OPERATOR:	**NOBLE ENERGY INC**
WELL:	**TIMBRO LD19-73HN**
LOCATION:	**SEC 19 T9N R58W**
COUNTY:	**WELD**
STATE:	**COLORADO**
SPOT:	**288' FSL; 300' FEL**
ELEVATION:	**4825' GL; 4849' KB**
FIELD:	**WILDCAT**
SPUD DATE:	**6/21/2013**
TD DATE:	**6/23/2013**
DATES LOGGED:	**6/22/2013 - 6/23/2013**
DEPTHS LOGGED:	**800' - 5216' MD**
LOGGERS:	**LAURA KELLOGG; CONOR PESICKA**
DRILLING FLUID:	**LSND**
DRILLING RIG:	**H&P 273**
API:	**05-123-36268**
LOG TYPE:	**VERTICAL**
SCALE:	**1:240 (5 inches per 100 feet)**
REMARKS:	**WELLSITE GEOLOGICAL SERVICES PROVIDED BY COLUMBINE LOGGING INC**

LITHOLOGIES
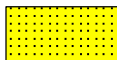
- Sandstone
- Shaly Sandstone
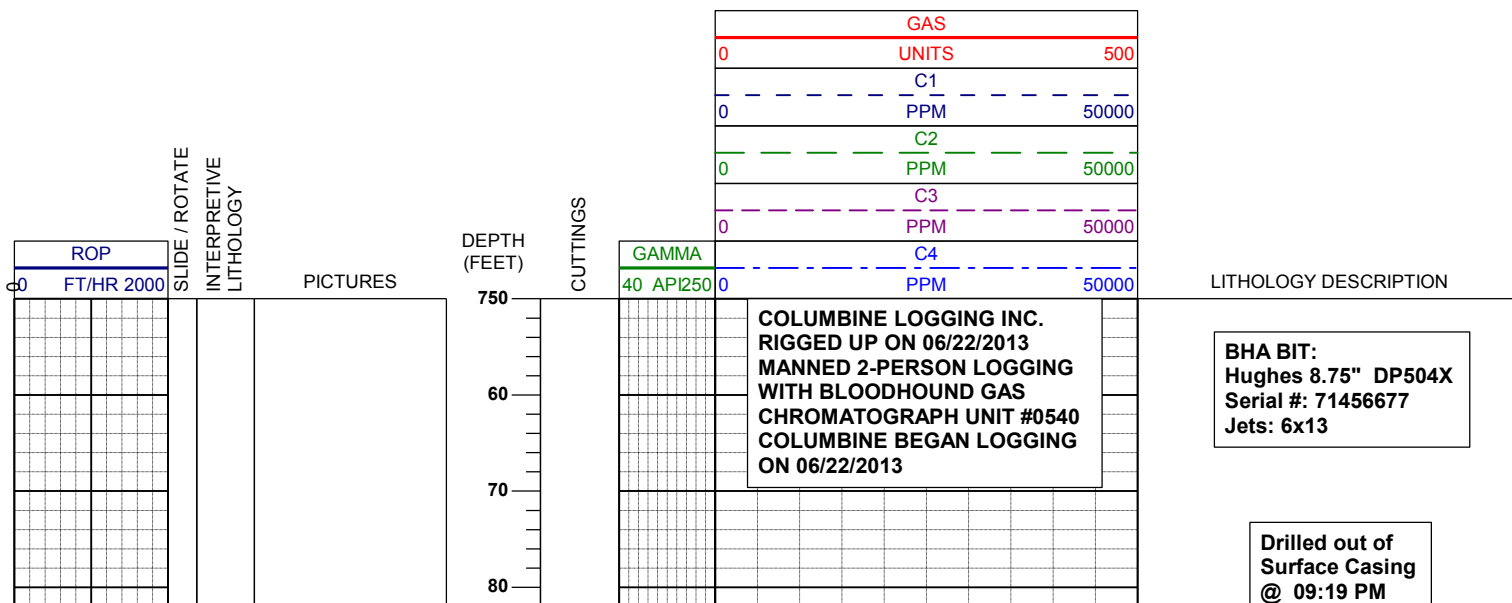- Silty Shale

ENGINEERING SYMBOLS
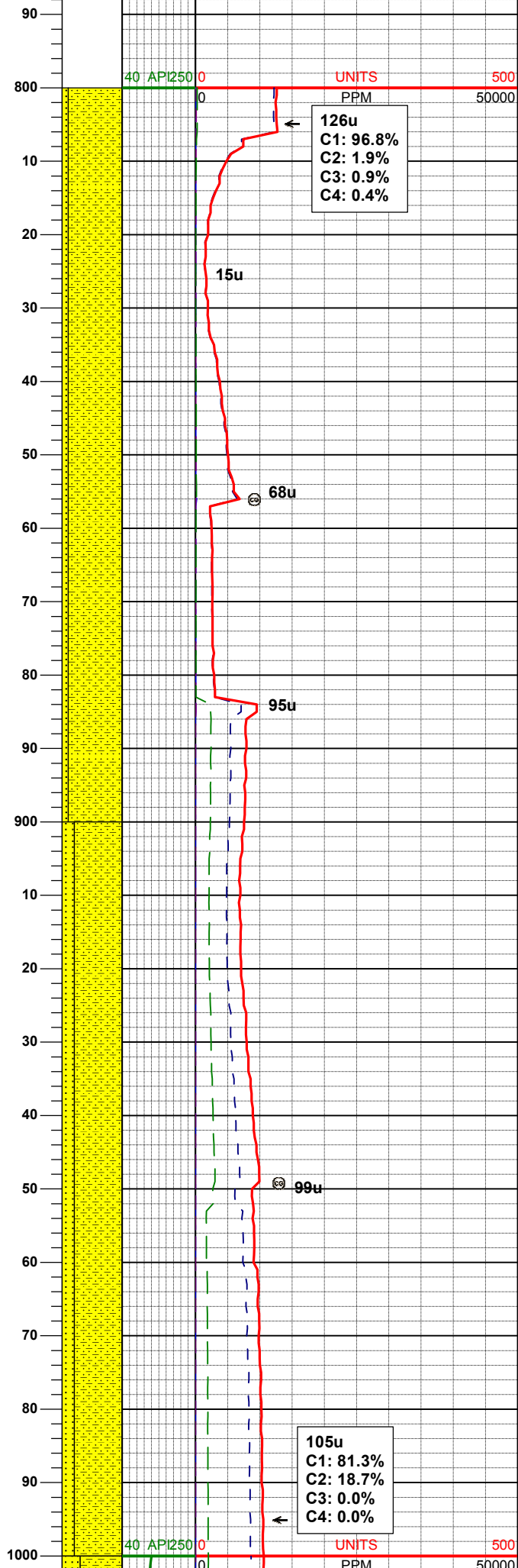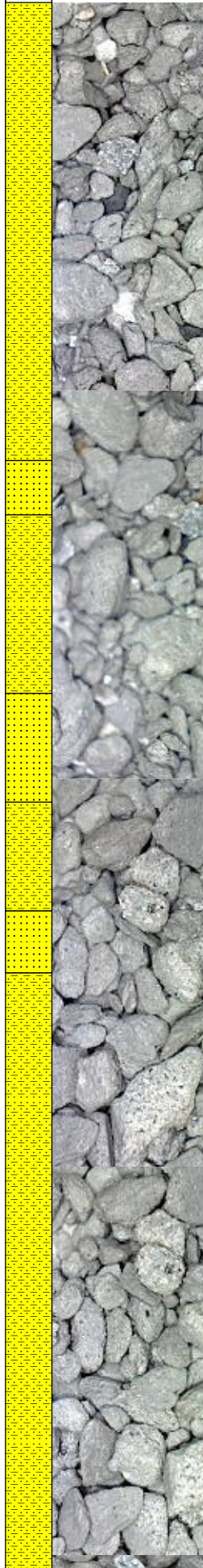
- Connection
- Connection Gas
- Arrow
- Midnight Depth
- Arrow

ROP	SLIDE / ROTATE	INTERPRETIVE LITHOLOGY	PICTURES	DEPTH (FEET)	CUTTINGS	GAMMA	GAS		LITHOLOGY DESCRIPTION

GAS
0 UNITS 500

C1
0 PPM 50000

C2
0 PPM 50000

C3
0 PPM 50000

C4
0 PPM 50000

ROP
0 FT/HR 2000

GAMMA
40 API 250

DEPTH (FEET)

750
60
70
80

COLUMBINE LOGGING INC. RIGGED UP ON 06/22/2013 MANNED 2-PERSON LOGGING WITH BLOODHOUND GAS CHROMATOGRAPH UNIT #0540 COLUMBINE BEGAN LOGGING ON 06/22/2013

BHA BIT:
Hughes 8.75" DP504X
Serial #: 71456677
Jets: 6x13

Drilled out of Surface Casing @ 09:19 PM

0 FT/HR 2000

40 API 250 0   UNITS   500

0   PPM   50000

WT IN 8.40/ OUT 8.40
VIS IN 25/ OUT 25

126u
C1: 96.8%
C2: 1.9%
C3: 0.9%
C4: 0.4%

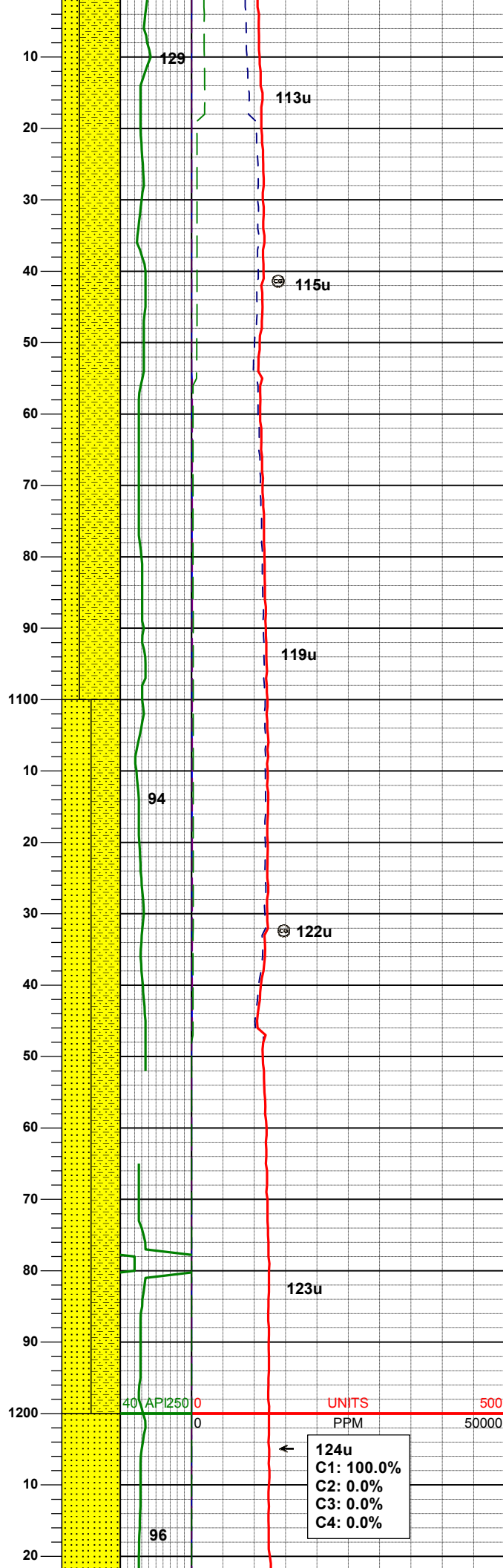| MD	816'
INC	0.1°
AZM	224.2°
TVD	816.00'

15u

68u

95u

SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt, sl
calc, tr lit frag
SS: ltgy-gy-trnsl, sbang-ang, p ind,
fgr, psrt, wrndd, arg cmt, abnt lit frag
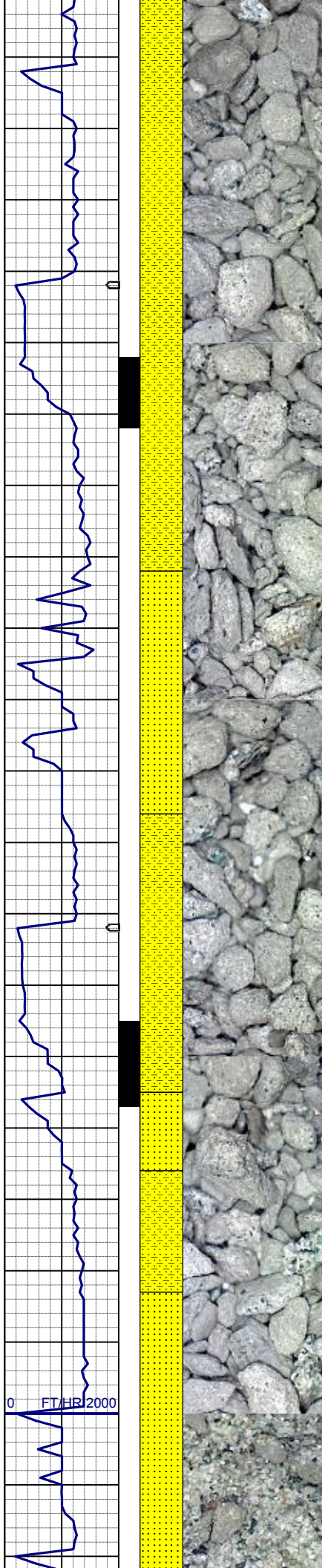
MD	909'
INC	0.2°
AZM	210.0°
TVD	909.00'

99u

SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt, sl
calc, tr lit frag
SS: ltgy-gy-trnsl, sbang-ang, p ind,
fgr, psrt, wrndd, arg cmt, abnt lit frag

105u
C1: 81.3%
C2: 18.7%
C3: 0.0%
C4: 0.0%

MD	1002'
INC	0.2°

0 FT/HR 2000

40 API 250 0   UNITS   500

0   PPM   50000

129

113u

⊕ 115u

SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt, sl
calc, tr lit frag
SS: ltgy-gy-trnsl, sbang-ang, p ind,
fgr, psrt, wrndd, arg cmt, abnt lit frag,
tr glau

119u

MD   1095'
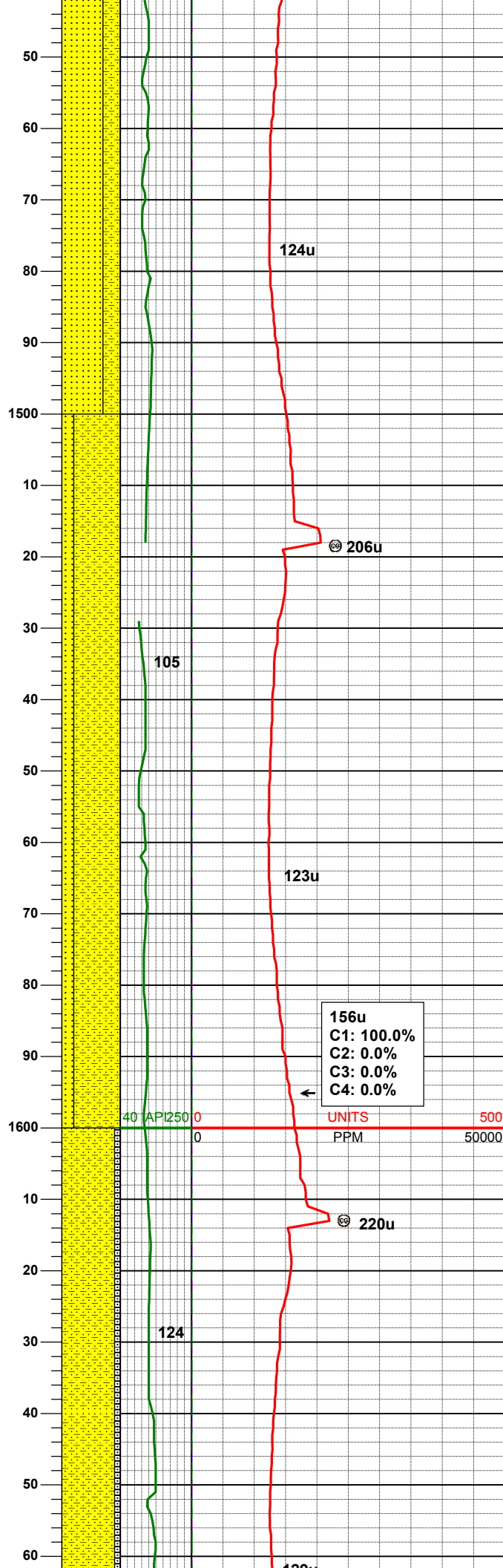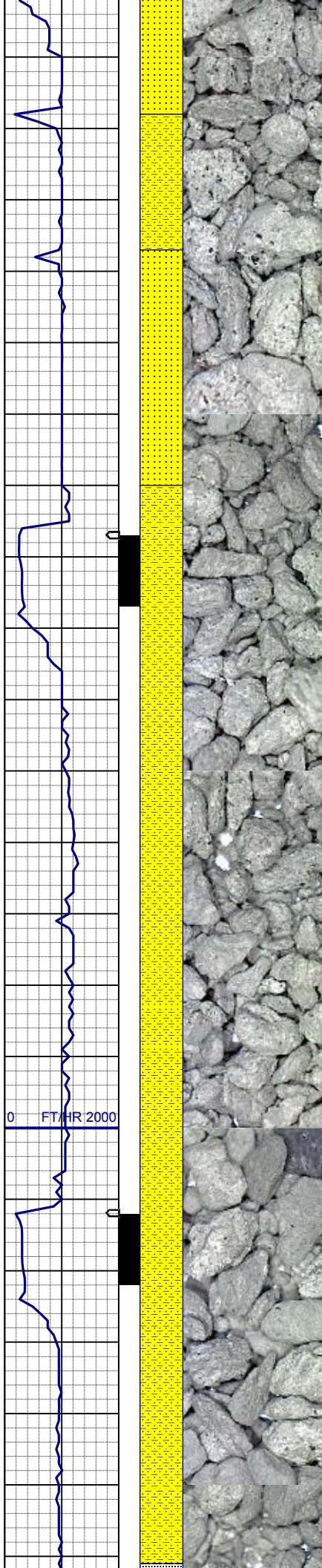INC   1.7°
AZM   317.4°
TVD 1094.98'

94

⊕ 122u

SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt, sl
calc, tr lit frag
SS: ltgy-gy-trnsl, sbang-ang, p ind,
fgr, psrt, wrndd, arg cmt, abnt lit frag,
tr glau

123u

MD   1188'
INC   3.7°
AZM   300.3°
TVD 1187.88'

0   FT/HR 2000

40 API 250 | 0   UNITS   500
0   PPM   50000

← 124u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%

96

WT IN 8.50/ OUT 8.50
VIS IN 26/ OUT 26

130u

130u

SS: ltgy-gy-trnsl, sbang-ang, p ind, fgr, uncons, psrt, wrndd, arg cmt, abnt lit frag, tr glau

MD	1281'
INC	5.3°
AZM	285.9°
TVD	1280.59'

109

159u

124u

131u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%

SS: ltgy-gy-trnsl, sbang-ang, p ind, fgr, uncons, psrt, wrndd, arg cmt, abnt lit frag, tr glau
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc, tr lit frag

MD	1374'
INC	6.1°
AZM	281.0°
TVD	1373.14'

0 FT/HR 2000

40 API 250   0   UNITS   500
                0   PPM   50000

188u

Hole Depth Change

89

SS: ltgy-gy-trnsl, sbang-ang, p ind,
fgr, psrt, wrndd, arg cmt, abnt lit frag,
tr glau
SHYSS: ltgy-gy, s&p ip, sbang, v fri,
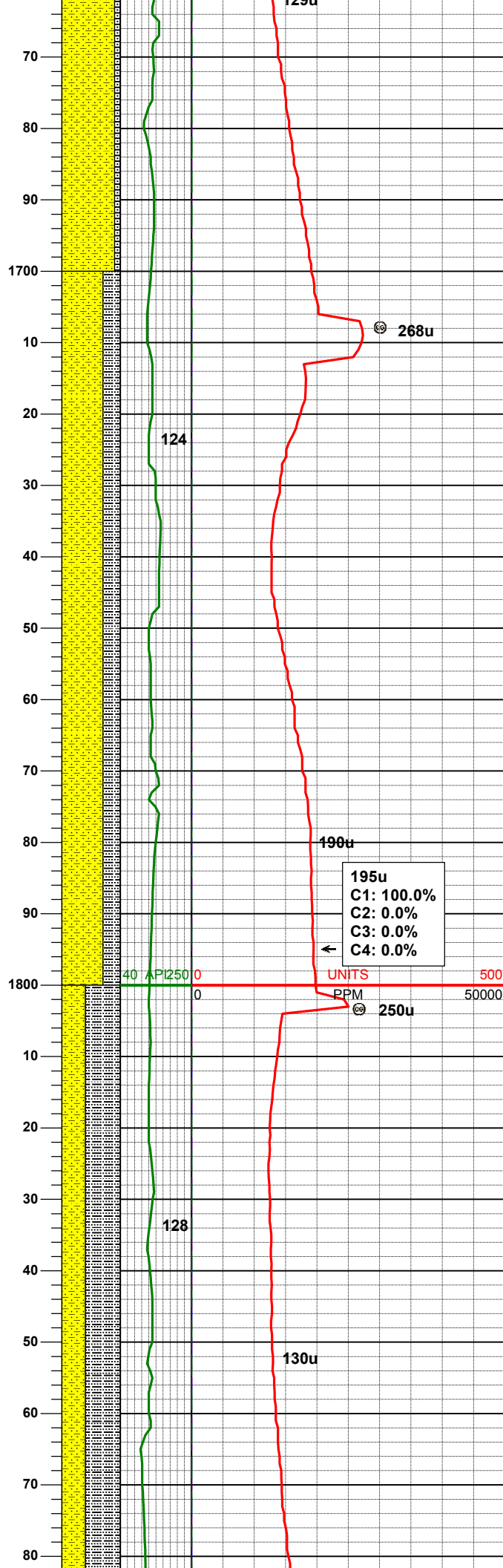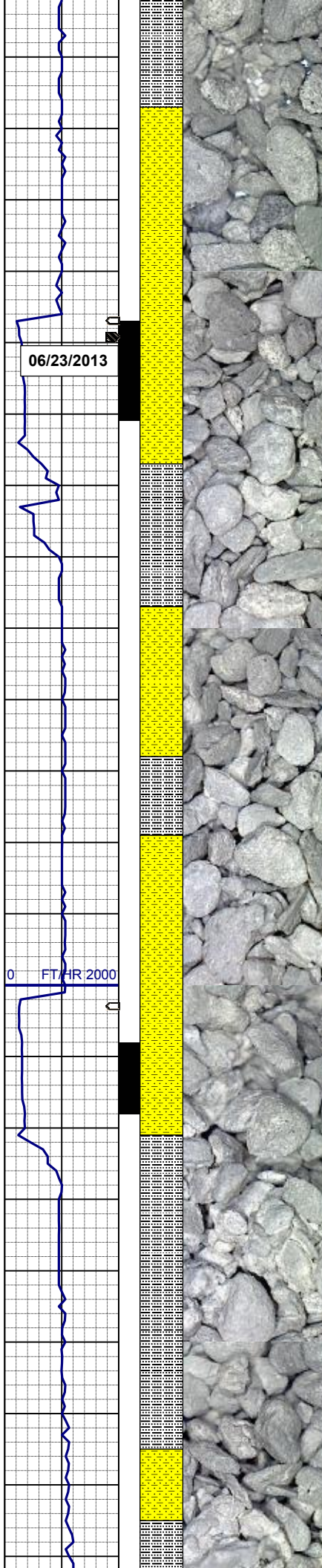vfgr, psrt, wrndd, abnt cly, arg cmt, sl
calc, tr lit frag

MD	1467'
INC	8.0°
AZM	256.4°
TVD	1465.44'

124u

206u

105

SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt, sl
calc, tr lit frag
SS: ltgy-gy-trnsl, sbang-ang, p ind,
fgr, psrt, wrndd, arg cmt, abnt lit frag,
tr glau

MD	1562'
INC	9.8°
AZM	257.2°
TVD	1559.29'

123u

156u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%

0 FT/HR 2000

40 API 250 0 UNITS 500
0 PPM 50000

220u

124

SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt, sl
calc, tr lit frag
SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt
-sdy tex, arg cmt

MD	1657'

129u

INC 11.0°
AZM 254.6°
TVD 1652.73'

70

80

90

1700

06/23/2013

10

268u

20

124

30

40

SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc, tr lit frag
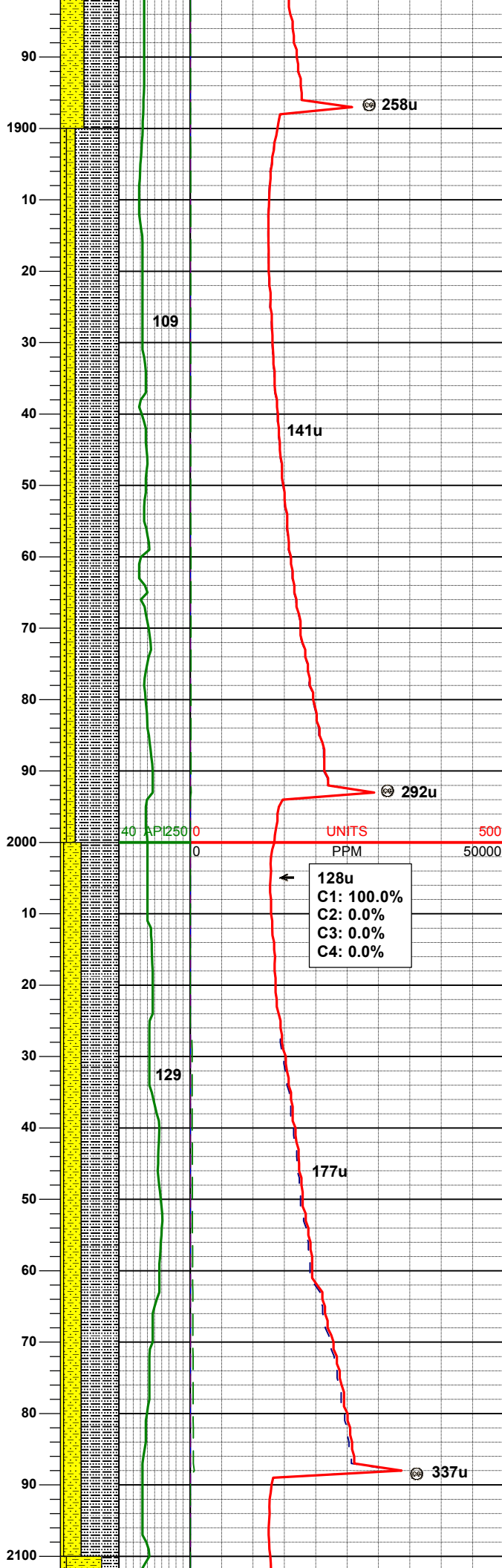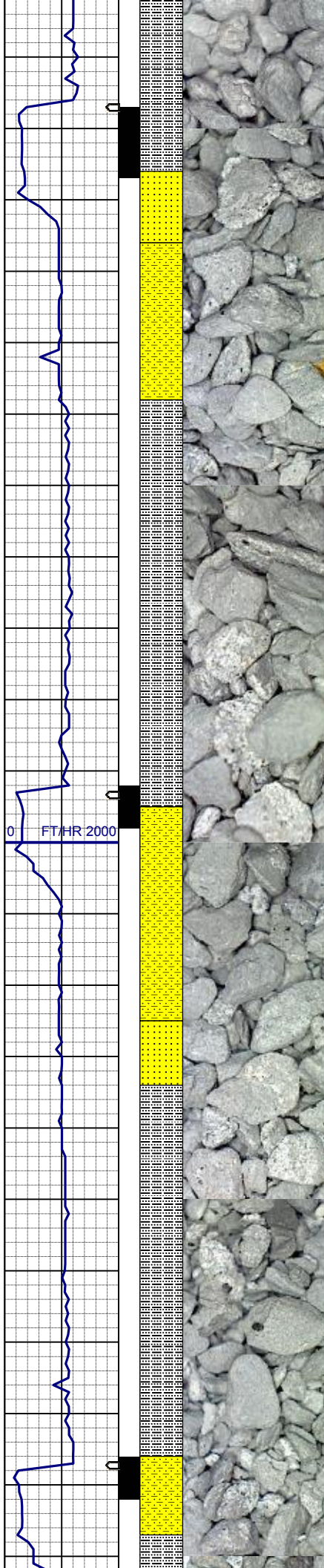SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt -sdy tex, arg cmt

50

MD 1752'
INC 12.0°
AZM 253.2°
TVD 1745.82'

60

70

80

190u

195u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%

90

0 FT/HR 2000

40 API 250   0   UNITS   500

1800   0   PPM   50000

WT IN 8.45/ OUT 8.45
VIS IN 27/ OUT 27

250u

10

20

30

128

MD 1847'
INC 13.3°
AZM 254.3°
TVD 1838.51'

40

SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt -sdy tex, arg cmt
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc

50

130u

60

70

80

Depth track (center):
90, 1900, 10, 20, 30, 40, 50, 60, 70, 80, 90, 2000, 10, 20, 30, 40, 50, 60, 70, 80, 90, 2100

Gas/chromatography annotations:
- ⊛ 258u
- 109
- 141u
- ⊛ 292u
- 128u
  - C1: 100.0%
  - C2: 0.0%
  - C3: 0.0%
  - C4: 0.0%
- 129
- 177u
- ⊛ 337u

Track scales:
- 0 FT/HR 2000
- 40 API 250
- 0 UNITS 500
- 0 PPM 50000

Right column annotations:

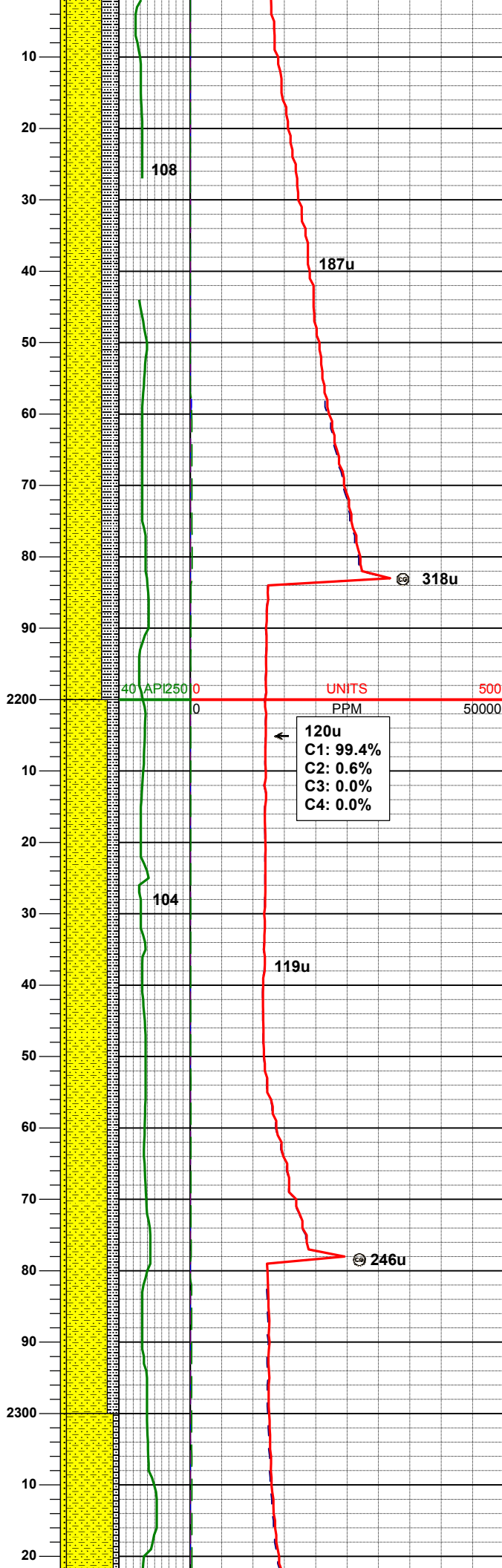MD   1942'
INC   13.9°
AZM   256.7°
TVD 1930.85'

SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt-sdy tex, arg cmt
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc
SS: ltgy-gy-trnsl, sbang-ang, p ind, fgr, psrt, wrndd, arg cmt, tr lit frag, tr glau

WT IN 8.45/ OUT 8.45
VIS IN 27/ OUT 27

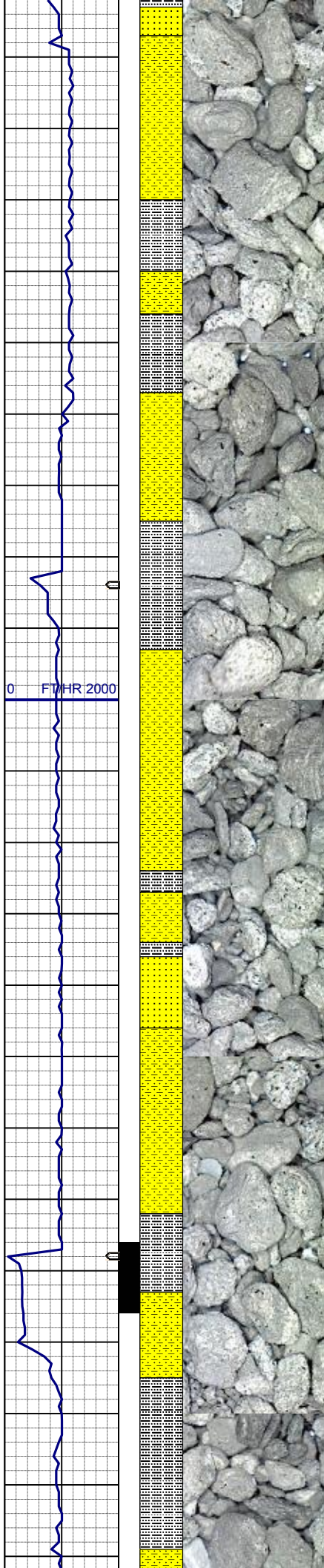MD   2036'
INC   14.2°
AZM   253.6°
TVD 2022.04'

SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt-sdy tex, arg cmt
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc
SS: ltgy-gy-trnsl, sbang-ang, p ind, fgr, psrt, wrndd, arg cmt, tr lit frag, tr glau

0   FT/HR   2000

108

187u

318u

40   API   250 | 0   UNITS   500
0   PPM   50000

120u
C1: 99.4%
C2: 0.6%
C3: 0.0%
C4: 0.0%

104

119u

246u

MD	2131'
INC	14.9°
AZM	255.3°
TVD	2113.99'

SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc
SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt -sdy tex, arg cmt
SS: ltgy-gy-trnsl, sbang-ang, p ind, fgr, psrt, wrndd, arg cmt, tr lit frag, tr glau

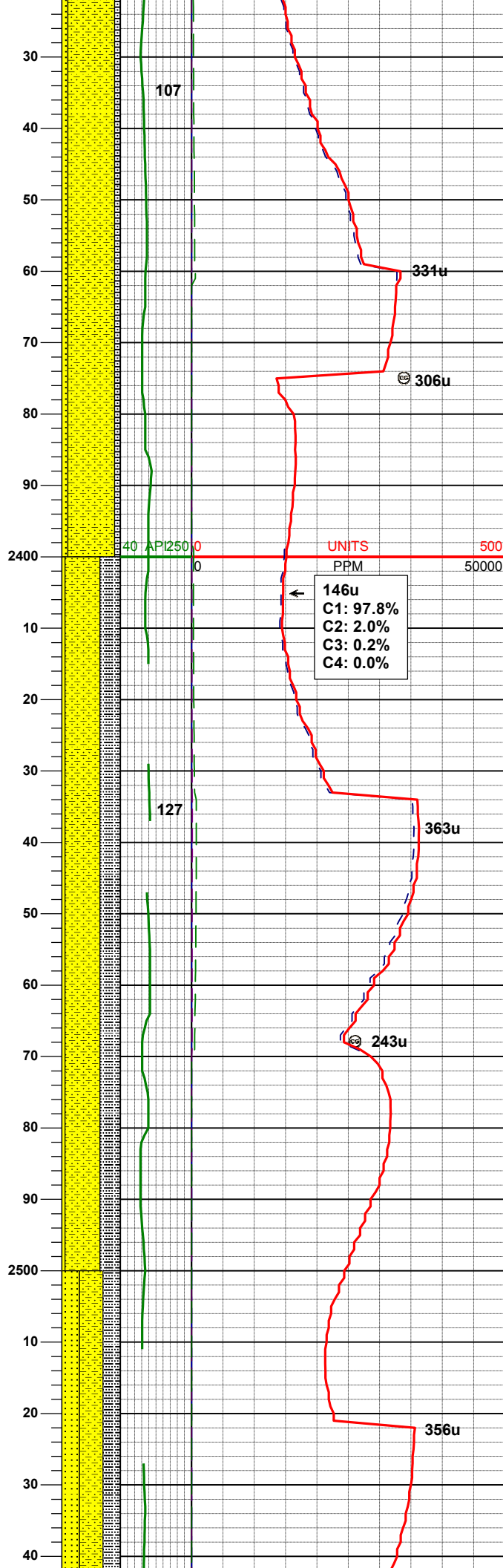| MD	2226'
INC	14.4°
AZM	253.7°
TVD	2205.99'

SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc
SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt -sdy tex, arg cmt
SS: ltgy-gy-trnsl, sbang-ang, p ind, fgr, psrt, wrndd, arg cmt, tr lit frag, tr glau

MD	2321'
INC	14.6°

107

SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc
SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt -sdy tex, arg cmt
SS: ltgy-gy-trnsl, sbang-ang, p ind, fgr, psrt, wrndd, arg cmt, tr lit frag, tr glau

331u

306u

0   FT/HR 2000

40 API 250

0   2400

UNITS   500

0   PPM   50000

146u
C1: 97.8%
C2: 2.0%
C3: 0.2%
C4: 0.0%

MD   2416'
INC   14.5°
AZM   256.4°
TVD 2389.83'

127

363u

SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc
SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt -sdy tex, arg cmt
SS: ltgy-gy-trnsl, sbang-ang, p ind, fgr, psrt, wrndd, arg cmt, tr lit frag, tr glau

WT IN 8.40/ OUT 8.40
VIS IN 27/ OUT 27

243u

2500

MD   2510'
INC   14.5°
AZM   256.5°
TVD 2480.83'

356u

SHYSS: ltgy-gy, s&p ip, sbang, v fri

108

50

60

289u

70

80

242u
C1: 98.7%
C2: 1.3%
C3: 0.0%
C4: 0.0%

90

SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt
-sdy tex, arg cmt
SS: ltgy-gy-trnsl, sbang-ang, p ind,
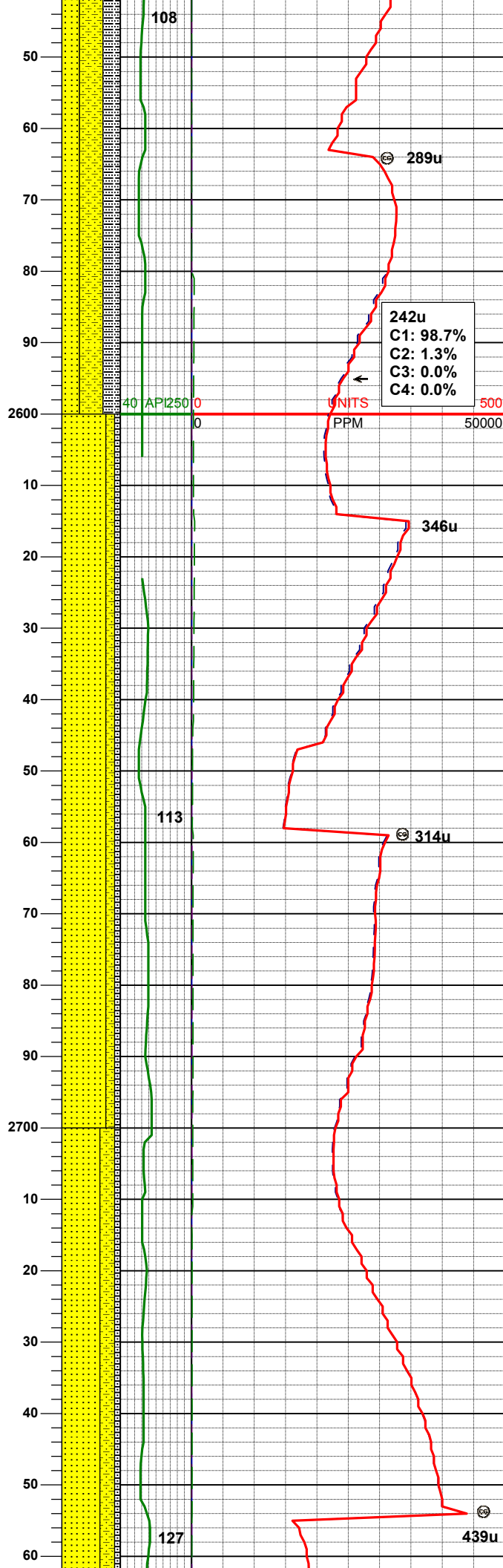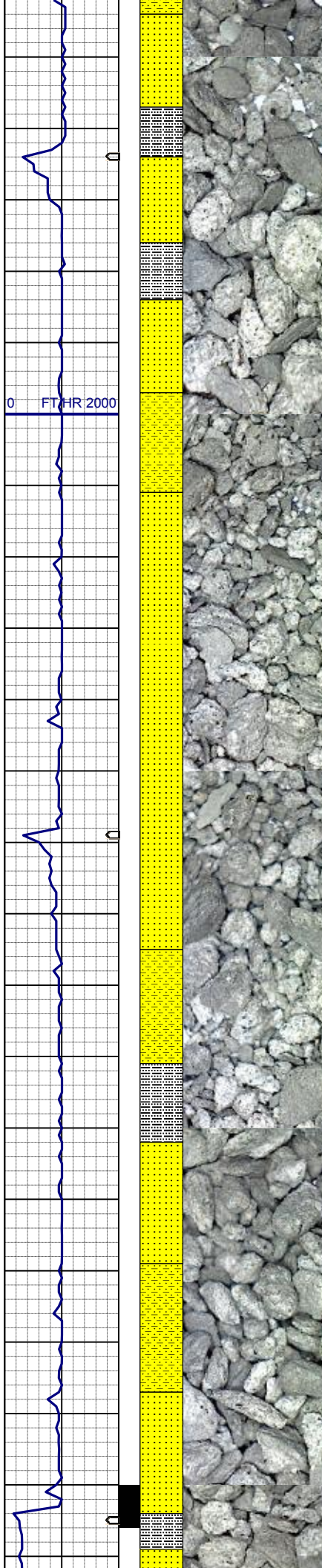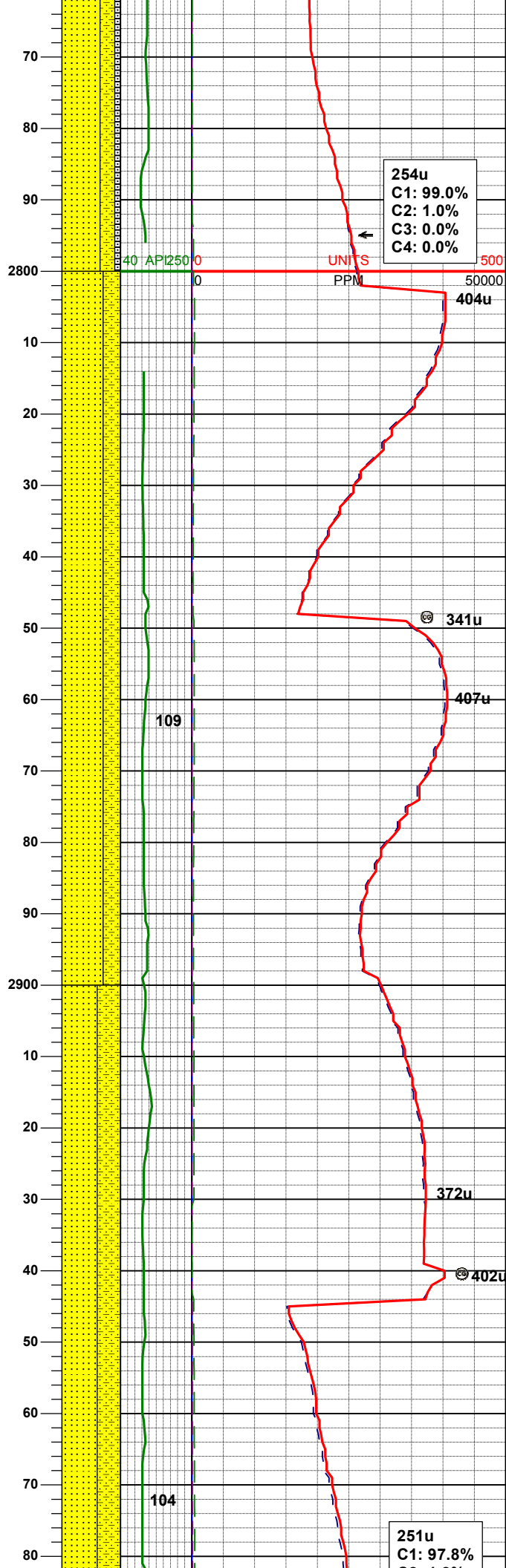fgr, psrt, wrndd, arg cmt, tr lit frag, tr
glau

0 FT/HR 2000

40 API 250   0   UNITS   500

2600   0   PPM   50000

10

346u

20

30

40

SS: ltgy-wh-trnsl, sbang-ang, p ind,
fgr, psrt, wrndd, arg cmt, tr lit frag, tr
glau
SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt, sl
calc
SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt
tex, arg cmt

50

113

60   314u

70

80

90

MD   2605'
INC   14.9°
AZM   257.9°
TVD   2572.73'

MD   2700'
INC   15.0°
AZM   257.6°
TVD   2664.51'

2700

10

20

30

40

SS: ltgy-wh-trnsl, sbang-ang, p ind,
fgr, psrt, wrndd, arg cmt, tr lit frag, tr
glau
SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt, sl
calc
SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt
tex, arg cmt

50

127   439u

60

0 FT/HR 2000

254u
C1: 99.0%
C2: 1.0%
C3: 0.0%
C4: 0.0%

40 API 250 0 UNITS 500

70

80

90

2800 0 PPM 50000

404u

10

20

30

40

SS: gy-wh-trnsl, sbang-ang, p ind, fgr, psrt, wrndd, arg cmt, tr lit frag, tr glau
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc

50 341u

60 407u

109

70

80

MD   2890'
INC   14.4°
AZM   252.9°
TVD 2848.12'

90

2900

10

20

30 372u

40 402u

SS: gy-wh-trnsl, sbang-ang, p ind, fgr, psrt, wrndd, arg cmt, tr lit frag, tr glau
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc

50

60

70

104

80

251u
C1: 97.8%

MD   2984'

MD   2795'
INC   15.1°
AZM   253.9°
TVD 2756.25'

Depth track labels: 90, 3000, 10, 20, 30, 40, 50, 60, 70, 80, 90, 3100, 10, 20, 30, 40, 50, 60, 70, 80, 90, 3200

FT/HR 2000

C2: 1.8%
C3: 0.3%
C4: 0.0%

INC   13.8°
AZM   257.1°
TVD 2939.29'

360u

40 API 250   0   UNITS   2000
0   PPM   200000

GAS SCALE CHANGE

372u

SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt, sl
calc
SS: gy-wh-trnsl, sbang-ang, p ind, fgr,
psrt, wrndd, arg cmt, tr lit frag, tr glau
SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt
-slty tex, arg cmt

127

MD   3079'
INC   12.1°
AZM   253.6°
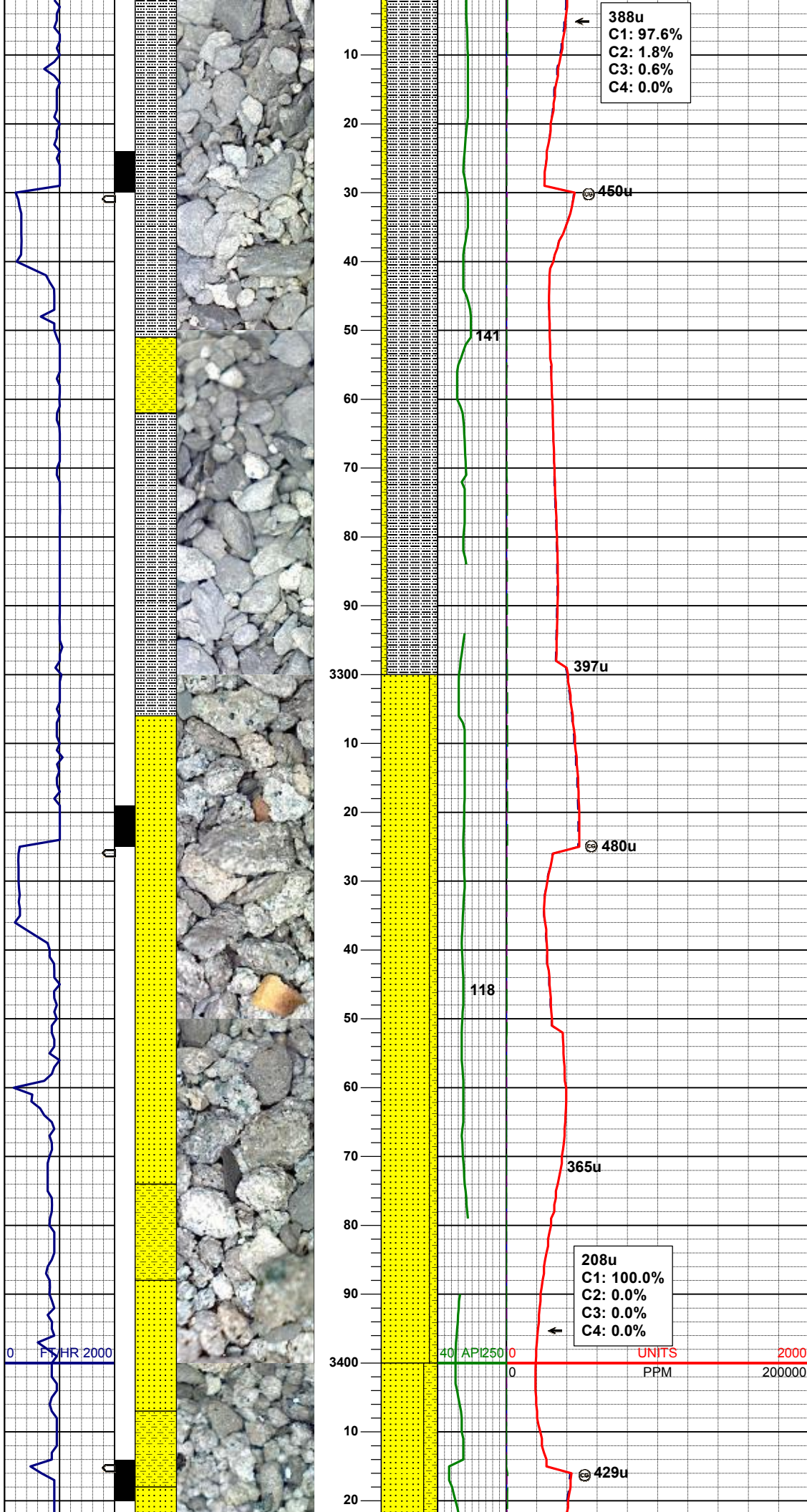TVD 3031.87'

491u

465u

SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt
-slty tex, arg cmt
SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt, sl
calc
SS: gy-wh-trnsl, sbang-ang, p ind, fgr,
psrt, wrndd, arg cmt, tr lit frag, tr glau

155

MD   3174'
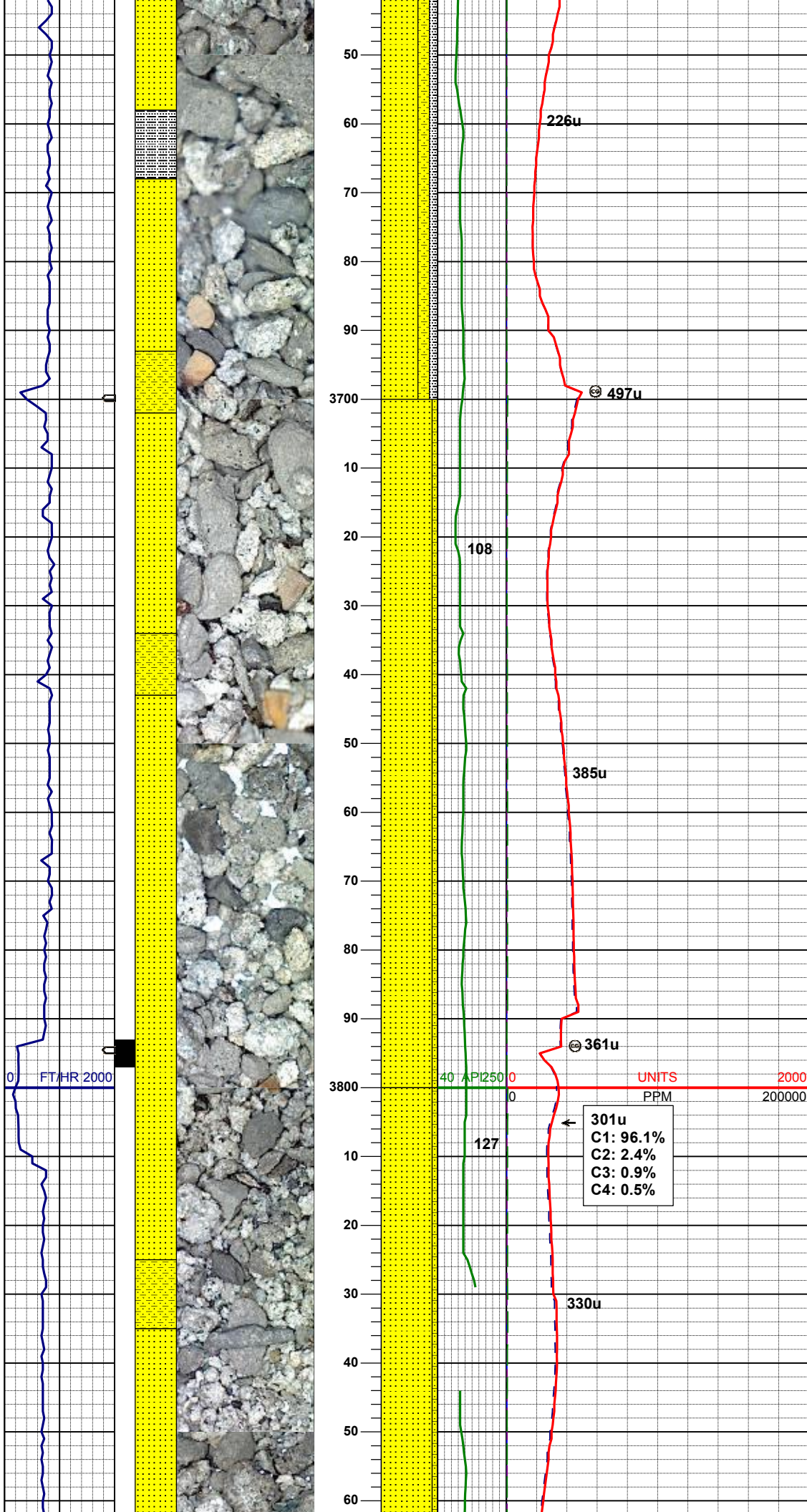INC   11.9°
AZM   257.6°
TVD 3124.80'

386u

40 API 250   0   UNITS   2000
0   PPM   200000

388u
C1: 97.6%
C2: 1.8%
C3: 0.6%
C4: 0.0%

450u

141

SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt
-slty tex, arg cmt
SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt, sl
calc

MD	3269'
INC	12.4°
AZM	259.2°
TVD	3217.67'

397u

480u

118

365u

208u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%

SS: gy-wh-trnsl, sbang-ang, p ind, fgr,
psrt, wrndd, arg cmt, tr lit frag, tr glau
SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt, sl
calc

MD	3364'
INC	13.8°
AZM	256.5°
TVD	3310.20'

429u

0   FT/HR 2000

40 API 250   0   UNITS   2000
0   PPM   200000

SS: gy-wh-trnsl, sbang-ang, p ind, fgr,
psrt, wrndd, arg cmt, tr lit frag, abnt
glau
SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt, sl
calc

MD	3459'
INC	14.9°
AZM	257.2°
TVD	3402.23'

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

SS: gy-wh-trnsl, sbang-ang, p ind, fgr,
psrt, wrndd, arg cmt, tr lit frag, tr glau
SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt, sl
calc
SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt
-slty tex, arg cmt

MD	3554'
INC	15.4°
AZM	256.5°
TVD	3493.93'

104

452u

402u

113

359u

260u
C1: 99.5%
C2: 0.5%
C3: 0.0%
C4: 0.0%

416u

108

0   FT/HR 2000

40   API 250

0   UNITS   2000

0   PPM   200000

MD	3648'
INC	16.6°
AZM	255.0°
TVD	3584.29'

30
40
50
60
70
80
90
3500
10
20
30
40
50
60
70
80
90
3600
10
20
30
40

SS: gy-wh-trnsl, sbang-ang, p ind, fgr, psrt, wrndd, arg cmt, tr lit frag, tr glau
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc
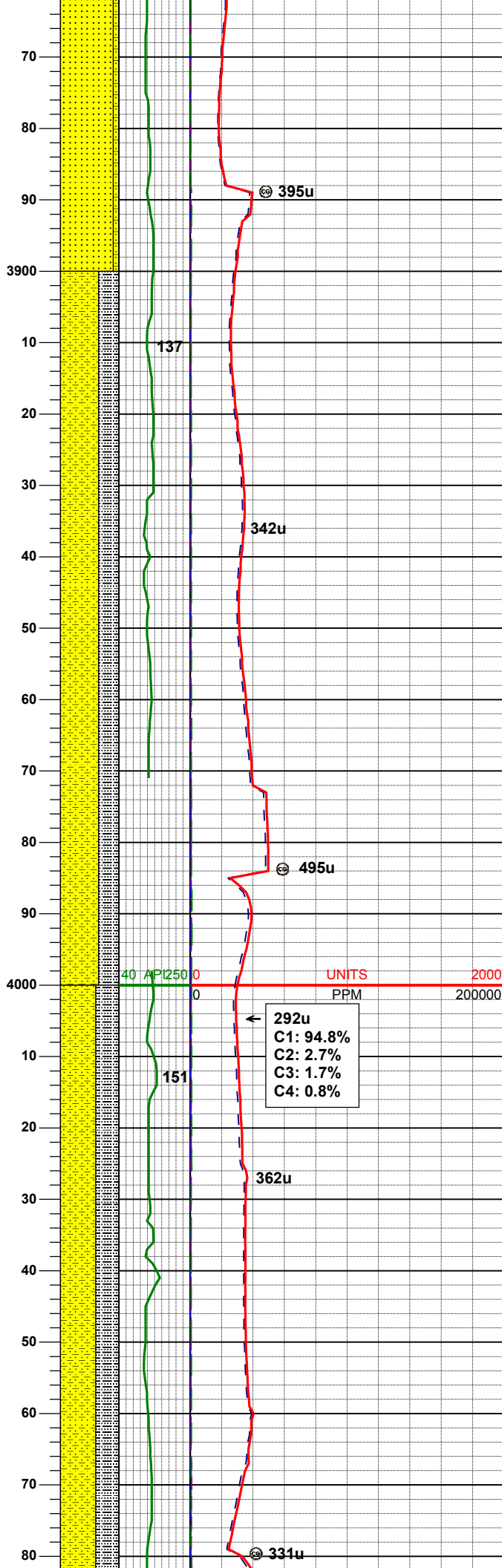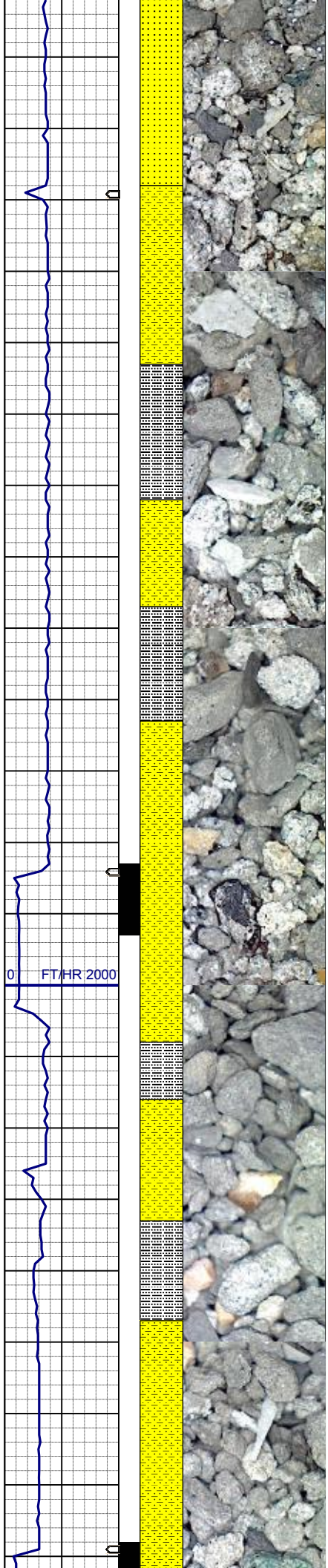SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt-slty tex, arg cmt

226u

497u

108

MD	3743'
INC	17.5°
AZM	255.5°
TVD	3675.11'

SS: gy-wh-trnsl, sbang-ang, p ind, fgr, psrt, wrndd, arg cmt, tr lit frag, tr glau
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc

385u

361u

0 FT/HR 2000

40 API 250   0   UNITS   2000

0   PPM   200000

301u
C1: 96.1%
C2: 2.4%
C3: 0.9%
C4: 0.5%

127

330u

MD	3838'
INC	17.1°
AZM	255.5°
TVD	3765.81'

SS: gy-wh-trnsl, sbang-ang, p ind, fgr, psrt, wrndd, arg cmt, tr lit frag, tr glau
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc
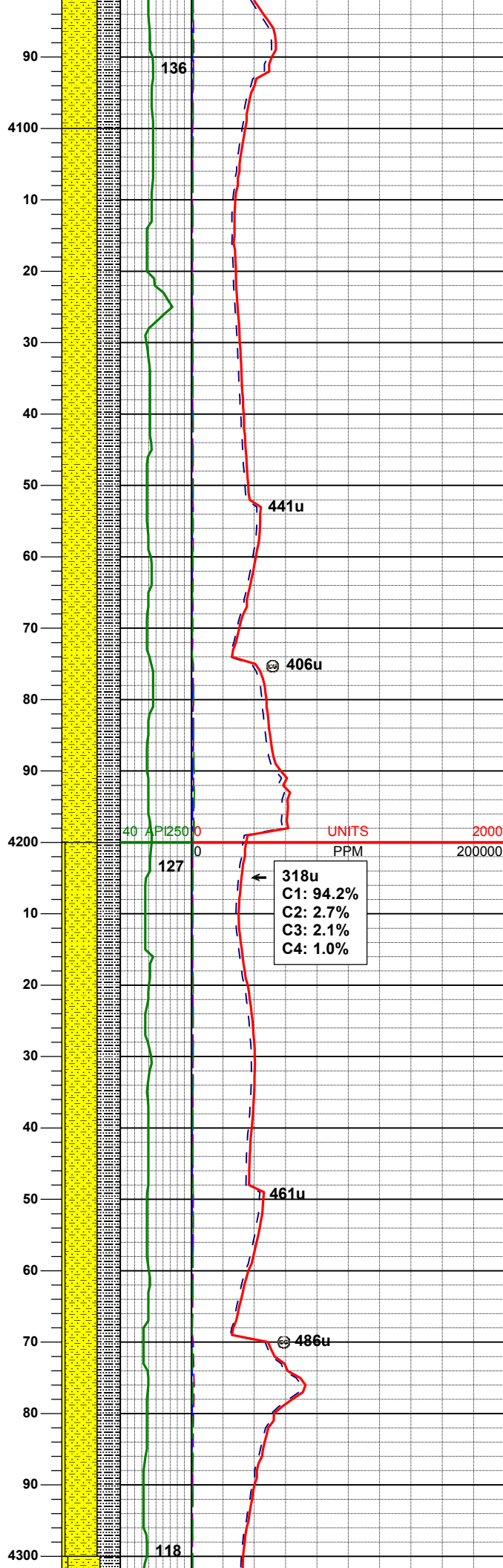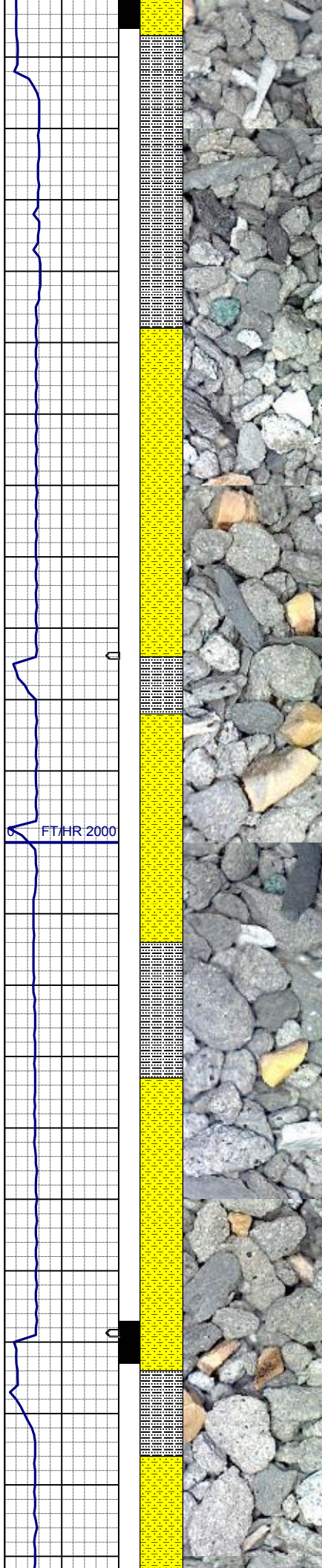
70
80
90
3900
10
20
30
40
50
60
70
80
90
4000
10
20
30
40
50
60
70
80

395u

137

342u

495u

40 API 250 | 0 UNITS 2000
0 PPM 200000

292u
C1: 94.8%
C2: 2.7%
C3: 1.7%
C4: 0.8%

151

362u

331u

0 FT/HR 2000

MD	3933'
INC	15.6°
AZM	252.9°
TVD	3856.97'

SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc
SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt-slty tex, arg cmt

MD	4028'
INC	14.6°
AZM	256.0°
TVD	3948.69'

SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc
SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt-slty tex, arg cmt

Depth track markings (left to right): FT/HR 2000

Depth scale: 90, 4100, 10, 20, 30, 40, 50, 60, 70, 80, 90, 4200, 10, 20, 30, 40, 50, 60, 70, 80, 90, 4300

Gas curve track: 40 API 250 | 0 ... UNITS ... 2000 | 0 ... PPM ... 200000

136

441u

406u

127

318u
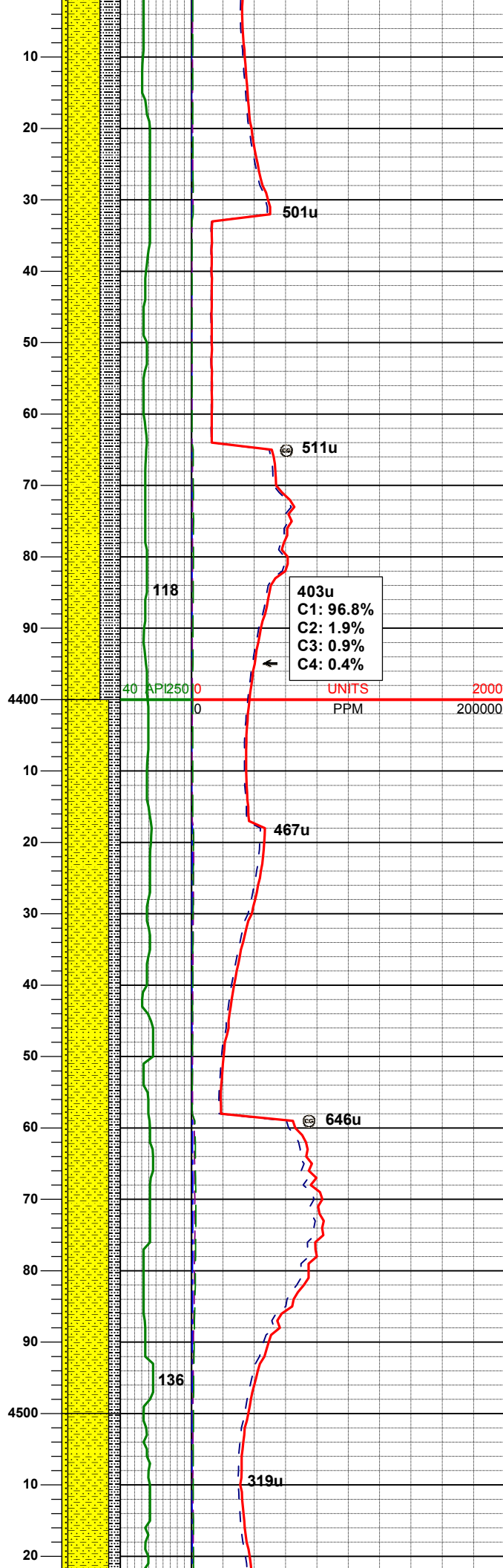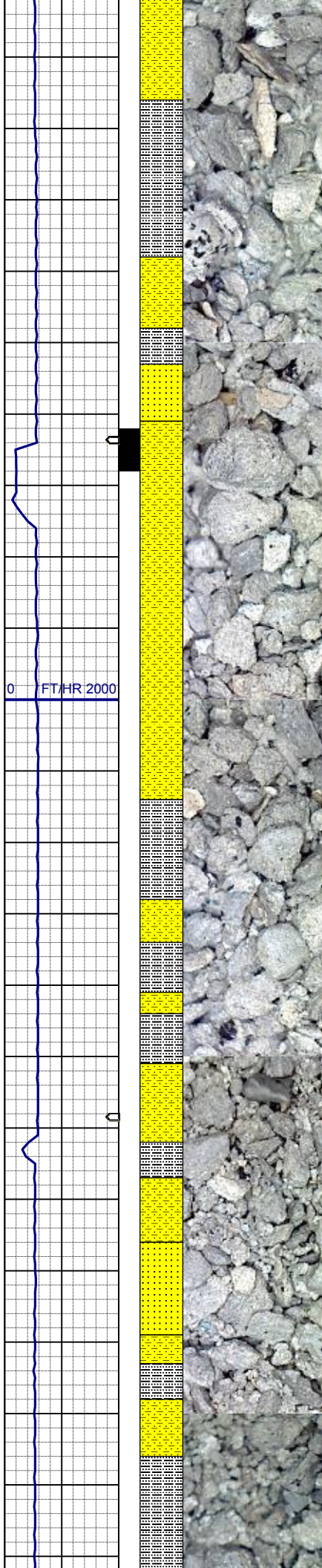C1: 94.2%
C2: 2.7%
C3: 2.1%
C4: 1.0%

461u

486u

118

MD 4122'
INC 14.1°
AZM 255.5°
TVD 4039.76'

SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc
SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt-slty tex, arg cmt

MD 4217'
INC 13.3°
AZM 254.3°
TVD 4132.05'

SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc
SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt-slty tex, arg cmt
SS: gy-wh-trnsl, sbang-ang, p ind, fgr, psrt, wrndd, arg cmt, tr lit frag, tr glau
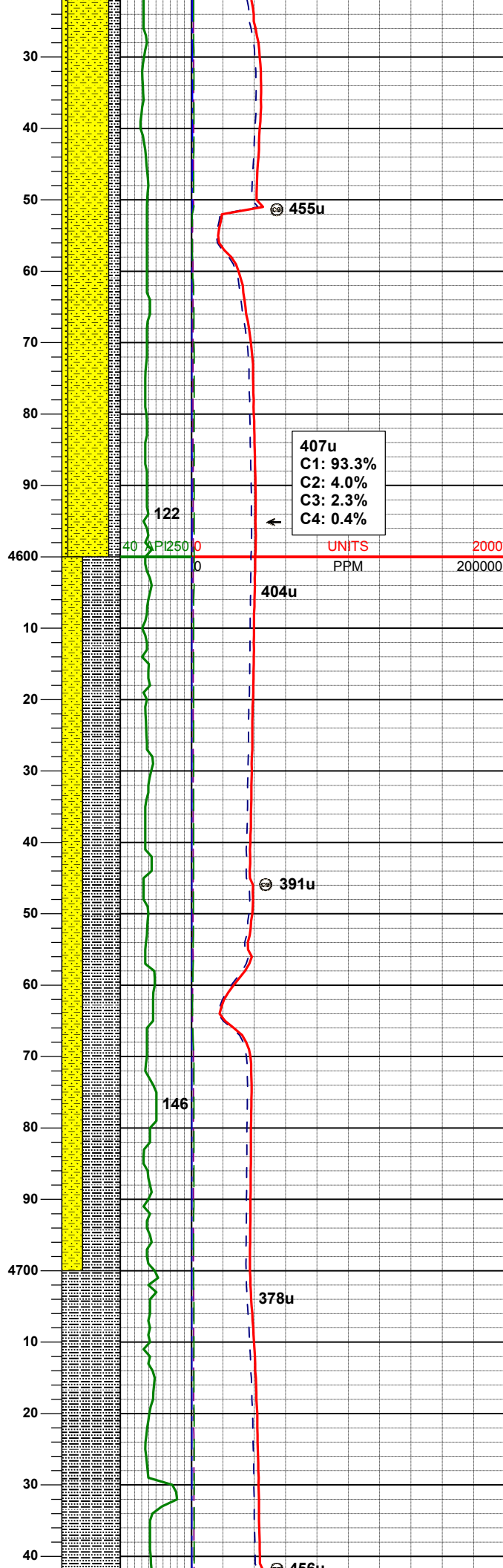
10

20

30

501u

40

SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc
SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt -slty tex, arg cmt
SS: gy-wh-trnsl, sbang-ang, p ind, fgr, psrt, wrndd, arg cmt, tr lit frag, tr glau

50

60

511u

70

80

118

403u
C1: 96.8%
C2: 1.9%
C3: 0.9%
C4: 0.4%

90

0   FT/HR 2000

40 API250   0   UNITS   2000
0   PPM   200000

4400

MD 4407'
INC 12.8°
AZM 255.7°
TVD 4317.24'

10

467u

20

30

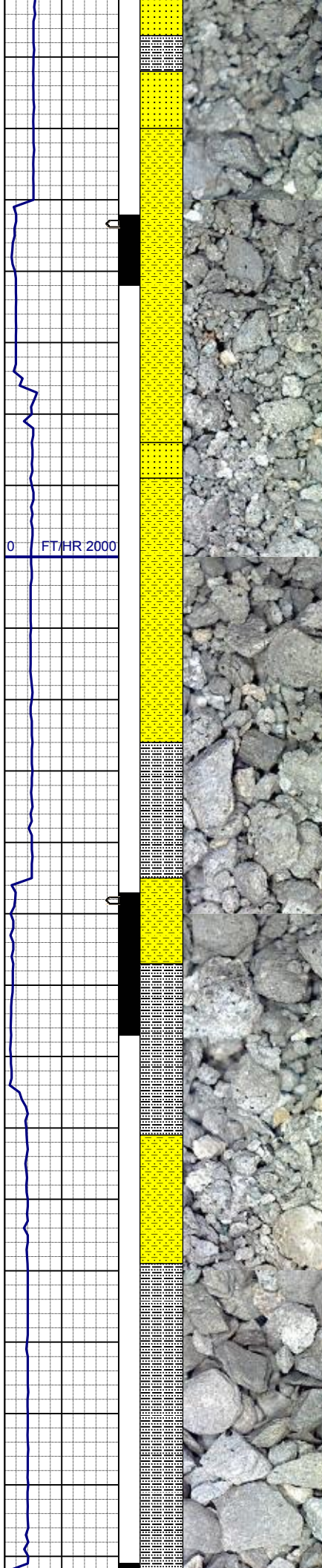WT IN 9.00/ OUT 9.00
VIS IN 30/ OUT 30

40

SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc
SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt -slty tex, arg cmt
SS: gy-wh-trnsl, sbang-ang, p ind, fgr, psrt, wrndd, arg cmt, tr lit frag, tr glau

50

646u

60

70

80

90

136

4500

MD 4502'
INC 10.8°
AZM 257.1°
TVD 4410.23'

10

319u

20

Depth scale (left track): 0 FT/HR 2000

Gamma/gas track labels: 40 API 250, 0 UNITS 2000, 0 PPM 200000

Depth markers: 30, 40, 50, 60, 70, 80, 90, 4600, 10, 20, 30, 40, 50, 60, 70, 80, 90, 4700, 10, 20, 30, 40

Gas/formation annotations:
- 455u
- 407u
  - C1: 93.3%
  - C2: 4.0%
  - C3: 2.3%
  - C4: 0.4%
- 122
- 404u
- 391u
- 146
- 378u
- 456u

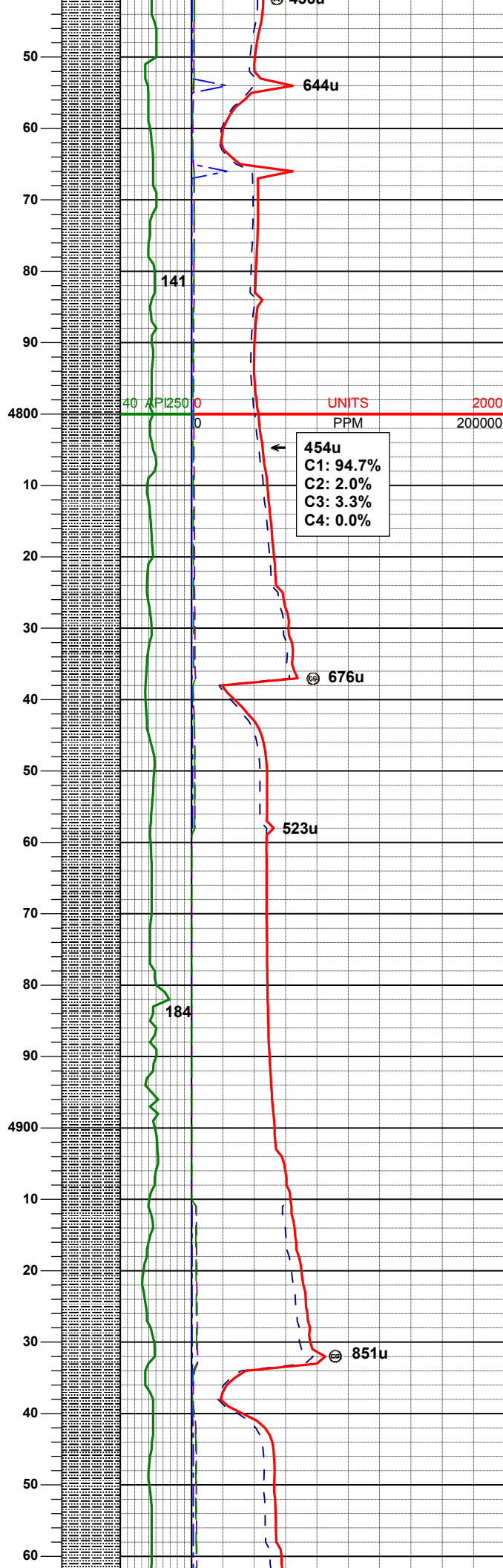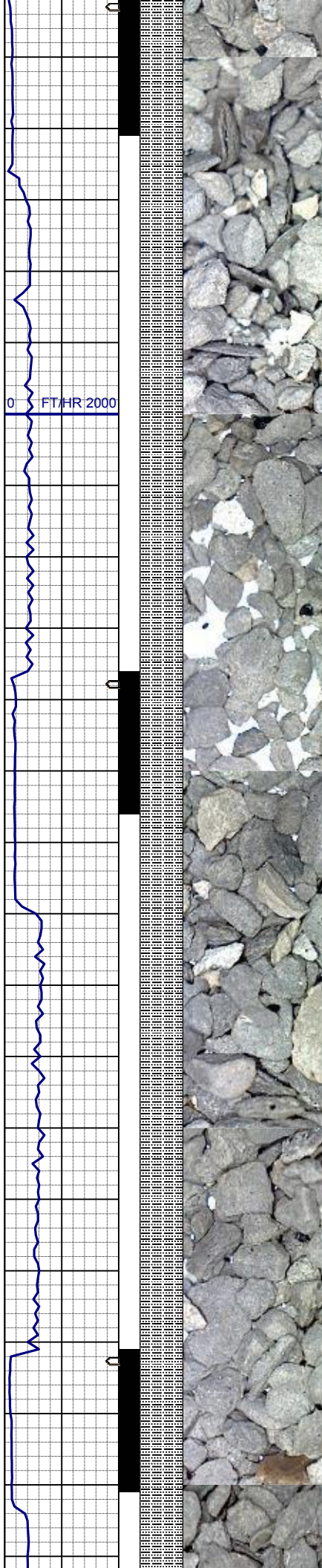Lithology descriptions (right column):

SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc

SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt-slty tex, arg cmt

SS: gy-wh-trnsl, sbang-ang, p ind, fgr, psrt, wrndd, arg cmt, tr lit frag, tr glau

SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt-slty tex, arg cmt

SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc

Survey data boxes:

MD	4597'
INC	10.0°
AZM	253.2°
TVD	4503.67'

WT IN 9.20/ OUT 9.20
VIS IN 35/ OUT 35

MD	4691'
INC	8.9°
AZM	248.8°
TVD	4596.39'

SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt
-slty tex, arg cmt

50

60

70

WT IN 9.40/ OUT 9.40
VIS IN 35/ OUT 35

644u

80

141

90

MD	4786'
INC	8.7°
AZM	253.2°
TVD	4690.27'

4800

0 FT/HR 2000

40 API250 0   UNITS   2000
                     0   PPM   200000

454u
C1: 94.7%
C2: 2.0%
C3: 3.3%
C4: 0.0%

10

20

30

676u

SLTYSH: lt gy - gy, sbblky - sbplty,
mod firm, gt - slty tex, arg cmt, non
calc

40

50

523u

60

70

80

184

90

MD	4881'
INC	9.0°
AZM	259.0°
TVD	4784.14'

4900

10

20

30

851u

SLTYSH: lt gy - gy, sbblky - sbplty,
mod firm, gt - slty tex, arg cmt, non
calc

40

50

60

0 FT/HR 2000

70

80

132

815u

90

5000

40 API 250 0 UNITS 2000
0 PPM 200000

→ **936u**
C1: 88.2%
C2: 5.0%
C3: 5.9%
C4: 0.9%

10

20

1139u

30

40

SLTYSH: lt gy - gy, sbblky - sbplty,
mod firm, gt - slty tex, arg cmt, non
calc

50

60

132

70

969u

80

90

5100

10

1245u

20

30

SLTYSH: lt gy - gy, sbblky - sbplty,
mod firm, gt - slty tex, arg cmt, non
calc

40

50

1315u

60

141

70

80
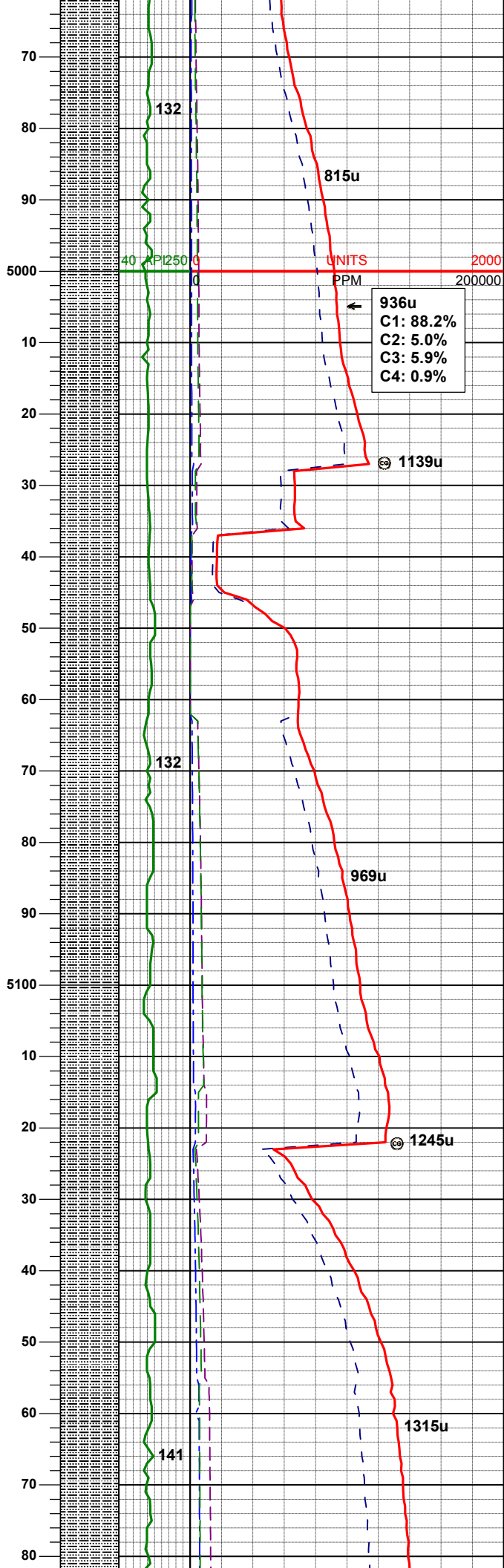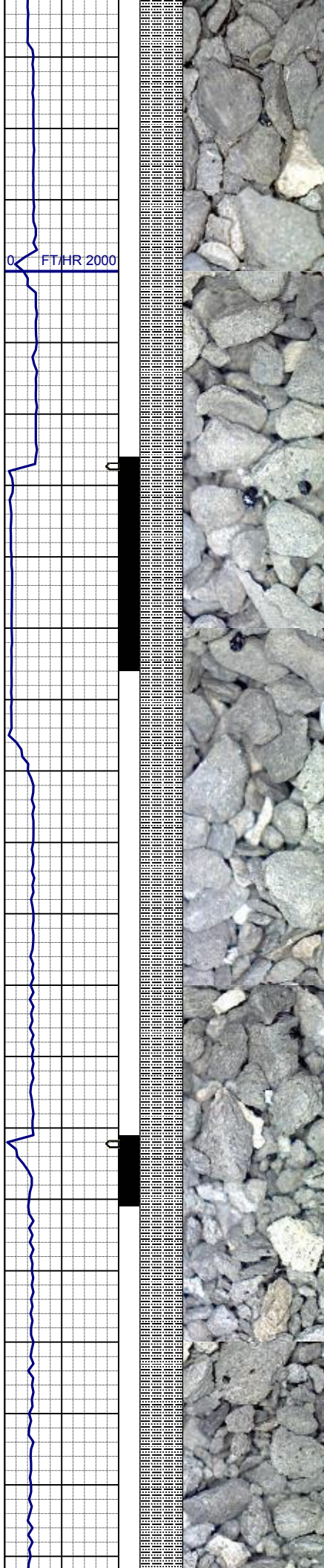
MD	4976'
INC	8.8°
AZM	260.9°
TVD	4878.00'

**WT IN 9.40+/ OUT 9.40+
VIS IN 34/ OUT 34**

MD	5071'
INC	9.8°
AZM	261.5°
TVD	4971.75'

**WT IN 9.50/ OUT 9.50
VIS IN 34/ OUT 34**

90

5200

10

20

30

40

50

0 FT/HR 2000

40 API 250

UNITS 2000

0 PPM 200000

1473u
C1: 81.9%
C2: 4.5%
C3: 9.3%
C4: 4.3%

1544u

TD @ 5216' MD
05/23/2013 @ 11:54 AM

LOG CONTINUES ON LPLOT
"TIMBRO LD19-73HN HORZ"