

LOG created using LPLOT VH Version 3.0, October 10, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

OPERATOR: NOBLE ENERGY INC
WELL: ROHN STATE LD09-67HN
LOCATION: SENE SEC 9 T9N R58W
COUNTY: WELD
STATE: COLORADO
SPOT: 1650' FNL; 480' FEL
ELEVATION: 4729' GL; 4753' KB
FIELD: WILDCAT
SPUD DATE: 10/04/2013
TD DATE: 10/06/2013
DATES LOGGED: 10/04/2013 - 10/06/2013
DEPTHS LOGGED: 1200' - 4981' MD
LOGGERS: LAURA KELLOGG; CONOR PESICKA
DRILLING FLUID: LSND
DRILLING RIG: H&P 273
API: 05-123-37542
LOG TYPE: VERTICAL
SCALE: 1:240 (5 inches per 100 feet)
REMARKS: WELLSITE GEOLOGIC SERVICES
 PROVIDED BY COLUMBINE LOGGING INC.

LITHOLOGIES



Sandstone



Shaly Sandstone



Silty Shale

ENGINEERING SYMBOLS



Connection



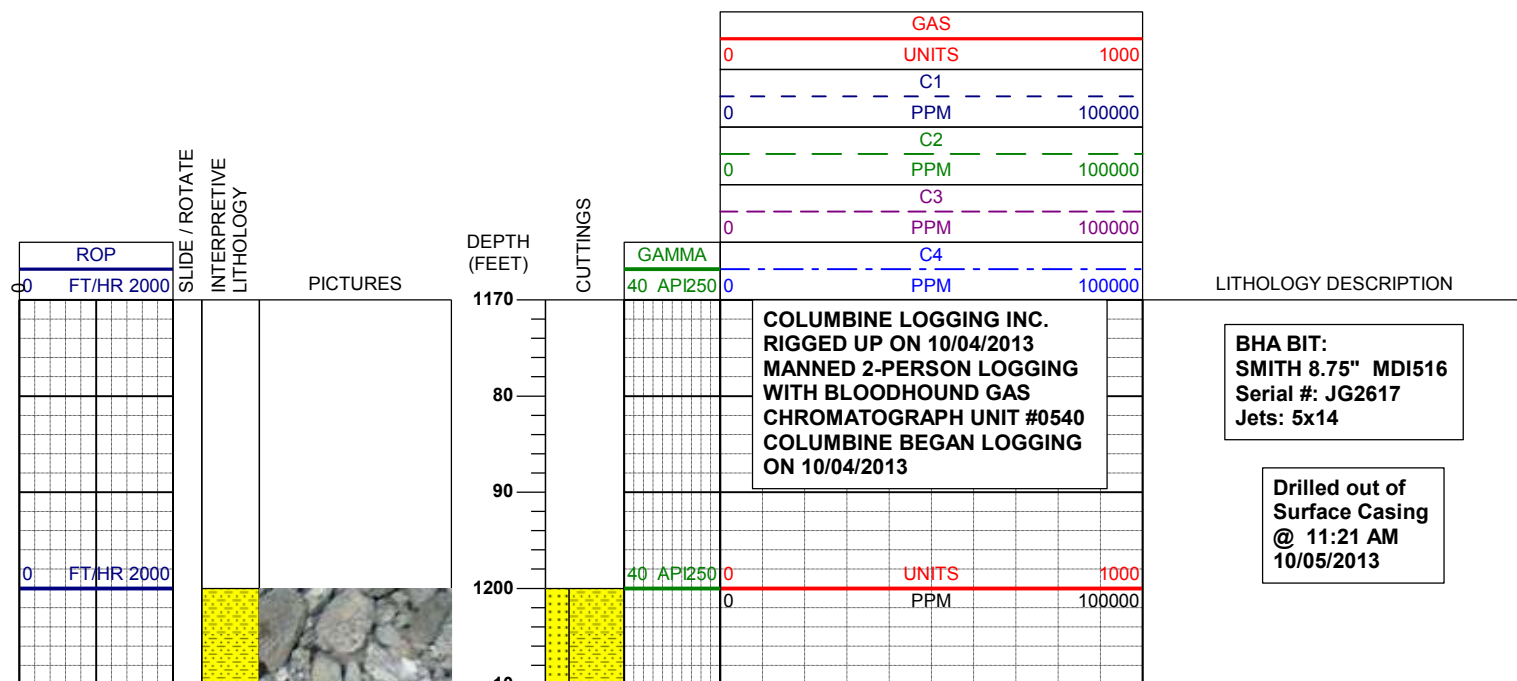
Connection Gas

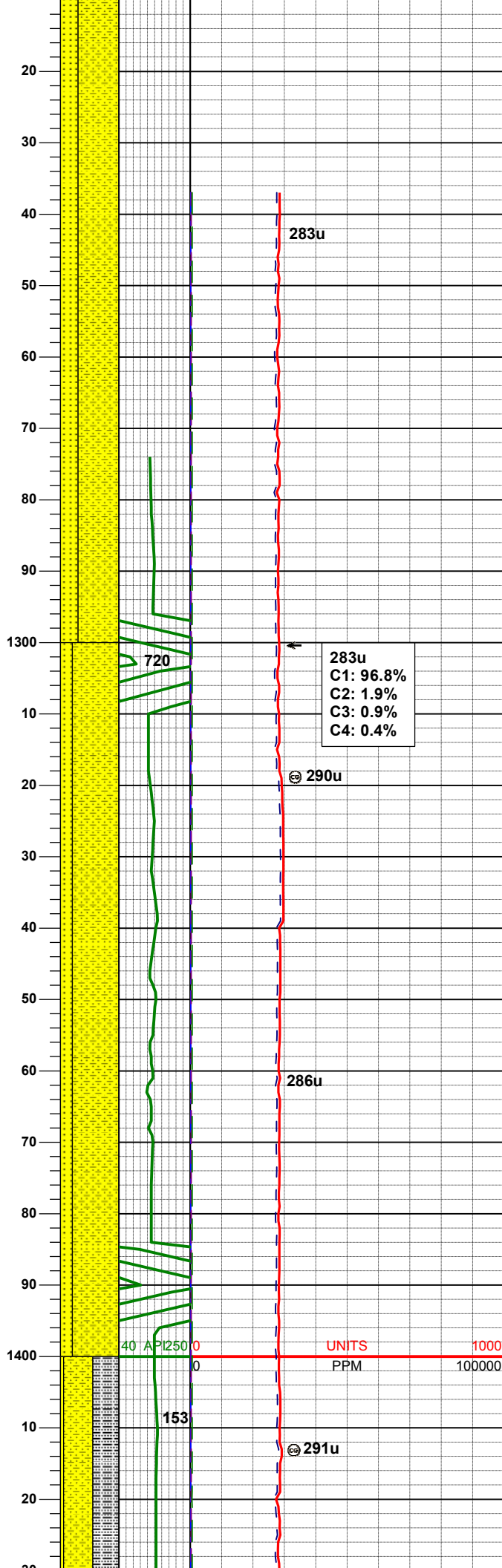
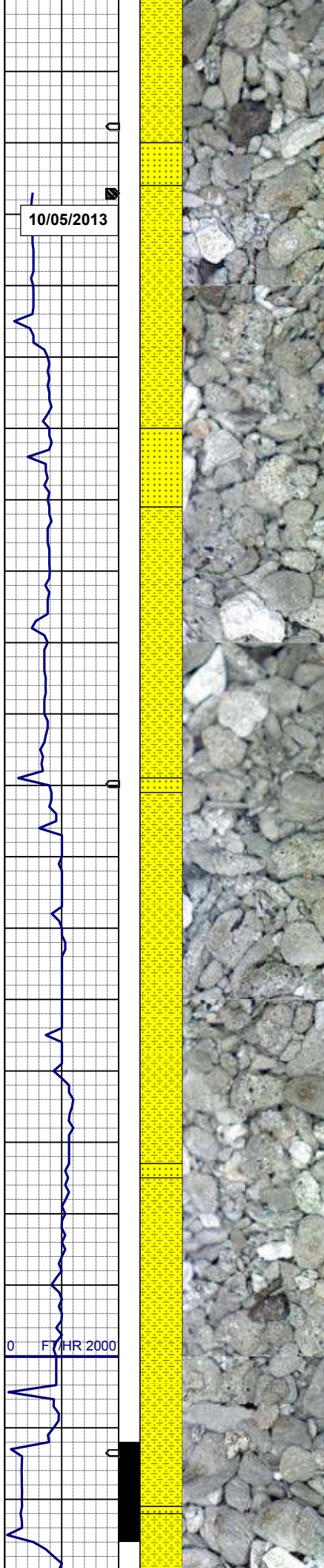


Arrow



Midnight Depth





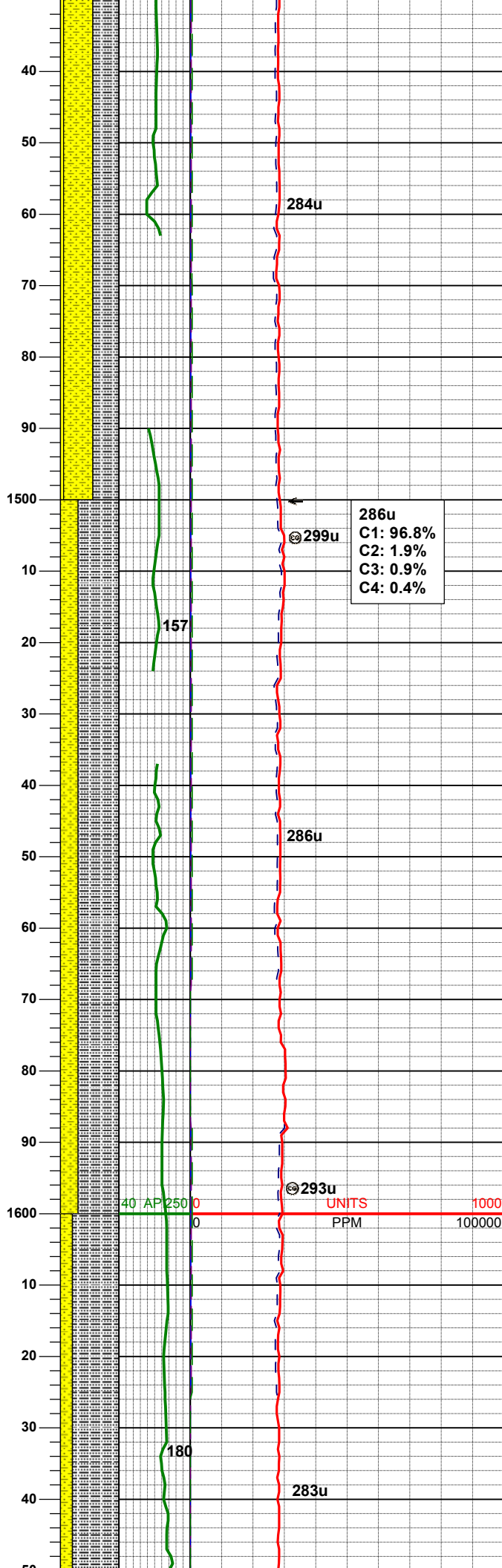
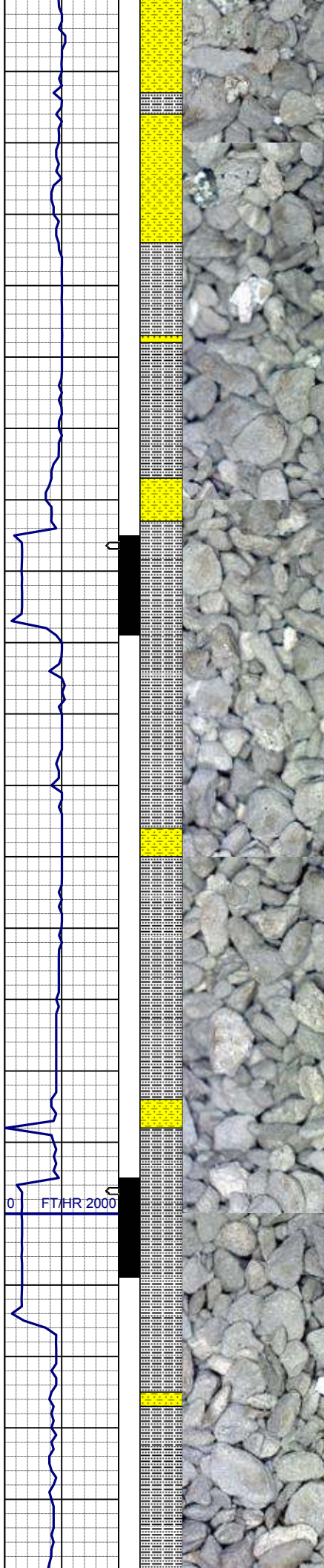
SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrnnd, abnt cly, arg cmt
SS: ltgy-gy-trnsl, sbang-ang, fgr,
vpsrt, wrnnd, arg cmt, tr lit frag, occ
glau

MD	1264'
INC	1.1°
AZM	41.3°
TVD	1263.97'

283u
C1: 96.8%
C2: 1.9%
C3: 0.9%
C4: 0.4%

SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrnnd, abnt cly, arg cmt
SS: ltgy-gy-trnsl, sbang-ang, fgr,
vpsrt, wrnnd, arg cmt, tr lit frag, occ
glau

MD	1357'
INC	1.1°
AZM	41.7°
TVD	1356.96'



MD	1450'
INC	2.6°
AZM	42.4°
TVD	1449.91'

SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt
SLTYSH: ltgy-gy, sbblky-sbply, sft, gt -sdy tex, arg cmt
SS: ltgy-gy-trns, sbang-ang, fgr, vpsrt, wrndd, arg cmt, tr lit frag, occ glau

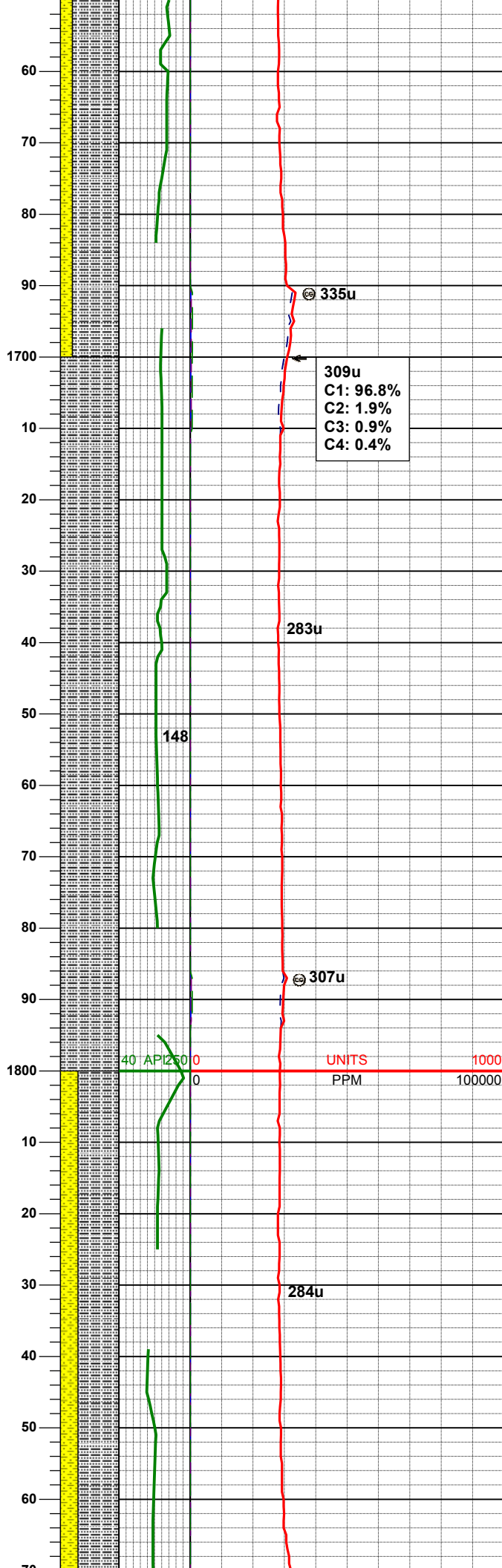
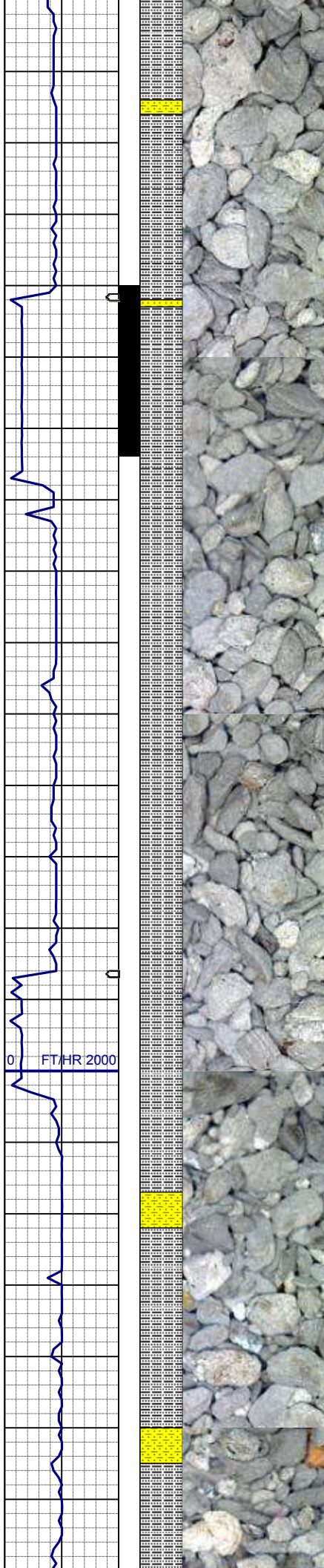
WT IN 8.40+ OUT 8.40+
VIS IN 29/ OUT 29

MD	1540'
INC	3.9°
AZM	34.6°
TVD	1539.76'

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

MD	1635'
INC	4.9°
AZM	22.5°
TVD	1634.48'

SLTYSH: ltgy-gy, sbblky-sbply, sft, gt -sdy tex, arg cmt, tr pyr



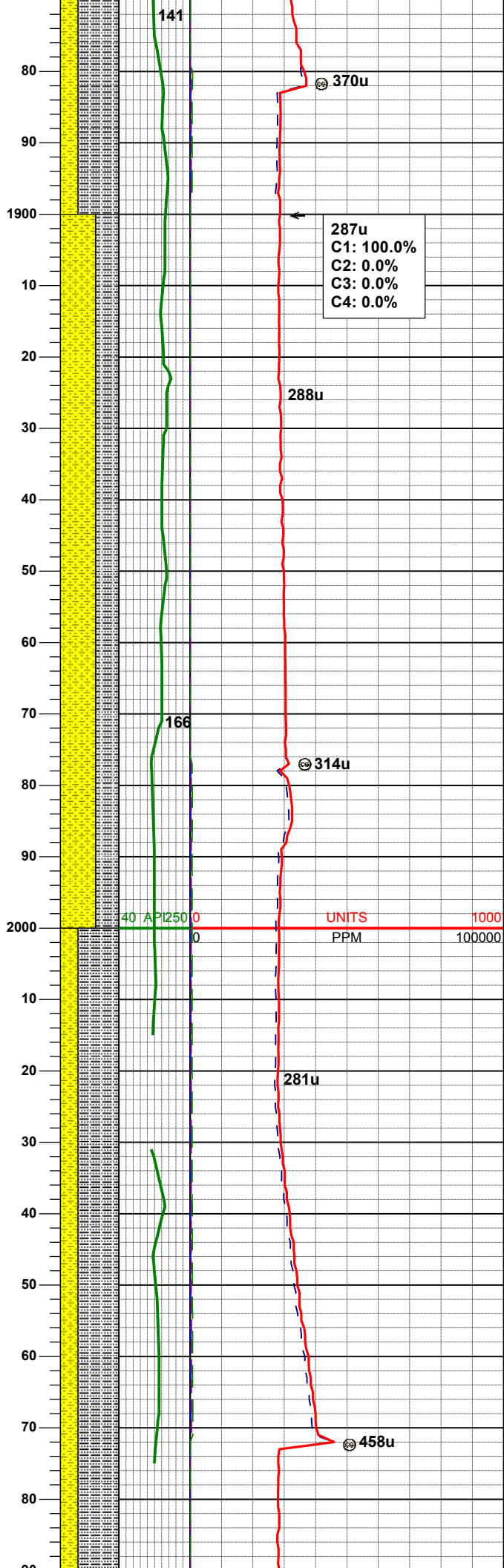
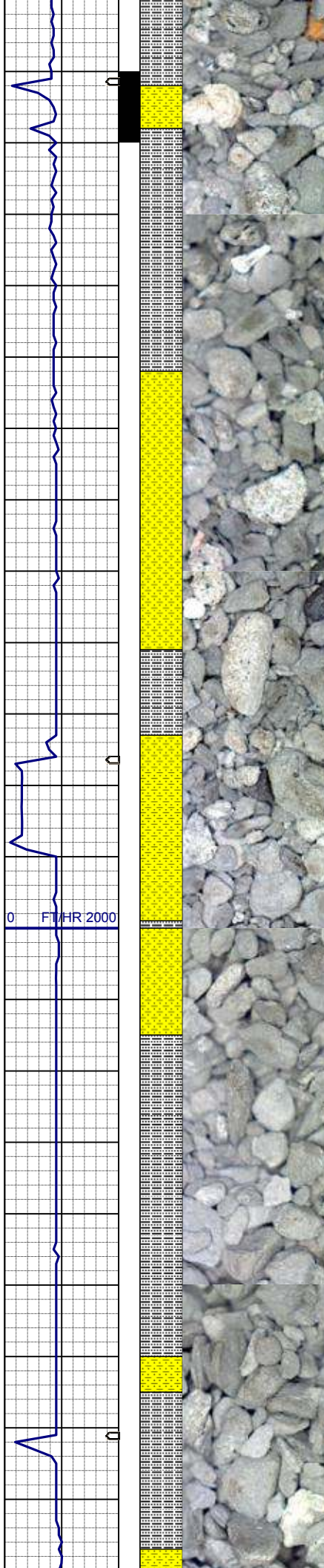
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt

MD	1730'
INC	6.5°
AZM	11.4°
TVD	1729.01'

SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt-sdy tex, arg cmt, tr pyr

MD	1825'
INC	7.7°
AZM	12.8°
TVD	1823.28'

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



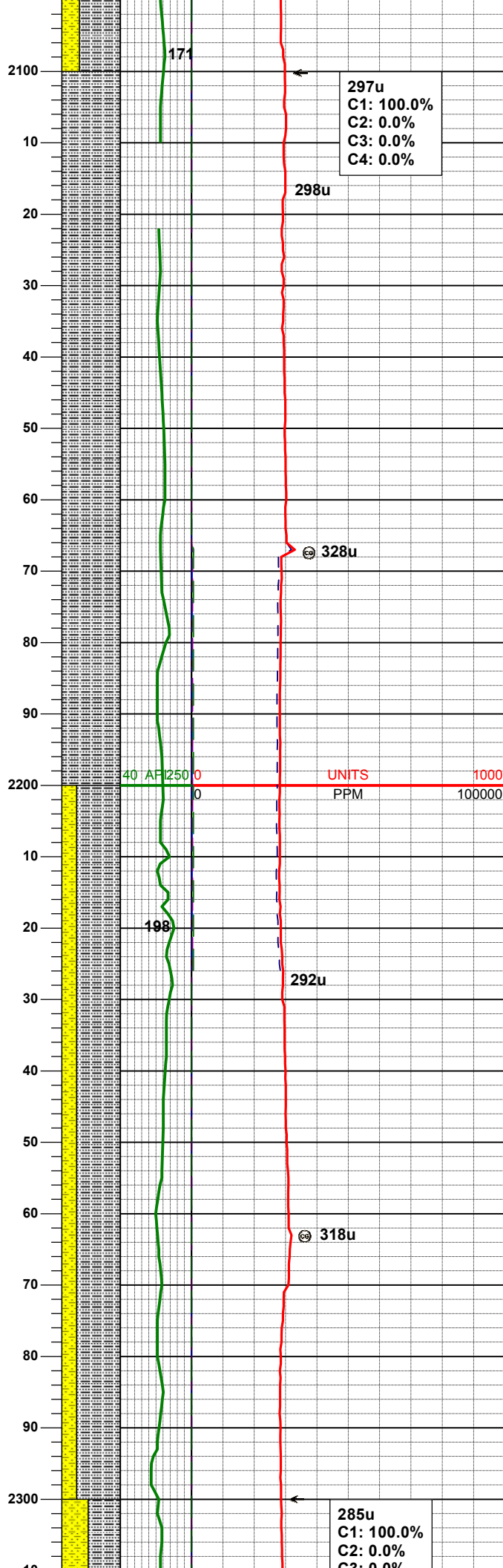
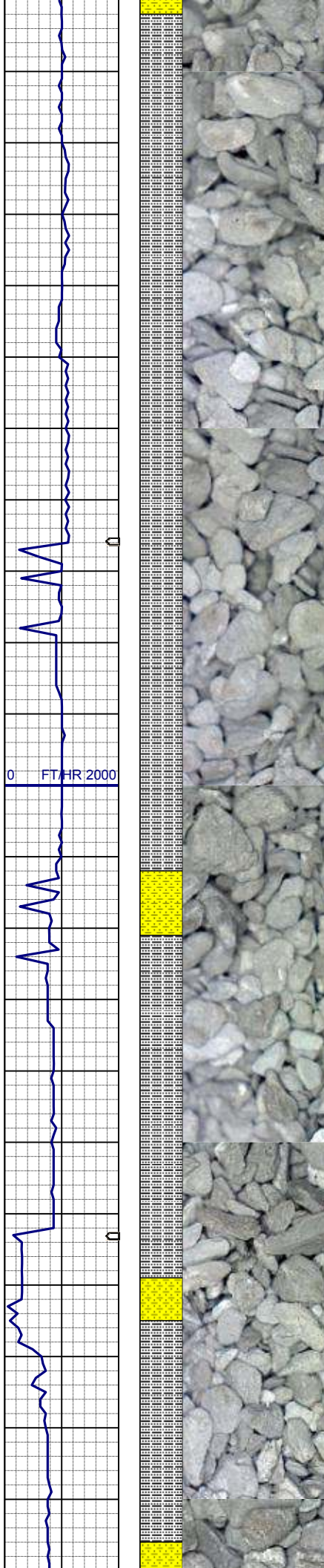
MD 1920'
INC 7.0°
AZM 13.9°
TVD 1917.50'

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

WT IN 8.40+/ OUT 8.50+
VIS IN 29/ OUT 28

MD 2015'
INC 7.8°
AZM 24.8°
TVD 2011.71'

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



SLTYSH: ltgy-gy, sbbly-sbply, sft, gt
-sdy tex, arg cmt, rr pyr

SLTYSH: ltgy-gy, sbbly-sbply, sft, gt
-sdy tex, arg cmt, rr pyr
SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt

MD 2109'
INC 7.2°
AZM 23.2°
TVD 2104.91'

MD 2204'
INC 6.5°
AZM 22.5°
TVD 2199.23'

MD 2299'
INC 6.2°
AZM 31.1°
TVD 2293.65'

297u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%

298u

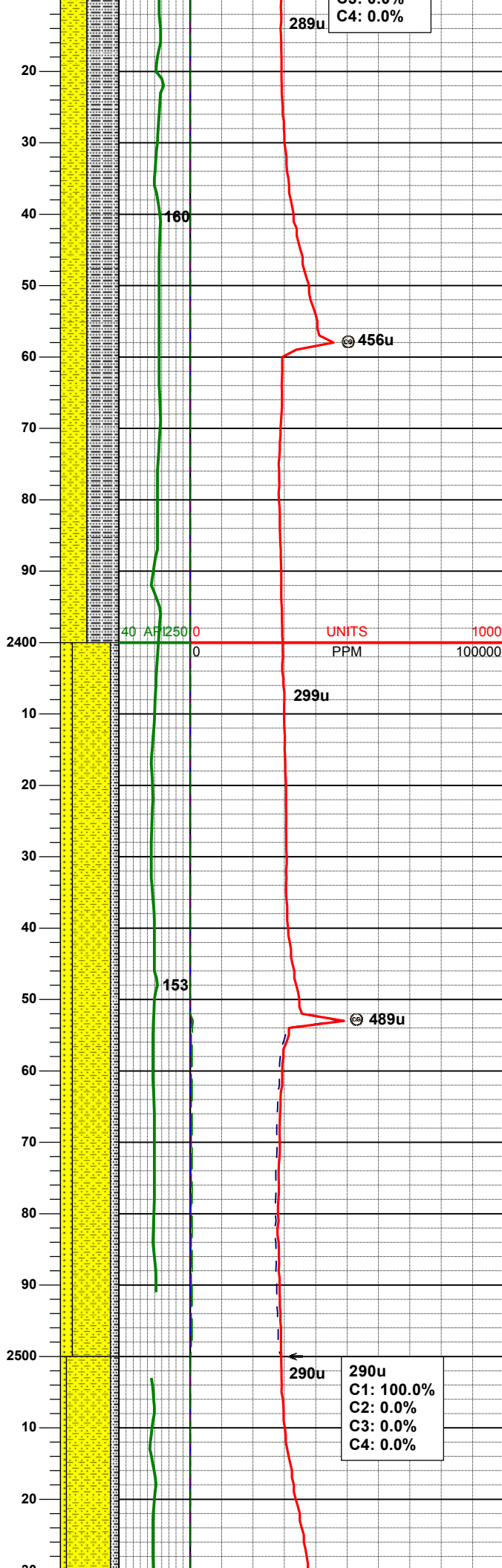
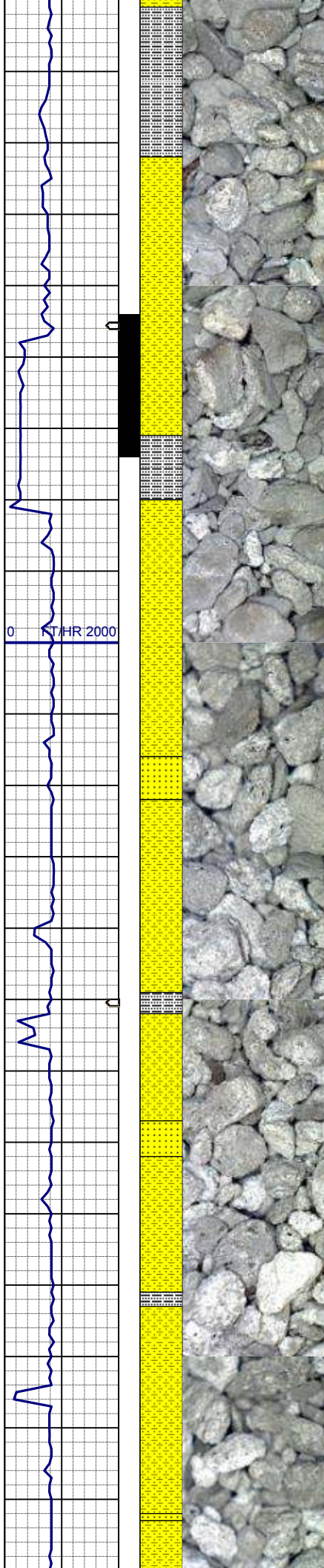
328u

UNITS
PPM 100000

292u

318u

285u
C1: 100.0%
C2: 0.0%
C3: 0.0%



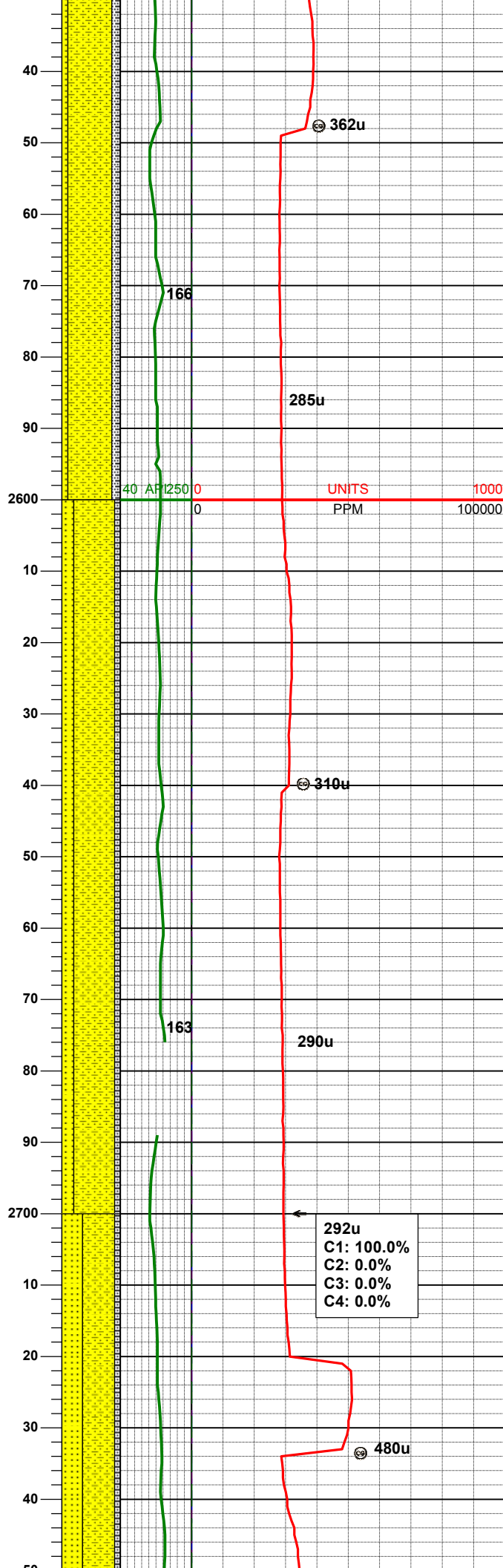
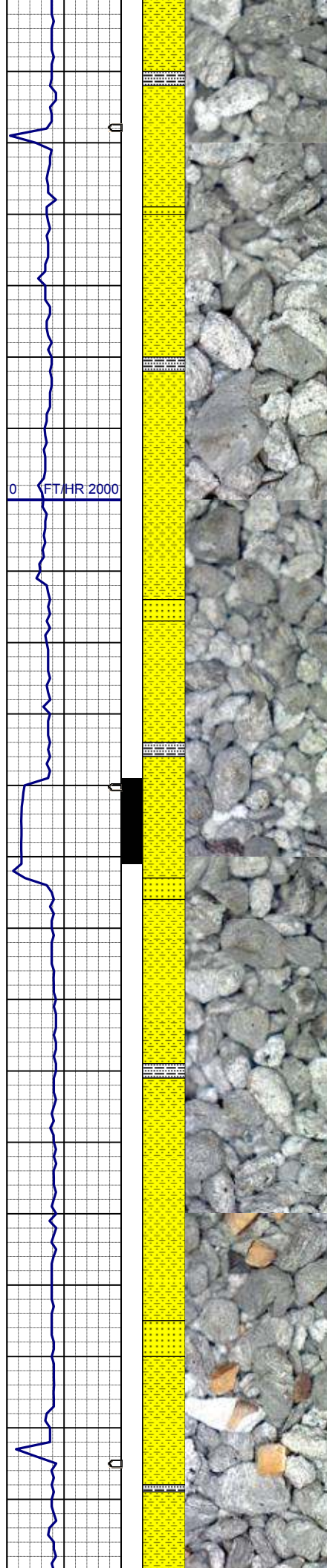
SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt
-sdy tex, arg cmt, rr pyr
SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt

MD	2394'
INC	8.1°
AZM	32.5°
TVD	2387.91'

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

MD	2489'
INC	8.4°
AZM	30.8°
TVD	2481.92'

290u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%



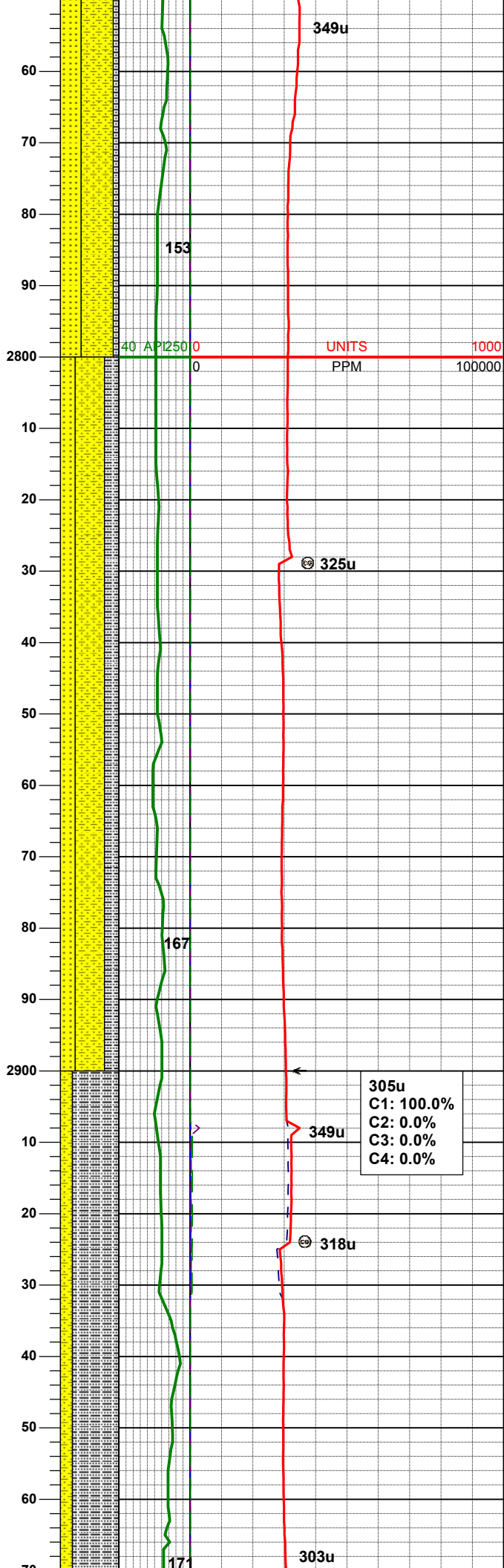
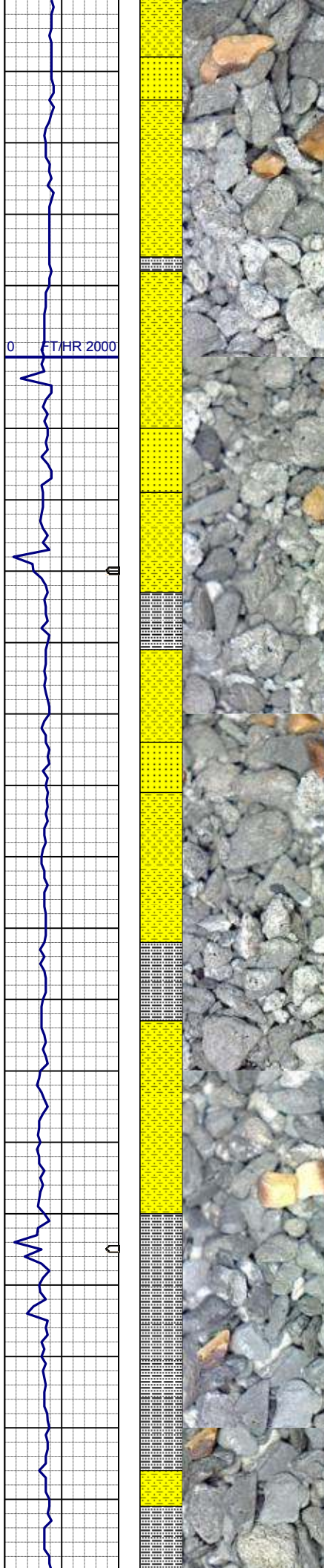
SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt
SLTYSH: ltgy-gy, sbblky-sbply, sft, gt
-sdy tex, arg cmt, rr pyr
SS: ltgy-gy-trnsl, sbang-ang, fgr,
vpsrt, wrndd, arg cmt, tr lit frag, occ
glau

MD	2584'
INC	8.5°
AZM	30.9°
TVD	2575.89'

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

MD	2679'
INC	7.7°
AZM	21.8°
TVD	2669.95'

SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt,
len ss
SS: ltgy-gy-trnsl, sbang-ang, fgr,



vpsrt, modrddd-wrddd, arg cmt, abnt
lit frag, tr glau
SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt
-sdy tex, sl bdd tex, arg cmt

MD	2773'
INC	7.3°
AZM	20.6°
TVD	2763.14'

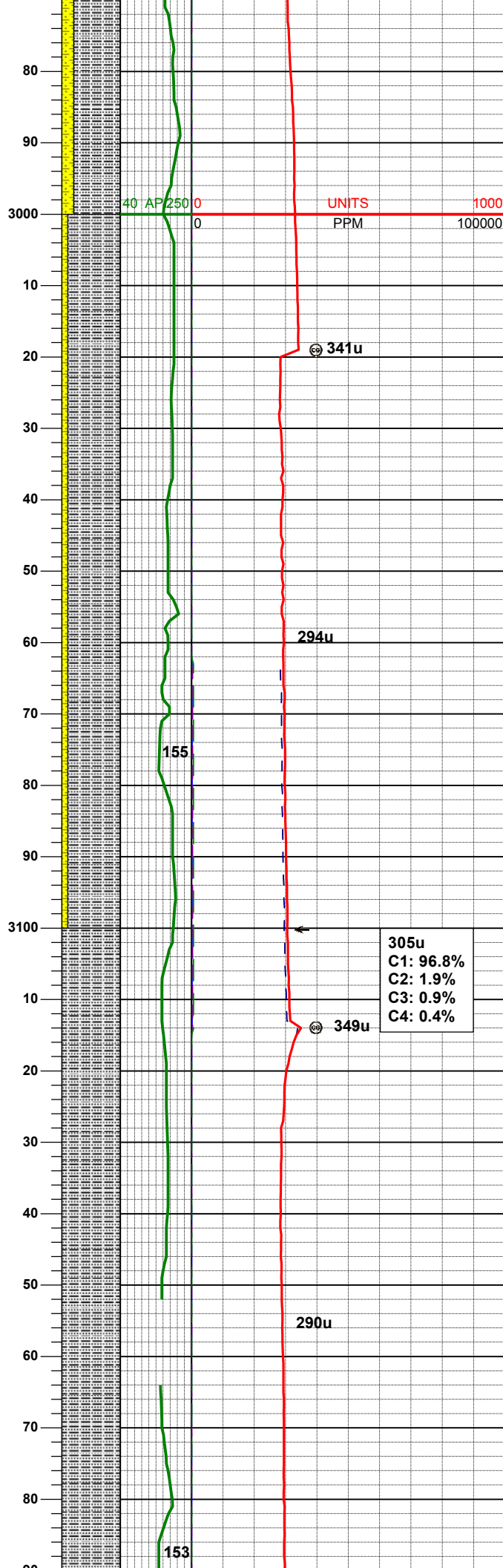
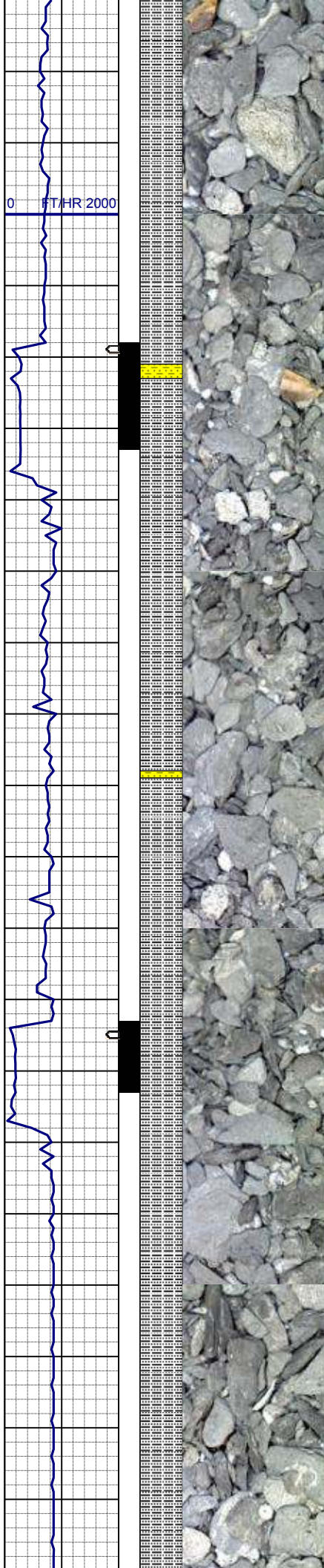
SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrddd, abnt cly, arg cmt,
len ss
SS: ltgy-gy-trnsl, sbang-ang, fgr,
vpsrt, p por, wrddd, arg cmt, abnt lit
frag, tr glau
SLTYSH: ltgy-gy, sbblky-sbplty, sft, gt
-sdy tex, sl bdd tex, arg cmt

MD	2868'
INC	6.3°
AZM	20.6°
TVD	2857.47'

WT IN 8.60+/- OUT 8.80+
VIS IN 29/ OUT 27

SLTYSH: ltgy-gy-dkgy, sbblky-sbplty,
sft, gt-sdy tex, sl sm-fis tex ip, arg cmt
SHYSS: gy-brn, s&p ip, sbang, v fri,
vfgr, psrt, wrddd, abnt cly, arg cmt

MD	2963'
INC	5.0°
AZM	15.5°
TVD	2953.01'



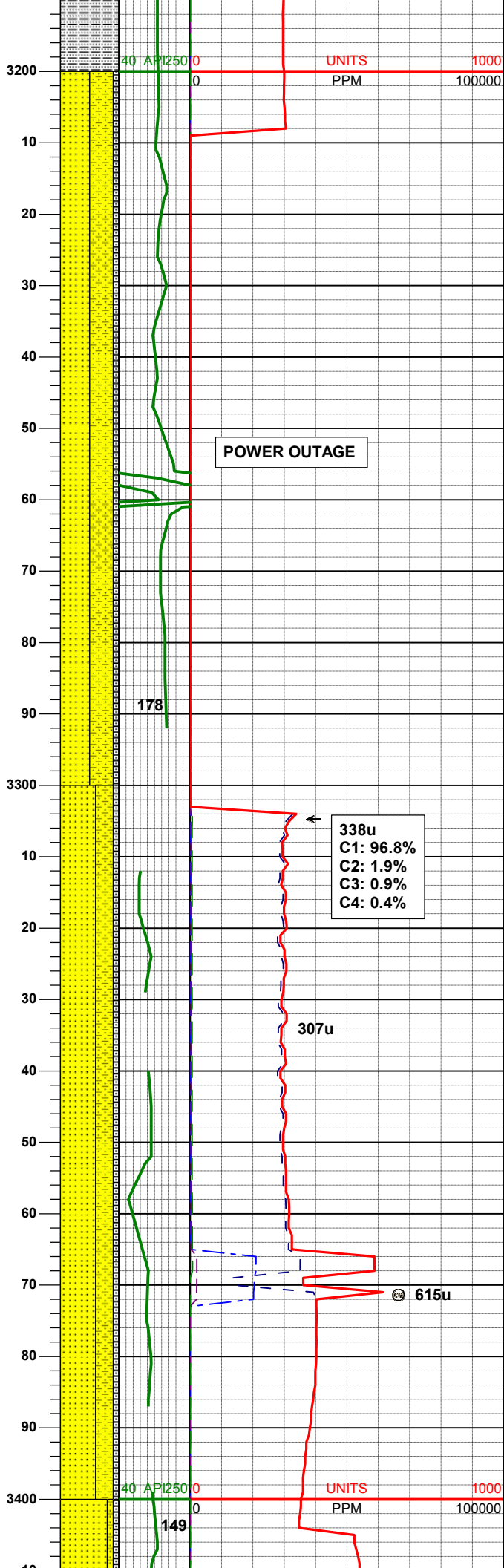
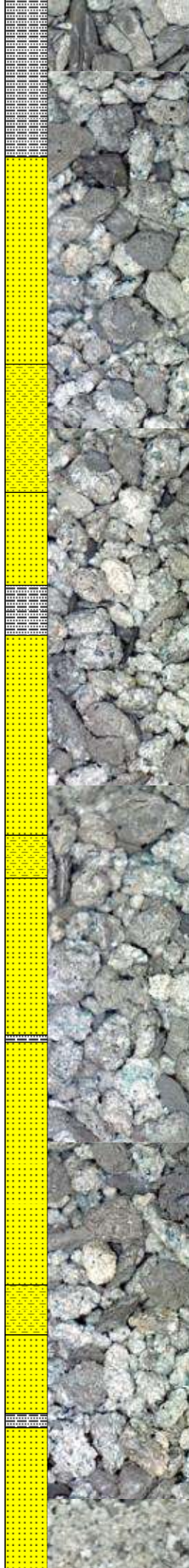
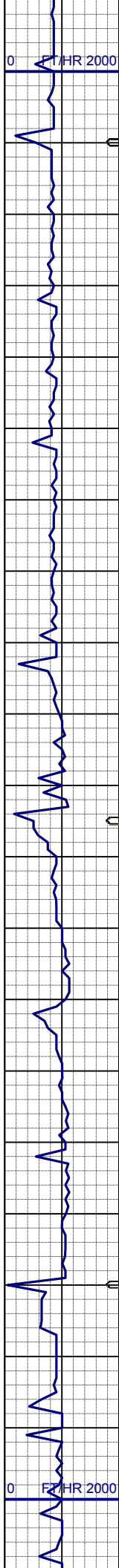
SLTYSH: ltgy-gy-dkgy, sbblky-sbplty,
sft, gt-sdy tex, sl sm-fis tex ip, arg cmt
SHYSS: gy-brn, s&p ip, sbang, v fri,
vfgr rr grdg to mgr, psrt, wrnnd, abnt
cly, arg cmt

MD	3058'
INC	5.7°
AZM	21.6°
TVD	3046.60'

305u
C1: 96.8%
C2: 1.9%
C3: 0.9%
C4: 0.4%

SLTYSH: ltgy-gy-dkgy, sbblky-sbplty,
sft, gt-sdy tex, sl sm-fis tex ip, arg
cmt, tr shyss

MD	3153'
INC	6.8°
AZM	32.2°
TVD	3141.03'



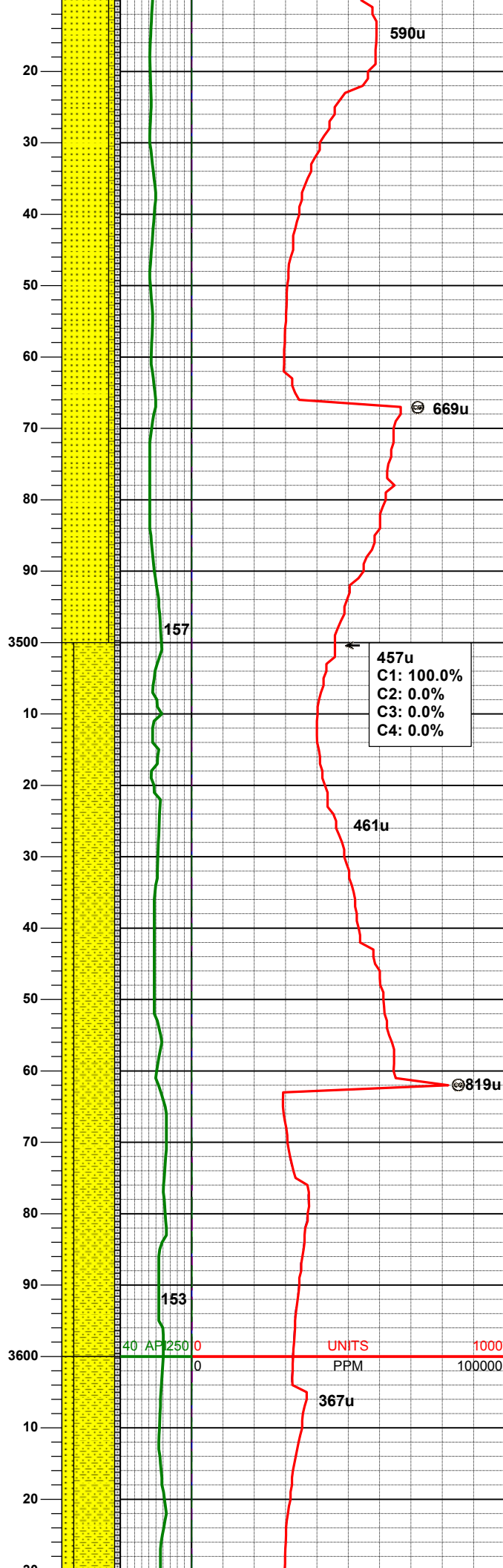
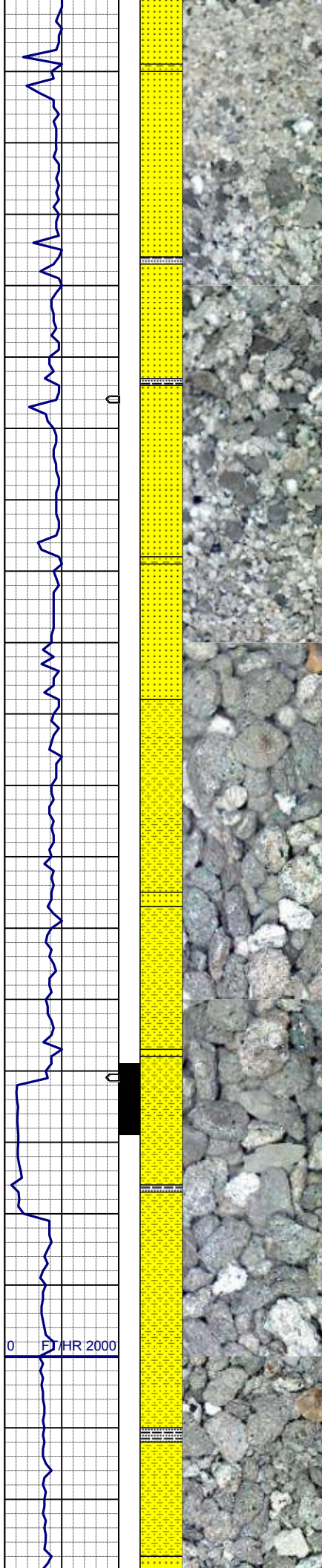
WT IN 8.60+/- OUT 8.60+
VIS IN 28/ OUT 28

SS: ltgy-gy-trnsl, sbang-ang, fgr-mgr, vpsrt, p por, uncons ip, prnld, arg cmt, abnt lit frag, abnt glau, sme pyr
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, rr mgr qtz, psrt, mod rndd, abnt cly, arg cmt, tr glau
SLTYSH: gy-dkgy, sbblky-sbplty, sft, gt-sdy tex, arg cmt

338u
C1: 96.8%
C2: 1.9%
C3: 0.9%
C4: 0.4%

MD 3341'
INC 7.8°
AZM 31.1°
TVD 3327.51'

SS: ltgy-gy-trnsl, sbang-ang, fgr-mgr, vpsrt, p por, uncons ip, prnld, arg cmt, abnt lit frag, abnt glau, sme pyr
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, rr mgr qtz, psrt, mod rndd, abnt cly, arg cmt, tr glau
SLTYSH: gy-dkgy, sbblky-sbplty, sft, gt-sdy tex, arg cmt



MD 3436'
INC 8.6°
AZM 31.8°
TVD 3421.54'

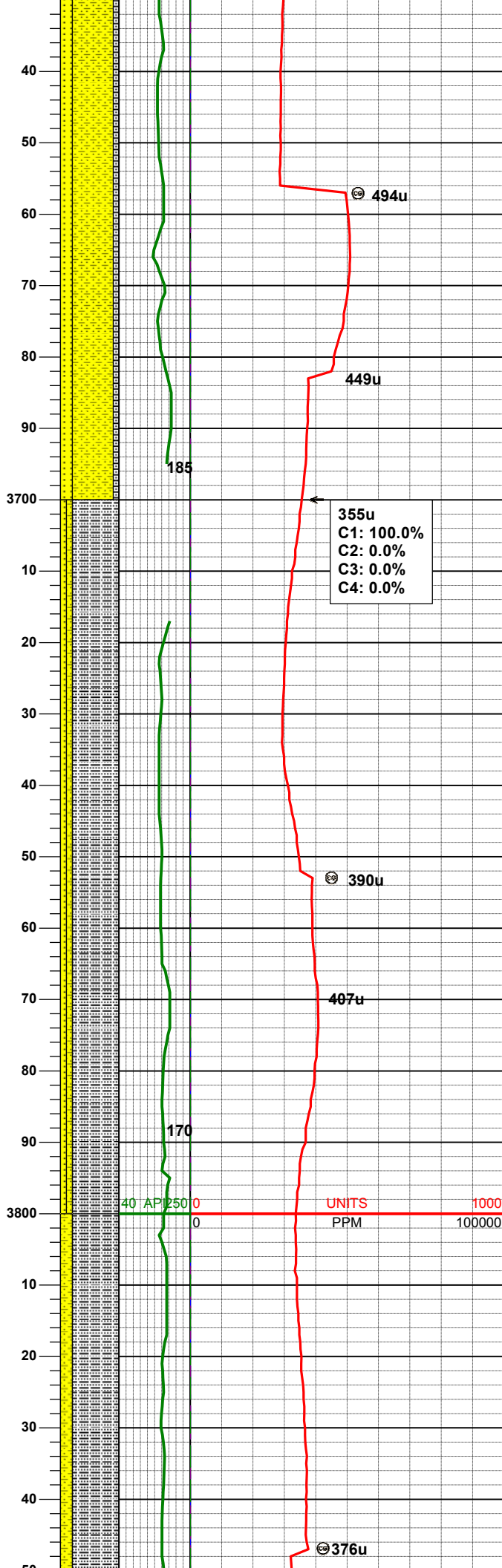
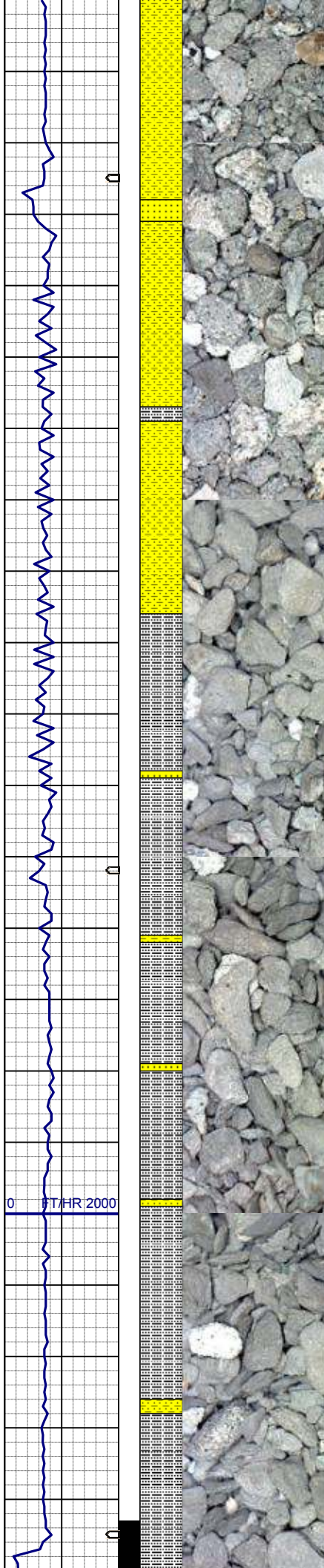
SS: ltgy-gy-trnsl, sbang-ang, fgr-mgr, vpsrt, p por, uncons, mod rndd, arg cmt, abnt lit frag, abnt glau
SHYSS: gy-brn, s&p ip, sbang, v fri, vfgr, mod srt, mod rndd, abnt cly, arg cmt, tr glau
SLTYSH: gy-dkgy, sbblky-sbply, sft, gt-sdy tex, arg cmt

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

MD 3531'
INC 9.6°
AZM 30.4°
TVD 3515.34'

SHYSS: gy-brn, s&p ip, sbang, v fri, vfgr, mod srt, mod rndd, abnt cly, arg cmt, abnt glau
SS: wh-trnsl-ltgy, sbang-ang, fgr-mgr, vpsrt, p por, uncons, mod rndd, arg cmt, abnt lit frag, abnt glau
SLTYSH: gy-dkgy, sbblky-sbply, sft, gt-sdy tex, arg cmt

MD 3626'
INC 8.2°
AZM 27.9°
TVD 3609.19'



SHYSS: gy-brn, s&p ip, sbang, v fri, vfr, wrst, wrndd, abnt cly, arg cmt, abnt glau, tr pyr
SS: wh-trns-ltgy, sbang-ang, fgr, psrt, p por, mod rndd, arg cmt, abnt lit frag, abnt glau
SLTYSH: gy-dkgy, sbblky-sbplty, sft, gt-sdy tex, arg cmt

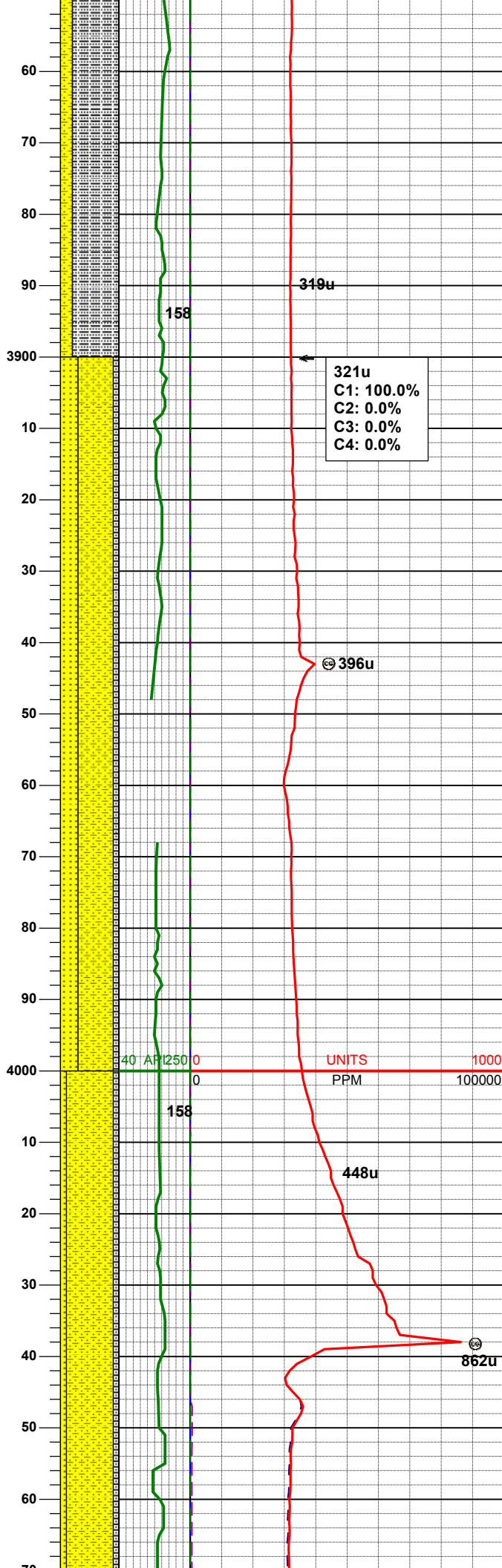
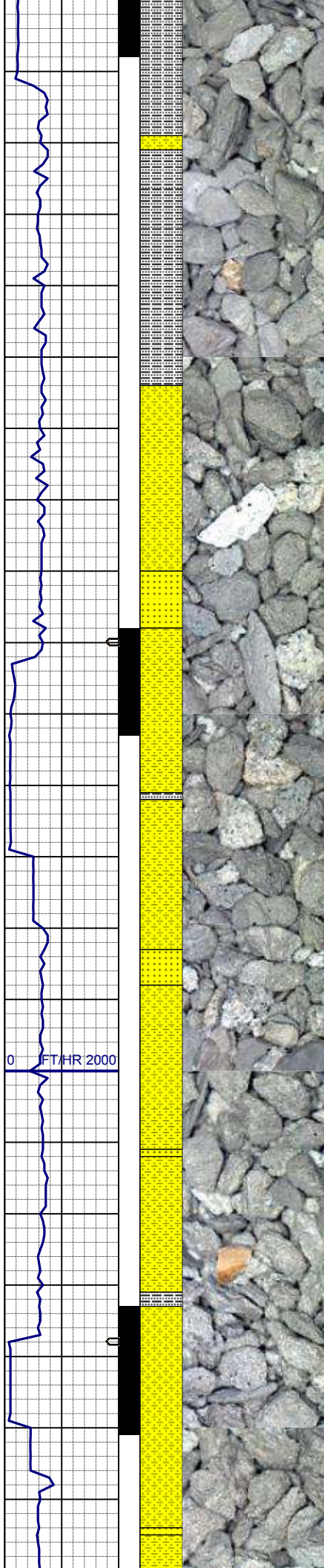
MD 3721'
INC 7.3°
AZM 27.1°
TVD 3703.32'

SLTYSH: gy-dkgy, sbblky-sbplty, sft, gt-rr sdy tex, arg cmt
SHYSS: gy, s&p ip, sbang, v fri, vfr, wrst, wrndd, abnt cly, arg cmt, abnt glau
SS: wh-trns-ltgy, sbang-ang, fgr, psrt, p por, mod rndd, arg cmt, abnt lit frag, abnt glau

WT IN 8.55/ OUT 8.55
VIS IN 28/ OUT 28

MD 3815'
INC 5.3°
AZM 26.5°
TVD 3796.75'

SLTYSH: gy-dkgy, sbblky-sbplty, sft, gt-rr sdy tex, arg cmt
SHYSS: gy, s&p ip, sbang, v fri, vfr, wrst, wrndd, abnt cly, arg cmt, abnt



glau
SS: wh-trnsl-ltgy, sbang-ang, fgr,
psrt, p por, mod rndd, arg cmt, abnt lit
frag, abnt glau

MD	3910'
INC	5.5°
AZM	23.6°
TVD	3891.33'

SHYSS: gy-brn, s&p ip, sbang, v fri,
vfgr, wsrt, wrndd, abnt cly, arg cmt,
abnt glau

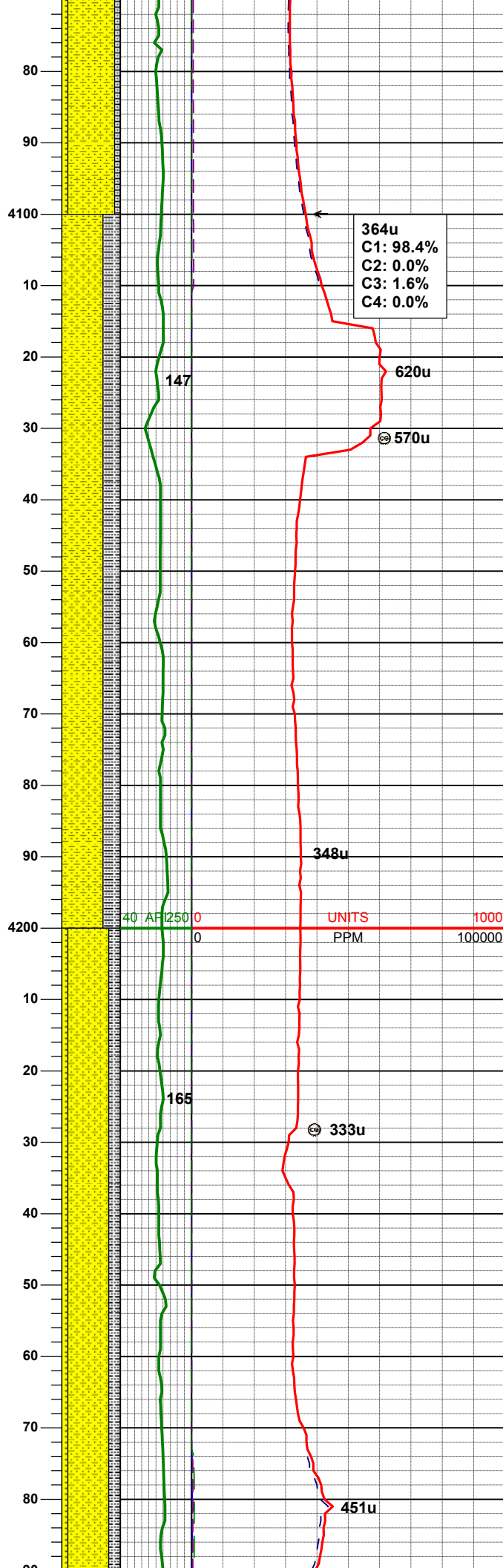
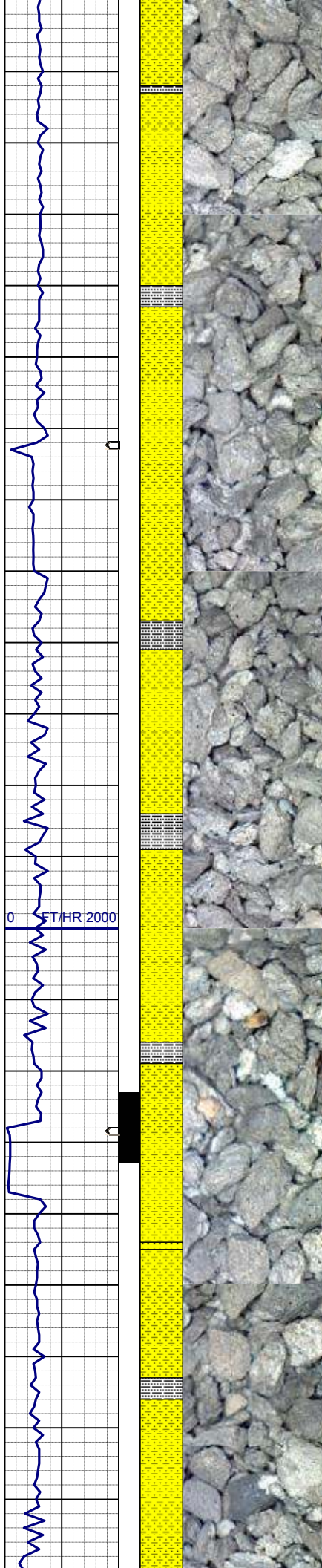
SS: wh-trnsl-ltgy, sbang-ang, fgr,
psrt, p por, p rndd, arg cmt, abnt lit
frag, sme glau

SLTYSH: gy-dkgy, sbblky-sbply, sft,
gt-v sdy tex, arg cmt

WT IN 8.80/ OUT 8.80
VIS IN 30/ OUT 30

MD	4005'
INC	5.8°
AZM	19.5°
TVD	3985.87'

SHYSS: gy-brn, s&p ip, sbang, v fri,
vfgr, wsrt, wrndd, abnt cly, arg cmt, tr
glau, tr pyr
SS: wh-trnsl-ltgy, sbang-ang, fgr,
modsr, p por, mod rndd, arg cmt,
abnt lit frag, sme glau
SLTYSH: gy-dkgy, sbblky-sbply, sft,
gt-v sdy tex, arg cmt



MD 4100'
INC 6.5°
AZM 16.7°
TVD 4080.32'

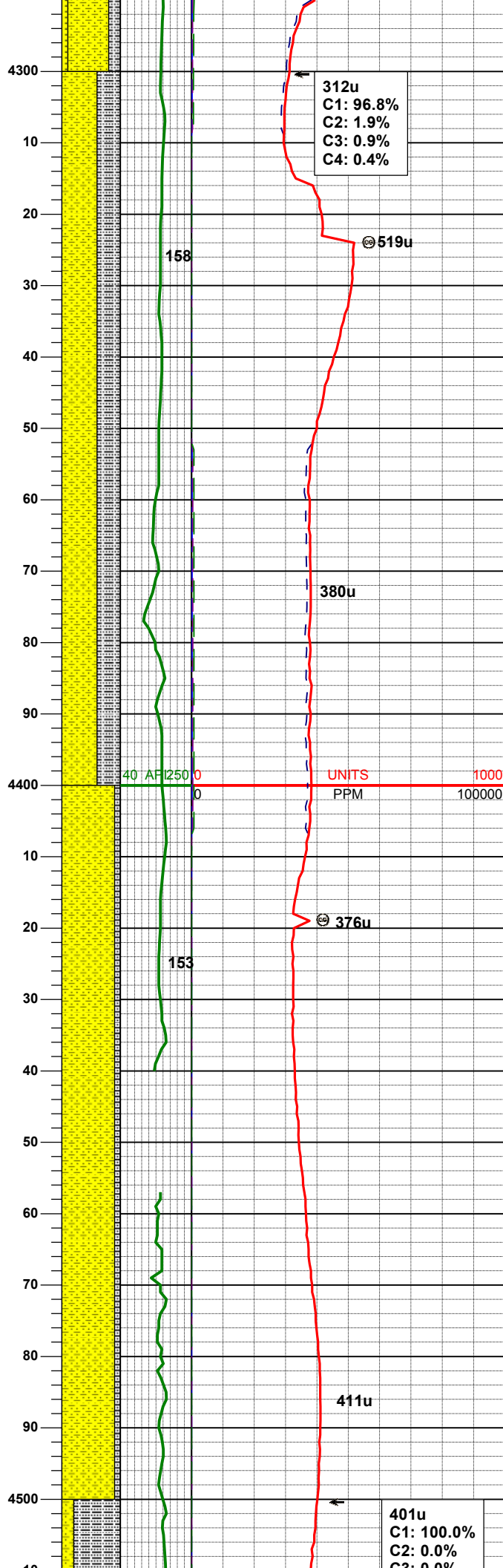
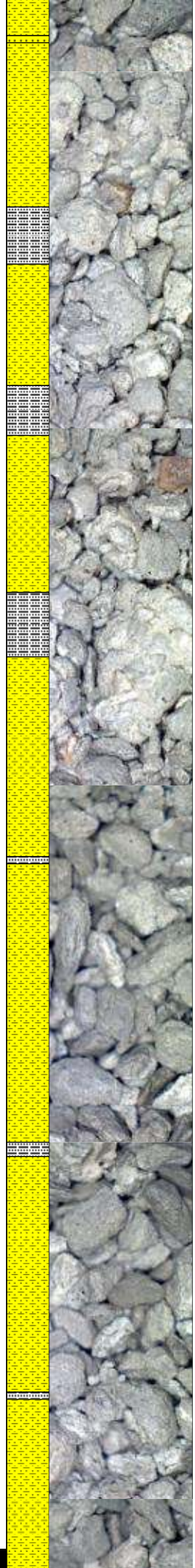
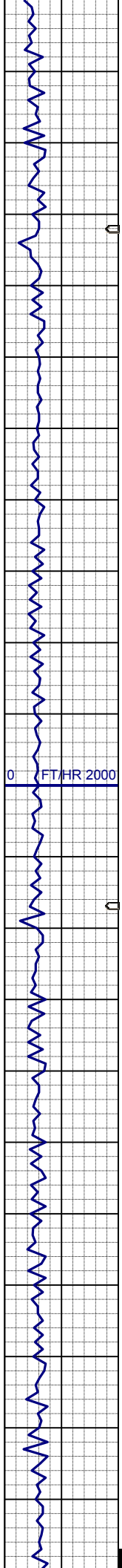
SHYSS: gy-brn, s&p ip, sbang, v fri,
vfgr, wsrt, wrnnd, abnt cly, arg cmt, tr
glau, tr pyr
SLTYSH: gy-dkgy, sbblky-sbplty, sft,
gt-v sdy tex, arg cmt

WT IN 8.90/ OUT 8.90
VIS IN 35/ OUT 35

MD 4195'
INC 5.5°
AZM 18.5°
TVD 4174.80'

SHYSS: gy-brn, s&p ip, sbang, v fri,
vfgr, wsrt, wrnnd, abnt cly, arg cmt, tr
glau, tr pyr
SLTYSH: gy-dkgy, sbblky-sbplty, sft,
gt-v sdy tex, arg cmt
SS: wh-ltgy, sbang-ang, v fri, vfgr,
wsrt, wrnnd, arg cmt

MD 4290'
INC 5.4°



AZM 10.5°
TVD 4269.37'

312u
C1: 96.8%
C2: 1.9%
C3: 0.9%
C4: 0.4%

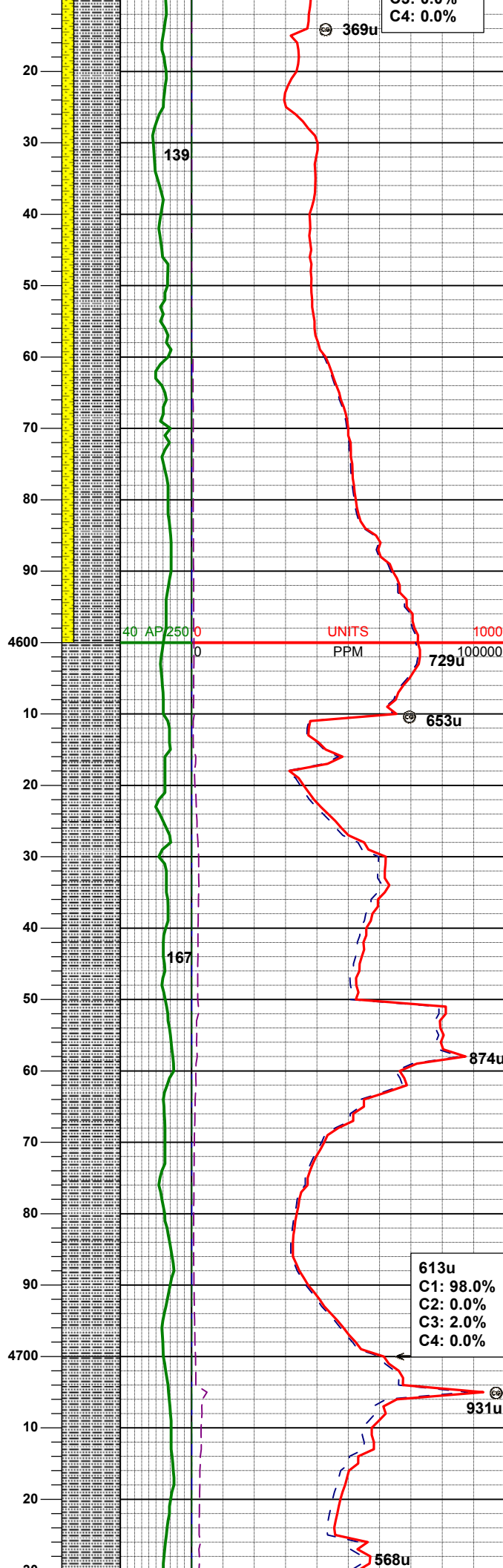
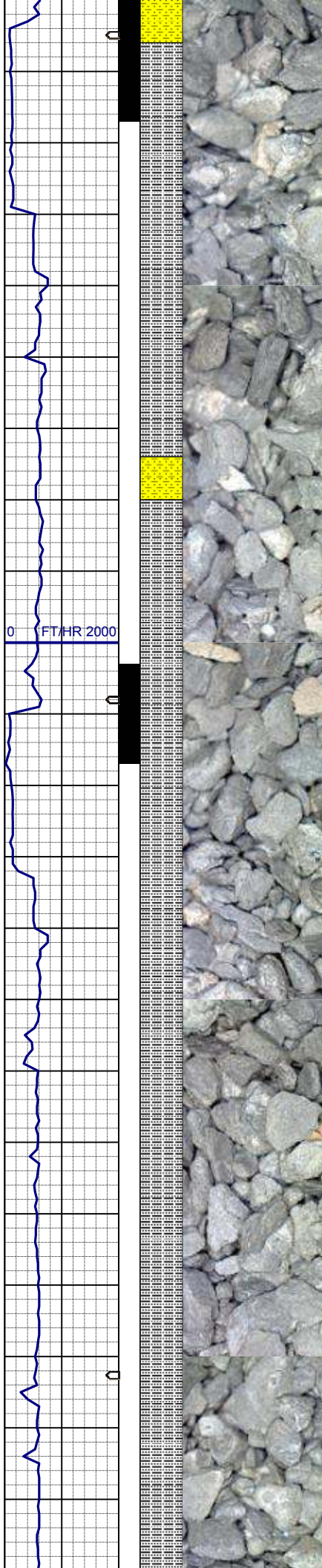
SHYSS: gy-brn, s&p ip, sbang, v fri, vfgr, wsrt, wrndd, abnt cly, arg cmt, tr glau, grdg to ss
SLTYSH: gy-dkggy, sbblky-sbplty, sft, gt-v sdy tex, arg cmt

MD 4384'
INC 5.4°
AZM 19.3°
TVD 4362.96'

SHYSS: ltgy-gy-brn, s&p ip, sbang, v fri, vfgr, wsrt, wrndd, abnt cly, arg cmt, tr glau, grdg to ss
SLTYSH: gy-dkggy, sbblky-sbplty, sft, gt-v sdy tex, arg cmt

MD 4479'
INC 4.7°
AZM 24.6°
TVD 4457.59'

401u
C1: 100.0%
C2: 0.0%
C3: 0.0%



SLTYSH: gy-dkgy, sbblky-sbplty, sft,
gt-rthy-v sdy tex, arg cmt
SHYSS: ltgy-gy-brn, s&p ip, sbang, v
fri, vfgr, wsrt, wrndd, abnt cly, arg cmt,
tr glau, grdg to ss

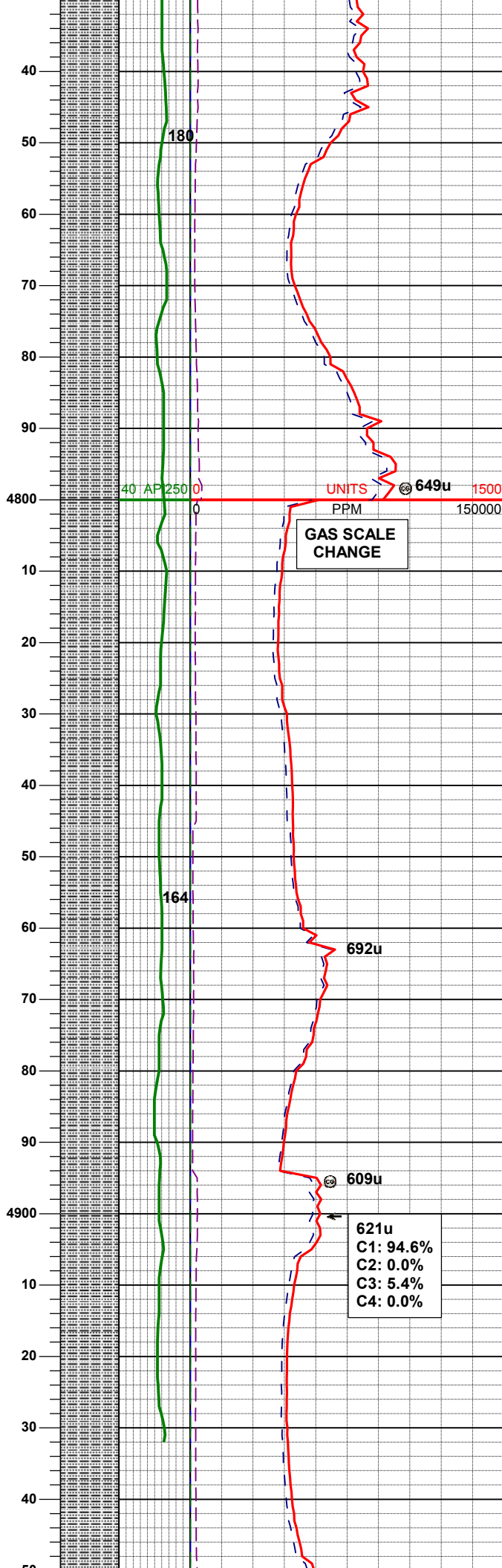
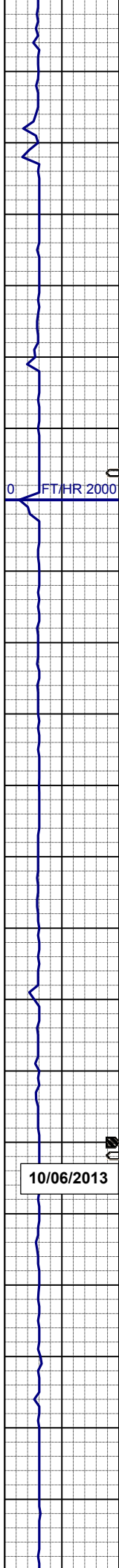
MD 4574'
INC 2.2°
AZM 9.0°
TVD 4552.59'

SLTYSH: gy-dkgy, sbblky-sbplty, sft,
gt-rthy-v sdy tex, arg cmt

MD 4669'
INC 1.7°
AZM 305.5°
TVD 4647.36'

613u
C1: 98.0%
C2: 0.0%
C3: 2.0%
C4: 0.0%

C3: 0.0%
C4: 0.0%



SLTYSH: gy-dkgy, sbblky-sbplty, sft, gt-rthy-v sdy tex, arg cmt

MD	4764'
INC	1.6°
AZM	299.2°
TVD	4742.33'

WT IN 9.20/ OUT 9.20
VIS IN 36/ OUT 36

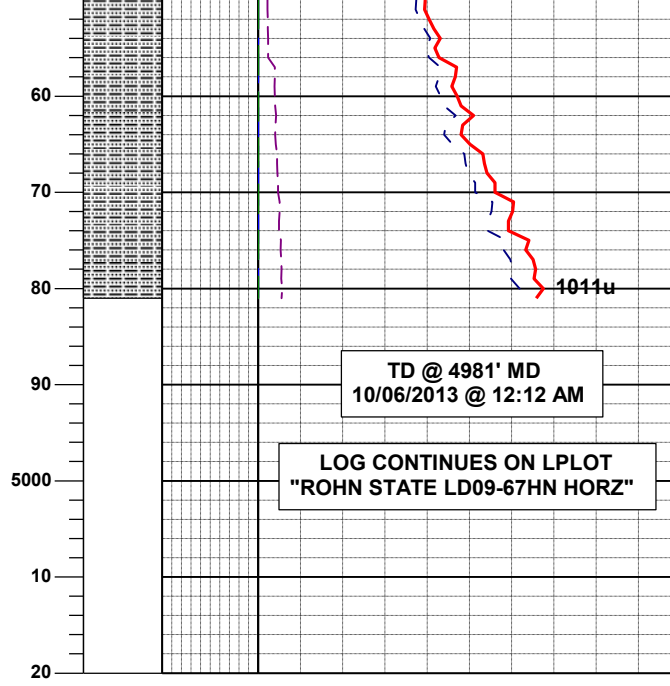
SLTYSH: gy-dkgy, sbblky-sbplty, sft, gt-rthy-v sdy tex, arg cmt

MD	4858'
INC	1.2°
AZM	303.4°
TVD	4836.30'

SLTYSH: gy-dkgy, sbblky-sbplty, sft, gt-rthy-v sdy tex, arg cmt

MD	4953'
INC	0.9°

AZM 294.1°
TVD 4931.28'



WT IN 9.30/ OUT 9.30
VIS IN 36/ OUT 36