

LOG created using LPLOT VH Version 3.0, March 23, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

OPERATOR: NOBLE ENERGY INC.
WELL: SLW RANCH B01-63-1HN
LOCATION: SESE SEC 1, T5N, R64W
COUNTY: WELD
STATE: COLORADO
SPOT: 1006' FSL, 1053' FEL
ELEVATION: GR 4,604' KB 4,634'
FIELD: WATTENBERG
SPUD DATE: 03/16/2013
TD DATE: 03/18/2013
DATES LOGGED: 03/17/2013 - 03/18/2013
DEPTHS LOGGED: 700' MD - 5877' MD
LOGGERS: ANDREA ZUIDEMA, CHRIS VENTURINO
DRILLING FLUID: LSND
DRILLING RIG: H&P 326
API: 05-123-36259
LOG TYPE: VERTICAL
SCALE: 1:240 (5 inches per 100 feet)
REMARKS: WELLSITE GEOLOGICAL SERVICES
 PROVIDED BY COLUMBINE LOGGING INC.

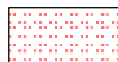
LITHOLOGIES



Sandstone



Shaly Sandstone



Siltstone



Silty Shale

ENGINEERING SYMBOLS



Connection



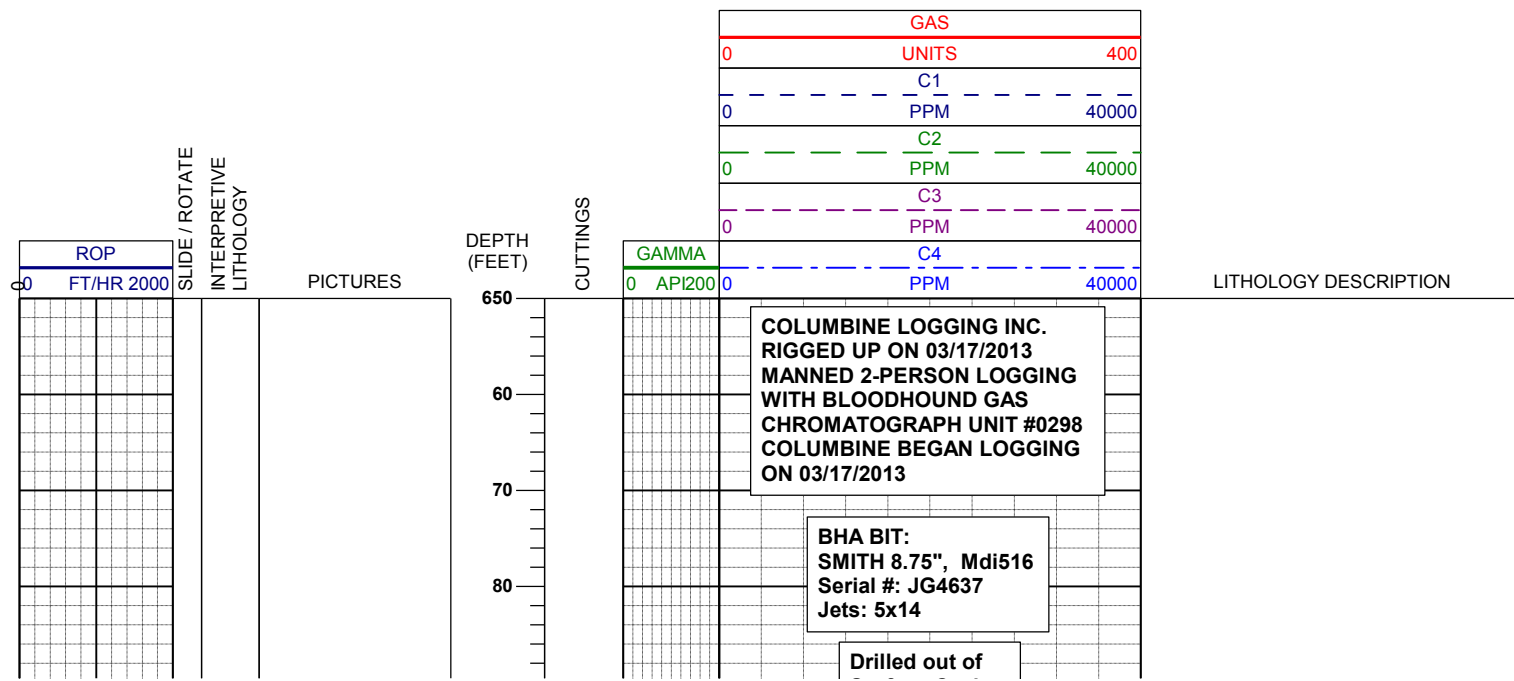
Connection Gas

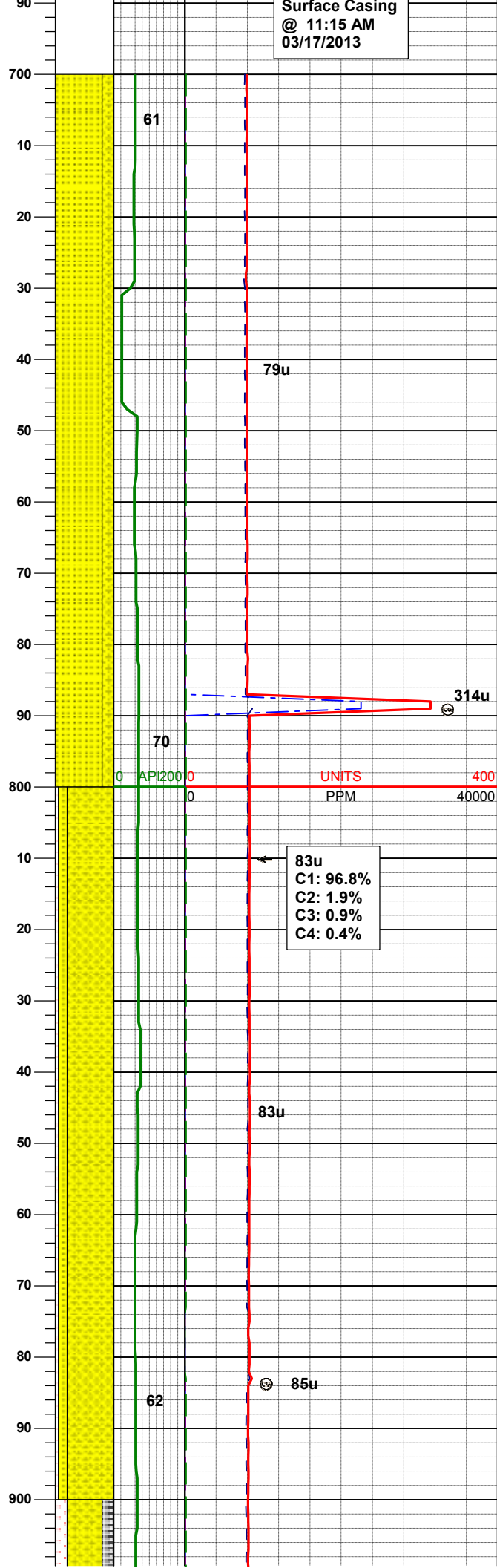
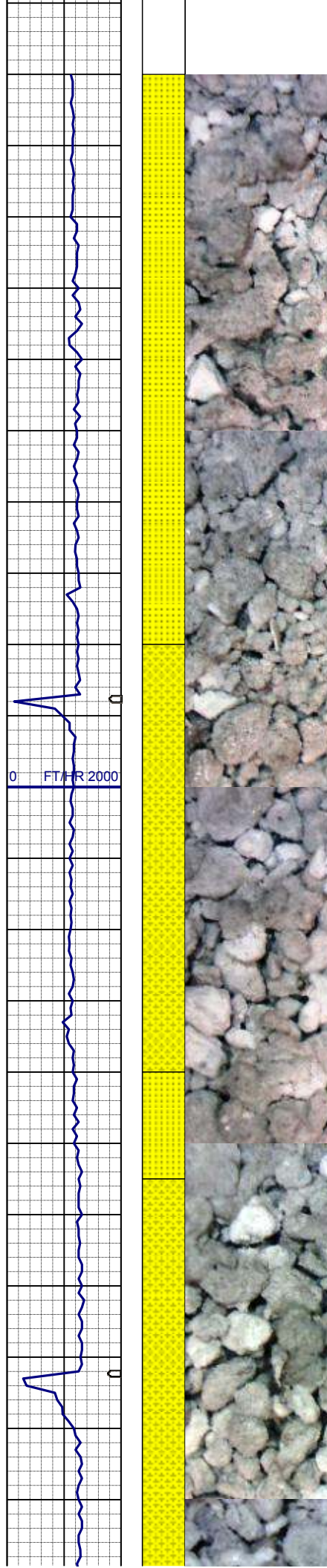


Arrow



Midnight Depth





Surface Casing
@ 11:15 AM
03/17/2013

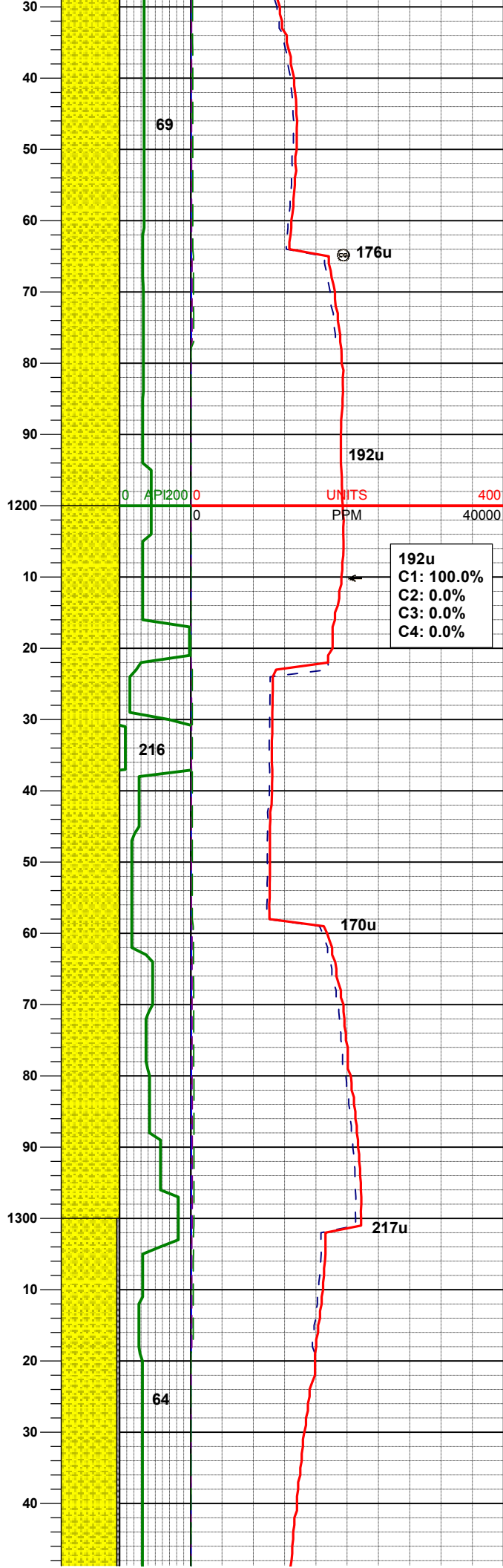
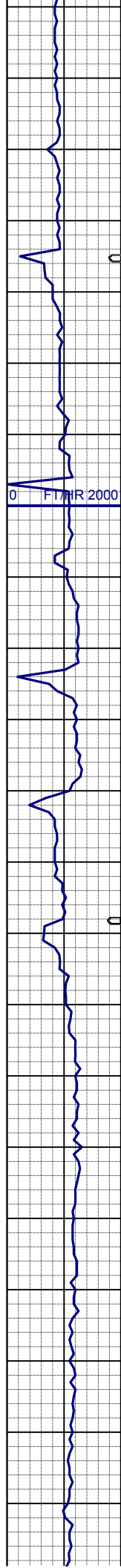
MD 738'
INC 0.3°
AZM 173.4°
TVD 738.00'

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

83u
C1: 96.8%
C2: 1.9%
C3: 0.9%
C4: 0.4%

MD 833'
INC 0.3°
AZM 149.7°
TVD 733.00'

SS: wh, lt gy, mod firm, blkly - sbply,
sb rndd, arg cmt, tr glau, tr phlog
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrndd, mod srt, mod sft -
frm, tr glau & phlog, arg cmt
SLTST: ltbrn-m brn, occ wh, fn grn,
sbbkly, rthy-cly tex



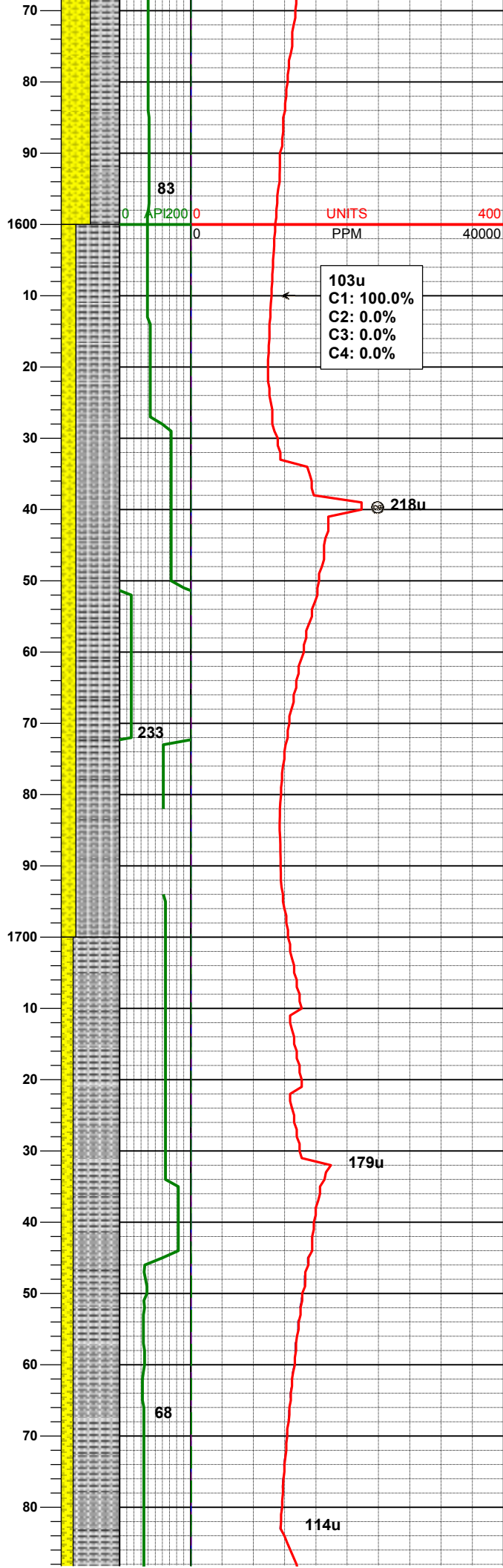
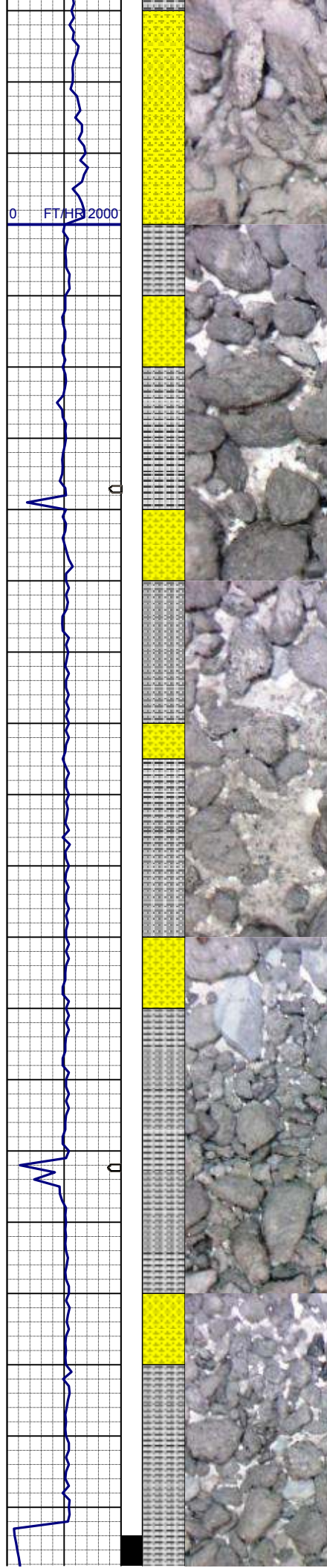
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrnrd, mod srt, mod sft -
frm, tr glau & phlog, arg cmt

MD 1211'
INC 0.4°
AZM 205.9°
TVD 1210.99'

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

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

SHYSS: lt av. wh - lt av. occ m av. f

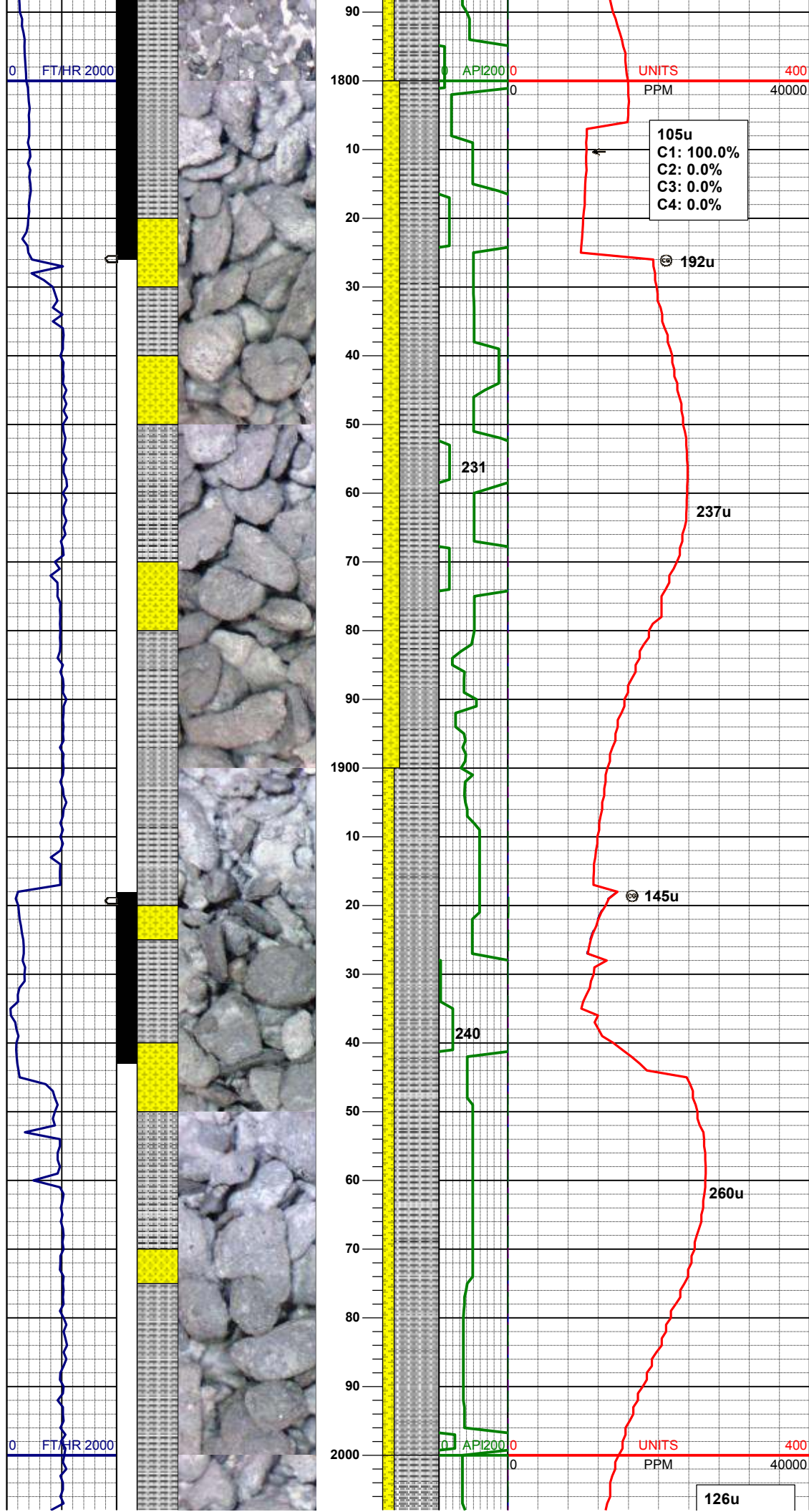


SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbply, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrndd, mod srt, mod sft -
frm, tr glau & phlog, arg cmt

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

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, tr glau & phlog, arg cmt

MD	1777'
INC	0.9°
AZM	111.4°
TVD	1776.97'

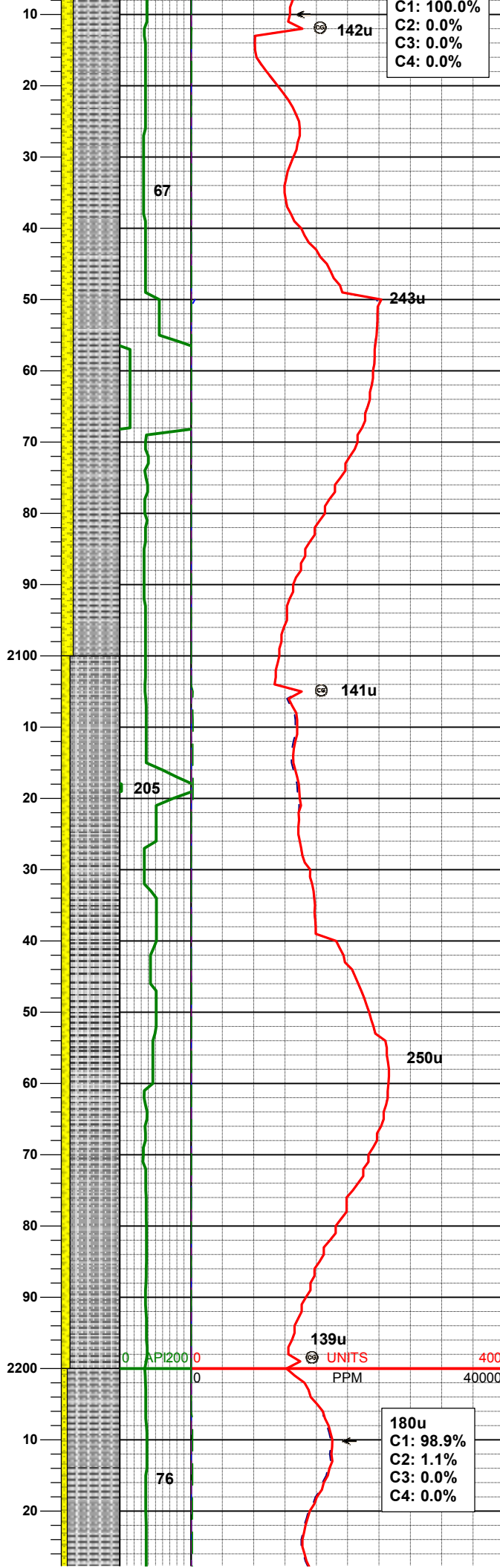
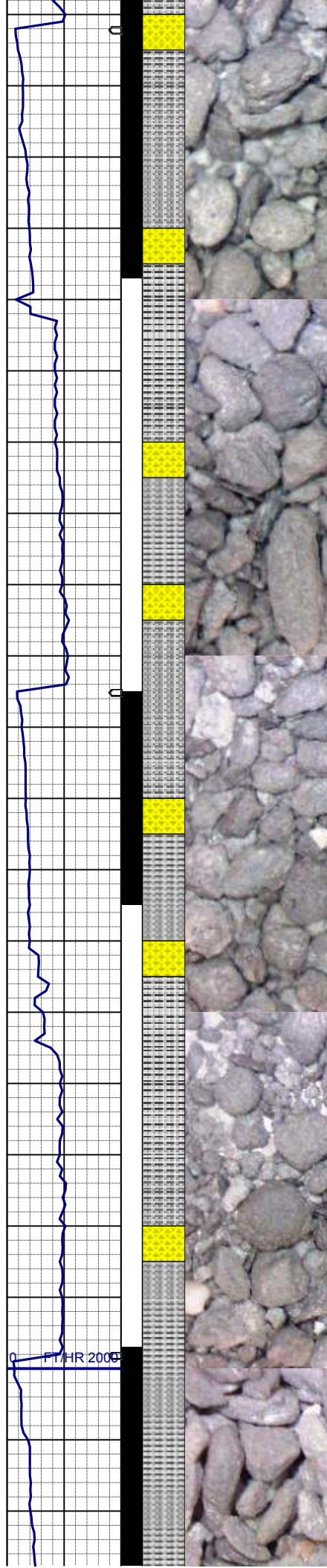


SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbplty, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrndd, mod srt, mod sft -
frm, tr glau & phlog, arg cmt

MD	1869'
INC	4.0°
AZM	88.9°
TVD	1868.88'

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, tr glau & phlog, arg cmt

MD	1963'
INC	5.5°
AZM	79.2°
TVD	1962.55'



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

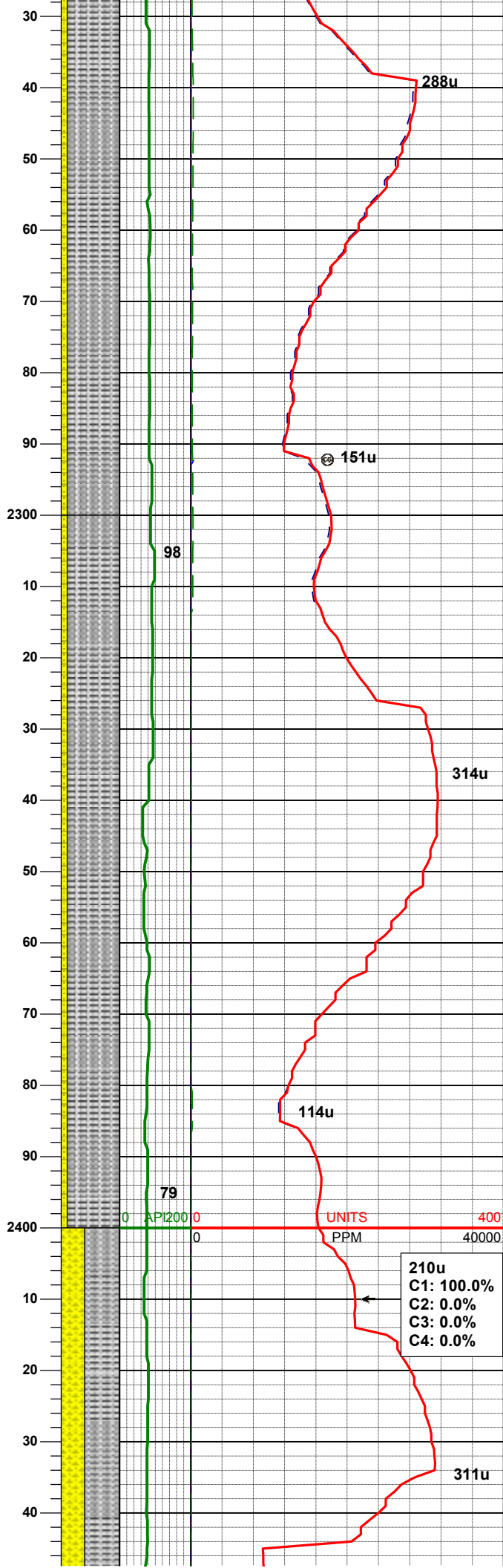
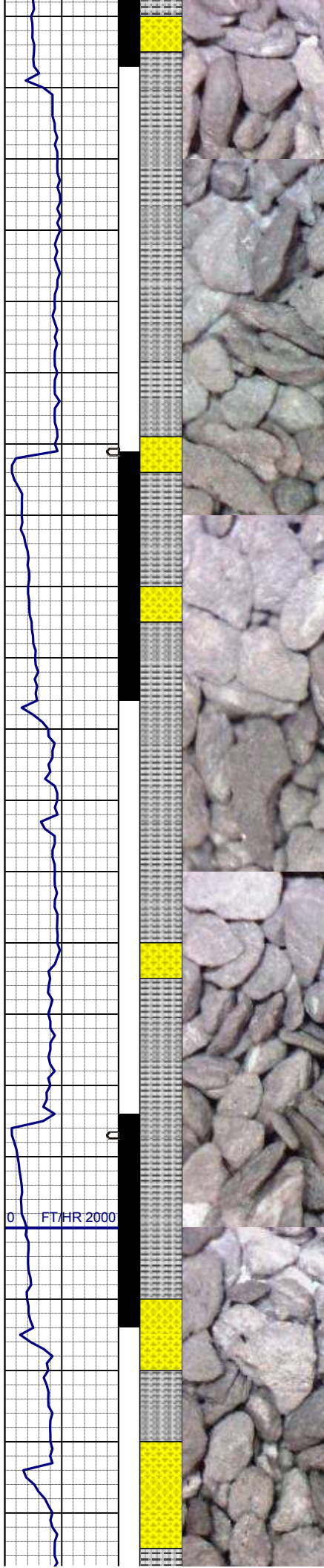
SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbply, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrdd, mod srt, mod sft -
frm, tr glau & phlog, arg cnt

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

MD 2148'
INC 10.1°
AZM 95.2°
TVD 2145.67'

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, tr glau & phlog, arg cnt

180u
C1: 98.9%
C2: 1.1%
C3: 0.0%
C4: 0.0%



MD 2242'
INC 12.2°
AZM 86.2°
TVD 2237.89'

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, tr glau & phlog, arg cmt

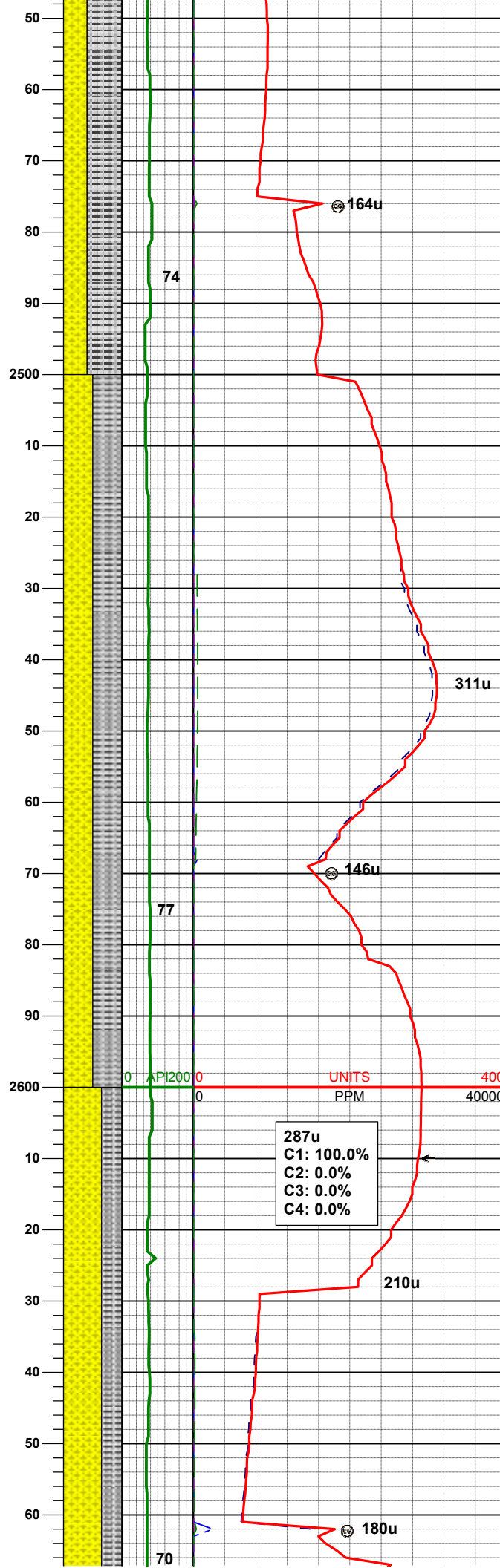
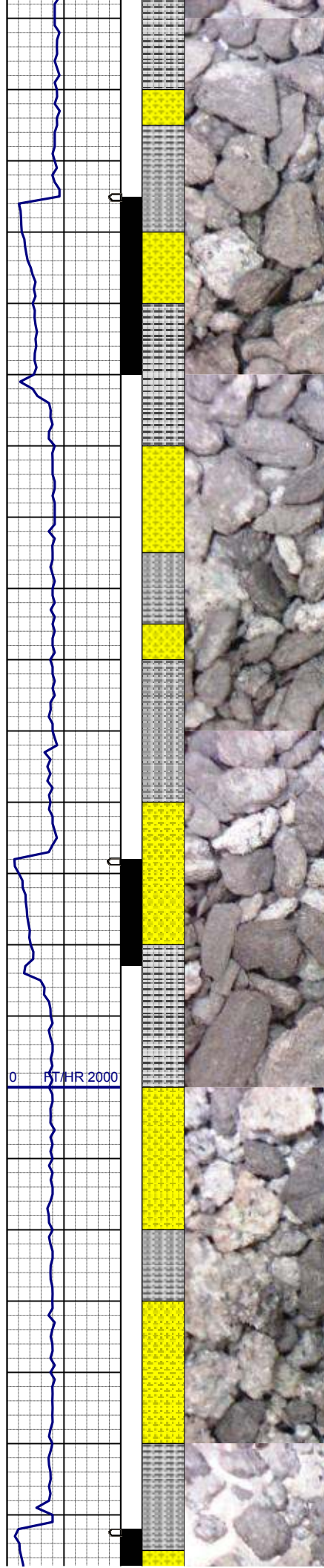
MD 2335'
INC 14.2°
AZM 93.3°
TVD 2328.44'

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, tr glau & phlog, arg cmt

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

MD 2426'
INC 16.4°
AZM 88.5°
TVD 2416.21'

SLTYSH: m - lt gy-crmbn, occ dk gy,



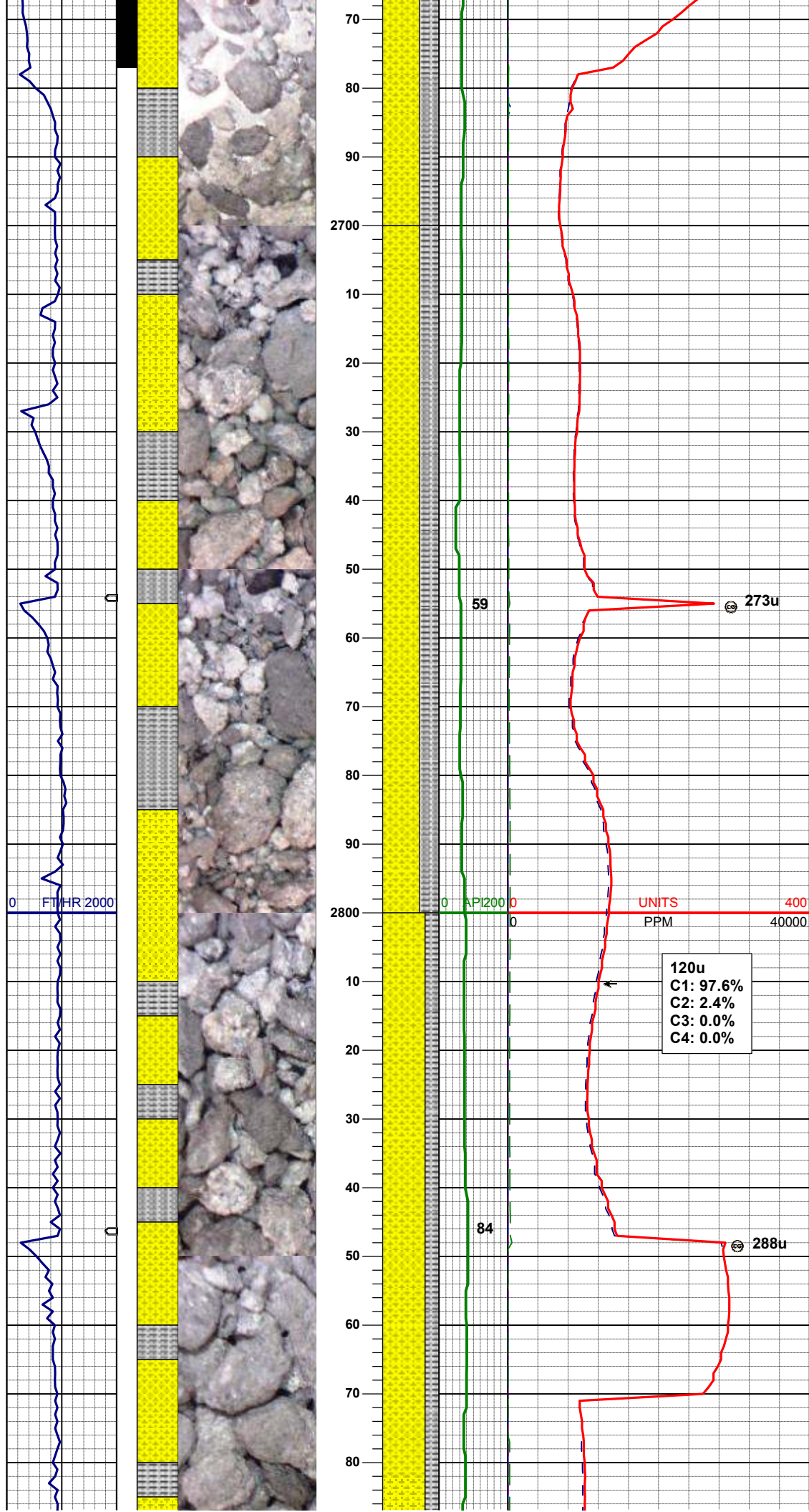
sft - mod firm, sbbiky - sbply, noncalc
SHYSS: lt gy, wh - lt gy, occ m gy, f
gr, sbang - sbrnnd, mod srt, mod sft -
frm, tr glau & phlog, arg cmt

MD 2519'
INC 18.1°
AZM 87.6°
TVD 2405.02'

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

MD 2613'
INC 18.2°
AZM 87.5°
TVD 2594.35'

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



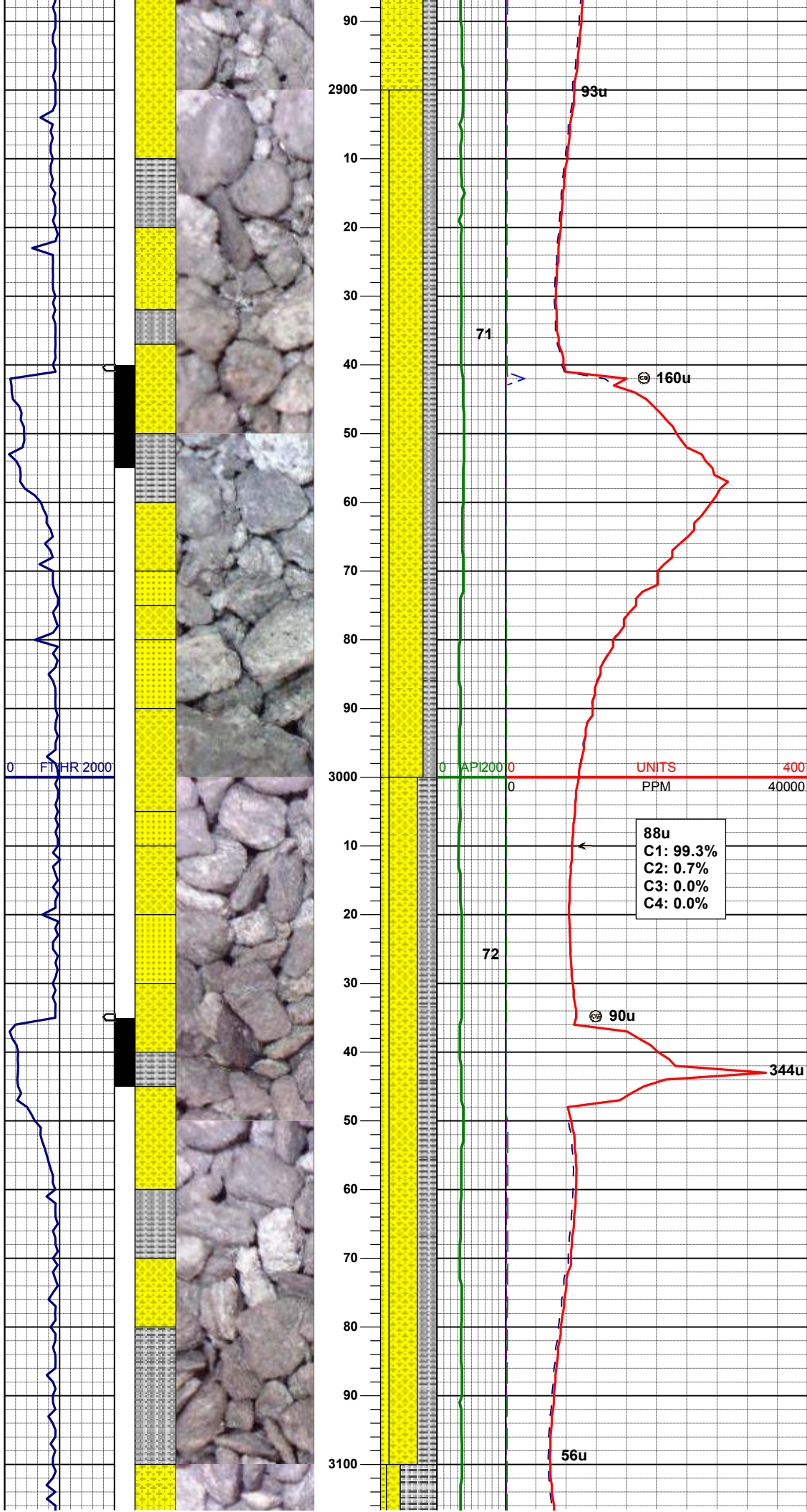
MD 2705'
INC 19.5°
AZM 89.2°
TVD 2681.41'

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

MD 2797'
INC 20.0°
AZM 89.7°
TVD 2768.00'

120u
C1: 97.6%
C2: 2.4%
C3: 0.0%
C4: 0.0%

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



MD 2891'
INC 18.9°
AZM 88.9°
TVD 2856.63'

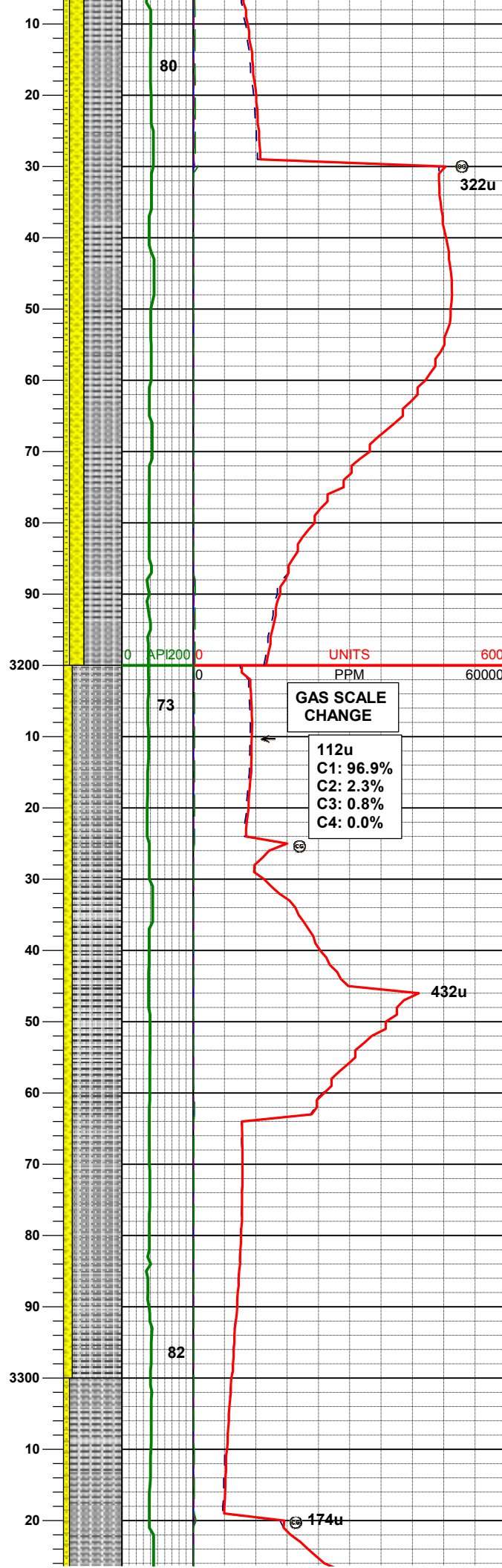
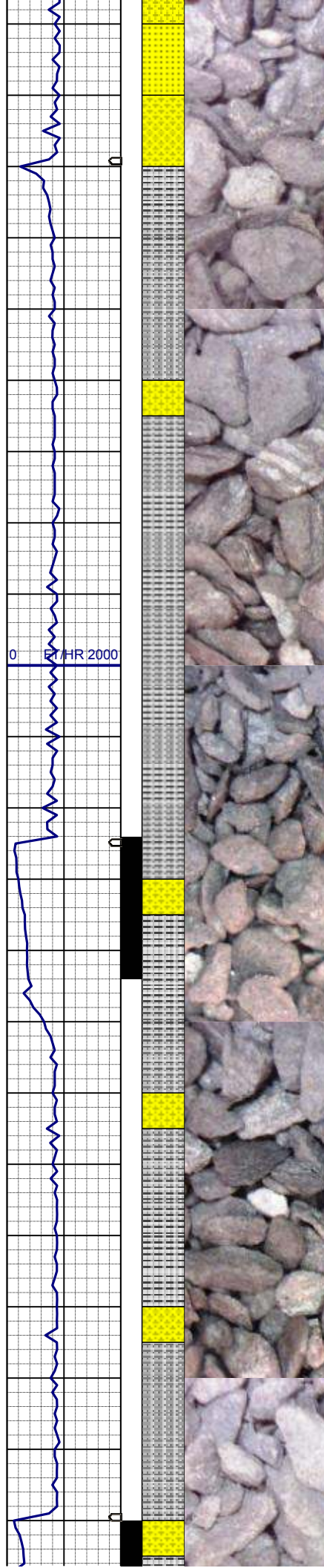
SHYSS: wh - lt gy, occ gy, f gr, sbang
- sbrndd, mod srt, mod sft - frm, tr
glau & phlog, arg cmt
SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbply, noncalc
SS: wh - lt gy, mod firm, sb rndd, arg
cmt, occ uncons

MD 2986'
INC 19.9°
AZM 86.4°
TVD 2946.24'

88u
C1: 99.3%
C2: 0.7%
C3: 0.0%
C4: 0.0%

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

MD 3080'
INC 19.2°
AZM 88.3°
TVD 3034.82'



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

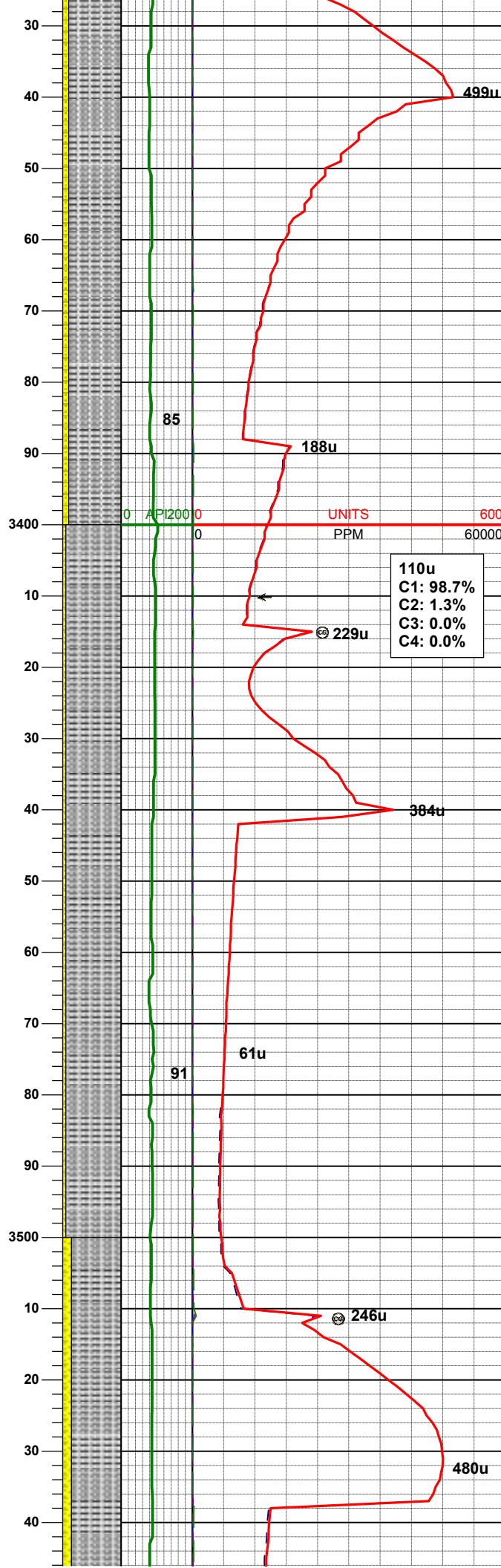
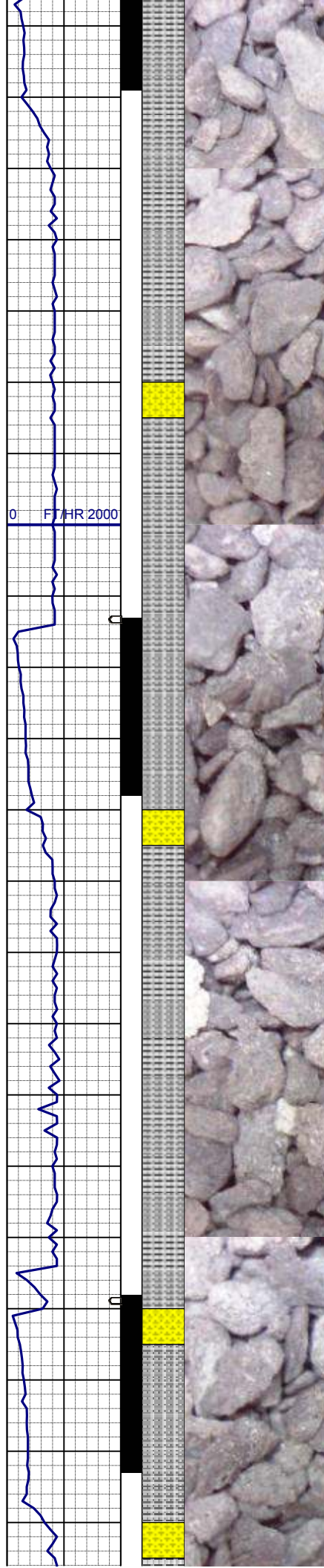
MD	3175'
INC	16.6°
AZM	88.3°
TVD	3125.22'

**GAS SCALE
CHANGE**

112u
C1: 96.9%
C2: 2.3%
C3: 0.8%
C4: 0.0%

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

MD	3270'
INC	16.1°
AZM	88.7°
TVD	3216.37'



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

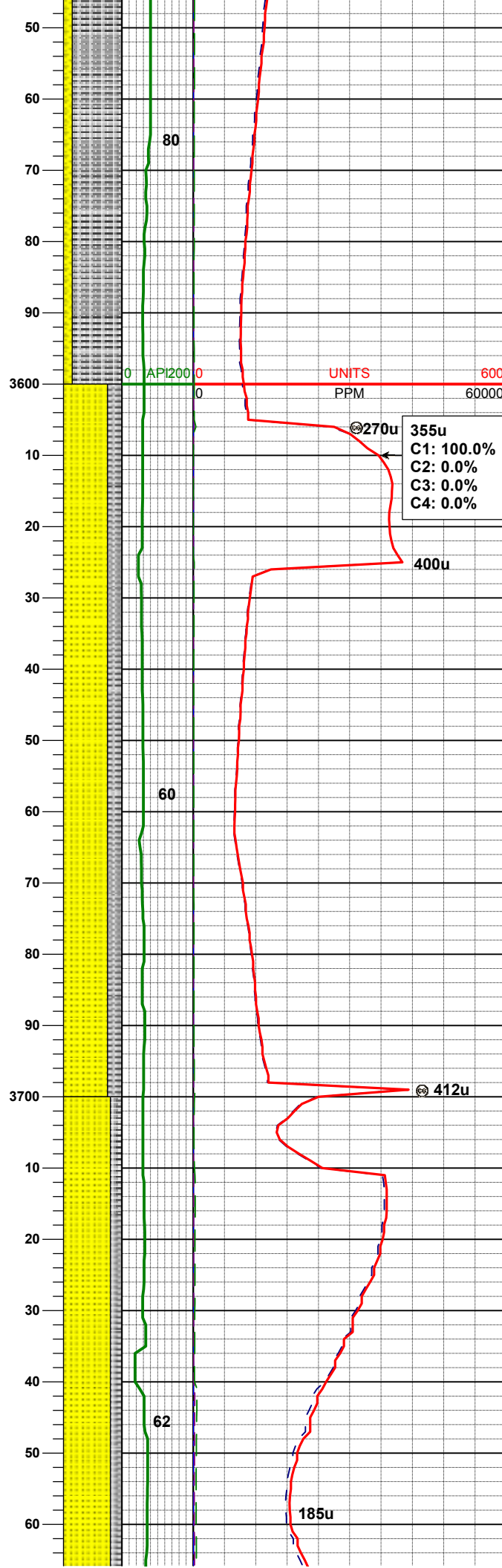
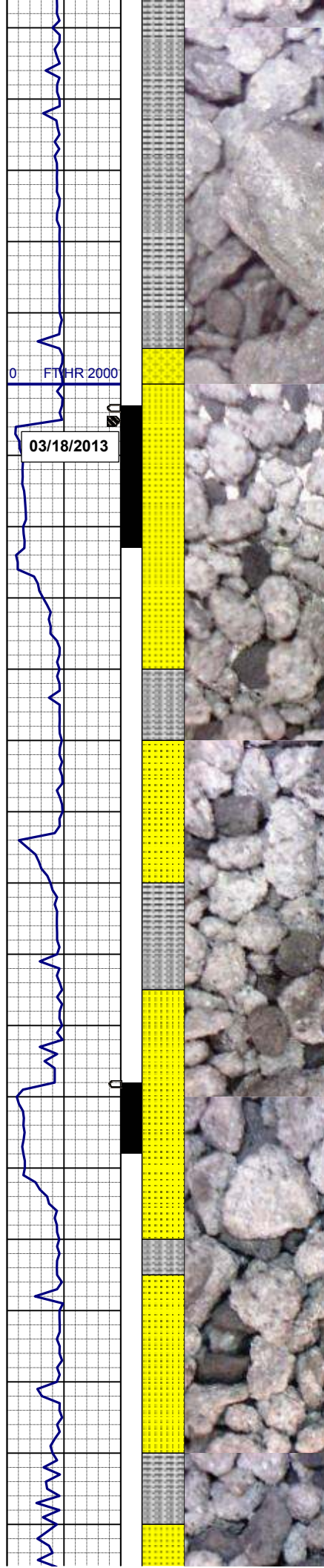
MD 3364'
INC 15.1°
AZM 90.1°
TVD 3306.91'

WT IN 8.80/ OUT 8.80
VIS IN 27/ OUT 27

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

MD 3459'
INC 15.6°
AZM 89.2°
TVD 3398.52'

SLTYSH: m - lt gy-crmbn, occ dk gy,



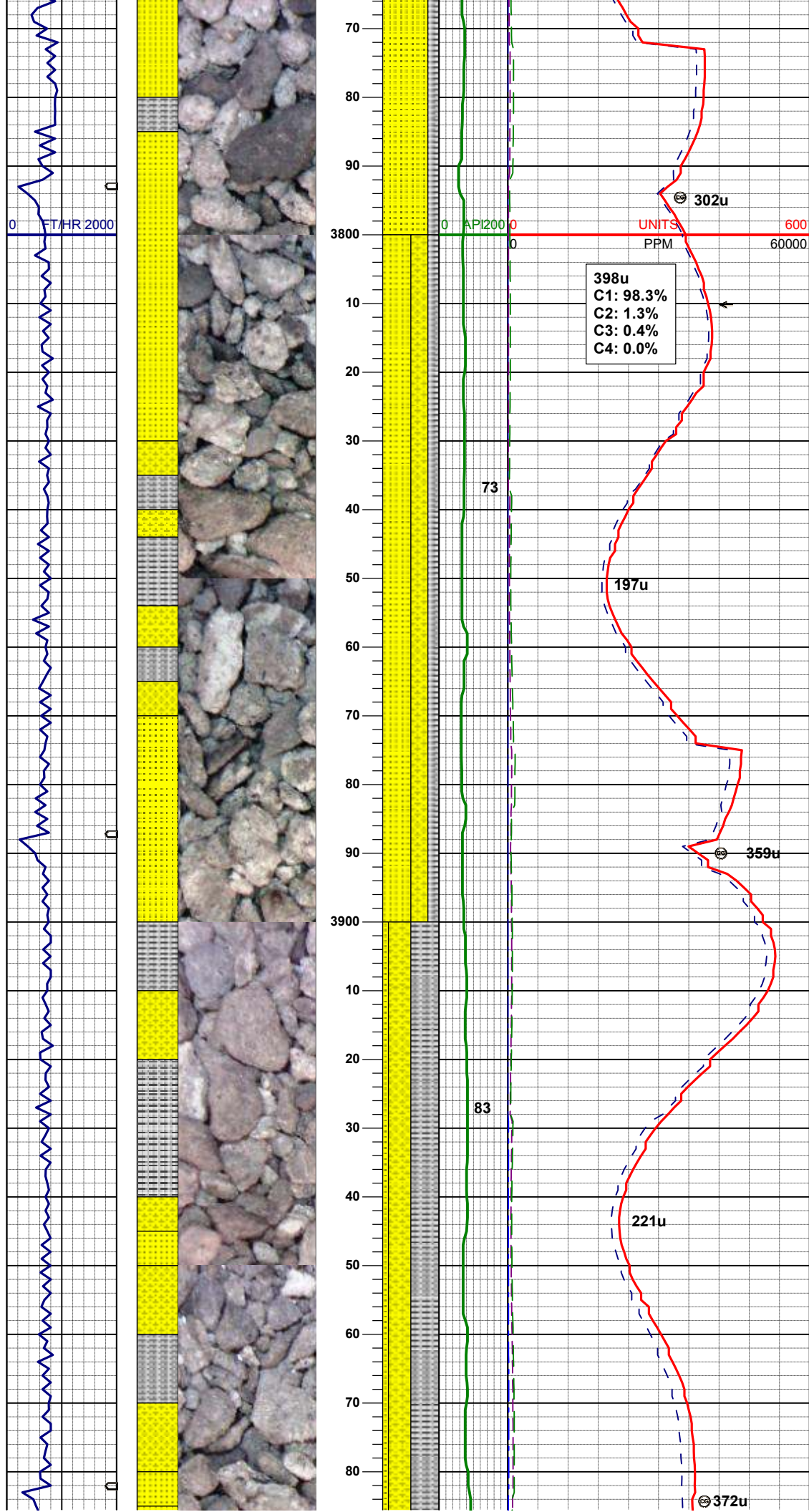
SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbply, noncalc
SHYSS: wh - lt gy, occ gy, f gr, sbang
- sbrndd, mod srt, mod sft - frm, tr
glau & phlog, arg cmt

MD 3649'
INC 19.1°
AZM 89.6°
TVD 3580.12'

SS: wh - lt gy, mod firm, sb rdd, arg
cmt, occ glau, tr phlog, occ uncons
SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbply, noncalc

MD 3743'
INC 19.8°
AZM 89.6°
TVD 3668.76'

SS: wh - lt gy, mod firm, sb rdd, arg
cmt, occ glau, tr phlog, occ uncons
SLTYSH: m - lt gy-crmbn, occ dk gy,
sft - mod firm, sbblky - sbply, noncalc

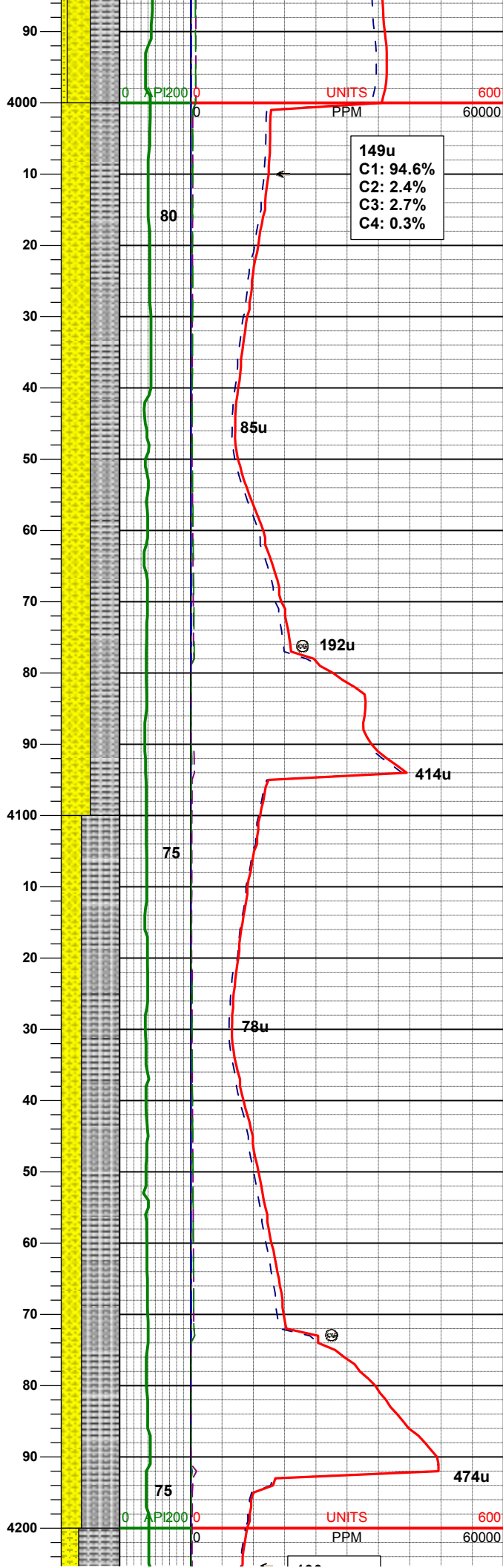
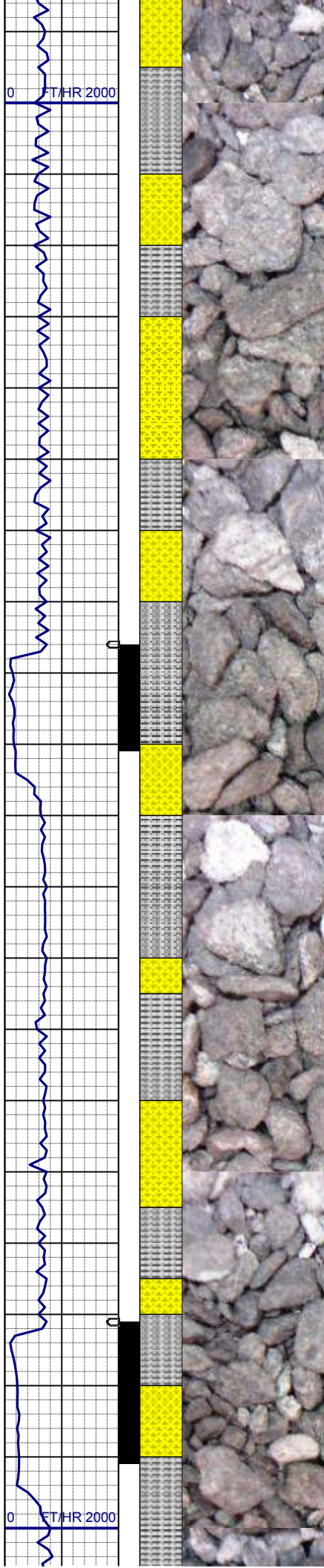


MD 3838'
INC 20.9°
AZM 94.7°
TVD 3757.83'

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

MD 3933'
INC 19.9°
AZM 93.6°
TVD 3846.87'

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

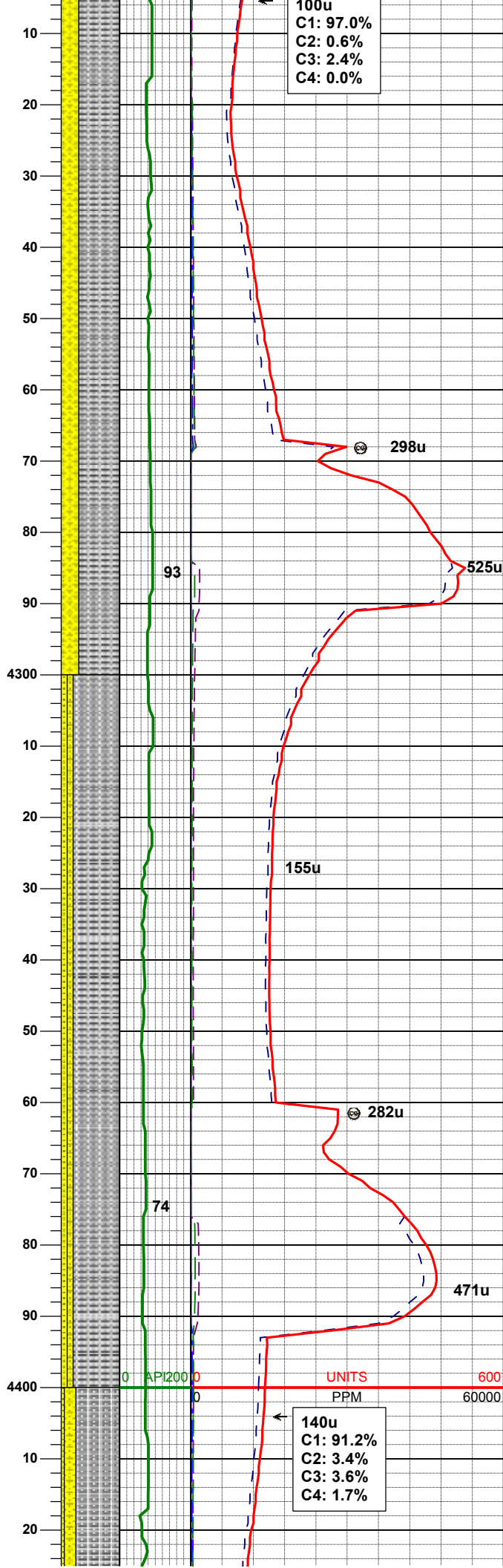
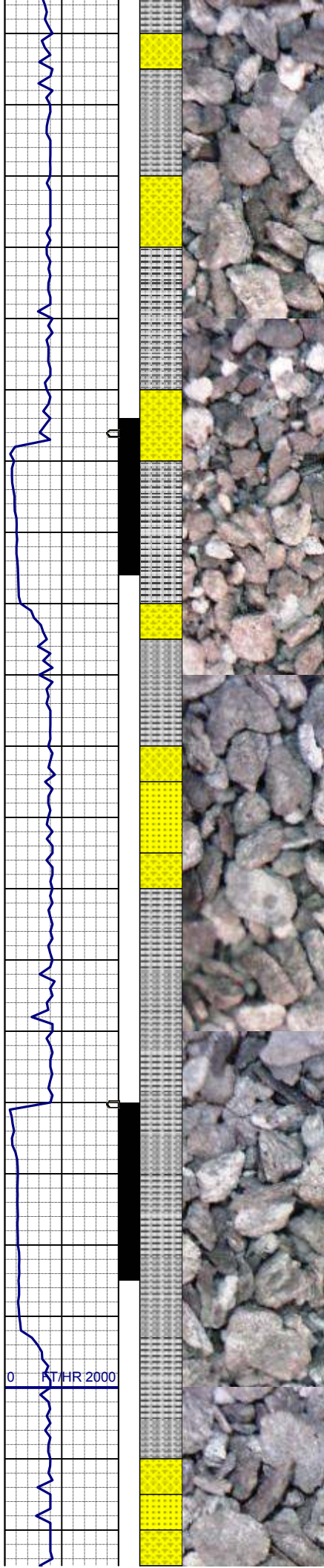


MD 4027'
INC 17.9°
AZM 92.4°
TVD 3935.79'

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

MD 4122'
INC 17.6°
AZM 89.9°
TVD 4026.27'

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



MD 4217'
INC 17.0°
AZM 90.4°
TVD 4116.97'

SLTYSH: m gy, occ dk gy, sft - mod firm, sbblky - sbply, arg-rthy mtx, noncalc
SHYSS: lt-m gy, f gr, sbang - sbmdd, mod srt, mod sft - frm, tr phlog, arg cmt

MD 4311'
INC 16.5°
AZM 89.4°
TVD 4206.99'

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

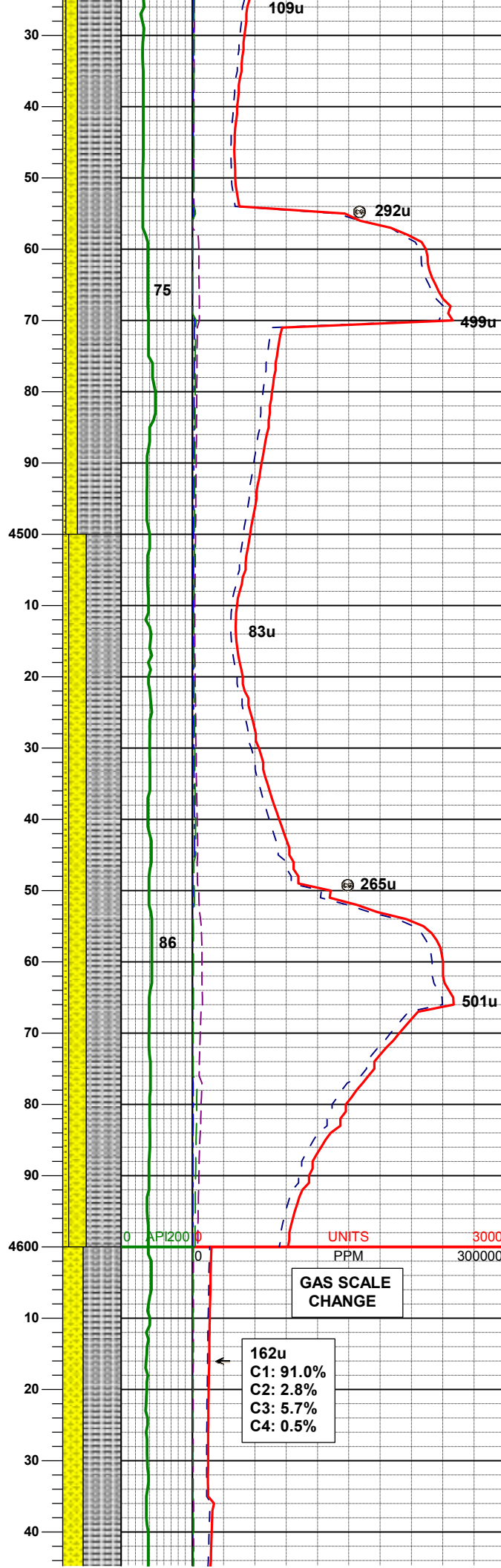
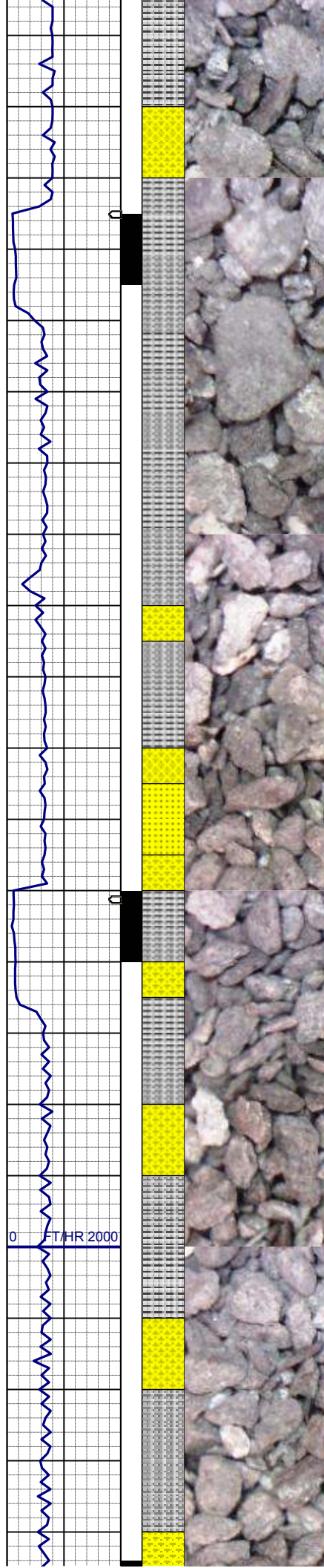
WT IN 9.30/ OUT 9.30
VIS IN 29/ OUT 29

MD 4406'
INC 18.0°
AZM 90.1°
TVD 4297.71'

100u
C1: 97.0%
C2: 0.6%
C3: 2.4%
C4: 0.0%

140u
C1: 91.2%
C2: 3.4%
C3: 3.6%
C4: 1.7%

UNITS
PPM



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

MD	4501'
INC	17.9°
AZM	88.0°
TVD	4388.09'

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

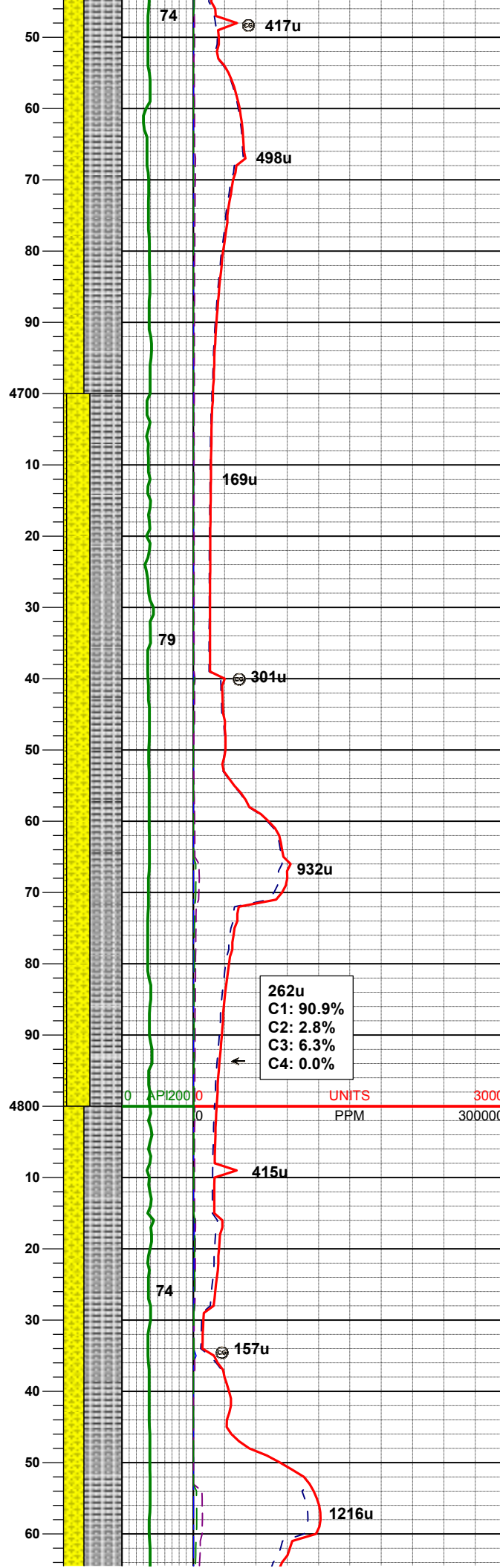
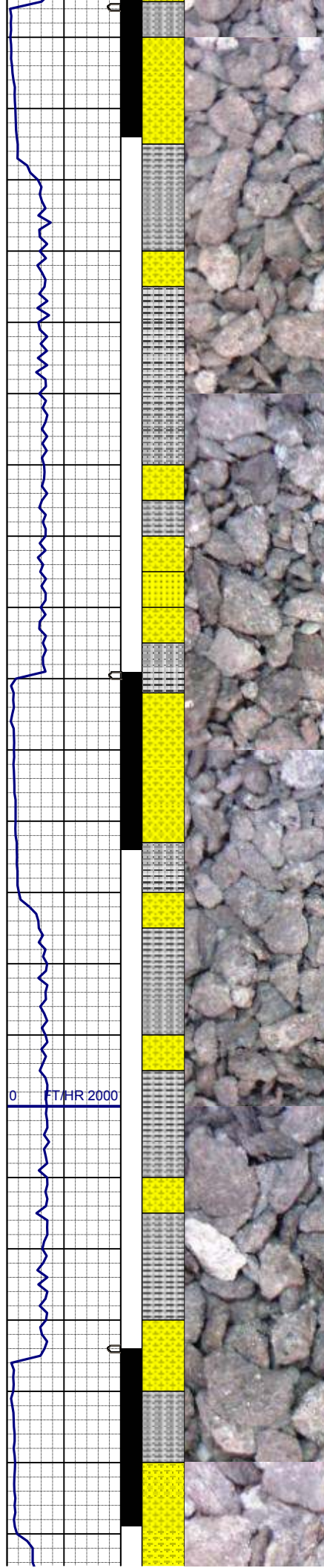
WT IN 9.00/ OUT 9.00
VIS IN 29/ OUT 29

MD	4595'
INC	15.8°
AZM	88.0°
TVD	4478.05'

GAS SCALE
CHANGE

162u
C1: 91.0%
C2: 2.8%
C3: 5.7%
C4: 0.5%

SLTYSH: m gy, occ brn & dk gy, sft -



mod firm, sbblky - sbply, arg-rthy
mtx, noncalc
SHYSS: lt-m gy, f gr, sbang - sbrndd,
mod srt, mod sft - frm, tr phlog, arg
cmt

MD 4690'
INC 14.5°
AZM 90.3°
TVD 4569.74'

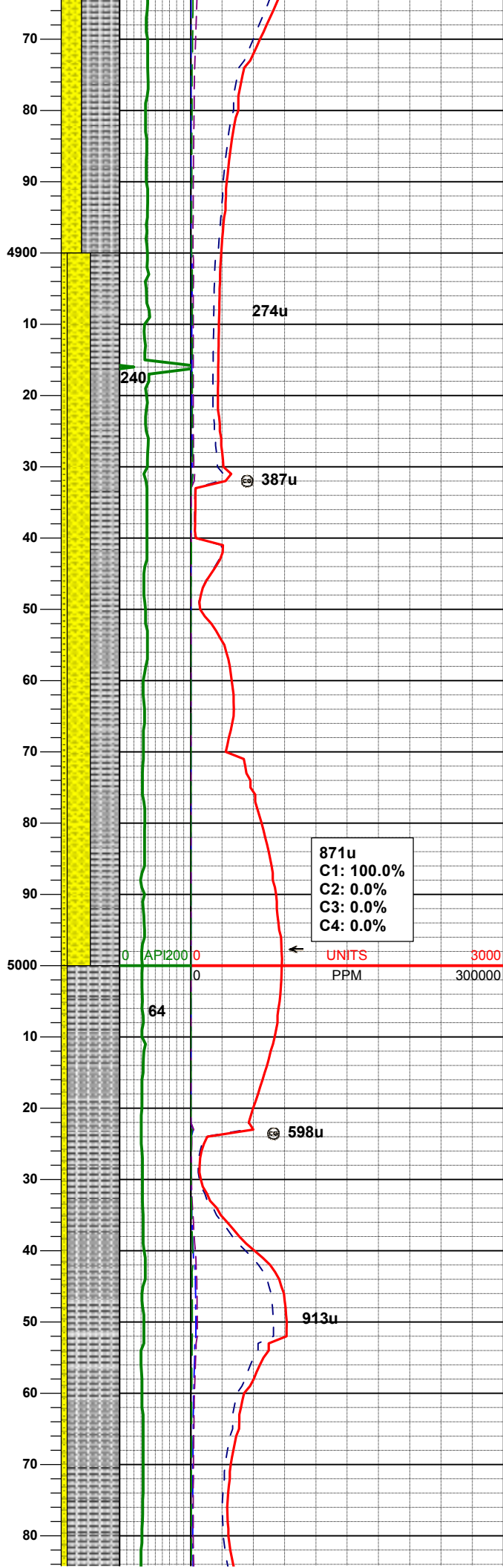
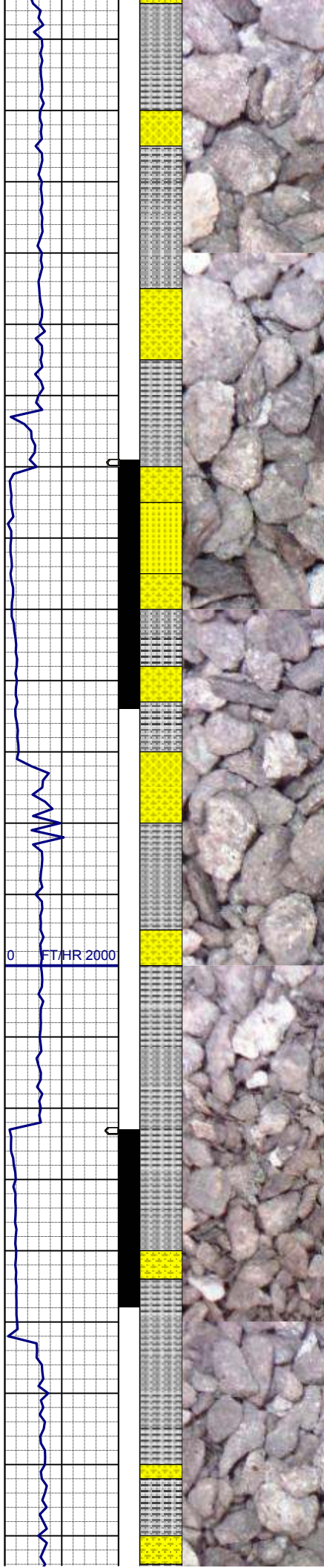
SLTYSH: m gy, occ brn & dk gy, sft -
mod firm, sbblky - sbply, arg-rthy
mtx, noncalc
SHYSS: lt-m gy, f gr, sbang - sbrndd,
mod srt, mod sft - frm, tr phlog, arg
cmt
SS: wh - lt gy, mod firm, sb rndd, arg
cmt, tr phlog & glau

MD 4785'
INC 14.5°
AZM 92.4°
TVD 4661.72'

262u
C1: 90.9%
C2: 2.8%
C3: 6.3%
C4: 0.0%

UNITS
PPM
3000
300000

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



MD 4880'
INC 14.1°
AZM 89.7°
TVD 4753.78'

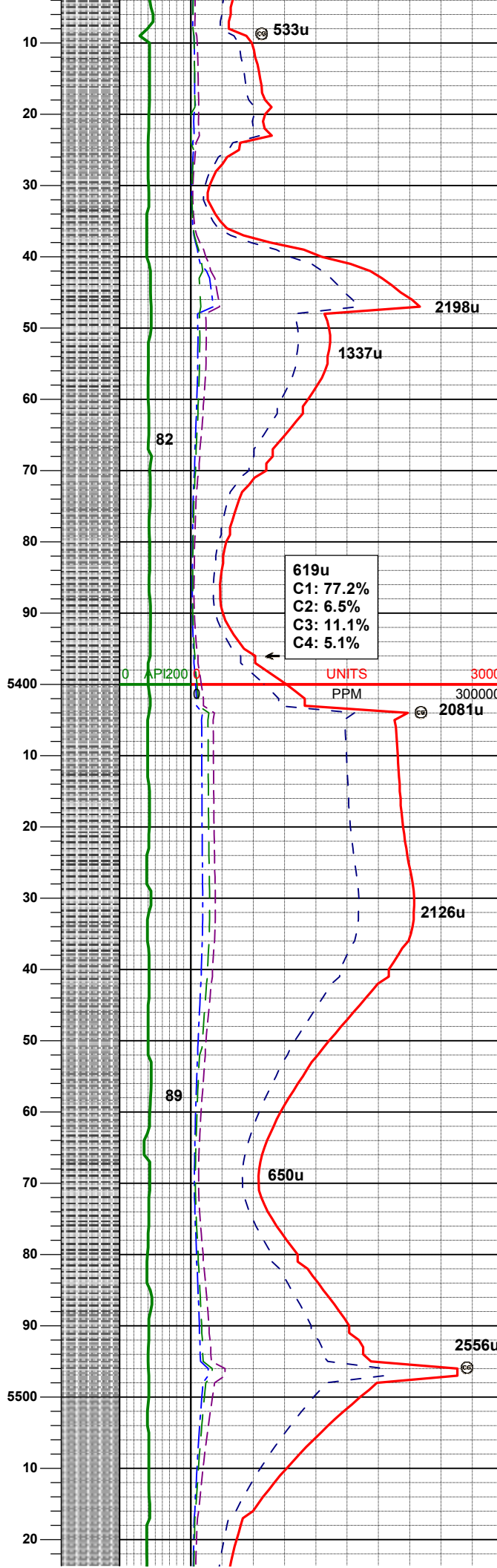
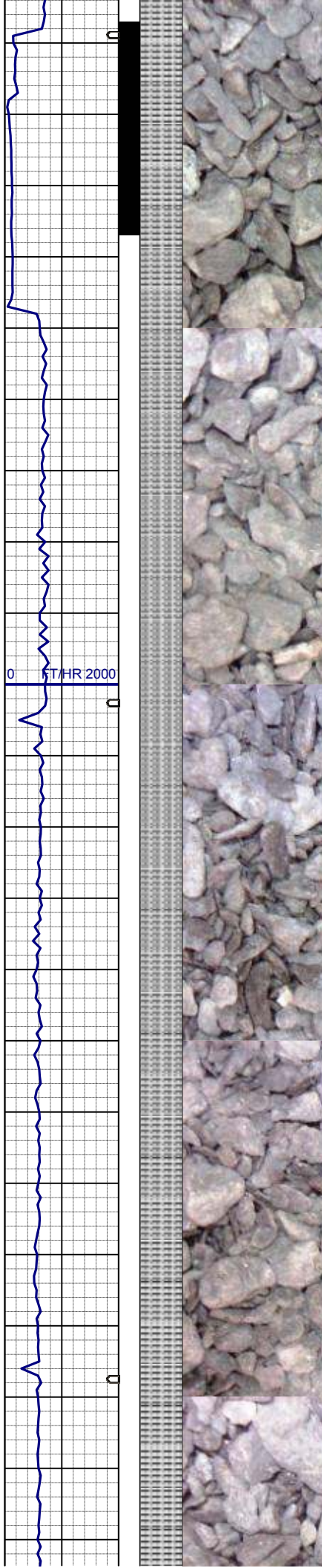
WT IN 8.90/ OUT 8.90
VIS IN 29/ OUT 29

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

MD 4974'
INC 14.9°
AZM 89.7°
TVD 4844.78'

871u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%

SLTYSH: m gy, occ dk gy, sft - mod firm, sbbiky - sbply, rthy mtz, noncalc
SHYSS: lt-m gy, f gr, sbang - sbrnnd, mod srt, mod sft - frm, tr phlog, arg cmt



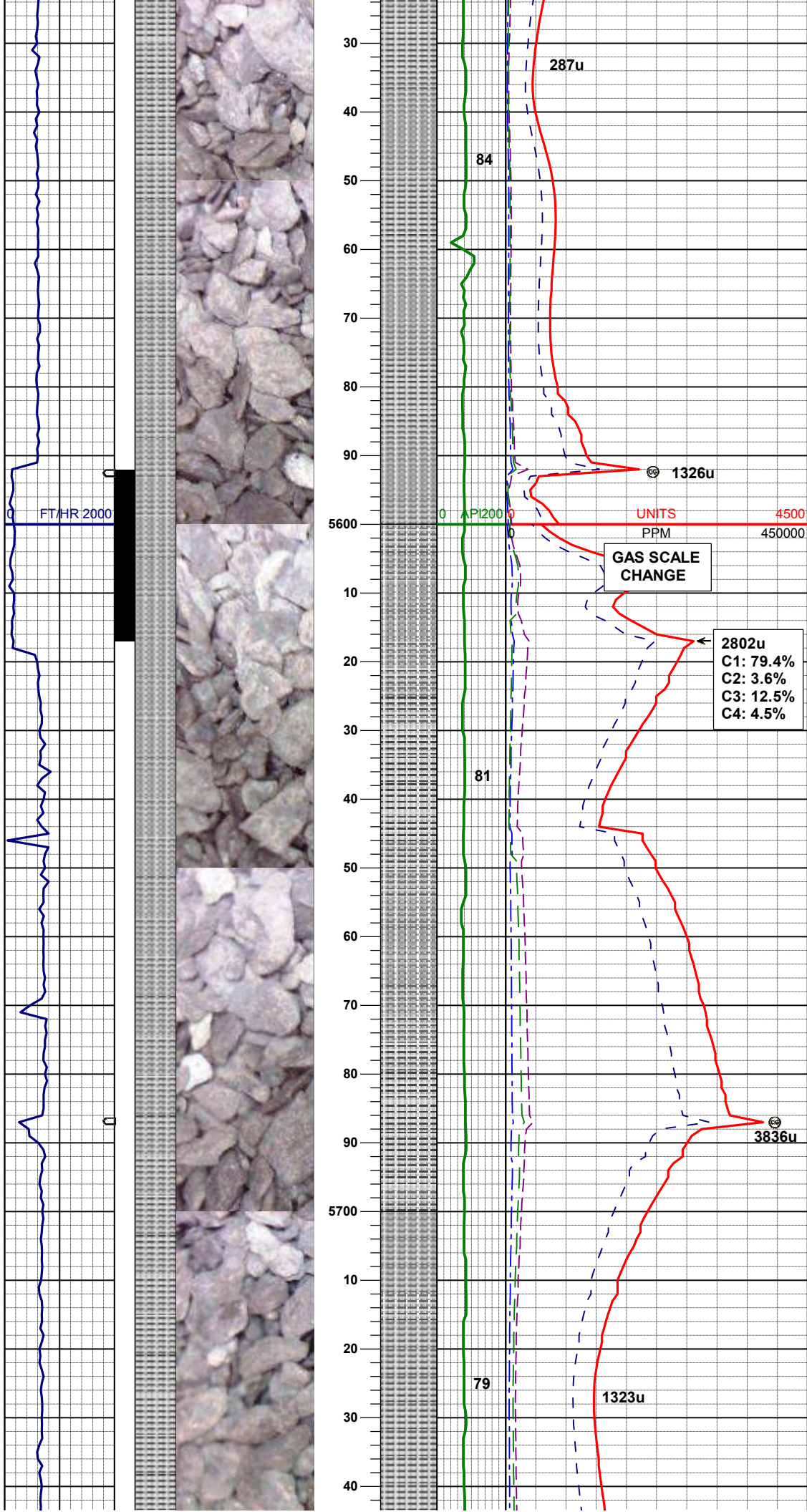
MD 5353'
INC 11.4°
AZM 91.0°
TVD 5212.70'

SLTYSH: m gy, occ dk gy, sft - mod
firm, sbbky - sbply, rthy mtx,
noncalc, tr SHYSS:

619u
C1: 77.2%
C2: 6.5%
C3: 11.1%
C4: 5.1%

MD 5448'
INC 9.9°
AZM 87.6°
TVD 5306.06'

SLTYSH: m gy - dk gy, sft - mod firm,
sbbky - sbply, rthy mtx, noncalc



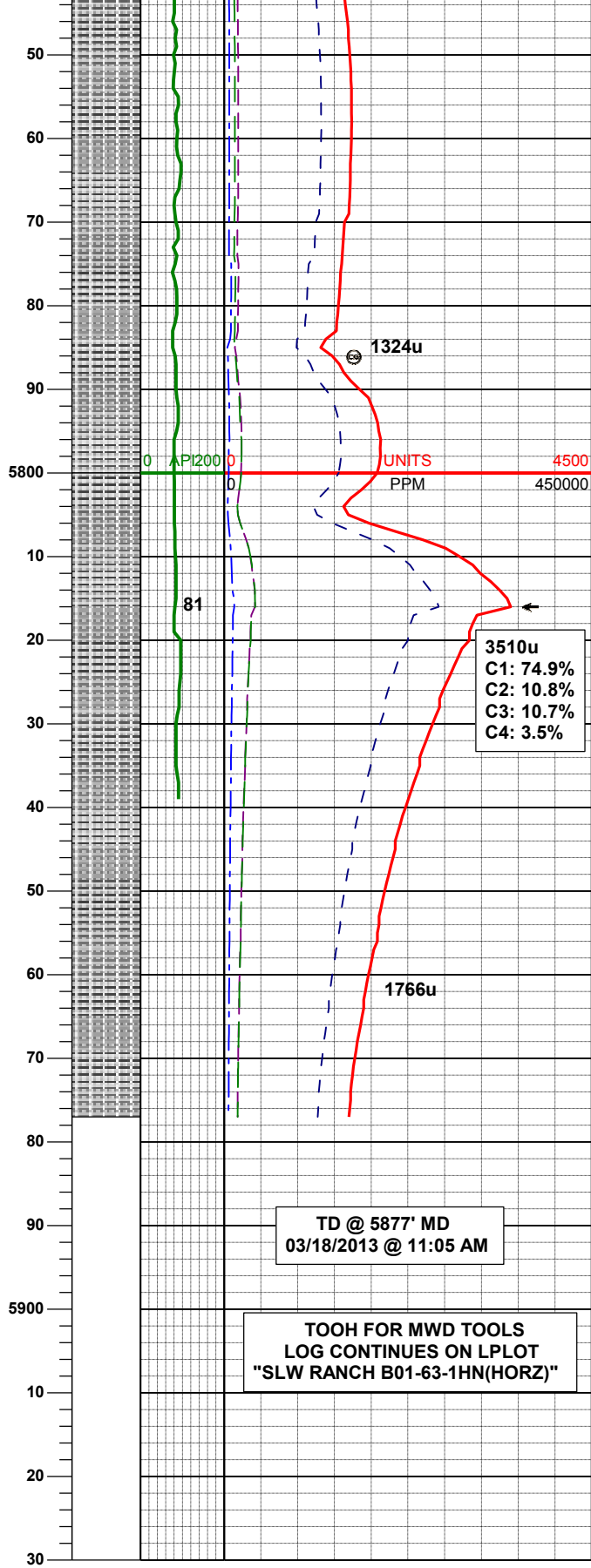
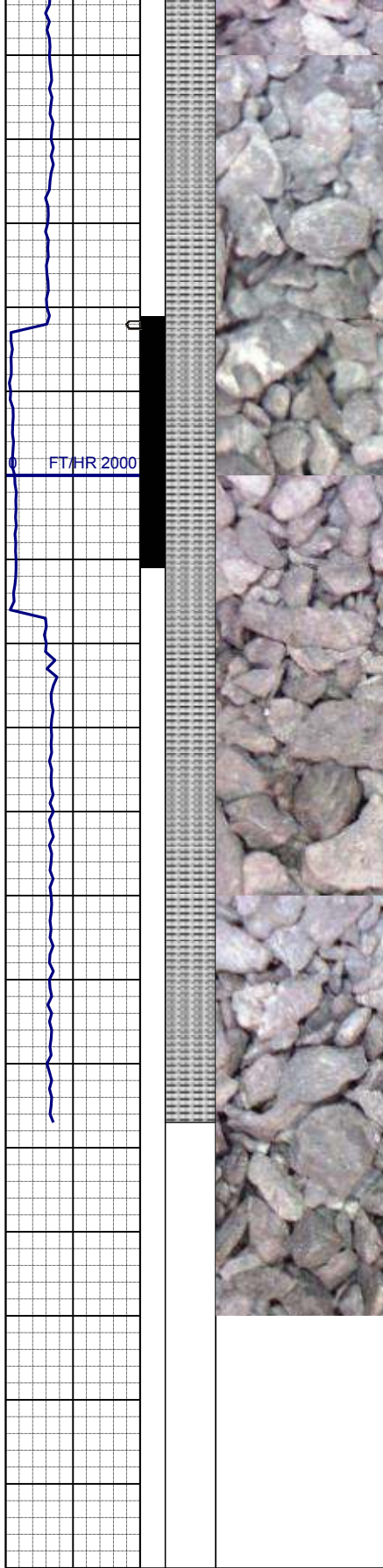
MD 5543'
INC 8.0°
AZM 85.7°
TVD 5399.90'

SLTYSH: m gy - dk gy, sft - mod firm,
sbbky - sbply, rthy mtx, noncalc

MD 5638'
INC 6.2°
AZM 93.4°
TVD 5494.17'

SLTYSH: m gy - dk gy, sft - mod firm,
sbbky - sbply, rthy mtx, noncalc

MD 5732'
INC 5.2°
AZM 91.2°
TVD 5587.70'



SLTYSH: m gy - dk gy, sft - mod firm,
sbbky - sbply, rthy mtx, noncalc

MD	5827'
INC	4.6°
AZM	113.3°
TVD	5682.36'

SLTYSH: m gy - dk gy, sft - mod firm,
sbbky - sbply, rthy mtx, noncalc

WT IN 9.20/ OUT 9.20
VIS IN 34/ OUT 34