

LOG created using LPLOT VH Version 3.0, May 08, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

**OPERATOR:** NOBLE ENERGY INC.  
**WELL:** SLW RANCH STATE B12-62-1HN  
**LOCATION:** SWSW SEC 12, T5N, R64W  
**COUNTY:** WELD  
**STATE:** COLORADO  
**SPOT:** 648' FSL, 246' FWL  
**ELEVATION:** GR 4,596', KB 4,626'  
**FIELD:** KERSEY  
**SPUD DATE:** 05/02/2013  
**TD DATE:** 05/05/2013  
**DATES LOGGED:** 05/03/2013 - 05/05/2013  
**DEPTHS LOGGED:** 700' MD - 5779' MD  
**LOGGERS:** ANDREA ZUIDEMA, SHANA SWIRIN  
**DRILLING FLUID:** LSND  
**DRILLING RIG:** H&P 326  
**API:** 05-123-36532  
**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



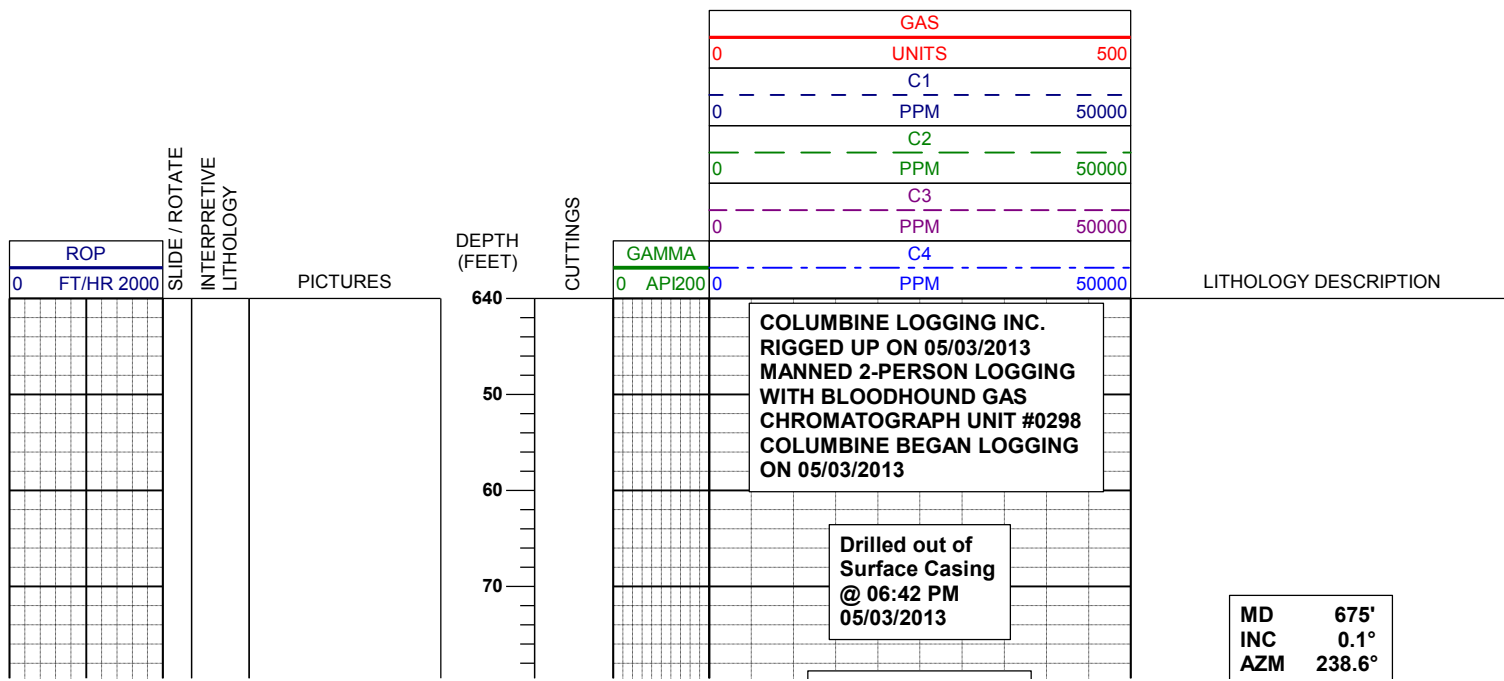
Connection Gas

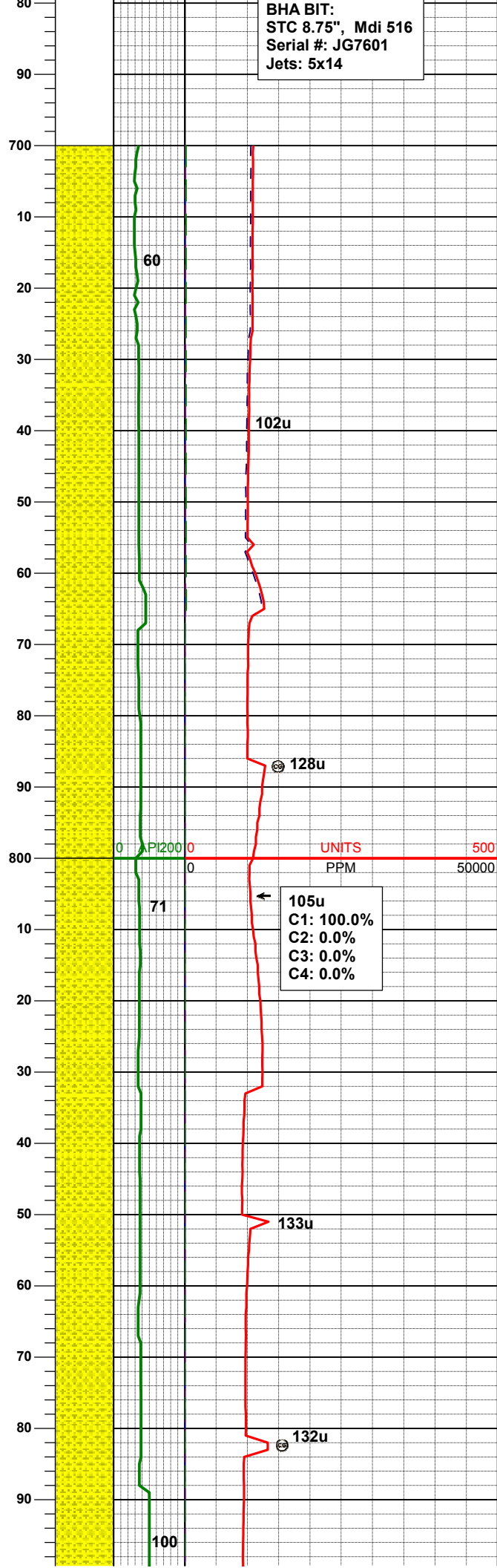
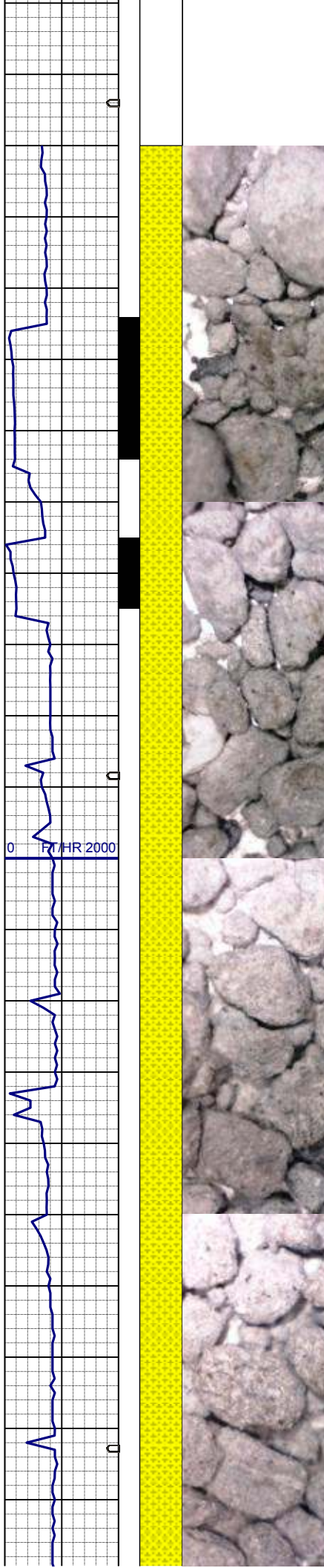


Arrow



Midnight Depth





BHA BIT:  
STC 8.75", Mdi 516  
Serial #: JG7601  
Jets: 5x14

TVD 675.00'

WT IN 8.50/ OUT 8.50  
VIS IN 28/ OUT 28

MD 706'  
INC 0.3°  
AZM 112.2°  
TVD 706.00'

MD 738'  
INC 1.3°  
AZM 86.8°  
TVD 737.99'

SHYSS: lt gy - wh, s&p, f gr, sbang -  
sbrnnd, w-mod srt, arg cmt

MD 769'  
INC 2.5°  
AZM 82.0°  
TVD 768.98'

MD 801'  
INC 2.6°  
AZM 82.9°  
TVD 800.95'

MD 832'  
INC 2.6°  
AZM 89.2°  
TVD 831.91'

SHYSS: lt gy - wh, s&p, f gr, sbang -  
sbrnnd, w-mod srt, arg cmt

MD 864'  
INC 2.9°  
AZM 90.3°  
TVD 863.88'

MD 895'  
INC 2.7°

0 200 0 500  
PPM

105u  
C1: 100.0%  
C2: 0.0%  
C3: 0.0%  
C4: 0.0%

128u

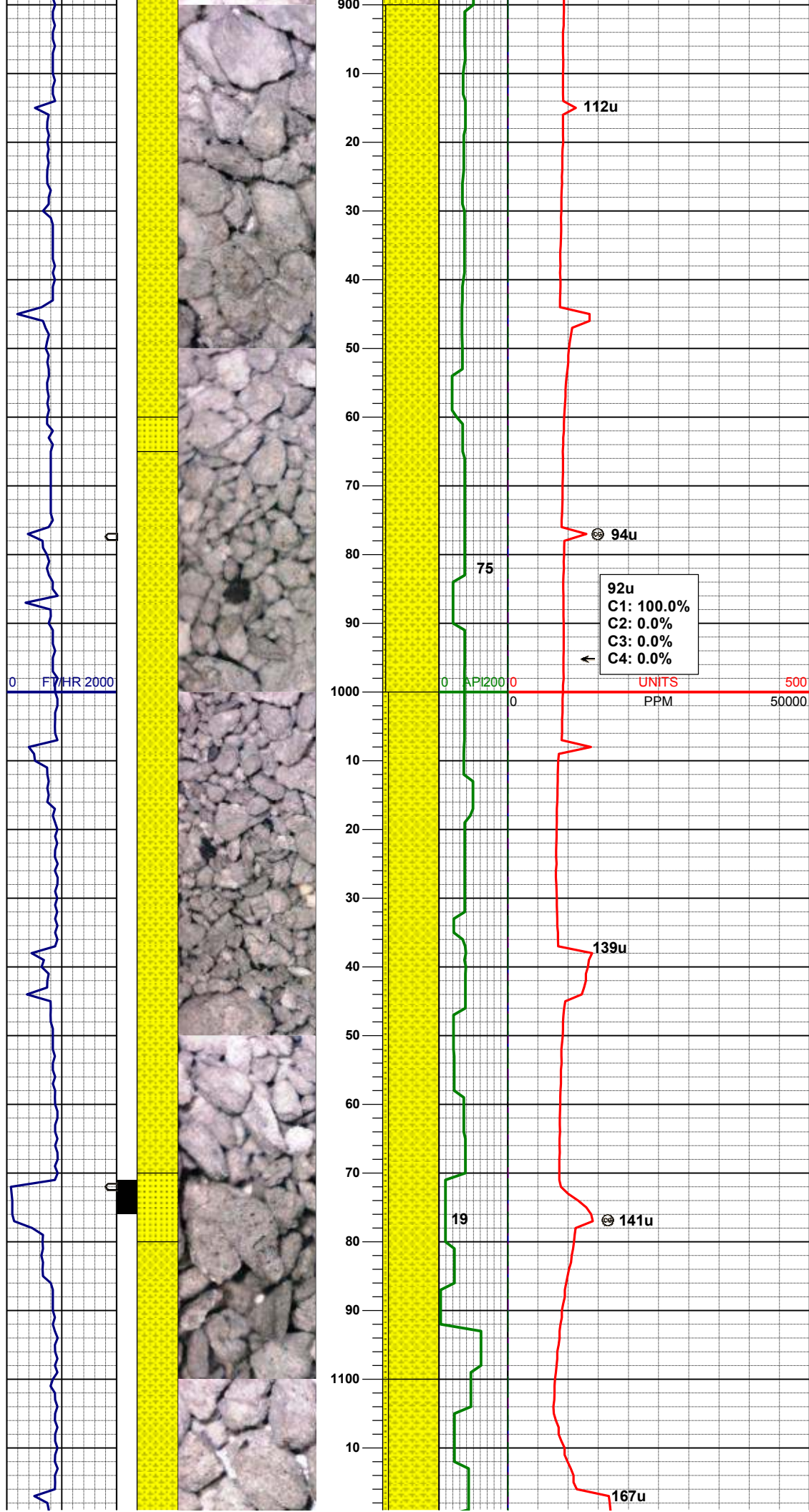
133u

132u

60

71

100



AZM 88.3°  
TVD 894.84'

WT IN 8.50/ OUT 8.50  
VIS IN 27/ OUT 27

MD 927'  
INC 3.1°  
AZM 89.7°  
TVD 926.80'

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

MD 959'  
INC 2.8°  
AZM 87.5°  
TVD 958.76'

MD 990'  
INC 3.1°  
AZM 91.5°  
TVD 989.72'

MD 1022'  
INC 2.8°  
AZM 93.1°  
TVD 1021.67'

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

MD 1067'  
INC 2.6°  
AZM 97.1°  
TVD 1066.62'

WT IN 8.75/ OUT 8.75  
VIS IN 27/ OUT 27

MD 1116'  
INC 2.3°



AZM	93.1°
TVD	1115.58'

SHYSS: lt gy - wh, s&p, f gr, sbang -  
sbrnndd, w-mod srt, arg cmt  
SS: wh-trnsl, s&p, f gr, sbang-sbrnndd,  
mod srt, arg cmt

MD	1161'
INC	1.9°
AZM	92.2°
TVD	1160.55'

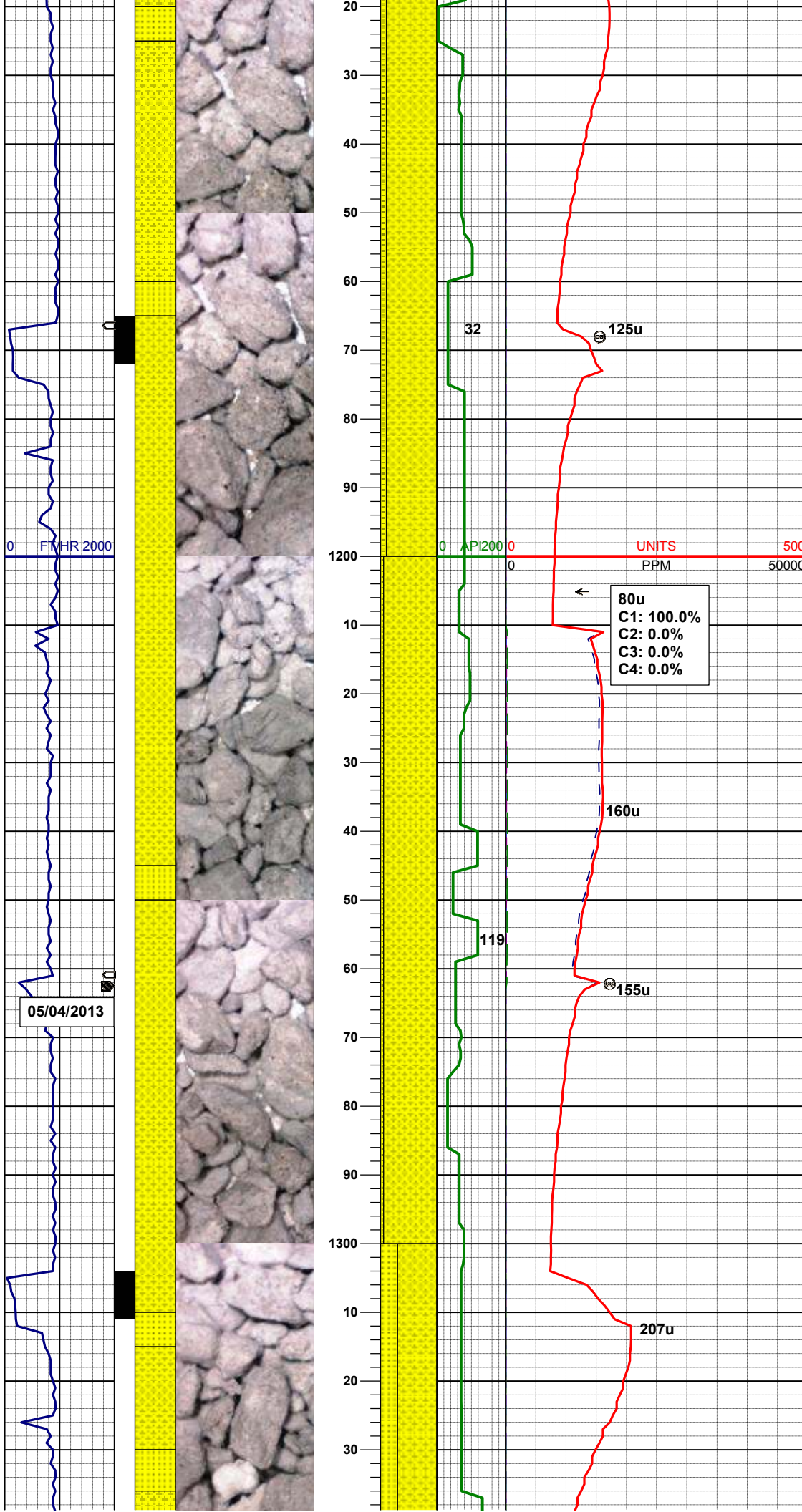
MD	1210'
INC	1.8°
AZM	81.1°
TVD	1209.52'

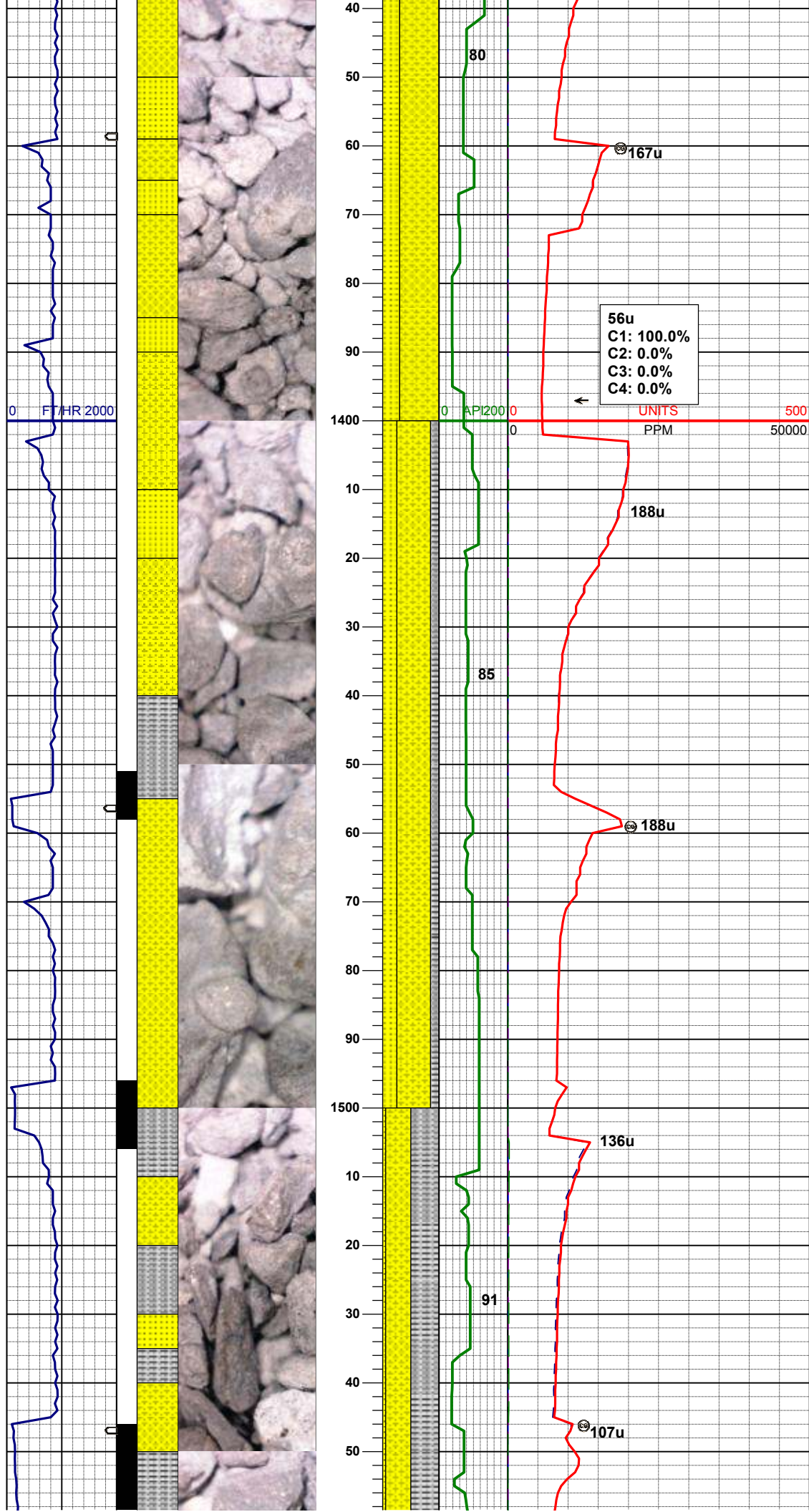
SHYSS: lt gy - wh, s&p, f gr, sbang -  
sbrnndd, w-mod srt, arg cmt  
SS: wh-trnsl, s&p, f gr, sbang-sbrnndd,  
mod srt, arg cmt

MD	1255'
INC	1.9°
AZM	78.5°
TVD	1254.50'

MD	1308'
INC	2.1°
AZM	94.3°
TVD	1308.47'

**WT IN 8.50/ OUT 8.50**  
**VIS IN 27/ OUT 27**





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

MD	1353'
INC	2.7°
AZM	98.5°
TVD	1353.43'

MD	1402'
INC	2.5°
AZM	97.8°
TVD	1401.38'

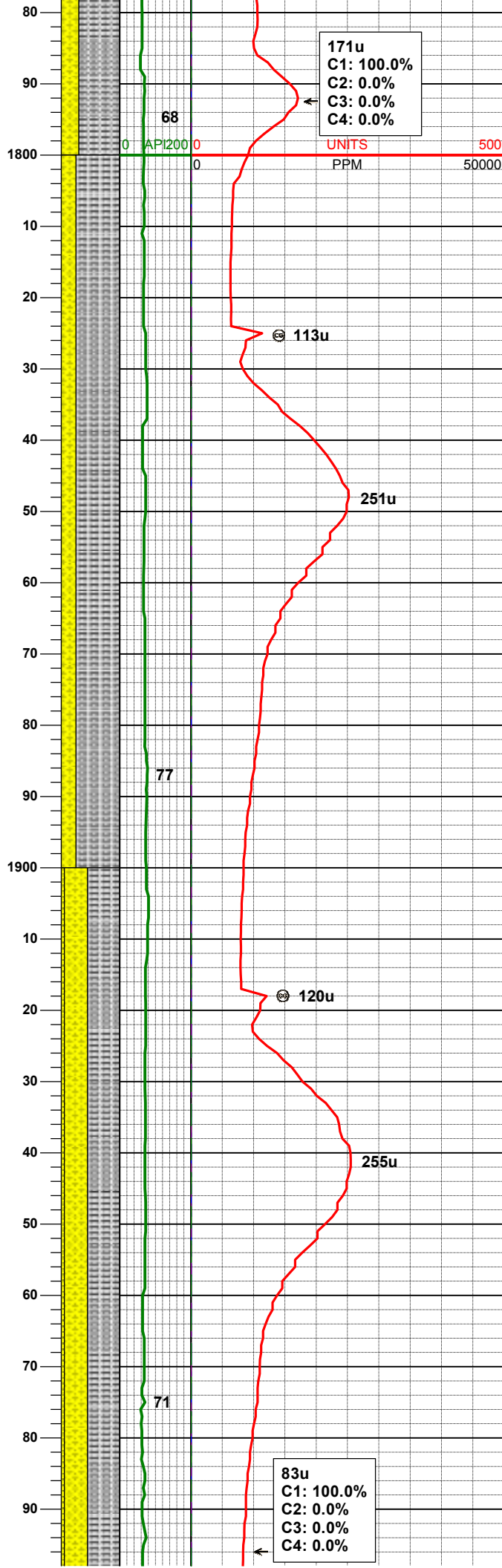
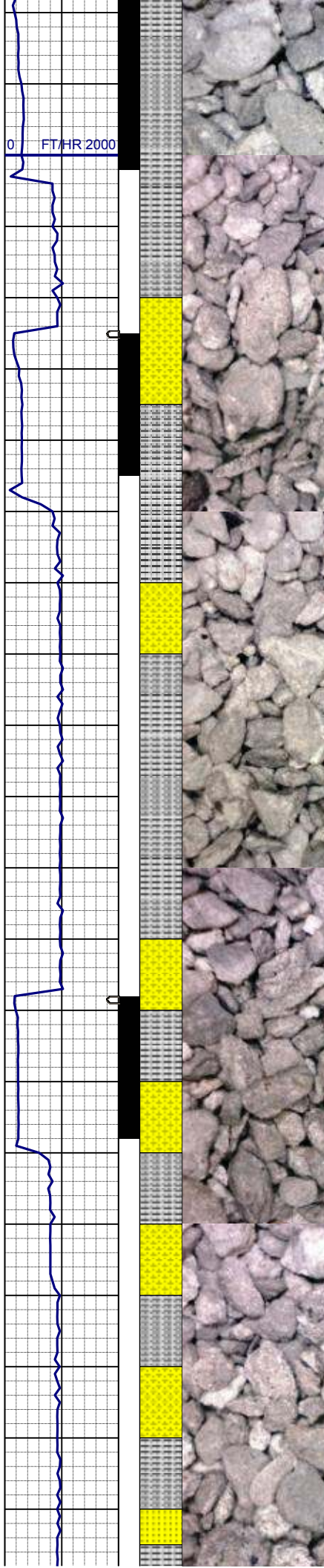
MD	1447'
INC	2.5°
AZM	100.5°
TVD	1446.33'

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

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







MD 1776'  
INC 8.8°  
AZM 171.3°  
TVD 1773.43'

171u  
C1: 100.0%  
C2: 0.0%  
C3: 0.0%  
C4: 0.0%

68

0 API200 0

UNITS 500  
PPM 50000

113u

251u

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

MD 1869'  
INC 9.9°  
AZM 191.9°  
TVD 1865.21'

77

120u

255u

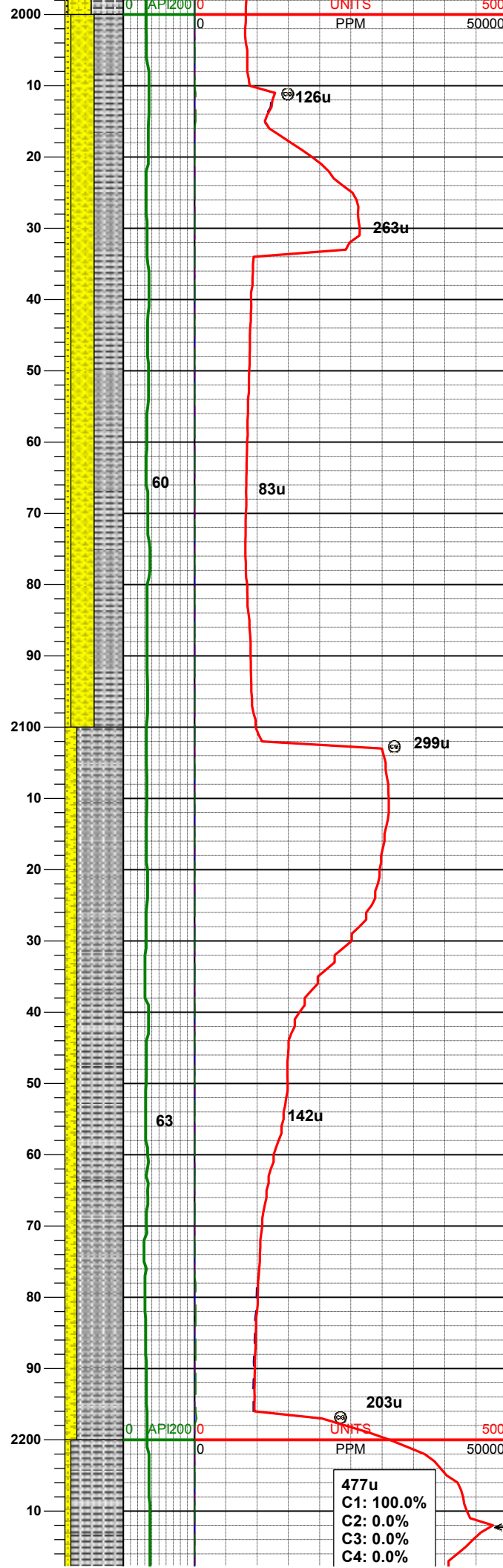
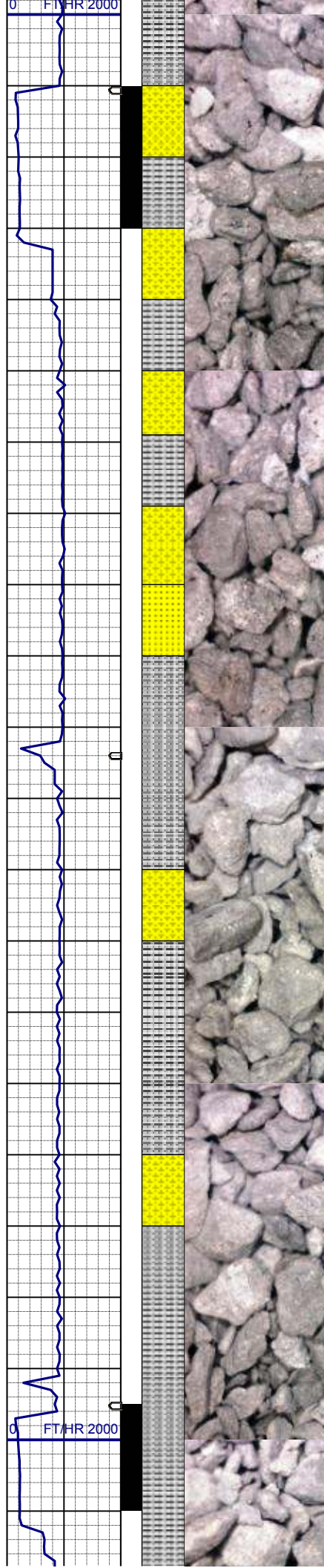
SLTYSH: m - lt gy, sft - mod firm, sbbky, occ plty, arg-rthy mtx, noncalc  
SHYSS: lt gy - wh, s&p, f gr, sbang - sbrndd, w-mod srt, arg cmt  
SS: wh-trnsl, s&p, f gr, sbang-sbrndd, mod srt, arg cmt

MD 1961'  
INC 11.5°  
AZM 191.9°  
TVD 1955.60'

83u  
C1: 100.0%  
C2: 0.0%  
C3: 0.0%  
C4: 0.0%

71





MD 2054'  
INC 12.9°  
AZM 193.6°  
TVD 2046.50'

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

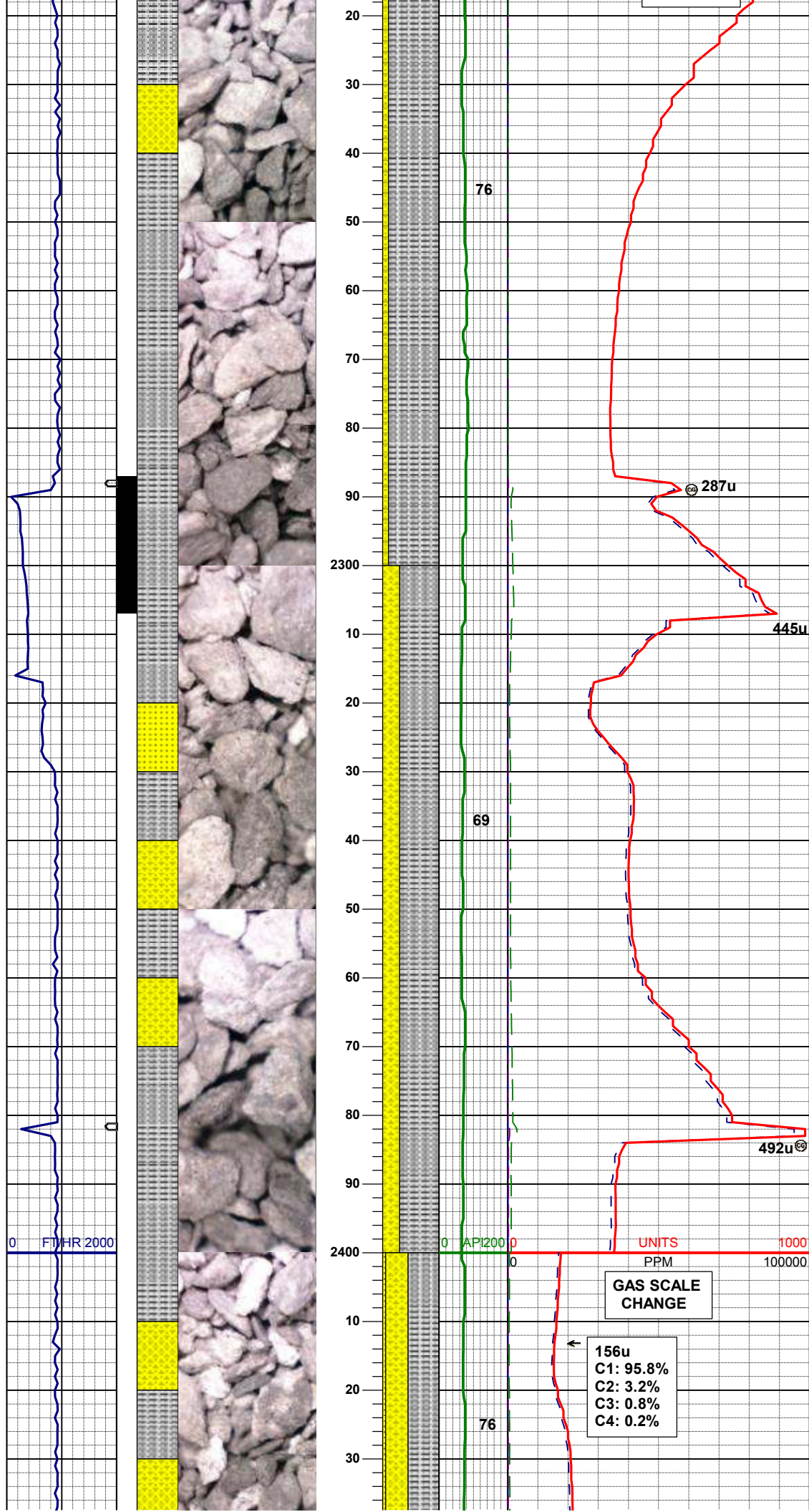
WT IN 8.70/ OUT 8.70  
VIS IN 27/ OUT 27

MD 2146'  
INC 12.1°  
AZM 192.9°  
TVD 2136.32'

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

477u  
C1: 100.0%  
C2: 0.0%  
C3: 0.0%  
C4: 0.0%





MD 2238'  
INC 12.8°  
AZM 190.5°  
TVD 2226.16'

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

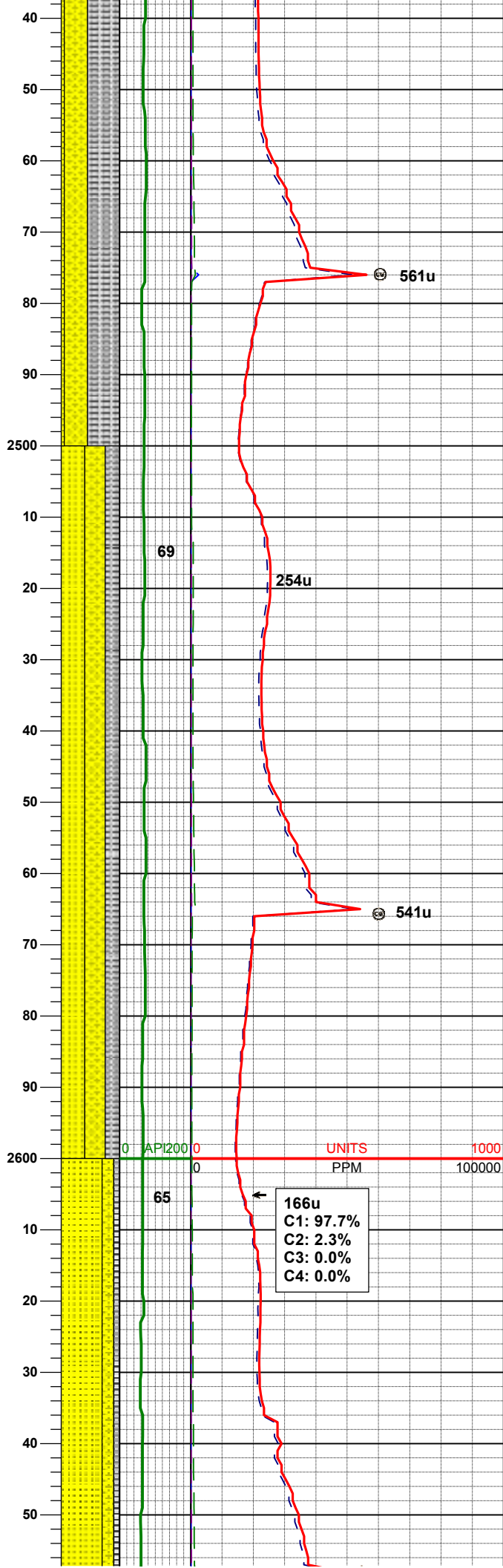
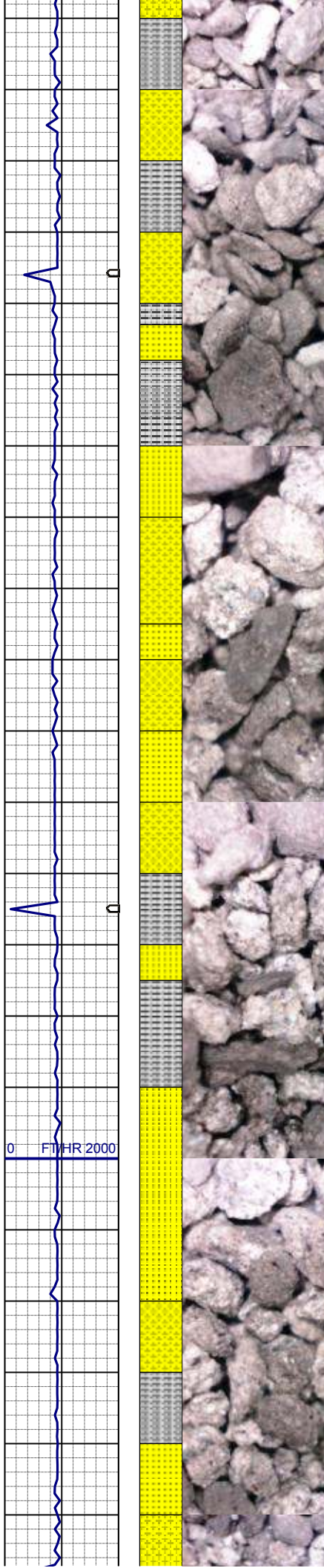
MD 2331'  
INC 13.7°  
AZM 195.4°  
TVD 2316.68'

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

MD 2423'  
INC 12.8°  
AZM 195.2°  
TVD 2406.08'

GAS SCALE  
CHANGE

156u  
C1: 95.8%  
C2: 3.2%  
C3: 0.8%  
C4: 0.2%



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

MD 2516'  
INC 11.9°  
AZM 194.3°  
TVD 2497.08'

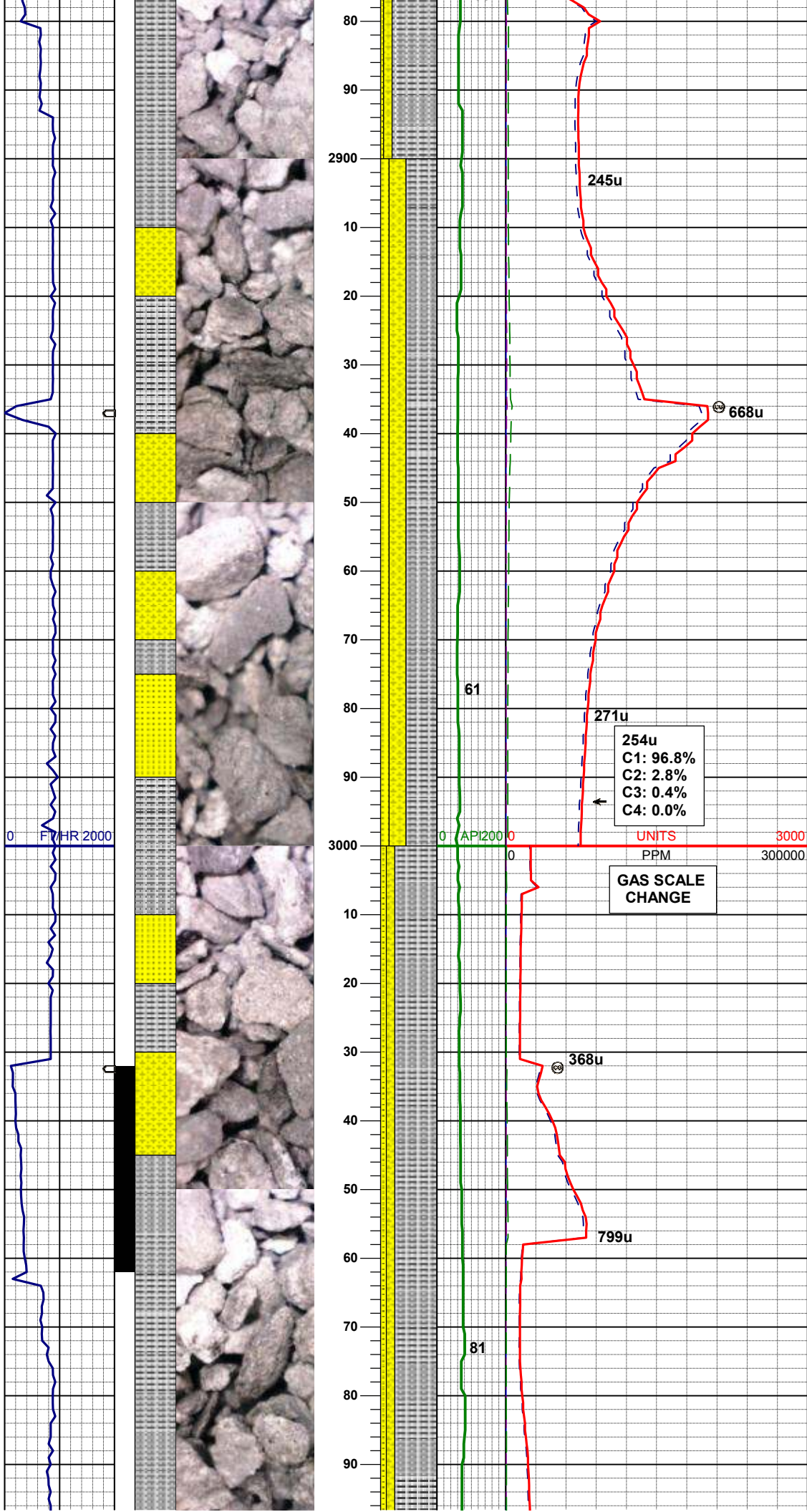
SS: wh-trnsl, s&p, f gr, sbang-sbrnnd, mod srt, tr glau, tr phlog, arg cmt  
SHYSS: lt gy - wh, s&p, f gr, sbang - sbrnnd, w-mod srt, arg cmt  
SLTYSH: m - lt gy, tr dkgy, sft - mod firm, sbbiky, occ plty, arg-rthy mtx, noncalc

MD 2610'  
INC 11.3°  
AZM 193.4°  
TVD 2589.16'

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







MD 2888'  
INC 8.3°  
AZM 211.4°  
TVD 2861.93'

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

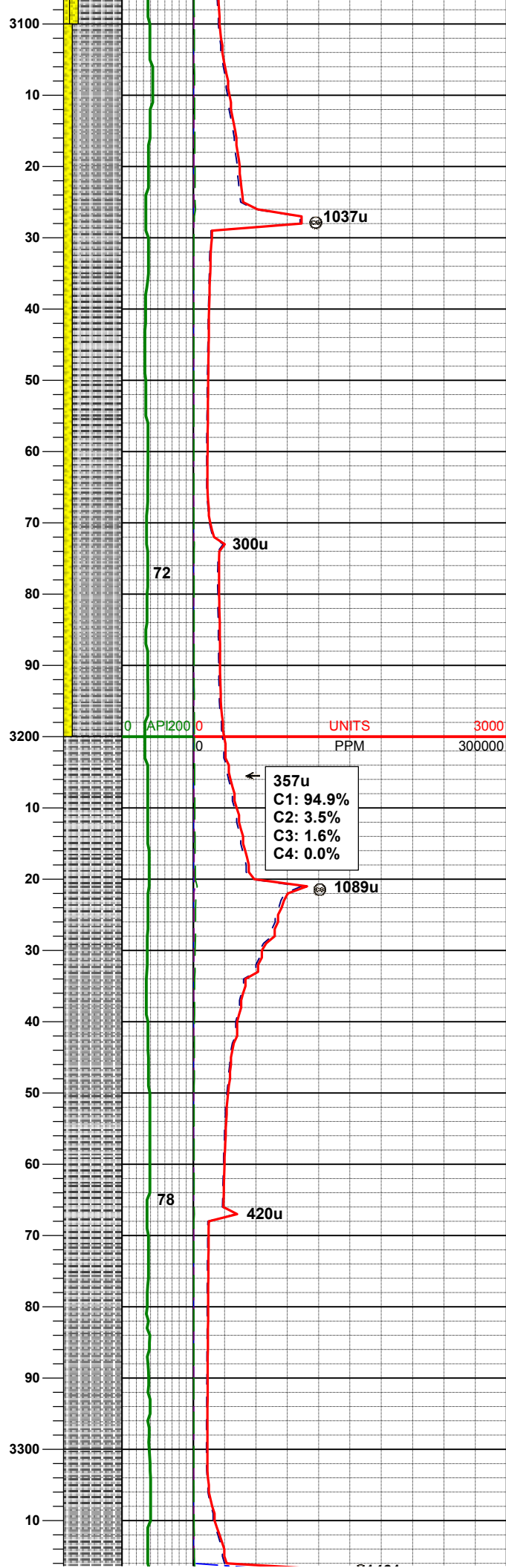
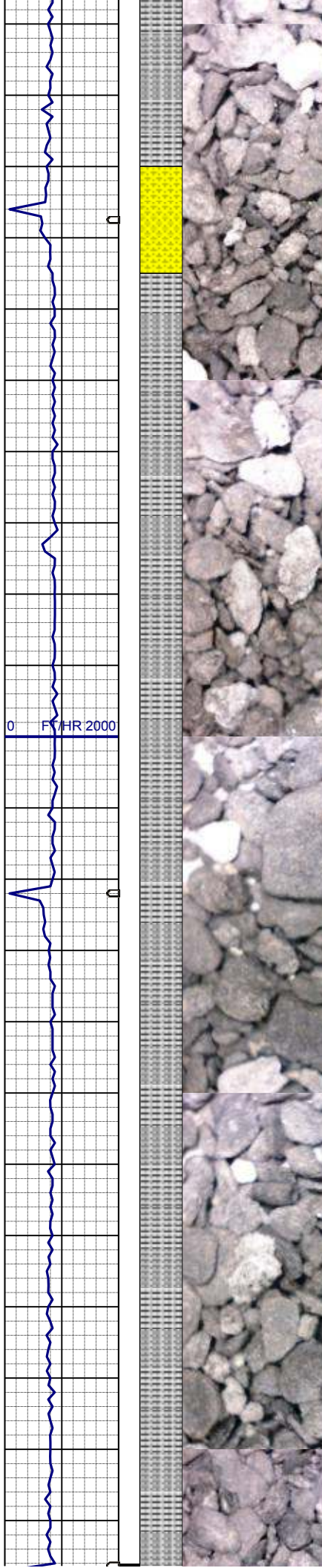
MD 2983'  
INC 8.1°  
AZM 211.6°  
TVD 2955.96'

WT IN 8.95/ OUT 8.95  
VIS IN 27/ OUT 27

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

MD 3078'  
INC 5.1°  
AZM 212.4°  
TVD 3050.32'



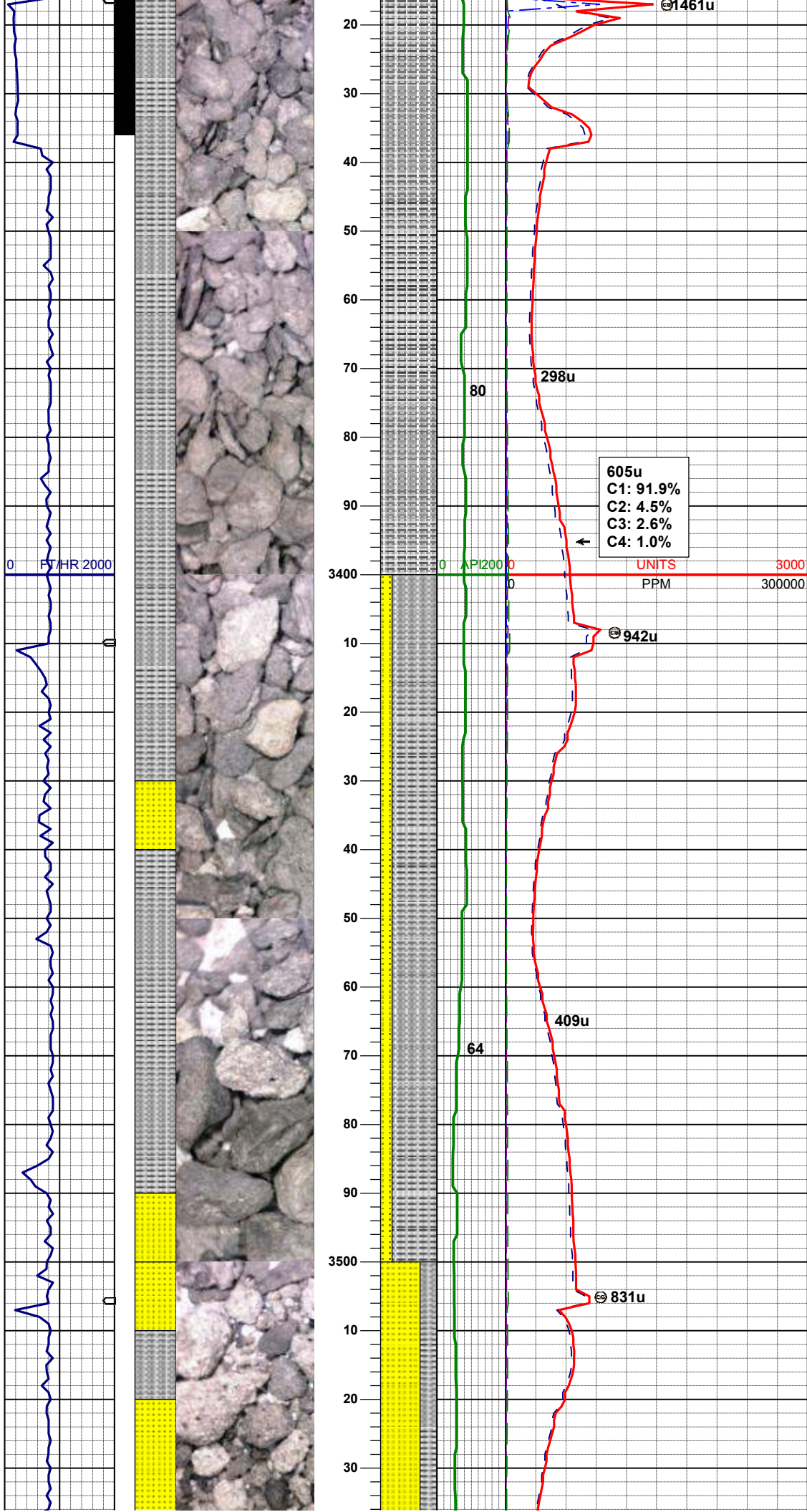


SLTYSH: m - lt gy, tr dkgy, sft - mod  
firm, sbbky, occ plty, arg-rthy mtx,  
noncalc  
SHYSS: lt gy - wh, s&p, f gr, sbang -  
sbrnnd, w-mod srt, arg cmt

MD	3172'
INC	4.2°
AZM	205.2°
TVD	3144.01'

SLTYSH: m - lt gy, tr dkgy, sft - mod  
firm, sbbky, occ plty, arg-rthy mtx,  
noncalc, tr ss

MD	3267'
INC	3.3°
AZM	189.6°
TVD	3238.81'



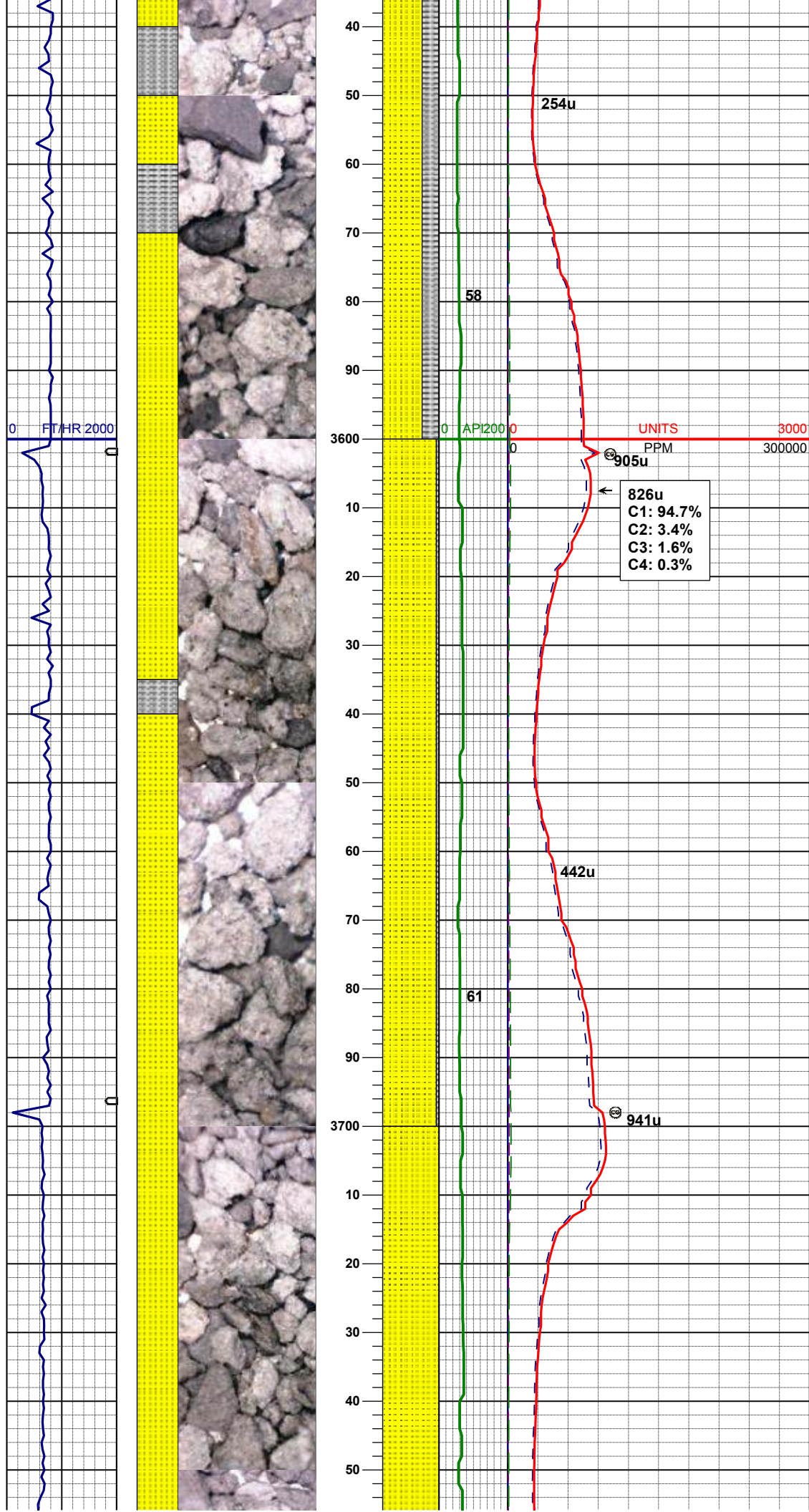
SLTYSH: m - lt gy, tr dkgy, sft - mod firm, sbbkly, occ plty, arg-rthy mtx, noncalc

MD	3362'
INC	3.9°
AZM	199.3°
TVD	3333.62'

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

MD	3456'
INC	3.9°
AZM	200.7°
TVD	3427.40'





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

MD 3551'  
INC 4.0°  
AZM 201.7°  
TVD 3522.18'

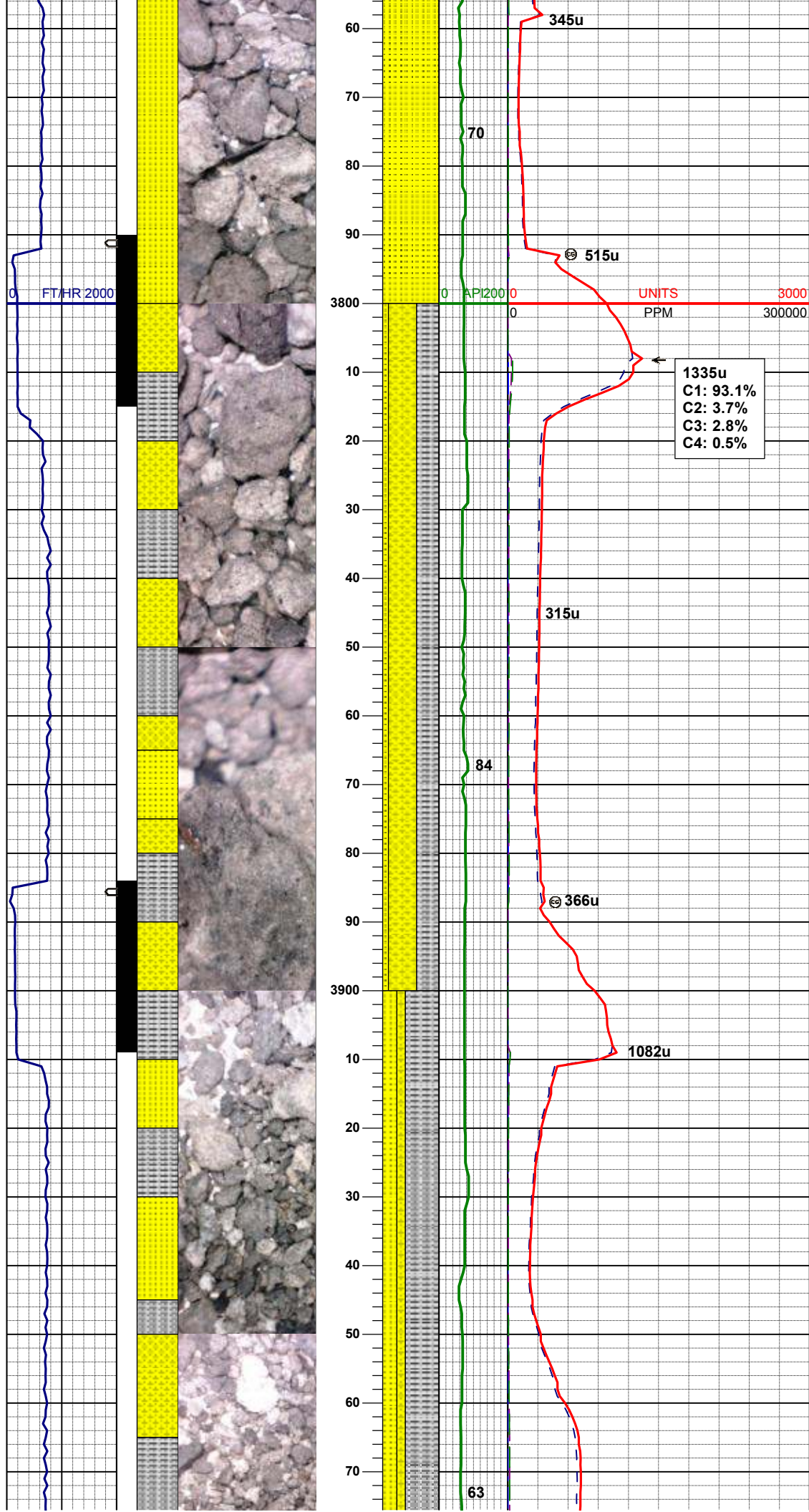
SS: wh-trnsl, s&p, f gr, sbang-sbrnndd,  
mod srt, arg cmt  
SLTYSH: m - lt gy, tr dkgy, sft - mod  
firm, sbbiky, occ plty, arg-rthy mtx,  
noncalc

MD 3646'  
INC 4.1°  
AZM 202.6°  
TVD 3616.94'

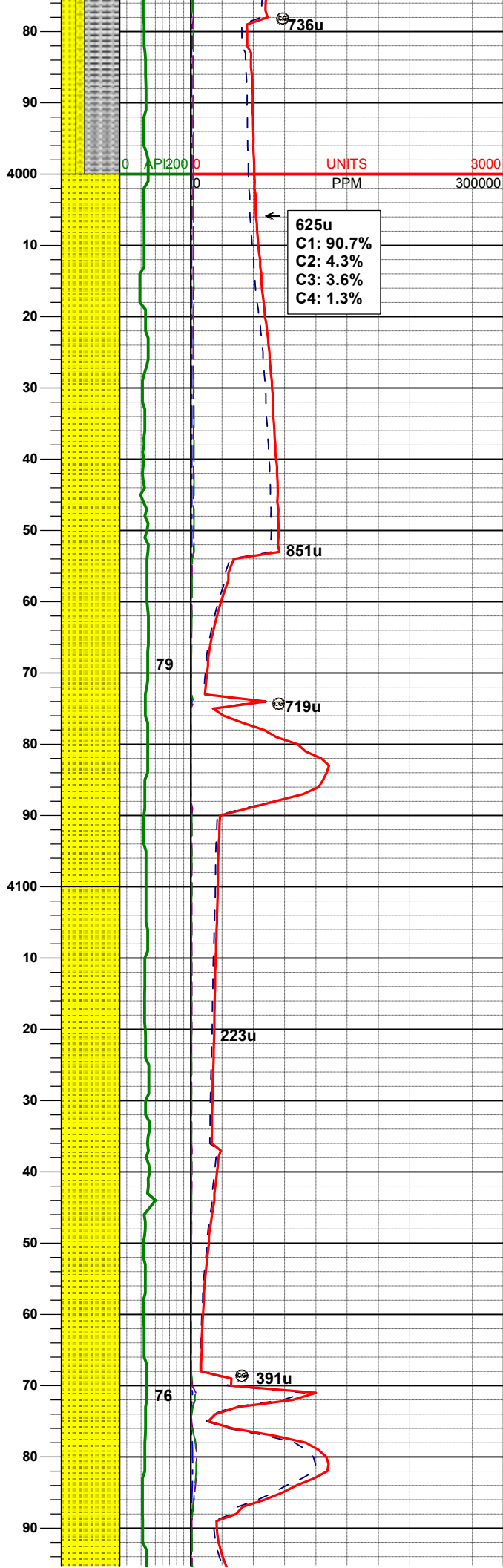
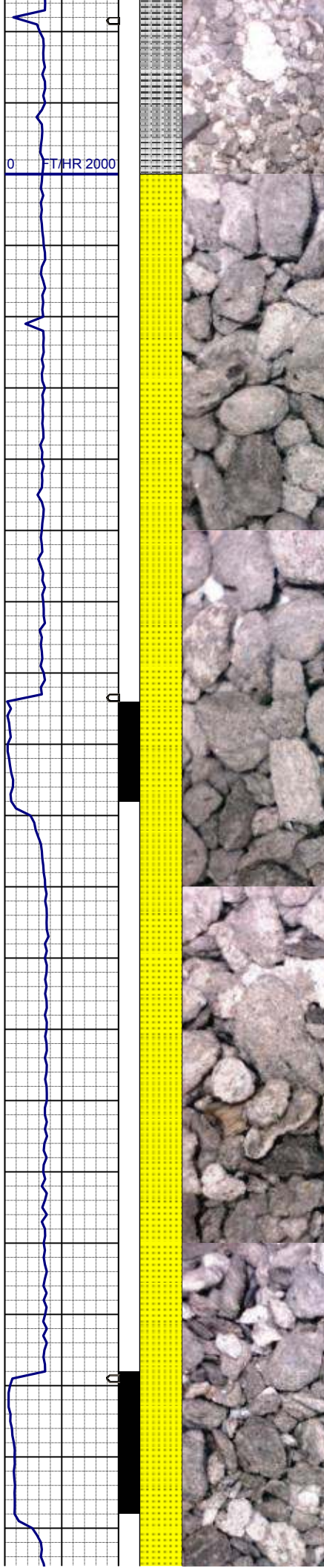
WT IN 8.85/ OUT 8.85  
VIS IN 29/ OUT 29

MD 3741'  
INC 4.4°  
AZM 203.6°  
TVD 3711.68'

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







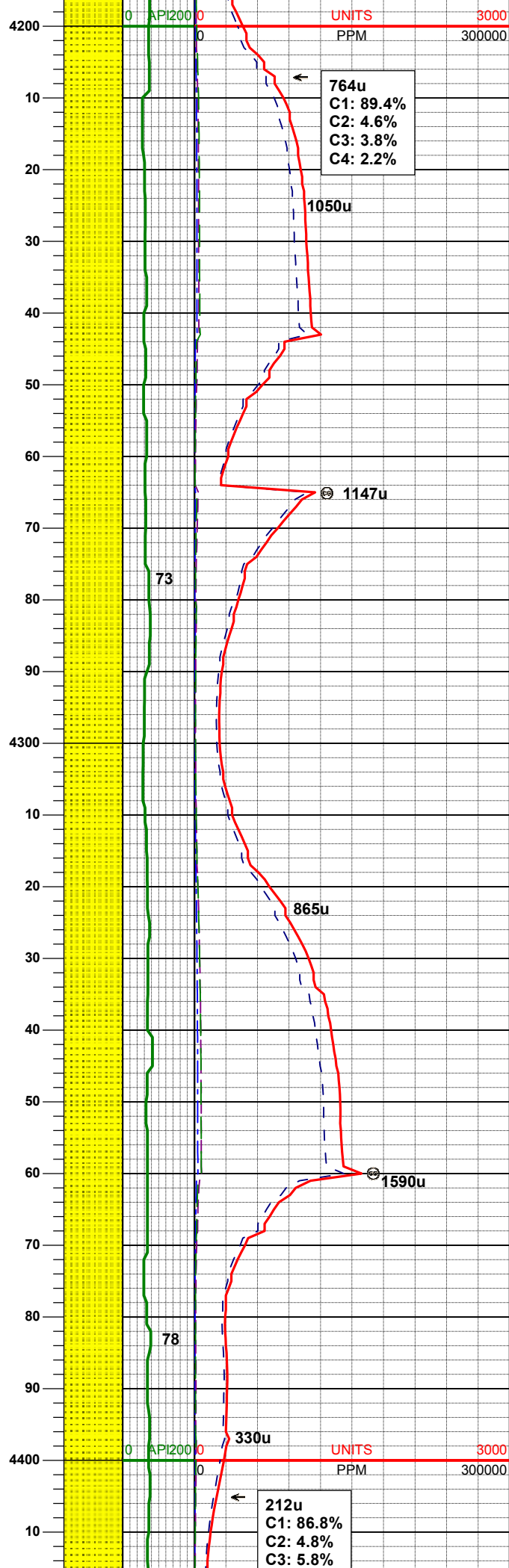
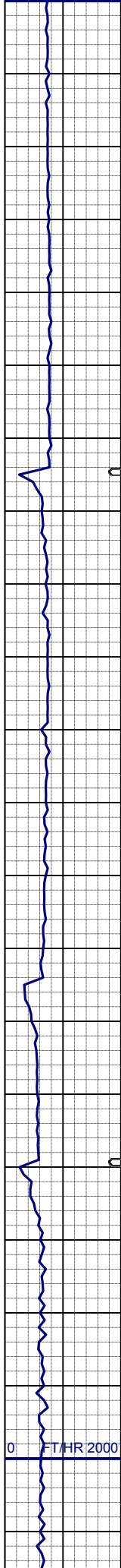
MD 4025'  
INC 1.5°  
AZM 149.7°  
TVD 3995.39'

SS: wh-trnsl, s&p, f gr, sbang-sbrnidd,  
mod srt, arg cmt, tr shy ss

MD 4119'  
INC 1.6°  
AZM 138.1°  
TVD 4089.36'

SS: wh-trnsl, s&p, f gr, sbang-sbrnidd,  
mod srt, arg cmt, tr shy ss

0 FT/HR 2000



MD 4214'  
INC 2.0°  
AZM 109.3°  
TVD 4184.31'

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

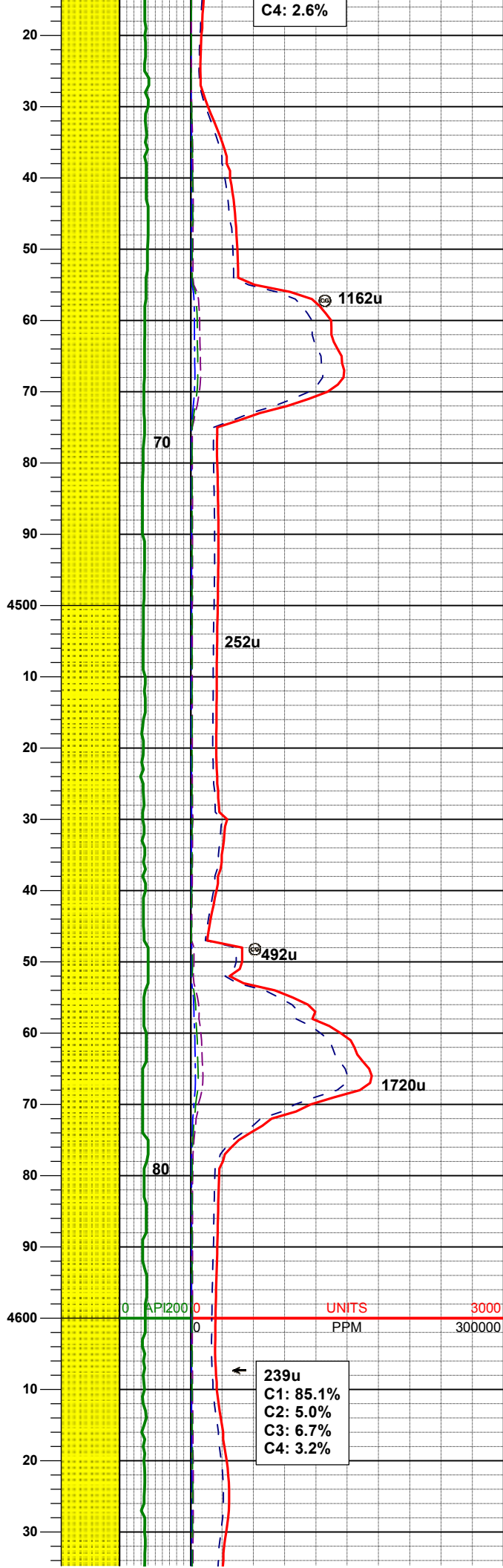
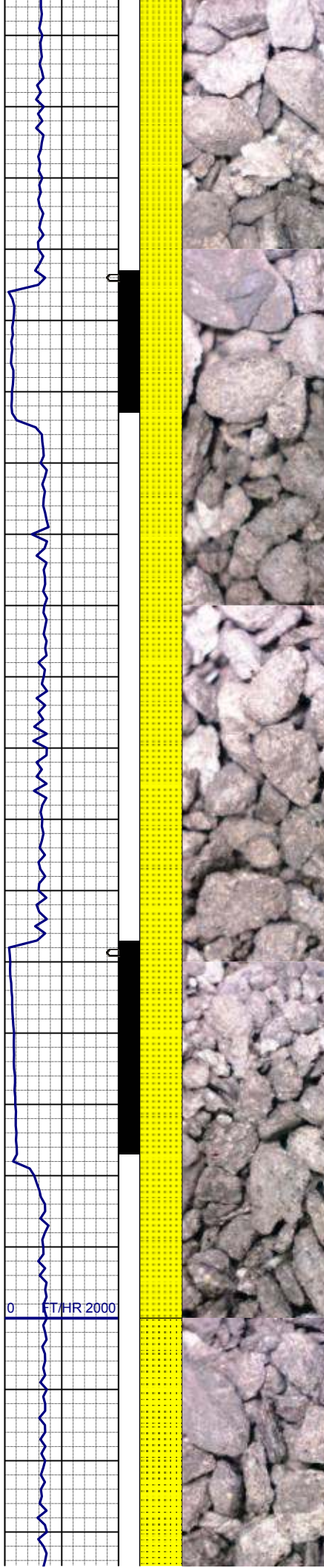
MD 4309'  
INC 2.0°  
AZM 114.7°  
TVD 4279.26'

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

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

MD 4404'  
INC 2.2°  
AZM 118.8°  
TVD 4374.19'





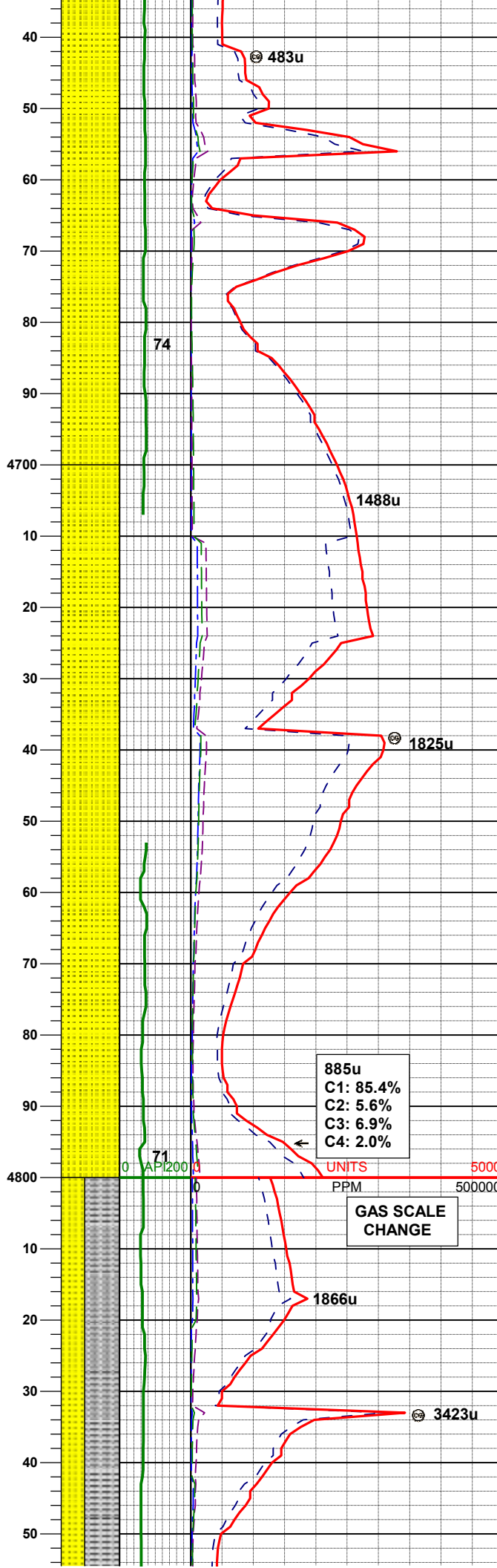
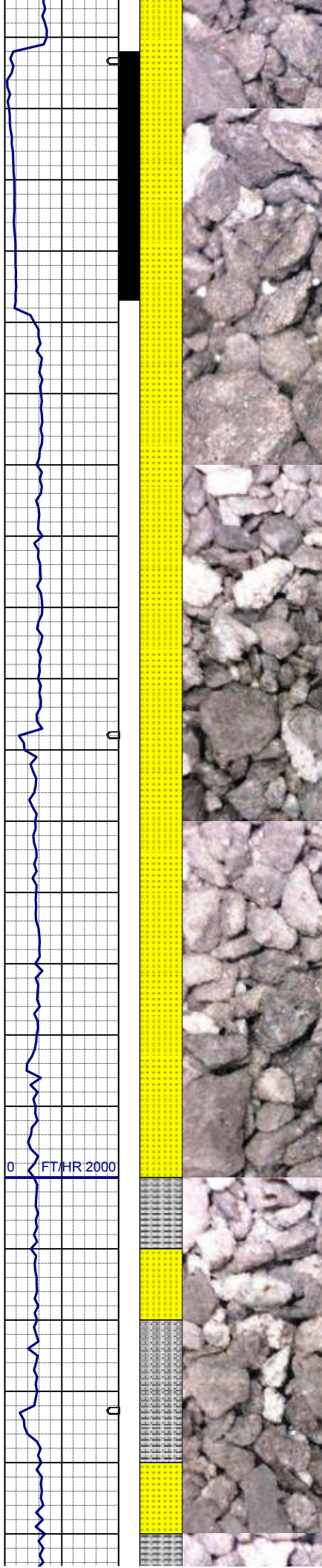
SS: wh-trnsl, s&p, f gr, sbang-sbrnndd, mod srt, arg cmt, tr shy ss

MD 4498'  
INC 2.4°  
AZM 140.0°  
TVD 4468.12'

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

MD 4593'  
INC 1.1°  
AZM 184.5°  
TVD 4563.08'

239u  
C1: 85.1%  
C2: 5.0%  
C3: 6.7%  
C4: 3.2%



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

MD 4688'  
INC 1.1°  
AZM 2.9°  
TVD 4658.07'

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

MD 4782'  
INC 1.1°  
AZM 4.8°  
TVD 4752.05'

885u  
C1: 85.4%  
C2: 5.6%  
C3: 6.9%  
C4: 2.0%

SLTYSH: m - lt gy, tr dkgy, sft - mod firm, sbbiky, occ plty, arg-rthy mtx, noncalc

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



MD	4877'
INC	1.2°
AZM	355.4°
TVD	4847.03'

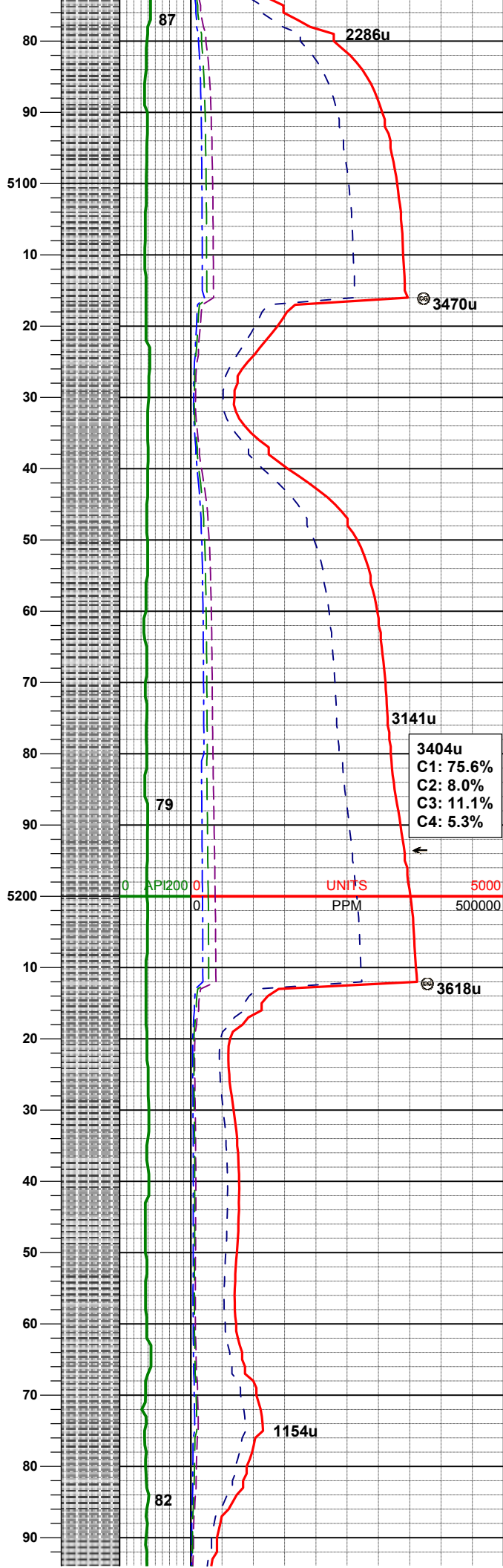
SLTYSH: m - lt gy, tr dkgy, sft - mod  
firm, sbblky, occ plty, arg-rthy mtx,  
noncalc, tr ss

MD	4971'
INC	1.1°
AZM	337.0°
TVD	4941.01'

SLTYSH: m - lt gy, tr dkgy, sft - mod  
firm, sbblky, occ plty, arg-rthy mtx,  
noncalc, tr ss

MD	5066'
INC	1.5°
AZM	333.0°
TUR	5025.001

TVD 5035.99'

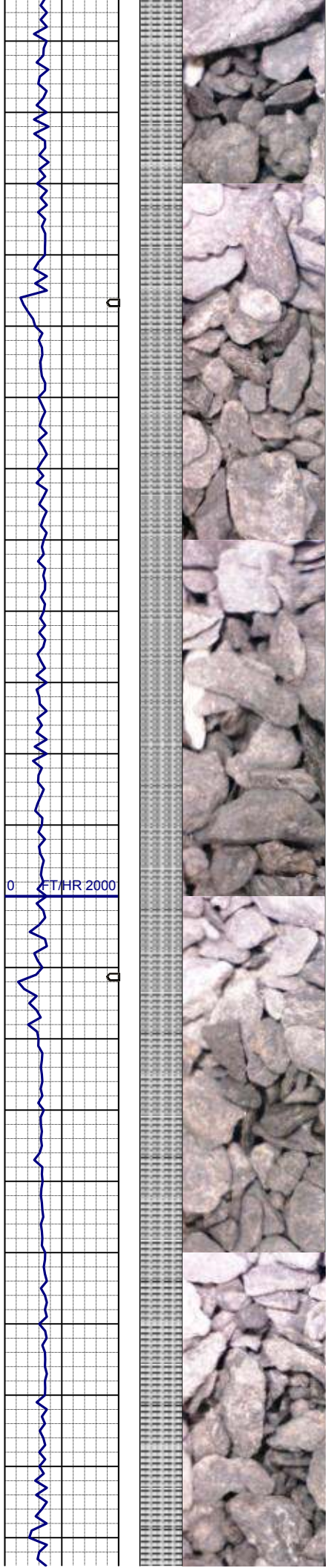


SLTYSH: m - lt gy, tr dkgy, sft - mod  
firm, sbbly, occ plty, arg-rthy mtx,  
noncalc

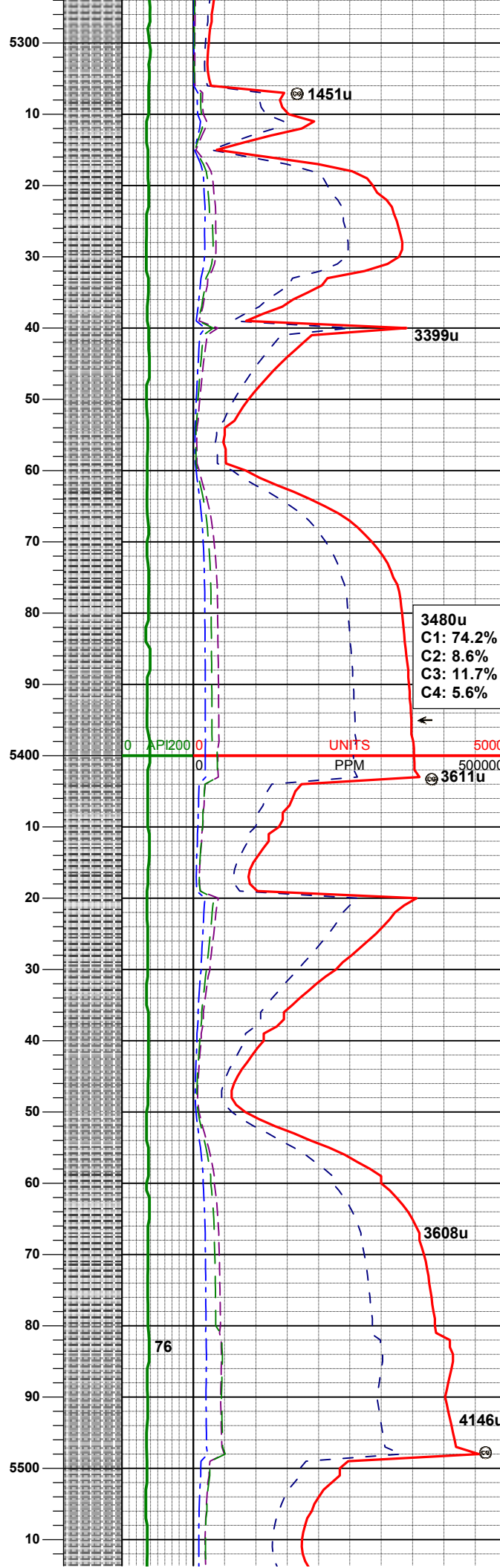
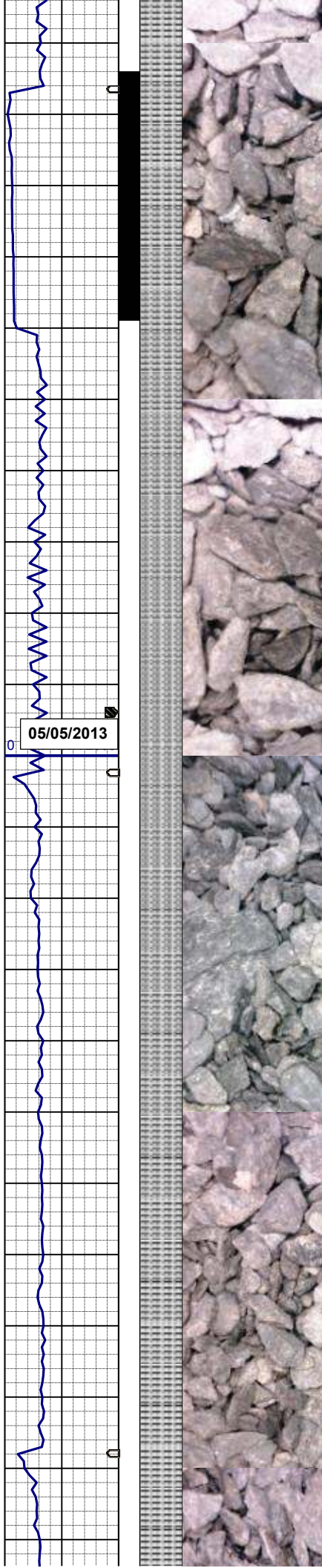
MD 5161'  
INC 1.5°  
AZM 324.8°  
TVD 5130.96'

SLTYSH: m - lt gy, tr dkgy, sft - mod  
firm, sbbly, occ plty, arg-rthy mtx,  
noncalc

MD 5255'  
INC 1.5°  
AZM 320.2°  
TVD 5224.93'







MD 5350'  
INC 0.4°  
AZM 71.3°  
TVD 5319.91'

SLTYSH: m - lt gy, tr dkgy, sft - mod  
firm, sbblky, occ plty, arg-rthy mtx,  
noncalc

3480u  
C1: 74.2%  
C2: 8.6%  
C3: 11.7%  
C4: 5.6%

UNITS  
PPM

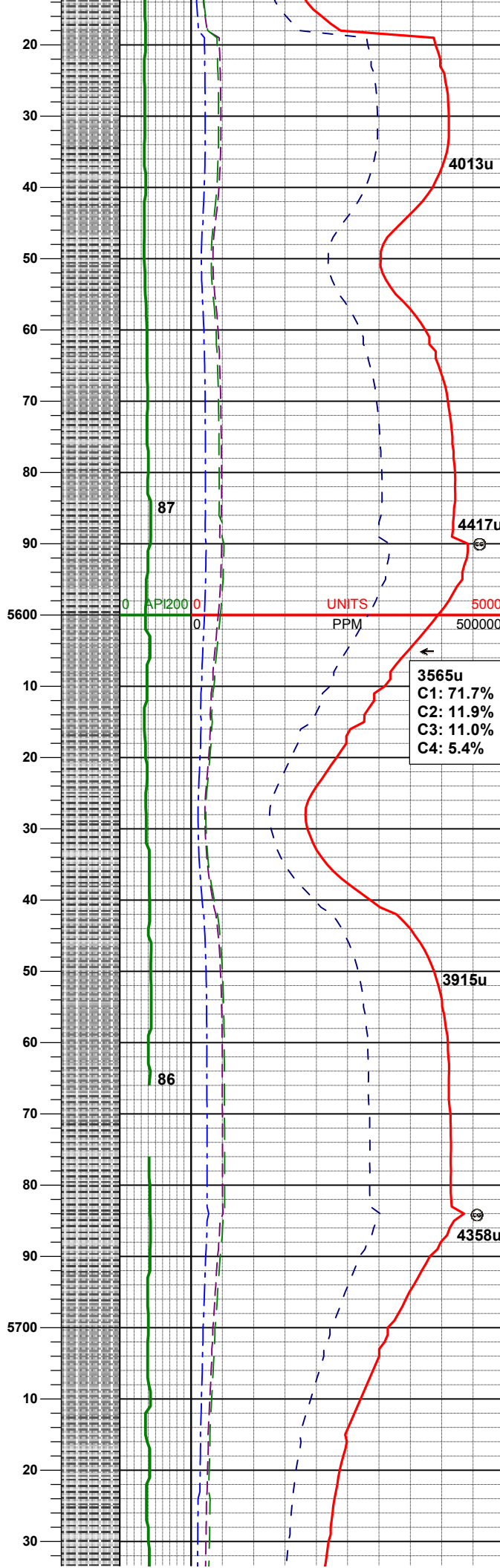
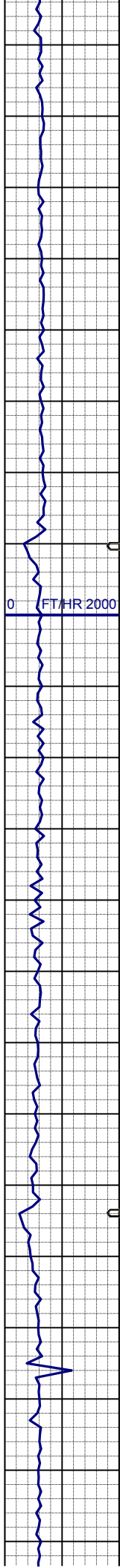
5000  
500000

MD 5445'  
INC 0.3°  
AZM 65.5°  
TVD 5414.91'

SLTYSH: m - lt gy, tr dkgy, sft - mod  
firm, sbblky, occ plty, arg-rthy mtx,  
noncalc

3608u

4146u



MD 5540'  
INC 0.2°  
AZM 120.7°  
TVD 5509.91'

SLTYSH: m - lt gy, tr dkgy, sft - mod  
firm, sbbkly, occ plty, arg-rthy mtx,  
noncalc

MD 5635'  
INC 0.2°  
AZM 51.3°  
TVD 5604.91'

SLTYSH: m - lt gy, tr dkgy, sft - mod  
firm, sbbkly, occ plty, arg-rthy mtx,  
noncalc, rr pyr, rr ss

MD 5730'



INC 0.1°  
AZM 30.7°  
TVD 5699.91'

SLTYSH: m - lt gy, tr dkgy, sft - mod  
firm, sbbkly, occ plty, arg-rthy mtx,  
noncalc

WT IN 9.00/ OUT 9.00  
VIS IN 27/ OUT 27

