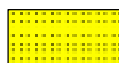


LOG created using LPLOT VH Version 3.0, June 08, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

OPERATOR: NOBLE ENERGY INC
WELL: JENKINS B11-79-1HCM
LOCATION: SEC 11 T5N R64W
COUNTY: WELD
STATE: COLORADO
SPOT: 1,905' FSL; 220' FWL
ELEVATION: 4,603' GL; 4,627' KB
FIELD: WATTENBERG
SPUD DATE: 05/30/2013
TD DATE: 05/31/2013 (VERTICAL)
DATES LOGGED: 05/31/2013 (VERTICAL)
DEPTHS LOGGED: 2,000' - 6,071' (VERTICAL)
LOGGERS: CHRIS SCAHEL; NATHAN MURPHY
DRILLING FLUID: LSND
DRILLING RIG: H&P - 315
API: 05-123-37194
LOG TYPE: VERTICAL
SCALE: 1:240 (5 inches per 100 feet)
REMARKS: SEE CORRESPONDING HORIZONTAL LOG: JENKINS B11-79-1HCM HORZ.
 LAT/LON 40.41169/-104.52626
 Wellsite Geological Services Provided by Columbine Logging Inc.

LITHOLOGIES



Sandstone



Shaly Sandstone



Shaly Siltstone



Silty Shale

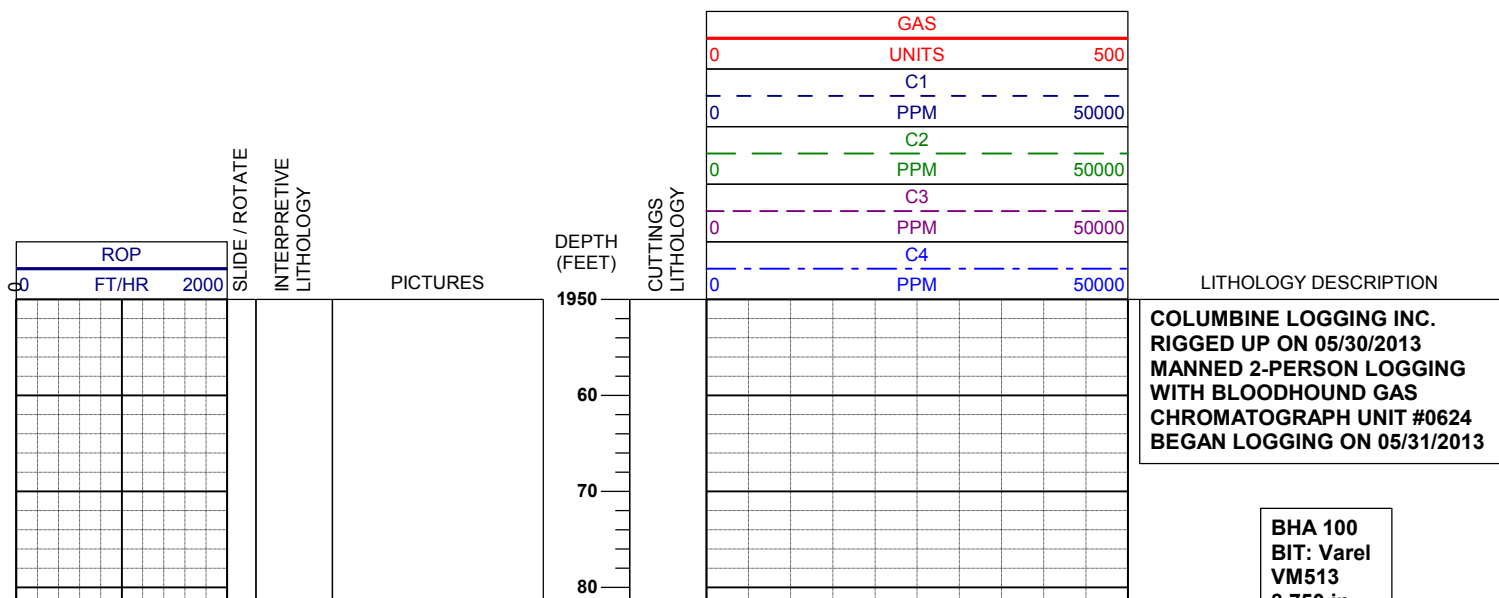
ENGINEERING SYMBOLS

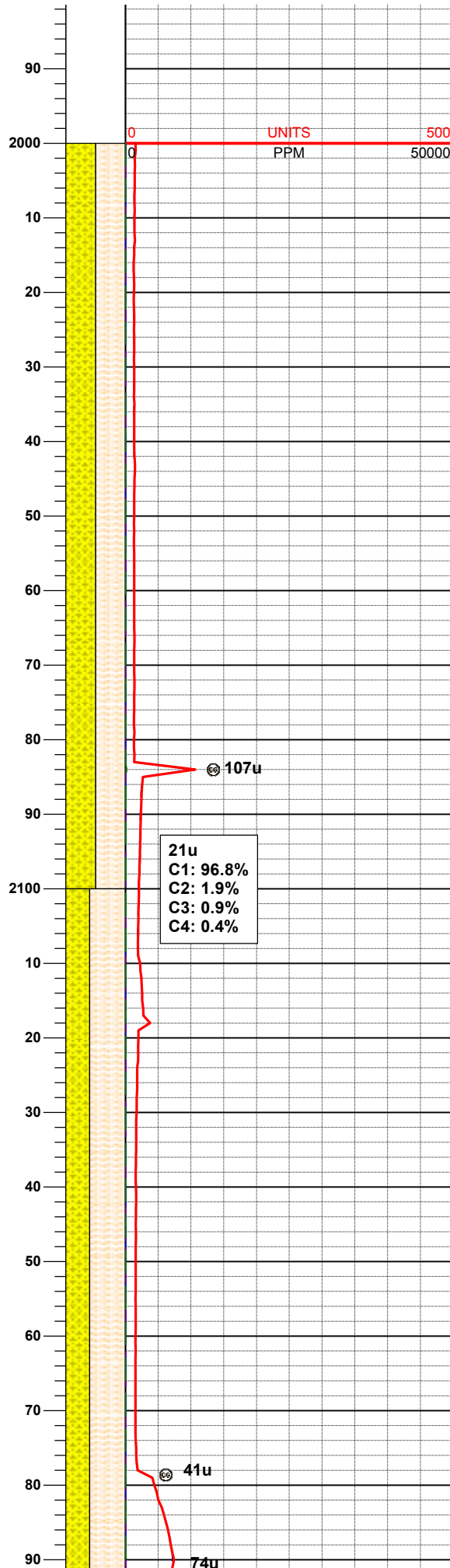
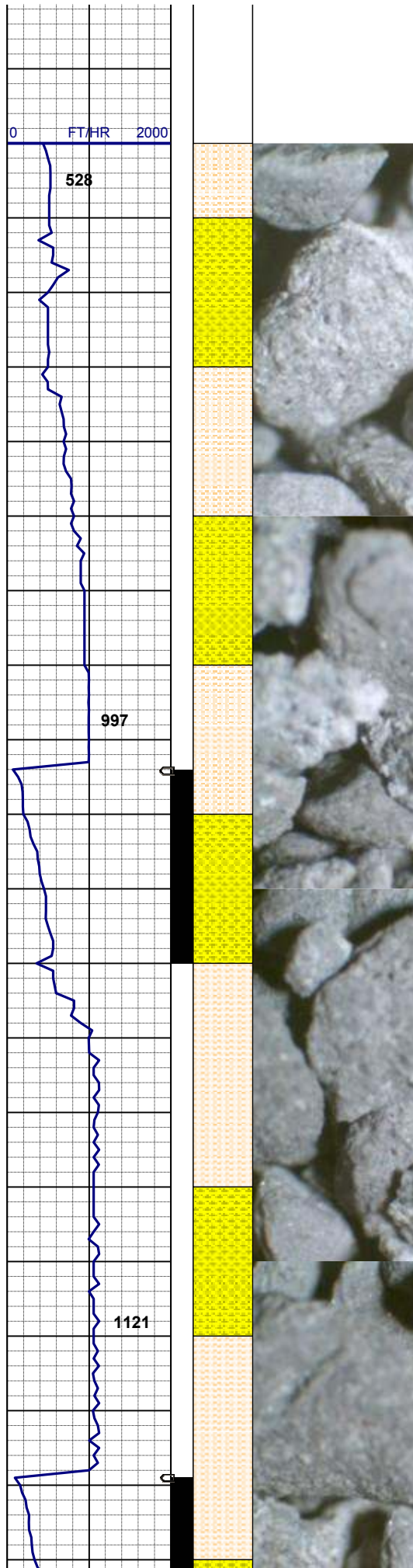


Connection



Connection Gas





0.750 in
5x14 JETS

05/31/2013
Mud Wt: 8.70
FVis: 28
PVis: 2
YP: 4
GELS: -/-
API Filt: N/A
CAKE: 1/0
pH: 11.5
Cl: 1,000
Ca: 120

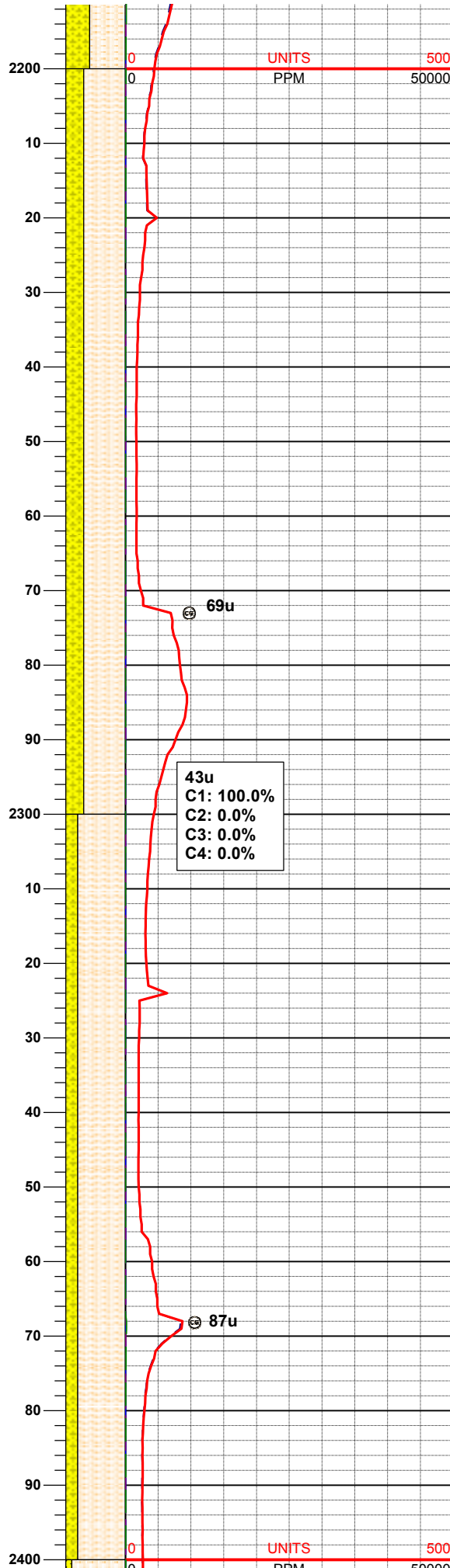
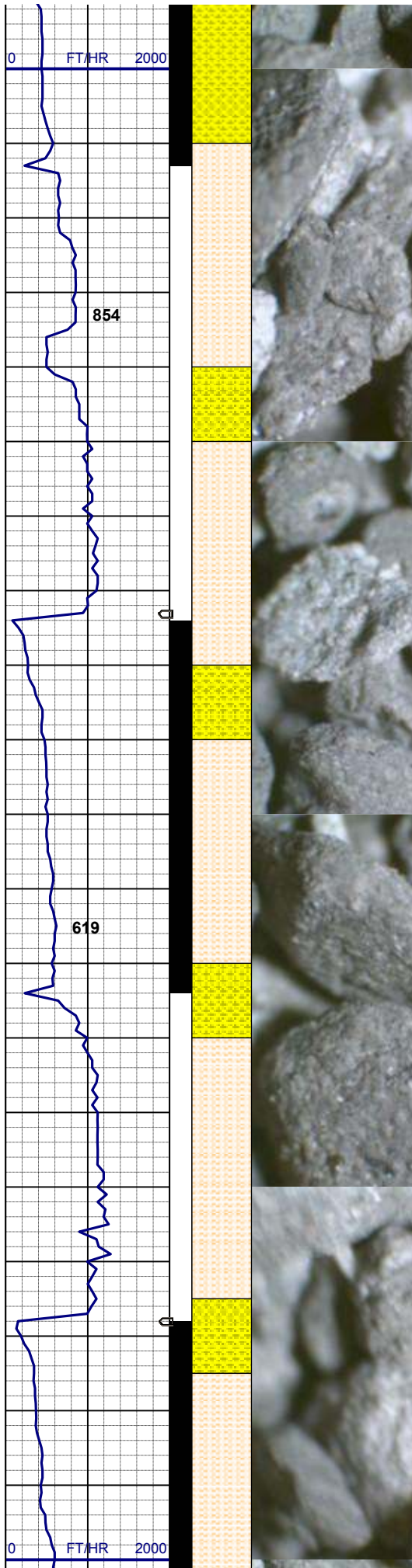
SD 2,026'
TVD 2,025.34'
INC 5.07°
AZM 11.82°

SHYSS: wh - lt gy, s&p, sme fros-
trns, f-vfgr, hd, brit clus, sbang - ang,
calc cmt
SHYSLTST: ltgy - mgy, vfgr, sft, brit-
fri, sbply - sbrd, slty-gt tex, sl calc
cmt, v abnt cly mnrl

SD 2,121'
TVD 2,119.88'
INC 6.21°
AZM 9.15°

MUD WT 8.75/8.75
VIS 31/31 IN/OUT

SHYSLTST: ltgy - mgy, ltgybrn, vfgr,
sft, brit-fri, sbply - sbrd, slty-gt tex, sl
calc cmt



SHYSS: wh - lt gy, s&p, sme fros-trnsi, tr dk gn xl glau, f-vfgr, hd, brit clus, sbang - ang, calc cmt, v abnt cly mnrl

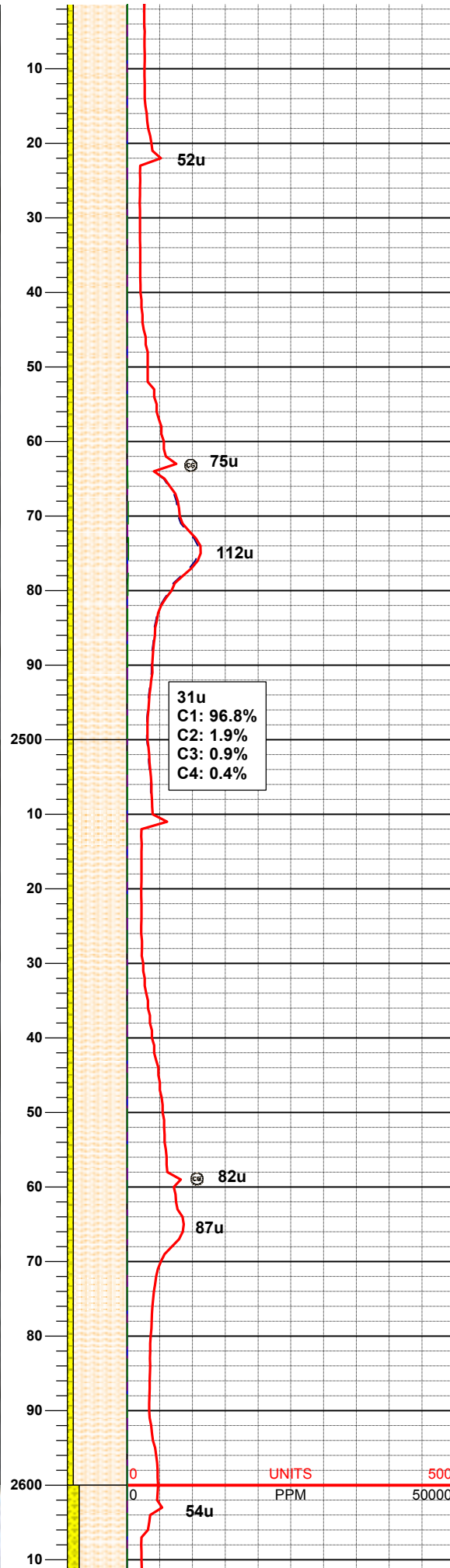
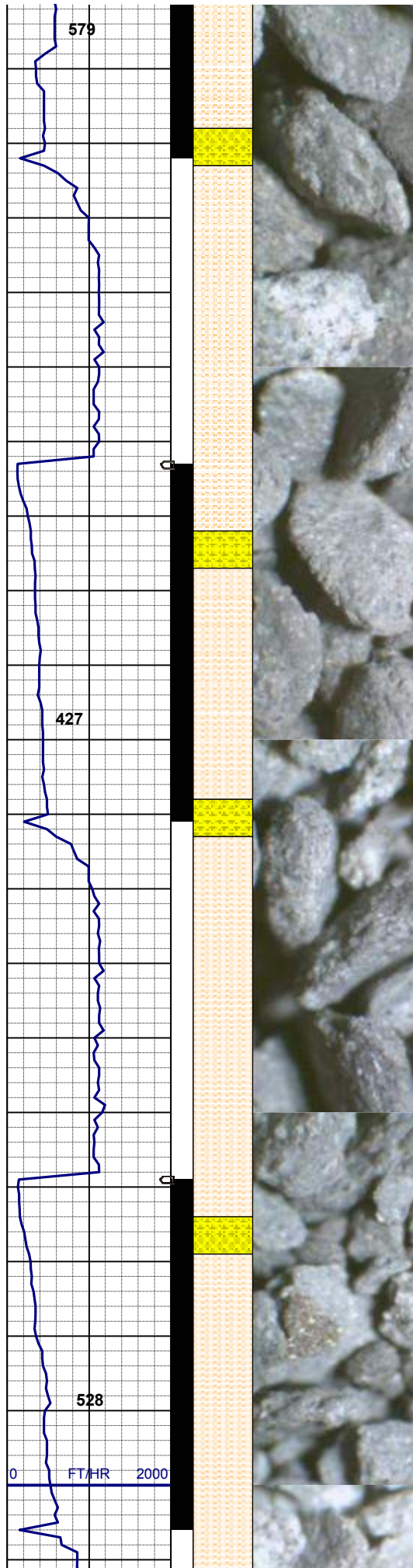
SD 2,216'
TVD 2,214.33'
INC 6.06°
AZM 18.51°

SHYSLTST: ltgy - mgy, ltgybrn, vfgr, sft, brit-fri, sbply - sbrd, slty-gt tex, sl calc cmt
SHYSS: wh - lt gy, fros-trnsi ip, spec w/ mica, tr dk gn xl glau, f-vfgr, hd, brit clus, sbang - ang, calc cmt, v abnt cly mnrl

SD 2,311'
TVD 2,308.71'
INC 7.05°
AZM 13.54°

MUD WT 8.75/8.75
VIS 31/31 IN/OUT

SHYSLTST: ltgy - mgy, ltgybrn, vfgr, sft-modhd, brit-fri, sbply - sbrd, slty-gt tex, sl calc cmt
SHYSS: pred wh - lt gy, fros-trnsi ip, spec w/ mica, tr dk gn xl glau, f-vfgr, hd, brit clus, sbang - ang, calc cmt



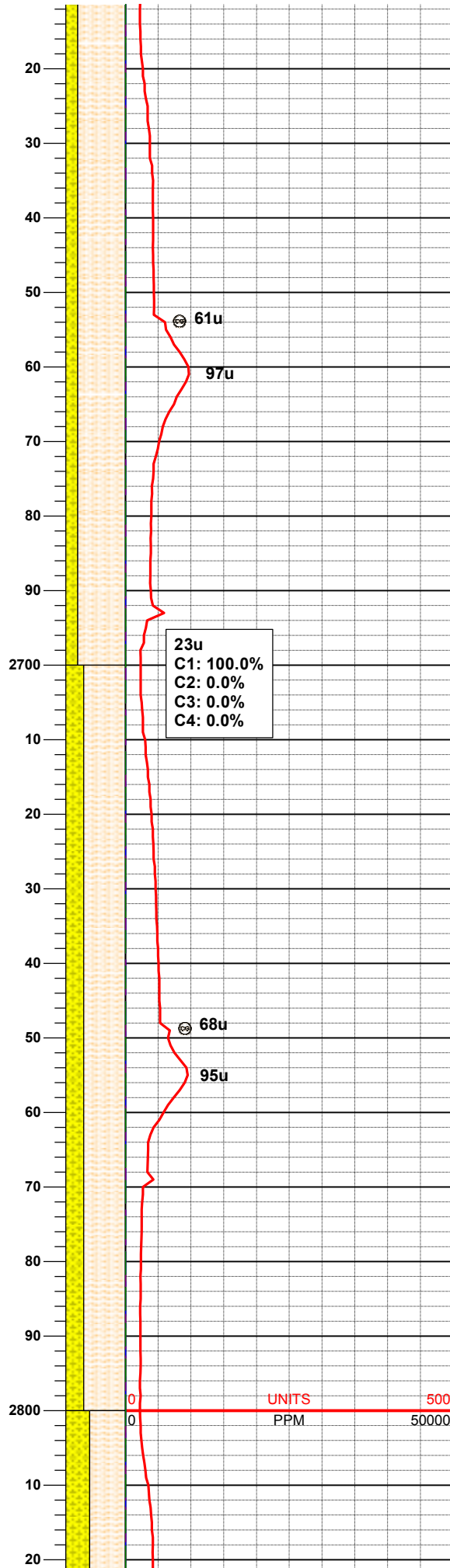
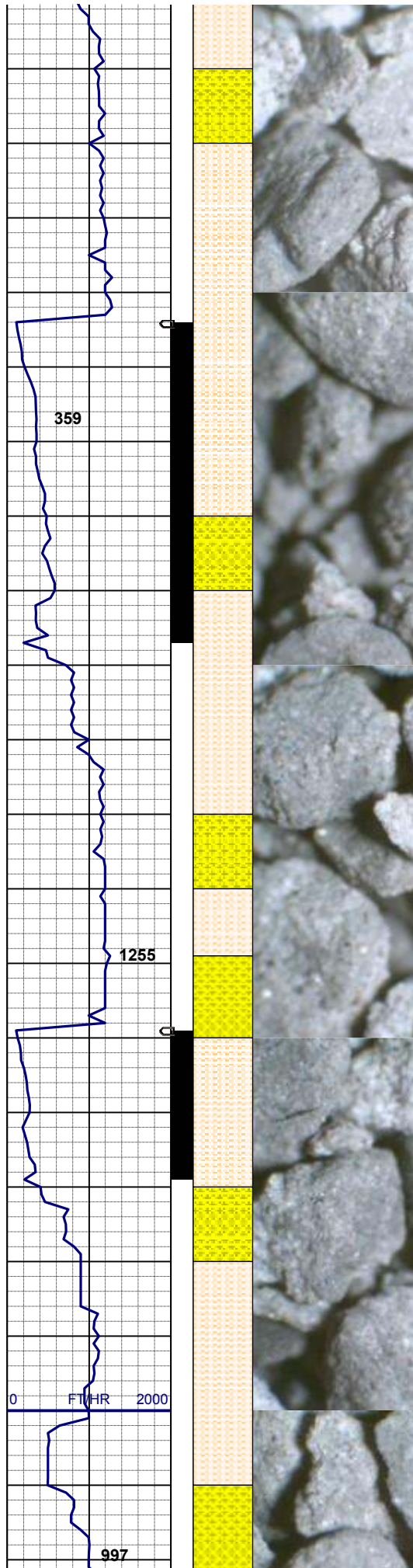
SD 2,406'
TVD 2,402.83'
INC 8.54°
AZM 7.73°

SHYSLTST: ltgy - mgy, ltgybrn, vfgr,
modhd-hd, brit, sbply - sbrd, slty-gt
tex, sl calc cmt
SHYSS: pred wh - lt gy, fros-trnsl ip,
spec w/ mica, tr dk gn xl glau, f-vfgr,
hd, brit clus, sbang - ang, calc cmt

SD 2,501'
TVD 2,496.60'
INC 9.92°
AZM 3.63°

SHYSLTST: ltgy - mgy, ltgybrn, vfgr,
modhd-hd, brit, sbply - sbrd, slty-gt
tex, sl calc cmt
SHYSS: pred wh - lt gy, fros-trnsl ip,
spec w/ mica, f-vfgr, hd, brit clus,
sbang - ang, calc cmt

SD 2,596'
TVD 2,589.99'
INC 11.23°
AZM 0.93°



MUD WT 8.75/8.75
VIS 30/30 IN/OUT

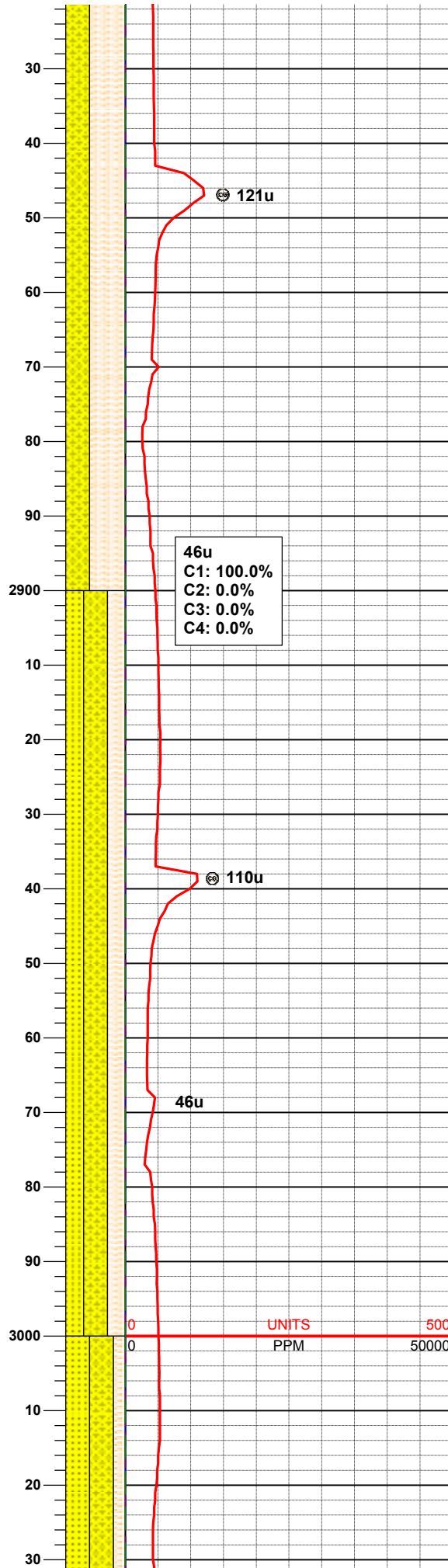
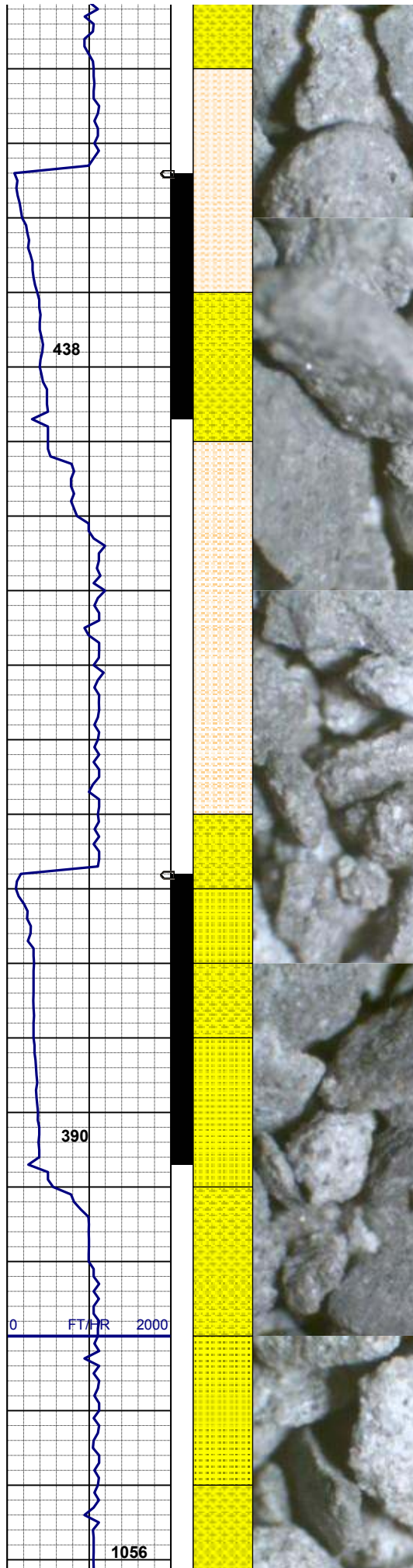
SHYSLTST: ltgy - mgy, ltgybrn, vfgr,
modhd-hd, brit, sbply - sbrd, slty-gt
tex, sl calc cmt
SHYSS: pred wh - lt gy, fros-trnsl ip,
spec w/ mica, f-vfgr, hd, brit clus,
sbply - sbang, calc cmt

SD 2,691'
TVD 2,682.81'
INC 13.34°
AZM 2.63°

SHYSLTST: ltgy - mgy, ltgybrn, vfgr,
modhd-hd, brit, sbply - sbrd, slty-gt
tex, sl calc cmt, intbd w/
SHYSS: wh - lt gy, fros, s&p, spec w/
mica, f-vfgr, hd, brit clus, sbply -
sbang, calc cmt

SD 2,786'
TVD 2,775.23'
INC 13.39°
AZM 5.60°

UNITS 500
PPM 50000



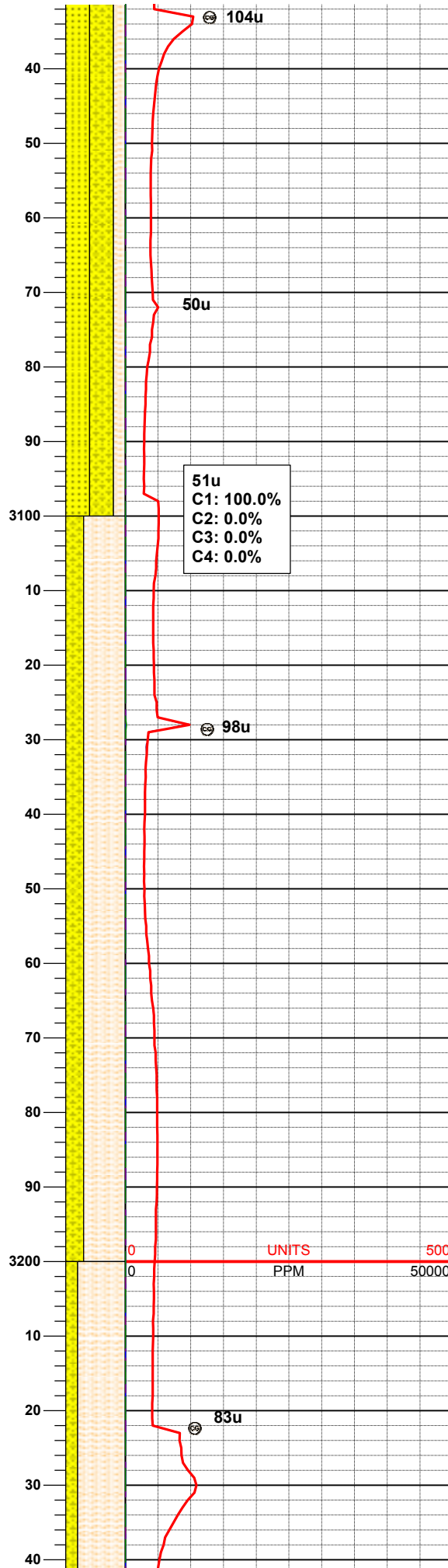
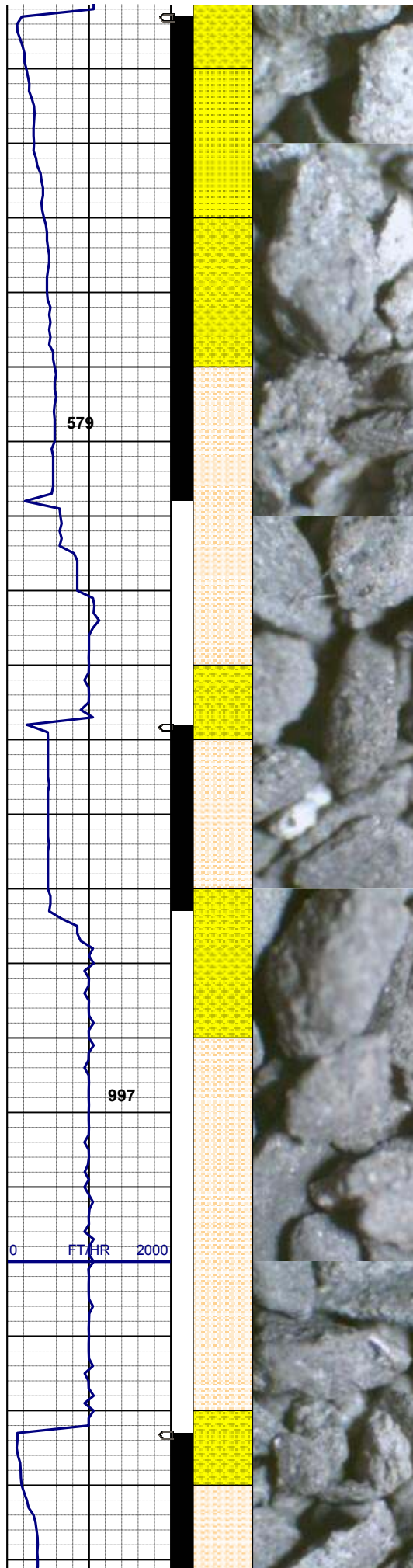
SHYSLTST: ltgy - mgy, ltgybrn, vfgr,
mod hd, brit, sbplty - sbrd, slty-gt tex,
sl calc cmt
SHYSS: wh - lt gy, fros, s&p, spec w/
mica, f-vfgr, hd, brit clus, sbplty -
sbang, calc cmt

SD 2,881'
TVD 2,867.75'
INC 12.87°
AZM 7.65°

MUD WT 8.70/8.70
VIS 29/29 IN/OUT

SD 2,976'
TVD 2,960.35'
INC 12.97°
AZM 12.61°

SHYSS: wh, ltgy, lt gybrn, s&p, vfgr,
hd, brit clus, sbplty - sbang, calc cmt
SS: wh, lt gy, pred trnsl, sme clr, spec
w/ mica & phlog, tr dk gn xl glau, hd, v
brit clus, sbang - ang, v calc cmt
SHYSLTST: ltgy - mgy, ltgybrn, vfgr,
mod hd, brit, sbplty - sbrd, slty-gt tex,
sl calc cmt



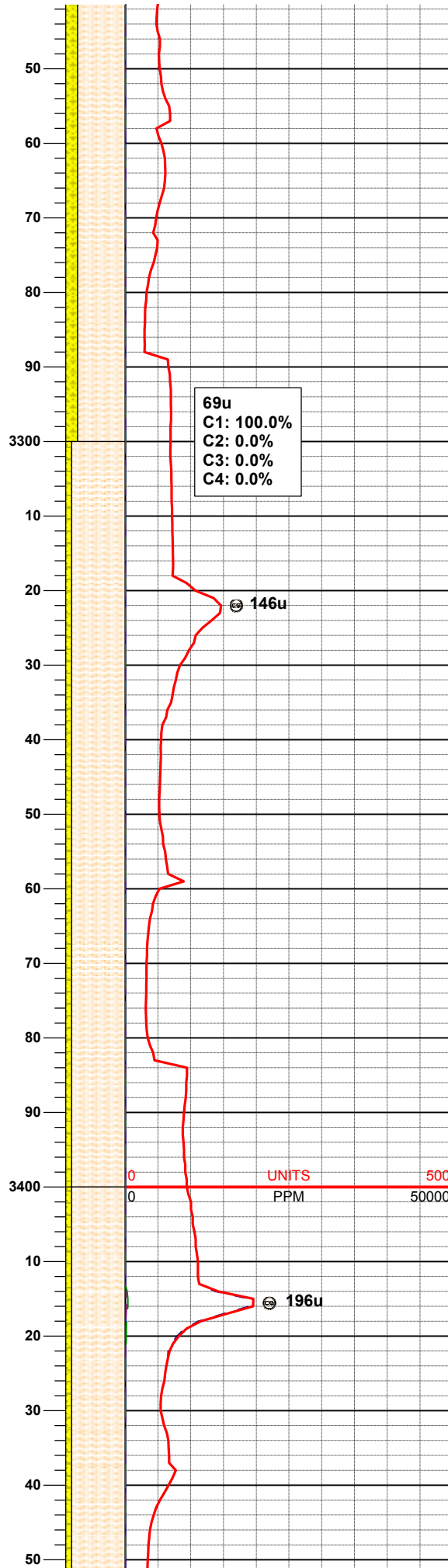
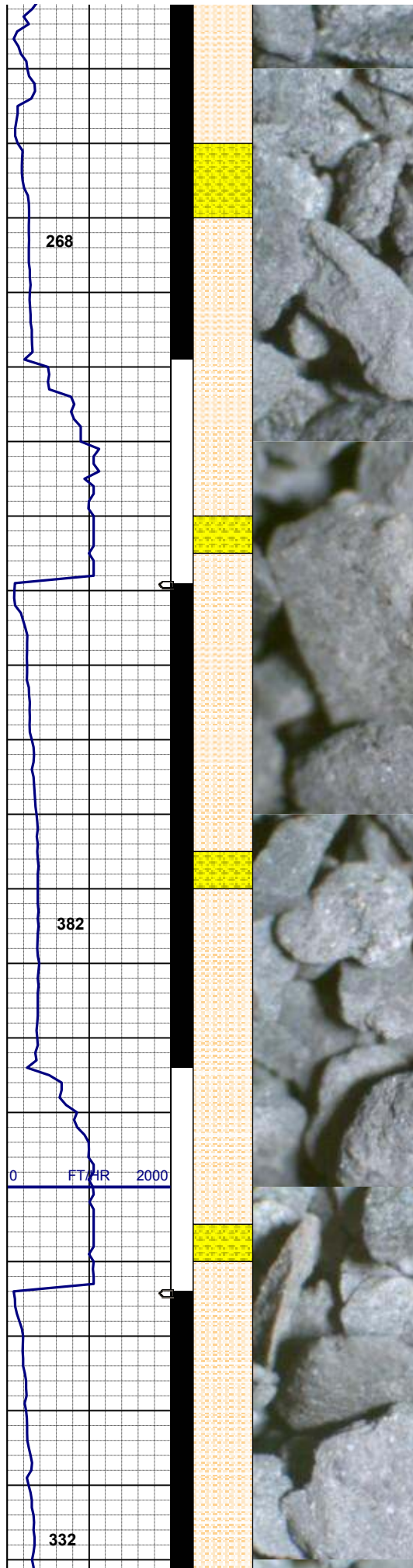
SD 3,071'
TVD 3,052.76'
INC 13.83°
AZM 14.24°

SHYSS: wh, ltgy, lt gybrn, s&p, vfgr,
hd, brit clus, sbply - sbang, calc cmt
SS: wh, lt gy, fros, spec w/ mica /
phlog, tr dk gn xl glau, hd, v brit clus,
sbang - ang, v calc cmt
SHYSLTST: ltgy - mgy, ltgybrn, vfgr,
mod hd, brit, sbply - sbrd, slty-gt tex,
sl calc cmt

MUD WT 8.70/8.70
VIS 29/29 IN/OUT

SD 3,166'
TVD 3,145.33'
INC 12.16°
AZM 16.95°

SHYSLTST: ltgy - mgy, ltgybrn, vfgr,
modhd-hd, brit, sbply - sbrd, slty-gt
tex, sl calc cmt
SHYSS: wh, ltgy, lt gybrn, spec w/
mica, vfgr, hd, brit clus, sbply -
sbang, calc cmt



SD 3,261'
TVD 3,238.43'
INC 10.76°
AZM 17.61°

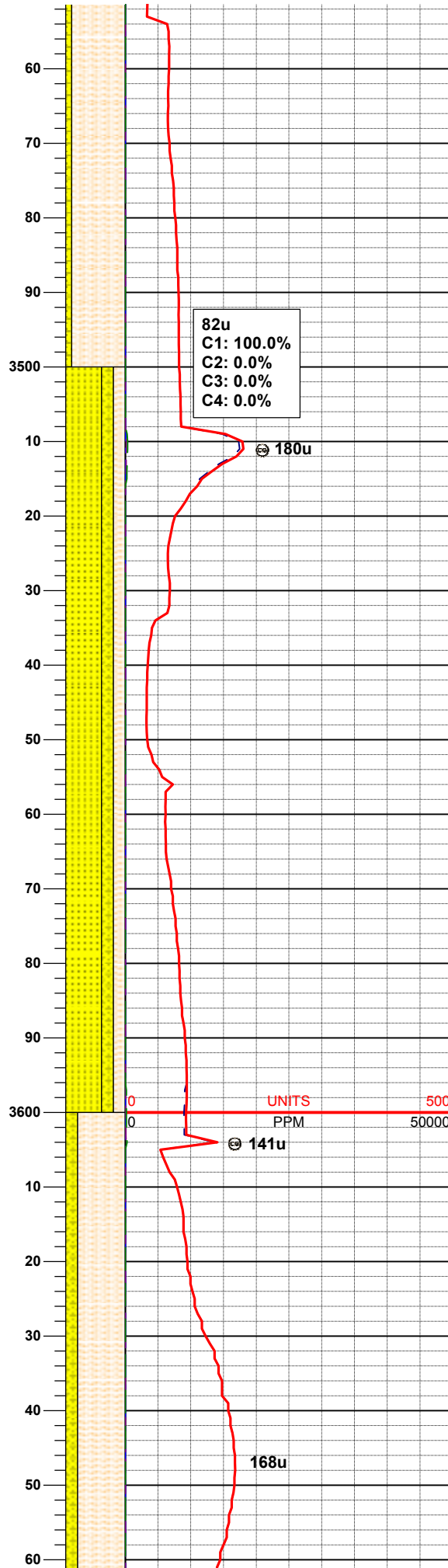
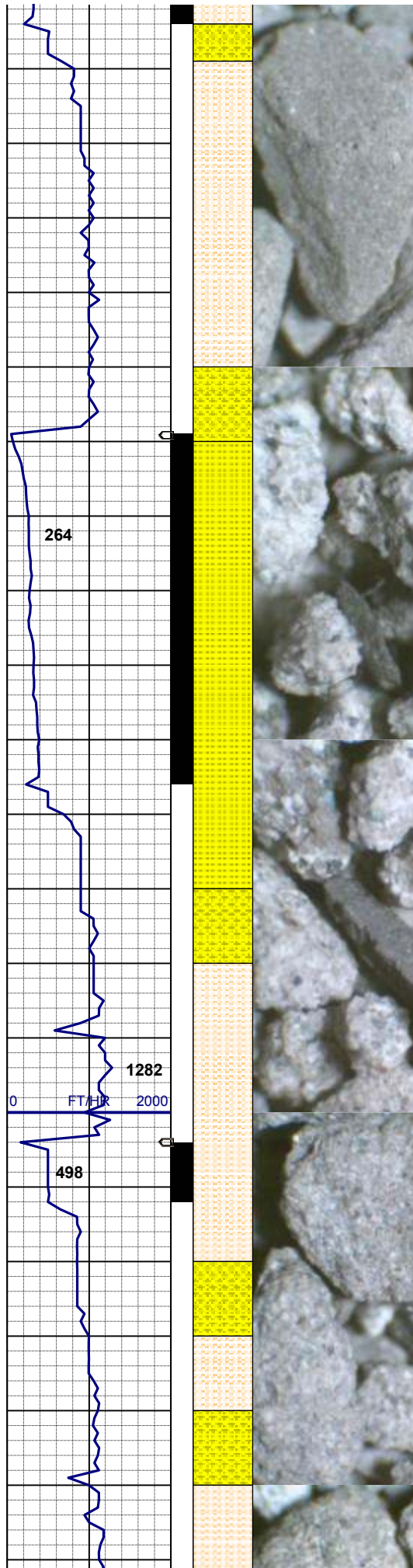
SHYSLTST: ltgy - mgy, ltgybrn, vfgr,
modhd-hd, brit, sbply - sbrd, slty-gt
tex, sl calc cmt
SHYSS: wh, ltgy, spec w/ mica, vfgr,
hd, brit clus, sbply - sbang, calc cmt

MUD WT 8.80/8.80
VIS 30/30 IN/OUT

SD 3,355'
TVD 3,330.58'
INC 12.00°
AZM 11.00°

SHYSLTST: ltgy - mgy, ltgybrn, vfgr,
mod hd, brit, sbply - sbrd, slty-gt tex,
sl calc cmt
SHYSS: wh, ltgy, spec w/ mica, vfgr,
hd, brit clus, sbply - sbang, calc cmt

SD 3,450'
TVD 3,423.36'
INC 12.00°
AZM 11.00°



INC 12.85°
AZM 14.47°

SHYSLTST: ltgy - mgy, ltgybrn, vfgr,
mod hd, brit, sbply - sbrd, slty-gt tex,
sl calc cmt
SHYSS: wh, ltgy, spec w/ mica, vfgr,
hd, brit clus, sbply - sbang, calc cmt

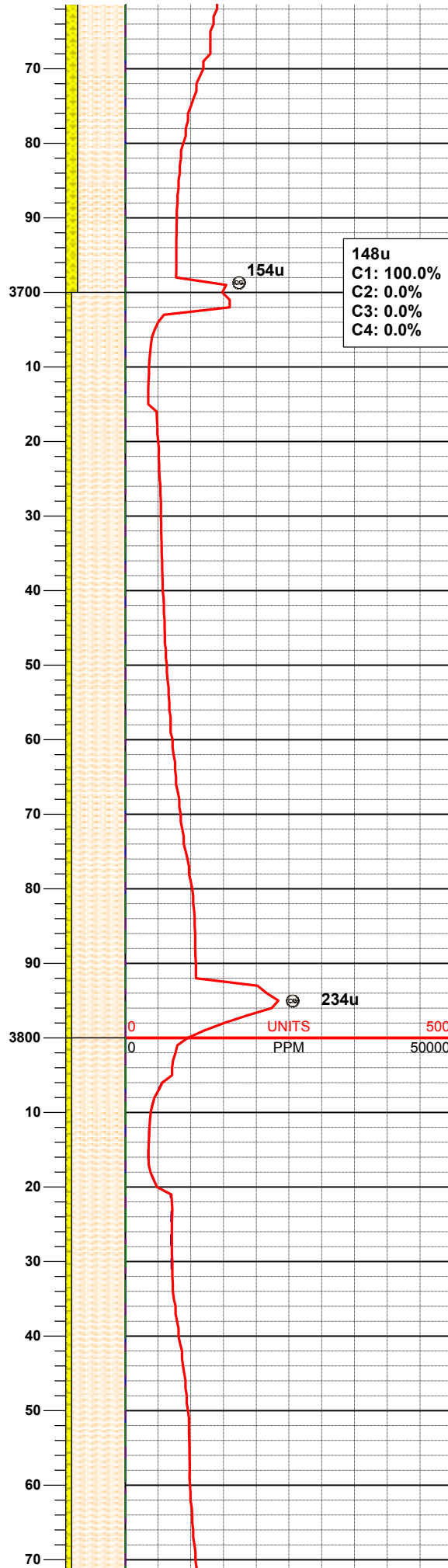
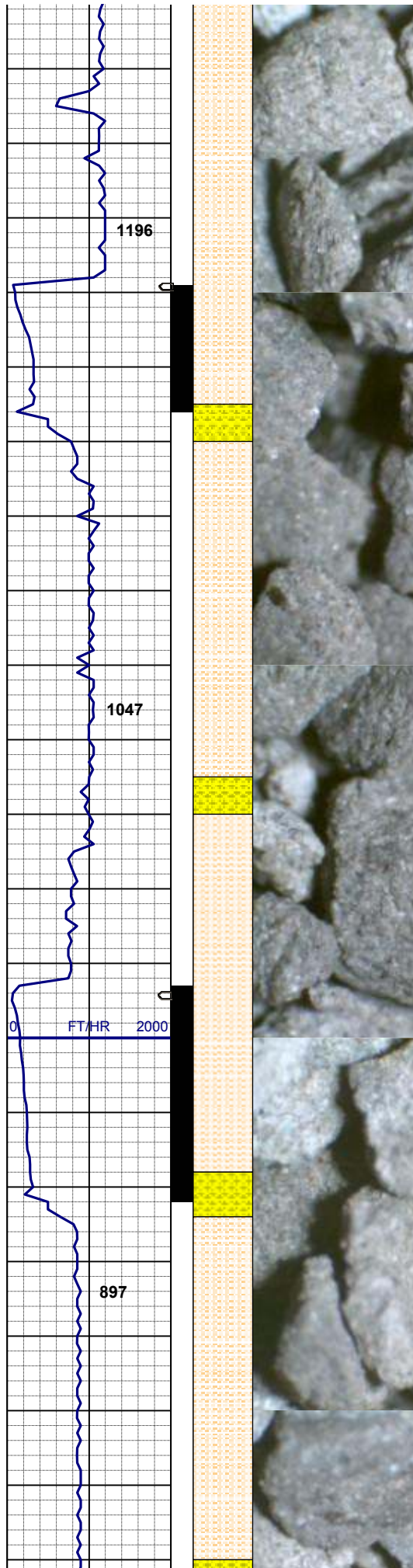
MUD WT 8.65/8.65
VIS 29/29 IN/OUT

Parkman @
3,544' MD; 3,515' TVD

SD 3,545'
TVD 3,515.88'
INC 13.40°
AZM 12.75°

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

SD 3,640'
TVD 3,607.95'
INC 15.11°
AZM 11.52°



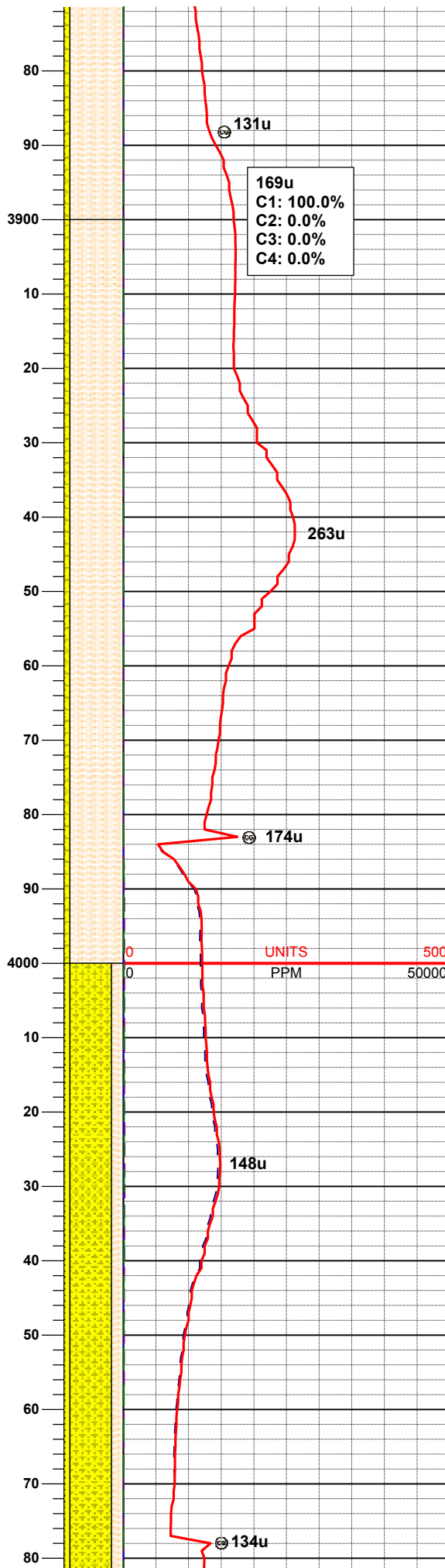
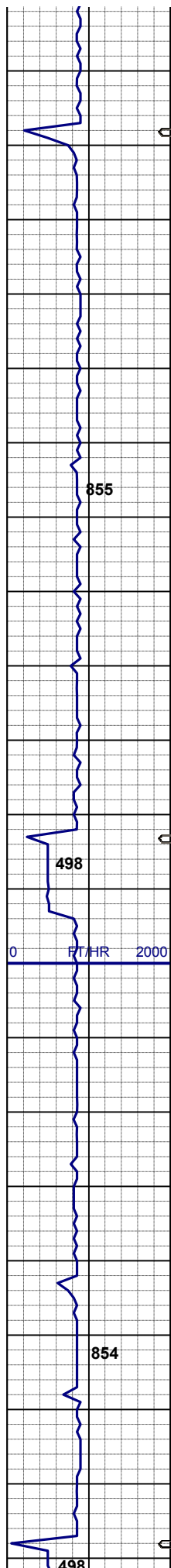
SHYSLTST: ltgy - mgy, gybrn, vfgr,
mod hd, brit, sbplty - sbang, gt tex, v
sl calc
SHYSS: wh, ltgy, ltgybrn, sme s&p,
vfgr, hd, brit clus, sbplty - sbang, calc
cmt

MUD WT 8.80/8.80
VIS 28/28 IN/OUT

SD 3,735'
TVD 3,699.55'
INC 15.66°
AZM 11.32°

SHYSLTST: ltgy - mgy, gybrn, vfgr,
mod hd, brit, sbplty - sbang, gt tex, v
sl calc
SHYSS: wh, ltgy, ltgybrn, spec w/
mica, tr dk gn xl glau, vfgr, hd, brit
clus, sbplty - sbang, calc cmt

SD 3,830'
TVD 3,791.36'
INC 14.08°
AZM 11.97°



SHYSLTST: ltgy - mgy, gybrn, vfgr,
mod hd, brit, sbplty - sbang, gt tex, v
sl calc
SHYSS: wh, ltgy, ltgybrn, spec w/
mica, tr dk gn xl glau, vfgr, hd, brit
clus, sbplty - sbang, calc cmt

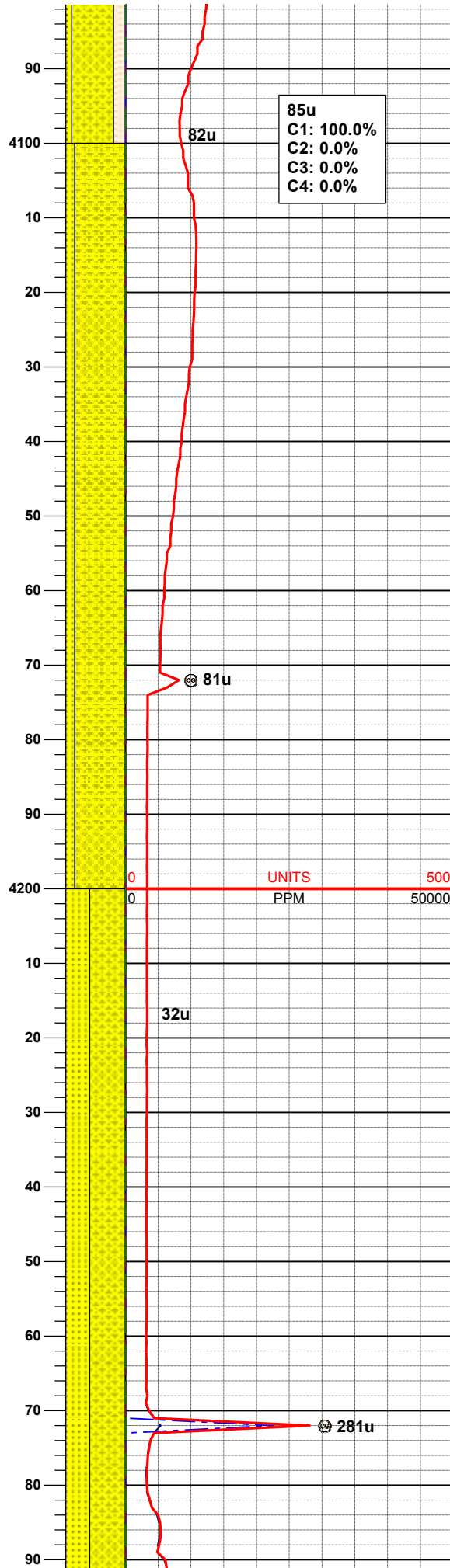
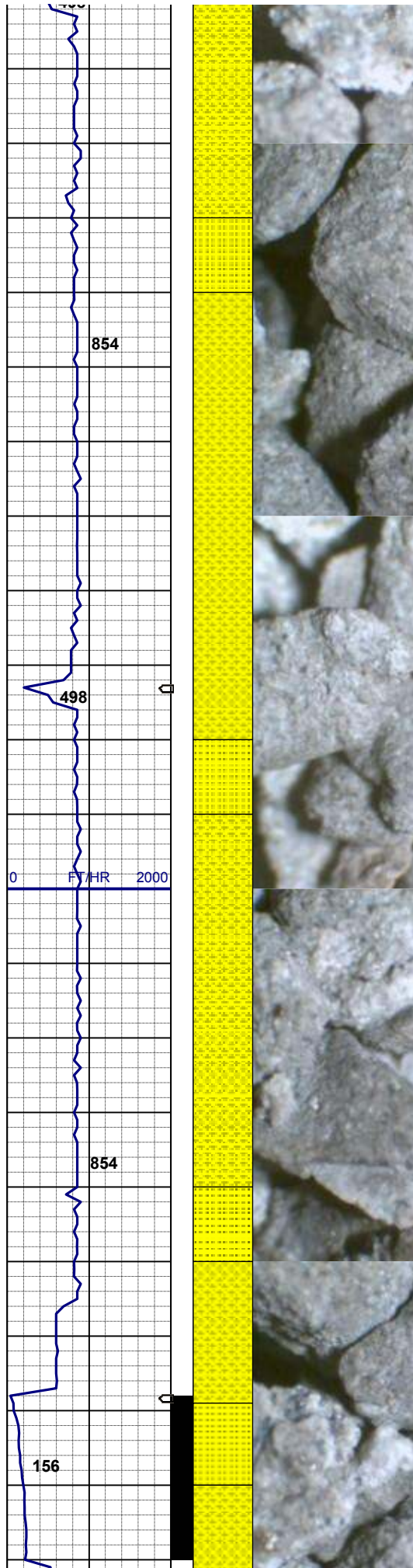
SD 3,925'
TVD 3,884.06'
INC 11.11°
AZM 13.91°

05/31/2013
Mud Wt: 8.75
FVis: 30
PVis: 2
YP: 4
GELS: -/-/
API Filt: N/A
CAKE: 1/0
pH: 9.3
Cl: 1,000
Ca: 80

SHYSLTST: ltgy - mgy, gybrn, vfgr,
mod hd, brit, sbplty - sbang, gt tex, v
sl calc
SHYSS: wh, ltgy, ltgybrn, spec w/
mica, tr dk gn xl glau, vfgr, hd, brit
clus, sbplty - sbang, calc cmt

MUD WT 8.75/8.75
VIS 30/30 IN/OUT

SD 4,020'
TVD 3,977.64'
INC 8.72°
AZM 12.48°



SHYSS: lt gy, s&p, vfgr, hd, brit clus, sbang - sbblky, calc cmt
SS: wh, s&p, fgr, hd v brit clus, sbang -sbrd, p consol, v calc cmt
SHYSLTST: ltgy - mgy, gybrn, vfgr, mod hd, brit, sbplty - sbang, gt tex, v sl calc

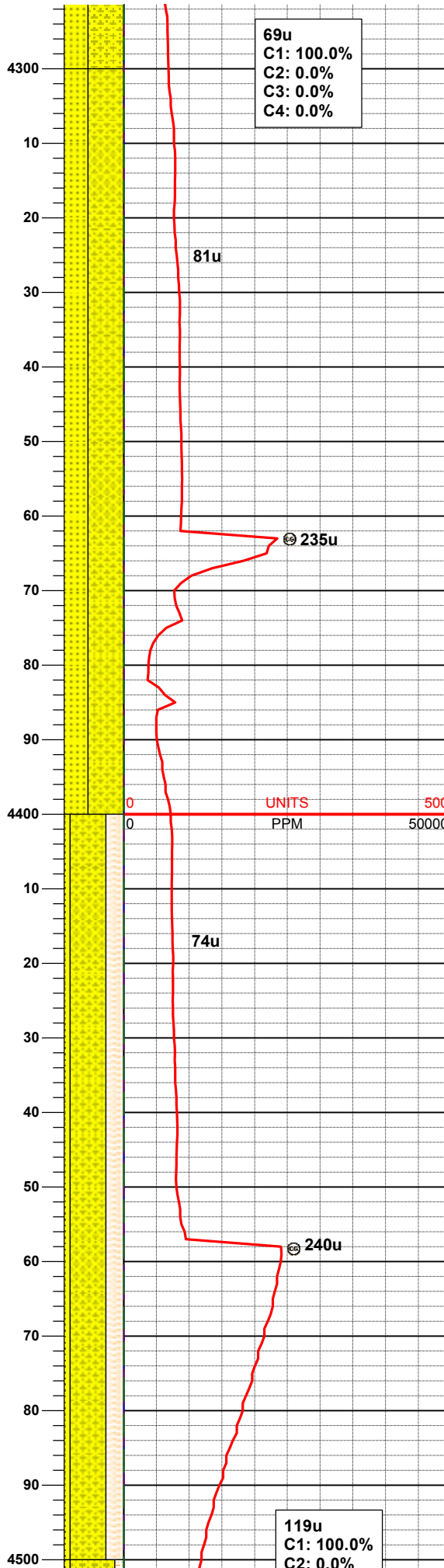
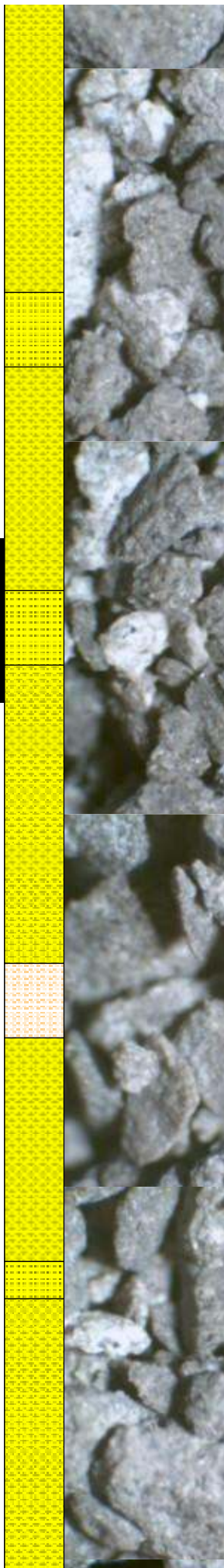
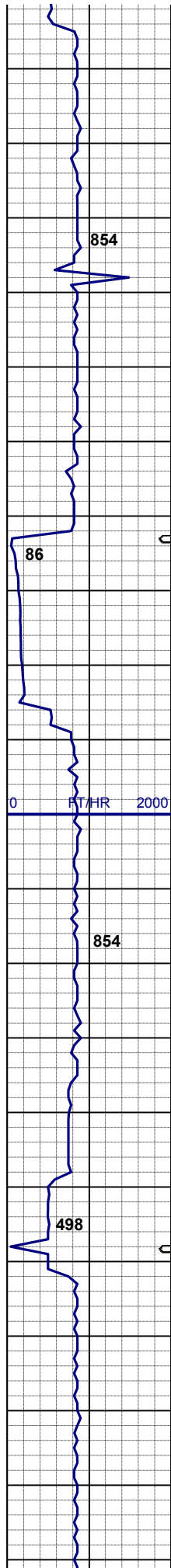
SD 4,115'
TVD 4,071.78'
INC 6.66°
AZM 17.78°

Sussex @
4,173' MD; 4,129' TVD

SHYSS: lt gy, s&p, vfgr, hd, brit clus, sbang - sbblky, calc cmt
SS: wh, s&p, fgr, hd v brit clus, sbang -sbrd, p consol, v calc cmt

SD 4,210'
TVD 4,166.29'
INC 4.91°
AZM 17.79°

SHYSS: lt av s&n vfgr hd brit clus



SHYSS: lt gy, s&p, vfgr, hd, brit clus,
sbang - sbblky, calc cmt
SS: wh, s&p, fgr, hd v brit clus, sbang
-sbrd, p consol, v calc cmt

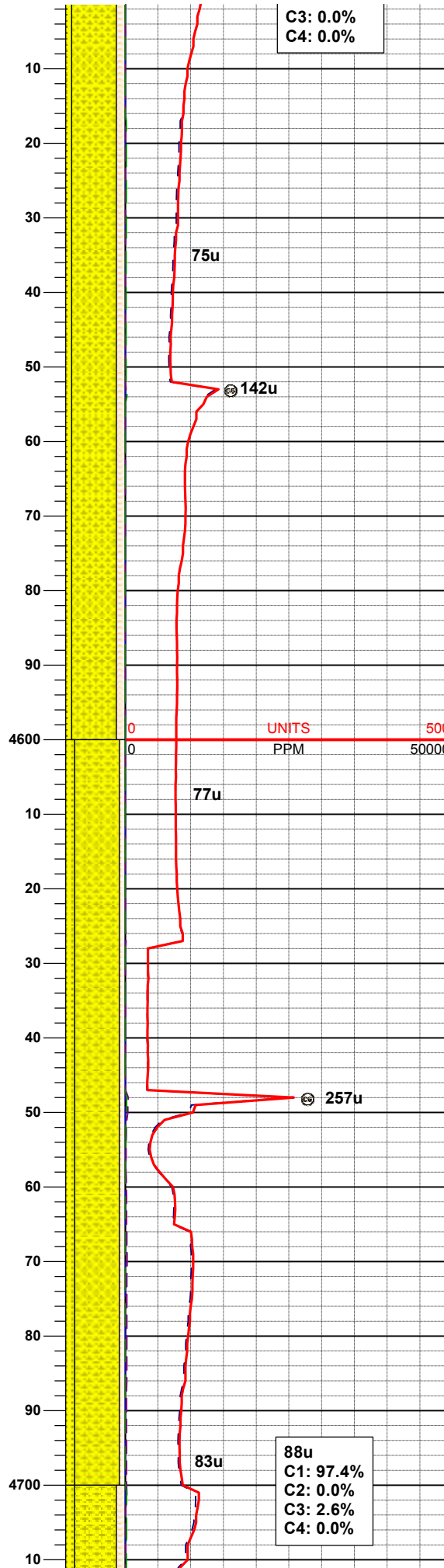
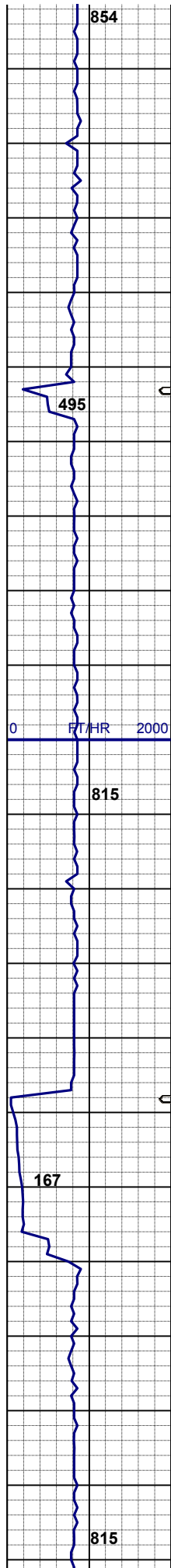
SD 4,305'
TVD 4,260.97'
INC 4.61°
AZM 9.60°

SHYSS: lt gy, s&p, vfgr, hd, brit clus,
sbang - sbblky, calc cmt
SS: wh, s&p, fgr, hd v brit clus, sbang
-sbrd, p consol, v calc cmt

SD 4,400'
TVD 4,355.60'
INC 5.45°
AZM 7.63°

SHYSS: lt gy, s&p, vfgr, hd, brit clus,
sbang - sbblky, calc cmt
SS: wh, s&p, fgr, hd v brit clus, sbang
-sbrd, p consol, v calc cmt
SHYSLTST: ltgy - mgy, gybrn, vfgr,
mod hd, brit, sbply - sbang, gt tex, v
sl calc

SD 4,495'



SD 4,450'
TVD 4,450.29'
INC 3.84°
AZM 11.73°

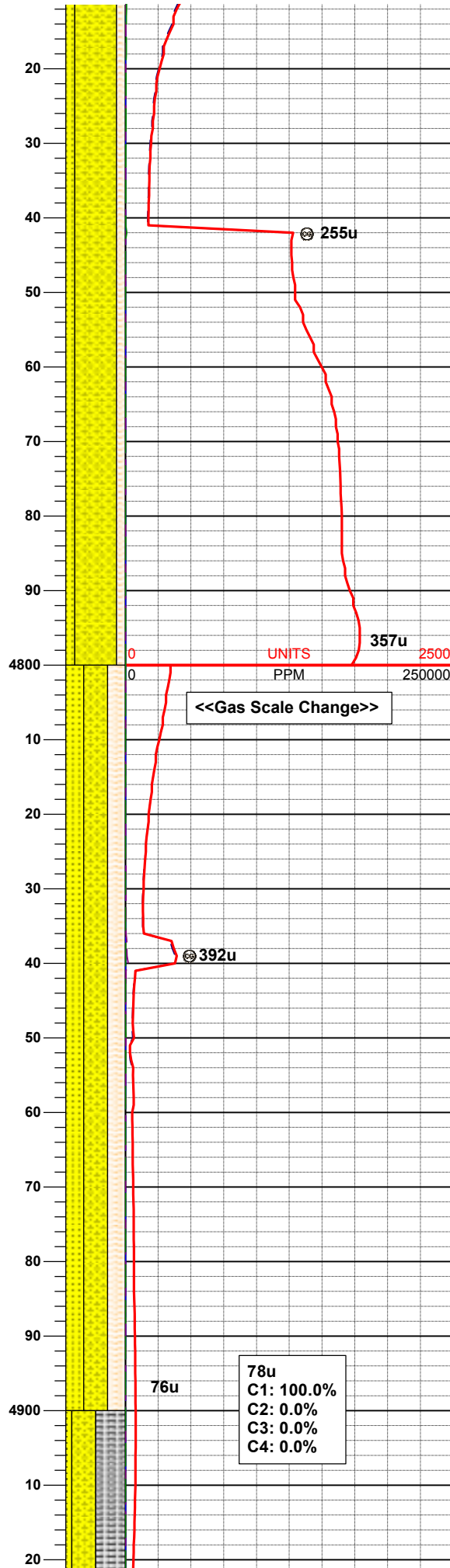
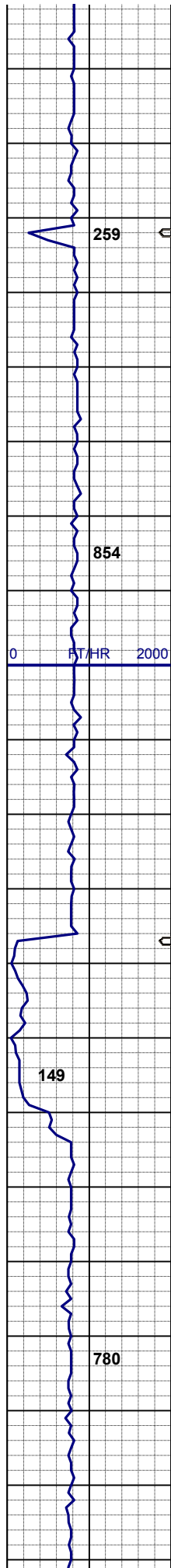
MUD WT 8.80/8.80
VIS 29/29 IN/OUT

SHYSS: lt gy, s&p, vfgr, hd, brit clus, sbang - sbblky, calc cmt
SS: wh, s&p, fgr, hd v brit clus, sbang -sbrd, p consol, v calc cmt
SHYSLTST: ltgy - mgy, gybrn, vfgr, mod hd, brit, sbplty - sbang, gt tex, v sl calc

SD 4,590'
TVD 4,545.14'
INC 2.44°
AZM 8.05°

SD 4,685'
TVD 4,639.99'
INC 3.93°
AZM 4.91°

SHYSS: lt gy, s&p, vfgr, hd, brit clus, sbang - sbblky, calc cmt
SS: wh, s&p, fgr, hd v brit clus, sbang -sbrd, p consol, v calc cmt
SHYSLTST: ltgy - mgy, gybrn, vfgr, mod hd, brit, sbplty - sbang, gt tex, v sl calc



SHYSS: lt gy, s&p, vfgr, hd, brit clus, sbang - sbblky, calc cmt, tr glau
SS: wh, s&p, fgr, hd v brit clus, sbang -sbrd, p consol, v calc cmt
SHYSLTST: ltgy - mgy, gybrn, vfgr, mod hd, brit, sbplty - sbang, gt tex, v sl calc

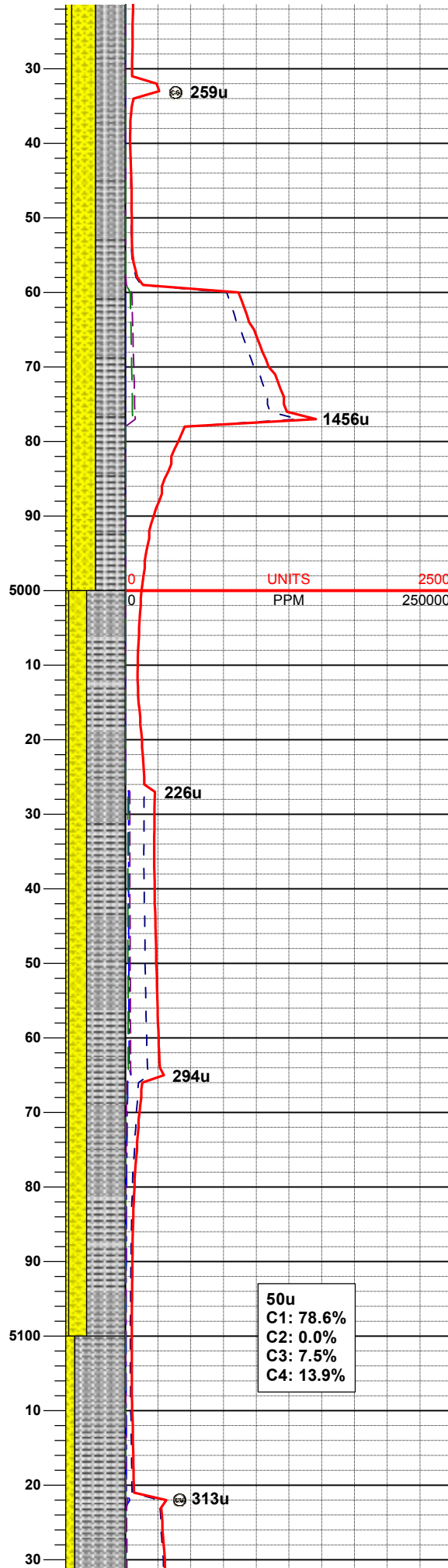
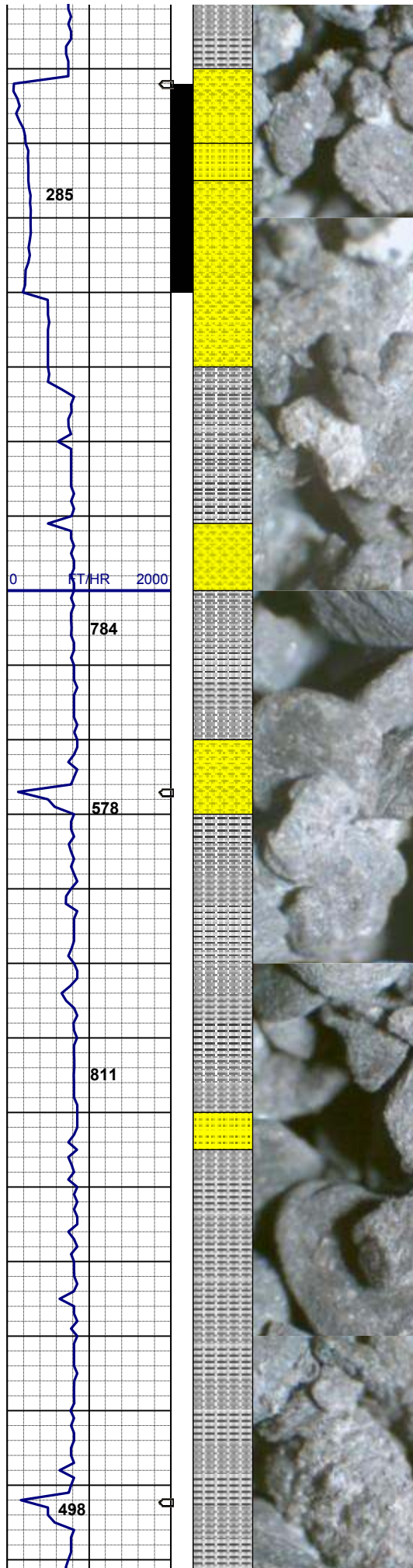
SD 4,780'
TVD 4,734.71'
INC 4.89°
AZM 19.43°

Shannon @
4,794' MD; 4,749' TVD

SD 4,875'
TVD 4,829.42'
INC 4.08°
AZM 24.24°

SHYSS: lt gy, s&p, vfgr, hd, brit clus, sbang - sbblky, calc cmt, tr glau
SS: wh, s&p, fgr, hd v brit clus, sbang -sbrd, p consol, v calc cmt
SHYSLTST: ltgy - mgy, gybrn, vfgr, mod hd, brit, sbplty - sbang, gt tex, v sl calc

78u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%



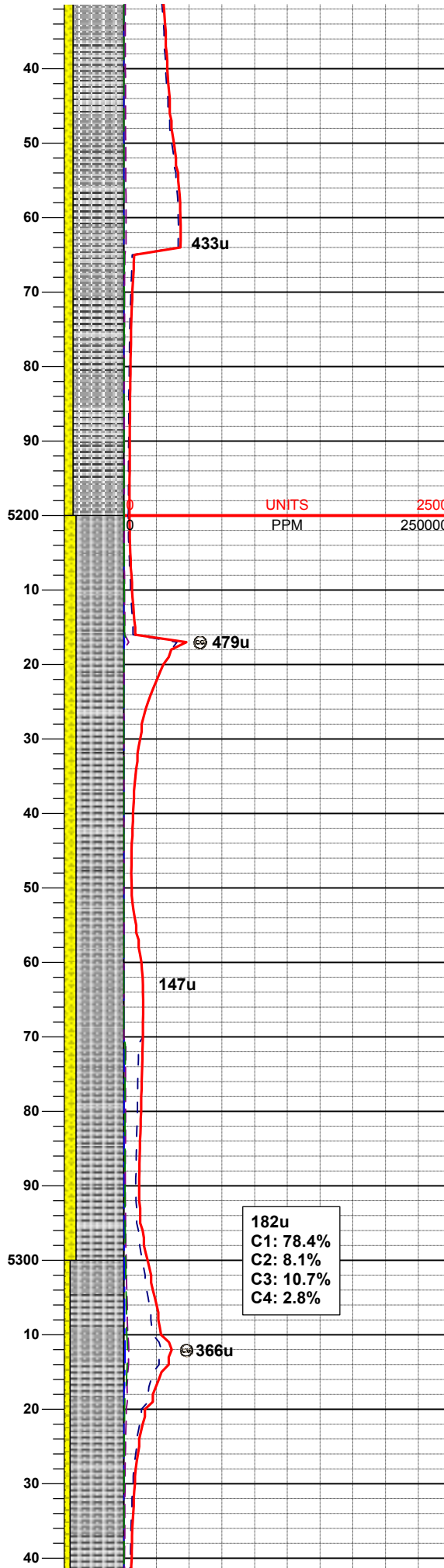
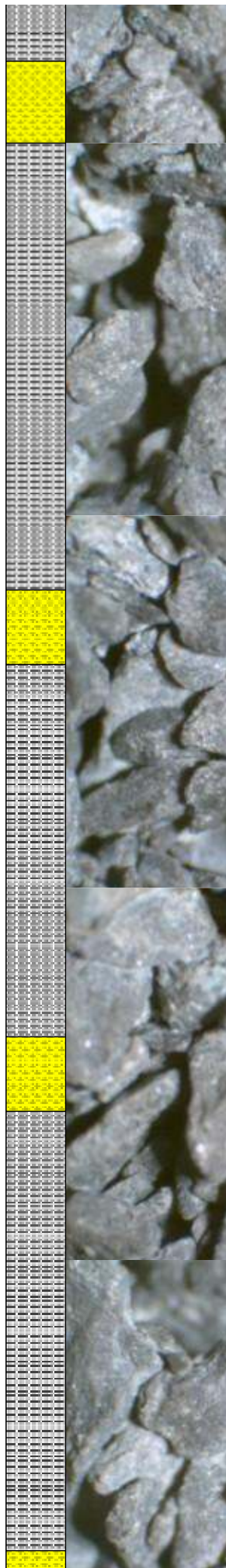
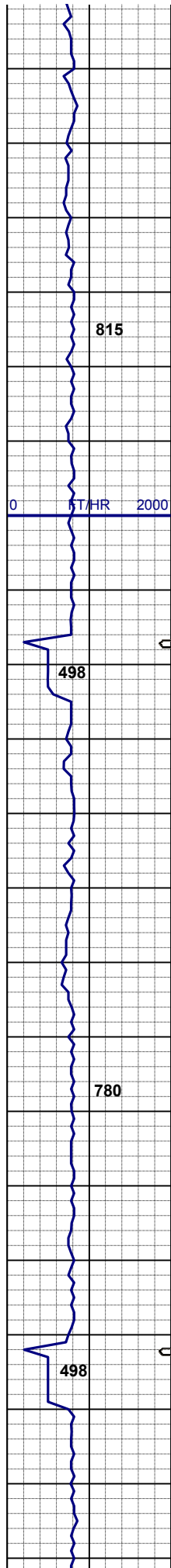
MUD WT 8.80/9.00
VIS 27/29 IN/OUT

SD 4,969'
TVD 4,923.27'
INC 2.34°
AZM 31.70°

SLTYSH: mgy-dkgy, mod hd, brit,
sbply-pty, slty-gt tex, v sl calc
SHYSS: ltgy - mgy, ltgybrn, vfgr, hd,
brit clus, sbang - sbrd, calc cmt
SS: wh - ltgy, fros, spec w/ mica, dk
gn xl glau, f-vfgr, hd, brit clus, sbang-
ang, p srt, p consol, v calc cmt

SD 5064'
TVD 5018.19'
INC 1.66°
AZM 20.36°

SLTYSH: mgy-dkgy, mod hd, brit,
sbply-pty, slty-gt tex, v sl calc
SHYSS: ltgy - mgy, ltgybrn, vfgr, hd,
brit clus, sbang - sbrd, calc cmt
SS: wh - ltgy, fros, spec w/ mica, dk
gn xl glau, f-vfgr, hd, brit clus, sbang-
ang, p srt, p consol, v calc cmt

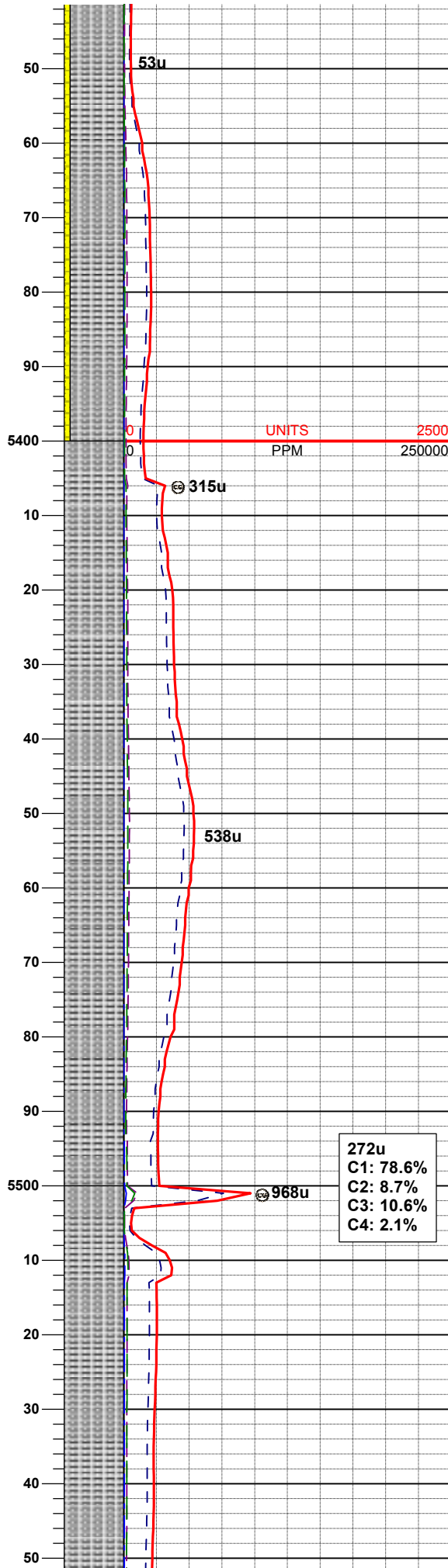
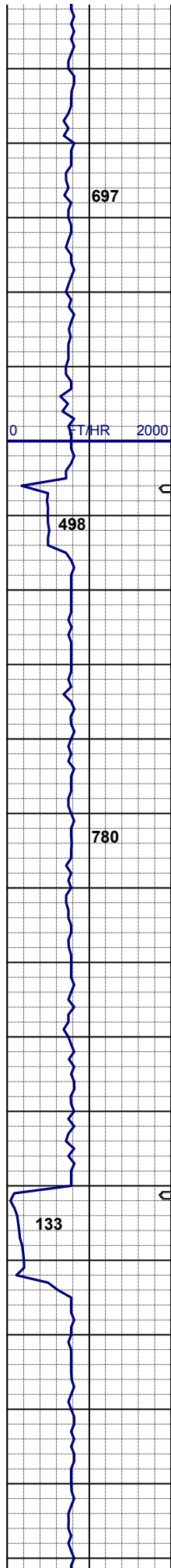


SD 5159'
TVD 5113.19'
INC 0.90°
AZM 37.56°

SLTYSH: mgy-dkgy, mod hd, brit,
sbply-pty, slty-gt tex, v sl calc
SHYSS: ltgy - mgy, ltgybrn, vfgr, hd,
brit clus, sbang - sbrd, calc cmt

MUD WT 8.80/9.00
VIS 28/29 IN/OUT

SLTYSH: mgy-dkgy, mod hd, brit,
sbply-pty, slty-gt tex, v sl calc
SHYSS: ltgy - mgy, ltgybrn, vfgr, hd,
brit clus, sbang - sbrd, calc cmt



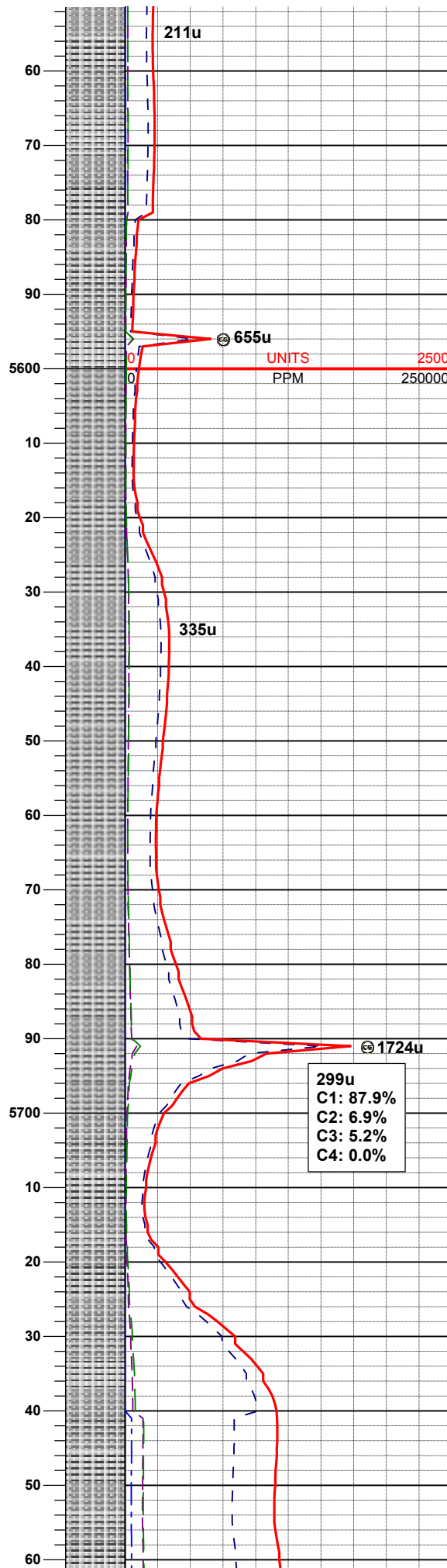
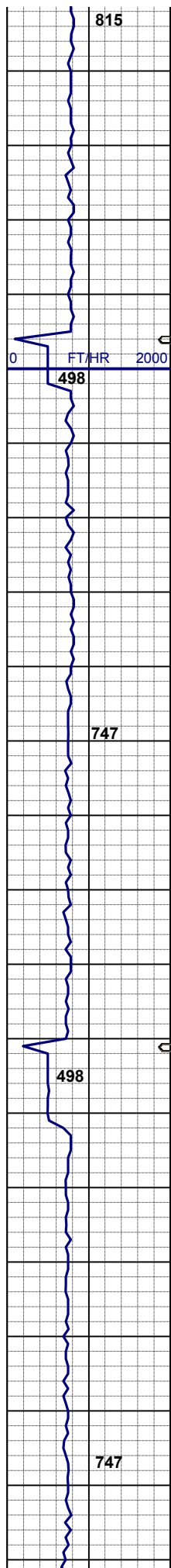
SLTYSH: mgy-dkgy, mod hd, brit,
sbply-pty, slty-gt tex, v sl calc
SHYSS: ltgy - mgy, ltgybrn, vfgr, hd,
brit clus, sbang - sbrd, calc cmt

SD 5444'
TVD 5398.13'
INC 1.42°
AZM 56.53°

272u
C1: 78.6%
C2: 8.7%
C3: 10.6%
C4: 2.1%

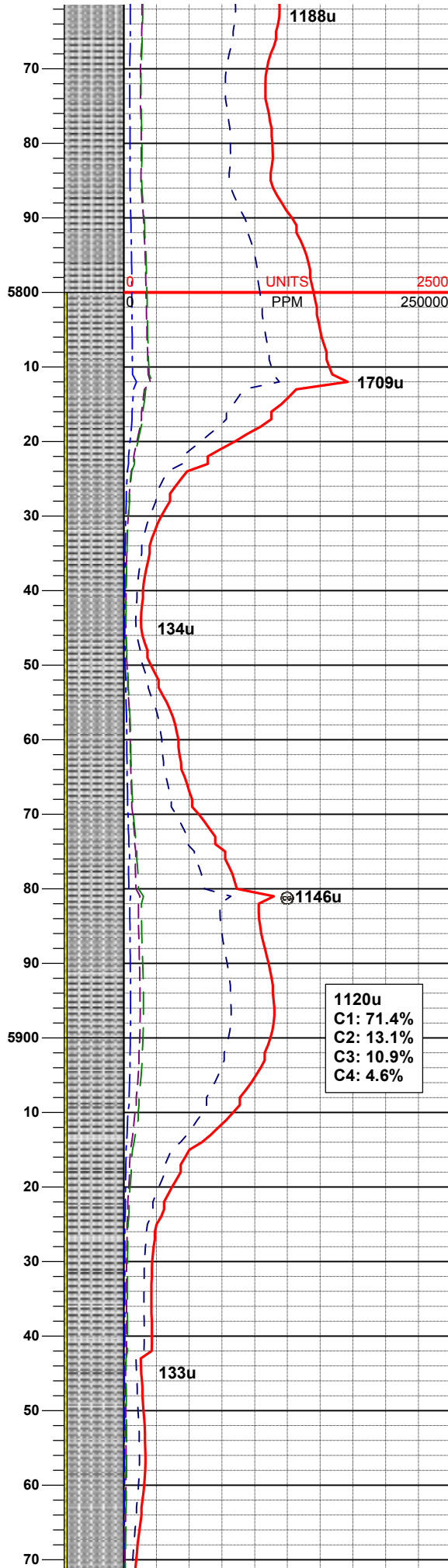
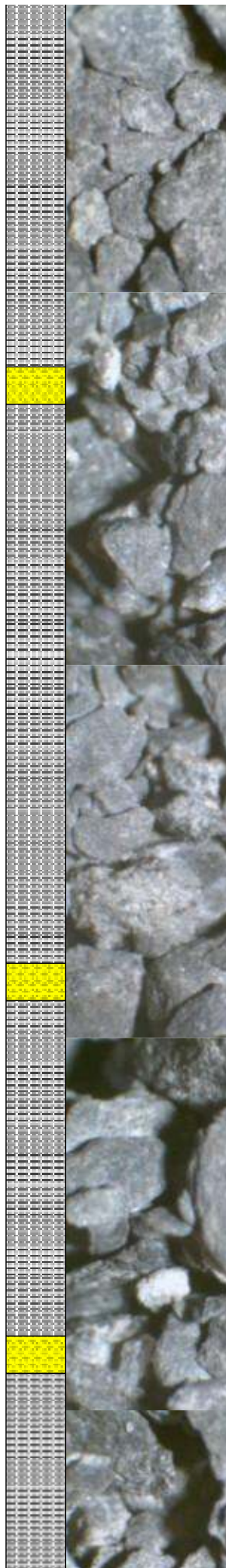
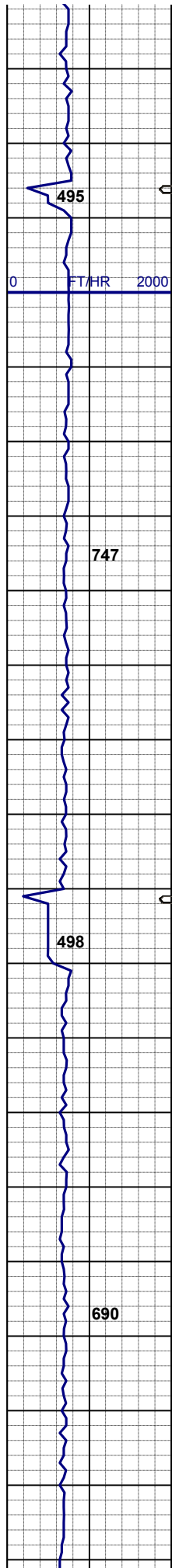
SLTYSH: mgy-dkgy, mod hd, brit,
sbply-pty, slty-gt tex, v sl calc

SD 5539'
TVD 5493.11'
INC 0.66°
AZM 16.98°



SLTYSH: mgy-dkgy, mod hd, brit,
sbplty-plty, slty-gt tex, v sl calc

SLTYSH: mgy-dkgy, mod hd, brit,
sbplty-plty, slty-gt tex, v sl calc



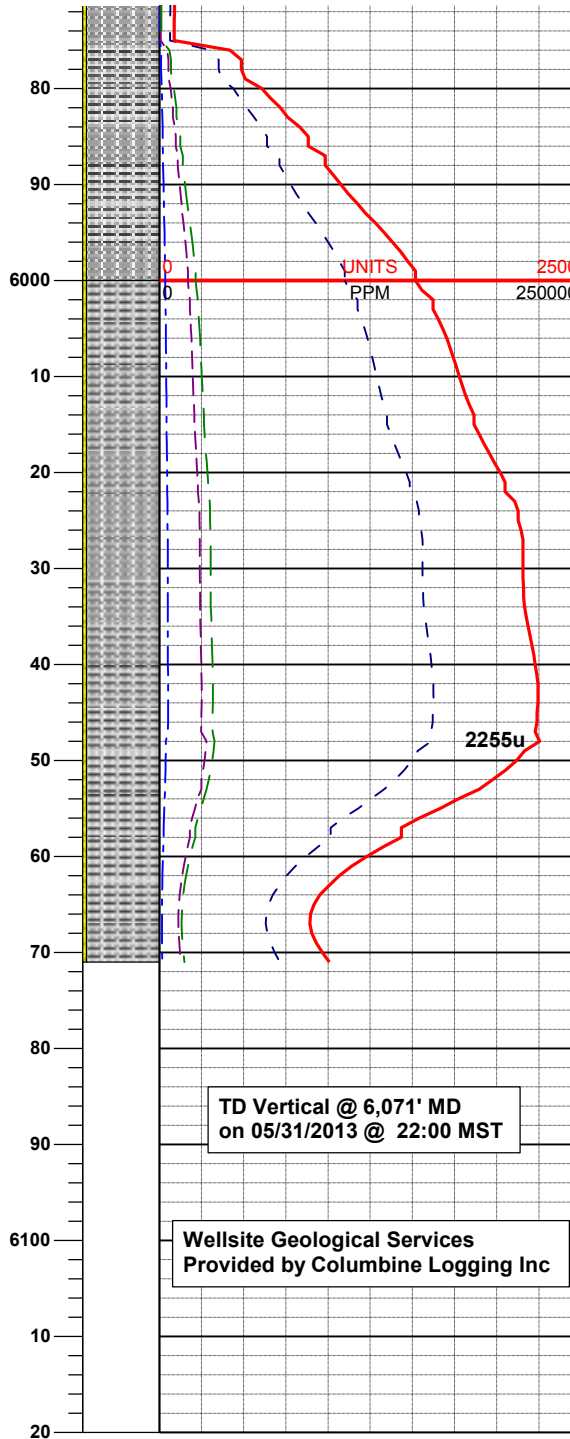
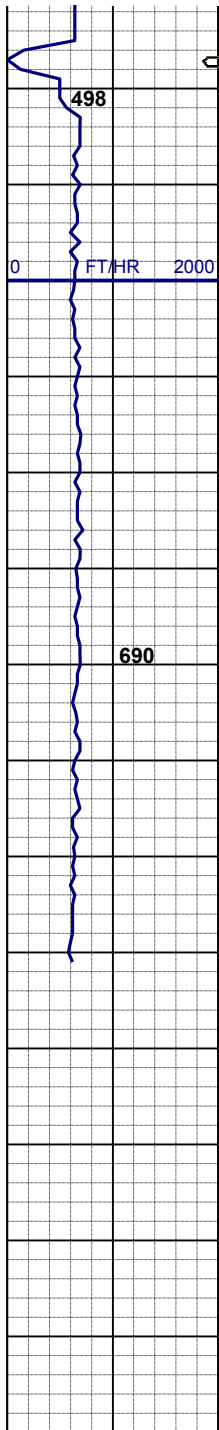
SLTYSH: mgy-dkgy, mod hd, brit, sbply-pty, slty-gt tex, v sl calc

SD 5822'
TVD 5777.10'
INC 0.57°
AZM 8.86°

MUD WT 9.25/9.25
VIS 32/32 IN/OUT

SLTYSH: mgy-dkgy, mod hd, brit, sbply-pty, slty-gt tex, v sl calc
SHYSS: ltgy - mgy, ltgybrn, vfgr, hd, brit clus, sbang - sbrd, calc cmt

1120u
C1: 71.4%
C2: 13.1%
C3: 10.9%
C4: 4.6%



SLTYSH: mgy-dkgy, mod hd, brit,
sbply-pty, slty-gt tex, v sl calc
SHYSS: ltgy - mgy, ltgybrn, vfgr, hd,
brit clus, sbang - sbrd, calc cmt

MUD WT 9.45/9.50
VIS 33/34 IN/OUT

SD 6013'
TVD 5967'
INC 0.45°
AZM 5.10°

SLTYSH: mgy-dkgy, mod hd, brit,
sbply-pty, slty-gt tex, v sl calc
SHYSS: ltgy - mgy, ltgybrn, vfgr, hd,
brit clus, sbang - sbrd, calc cmt

TD Vertical @ 6,071' MD
on 05/31/2013 @ 22:00 MST

Wellsite Geological Services
Provided by Columbine Logging Inc

LOG CONTINUES ON
HORIZONTAL L PLOT LOG
JENKINS B11-79-1HCM HORZ