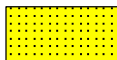


LOG created using L PLOT VH Version 3.0, May 25, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

| | |
|-----------------|--|
| OPERATOR: | NOBLE ENERGY INC |
| WELL: | TIMBRO LC13-76HN |
| LOCATION: | SEC 24 T9N R59W |
| COUNTY: | WELD |
| STATE: | COLORADO |
| SPOT: | 280' FNL; 1800' FWL |
| ELEVATION: | 4860' GL; 4884' KB |
| FIELD: | WILDCAT |
| SPUD DATE: | 5/18/2013 |
| TD DATE: | 5/20/2013 |
| DATES LOGGED: | 5/19/2013 - 5/20/2013 |
| DEPTHS LOGGED: | 700' - 5300' MD |
| LOGGERS: | LAURA KELLOGG; CHRISTIAN V.; CONOR P. |
| DRILLING FLUID: | LSND |
| DRILLING RIG: | H&P 273 |
| API: | 05-123-36657 |
| 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



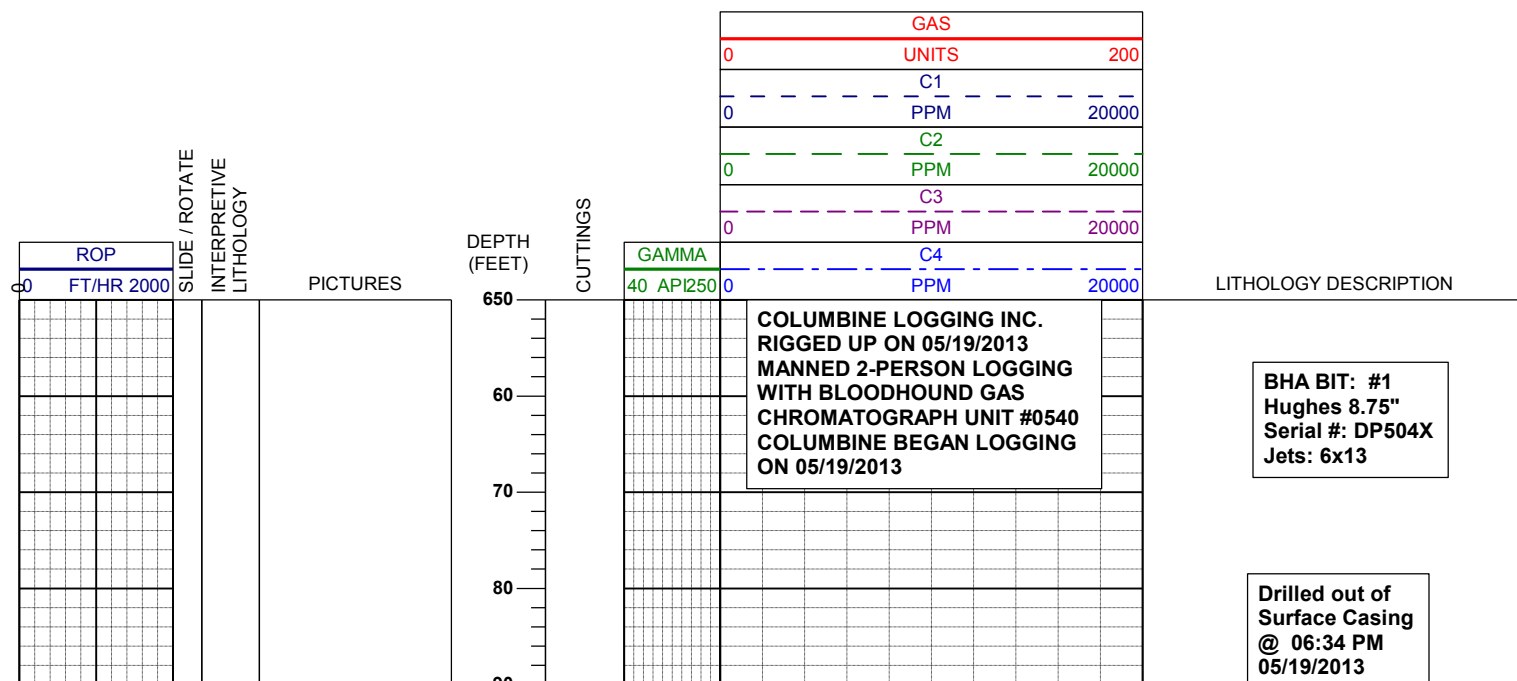
Connection Gas

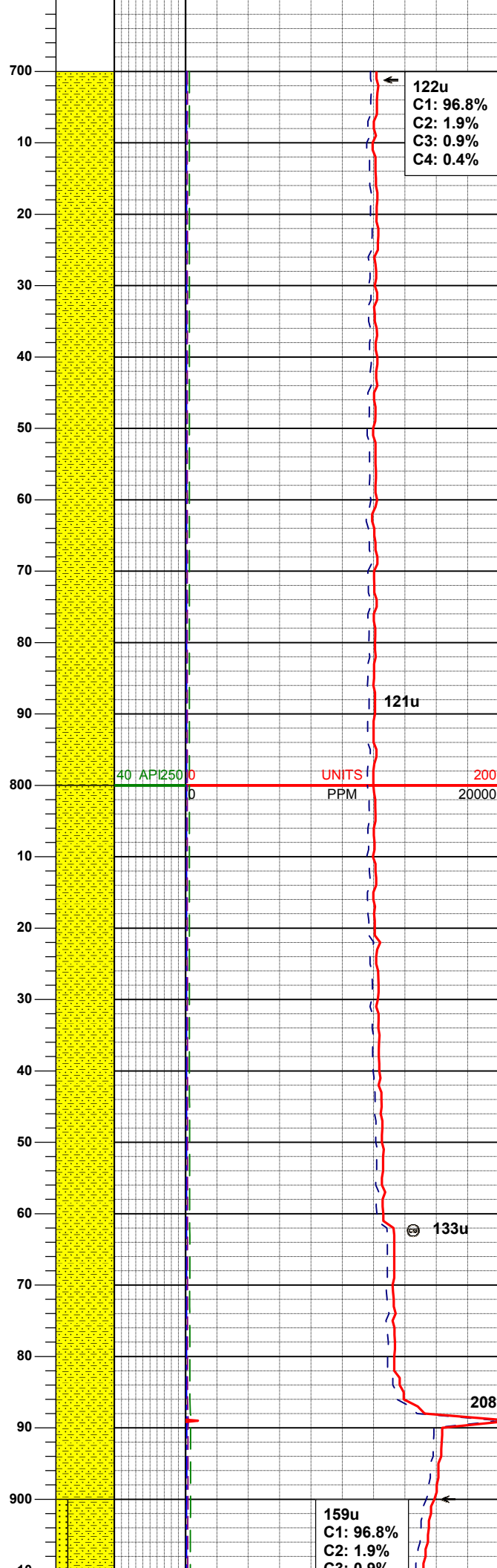
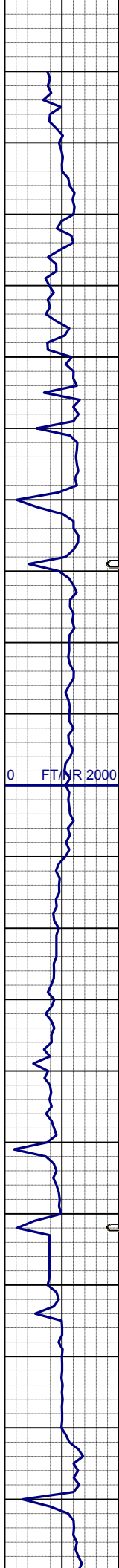


Arrow



Midnight Depth





122u
C1: 96.8%
C2: 1.9%
C3: 0.9%
C4: 0.4%

MD 724'
INC 0.4°
AZM 141.5°
TVD 723.99'

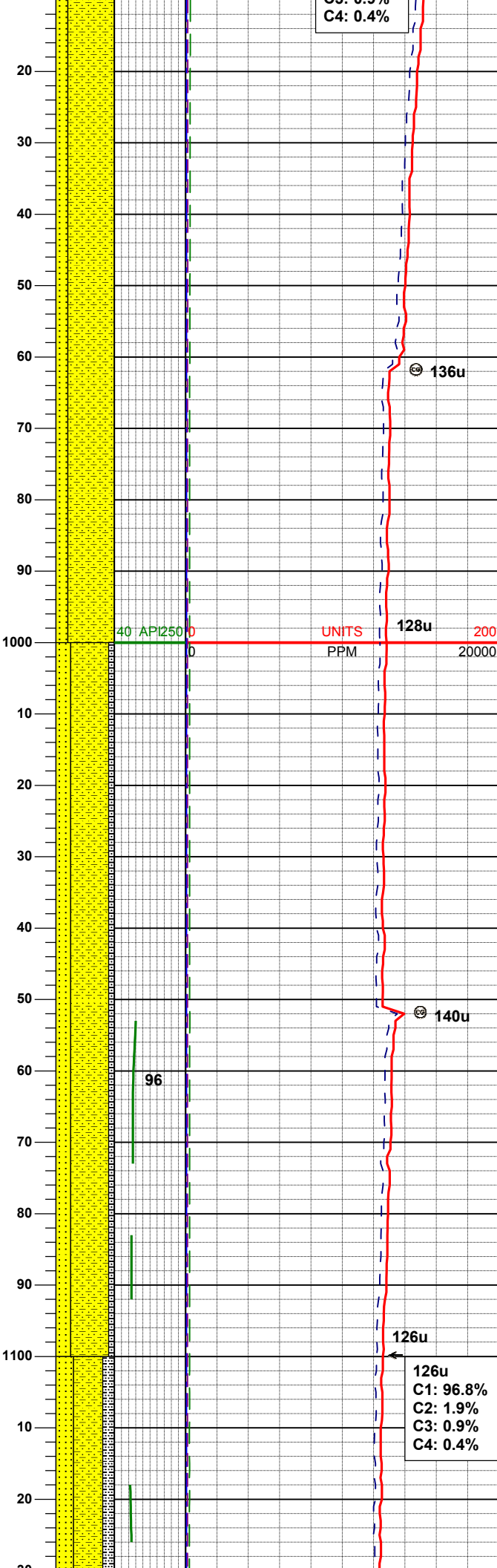
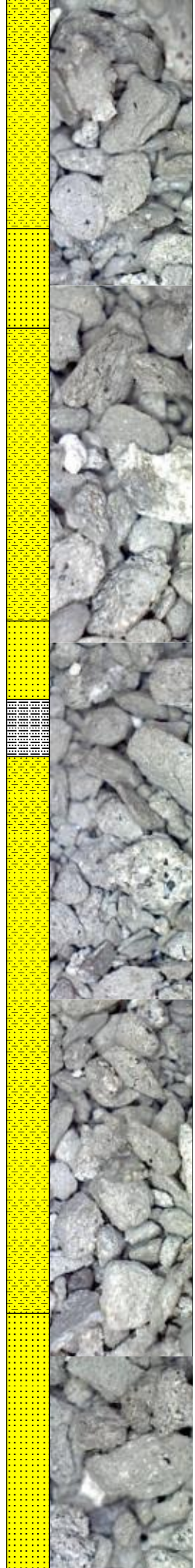
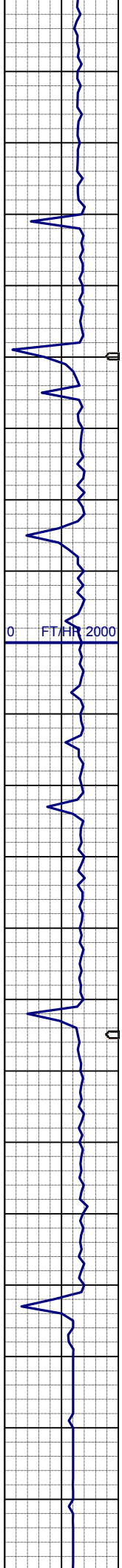
SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt, sl
calc, tr glau, tr lit frag

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

40 API 250 0 200
PPM 20000

SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt, sl
calc, tr glau, tr lit frag

159u
C1: 96.8%
C2: 1.9%
C3: 0.9%



SS: 0.3%
C4: 0.4%

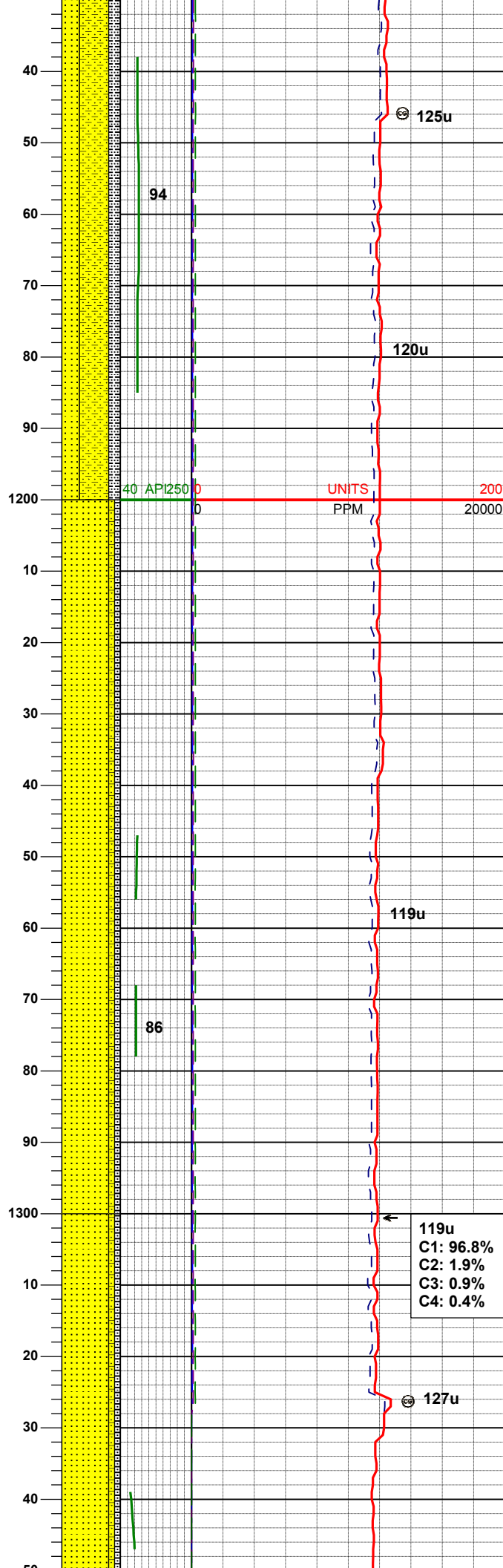
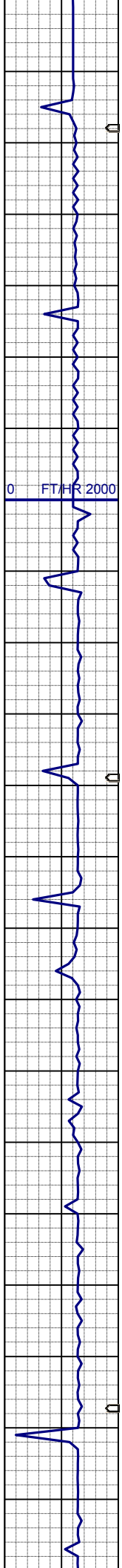
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrnnd, abnt cly, arg cmt, sl calc, tr glau, tr lit frag
SS: ltgy-trnsl, ang-sbang, v fri, fgr, psrt, prnnd, calc-arg cmt, abnt glau, tr dk lit frag

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

| | |
|-----|----------|
| MD | 1001' |
| INC | 0.3° |
| AZM | 154.3° |
| TVD | 1000.99' |

SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrnnd, abnt cly, arg cmt, sl calc, tr glau, tr lit frag
SS: ltgy-trnsl, ang-sbang, v fri, fgr, psrt, prnnd, calc-arg cmt, abnt glau, tr dk lit frag
SLTYSH: gy, sbblky, v sft, gt-sltly tex, arg cmt

126u
C1: 96.8%
C2: 1.9%
C3: 0.9%
C4: 0.4%



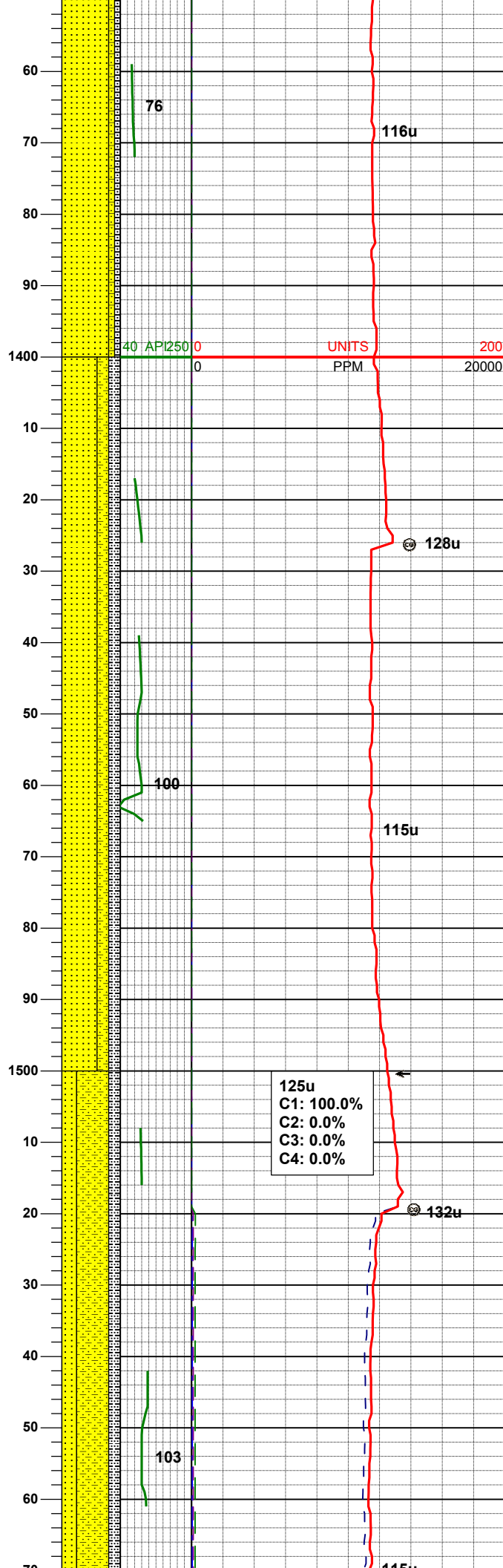
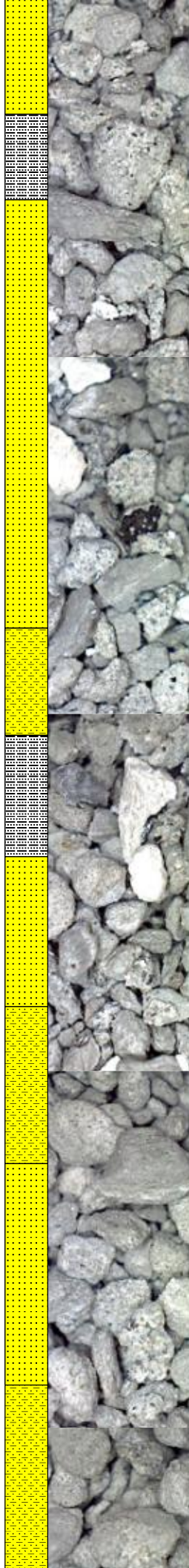
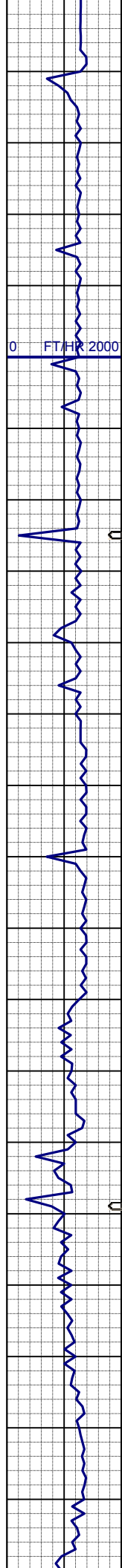
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrnrd, abnt cly, arg cmt, sl calc, tr glau, tr lit frag
SS: ltgy-trnsl, ang-sbang, v fri, fgr, psrt, prnrd, calc-arg cmt, abnt glau, tr dk lit frag
SLTYSH: gy, sbblky, v sft, gt-slty tex, arg cmt

SS: ltgy-trnsl, ang-sbang, v fri-uncons, fgr, psrt, wrnrd, calc-arg cmt, abnt glau, tr dk lit frag
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrnrd, abnt cly, arg cmt, sl calc, tr glau, tr lit frag
SLTYSH: gy, sbblky, v sft, gt-slty tex, arg cmt

| | |
|-----|----------|
| MD | 1280' |
| INC | 0.4° |
| AZM | 205.8° |
| TVD | 1279.98' |

119u
C1: 96.8%
C2: 1.9%
C3: 0.9%
C4: 0.4%

SS: ltgy-trnsl, ang-sbang, v fri-uncons, fgr, psrt, wrnrd, calc-arg cmt, abnt glau, tr dk lit frag
SHYSS: ltgy-gy, s&p ip, sbang, v fri,



vfgr, psrt, wrndd, abnt cly, arg cmt, sl
calc, tr glau, tr lit frag
SLTYSH: gy, sbblky, v sft, gt-slty tex,
arg cmt

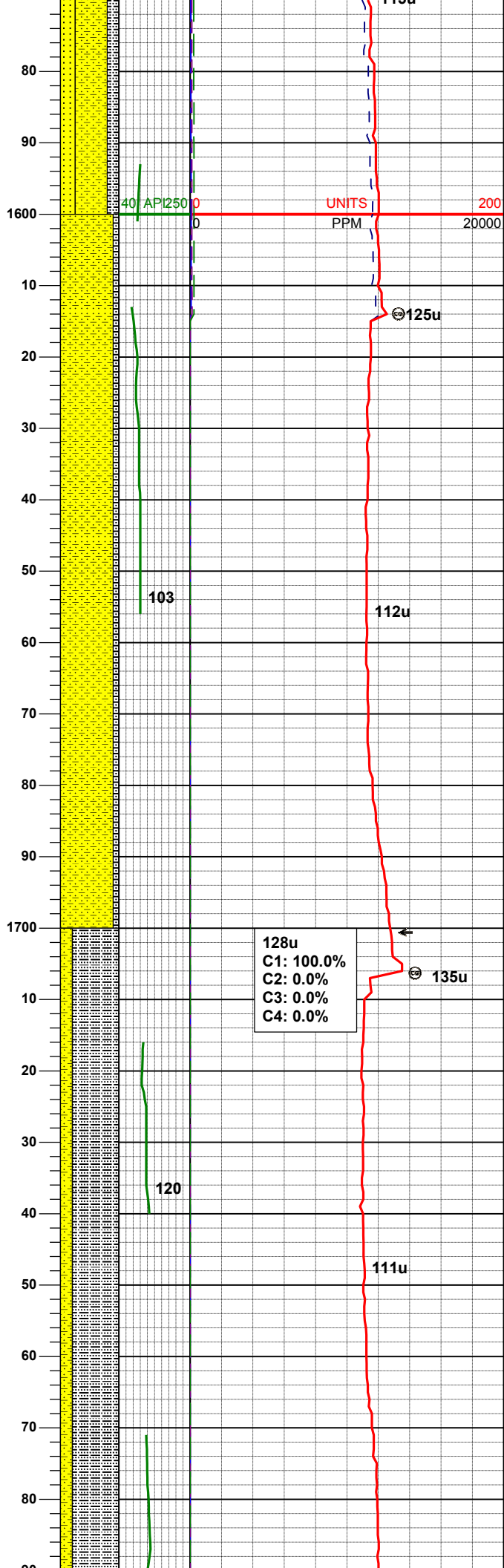
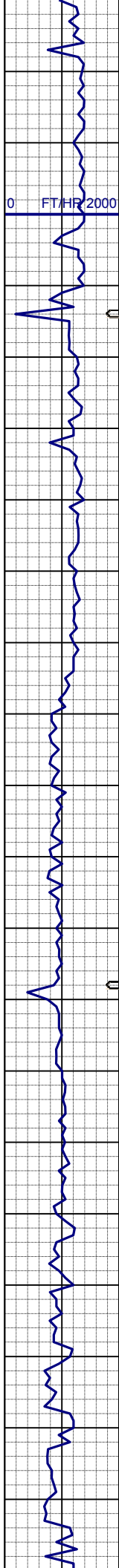
WT IN 8.40/ OUT 8.40
VIS IN 30/ OUT 30

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

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

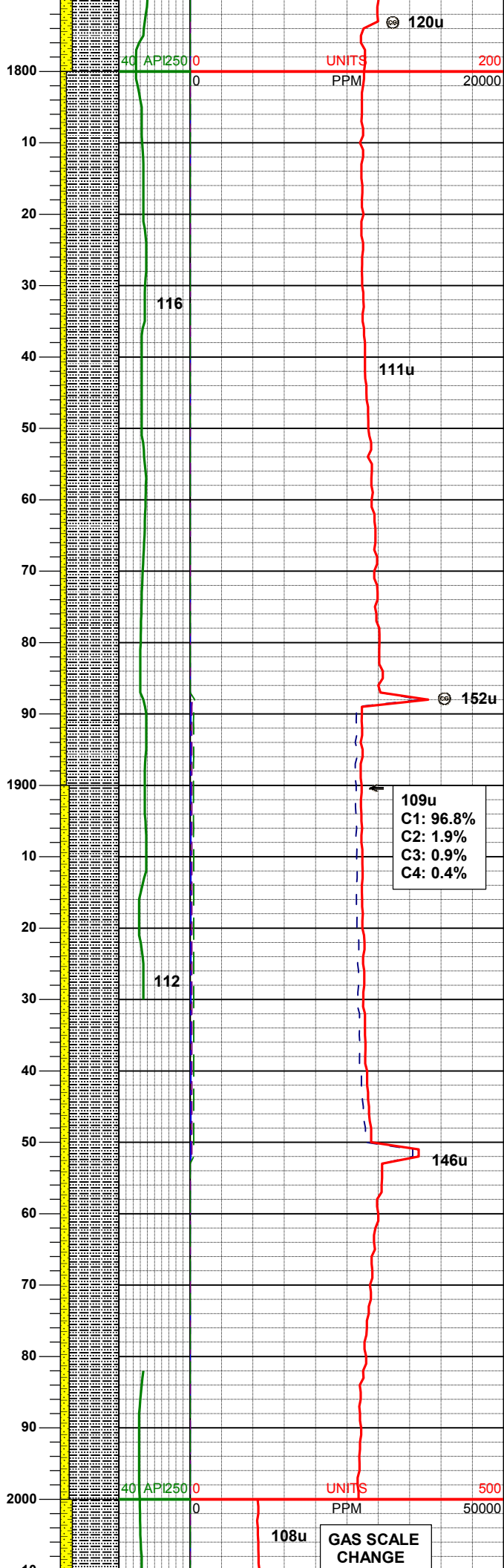
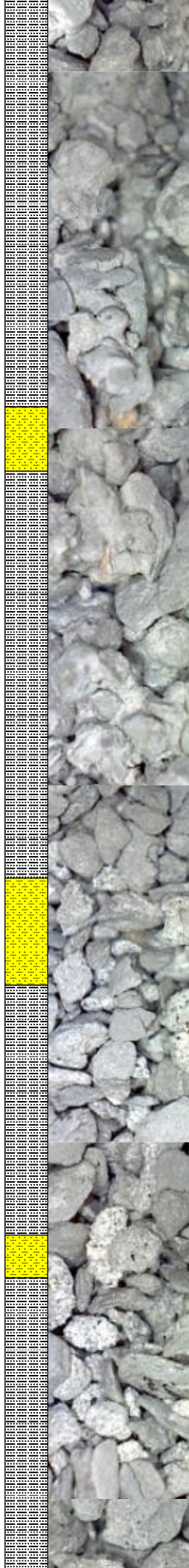
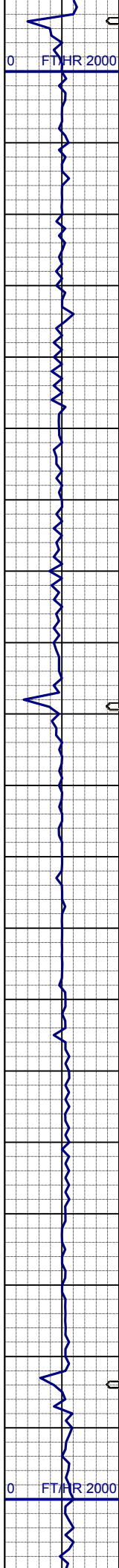
| | |
|-----|--------|
| MD | 1563' |
| INC | 0.6° |
| AZM | 222.3° |

TVD 1562.97'



SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc, tr lit frag, grdg to ss
SLTYSH: gy, sbblky, v sft, gt-slty tex, arg cmt

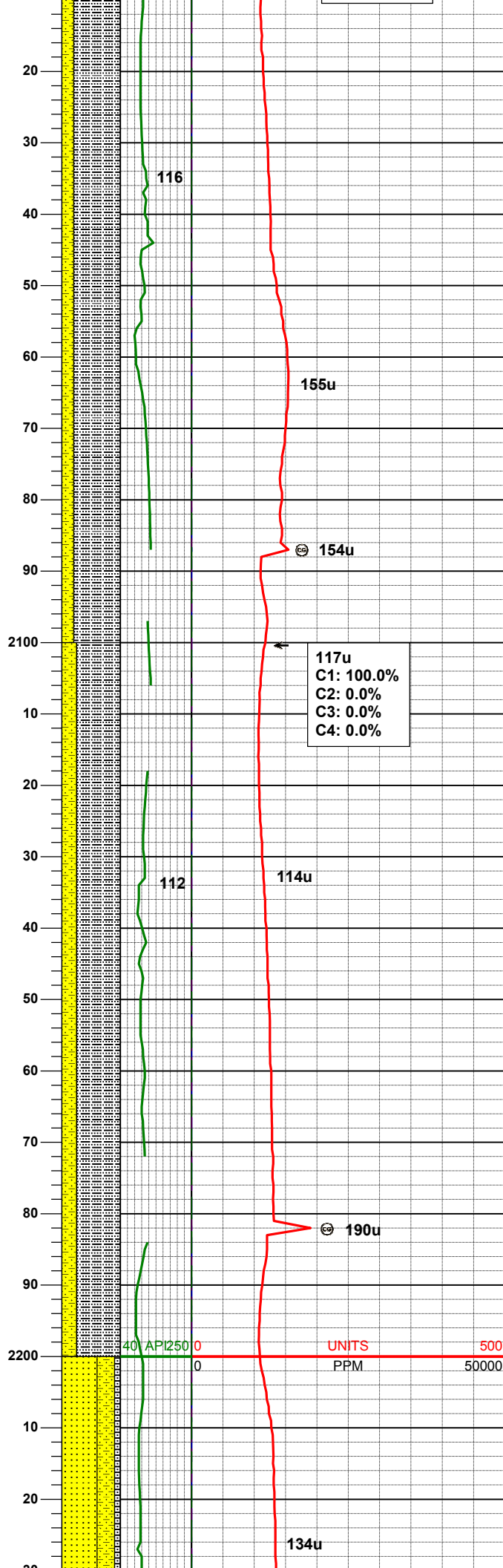
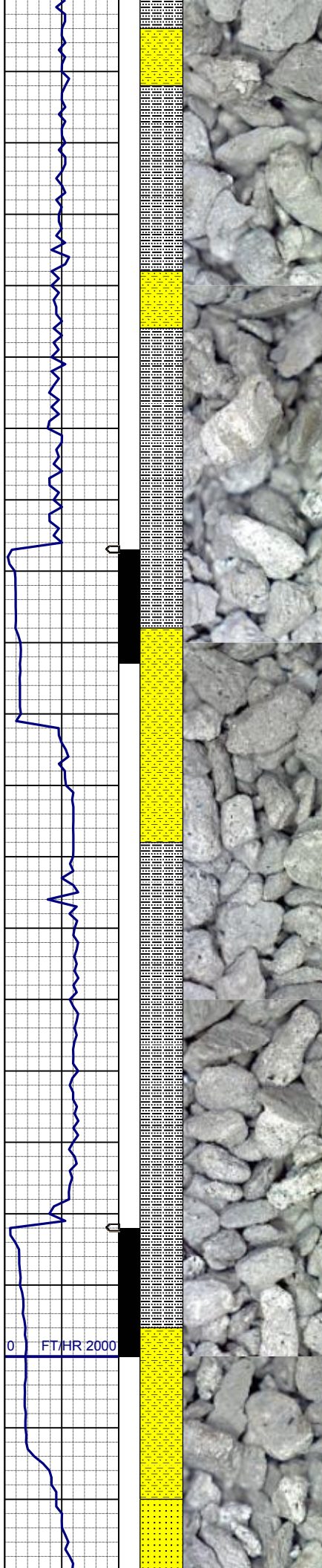
SLTYSH: gy, sbblky, v sft, gt-slty tex, arg cmt
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc, tr lit frag, grdg to ss



| | |
|-----|----------|
| MD | 1848' |
| INC | 0.9° |
| AZM | 20.4° |
| TVD | 1847.95' |

SLTYSH: gy, sbblky, v sft, gt-sity tex, arg cmt
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrnnd, abnt cly, arg cmt, sl calc, tr lit frag, grdg to ss

SLTYSH: gy, sbblky, v sft, gt-sity tex, arg cmt
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrnnd, abnt cly, arg cmt, sl calc, tr lit frag, grdg to ss



MD 2037'
INC 0.5°
AZM 189.3°
TVD 2036.93'

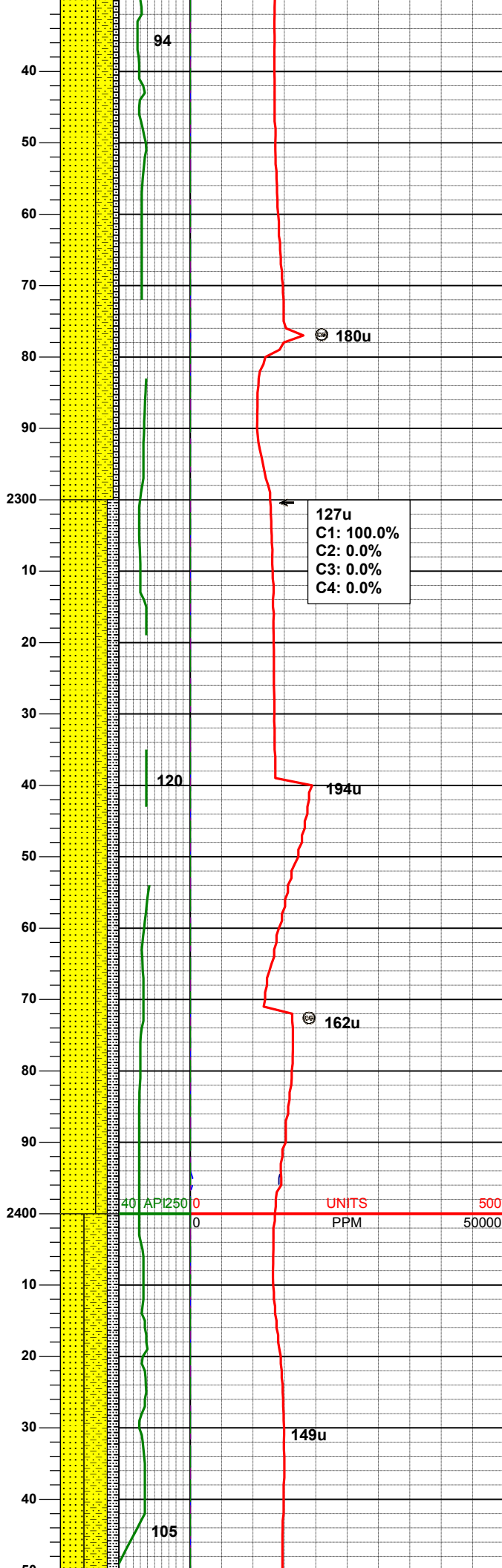
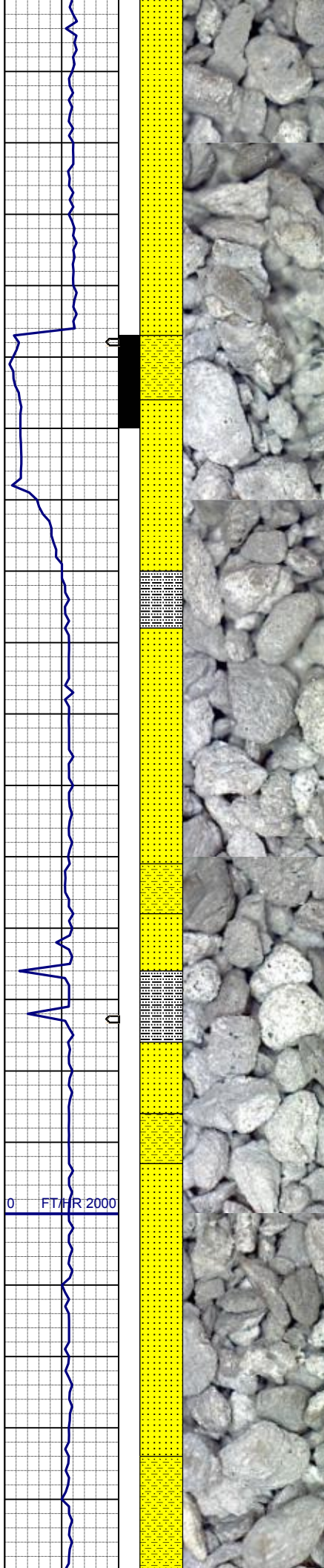
SLTYSH: gy, sbblky, v sft, gt-slty tex, arg cmt
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc, tr lit frag, grdg to ss

MD 2131'
INC 1.9°
AZM 55.5°
TVD 2130.92'

SLTYSH: gy, sbblky, v sft, gt-slty tex, arg cmt
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc, tr lit frag, grdg to ss

WT IN 8.80/ OUT 8.80
VIS IN 28/ OUT 28

MD 2227'



INC 5.1°
AZM 36.9°
TVD 2226.73'

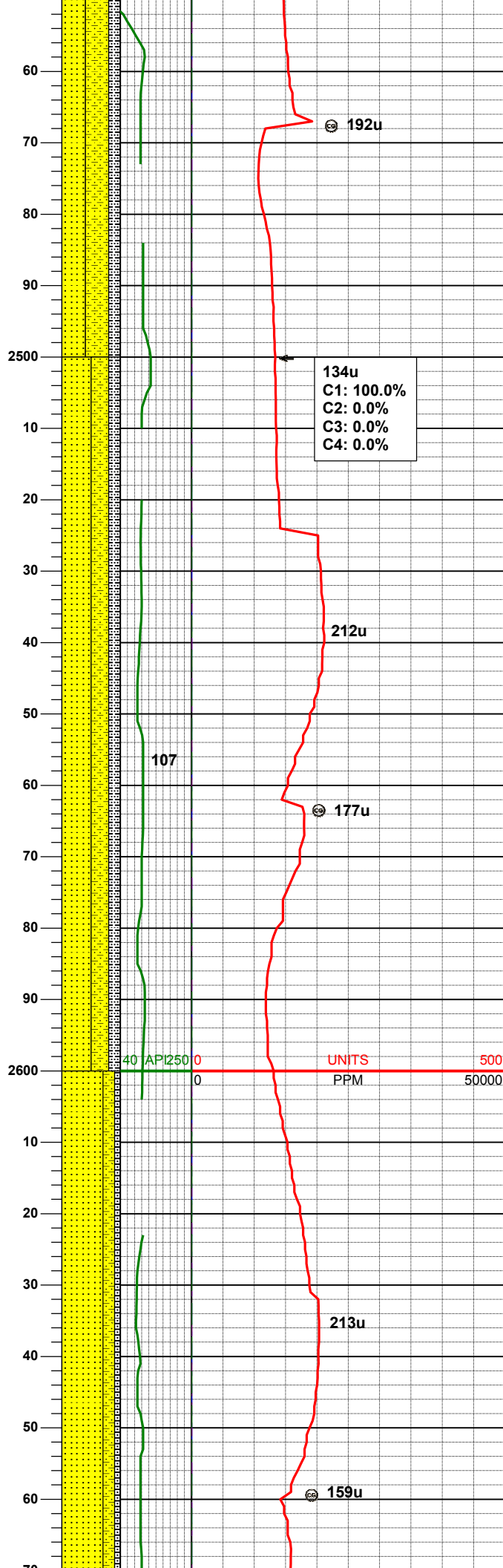
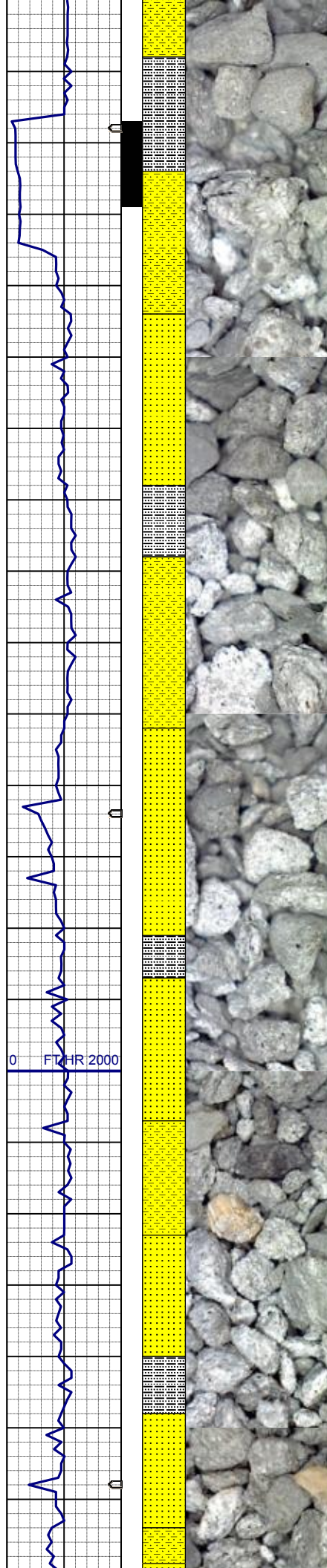
SS: ltgy-wh-trnsl, sbang, w ind, vfgr,
wsrt, wrnnd, calc-arg cmt
SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrnnd, abnt cly, arg cmt, sl
calc, tr lit frag, grdg to ss
SLTYSH: gy, sbbiky, v sft, gt-sity tex,
arg cmt

MD 2322'
INC 6.9°
AZM 34.9°
TVD 2321.21'

SS: ltgy-wh-trnsl, sbang, w ind, vfgr,
wsrt, wrnnd, calc-arg cmt
SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrnnd, abnt cly, arg cmt, sl
calc, tr lit frag, grdg to ss
SLTYSH: gy, sbbiky, v sft, gt-sity tex,
arg cmt

MD 2417'
INC 6.3°
AZM 32.8°
TVD 2415.58'

SS: ltgy-wh-trnsl, sbang, w ind, vfgr,
wsrt, wrnnd, calc-arg cmt
SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrnnd, abnt cly, arg cmt, sl
calc, tr lit frag, grdg to ss
SLTYSH: gy, sbbiky, v sft, gt-sity tex,
arg cmt



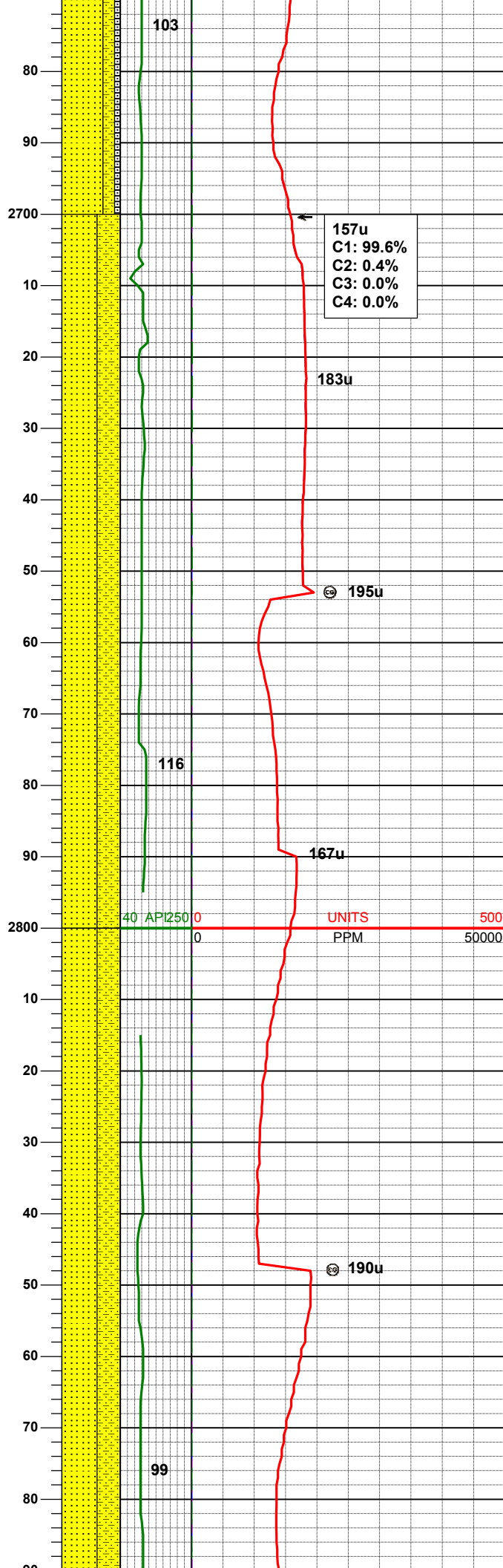
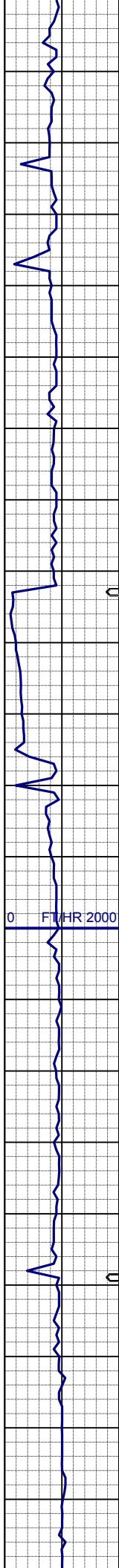
vgr, psrt, wrndd, abnt cly, arg cmt, sl
calc, tr lit frag, grdg to ss
SLTYSH: gy, sbblky, v sft, gt-slty tex,
arg cmt

| | |
|-----|----------|
| MD | 2512' |
| INC | 7.9° |
| AZM | 30.0° |
| TVD | 2509.85' |

SS: ltgy-wh-trnsl, sbang, w ind, vfgr,
wsrt, wrndd, calc-arg cmt
SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt, sl
calc, tr lit frag, grdg to ss
SLTYSH: gy, sbblky, v sft, gt-slty tex,
arg cmt

| | |
|-----|----------|
| MD | 2607' |
| INC | 8.0° |
| AZM | 24.4° |
| TVD | 2603.93' |

SS: ltgy-wh-trnsl, sbang, w ind, vfgr,
wsrt, wrndd, calc-arg cmt
SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt, sl
calc, tr lit frag, grdg to ss
SLTYSH: gy, sbblky, v sft, gt-slty tex,
arg cmt



MD 2702'
INC 7.6°
AZM 18.8°
TVD 2698.05'

WT IN 8.70/ OUT 8.80+
VIS IN 27/ OUT 28

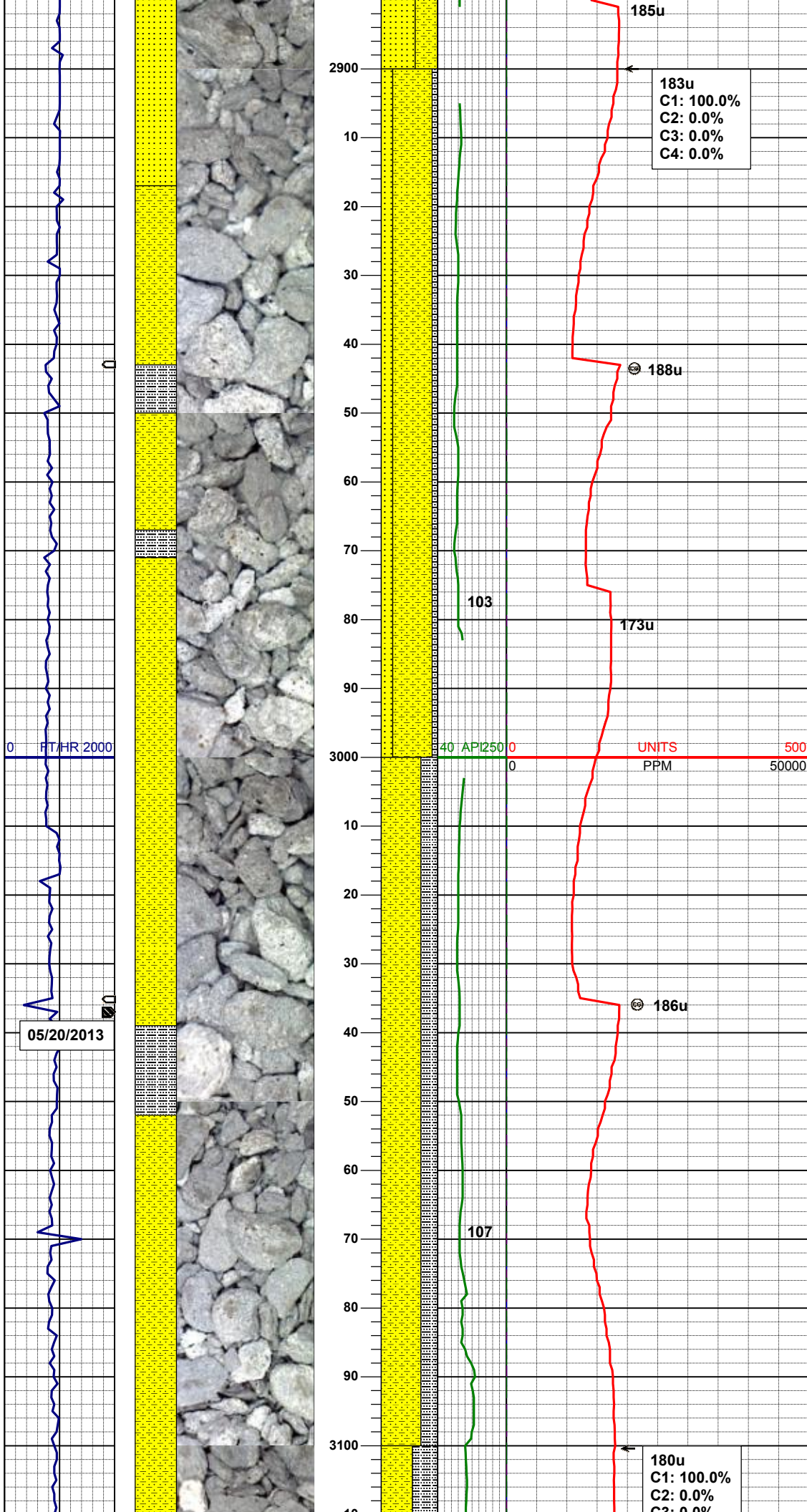
SS: ltgy-wh-trnsl, sbang, w ind, vfgr,
wsrt, wrndd, calc-arg cmt
SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt, sl
calc, tr lit frag, grdg to ss

MD 2796'
INC 9.8°
AZM 27.7°
TVD 2790.97'

WT IN 8.70/ OUT 8.70
VIS IN 28/ OUT 28

SS: ltgy-wh-trnsl, sbang, w ind, vfgr,
wsrt, wrndd, calc-arg cmt
SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt, sl
calc, tr lit frag, grdg to ss

MD 2891'
INC 9.0°



AZM 25.4°
TVD 2884.70'

183u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%

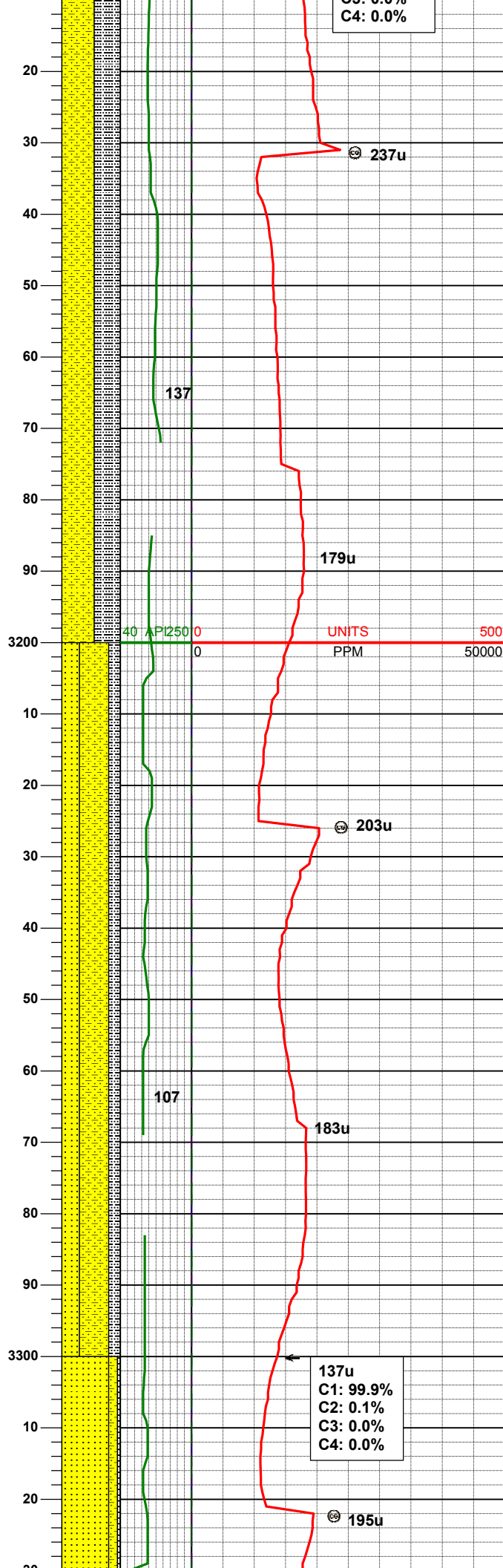
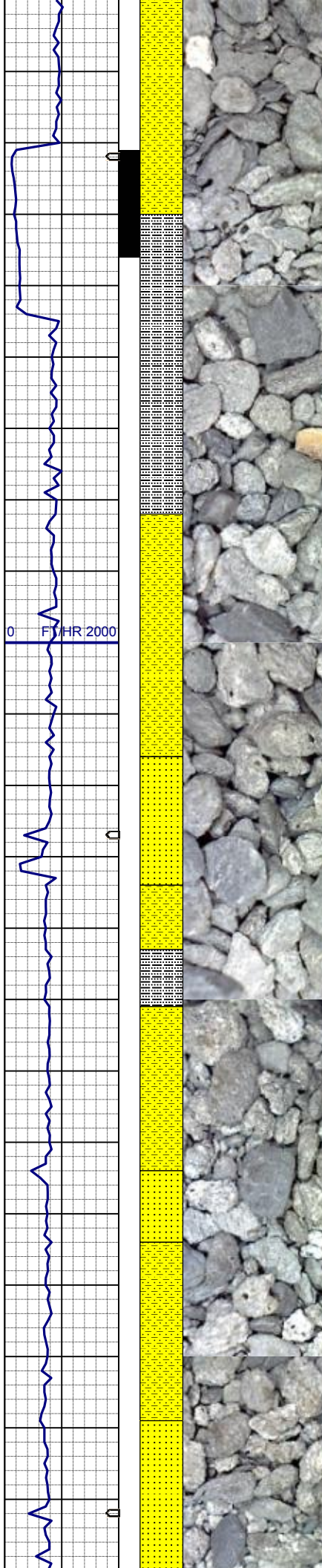
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc, tr lit frag, grdg to ss
SS: ltgy-wh-trnsl, sbang, w ind, vfgr, wsrt, wrndd, calc-arg cmt
SLTYSH: gy, sbbiky, v sft, gt-slty tex, arg cmt

MD 2986'
INC 8.3°
AZM 23.3°
TVD 2978.61'

SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc, tr lit frag, grdg to ss
SLTYSH: gy, sbbiky, v sft, gt-slty tex, arg cmt

MD 3081'
INC 6.7°
AZM 14.0°
TVD 3072.80'

180u
C1: 100.0%
C2: 0.0%
C3: 0.0%



SS: 0.0%
C4: 0.0%

WT IN 8.70/ OUT 8.90
VIS IN 27/ OUT 28

SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt, sl
calc, tr lit frag, grdg to ss
SLTYSH: gy, sbblky, v sft, gt-slty tex,
arg cmt

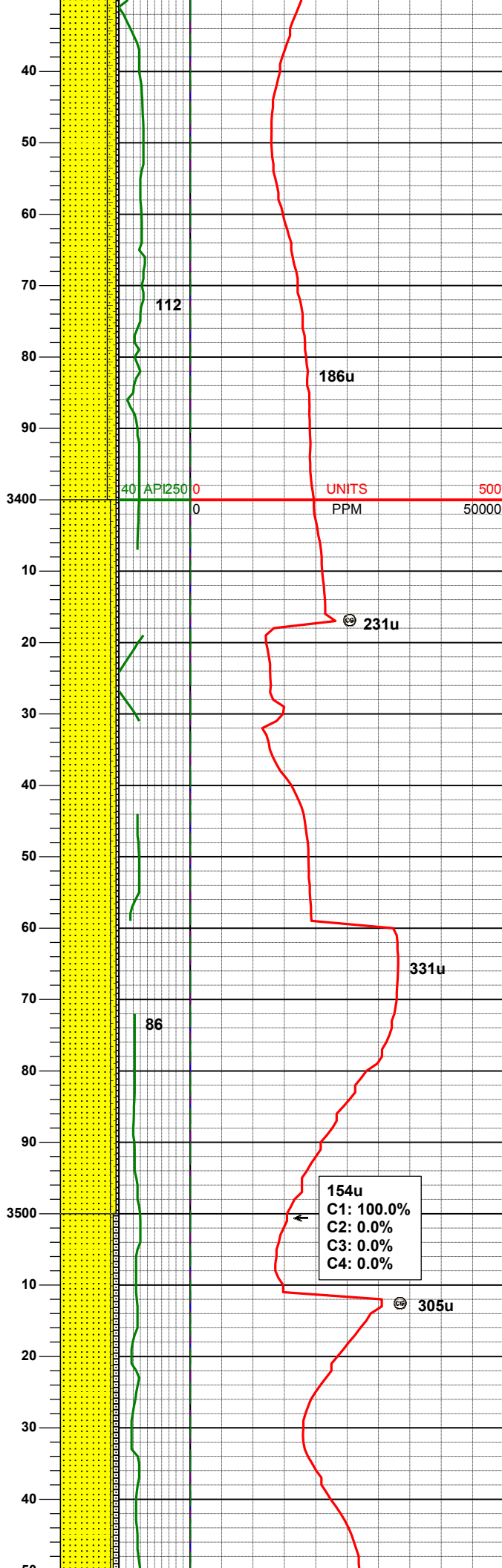
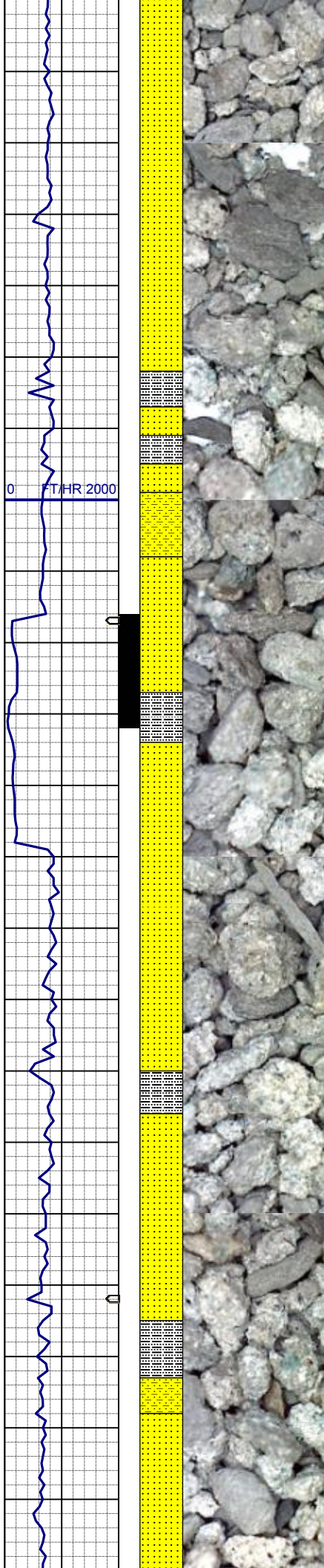
MD 3176'
INC 7.9°
AZM 26.1°
TVD 3167.13'

SHYSS: ltgy-gy, s&p ip, sbang, v fri,
vfgr, psrt, wrndd, abnt cly, arg cmt, sl
calc, tr lit frag, grdg to ss
SS: ltgy-trnsl, sme brn, sbang-ang, w
ind, fgr, psrt, wrndd, calc-arg cmt
SLTYSH: gy, sbblky, v sft, gt-slty tex,
arg cmt

MD 3271'
INC 6.5°
AZM 21.2°
TVD 3261.47'

137u
C1: 99.9%
C2: 0.1%
C3: 0.0%
C4: 0.0%

195u



SS: ltgy-trnsl, sme brn, sbang-ang, w ind, fgr, psrt, wrnld, calc-arg cmt
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrnld, abnt cly, arg cmt, sl calc, tr lit frag, grdg to ss
SLTYSH: gy, sbblky, v sft, gt-slty tex, arg cmt

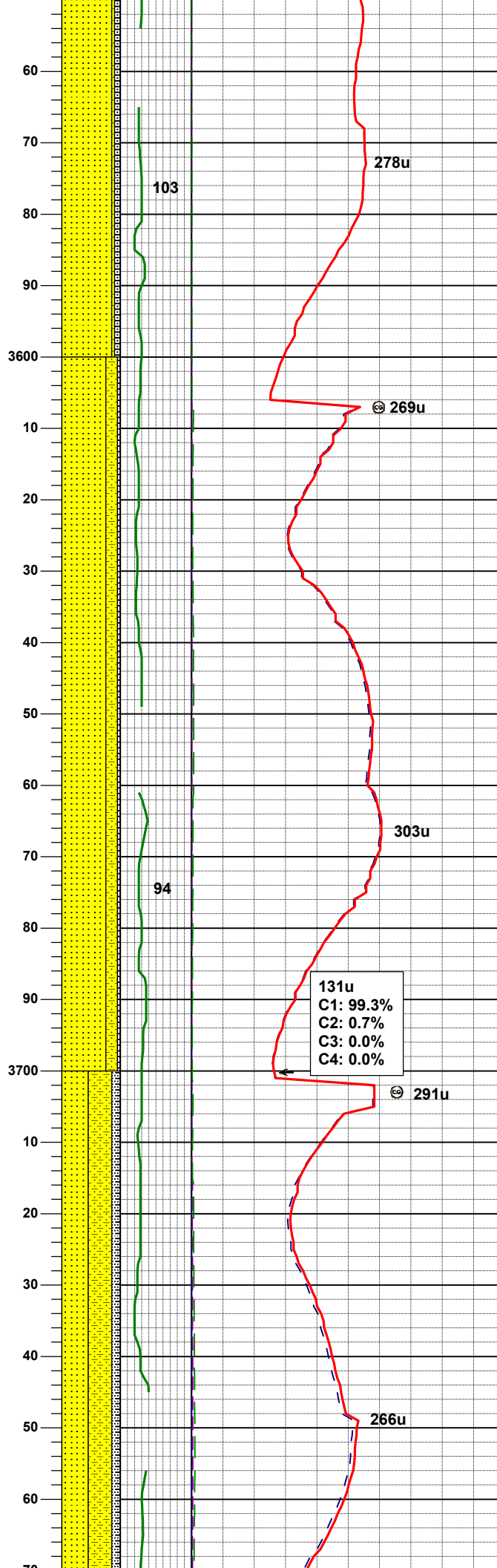
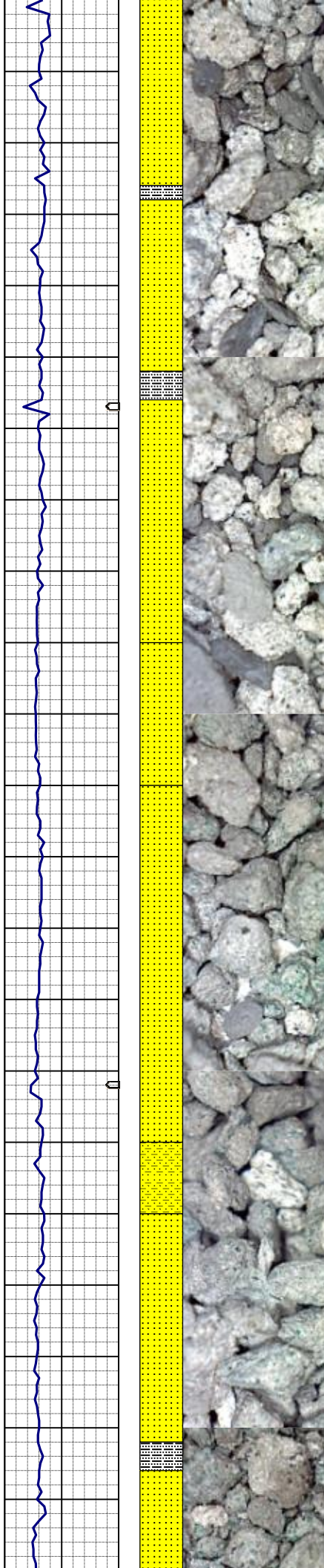
MD 3366'
INC 7.3°
AZM 18.2°
TVD 3355.78'

WT IN 8.90/ OUT 9.20
VIS IN 27/ OUT 28

SS: ltgy-trnsl, sme brn, sbang-ang, w ind, fgr, psrt, wrnld, calc-arg cmt
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrnld, abnt cly, arg cmt, sl calc, tr lit frag, grdg to ss
SLTYSH: gy, sbblky, v sft, gt-slty tex, arg cmt

MD 3460'
INC 7.7°
AZM 35.6°
TVD 3448.98'

SS: ltgy-trnsl, sme brn, sbang-ang, w ind, fgr, psrt, wrnld, calc-arg cmt
SLTYSH: gy, sbblky, v sft, gt-slty tex, arg cmt



SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc, tr lit frag, grdg to ss

| | |
|-----|----------|
| MD | 3555' |
| INC | 7.7° |
| AZM | 35.8° |
| TVD | 3543.10' |

SS: ltgy-trnsl, sme brn, sbang-ang, w ind, fgr, psrt, wrndd, calc-arg cmt, abnt glau
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc, tr lit frag, abnt glau, grdg to ss
SLTYSH: gy, sbblky, v sft, gt-slty tex, arg cmt

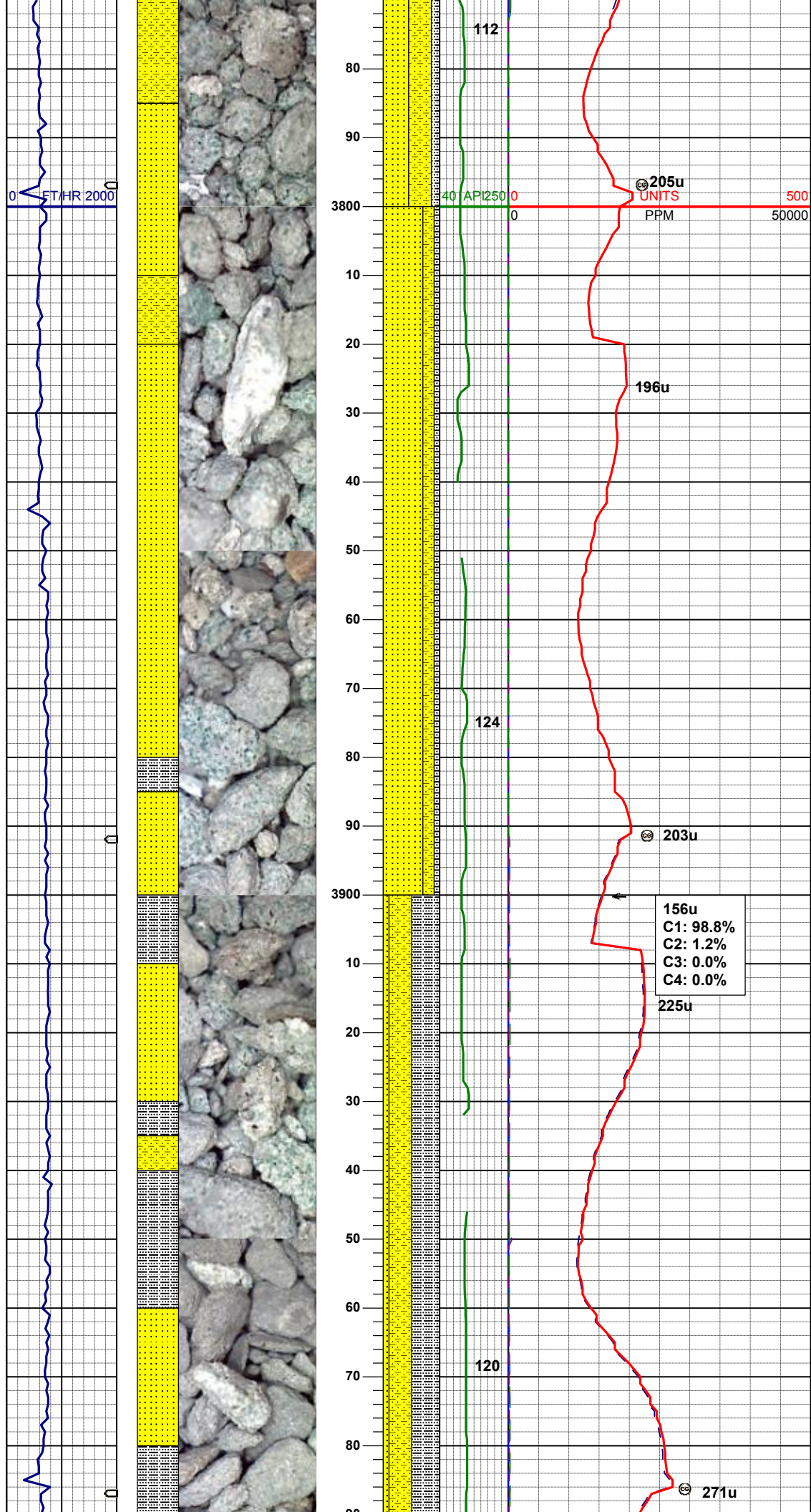
| | |
|-----|----------|
| MD | 3650' |
| INC | 8.1° |
| AZM | 36.0° |
| TVD | 3637.23' |

| |
|-----------|
| 131u |
| C1: 99.3% |
| C2: 0.7% |
| C3: 0.0% |
| C4: 0.0% |

SS: gy-trnsl, sbang-ang, w ind, fgr, psrt, wrndd, calc-arg cmt, abnt glau
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc, tr lit frag, abnt glau, grdg to ss
SLTYSH: gy, sbblky, v sft, gt-slty tex, arg cmt

| | |
|-----|----------|
| MD | 3745' |
| INC | 7.9° |
| AZM | 34.1° |
| TVD | 3731.33' |

WT IN 8.90/ OUT 9.60
VIS IN 28/ OUT 28

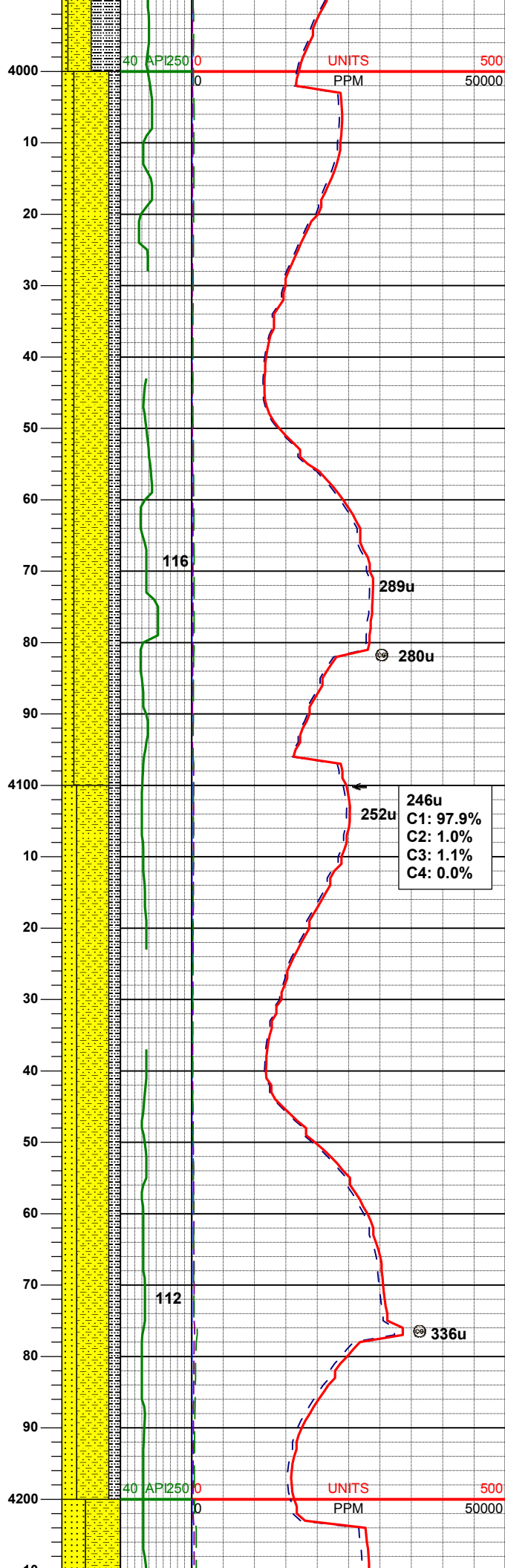
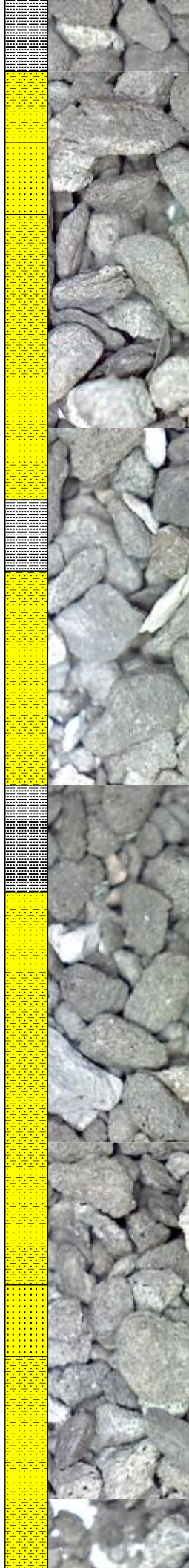
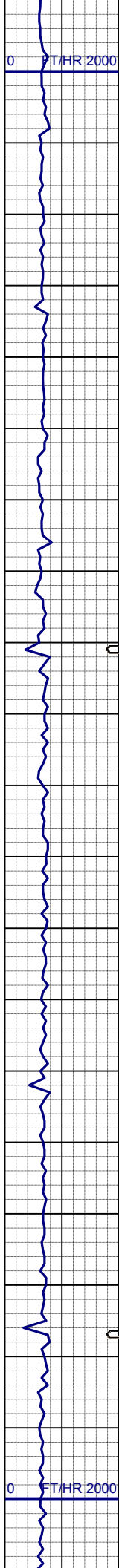


| | |
|-----|----------|
| MD | 3840' |
| INC | 7.5° |
| AZM | 32.8° |
| TVD | 3825.48' |

SS: ltgy-trnsl, sme brn, sbang-ang, w ind, fgr, psrt, wrndd, calc-arg cmt, abnt glau
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc, tr lit frag, abnt glau, grdg to ss
SLTYSH: gy, sbbiky, v sft, gt-slty tex, arg cmt

| | |
|-----|----------|
| MD | 3935' |
| INC | 6.9° |
| AZM | 29.7° |
| TVD | 3919.73' |

SLTYSH: gy, sbbiky, v sft, gt-slty tex, arg cmt
SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrndd, abnt cly, arg cmt, sl calc, tr lit frag, grdg to ss
SS: ltgy-trnsl, sme brn, sbang-ang, w ind, fgr, psrt, wrndd, calc-arg cmt, abnt glau



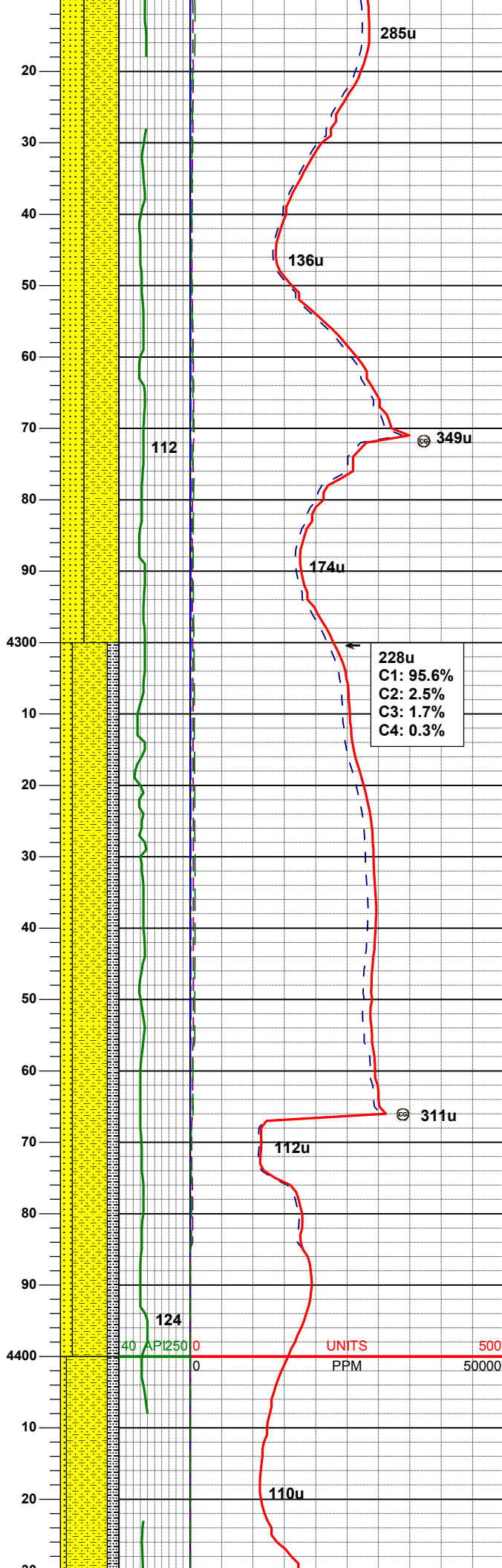
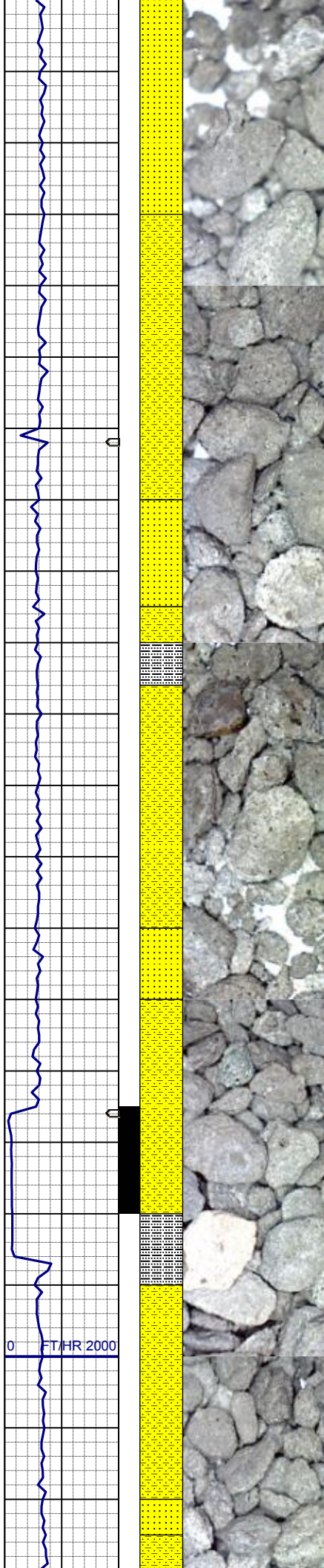
MD 4030'
INC 6.3°
AZM 19.8°
TVD 4014.10'

SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrnnd, abnt cly, arg cmt, sl calc, tr lit frag, grdg to ss
SS: ltgy-trnsl, sme brn, sbang-ang, w ind, fgr, psrt, wrnnd, calc-arg cmt, abnt glau
SLTYSH: gy, sbblky, v sft, gt-slty tex, arg cmt

MD 4125'
INC 5.6°
AZM 18.6°
TVD 4108.59'

SHYSS: ltgy-gy, s&p ip, sbang, v fri, vfgr, psrt, wrnnd, abnt cly, arg cmt, sl calc, tr lit frag, grdg to ss
SS: ltgy-trnsl, sme brn, sbang-ang, w ind, fgr, psrt, wrnnd, calc-arg cmt, abnt glau
SLTYSH: gy, sbblky, v sft, gt-slty tex, arg cmt

WT IN 9.10/ OUT 9.50
VIS IN 28/ OUT 31



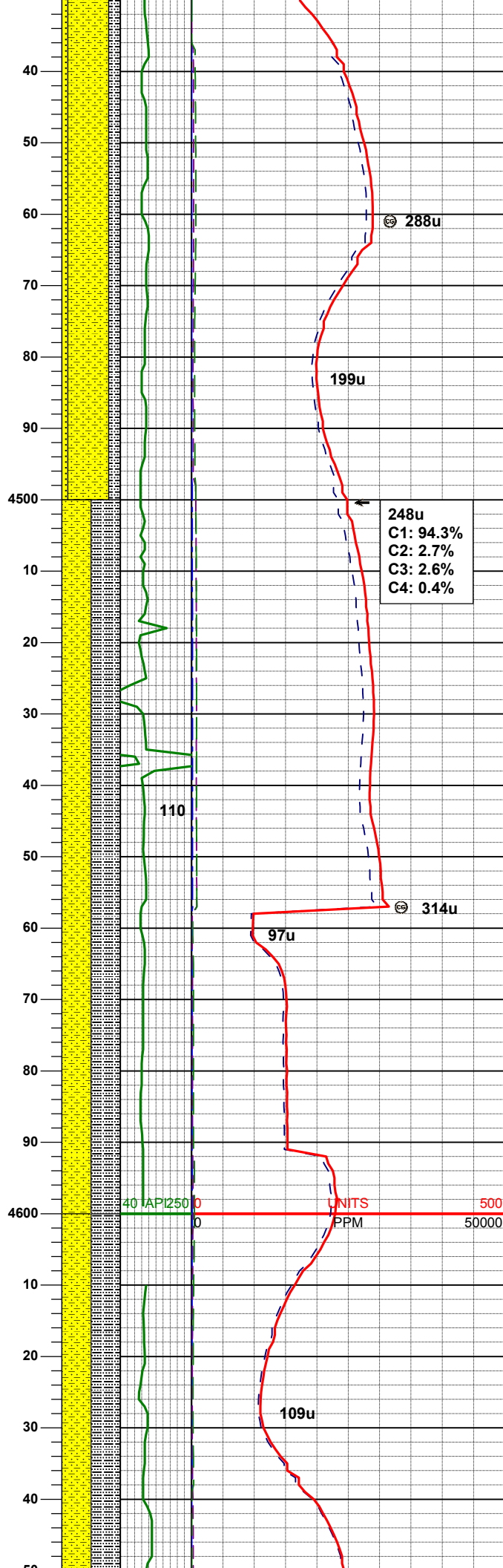
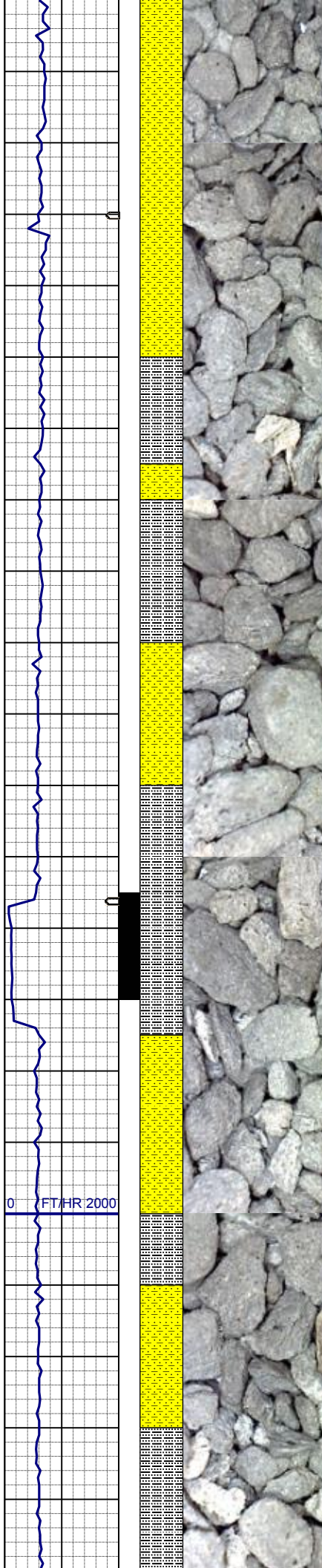
MD 4220'
INC 4.9°
AZM 15.8°
TVD 4203.19'

SHYSS: ltgy-gy, s&p ip, sbang - sbrd,
v fri, fgr, psrt, arg cmt, tr lit frag, grdg
to ss
SS: ltgy-trnsl, sbang-ang, w ind, fgr,
psrt, calc-arg cmt, abnt glau

MD 4315'
INC 4.0°
AZM 11.4°
TVD 4297.90'

SHYSS: ltgy-gy, s&p ip, sbang - sbrd,
v fri, fgr, psrt, arg cmt, tr lit frag, grdg
to ss
SS: ltgy-trnsl, sbang-ang, w ind, fgr,
psrt, calc-arg cmt, abnt glau
SLTYSH: lt gy - gy, sbblky - sbply,
mod firm, gt - slty tex, arg cmt, non
calc

MD 4410'
INC 4.9°
AZM 31.80°
TVD 4392.62'



SHYSS: ltgy-gy, s&p ip, sbang - sbrd,
v fri, fgr, psrt, arg cmt, tr lit frag, grdg
to ss
SLTYSH: lt gy - gy, sbblky - sbply,
mod firm, gt - slty tex, arg cmt, non
calc
SS: ltgy-trnsl, sbang-ang, w ind, fgr,
psrt, calc-arg cmt, abnt glau

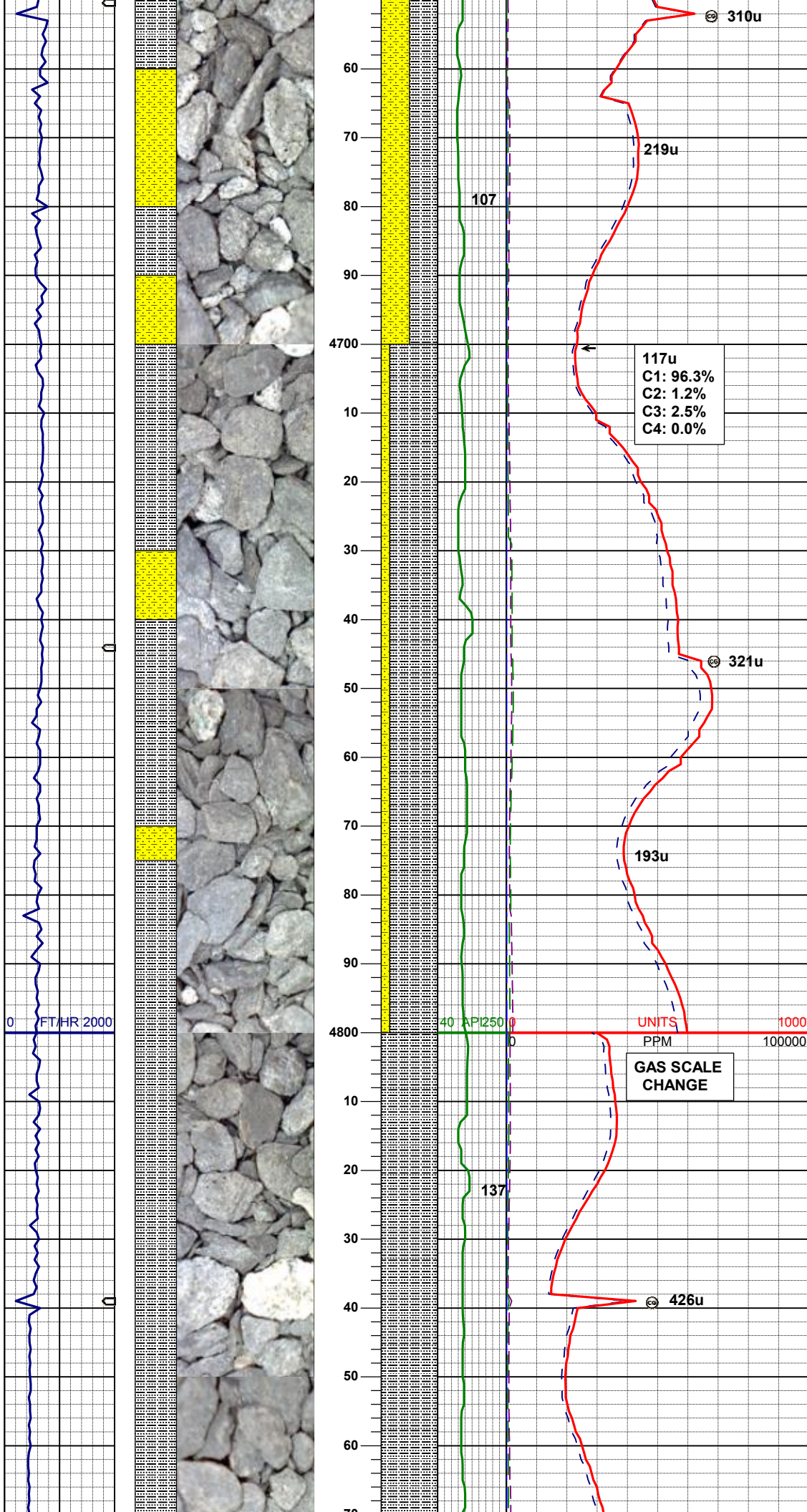
| | |
|-----|----------|
| MD | 4505' |
| INC | 0.8° |
| AZM | 22.8° |
| TVD | 4487.35' |

WT IN 9.10/ OUT 9.2
VIS IN 28/ OUT 28

SHYSS: ltgy-gy, s&p ip, sbang - sbrd,
v fri, fgr, psrt, arg cmt, tr lit frag, grdg
to ss
SLTYSH: lt gy - gy, sbblky - sbply,
mod firm, gt - slty tex, arg cmt, non
calc

| | |
|-----|----------|
| MD | 4599' |
| INC | 4.2° |
| AZM | 23.9° |
| TVD | 4581.12' |

SHYSS: ltgy-gy, s&p ip, sbang - sbrd,
v fri, fgr, psrt, arg cmt, tr lit frag, grdg
to ss



to ss
SLTYSH: lt gy - gy, sbblky - sbply,
mod firm, gt - slty tex, arg cmt, non
calc

MD 4694'
INC 2.9°
AZM 6.1°
TVD 4675.94'

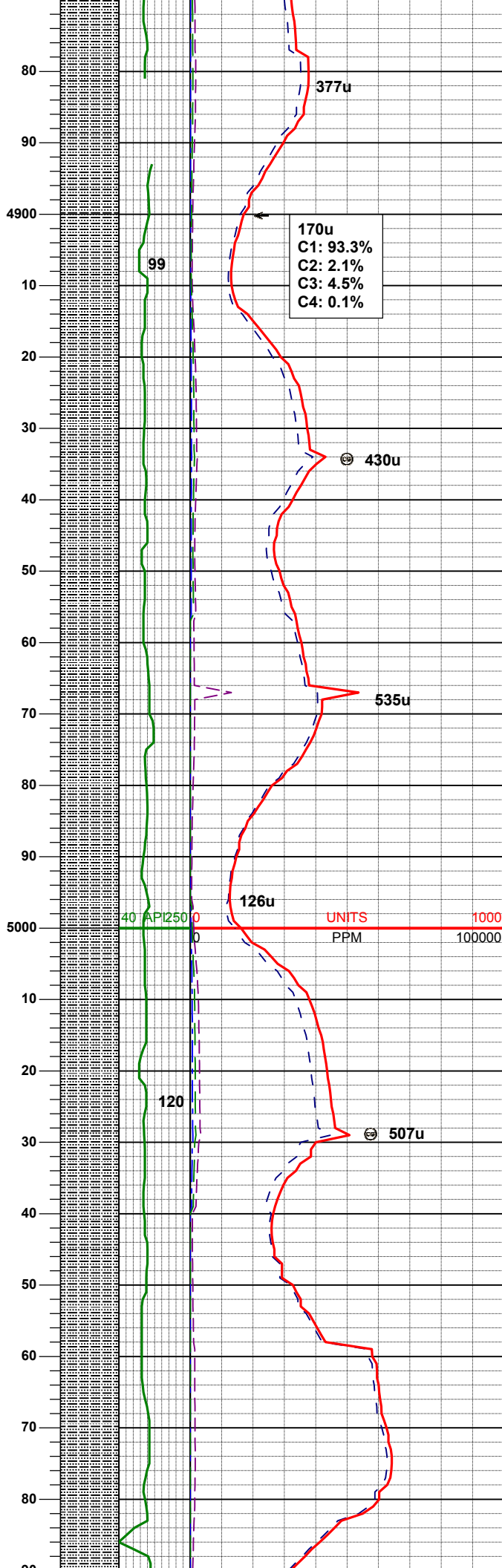
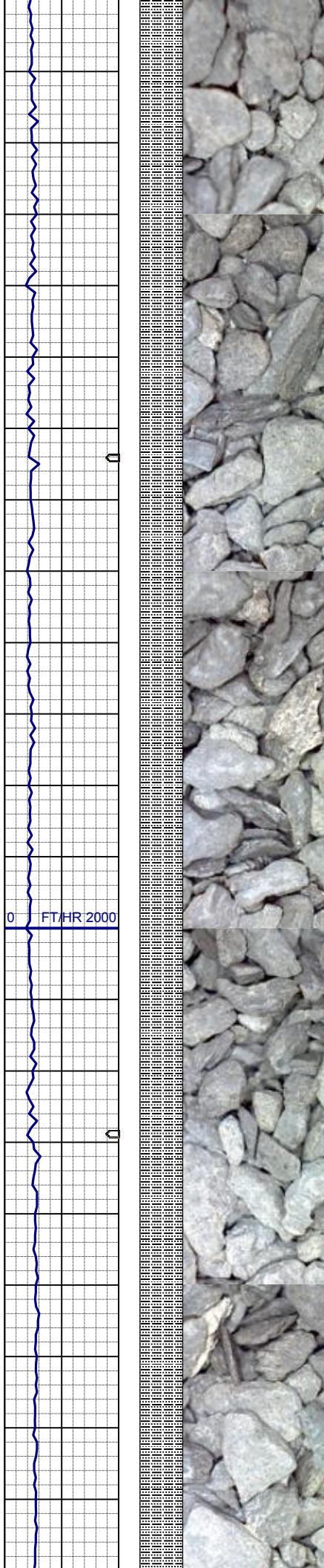
117u
C1: 96.3%
C2: 1.2%
C3: 2.5%
C4: 0.0%

SLTYSH: lt gy - gy, sbblky - sbply,
mod firm, gt - slty tex, arg cmt, non
calc
SHYSS: ltgy-gy, s&p ip, sbang - sbdr,
v fri, fgr, psrt, arg cmt, tr lit frag, grdg
to ss

MD 4789'
INC 1.8°
AZM 351.2°
TVD 4770.86'

WT IN 9.5/ OUT 9.7
VIS IN 28/ OUT 28

SLTYSH: lt gy - gy, sbblky - sbply,
mod firm, gt - slty tex, arg cmt, non
calc



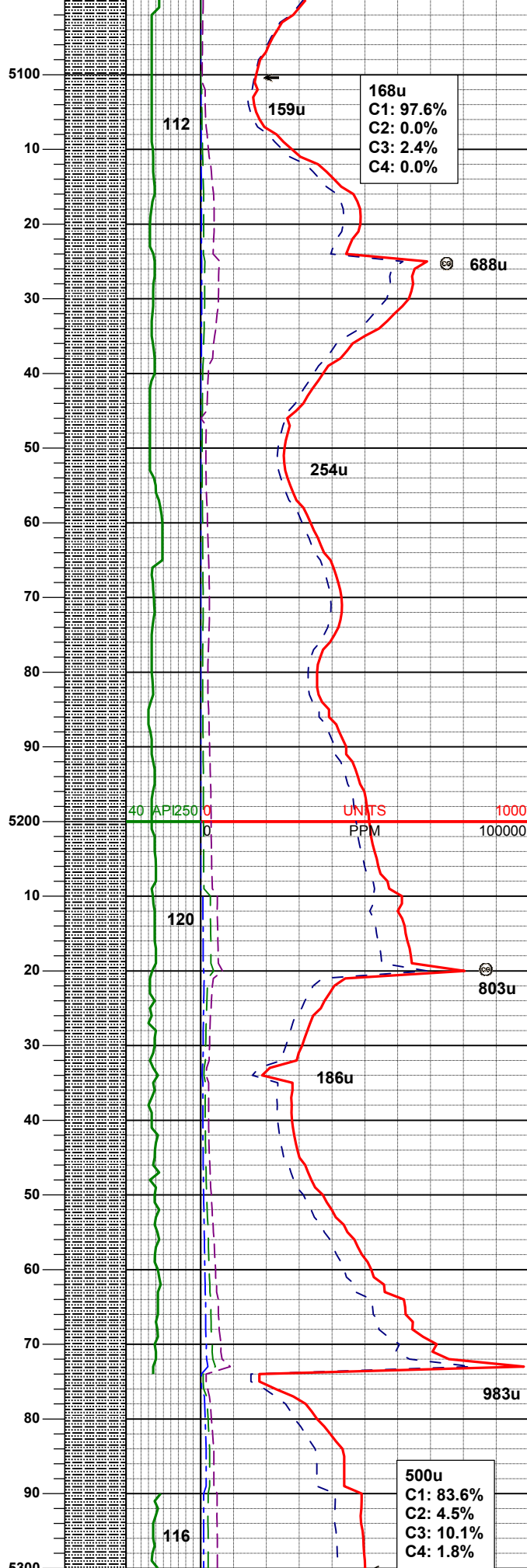
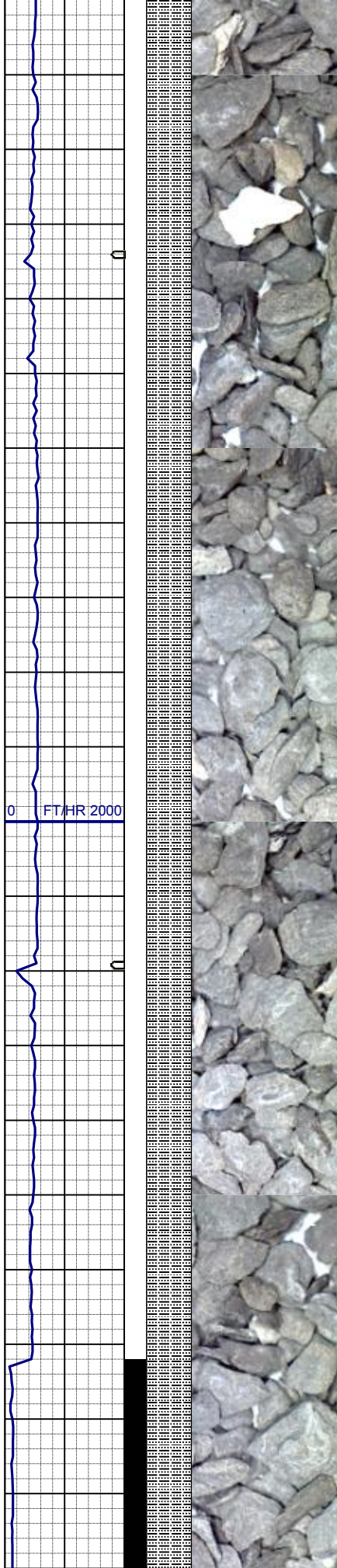
MD 4884'
INC 1.3°
AZM 26.0°
TVD 4865.84'

SLTYSH: lt gy - gy, sbblky - sbply,
mod firm, gt - slty tex, arg cmt, non
calc

MD 4979'
INC 1.5°
AZM 38.8°
TVD 4960.79'

SLTYSH: lt gy - gy, sbblky - sbply,
mod firm, gt - slty tex, arg cmt, non
calc

MD 5074'
INC 1.6°
AZM 50.9°
TVD 5055.76'



SLTYSH: lt gy - gy, sbbiky - sbply,
mod firm, gt - slty tex, arg cmt, non
calc

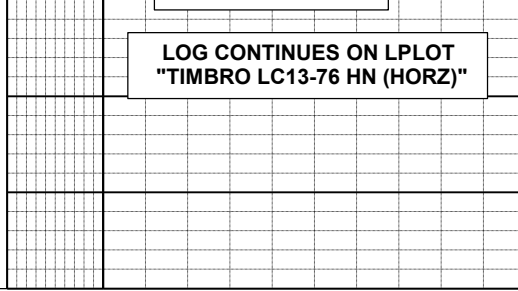
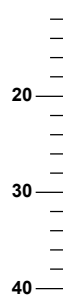
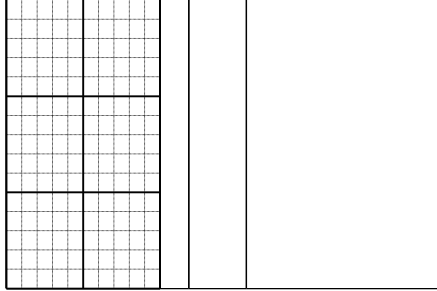
| | |
|-----|----------|
| MD | 5169' |
| INC | 1.3° |
| AZM | 58.3° |
| TVD | 5150.73' |

WT IN 9.7/ OUT 9.7
VIS IN 34/ OUT 34

SLTYSH: lt gy - gy, sbbiky - sbply,
mod firm, gt - slty tex, arg cmt, non
calc

| | |
|-----|---------|
| MD | 5264' |
| INC | 1.5° |
| AZM | 35.5° |
| TVD | 5245.7' |

| |
|-----------|
| 500u |
| C1: 83.6% |
| C2: 4.5% |
| C3: 10.1% |
| C4: 1.8% |



LOG CONTINUES ON L PLOT
"TIMBRO LC13-76 HN (HORZ)"