

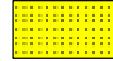
LOG created using LPLOT VH Version 3.0, March 23, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

OPERATOR: NOBLE ENERGY INC
WELL: WILD HORSE GV28-72HN
LOCATION: SEC28 T9N R61W
COUNTY: WELD
STATE: COLORADO
SPOT: 402' FSL, 293' FEL
ELEVATION: 4958' GL, 4974' KB
FIELD: WILDCAT
SPUD DATE: 3/13/13
TD DATE: 3/23/13
DATES LOGGED: 3/15/13 - 3/23/13
DEPTHS LOGGED: 726' - 10796'
GEOLOGISTS: GARY MYERS, TED STOCKWELL
DRILLING FLUID: LSND
DRILLING RIG: PRECISION 828
API: 05-123-36676
LOG TYPE: HORIZONTAL
SCALE: 1:240 (5 inches per 100 feet)
REMARKS: WELLSITE GEOLOGICAL SERVICES PROVIDED BY COLUMBINE LOGGING INC.

LOG CONTINUES ON FILE: Wild Horse GV28-72HN Horiz.lplot

LITHOLOGIES

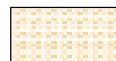
Claystone



Sandstone



Shaly Sandstone



Shaly Siltstone



Silty Shale

ENGINEERING SYMBOLS

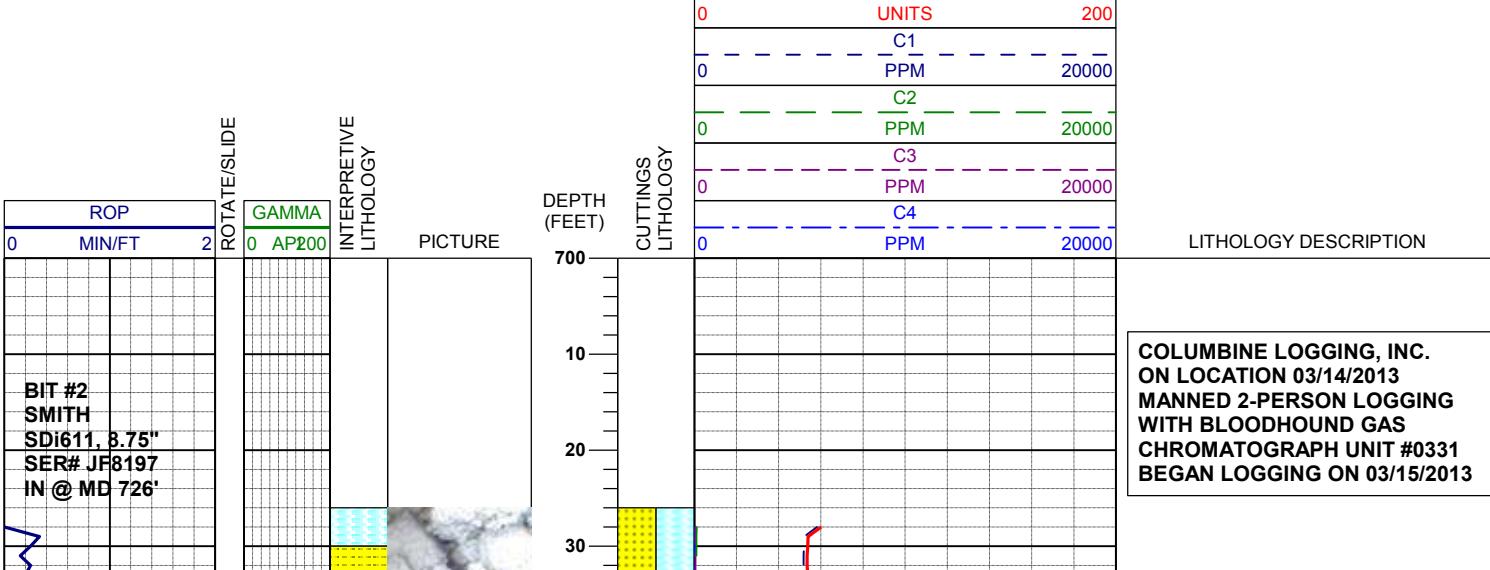
Connection



Connection Gas

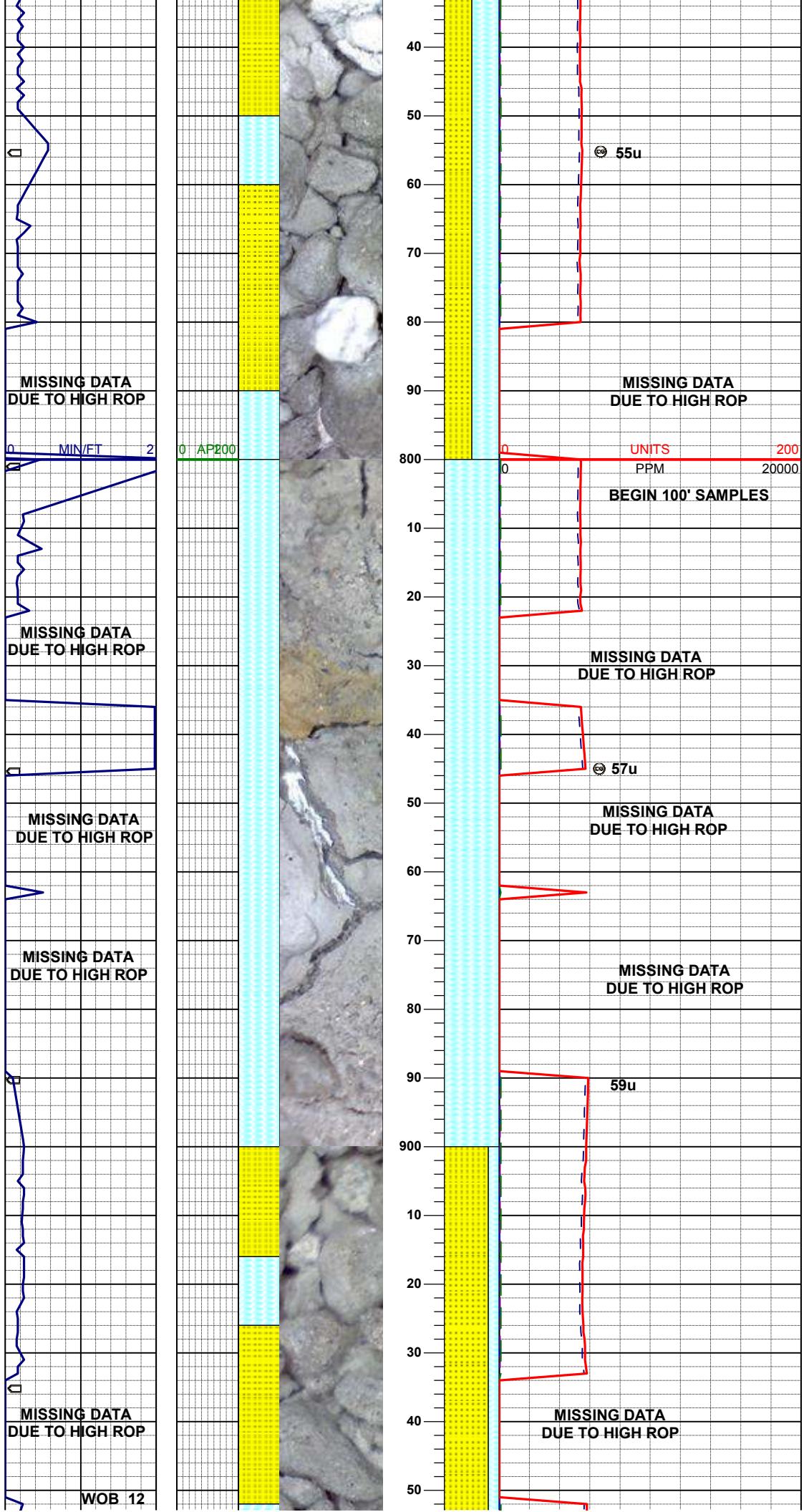


Midnight Depth



SS: It tan- It gy, m-fgr, blky-sbbly,
sbrndd-sbang, mod srt, vsft-sft, arg
mtx, non calc, sl mica
CLYST: It-mgy, vfgr, sft-firm, sdy ip

MD 749'
INC 0.6°
AZI 233.6°
TVD 749.0'



MD 839'
INC 0.6°
AZI 234.3°
TVD 839.0'

CLYST: It-mgy, vfgr, sft-firm, sdy ip

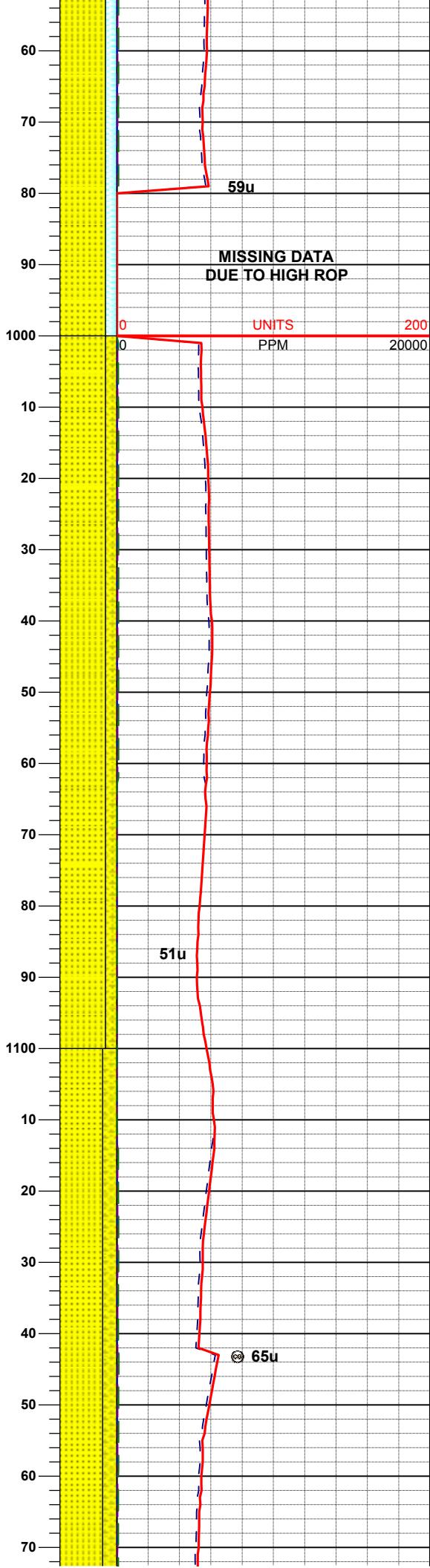
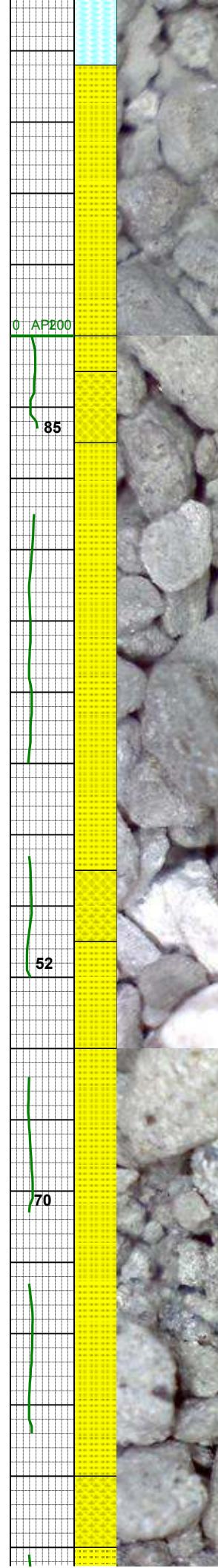
MD 928'
INC 0.8°
AZI 255.0°
TVD 928.0'

SS: It tan- It gy, m-fgr, blky-sbbly,
sbrndd-sbang, mod srt, vsft-sft, arg
mtx, non calc, sl mica
CLYST: It-mgy, vfgr, sft-firm, sdy ip

RPM 35
PP 1500
SPM 140

MISSING DATA
DUE TO HIGH ROP

0 MIN/FT 2



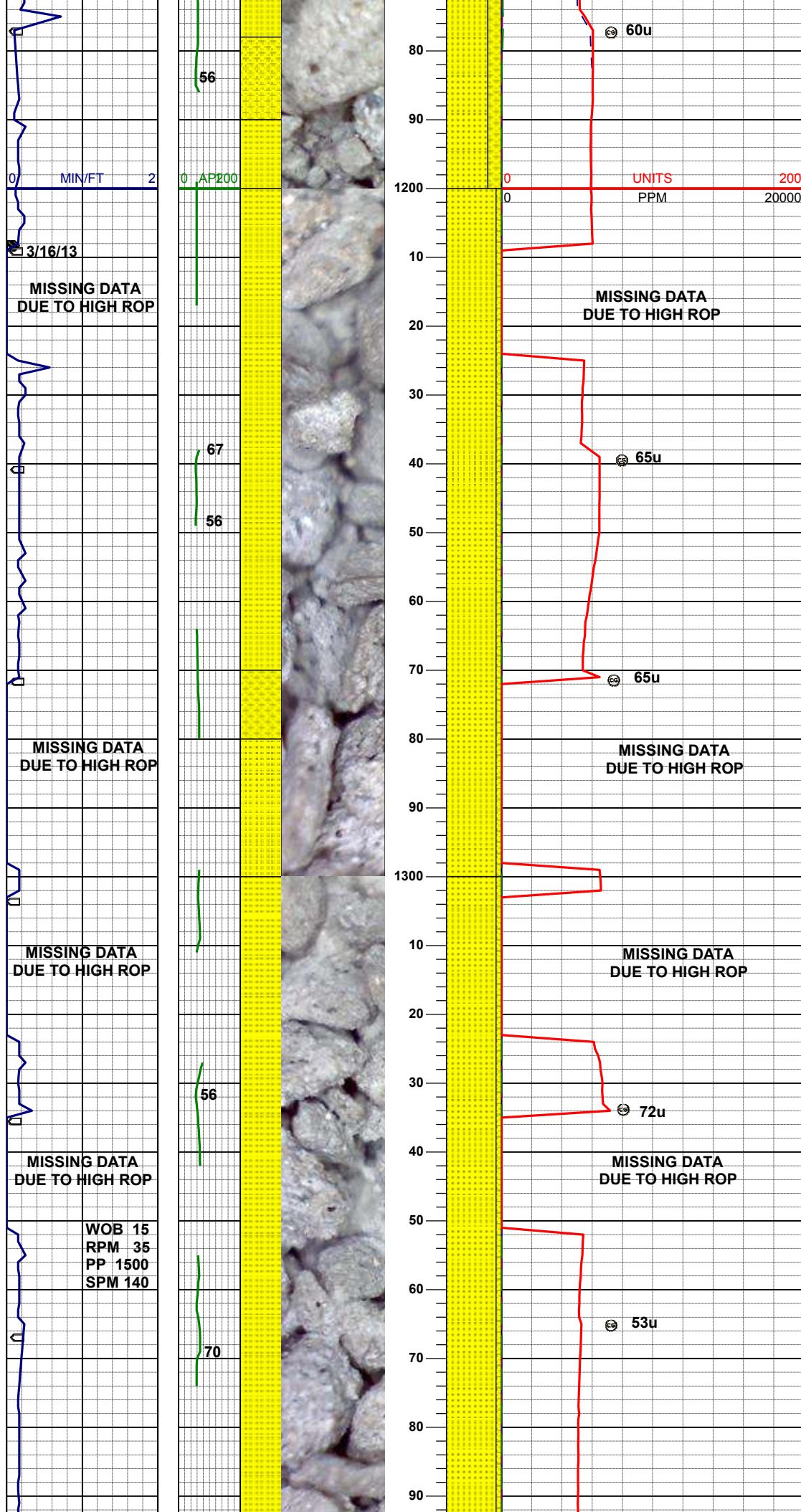
MD 1018'
INC 0.7°
AZI 238.3°
TVD 1017.0'

SS: It tan- It gy, m-fgr, blky-sbblky,
sbrndd-sbang, mod srt, vsft-sft, arg
mtx, non calc,
SHYSS: gy-modgy, f-vfgr, sbblky-
sbplty, mod srt, sft-firm, sdy ip, arg
mtx, slcalc

WT 8.4 / VIS 26

MD 1126'
INC 0.7°
AZI 257.3°
TVD 1126.0'

SS: It tan- It gy, m-fgr, blky-sbblky,
sbrndd-sbang, mod srt, vsft-sft, arg-sil
mtx, tr glau, sl mica
SHYSS: gy-modgy, f-vfgr, sbblky-
sbplty, mod srt, sft-firm, sdy ip, arg
mtx, slcalc



MD 1220'
INC 0.4°
AZI 284.2°
TVD 1220.0'

SS: It tan- It gy, m-fgr, blky-sbblky,
sbrndd-sbang, mod srt, vsft-sft, arg-sil
mtx, tr glau, sl mica
SHYSS: gy-modgy, f-vfgr, sbblky-
sbplty, mod srt, sft-firm, sdy ip, arg
mtx, slcalc

WT 8.4 / VIS 25

MD 1315'
INC 0.3°
AZI 303.3°
TVD 1315.0'

SS: It tan- It gy, m-fgr, blky-sbblky,
sbrndd-sbang, mod srt, vsft-sft, arg-sil
mtx, tr glau, sl mica
SHYSS: gy-modgy, f-vfgr, sbblky-
sbplty, mod srt, sft-firm, sdy ip, arg
mtx, slcalc

MISSING DATA
DUE TO HIGH ROP

WOB 15
RPM 35
PP 1500
SPM 140

MISSING DATA
DUE TO HIGH ROP

WOB 15
RPM 35
PP 1500
SPM 140

MISSING DATA
DUE TO HIGH ROP

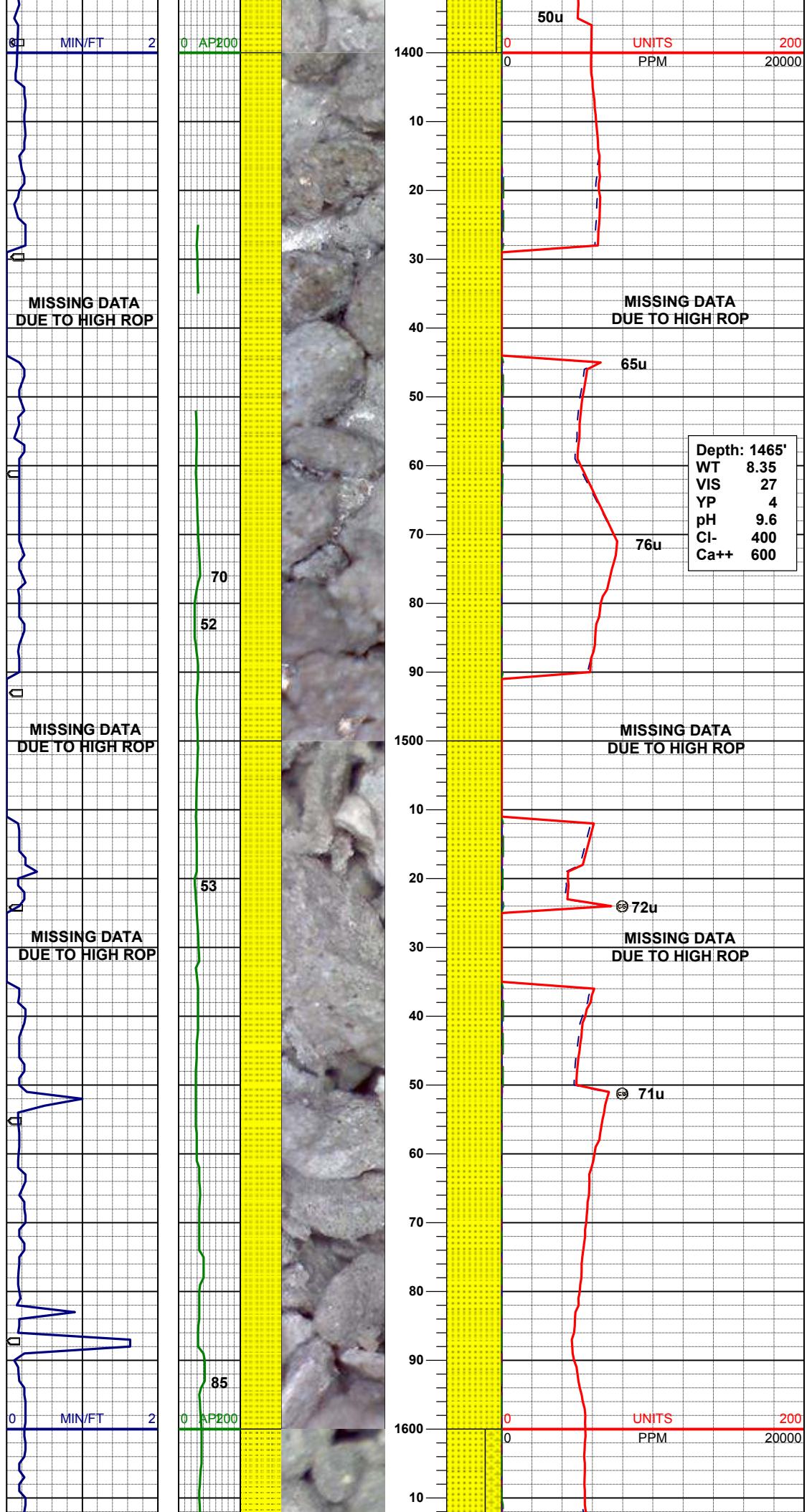
WOB 15
RPM 35
PP 1500
SPM 140

MISSING DATA
DUE TO HIGH ROP

WOB 15
RPM 35
PP 1500
SPM 140

MISSING DATA
DUE TO HIGH ROP

WOB 15
RPM 35
PP 1500
SPM 140



MD 1410'
INC 0.7°
AZI 311.6°
TVD 1410.0'

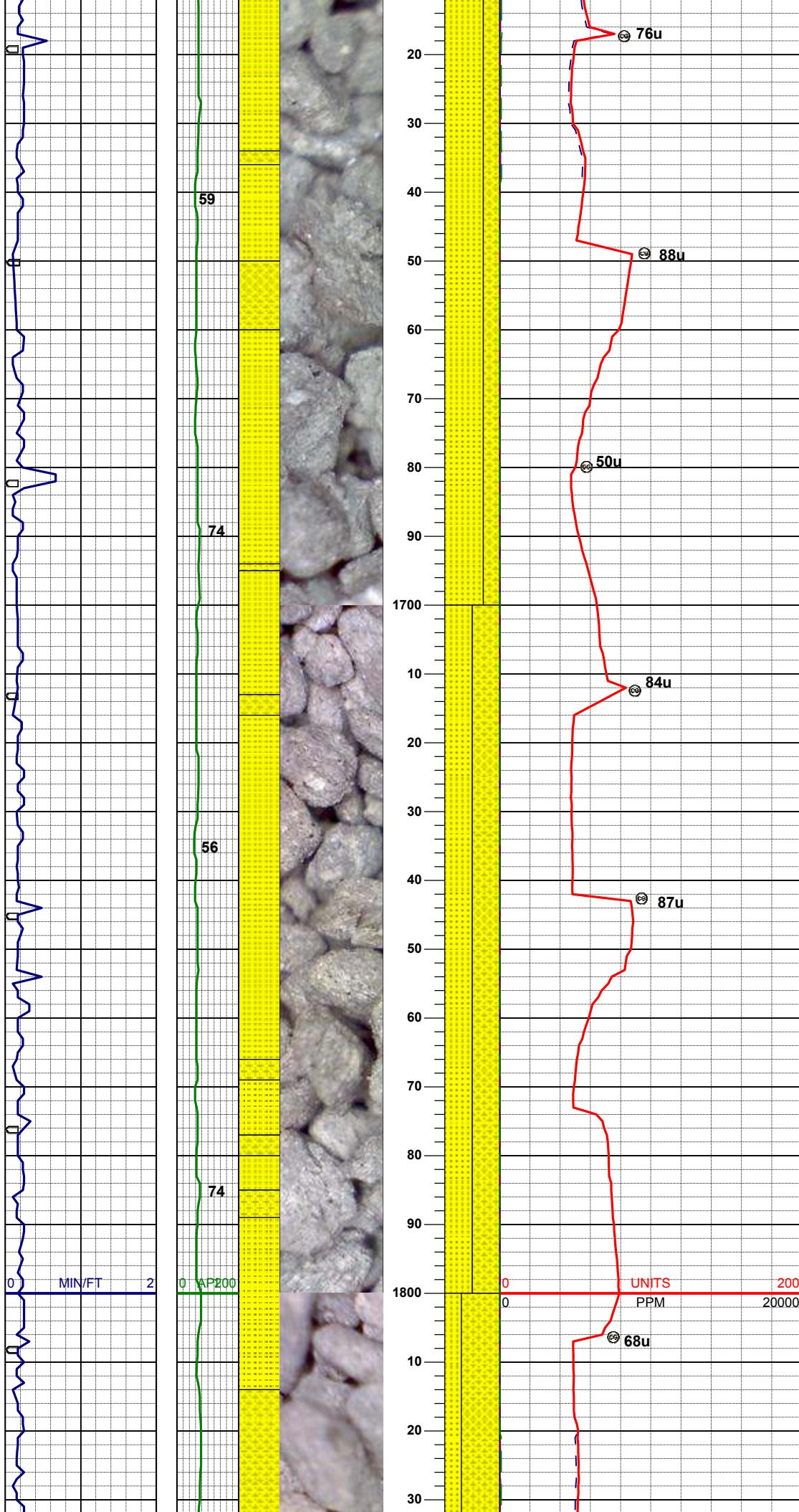
SS: It tan- It gy, m-fgr, blky-sbblky,
sbrndd-sbang, mod srt, vsft-sft,arg
mtx, tr glau, sl mica

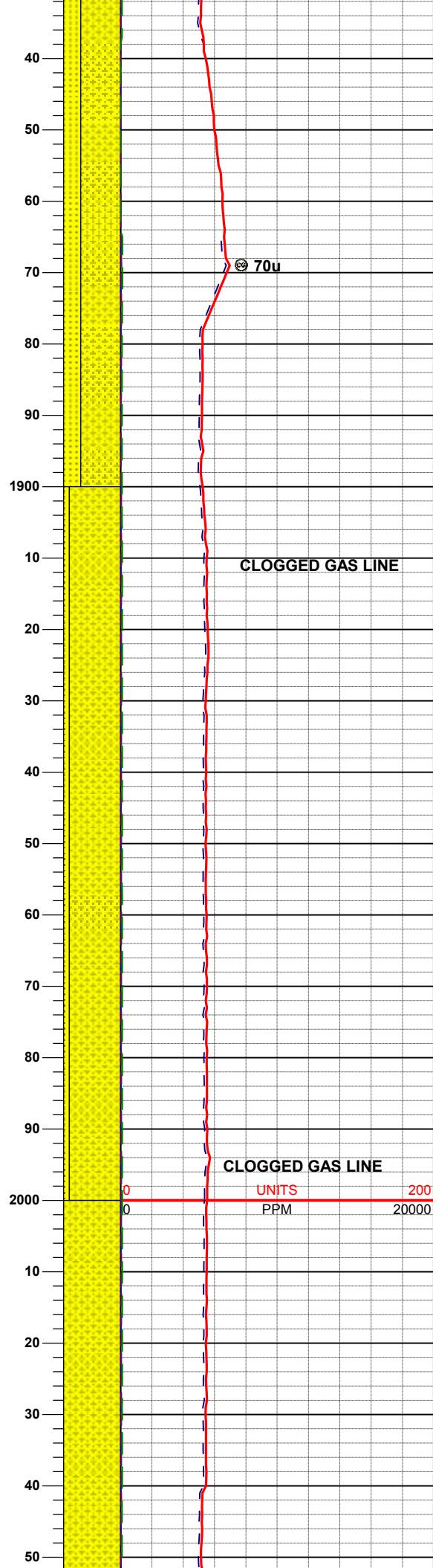
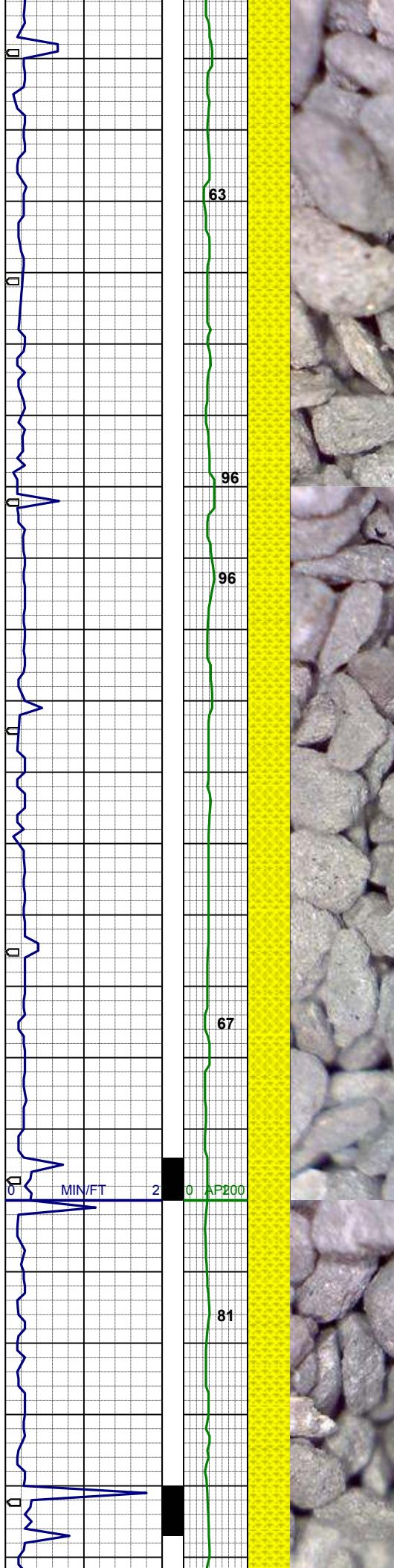
Depth: 1465'
WT 8.35
VIS 27
YP 4
pH 9.6
Cl- 400
Ca++ 600

MD 1504'
INC 0.7°
AZI 333.1°
TVD 1504.0'

SS: vlt-mgy, vf- fgr, pred sbrndd, mod
srt, vsft- sft, arg mtx, p cmt

MD 1599'
INC 0.4°
AZI 342.0°
TVD 1598.9'





SS- SHYSS: vlt-mgy, vf- fgr, sbrndd-sbplty, mod srt, vsft- sft, arg mtx, p cmt, sl calc, sly

WT 8.4 / VIS 28

MD 1883'
INC 0.4°
AZI 1.4°
TVD 1882.9'

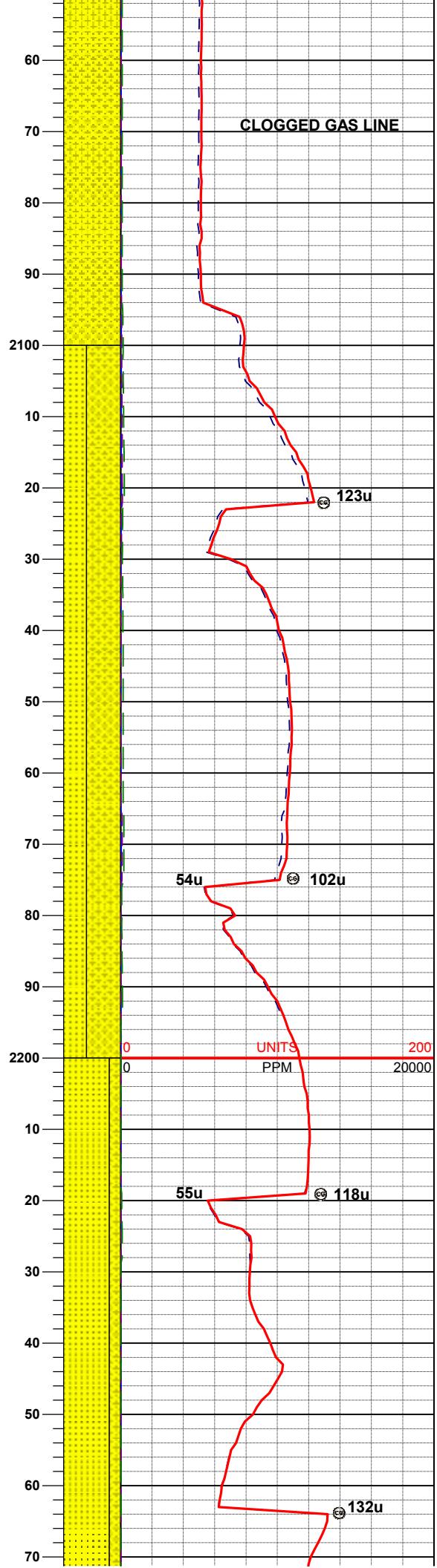
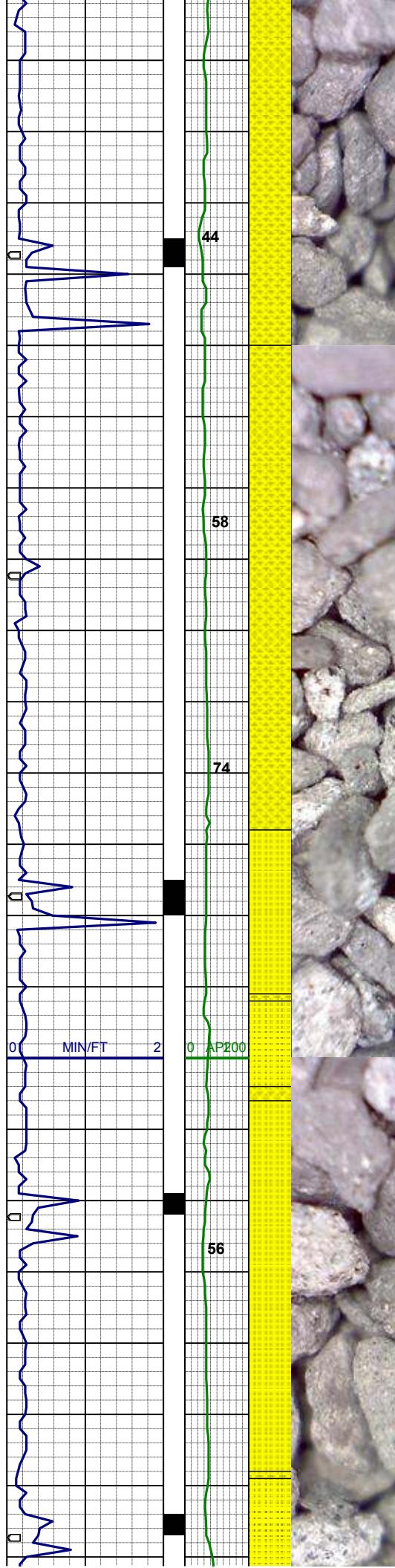
MD 1946'
INC 0.1°
AZI 133.2°
TVD 1945.9'

SHYSS: vlt-mgy, vf- fgr, sbrndd-sbplty, mod srt, vsft- sft, arg mtx, p cmt, sl calc, sly

MD 2036'
INC 2.3°
AZI 231.8°
TVD 2035.9'

SHYSS: vlt-mgy, vf- fgr, sbrndd-sbplty, mod srt, vsft- sft, arg mtx, p cmt, sl calc, sly

sbply, mod srt, vsft-sft, arg mtx, p
cmt, sl calc, sity



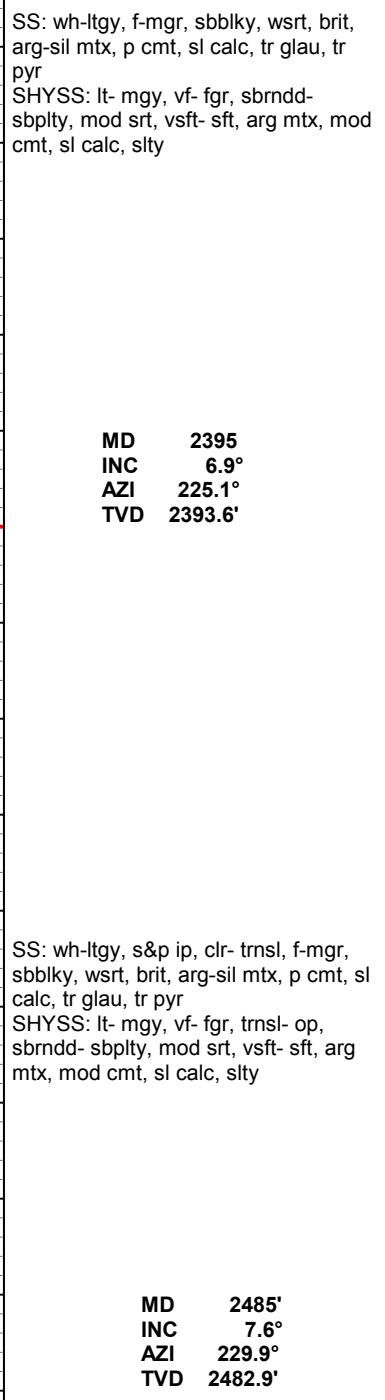
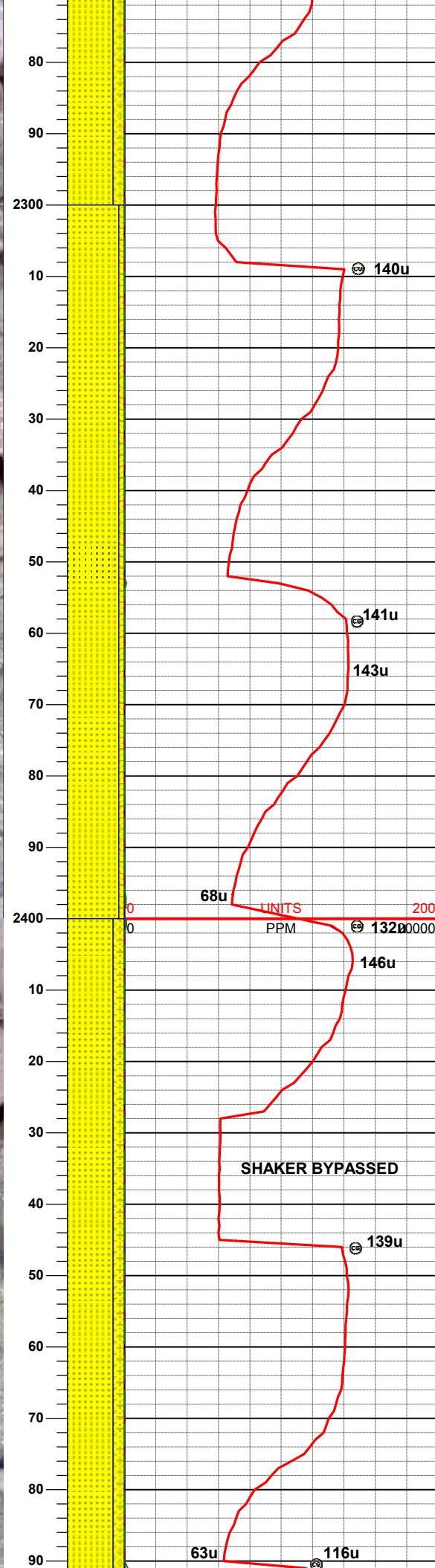
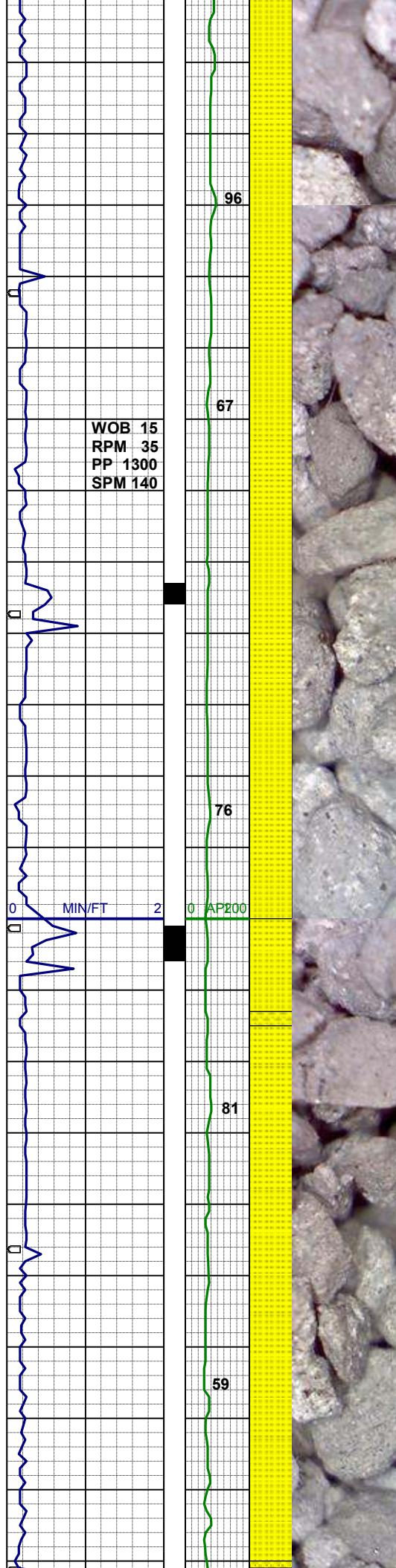
MD 2126'
INC 4.4°
AZI 239.7°
TVD 2125.8'

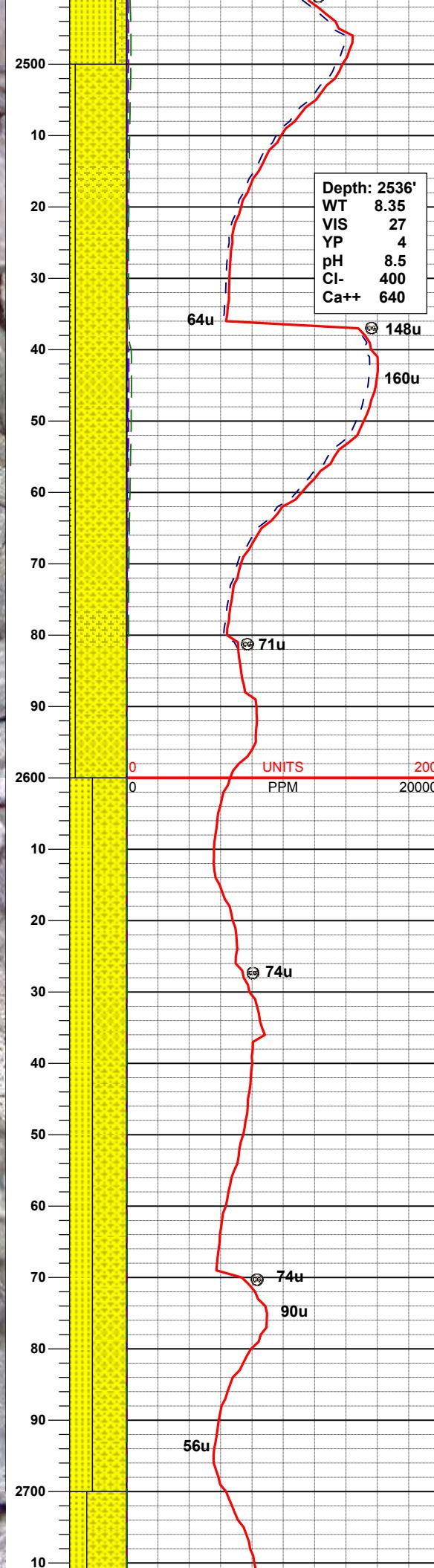
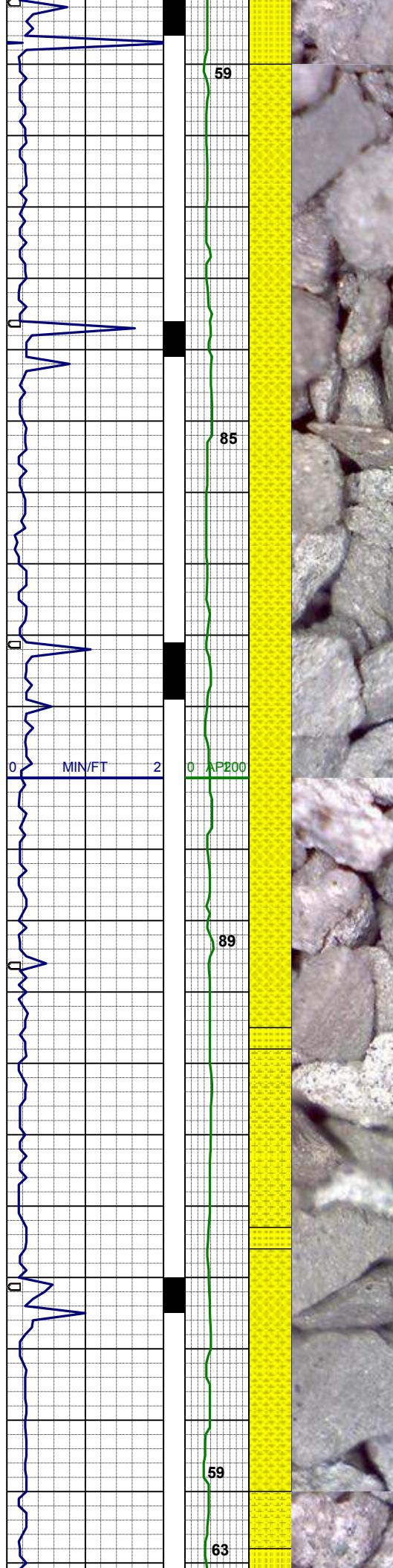
SHYSS: It- mgy, vf- fgr, sbrndd-
sbply, mod srt, vsft- sft, arg mtx, mod
cmt, sl calc, sity
SS: wh-ltg, f-mgr, sbblky, wsrt, brit,
arg-sil mtx, p cmt, sl calc, tr glau, tr
pyr

MD 2216'
INC 4.6°
AZI 221.1°
TVD 2215.9'

WT 8.4 / VIS 27

SS: wh-ltg, f-mgr, sbblky, wsrt, brit,
arg-sil mtx, p cmt, sl calc, tr glau, tr
pyr
SHYSS: It- mgy, vf- fgr, sbrndd-
sbply, mod srt, vsft- sft, arg mtx, mod
cmt, sl calc, sity





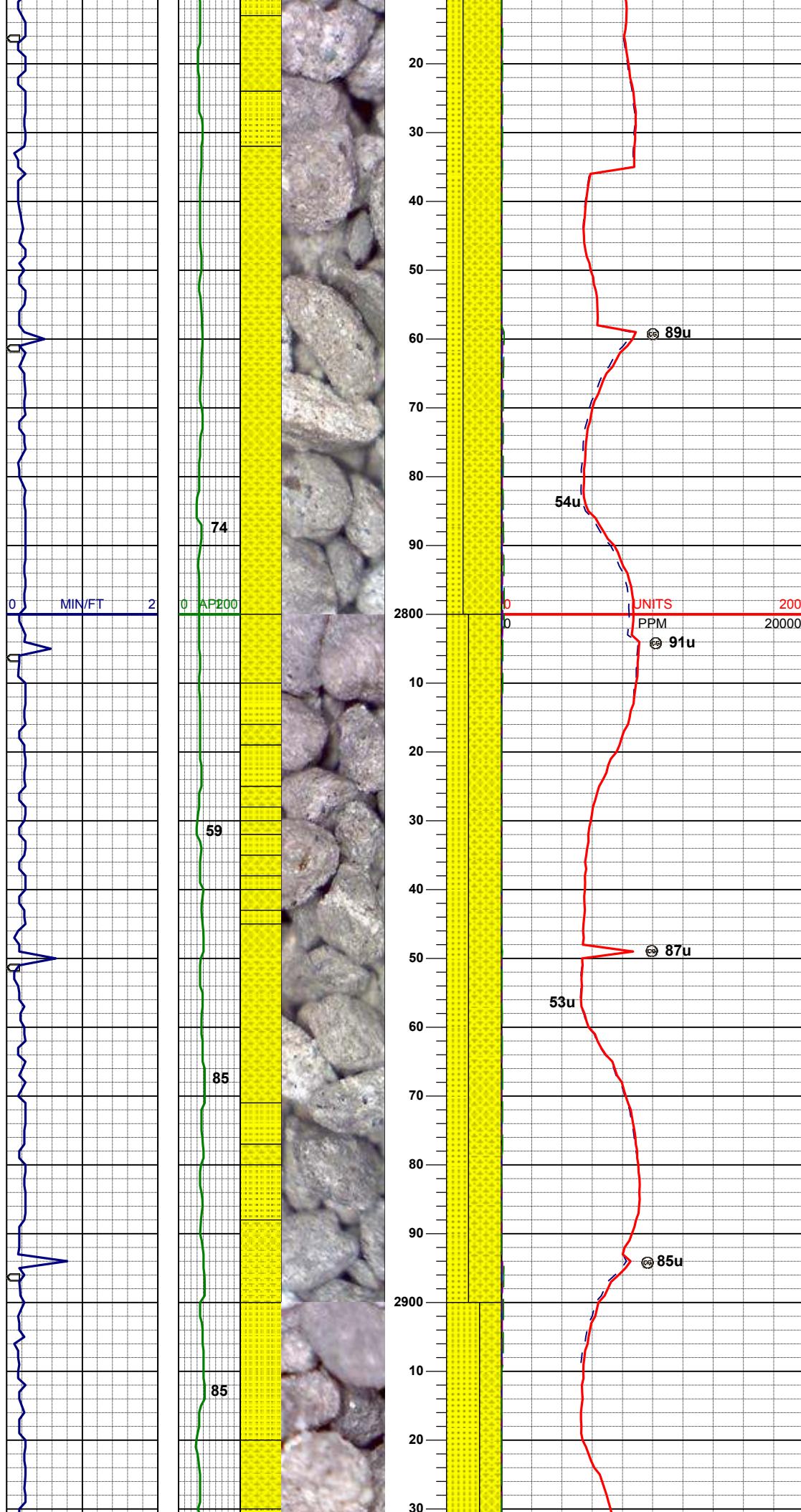
WT 8.4 / VIS 26

SHYSS: It- mgy, vf- fgr, trnsl- op,
sbrndd- sbplty, mod srt, vsft- sft, arg
mtx, mod cmt, sl calc, slyt, tr bent
SS: wh- ltgy, s&p ip, clr- trnsl, f-mgr,
sbblk, wsrt, brit, arg-sil mtx, p cmt, sl
calc

MD 2575'
INC 9.2°
AZI 235.3°
TVD 2571.9'

SHYSS: It- mgy, vf- fgr, trnsl- op,
sbrndd- sbplty, p srt, vsft- sft, arg mtx,
mod cmt, sl calc, grdg- slysh
SS: wh- mgy, s&p ip, clr- trnsl, f-mgr,
sbblk, wsrt, brit, arg-sil mtx, p cmt, sl
calc, occ glau

MD 2665'
INC 10.2°
AZI 233.7°
TVD 2660.6'



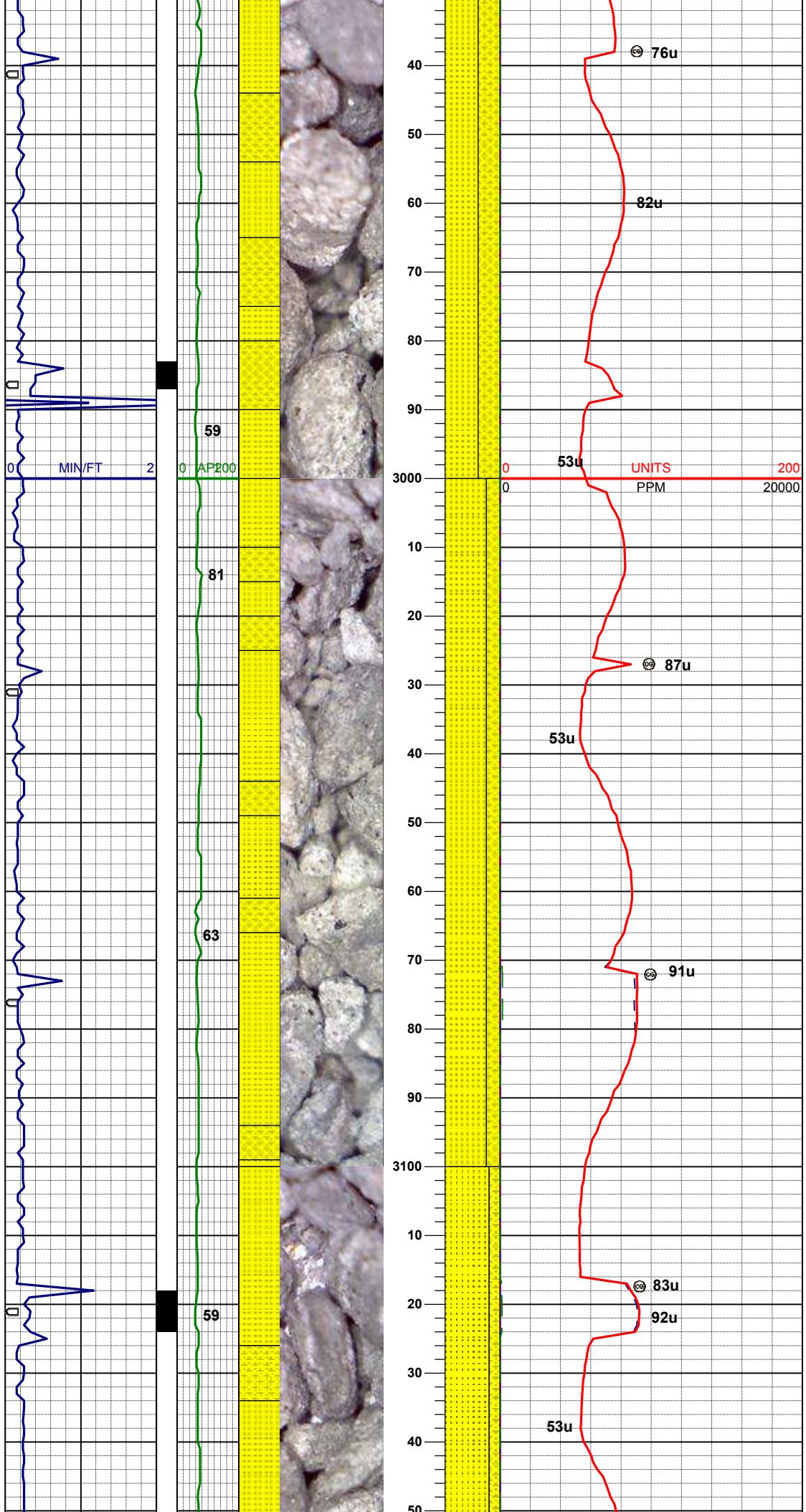
SHYSS: It- mgy, vf- fgr, trnsl- op,
sbrndd- sbplty, p srt, vsft- sft, arg mtx,
mod cmt, sl calc, slyt, grdg- shysltst
SS: wh- mgy, s&p ip, clr- trnsl, f-mgr,
sbbky, wsrt, brit, arg-sil mtx, p cmt, sl
calc, tr glau

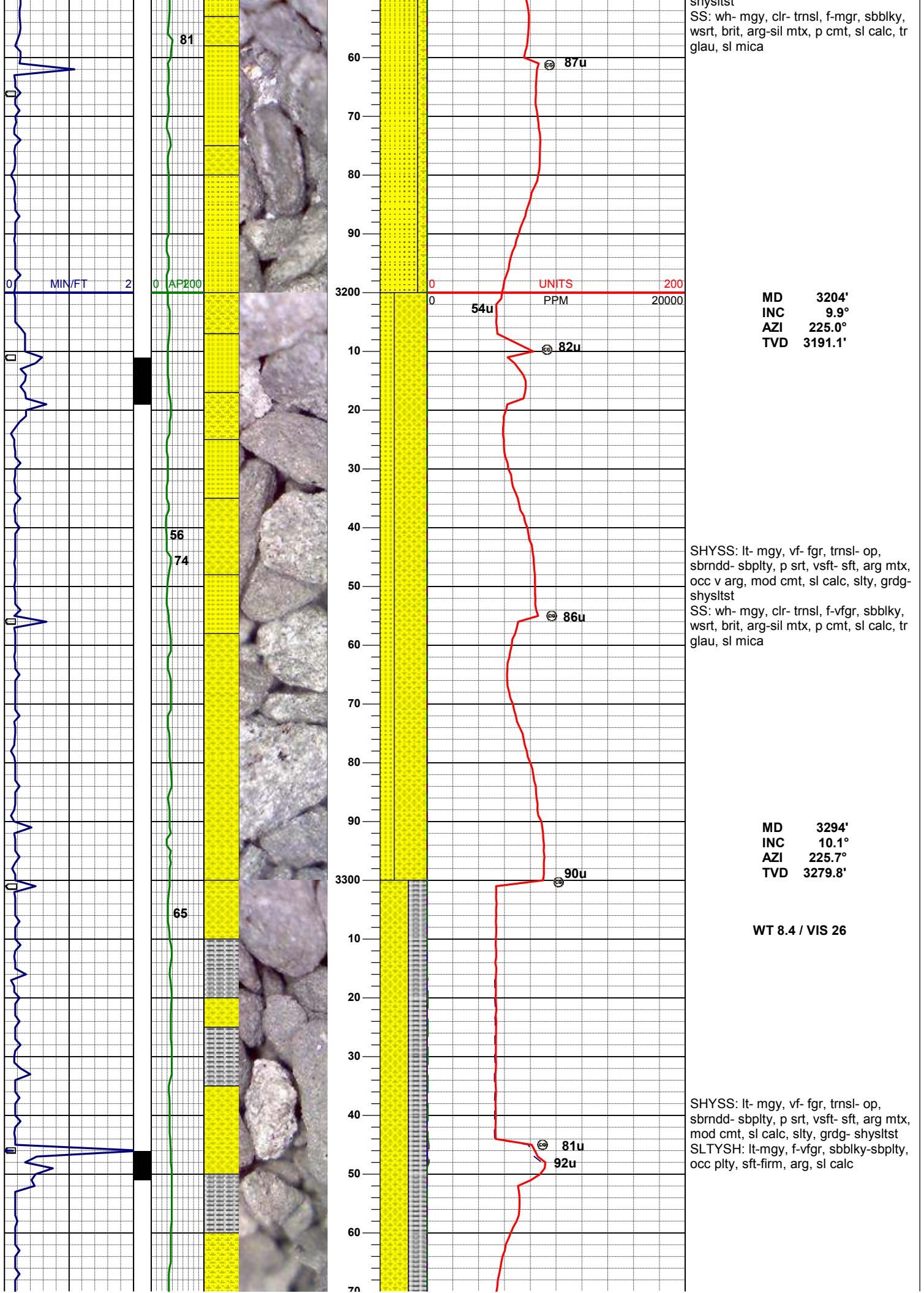
MD 2755'
INC 10.2°
AZI 229.2°
TVD 2749.2'

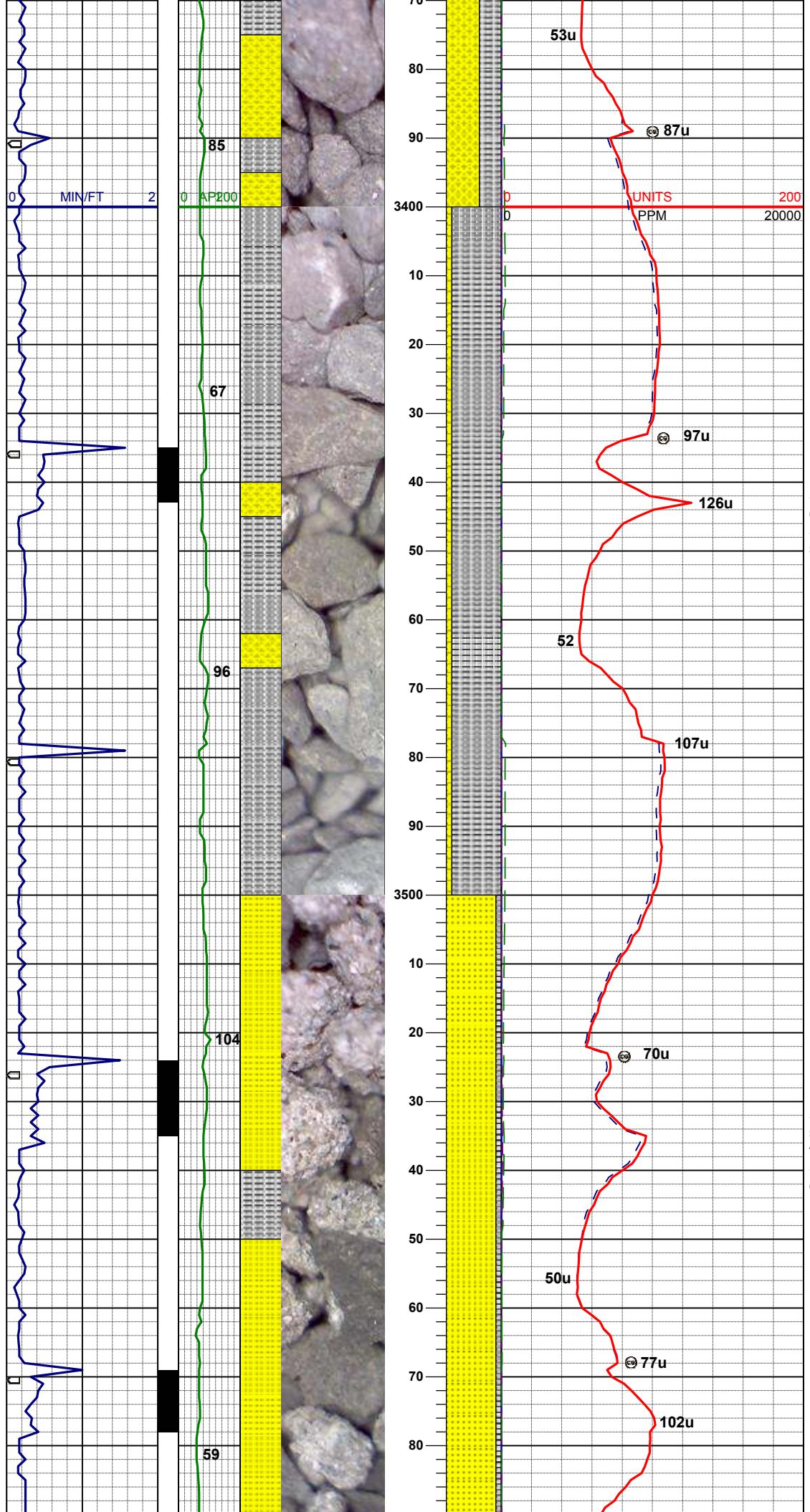
WT 8.4 / VIS 26

MD 2845'
INC 10.1°
AZI 225.3°
TVD 2837.8'

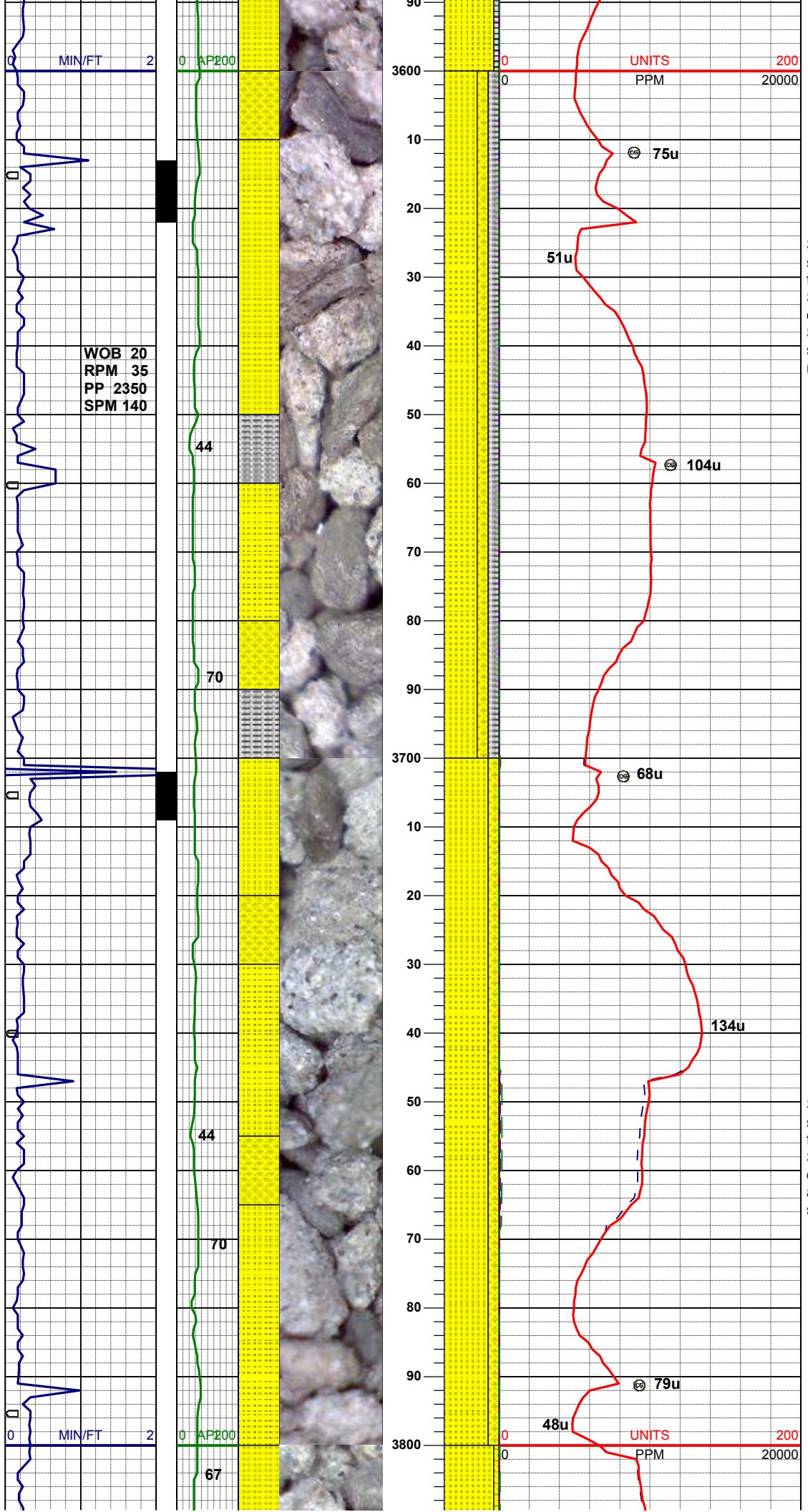
SHYSS: It- mgy, vf- fgr, trnsl- op,
sbrndd- sbplty, p srt, vsft- sft, arg mtx,
mod cmt, sl calc, slyt, grdg- shysltst
SS: wh- mgy, clr- trnsl, f-mgr, sbbky,
wsrt, brit, arg-sil mtx, p cmt, sl calc, tr
glau, sl mica







WT 8.4 / VIS 25

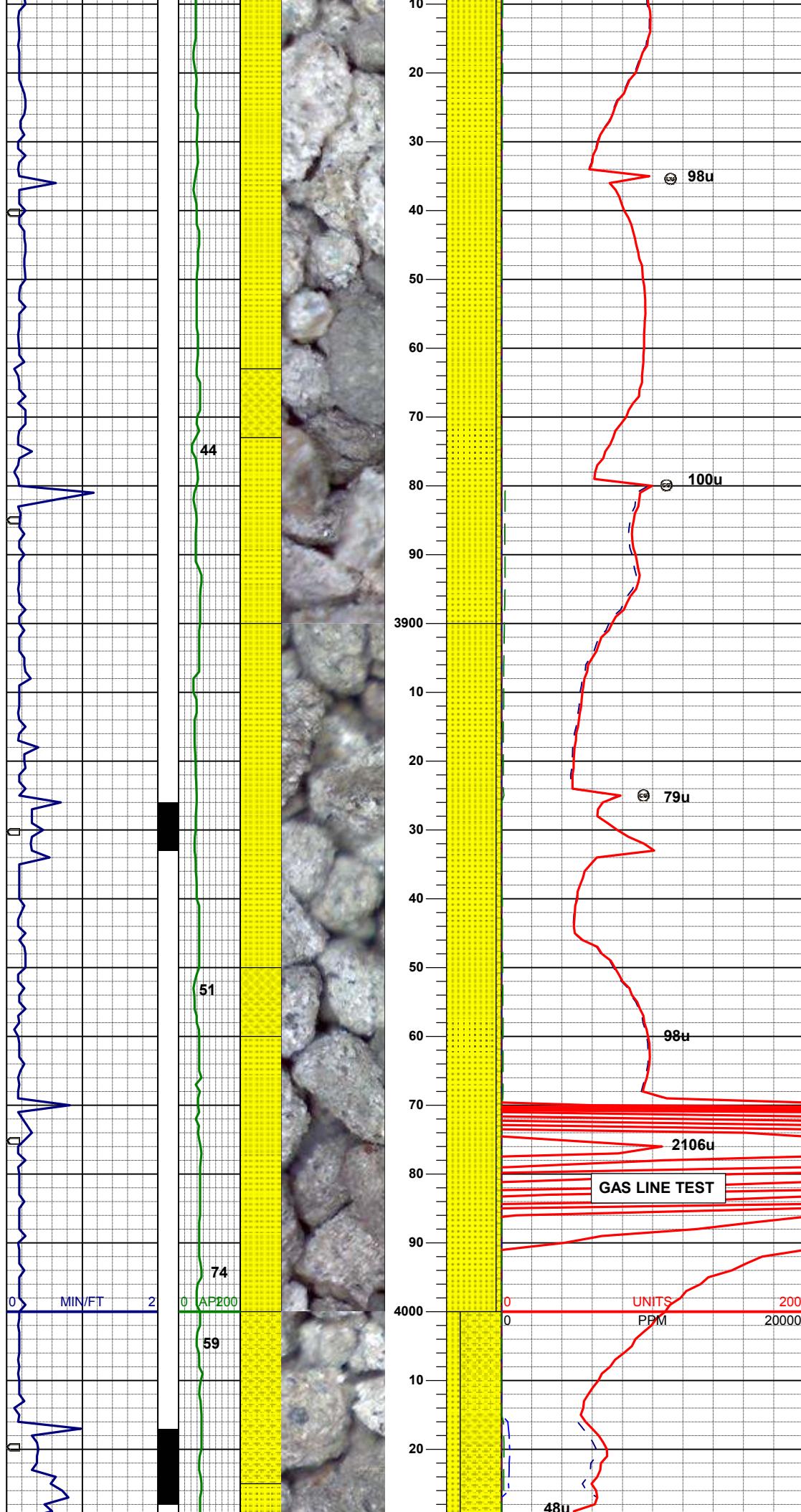


SS: wh- ltgy, f-mgr, trnsl- op, sbrnnd-
sbang, blky-sbblky, p-mod srt, sft-
firm, sl arg-sil mtx, sl calc
SLTYSH: lt-mgy, vf-fgr, sbblky-sbplty,
occ plty, sft-firm, arg, sl calc, tr pyr
SHYSS: lt- mgy, vf- fgr, trnsl- op,
sbblky-sbplty, p srt, vsft- sft, arg mtx,
mod cmt, sl calc, silty, grdg- shysltst

MD 3654'
INC 12.4°
AZI 229.0°
TVD 3634.4'

MD 3743'
INC 11.3°
AZI 222.0°
TVD 3721.5'

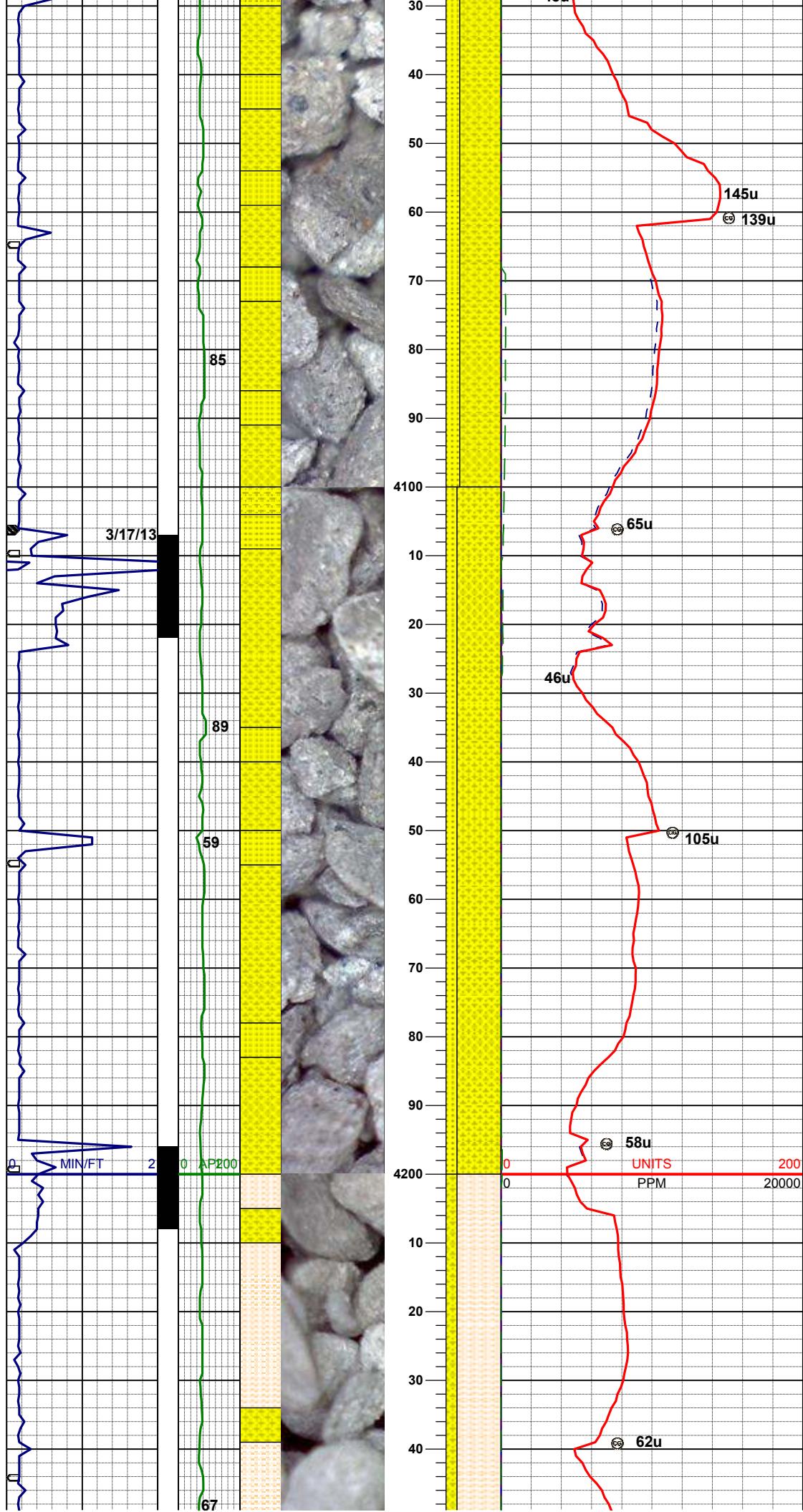
SS: wh- ltgy, f-mgr, trnsl- op, sbrnnd-
sbang, blky-sbblky, p-mod srt, sft-
firm, sl arg-sil mtx, sl calc
SHYSS: lt- mgy, tr dkgy, vf- fgr, trnsl-
op, sbblky-sbplty, mod srt, sft-firm,
arg mtx, mod cmt, sl calc, silty, grdg-
shysltst, tr slysh



WT 8.5 / VIS 26

SHYSS: It- mgy, tr dkgy, vf- fgr, trnsl- op, sbblkly-sbplty, mod srt, sft-firm, arg mtx, mod cmt, sl calc, silt, grdg- shysltst, tr slysh
SS: wh- ltgy, f-mgr, trnsl- op, sbrnnd- sbang, blkly-sbblkly, p-mod srt, sft- firm, sl arg-sil mtx, sl calc, tr fos, sl mica, tr pyr

MD 4103'
INC 10.6°
AZI 226.7°
TVD 4075.5'



WT 8.4 / VIS 25

SHYSS: It- mgy, tr dkgy, vf- fgr, trnsl- op, sbblkly-sbplty, mod srt, sft-firm, arg mtx, mod cmt, sl calc, silt, grdg- shysltst, tr slysh, ty glauc
SS: wh- ltgy, f-mgr, trnsl- op, sbrnnd- sbang, blkly-sbblkly, p-mod srt, sft- firm, sl arg-sil mtx, sl calc, tr fos, sl mica, tr pyr

MD 4193'
INC 9.1°
AZI 227.9°
TVD 4164.2'

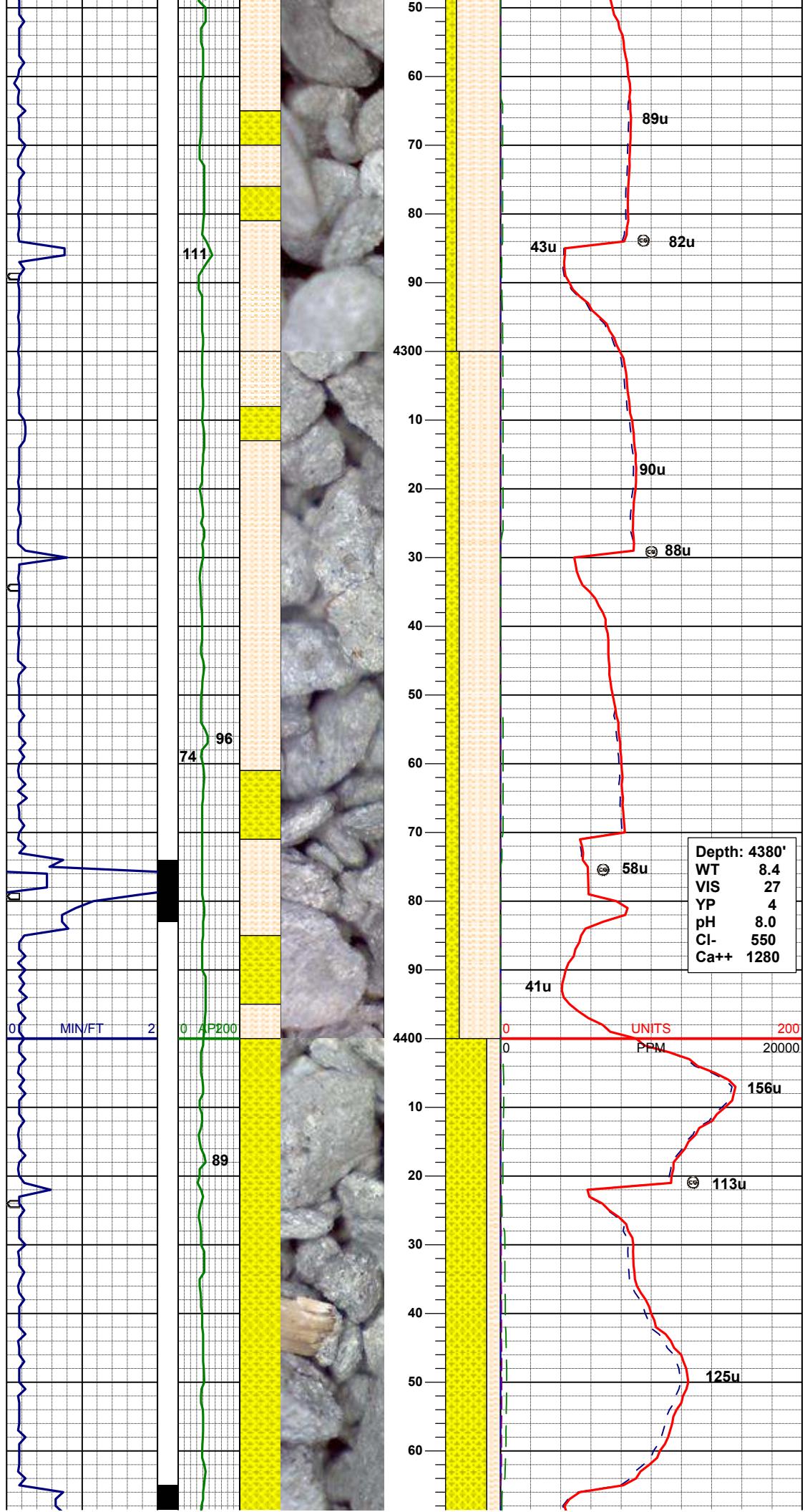
SHSLTST: lt-modgy, vf-fgr, sbblkysbplty, w srt, sft-firm, arg- sl sil mtx, sl calc, abnt fos, tr pyr
 SHYSS: lt- mgy, tr dkgy, vf- fgr, trnslop, sbblkysbplty, mod srt, sft-firm, arg mtx, mod cmt, sl calc, sity, tr ss

MD 4283'
 INC 8.4°
 AZI 231.1°
 TVD 4253.1'

SHSLTST: lt-modgy, vf-fgr, sbblkysbplty, w srt, sft-firm, arg- sl sil mtx, sl calc, abnt fos, tr pyr
 SHYSS: lt- mgy, tr dkgy, vf- fgr, trnslop, sbblkysbplty, mod srt, sft-firm, arg mtx, mod cmt, sl calc, sity, tr ss

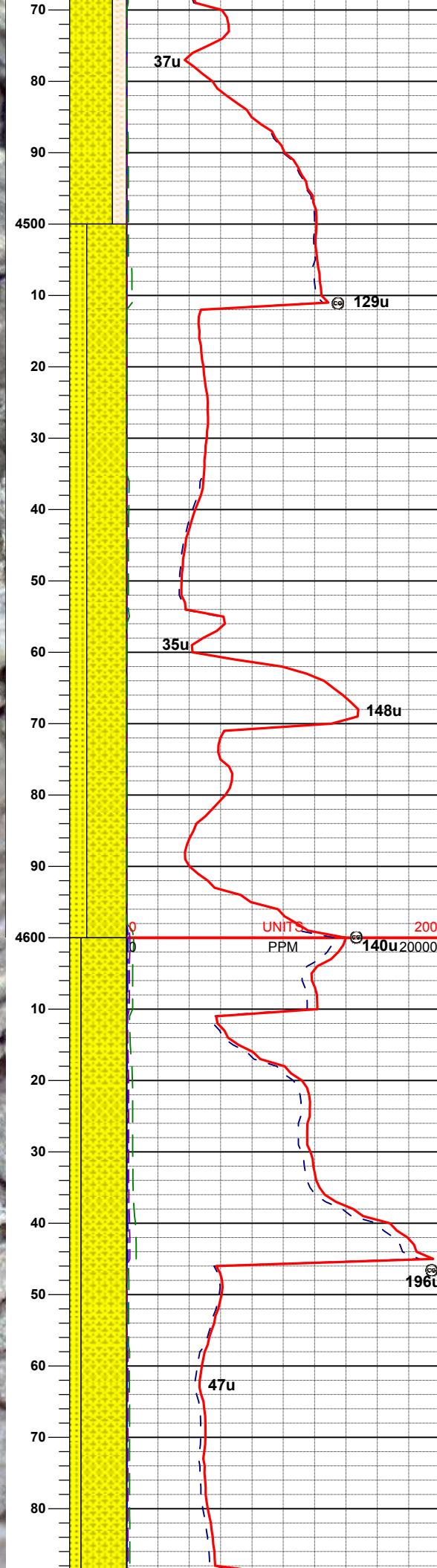
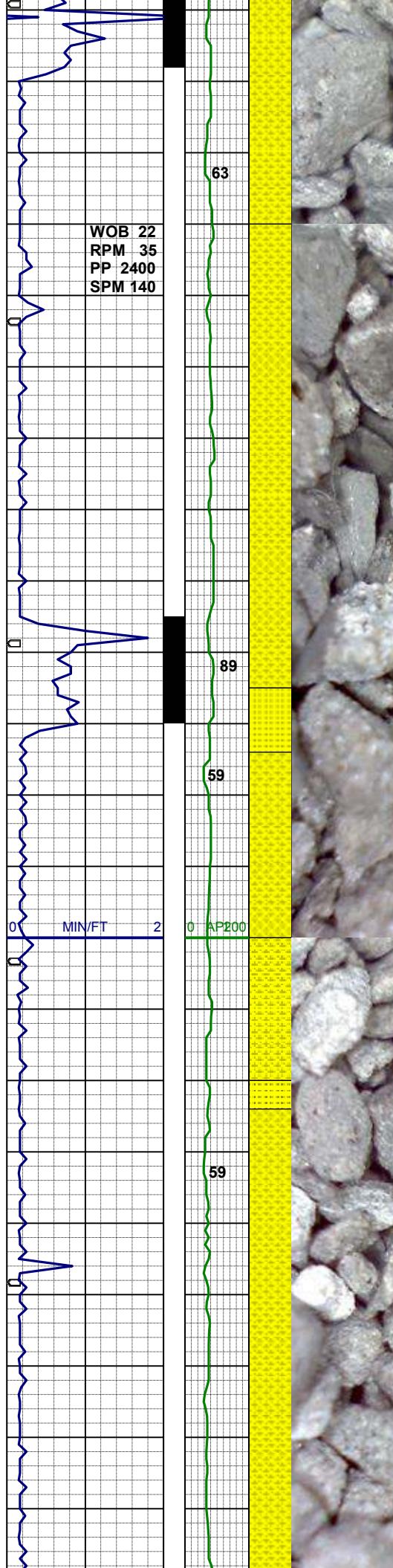
MD 4372'
 INC 7.5°
 AZI 227.1°
 TVD 4341.3'

Depth:	4380'
WT	8.4
VIS	27
YP	4
pH	8.0
Cl-	550
Ca++	1280



SHYSS: lt- mgy, tr dkgy, vf- fgr, trnslop, sbblkysbplty, mod srt, sft-firm, arg mtx, mod cmt, sl calc, sity, tr slysh
 SHSLTST: lt-modgy, vf-fgr, sbblkysbplty, w srt, sft-firm, arg- sl sil mtx, sl calc, abnt fos, tr pyr

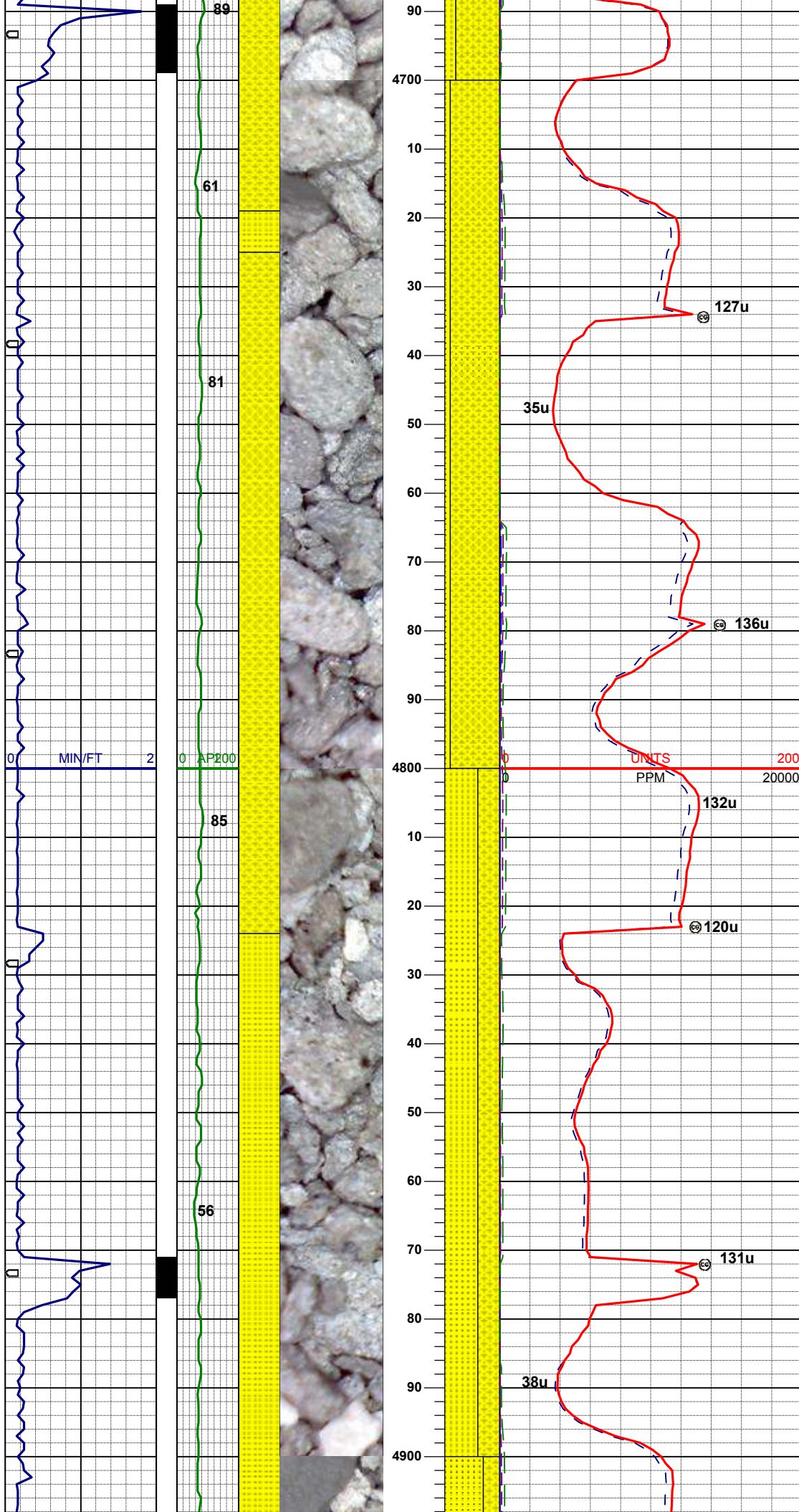
MD 4462'
 INC 7.7°
 AZI 228.6°
 TVD 4430.5'



WT 8.5 / VIS 26

SHYSS: It- mgy, trnsl- op, vf- fgr, sbrndd- sbbly, occ sbplt, mod srt, sft- mfirm, arg mtx, mod cmt, sl calc, silt, tr pyr, grdg- slysh
SS: wh- ltgy, clr- trnsl ,f-mgr, sbrndd- sbbly p-mod srt, firm, brittle, sil mtx, sl calc, tr pyr

MD 4642'
INC 8.2°
AZI 225.1°
TVD 4608.8'

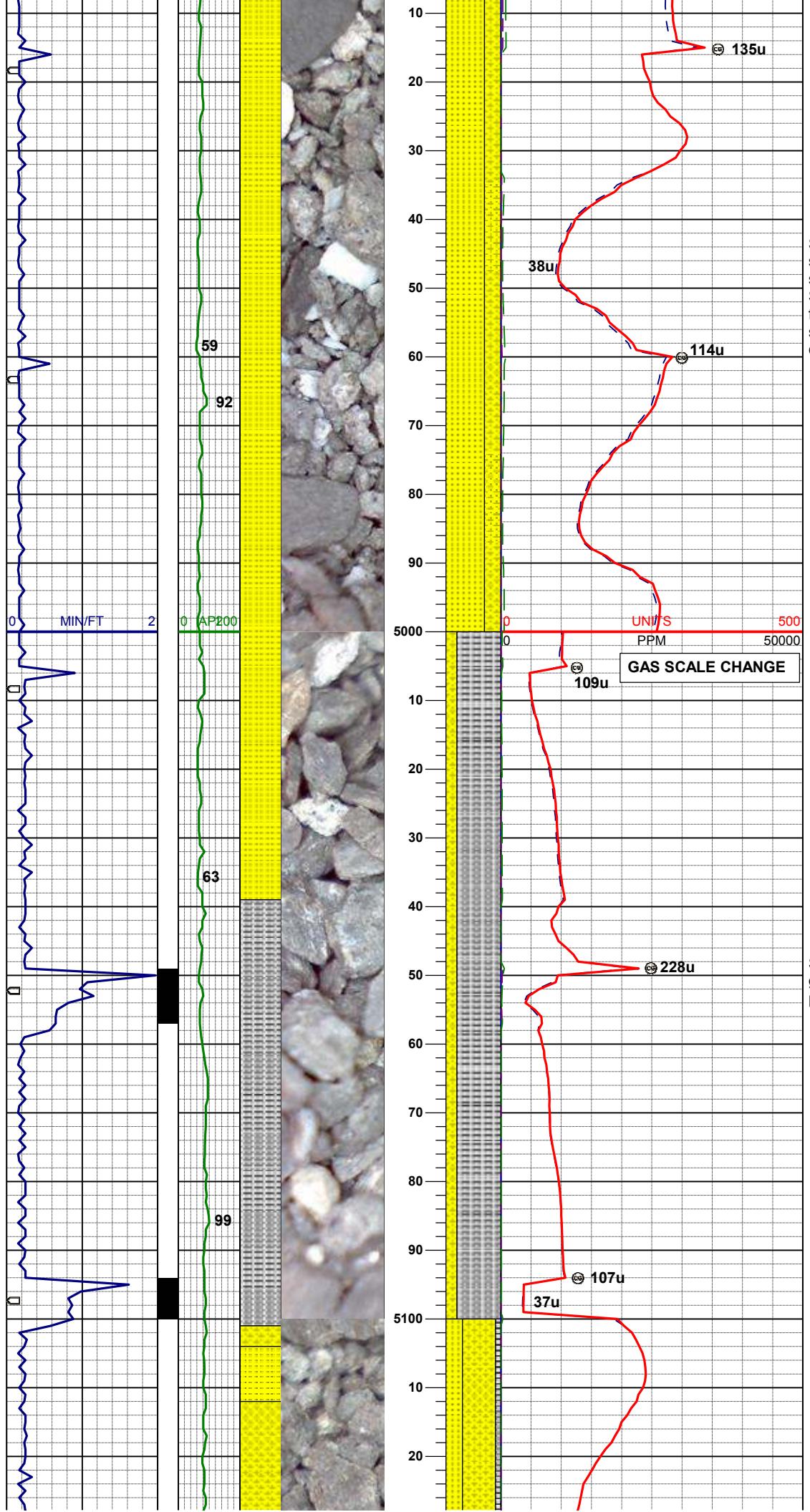


SHYSS: It- mgy, trnsl- op, vf- fgr, sbrndd- sbblk, occ sbplty, mod srt, sft- mfirm, arg mtx, mod cmt, sl calc, sly, tr pyr, grdg- slysh
 SS: wh- lgy, cl- trnsl ,f-mgr, sbrndd- sbblk p-mod srt, firm, brittle, sil mtx, sl calc, tr pyr

MD 4822'
 INC 6.1°
 AZI 225.8°
 TVD 4787.5'

WT 8.4 / VIS 25

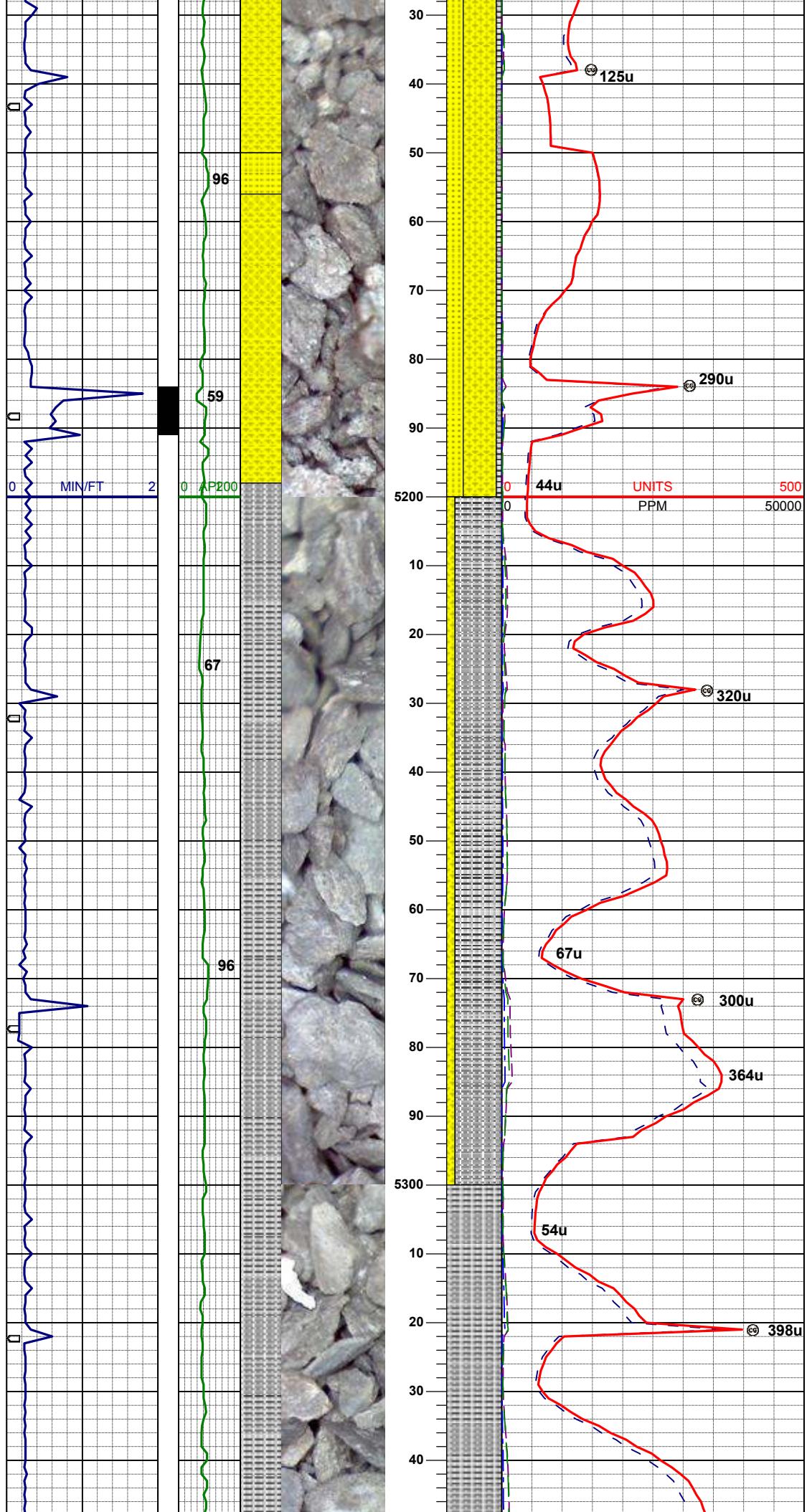
SS: wh- mgy, trnsl- op, sme cl, f-mgr, sbrndd-sbblk, p-mod srt, brit, sil mtx, sl calc
 SHYSS: It- mgy, occ tan, trnsl- op, vf- fgr, sbrndd- sbblk, occ sbplty, mod srt, sft- mfirm, arg mtx, mod cmt, sl calc, sly, abnt bent, grdg- slysh



MD 4912'
INC 6.3°
AZI 228.3°
TVD 4877.0'

MD 5001'
INC 5.7°
AZI 226.0°
TVD 4965.5'

MD 5092'
INC 6.1°
AZI 222.8°
TVD 5056.0'

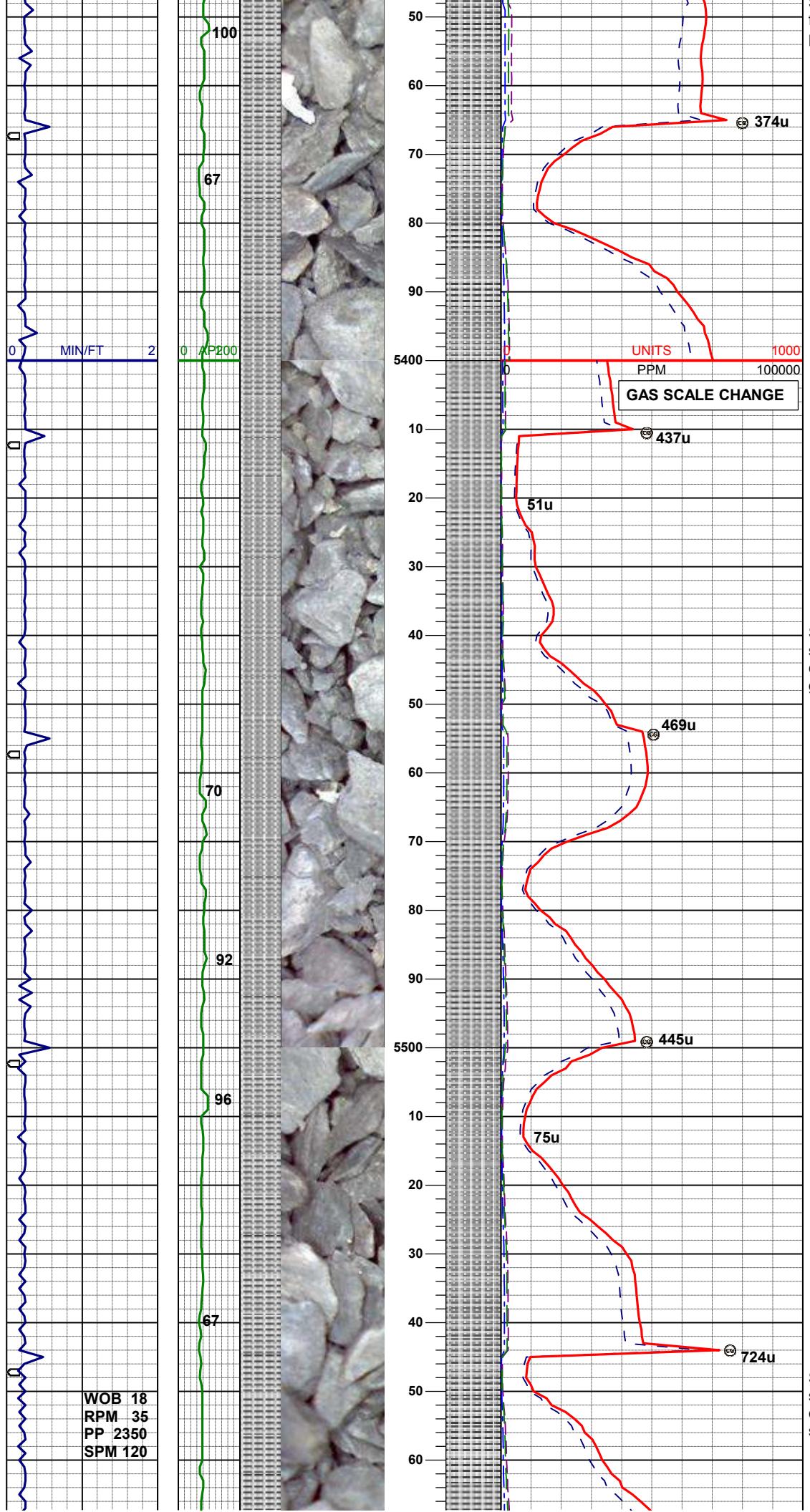


SHYSS: It-mgy, trnsl-op, vf-fgr, sbbly-sbfty, firm, mod srt, sil mtx, mod cmt, sl calc, slyt, tr pyr, occ bent, grdg-slysh
 SS: wh-mgy, trnsl-op, occ clr, f-mgr, sbrndd-sbbly p-mod srt, frii, sil mtx, sl calc, tr pyr

MD 5181'
 INC 5.4°
 AZI 224.2°
 TVD 5144.6'

SLTYSH: It-mgy, gybrn, pred sbfty, firm, gt tex, sl calc, occ calc frag, occ pyr, sdy ip, grdg-shyss

MD 5271'
 INC 4.9°
 AZI 228.5°
 TVD 5234.2'



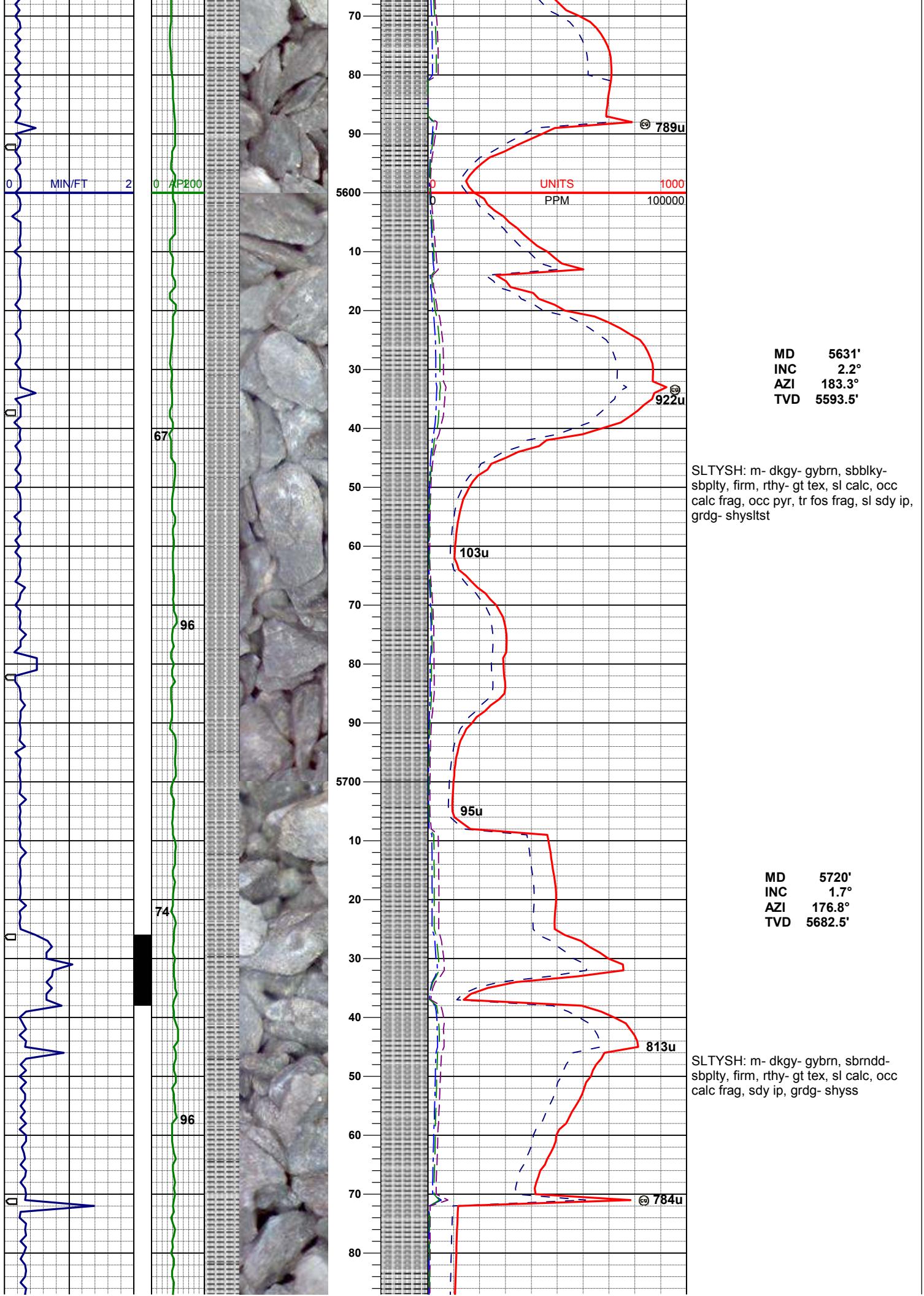
SLT YSH: lt-mgy, gyorn, pred sspity, firm, gt tex, sl calc, occ calc frag, occ pyr, sdy ip, grdg- shyss

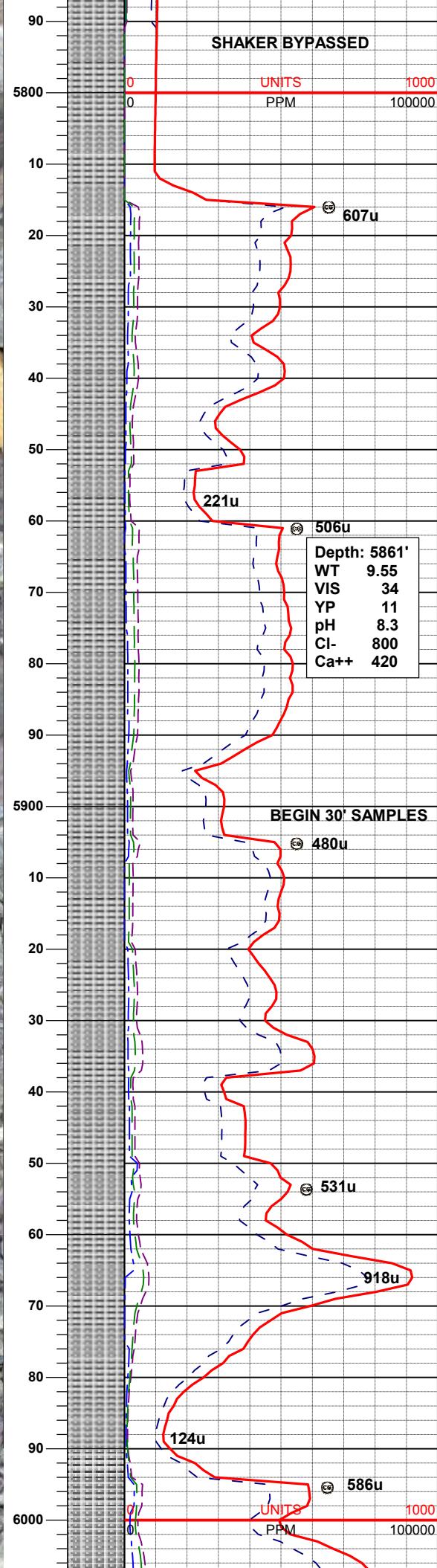
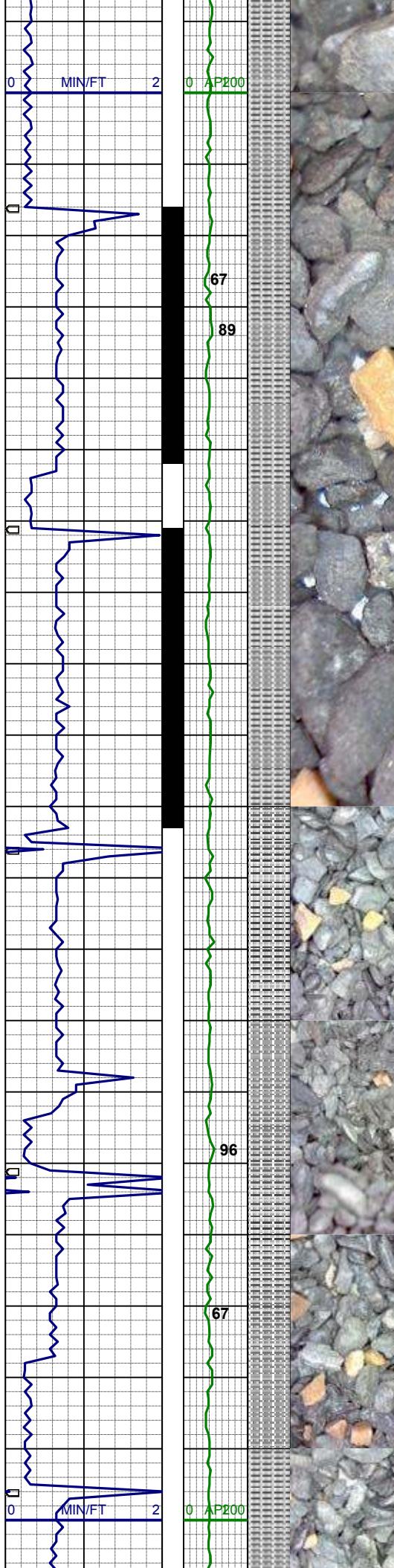
MD 5361'
INC 4.0°
AZI 219.5°
TVD 5323.9'

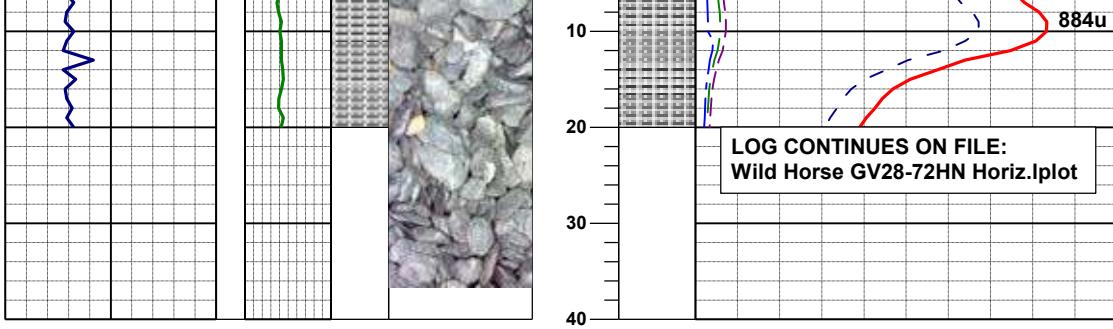
SLTYSH: m- dkgy- gybrn, sbblkty-
sbplty, firm, rthy- gt tex, sl calc, occ
calc frag, occ pyr, sl sdy ip, tr bent,
grdg- shyss MD 5451'

MD **5451'**
INC **3.3°**
AZI **210.9°**
TVD **5413.7'**

MD 5541'
INC 2.6°
AZI 199.6°
TVD 5503.6'







ss, tr fos

THANK YOU FOR CHOOSING
COLUMBINE LOGGING, INC.