

LOG created using LPLOT VH Version 3.0, July 18, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

OPERATOR: NOBLE ENERGY INC.
WELL: TIMBRO LD06-64HN
LOCATION: SEC 6, T9N, R58W
COUNTY: WELD
STATE: COLORADO
SPOT: 1980' FSL, 255' FWL
ELEVATION: GR 4900', KB 4930'
FIELD: WILDCAT
SPUD DATE: 07/06/13
TD DATE: 07/08/2013
DATES LOGGED: 07/07/13 - 07/08/2013
DEPTHS LOGGED: 700' MD - 5204' MD
LOGGERS: CHRISTIAN VENTURINO, MATTHEW HOPKINS
DRILLING FLUID: LSND
DRILLING RIG: H&P 326
API: 05-123-37517
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



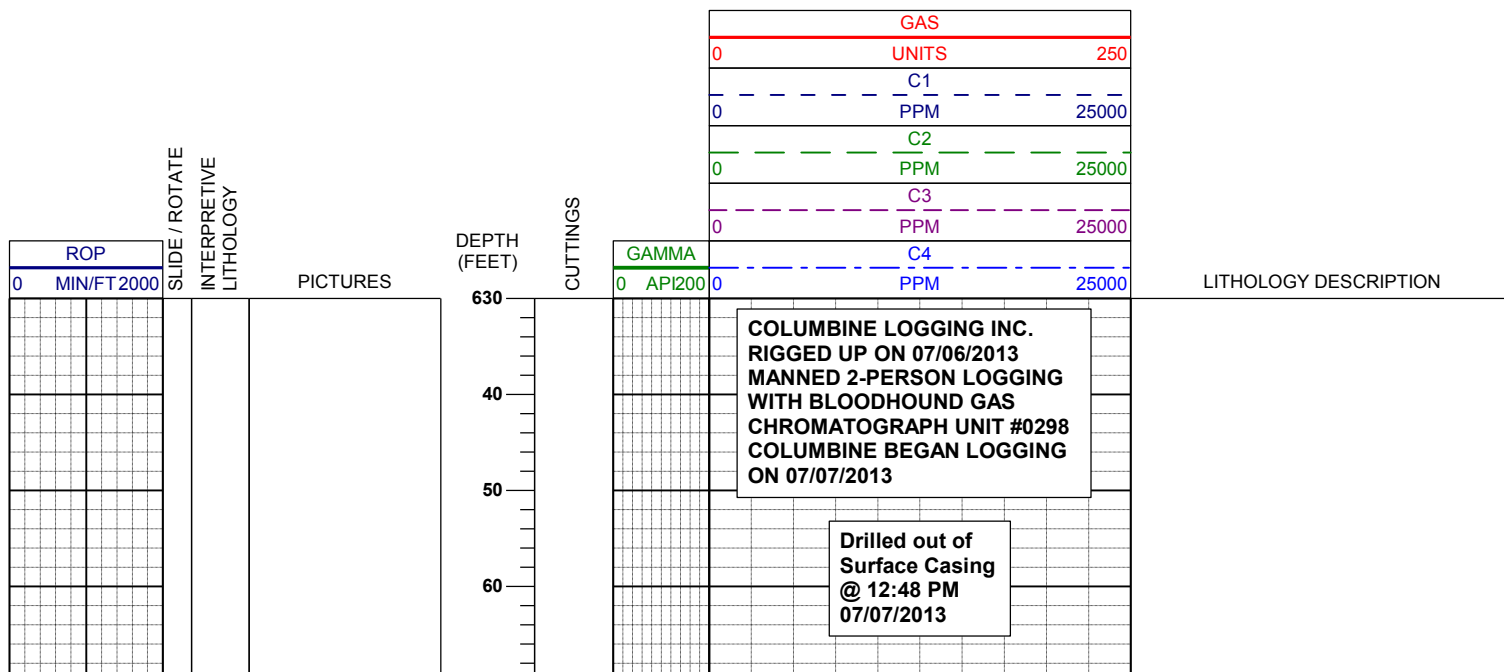
Connection Gas

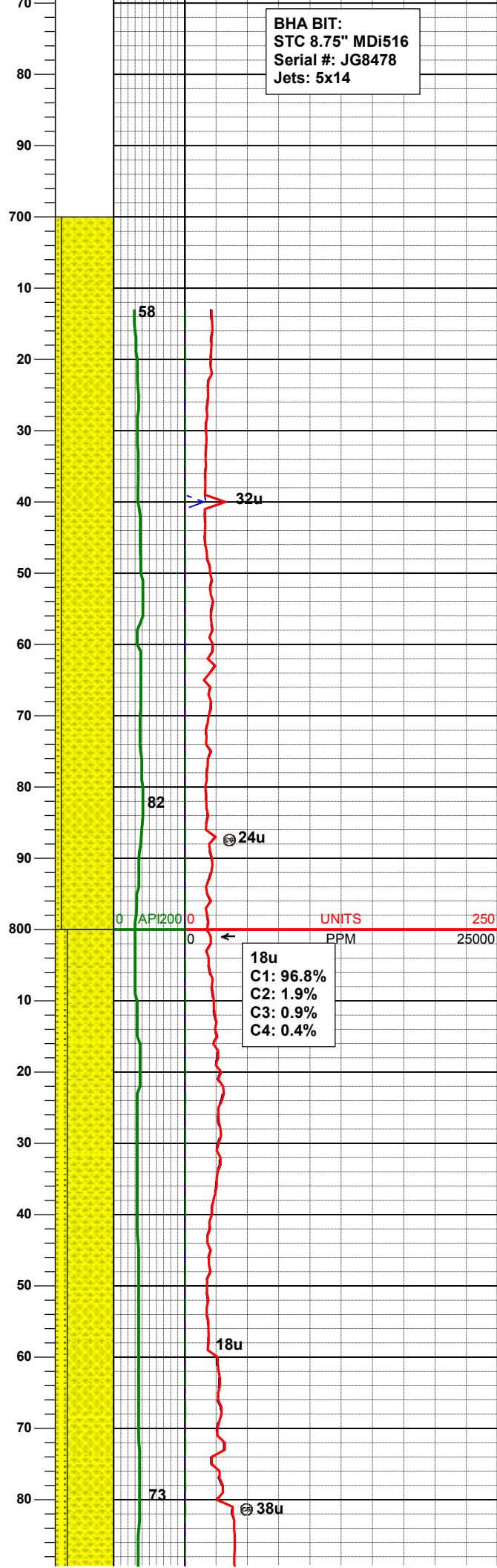
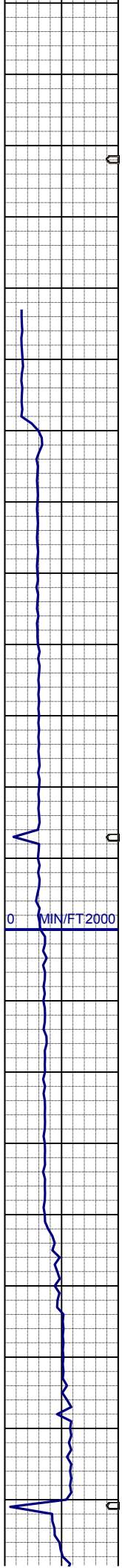


Arrow



Midnight Depth





BHA BIT:
STC 8.75" MDI516
Serial #: JG8478
Jets: 5x14

58

32u

82

24u

0 AP/200

UNITS

250

PPM

25000

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

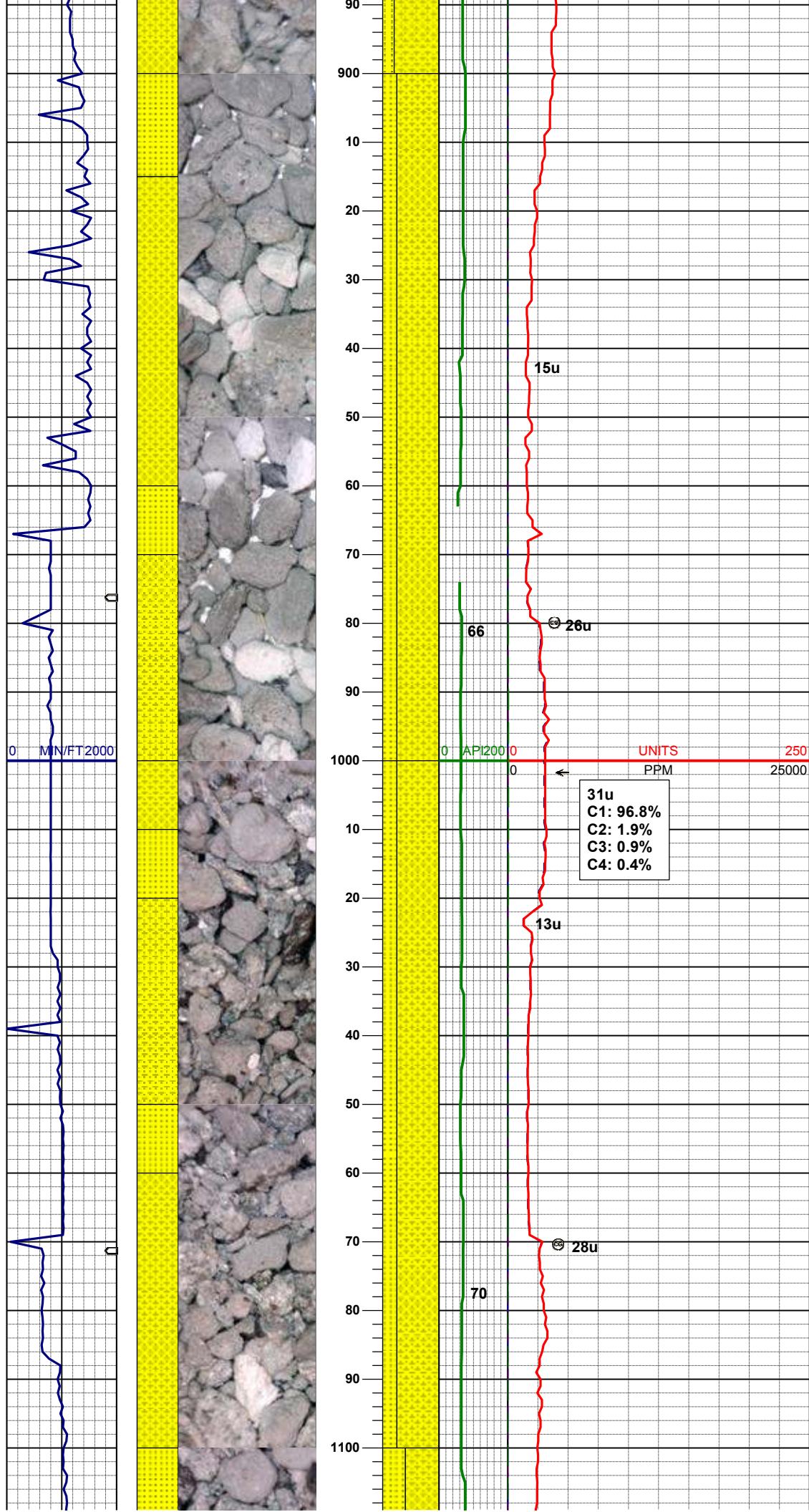
18u

73

38u

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

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



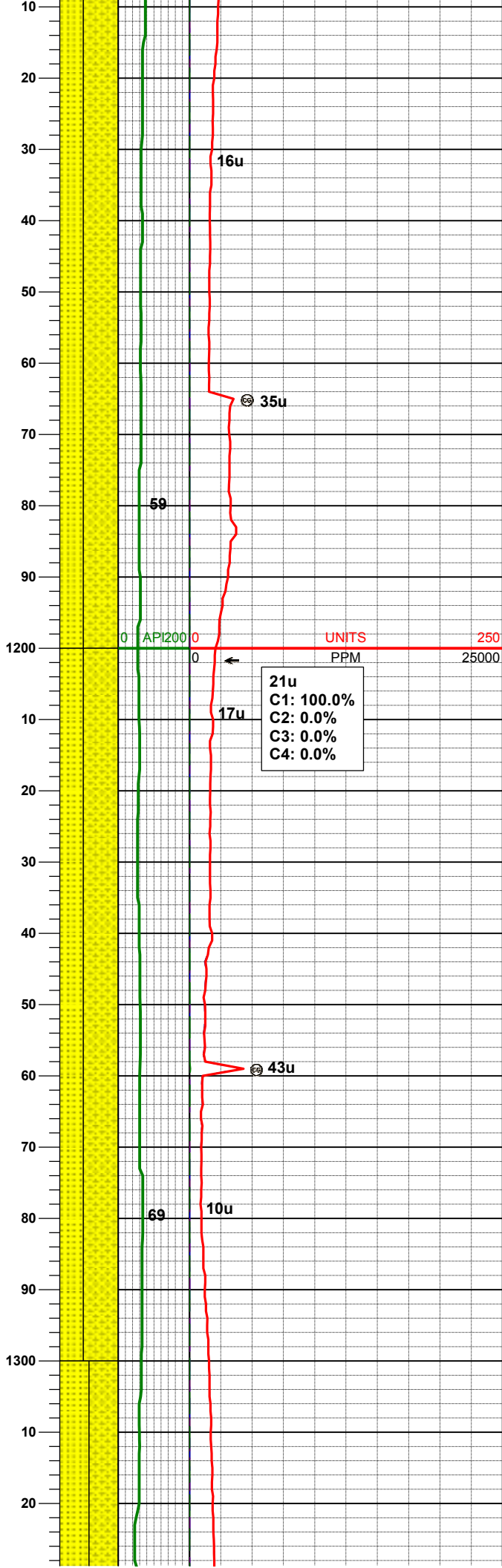
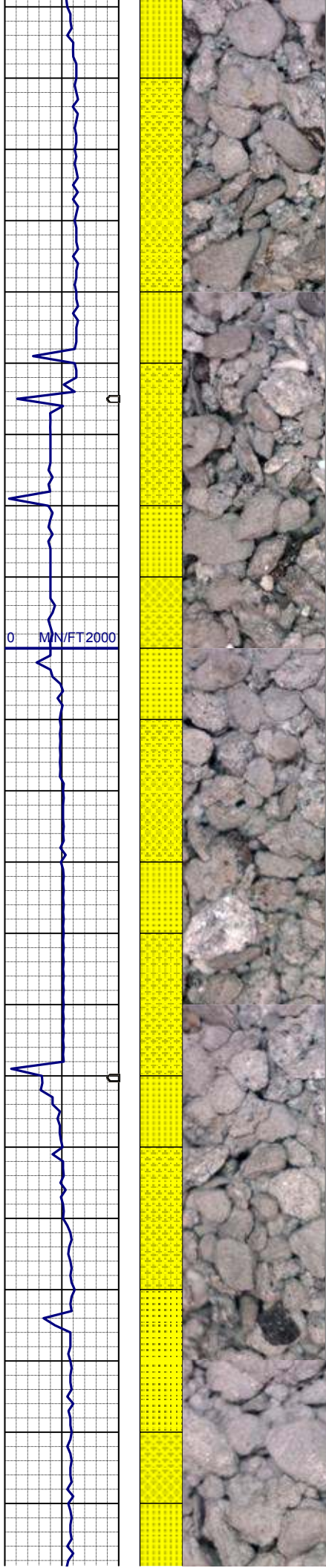
MD 927'
INC 0.5°
AZM 240.7°
TVD 926.99'

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

WT IN 8.75/ OUT 8.75
VIS IN 28/ OUT 28

MD 1022'
INC 0.5°
AZM 196.4°
TVD 1021.98'

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



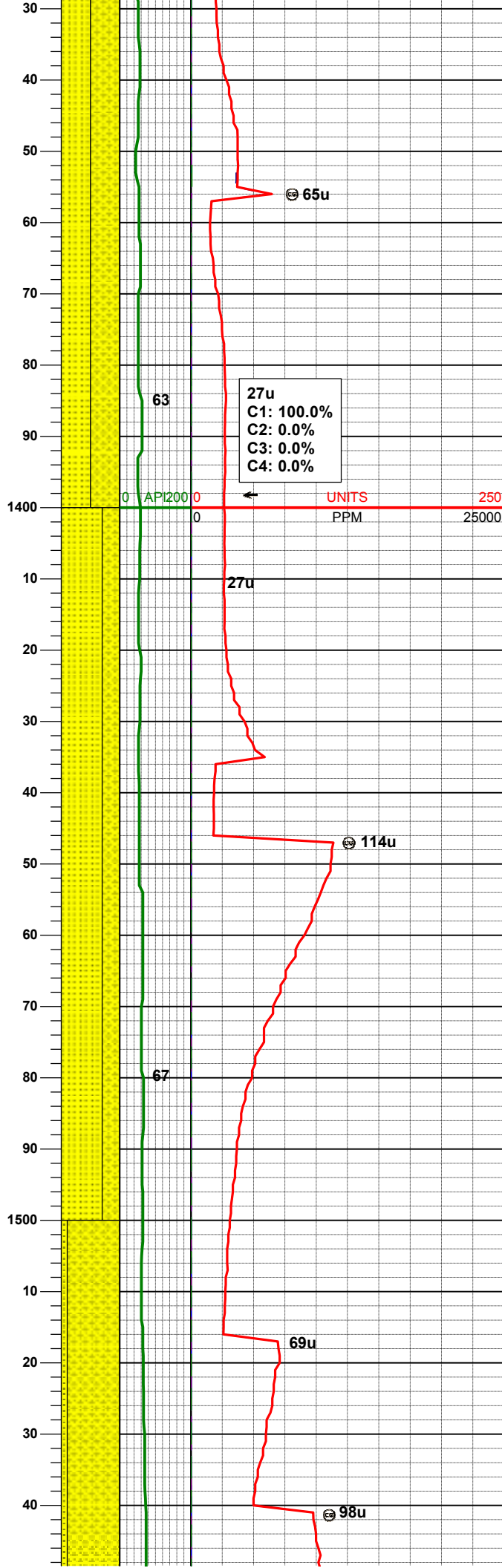
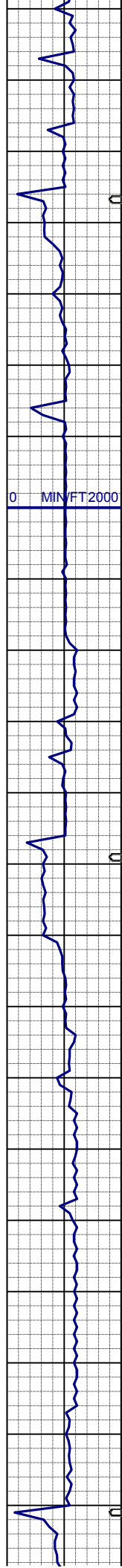
MD 1116'
INC 0.5°
AZM 195.0°
TVD 1115.98'

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 1211'
INC 0.5°
AZM 194.3°
TVD 1210.98'

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, tr
glau

MD 1307'
INC 0.5°
AZM 200.0°
TVD 1306.97'



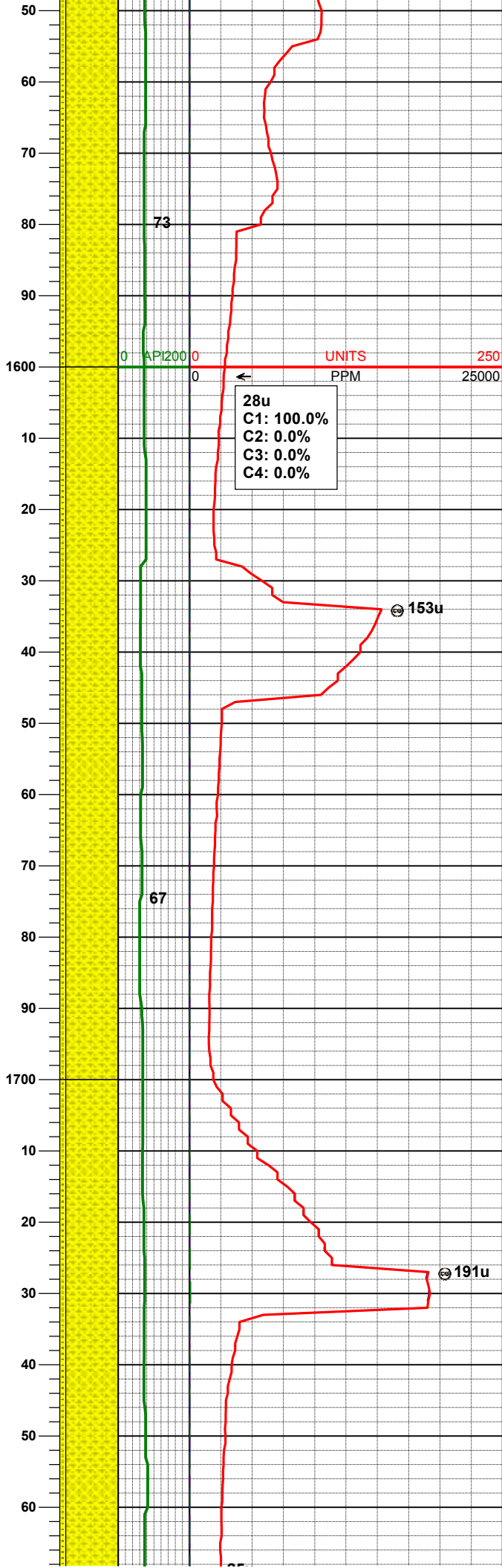
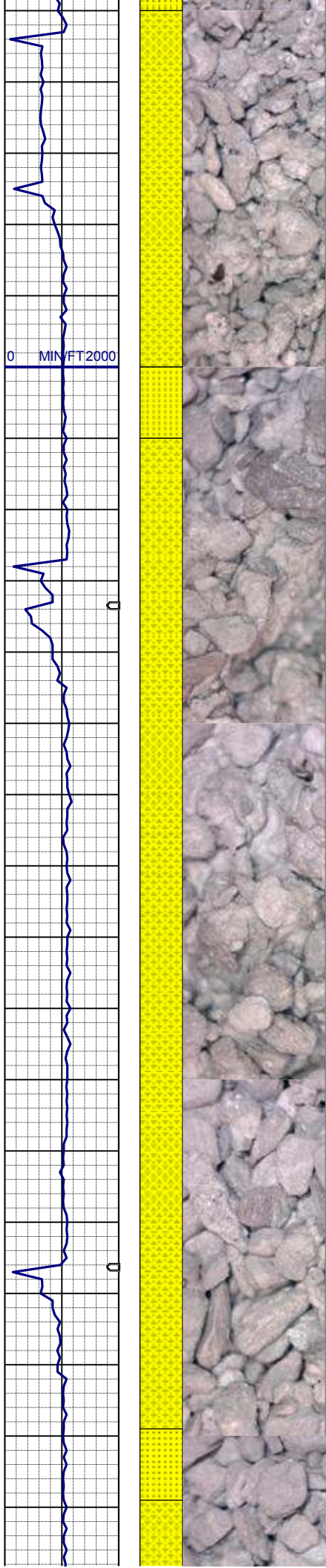
SHYSS: gy - lt gy, occ wh, s&p, f gr,
sbang - sbrdd, poor - mod srt, occ
phlog, arg cmt,
SS: wh - trnsl, s&p, f gr, sbang-
sbrdd, mod srt, tr phlog, arg cmt, tr
glau

| | |
|-----|----------|
| MD | 1399' |
| INC | 0.5° |
| AZM | 202.6° |
| TVD | 1398.97' |

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

| | |
|-----|----------|
| MD | 1492' |
| INC | 0.4° |
| AZM | 222.3° |
| TVD | 1491.97' |

SHYSS: gy - lt gy, occ wh, s&p, f gr,
sbang - sbrdd, poor - mod srt, occ
phlog, arg cmt,
SS: wh - trnsl, s&p, f gr, sbang-



sbrnodd, mod srt, tr phlog, arg cmt, tr glau

| | |
|-----|----------|
| MD | 1584' |
| INC | 0.3° |
| AZM | 225.3° |
| TVD | 1583.97' |

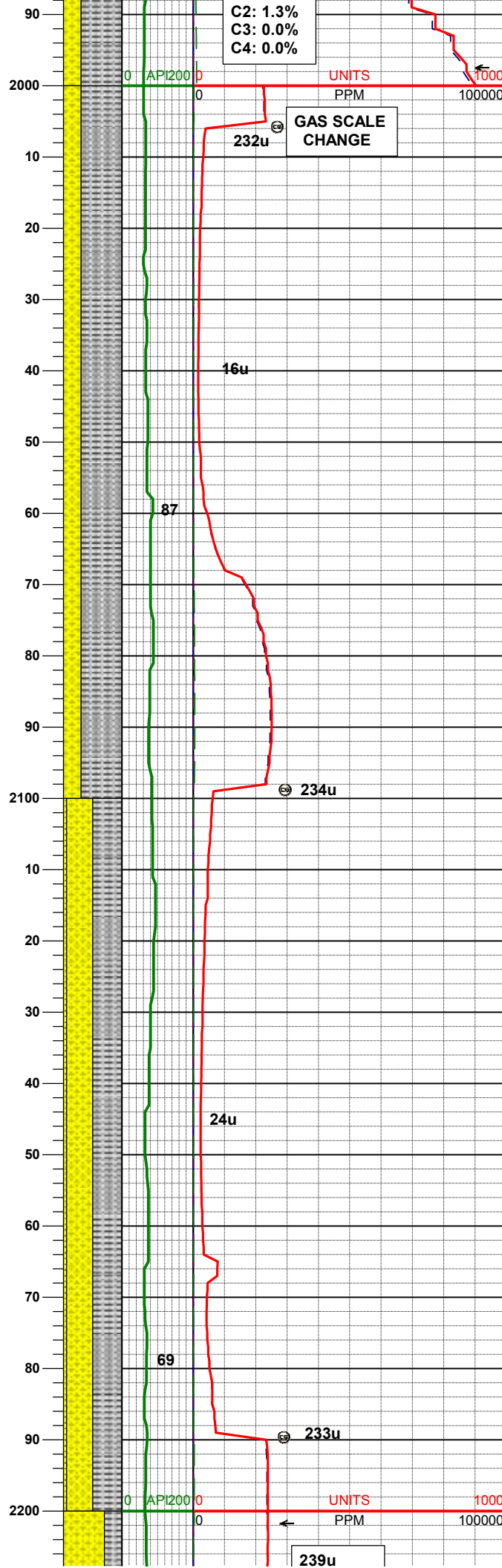
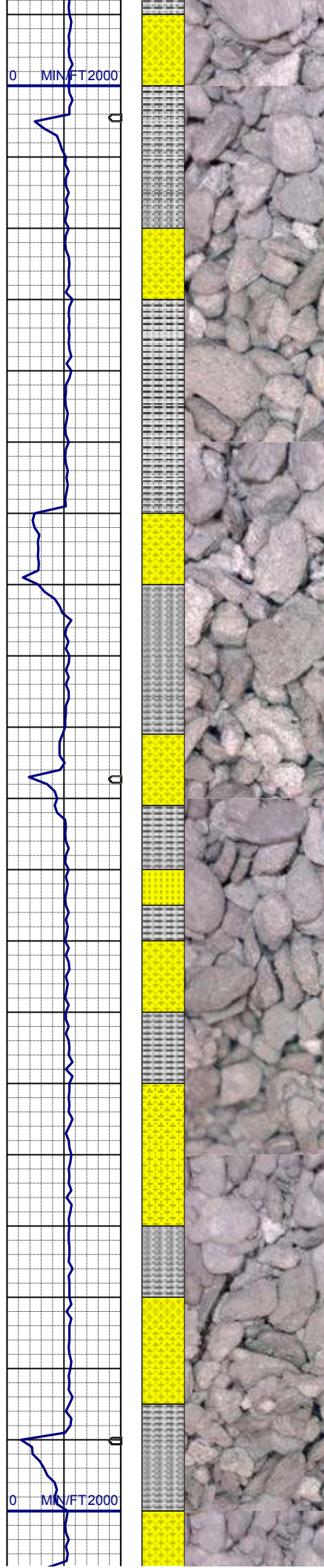
| |
|------------|
| 28u |
| C1: 100.0% |
| C2: 0.0% |
| C3: 0.0% |
| C4: 0.0% |

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, tr glau

| | |
|-----|----------|
| MD | 1679' |
| INC | 0.3° |
| AZM | 221.6° |
| TVD | 1678.96' |

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, tr glau

| | |
|-----|----------|
| MD | 1770' |
| INC | 0.3° |
| AZM | 221.6° |
| TVD | 1769.96' |



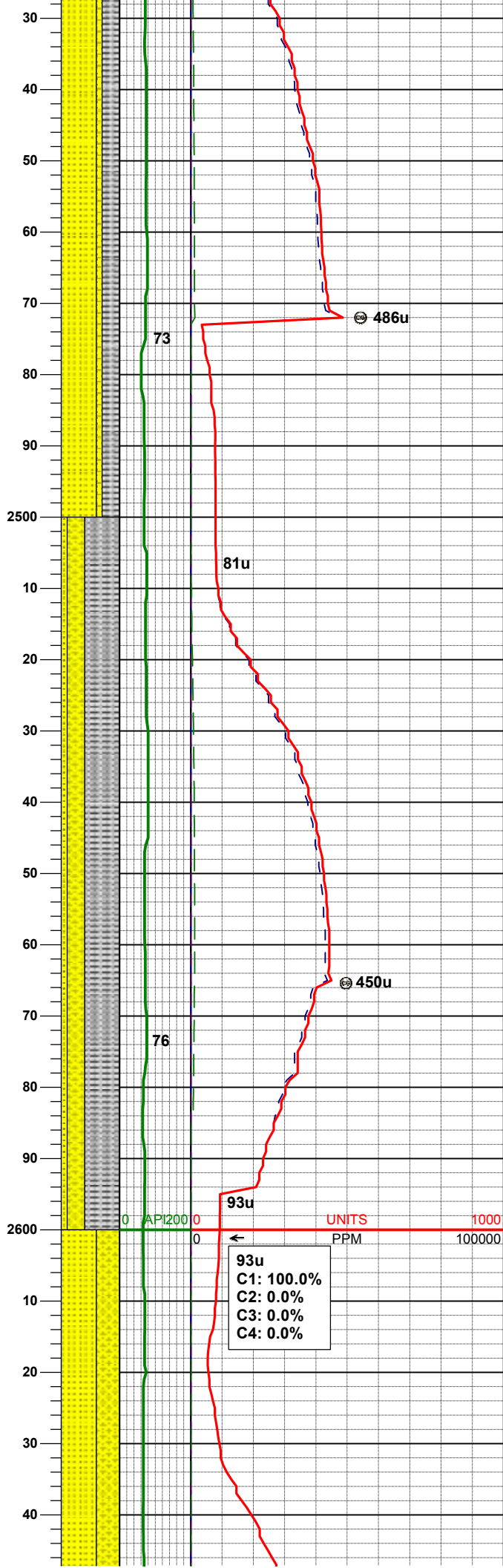
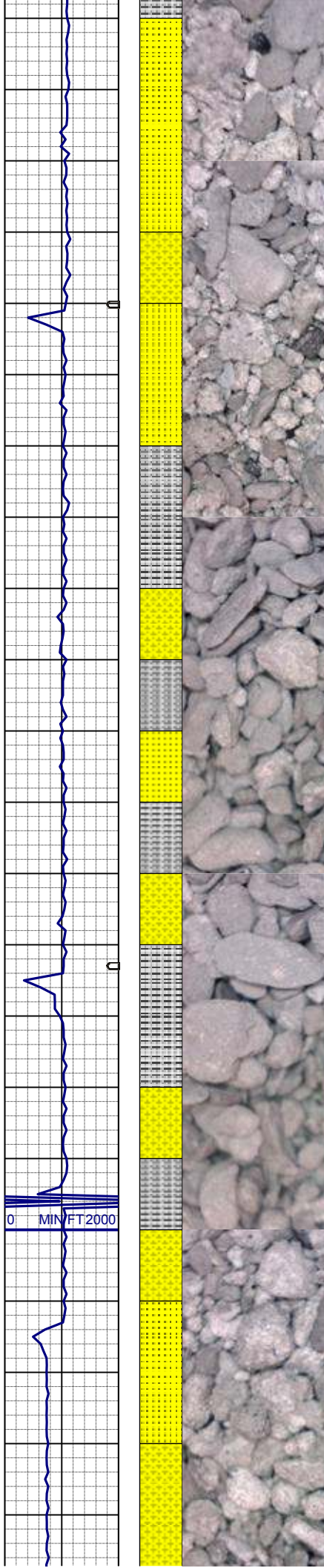
WT IN 8.65/ OUT 8.65
VIS IN 32/ OUT 32

MD 2048'
INC 0.9°
AZM 85.5°
TVD 2047.95'

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

MD 2141'
INC 0.6°
AZM 85.0°
TVD 2140.94'

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



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

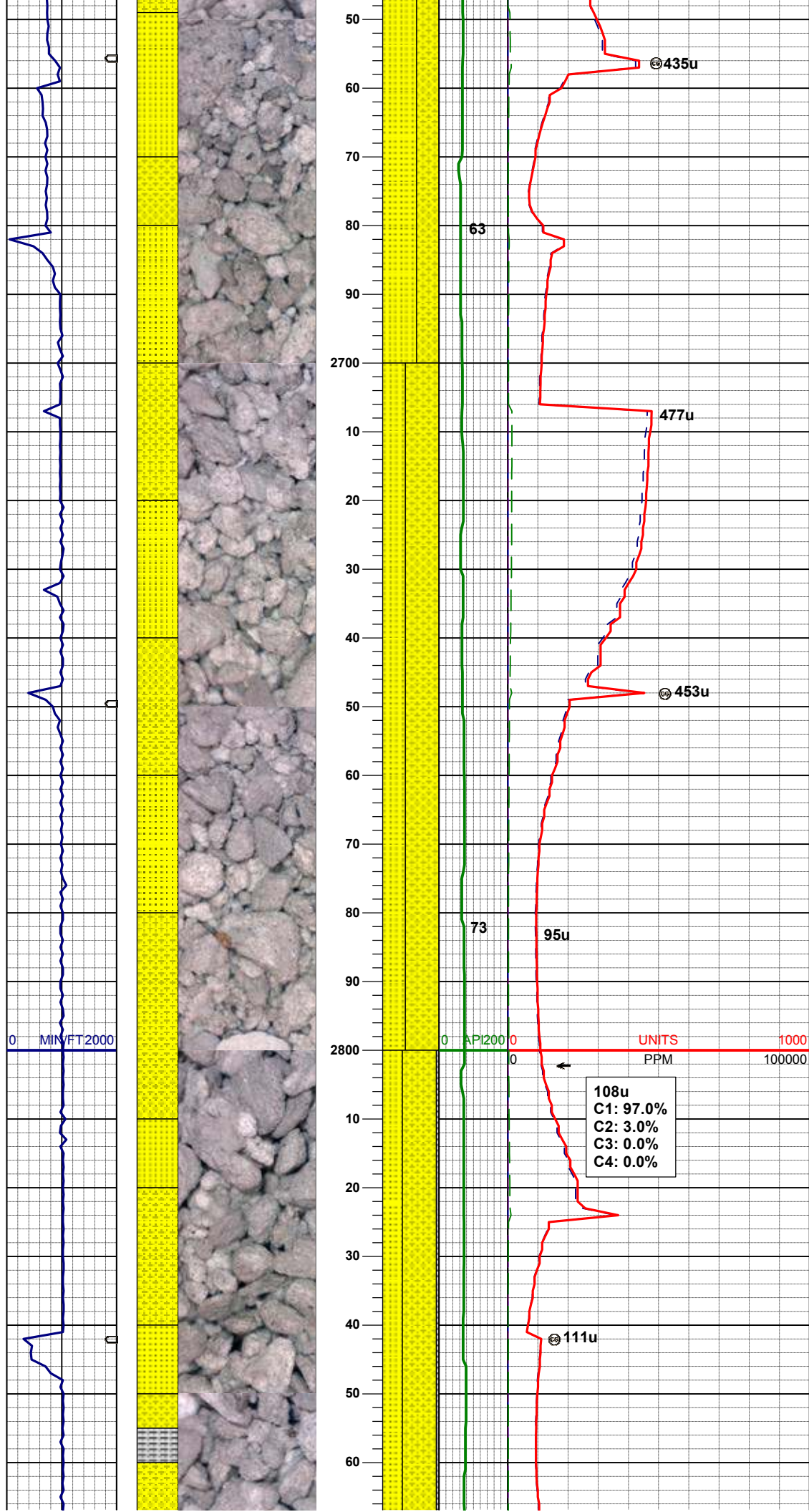
| | |
|-----|----------|
| MD | 2513' |
| INC | 0.8° |
| AZM | 54.4° |
| TVD | 2512.91' |

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

| | |
|-----|----------|
| MD | 2606' |
| INC | 0.5° |
| AZM | 57.4° |
| TVD | 2605.91' |

| |
|------------|
| 93u |
| C1: 100.0% |
| C2: 0.0% |
| C3: 0.0% |
| C4: 0.0% |

SS: wh-trnsl, s&p, f gr, sbang-sbrnnd, mod srt, tr phlog, arg cmt



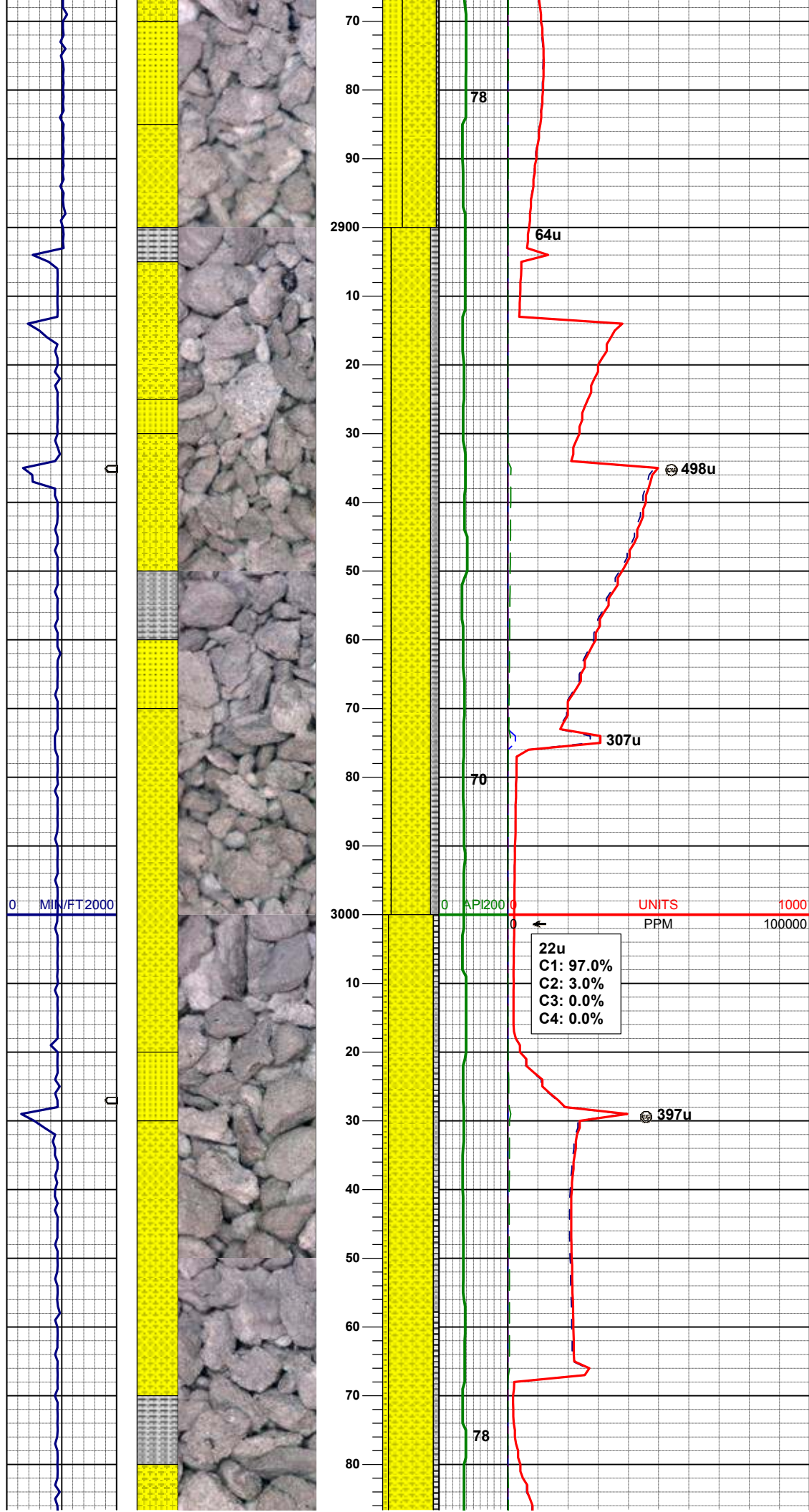
SS: wh-trnsl, s&p, f gr, sbang-sbrnrd, mod srt, tr phlog, arg cmt
SHYSS: lt gy - wh, s&p, f gr, sbang-sbrnrd, mod srt, occ phlog, arg cmt

MD 2699'
INC 0.6°
AZM 53.5°
TVD 2698.90'

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

MD 2793'
INC 0.8°
AZM 60.7°
TVD 2792.89'

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



| | |
|-----|----------|
| MD | 2885' |
| INC | 0.8° |
| AZM | 46.9° |
| TVD | 2884.89' |

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

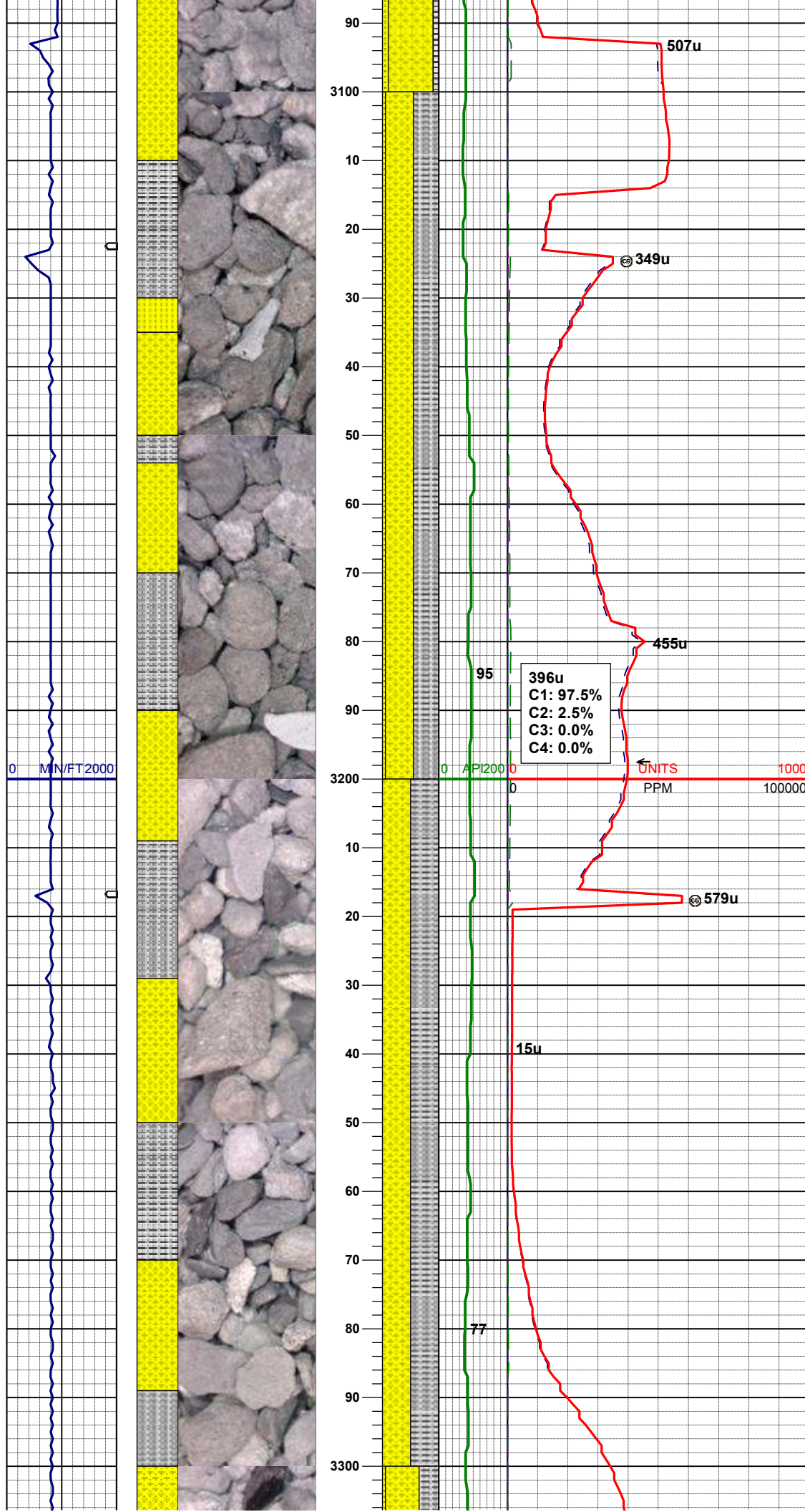
SHYSS: lt gy - wh, s&p, f gr, sbang -
sbrndd, mod srt, occ phlog, arg cmt
SS: wh-trnsl, s&p, f gr, sbang-sbrndd,
mod srt, tr phlog, arg cmt
SLTYSH: lt gy, sft - mod firm, sbblky,
occ plty, arg-rthy mtz, noncalc

| | |
|-----|----------|
| MD | 2978' |
| INC | 0.6° |
| AZM | 54.4° |
| TVD | 2977.88' |

| |
|-----------|
| 22u |
| C1: 97.0% |
| C2: 3.0% |
| C3: 0.0% |
| C4: 0.0% |

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

| | |
|-----|----------|
| MD | 3073' |
| INC | 0.4° |
| AZM | 46.3° |
| TVD | 3072.88' |

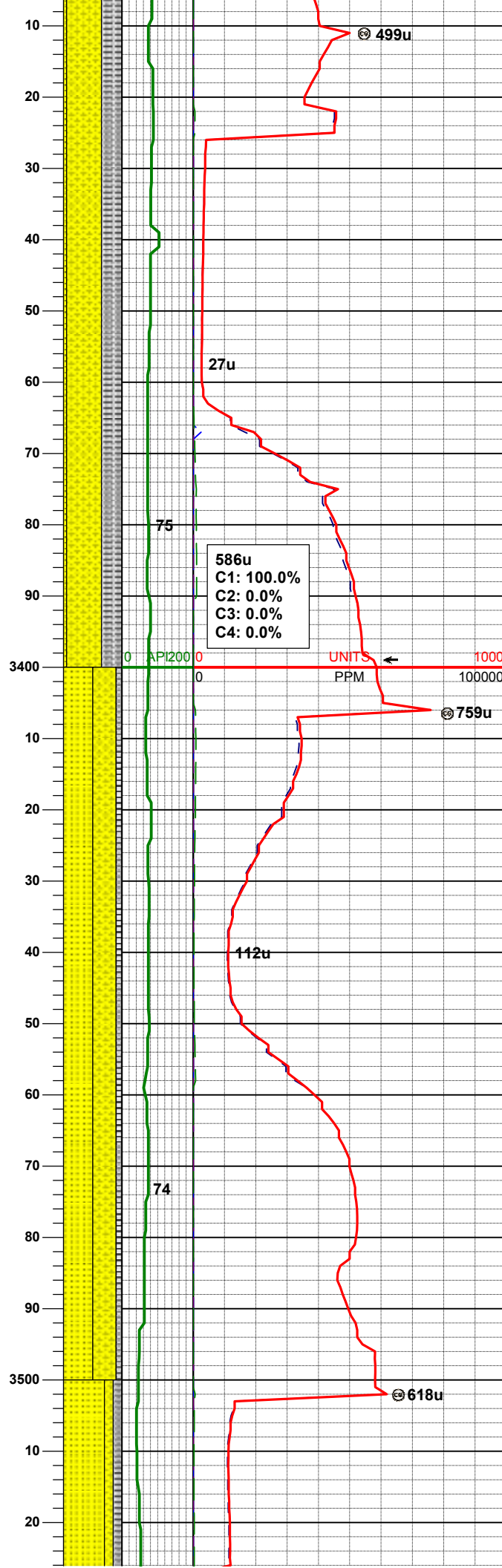
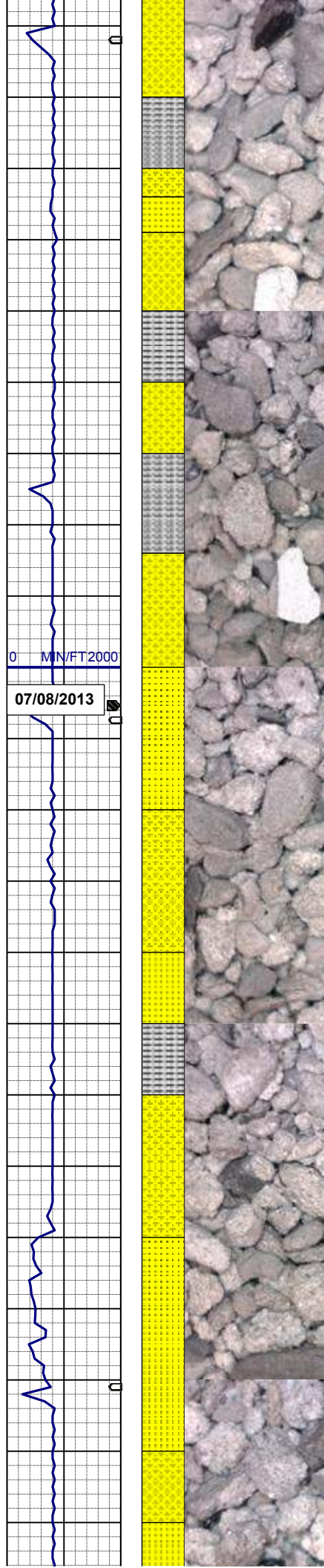


SHYSS: lt gy - wh, s&p, f gr, sbang - sbrnnd, mod srt, occ phlog, arg cmt
 SLTYSH: lt gy, sft - mod firm, sbblky, occ pty, arg-rthy mtx, noncalc
 SS: wh-trnsl, s&p, f gr, sbang-sbrnnd, mod srt, tr phlog, arg cmt

| | |
|-----|----------|
| MD | 3167' |
| INC | 0.4° |
| AZM | 29.5° |
| TVD | 3166.87' |

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

| | |
|-----|----------|
| MD | 3262' |
| INC | 1.1° |
| AZM | 27.7° |
| TVD | 3261.86' |



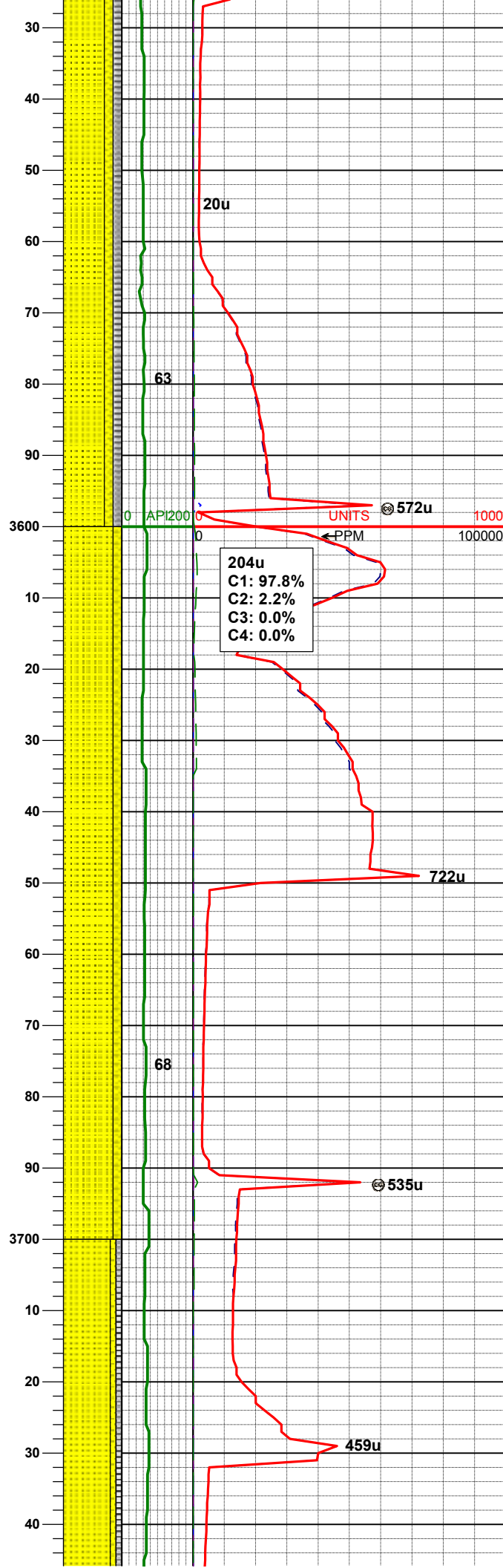
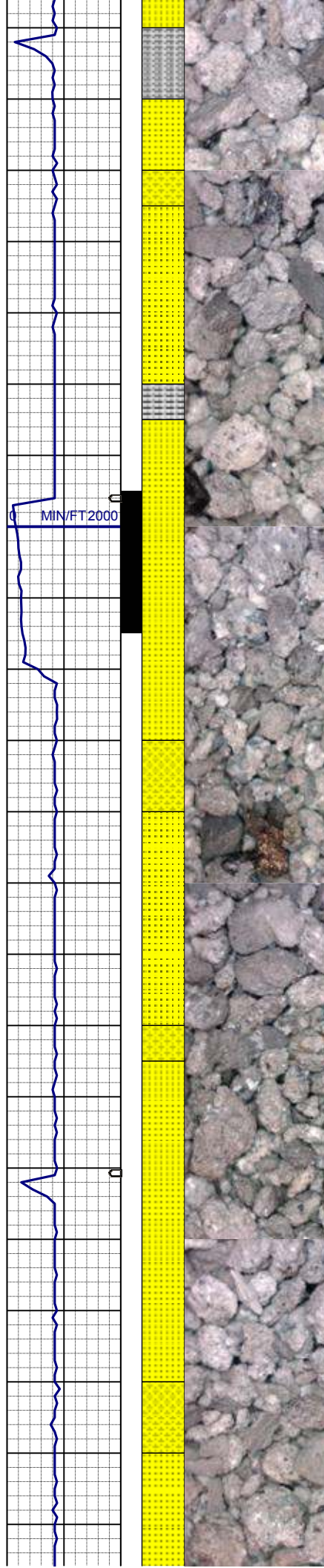
SHYSS: lt gy - wh, s&p, f gr, sbang -
sbrnnd, mod srt, occ phlog, arg cmt
SLTYSH: lt gy, sft - mod firm, sbblky,
occ plty, arg-rthy mtx, noncalc
SS: wh-trnsl, s&p, f gr, sbang-sbrnnd,
mod srt, tr phlog, arg cmt

| | |
|-----|----------|
| MD | 3357' |
| INC | 1.1° |
| AZM | 41.2° |
| TVD | 3356.85' |

| |
|------------|
| 586u |
| C1: 100.0% |
| C2: 0.0% |
| C3: 0.0% |
| C4: 0.0% |

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

| | |
|-----|----------|
| MD | 3452' |
| INC | 1.1° |
| AZM | 41.1° |
| TVD | 3451.83' |



| | |
|-----|----------|
| MD | 3546' |
| INC | 1.1° |
| AZM | 47.7° |
| TVD | 3545.81' |

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

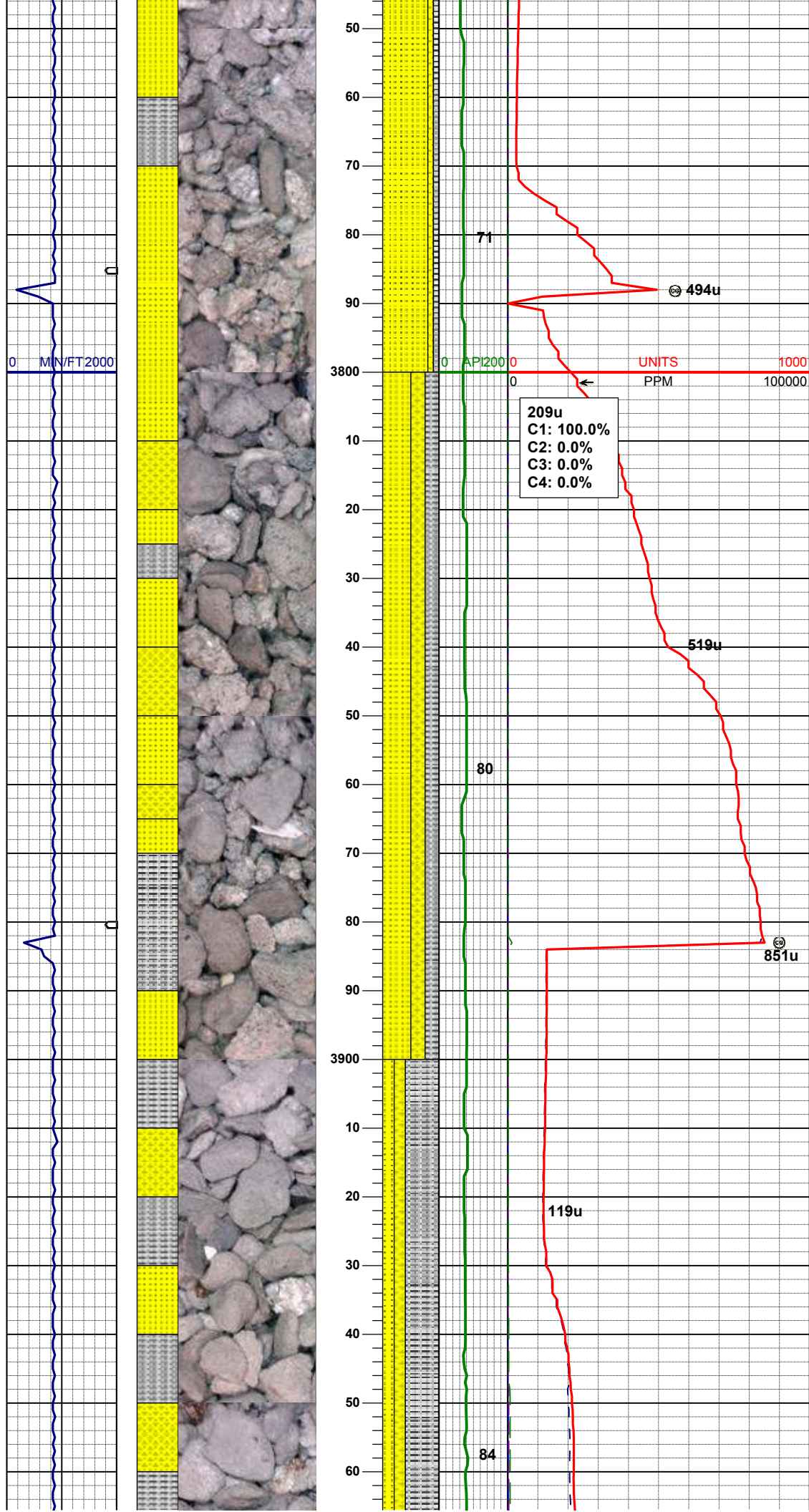
| |
|-----------|
| 204u |
| C1: 97.8% |
| C2: 2.2% |
| C3: 0.0% |
| C4: 0.0% |

| | |
|-----|----------|
| MD | 3641' |
| INC | 0.7° |
| AZM | 338.0° |
| TVD | 3640.80' |

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

| | |
|-----|----------|
| MD | 3736' |
| INC | 0.8° |
| AZM | 336.5° |
| TVD | 3735.79' |

SS: wh-trnsl, s&p, f gr, sbang-sbrndd,



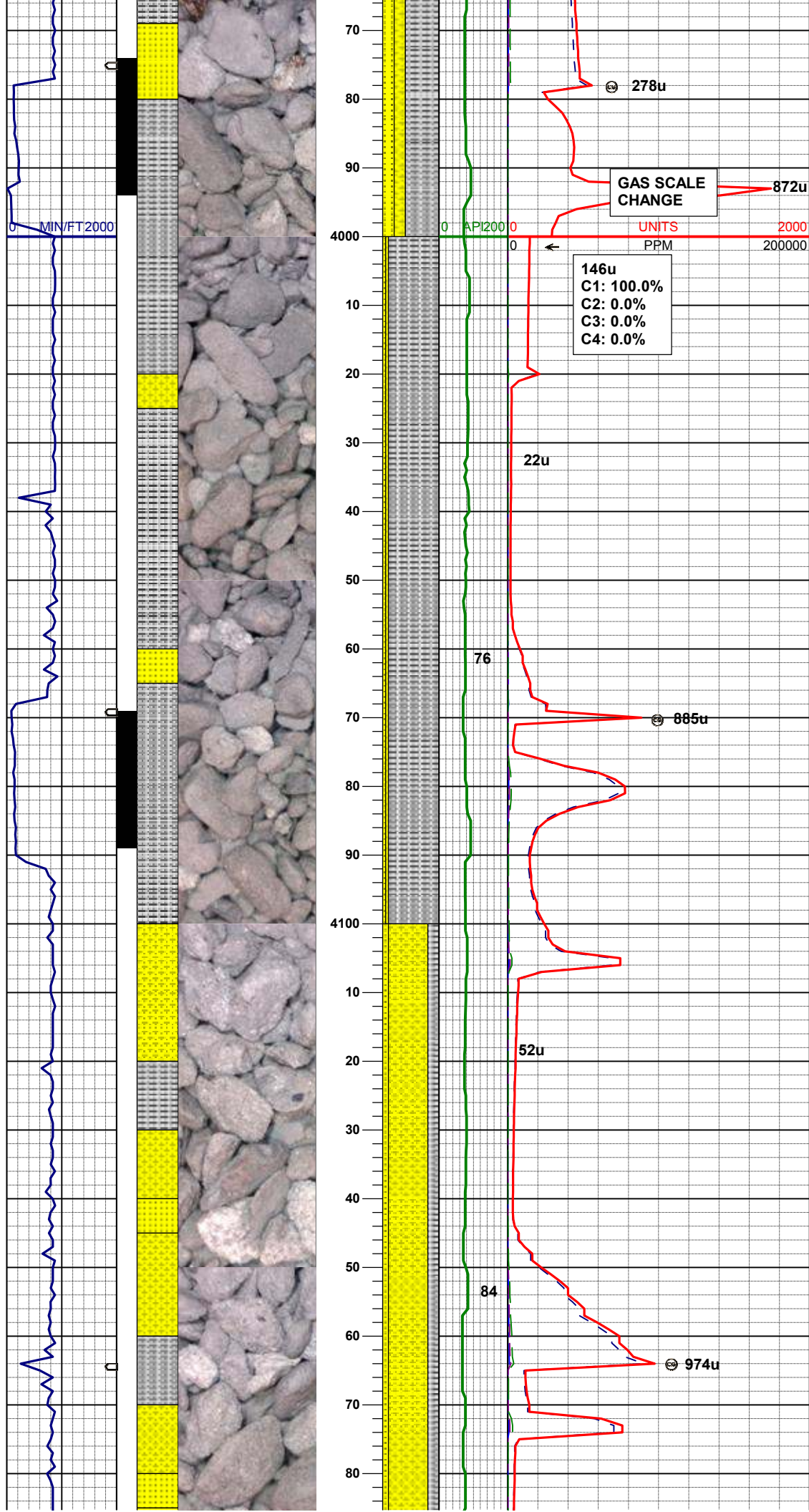
mod srt, tr phlog, arg cmt, tr glau
SHYSS: lt gy - wh, s&p, f gr, sbang -
sbrnnd, mod srt, occ phlog, arg cmt
SLTYSH: dkgy, sft - mod firm, sbblky,
occ plty, arg-rthy mtx, noncalc

| | |
|-----|----------|
| MD | 3830' |
| INC | 0.6° |
| AZM | 350.8° |
| TVD | 3829.79' |

SS: wh-trnsl, s&p, f gr, sbang-sbrnnd,
mod srt, tr phlog, arg cmt, tr glau
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 | 3925' |
| INC | 1.2° |
| AZM | 1.0° |
| TVD | 3924.78' |

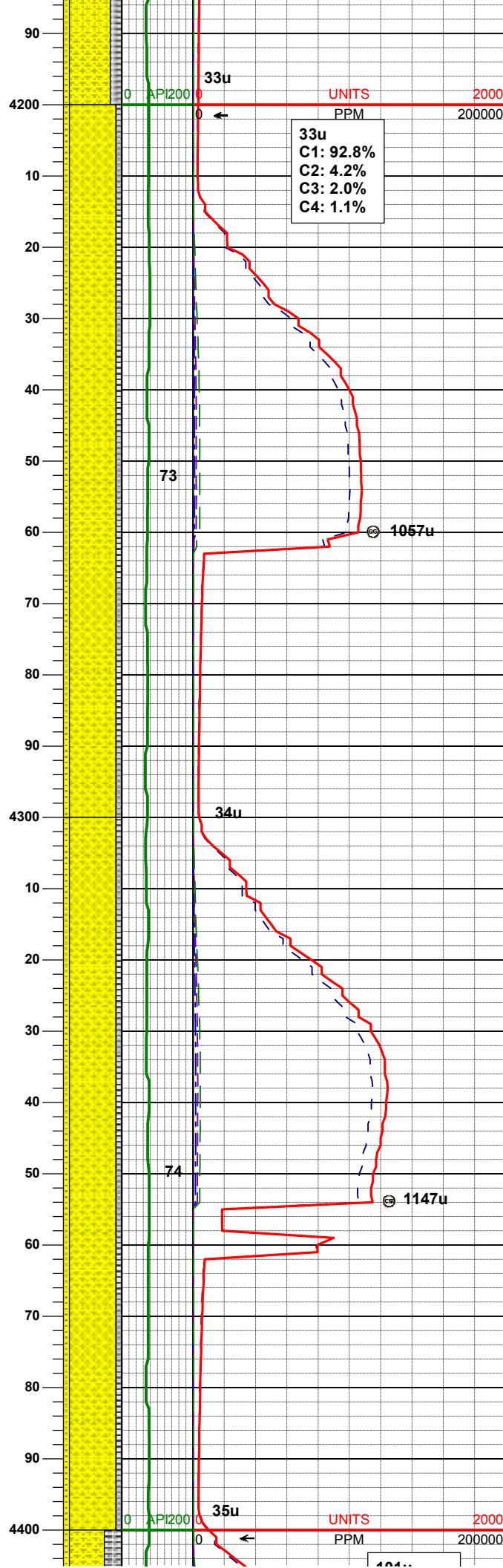
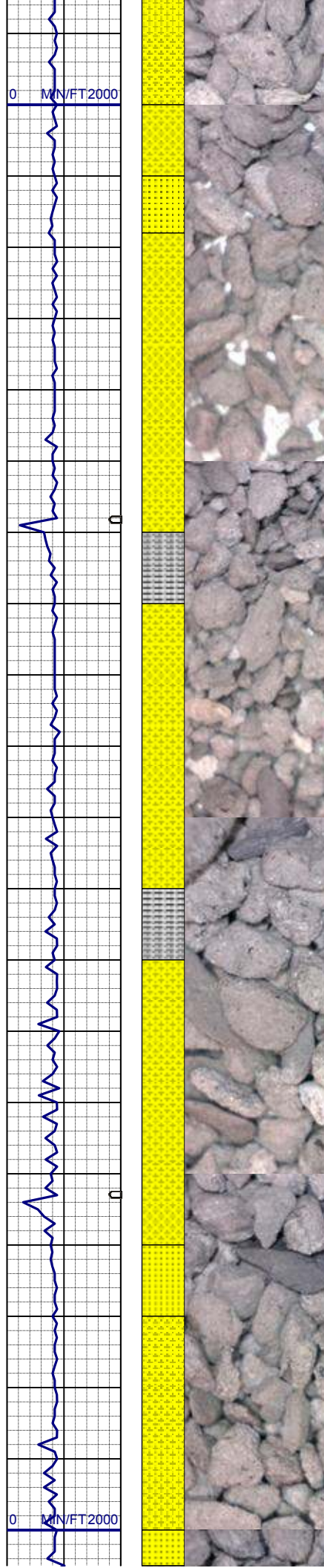
SLTYSH: dkgy, sft - mod firm, sbblky,
occ plty, arg-rthy mtx, noncalc
SS: wh-trnsl, s&p, f gr, sbang-sbrnnd,
mod srt, tr phlog, arg cmt, tr glau
SHYSS: lt gy - wh, s&p, f gr, sbang -
sbrnnd, mod srt, occ phlog, arg cmt



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

| | |
|-----|----------|
| MD | 4114' |
| INC | 1.0° |
| AZM | 208.1° |
| TVD | 4113.75' |

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
SS: wh-trnsl, s&p, f gr, sbang-sbrnnd,
mod srt, tr phlog, arg cmt



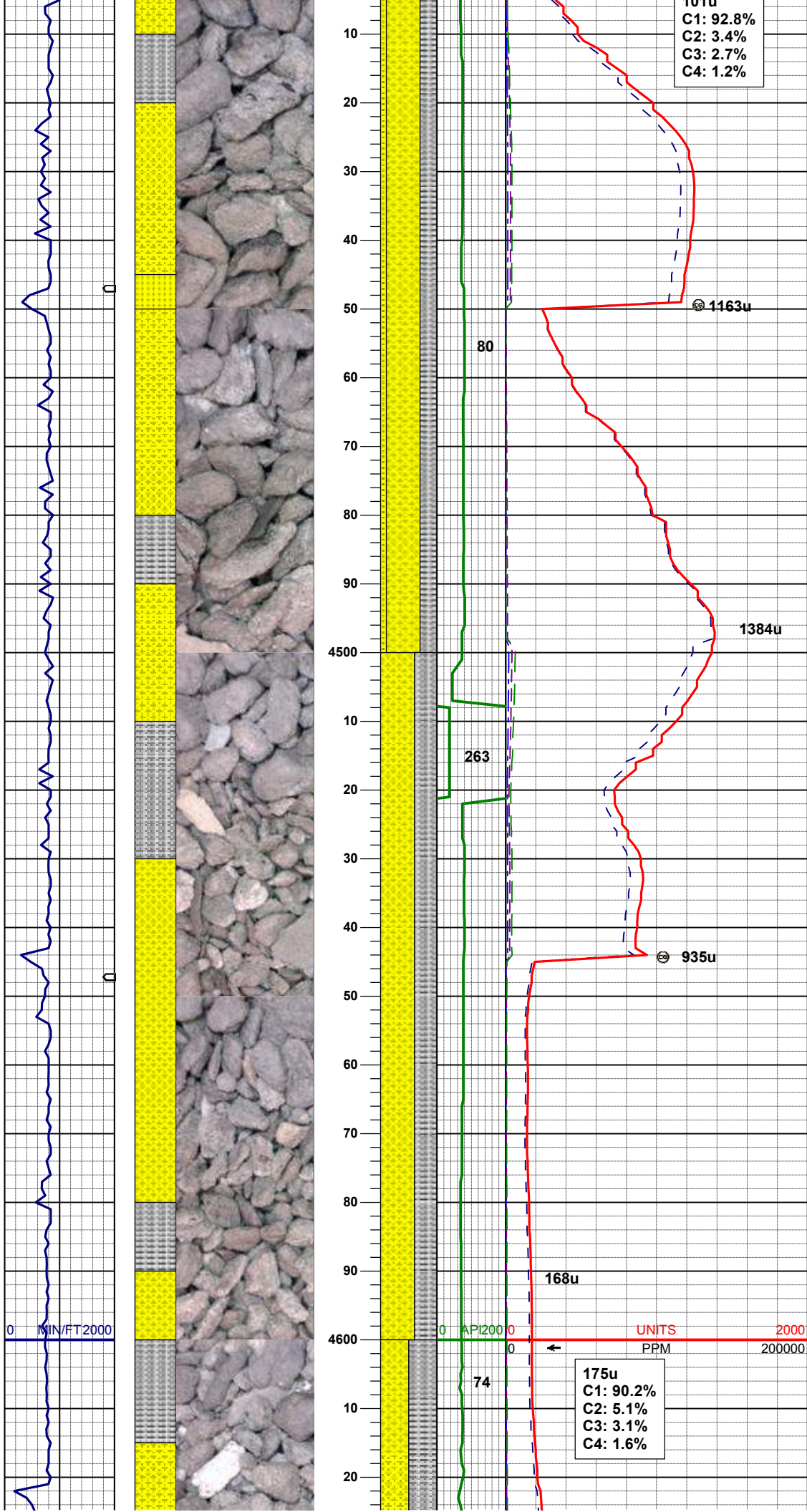
| | |
|-----|----------|
| MD | 4209' |
| INC | 0.9° |
| AZM | 187.1° |
| TVD | 4208.74' |

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
SS: wh-trnsl, s&p, f gr, sbang-sbrnnd, mod srt, tr phlog, arg cmt

| | |
|-----|---------|
| MD | 4304' |
| INC | 0.7° |
| AZM | 186.1° |
| TVD | 4303.73 |

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 | 4398' |
| INC | 0.5° |
| AZM | 164.1° |
| TVD | 4397.72' |



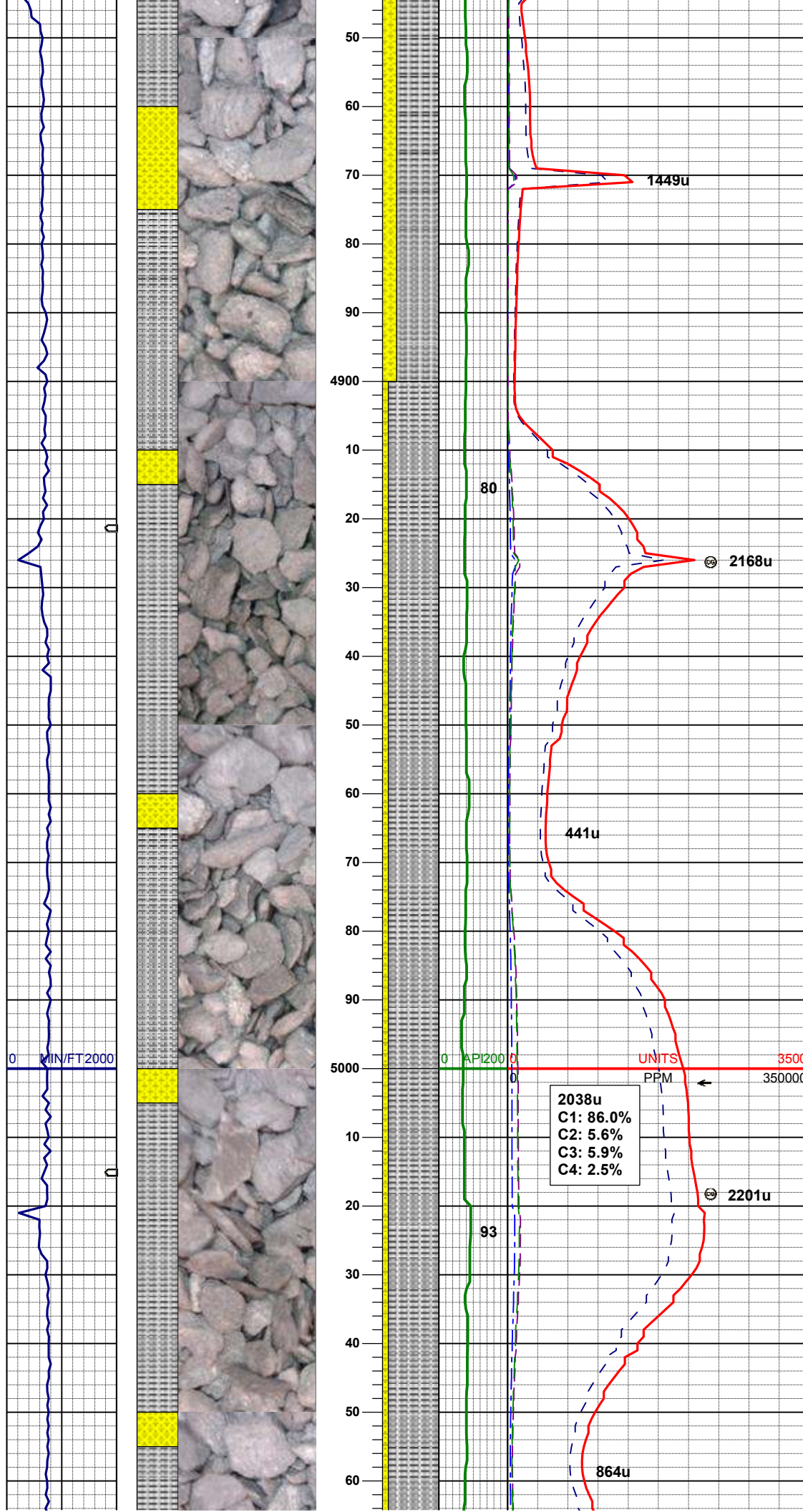
101u
C1: 92.8%
C2: 3.4%
C3: 2.7%
C4: 1.2%

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 4493'
INC 0.5°
AZM 183.1°
TVD 4492.72'

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

MD 4588'
INC 1.0°
AZM 120.0°
TVD 4587.71'



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

| | |
|-----|----------|
| MD | 4872' |
| INC | 0.8° |
| AZM | 226.0° |
| TVD | 4871.70' |

WT IN 8.85/ OUT 8.85
VIS IN 40/ OUT 40

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

| | |
|-----|----------|
| MD | 4966' |
| INC | 1.1° |
| AZM | 224.9° |
| TVD | 4965.68' |

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

| | |
|-----|-------|
| MD | 5061' |
| INC | 1.0° |

AZM 214.2°
TVD 5060.67'

