

LOG created using L PLOT VH Version 3.0, February 07, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

OPERATOR:	NOBLE ENERGY INC.
WELL:	TIMBRO FEDERAL LD17-76HN
LOCATION:	SESW SEC 17, T9N, R58W
COUNTY:	WELD
STATE:	COLORADO
SPOT:	501' FSL, 2412' FWL
ELEVATION:	GR 4,868' KB 4,898'
FIELD:	WILDCAT
SPUD DATE:	02/03/2013
TD DATE:	02/05/2013
DATES LOGGED:	02/04/2013 - 02/05/2013
DEPTHS LOGGED:	700' MD - 5200' MD
LOGGERS:	ANDREA ZUIDEMA, LAURA KELLOGG
DRILLING FLUID:	LSND
DRILLING RIG:	H&P 326
API:	05-123-33087
LOG TYPE:	VERTICAL
SCALE:	1:240 (5 inches per 100 feet)
REMARKS:	WELLSITE GEOLOGICAL SERVICES PROVIDED BY COLUMBINE LOGGING INC.

LITHOLOGIES



Sandstone



Shaly Sandstone



Silty Shale

ENGINEERING SYMBOLS



Connection



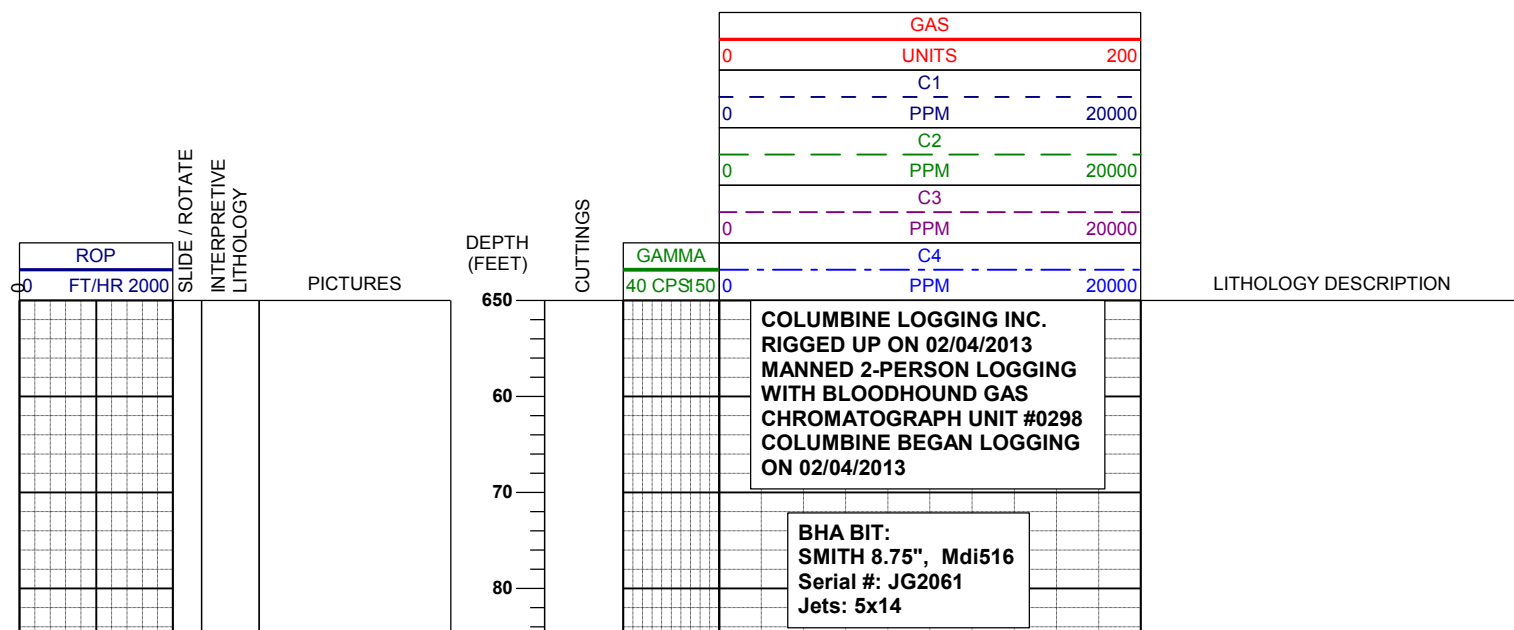
Connection Gas

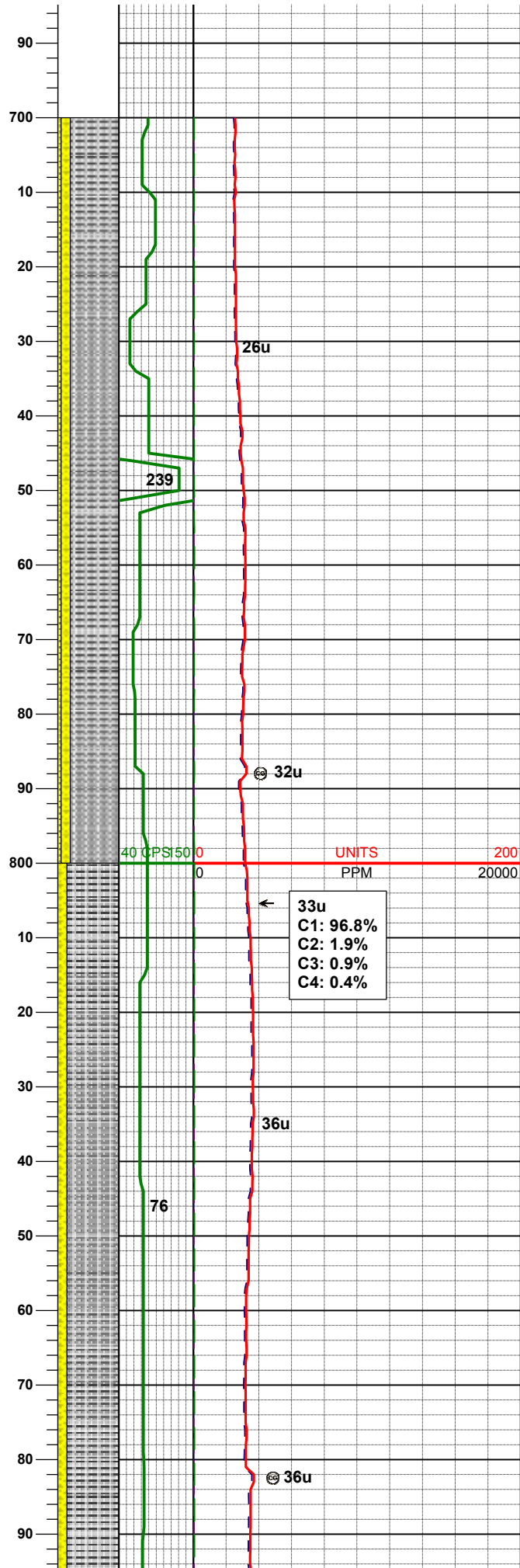
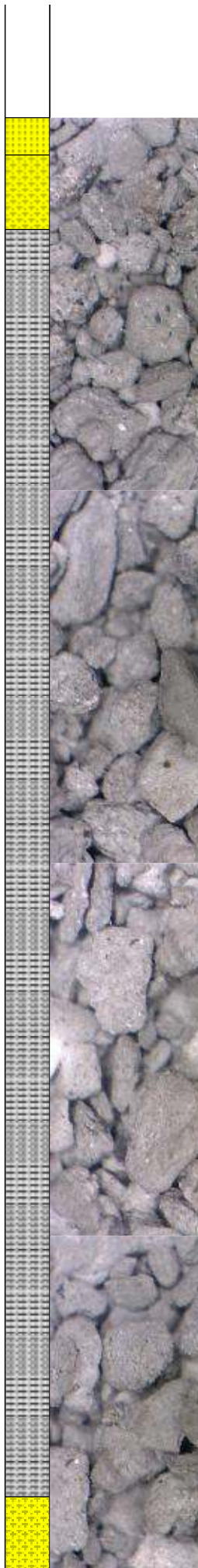
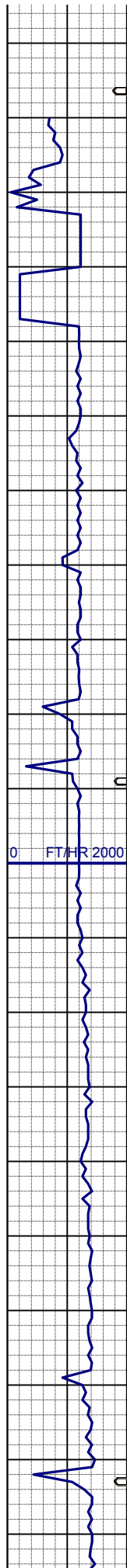


Arrow



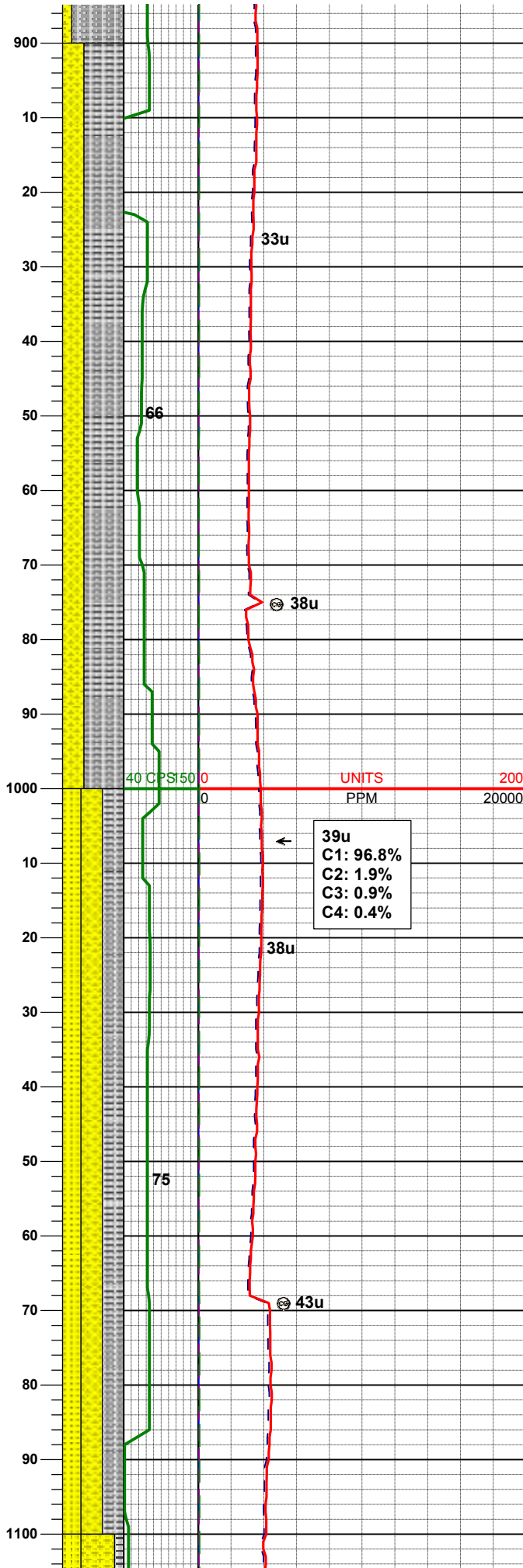
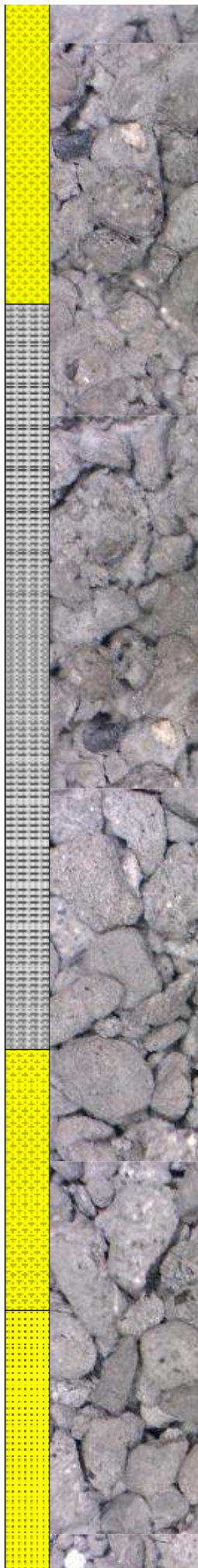
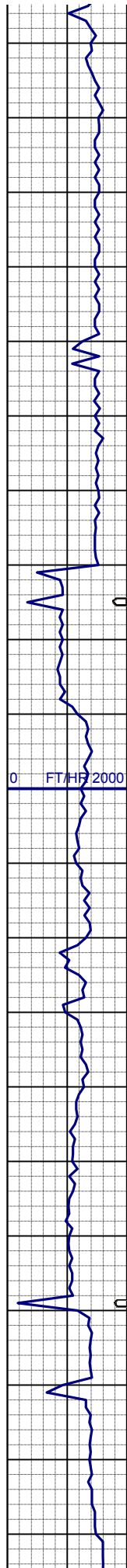
Midnight Depth





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
SS: wh, lt gy, mod firm, blky - sbply,
sb rndd, arg cmt, occ glau, tr phlog,
occ unconcs

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

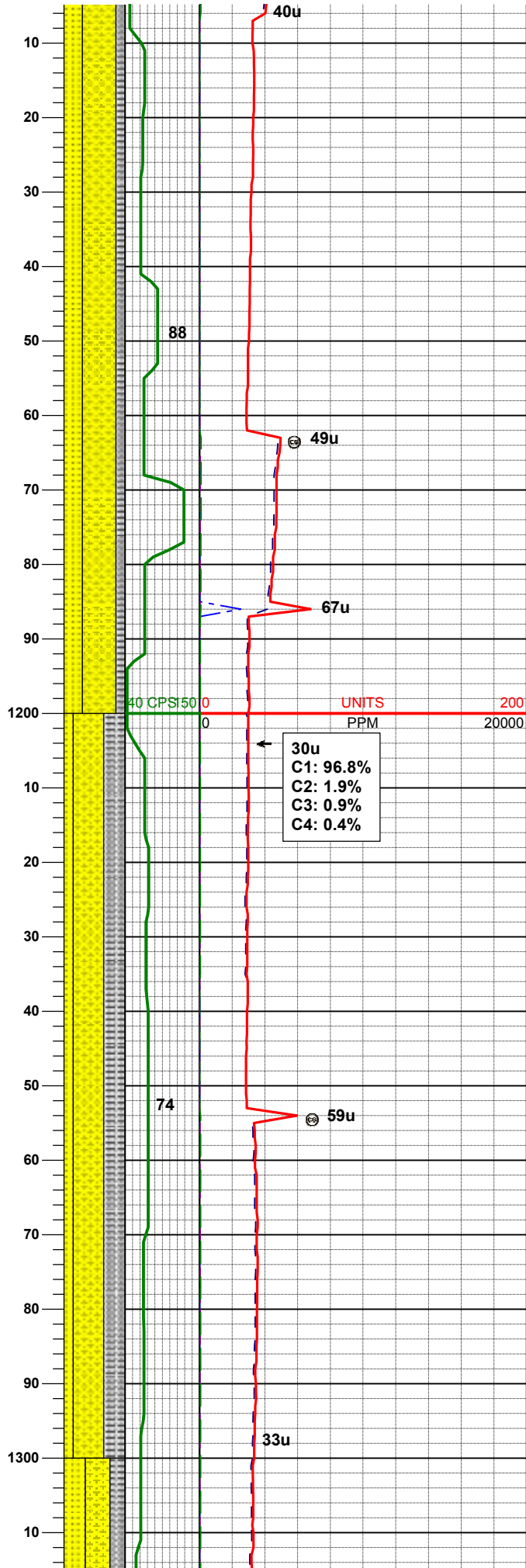
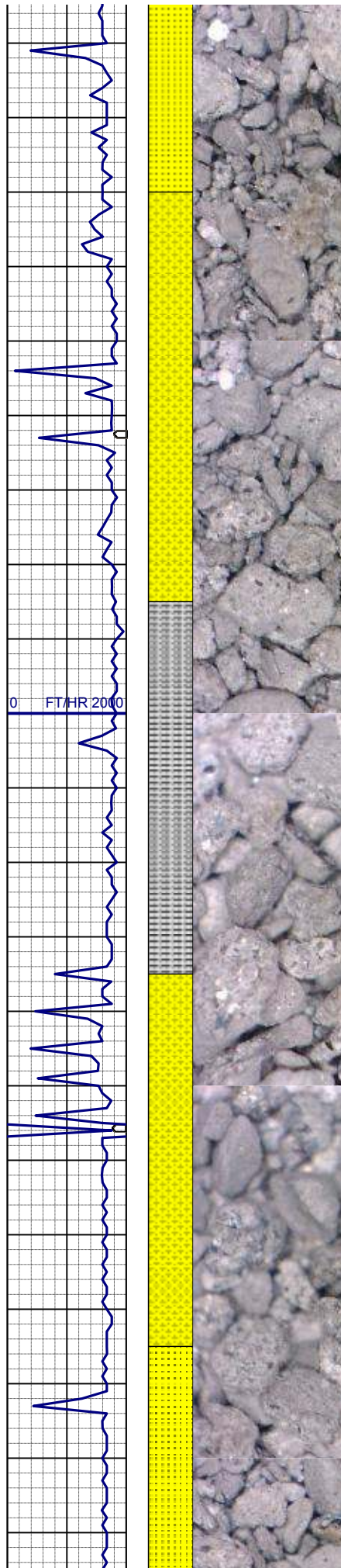


MD 932'
INC 0.2°
AZM 349.4°
TVD 932.0'

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 - sbmdd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt

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

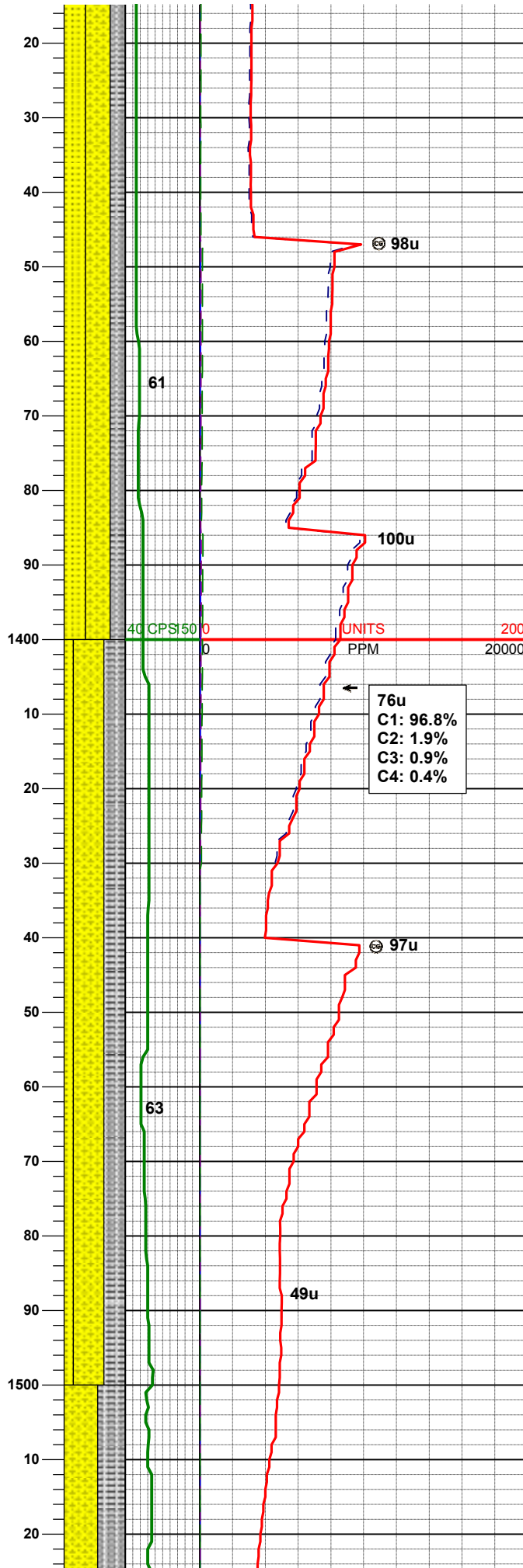
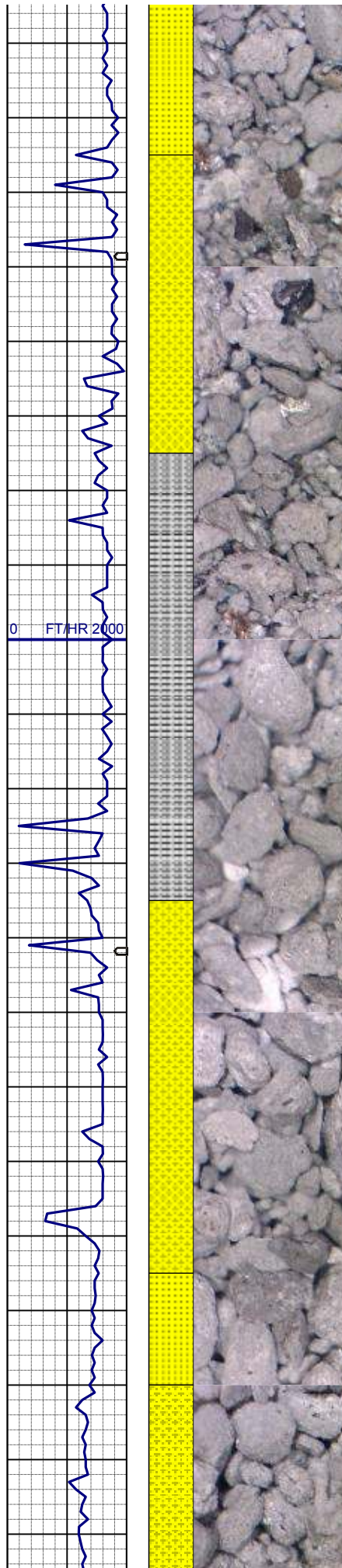
SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbply, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbmdd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt
SS: wh, lt gy, mod firm, blk - sbply,
sb rdd, arg cmt, abnt glau, tr phlog,
occ uncon



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, blkly - sbply,
sb rndd, arg cmt, occ glau, tr phlog,
occ uncon
SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbply, noncalc

MD 1212'
INC 0.2°
AZM 296.7°
TVD 1212.0'

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

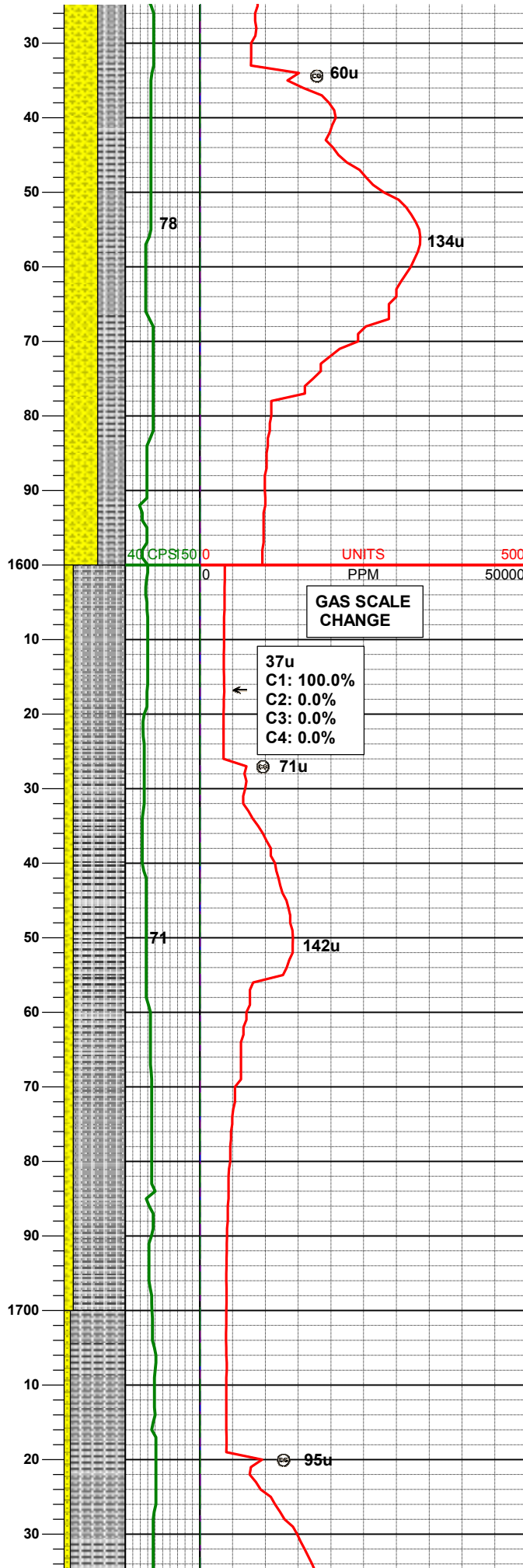
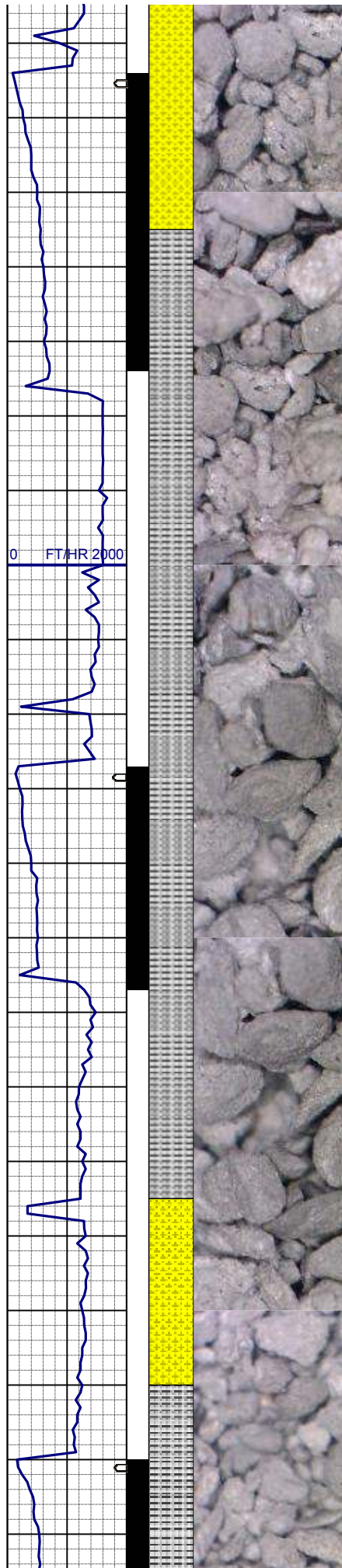


SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrnrd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt
SS: wh, lt gy, mod firm, biky - sbply,
sb rndd, arg cmt, abnt glau, tr phlog,
occ dism pyr, occ uncons
SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbply, noncalc

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

MD	1492'
INC	0.3°
AZM	320.6°
TVD	1491.99'

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

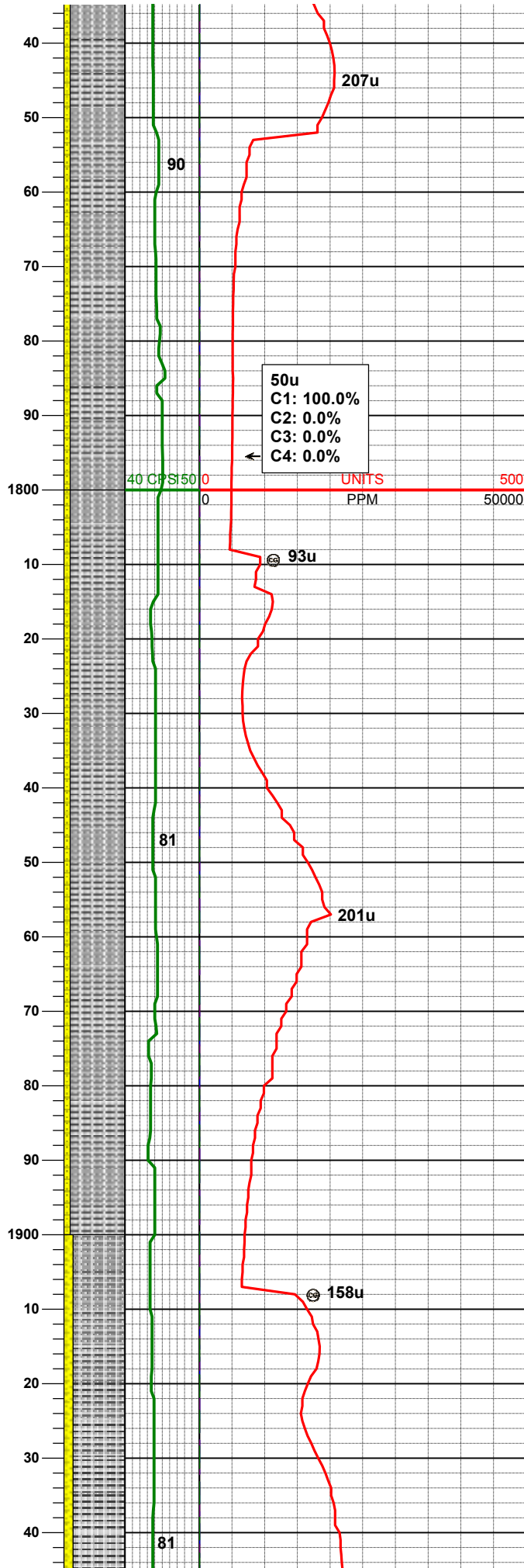
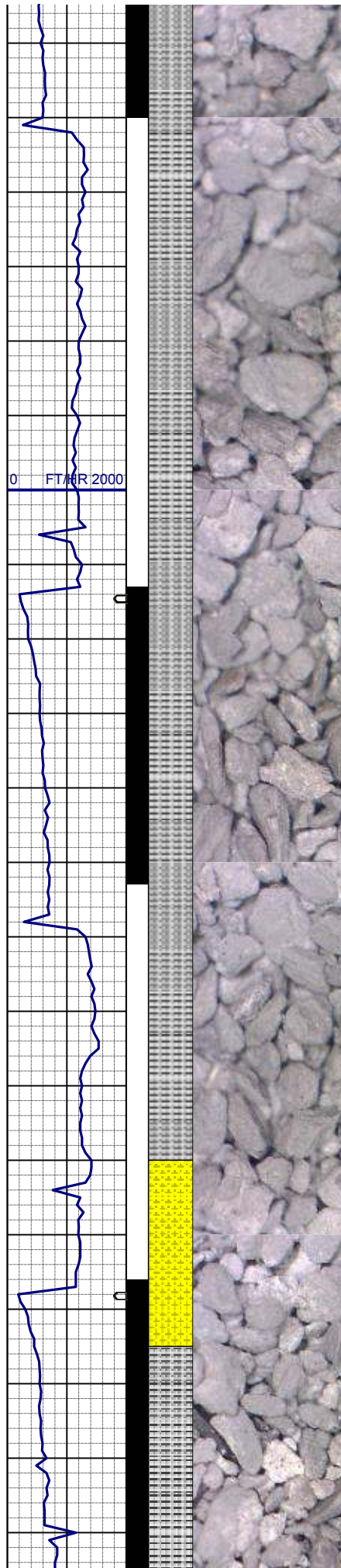


SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrnnd, mod srt, mod sft -
frm, occ glau & phlog, tr dism pyr, arg
cmt
SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbplty, noncalc

MD 1585'
INC 3.3°
AZM 239.4°
TVD 1584.94'

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, tr dism pyr, arg
cmt

MD 1678'
INC 5.2°
AZM 227.9°
TVD 1677.68'



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, tr dism pyr, arg cmt

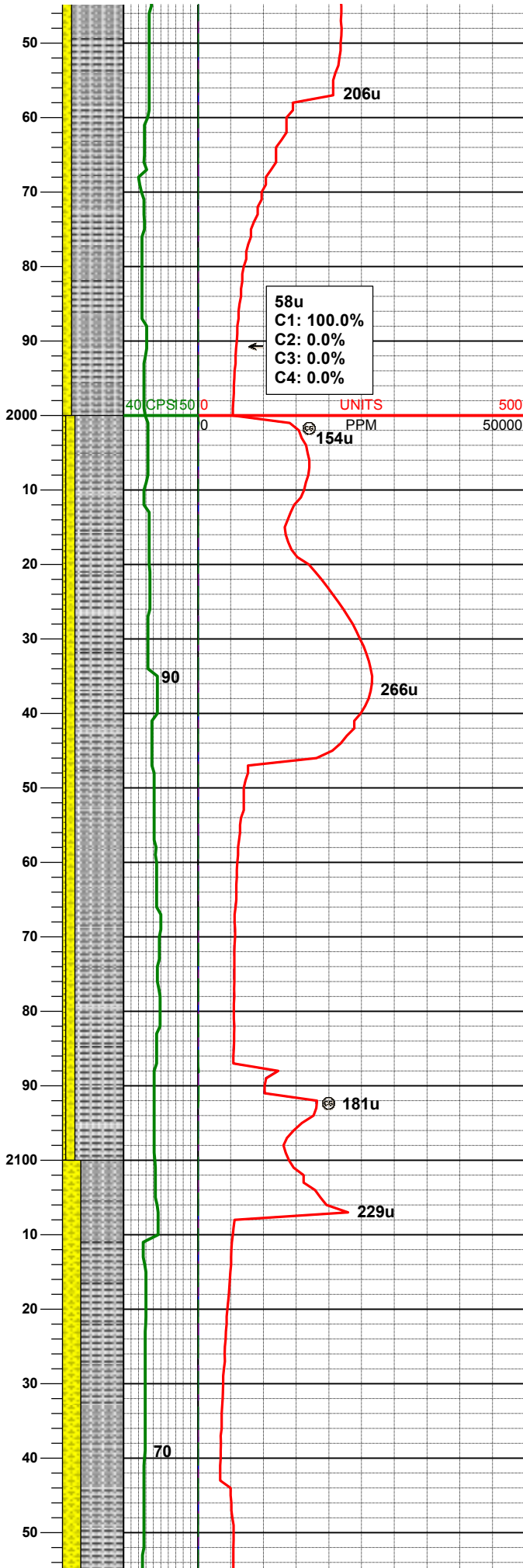
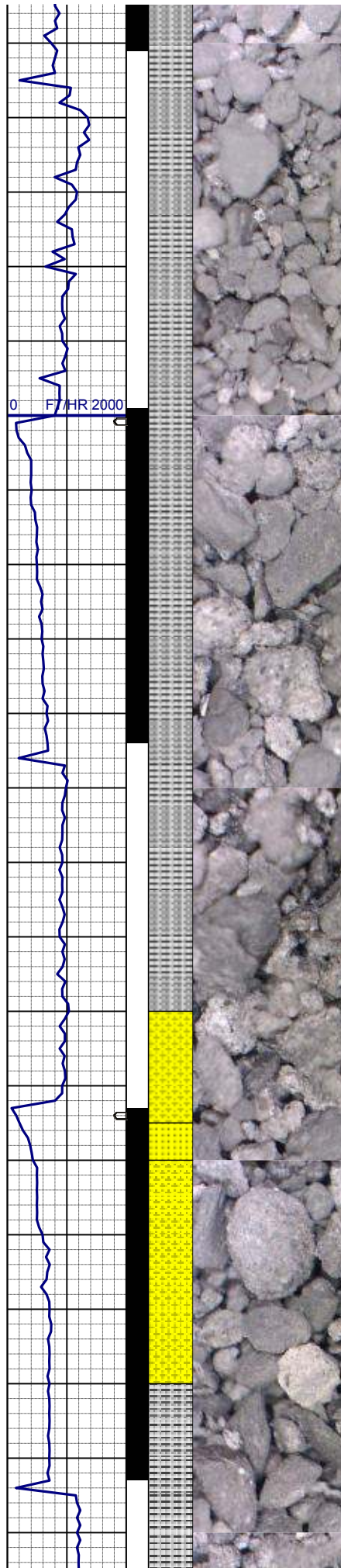
MD 1771'
INC 6.4°
AZM 215.8°
TVD 1770.21'

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

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, tr dism pyr, arg cmt

MD 1865'
INC 8.4°
AZM 225.3°
TVD 1863.43'

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, tr dism pyr, arg
 cmt

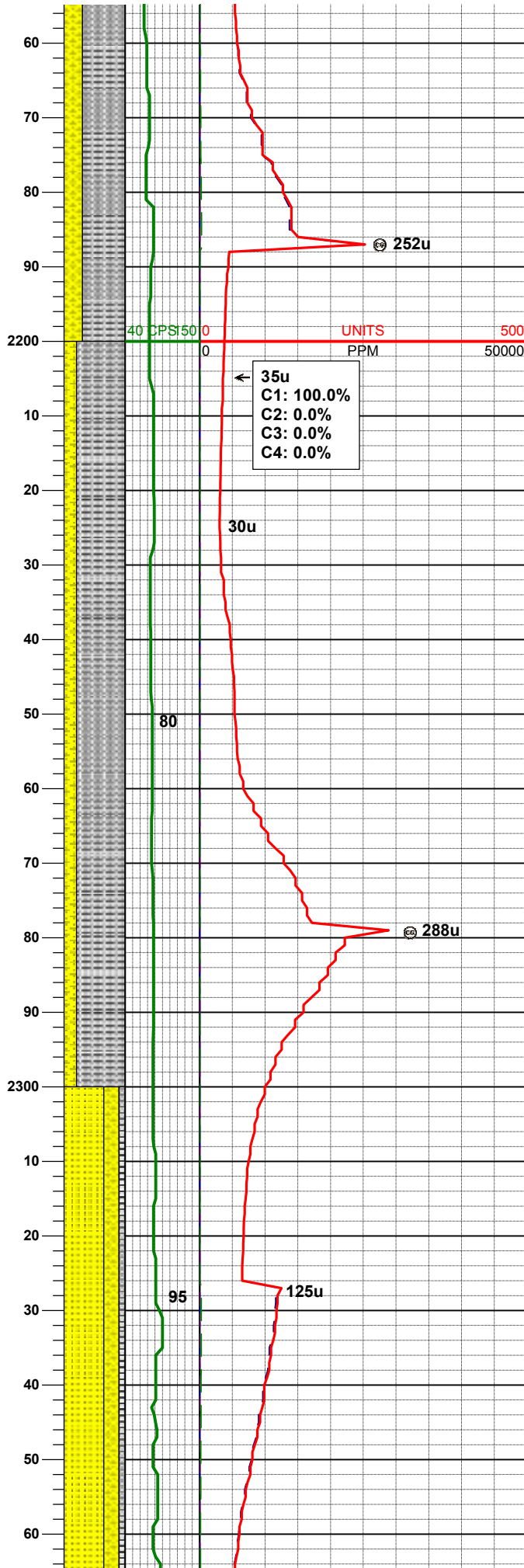
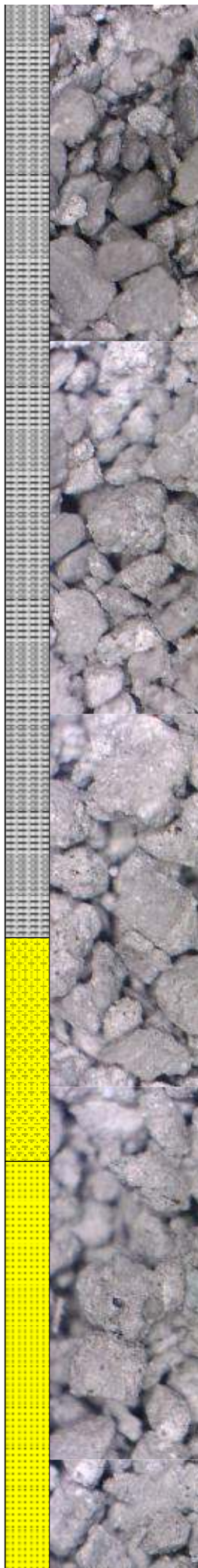
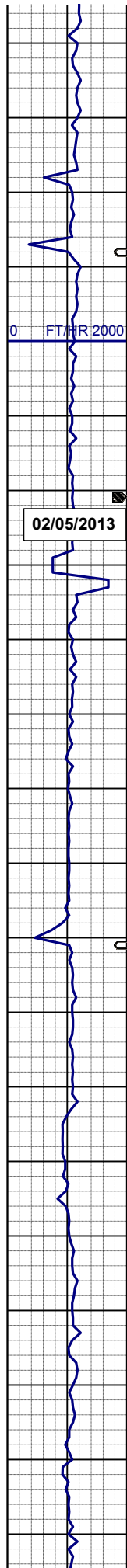
MD 1957'
 INC 10.8°
 AZM 232.0°
 TVD 1954.13'

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, sbblky - sbply, noncalc
 SS: wh, lt gy, mod firm, blk - sbply,
 sb rndd, arg cmt, abnt glau, tr phlog,
 occ dism pyr, occ uncon

MD 2051'
 INC 12.1°
 AZM 228.5°
 TVD 2046.26'

MD 2145'
 INC 14.5°
 AZM 219.7°
 TVD 2137.74'

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

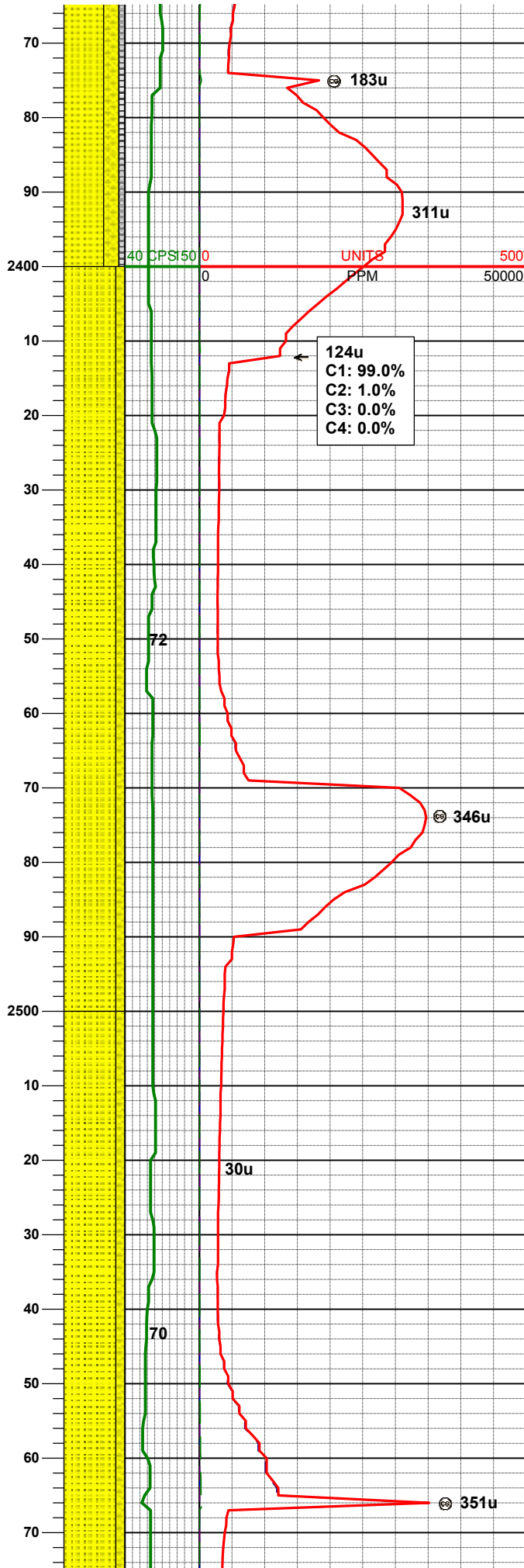
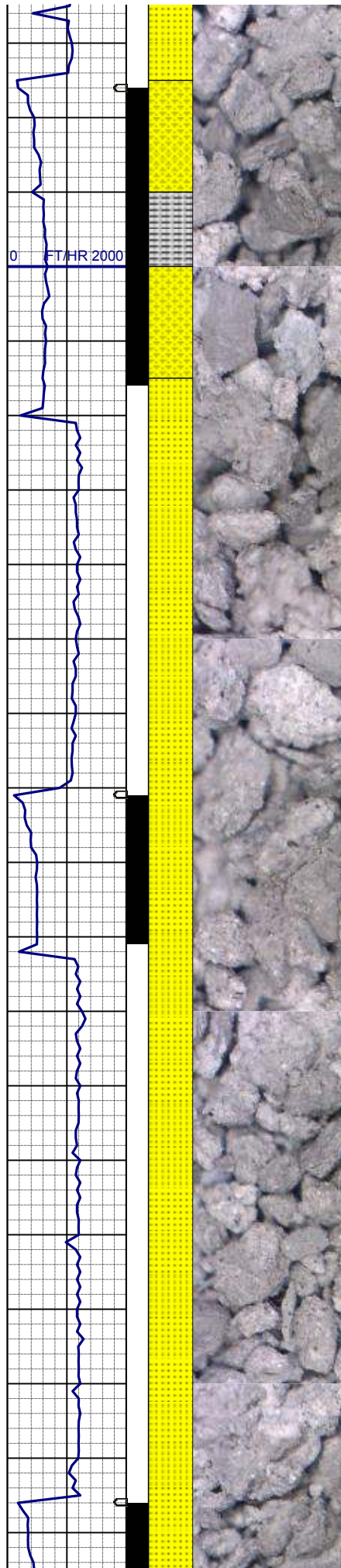
MD 2238'
INC 14.1°
AZM 220.2°
TVD 2227.86'

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 - sbrnrd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt

WT IN 8.90/ OUT 8.90
VIS IN 28/ OUT 28

MD 2333'
INC 12.2°
AZM 220.2°
TVD 2320.37'

SS: wh, lt gy, mod firm, blky - sbplty,
sb rndd, arg cmt, abnt glau, tr phlog,
occ dism pyr, occ unconc
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, sbblky - sbplty, noncalc

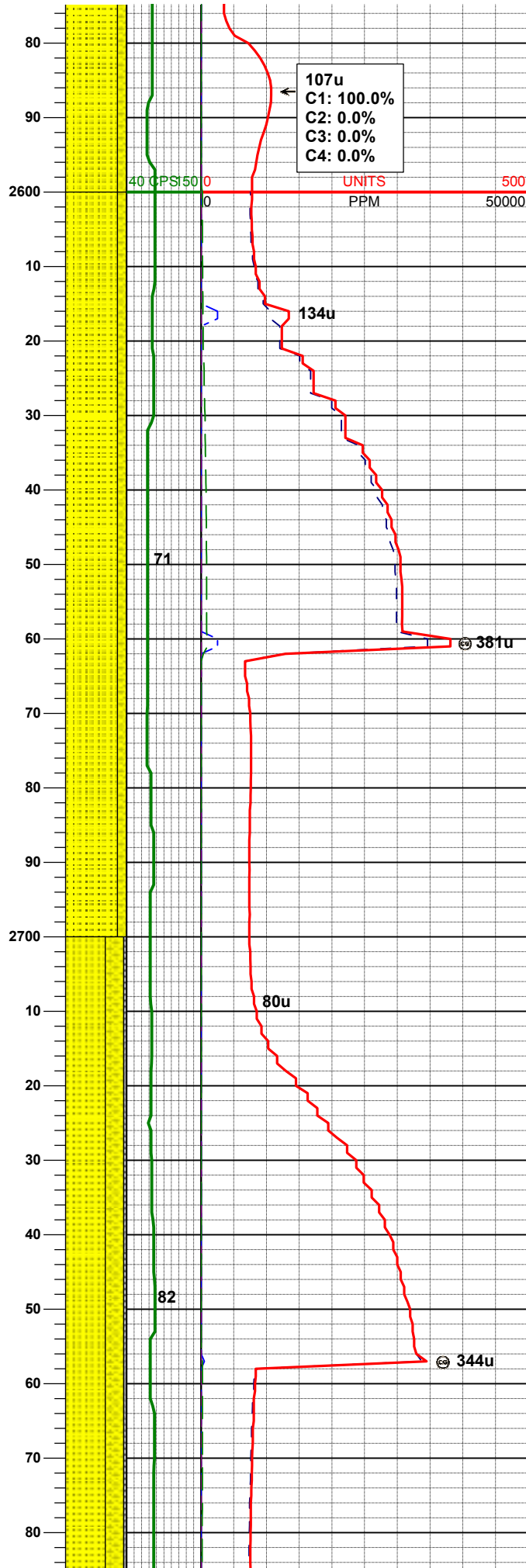
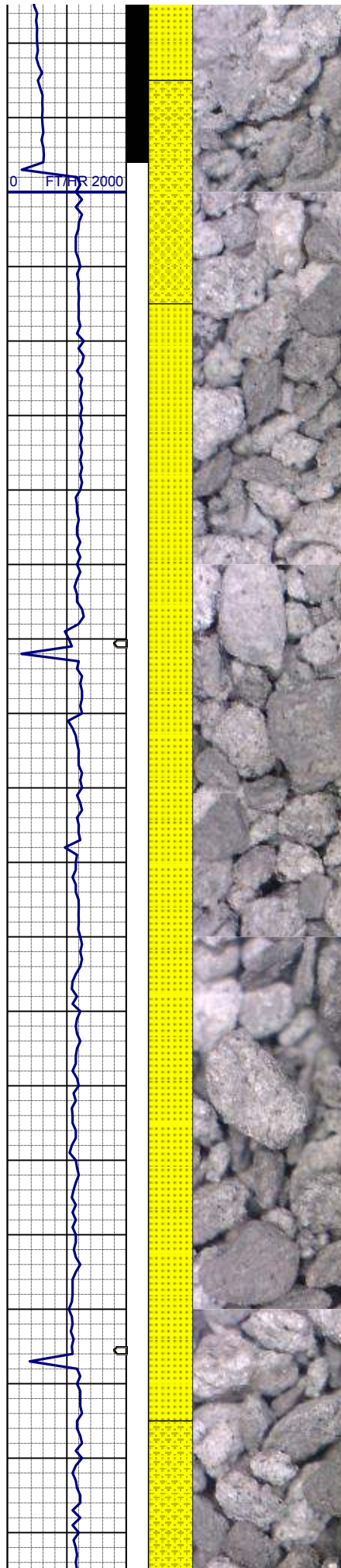


MD 2428'
INC 14.3°
AZM 222.1°
TVD 2412.83'

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

MD 2522'
INC 14.4°
AZM 223.2°
TVD 2503.90'

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

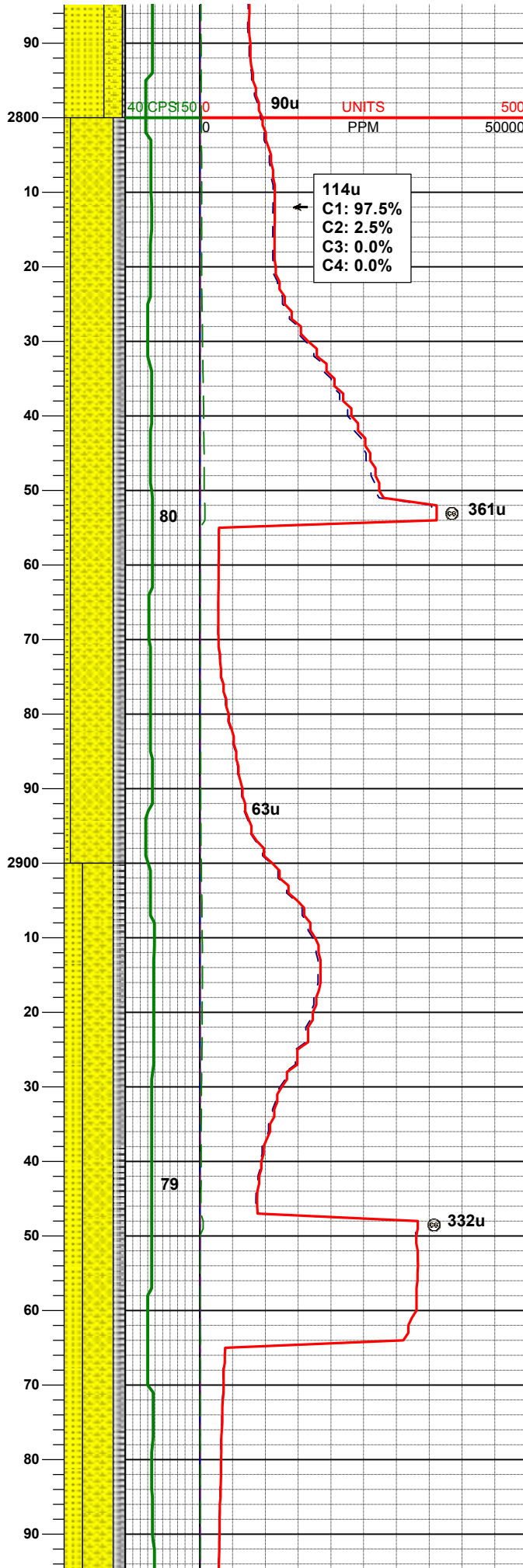
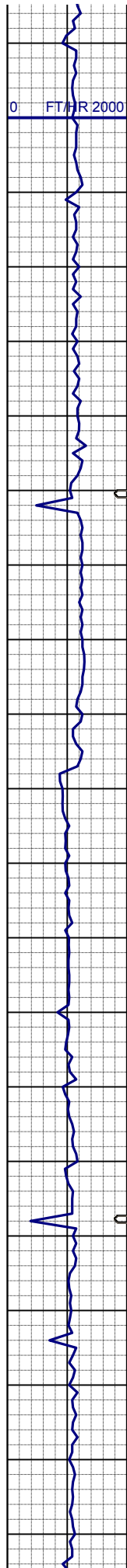


MD 2617'
INC 16.4°
AZM 222.7°
TVD 2595.48'

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

MD 2712'
INC 16.3°
AZM 222.1°
TVD 2686.64'

SS: wh, lt gy, mod firm, blkly - sbplty,
sb rndd, arg cmt, abnt glau, tr phlog,
occ dism pyr, occ unconc
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, sbblkly - sbplty, noncalc



WT IN 9.00/ OUT 9.00
VIS IN 29/ OUT 29

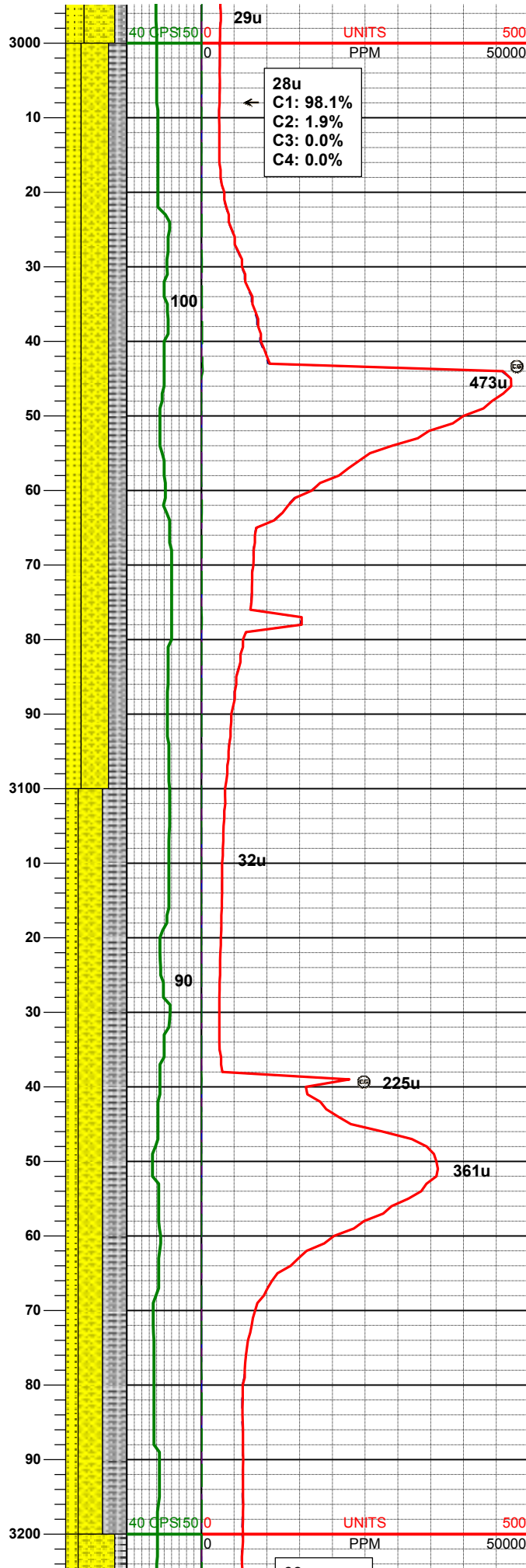
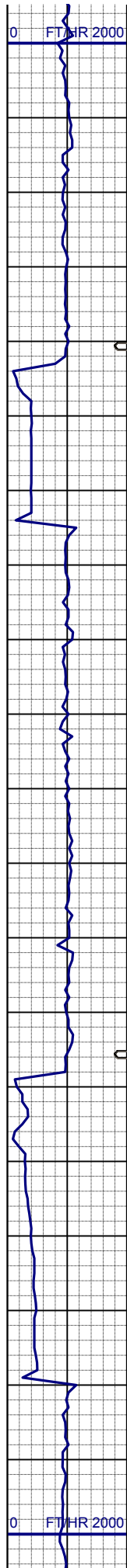
MD 2807'
INC 15.6°
AZM 221.3°
TVD 2777.98'

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 frm, sbblky - sbply, noncalc
SS: wh, lt gy, mod frm, blk - sbply,
sb rndd, arg cmt, abnt glau, tr phlog,
occ dism pyr, occ unconc

MD 2902'
INC 14.9°
AZM 221.8°
TVD 2869.64'

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

MD 2997'
INC 13.4°



AZM 219.9°
TVD 2961.75'

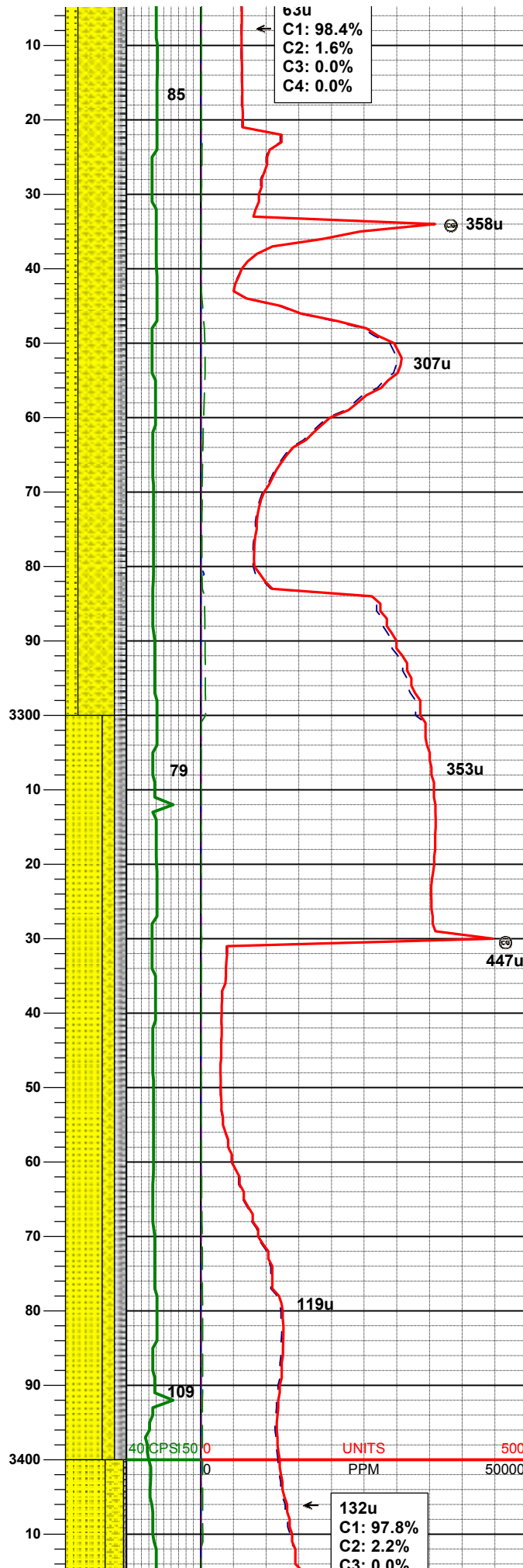
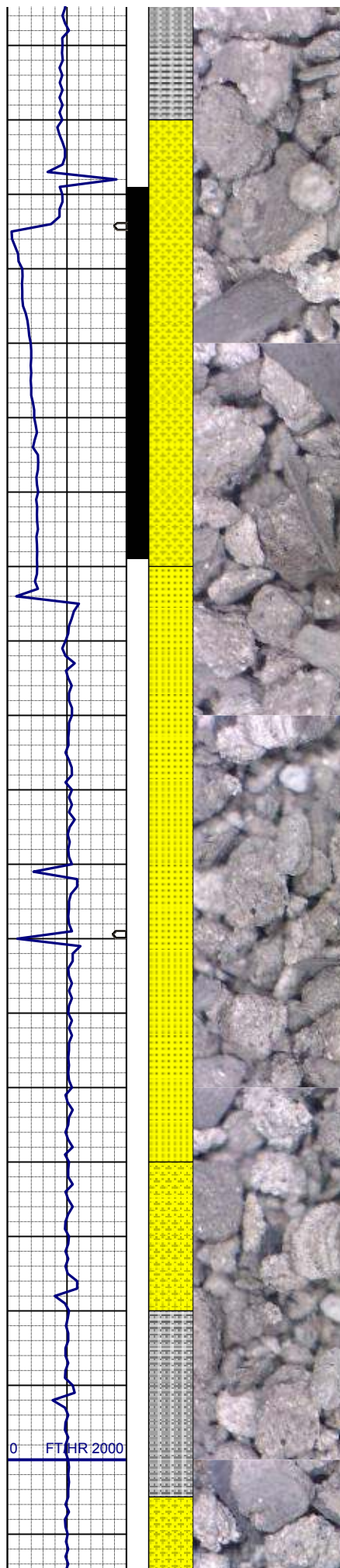
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbmdd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt
SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbply, noncalc
SS: wh, lt gy, mod firm, blky - sbply,
sb rdd, arg cmt, abnt glau, tr phlog,
occ dism pyr, occ uncon

MD 3092'
INC 12.4°
AZM 212.5°
TVD 3054.36'

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

MD 3187'
INC 11.7°
AZM 223.0°
TVD 3147.28'

WT IN 9.00/ OUT 9.00
VIS IN 30/ OUT 30

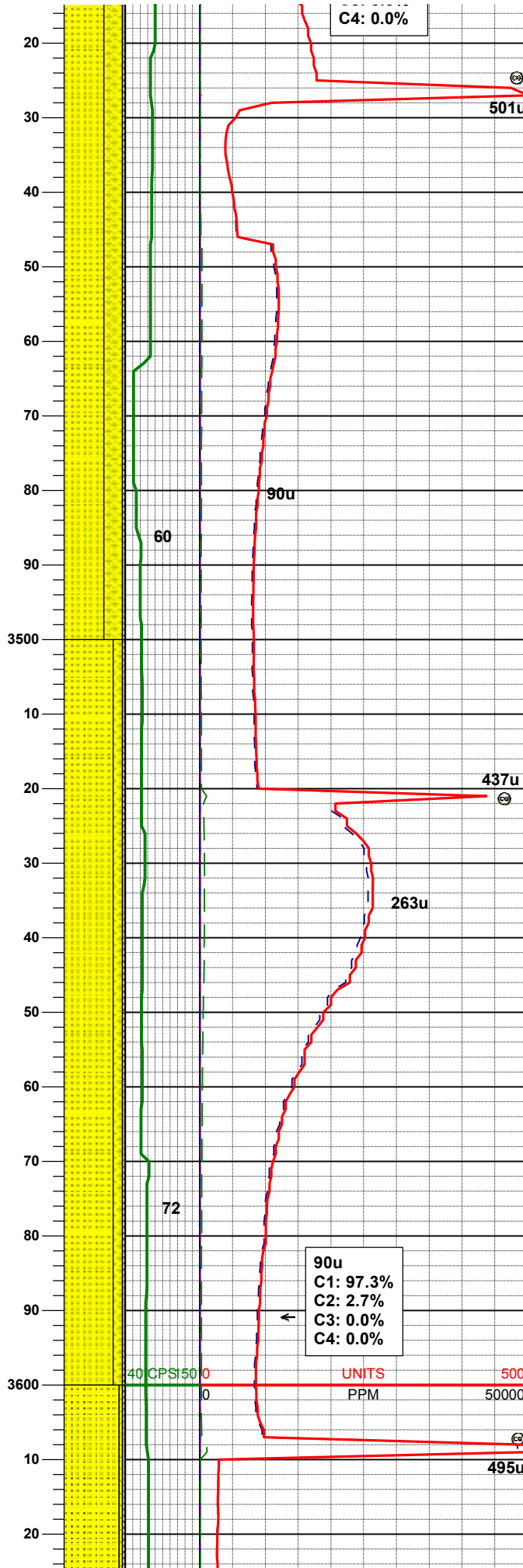
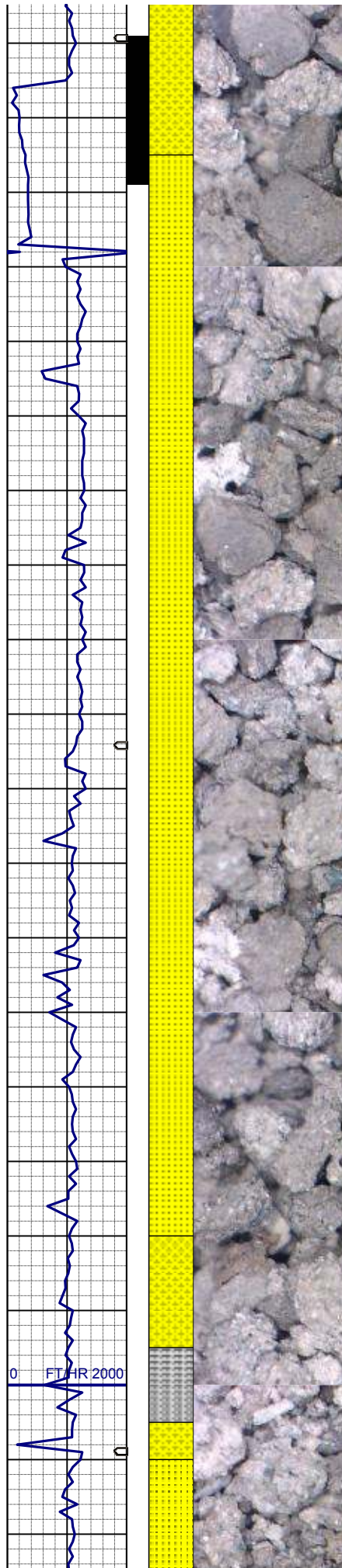


SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrnrd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt
SLTYSH: m - lt gy-crmbrn, occ dk gy,
sft - mod frm, sbblky - sbply, noncalc
SS: wh, lt gy, mod frm, blk - sbply,
sb rdd, arg cmt, abnt glau, tr phlog,
occ uncon

MD 3282'
INC 14.7°
AZM 224.1°
TVD 3239.76'

SS: wh, lt gy, mod firm, blk - sbply,
sb rndd, arg cmt, abnt glau, tr phlog,
occ uncon
SHYS: 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, sbply - sbply, noncalc

MD	3377'
INC	15.3°
AZM	223.7°
TVD	3331.52'



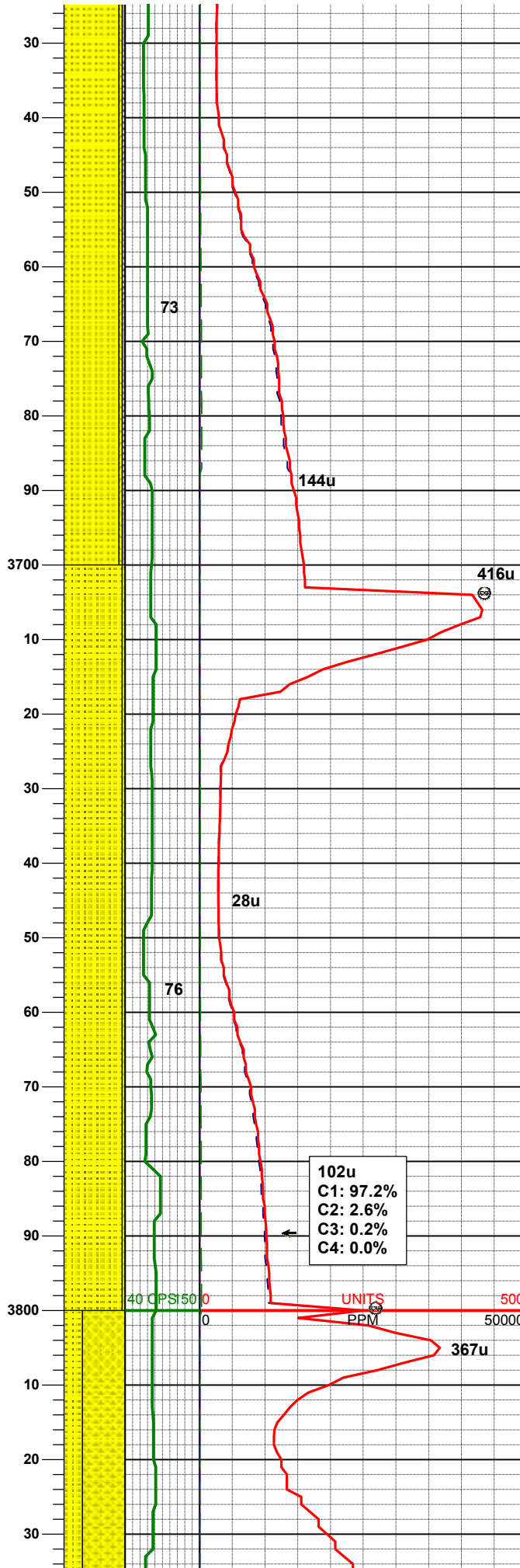
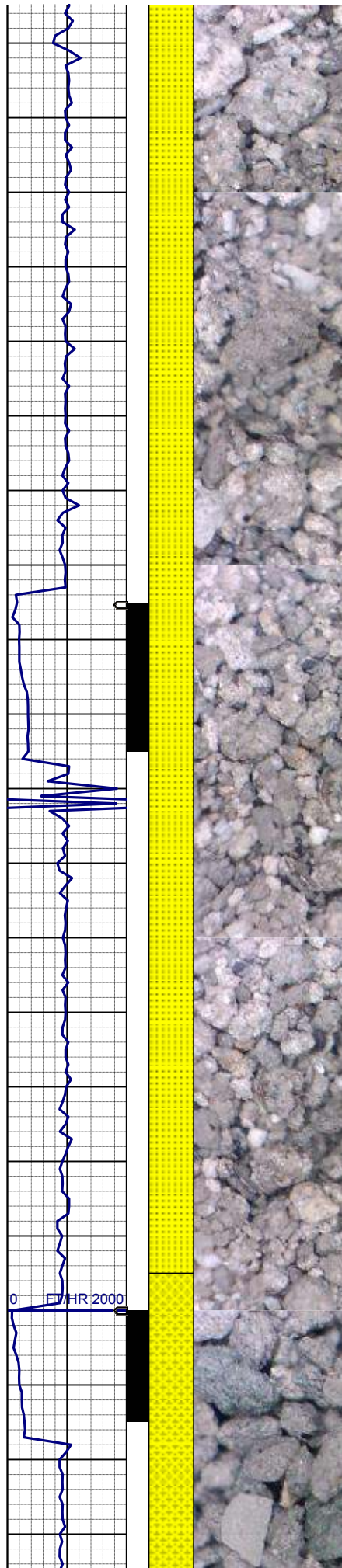
SS: wh, lt gy, mod firm, blkly - sbply,
sb rndd, arg cmt, abnt glau, tr phlog,
occ uncons
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrnnd, mod srt, mod sft -
frm, occ glau & phlog, arg cmt
SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbbly - sbply, noncalc

MD 3472'
INC 13.8°
AZM 223.9°
TVD 3423.47'

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

MD 3567'
INC 13.9°
AZM 224.9°
TVD 3515.71'

WT IN 9.10/ OUT 9.10
VIS IN 30/ OUT 30



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 & phlog, arg cmt
SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbbly - sbply, noncalc

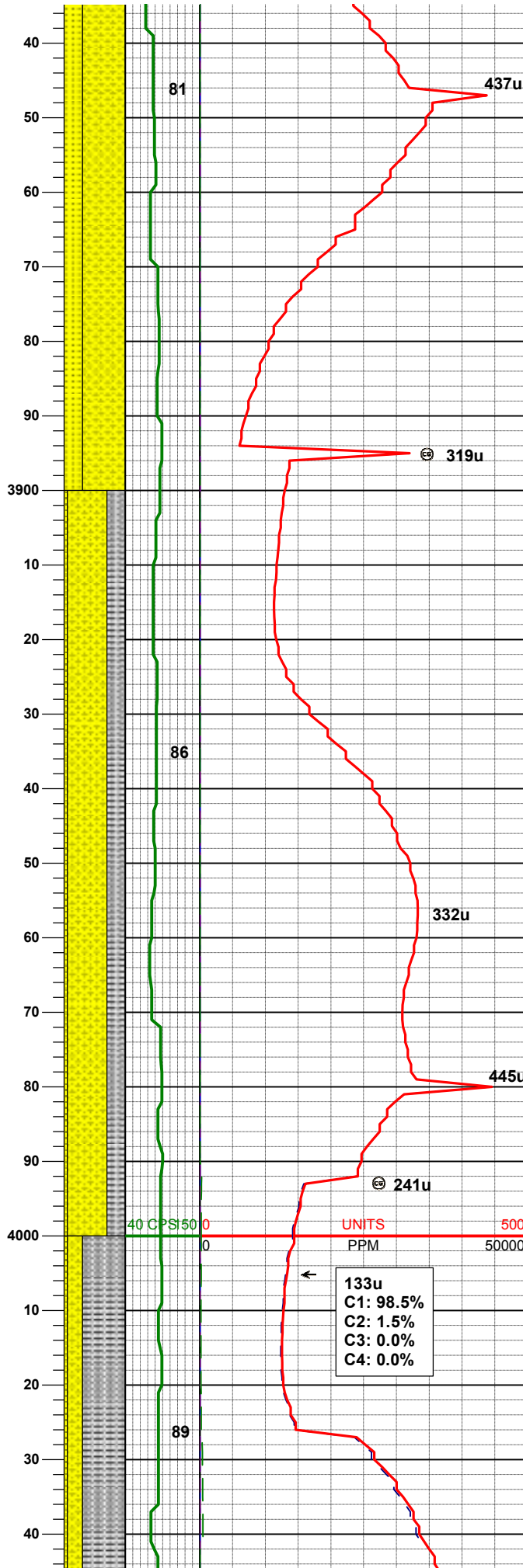
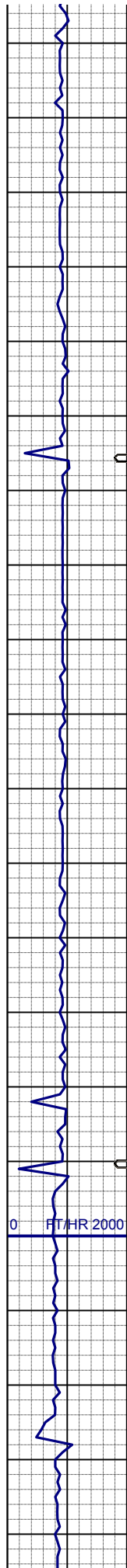
MD 3663'
INC 14.2°
AZM 225.3°
TVD 3608.84'

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

MD 3758'
INC 13.1°
AZM 223.9°
TVD 3701.15'

102u
C1: 97.2%
C2: 2.6%
C3: 0.2%
C4: 0.0%

WT IN 9.10/ OUT 9.10
VIS IN 30/ OUT 30



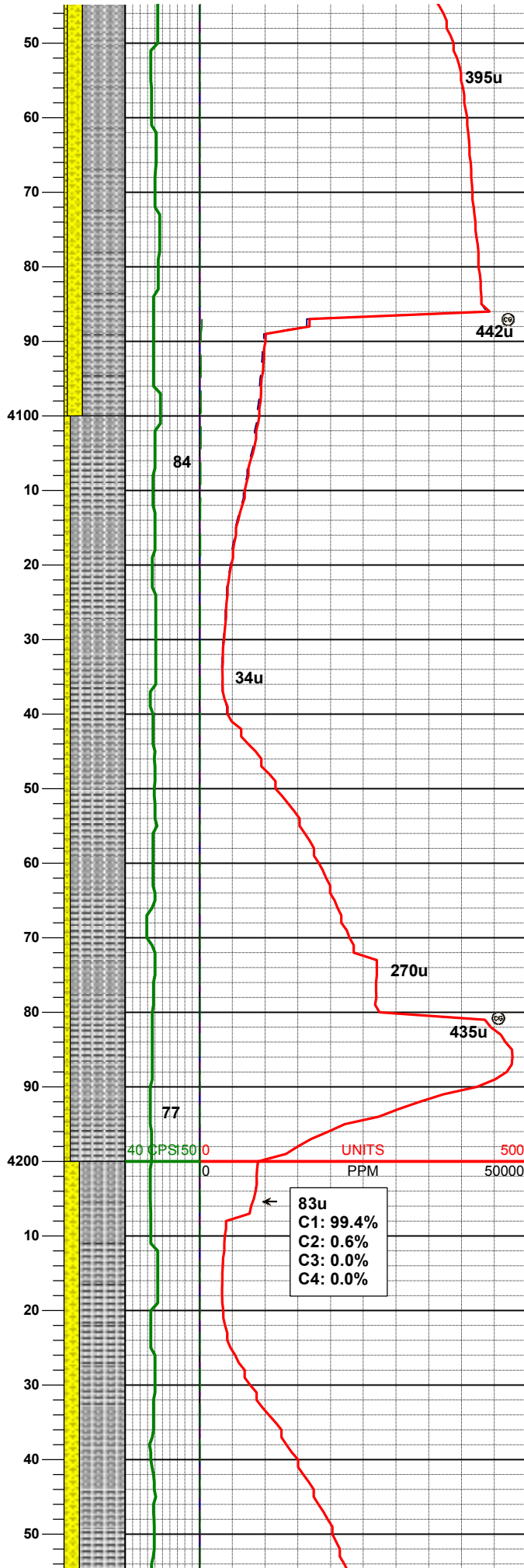
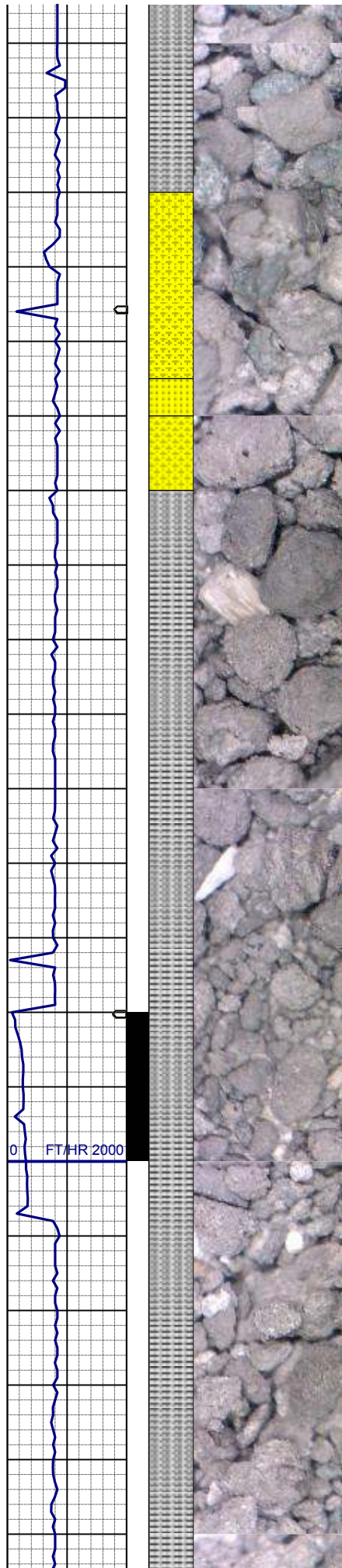
MD 3853'
INC 11.2°
AZM 223.7°
TVD 3794.02'

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

MD 3948'
INC 10.1°
AZM 225.5°
TVD 3887.38'

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

MD 4043'
INC 8.2°
AZM 224.6°
TVD 3981.17'



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

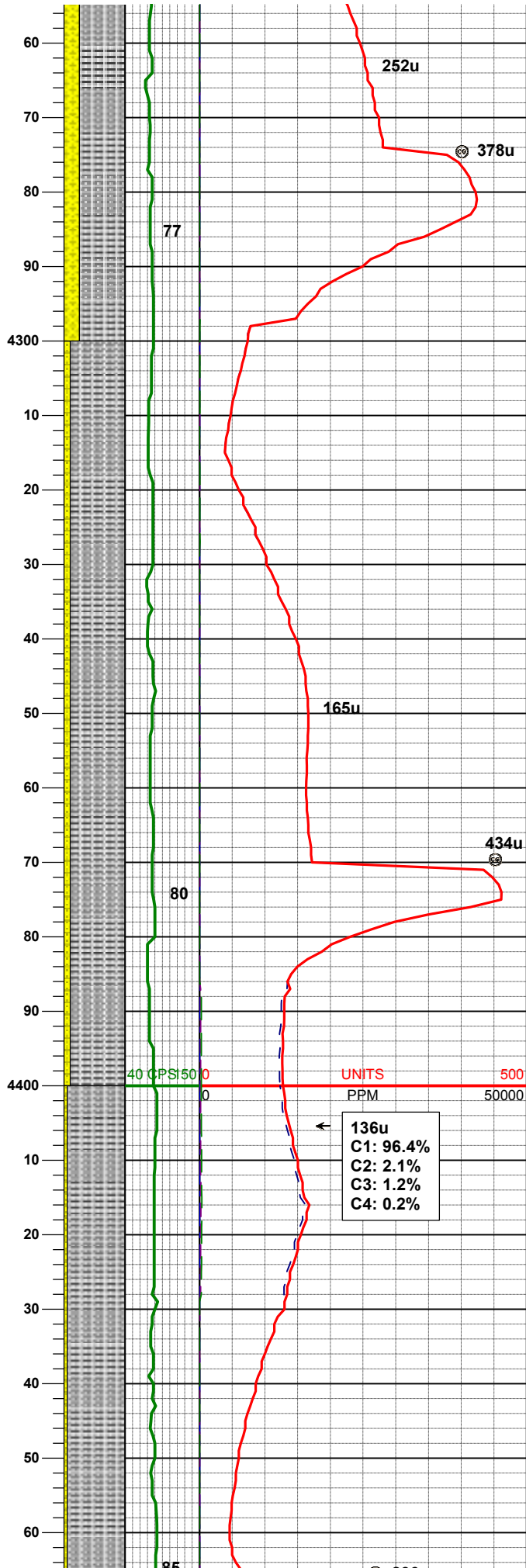
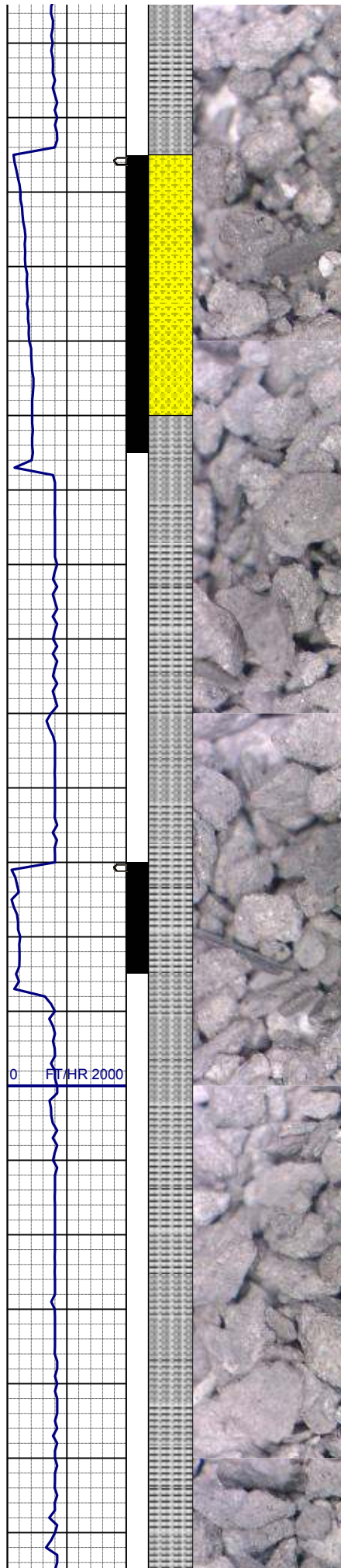
MD 4138'
INC 7.4°
AZM 220.7°
TVD 4075.29'

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbplty, rthy
mtx, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbmdd, mod srt, mod sft -
frm, abnt glau, occ phlog, arg cmt, tr
SS:

WT IN 9.20/ OUT 9.45
VIS IN 32/ OUT 35

MD 4233'
INC 6.5°
AZM 215.1°
TVD 4169.59'

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbplty, rthy-arg
mtx, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f



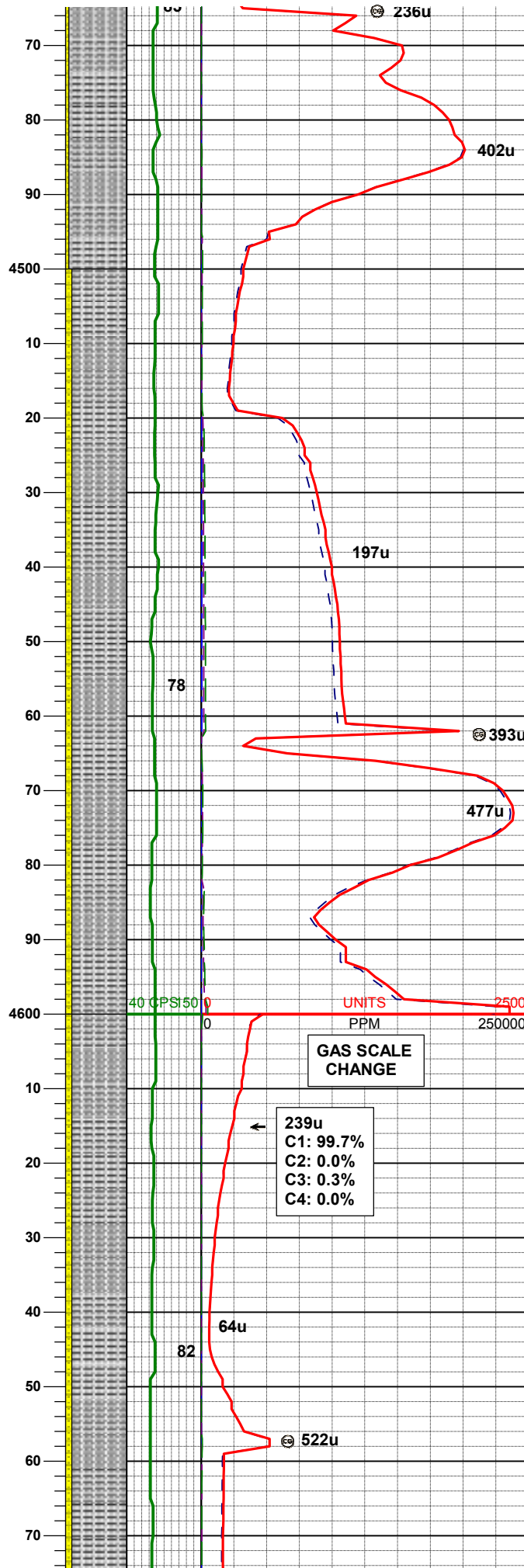
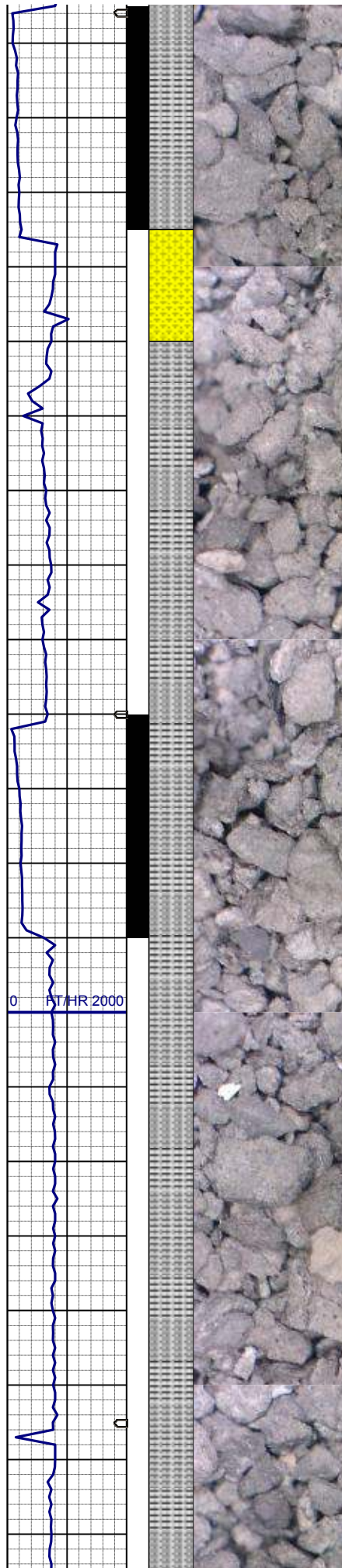
gr, sbang - sbrnodd, mod srt, mod sft - frm, tr glau, occ phlog, arg cmt, tr uncons SS:

MD 4328'
INC 4.8°
AZM 188.9°
TVD 4264.14'

SLTYSH: m - lt gy-crmbn, occ dk gy, sft - mod firm, sbbly - sbply, rthy-arg mtz, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f gr, sbang - sbrnodd, mod srt, mod sft - frm, tr glau, occ phlog, arg cmt, tr uncons SS:

MD 4423'
INC 3.9°
AZM 176.9°
TVD 4358.87'

SLTYSH: m - lt gy-crmbn, occ dk gy, sft - mod firm, sbbly - sbply, rthy-arg mtz, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f gr, sbang - sbrnodd, mod srt, mod sft - frm, tr glau, occ phlog, arg cmt, tr uncons SS:



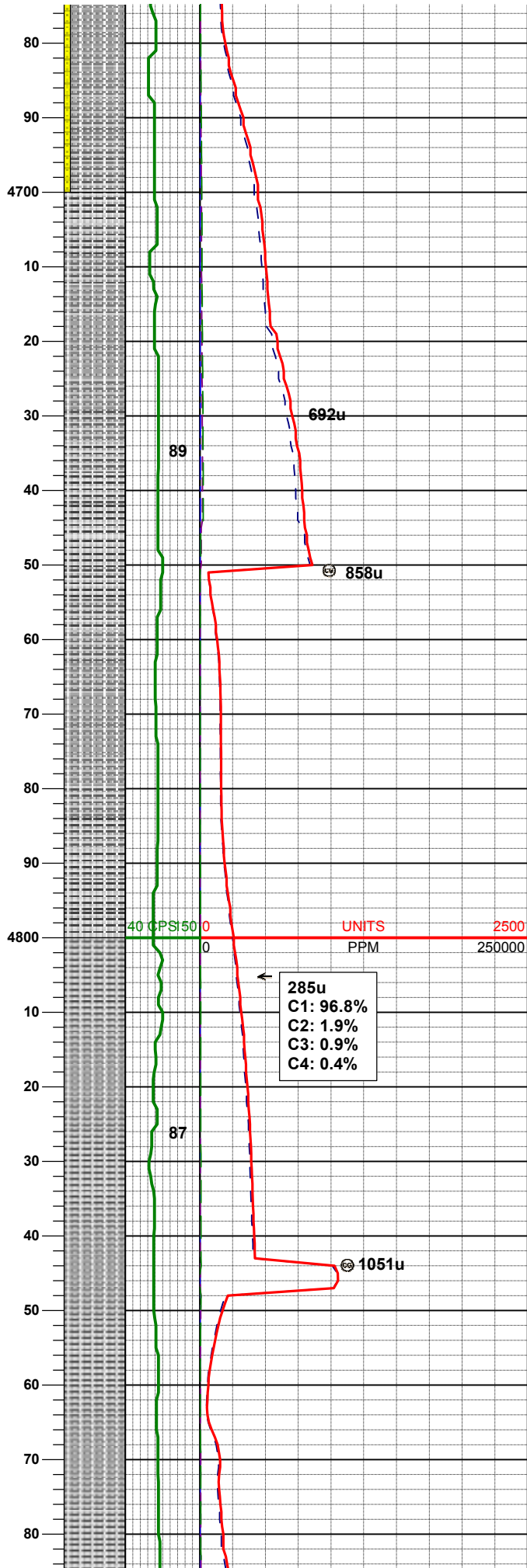
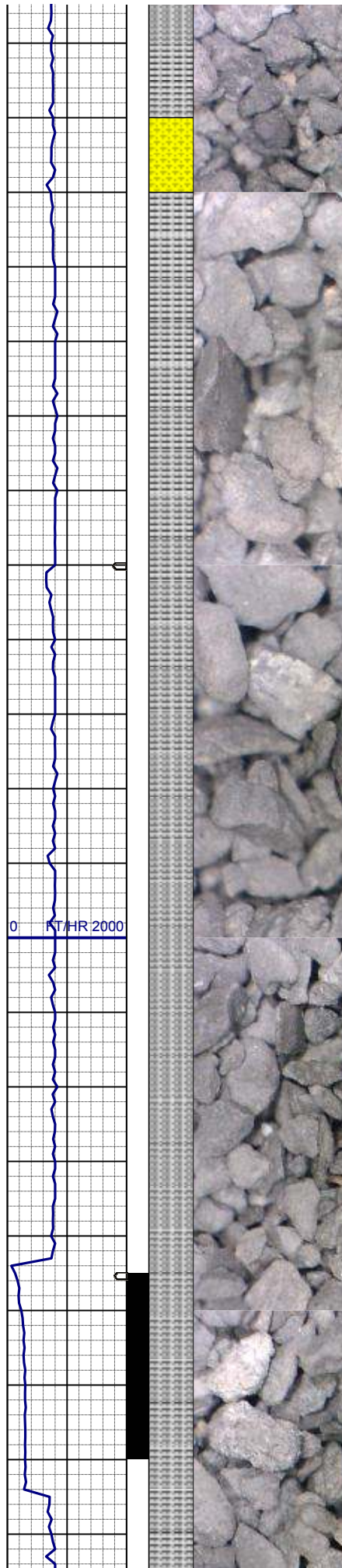
WT IN 9.15/ OUT 9.35
VIS IN 31/ OUT 32

MD 4518'
INC 3.8°
AZM 191.0°
TVD 4453.66'

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbbly - sbply, rthy-arg
mtx, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrdd, mod srt, mod sft -
frm, tr glau, occ phlog, arg cmt, tr
uncons SS:

MD 4613'
INC 1.9°
AZM 220.0°
TVD 4548.54'

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbbly - sbply, rthy-arg
mtx, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrdd, mod srt, mod sft -
frm, tr glau, occ phlog, arg cmt, tr
uncons SS:



MD 4708'
INC 1.2°
AZM 246.2°
TVD 4643.51'

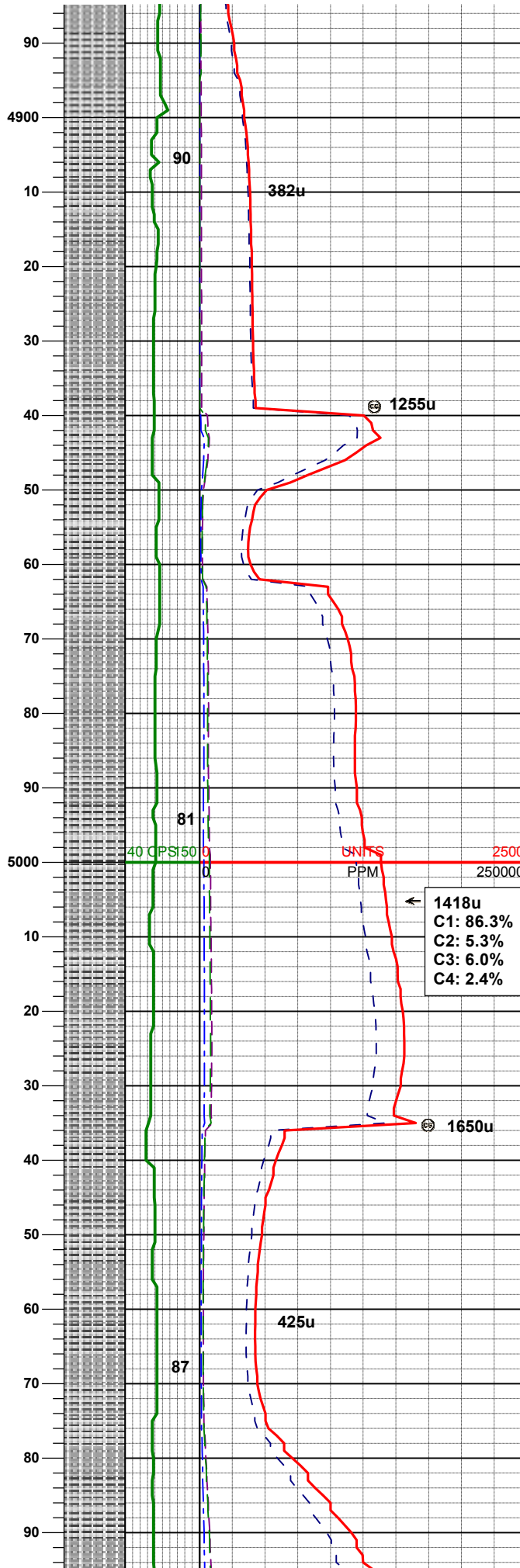
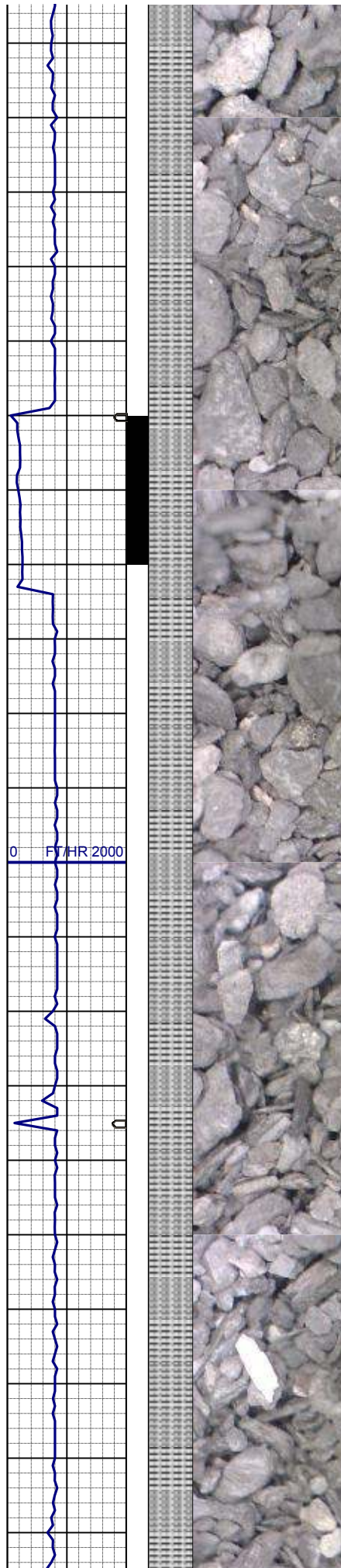
WT IN 9.25/ OUT 9.40
VIS IN 32/ OUT 35

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbbiky - sbply, rthy-arg
mtz, noncalc, tr shys

MD 4803'
INC 1.2°
AZM 257.6°
TVD 4783.49'

285u
C1: 96.8%
C2: 1.9%
C3: 0.9%
C4: 0.4%

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



MD 4898'
INC 2.6°
AZM 241.3°
TVD 4833.43'

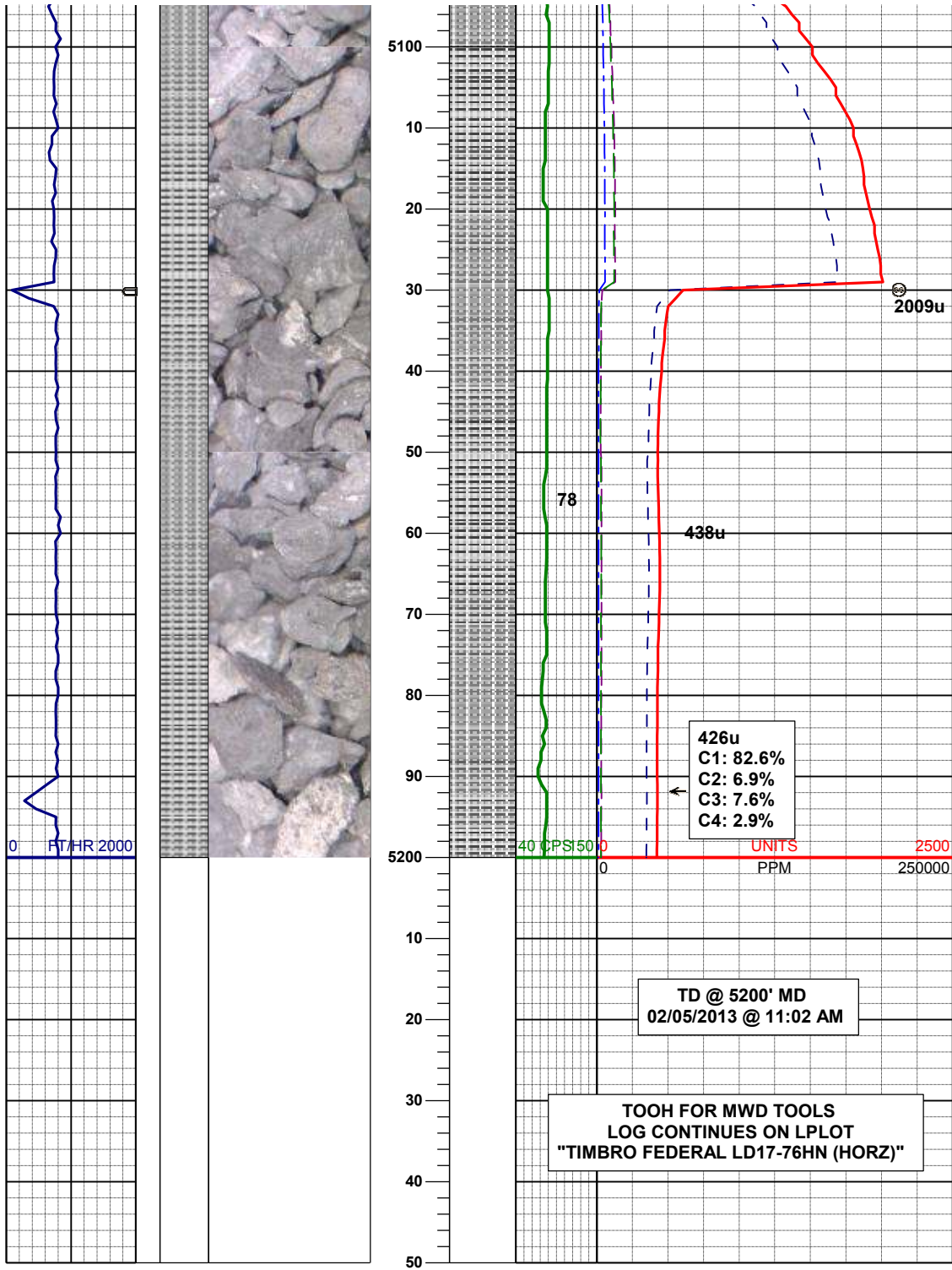
WT IN 9.15/ OUT 9.15
VIS IN 40/ OUT 34

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbplty, rthy-arg
mtx, noncalc

MD 4993'
INC 2.5°
AZM 225.3°
TVD 4928.34'

SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbplty, rthy-arg
mtx, noncalc

MD 5088'
INC 1.8°
AZM 235.1°
TVD 5023.27'



SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbplty, rthy-arg
mtx, noncalc