

LOG created using LPLOT VH Version 3.0, August 06, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

OPERATOR: NOBLE ENERGY INC.
WELL: ROHN STATE LD04-68HN
LOCATION: NWNW SEC 4, T9N, R58W
COUNTY: WELD
STATE: COLORADO
SPOT: 547' FNL, 400' FWL
ELEVATION: GR 4747', KB 4777'
FIELD: WILDCAT
SPUD DATE: 07/27/2013
TD DATE: 07/29/2013
DATES LOGGED: 07/28/2013 - 07/29/2013
DEPTHS LOGGED: 700' MD - 4987' MD
LOGGERS: ANDREA ZUIDEMA, MATTHEW HOPKINS
DRILLING FLUID: LSND
DRILLING RIG: H&P 326
API: 05-123-37465
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



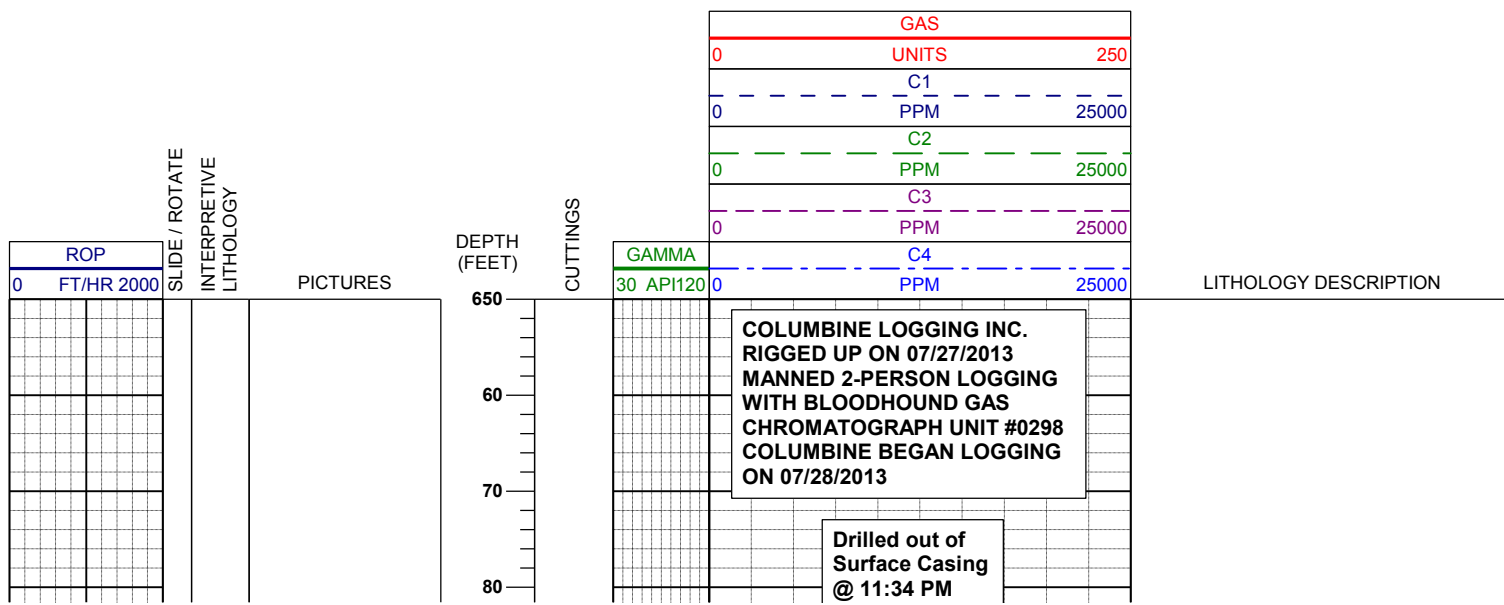
Arrow



Midnight Depth



Arrow



07/28/2013

BHA BIT:
SMITH 8.75" MDI 516
Serial #: JG7673
Jets: 5x14

MD 738'
INC 0.2°
AZM 172.7°
TVD 737.99'

SHYSS: gy - lt gy, occ wh, s&p, f gr,
sbang - sbrnrd, poor - mod srt, occ
phlog, arg cmt
SS: wh - trns, s&p, f gr, sbang-
sbrnrd, mod srt, tr phlog, arg cmt
SLTYSH: lt gy, sft - mod firm, sbblky,
occ pty, arg-rthy mtx, noncalc

07/29/2013

0 F/HR 2000

0 API200

UNITS

250

PPM

25000

18u
C1: 96.8%
C2: 1.9%
C3: 0.9%
C4: 0.4%

MD 833'
INC 0.2°
AZM 196.2°
TVD 832.99'

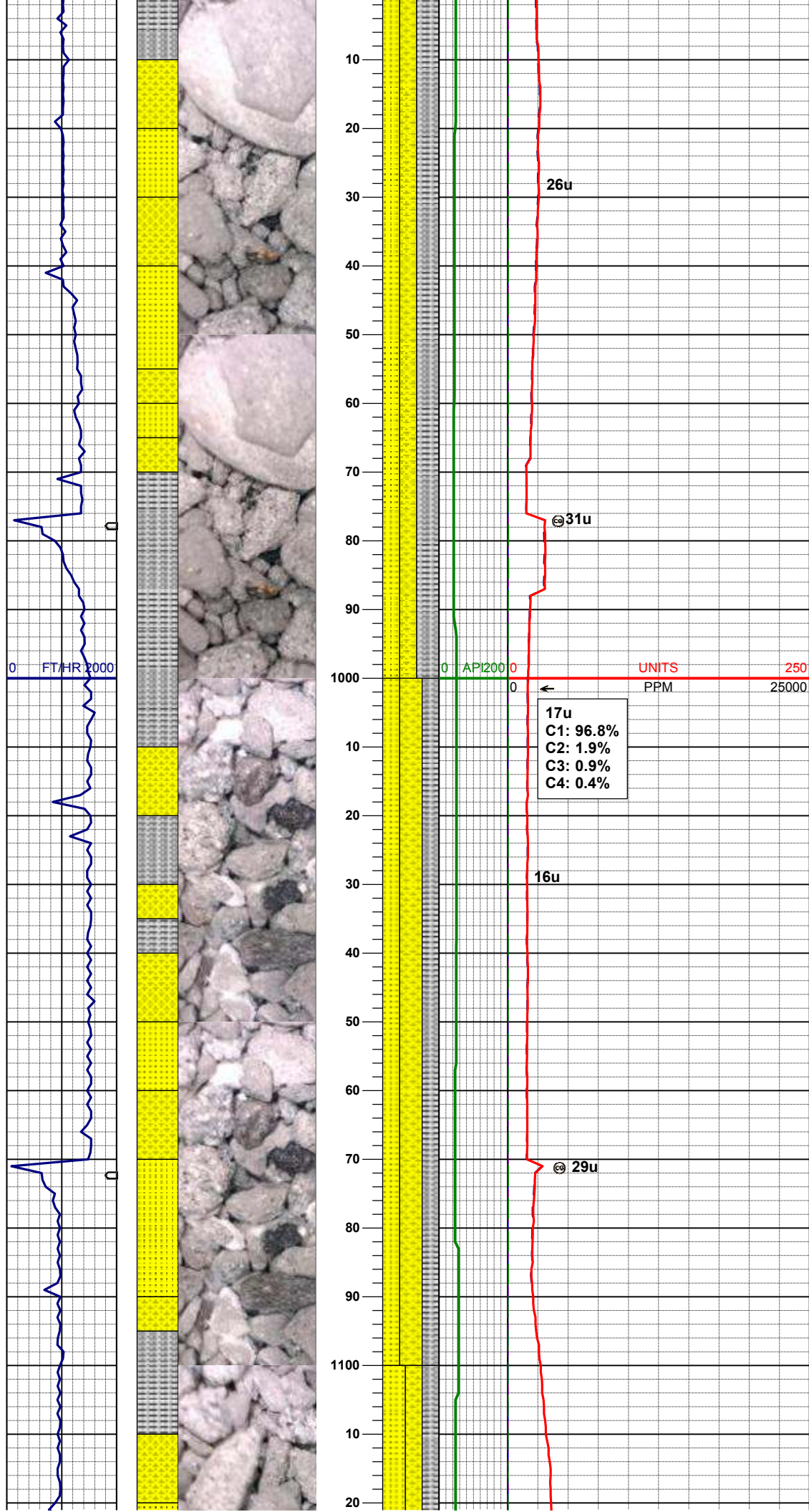
SHYSS: gy - lt gy, occ wh, s&p, f gr,
sbang - sbrnrd, poor - mod srt, occ
phlog, arg cmt
SS: wh - trns, s&p, f gr, sbang-
sbrnrd, mod srt, tr phlog, arg cmt
SLTYSH: lt gy, sft - mod firm, sbblky,
occ pty, arg-rthy mtx, noncalc

15u

29u

13u

16u



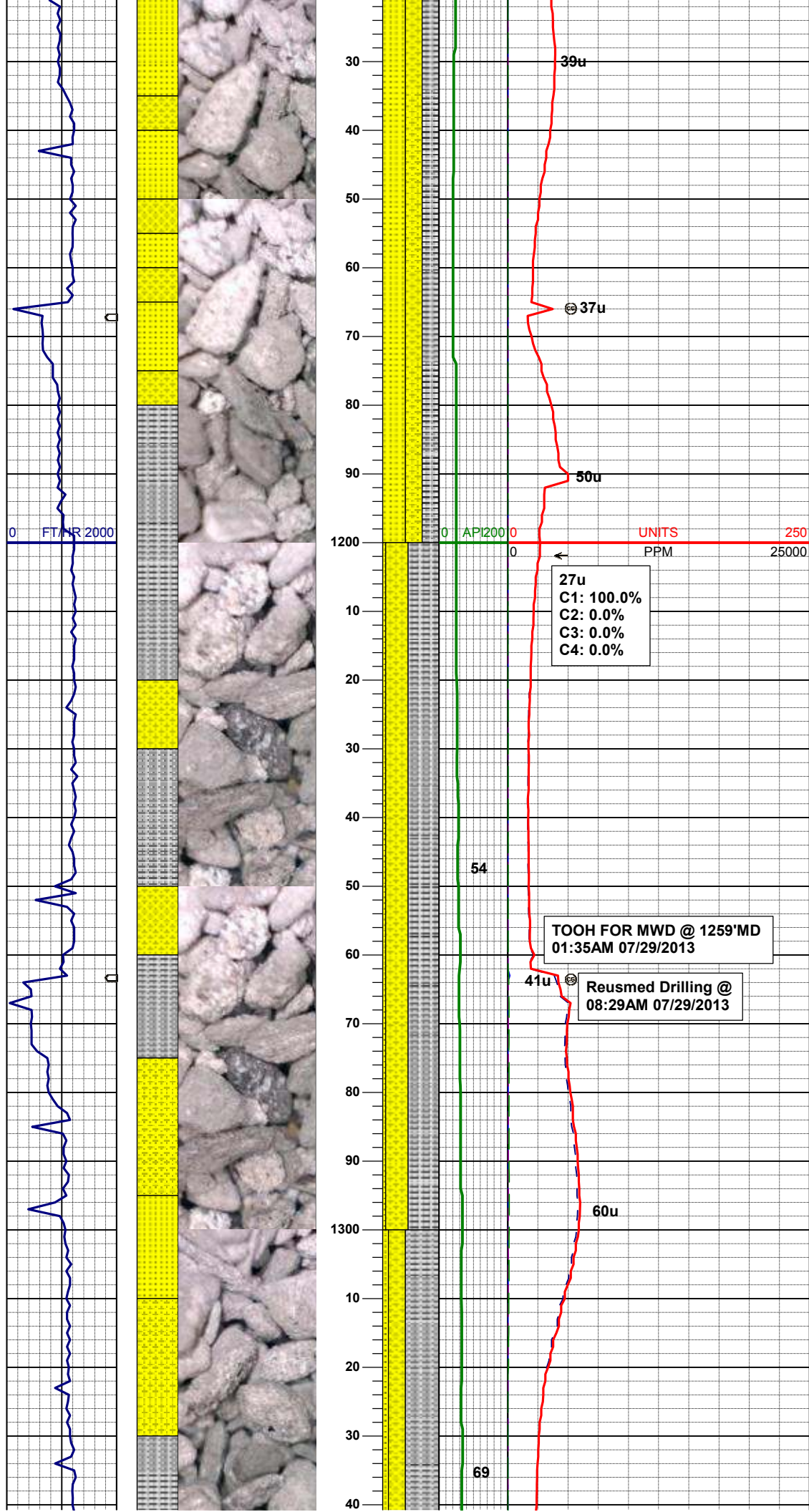
MD	927'
INC	0.3°
AZM	206.2°
TVD	926.99'

SLTYSH: lt gy, sft - mod firm, sbblky, occ pty, arg-rthy mtx, noncalc
SHYSS: gy - lt gy, occ wh, s&p, f gr, sbang - sbrnnd, poor - mod srt, occ phlog, arg cmt
SS: wh - trnsl, s&p, f gr, sbang-sbrnnd, mod srt, tr phlog, arg cmt

MD	1022'
INC	0.3°
AZM	211.1°
TVD	1021.99'

SHYSS: gy - lt gy, occ wh, s&p, f gr, sbang - sbrnnd, poor - mod srt, occ phlog, arg cmt
SLTYSH: lt gy, sft - mod firm, sbblky, occ pty, arg-rthy mtx, noncalc
SS: wh - trnsl, s&p, f gr, sbang-sbrnnd, mod srt, tr phlog, arg cmt

MD	1116'
INC	0.3°
AZM	212.6°
TVD	1115.99'



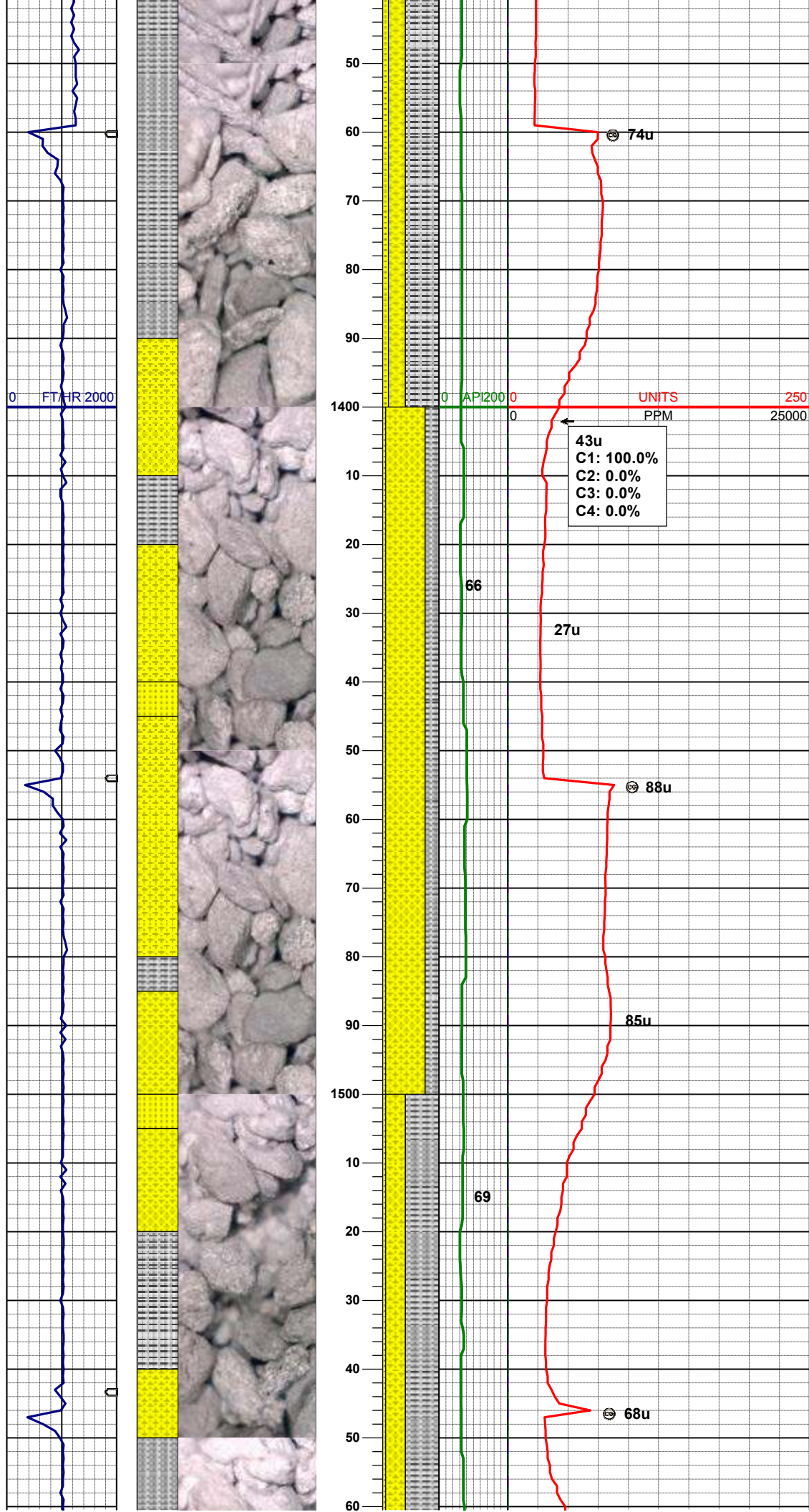
SS: wh - trnsl, s&p, f gr, sbang-sbrnrd, mod srt, tr phlog, tr glau, arg cmt
 SHYSS: gy - lt gy, occ wh, s&p, f gr, sbang - sbrnrd, poor - mod srt, occ phlog, arg cmt
 SLTYSH: lt gy, sft - mod firm, sbblky, occ plty, arg-rthy mtx, noncalc

WT IN 8.60/ OUT 8.60
 VIS IN 27/ OUT 27

MD	1211'
INC	0.3°
AZM	225.9°
TVD	1210.98'

SLTYSH: lt gy, sft - mod firm, sbblky, occ plty, arg-rthy mtx, noncalc
 SHYSS: gy - lt gy, occ wh, s&p, f gr, sbang - sbrnrd, poor - mod srt, occ phlog, arg cmt
 SS: wh - trnsl, s&p, f gr, sbang-sbrnrd, mod srt, tr phlog, arg cmt

MD	1307'
INC	0.6°
AZM	193.1°
TVD	1306.98'



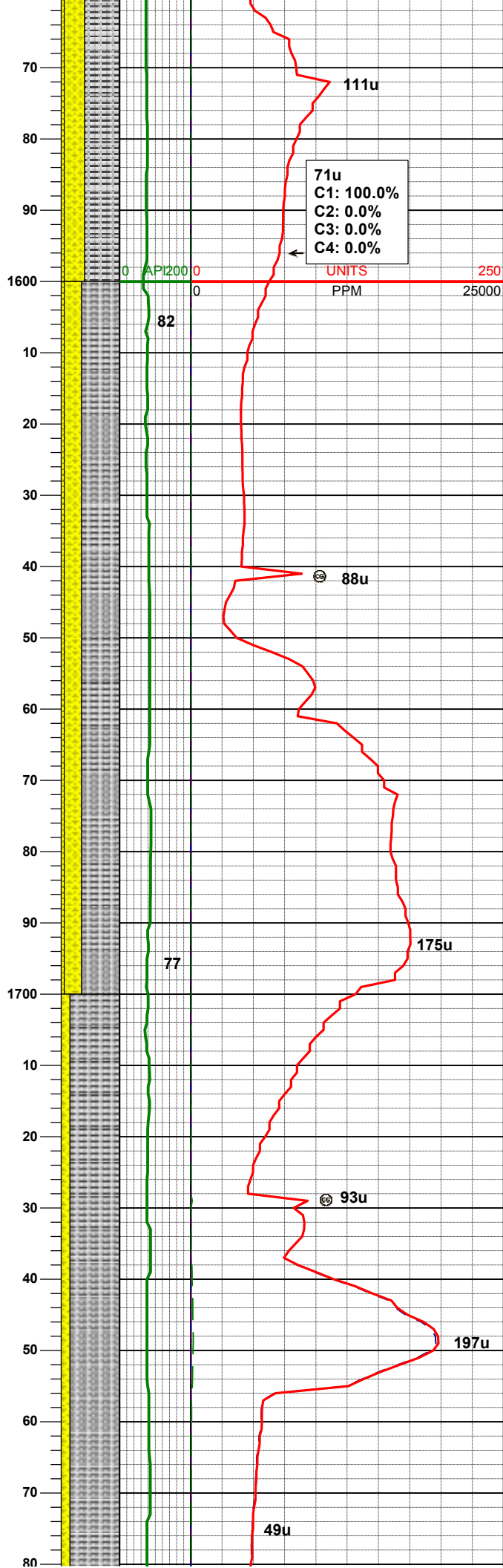
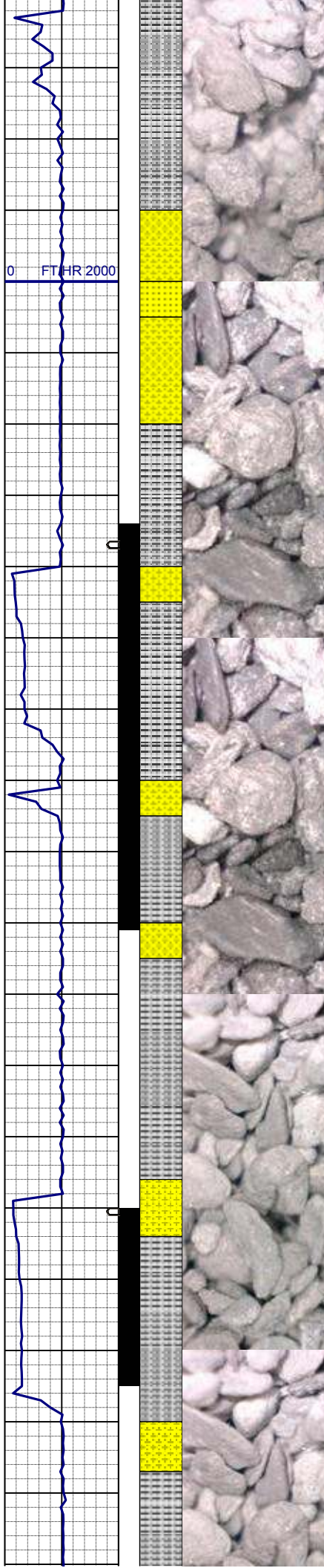
SLTYSH: lt gy, sft - mod firm, sbblky, occ pty, arg-rthy mtx, noncalc
SHYSS: gy - lt gy, occ wh, s&p, f gr, sbang - sbrndd, poor - mod srt, occ phlog, arg cmt
SS: wh - trns, s&p, f gr, sbang-sbrndd, mod srt, tr phlog, arg cmt

MD	1401'
INC	0.6°
AZM	187.1°
TVD	1400.98'

SHYSS: gy - lt gy, occ wh, s&p, f gr, sbang - sbrndd, poor - mod srt, occ phlog, arg cmt
SLTYSH: lt gy, sft - mod firm, sbblky, occ pty, arg-rthy mtx, noncalc
SS: wh - trns, s&p, f gr, sbang-sbrndd, mod srt, tr phlog, arg cmt

MD	1493'
INC	0.6°
AZM	182.3°
TVD	1492.97'

SLTYSH: lt gy, sft - mod firm, sbblky, occ pty, arg-rthy mtx, noncalc
SHYSS: gy - lt gy, occ wh, s&p, f gr, sbang - sbrndd, poor - mod srt, occ phlog, arg cmt
SS: wh - trns, s&p, f gr, sbang-sbrndd, mod srt, tr phlog, arg cmt



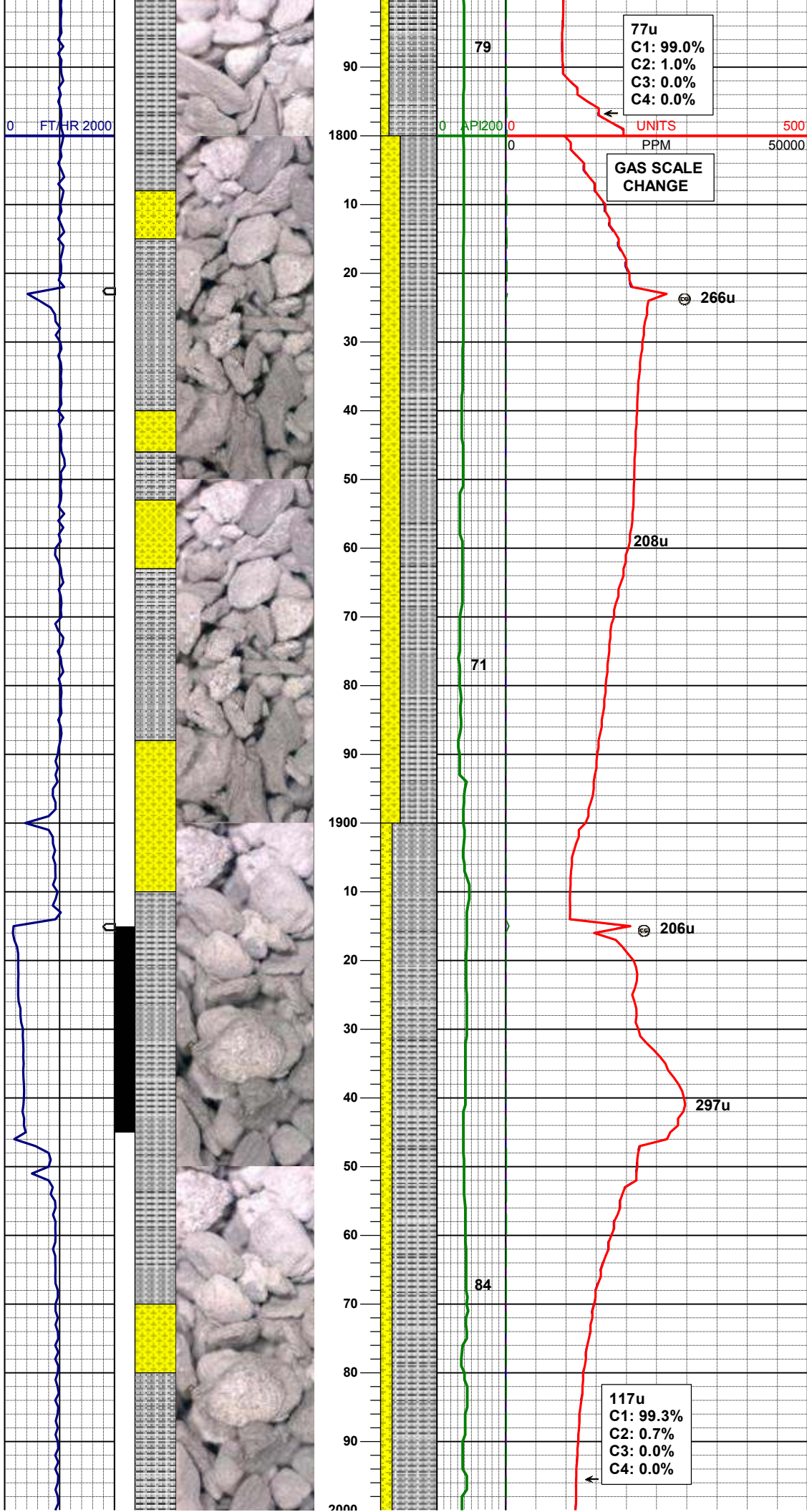
MD 1586'
INC 0.7°
AZM 183.6°
TVD 1585.97'

SLTYSH: lt gy, sft - mod firm, sbblky,
occ plty, arg-rthy mtx, noncalc
SHYSS: gy - lt gy, occ wh, s&p, f gr,
sbang - sbrndd, poor - mod srt, occ
phlog, arg cmt
SS: wh - trnsi, s&p, f gr, sbang-
sbrndd, mod srt, tr phlog, arg cmt

MD 1680'
INC 2.0°
AZM 160.7°
TVD 1679.94'

SLTYSH: lt gy, sft - mod firm, sbblky,
occ plty, arg-rthy mtx, noncalc
SHYSS: gy - lt gy, occ wh, s&p, f gr,
sbang - sbrndd, poor - mod srt, occ
phlog, arg cmt

MD 1773'
INC 4.0°
AZM 140.7°
TVD 1772.81'



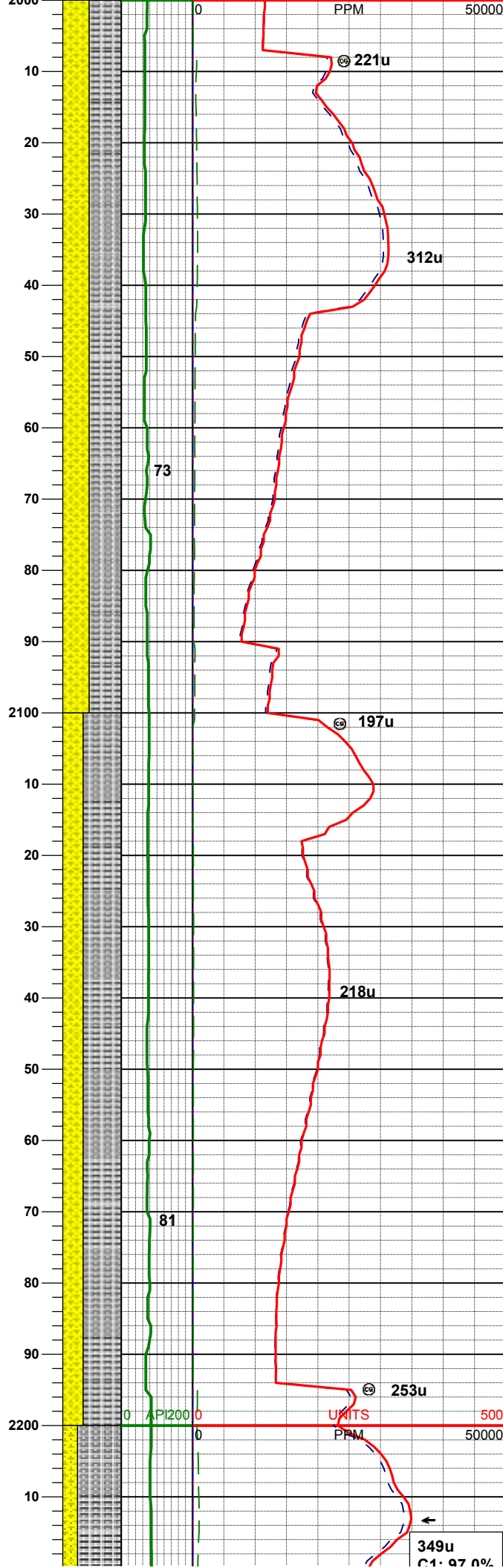
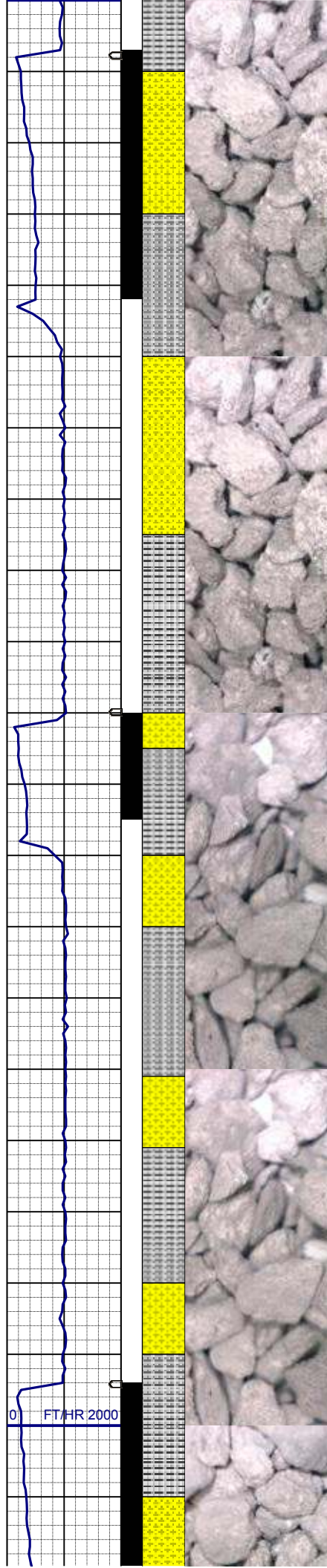
WT IN 8.55/ OUT 8.55
VIS IN 29/ OUT 29

SLTYSH: lt gy, sft - mod firm, sbblky,
occ plty, arg-rthy mtx, noncalc
SHYSS: gy - lt gy, occ wh, s&p, f gr,
sbang - sbrnidd, poor - mod srt, occ
phlog, arg cmt

MD	1865'
INC	3.7°
AZM	146.8°
TVD	1864.60'

SLTYSH: lt-m gy, sft - mod firm,
sbblky, occ plty, arg-rthy mtx, noncalc
SHYSS: gy - lt gy, occ wh, s&p, f gr,
sbang - sbrnidd, poor - mod srt, occ
phlog, arg cmt

MD	1957'
INC	5.2°
AZM	141.9°
TVD	1956.32'



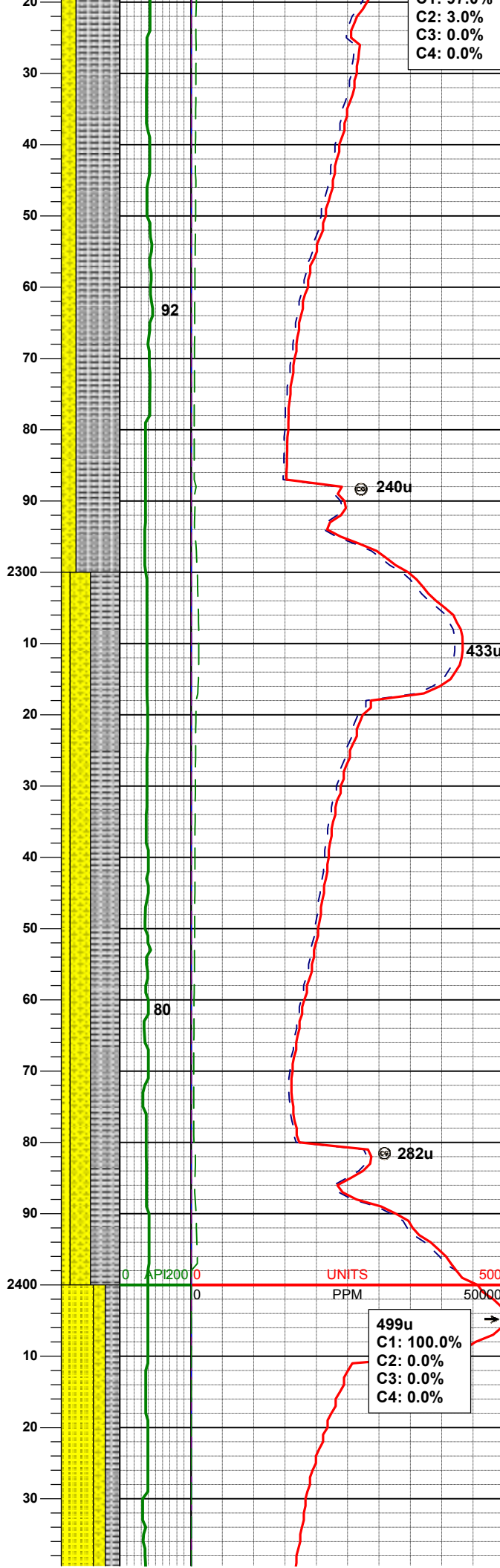
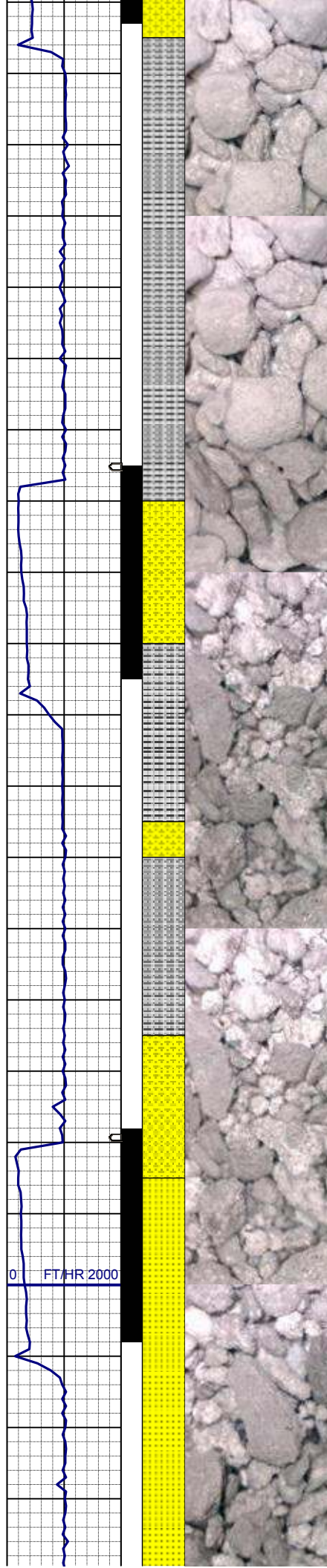
MD 2050'
INC 7.6°
AZM 143.5°
TVD 2048.74'

SLTYSH: lt-m gy, sft - mod firm,
sbbiky, occ plty, arg-rthy mtx, noncalc
SHYSS: gy - lt gy, occ wh, s&p, f gr,
sbang - sbrndd, poor - mod srt, occ
phlog, arg cmt

MD 2143'
INC 8.1°
AZM 139.1°
TVD 2140.86'

SLTYSH: lt-m gy, sft - mod firm,
sbbiky, occ plty, arg-rthy mtx, noncalc
SHYSS: gy - lt gy, occ wh, s&p, f gr,
sbang - sbrndd, poor - mod srt, occ
phlog, arg cmt

WT IN 8.75/ OUT 8.75
VIS IN 30/ OUT 30



MD 2235'
INC 9.2°
AZM 141.4°
TVD 2231.82'

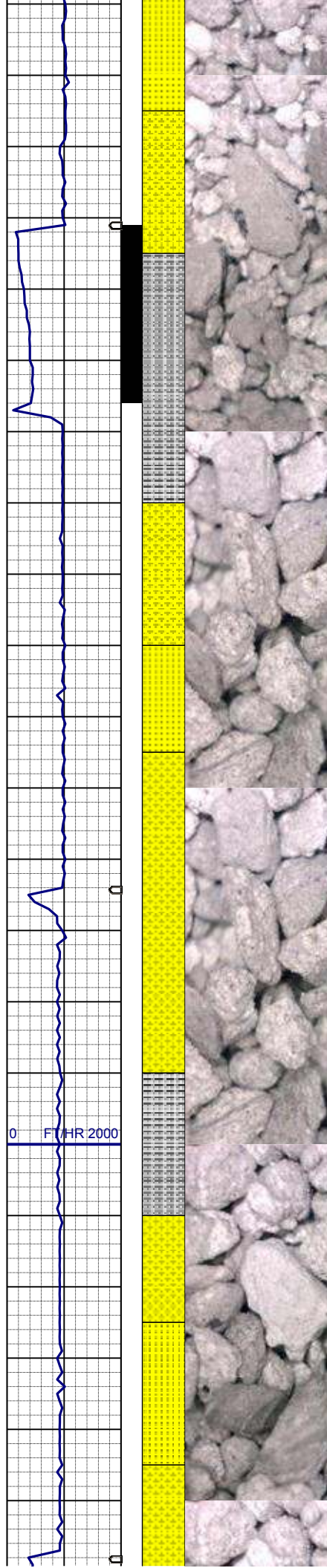
SLTYSH: lt-m gy, sft - mod firm,
sbbiky, occ plty, arg-rthy mtx, noncalc
SHYSS: gy - lt gy, occ wh, s&p, f gr,
sbang - sbrnodd, poor - mod srt, occ
phlog, arg cmt

MD 2328'
INC 10.3°
AZM 137.5°
TVD 2323.47'

SLTYSH: lt-m gy, sft - mod firm,
sbbiky, occ plty, arg-rthy mtx, noncalc
SHYSS: gy - lt gy, occ wh, s&p, f gr,
sbang - sbrnodd, poor - mod srt, occ
phlog, arg cmt
SS: wh - trnsl, s&p, f gr, sbang-
sbrnodd, mod srt, tr phlog, arg cmt

MD 2421'
INC 11.4°
AZM 140.8°
TVD 2414.81'

499u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%



SS: wh - trnsl, s&p, f gr, sbang-
sbrnidd, p-mod srt, tr phlog, tr glau,
arg cmt
SLTYSH: lt-m gy, sft - mod firm,
sbbiky, occ plty, arg-rthy mtx, noncalc
SHYSS: gy - lt gy, occ wh, s&p, f gr,
sbang - sbrnidd, poor - mod srt, occ
phlog, arg cmt

MD	2514'
INC	13.2°
AZM	140.1°
TVD	2505.67'

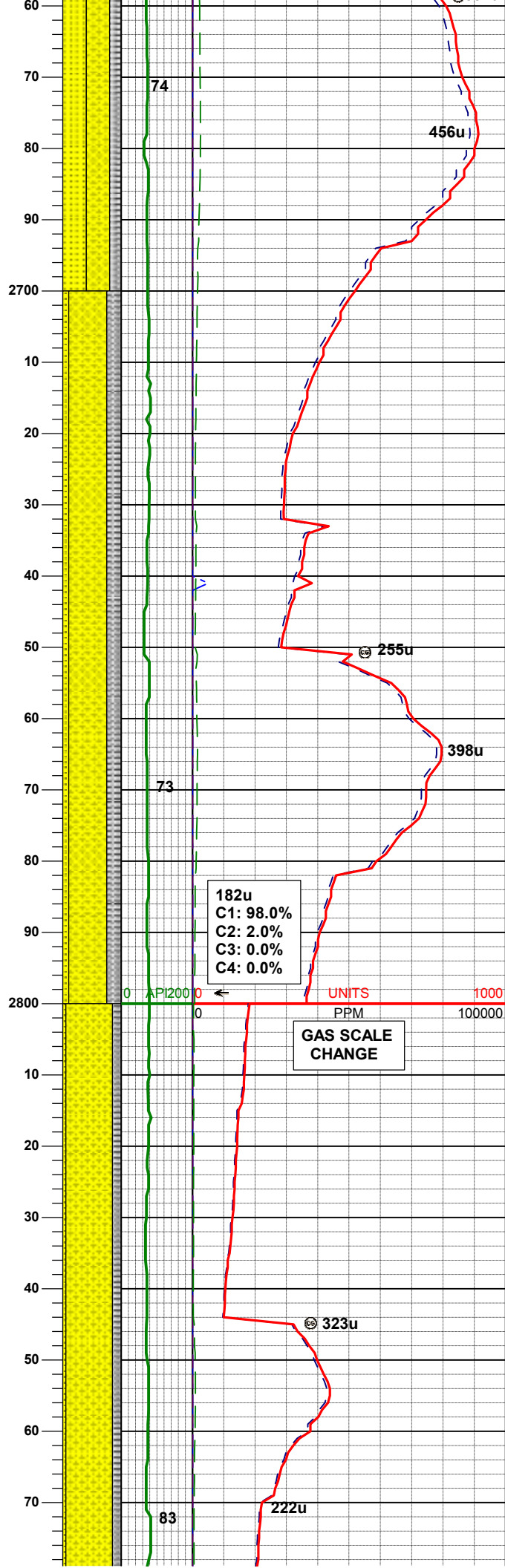
SHYSS: gy - lt gy, occ wh, s&p, f gr,
sbang - sbrnidd, p - mod srt, occ
phlog, arg cmt
SLTYSH: lt-m gy, sft - mod firm,
sbbiky, occ plty, arg-rthy mtx, noncalc
SS: wh - trnsl, s&p, f gr, sbang-
sbrnidd, p-mod srt, tr phlog, tr glau,
arg cmt

106u
C1: 97.0%
C2: 3.0%
C3: 0.0%
C4: 0.0%

MD	2607'
INC	13.4°
AZM	140.1°
TVD	2596.18'

SHYSS: gy - lt gy, occ wh, s&p, f gr,
sbang - sbrnidd, p - mod srt, occ
phlog, arg cmt
SS: wh - trnsl, s&p, f gr, sbang-
sbrnidd, p-mod srt, tr phlog, tr glau,
arg cmt
SLTYSH: lt-m gy, sft - mod firm,
sbbiky, occ plty, arg-rthy mtx, noncalc

sbbiky, occ plty, arg-rthy mtx, noncalc

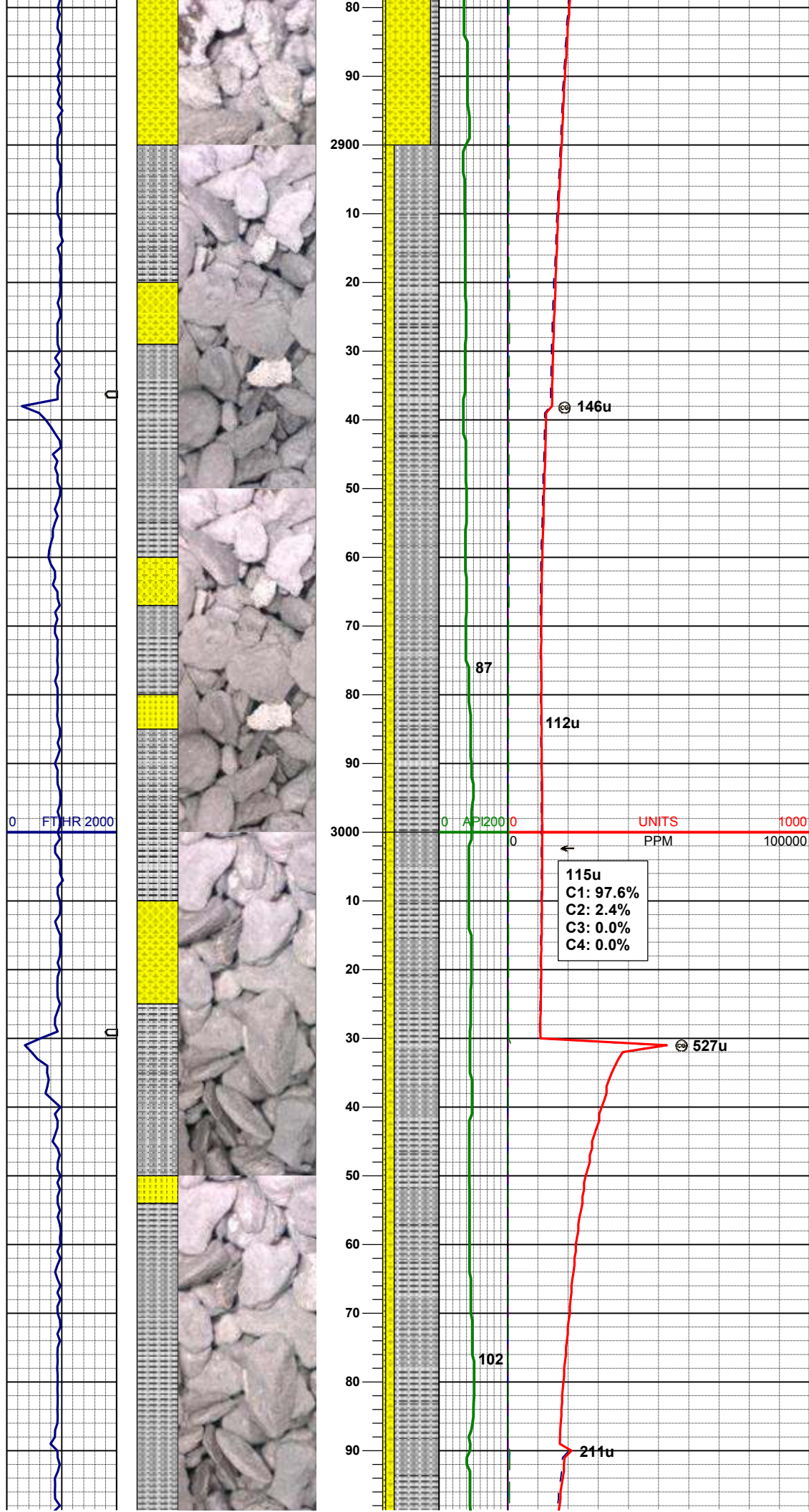


MD 2699'
INC 13.2°
AZM 138.2°
TVD 2685.71'

SHYSS: gy - lt gy, occ wh, s&p, f gr,
sbang - sbrnnd, p - mod srt, occ
phlog, arg cmt
SLTYSH: lt-m gy, sft - mod firm,
sbbiky, occ plty, arg-rthy mtx, noncalc
SS: wh - trnsl, s&p, f gr, sbang-
sbrnnd, p-mod srt, tr phlog, tr glau,
arg cmt

MD 2792'
INC 10.6°
AZM 140.8°
TVD 2776.70'

SHYSS: gy - lt gy, occ wh, s&p, f gr,
sbang - sbrnnd, p - mod srt, occ
phlog, arg cmt
SLTYSH: lt-m gy, sft - mod firm,
sbbiky, occ plty, arg-rthy mtx, noncalc
SS: wh - trnsl, s&p, f gr, sbang-
sbrnnd, p-mod srt, tr phlog, tr glau,
arg cmt



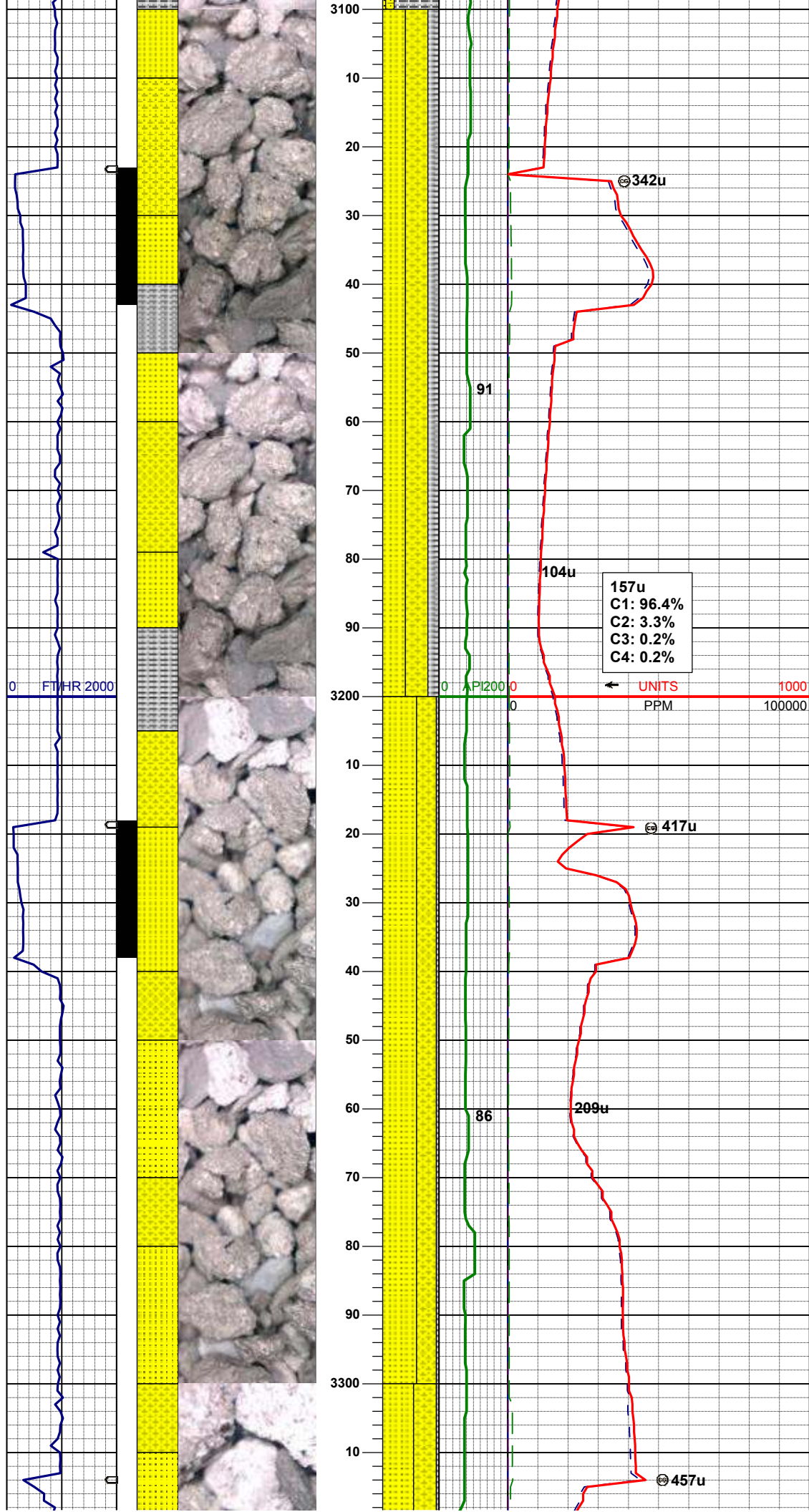
MD 2886'
INC 7.8°
AZM 143.5°
TVD 2869.49'

SLTYSH: lt-m gy, sft - mod firm, sbbiky, occ plty, arg-rthy mtx, noncalc
SHYSS: gy - lt gy, occ wh, s&p, f gr, sbang - sbrnnd, p - mod srt, occ phlog, arg cmt
SS: wh - trnsl, s&p, f gr, sbang-sbrnnd, p-mod srt, tr phlog, tr glau, arg cmt

MD 2978'
INC 5.7°
AZM 140.3°
TVD 2960.84'

SLTYSH: lt-m gy, sft - mod firm, sbbiky, occ plty, arg-rthy mtx, noncalc
SHYSS: gy - lt gy, occ wh, s&p, f gr, sbang - sbrnnd, p - mod srt, occ phlog, arg cmt
SS: wh - trnsl, s&p, f gr, sbang-sbrnnd, p-mod srt, tr phlog, tr glau, arg cmt

MD 3073'
INC 4.7°
AZM 127.7°
TVD 3055.45'



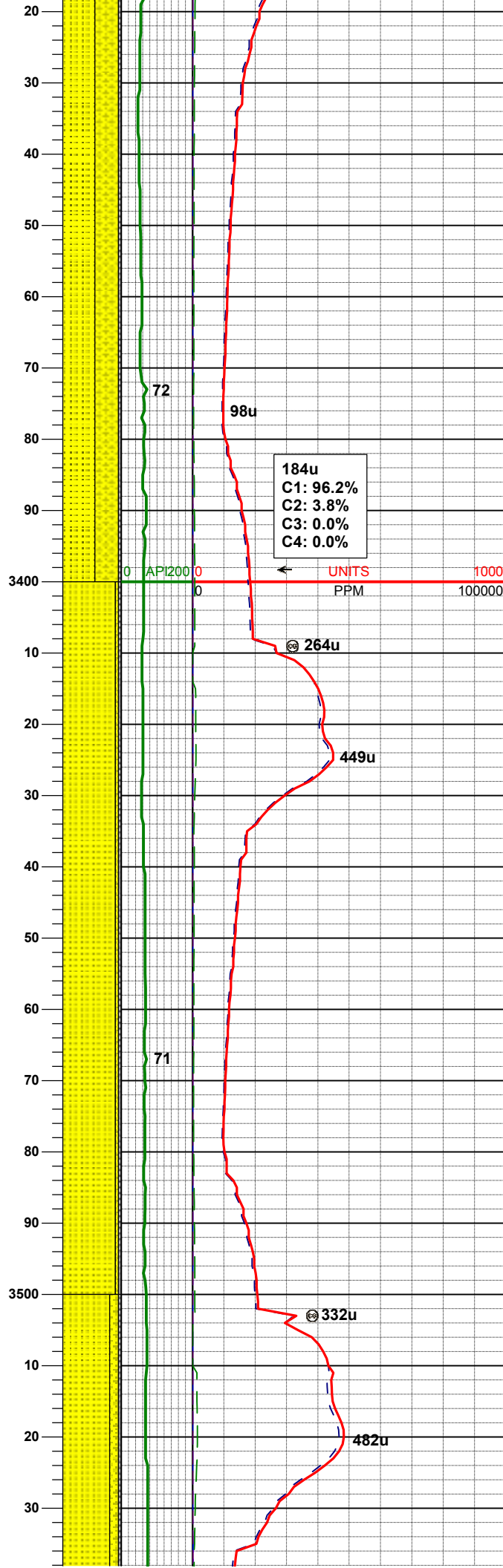
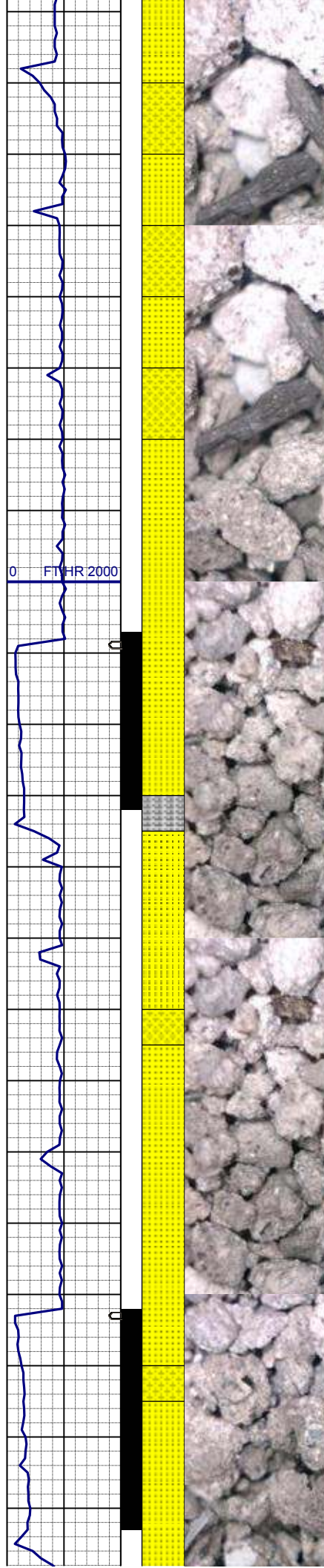
SHYSS: gy - lt gy, occ wh, s&p, f gr, sbang - sbrnrd, p - mod srt, occ phlog, arg cmt
SS: wh - trnsl, s&p, f gr, sbang-sbrnrd, p-mod srt, tr phlog, tr glau, arg cmt
SLTYSH: lt-m gy, sft - mod firm, sbbiky, occ plty, arg-rthy mtx, noncalc

MD	3168'
INC	4.7°
AZM	133.5°
TVD	3150.14'

157u
C1: 96.4%
C2: 3.3%
C3: 0.2%
C4: 0.2%

SS: wh - trnsl, s&p, f gr, sbang-sbrnrd, p-mod srt, tr phlog, tr glau, arg cmt
SHYSS: gy - lt gy, occ wh, s&p, f gr, sbang - sbrnrd, p - mod srt, occ phlog, arg cmt
SLTYSH: lt-m gy, sft - mod firm, sbbiky, occ plty, arg-rthy mtx, noncalc

MD	3263'
INC	4.0°
AZM	147.7°
TVD	3244.86'



SS: wh - trnsl, s&p, f gr, sbang-sbrnidd, p-mod srt, tr phlog, tr glau, arg cmt
SHYSS: gy - lt gy, occ wh, s&p, f gr, sbang - sbrnidd, p - mod srt, occ phlog, arg cmt
SLTYSH: lt-m gy, sft - mod firm, sbbiky, occ plty, arg-rthy mtx, noncalc

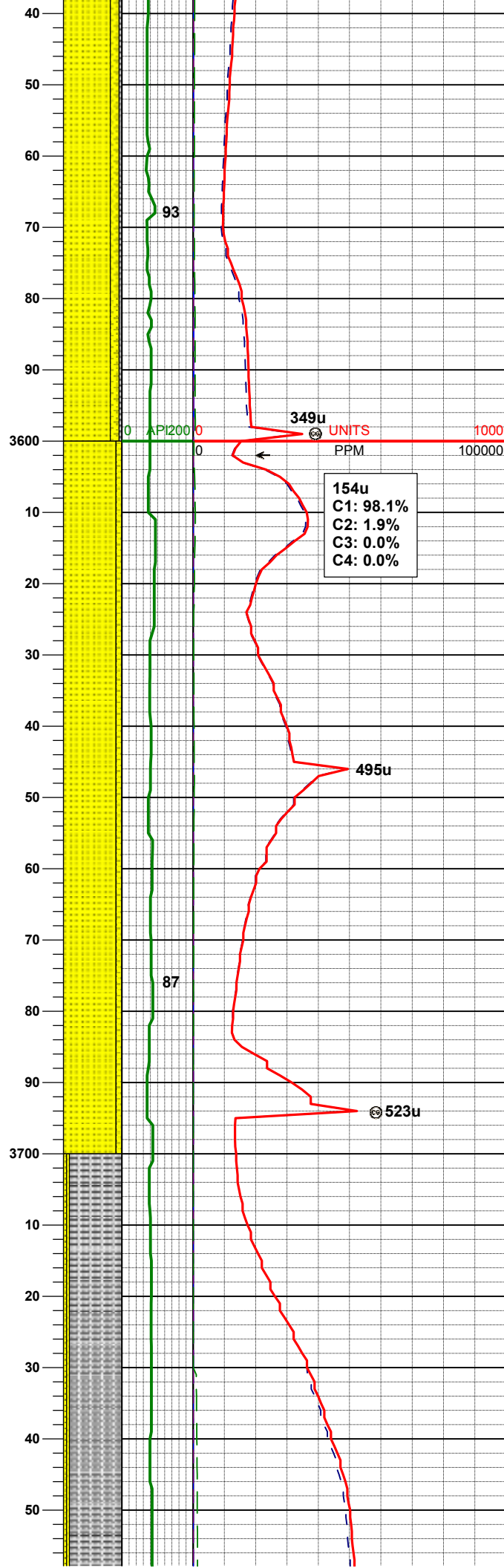
MD	3357'
INC	4.4°
AZM	147.0°
TVD	3338.61'

SS: wh - trnsl, s&p, f gr, sbang-sbrnidd, p-mod srt, tr phlog, tr glau, arg cmt
SHYSS: gy - lt gy, occ wh, s&p, f gr, sbang - sbrnidd, p - mod srt, occ phlog, arg cmt
SLTYSH: lt-m gy, sft - mod firm, sbbiky, occ plty, arg-rthy mtx, noncalc

MD	3452'
INC	3.3°
AZM	152.8°
TVD	3433.4'

SS: wh - trnsl, s&p, f gr, sbang-sbrnidd, p-mod srt, tr phlog, tr glau, arg cmt
SHYSS: gy - lt gy, occ wh, s&p, f gr, sbang - sbrnidd, p - mod srt, occ phlog, arg cmt
SLTYSH: lt-m gy, sft - mod firm,

MD	3547'
INC	1.3°
AZM	144.0°
TVD	3528.31'

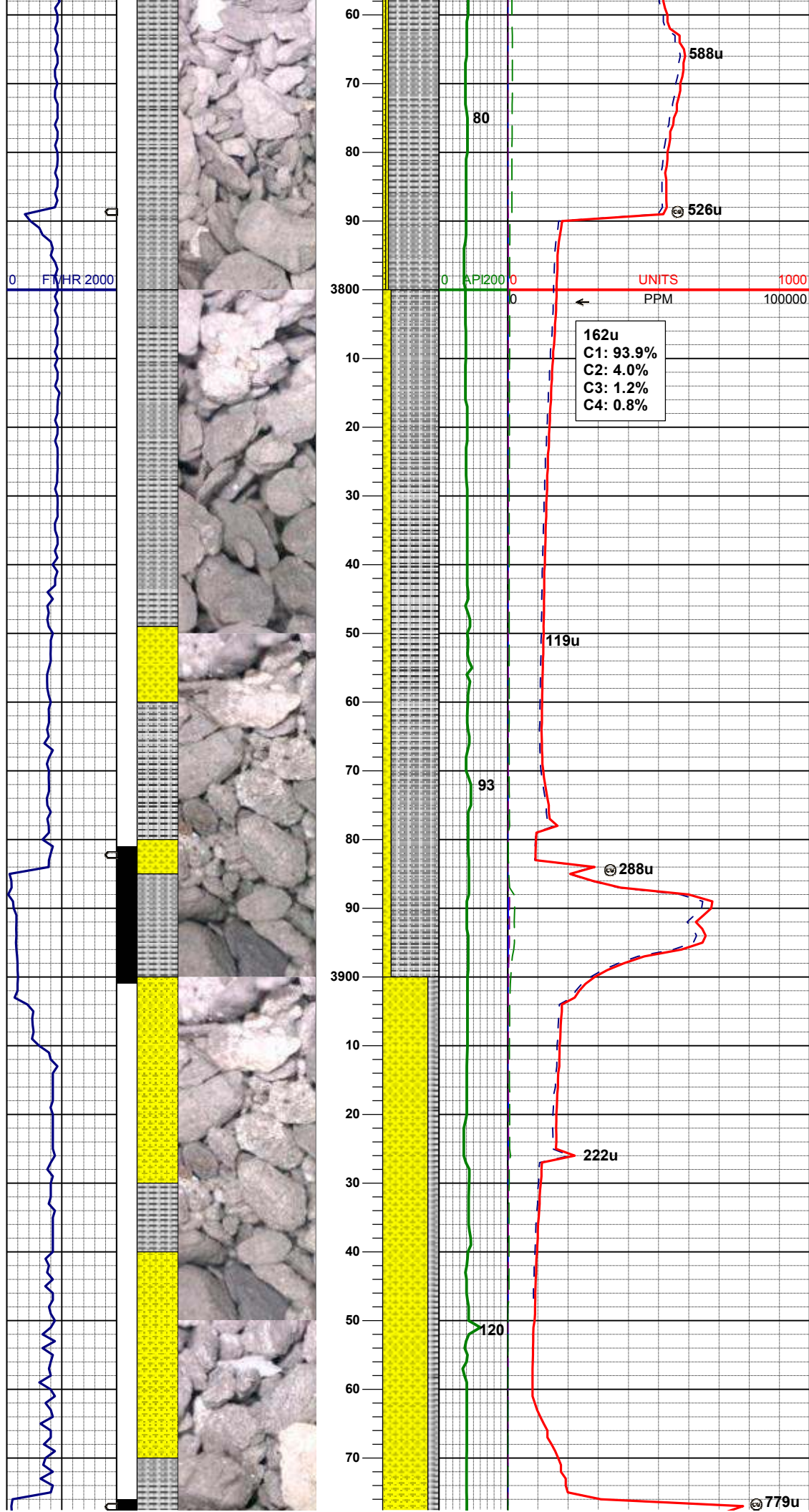


MD	3642'
INC	0.2°
AZM	233.6°
TVD	3623.31'

SS: wh - trnsf, s&p, f gr, sbang-
sbrnnd, p-mod srt, tr phlog, tr glau,
arg cmt
SHYSS: gy - lt gy, occ wh, s&p, f gr,
sbang - sbrnnd, p - mod srt, occ
phlog, arg cmt

MD	3737'
INC	0.7°
AZM	178.1°
TVD	3718.30'

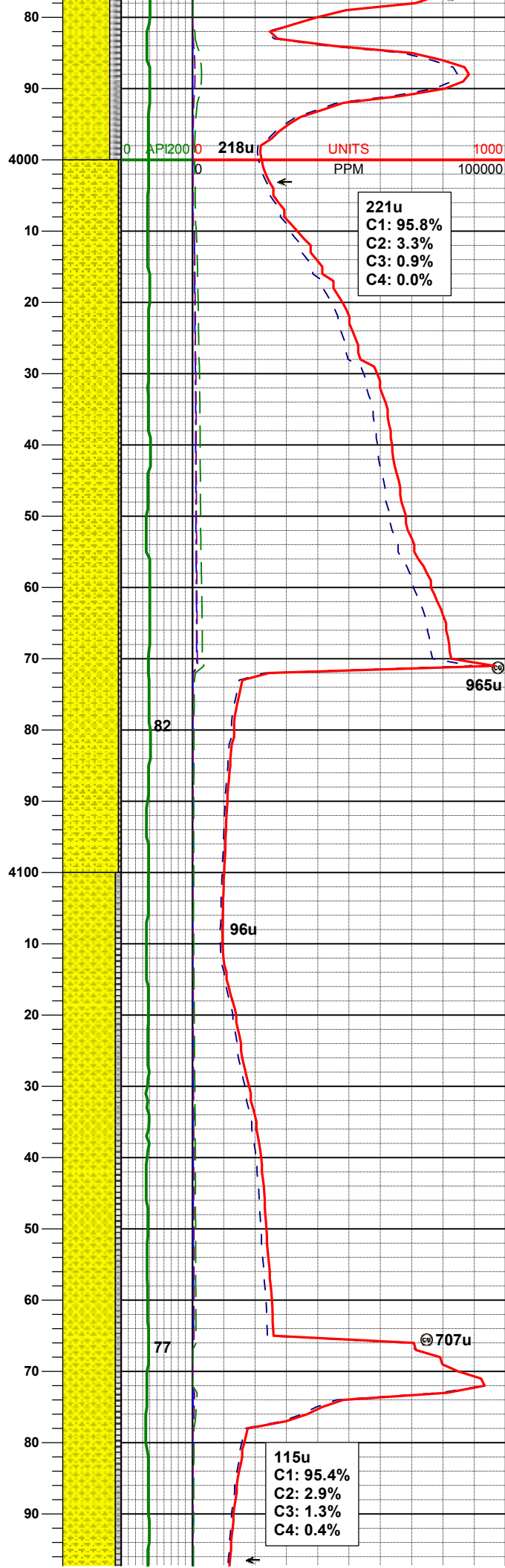
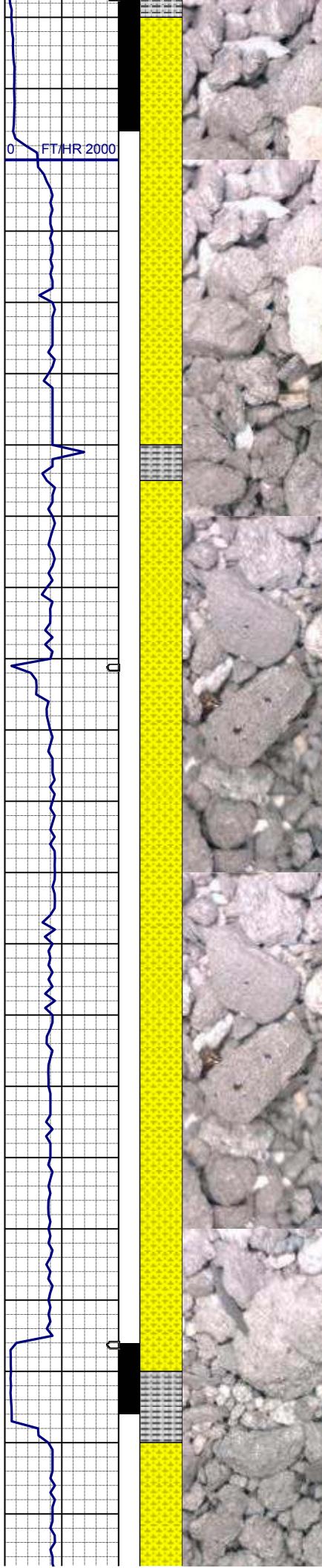
SLTYSH: lt-m gy, sft - mod frm,
sbbiky, occ pty, arg-rthy mtX, noncalc
SHYSS: gy - lt gy, occ wh, s&p, f gr,
sbang - sbrndd, p - mod srt, occ
phlog, arg cmt
SS: wh - trnsl, s&p, f gr, sbang-



sbrnidd, p-mod srt, tr phlog, tr glau,
arg cmt

SLTYSH: dkgy, sft - mod firm, sbblky,
occ plty, arg-rthy mtx, noncalc
SHYSS: lt gy - wh, s&p, f gr, sbang -
sbrnidd, mod srt, occ phlog, arg cmt

SHYSS: lt gy - wh, s&p, f gr, sbang -
sbrnidd, mod srt, occ phlog, arg cmt
SLTYSH: dkgy, sft - mod firm, sbblky,
occ plty, arg-rthy mtx, noncalc



WT IN 8.85/ OUT 8.85
VIS IN 33/ OUT 33

MD	4021'
INC	1.1°
AZM	18.1°
TVD	3907.28'

SHYSS: lt gy - wh, s&p, f gr, sbang -
sbrnrd, mod srt, occ phlog, arg cmt
SLTYSH: dkgy, sft - mod firm, sbblky,
occ plty, arg-rthy mtx, noncalc

WT IN 8.70/ OUT 8.70
VIS IN 31/ OUT 31

MD	4116'
INC	0.5°
AZM	30.6°
TVD	4097.26'

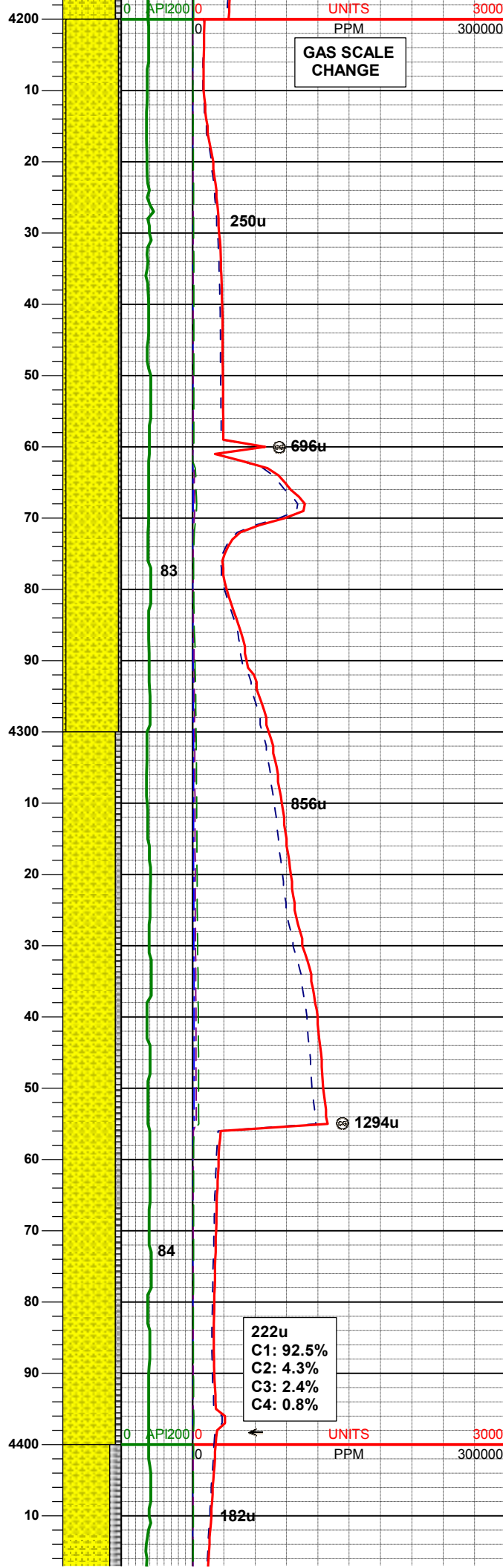
SHYSS: lt gy - wh, s&p, f gr, sbang -
sbrnrd, mod srt, occ phlog, arg cmt
SLTYSH: dkgy, sft - mod firm, sbblky,
occ plty, arg-rthy mtx, noncalc

221u
C1: 95.8%
C2: 3.3%
C3: 0.9%
C4: 0.0%

115u
C1: 95.4%
C2: 2.9%
C3: 1.3%
C4: 0.4%

FT/HR 2000

FT/HR 2000



GAS SCALE
CHANGE

250u

696u

83

856u

1294u

84

222u
C1: 92.5%
C2: 4.3%
C3: 2.4%
C4: 0.8%

182u

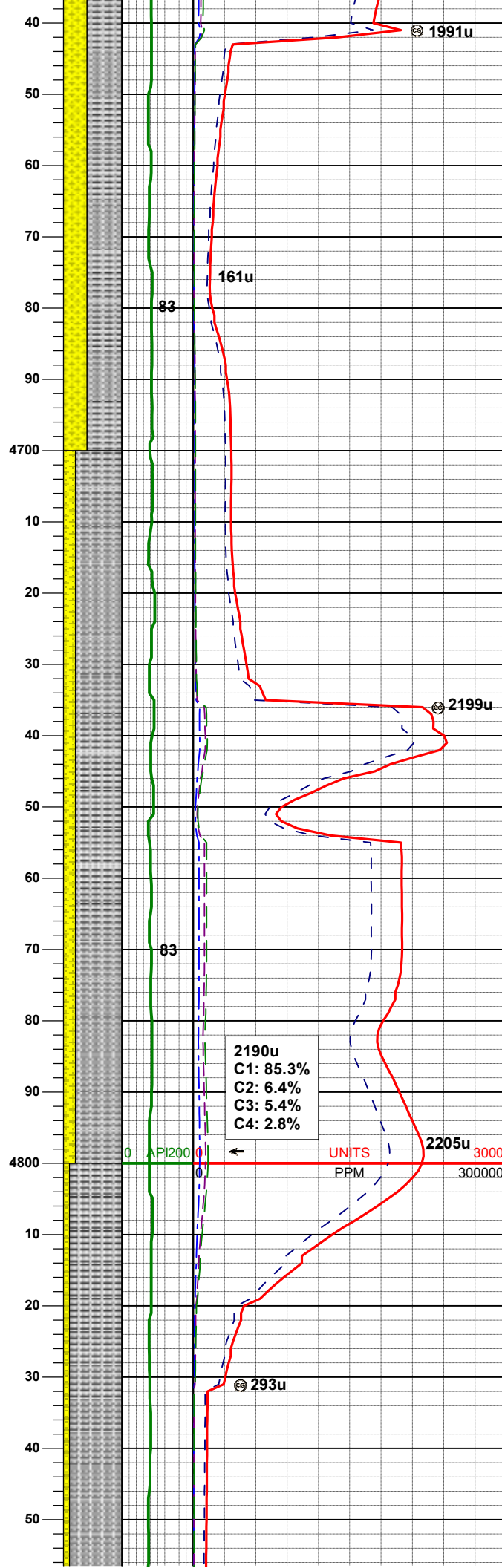
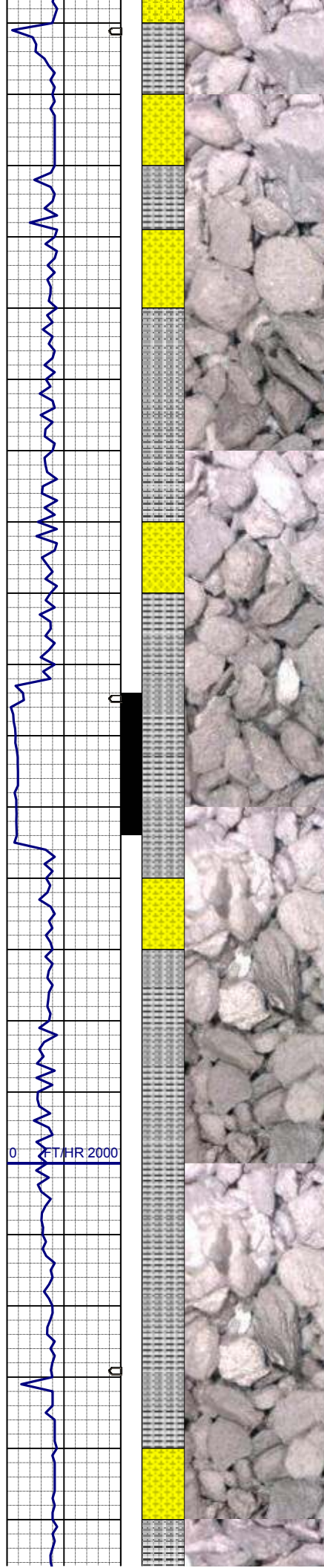
MD 4211'
INC 0.5°
AZM 13.6°
TVD 4192.26'

SHYSS: lt gy - wh, s&p, f gr, sbang -
sbrnnd, mod srt, occ phlog, arg cmt
SLTYSH: dkgy, sft - mod firm, sbblky
- sbplty, occ plty, arg-rthy mtx,
noncalc
SS: wh-trnsl, s&p, f gr, sbang-sbrnnd,
mod srt, tr phlog, arg cmt

MD 4305'
INC 0.4°
AZM 202.2°
TVD 4286.26'

SHYSS: lt gy - wh, s&p, f gr, sbang -
sbrnnd, mod srt, occ phlog, arg cmt
SLTYSH: dkgy, sft - mod firm, sbblky,
occ plty, arg-rthy mtx, noncalc

MD 4400'
INC 1.5°
AZM 160.7°
TVD 4381.24'



SLTYSH: dkgy, sft - mod firm, sbblky, occ plty, arg-rthy mtx, noncalc
SHYSS: lt gy - wh, s&p, f gr, sbang - sbrnrd, mod srt, occ phlog, arg cmt

MD	4684'
INC	0.9°
AZM	207.3°
TVD	4665.22'

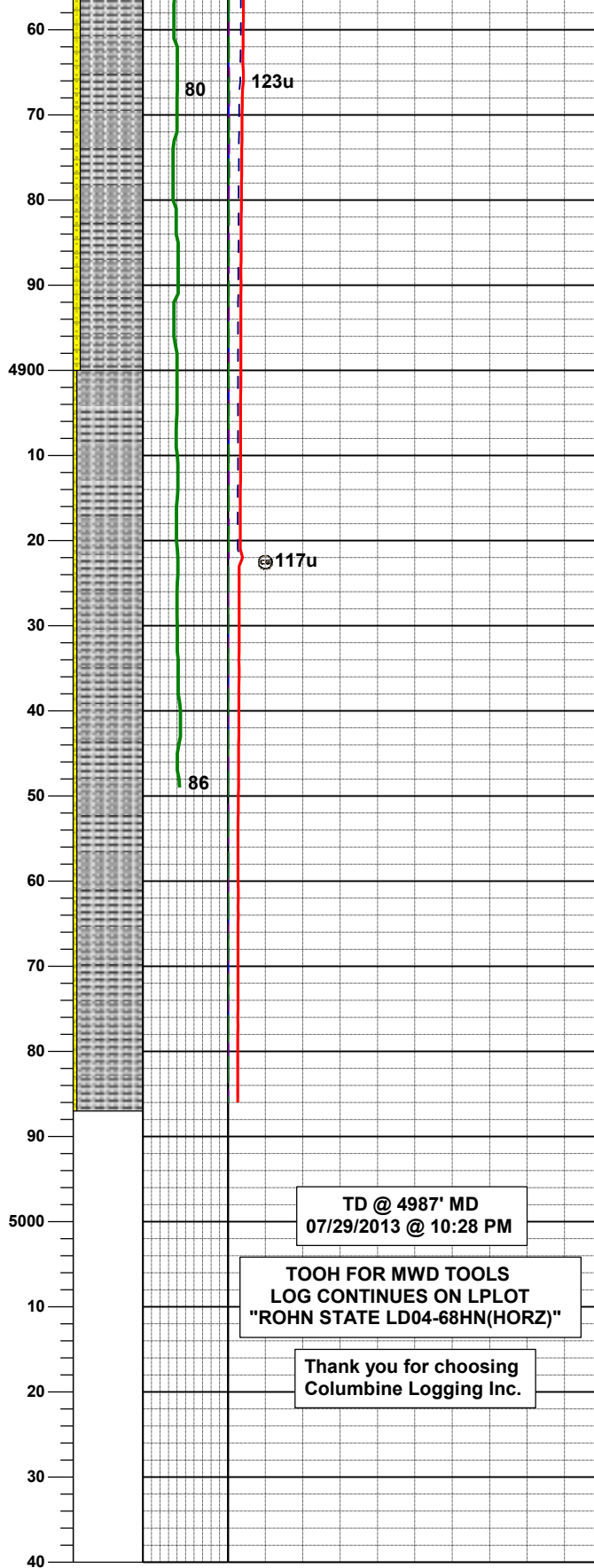
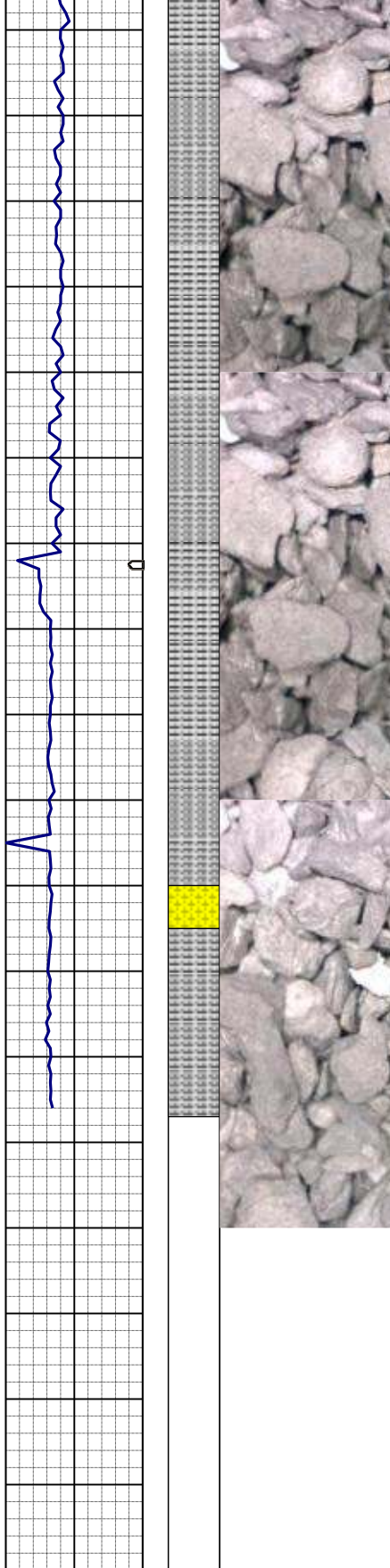
SLTYSH: dkgy, sft - mod firm, sbblky, occ plty, arg-rthy mtx, noncalc
SHYSS: lt gy - wh, s&p, f gr, sbang - sbrnrd, mod srt, occ phlog, arg cmt

MD	4779'
INC	0.6°
AZM	321.0°
TVD	4760.21'

2190u
C1: 85.3%
C2: 6.4%
C3: 5.4%
C4: 2.8%

UNITS
PPM

SLTYSH: dkgy, sft - mod firm, sbblky, occ plty, arg-rthy mtx, noncalc
SHYSS: lt gy - wh, s&p, f gr, sbang - sbrnrd, mod srt, occ phlog, arg cmt



MD	4873'
INC	0.9°
AZM	322.3°
TVD	4854.20'

MD	4936
INC	0.9°
AZM	341.4°
TVD	4917.2'

SLTYSH: dkgy, sft - mod firm, sbblky,
occ plty, arg-rthy mtx, noncalc
SHYSS: lt gy - wh, s&p, f gr, sbang -
sbrnnd, mod srt, occ phlog, arg cmt

TD @ 4987' MD
07/29/2013 @ 10:28 PM

TOOH FOR MWD TOOLS
LOG CONTINUES ON L PLOT
"ROHN STATE LD04-68HN(HORZ)"

Thank you for choosing
Columbine Logging Inc.