

# COLUMBINE LOGGING

Scale: 5" / 100'  
Measured Depth Log

**Well Name** STORIS E24-75HN VERT

**Location** SEC 24 T6N R65W

**State** COLORADO

**County** WELD

**Country** USA

**Rig Number** H&P 315

**API Number** 05-123-38152

**AFE #** 139617

**Region** DJ BASIN

**Field** WATTENBERG

**Spud Date** 4/10/2014

**Drilling Completed** 4/12/2014

**Surface Coordinates** NENE SEC 24 T6N R65W  
330' FNL; 1,302' FEL

LAT/LON: 40.47782/-104.60654

**Bottom Hole Coordinates** SWSE SEC 24 T6N R65W  
225' FSL; 2,640' FEL

**Ground Elevation** 4,685'

**K.B. Elevation** 4,709'

**Logged Interval** 2,000' **To** 6,162'

**Total Depth** 6,162'

**Formation** NIOBRARA C CHALK

**Type of Drilling Fluid** LSND

## Operator

**Company** Noble Energy Inc

**Address** 1625 BROADWAY SUITE 2200  
DENVER, CO 80202

## Geologist

**Name** MARK COLE, NATHAN MURPHY

**Company** COLUMBINE LOGGING, INC

**Address** 2385 S LIPAN ST  
DENVER, CO 80223

## Rock Types

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

## 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

## Other Symbols

### Oil Show

	DEAD
	EVEN
	QUESTIONABLE
	SPOTTED STAINING

### Porosity

	EARTHY
	FENESTRAL
	FRACTURE
	INTERCRYSTALLINE
	INTEROOLITIC
	MOLDIC

### Organic

	PINPOINT
	VUGGY

### Engineering

	BIT
	CONNECTION (LEFT)
	CONNECTION (RIGHT)
	CONNECTION GAS
	CONNECTION GAS DOWN...
	CONNECTION GAS DOWN
	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

### Rounding

	ANGULAR
	ROUNDED
	SUBANG
	SUBRND

### Textures

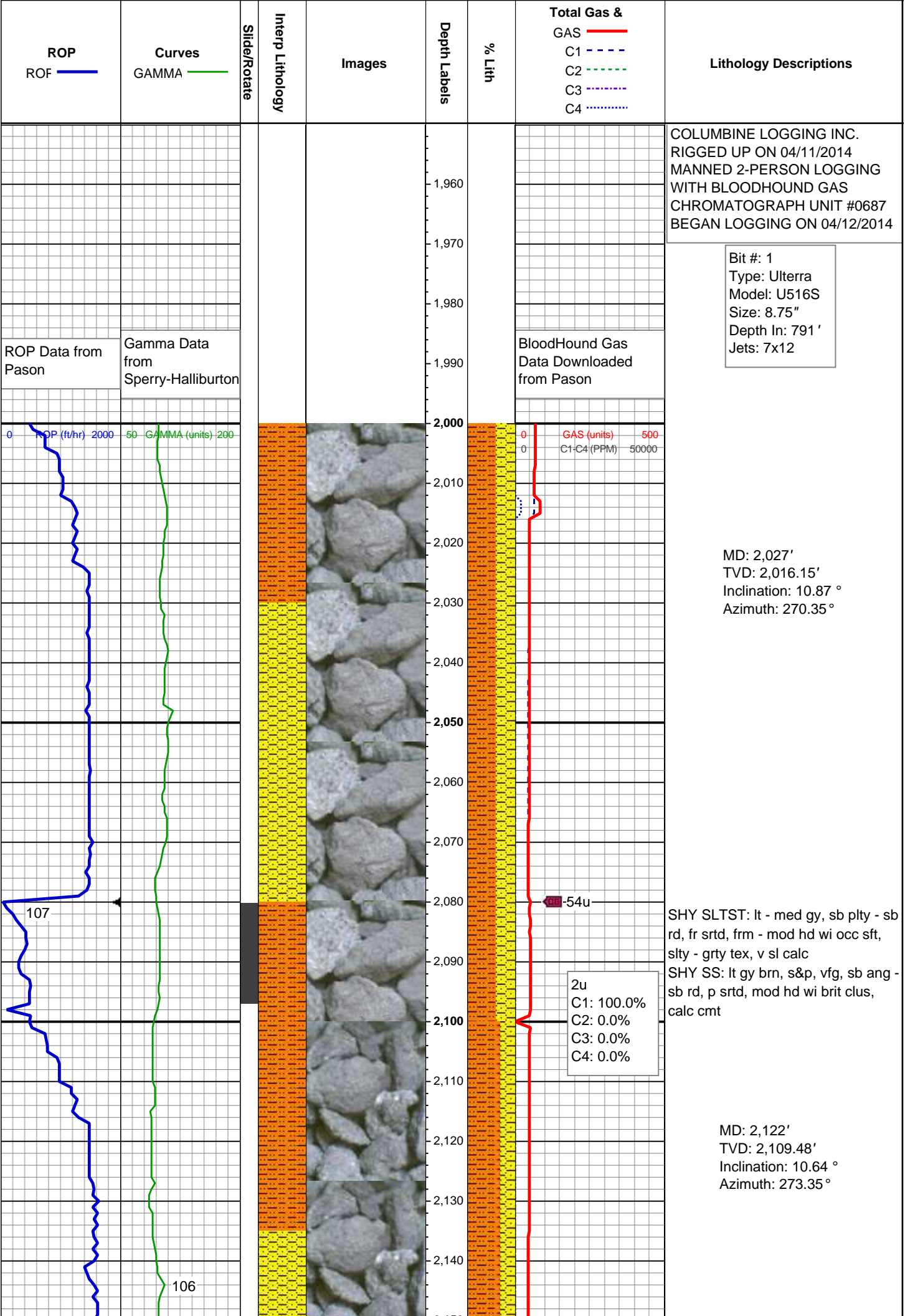
	BOUNDSTONE
	CHALKY
	CRYPTOXLN
	EARTHY
	FINELYXLN

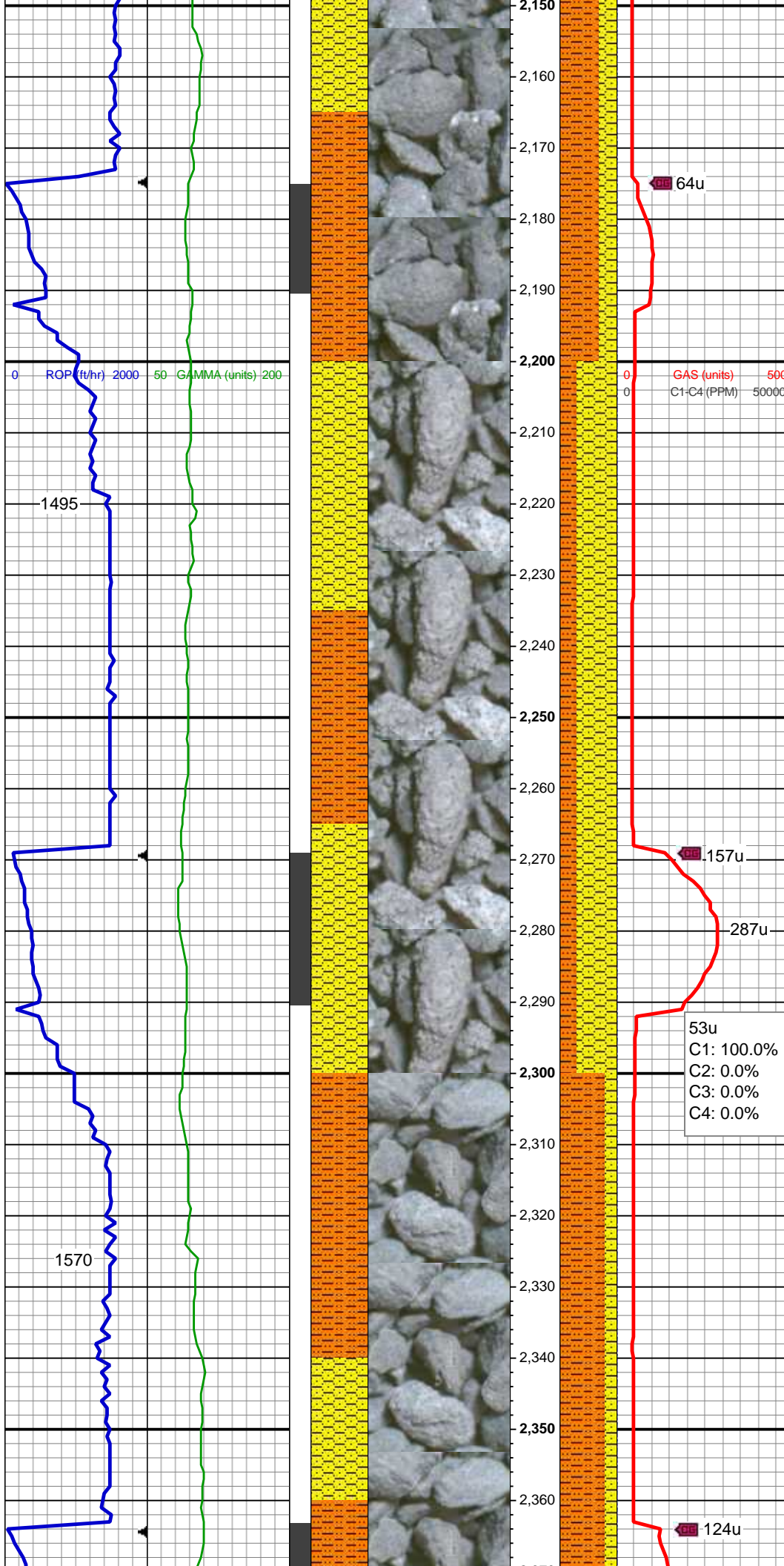
### Grainstone

	LITHOGRAPHIC
	MICROXLN
	MUDSTONE
	PACKSTONE
	WACKESTONE

### Sorting

	MODERATE
	POOR
	WELL





SHY SLTST: lt - med gy, sb plty - sb rd, fr srted, frm - mod hd wi occ sft, slty - grty tex, v sl calc  
SHY SS: lt gy brn, s&p, vfg, sb ang - sb rd, p srted, mod hd wi brit clus, calc cmt

MD: 2,217'  
TVD: 2,202.86'  
Inclination: 10.53 °  
Azimuth: 272.83 °

04/12/2014  
Mud Wt: 8.85  
FVis: 30  
PVis: 4  
YP: 3  
GELS: n/s  
API Filt: n/s  
CAKE: 1/0  
pH: 11.0  
Cl: 900  
Ca: 80

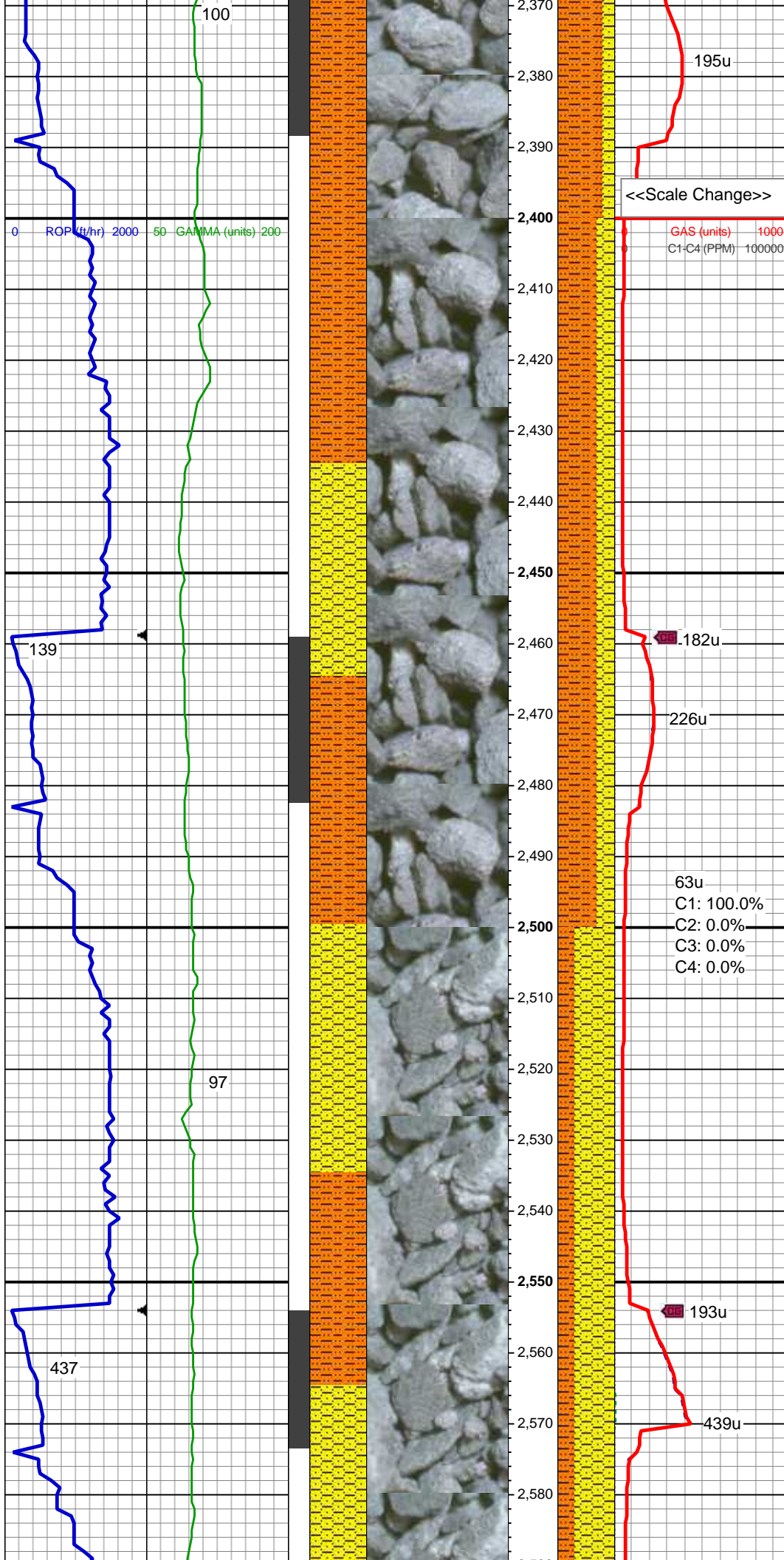
SHY SS: lt gy brn, s&p, vfg, sb ang - sb rd, p srted, mod hd wi brit clus, calc cmt

SHY SLTST: lt - med gy, sb plty - sb rd, fr srted, frm - mod hd wi occ sft, slty - grty tex, v sl calc

MD: 2,312'  
TVD: 2,296.25'  
Inclination: 10.63 °  
Azimuth: 276.23 °

MUD WT: 8.8/8.8





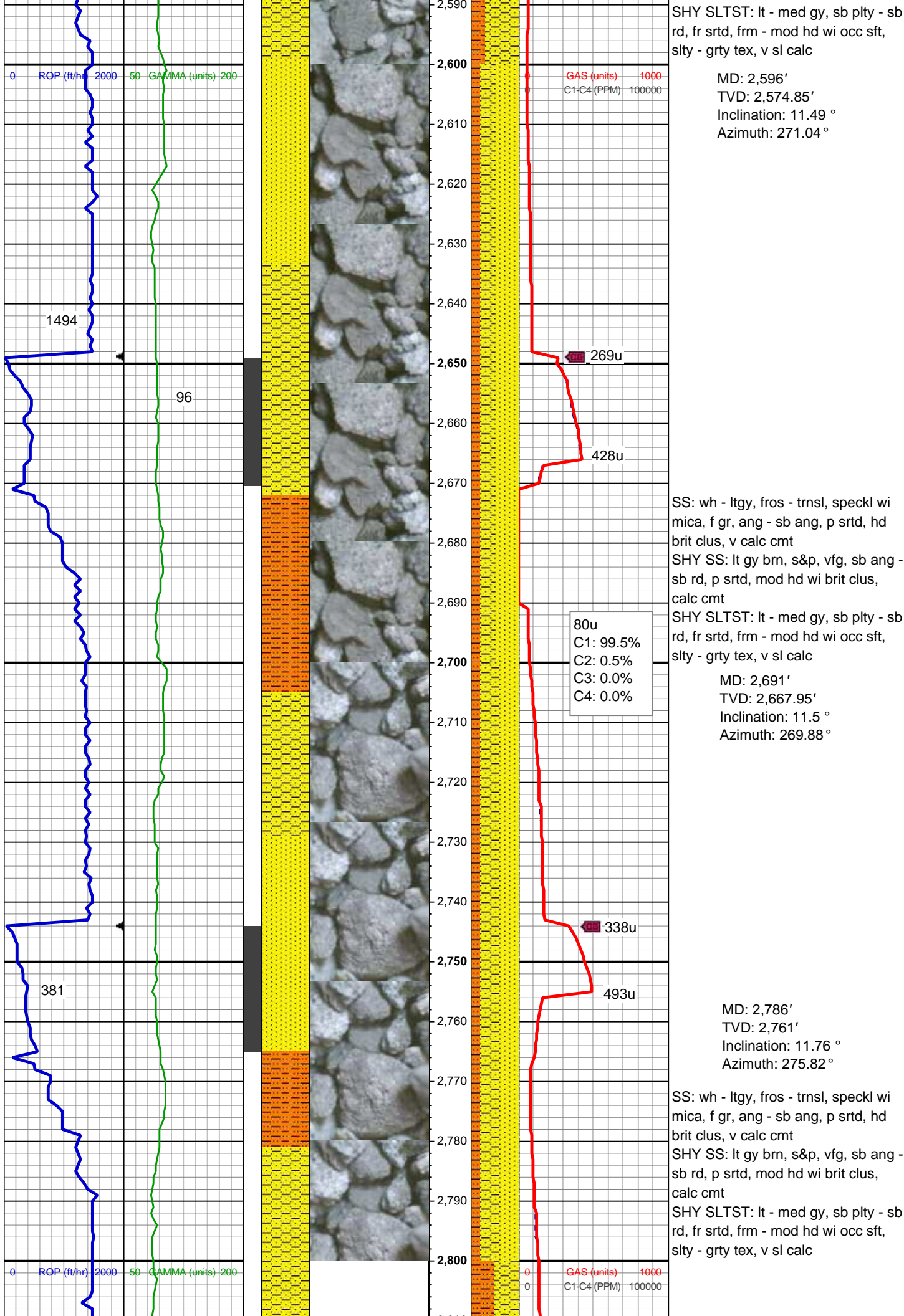
SHY SLTST: lt - med gy, sb plty - sb  
rd, fr srted, frm - mod hd wi occ sft,  
silty - grty tex, v sl calc  
SHY SS: lt gy brn, s&p, vfg, sb ang -  
sb rd, p srted, mod hd wi brit clus,  
calc cmt

MD: 2,406'  
TVD: 2,388.59'  
Inclination: 10.92 °  
Azimuth: 273.94 °

SHY SLTST: lt - med gy, sb plty - sb  
rd, fr srted, frm - mod hd wi occ sft,  
silty - grty tex, v sl calc  
SHY SS: lt gy brn, s&p, vfg, sb ang -  
sb rd, p srted, mod hd wi brit clus,  
calc cmt

MD: 2,501'  
TVD: 2,481.77'  
Inclination: 11.56 °  
Azimuth: 272.95 °

SHY SS: lt gy brn, s&p, vfg, sb ang -  
sb rd, p srted, mod hd wi brit clus,  
calc cmt



SHY SLTST: lt - med gy, sb plty - sb  
rd, fr srt, frm - mod hd wi occ sft,  
slty - grty tex, v sl calc

MD: 2,596'  
TVD: 2,574.85'  
Inclination: 11.49 °  
Azimuth: 271.04 °

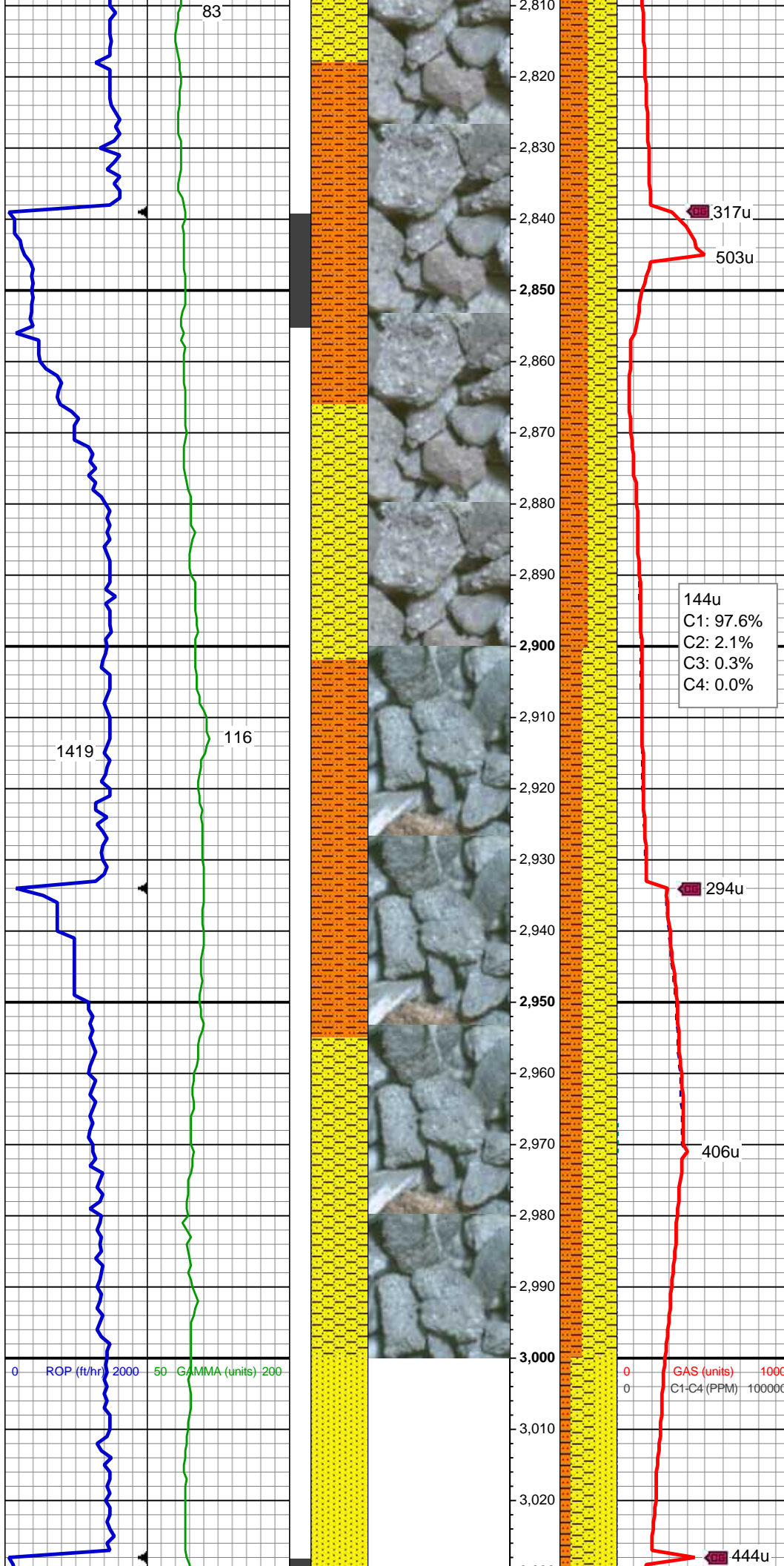
SS: wh - ltgy, fros - trns, speckl wi  
mica, f gr, ang - sb ang, p srt, hd  
brit clus, v calc cmt  
SHY SS: lt gy brn, s&p, vfg, sb ang -  
sb rd, p srt, mod hd wi brit clus,  
calc cmt  
SHY SLTST: lt - med gy, sb plty - sb  
rd, fr srt, frm - mod hd wi occ sft,  
slty - grty tex, v sl calc

MD: 2,691'  
TVD: 2,667.95'  
Inclination: 11.5 °  
Azimuth: 269.88 °

SS: wh - ltgy, fros - trns, speckl wi  
mica, f gr, ang - sb ang, p srt, hd  
brit clus, v calc cmt  
SHY SS: lt gy brn, s&p, vfg, sb ang -  
sb rd, p srt, mod hd wi brit clus,  
calc cmt  
SHY SLTST: lt - med gy, sb plty - sb  
rd, fr srt, frm - mod hd wi occ sft,  
slty - grty tex, v sl calc

MD: 2,786'  
TVD: 2,761'  
Inclination: 11.76 °  
Azimuth: 275.82 °





MUD WT: 8.8/8.8  
VIS: 30/30 IN/OUT

MD: 2,881'  
TVD: 2,853.85'  
Inclination: 12.65 °  
Azimuth: 272.28 °

SHY SS: lt gy brn, s&p, vfg, sb ang -  
sb rd, p srted, mod hd wi brit clus,  
calc cmt

SHY SLTST: lt - med gy, sb plty - sb  
rd, fr srted, frm - mod hd wi occ sft,  
slty - grty tex, v sl calc

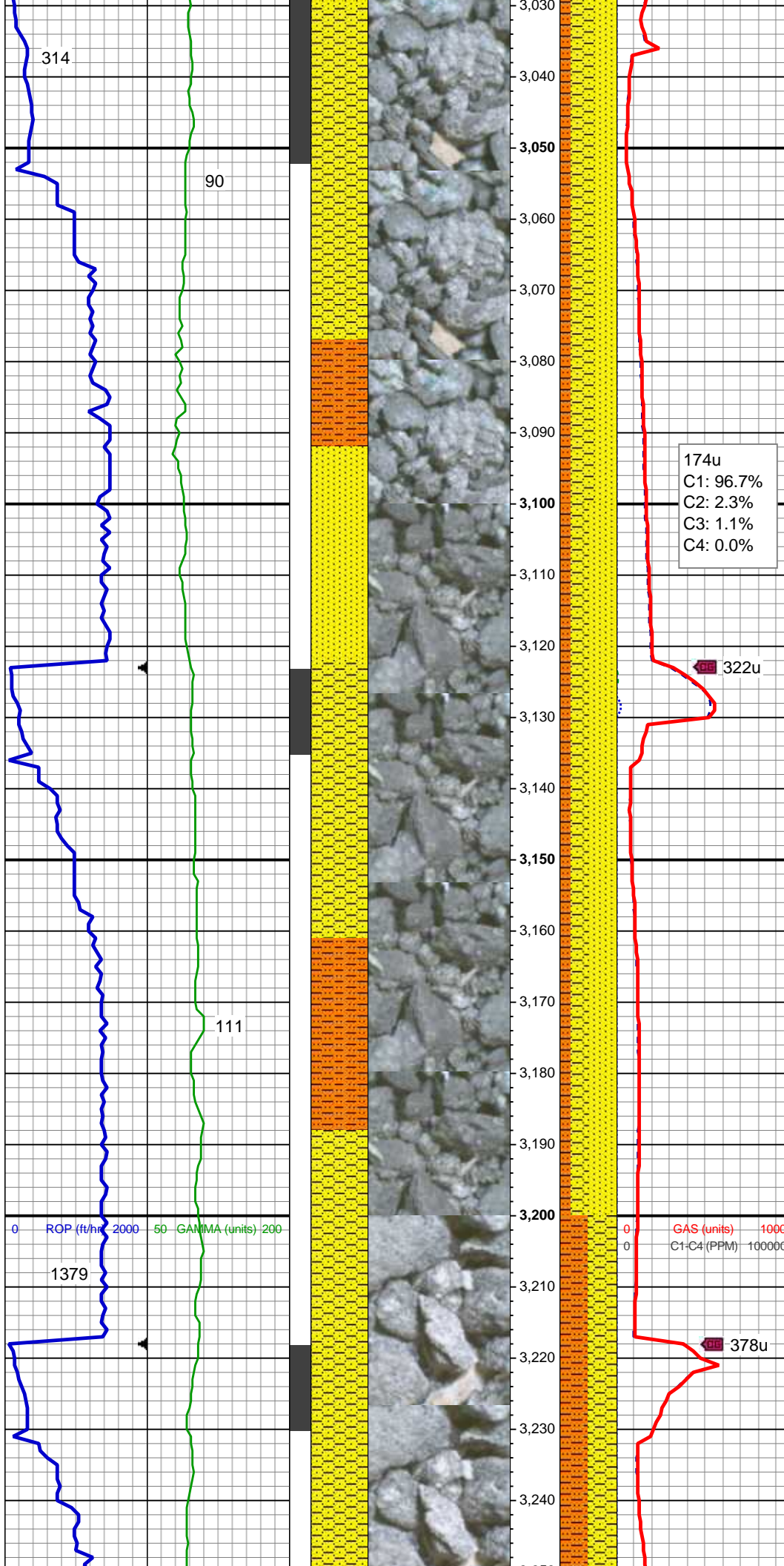
144u  
C1: 97.6%  
C2: 2.1%  
C3: 0.3%  
C4: 0.0%

MD: 2,976'  
TVD: 2,946.9'  
Inclination: 10.59 °  
Azimuth: 271.74 °

SHY SS: lt gy brn, s&p, vfg, sb ang -  
sb rd, p srted, mod hd wi brit clus,  
calc cmt

SHY SLTST: lt - med gy, sb plty - sb  
rd, fr srted, frm - mod hd wi occ sft,  
slty - grty tex, v sl calc

0 GAS (units) 1000  
0 C1-C4 (PPM) 100000



MD: 3,071'  
TVD: 3,040.07'  
Inclination: 11.92 °  
Azimuth: 272.9°

SS: wh - ltgy, fros - trnsI, speckl wi mica, f gr, ang - sb ang, p srted, hd brit clus, v calc cmt  
SHY SS: lt gy brn, s&p, vfg, sb ang - sb rd, p srted, mod hd wi brit clus, calc cmt  
SHY SLTST: lt - med gy, sb plty - sb rd, fr srted, frm - mod hd wi occ sft, slty - grty tex, v sl calc

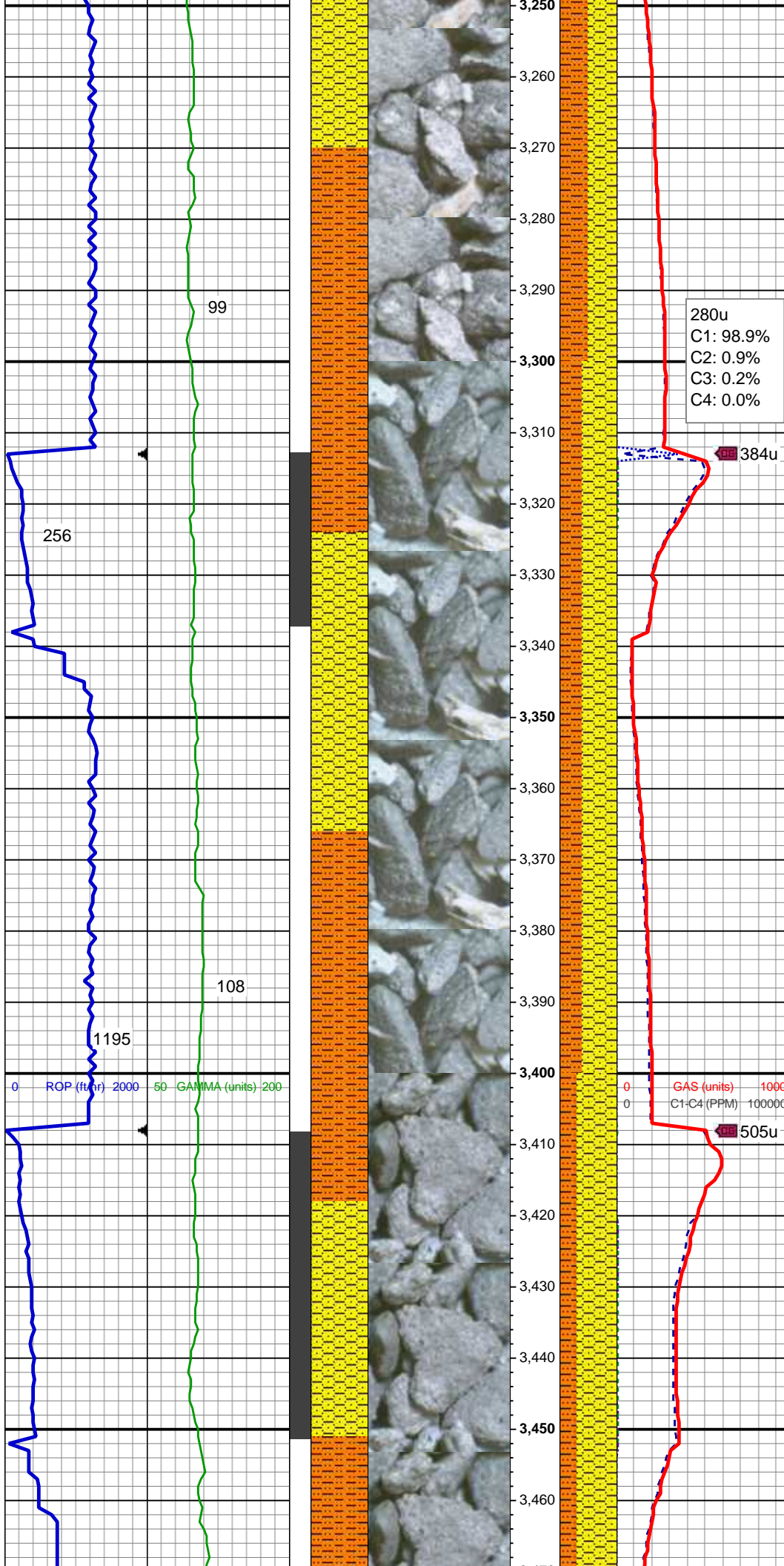
174u  
C1: 96.7%  
C2: 2.3%  
C3: 1.1%  
C4: 0.0%

MD: 3,166'  
TVD: 3,133.13'  
Inclination: 11.29 °  
Azimuth: 272.22°

SS: wh - ltgy, fros - trnsI, speckl wi mica, f gr, ang - sb ang, p srted, hd brit clus, v calc cmt  
SHY SS: lt gy brn, s&p, vfg, sb ang - sb rd, p srted, mod hd wi brit clus, calc cmt  
SHY SLTST: lt - med gy, sb plty - sb rd, fr srted, frm - mod hd wi occ sft, slty - grty tex, v sl calc

GAS (units) 1000  
C1-C4 (PPM) 100000





MD: 3,261'  
TVD: 3,226.58'  
Inclination: 9.43 °  
Azimuth: 273.9 °

SHY SS: lt gy brn, s&p, vfg, sb ang -  
sb rd, p srted, mod hd wi brit clus,  
calc cmt

SHY SLTST: lt - med gy, sb plty - sb  
rd, fr srted, frm - mod hd wi occ sft,  
slty - grty tex, v sl calc

280u  
C1: 98.9%  
C2: 0.9%  
C3: 0.2%  
C4: 0.0%

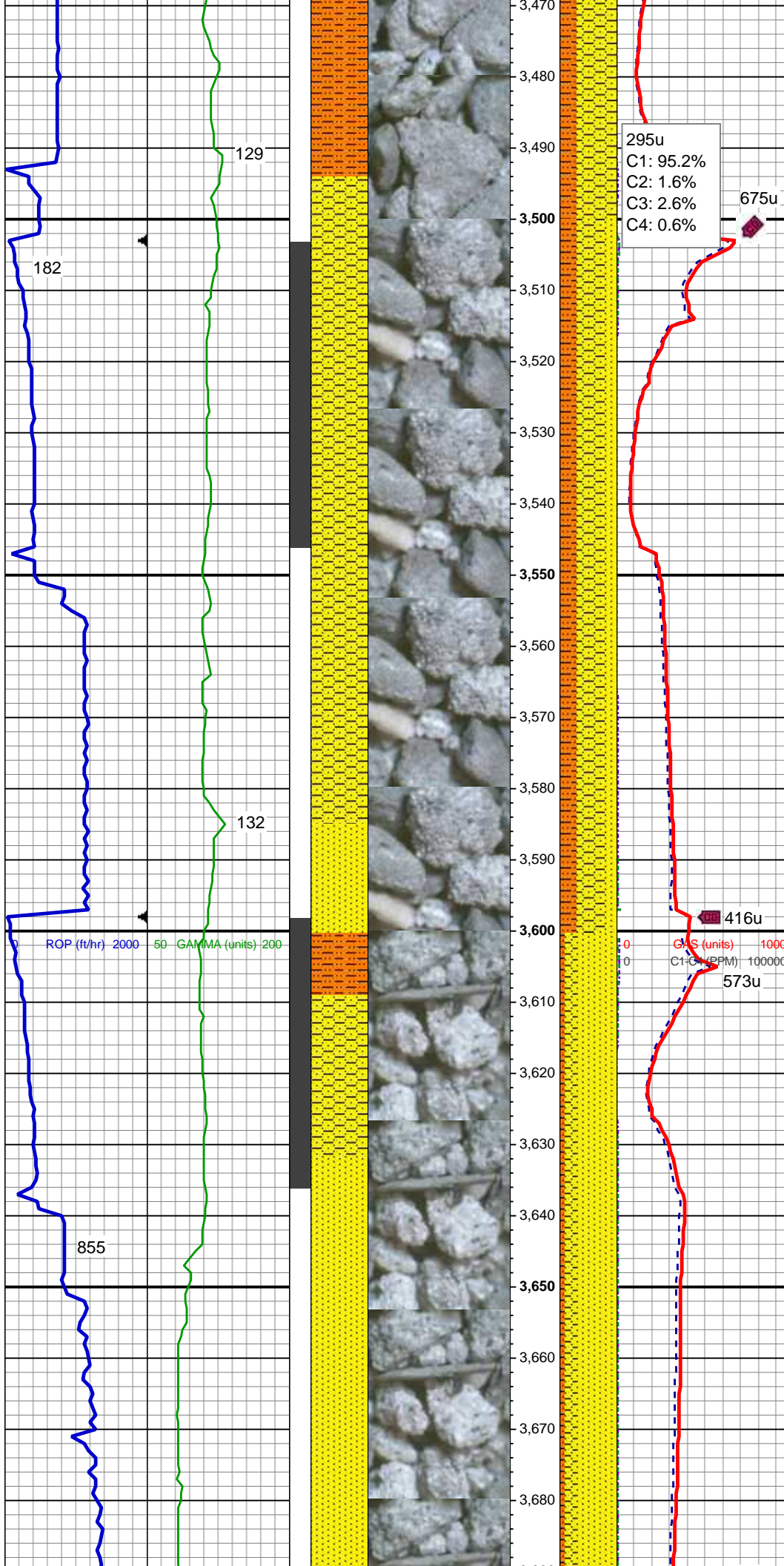
MD: 3,356'  
TVD: 3,320.43'  
Inclination: 8.36 °  
Azimuth: 276.39 °

SHY SS: lt gy brn, s&p, vfg, sb ang -  
sb rd, p srted, mod hd wi brit clus,  
calc cmt

SHY SLTST: lt - med gy, sb plty - sb  
rd, fr srted, frm - mod hd wi occ sft,  
slty - grty tex, v sl calc

0 GAS (units) 1000  
0 C1-C4 (PPM) 100000

MD: 3,451'  
TVD: 3,414.39'  
Inclination: 8.63 °  
Azimuth: 275.19 °



SHY SS: lt gy brn, s&p, vfg, sb ang - sb rd, p srted, mod hd wi brit clus, calc cmt  
SHY SLTST: lt - med gy, sb plty - sb rd, fr srted, frm - mod hd wi occ sft, slty - grty tex, v sl calc

MD: 3,546'  
TVD: 3,508.08'  
Inclination: 10.4 °  
Azimuth: 278.06 °

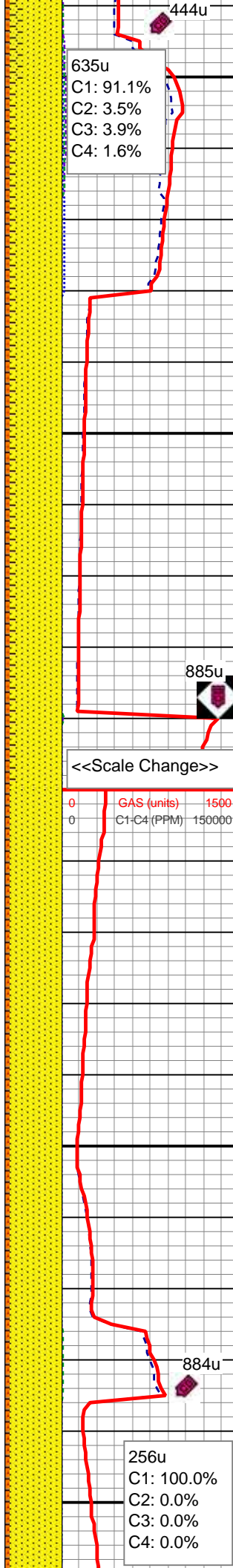
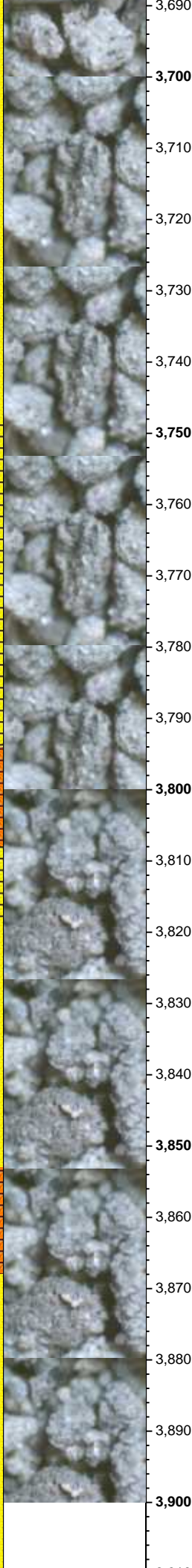
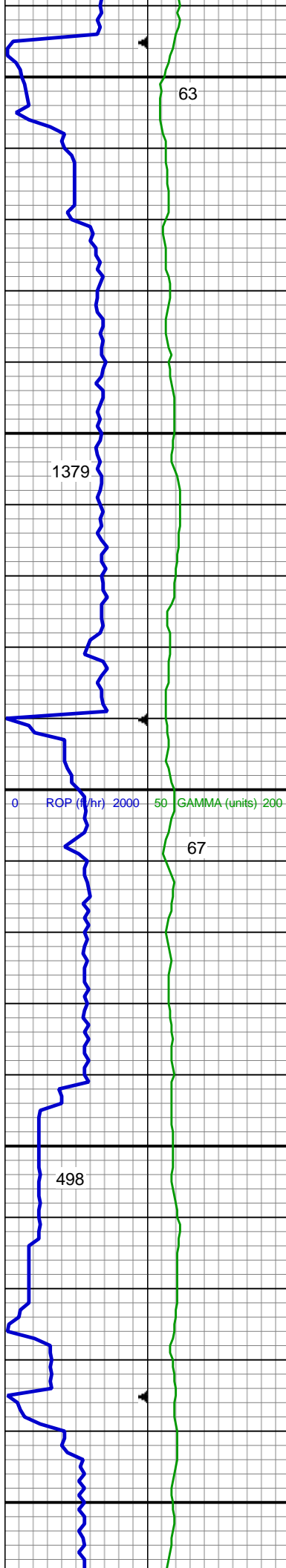
Parkman Top @  
3,585' MD; 3,546' TVD

SHY SS: lt gy brn, s&p, vfg, sb ang - sb rd, p srted, mod hd wi brit clus, calc cmt  
SHY SLTST: lt - med gy, sb plty - sb rd, fr srted, frm - mod hd wi occ sft, slty - grty tex, v sl calc  
SS: wh - ltgy, fros - trns, speckl wi mica, f gr, ang - sb ang, p srted, hd brit clus, v calc cmt

MD: 3,641'  
TVD: 3,601.45'  
Inclination: 10.86 °  
Azimuth: 271.75 °

SS: wh - ltgy, fros - trns, speckl wi mica, f gr, ang - sb ang, p srted, hd brit clus, v calc cmt  
SHY SS: lt gy brn, s&p, vfg, sb ang - sb rd, p srted, mod hd wi brit clus, calc cmt





SHY SLTST: lt - med gy, sb plty - sb  
rd, fr srted, frm - mod hd wi occ sft,  
silty - grty tex, v sl calc

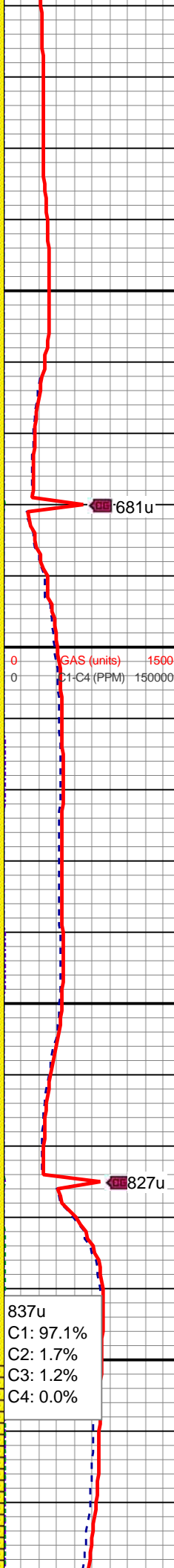
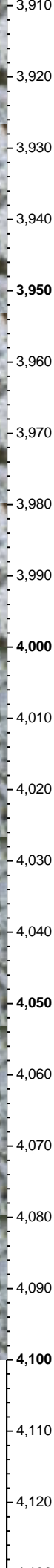
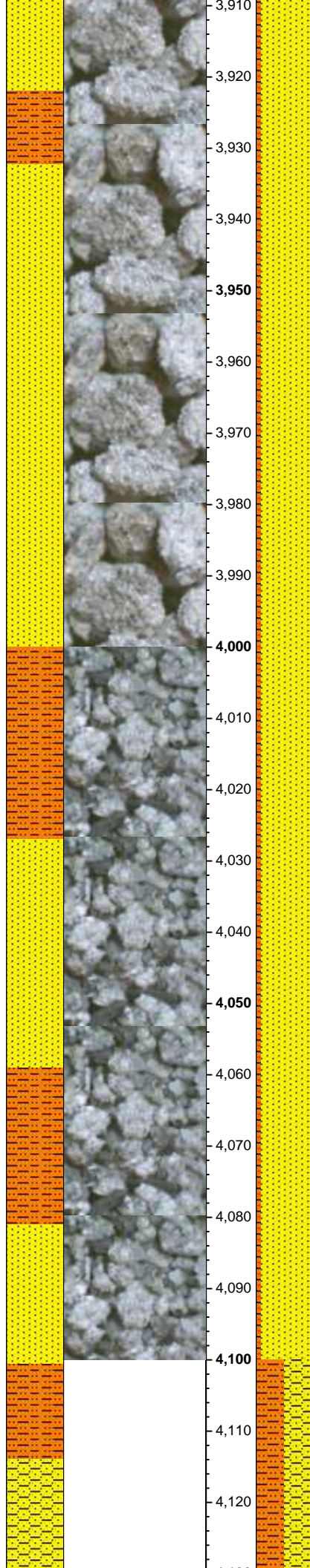
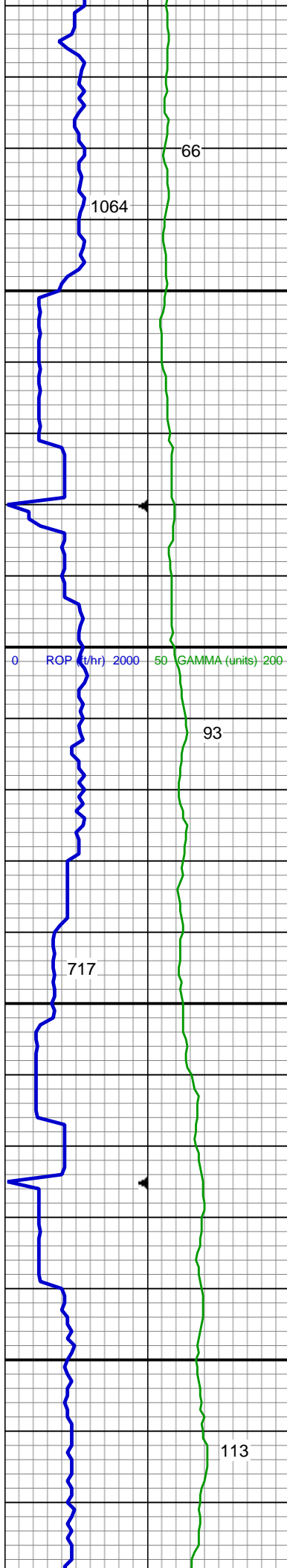
SS: wh - ltgy, fros - trnsI, speckl wi  
mica, f gr, ang - sb ang, p srted, hd  
brit clus, v calc cmt  
SHY SS: lt gy brn, s&p, vfg, sb ang -  
sb rd, p srted, mod hd wi brit clus,  
calc cmt  
SHY SLTST: lt - med gy, sb plty - sb  
rd, fr srted, frm - mod hd wi occ sft,  
silty - grty tex, v sl calc

MD: 3,831'  
TVD: 3,787.62'  
Inclination: 12.19 °  
Azimuth: 272.09 °

MUD WT: 8.85/8.85  
VIS: 30/30 IN/OUT

SS: wh - ltgy, fros - trnsI, speckl wi  
mica, f gr, ang - sb ang, p srted, hd  
brit clus, v calc cmt  
SHY SLTST: lt - med gy, sb plty - sb  
rd, fr srted, frm - mod hd wi occ sft,  
silty - grty tex, v sl calc





MD: 3,926'  
TVD: 3,880.35'  
Inclination: 12.91 °  
Azimuth: 272.96 °

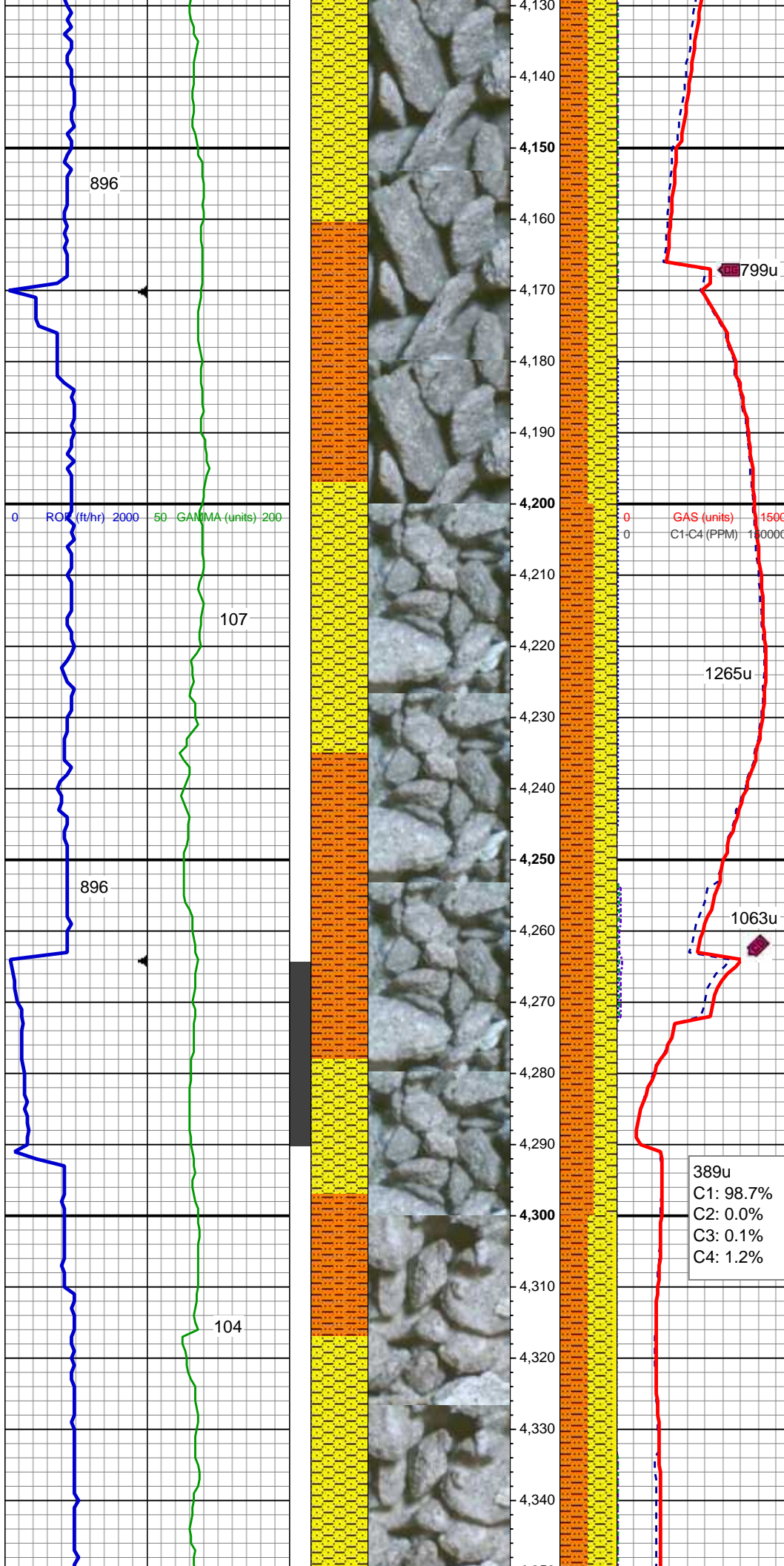
SS: wh - ltgy, fros - trnsl, speckl wi mica, f gr, ang - sb ang, p srted, hd brit clus, v calc cmt  
SHY SLTST: lt - med gy, sb plty - sb rd, fr srted, frm - mod hd wi occ sft, slty - grty tex, v sl calc

MD: 4,020'  
TVD: 3,971.88'  
Inclination: 13.4 °  
Azimuth: 273.26 °

SS: wh - ltgy, fros - trnsl, speckl wi mica, f gr, ang - sb ang, p srted, hd brit clus, v calc cmt  
SHY SLTST: lt - med gy, sb plty - sb rd, fr srted, frm - mod hd wi occ sft, slty - grty tex, v sl calc

Sussex Top @  
4,112' MD; 4,061' TVD

MD: 4,115'  
TVD: 4,064.44'  
Inclination: 12.64 °  
Azimuth: 272.39 °



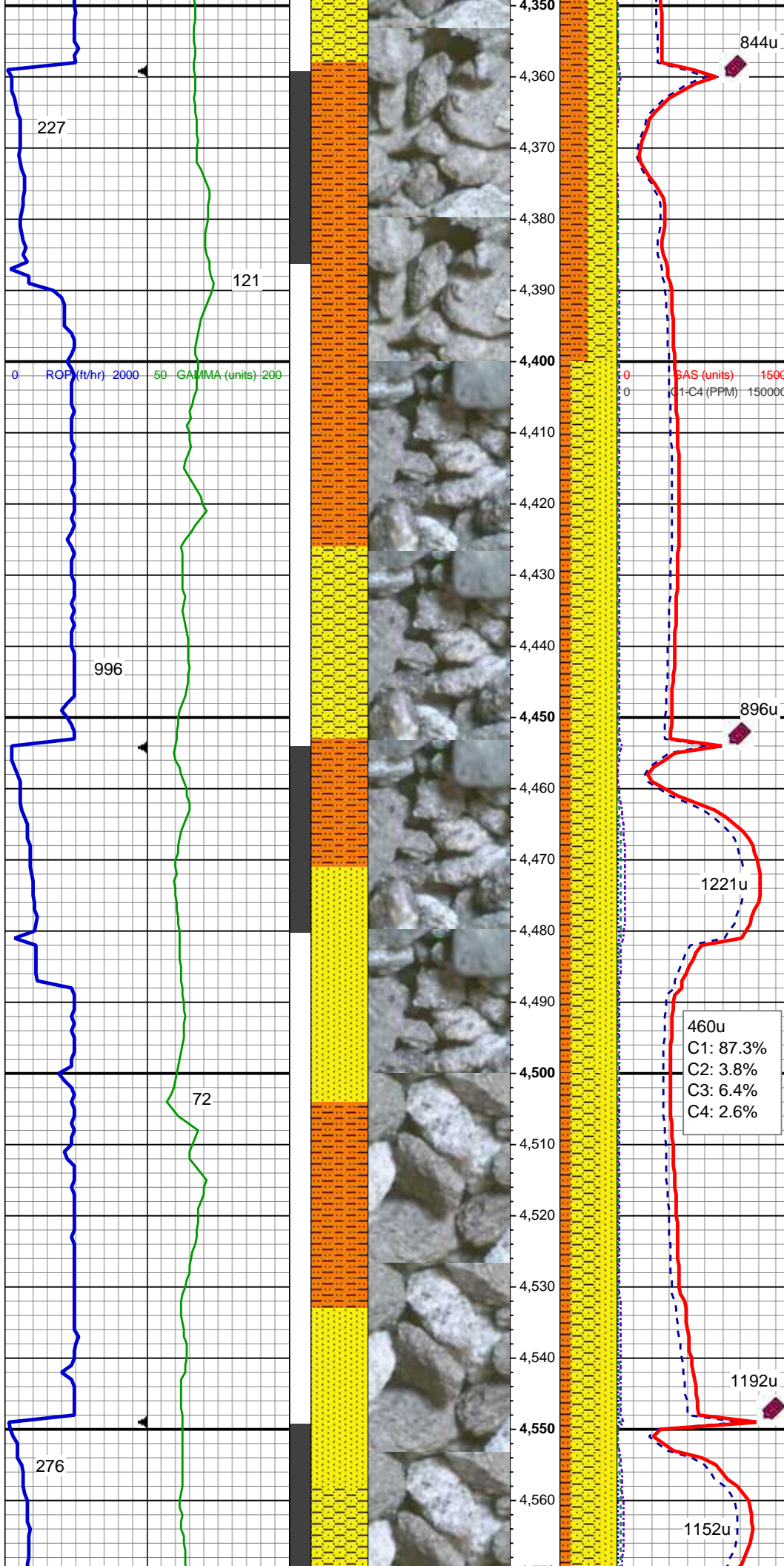
SHY SS: lt gy brn, s&p, vfg, sb ang -  
sb rd, p srtd, mod hd wi brit clus,  
calc cmt  
SHY SLTST: lt - med gy, sb plty - sb  
rd, fr srtd, frm - mod hd wi occ sft,  
slty - grty tex, v sl calc

MD: 4,210'  
TVD: 4,157.52'  
Inclination: 10.38 °  
Azimuth: 271.81 °

SHY SLTST: lt - med gy, sb plty - sb  
rd, fr srtd, frm - mod hd wi occ sft,  
slty - grty tex, v sl calc  
SHY SS: lt gy brn, s&p, vfg, sb ang -  
sb rd, p srtd, mod hd wi brit clus,  
calc cmt

MD: 4,305'  
TVD: 4,251.01'  
Inclination: 10.11 °  
Azimuth: 269.57 °





SHY SLTST: lt - med gy, sb plty - sb rd, fr srted, frm - mod hd wi occ sft, slty - grty tex, v sl calc  
SHY SS: lt gy brn, s&p, vfg, sb ang - sb rd, p srted, mod hd wi brit clus, calc cmt  
SS: wh - ltgy, fros - trnsI, speckl wi mica, f gr, ang - sb ang, p srted, hd brit clus, v calc cmt

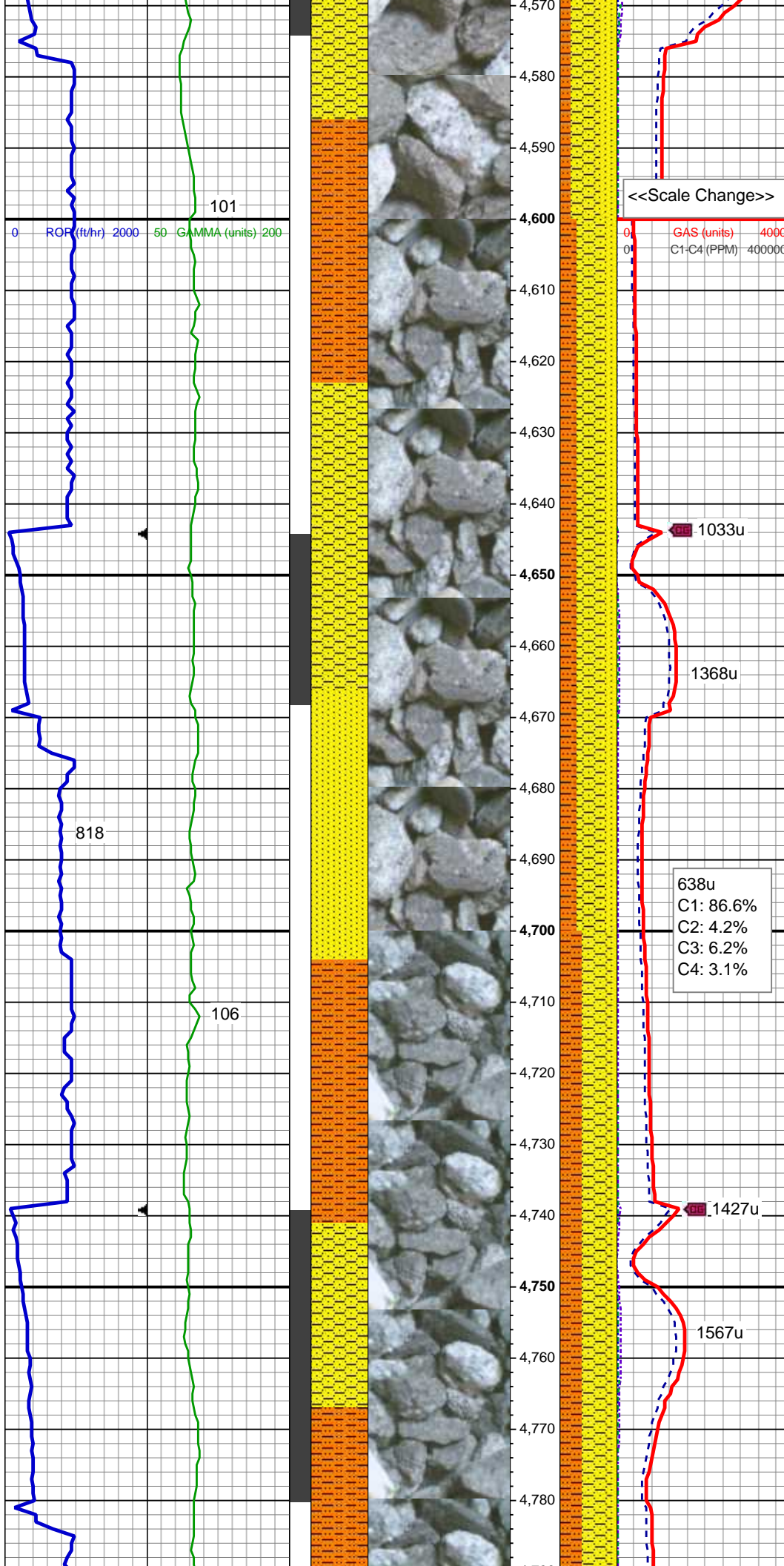
MD: 4,400'  
TVD: 4,344.5'  
Inclination: 10.31 °  
Azimuth: 270.06 °

MUD WT: 8.90/9.05  
VIS: 29/29 IN/OUT

SHY SS: lt gy brn, s&p, vfg, sb ang - sb rd, p srted, mod hd wi brit clus, calc cmt  
SS: wh - ltgy, fros - trnsI, speckl wi mica, f gr, ang - sb ang, p srted, hd brit clus, v calc cmt  
SHY SLTST: lt - med gy, sb plty - sb rd, fr srted, frm - mod hd wi occ sft, slty - grty tex, v sl calc

MD: 4,495'  
TVD: 4,437.97'  
Inclination: 10.28 °  
Azimuth: 269.73 °





SHY SS: lt gy brn, s&p, vfg, sb ang - sb rd, p srted, mod hd wi brit clus, calc cmt  
SS: wh - ltgy, fros - trnsi, speckl wi mica, f gr, ang - sb ang, p srted, hd brit clus, v calc cmt  
SHY SLTST: lt - med gy, sb plty - sb rd, fr srted, frm - mod hd wi occ sft, slty - grty tex, v sl calc

MD: 4,590'  
TVD: 4,531.46'  
Inclination: 10.18 °  
Azimuth: 271.95 °

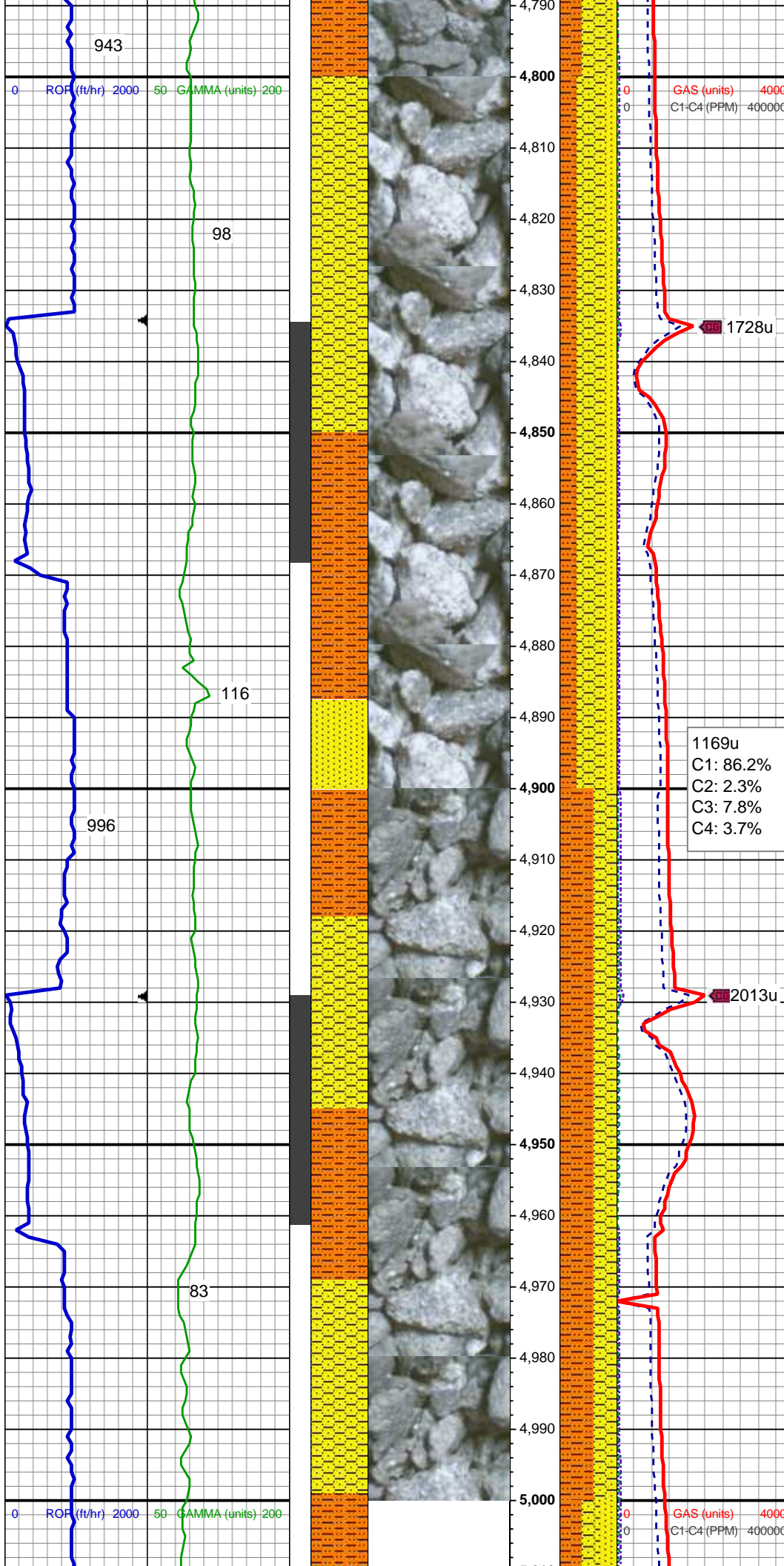
MD: 4,685'  
TVD: 4,625.06'  
Inclination: 9.53 °  
Azimuth: 268.21 °

SHY SS: lt gy brn, s&p, vfg, sb ang - sb rd, p srted, mod hd wi brit clus, calc cmt  
SHY SLTST: lt - med gy, sb plty - sb rd, fr srted, frm - mod hd wi occ sft, slty - grty tex, v sl calc  
SS: wh - ltgy, fros - trnsi, speckl wi mica, f gr, ang - sb ang, p srted, hd brit clus, v calc cmt

MUD WT: 8.90/9.10  
VIS: 29/29 IN/OUT

MD: 4,780'  
TVD: 4,718.58'  
Inclination: 10.76 °  
Azimuth: 271.11 °

SHY SS: lt gy brn, s&p, vfg, sb ang - sb rd, p srted, mod hd wi brit clus, calc cmt  
SHY SLTST: lt - med gy, sb plty - sb rd, fr srted, frm - mod hd wi occ sft, slty - grty tex, v sl calc



SS: wh - ltgy, fros - trns, speckl wi mica, f gr, ang - sb ang, p srt, hd brit clus, v calc cmt

MD: 4,875'  
TVD: 4,811.89'  
Inclination: 10.89 °  
Azimuth: 277.31 °

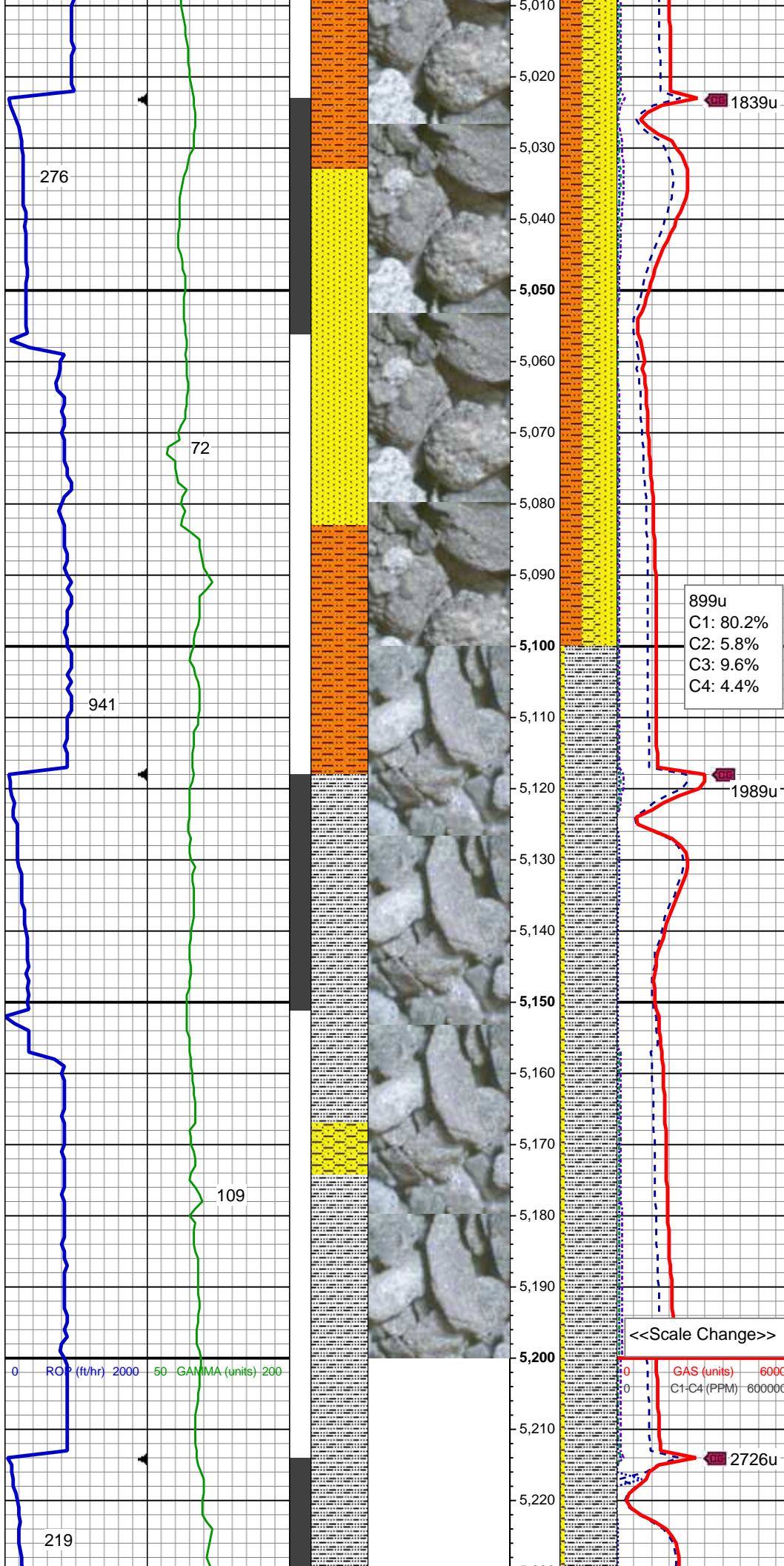
SHY SS: lt gy brn, s&p, vfg, sb ang - sb rd, p srt, mod hd wi brit clus, calc cmt  
SHY SLTST: lt - med gy, sb plty - sb rd, fr srt, frm - mod hd wi occ sft, slty - grty tex, v sl calc  
SS: wh - ltgy, fros - trns, speckl wi mica, f gr, ang - sb ang, p srt, hd brit clus, v calc cmt

Shannon Top @  
4,887' MD; 4,824' TVD

MD: 4,970'  
TVD: 4,905.34'  
Inclination: 9.83 °  
Azimuth: 274.75 °

SHY SLTST: lt - med gy, sb plty - sb rd, fr srt, frm - mod hd wi occ sft, slty - grty tex, v sl calc  
SHY SS: lt gy brn, s&p, vfg, sb ang - sb rd, p srt, mod hd wi brit clus, calc cmt





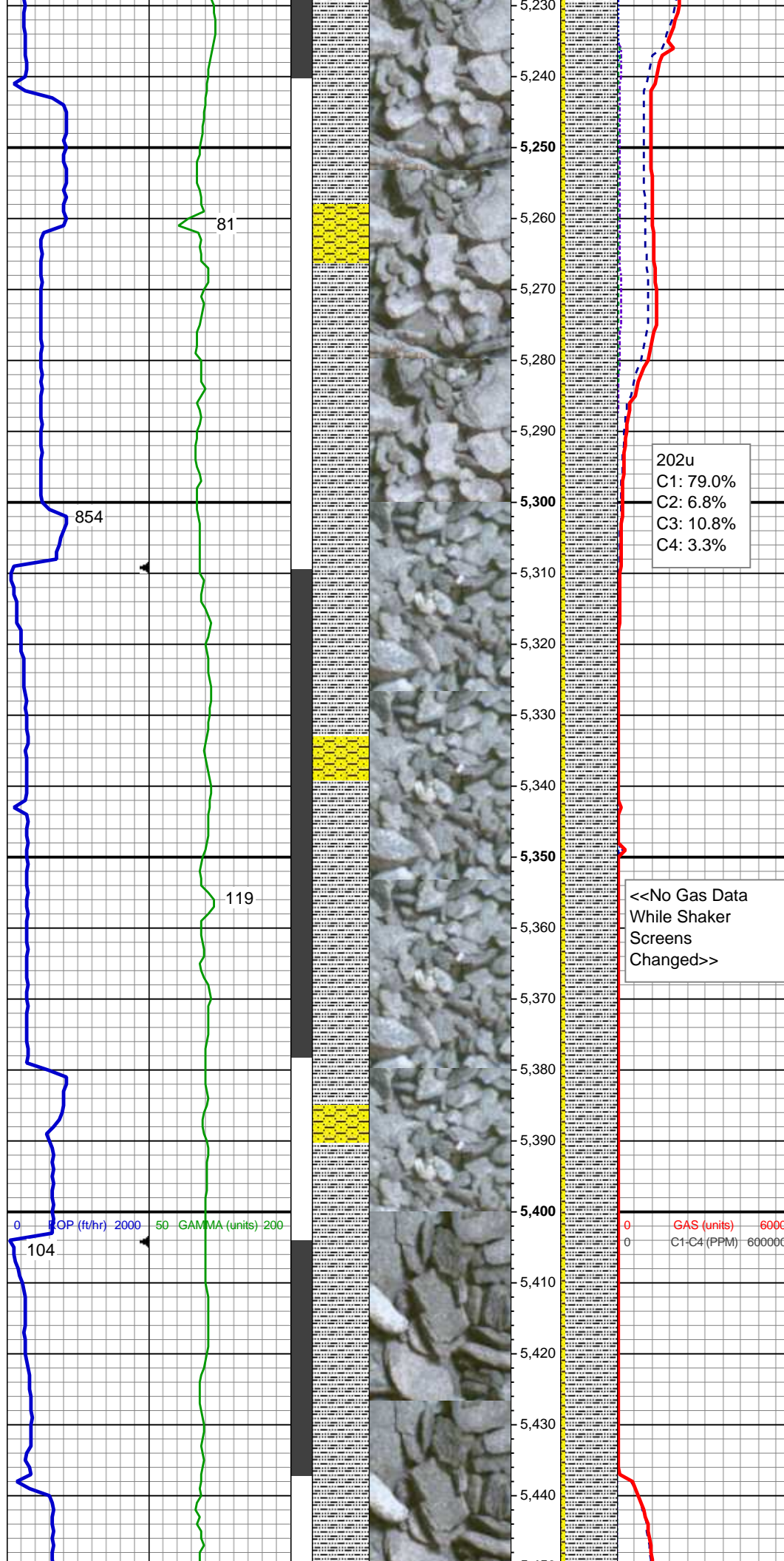
MD: 5,064'  
TVD: 4,997.79'  
Inclination: 11 °  
Azimuth: 271.55 °

SHY SLTST: lt - med gy, sb plty - sb  
rd, fr srted, frm - mod hd wi occ sft,  
slty - grty tex, v sl calc  
SHY SS: lt gy brn, s&p, vfg, sb ang -  
sb rd, p srted, mod hd wi brit clus,  
calc cmt  
SS: wh - ltgy, fros - trnsf, speckl wi  
mica, f gr, ang - sb ang, p srted, hd  
brit clus, v calc cmt

MD: 5,159'  
TVD: 5,091.05'  
Inclination: 10.97 °  
Azimuth: 276.93 °

SLTY SH: lt - med gy brn, occ dk gy,  
frm - hd, plty - sb plty, occ sb blk,  
slty - grty tex, v sl calc  
SHY SS: lt gy, fros - trnsf, s&p, vfg,  
sb ang - sb rd, p srted, mod hd wi  
brit clus, calc cmt





MD: 5,254'  
TVD: 5,184.37'  
Inclination: 10.62 °  
Azimuth: 283.81 °

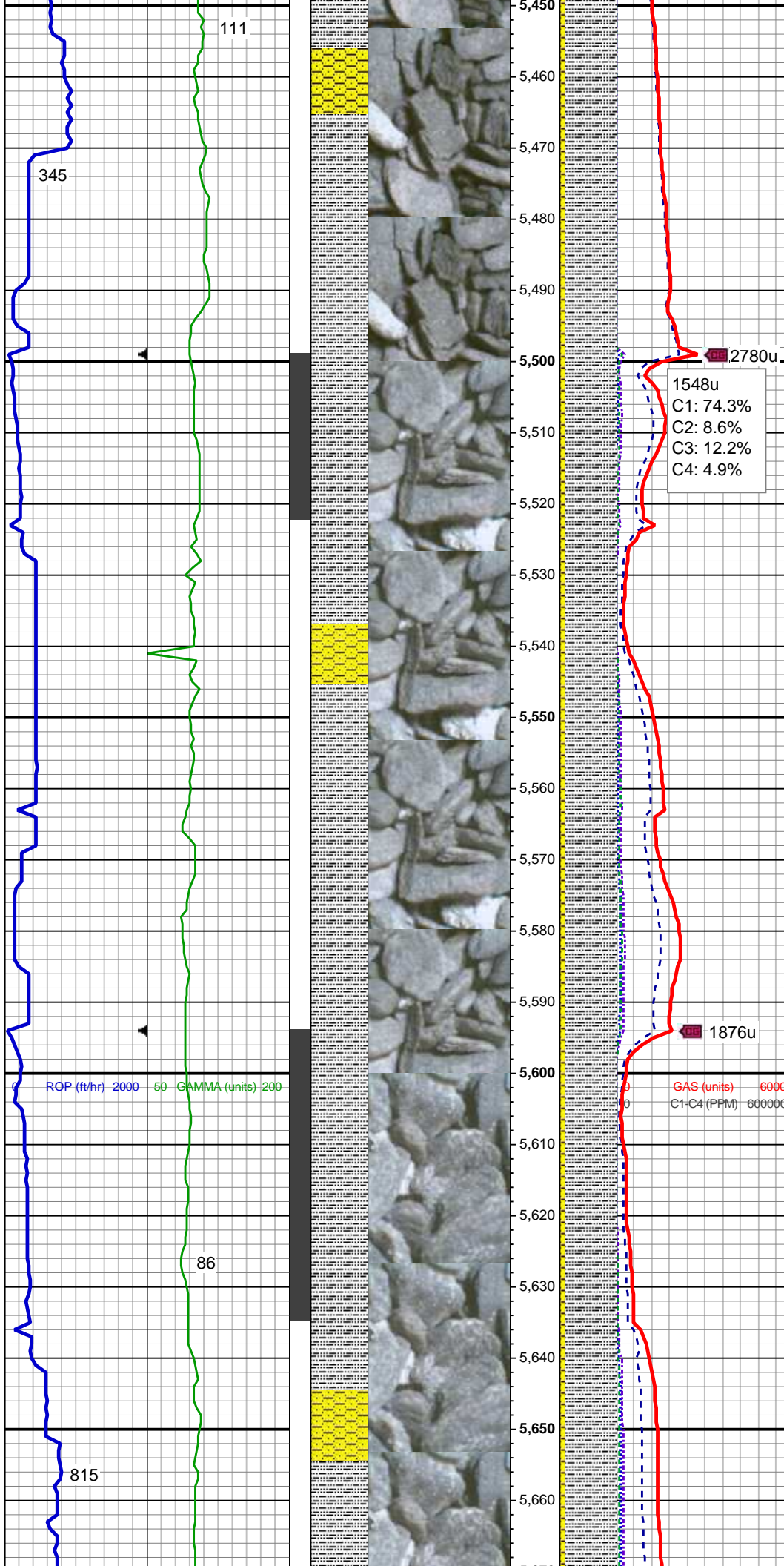
SLTY SH: lt - med gy brn, occ dk gy,  
frm - hd, plty - sb plty, occ sb blk,  
silty - grty tex, v sl calc  
SHY SS: lt gy, fros - trnsl, s&p, vfg,  
sb ang - sb rd, p srted, mod hd wi  
brit clus, calc cmt

MD: 5,349'  
TVD: 5,277.66'  
Inclination: 11.19 °  
Azimuth: 286.13 °

SLTY SH: lt - med gy brn, occ dk gy,  
frm - hd, plty - sb plty, occ sb blk,  
silty - grty tex, v sl calc  
SHY SS: lt gy, fros - trnsl, s&p, vfg,  
sb ang - sb rd, p srted, mod hd wi  
brit clus, calc cmt

MD: 5,444'  
TVD: 5,370.75'  
Inclination: 11.85 °  
Azimuth: 289.98 °

Azimuth: 260.9°



SLTY SH: lt - med gy brn, occ dk gy,  
frm - hd, plty - sb plty, occ sb blk,  
sly - grty tex, v sl calc  
SHY SS: lt gy, fros - trnsl, s&p, vfg,  
sb ang - sb rd, p srted, mod hd wi  
brit clus, calc cmt

04/12/2014  
Mud Wt: 8.90  
FVis: 28  
PVis: 2  
YP: 4  
GELS: n/s  
API Filt: n/s  
CAKE: 1/0  
pH: 8.9  
Cl: 800  
Ca: 40

MD: 5,539'  
TVD: 5,464.02'  
Inclination: 9.99 °  
Azimuth: 277.63 °

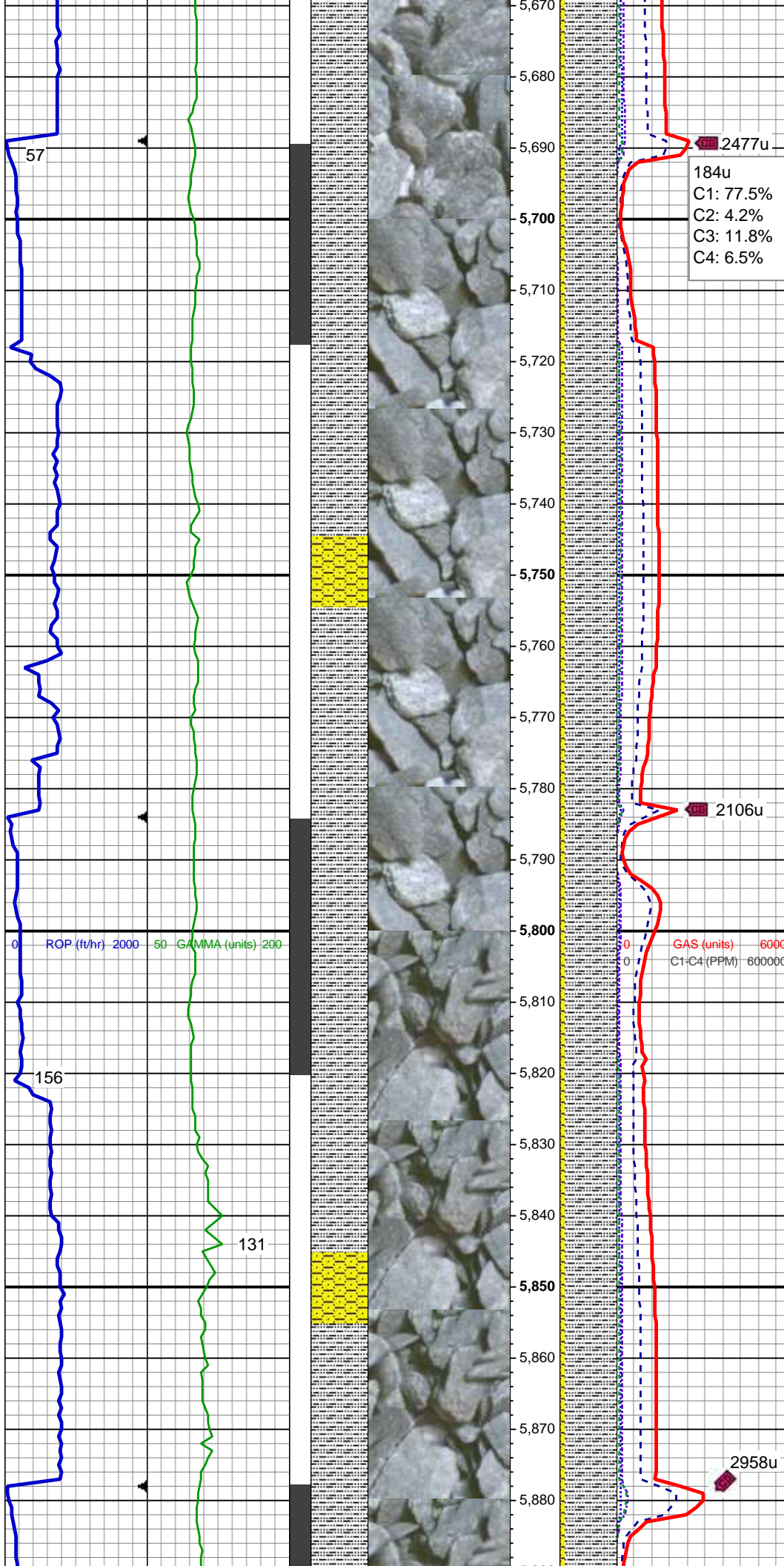
SLTY SH: lt - med gy brn, occ dk gy,  
frm - hd, plty - sb plty, occ sb blk,  
sly - grty tex, v sl calc  
SHY SS: lt gy, fros - trnsl, s&p, vfg,  
sb ang - sb rd, p srted, mod hd wi  
brit clus, calc cmt

MD: 5,634'  
TVD: 5,557.41'  
Inclination: 11.18 °  
Azimuth: 272.13 °

MUD WT: 8.90/9.05



VIS: 29/29 IN/OUT



SLTY SH: lt - med gy brn, occ dk gy,  
frm - hd, plty - sb plty, occ sb blk,  
sly - grty tex, v sl calc  
SHY SS: lt gy, fros - trnsl, s&p, vfg,  
sb ang - sb rd, p srtd, mod hd wi  
brit clus, calc cmt

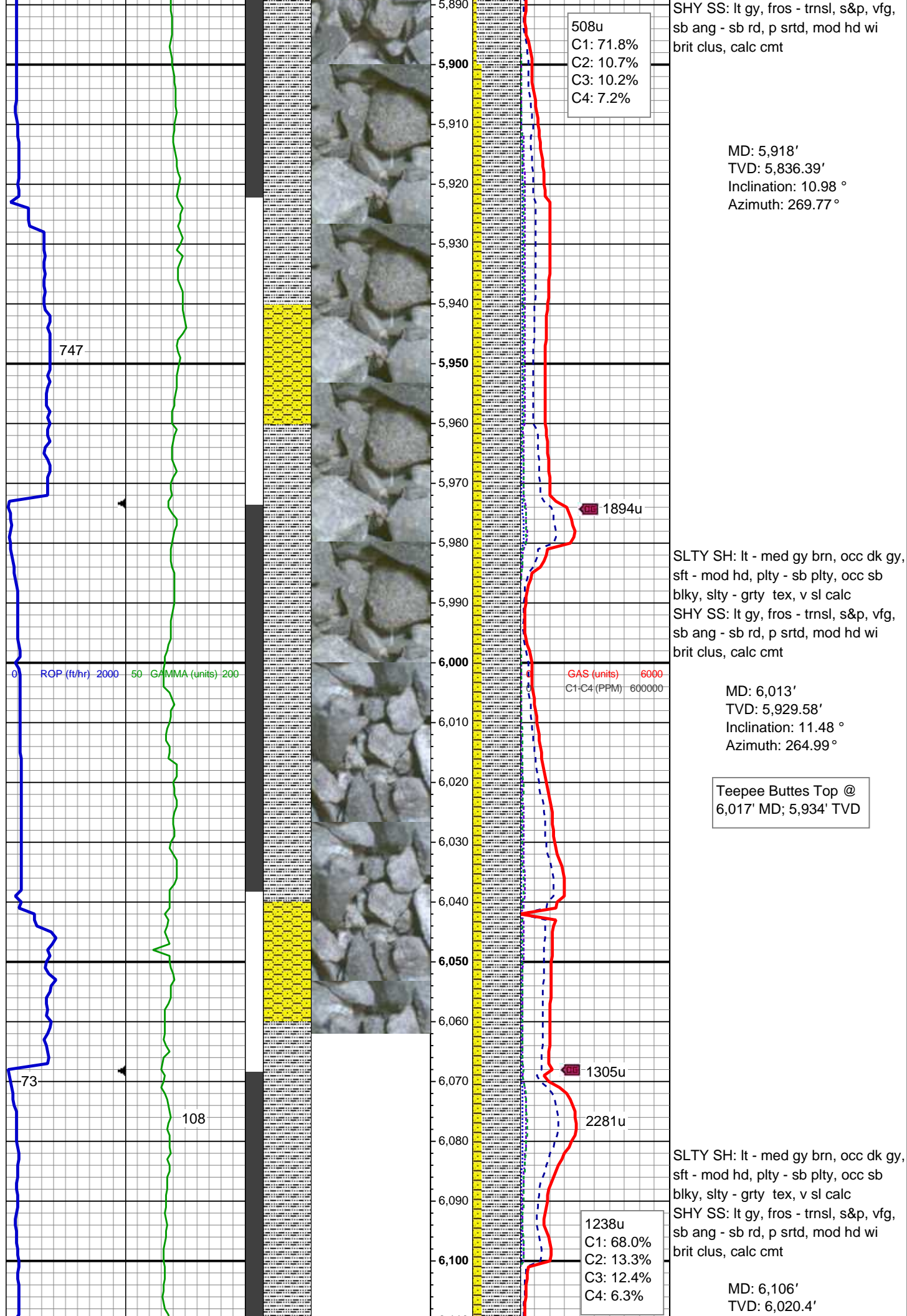
MD: 5,728'  
TVD: 5,649.71'  
Inclination: 10.63 °  
Azimuth: 269.73 °

SLTY SH: lt - med gy brn, occ dk gy,  
frm - hd, plty - sb plty, occ sb blk,  
sly - grty tex, v sl calc  
SHY SS: lt gy, fros - trnsl, s&p, vfg,  
sb ang - sb rd, p srtd, mod hd wi  
brit clus, calc cmt

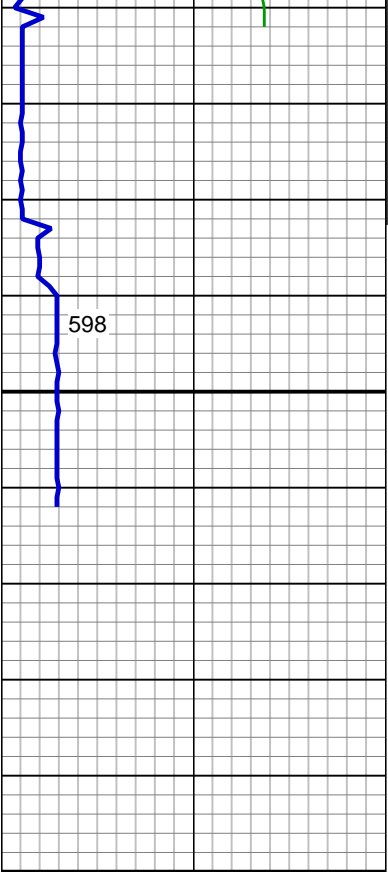
MD: 5,823'  
TVD: 5,743.08'  
Inclination: 10.64 °  
Azimuth: 268.11 °

MUD WT: 9.10/9.20  
VIS: 31/31 IN/OUT

SLTY SH: lt - med gy brn, occ dk gy,  
sft - mod hd, plty - sb plty, occ sb  
blk, sly - grty tex, v sl calc







TD Vertical @ 6,162'  
MD on 4/12/2014 @  
17:24 hrs MDT

Wellsite Geological  
Services  
Provided by  
Columbine Logging

SLTY SH: lt - med gy brn, occ dk gy,  
sft - mod hd, plty - sb plty, occ sb  
blky, slty - grty tex, v sl calc  
SHY SS: lt gy, fros - trnsl, s&p, vfg,  
sb ang - sb rd, p srted, mod hd wi  
brit clus, calc cmt

See Corresponding Horizontal Log  
Storis E24-75HN HORZ

Inclination: 13.36 °  
Azimuth: 267.13 °