fri, sb blkly - blkly, slty tex; 5% SS: offwht to bf, s&p, sb rd-sb ang, mod srt, v f-f gr, silc cmt

MUD WT 9.2 VIS 41

MD: 3,843'
TVD: 3,826.75'
Inclination: 5.4 °
Azimuth: 214.36 °
VS: 174.99'



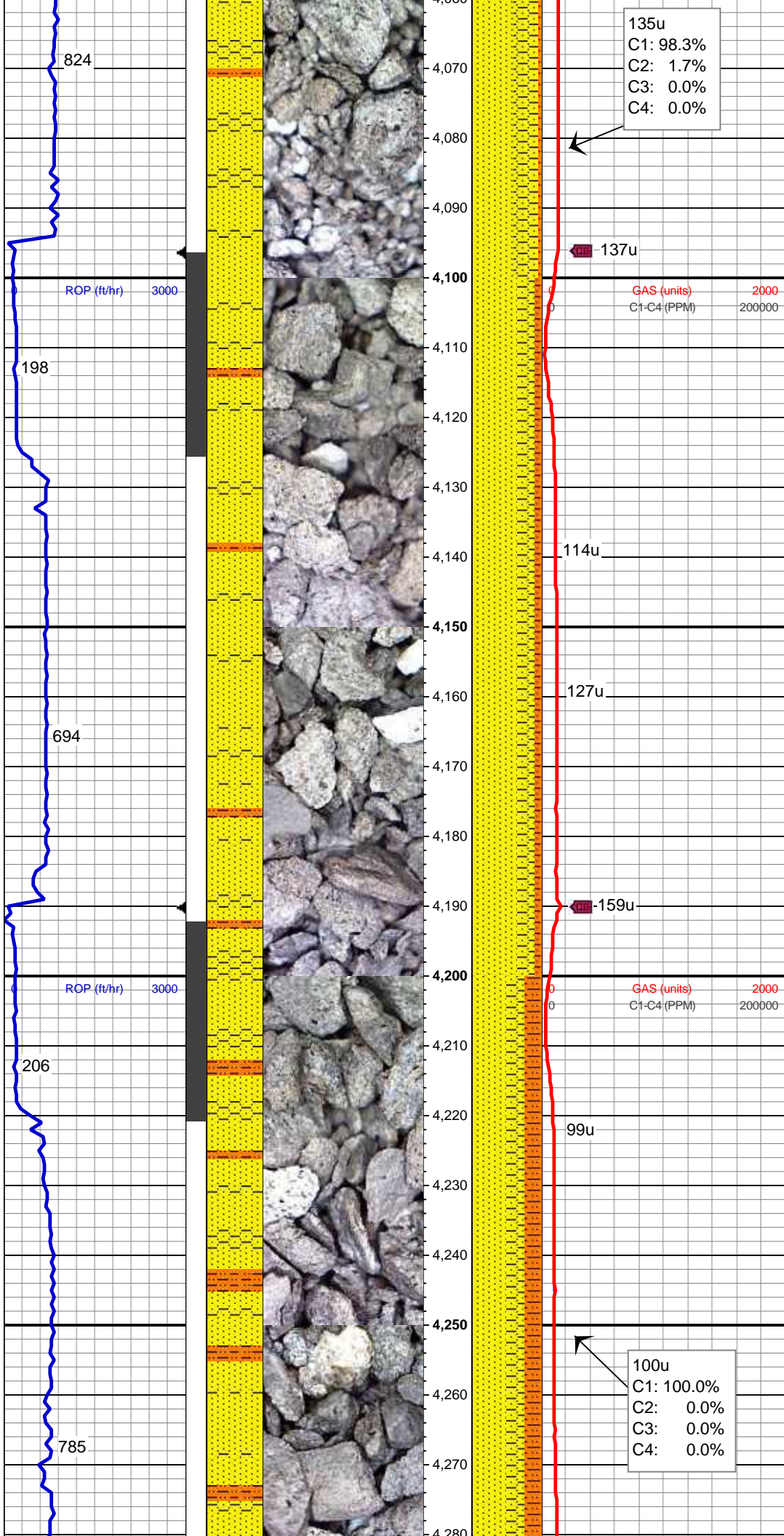
85% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt, occ grd to ss; 10% SHY SLTST: ltgy to dk brn-gy, sft-fri, sb blkly - blkly, slty tex; 5% SS: offwht to bf, s&p, sb rd-sb ang, mod srt, v f-f gr, silc cmt

MD: 3,938'
TVD: 3,921.38'
Inclination: 4.61 °
Azimuth: 209.2 °
VS: 179.72'

60% SS: offwht to bf, s&p, sb rd-sb ang, mod srt, v f-f gr, silc cmt 35% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt, occ grd to ss; 5% SHY SLTST: ltgy to dk brn-gy, sft-fri, sb blkly - blkly, slty tex

MD: 4,033'
TVD: 4,016.16'
Inclination: 3.18 °
Azimuth: 196.28 °
VS: 182.61'

60% SS: offwht to bf, s&p, sb rd-sb ang, mod srt, v f-f gr, silc cmt 35% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt, occ grd to ss; 5% SHY SLTST: ltgy to dk brn-gy, sft-fri, sb blkly - blkly, slty tex



135u
C1: 98.3%
C2: 1.7%
C3: 0.0%
C4: 0.0%

137u

GAS (units) 2000
C1-C4 (PPM) 200000

114u

127u

159u

99u

100u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%

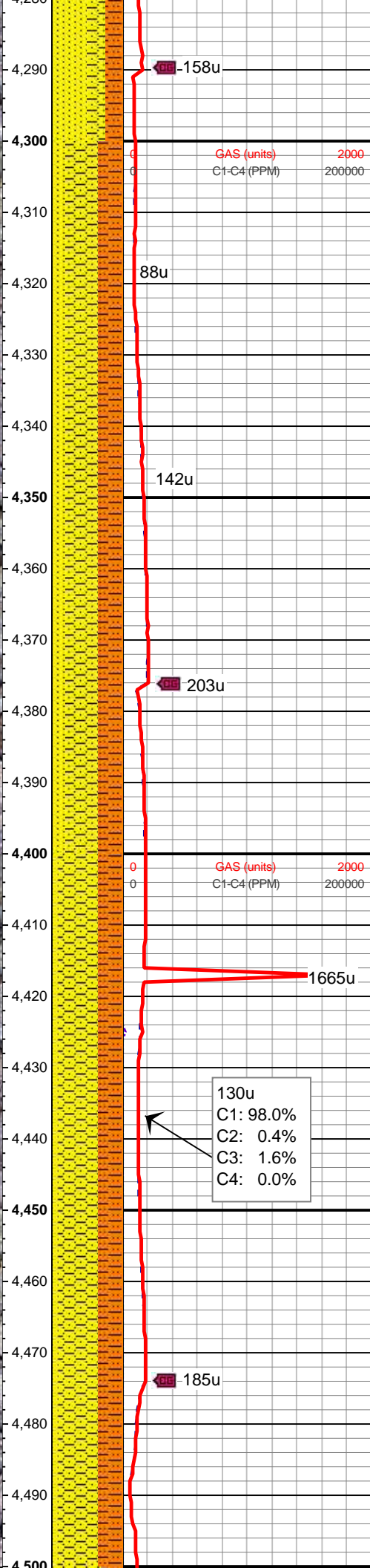
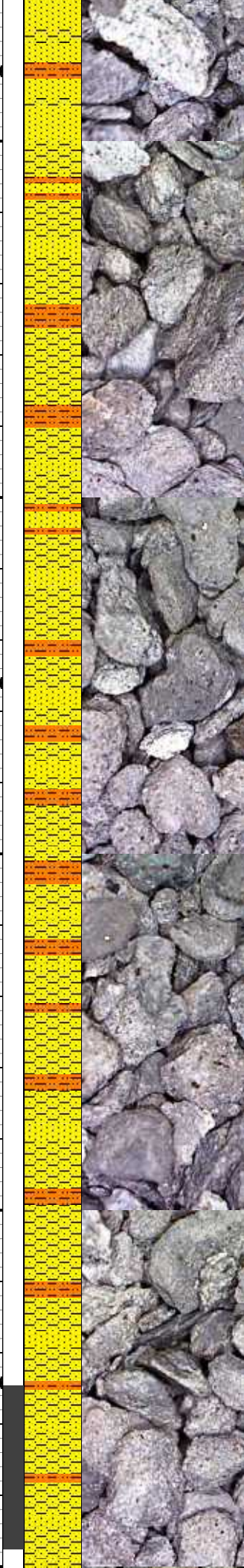
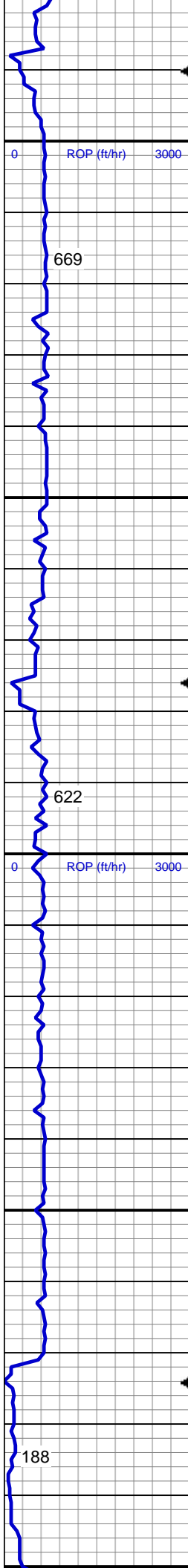
MD: 4,127'
TVD: 4,110.08'
Inclination: 1.7 °
Azimuth: 176.54 °
VS: 183.45'

65% SS: offwht to bf, s&p, sb rd-sb ang, mod srt, v f-f gr, silc cmt 25% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt; 10% SHY SLTST: ltgy to dk brn-gy, sft-fri, sb blkly - blkly, slty tex

MUD WT 9.3 VIS 46

MD: 4,222'
TVD: 4,205.06'
Inclination: 1.08 °
Azimuth: 109.37 °
VS: 182.6'

50% SS: offwht to bf, s&p, sb rd-sb ang, mod srt, v f-f gr, silc cmt 25% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt; 25% SHY SLTST: ltgy to dk brn-gy, sft-fri, sb blkly - blkly, slty tex



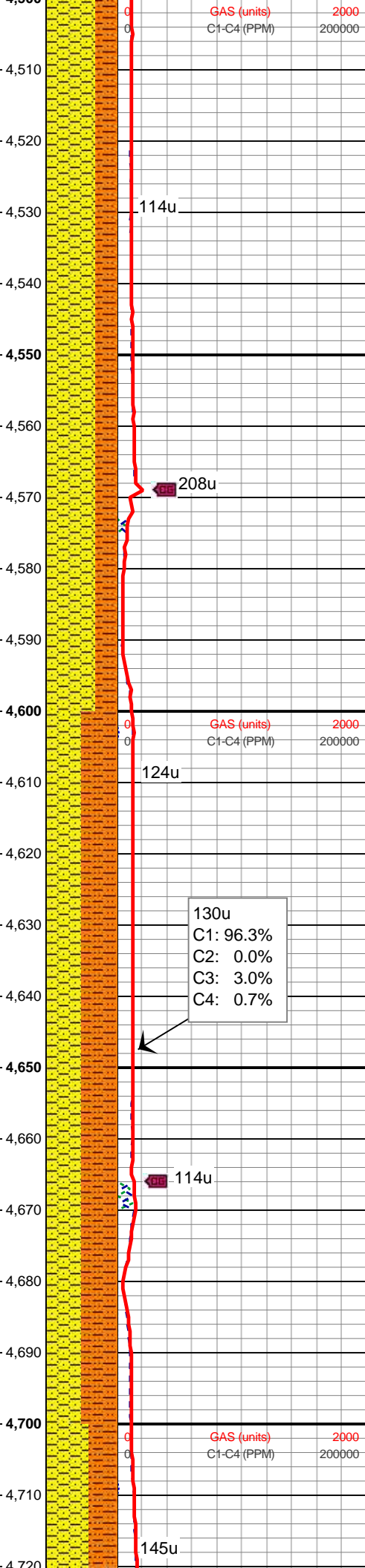
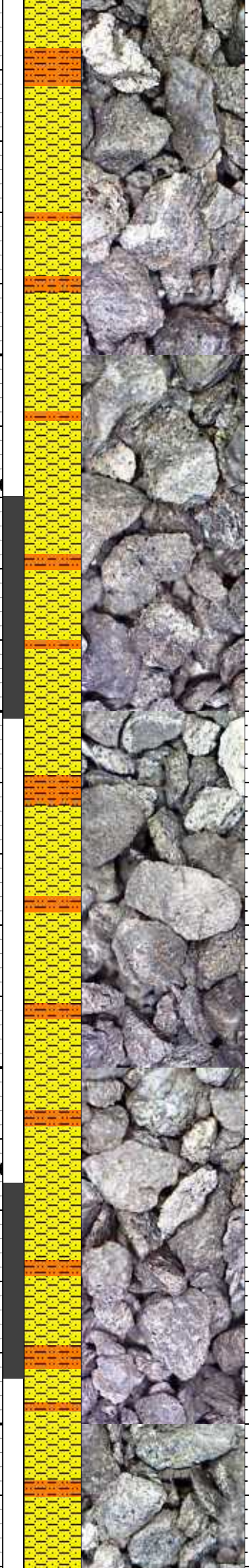
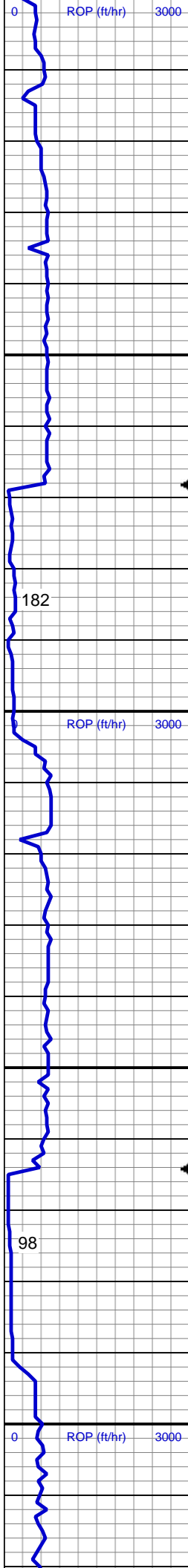
MD: 4,317'
TVD: 4,300.04'
Inclination: 0.69 °
Azimuth: 108.78 °
VS: 181.24'

45% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt; 35% SHY SLTST: ltgy to dk brn-gy, sft-fri, sb blkly - blkly, slty tex; 20% SS: offwht to bf, s&p, sb rd-sb ang, mod srt, v f-f gr, silc cmt

MD: 4,412'
TVD: 4,395.02'
Inclination: 1.77 °
Azimuth: 129.43 °
VS: 179.63'

55% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt; 35% SHY SLTST: ltgy to dk brn-gy, sft-fri, sb blkly - blkly, slty tex; 10% SS: offwht to bf, s&p, sb rd-sb ang, mod srt, v f-f gr, silc cmt

MUD WT 9.2 VIS 43



MD: 4,507'
TVD: 4,489.99'
Inclination: 1.27 °
Azimuth: 132.56 °
VS: 177.8'

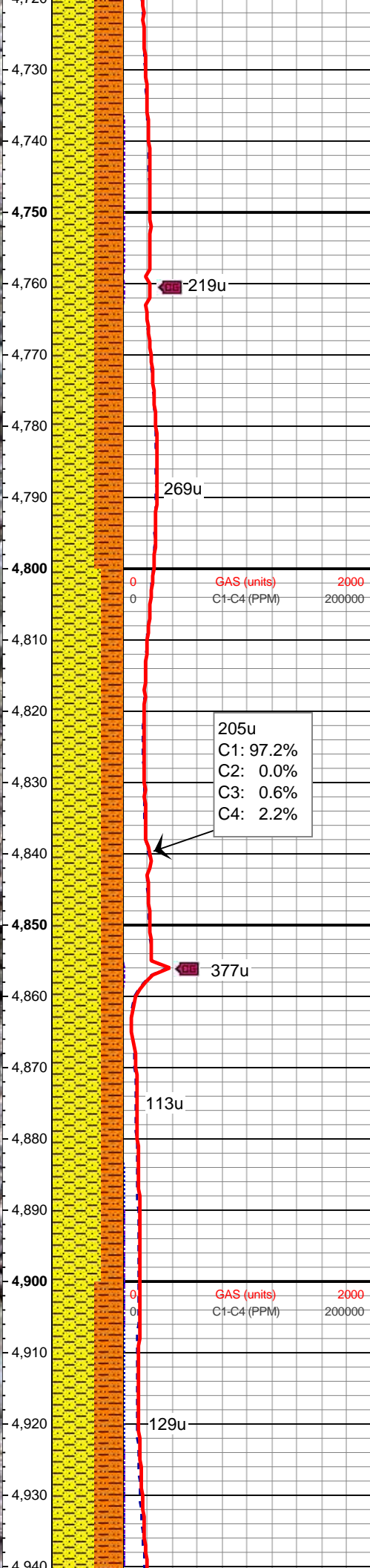
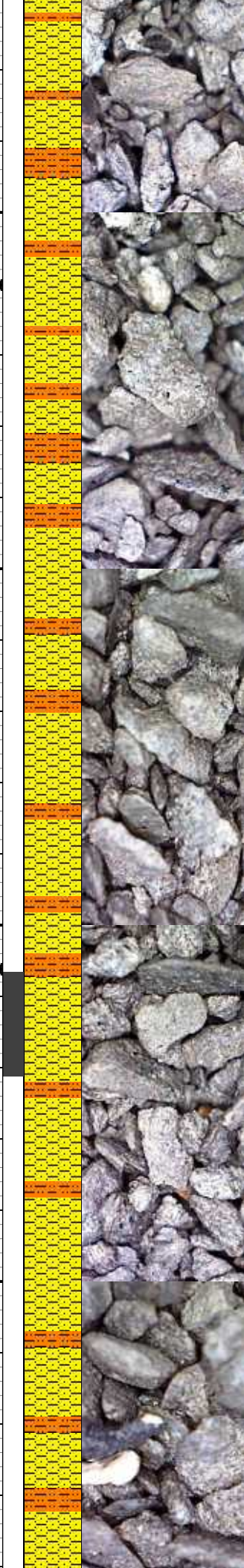
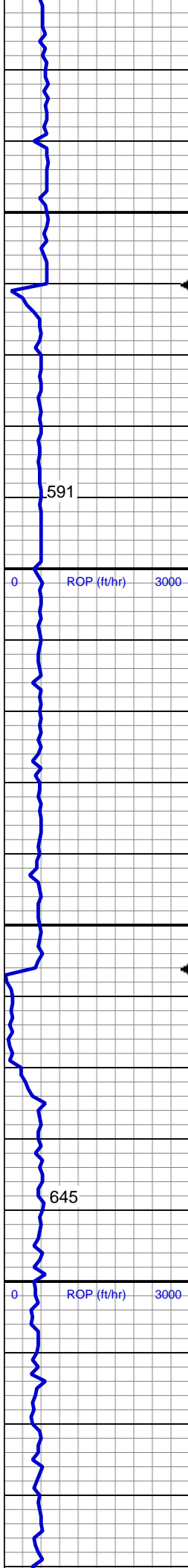
70% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt; 30% SHY SLTST: ltgy to dk brn-gy, sft-fri, sb blkly - blkly, slty tex

MD: 4,602'
TVD: 4,584.96'
Inclination: 1.76 °
Azimuth: 93.23 °
VS: 175.61'

MUD WT 9.1 VIS 40

50% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt; 50% SHY SLTST: ltgy to dk brn-gy, sft-fri, sb blkly - blkly, slty tex

MD: 4,696'
TVD: 4,678.94'
Inclination: 0.56 °
Azimuth: 45.65 °
VS: 173.83'

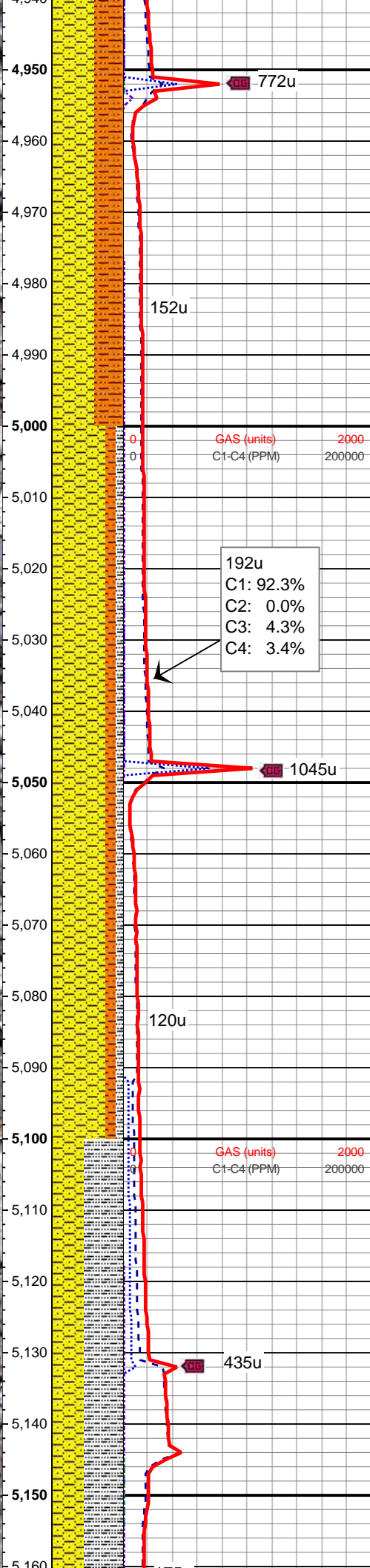
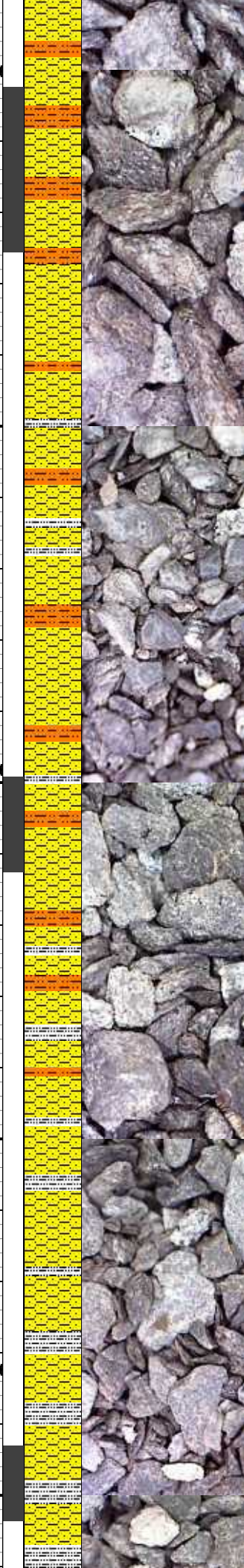
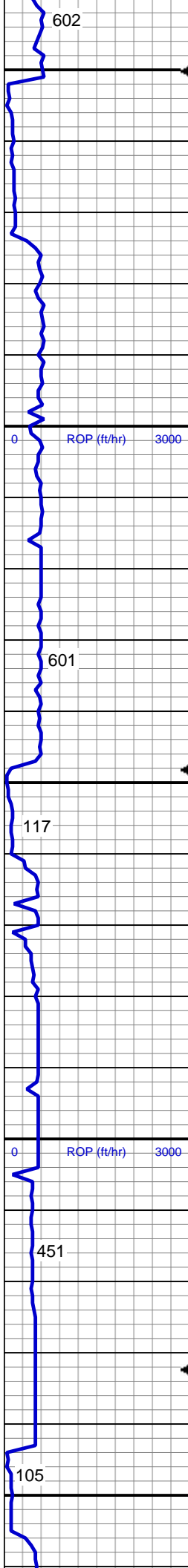


60% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt; 40% SHY SLTST: ltgy to dk brn-gy, sft-fri, sb blkly - blkly, slty tex

MD: 4,790'
TVD: 4,772.92'
Inclination: 1.24 °
Azimuth: 81.97 °
VS: 172.48'

70% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt; 30% SHY SLTST: ltgy to dk brn-gy, sft-fri, sb blkly - blkly, slty tex

MD: 4,885'
TVD: 4,867.9'
Inclination: 1.62 °
Azimuth: 84.74 °
VS: 170.11'



60% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt; 40% SHY SLTST: ltgy to dk brn-gy, sft-fri, sb blkly - blkly, slty tex

MD: 4,980'
TVD: 4,962.86'
Inclination: 1.48 °
Azimuth: 32.5 °
VS: 168.06'

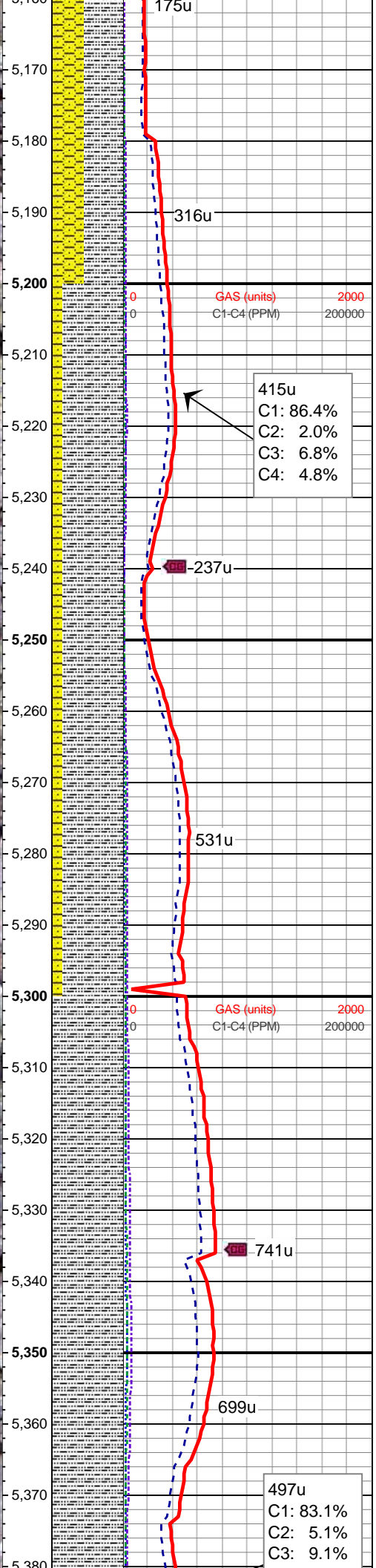
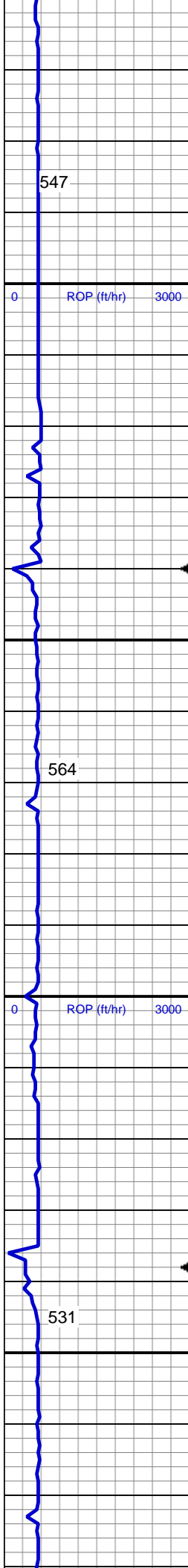
75% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt; 15% SHY SLTST: ltgy to dk brn-gy, sft-fri, sb blkly - blkly, slty tex; 10% SILTY SH: m-dk gy occ gy brn, firm-sl sft, rthy-sl slty tex

MD: 5,075'
TVD: 5,057.84'
Inclination: 1.07 °
Azimuth: 29.57 °
VS: 166.87'

MUD WT 9.1 VIS 37

55% SILTY SH: m-dk gy occ gy brn, firm-sl sft, rthy-sl slty tex; 45% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt

MD: 5,160'



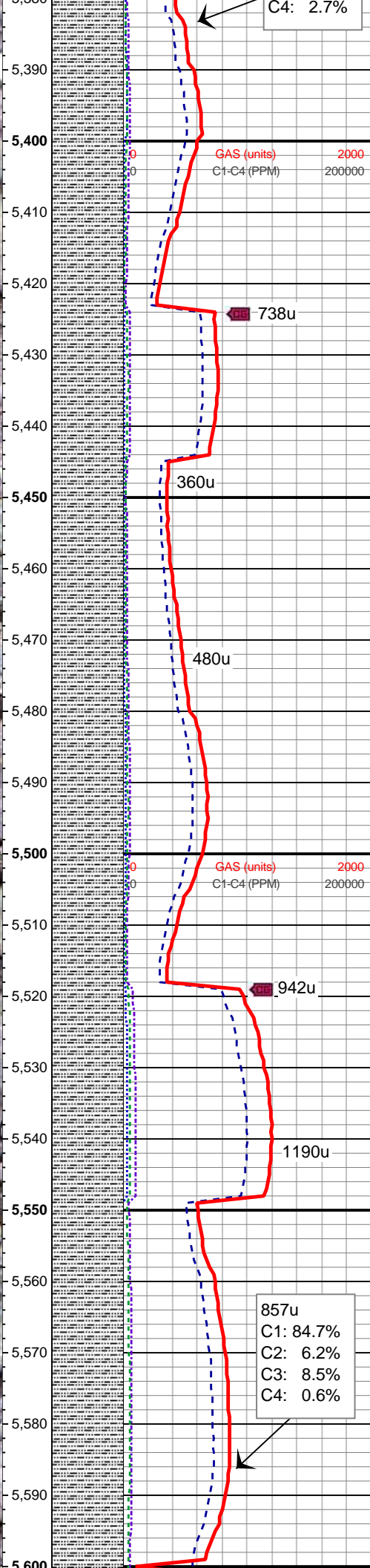
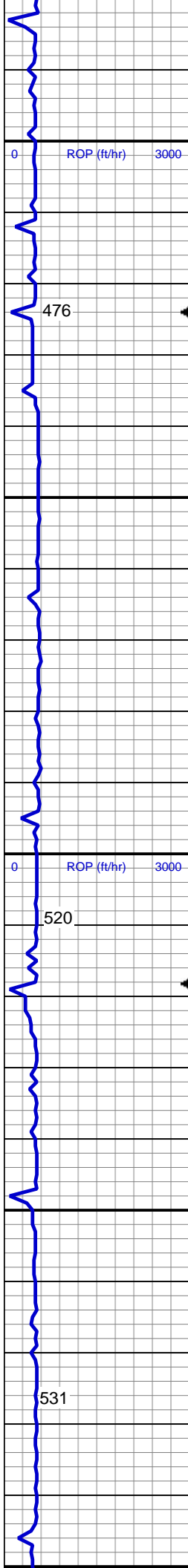
MD: 5,169'
TVD: 5,151.83'
Inclination: 0.79 °
Azimuth: 334.36 °
VS: 166.65'

85% SILTY SH: m-dk gy occ gy brn, firm-sl sft, rthy-sl slty tex; 15% SHY SS: wh-lt gy, s&p, vf-med gr, sb rd-sb ang, mod pors, arg-silc cmt, ply srt

MD: 5,264'
TVD: 5,246.82'
Inclination: 0.91 °
Azimuth: 327.44 °
VS: 167.28'

100% SILTY SH: m-dk gy occ gy brn, firm-sl sft, rthy-sl slty tex

MD: 5,358'
TVD: 5,340.81'
Inclination: 0.91 °
Azimuth: 309.37 °
VS: 168.2'



C4: 2.7%

GAS (units)
C1-C4 (PPM)

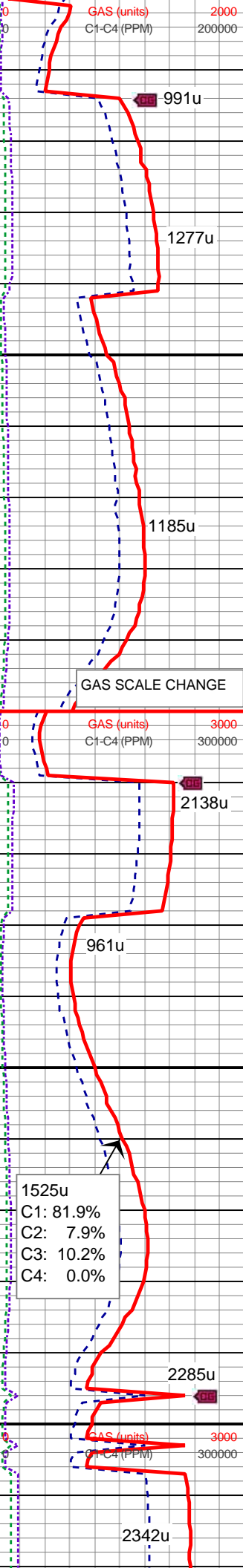
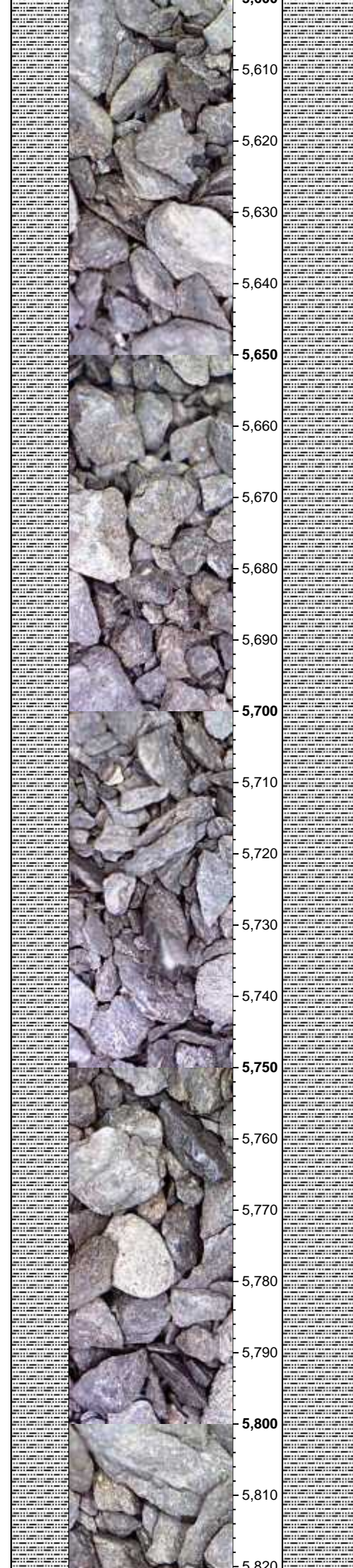
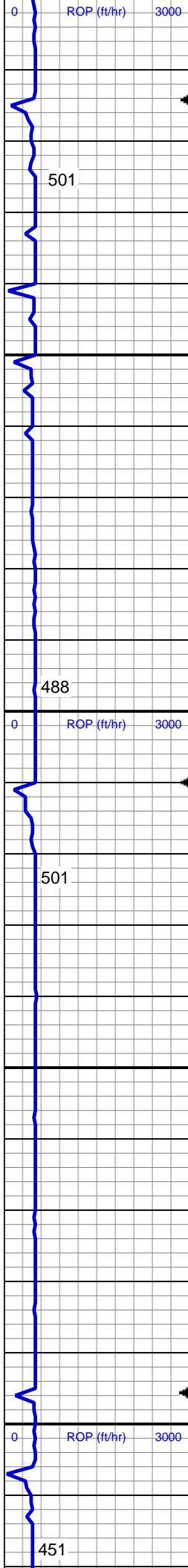
2000
200000

MD: 5,453'
TVD: 5,435.8'
Inclination: 0.72 °
Azimuth: 301.11 °
VS: 169.26'

100% SILTY SH: m-dk gy occ gy
brn, firm-sl sft, rthy-sl slty tex

MD: 5,548'
TVD: 5,530.8'
Inclination: 0.25 °
Azimuth: 86.66 °
VS: 169.54'

100% SILTY SH: m-dk gy occ gy
brn, firm-sl sft, rthy-sl slty tex



MD: 5,643'
TVD: 5,625.79'
Inclination: 0.98 °
Azimuth: 116.22 °
VS: 168.63'

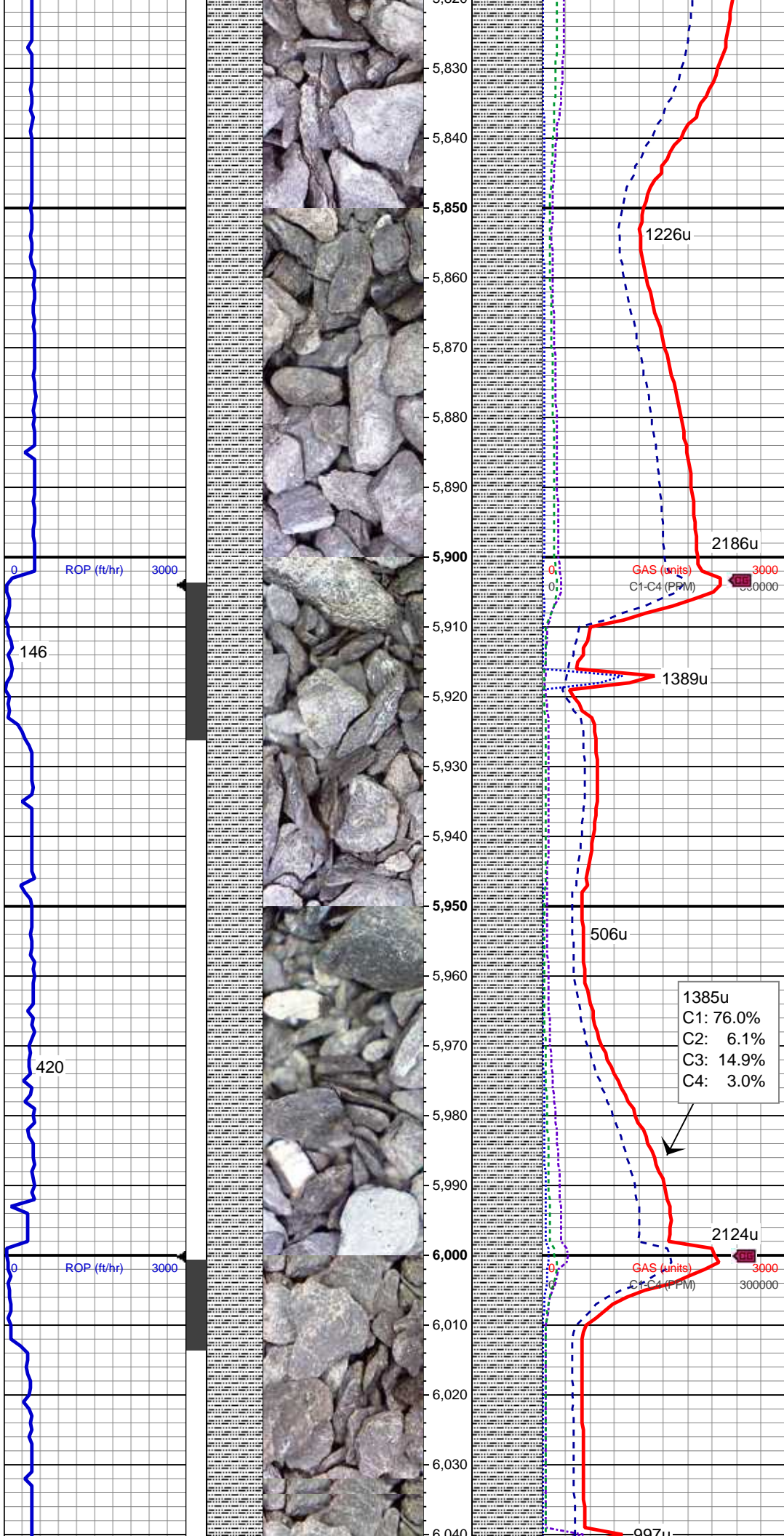
100% SILTY SH: m-dk gy occ gy
brn, firm-sl sft, rthy-sl slty tex

MUD WT 9.4 VIS 39

MD: 5,738'
TVD: 5,720.78'
Inclination: 0.49 °
Azimuth: 138.91 °
VS: 167.67'

100% SILTY SH: m-dk gy occ gy
brn, firm-sl sft, rthy-sl slty tex

1525u
C1: 81.9%
C2: 7.9%
C3: 10.2%
C4: 0.0%



MD: 5,833'
TVD: 5,815.77'
Inclination: 1.11 °
Azimuth: 141.2 °
VS: 166.87'

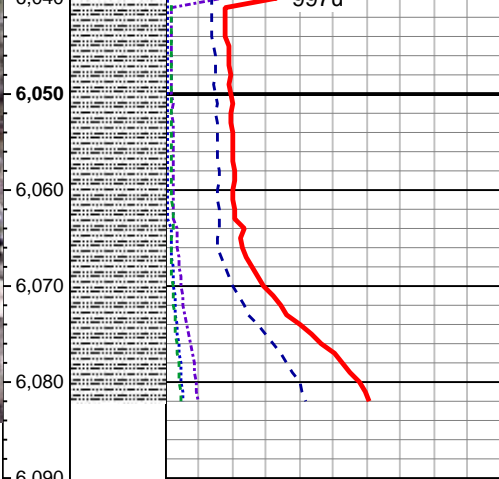
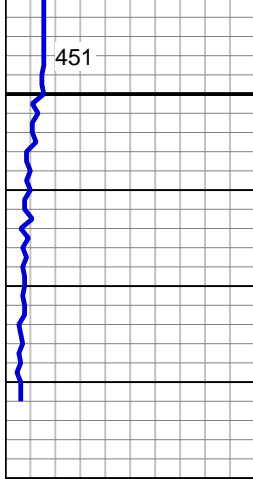
100% SILTY SH: m-dk gy occ gy
brn, firm-sl sft, rthy-sl slty tex

MD: 5,928'
TVD: 5,910.76'
Inclination: 0.98 °
Azimuth: 151.73 °
VS: 165.99'

100% SILTY SH: m-dk gy occ gy
brn, firm-sl sft, rthy-sl slty tex;

MUD WT 9.3 VIS 33

MD: 6,023'
TVD: 6,005.75'
Inclination: 0.58 °
Azimuth: 173.44 °
VS: 165.61'



100% SILTY SH: m-dk gy occ gy
brn, firm-sl sft, rthy-sl slty tex;

TD Vertical @ 6082' MD;
1132 hrs 7/3/2014

TOOH For Directional BHA

LOG CONTINUED ON:
NCLP AA06-62-1AHNC(HORZ).mplot

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Columbine Logging Inc.