

# COLUMBINE LOGGING

Scale: 5" / 100'  
Measured Depth Log

**Well Name** Anschutz Equus Farms 4-62-15-0560

**Location** NWNE Sec 15-T4N-R62W

**State** Colorado

**County** Weld

**Country** USA

**Rig Number** Nabors M22

**API Number** 05-123-40444

**AFE #** 19141D

**Region** DJ Basin

**Field** Wattenberg

**Spud Date** 12/28/2014

**Drilling Completed** 1/7/2015

**Surface Coordinates** NWNE Sec 15-T4N-R62W  
250' FNL 2250' FWL

**Bottom Hole Coordinates** PROJECTED:  
SWSE Sec 22-T4N-R62W  
500' FSL 2500' FEL

**Ground Elevation** 4514'

**K.B. Elevation** 4536'

**Logged Interval** 4500' To 5609'

**Total Depth** 16105'

**Formation** Shannon

**Type of Drilling Fluid** LSND

## Other Symbols

### Oil Show

- DEAD
- EVEN
- QUESTIONABLE
- SPOTTED STAINING

### Porosity

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

ORGANIC

P PINPOINT

V VUGGY

### Engineering

- BIT CHANGE
- CONNECTION (LEFT)
- CONNECTION (RIGHT)
- CONNECTION GAS
- TRIP GAS
- DOWN TIME GAS
- CORE - LOST
- CORE - RECOVERED
- DST INTERVAL



FAULT



FORMATION TOP



GAS SHOW



OIL SHOW



MN DEPTH



MN DEPTH (RIGHT)



NORMAL FAULT



OVERTURNED STRATA



REVERSE FAULT



CASING



SIDEWALL CORE (LEFT)



SIDEWALL CORE (RIGHT)



SLIDE



SURVEY



DRILL STEM TEST



WIRELINE TESTED - LEFT



WIRELINE TESTED - RT

### Rounding

- ANGULAR
- ROUNDED
- SUBANG
- SUBRND

### Textures

- BOUNDSTONE
- CHALKY
- CRYPTOXLN

E EARTHY

FX FINELYXLN

GS GRAINSTONE

L LITHOGRAPHIC

MX MICROXLN

MS MUDSTONE

PS PACKSTONE

WS WACKSTONE

WS WACKSTONE

### Sorting

- M MODERATE
- P POOR
- W WELL

## Accessories

### Fossils

GASTROPOD

INOCERAMUS

ARGILLITE GRAIN

B BENTONITE

HEAVY MINERAL

K KAOLIN

### Stringer

ALGAE	OOLITE	BITUMENOUS SUBSTANCE	MARCASITE	ANHYDRITE STRINGER
AMPHIPORA	OSTRACOD	BRECCIA FRAGMENTS	MARLSTONE	BENTONITE STRINGER
BELEMNITE	PELECYPOD	CALCAREOUS	MICACEOUS	COAL STRINGER
BIOCLASTIC	PELLET	CARBONACEOUS FLAKES	MINERAL CRYSTALS	DOLOMITE STRINGER
BRACHIOPOD	PISOLITE	CHTDK	NODULES	GYPSUM STRINGER
BRYOZOA	PLANT REMAINS	CHTLT	PHOSPHATE PELLETS	LIMESTONE STRINGER
CEPHALOPOD	PLANT SPORES	COAL - THIN BEDS	PYRITE	MARLSTONE (CALC) STRG
CORAL	SCAPHOPOD	DOLOMITIC	SALT CAST	MARLSTONE (DOL) STRG
CRINOID	STROMATOPOROID	FELDSPAR	SANDY	SANDSTONE STRINGER
ECHINOID		FERRUGINOUS PELLET	SIDERITE	SHALE STRINGER
FISH	<b>Minerals</b>	FERRUGINOUS	SILICEOUS	SILTSTONE STRINGER
FORAMINIFERA	ANHYDRITIC	GLAUCONITE	SILTY	
FOSSIL	ARGILLACEOUS	GYPSIFEROUS	TUFFACEOUS	

## Rock Types

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

## Operator

**Company** Bill Barrett Corp.

**Address** 1099 18th Street, Suite 2300  
Denver, CO 80202

## Geologist

**Name** Scott Hampton

**Company** Bill Barrett Corp.

**Address** 1099 18th Street, Suite 2300  
Denver, CO 80202

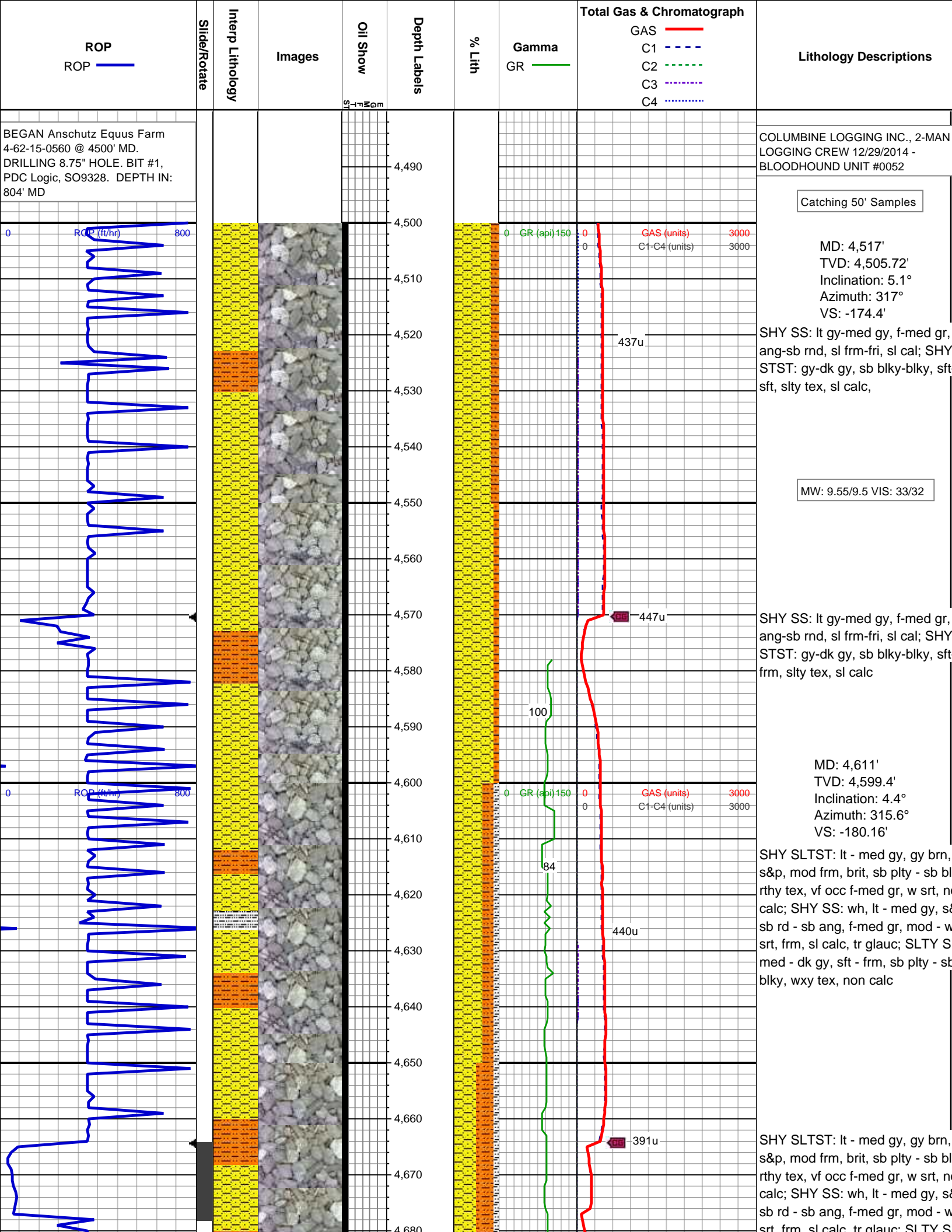
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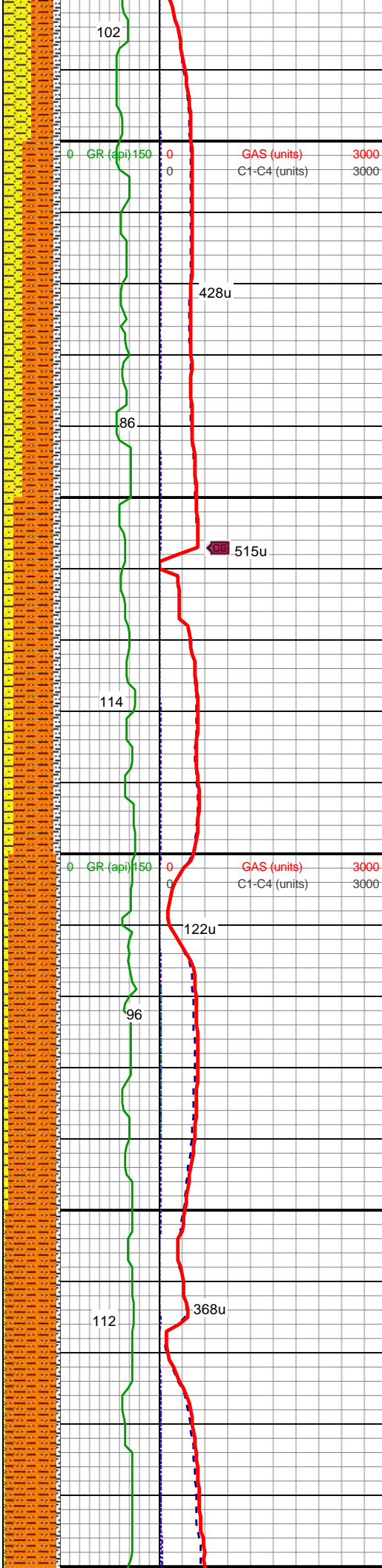
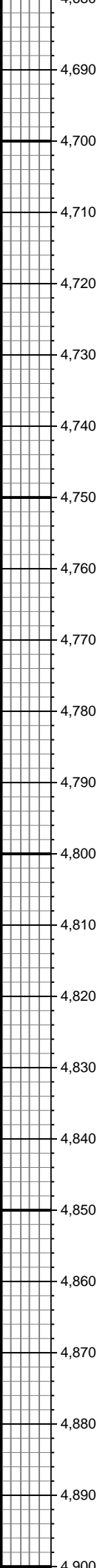
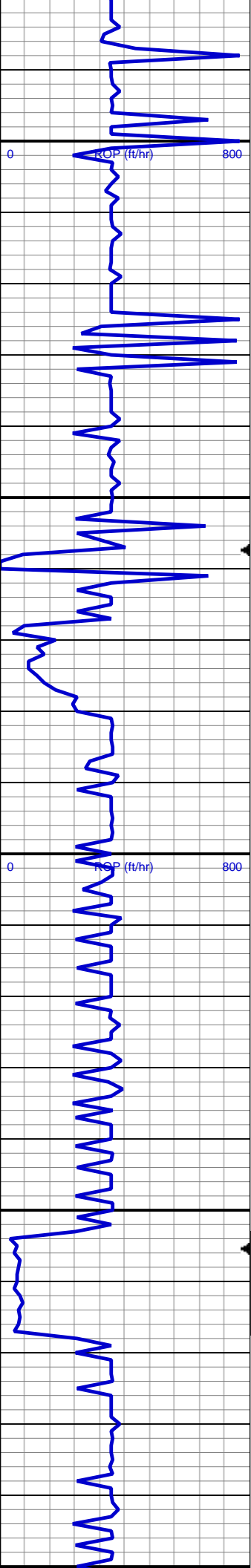
Oil	Condensate	Gas
Note	Core	Pressure
Error	Water	Seal

## Other

**Charles Trodick** Senior Wellsite Geologist

**Nick Barber** Wellsite Geologist





med - dk gy, sft - frm, sb plty - sb  
blky, wxy tex, non calc

MD: 4,706'  
TVD: 4,694.13'  
Inclination: 4.3°  
Azimuth: 301.9°  
VS: -184.77'

SHY SLTST: lt - med gy, gy brn,  
s&p, mod frm, brit, sb plty - sb bl  
rthy tex, vf occ f-med gr, w srt, n  
calc; SHY SS: wh, lt - med gy, s  
sb rd - sb ang, f-med gr, mod - w  
srt, frm, sl calc, tr glauc; SLTY S  
med - dk gy, sft - frm, sb plty - sb  
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med - dk gy, sft - frm, sb plty - sb  
blky, wxy tex, non calc

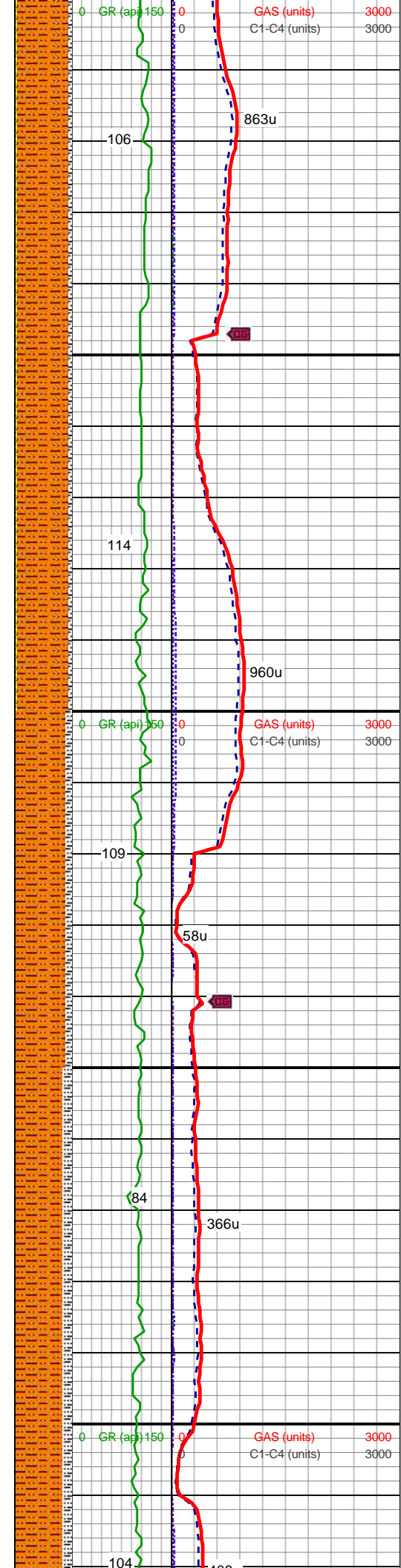
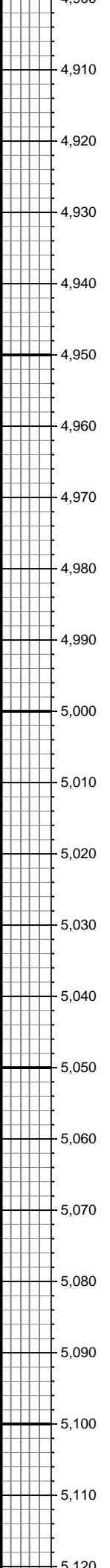
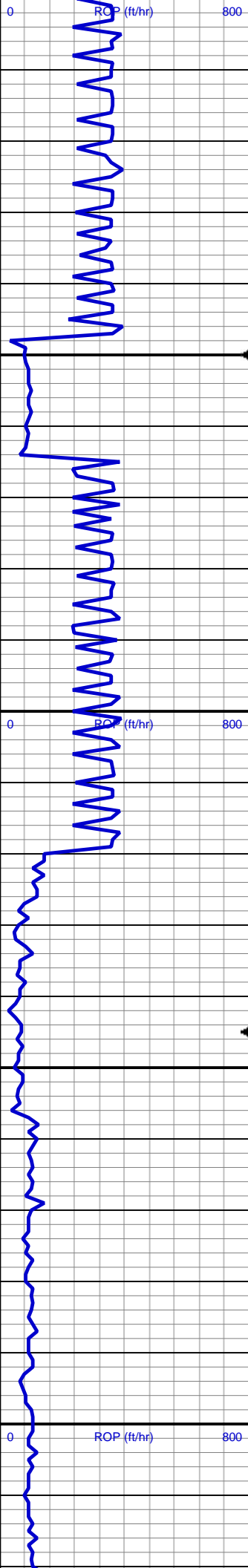
MW: 9.8/9.85 VIS: 35/41

MD: 4,800'  
TVD: 4,787.91'  
Inclination: 3.5°  
Azimuth: 303.4°  
VS: -188.33'

SHY SLTST: lt - med gy, gy brn,  
s&p, mod frm, brit, sb plty - sb bl  
rthy tex, vf occ f-med gr, w srt, n  
calc; SHY SS: wh, lt - med gy, s  
sb rd - sb ang, f-med gr, mod - w  
srt, frm, sl calc, tr glauc; SLTY S  
med - dk gy, sft - frm, sb plty - sb  
blky, wxy tex, non calc

SHY SLTST: lt - med gy, gy brn,  
s&p, mod frm, brit, sb plty - sb bl  
rthy tex, vf occ f-med gr, w srt, n  
calc; SHY SS: wh, lt - med gy, s  
sb rd - sb ang, f-med gr, mod - w  
srt, frm, sl calc, tr glauc; SLTY S  
med - dk gy, sft - frm, sb plty - sb  
blky, wxy tex, non calc

MD: 4,895'  
TVD: 4,882.74'  
Inclination: 3.4°  
Azimuth: 297.1°



SHY SLTST: lt - med gy, gy brn, s&p, mod frm, brit, sb plty - sb bl rthy tex, vf occ f-med gr, w srt, no calc; SHY SS: wh, lt - med gy, sb rd - sb ang, f-med gr, mod - w srt, frm, sl calc, tr glauc; SLTY S med - dk gy, sft - frm, sb plty - sb blkly, wxy tex, non calc

VS: -191.32'

SHY SLTST: lt - med gy, gy brn, s&p, mod frm, brit, sb plty - sb bl rthy tex, vf occ f-med gr, w srt, no calc; SHY SS: wh, lt - med gy, sb rd - sb ang, f-med gr, mod - w srt, frm, sl calc, tr glauc; SLTY S med - dk gy, sft - frm, sb plty - sb blkly, wxy tex, non calc

MD: 4,989'  
TVD: 4,976.57'  
Inclination: 3.5°  
Azimuth: 317.8°  
VS: -196.01'

SHY SLTST: lt - med gy, gy brn, s&p, mod frm, brit, sb plty - sb bl rthy tex, vf occ f-med gr, w srt, no calc; SLTY SH: med - dk gy, sft - frm, sb plty - sb blkly, wxy tex, no calc; tr SHY SS

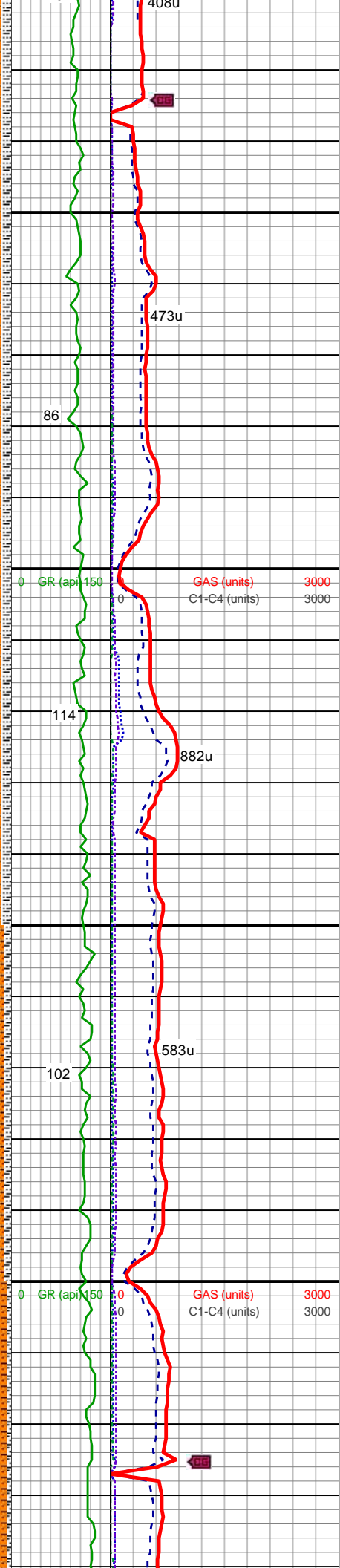
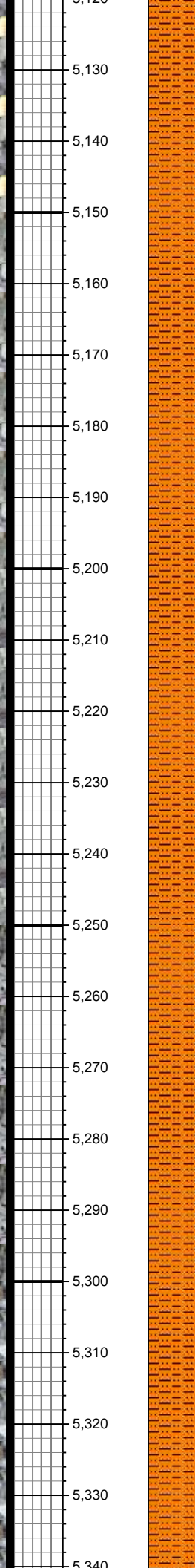
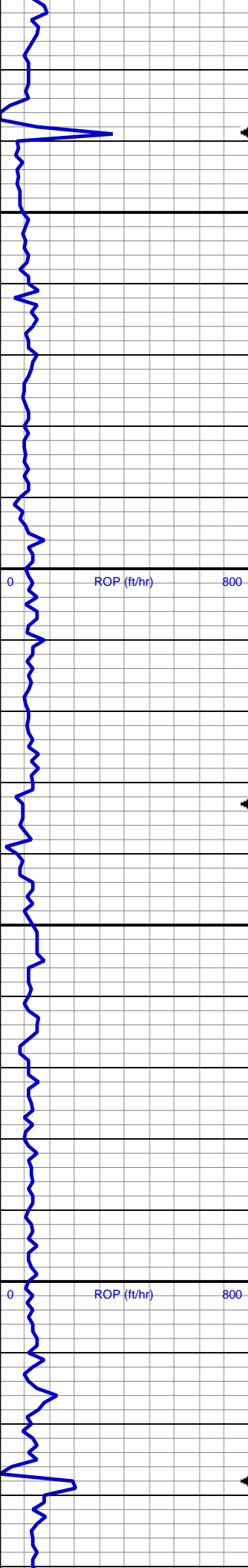
MW: 9.9/9.95 VIS: 34/41

SHY SLTST: lt - med gy, gy brn, s&p, mod frm, brit, sb plty - sb bl rthy tex, vf occ f-med gr, w srt, no calc; SLTY SH: med - dk gy, sft - frm, sb plty - sb blkly, wxy tex, no calc; tr SHY SS

MD: 5,083'  
TVD: 5,070.44'  
Inclination: 2.5°  
Azimuth: 328.7°  
VS: -199.97'

MW: 9.9/9.9 VIS: 34/35

SHY SLTST: lt - med gy, gy brn, s&p, mod frm, brit, sb plty - sb bl rthy tex, vf occ f-med gr, w srt, no calc; SLTY SH: med - dk gy, sft - frm, sb plty - sb blkly, wxy tex, no calc; tr SHY SS



cap; mod frm, brit, sb pty - ss brn, rthy tex, vf occ f-med gr, w srt, no calc; SLTY SH: med - dk gy, sft - frm, sb pty - sb blk, wxy tex, no calc; tr SHY SS

MD: 5,178'  
TVD: 5,165.41'  
Inclination: 0.2°  
Azimuth: 156.9°  
VS: -201.62'

SHY SLTST: lt - med gy, gy brn, s&p, mod frm, brit, sb pty - sb blk, rthy tex, vf occ f-med gr, w srt, no calc; SLTY SH: med - dk gy, sft - frm, sb pty - sb blk, wxy tex, no calc; tr SHY SS

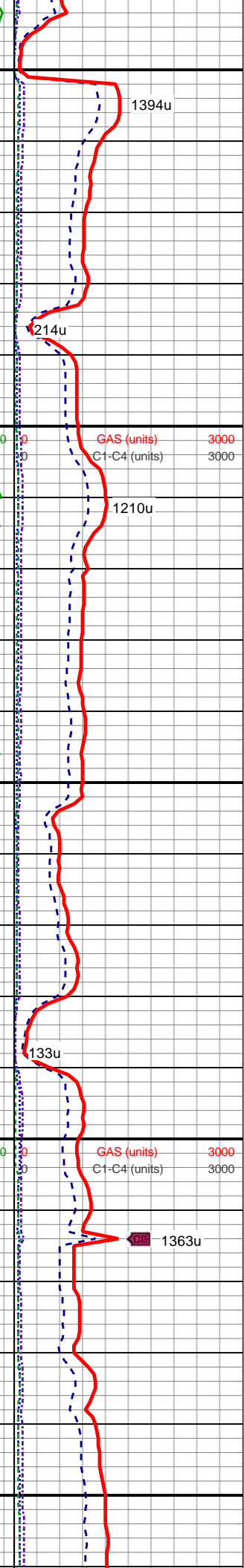
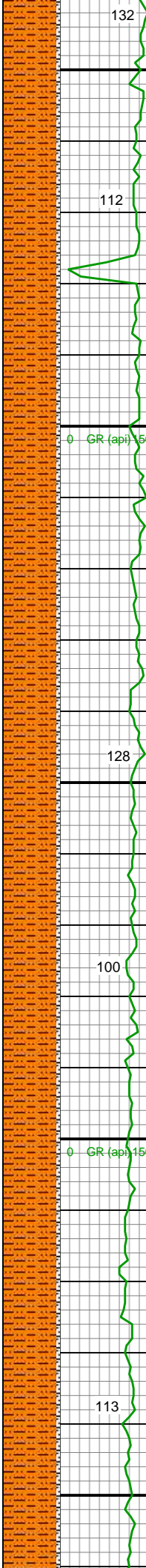
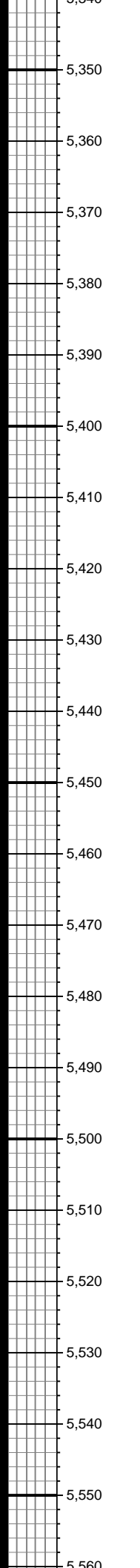
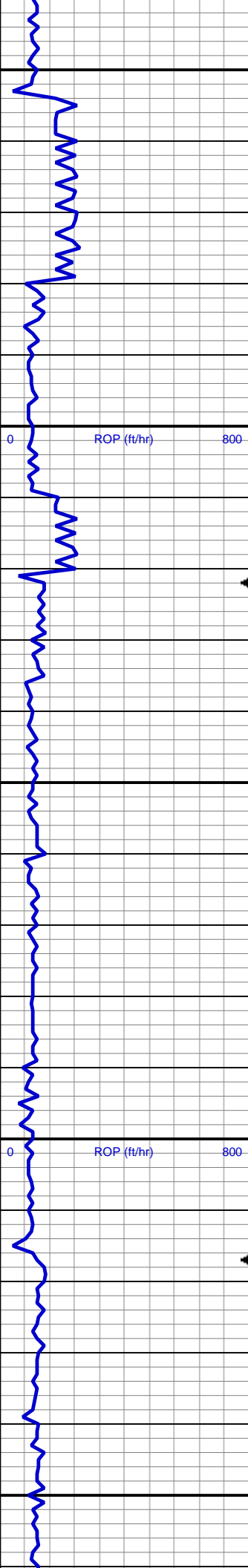
SHY SLTST: lt - med gy, gy brn, s&p, mod frm, brit, sb pty - sb blk, rthy tex, vf occ f-med gr, w srt, no calc; SLTY SH: med - dk gy, sft - frm, sb pty - sb blk, wxy tex, no calc; tr SHY SS

MD: 5,273'  
TVD: 5,260.41'  
Inclination: 0.4°  
Azimuth: 105°  
VS: -201.37'

SHY SLTST: lt - med gy, gy brn, s&p, mod frm, brit, sb pty - sb blk, rthy tex, vf occ f-med gr, w srt, no calc; SLTY SH: med - dk gy, sft - frm, sb pty - sb blk, wxy tex, no calc; tr SHY SS

MW: 9.9/9.9 VIS: 34/35

SHY SLTST: lt - med gy, gy brn, s&p, mod frm, brit, sb pty - sb blk, rthy tex, vf occ f-med gr, w srt, no calc; SLTY SH: med - dk gy, sft - frm, sb pty - sb blk, wxy tex, no calc; tr SHY SS



MD: 5,367'  
TVD: 5,354.41'  
Inclination: 0.3°  
Azimuth: 107.5°  
VS: -201.19'

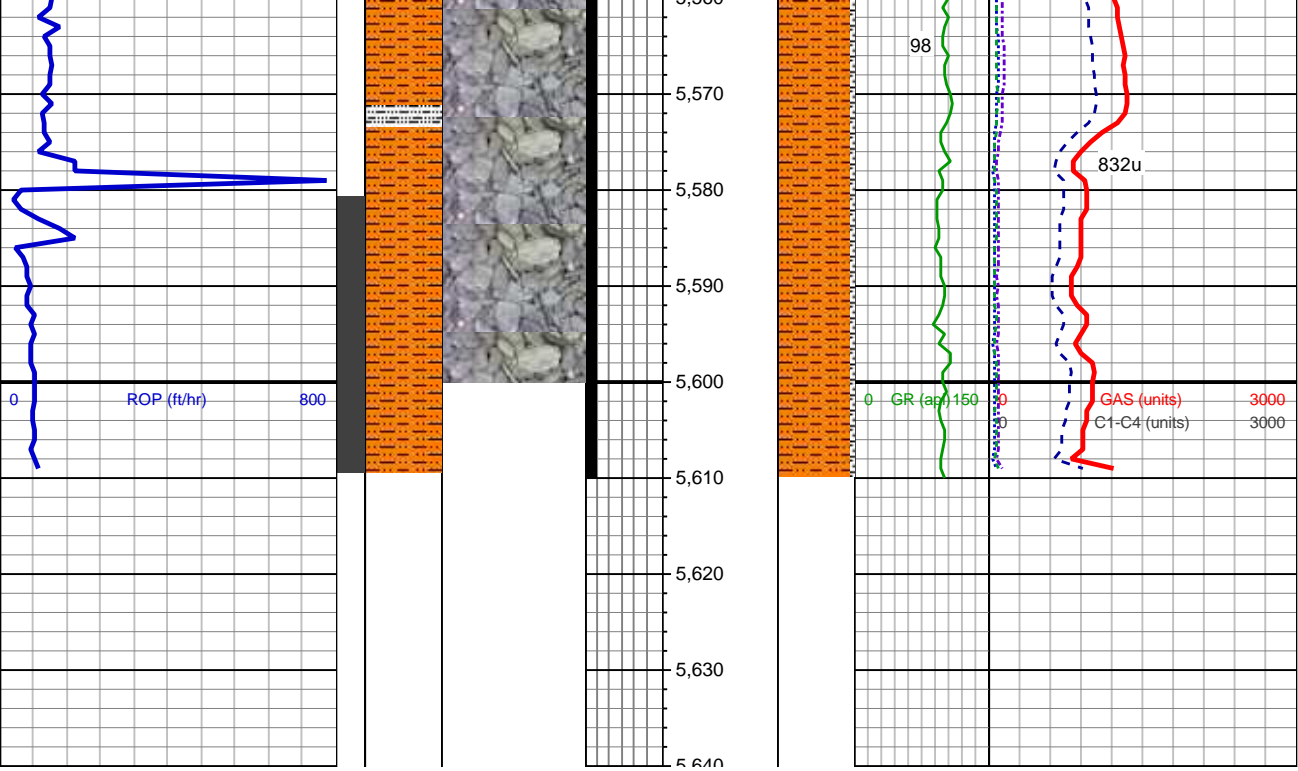
SHY SLTST: lt - med gy, gy brn, s&p, mod frm, brit, sb plty - sb bl rthy tex, vf occ f-med gr, w srt, no calc; SLTY SH: med - dk gy, sft - frm, sb plty - sb blkly, wxy tex, no calc; tr SHY SS

MD: 5,462'  
TVD: 5,449.41'  
Inclination: 0.8°  
Azimuth: 144.2°  
VS: -200.56'

SHY SLTST: lt - med gy, gy brn, s&p, mod frm, brit, sb plty - sb bl rthy tex, vf occ f-med gr, w srt, no calc; SLTY SH: med - dk gy, sft - frm, sb plty - sb blkly, wxy tex, no calc; tr SHY SS

SHY SLTST: lt - med gy, gy brn, s&p, mod frm, brit, sb plty - sb bl rthy tex, vf occ f-med gr, w srt, no calc; SLTY SH: med - dk gy, sft - frm, sb plty - sb blkly, wxy tex, no calc; tr SHY SS

MD: 5,556'  
TVD: 5,543.4'  
Inclination: 0.6°  
Azimuth: 126.9°  
VS: -199.71'



SHY SLTST: lt - med gy, gy brn, s&p, mod frm, brit, sb plty - sb bl rthy tex, vf occ f-med gr, w srt, n calc; SLTY SH: med - dk gy, sft frm, sb plty - sb blk, wxy tex, n calc; tr SHY SS

MW: 9.9/9.9 VIS: 38/37

TOOH TO CHANGE MWD TOOLS  
VERTICAL TD: 5609'  
13:27 MST 12/29/2014  
DATA CONTINUED  
ON HORIZONTAL LOG

THANK YOU FOR CHOOSING  
COLUMBINE LOGGING INC.