

LOG created using L PLOT VH Version 3.0, February 11, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

OPERATOR: NOBLE ENERGY INC.
WELL: ROHN LB22-62HN
LOCATION: SEC 21, T9N, R60W
COUNTY: WELD
STATE: COLORADO
SPOT: 650' FSL, 735' FWL
ELEVATION: GE: 4,982'; KB: 5,006'
FIELD: WILDCAT
SPUD DATE: 02/04/2013
TD DATE: 02/10/2013
DATES LOGGED: 02/05/2013 - 02/10/2013
DEPTHS LOGGED: 1,000' - 10,617'
LOGGERS: BRAD WILSON, JOHN T. READY
DRILLING FLUID: WATER, MUD, POLY
DRILLING RIG: H&P 322
API: # 05-123-36293
LOG TYPE: VERTICAL
SCALE: 1:240 (5 inches per 100 feet)
REMARKS: WELLSITE GEOLOGICAL SERVICES PROVIDED BY COLUMBINE LOGGING INC.

LITHOLOGIES



Sandstone



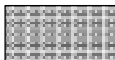
Shaly Sandstone



Shaly Siltstone



Siltstone



Silty Shale

ENGINEERING SYMBOLS



Connection



Connection Gas



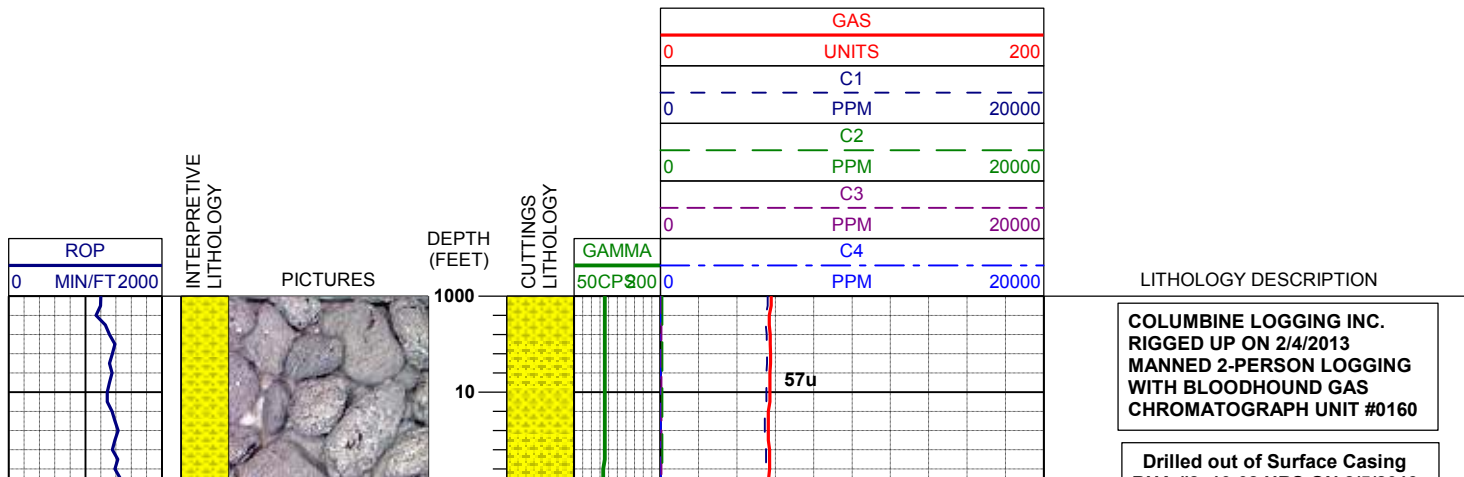
Arrow



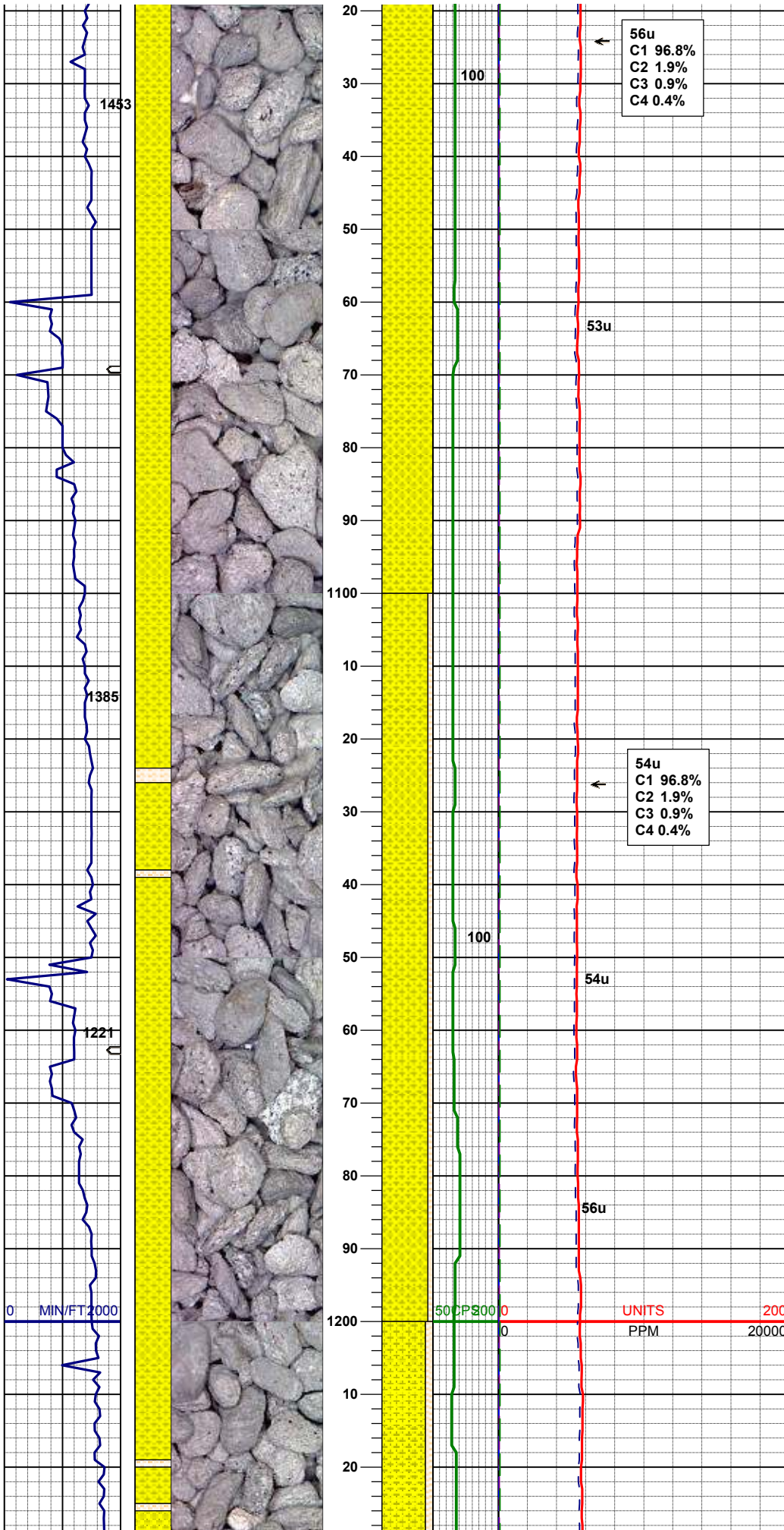
Midnight Depth



Arrow



BHA #1
Bit: 8.75"
Manufacturer: Schlumberger/Smith
Model: MDi516
Serial Number: JG5894
Nozzles: 5x14
Motor: 6.470"
Manufacturer: Wenzel
Serial Number: 650-10-141
Bend: 1.50

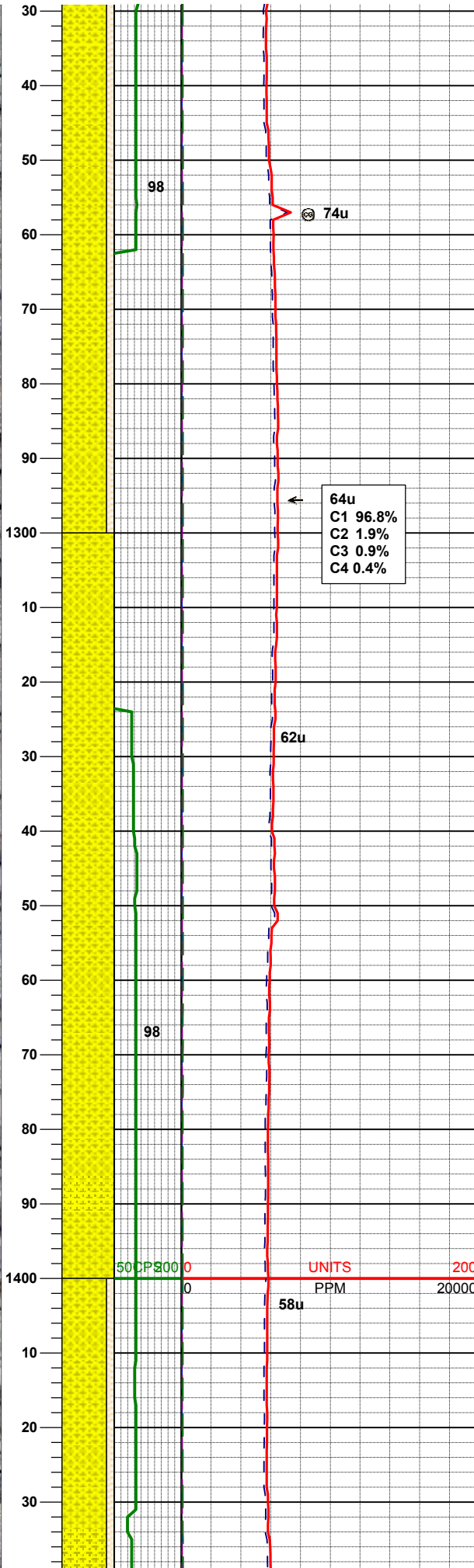
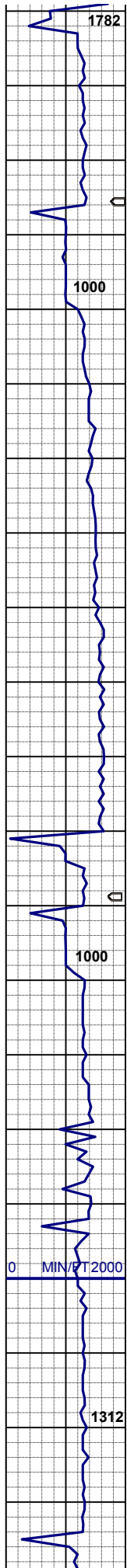


100% SHYSS: ltgy- tr s&p, vf-fgr, sbrd - sbang,
 mod srt, firm- fri, p por, arg cmt, rr biot, rr glau,
 occ grdg - sltst, sme dk gy cly

MD 1104'
INC .96
AZM 26.9

MUD WT 8.4 VIS 28

90% SHYSS: ltgy- tr s&p, vf-fgr, sbrd - sbang,
 mod srt, firm- fri, p por, arg cmt, rr biot, rr glau,
 occ grdg - sltst, sme dk gy cly
 10% SHALY SLTST: ltgy, sft- fri, sbblky- sl
 sbplty, aren- slty tex, tr biot incl

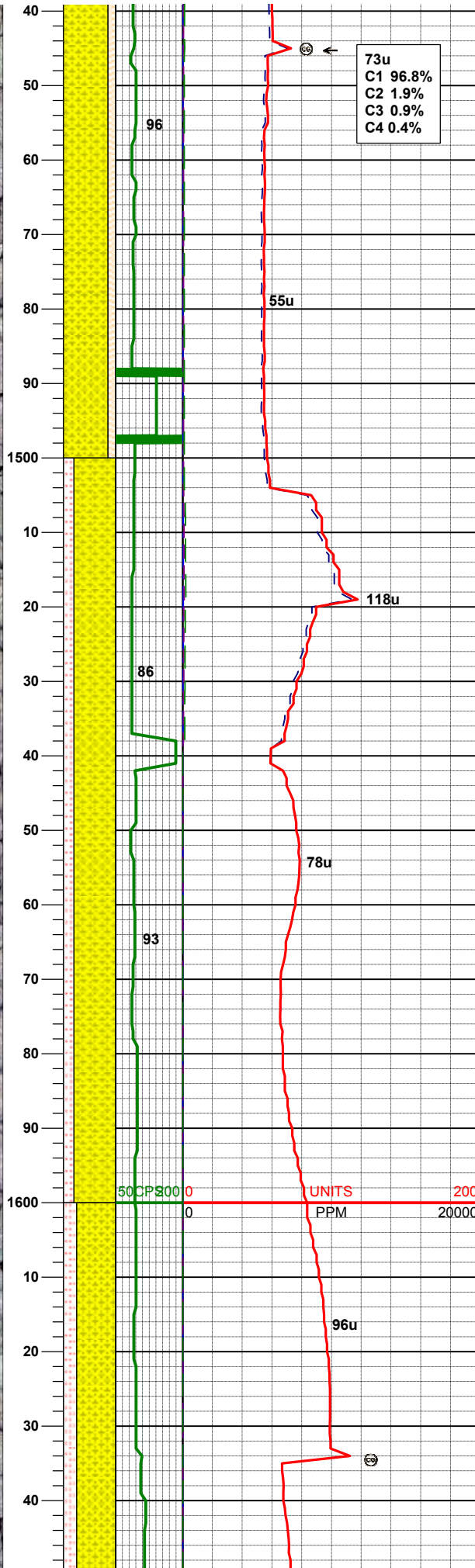
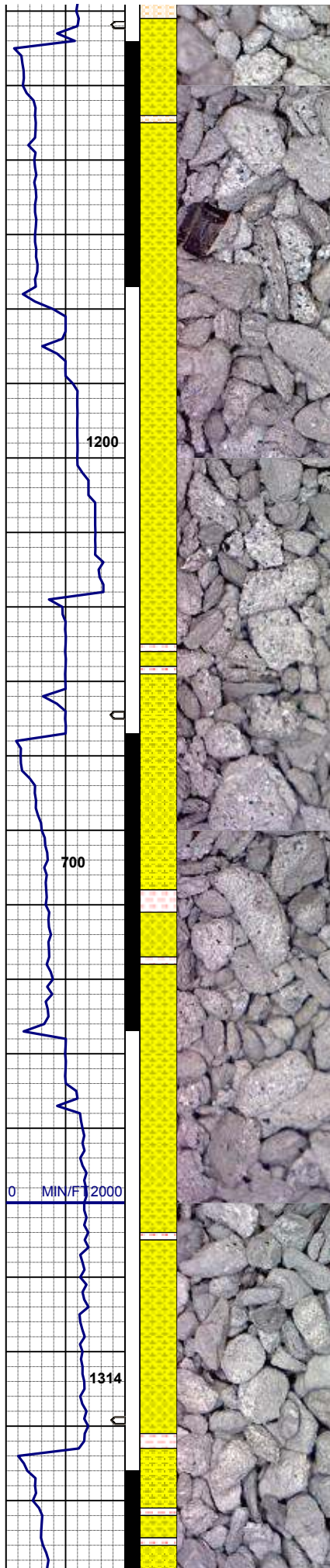


85% SHYSS: ltgy- tr s&p, vf-fgr, sbrd - sbang,
mod srt, firm- fri, p por, arg cmt, rr biot, rr glau,
sme dk gy cly
15% SHALY SLTST: ltgy, sft- fri, sbblky- sl
sbplty, aren- slty tex, tr biot incl

MUD WT 8.4 VIS 28

100% SHYSS: ltgy- tr s&p, vf-fgr, sbrd - sbang,
mod srt, firm- fri, p por, arg cmt, rr biot, rr glau,
occ grdg - sltst

MD 1383'
INC .96
AZM 41.45



85% SHYSS: ltgy- tr s&p, vf-fgr, sbrd - sbang,
mod srt, firm- fri, p por, arg cmt, rr biot, tr glau,
sme dk gy cly
15% SHALY SLTST: ltgy, sft- fri, sbblky- sl
sblply, aren- slty tex, tr biot incl

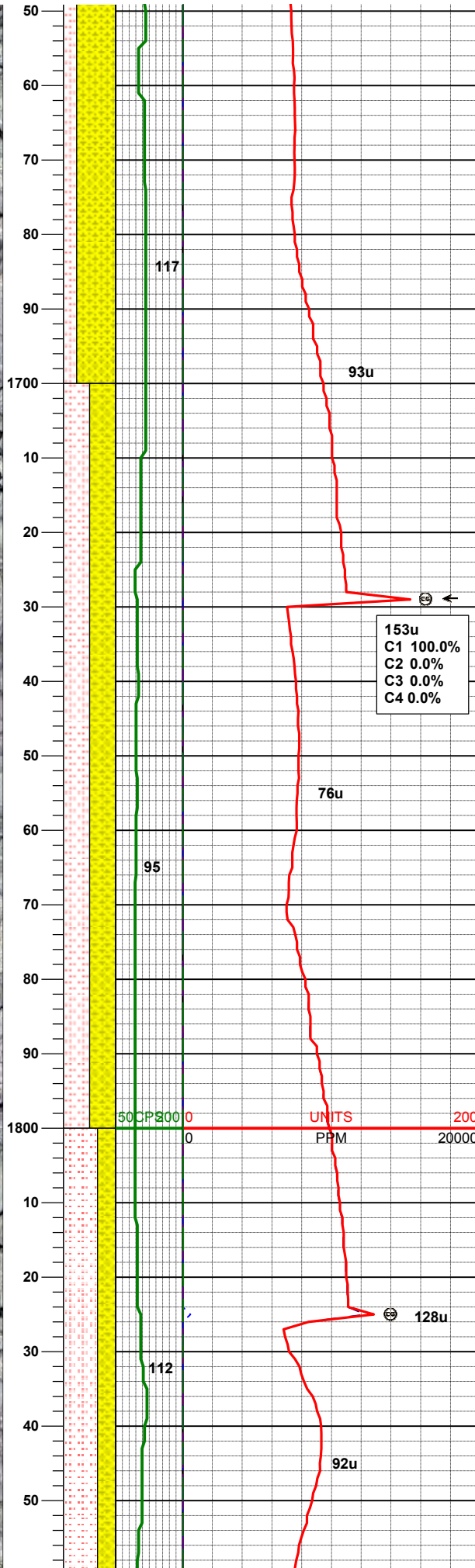
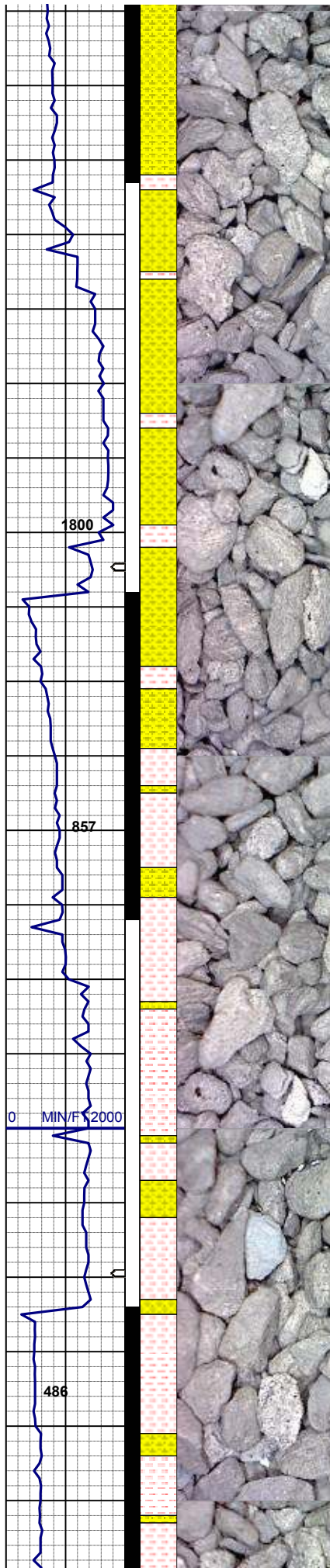
MD 1476'
INC 1.76
AZM 42.34

80% SHYSS: ltgy- tr s&p, vf-fgr, sbrd - sbang,
mod srt, firm- fri, v por, arg cmt, tr biot, tr glau,
grdg - sltst
20% SLTST: ltgy, sft- fri, sbblky, aren- v slty
tex, occ biot incl

MD 1571'
INC 3.94
AZM 41.91

MUD 8.4 VIS 27

75% SHYSS: ltgy- tr s&p, vf-fgr, sbrd - sbang,
mod srt, firm- fri, v por, arg cmt, tr biot, tr glau,
grdg - sltst



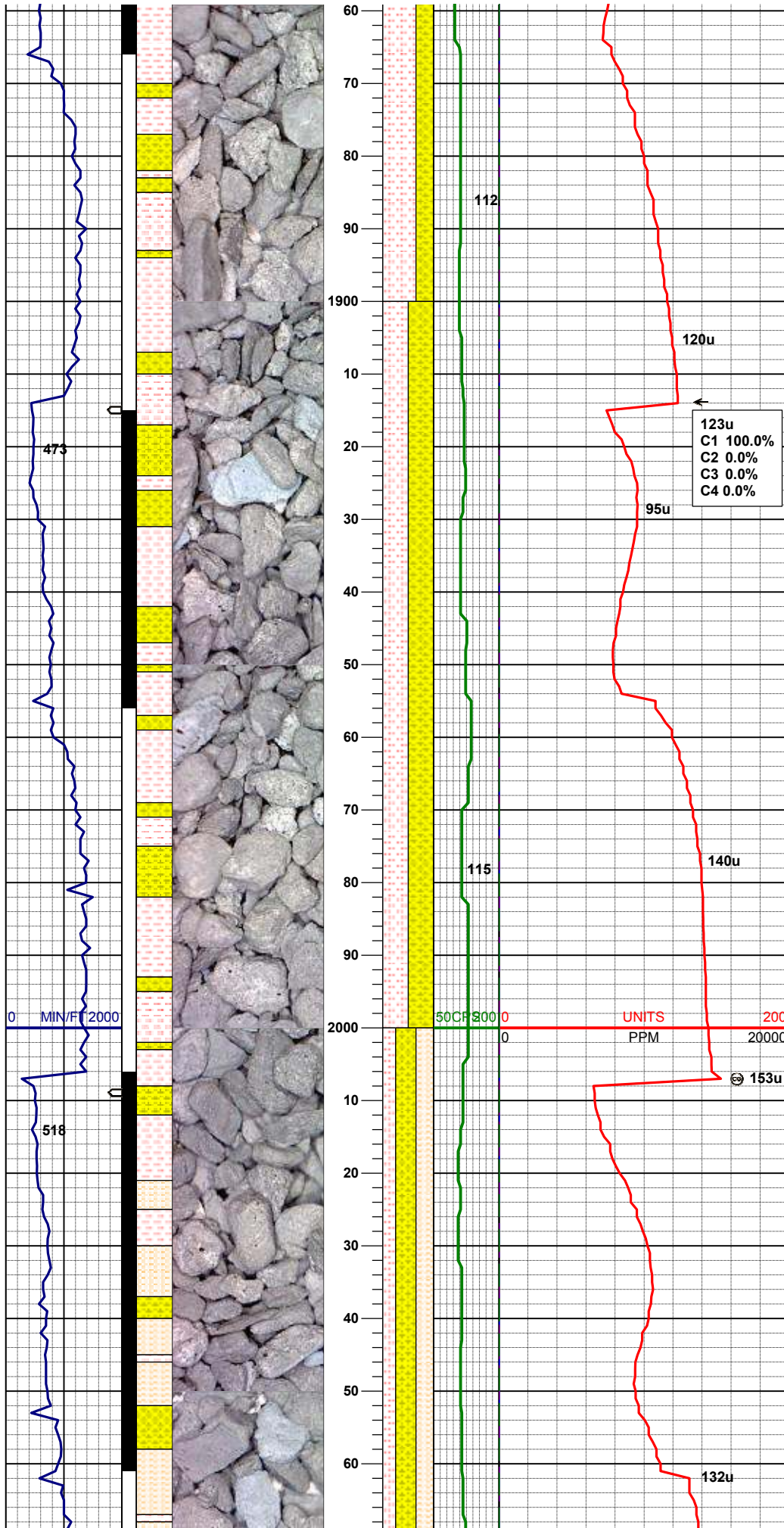
gray - silt
25% SLTST: ltgy, sft- fri, sbbkly, aren- v slty
tex, occ biot incl

MD 1666'
INC 5.71
AZM 37.32

50% SHYSS: ltgy- tr s&p, vf-fgr, sbrd - sbang,
mod srt, firm- fri, v por, arg cmt, tr biot, tr glau,
grdg - siltst
50% SLTST: ltgy, sft- fri, sbbkly, aren- v slty
tex, occ biot incl

MD 1761'
INC 6.90
AZM 42.67

MD 1855'
INC 8.28
AZM 44.26



65% SLTST: ltgy, firm- sft- fri, sbbiky, aren, slty
-v slty tex, occ biot incl
35% SHYSS: ltgy- tr s&p, vf-fgr, sbrd - sbang,
mod srt, firm- fri, v por, arg cmt, tr biot, tr glau,
grdg - sltst

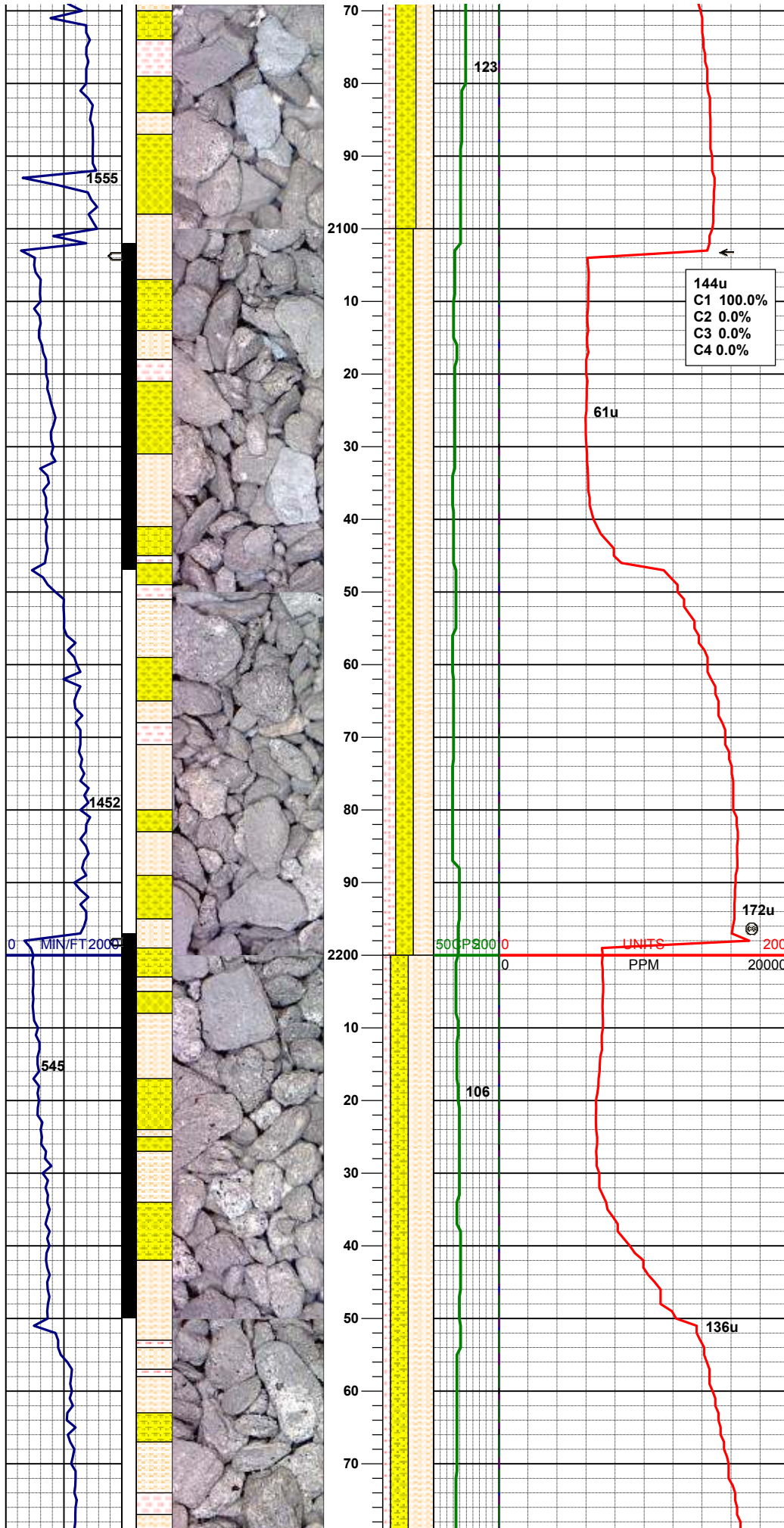
50% SHYSS: ltgy- tr s&p, vf-fgr, sbrd - sbang,
mod srt, firm- fri, v por, arg cmt, tr biot, grdg -
sltst
50% SLTST: ltgy, sft- fri, sbbiky, aren- v slty
tex, occ biot incl

MD 1950'
INC 9.73
AZM 37.09

MUD WT 8.4 VIS 27

MD 2045'
INC 11.55
AZM 40.31

40% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt,
firm- fri, v por, arg cmt, tr biot, grdg - sltst
35% SHALY SLTST: ltgy, sft- fri, sbbiky- sl
sbply, aren- slty tex, tr biot incl
25% SLTST: ltgy, sft- fri, sbbiky, aren- v slty
tex, occ biot incl

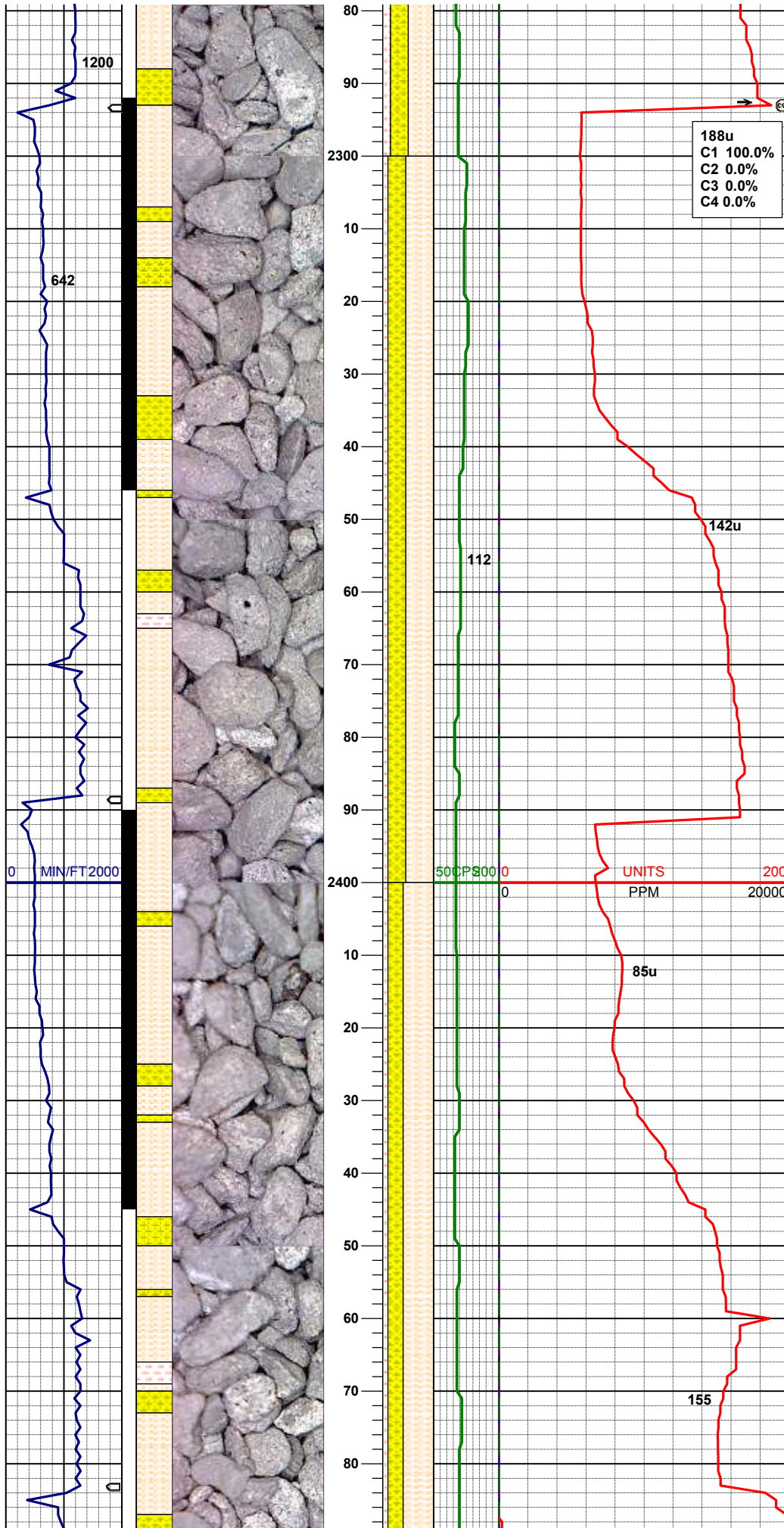


MD 2140'
INC 12.74
AZM 39.43

40% SHALY SLTST: ltgy, sft- fri, sbbly- sl
sbply, aren- slty tex, tr biot incl
35% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt,
firm- fri, v por, arg cmt, tr biot, grdg - sltst
25% SLTST: ltgy, sft- fri, sbbly, aren- v slty
tex, occ biot incl

MD 2235'
INC 13.46
AZM 38.13

50% SHALY SLTST: ltgy, sft- fri, sbbly- sl
sbply, aren- slty tex, tr biot incl
35% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt,
firm- fri, v por, arg cmt, tr biot, grdg - sltst
15% SLTST: ltgy, sft- fri, sbbly, aren- v slty
tex, occ biot incl

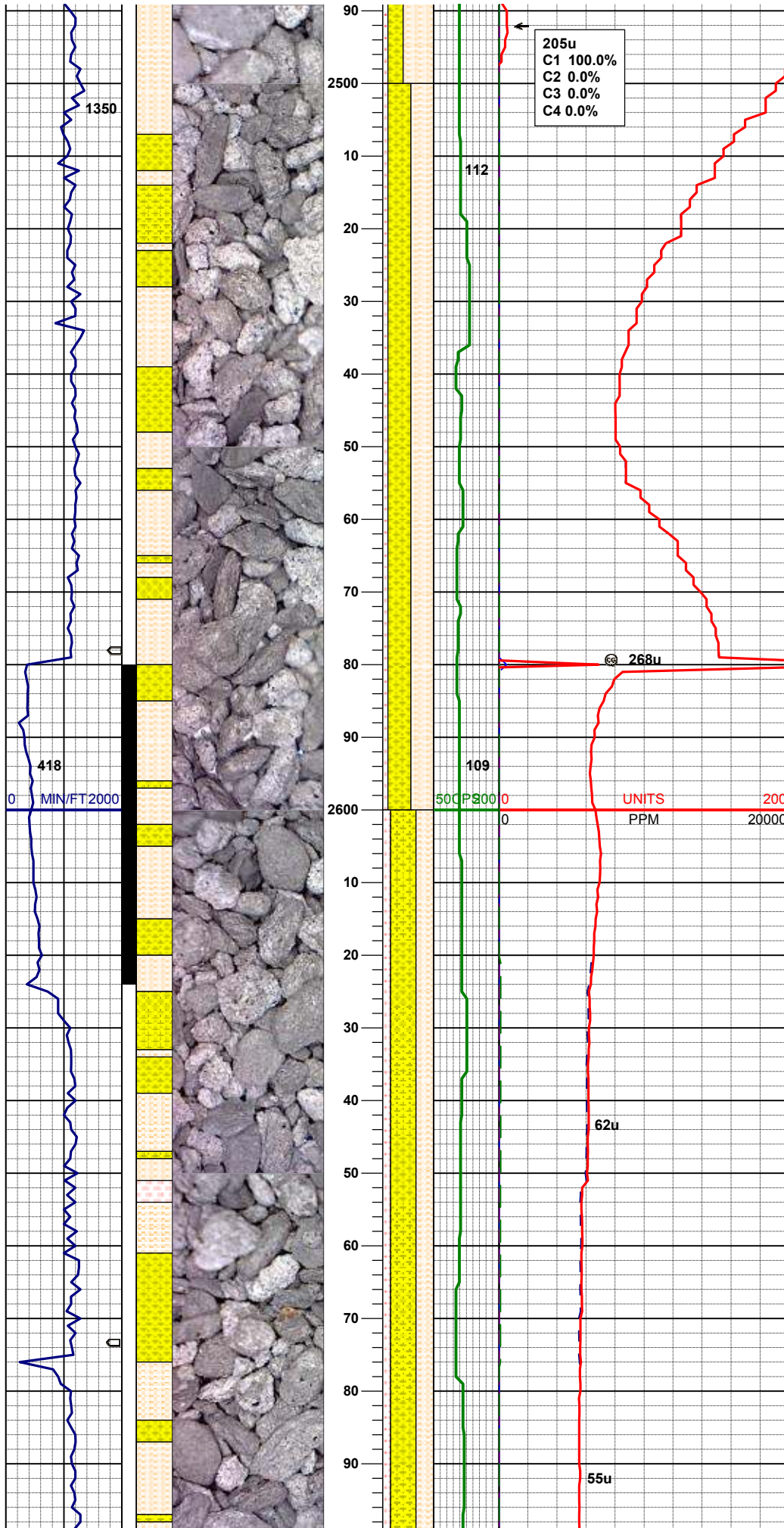


MD 2330'
INC 14.82
AZM 39.41

55% SHALY SLTST: ltgy, sft- fri, sbbiky- sl
sbplty, aren- slty tex, tr biot incl
35% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt,
firm- fri, v por, arg cmt, tr biot, grdg - sltst
10% SLTST: ltgy, sft- fri, sbbiky, aren- v slty
tex, occ biot incl

MD 2425'
INC 16.04
AZM 42.79

60% SHALY SLTST: ltgy, sft- fri, sbbiky- sl
sbplty, aren- slty tex, tr biot incl
30% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt,
firm- fri, v por, arg cmt, tr biot, grdg - sltst
10% SLTST: ltgy, sft- fri, sbbiky, aren- v slty
tex, occ biot incl

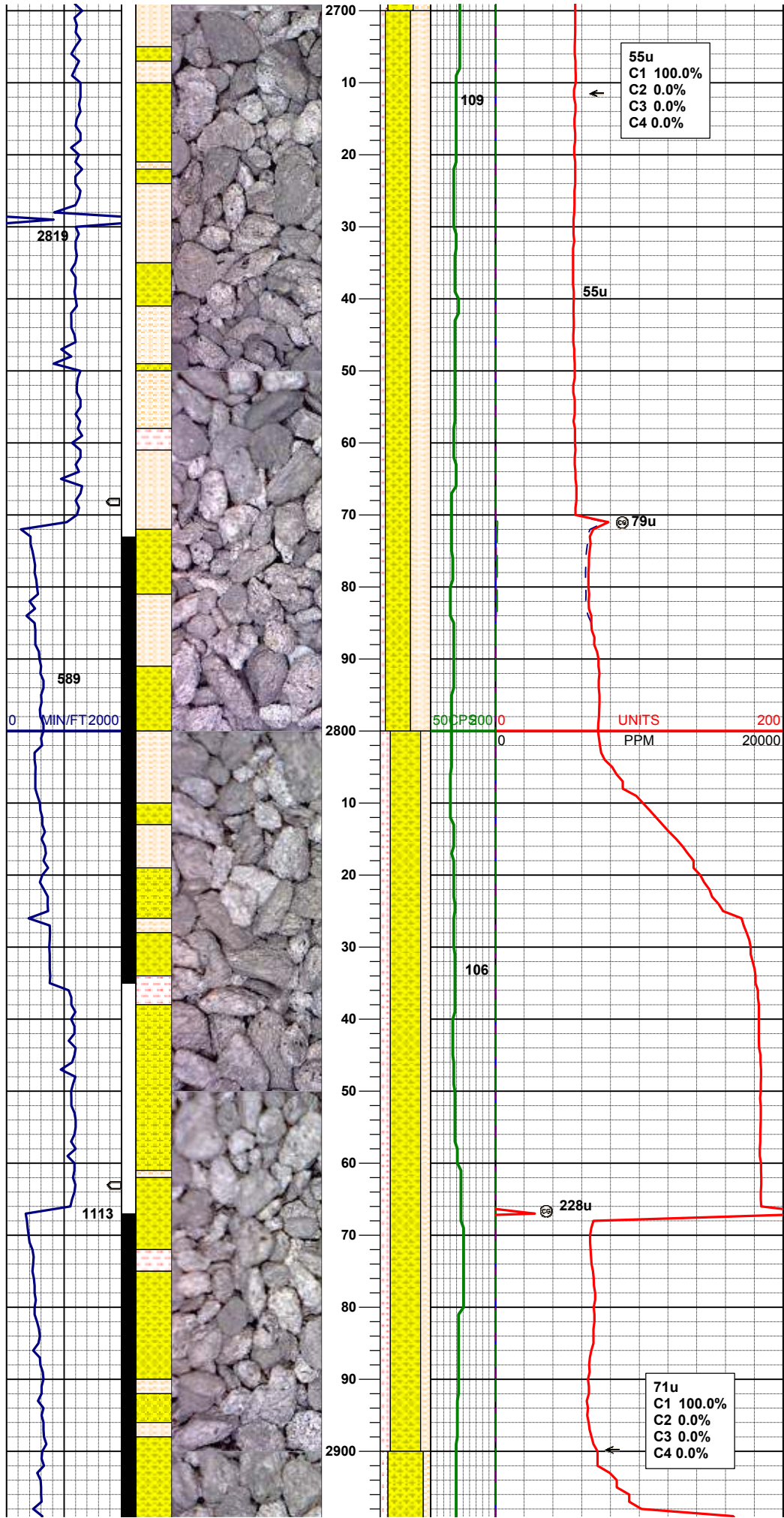


MD 2520'
INC 14.71
AZM 41.81

45% SHALY SLTST: ltgy, sft- fri, sbbly- sl
sbply, aren- slty tex, tr biot incl
45% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt,
firm- fri, v por, arg cmt, tr biot, grdg - sltst
10% SLTST: ltgy, sft- fri, sbbly, aren- v slty
tex, occ biot incl

MD 2615'
INC 16.14
AZM 39.58

50% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt,
firm- fri, v por, arg cmt, tr biot, grdg - sltst
35% SHALY SLTST: ltgy, sft- fri, sbbly- sl
sbply, aren- slty tex, tr biot incl
15% SLTST: ltgy, sft- fri, sbbly, aren- v slty
tex, occ biot incl



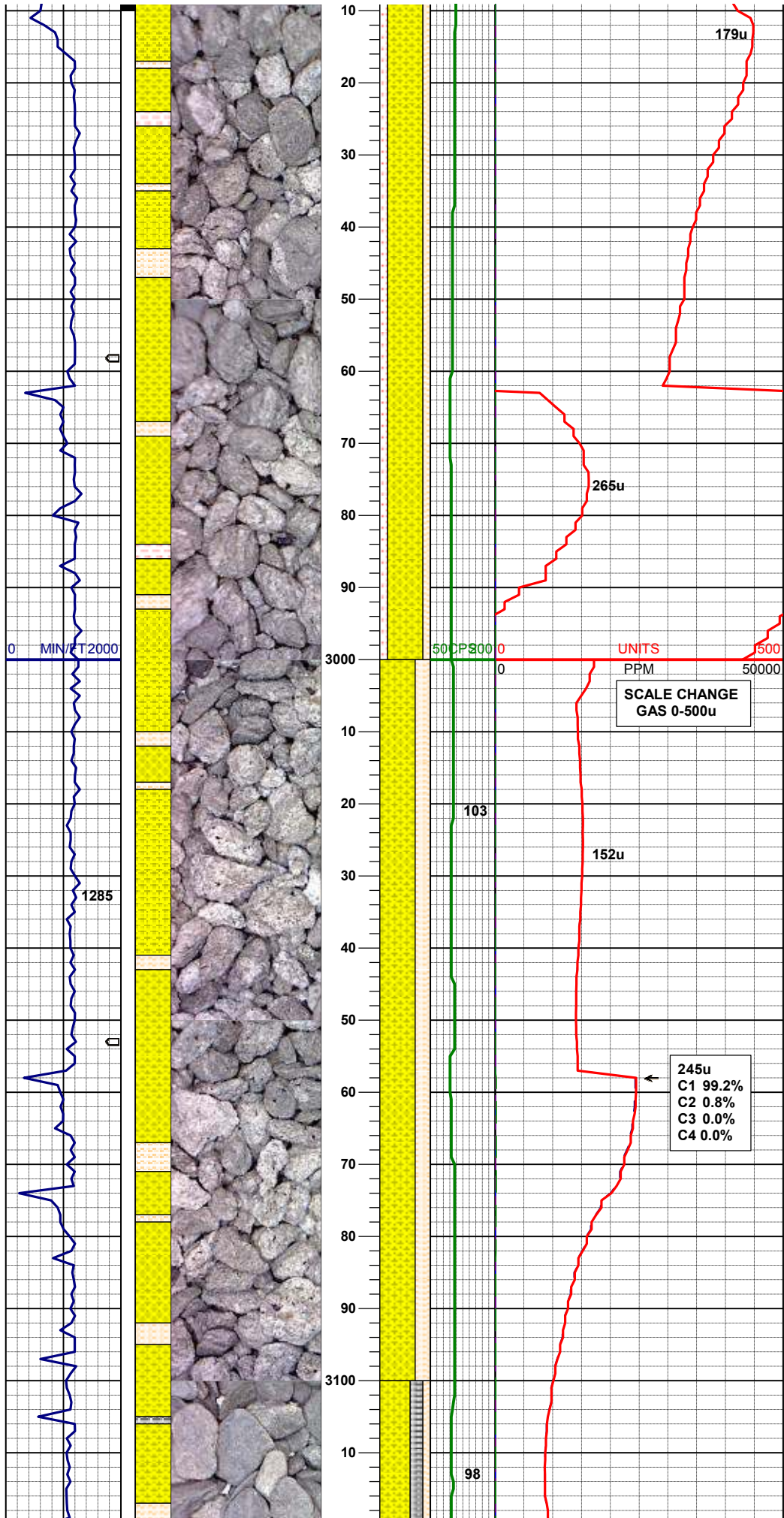
MD 2710'
INC 13.99
AZM 36.73

50% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt, firm- fri, v por, arg cmt, tr biot, grdg - sltst
40% SHALY SLTST: ltgy, sft- fri, sbbly- sl sbply, aren- slty tex, tr biot incl
10% SLTST: ltgy, sft- fri, sbbly, aren- v slty tex, occ biot incl

MD 2805'
INC 14.91
AZM 38.39

60% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt, firm- fri, v por, arg cmt, tr biot, grdg - sltst
20% SHALY SLTST: ltgy, sft- fri, sbbly- sl sbply, aren- slty tex, tr biot incl
20% SLTST: ltgy, sft- fri, sbbly, aren- v slty tex, occ biot incl

MD 2900'
INC 16.44
AZM 40.99

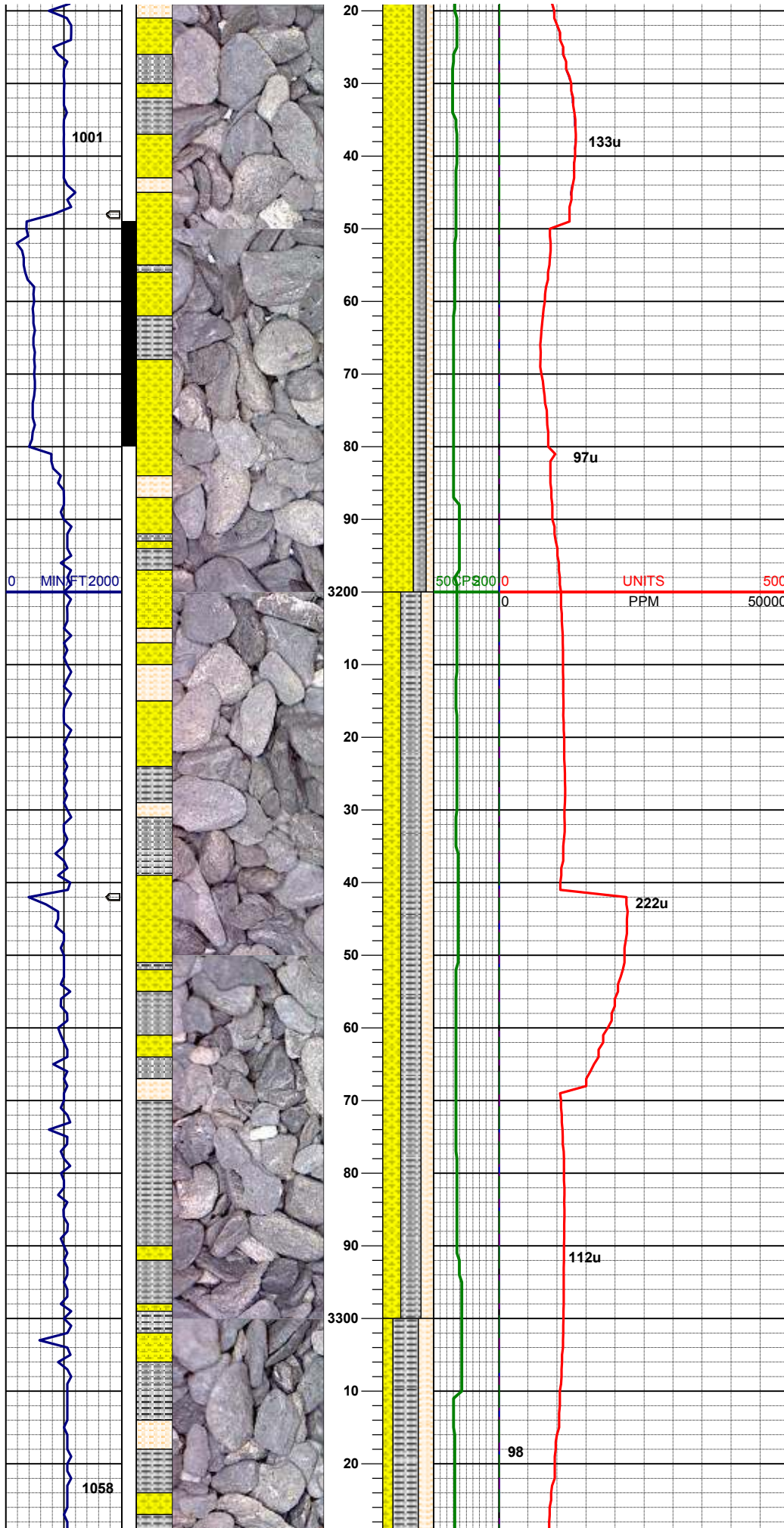


70% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt, firm- fri, v por, arg cmt, tr biot, grdg - sltst
15% SHALY SLTST: ltgy, sft- fri, sbbiky- sl sbplty, aren- slty tex, tr biot incl
15% SLTST: ltgy, sft- fri, sbbiky, aren- v slty tex, occ biot incl

MD 2995'
INC 17.06
AZM 39.33

70% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt, firm- fri, v por, arg cmt, tr biot, grdg - sltst
30% SHALY SLTST: ltgy, sft- fri, sbbiky- sl sbplty, aren- slty tex, rr biot incl

MD 3090'
INC 16.66
AZM 39.78

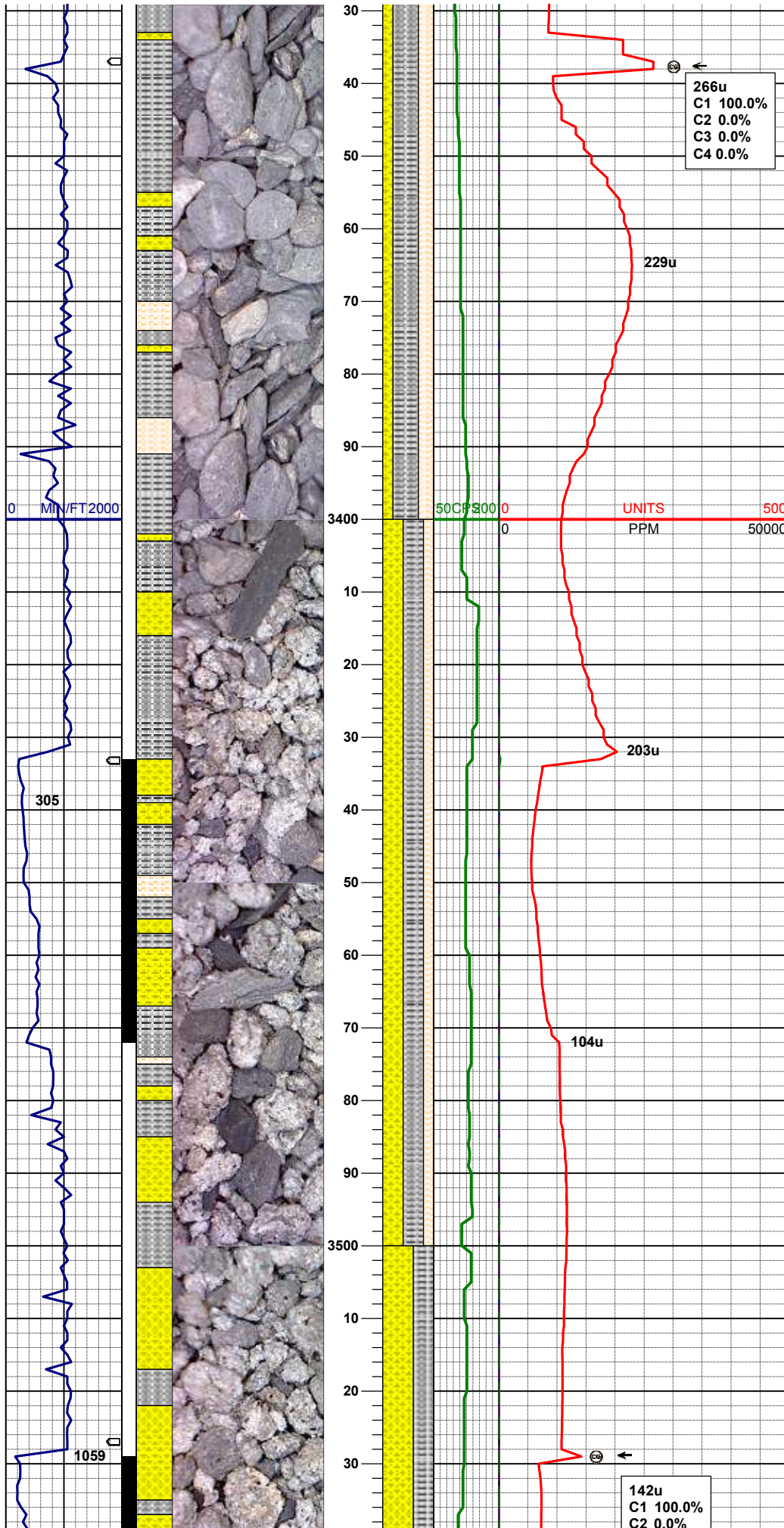


60% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt, firm- fri, v por, arg cmt, tr biot, grdg - sltst
25% SILTY SH: m gy-mgybrn occ v dk gy, firm - sft , sbbiky - sbplty, rthy sl slty tex, hom
15% SHALY SLTST: ltgy, sft- fri, sbbiky- sl sbplty, aren- slty tex

MD 3184'
INC 15.17
AZM 44.06

40% SILTY SH: m gy-mgybrn occ v dk gy, firm - sft , sbbiky - sbplty, rthy sl slty tex, hom
35% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt, firm- fri, v por, arg cmt, tr biot, grdg - sltst
25% SHALY SLTST: ltgy, sft- fri, sbbiky- sl sbplty, aren- slty tex

MD 3279'
INC 12.66
AZM 42.60

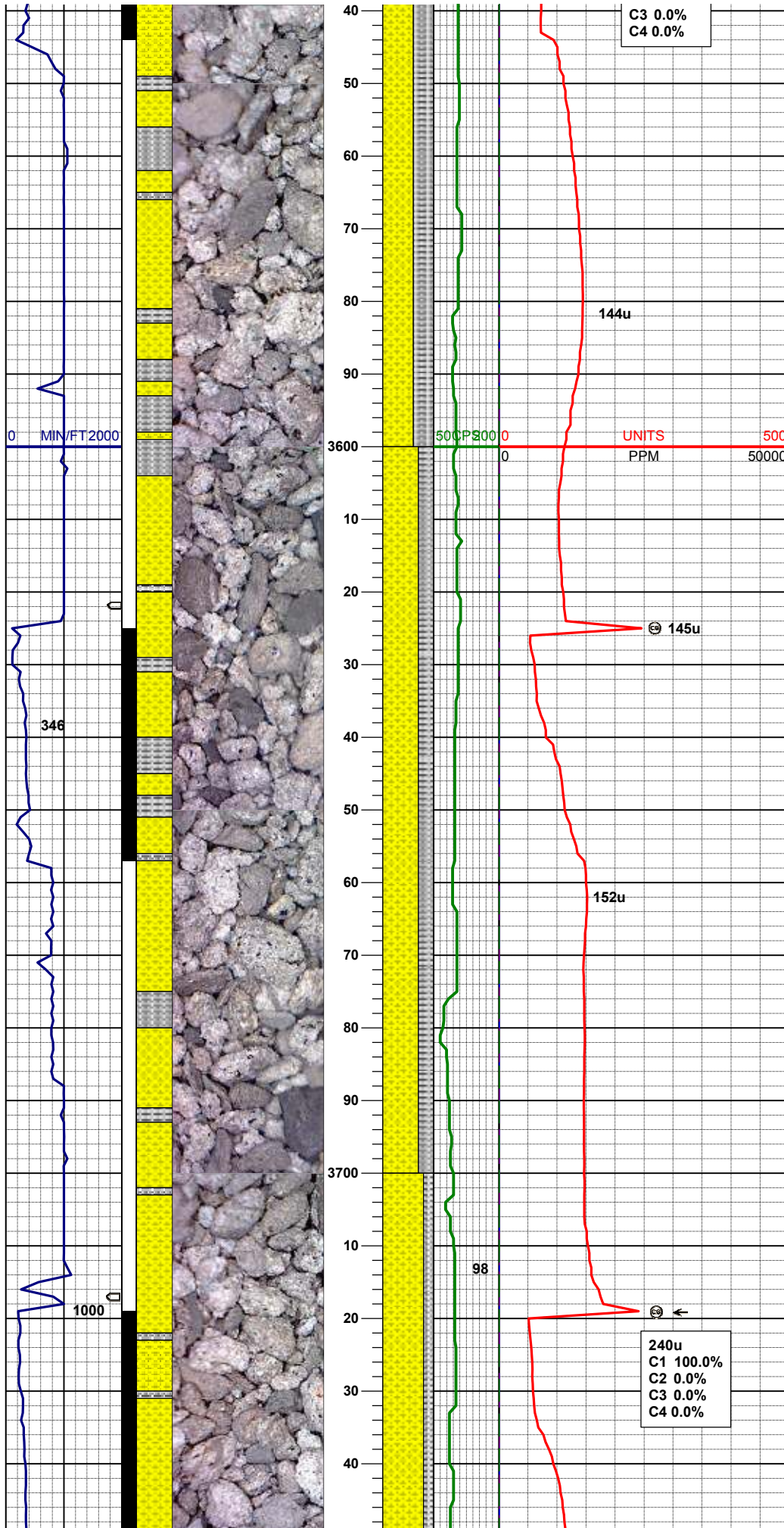


50% SILTY SH: m gy-mgybrn occ v dk gy, firm - sft , sbbiky - sbply, rthy sl slty tex, hom
30% SHALY SLTST: ltgy, sft- fri, sbbiky- sl sbply, aren- slty tex
20% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt, firm- fri, v por, arg cmt, tr biot, grdg - sltst

MD 3375'
INC 9.89
AZM 39.71

40% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt, firm- fri, v por, arg cmt, tr biot, grdg - sltst
40% SILTY SH: m gy-mgybrn occ v dk gy, firm - sft , sbbiky - sbply, rthy sl slty tex, hom
20% SHALY SLTST: ltgy, sft- fri, sbbiky- sl sbply, aren- slty tex

MD 3469'
INC 9.23
AZM 50.65



60% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt, firm- fri, v por, arg cmt, tr biot, grdg - sltst
40% SILTY SH: m gy-mgybrn occ v dk gy, firm - sft , sbblky - sbply, rthy sl slty tex, hom

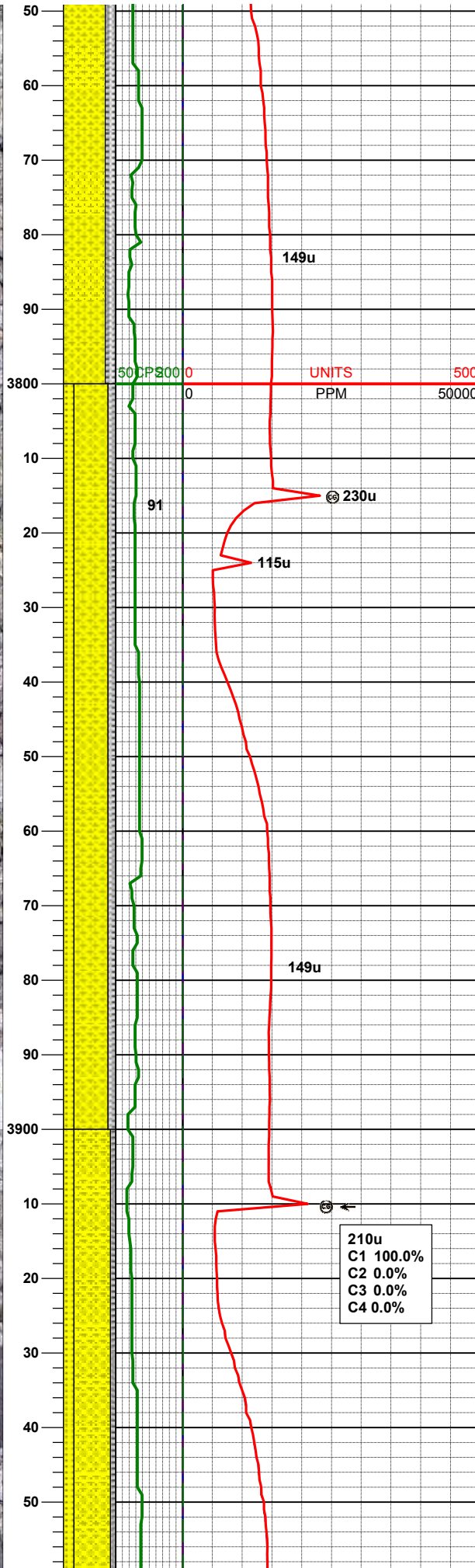
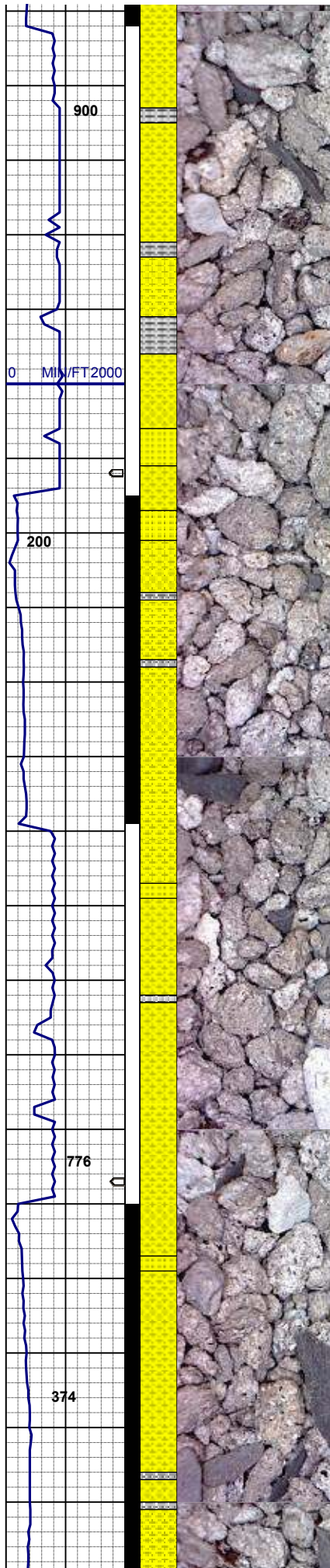
MD 3564'
INC 8.62
AZM 54.76

70% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt, firm- fri, v por, arg cmt, tr biot, grdg - sltst
30% SILTY SH: m gy-mgybrn occ v dk gy, firm - sft , sbblky - sbply, rthy sl slty tex, hom

MD 3659'
INC 7.96
AZM 53.17

MUD WT 8.4+ VIS 28

80% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt, firm- fri, v por, arg cmt, tr biot, grdg - sltst
20% SILTY SH: m gy-mgybrn occ v dk gy, firm - sft , sbblky - sbply, rthy sl slty tex, hom



20% SILTY SH: m gy-mgybrn occ v dk gy, firm - sft, sbblky - sbply, rthy sl silty tex, hom

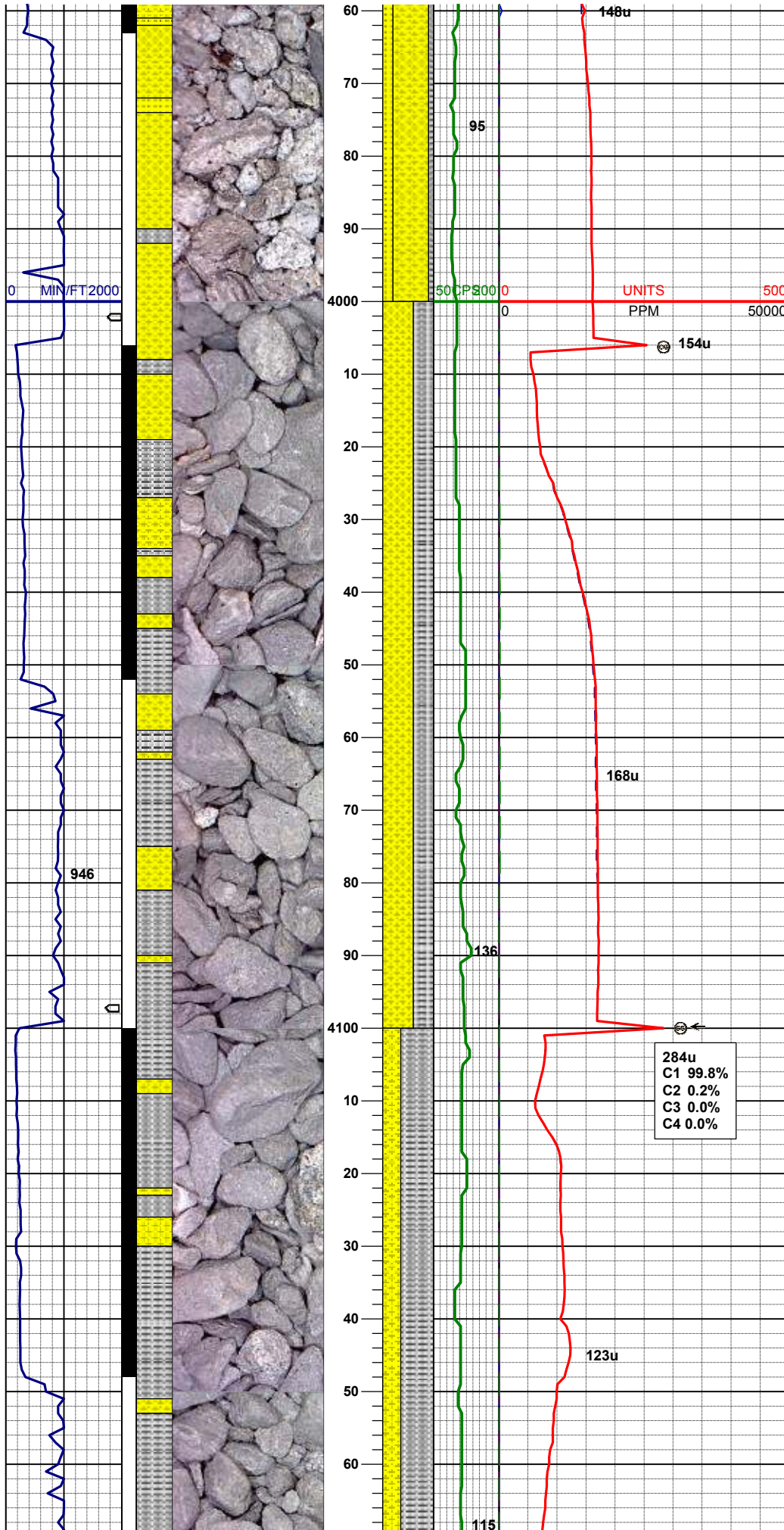
MD 3754'
INC 7.17
AZM 48.61

MD 3849'
INC 5.91
AZM 39.07

65% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt, firm- fri, v por, arg cmt, tr biot, grdg - sltst
20% SS: wh-op occ lt gy, s&p, fgr, sbrd-sbang, mod w srt, firm, brit
15% SILTY SH: m gy-mgybrn occ v dk gy, firm - sft, sbblky - sbply, rthy sl silty tex, hom

MD 3944'
INC 4.04
AZM 26.23

70% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt, firm- fri, v por, arg cmt, tr biot, grdg - sltst
20% SS: wh-op occ lt gy, s&p, fgr, sbrd-sbang, mod w srt, firm, brit
10% SILTY SH: m gy-mgybrn occ v dk gy, firm - sft, sbblky - sbply, rthy sl silty tex, hom

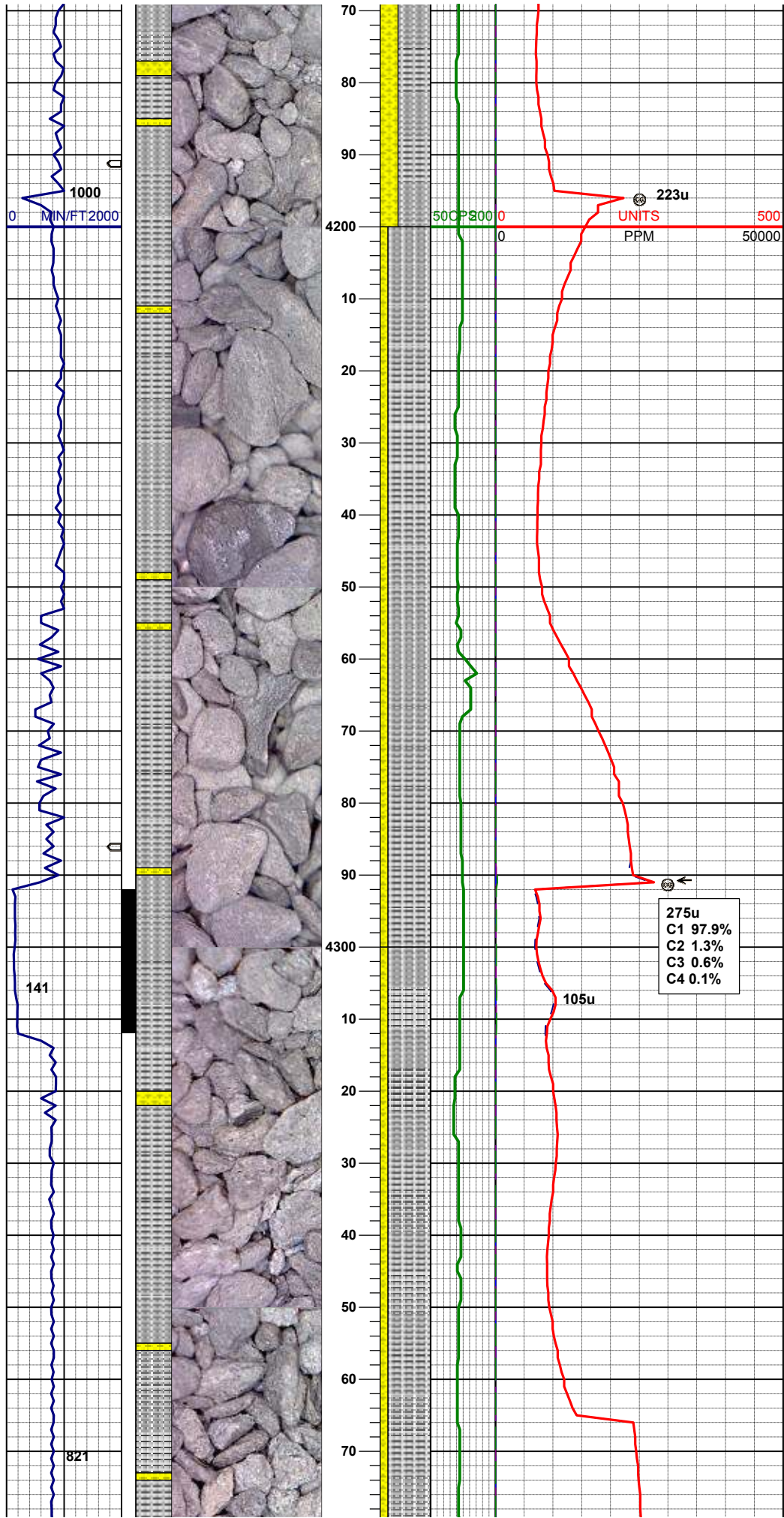


MD 4038'
INC 1.73
AZM 13.26

60% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt, firm- fri, v por, arg cmt, tr biot, grdg - sltst
40% SILTY SH: m gy-mgybrn occ v dk gy, firm - sft , sbbky - sbply, rthy sl slty tex, hom

MD 4133'
INC 1.72
AZM 234.54

65% SILTY SH: m gy-mgybrn occ v dk gy, firm - sft , sbbky - sbply, rthy sl slty tex, hom
35% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt, firm- fri, v por, arg cmt, tr biot, grdg - sltst

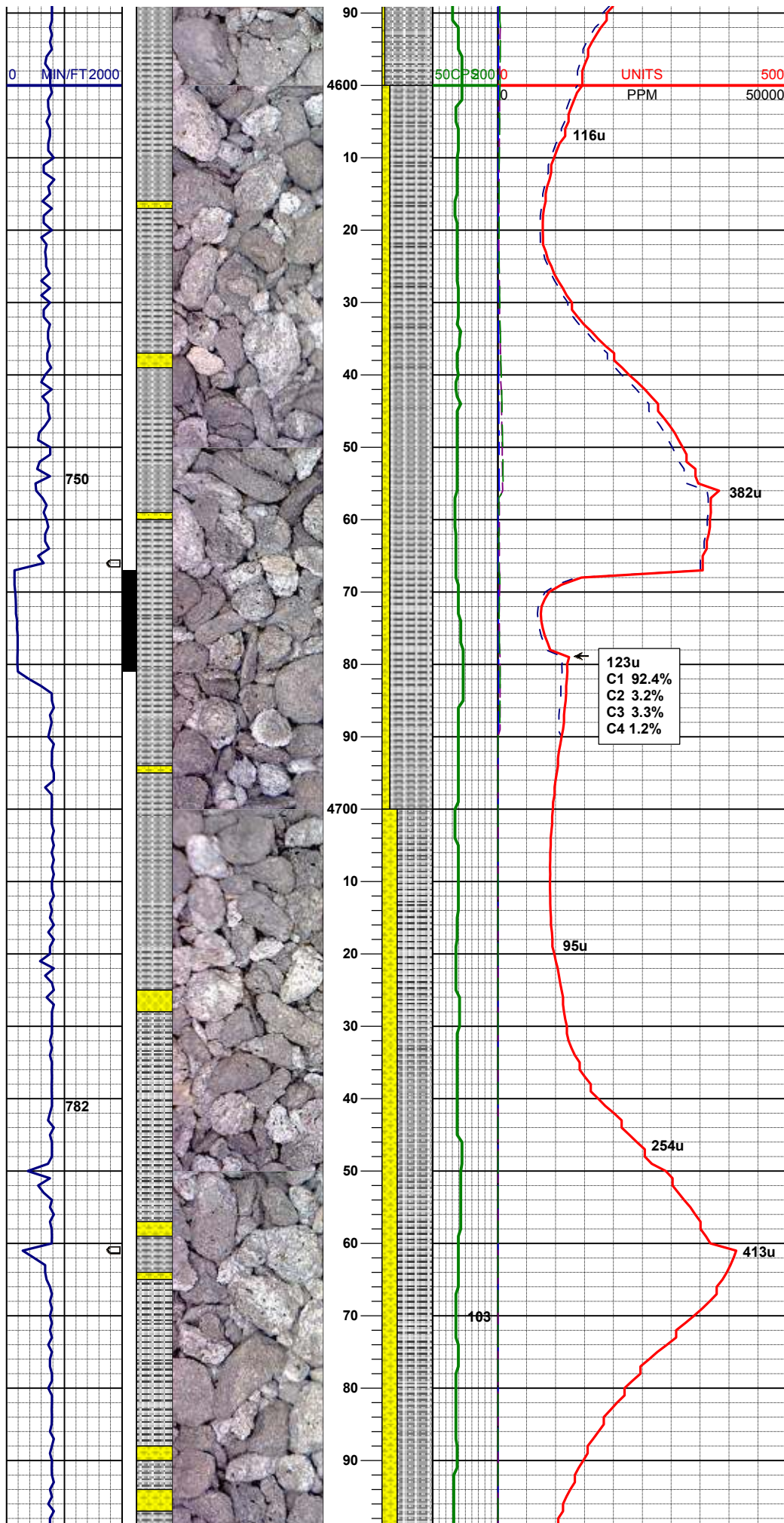


MD 4228'
INC 2.38
AZM 209.63

85% SILTY SH: m gy-mgybrn occ v dk gy, firm -
sft , sbblky - sbplty, rthy sl slty tex, hom
15% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt,
firm- fri, v por, arg cmt, tr biot, grdg - sltst

MD 4323'
INC 1.13
AZM 189.57

85% SILTY SH: m gy-mgybrn occ v dk gy, firm -
sft , sbblky - sbplty, rthy sl slty tex, hom
15% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt,
firm- fri, v por, arg cmt, tr biot, grdg - sltst



MD 4608'
INC 1.93
AZM 184.17

85% SILTY SH: m gy-mgybrn occ v dk gy, firm -
sft , sbblky - sbplty, rthy sl slty tex, hom
15% SHYSS: ltgy, vf-fgr, sbdr - sbang, mod srt,
firm- fri, v por, arg cmt, tr biot, grdg - sltst

MD 4703'
INC 1.51
AZM 173.15

70% SILTY SH: m gy-mgybrn occ v dk gy, firm -
sft , sbblky - sbply, rthy sl slty tex
30% SHYSS: ltgy, vf-fgr, sbdr - sbang, mod srt,
firm- fri, v por, arg cmt, tr biot, grdg - sltst

MD 4798'
INC 1.84

4800

10

20

30

40

50

60

70

80

90

4900

10

20

30

40

50

60

70

80

90

5000

0

MIN/FT 2000

782

818

0

PPM

50000

390u

184u

95

106

147u

C1 100.0%

C2 0.0%

C3 0.0%

C4 0.0%

406u

UNITS

PPM

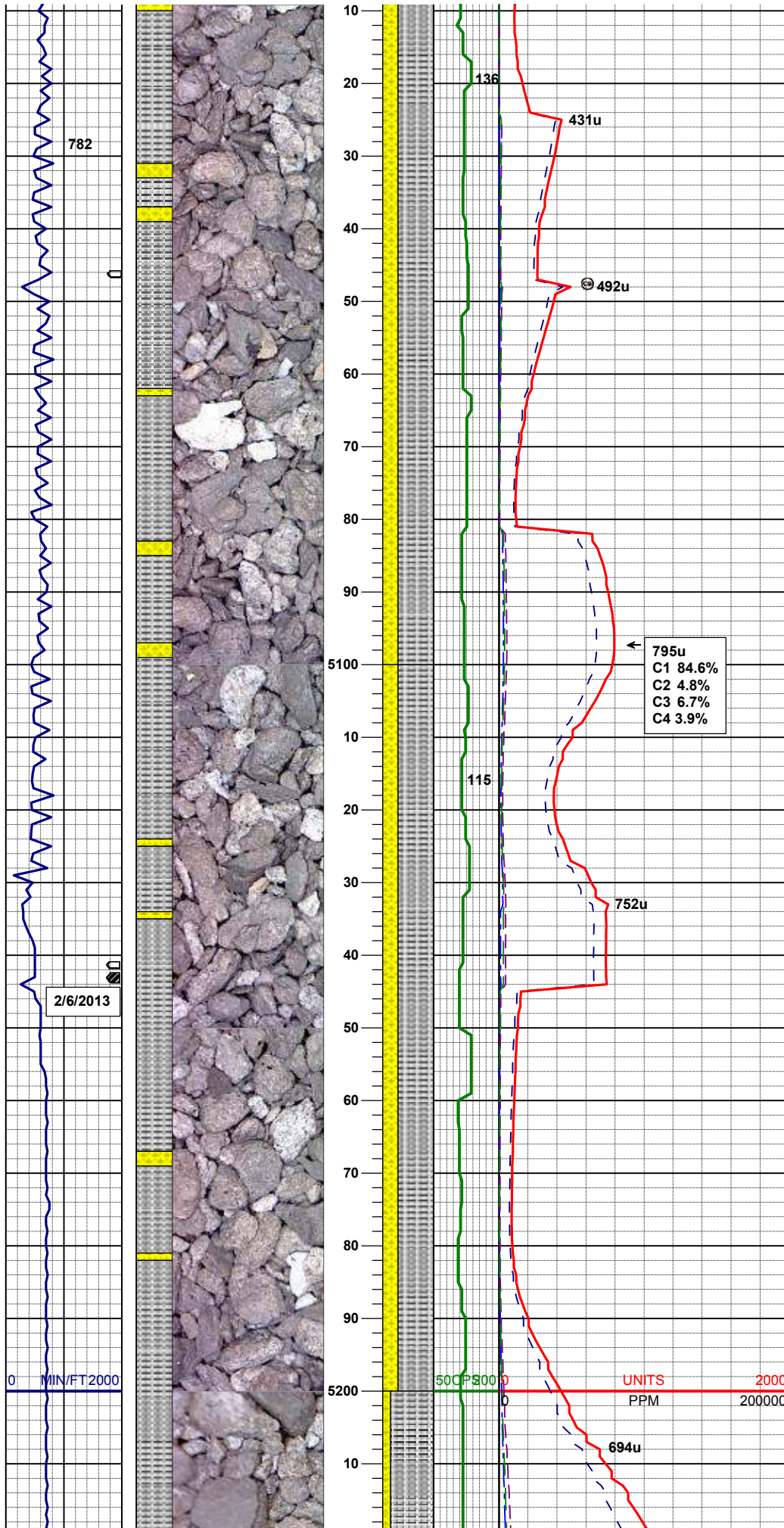
20000

SCALE CHANGE

GAS 0-2000u

MD 4988'
INC 0.98
AZM 159.47

SCALE CHANGE
GAS 0-2000u



70% SILTY SH: m gy-mgybrn occ v dk gy, firm -
sft , sbbly - sbply, rthy sl slty tex
30% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt,
firm- fri, v por, arg cmt, tr biot, grdg - sltst, tr biot

MD 5083'
INC 1.29
AZM 156.28

70% SILTY SH: m gy-mgybrn occ v dk gy, firm -
sft , sbbly - sbply, rthy sl slty tex
30% SHYSS: ltgy, vf-fgr, sbrd - sbang, mod srt,
firm- fri, v por, arg cmt, tr biot, grdg - sltst, tr biot

