

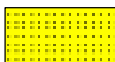
LOG created using L PLOT VH Version 3.0, February 27, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

OPERATOR: NOBLE ENERGY INC.
WELL: TIMBRO FEDERAL LD18-74HN
LOCATION: SWSE SEC 18, T9N, R58W
COUNTY: WELD
STATE: COLORADO
SPOT: 250' FSL, 1800' FWL
ELEVATION: GR 4,887' KB 4,917'
FIELD: WILDCAT
SPUD DATE: 02/19/2013
TD DATE: 02/22/2013
DATES LOGGED: 02/19/2013 - 02/22/2013
DEPTHS LOGGED: 900' MD - 5161' MD
LOGGERS: LAURA KELLOGG, ANDREA ZUIDEMA
DRILLING FLUID: LSND
DRILLING RIG: H&P 326
API: 05-123-36263
LOG TYPE: VERTICAL
SCALE: 1:240 (5 inches per 100 feet)
REMARKS: WELLSITE GEOLOGICAL SERVICES
 PROVIDED BY COLUMBINE LOGGING INC.

LITHOLOGIES



No Sample



Sandstone



Shaly Sandstone



Siltstone



Silty Shale

ENGINEERING SYMBOLS



Connection



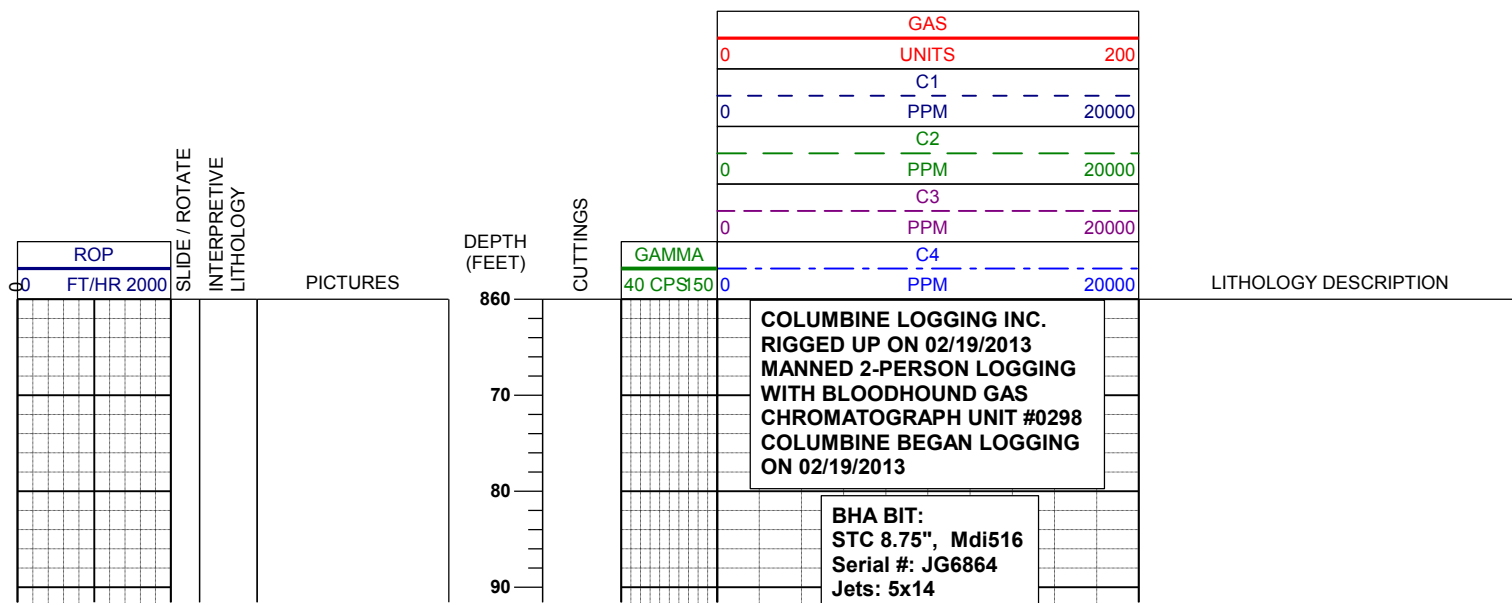
Connection Gas

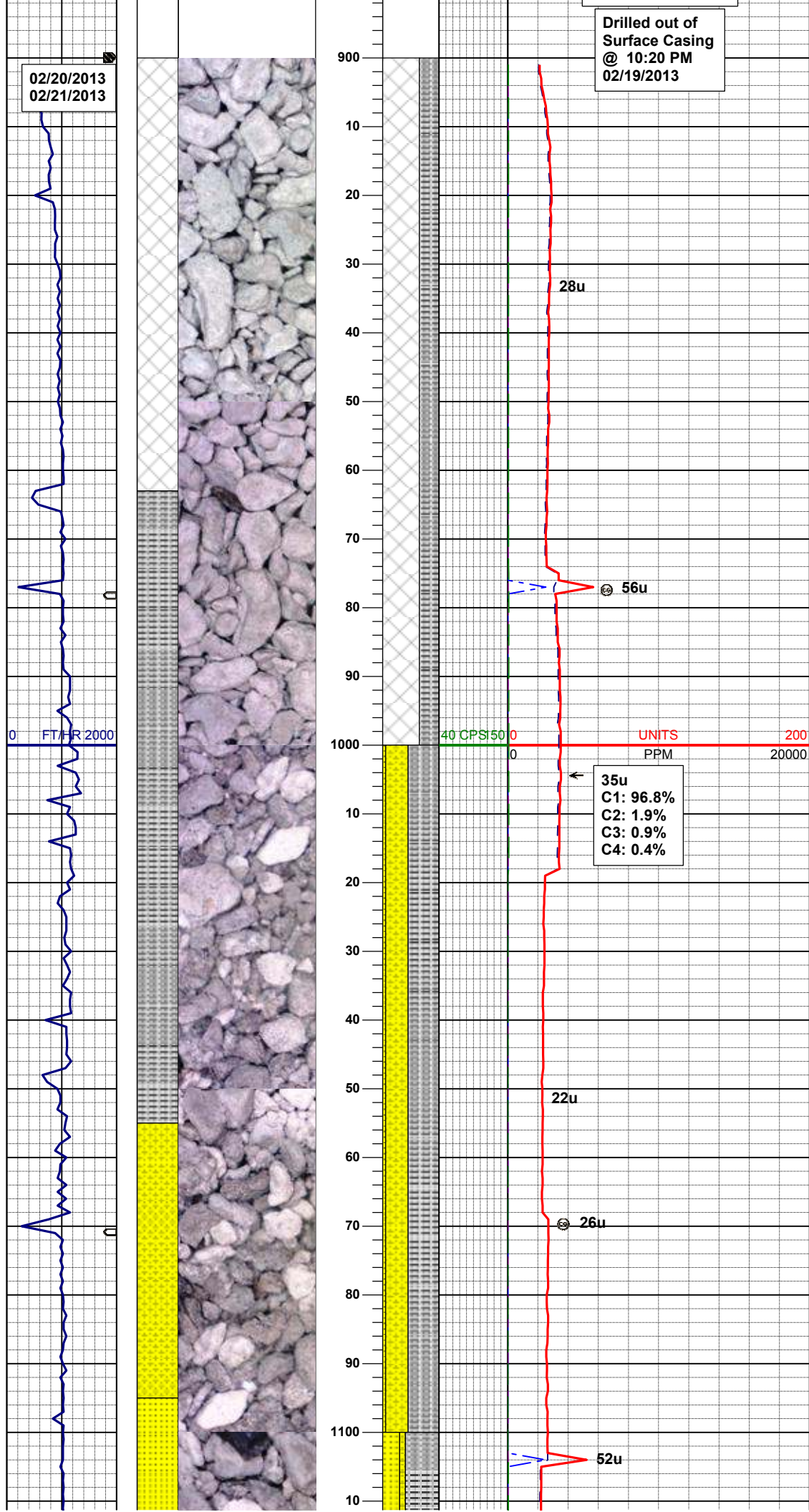


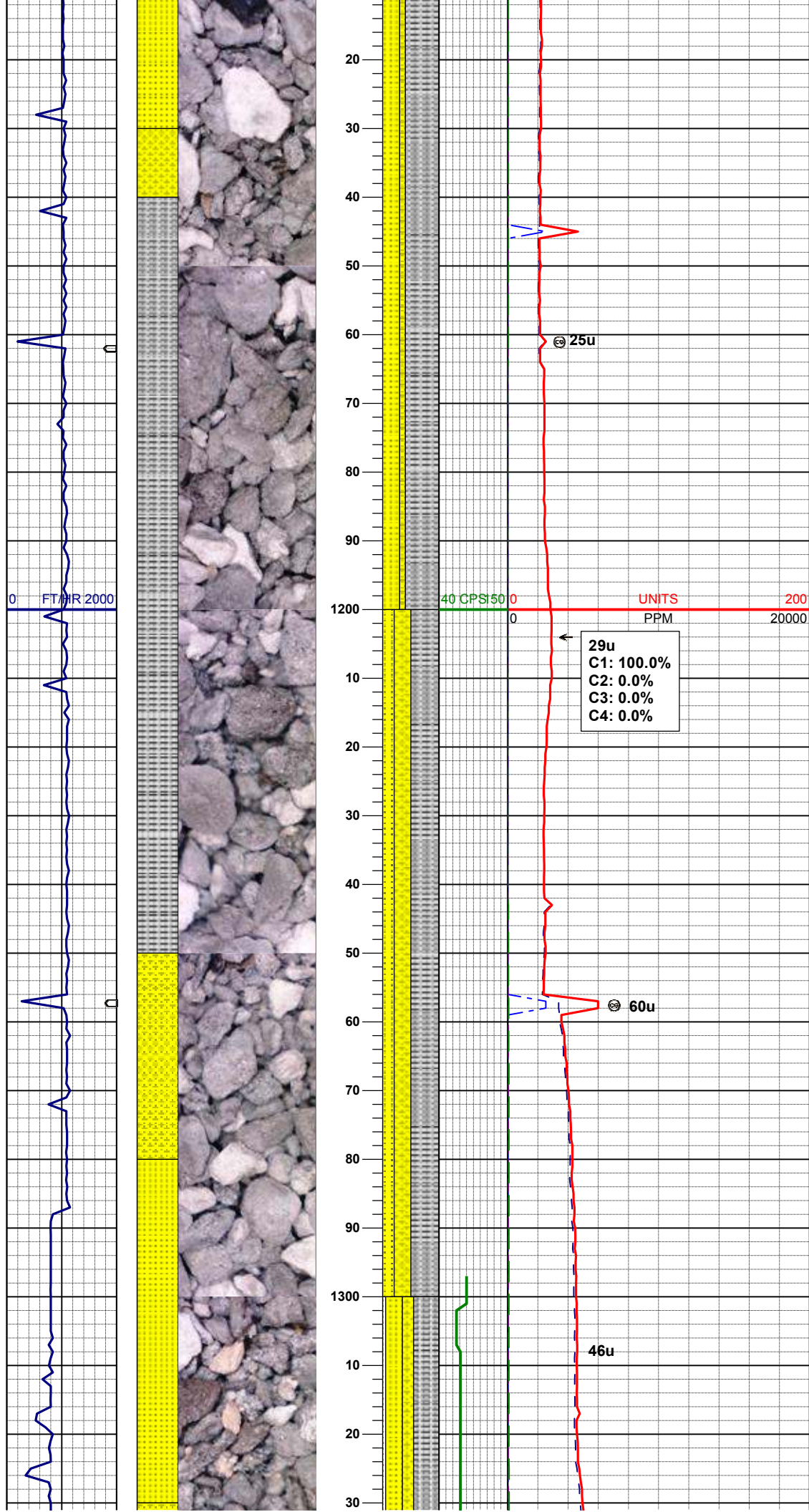
Arrow



Midnight Depth



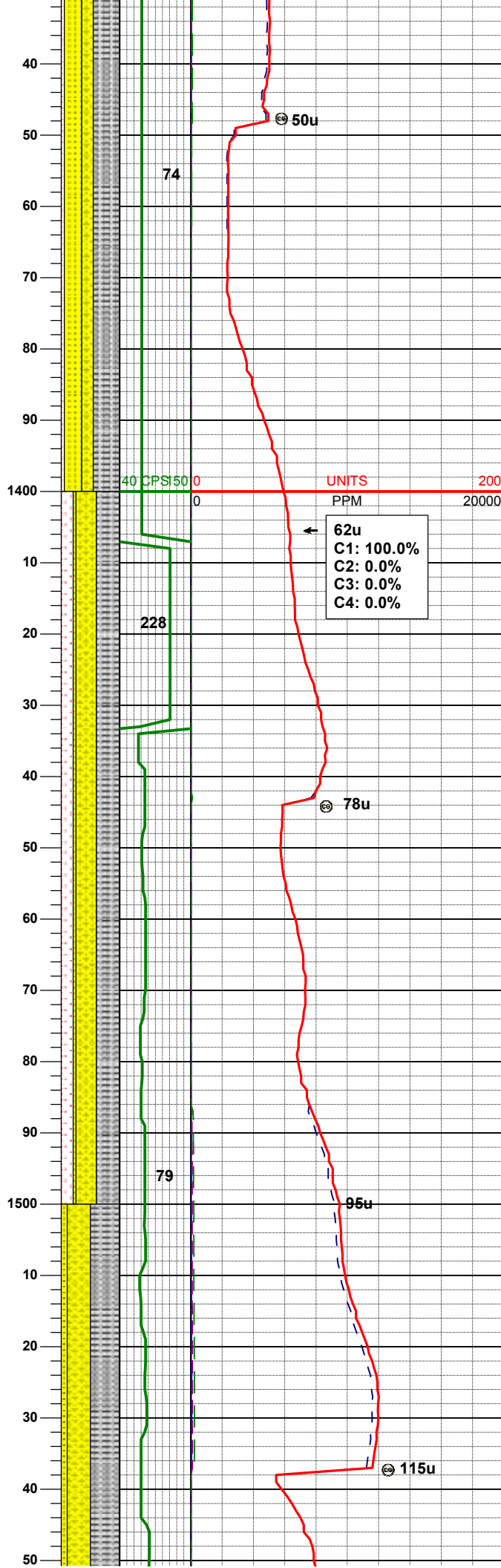
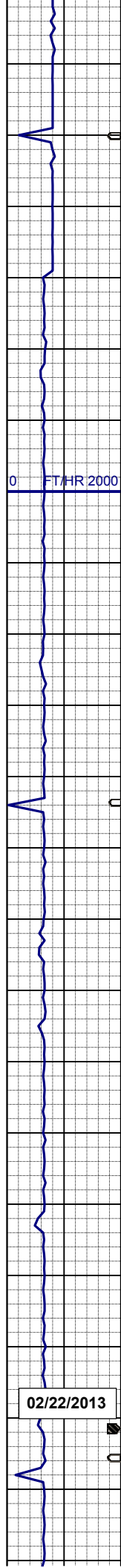




SLTYSH: m - lt gy-crmbn, occ dk gy, sft - mod firm, sbblky - sbply, noncalc SS: wh, lt gy, mod firm, bly - sbply, sb rndd, arg cmt, occ glau, tr phlog, occ uncons
SHYSS: lt gy, wh - lt gy, occ m gy, f gr, sbang - sbrndd, mod srt, mod sft - frm, occ glau & phlog, arg cmt, tr cmt

MD	1215'
INC	0.5°
AZM	43.5°
TVD	1214.98'

SLTYSH: m - lt gy-crmbn, occ dk gy, sft - mod firm, sbblky - sbply, noncalc SS: wh, lt gy, mod firm, bly - sbply, sb rndd, arg cmt, occ glau, tr phlog, occ uncons
SHYSS: lt gy, wh - lt gy, occ m gy, f gr, sbang - sbrndd, mod srt, mod sft - frm, occ glau & phlog, arg cmt, tr cmt



SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbplty, noncalc
SS: wh, lt gy, mod firm, blk - sbplty,
sb rndd, arg cmt, occ glau, tr phlog,
occ uncon
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrndd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt
SLTST: fgr, orng - pale crm, wsrt,
sbrndd - sbblky

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbplty, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrndd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt
SLTST: fgr, orng - pale crm, wsrt,
sbrndd - sbblky
SS: wh, lt gy, mod firm, blk - sbplty,
sb rndd, arg cmt, occ glau, tr phlog,
occ uncon

MD	1493'
INC	0.5°
AZM	64.8°
TVD	1492.97'

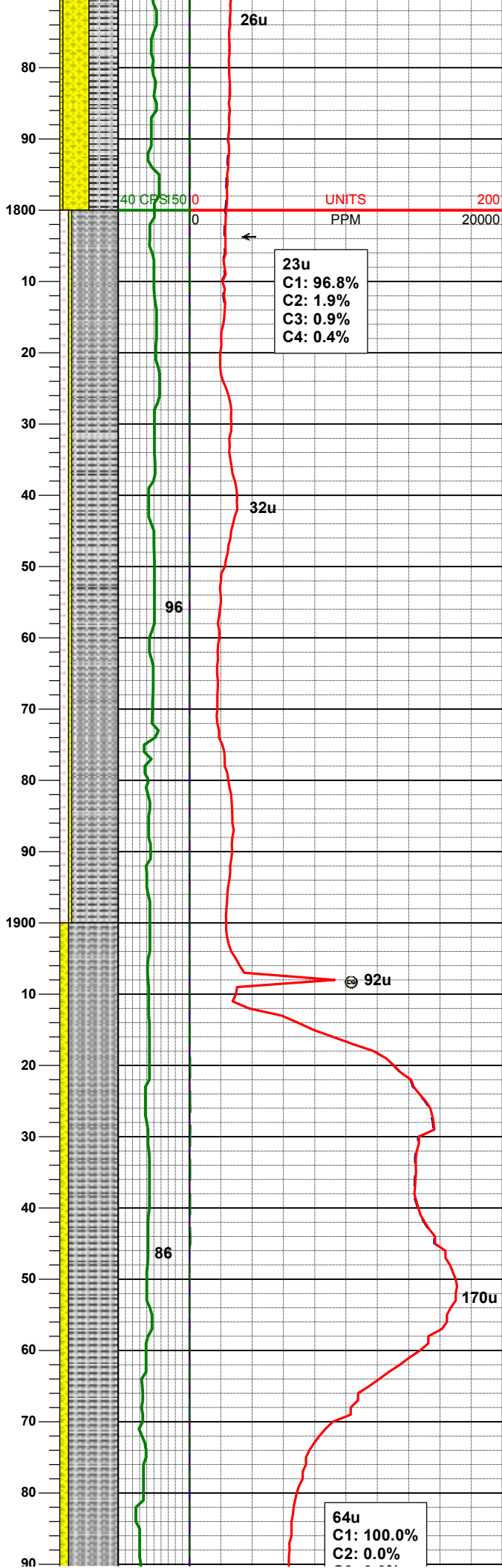
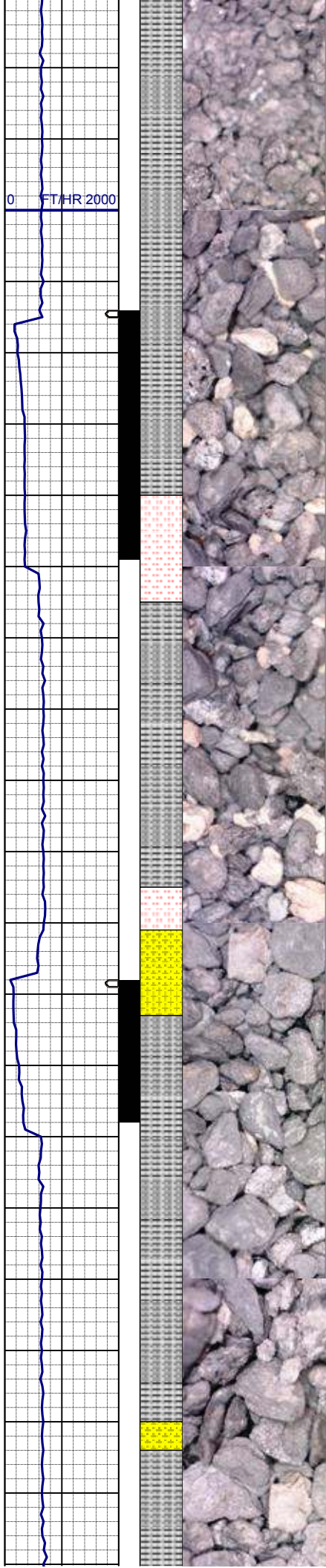
WT IN 8.80/ OUT 8.80
VIS IN 31/ OUT 33

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbplty, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrndd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt

02/22/2013

SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrndd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt
SLTYSH: m - lt gy-crmbrn, occ dk gy,
sft - mod frm, sbblky - sbplty, noncalc

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbplty, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrndd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt
SS: wh, lt gy, mod firm, blyk - sbplty,
sb rndd, arg cmt, occ glau, tr phlog,
occ uncon



MD 1772'
INC 0.6°
AZM 65.9°
TVD 1771.96'

23u
C1: 96.8%
C2: 1.9%
C3: 0.9%
C4: 0.4%

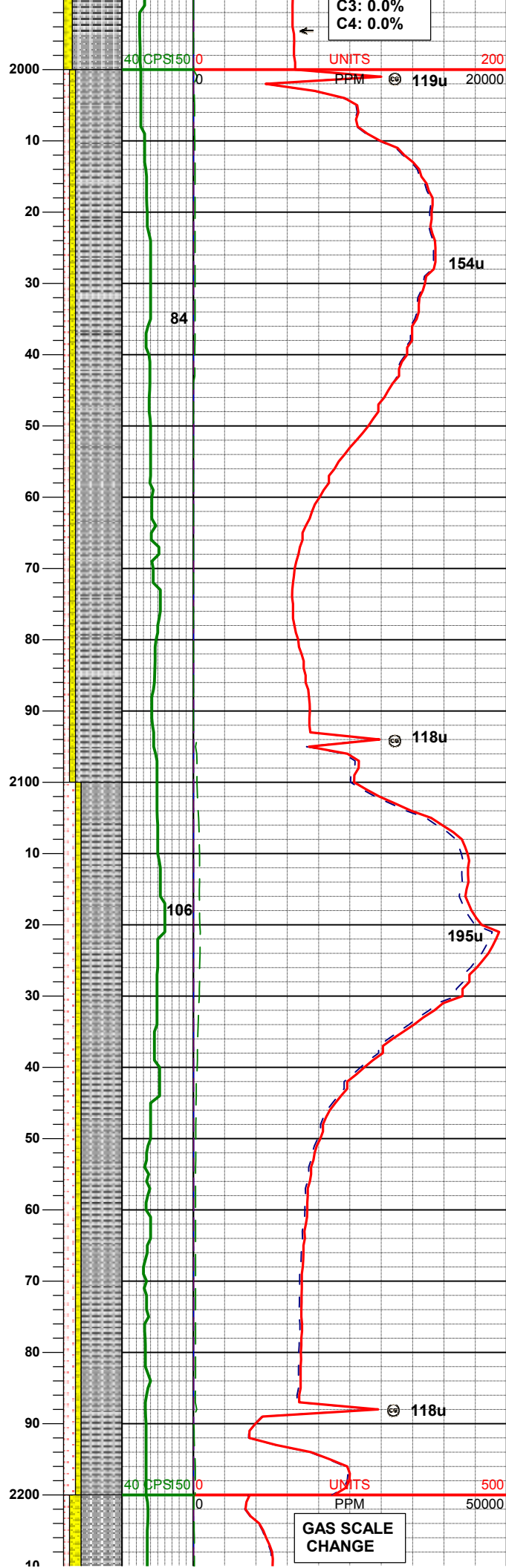
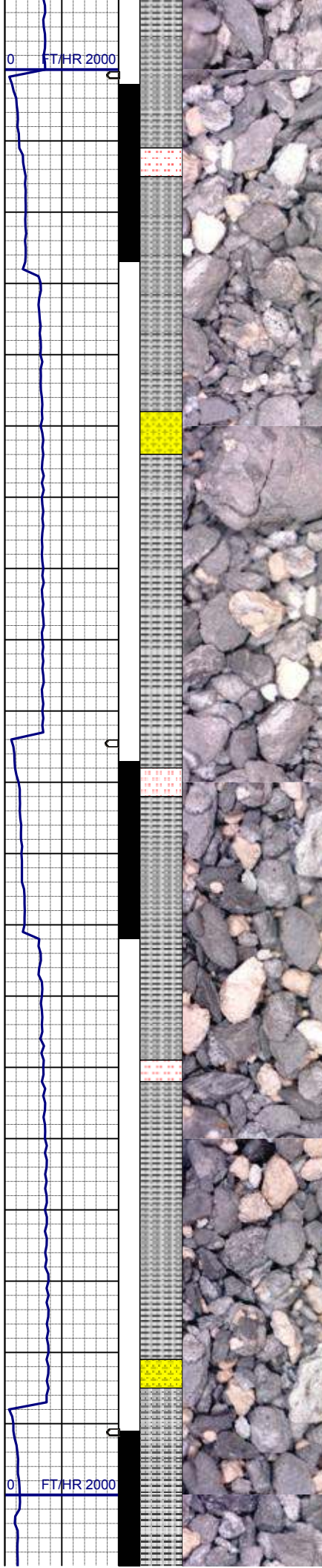
SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbply, noncalc
SLTST: fgr, orng - pale crm-wh, wsrt,
sbrdd - sbblky
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrdd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt

MD 1866'
INC 3.2°
AZM 193.7°
TVD 1865.91'

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbply, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrdd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt

MD 1960'
INC 4.3°
AZM 188.4°
TVD 1959.71'

64u
C1: 100.0%
C2: 0.0%



WT IN 8.80/ OUT 8.85
VIS IN 32/ OUT 33

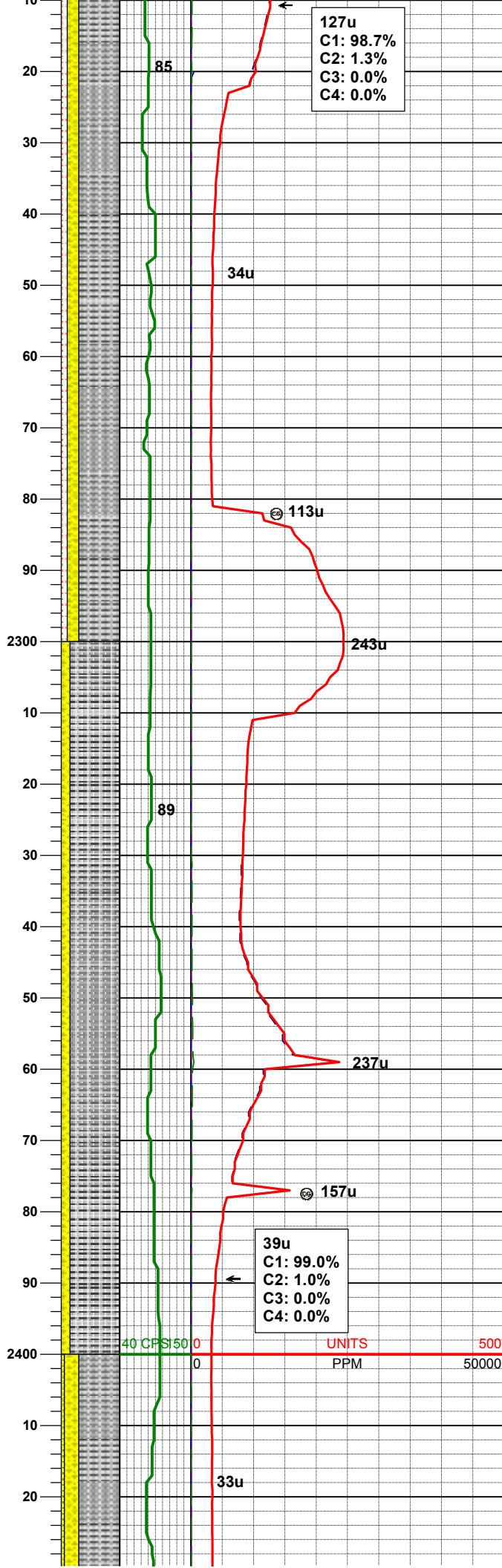
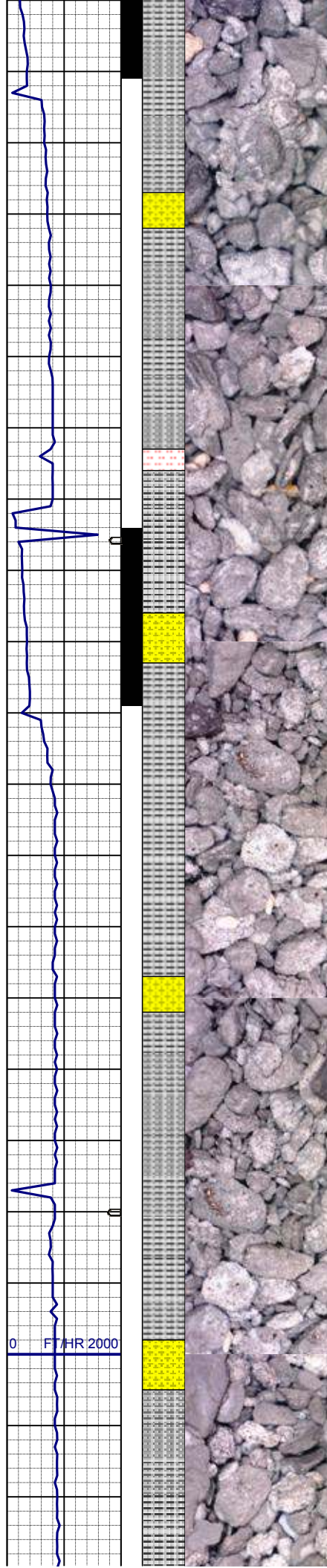
SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbply, noncalc
SLTST: fgr, orng - pale crm-wh, wsrt,
sbrnnd - sbblky
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrnnd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt

MD	2055'
INC	6.2°
AZM	206.1°
TVD	2054.31'

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbply, noncalc
SLTST: fgr, orng - pale crm-wh, w srt,
sbrnnd - sbblky
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrnnd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt

MD	2149'
INC	8.2°
AZM	214.8°
TVD	2147.57'

WT IN 8.80/ OUT 8.75
VIS IN 32/ OUT 32



127u
C1: 98.7%
C2: 1.3%
C3: 0.0%
C4: 0.0%

MD 2242'
INC 10.6°
AZM 219.7°
TVD 2239.32'

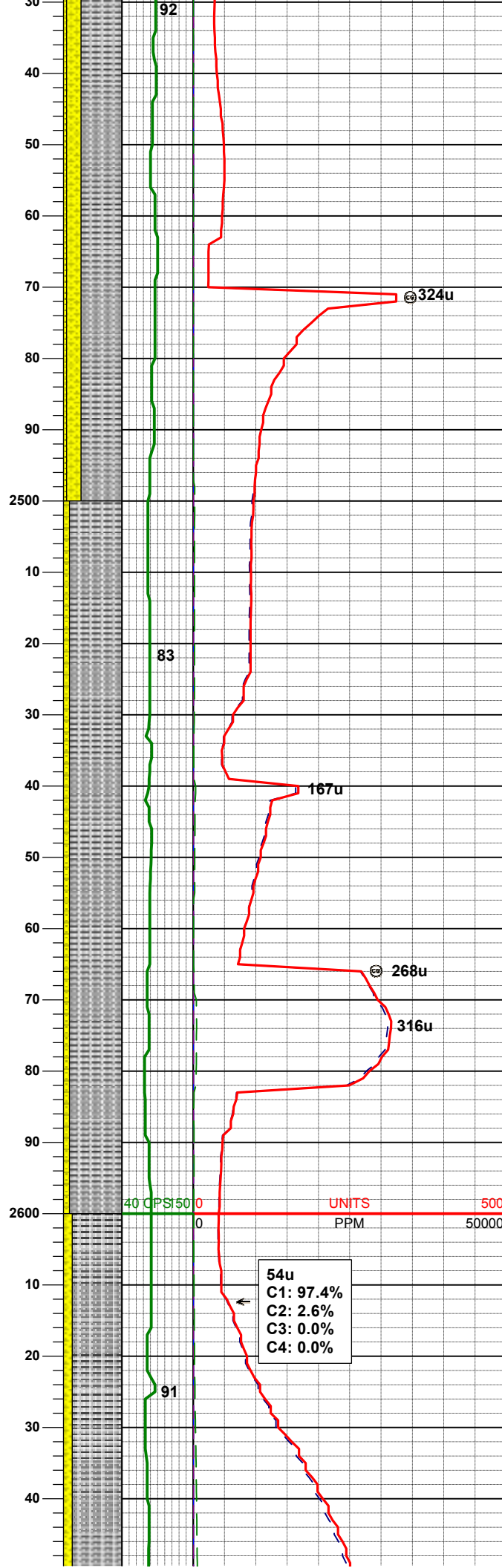
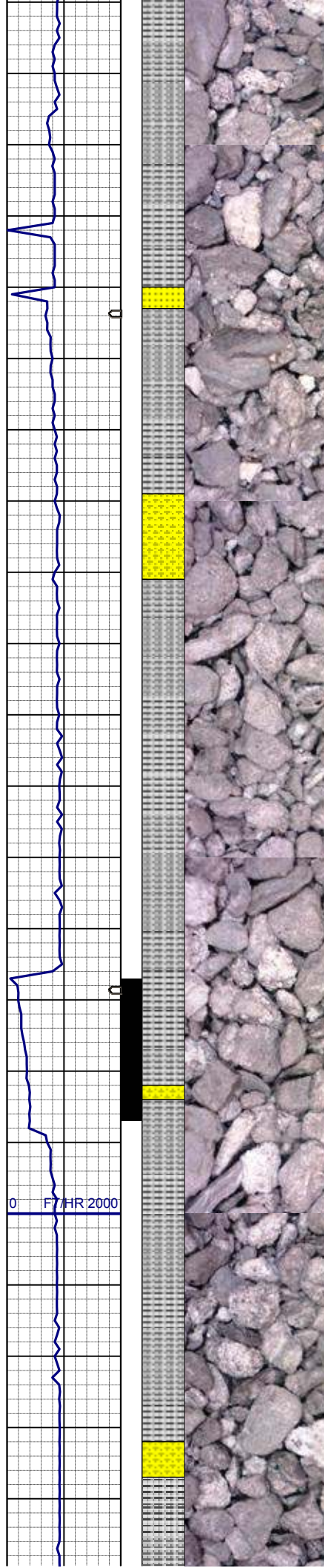
SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbplty, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrnnd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt
SLTST: fgr, orng - pale crm-wh, w srt,
sbrnnd - sbblky

MD 2337'
INC 12.8°
AZM 218.4°
TVD 2332.34'

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbplty, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrnnd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt

39u
C1: 99.0%
C2: 1.0%
C3: 0.0%
C4: 0.0%

MD 2430'
INC 12.2°



AZM 219.3°
TVD 2423.13'

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbbiky - sbply, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrndd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt
SS: wh, lt gy, mod firm, biky - sbply,
sb rndd, arg cmt, abnt glau, tr phlog,
occ uncon

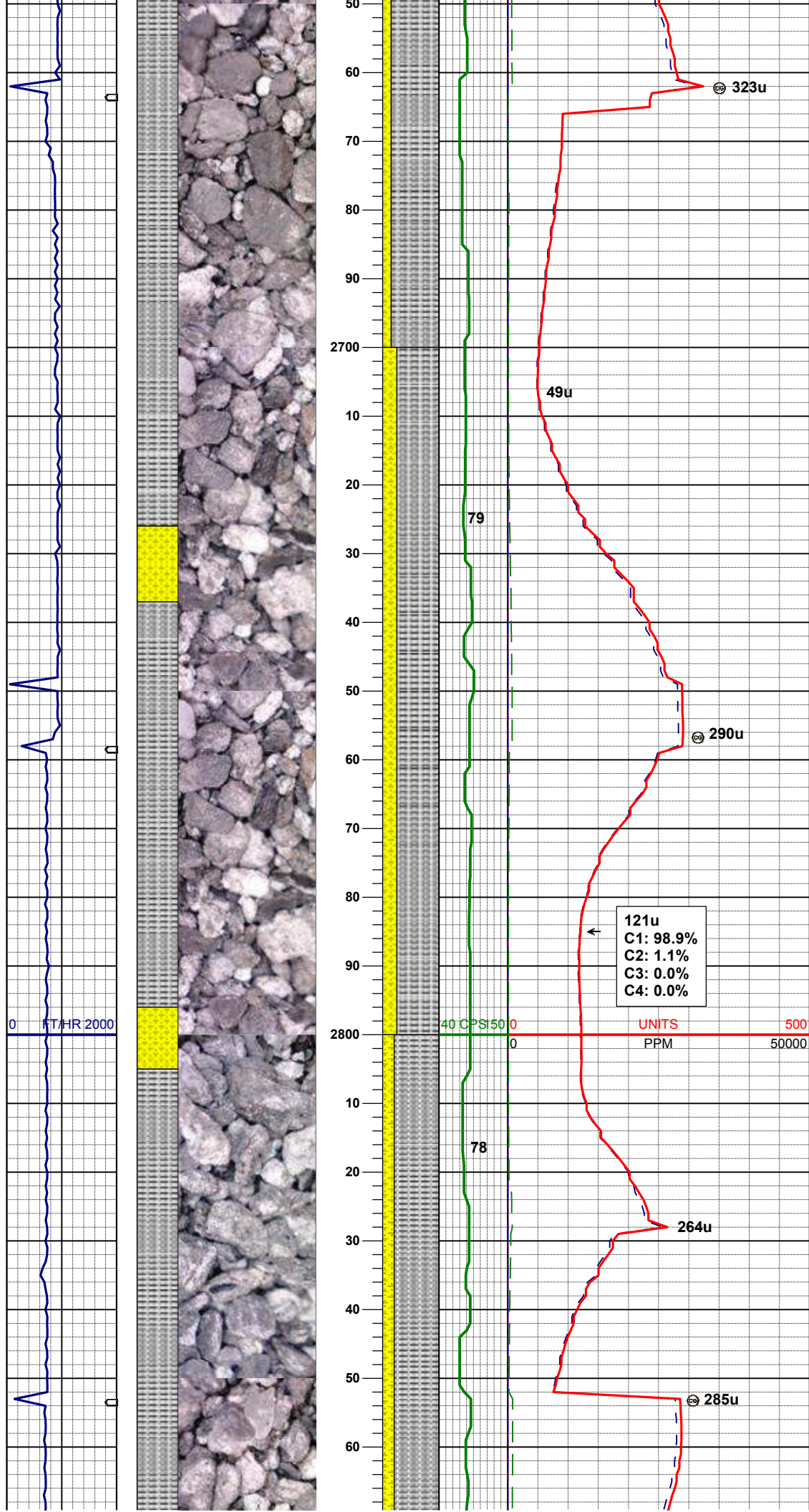
WT IN 8.70/ OUT 8.70
VIS IN 33/ OUT 32

MD 2525'
INC 11.6°
AZM 218.3°
TVD 2516.09'

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbbiky - sbply, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrndd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt

MD 2620'
INC 12.6°
AZM 221.6°
TVD 2608.98'

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbbiky - sbply, noncalc



SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrnmd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt

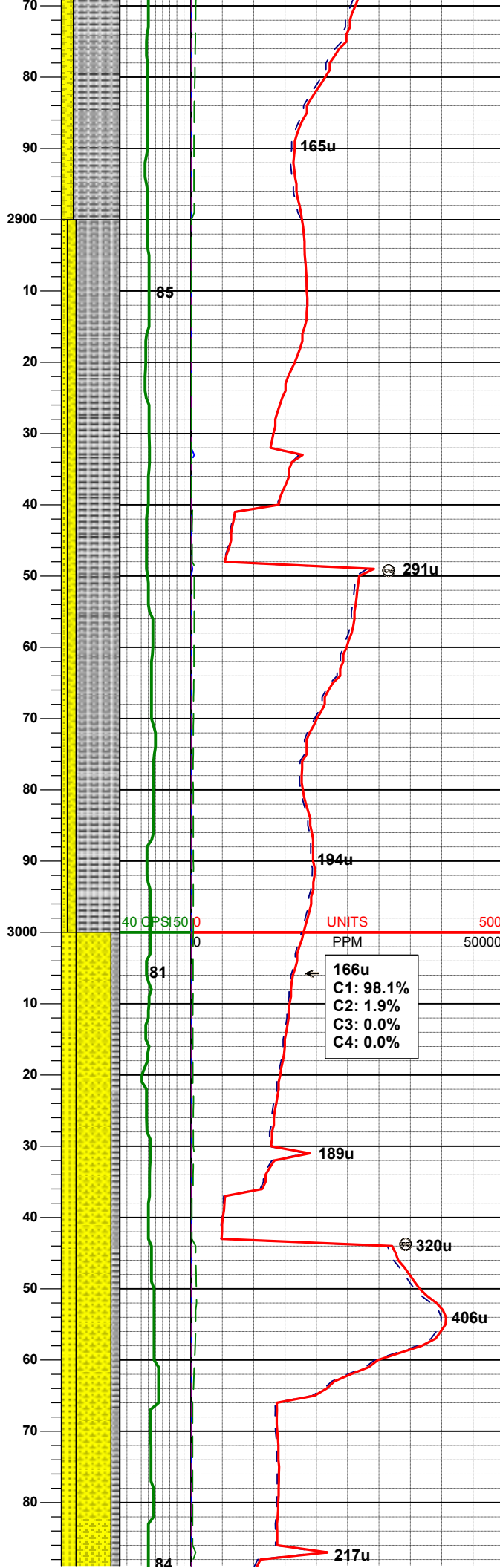
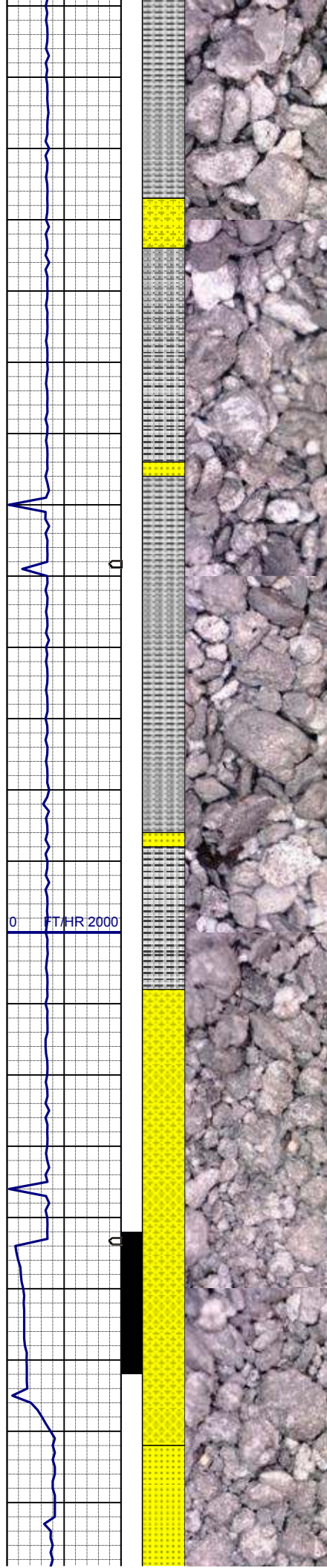
WT IN 8.80/ OUT 8.75
VIS IN 31/ OUT 33

MD	2715'
INC	12.9°
AZM	222.5°
TVD	2701.64'

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbbiky - sbply, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrnmd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt

MD	2810'
INC	12.6°
AZM	221.6°
TVD	2794.29'

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbbiky - sbply, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrnmd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt



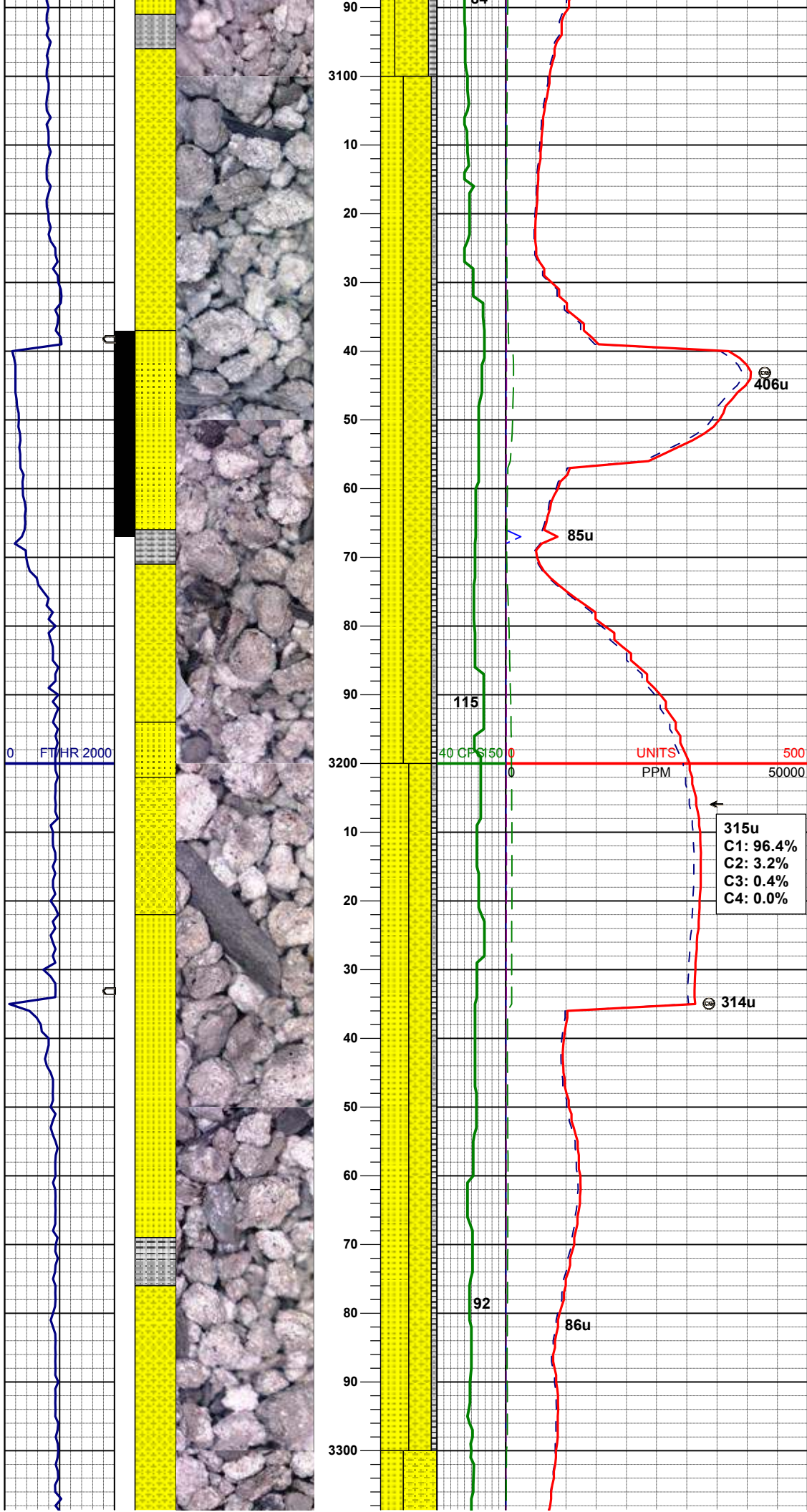
MD 2905'
INC 12.3°
AZM 222.3°
TVD 2887.06'

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbply, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrnrd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt
SS: wh, lt gy, mod firm, blk - sbply,
sb rdd, arg cmt, abnt glau, tr phlog,
occ uncon

MD 3000'
INC 11.6°
AZM 221.6°
TVD 2980.00'

SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrnrd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt
SS: wh, lt gy, mod firm, blk - sbply,
sb rdd, arg cmt, abnt glau, tr phlog,
occ uncon
SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbply, noncalc

166u
C1: 98.1%
C2: 1.9%
C3: 0.0%
C4: 0.0%



MD 3095'
INC 9.5°
AZM 228.3°
TVD 3073.39'

SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrnrd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt
SS: wh, lt gy, mod firm, blkly - sbply,
sb rmd, arg cmt, abnt glau, tr phlog,
occ uncons
SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbbkly - sbply, noncalc

WT IN 9.00/ OUT 9.00
VIS IN 33/ OUT 33

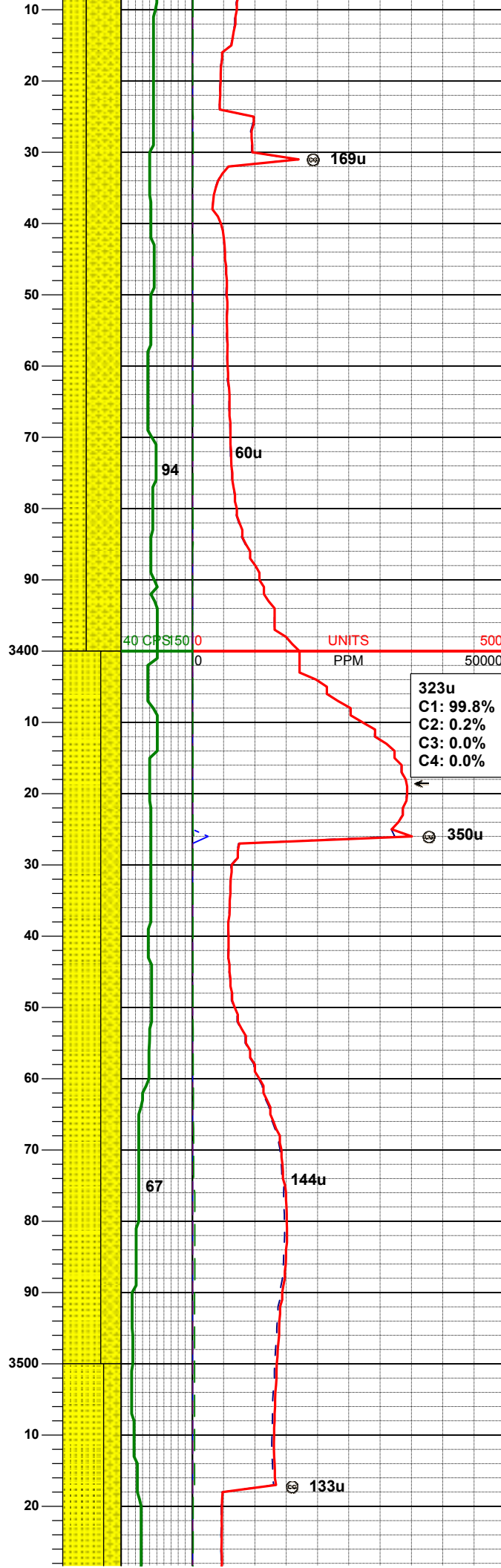
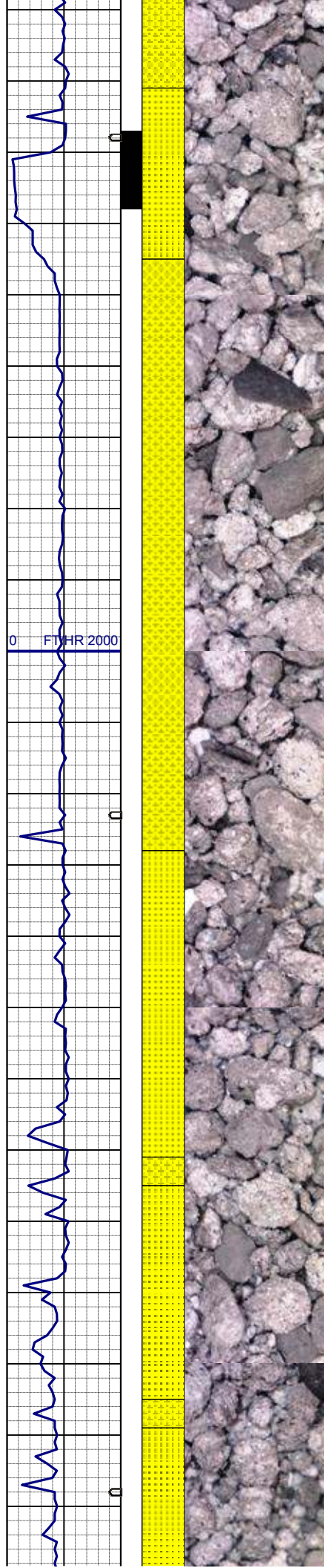
MD 3190'
INC 5.5°
AZM 237.1°
TVD 3167.56'

315u
C1: 96.4%
C2: 3.2%
C3: 0.4%
C4: 0.0%

SS: wh, lt gy, mod firm, blkly - sbply,
sb rmd, arg cmt, abnt glau, tr phlog,
occ uncons
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrnrd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt
SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbbkly - sbply, noncalc

MD 3285'
INC 5.5°
AZM 240.4°
TVD 3262.13'

WT IN 9.00/ OUT 9.00
VIS IN 33/ OUT 33



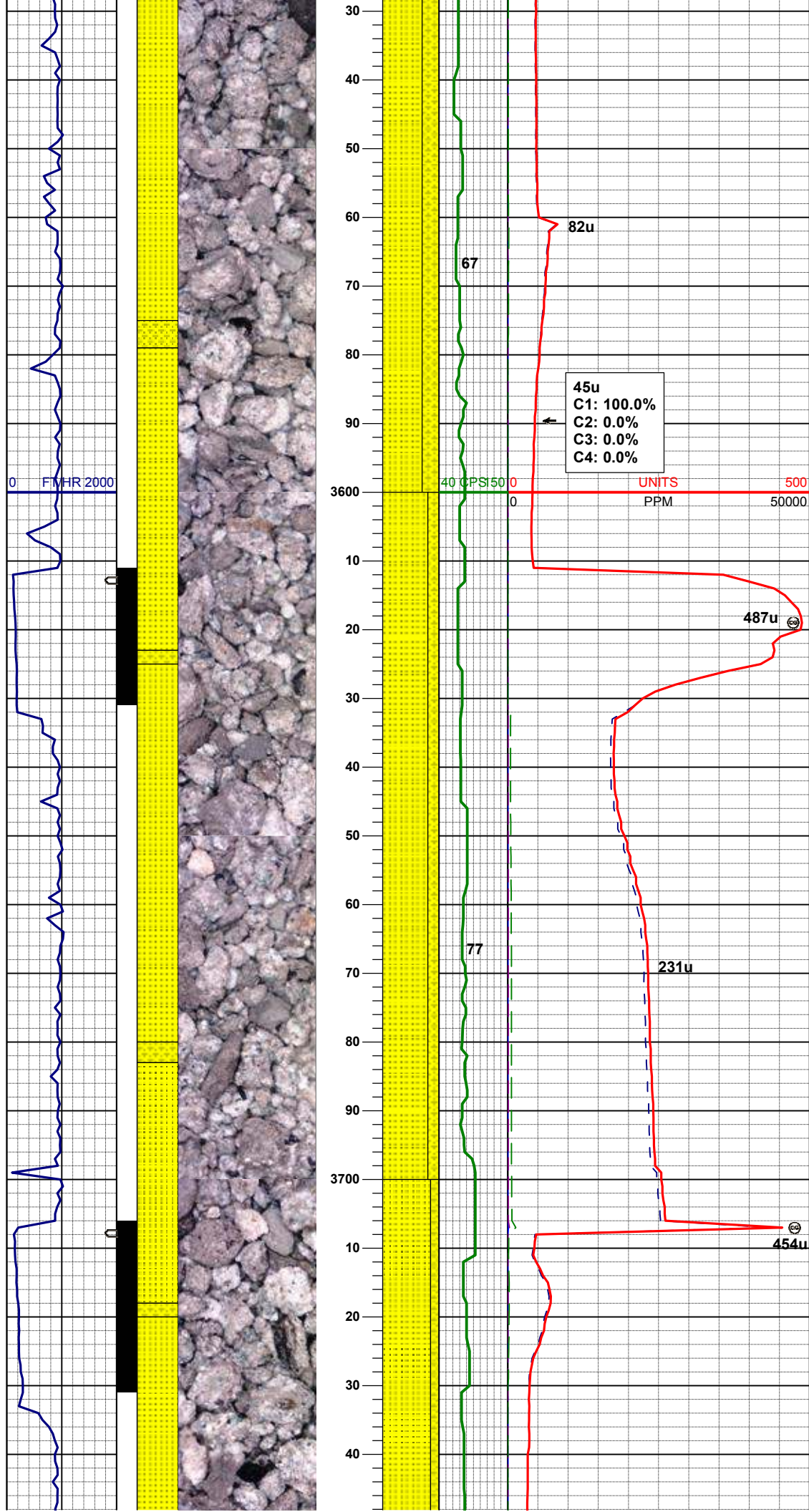
SS: wh, lt gy, mod firm, blkly - sbplty, sb rndd, arg cmt, abnt glau, tr phlog, occ uncon
SHYSS: lt gy, wh - lt gy, occ m gy, f gr, sbang - sbrnnd, mod srt, mod sft - frm, occ glau & phlog, arg cmt

MD 3380'
INC 4.7°
AZM 233.7°
TVD 3356.75'

SS: wh, lt gy, mod firm, blkly - sbplty, sb rndd, arg cmt, abnt glau, tr phlog, occ uncon
SHYSS: lt gy, wh - lt gy, occ m gy, f gr, sbang - sbrnnd, mod srt, mod sft - frm, occ glau, occ phlog, arg cmt

MD 3475'
INC 4.7°
AZM 234.4°
TVD 3451.43'

WT IN 9.00/ OUT 9.00
VIS IN 33/ OUT 33



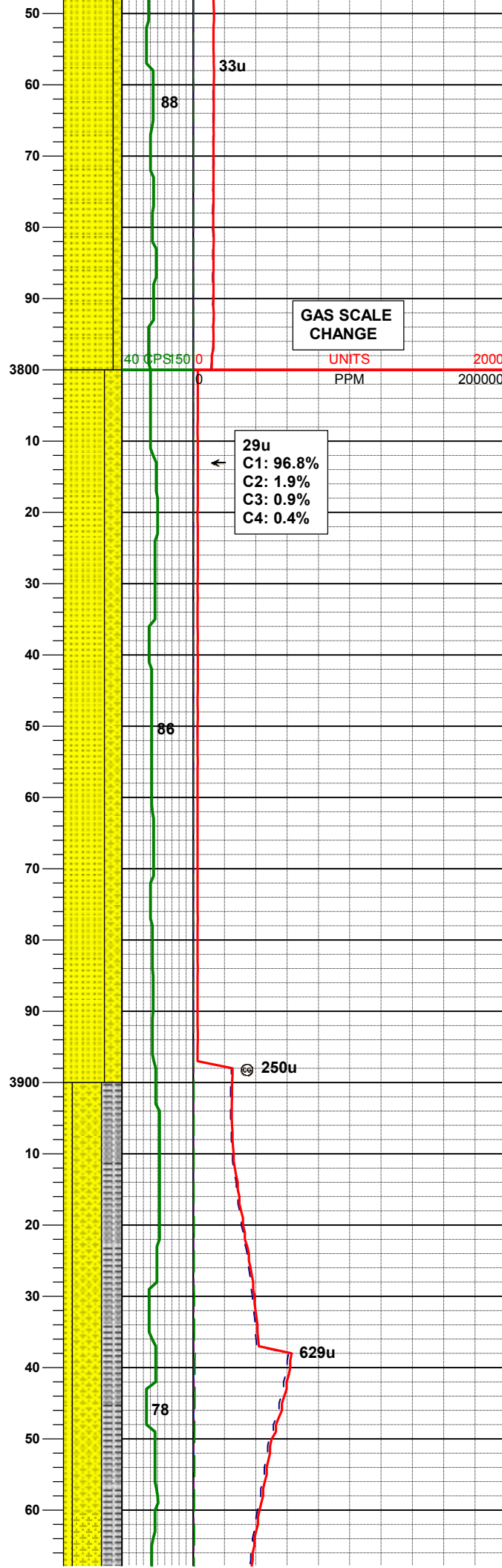
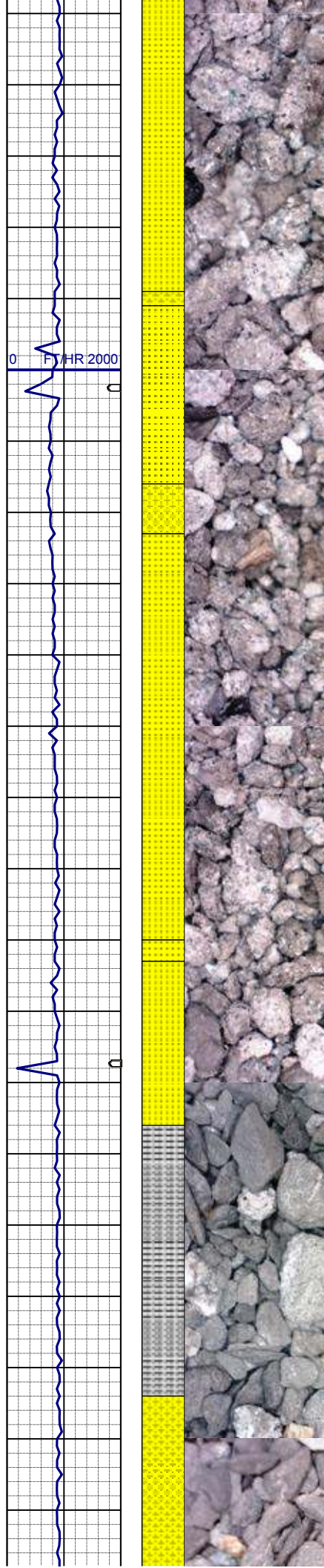
SS: wh, lt gy, mod firm, blkly - sbply,
sb rndd, arg cmt, abnt glau, tr phlog,
occ uncon
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrndd, mod srt, mod sft -
frm, occ glau, occ phlog, arg cmt

MD	3569'
INC	4.7°
AZM	236.4°
TVD	3545.12'

SS: wh, lt gy, mod firm, blkly - sbply,
sb rndd, arg cmt, abnt glau, tr phlog,
occ uncon
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrndd, mod srt, mod sft -
frm, abnt glau, occ phlog, arg cmt

MD	3664'
INC	3.0°
AZM	246.9°
TVD	3639.90'

SS: wh, lt gy, mod firm, blkly - sbply,
sb rndd, arg cmt, abnt glau, tr phlog,



occ uncon
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrnnd, mod srt, mod sft -
frm, abnt glau, occ phlog, arg cmt

MD 3759'
INC 1.7°
AZM 206.0°
TVD 3734.82'

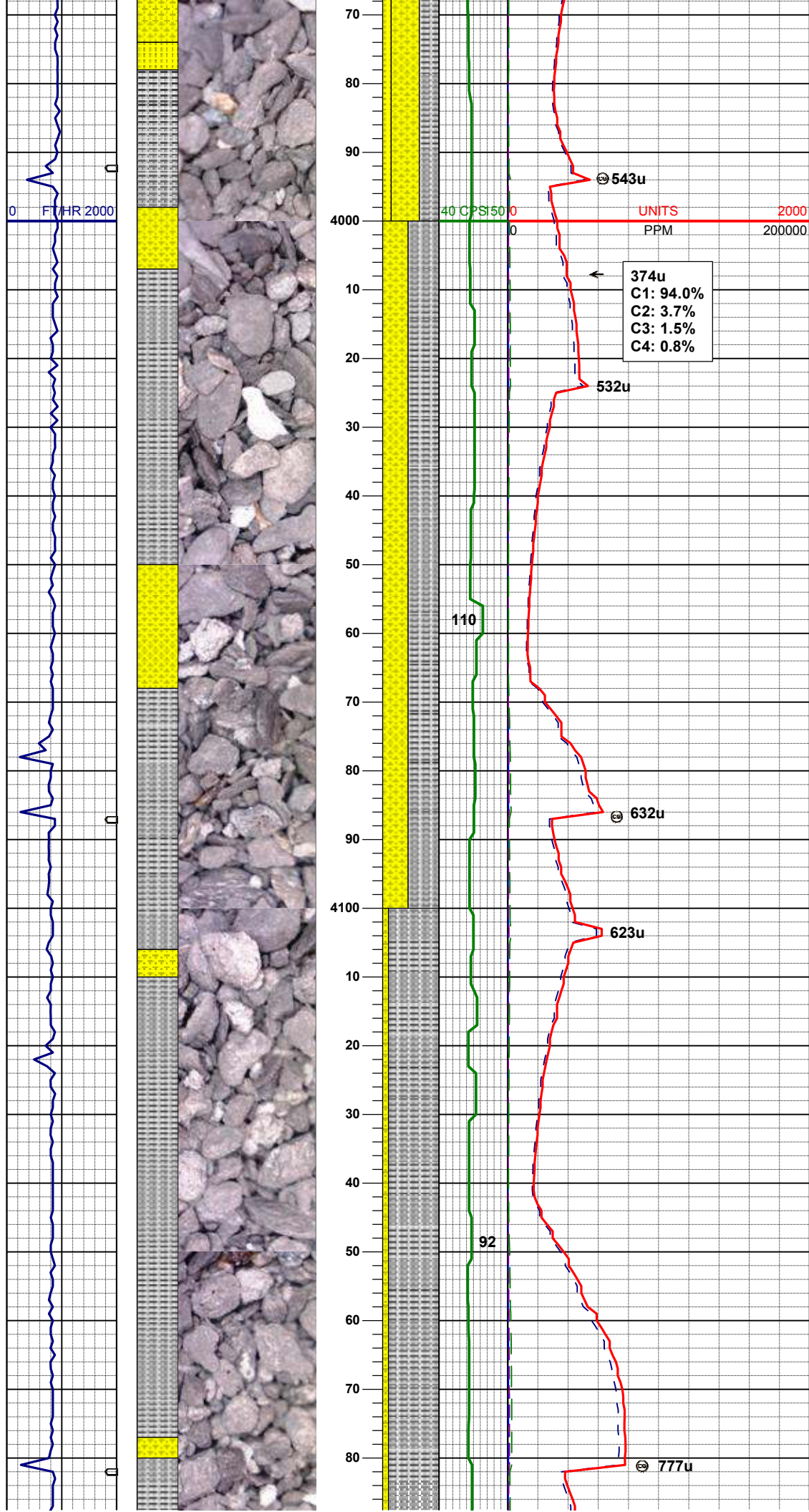
SS: wh, lt gy, mod firm, blkly - sbply,
sb rndd, arg cmt, abnt glau, tr phlog,
occ uncon
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrnnd, mod srt, mod sft -
frm, abnt glau, occ phlog, arg cmt

MD 3854'
INC 1.7°
AZM 207.6°
TVD 3829.78'

WT IN 9.00/ OUT 9.00
VIS IN 34/ OUT 34

MD 3949'
INC 1.3°
AZM 224.8°
TVD 3924.75'

SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrnnd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt
SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbply - sbply, noncalc
SS: wh, lt gy, mod firm, blkly - sbply,
sb rndd, arg cmt, abnt glau, tr phlog,
occ uncon



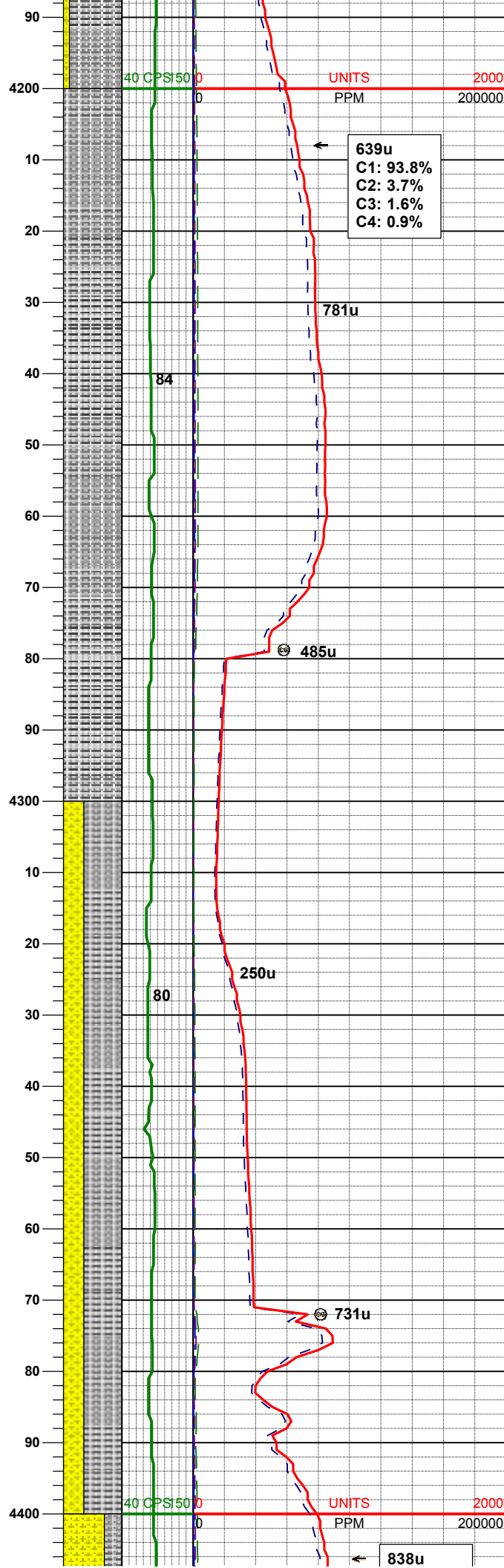
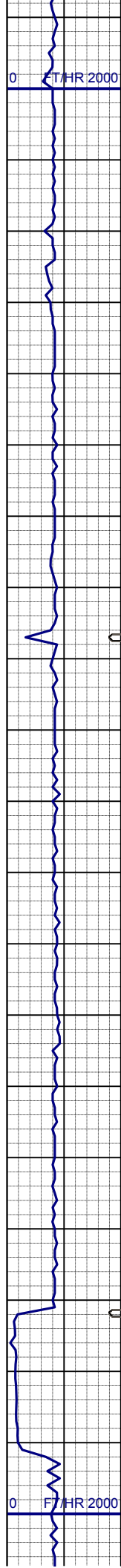
WT IN 8.70/ OUT 8.70
VIS IN 35/ OUT 35

MD 4044'
INC 1.0°
AZM 233.4°
TVD 4019.73'

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbply, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrndd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt

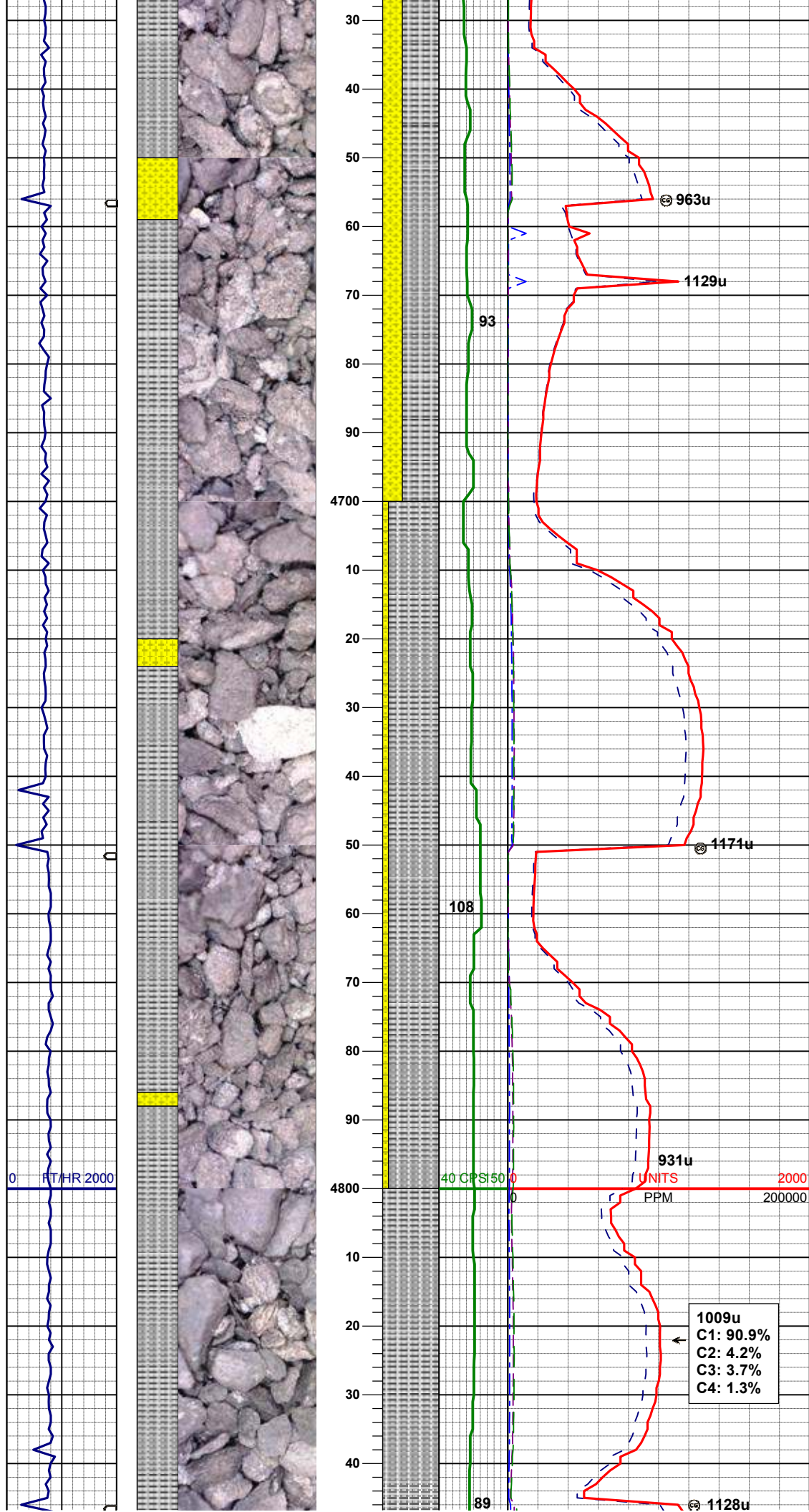
MD 4139'
INC 1.0°
AZM 237.3°
TVD 4114.72'

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbply, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrndd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt



SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrndd, mod srt, mod sft -
frm, occ glau & phlog, tr fos frag, arg
cmt

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sblky - sbply, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrndd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt



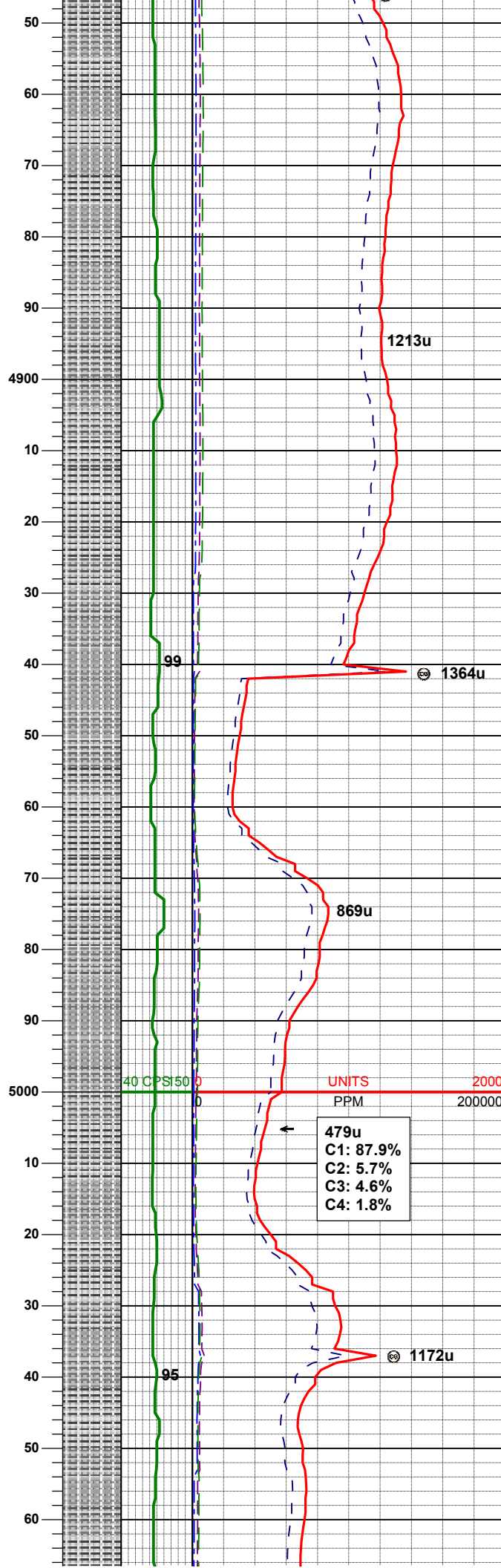
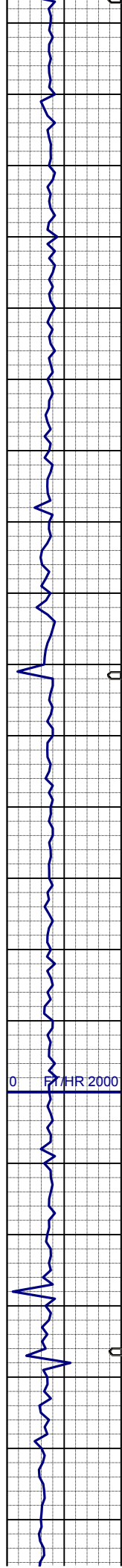
SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbbiky - sbply, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrdd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt

WT IN 9.00/ OUT 9.00
VIS IN 33/ OUT 33

MD	4708'
INC	0.9°
AZM	247.1°
TVD	4683.62'

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbbiky - sbply, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrdd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt

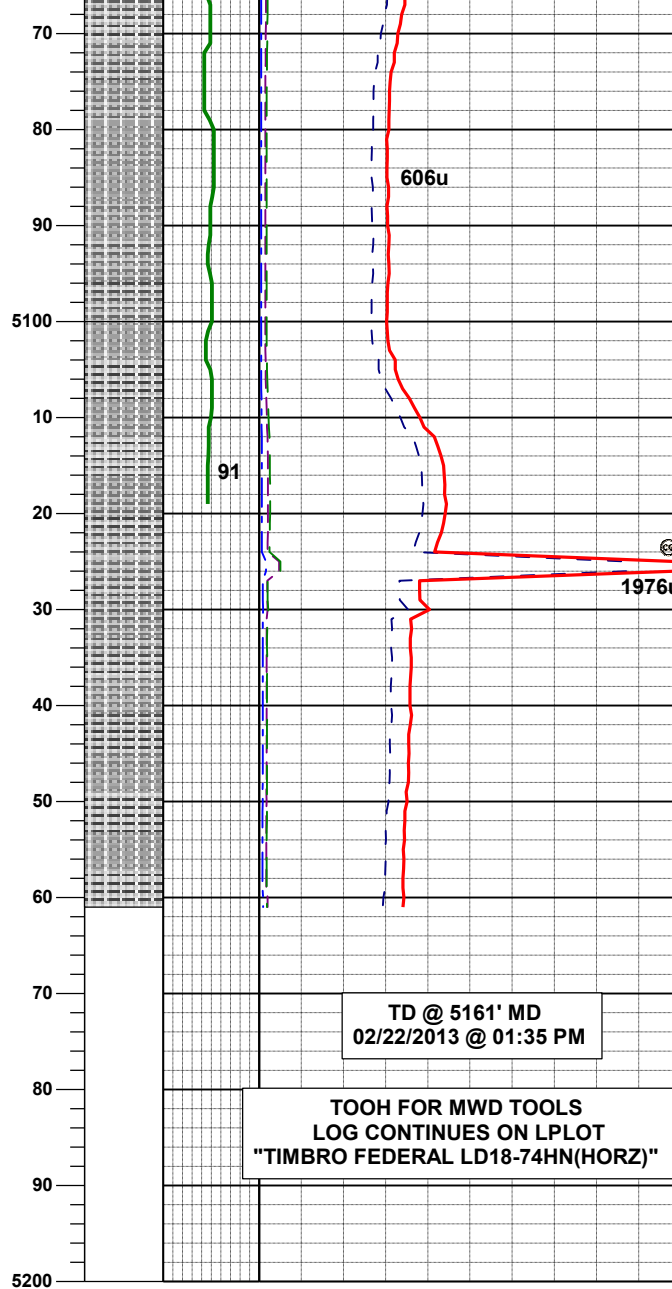
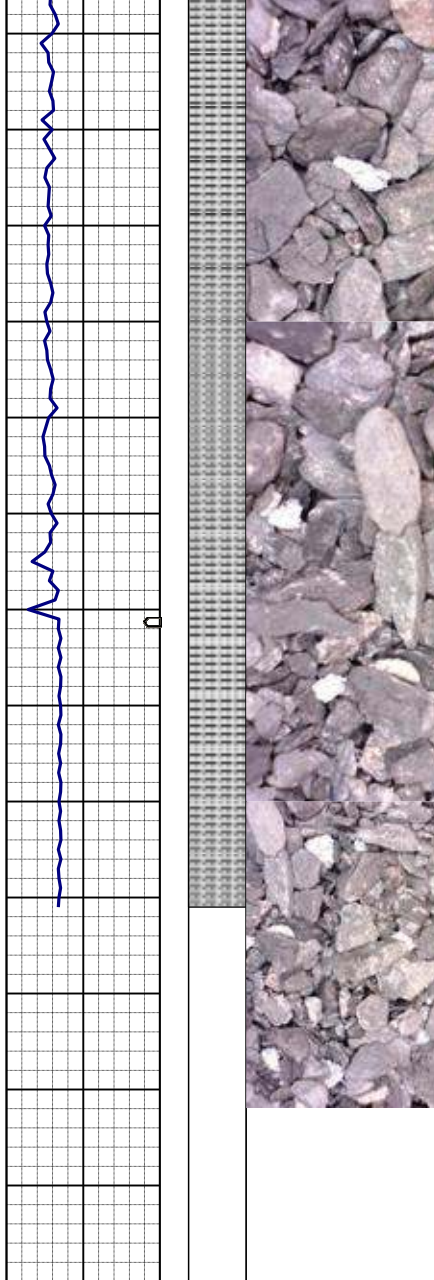
MD	4803'
INC	0.9°
AZM	241.8°
TVD	4778.61'



SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbply, occ fos
frag, noncalc

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbply, occ fos
frag, noncalc

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbply, occ fos
frag, noncalc



MD	5088'
INC	1.1°
AZM	67.4°
TVD	5063.59'

WT IN 9.20/ OUT 9.20
VIS IN 44/ OUT 44

MD	5119'
INC	1.0°
AZM	63.1°
TVD	5094.59'

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbply, occ fos
frag, noncalc