

LOG created using LPLOT VH Version 3.0, January 03, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

OPERATOR: NOBLE ENERGY INC.
WELL: SLW RANCH B01-68-1HN
LOCATION: SEC 1 T5N R64W
COUNTY: WELD
STATE: COLORADO
SPOT: 1,375' FNL; 199' FEL
ELEVATION: 4,613' GL; 4,637' KB
FIELD: WATTENBERG
SPUD DATE: 01/01/2013
TD DATE: 01/03/2013 (VERTICAL)
DATES LOGGED: 01/02/2013 - 01/03/2013 (VERTICAL)
DEPTHS LOGGED: 2,000' - 6,057' (VERTICAL)
LOGGERS: CHRIS SCAHEL; MARK COLE
DRILLING FLUID: LSND
DRILLING RIG: H&P 315
API: 05-123-36320
LOG TYPE: VERTICAL
SCALE: 1:240 (5 inches per 100 feet)
REMARKS: SEE CORRESPONDING HORIZONTAL LOG SLW RANCH B01-68-1HN HORZ.
 LAT/LON 40.431970/-104.489460
 Wellsite Geological Services Provided by Columbine Logging Inc.

LITHOLOGIES



Sandstone



Shaly Sandstone



Shaly Siltstone



Silty Shale

ENGINEERING SYMBOLS



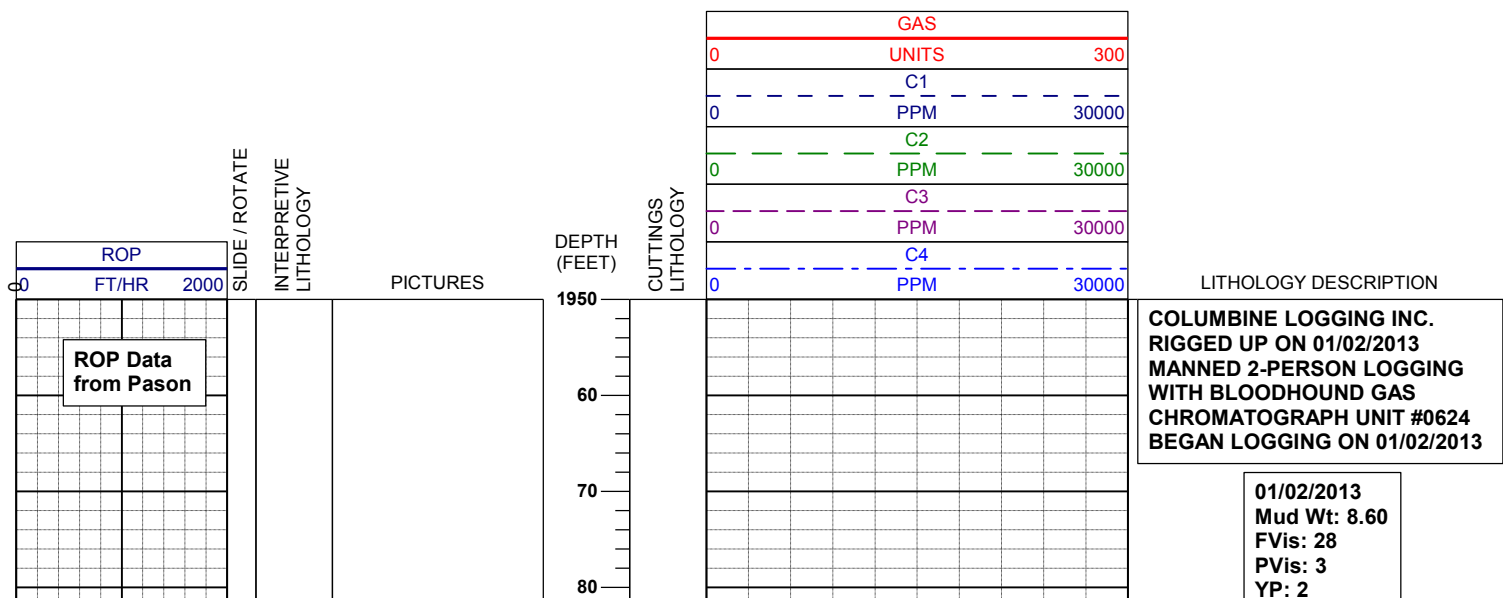
Connection

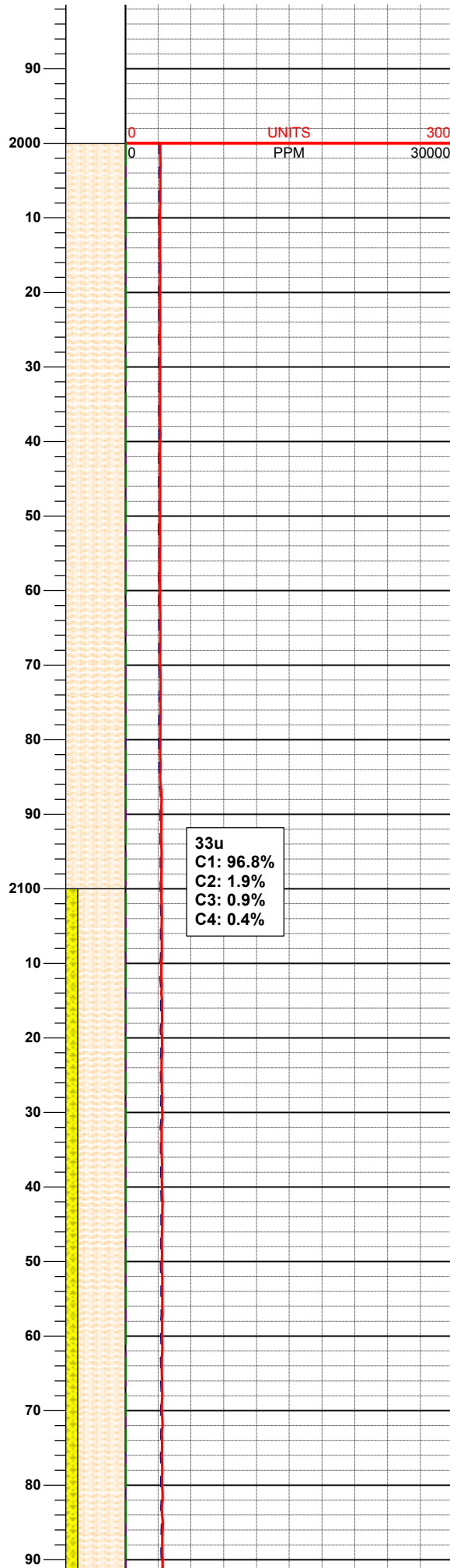
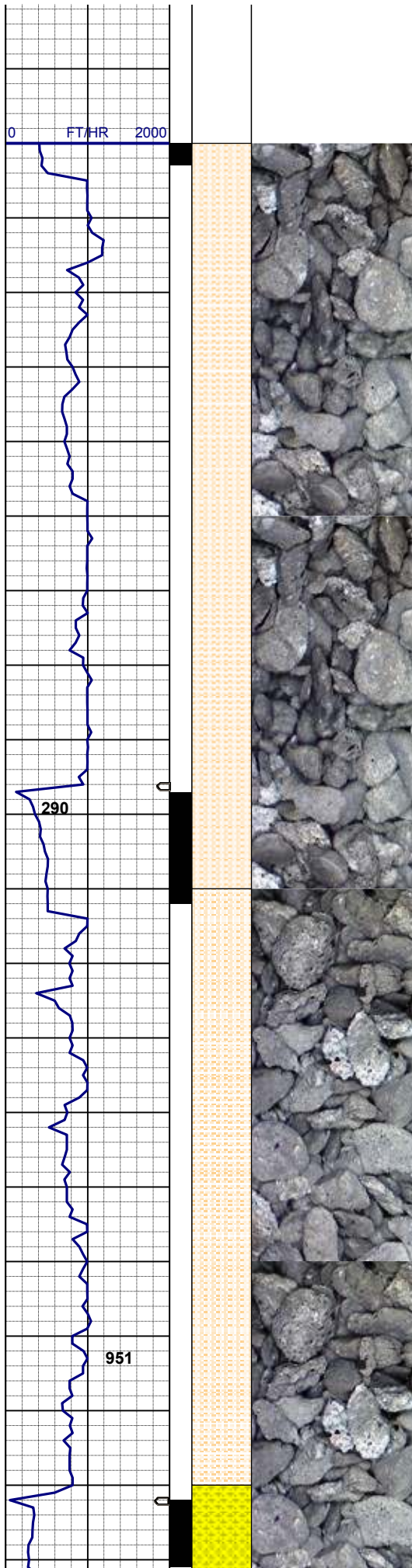


Connection Gas



Midnight Depth





GELS: N/A
API Filt: N/A
CAKE: 1/0
pH: 9.3
Cl: 1,300
Ca: 240

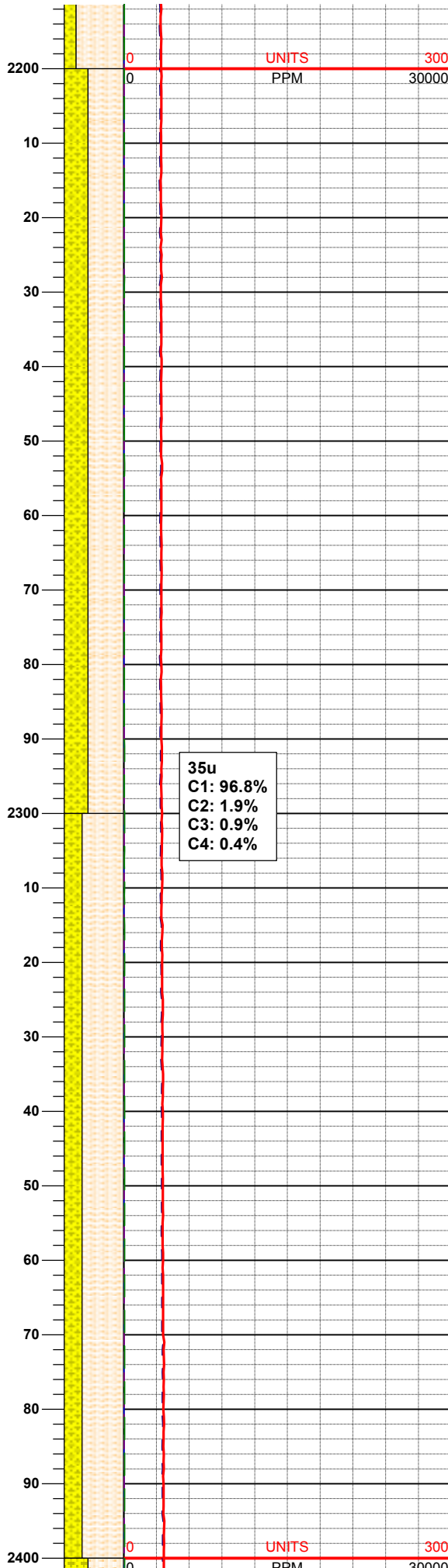
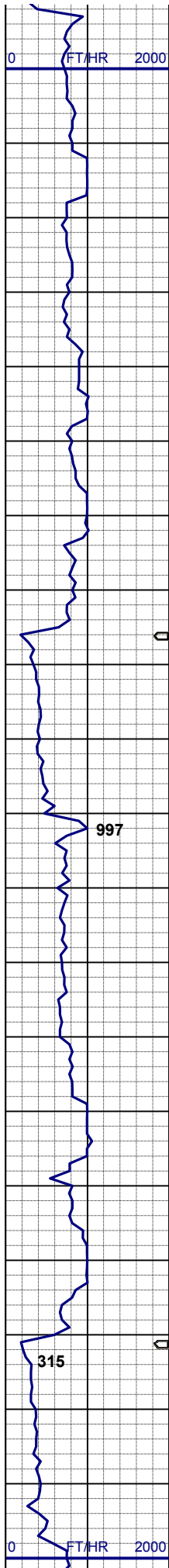
BHA 100
BIT 8.750 in
Smith MDi516
5x14 JETS

MD 2,033'
TVD 2,030.07'
INC 8.62°
AZM 41.15°

SHYSLTST: lt - mgy, vfgr, hd, sbply -
sbrd , w consol, gt tex, sl calc, v abnt
cly mnrl

MD 2,128'
TVD 2,123.95'
INC 9.04°
AZM 32.71°

SHYSLTST: lt - mgy, vfgr, hd, sbply -
sbrd , w consol, gt tex, sl calc



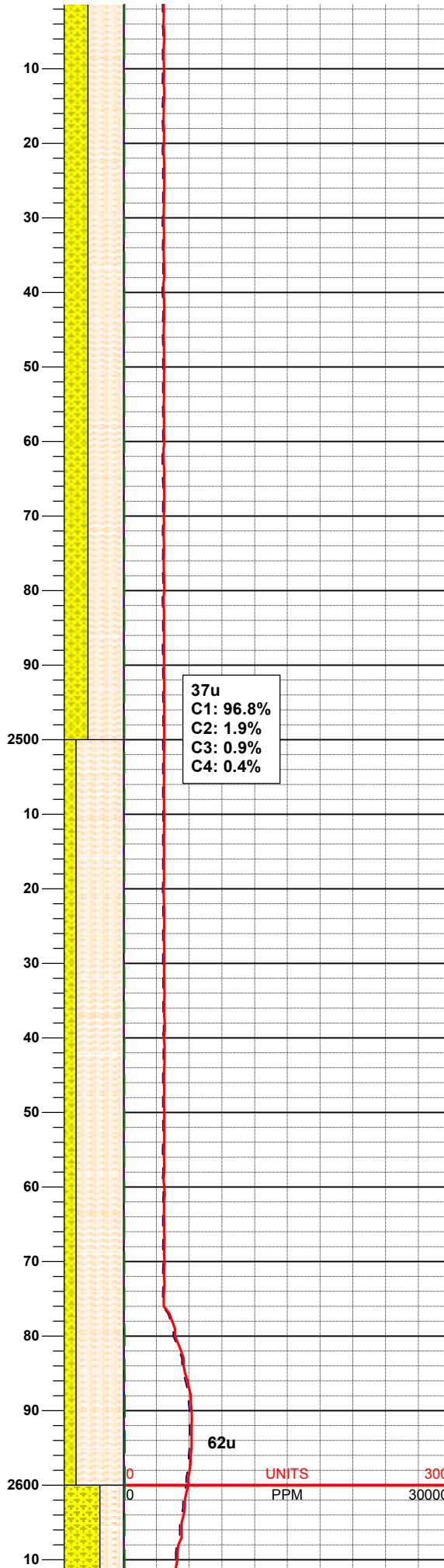
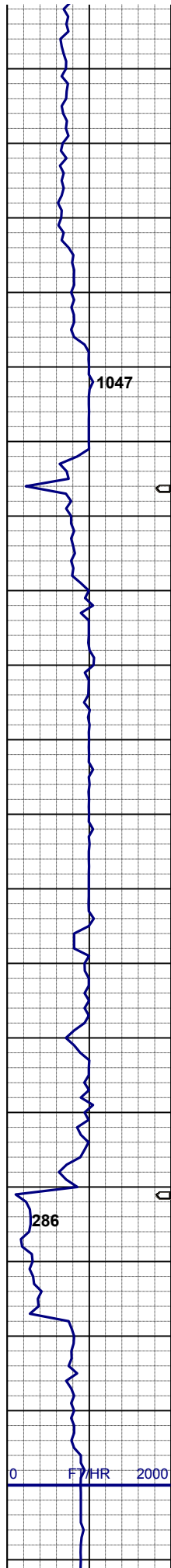
sbrd , w consol, gt tex, sl calc,
SHYSS: wh, s&p, vfgr, hd brit clus,
sbply-sang, calc cmt, v abnt cly mnrl

MD 2,223'
TVD 2,217.72'
INC 9.40°
AZM 30.91°

SHYSLTST: lt - mgy, vfgr, hd, sbply -
sbrd , w consol, gt tex, sl calc,
SHYSS: wh, s&p, fros - trnsl ip, vfgr,
hd brit clus, sbply-sang, calc cmt, v
abnt cly mnrl

MD 2,318'
TVD 2,311.34'
INC 10.23°
AZM 19.51°

SHYSLTST: lt - mgy, vfgr, hd, sbply -
sbrd , w consol, gt tex, sl calc,
SHYSS: wh, lt gy, s&p, fros - trnsl ip,
vfgr, hd brit clus, sbply-sang, calc
cmt, v abnt cly mnrl



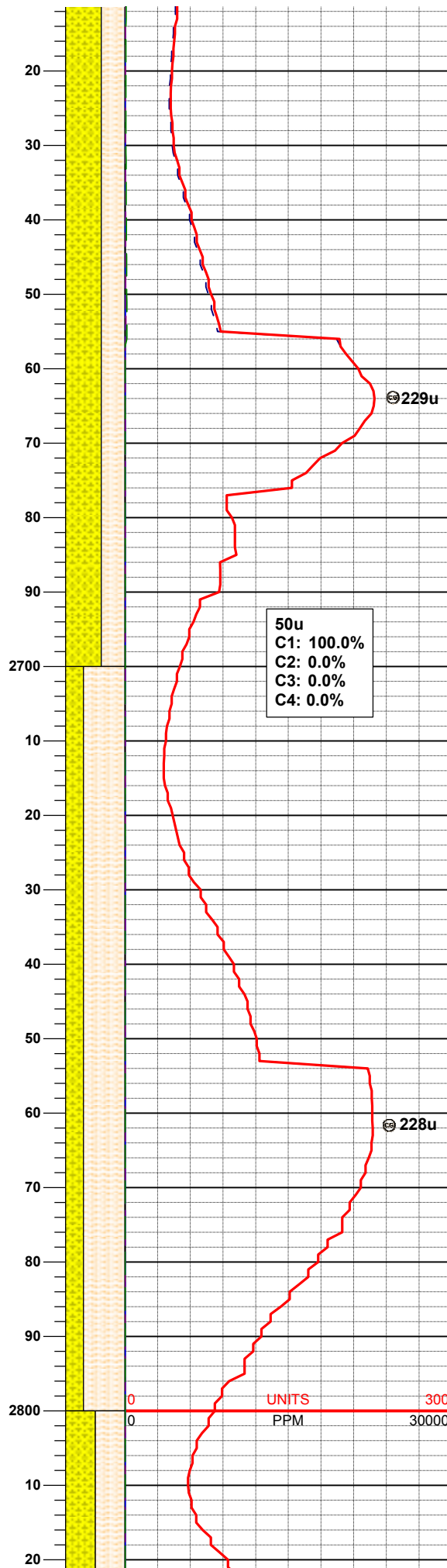
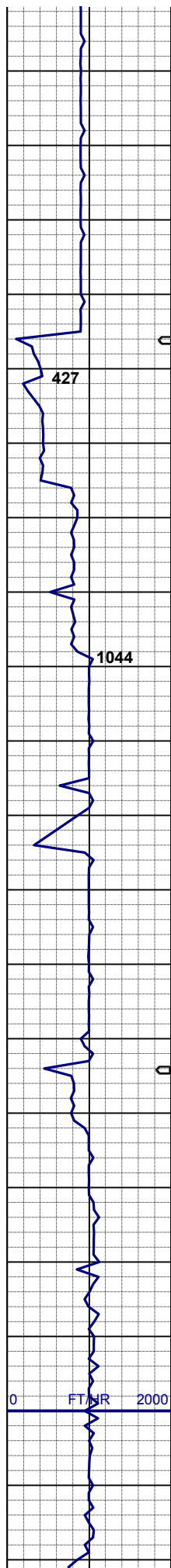
MD 2,413'
TVD 2,404.86'
INC 10.04°
AZM 11.52°

SHYSLTST: lt - mgy, vfgr, hd, sbply -
sbrd , w consol, slty-gt tex, sl calc,
SHYSS: wh, lt gy, s&p, fros - trns l ip,
vfgr, hd brit clus, sbply-sang, calc
cmt, v abnt cly mnrl

MD 2,508'
TVD 2,404.86'
INC 9.69°
AZM 11.52°

SHYSLTST: ltgy - mgy, vfgr, hd,
sbply - sbrd , w consol, slty-gt tex, sl
calc,
SHYSS: wh, lt gy, s&p, fros - trns l ip,
vfgr, hd brit clus, sbrd-sang, calc cmt,
v abnt cly mnrl

MD 2,603'
TVD 2,592.00'
INC 10.40°
AZM 11.49°

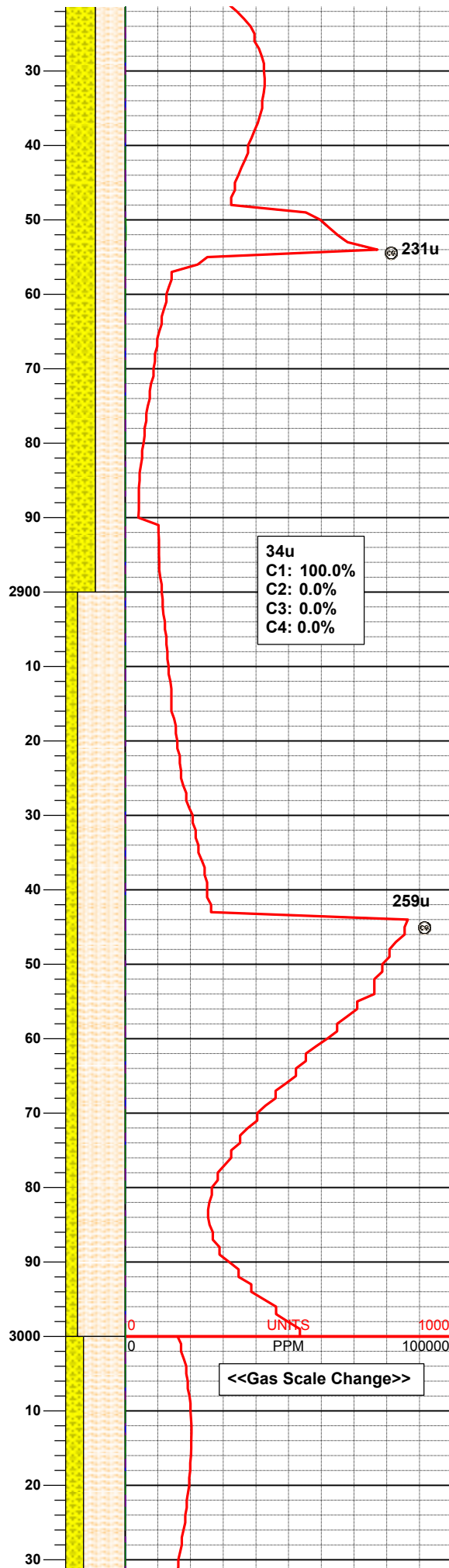
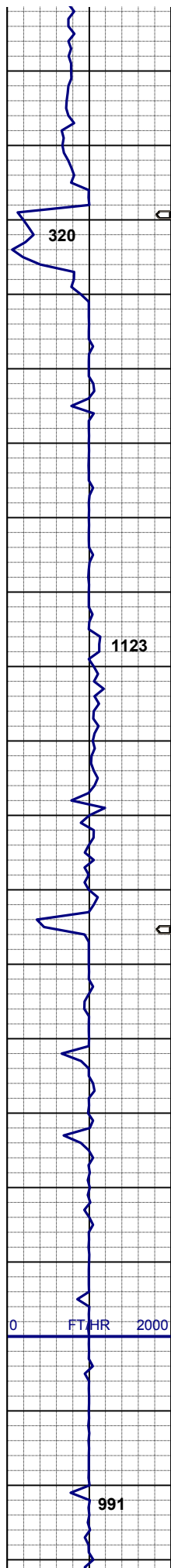


SHYSS: wh, lt gy, s&p, fros - trnsl ip, vfgr, hd brit clus, sbrd-sang, calc cmt, SHYSLTST: ltgy - mgy, vfgr, hd, sbplty - sbrd, w consol, slty-gt tex, sl calc, v abnt cly mnrl

MD 2,698'
TVD 2,685.16'
INC 12.16°
AZM 11.51°

SHYSLTST: ltgy - dkgy, vfgr, hd, sbplty - sbrd, w consol, slty-gt tex, sl calc, SHYSS: wh, lt gy, s&p, fros - trnsl ip, vfgr, hd brit clus, sbrd-sang, calc cmt, v abnt cly mnrl

MD 2,793'
TVD 2,778.01'
INC 12.30°
AZM 11.32°



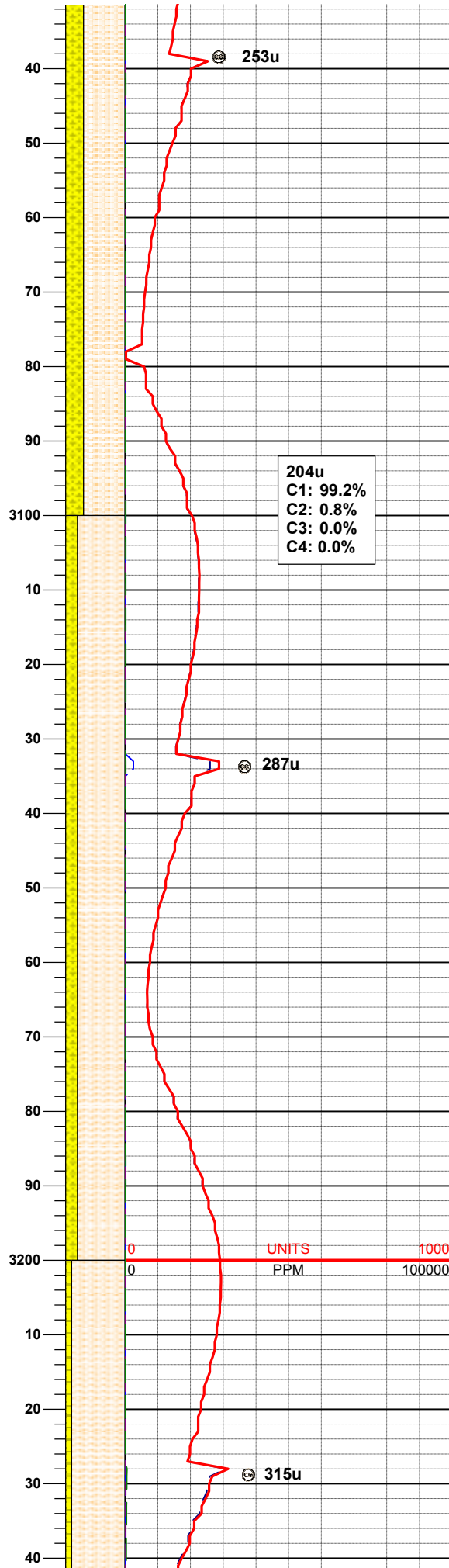
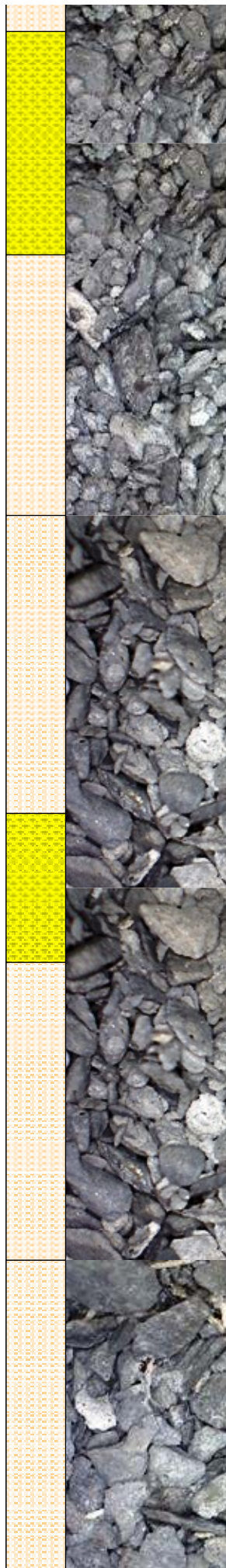
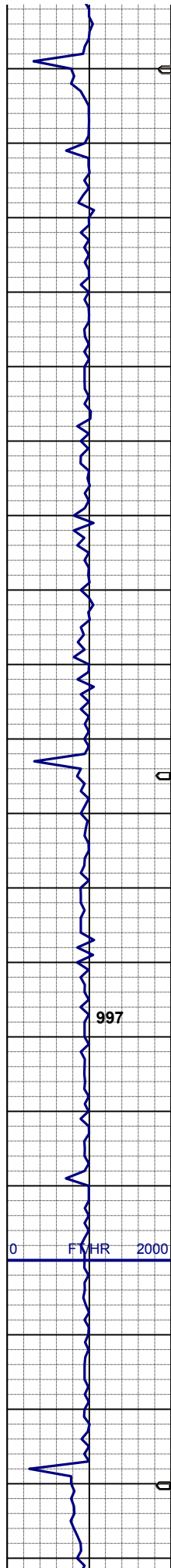
MD 2,887'
TVD 2,869.84'
INC 12.36°
AZM 14.08°

SHYSLTST: ltgy - dkgy, vfgr, hd,
sbply - sbrd , w consol, slty-gt tex, sl
calc,
SHYSS: wh, lt gy, fros - trns ip, spec
w/ mica, dk gn xl glau, vfgr, hd brit
clus, sbrd-sang, calc cmt, v abnt cly
mnrl

MD 2,983'
TVD 2,963.62'
INC 12.30°
AZM 12.18°

SHYSLTST: ltgy - dkgy, vfgr, hd,
sbply - sbrd , w consol, slty-gt tex, sl
calc,
SHYSS: wh, lt gy, fros - trns ip, spec
w/ mica, dk gn xl glau, vfgr, hd brit
clus, sbrd-sang, calc cmt, v abnt cly
mnrl

01/02/2013
Mud Wt: 8.70
FVis: 29



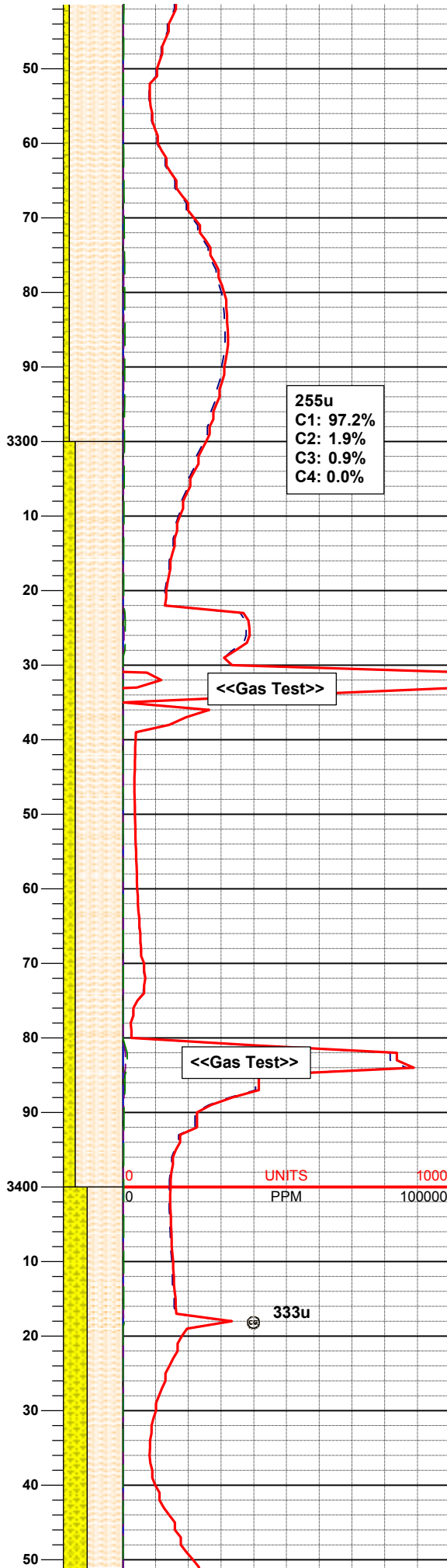
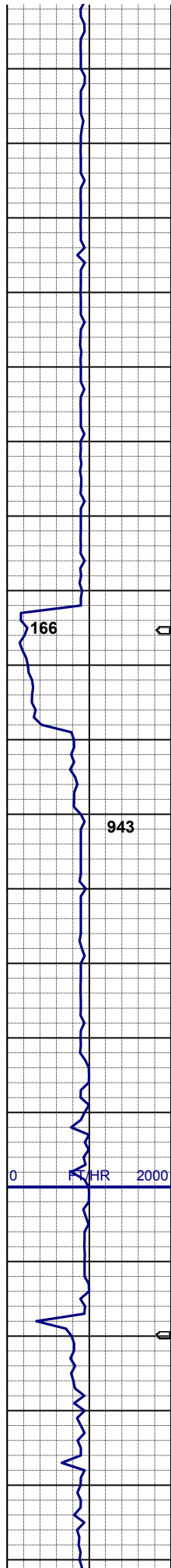
PVis: 3
YP: 3
GELS: N/A
API Filt: N/A
CAKE: 1/0
pH: 9.8
Cl: 1,300
Ca: 160

MD 3,078'
TVD 3,056.52'
INC 11.84°
AZM 13.58°

SHYSLTST: ltgy - dkgy, vfgr, hd, sbply - sbrd, w consol, slty-gt tex, sl calc, grdg - SHYSS: wh, lt gy, fros - trns ip, spec w/ mica, dk gn xl glau, vfgr, hd brit clus, sbrd-sbang, calc cmt, v abnt cly mnrl

MD 3,173'
TVD 3,149.67'
INC 10.80°
AZM 11.43°

SHYSLTST: ltgy - dkgy, vfgr, hd, sbply - sbrd, w consol, slty-gt tex, sl calc, grdg - SHYSS: wh, lt gy, fros - trns ip, spec w/ mica, dk gn xl glau, vfgr, hd brit clus, sbrd-sbang, calc cmt, v abnt cly mnrl



MD 3,268'
TVD 3,243.08'
INC 10.23°
AZM 12.62°

SHYSLTST: ltgy - dkgy, vfgr, firm,
sbply - sbrd , w consol, slty-gt tex, sl
calc, grdg -
SHYSS: wh - lt gy, s&p, spec w/ mica,
dk gn xl glau, fgr, hd brit clus, sbrd-
sbang, calc cmt

255u
C1: 97.2%
C2: 1.9%
C3: 0.9%
C4: 0.0%

<<Gas Test>>

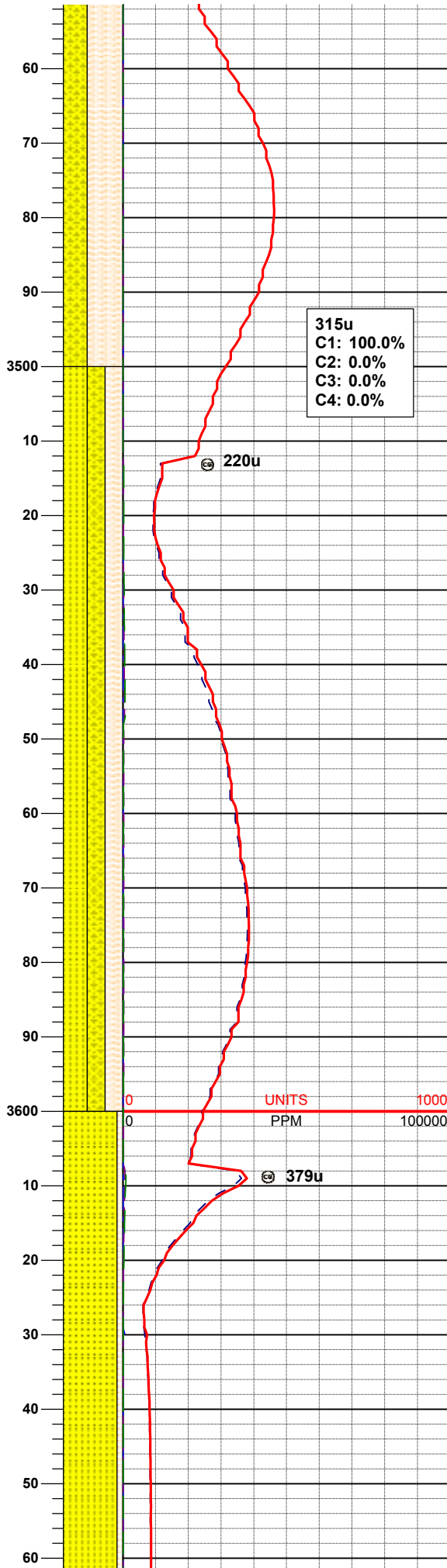
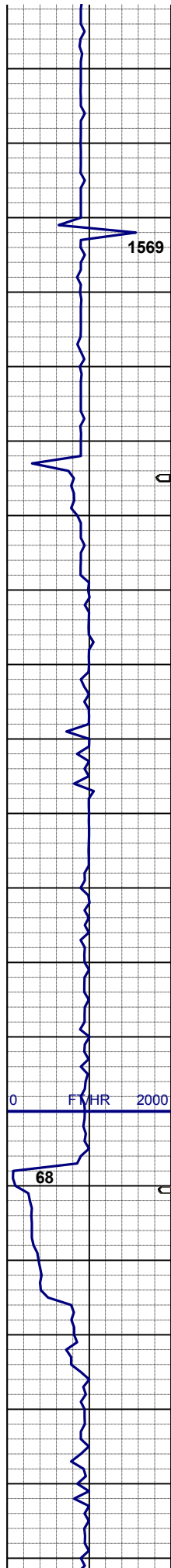
MD 3,363'
TVD 3,336.60'
INC 10.02°
AZM 18.89°

SHYSLTST: ltgy - dkgy, vfgr, firm,
sbply - sbrd , w consol, slty-gt tex, sl
calc, grdg -
SHYSS: wh - lt gy, s&p, spec w/ mica,
dk gn xl glau, fgr, hd brit clus, sbrd-
sbang, calc cmt

<<Gas Test>>

UNITS
PPM

333u



MD 3,458'
TVD 3,430.22'
INC 9.59°
AZM 19.59°

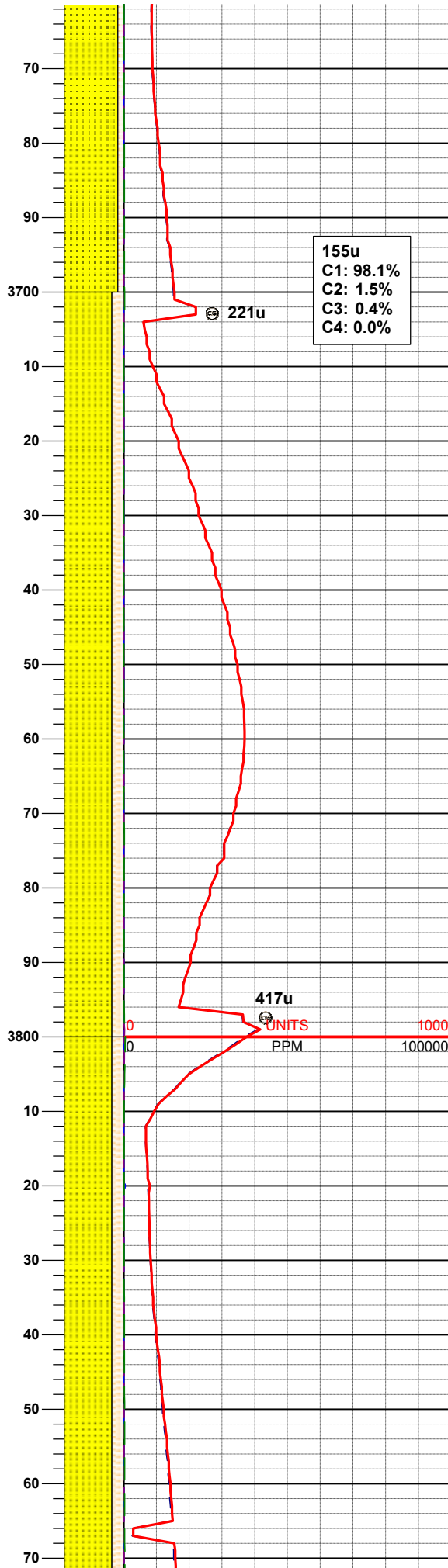
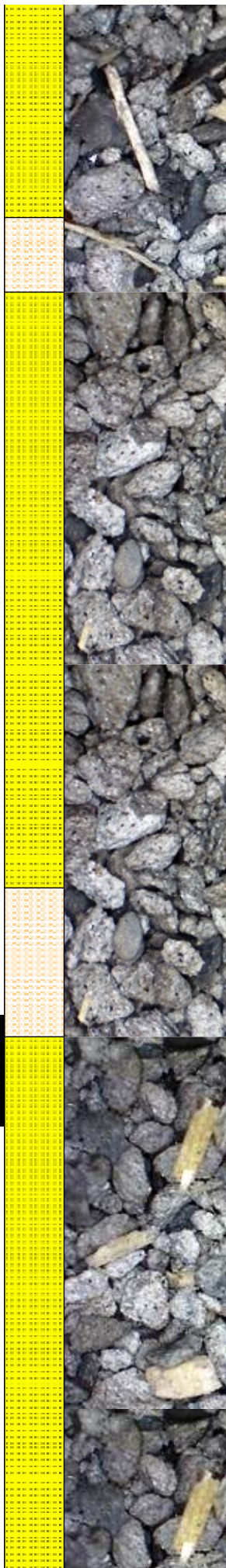
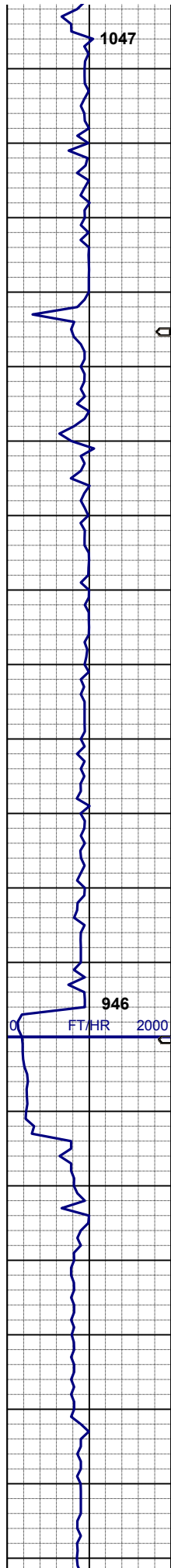
SHYSLTST: ltgy - dkgy, vfgr, firm,
sbply - sbrd, w consol, slty-gt tex, sl
calc, grdg -
SHYSS: wh - lt gy, s&p, spec w/ mica,
dk gn xl glau, fgr, hd brit clus, sbrd-
sbang, calc cmt

MD 3,553'
TVD 3,523.92'
INC 9.34°
AZM 20.59°

Parkman SS
@ 3560' MD; 3530' TVD

SS: wh, fros - trns, s&p, fgr, hd brit
clus, sbang - sbrd, p consol, v calc
cmt
SHYSS: lt gy, spec w/ mica, dk gn xl
glau, fgr, hd brit clus, sbrd-sbang, calc
cmt
SHYSLTST: ltgy - dkgy, vfgr, firm,
sbply - sbrd, w consol, slty-gt tex, sl
calc

MD 3,648'
TVD 3,617.62'
INC 9.69°
AZM 12.04°

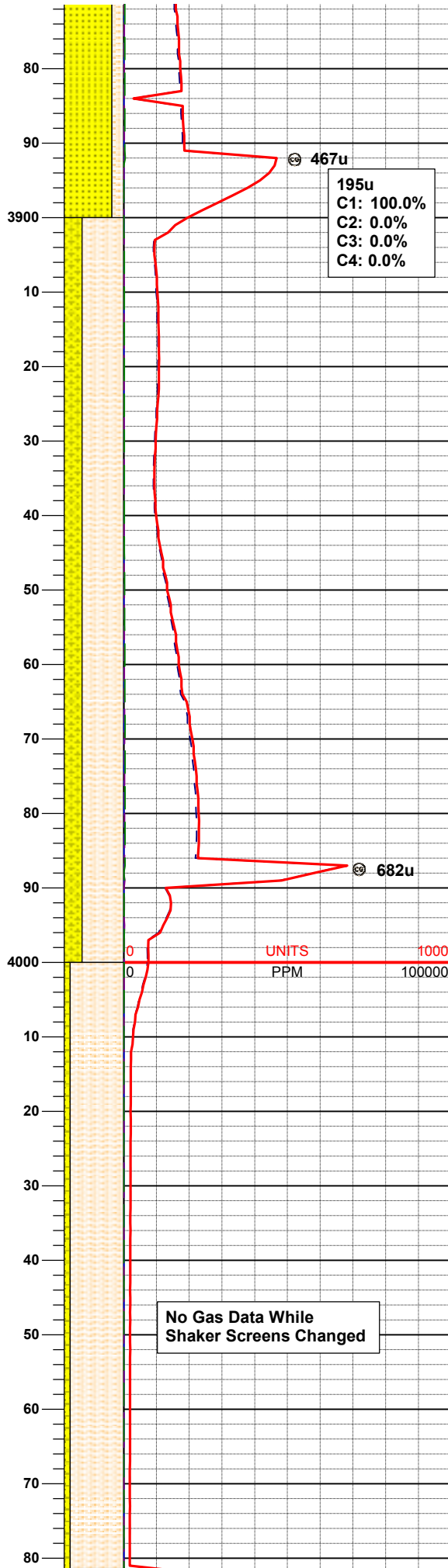
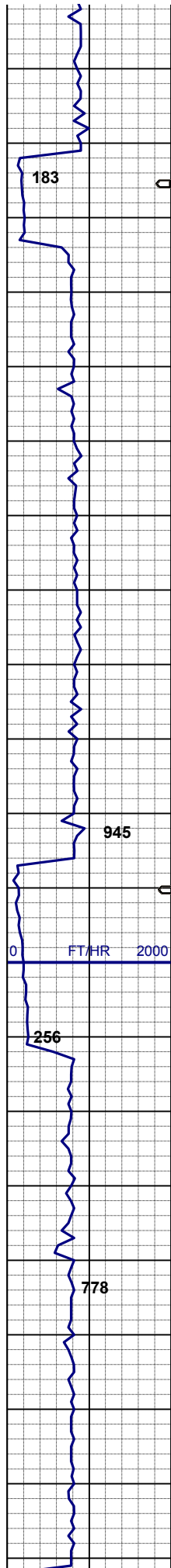


SS: wh, fros - trnsl, s&p, fgr, hd brit
clus, sbang - sbrd, p consol, v calc
cmt
SHYSLTST: ltgy - dkgy, vfgr, firm,
sbply - sbrd, w consol, slty-gt tex, sl
calc

MD 3,743'
TVD 3,711.17'
INC 10.33°
AZM 14.13°

SS: wh, fros - trnsl, s&p, fgr, hd brit
clus, sbang - sbrd, p consol, v calc
cmt
SHYSLTST: ltgy - dkgy, vfgr, firm,
sbply - sbrd, w consol, slty-gt tex, sl
calc

MD 3,838'
TVD 3,804.80'
INC 9.13°
AZM 11.33°

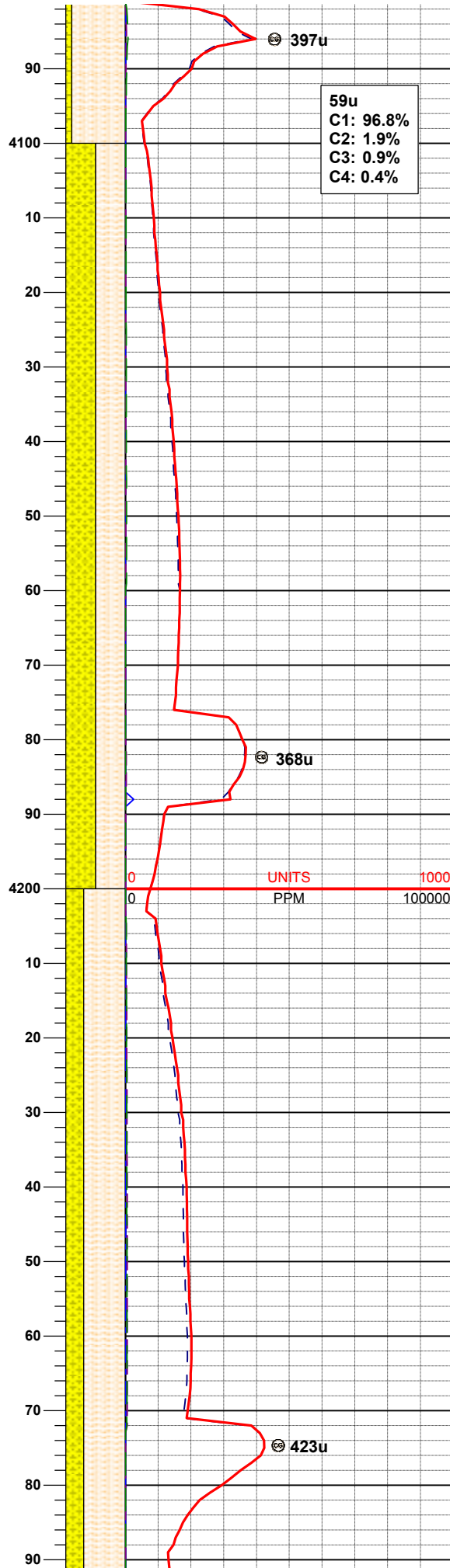
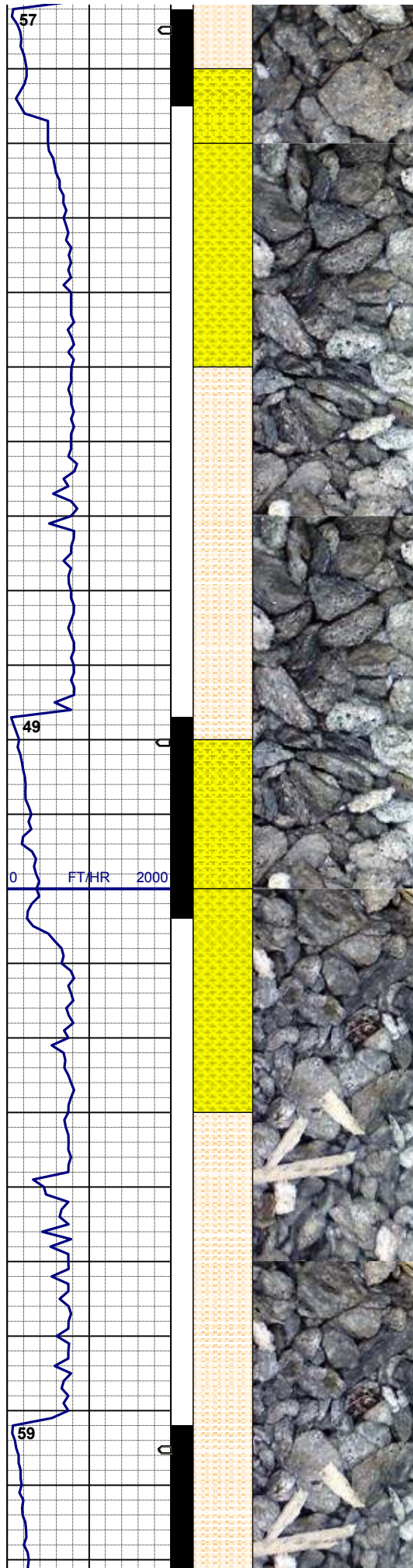


SS: wh, fros - trnsl, s&p, fgr, hd brit clus, sbang - sbrd, p consol, v calc cmt
SHYSLTST: ltgy - dkgy, vfgr, firm, sbply - sbrd, w consol, slty-gt tex, sl calc

MD 3,933'
TVD 3,898.63'
INC 8.86°
AZM 11.94°

SHYSLTST: ltgy - dkgy, vfgr, firm, sbply - sbrd, w consol, slty-gt tex, sl calc, grdg -
SHYSS: lt gy, s&p, spec w/ mica, dk gn xl glau, fgr, hd brit clus, sbrd-sbang, calc cmt

MD 4,028'
TVD 3,992.82'
INC 6.03°
AZM 7.87°



SHYSLTST: ltgy - dkgy, vfgr, firm, sbply - sbrd , w consol, slty-gt tex, sl calc, grdg - SHYSS: wh - lt gy, s&p, spec w/ mica, dk gn xl glau, fgr, hd brit clus, sbrd-sbang, calc cmt

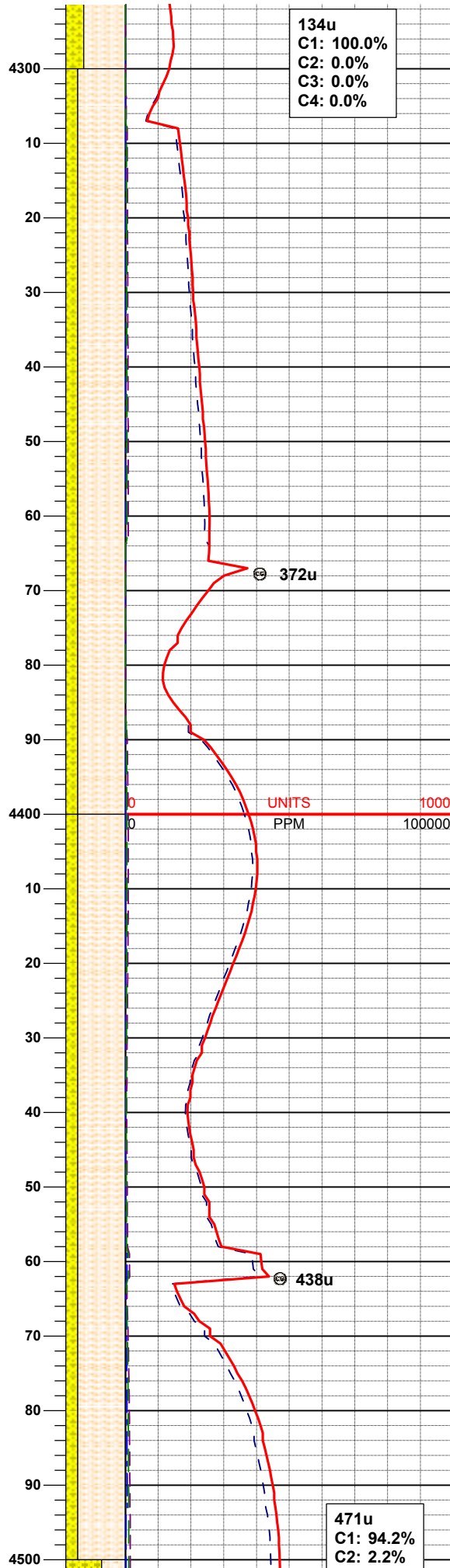
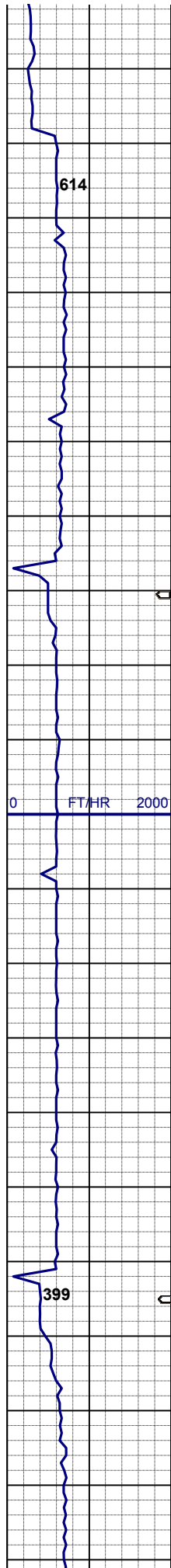
MD 4,123'
TVD 4,087.39'
INC 4.87°
AZM 7.92°

Sussex SS
@ 4180' MD; 4144' TVD

SHYSS: wh - lt gy, s&p, spec w/ mica, dk gn xl glau, fgr, hd brit clus, sbrd-sbang, calc cmt
SHYSLTST: ltgy - dkgy, vfgr, firm, sbply - sbrd , w consol, slty-gt tex, sl calc

MD 4,218'
TVD 4,182.13'
INC 3.60°
AZM 2.22°

SHYSLTST: ltgy - dkgy, vfgr, firm, sbply - sbrd , w consol, slty-gt tex, sl calc
SHYSS: lt av. s&p. spec w/ mica. dk



gn xl glau, fgr, hd brit clus, sbrd-sbang, calc cmt

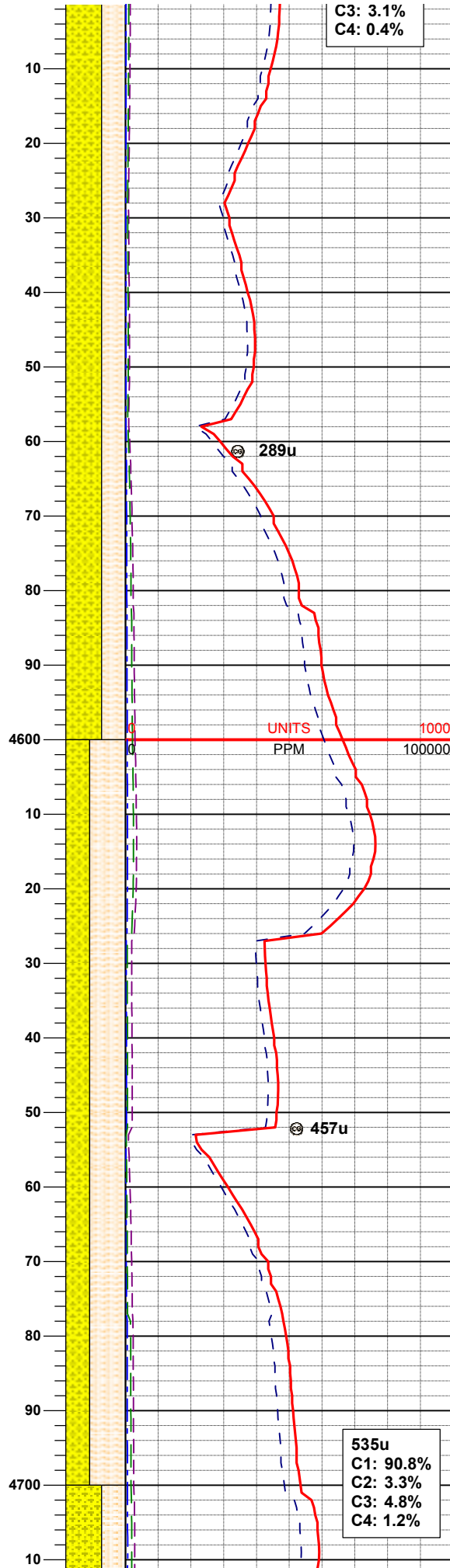
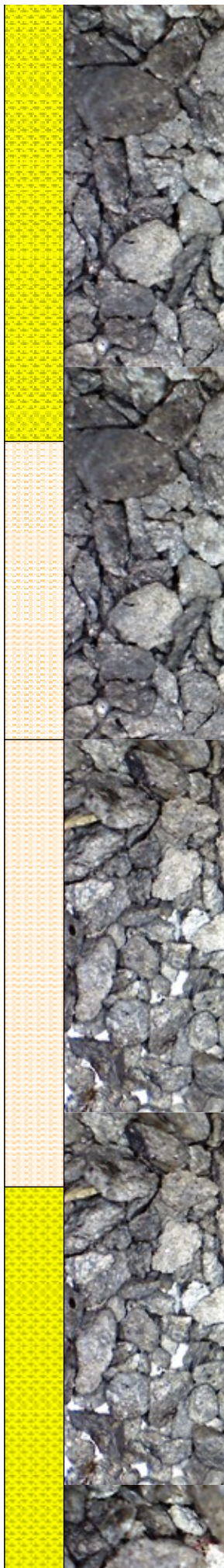
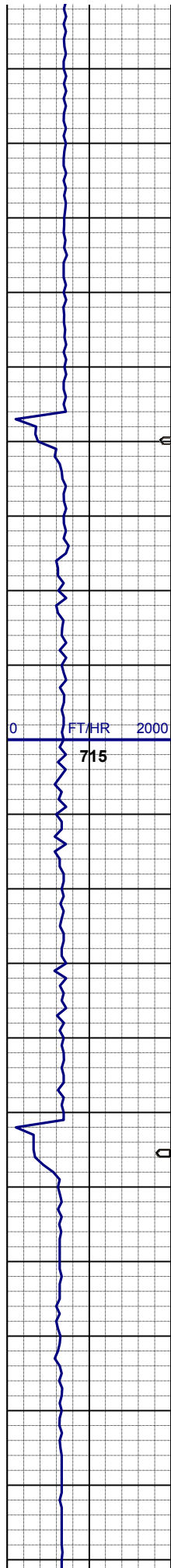
MD 4,313'
TVD 4,277.07'
INC 0.20°
AZM 171.39°

MUD WT 8.75/8.95
VIS 29/29 IN/OUT

SHYSLTST: ltgy - dkgy, vfgr, firm, sbply - sbrd , w consol, slty-gt tex, sl calc
SHYSS: lt gy, s&p, spec w/ mica, dk gn xl glau, fgr, hd brit clus, sbrd-sbang, calc cmt

MD 4,408'
TVD 4,372.07'
INC 0.44°
AZM 265.36°

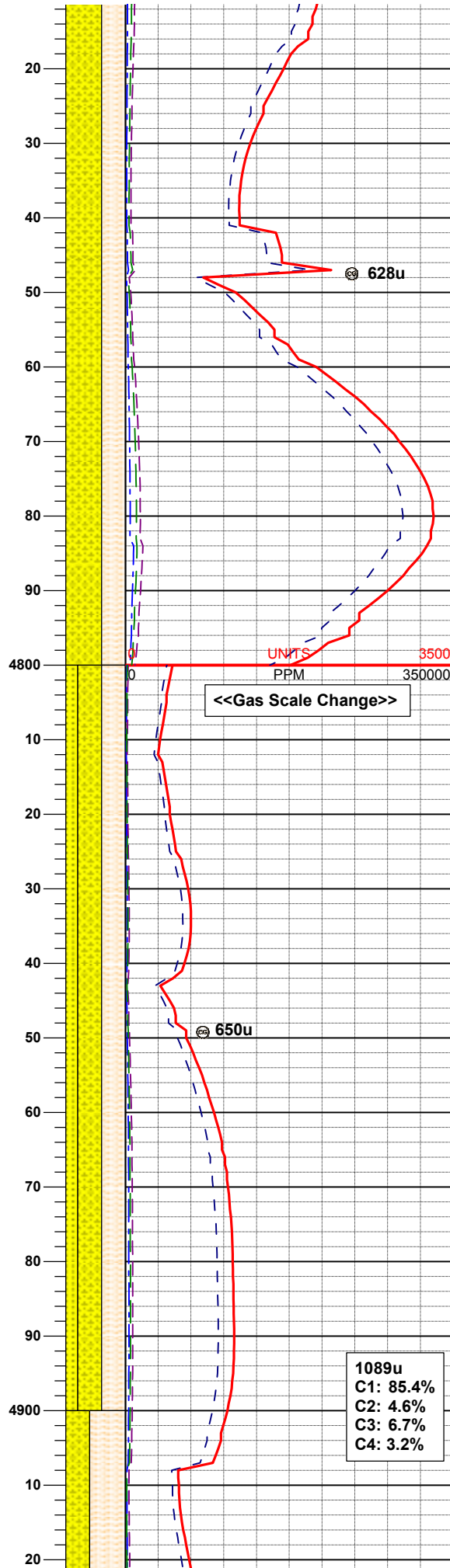
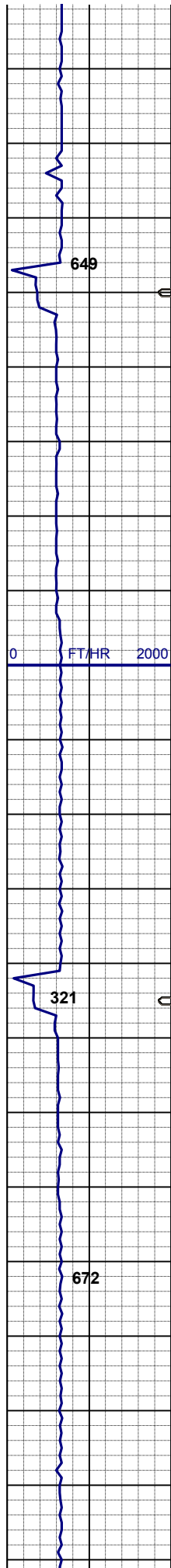
SHYSLTST: ltgy - dkgy, vfgr, firm, sbply - sbrd , w consol, slty-gt tex, sl calc
SHYSS: lt gy, s&p, spec w/ mica, dk gn xl glau, fgr, hd brit clus, sbrd-sbang, calc cmt



SHYSS: wh - lt gy, s&p, spec w/ mica, dk gn xl glau, fgr, hd brit clus, sbrd-sbang, calc cmt
SHYSLTST: ltgy - dkgy, vfgr, firm, sbply - sbrd, w consol, slty-gt tex, sl calc

MD 4,693'
TVD 4,657.07'
INC 0.26°
AZM 146.81°

SHYSLTST: ltgy - dkgy, vfgr, firm, sbply - sbrd, w consol, slty-gt tex, sl calc
SHYSS: lt gy, s&p, spec w/ mica, dk gn xl glau, fgr, hd brit clus, sbrd-sbang, calc cmt

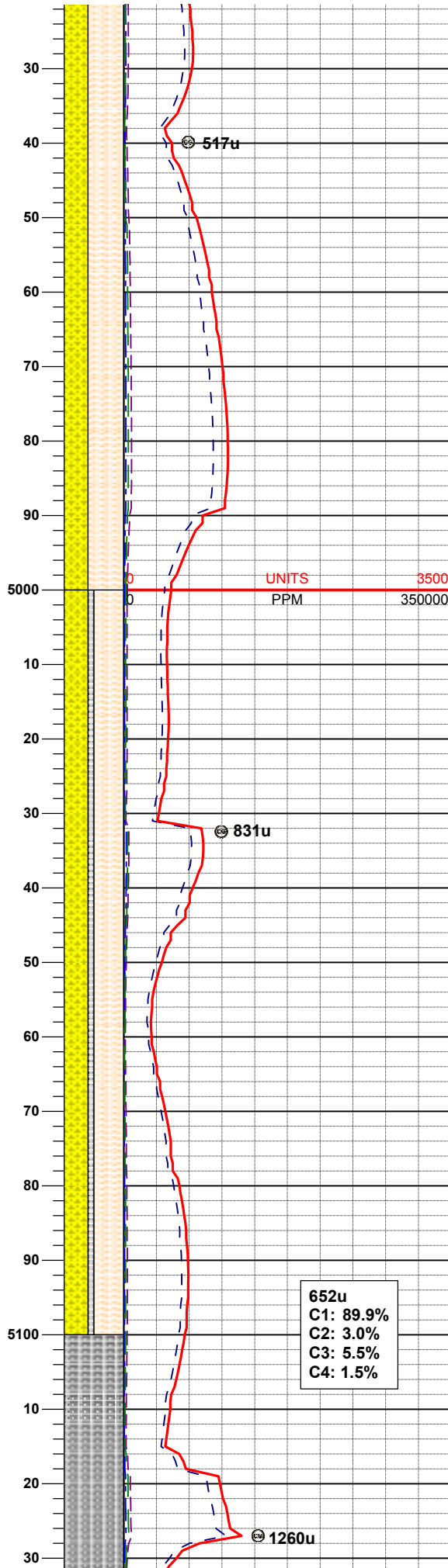
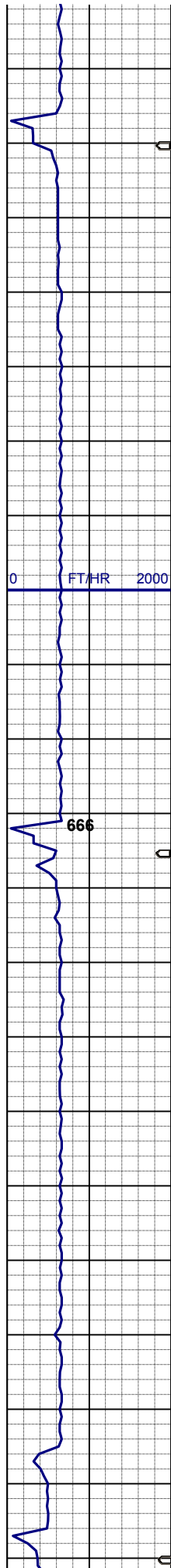


SHYSS: wh - lt gy, s&p, spec w/ mica, dk gn xl glau, fgr, hd brit clus, sbrd-sbang, calc cmt
SHYSLTST: ltgy - dkgy, vfgr, firm, sbply - sbrd, w consol, slty-gt tex, sl calc

Shannon SS
@ 4880' MD; 4844' TVD

SHYSS: lt gy, s&p, spec w/ mica, dk gn xl glau, fgr, hd brit clus, sbrd-sbang, calc cmt
SHYSLTST: ltgy - dkgy, vfgr, firm, sbply - sbrd, w consol, slty-gt tex, sl calc
SS: wh, fros - trnsl, s&p, fgr, hd brit clus, sbang - sbrd, p consol, v calc cmt

1089u
C1: 85.4%
C2: 4.6%
C3: 6.7%
C4: 3.2%

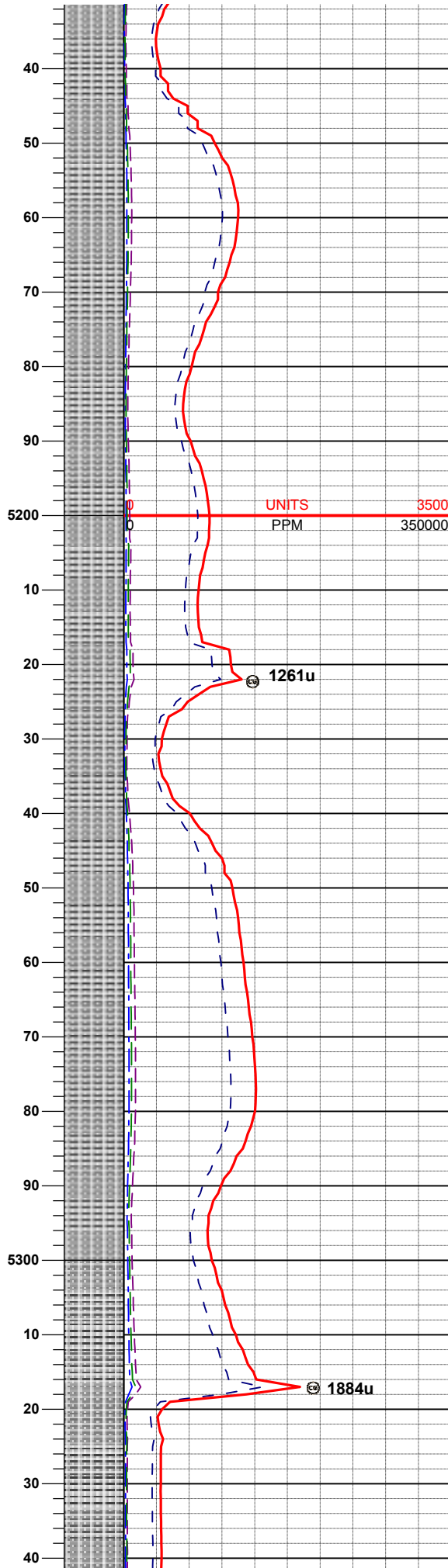
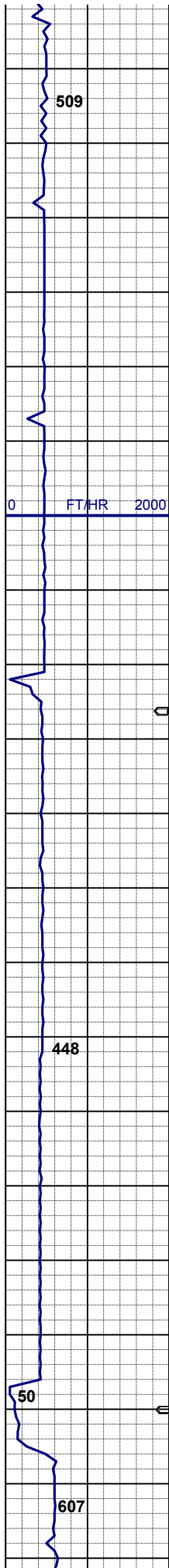


MD 4,978'
TVD 4,942.06'
INC 0.74°
AZM 19.84°

SHYSLTST: ltgy - dkgy, vfgr, firm,
sbplty - sbrd, w consol, slty-gt tex, sl
calc
SHYSS: lt gy, s&p, spec w/ mica, dk
gn xl glau, fgr, hd brit clus, sbrd-
sbang, calc cmt

MUD WT 8.80/8.95
VIS 29/29 IN/OUT

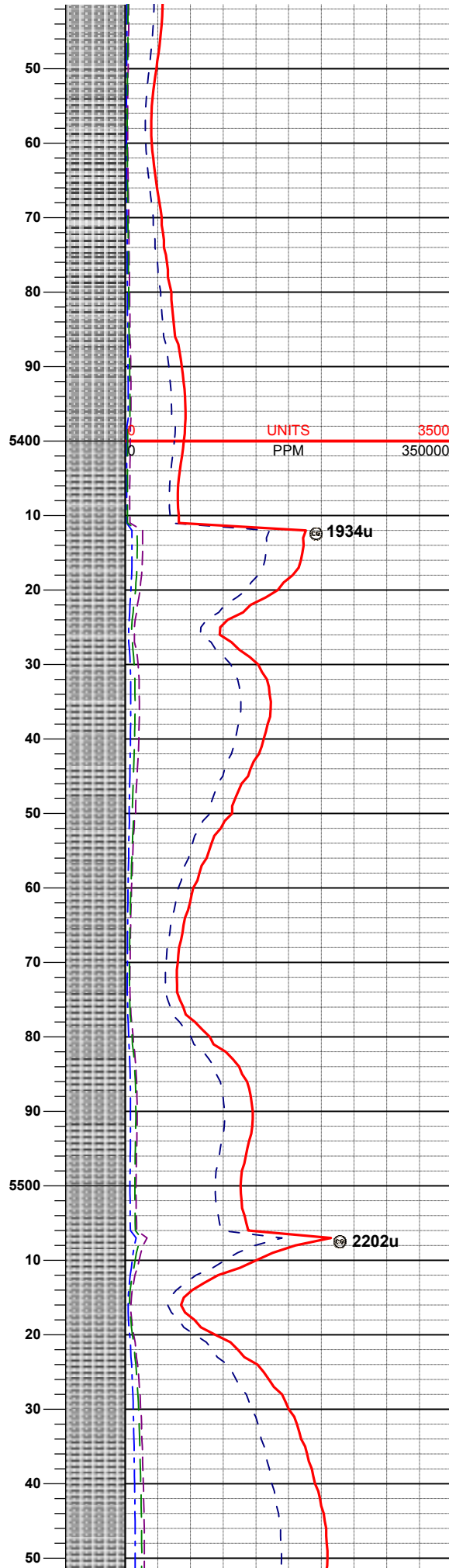
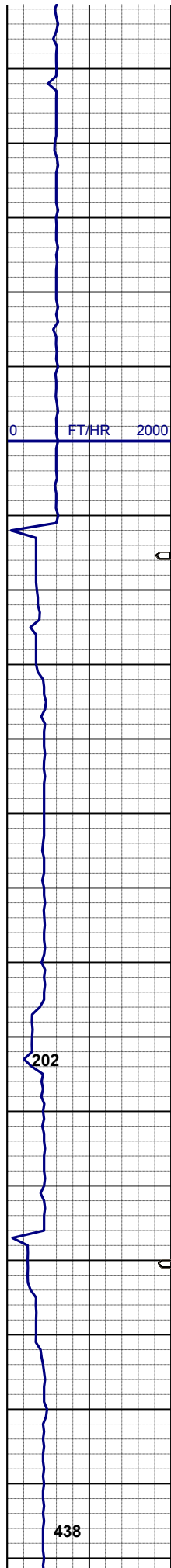
SHYSLTST: ltgy - dkgy, vfgr, firm,
sbplty - sbrd, w consol, slty-gt tex, sl
calc
SHYSS: wh- lt gy, s&p, spec w/ mica,
dk gn xl glau, fgr, hd brit clus, sbrd-
sbang, calc cmt
SLTYSH: lt - mgy, sb plty, firm - mod
hd, gt tex, vsl calc, sme bent



SLTYSH: lt - mgy, sbplty - sbblky, firm
- mod hd, gt tex, vsl calc, sme bent

MD 5,262'
TVD 5,226.03'
INC 1.00°
AZM 333.57°

SLTYSH: lt - mgy, sbplty - sbblky, firm
- mod hd, gt tex, vsl calc, tr bent

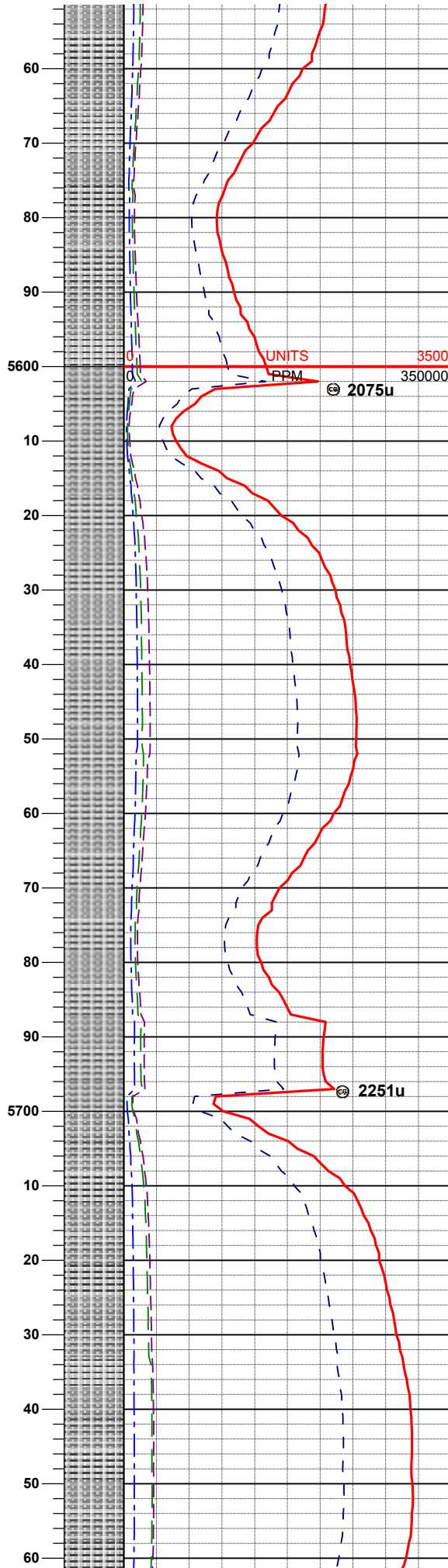
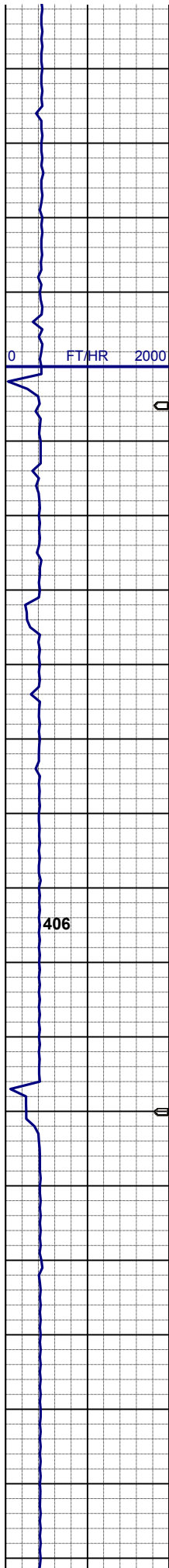


MD 5,357'
TVD 5,321.03'
INC 0.71°
AZM 72.05°

SLTYSH: lt - mgy, sbplty - sbblky, firm
- mod hd, gt tex, vsl calc, tr bent

MD 5,452'
TVD 5,416.02'
INC 0.32°
AZM 136.74°

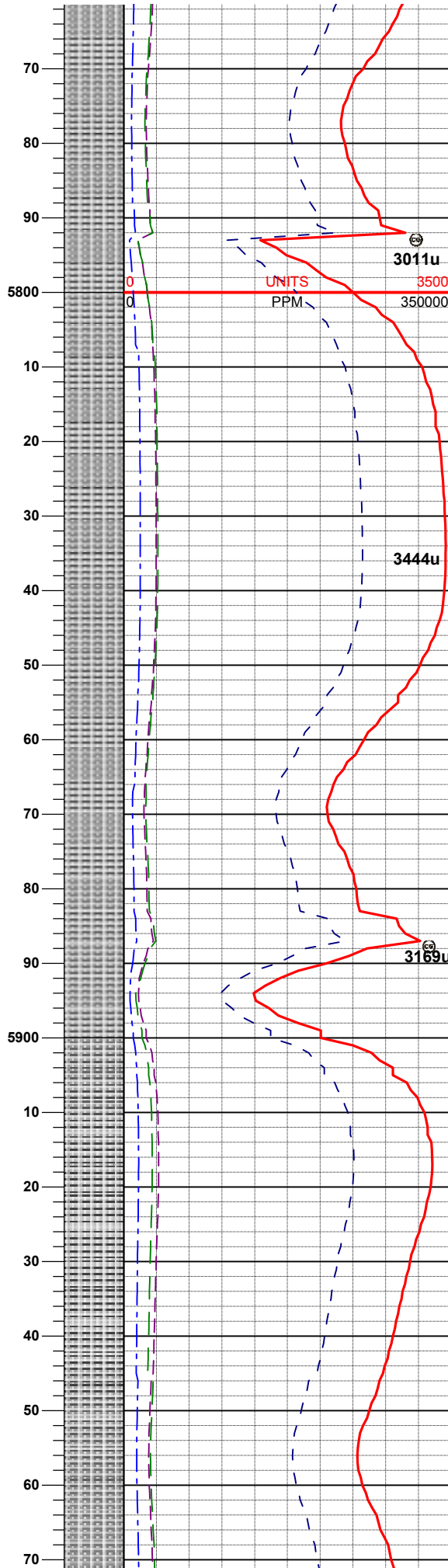
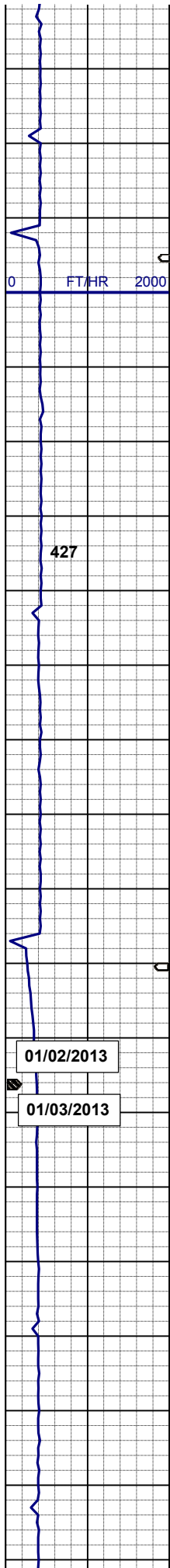
SLTYSH: lt - mgy, sbplty - sbblky, firm
- mod hd, gt tex, vsl calc, tr bent



SLTYSH: lt - mgy, sbplty - sbbiky, firm
- mod hd, gt tex, vsl calc, tr bent

SLTYSH: lt - mgy, sbplty - sbbiky, firm
- mod hd, gt tex, vsl calc, tr bent

MD 5,737'
TVD 5,701.02'
INC 0.10°
AZM 73.83°



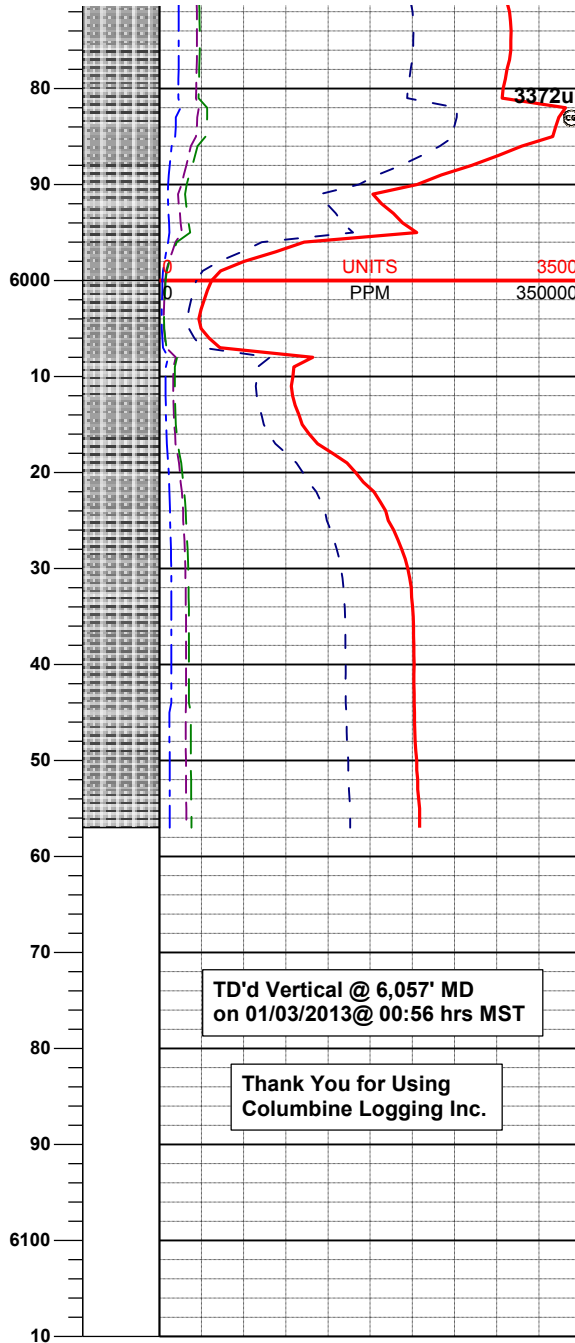
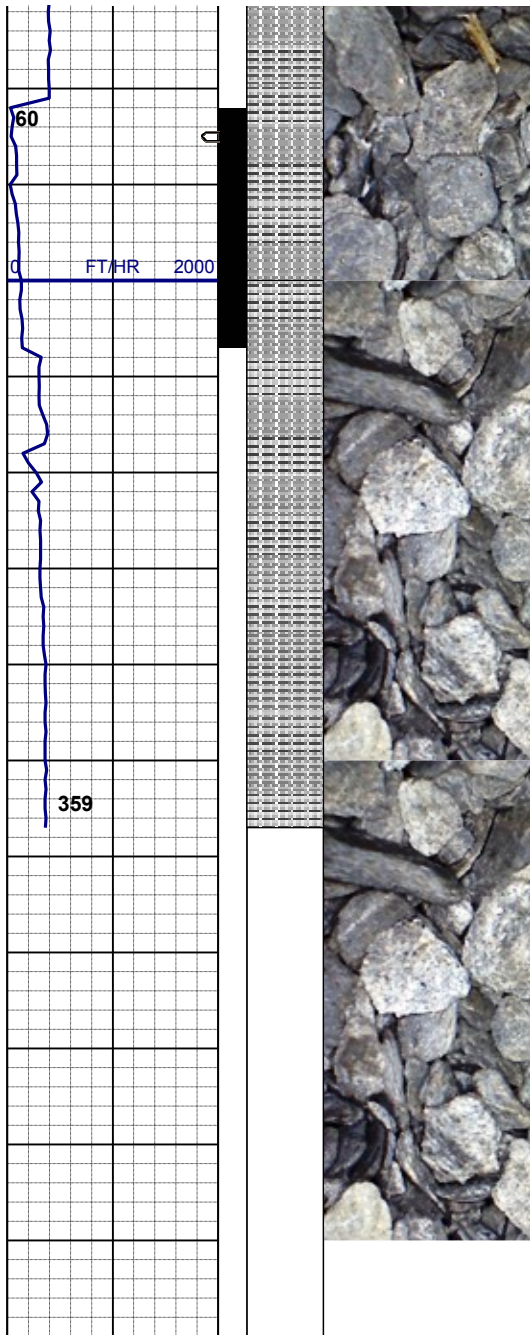
SLTYSH: lt - mgy, sbplty - sbbly, firm
- mod hd, gt tex, vsl calc, tr bent

Tepee Buttes
@ 5830' MD; 5794' TVD

MUD WT 9.15/9.20
VIS 32/32 IN/OUT

SLTYSH: lt - mgy, sbplty - sbbly, firm
- mod hd, gt tex, vsl calc, tr bent

MD 5,927'
TVD 5,891.02'
INC 0.23°
AZM 282.50°



SLTYSH: lt - mgy, sbply - sbbly, firm
- mod hd, gt tex, vsl calc, tr bent

MD 6,000'
TVD 5,964.02'
INC 0.71°
AZM 249.12°

MUD WT 9.25/9.30
VIS 34/34 IN/OUT

SLTYSH: lt - mgy, sbply - sbbly, firm
- mod hd, gt tex, vsl calc, tr bent, tr
intbd ss

TD'd Vertical @ 6,057' MD
on 01/03/2013@ 00:56 hrs MST

Thank You for Using
Columbine Logging Inc.

LOG CONTINUES ON
HORIZONTAL L PLOT LOG
SLW RANCH
B01-68-1HN HORZ