

**Scale: 5" / 100'**  
**Measured Depth Log**

**Location** SWSW SEC 34-T6N-R62W

County WELD

Rig Number NABORS M22

**AFE # 18775D**

Field WATTENBERG

**Drilling Completed** 10/6/2014

**Surface Coordinates** SWSW SEC 34-T6N-R62W  
1045' FSL 350' FWL

**Bottom Hole Coordinates**      **PROJECTED:**  
NESE SEC 35-T6N-R62W  
1657' FSL 500' FEL

**K.B. Elevation** 4699'

**Total Depth 16200'**

## Formation Niobrara B Chalk

Type of Drilling Fluid LSND

**Company** Bill Barrett Corp.

**Address** 1099 18th Street, Suite 2300  
Denver, CO 80202

**Name** Scott Hampton

**Company** Bill Barrett Corp.

**Address** 1099 18th Street, Suite 2300  
Denver, CO 80202

**Charles Trodick** Senior Wellsite Geologist

**Mark Raimo** Senior Wellsite Geologist

Oil  
Note  
Error

Condensate  
Core  
Water

Gas	Pres	Seal
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11	1	1
12	1	1
13	1	1
14	1	1
15	1	1
16	1	1
17	1	1
18	1	1
19	1	1
20	1	1
21	1	1
22	1	1
23	1	1
24	1	1
25	1	1
26	1	1
27	1	1
28	1	1
29	1	1
30	1	1
31	1	1
32	1	1
33	1	1
34	1	1
35	1	1
36	1	1
37	1	1
38	1	1
39	1	1
40	1	1
41	1	1
42	1	1
43	1	1
44	1	1
45	1	1
46	1	1
47	1	1
48	1	1
49	1	1
50	1	1
51	1	1
52	1	1
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55	1	1
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57	1	1
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60	1	1
61	1	1
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80	1	1
81	1	1
82	1	1
83	1	1
84	1	1
85	1	1
86	1	1
87	1	1
88	1	1
89	1	1
90	1	1
91	1	1
92	1	1
93	1	1
94	1	1
95	1	1
96	1	1
97	1	1
98	1	1
99	1	1
100	1	1

Rock Types

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

Accessories

GASTROPOD	ARGILLITE GRAIN	HEAVY MINERAL	
INOCERAMUS	B BENTONITE	K KAOLIN	
ALGAE	BITUMENOUS SUBSTANCE	M MARCASTITE	ANHYDRITE STRINGER
AMPHIPORA	BRECCIA FRAGMENTS	M MARLSTONE	BENTONITE STRINGER
BELEMNITE	C CALCAREOUS	M MICACEOUS	COAL STRINGER
BIOCLASTIC	P PELLET	CARBONACEOUS FLAKES	DOLOMITE STRINGER
BRACHIOPOD	P PISOLITE	C CHTDK	GYPSUM STRINGER
BRYOZOA	PLANT REMAINS	C CHTLT	LIMESTONE STRINGER
CEPHALOPOD	PLANT SPORES	COAL - THIN BEDS	MARLSTONE (CALC) STRG
CORAL	SCAPHOPOD	D DOLOMITIC	MARLSTONE (DOL) STRG
CRINOID	STROMATOPOROID	F FELDSPAR	SANDSTONE STRINGER
ECHINOID		S SIDERITE	SHALE STRINGER
FISH		F FERRUGINOUS	SILTSTONE STRINGER
FORAMINIFERA		G GLAUCONITE	
F FOSSIL	ARGILLACEOUS	G GYPSIFEROUS	
		T TUFFACEOUS	

Oil Show

P PINPOINT
V VUG

Engineering






































# Engineering

D	DEAD	E	EVEN	Q	QUESTIONABLE	B	BIT
S	SPOTTED STAINING	C	CONNECTION (UP)				

Porosity

C CONNECTION (DOWN)	C CONNECTION GAS
E EARTHY	C CONNECTION GAS
F FENESTRAL	T TRIP GAS
F FRACTURE	T TRIP GAS (LEFT)
I INTERCRYSTALLINE	D DOWN TIME GAS
I INTEROILITE	D DOWN TIME GAS
M MOLDIC	C CORE - LOST
O ORGANIC	C CORE - RECOVERED

Other Symbols

	DST INTERVAL		WIRELINE TESTED - LEFT		E EARTHY
	FAULT		WIRELINE TESTED - RT		FX FINELYXLN
	FORMATION TOP		DRILL STEM TEST		GS GRAINSTONE
	GAS SHOW		MIN DEPTH		L LITHOGRAPHIC
	OIL SHOW				MX MICROXLN
	MIN DEPTH UP	<b>Rounding</b>			
					MS MUDSTONE
	MIN DEPTH (DOWN)		ANGULAR		PS PACKSTONE
	NORMAL FAULT		ROUNDED		WS WACKESTONE
	OVERTURNED STRATA		SUBANG		
	REVERSE FAULT		SUBRND	<b>Sorting</b>	
	CASING				M MODERATE
<b>Textures</b>					
	SIDEWALL CORE (LEFT)				P POOR
	(LEFT) SIDEWALL CORE (RIGHT)		BS BOUNDSTONE		W WELL
	SLIDE		CHALKY		
	SURVEY		CX CRYPTOXLN		

ROP  
ROP —  
GAMMA —

Columbine Logging 2-Manned  
Geosteering Operational 9/24/2014  
Bloodhound # 0052

400  
250 In/Out Mud Wt: 9.7/9.7 Vis 36/37  
ROP (ft/hr)  
92

In/Out Mud Wt: 9.3/9.6 Vis 32/33  
250

BC86 (ft/hr)  
GAMMA (api)

Total Gas & Chromatograph

GAS —  
C1 - - -  
C2 - - -  
C3 - - -  
C4 - - -

Log continues from  
Fiducial 6-62-34-4956 BH2 VERT

GAS (units)  
C1-C4 (PPM)

Depth Labels

5,880 5,890 5,900 5,910 5,920 5,930 5,940 5,950 5,960 5,970 5,980 5,990 6,000 6,010 6,020 6,030 6,040 6,050 6

% Lith

5850

5850

MD: 5,923'  
TVD: 5,862.87'  
Inclination: 2.1 °  
Azimuth: 90.5 °  
VS: -306.3'

MD: 5,971'  
TVD: 5,910.7'  
Inclination: 7.1 °  
Azimuth: 87.8 °  
VS: -302.45'

MD: 6,018'  
TVD: 5,956.97'  
Inclination: 12.8 °  
Azimuth: 84 °  
VS: -294.35'

Well Bore  
TVD —

TVD (ft)

TVD (ft)

SHY SLTST: lt - med gy, gy brn, s&p, mod frm, brit,  
sb-ply - sb blkly, rthy tex, vf occ f-med gr, w srt, non  
calc; SLTY SH: lt - dk gy, mod frm, ply - sb blkly,  
rthy tex, non calc, tr shy ss

SHY SLTST: lt - med gy, gy brn, s&p, mod frm,  
brit, sb-ply - sb blkly, rthy tex, vf occ f-med gr, w srt,  
non calc; SLTY SH: lt - dk gy, mod frm, ply - sb  
blkly, rthy tex, non calc, tr shy ss

SHY SLTST: lt - med gy, gy brn, s&p, mod frm,  
brit, sb-ply - sb blkly, rthy tex, vf occ f-med gr, w srt,  
non calc; SLTY SH: lt - dk gy, mod frm, ply - sb  
blkly, rthy tex, non calc, tr shy ss

SHY SL  
brit, sb-  
non calc-  
blkly, rth

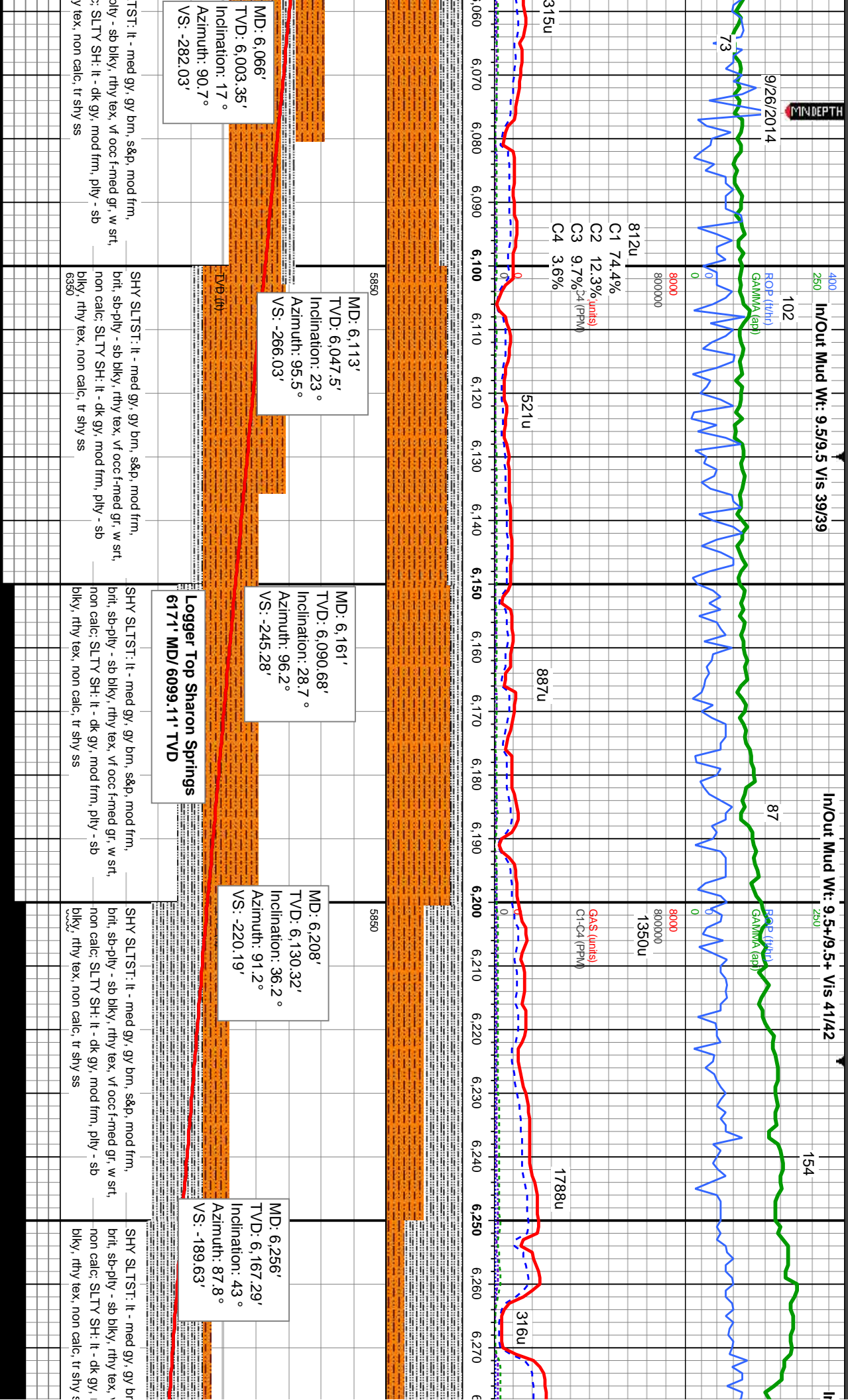
Oil Show

EGMT  
ST

Images



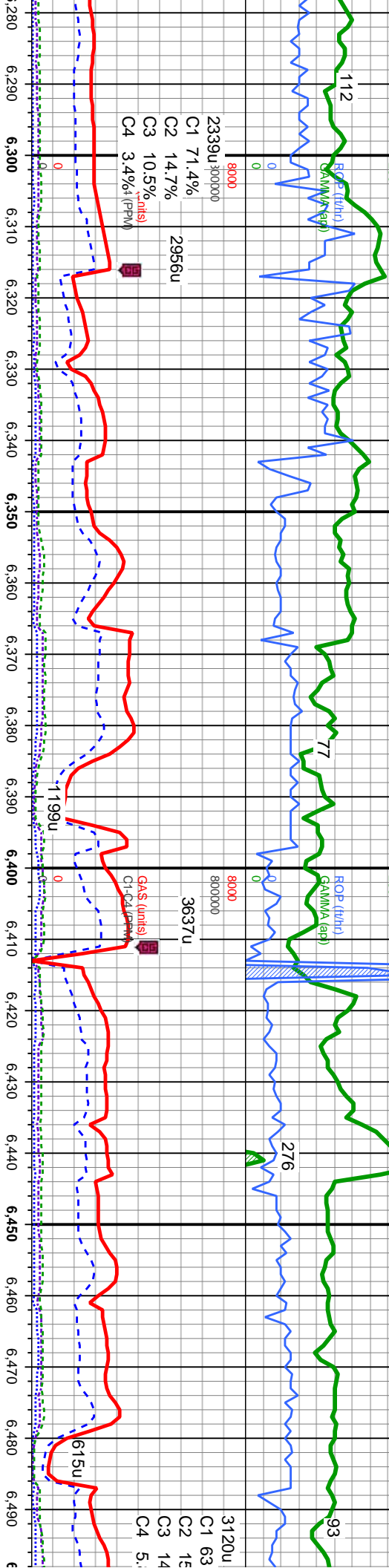






In/Out Mud Wt: 9.5H/9.5 Vis 38/40/195

In/Out Mud Wt: 9.6/9.45 Vis 41/44



MD: 6,303'  
TVD: 6,198.54'  
Inclination: 53.5°  
Azimuth: 84.8°  
VS: -154.65'

MD: 6,351'  
TVD: 6,225.93'  
Inclination: 56.9°  
Azimuth: 83.5°  
VS: -115.36'

MD: 6,398'  
TVD: 6,250.52'  
Inclination: 60°  
Azimuth: 83.2°  
VS: -75.48'

MD: 6,446'  
TVD: 6,272.38'  
Inclination: 65.8°  
Azimuth: 84.9°  
VS: -32.9'

MD: 6,493'  
TVD: 6,290.93'  
Inclination: 67°  
Azimuth: 85.7°  
VS: -10.21'

Logger Top Niobrara  
6302' MD/ 6197.88' TVD

SHY SLTST: lt - med gy, gy brn, s&p, mod frm, brit, sb-pty - sb blk, rthy tex, vt occ f-med gr, w srt, non calc. SLTY SH: lt - dk gy, sft - frm, sb pty - sb blk, rthy tex, non calc. MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, fri- brit, sil	SHY SLTST: lt - med gy, gy brn, s&p, mod frm, brit, sb-pty - sb blk, rthy tex, vt occ f-med gr, w srt, non calc. SLTY SH: lt - dk gy, sft - frm, sb pty - sb blk, rthy tex, non calc. MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, fri- brit, sil	MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, fri- brit, sil v calc: CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frm, sb pty-sb blk, v calc, cpkx: tr pyrc bent	MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, fri- brit, sil v calc: CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frm, sb pty-sb blk, v calc, cpkx: tr pyrc bent
mod frm, pty - sb	mod frm, pty - sb		



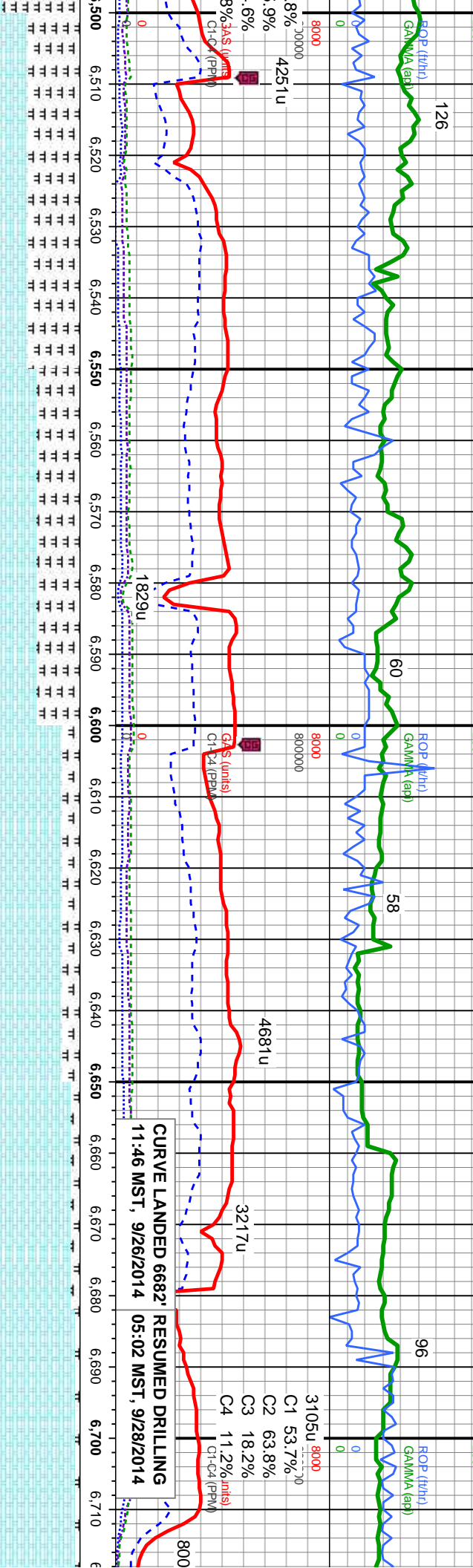


In/Out Mud Wt: 9.5/9.5 Vis 39/40

In/Out Mud Wt: 9.55/9.5 Vis 39/41

In/Out Mud Wt: 9.6/9.5 Vis 40/41

In/Out Mud Wt: 9.75/9.7 Vis 41/43



MR.LST: med -dk gy, stri, sft-v sft, sb ply-sb blkly, fri-brit, sil, v calc; CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frm, sb ply-sb blkly, v calc, crptxl; tr pyrc bent

MR.LST: med -dk gy, stri, sft-v sft, sb ply-sb blkly, fri-brit, sil, v calc; CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frm, sb ply-sb blkly, v calc, crptxl; tr pyrc bent

MR.LST: med -dk gy, stri, sft-v sft, sb ply-sb blkly, fri-brit, sil, v calc; CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frm, sb ply-sb blkly, v calc, crptxl; tr pyrc bent

MR.LST: med -dk gy, stri, sft-v sft, sb ply-sb blkly, fri-brit, sil, v calc; CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frm, sb ply-sb blkly, v calc, crptxl; tr pyrc bent, tr inoc fos

MR.LST: med -dk gy, stri, sft-v sft, sb ply-sb blkly, fri-brit, sil, v calc; CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frm, sb ply-sb blkly, v calc, crptxl; tr pyrc bent, tr inoc fos

MD: 6,541'  
TVD: 6,306.24'  
Inclination: 75.1°  
Azimuth: 88.5°  
VS: 55.65'

TVD (ft)

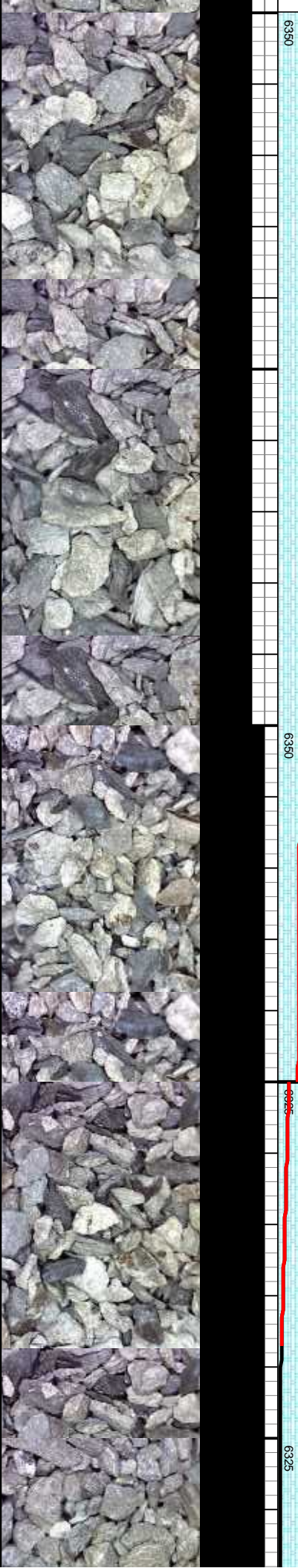
MD: 6,618'  
TVD: 6,320'  
Inclination: 84.3°  
Azimuth: 93.7°  
VS: 131.22'

TVD Scale Change  
6325' MD - 6225' MD  
Each White Block is 10'

MD: 6,695'  
TVD: 6,324.36'  
Inclination: 89.2°  
Azimuth: 96.8°  
VS: 207.55'

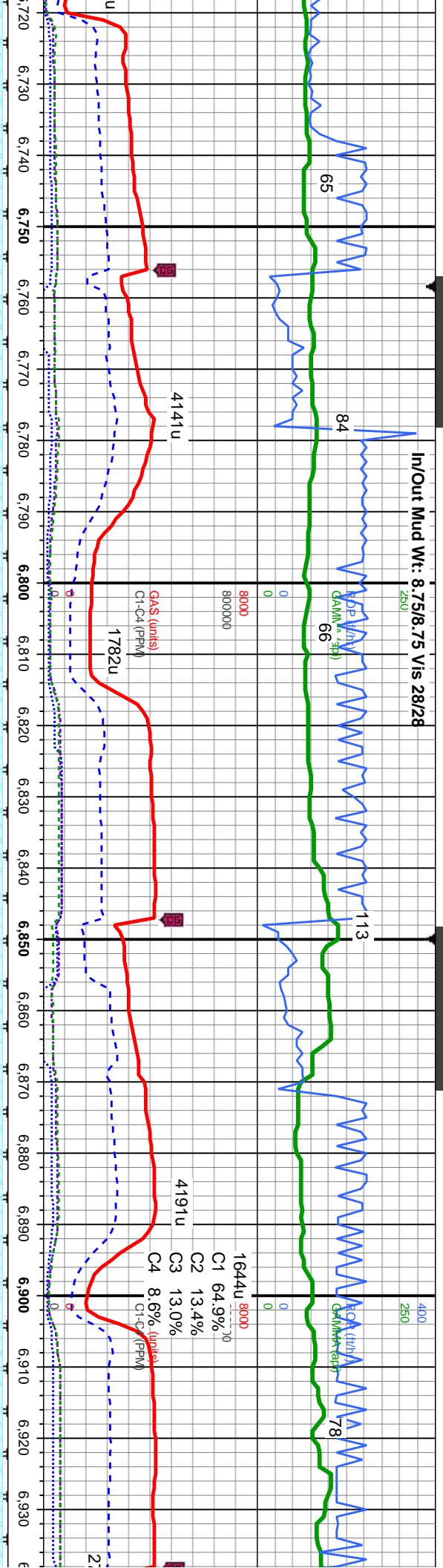
Logger Top Niobrara B2 Chalk  
6530' MD/ 6302.73' TVD

39' Target Area





In/Out Mud Wt: 8.75/8.75 Vis 28/28



s sb ply-sb blkly, v calc, crptxl; tr	, srti, sft-v sft, sb ply-sb blkly, fri- — lt-med gy, gy brn, some wh, mod, lam, v sft-fm, sb ply-sb blkly, v calc, crptxl; tr	MR.LST.: med -dk gy, srti, sft-v sft, sb ply-sb blkly, fri- — brit, sil, v calc: CHK: lt-med gy, gy brn, some wh, mod, lam, v sft-fm, sb ply-sb blkly, v calc, crptxl; tr pyrc bent, tr inoc fos	TVD (ft)	MD: 6.787' TVD: 6.323.88' Inclination: 91.4° Azimuth: 94.9° VS: 298.8'
s	, srti, sft-v sft, sb ply-sb blkly, fri- — lt-med gy, gy brn, some wh, mod, lam, v sft-fm, sb ply-sb blkly, v calc, crptxl; tr	MR.LST.: med -dk gy, srti, sft-v sft, sb ply-sb blkly, fri- — brit, sil, v calc: CHK: lt-med gy, gy brn, some wh, mod, lam, v sft-fm, sb ply-sb blkly, v calc, crptxl; tr pyrc bent, tr inoc fos	TVD (ft)	MD: 6.878' TVD: 6.320.31' Inclination: 93.1° Azimuth: 93.3° VS: 389.3'
s	, srti, sft-v sft, sb ply-sb blkly, fri- — lt-med gy, gy brn, some wh, mod, lam, v sft-fm, sb ply-sb blkly, v calc, crptxl; tr	MR.LST.: med -dk gy, srti, sft-v sft, sb ply-sb blkly, fri- — brit, sil, v calc: CHK: lt-med gy, gy brn, some wh, mod, lam, v sft-fm, sb ply-sb blkly, v calc, crptxl; tr pyrc bent, tr inoc fos	TVD (ft)	MD: 6.878' TVD: 6.320.31' Inclination: 93.1° Azimuth: 93.3° VS: 389.3'

6325

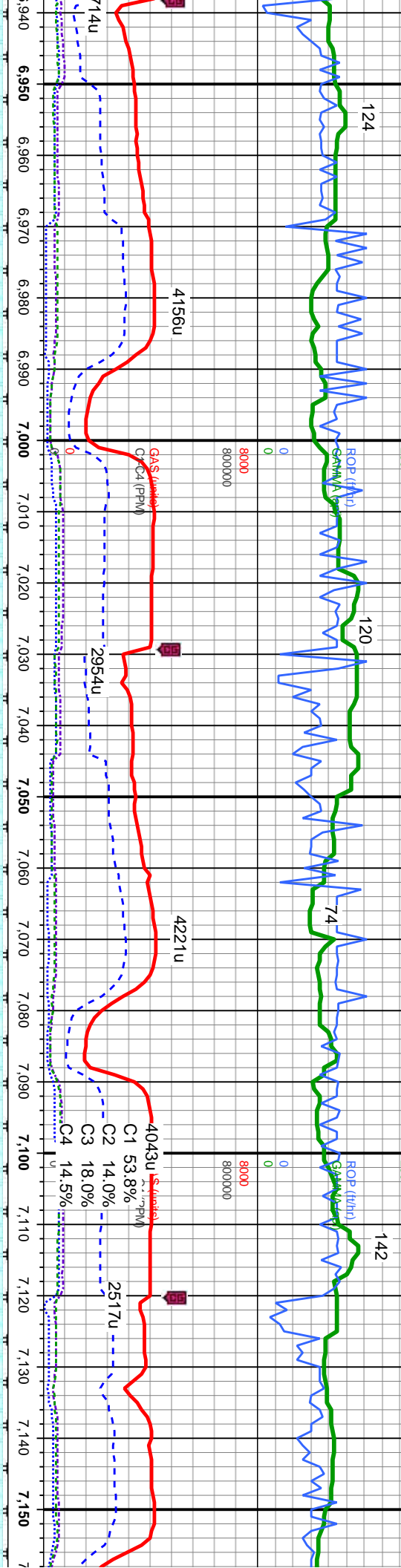
6325



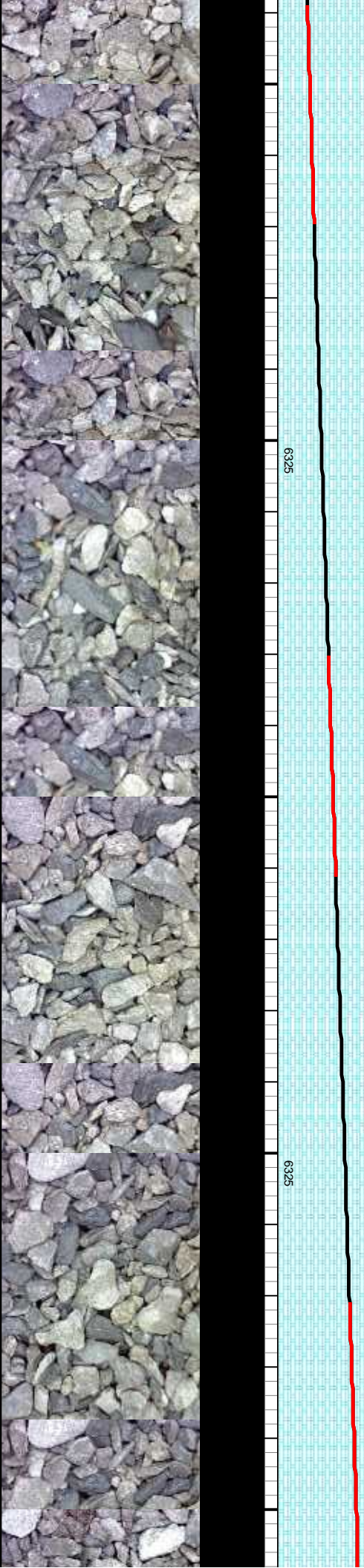


In/Out Mud Wt: 8.65/8.75 Vis 27/27

In/Out Mud Wt: 8.65/8.75 Vis :



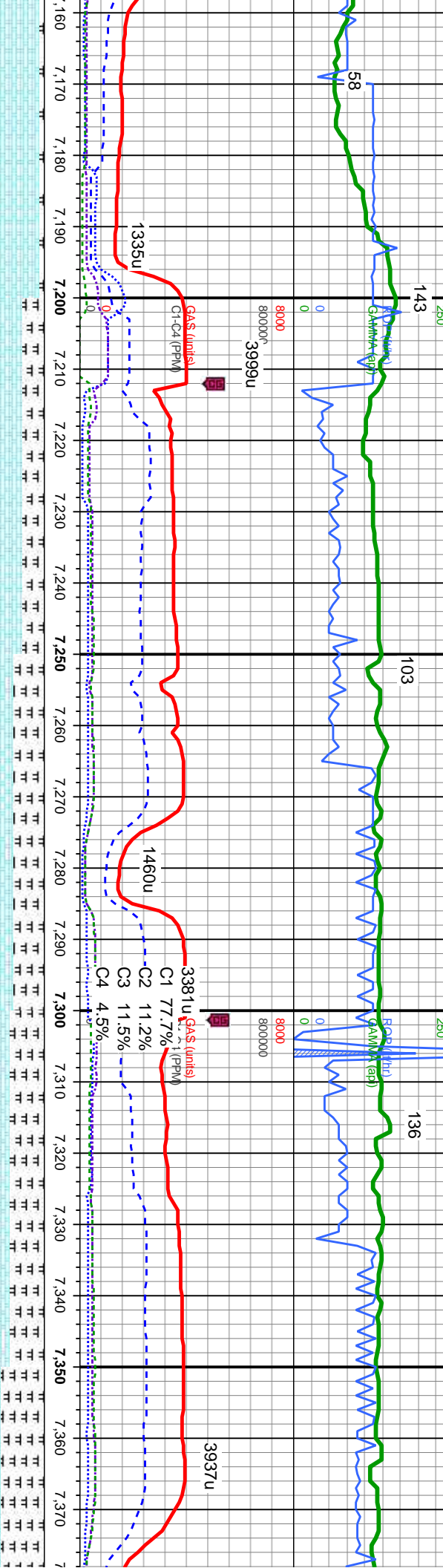
sb blkly, fri- me wh, crptxl: tr	MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brit, sil, v calc: CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blkly, v calc, crptxl: tr pyrc bent, tr inoc fos	MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brit, sil, v calc: CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blkly, v calc, crptxl: tr pyrc bent, tr inoc fos	MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brit, sil, v calc: CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blkly, v calc, crptxl: tr pyrc bent, tr inoc fos	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blkly, v calc, crptxl: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brit, sil, v calc, tr pyrc bent	CHK: lt- -dk gy, : calc, tr f
<div>MD: 6,968' TVD: 6,315.05' Inclination: 93.6° Azimuth: 91.8° VS: 478.93'</div>					
<div>MD: 7,060' TVD: 6,309.11' Inclination: 93.8° Azimuth: 91.5° VS: 570.61'</div>					
<div>MD: 7,151' TVD: 6,303.32' Inclination: 93.5° Azimuth: 90.5° VS: 661.34'</div>					





7/12/27

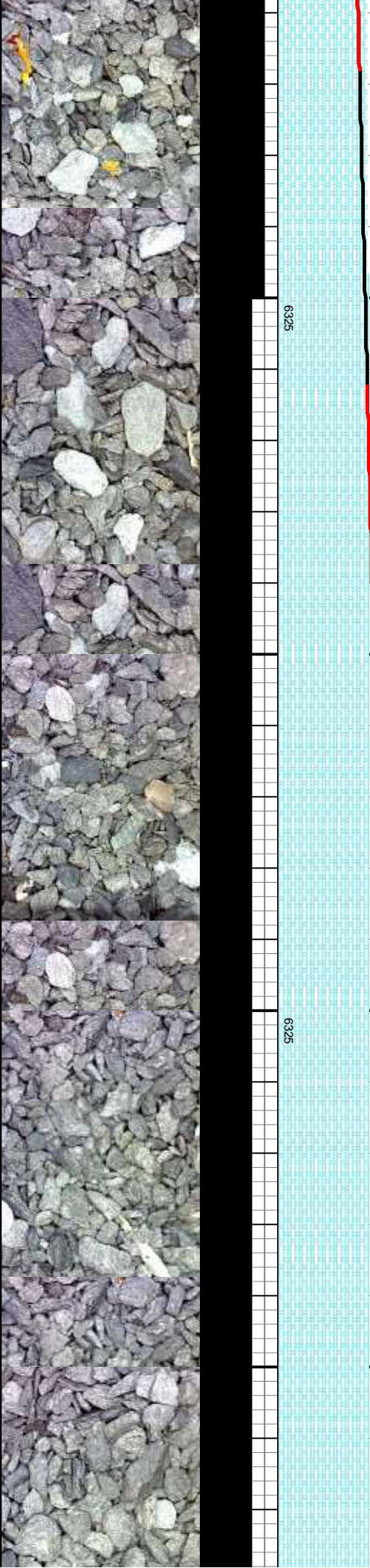
In/Out Mud Wt: 8.75/8.75 Vis 27/26



med gy, gy brn, some wh, mot, lam, v sft-frm, sb pty-sb blk, v calc, crptl: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, fri- brt, sil, v pyrc bent	CHK: It-med gy, gy brn, some wh, mot, lam, v sft-frm, sb pty-sb blk, v calc, crptl: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, fri- brt, sil, v calc: tr pyrc bent	CHK: It-med gy, gy brn, some wh, mot, lam, v sft-frm, sb pty-sb blk, v calc, crptl: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, fri- brt, sil, v calc: tr pyrc bent	CHK: It-med gy, gy brn, some wh, mot, lam, v sft-frm, sb pty-sb blk, v calc, crptl: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, fri- brt, sil, v calc: tr pyrc bent
TVD (ft)	TVD (ft)	TVD (ft)	TVD (ft)

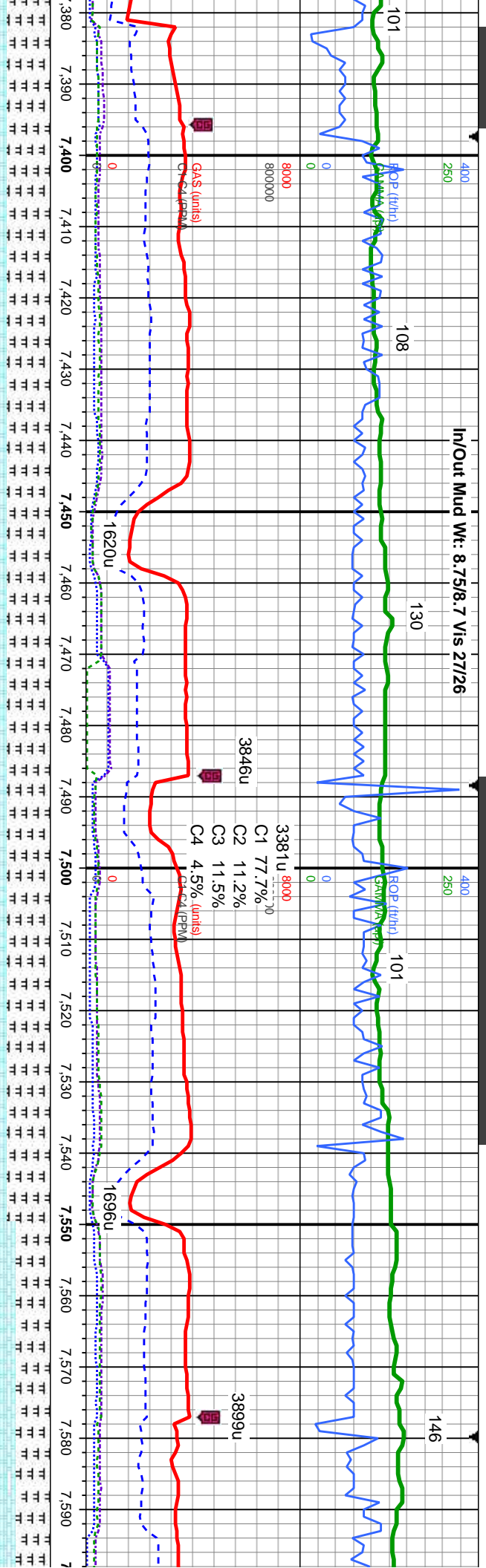
MD: 7,243'  
TVD: 6,298.91'  
Inclination: 92.0°  
Azimuth: 89.8°  
VS: 753.2'

MD: 7,334'  
TVD: 6,297.24'  
Inclination: 90.1°  
Azimuth: 88.6°  
VS: 844.17'

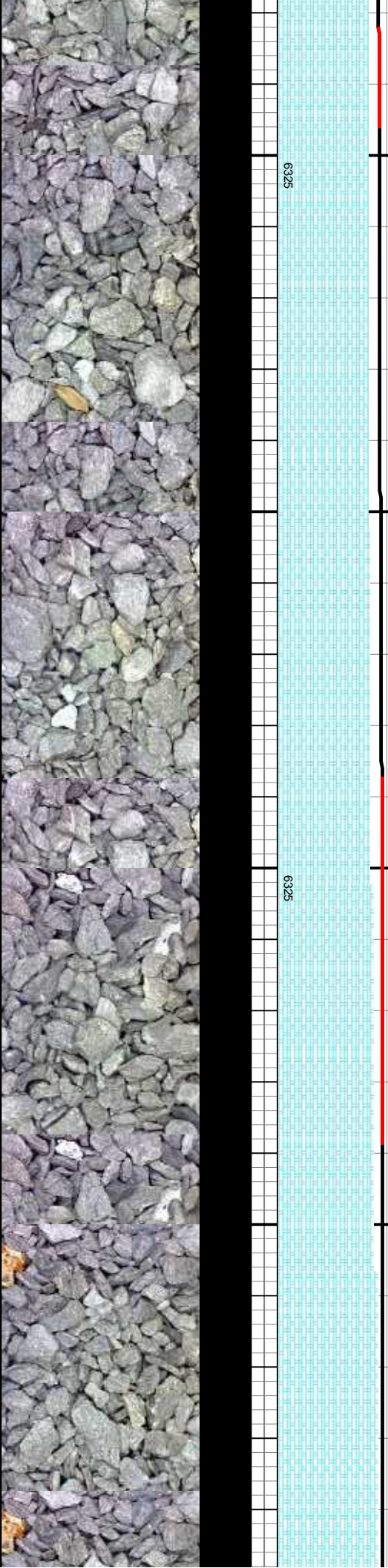




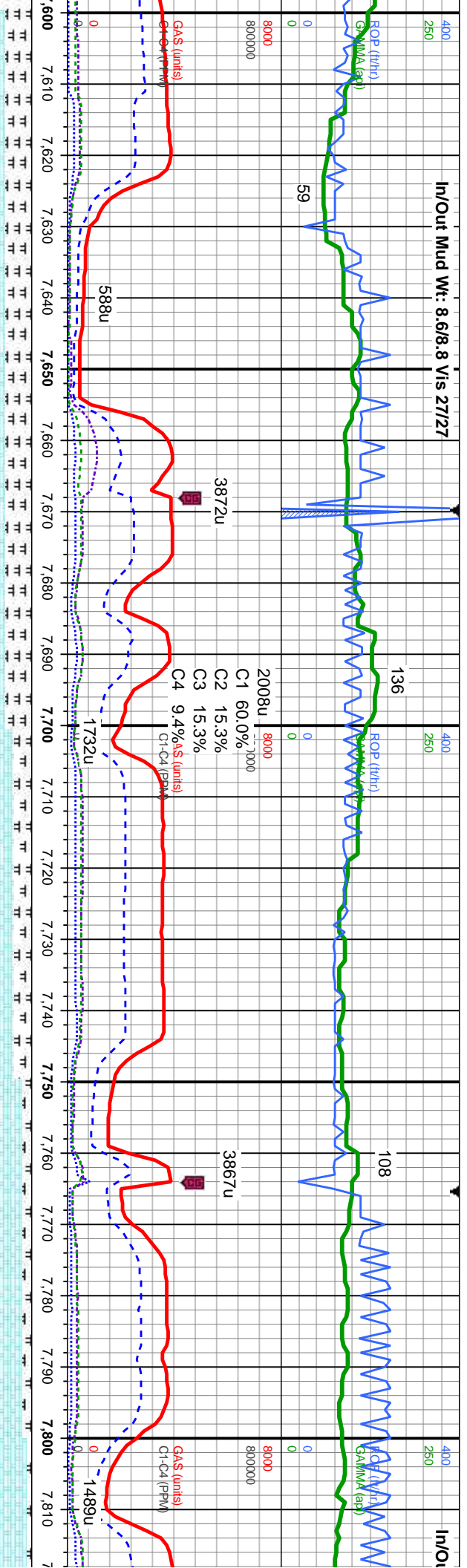
In/Out Mud Wt: 8.75/8.7 Vis 27/26



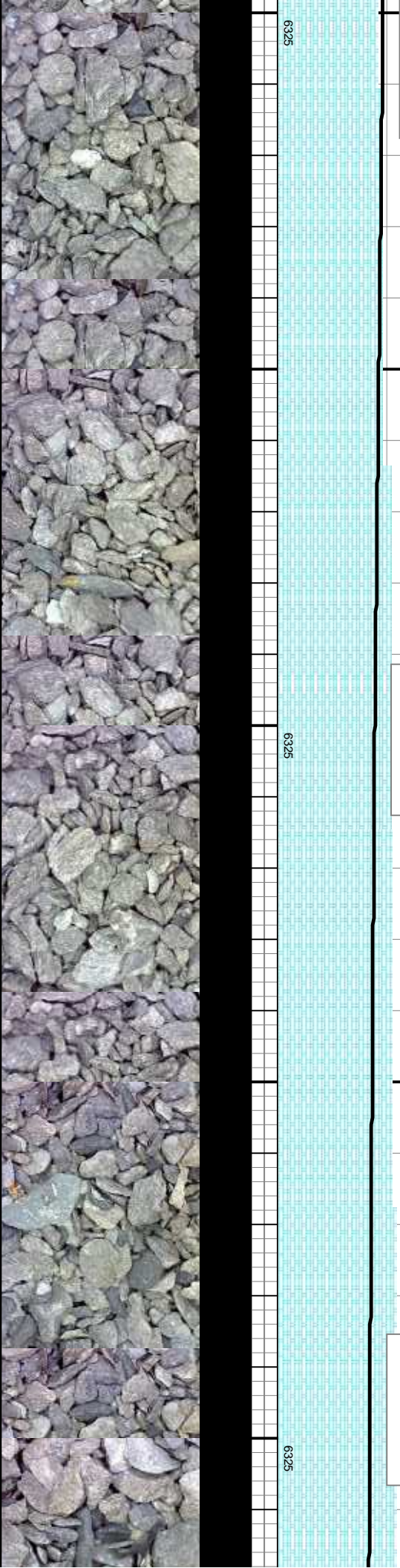
wh, mot, lam, v cpxk: MRLST: med blk, fri- brt, sil, v	CHK: It-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, cpxk: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v calc: tr pyrc bent	CHK: It-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, cpxk: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v calc: tr pyrc bent	CHK: It-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, cpxk: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v calc: tr pyrc bent	CHK: It-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, cpxk: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v calc: tr pyrc bent
	MD: 7.425' TVD: 6,296.92' Inclination: 90.3 ° Azimuth: 88.3 ° VS: 935.17'	MD: 7.516' TVD: 6,295.97' Inclination: 90.9 ° Azimuth: 86.9 ° VS: 1,026.15'		







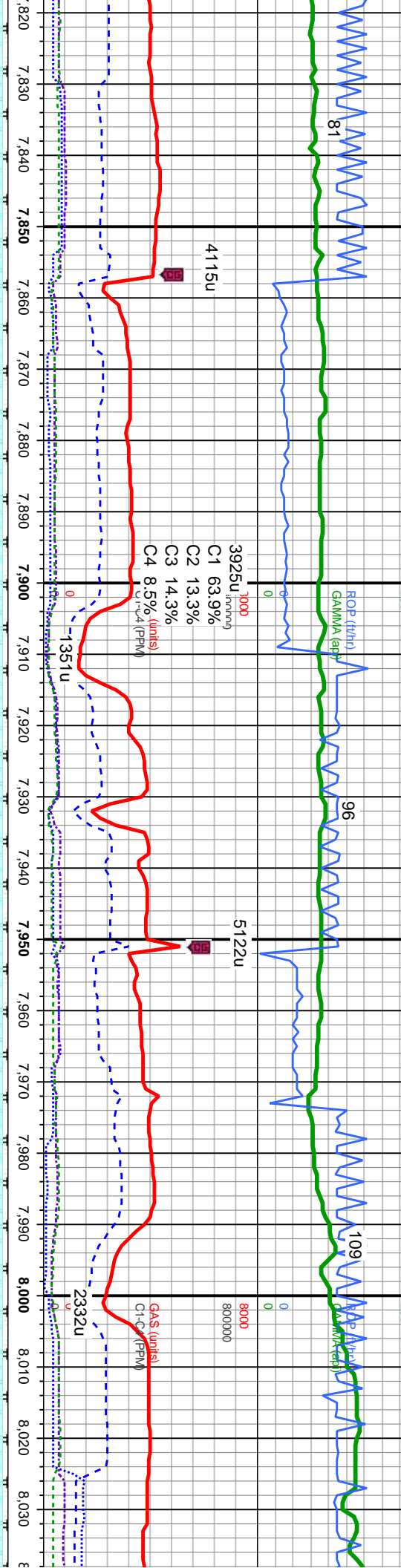
CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frn, sb ply-sb blkly, v calc, cpxl: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brt, sil, v calc: tr pyrc bent	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frn, sb ply-sb blkly, v calc, cpxl: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brt, sil, v calc: tr pyrc bent	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frn, sb ply-sb blkly, v calc, cpxl: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brt, sil, v calc: tr pyrc bent	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frn, sb ply-sb blkly, v calc, cpxl: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brt, sil, v calc: tr pyrc bent
MD: 7,607' VD: 6,296.13' Inclination: 88.9 ° Azimuth: 85.4 ° S: 1,117.06'	MD: 7,702' TVD: 6,298.28' Inclination: 88.5 ° Azimuth: 85.1 ° VS: 1,211.87'	MD: 7,796' TVD: 6,299.59' Inclination: 89.9 ° Azimuth: 84.8 ° VS: 1,305.67'	





at Mud Wt: 8.6/8.6 Vis 27/27

In/Out Mud Wt: 8.7/8.7 Vis 27/27



corn, some wh, mot, lam, v  
sft-frm, sb ply-sb blkly, v calc, crpxl: MRLST: med  
-dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brt, sil, v

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frm, sb ply-sb blkly, v calc, crpxl: MRLST: med  
-dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brt, sil, v  
calc: tr pyrc bent

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frm, sb ply-sb blkly, v calc, crpxl: MRLST: med  
-dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brt, sil, v  
calc: tr pyrc bent

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frm, sb ply-sb blkly, v calc, crpxl: MRLST: med  
-dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brt, sil, v  
calc: tr pyrc bent

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frm, sb ply-sb blkly, v calc, crpxl: MRLST: med  
-dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brt, sil, v  
calc: tr pyrc bent

MD: 7,890'  
TVD: 6,300.58'  
Inclination: 88.9 °  
Azimuth: 85 °  
VS: 1,399.47'

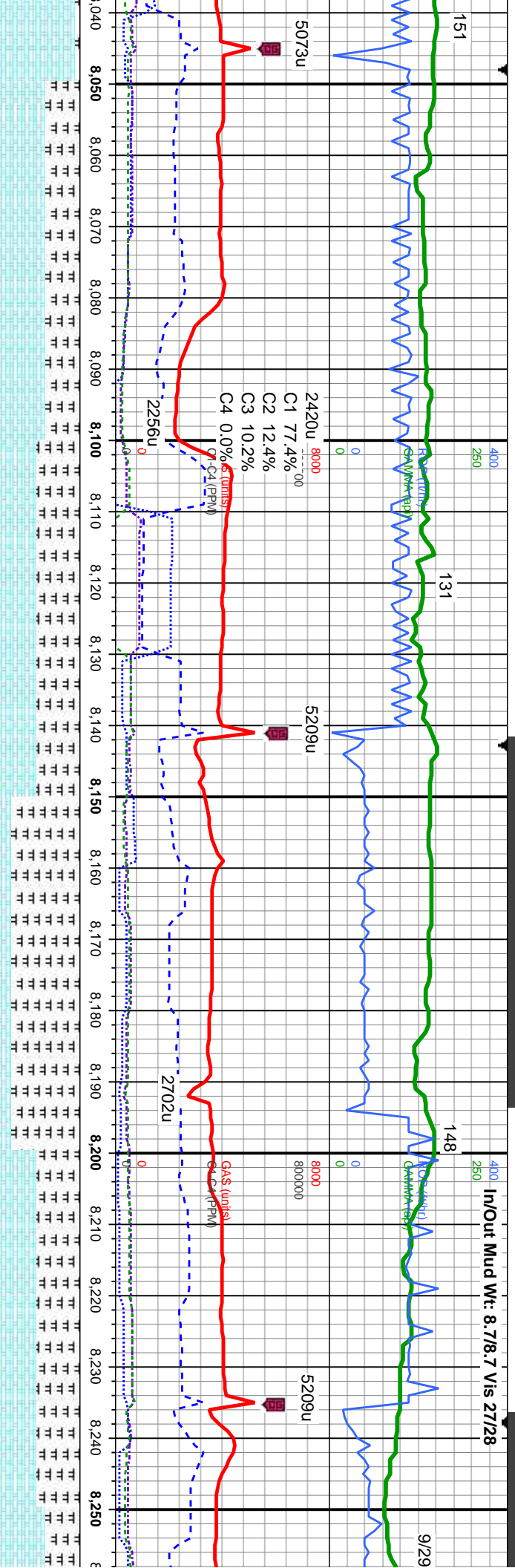
MD: 7,985'  
TVD: 6,302.9'  
Inclination: 88.3 °  
Azimuth: 85.2 °  
VS: 1,494.27'

6325

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MD: 8,080'  
TVD: 6,304.23'  
Inclination: 90.1°  
Azimuth: 85°  
VS: 1,589.08'

MD: 8,175'  
TVD: 6,304.06'  
Inclination: 90.1°  
Azimuth: 85.4°  
VS: 1,683.91'

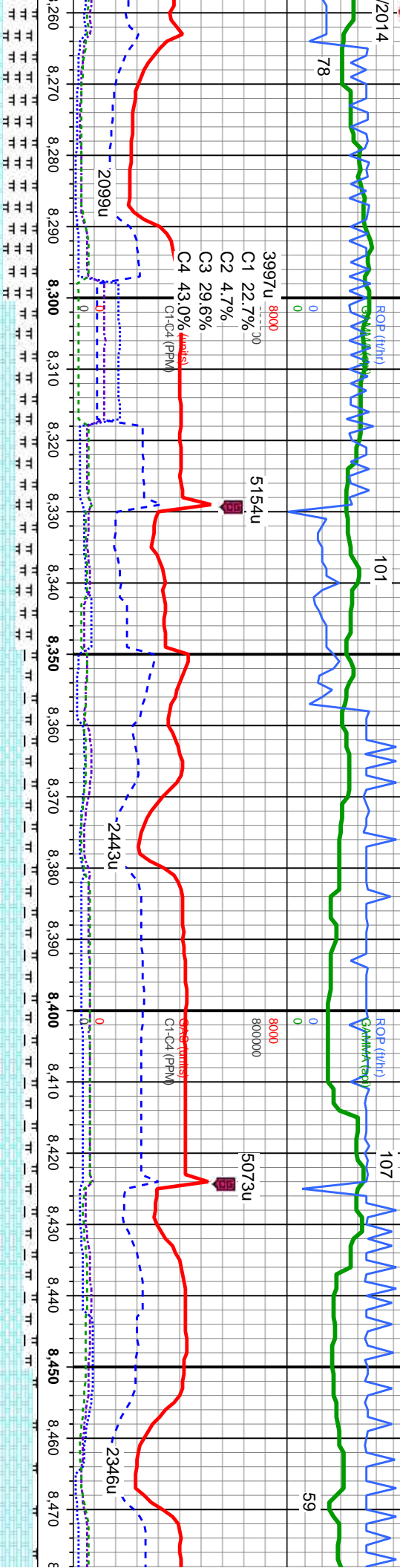
6325

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CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, cpxl: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v calc: tr pyrc bent	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, cpxl: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v calc: tr pyrc bent	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, cpxl: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v calc: tr pyrc bent	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, cpxl: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v calc: tr pyrc bent
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In/Out Mud Wt: 8.7/8.75 Vis 27/28



med gy, gy brn, some wh, mot, lam, v  
sft-frm, sb pty-sb blk, v calc, crptl: MRLST: med  
-dk gy, stri, sft-v sft, sb pty-sb blk, fri- brt, sil, v  
cal: tr pyrc bent

MD: 8,268'  
TVD: 6,305.6'  
Inclination: 88.2°  
Azimuth: 86.2°  
VS: 1,776.78'

MD: 8,363'  
TVD: 6,309.08'  
Inclination: 87.8°  
Azimuth: 87.2°  
VS: 1,871.66'

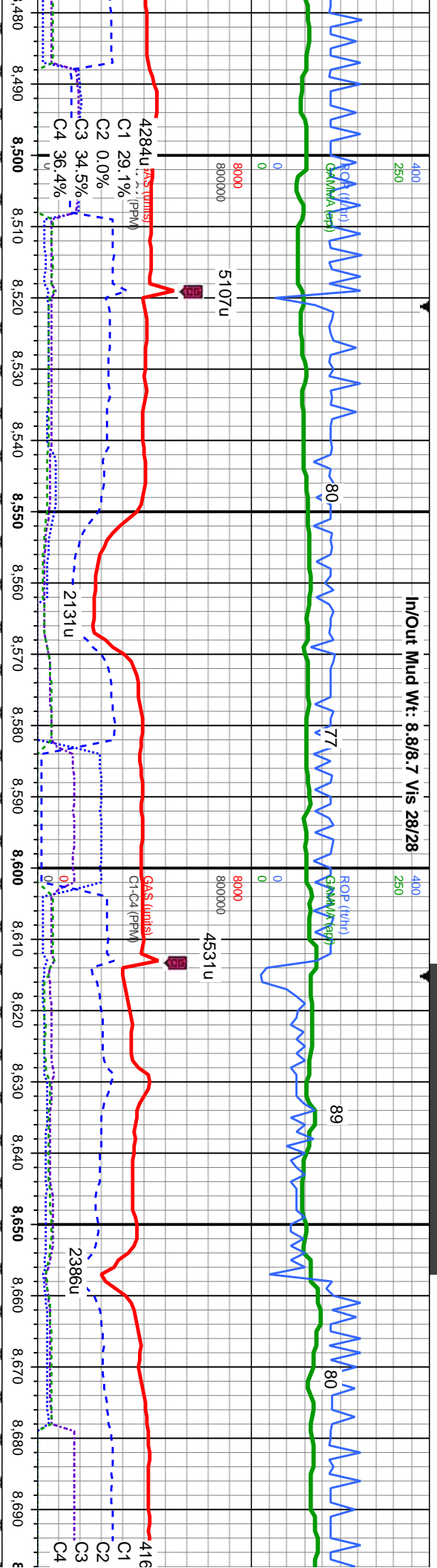
MD: 8,459'  
TVD: 6,311.76'  
Inclination: 89°  
Azimuth: 87.3°  
VS: 1,967.6'

6325

6325



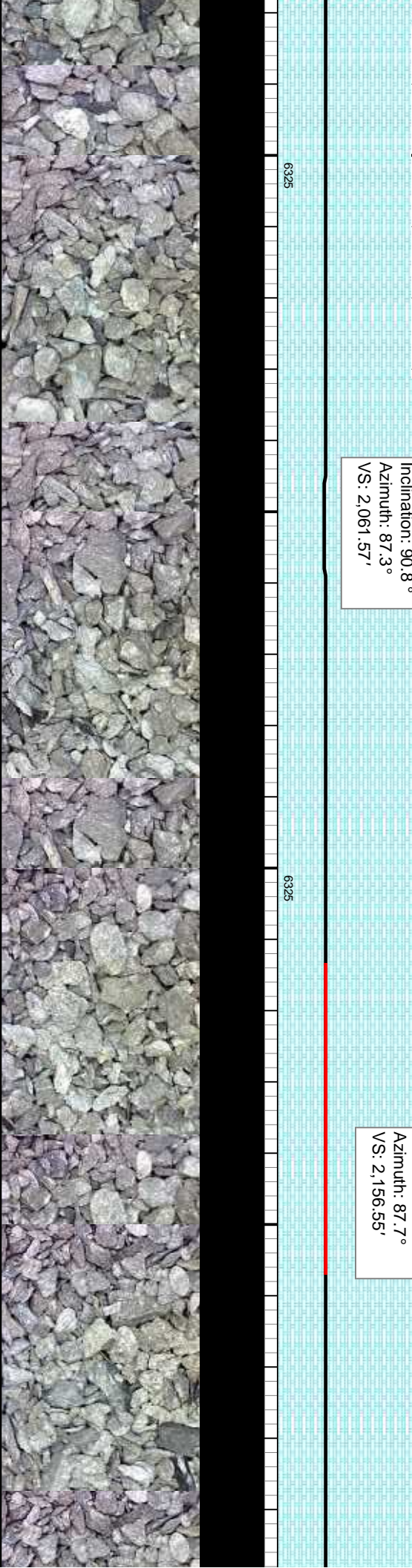




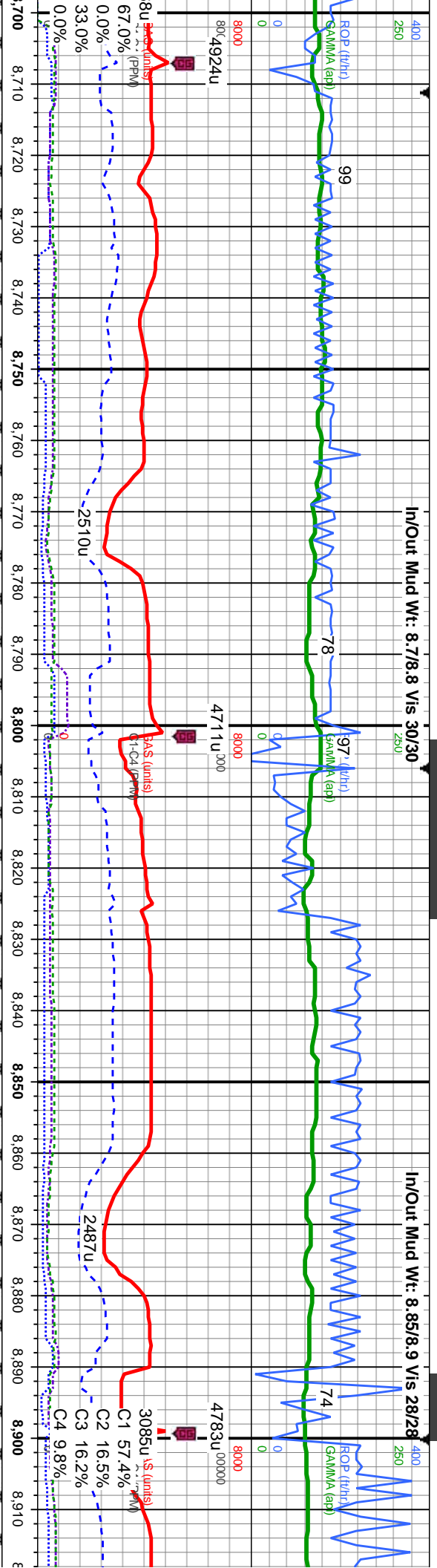
wh, mot, lam, v cpxl: MRLST: med bly, fri- brt, sil, v	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb bly, v calc, cpxl: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb bly, fri- brt, sil, v calc: tr pyrc bent	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb bly, v calc, cpxl: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb bly, fri- brt, sil, v calc: tr pyrc bent	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb bly, v calc, cpxl: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb bly, fri- brt, sil, v calc: tr pyrc bent
TVD (ft)			

MD: 8,553'  
TVD: 6,311.93'  
Inclination: 90.8 °  
Azimuth: 87.3 °  
VS: 2,061.57'

MD: 8,648'  
TVD: 6,311.68'  
Inclination: 89.5 °  
Azimuth: 87.7 °  
VS: 2,156.55'







CHK: It-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb pily-sb blkly, v calc, cpxl: MRLST: med  
-dk gy, stri, sft-v sft, sb pily-sb blkly, fri- brit, sil, v  
calc; tr pyrc bent

CHK: It-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb pily-sb blkly, v calc, cpxl: MRLST: med  
-dk gy, stri, sft-v sft, sb pily-sb blkly, fri- brit, sil, v  
calc; tr pyrc bent

CHK: It-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb pily-sb blkly, v calc, cpxl: MRLST: med  
-dk gy, stri, sft-v sft, sb pily-sb blkly, fri- brit, sil, v  
calc; tr pyrc bent

CHK: It-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb pily-sb blkly, v calc, cpxl: MRLST: med  
-dk gy, stri, sft-v sft, sb pily-sb blkly, fri- brit, sil, v  
calc; tr pyrc bent

CHK: It-med gy, gy  
sft-firm, sb pily-sb b  
-dk gy, stri, sft-v sft,  
calc; tr pyrc bent

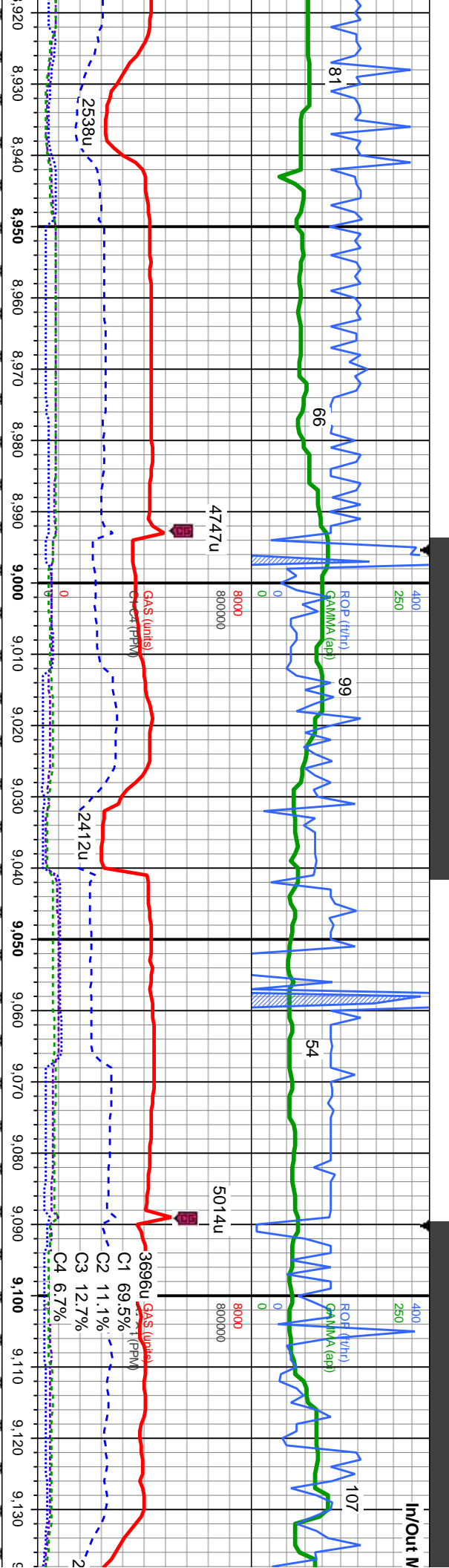
MD: 8.742'  
TVD: 6.311.6'  
Inclination: 90.6°  
Azimuth: 88.1°  
VS: 2.250.54'

MD: 8.837'  
TVD: 6.310.69'  
Inclination: 90.5°  
Azimuth: 88.1°  
VS: 2.345.54'

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brn, some wh, mot, lam, v  
lky, v calc, crptl: MRLST: med  
sb pily-sb blkly, fri- brt, sil, v

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb pily-sb blkly, v calc, crptl: MRLST: med  
-dk gy, stri, sft-v sft, sb pily-sb blkly, fri- brt, sil, v  
calc: tr pyrc bent

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb pily-sb blkly, v calc, crptl: MRLST: med  
-dk gy, stri, sft-v sft, sb pily-sb blkly, fri- brt, sil, v  
calc: tr pyrc bent

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb pily-sb blkly, v calc, crptl: MRLST: med  
-dk gy, stri, sft-v sft, sb pily-sb blkly, fri- brt, sil, v  
calc: tr pyrc bent, tr inoc fos

MD: 8.932'  
TVD: 6,308.28'  
Inclination: 92.4 °  
Azimuth: 87.6 °  
VS: 2,440.49'

MD: 9.027'  
TVD: 6,304.3'  
Inclination: 92.4 °  
Azimuth: 87.2 °  
VS: 2,535.39'

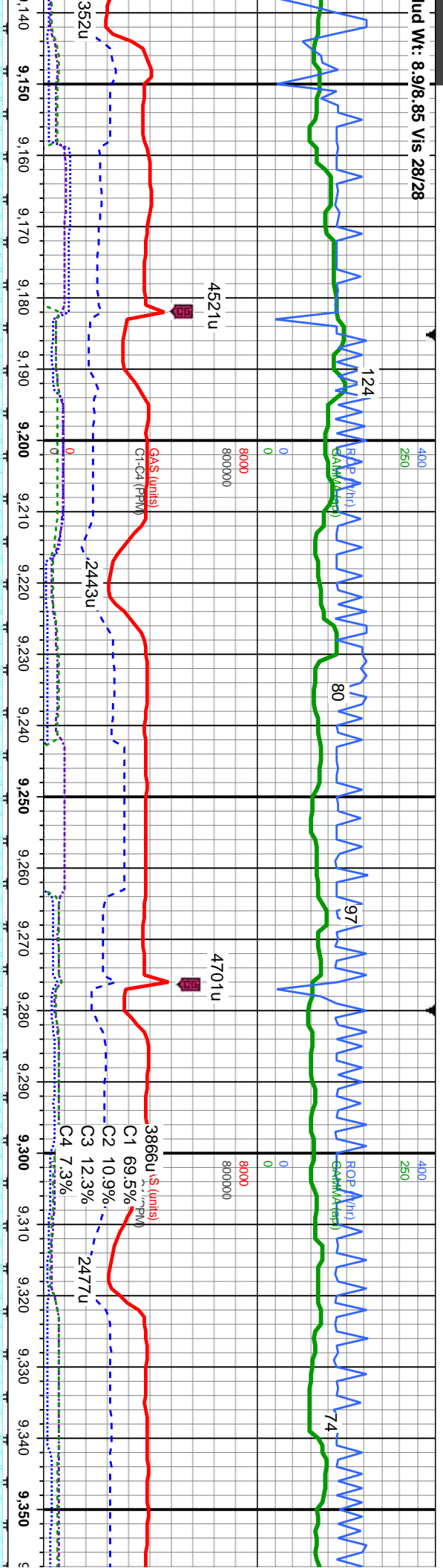
MD: 9.121'  
TVD: 6,302.09'  
Inclination: 90.3 °  
Azimuth: 87.7 °  
VS: 2,629.34'

6325

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Depth (ft)	Log Description
9,140 - 9,150	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pily-sb blk, v calc, cpbx; MRLST: med -dk gy, stri, sft-v sft, sb pily-sb blk, fri- brt, sil, v calc; tr pyrc bent, tr inoc fos
9,150 - 9,160	
9,160 - 9,170	
9,170 - 9,180	
9,180 - 9,190	
9,190 - 9,200	
9,200 - 9,210	
9,210 - 9,220	
9,220 - 9,230	
9,230 - 9,240	
9,240 - 9,250	
9,250 - 9,260	
9,260 - 9,270	
9,270 - 9,280	
9,280 - 9,290	
9,290 - 9,300	
9,300 - 9,310	
9,310 - 9,320	
9,320 - 9,330	
9,330 - 9,340	
9,340 - 9,350	

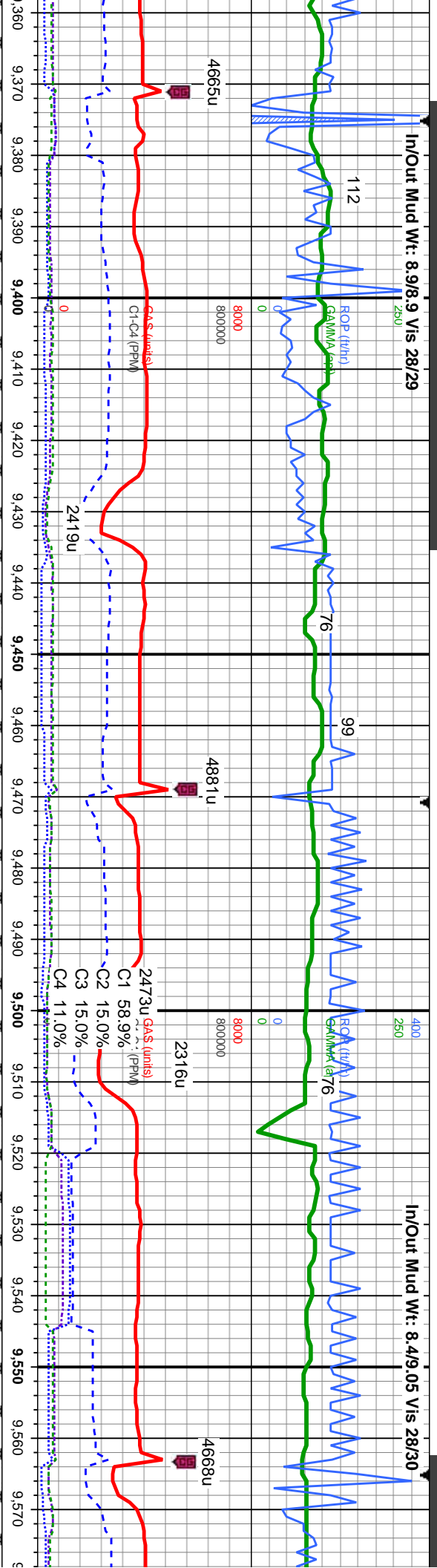
MD: 9,216'  
TVD: 6,302.09'  
Inclination: 89.7 °  
Azimuth: 87.3 °  
VS: 2,724.32'

MD: 9,312'  
TVD: 6,301.17'  
Inclination: 91.4 °  
Azimuth: 87.2 °  
VS: 2,820.29'





In/Out Mud Wt: 8.9/8.9 Vis 28/29



In/Out Mud Wt: 8.4/9.05 Vis 28/30

med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb pty-sb blkly, v calc, crptl: MRLST: med  
-dk gy, stri, sft-v sft, sb pty-sb blkly, fri- brt, sil, v  
calc, tr pyrc bent, tr inoc fos

CHK: It-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb pty-sb blkly, v calc, crptl: MRLST: med  
-dk gy, stri, sft-v sft, sb pty-sb blkly, fri- brt, sil, v  
calc, tr pyrc bent, tr inoc fos

CHK: It-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb pty-sb blkly, v calc, crptl: MRLST: med  
-dk gy, stri, sft-v sft, sb pty-sb blkly, fri- brt, sil, v  
calc, tr pyrc bent, tr inoc fos

MD: 9,407'  
TVD: 6,299.43'  
Inclination: 90.7 °  
Azimuth: 87.1 °  
VS: 2.915.24'

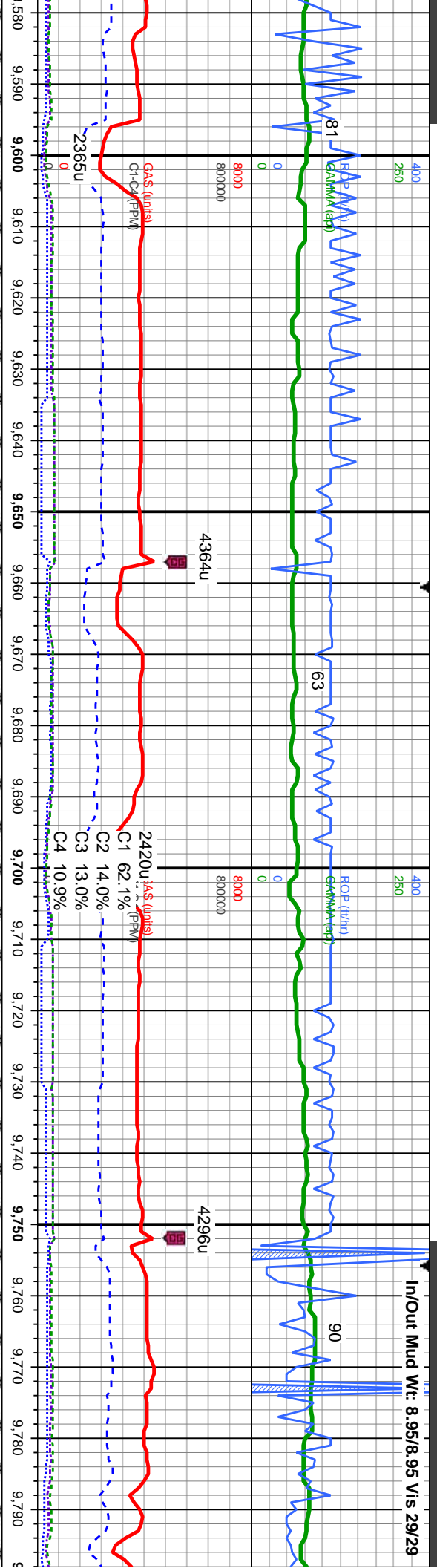
MD: 9,502'  
TVD: 6,299.18'  
Inclination: 89.6 °  
Azimuth: 87.7 °  
VS: 3.010.22'

6325

6325







wh, mot, lam, v cpxkt: MRLST: med blk, tr- brit, sil, v	CHK: It-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pty-sb blk, v calc, cpxkt: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, tr- brit, sil, v calc: tr pyrc bent, tr inoc tos	CHK: It-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pty-sb blk, v calc, cpxkt: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, tr- brit, sil, v calc: tr pyrc bent, tr inoc tos	CHK: It-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pty-sb blk, v calc, cpxkt: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, tr- brit, sil, v calc: tr pyrc bent, tr inoc tos	CHK: It-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pty-sb blk, v calc, cpxkt: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, tr- brit, sil, v calc: tr pyrc bent, tr inoc tos
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MD: 9,597'  
TVD: 6,299.84'  
Inclination: 89.6 °  
Azimuth: 89.1 °  
VS: 3,105.21'

MD: 9,692'  
TVD: 6,299.09'  
Inclination: 91.3 °  
Azimuth: 89.6 °  
VS: 3,200.2'

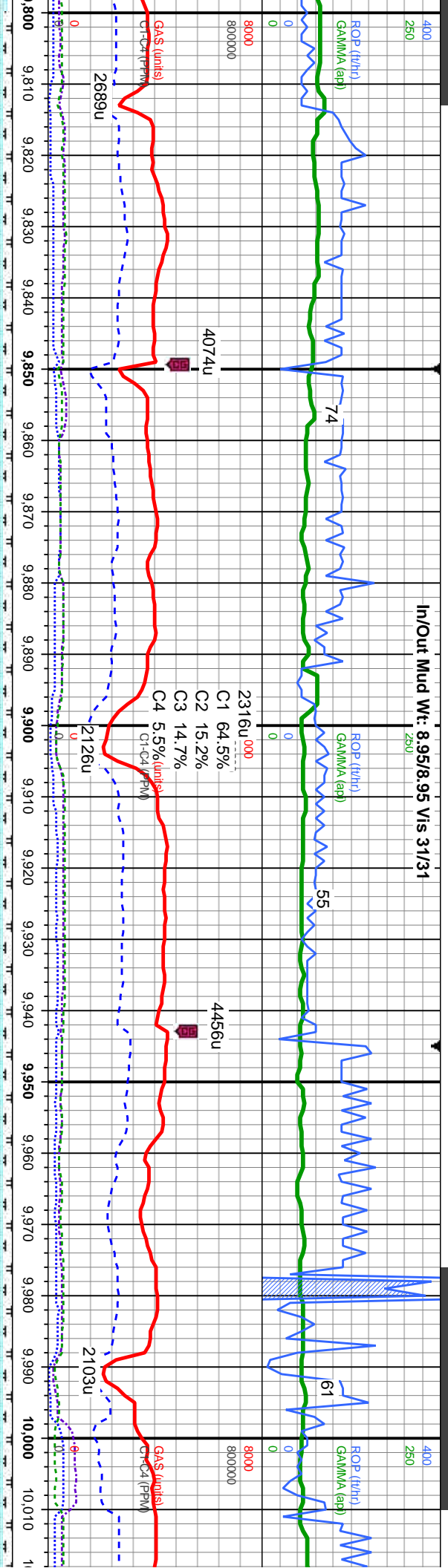
MD: 9,787'  
TVD: 6,297.35'  
Inclination: 90.8 °  
Azimuth: 89.1 °  
VS: 3,295.17'

6325

6325







CHK: It-med gy, gy brn, some wh, mot, lam, v  
sft-frm, sb ply-sb biky, v calc, crpxl; MRLST: med  
-dk gy, sfti, sft-v sft, sb ply-sb biky, frt- brt, sil, v  
calc; tr pyrc bent, tr inoc fos

CHK: it-med gy, gy brn, some wh, mot, lam, v  
sft-frm, sb ply-sb blkly, v calc, cpxpxi; MRSLST: med  
dk gy, stti, sft-v sft, sb ply-sb blkly, fri- brt, sil, v  
calc; t' pyrc bent, tr inoc fos

CHK: lamed gy, gy brn, some wh, mot, lam, v  
sft-frm, sb ply-sb blyk, v calc, cpxct; MRLST: me-  
-dk gy, stri, sft-v sft, sb ply-sb blyk, fri-  
brt, sil, v  
calc; tr pyrc bent, tr inoc fos

CHk: klmed gy, gy brn, some wh, mot, lam, v  
sft-frm, sb ply-sb bky, v calc, crpxi, MRLST: me  
-dk gy, stri, sft-v sft, sb ply-sb bky, fri- brt, sil, v  
calc; tr pyrc bent, tr inoc fos

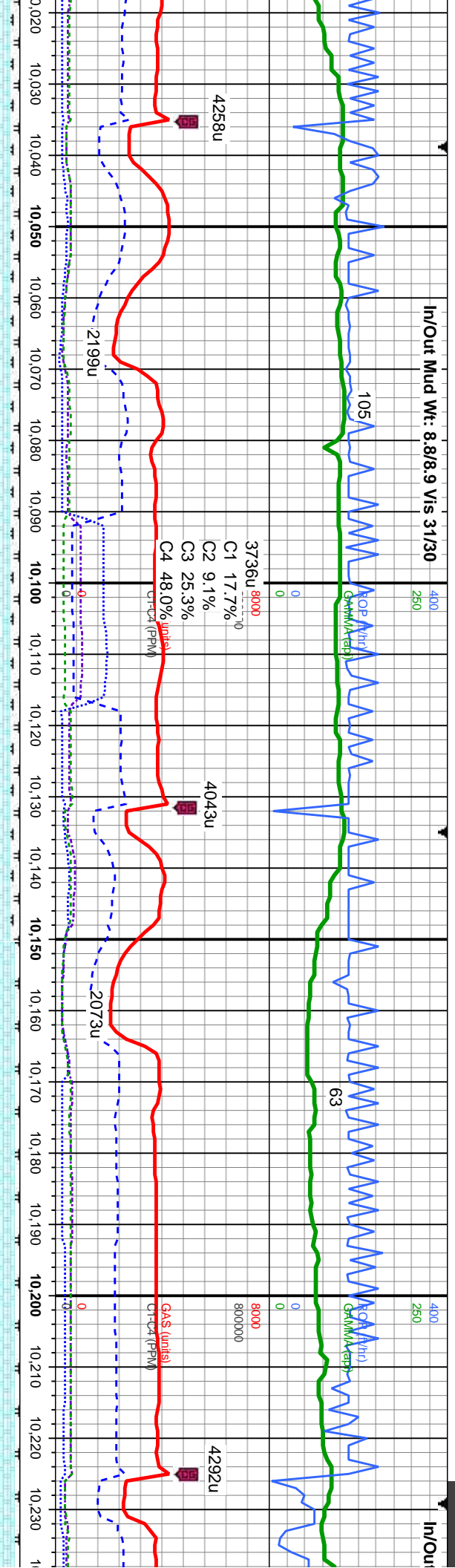
CHK: lt-med gy, gy  
sft-firm, sb ply-sb bl  
-dk gy, stri, sft-v sft,  
calc; tr pyrc bent, tr

MD: 9,882'  
TVD: 6,296.77'  
Inclination: 89.9 °  
Azimuth: 89.8 °  
VS: 3,390.16'

MD: 9,976'  
TVD: 6,296.28'  
Inclination: 90.7 °  
Azimuth: 89.6 °  
VS: 3,484.14'



In/Out Mud Wt: 8.8/8.9 Vis 31/30



brn, some wh, mot, lam, v  
sft-frn, sb ply-sb blk, v calc, crptx: MRLST: med  
-dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v  
calc; tr pyrc bent, tr inoc fos

MD: 10,072'  
TVD: 6,295.69'  
Inclination: 90 °  
Azimuth: 89.8 °  
VS: 3,580.12'

TVD (ft)

6325

MD: 10,167'  
TVD: 6,294.12'  
Inclination: 91.9 °  
Azimuth: 90.3 °  
VS: 3,675.07'

TVD (ft)

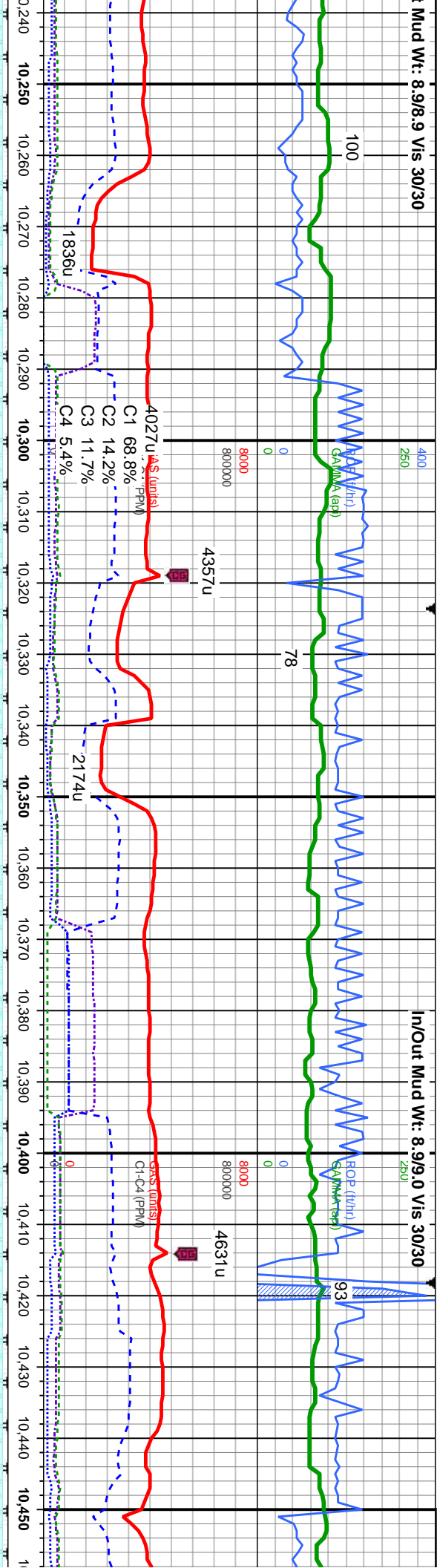
6325





Mud Wt: 8.9/8.9 Vis 30/30

In/Out Mud Wt: 8.9/9.0 Vis 30/30

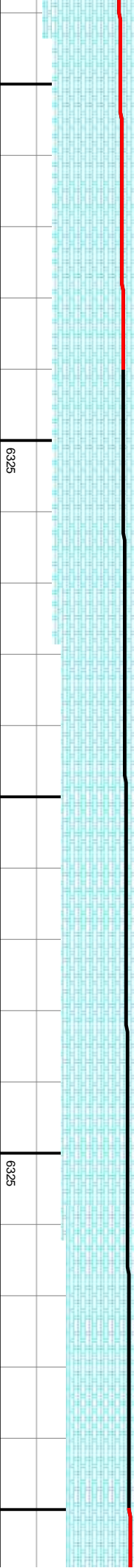


CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blkly, v calc, cpxl: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brt, sil, v calc; tr pyrc bent, tr inoc fos	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blkly, v calc, cpxl: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brt, sil, v calc; tr pyrc bent, tr inoc fos	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blkly, v calc, cpxl: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brt, sil, v calc; tr pyrc bent, tr inoc fos	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blkly, v calc, cpxl: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brt, sil, v calc; tr pyrc bent, tr inoc fos
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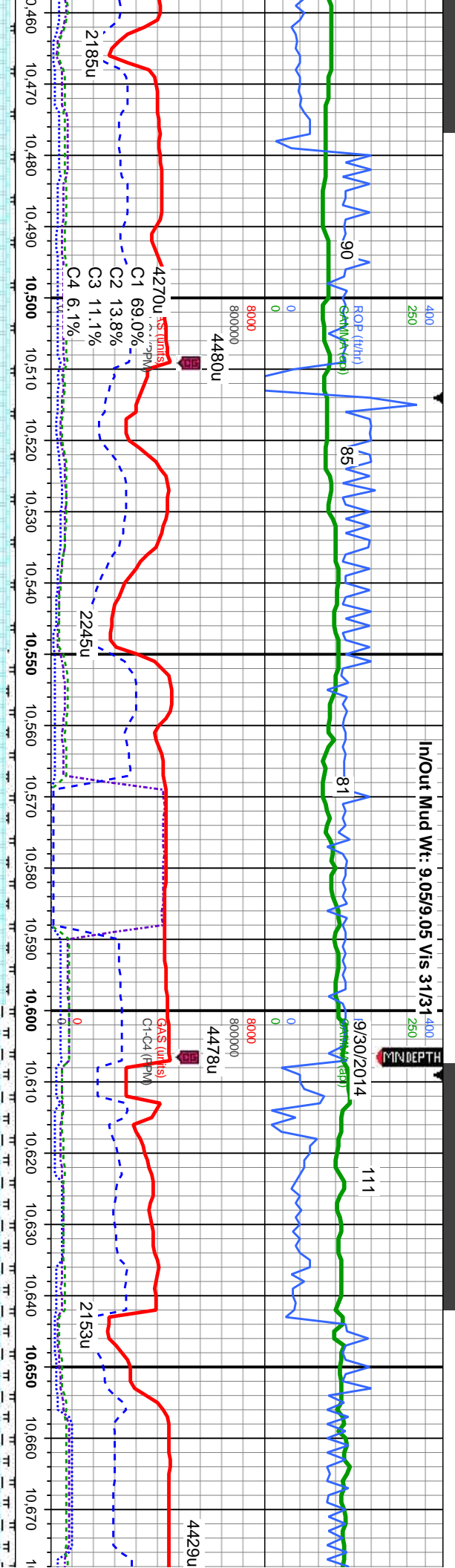
MD: 10,261'  
TVD: 6,291.41'  
Inclination: 91.4°  
Azimuth: 89.3°  
VS: 3,769.01'

MD: 10,356'  
TVD: 6,290.34'  
Inclination: 89.9°  
Azimuth: 88.7°  
VS: 3,864'

MD: 10,451'  
TVD: 6,289.26'  
Inclination: 91.4°  
Azimuth: 88.6°  
VS: 3,958.99'







med gy, gy brn, some wh, mot, lam, v  
sb ply-sb blk, v calc, crptxt; MRLST: med  
tri, sft-v sft, sb ply-sb blk, fri-  
brit, sil, v  
yrc bent, tr inoc fos

CHK: li-med gy, gy bñ, some wñ, mot, larn, v  
sft-firm, sb ply-sb bñky, v calc, crptxi; MRLST: med  
-dk gy, sti, sft-v sft, sb ply-sb bñky, fri-  
brit, sil, v  
calc; t: pyrc bent, t: inoc fos

CHK: li-med gy, gy bñ, some wñ, mot, lam, v  
sft-firm, sb ply-sb blk, v calc, crptxl; MRLST: med  
-dk gy, sti, sft-v sft, sb ply-sb blk, fri- bñ, sil, v  
calc; tr pyrc bent, tr inoc fos

CHK: li-med gy, gy brn, some whi, mot, lam, v  
sft-firm, sb ply-sb blk, v calc, crptxl; MRLST: med  
-dk gy, sti, sft-v sft, sb ply-sb blk, fri- brt, sil, v  
calc; tr pyrc bent

CHK: lt-med gy, gy brn, some v  
sft-frim, sb ply-sb blk, v calc, c  
-dk gy, stri, sft-v sft, sb ply-sb l  
calc; tr pyrc bent

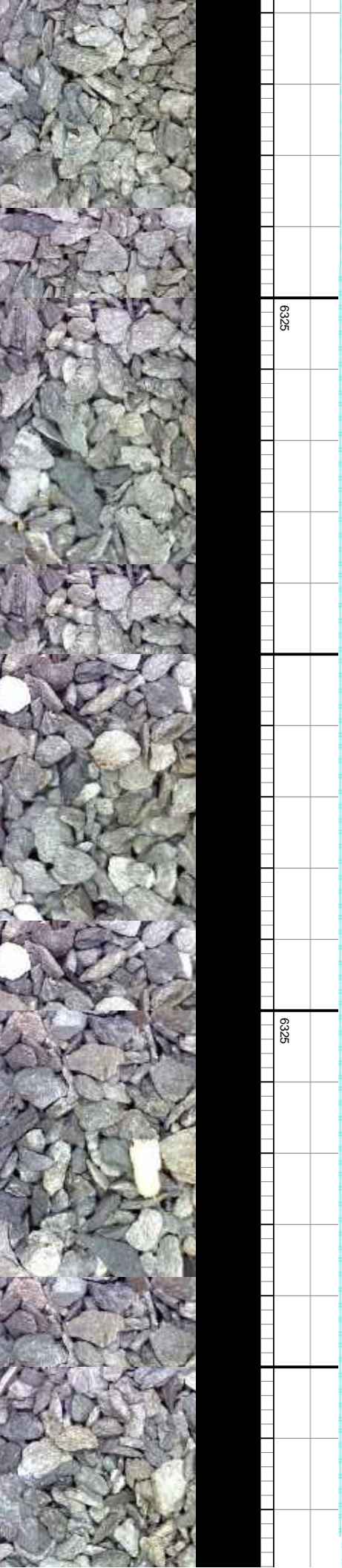
TVD (ft)

TV D (ft)

VS: 4

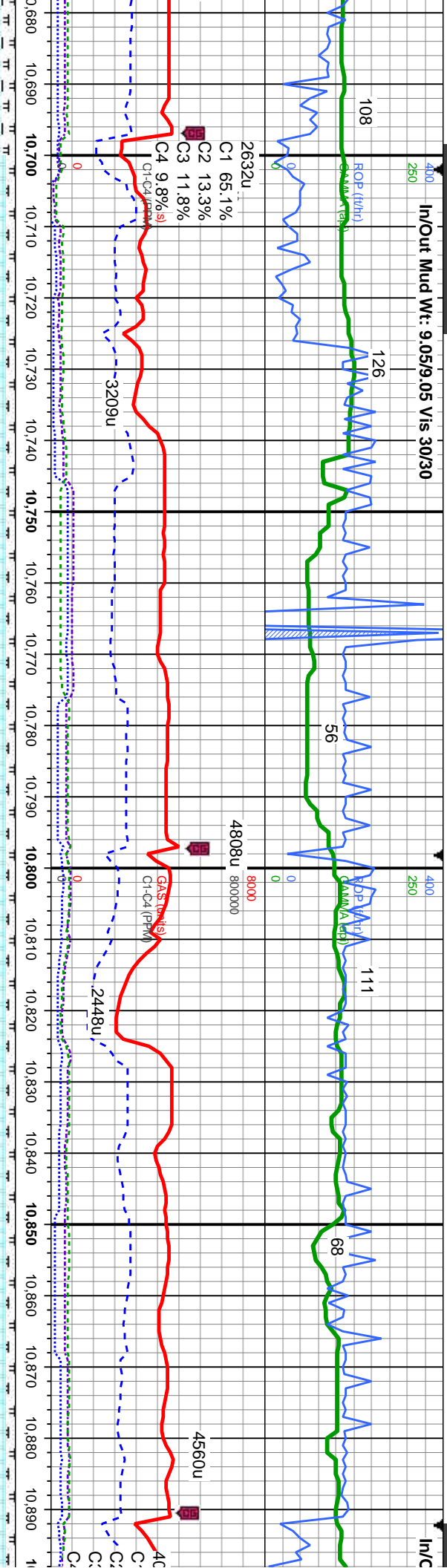
MD: 10,546'  
TVD: 6,287.52'  
Inclination: 90.7°  
Azimuth: 88.7°  
VS: 4.053.97'

MD: 10,640'  
TVD: 6,287.02'  
Inclination: 89.9°  
Azimuth: 88.1°  
VS: 4,147.97'





In/Out Mud Wt: 9.05/9.05 Vis 30/30



wh, mot, lam, v  
cpxl: MRLST: med  
bly, fri- brt, sil, v

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-fm, sb ply-sb bly, v calc, cpxl: MRLST: med  
-dk gy, str, sft-v sft, sb ply-sb bly, fri- brt, sil, v  
calc, tr pyrc bent

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-fm, sb ply-sb bly, v calc, cpxl: MRLST: med  
-dk gy, str, sft-v sft, sb ply-sb bly, fri- brt, sil, v  
calc, tr pyrc bent

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-fm, sb ply-sb bly, v calc, cpxl: MRLST: med  
-dk gy, str, sft-v sft, sb ply-sb bly, fri- brt, sil, v  
calc, tr pyrc bent, tr inoc fos

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-fm, sb ply-sb bly, v calc, cpxl: MRLST: med  
-dk gy, str, sft-v sft, sb ply-sb bly, fri- brt, sil, v  
calc, tr pyrc bent, tr inoc fos

MD: 10,736'  
TVD: 6,287.78'  
Inclination: 89.2°  
Azimuth: 88.2°  
VS: 4,243.96'

MD: 10,830'  
TVD: 6,287.86'  
Inclination: 90.7°  
Azimuth: 88.1°  
VS: 4,337.96'

6325

6325

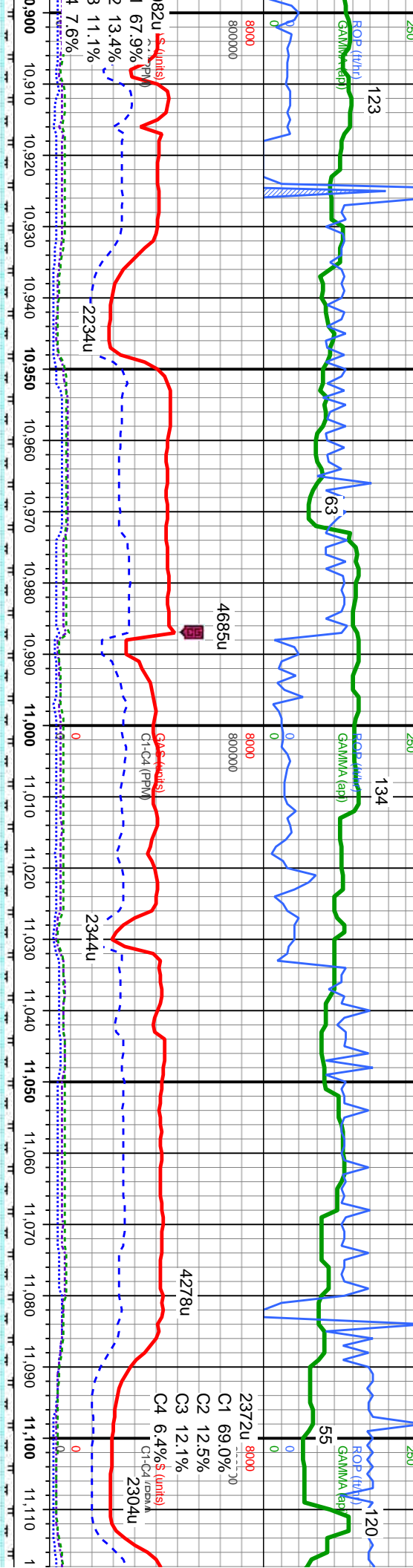
6325





Out Mud Wt: 9.0H/9.1 Vis 30/31

In/Out Mud Wt: 9.1H/9.1 Vis 32/32



CHK: It-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb pily-sb blk, v calc, cpbk: MRLST: med  
-dk gy, stri, sft-v sft, sb pily-sb blk, fri- brt, sil, v  
calc: tr pyrc bent, tr inoc tos

MD: 10,925'  
TVD: 6,287.03'  
Inclination: 90.3°  
Azimuth: 88.3°  
VS: 4,432.95'

TVD (ft)

CHK: It-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb pily-sb blk, v calc, cpbk: MRLST: med  
-dk gy, stri, sft-v sft, sb pily-sb blk, fri- brt, sil, v  
calc: tr pyrc bent, tr inoc tos

MD: 11,020'  
TVD: 6,288.27'  
Inclination: 88.2°  
Azimuth: 88°  
VS: 4,527.93'

TVD (ft)

CHK: It-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb pily-sb blk, v calc, cpbk: MRLST: med  
-dk gy, stri, sft-v sft, sb pily-sb blk, fri- brt, sil, v  
calc: tr pyrc bent, tr inoc tos

MD: 11,116'  
TVD: 6,291'  
Inclination: 87°  
Azimuth: 87°  
VS: 4,623.8'

TVD

CHK: It-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb pily-sb blk, v calc, cpbk: MRLST: med  
-dk gy, stri, sft-v sft, sb pily-sb blk, fri- brt, sil, v  
calc: tr pyrc bent, tr inoc tos

MD: 11,116'  
TVD: 6,291'  
Inclination: 87°  
Azimuth: 87°  
VS: 4,623.8'

TVD

CHK: It-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb pily-sb blk, v calc, cpbk: MRLST: med  
-dk gy, stri, sft-v sft, sb pily-sb blk, fri- brt, sil, v  
calc: tr pyrc bent, tr inoc tos

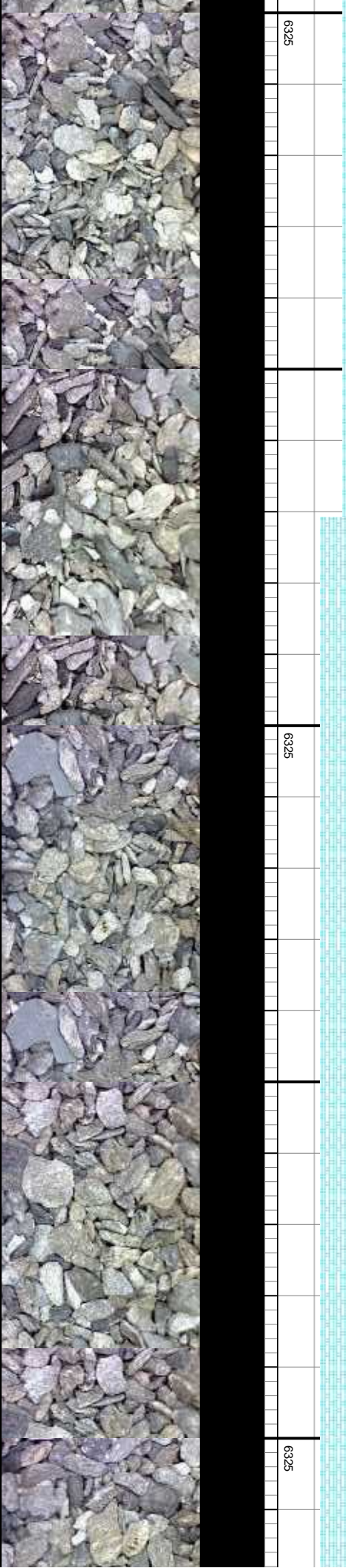
MD: 11,116'  
TVD: 6,291'  
Inclination: 87°  
Azimuth: 87°  
VS: 4,623.8'

TVD

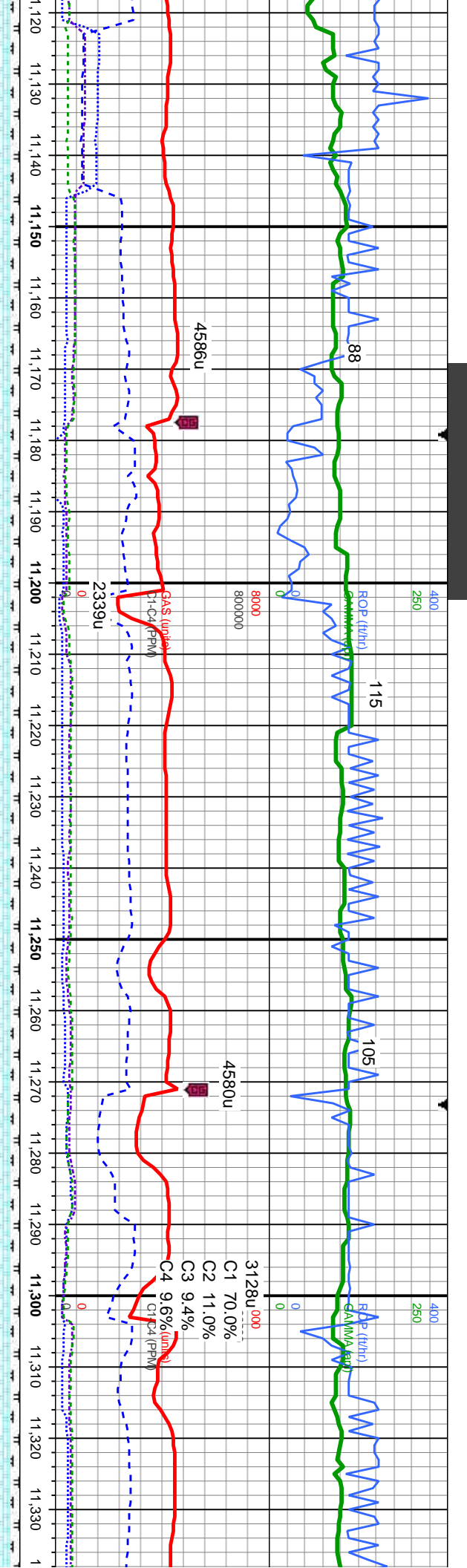
6325

6325

6325







brn, some wh, mot, lam, v  
-dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brlt, sil, v  
calc; tr pyrc bent, tr inoc fos

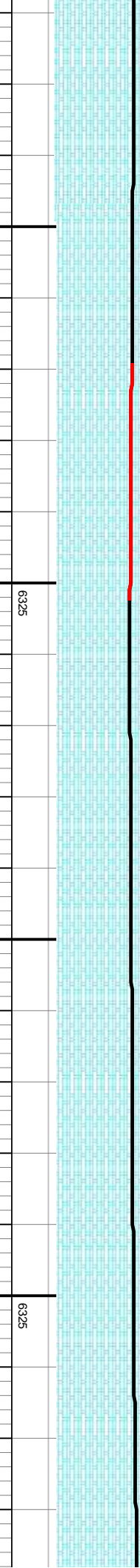
CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb ply-sb blkly, v calc, crptx: MRLST: med  
-dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brlt, sil, v  
calc; tr pyrc bent, tr inoc fos

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb ply-sb blkly, v calc, crptx: MRLST: med  
-dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brlt, sil, v  
calc; tr pyrc bent, tr inoc fos

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb ply-sb blkly, v calc, crptx: MRLST: med  
-dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brlt, sil, v  
calc; tr pyrc bent, tr inoc fos

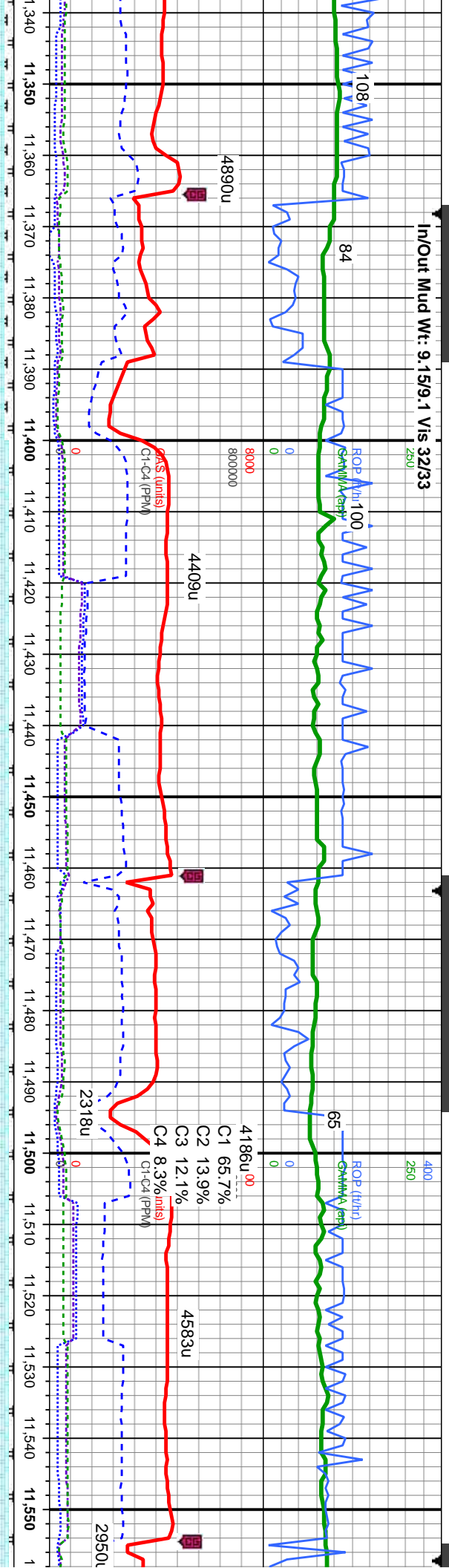
MD: 11,210'  
TVD: 6,292.52'  
Inclination: 90.1 °  
Azimuth: 88.5 °  
VS: 4,717.86'

MD: 11,305'  
TVD: 6,291.44'  
Inclination: 91.2 °  
Azimuth: 88 °  
VS: 4,812.85'





In/Out Mud Wt: 9.15/9.1 Vis 32/33



m, v	CHK: It-med gy, gy brn, some wh, mot, lam, v	CHK: It-med gy, gy brn, some wh, mot, lam, v	CHK: It-med gy, gy brn, some wh, mot, lam, v
ST: med	sft-firm, sb pty-sb blk, v calc, cpbk: MRLST: med	sft-firm, sb pty-sb blk, v calc, cpbk: MRLST: med	sft-firm, sb pty-sb blk, v calc, cpbk: MRLST: med
t, sil, v	-dk gy, stri, sft-v sft, sb pty-sb blk, tri- brit, sil, v	-dk gy, stri, sft-v sft, sb pty-sb blk, tri- brit, sil, v	-dk gy, stri, sft-v sft, sb pty-sb blk, tri- brit, sil, v
	calc: tr pyrc bent, tr inoc tos	calc: tr pyrc bent, tr inoc tos	calc: tr pyrc bent, tr inoc tos

MD: 11,400'  
TVD: 6,289.04'  
Inclination: 91.7°  
Azimuth: 88.4°  
VS: 4,907.82'

MD: 11,494'  
TVD: 6,286.66'  
Inclination: 91.2°  
Azimuth: 88.8°  
VS: 5,001.79'

6325

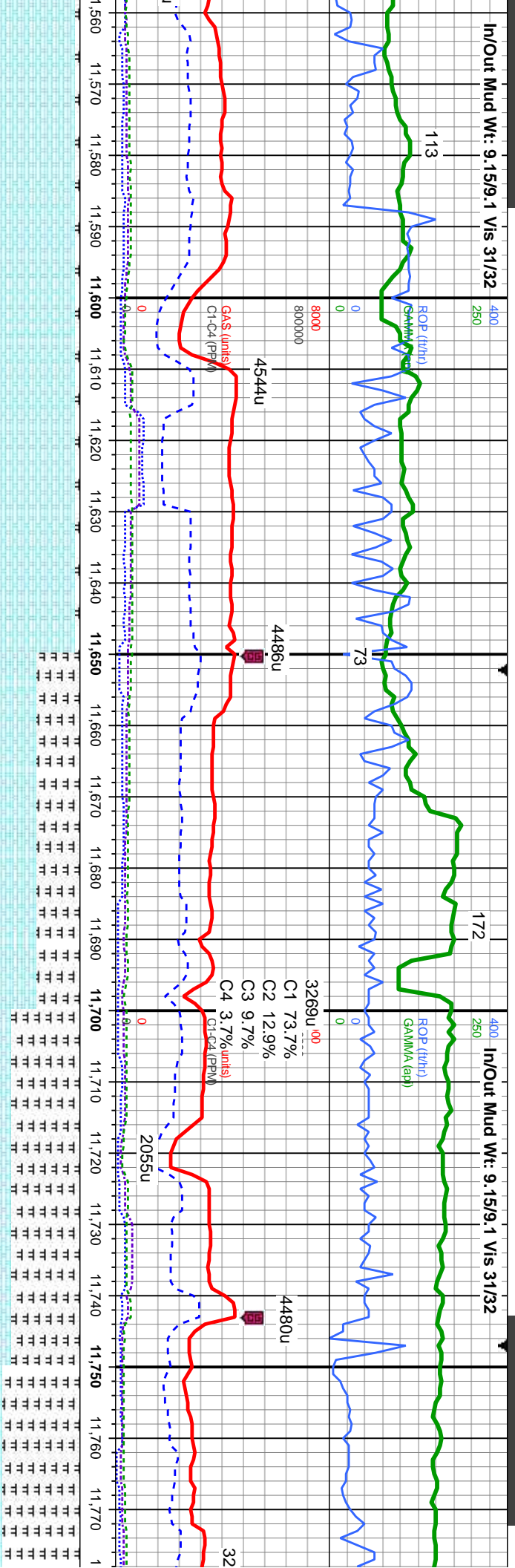
TVD (ft)





In/Out Mud Wt: 9.15/9.1 Vis 31/32

In/Out Mud Wt: 9.15/9.1 Vis 31/32



med gy, gy brn, some wh, mot, lam, v  
sft-frm, sb pty-sb blk, v calc, cpbk: MRLST: med  
-dk gy, stri, sft-v sft, sb pty-sb blk, fri- brt, sil, v  
calc: tr pyrc bent, tr inoc fcs

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frm, sb pty-sb blk, v calc, cpbk: MRLST: med  
-dk gy, stri, sft-v sft, sb pty-sb blk, fri- brt, sil, v  
calc: tr pyrc bent

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frm, sb pty-sb blk, v calc, cpbk: MRLST: med  
-dk gy, stri, sft-v sft, sb pty-sb blk, fri- brt, sil, v  
calc: tr pyrc bent

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frm, sb pty-sb blk, v calc, cpbk: MRLST: med  
-dk gy, stri, sft-v sft, sb pty-sb blk, fri- brt, sil, v  
calc: tr pyrc bent

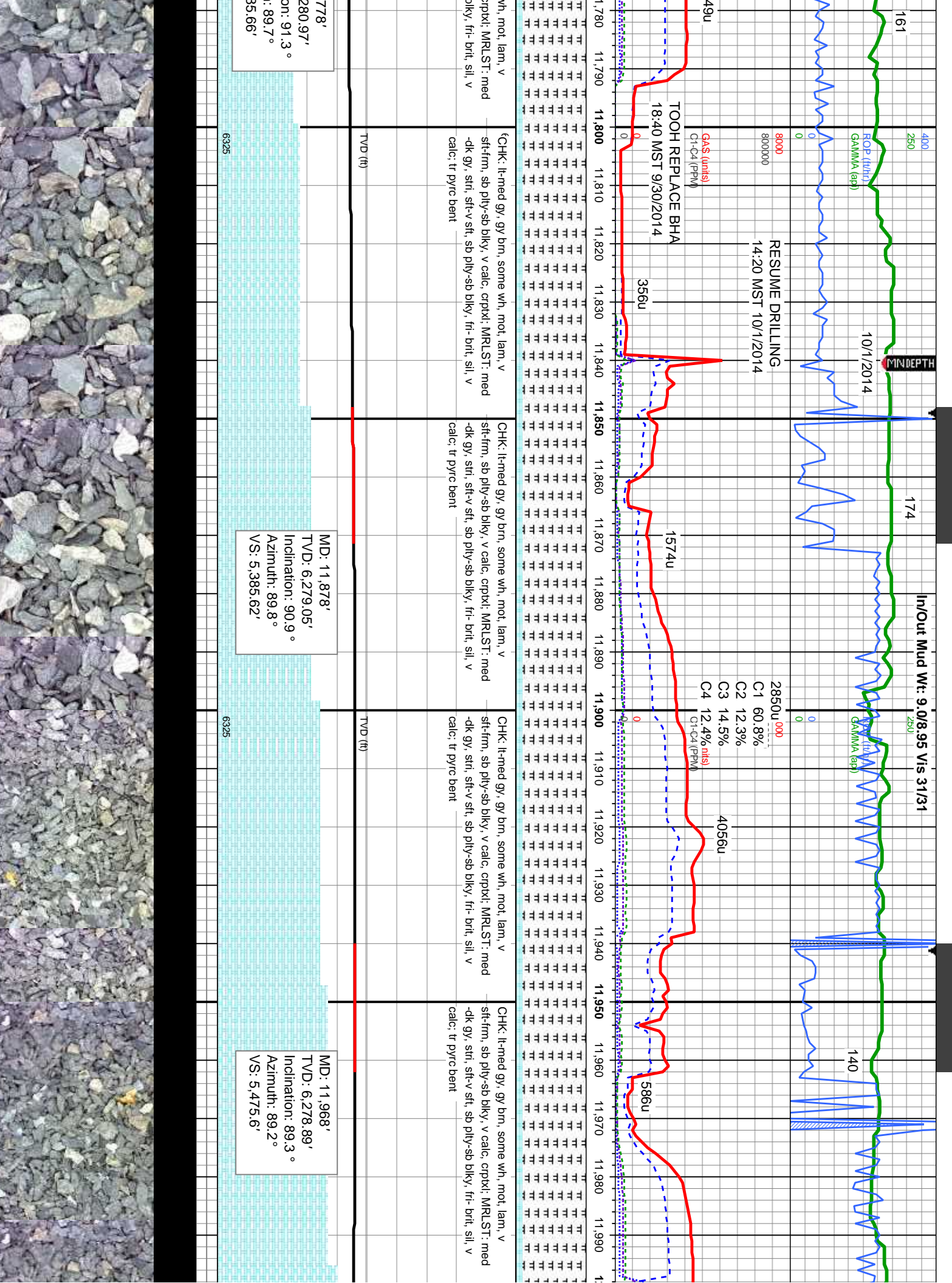
MD: 11,589'  
TVD: 6,285.25'  
Inclination: 90.5°  
Azimuth: 89.7°  
VS: 5,096.77'

MD: 11,684'  
TVD: 6,283.43'  
Inclination: 91.7°  
Azimuth: 89.4°  
VS: 5,191.7'

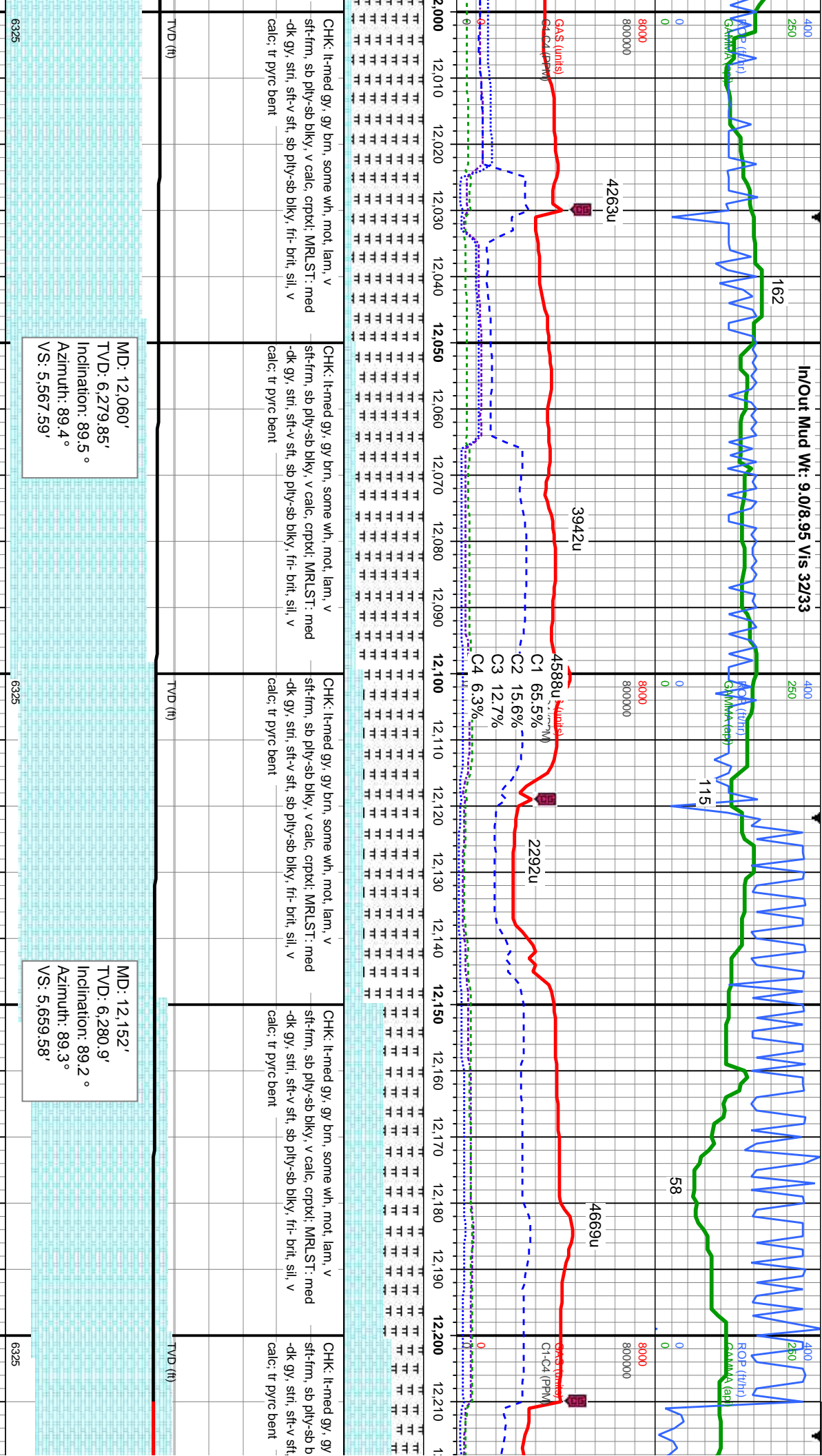
MD: 11,  
TVD: 6,  
Inclinati  
Azimut  
VS: 5.2







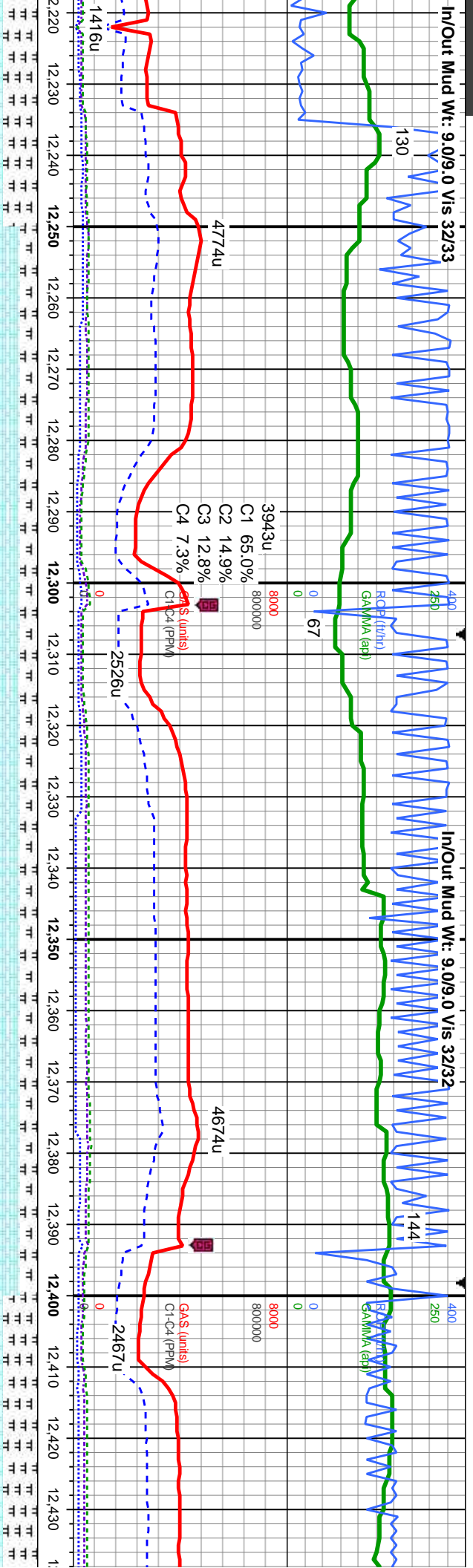






In/Out Mud Wt: 9.0/9.0 Vis 32/33

In/Out Mud Wt: 9.0/9.0 Vis 32/32

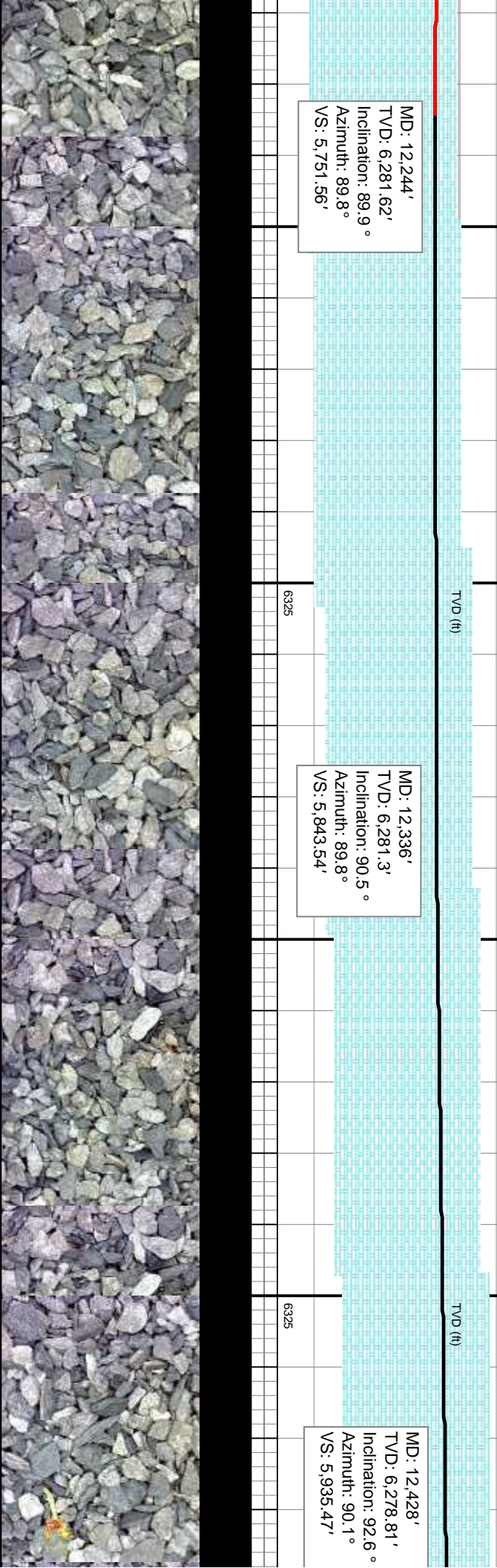


brn, some wh, mot, lam, v dk, v calc, cpbx: MRLST: med sb pily-sb blk, fri- brt, sil, v	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb pily-sb blk, v calc, cpbx: MRLST: med -dk gy, stri, sft-v sft, sb pily-sb blk, fri- brt, sil, v calc: tr pyrc bent	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb pily-sb blk, v calc, cpbx: MRLST: med -dk gy, stri, sft-v sft, sb pily-sb blk, fri- brt, sil, v calc: tr pyrc bent	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb pily-sb blk, v calc, cpbx: MRLST: med -dk gy, stri, sft-v sft, sb pily-sb blk, fri- brt, sil, v calc: tr pyrc bent	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb pily-sb blk, v calc, cpbx: MRLST: med -dk gy, stri, sft-v sft, sb pily-sb blk, fri- brt, sil, v calc: tr pyrc bent
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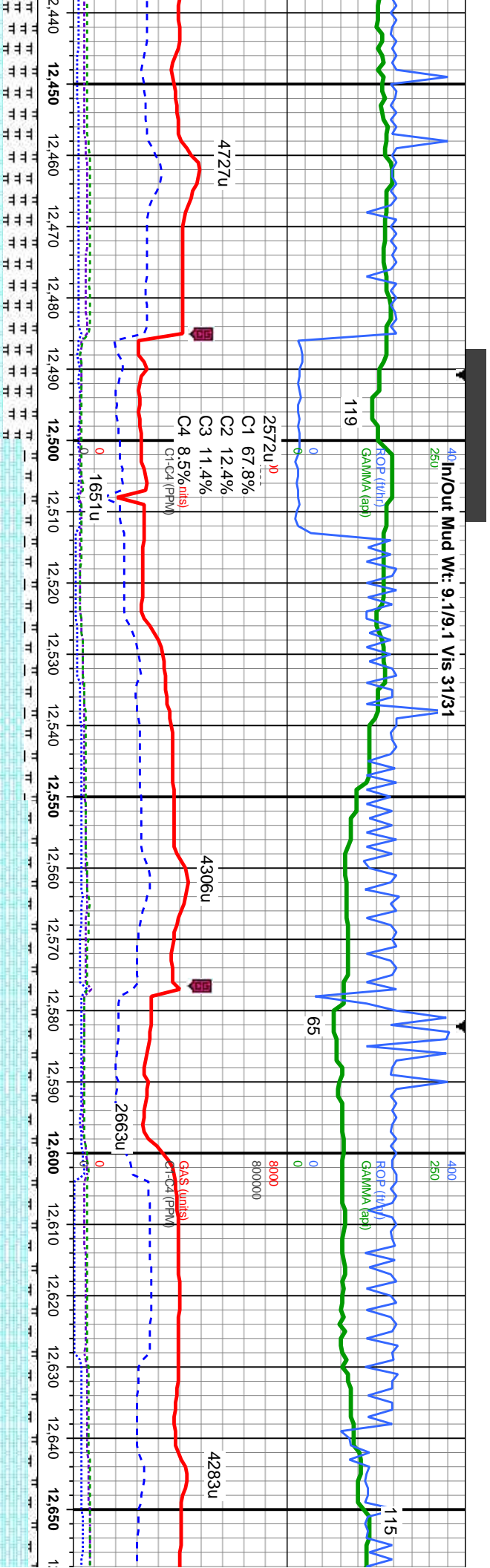
MD: 12,244'  
TVD: 6,281.62'  
Inclination: 89.9°  
Azimuth: 89.8°  
VS: 5,751.56'

MD: 12,336'  
TVD: 6,281.3'  
Inclination: 90.5°  
Azimuth: 89.8°  
VS: 5,843.54'

MD: 12,428'  
TVD: 6,278.81'  
Inclination: 92.6°  
Azimuth: 90.1°  
VS: 5,935.47'







1, v sft-fm, sb ply-sb blk, v calc, crptx: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v calc: tr pyrc bent	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, crptx: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v calc: tr pyrc bent	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, crptx: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v calc: tr pyrc bent	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, crptx: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v calc: tr pyrc bent	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, crptx: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v calc: tr pyrc bent
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MD: 12,521'  
TVD: 6,277.02'  
Inclination: 89.6°  
Azimuth: 88.4°  
VS: 6,028.44'

MD: 12,612'  
TVD: 6,277.74'  
Inclination: 89.5°  
Azimuth: 88.1°  
VS: 6,119.43'





In/Out Mud Wt: 9.05/9.1 Vis 31/31

10/2/2014

3088u

78

170

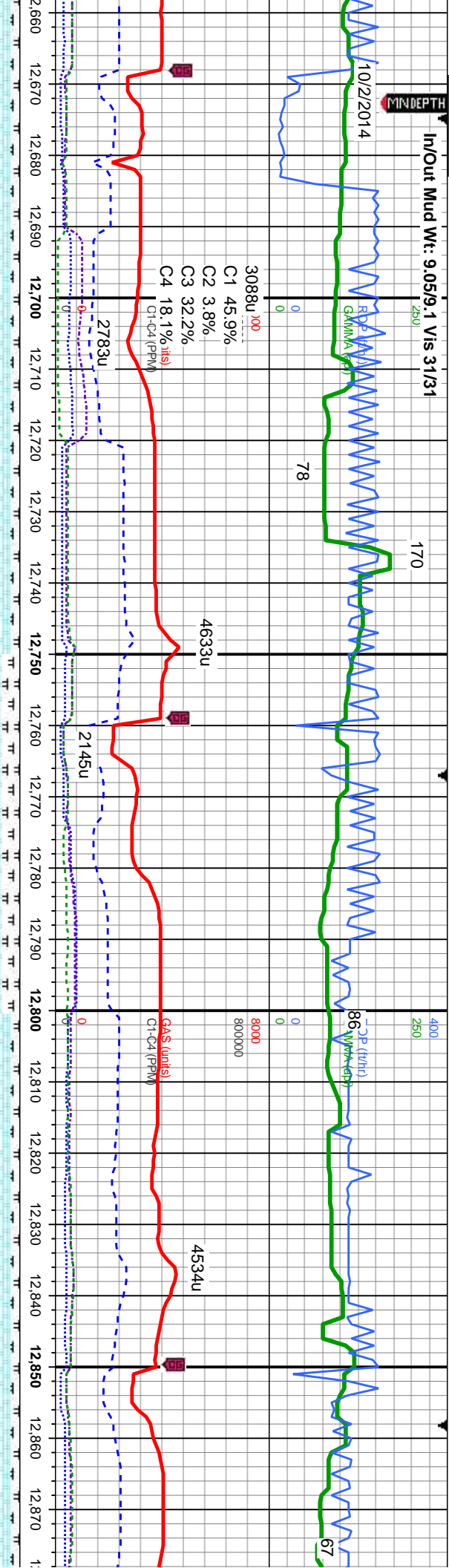
4633u

C1 45.9%  
C2 3.8%  
C3 32.2%  
C4 18.1% (its)  
Cl-C4 (ppm)

86 (t/h)  
8000  
800000

4534u

67



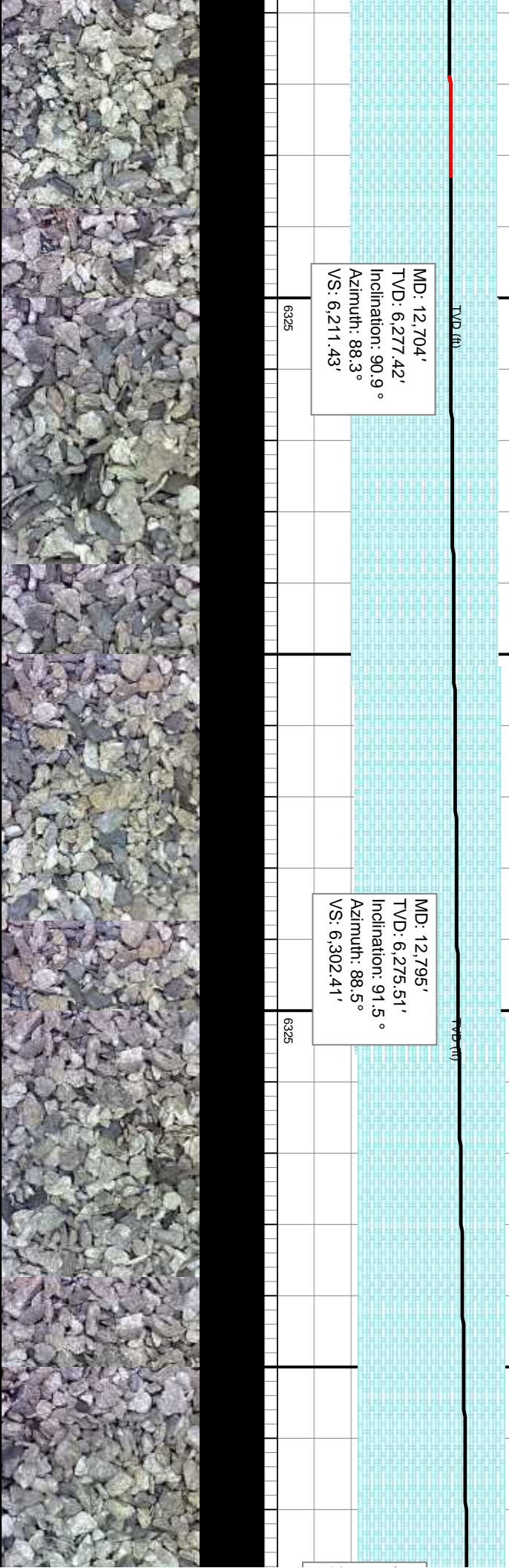
med gy, gy brn, some wh, mot, lam, v sft-frm, sb ply-sb blk, v calc, crpxl: MRLST: med fri- brt, sil, v stf-v sft, sb ply-sb blk, fri- brt, sil, v pyrc bent	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frm, sb ply-sb blk, v calc, crpxl: MRLST: med -dk gy, str, stf-v sft, sb ply-sb blk, fri- brt, sil, v calc: tr pyrc bent	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frm, sb ply-sb blk, v calc, crpxl: MRLST: med -dk gy, str, stf-v sft, sb ply-sb blk, fri- brt, sil, v calc	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frm, sb ply-sb blk, v calc, crpxl: MRLST: med -dk gy, str, stf-v sft, sb ply-sb blk, fri- brt, sil, v calc
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MD: 12,704'  
TVD: 6,277.42'  
Inclination: 90.9°  
Azimuth: 88.3°  
VS: 6,211.43'

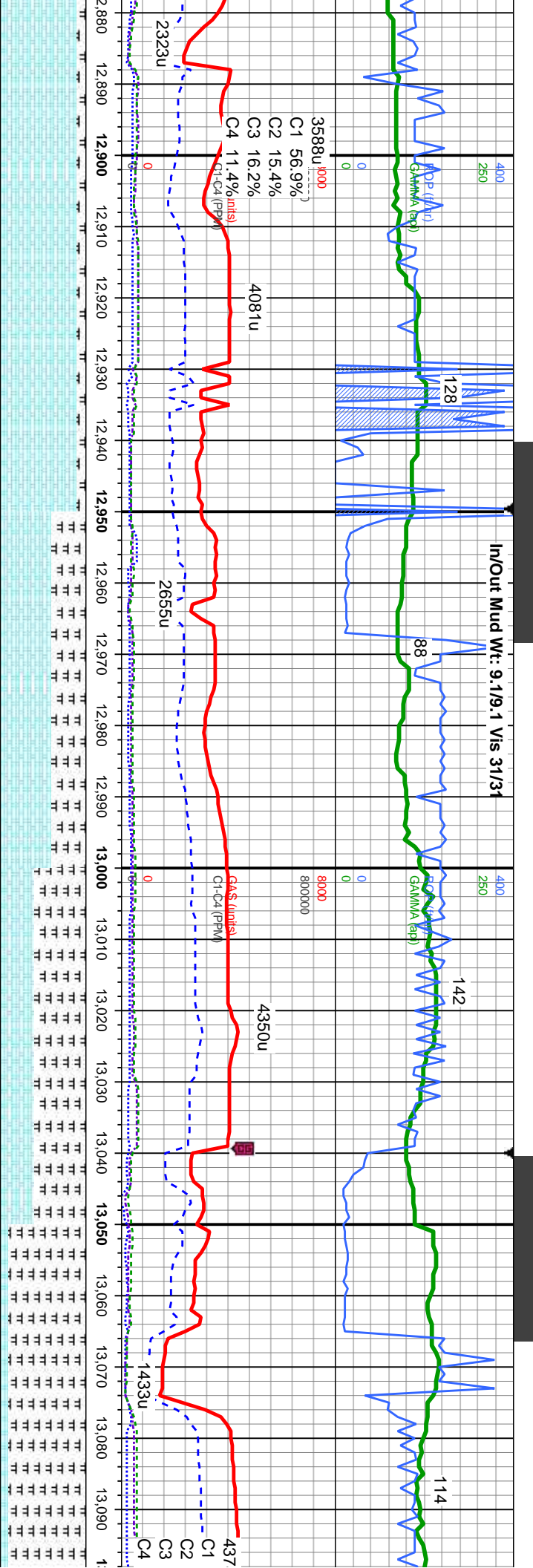
MD: 12,795'  
TVD: 6,275.51'  
Inclination: 91.5°  
Azimuth: 88.5°  
VS: 6,302.41'

6325

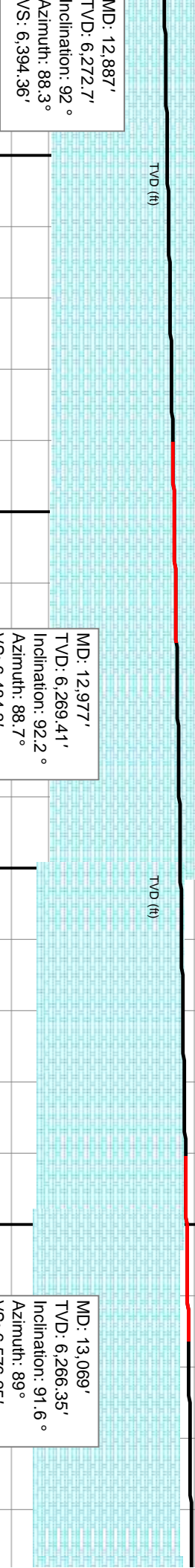
6325







wh, mot, lam, v	CHK: lt-med gy, gy brn, some wh, mot, lam, v	wh, mot, lam, v	CHK: lt-med gy, gy brn, some wh, mot, lam, v	wh, mot, lam, v	CHK: lt-med gy, gy brn, some wh, mot, lam, v
prpxl: MRLST: med	sft-firm, sb ply-sb blk, v calc, crptl: MRLST: med	prpxl: MRLST: med	sft-firm, sb ply-sb blk, v calc, crptl: MRLST: med	prpxl: MRLST: med	sft-firm, sb ply-sb blk, v calc, crptl: MRLST: med
fri- brt, sil, v	-dk gy, str, sft-v sft, sb ply-sb blk, fri- brt, sil, v	fri- brt, sil, v	-dk gy, str, sft-v sft, sb ply-sb blk, fri- brt, sil, v	fri- brt, sil, v	-dk gy, str, sft-v sft, sb ply-sb blk, fri- brt, sil, v
	calc		calc		calc



MD: 12,887'	MD: 12,977'	MD: 13,069'
TVD: 6,272.7'	TVD: 6,269.41'	TVD: 6,266.35'
Inclination: 92°	Inclination: 92.2°	Inclination: 91.6°
Azimuth: 88.3°	Azimuth: 88.7°	Azimuth: 89°
VS: 6,394.36'	VS: 6,484.3'	VS: 6,576.25'







In/Out Mud Wt: 9.15/9.05 Vis 32/32

In/Out Mud Wt: 9.1/9.1 Vis 33/33

In/Out Mud Wt: 9.15/9.1 Vis 34/31

0 155 116 100 150

ROP (ft/hr) 400 250 0 8000 800000

4354u 4563u 4179u 2183u

2020u 1960u

MD: 13.344' TVD: 6,260.92' Inclination: 90.8° Azimuth: 88.9° VS: 6,851.19'

MD: 13.435' TVD: 6,259.73' Inclination: 90.7° Azimuth: 88.8° VS: 6,942.18'

MD: 13.527' TVD: 6,258.45' Inclination: 90.9° Azimuth: 88.4° VS: 7,034.17'

CHK: It-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pty-sb blk, v calc, cpxk: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, tri- brit, sil, v calc

CHK: It-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pty-sb blk, v calc, cpxk: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, tri- brit, sil, v calc

CHK: It-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pty-sb blk, v calc, cpxk: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, tri- brit, sil, v calc

CHK: It-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pty-sb blk, v calc, cpxk: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, tri- brit, sil, v calc

CHK: It-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pty-sb blk, v calc, cpxk: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, tri- brit, sil, v calc

CHK: It-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pty-sb blk, v calc, cpxk: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, tri- brit, sil, v calc

CHK: It-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pty-sb blk, v calc, cpxk: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, tri- brit, sil, v calc

CHK: It-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pty-sb blk, v calc, cpxk: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, tri- brit, sil, v calc

CHK: It-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pty-sb blk, v calc, cpxk: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, tri- brit, sil, v calc

CHK: It-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pty-sb blk, v calc, cpxk: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, tri- brit, sil, v calc

CHK: It-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pty-sb blk, v calc, cpxk: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, tri- brit, sil, v calc

CHK: It-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pty-sb blk, v calc, cpxk: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, tri- brit, sil, v calc

CHK: It-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pty-sb blk, v calc, cpxk: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, tri- brit, sil, v calc

CHK: It-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pty-sb blk, v calc, cpxk: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, tri- brit, sil, v calc

CHK: It-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pty-sb blk, v calc, cpxk: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, tri- brit, sil, v calc

CHK: It-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pty-sb blk, v calc, cpxk: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, tri- brit, sil, v calc

CHK: It-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pty-sb blk, v calc, cpxk: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, tri- brit, sil, v calc



In/Out Mud Wt: 9.2/9.2 Vis 34/36

250

ROP (ft/hr)

GAMMA (api)

58

4549u

80000

800000

GA\$ (units)

CI-C4 (PPM)

1597u

149

74

4190u

2715u

3799u

100

C1 66.5%

C2 13.0%

C3 12.2%

C4 8.3%

CI-C4 (PPM)

In/Out Mud Wt: 9.15/9.15 Vis 34/34

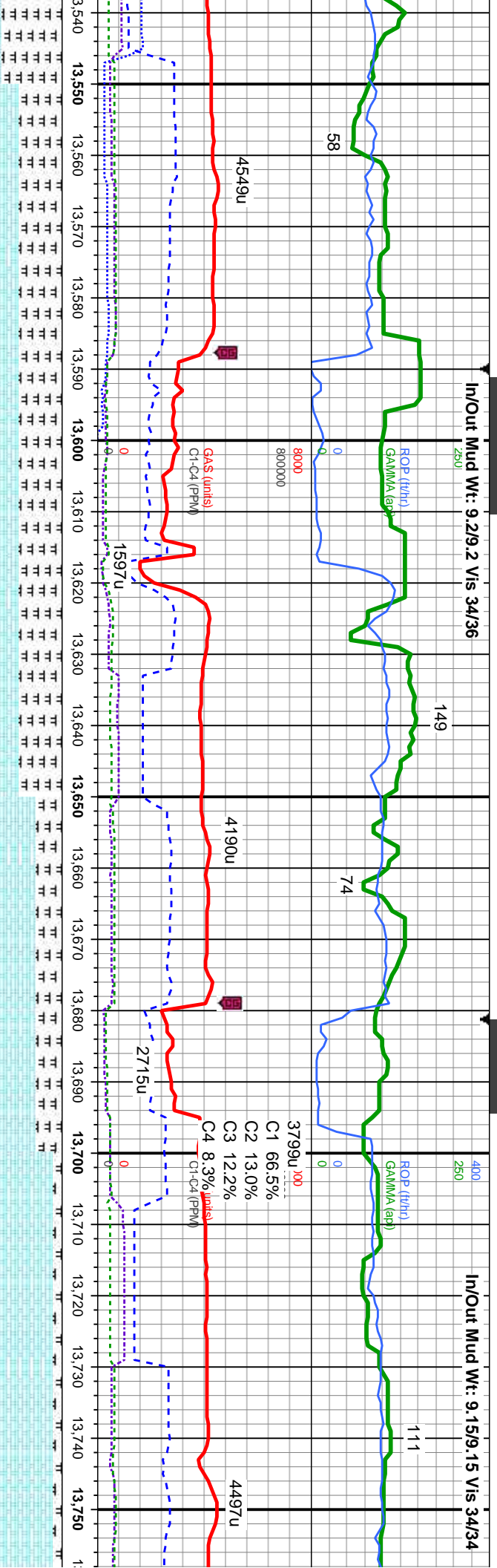
250

ROP (ft/hr)

GAMMA (api)

111

4497u



n, v	CHK: lt-med gy, gy brn, some wh, mot, lam, v	CHK: lt-med gy, gy brn, some wh, mot, lam, v	CHK: lt-med gy, gy brn, some wh, mot, lam, v	CHK: lt-med gy, gy brn, some wh, mot, lam, v
sft-fm, sb ply-sb blk, v calc, cpxl: MRLST: med	sft-fm, sb ply-sb blk, v calc, cpxl: MRLST: med	sft-fm, sb ply-sb blk, v calc, cpxl: MRLST: med	sft-fm, sb ply-sb blk, v calc, cpxl: MRLST: med	sft-fm, sb ply-sb blk, v calc, cpxl: MRLST: med
-dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v	-dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v	-dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v	-dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v	-dk gy, s, s
t, sil, v	calc	calc, tr cal, tr pyr bent	calc, tr cal, tr pyr bent	calc, tr c

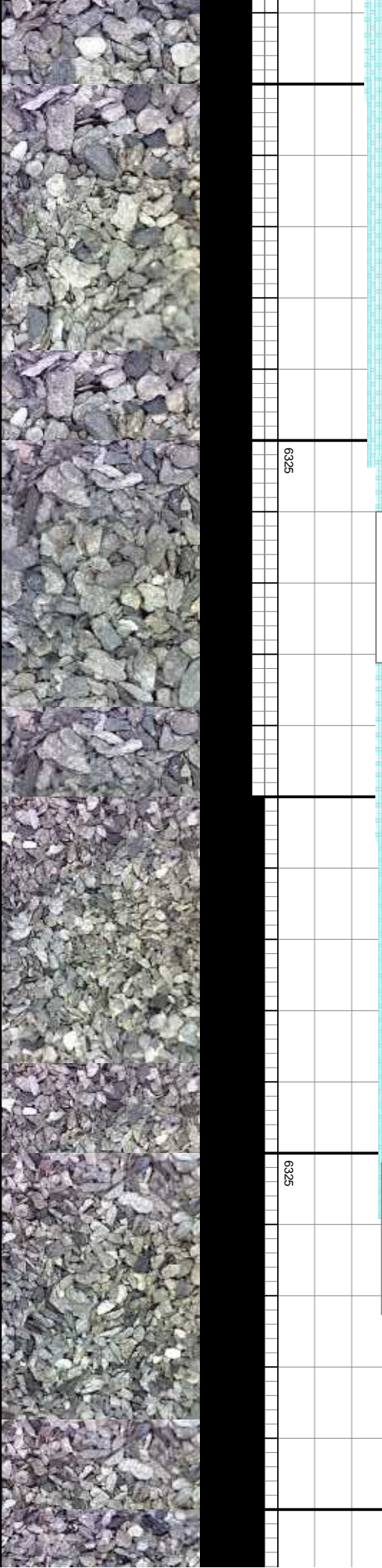
TVD (ft)

MD: 13,618'  
TVD: 6,257.97'  
Inclination: 90.3°  
Azimuth: 88.4°  
VS: 7,125.17'

MD: 13,710'  
TVD: 6,258.94'  
Inclination: 88.5°  
Azimuth: 88.3°  
VS: 7,217.16'

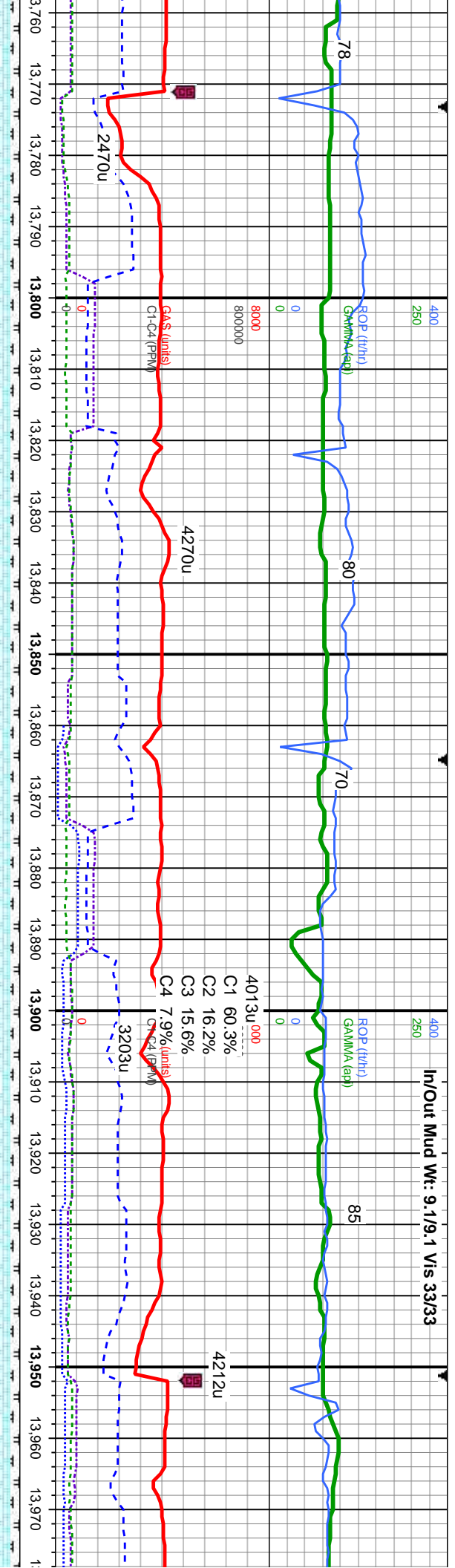
6325

6325





In/Out Mud Wt: 9.1/9.1 Vis 33/33



med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, cpbx: MRLST: med tri, sft-v sft, sb ply-sb blk, fri- brt, sil, v al, tr inoc fos	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, cpbx: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v calc, tr cal	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, cpbx: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v calc, tr cal	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, cpbx: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v calc, tr cal	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, cpbx: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v calc, tr cal
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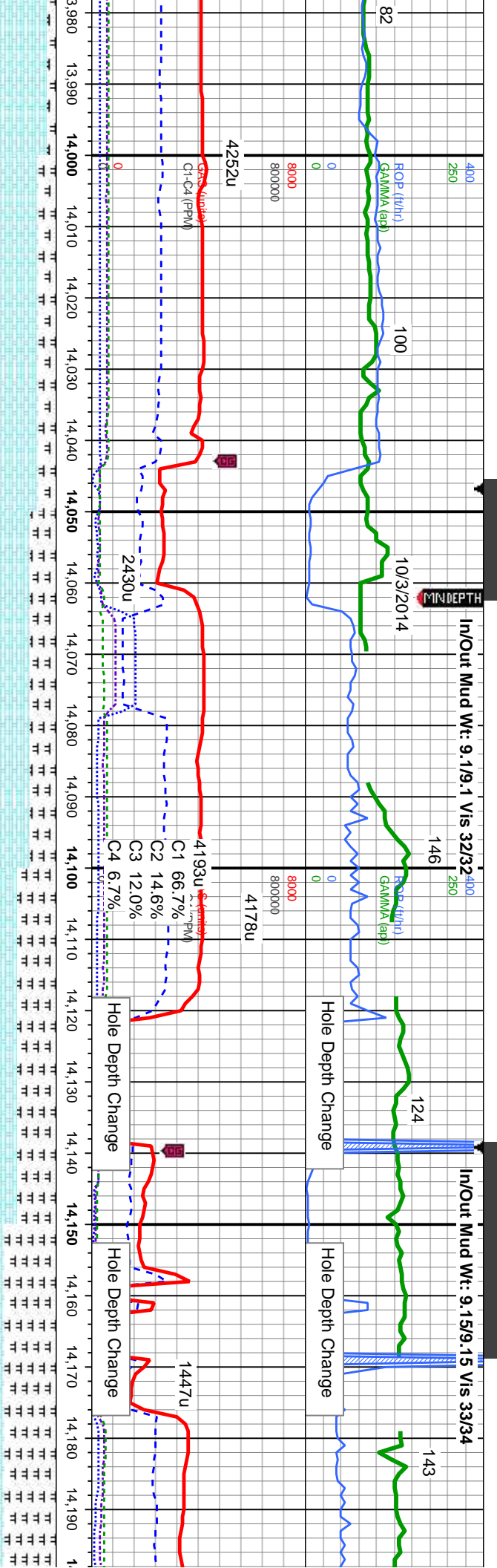
MD: 13,801'  
TVD: 6,260.84'  
Inclination: 89.1°  
Azimuth: 88.5°  
VS: 7,308.14'

MD: 13,892'  
TVD: 6,261.56'  
Inclination: 90°  
Azimuth: 88.3°  
VS: 7,399.14'

6325	6325	6325	6325	6325
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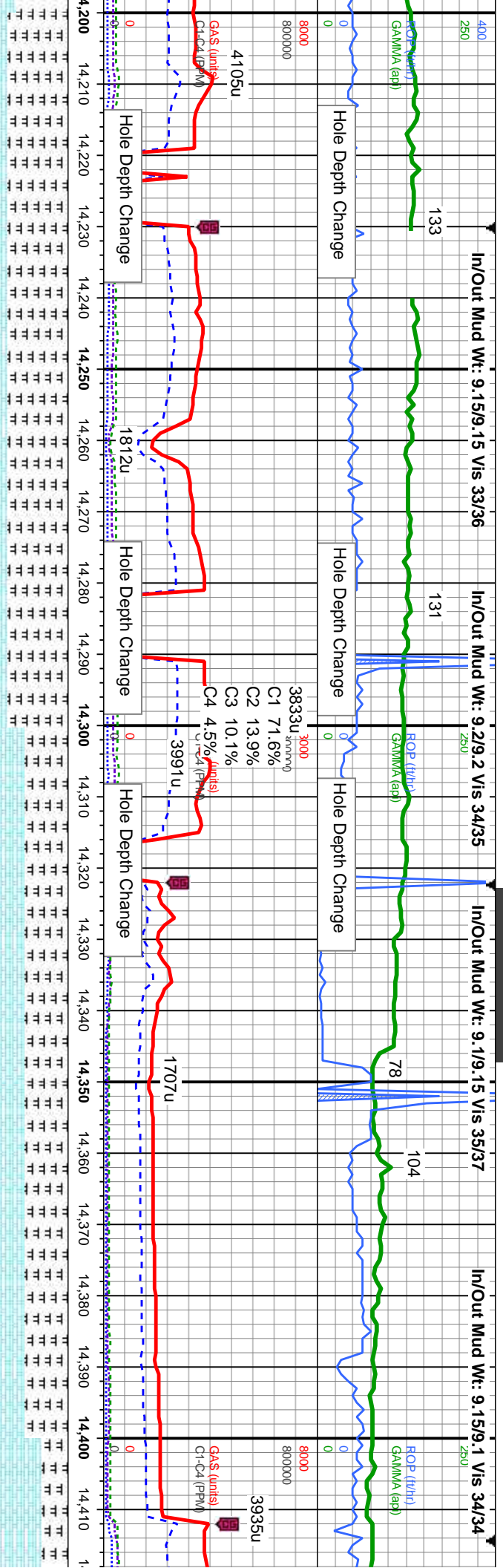


wh, mot, lam, v	CHK: lt-med gy, gy brn, some wh, mot, lam, v	CHK: lt-med gy, gy brn, some wh, mot, lam, v	CHK: lt-med gy, gy brn, some wh, mot, lam, v	CHK: lt-med gy, gy brn, some wh, mot, lam, v
cpvxi: MRLST: med	sft-frn, sb ply-sb blk, v calc, cpvxi: MRLST: med	sft-frn, sb ply-sb blk, v calc, cpvxi: MRLST: med	sft-frn, sb ply-sb blk, v calc, cpvxi: MRLST: med	sft-frn, sb ply-sb blk, v calc, cpvxi: MRLST: med
-dk, gy, stri, sft-v sft, sb ply-sb blk, fri- brit, sil, v	-dk, gy, stri, sft-v sft, sb ply-sb blk, fri- brit, sil, v	-dk, gy, stri, sft-v sft, sb ply-sb blk, fri- brit, sil, v	-dk, gy, stri, sft-v sft, sb ply-sb blk, fri- brit, sil, v	-dk, gy, stri, sft-v sft, sb ply-sb blk, fri- brit, sil, v
calc, tr cal	calc, tr pyr bent	calc, tr pyr bent	calc, tr pyr bent	calc, tr pyr bent

MD: 13,984'	MD: 14,076'	MD: 14,167'
VD: 6,261.16'	VD: 6,259.79'	VD: 6,258.68'
inclination: 90.5°	inclination: 91.2°	inclination: 90.2°
azimuth: 88.6°	azimuth: 89.3°	azimuth: 89.2°
S: 7,491.14'	VS: 7,583.12'	VS: 7,674.11'
TVD (ft)	TVD (ft)	TVD (ft)
6325	6325	6325







CHK: It-med gy, gy brn, some wh, mot, lam, v sft-frm, sb pty-sb blk, v calc, cpxl: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, fri- brt, sil, v calc, tr pyr bent	CHK: It-med gy, gy brn, some wh, mot, lam, v sft-frm, sb pty-sb blk, v calc, cpxl: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, fri- brt, sil, v calc, tr pyr bent	CHK: It-med gy, gy brn, some wh, mot, lam, v sft-frm, sb pty-sb blk, v calc, cpxl: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, fri- brt, sil, v calc, tr pyr bent	CHK: It-med gy, gy brn, some wh, mot, lam, v sft-frm, sb pty-sb blk, v calc, cpxl: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, fri- brt, sil, v calc, tr pyr bent
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MD: 14,258'  
TVD: 6,257.41'  
Inclination: 91.4 °  
Azimuth: 89.9 °  
VS: 7,765.08'

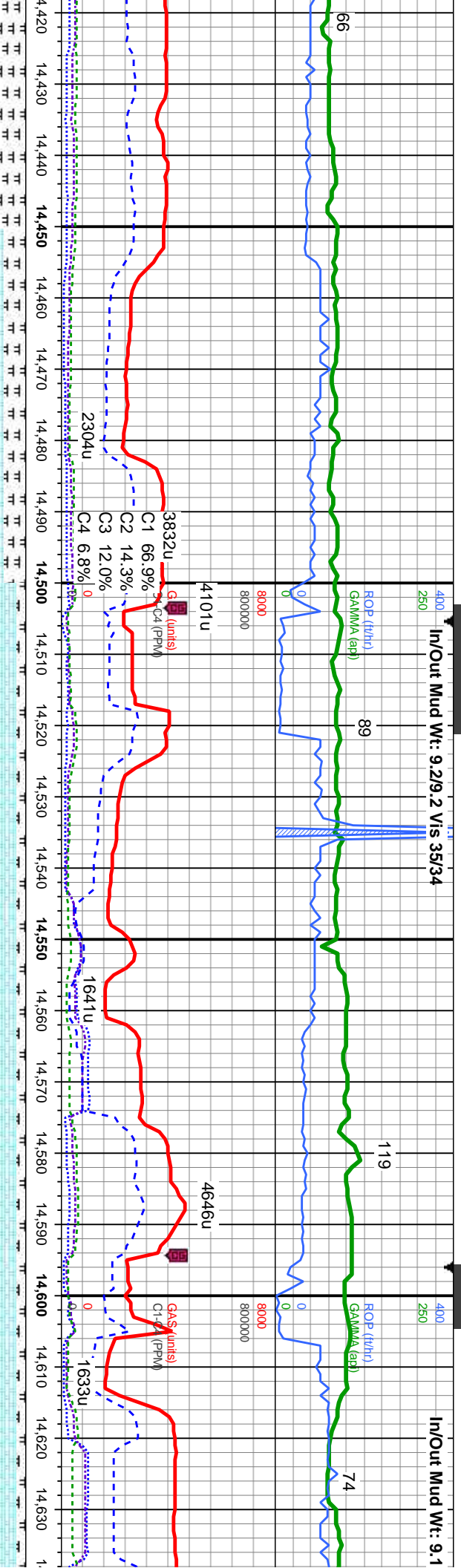
MD: 14,350'  
TVD: 6,256.85'  
Inclination: 89.3 °  
Azimuth: 89 °  
VS: 7,857.07'





In/Out Mud Wt: 9.2/9.2 Vis 35/34

In/Out Mud Wt: 9.1



brn, some wh, mot, lam, v bky, v calc, crptx; MRLST: med sb pily-sb blkly, fri- brit, sil, v	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pily-sb blkly, v calc, crptx; MRLST: med -dk gy, stri, sft-v sft, sb pily-sb blkly, fri- brit, sil, v calc, tr pyr bent	6225
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MD: 14,442'  
TVD: 6,257.57'  
Inclination: 89.8 °  
Azimuth: 89.5 °  
VS: 7,949.06'

CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pily-sb blkly, v calc, crptx; MRLST: med -dk gy, stri, sft-v sft, sb pily-sb blkly, fri- brit, sil, v calc, tr pyr bent	TVD (ft)
--	----------

MD: 14,533'  
TVD: 6,257.89'  
Inclination: 89.8 °  
Azimuth: 88.9 °  
VS: 8,040.05'

CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pily-sb blkly, v calc, crptx; MRLST: med -dk gy, stri, sft-v sft, sb pily-sb blkly, fri- brit, sil, v calc, tr pyr bent	TVD (ft)
--	----------

CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-firm, sb pily-sb blkly, v calc, crptx; MRLST: med -dk gy, stri, sft-v sft, sb pily-sb blkly, fri- brit, sil, v calc	TVD (ft)
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MD: 14,625'  
TVD: 6,257.89'  
Inclination: 90.2 °  
Azimuth: 88.6 °  
VS: 8,132.05'





5/9.15 Vis 35/35

In/Out Mud Wt: 9.2/9.2 Vis 35/35

MINDEPTH

10/4/2014

127

400  
250  
142

ROP (ft/hr)  
GAMMA (api)

893OP (ft/hr)  
GAMMA (api)

2777u  
8000  
8000000

C1 73.3%  
C2 11.5%  
C3 8.6%  
C4 6.7%

CI-C4 (PPM)

GAS (units)  
CI-C4 (PPM)

4410u

4457u

1915u

1993u

4370u

14,640 14,650 14,660 14,670 14,680 14,690 14,700 14,710 14,720 14,730 14,740 14,750 14,760 14,770 14,780 14,790 14,800 14,810 14,820 14,830 14,840 14,850

6225

6225

TVD (ft)

MD: 14,716'  
TVD: 6,256.7'  
Inclination: 91.3°  
Azimuth: 88.6°  
VS: 8,223.04'

MD: 14,807'  
TVD: 6,255.58'  
Inclination: 90.1°  
Azimuth: 87.8°  
VS: 8,314.03'

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frm, sb ply-sb blk, v calc, cpxl; MRLST: med  
-dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v  
calc

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frm, sb ply-sb blk, v calc, cpxl; MRLST: med  
-dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v  
calc

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frm, sb ply-sb blk, v calc, cpxl; MRLST: med  
-dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v  
calc

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frm, sb ply-sb blk, v calc, cpxl; MRLST: med  
-dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v  
calc

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frm, sb ply-sb blk, v calc, cpxl; MRLST: med  
-dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v  
calc



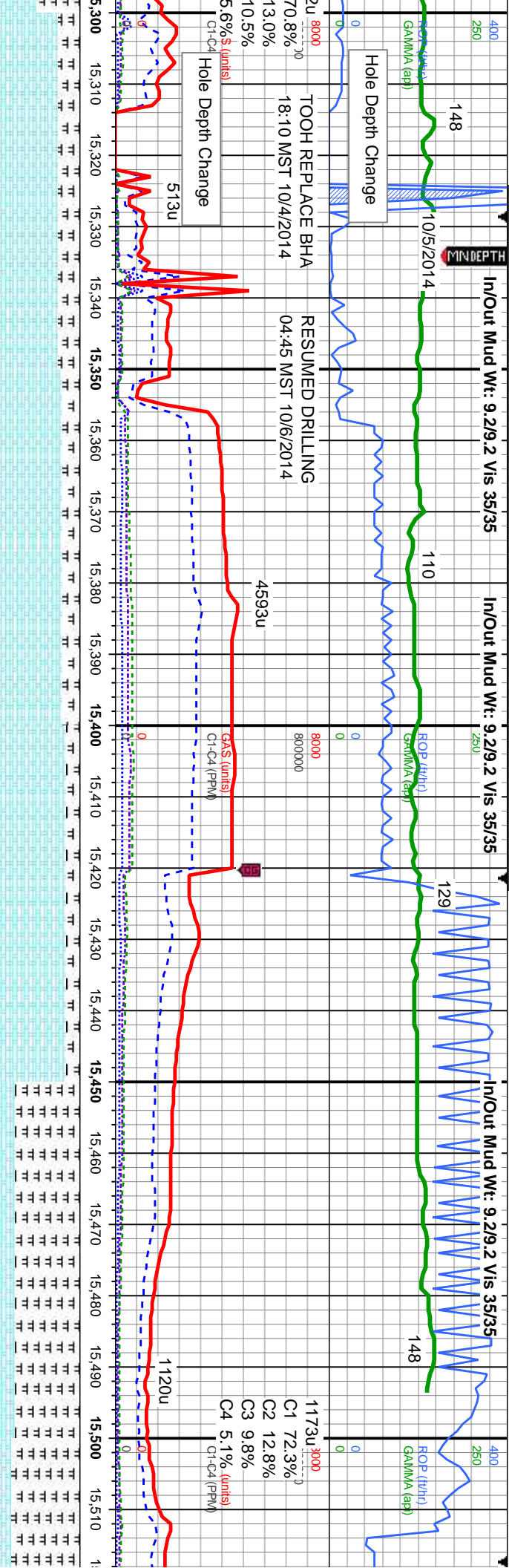










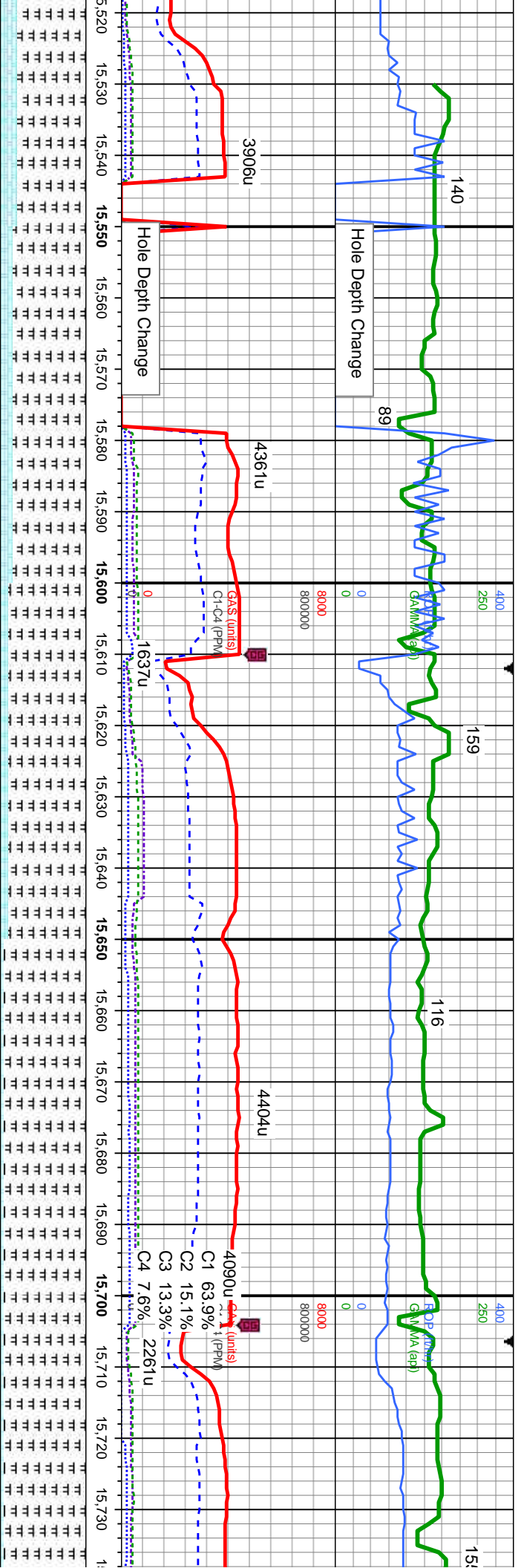


MD: 15,359'  
TVD: 6,248.27'  
Inclination: 90.6 °  
Azimuth: 89.3 °  
VS: 8,865.74'

MD: 15,454'  
TVD: 6,248.85'  
Inclination: 88.7 °  
Azimuth: 88.2 °  
VS: 8,960.73'

CHK: It-med gy, gy brn, some wh, mot, lam, v	CHK: It-med gy, gy brn, some wh, mot, lam, v	CHK: It-med gy, gy brn, some wh, mot, lam, v	CHK: It-med gy, gy brn, some wh, mot, lam, v
sft-frm, sb ply-sb blk, v calc, crptxl; MRLST: med	sft-frm, sb ply-sb blk, v calc, crptxl; MRLST: med	sft-frm, sb ply-sb blk, v calc, crptxl; MRLST: med	sft-frm, sb ply-sb blk, v calc, crptxl; MRLST: med
-dk gy, stri, sft-v sft, sb ply-sb blk, fir- brit, sil, v	-dk gy, stri, sft-v sft, sb ply-sb blk, fir- brit, sil, v	-dk gy, stri, sft-v sft, sb ply-sb blk, fir- brit, sil, v	-dk gy, stri, sft-v sft, sb ply-sb blk, fir- brit, sil, v
calc	calc	calc	calc
6325	6325	6325	6325





MD: 15,549'  
TVD: 6,250.67'  
Inclination: 89.1°  
Azimuth: 88.1°  
VS: 9,055.71'

brn, some wh, mot, lam, v  
lky, v calc, crptk: MRLST: med  
sb pily-sb blkly, fri- brt, sil, v

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb pily-sb blkly, v calc, crptk: MRLST: med  
-dk gy, stri, sft-v sft, sb pily-sb blkly, fri- brt, sil, v  
calc

TVD (ft)

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb pily-sb blkly, v calc, crptk: MRLST: med  
-dk gy, stri, sft-v sft, sb pily-sb blkly, fri- brt, sil, v  
calc

MD: 15,644'  
TVD: 6,251.34'  
Inclination: 90.1°  
Azimuth: 88.2°  
VS: 9,150.7'

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb pily-sb blkly, v calc, crptk: MRLST: med  
-dk gy, stri, sft-v sft, sb pily-sb blkly, fri- brt, sil, v  
calc

TVD (ft)

CHK: lt-med gy, gy brn, some wh, mot, lar  
sft-firm, sb pily-sb blkly, v calc, crptk: MRL  
-dk gy, stri, sft-v sft, sb pily-sb blkly, fri- brt

MD: 15,7  
TVD: 6,2  
Inclination  
Azimuth:  
VS: 9,24



In/Out Mud Wt: 9.3/9.3 Vis 34/34

400  
250

169

In/Out Mud Wt: 9.3/9.3 Vis 34/34

250  
170

170

89

92

ROP (ft/hr)  
GAMMA (cp)

ROP (ft/hr)  
GAMMA (cp)

8000  
800000

2685U  
C1 48.3%  
C2 11.7%  
C3 17.4%  
C4 22.5% (units)  
C1+C2 (ppm)

2425U

4377U

36

4397U

GAS (units)  
C-C4 (ppm)

GAS (units)  
C-C4 (ppm)

2172u

2425u

15,740 15,750 15,760 15,770 15,780 15,790 15,800 15,810 15,820 15,830 15,840 15,850 15,860 15,870 15,880 15,890 15,900 15,910 15,920 15,930 15,940 15,950

6225

6225

TVD (ft)

TVD (ft)

MD: 15,833'  
TVD: 6,248.44'  
Inclination: 91.8°  
Azimuth: 88°  
VS: 9,339.67'

MD: 15,927'  
TVD: 6,244.84'  
Inclination: 92.6°  
Azimuth: 87.3°  
VS: 9,433.58'

38'  
50.6'  
1: 90.8°  
88.1°  
1.7'

CHK: It-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb ply-sb blkly, v calc, cpptx: MRLST: med  
-dk gy, stri, sft-v sft, sb ply-sb blkly, frt- brt, sil

CHK: It-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb ply-sb blkly, v calc, cpptx: MRLST: med  
-dk gy, stri, sft-v sft, sb ply-sb blkly, frt- brt, sil

CHK: It-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb ply-sb blkly, v calc, cpptx: MRLST: med  
-dk gy, stri, sft-v sft, sb ply-sb blkly, frt- brt, sil

CHK: It-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb ply-sb blkly, v calc, cpptx: MRLST: med  
-dk gy, stri, sft-v sft, sb ply-sb blkly, frt- brt, sil

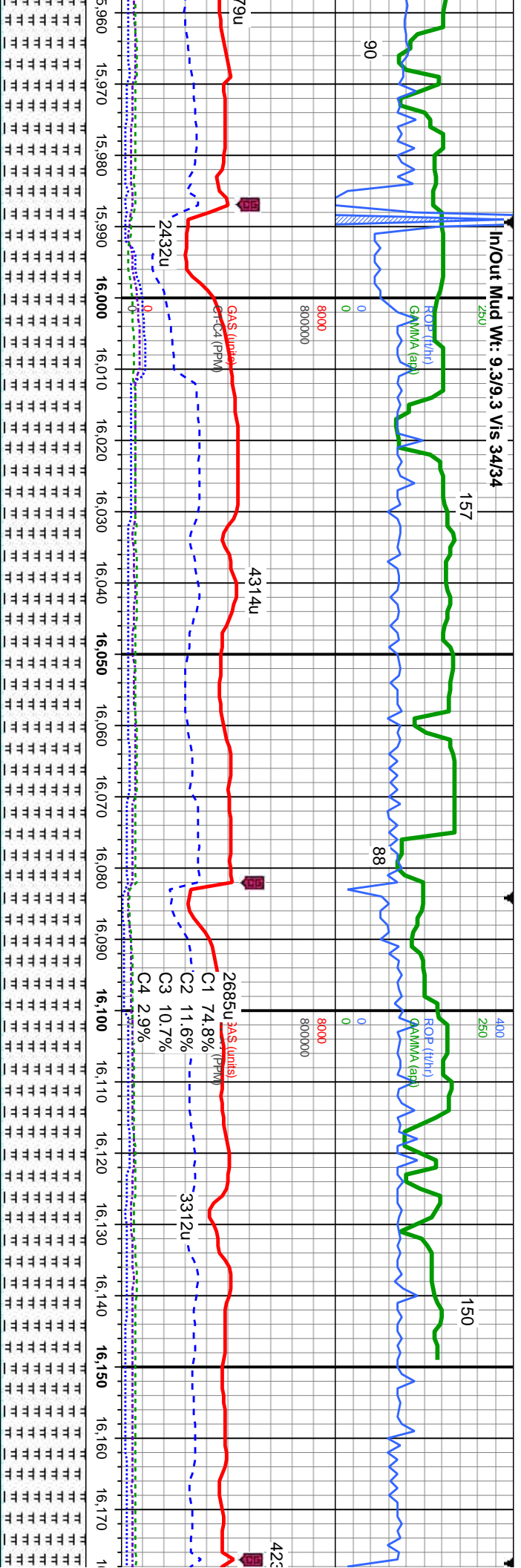
CHK: It-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb ply-sb blkly, v calc, cpptx: MRLST: med  
-dk gy, stri, sft-v sft, sb ply-sb blkly, frt- brt, sil

6325

6325

6325





MD: 16,022'	
TVD: 6,240.19'	
Inclination: 93 °	
Azimuth: 86.9 °	
VS: 9,528.44'	
TVD (ft)	

MD: 16,117'	
TVD: 6,234.81'	
Inclination: 93.5 °	
Azimuth: 86.1 °	
VS: 9,623.22'	
TVD (ft)	

MD: 16,138'  
TVD: 6,233.53'  
Inclination: 93.5 °  
Azimuth: 86.1 °  
VS: 9,644.16'

med gy, gy brn, some wh, mot, lam, v  
sb ply-sb bky, v calc, crptx; MRLST: med  
strn, sft-v sft, sb ply-sb bky, fri-  
brit, sil

CHK: lt-med gy, gy brn, some wh, mot lam, v  
stf-fm, sb ply-sb biky, v calc, cipxi: MRLST: med  
-dk gy, stri, stf-v stf, sb ply-sb biky, fri- brit, sil  
6325

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-fm, sb ply-sb blk, v calc, crpxl: MRLST: med  
-dk gy, stri, sft-v sft, sb ply-sb blk, fr- brt, sil

CHK: l-med gy, gy brn, some wh, mot, lam, v  
sft-fm, sb ply-sb blkly, v calc. crptl: MRLST: med  
-dk gy, stri, sft-v sft, sb ply-sb blkly, fri- bri, sil

**CHK:** It-med gy, gy brn, some  
sft-frm, sb ply-sb blkly, v calc,  
-dk gy, stri, sft-v sft, sb ply-sb



