COLUMBINE LOGGING

Scale: 5" / 100'
Measured Depth Log

Well Name	Storis E24-75-1HC-HORZ		
Location	SEC 24 T6N R65W		
State	COLORADO	**County**	WELD
Country	USA	**Rig Number**	H&P 315
API Number	05-123-38144-00	**AFE #**	139616
Region	DJ BASIN	**Field**	WATTENBERG
Spud Date	4/27/2014	**Drilling Completed**	5/4/2014
Surface Coordinates	NENE 24 T6N 65W 330' FNL 1257' FEL LAT/LON: 40.47782/-104.60638		
Bottom Hole Coordinates	LAT/LON: 40.48558/-104.40308		
Ground Elevation	4,684'	**K.B. Elevation**	4,708'
Logged Interval	2,000' **To** 11,784'	**Total Depth**	9,784'
Formation	Codell Sandstone		
Type of Drilling Fluid	LSND		

Company	Noble Energy In
Address	1625 BROADW DENVER, CO 8

Name	JACK WIENER
Company	COLUMBINE LO
Address	2385 S LIPAN S DENVER, CO 8

CHALK
MARLSTONE
SILTY SHALE
SHALY SANDSTONE
UNKNOWN
ANHYDRITE
BENTONITE
BRECCIA
CEMENT

Operator

nc

/AY SUITE 2200
30202

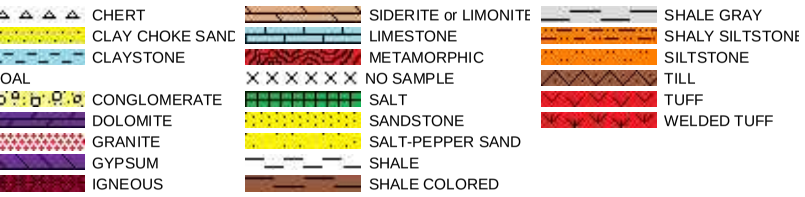
Geologist

TH, MARK KOURY

OGGING, INC

ST
30223

Rock Types



Accessories

Fossils

- FOSSIL
- GASTROPOD
- ALGAE
- OOLITE
- AMPHIPORA
- OSTRACOD
- BELEMNITE
- PELECYPOD
- BIOCLASTIC
- PELLET
- BRACHOIPOD
- PISOLITE
- BRYOZOA
- PLANT REMAINS
- CEPHALOPOD
- PLANT SPORES
- CORAL
- SCAPHOPOD
- CRINOID
- STROMATOPOROID
- ECHINOID
- FISH
- FORAMINIFERA

Minerals

- ANHYDRITIC
- ARGILLACEOUS
- ARGILLITE GRAIN
- BENTONITE
- BITUMENOUS SUBSTANCE
- BRECCIA FRAGMENTS
- CALCAREOUS
- CARBONACEOUS FLAKES
- CHTDK
- CHTLT
- COAL - THIN BEDS
- DOLOMITIC
- FELDSPAR
- FERRUGINOUS PELLET
- FERRUGINOUS
- GLAUCONITE
- GYPSIFEROUS
- HEAVY MINERAL
- INOCERAMUS
- KAOLIN
- MARLSTONE
- MINERAL CRYSTALS
- NODULES
- PHOSPHATE PELLETS
- PYRITE
- SALT CAST
- SANDY
- SILICEOUS
- SILTY
- TUFFACEOUS

Stringer

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

Other Symbols

Oil Show

- ORGANIC
- PINPOINT
- DEAD
- VUGGY
- EVEN
- QUESTIONABLE
- SPOTTED STAINING

Engineering

- BIT
- CONNECTION (DOWN)
- CONNECTION (LEFT)
- CONNECTION (RIGHT)
- CONNECTION GAS
- CONNECTION GAS UP
- CONNECTION GAS LEFT
- CONNECTION GAS DOWN...
- CORE - LOST
- CORE - RECOVERED
- DST INTERVAL
- FAULT
- FORMATION TOP
- GAS SHOW
- MN DEPTH
- NORMAL FAULT
- OIL SHOW
- OVERTURNED STRATA
- REVERSE FAULT
- SIDEWALL CORE (LEFT)
- SIDEWALL CORE (RIGHT)
- SLIDE
- SURVEY
- TRIP GAS
- WIRELINE TESTED - LEFT
- WIRELINE TESTED - RT

Porosity

- EARTHY
- FENESTRAL
- FRACTURE
- INTERCRYSTALLINE
- INTEROOLITIC
- MOLDIC

Rounding

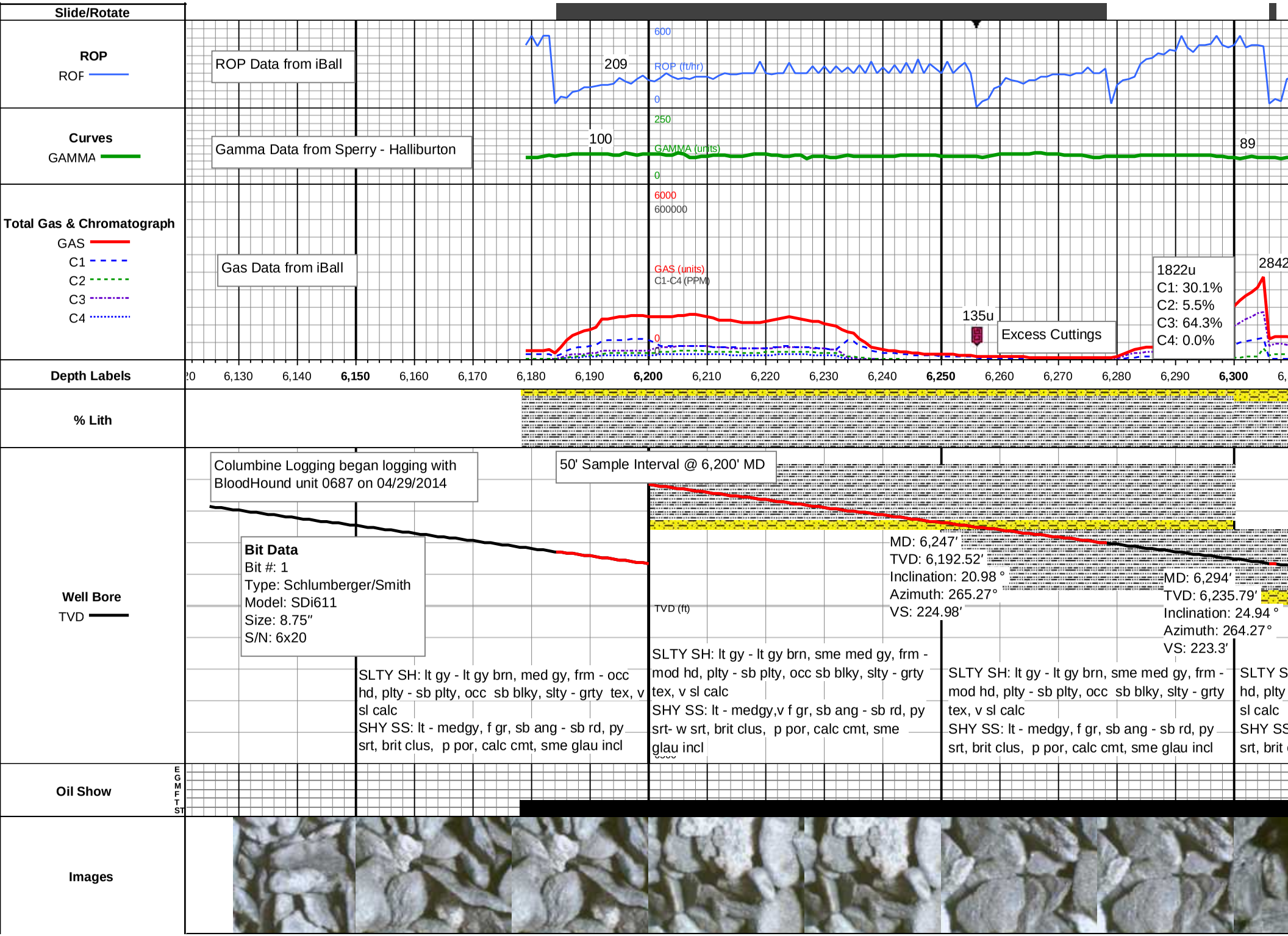
- ANGULAR
- ROUNDED
- SUBANG
- SUBRND

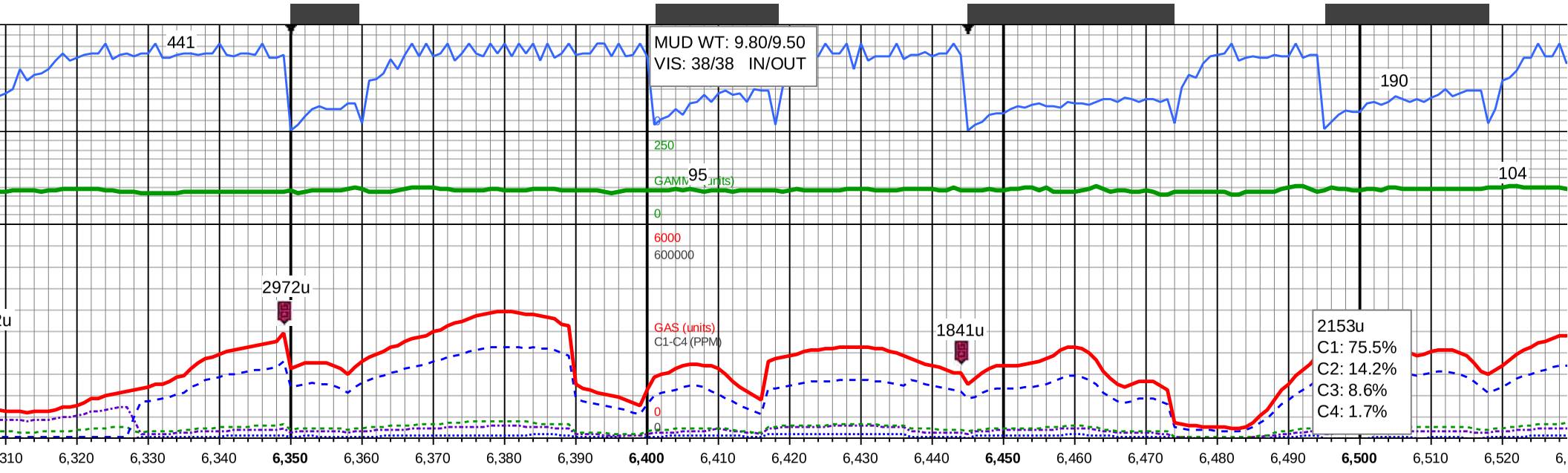
Textures

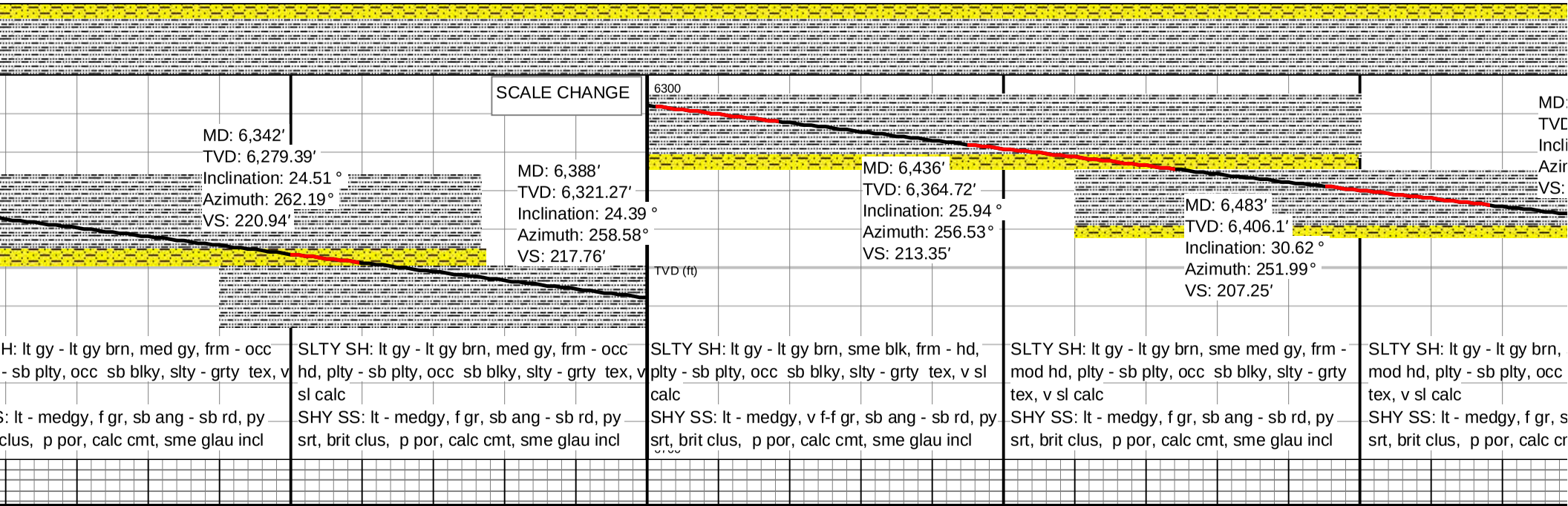
- BOUNDSTONE
- CHALKY
- CRYPTOXLN
- EARTHY
- FINELYXLN
- GRAINSTONE
- LITHOGRAPHIC
- MICROXLN
- MUDSTONE
- PACKSTONE
- WACKESTONE

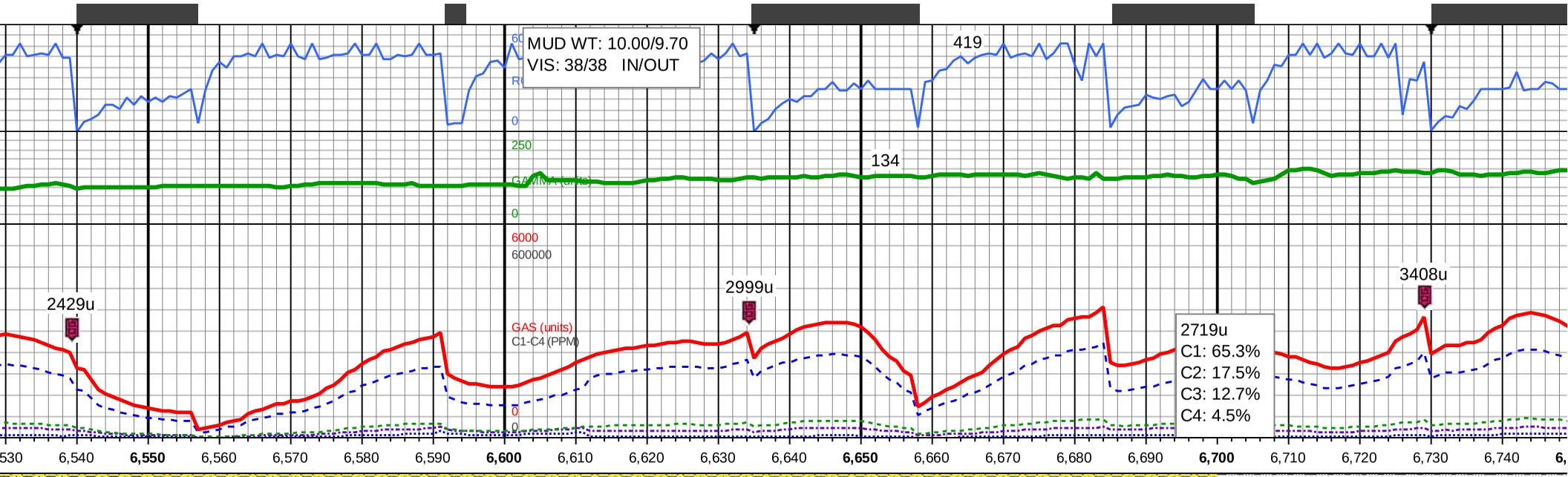
Sorting

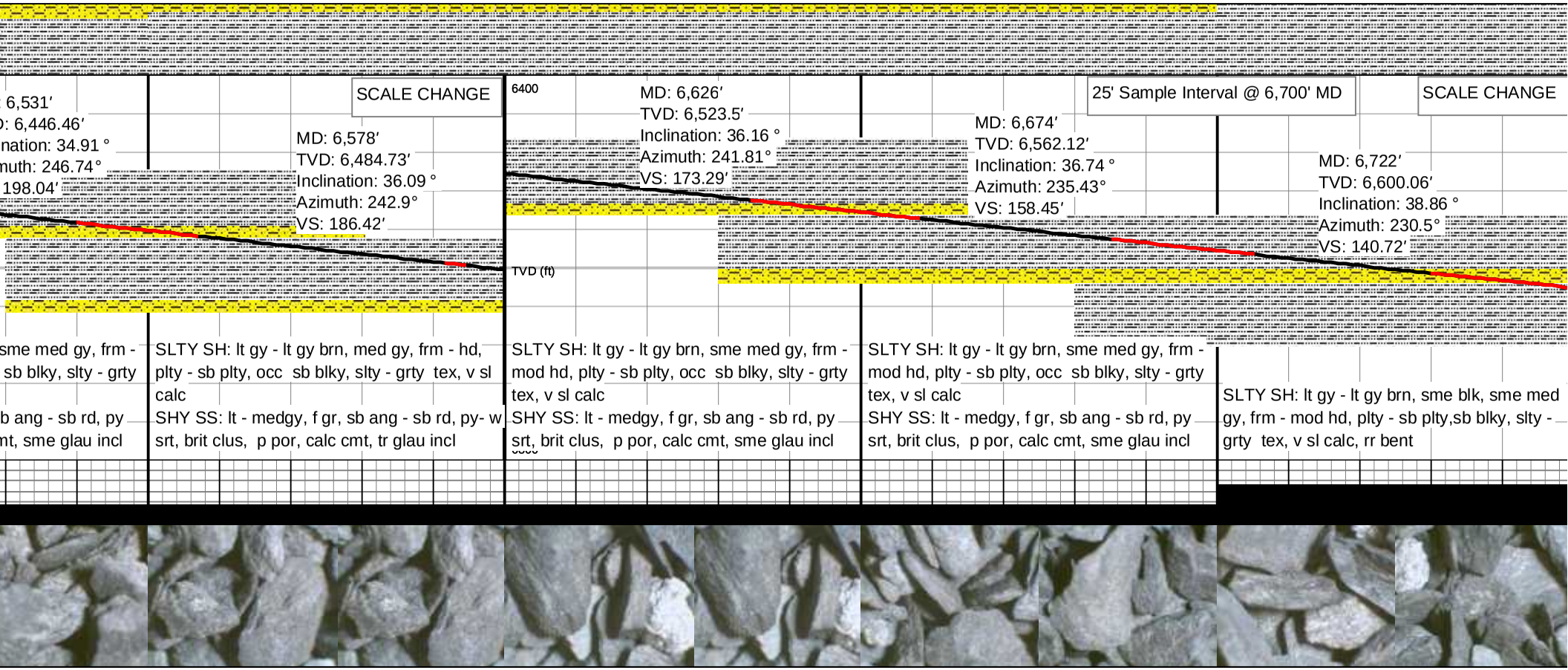
- MODERATE
- POOR
- WELL

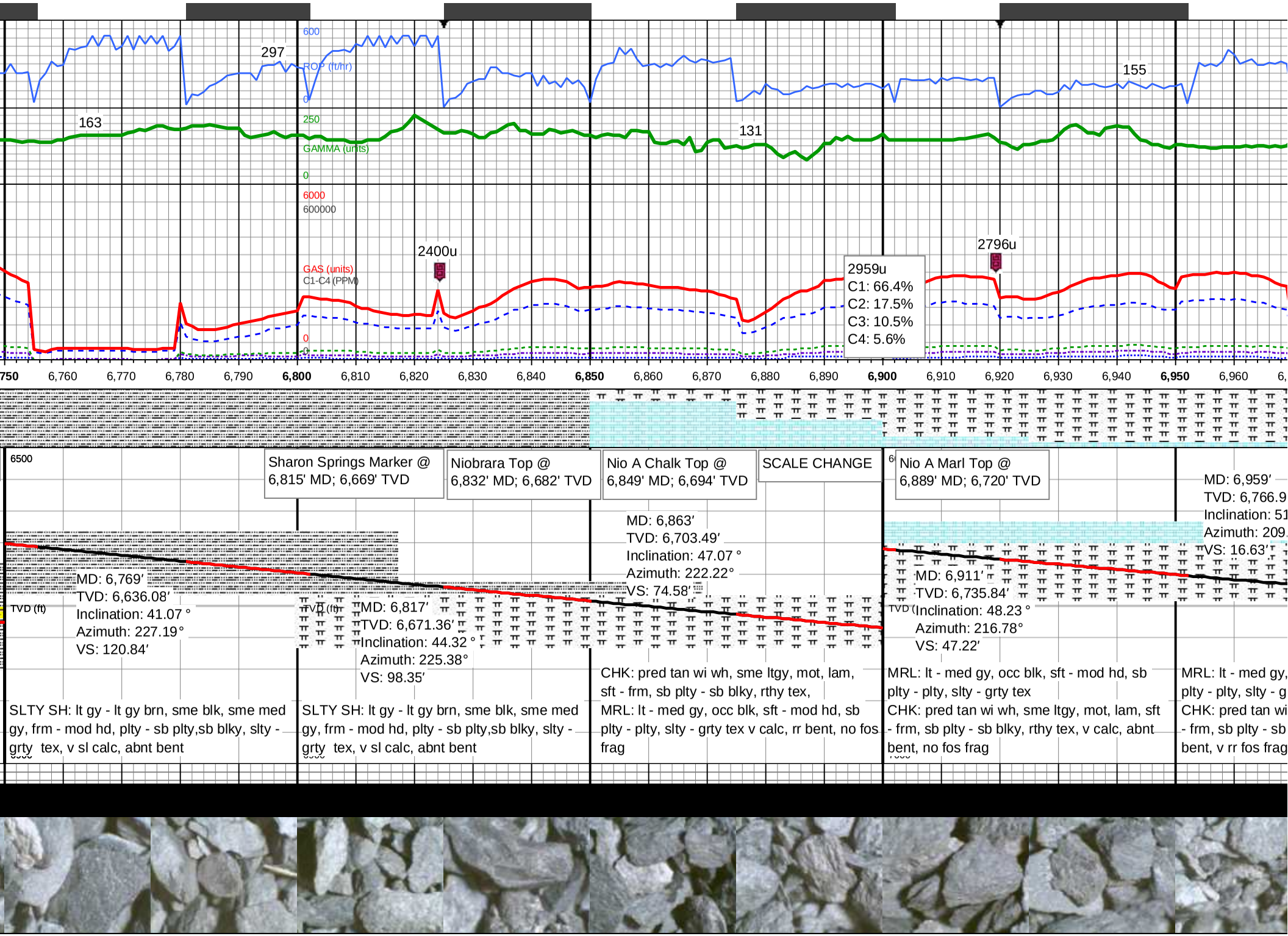

Slide/Rotate
ROP
ROP
ROP Data from iBall
600
209
ROP (ft/hr)
0
Curves
GAMMA
Gamma Data from Sperry - Halliburton
250
100
GAMMA (units)
89
0
Total Gas & Chromatograph
GAS
C1
C2
C3
C4
Gas Data from iBall
6000
600000
GAS (units)
C1-C4 (PPM)
0
135u
Excess Cuttings
1822u
C1: 30.1%
C2: 5.5%
C3: 64.3%
C4: 0.0%
2842
Depth Labels
6,130
6,140
6,150
6,160
6,170
6,180
6,190
6,200
6,210
6,220
6,230
6,240
6,250
6,260
6,270
6,280
6,290
6,300
% Lith
Well Bore
TVD
Columbine Logging began logging with BloodHound unit 0687 on 04/29/2014
50' Sample Interval @ 6,200' MD
Bit Data
Bit #: 1
Type: Schlumberger/Smith
Model: SDi611
Size: 8.75"
S/N: 6x20
TVD (ft)
MD: 6,247'
TVD: 6,192.52'
Inclination: 20.98 °
Azimuth: 265.27°
VS: 224.98'
MD: 6,294'
TVD: 6,235.79'
Inclination: 24.94 °
Azimuth: 264.27°
VS: 223.3'
SLTY SH: lt gy - lt gy brn, med gy, frm - occ hd, plty - sb plty, occ sb blky, slty - grty tex, v sl calc
SHY SS: lt - medgy, f gr, sb ang - sb rd, py srt, brit clus, p por, calc cmt, sme glau incl
SLTY SH: lt gy - lt gy brn, sme med gy, frm - mod hd, plty - sb plty, occ sb blky, slty - grty tex, v sl calc
SHY SS: lt - medgy,v f gr, sb ang - sb rd, py srt- w srt, brit clus, p por, calc cmt, sme glau incl
SLTY SH: lt gy - lt gy brn, sme med gy, frm - mod hd, plty - sb plty, occ sb blky, slty - grty tex, v sl calc
SHY SS: lt - medgy, f gr, sb ang - sb rd, py srt, brit clus, p por, calc cmt, sme glau incl
Oil Show
E
G
M
F
T
ST
Images

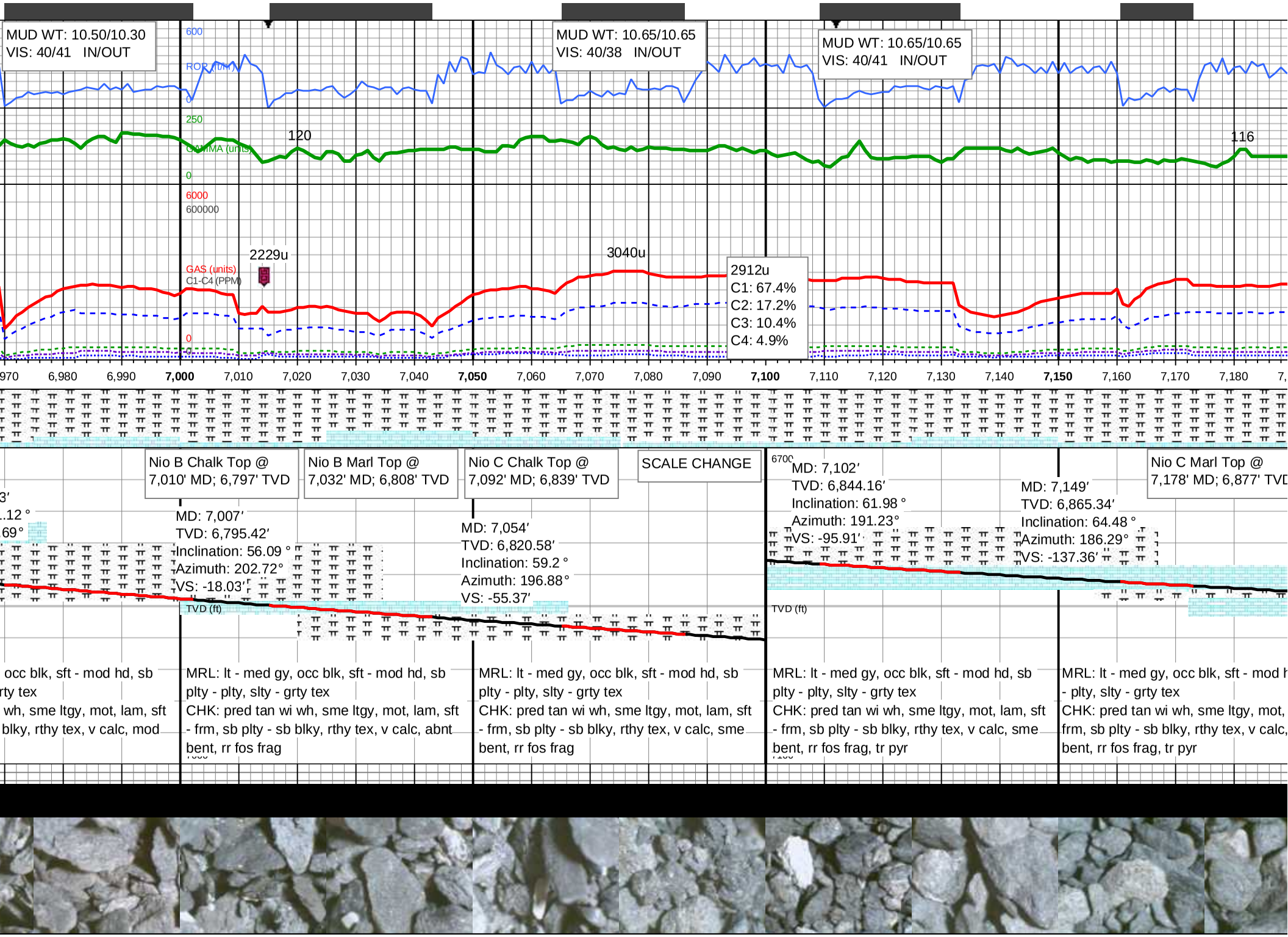

441
MUD WT: 9.80/9.50
VIS: 38/38 IN/OUT
190
250
GAMMA (units)
95
104
0
6000
600000
2972u
GAS (units)
C1-C4 (PPM)
1841u
2153u
C1: 75.5%
C2: 14.2%
C3: 8.6%
C4: 1.7%
0
6,310
6,320
6,330
6,340
6,350
6,360
6,370
6,380
6,390
6,400
6,410
6,420
6,430
6,440
6,450
6,460
6,470
6,480
6,490
6,500
6,510
6,520

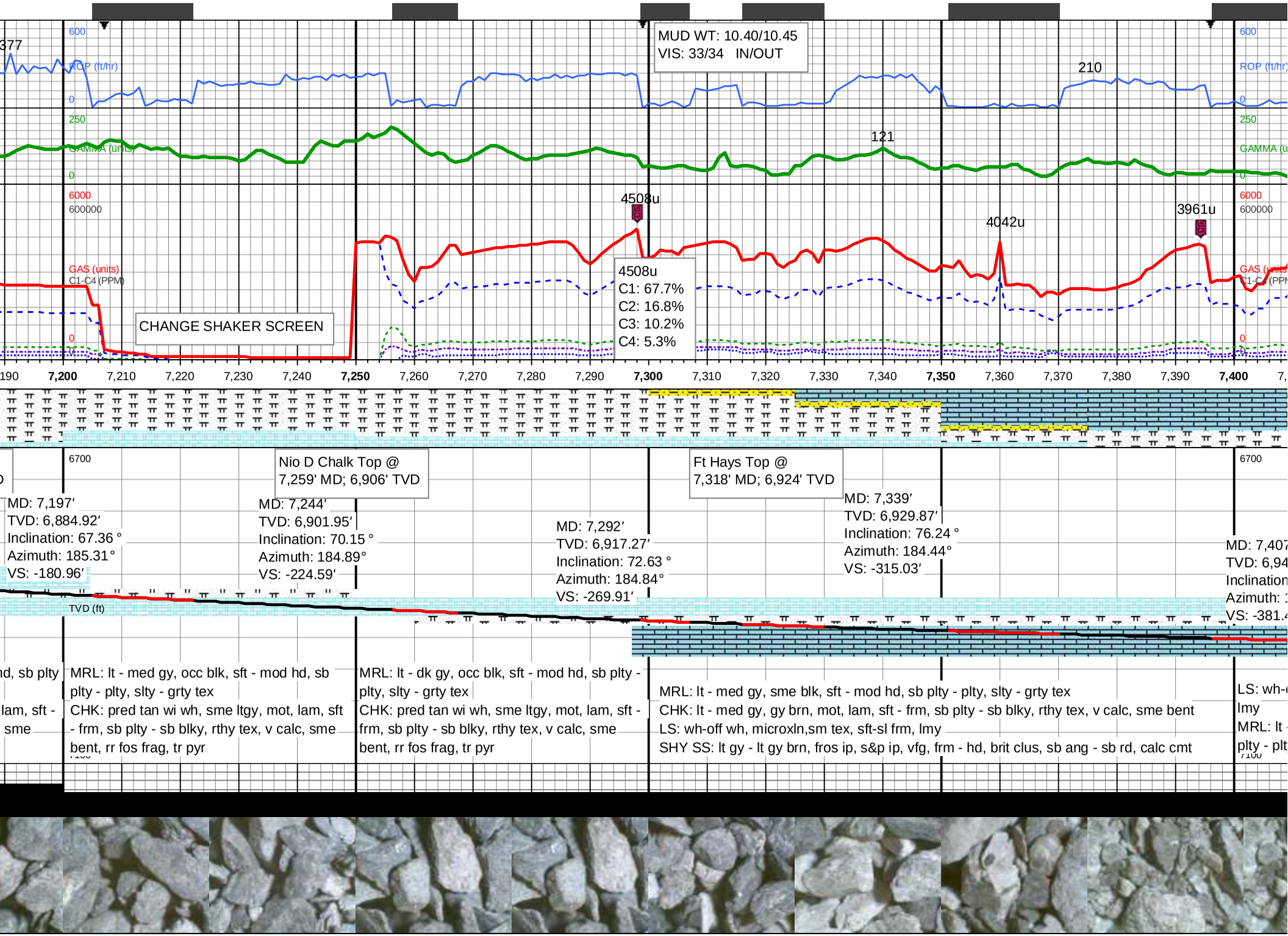

SCALE CHANGE
6300
MD: 6,342′
TVD: 6,279.39′
Inclination: 24.51 °
Azimuth: 262.19°
VS: 220.94′
MD: 6,388′
TVD: 6,321.27′
Inclination: 24.39 °
Azimuth: 258.58°
VS: 217.76′
MD: 6,436′
TVD: 6,364.72′
Inclination: 25.94 °
Azimuth: 256.53°
VS: 213.35′
MD: 6,483′
TVD: 6,406.1′
Inclination: 30.62 °
Azimuth: 251.99°
VS: 207.25′
TVD (ft)
H: lt gy - lt gy brn, med gy, frm - occ
- sb plty, occ sb blky, slty - grty tex, v
S: lt - medgy, f gr, sb ang - sb rd, py
clus, p por, calc cmt, sme glau incl
SLTY SH: lt gy - lt gy brn, med gy, frm - occ
hd, plty - sb plty, occ sb blky, slty - grty tex, v
sl calc
SHY SS: lt - medgy, f gr, sb ang - sb rd, py
srt, brit clus, p por, calc cmt, sme glau incl
SLTY SH: lt gy - lt gy brn, sme blk, frm - hd,
plty - sb plty, occ sb blky, slty - grty tex, v sl
calc
SHY SS: lt - medgy, v f-f gr, sb ang - sb rd, py
srt, brit clus, p por, calc cmt, sme glau incl
SLTY SH: lt gy - lt gy brn, sme med gy, frm -
mod hd, plty - sb plty, occ sb blky, slty - grty
tex, v sl calc
SHY SS: lt - medgy, f gr, sb ang - sb rd, py
srt, brit clus, p por, calc cmt, sme glau incl
SLTY SH: lt gy - lt gy brn,
mod hd, plty - sb plty, occ
tex, v sl calc
SHY SS: lt - medgy, f gr, s
srt, brit clus, p por, calc cm

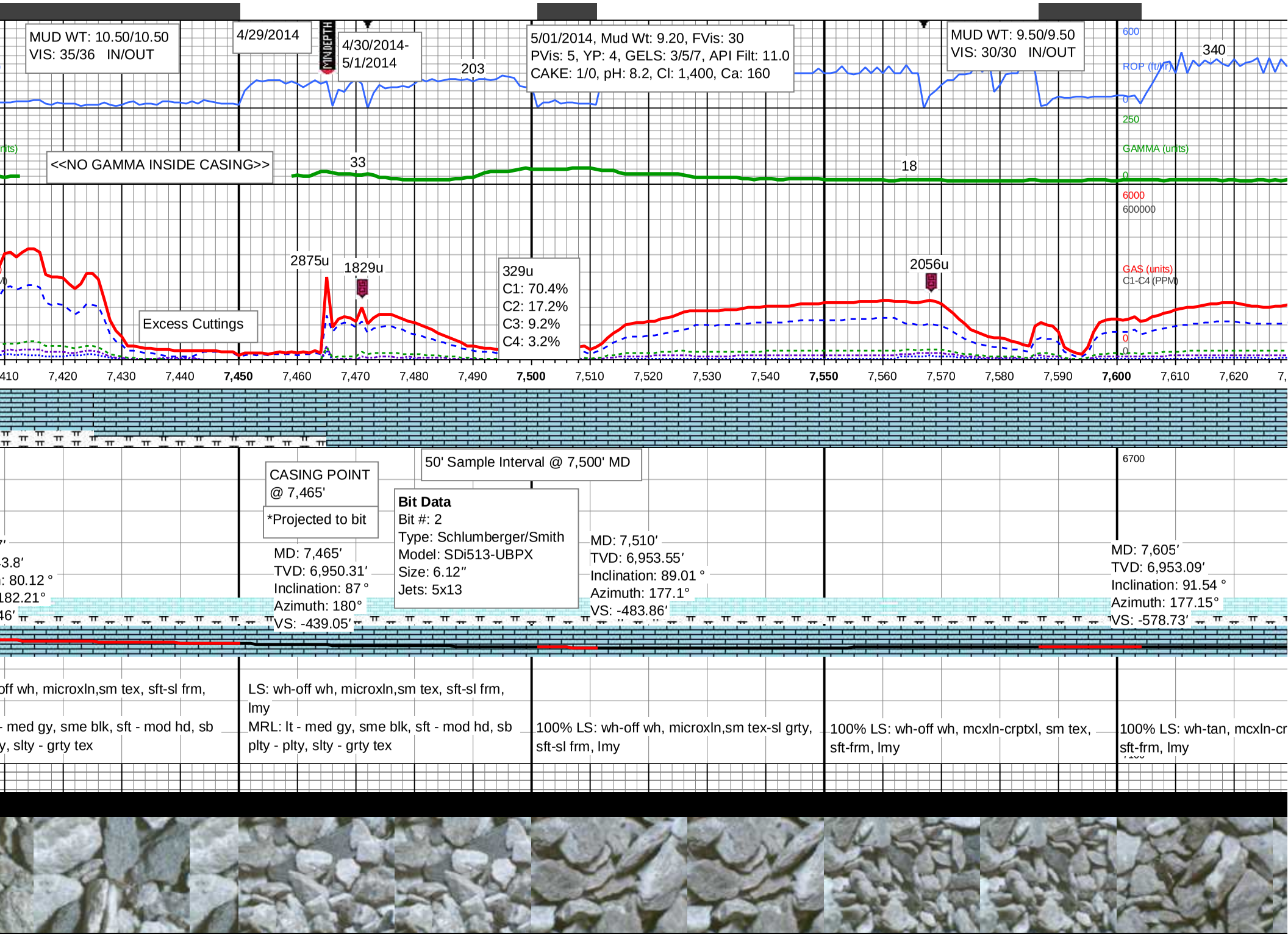

MUD WT: 10.00/9.70
VIS: 38/38 IN/OUT
419
134
250
0
6000
600000
GAS (units)
C1-C4 (PPM)
2429u
2999u
3408u
2719u
C1: 65.3%
C2: 17.5%
C3: 12.7%
C4: 4.5%
6,540
6,550
6,560
6,570
6,580
6,590
6,600
6,610
6,620
6,630
6,640
6,650
6,660
6,670
6,680
6,690
6,700
6,710
6,720
6,730
6,740

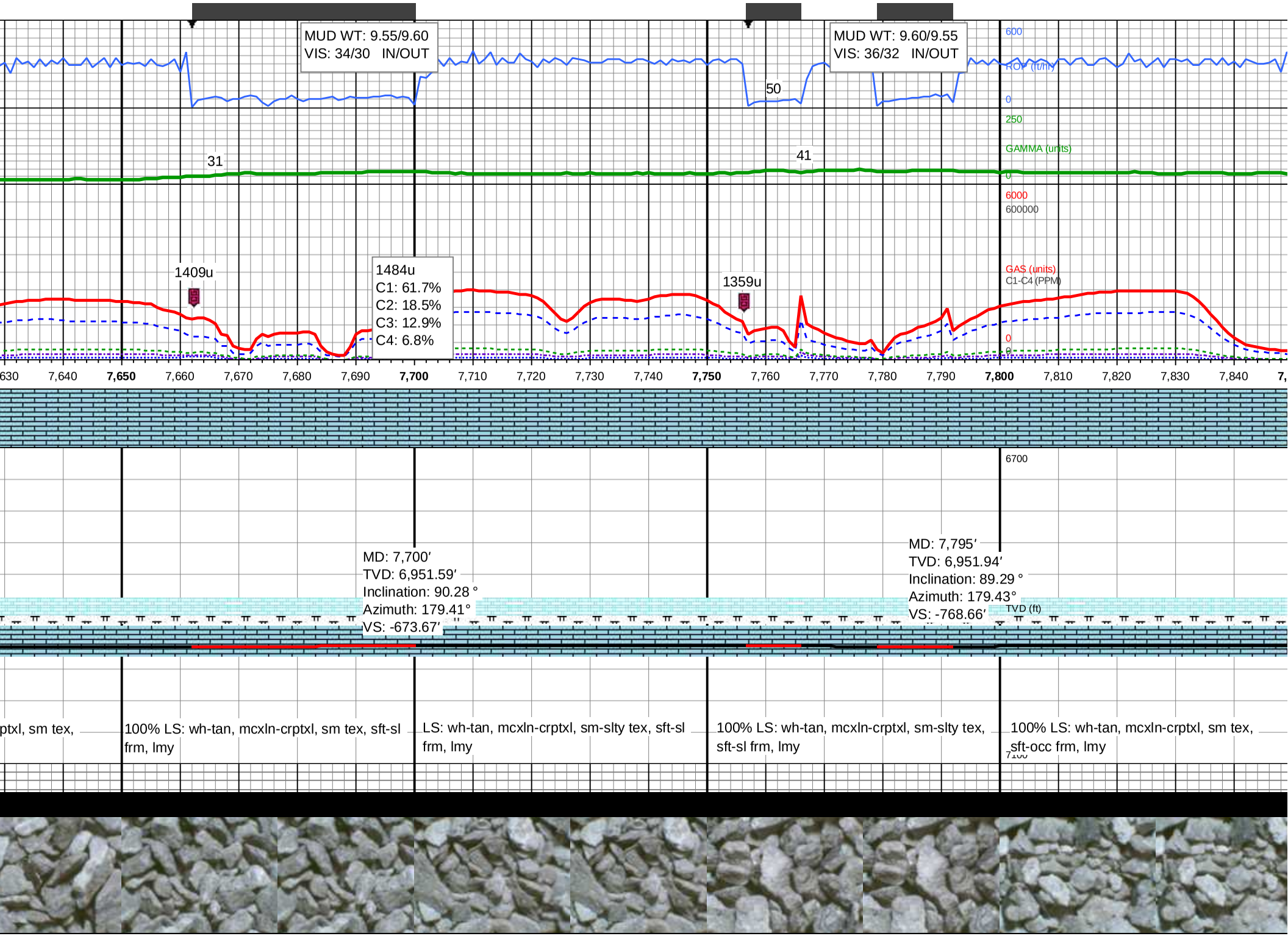

SCALE CHANGE
MD: 6,578′
TVD: 6,484.73′
Inclination: 36.09 °
Azimuth: 242.9°
VS: 186.42′
6400
MD: 6,626′
TVD: 6,523.5′
Inclination: 36.16 °
Azimuth: 241.81°
VS: 173.29′
TVD (ft)
MD: 6,674′
TVD: 6,562.12′
Inclination: 36.74 °
Azimuth: 235.43°
VS: 158.45′
25' Sample Interval @ 6,700' MD
SCALE CHANGE
MD: 6,722′
TVD: 6,600.06′
Inclination: 38.86 °
Azimuth: 230.5°
VS: 140.72′
SLTY SH: lt gy - lt gy brn, med gy, frm - hd, plty - sb plty, occ sb blky, slty - grty tex, v sl calc
SHY SS: lt - medgy, f gr, sb ang - sb rd, py- w srt, brit clus, p por, calc cmt, tr glau incl
SLTY SH: lt gy - lt gy brn, sme med gy, frm - mod hd, plty - sb plty, occ sb blky, slty - grty tex, v sl calc
SHY SS: lt - medgy, f gr, sb ang - sb rd, py srt, brit clus, p por, calc cmt, sme glau incl
SLTY SH: lt gy - lt gy brn, sme med gy, frm - mod hd, plty - sb plty, occ sb blky, slty - grty tex, v sl calc
SHY SS: lt - medgy, f gr, sb ang - sb rd, py srt, brit clus, p por, calc cmt, sme glau incl
SLTY SH: lt gy - lt gy brn, sme blk, sme med gy, frm - mod hd, plty - sb plty,sb blky, slty - grty tex, v sl calc, rr bent

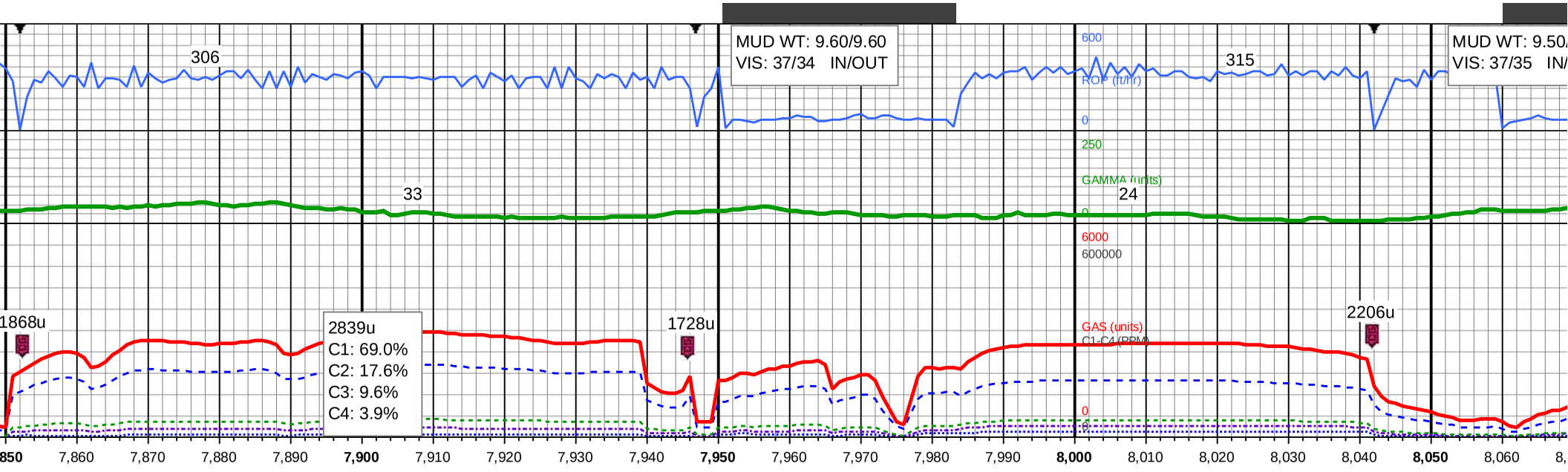

297
163
155
131
600
ROP (ft/hr)
0
250
GAMMA (units)
0
6000
600000
2400u
2796u
GAS (units)
C1-C4 (PPM)
0
2959u
C1: 66.4%
C2: 17.5%
C3: 10.5%
C4: 5.6%
6,750
6,760
6,770
6,780
6,790
6,800
6,810
6,820
6,830
6,840
6,850
6,860
6,870
6,880
6,890
6,900
6,910
6,920
6,930
6,940
6,950
6,960
6500
Sharon Springs Marker @ 6,815' MD; 6,669' TVD
Niobrara Top @ 6,832' MD; 6,682' TVD
Nio A Chalk Top @ 6,849' MD; 6,694' TVD
SCALE CHANGE
Nio A Marl Top @ 6,889' MD; 6,720' TVD
MD: 6,769'
TVD: 6,636.08'
Inclination: 41.07 °
Azimuth: 227.19°
VS: 120.84'
TVD (ft)
MD: 6,817'
TVD: 6,671.36'
Inclination: 44.32 °
Azimuth: 225.38°
VS: 98.35'
MD: 6,863'
TVD: 6,703.49'
Inclination: 47.07 °
Azimuth: 222.22°
VS: 74.58'
MD: 6,911'
TVD: 6,735.84'
Inclination: 48.23 °
Azimuth: 216.78°
VS: 47.22'
MD: 6,959'
TVD: 6,766.9
Inclination: 51
Azimuth: 209.
VS: 16.63'
SLTY SH: lt gy - lt gy brn, sme blk, sme med gy, frm - mod hd, plty - sb plty,sb blky, slty - grty tex, v sl calc, abnt bent
SLTY SH: lt gy - lt gy brn, sme blk, sme med gy, frm - mod hd, plty - sb plty,sb blky, slty - grty tex, v sl calc, abnt bent
CHK: pred tan wi wh, sme ltgy, mot, lam, sft - frm, sb plty - sb blky, rthy tex, MRL: lt - med gy, occ blk, sft - mod hd, sb plty - plty, slty - grty tex v calc, rr bent, no fos frag
MRL: lt - med gy, occ blk, sft - mod hd, sb plty - plty, slty - grty tex CHK: pred tan wi wh, sme ltgy, mot, lam, sft - frm, sb plty - sb blky, rthy tex, v calc, abnt bent, no fos frag
MRL: lt - med gy, plty - plty, slty - g
CHK: pred tan wi - frm, sb plty - sb bent, v rr fos frag

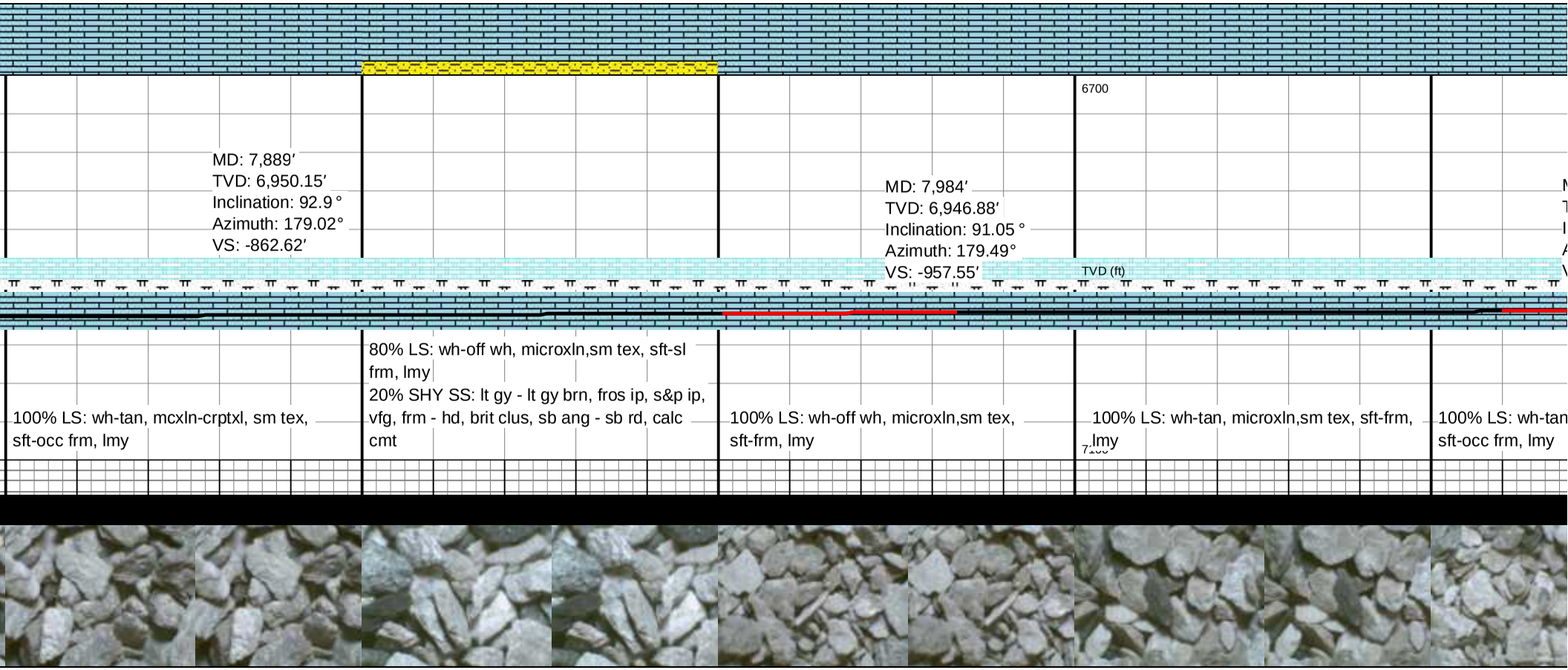

MUD WT: 10.50/10.30
VIS: 40/41 IN/OUT
MUD WT: 10.65/10.65
VIS: 40/38 IN/OUT
MUD WT: 10.65/10.65
VIS: 40/41 IN/OUT
600
ROP (MIN)
0
250
GAMMA (units)
0
6000
600000
120
116
2229u
3040u
GAS (units)
C1-C4 (PPM)
0
2912u
C1: 67.4%
C2: 17.2%
C3: 10.4%
C4: 4.9%
6,970
6,980
6,990
7,000
7,010
7,020
7,030
7,040
7,050
7,060
7,070
7,080
7,090
7,100
7,110
7,120
7,130
7,140
7,150
7,160
7,170
7,180
Nio B Chalk Top @
7,010' MD; 6,797' TVD
Nio B Marl Top @
7,032' MD; 6,808' TVD
Nio C Chalk Top @
7,092' MD; 6,839' TVD
SCALE CHANGE
Nio C Marl Top @
7,178' MD; 6,877' TVD
MD: 7,007′
TVD: 6,795.42′
Inclination: 56.09 °
Azimuth: 202.72°
VS: -18.03′
MD: 7,054′
TVD: 6,820.58′
Inclination: 59.2 °
Azimuth: 196.88°
VS: -55.37′
MD: 7,102′
TVD: 6,844.16′
Inclination: 61.98 °
Azimuth: 191.23°
VS: -95.91′
MD: 7,149′
TVD: 6,865.34′
Inclination: 64.48 °
Azimuth: 186.29°
VS: -137.36′
TVD (ft)
MRL: lt - med gy, occ blk, sft - mod hd, sb plty - plty, slty - grty tex
CHK: pred tan wi wh, sme ltgy, mot, lam, sft - frm, sb plty - sb blky, rthy tex, v calc, abnt bent, rr fos frag
MRL: lt - med gy, occ blk, sft - mod hd, sb plty - plty, slty - grty tex
CHK: pred tan wi wh, sme ltgy, mot, lam, sft - frm, sb plty - sb blky, rthy tex, v calc, sme bent, rr fos frag
MRL: lt - med gy, occ blk, sft - mod hd, sb plty - plty, slty - grty tex
CHK: pred tan wi wh, sme ltgy, mot, lam, sft - frm, sb plty - sb blky, rthy tex, v calc, sme bent, rr fos frag, tr pyr
MRL: lt - med gy, occ blk, sft - mod h
- plty, slty - grty tex
CHK: pred tan wi wh, sme ltgy, mot,
frm, sb plty - sb blky, rthy tex, v calc,
bent, rr fos frag, tr pyr

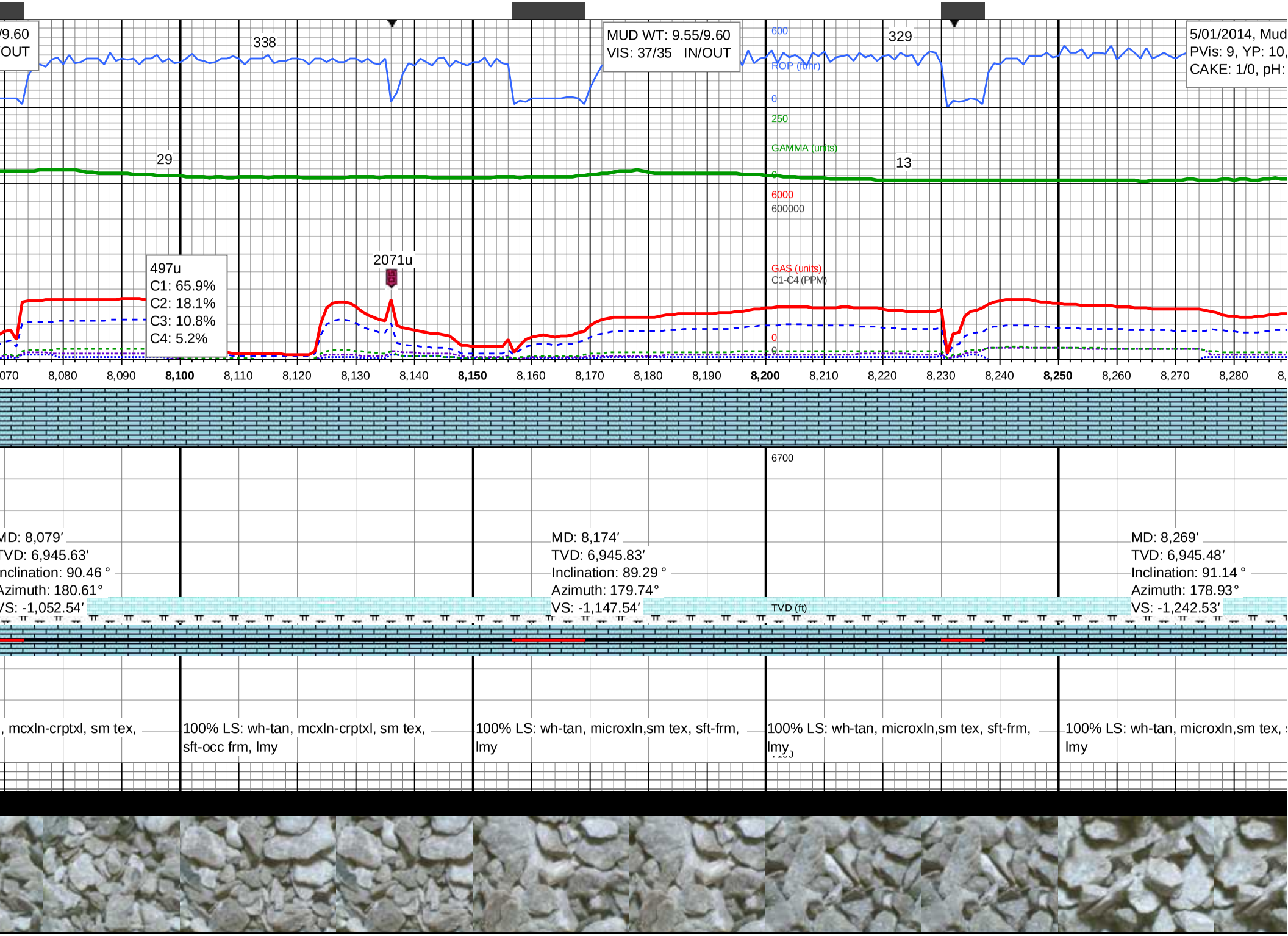

MUD WT: 10.40/10.45
VIS: 33/34 IN/OUT
ROP (ft/hr)
GAMMA (units)
GAS (units)
C1-C4 (PPM)
210
121
4508u
4042u
3961u
4508u
C1: 67.7%
C2: 16.8%
C3: 10.2%
C4: 5.3%
CHANGE SHAKER SCREEN
7,200
7,250
7,300
7,350
7,400
Nio D Chalk Top @
7,259' MD; 6,906' TVD
Ft Hays Top @
7,318' MD; 6,924' TVD
MD: 7,197'
TVD: 6,884.92'
Inclination: 67.36 °
Azimuth: 185.31°
VS: -180.96'
MD: 7,244'
TVD: 6,901.95'
Inclination: 70.15 °
Azimuth: 184.89°
VS: -224.59'
MD: 7,292'
TVD: 6,917.27'
Inclination: 72.63 °
Azimuth: 184.84°
VS: -269.91'
MD: 7,339'
TVD: 6,929.87'
Inclination: 76.24 °
Azimuth: 184.44°
VS: -315.03'
TVD (ft)
MRL: lt - med gy, occ blk, sft - mod hd, sb plty - plty, slty - grty tex
CHK: pred tan wi wh, sme ltgy, mot, lam, sft - frm, sb plty - sb blky, rthy tex, v calc, sme bent, rr fos frag, tr pyr
MRL: lt - dk gy, occ blk, sft - mod hd, sb plty - plty, slty - grty tex
CHK: pred tan wi wh, sme ltgy, mot, lam, sft - frm, sb plty - sb blky, rthy tex, v calc, sme bent, rr fos frag, tr pyr
MRL: lt - med gy, sme blk, sft - mod hd, sb plty - plty, slty - grty tex
CHK: lt - med gy, gy brn, mot, lam, sft - frm, sb plty - sb blky, rthy tex, v calc, sme bent
LS: wh-off wh, microxln,sm tex, sft-sl frm, lmy
SHY SS: lt gy - lt gy brn, fros ip, s&p ip, vfg, frm - hd, brit clus, sb ang - sb rd, calc cmt

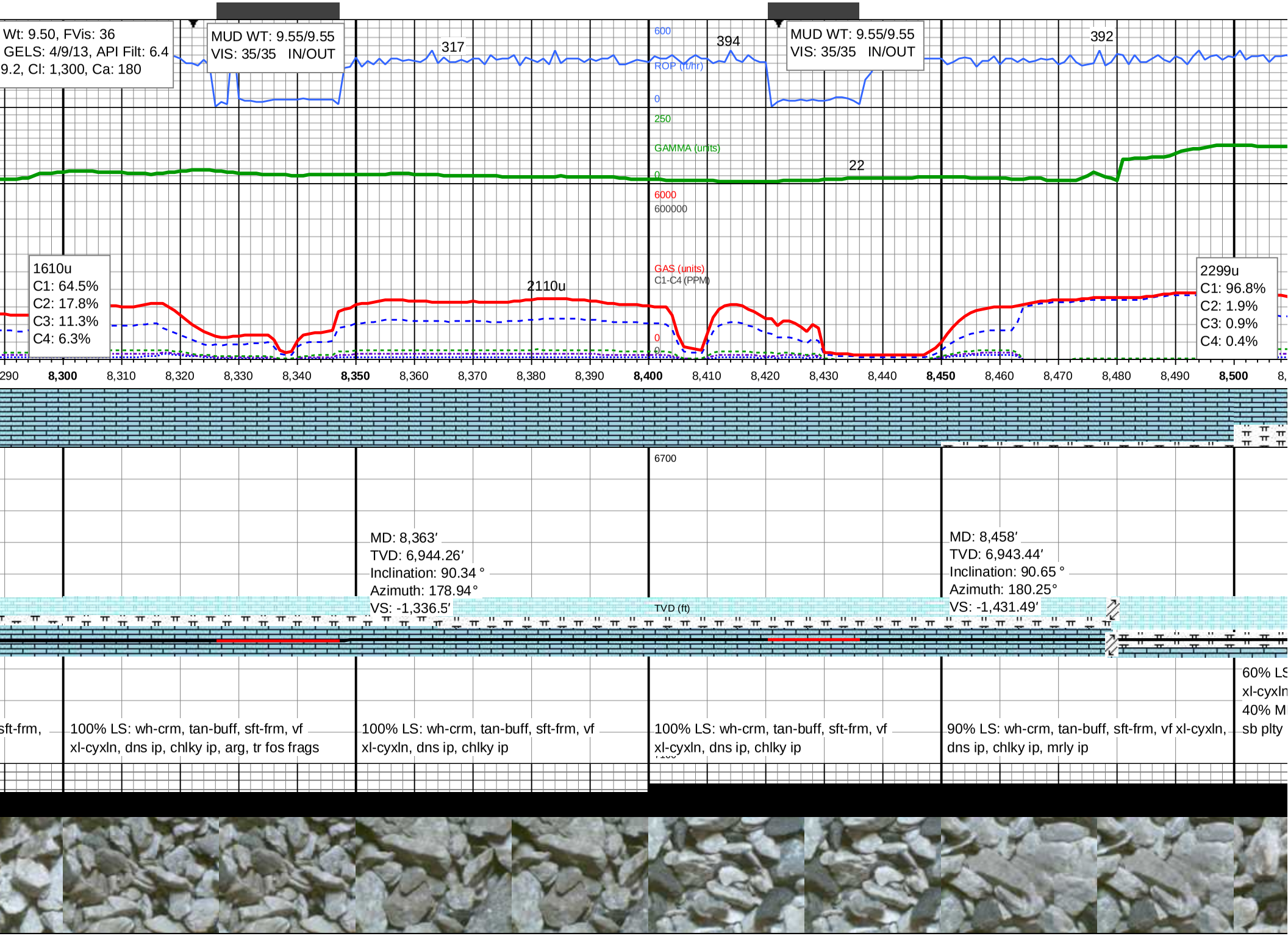

MUD WT: 10.50/10.50
VIS: 35/36 IN/OUT
4/29/2014
MINDEPTH
4/30/2014-
5/1/2014
203
5/01/2014, Mud Wt: 9.20, FVis: 30
PVis: 5, YP: 4, GELS: 3/5/7, API Filt: 11.0
CAKE: 1/0, pH: 8.2, Cl: 1,400, Ca: 160
MUD WT: 9.50/9.50
VIS: 30/30 IN/OUT
600
ROP (ft/hr)
340
0
250
GAMMA (units)
<<NO GAMMA INSIDE CASING>>
33
18
0
6000
600000
2875u
1829u
329u
C1: 70.4%
C2: 17.2%
C3: 9.2%
C4: 3.2%
2056u
GAS (units)
C1-C4 (PPM)
Excess Cuttings
0
0
7,410
7,420
7,430
7,440
7,450
7,460
7,470
7,480
7,490
7,500
7,510
7,520
7,530
7,540
7,550
7,560
7,570
7,580
7,590
7,600
7,610
7,620
CASING POINT
@ 7,465'
*Projected to bit
50' Sample Interval @ 7,500' MD
Bit Data
Bit #: 2
Type: Schlumberger/Smith
Model: SDi513-UBPX
Size: 6.12"
Jets: 5x13
6700
MD: 7,465'
TVD: 6,950.31'
Inclination: 87 °
Azimuth: 180°
VS: -439.05'
MD: 7,510'
TVD: 6,953.55'
Inclination: 89.01 °
Azimuth: 177.1°
VS: -483.86'
MD: 7,605'
TVD: 6,953.09'
Inclination: 91.54 °
Azimuth: 177.15°
VS: -578.73'
LS: wh-off wh, microxln,sm tex, sft-sl frm, lmy
MRL: lt - med gy, sme blk, sft - mod hd, sb plty - plty, slty - grty tex
100% LS: wh-off wh, microxln,sm tex-sl grty, sft-sl frm, lmy
100% LS: wh-off wh, mcxln-crptxl, sm tex, sft-frm, lmy
100% LS: wh-tan, mcxln-cr
sft-frm, lmy

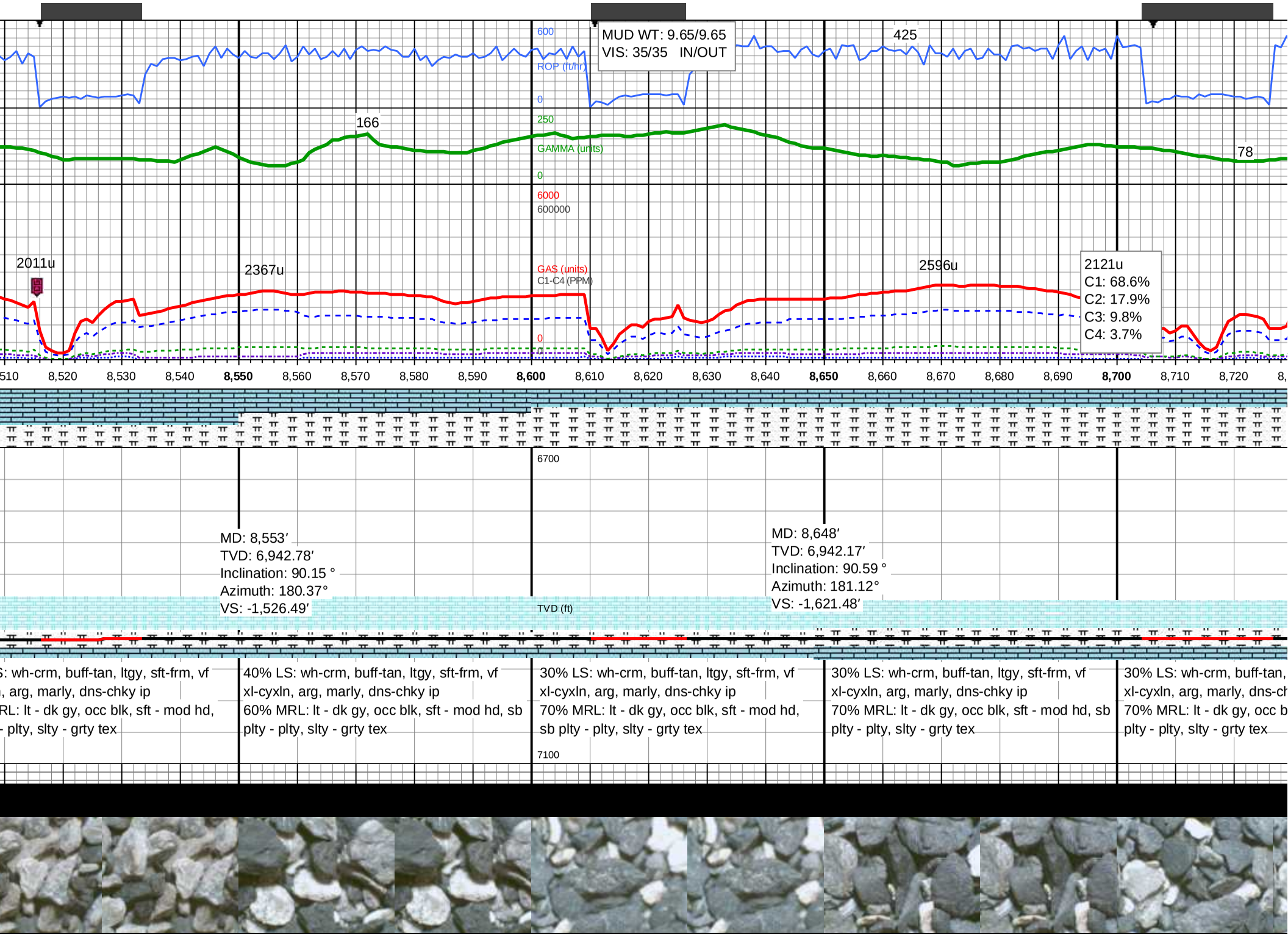

MUD WT: 9.55/9.60
VIS: 34/30 IN/OUT
MUD WT: 9.60/9.55
VIS: 36/32 IN/OUT
50
31
41
600
ROP (ft/hr)
0
250
GAMMA (units)
0
6000
600000
GAS (units)
C1-C4 (PPM)
0
0
1409u
1484u
C1: 61.7%
C2: 18.5%
C3: 12.9%
C4: 6.8%
1359u
7,630
7,640
7,650
7,660
7,670
7,680
7,690
7,700
7,710
7,720
7,730
7,740
7,750
7,760
7,770
7,780
7,790
7,800
7,810
7,820
7,830
7,840
6700
MD: 7,700′
TVD: 6,951.59′
Inclination: 90.28 °
Azimuth: 179.41°
VS: -673.67′
MD: 7,795′
TVD: 6,951.94′
Inclination: 89.29 °
Azimuth: 179.43°
VS: -768.66′
TVD (ft)
ptxl, sm tex,
100% LS: wh-tan, mcxln-crptxl, sm tex, sft-sl frm, lmy
LS: wh-tan, mcxln-crptxl, sm-slty tex, sft-sl frm, lmy
100% LS: wh-tan, mcxln-crptxl, sm-slty tex, sft-sl frm, lmy
100% LS: wh-tan, mcxln-crptxl, sm tex, sft-occ frm, lmy

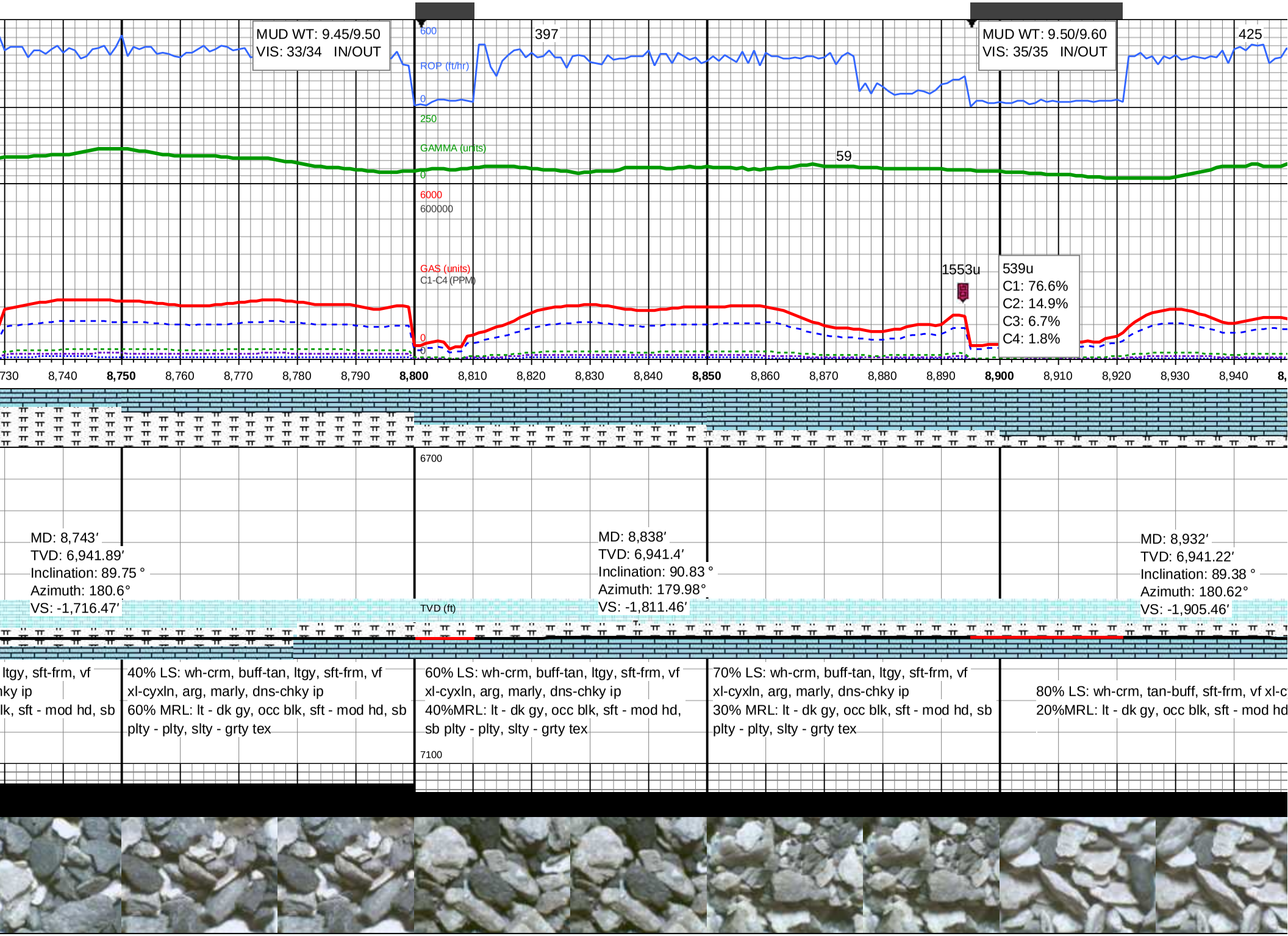

306
MUD WT: 9.60/9.60
VIS: 37/34 IN/OUT
600
ROP (ft/hr)
0
315
250
GAMMA (units)
33
24
0
6000
600000
1868u
2839u
C1: 69.0%
C2: 17.6%
C3: 9.6%
C4: 3.9%
1728u
GAS (units)
C1-C4 (PPM)
2206u
0
0
MUD WT: 9.50
VIS: 37/35 IN
7,850
7,860
7,870
7,880
7,890
7,900
7,910
7,920
7,930
7,940
7,950
7,960
7,970
7,980
7,990
8,000
8,010
8,020
8,030
8,040
8,050
8,060

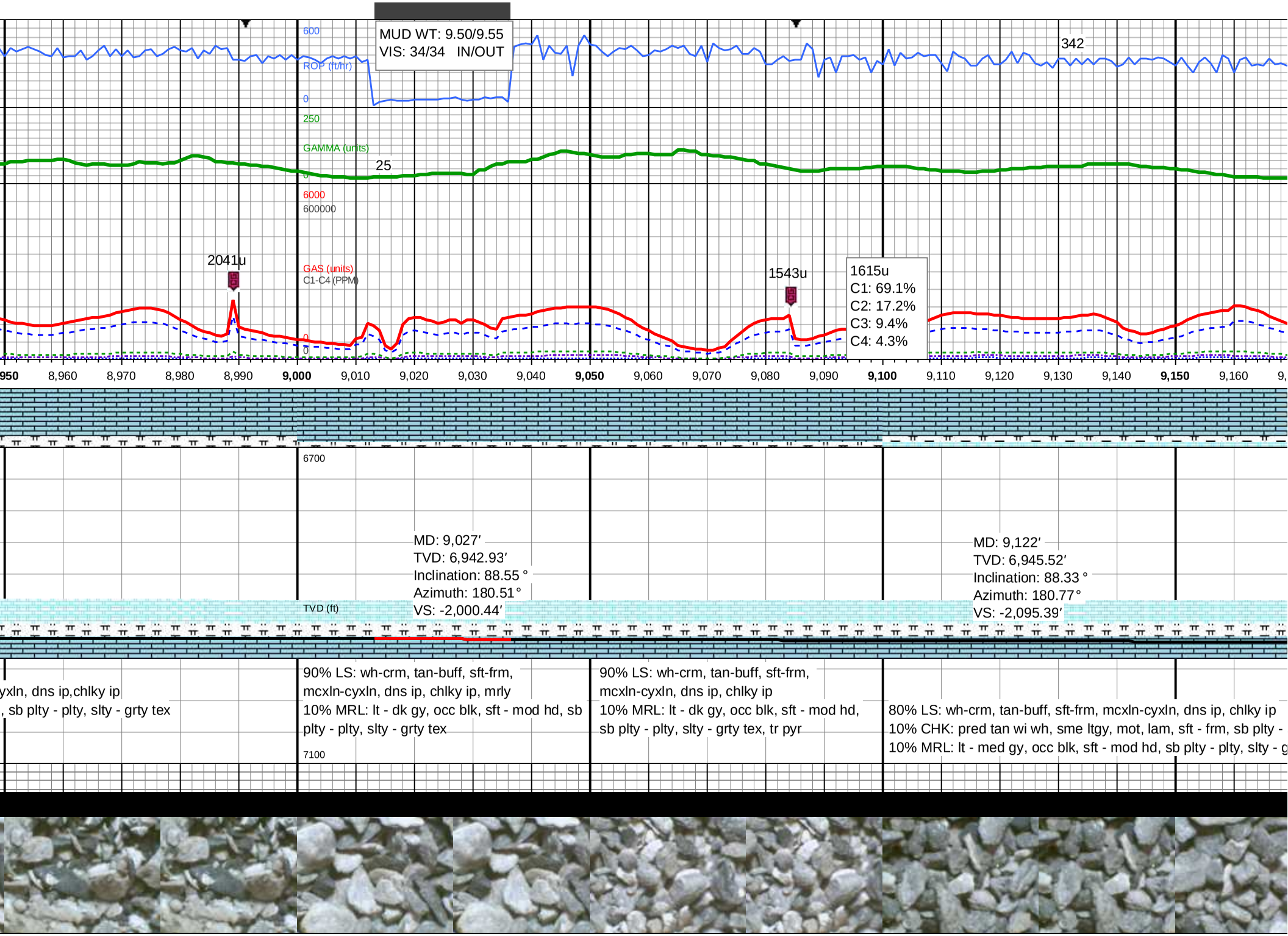

6700
MD: 7,889′
TVD: 6,950.15′
Inclination: 92.9 °
Azimuth: 179.02°
VS: -862.62′
MD: 7,984′
TVD: 6,946.88′
Inclination: 91.05 °
Azimuth: 179.49°
VS: -957.55′
TVD (ft)
100% LS: wh-tan, mcxln-crptxl, sm tex, sft-occ frm, lmy
80% LS: wh-off wh, microxln,sm tex, sft-sl frm, lmy
20% SHY SS: lt gy - lt gy brn, fros ip, s&p ip, vfg, frm - hd, brit clus, sb ang - sb rd, calc cmt
100% LS: wh-off wh, microxln,sm tex, sft-frm, lmy
100% LS: wh-tan, microxln,sm tex, sft-frm, lmy
100% LS: wh-tan
sft-occ frm, lmy

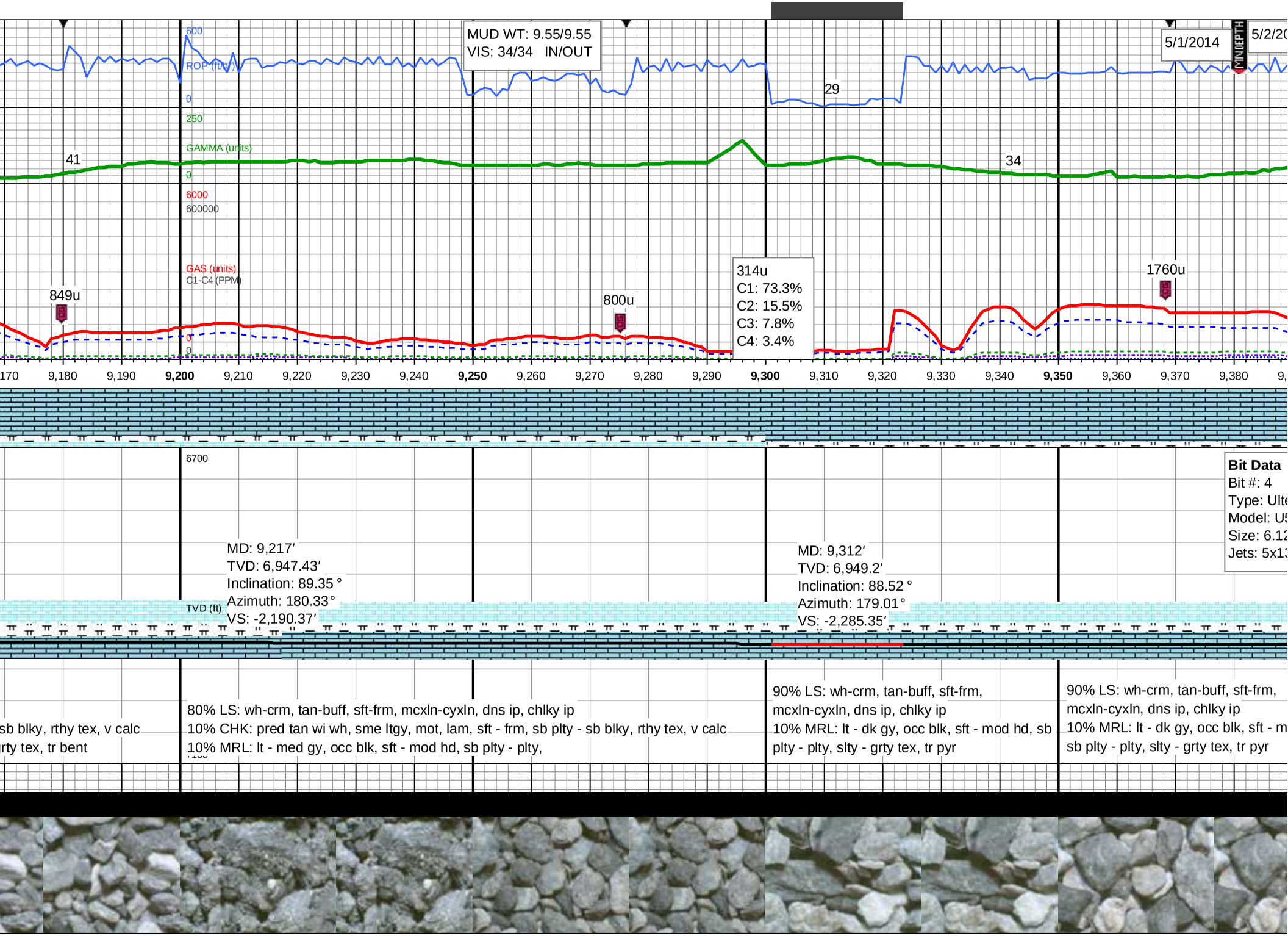

/9.60
OUT
338
MUD WT: 9.55/9.60
VIS: 37/35 IN/OUT
600
ROP (ft/hr)
0
329
5/01/2014, Mud
PVis: 9, YP: 10,
CAKE: 1/0, pH:
250
GAMMA (units)
0
29
13
6000
600000
497u
C1: 65.9%
C2: 18.1%
C3: 10.8%
C4: 5.2%
2071u
GAS (units)
C1-C4 (PPM)
0
070
8,080
8,090
8,100
8,110
8,120
8,130
8,140
8,150
8,160
8,170
8,180
8,190
8,200
8,210
8,220
8,230
8,240
8,250
8,260
8,270
8,280
6700
MD: 8,079′
TVD: 6,945.63′
nclination: 90.46 °
Azimuth: 180.61°
VS: -1,052.54′
MD: 8,174′
TVD: 6,945.83′
Inclination: 89.29 °
Azimuth: 179.74°
VS: -1,147.54′
TVD (ft)
MD: 8,269′
TVD: 6,945.48′
Inclination: 91.14 °
Azimuth: 178.93°
VS: -1,242.53′
, mcxln-crptxl, sm tex,
100% LS: wh-tan, mcxln-crptxl, sm tex, sft-occ frm, lmy
100% LS: wh-tan, microxln,sm tex, sft-frm, lmy
100% LS: wh-tan, microxln,sm tex, sft-frm, lmy
100% LS: wh-tan, microxln,sm tex, lmy

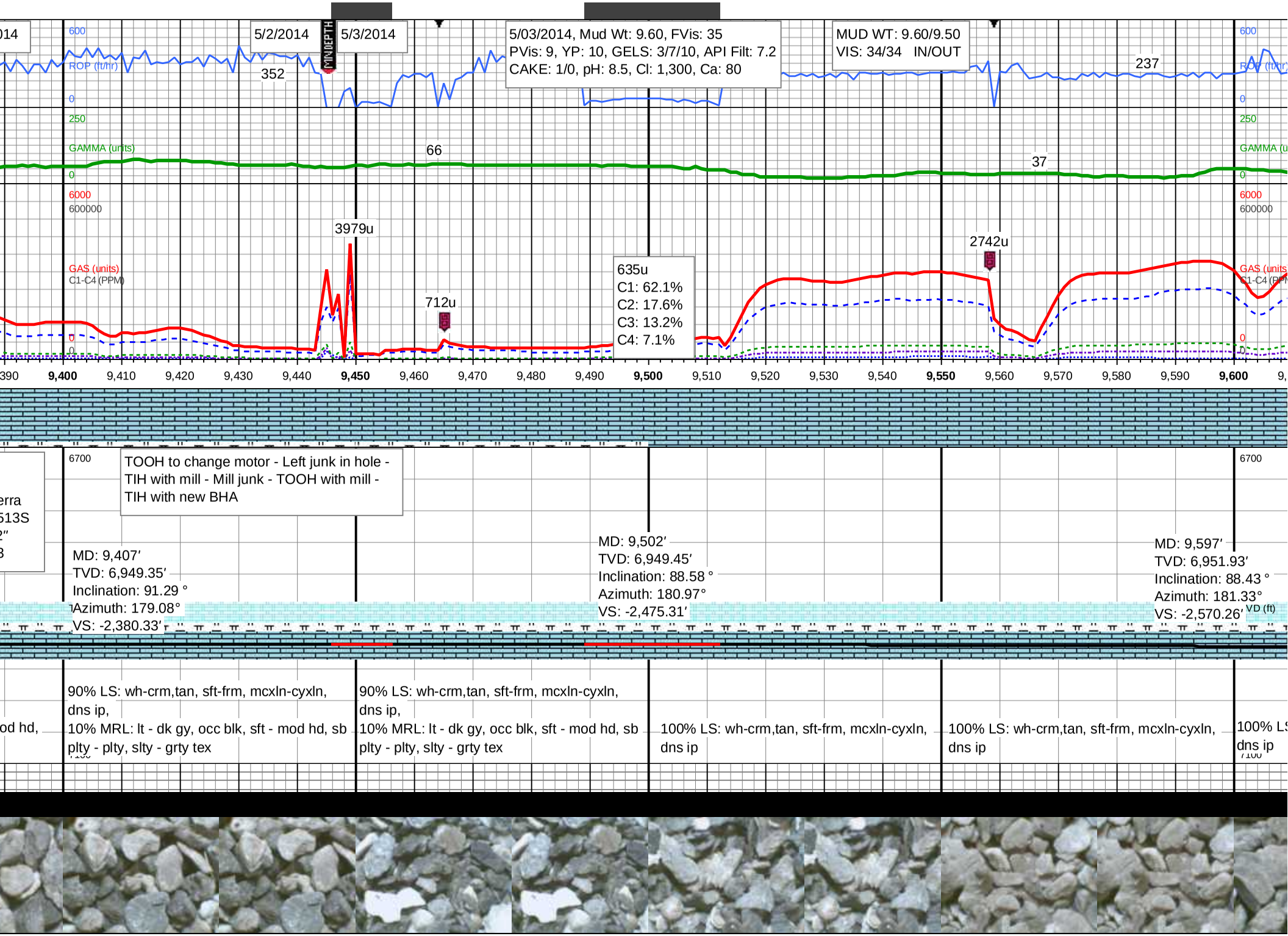

Wt: 9.50, FVis: 36
GELS: 4/9/13, API Filt: 6.4
9.2, Cl: 1,300, Ca: 180
MUD WT: 9.55/9.55
VIS: 35/35 IN/OUT
317
600
ROP (ft/hr)
0
394
MUD WT: 9.55/9.55
VIS: 35/35 IN/OUT
392
250
GAMMA (units)
0
22
6000
600000
GAS (units)
C1-C4 (PPM)
1610u
C1: 64.5%
C2: 17.8%
C3: 11.3%
C4: 6.3%
2110u
0
2299u
C1: 96.8%
C2: 1.9%
C3: 0.9%
C4: 0.4%
290
8,300
8,310
8,320
8,330
8,340
8,350
8,360
8,370
8,380
8,390
8,400
8,410
8,420
8,430
8,440
8,450
8,460
8,470
8,480
8,490
8,500
6700
MD: 8,363′
TVD: 6,944.26′
Inclination: 90.34 °
Azimuth: 178.94°
VS: -1,336.5′
TVD (ft)
MD: 8,458′
TVD: 6,943.44′
Inclination: 90.65 °
Azimuth: 180.25°
VS: -1,431.49′
sft-frm,
100% LS: wh-crm, tan-buff, sft-frm, vf xl-cyxln, dns ip, chlky ip, arg, tr fos frags
100% LS: wh-crm, tan-buff, sft-frm, vf xl-cyxln, dns ip, chlky ip
100% LS: wh-crm, tan-buff, sft-frm, vf xl-cyxln, dns ip, chlky ip
90% LS: wh-crm, tan-buff, sft-frm, vf xl-cyxln, dns ip, chlky ip, mrly ip
60% LS
xl-cyxln
40% M
sb plty

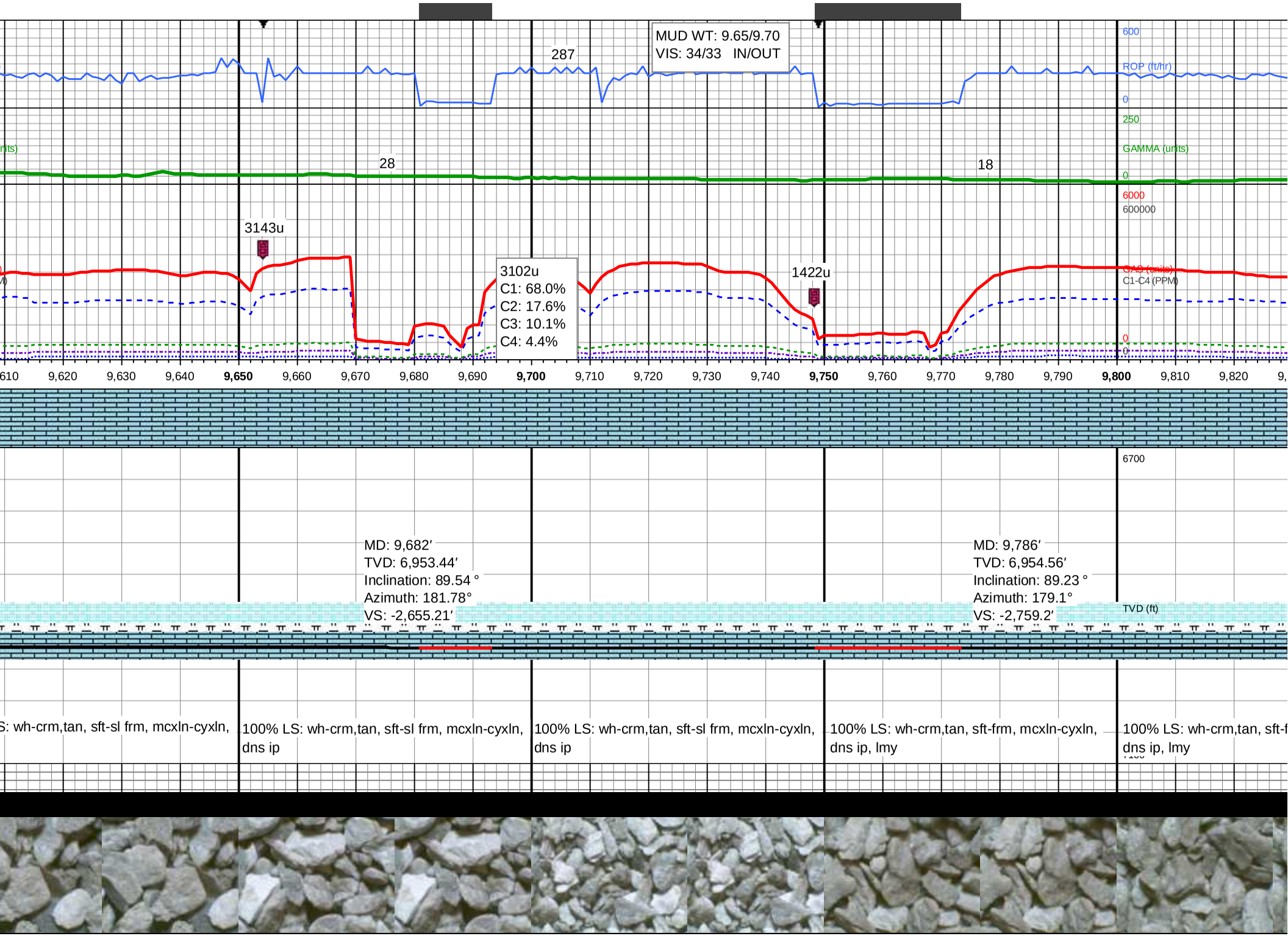

MUD WT: 9.65/9.65
VIS: 35/35 IN/OUT
600
ROP (ft/hr)
0
425
166
250
GAMMA (units)
0
78
6000
600000
2011u
2367u
GAS (units)
C1-C4 (PPM)
0
2596u
2121u
C1: 68.6%
C2: 17.9%
C3: 9.8%
C4: 3.7%
8,510
8,520
8,530
8,540
8,550
8,560
8,570
8,580
8,590
8,600
8,610
8,620
8,630
8,640
8,650
8,660
8,670
8,680
8,690
8,700
8,710
8,720
6700
MD: 8,553′
TVD: 6,942.78′
Inclination: 90.15 °
Azimuth: 180.37°
VS: -1,526.49′
MD: 8,648′
TVD: 6,942.17′
Inclination: 90.59 °
Azimuth: 181.12°
VS: -1,621.48′
TVD (ft)
7100
S: wh-crm, buff-tan, ltgy, sft-frm, vf
, arg, marly, dns-chky ip
RL: lt - dk gy, occ blk, sft - mod hd,
- plty, slty - grty tex
40% LS: wh-crm, buff-tan, ltgy, sft-frm, vf
xl-cyxln, arg, marly, dns-chky ip
60% MRL: lt - dk gy, occ blk, sft - mod hd, sb
plty - plty, slty - grty tex
30% LS: wh-crm, buff-tan, ltgy, sft-frm, vf
xl-cyxln, arg, marly, dns-chky ip
70% MRL: lt - dk gy, occ blk, sft - mod hd,
sb plty - plty, slty - grty tex
30% LS: wh-crm, buff-tan, ltgy, sft-frm, vf
xl-cyxln, arg, marly, dns-chky ip
70% MRL: lt - dk gy, occ blk, sft - mod hd, sb
plty - plty, slty - grty tex
30% LS: wh-crm, buff-tan,
xl-cyxln, arg, marly, dns-ch
70% MRL: lt - dk gy, occ b
plty - plty, slty - grty tex

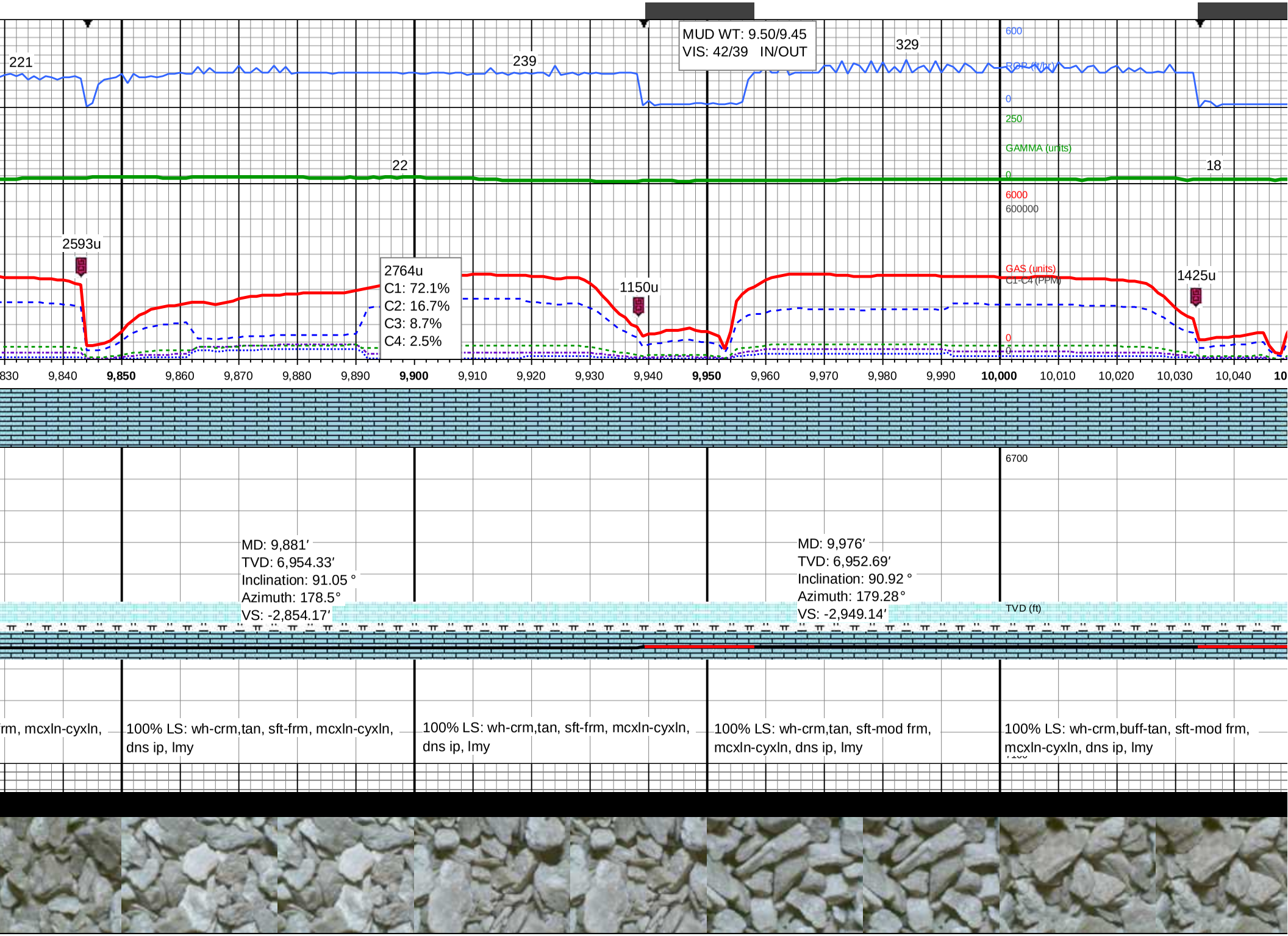

MUD WT: 9.45/9.50
VIS: 33/34 IN/OUT
600
ROP (ft/hr)
0
397
MUD WT: 9.50/9.60
VIS: 35/35 IN/OUT
425
250
GAMMA (units)
0
59
6000
600000
GAS (units)
C1-C4 (PPM)
0
0
1553u
539u
C1: 76.6%
C2: 14.9%
C3: 6.7%
C4: 1.8%
730
8,740
8,750
8,760
8,770
8,780
8,790
8,800
8,810
8,820
8,830
8,840
8,850
8,860
8,870
8,880
8,890
8,900
8,910
8,920
8,930
8,940
6700
MD: 8,743′
TVD: 6,941.89′
Inclination: 89.75 °
Azimuth: 180.6°
VS: -1,716.47′
MD: 8,838′
TVD: 6,941.4′
Inclination: 90.83 °
Azimuth: 179.98°
VS: -1,811.46′
MD: 8,932′
TVD: 6,941.22′
Inclination: 89.38 °
Azimuth: 180.62°
VS: -1,905.46′
TVD (ft)
ltgy, sft-frm, vf
hky ip
lk, sft - mod hd, sb
40% LS: wh-crm, buff-tan, ltgy, sft-frm, vf
xl-cyxln, arg, marly, dns-chky ip
60% MRL: lt - dk gy, occ blk, sft - mod hd, sb
plty - plty, slty - grty tex
60% LS: wh-crm, buff-tan, ltgy, sft-frm, vf
xl-cyxln, arg, marly, dns-chky ip
40%MRL: lt - dk gy, occ blk, sft - mod hd,
sb plty - plty, slty - grty tex
70% LS: wh-crm, buff-tan, ltgy, sft-frm, vf
xl-cyxln, arg, marly, dns-chky ip
30% MRL: lt - dk gy, occ blk, sft - mod hd, sb
plty - plty, slty - grty tex
80% LS: wh-crm, tan-buff, sft-frm, vf xl-c
20%MRL: lt - dk gy, occ blk, sft - mod hd
7100

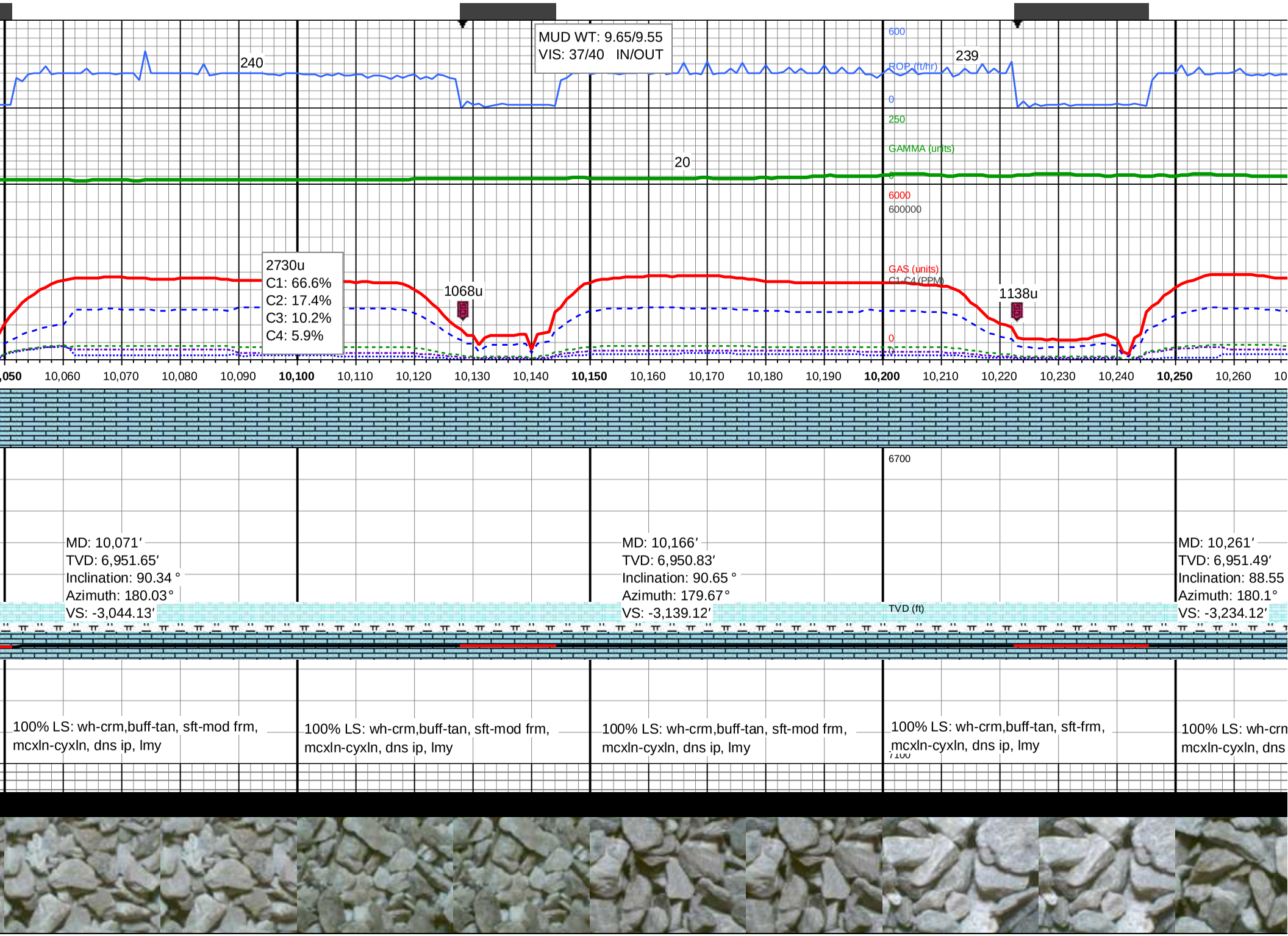

MUD WT: 9.50/9.55
VIS: 34/34 IN/OUT
600
ROP (ft/hr)
0
342
250
GAMMA (units)
25
0
6000
600000
2041u
GAS (units)
C1-C4 (PPM)
1543u
1615u
C1: 69.1%
C2: 17.2%
C3: 9.4%
C4: 4.3%
0
8,960
8,970
8,980
8,990
9,000
9,010
9,020
9,030
9,040
9,050
9,060
9,070
9,080
9,090
9,100
9,110
9,120
9,130
9,140
9,150
9,160
6700
MD: 9,027′
TVD: 6,942.93′
Inclination: 88.55 °
Azimuth: 180.51°
VS: -2,000.44′
MD: 9,122′
TVD: 6,945.52′
Inclination: 88.33 °
Azimuth: 180.77°
VS: -2,095.39′
TVD (ft)
yxln, dns ip,chlky ip
, sb plty - plty, slty - grty tex
90% LS: wh-crm, tan-buff, sft-frm, mcxln-cyxln, dns ip, chlky ip, mrly
10% MRL: lt - dk gy, occ blk, sft - mod hd, sb plty - plty, slty - grty tex
7100
90% LS: wh-crm, tan-buff, sft-frm, mcxln-cyxln, dns ip, chlky ip
10% MRL: lt - dk gy, occ blk, sft - mod hd, sb plty - plty, slty - grty tex, tr pyr
80% LS: wh-crm, tan-buff, sft-frm, mcxln-cyxln, dns ip, chlky ip
10% CHK: pred tan wi wh, sme ltgy, mot, lam, sft - frm, sb plty -
10% MRL: lt - med gy, occ blk, sft - mod hd, sb plty - plty, slty - g

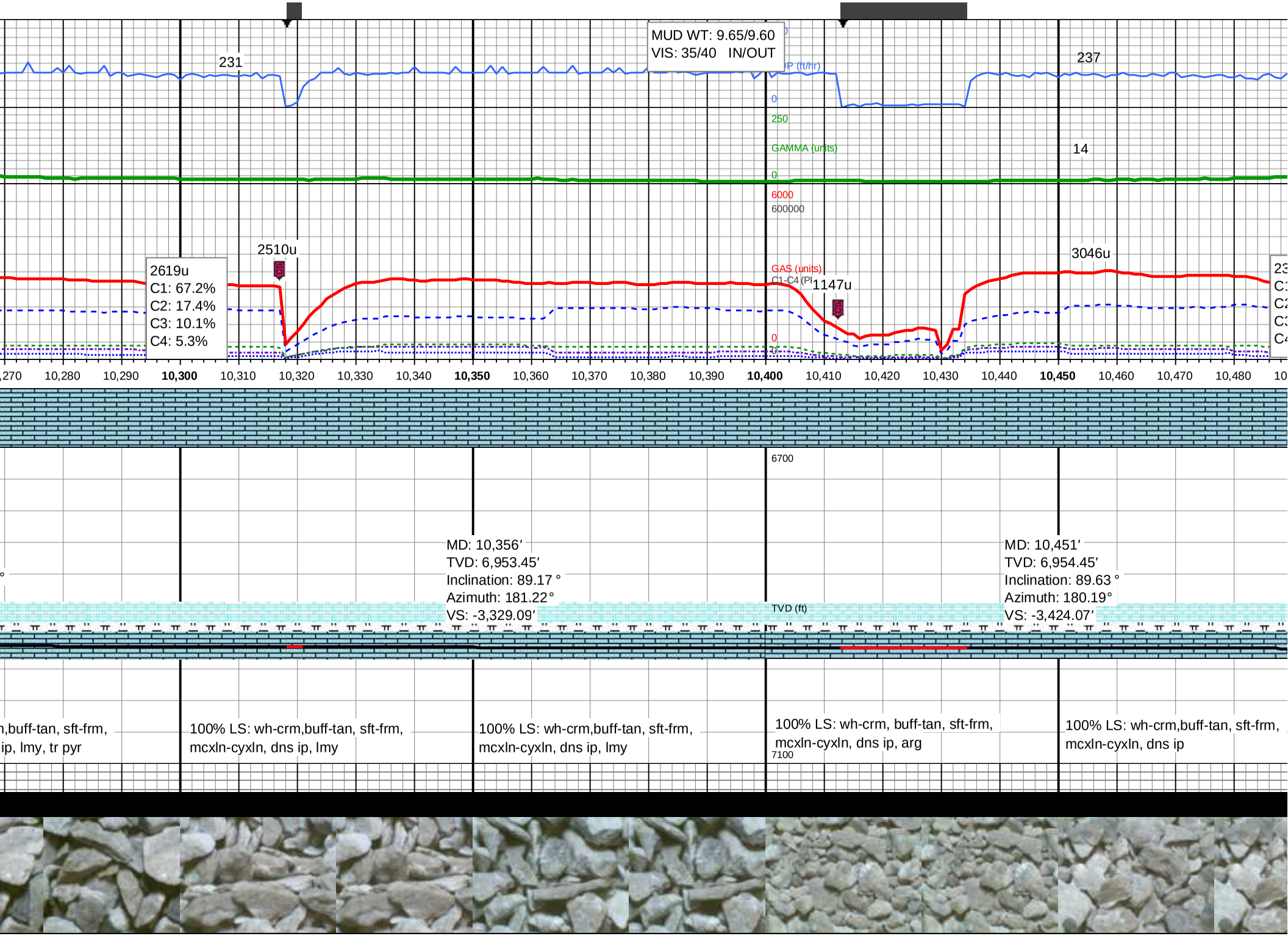

MUD WT: 9.55/9.55
VIS: 34/34 IN/OUT
5/1/2014
600
ROP (ft/hr)
0
250
GAMMA (units)
0
6000
600000
GAS (units)
C1-C4 (PPM)
0
0
41
29
34
849u
800u
314u
C1: 73.3%
C2: 15.5%
C3: 7.8%
C4: 3.4%
1760u
9,180
9,190
9,200
9,210
9,220
9,230
9,240
9,250
9,260
9,270
9,280
9,290
9,300
9,310
9,320
9,330
9,340
9,350
9,360
9,370
9,380
6700
TVD (ft)
Bit Data
Bit #: 4
Type: Ulte
Model: U5
Size: 6.12
Jets: 5x13
MD: 9,217′
TVD: 6,947.43′
Inclination: 89.35 °
Azimuth: 180.33°
VS: -2,190.37′
MD: 9,312′
TVD: 6,949.2′
Inclination: 88.52 °
Azimuth: 179.01°
VS: -2,285.35′
sb blky, rthy tex, v calc
rty tex, tr bent
80% LS: wh-crm, tan-buff, sft-frm, mcxln-cyxln, dns ip, chlky ip
10% CHK: pred tan wi wh, sme ltgy, mot, lam, sft - frm, sb plty - sb blky, rthy tex, v calc
10% MRL: lt - med gy, occ blk, sft - mod hd, sb plty - plty,
90% LS: wh-crm, tan-buff, sft-frm, mcxln-cyxln, dns ip, chlky ip
10% MRL: lt - dk gy, occ blk, sft - mod hd, sb plty - plty, slty - grty tex, tr pyr
90% LS: wh-crm, tan-buff, sft-frm, mcxln-cyxln, dns ip, chlky ip
10% MRL: lt - dk gy, occ blk, sft - m
sb plty - plty, slty - grty tex, tr pyr

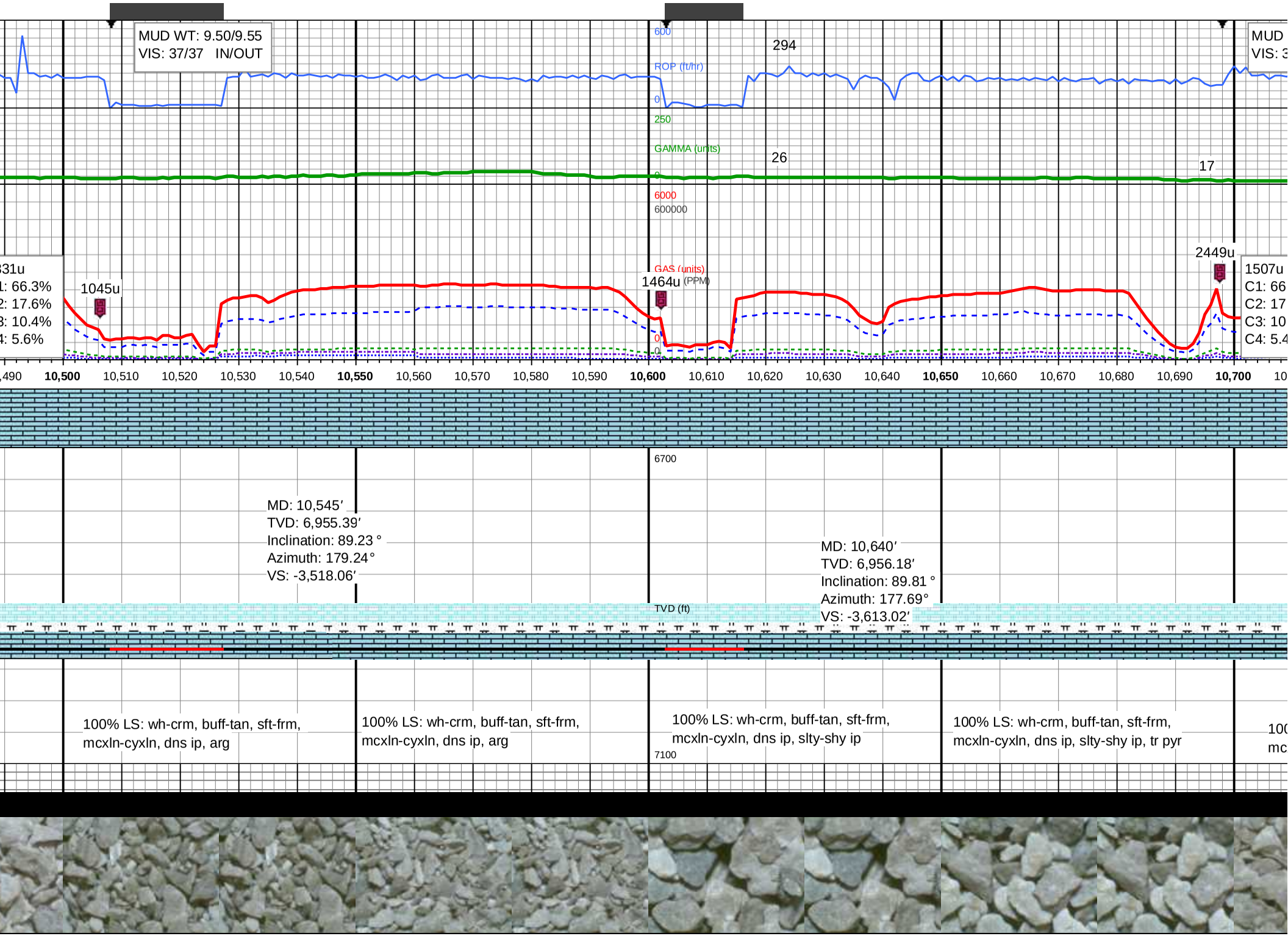

5/2/2014
5/3/2014
5/03/2014, Mud Wt: 9.60, FVis: 35
PVis: 9, YP: 10, GELS: 3/7/10, API Filt: 7.2
CAKE: 1/0, pH: 8.5, Cl: 1,300, Ca: 80
MUD WT: 9.60/9.50
VIS: 34/34 IN/OUT
ROP (ft/hr)
352
237
GAMMA (units)
66
37
GAS (units)
C1-C4 (PPM)
3979u
712u
2742u
635u
C1: 62.1%
C2: 17.6%
C3: 13.2%
C4: 7.1%
9,400
9,450
9,500
9,550
9,600
TOOH to change motor - Left junk in hole - TIH with mill - Mill junk - TOOH with mill - TIH with new BHA
MD: 9,407′
TVD: 6,949.35′
Inclination: 91.29 °
Azimuth: 179.08°
VS: -2,380.33′
MD: 9,502′
TVD: 6,949.45′
Inclination: 88.58 °
Azimuth: 180.97°
VS: -2,475.31′
MD: 9,597′
TVD: 6,951.93′
Inclination: 88.43 °
Azimuth: 181.33°
VS: -2,570.26′
90% LS: wh-crm,tan, sft-frm, mcxln-cyxln, dns ip,
10% MRL: lt - dk gy, occ blk, sft - mod hd, sb plty - plty, slty - grty tex
90% LS: wh-crm,tan, sft-frm, mcxln-cyxln, dns ip,
10% MRL: lt - dk gy, occ blk, sft - mod hd, sb plty - plty, slty - grty tex
100% LS: wh-crm,tan, sft-frm, mcxln-cyxln, dns ip
100% LS: wh-crm,tan, sft-frm, mcxln-cyxln, dns ip

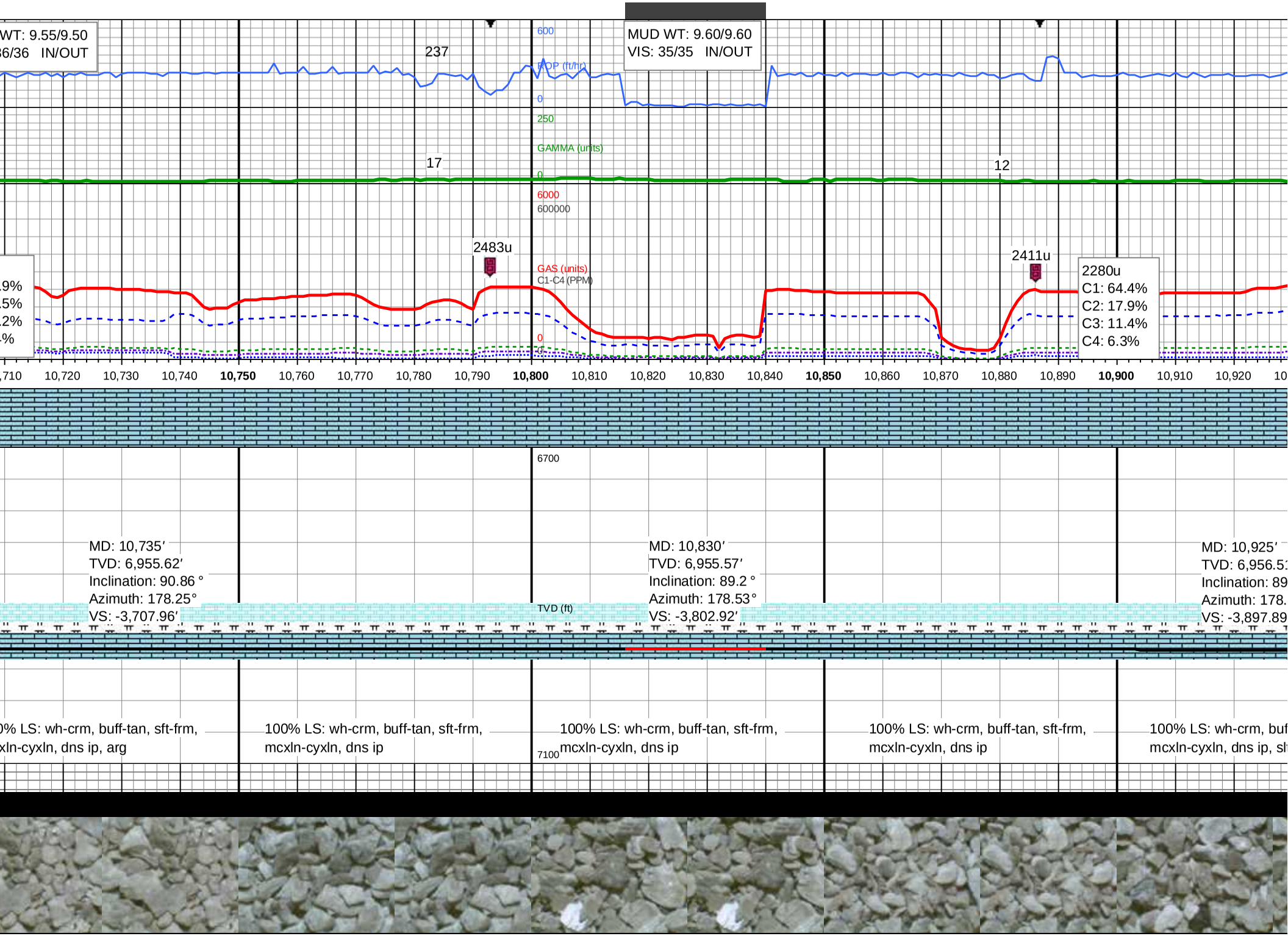

MUD WT: 9.65/9.70
VIS: 34/33 IN/OUT
287
28
18
3143u
3102u
C1: 68.0%
C2: 17.6%
C3: 10.1%
C4: 4.4%
1422u
600
ROP (ft/hr)
0
250
GAMMA (units)
0
6000
600000
C1-C4 (PPM)
0
0
9,610 9,620 9,630 9,640 9,650 9,660 9,670 9,680 9,690 9,700 9,710 9,720 9,730 9,740 9,750 9,760 9,770 9,780 9,790 9,800 9,810 9,820
6700
MD: 9,682′
TVD: 6,953.44′
Inclination: 89.54 °
Azimuth: 181.78°
VS: -2,655.21′
MD: 9,786′
TVD: 6,954.56′
Inclination: 89.23 °
Azimuth: 179.1°
VS: -2,759.2′
TVD (ft)
S: wh-crm,tan, sft-sl frm, mcxln-cyxln,
100% LS: wh-crm,tan, sft-sl frm, mcxln-cyxln, dns ip
100% LS: wh-crm,tan, sft-sl frm, mcxln-cyxln, dns ip
100% LS: wh-crm,tan, sft-frm, mcxln-cyxln, dns ip, lmy
100% LS: wh-crm,tan, sft-f
dns ip, lmy

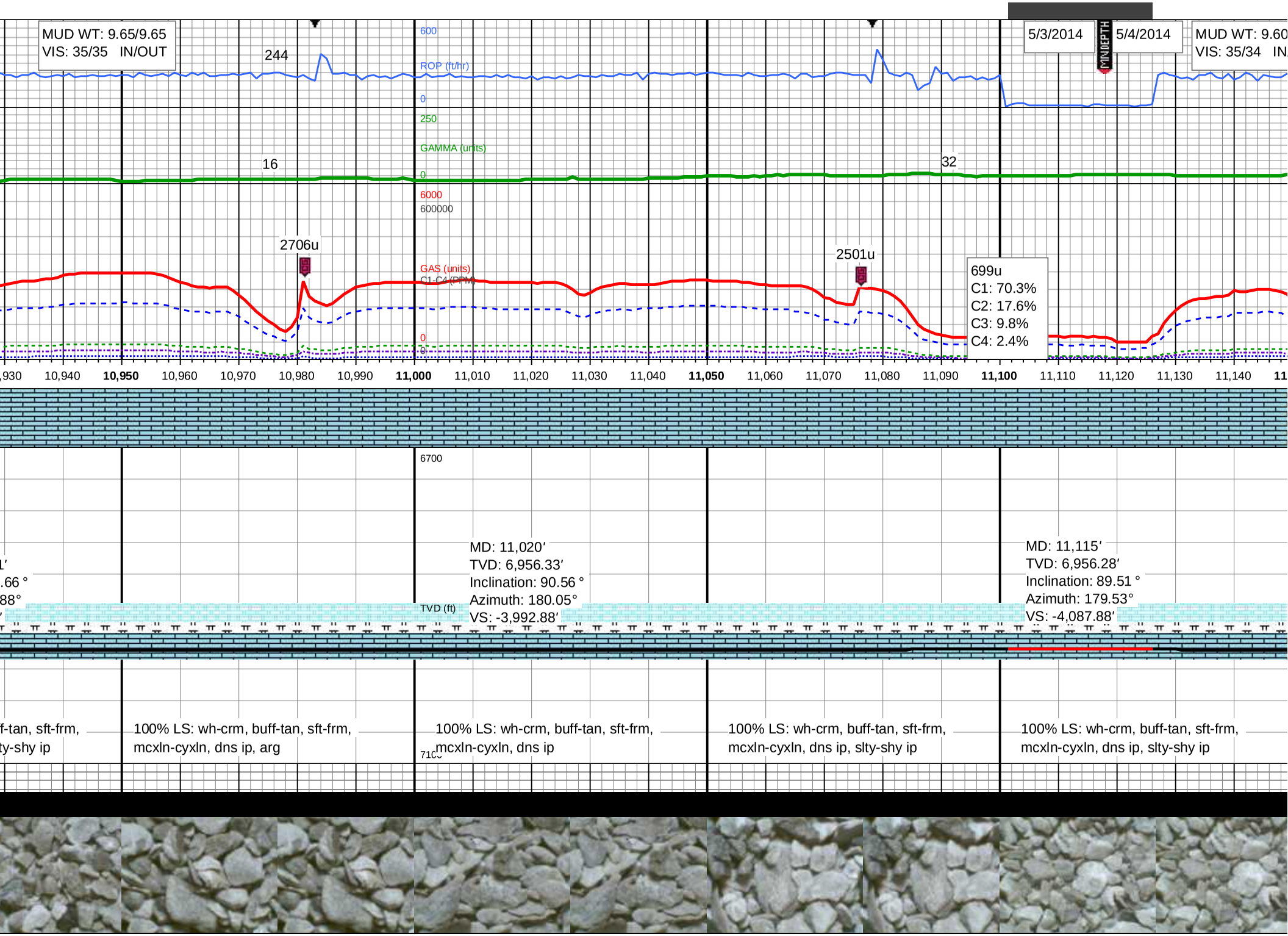

MUD WT: 9.50/9.45
VIS: 42/39 IN/OUT
221
239
329
22
18
600
ROP (ft/hr)
0
250
GAMMA (units)
0
6000
600000
GAS (units)
C1-C4 (PPM)
0
2593u
2764u
C1: 72.1%
C2: 16.7%
C3: 8.7%
C4: 2.5%
1150u
1425u
9,840
9,850
9,860
9,870
9,880
9,890
9,900
9,910
9,920
9,930
9,940
9,950
9,960
9,970
9,980
9,990
10,000
10,010
10,020
10,030
10,040
6700
MD: 9,881′
TVD: 6,954.33′
Inclination: 91.05 °
Azimuth: 178.5°
VS: -2,854.17′
MD: 9,976′
TVD: 6,952.69′
Inclination: 90.92 °
Azimuth: 179.28°
VS: -2,949.14′
TVD (ft)
rm, mcxln-cyxln,
100% LS: wh-crm,tan, sft-frm, mcxln-cyxln, dns ip, lmy
100% LS: wh-crm,tan, sft-frm, mcxln-cyxln, dns ip, lmy
100% LS: wh-crm,tan, sft-mod frm, mcxln-cyxln, dns ip, lmy
100% LS: wh-crm,buff-tan, sft-mod frm, mcxln-cyxln, dns ip, lmy

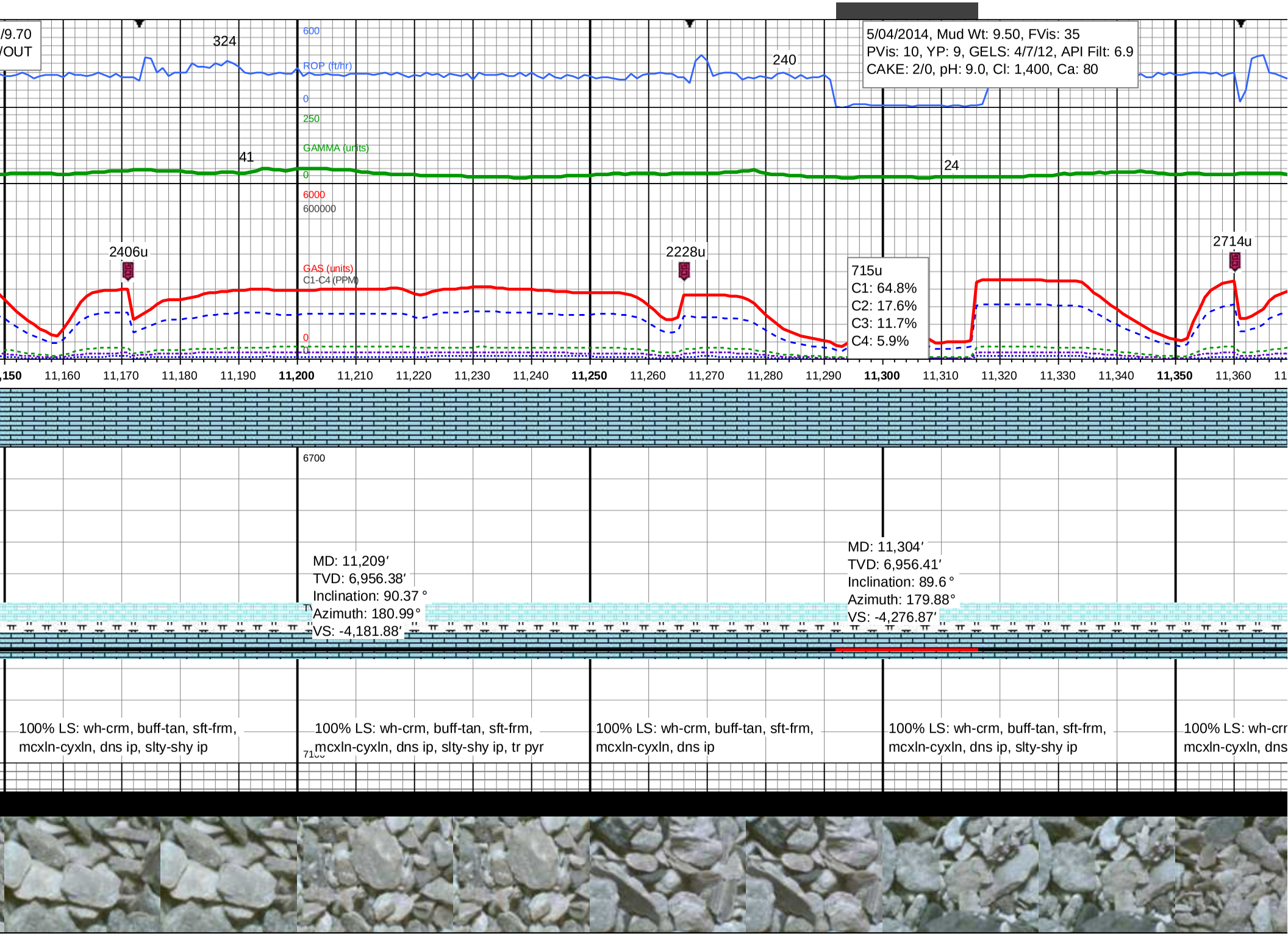

MUD WT: 9.65/9.55
VIS: 37/40 IN/OUT
240
239
600
ROP (ft/hr)
0
250
GAMMA (units)
20
0
6000
600000
2730u
C1: 66.6%
C2: 17.4%
C3: 10.2%
C4: 5.9%
1068u
1138u
GAS (units)
C1-C4 (PPM)
0
10,050
10,060
10,070
10,080
10,090
10,100
10,110
10,120
10,130
10,140
10,150
10,160
10,170
10,180
10,190
10,200
10,210
10,220
10,230
10,240
10,250
10,260
6700
MD: 10,071′
TVD: 6,951.65′
Inclination: 90.34 °
Azimuth: 180.03°
VS: -3,044.13′
MD: 10,166′
TVD: 6,950.83′
Inclination: 90.65 °
Azimuth: 179.67°
VS: -3,139.12′
TVD (ft)
MD: 10,261′
TVD: 6,951.49′
Inclination: 88.55
Azimuth: 180.1°
VS: -3,234.12′
100% LS: wh-crm,buff-tan, sft-mod frm, mcxln-cyxln, dns ip, lmy
100% LS: wh-crm,buff-tan, sft-mod frm, mcxln-cyxln, dns ip, lmy
100% LS: wh-crm,buff-tan, sft-mod frm, mcxln-cyxln, dns ip, lmy
100% LS: wh-crm,buff-tan, sft-frm, mcxln-cyxln, dns ip, lmy
100% LS: wh-crm
mcxln-cyxln, dns

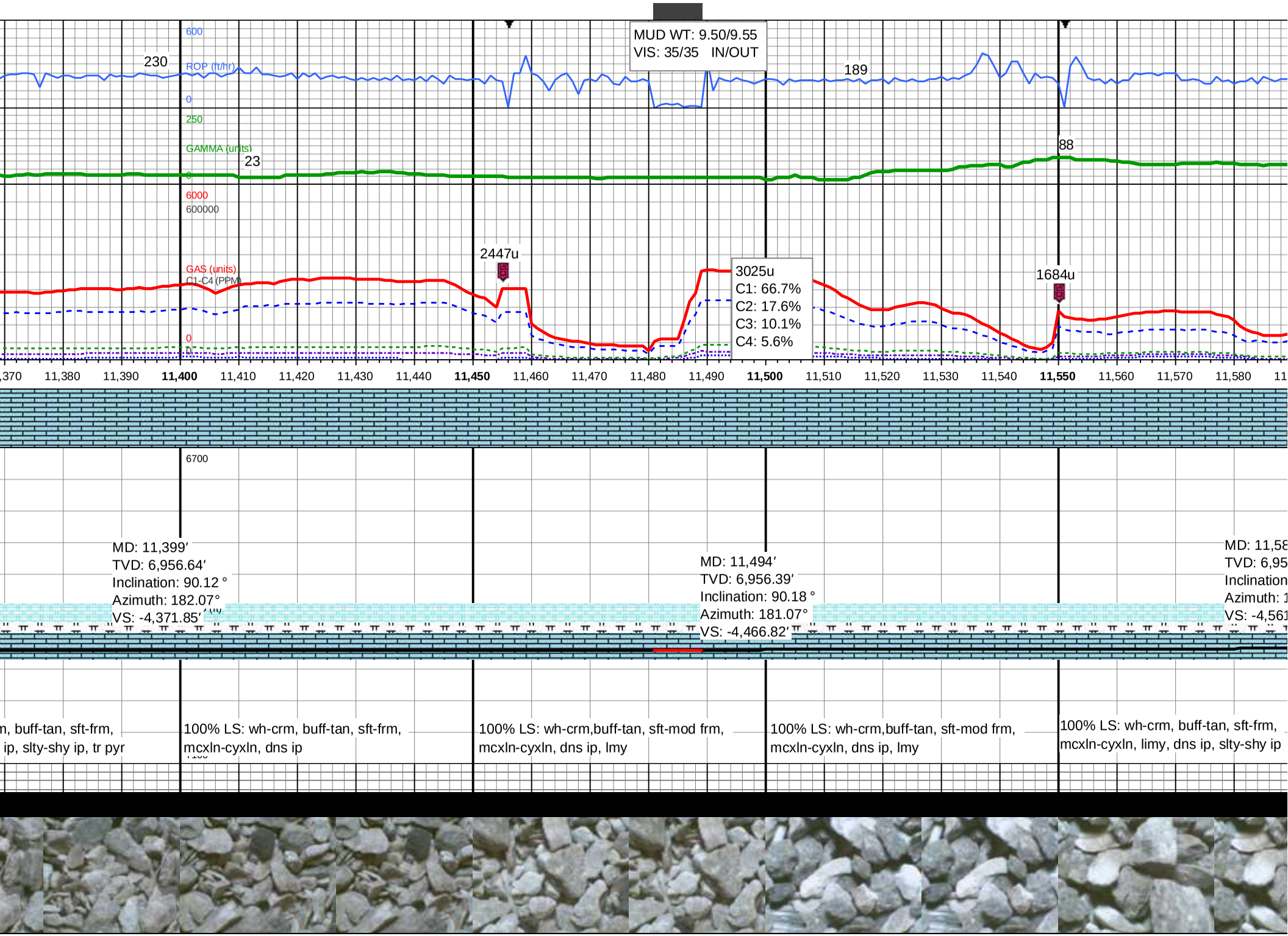

MUD WT: 9.65/9.60
VIS: 35/40 IN/OUT
231
237
ROP (ft/hr)
0
250
GAMMA (units)
14
0
6000
600000
2510u
2619u
C1: 67.2%
C2: 17.4%
C3: 10.1%
C4: 5.3%
3046u
GAS (units)
C1-C4 (Pi
1147u
0
0
10,270
10,280
10,290
10,300
10,310
10,320
10,330
10,340
10,350
10,360
10,370
10,380
10,390
10,400
10,410
10,420
10,430
10,440
10,450
10,460
10,470
10,480
6700
MD: 10,356′
TVD: 6,953.45′
Inclination: 89.17 °
Azimuth: 181.22°
VS: -3,329.09′
MD: 10,451′
TVD: 6,954.45′
Inclination: 89.63 °
Azimuth: 180.19°
VS: -3,424.07′
TVD (ft)
,buff-tan, sft-frm,
ip, lmy, tr pyr
100% LS: wh-crm,buff-tan, sft-frm,
mcxln-cyxln, dns ip, lmy
100% LS: wh-crm,buff-tan, sft-frm,
mcxln-cyxln, dns ip, lmy
100% LS: wh-crm, buff-tan, sft-frm,
mcxln-cyxln, dns ip, arg
7100
100% LS: wh-crm,buff-tan, sft-frm,
mcxln-cyxln, dns ip

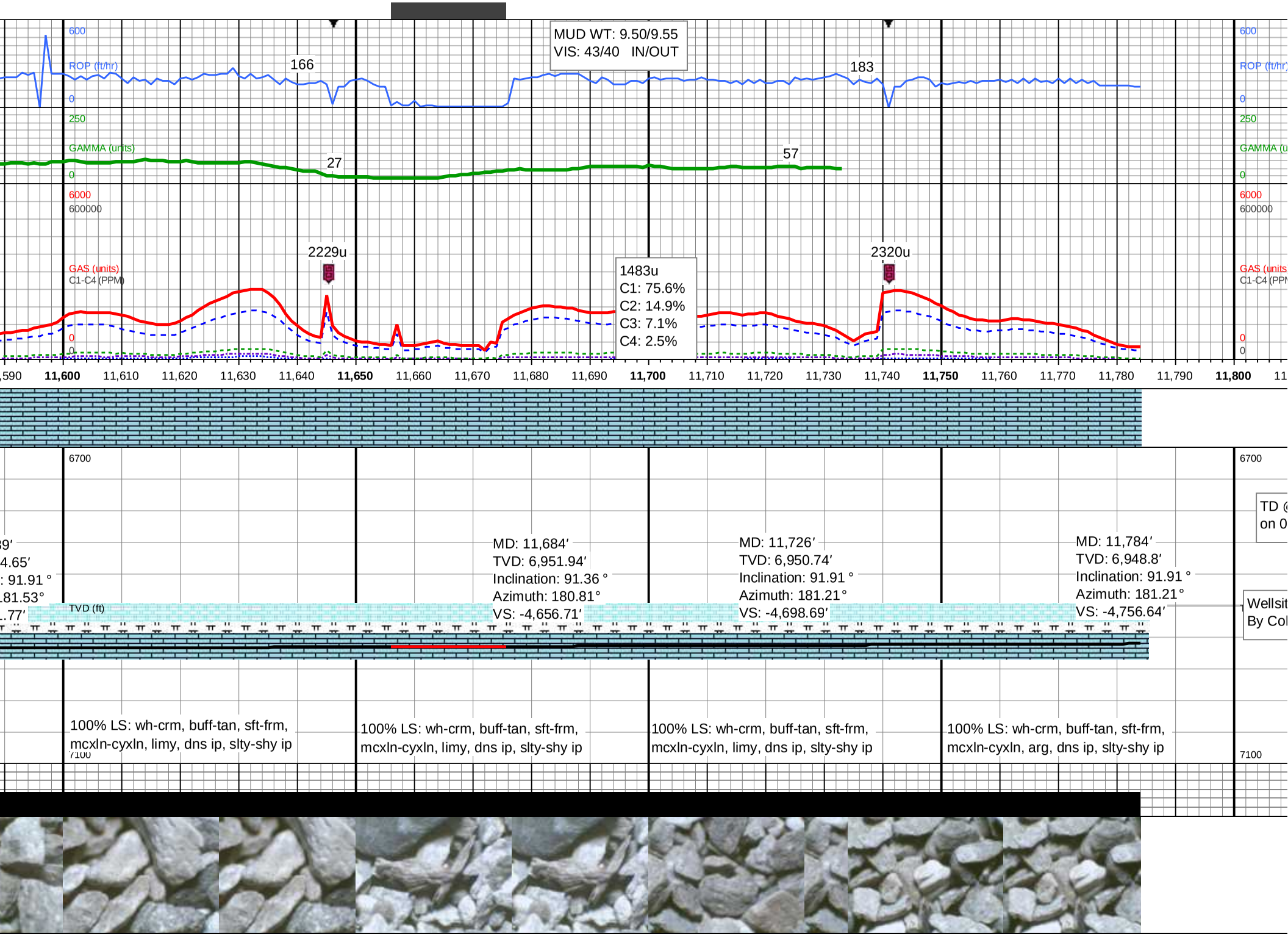

MUD WT: 9.50/9.55
VIS: 37/37 IN/OUT
MUD
VIS: 3
600
ROP (ft/hr)
0
294
250
GAMMA (units)
0
26
17
6000
600000
GAS (units)
2449u
1507u
C1: 66
C2: 17
C3: 10
C4: 5.4
331u
1: 66.3%
2: 17.6%
3: 10.4%
4: 5.6%
1045u
1464u (PPM)
0
0
,490
10,500
10,510
10,520
10,530
10,540
10,550
10,560
10,570
10,580
10,590
10,600
10,610
10,620
10,630
10,640
10,650
10,660
10,670
10,680
10,690
10,700
6700
MD: 10,545′
TVD: 6,955.39′
Inclination: 89.23 °
Azimuth: 179.24°
VS: -3,518.06′
MD: 10,640′
TVD: 6,956.18′
Inclination: 89.81 °
Azimuth: 177.69°
VS: -3,613.02′
TVD (ft)
100% LS: wh-crm, buff-tan, sft-frm, mcxln-cyxln, dns ip, arg
100% LS: wh-crm, buff-tan, sft-frm, mcxln-cyxln, dns ip, arg
100% LS: wh-crm, buff-tan, sft-frm, mcxln-cyxln, dns ip, slty-shy ip
100% LS: wh-crm, buff-tan, sft-frm, mcxln-cyxln, dns ip, slty-shy ip, tr pyr
7100

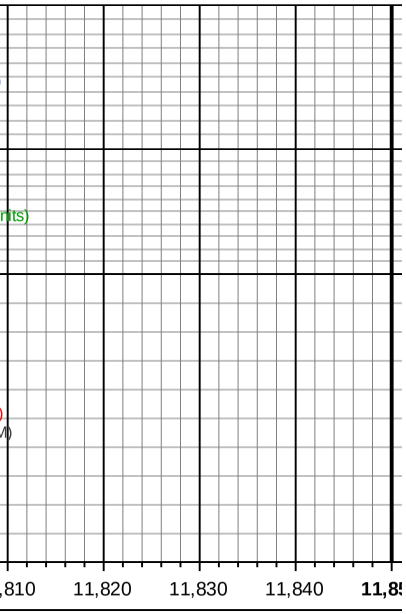

WT: 9.55/9.50
36/36 IN/OUT
MUD WT: 9.60/9.60
VIS: 35/35 IN/OUT
237
17
12
600
ROP (ft/hr)
0
250
GAMMA (units)
0
6000
600000
GAS (units)
C1-C4 (PPM)
0
2483u
2411u
2280u
C1: 64.4%
C2: 17.9%
C3: 11.4%
C4: 6.3%
10,710 10,720 10,730 10,740 10,750 10,760 10,770 10,780 10,790 10,800 10,810 10,820 10,830 10,840 10,850 10,860 10,870 10,880 10,890 10,900 10,910 10,920
6700
TVD (ft)
7100
MD: 10,735′
TVD: 6,955.62′
Inclination: 90.86 °
Azimuth: 178.25°
VS: -3,707.96′
MD: 10,830′
TVD: 6,955.57′
Inclination: 89.2 °
Azimuth: 178.53°
VS: -3,802.92′
MD: 10,925′
100% LS: wh-crm, buff-tan, sft-frm, mcxln-cyxln, dns ip, arg
100% LS: wh-crm, buff-tan, sft-frm, mcxln-cyxln, dns ip
100% LS: wh-crm, buff-tan, sft-frm, mcxln-cyxln, dns ip
100% LS: wh-crm, buff-tan, sft-frm, mcxln-cyxln, dns ip

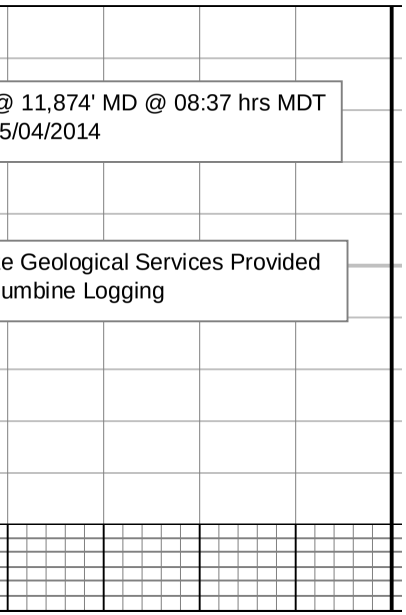

MUD WT: 9.65/9.65
VIS: 35/35 IN/OUT
244
600
ROP (ft/hr)
0
250
GAMMA (units)
16
0
32
6000
600000
2706u
GAS (units)
C1-C4 (PPM)
2501u
699u
C1: 70.3%
C2: 17.6%
C3: 9.8%
C4: 2.4%
0
0
5/3/2014
5/4/2014
MUD WT: 9.60
VIS: 35/34 IN
10,930 10,940 10,950 10,960 10,970 10,980 10,990 11,000 11,010 11,020 11,030 11,040 11,050 11,060 11,070 11,080 11,090 11,100 11,110 11,120 11,130 11,140
6700
TVD (ft)
MD: 11,020′
TVD: 6,956.33′
Inclination: 90.56 °
Azimuth: 180.05°
VS: -3,992.88′
MD: 11,115′
TVD: 6,956.28′
Inclination: 89.51 °
Azimuth: 179.53°
VS: -4,087.88′
f-tan, sft-frm,
ty-shy ip
100% LS: wh-crm, buff-tan, sft-frm,
mcxln-cyxln, dns ip, arg
100% LS: wh-crm, buff-tan, sft-frm,
mcxln-cyxln, dns ip
100% LS: wh-crm, buff-tan, sft-frm,
mcxln-cyxln, dns ip, slty-shy ip
100% LS: wh-crm, buff-tan, sft-frm,
mcxln-cyxln, dns ip, slty-shy ip


/9.70
/OUT
324
600
ROP (ft/hr)
0
250
GAMMA (units)
41
0
6000
600000
240
5/04/2014, Mud Wt: 9.50, FVis: 35
PVis: 10, YP: 9, GELS: 4/7/12, API Filt: 6.9
CAKE: 2/0, pH: 9.0, Cl: 1,400, Ca: 80
24
2406u
GAS (units)
C1-C4 (PPM)
2228u
715u
C1: 64.8%
C2: 17.6%
C3: 11.7%
C4: 5.9%
2714u
0
,150
11,160
11,170
11,180
11,190
11,200
11,210
11,220
11,230
11,240
11,250
11,260
11,270
11,280
11,290
11,300
11,310
11,320
11,330
11,340
11,350
11,360
6700
MD: 11,209′
TVD: 6,956.38′
Inclination: 90.37 °
Azimuth: 180.99°
VS: -4,181.88′
MD: 11,304′
TVD: 6,956.41′
Inclination: 89.6 °
Azimuth: 179.88°
VS: -4,276.87′
100% LS: wh-crm, buff-tan, sft-frm, mcxln-cyxln, dns ip, slty-shy ip
100% LS: wh-crm, buff-tan, sft-frm, mcxln-cyxln, dns ip, slty-shy ip, tr pyr
100% LS: wh-crm, buff-tan, sft-frm, mcxln-cyxln, dns ip
100% LS: wh-crm, buff-tan, sft-frm, mcxln-cyxln, dns ip, slty-shy ip
100% LS: wh-crm
mcxln-cyxln, dns


MUD WT: 9.50/9.55
VIS: 35/35 IN/OUT
600
ROP (ft/hr)
230
189
0
250
GAMMA (units)
23
88
0
6000
600000
GAS (units)
C1-C4 (PPM)
2447u
3025u
C1: 66.7%
C2: 17.6%
C3: 10.1%
C4: 5.6%
1684u
0
11,370
11,380
11,390
11,400
11,410
11,420
11,430
11,440
11,450
11,460
11,470
11,480
11,490
11,500
11,510
11,520
11,530
11,540
11,550
11,560
11,570
11,580
6700
MD: 11,399′
TVD: 6,956.64′
Inclination: 90.12 °
Azimuth: 182.07°
VS: -4,371.85′
MD: 11,494′
TVD: 6,956.39′
Inclination: 90.18 °
Azimuth: 181.07°
VS: -4,466.82′
MD: 11,58
TVD: 6,95
Inclination
Azimuth: 1
VS: -4,561
m, buff-tan, sft-frm,
ip, slty-shy ip, tr pyr
100% LS: wh-crm, buff-tan, sft-frm,
mcxln-cyxln, dns ip
100% LS: wh-crm,buff-tan, sft-mod frm,
mcxln-cyxln, dns ip, lmy
100% LS: wh-crm,buff-tan, sft-mod frm,
mcxln-cyxln, dns ip, lmy
100% LS: wh-crm, buff-tan, sft-frm,
mcxln-cyxln, limy, dns ip, slty-shy ip


MUD WT: 9.50/9.55
VIS: 43/40 IN/OUT
600
ROP (ft/hr)
0
250
GAMMA (units)
0
6000
600000
GAS (units)
C1-C4 (PPM)
166
183
27
57
2229u
2320u
1483u
C1: 75.6%
C2: 14.9%
C3: 7.1%
C4: 2.5%
11,600
11,610
11,620
11,630
11,640
11,650
11,660
11,670
11,680
11,690
11,700
11,710
11,720
11,730
11,740
11,750
11,760
11,770
11,780
11,790
11,800
6700
TVD (ft)
MD: 11,684′
TVD: 6,951.94′
Inclination: 91.36 °
Azimuth: 180.81°
VS: -4,656.71′
MD: 11,726′
TVD: 6,950.74′
Inclination: 91.91 °
Azimuth: 181.21°
VS: -4,698.69′
MD: 11,784′
TVD: 6,948.8′
Inclination: 91.91 °
Azimuth: 181.21°
VS: -4,756.64′
100% LS: wh-crm, buff-tan, sft-frm, mcxln-cyxln, limy, dns ip, slty-shy ip
100% LS: wh-crm, buff-tan, sft-frm, mcxln-cyxln, limy, dns ip, slty-shy ip
100% LS: wh-crm, buff-tan, sft-frm, mcxln-cyxln, limy, dns ip, slty-shy ip
100% LS: wh-crm, buff-tan, sft-frm, mcxln-cyxln, arg, dns ip, slty-shy ip
7100


nts)
,810
11,820
11,830
11,840
11,8


@ 11,874' MD @ 08:37 hrs MDT
5/04/2014
e Geological Services Provided
umbine Logging