



Scale: 5" / 100'
Measured Depth Log

Well Name State North Platte K-O-36HC

Location NWNW Sec 36, T5N, R63W

State Colorado

Country USA

API Number 05-123-37669

Region DJ Basin

Spud Date 8/13/2013

Surface Coordinates 350' FNL x 520' FWL

Bottom Hole Coordinates Bottom of hole not reached

County Weld

Rig Number Ensign 128

Field Wattenberg

Drilling Completed 8/22/2013

Ground Elevation 4543'

K.B. Elevation 4558'

Logged Interval 6300' To 9652'

Total Depth 9652'

Formation Codell Sandstone

Type of Drilling Fluid H2O, LSND

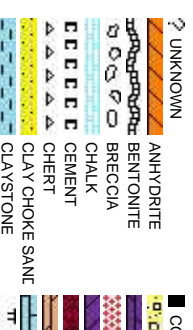
Company Bonanza Creek

Name Paul McKay

Company Bonanza Creek

Address 410 17th Street
Denver, CO 802

Wellsite Geologists



Operator

Energy Inc.

Geologist

Energy Inc.

Suite 1500
202

Other

Kevin Geraghty
Eli Smith

Rock Types

Symbol	Rock Type	Symbol	Rock Type
	DOLomite		SHALY SILTSTONE
	CONGLOMERATE		SILTY SHALE
	GRANITE		SILTSTONE
	GYPsium		TILL
	IGNEOUS		TUFF
	SIDERITE or LIMONITE		WELDED TUFF
	LIMESTONE		
	MARBLE STONE		

















Accessories

Fossils

[illegible]

Other Symbols

Oil Show

-  MOLDIC
-  ORGANIC
-  PINPOINT
-  DEAD
-  EVEN
-  VUGGY
-  MINDEPTH
-  FAULT
-  FORMATION TOP
-  GAS SHOW
-  WIRELINE TESTED - LEFT
-  WIRELINE TESTED - RT
-  EARTHLY
-  FINELY XLN
-  GRAINSTONE
-  LITHOGRAPHIC

Engineering

	QUESTIONABLE		
	SPOTTED STAINING		
Engineering			
	NORMAL FAULT		M _X MICROXLN
	OIL SHOW		M _S MUDSTONE
	OVERTURNED STRATA		P _S PACKSTONE
	REVERSE FAULT		M _S WACKESTONE
Porosity			
	BIT		
	CONNECTION (LEFT)		
	CONNECTION (RIGHT)		
	SIDEWALL CORE (LEFT)		
	SIDEWALL CORE (RIGHT)		
Textures			
	BOUNDSTONE		
	CHALKY		
	CRYPTOXLN		
Sorting			
	MODERATE		
	POOR		
	WELL		

Slide/Rotate

Bit Data
Bit #: 3
Type: HEO4JMRSV
Size: 8.75
Depth In: 6,300 '
Jets: 3-20
S/N: 1376471

Total Gas & Chromatograph

GAS —
C1 —
C2 —
C3 —
C4 —
CO2 —

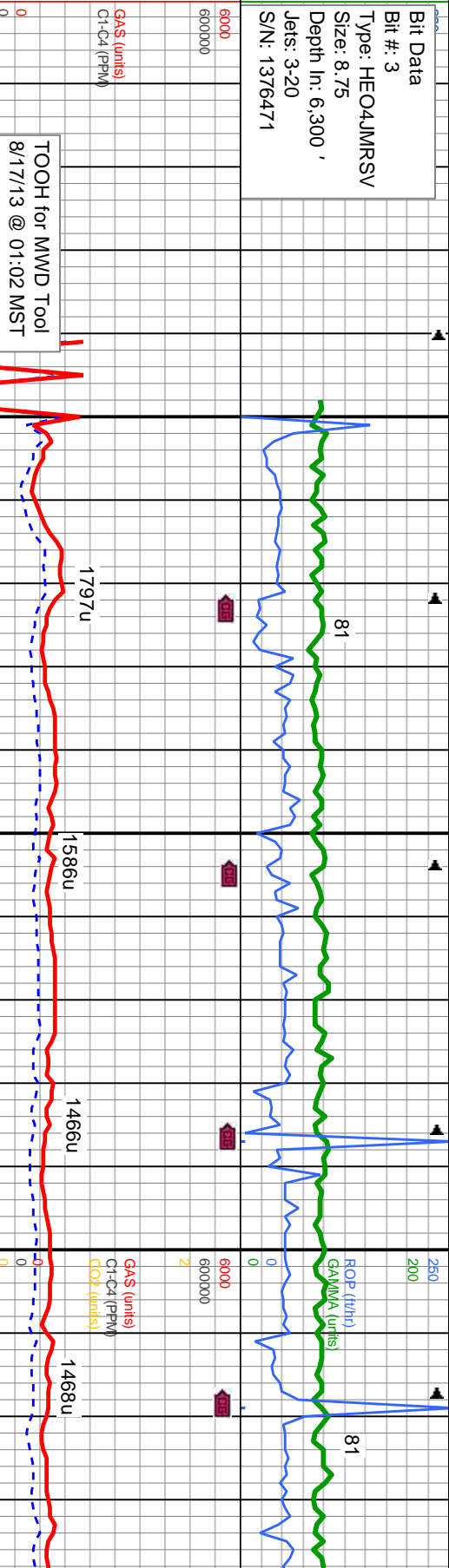
Depth Labels

% Lith

Well Bore
TVD —

Oil Show

Images



COLUMBINE LOGGING RIGGED UP ON
08/16/2013 MANNED 2-PERSON
LOGGING WITH BLOODHOUND GAS
CHROMATOGRAPH UNIT #0608 BEGAN
ON 08/17/2013

MD: 6,301 '
TVD: 5,801.64 '
Inclination: 2.2 °
Azimuth: 181.2 °
VS: 559.49 '

MD: 6,333 '
TVD: 5,833.58 '
Inclination: 4.5 °
Azimuth: 180.5 °
VS: 561.17 '

MD: 6,364 '
TVD: 5,864.38 '
Inclination: 8.4 °
Azimuth: 181.9 °
VS: 564.3 '

MD: 6,396 '
TVD: 5,895.85 '
Inclination: 12.4 °
Azimuth: 187.7 °
VS: 569.29 '

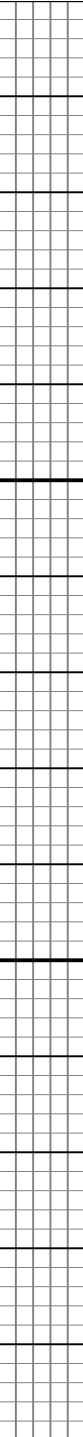
MD: 6,428 '
TVD: 5,926.93 '
Inclination: 15 °
Azimuth: 191.5 °
VS: 575.52 '

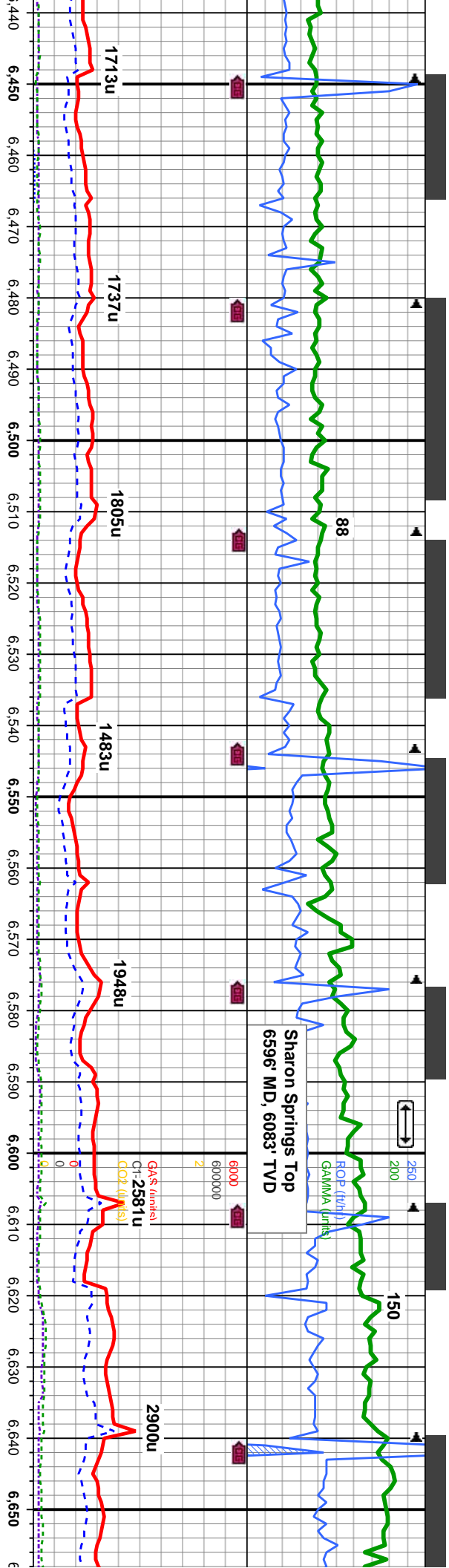
80-85% SLTY SH: ltgy - medgy, occ dk gy, mod sft -
sl firm, sb blkly - blkly, occ plty, rthy - gt, mtx; arg - slty,
sl calc, 20-15% SHY SS: off wh - ltgy, occ s&p, mod
hd - hd, sb blkly - blkly, vt-f gr, mics, tr glauc, sl-mod
calc, occ SS

90% SLTY SH: ltgy - medgy, occ dk gy, mod sft - sl
firm, sb blkly - blkly, occ plty, rthy - gt, mtx; arg - slty, sl
calc, 10% SHY SS: off wh - ltgy, occ s&p, mod hd -
hd, sb blkly - blkly, vt-f gr, mics, tr glauc, sl-mod calc,
occ SS

95% SLTY SH:
firm, sb blkly - blkly,
calc, 10% SHY
hd, sb blkly - blkly

TR
P
FR
G
E





MD: 6.459 '
TVD: 5,956.72 '
Inclination: 17.1 °
Azimuth: 190.7 °
VS: 582.47 '

MD: 6.491 '
TVD: 5,987.11 '
Inclination: 19.4 °
Azimuth: 190.5 °
VS: 590.64 '

MD: 6.523 '
TVD: 6,016.98 '
Inclination: 22.6 °
Azimuth: 189.6 °
VS: 600.05 '

MD: 6.555 '
TVD: 6,046.26 '
Inclination: 25 °
Azimuth: 187.8 °
VS: 610.82 '

MD: 6.587 '
TVD: 6,075.09 '
Inclination: 26.4 °
Azimuth: 187.3 °
VS: 622.55 '

MD: 6.619 '
TVD: 6,103.64 '
Inclination: 188.4 °
Azimuth: 27.3 °
VS: 634.72 '

MD: 6.650 '
TVD: 6,130.92 '
Inclination: 189 °
Azimuth: 29.4 °
VS: 646.99 '

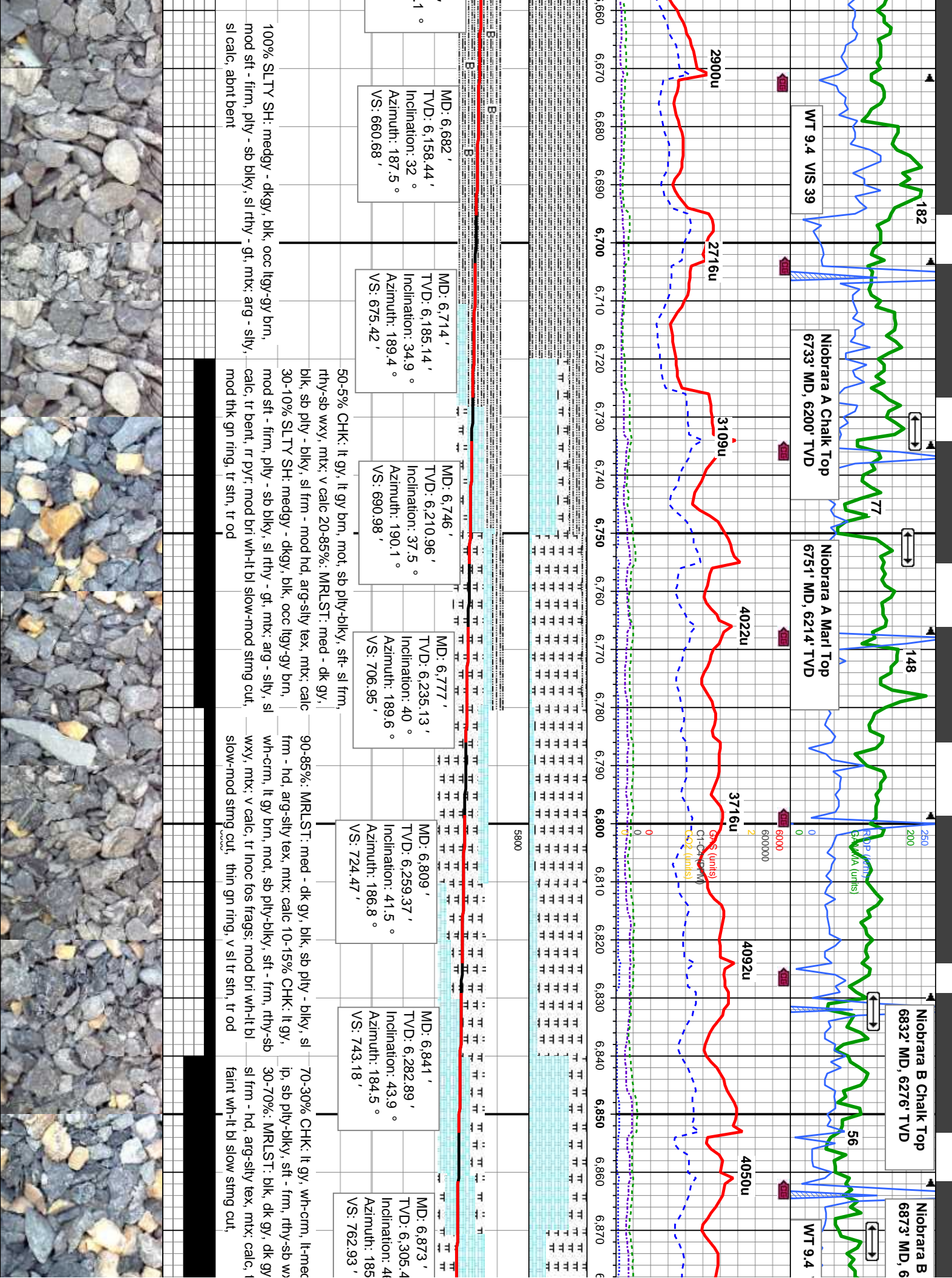
ltyg - medgy , occ dk gy, mod sft - sl
ky, occ pty, rthy - gt, mtx: arg - slty, sl
SS, off wh - ltyg, occ s&p , mod hd -
y, v-f gr, sl-mod calc

95-100% SLTY SH: ltyg - medgy , occ dk gy, mod sft
- sl firm, sb blk - blk, occ pty, rthy - gt, mtx: arg -
slty, sl calc, 5-0% SHY SS: off wh - ltyg, occ s&p ,
mod hd - hd, sb blk - blk, v-f gr, sl-mod calc, tr pyr,
occ shy ss

100% SLTY SH: ltyg - medgy , occ dk gy, mod sft -
sl firm, sb blk - blk, occ pty, rthy - gt, mtx: arg - slty,
sl calc, tr pyr, occ shy ss

100% SLTY SH: medgy - dkgy, occ ltyg, occ wh,
mod sft - firm, sb pty - blk, occ pty, rthy - gt, mtx:
arg - slty, sl calc, tr pyr, tr shy ss





FT Hayes Top 7132'
MD, 6435' TVD

WT 9.4 VIS 42

Codell Sandstone Top
7209' MD, 6456' TVD

WT 9.4 VIS 44

TD for Build
@ 7307' MD
8/18/13 @
19:10 MST

Gas Scale Cha

Drilling
Resumed on
08/20/2013 @
12:04 MST

Gas (u) (its)
G1-C4 (P) 1171u

38

ROP (ft/min)
GAMMA (API)

108

2795u

2795u

3164u

2795u

2286u

2261u

Highly Contaminated Samples
from Uphole Sloughing

10' Samples

PROU TO BIT

MD: 7,306 '
TVD: 6,466.09 '
Inclination: 89.8 °
Azimuth: 177.8 °
VS: 1,123.71 '

MD: 7,127 '
TVD: 6,433.35 '
Inclination: 68 °
Azimuth: 175.9 °
VS: 961.42 '

MD: 7,158 '
TVD: 6,443.82 '
Inclination: 72.5 °
Azimuth: 176.8 °
VS: 988.63 '

MD: 7,190 '
TVD: 6,452.29 '
Inclination: 76.8 °
Azimuth: 176.9 °
VS: 1,017.3 '

MD: 7,222 '
TVD: 6,458.53 '
Inclination: 80.7 °
Azimuth: 177.3 °
VS: 1,046.42 '

MD: 7,254 '
TVD: 6,462.6 '
Inclination: 84.7 °
Azimuth: 177.8 °
VS: 1,075.77 '

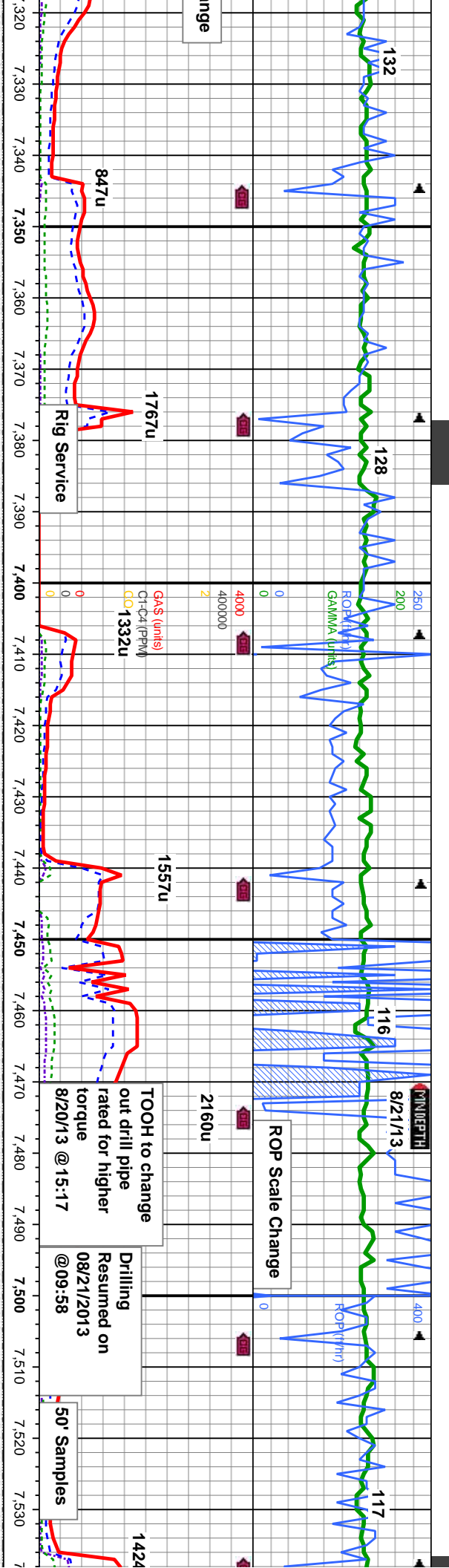
90-100% LMST: wh, beige, frm-hd, brit, sbply-sb
biky, occ ply, sm wxy tex, mckln, 10-0% MRLST:
blk-dk gy, sl frm-hd, fri-brit, sb ply-biky, rthy, arg-sily
tex, 0-25% SLTST: lt gy, biky, v sft, wxy, tr pyr, abnt con
from uphole; faint wh-lt bl v slow stmg cut, thn uneven
yel wh, sl tr stn, tr od

70-60% LMST: wh, beige, frm-hd, brit, sbply-sb
biky, occ ply, sm tex, mckln 25-30% SLTY SH:
lt-med gy, biky, sft-sl frm 5-10% MRLST: med-dk
gy, sbply-biky, sl frm-frm, v sl tr ss, abnt con from
uphole; frt wh-lt bl slow-mod stmg cut, thn gn ring,
8c, sl tr stn, tr od

80-40% SLTY SH: lt-med gy, biky, sft-sl frm, 20%
LMST: wh, beige, frm-hd, brit, sbply-sb biky, occ ply,
sm tex, mcklnv sl tr ss, abnt con from uphole; frt
wh-lt bl mod stmg cut, thn orn-gn ring, tr stn, tr od

wh, beige, frm-hd, brit, sbply-sb biky,
y tex, mckln, 45-35% MRLST: blk-dk
-brit, sb ply-biky, rthy, arg-sily tex,
frt pyr; v faint wh-lt bl v slow stmg cut,
wh, sl tr stn, tr od





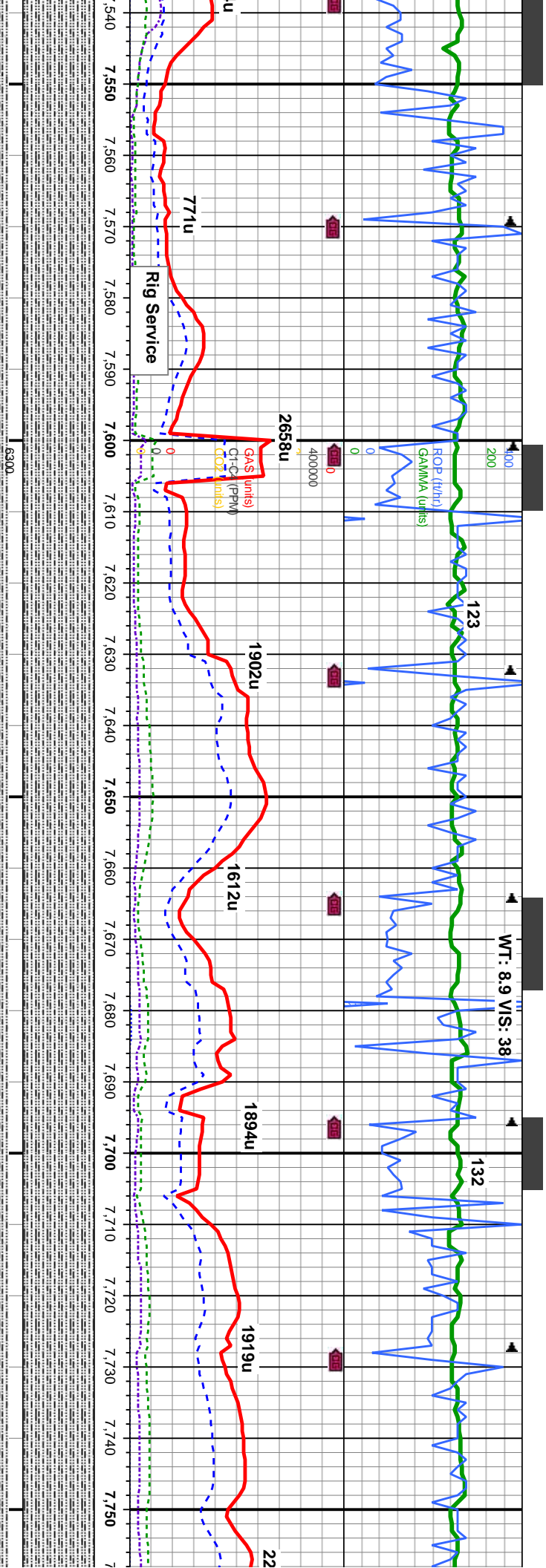
MD: 7,323 ' TVD: 6,466.51 ' Inclination: 88.8 ° Azimuth: 177.8 ° VS: 1,139.36 '	MD: 7,355 ' TVD: 6,467.1 ' Inclination: 89.1 ° Azimuth: 178 ° VS: 1,168.88 '	MD: 7,387 ' TVD: 6,467.43 ' Inclination: 89.7 ° Azimuth: 178.7 ° VS: 1,198.3 '	MD: 7,421 ' TVD: 6,467.46 ' Inclination: 90.2 ° Azimuth: 179.1 ° VS: 1,229.44 '	MD: 7,453 ' TVD: 6,467.21 ' Inclination: 90.7 ° Azimuth: 179.1 ° VS: 1,258.7 '	MD: 7,484 ' TVD: 6,466.75 ' Inclination: 91 ° Azimuth: 178.9 ° VS: 1,287.06 '	MD: 7,516 ' TVD: 6,466.28 ' Inclination: 90.7 ° Azimuth: 179.1 ° VS: 1,316.34 '
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100% SLTY SH: blk-dkgy, frm- mod frm, sb blkly - blkly, sbply, occ ply, rthy - gt, mtx; arg - slty, v calc, sl tr cmt; frt wh-lt bl slow-mod sting cut, thn orng-gn ring, sl tr stn, tr od

100% SLTY SH: blk-dkgy, frm- mod frm, sb blkly - blkly, occ sbply, tr ply, rthy - gt, mtx; arg - slty, v calc, tr ss, v slow frt wh-lt bl cut, thn uneven amb-yel ring, v sl tr stn

100% SLTY SH: blk-dkgy sbply, tr ply, rthy - gt, m v thn gn ring, v sl tr stn, lt



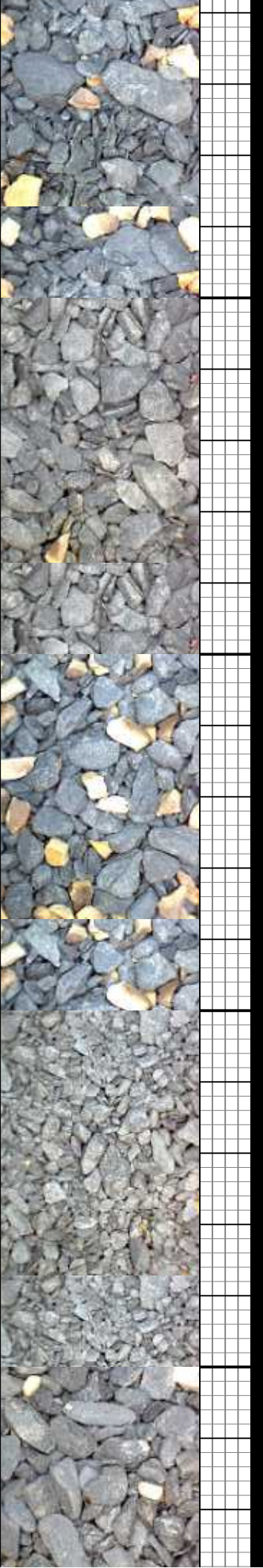
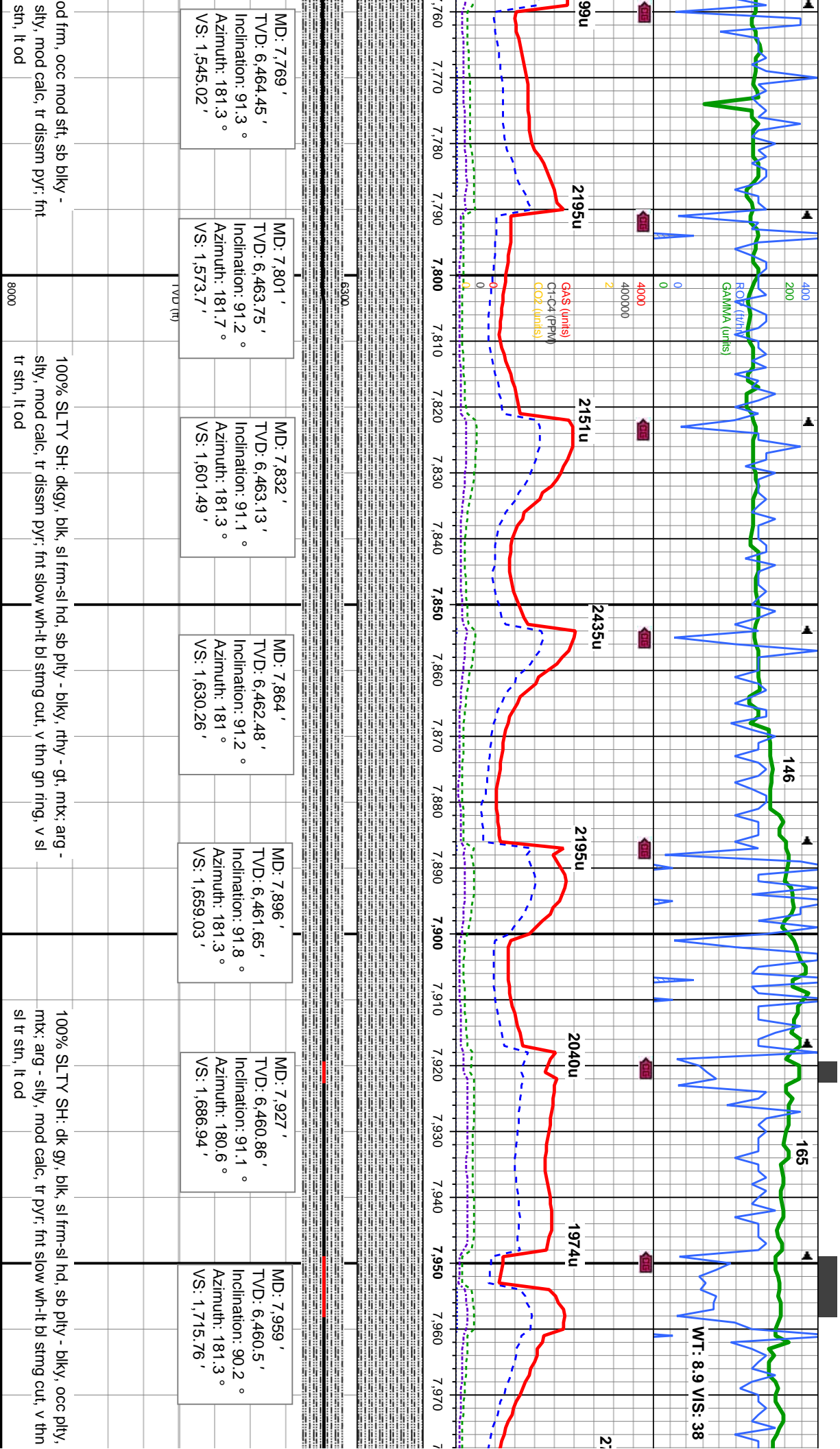


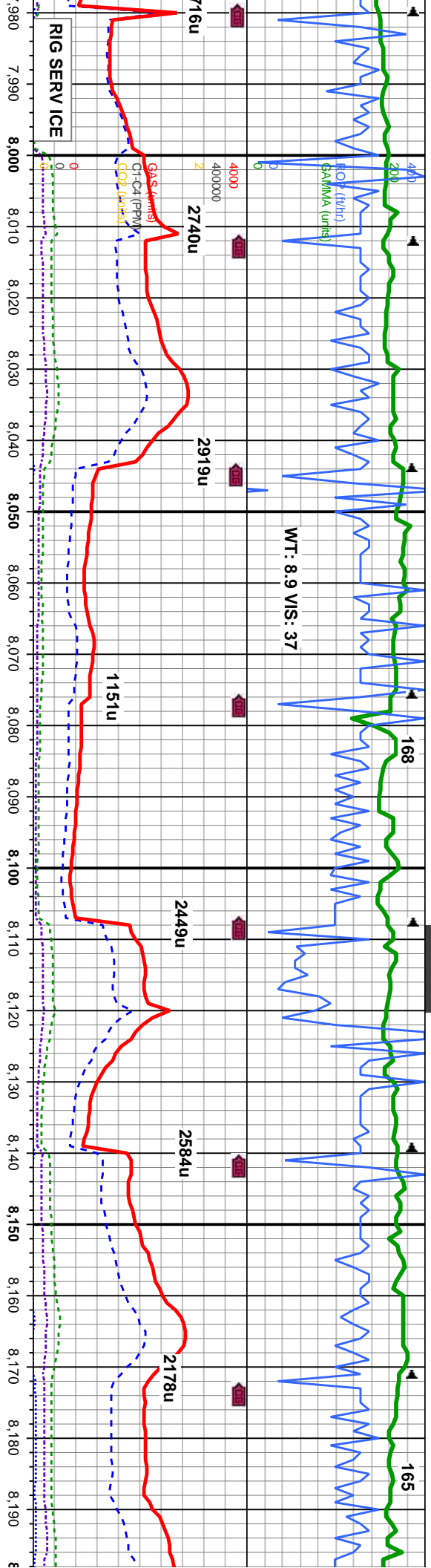
MD: 7,548 ' TVD: 6,466.14 ' Inclination: 89.8 ° Azimuth: 180.1 ° VS: 1,345.48 '	MD: 7,579 ' TVD: 6,466.3 ' Inclination: 89.6 ° Azimuth: 179.6 ° VS: 1,373.66 '	MD: 7,611 ' TVD: 6,466.52 ' Inclination: 89.6 ° Azimuth: 180.3 ° VS: 1,402.72 '	MD: 7,642 ' TVD: 6,466.74 ' Inclination: 89.6 ° Azimuth: 180.1 ° VS: 1,430.82 '	MD: 7,674 ' TVD: 6,466.65 ' Inclination: 90.7 ° Azimuth: 180.6 ° VS: 1,459.78 '	MD: 7,706 ' TVD: 6,466.04 ' Inclination: 91.5 ° Azimuth: 181.3 ° VS: 1,488.6 '	MD: 7,737 ' TVD: 6,465.23 ' Inclination: 91.5 ° Azimuth: 181.9 ° VS: 1,516.36 '
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100% SLTY SH: dkgy- medgy, blk, frm- mod frm, occ mod sft, sb blk- blk, occ sbply, tr ply, rthy - gf, mt; arg - sily, mod calc, tr diss pyr; frt slow wh-it bl stmg cut, v thn gn ring, v sl tr str, lt od

100% SLTY SH: dkgy- medgy, blk, frm- mod frm, occ mod sft, sb blk- blk, occ sbply, tr ply, rthy - gf, mt; arg - sily, mod calc, tr diss pyr; frt slow wh-it bl stmg cut, v thn gn ring, v sl tr







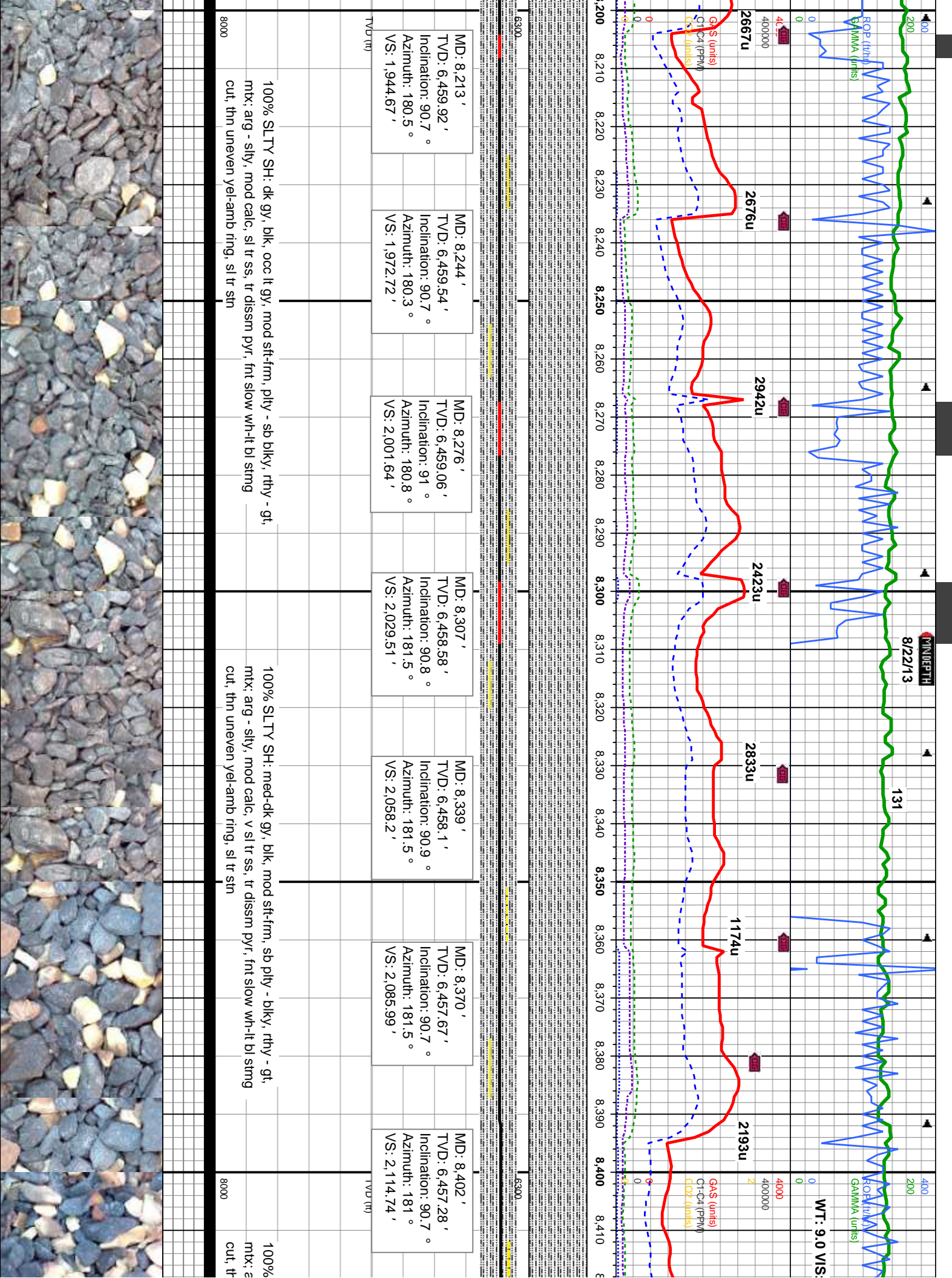
6300

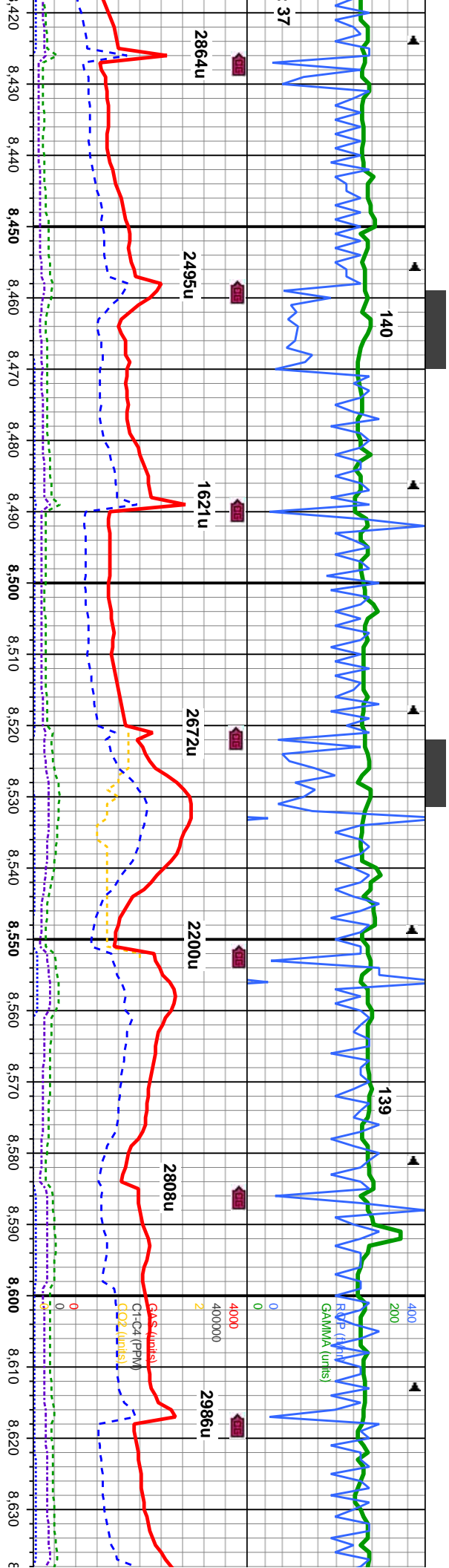
MD: 7.991 ' TVD: 6,460.44 ' Inclination: 90 ° Azimuth: 181.2 ° VS: 1,744.52 '	MD: 8.023 ' TVD: 6,460.47 ' Inclination: 89.9 ° Azimuth: 180.8 ° VS: 1,773.33 '	MD: 8.054 ' TVD: 6,460.69 ' Inclination: 89.3 ° Azimuth: 180.3 ° VS: 1,801.34 '	MD: 8.086 ' TVD: 6,461.02 ' Inclination: 89.5 ° Azimuth: 180.3 ° VS: 1,830.32 '	MD: 8.118 ' TVD: 6,460.97 ' Inclination: 90.7 ° Azimuth: 181.7 ° VS: 1,859.13 '	MD: 8.149 ' TVD: 6,460.61 ' Inclination: 90.6 ° Azimuth: 181.3 ° VS: 1,886.93 '	MD: 8.181 ' TVD: 6,460.28 ' Inclination: 90.6 ° Azimuth: 180.6 ° VS: 1,915.75 '
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100% SLTY SH: med-dk gy, blk, occ lt gy, mod sft-fm, sb pty - blk, occ pty, rthy - gt, mt, arg - slty, mod calc, tr diss pyr, fnt slow-mod wh-lt bl stmg cut, v thn gn ring, sl tr str, lt od

100% SLTY SH: dk gy, blk, occ lt gy, mod sft-fm, pty - sb blk, rthy - gt, mt, arg - slty, mod calc, v sl tr ss, tr diss pyr, fnt slow-mod wh-lt bl stmg cut, v thn gn ring, sl tr str, lt od







MD: 8,433 '
TVD: 6,456.87 '
Inclination: 90.8 °
Azimuth: 180.6 °
VS: 2,142.69 '

MD: 8,465 '
TVD: 6,456.43 '
Inclination: 90.8 °
Azimuth: 181.5 °
VS: 2,171.49 '

MD: 8,497 '
TVD: 6,456.01 '
Inclination: 90.7 °
Azimuth: 182 °
VS: 2,200.12 '

MD: 8,528 '
TVD: 6,455.65 '
Inclination: 90.6 °
Azimuth: 182.4 °
VS: 2,227.74 '

MD: 8,560 '
TVD: 6,455.4 '
Inclination: 90.3 °
Azimuth: 182.6 °
VS: 2,256.17 '

MD: 8,591 '
TVD: 6,455.21 '
Inclination: 90.4 °
Azimuth: 182.2 °
VS: 2,283.75 '

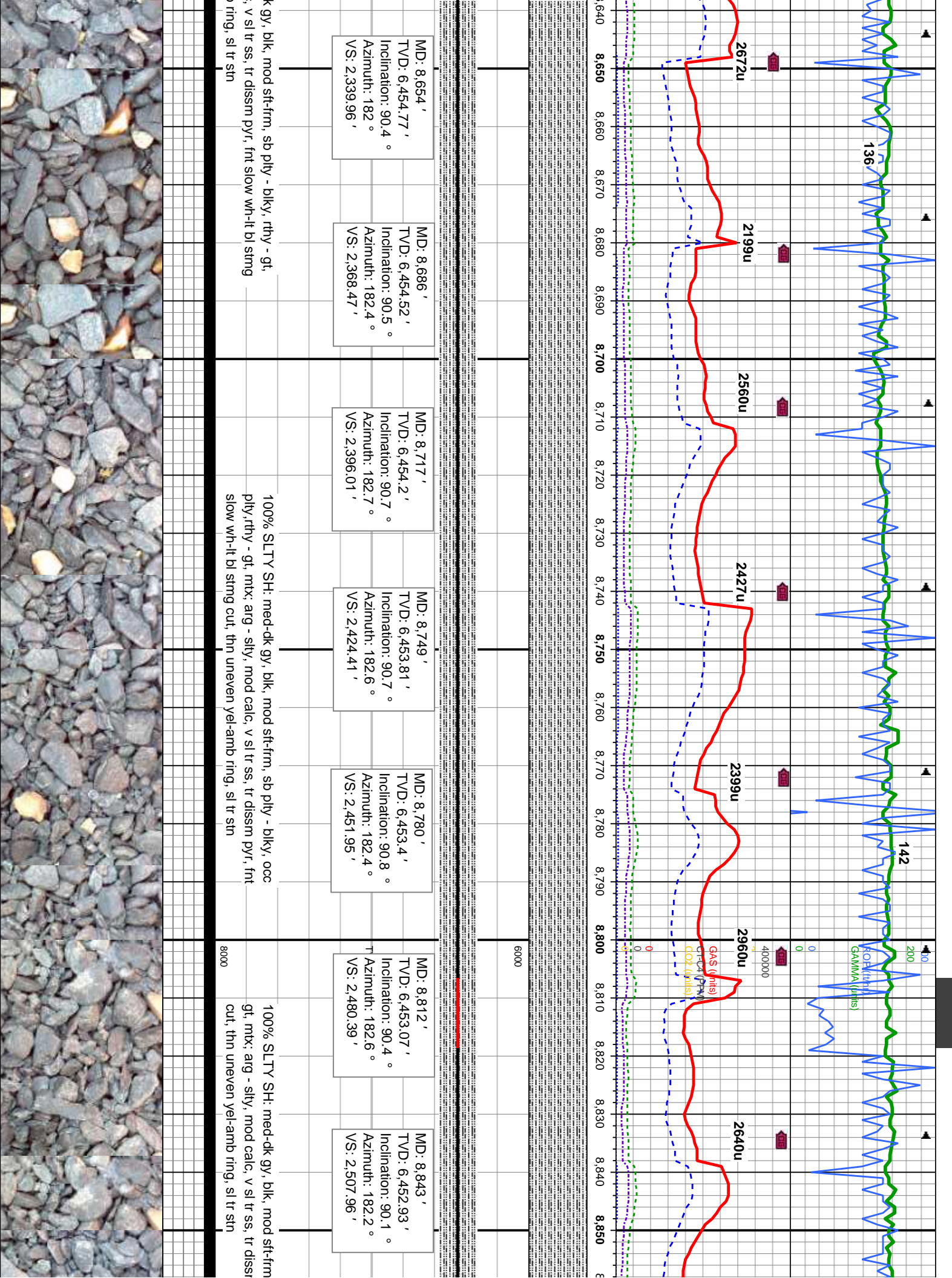
MD: 8,623 '
TVD: 6,454.99 '
Inclination: 90.4 °
Azimuth: 182 °
VS: 2,312.29 '

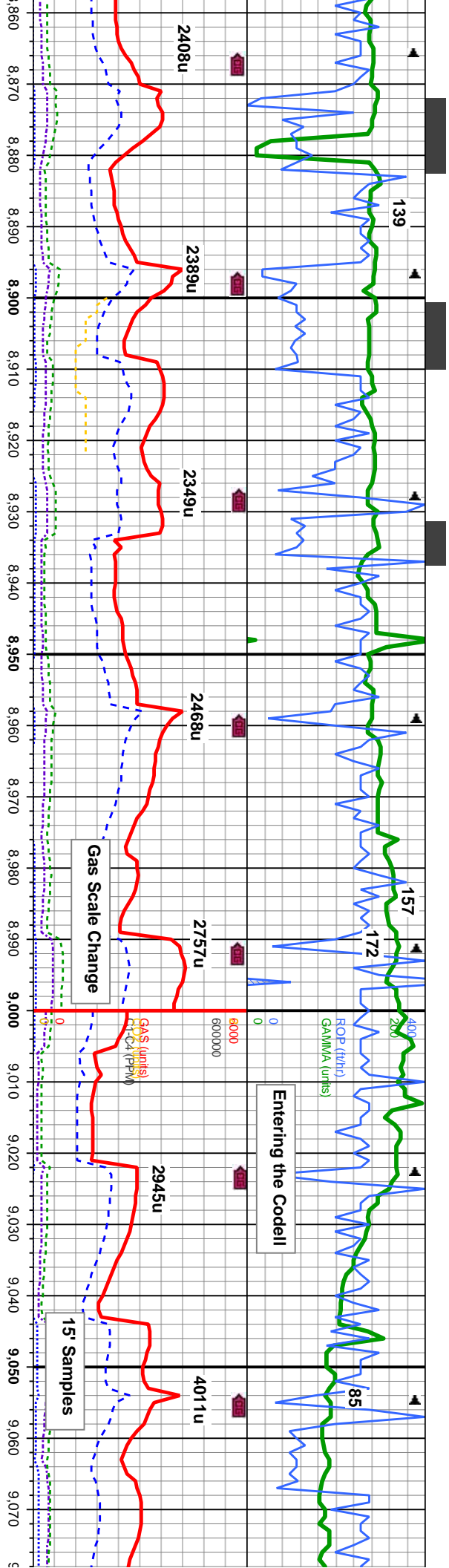
SLTY SH: med-dk gy, blk, mod sft-frm, sb plty - blk, rthy - gt, arg - silty, mod calc, v sl tr ss, tr dissn pyr, fnt slow wh-it bl string in uneven yel-amb ring, sl tr stn

100% SLTY SH: med-dk gy, blk, mod sft-frm, sb plty - blk, rthy - gt, mtb: arg - silty, mod calc, v sl tr ss, tr dissn pyr, mod wh-it bl string cut, mod even yel-amb ring, sl tr stn, tr od

100% SLTY SH: med-d mtb: arg - silty, mod calc cut, thn uneven yel-amb







MD: 8,875 '
TVD: 6,453.04 '
Inclination: 89.5 °
Azimuth: 182 °
VS: 2,536.5 '

MD: 8,907 '
TVD: 6,453.07 '
Inclination: 90.4 °
Azimuth: 181.3 °
VS: 2,565.16 '

MD: 8,938 '
TVD: 6,452.64 '
Inclination: 91.2 °
Azimuth: 181.7 °
VS: 2,592.95 '

MD: 8,970 '
TVD: 6,451.88 '
Inclination: 91.5 °
Azimuth: 181.7 °
VS: 2,621.58 '

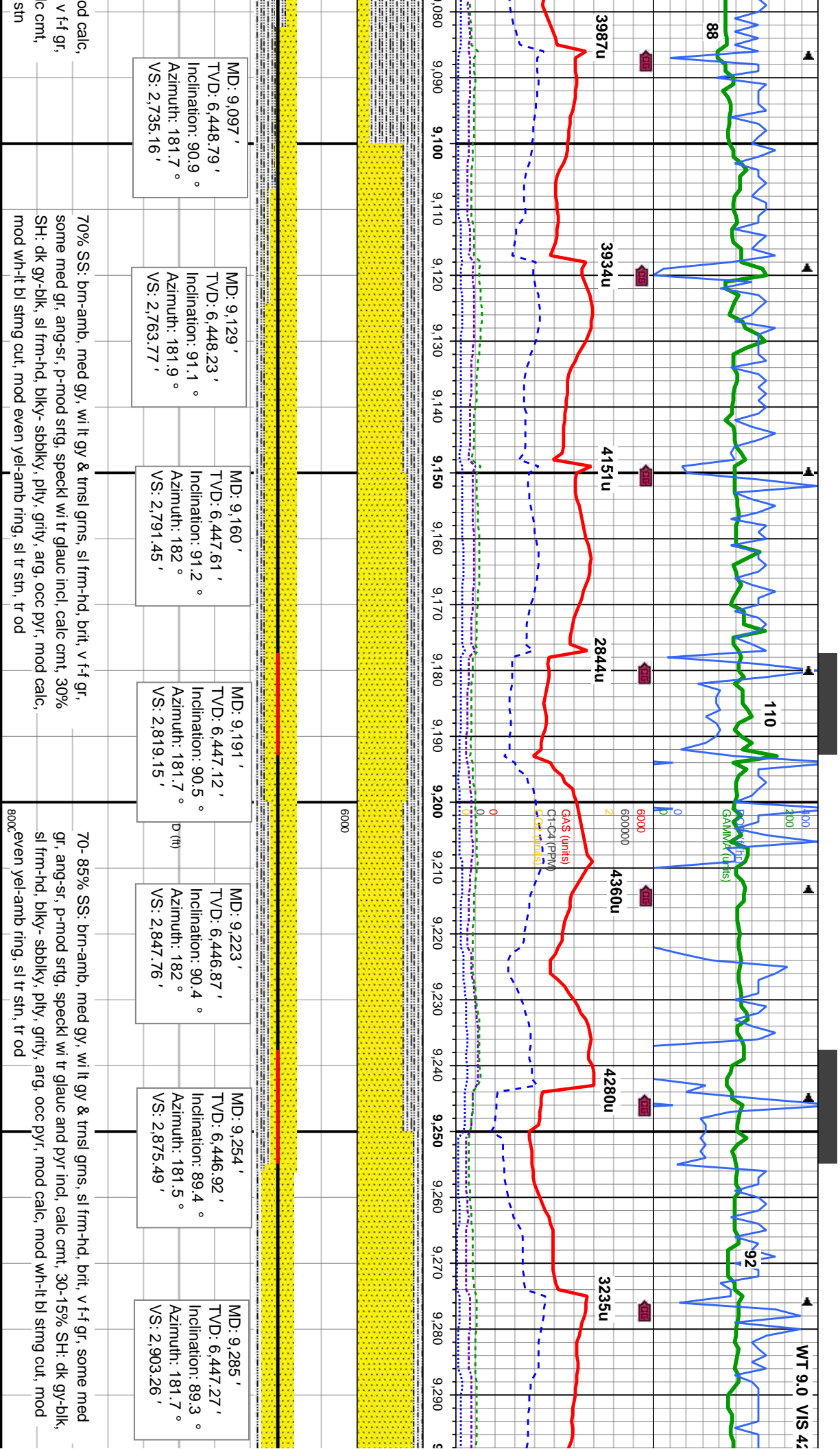
MD: 9,001 '
TVD: 6,450.99 '
Inclination: 91.8 °
Azimuth: 181.9 °
VS: 2,649.29 '

MD: 9,033 '
TVD: 6,450.01 '
Inclination: 91.7 °
Azimuth: 181.7 °
VS: 2,677.89 '

MD: 9,065 '
TVD: 6,449.29 '
Inclination: 90.9 °
Azimuth: 181.7 °
VS: 2,706.52 '

sb ply - blk, occ ply, rthy -
n pyr, frt slow wh-it bl string
100% SLTY SH: med-dk gy, blk, mod sft frm, sb ply - blk, occ
ply, rthy - gt, mtk, arg - silty, mod - v calc, tr ss, occ diss pyr, mod
wh-it bl string cut, mod even yel-amb ring, sl tr stn, tr od
100-80% SH: dk gy-blk, sl frm-hd, sb blk-ply, gritty tex, arg, m
0-20% SS: brn-amb, med gy, wi lt gy & trnsi grns, sl frm-hd, brt,
some med gr, ang-sr, p-mod srtg, speckl wi tr glauc incl, arg, ca
occ pyr, frt slow wh-it bl string cut, thn uneven yel-amb ring, sl tr

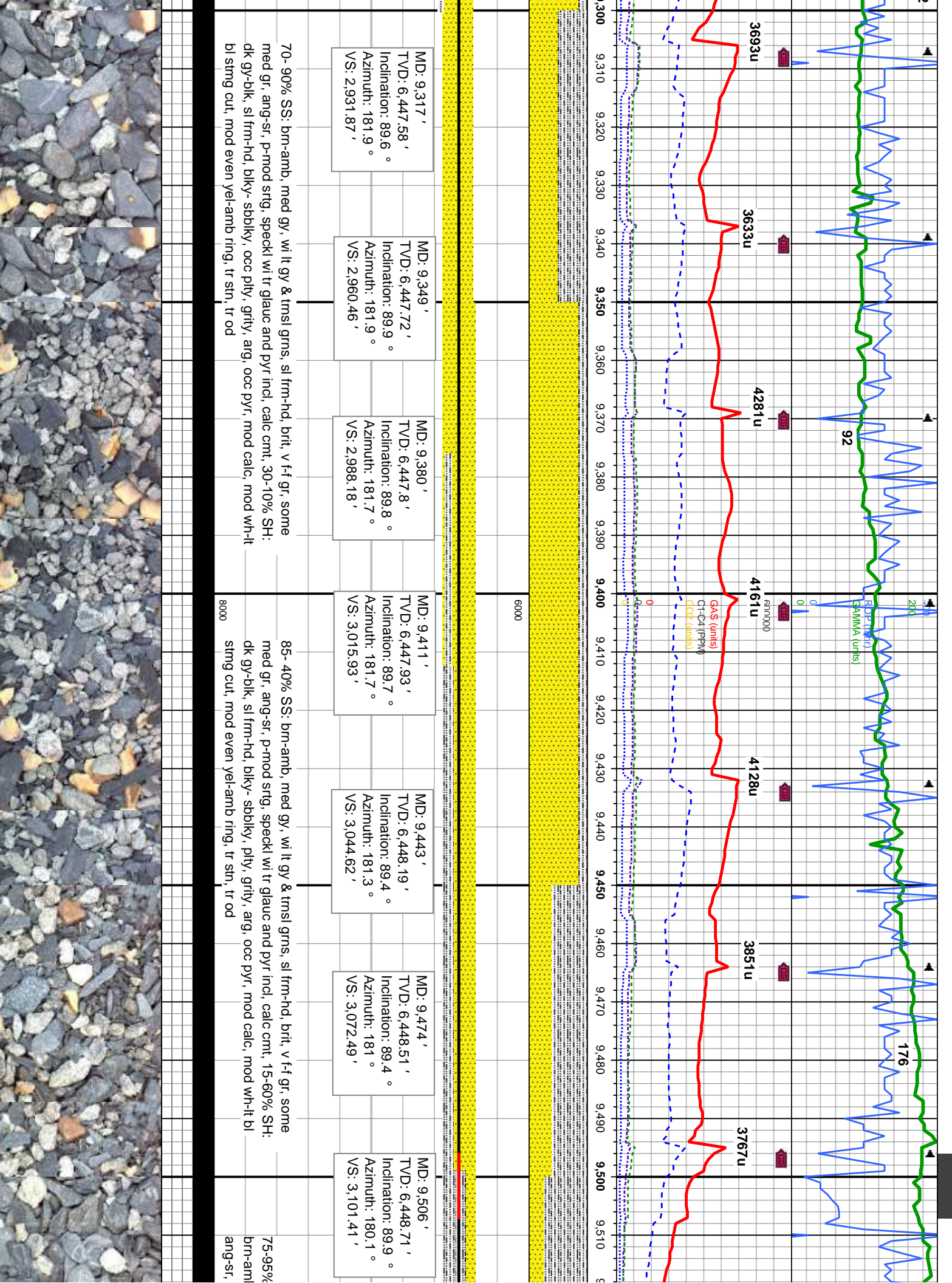


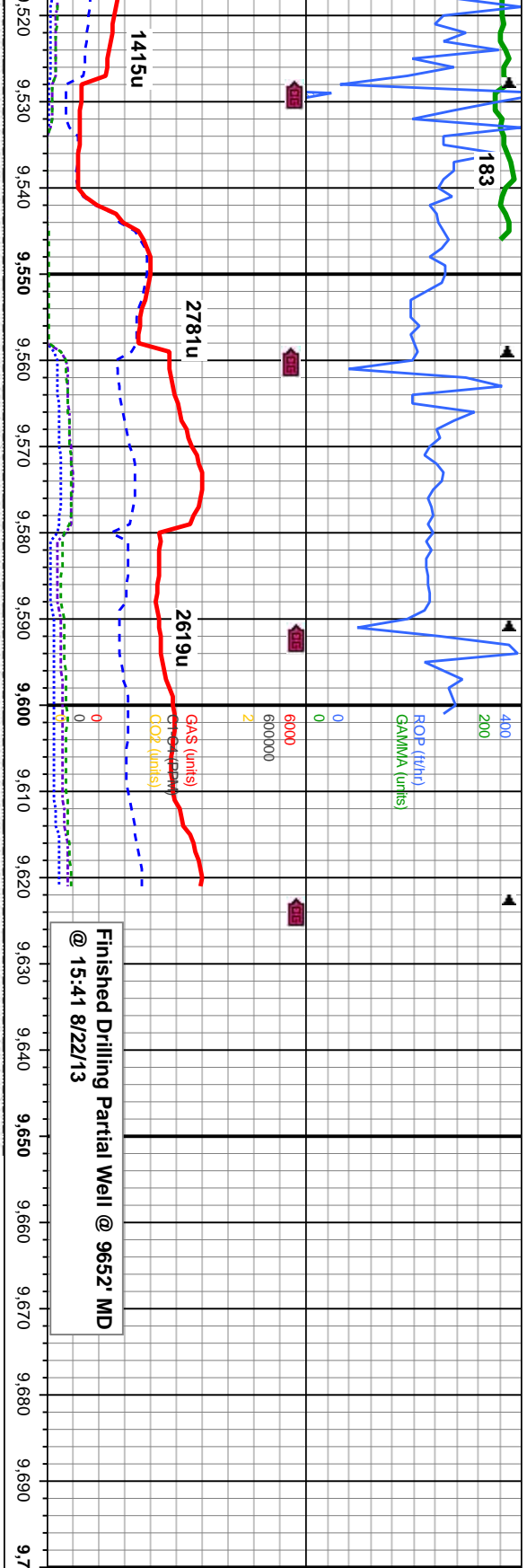


70% SS: brn-amb, med gy, w/ lt gy & trnsi grns, sl frm-hd, brit, v f-f gr, some med gr, ang-sr, p-mod strg, speckl w/ tr glauc incl, calc cnt, 30% SH: dk gy-blk, sl frm-hd, blkly-sbblky, pty, grty, arg, occ pyr, mod calc, mod wh-it bl stmg cut, mod even yel-amb ring, sl tr stn, tr od

70-85% SS: brn-amb, med gy, w/ lt gy & trnsi grms, sl frm-hd, brit, v f-f gr, some med gr, ang-sr, p-mod strg, speckl w/ tr glauc and pyr incl, calc cnt, 30-15% SH: dk gy-blk, sl frm-hd, blkly-sbblky, pty, grty, arg, occ pyr, mod calc, mod wh-it bl stmg cut, mod even yel-amb ring, sl tr stn, tr od







MD: 9,537 '
TVD: 6,448.73 '
Inclination: 90 °
Azimuth: 179.9 °
VS: 3,129.55 '

MD: 9,569 '
TVD: 6,448.74 '
Inclination: 90 °
Azimuth: 179.6 °
VS: 3,158.67 '

SH: dk gy-blk, sl frm-hd, blkly-sbbkly, occ plty, grity, arg, 25-5% SS;
o, med gy, w lt gy & trnsi grns, sl frm-hd, brlt, v f-f gr, some med gr,
p-mod strg, speckl wi tr glauc and pyr incl, silc-calc cnt, tr od

TVD (ft)

8000

