

LOG created using L PLOT VH Version 3.0, November 01, 2012, Copyright (C) 1999-2009 Pason Systems Corp.

OPERATOR: NOBLE ENERGY INC.
WELL: CASTOR LC26-75HN
LOCATION: SESW SEC 26, T9N, R59W
COUNTY: WELD
STATE: COLORADO
SPOT: 380' FSL, 2580' FWL
ELEVATION: GR 4,823' KB 4,853'
FIELD: WILDCAT
SPUD DATE: 10/24/2012
TD DATE: 10/26/2012
DATES LOGGED: 10/24/2012 - 10/26/2012
DEPTHS LOGGED: 700' MD - 5265' MD
LOGGERS: ANDREA ZUIDEMA, CONOR PESICKA
DRILLING FLUID: LSND
DRILLING RIG: H&P 326
API: 05-123-33330
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



Silty Shale

ENGINEERING SYMBOLS



Connection



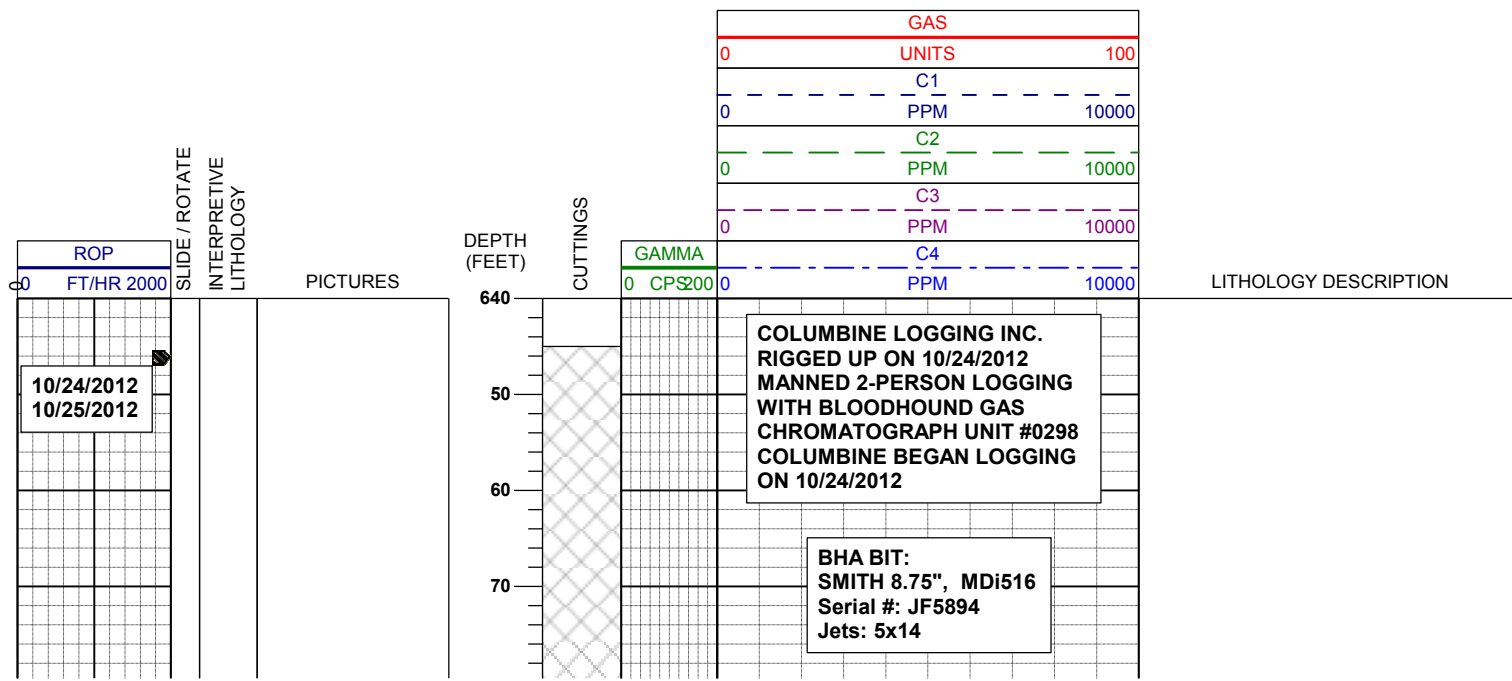
Connection Gas

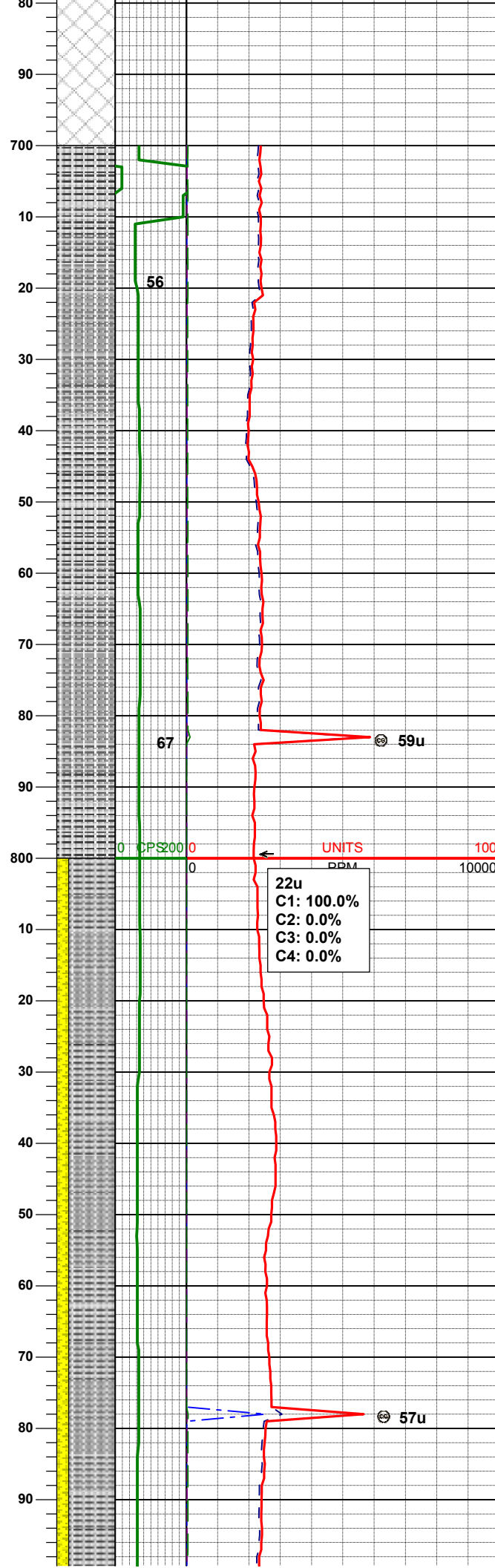
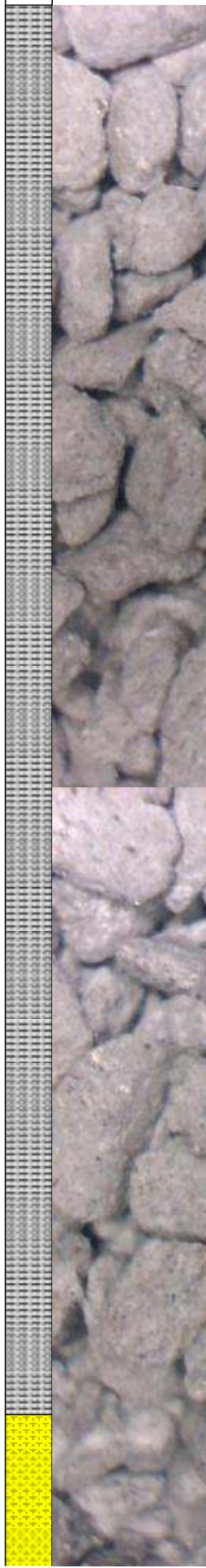
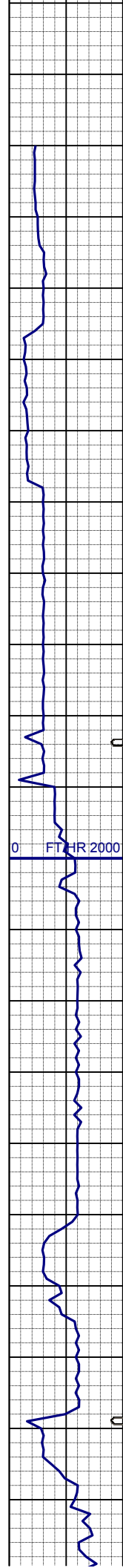


Arrow



Midnight Depth





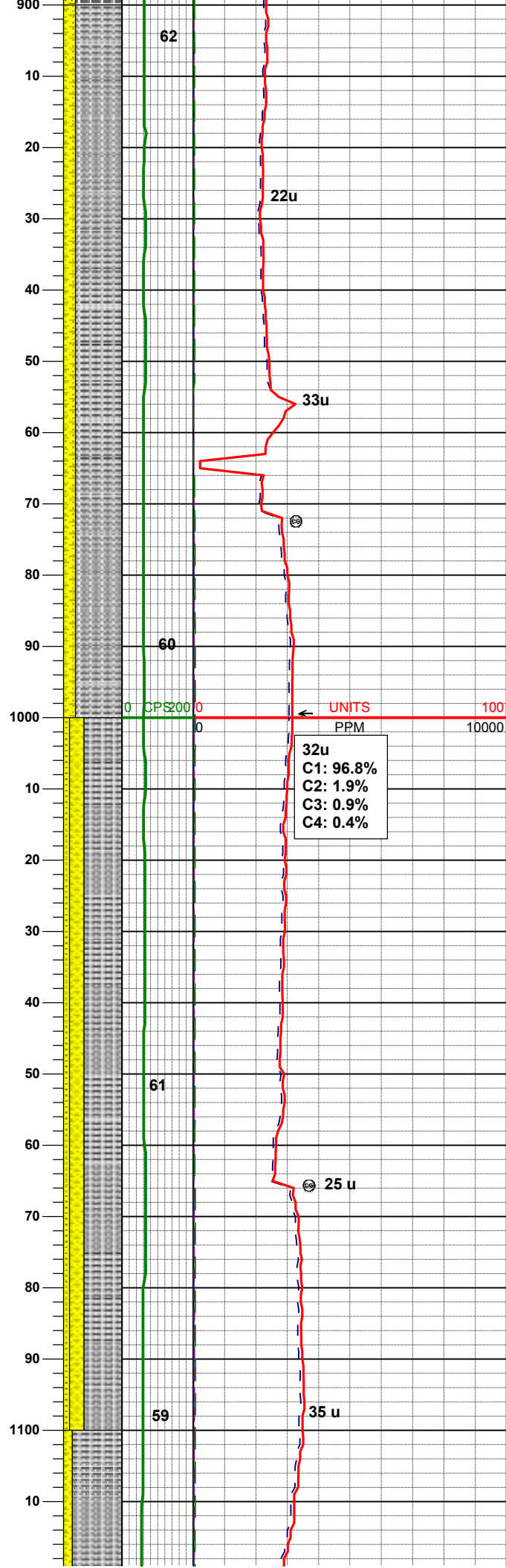
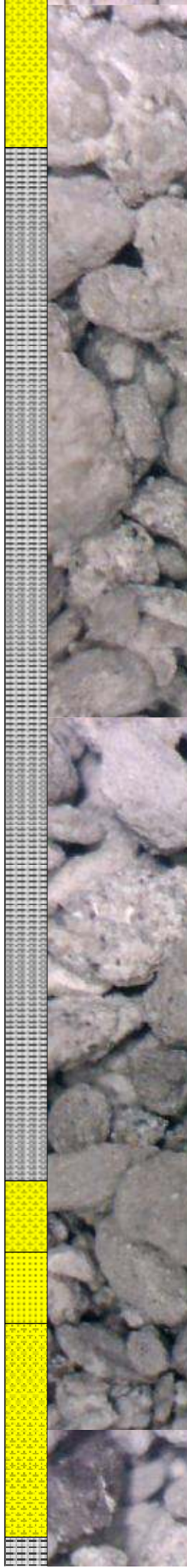
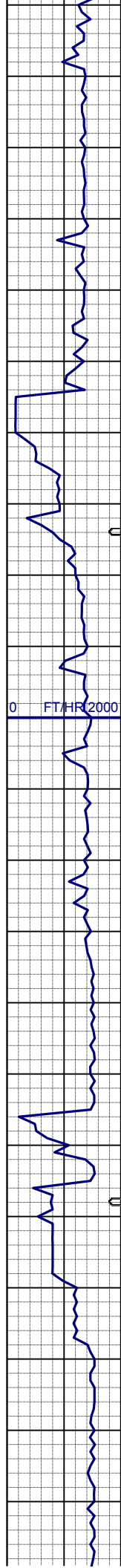
WT IN 8.55/ OUT 8.55
VIS IN 28/ OUT 28

MD	739'
INC	0.3°
AZM	278.0°
TVD	739.00'

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

22u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%

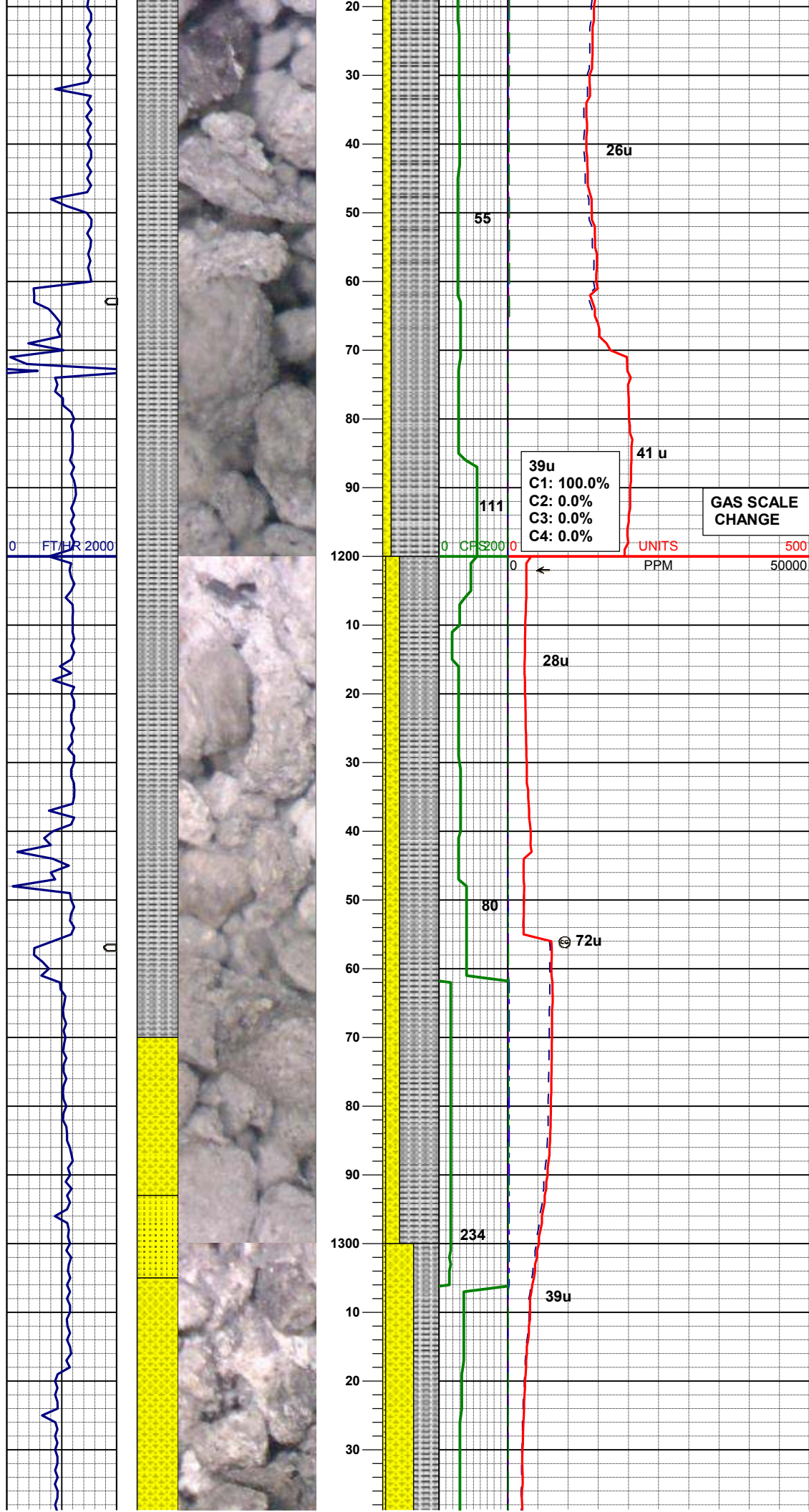
SLTYSH: m - lt gy, occ dk gy, sft -
mod firm, sbblky - sbply, noncalc
SHYSS: lt gy, wh - lt gy, occ gybrn,
s&p, f gr, sbang - sbndd, mod-p srt,
mod sft - frm, calc-arg cmt, trglau



SLTYSH: m - lt gy, occ dk gy, sft - mod firm, sbblky - sbply, noncalc
SHYSS: lt gy, wh - lt gy, occ gybrn, s&p, f gr, sbang - sbrnrd, mod-p srt, mod sft - frm, arg cmt, trglau

MD	1023'
INC	0.1°
AZM	261.3°
TVD	1023.00'

SLTYSH: m - lt gy, occ dk gy, sft - mod firm, sbblky - sbply, noncalc
SHYSS: lt gy, wh - lt gy, occ gybrn, s&p, f gr, sbang - sbrnrd, mod-p srt, mod sft - frm, arg cmt, trglau grdg to SS: wh-trnsl, s&p, f gr, sbang-sbrnrd, p srt, mod ind, arg cmt, trglau

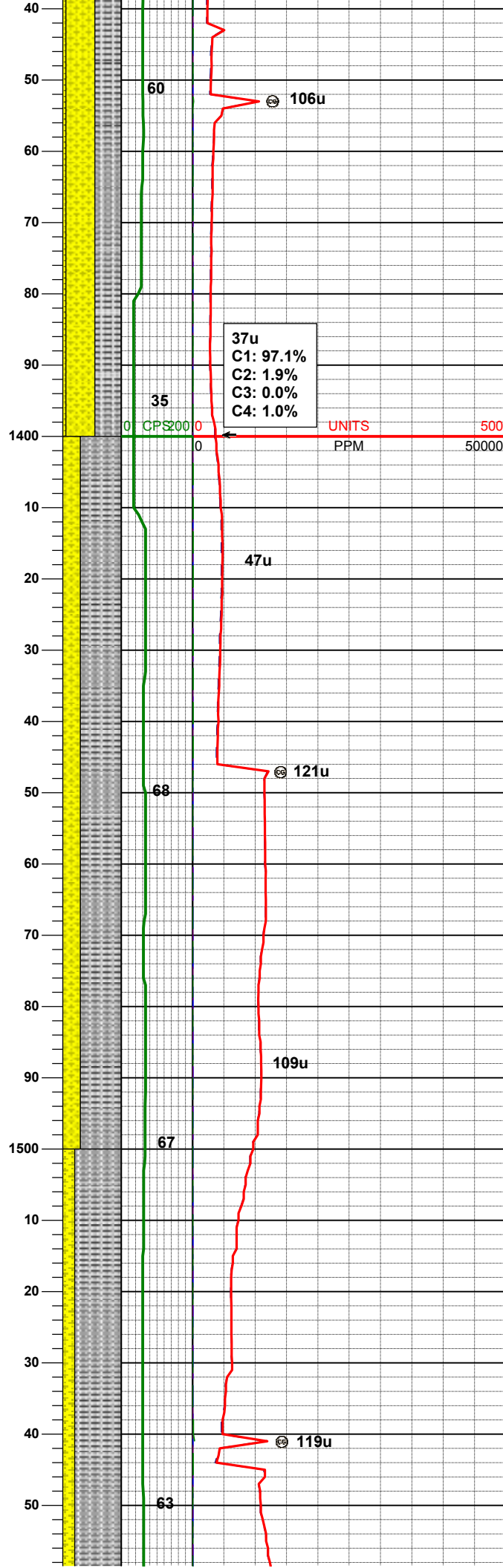
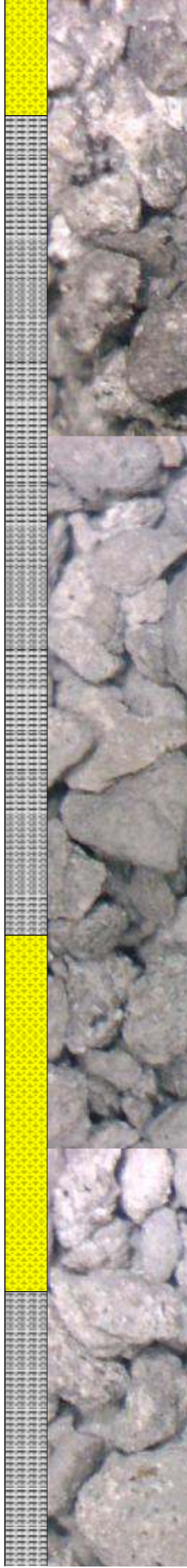
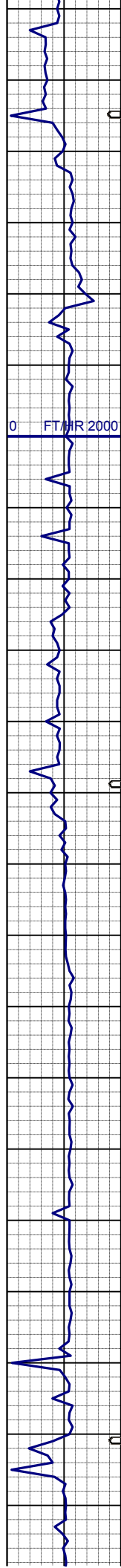


SLTYSH: m - lt gy, tr dk gy, sft - mod
firm, sbblky - sbply, arg-rthy
mtx,noncalc
SHYSS: lt gy, wh - lt gy, occ gybrn,
s&p, f gr, sbang - sbrndd, mod-p srt,
mod sft - frm, arg cmt, trglau, tr SS:

WT IN 8.90/ OUT 8.90
VIS IN 30/ OUT 30

SLTYSH: m - lt gy, tr dk gy, sft - mod
firm, sbblky - sbply, arg-rthy
mtx,noncalc
SHYSS: lt gy, wh - lt gy, occ gybrn,
s&p, f gr, sbang - sbrndd, mod-p srt,
mod sft - frm, arg cmt, trglau grdg to
SS: wh-trnsl, s&p, f gr, sbang-sbrndd,
p srt, mod ind, arg cmt, occ glau, occ
phlog

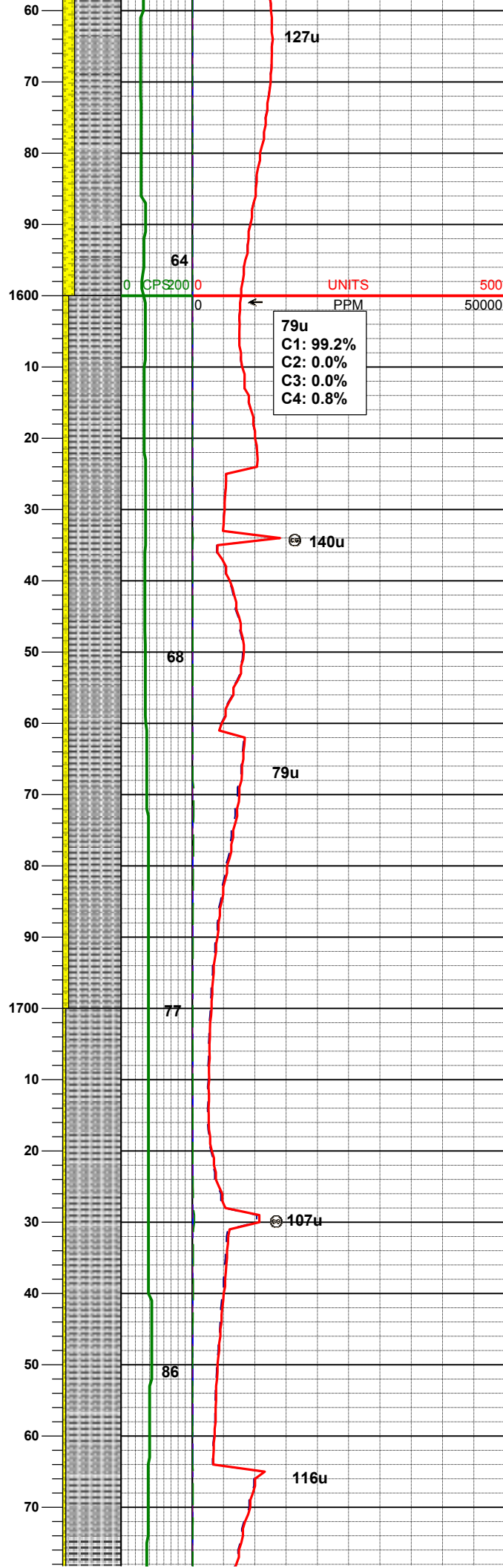
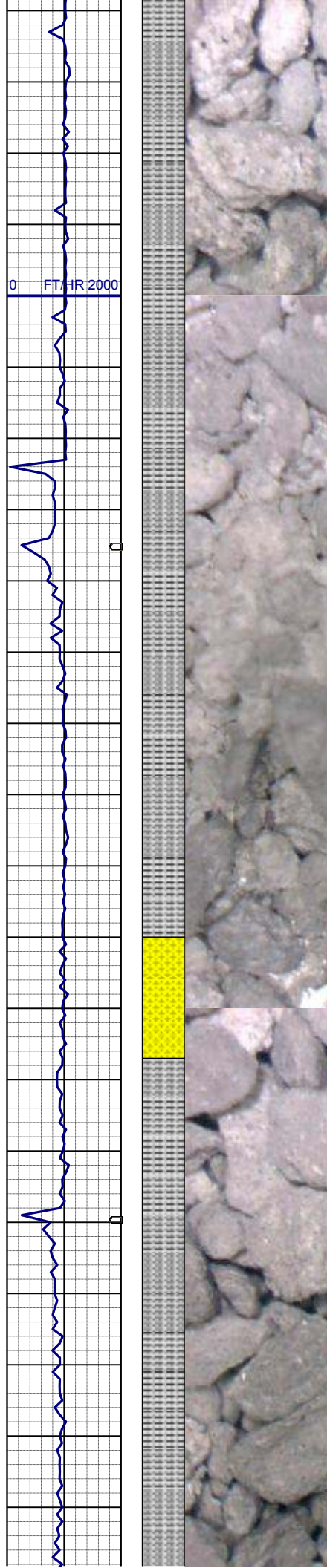
MD	1310'
INC	0.3°
AZM	293.7°
TVD	1310.00'



SHYSS: lt gy, wh - lt gy, occ gybrn, s&p, f gr, sbang - sbrnrd, mod-p srt, mod sft - frm, arg cmt, trglau grdg to SLTYSH: m - lt gy, tr dk gy, sft - mod firm, sbbiky - sbply, arg-rthy mt, noncalc SS: wh-trnsl, s&p, f gr, sbang-sbrnrd, p srt, mod ind, arg cmt, occ glau, occ phlog

SLTYSH: m - lt gy, tr dk gy, sft - mod firm, sbbiky - sbply, arg-rthymtx, tr phlog, noncalc SHYSS: lt gy, wh - lt gy, occ gybrn, s&p, f gr, sbang - sbrnrd, mod-p srt, mod sft - frm, arg cmt, trglau, tr SS:

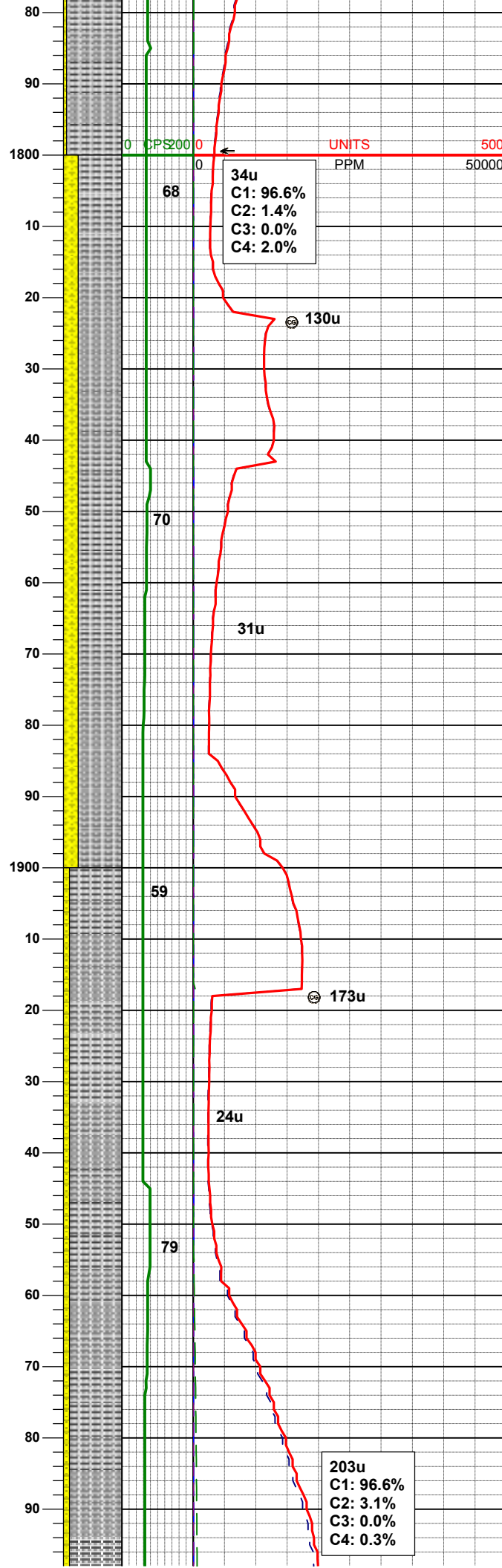
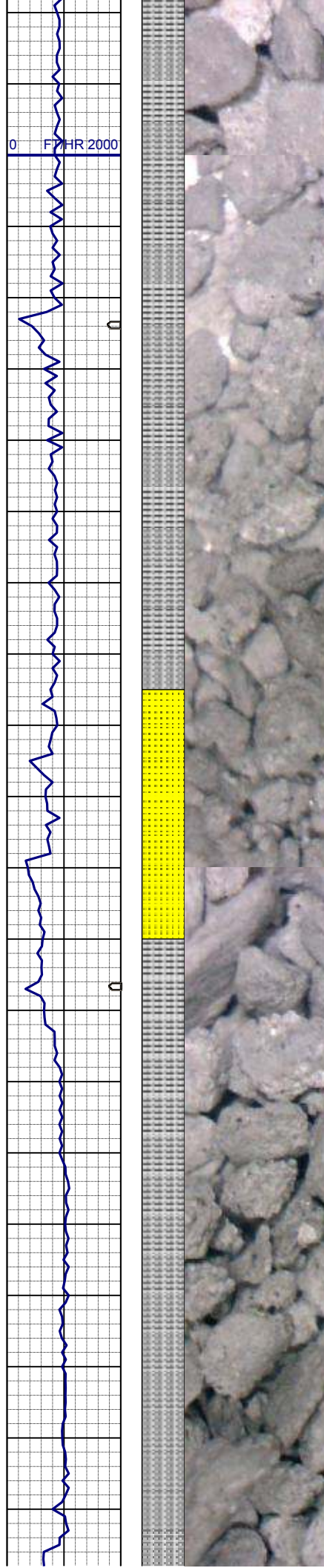
SLTYSH: m - lt gy, tr dk gy, sft - mod firm, sbbiky - sbply, arg-rthymtx, tr phlog, noncalc SHYSS: lt gy, wh - lt gy, occ gybrn, s&p, f gr, sbang - sbrnrd, mod-p srt, mod sft - frm, arg cmt, trglau, tr SS:



MD	1591'
INC	0.3°
AZM	253.0°
TVD	1590.99'

SLTYSH: m - lt gy, tr dk gy, sft - mod
firm, sbblky - sbply, arg-rhythmx, tr
phlog, noncalc
SHYSS: lt gy, wh - lt gy, occ gybrn,
s&p, f gr, sbang - sbrndd, mod-p srt,
mod sft - frm, arg cmt, trglau, tr SS:

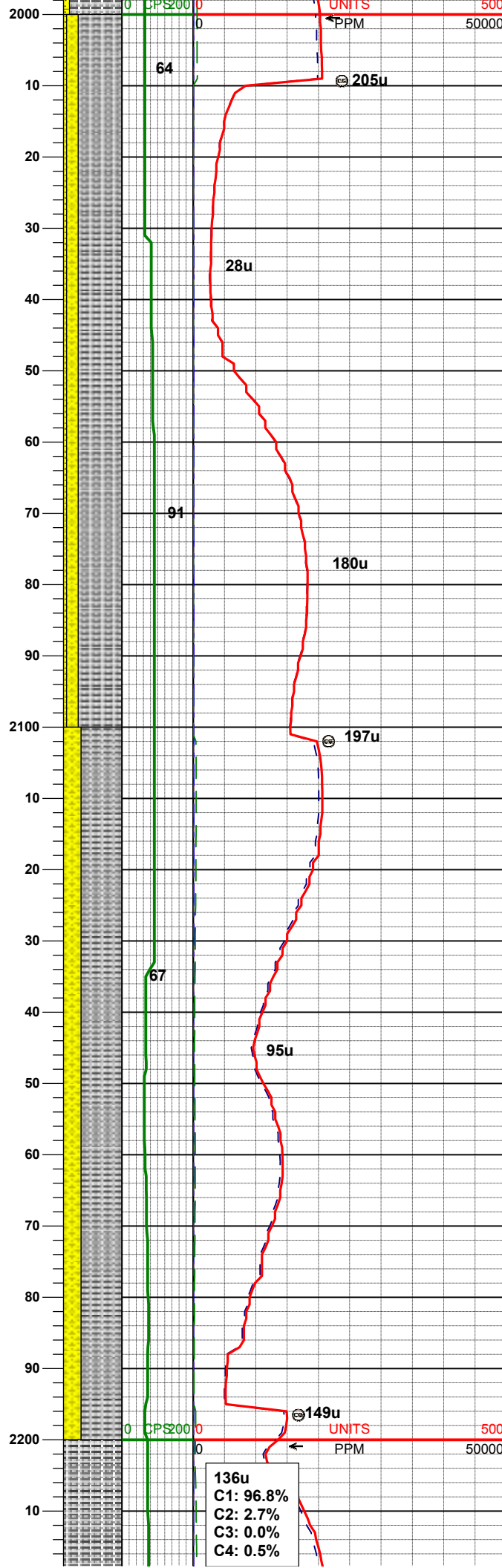
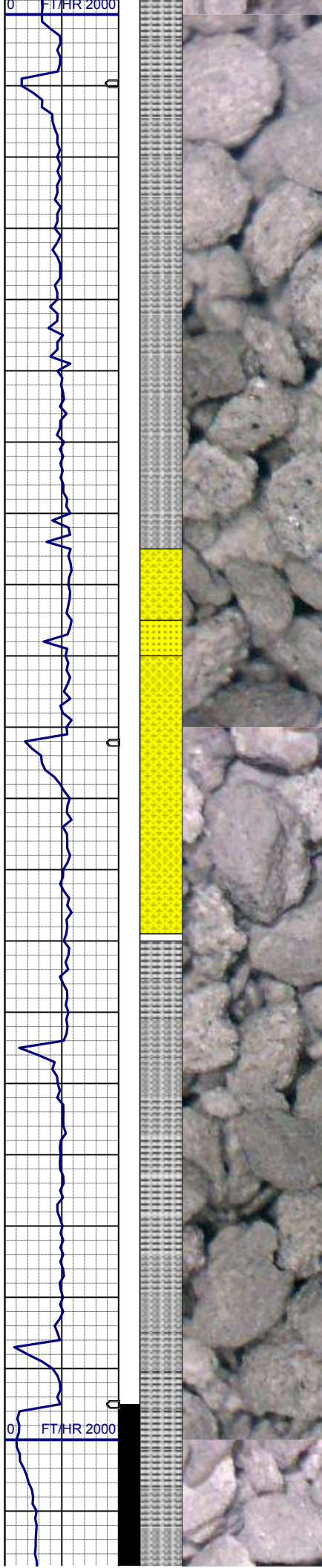
SLTYSH: m - lt gy, tr dk gy, sft - mod
firm, sbblky - sbply, arg-rhythmx, tr
phlog, noncalc
SHYSS: lt gy, wh - lt gy, occ gybrn,
s&p, f gr, sbang - sbrndd, mod-p srt,
mod sft - frm, arg cmt, trglau, tr SS:



SLTYSH: m - lt gy, tr dk gy, sft - mod
firm, sbblky - sbply, arg-rhythmx, tr
phlog, noncalc
SHYSS: lt gy, wh - lt gy, occ gybrn,
s&p, f gr, sbang - sbrndd, mod-p srt,
mod sft - frm, arg cmt, trglau, tr SS:

MD	1872'
INC	0.3°
AZM	325.6°
TVD	1871.99'

SLTYSH: m - lt gy, tr dk gy, sft - mod
firm, sbblky - sbply, arg-rhythmx, tr
phlog, noncalc
SHYSS: lt gy, wh - lt gy, occ gybrn,
s&p, f gr, sbang - sbrndd, mod-p srt,
mod sft - frm, arg cmt, trglau, tr SS:

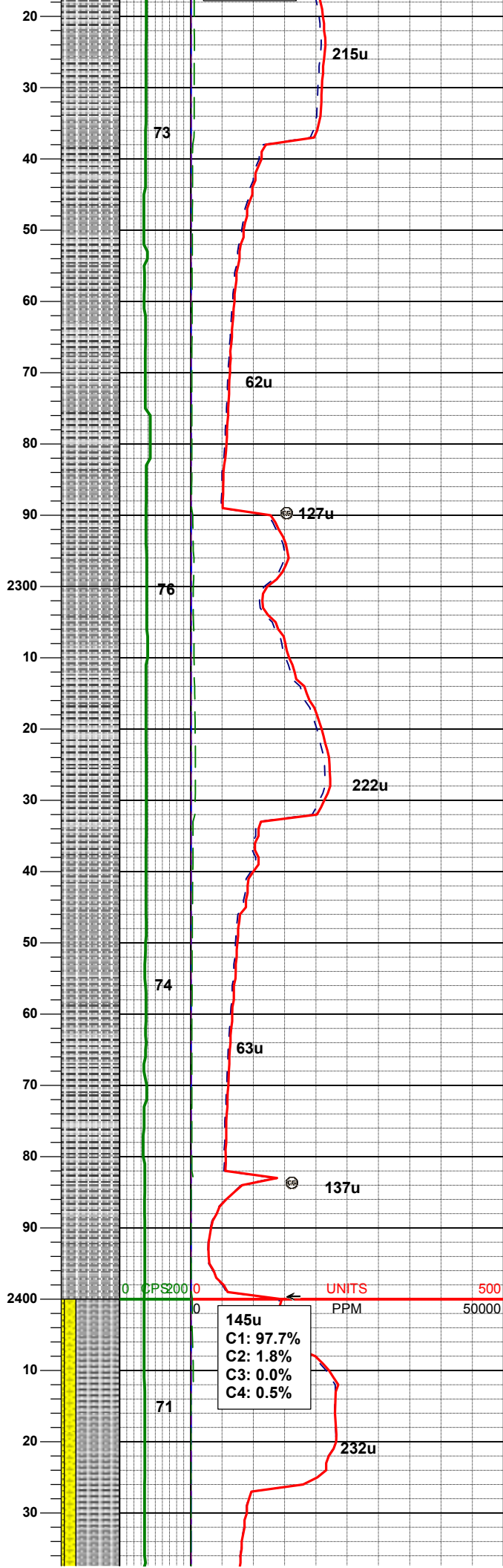
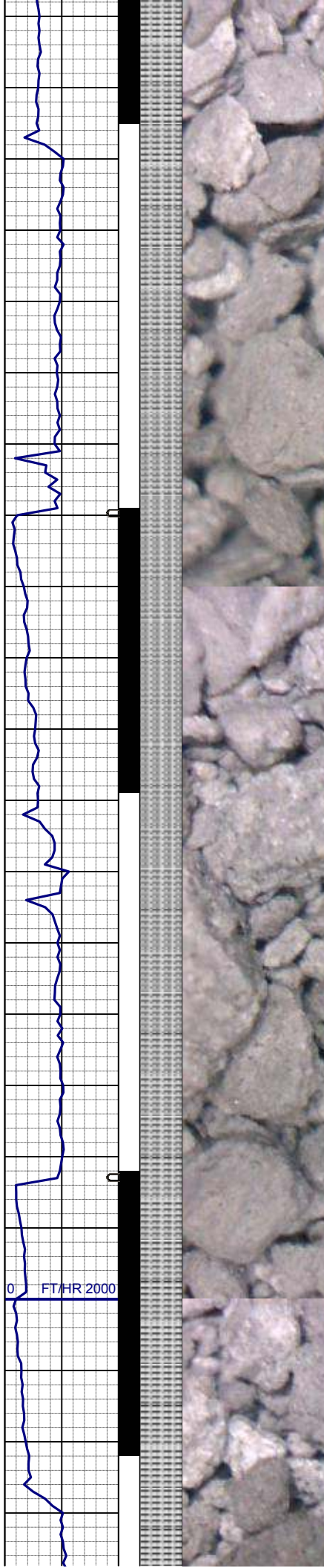


SLTYSH: m - lt gy, tr dk gy, sft - mod firm, sbbiky - sbply, arg-rthy mtz, noncalc
SHYSS: lt gy, wh - lt gy, occ gybrn, s&p, f gr, sbang - sbrndd, mod-p srt, mod sft - frm, arg cmt, trglau grdg to SS: wh-trnsl, s&p, f gr, sbang-sbrndd, p srt, mod ind, arg cmt, occ glau, occ phlog

MD	2151'
INC	0.0°
AZM	199.6°
TVD	2150.99'

SLTYSH: m - lt gy, tr dk gy, sft - mod firm, sbbiky - sbply, arg-rthy mtz, sme phlog, noncalc
SHYSS: lt gy, wh - lt gy, occ gybrn, s&p, f gr, sbang - sbrndd, mod-p srt, mod sft - frm, arg cmt, trglau, tr phlog, tr SS:

136u
C1: 96.8%
C2: 2.7%
C3: 0.0%
C4: 0.5%



MD 2245'
INC 2.6°
AZM 145.1°
TVD 2244.96'

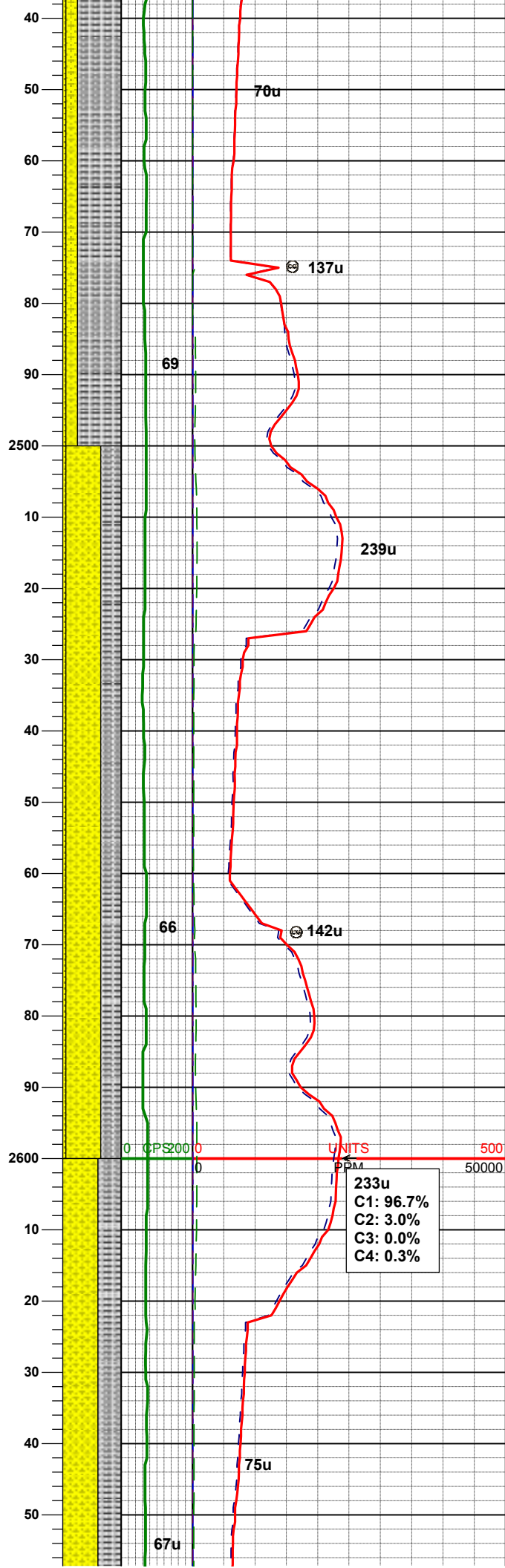
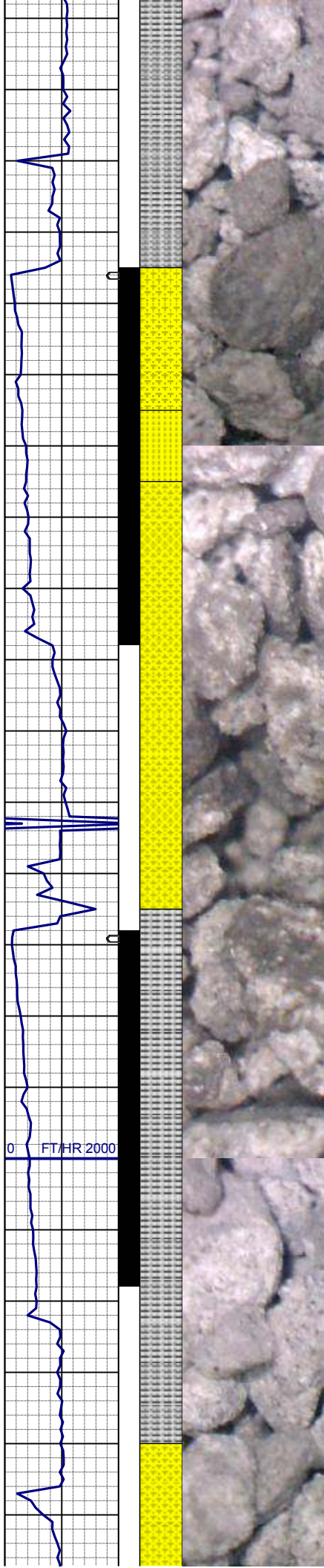
SLTYSH: m - lt gy, tr dk gy, sft - mod
firm, sbbiky - sbply, arg-rthy mtx, sme
phlog, noncalc, tr SHYSS:

MD 2338'
INC 4.6°
AZM 171.7°
TVD 2337.77'

SLTYSH: m - lt gy, tr dk gy, sft - mod
firm, sbbiky - sbply, arg-rthy mtx, sme
phlog, noncalc, tr SHYSS:

145u
C1: 97.7%
C2: 1.8%
C3: 0.0%
C4: 0.5%

MD 2431'
INC 6.7°
AZM 178.7°
TVD 2430.32'



SLTYSH: m - lt gy, tr dk gy, sft - mod
firm, sbbly - sbply, arg-rthy
mtx,noncalc
SHYSS: lt gy, wh - lt gy, occ gybrn,
s&p, f gr, sbang - sbrndd, mod-p srt,
mod sft - frm, arg cmt, trglau, tr phlog
SS: wh-trnsl, s&p, f gr, sbang-sbrndd,
p srt, mod ind, arg cmt, occ glau, occ-
tr phlog

MD 2524'
INC 9.1°
AZM 185.3°
TVD 2522.43'

SHYSS: lt gy, wh - lt gy, occ gybrn,
s&p, f gr, sbang - sbrndd, mod-p srt,
mod sft - frm, arg cmt, trglau, tr phlog
SLTYSH: m - lt gy, tr dk gy, sft - mod
firm, sbbly - sbply, arg-rthy
mtx,noncalc
SS: wh-trnsl, s&p, f gr, sbang-sbrndd,
p srt, mod ind, arg cmt, occ glau, occ-
tr phlog

WT IN 8.70/ OUT 8.7+
VIS IN 28/ OUT 28

233u
C1: 96.7%
C2: 3.0%
C3: 0.0%
C4: 0.3%

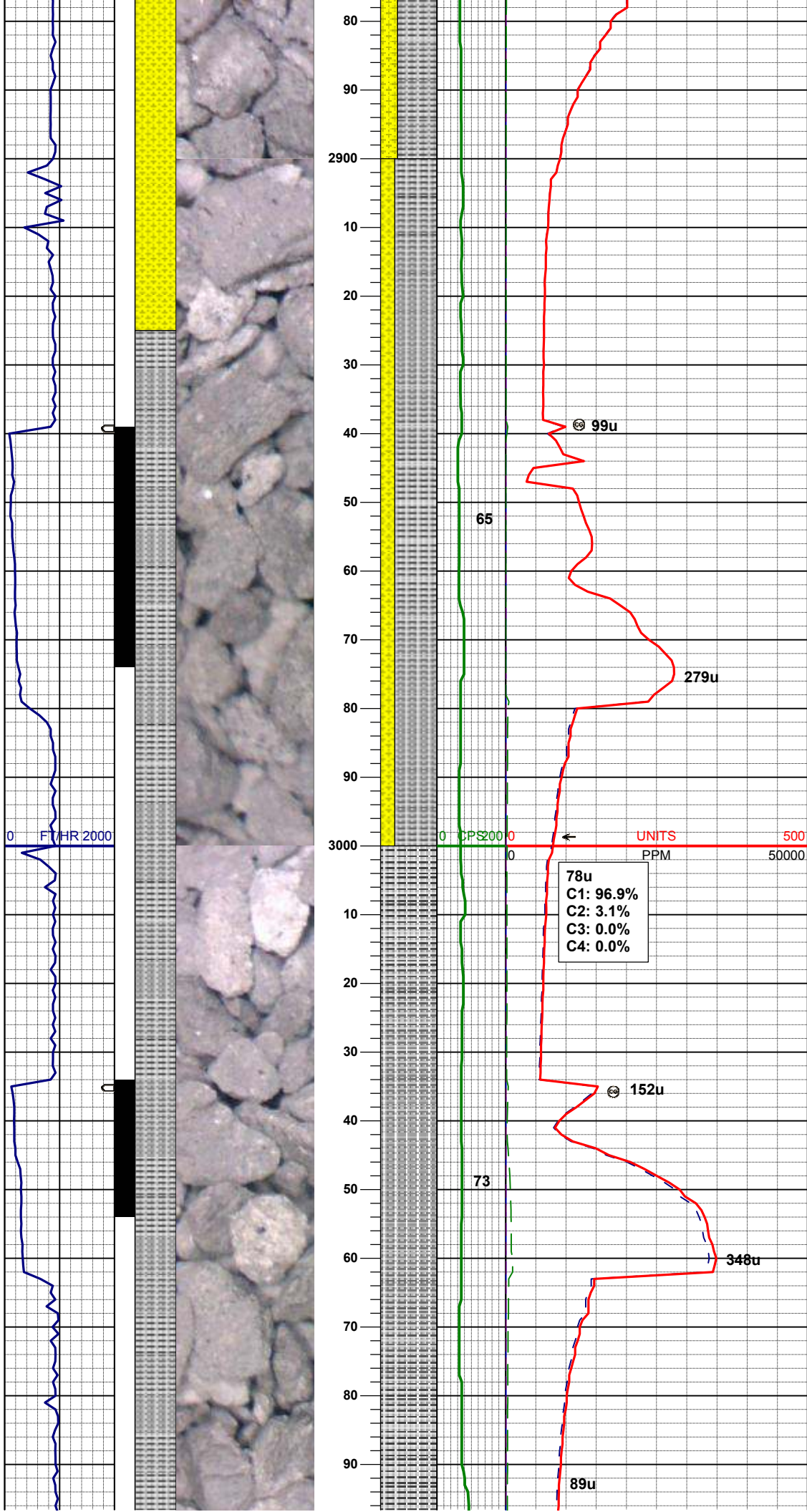
MD 2616'
INC 11.7°
AZM 181.6°
TVD 2612.91'

SHYSS: lt gy, wh - lt gy, occ gybrn,
s&p, f gr, sbang - sbrndd, mod-p srt,
mod sft - frm, arg cmt, trglau, tr phlog,
tr SS:
SLTYSH: m - lt gy, tr dk gy, sft - mod

Mass spectrum plot showing relative intensity versus mass-to-charge ratio (m/z). The plot features a red line representing the mass spectrum, with several peaks labeled. A box highlights the 59u peak with its isotopic composition: C1: 99.8%, C2: 0.2%, C3: 0.0%, C4: 0.0%. The x-axis is labeled 'UNITS PPM' and ranges from 0 to 5000. The y-axis is labeled 'CPS' and ranges from 0 to 2800. The plot also shows a green line and a blue line, likely representing different data series or background levels. The background is divided into yellow and grey vertical bands.

SLTYSH: m - lt gy, tr dk gy, sft - mod
firm, sbblky - sbply, arg-rthy
mtx, noncalc
SHYSS: lt gy, wh - lt gy, occ gybrn,
s&p, f gr, sbang - sbrnrd, mod-p srt,
mod sft - frm, arg cmt, trglau, tr phlog
SS: wh-trnsl, s&p, f gr, sbang-sbrnrd,
p srt, mod ind, arg cmt, occ glau, occ-
tr phlog

SLTYSH: m - lt gy, tr dk gy, sft - mod
firm, sbblky - sbply, arg-rthy
mtx, noncalc
SHYSS: lt gy, wh - lt gy, occ gybrn,
s&p, f gr, sbang - sbrrdd, mod-p srt,
mod sft - frm, arg cmr, trglau, tr phlog,
tr SS:



MD 2895'
INC 13.9°
AZM 173.4°
TVD 2883.75'

WT IN 8.7/ OUT 8.7
VIS IN 38/ OUT 38

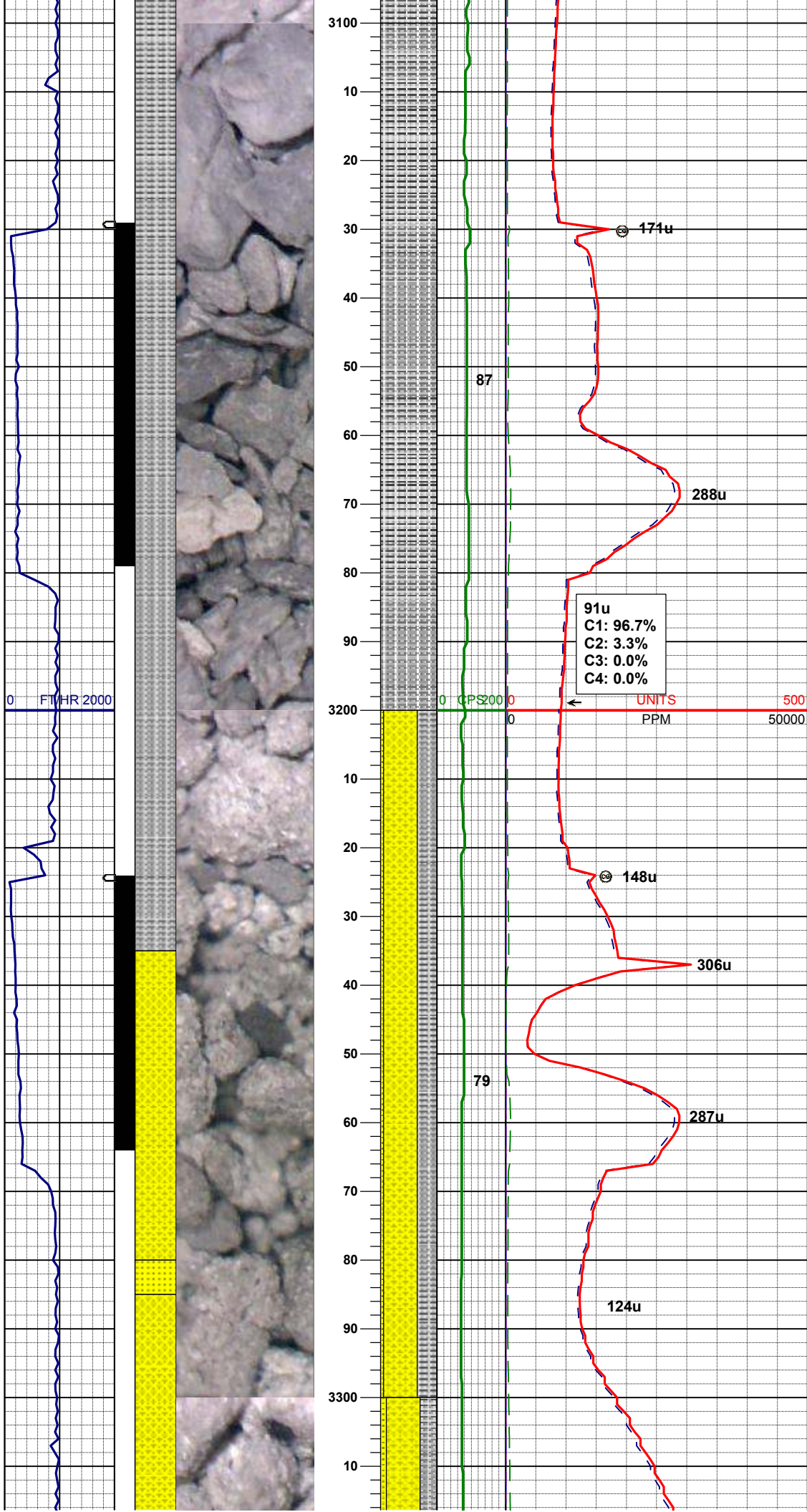
SLTYSH: m - lt gy, tr dk gy, sft - mod
firm, sbbiky - sbply, arg-rthy
mtx, noncalc
SHYSS: lt gy, wh - lt gy, occ gybrn,
s&p, f gr, sbang - sbrndd, mod-p srt,
mod sft - frm, arg cmt, trglau, tr phlog,
tr SS:

MD 2990'
INC 14.8°
AZM 171.2°
TVD 2975.79'

78u
C1: 96.9%
C2: 3.1%
C3: 0.0%
C4: 0.0%

SLTYSH: m - lt gy, tr dk gy, sft - mod
firm, sbbiky - sbply, arg-rthy mtx, sme
phlog, noncalc, tr SHYSS:

MD 3085'
INC 13.8°
AZM 170.2°
TVD 3067.84'



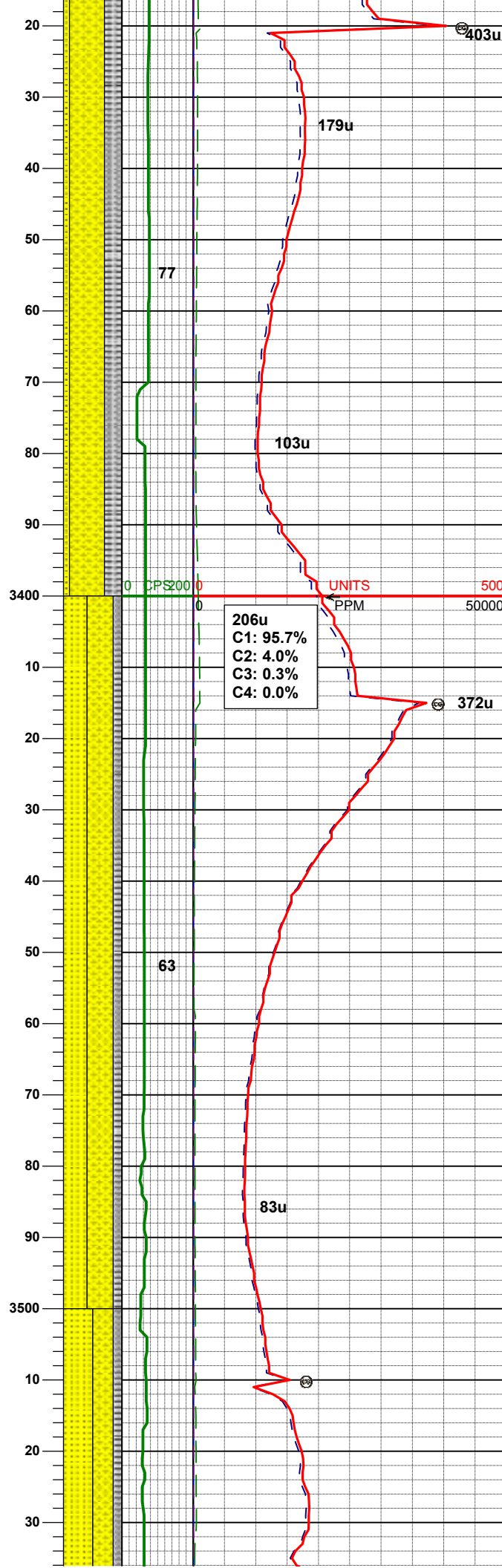
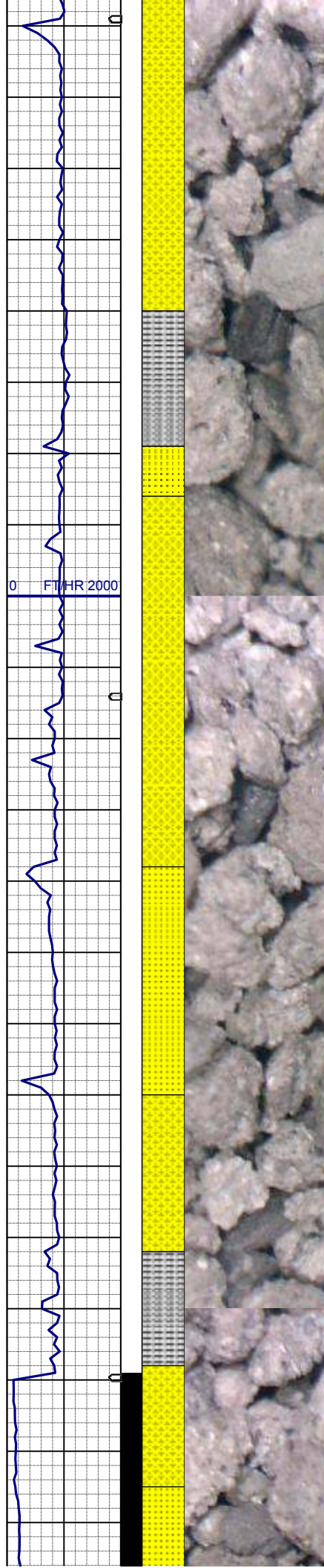
SLTYSH: m - lt gy, tr dk gy, sft - mod firm, sbblky - sbply, arg-rthy mtx, sme phlog, noncalc, tr SHYSS:

MD	3180'
INC	14.2°
AZM	181.2°
TVD	3160.03'

91u
C1: 96.7%
C2: 3.3%
C3: 0.0%
C4: 0.0%

SHYSS: lt gy, wh - lt gy, occ gybrn, s&p, f gr, sbang - sbrndd, mod-p srt, mod sft - frm, arg cmt, trglau, tr phlog
SLTYSH: m - lt gy, tr dk gy, sft - mod firm, sbblky - sbply, arg-rthy mtx, noncalc
SS: wh-trnsl, s&p, f gr, sbang-sbrndd, p srt, mod ind, arg cmt, occ glau, occ-tr phlog

MD	3275'
INC	16.5°
AZM	179.3°
TVD	3251.64'



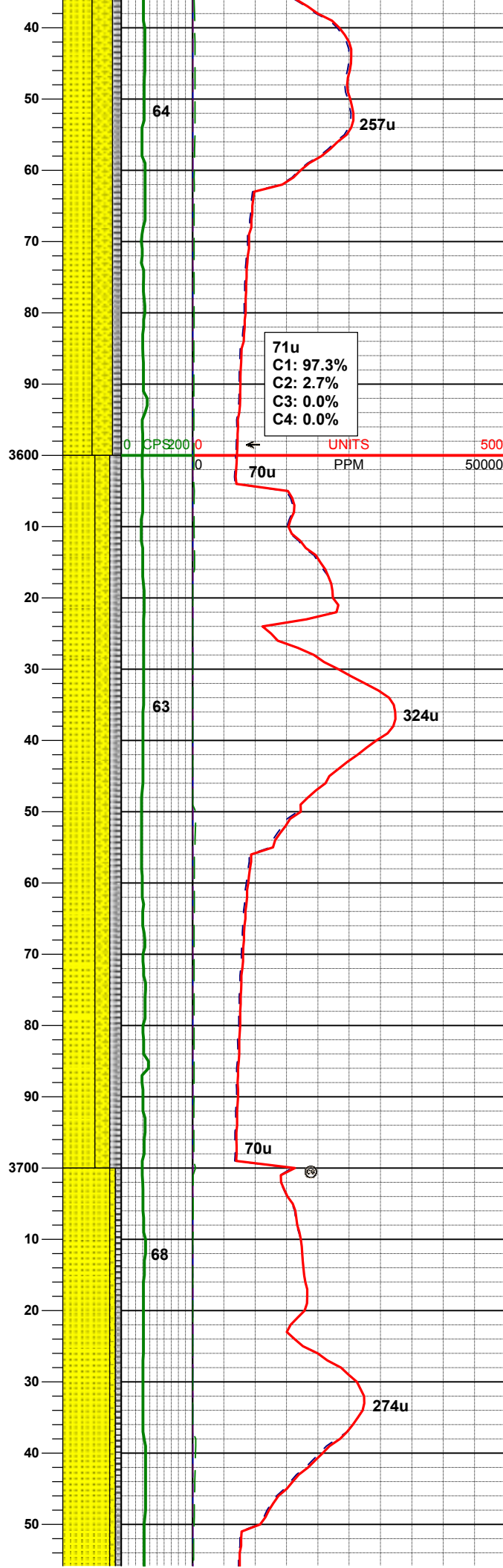
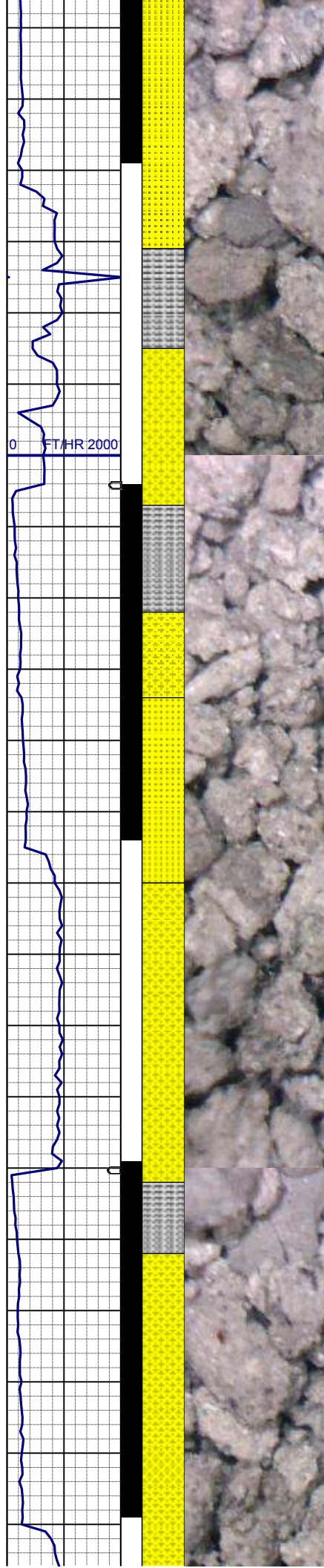
SHYSS: lt gy, wh - lt gy, occ gybrn,
s&p, f gr, sbang - sbrndd, mod-p srt,
mod sft - frm, arg cmt, trglau, tr phlog
SLTYSH: m - lt gy, tr dk gy, sft - mod
firm, sbblky - sbply, arg-rthy
mtx,noncalc
SS: wh-trnsl, s&p, f gr, sbang-sbrndd,
p srt, mod ind, arg cmt, occ glau, occ-
tr phlog

MD	3370'
INC	17.0°
AZM	178.6°
TVD	3342.61'

206u
C1: 95.7%
C2: 4.0%
C3: 0.3%
C4: 0.0%

SHYSS: lt gy, wh - lt gy, occ gybrn,
s&p, f gr, sbang - sbrndd, mod-p srt,
mod sft - frm, arg cmt, trglau, tr phlog
SS: wh-trnsl, s&p, f gr, sbang-sbrndd,
p srt, mod ind, arg cmt, occ glau, occ-
tr phlog
SLTYSH: m - lt gy, tr dk gy, sft - mod
firm, sbblky - sbply, arg-rthy
mtx,noncalc

MD	3465'
INC	17.6°
AZM	178.7°
TVD	3433.31'



SS: wh-trnsl, s&p, f gr, sbang-sbrndd, p srt, mod ind, arg cmt, occ glau, occ-tr phlog
SHYSS: lt gy, wh - lt gy, occ gybrn, s&p, f gr, sbang - sbrndd, mod-p srt, mod sft - frm, arg cmt, trglau, tr phlog
SLTYSH: m - lt gy, tr dk gy, sft - mod firm, sbblky - sbply, arg-rthy mtz,noncalc

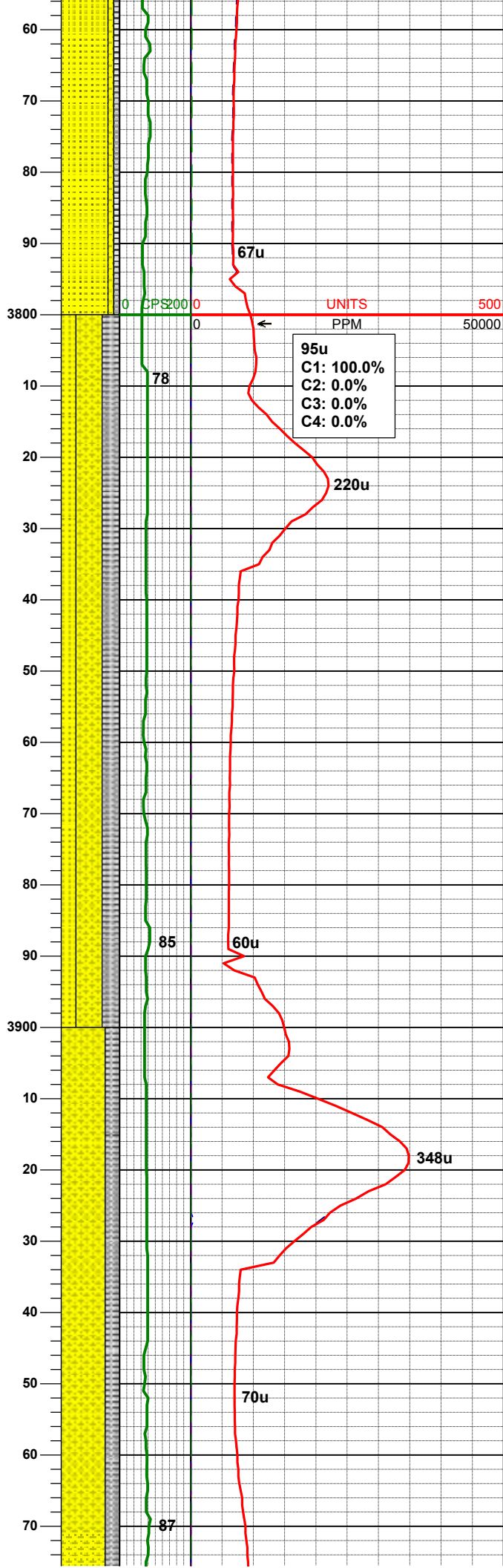
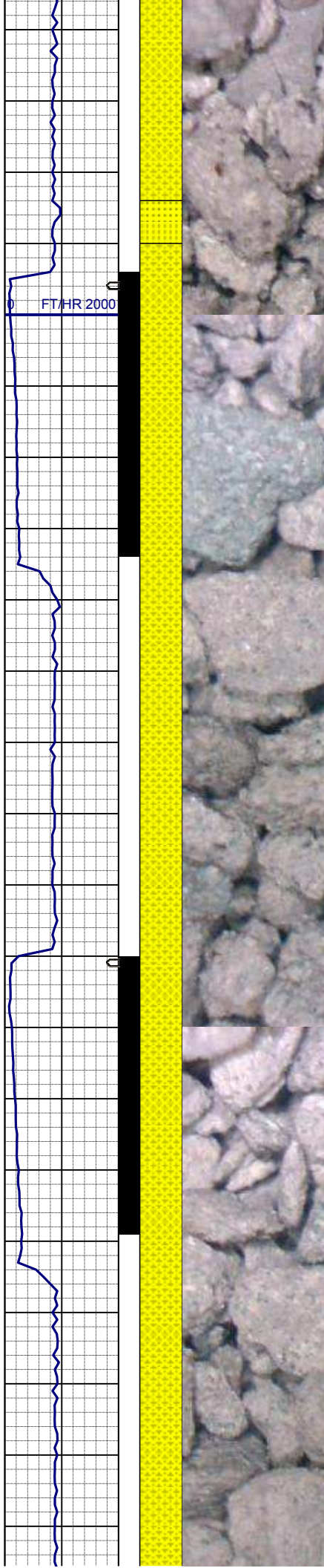
MD	3560'
INC	15.5°
AZM	172.8°
TVD	3542.38'

SS: wh-trnsl, s&p, f gr, sbang-sbrndd, p srt, mod ind, calc-arg cmt, occ glau, occ-tr phlog
SHYSS: lt gy, wh - lt gy, occ gybrn, s&p, f gr, sbang - sbrndd, mod-p srt, mod sft - frm, arg cmt, trglau, tr phlog
SLTYSH: m - lt gy, tr dk gy, sft - mod firm, sbblky - sbply, arg-rthy mtz,noncalc

MD	3655'
INC	12.7°
AZM	172.7°
TVD	3616.51'

WT IN 9.0/ OUT 9.0
VIS IN 30/ OUT 30

SS: wh-trnsl, s&p, f gr, sbang-sbrndd, p srt, mod ind, calc-arg cmt, occ glau, occ-tr phlog
SHYSS: lt gy, wh - lt gy, occ gybrn, s&p, f gr, sbang - sbrndd, mod-p srt, mod sft - frm, arg cmt, trglau, tr phlog



SLTYSH: m - lt gy, tr dk gy, sft - mod
firm, sbblky - sbply, arg-rthy
mtx, noncalc

MD	3750'
INC	9.1°
AZM	172.4°
TVD	3709.78'

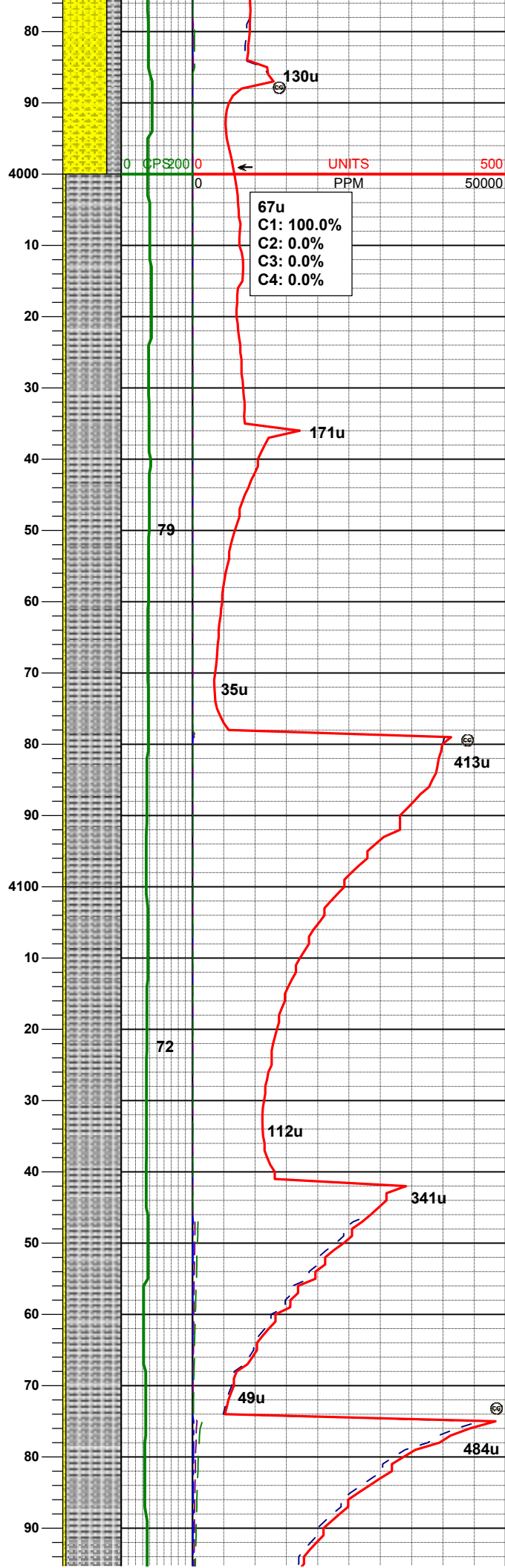
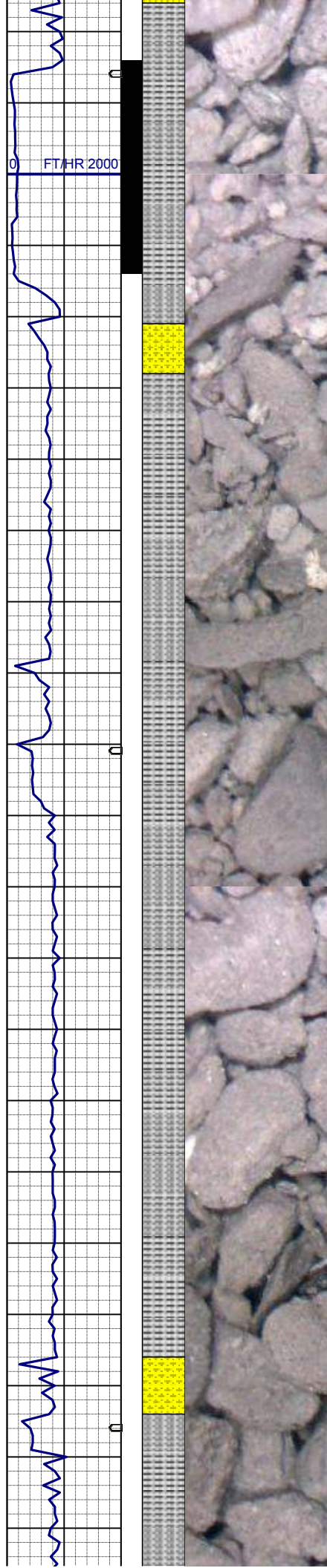
SHYSS: lt gy, wh - lt gy, occ gybrn,
s&p, f gr, sbang - sbrndd, mod-p srt,
mod sft - frm, arg cmt, occ glau, tr
phlog
SLTYSH: m - lt gy, tr dk gy, sft - mod
firm, sbblky - sbply, arg-rthy
mtx, noncalc
SS: wh-trns, s&p, f gr, sbang-sbrndd,
p srt, mod ind, calc-arg cmt, abnt
glau, occ-tr phlog

WT IN 8.9/ OUT 8.9
VIS IN 29/ OUT 29

MD	3940'
INC	2.0°
AZM	172.8°
TVD	3898.74'

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

WT IN 8.9/ OUT 8.9
VIS IN 29/ OUT 29

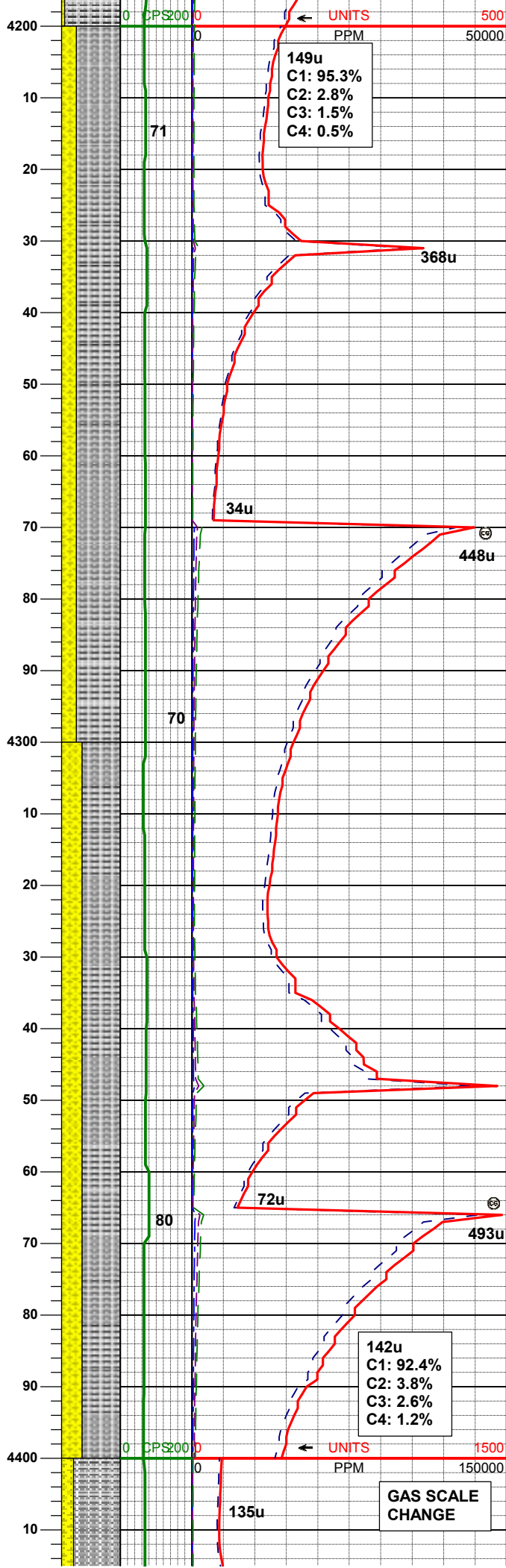
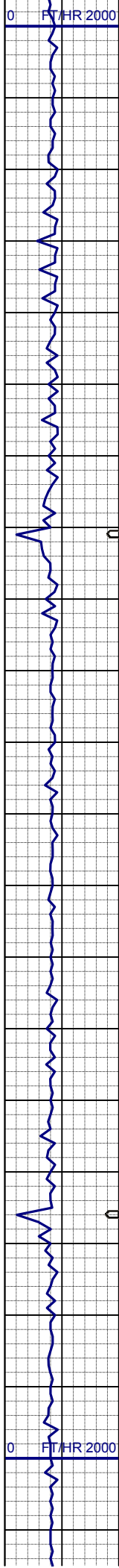


MD	4035'
INC	1.6°
AZM	65.5°
TVD	3993.71'

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

MD	4130'
INC	1.5°
AZM	53.6°
TVD	4088.68'

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



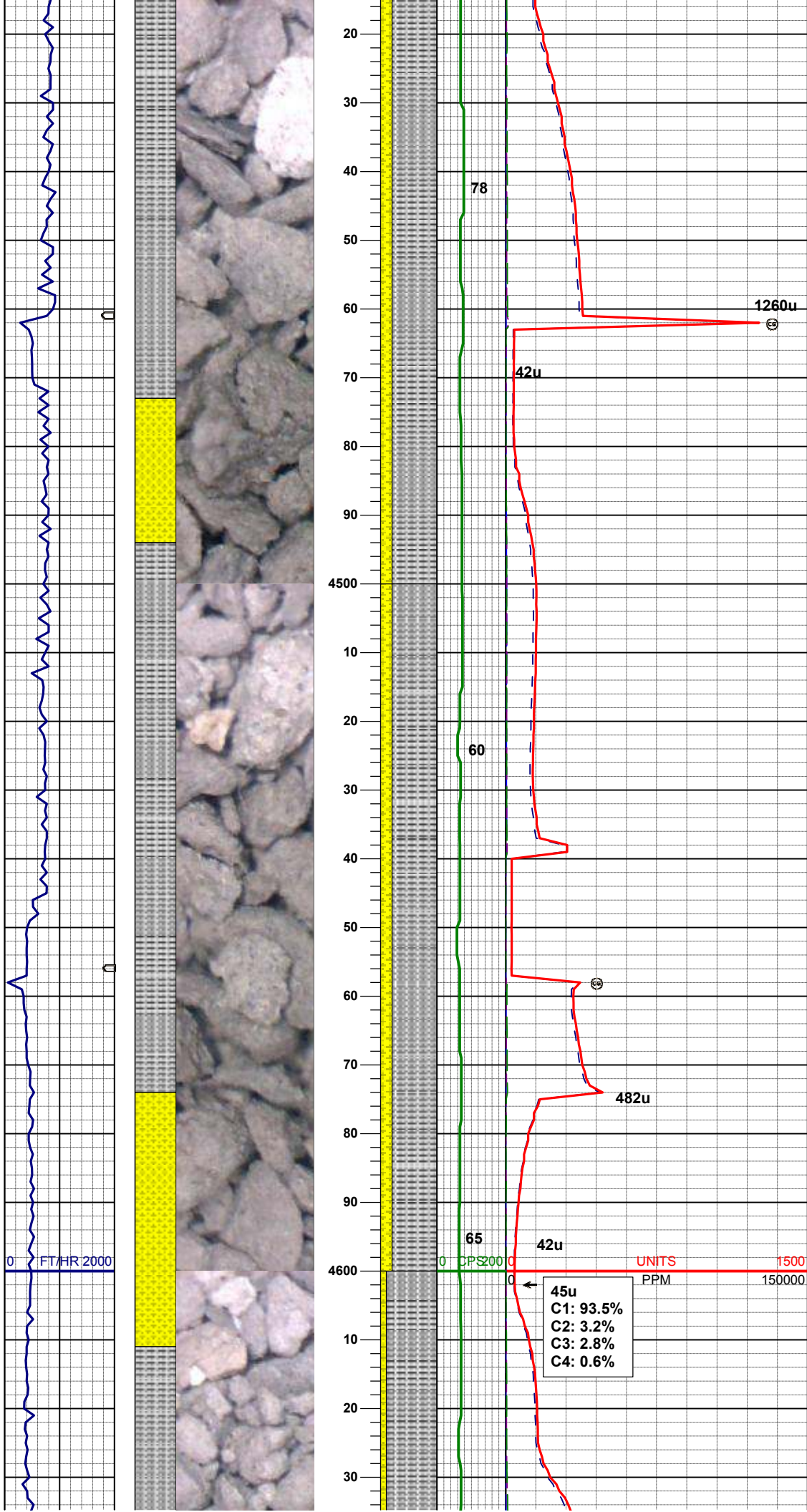
MD 4225'
INC 1.7°
AZM 42.0°
TVD 4183.66'

SLTYSH: m - lt gy, tr dk gy, sft - mod firm, sbblky - sbply, arg-rthy mtx, noncalc
SHYSS: lt gy, wh - gy, occ gybrn, s&p, f gr, sbang - sbrnrd, mod-p srt, mod sft - frm, arg cmt, occ glau, tr phlog

MD 4320'
INC 2.1°
AZM 35.1°
TVD 4278.59'

SLTYSH: m - lt gy, tr dk gy, sft - mod firm, sbblky - sbply, arg-rthy mtx, noncalc
SHYSS: lt gy, wh - gy, occ gybrn, s&p, f gr, sbang - sbrnrd, mod-p srt, mod sft - frm, arg cmt, tr glau, tr phlog

MD 4415'
INC 1.9°



AZM 22.3°
TVD 4417.51'

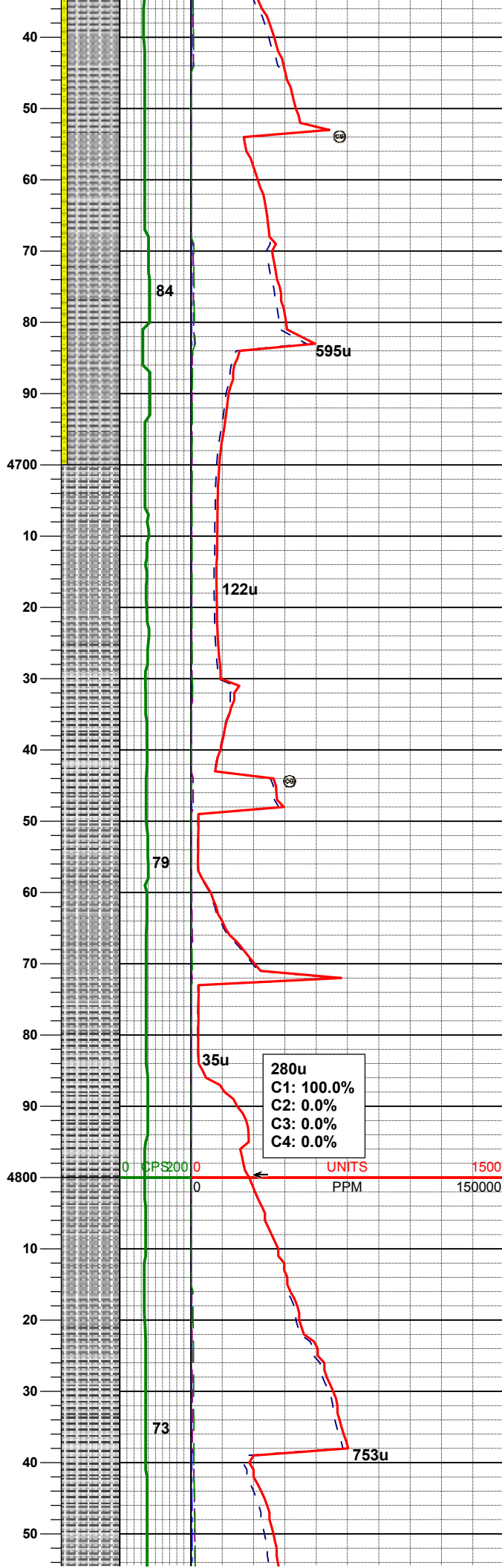
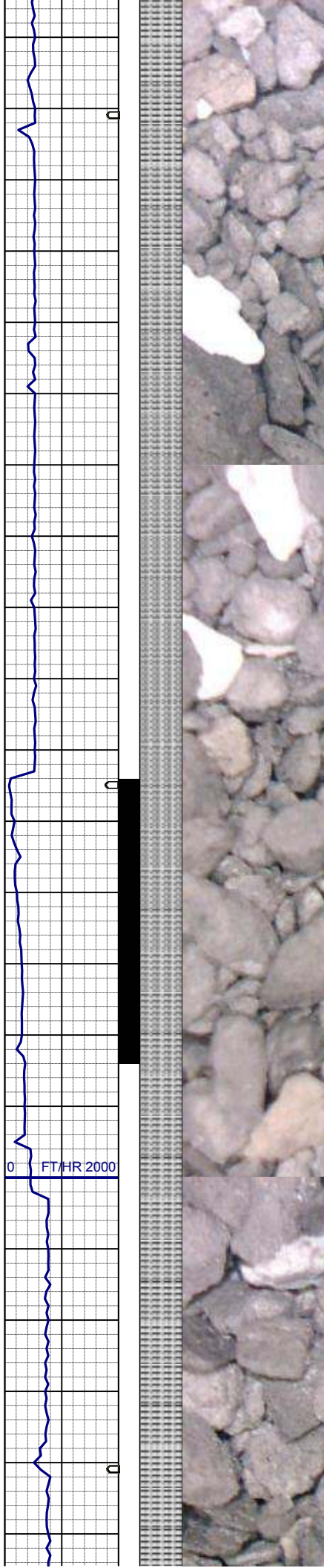
SLTYSH: m - lt gy, tr dk gy, sft - mod firm, sbblky - sbply, arg-rthy mtx, noncalc
SHYSS: lt gy, wh - gy, occ gybrn, s&p, f-vf gr, sbang - sbrndd, mod-p srt, mod sft - frm, arg cmt, tr glau, tr phlog

MD 4510'
INC 2.1°
AZM 22.2°
TVD 4468.48'

SLTYSH: m - lt gy, tr dk gy, sft - mod firm, sbblky - sbply, arg-rthy mtx, sme sdy tex, noncalc
SHYSS: lt gy, wh - gy, occ gybrn, s&p, f-vf gr, sbang - sbrndd, mod-p srt, mod sft - frm, arg cmt, tr glau, tr phlog

MD 4605'
INC 2.4°
AZM 12.6°
TVD 4563.40'

45u
C1: 93.5%
C2: 3.2%
C3: 2.8%
C4: 0.6%



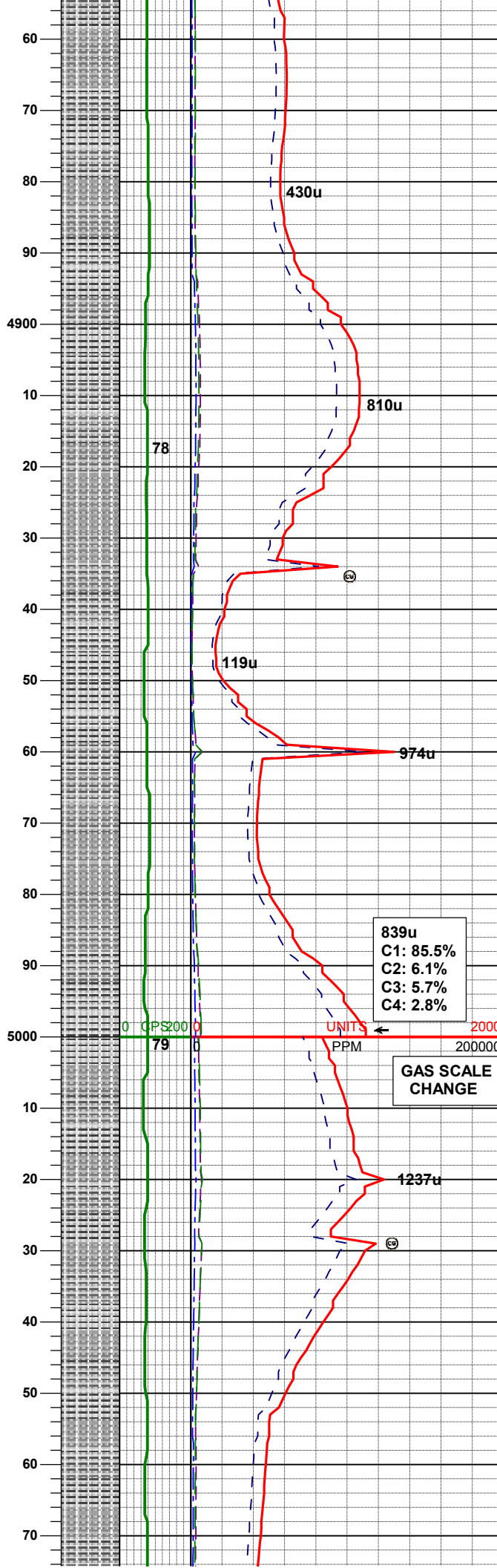
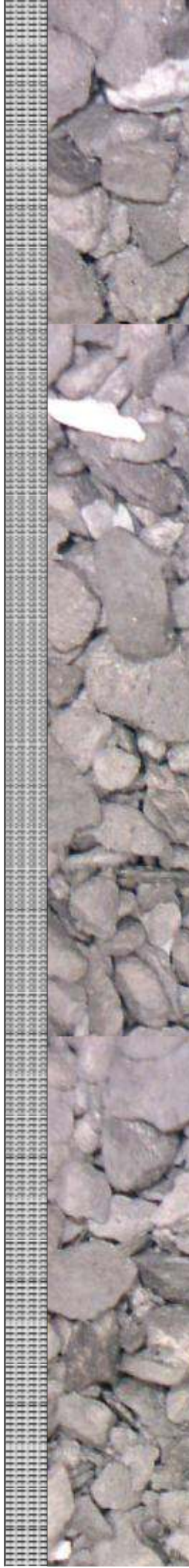
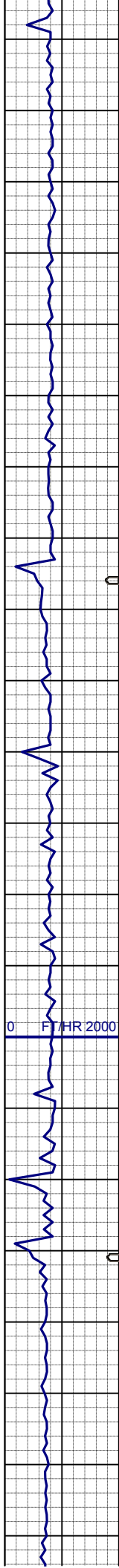
SLTYSH: m - lt gy, tr dk gy, sft - mod
firm, sbblky - sbply, arg-rthy mtx, sme
sdy tex, noncalc, occ bent
SHYSS: lt gy, wh - gy, occ gybrn,
s&p, f-vf gr, sbang - sbrndd, mod-p
srt, mod sft - frm, arg cmt, tr glau, tr
phlog

MD	4700'
INC	3.4°
AZM	1.5°
TVD	4658.28'

SLTYSH: m - lt gy, tr dk gy, sft - mod
firm, sbblky - sbply, arg-rthy mtx, sme
sdy tex, noncalc, tr bent
tr SHYSS:

MD	4795'
INC	0.6°
AZM	29.0°
TVD	4753.21'

SLTYSH: m - lt gy, tr dk gy, sft - mod
firm, sbblky - sbply, arg-rthy mtx, sme
sdy tex, noncalc, tr bent
tr SHYSS:

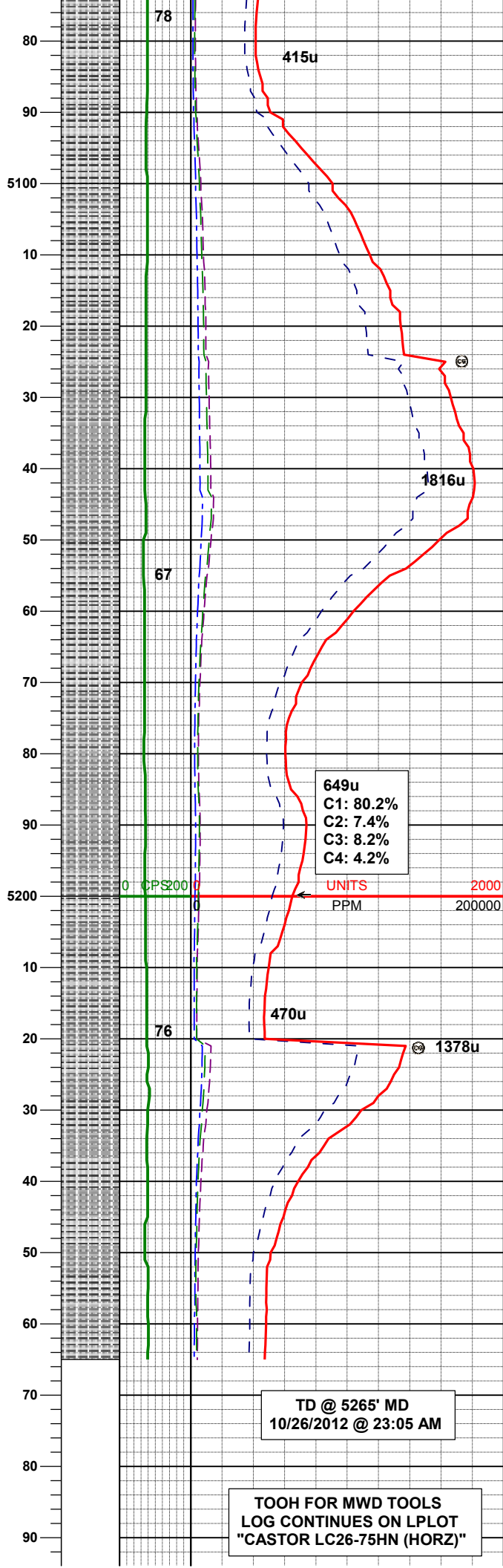
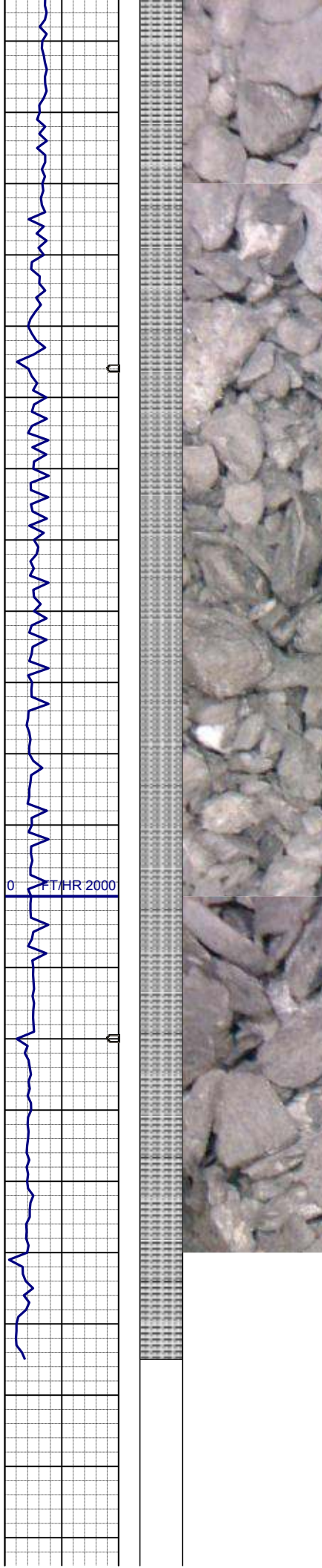


MD 4890'
INC 0.6°
AZM 45.8°
TVD 4848.21'

SLTYSH: m - lt gy, tr dk gy, sft - mod
firm, sbblky - sbply, arg-rthy mtx, sme
sdy tex, noncalc, tr bent
tr SHYSS:

MD 4985'
INC 0.6°
AZM 103.1°
TVD 4943.20'

SLTYSH: m - lt gy, tr dk gy, sft - mod
firm, sbblky - sbply, arg-rthy mtx, sme
sdy tex, noncalc, tr bent
tr SHYSS:



MD 5080'
INC 1.0°
AZM 117.6°
TVD 5038.20'

SLTYSH: m - lt gy, tr dk gy, sft - mod
firm, sbbkly - sbply, arg-rthy mtx,
noncalc
tr SHYSS:

MD 5175'
INC 0.7°
AZM 83.8°
TVD 5133.19'

649u
C1: 80.2%
C2: 7.4%
C3: 8.2%
C4: 4.2%

UNITS
PPM

SLTYSH: m - lt gy, tr dk gy, sft - mod
firm, sbbkly - sbply, arg-rthy mtx,
noncalc
tr SHYSS:

MD 5221'
INC 0.8°
AZM 84.2°
TVD 5179.18'

TD @ 5265' MD
10/26/2012 @ 23:05 AM

TOOH FOR MWD TOOLS
LOG CONTINUES ON L PLOT
"CASTOR LC26-75HN (HORZ)"

