OPERATOR:	**NOBLE ENERGY INC.**
WELL:	**SLW RANCH B01-62-1HN**
LOCATION:	**SESE SEC 1, T5N, R64W**
COUNTY:	**WELD**
STATE:	**COLORADO**
SPOT:	**987' FSL, 1077' FEL**
ELEVATION:	**GR 4,604' KB 4,634'**
FIELD:	**WATTENBERG**
SPUD DATE:	**03/25/2013**
TD DATE:	**03/27/2013**
DATES LOGGED:	**03/26/2013 - 03/27/2013**
DEPTHS LOGGED:	**700' MD - 6037' MD**
LOGGERS:	**ANDREA ZUIDEMA, CHRISTIAN VENTURINO**
DRILLING FLUID:	**LSND**
DRILLING RIG:	**H&P 326**
API:	**05-123-36260**
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

							GAS		
ROP	SLIDE / ROTATE	INTERPRETIVE LITHOLOGY	PICTURES	DEPTH (FEET)	CUTTINGS		0 UNITS 400		LITHOLOGY DESCRIPTION
							C1		
							0 PPM 40000		
							C2		
							0 PPM 40000		
							C3		
							0 PPM 40000		
						GAMMA	**C4**		
0 FT/HR 2000						0 API 200	0 PPM 40000		

650

COLUMBINE LOGGING INC. RIGGED UP ON 03/26/2013 MANNED 2-PERSON LOGGING WITH BLOODHOUND GAS CHROMATOGRAPH UNIT #0298 COLUMBINE BEGAN LOGGING ON 03/26/2013

60

70

**BHA BIT:
SMITH 8.75", Mdi516
Serial #: JG4637
Jets: 5x14**

80

Drilled out of

90

700

10

20

30

40

160u

50

77

60

70

80

⊗ 174u

90

0 FT/HR 2000

0 API200 0 UNITS 400
800
0 PPM 40000

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

10

20

135u

30

40

50

74

60

70

80

⊗ 148u

90

900

MD 738'
INC 0.5°
AZM 134.6°
TVD 738.00'

SS: wh - lt gy, mod firm,sbblky - sb
rndd, arg cmt
SHYSS: lt gy - gy, f gr, sbang -
sbrndd, mod srt, mod sft - frm, tr
phlog, arg cmt
30% Cement
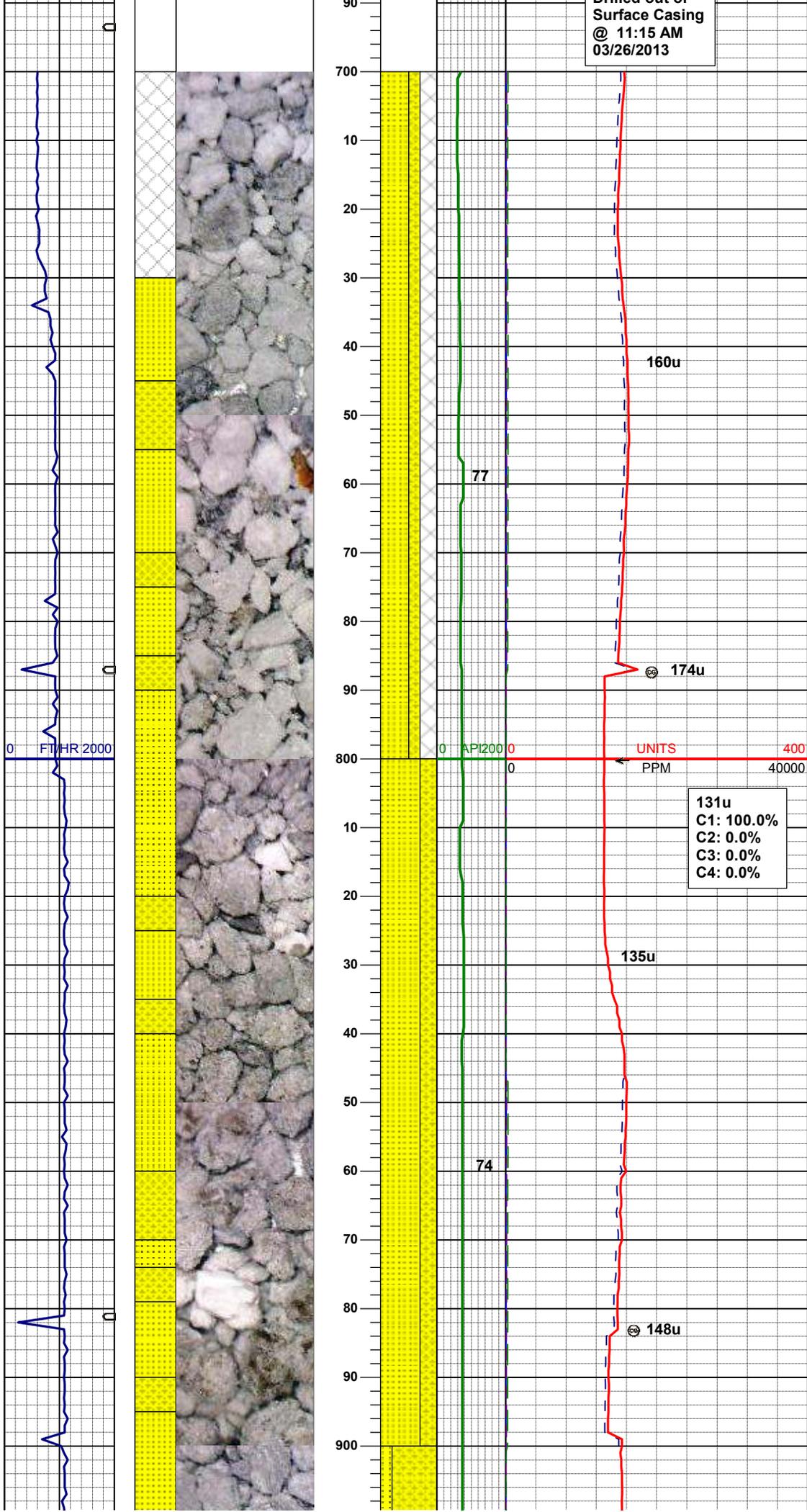
SS: wh - lt gy, mod firm,sbblky - sb
rndd, arg cmt
SHYSS: lt gy - gy, f gr, sbang -
sbrndd, mod srt, mod sft - frm, tr
phlog, arg cmt

150u

122u

SHYSS: lt gy - gy, f gr, sbang - sbrndd, mod srt, mod sft - frm, tr phlog, arg cmt
SS: wh - lt gy, mod firm,sbblky - sb rndd, arg cmt

74

0 FT/HR 2000

0 API200 0 UNITS 400

1000

0 PPM 40000

123u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%
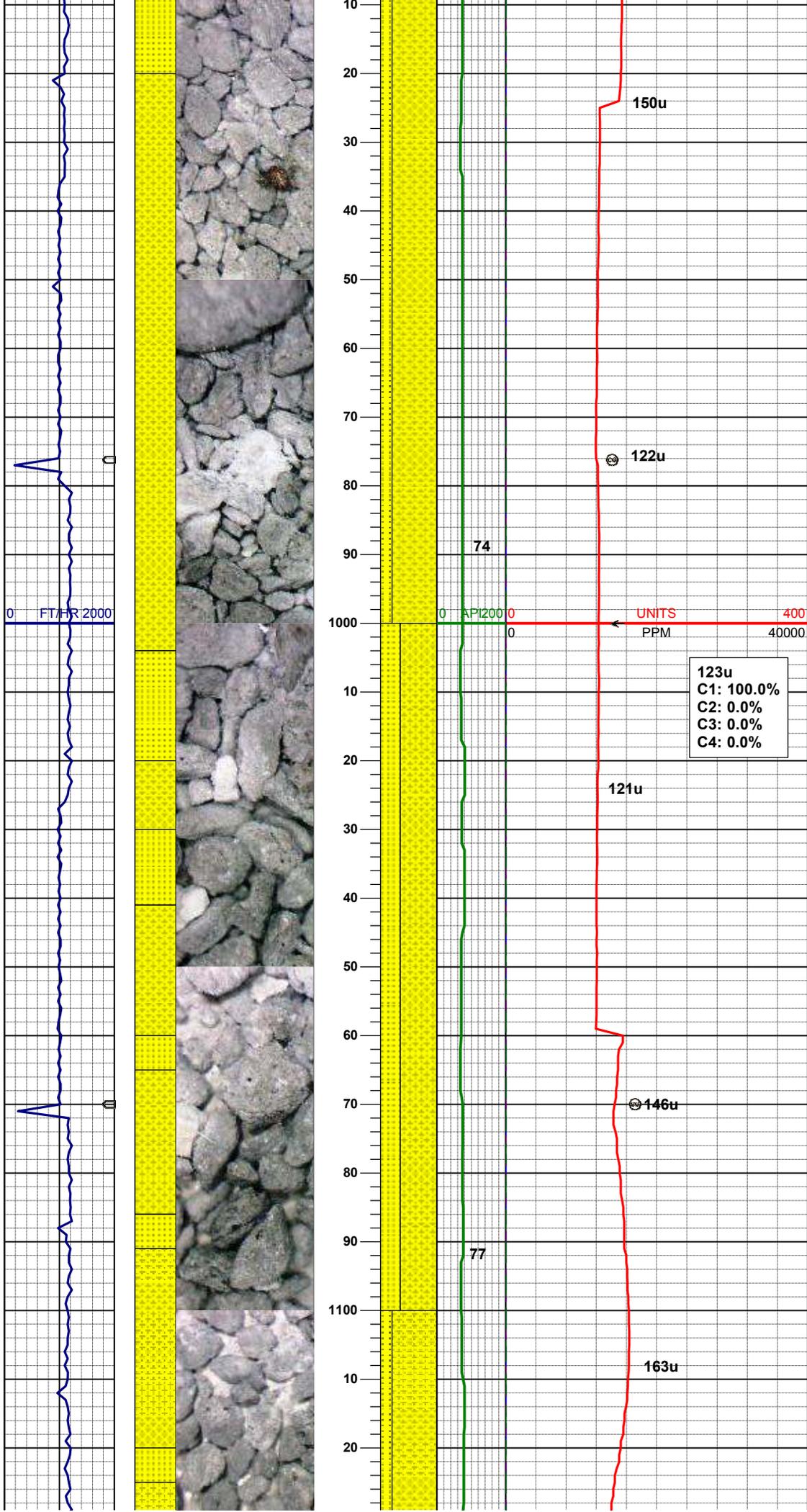
MD	1021'
INC	0.8°
AZM	139.7°
TVD	1020.98'

121u

SHYSS: lt gy - gy, f gr, sbang - sbrndd, mod srt, mod sft - frm, tr phlog, arg cmt
SS: wh - lt gy, mod firm,sbblky - sb rndd, arg cmt

146u

WT IN 8.60/ OUT 8.60
VIS IN 27/ OUT 27
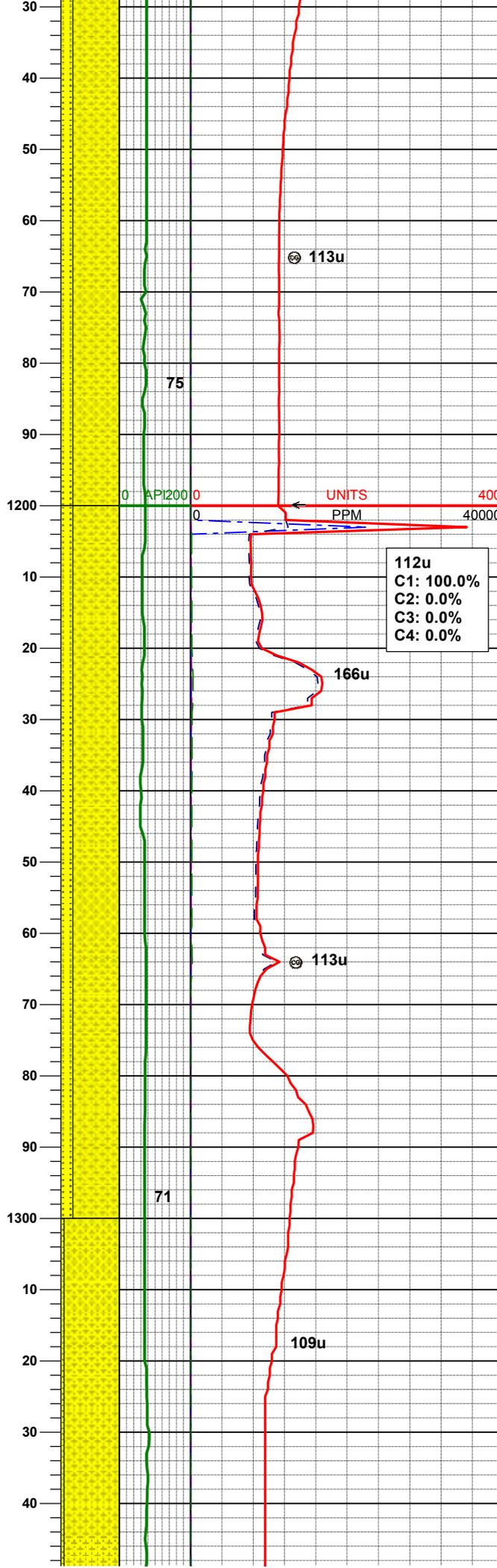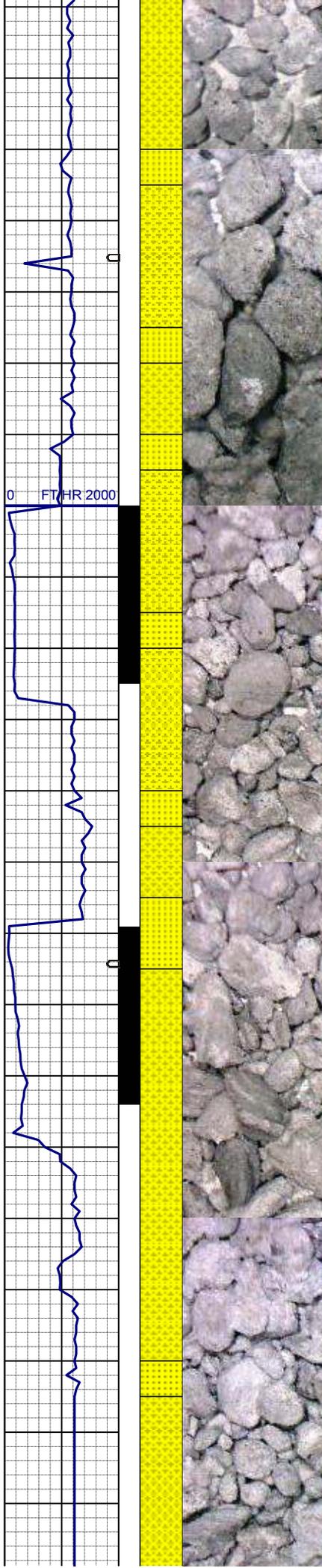
77

1100

163u

Depth track (left to right axes):

0 FT/HR 2000

0 API 200 0 UNITS 400
0 PPM 40000

Depth markers (center): 30, 40, 50, 60, 70, 80, 90, 1200, 10, 20, 30, 40, 50, 60, 70, 80, 90, 1300, 10, 20, 30, 40

Gas/curve annotations:
- 113u
- 75
- 112u
  - C1: 100.0%
  - C2: 0.0%
  - C3: 0.0%
  - C4: 0.0%
- 166u
- 113u
- 71
- 109u

Lithology descriptions:

SHYSS: lt gy - gy, f gr, sbang - sbrndd, mod srt, mod sft - frm, tr phlog, arg cmt
SS: wh - lt gy, mod firm, sbblky - sb rndd, arg cmt

SHYSS: lt gy - gy, f gr, sbang - sbrndd, mod srt, mod sft - frm, tr phlog, arg cmt
SS: wh - lt gy, mod firm, sbblky - sb rndd, arg cmt

SHYSS: lt gy - gy, f gr, sbang - sbrndd, mod srt, mod sft - frm, tr

Survey boxes:

MD	1210'
INC	2.4°
AZM	128.4°
TVD	1209.90'

MD	1309'
INC	5.9°
AZM	119.8°
TVD	1308.63'

sbrndd, mod srt, mod sft - frm, tr
phlog, arg cmt
SS: wh - lt gy, mod firm,sbblky - sb
rndd, arg cmt

⊕ 118u

67

0   FT/HR 2000

0   API200 0   UNITS   400
                0   PPM   40000

1400

115u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%

100u

10

20

30

40

50

⊕ 102u

60

70

84

80

90

102u

1500

10

20

30

40

⊕ 99u

50

60

75
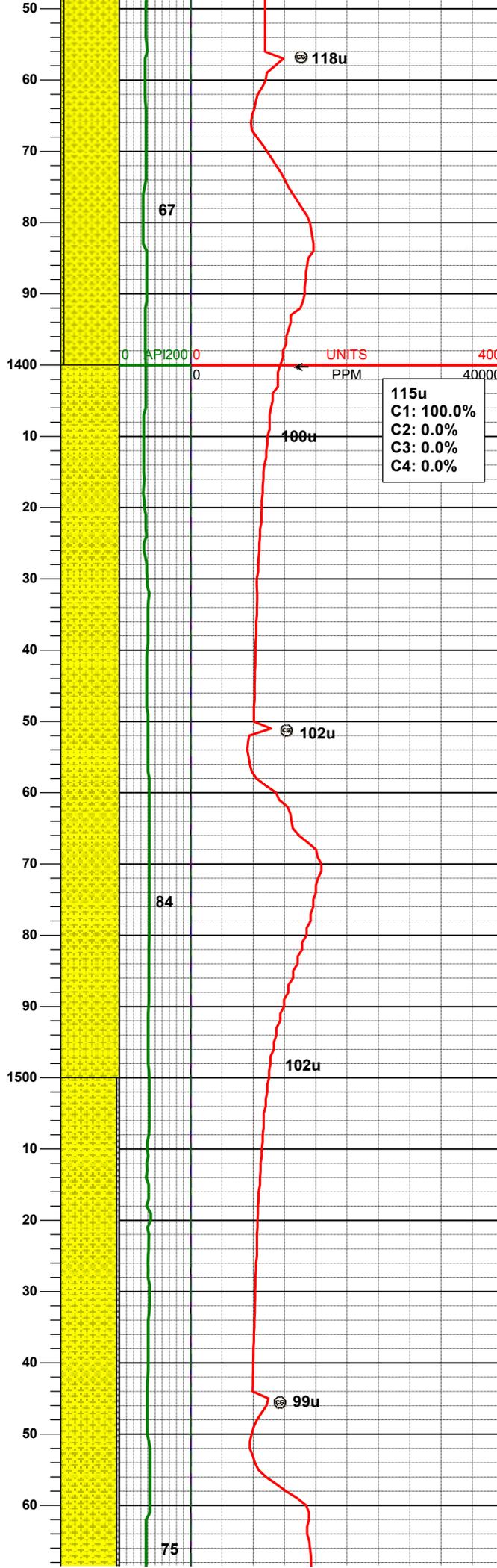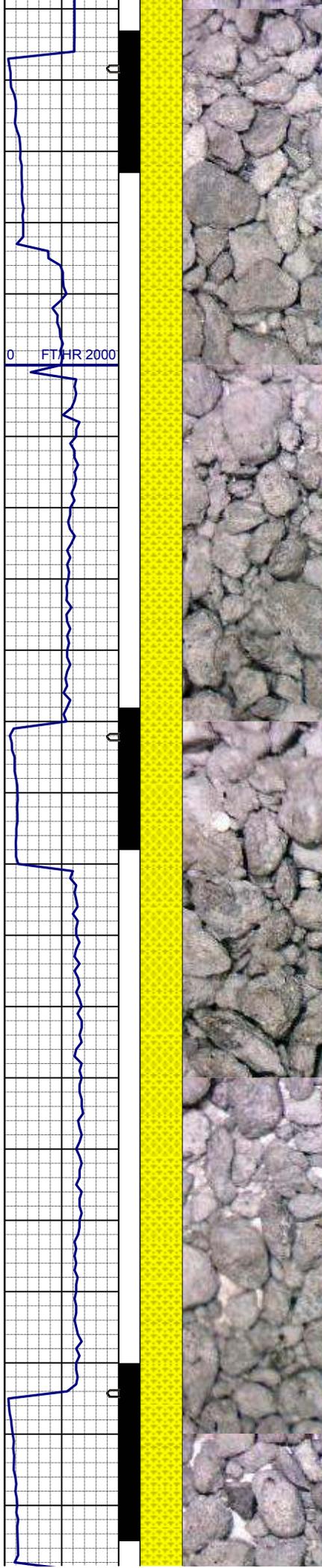
MD   1403'
INC   8.2°
AZM   113.3°
TVD 1401.91'

SHYSS: lt gy - gy, f gr, sbang -
sbrndd, mod srt, mod sft - frm, tr
phlog, arg cmt

WT IN 8.60/ OUT 8.60
VIS IN 29/ OUT 29

MD   1495'
INC   9.9°
AZM   116.5°
TVD 1492.76'

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

154u

0 FT/HR 2000

0 API 200 0 UNITS 400
0 PPM 40000

93u
C1: 100.0%
C2: 0.0%
**C3: 0.0%**
C4: 0.0%

117u

78
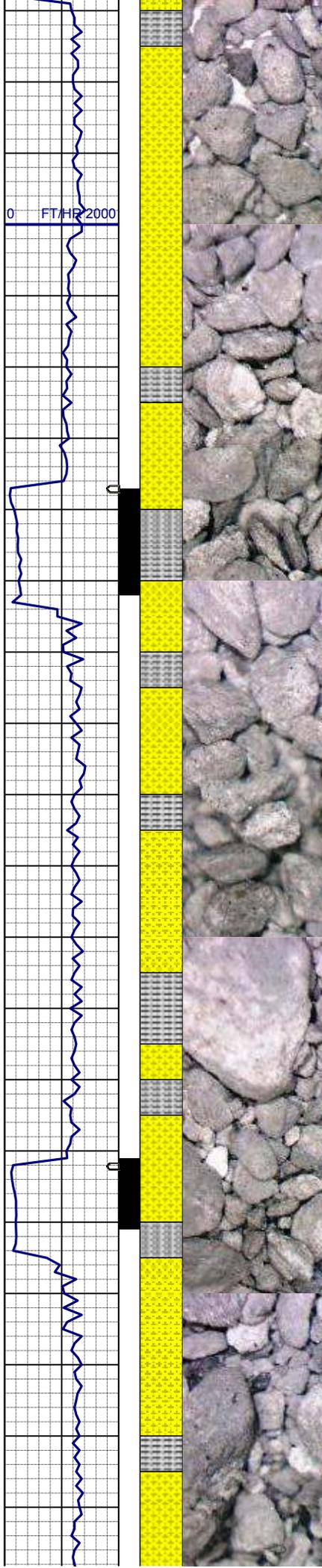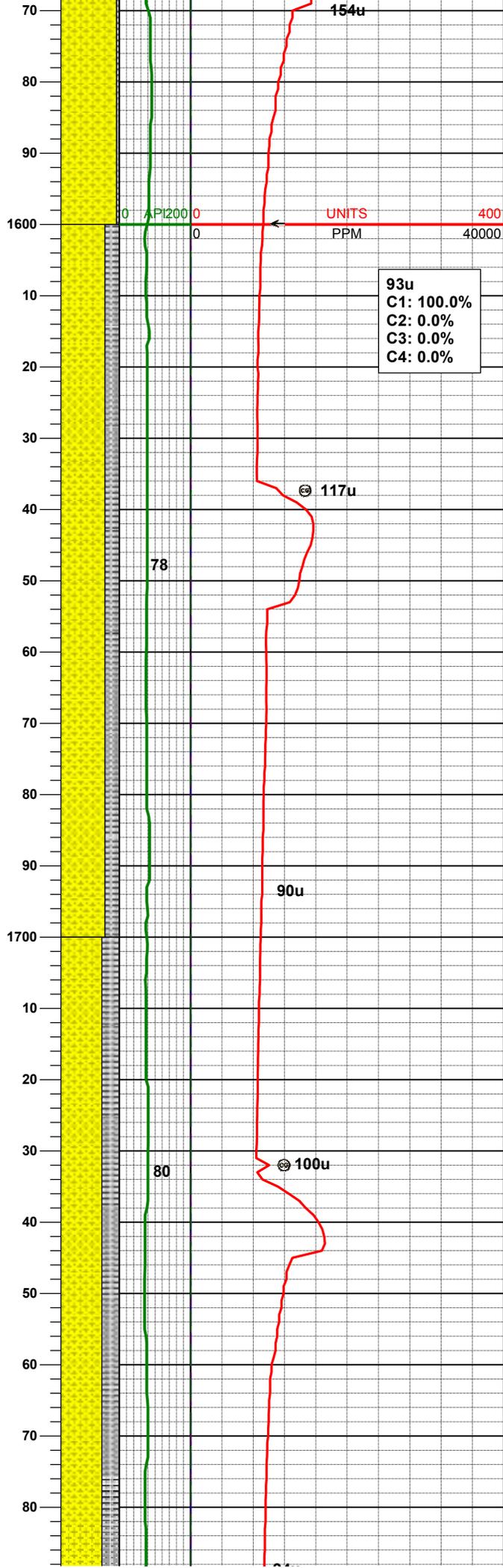
SHYSS: lt gy - gy, f gr, sbang - sbrndd, mod srt, mod sft - frm, tr phlog, tr glac, arg cmt
SLTYSH: m - lt gy-crmbrn, occ dk gy, sft - mod firm, sbblky - sbplty, noncalc

MD	1682'
INC	14.0°
AZM	109.8°
TVD	1675.59'

90u

WT IN 8.60/ OUT 8.60
VIS IN 30/ OUT 30

80 100u

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

MD	1776'
INC	15.6°
AZM	109.4°
TVD	1766.46'

94u

0 FT/HR 2000

1800

0 API200 0 UNITS 400
         0   PPM 40000
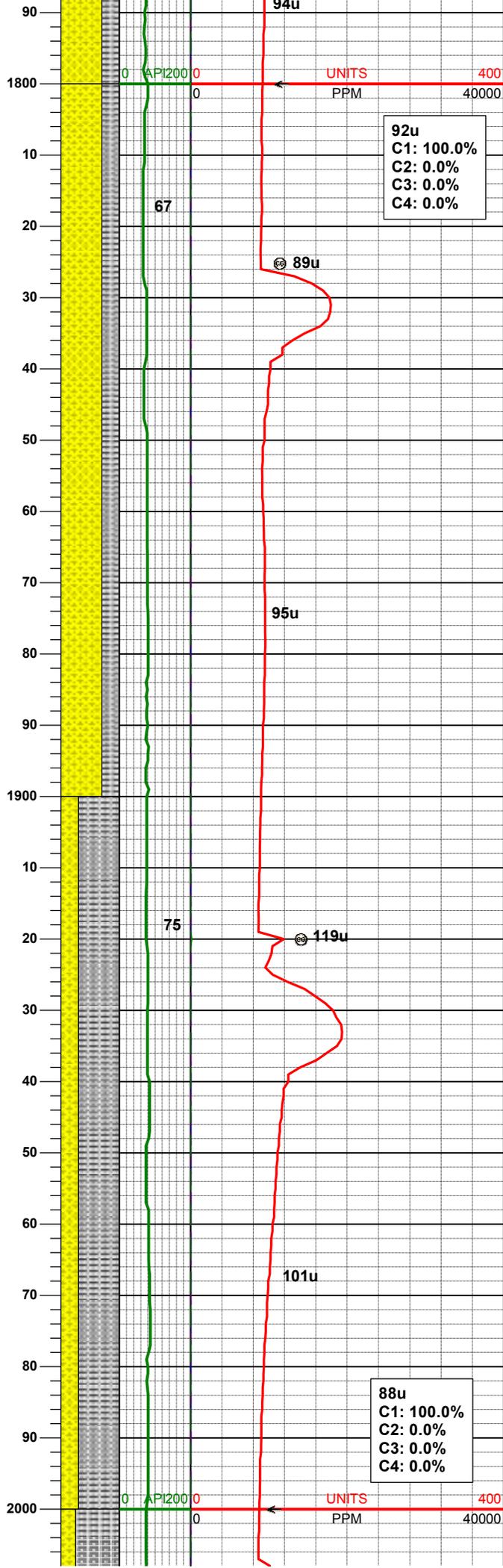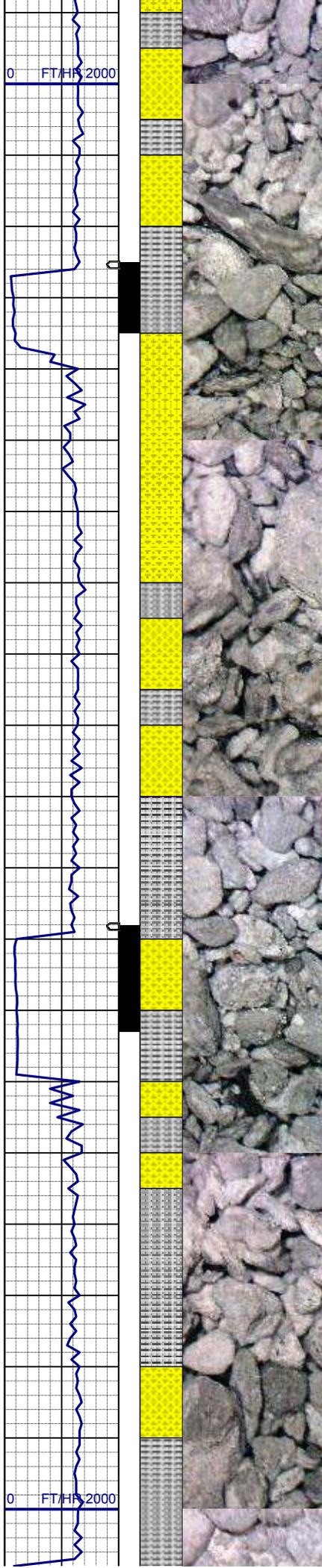
92u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%

10

67

20

⊕ 89u

30

40

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

50

60

MD	1869'
INC	16.3°
AZM	109.4°
TVD	1855.88'

70

95u

80

90

1900

WT IN 8.55/ OUT 8.55
VIS IN 30/ OUT 30

10

75

20 ⊕ 119u

30

40

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

50

60

MD	1962'
INC	17.0°
AZM	114.2°
TVD	1944.99'

70

101u

80

88u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%

90

2000

0 API200 0 UNITS 400
         0   PPM 40000

WT IN 8.60/ OUT 8.60
VIS IN 28/ OUT 28

0 FT/HR 2000
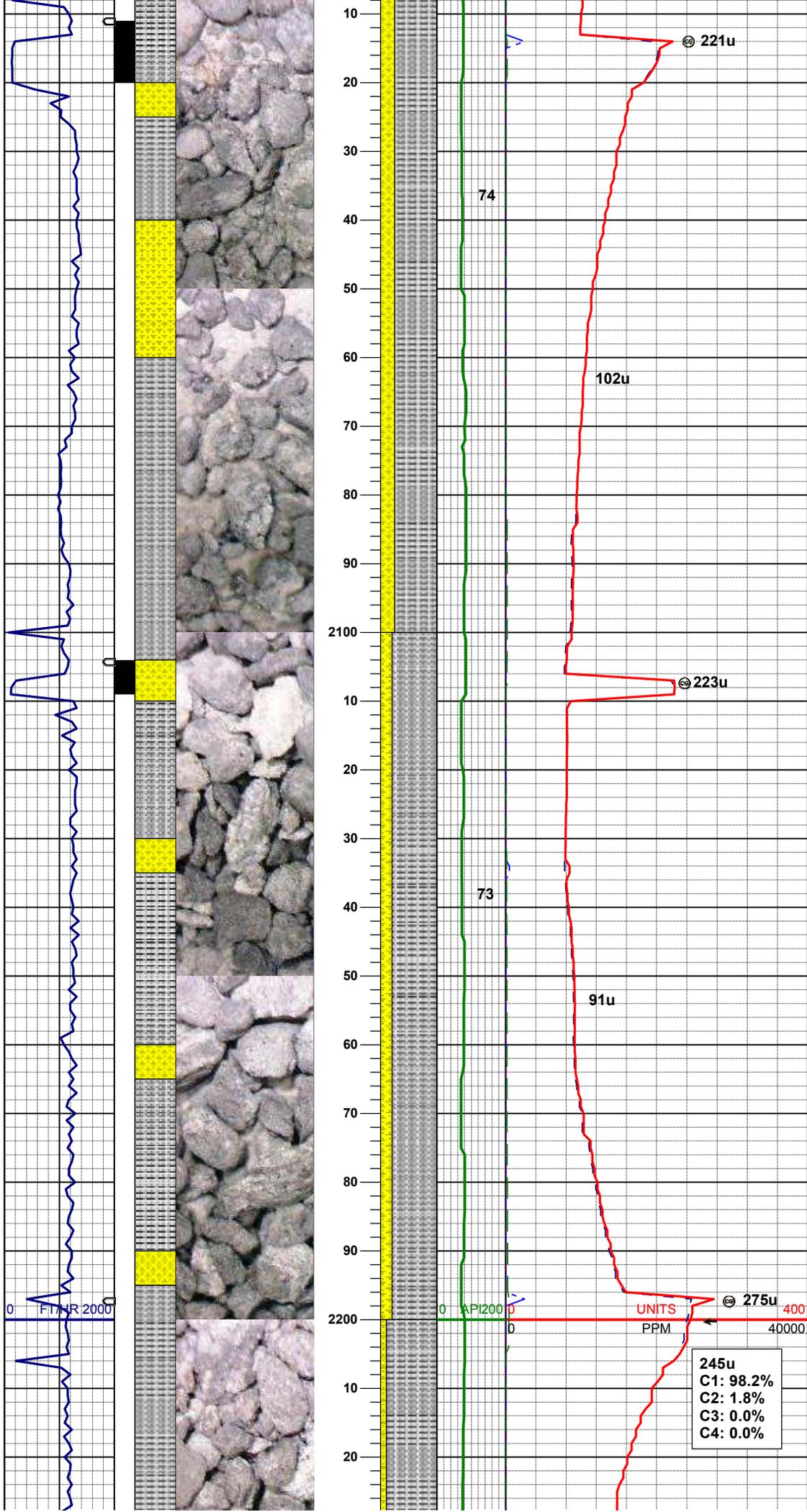
SLTYSH: m - lt gy, occ dk gy, sft - mod firm, sbblky - sbplty, noncalc
SHYSS: lt gy - gy, f gr, sbang - sbrndd, mod srt, mod sft - frm, tr phlog, tr glac, arg cmt

MD	2055'
INC	16.5°
AZM	117.2°
TVD	2034.04'

221u

102u

223u

73

74

91u

275u

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

MD	2148'
INC	15.3°
AZM	120.1°
TVD	2123.48'

245u
C1: 98.2%
C2: 1.8%
C3: 0.0%
C4: 0.0%

0 FT/HR 2000

0 API 200

0 UNITS 400

0 PPM 40000
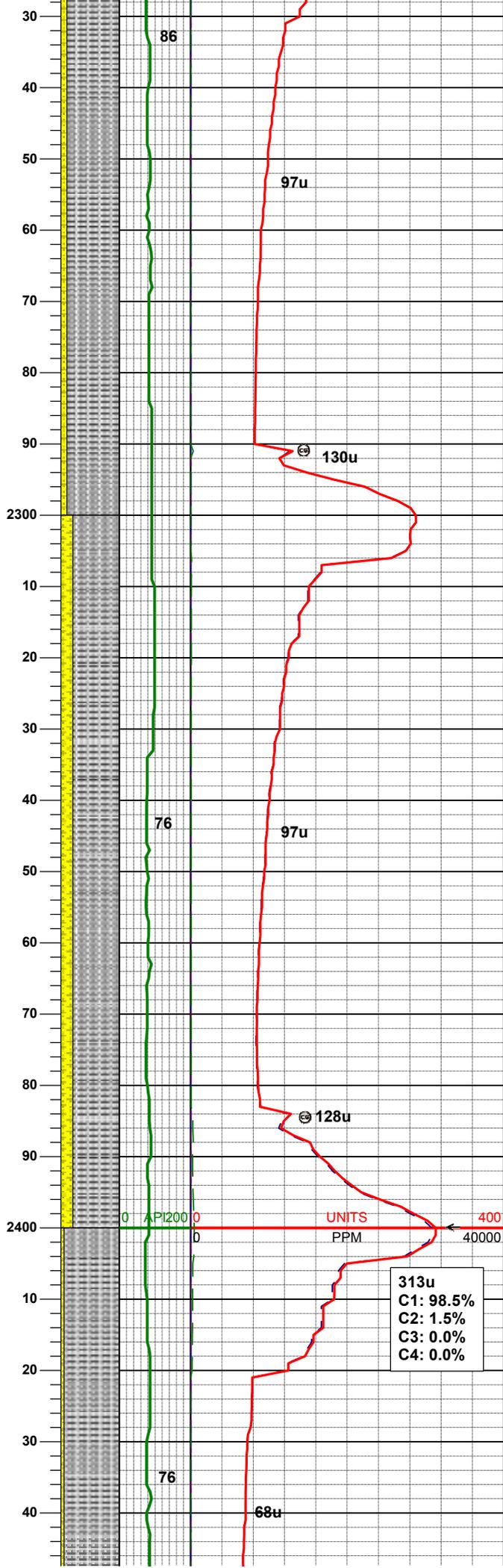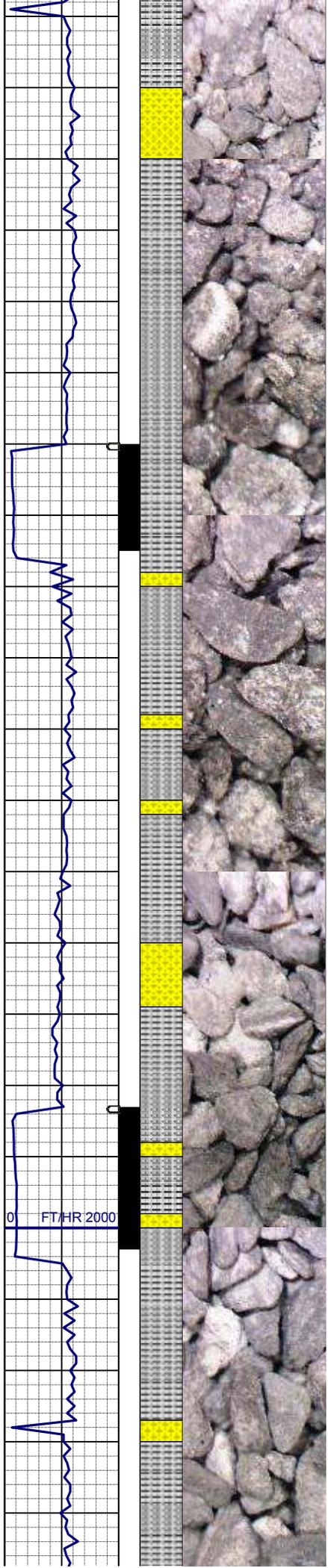
MD   2241'
INC   14.1°
AZM   120.0°
TVD 2213.44'

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

WT IN 8.60/ OUT 8.60
VIS IN 28/ OUT 28

MD   2334'
INC   15.1°
AZM   114.5°
TVD 2303.44'

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

MD   2425'
INC   17.0°
AZM   114.5°
TVD 2390.89'

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

86

97u

130u

76

97u

128u

313u
C1: 98.5%
C2: 1.5%
C3: 0.0%
C4: 0.0%

76

68u

0   FT/HR 2000

0   API 200

0   UNITS   400

0   PPM   40000

SHYSS: lt gy - gy, f gr, sbang -
sbrndd, mod srt, mod sft - frm, tr
phlog, tr glac, arg cmt

342u

WT IN 8.65/ OUT 8.65
VIS IN 30/ OUT 30

MD	2519'
INC	16.3°
AZM	117.7°
TVD	2480.95'

85

111u

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

237u

03/27/2012

0   FT/HR 2000

0 API200	0	UNITS	400
		PPM	40000

118u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%

81   98u

MD	2612'
INC	17.1°
AZM	115.6°
TVD	2570.03'

SLTYSH: m - lt gy-crmbrn, occ dk gy,
sft - mod firm, sbblky - sbplty, noncalc
SHYSS: lt gy - gy, f gr, sbang -
sbrndd, mod srt, mod sft - frm, tr
phlog, tr glac, arg cmt
SS: wh - lt gy, mod firm,sbblky - sb
rndd, arg cmt

346u

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

Depth markings (center): 70, 80, 90, 2700, 10, 20, 30, 40, 50, 60, 70, 80, 90, 2800, 10, 20, 30, 40, 50, 60, 70, 80

Gamma / gas track labels:

79

88u

69

103u

349u

108u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%

354u

Scale bar: 0 API200 0   UNITS   400
0   PPM   40000
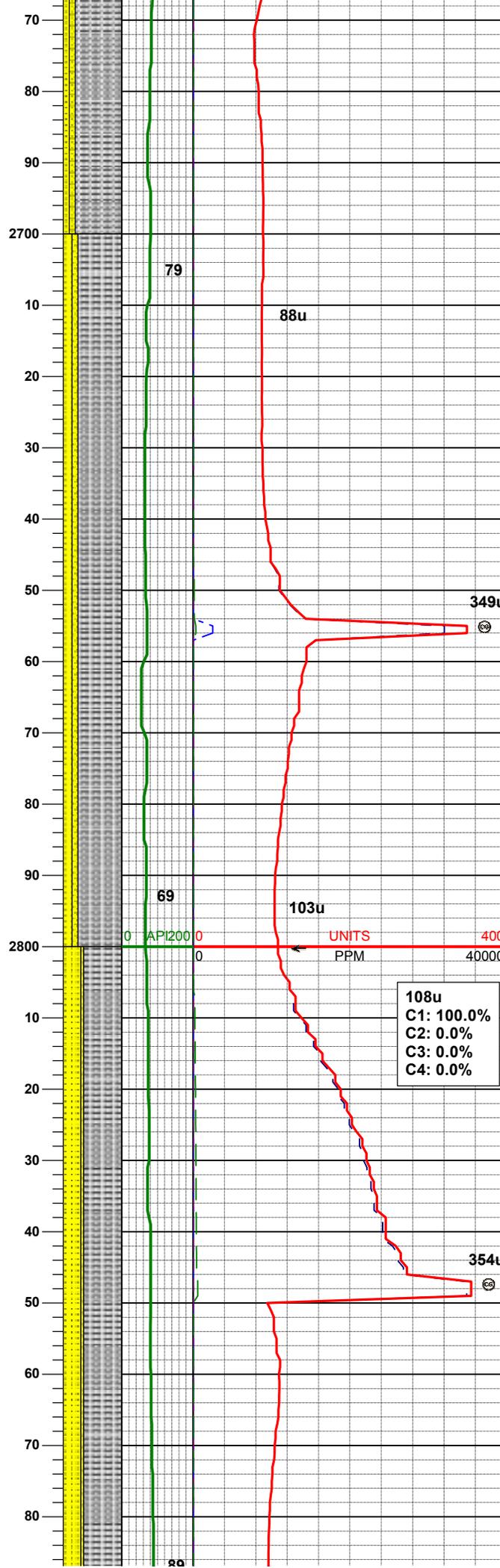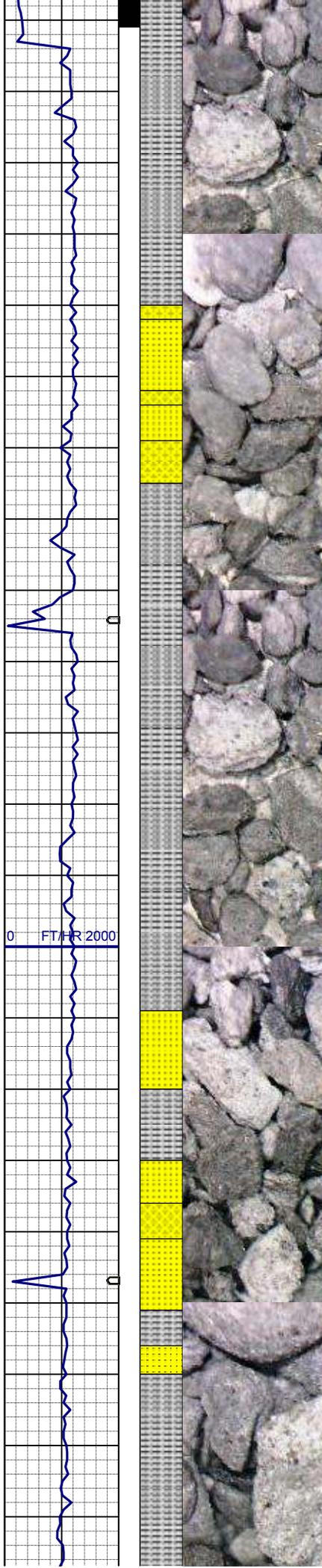
MD   2705'
INC   18.1°
AZM   117.1°
TVD   2658.67'

MD   2798'
INC   19.0°
AZM   118.9°
TVD   2746.84'

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

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

WT IN 8.85/ OUT 8.85
VIS IN 28/ OUT 28
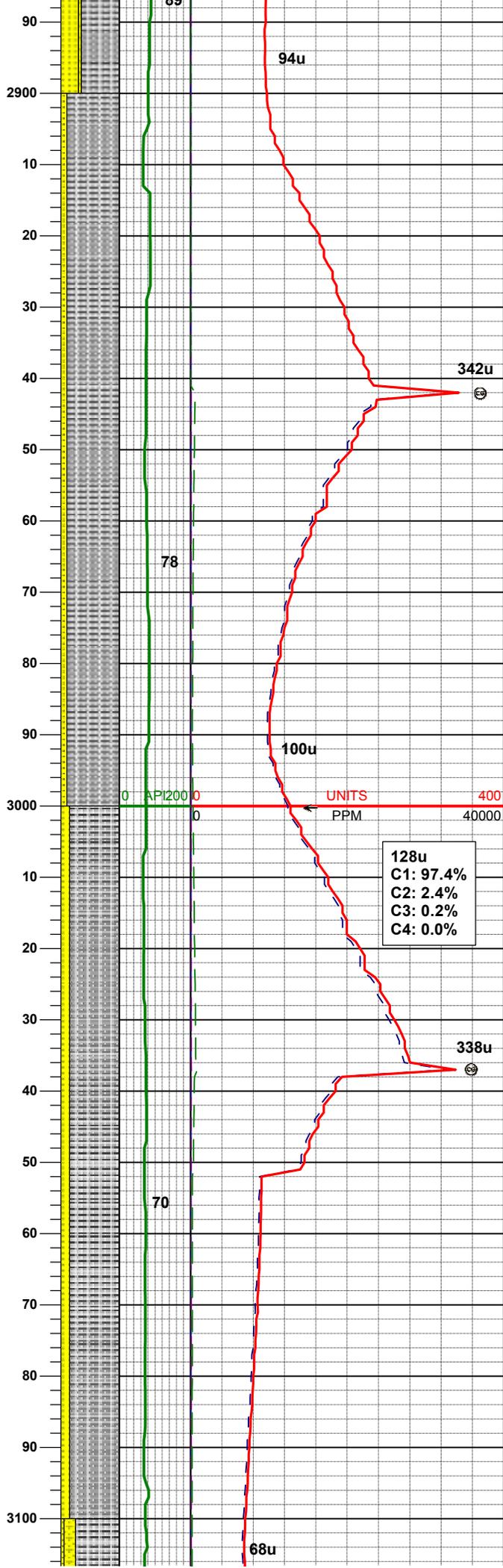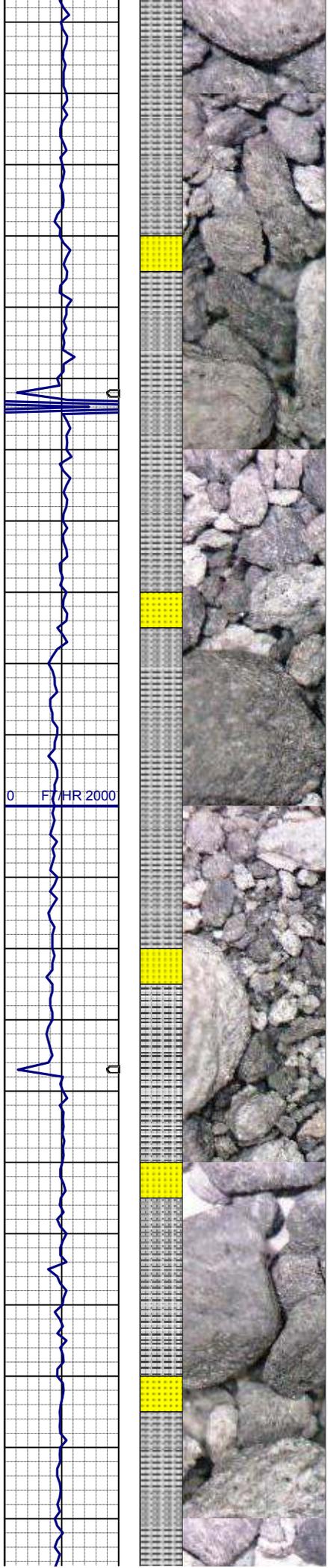
MD 2893'
INC 17.8°
AZM 118.8°
TVD 2836.98'

94u

2900

89

78

342u

SLTYSH: mgy-brn, occ dk gy, sft - mod firm, sbblky - sbplty, arg mtx, occ rthy mtx, noncalc
SS: wh - lt gy, sme brn - tan, mod firm,sbblky - sb rndd, tr glau, arg cmt

100u

MD 2988'
INC 17.5°
AZM 118.8°
TVD 2927.51'

0 FT/HR 2000

0 API 200   0   UNITS   400

3000

0   PPM   40000

128u
C1: 97.4%
C2: 2.4%
C3: 0.2%
C4: 0.0%

338u

SLTYSH: mgy-brn, occ dk gy, sft - mod firm, sbblky - sbplty, arg mtx, occ rthy mtx, noncalc
SS: wh - lt gy, sme brn - tan, mod firm,sbblky - sb rndd, tr glau, arg cmt

70

MD 3083'
INC 16.2°
AZM 118.9°
TVD 3018.43'
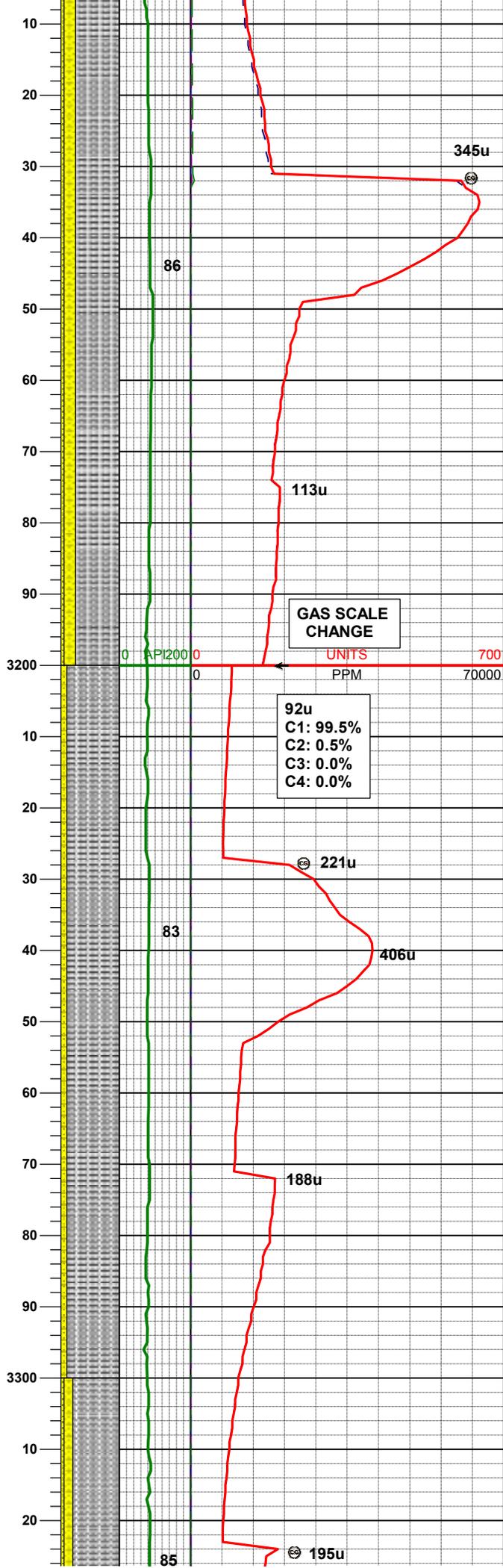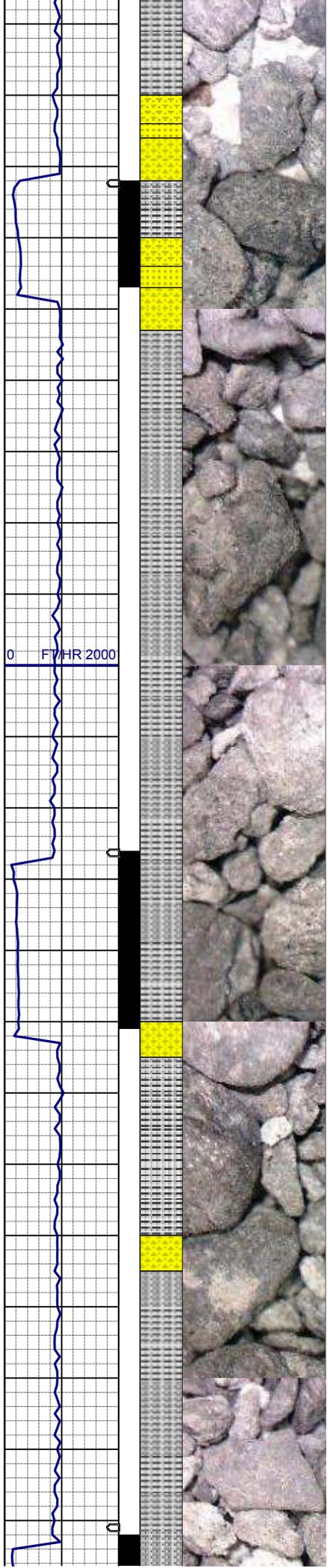
3100

68u

WT IN 8.85/ OUT 8.85
VIS IN 28/ OUT 28

SLTYSH: m - lt gy-crmbrn, occ dk gy, sft - mod firm, sbblky - sbplty, noncalc
SHYSS: lt gy - gy, f gr, sbang - sbrndd, mod srt, mod sft - frm, tr phlog, tr glauc, arg cmt
SS: wh - lt gy, mod firm,sbblky - sb rndd, arg cmt

MD	3177'
INC	15.6°
AZM	116.8°
TVD	3108.83'

GAS SCALE CHANGE

0 API 200 0   UNITS   700
            0   PPM   70000

92u
C1: 99.5%
C2: 0.5%
C3: 0.0%
C4: 0.0%

345u

113u

86

83

221u

406u

188u

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

MD	3272'
INC	16.1°
AZM	114.3°
TVD	3200.22'
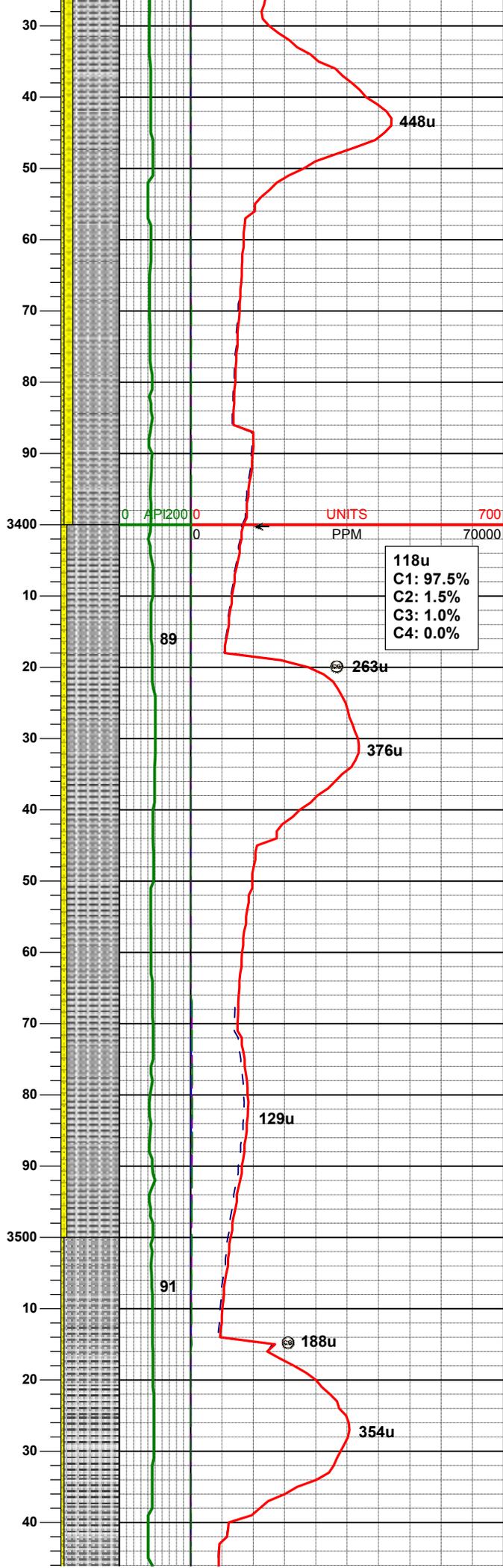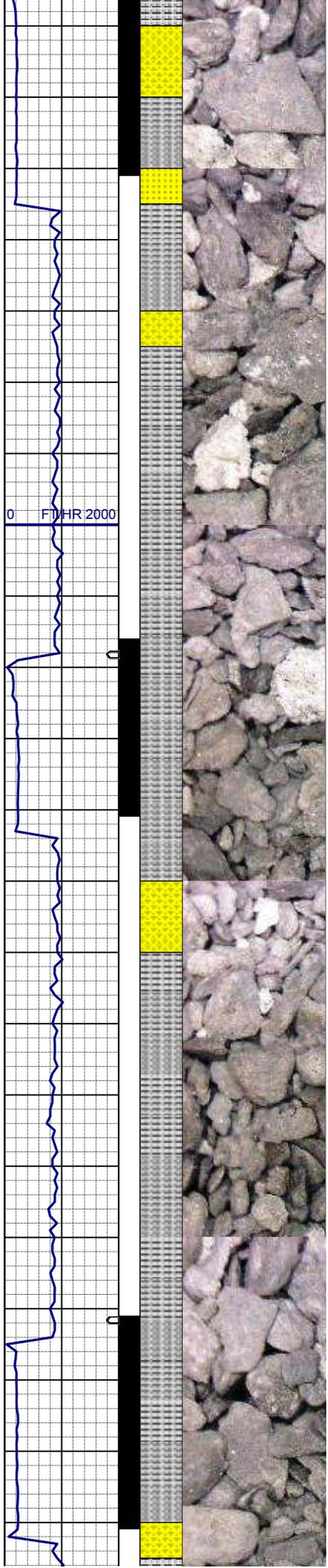
85

195u

0   FT/HR 2000

0 FT/HR 2000

0 API200 0   UNITS   700
              0   PPM   70000

30
40   448u
50
60
70
80
90
3400

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

MD	3367'
INC	17.2°
AZM	118.8°
TVD	3291.24'

WT IN 8.65/ OUT 8.65
VIS IN 28/ OUT 28

118u
C1: 97.5%
C2: 1.5%
C3: 1.0%
C4: 0.0%

89
10
20   263u
30   376u
40
50
60
70
129u
80
90
3500

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

MD	3462'
INC	17.5°
AZM	113.5°
TVD	3317.92'
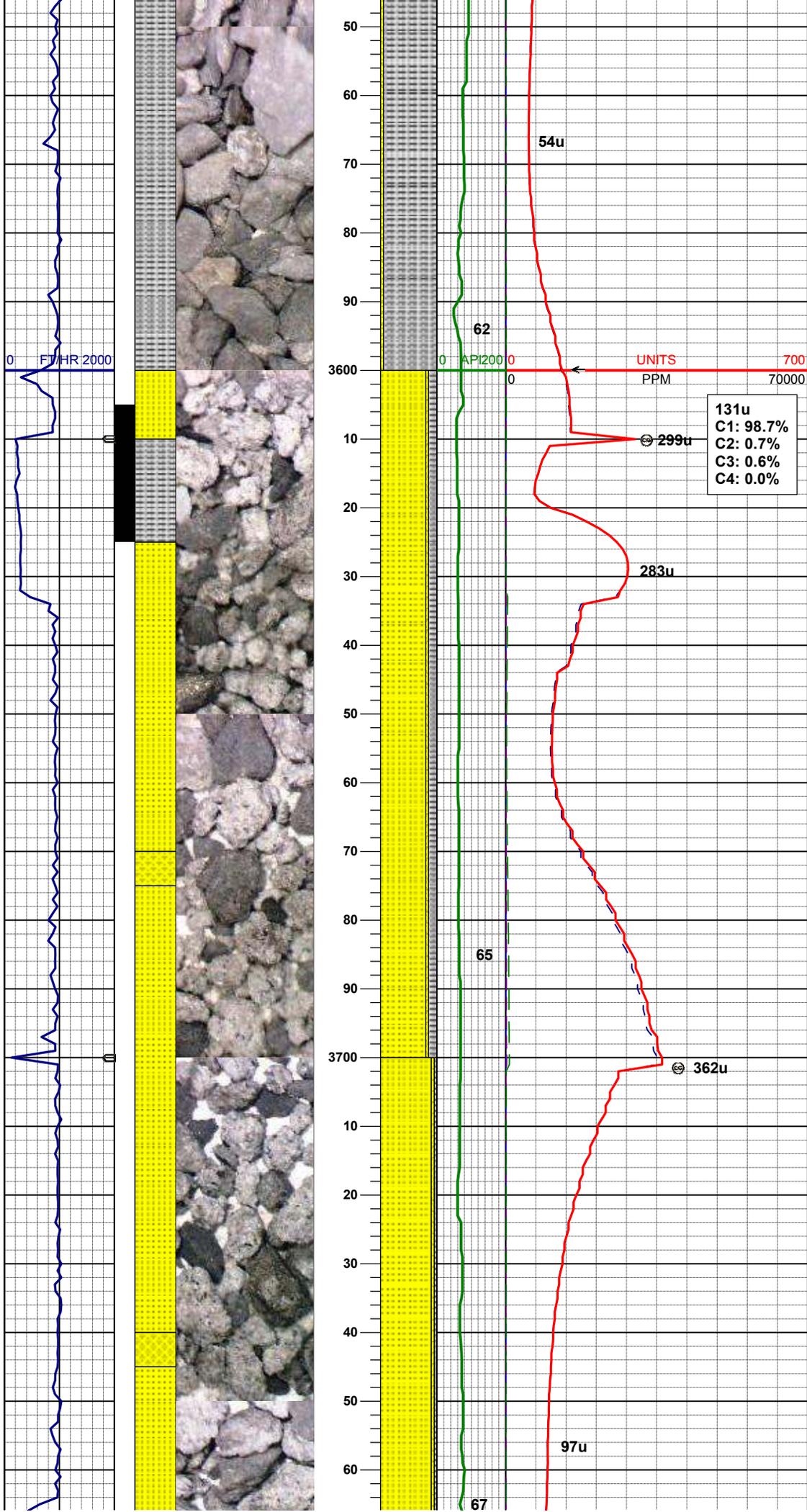
91
10   188u
20
30   354u
40

SLTYSH: mgy-brn, occ dk gy, sft -
mod firm, sbblky - sbplty, arg mtx, occ

SHYSS: lt gy - gy, f gr, sbang -
sbrndd, mod srt, mod sft - frm, tr
phlog, tr glauc, arg cmt

50

60

54u

70

80

90

62

3600

| 0 | FT/HR 2000 |

| 0 | API200 | 0 | UNITS | 700 |
| | | | PPM | 70000 |

MD 3556'
INC 18.8°
AZM 112.9°
TVD 3471.25'

131u
C1: 98.7%
C2: 0.7%
C3: 0.6%
C4: 0.0%

10

☺ 299u

20

30

283u

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

MD 3651'
INC 20.9°
AZM 114.7°
TVD 3560.60'

40

50

60

SS: wh - lt gy, sme brn - tan, mod
firm,sbblky - sb rndd, mod-p srt, tr
glau, arg cmt
SLTYSH: mgy-brn, occ dk gy, sft -
mod firm, sbblky - sbplty, arg mtx, occ
rthy mtx, noncalc
SHYSS: lt gy - gy, f gr, sbang -
sbrndd, mod srt, mod sft - frm, tr
phlog, tr glauc, arg cmt

70

80

65

90

3700

☺ 362u

10

20

30

MD 3746'
INC 22.3°
AZM 115.9°
TVD 3648.92'

40

50

SS: wh - lt gy, sme brn - tan, mod
firm,sbblky - sb rndd, mod-p srt, tr
glau, arg cmt
SLTYSH: mgy-brn, occ dk gy, sft -
mod firm, sbblky - sbplty, arg mtx, occ
rthy mtx, noncalc
SHYSS: lt gy - gy, f gr, sbang -
sbrndd, mod srt, mod sft - frm, tr
phlog, tr glauc, arg cmt

97u

60

67

70

80

90

3800

FT/HR 2000

⊗ 133u

0 API200 0   UNITS   700

PPM   70000

0

10

373u

338u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%

20

30

40

50

71

60

492u

70

80

90

⊗ 479u
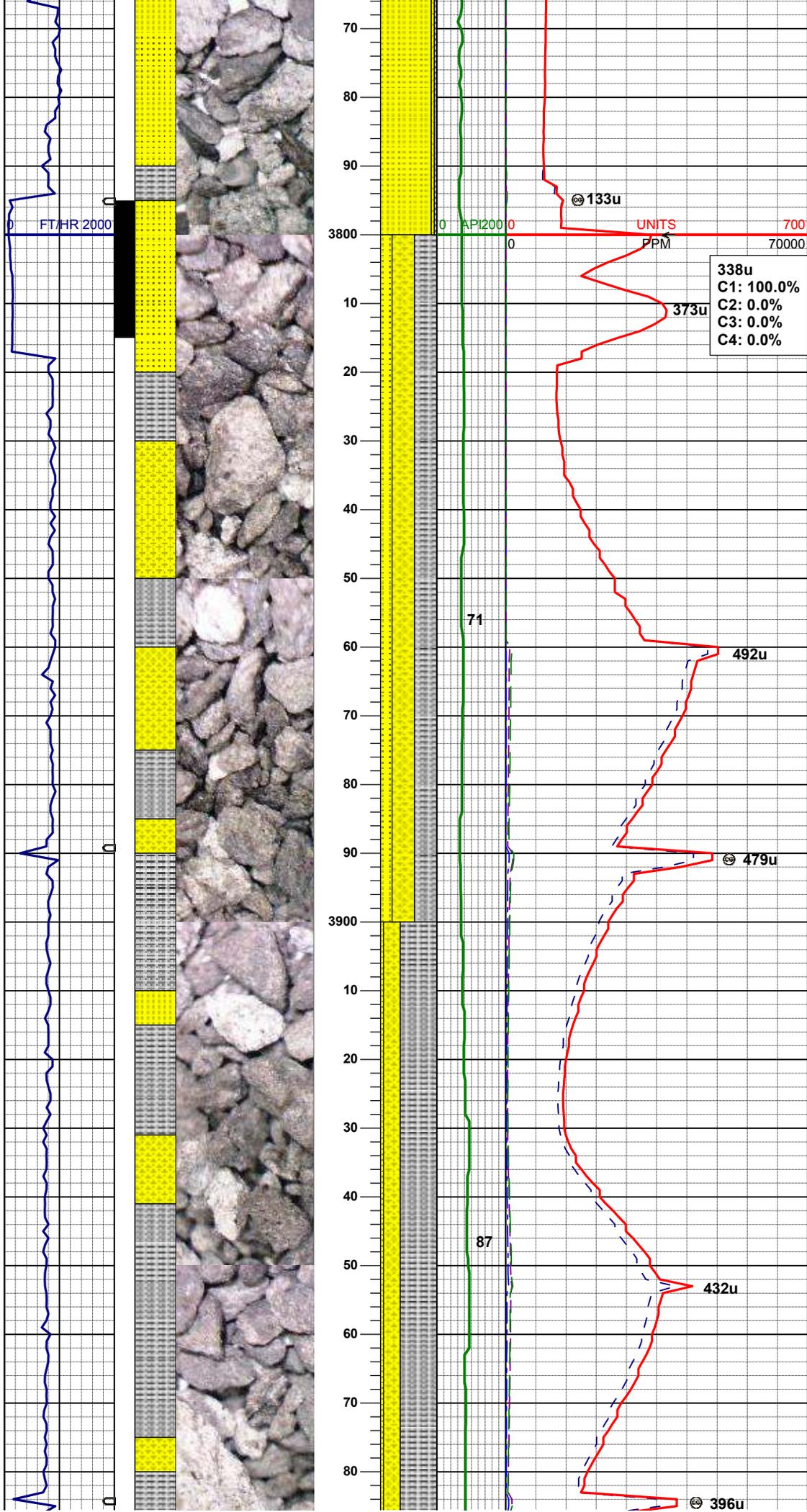
MD   3840'
INC   21.2°
AZM   116.1°
TVD 3736.23'

SLTYSH: mgy-brn, occ dk gy, sft -
mod firm, sbblky - sbplty, arg mtx, occ
rthy mtx, noncalc
SHYSS: lt gy - gy, f gr, sbang -
sbrndd, mod srt, mod sft - frm, tr
phlog, tr glauc, arg cmt
SS: wh - lt gy, sme brn - tan, mod
firm,sbblky - sb rndd, mod-p srt, tr
glau, arg cmt

WT IN 8.85/ OUT 8.85
VIS IN 27/ OUT 27

3900

10

20

30

40

87

50

432u

60

MD   3935'
INC   20.6°
AZM   115.6°
TVD 3824.98'

SLTYSH: mgy-brn, occ dk gy, sft -
mod firm, sbblky - sbplty, arg mtx, occ
rthy mtx, noncalc
SHYSS: lt gy - gy, f gr, sbang -
sbrndd, mod srt, mod sft - frm, tr
phlog, tr glauc, arg cmt
SS: wh - lt gy, sme brn - tan, mod
firm,sbblky - sb rndd, mod-p srt, tr
glau, arg cmt

70

80

⊗ 396u

Depth track (ft):

90
4000
10
20
30
40
50
60
70
80
90
4100
10
20
30
40
50
60
70
80
90
4200

Rate of penetration track:

0 FT/HR 2000

0 FT/HR 2000

Gas / chromatograph track:

0 API200 0
UNITS 700
PPM 70000

0 API200 0
UNITS 700
PPM 70000

Annotations:

180u
C1: 90.8%
C2: 3.8%
C3: 3.7%
C4: 1.8%

85

378u

78

130u

164u

380u

Survey boxes:

MD	4030'
INC	18.7°
AZM	115.9°
TVD	3914.44'

MD	4124'
INC	17.1°
AZM	116.5°
TVD	4003.89'

Lithology descriptions:
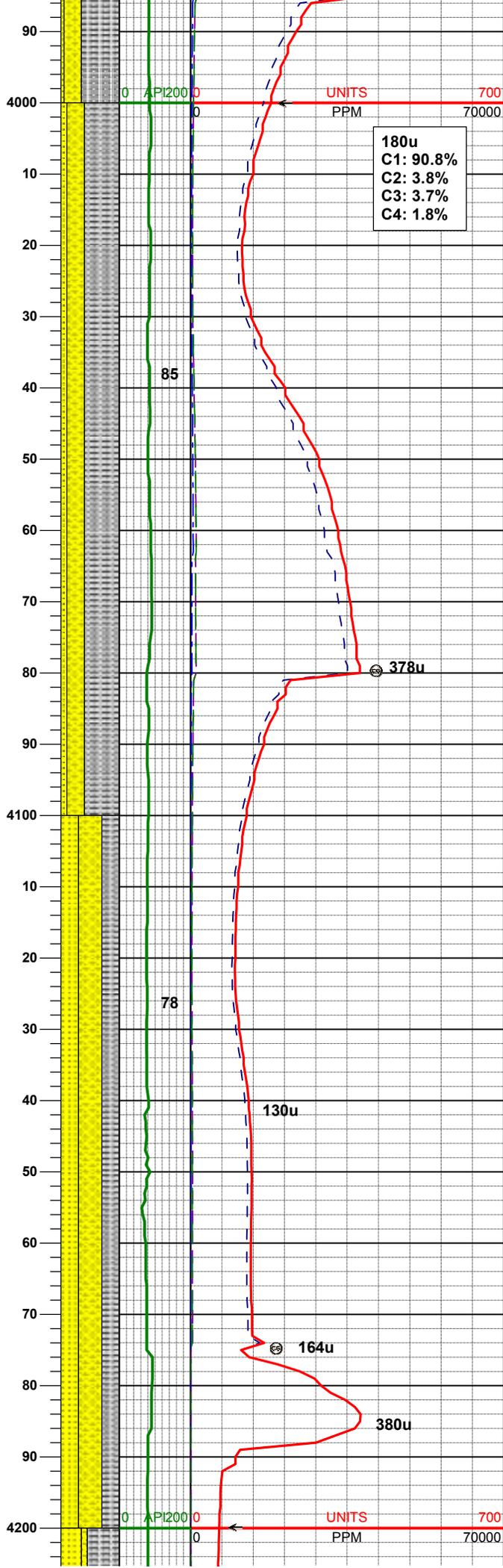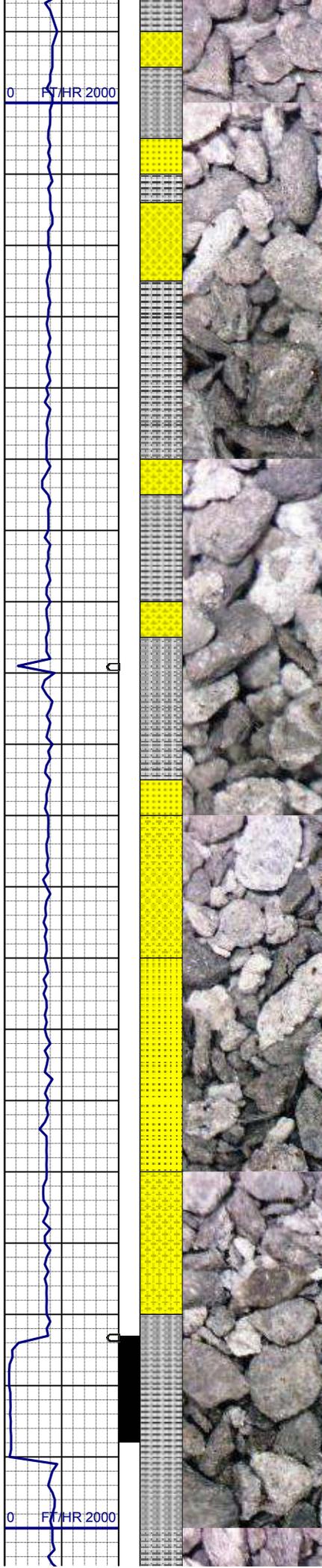
SLTYSH: mgy-brn, occ dk gy, sft - mod firm, sbblky - sbplty, arg mtx, occ rthy mtx, noncalc
SHYSS: lt gy - gy, f gr, sbang - sbrndd, mod srt, mod sft - frm, tr phlog, tr glauc, arg cmt
SS: wh - lt gy, sme brn - tan, mod firm,sbblky - sb rndd, mod-p srt, occ glau, arg cmt

SHYSS: lt gy - gy, f gr, sbang - sbrndd, mod srt, mod sft - frm, tr phlog, tr glauc, arg cmt
SS: wh - lt gy, sme brn - tan, mod firm,sbblky - sb rndd, mod-p srt, occ glau, arg cmt
SLTYSH: mgy-brn, occ dk gy, sft - mod firm, sbblky - sbplty, arg mtx, occ rthy mtx, noncalc

64u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%

MD	4219'
INC	16.7°
AZM	114.7°
TVD	4094.79'

84

⊗ 524u

SLTYSH: mgy-brn, occ dk gy, sft - mod firm, sbblky - sbplty, arg mtx, occ rthy mtx, noncalc
SS: wh - lt gy, sme brn - tan, mod firm,sbblky - sb rndd, mod-p srt, occ glau, arg cmt
SHYSS: lt gy - gy, f gr, sbang - sbrndd, mod srt, mod sft - frm, tr phlog, tr glauc, arg cmt

92

MD	4313'
INC	14.3°
AZM	114.9°
TVD	4185.36'

SLTYSH: mgy-brn, occ dk gy, sft - mod firm, sbblky - sbplty, arg mtx, occ rthy mtx, noncalc
SS: wh - lt gy, sme brn - tan, mod firm,sbblky - sb rndd, mod-p srt, occ glau, arg cmt
SHYSS: lt gy - gy, f gr, sbang - sbrndd, mod srt, mod sft - frm, tr phlog, tr glauc, arg cmt

⊗ 173u

502u

GAS SCALE CHANGE

78

0   FT/HR 2000

0   API200   0   UNITS   2000
                 0   PPM   200000

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

112u
C1: 98.5%
C2: 0.0%
C3: 1.5%
C4: 0.0%

MD	4408'
INC	14.3°
AZM	117.2°
TVD	4277.42'
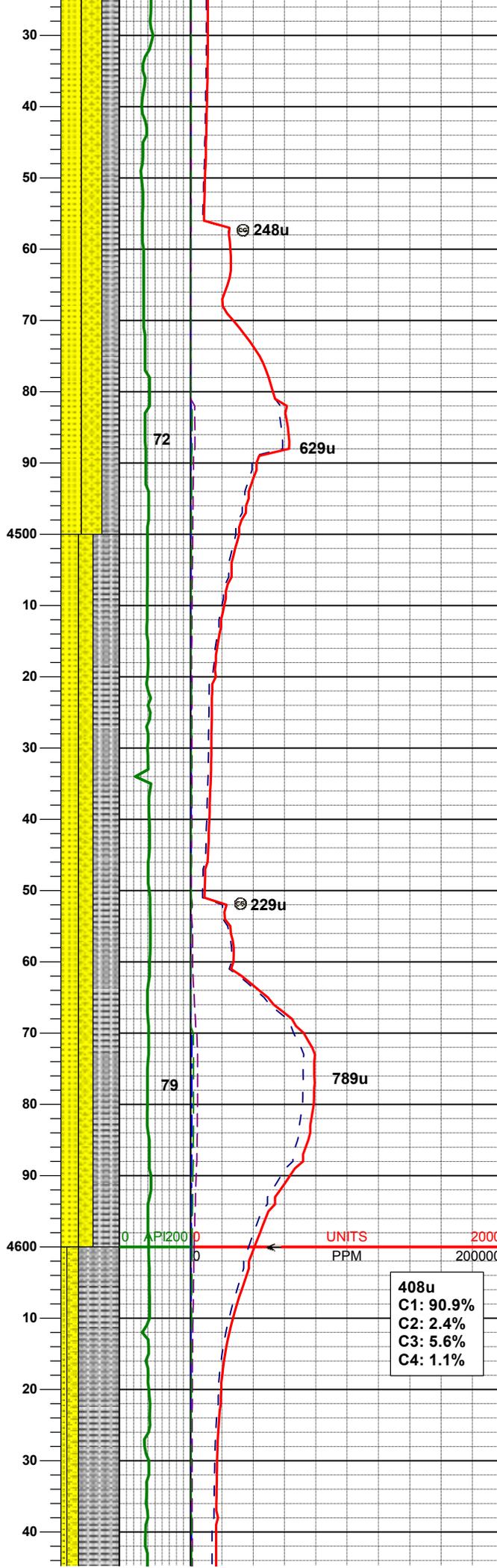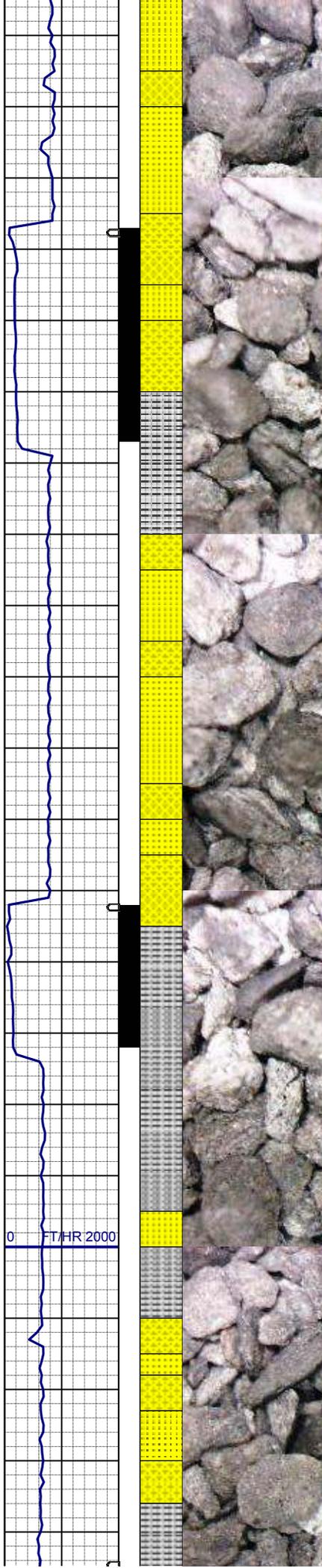
SS: wh - lt gy, sme brn - tan, mod firm,sbblky - sb rndd, mod-p srt, occ glau, arg cmt
SHYSS: lt gy - gy, f gr, sbang - sbrndd, mod srt, mod sft - frm, tr phlog, tr glauc, arg cmt
SLTYSH: mgy-brn, occ dk gy, sft - mod firm, sbblky - sbplty, arg mtx, occ rthy mtx, noncalc

😊 248u

72

629u

MD	4503'
INC	16.1°
AZM	117.7°
TVD	4369.09'

SLTYSH: mgy-brn, occ dk gy, sft - mod firm, sbblky - sbplty, arg mtx, occ rthy mtx, noncalc
SS: wh - lt gy, sme brn - tan, mod firm,sbblky - sb rndd, mod-p srt, occ glau, arg cmt
SHYSS: lt gy - gy, f gr, sbang - sbrndd, mod srt, mod sft - frm, tr phlog, tr glauc, arg cmt

😊 229u

79

789u

MD	4597'
INC	15.1°
AZM	116.5°
TVD	4459.63'

0 FT/HR 2000

0 API200 0 UNITS 2000
0 PPM 200000

408u
C1: 90.9%
C2: 2.4%
C3: 5.6%
C4: 1.1%

SLTYSH: mgy-brn, occ dk gy, sft -
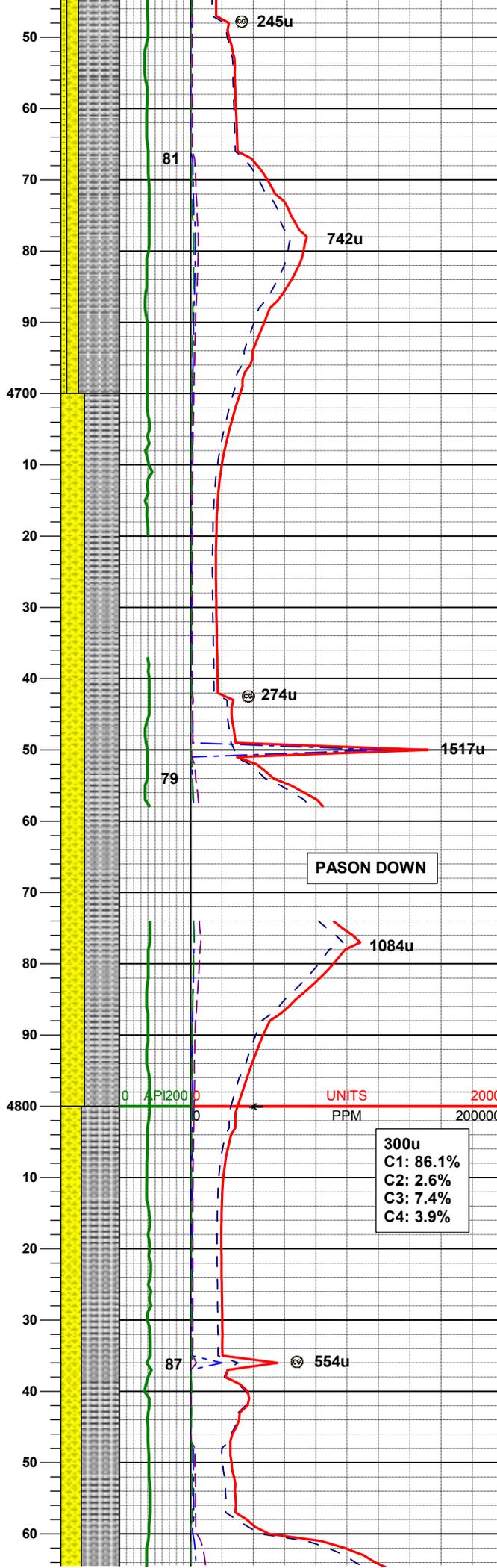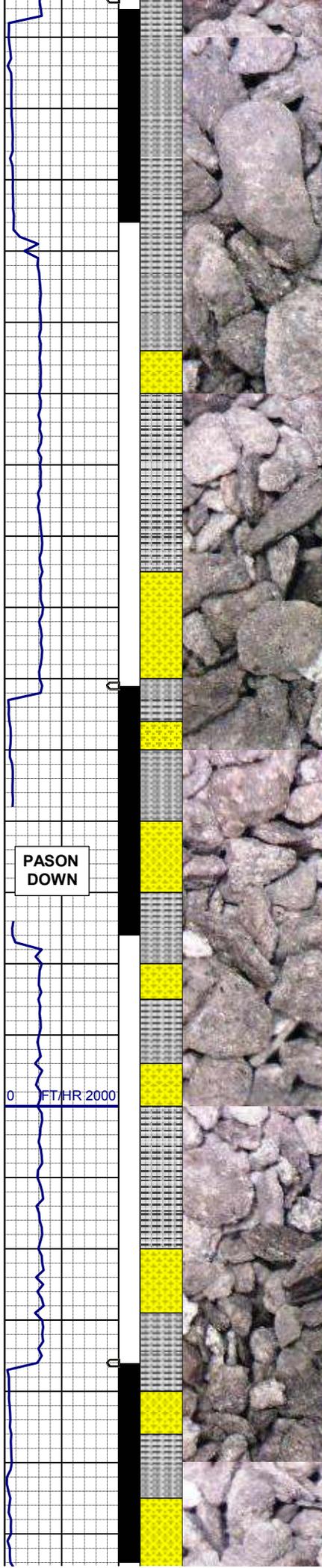
mod firm, sbblky - sbplty, arg mtx, occ
rthy mtx, noncalc
SHYSS: lt gy - gy, f gr, sbang -
sbrndd, mod srt, mod sft - frm, tr
phlog, tr glauc, arg cmt
SS: wh - lt gy, sme brn - tan, mod
firm,sbblky - sb rndd, mod-p srt, occ
glau, arg cmt

245u

81

742u

MD	4692'
INC	15.2°
AZM	118.8°
TVD	4551.33'

274u

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

1517u

79

**PASON
DOWN**

PASON DOWN

1084u

MD	4787'
INC	16.4°
AZM	119.1°
TVD	4642.84'

0   FT/HR 2000

0   API200 0   UNITS   2000
0   PPM   200000

300u
C1: 86.1%
C2: 2.6%
C3: 7.4%
C4: 3.9%

87

554u

SLTYSH: mgy-brn, occ dk gy, sft -
mod firm, sbblky - sbplty, arg mtx
grdg- rthy mtx, noncalc
SHYSS: m gy, occ dkgy, f gr, sbang -
sbrndd, mod srt, mod sft - frm,
occphlog, tr glauc, arg cmt

Depth track (center): 70, 80, 90, 4900, 10, 20, 30, 40, 50, 60, 70, 80, 90, 5000, 10, 20, 30, 40, 50, 60, 70, 80

Gas/chromatograph annotations:
1554u
338u
80
1028u
74
849u
C1: 86.7%
C2: 3.7%
C3: 8.0%
C4: 1.6%
1269u

Left track scale:
0   FT/HR   2000

Center track scales:
0   API200
0   UNITS   2000
PPM   200000
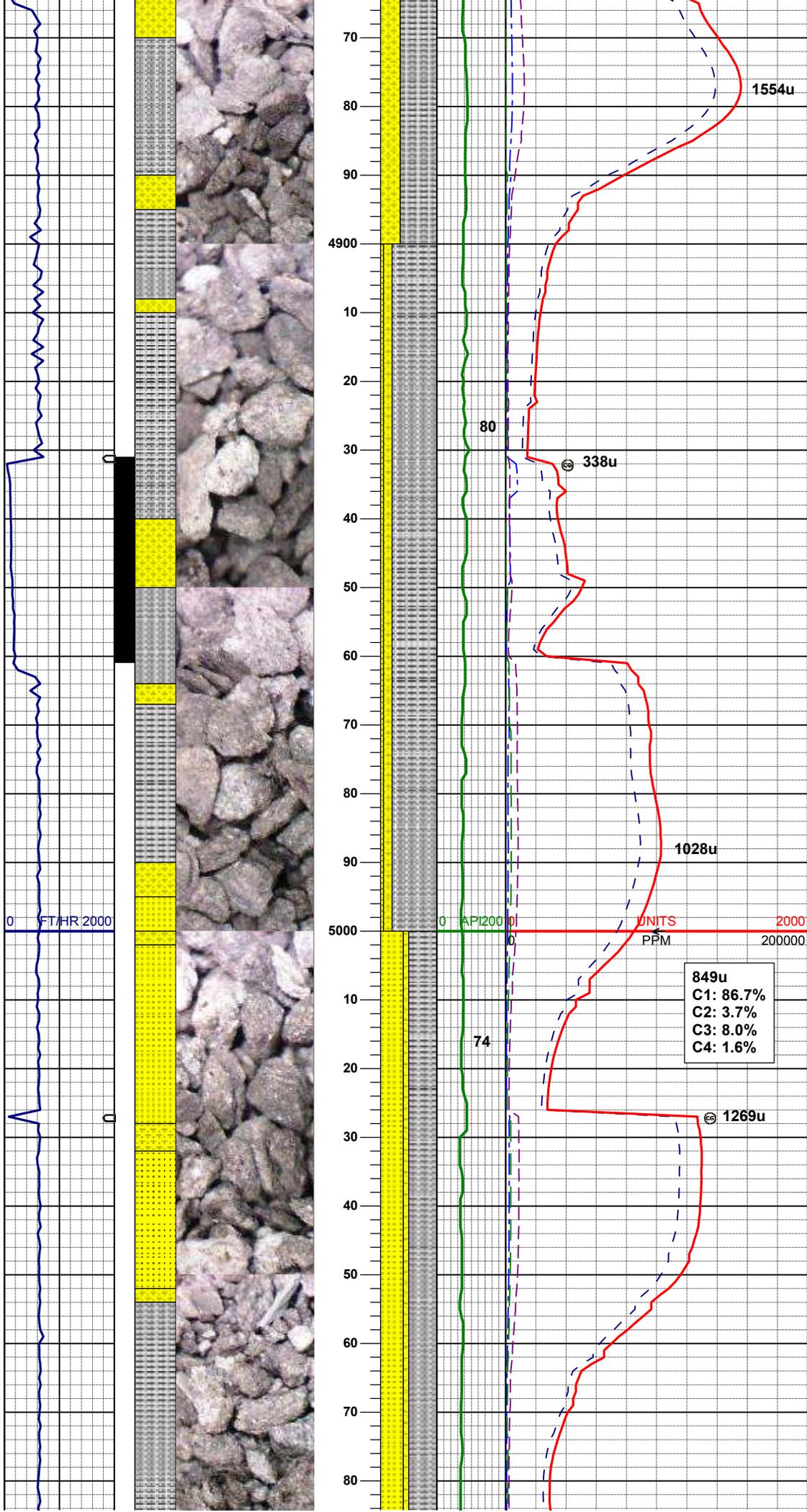
MD   4882'
INC   15.9°
AZM   112.8°
TVD   4734.00'

SLTYSH: mgy-brn, occ dk gy, sft - mod firm, sbblky - sbplty, arg mtx grdg- rthy mtx, noncalc
SHYSS: m gy, occ dkgy, f gr, sbang - sbrndd, mod srt, mod sft - frm, occphlog, tr glauc, arg cmt
SS: wh - lt gy, tr brn - tan, mod firm,sbblky - sb rndd, mod-p srt, tr glau, arg cmt

---

MD   4977'
INC   16.9°
AZM   110.7°
TVD   4825.13'

SLTYSH: mgy-brn, occ dk gy, sft - mod firm, sbblky - sbplty, arg mtx grdg- rthy mtx, noncalc
SS: wh - lt gy, tr brn - tan, mod firm,sbblky - sb rndd, mod-p srt, tr glau, arg cmt, uncons
SHYSS: m gy, occ dkgy, f gr, sbang - sbrndd, mod srt, mod sft - frm, occphlog, tr glauc, arg cmt

---

MD   5071'
INC   15.4°
AZM   111.2°
TVD   4915.42'
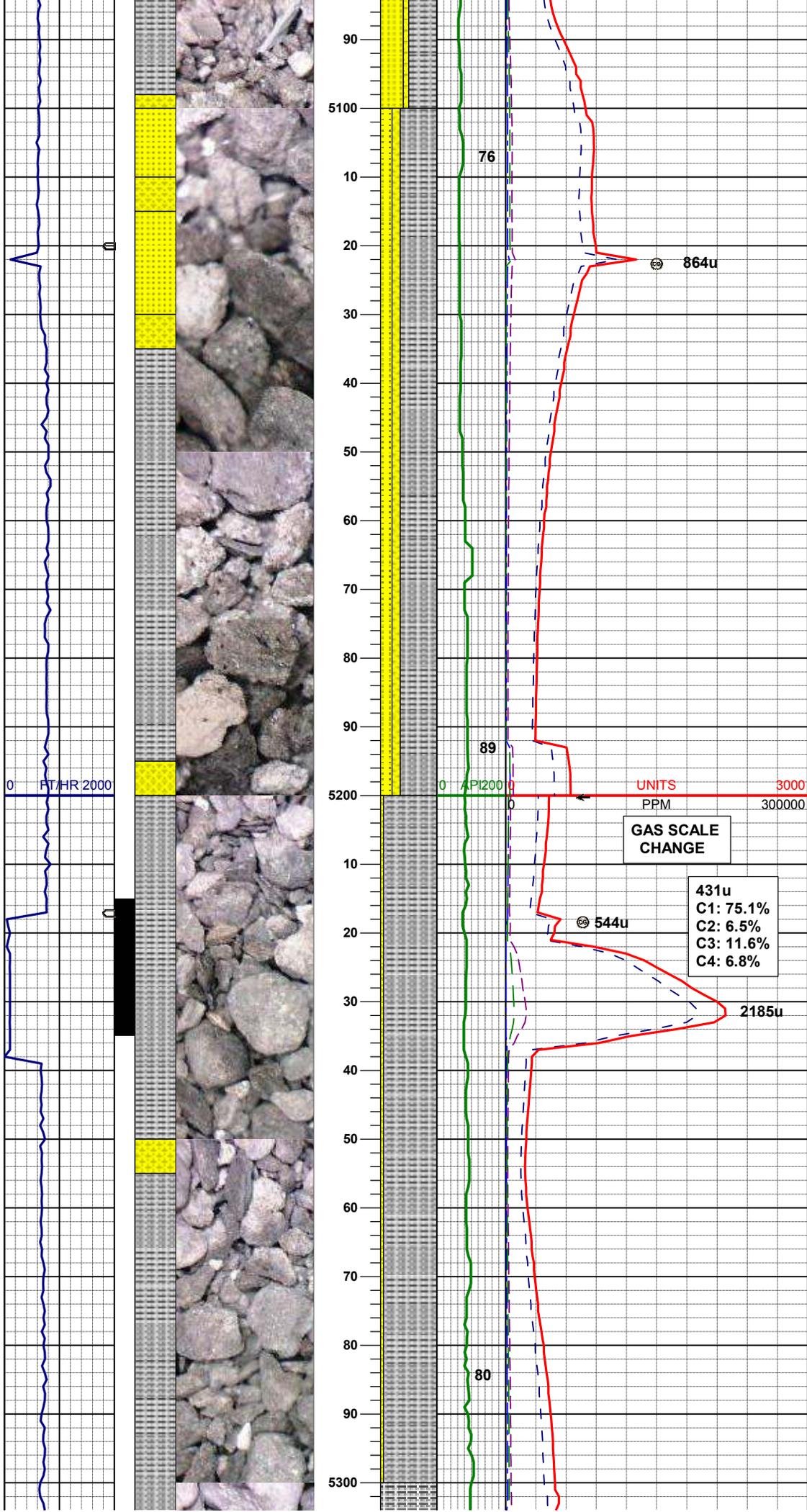
864u

SLTYSH: mgy-brn, occ dk gy, sft -
mod firm, sbblky - sbplty, arg mtx
grdg- rthy mtx, noncalc
SS: wh - lt gy, tr brn - tan, mod
firm,sbblky - sb rndd, mod-p srt, tr
glau, arg cmt
SHYSS: m gy, occ dkgy, f gr, sbang -
sbrndd, mod srt, mod sft - frm,
occphlog, tr glauc, arg cmt

MD	5166'
INC	13.1°
AZM	111.5°
TVD	5007.49'

76

89

0   FT/HR 2000

0   API200

UNITS   3000
PPM   300000

WT IN 8.75/ OUT 9.05
VIS IN 25/ OUT 27

GAS SCALE
CHANGE

431u
C1: 75.1%
C2: 6.5%
C3: 11.6%
C4: 6.8%

544u

2185u

SLTYSH: mgy-brn, occ dk gy, sft -
mod firm, sbblky - sbplty, rthy mtx, tr
arg mtx, noncalc
SHYSS: m gy, occ dkgy, f gr, sbang -
sbrndd, mod srt, mod sft - frm,
occphlog, tr glauc, arg cmt

MD	5261'
INC	9.8°
AZM	115.6°
TVD	5100.59'

80
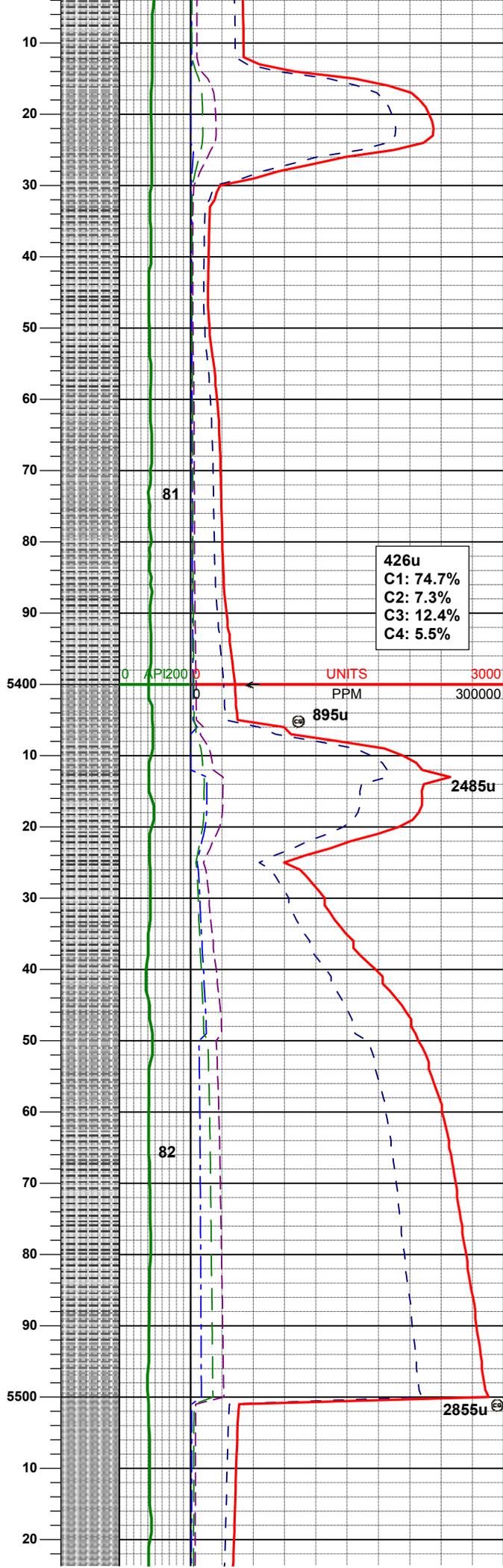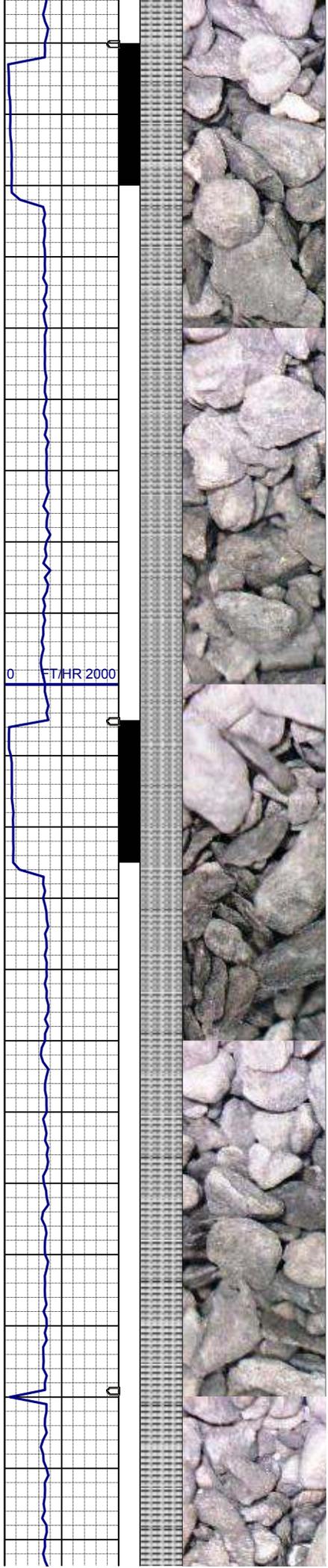
SLTYSH: mgy-brn, occ dk gy, sft - mod firm, sbblky - sbplty, rthy mtx, tr arg mtx, noncalc, tr shyss

MD	5356'
INC	6.8°
AZM	123.7°
TVD	5194.58'

81

426u
C1: 74.7%
C2: 7.3%
C3: 12.4%
C4: 5.5%

WT IN 8.75/ OUT 9.05
VIS IN 26/ OUT 28

0   API200 0   UNITS   3000
                      PPM   300000

895u

2485u

MD	5450'
INC	4.7°
AZM	128.8°
TVD	5288.11'

82

SLTYSH: mgy-brn, occ dk gy, sft - mod firm, sbblky - sbplty, rthy mtx, tr arg mtx, noncalc, tr shyss

2855u

0   FT/HR 2000

SWITCH OUT SHAKER SCREENS
NO CIRCULATION @ AGITATOR

30

40
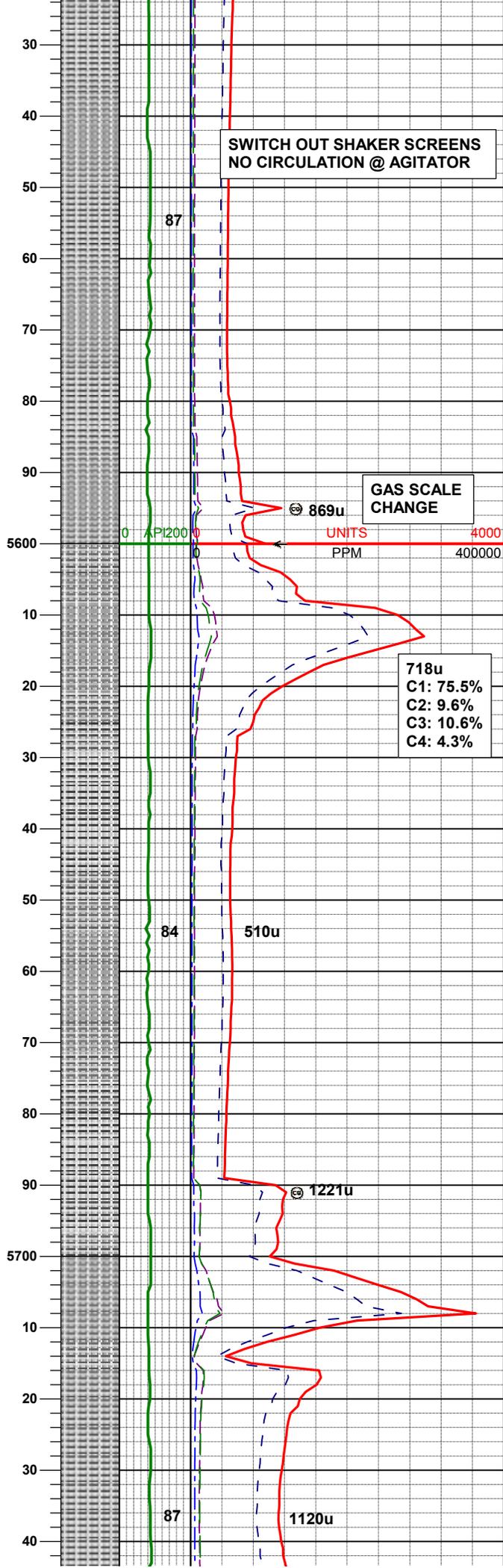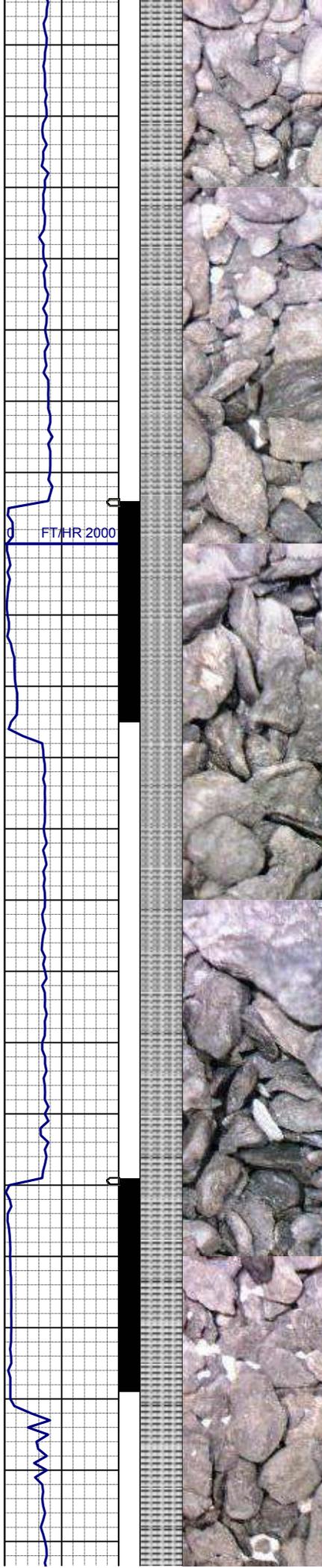
MD   5545'
INC   4.4°
AZM   127.4°
TVD 5382.81'

SLTYSH: mgy-brn, occ dk gy, sft -
mod firm, sbblky - sbplty, shy tex, tr
arg mtx, noncalc, tr shyss, tr pyr

50

87

60

70

80

90

☺ 869u

GAS SCALE
CHANGE

FT/HR 2000

0   API 200   0   UNITS   4000
5600   PPM   400000
0

10

718u
C1: 75.5%
C2: 9.6%
C3: 10.6%
C4: 4.3%

20

30

MD   5640'
INC   3.1°
AZM   117.5°
TVD 5477.60'

40

50

84   510u

SLTYSH: mgy-brn, occ dk gy, sft -
mod firm, sbblky - sbplty, shy tex, tr
arg mtx, noncalc, tr shyss, tr pyr

60

70

80

90

☺ 1221u

WT IN 8.80/ OUT 8.85
VIS IN 32/ OUT 30

5700

10

MD   5735'
INC   1.6°
AZM   162.3°
TVD 5572.53'
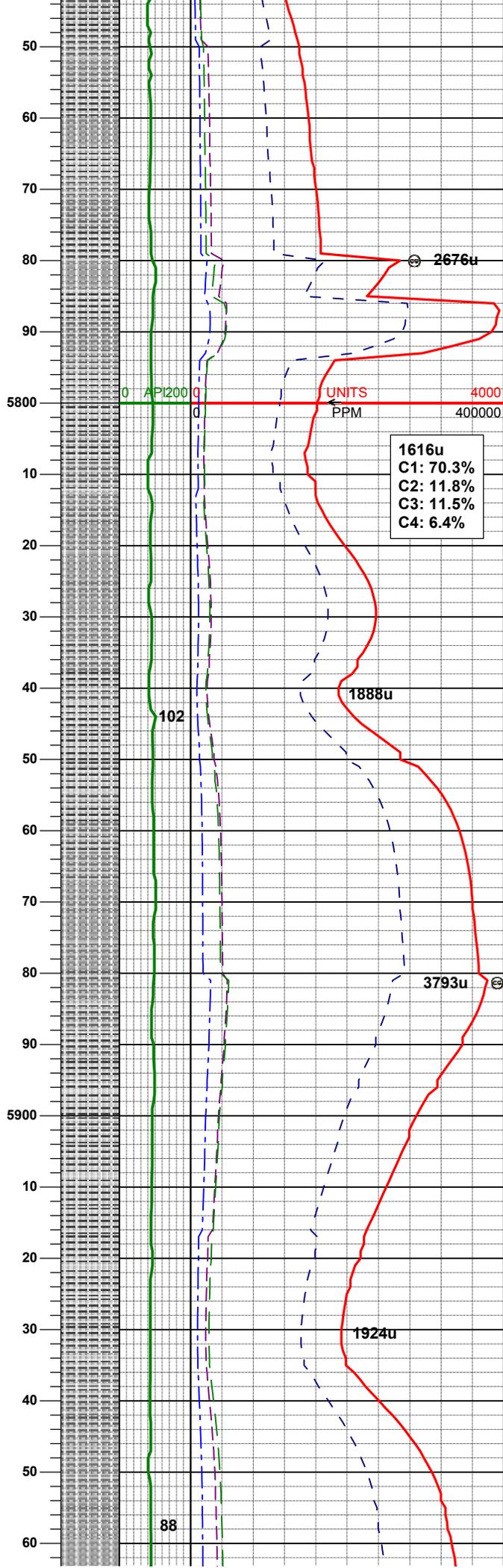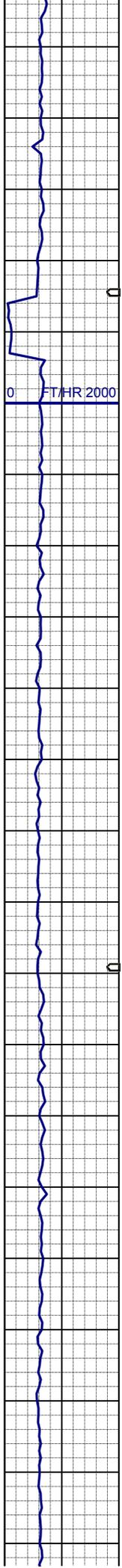
20

30

87

1120u

40

SLTYSH: mgy-brn, occ dk gy, sft - mod firm, sbblky - sbplty, shy tex, tr arg mtx, noncalc, tr shyss, tr pyr

50

60

70

80
⊕ **2676u**

90

0 FT/HR 2000   0 API200 0   UNITS   4000

5800
PPM   400000

1616u
C1: 70.3%
C2: 11.8%
C3: 11.5%
C4: 6.4%

10

20

30
MD   5830'
INC   1.3°
AZM   167.3°
TVD 5667.50'

40
1888u

102

SLTYSH: mgy-brn, occ dk gy, sft - mod firm, sbblky - sbplty, shy tex, tr arg mtx, noncalc, tr shyss

50

60

70

80
3793u ⊕

90
WT IN 9.00/ OUT 8.95
VIS IN 32/ OUT 34

5900

10

20
MD   5925'
INC   1.3°
AZM   164.3°
TVD 5762.47'

30
1924u

40

SLTYSH: mgy-brn, occ dk gy, sft - mod firm, sbblky - sbplty, shy tex, tr arg mtx, noncalc, tr shyss

50

88

60

3770u

0   FT/HR   2000

0   API200   0

0   UNITS   4000

0   PPM   400000

6000

2079u
C1: 69.2%
C2: 12.7%
C3: 12.2%
C4: 6.0%

SLTYSH: mgy-brn, occ dk gy, sft -
mod firm, sbblky - sbplty, shy tex, tr
arg mtx, noncalc, tr shyss

TD @ 6037' MD
03/27/2013 @ 04:05 PM

TOOH FOR MWD TOOLS
LOG CONTINUES ON LPLOT
"SLW RANCH B01-62-1HN(HORZ)"