

LOG created using Lplot VH Version 3.0, November 24, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

OPERATOR: NOBLE ENERGY INC
WELL: TIMBRO STATE LD16-68-1HN
LOCATION: NENE SEC 16 T9N R58W
COUNTY: WELD
STATE: COLORADO
SPOT: 682' FNL; 290' FEL
ELEVATION: 4724' GR; 4748' KB
FIELD: WILDCAT
SPUD DATE: 11/17/2013
TD DATE: 11/19/2013
DATES LOGGED: 11/18/2013 - 11/19/2013
DEPTHS LOGGED: 1265' - 4945' MD
LOGGERS: LAURA KELLOGG; CONOR PESICKA
DRILLING FLUID: LSND
DRILLING RIG: H&P 273
API: 05-123-37493
LOG TYPE: VERTICAL
SCALE: 1:240 (5 inches per 100 feet)
REMARKS: WELLSITE GEOLOGIC SERVICES
 PROVIDED BY COLUMBINE LOGGING INC.

LITHOLOGIES



Sandstone



Shaly Sandstone



Silty Shale

ENGINEERING SYMBOLS



Connection



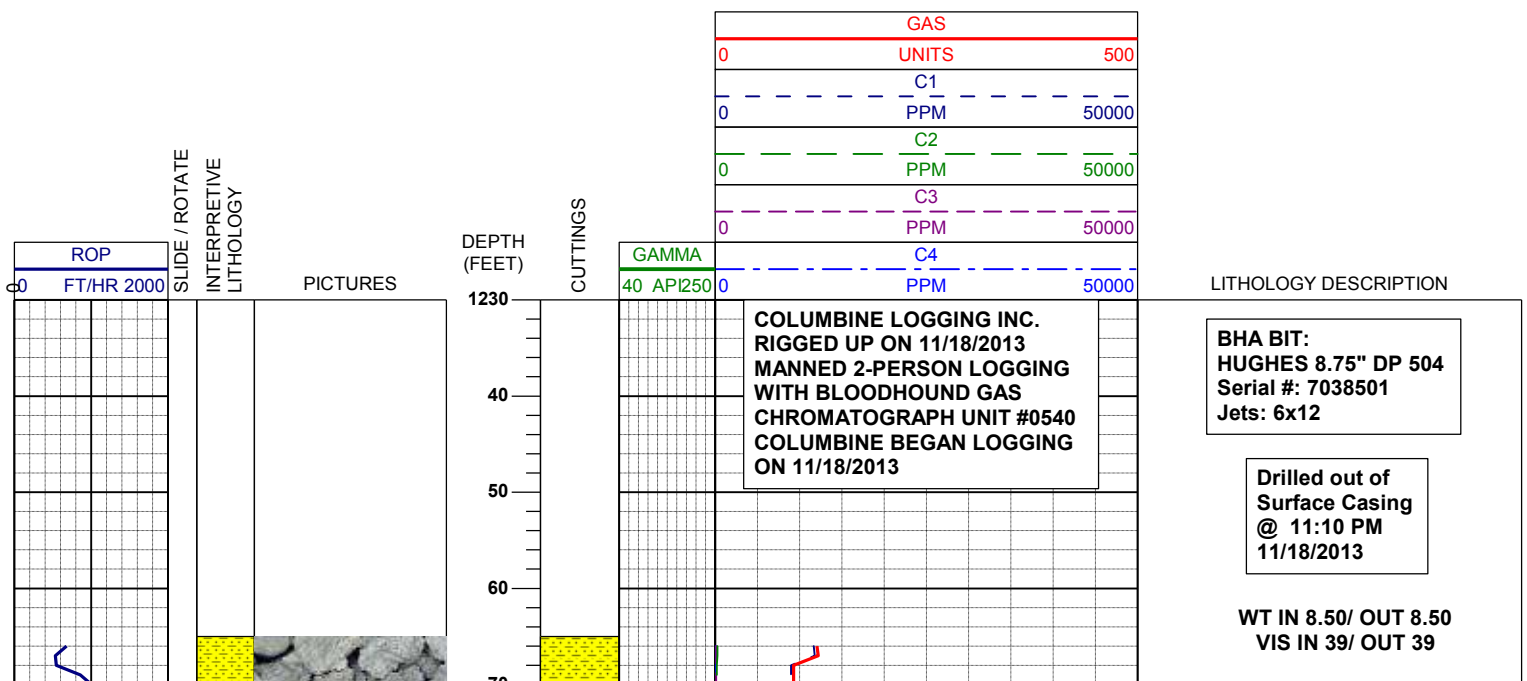
Connection Gas

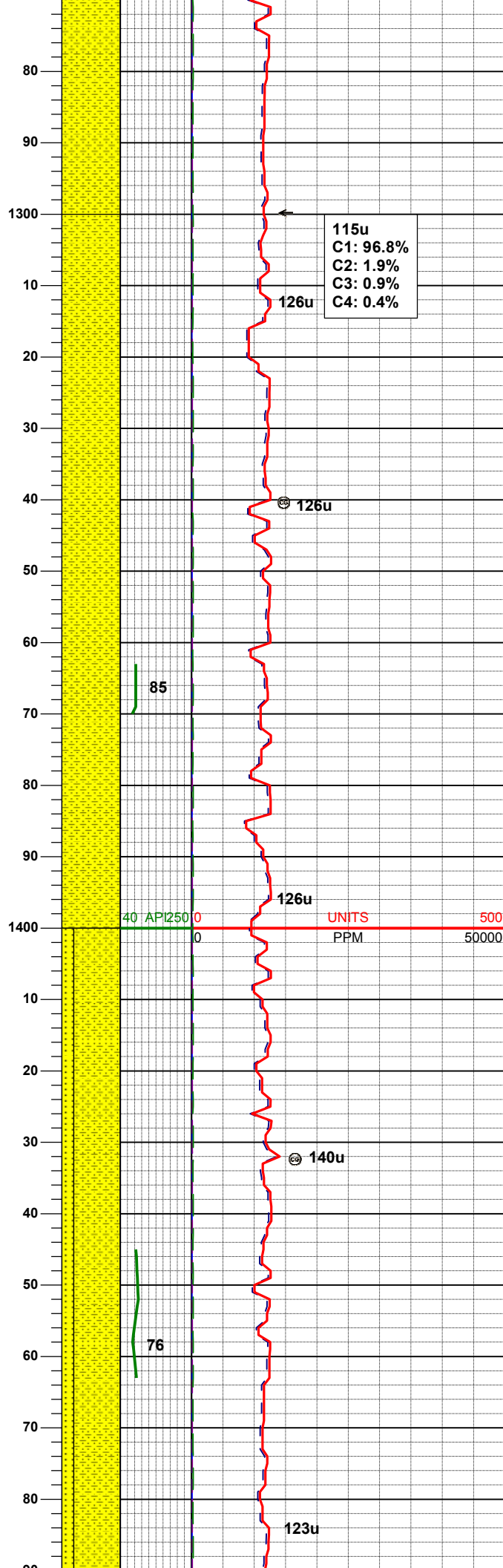
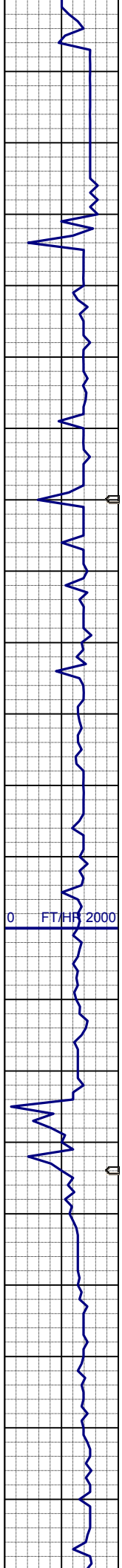


Arrow



Midnight Depth





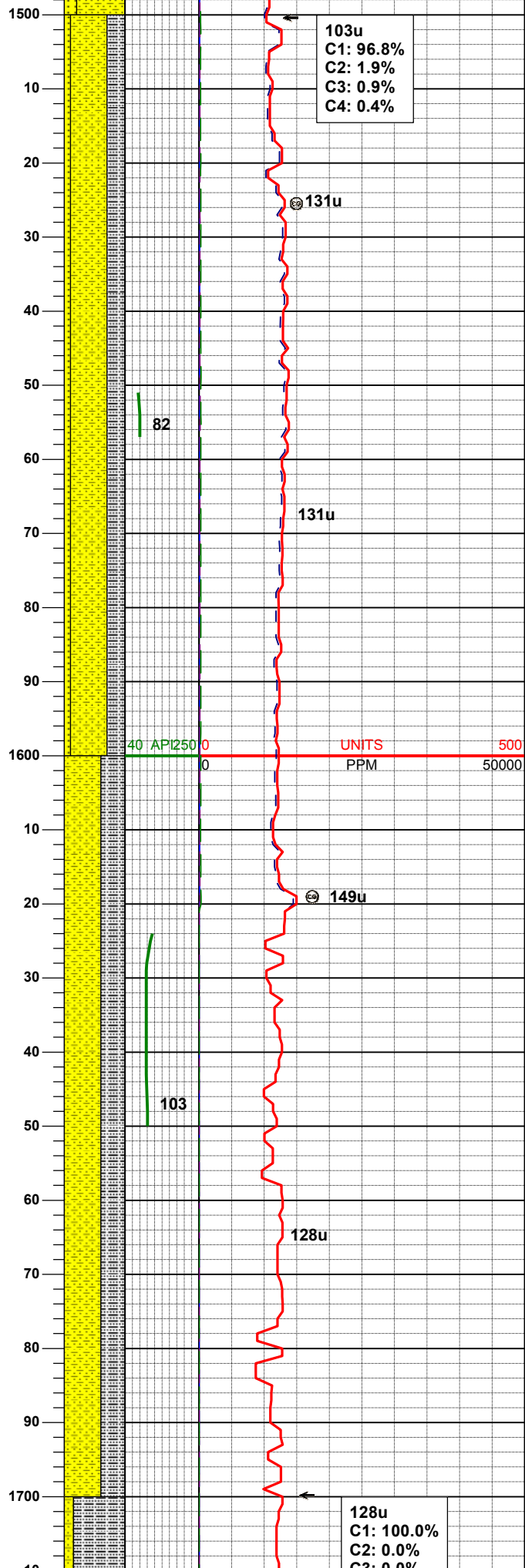
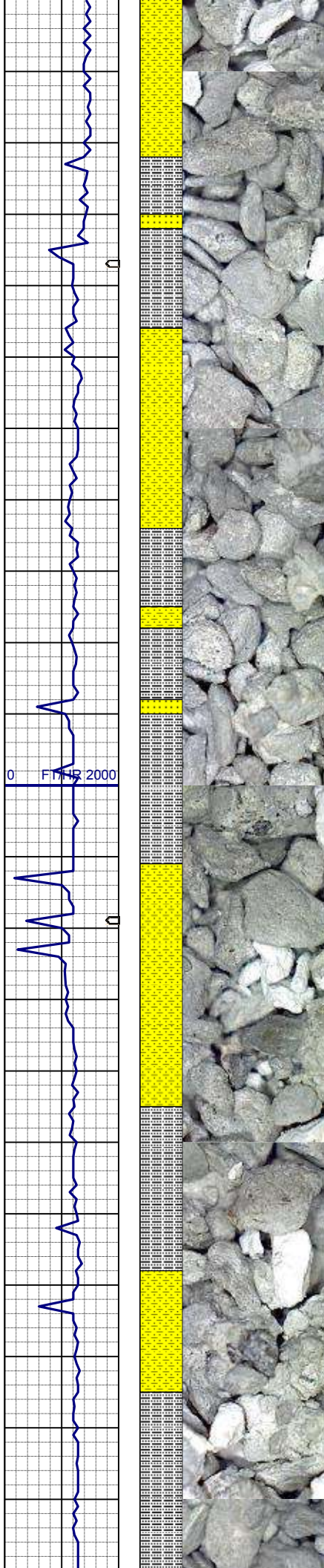
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, smwtrndd, mod srt, p por, arg cmt, tr lt lit frag, tr glau

115u
C1: 96.8%
C2: 1.9%
C3: 0.9%
C4: 0.4%

SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, smwtrndd, mod srt, p por, arg cmt, tr lt lit frag, tr glau

MD	1372'
INC	0.8°
AZM	312.7°
TVD	1371.98'

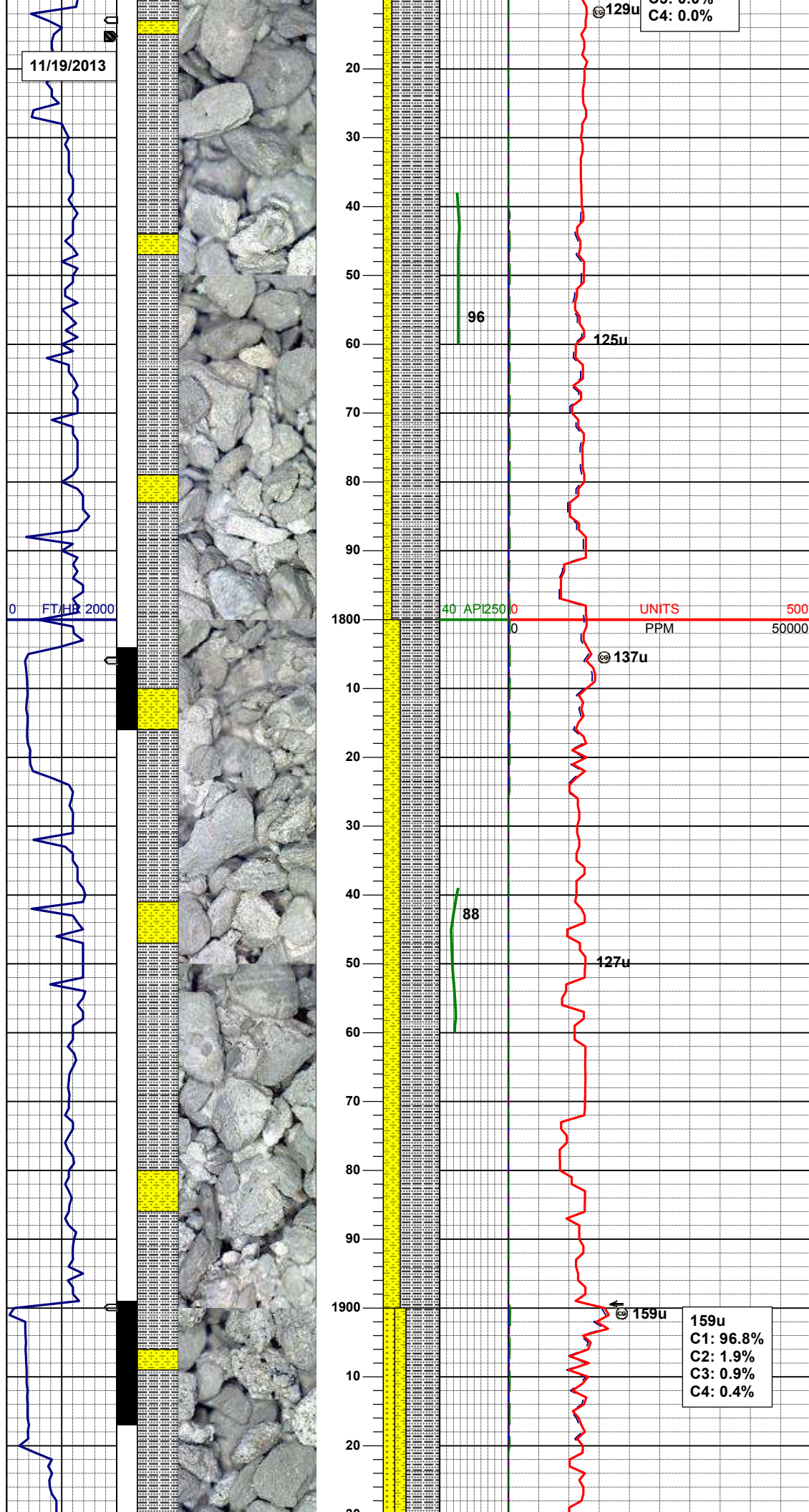
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, smwtrndd, mod srt, p por, arg cmt, tr lt lit frag, tr glau
SS: ltgy-wh-op, sbang-ang, v fri, fgr, rr mgr, p rdd, psrt, p por, arg cmt, tr lit frag, sme glau



SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, smwtrnnd, mod srt, p por, arg cmt, tr lt lit frag, tr glau
SLTYSH: gy, sme ltgy, sbblky-sbplty, sft, gt-sdy tex, arg cmt
SS: ltgy-wh-op, sbang-ang, v fri, fgr, rr mgr, p rdd, psrt, p por, arg cmt, tr lit frag, sme glau

MD	1558'
INC	0.8°
AZM	345.8°
TVD	1557.96'

SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, wrnnd, mod srt, p por, arg cmt, tr lt lit frag, tr glau, tr ss
SLTYSH: gy, sme ltgy, sbblky-sbplty, sft, gt-sdy tex, arg cmt



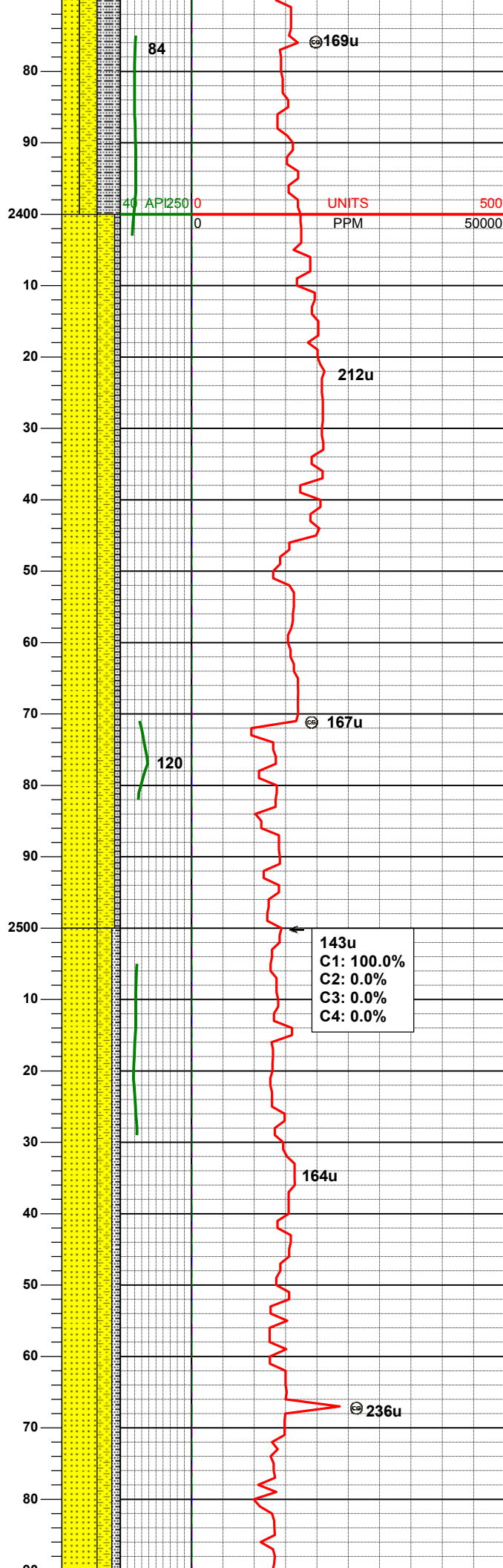
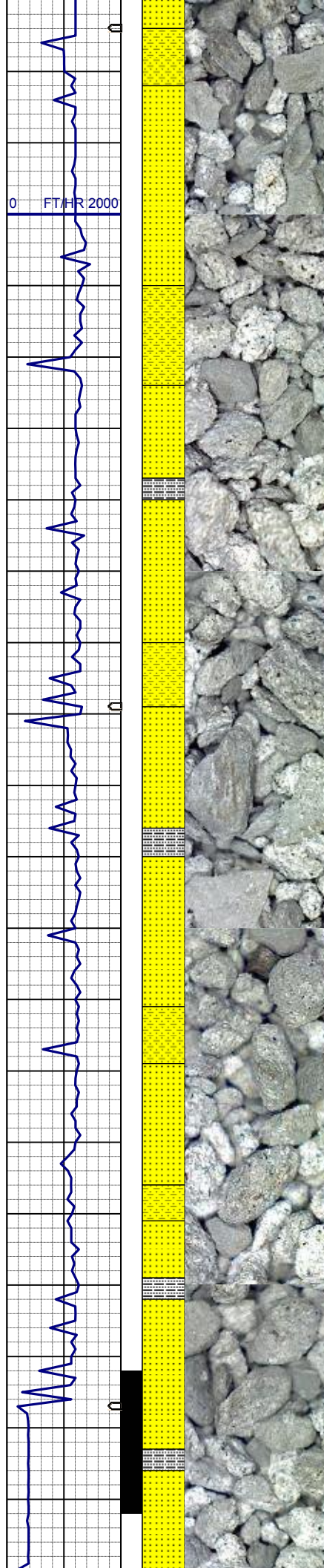
MD	1744'
INC	0.7°
AZM	7.2°
TVD	1743.95'

SLTYSH: gy, sme ltgy, sbblky-sbplty,
sft, gt-slty tex, arg cmt
SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, wrndd, mod srt, p por, arg cmt, tr
lt lit frag, tr glau, tr len ss

MD	1839'
INC	0.6°
AZM	64.0°
TVD	1838.94'

SLTYSH: gy, sme ltgy, sbblky-sbplty,
sft, gt-slty tex, arg cmt
SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, wrndd, mod srt, p por, arg cmt, tr
lt lit frag, tr glau, tr len ss

MD	1904'
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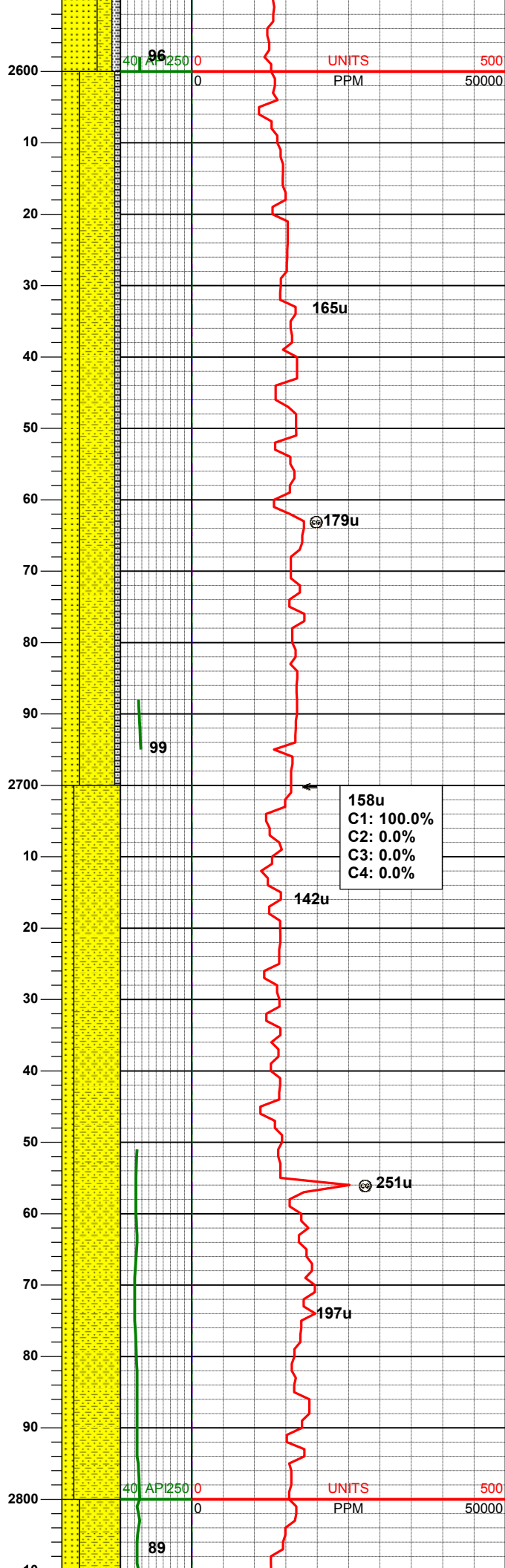
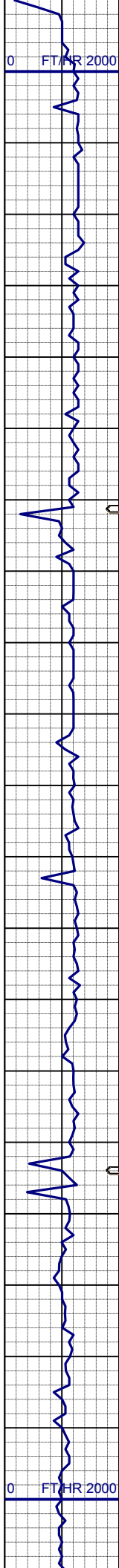


MD 2408'
INC 9.1°
AZM 144.3°
TVD 2404.34'

SS: ltgy-wh-op, gy shy incl, sbang-ang, v fri, fgr, modrnrd, psrt, p por, arg cmt, tr lit frag, sme glau
SHYSS: ltgy-gy, rr s&p, sbang, v fri, vfgr, smwtrndd, mod srt, p por, arg cmt, tr lt lit frag
SLTYSH: gy-ltgy, rr dkgy, sbblky-sbply, sft, gt-slty tex, arg cmt

MD 2502'
INC 8.5°
AZM 143.6°
TVD 2497.23'

SS: ltgy-wh-op, gy shy incl, sbang-ang, v fri, fgr, wrndd, modsr, v p por, arg cmt, tr lit frag, sme glau
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, wrndd, w srt, p por, arg cmt, tr lt lit frag
SLTYSH: gy-ltgy, rr dkgy, sbblky-sbply, sft, gt-slty tex, arg cmt



MD 2597'
INC 9.8°
AZM 141.8°
TVD 2591.02'

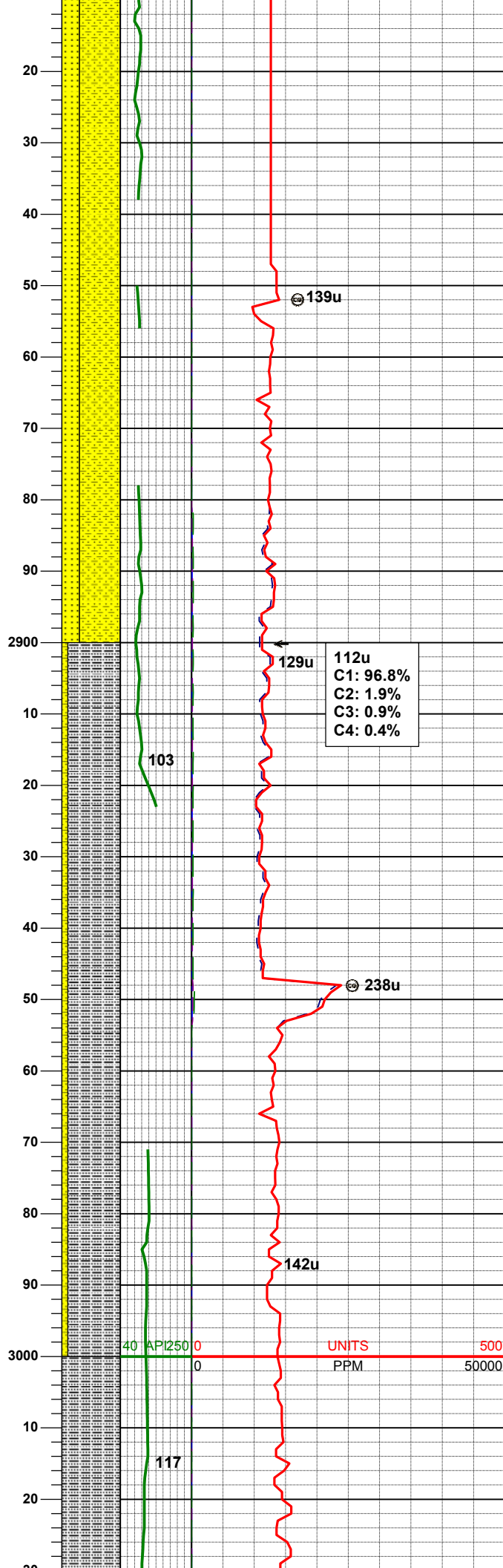
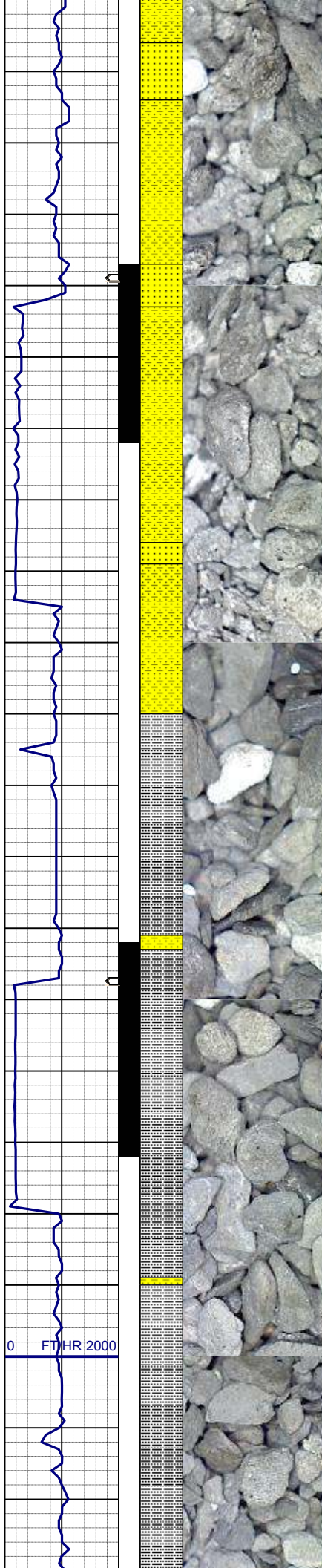
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, wrnnd, w srt, p por, arg cmt, tr lit frag, ss len incl
SS: ltgy-wh-op, gy shy incl, sbang-ang, v fri, fgr, modrnnd, modsrt, v p por, arg cmt, tr lit frag, sme glau
SLTYSH: gy-ltgy, rr dkgy, sbblky-sbply, sft, gt-slty tex, arg cmt

MD 2692'
INC 9.7°
AZM 142.4°
TVD 2684.65'

158u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%

SHYSS: ltgy-gy, s&p, sbang, v fri, vfgr, wrnnd, w srt, p por, arg cmt, tr lit frag
SS: ltgy-wh-op, sme gy, sbang-ang, v fri, fgr, modrnnd, modsrt, v p por, arg cmt, tr lit frag, tr glau

MD 2787'
INC 8.8°
AZM 141.1°
TVD 2778.41'

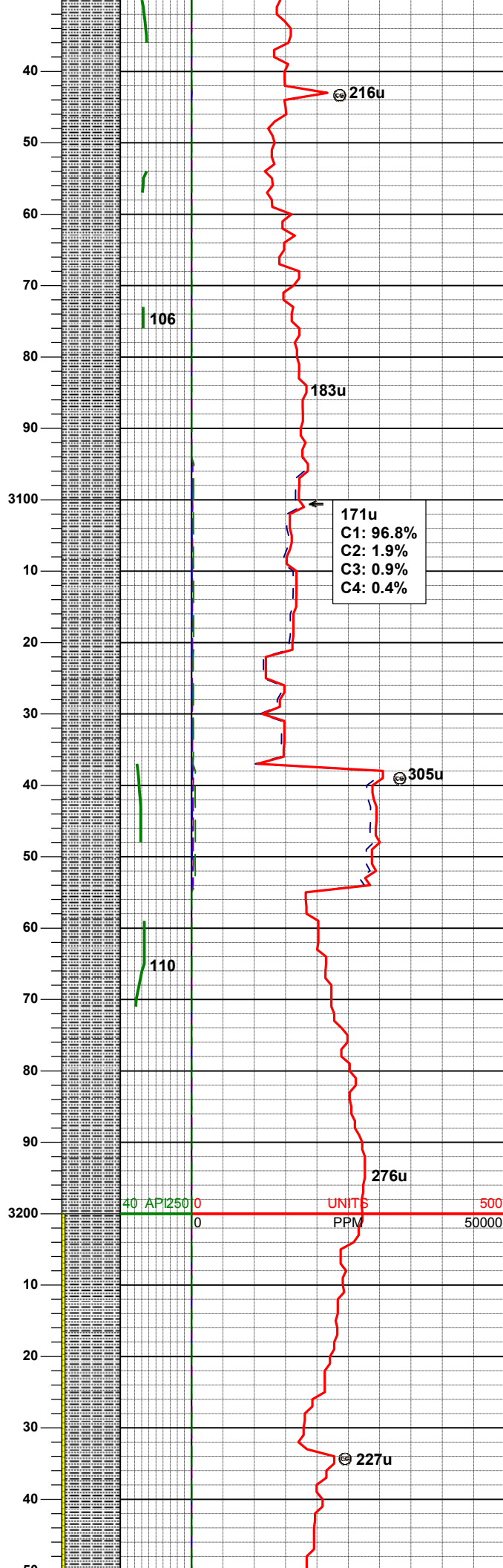
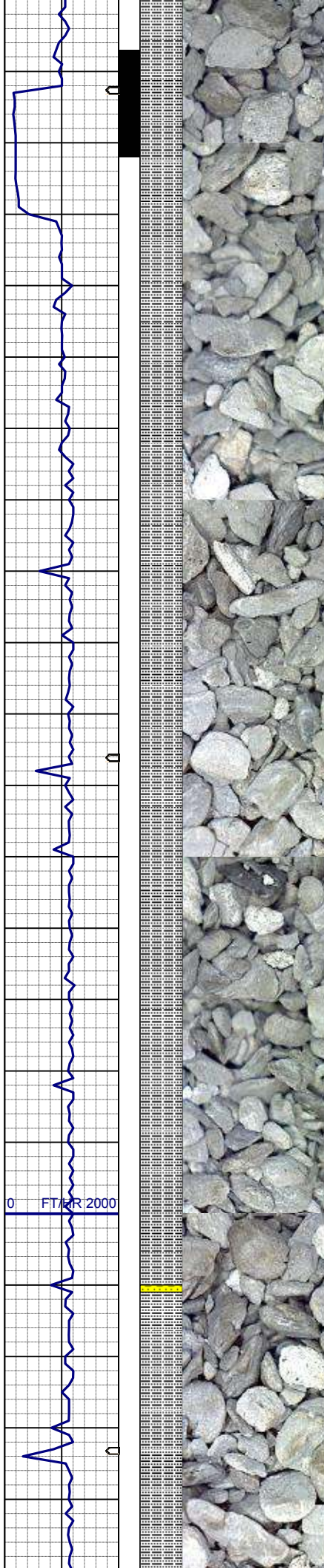


WT IN 8.70/ OUT 8.70
VIS IN 28/ OUT 28
SHYSS: ltgy-gy, s&p, sbang, v fri,
vfgr, wrndd, w srt, p por, arg cmt, tr lit
frag
SS: ltgy-wh-op, sme gy, sbang-ang, v
fri, fgr, modrndd, modsrt, v p por, arg
cmt, tr lit frag, tr glau

MD	2882'
INC	7.5°
AZM	138.9°
TVD	2872.45'

SLTYSH: ltgy-gy, sme dkgy, sbblky-
sbply, sft, gt-sltly tex, arg cmt
SHYSS: ltgy-gy, s&p, sbang, v fri,
vfgr, wrndd, w srt, p por, arg cmt, tr lit
frag

MD	2977'
INC	9.0°
AZM	150.3°
TVD	2966.47'



SLTYSH: ltgy-gy, sme dkgy, sbblky-sbply, sft, gt-slty tex, arg cmt, tr dism pyr

MD	3071'
INC	9.9°
AZM	144.7°
TVD	3059.20'

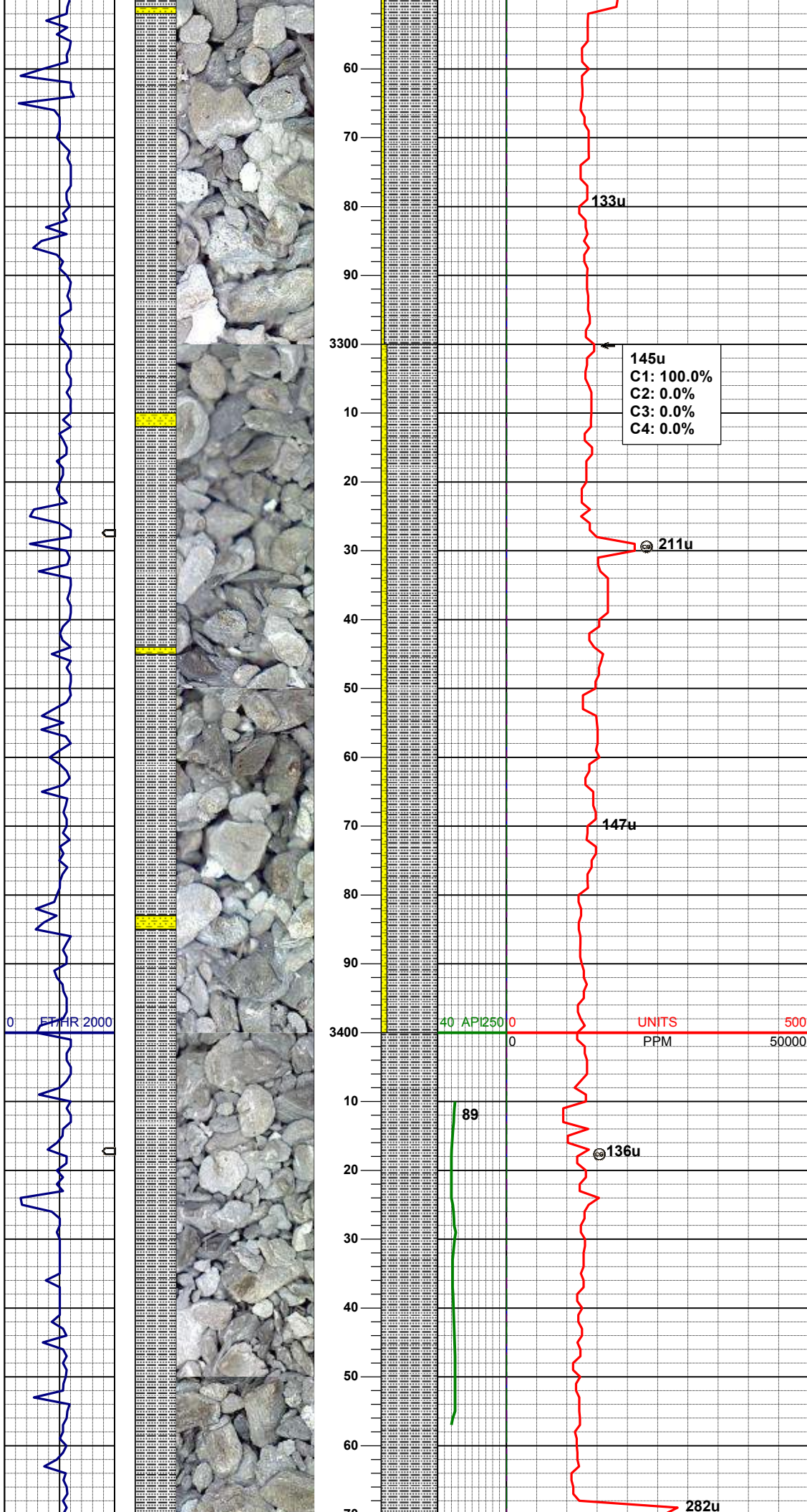
171u
C1: 96.8%
C2: 1.9%
C3: 0.9%
C4: 0.4%

SLTYSH: ltgy-gy, sme dkgy, sbblky-sbply, sft, gt-slty tex, arg cmt, tr dism pyr

MD	3166'
INC	10.2°
AZM	144.0°
TVD	3152.74'

WT IN 8.70/ OUT 8.70
VIS IN 28/ OUT 28

SLTYSH: ltgy-gy, sme dkgy, sbblky-sbply, sft, gt-slty tex, arg cmt



SHYSS: ltgy-gy, s&p, sbang, v fri,
vfgr, wrndd, w srt, p por, arg cmt, tr lit
frag

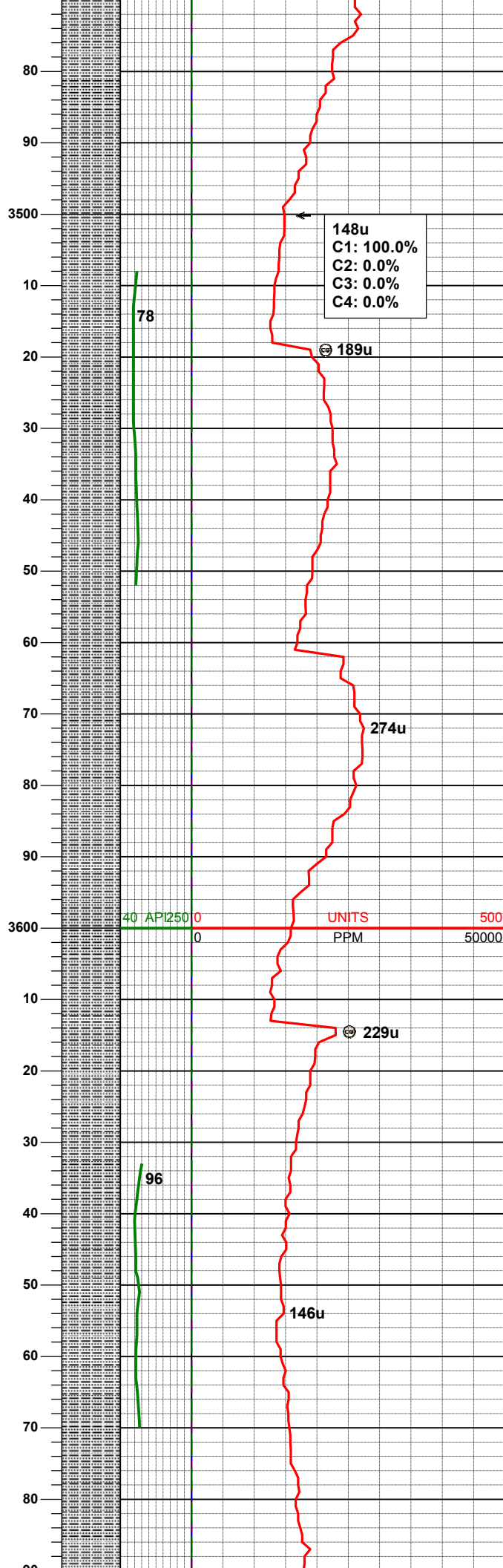
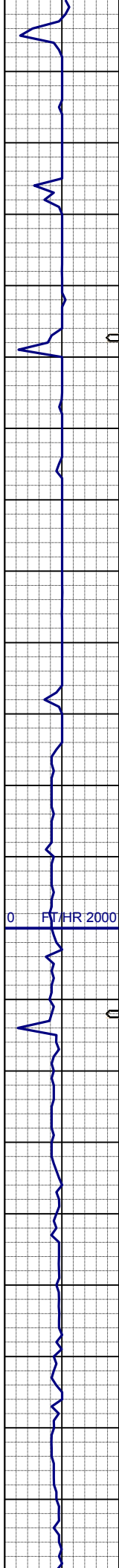
MD	3261'
INC	10.0°
AZM	145.5°
TVD	3246.27'

SLTYSH: ltgy-gy, sme dkgy, sbblky-
sbply, sft, gt-sltly tex, arg cmt
SHYSS: ltgy-gy, s&p, sbang, v fri,
vfgr, wrndd, w srt, p por, arg cmt, tr lit
frag

MD	3356'
INC	9.8°
AZM	143.3°
TVD	3339.85'

SLTYSH: ltgy-gy, sme dkgy, sbblky-
sbply, sft, gt-sltly tex, arg cmt, tr dism
pyr

MD	3451'
INC	9.8°
AZM	144.0°
TVD	3433.47'

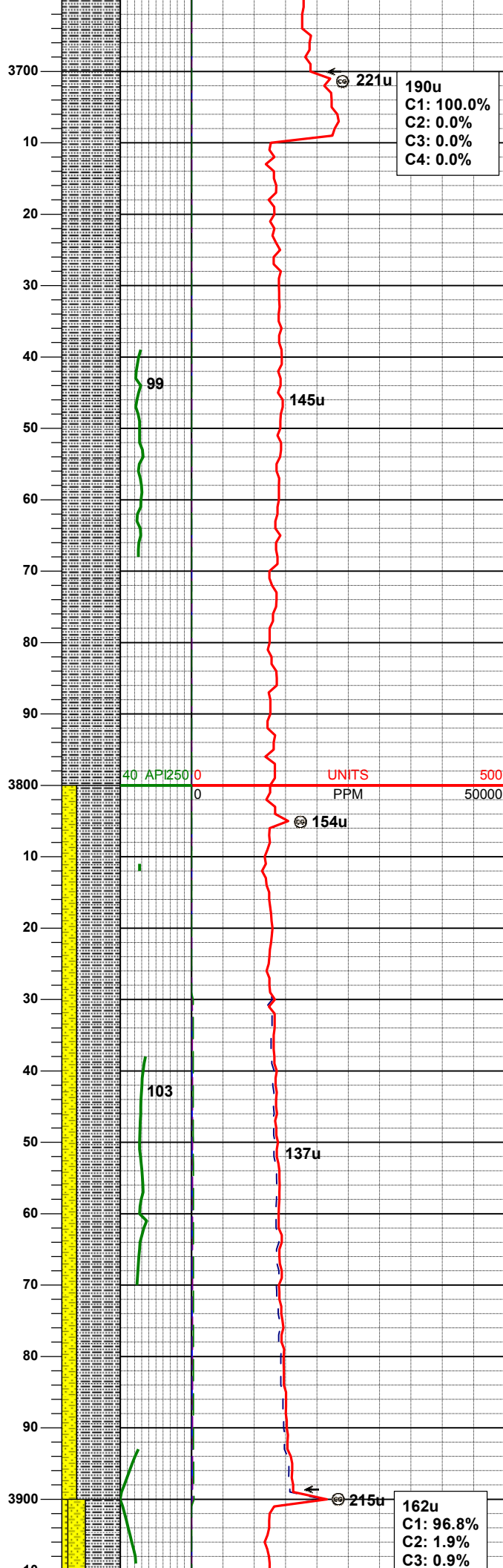


MD	3545'
INC	9.6°
AZM	142.7°
TVD	3526.12'

SLTYSH: ltgy-gy, sme dkgy, sbblky-sbplty, sft, gt-slty tex, arg cmt, tr dism pyr

MD	3640'
INC	9.1°
AZM	143.1°
TVD	3619.86'

SLTYSH: ltgy-gy, sme dkgy, sbblky-sbplty, sft, gt-slty tex, arg cmt



WT IN 8.65/ OUT 8.65
VIS IN 28/ OUT 28

MD 3735'
INC 8.4°
AZM 141.0°
TVD 3713.75'

SLTYSH: ltgy-gy, sme dkgy, sbblky-
sbply, sft, gt-slty tex, arg cmt

MD 3830'
INC 8.4°
AZM 153.8°
TVD 3807.74'

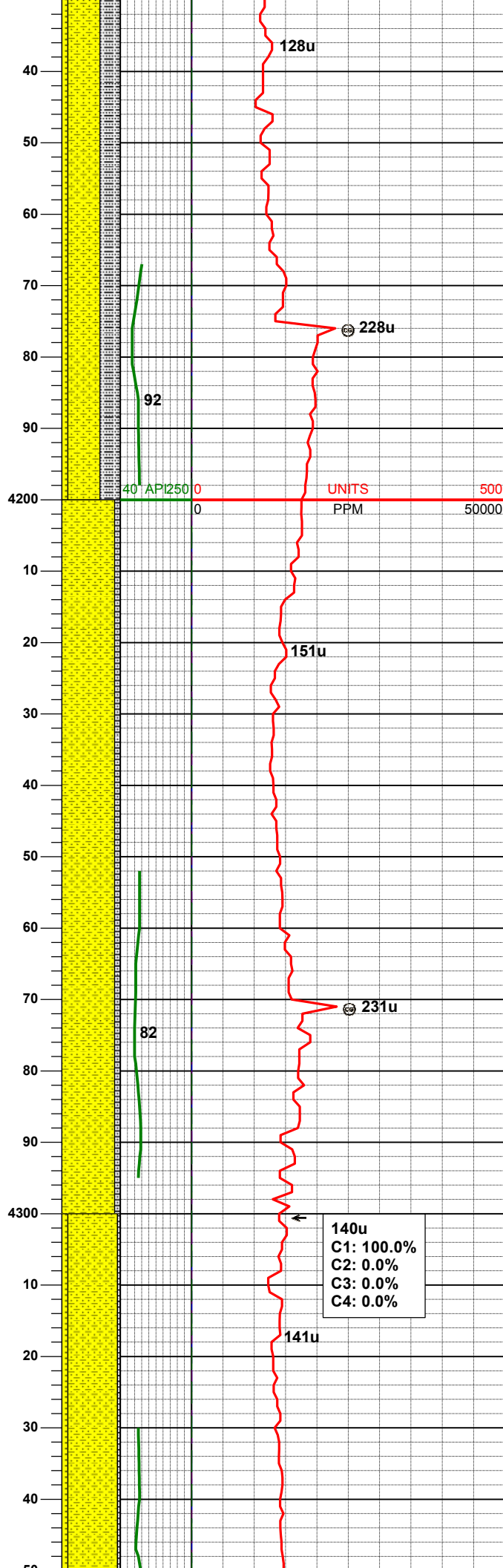
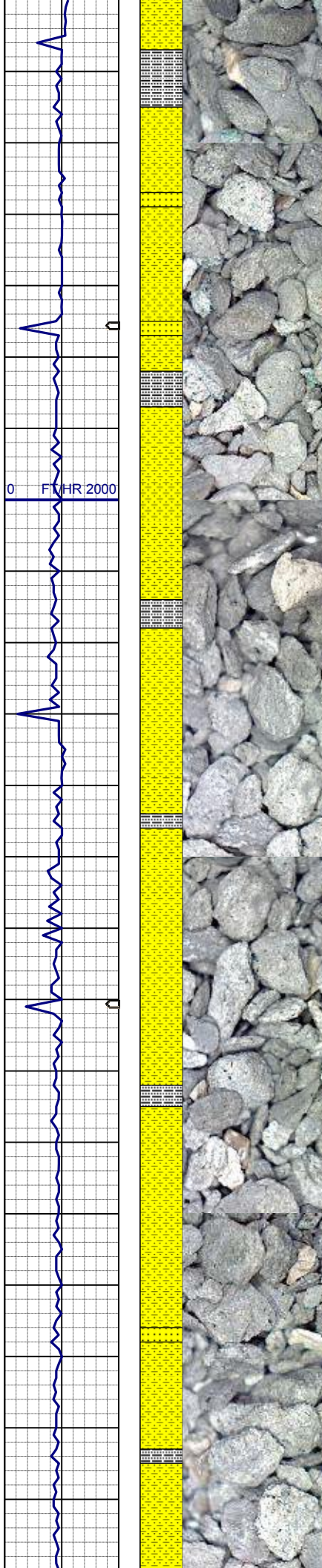
SLTYSH: gy-ltgy, rr dkgy, sbblky-
sbply, sft, gt-slty tex, arg cmt
SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, wrndd, w srt, arg cmt, tr lit frag, tr
glau, tr fos frag

WT IN 8.70/ OUT 8.70
VIS IN 27/ OUT 27

190u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%

UNITS
PPM
500
50000

162u
C1: 96.8%
C2: 1.9%
C3: 0.9%



SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, wrnnd, w srt, arg cmt, tr lit frag
SLTYSH: gy-ltgy, rr dkgy, sbbkly-
sbply, sft, gt-sltly tex, arg cmt
SS: ltgy-wh-op, gy shy incl, sbang-
ang, v fri, fgr, modrnnd, modsrt, v p
por, arg cmt, tr lit frag, occ glau, tr fos
frag

MD	4209'
INC	7.5°
AZM	147.1°
TVD	4183.37'

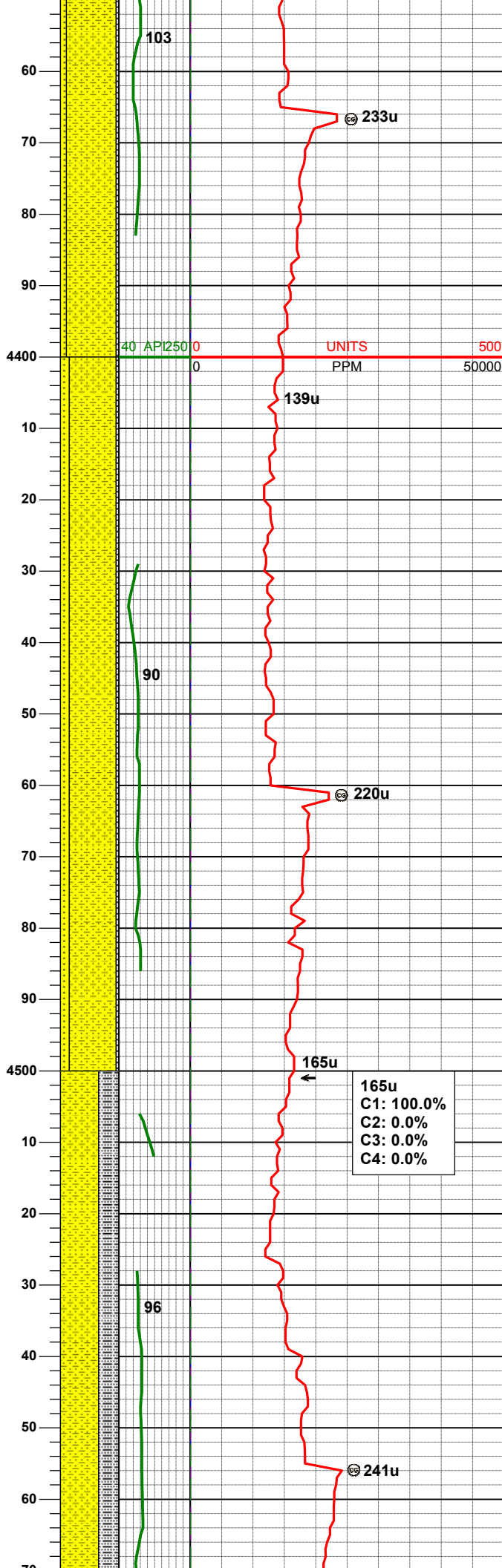
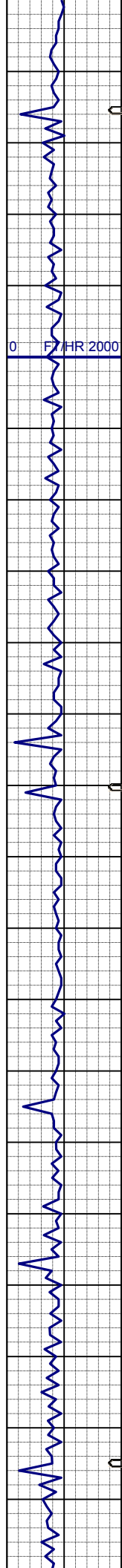
SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, wrnnd, w srt, arg cmt, tr lit frag
SLTYSH: gy-ltgy, rr dkgy, sbbkly-
sbply, sft, gt-sltly tex, arg cmt

WT IN 9.00/ OUT 9.00
VIS IN 31/ OUT 31

MD	4304'
INC	6.5°
AZM	149.6°
TVD	4277.66'

140u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%

SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, wrnnd, w srt, arg cmt, tr lit frag
SS: ltgy-wh-op, gy shy incl, sbang-
ang, v fri, fgr, modrnnd, modsrt, v p



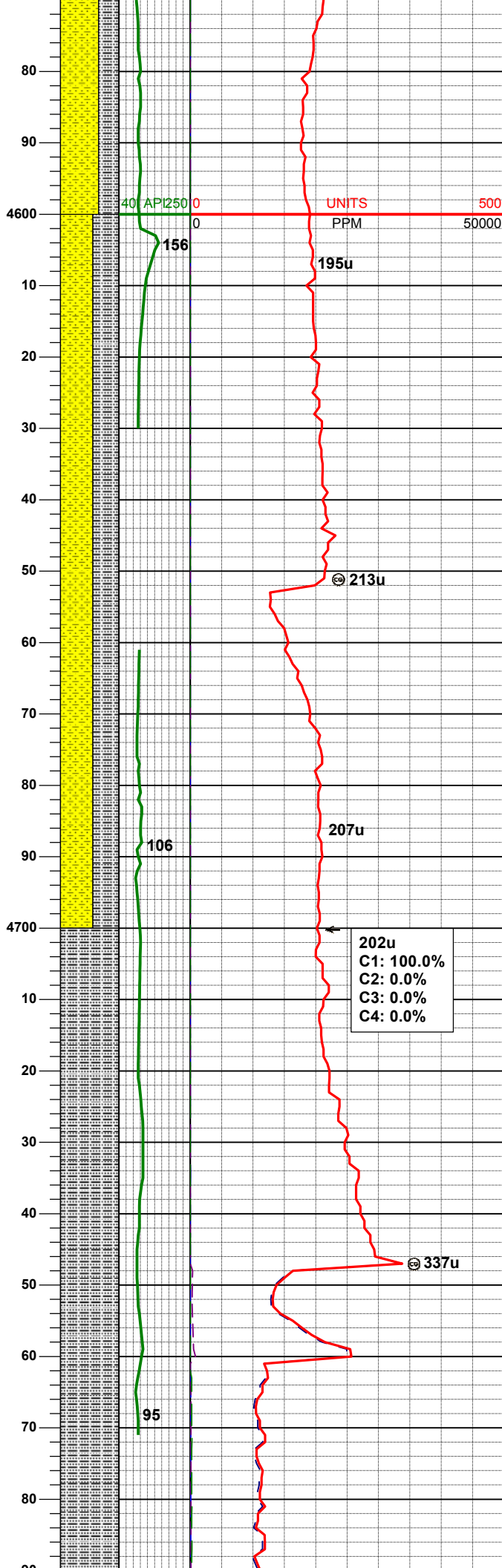
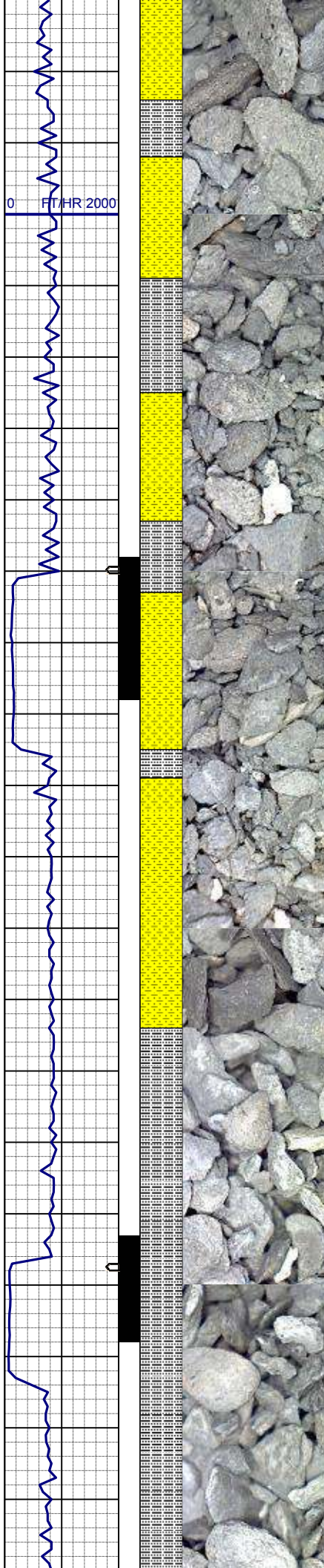
por, arg cmt, tr lit frag, occ glau, tr fos
frag
SLTYSH: gy-ltgy, rr dkgy, sbblky-
sbply, sft, gt-sltly tex, arg cmt

MD	4399'
INC	5.5°
AZM	152.4°
TVD	4372.14'

SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, wrndd, w srt, arg cmt, tr lit frag
SS: ltgy-wh-op, gy shy incl, sbang-
ang, v fri, fgr, modrndd, modsrt, v p
por, arg cmt, tr lit frag, occ glau, tr fos
frag
SLTYSH: gy-ltgy, rr dkgy, sbblky-
sbply, sft, gt-sltly tex, arg cmt

MD	4494'
INC	4.4°
AZM	159.2°
TVD	4466.78'

SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, wrndd, w srt, arg cmt, tr lit frag
SLTYSH: gy-ltgy, rr dkgy, sbblky-
sbply, sft, gt-sltly tex, arg cmt, tr fos
frag



MD 4588'
INC 3.5°
AZM 162.2°
TVD 4560.56'

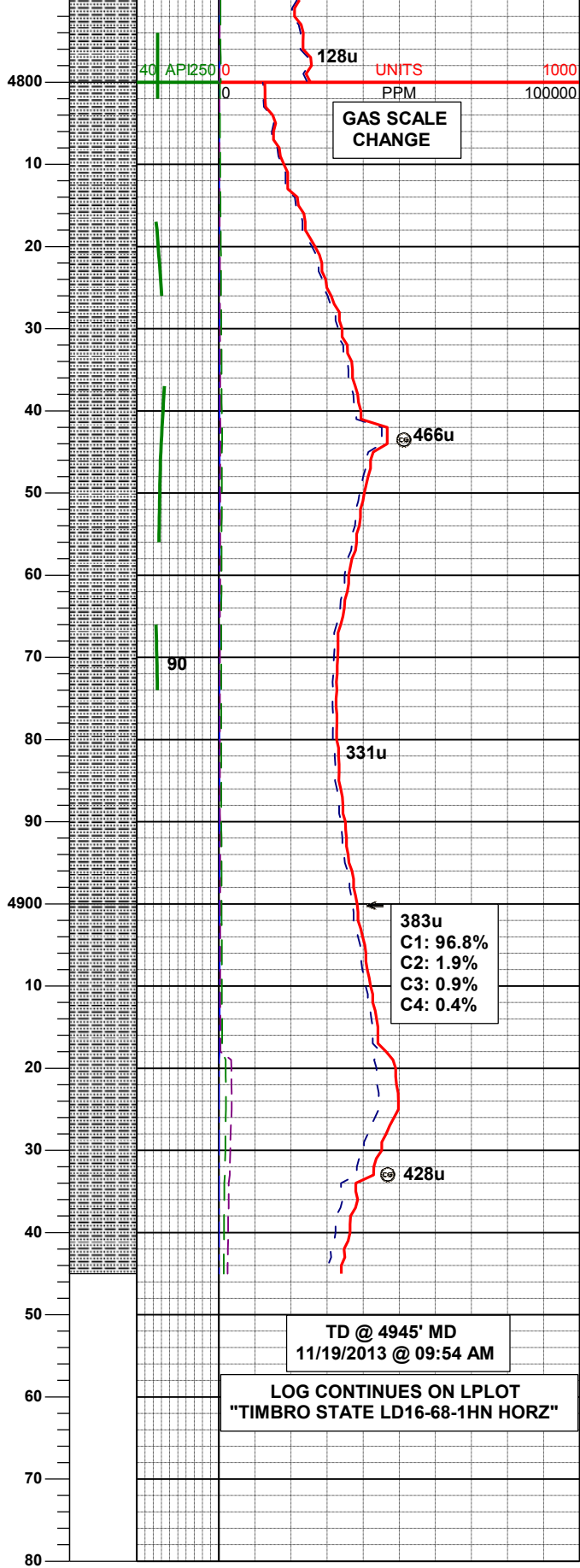
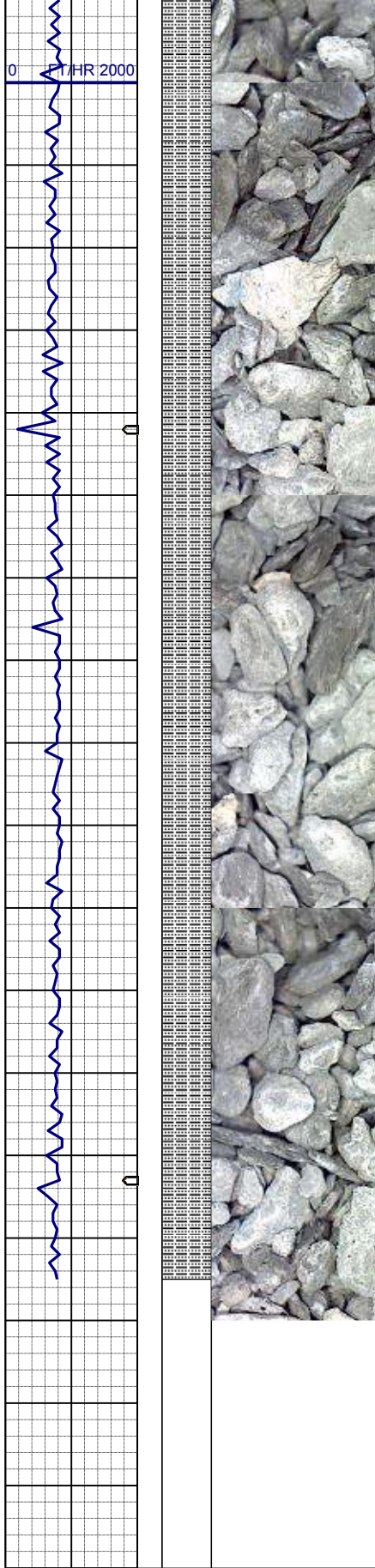
WT IN 9.20/ OUT 9.20
VIS IN 32/ OUT 32

SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, wrnnd, w srt, arg cmt, tr lit frag
SLTYSH: gy-ltgy, rr dkgy, sbbly-
sbply, sft, gt-sltly tex, arg cmt, tr fos
frag

MD 4683'
INC 2.2°
AZM 195.6°
TVD 4655.45'

SLTYSH: gy-ltgy, rr dkgy, sbbly-
sbply, sft, gt-sltly tex, arg cmt, tr fos
frag, tr dism pyr

MD 4778'
INC 0.6°
AZM 193.9°
TVD 4750.42'



SLTYSH: gy-ltgy, rr dkgy, sbblky-sbplty, sft, gt-slty tex, arg cmt, tr fos frag, tr dism pyr

MD 4873'
INC 0.7°
AZM 163.3°
TVD 4845.41'

WT IN 9.40/ OUT 9.40
VIS IN 33/ OUT 33

SLTYSH: gy-ltgy, rr dkgy, sbblky-sbplty, sft, gt-slty tex, arg cmt, tr fos frag, tr dism pyr