

LOG created using LPLOT VH Version 3.0, August 21, 2012, Copyright (C) 1999-2009 Pason Systems Corp.

OPERATOR: NOBLE ENERGY INC
WELL: BALL RANCH AC04-72HN
LOCATION: NWNW, SEC 03, T7N, R63W
COUNTY: WELD
STATE: COLORADO
SPOT: 250' FSL, 320' FEL
ELEVATION: GE 4890', KB 4914'
FIELD: WILDCAT
SPUD DATE: AUGUST 10, 2012
TD DATE: AUGUST 21, 2012
DATES LOGGED: 8/12/12 - 8/21/12
DEPTHS LOGGED: 900' - 11303' MD
LOGGERS: MIKE KERSCHEN, LAURA KELLOGG
DRILLING FLUID: WATER, MUD, POLY
DRILLING RIG: H&P 322
API: 05-123-35248
LOG TYPE: VERTICAL
SCALE: 1:240 (5 inches per 100 feet)
REMARKS:

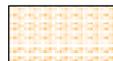
LITHOLOGIES



Sandstone



Shaly Sandstone



Shaly Siltstone



Silty Shale

ENGINEERING SYMBOLS



Connection



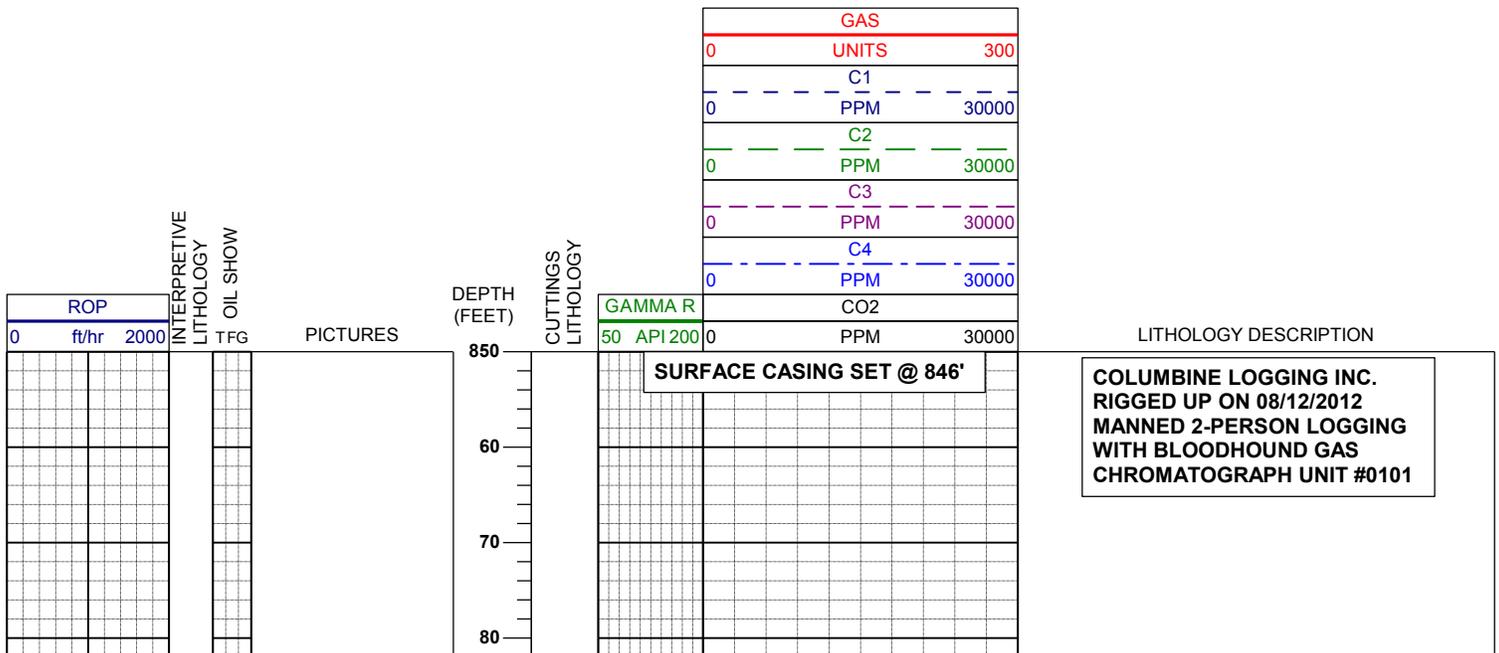
Arrow

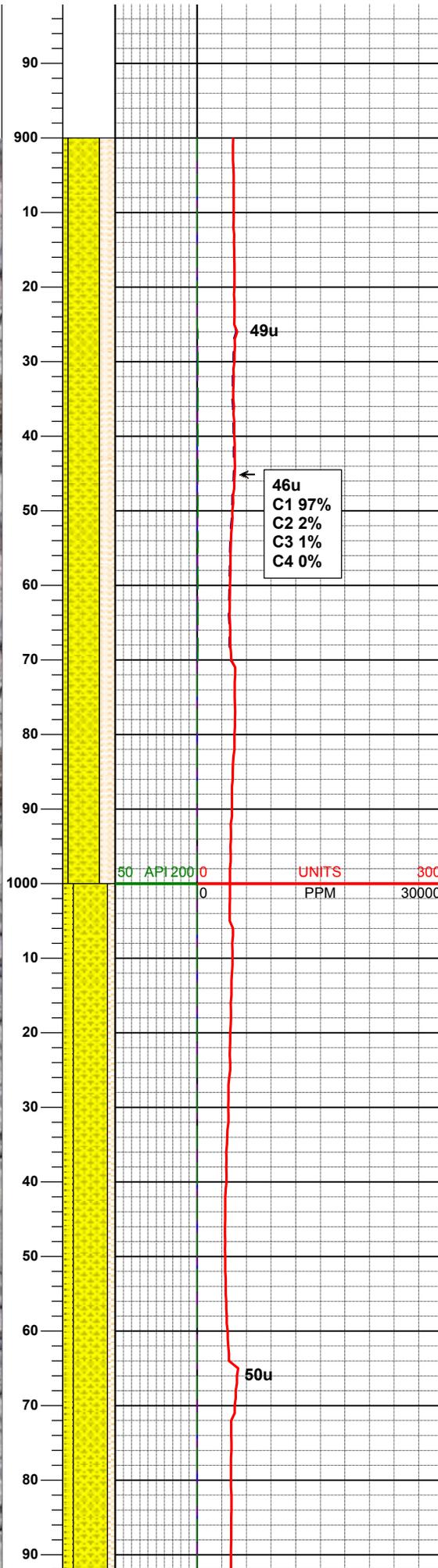
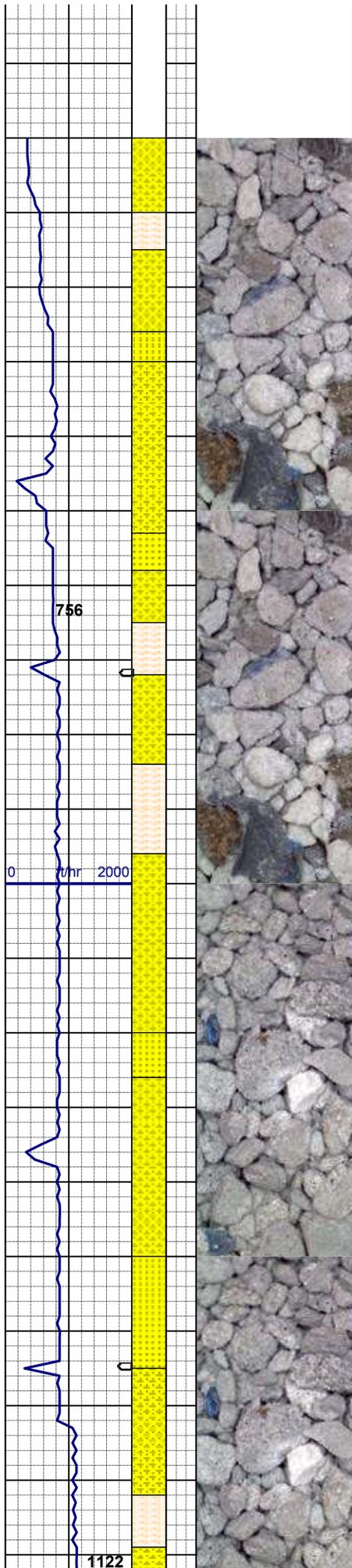


Midnight Depth



Arrow





SURVEY
MD 915'
INC 0.65°
AZM 135.51°

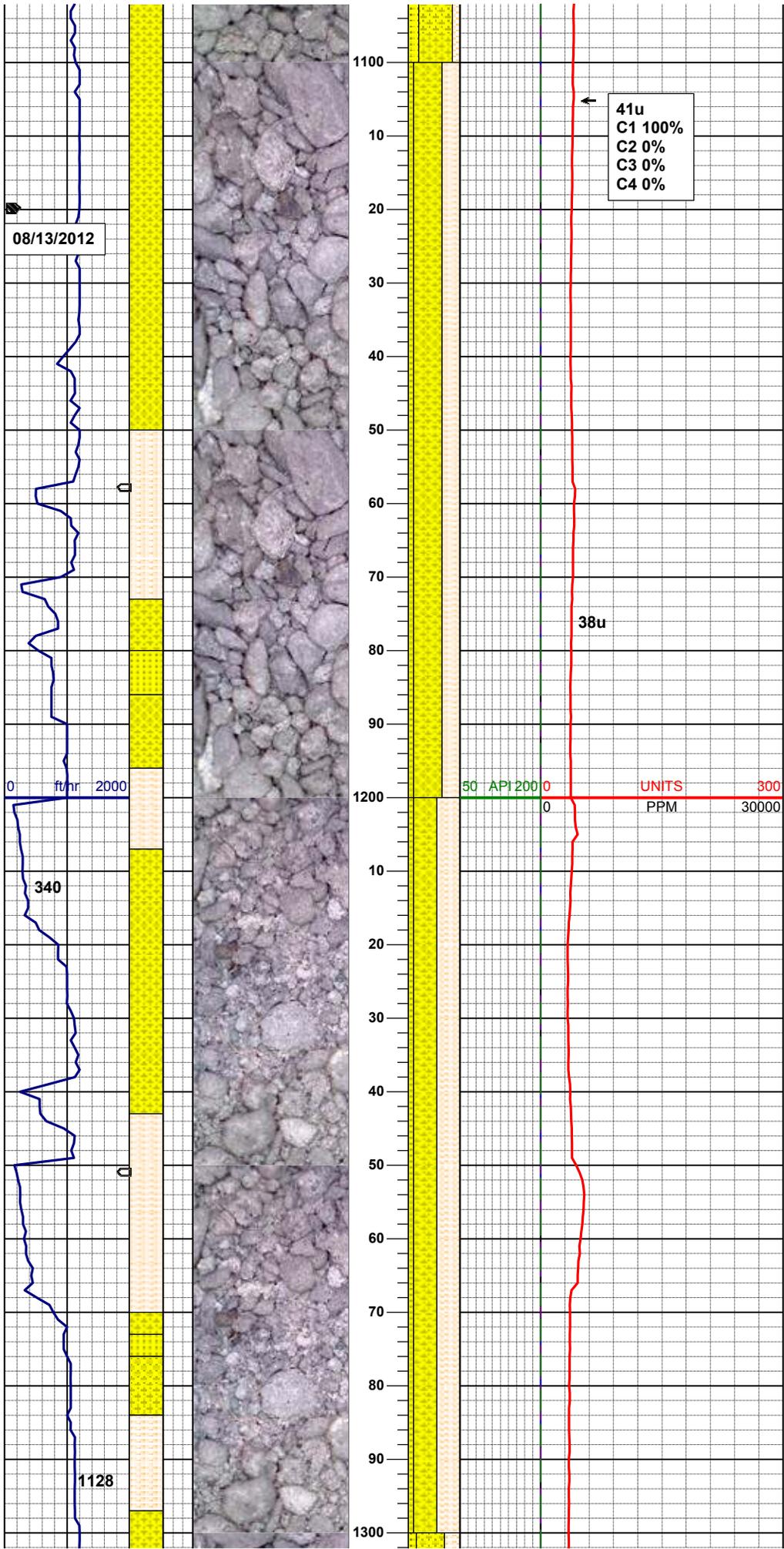
60% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc cmt
 30% SHYSLTST: lt gy-m gy, s&p, sb plty-sb blky, sbrd, vf gr, sft-frm, arg cmt, sl calc cmt, grd to sltysh
 10% SS: wh, lt gy-gy, s&p, f-cgr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, tr glau

46u
 C1 97%
 C2 2%
 C3 1%
 C4 0%

SURVEY
MD 1008'
INC 0.68°
AZM 153.82°

65% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc cmt
 20% SS: wh, lt gy-gy, s&p, f-cgr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, tr glau
 15% SHYSLTST: lt gy-m gy, s&p, sb plty-sb blky, sbrd, vf gr, sft-frm, arg cmt, sl calc cmt, grd to sltysh

1122



SURVEY
MD 1101'
INC 0.61°
AZM 150.89°

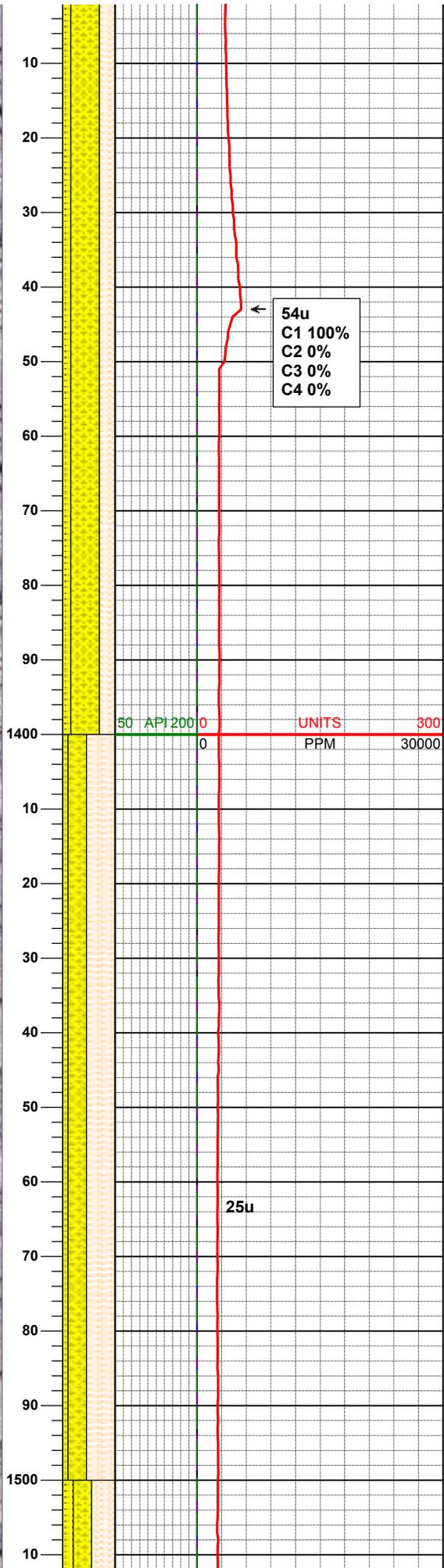
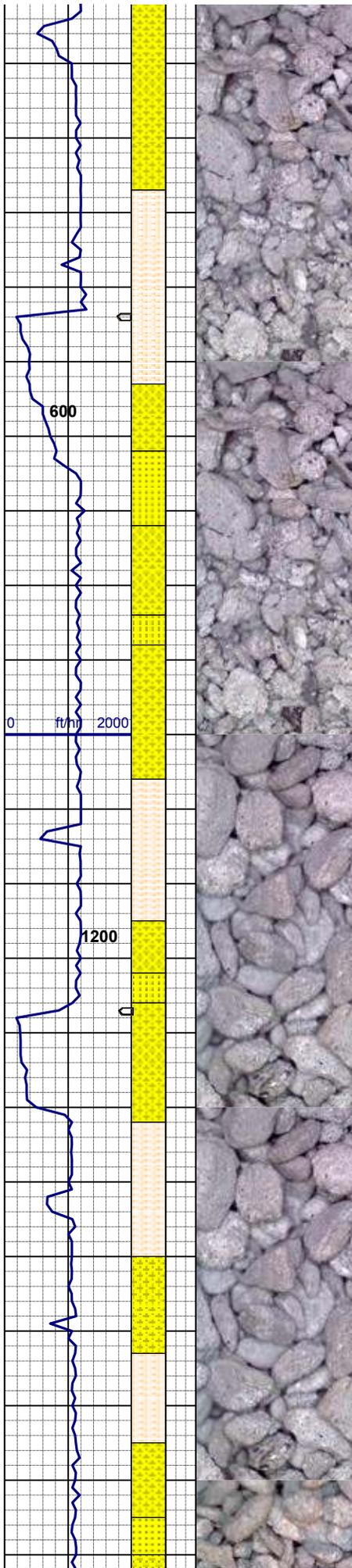
55% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc cmt 35% SHYSLTST: lt gy-m gy, s&p, sb plty-sb blkly, sbrd, vf gr, sft-frm, arg cmt, sl calc cmt, grdg to sltysh 10% SS: wh, lt gy-gy, s&p, f-cgr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, tr glau

SURVEY
MD 1195'
INC 0.74°
AZM 210.13°

45% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc cmt 45% SHYSLTST: lt gy-m gy, s&p, sb plty-sb blkly, sbrd, vf gr, sft-frm, arg cmt, sl calc cmt, grdg to sltysh 10% SS: wh, lt gy-gy, s&p, f-cgr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, tr glau

MUD WT 8.40
VIS 28.00

SURVEY
MD 1288'
INC 2.87°
AZM 260.55°

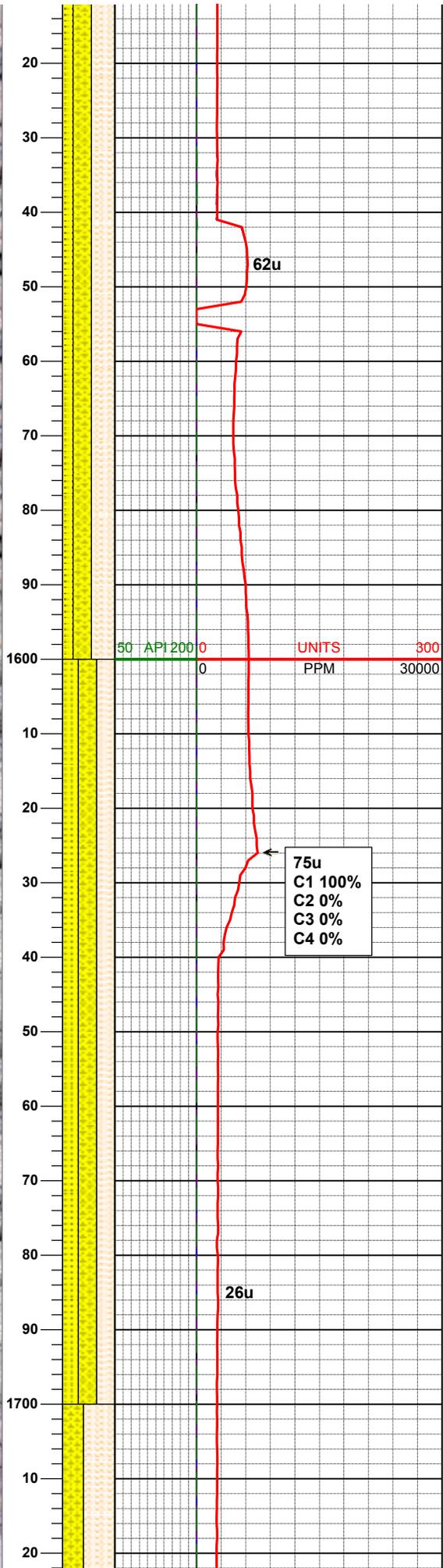
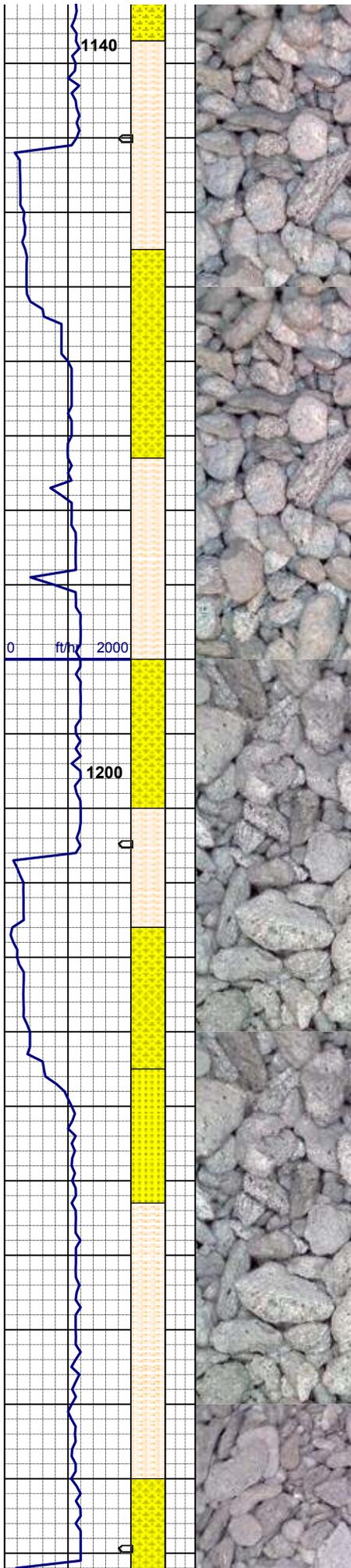


55% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc cmt 30% SHYSLTST: lt gy-m gy, s&p, sb plty-sb blk, sbrd, vf gr, sft-frm, arg cmt, sl calc cmt, grd to sltysh 15% SS: wh, lt gy-gy, s&p, f-cgr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, tr glau

SURVEY
MD 1381'
INC 4.08°
AZM 273.22°

55% SHYSLTST: lt gy-m gy, s&p, sb plty-sb blk, sbrd, vf gr, sft-frm, arg cmt, sl calc cmt, grd to sltysh 35% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc cmt 10% SS: wh, lt gy-gy, s&p, f-cgr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, tr glau

SURVEY
MD 1474'
INC 5.29°
AZM 273.45°

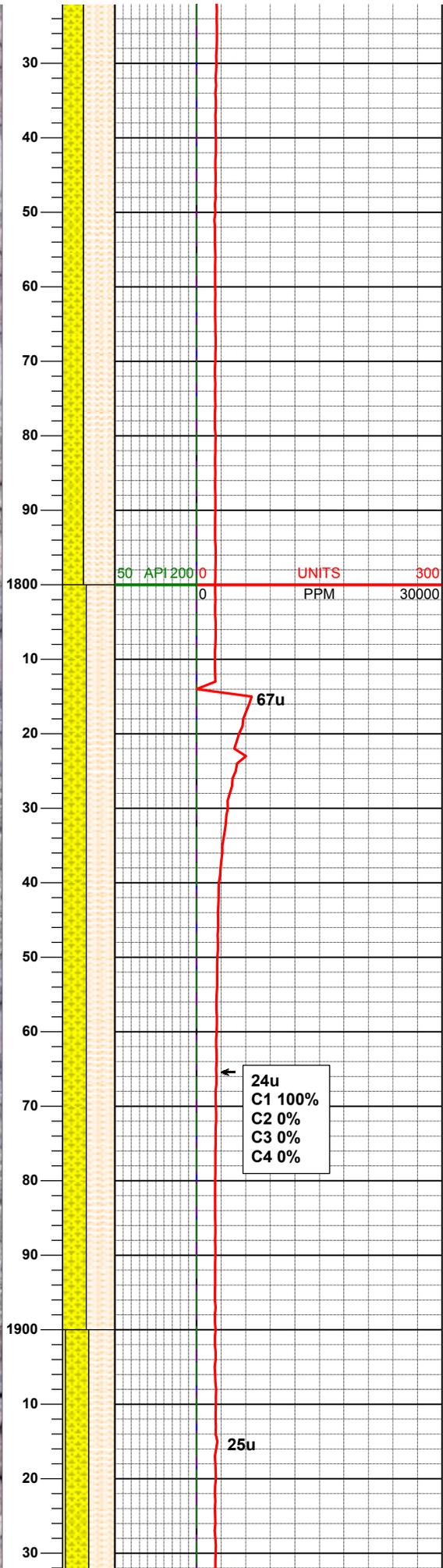
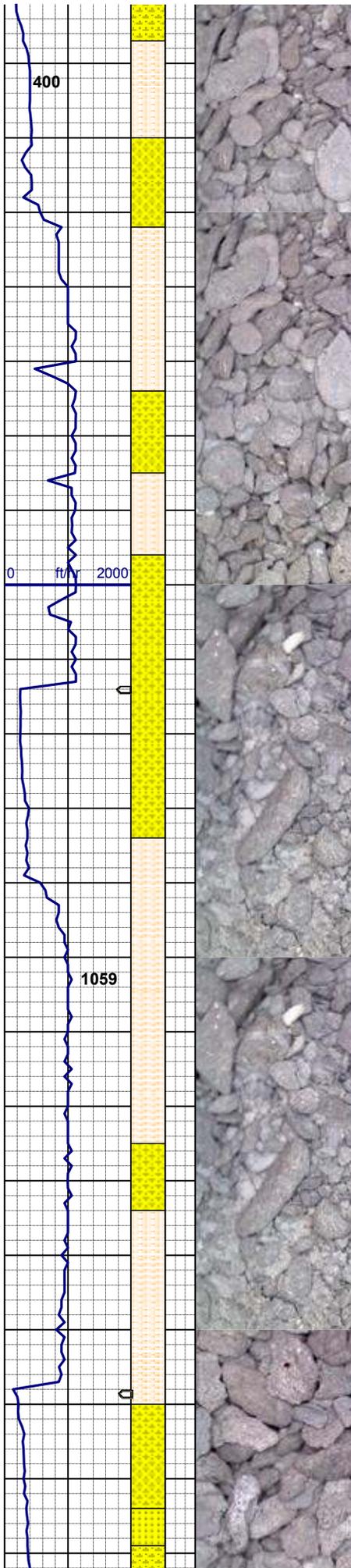


45% SHYSLTST: lt gy-m gy, s&p, sb plty-sb blky, sbrd, vf gr, sft frm, arg cmt, sl calc cmt, grd to sltysh 35% SHYSS: lt gy-gy, wh, s&p, vf f gr, sbblky, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc cmt 20% SS: wh, lt gy-gy, s&p, f -cgr, sbblky, sbrd-sbang, mod srt, frm to fri, arg cmt, occ glau, tr pyr

SURVEY
MD 1568'
INC 6.95°
AZM 273.20°

35% SHYSLTST: lt gy-m gy, s&p, sb plty-sb blky, sbrd, vf gr, sft frm, arg cmt, sl calc cmt, grd to sltysh 35% SHYSS: lt gy-gy, wh, s&p, vf f gr, sbblky, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc cmt 30% SS: wh, lt gy-gy, s&p, f -cgr, sbblky, sbrd-sbang, mod srt, frm to fri, arg cmt, occ glau, tr dism mica, tr dism pyr

SURVEY
MD 1663'
INC 9.06°
AZM 276.90°



MUD WT 8.50
VIS 29.00

60% SHYSLTST: lt gy-m gy, s&p, sb plty-sb blky, sbrd, vf gr, sft frm, arg cmt, sl calc cmt, grd to sltysh 40% SHYSS: lt gy-gy, wh, s&p, vf-f gr, sbblky, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc cmt, tr glac

SURVEY
MD 1758'
INC 11.19°
AZM 276.09°

50 AP12000 0 UNITS 300
PPM 30000

67u

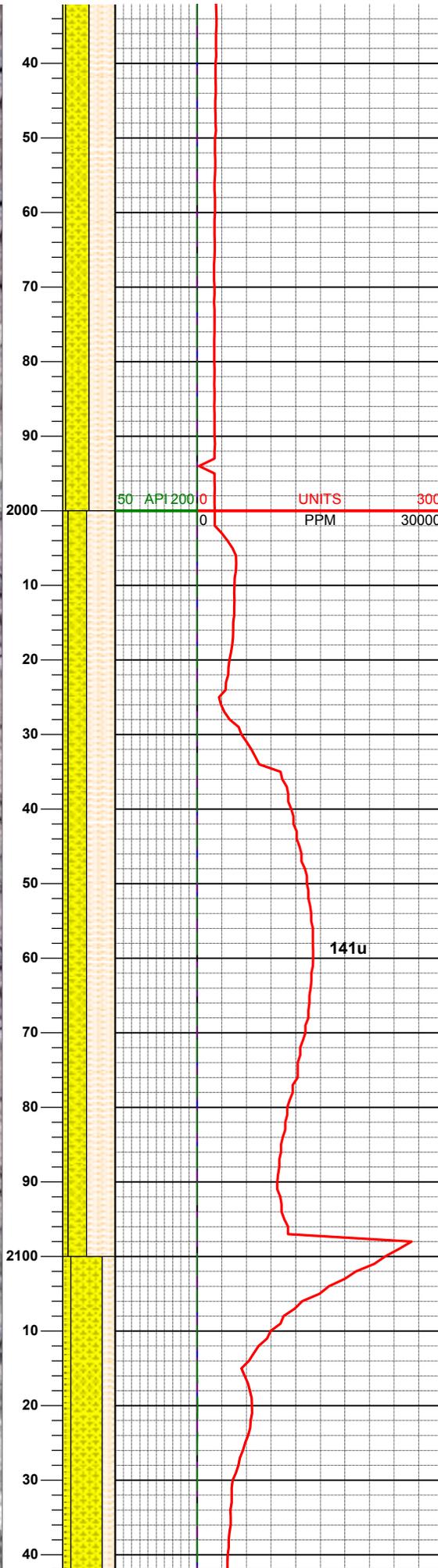
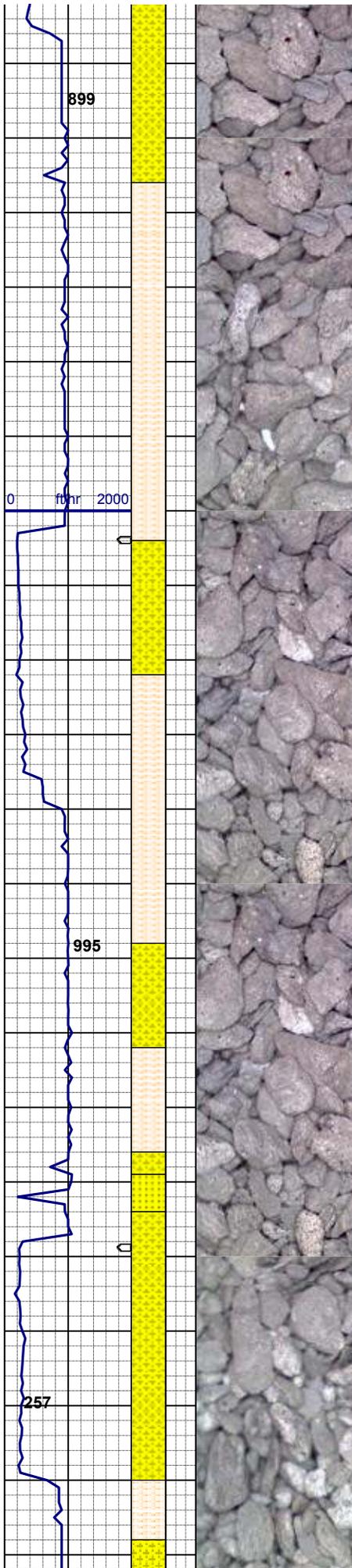
55% SHYSLTST: lt gy-m gy, s&p, sb plty-sb blky, sbrd, vf gr, sft frm, arg cmt, sl calc cmt, grd to sltysh 45% SHYSS: lt gy-gy, wh, s&p, vf-f gr, sbblky, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc cmt, tr glac

SURVEY
MD 1852'
INC 13.49°
AZM 272.40°

24u
C1 100%
C2 0%
C3 0%
C4 0%

25u

SURVEY
MD 1947'



**INC 15.85°
AZM 273.84°**

50% SHYSLTST: lt gy-m gy, s&p, sb plty-sb blkly, sbrd, vf gr, sft frm, arg cmt, sl calc cmt, grdg to sltysh 45% SHYSS: lt gy-gy, wh, s&p, vf-f gr, sbbkly, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc cmt, tr glac 5% SS: wh, lt gy-gy, s&p, f-cgr, sbbkly, sbrd-sbang, mod srt, frm to fri, arg cmt, occ glau, tr dism mica, tr dism pyr

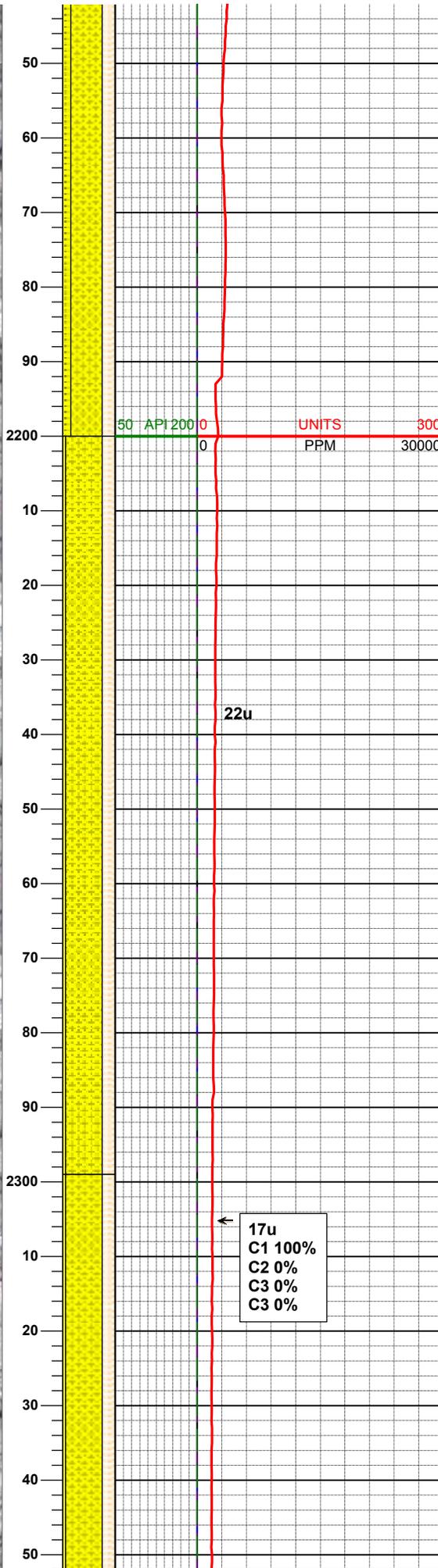
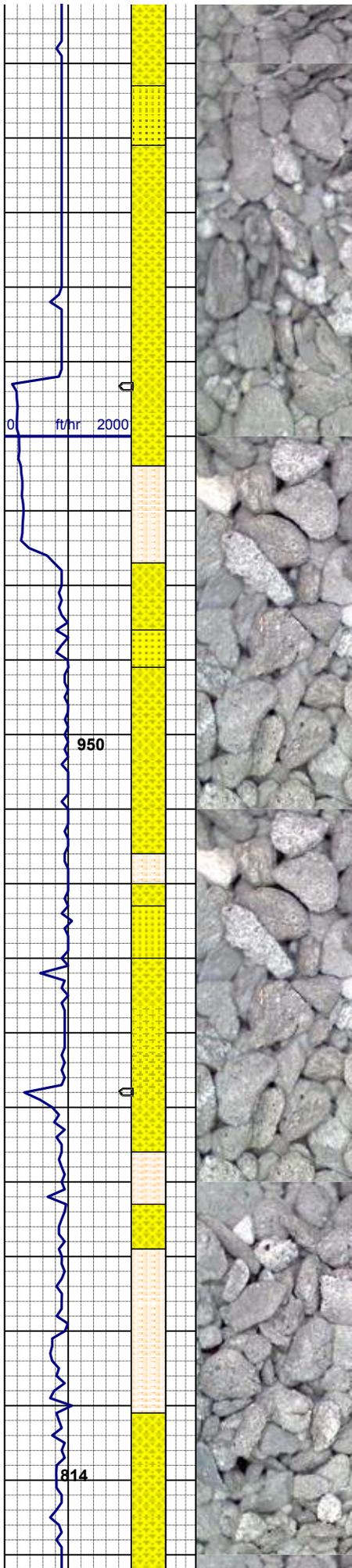
**SURVEY
MD 2042'
INC 16.91°
AZM 272.06°**

55% SHYSLTST: lt gy-m gy, s&p, sb plty-sb blkly, sbrd, vf gr, sft frm, arg cmt, sl calc cmt, grdg to sltysh 35% SHYSS: lt gy-gy, wh, s&p, vf-f gr, sbbkly, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc cmt, tr glac 10% SS: wh, lt gy-gy, s&p, f-cgr, sbbkly, sbrd-sbang, mod srt, frm to fri, arg cmt, occ glau, tr dism mica, tr dism pyr

**MUD WT 8.70
VIS 29.00**

**SURVEY
MD 2137'
INC 19.36°
AZM 273.02°**

60% SHYSS: lt gy-gy, wh, s&p, vf-f gr, sbbkly



60% SHYSS: lt gy-gy, wh, s&p, vf-f gr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc cmt, tr glac 25% SHYSLTST: lt gy-m gy, s&p, sb plty-sb blkly, sbrd, vf gr, sft-frm, arg cmt, sl calc cmt, grdg to sltysh 15% SS: wh, lt gy-gy, s&p, f-cgr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, occ glau, tr dism mica, tr dism pyr

MUD REPORT
 2180' MD
 Wt - 8.70
 Vis - 28
 pH - 9.1
 YP - 3
 API fit
 Ck

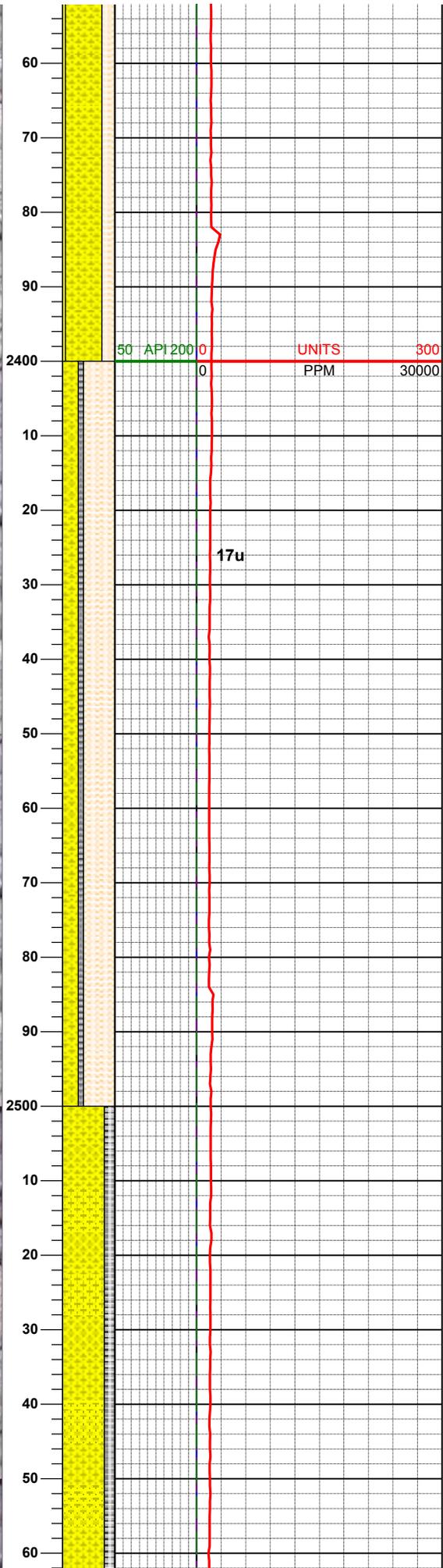
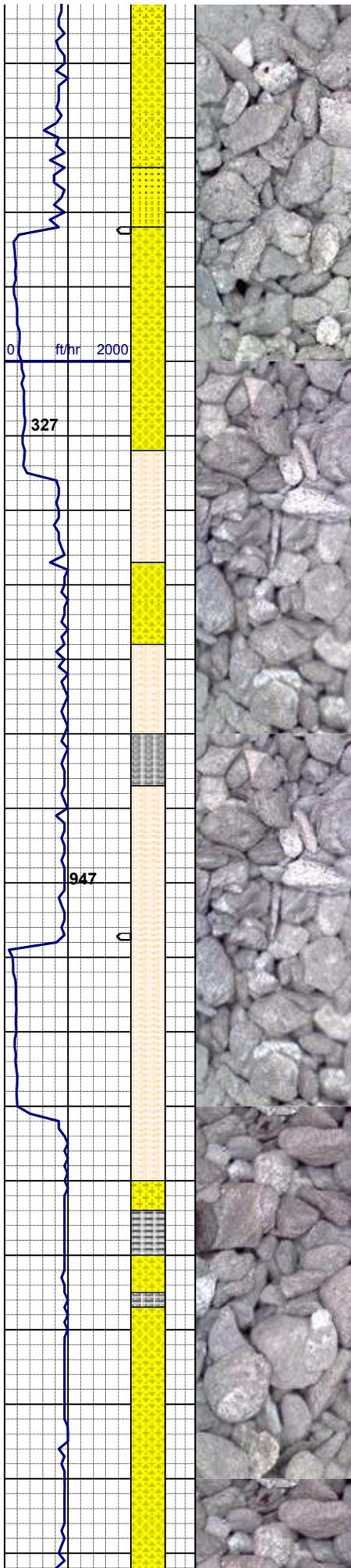
SURVEY
 MD 2232'
 INC 18.72°
 AZM 278.04°

70% SHYSS: lt gy-gy, wh, s&p, vf-f gr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc cmt, tr glac 25% SHYSLTST: lt gy-m gy, s&p, sb plty-sb blkly, sbrd, vf gr, sft-frm, arg cmt, sl calc cmt, grdg to sltysh 5% SS: wh, lt gy-gy, s&p, f-cgr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, occ glau, tr dism mica, tr dism pyr

17u
 C1 100%
 C2 0%
 C3 0%
 C3 0%

SURVEY
 MD 2326'
 INC 16.53°
 AZM 276.00°

70% SHYSS: lt gy-gy, wh, s&p, vf-f gr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc cmt, tr glac 25% SHYSLTST: lt gy-m gy, s&p, sb plty-sb blkly, sbrd, vf gr, sft-frm, arg cmt, sl calc cmt, grdg to sltysh 5% SS: wh, lt gy-gy, s&p, f-cgr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, occ glau, tr dism mica, tr dism pyr



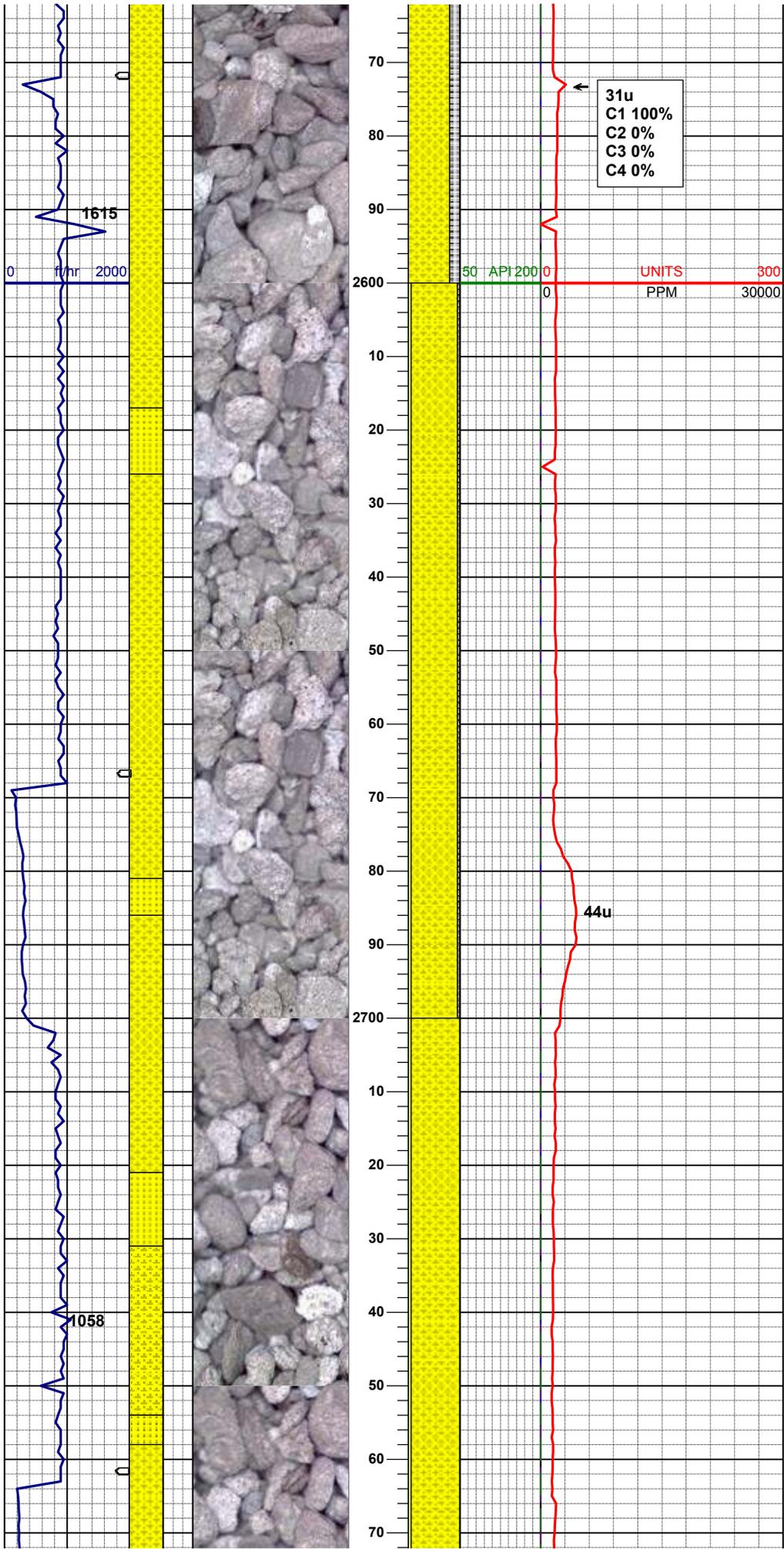
calc cmt, grd to sltysh 5% SS: wh, lt gy-gy, s&p, f-cgr, sbblky, sbrd-sbang, mod srt, frm to fri, arg cmt, occ glau, tr dism mica, tr dism pyr

SURVEY
MD 2421'
INC 18.07°
AZM 279.39°

60% SHYSLTST: lt gy-m gy, s&p, sb plty-sb blky, sbrd, vf gr, sft-frm, arg cmt, sl calc cmt, grd to sltysh 30% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbblky, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc cmt, 10% SLTYSH: gy-m gy, sb plty-sb blky, firm to m sft, rthy, gt, sl calc; tr ss

SURVEY
MD 2515'
INC 18.11°
AZM 284.13°

80% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbblky, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc cmt, 20% SLTYSH: gy-m gy, sb plty-sb blky, firm to m sft, rthy, gt, sl calc; tr ss

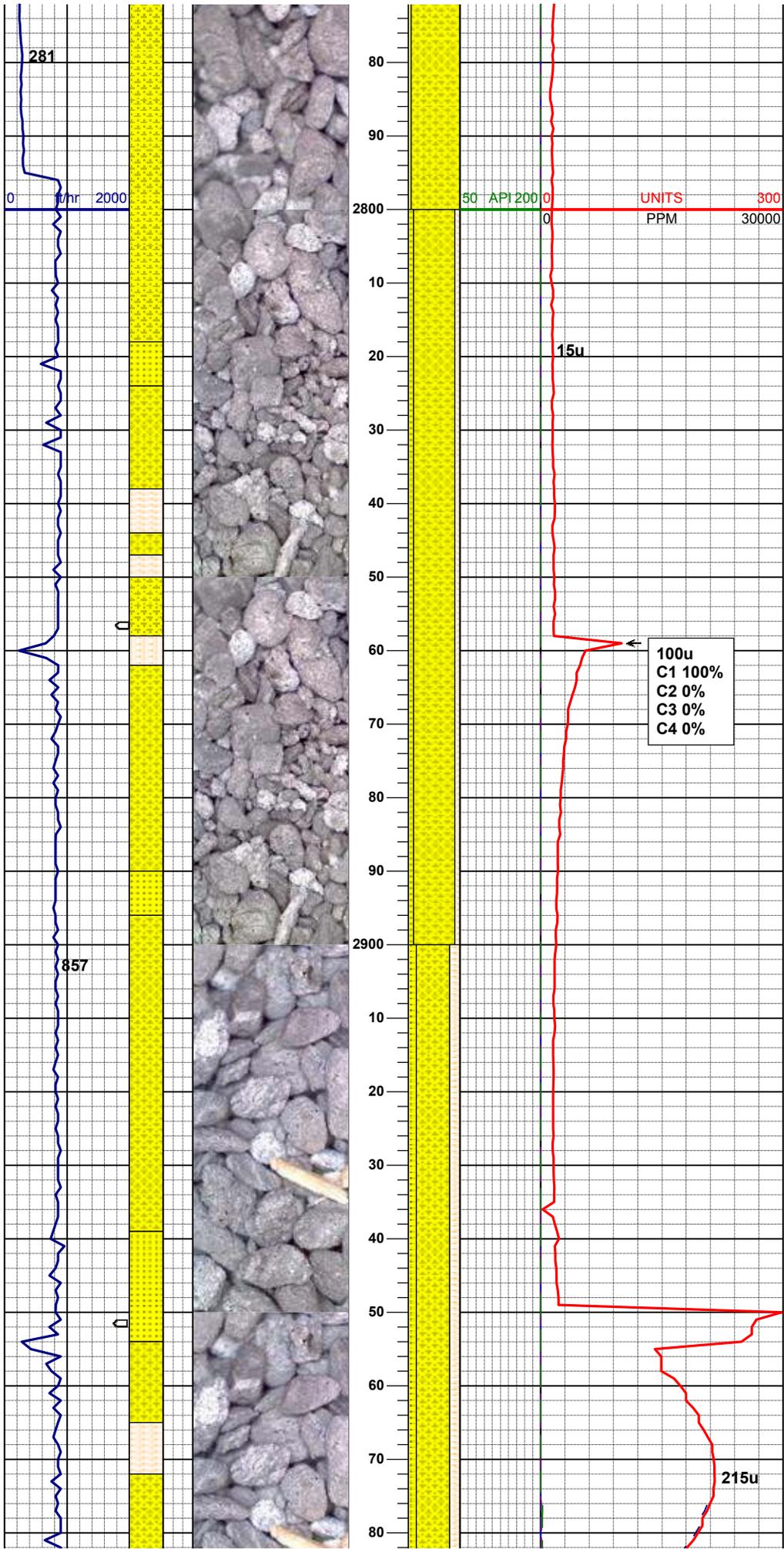


SURVEY
MD 2610'
INC 15.58°
AZM 282.63°

90% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbbkly, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc cmt, 5% SLTYSH: gy-m gy, sb plty-sb blkly, firm to m sft, rthy, gt, sl calc; 5% SS: wh, lt gy-gy, s&p, f-cgr, sbbkly, sbrd-sbang, mod srt, frm to fri, arg cmt, occ glau, tr disp mica; tr bent

SURVEY
MD 2705'
INC 17.23°
AZM 277.14°

95% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbbkly, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc 5% SS: wh, lt gy-gy, s&p, f-cgr, sbbkly, sbrd-sbang, mod srt, frm to fri, arg cmt, occ glau, tr disp mica; tr bent

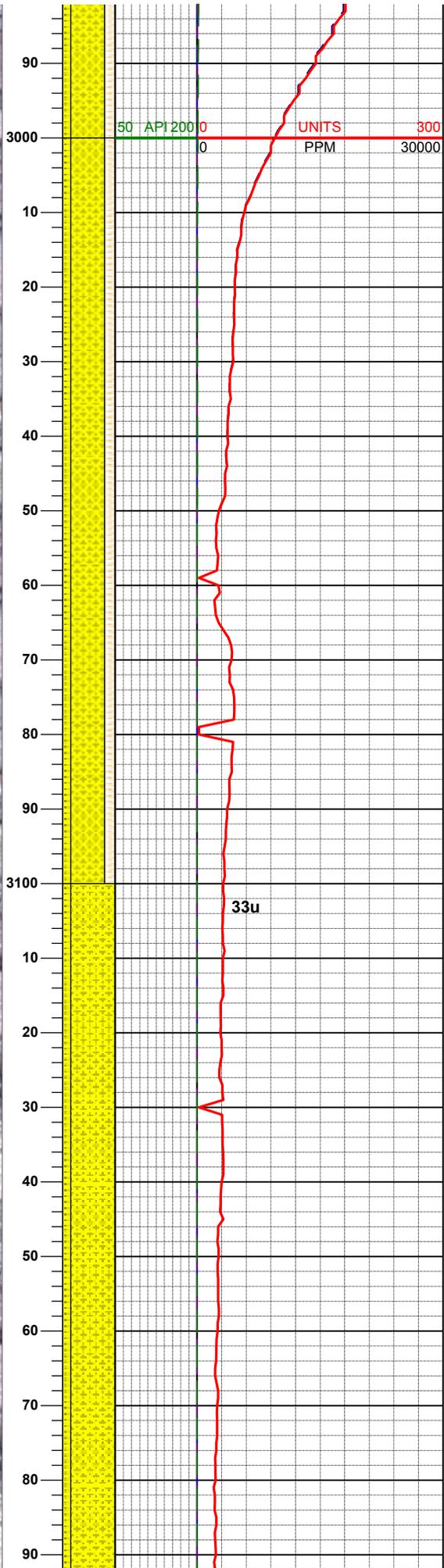
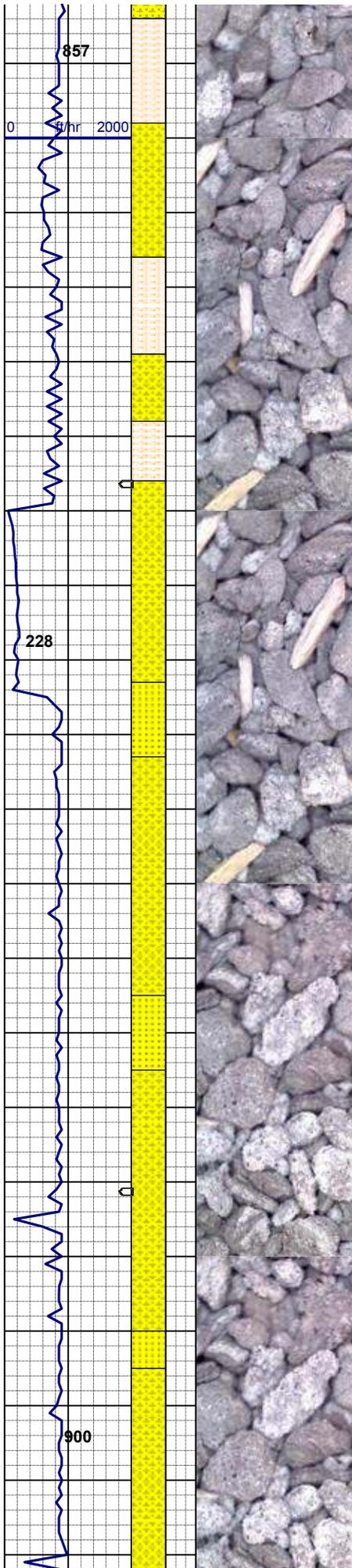


**SURVEY
MD 2800'
INC 19.49°
AZM 285.66°**

80% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc, tr glac 10% SHYSLTST: lt gy-m gy, s&p, sb ply -sb biky, sbrd, vf gr, sft-frm, arg cmt, sl calc cmt, grd to sltysh 10% SS: wh, lt gy-gy, s&p, f-cgr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, occ glau, tr dism mica

**SURVEY
MD 2895'
INC 17.89°
AZM 285.75°**

65% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc, tr glac 20% SHYSLTST: lt gy-m gy, s&p, sb ply -sb biky, sbrd, vf gr, sft-frm, arg cmt, sl calc cmt, grd to sltysh 15% SS: wh, lt gy-gy, s&p, f-cgr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, occ glau, tr dism mica



SURVEY
MD 2990'
INC 16.59°
AZM 285.76°

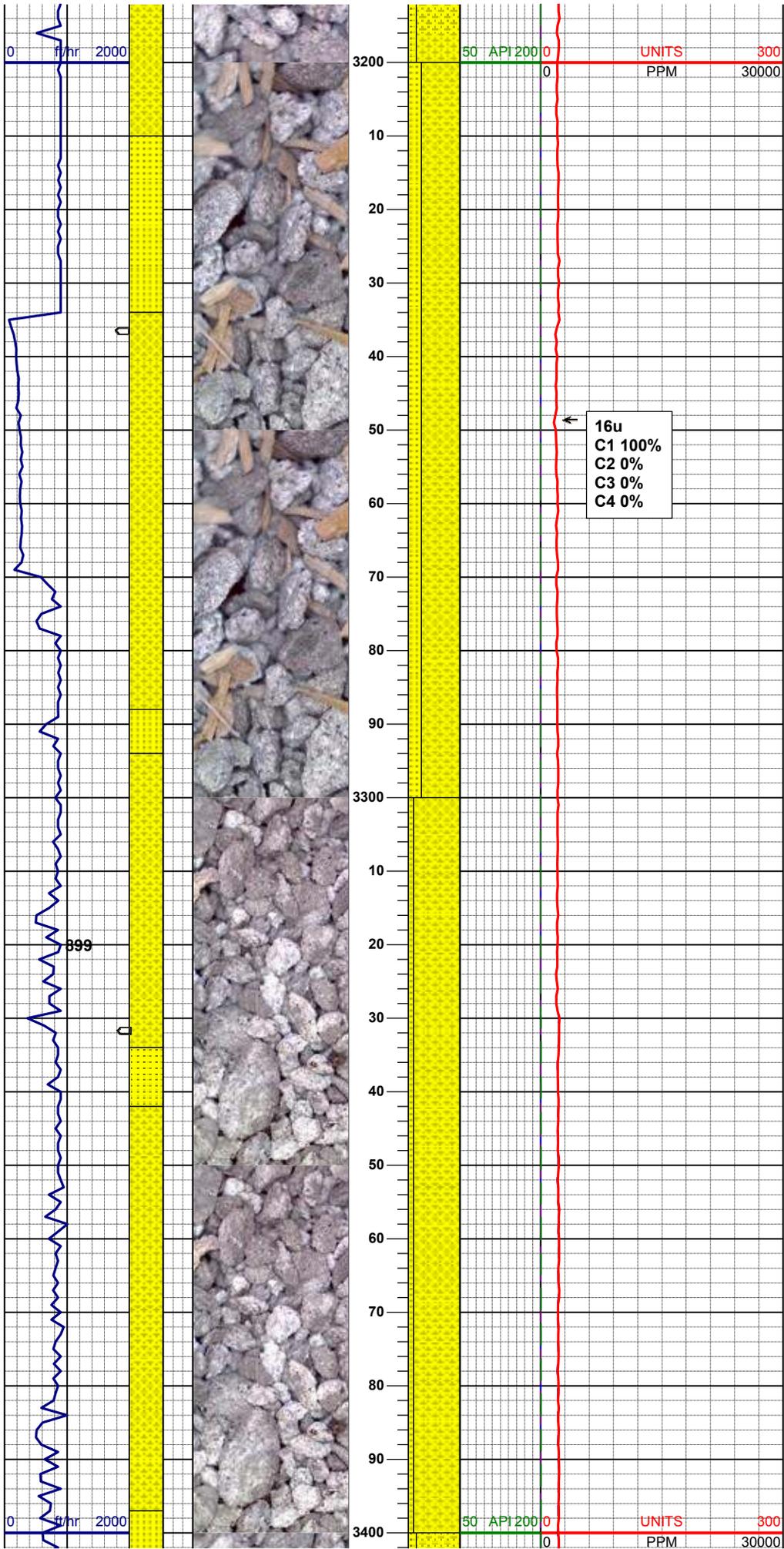
65% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc, tr glac 20% SHYSLTST: lt gy-m gy, s&p, sb plty -sb blkly, sbrd, vf gr, sft-frm, arg cmt, sl calc, grd to sltysh 15% SS: wh, lt gy-gy, s&p, f-cgr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, occ glau, tr dism mica

SURVEY
MD 3085'
INC 17.56°
AZM 284.98°

MUD WT 8.55
VIS 27.00

85% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc, tr glac 15% SS: wh, lt gy-gy, s&p, f-cgr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, occ glau, tr dism mica

SURVEY
MD 3180'
INC 16.86°
AZM 283.90°



75% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc, tr glac 25% SS: wh, lt gy-gy, s&p, f-cgr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, occ glau, tr dism mica

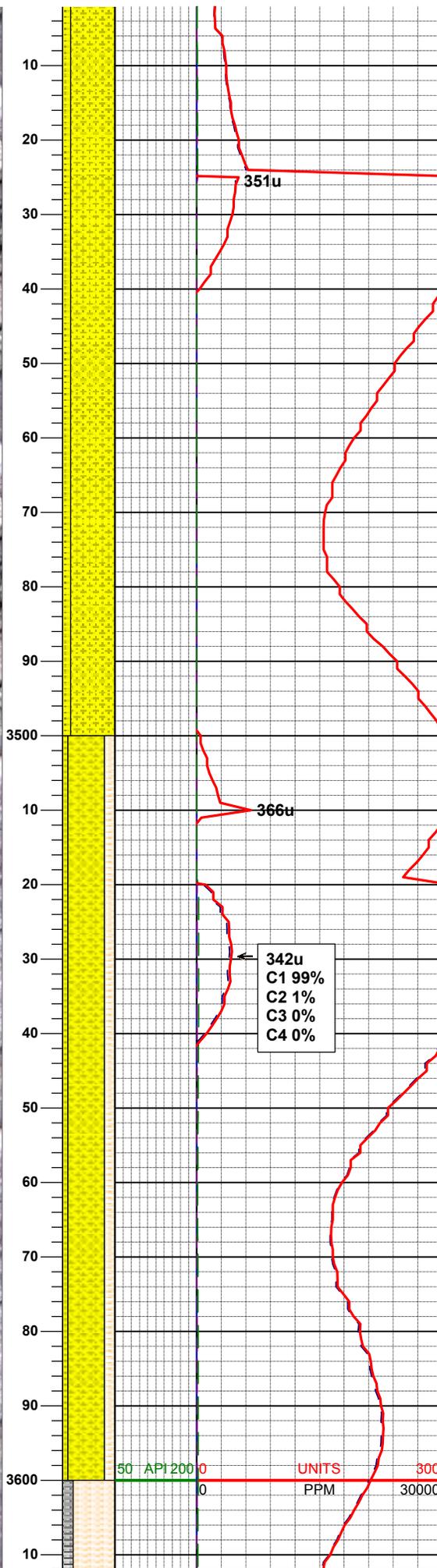
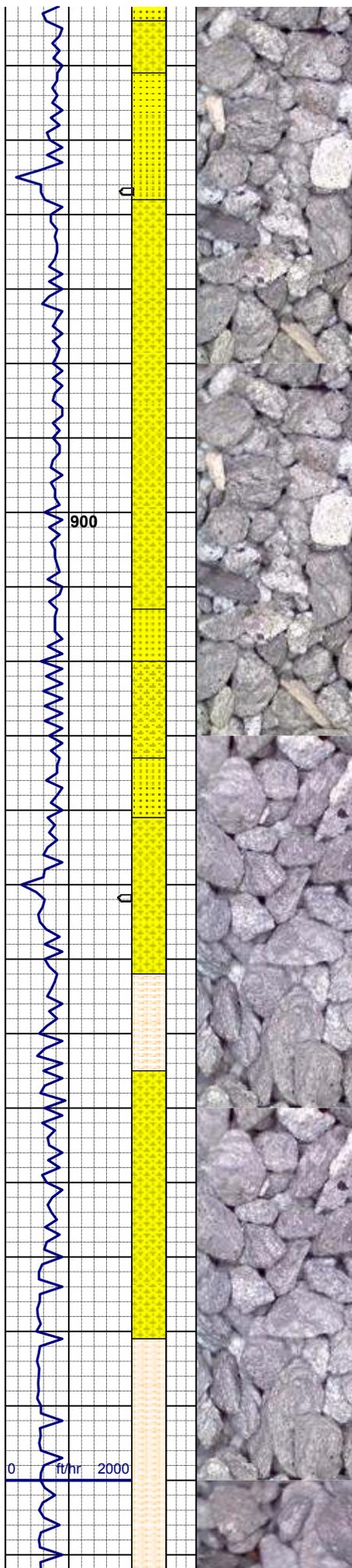
MUD WT 8.50
VIS 27.00

SURVEY
MD 3275'
INC 19.71°
AZM 282.58°

16u
C1 100%
C2 0%
C3 0%
C4 0%

90% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc, tr glac 10% SS: wh, lt gy-gy, s&p, f-cgr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, occ glau, tr dism mica

SURVEY
MD 3371'
INC 19.96°
AZM 281.99°



85% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbblky, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc, tr glac 15% SS: wh, lt gy-gy, s&p, f-cgr, sbblky, sbrd-sbang, mod srt, frm to fri, arg cmt, occ glau, tr dism mica

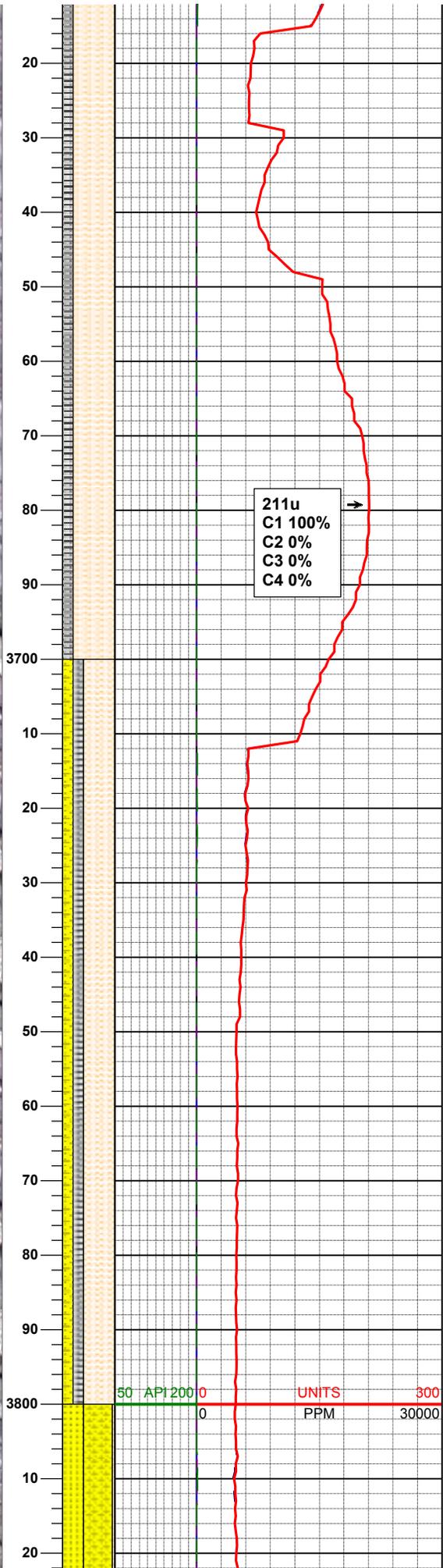
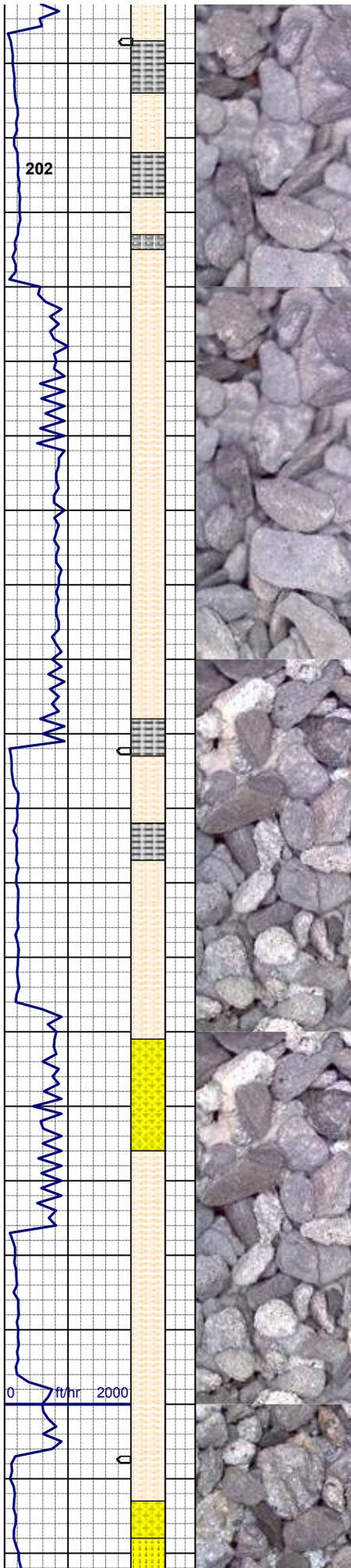
**SURVEY
MD 3465'
INC 18.48°
AZM 282.95°**

342u
C1 99%
C2 1%
C3 0%
C4 0%

70% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbblky, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc, tr glac 20% SHYSLTST: lt gy-m gy, s&p, sb plty -sb blky, sbrd, vf gr, sft-frm, arg cmt, sl calc, grdg to sltysh 10% SS: wh, lt gy-gy, s&p, f-cgr, sbblky, sbrd-sbang, mod srt, frm to fri, arg cmt, occ glau, tr dism mica

**MUD WT 8.60
VIS 28.00**

50 API 200 0 UNITS 300
0 PPM 30000

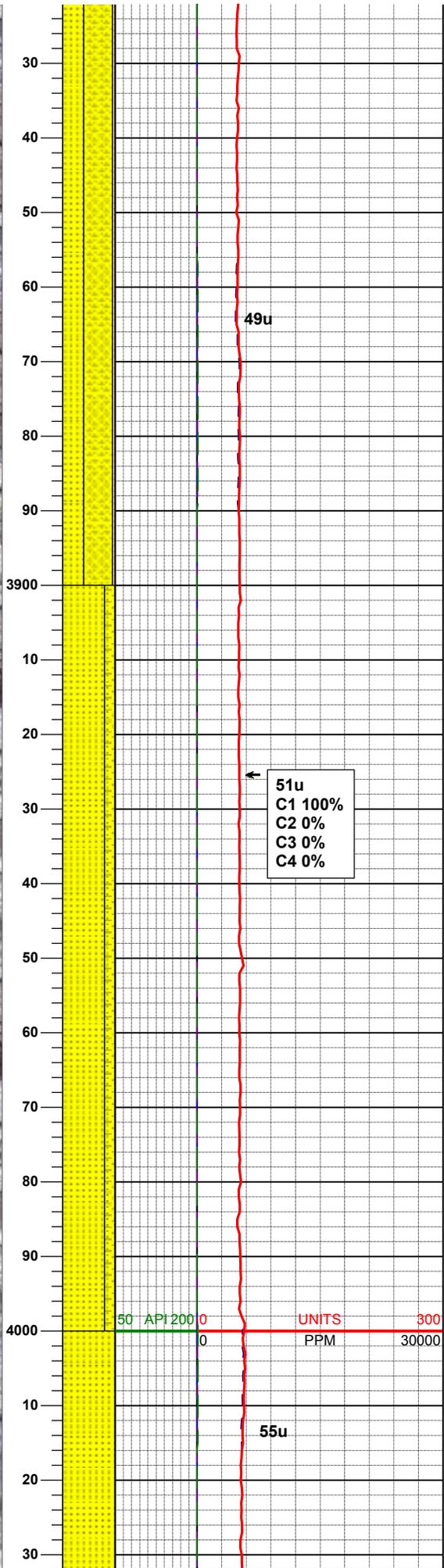
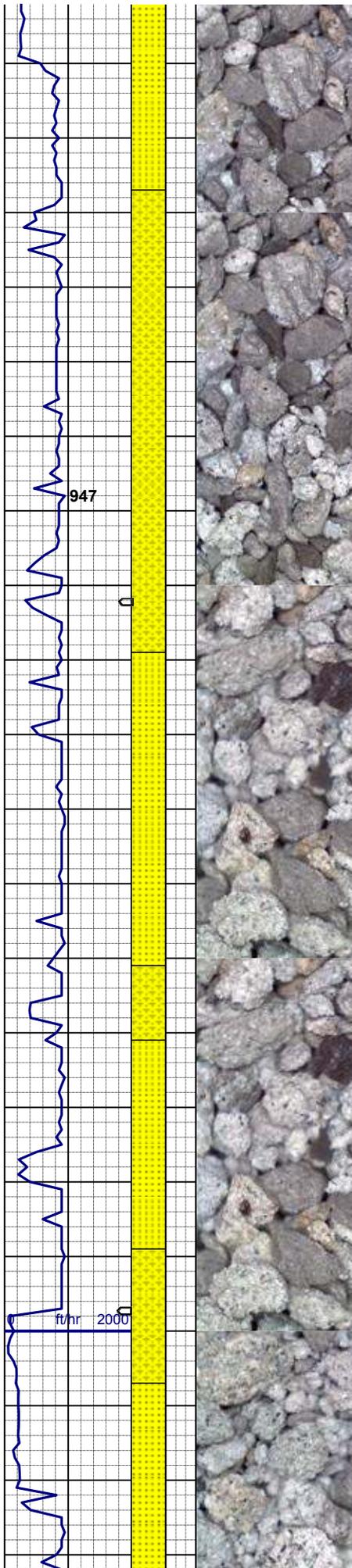


80% SHYSLTST: lt gy-m gy, s&p, sb plty-sb blky, sbrd, vf gr, sft frm, arg cmt, sl calc cmt, grd to sltysh 20% SLTYSH: gy-m gy, sb plty-sb blky, firm to m sft, rthy, gt, sl calc; tr sltyss

SURVEY
MD 3656'
INC 16.17°
AZM 279.92°

60% SHYSLTST: lt gy-m gy, s&p, sb plty-sb blky, sbrd, vf gr, sft frm, arg cmt, sl calc cmt, grd to sltysh 20% SLTYSH: gy-m gy, sb plty-sb blky, firm to m sft, rthy, gt, sl calc 20% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbbly, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc, tr glac, pyr

SURVEY
MD 3751'
INC 16.57°
AZM 281.63°



SURVEY
MD 3846'
INC 20.42°
AZM 278.91°

55% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbbly, sbrd-sbang, mod srt, frm to fri, arg cmt, calc, tr glac 40% SS: wh, lt gy-gy, s&p, vf-fgr, sbbly, sbrd-rd mod srt, frm to fri, occ glau, calc, tr dism mica 5% SHYLTST: lt gy-m gy, s&p, sb ply-sb bly, sbrd, vf gr, sft-frm, arg cmt, sl calc, grdg to sltysh

MUD WT 8.50
VIS 27.00

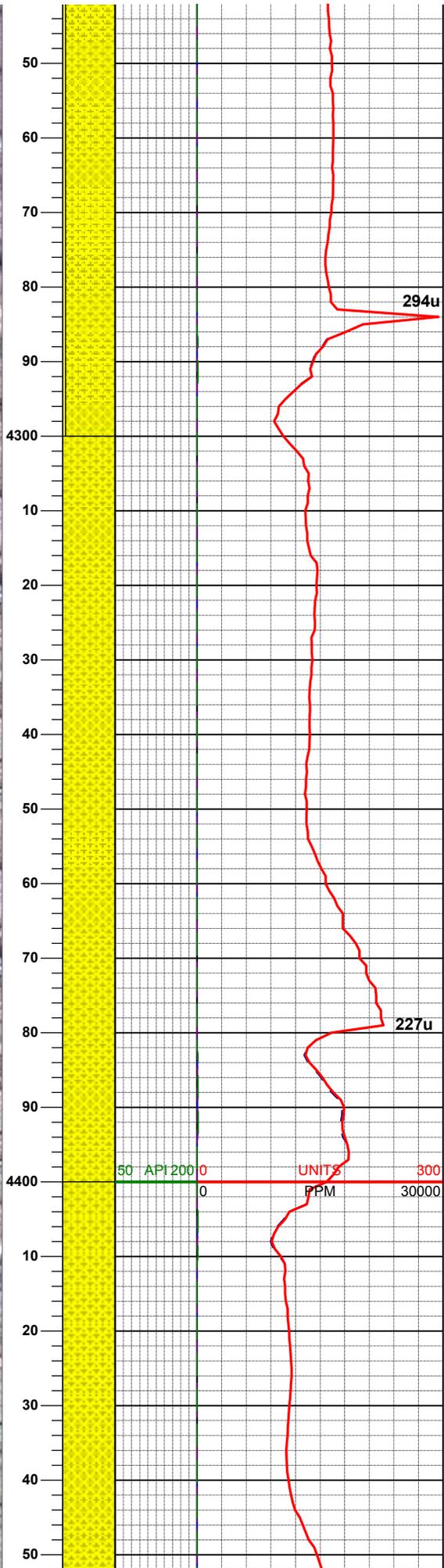
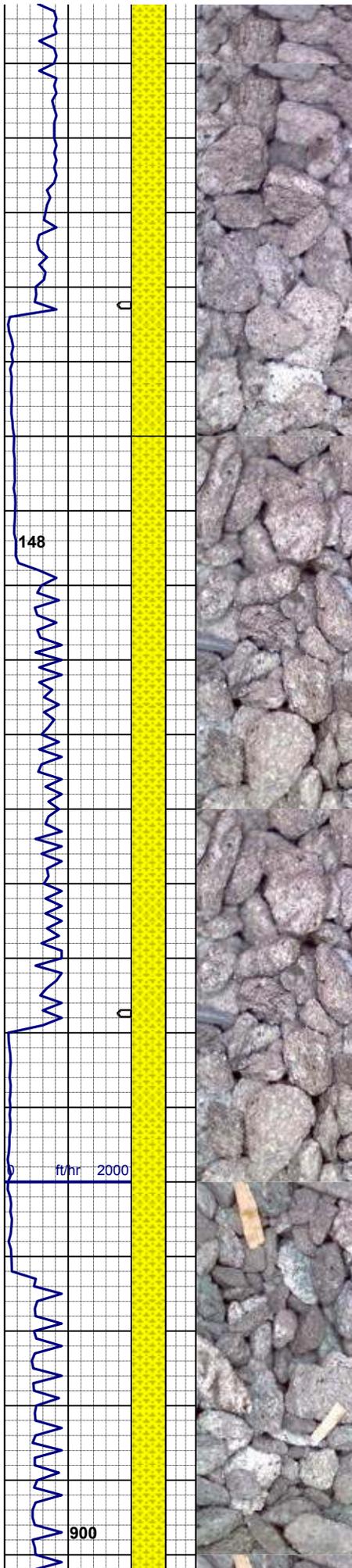
SURVEY
MD 3941'
INC 22.79°
AZM 277.78°

80% SS: wh, lt gy-gy, s&p, vf-fgr, sbrd-rd mod srt, frm to fri, occ glau, mica, calc, 20% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbbly, sbrd-sbang, mod srt, frm to fri, arg cmt, calc, tr glac

51u
 C1 100%
 C2 0%
 C3 0%
 C4 0%

55u

SURVEY



95% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, calc, tr glac 5% SS: wh, lt gy-gy, s&p, f-mgr, sbrd-rd mod srt, frm to fri, occ glau, calc, tr dism mica; tr shysh

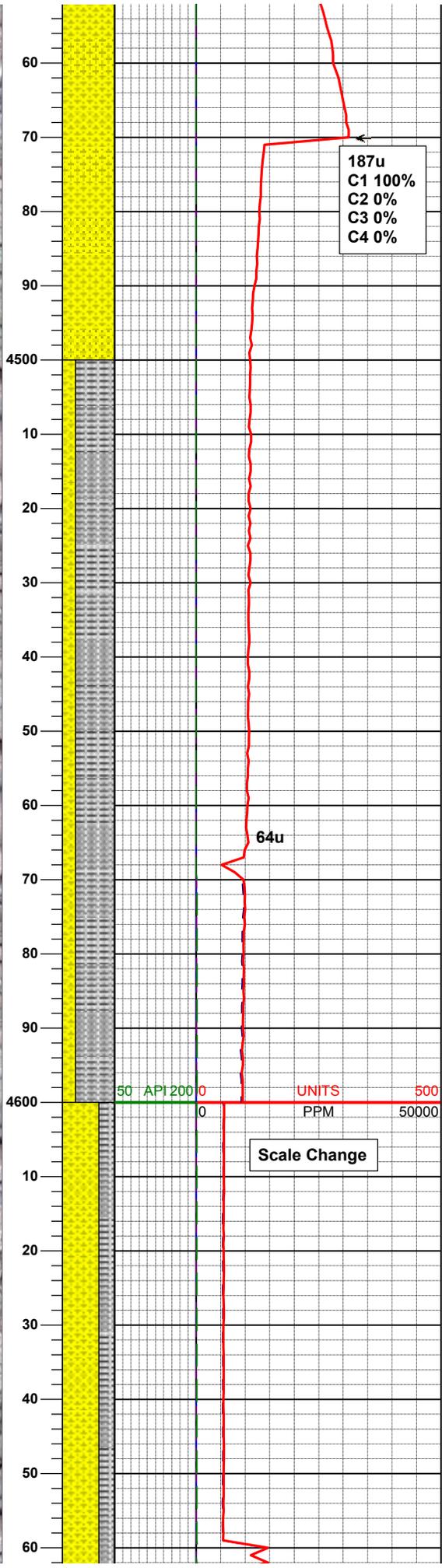
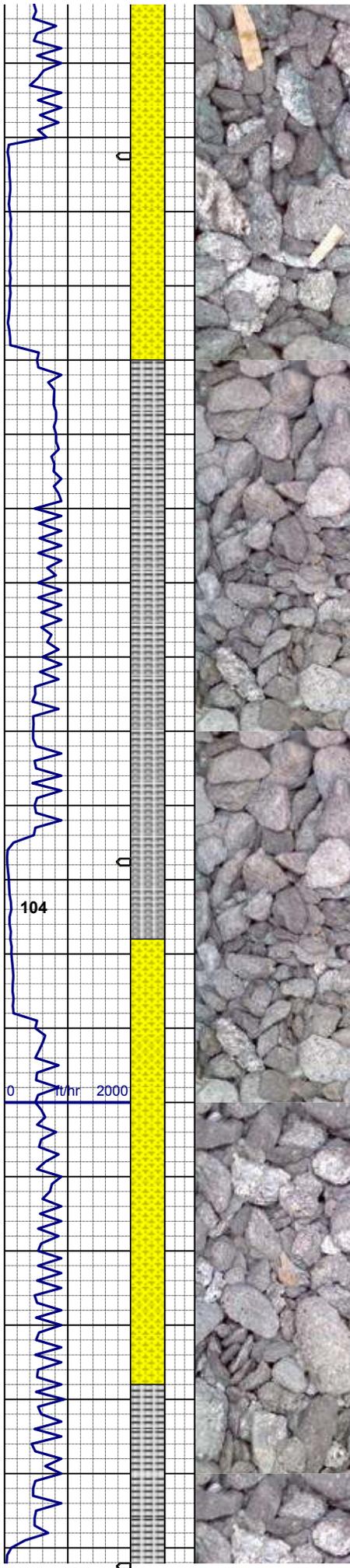
SURVEY
MD 4321'
INC 19.43°
AZM 280.03°

100% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, calc, tr glac

MUD WT 8.45
VIS 27.00

SURVEY
MD 4416'
INC 16.90°
AZM 281.50°

100% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbbiky, sbrd-sbang, mod srt, frm to fri, arg cmt, calc, sme w/ abnt glau; tr sltsh, bent, lnc frac



care, etc w/ abnt grad, a city, bent, mee rug

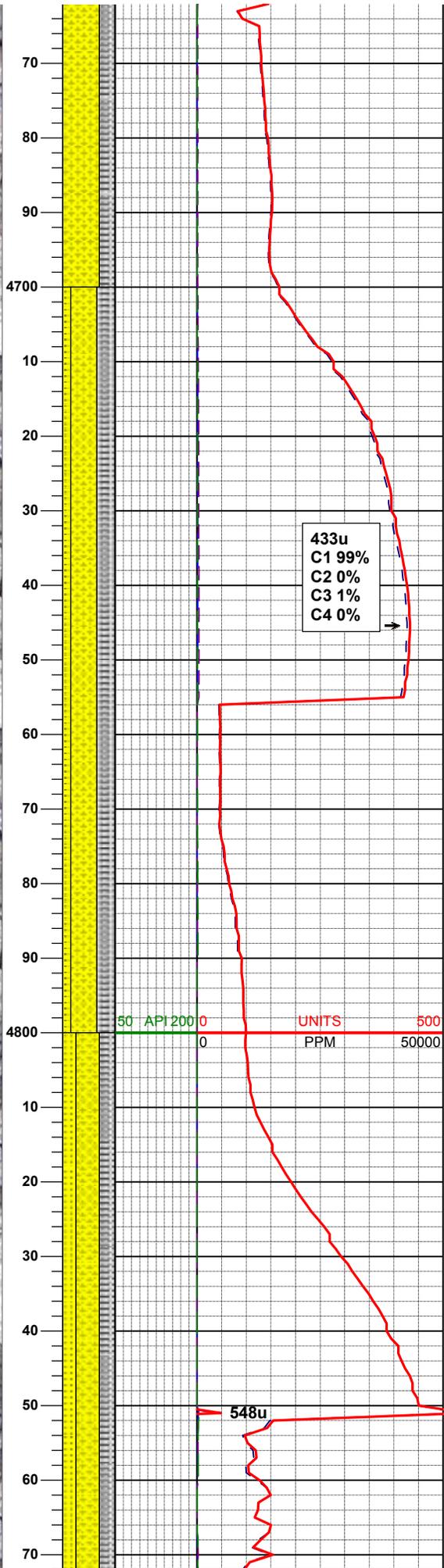
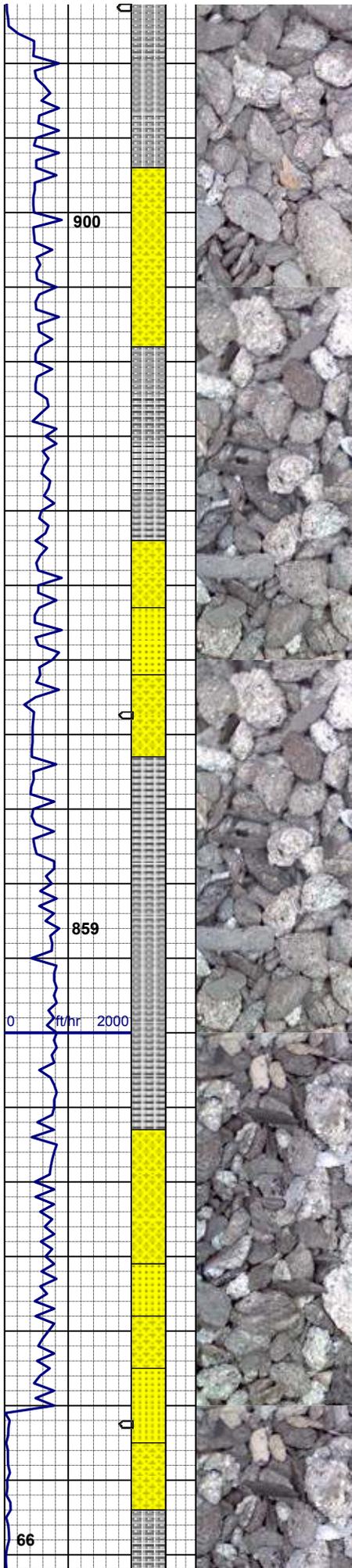
187u
 C1 100%
 C2 0%
 C3 0%
 C4 0%

75% SLTYSH: gy-m gy, sb plty-sb blkly, firm to m sft, rthy, gt, sl calc 25% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc, tr glac

Scale Change

SURVEY
 MD 4606'
 INC 10.39°
 AZM 280.74°

70% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc, tr glac 30% SLTYSH: gy-m gy, sb plty-sb blkly, firm to m sft, rthy, gt, sl calc



SURVEY
MD 4701'
INC 8.23°
AZM 276.83°

433u
C1 99%
C2 0%
C3 1%
C4 0%

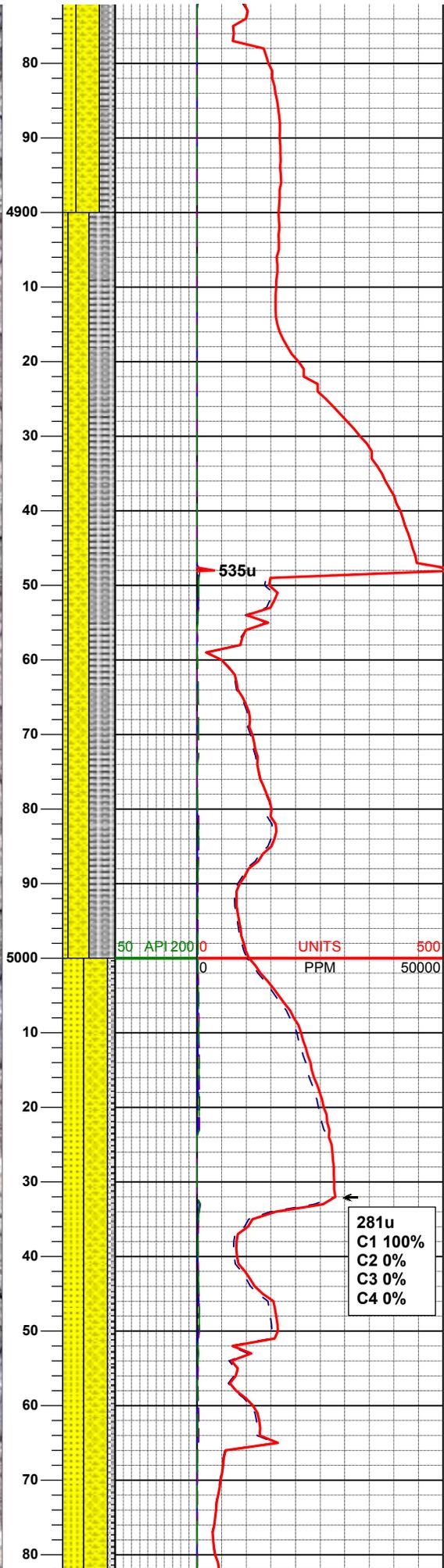
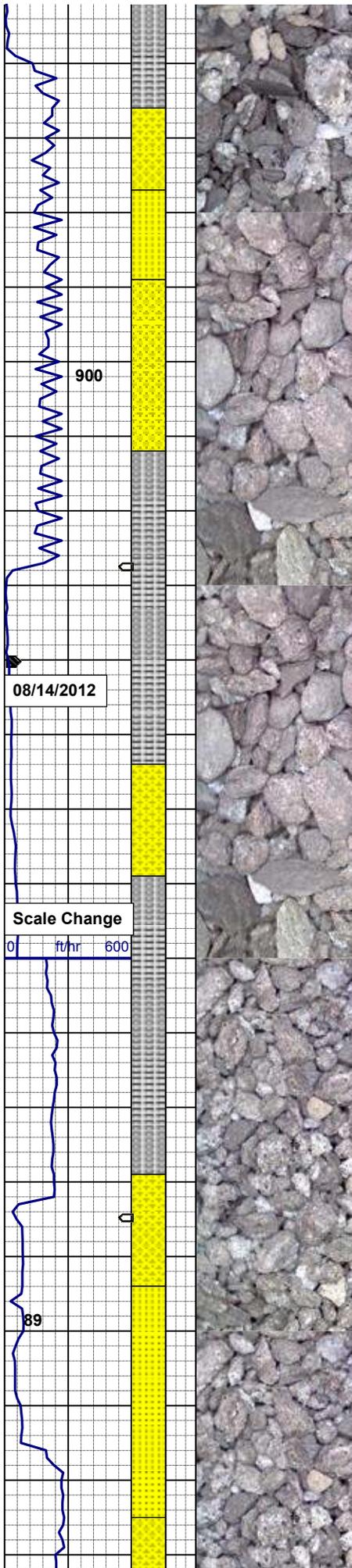
50% SHYSS: lt gy-gy, wh, s&p, vf-f gr, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc, tr glac 35% SLTYSH: gy-m gy, sb plty-sb blk, firm to m sft, rthy, gt, sl calc 15% SS: wh, lt gy-gy, s&p, f-mgr, sbrd-rd mod srt, frm to fri, occ glau, calc, tr dism mica

MUD WT 8.40
VIS 27.00

SURVEY
MD 4796'
INC 8.11°
AZM 277.05°

45% SHYSS: lt gy-gy, wh, s&p, vf-f gr, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc, tr glac 30% SLTYSH: gy-dk gy, sb plty-sb blk, firm to m sft, rthy, gt, sl calc 25% SS: wh, lt gy-gy, s&p, f-mgr, sbrd-rd mod srt, frm to fri, occ glau, calc, tr dism mica

MUD WT 8.40
VIS 27.00



SURVEY
MD 4891'
INC 7.76°
AZM 283.28°

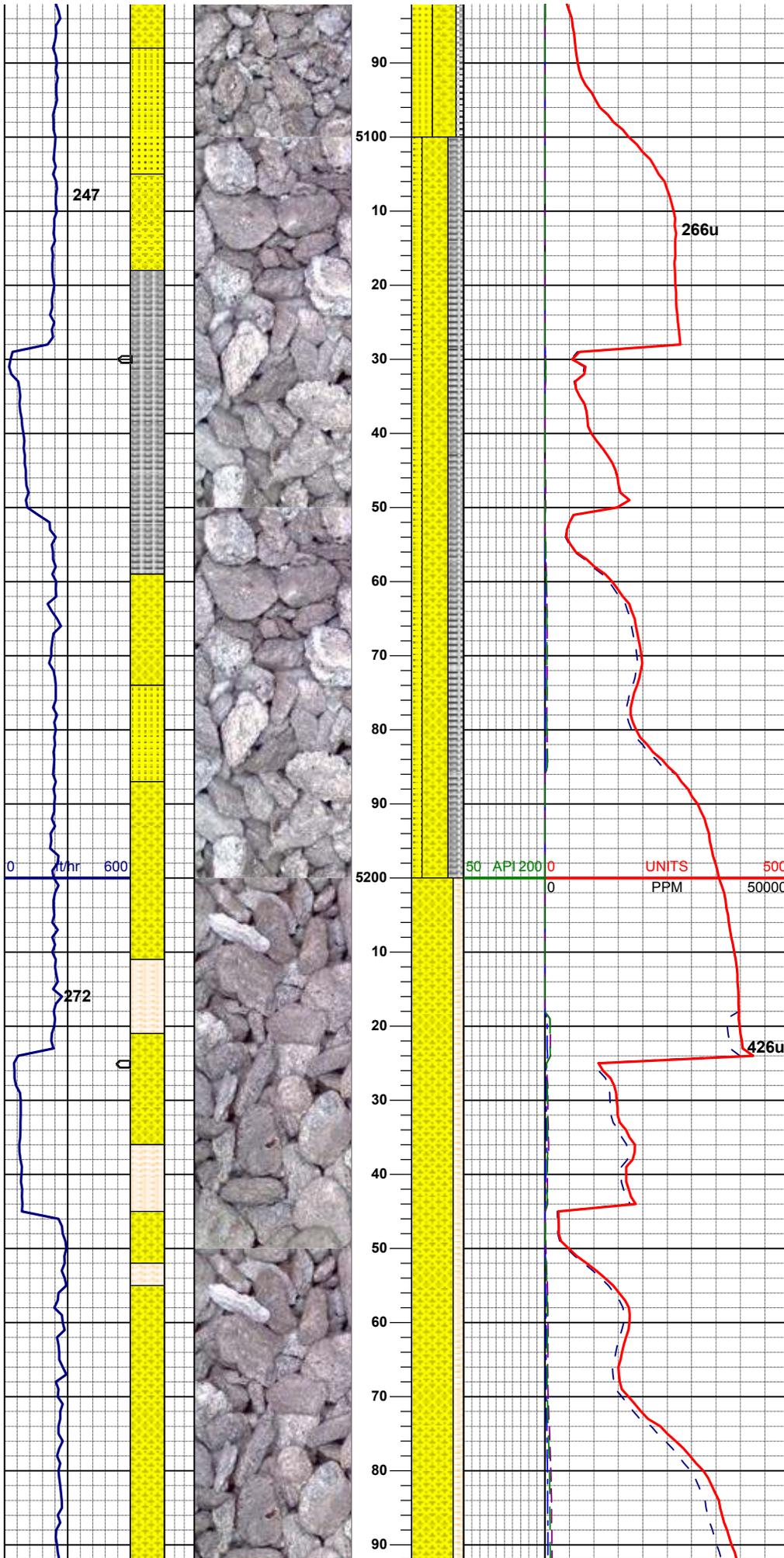
50% SLTYSH: gy-dk gy, sb plty-sb blkly, frm to m sft, rthy, gt, sl calc 40% SHYSS: lt gy-gy, wh, s&p, vf-f gr, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc, tr glac 10% SS: wh, lt gy-gy, s&p, f-mgr, sbrd-rd mod srt, frm to fri, occ glau, calc, tr dism mica

SURVEY
MD 4978'
INC 4.73°
AZM 292.03°

45% SHYSS: lt gy-gy, wh, s&p, vf-f gr, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc, tr glac 40% SS: wh, lt gy-gy, s&p, f-mgr, sbrd-rd mod srt, frm to fri, occ glau, calc, tr dism mica, tr dism pyr 15% SLTYSH: gy-dk gy, sb plty-sb blkly, frm to m sft, rthy, gt, sl calc

SURVEY
MD 5074'
INC 1.91°

AZM 295.29°



MUD REPORT
 5150' MD
 Wt - 8.75
 Vis - 30
 pH - 9.4
 YP - 4
 API fit - 15
 Ck - 1/0

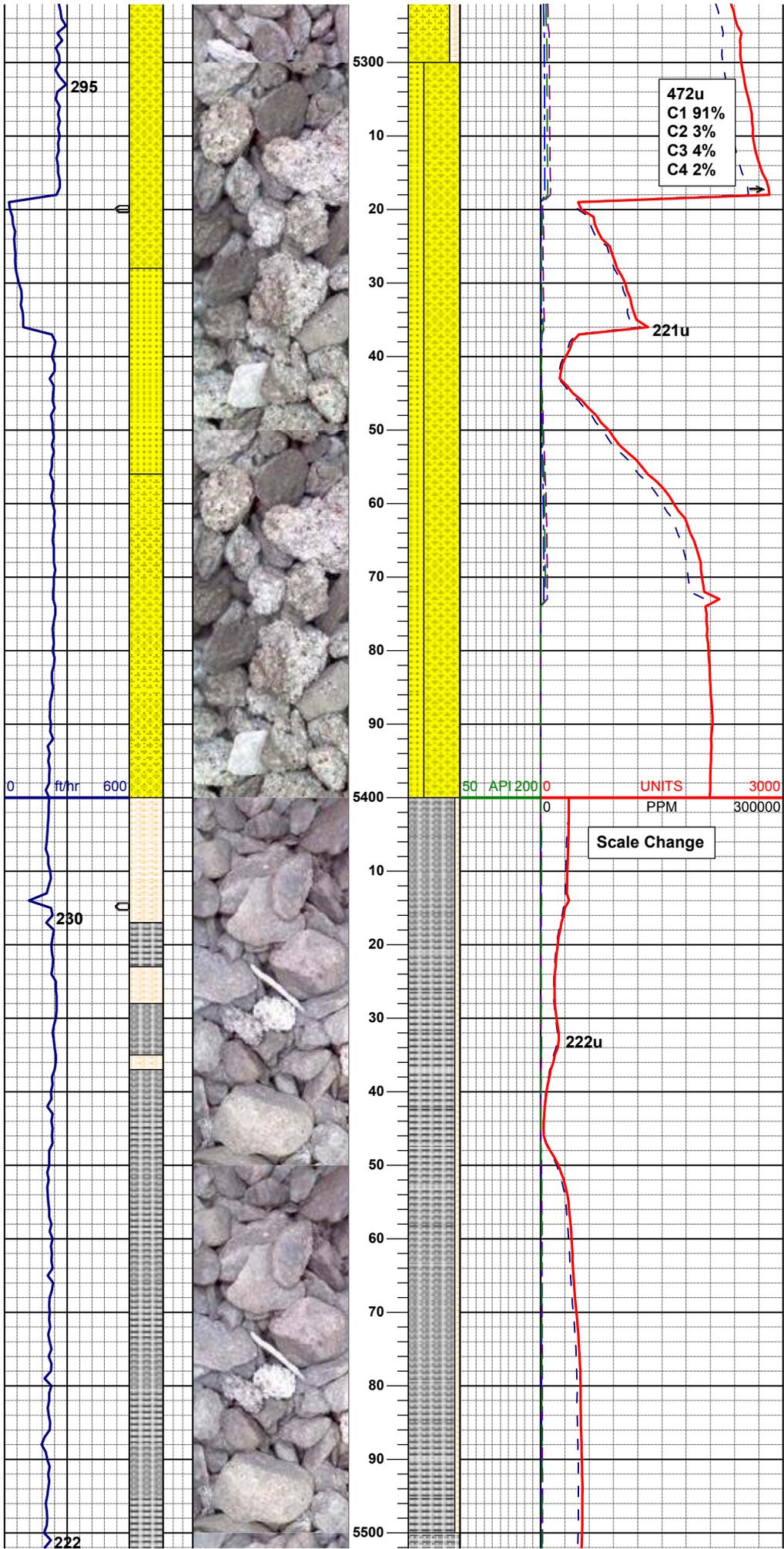
50% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc, tr glac 30% SLTYSH: gy-dk gy, sb plty-sb blkly, frm to m sft, rthy, gt, sl calc 20% SS: wh, lt gy-gy, s&p, f-mgr, sbrd-rd mod srt, frm to fri, occ glau, calc, tr dism mica, tr dism pyr

SURVEY
 MD 5169'
 INC 2.13°
 AZM 172.33°

MUD WT 8.75
VIS 30.00

80% SHYSS: lt gy-gy, wh, s&p, vf- f gr, sbbkly, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc 20% SHYSLTST: lt gy-m gy, s&p, sb plty-sb blkly, sbrd, vf gr, sft-frm, arg cmt, sl calc cmt, grdg to sltysh , tr pyr

SURVEY
 MD 5264'
 INC 2.59°
 AZM 229.75°



70% SHYSS: lt gy-gy, wh, s&p, vf-f gr, sbrd-sbang, mod srt, frm to fri, arg cmt, sl calc, tr glac 30% SS: wh, lt gy-gy, s&p, f-mgr, sbrd-rd mod srt, frm to fri, occ glau, calc, tr dism mica, tr pyr

SURVEY
MD 5359'
INC 1.79°
AZM 224.78°

MUD WT 8.85
VIS 31.00

Scale Change

90% SLTYSH: lt gy-gy, sb plty-sb blk, firm to m sft, rthy, gt, sl calc 10% SHYSLTST: lt gy-m gy, s&p, sb plty-sb blk, sbrd, vf gr, sft-frm, arg cmt, sl calc cmt, grdg to sltysh; tr ss, bent

SURVEY
MD 5454'
INC 1.56°
AZM 205.56°

MUD WT 8.95
VIS 31.00

472u
 C1 91%
 C2 3%
 C3 4%
 C4 2%

50 API 2000 UNITS 3000
 PPM 300000

295

230

222

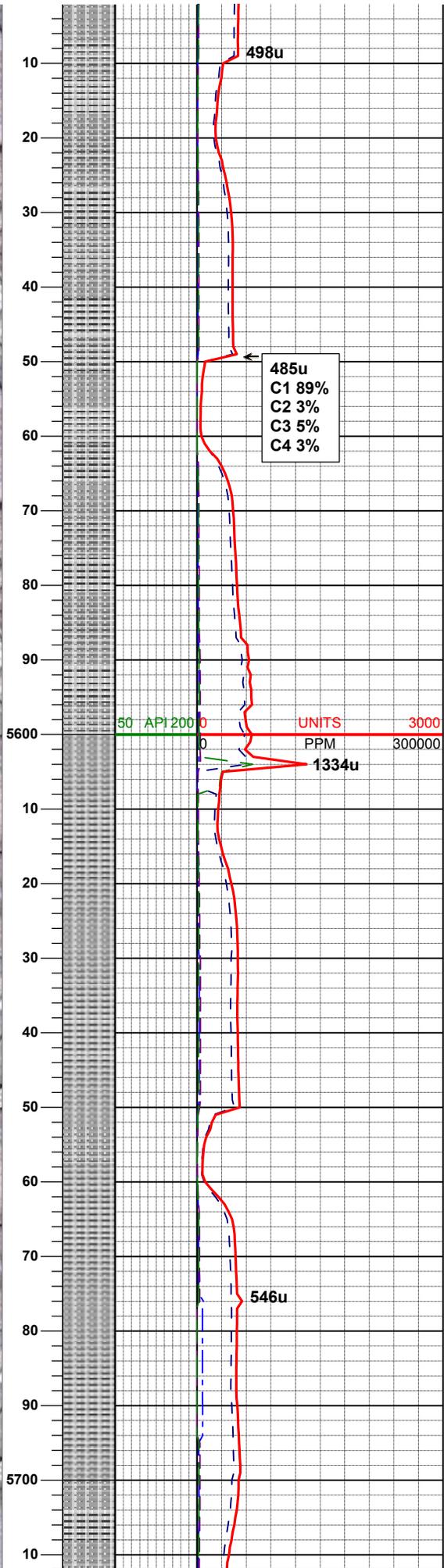
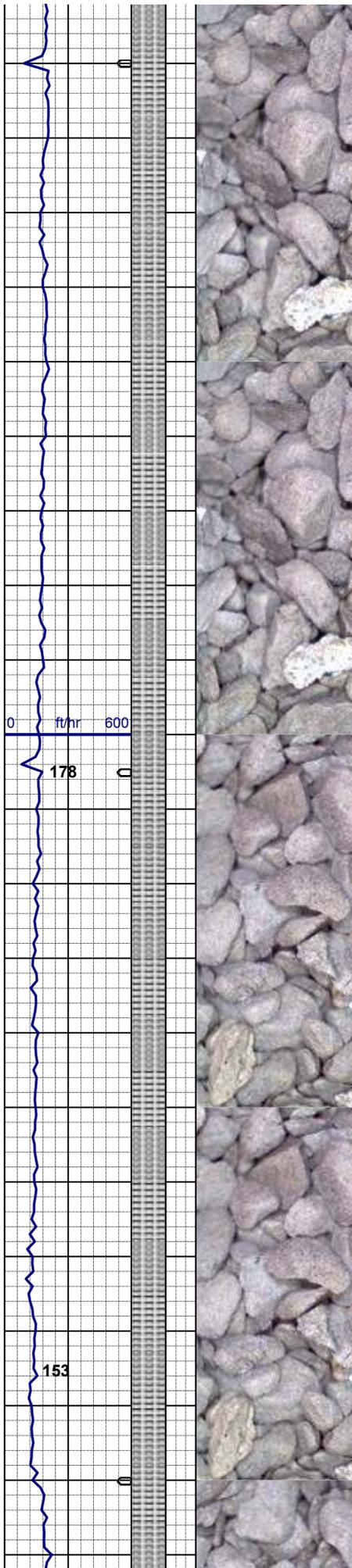
472u

221u

222u

5300
 10
 20
 30
 40
 50
 60
 70
 80
 90
 5400
 10
 20
 30
 40
 50
 60
 70
 80
 90
 5500

0 ft/hr 600



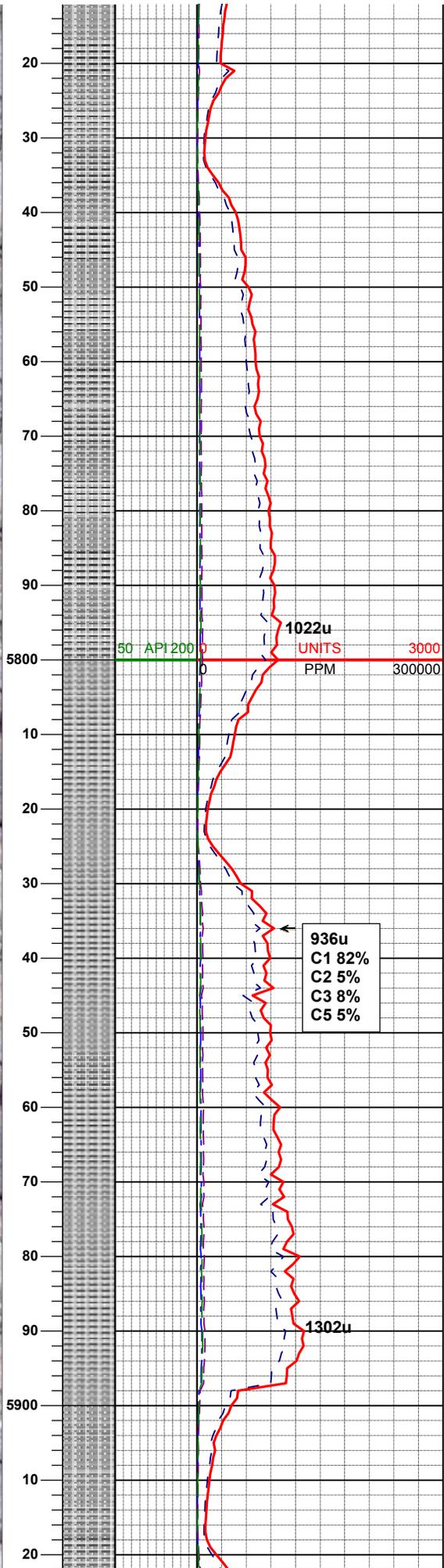
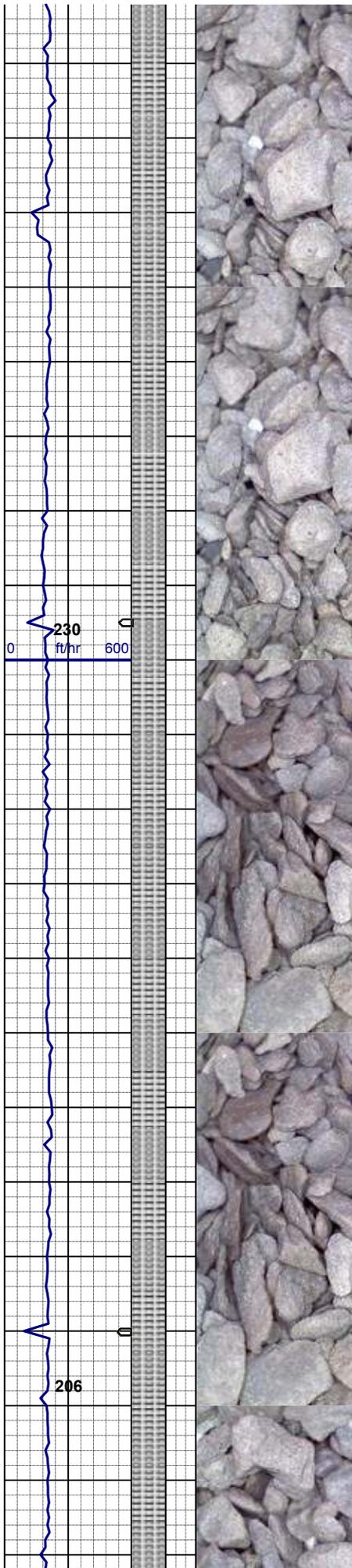
100% SLTYSH: lt gy-gy, sb plty-sb blk, firm to m sft, rthy, gt, sl calc; tr ss, bent, Inoc frag

SURVEY
MD 5549'
INC 0.65°
AZM 177.06°

MUD WT 9.00
VIS 32.00

SURVEY
MD 5644'
INC 0.85°
AZM 216.04°

100% SLTYSH: lt gy-gy, sb plty-sb blk, firm to m sft, rthy, gt, sl calc; tr ss, bent, Inoc frag

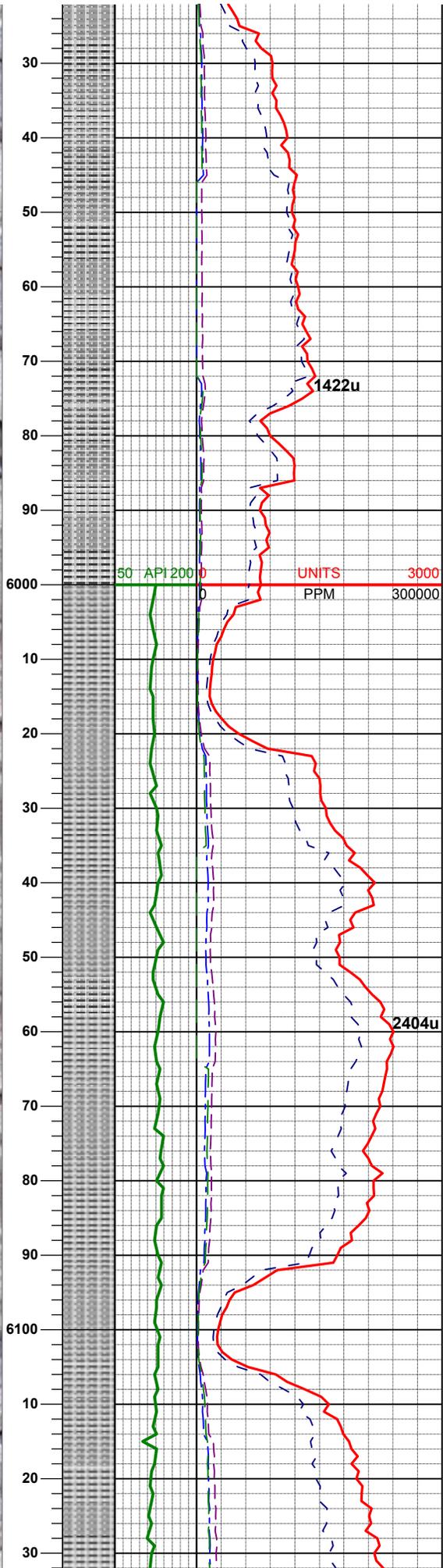
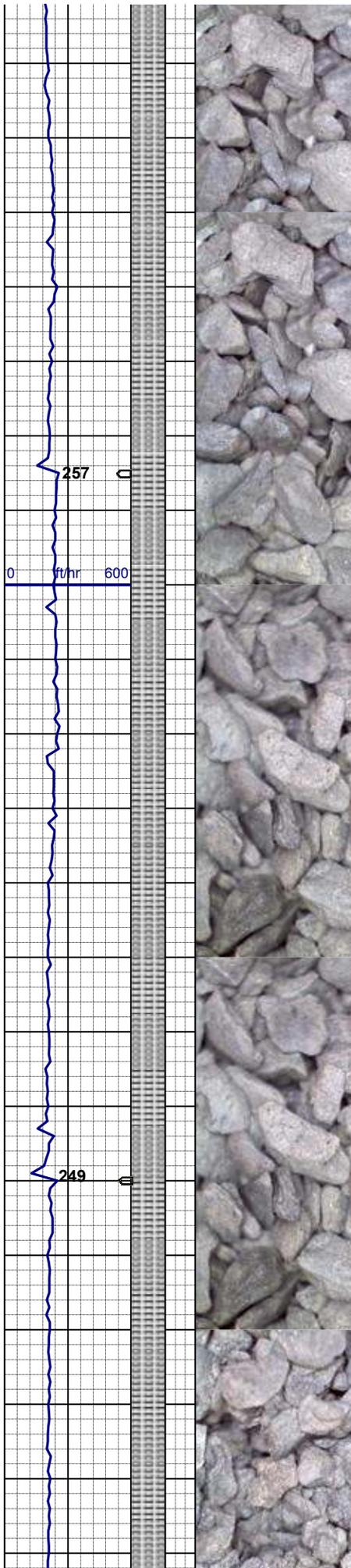


SURVEY
MD 5739°
INC 0.90°
AZM 150.04°

100% SLTYSH: lt gy-gy, sb plty-sb blk, firm to m sft, rthy, gt, sl calc; tr bent

SURVEY
MD 5834°
INC 0.81°
AZM 106.12°

100% SLTYSH: lt gy-gy, sb plty-sb blk, firm to m sft, rthy, gt, sl calc; tr bent,



SURVEY
MD 5929'
INC 1.21°
AZM 74.34°

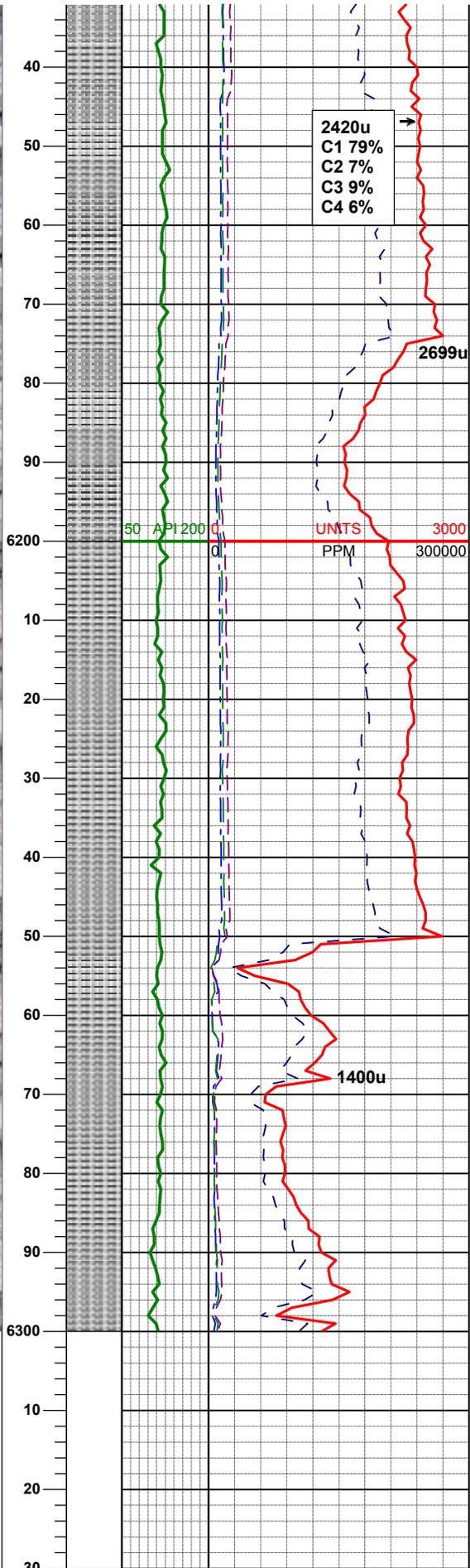
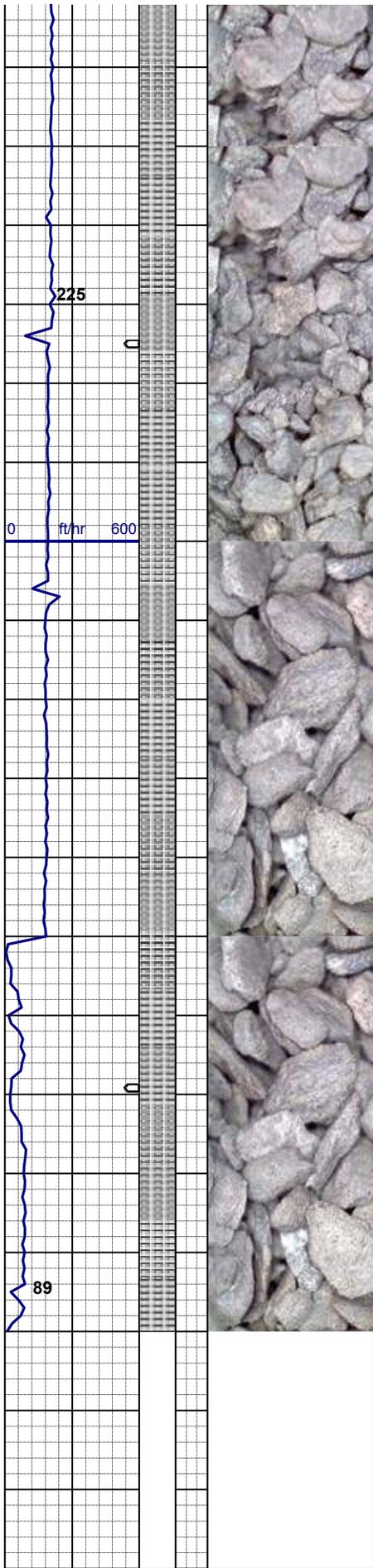
100% SLTYSH: lt gy-gy, sb plty-sb blk, firm to m sft, rthy, sity, sl calc; tr bent, rr ls

MUD WT 9.10
VIS 33.00

SURVEY
MD 6024'
INC 1.29°
AZM 83.79°

100% SLTYSH: lt gy-gy, sb plty-sb blk, firm to m sft, rthy, sity, sme lam ip w/ blk carb flk, sl calc; tr bent

SURVEY
MD 6119'
INC 1.32°
AZM 80.94°



2420u
 C1 79%
 C2 7%
 C3 9%
 C4 6%

100% SLTYSH: lt gy-gy, sb plty-sb blk, firm to m sft, rthy, slty, sme lam ip w/ blk carb flk, sl calc; tr bent

SURVEY
 MD 6195'
 INC 1.60°
 AZM 77.24°

MUD WT 9.25
VIS 35.00

100% SLTYSH: lt gy-gy, sb plty-sb blk, firm to m sft, rthy, slty, sme lam ip w/ blk carb flk, sl calc; tr bent

SURVEY
 MD 6260'
 INC 1.86°
 AZM 129.96°

LOG CONTINUES ON
BALL RANCH AC04-72HN HORIZONTAL