COLUMBINE LOGGING

Scale: 5" / 100'
Measured Depth Log

Well Name	Harmon 42-6-17-53		
Location	SE/NE Sec.6-T17S-R53W		
State	COLORADO	**County**	LINCOLN
Country	USA	**Rig Number**	PATTERSON-UTI 180
API Number	05-073-06615-0000	**AFE #**	032314
Region	SE COLORADO	**Field**	BLACK FOX
Spud Date	7/16/2014	**Drilling Completed**	7/30/2014
Ground Elevation	4,645'	**K.B. Elevation**	4,668'
Logged Interval	100 **To** 6690	**Total Depth**	6690
Formation	Atoka, Morrow		
Type of Drilling Fluid	WBM		

Other Symbols

Oil Show
- DEAD
- EVEN
- QUESTIONABLE
- SPOTTED STAINING

Porosity
- EARTHY
- FENESTRAL
- FRACTURE
- INTERCRYSTALLINE
- INTEROOLITIC
- MOLDIC
- ORGANIC
- PINPOINT
- VUGGY

Engineering
- BIT CHANGE
- CONNECTION (LEFT)
- CONNECTION (RIGHT)
- CONNECTION GAS
- TRIP GAS
- DOWN TIME GAS
- CORE - LOST
- CORE - RECOVERED
- DST INTERVAL
- FAULT
- FORMATION TOP
- GAS SHOW
- OIL SHOW
- MN DEPTH
- MN DEPTH (RIGHT)
- NORMAL FAULT
- OVERTURNED STRATA
- REVERSE FAULT
- CASING
- SIDEWALL CORE (LEFT)
- SIDEWALL CORE (RIGHT)
- SLIDE
- SURVEY
- DRILL STEM TEST
- WIRELINE TESTED - LEFT
- WIRELINE TESTED - RT

Rounding
- ANGULAR
- ROUNDED
- SUBANG
- SUBRND

Textures
- BOUNDSTONE
- CHALKY
- CRYPTOXLN
- EARTHY
- FINELYXLN
- GRAINSTONE
- LITHOGRAPHIC
- MICROXLN
- MUDSTONE
- PACKSTONE
- WACKESTONE

Sorting
- MODERATE
- POOR
- WELL

Accessories

Fossils
- ALGAE
- AMPHIPORA
- BELEMNITE
- BIOCLASTIC
- BRACHOIPOD
- BRYOZOA
- CEPHALOPOD
- CORAL
- CRINOID
- GASTROPOD
- INOCERAMUS
- OOLITE
- OSTRACOD
- PELECYPOD
- PELLET
- PISOLITE
- PLANT REMAINS
- PLANT SPORES
- SCAPHOPOD
- STROMATOPOROID
- ARGILLITE GRAIN
- BENTONITE
- BITUMENOUS SUBSTANCE
- BRECCIA FRAGMENTS
- CALCAREOUS
- CARBONACEOUS FLAKES
- CHTDK
- CHTLT
- COAL - THIN BEDS
- DOLOMITIC
- FELDSPAR
- HEAVY MINERAL
- KAOLIN
- MARCASITE
- MARLSTONE
- MICACEOUS
- MINERAL CRYSTALS
- NODULES
- PHOSPHATE PELLETS
- PYRITE
- SALT CAST
- SANDY

Stringer
- ANHYDRITE STRINGER
- BENTONITE STRINGER
- COAL STRINGER
- DOLOMITE STRINGER
- GYPSUM STRINGER
- LIMESTONE STRINGER
- MARLSTONE (CALC) STRG
- MARLSTONE (DOL) STRG
- SANDSTONE STRINGER

ECHINOID
FISH
FORAMINIFERA
FOSSIL

Minerals

ANHYDRITIC
ARGILLACEOUS
FERRUGINOUS PELLET
FERRUGINOUS
GLAUCONITE
GYPSIFEROUS
SIDERITE
SILICEOUS
SILTY
TUFFACEOUS

SHALE STRINGER
SILTSTONE STRINGER

Rock Types

UNKNOWN
ANHYDRITE
BENTONITE
BRECCIA
CEMENT
CHALK
CHERT
CLAY CHOKE SAND
CLAYSTONE
COAL
CONGLOMERATE
DOLOMITE
DOLOMITIC LIMESTONE
GRANITE
GYPSUM
IGNEOUS
LIMESTONE
SIDERITE or LIMONITE
MARLSTONE
METAMORPHIC
NO SAMPLE
SALT
SALT- PEPPER SAND
SANDSTONE
SHALE
SHALE COLORED
SHALE GRAY
SHALY SANDSTONE
SHALY SILTSTONE
SILTSTONE
SILTY SHALE
TILL
TUFF
WELDED TUFF

Other

Dennis C. Vertrees Wellsite Geologist, Columbine Logging Inc. 2385 S. Lipan St. Denver, CO 80223

Adam Harris Wellsite Geologist, Columbine Logging Inc. 2385 S. Lipan St. Denver, CO 80223

Operator

Company Pioneer Natural Resources

Address Pioneer Natural Resources
1401 17th Street, Suite 1200
Denver, CO 80202

Geologist

Name Caleb J. Pollock

Company Pioneer Natural Resources

Address Pioneer Natural Resources
1401 17th Street, Suite 1200
Denver, CO 80202

Zone Color Coding

Oil
Condensate
Gas
Note
Core
Pressure
Error
Water
Seal

ROP
ROP

Slide/Rotate

Interp Lithology

Images

Oil Show
STAIN FLUOR CUT

Depth Labels

% Lith

Total Gas & Chromatograph
GAS
C1
C2
C3
iC4
nC4
iC5
nC5

Lithology Descriptions

300 ROP (ft/hr) 0

ROP DATA IMPORTED FROM PASON

Bit #: NB #1
Type: HAL-FM36532
Size: 12.25
Depth In: 70'
Depth Out: 541'
S/N: 11703574

ROP: 82.8
WOB: 0.7
RPM: 61
SPM #1: 62
SPM #2: 0
SPP: 87

180
72
104

300 ROP (ft/hr) 0

90

50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230

GAS DATA IMPORTED FROM IBALL GAS CHART

COLUMBINE LOGGING INC.
RIGGED UP ON 7/14/2014
MANNED 2-PERSON LOGGING
WITH BLOODHOUND UNIT
#00273

13.4 *u*
C1: 96.9 %
C2: 1.9 %
C3: 0.8 %
C4: 0.4 %

1u

BH GAS TEST
818u

44u

54u

GAS (units)
1 10 100 1,000 1E4
C1-nC5 (PPM)
100 1,000 1E4 1E5 1E6

65u

BEGAN LOGGING @ 100' MD, ON 7/16/14, @13:50 MDST

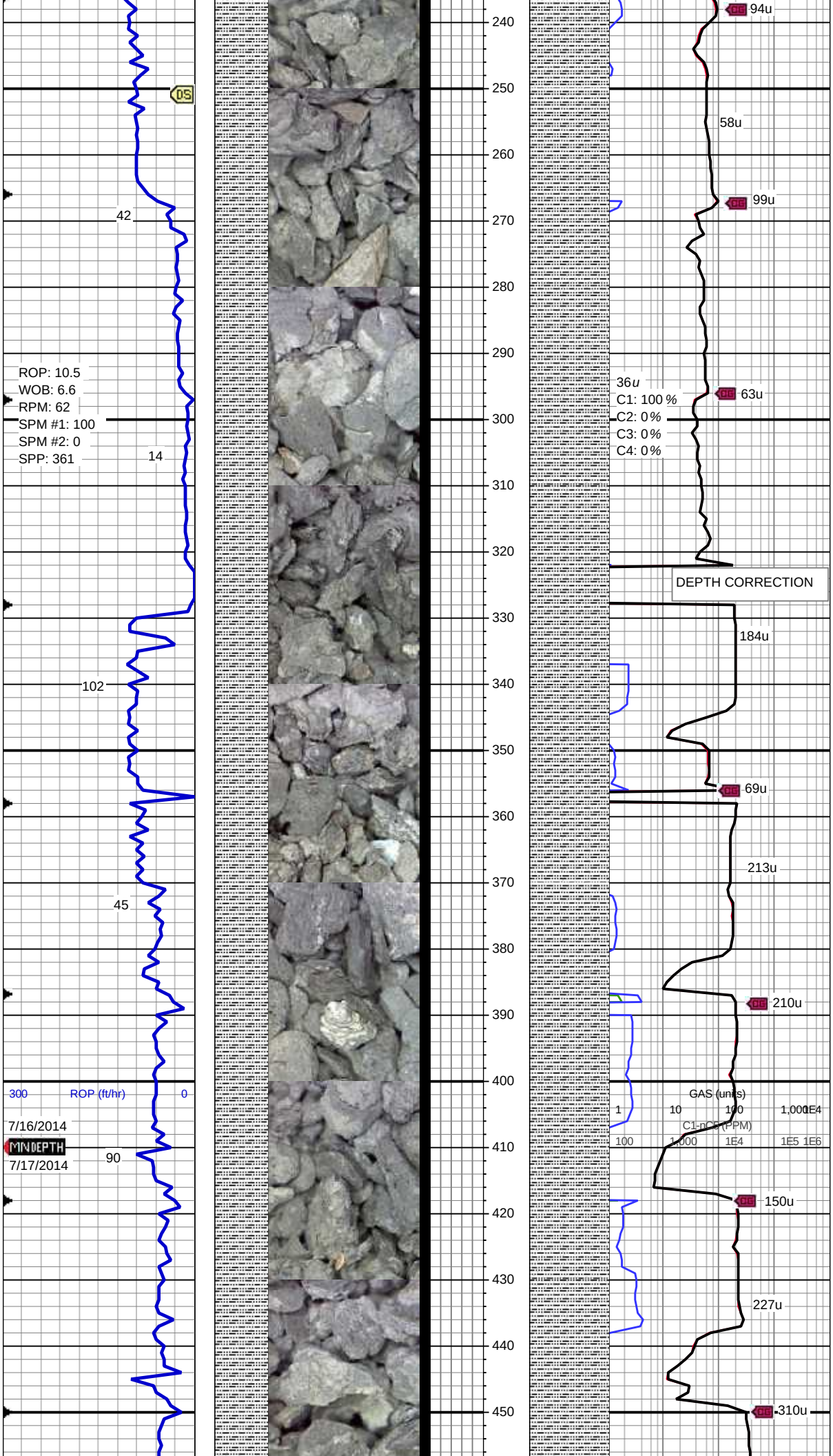
DRILLING W/ WBM

SLTY SH: pred dk gy-gy, occ lt tan-gy brn, sb blky-blky, sft-mod sft, rthy, v slty ip, v sl calc; rr pale org min flor, v slow difse pale yel cut, no od

SLTY SH: pred dk gy-gy, occ lt tan-gy brn, sb blky-blky, sft-mod frm, rthy, v slty ip, v sl calc; tr pale org min flor, v slow difse pale yel cut, no od

Mud Wt: 8.35 Vis 36

SLTY SH: pred dk gy-gy, lt tan-gy, rr lt brn, sb blky-blky, sft-mod frm, rthy, v slty ip, v sl calc; tr pale org min



flor, v slow difse pale yel cut, no od

MD: 251 ′
Inc: 2.2 °

Mud Wt: 8.45 Vis 36

SLTY SH: pred gy-lt gy, occ dk gy, rr lt brn, sb blky-sb plty, sft-mod sft, rthy, sl slty ip, v sl calc, v sft bent frags, gummy-cly tex; pale yel min flor, v slow difse pale yel cut, no od

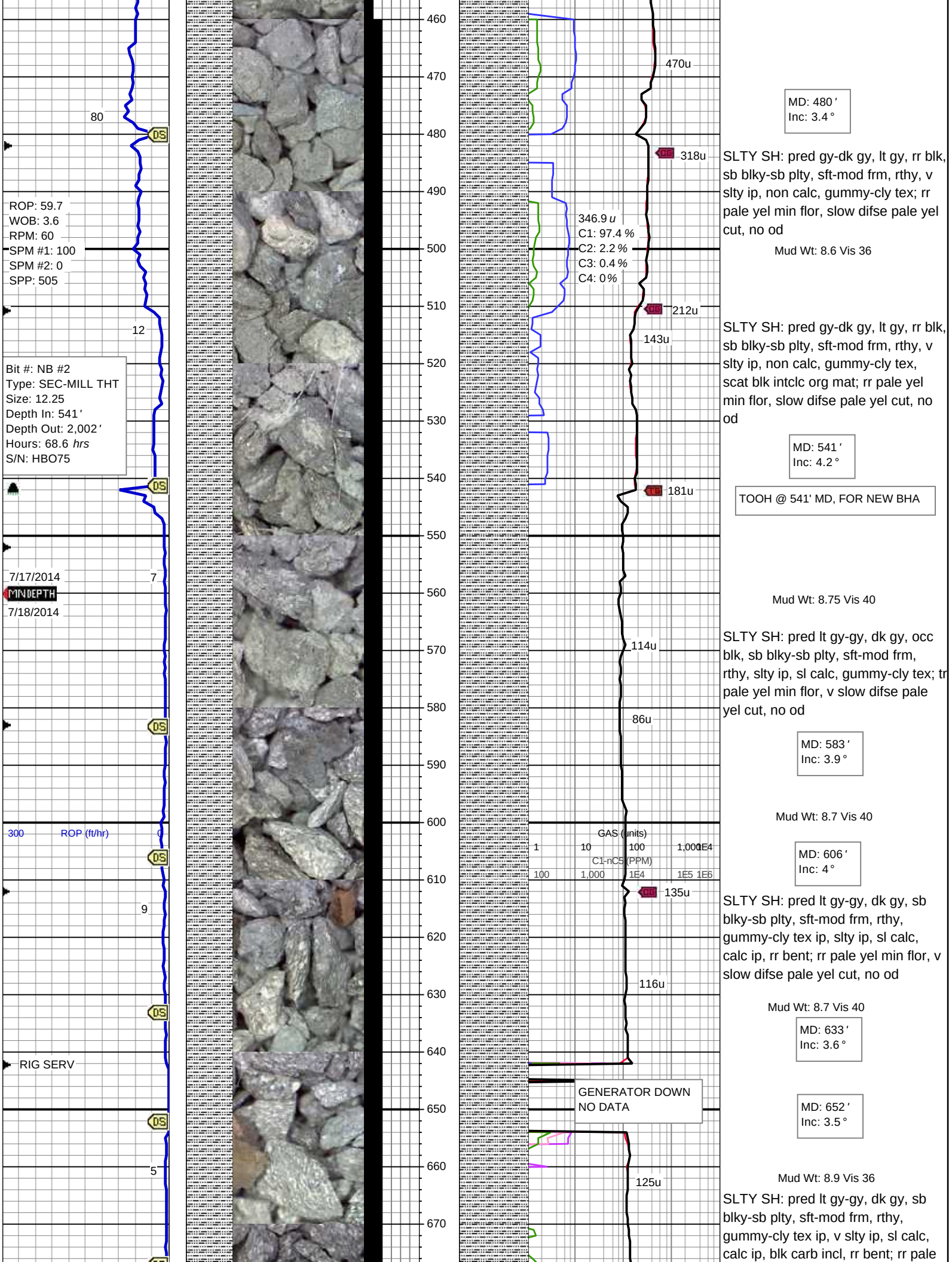
Mud Wt: 8.5 Vis 35

SLTY SH: pred gy-lt gy, dk gy, occ lt brn, sb blky-sb plty, sft-mod sft, rthy, sl slty ip, v sl calc, v sft bent frags, gummy-cly tex; pale yel min flor, v slow difse pale yel cut, no od

Mud Wt: 8.5 Vis 39

SLTY SH: pred gy-lt gy, dk gy, occ lt brn, sb blky-sb plty, sft-mod sft, rthy, sl slty ip, non calc, gummy-cly tex; pale yel min flor, v slow difse fnt pale yel cut, no od

Mud Wt: 8.5 Vis 38



MD: 480 '
Inc: 3.4 °

SLTY SH: pred gy-dk gy, lt gy, rr blk, sb blky-sb plty, sft-mod frm, rthy, v slty ip, non calc, gummy-cly tex; rr pale yel min flor, slow difse pale yel cut, no od

Mud Wt: 8.6 Vis 36

SLTY SH: pred gy-dk gy, lt gy, rr blk, sb blky-sb plty, sft-mod frm, rthy, v slty ip, non calc, gummy-cly tex, scat blk intclc org mat; rr pale yel min flor, slow difse pale yel cut, no od

MD: 541 '
Inc: 4.2 °

TOOH @ 541' MD, FOR NEW BHA

Mud Wt: 8.75 Vis 40

SLTY SH: pred lt gy-gy, dk gy, occ blk, sb blky-sb plty, sft-mod frm, rthy, slty ip, sl calc, gummy-cly tex; tr pale yel min flor, v slow difse pale yel cut, no od

MD: 583 '
Inc: 3.9 °

Mud Wt: 8.7 Vis 40

MD: 606 '
Inc: 4 °

SLTY SH: pred lt gy-gy, dk gy, sb blky-sb plty, sft-mod frm, rthy, gummy-cly tex ip, slty ip, sl calc, calc ip, rr bent; rr pale yel min flor, v slow difse pale yel cut, no od

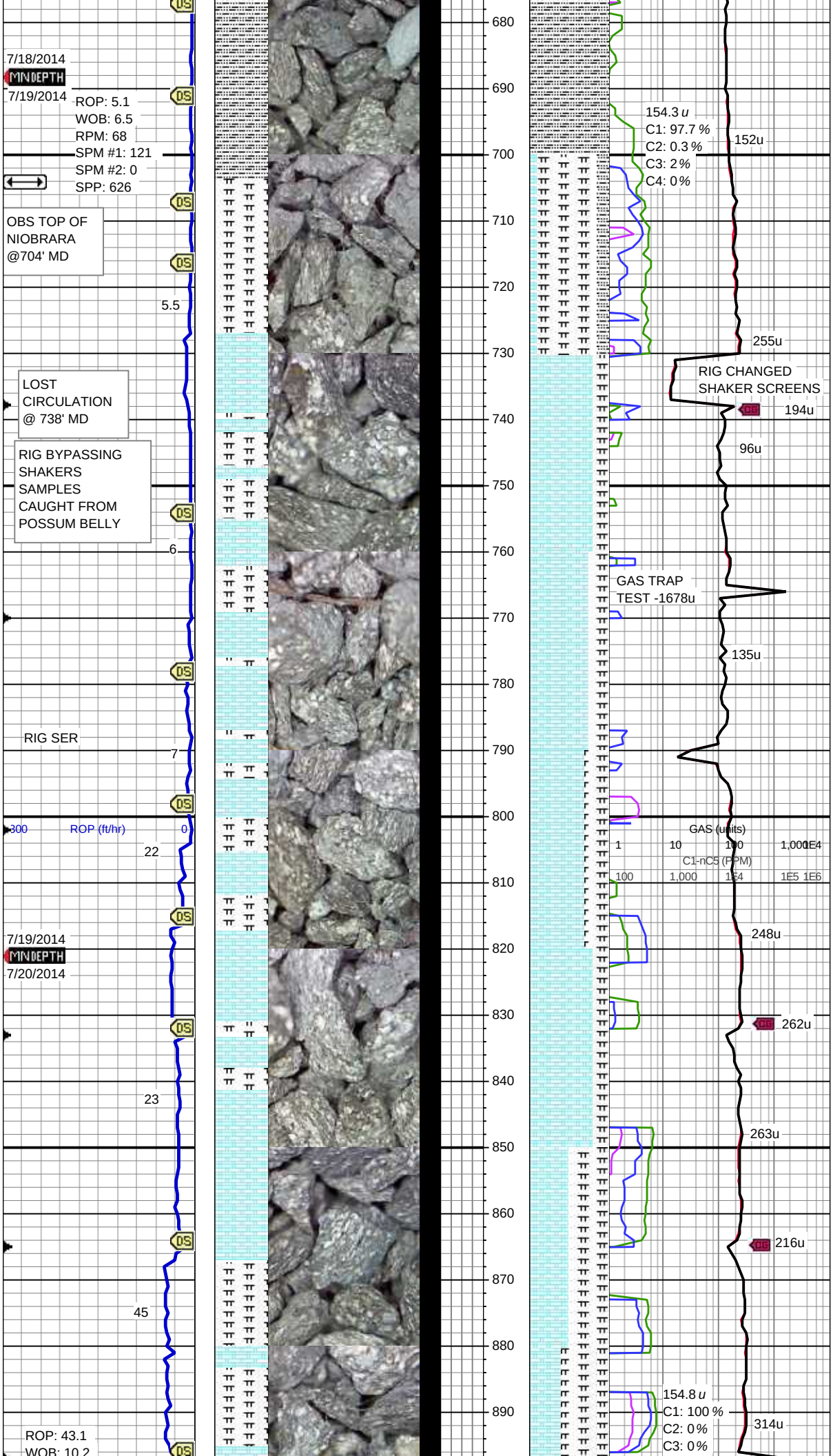
Mud Wt: 8.7 Vis 40

MD: 633 '
Inc: 3.6 °

MD: 652 '
Inc: 3.5 °

Mud Wt: 8.9 Vis 36

SLTY SH: pred lt gy-gy, dk gy, sb blky-sb plty, sft-mod frm, rthy, gummy-cly tex ip, v slty ip, sl calc, calc ip, blk carb incl, rr bent; rr pale



yel min flor, v slow difse pale yel cut, no od

MD: 677 '
Inc: 3.5 °

MD: 691 '
Inc: 3.3 °

Mud Wt: 8.95 Vis 36

MD: 707 '
Inc: 3 °

MD: 716 '
Inc: 2.2 °

MRLST: dk gy-brn gy, mot wh chk incl, sb blky-sb plty, frm-mod hd, calc-v calc, SLTY SH: pred lt gy-gy, dk gy, sb blky-sb plty, sft-mod frm, rthy, gummy-cly tex ip, v slty ip, sl calc, calc ip, blk carb incl, rr bent; rr pale yel min flor, v slow difse pale yel bl cut, no od

Mud Wt: 9.0 Vis 39 LCM 1%

MD: 754 '
Inc: 2.4 °

CHK: gy-ltgy, crm-wh, mot, sb blky-sb plty, frm-mod hd, v calc, mrly ip, MRLST: dk gy-brn gy, mot wh chk incl, chky ip, sb blky-sb plty, frm-mod hd, calc-v calc; rr pale yel min flor, v slow difse pale yel bl cut, no od

Mud Wt: 8.7 Vis 37 LCM 1.5%

MD: 778 '
Inc: 2.2 °

MD: 798 '
Inc: 2.1 °

Mud Wt: 8.8 Vis 36 LCM 1.0%

CHK: gy-ltgy, crm-off wh, mot, sb blky-sb plty, frm-mod hd, v calc, mrly ip, MRLST: dk gy-brn gy, mot wh chk incl, chky ip, sb blky-sb plty, frm-mod hd, calc-v calc; rr pale yel min flor, v slow difse pale yel bl cut, no od

MD: 815 '
Inc: 2.1 °

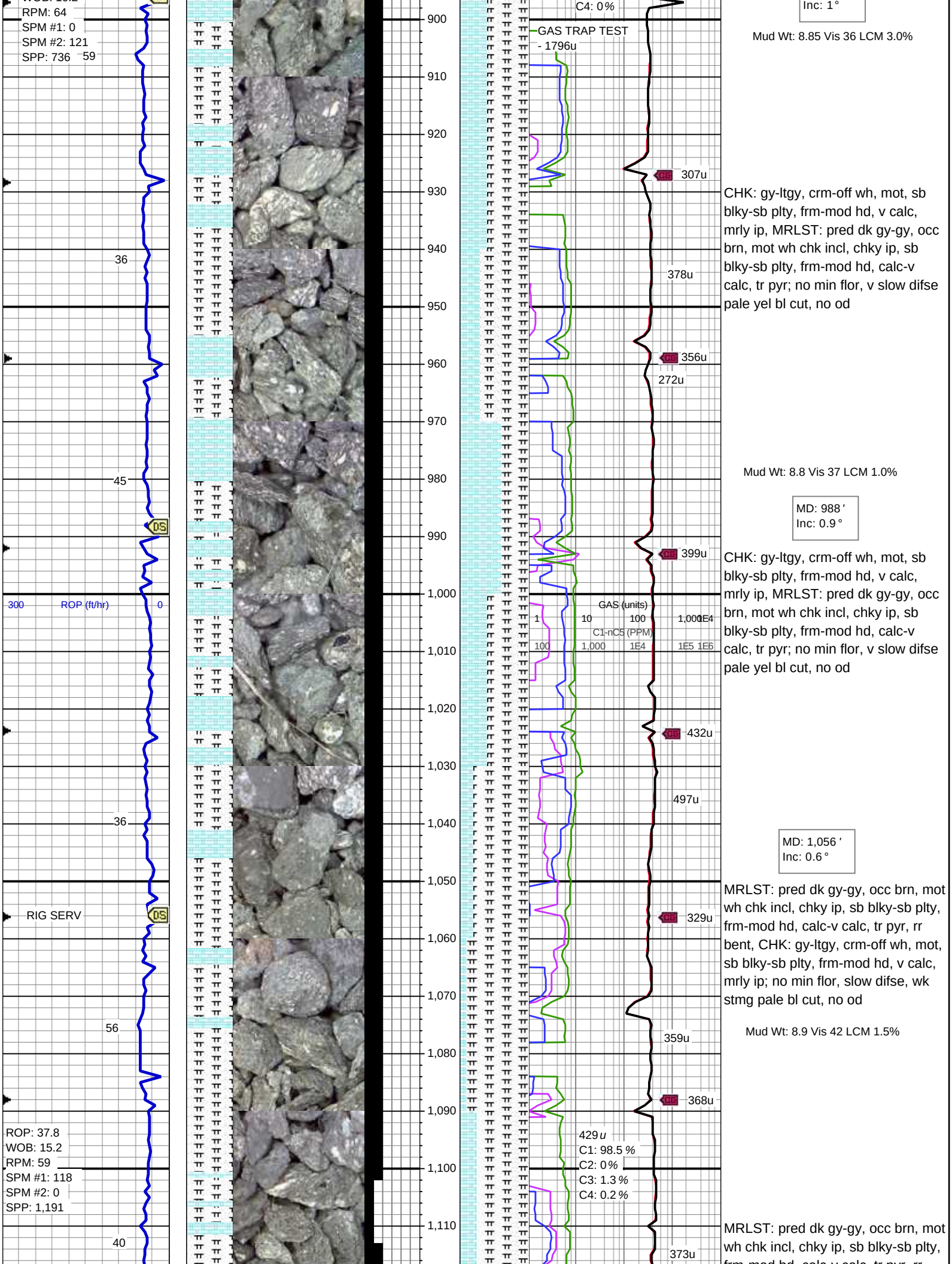
MD: 832 '
Inc: 1.7 °

Mud Wt: 8.8 Vis 36 LCM 3.0%

MD: 864 '
Inc: 1.4 °

CHK: gy-ltgy, crm-off wh, mot, sb blky-sb plty, frm-mod hd, v calc, mrly ip, MRLST: pred dk gy-gy, occ brn, mot wh chk incl, chky ip, sb blky-sb plty, frm-mod hd, calc-v calc; rr pale yel min flor, v slow difse pale yel bl cut, no od

MD: 896 '



Inc: 1 °

Mud Wt: 8.85 Vis 36 LCM 3.0%

CHK: gy-ltgy, crm-off wh, mot, sb blky-sb plty, frm-mod hd, v calc, mrly ip, MRLST: pred dk gy-gy, occ brn, mot wh chk incl, chky ip, sb blky-sb plty, frm-mod hd, calc-v calc, tr pyr; no min flor, v slow difse pale yel bl cut, no od

Mud Wt: 8.8 Vis 37 LCM 1.0%

MD: 988 '
Inc: 0.9 °

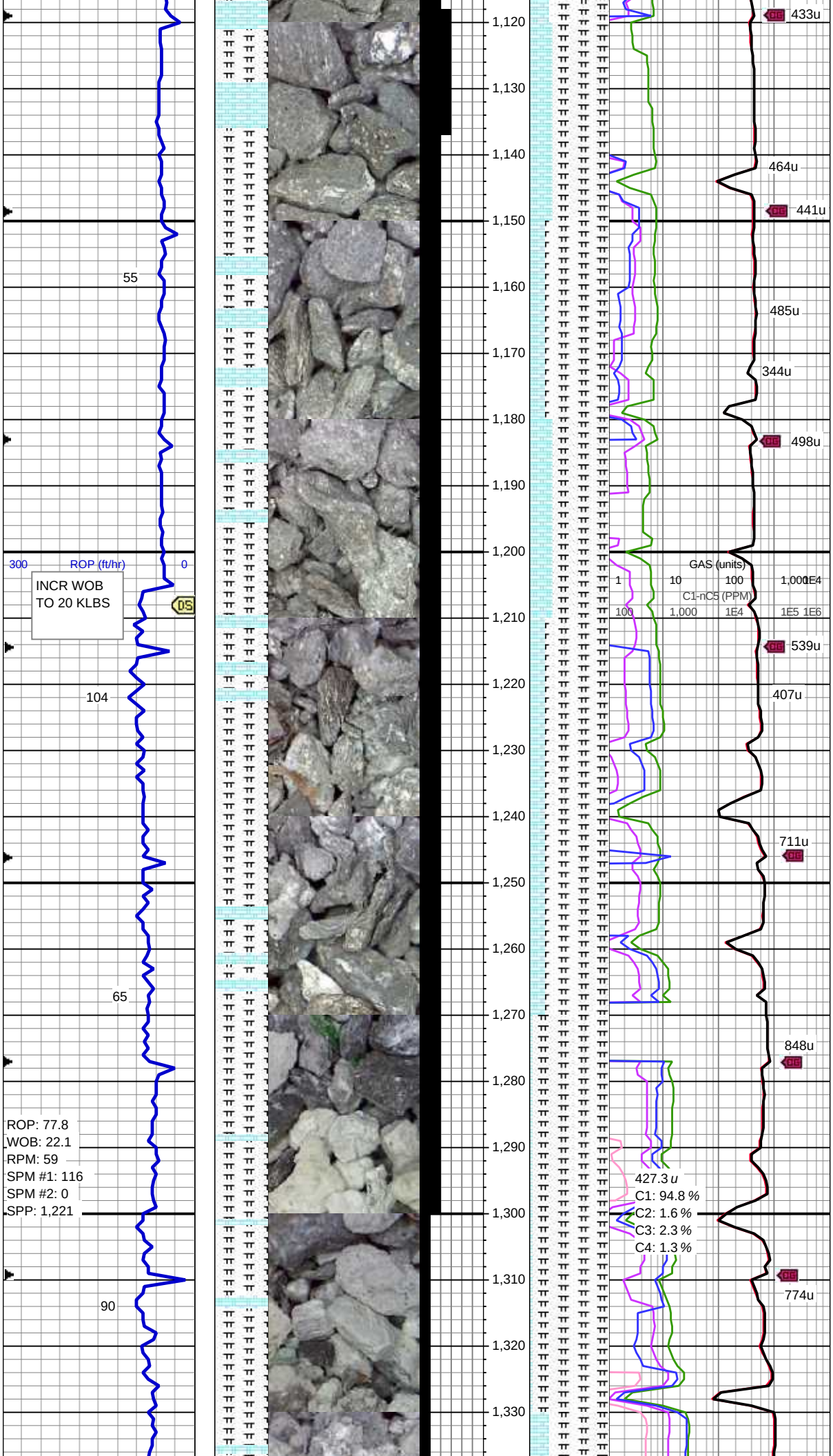
CHK: gy-ltgy, crm-off wh, mot, sb blky-sb plty, frm-mod hd, v calc, mrly ip, MRLST: pred dk gy-gy, occ brn, mot wh chk incl, chky ip, sb blky-sb plty, frm-mod hd, calc-v calc, tr pyr; no min flor, v slow difse pale yel bl cut, no od

MD: 1,056 '
Inc: 0.6 °

MRLST: pred dk gy-gy, occ brn, mot wh chk incl, chky ip, sb blky-sb plty, frm-mod hd, calc-v calc, tr pyr, rr bent, CHK: gy-ltgy, crm-off wh, mot, sb blky-sb plty, frm-mod hd, v calc, mrly ip; no min flor, slow difse, wk stmg pale bl cut, no od

Mud Wt: 8.9 Vis 42 LCM 1.5%

MRLST: pred dk gy-gy, occ brn, mot wh chk incl, chky ip, sb blky-sb plty,



frm-mod hd, calc-v calc, tr pyr, rr bent, CHK: gy-ltgy, crm-off wh, mot, sb blky-sb plty, frm-mod hd, v calc, mrly ip; no min flor, slow difse pale yel bl cut, no od

Mud Wt: In/Out 8.7+/8.8 Vis 37/36 LCM 10%

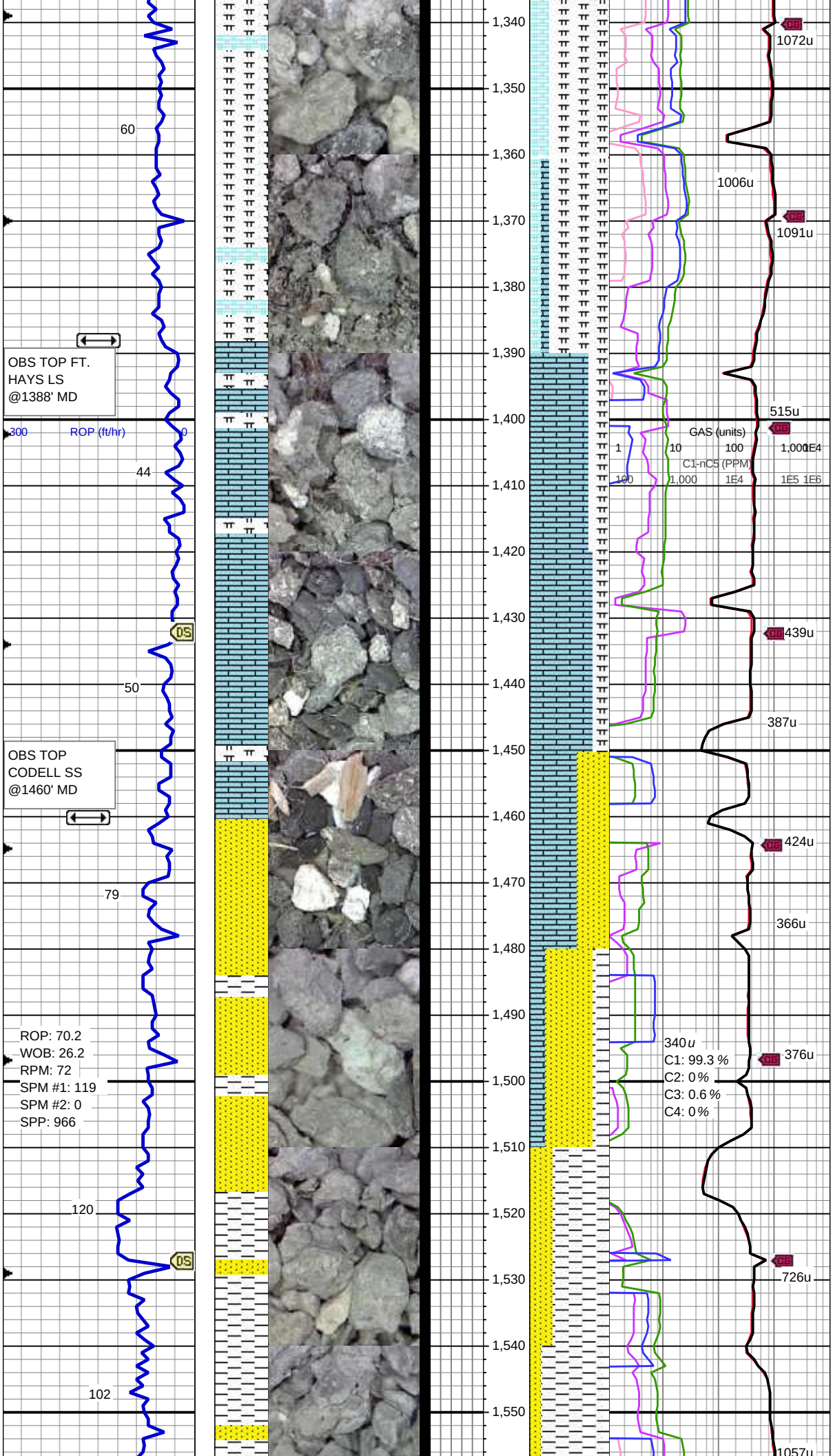
MRLST: pred dk gy-gy, occ brn, mot wh chk incl, chky ip, sb blky-sb plty, frm-mod hd, calc-v calc, rr bent, CHK: gy-ltgy, crm-off wh, mot, sb blky-sb plty, frm-mod hd, v calc, mrly ip; no min flor, slow difse pale yel bl cut, no od

MD: 1,208 '
Inc: 0.2 °

MRLST: pred dk gy-gy, occ brn, mot wh chk incl, chky ip, sb blky-sb plty, frm-mod hd, calc-v calc, rr bent, CHK: gy-ltgy, crm-off wh, mot, sb blky-sb plty, frm-mod hd, v calc, mrly; no min flor, slow difse, wk stmg pale bl cut, no od

MRLST: pred dk gy-gy, occ brn, mot wh chk incl, chky ip, sb blky-sb plty, frm-mod hd, calc-v calc, rr bent, CHK: gy-ltgy, crm-off wh, mot, sb blky-sb plty, frm-mod hd, v calc, mrly; no min flor, slow difse, wk stmg pale bl cut, no od

Mud Wt: In/Out 9.0/9.0 Vis 38/37 LCM 10%



MRLST: pred dk gy-gy, occ brn, mot wh chk incl, chky ip, sb blky-sb plty, frm-mod hd, calc-v calc, CHK: gy-ltgy, crm-off wh, mot, sb blky-sb plty, frm-mod hd, v calc, mrly; no min flor, slow difse, wk stmg pale bl cut, no od

Mud Wt: 9.05 Vis 36 LCM 10%

LS: wh-off wh, lt gy ip, blky-sb blky, frm-hd, rthy-sm tex, mic xln, calc-v calc, tr inoc fos, rr pyr frags, MRLST: pred dk gy-gy, occ brn, mot wh chk incl, chky ip, sb blky-sb plty, frm-mod hd, calc-v calc; no min flor, slow difse, wk stmg pale bl cut, no od

MD: 1,432 '
Inc: 0.1 °

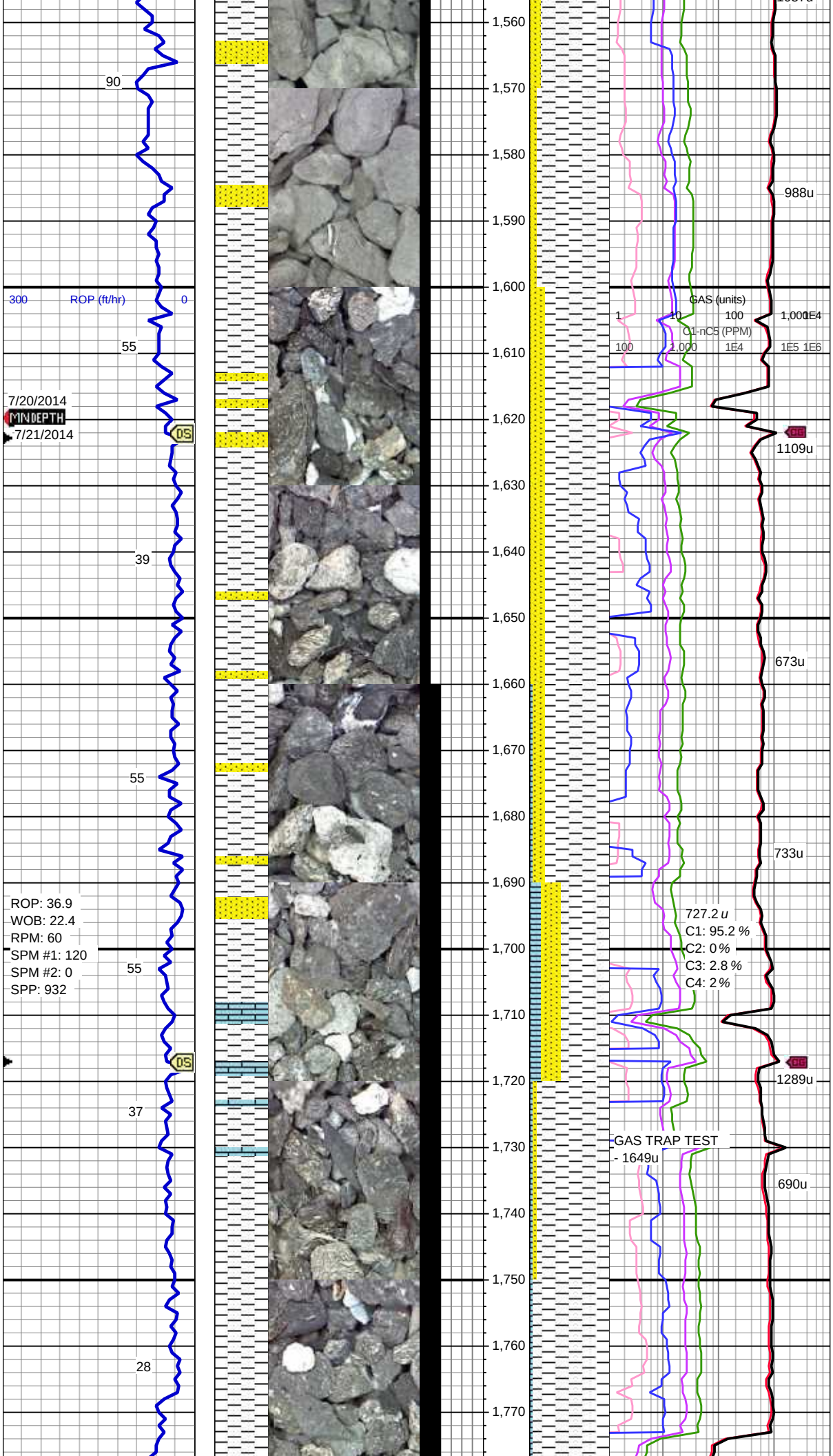
Mud Wt: 9.5 Vis 36 LCM 10%

LS: wh-off wh, blky-sb blky, frm-hd, rthy-sm tex, mic xln, calc-v calc, tr inoc fos, rr pyr frags, SS: lt brn-lt gy, occ dk brn, clr-trnsl grs, f gr, sb rd-rd grns, mod srt, mod frm-frm, uncons ip, p-fr por, arg cmt, v sl calc; no min flor, v slow difse pale yel-bl cut, no od

Mud Wt: 9.1 Vis 36 LCM 10%

SS: lt brn-lt gy, occ dk brn, clr-trnsl grs, f gr, sb rd-rd grns, mod srt, mod frm-frm, uncons ip, p-fr por, arg cmt, v sl calc, SH: pred dk gy, sb plty-sb blky, mod sft-frm, slty tex, sl calc, LS: wh-off wh, blky-sb blky, frm-hd, rthy-sm tex, mic xln, calc-v calc,; no min flor, v slow difse pale yel-bl cut, no od

MD: 1,527 '
Inc: 0.1 °



SH: pred dk gy, blk ip, sb plty-plty, mod sft-frm, slty tex, sl calc, SS: lt brn-lt gy, occ dk brn, clr-trnsl grs, f gr, sb rd-rd grns, mod srt, frm-hd, uncons ip, p-fr por, arg cmt, v sl calc, occ ls frags; no min flor, v slow difse pale yel-bl cut, no od

Mud Wt: 9.1 Vis 36 LCM 5%

MD: 1,622 '
Inc: 0.4 °

SH: pred dk gy, blk ip, sb plty-plty, mod frm-hd, slty tex, sl calc, SS: lt brn-lt gy, occ dk brn, clr-trnsl grs, f gr, sb rd-rd grns, mod srt, frm-hd, uncons ip, p-fr por, arg cmt, v sl calc, abnt calc frags; no min flor, v slow difse pale yel-bl cut, no od

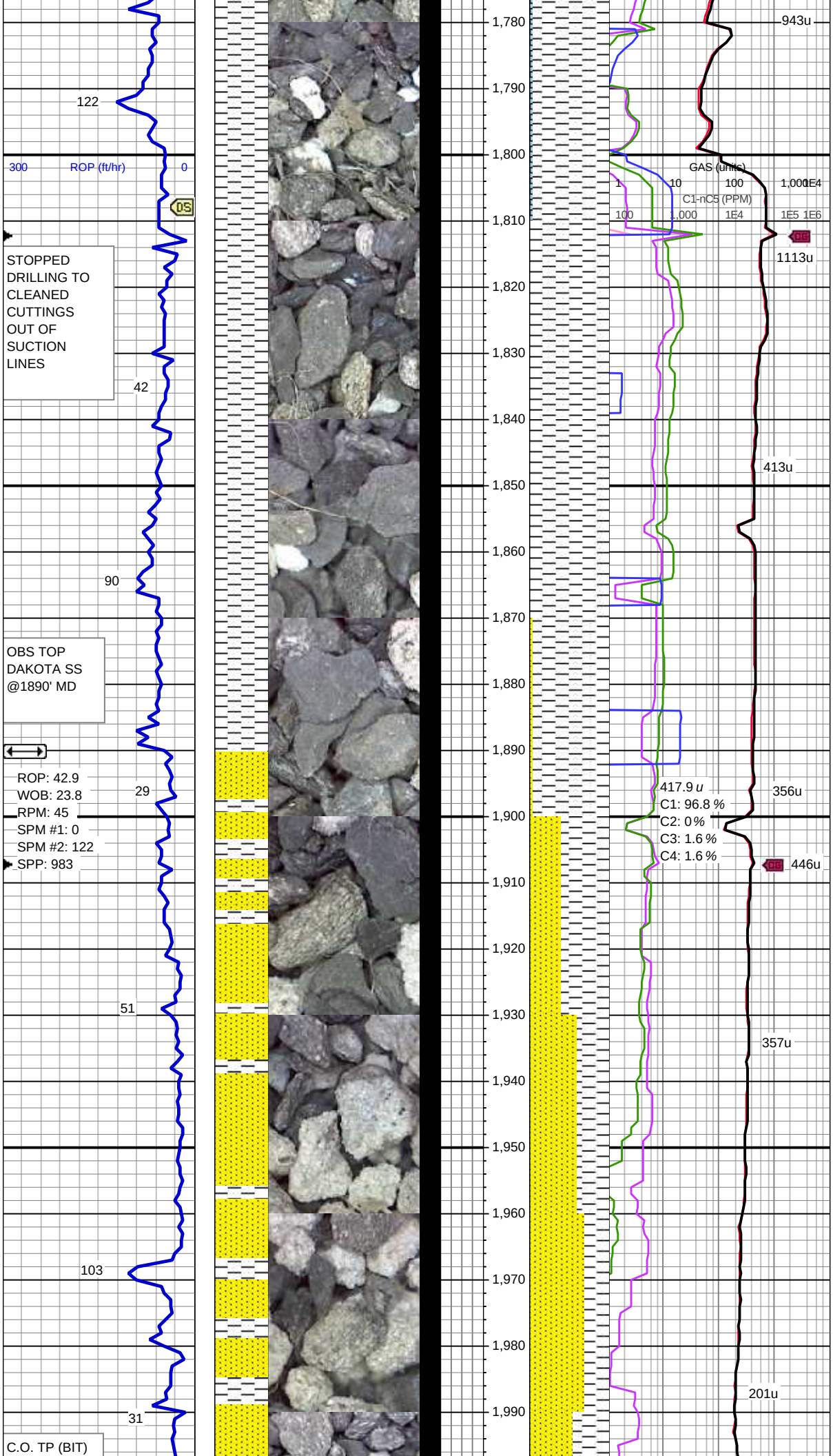
Mud Wt: 9.25 Vis 36 LCM 7%

SH: pred dk gy, blk ip, sb plty-plty, mod frm-hd, slty tex, sl calc SS: lt brn-lt gy, occ dk brn, clr-trnsl grs, f gr, sb rd-rd grns, mod srt, frm-hd, uncons ip, p-fr por, arg cmt, v sl calc, abnt ls frags, LS: wh-off wh, mic xln, sm tex, sft-mod frm, blky, v calc; no min flor, v slow difse pale yel-bl cut, no od

MD: 1,717 '
Inc: 0.1 °

SH: pred dk gy, blk ip, sb plty-plty, mod frm-hd, slty tex, calc, SS: lt brn-lt gy, occ dk brn, clr-trnsl grs, f gr, sb rd-rd, mod srt, frm-hd, uncons ip, p-fr por, arg cmt, v sl calc, LS: wh-off wh, mic xln, sm tex, sft-mod frm, blky, v calc; no min flor, v slow difse pale yel-bl cut, no od

Mud Wt: 9.2 Vis 36 LCM 5%



MD: 1,808 '
Inc: 0.2 °

SH: pred dk gy-blk, tan-dk gy brn, sb plty-sb blky, frm-hd, slty tex, calc, LS: wh-off wh, brn ip, mic xln, sm tex, sft-mod frm, blky, v calc, mrly ip; no min flor, v slow difse pale yel-bl cut, no od

RIG CLEANED POSSUM BELLY

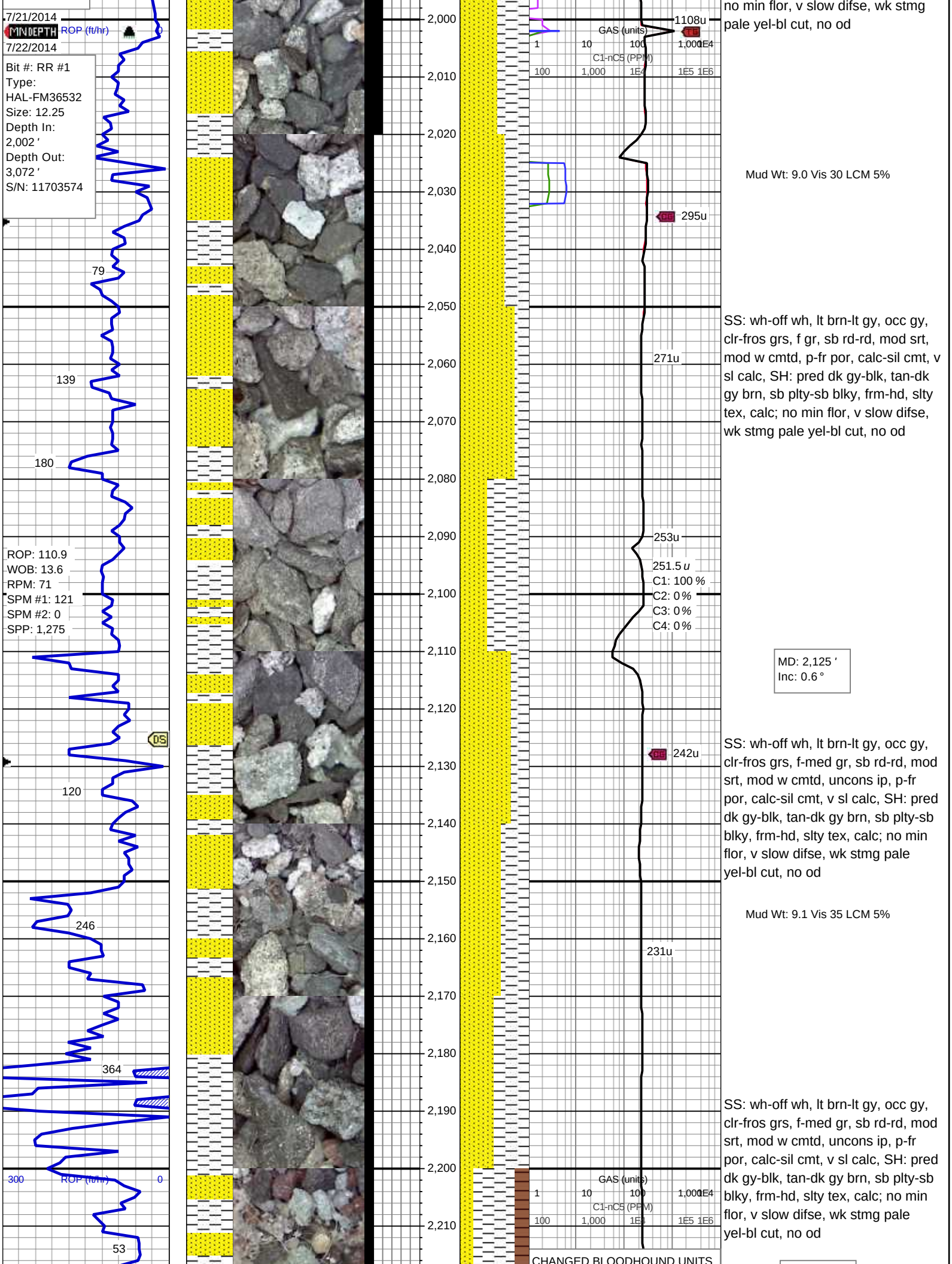
SH: pred dk gy-blk, tan-dk gy brn, sb plty-sb blky, frm-hd, slty tex, calc, SS: wh-off wh, lt brn-lt gy, clr-trnsl grs, f gr, sb rd-rd, mod srt, mod w cmtd, p-fr por, calc-sil cmt, v sl calc; no min flor, v slow difse, wk stmg pale yel-bl cut, no od

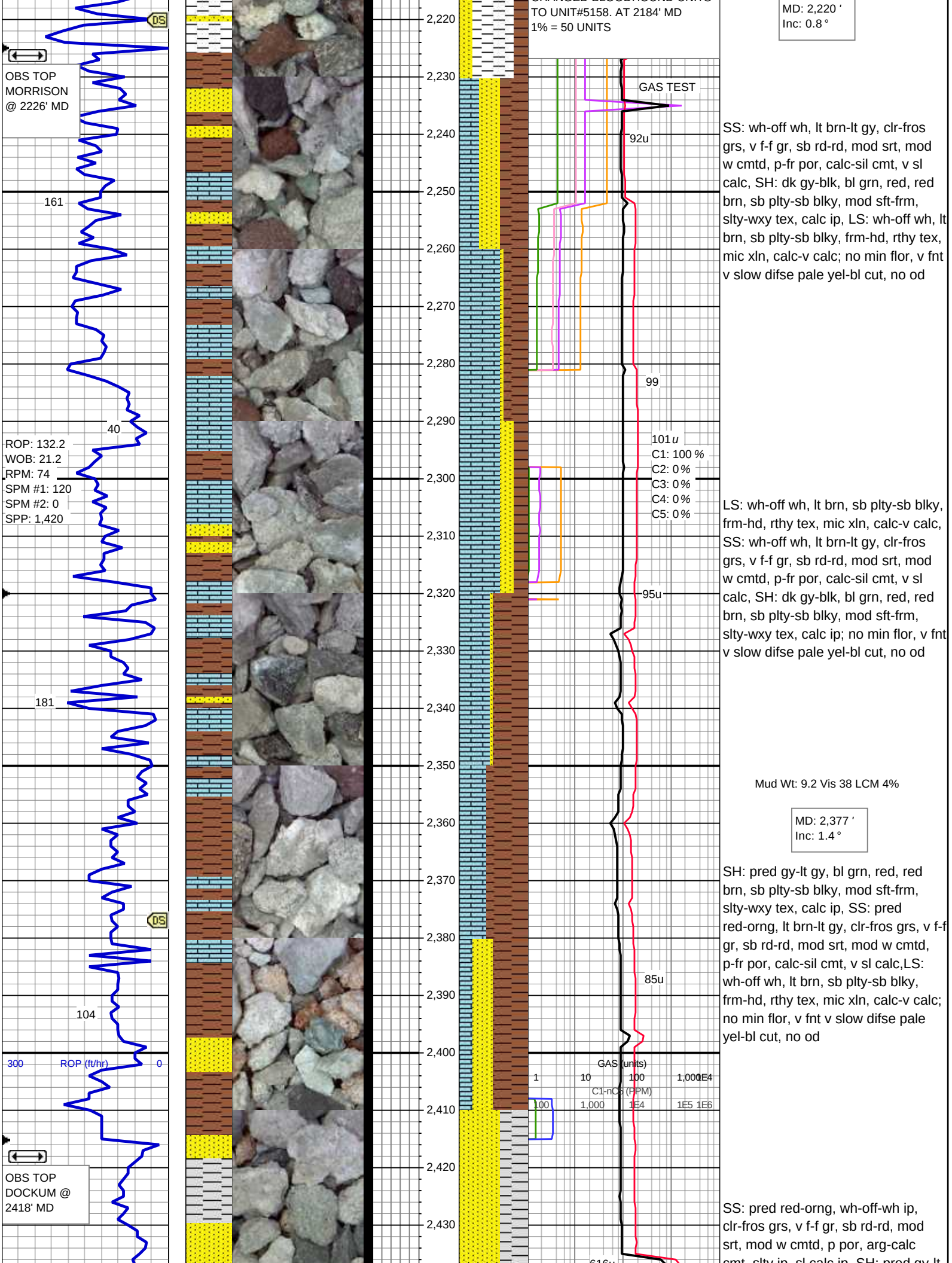
Mud Wt: 9.15 Vis 38 LCM 3%

SH: pred dk gy-blk, tan-dk gy brn, sb plty-sb blky, frm-hd, slty tex, calc, SS: wh-off wh, lt brn-lt gy, clr-fros grs, f gr, sb rd-rd, mod srt, mod w cmtd, p-fr por, calc-sil cmt, v sl calc; no min flor, v slow difse, wk stmg pale yel-bl cut, no od

Mud Wt: 9.2 Vis 37 LCM 4%

SS: wh-off wh, lt brn-lt gy, clr-fros grs, f gr, sb rd-rd, mod srt, mod w cmtd, p-fr por, calc-sil cmt, v sl calc, SH: pred dk gy-blk, tan-dk gy brn, sb plty-sb blky, frm-hd, slty tex, calc;


7/21/2014
MINDEPTH
ROP (ft/hr)
0
7/22/2014
Bit #: RR #1
Type:
HAL-FM36532
Size: 12.25
Depth In:
2,002 ′
Depth Out:
3,072 ′
S/N: 11703574
79
139
180
ROP: 110.9
WOB: 13.6
RPM: 71
SPM #1: 121
SPM #2: 0
SPP: 1,275
DS
120
246
364
300
ROP (ft/hr)
0
53
2,000
2,010
2,020
2,030
2,040
2,050
2,060
2,070
2,080
2,090
2,100
2,110
2,120
2,130
2,140
2,150
2,160
2,170
2,180
2,190
2,200
2,210
GAS (units)
1
10
100
1,000
1E4
C1-nC5 (PPM)
100
1,000
1E4
1E5
1E6
1108u
295u
271u
253u
251.5 u
C1: 100 %
C2: 0 %
C3: 0 %
C4: 0 %
242u
231u
GAS (units)
1
10
100
1,000
1E4
C1-nC5 (PPM)
100
1,000
1E4
1E5
1E6
CHANGED BLOODHOUND UNITS
no min flor, v slow difse, wk stmg pale yel-bl cut, no od
Mud Wt: 9.0 Vis 30 LCM 5%
SS: wh-off wh, lt brn-lt gy, occ gy, clr-fros grs, f gr, sb rd-rd, mod srt, mod w cmtd, p-fr por, calc-sil cmt, v sl calc, SH: pred dk gy-blk, tan-dk gy brn, sb plty-sb blky, frm-hd, slty tex, calc; no min flor, v slow difse, wk stmg pale yel-bl cut, no od
MD: 2,125 ′
Inc: 0.6 °
SS: wh-off wh, lt brn-lt gy, occ gy, clr-fros grs, f-med gr, sb rd-rd, mod srt, mod w cmtd, uncons ip, p-fr por, calc-sil cmt, v sl calc, SH: pred dk gy-blk, tan-dk gy brn, sb plty-sb blky, frm-hd, slty tex, calc; no min flor, v slow difse, wk stmg pale yel-bl cut, no od
Mud Wt: 9.1 Vis 35 LCM 5%
SS: wh-off wh, lt brn-lt gy, occ gy, clr-fros grs, f-med gr, sb rd-rd, mod srt, mod w cmtd, uncons ip, p-fr por, calc-sil cmt, v sl calc, SH: pred dk gy-blk, tan-dk gy brn, sb plty-sb blky, frm-hd, slty tex, calc; no min flor, v slow difse, wk stmg pale yel-bl cut, no od



SS: wh-off wh, lt brn-lt gy, clr-fros grs, v f-f gr, sb rd-rd, mod srt, mod w cmtd, p-fr por, calc-sil cmt, v sl calc, SH: dk gy-blk, bl grn, red, red brn, sb plty-sb blky, mod sft-frm, slty-wxy tex, calc ip, LS: wh-off wh, lt brn, sb plty-sb blky, frm-hd, rthy tex, mic xln, calc-v calc; no min flor, v fnt v slow difse pale yel-bl cut, no od

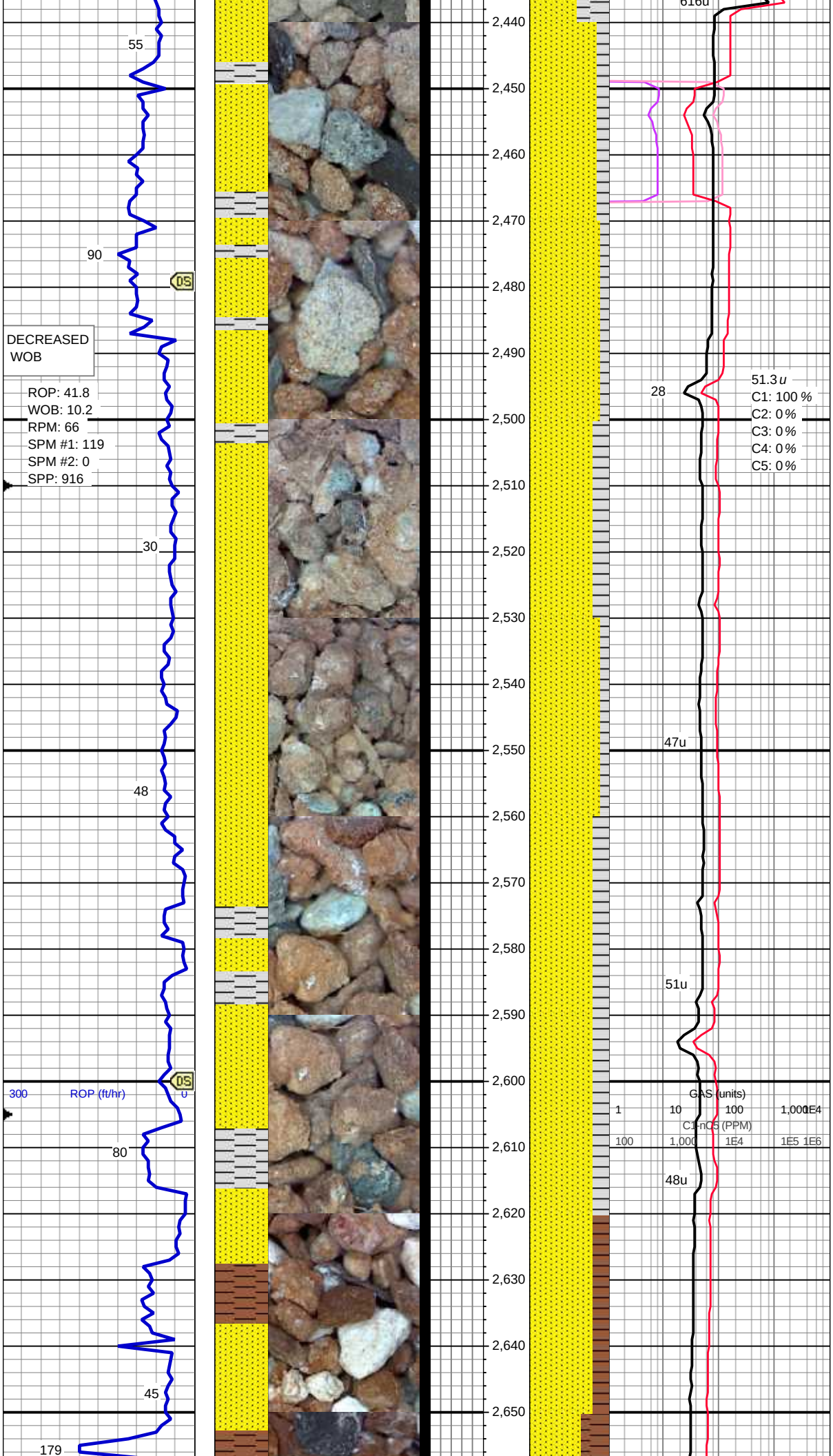
LS: wh-off wh, lt brn, sb plty-sb blky, frm-hd, rthy tex, mic xln, calc-v calc, SS: wh-off wh, lt brn-lt gy, clr-fros grs, v f-f gr, sb rd-rd, mod srt, mod w cmtd, p-fr por, calc-sil cmt, v sl calc, SH: dk gy-blk, bl grn, red, red brn, sb plty-sb blky, mod sft-frm, slty-wxy tex, calc ip; no min flor, v fnt v slow difse pale yel-bl cut, no od

Mud Wt: 9.2 Vis 38 LCM 4%

MD: 2,377 '
Inc: 1.4 °

SH: pred gy-lt gy, bl grn, red, red brn, sb plty-sb blky, mod sft-frm, slty-wxy tex, calc ip, SS: pred red-orng, lt brn-lt gy, clr-fros grs, v f-f gr, sb rd-rd, mod srt, mod w cmtd, p-fr por, calc-sil cmt, v sl calc,LS: wh-off wh, lt brn, sb plty-sb blky, frm-hd, rthy tex, mic xln, calc-v calc; no min flor, v fnt v slow difse pale yel-bl cut, no od

SS: pred red-orng, wh-off-wh ip, clr-fros grs, v f-f gr, sb rd-rd, mod srt, mod w cmtd, p por, arg-calc



cmt, slty ip, sl calc ip, SH: pred gy-lt gy, tr bl grn, sb plty-sb blky, mod sft-frm, slty-wxy tex, calc ip; no min flor, v fnt v slow difse pale yel-bl cut, no od

MD: 2,479 '
Inc: 1.9 °

Mud Wt: 9.4 Vis 38 LCM 4%

SS: pred red-orng, wh-off-wh ip, clr-fros grs, v f-f gr, sb rd-rd, mod srt, mod w cmtd, p por, arg-calc cmt, slty ip, sl calc ip, SH: pred gy-lt gy, tr blk, sb plty-sb blky, mod sft-frm, slty-wxy tex, calc ip; no min flor, v fnt v slow difse pale yel-bl cut, no od

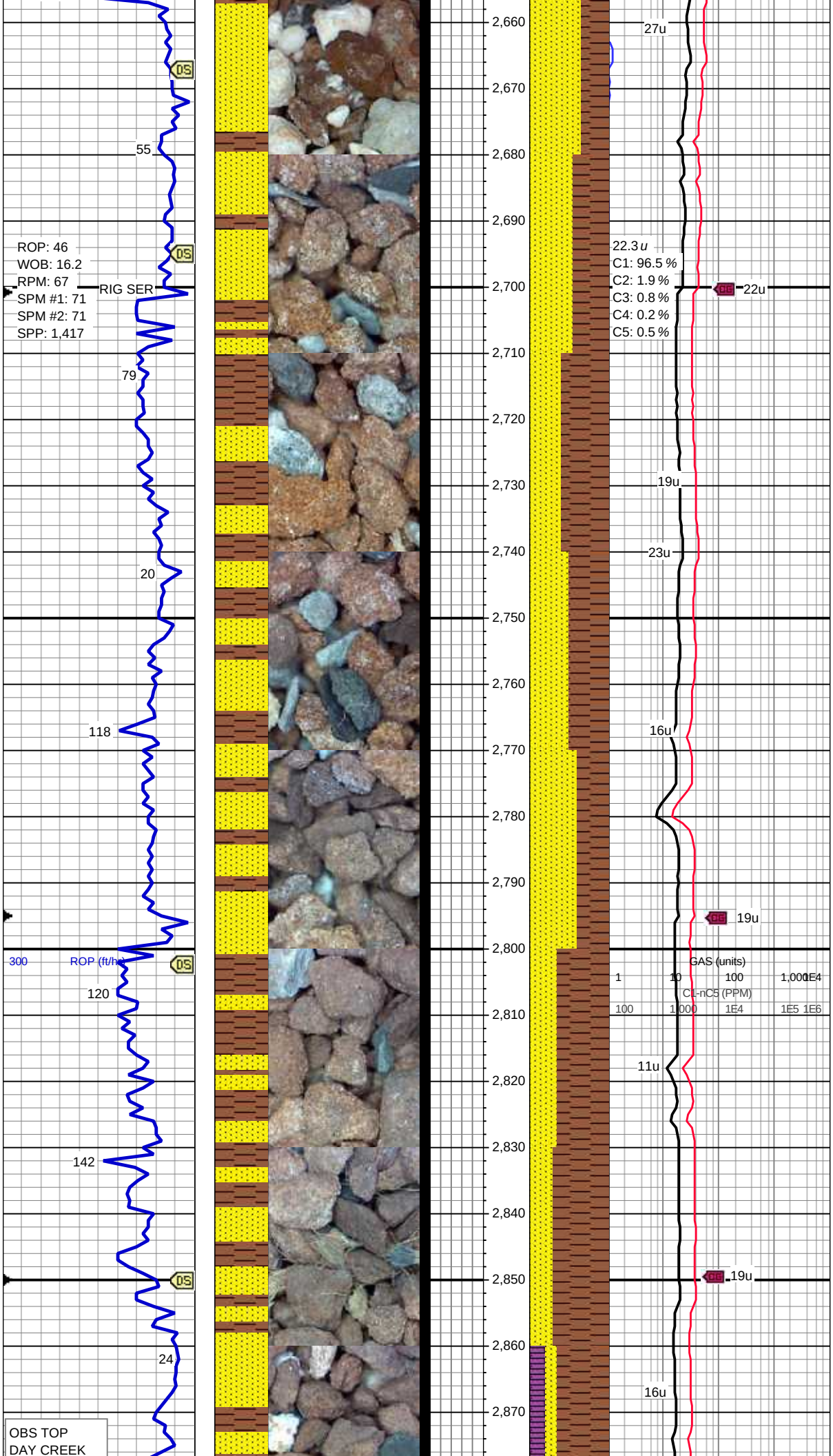
Mud Wt: 9.1 Vis 37

SS: pred red-orng, wh-off-wh ip, clr-fros grs, v f-f gr, sb rd-rd, mod srt, mod w cmtd, p por, arg-calc cmt, slty ip, sl calc ip, SH: pred gy-lt gy, tr blk, sb plty-sb blky, mod sft-frm, slty-wxy tex, calc ip; no min flor, v fnt v slow difse pale yel-bl cut, no od

MD: 2,600 '
Inc: 2 °

SS: pred red-orng, occ wh-off-wh, clr-fros grs, v f-f gr, sb rd-rd, mod srt, mod w cmtd, p por, arg-calc cmt, slty-v slty ip, sl calc ip, SH: pred gy-lt gy grdg to red, sb plty-sb blky, mod sft-frm, slty ip, calc ip; no min flor, v fnt v slow difse pale yel-bl cut, no od

Mud Wt: 9.0 Vis 43, LCM 2-3%



MD: 2,667 '
Inc: 2 °

SS: pred red-orng, occ wh-off-wh, clr-fros grs, v f-f gr, sb rd-rd, p srt, mod cmtd, p por, arg cmt, v slty, sl calc, SH: pred red-dk red, sb plty-sb blky, mod sft-frm, v slty ip, wxy ip, s calc ip; no min flor, v fnt v slow difse pale yel-bl cut, no od

MD: 2,695 '
Inc: 1.8 °

SH: pred red-dk red, sb plty-sb blky, rr dk gy, mod sft-frm, v slty ip, wxy ip, s calc ip, SS: pred red-orng, wh-off-wh, clr-fros grs, v f-f gr, sb rd-rd, p srt, mod cmtd, p por, arg cmt, v slty, sl calc; no min flor, v fnt v slow difse pale yel-bl cut, no od

MD: 2,792 '
Inc: 1.7 °

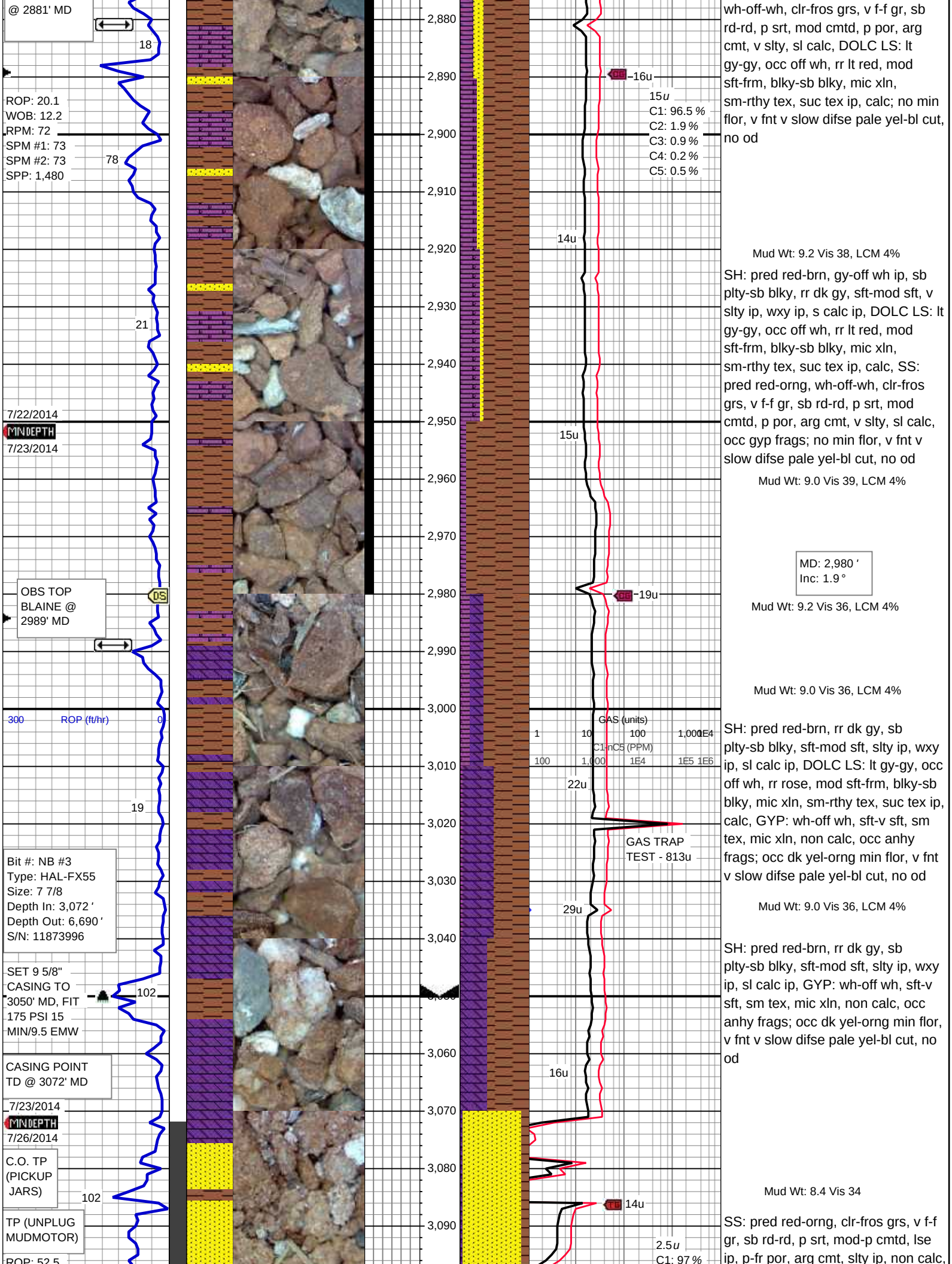
Mud Wt: 9.0 Vis 34, LCM 4%

SH: pred red-dk red, sb plty-sb blky, rr dk gy, mod sft-frm, v slty ip, wxy ip, s calc ip, SS: pred red-orng, wh-off-wh, clr-fros grs, v f-f gr, sb rd-rd, p srt, mod cmtd, p por, arg cmt, v slty, sl calc, tr ls frags; no min flor, v fnt v slow difse pale yel-bl cut, no od

MD: 2,850 '
Inc: 2 °

Mud Wt: 9.05 Vis 34, LCM 4%

SH: pred red-brn, sb plty-sb blky, rr dk gy, mod sft-frm, v slty ip, wxy ip, s calc ip, SS: pred red-orng,



wh-off-wh, clr-fros grs, v f-f gr, sb rd-rd, p srt, mod cmtd, p por, arg cmt, v slty, sl calc, DOLC LS: lt gy-gy, occ off wh, rr lt red, mod sft-frm, blky-sb blky, mic xln, sm-rthy tex, suc tex ip, calc; no min flor, v fnt v slow difse pale yel-bl cut, no od

Mud Wt: 9.2 Vis 38, LCM 4%

SH: pred red-brn, gy-off wh ip, sb plty-sb blky, rr dk gy, sft-mod sft, v slty ip, wxy ip, s calc ip, DOLC LS: lt gy-gy, occ off wh, rr lt red, mod sft-frm, blky-sb blky, mic xln, sm-rthy tex, suc tex ip, calc, SS: pred red-orng, wh-off-wh, clr-fros grs, v f-f gr, sb rd-rd, p srt, mod cmtd, p por, arg cmt, v slty, sl calc, occ gyp frags; no min flor, v fnt v slow difse pale yel-bl cut, no od

Mud Wt: 9.0 Vis 39, LCM 4%

MD: 2,980 '
Inc: 1.9 °

Mud Wt: 9.2 Vis 36, LCM 4%

Mud Wt: 9.0 Vis 36, LCM 4%

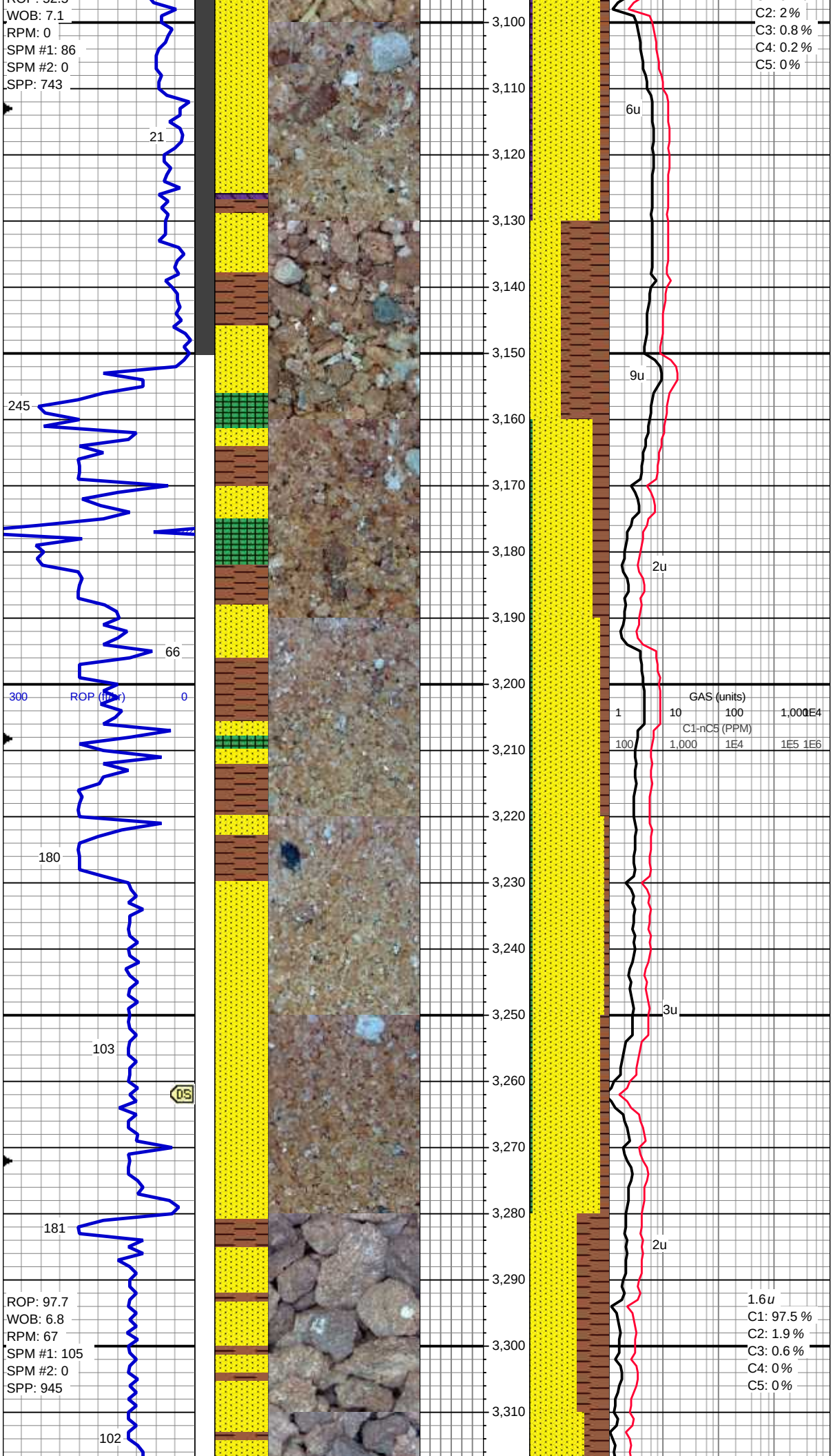
SH: pred red-brn, rr dk gy, sb plty-sb blky, sft-mod sft, slty ip, wxy ip, sl calc ip, DOLC LS: lt gy-gy, occ off wh, rr rose, mod sft-frm, blky-sb blky, mic xln, sm-rthy tex, suc tex ip, calc, GYP: wh-off wh, sft-v sft, sm tex, mic xln, non calc, occ anhy frags; occ dk yel-orng min flor, v fnt v slow difse pale yel-bl cut, no od

Mud Wt: 9.0 Vis 36, LCM 4%

SH: pred red-brn, rr dk gy, sb plty-sb blky, sft-mod sft, slty ip, wxy ip, sl calc ip, GYP: wh-off wh, sft-v sft, sm tex, mic xln, non calc, occ anhy frags; occ dk yel-orng min flor, v fnt v slow difse pale yel-bl cut, no od

Mud Wt: 8.4 Vis 34

SS: pred red-orng, clr-fros grs, v f-f gr, sb rd-rd, p srt, mod-p cmtd, lse ip, p-fr por, arg cmt, slty ip, non calc,



SH: pred red-brn, rr dk gy, sb plty-sb blky, sft-mod sft, slty-wxy, sl calc ip, GYP: wh-off wh, sft-v sft, sm tex, mic xln, non calc, occ anhy frags; no min flor, no cut, no od

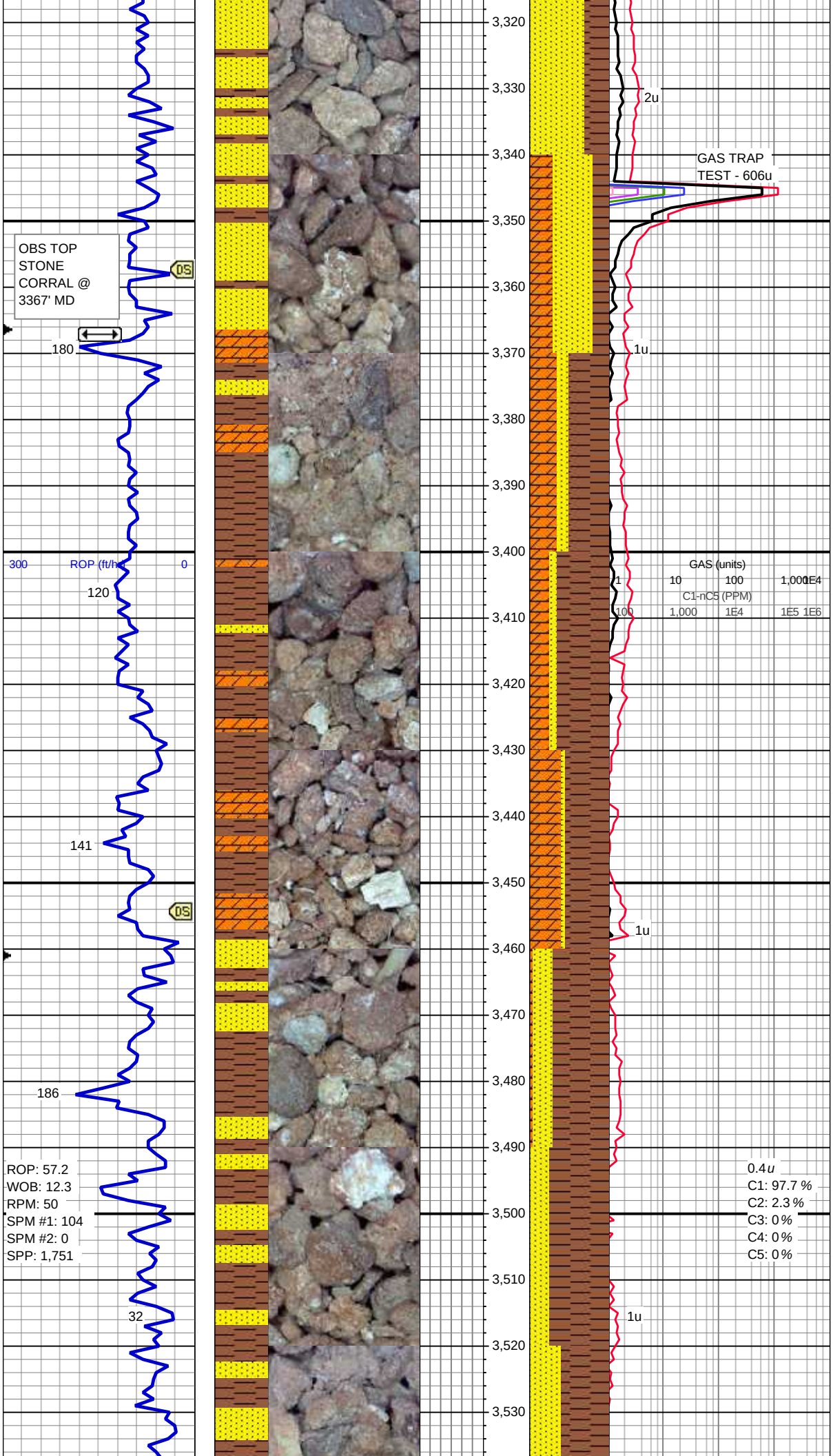
SS: pred red-orng, clr-fros grs, v f-f gr, sb rd-rd, p srt, mod-p cmtd, lse ip, p-fr por, arg cmt, slty ip, non calc, SH: pred red-brn, rr dk gy, sb plty-sb blky, sft-mod sft, slty-wxy, sl calc ip, SA: cl, wh, lt brn frm-hd, mic xln, non calc, occ anhy frags; no min flor, no cut, no od

SS: pred red-orng, clr-fros grs, v f-f gr, sb rd-rd, mod srt, p cmtd, pred uncons, p-fr por, arg ip, slty ip, non calc, SH: pred red-brn, rr dk gy, sb plty-sb blky, sft-mod sft, slty-wxy, sl calc ip, SA: cl, wh, lt brn frm-hd, mic xln, blky, non calc, occ anhy frags; no min flor, no cut, no od

Mud Wt: 8.4 Vis 35

MD: 3,262 '
Inc: 1.5 °

SS: pred red-orng, clr-fros grs, v f-f gr, sb rd-rd, mod srt, p cmtd, pred uncons, p-fr por, arg ip, slty ip, non calc, SH: pred red-brn, rr dk gy, sb plty-sb blky, sft-mod sft, slty-wxy, sl calc ip, SA: cl, wh, lt brn frm-hd, mic xln, blky, non calc, occ anhy frags; no min flor, no cut, no od



MD: 3,357 '
Inc: 1.5 °

SS: pred red-orng, clr-fros grs, v f-f gr, sb rd-rd, mod srt, p cmtd, pred uncons, p-fr por, arg ip, slty ip, non calc, SH: pred red-brn, rr dk gy, sb plty-sb blky, sft-mod sft, slty-wxy, sl calc ip ANHY: wh-off wh, occ brn, sft-mod frm, xln tex, blky grns, non calc; no min flor, no cut, no od

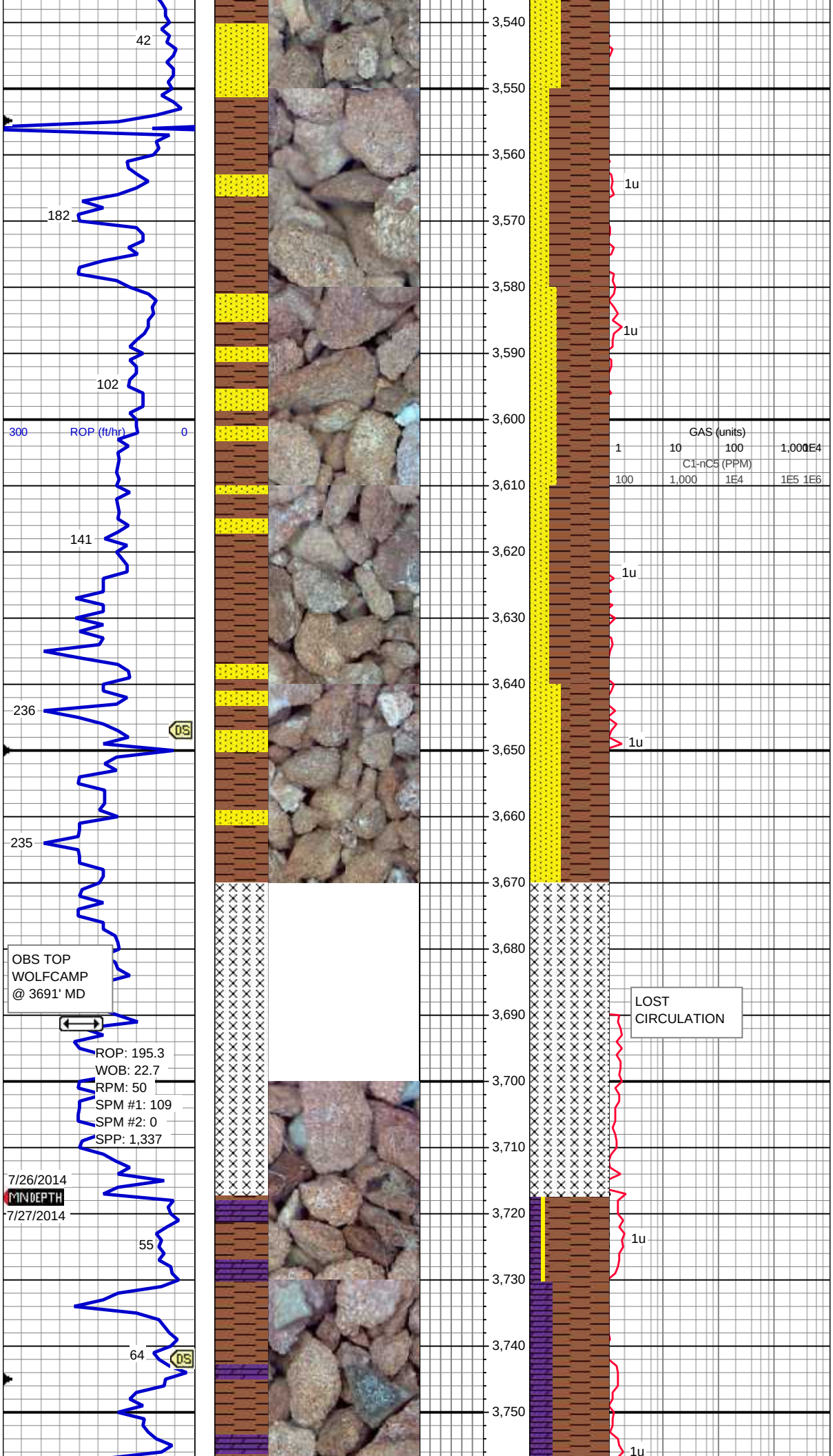
Mud Wt: 8.5 Vis 38

SH: pred red-brn, rr dk gy, sb plty-sb blky, sft-mod sft, slty-wxy, sl calc ip, ANHY: wh-off wh, occ brn, sft-mod frm, xln tex, blky grns, non calc, SS: pred red-orng, clr-fros grs, v f-f gr, sb rd-rd, mod srt, p cmtd, pred uncons, p-fr por, arg ip, slty ip, non calc; no min flor, no cut, no od

MD: 3,454 '
Inc: 1.3 °

Mud Wt: 8.55 Vis 37

SH: pred red-brn, rr dk gy, sb plty-sb blky, sft-mod sft, slty-wxy, sl calc ip, ANHY: wh-off wh, occ brn, sft-mod frm, xln tex, blky grns, non calc, SS: pred red-orng, clr-fros grs, v f-f gr, sb rd-rd, mod srt, p cmtd, pred uncons, p-fr por, arg ip, slty ip, non calc; no min flor, no cut, no od



MD: 3,547 '
Inc: 1.1 °

SH: pred red-brn, rr dk gy, sb plty-sb blky, sft-mod sft, slty-wxy, sl calc ip, SS: pred red-orng, clr-fros grs, v f-f gr, sb rd-rd, mod srt, mod frm-frm, p-fr por, arg ip, v slty ip, non calc; no min flor, no cut, no od

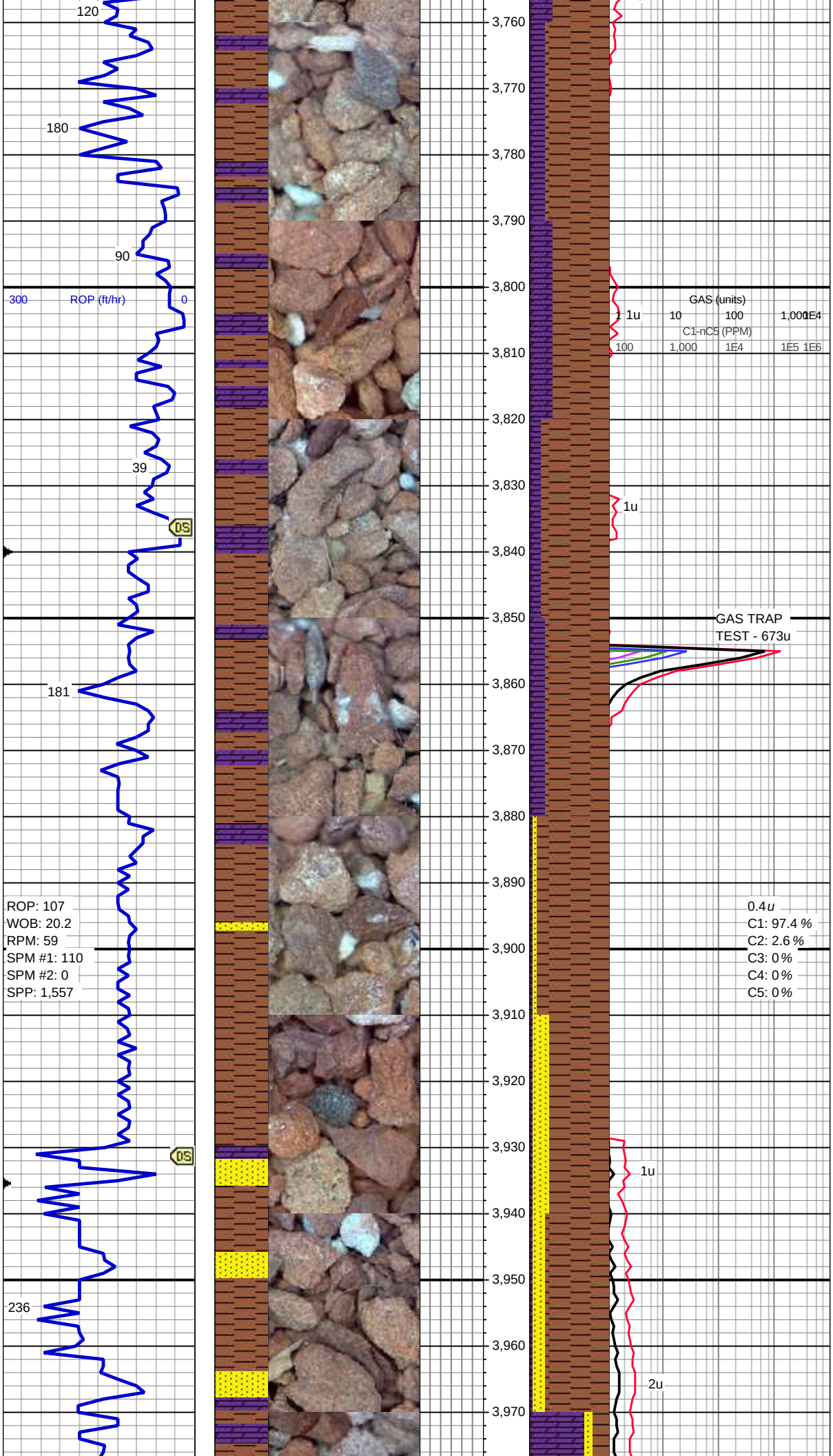
Mud Wt: 8.55 Vis 36

MD: 3,647 '
Inc: 1.6 °

SH: pred red-brn, rr dk gy, sb plty-sb blky, sft-mod sft, slty-wxy, sl calc ip, SS: pred red-orng, clr-fros grs, v f-f gr, sb rd-rd, mod srt, mod frm-frm, p-fr por, arg ip, v slty ip, non calc; no min flor, no cut, no od

SH: pred red-brn, sb plty-sb blky, sft-mod sft, occ v slty, sl calc ip, DOL: off wh-lt gy, mic xln, sb blky-blky, mod frm-hd, suc tex ip, sl calc, SS: pred red-orng, clr-fros grs, v f-f gr, sb rd-rd, mod srt, mod frm-frm, p-fr por, arg ip, uncons, non calc; no min flor, no cut, no od

MD: 3,742 '
Inc: 0.9 °



SH: pred red-brn, tr dk gy, sb plty-sb blky, sft-mod sft, v slty, sl calc ip, DOL: off wh-lt gy, occ lt red, mic xln, sb blky-blky, mod frm-hd, suc tex ip, sl calc; no min flor, no cut, no od

MD: 3,836 '
Inc: 0.9 °

SH: pred red-brn, tr dk gy, sb plty-sb blky, sft-mod sft, v slty, occ sdy, sl calc ip, DOL: off wh-lt gy, occ lt red, mic xln, sb blky-blky, mod frm-hd, suc tex ip, sl calc; no min flor, no cut, no od

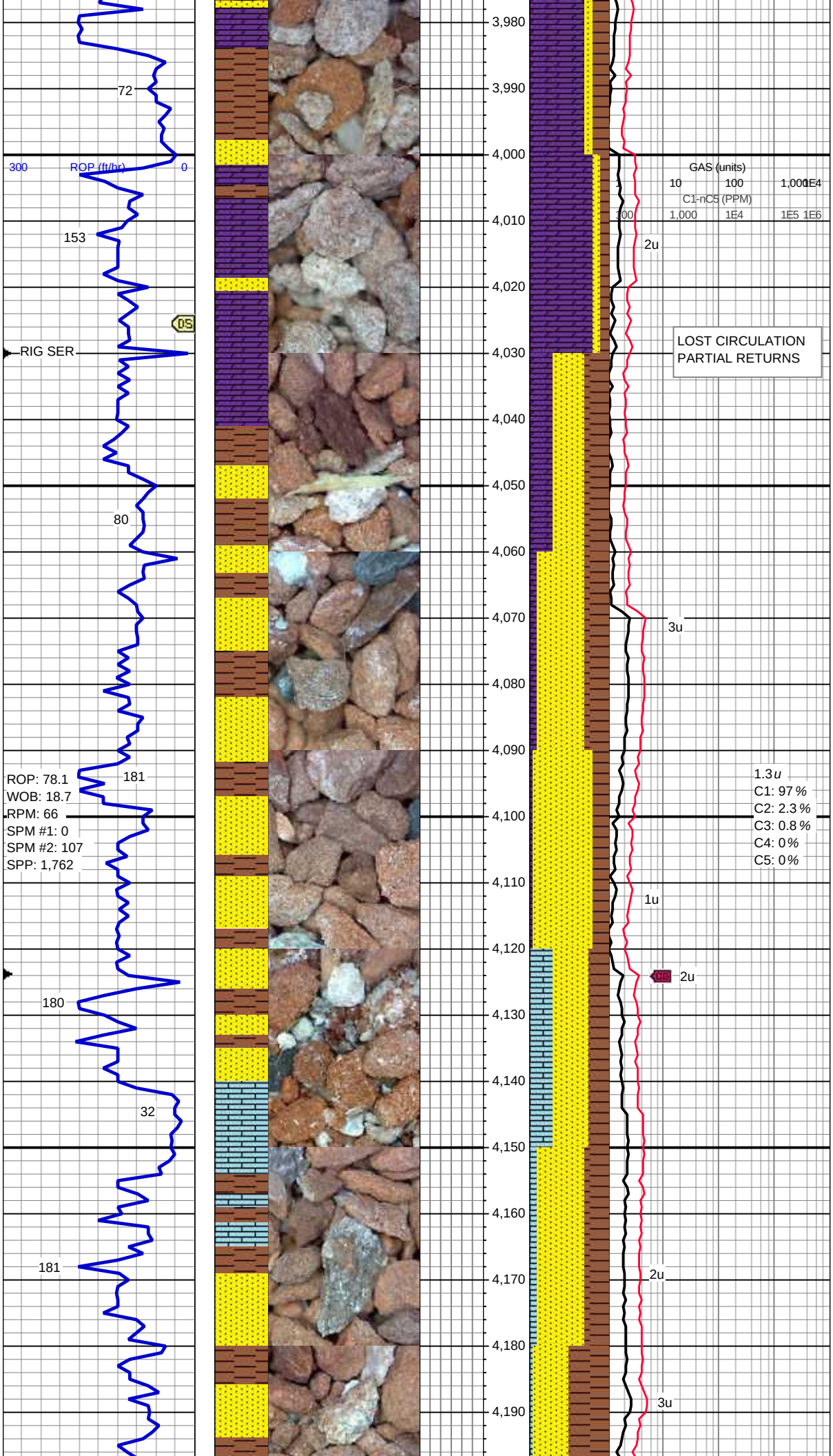
Mud Wt: 8.55 Vis 36

SH: pred red-brn, tr dk gy, sb plty-sb blky, sft-mod sft, v slty, occ sdy, sl calc ip, DOL: off wh-lt gy, occ lt red, mic xln, sb blky-blky, mod frm-hd, suc tex ip, sl calc, SS: pred red-orng, clr-fros grs, vf-f gr, sb rd-rd, mod srt, mod frm-frm, p-fr por, arg cmt, slty ip; no min flor, no cut, no od

MD: 3,931 '
Inc: 1.9 °

Mud Wt: 8.6 Vis 37

SH: pred red-brn, tr dk gy, sb plty-sb blky, sft-mod sft, v slty, occ sdy, sl calc ip, DOL: rose-lt red, mic xln, sb blky-blky, mod frm-hd, v suc tex, sl calc, SS: pred red-orng, clr-fros grs,



vf-f gr, sb rd-rd, mod srt, mod frm-frm, p-fr por, arg cmt, slty ip; no min flor, no cut, no od

MD: 4,025 ′
Inc: 1.8 °

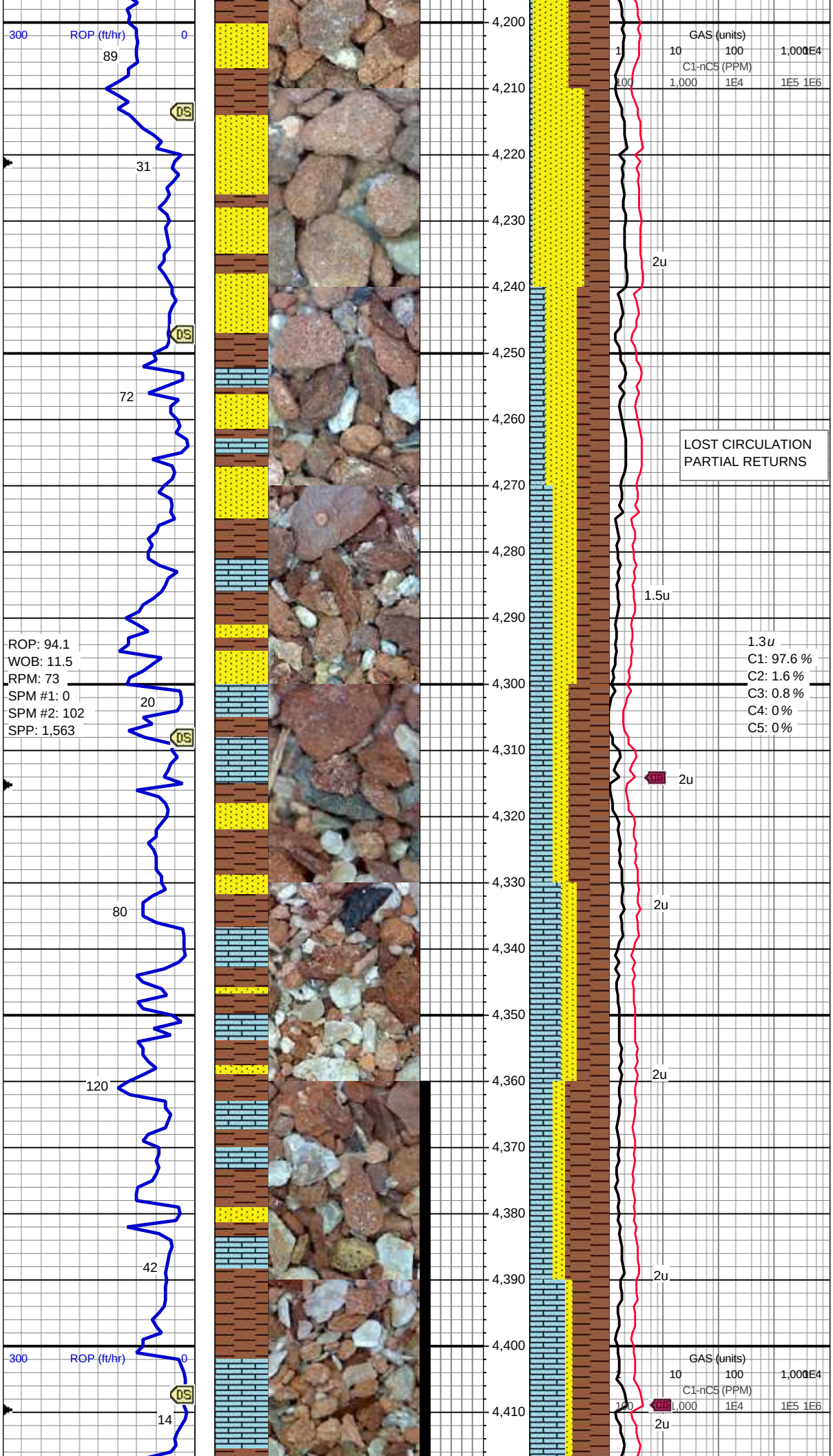
SH: pred red-brn, tr dk gy, sb plty-sb blky, sft-mod sft, v slty, occ sdy, sl calc ip, DOL: rose-lt red, mic xln, sb blky-blky, mod frm-hd, v suc tex, sl calc, SS: pred red-orng, clr-fros grs, vf-f gr, sb rd-rd, mod srt, mod frm-frm, p-fr por, arg cmt, v slty ip; no min flor, no cut, no od

Mud Wt: 8.6 Vis 37

SH: pred red-brn, tr dk gy, sb plty-sb blky, sft-mod sft, v slty, occ sdy, sl calc ip, DOL: rose-lt red, mic xln, sb blky-blky, mod frm-hd, v suc tex, sl calc, SS: pred red-orng, clr-fros grs, vf-f gr, sb rd-rd, mod srt, mod frm-frm, p-fr por, arg cmt, v slty ip; scat pale yel min flor, no cut, no od

SS: pred red-orng, clr-fros grs, vf-f gr, sb rd-rd, mod srt, mod frm-frm, p-fr por, arg cmt, v slty ip, SH: pred red-brn, tr dk gy, sb plty-sb blky, sft-mod sft, v slty, occ sdy, sl calc ip, LS: wh-off wh, lt gy, sb blky-blky, frm-hd, rthy tex, mic xln, calc-v calc; scat pale yel min flor, no cut, no od

Mud Wt: 8.7 Vis 37



SS: pred red-orng, clr-fros grs, vf-f gr, sb rd-rd, mod srt, mod frm-frm, p-fr por, arg cmt, v slty ip, SH: pred red-brn, sb plty-sb blky, sft-mod frm, v slty, occ sdy, sl calc ip, LS: wh-off wh, lt gy, sb blky-blky, frm-hd, rthy tex, mic xln, calc-v calc; scat pale yel min flor, no cut, no od

MD: 4,213 '
Inc: 1.8 °

MD: 4,247 '
Inc: 1.6 °

SS: pred red-orng, clr-fros grs, vf-f gr, sb rd-rd, mod srt, mod frm-frm, p-fr por, arg cmt, v slty ip, SH: pred red-brn, sb plty-sb blky, sft-mod frm, v slty, occ sdy, sl calc ip, LS: wh-off wh, lt gy, occ red stnd, sb blky-blky, frm-hd, rthy tex, mic xln, calc-v calc, dolc ip; scat pale yel min flor, no cut, no od

Mud Wt: 8.6 Vis 40

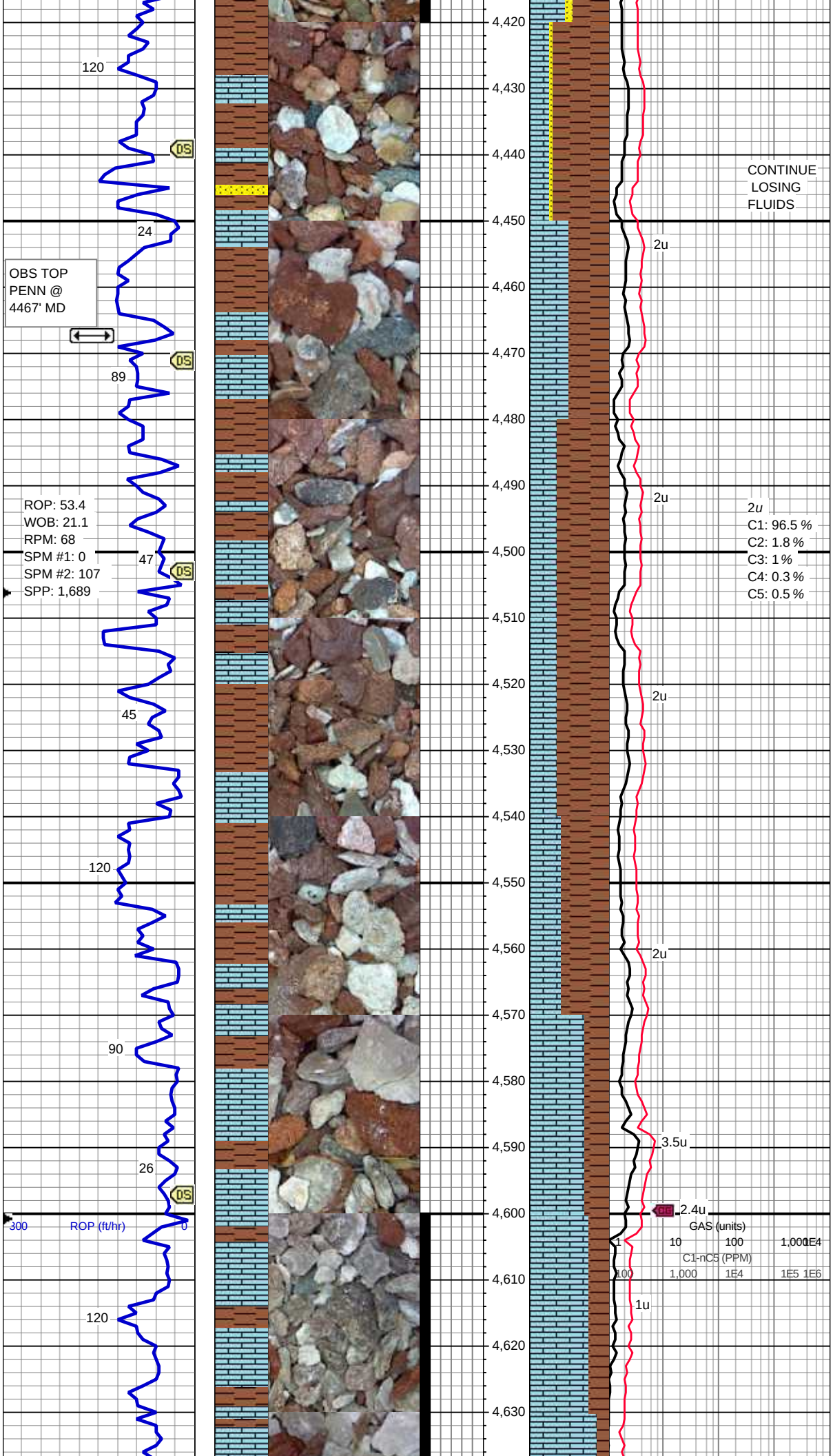
MD: 4,308 '
Inc: 1.5 °

SH: red-brn, gy-ltgy, sb plty-sb blky, mod sft-frm, slty ip, occ sdy, sl calc ip, SS: pred red-orng, clr-fros grs, vf-f gr, sb rd-rd, mod srt, mod frm-frm, p-fr por, arg cmt, v slty ip, LS: wh-off wh, lt gy, occ red stnd, sb blky-blky, frm-hd, rthy tex, mic xln, calc-v calc, dolc ip; scat pale yel min flor, no cut, no od

Mud Wt: 8.7 Vis 40

MD: 4,407 '
Inc: 1.8 °

SH: red-brn, gy-ltgy, sb plty-sb blky, mod sft-frm, slty ip, occ sdy, sl calc ip, LS: wh-off wh, lt gy, sb blky-blky,



frm-hd, rthy tex, mic xln, calc-v calc, dolc ip, SS: pred red-orng, clr-fros grs, vf-f gr, sb rd-rd, mod srt, mod frm-frm, p-fr por, arg cmt, v slty ip; scat pale yel min flor, no cut, no od

MD: 4,439 '
Inc: 1.3 °

Mud Wt: 8.7 Vis 39

MD: 4,471 '
Inc: 1.7 °

SH: red-brn, gy-ltgy, sb plty-sb blky, mod sft-frm, slty ip, occ sdy, sl calc ip, LS: wh-off wh, lt gy, sb blky-blky, frm-hd, rthy tex, mic xln, calc-v calc, dolc ip; scat pale yel min flor, no cut, no od

MD: 4,503 '
Inc: 1.1 °

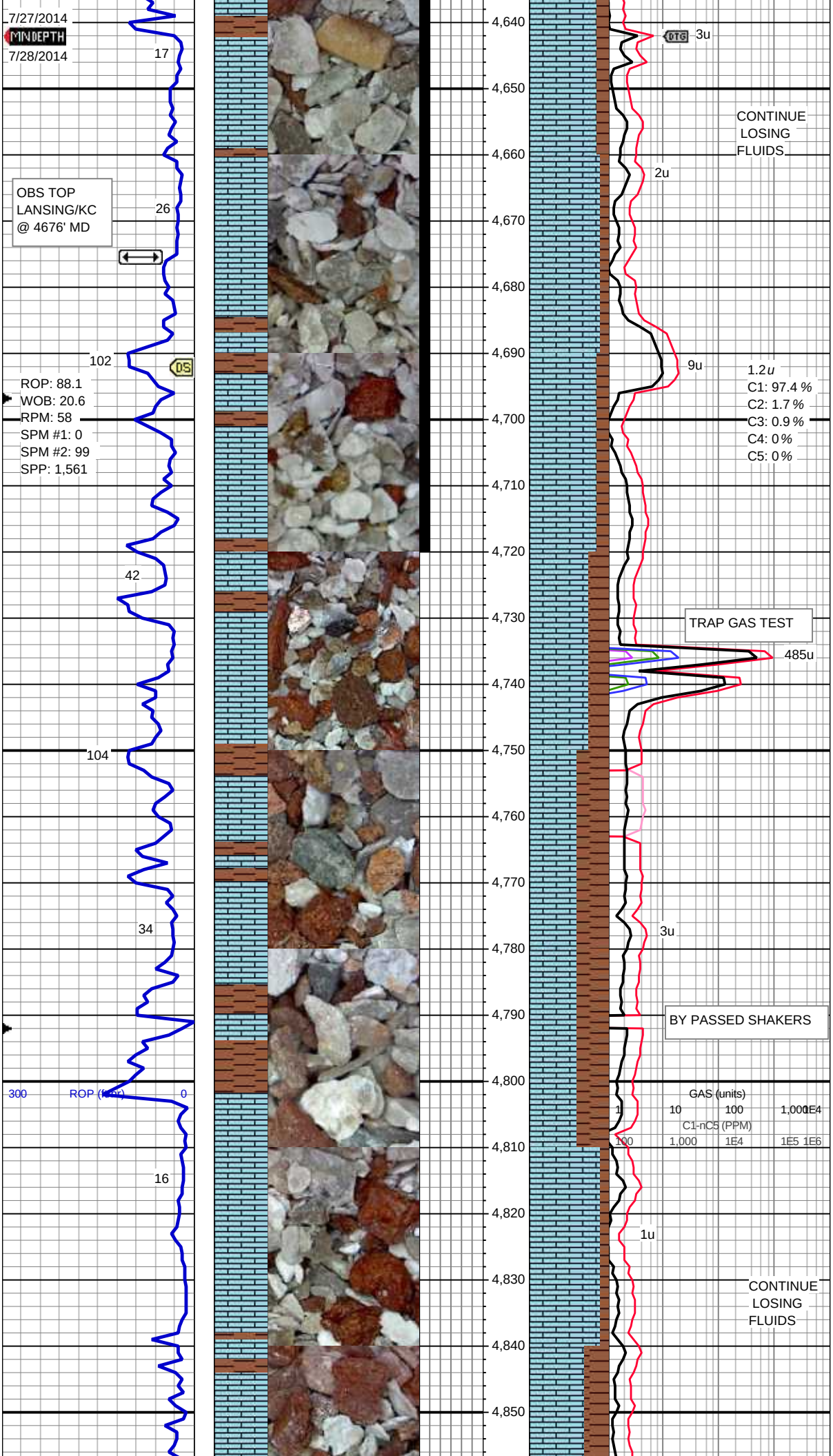
Mud Wt: 8.75 Vis 39

SH: red-brn, gy-ltgy, sb plty-sb blky, mod sft-frm, slty ip, occ sdy, sl calc ip, LS: wh-off wh, lt gy, sb blky-blky, frm-hd, rthy tex, mic xln, calc-v calc, dolc ip; scat pale yel min flor, no cut, no od

MD: 4,597 '
Inc: 1.3 °

Mud Wt: 8.8 Vis 38

LS: wh-off wh, lt gy-dk gy, sb blky-blky, frm-hd, rthy tex, mic xln, calc-v calc, dolc ip, SH: red-brn, gy-ltgy, sb plty-sb blky, mod sft-frm, slty ip, occ sdy, sl calc ip; scat pale yel min flor, no cut, no od



MD: 4,692 '
Inc: 0.7 °

LS: wh-off wh, lt gy-dk gy, sb blky-blky, frm-hd, rthy tex, mic xln, calc-v calc, dolc ip, SH: brn, dk gy ip, sb plty-sb blky, mod sft-frm, slty ip, sl calc ip; scat pale yel min flor, v fnt yel difse cut, no od

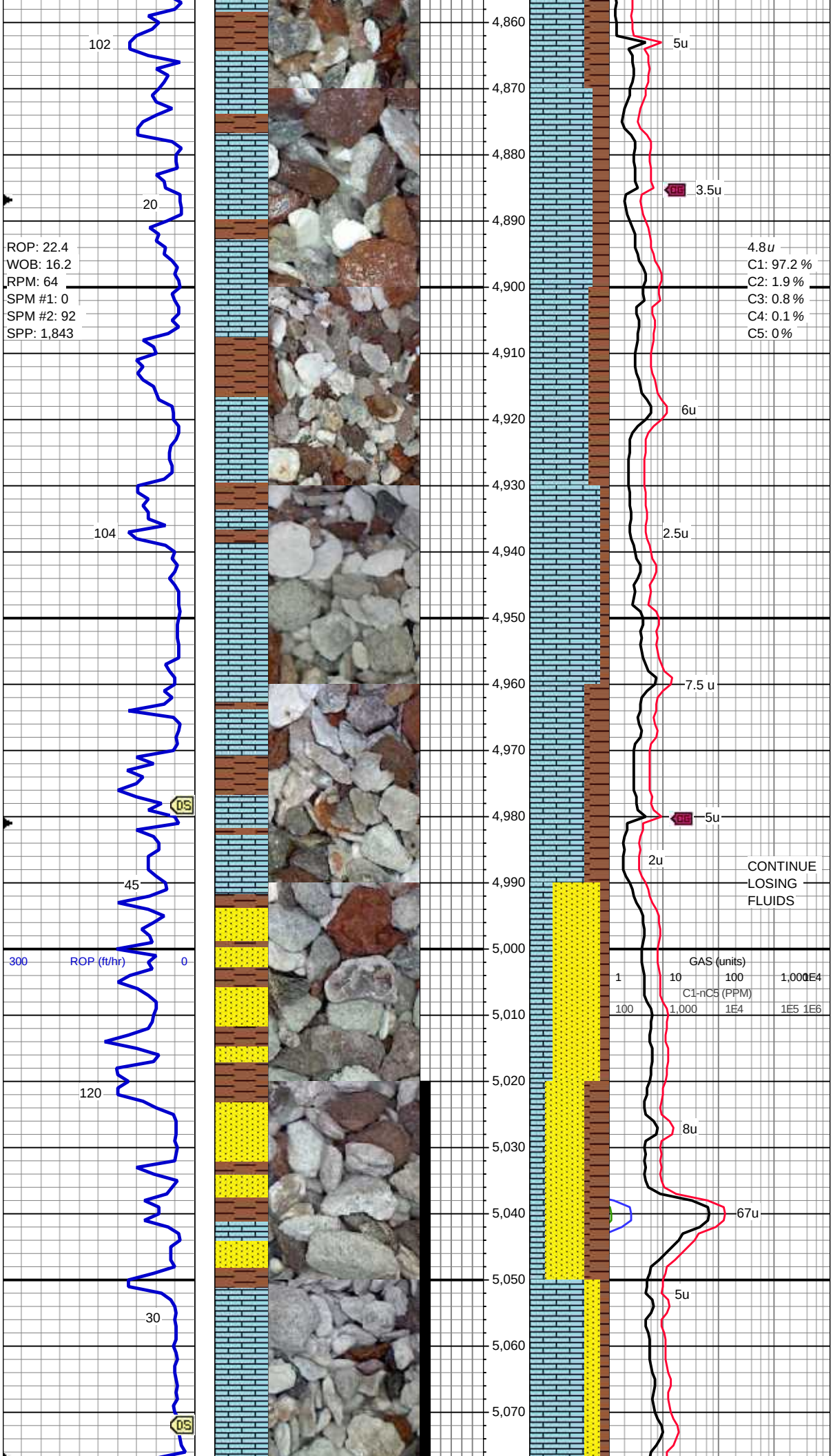
LS: wh-off wh, lt gy-dk gy, sb blky-blky, frm-hd, rthy tex, mic xln, calc-v calc, dolc ip, SH: brn, dk gy ip, sb plty-sb blky, mod sft-frm, slty ip, sl calc ip; scat pale yel min flor, no cut, no od

Mud Wt: 8.7 Vis 36

LS: wh-off wh, lt gy-dk gy, sb blky-blky, frm-hd, rthy tex, mic xln, calc-v calc, dolc ip, SH: red-brn, dk gy ip, sb plty-sb blky, mod sft-frm, slty ip, sl calc ip; scat pale yel min flor, no cut, no od

Mud Wt: 8.6 Vis 35 LCM 1%

LS: wh-off wh, lt gy-dk gy, sb blky-blky, frm-hd, rthy tex, mic xln, calc-v calc, sdy ip, SH: red-brn, dk gy ip, sb plty-sb blky, mod sft-frm, slty ip, sl calc ip; scat pale yel min flor, no cut, no od



Mud Wt: 8.6 Vis 35 LCM 4%

In/Out Mud Wt: 8.6/8.6
Vis 43/36 LCM 10%/34%

LS: wh-off wh, lt gy-dk gy, sb blky-blky, frm-hd, rthy tex, mic xln, calc-v calc, sdy ip, tr glau, SH: red-brn, dk gy ip, sb plty-sb blky, mod sft-frm, slty ip, sl calc ip; scat pale yel min flor, no cut, no od

In/Out Mud Wt: 8.6/8.7
Vis 38/39 LCM 5%/4%

LS: wh-off wh, lt gy-gy, sb blky-blky, mod frm-hd, rthy-wxy tex, mic xln, calc-v calc, SH: red-brn, dk gy ip, sb plty-sb blky, mod sft-frm, slty ip, sl calc ip; abnt pale yel min flor, no cut, no od

MD: 4,978 '
Inc: 0.5 °

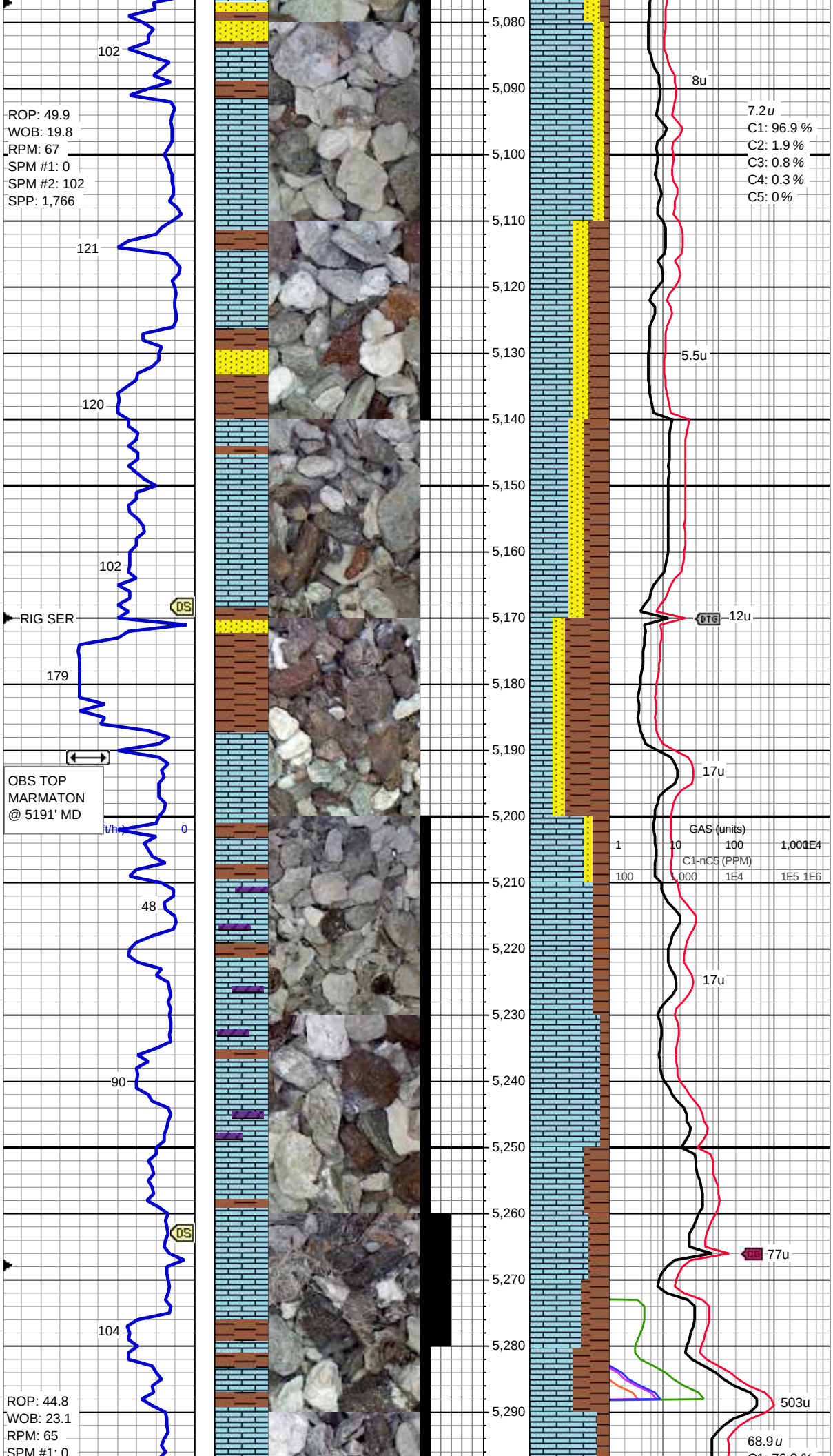
In/Out Mud Wt: 8.7/8.7
Vis 39/40 LCM 8%/4%

SS: pred lt gy bl-lt gy, brn ip, clr-fros grs, vf-f gr, sb rd-rd, mod srt, mod frm-frm, p por, cly mtx, arg-calc cmt, slty ip, LS: wh-off wh, lt gy-gy, sb blky-blky, mod frm-hd, rthy-wxy tex, mic xln, calc-v calc, SH: red-brn, dk gy ip, sb plty-sb blky, mod sft-frm, slty ip, sl calc ip; abnt pale yel min flor, v fnt yel bl difse cut, no od

In/Out Mud Wt: 8.7/8.7
Vis 38/39 LCM 8%/6%

MD: 5,072 '
Inc: 0.4 °

SS: pred lt gy bl-lt gy, brn ip, clr-fros grs, vf-f gr, sb rd-rd, mod srt, mod frm-frm, p por, cly mtx, arg-calc cmt,



slty ip, LS: wh-off wh, lt gy-gy, sb blky-blky, mod frm-hd, rthy-wxy tex, mic xln, calc-v calc, SH: red-brn, dk gy ip, sb plty-sb blky, mod sft-frm, slty ip, sl calc ip; abnt pale yel min flor, v fnt yel bl difse cut, no od

In/Out Mud Wt: 8.8/8.9
Vis 39/38 LCM 9%/7%

SS: pred lt gy bl-lt gy, brn ip, clr-fros grs, vf-f gr, sb rd-rd, mod srt, mod frm-frm, p por, cly mtx, arg-calc cmt, slty ip, LS: wh-off wh, lt gy-gy, sb blky-blky, mod frm-hd, rthy-wxy tex, mic xln, calc-v calc, SH: red-brn, dk gy ip, sb plty-sb blky, mod sft-frm, slty ip, sl calc ip; abnt pale yel min flor, v fnt yel bl difse cut, no od

MD: 5,168 '
Inc: 0.4 °

BEGAIN 10' SAMPLE
INTERVAL @ 5200' MD
30' PHOTO INTERVAL

In/Out Mud Wt: 8.7/8.8
Vis 39/38 LCM 5%/7%

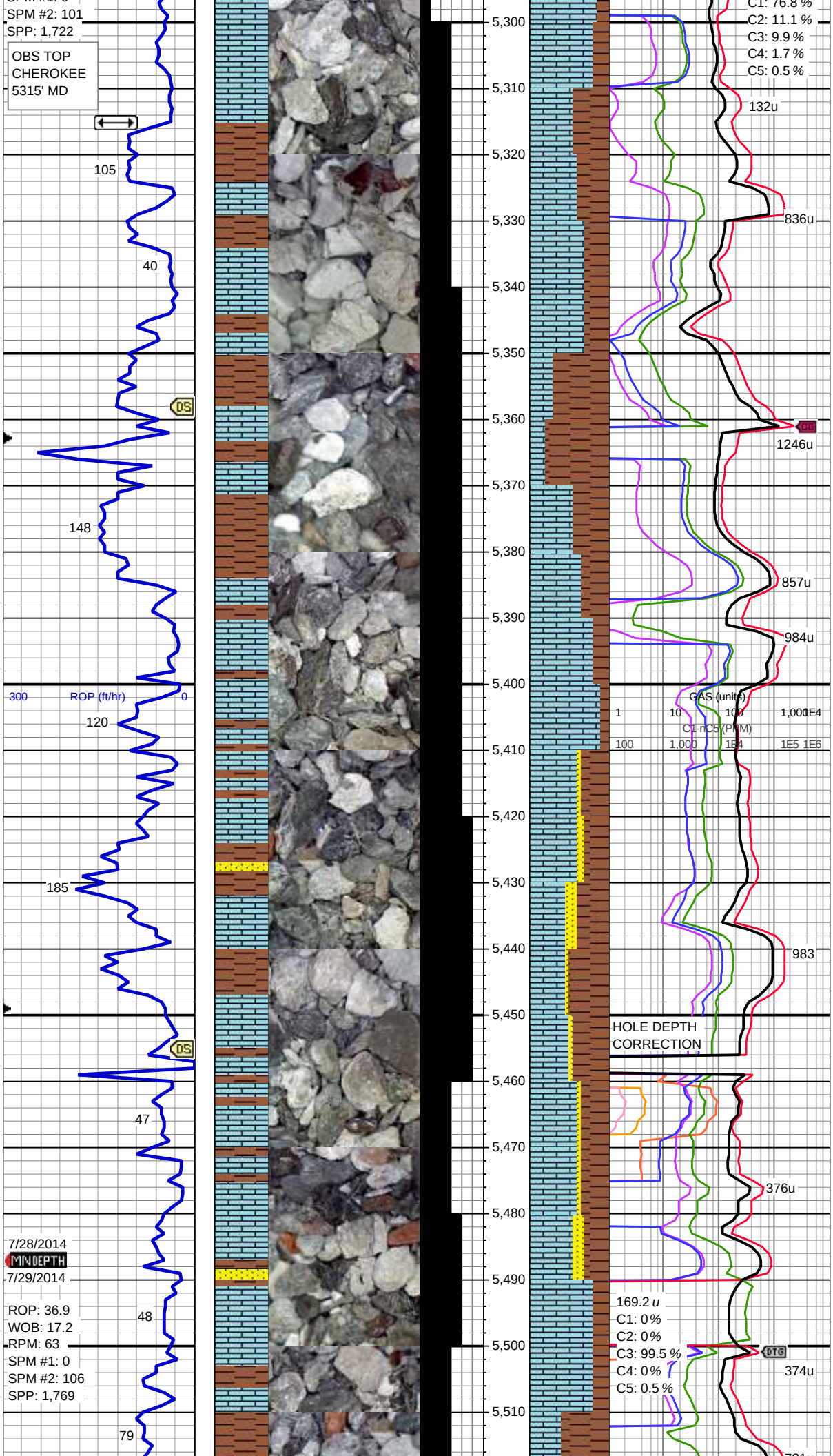
SH: dk gy-gy, occ red, sb plty-sb blky, mod sft-frm, slty ip, sl calc ip, LS: wh-off wh, lt gy-gy, occ dk gy, sb blky-blky, mod frm-hd, rthy-wxy tex, mic xln, calc-v calc, occ dolc, occ sl suc, SS: pred lt gy bl-lt gy, brn ip, clr-fros grs, vf-f gr, sb rd-rd, mod srt, mod frm-frm, p por, cly mtx, arg-calc cmt, slty ip; abnt pale yel min flor, fnt yel bl difse cut, no od

Mud Wt: 8.8 Vis 38 LCM 8%

MD: 5,263 '
Inc: 0.1 °

LS: wh-off wh, lt gy-gy, occ dk gy, sb blky-blky, mod frm-hd, rthy-sm tex, mic xln, calc-v calc, occ dolc, occ sl suc, SH: dk gy-gy, occ red, sb plty-sb blky, mod sft-frm, slty ip, sl calc ip; pale yel min flor, fnt sl stmg yel-bl difse cut, no od

Mud Wt: 8.8 Vis 37 LCM 8%



LS: wh-off wh, lt gy-gy, mot ip, occ dk gy, sb blky-blky, mod frm-hd, rthy-sm tex, mic xln, calc-v calc, occ dolc, occ sl suc, SH: dk gy-gy, occ blk, sb plty-sb blky, mod sft-frm, slty ip, sl calc ip; pale yel min flor, stmg yel-bl difse cut, no od

Mud Wt: 8.9 Vis 39 LCM 9%

MD: 5,358 '
Inc: 0.2 °

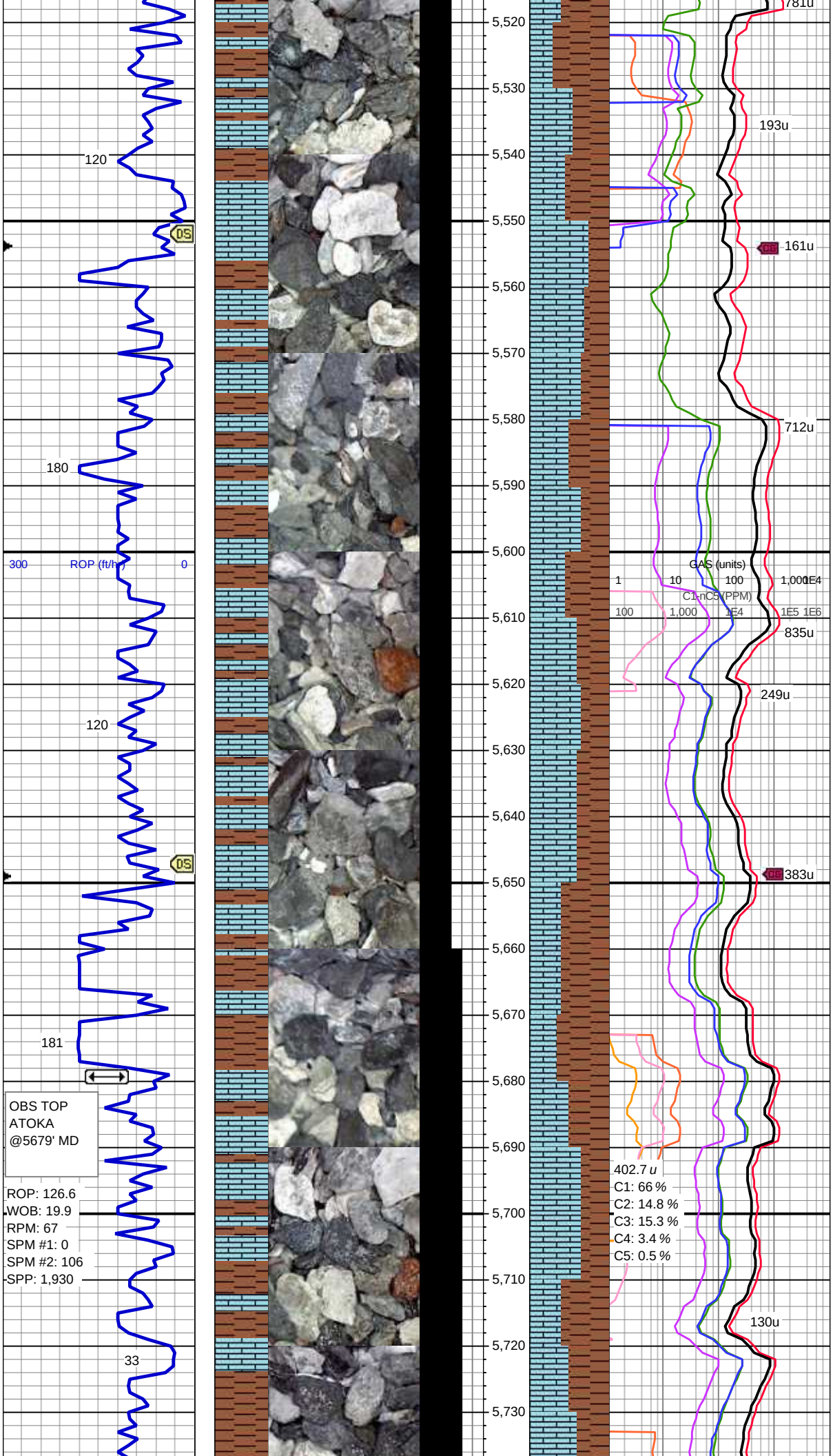
LS: lt gy-gy, mot ip, occ dk gy, sb blky-blky, mod frm-hd, rthy-sm tex, mic xln, calc-v calc, occ dolc, occ sl suc, SH: dk gy, blk, occ lt gy, sb plty-sb blky, mod sft-frm, slty ip, sl calc ip; pale yel min flor, stmg yel-bl difse cut, no od

LS: gy-dk gy, mot ip, occ off wh, sb blky-blky, mod frm-hd, rthy-sm tex, mic xln, calc-v calc, occ dolc, occ sl suc, SH: dk gy, blk, occ lt gy, sb plty-sb blky, mod sft-frm, slty ip, sl calc ip, SS: wh-lt brn, clr-trnsl grs, mod frm-frm, f-vf gr, mod rd-rd, mod srt, uncons ip, sl calc; pale yel min flor, stmg yel-bl difse cut, no od

Mud Wt: 8.9 Vis 39 LCM 8%

MD: 5,455 '
Inc: 0.4 °

LS: gy-dk gy, mot ip, occ off wh, sb blky-blky, mod frm-hd, rthy-sm tex, mic xln, calc-v calc, occ dolc, occ sl suc, SH: dk gy, blk, occ lt gy, sb plty-sb blky, mod sft-frm, slty ip, sl calc ip, SS: wh-lt brn, clr-trnsl grs, mod frm-frm, f-vf gr, mod rd-rd, mod srt, uncons ip, sl calc; pale yel min flor, stmg yel-bl difse cut, no od



LS: gy-dk gy, mot occ, occ off wh, sb blky-blky, mod frm-hd, rthy-sm tex, mic xln, v calc, occ arg, SH: dk gy, blk, occ lt gy, sb plty-sb blky, mod sft-frm, slty ip, sl calc ip; pale yel min flor, stmg yel-bl difse cut, no od

MD: 5,552 '
Inc: 0.4 °

Mud Wt: 8.65 Vis 34 LCM .9%

LS: gy-dk gy, mot occ, occ off wh, sb blky-blky, mod frm-hd, rthy-sm tex, mic xln, v calc, occ arg, SH: dk gy, occ blk, rr lt gy, sb plty-sb blky, mod sft-frm, slty ip, sl calc ip; pale yel min flor, stmg yel-bl difse cut, no od

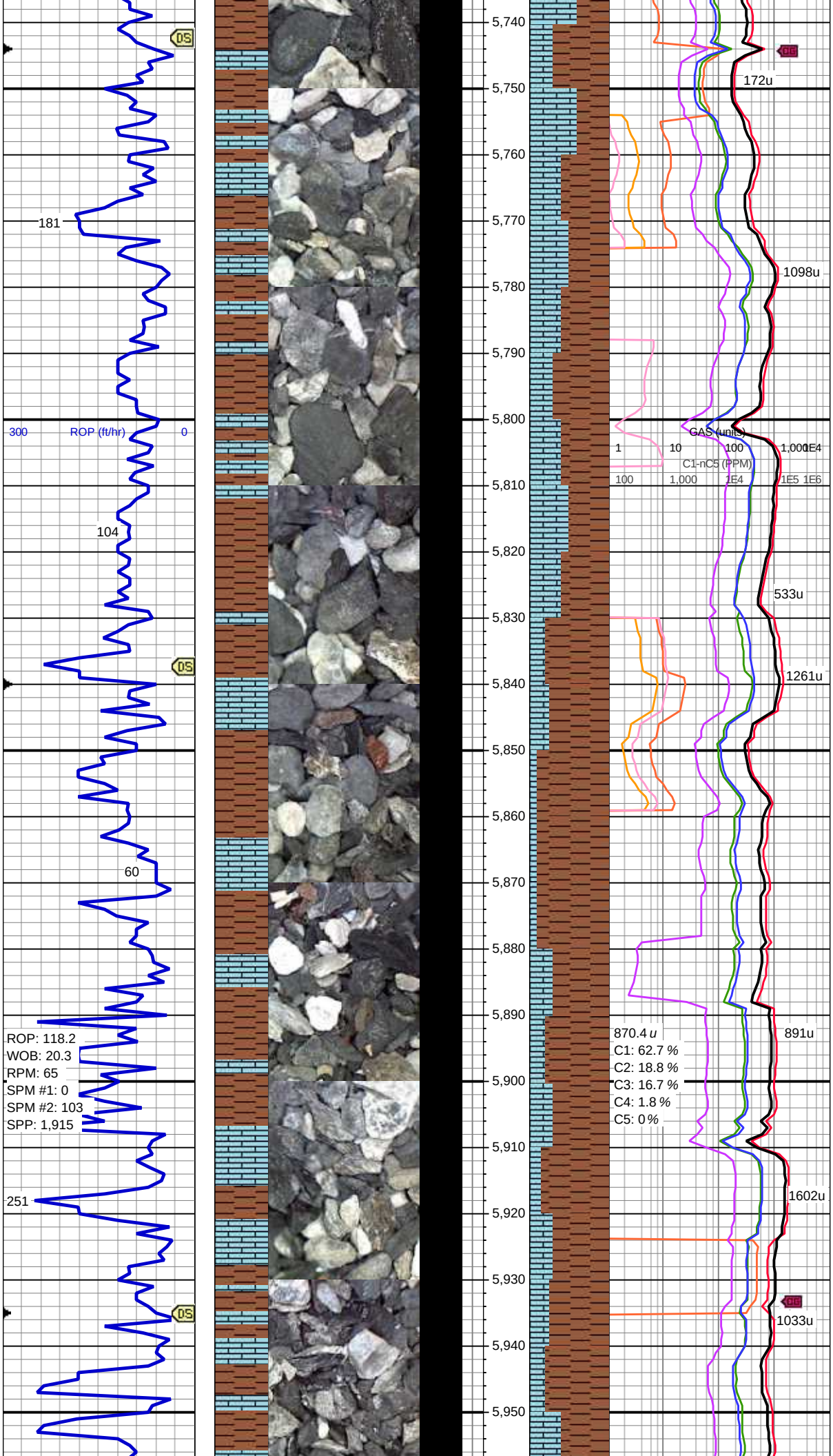
MD: 5,647 '
Inc: 0.3 °

SH: dk gy, occ blk, lt gy ip, sb plty-sb blky, mod sft-frm, slty ip, sl calc ip, LS: gy-dk gy, occ off wh, sb blky-blky, mod frm-hd, rthy-sm tex, mic xln, v calc, occ arg; pale yel min flor, stmg yel-bl difse cut, no od

Mud Wt: 8.7 Vis 38

SH: blk-dk gy, occ lt gy, sb plty-sb blky, mod sft-frm, slty ip, sl calc ip, LS: gy-dk gy, occ off wh, sb blky-blky, mod frm-hd, rthy-sm tex, mic xln, v calc, occ arg; pale yel min flor, stmg yel-bl difse cut, no od

MD: 5,742 '
Inc: 0.5 °



Mud Wt: 8.75 Vis 40

SH: blk-dk gy, occ lt gy, sb plty-sb blky, mod sft-frm, slty ip, sl calc ip, LS: gy-dk gy, occ off wh, sb blky-blky, mod frm-hd, rthy-sm tex, mic xln, v calc, occ arg; pale yel min flor, stmg yel-bl difse cut, no od

SH: blk-dk gy, occ lt gy, sb plty-sb blky, mod sft-frm, slty ip, sl calc ip, LS: gy-dk gy, occ off wh, sb blky-blky, mod frm-hd, rthy-sm tex, mic xln, v calc, occ arg; pale yel min flor, stmg yel-bl difse cut, no od

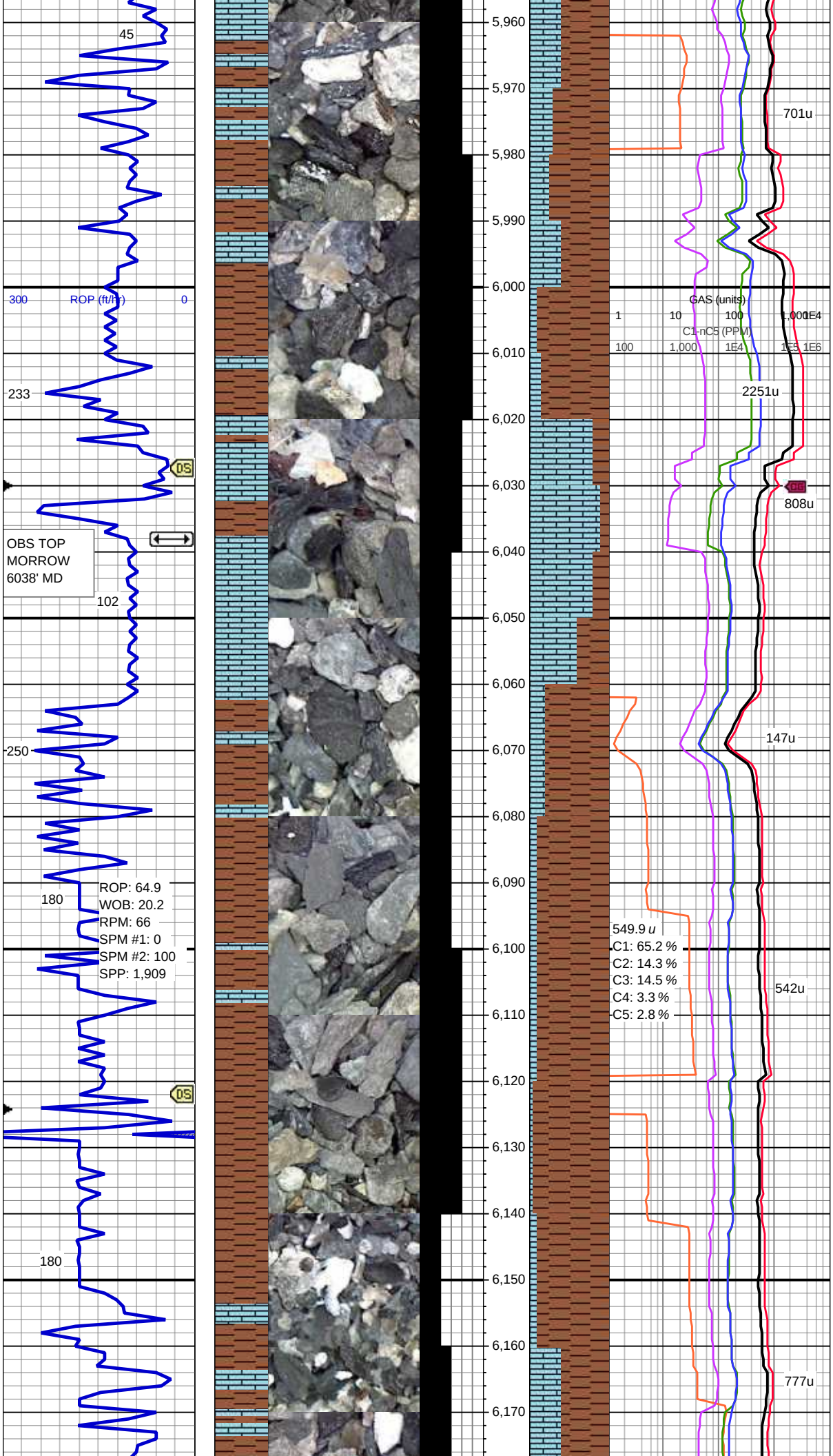
MD: 5,837 '
Inc: 0.6 °

SH: blk-dk gy, occ lt gy, sb plty-sb blky, mod sft-frm, slty ip, sl calc ip, LS: gy-dk gy, occ off wh, sb blky-blky, mod frm-hd, rthy-sm tex, mic xln, v calc, occ arg; pale yel min flor, stmg yel-bl difse cut, no od

Mud Wt: 8.8 Vis 38

SH: blk-dk gy, occ lt gy, sb plty-sb blky, mod sft-frm, slty ip, sl calc ip, LS: gy-dk gy, occ off wh, sb blky-blky, mod frm-hd, rthy-sm tex, mic xln, v calc, occ arg; pale yel min flor, stmg yel-bl difse cut, no od

MD: 5,935 '
Inc: 0.6 °



SH: blk-dk gy, occ lt gy, sb plty-sb blky, mod sft-frm, slty ip, sl calc ip, LS: gy-dk gy, occ off wh, sb blky-blky, mod frm-hd, rthy-sm tex, mic xln, v calc, occ arg; pale yel min flor, stmg yel-bl difse cut, fnt petf od at sh shaker

MD: 6,027 '
Inc: 1 °

SH: lt gy-lt brn, blk-dk gy, plty-sb plty, mod sft-frm, slty ip, sl calc ip, LS: gy-dk gy, occ off wh, sb blky-blky, mod frm-hd, rthy-sm tex, mic xln, v calc, occ arg; pale yel min flor, stmg yel-bl difse cut, fnt petf od at sh shaker

Mud Wt: 8.8 Vis 38

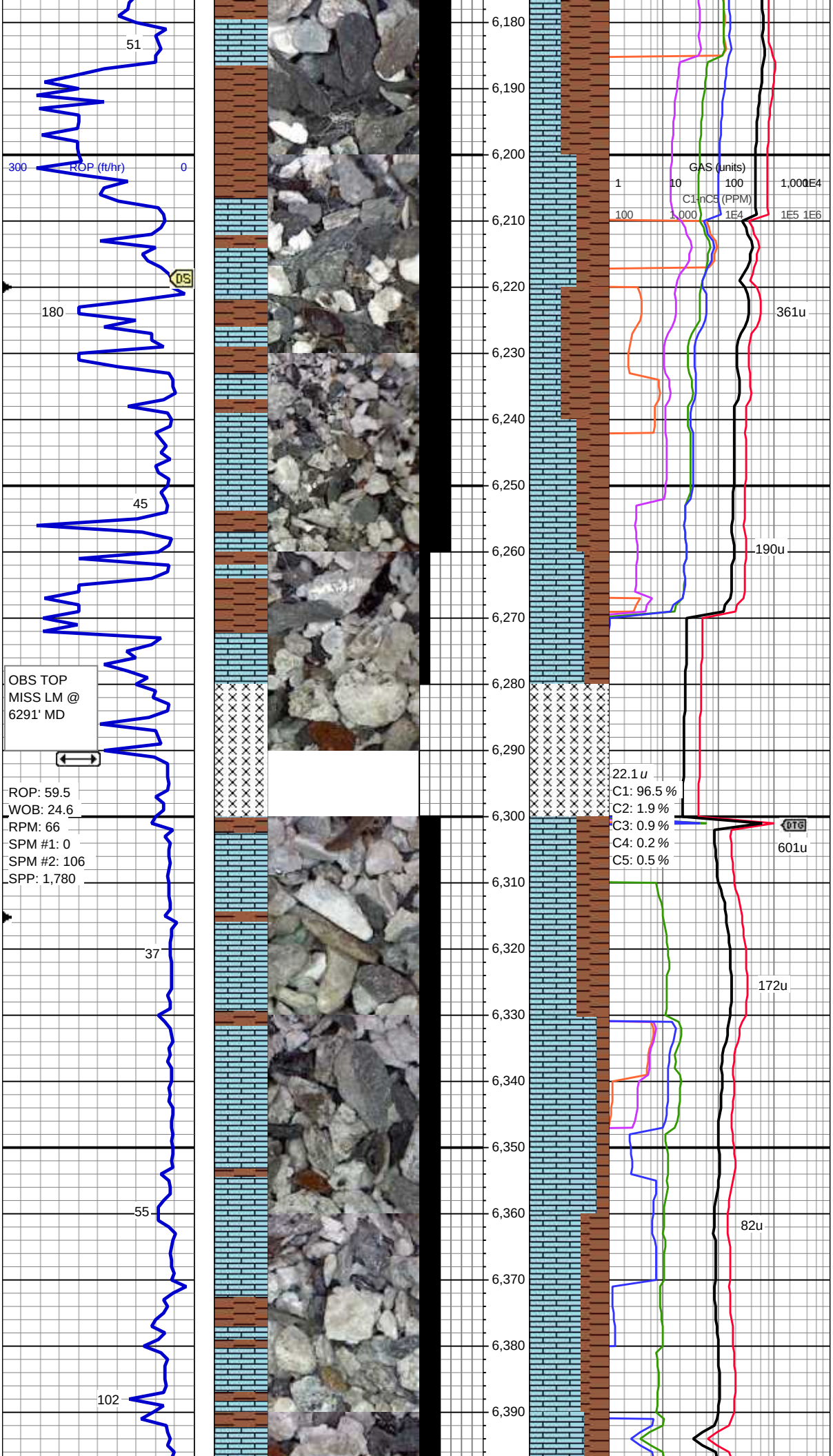
NOTE TO ROP SAMPLE INTERVAL CHANGED TO 20' @ 6060' MD

SH: lt gy-lt brn, blk-dk gy, plty-sb plty, mod sft-frm, slty ip, sl calc ip, LS: gy-dk gy, occ off wh, sb blky-blky, mod frm-hd, rthy-sm tex, mic xln, v calc, occ arg; pale yel min flor, stmg yel-bl difse cut, fnt petf od at sh shaker

MD: 6,122 '
Inc: 0.6 °

SH: lt gy-lt brn, blk-dk gy, plty-sb plty, mod sft-frm, slty ip, sl calc ip, LS: gy-dk gy, occ off wh, sb blky-blky, mod frm-hd, rthy-sm tex, mic xln, v calc, occ arg; pale yel min flor, stmg yel-bl difse cut, fnt petf od at sh shaker

SH: lt gy-lt brn, blk-dk gy, plty-sb plty, mod sft-frm, slty ip, sl calc ip, LS: gy-dk gy, occ off wh, sb blky-blky, mod frm-hd, rthy-sm tex,



mic xln, v calc, occ arg; pale yel min flor, stmg yel-bl difse cut, fnt petf od at sh shaker

Mud Wt: 8.9 Vis 40

MD: 6,219 '
Inc: 1.3 °

SH: lt gy-lt brn, blk-dk gy, plty-sb plty, mod sft-frm, slty ip, sl calc ip, LS: wh-off wh, gy-dk gy, sb blky-blky, mod frm-hd, rthy-sm tex, mic xln, v calc, occ arg; pale yel min flor, stmg yel-bl difse cut, fnt petf od at sh shaker

SH: lt gy-lt brn, gy, blk-dk gy, plty-sb plty, mod sft-frm, slty ip, sl calc ip, LS: wh-off wh, gy-dk gy, sb blky-blky, mod frm-hd, rthy-sm tex, mic xln, v calc, occ arg; pale yel min flor, stmg yel-bl difse cut, fnt petf od at sh shaker

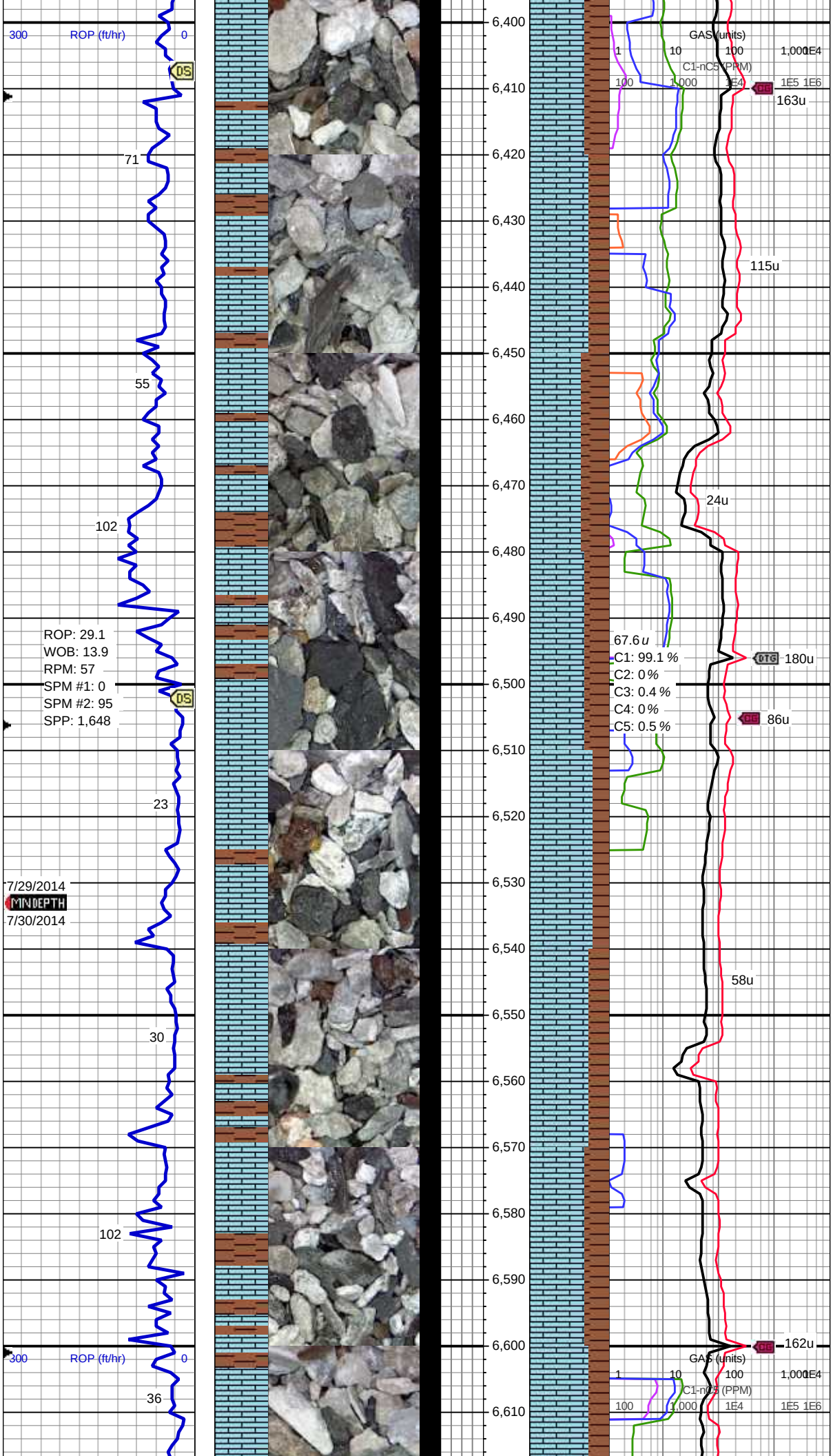
Mud Wt: 8.7+ Vis 40

LOST
CIRCULATION

In/Out Mud Wt: 9.0/8.6
Vis 40/40 LCM 3%4%

LS: wh-off wh, gy-dk gy, sb blky-blky, mod frm-hd, rthy-sm tex, mic xln, v calc, occ arg, SH: lt gy-lt brn, gy, blk-dk gy, plty-sb plty, mod sft-frm, slty ip, sl calc ip; pale yel min flor, stmg yel-bl difse cut, fnt petf od at sh shaker

LS: wh-off wh, gy-dk gy, sb blky-blky, mod frm-hd, rthy-sm tex, mic xln, v calc, occ arg, SH: lt gy-lt brn, gy, blk-dk gy, plty-sb plty, mod sft-frm, slty ip, sl calc ip; pale yel min flor, stmg yel-bl difse cut, fnt petf od at sh shaker



petf od at sh shaker

MD: 6,407 '
Inc: 0.7 °

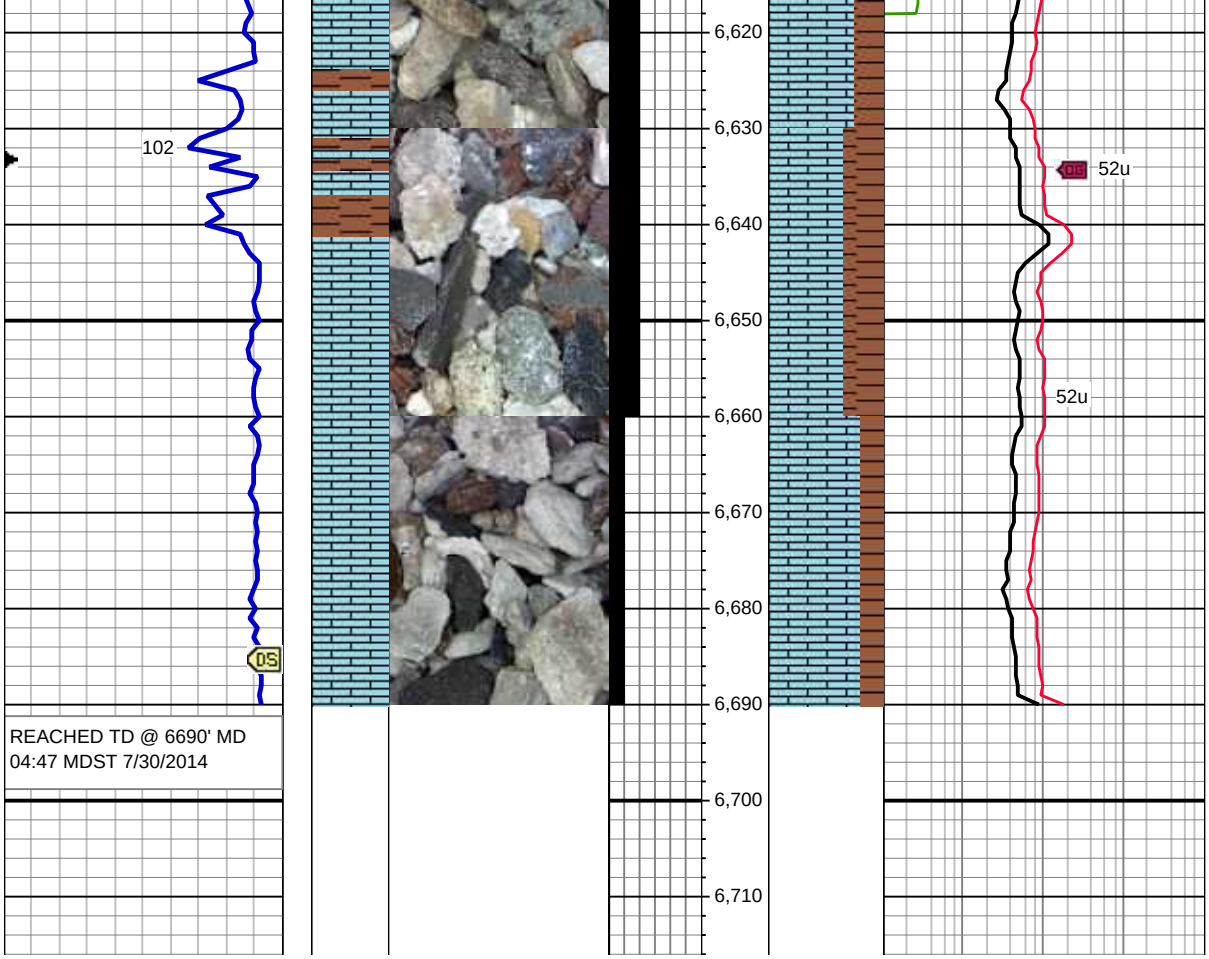
Mud Wt: 8.8 Vis: 39 LCM: 5%

LS: gy-dk gy, wh-off wh occ, sb blky-blky, mod frm-hd, rthy-sm tex, mic xln, v calc, occ arg, SH: lt gy-gy, occ blk-dk gy, plty-sb plty, mod sft-frm, slty ip, sl calc ip; pale yel min flor, stmg yel-bl difse cut, fnt petf od at sh shaker

MD: 6,502 '
Inc: 1.8 °

LS: gy-dk gy, wh-off wh occ, sb blky-blky, mod frm-hd, rthy-sm tex, mic xln, v calc, occ arg, SH: lt gy-gy, occ blk-dk gy, plty-sb plty, mod sft-frm, slty ip, sl calc ip; pale yel min flor, stmg yel-bl difse cut, no od

LS: gy-dk gy, wh-off wh occ, sb blky-blky, mod frm-hd, rthy-sm tex, mic xln, v calc, occ arg, SH: lt gy-gy, occ blk-dk gy, plty-sb plty, mod sft-frm, slty ip, sdy ip, sl calc; pale yel min flor, stmg yel-bl difse cut, no od



REACHED TD @ 6690' MD
04:47 MDST 7/30/2014

LS: gy-dk gy, wh-off wh occ, sb blky-blky, mod frm-hd, rthy-sm tex, mic xln, v calc, occ arg, SH: lt gy-gy, occ blk-dk gy, lt red ip, plty-sb plty, mod sft-frm, sdy ip, sl calc; pale yel min flor, stmg yel-bl difse cut, no od

MD: 6,685 '
Inc: 1.1 °

THANK YOU FOR USING
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