



Scale: 5" / 100'
Measured Depth Log

Well Name Pronghorn 44-41-7HNB

Location SESE SEC 7 T5N R61W

State COLORADO

Country USA

API Number 05-123-36386-00

County WELD

Rig Number ENSIGN 128

Field WATTENBERG

Spud Date 1/19/2013

Drilling Completed 1/29/2013

Surface Coordinates 430 FSL X 1175 FEL (LAT:40.40971,104.24710)

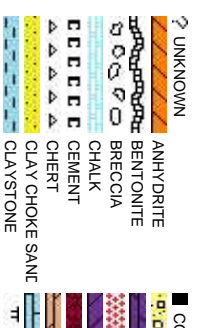
Bottom Hole Coordinates 531 FSL X 660 FEL (LAT:40.40982,104.24525)

Ground Elevation	4,562	K.B. Elevation	4,577
Logged Interval	5,522	To	10,610
		Total Depth	10,610
Type of Drilling Fluid	H2O, LSND		

Company Bonanza Creek
Address 410 17th Street
Denver, CO 802

Name Paul McKay
Company Bonanza Creek
410 17th Street
Denver, CO 802

Wellsite Geologists



Operator

Energy Inc.

Suite 1500
202

Geologist

Energy Inc.

Suite 1500
202

Other

Kevin Geraghty
Trent Nelson

Rock Types

UNIT	THICKNESS	DESCRIPTION	REMARKS
1	10'	CONGLOMERATE	
2	10'	DOLOMITE	
3	10'	GRANITE	
4	10'	GYP-SUM	
5	10'	IGNEOUS	
6	10'	SIDERITE or LIMONITE	
7	10'	LIMESTONE	
8	10'	MARLSTONE	
9	10'	SHALE	
10	10'	SHALE	
11	10'	SHALE	
12	10'	SHALE	
13	10'	SHALE	
14	10'	SHALE	
15	10'	SHALE	
16	10'	SHALE	
17	10'	SHALE	
18	10'	SHALE	
19	10'	SHALE	
20	10'	SHALE	
21	10'	SHALE	
22	10'	SHALE	
23	10'	SHALE	
24	10'	SHALE	
25	10'	SHALE	
26	10'	SHALE	
27	10'	SHALE	
28	10'	SHALE	
29	10'	SHALE	
30	10'	SHALE	
31	10'	SHALE	
32	10'	SHALE	
33	10'	SHALE	
34	10'	SHALE	
35	10'	SHALE	
36	10'	SHALE	
37	10'	SHALE	
38	10'	SHALE	
39	10'	SHALE	
40	10'	SHALE	
41	10'	SHALE	
42	10'	SHALE	
43	10'	SHALE	
44	10'	SHALE	
45	10'	SHALE	
46	10'	SHALE	
47	10'	SHALE	
48	10'	SHALE	
49	10'	SHALE	
50	10'	SHALE	
51	10'	SHALE	
52	10'	SHALE	
53	10'	SHALE	
54	10'	SHALE	
55	10'	SHALE	
56	10'	SHALE	
57	10'	SHALE	
58	10'	SHALE	
59	10'	SHALE	
60	10'	SHALE	
61	10'	SHALE	
62	10'	SHALE	
63	10'	SHALE	
64	10'	SHALE	
65	10'	SHALE	
66	10'	SHALE	
67	10'	SHALE	
68	10'	SHALE	
69	10'	SHALE	
70	10'	SHALE	
71	10'	SHALE	
72	10'	SHALE	
73	10'	SHALE	
74	10'	SHALE	
75	10'	SHALE	
76	10'	SHALE	
77	10'	SHALE	
78	10'	SHALE	
79	10'	SHALE	
80	10'	SHALE	
81	10'	SHALE	
82	10'	SHALE	
83	10'	SHALE	
84	10'	SHALE	
85	10'	SHALE	
86	10'	SHALE	
87	10'	SHALE	
88	10'	SHALE	
89	10'	SHALE	
90	10'	SHALE	
91	10'	SHALE	
92	10'	SHALE	
93	10'	SHALE	
94	10'	SHALE	
95	10'	SHALE	
96	10'	SHALE	
97	10'	SHALE	
98	10'	SHALE	
99	10'	SHALE	
100	10'	SHALE	

Accessories

Fossils

[illegible]

Other Symbols

Oil Show

- ☒ OIL SHOW
- ☒ MOLDIC
- ☒ ORGANIC
- ☒ PINPOINT
- ☒ DEAD
- ☒ VUGGY
- ☒ MINDEPTH
- ☒ MN DEPTH
- ☒ FAULT
- ☒ FORMATION TOP
- ☒ WIRELINE TESTED - LEFT
- ☒ WIRELINE TESTED - RT
- ☒ E EARTHY
- ☒ FINELYXXLN
- ☒ G5 GRAINSTONE
- ☒ L LITHOGRAPHIC
- ☒ Rounding

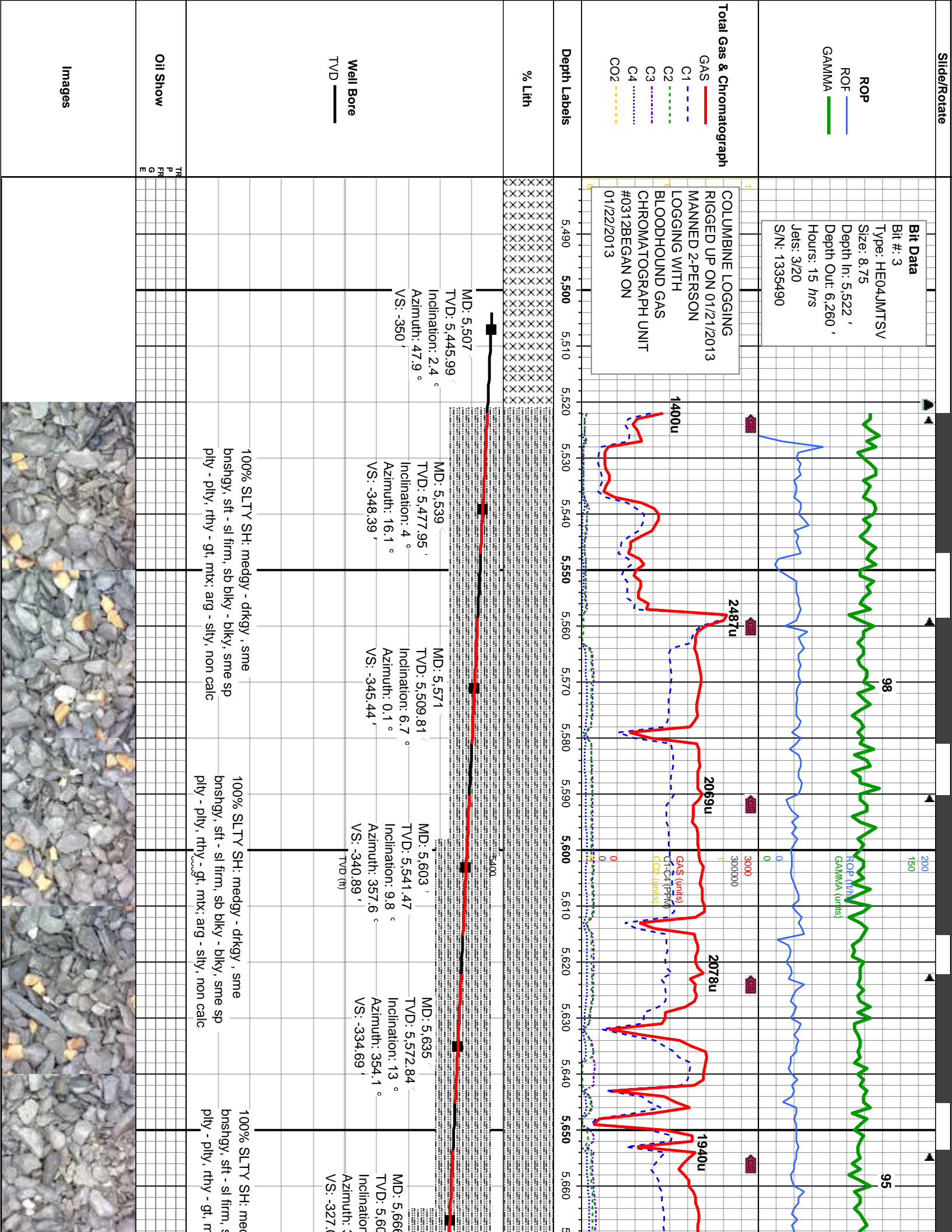
Engineering

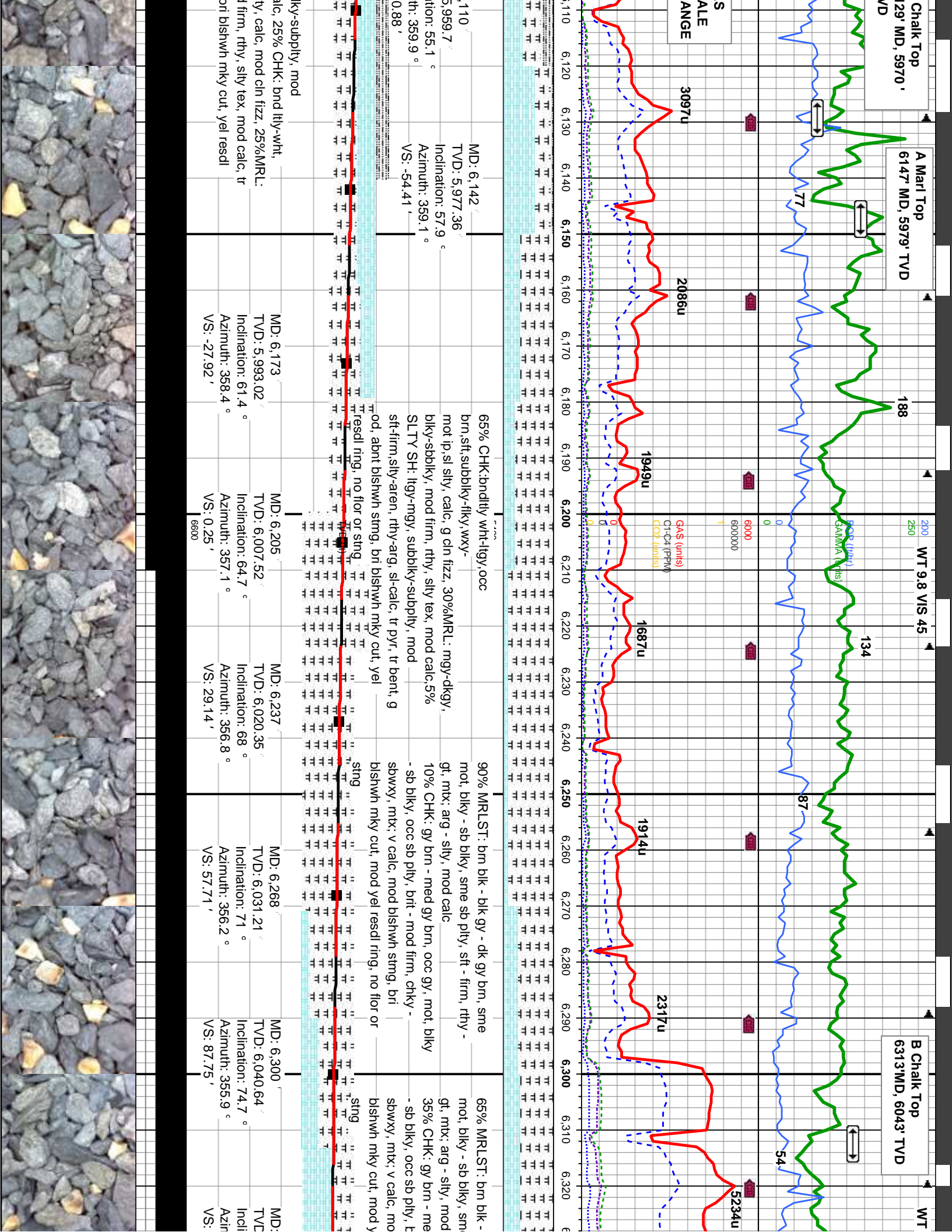
QUESTIONABLE	QUESTIONABLE	QUESTIONABLE	QUESTIONABLE
SPOTTED STAINING	SPOTTED STAINING	SPOTTED STAINING	SPOTTED STAINING
Engineering			
NORMAL FAULT	NORMAL FAULT	NORMAL FAULT	NORMAL FAULT
OIL SHOW	OIL SHOW	OIL SHOW	OIL SHOW
OVERTURNED STRATA	OVERTURNED STRATA	OVERTURNED STRATA	OVERTURNED STRATA
REVERSE FAULT	REVERSE FAULT	REVERSE FAULT	REVERSE FAULT
SIDEWALL CORE (LEFT)	SIDEWALL CORE (LEFT)	SIDEWALL CORE (LEFT)	SIDEWALL CORE (LEFT)
SIDEWALL CORE (RIGHT)	SIDEWALL CORE (RIGHT)	SIDEWALL CORE (RIGHT)	SIDEWALL CORE (RIGHT)
Textures			
ANGULAR	ANGULAR	ANGULAR	ANGULAR
ROUNDED	ROUNDED	ROUNDED	ROUNDED
SUBANG	SUBANG	SUBANG	SUBANG
SUBRND	SUBRND	SUBRND	SUBRND
Sorting			
MICROXLN	MICROXLN	MICROXLN	MICROXLN
MUDSTONE	MUDSTONE	MUDSTONE	MUDSTONE
PACKSTONE	PACKSTONE	PACKSTONE	PACKSTONE
WACKSTONE	WACKSTONE	WACKSTONE	WACKSTONE
Porosity			
BIT	BIT	BIT	BIT
CONNECTION (LEFT)	CONNECTION (LEFT)	CONNECTION (LEFT)	CONNECTION (LEFT)
CONNECTION (RIGHT)	CONNECTION (RIGHT)	CONNECTION (RIGHT)	CONNECTION (RIGHT)
FENESTRAL	FENESTRAL	FENESTRAL	FENESTRAL
FRACTURE	FRACTURE	FRACTURE	FRACTURE
INTERCRYSTALLINE	INTERCRYSTALLINE	INTERCRYSTALLINE	INTERCRYSTALLINE
INTEROOLITIC	INTEROOLITIC	INTEROOLITIC	INTEROOLITIC
DST INTERVAL	DST INTERVAL	DST INTERVAL	DST INTERVAL
Textures			
BOUNDSTONE	BOUNDSTONE	BOUNDSTONE	BOUNDSTONE
CHALKY	CHALKY	CHALKY	CHALKY
CRYPTOXLN	CRYPTOXLN	CRYPTOXLN	CRYPTOXLN
MODERATE	MODERATE	MODERATE	MODERATE
POOR	POOR	POOR	POOR
WELL	WELL	WELL	WELL

Textures

Sorting

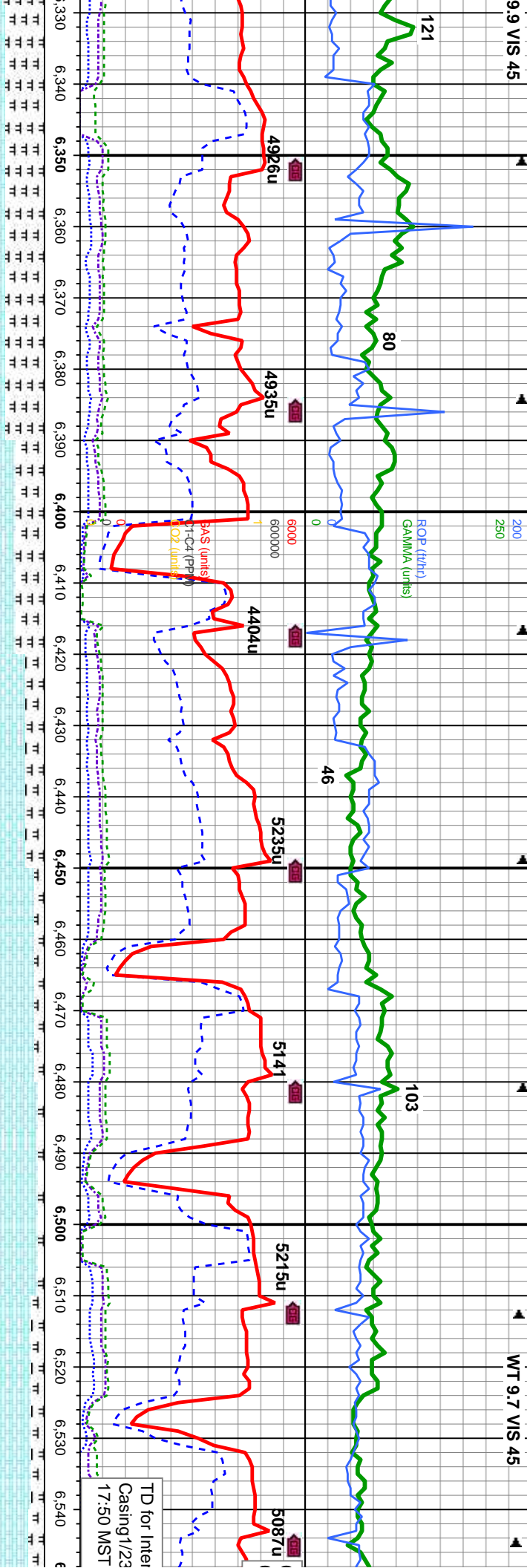
BS BOUNDSTONE **M** MODERATE
C CHALKY **P** POOR
CC CRYPTOXLN **W** WELL





9.9 VIS 45

WT 9.7 VIS 45



blk gy - dk gy brn, sme e sb pily, sft - firm, rthy - calc	60% MRLST: brn blk - blk gy - dk gy brn, sme mot, blk y - sb blk y, sme sb pily, sft - firm, rthy - gt, mtk: arg - sily, mod calc	60% CHK: gy brn - med gy brn, occ gy, mot, blk y - sb blk y, occ sb pily, brit - mod firm, chky - sbwxy, mtk: v calc, 40% MRLST: brn blk - blk gy - dk gy brn, sme mot, blk y - sb blk y, sme sb pily, sft - firm, rthy - gt, mtk: arg - sily, mod calc, abnt bshwh string, bri	90% CHK: gy brn - med gy brn, occ gy, mot, blk y, occ sb pily, brit - mod firm, chky - sbwxy, mtk: v calc, 10% MRLST: brn blk - blk gy - dk gy brn, sme mot, blk y - sb blk y, sme sb pily, sft - firm, rthy - gt, mtk: arg - sily, mod calc, occ cal, tr bent, g od, abnt bshwh string, bri bshwh mky cut, yel resd ring, no flr or sting
--	---	--	---

TVD (ft)

6,332 MD: 6,364 TVD: 6,054.17 Inclination: 78.1 ° Azimuth: 355.5 ° VS: 118.28'	6,395 MD: 6,395 TVD: 6,058.2 Inclination: 83.7 ° Azimuth: 356.1 ° VS: 179.26'	6,427 MD: 6,427 TVD: 6,060.97 Inclination: 86.4 ° Azimuth: 356.6 ° VS: 210.62'	6,458 MD: 6,458 TVD: 6,062.18 Inclination: 89.1 ° Azimuth: 357.1 ° VS: 241.13'	6,490 MD: 6,490 TVD: 6,062.63 Inclination: 89.3 ° Azimuth: 356.1 ° VS: 272.63'	6,510 MD: 6,510 TVD: 6,062.86 Inclination: 89.4 ° Azimuth: 356.1 ° VS: 292.29'
---	--	---	---	---	---

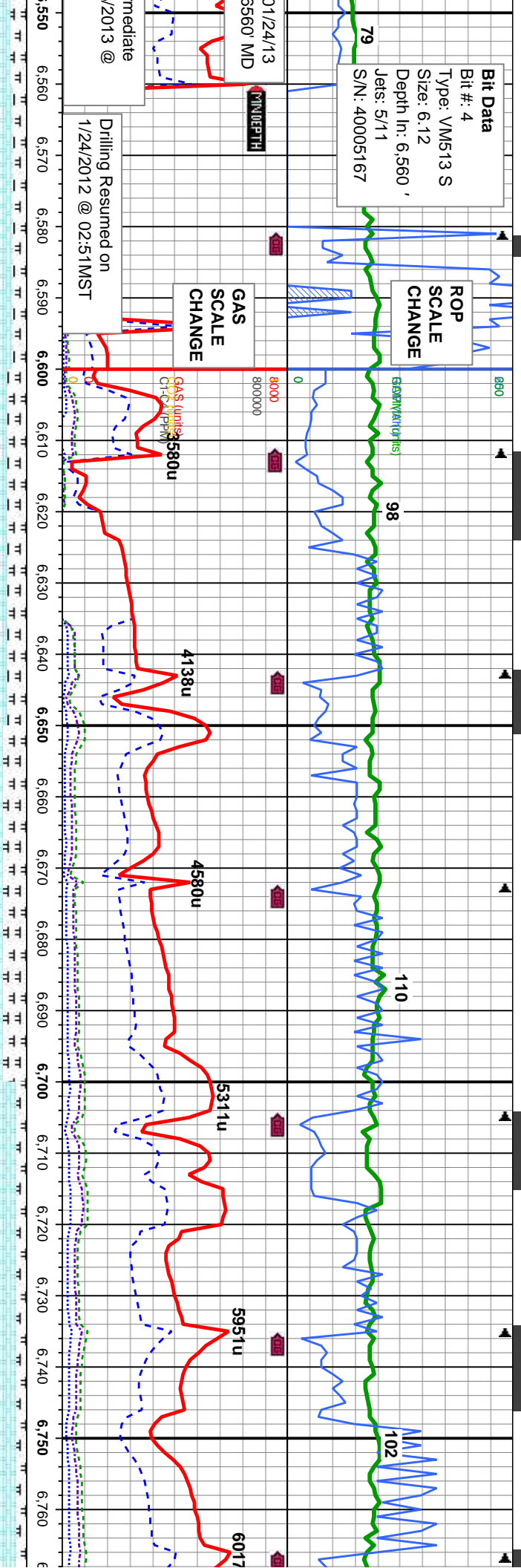


Bit Data
Bit #: 4
Type: VM513 S
Size: 6.12
Depth In: 6,560 '
Jets: 5/11
S/N: 40005167

ROP SCALE CHANGE

GAS SCALE CHANGE

Drilling Resumed on
1/24/2012 @ 02:51MST

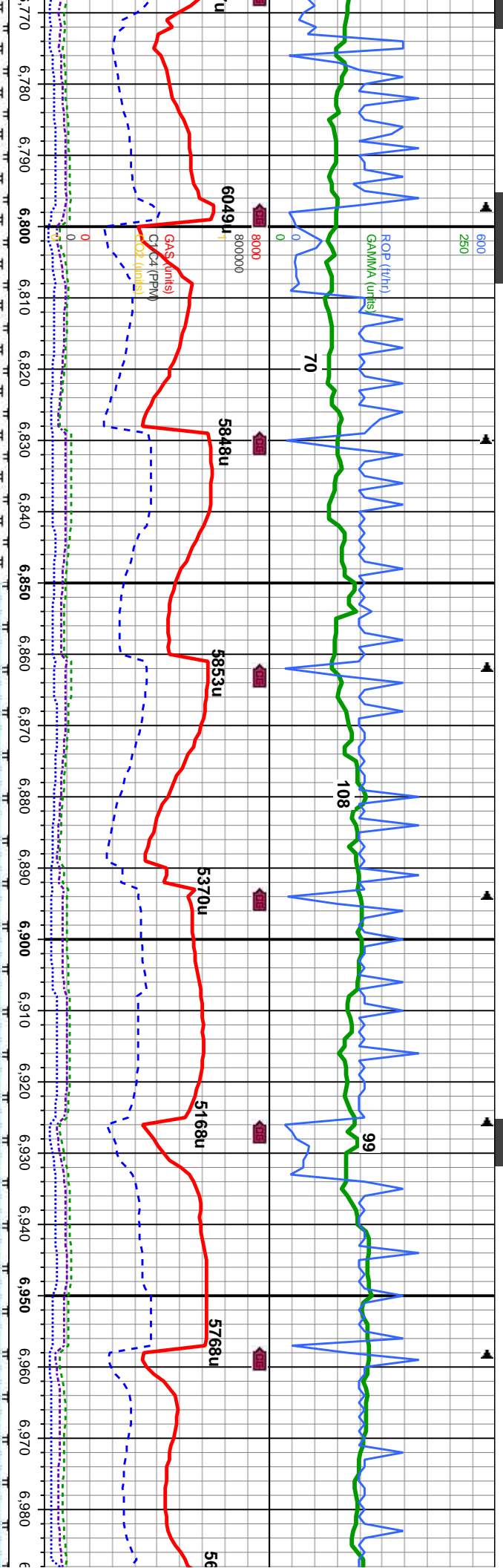


80% CHK: gy brn - med gy brn, occ gy, mot, blk y - sb
blk y, occ sb ply, brit - mod firm, chky - sbwxy, mtx; v calc.
20% MRLST: blk - blk gy - dk gy brn, sme mot, blk y - sb
blk y, sme sb ply, sft - firm, rthy - gt, mtx; arg - sily, mod
calc, occ inoc, occ cal, fr od, abnt blshwn string, bri
blshwn mky cut, yel resdl ring, no flr or string

65% CHK: gy brn - med gy brn, occ gy, mot, blk y - sb blk y, occ sb
ply, brit - mod firm, chky - sbwxy, mtx; v calc
35% MRLST: brn blk - blk gy - dk gy brn, sme mot, blk y - sb blk y,
sme sb ply, sft - firm, rthy - gt, mtx; arg - sily, mod calc, sme inoc
foss, tr imbd inoc foss, abnt blshwn string, bri blshwn mky cut, yel
resdl ring, no flr or string

TVD (ft)			
MD: 6,589'	MD: 6,620'	MD: 6,651'	MD: 6,681'
TVD: 6,062.24'	TVD: 6,061.67'	TVD: 6,061.67'	TVD: 6,061.42'
Inclination: 91.5°	Inclination: 90.6°	Inclination: 89.4°	Inclination: 90.5°
Azimuth: 356.2°	Azimuth: 355.4°	Azimuth: 356.1°	Azimuth: 357.3°
VS: 369.95'	VS: 400.38'	VS: 430.81'	VS: 460.36'
6600			
MD: 6,712'	MD: 6,743'		
TVD: 6,061.42'	TVD: 6,061.29'		
Inclination: 90.5°	Inclination: 90°		
Azimuth: 359.6°	Azimuth: 359.6°		
VS: 521.73'			





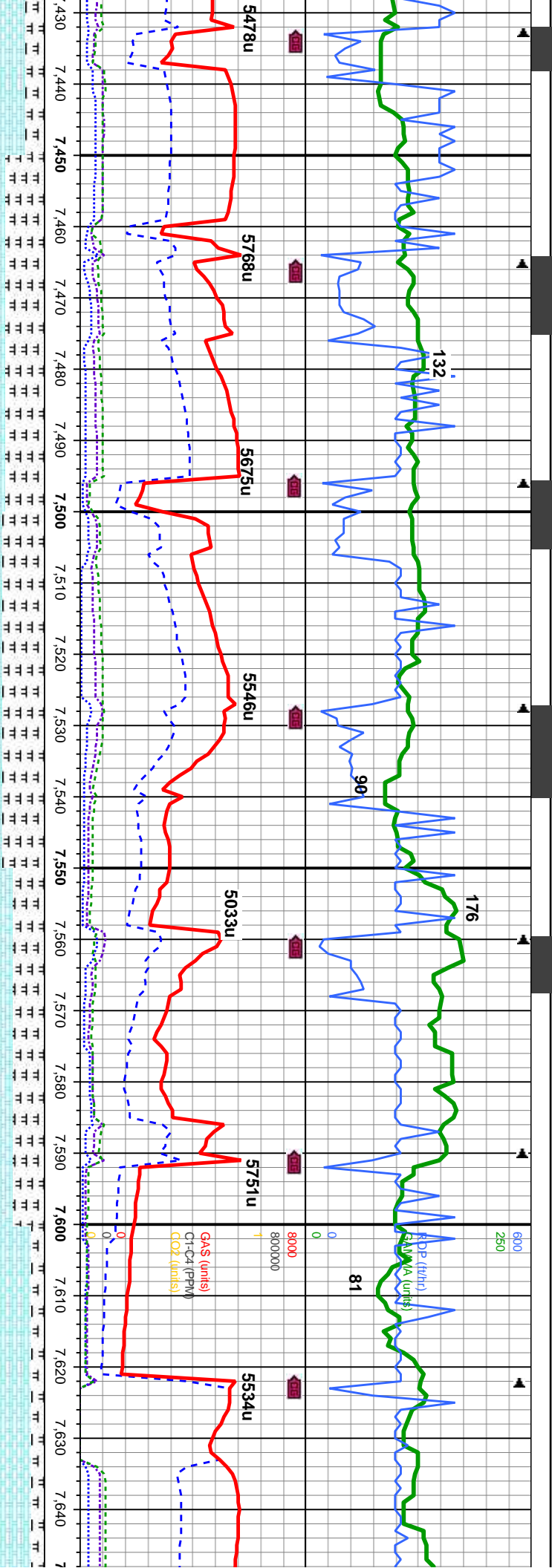
55% CHK: gy brn - med gy brn, occ gy, mot, blkly - sb blkly, occ sb blkly, brit - mod firm, chky - sbwxy, mtix: v calc
5% MRLST: brn blk - blk gy - dk gy brn, sme mot, blkly - sb blkly, sme sb ply, sft - firm, rthy - gt, mtix: arg - sfty, mod calc, tr imbd inoc loss, tr imbd inoc foss, abnt blshwh stmg, bri blshwh mky cut, yel resd ring, no flor or stng

90% CHK: ltgy - med gy brn, occ gy, mot, sb blkly - sb ply, sme blkly, tr ply, brit - mod firm, chky - sbwxy, mtix: v calc
10% MRLST: brn blk - blk gy - dk gy brn, tr mot, blkly - sb blkly, sb ply, sft - firm, rthy - gt, mtix: arg - sfty, mod calc, tr imbd inoc foss, abnt blshwh stmg, bri blshwh mky cut, yel resd ring, no flor or stng

90% CHK: ltgy - med blkly, tr ply, brit - mod 10% MRLST: brn blk - sb ply, sft - firm, rthy - foss, abnt blshwh stmg or stng

TVD (ft)			
MD: 6,775	MD: 6,807	MD: 6,838	MD: 6,870
D: 6,061.4'	TV D: 6,061.9'	TV D: 6,062.63'	TV D: 6,063.25'
Inclination: 89.6 °	Inclination: 88.6 °	Inclination: 88.7 °	Inclination: 89.1 °
Azimuth: 0.3 °	Azimuth: 1.2 °	Azimuth: 0.6 °	Azimuth: 0.1 °
VS: 553.5'	VS: 585.33'	VS: 616.16'	VS: 647.96'
6600			
MD: 6,902'	MD: 6,934'	MD: 6,966'	
TV D: 6,063.64'	TV D: 6,064.03'	TV D: 6,064.53'	
Inclination: 89.5 °	Inclination: 89.1 °	Inclination: 89.1 °	
Azimuth: 1.2 °	Azimuth: 0.1 °	Azimuth: 0.6 °	
VS: 679.77'	VS: 711.59'	VS: 743.39'	

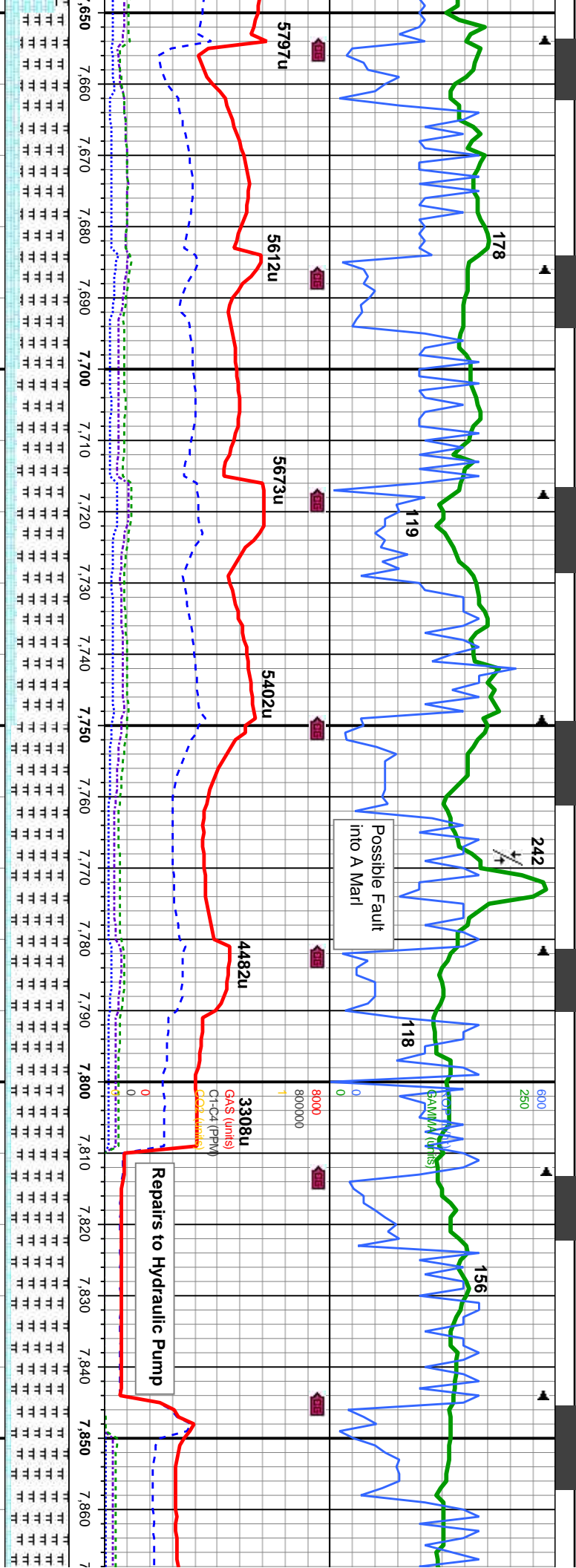




occ	60% MRLST: brn blk - blk gy - dk gy brn, tr mot, blk - sb blk, occ sb pty, sft - firm, rthy - gt, mtx; arg - silty, mod calc, tr pyr, 40% CHK: lgy - med gy brn, occ gy, mot, sb blk - sb pty, sme blk, tr pty, brit - mod firm, chky - sbwxy, mtx; v calc, tr imbd inoc foss, abnt blshwh string, bri blshwh mky cut, yel resd ring, no flr or string	
occ	50% CHK: lgy - med gy brn, occ gy, mot, sb blk - sb pty, sme blk, tr pty, brit - mod firm, chky - sbwxy, mtx; v calc, tr imbd inoc foss 50% MRLST: brn blk - blk gy - dk gy brn, tr mot, blk - sb blk, occ sb pty, sft - firm, rthy - gt, mtx; arg - silty, mod calc, abnt blshwh string, bri blshwh mky cut, yel resd ring, no flr or string	

TVD (ft)	
MD: 7.442	MD: 7.474
TVD: 6,069.08	TVD: 6,070.05
Inclination: 88.5 °	Inclination: 88.9 °
Azimuth: 359.9 °	Azimuth: 359.4 °
VS: 1,216.2'	VS: 1,247.94'
MD: 7.505	MD: 7.537
TVD: 6,070.76	TVD: 6,070.87
Inclination: 88.9 °	Inclination: 90.7 °
Azimuth: 358.9 °	Azimuth: 359.4 °
VS: 1,278.66'	VS: 1,310.38'
MD: 7.569	MD: 7.601
TVD: 6,070.4	TVD: 6,069.86
Inclination: 91 °	Inclination: 90.9 °
Azimuth: 0.1 °	Azimuth: 359.4 °
VS: 1,342.14'	VS: 1,373.9'
MD: 7.632	
TVD: 6,069.43	
Inclination: 90.7 °	
Azimuth: 358.9 °	
VS: 1,404.63'	

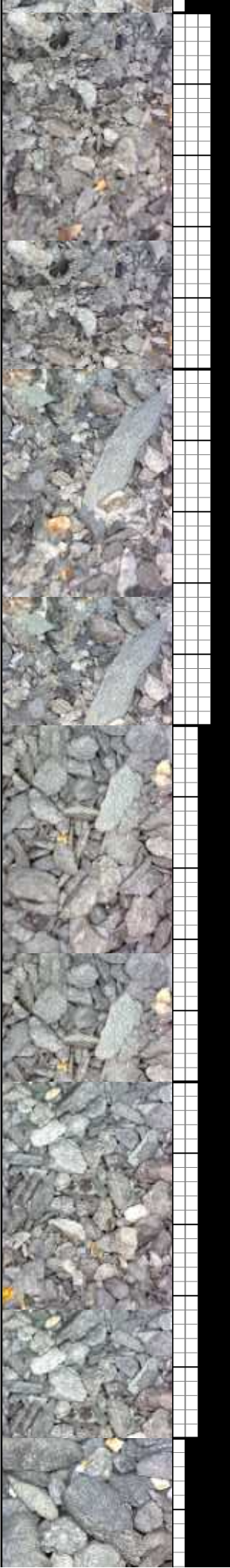


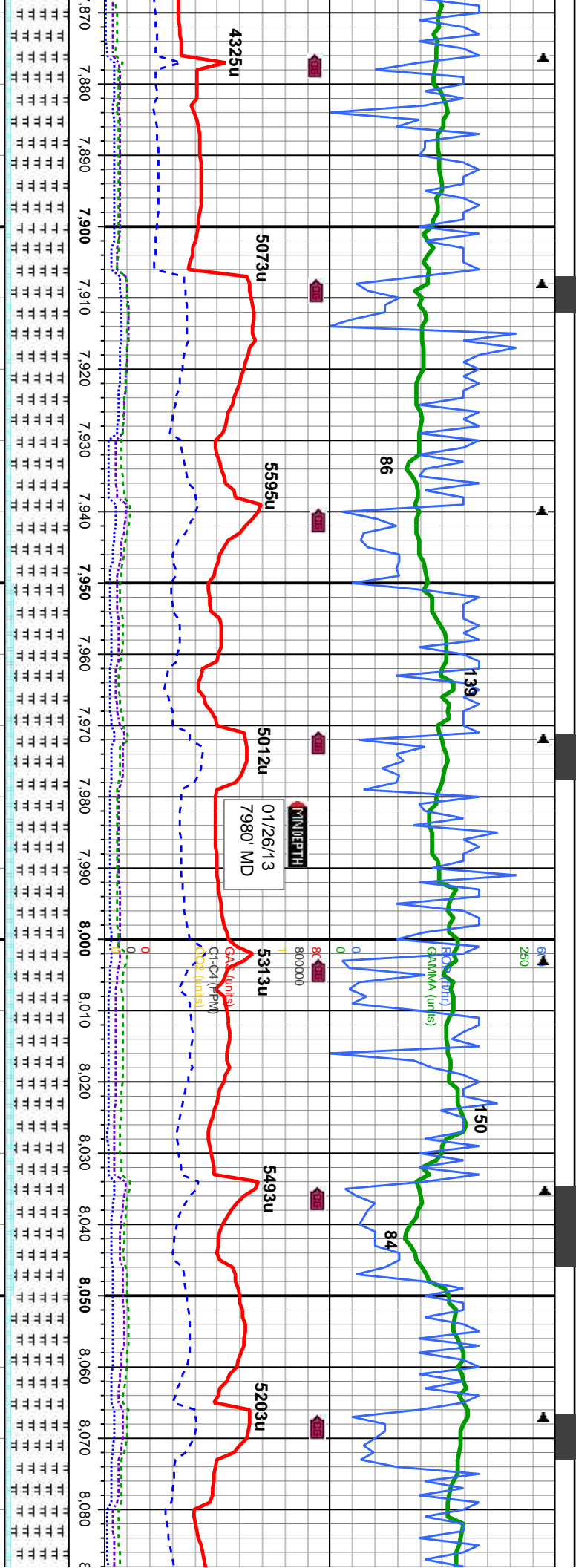


75% MRLST: blk - blk gy - dk gy brn, tr mot, blk - sb blk, occ sb pty, sft - firm, rthy - gt, mtx; arg - slty, mod calc, 25% CHK: lty - med gy brn, occ gy, mot, sb blk - sb pty, sme blk, tr pty, brit - mod firm, chky - sbwxy, mtx; v calc, tr gygn bent, tr blshwh string, fnt blshwh mky cut, fnt - tr yel resd ring, no flr or string

90% MRLST: blk - blk gy - dk gy brn, tr mot, blk - sb blk, occ sb pty, sft - firm, rthy - gt, mtx; arg - slty, mod calc, 10% CHK: lty - med gy brn, occ gy, mot, sb blk - sb pty, sme blk, tr pty, brit - mod firm, chky - sbwxy, mtx; v calc, scat gygn bent, mod blshwh string, bri blshwh mky cut, mod yel resd ring, no flr or string

MD: 7.664 TVD: 6,069.32 Inclination: 89.7 ° Azimuth: 358.9 ° VS: 1,436.33 '	MD: 7.696 TVD: 6,069.74 Inclination: 88.8 ° Azimuth: 358.5 ° VS: 1,468.02 '	MD: 7.728 TVD: 6,070.41 Inclination: 88.8 ° Azimuth: 359.4 ° VS: 1,499.72 '	MD: 7.759 TVD: 6,070.92 Inclination: 89.3 ° Azimuth: 359.4 ° VS: 1,530.46 '	MD: 7.791 TVD: 6,071.01 Inclination: 90.4 ° Azimuth: 359.8 ° VS: 1,562.21 '	MD: 7.823 TVD: 6,070.62 Inclination: 91 ° Azimuth: 1 ° VS: 1,594.02 '	MD: 7.855 TVD: 6,069.97 Inclination: 91.3 ° Azimuth: 1.5 ° VS: 1,625.86 '
---	---	---	---	---	---	---





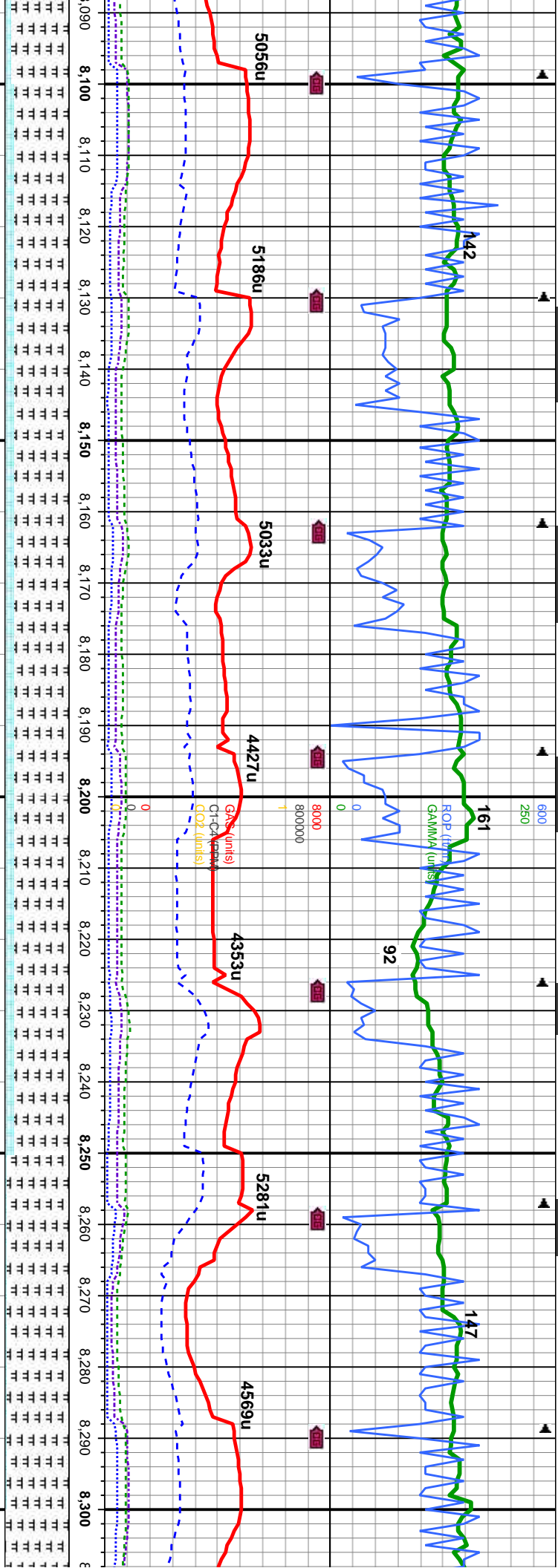
% MRLST: blk - blk gy - dk gy brn, tr mot, blk - sb blk, c sb pty, sft - firm, rthy - gt, mtx: arg - silty, mod calc, % CHK: ltgy - med gy brn, occ brn, mot, sb blk - sb pty, sme blk, brit - mod firm, chky - sbwxy, mtx: v calc, tr fos, tr gygn bent, abnt blshwh string, bri blshwh mky, yel resd ring, no flr or string

85% MRLST: blk - blk gy - dk gy brn, tr mot, blk - sb blk, occ sb pty, sft - firm, rthy - gt, mtx: arg - silty, mod calc, 15% CHK: ltgy - med gy brn, occ brn, mot, sb blk - sb pty, sme blk, brit - mod firm, chky - sbwxy, mtx: v calc, tr pyr, tr inoc fos, tr gygn bent, abnt blshwh string, bri blshwh mky cut, yel resd ring, no flr or string

90% MRLST: blk - blk sb pty, sft - firm, rthy ltgy - med gy brn, occ - mod firm, chky - sbw mod blshwh string, bri flr or string

MD: 7,887 TVD: 6,069.22 Inclination: 91.4 ° Azimuth: 1 ° VS: 1,657.71 '	MD: 7,918 TVD: 6,068.6 Inclination: 90.9 ° Azimuth: 0.6 ° VS: 1,688.54 '	MD: 7,950 TVD: 6,068.18 Inclination: 90.6 ° Azimuth: 1 ° VS: 1,720.37 '	MD: 7,982 TVD: 6,068.09 Inclination: 89.7 ° Azimuth: 0.3 ° VS: 1,752.19 '	MD: 8,014 TVD: 6,068.18 Inclination: 90 ° Azimuth: 0.8 ° VS: 1,784 '	MD: 8,045 TVD: 6,068.29 Inclination: 89.6 ° Azimuth: 1.9 ° VS: 1,814.87 '	MD: 8,077 TVD: 6,068.65 Inclination: 89.1 ° Azimuth: 1.3 ° VS: 1,846.74 '
---	--	---	---	--	---	---





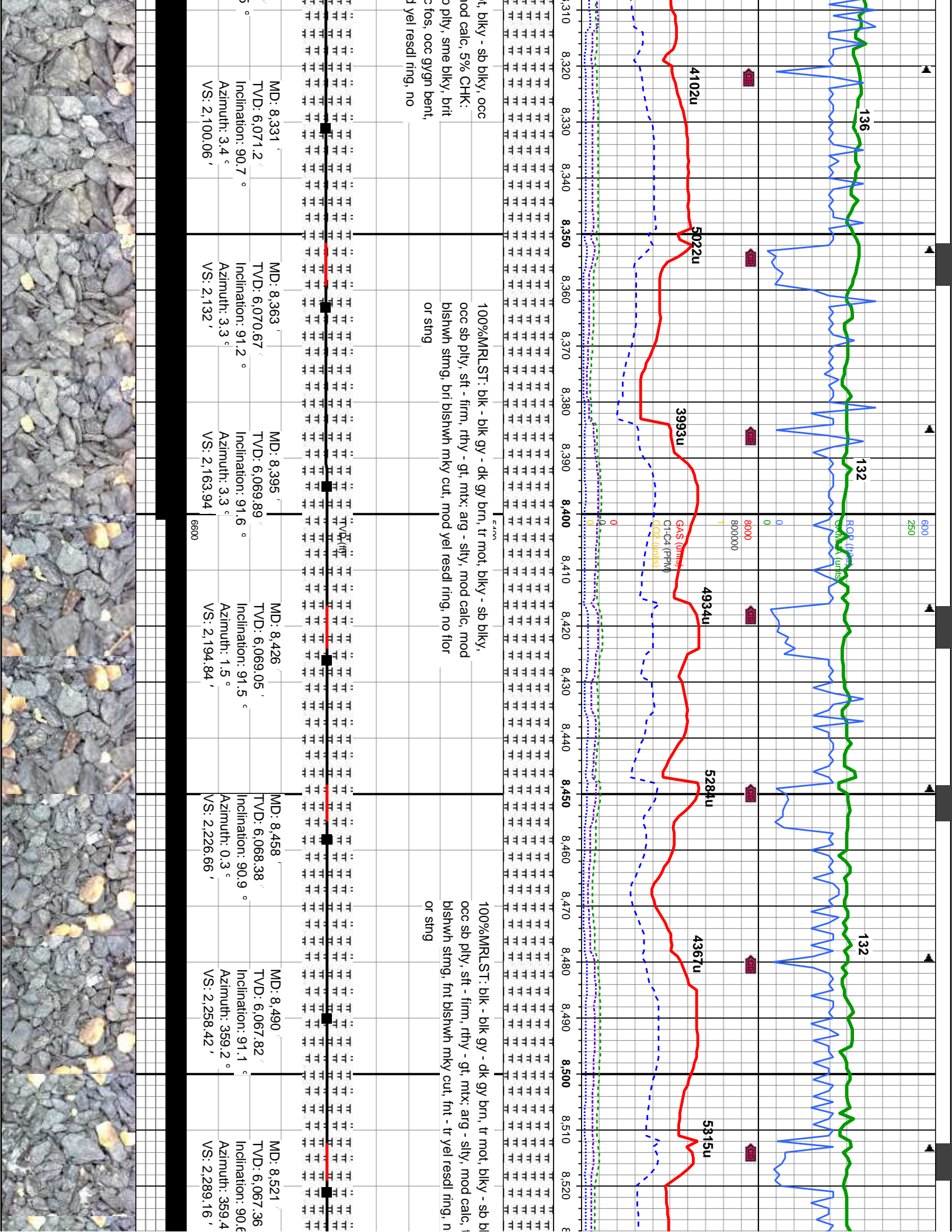
gy - dk gy brn, tr mot, blk - sb blk, occ
- gt, mtx; arg - slty, mod calc, 10% CHK:
brn, mot, sb blk - sb pty, sme blk, brit
xy, mtx; v calc, tr inoc fos, occ gygn bent,
bshwh mky cut, mod yel resd ring, no

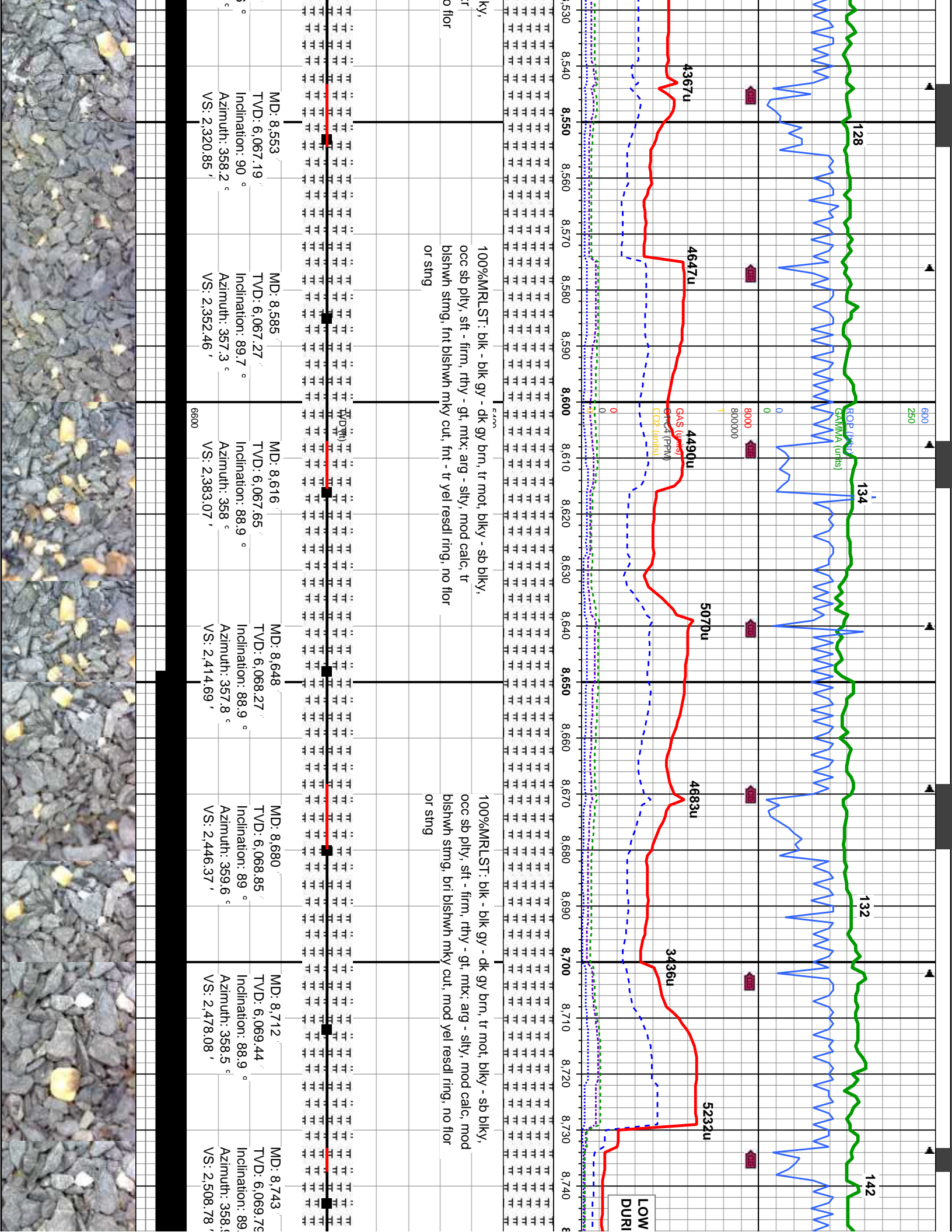
85% MRLST: blk - blk gy - dk gy brn, tr mot, blk - sb blk, occ
sb pty, sft - firm, rthy - gt, mtx; arg - slty, mod calc, 15% CHK:
lty - med gy brn, occ brn, mot, sb blk - sb pty, sme blk, brit
- mod firm, chy - sbwxy, mtx; v calc, tr inoc fos, occ gygn bent,
abt bshwh string, bri bshwh mky cut, yel resd ring, no flor
or sting

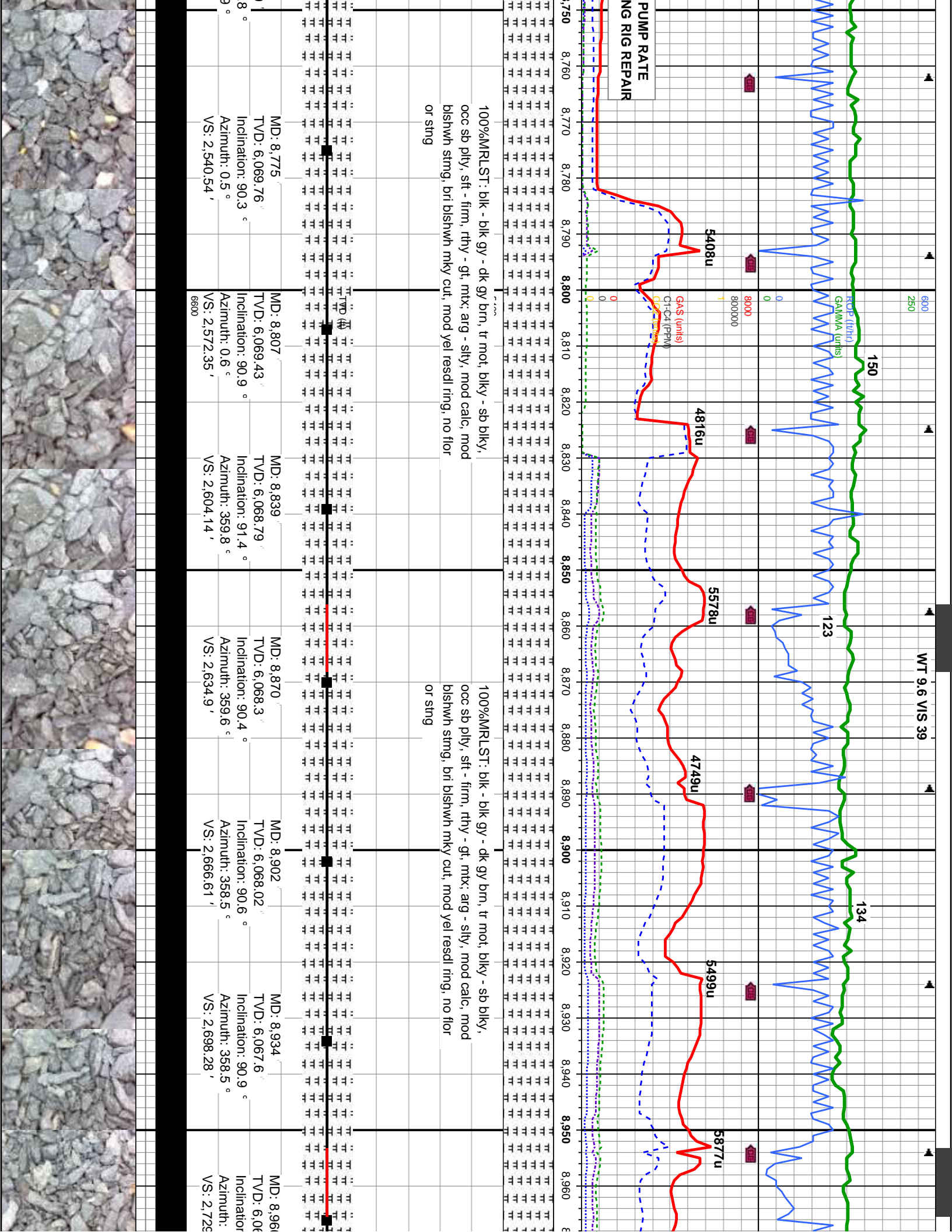
95% MRLST: blk - blk gy - dk gy brn, tr mot, blk - sb blk, occ
sb pty, sft - firm, rthy - gt, mtx; arg - slty, mod calc, 15% CHK:
lty - med gy brn, occ brn, mot, sb blk - sb pty, sme blk, brit
- mod firm, chy - sbwxy, mtx; v calc, tr inoc fos, occ gygn bent,
abt bshwh string, bri bshwh mky cut, yel resd ring, no flor
or sting

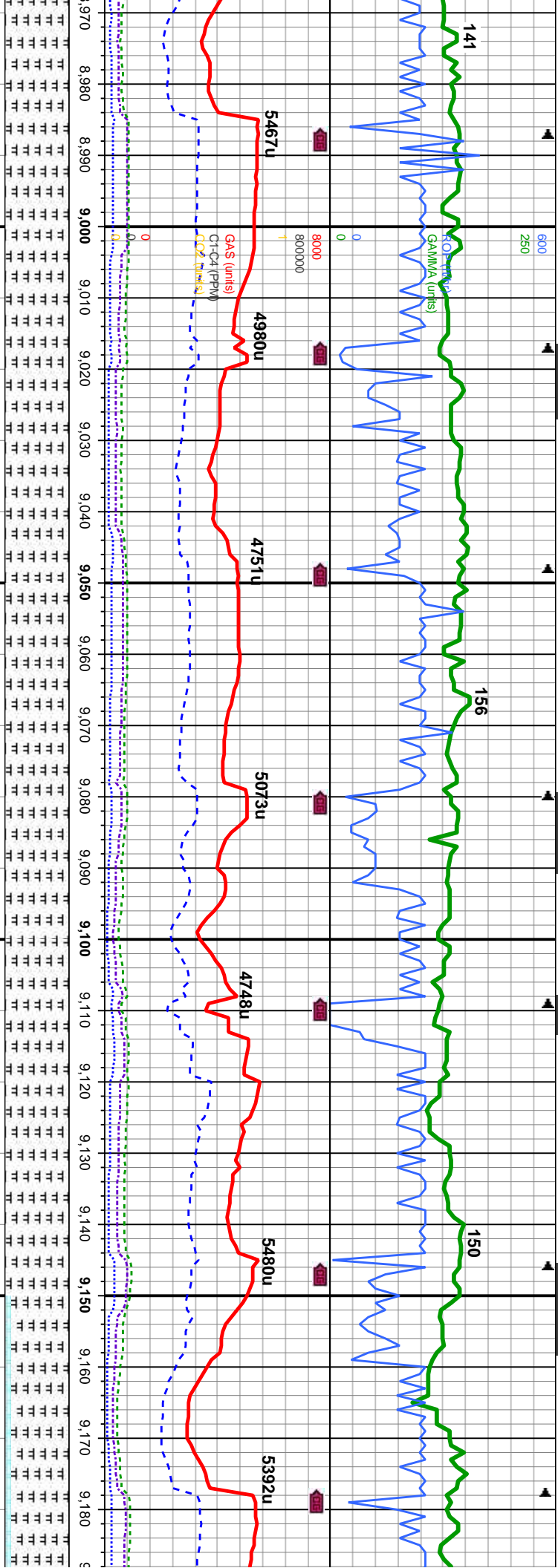
MD: 8,109 TVD: 6,069.15 Inclination: 89.1 ° Azimuth: 0.3 ° VS: 1,878.56 '	MD: 8,140 TVD: 6,069.67 Inclination: 89 ° Azimuth: 1.3 ° VS: 1,909.39 '	MD: 8,172 TVD: 6,070.31 Inclination: 88.7 ° Azimuth: 2.2 ° VS: 1,941.27 '	MD: 8,204 TVD: 6,071.03 Inclination: 88.7 ° Azimuth: 4 ° VS: 1,973.19 '	MD: 8,236 TVD: 6,071.65 Inclination: 89.1 ° Azimuth: 4.5 ° VS: 2,005.16 '	MD: 8,267 TVD: 6,071.78 Inclination: 90.4 ° Azimuth: 3.8 ° VS: 2,036.13 '	MD: 8,299 TVD: 6,071.53 Inclination: 90.4 ° Azimuth: 4.9 ° VS: 2,068.1 '
---	---	---	---	---	---	--











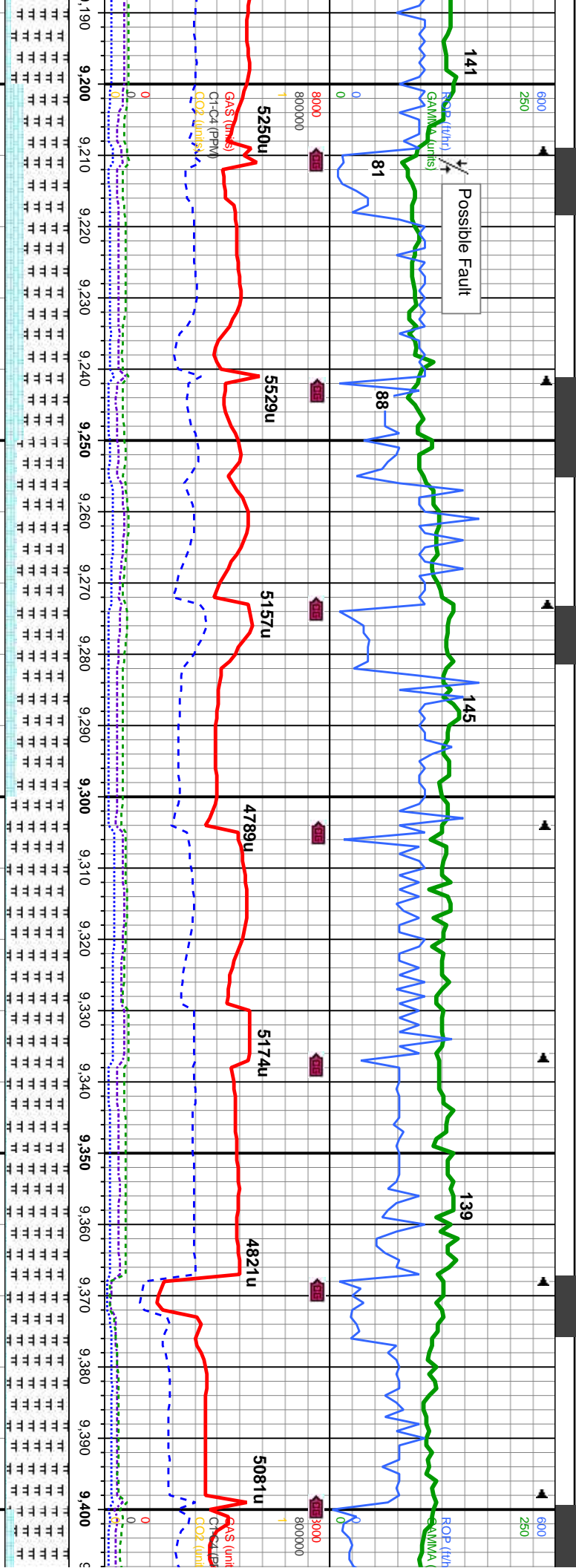
100%MRSLT: blk - blk gy - dk gy brn, tr mot, blk - sb blk, occ sb pty, sft - firm, rthy - gt, mtx: arg - silty, mod calc, mod bishwh stmg, bri bishwh mky cut, mod yel resd ring, no flor or stng

100%MRSLT: blk - blk gy - dk gy brn, tr mot, blk - sb blk, occ sb pty, sft - firm, rthy - gt, mtx: arg - silty, mod calc, mod bishwh stmg, bri bishwh mky cut, mod yel resd ring, no flor or stng

85% MRSLT: blk - occ sb pty, sft - fir 15% CHK: lgy - r sme blk, brit - mc scat inoc fos, som bishwh mky cut, r

MD: 8.997	MD: 9.029	MD: 9.061	MD: 9.092	MD: 9.124	MD: 9.156
TVD: 6,067.27	TVD: 6,067.3	TVD: 6,067.52	TVD: 6,067.82	TVD: 6,068.1	TVD: 6,068.29
Inclination: 90.3 °	Inclination: 89.6 °	Inclination: 89.6 °	Inclination: 89.3 °	Inclination: 89.7 °	Inclination: 89.6 °
Azimuth: 358.4 °	Azimuth: 358.2 °	Azimuth: 357.6 °	Azimuth: 358.5 °	Azimuth: 358.4 °	Azimuth: 359.4 °
VS: 2,760.61	VS: 2,792.25	VS: 2,823.87	VS: 2,854.51	VS: 2,886.18	VS: 2,917.88





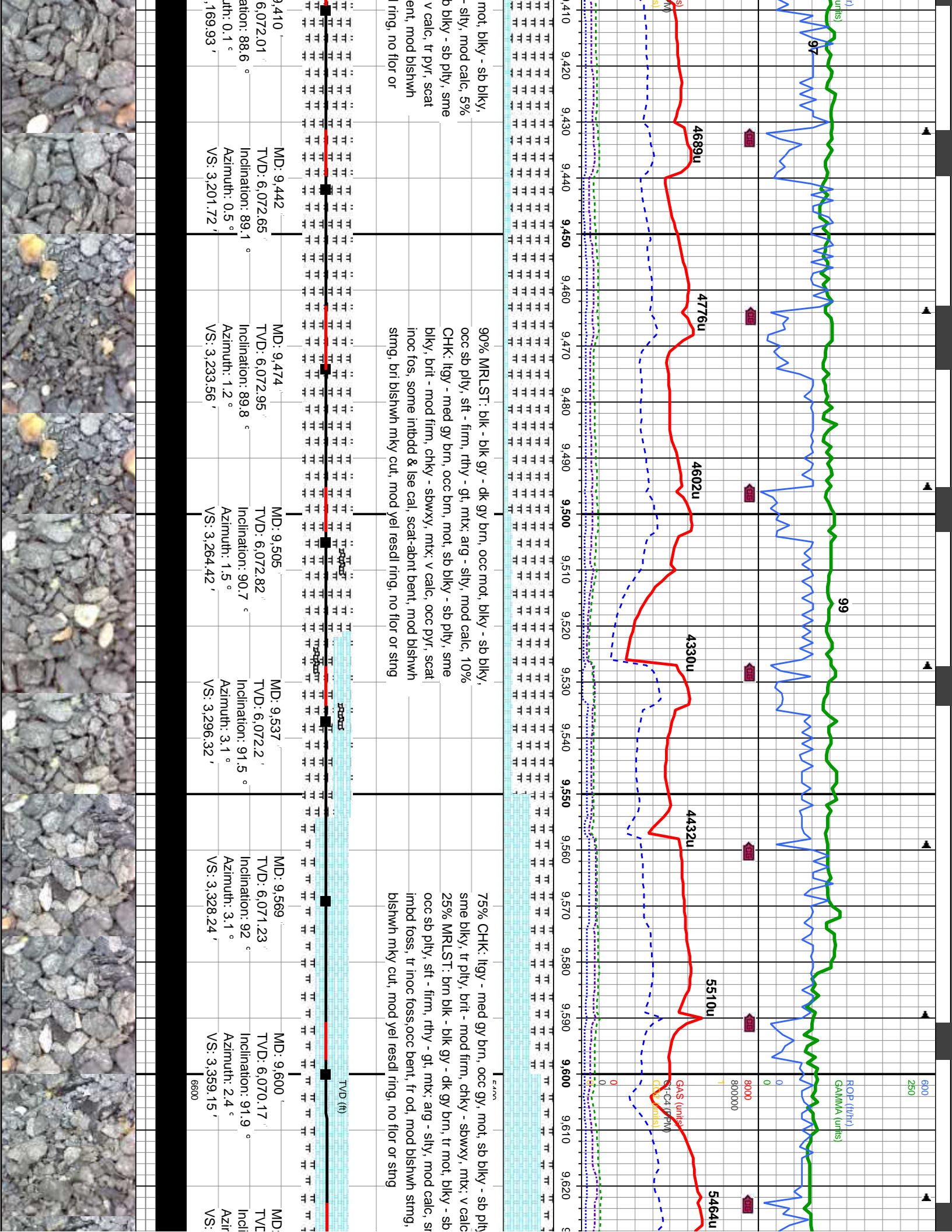
blk gy - dk gy brn, tr mot, blk - sb blk,
m, rthy - gt, mtx; arg - slty, mod calc,
med gy brn, occ brn, mot, sb blk - sb pty,
bd firm, chky - sbwxy, mtx; v calc, tr pyr,
e inbdd cal, mod bishwh string, bri
mod yel resd ring, no flr or sting

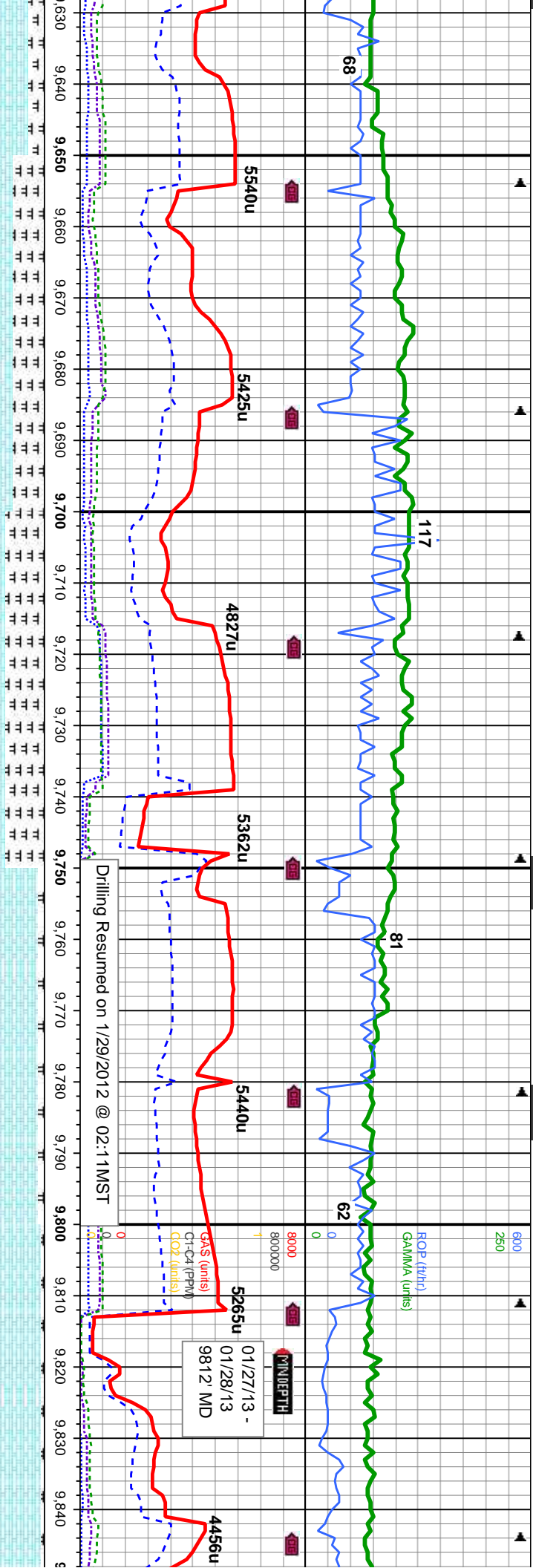
80% MRLST: blk - blk gy - dk gy brn, tr mot, blk - sb blk,
occ sb pty, stf - firm, rthy - gt, mtx; arg - slty, mod calc, 20%
CHK: lty - med gy brn, occ brn, mot, sb blk - sb pty, sme
blk, brit - mod firm, chky - sbwxy, mtx; v calc, tr pyr, scat inoc
fos, some inbdd cal, tr bent, mod bishwh string, bri bishwh
mky cut, mod yel resd ring, no flr or sting

95% MRLST: blk - blk gy - dk gy brn, tr
occ sb pty, stf - firm, rthy - gt, mtx; arg
CHK: lty - med gy brn, occ brn, mot, s
blk, brit - mod firm, chky - sbwxy, mtx;
inoc fos, some inbdd & lse cal, some b
string, bri bishwh mky cut, mod yel resd
string

MD: 9.220	MD: 9.251	MD: 9.283	MD: 9.315	MD: 9.347	MD: 9.378
TVD: 6,068.35	TVD: 6,068.38	TVD: 6,068.71	TVD: 6,069.38	TVD: 6,070.3	TVD: 6,071.2
Inclination: 90.2 °	Inclination: 89.7 °	Inclination: 89.1 °	Inclination: 88.5 °	Inclination: 88.2 °	Inclination: 88.5 °
Azimuth: 359.9 °	Azimuth: 0.8 °	Azimuth: 1.2 °	Azimuth: 359.2 °	Azimuth: 358.2 °	Azimuth: 359.4 °
VS: 2,981.38	VS: 3,012.19	VS: 3,044.03	VS: 3,075.81	VS: 3,107.49	VS: 3,138.18





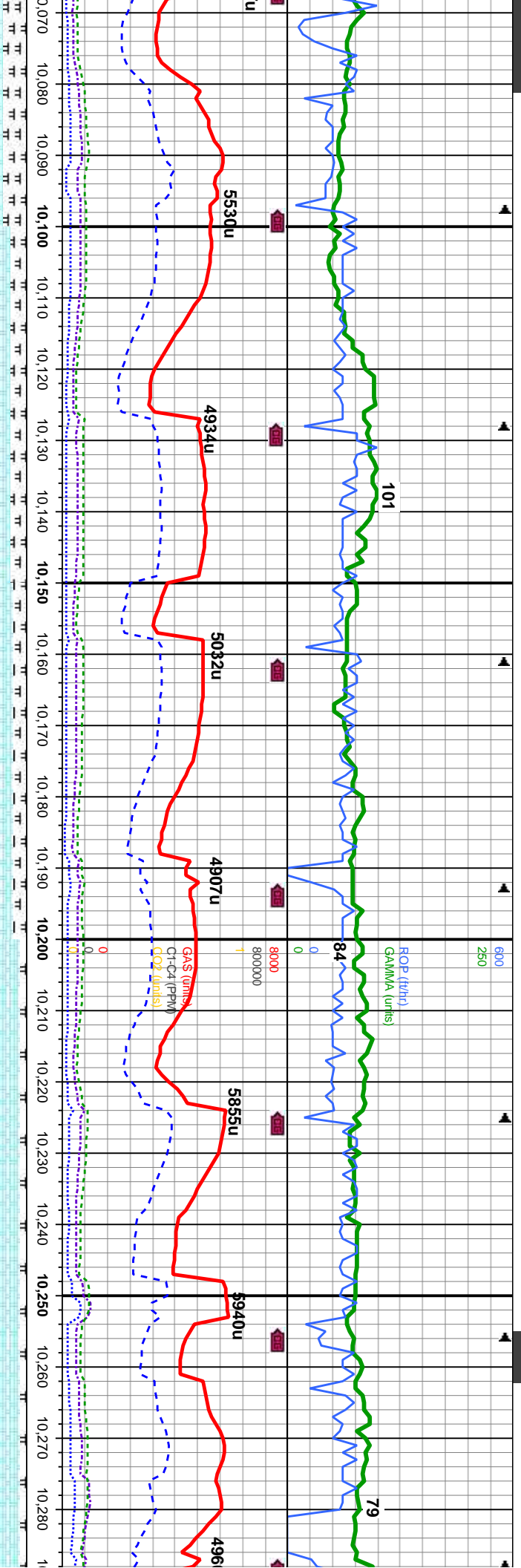


50% CHK: ltgy - med gy brn, occ gy, mot, sb blkly - sb pily, sme blkly, tr pily, brit - mod firm, chky - sbwxy, mtx; v calc
50% MRLST: brn blk - blk gy - dk gy brn, tr mot, blkly - sb blkly, occ sb pily, sft - firm, rthy - gt, mtx; arg - silty, mod calc, sme imbd foss, tr inoc foss, occ bent, fr od, tr blshwh stimg, frnt
blshwh mky cut, frnt - tr yel resd ring, no flor or sing

90% CHK: ltgy - med gy brn, occ gy, mot, sb blkly - sb pily, sme blkly, tr pily, brit - mod firm, chky - sbwxy, mtx; v calc
10% MRLST: brn blk - blk gy - dk gy brn, tr mot, blkly - sb blkly, occ sb pily, sft - firm, rthy - gt, mtx; arg - silty, mod calc, occ imbd foss, tr inoc foss, tr cabntalg, tr bent, fr od, mod blshwh stimg, bri blshwh mky cut, mod yel resd ring, no flor or sing

9,632	MD: 9,664	MD: 9,696	MD: 9,727	MD: 9,759	MD: 9,791	MD: 9,822
TV: 6,069.28	TV: 6,068.55	TV: 6,067.77	TV: 6,066.96	TV: 6,066.23	TV: 6,065.87	TV: 6,065.76
Inclination: 91.3 °	Inclination: 91.3 °	Inclination: 91.5 °	Inclination: 91.5 °	Inclination: 91.1 °	Inclination: 90.2 °	Inclination: 90.2 °
Azimuth: 2.4 °	Azimuth: 2.4 °	Azimuth: 1.3 °	Azimuth: 0.8 °	Azimuth: 1.2 °	Azimuth: 0.1 °	Azimuth: 0.8 °
VS: 3,391.04	VS: 3,422.93	VS: 3,454.8	VS: 3,485.64	VS: 3,517.47	VS: 3,549.29	VS: 3,580.11





CHK: lgy - med gy brn, occ brn, mot, sb blk - sb pty, blk, brit - mod firm, chky - sbwxy, mtx: v calc, tr pyr, inoc fos, some inbdd cal

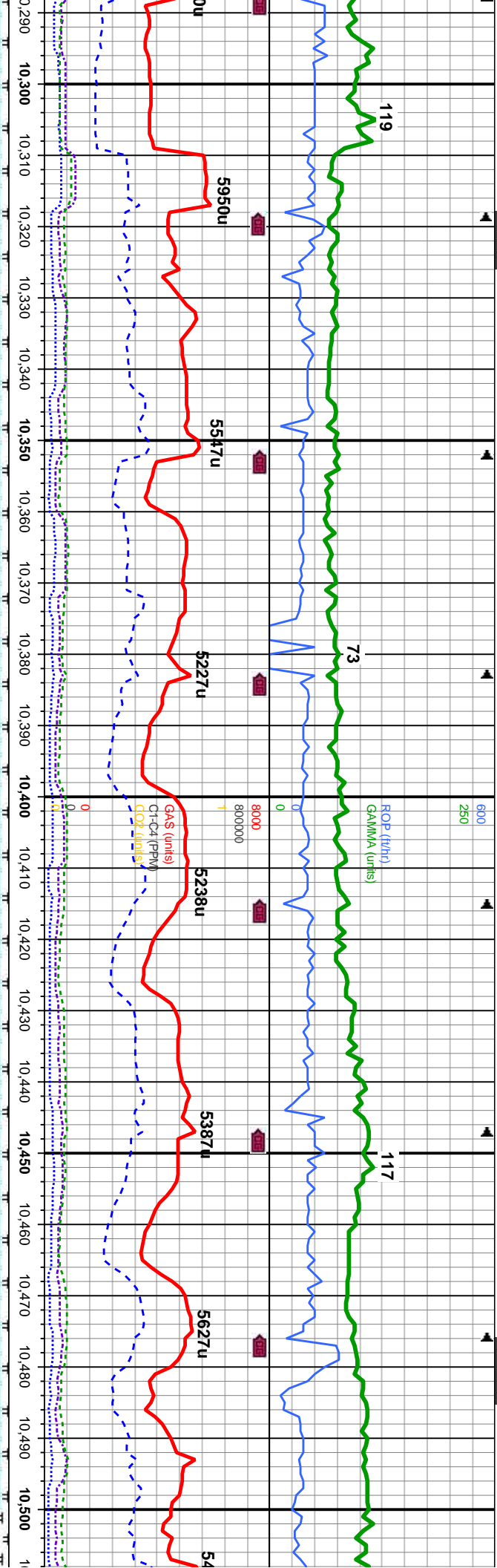
MRST: blk - blk gy - dk gy brn, tr mot, blk - sb blk, sb pty, sft - firm, rthy - gt, mtx: arg - sly, mod calc, fast bishwh stmg, bri bishwh mky cut, mod yel resd ring, sme and stng

80% CHK: gy brn - med gy brn, occ gy, mot, blk - sb blk, occ sb pty, brit - mod firm, chky - sbwxy, mtx: v calc, v tr inbd inoc fos 20% MRST: brn blk - blk gy - dk gy brn, sme mot, blk - sb blk, sme sb pty, sft - firm, rthy - gt, mtx: arg - sly, mod calc, v tr inoc foss frag, fast bishwh stmg, bri bishwh mky cut, mod yel resd ring, sme flr and stng

90% CHK: gy brn - brit - mod firm, chky 10% MRST: brn blk - sb blk, sft - firm, rthy fast bishwh stmg, bri stng

TVD (ft)			
MD: 10,076	MD: 10,108	MD: 10,140	MD: 10,172
VD: 6,065.17	VD: 6,065.76	VD: 6,066.32	VD: 6,066.65
Inclination: 89.1	Inclination: 88.8	Inclination: 89.2	Inclination: 89.6
Azimuth: 359.2	Azimuth: 359.1	Azimuth: 0.6	Azimuth: 359.1
VS: 3,832.41	VS: 3,864.13	VS: 3,895.89	VS: 3,927.66
MD: 10,203	MD: 10,235	MD: 10,267	
VD: 6,066.73	VD: 6,066.43	VD: 6,066.03	
Inclination: 90.1	Inclination: 91	Inclination: 90.4	
Azimuth: 359.2	Azimuth: 359.8	Azimuth: 0.1	
VS: 3,958.39	VS: 3,990.14	VS: 4,021.91	





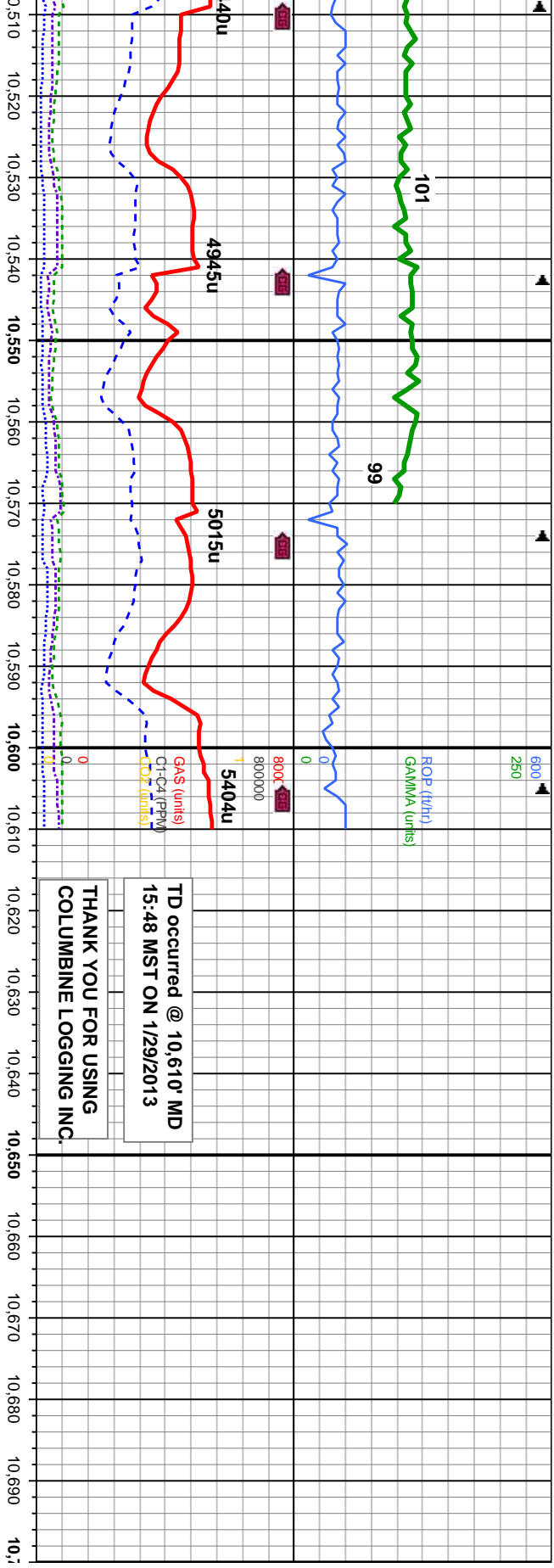
med gy brn, occ gy, mot, blk - sb blk, occ sb pty,
- sbwxy, mtx: v calc, tr imbd inoc fos
k - blk gy - dk gy brn, sme mot, blk - sb blk, sme
y - gt, mtx; arg - slty, mod calc, v tr inoc foss frag,
i blshwh mky cut, mod yel resdl ring, sme flr and

90% CHK: gy brn - med gy brn, occ gy, mot, blk - sb blk, occ sb pty,
brit - mod firm, chky - sbwxy, mtx: v calc, tr imbd inoc fos
10% MRLST: brn blk - blk gy - dk gy brn, sme mot, blk - sb blk, sme
sb pty, sft - firm, rthy - gt, mtx; arg - slty, mod calc, v tr inoc foss frag,
mod blshwh string, bri blshwh mky cut, mod yel resdl ring, no flr or
string

90% CHK: gy brn - med gy brn, occ gy, m
pty, brit - mod firm, chky - sbwxy, mtx: v c
10% MRLST: brn blk - blk gy - dk gy brn, i
sme sb pty, sft - firm, rthy - gt, mtx; arg - s
foss frag, mod blshwh string, bri blshwh m
ring, no flr or string

MD: 10,299 ' TVD: 6,065.75 ' Inclination: 90.6 ° Azimuth: 359.6 ° VS: 4,053.68 ' VS: 4,084.44 ' VS: 4,116.19 ' VS: 4,147.93 ' VS: 4,179.66 ' VS: 4,210.43 ' VS: 4,242.17 ' 6600	MD: 10,330 ' TVD: 6,065.62 ' Inclination: 89.9 ° Azimuth: 359.6 ° VS: 4,084.44 ' VS: 4,116.19 ' VS: 4,147.93 ' VS: 4,179.66 ' VS: 4,210.43 ' VS: 4,242.17 ' 6600	MD: 10,362 ' TVD: 6,065.65 ' Inclination: 90 ° Azimuth: 359.4 ° VS: 4,116.19 ' VS: 4,147.93 ' VS: 4,179.66 ' VS: 4,210.43 ' VS: 4,242.17 ' 6600	MD: 10,394 ' TVD: 6,065.59 ' Inclination: 90.2 ° Azimuth: 359.4 ° VS: 4,147.93 ' VS: 4,179.66 ' VS: 4,210.43 ' VS: 4,242.17 ' 6600	MD: 10,426 ' TVD: 6,065.28 ' Inclination: 90.9 ° Azimuth: 359.2 ° VS: 4,179.66 ' VS: 4,210.43 ' VS: 4,242.17 ' 6600	MD: 10,457 ' TVD: 6,064.64 ' Inclination: 91.5 ° Azimuth: 0.3 ° VS: 4,210.43 ' VS: 4,242.17 ' 6600	MD: 10,489 ' TVD: 6,064.1 ' Inclination: 90.4 ° Azimuth: 358.7 ° VS: 4,242.17 ' 6600
---	--	---	--	---	--	--





TD occurred @ 10,610' MD
15:48 MST ON 1/29/2013

THANK YOU FOR USING
COLUMBINE LOGGING INC.

ot, blkly - sb blkly, occ sb		75% CHK: gy brn - med gy brn, occ gy, mot, blkly - sb blkly, occ sb ply, brit - mod firm, chky - sbwxy, mtx: v calc, tr imbd
calc, tr imbd inoc fos		inoc fos, 25% MRLST: brn blk - blk gy - dk gy brn, sme
sme mot, blkly - sb blkly,		mot, blkly - sb blkly, sme sb ply, sft - firm, rthy - gt, mtx: arg -
silty, mod calc, v tr inoc		slty, mod calc, v tr inoc foss frag, mod blshwh stmg, bri
ky cut, mod yel resdl		bishwh mky cut, mod yel resdl ring, no flr or stng
MD: 10,521'		MD: 10,552'
TVD: 6,063.99'		TVD: 6,063.83'
Inclination: 90°		Inclination: 90.6°
Azimuth: 359.2°		Azimuth: 359.2°
VS: 4,273.87'		VS: 4,304.61'
6600		6600