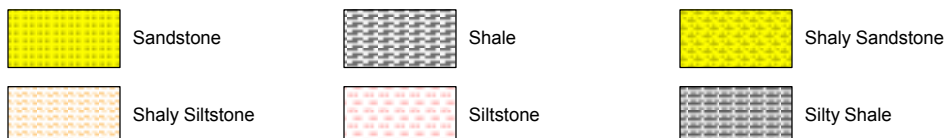


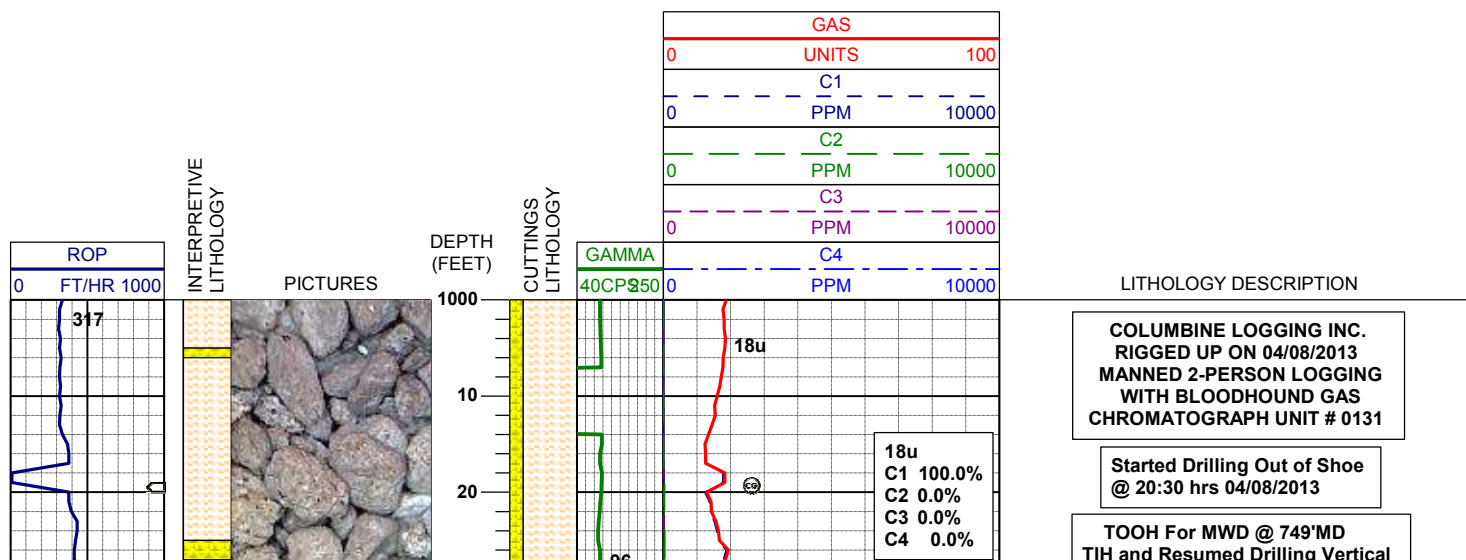
LOG created using Lplot VH Version 3.0, April 18, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

OPERATOR: NOBLE ENERGY INC.
WELL: HUNT LF18-62HN
LOCATION: SEC 19, T8N, R60W
COUNTY: WELD
STATE: COLORADO
SPOT: 450' FNL, 275' FEL
ELEVATION: GE:4,940' ; KB: 4,956'
FIELD: WILDCAT
SPUD DATE: 04/07/2013
TD DATE: 04/16/2013
DATES LOGGED: 04/08/2013 - 04/17/2013
DEPTHS LOGGED: 1,000' - 10,765' MD
LOGGERS: BRAD WILSON, SETH CHAMBERLAIN
DRILLING FLUID: WBM, LSND
DRILLING RIG: PRECISION DRILLING 829
API: #05-123-36663
LOG TYPE: VERTICAL
SCALE: 1:240 (5 inches per 100 feet)
REMARKS: WELLSITE GEOLOGICAL SERVICES PROVIDED BY COLUMBINE LOGGING INC.

LITHOLOGIES



ENGINEERING SYMBOLS



@ 4:40 hrs on 04/09/2013

BHA #3

Bit: 8.75"
Manufacturer: Smith
Model: SDi611
Serial Number: JG7219
Nozzles: 3x13, 3x14

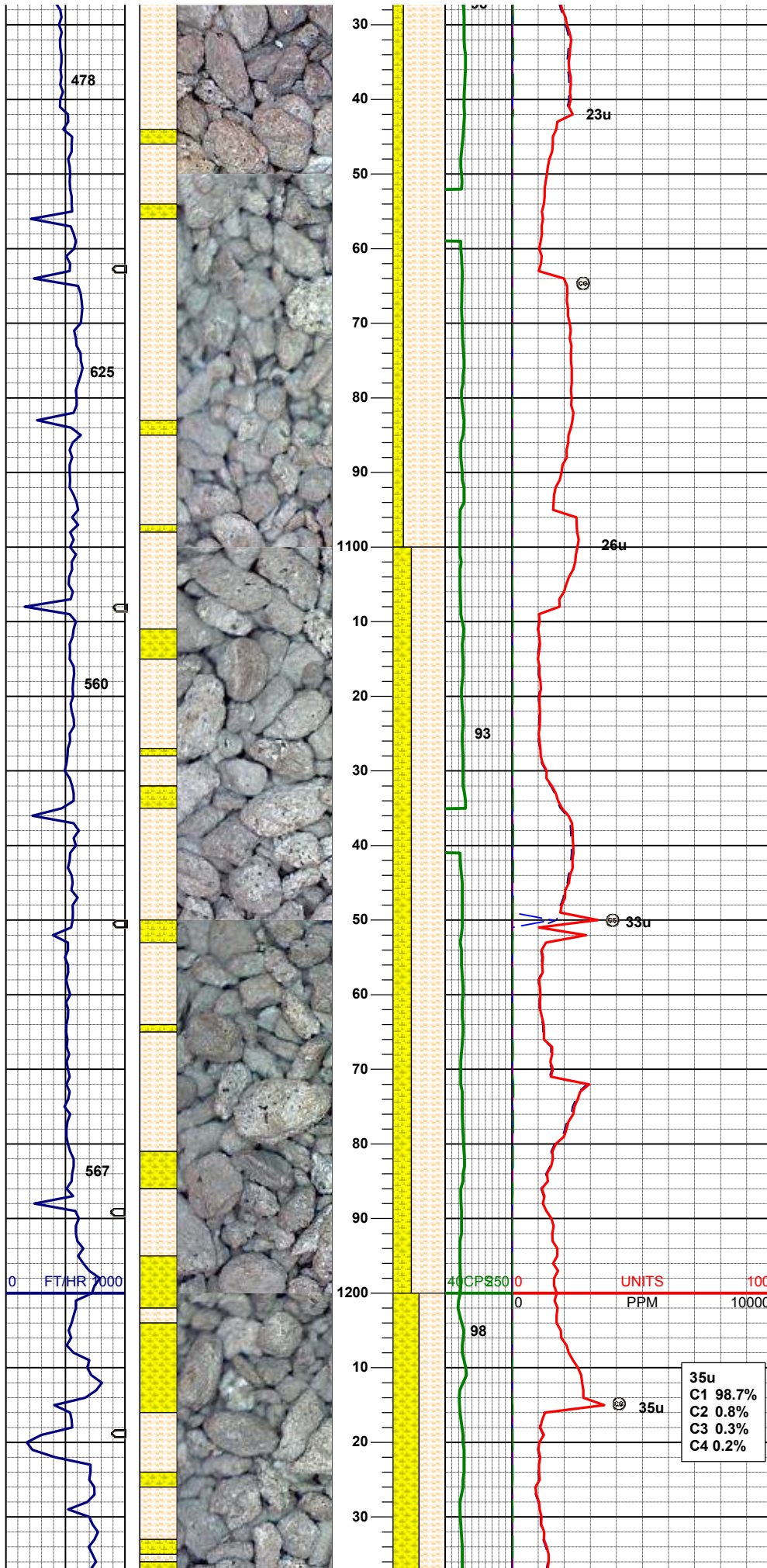
Motor: 6.75
Manufacturer: Sperry Drilling
Model: SperryDrill
Serial Number: 675-1213
Bend 1.85

80% SHALY SLTST: ltgy, sft-fri, sbbkly-sl sbply,
aren- slty tex, tr biot incl
20% SHYSS: ltgy- tr s&p, vf-fgr, sbrd - sbang, mod
srt, firm-fri, p por, arg cmt, rr biot, rr glau, occ grdg -
ss, abnt cly

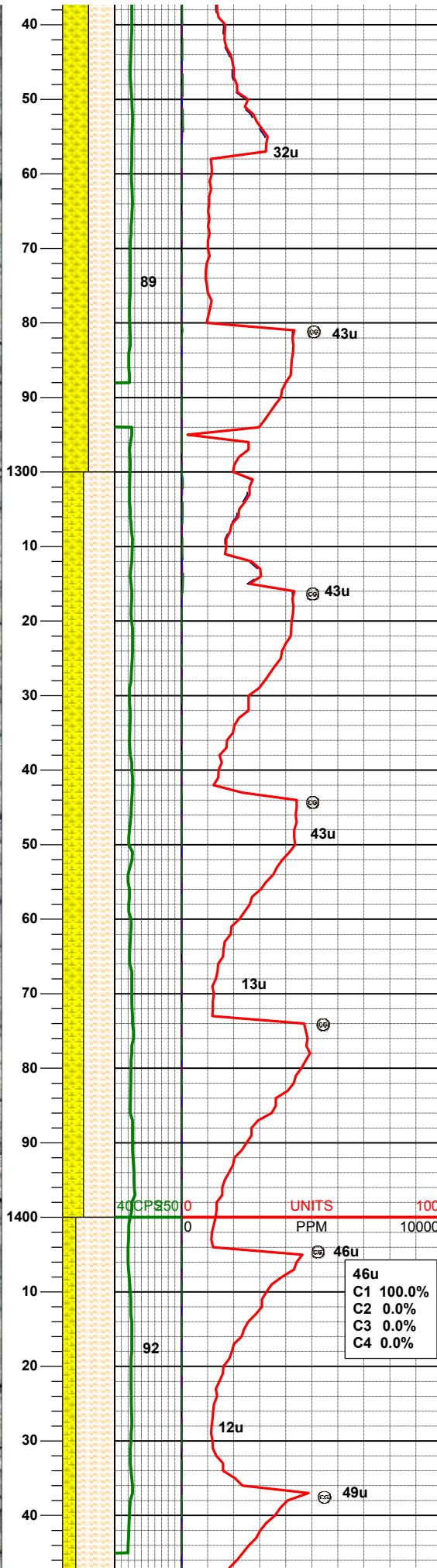
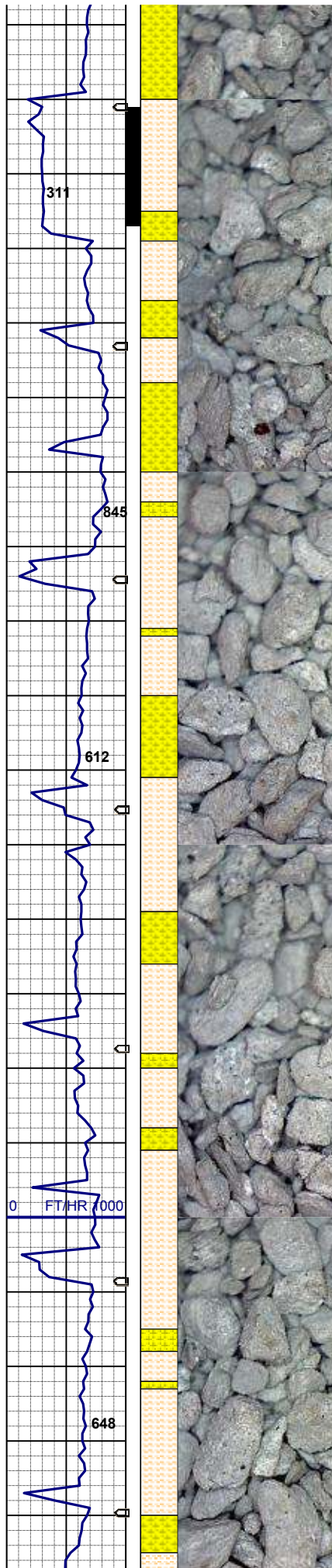
**Mud Report
4/9/2013 AM**

Type: LSND
Weight: 8.5
Viscosity: 27
Yield Point: 2
API: N/A
Solids: 1.4%
pH: 8.5
Chlorides: 650
Hardness: 1720

65% SHALY SLTST: ltgy, sft-fri, sbbkly-sl sbply,
aren- slty tex, tr biot incl
35% SHYSS: ltgy- tr s&p, vf-fgr, sbrd - sbang, mod
srt, firm-fri, p por, arg cmt, rr biot, rr glau, occ grdg -
ss, abnt cly



MD 1232'
INC 0.46°
AZM 197.63°
TVD 1231.99'

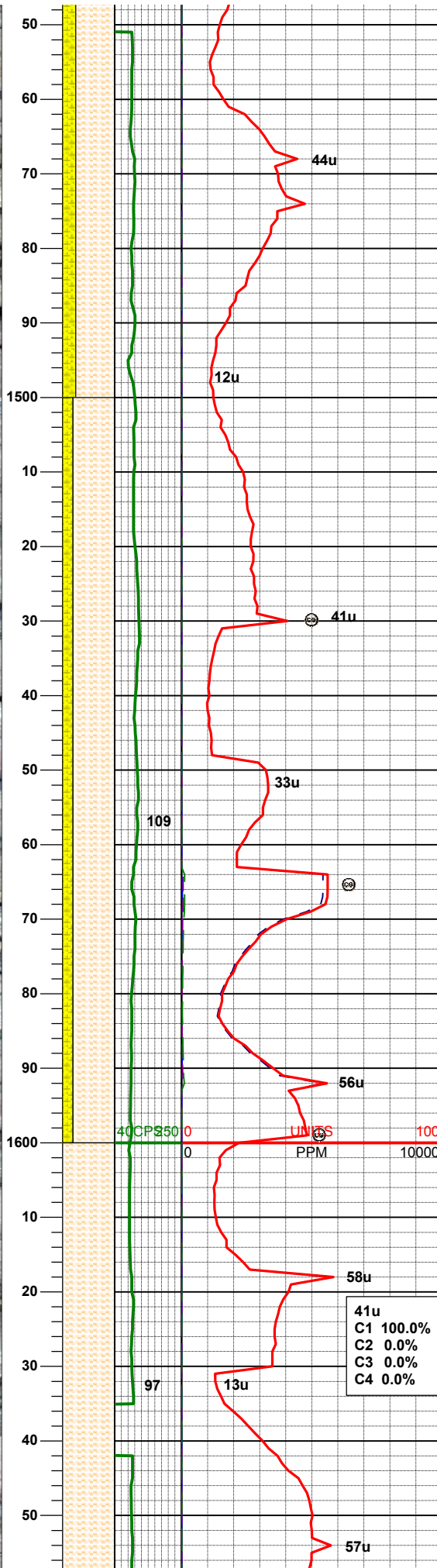
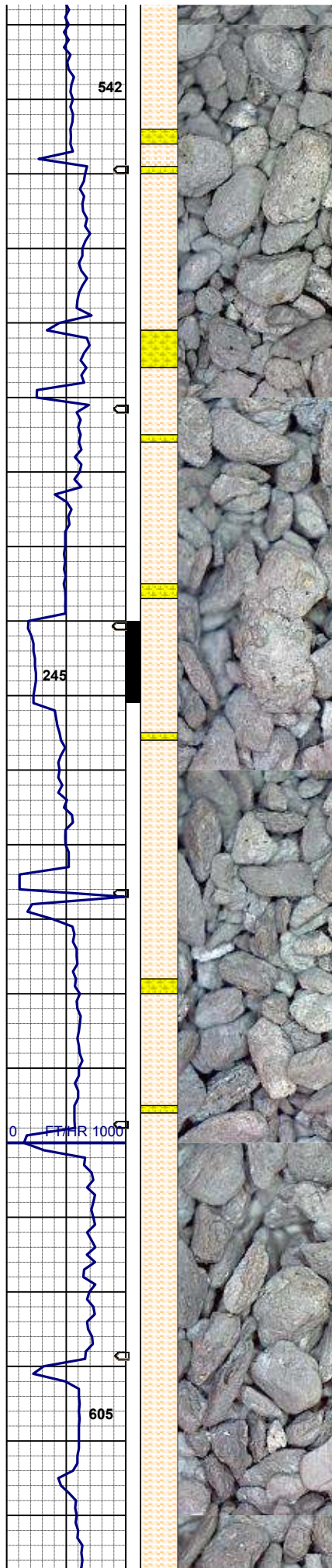


50% SHALY SLTST: ltgy, sft- fri, sbblky- sl sbply, aren- slty tex, tr biot incl
50% SHYSS: ltgy- tr s&p, vf-fgr, sbrd - sbang, mod srt, firm- fri, p por, arg cmt, rr biot, rr glau, sme grdg - ss, occ cly

MUD WT 8.5 VIS 28

60% SHALY SLTST: ltgy, sft- fri, sbblky- sl sbply, aren- slty tex, tr biot incl
40% SHYSS: ltgy- tr s&p, vf-fgr, sbrd - sbang, mod srt, firm- fri, p por, arg cmt, rr biot, rr glau, sme grdg - ss, occ cly

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



75% SHALY SLTST: ltgy, sft- fri, sbbly- sl sbply, aren- slty tex, tr biot incl
25% SHYSS: ltgy- tr s&p, vf-fgr, sbrd - sbang, mod srt, firm- fri, p por, arg cmt, rr biot, rr glau, tr ss

MUD WT 8.5 VIS 28

80% SHALY SLTST: ltgy, sft- fri, sbbly- sl sbply, aren- slty tex, tr biot incl
20% SHYSS: ltgy- tr s&p, vf-fgr, sbrd - sbang, mod srt, firm- fri, p por, arg cmt, rr biot, rr glau, tr ss

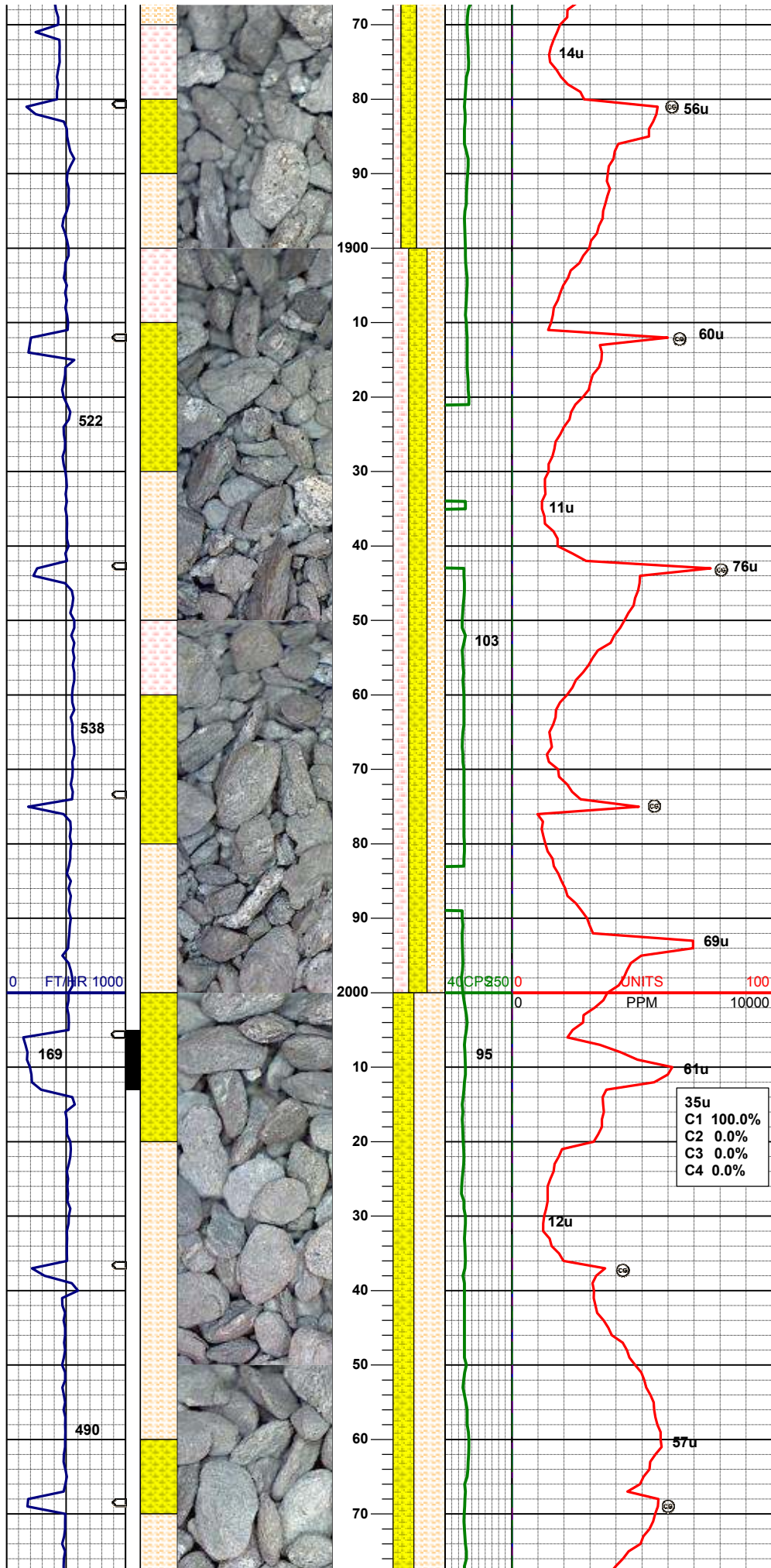
100% SHALY SLTST: lt-dkgy, sft- fri, sbbly- sl sbply, aren- slty tex, tr biot incl, occ shaly ss, abnt dk cly over shaker

44u
12u
41u
33u
109
56u
41u
58u
13u
57u

40 CP 350 0 100 PPM

97

605

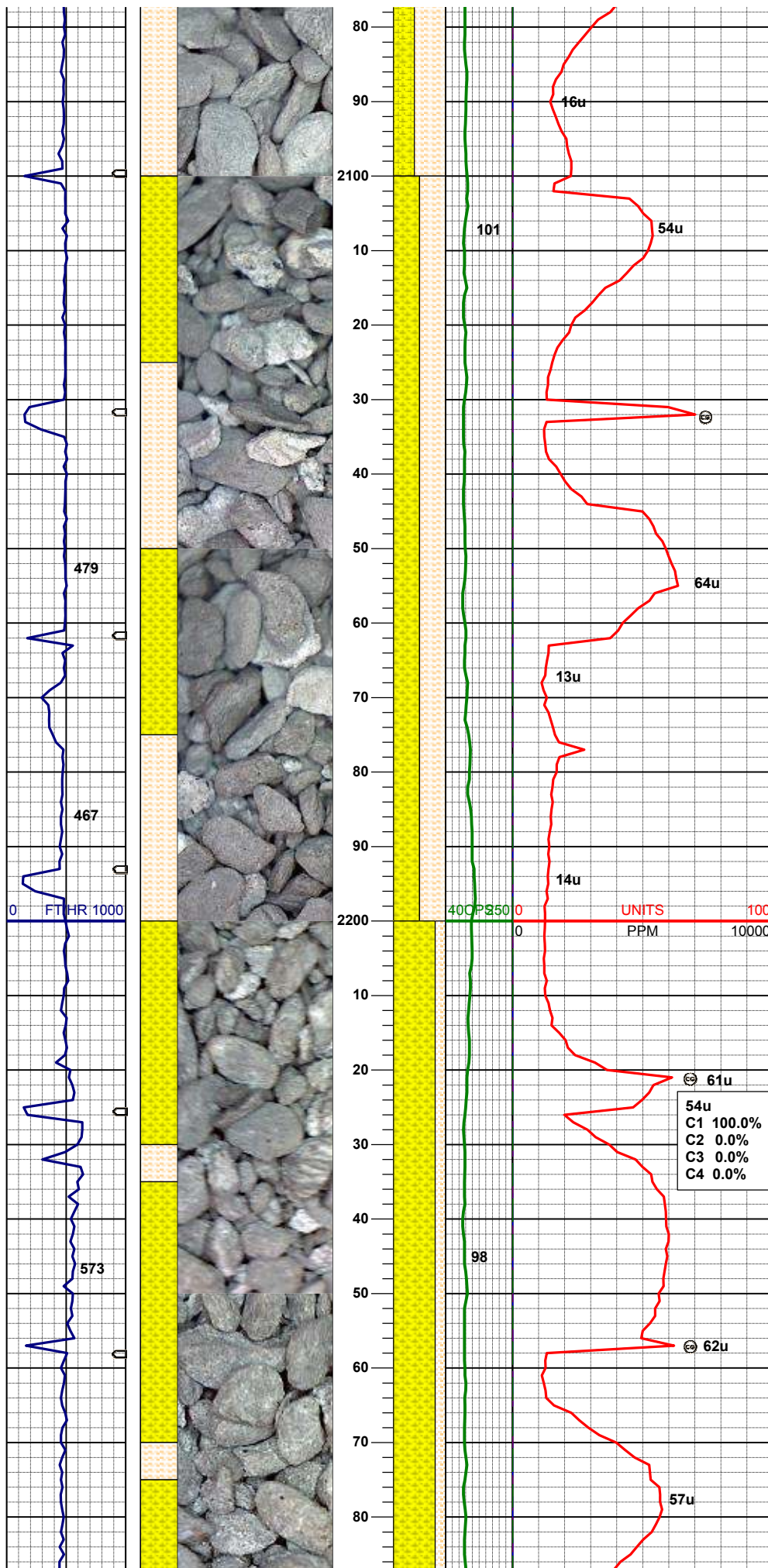


MUD WT 8.5 VIS 27

35% SHALY SLTST: lt-mgy, sft- fri, sbblky, non fis, v
sly tex, tr biot incl
35% SHYSS: ltgy- tr s&p, vf-fgr, sbrd - sbang, mod
srt, firm- fri, p por, arg cmt, tr biot
30% SLTST: ltgy, sft- fri, sbblky, sl-v sly, gt tex, occ
biot incl

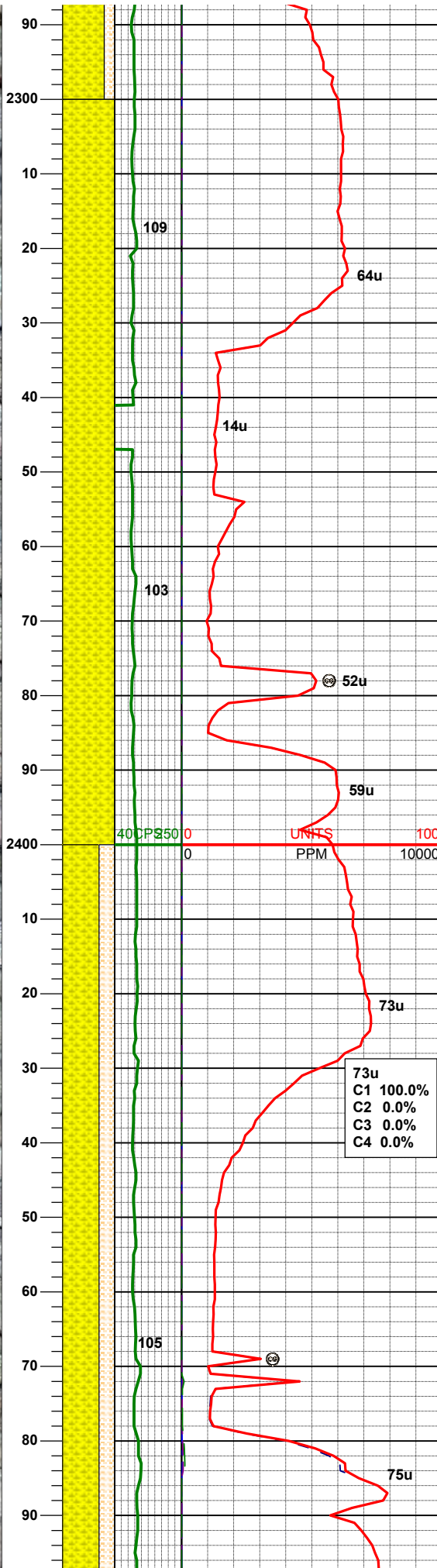
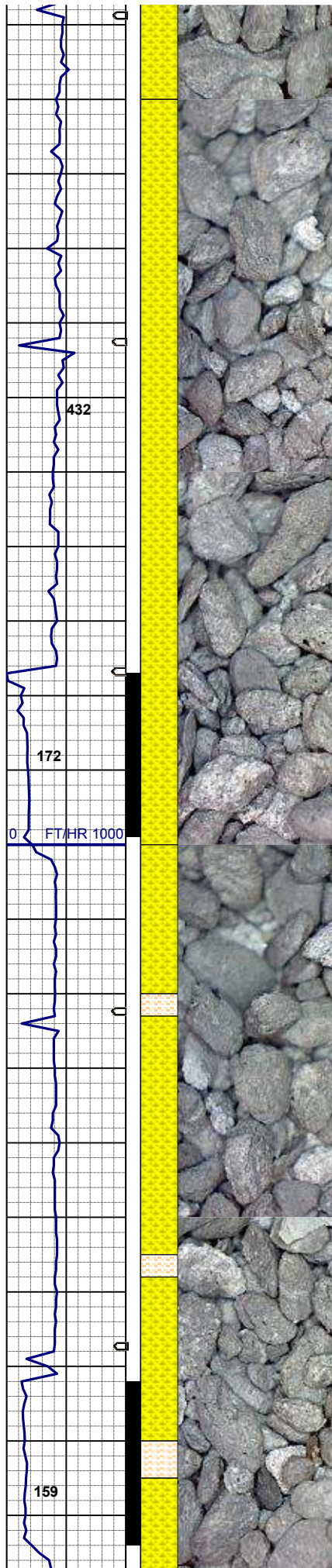
60% SHALY SLTST: ltgy, sft- fri, sbblky- sl sbply,
aren- sly tex, tr biot incl
40% SHYSS: ltgy- tr s&p, vf-fgr, sbrd - sbang, mod
srt, firm- fri, p por, arg cmt, rr biot, rr glau, sme grd -
ss

MD 2080'
INC 0.34°
AZM 112.89°
TVD 2079.97'



50% SHALY SLTST: ltgy, sft- fri, sbbly- sl sbply, aren- slty tex, tr biot incl
50% SHYSS: ltgy- tr s&p, vf-fgr, sbrd - sbang, mod srt, firm- fri, p por, arg cmt, rr biot, rr glau, sme grdg - ss

80% SHYSS: ltgy- tr s&p, vf-fgr, sbrd - sbang, mod srt, firm- fri, p por, arg cmt, rr biot, rr glau, sme grdg - ss
20% SHALY SLTST: ltgy, sft- fri, sbbly- sl sbply, aren- slty tex, tr biot incl



MUD WT 8.5 VIS 28

MD 2327'
INC 0.44°
AZM 111.78°
TVD 2326.97'

100% SHYSS: ltgy- tr s&p, vf-fgr, sbrd - sbang, mod
srt, firm- fri, p por, arg cmt, rr biot, rr glau, sme grdg -
ss

MD 2417'
INC 2.79°
AZM 25.99°
TVD 2416.93'

73u
C1 100.0%
C2 0.0%
C3 0.0%
C4 0.0%

70% SHYSS: ltgy- tr s&p, vf-fgr, sbrd - sbang, p-mod
srt, firm- fri, p por, arg cmt, tr biot, rr glau, grdg - ss
30% SHYSLTST: ltgy, sft- fri, sbblky, non fis, v slty
tex, tr biot incl

Mud Report
4/9/2013 AM

Type: LSND
Weight: 8.5
Viscosity: 28
Yield Point: 2
API: N/A
Solids: 1.4%
pH: 10.0
Chlorides: 600
Hardness: 1140

MD 2506'
INC 5.5°
AZM 18.05°
TVD 2505.69'

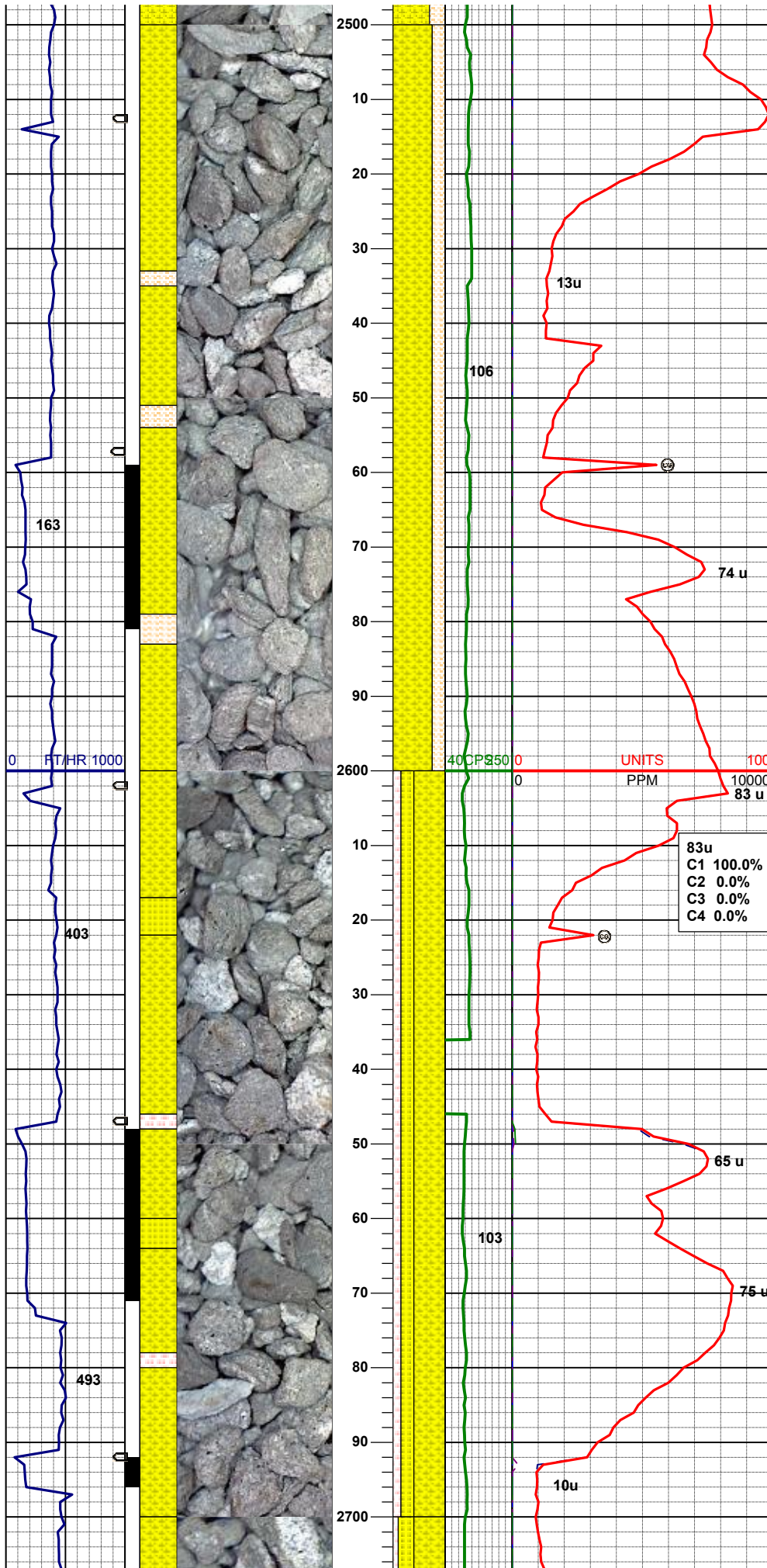
75% SHYSS: ltgy- tr s&p, vf-gr, sbrd - sbang, mod
srt, firm- fri, p por, arg cmt, tr biot, tr glau, grdg - ss
25% SHYSLTST: ltgy, sft- fri, sbblky, non fis, v slty
tex, tr biot incl

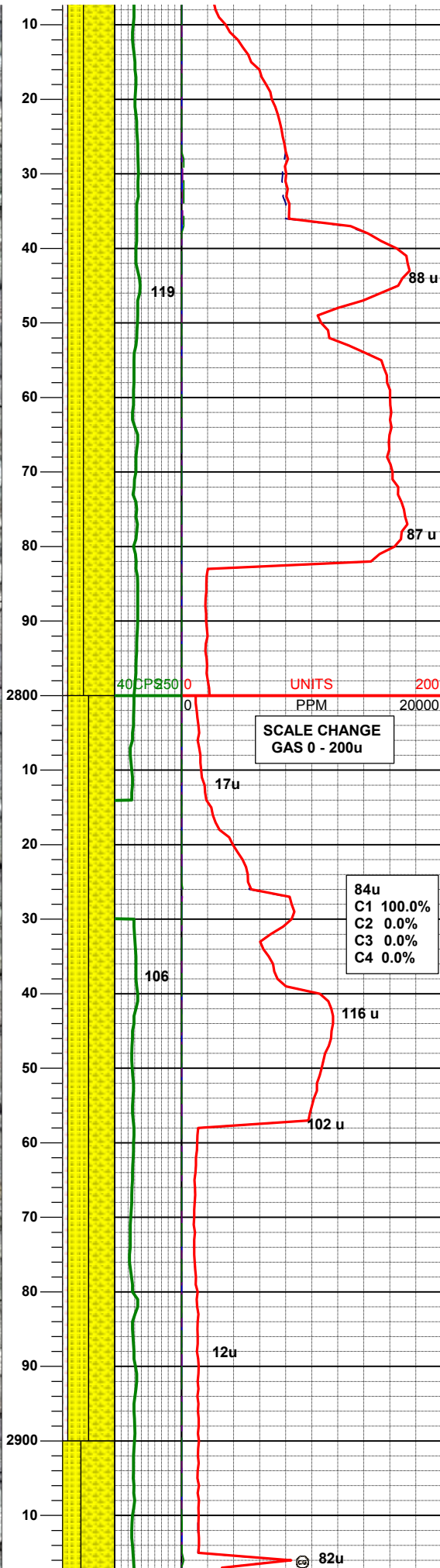
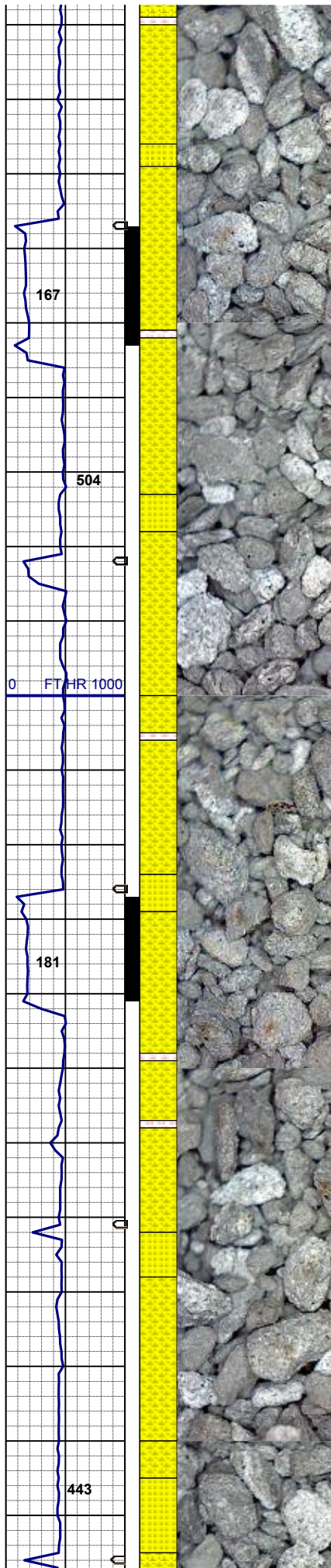
MD 2596'
INC 7.63°
AZM 23.74°
TVD 2595.10'

MUD WT 8.5 VIS 28

60% SHYSS: ltgy-dkgy w/ tr s&p, vfgr, sbrd - sbang,
p-mod srt, fri, p por, arg cmt, sl calc, tr biot, tr bent w/
dul orgn flor, grdg - ss
25% SS: wh- mgy, s&p ip, clr trnsi-sl op, f-mgr,
sbblky- sbang, mod w srt, firm, w cmt, arg cmt, v sl
calc, tr glau,
15% SLTST: ltgy, sft- fri, sbblky - sbplty, v slty tex,
occ biot incl

MD 2686'
INC 10.75°
AZM 23.11°
TVD 2683.93'





MUD WT 8.5 VIS 27

60% SHYSS: ltgy-dkgy w/ tr s&p, vfgr, sbrd - sbang,
p-mod srt, p por, arg cmt, mod calc, tr biot, grdg - ss
30% SS: wh- mgy, s&p ip, clr trns-l op, f-mgr,
sbbiky- sbang, mod w srt, firm, w cmt, arg cmt, sl
calc, tr glau,
10% SLTST: ltgy, sft- fri, sbbiky - sbply, v slty tex,
occ biot incl

MD 2775'
INC 13.8°
AZM 18.98°
TVD 2770.89'

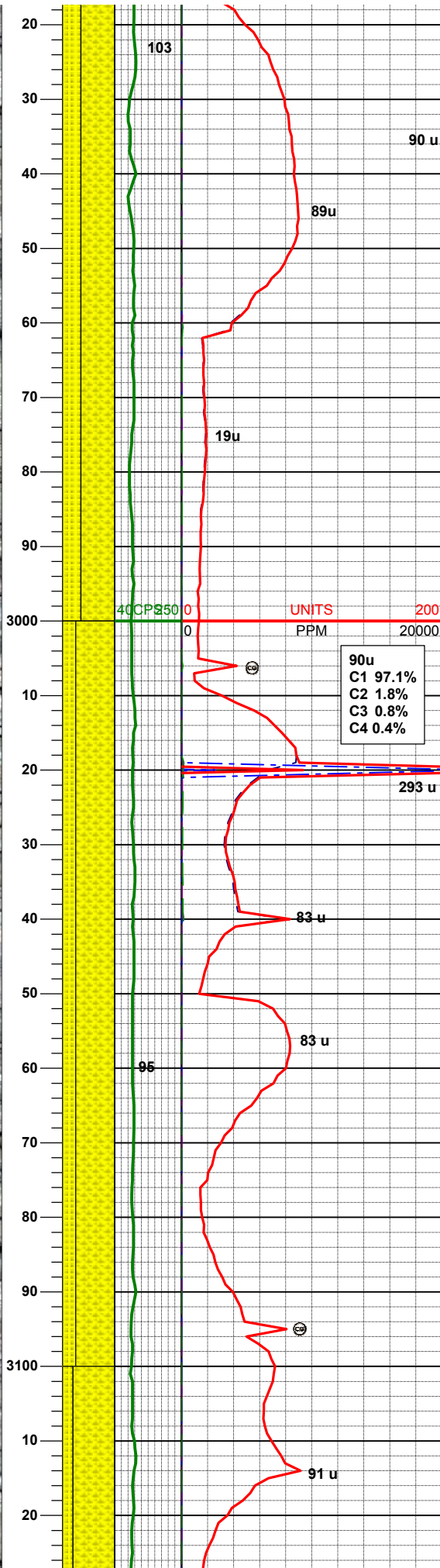
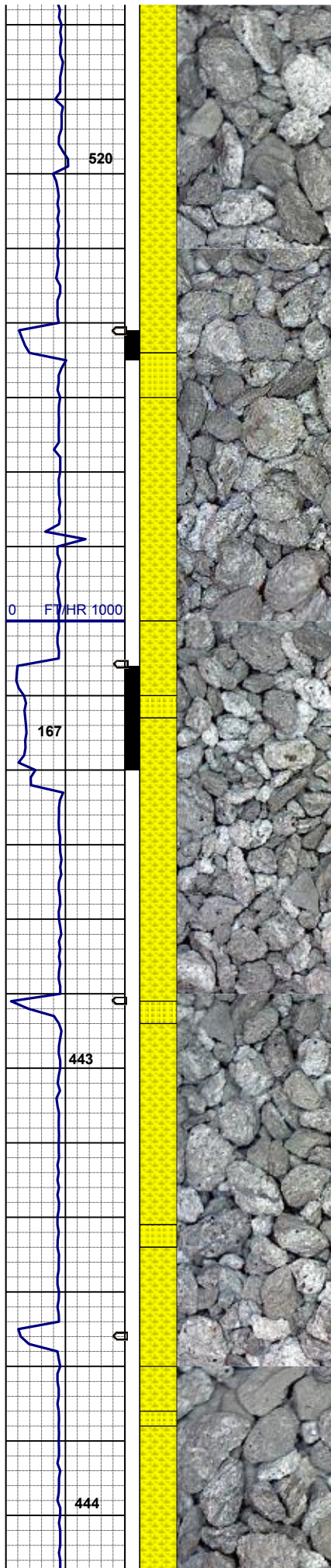
UNITS
PPM
SCALE CHANGE
GAS 0 - 200u

84u
C1 100.0%
C2 0.0%
C3 0.0%
C4 0.0%

50% SHYSS: ltgy-dkgy w/ tr s&p, vf-fgr, sbrd - sbang,
mod srt, p por, arg cmt, mod calc, tr biot, grdg - ss
40% SS: wh- mgy, tr s&p ip, clr trns-l, f-mgr, sbbiky-
sbang, mod w srt, firm, w cmt, arg cmt, sl calc, tr
glau, qtz aren
10% SLTST: mgy, firm, sbbiky, sl slty tex-arg, tr biot
incl

MD 2865'
INC 14.39°
AZM 10.21°
TVD 2858.18'

82u



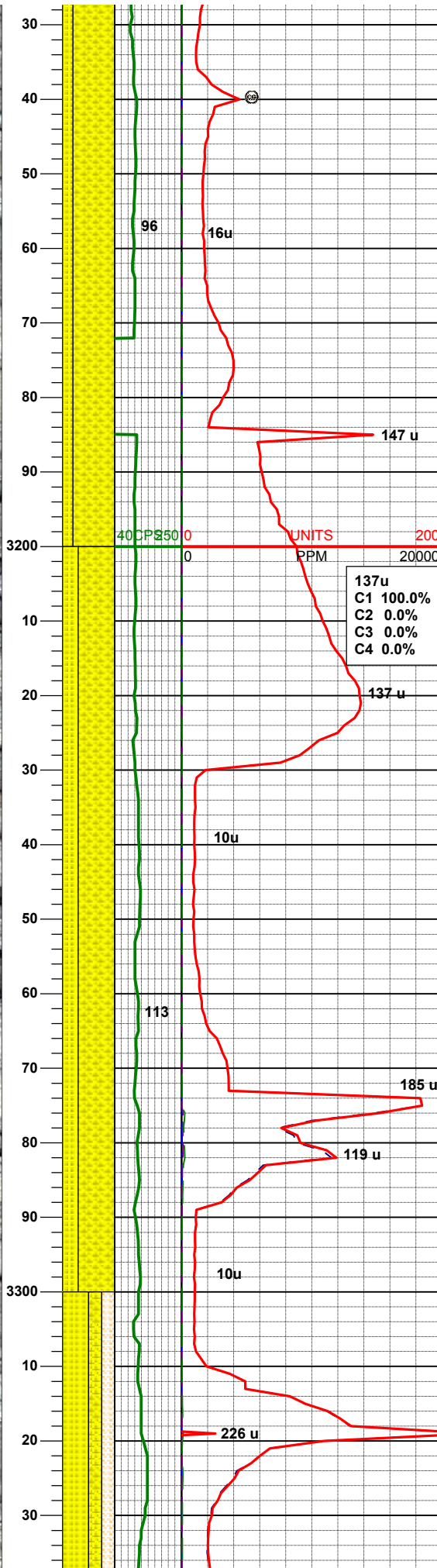
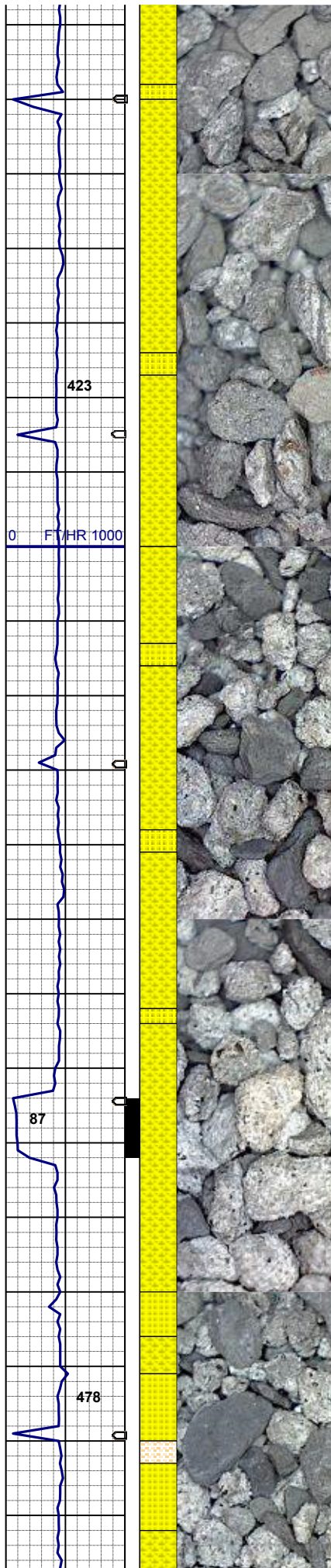
65% SHYSS: ltgy-mdkgy, vf-fgr, sbrd - sbang, p-mod
srt, fri-mod cmt, p por, arg cmt, sl calc, biot imbd, tr
glau
35% SS: wh- ltgy, s&p ip, clr-trnsl, fgr, sbblky- sbang,
mod srt, firm, w cmt, arg cmt, v sl calc, tr glau

MD 2955'
INC 15.27°
AZM 9.89°
TVD 2945.19'

MUD WT 8.5 VIS 28

MD 3044'
INC 13.11°
AZM 5.28°
TVD 3031'

75% SHYSS: ltgy-mdkgy, vf-fgr, sbrd - sbang, p-mod
srt, fri-mod cmt, p por, arg cmt, sl calc, biot imbd, tr
glau
25% SS: wh- ltgy, s&p ip, clr-trnsl, fgr, sbblky- sbang,
mod srt, firm, w cmt, arg cmt, v sl calc, tr glau



MD 3134'
INC 12.76°
AZM 5.24°
TVD 3119'

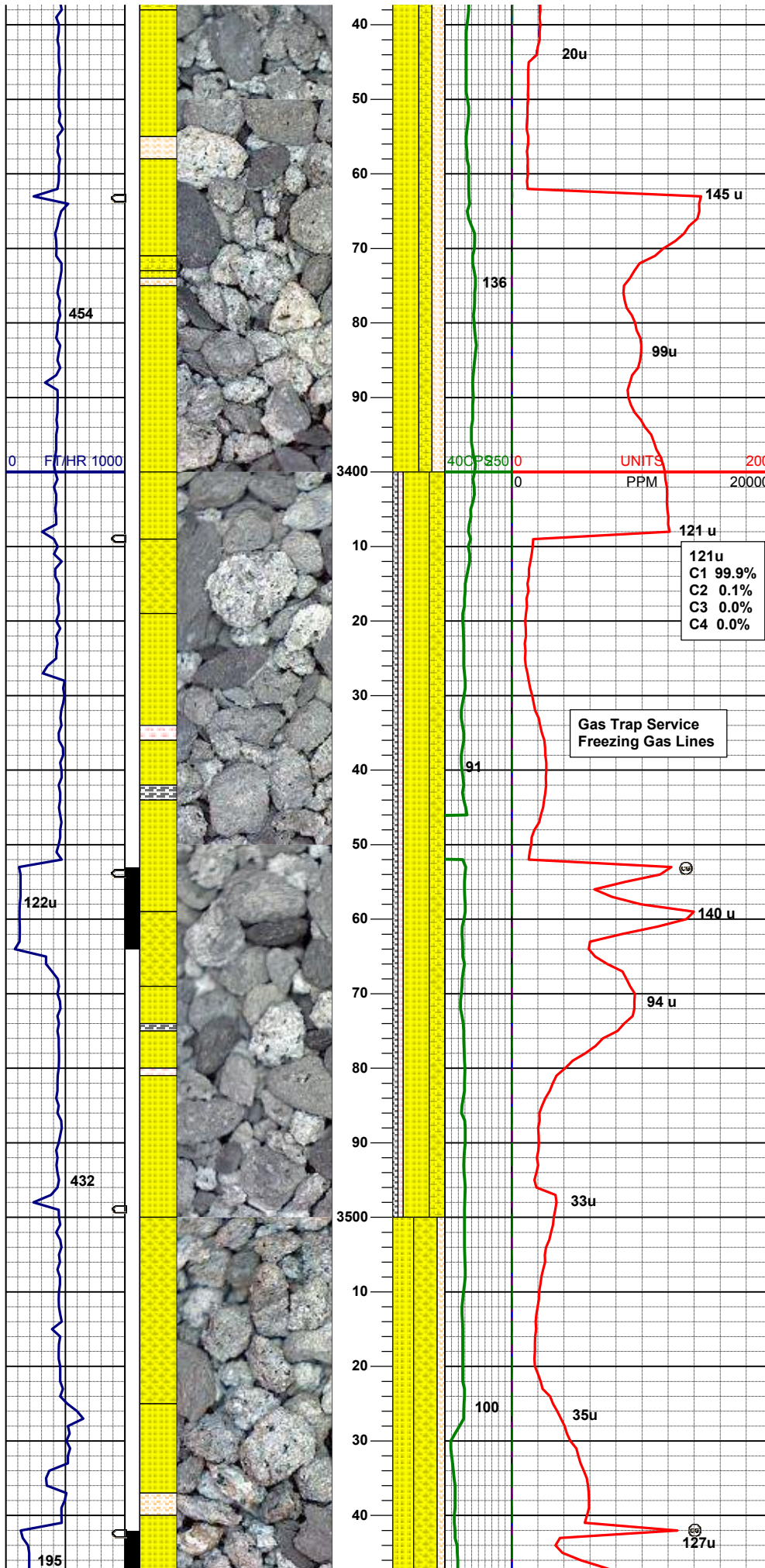
80% SHYSS: ltgy-mdkgy, vfgr, sbrd - sbang, p srt, fri-
mod cmt, p por, arg cmt, mod calc, biot imbd, rr glau
20% SS: wh- mgy, s&p ip, clr trnsi-op, vf-fgr, sbblky-
sbang, mod srt, firm, w cmt, arg cmt, sl calc, rr tr glau

MUD WT 8.5 VIS 29

MD 3224'
INC 12.96°
AZM 2.65°
TVD 3206'

70% SHYSS: ltgy-mdkgy, vfgr, sbrd - sbang, p srt, fri-
mod cmt, p por, arg cmt, mod calc, biot imbd, rr tr
glau
30% SS: wh- mgy, s&p ip, clr trnsi-op, vf-fgr, sbblky-
sbang, mod srt, firm, w cmt, arg cmt, sl calc, rr glau

MD 3313'
INC 10.46°
AZM 7.74°
TVD 3294'



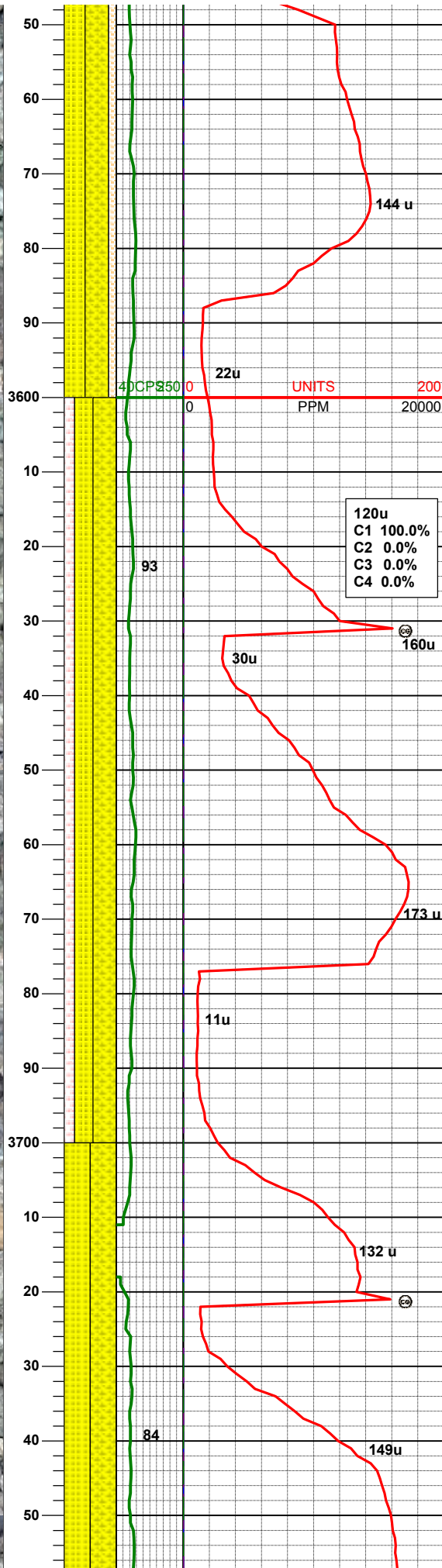
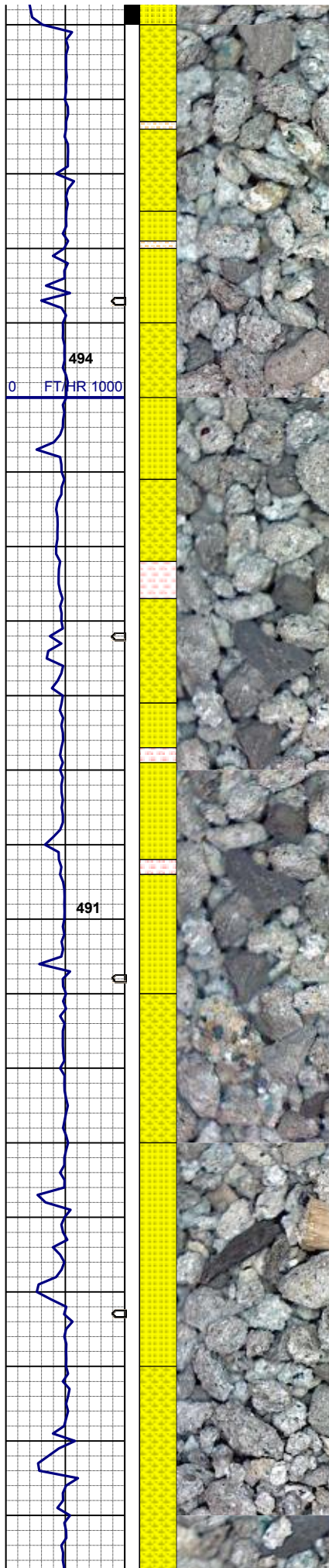
50% SS: wh- ltgy, s&p ip, clr trnsi-op, vf-fgr, sbblky-sbang, mod srt, firm, w cmt, wh arg cmt, sl calc, tr glau
25% SHYSS: ltgy-mdkgy, vfgr, sbrd - sbang, p srt, fri-mod cmt, p por, arg cmt, mod calc, biot imbd, tr glau
25% SHYSLTST: mdkgy, firm, sbplty, ncalc, slty tex-arg, tr biot incl

MD 3403'
INC 8.99°
AZM 2.75°
TVD 3382'

MUD WT 8.6 VIS 29

50% SS: wh- ltgy, s&p ip, clr trnsi-op, vf-fgr, sbblky-sbang, mod srt, firm, w cmt, wh arg cmt, mod calc, tr glau
30% SHYSS: ltgy-mdkgy, vfgr, sbrd - sbang, p srt, fri-mod cmt, p por, arg cmt, mod calc, biot imbd, tr glau
10% SLTST: mdkgy, firm, sbplty-sbblky, sl calc, slty-fis tex, tr biot incl
10% SH: mdkgy, sft-firm, sbplty-sbblky, sl calc, fis, tr calc incl

MD 3493'
INC 10.19°
AZM 14.49°
TVD 3471'



45% SHYSS: ltgy-brngy, vf-mgr, sbrd - sbang, p srt, fri-mod cmt, p por, arg cmt, mod calc, abnt biot imbd, abnt glau and bent
40% SS: wh- ltgy w/ tr s&p, clr trnsi-op, vf-mgr, sbbiky- sbang, p srt, firm, w cmt, wh arg cmt, sl calc, abnt glau and bent incl
15% SLTST: mdkgy, firm, sbply-sbbiky, sl calc, slty-fis tex, tr biot incl

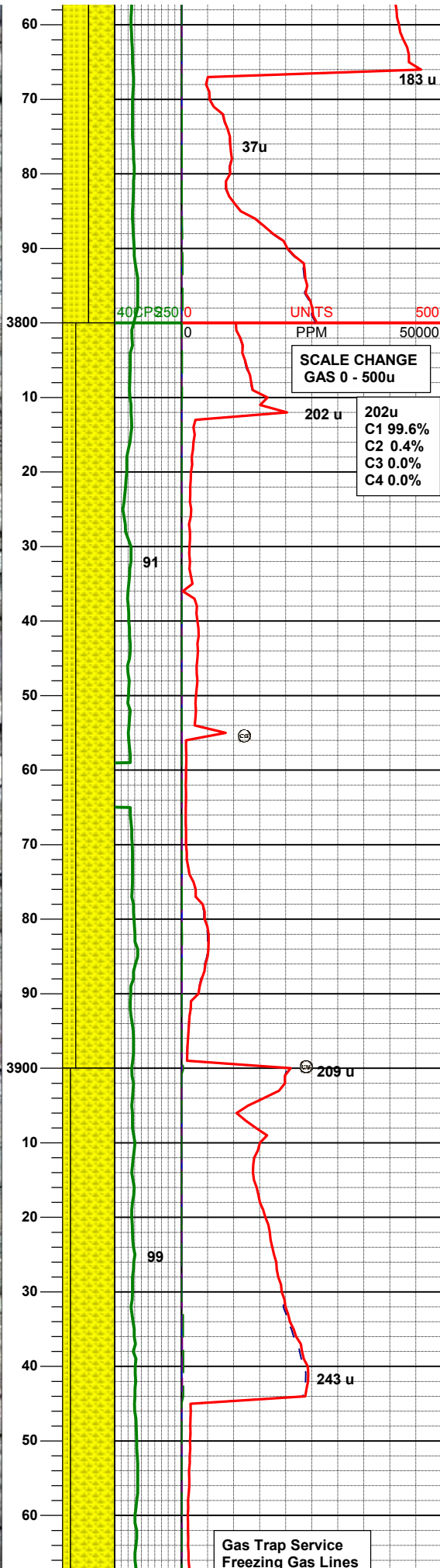
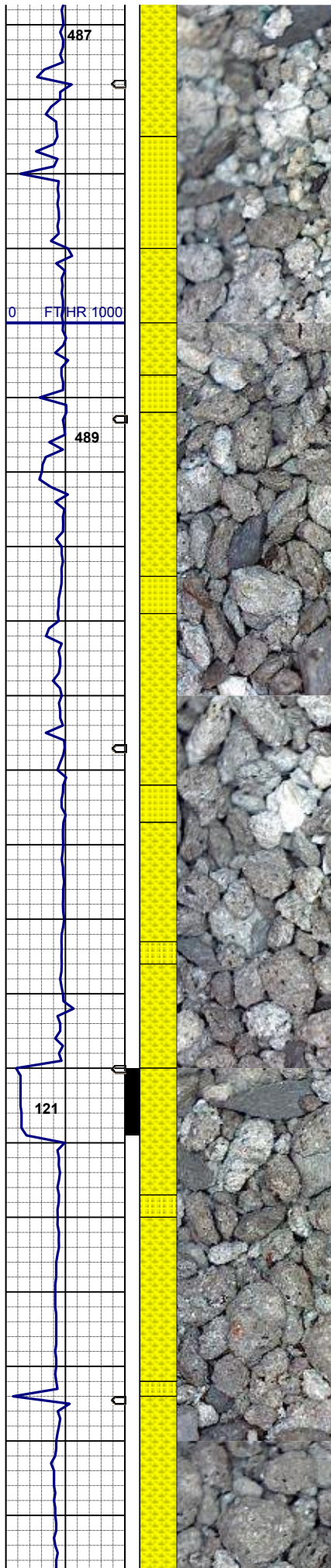
MD 3582'
INC 11.63°
AZM 15.75°
TVD 3558'

120u
C1 100.0%
C2 0.0%
C3 0.0%
C4 0.0%

45% SHYSS: ltgy-brngy, vf-mgr, sbrd - sbang, p srt, fri-mod cmt, p por, arg cmt, mod calc, abnt biot imbd, abnt glau and bent
40% SS: wh- ltgy w/ tr s&p, clr trnsi-op, vf-mgr, sbbiky- sbang, p srt, firm, w cmt, wh arg cmt, sl calc, abnt glau and bent incl
15% SLTST: mdkgy, firm, sbply-sbbiky, sl calc, slty-fis tex, tr biot incl

MD 3672'
INC 12.83°
AZM 16.20°
TVD 3646'

50% SHYSS: ltgy-brngy, vf-mgr, sbrd - sbang, p srt, fri-mod cmt, p por, arg cmt, sl calc, abnt biot imbd, abnt glau and bent
50% SS: wh- ltgy w/ tr s&p, clr trnsi-op, vf-mgr, sbbiky- sbang, p srt, firm, w cmt, wh arg cmt, sl calc,



abnt glau and bent incl

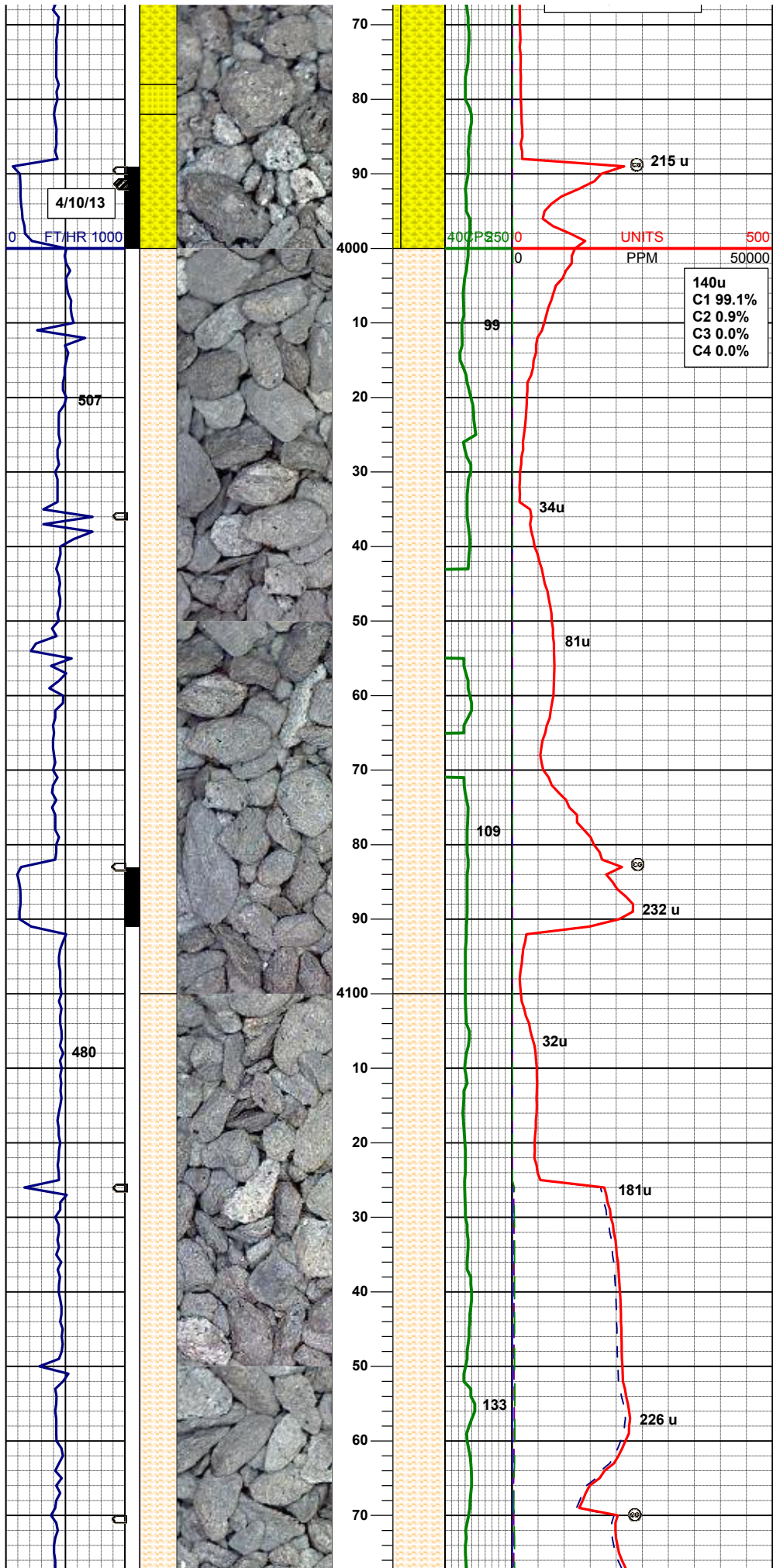
MD 3762'
INC 13.68°
AZM 16.94°
TVD 3734'

75% SHYSS: mgy-brngy, vf-fgr, sbrd - sbang, p-mod
srt, fri-mod cmt, p por, arg cmt, mod calc, abnt biot
imbd, rr glau and bent
25% SS: wh- ltgy w/ tr s&p, clr trns-op, vf-fgr, sbblky-
sbang, p-mod srt, firm, w cmt, arg cmt, v sl calc, rr
glau and bent incl

MD 3851'
INC 15.28°
AZM 17.11°
TVD 3820'

85% SHYSS: mgy-brngy w/mdkgy, vf-fgr, sbrd -
sbang, p-mod srt, mod cmt, p por, arg cmt, sl calc,
abnt biot imbd, tr glau and bent, grdg to shy sltst
15% SS: wh- ltgy w/ tr s&p, clr trns-op, vf-fgr, sbblky-
sbang, p-mod srt, firm, w cmt, arg cmt, v sl calc, tr
glau and bent incl

Gas Trap Service
Freezing Gas Lines

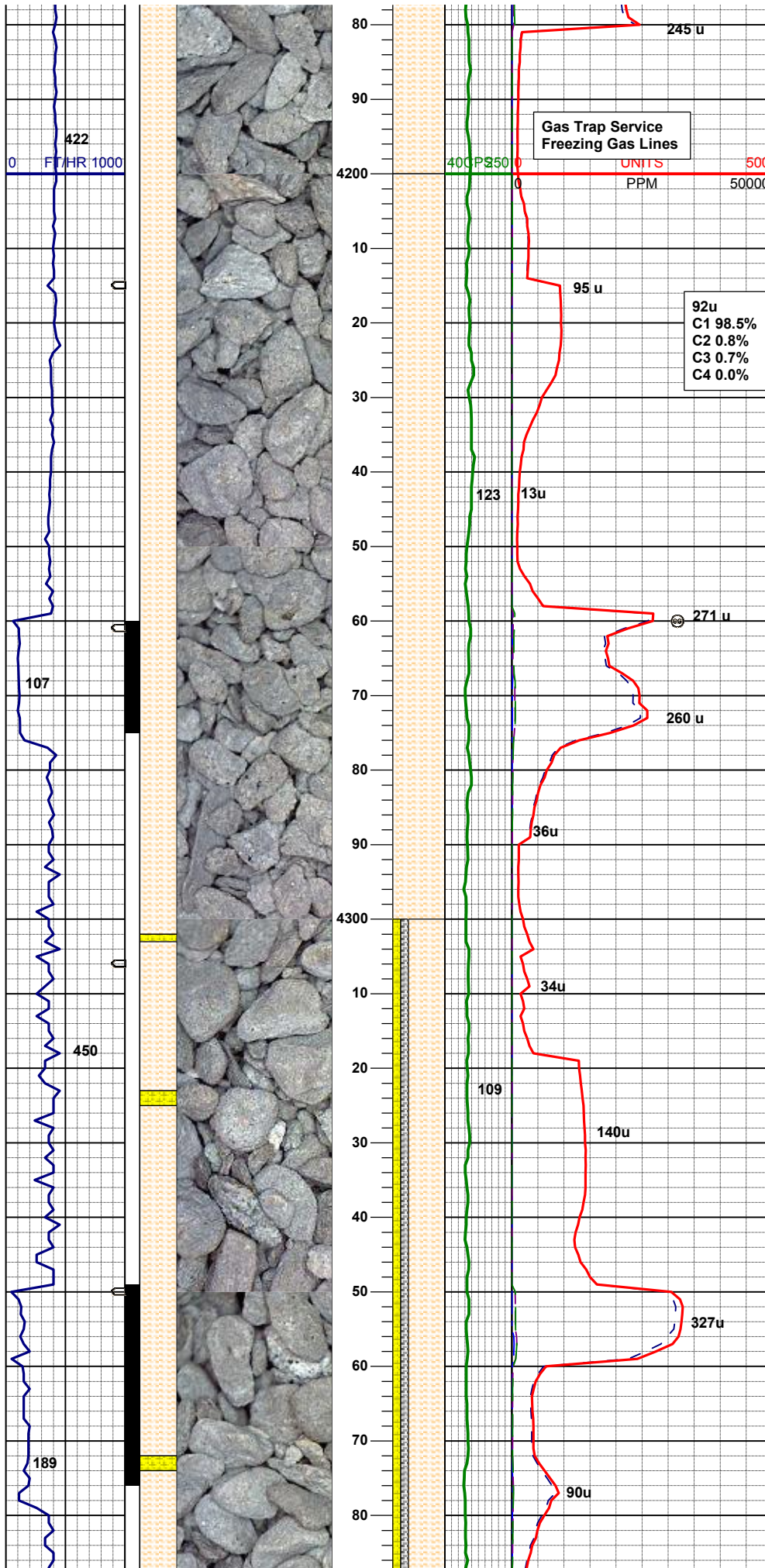


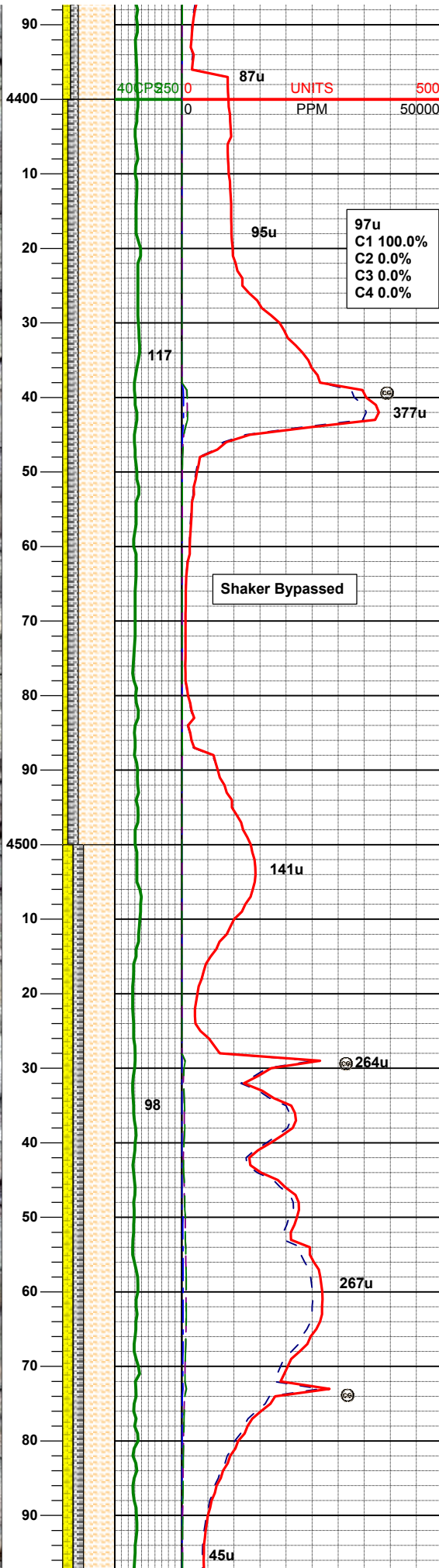
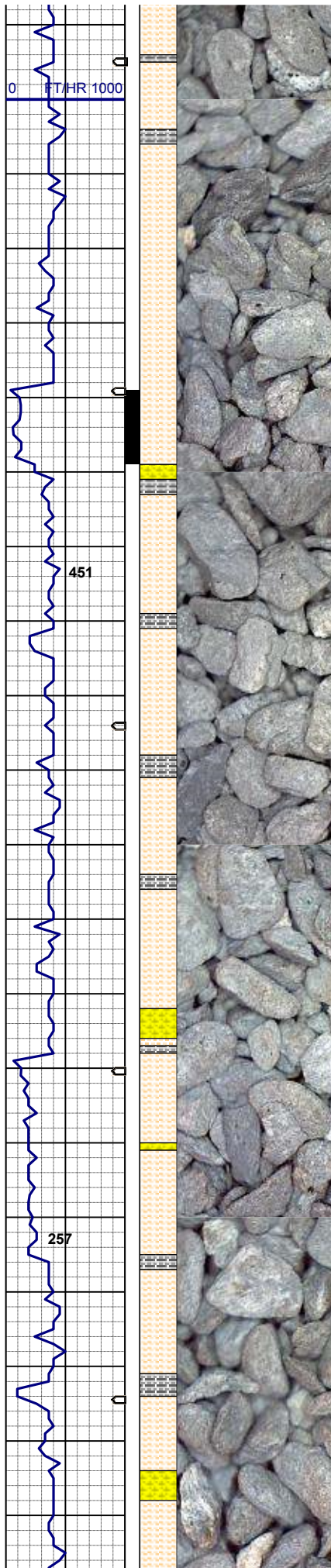
MD 4030'
INC 14.16°
AZM 8.46°
TVD 3993'

100% SHALY SLTST: mgy-mdkgy, sft- mod firm, fis-
fri, sbblky- sl sbplty, slty tex, ncalc-sl calc, tr biot and
glau incl, occ shaly ss

MD 4120'
INC 10.99°
AZM 9.06°
TVD 4081'

100% SHALY SLTST: mgy-mdkgy, sft- mod firm, fis-
fri, sbblky- sl sbplty, slty tex, sl calc, biot incl, tr shaly
ss





MD 4389'
INC 10.71°
AZM 1.16°
TVD 4347'

Mud Report
4/10/2013 AM

Type: LSND
Weight: 8.5
Viscosity: 27
Yield Point: 2
API: N/A
Solids: 1.4%
pH: 8.5
Chlorides: 650
Hardness: 1720

70% SHALY SLTST: m gy occ gybrn, sft- firm, sbblky- sl sbply, slty tex, tr biot incl
20% SILTY SH: m gy-mgybrn occ v dk gy, sft fri, sbply occ pty, rthy sl slty tex, hom v sl calc
10% SHYSS: ltgy tr s&p, vf-fgr, sbdr - sbang, mod srt, firm- fri, v por, arg cmt

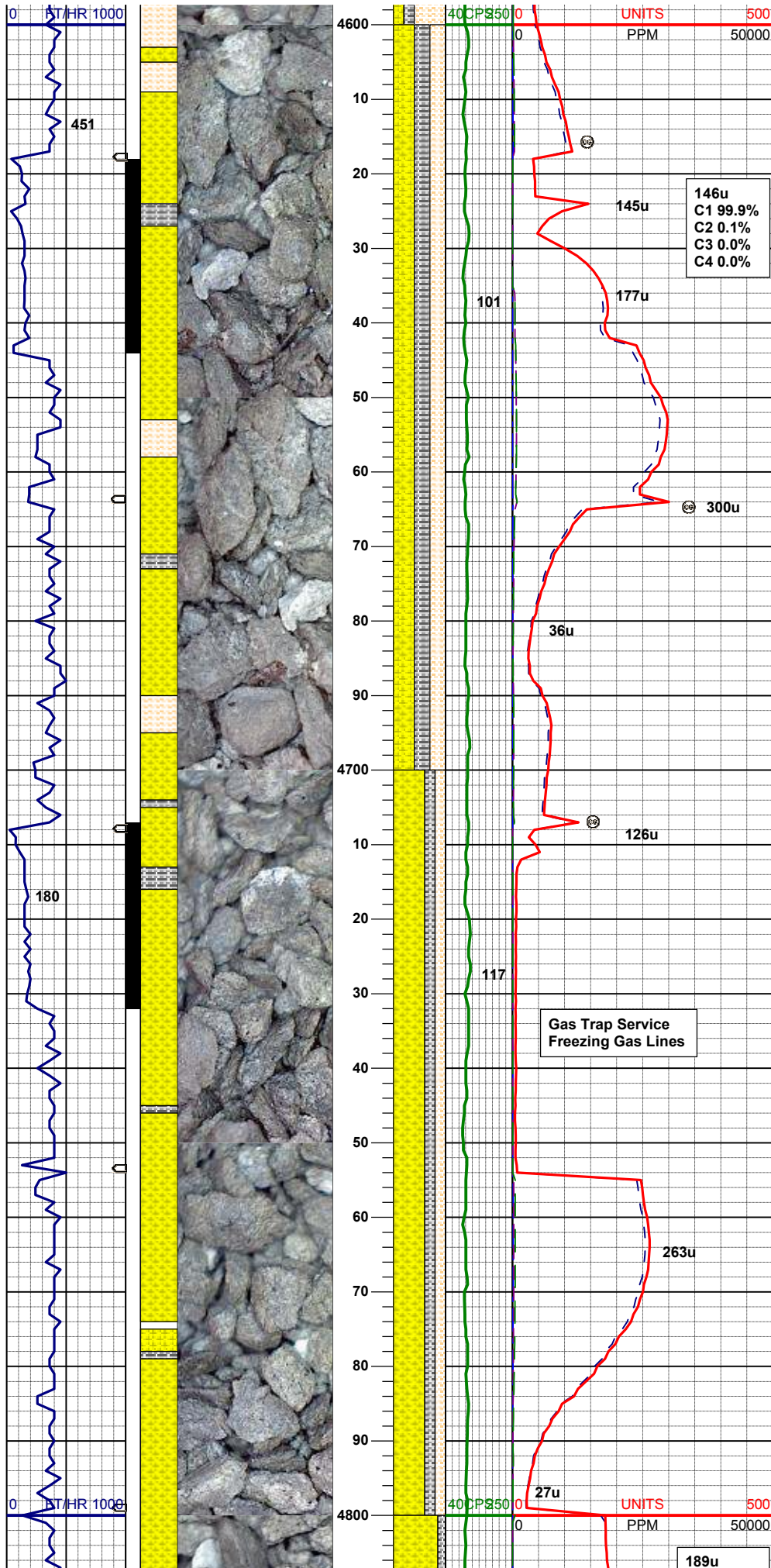
Shaker Bypassed

MD 4479'
INC 9.72°
AZM 0.86°
TVD 4435'

MUD WT 8.5 VIS 28

60% SHALY SLTST: m gy occ gybrn, sft- firm, sbblky- sl sbply, slty tex, tr biot incl
20% SILTY SH: m gy-mgybrn occ v dk gy, sft fri, sbply occ pty, rthy sl slty tex, hom v sl calc
20% SHYSS: ltgy tr s&p, vf-fgr, sbdr - sbang, mod srt, firm- fri, v por, arg cmt

MD 4569'
INC 11.37°
AZM 15.07°
TVD 4524'

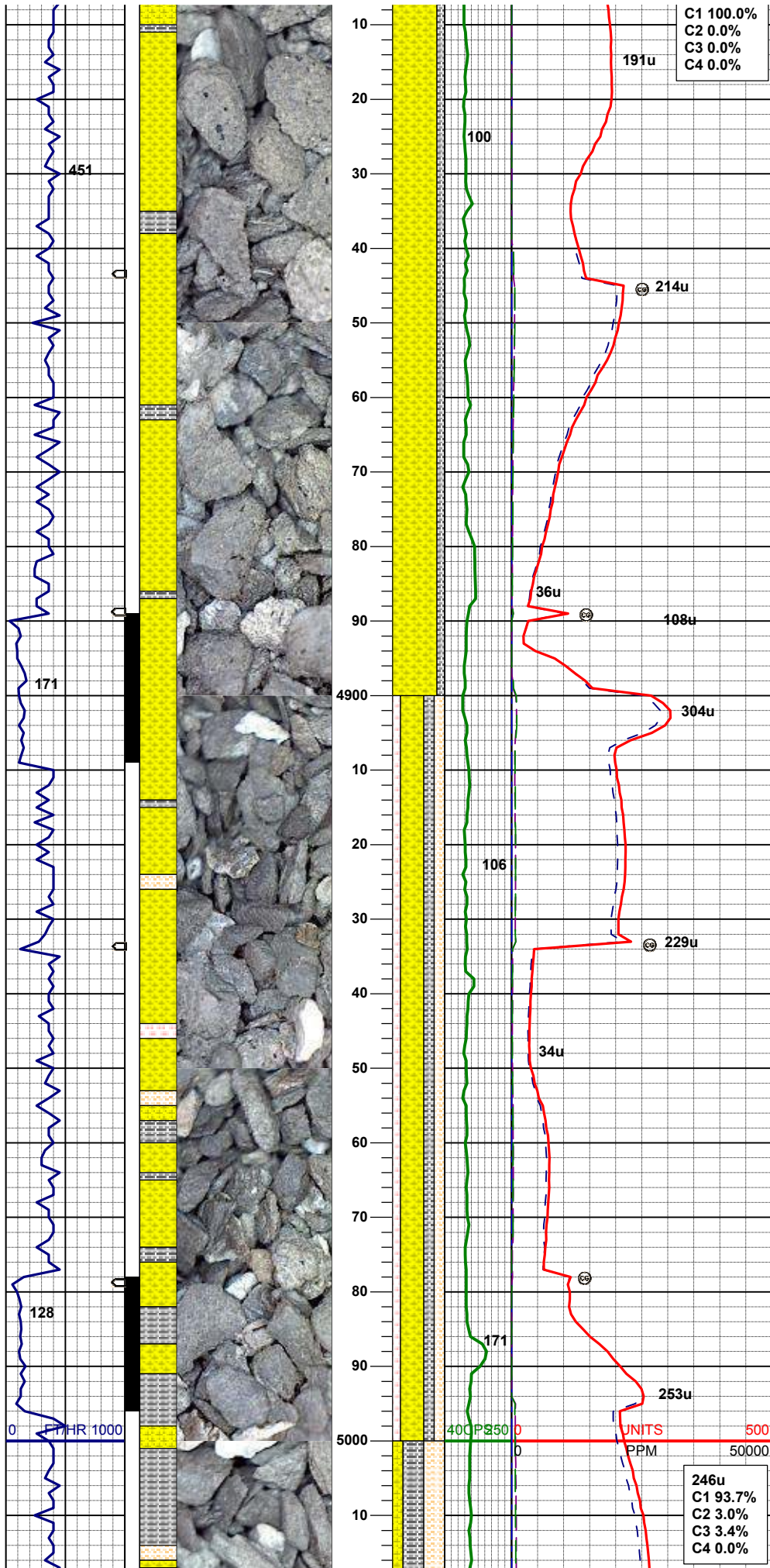


40% SHYSS: ltgy tr s&p, vf-fgr, sbrd - sbang, mod
srt, firm- fri, v por, arg cmt
30% SHALY SLTST: m gy occ gybrn, sft- firm,
sbbiky- sl sbply, slty tex, tr biot incl
30% SILTY SH: m gy-mgybrn occ v dk gy, sft fri ,
sbply occ ply, rthy sl slty tex, hom v sl calc

MD 4658'
INC 12.37°
AZM 10.40°
TVD 4611'

MD 4748'
INC 14.56°
AZM 2.97°
TVD 4698.83'

60% SHYSS: ltgy tr s&p, vf-fgr, sbrd - sbang, mod
srt, firm- fri, v por, arg cmt
20% SHALY SLTST: m gy occ gybrn, sft- firm,
sbbiky- sl sbply, slty tex, tr biot incl
20% SILTY SH: m gy-mgybrn occ v dk gy, sft fri ,
sbply occ ply, rthy sl slty tex, hom v sl calc



MD 4838'
INC 13.34°
AZM 2.41°
TVD 4786.18'

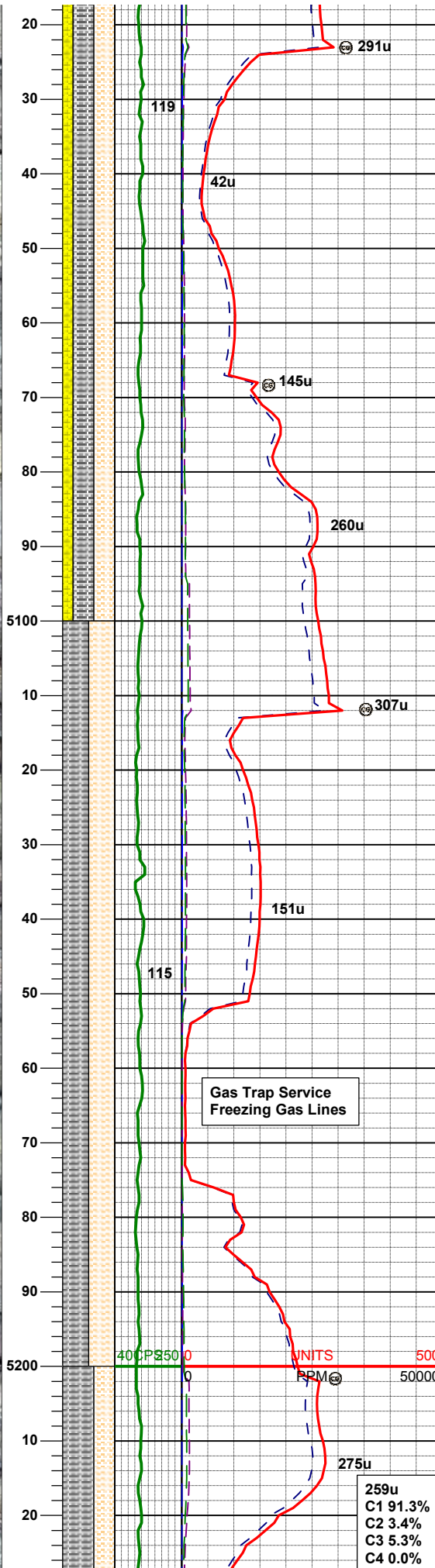
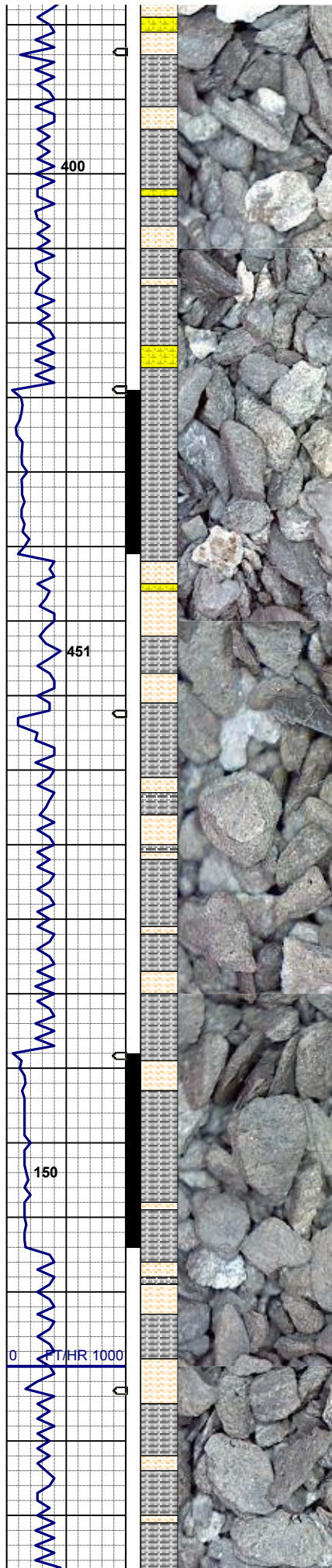
80% SHYSS: m-dkgy, vf-fgr, sbdr - sbang, firm- brit,
mod-p srt, v por, arg cmt, tr biot, sl calc
20% SILTY SH: m gy-mgybrn occ v dk gy, firm,
sbbiky - sbply, rthy sl slty tex, hom

MD 4928'
INC 14.20°
AZM 7.78°
TVD 4873.60'

MUD WT 8.9+ VIS 35

45% SHYSS: lt-mgy, vf-fgr, sbdr - sbang, mod-p srt,
firm- sft, v por, arg cmt, tr biot, tr pyr, mod calc
20% SHALY SLTST: lt-m gy, sft- firm, sbbiky -
sbply, slty tex, tr biot incl, grdg - silty sh
20% SILTY SH: m gy-mgybrn occ v dk gy, firm,
sbbiky - sbply, rthy sl slty tex, hom
10% SLTST: ltgy-tan-wht, sft- fri, sbbiky - ply, sl slty-
wxy tex, occ biot incl

MD 5018'
INC 14.86°



AZM 4.89°
TVD 4960.72'

40% SILTY SH: m gy-mgybrn occ v dk gy, firm -sft ,
sbbiky - sbply, rthy sl slty tex, sl grdg - sltst
40% SHALY SLTST: lt-m gy, sft- firm, sbbiky -
sbply, slty tex, tr biot incl
20% SHYSS: lt-mgy, vf-fgr, sbrd - sbang, mod-p srt,
firm- sft, v por, arg cmt, tr biot, sl calc

MD 5107'
INC 14.37°
AZM 1.92°
TVD 5046.84'

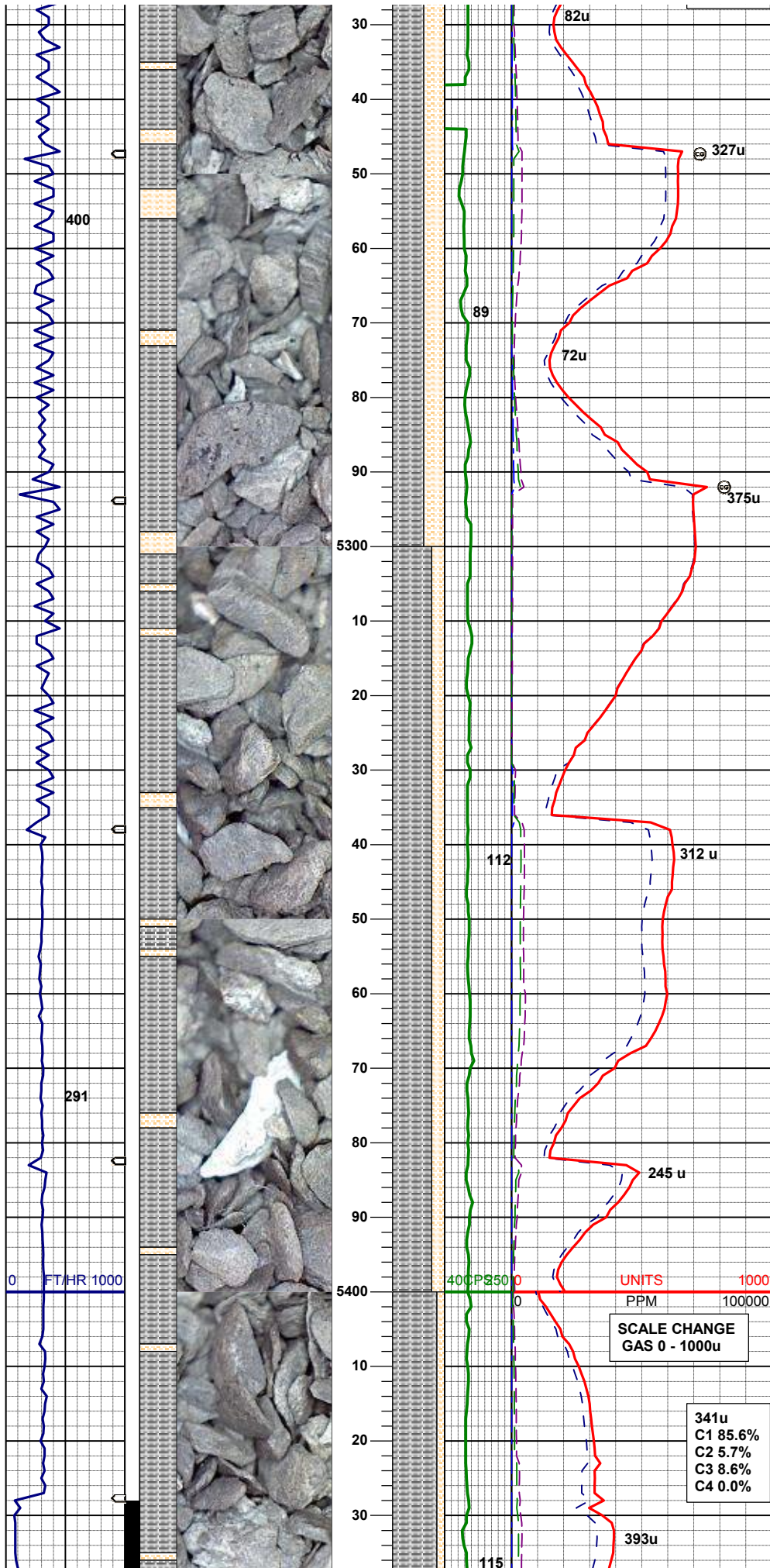
50% SILTY SH: m gy-mgybrn occ v dk gy, firm -sft ,
sbbiky - sbply occ ply, rthy sl -v slty tex
50% SHALY SLTST: lt-m gy, sft- firm, sbbiky -
sbply, slty tex, tr biot incl

MUD WT 9.1 VIS 35

Gas Trap Service
Freezing Gas Lines

MD 5197'
INC 16.27°
AZM 6.91°
TVD 5133.64'

259u
C1 91.3%
C2 3.4%
C3 5.3%
C4 0.0%



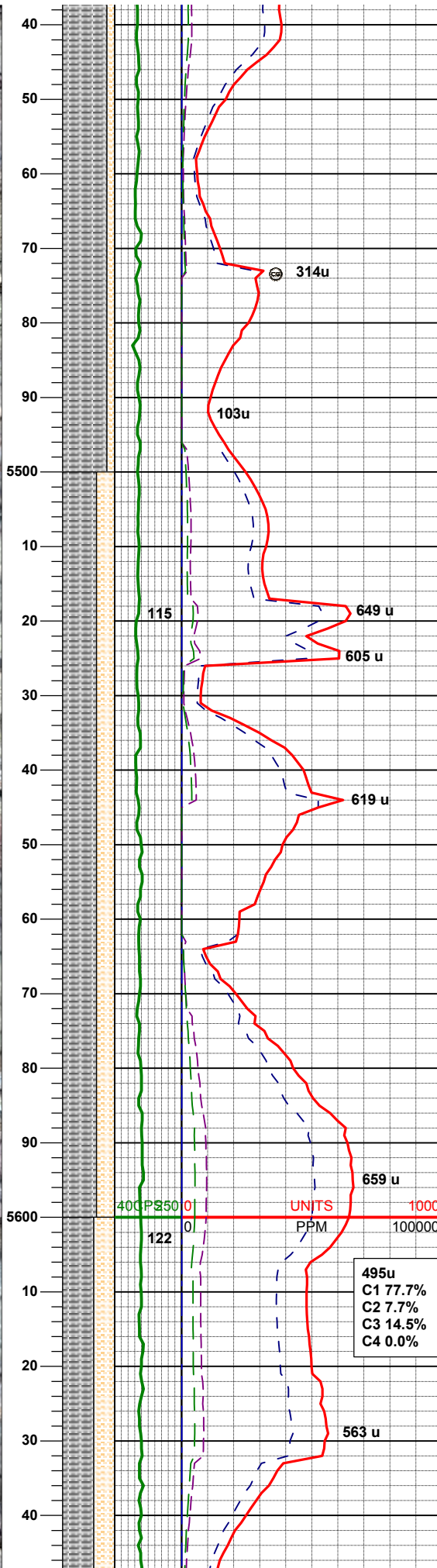
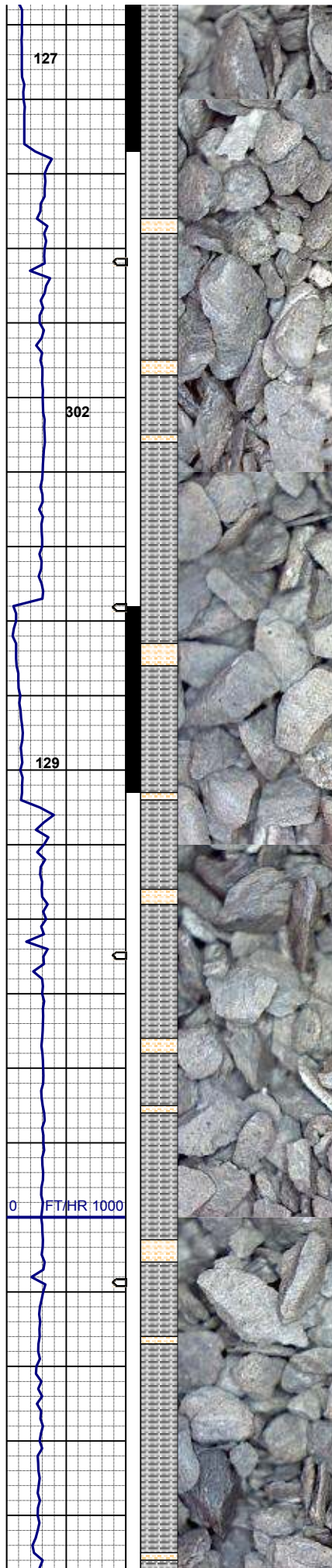
60% SILTY SH: m gy-mgybrn occ v dk gy, firm -sft ,
sbbiky - sbply occ pty, rthy sl -v slty tex
40% SHALY SLTST: lt-m gy, sft- firm, sbbiky -
sbply, slty tex, tr biot incl

MD 5287'
INC 14.84°
AZM 7.46°
TVD 5220.34'

75% SILTY SH: m gy-mgybrn occ v dk gy, firm -sft ,
sbbiky - sbply occ pty, rthy sl -v slty tex
25% SHALY SLTST: lt-m gy, sft- firm, sbbiky -
sbply, slty tex, tr biot incl

MUD WT 9.6 VIS 38

MD 5377'
INC 12.69°
AZM 8.14°
TVD 5307.75'



80% SILTY SH: m gy-mgybrn occ v dk gy, firm -sft ,
sbbly - sbply occ ply, rthy sl silty tex, occ sh
20% SHALY SLTST: lt-m gy, sft- firm, sbbly -
sbply, silty tex, tr biot incl

MD 5467'
INC 13.47°
AZM 359.46°
TVD 5395.42'

MUD WT 9.7 VIS 42

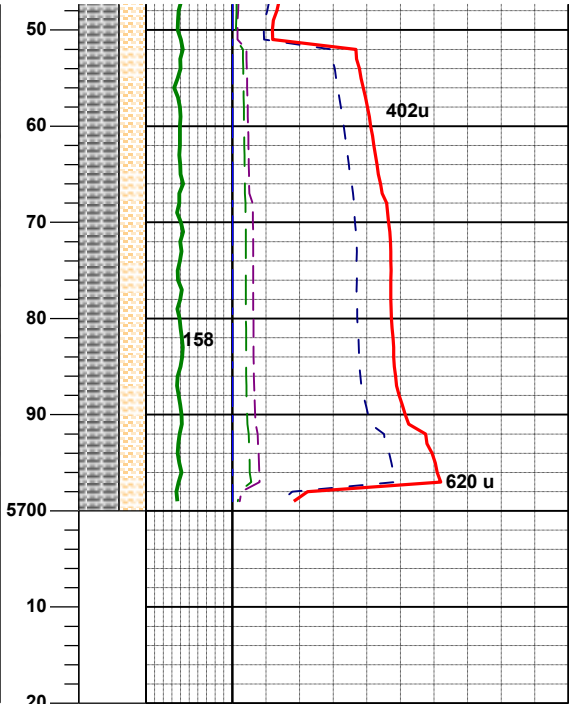
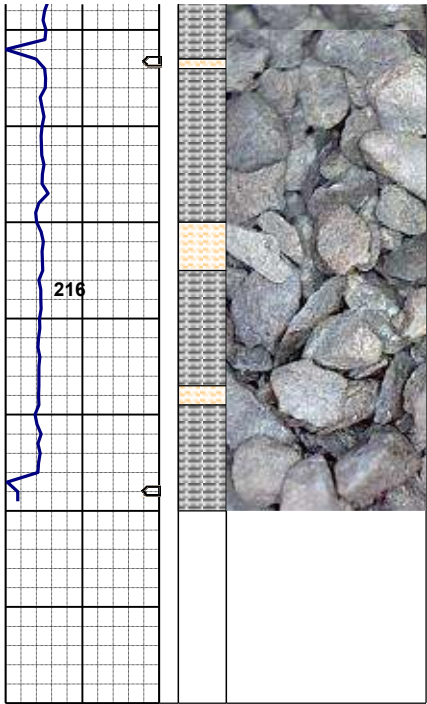
65% SILTY SH: m gy-mgybrn occ v dk gy, firm -sft ,
sbbly - sbply occ ply, rthy sl silty tex, occ sh
35% SHALY SLTST: lt-m gy, sft- firm, sbbly -
sbply, silty tex, tr biot incl

MD 5557'
INC 15.18°
AZM 0.49°
TVD 5482.62'

MUD WT 10.0+ VIS 42

495u
C1 77.7%
C2 7.7%
C3 14.5%
C4 0.0%

MD 5546'



MD 5691'
INC 12.93°
AZM 1.55°
TVD 5568.95'

60% SILTY SH: m gy-mgybrn occ v dk gy, firm -sft ,
sbbkly - sbplty occ plty, rthy sl slty tex, occ sh
40% SHALY SLTST: lt-m gy, sft- firm, sbbkly -
sbplty, slty tex, tr biot incl

MD 5691'
INC 12.13°
AZM 1.47°
TVD 5612.88'

MUD WT 10.35 VIS 44

No TOOHS Needed for Curve Tools

Log Continues on
Hunt LF18-62HN HORZ.Lplot