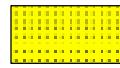


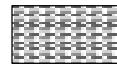
LOG created using LPLOT VH Version 3.0, May 18, 2013, Copyright (C) 1999-2009 Pason Systems Corp.

OPERATOR: NOBLE ENERGY INC.
WELL: FEUERSTEIN I28-63-1HN
LOCATION: SEC28, T6N, R66W
COUNTY: WELD
STATE: COLORADO
SPOT: 1721' FSL, 311' FWL
ELEVATION: GE: 4724', KB: 7440'
FIELD: WATTENBERG
SPUD DATE: 05/07/2013
TD DATE: 05/17/2013
DATES LOGGED: 05/09/2013 - 05/17/2013
DEPTHS LOGGED: 1000' - 11288'
LOGGERS: CHRIS WILLATT, CHRIS VENTURINO
DRILLING FLUID: LSND
DRILLING RIG: PRECISION 829
API: 05-123-36661
LOG TYPE: VERTICLE
SCALE: 1:240 (5 inches per 100 feet)
REMARKS: WELLSITE GEOLOGICAL SERVICES PROVIDED BY COLUMBINE LOGGING INC.

LOG CONTINUES ON FILE: Feuerstein I28-63-1HN HORIZ.lplot

LITHOLOGIES

Sandstone



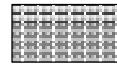
Shale



Shaly Sandstone



Shaly Siltstone



Silty Shale

ENGINEERING SYMBOLS

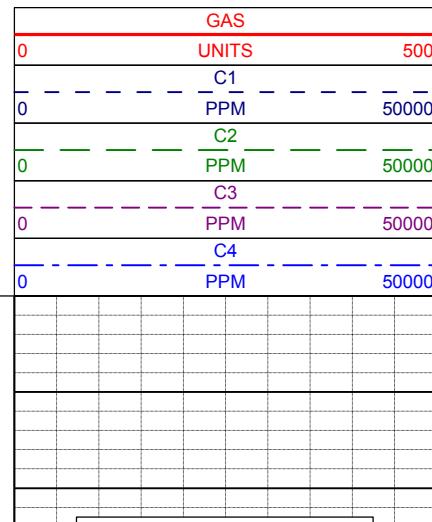
Connection



Connection Gas



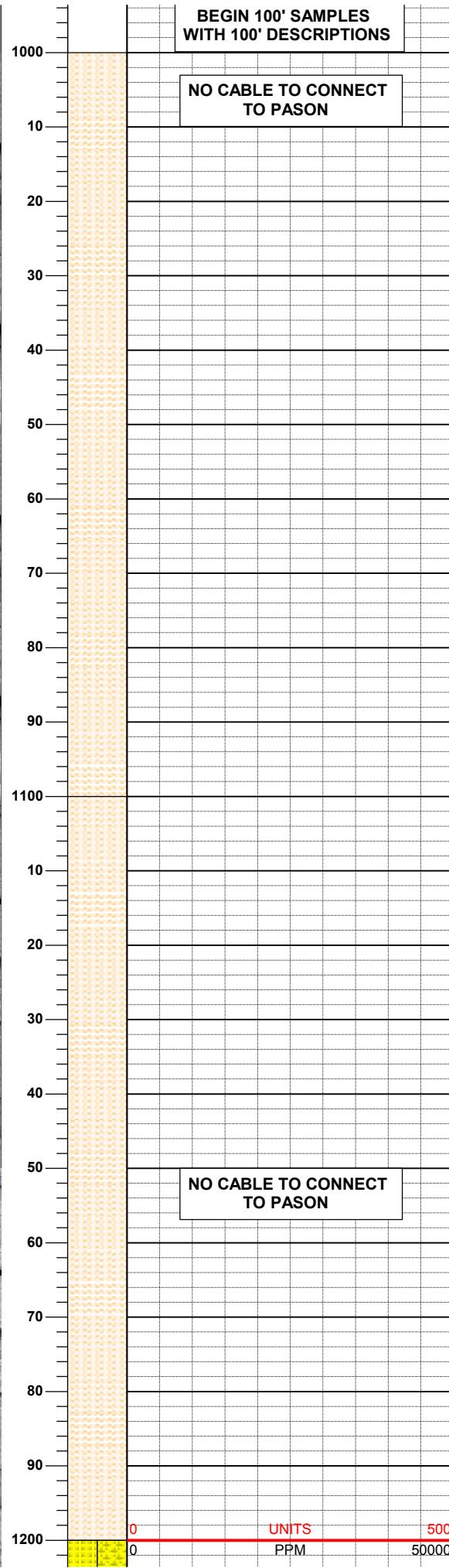
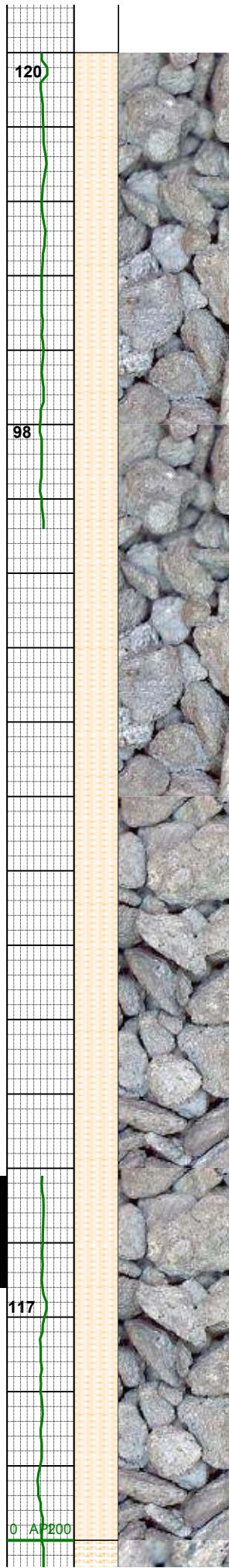
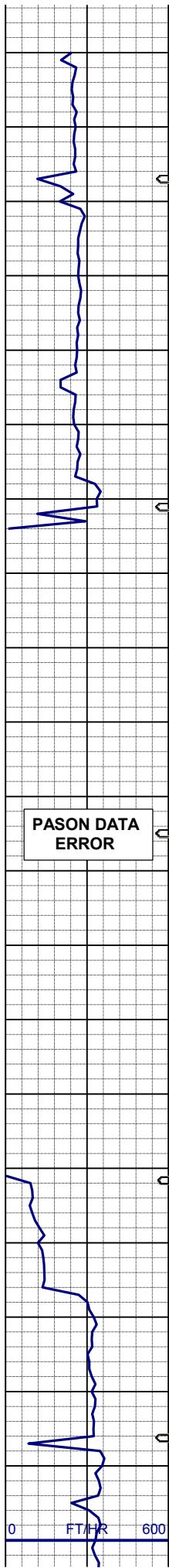
Midnight Depth

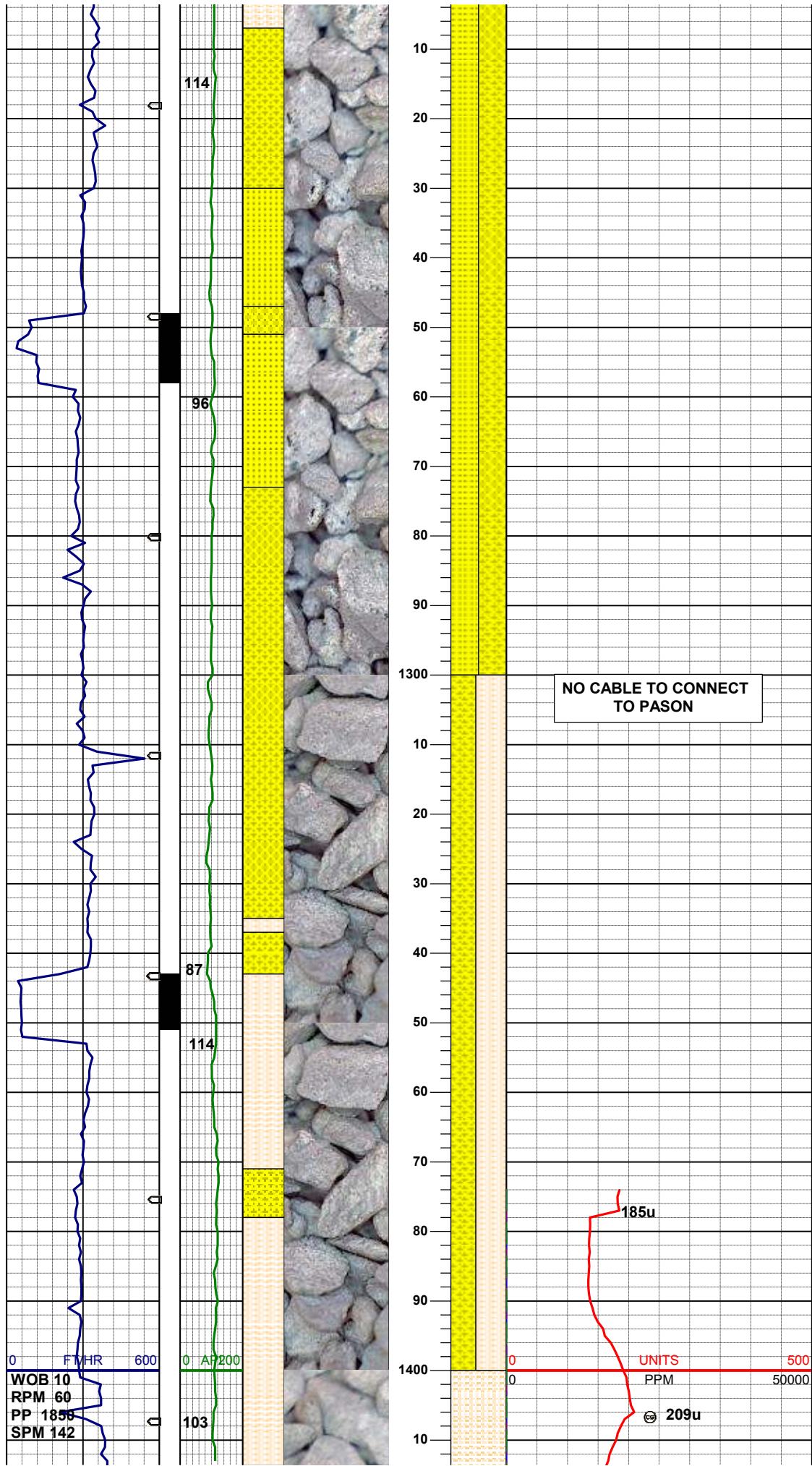


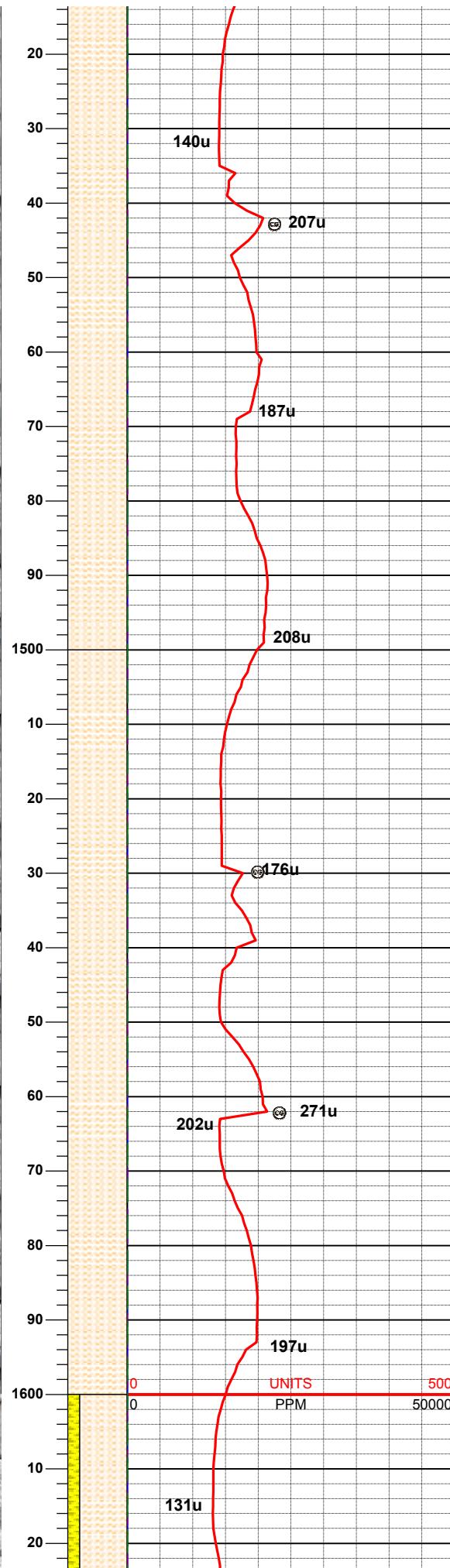
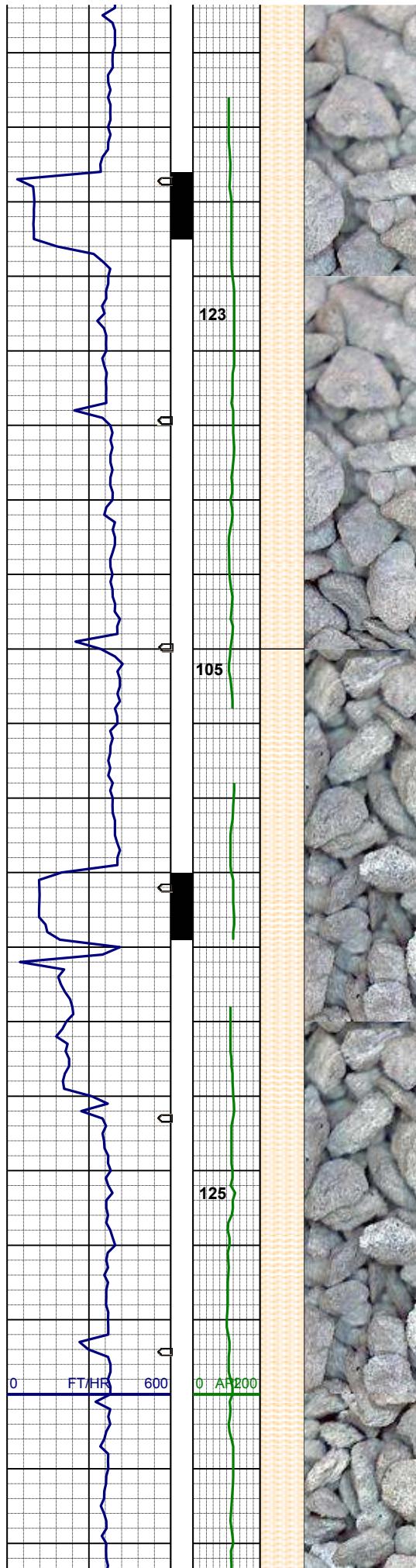
ROP	ROTATE/SLIDE	GAMMA	INTERPRETIVE LITHOLOGY	PICTURE
0 FT/HR	600	0 AP200		
BIT #2				
Bit: 8.75"				
Manufacturer: Smith				
Model: SDi 611				
Serial Number: JG9981				
Nozzles: 3x13, 3x14				
In @ 635' MD				

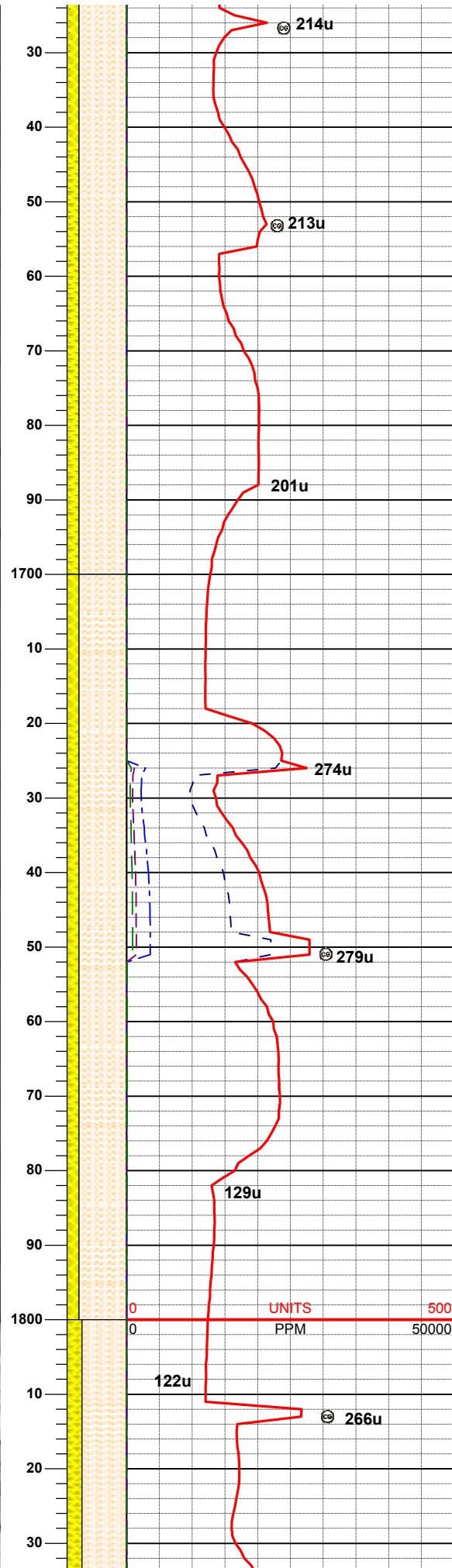
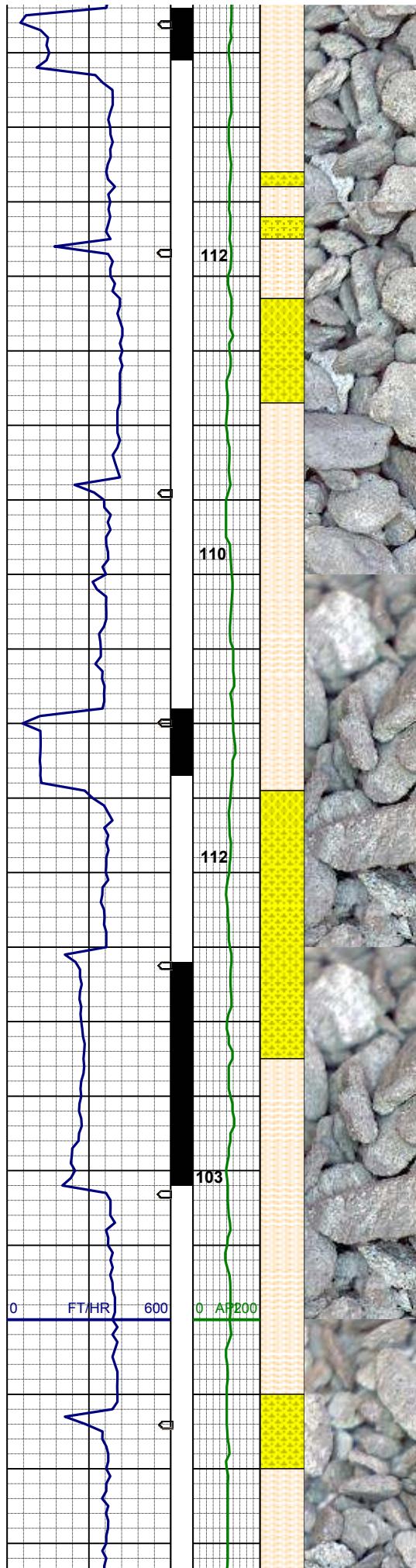
COLUMBINE LOGGING INC.
 RIGGED UP ON 05/09/2013
 MANNED 2-PERSON LOGGING
 WITH BLOODHOUND GAS
 CHROMATOGRAPH UNIT # 0131

STARTED DRILLING OUT OF
 SHOE @ 03:54 HRS 05/09/2013









80% SHYSLTST: Itgy, sft-fri, sbblky-sl sbpfty, slty tex, tr biot incl, tr glau, grdg - shyss

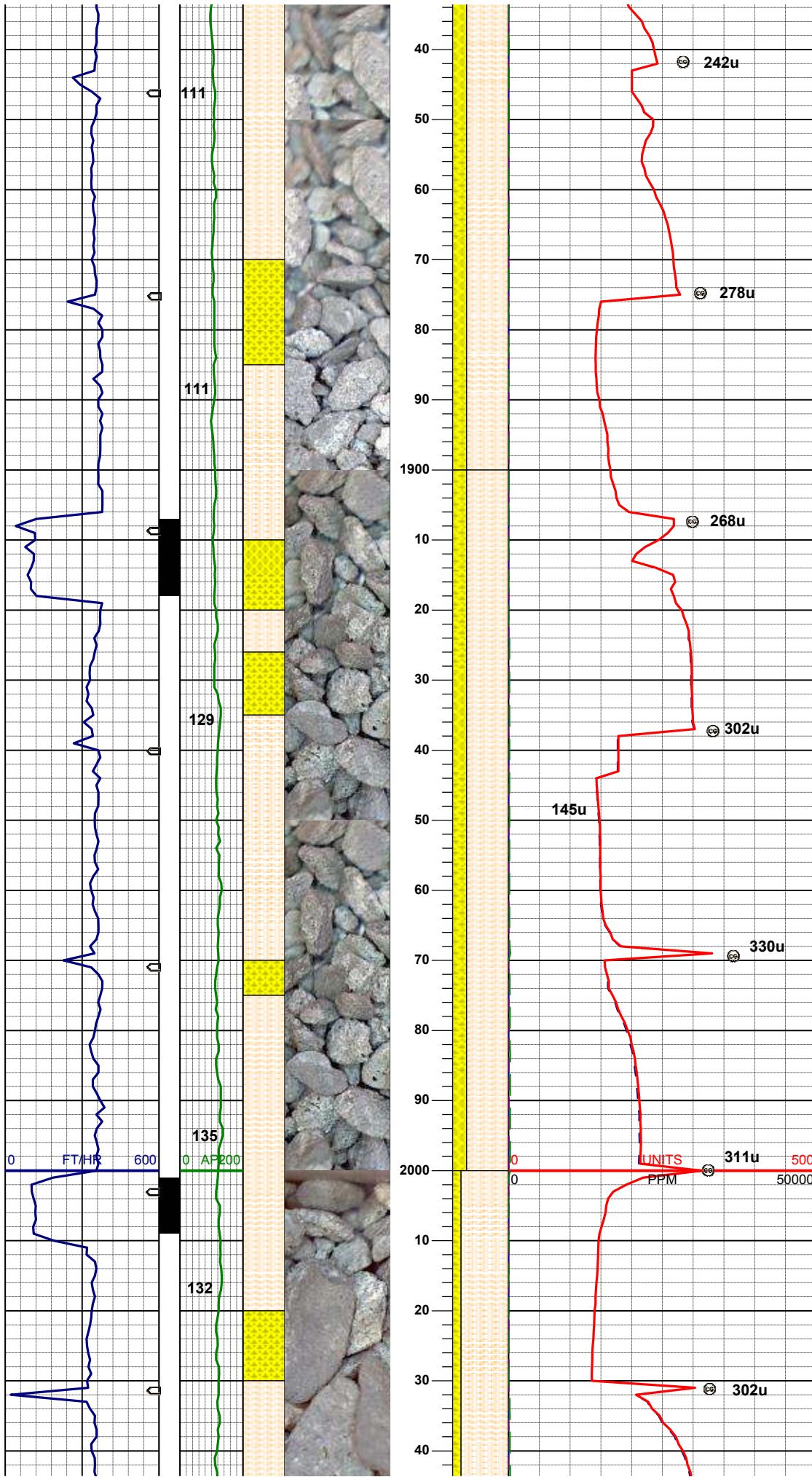
20% SHYSS: vlt-mgy, occ trnsl- op, vf-fgr, sbrndd, p-mod srt, sft-firm, arg mtx, p-mod cmt, sl calc, mod glau, tr biot

MD 1669'
INC 12.69°
AZI 192.03°
TVD 1664.0'

80% SHYSLTST: Itgy, sft-fri, sbblky-sl sbpfty, slty tex, tr biot incl, tr glau, grdg - shyss

20% SHYSS: mgy, occ trnsl- op, vf-fgr, sbrndd, p-mod srt, sft-firm, arg mtx, p-mod cmt, sl calc, mod glau, tr biot

MD 1763'
INC 15.41°
AZI 192.96°
TVD 1755.2'

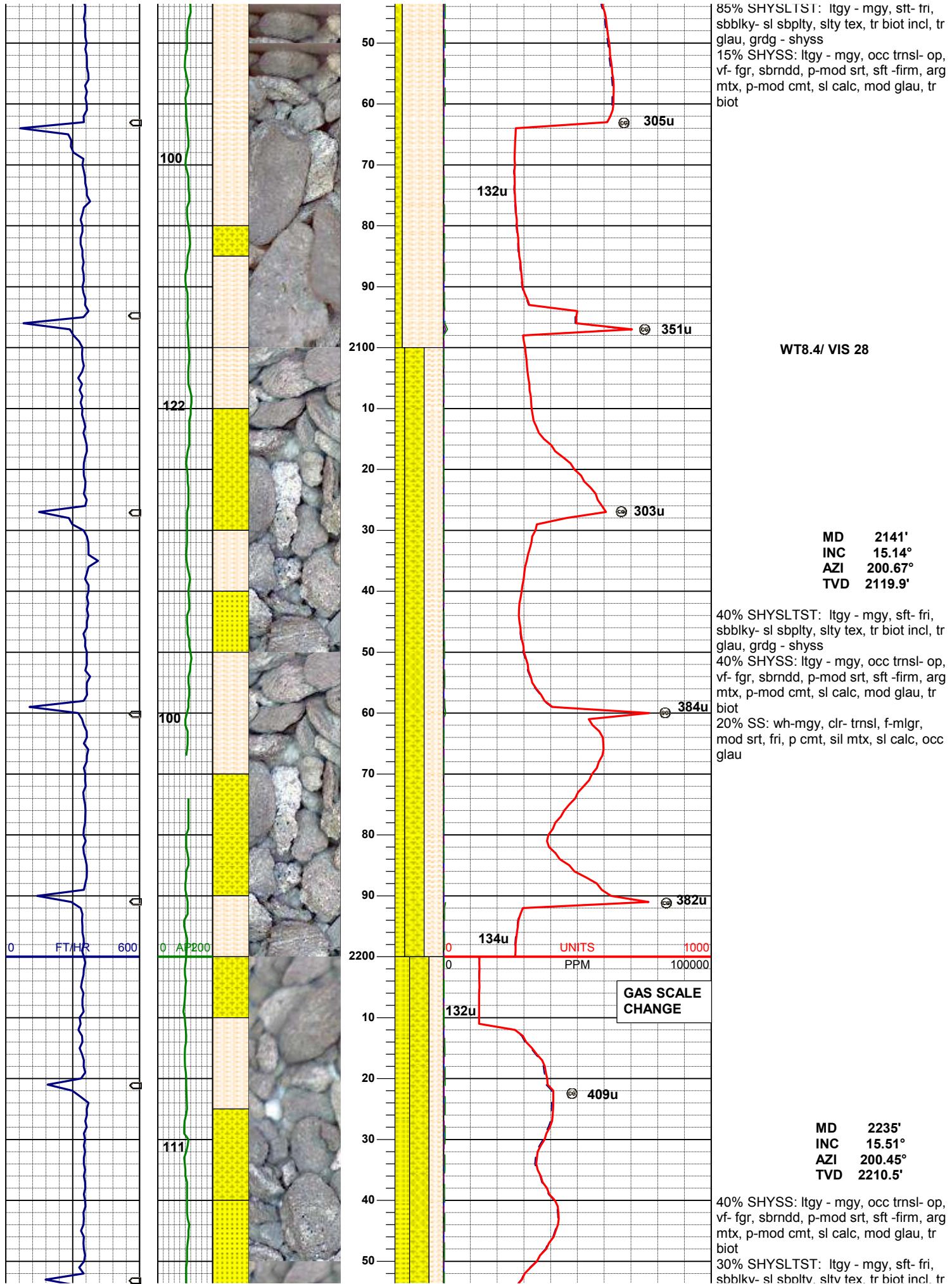


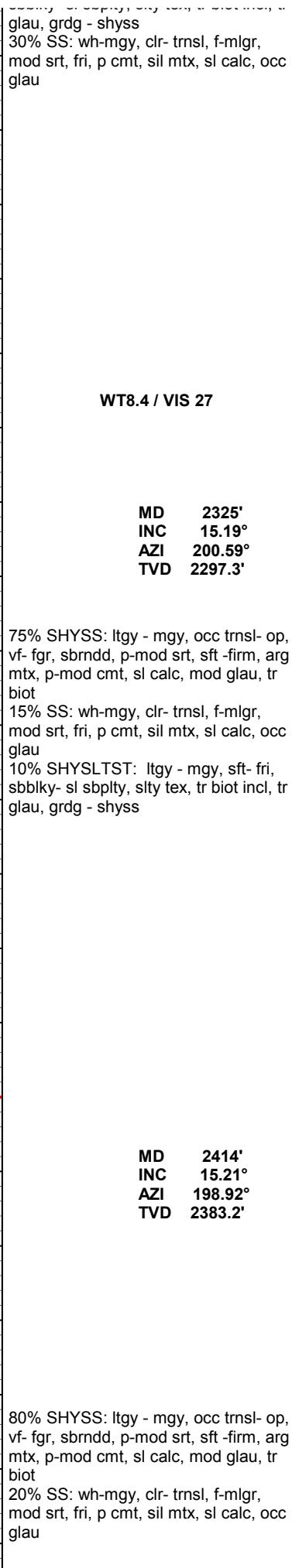
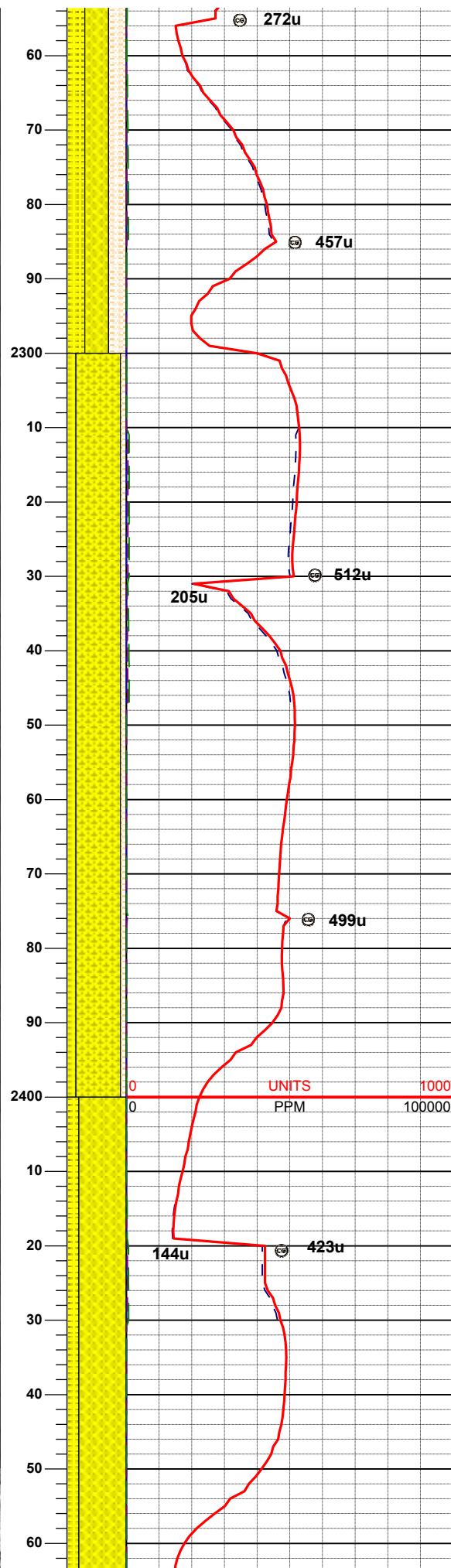
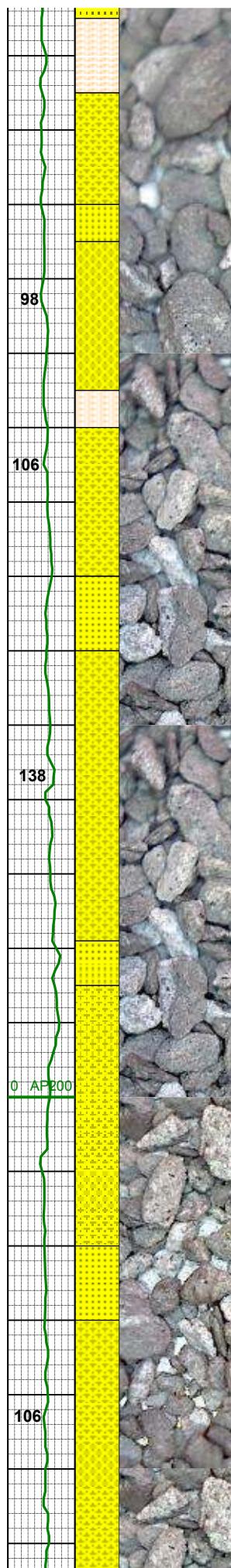
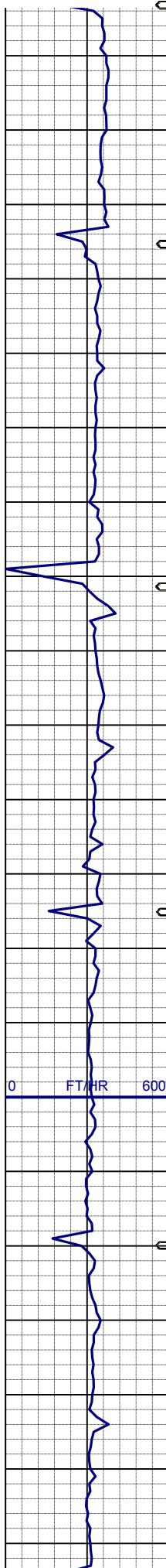
WT8.4 / VIS 26

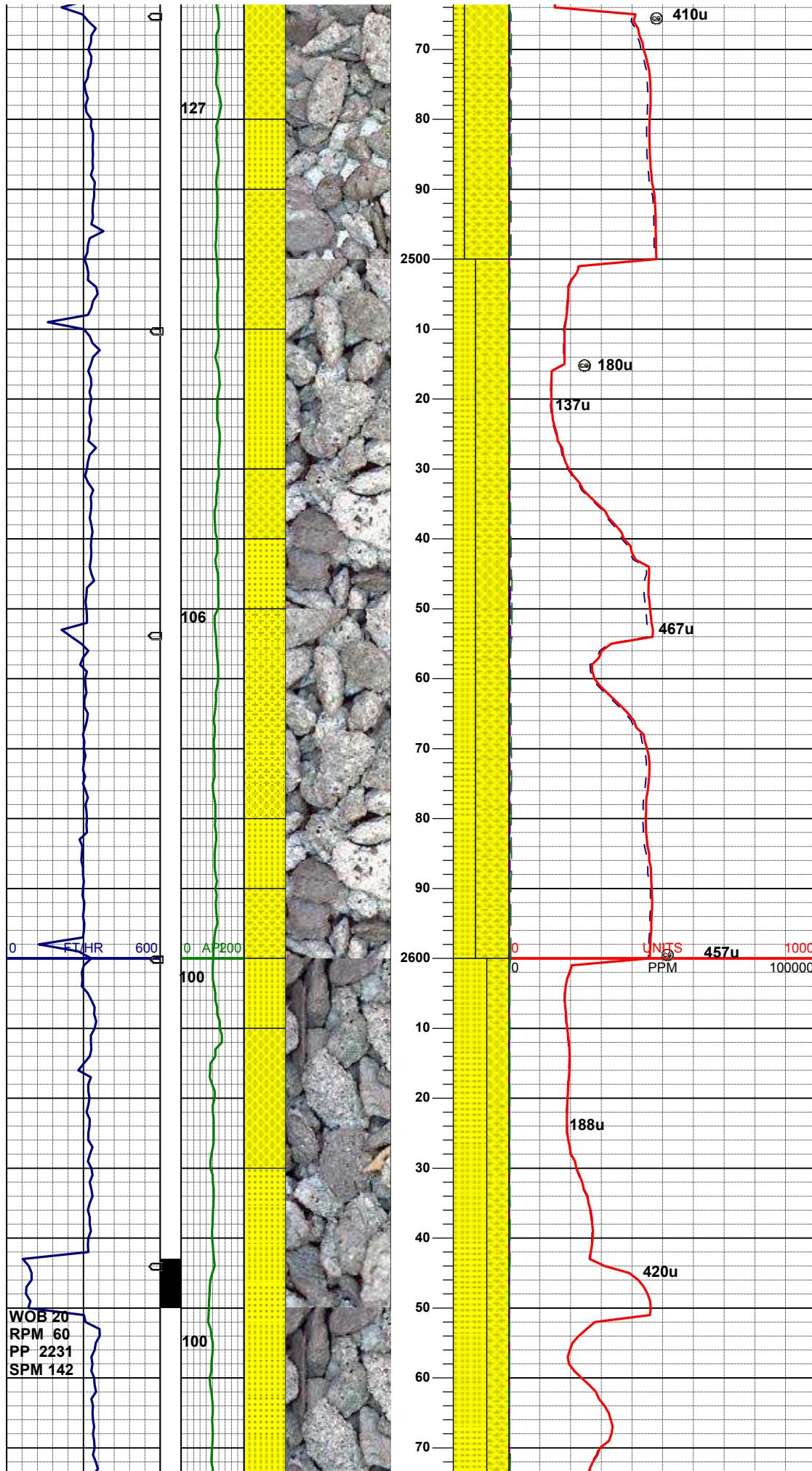
75% SHYSLTST: Itgy - mgy, sft- fri, sbbkly- sl sbpity, silty tex, tr biot incl, tr glau, grdg - shyss
 25% SHYSS: Itgy - mgy, occ trnsl- op, vf- fgr, sbrndd, p-mod srt, sft-firm, arg mtx, p-mod cmt, sl calc, mod glau, tr biot

MD 1952'
 INC 14.83°
 AZI 194.06°
 TVD 1937.1'

MD 2046'
 INC 14.50°
 AZI 201.41°
 TVD 2028.0'





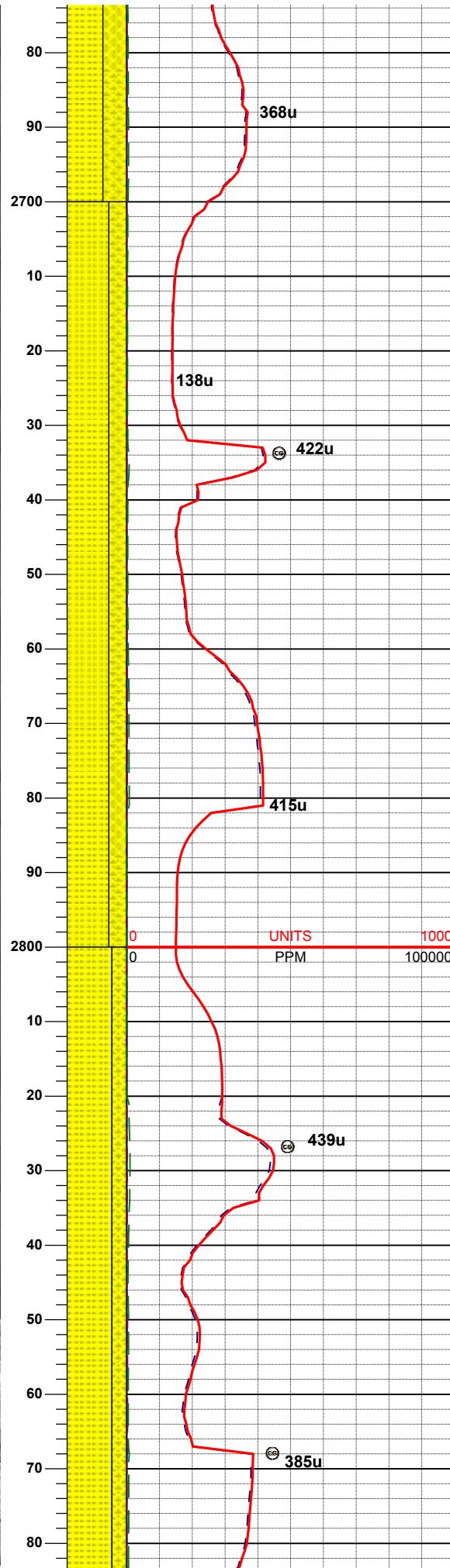
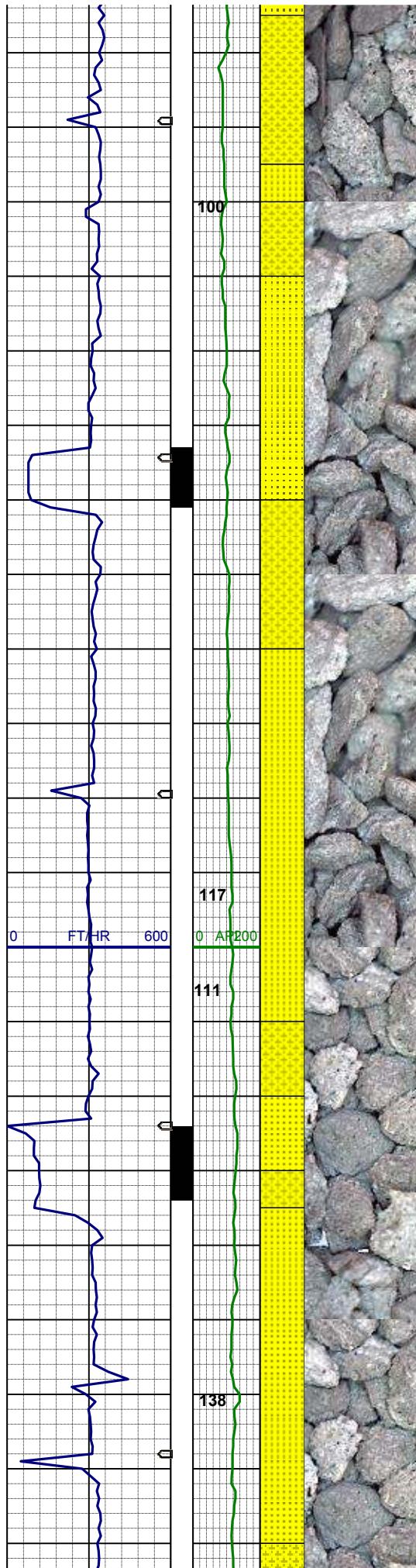


MD 2504'
INC 15.34°
AZI 201.22°
TVD 2470.0'

MD 2593'
INC 15.78°
AZI 200.59°
TVD 2557.8'

WT8.4 / VIS 27

60% SS: wh-mgy, clr- trnsl, f-mlgr, mod srt, fri, p cmt, sil mtx, sl calc, occ glau
40% SHYSS: Itgy - mgy, occ trnsl- op, vf- fgr, sbrndd, p-mod srt, sft -firm, arg mtx, p-mod cmt, sl calc, mod glau, tr biot



70% SS: wh-mgy, clr- trnsl, f-mlgr,
mod srt, fri, p cmt, sil mtx, sl calc, occ
glau

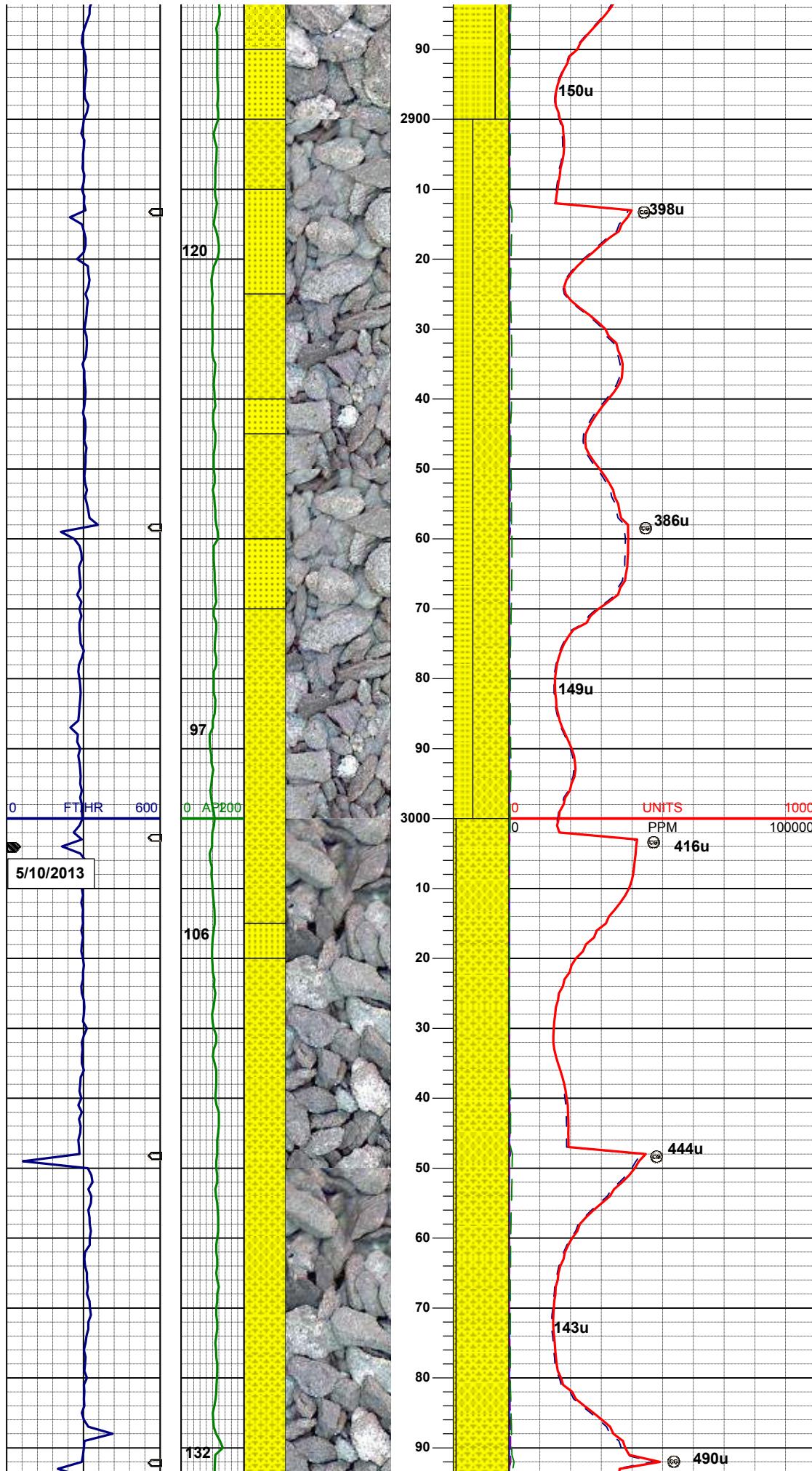
30% SHYSS: ltgy - mgy, occ trnsl- op,
vf- fgr, sbrndd, p-mod srt, sft -firm, arg
mtx, p-mod cmt, sl calc, mod glau, tr
biot

MD 2773'
INC 16.93°
AZI 198.94°
TVD 2727.9'

75% SS: wh-mgy, clr- trnsl, f-mlgr,
mod srt, fri, p cmt, sil mtx, sl calc, occ
glau

25% SHYSS: ltgy - mgy, occ trnsl- op,
vf- fgr, sbrndd, p-mod srt, sft -firm, arg
mtx, p-mod cmt, sl calc, mod glau, tr
biot

MD 2862'
INC 15.04°
AZI 192.79°
TVD 2813.4'

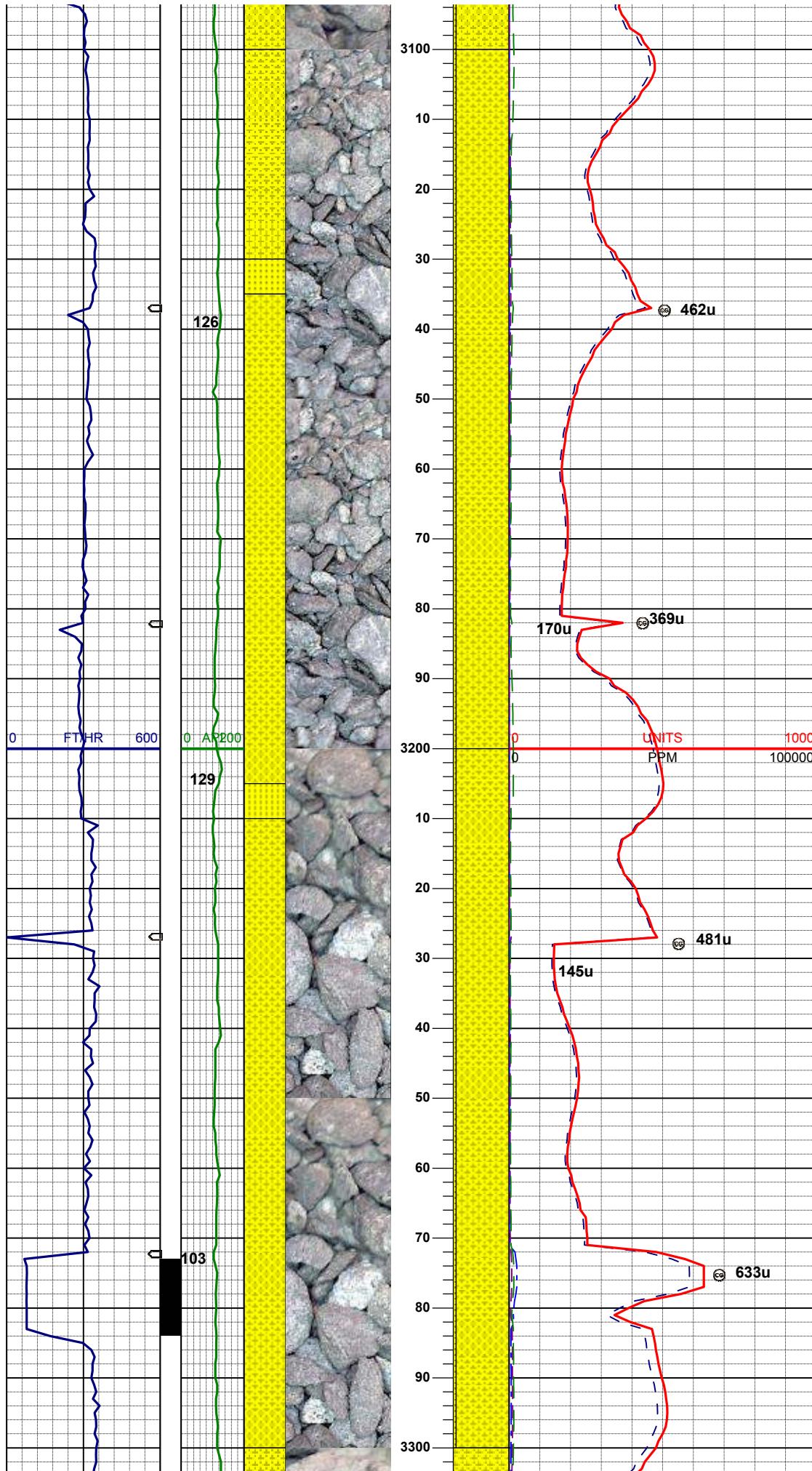


65% SHYSS: mgy, vf- fgr, sbrndd, p-mod srt, sft -firm, arg mtx, p-mod cmt, sl calc, mod glau, tr biot
35% SS: wh-mgy, clr- trnsl, f-mlgr, mod srt, fri, p cmt, sil mtx, sl calc, occ glau

MD 2952'
INC 15.11°
AZI 192.38°
TVD 2900.3'

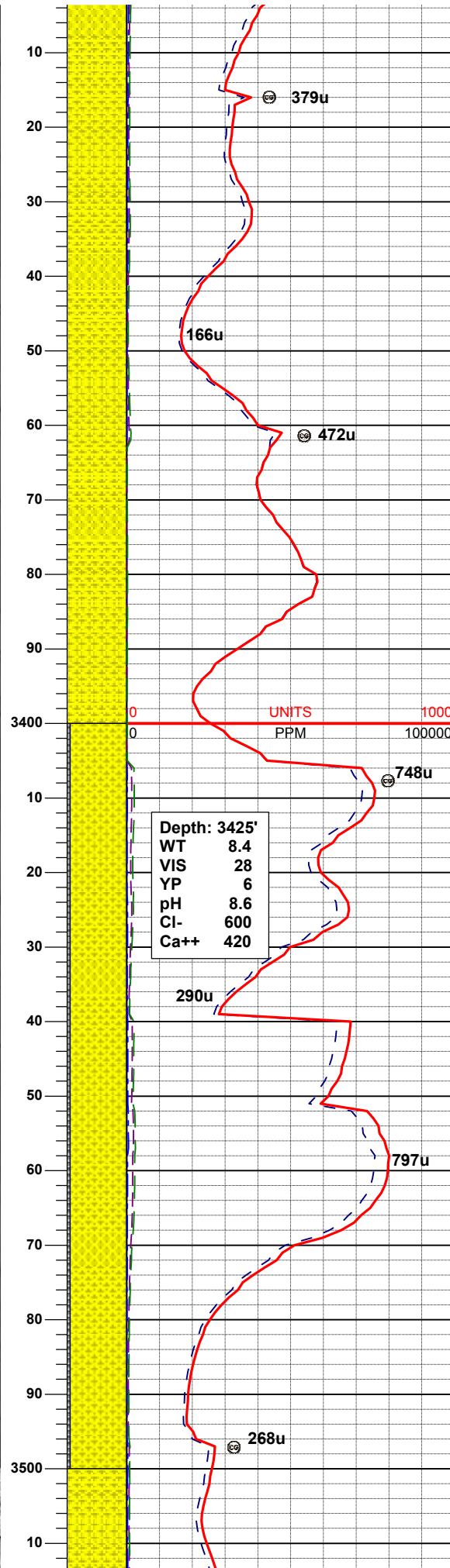
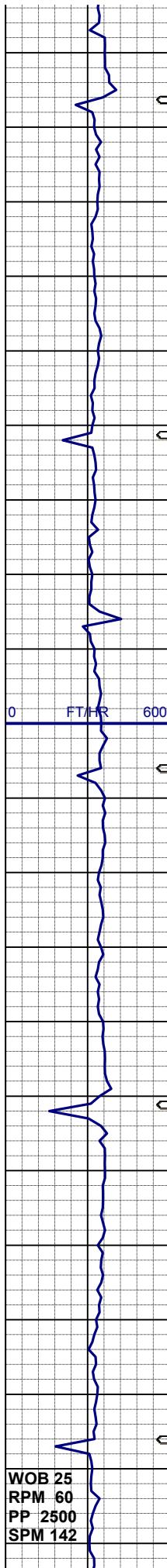
MD 3041'
INC 15.83°
AZI 193.90°
TVD 2986.1'

95% SHYSS: mgy, vf- fgr, sbrndd, p-mod srt, sft -firm, arg mtx, p-mod cmt, sl calc, mod glau, tr biot
5% SS: wh-mgy, clr- trnsl, f-mlgr, mod srt, fri, p cmt, sil mtx, sl calc, occ glau



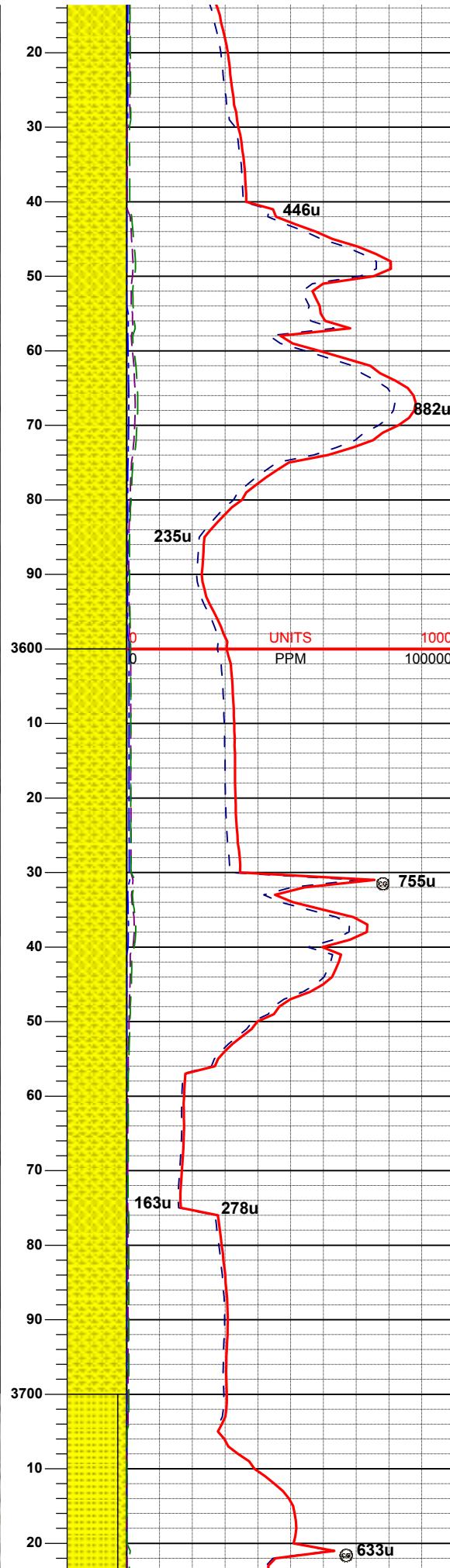
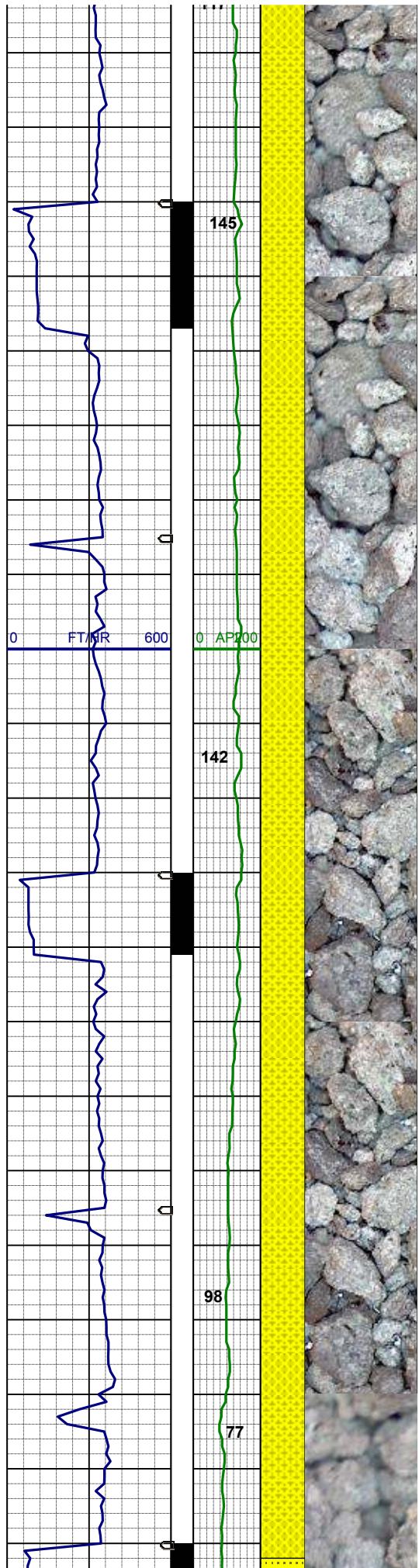
MD 3221'
INC 14.56°
AZI 196.02°
TVD 3159.9'

95% SHYSS: mgy, vf- fgr, sbrnnd, p-mod srt, sft -firm, arg mtx, p-mod cmt, sl calc, mod glau
5% SS: wh-mgy, clr- trnsl, f-mlgr, mod srt, fri, p cmt, sil mtx, sl calc, occ glau



95% SHYSS: mgy, vf- fgr, sbrndd, p-mod srt, sft -firm, arg mtx, p-mod cmt, sl calc, mod glau, tr pyr
5% SLTYSH: mgy- dkgy, sft- mod firm, sbrndd- sbplty, occ sbblk, shlyt tex, ts ss

MD 3489'
INC 13.64°
AZI 200.02°
TVD 3418.7'

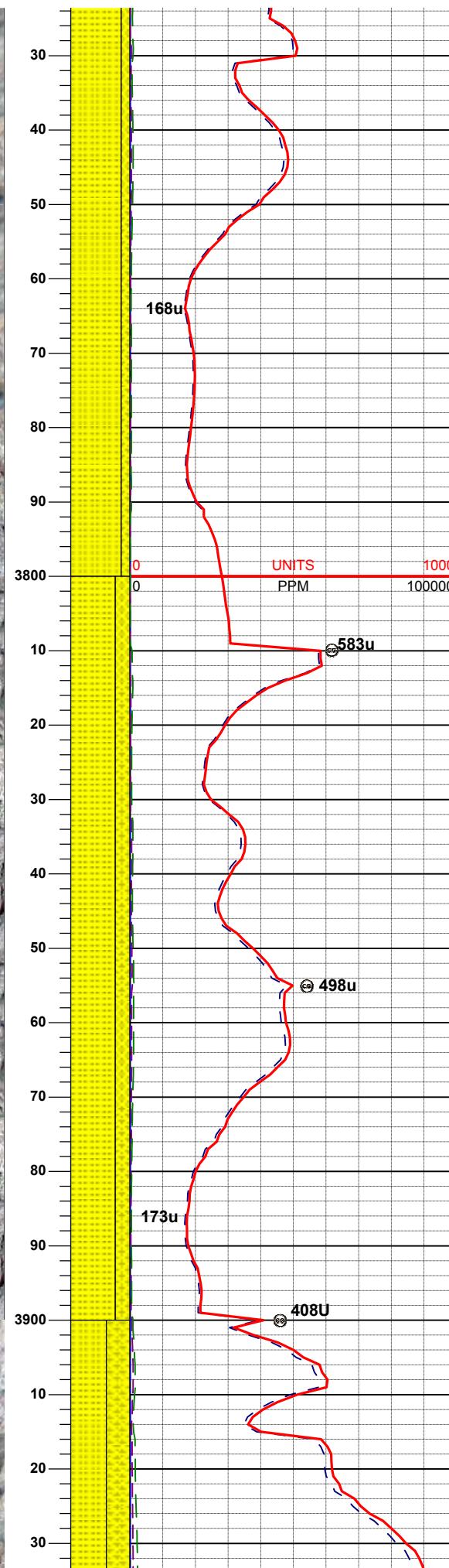
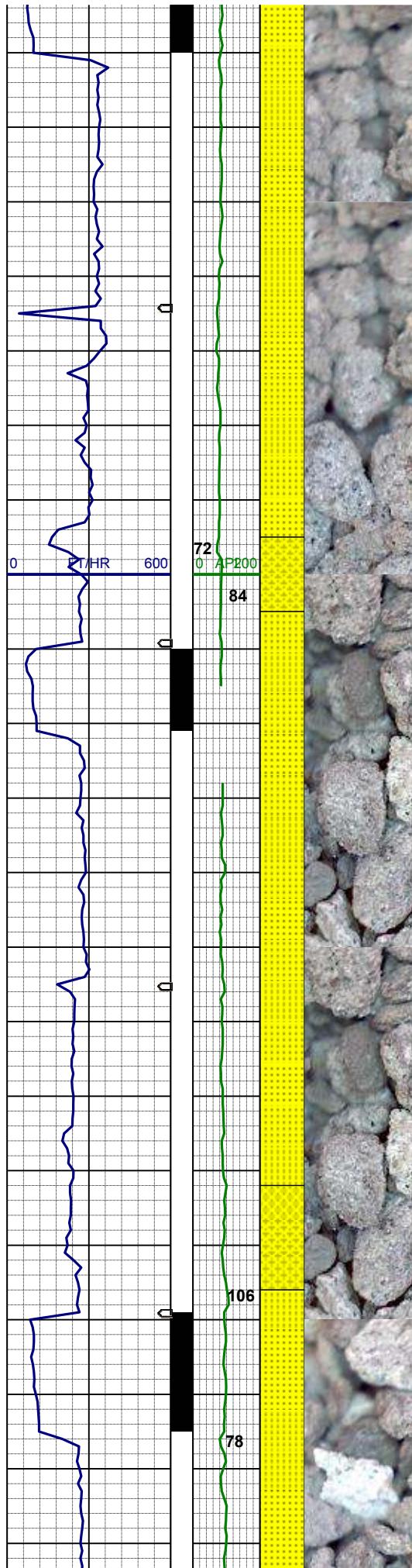


MD 3579'
INC 15.04°
AZI 201.26°
TVD 3505.9'

100% SHYSS: Itgy-dkg, vf- mlgr, sbrnd, p-mod srt, sft -firm, arg mtx, p-mod cmt, sl calc, mod glau

PARKMAN
LOGGER TOP
MD 3669' TVD 3593'

WT 8.4 / VIS 28



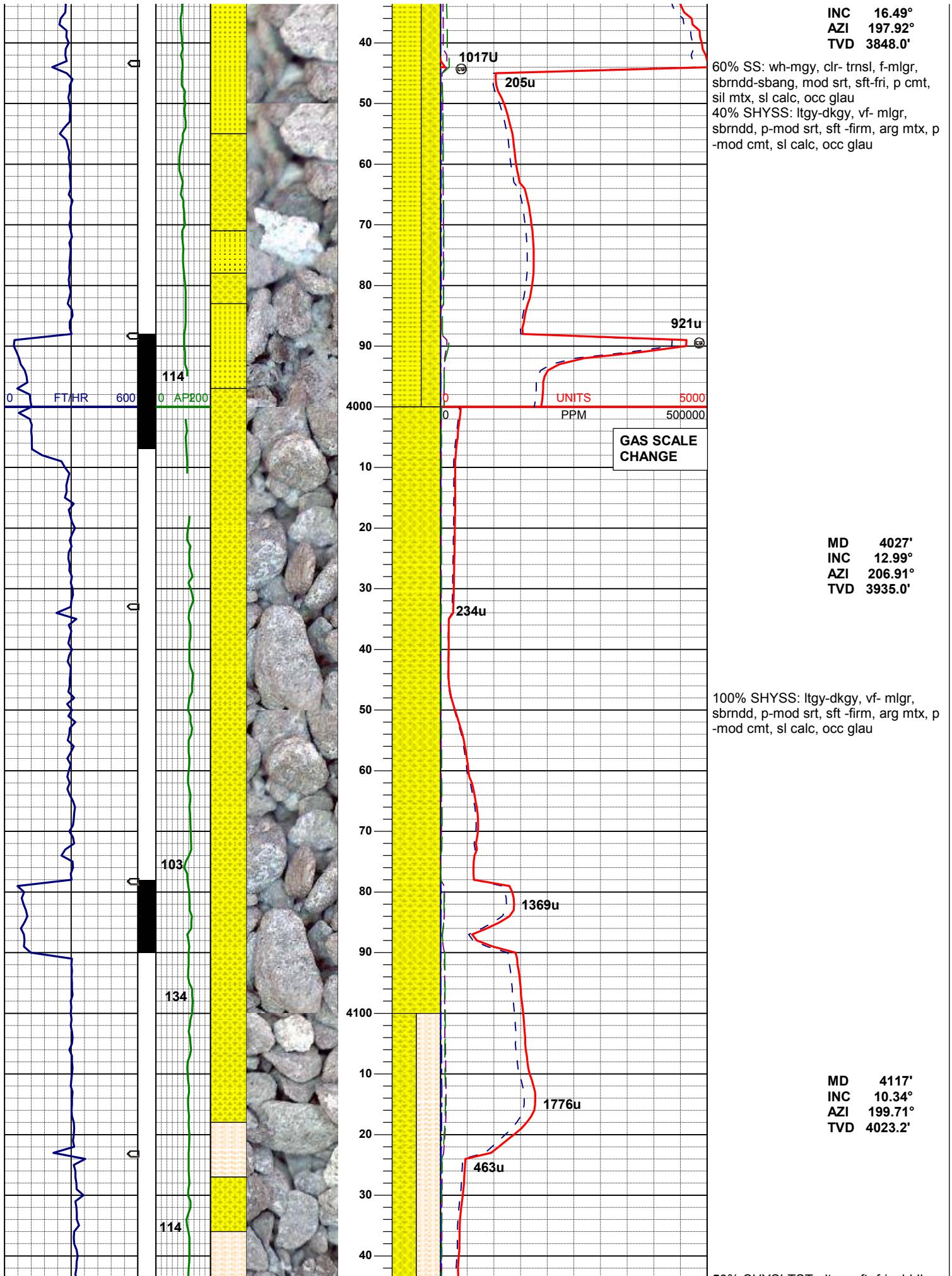
85% SS: wh-mgy, clr-trnsl, f-mlgr,
sbrndd-sbang, mod srt, sft-fri, p cmt,
sil mtx, sl calc, occ glau
15% SHYSS: ltgy-dkg, vf-mlgr,
sbrndd, p-mod srt, sft-firm, arg mtx, p
-mod cmt, sl calc, mod glau

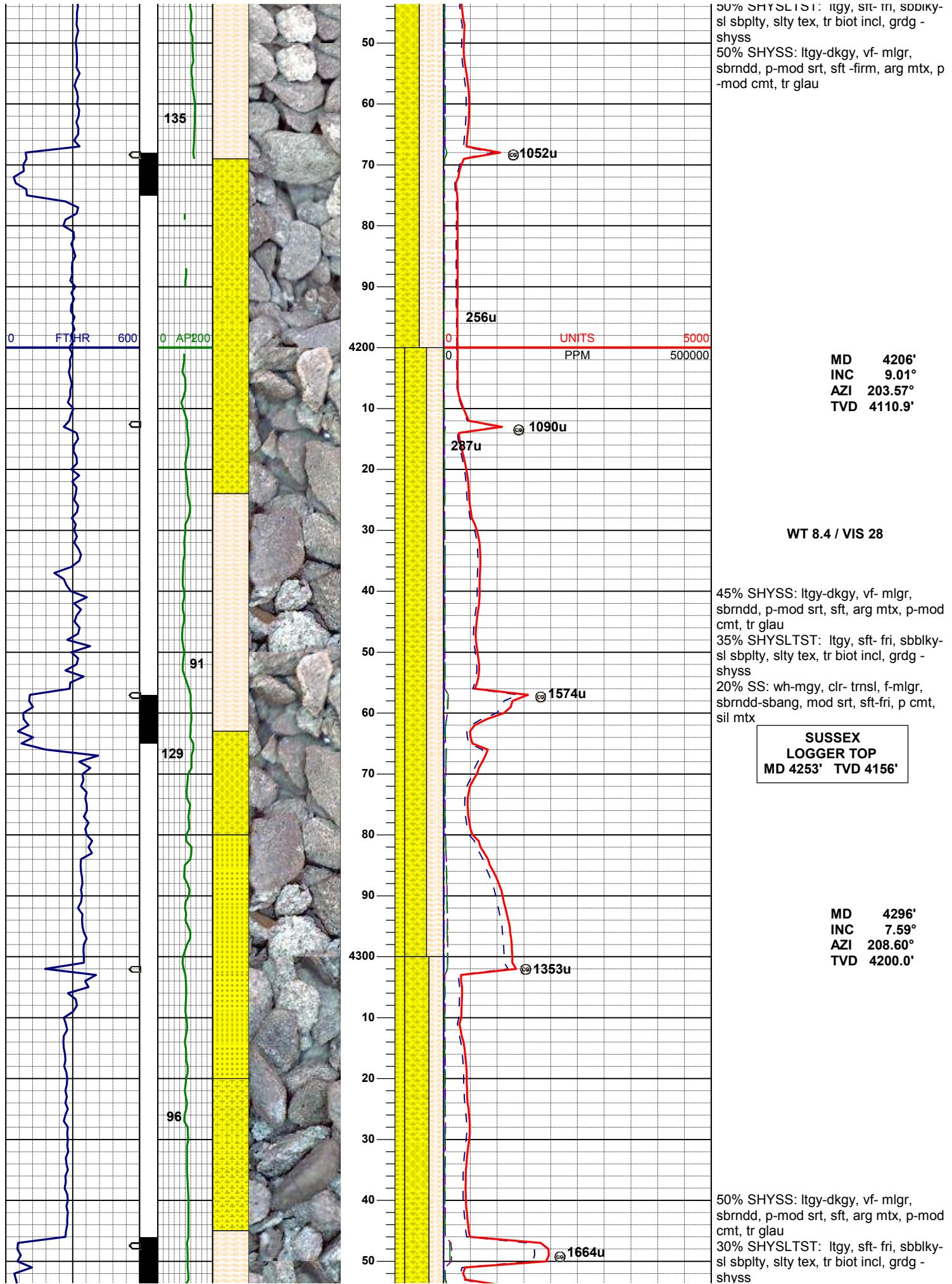
MD 3758'
INC 18.75°
AZI 194.63°
TVD 3677.6'

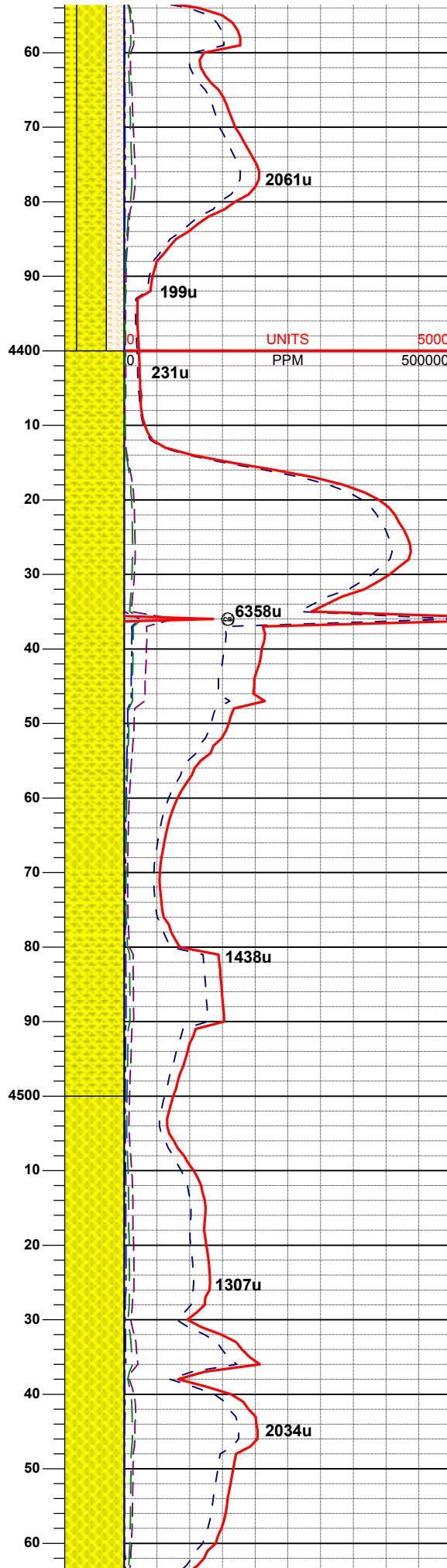
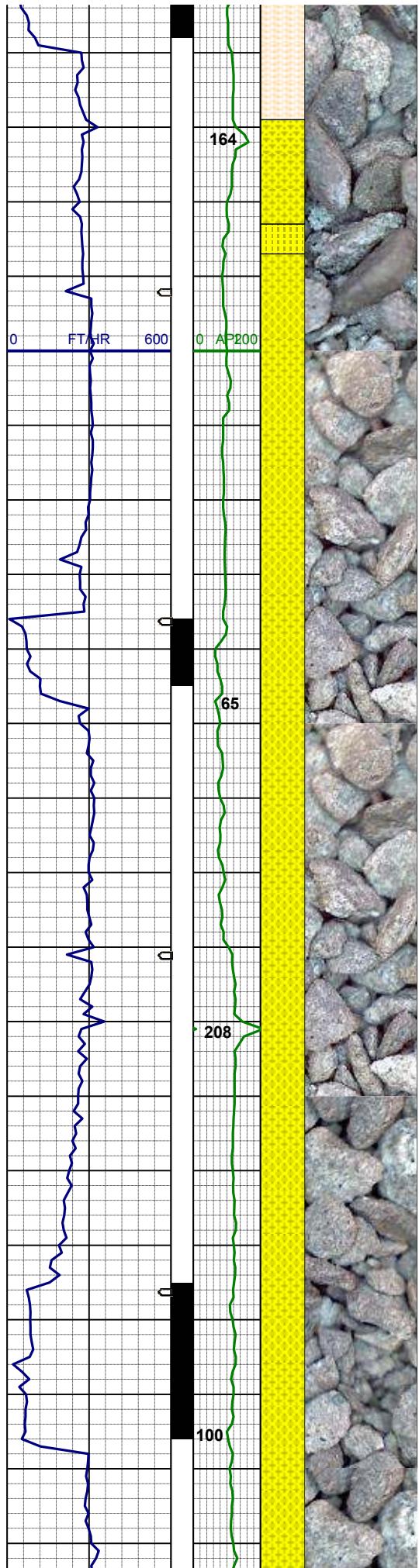
75% SS: wh-mgy, clr-trnsl, f-mlgr,
sbrndd-sbang, mod srt, sft-fri, p cmt,
sil mtx, sl calc, occ glau
25% SHYSS: ltgy-dkg, vf-mlgr,
sbrndd, p-mod srt, sft-firm, arg mtx, p
-mod cmt, sl calc, mod glau

WT 8.4 / VIS 28

MD 3937'







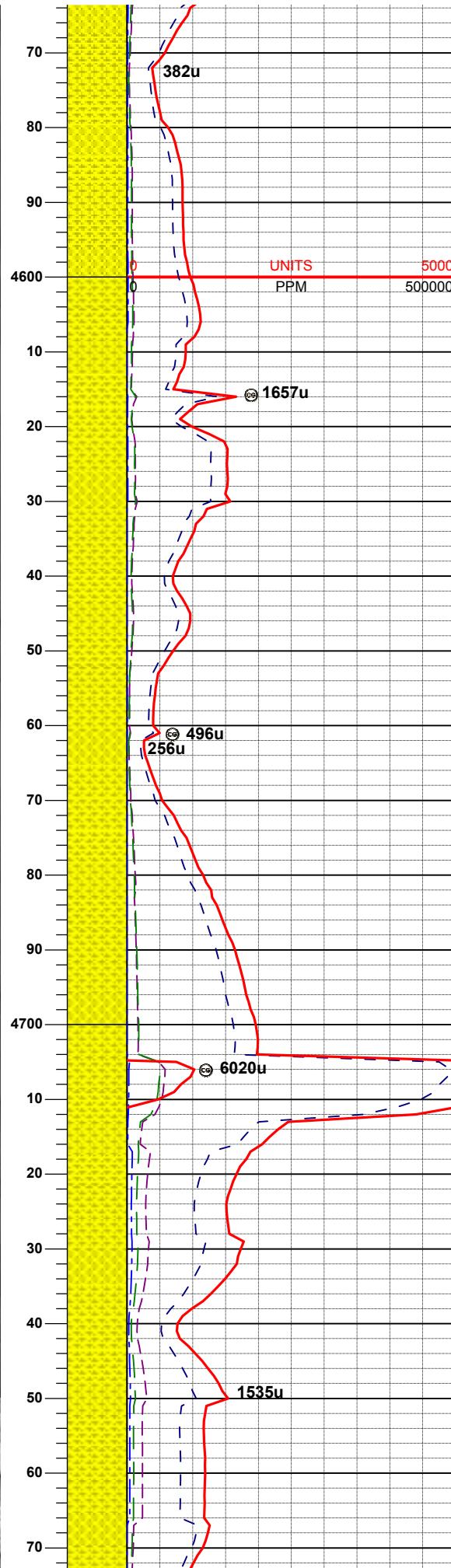
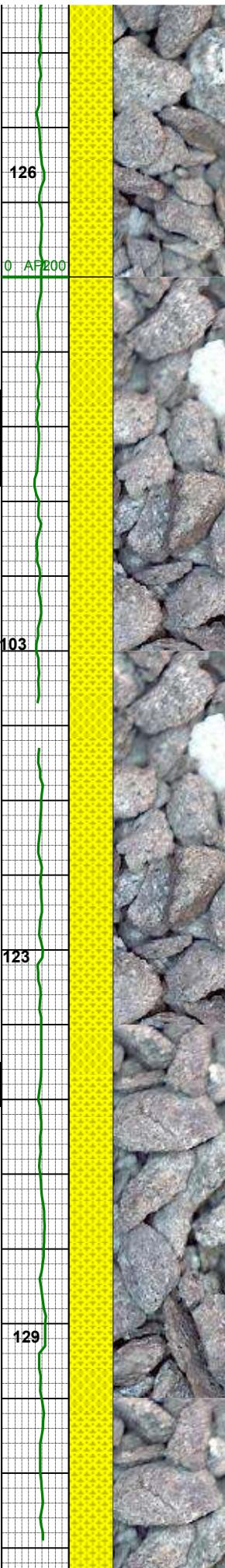
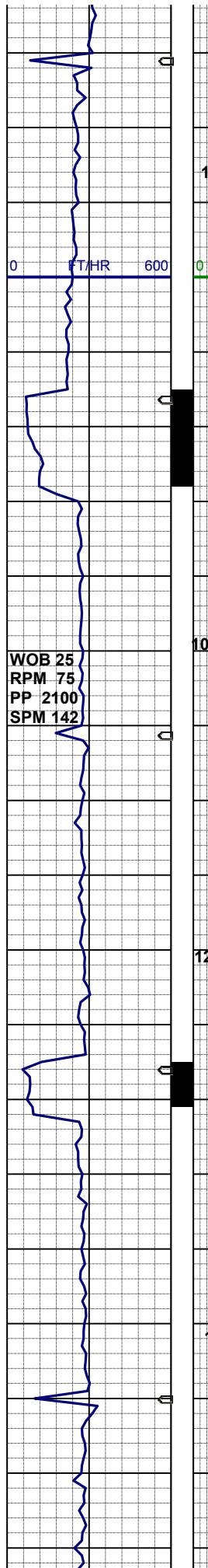
100% SHYSS: ltgy-dkg, vf-mlgr, sbrndd, p-mod srt, sft, arg mtx, p-mod cmt, tr glau

MD 4475'
INC 4.26°
AZI 203.07°
TVD 4378.1'

100% SHYSS: ltgy-dkg, vf-mlgr, sbrndd-sbang, p-mod srt, sft-mod firm, arg mtx, p-mod cmt, sl calc

MD 4565'

INC 3.74°
AZI 198.32°
TVD 4467.0'



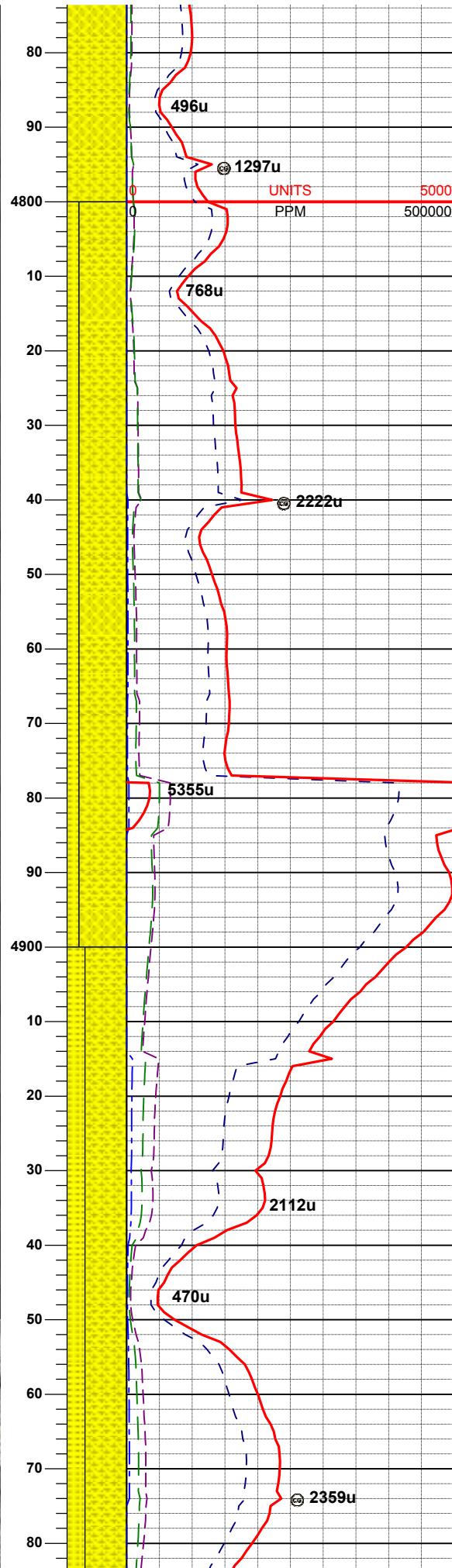
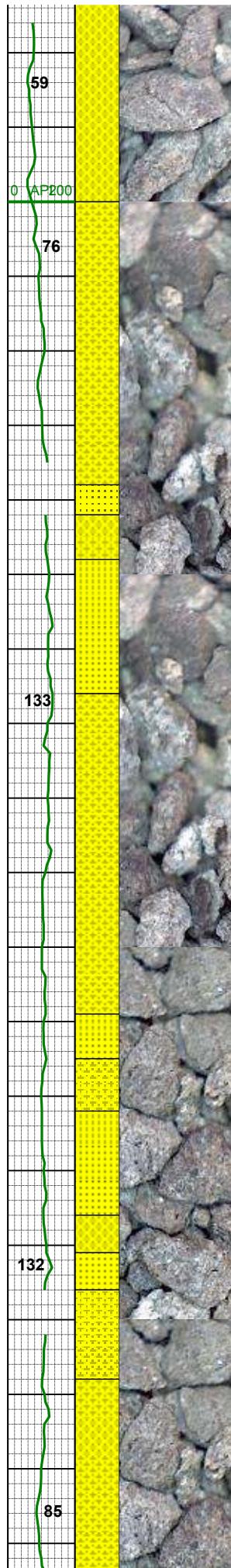
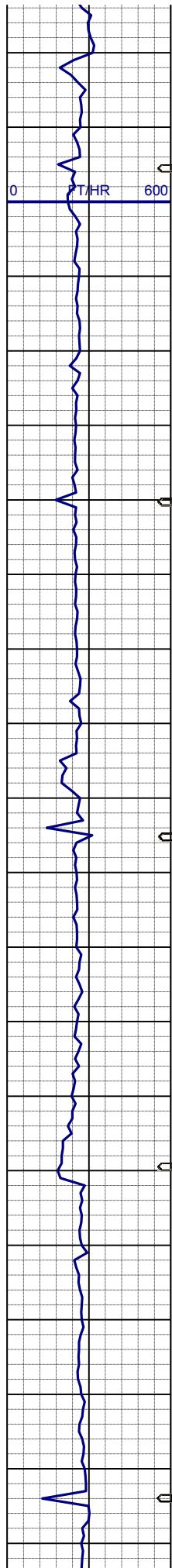
WT 8.5 / VIS 28

100% SHYSS: Itgy-dkg, vf- mlgr,
sbrndd-sbang, p-mod srt, sft-mod
firm, arg mtx, p-mod cmt, sl calc, tr
glau, occ biot MD 4655'
INC 1.29°
AZI 186.52°
TVD 4557.8'

MD 4744'
INC 0.59°
AZI 358.34°
TVD 4646.8'

100% SHYSS: Itgy-dkg, vf- mlgr,
sbrndd-sbang, p-mod srt, sft-mod
firm, arg mtx, p-mod cmt, sl calc, tr
glau, occ biot

SHANNON
LOGGER TOP
MD 4770' TVD 4671'

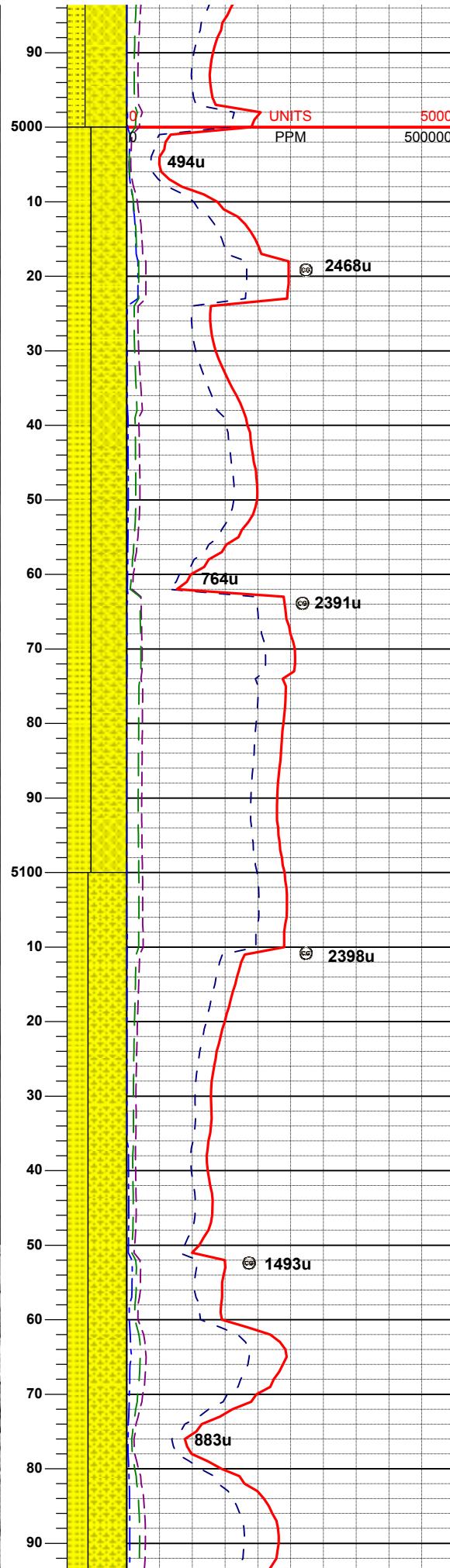
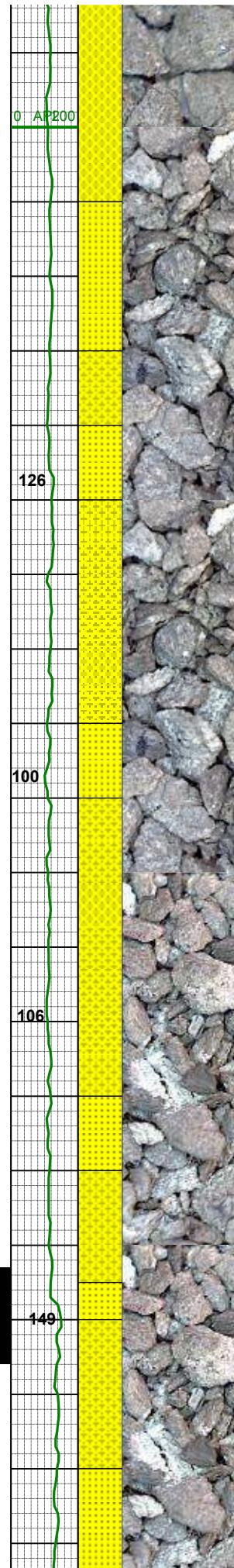
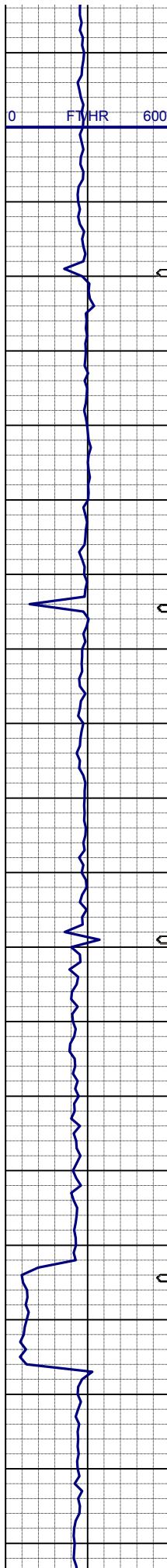


80% SHYSS: ltgy-dkg, vf-mlgr, sbrndd-sbang, p-mod srt, sft-mod firm, arg mtx, p-mod cmt, sl calc, occ biot

20% SS: wh-ltgy, clr-trns, f-mlgr, sbrndd-sbang, mod-w srt, sft-fri, p cmt, sil mtx, sl calc, occ glau

70% SHYSS: ltgy-dkg, vf-mlgr, sbrndd-sbang, p-mod srt, sft-mod firm, arg mtx, p-mod cmt, sl calc, occ biot

30% SS: wh-ltgy, clr-trns, f-mlgr, sbrndd-sbang, mod-w srt, sft-fri, p cmt, sil mtx, sl calc, occ glau



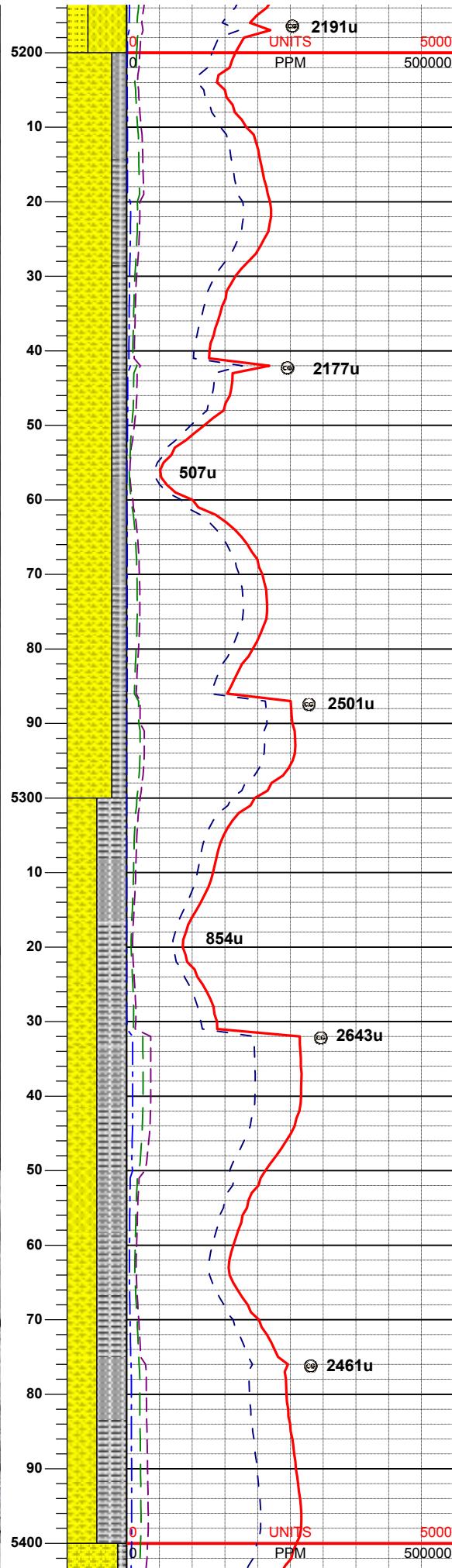
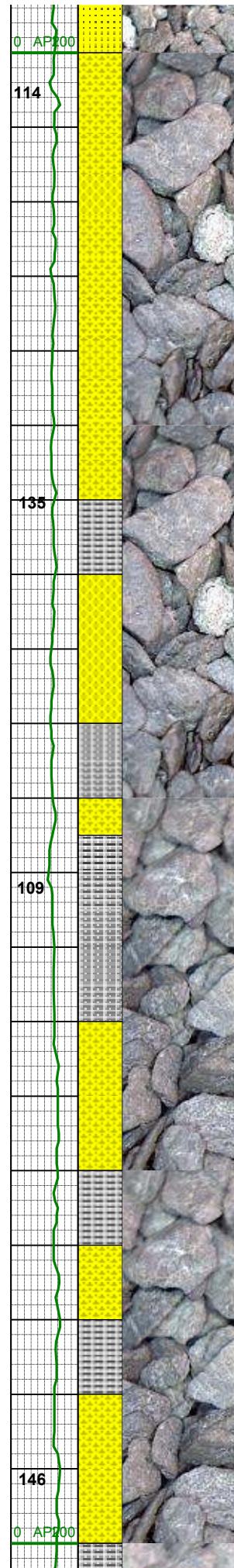
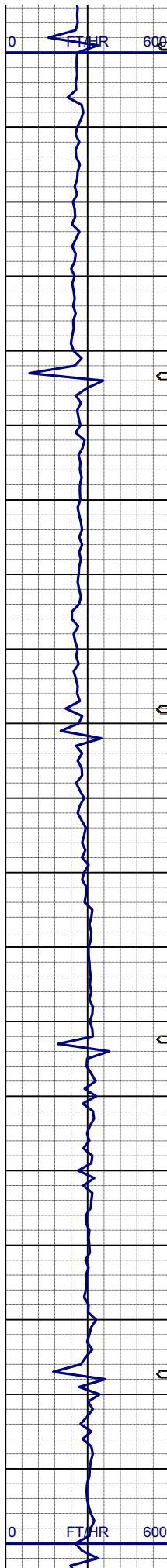
MD 5013'
INC 1.36°
AZI 358.65°
TVD 4915.7'

60% SHYSS: Itgy - dkgy, vf - mgr,
sbrndd - sbang, p - mod srt, mod sft -
mod firm, arg mtx, p-mod cmt, occ
biot

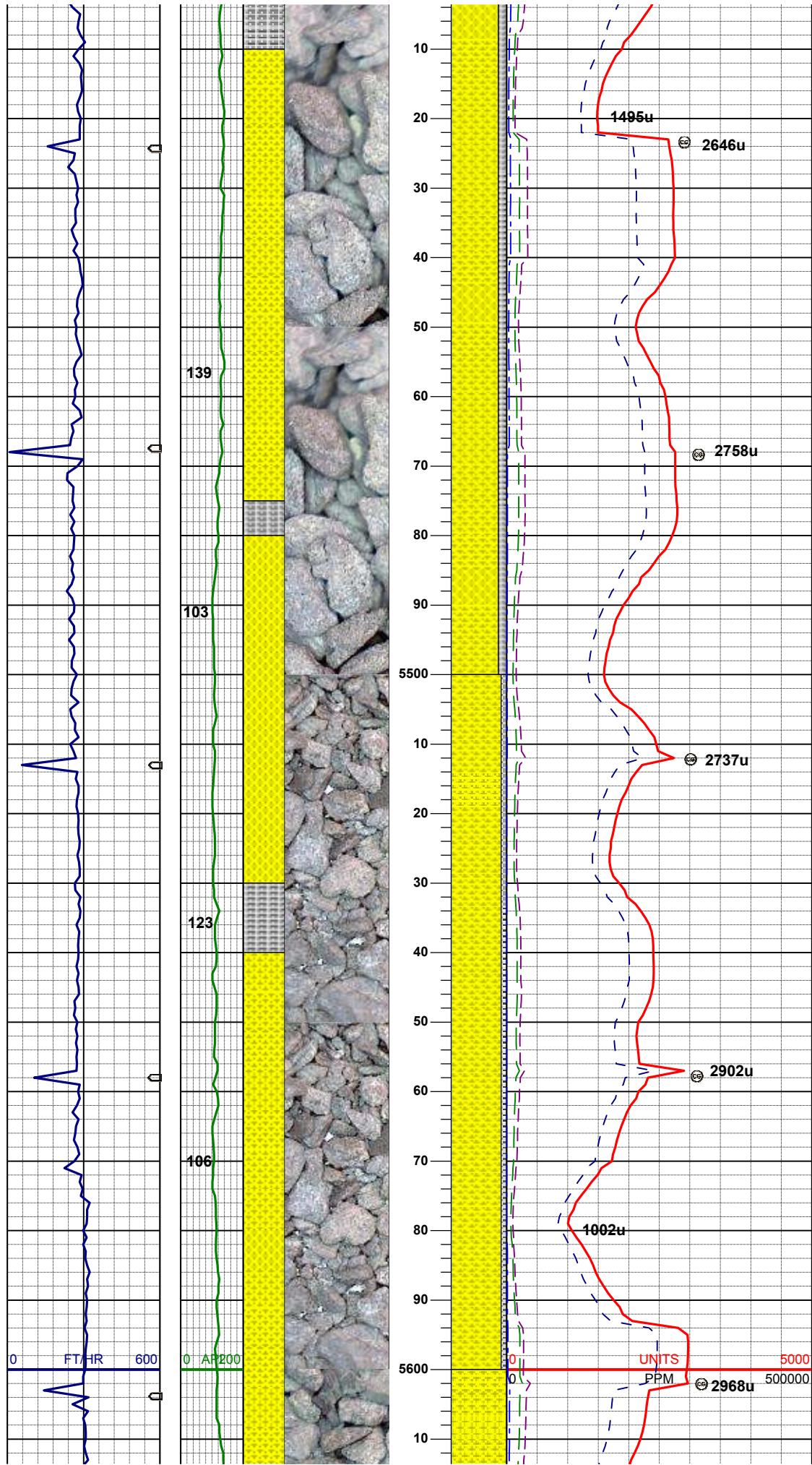
40% SS: Itgy, clr- trnsl, f - m gr,
sbrndd - sbang, mod - w srt, sft - fri, p
cmt, sil mtx, occ glau

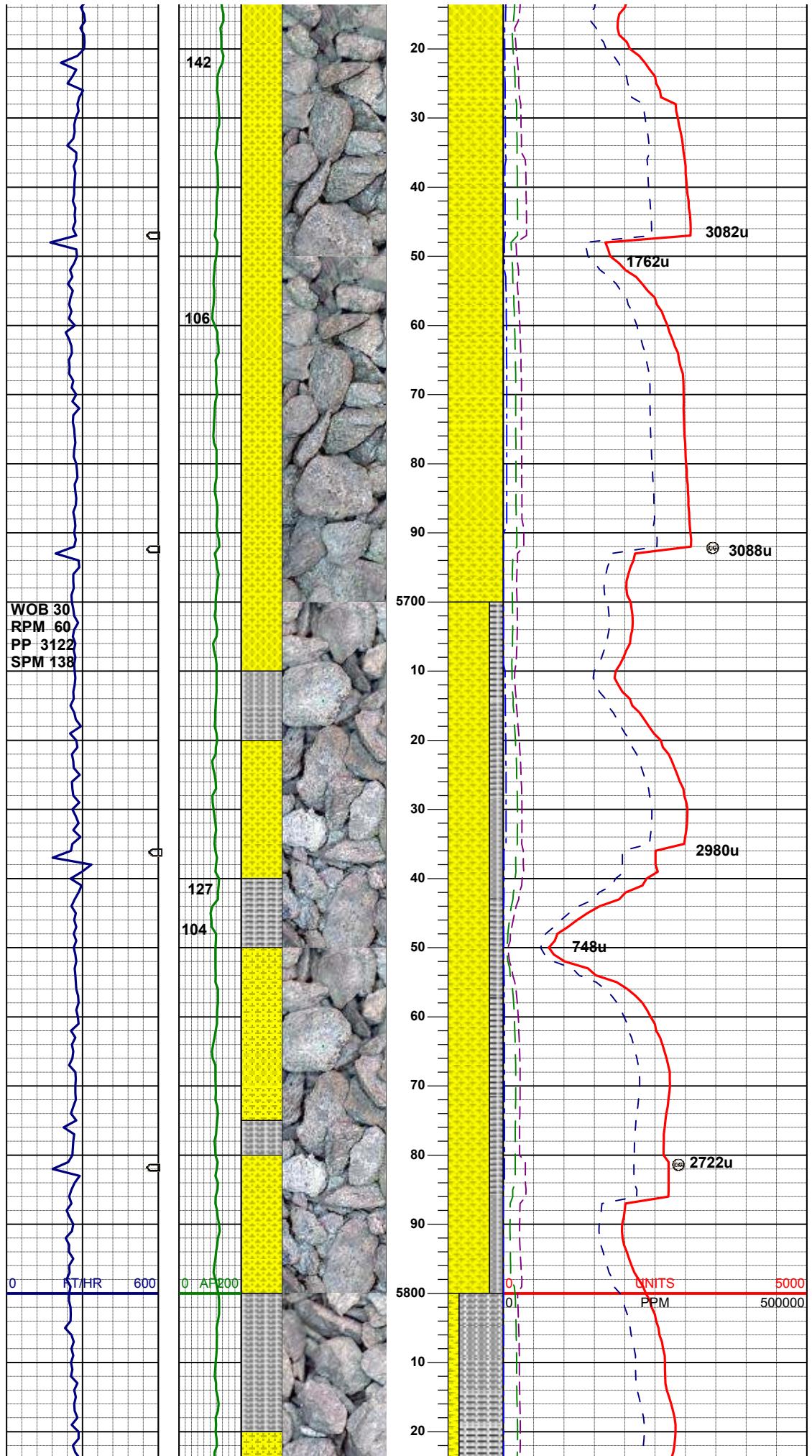
65% SHYSS: Itgy - dkgy, vf - mgr,
sbrndd - sbang, p - mod srt, mod sft -
mod firm, arg mtx, p-mod cmt, occ
biot

35% SS: Itgy, clr- trnsl, f - m gr,
sbrndd - sbang, mod - w srt, sft - fri, p
cmt, sil mtx, occ glau



50% SHYSS: ltgy - dkgy, vf - mgr, sbrndd - sbang, p - mod srt, mod sft - mod firm, arg mtx, p-mod cmt, occ biot
50% SLTYSH: mgy- dkgy, sft- mod firm, sbrndd- sbplty, occ sbblk, shy-sly tex, ts ss





TVD 5722.7'

