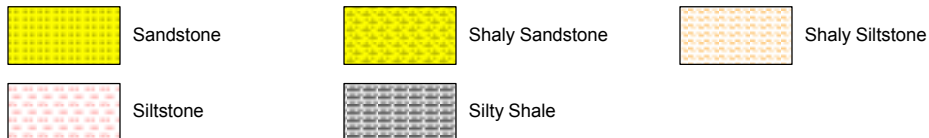


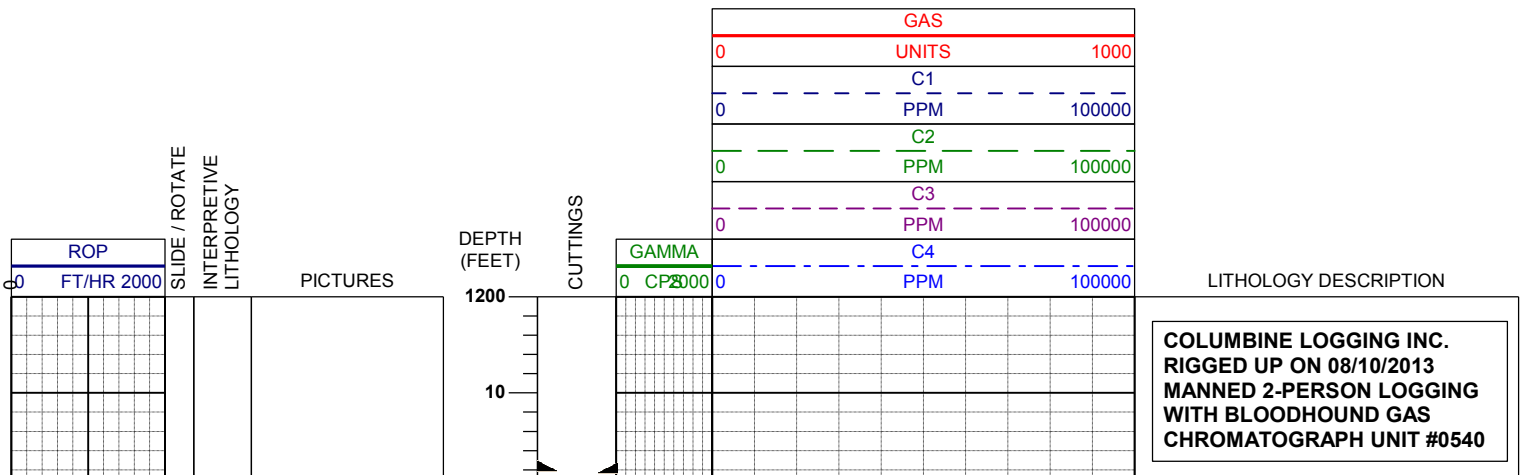
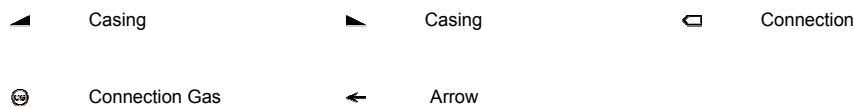
LOG created using Lplot VH Version 3.0, August 14, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

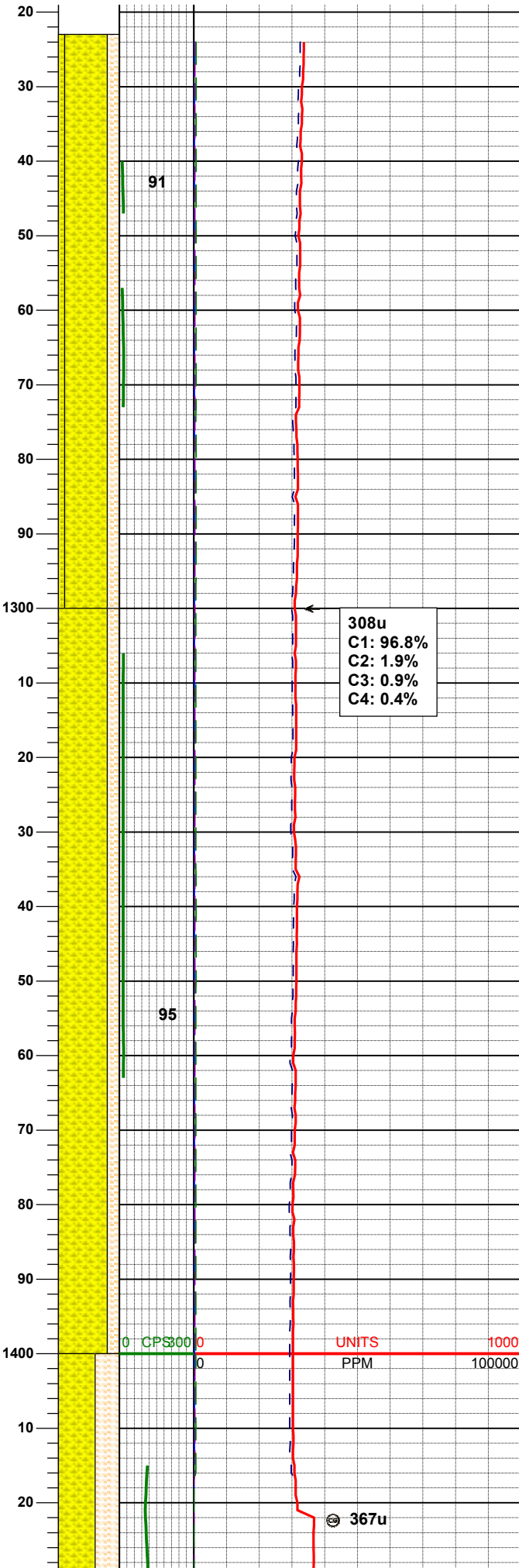
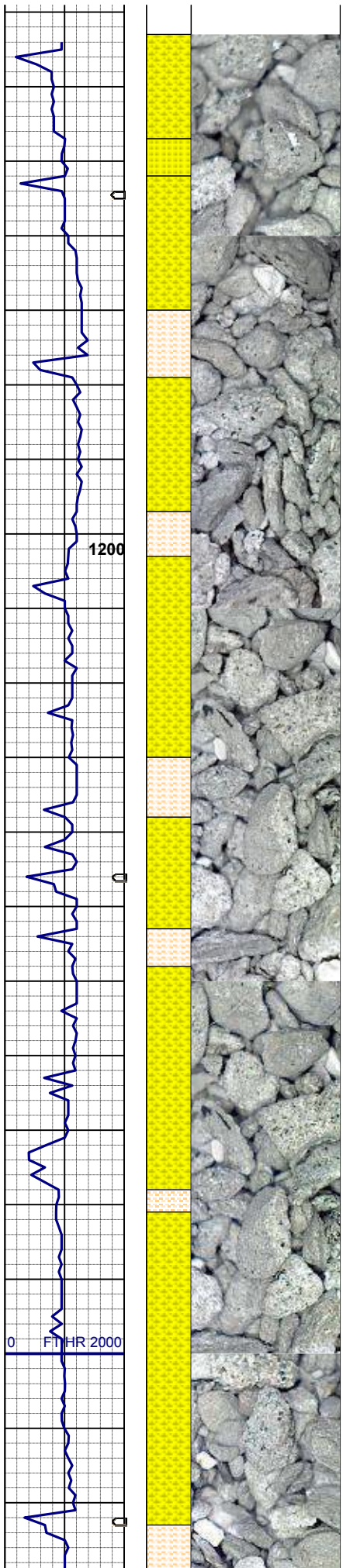
OPERATOR: NOBLE ENERGY INC
WELL: ROHN STATE LD04-64HN
LOCATION: SEC 4 T9N R58W
COUNTY: WELD
STATE: COLORADO
SPOT: 2,027' FSL; 480' FEL
ELEVATION: 4,706' GL; 4,728' KB
FIELD: WILDCAT
SPUD DATE: 08/09/2013
TD DATE: 08/10/2013
DATES LOGGED: 08/10/2013 - 08/13/2013
DEPTHS LOGGED: 1,223' - 9,476' MD
LOGGERS: BRAD WILSON; CONOR PESICKA
DRILLING FLUID: LSND
DRILLING RIG: H&P 273
API: 05-123-37463
LOG TYPE: VERTICAL
SCALE: 1:240 (5 inches per 100 feet)
REMARKS: WELLSITE GEOLOGICAL SERVICES
 PROVIDED BY COLUMBINE LOGGING INC.

LITHOLOGIES



ENGINEERING SYMBOLS





Drilled Out of Surface Casing and Started logging @ 12:40 HRS

MUD WT 8.4 VIS 26

70% SHYSS: m-lt gy- tr s&p, vf-fgr, sbrd - sbang, mod srt, sl firm - fri, p por, arg cmt, rr biot, tr glau
 20% SHALY SLTST: ltgy, sft- fri, sbbkly, aren- v slty tex, occ biot incl
 10% SS: wh-op occ lt gy, s&p, fgr, sbrd-sbang, mod w srt, firm, brit;tr dk gy cly

MD 1282'
 INC 0.1°
 AZM 123.6°
 TVD 1281.93'

BHA #1
Bit: 8.75"
Manufacturer: UGHE
Model: DP503X
Serial Number: 7146044
Nozzles: 6x13

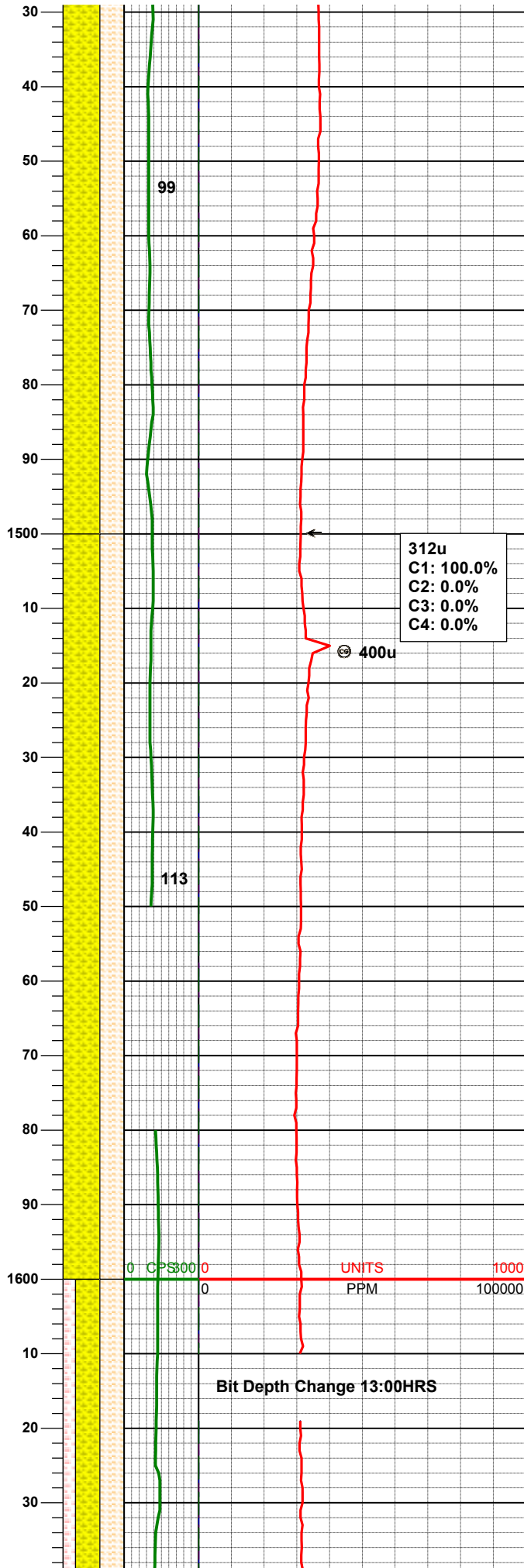
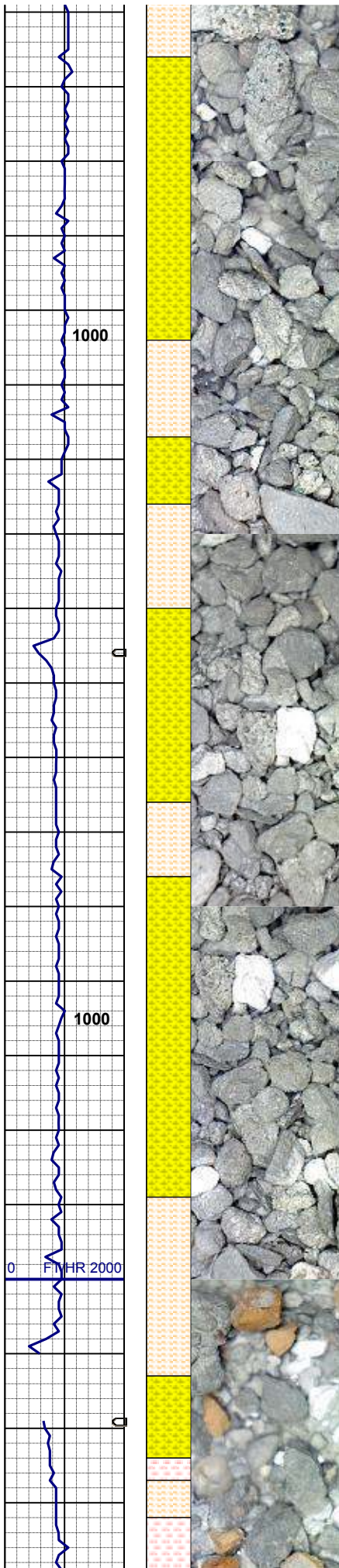
Motor: 6.5"
Manufacturer: Ensign
Serial Number: 650-071
Bend: 1.55

80% SHYSS: mgy- tr s&p, vf-fgr, sbrd - sbang, mod srt, firm - fri occ hd, p por, arg cmt, rr biot, tr glau, occ grd- ss
 20% SHALY SLTST: ltgy, firm- fri, sbbkly, aren- v slty tex, occ biot incl ; tr dk gy cly

308u
 C1: 96.8%
 C2: 1.9%
 C3: 0.9%
 C4: 0.4%

367u

0 CPS3000 0 UNITS 1000
 0 PPM 100000



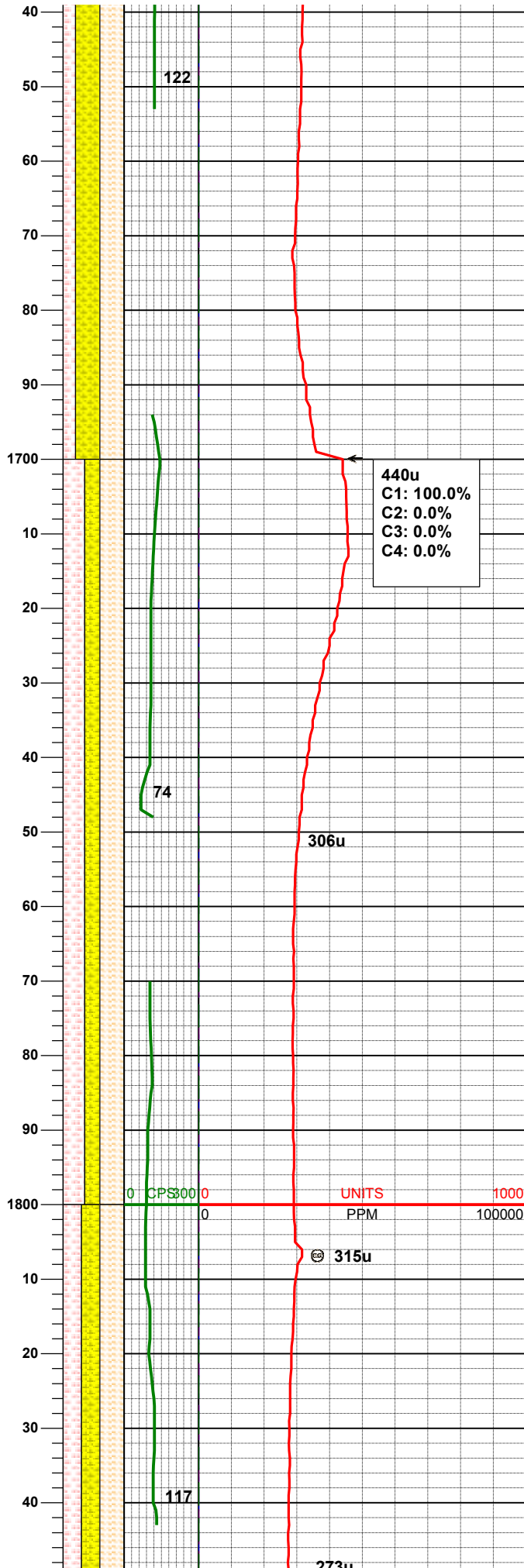
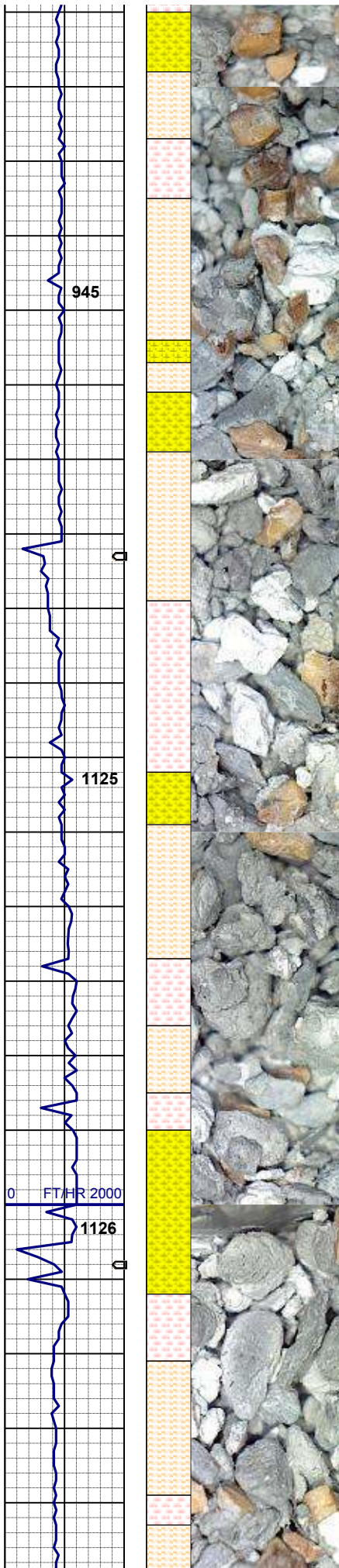
60% SHYSS: mgy- tr s&p, vf-fgr, sbrd
 - sbang, mod srt, sft- fri occ firm, p
 por, arg cmt, rr biot, occ glau, occ
 grd - ss
 40% SHALY SLTST: Itgy, firm- fri,
 sbbkly, aren- v slty tex, occ biot incl ;
 abnt dk gy cly

Abundant Clay to Surface

60% SHYSS: mgy- tr s&p, vf-fgr, sbrd
 - sbang, mod srt, sft- fri occ firm, p
 por, arg cmt, rr biot, occ glau, occ
 grd - ss
 40% SHALY SLTST: Itgy, firm- fri,
 sbbkly, aren- v slty tex, occ biot incl ;
 abnt dk gy cly

**MD 1563'
 INC 0.4°
 AZM 308.9°
 TVD 1562.92'**

Abundant Clay to Surface



40% SHYSS: mgy- tr s&p, vt-fgr, sbrd
 - sbang, mod srt, sft- fri occ firm, p
 por, arg cmt, rr biot, occ glau, occ
 grd - ss
 40% SHALY SLTST: Itgy, firm- fri,
 sbbly, aren- v slty tex, occ biot incl
 20% SLTST: Itgy-wh, sft- fri, sbbly,
 aren- slty tex, occ biot incl ; abnt Itgy-
 wh gy cly

Abundant Clay to Surface

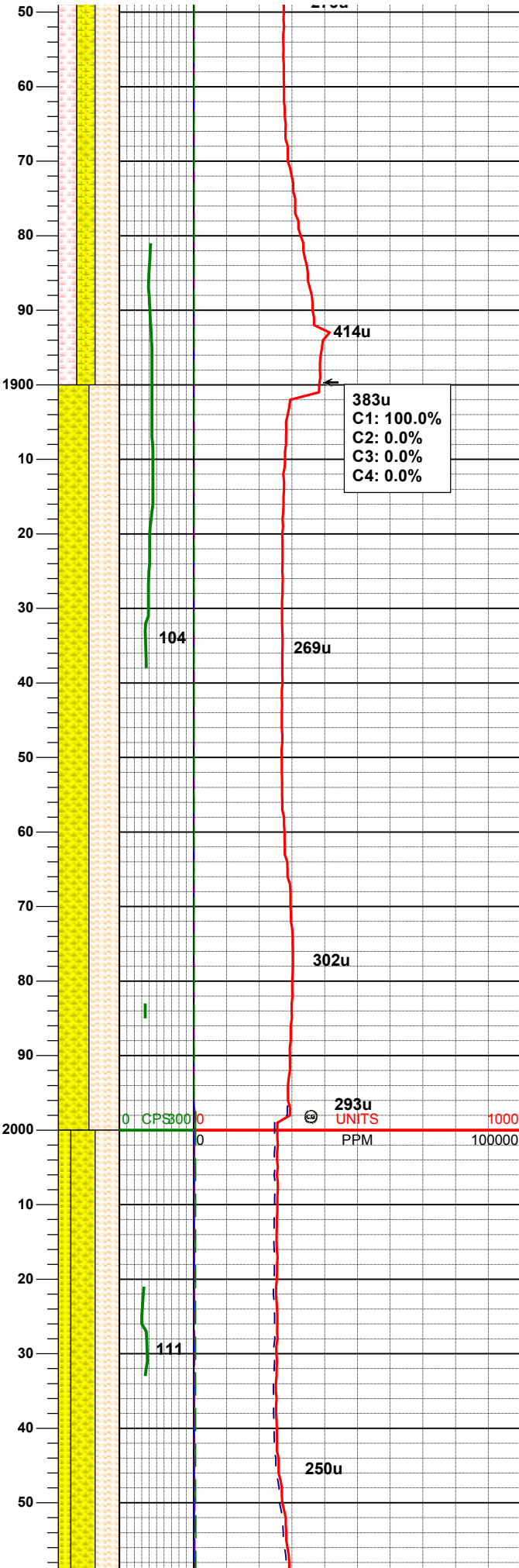
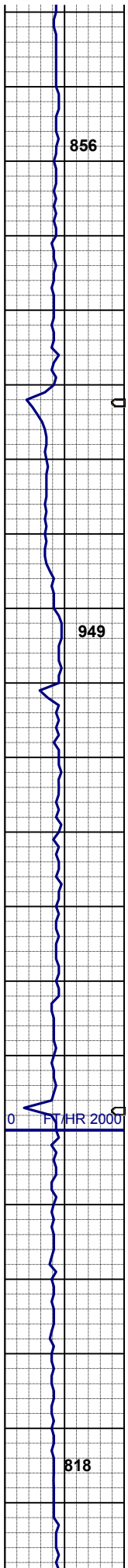
**MUD WT 8.7 VIS 27
 OUT WT 9.1 VIS 31**

40% SHALY SLTST: Itgy, firm- fri,
 sbbly, aren- v slty tex, occ biot incl
 35% SHYSS: mgy- tr s&p, vf-fgr, sbrd
 - sbang, mod srt, sft- fri occ firm, p
 por, arg cmt, rr biot, occ glau
 25% SLTST: Itgy-wh, sft- fri, sbbly,
 aren- slty tex, occ biot incl ; abnt Itgy-
 wh gy cly

**MD 1752'
 INC 0.6°
 AZM 356.0°
 TVD 1751.92'**

Abundant Clay to Surface

40% SHALY SLTST: Itgy, firm- fri,
 sbbly, aren- v slty tex, occ biot incl
 30% SHYSS: mgy- tr s&p, vf-fgr, sbrd
 - sbang, mod srt, sft- fri occ firm, p
 por, arg cmt, rr biot, occ glau



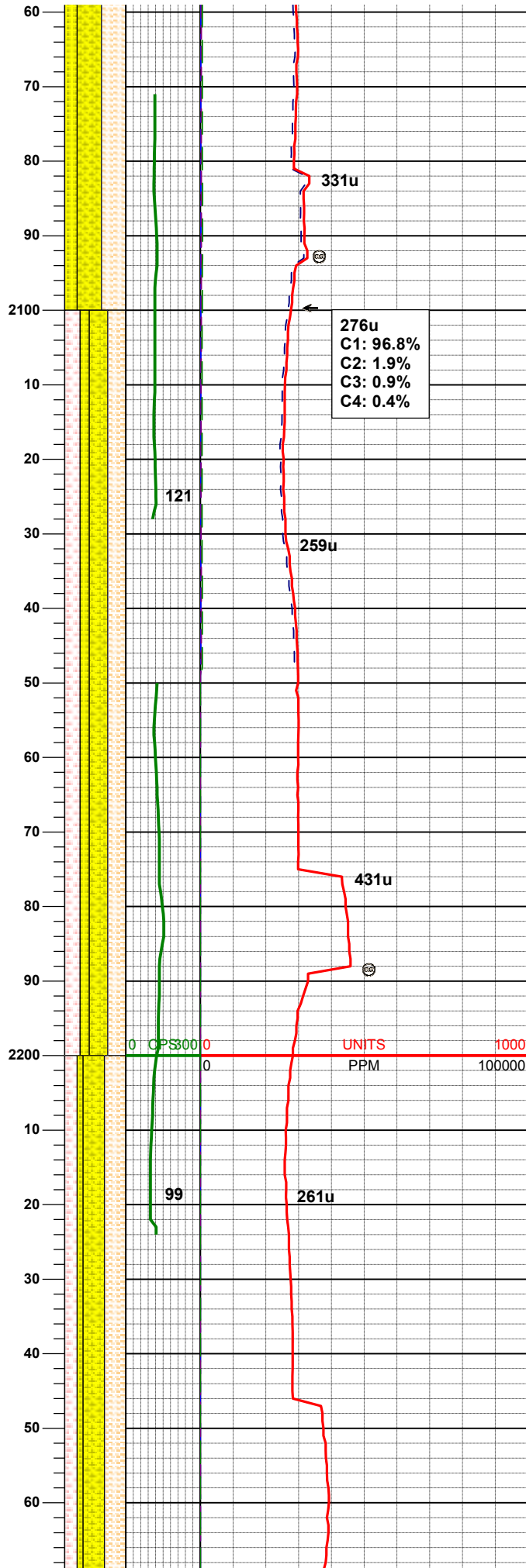
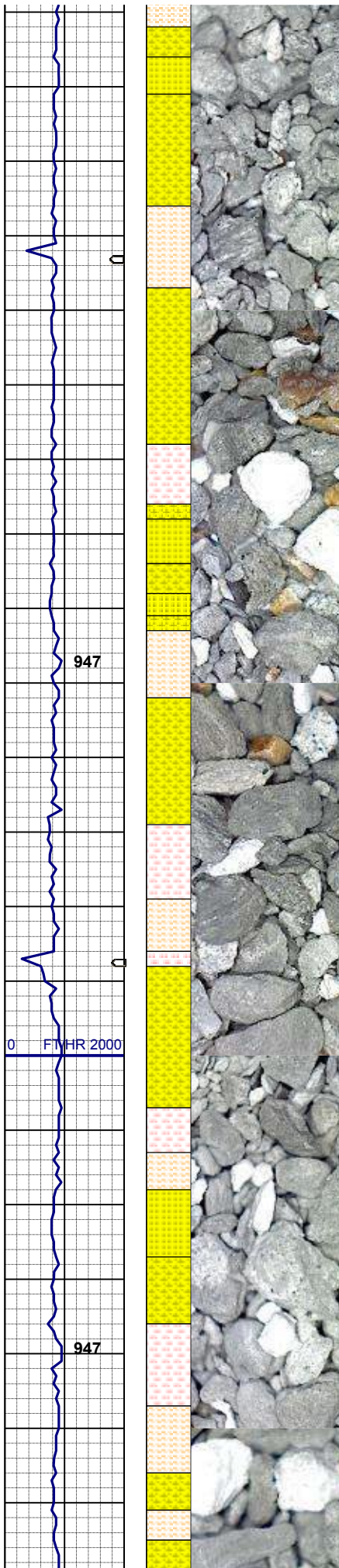
30% SLTST: ltgy-wh, sft-fri, sbbkly, aren-slty tex, occ biot incl ; abnt ltgy-wh gy cly

Abundant Clay to Surface

MD 1942'
INC 0.4°
AZM 305.0°
TVD 1281.93'

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

40% SHALY SLTST: ltgy, firm-fri, sbbkly, aren- v slty tex, occ biot incl
40% SHYSS: mgy- tr s&p, vf-fgr, sbrd - sbang, mod srt, sft-fri occ firm, p por, arg cmt, rr biot, occ glau
20% SS: wh-op occ lt gy, s&p, fgr, sbrd-sbang mod w srt firm brit-tr dk



gy clay

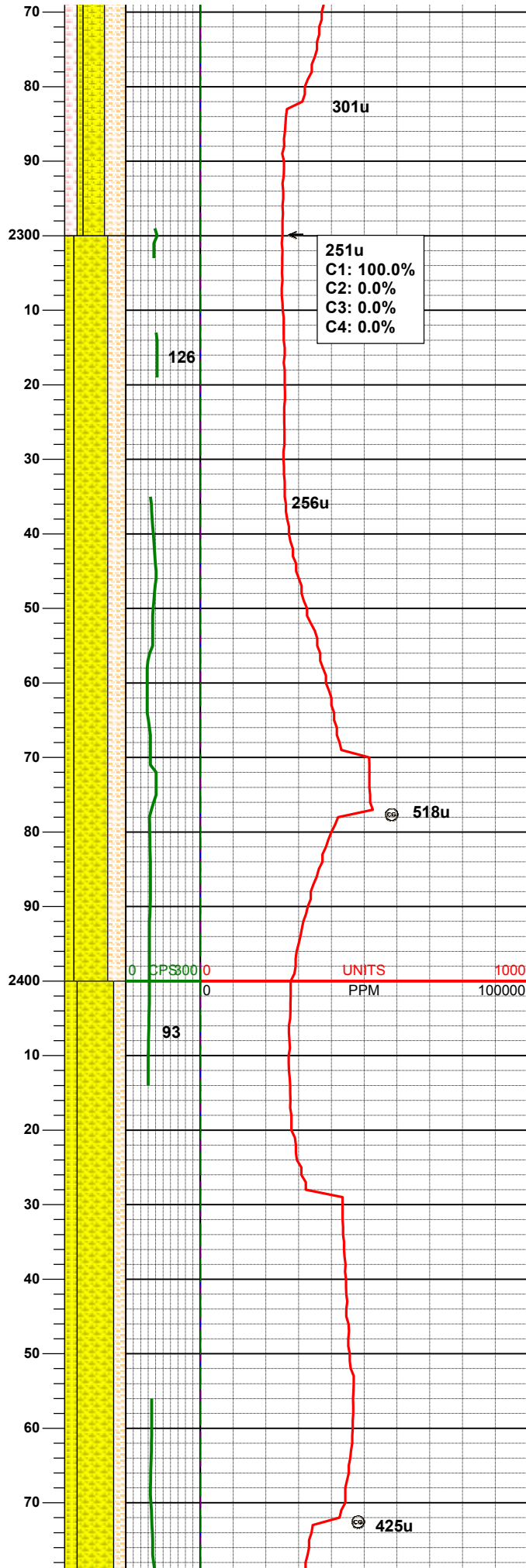
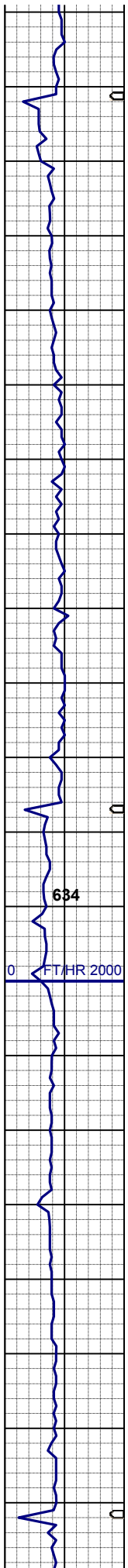
Rig Service 2091' MD

Some Clays to Surface

30% SHALY SLTST: ltgy, firm- fri, sbbkly, aren- v slty tex, occ biot incl
 30% SHYSS: mgy- tr s&p, vf-fgr, sbrd - sbang, mod srt, sft- fri occ firm, p por, arg cmt, rr biot, occ glau
 25% SLTST: wh, firm- fri, sbbkly, aren- slty tex, occ biot incl
 15% SS: wh-op occ lt gy, s&p, fgr, sbrd-sbang, mod w srt, firm, brit;tr dk gy clay ; abnt ltgy-wh gy clay

MD 2187'
INC 0.6°
AZM 276.2°
TVD 2131.90'

35% SHALY SLTST: ltgy, firm- fri, sbbkly, aren- v slty tex, occ biot incl
 35% SHYSS: mgy- tr s&p, vf-fgr, sbrd - sbang, mod srt, sft- fri occ firm, p por, arg cmt, rr biot, occ glau
 20% SLTST: wh, firm- fri, sbbkly, aren- slty tex, occ biot incl
 10% SS: wh-op occ lt gy, s&p, fgr, sbrd-sbang, mod w srt, firm, brit;tr dk gy clay ; abnt ltgy-wh gy clay

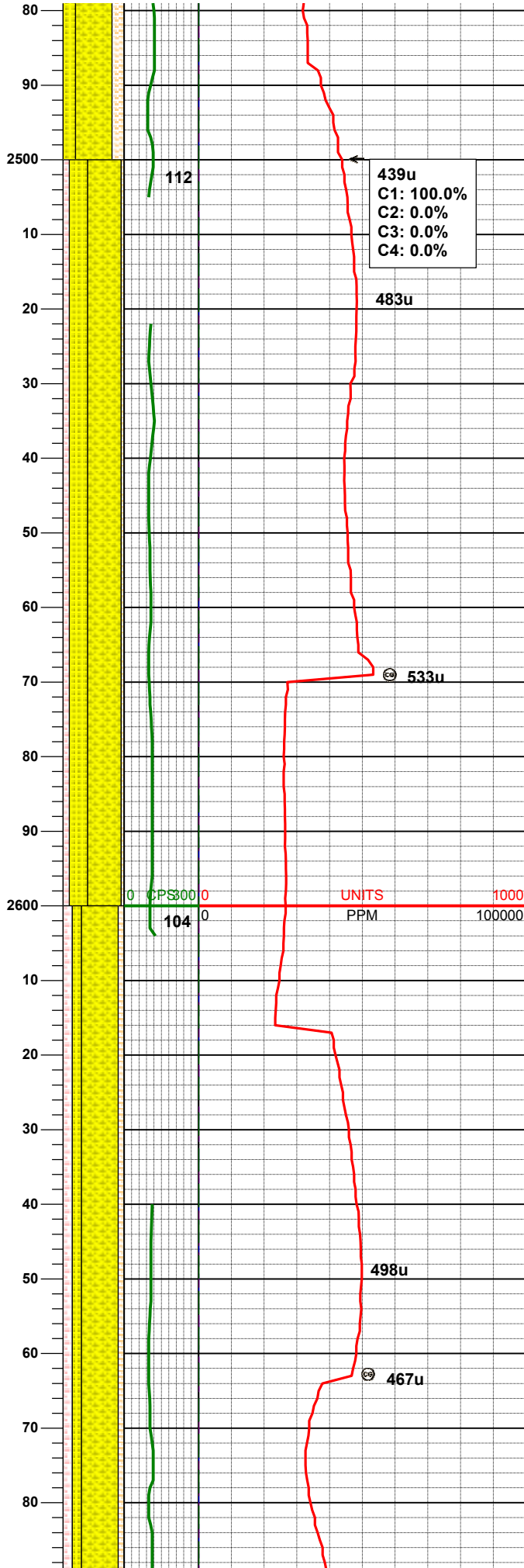
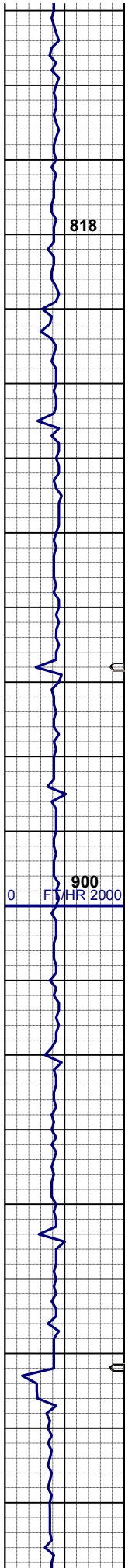


MD 2321'
 INC 1.6°
 AZM 292.4°
 TVD 2320.88'

55% SHYSS: lt gy- m gy tr s&p, vf-fgr, sbrd - sbang, mod srt, sl firm - fri, p por, arg cmt, rr biot, tr glau
 30% SHALY SLTST: ltgy, sft- fri, sbbkly, aren- v slty tex, occ biot incl
 15% SS: wh-op occ lt gy, s&p, fgr, sbrd-sbang, mod w srt, firm, brit, sme lt-m gy cly

Some Clays to Surface

60% SHYSS: lt gy- m gy tr s&p, vf-fgr, sbrd - sbang, mod srt, sl firm - fri, p por, arg cmt, rr biot, tr glau
 20% SHALY SLTST: ltgy, sft- fri, sbbkly, aren- v slty tex, occ biot incl
 20% SS: wh-op occ lt gy, s&p, fgr, sbrd-sbang, mod w srt, firm, brit;tr dk gy cly



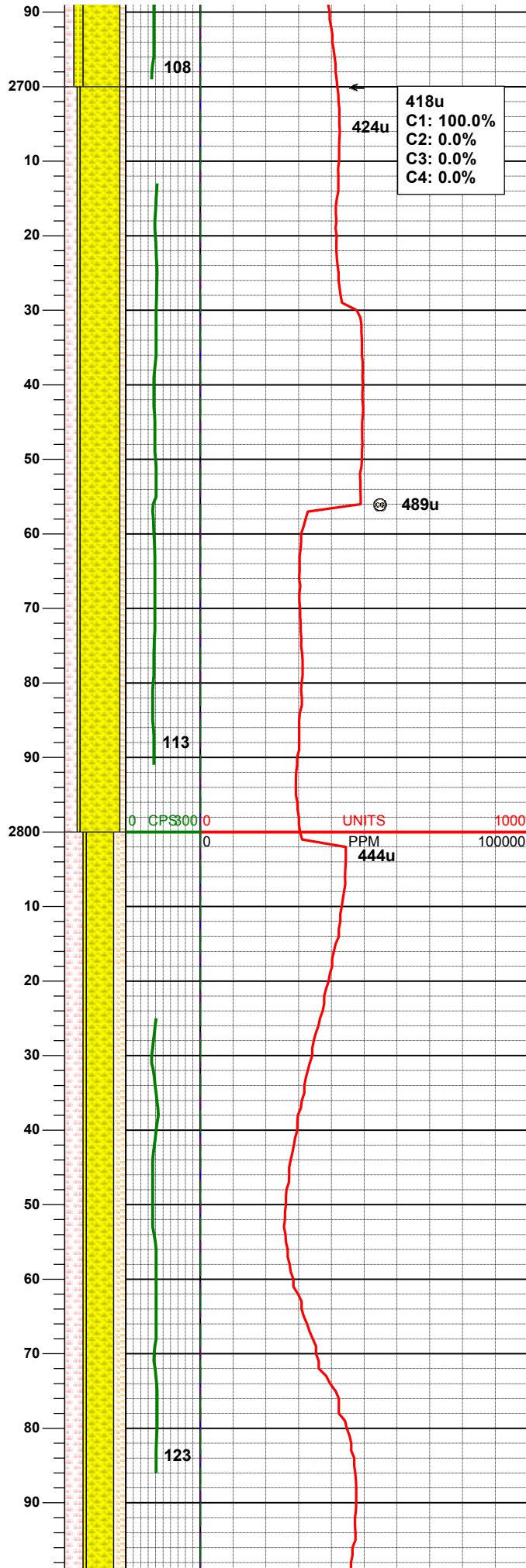
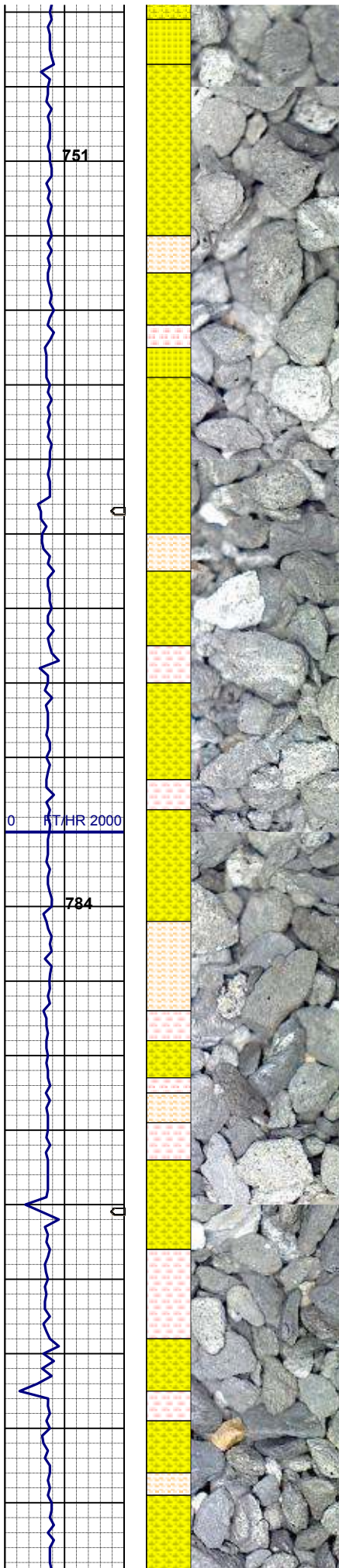
439u
 C1: 100.0%
 C2: 0.0%
 C3: 0.0%
 C4: 0.0%

MD 2510'
 INC 1.0°
 AZM 286.2°
 TVD 2509.84'

55% SHYSS: lt gy- m gy tr s&p, vf-fgr, sbrd - sbang, mod srt, sl firm - fri, p por, arg cmt, rr biot, tr glau
 30% SS: wh-op occ lt gy, s&p, fgr, sbrd-sbang, mod w srt, firm, brit;tr dk gy cly
 10% SLTST: ltgy-gy, p ind, sbbkly, gt tex
 5% SHALY SLTST: ltgy, sft- fri, sbbkly, aren- v slty tex, occ biot incl

Some Clays to Surface

60% SHYSS: lt gy- m gy tr s&p, vf-fgr, sbrd - sbang, mod srt, sl firm - fri, p por, arg cmt, rr biot, tr glau
 15% SS: wh-op occ lt gy, s&p, fgr, sbrd-sbang, mod w srt, firm, brit;tr dk gy cly
 15% SLTST: ltgy-gy, p ind, sbbkly, gt tex
 10% SHALY SLTST: ltgy, sft- fri, sbbkly, aren- v slty tex, occ biot incl

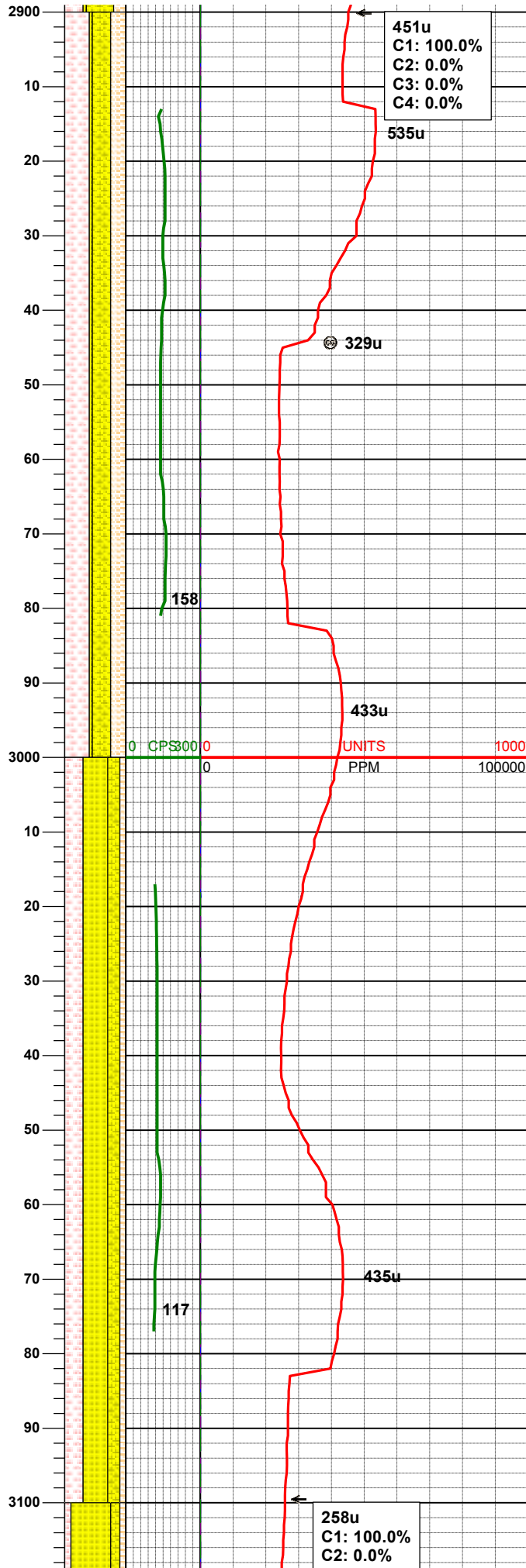
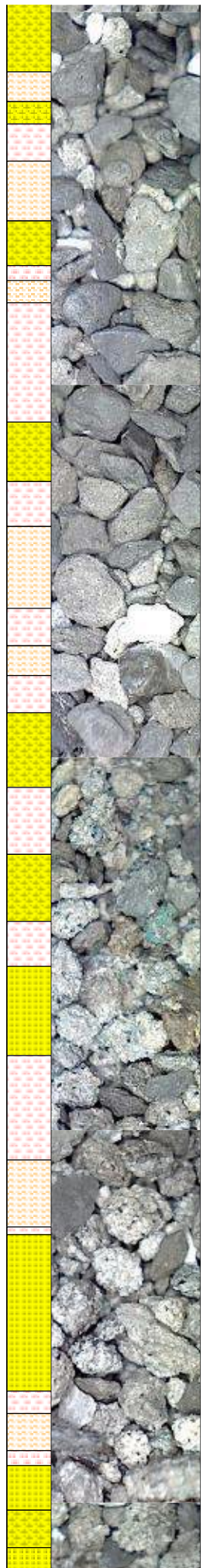
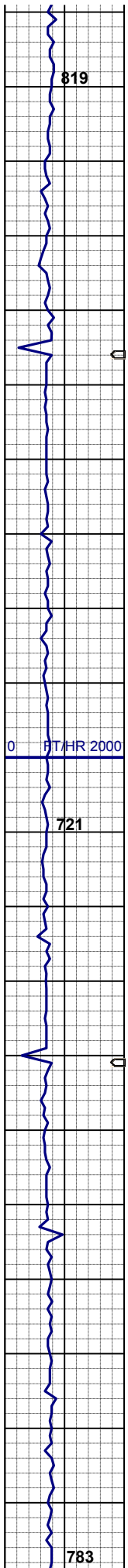


MD 2700'
 INC 0.8°
 AZM 267.9°
 TVD 2699.82'

65% SHYSS: lt gy- m gy tr s&p, vf-fgr, sbrd - sbang, mod srt, sl firm - fri, p por, arg cmt, rr biot, tr glau
 20% SLTST: ltgy-gy, p ind, sbbiky, gt tex
 10% SHALY SLTST: ltgy, sft- fri, sbbiky, aren- v slty tex, occ biot incl
 5% SS: wh-op occ lt gy, s&p, fgr, sbrd -sbang, mod w srt, firm, brit;tr dk gy cly

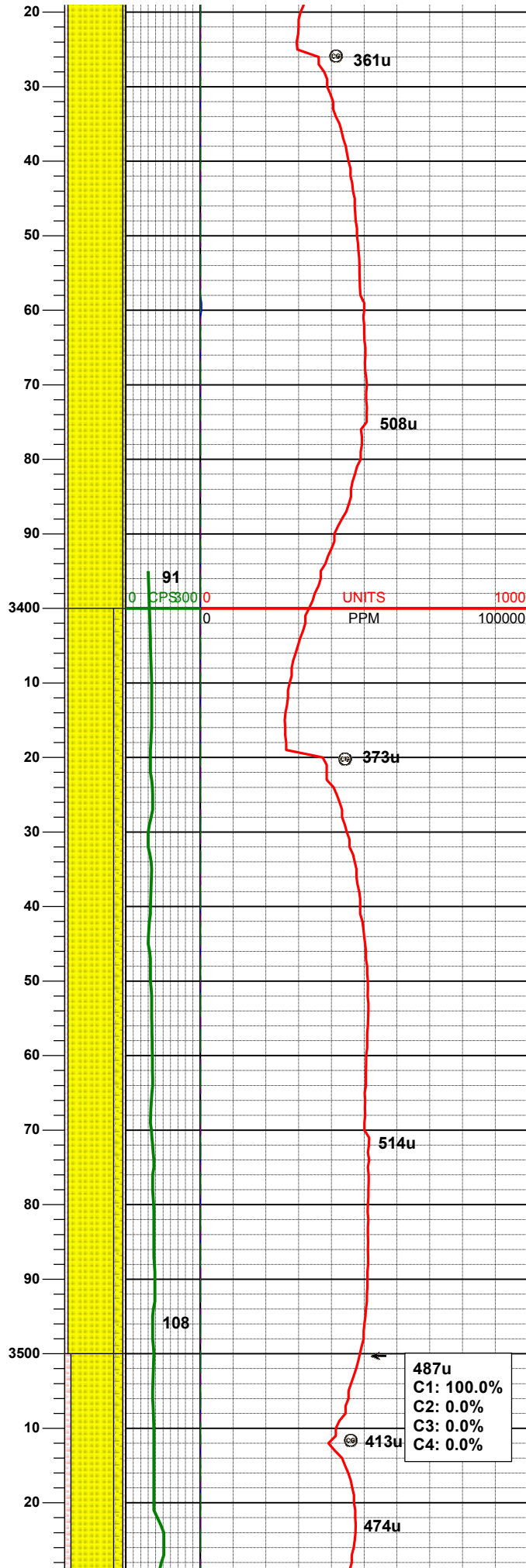
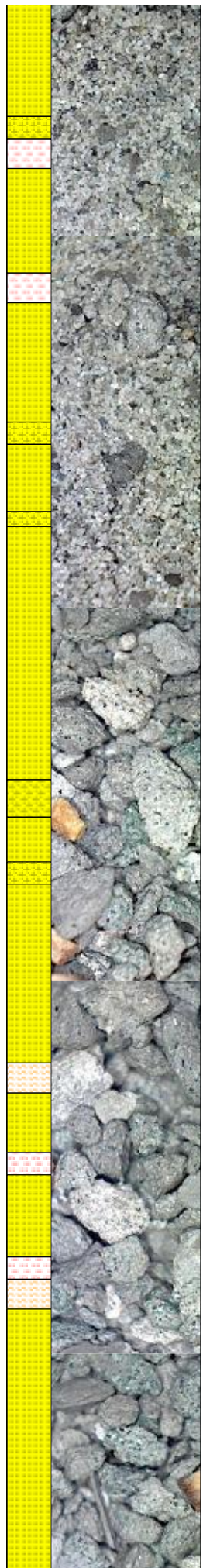
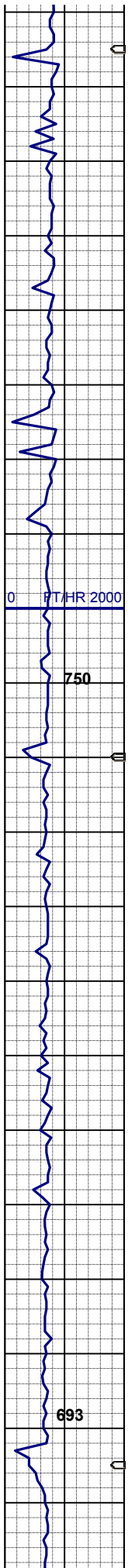
45% SHYSS: lt gy- m gy tr s&p, vf-fgr, sbrd - sbang, mod srt, sl firm - fri, p por, arg cmt, rr biot, tr glau
 30% SLTST: ltgy-gy, p ind, sbbiky, gt tex
 20% SHALY SLTST: ltgy, sft- fri, sbbiky, aren- v slty tex, occ biot incl
 5% SS: wh-op occ lt gy, s&p, fgr, sbrd -sbang, mod w srt, firm, brit;tr dk gy cly

MD 2889'
 INC 1.1°
 AZM 287.3°
 TVD 2888.80'



40% SHYSS: lt gy- m gy tr s&p, vf-fgr, sbrd - sbang, mod srt, sl firm - fri, p por, arg cmt, rr biot, tr glau
 30% SLTST: ltgy-gy, p ind, sbbly, gt tex
 25% SHALY SLTST: ltgy, sft- fri, sbbly, aren- v slty tex, occ biot incl
 5% SS: wh-op occ lt gy, s&p, fgr, sbrd -sbang, mod w srt, firm, brit;tr dk gy cly

40% SS: wh-op-trnsl, sme ltgy, s&p, fgr, sbrd-sbang, uncons, mod w srt, firm, brit
 30% SLTST: ltgy-gy, p ind, sbbly, gt tex
 20% SHYSS: lt gy- m gy tr s&p, vf-fgr, sbrd - sbang, mod srt, sl firm - fri, p por, arg cmt, rr biot, tr glau
 10% SHALY SLTST: ltgy, sft- fri, sbbly, aren- v slty tex, occ biot incl

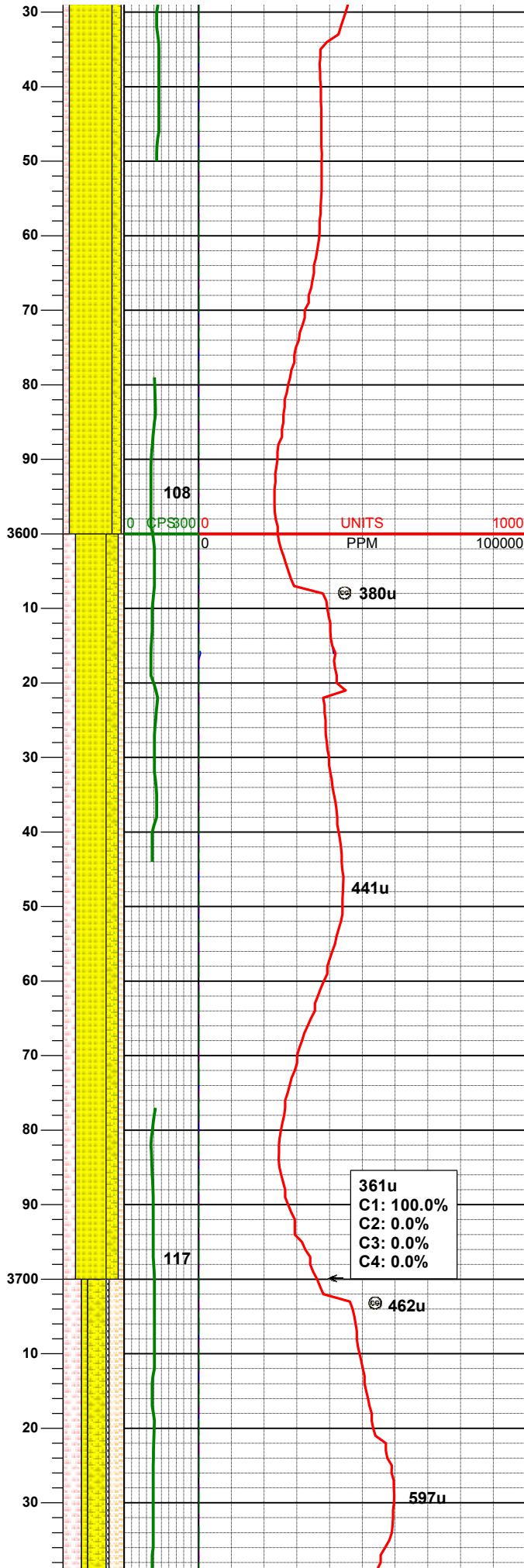
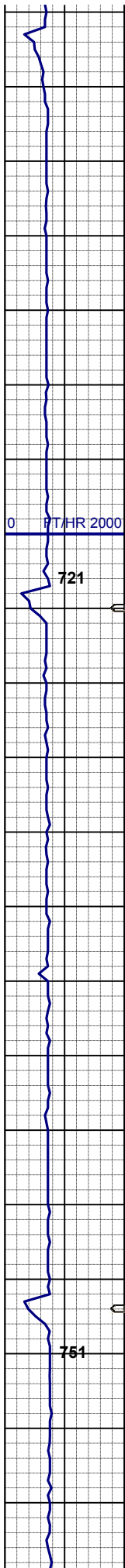


90% SS: wh-op-trnsl, sme ltgy, s&p, fgr, sbrd-sbang, uncons, mod w srt, firm, brit, abnt glau, abnt dk lit frag
 5% SHYSS: lt gy- m gy tr s&p, vf-fgr, sbrd - sbang, mod srt, sl firm - fri, p por, arg cmt, rr biot, tr glau
 5% SLTST: ltgy-gy, p ind, sbbkly, gt tex

75% SS: wh-op-trnsl-ltgy, s&p, fgr, sbrd-sbang, mod w srt, firm, brit, abnt glau, abnt dk lit frag
 15% SHYSS: lt gy- m gy tr s&p, vf-fgr, sbrd - sbang, mod srt, sl firm - fri, p por, arg cmt, abnt glau
 5% SLTST: ltgy-gy, p ind, sbbkly, gt tex
 5% SHALY SLTST: ltgy, sft- fri, sbbkly, aren- v slty tex

MD 3458'
INC 1.1°
AZM 255.6°
TVD 3457.67'

| |
|------------|
| 487u |
| C1: 100.0% |
| C2: 0.0% |
| C3: 0.0% |
| C4: 0.0% |

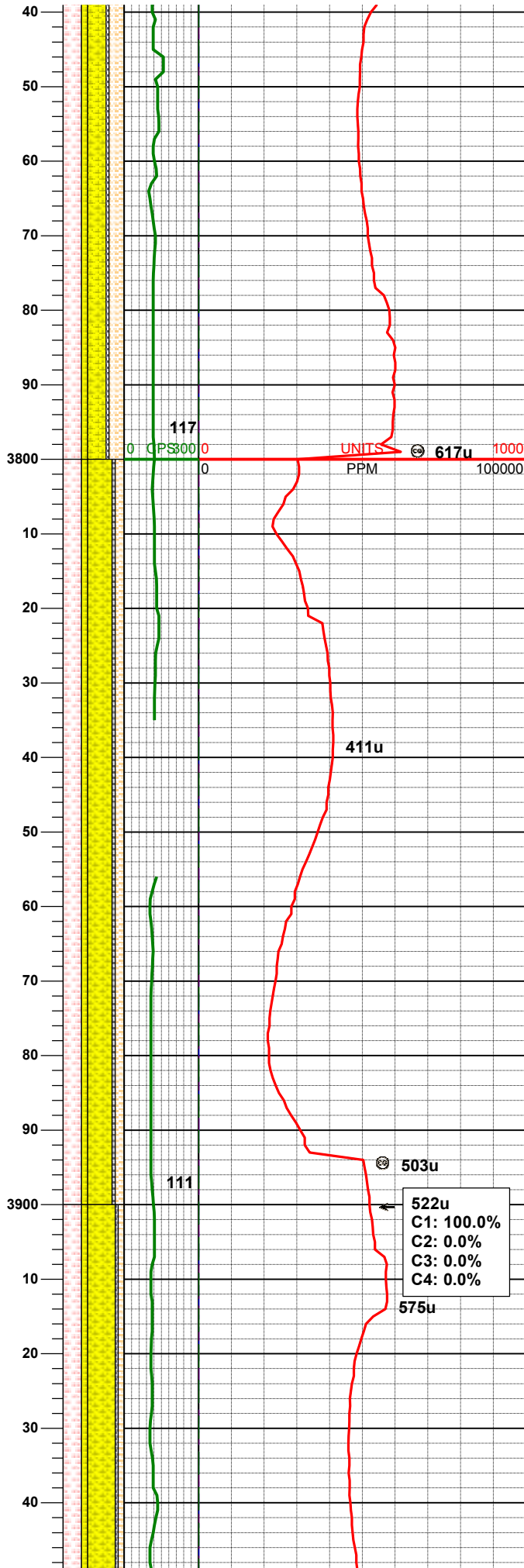
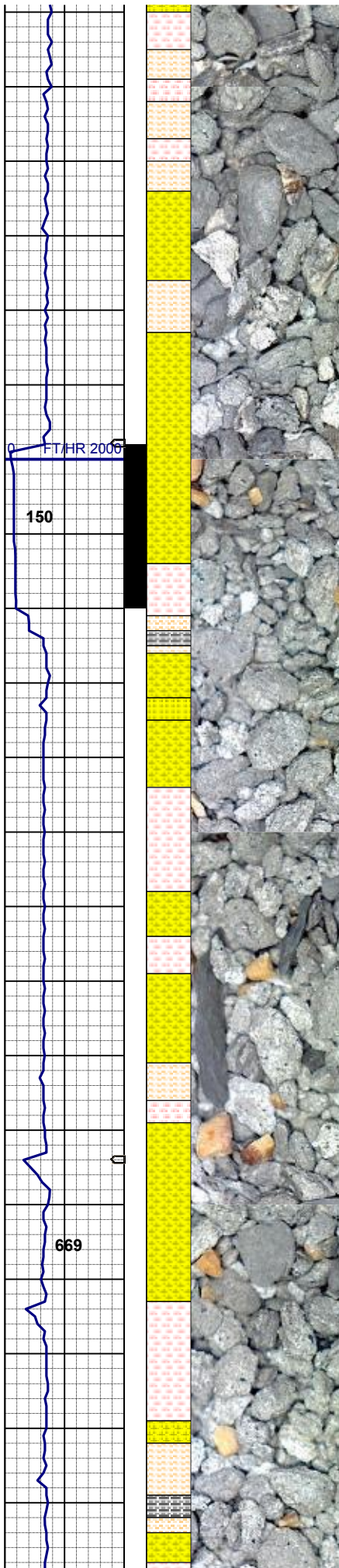


70% SS: wh-op-trnsl-ltgy, s&p, fgr, sbrd-sbang, mod w srt, firm, brit, abnt glau, abnt dk lit frag
 15% SHYSS: lt gy- m gy tr s&p, vf-fgr, sbrd - sbang, mod srt, sl firm - fri, p por, arg cmt, abnt glau
 10% SLTST: ltgy-gy, p ind, sbbkly, gt tex
 5% SHALY SLTST: ltgy, sft- fri, sbbkly, aren- v slty tex

50% SS: wh-op-trnsl-ltgy, s&p, fgr, sbrd-sbang, mod w srt, firm, brit, abnt glau, abnt dk lit frag
 20% SHYSS: lt gy- m gy tr s&p, vf-fgr, sbrd - sbang, mod srt, sl firm - fri, p por, arg cmt, abnt glau
 20% SLTST: ltgy-gy, p ind, sbbkly, gt tex
 10% SHALY SLTST: ltgy, sft- fri, sbbkly, aren- v slty tex

30% SHYSS: lt gy- m gy tr s&p, vf-fgr,

MD 3743'
 INC 2.0°
 AZM 288.3°
 TVD 3742.57'

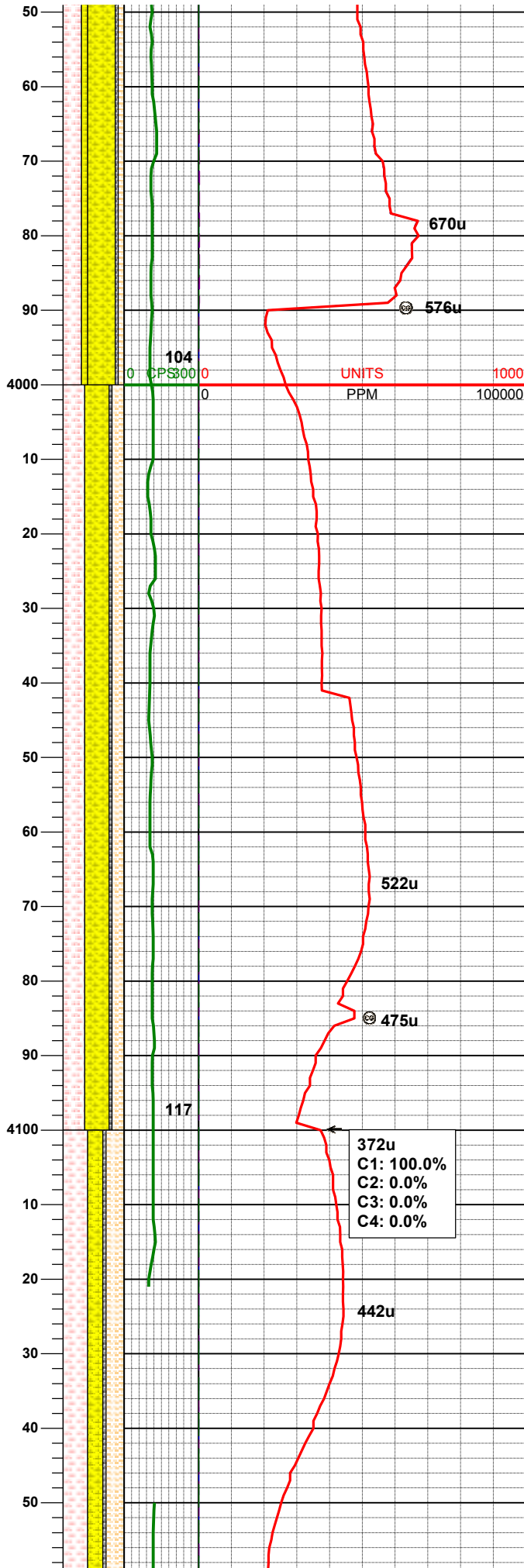
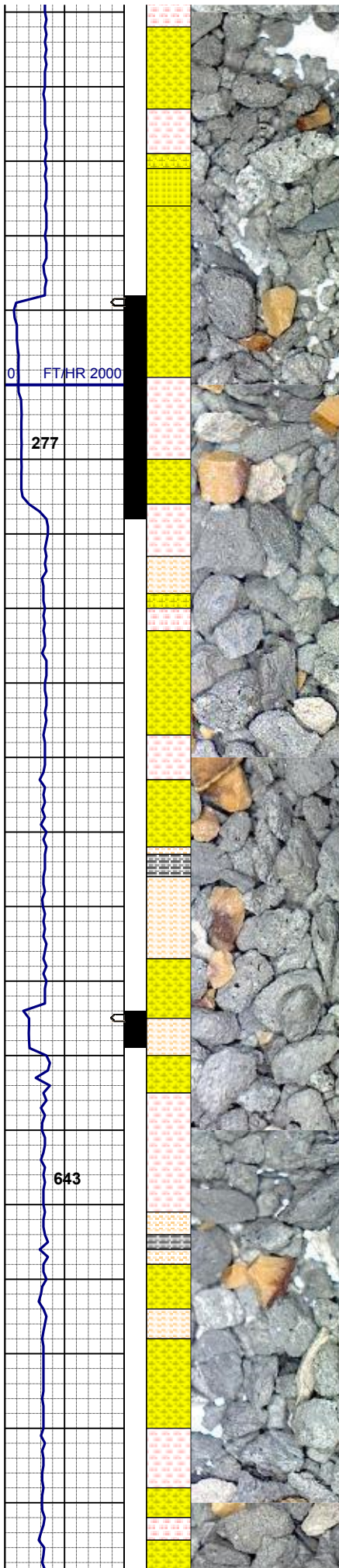


sbrd - sbang, mod srt, sl firm - fri, p
 por, arg cmt, tr glau
 30% SLTST: ltgy-gy, p ind, sbblky, gt
 tex
 25% SHALY SLTST: ltgy, sft- fri,
 sbblky, aren- v slty tex
 10% SS: wh-op-ltgy, s&p, fgr, sbrd-
 sbang, mod w srt, firm, brit, abnt glau,
 abnt dk lit frag
 5% SLTYSH: gy-dkgy, sft, sbblky-
 sbply, gt-rthy tex

40% SHYSS: lt gy- m gy tr s&p, vf-fgr,
 sbrd - sbang, mod srt, sl firm - fri, p
 por, arg cmt, tr glau
 30% SLTST: ltgy-gy, p ind, sbblky, gt
 tex
 15% SHALY SLTST: ltgy, sft- fri,
 sbblky, aren- v slty tex
 10% SS: wh-op-ltgy, s&p, fgr, sbrd-
 sbang, mod w srt, firm, brit, abnt glau,
 abnt dk lit frag
 5% SLTYSH: gy-dkgy, sft, sbblky-
 sbply, gt-rthy tex

45% SHYSS: lt gy- m gy tr s&p, vf-fgr,
 sbrd - sbang, mod srt, sl firm - fri, p
 por, arg cmt, tr glau
 30% SLTST: ltgy-gy, p ind, sbblky, gt
 tex

522u
 C1: 100.0%
 C2: 0.0%
 C3: 0.0%
 C4: 0.0%



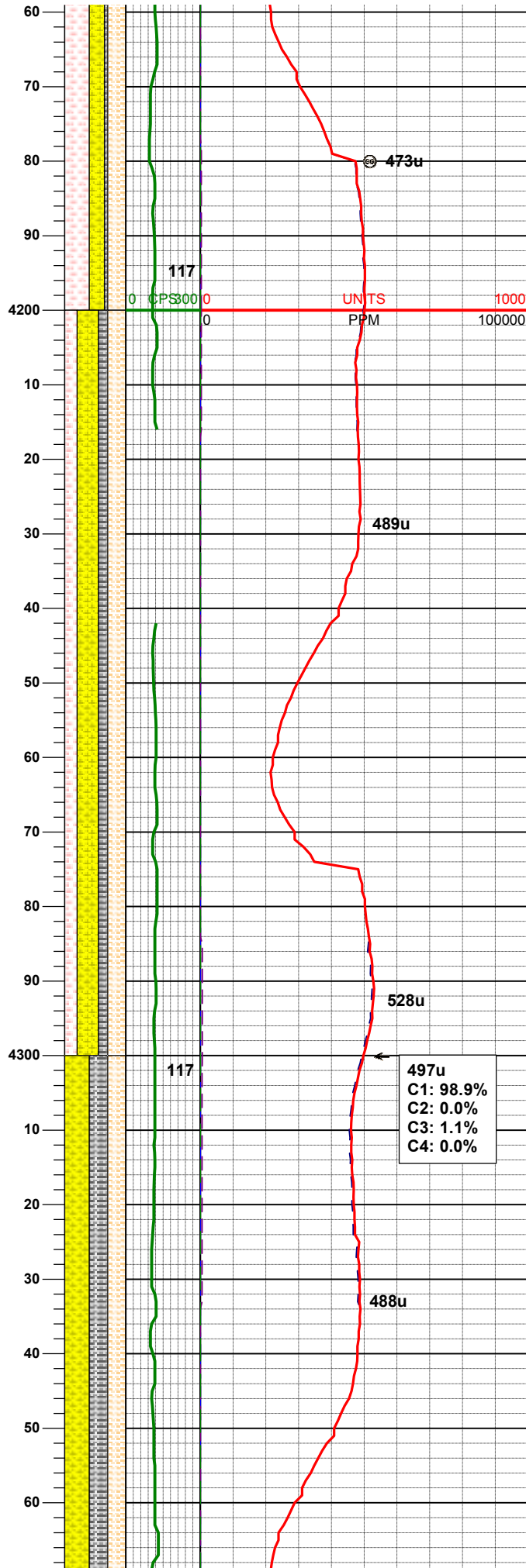
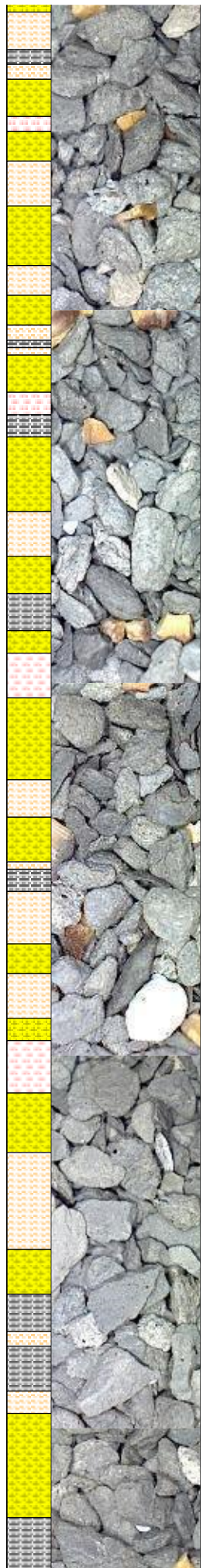
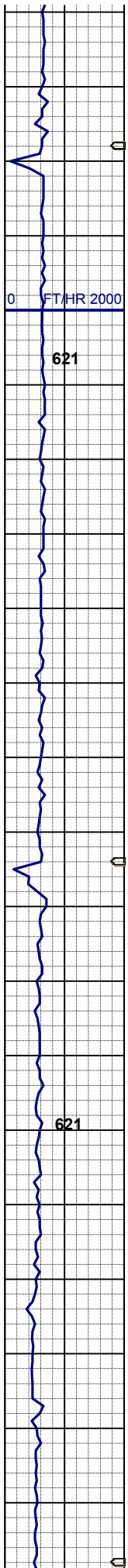
10% SHALY SLTST: ltgy, sft- fri, sbbkly, aren- v slty tex
 10% SS: wh-op-ltgy, s&p, fgr, sbrd-sbang, mod w srt, firm, brit, abnt glau, abnt dk lit frag
 5% SLTYSH: gy-dkgy, sft, sbbkly-sbply, gt-rthy tex

**MUD WT 9.1 VIS 28
 OUT WT 9.1 VIS 28**

**MD 4027'
 INC 2.3°
 AZM 132.2°
 TVD 4026.50'**

40% SHYSS: lt gy- m gy tr s&p, vf-fgr, sbrd - sbang, mod srt, sl firm - fri, p por, arg cmt, tr glau
 35% SLTST: ltgy-gy, p ind, sbbkly, gt tex
 20% SHALY SLTST: ltgy, sft- fri, sbbkly, aren- v slty tex
 5% SLTYSH: gy-dkgy, sft, sbbkly-sbply, gt-rthy tex

40% SLTST: ltgy-gy, p ind, sbbkly, gt tex
 30% SHALY SLTST: ltgy, sft- fri, sbbkly, aren- v slty tex
 25% SHYSS: lt gy- m gy tr s&p, vf-fgr, sbrd - sbang, mod srt, sl firm - fri, p por, arg cmt
 5% SLTYSH: gy-dkgy, sft, sbbkly

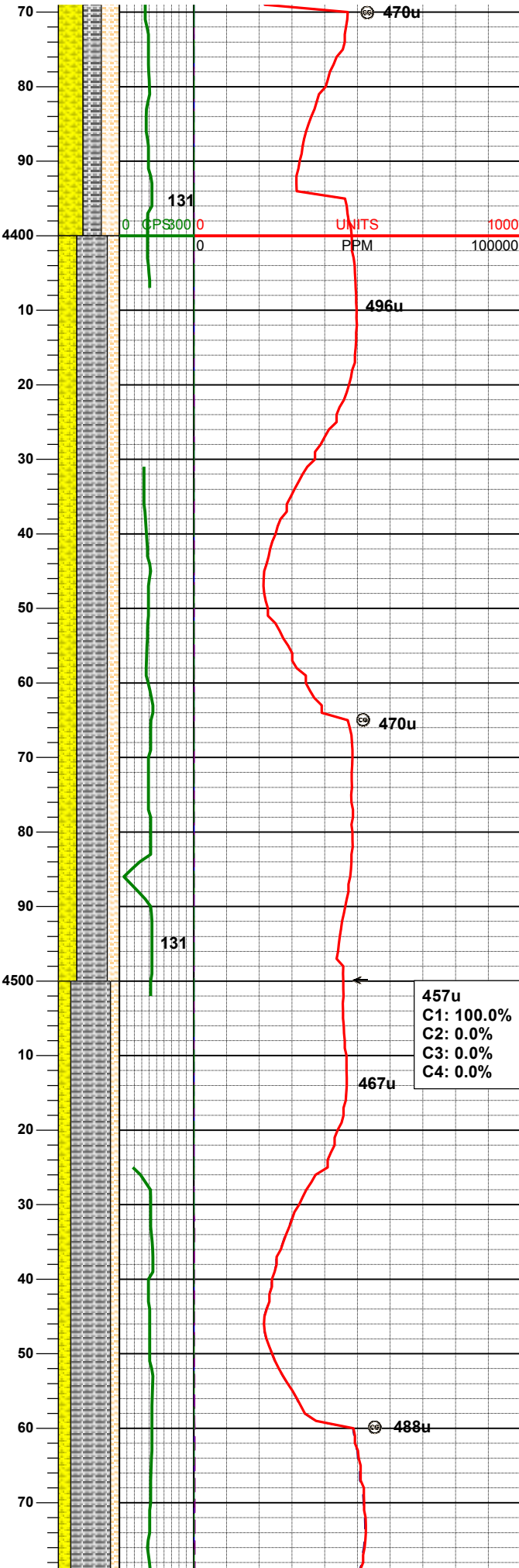
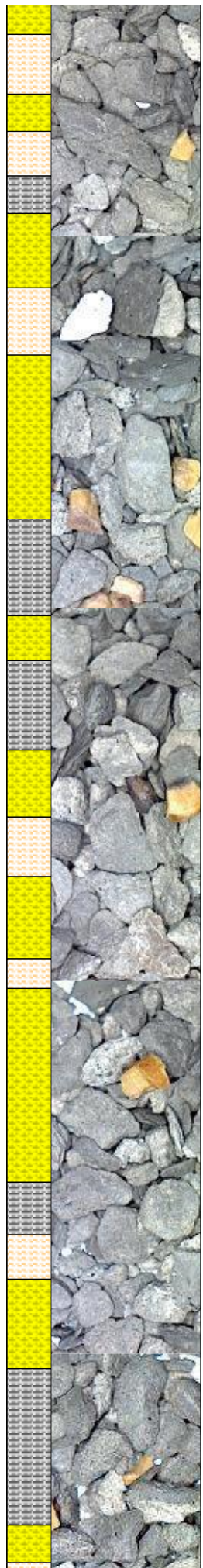
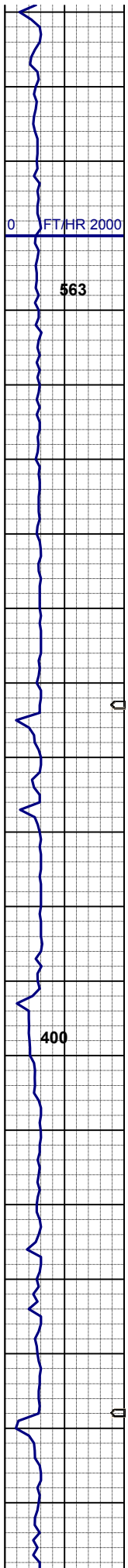


3% SLTST: It gy-urgy, slt, sbblky-sbply, gt-rthy tex

35% SHYSS: It gy- m gy tr s&p, vf-fgr, sbrd - sbang, mod srt, sl firm - fri, p por, arg cmt
 30% SHALY SLTST: Itgy, sft- fri, sbblky, aren- v slty tex
 20% SLTST: Itgy-gy, p ind, sbblky, gt tex
 15% SLTYSH: gy-dkgy, sft, sbblky-sbply, gt-rthy tex

MD 4312'
INC 1.9°
AZM 100.2°
TVD 4311.32'

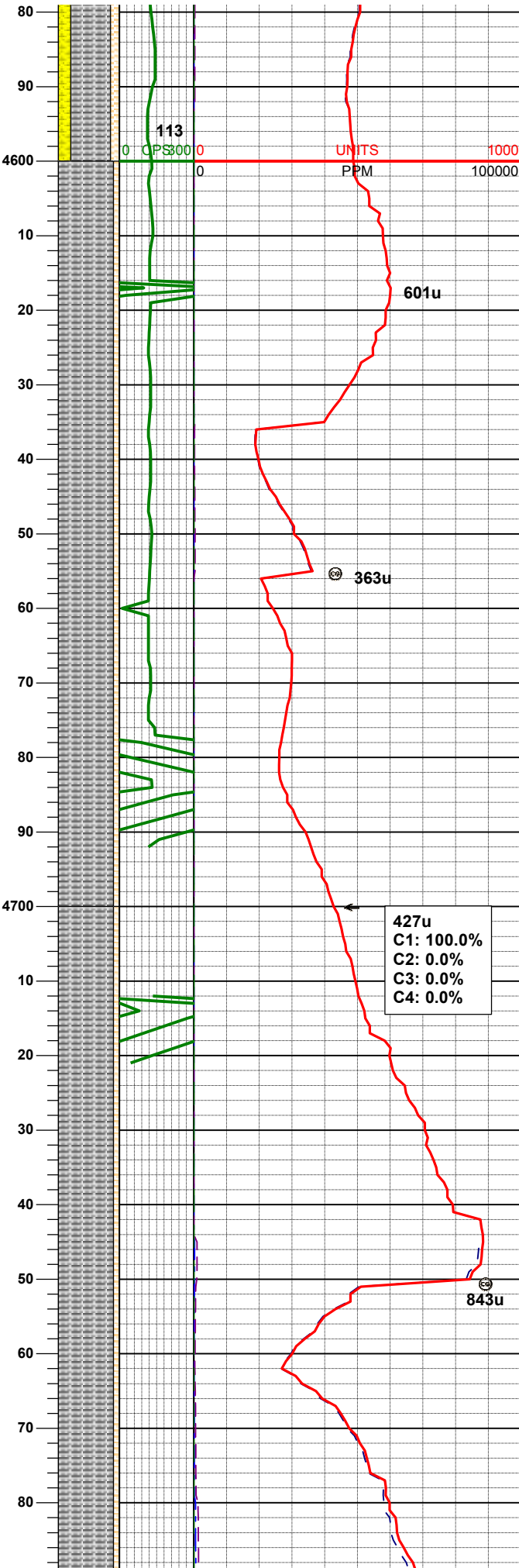
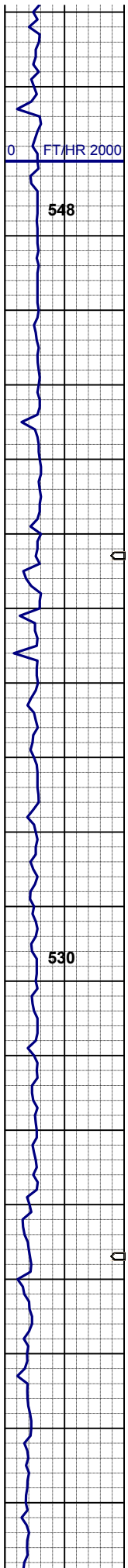
40% SHYSS: It gy- m gy tr s&p, vf-fgr, sbrd - sbang, mod srt, sl firm - fri, p por, arg cmt
 30% SHALY SLTST: Itgy, sft- fri, sbblky, aren- v slty tex
 30% SLTYSH: gy-dkgy, sft, sbblky-sbply, gt-rthy tex



50% SLTYSH: gy-dkgy, sft, sbblky-sbply, gt-rthy tex
 30% SHYSS: lt gy- m gy tr s&p, vf-fgr, sbrd - sbang, mod srt, sl firm - fri, p por, arg cmt
 20% SHALY SLTST: ltgy, sft- fri, sbblky, aren- v slty tex

457u
 C1: 100.0%
 C2: 0.0%
 C3: 0.0%
 C4: 0.0%

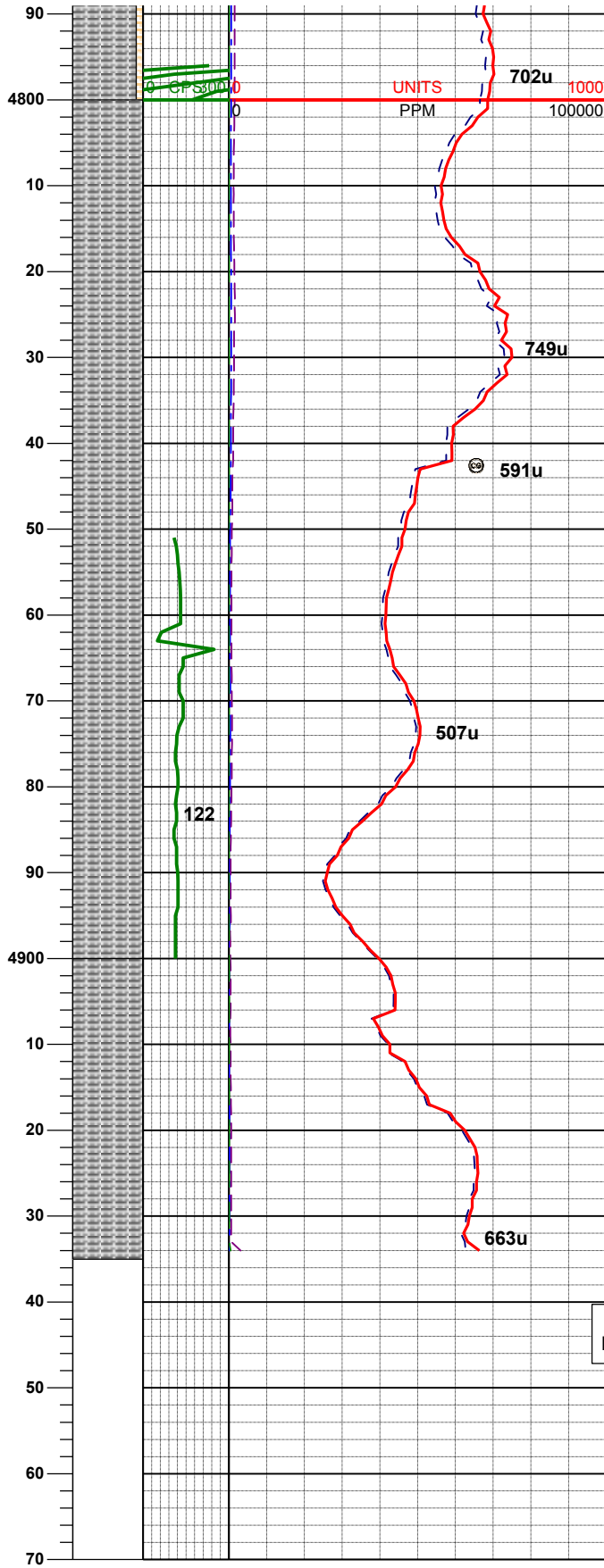
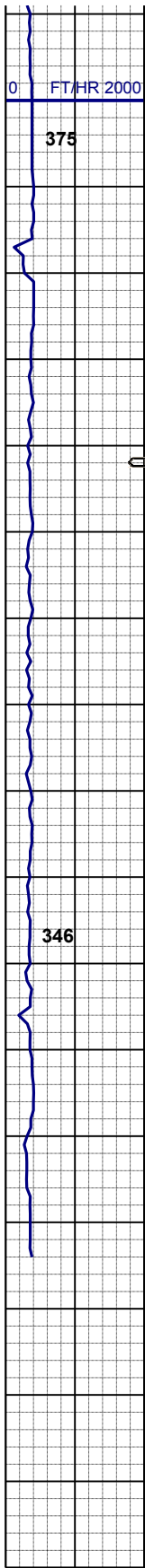
65% SLTYSH: gy-dkgy, sft, sbblky-sbply, gt-rthy tex
 20% SHYSS: lt gy- m gy tr s&p, vf-fgr, sbrd - sbang, mod srt, sl firm - fri, p por, arg cmt
 15% SHALY SLTST: ltgy, sft- fri, sbblky, aren- v slty tex



MD 4596'
 INC 1.2°
 AZM 53.1°
 TVD 4595.22'

90% SLTYSH: gy-dkgy, sft, sbbkly-sbply, gt-rthy tex
 10% SHALY SLTST: Itgy, sft- fri, sbbkly, aren- v slty tex

90% SLTYSH: gy-dkgy, sft, sbbkly-sbply, gt-rthy tex
 10% SHALY SLTST: Itgy, sft- fri, sbbkly, aren- v slty tex



100% SLTYSH: gy-dkgy, sft, sbblky-sbply, gt-rthy tex

MD 4881'
INC 1.2°
AZM 54.7°
TVD 4880.16'

100% SLTYSH: gy-dkgy, sft, sbblky-sbply, gt-rthy tex

MUD WT 9.5 VIS 39
OUT WT 9.5 VIS 39

TOOH @ 4,935' MD For Tools
22:29 HRS 08/10/2013

Log Continues on
Rohn State LD04-64HN HORZ.Lplot