



Scale: 5" / 100'  
Measured Depth Log

Well Name      Fiducial 6-62-34-6457 BH2

Location      SWSW Sec 34-T6N-R62W

State      Colorado      County      Weld

Country      USA      Rig Number      Nabors M22

API Number      05-123-39296      AFE #      18781D

Region      DJ Basin      Field      Wattenberg

Spud Date      10/11/2014      Drilling Completed      10/20/2014

Surface Coordinates      SWSW Sec 34-T6N-R62W  
1030' FSL 350' FWL

Bottom Hole Coordinates      Projected:  
SESE Sec 35-T6N-R62W  
1158' FSL 500' FEL

Ground Elevation      4677'      K.B. Elevation      4699'

Logged Interval      5866' To      16273'      Total Depth      16273'

Formation      Niobrara B2

Type of Drilling Fluid      LSND

## Operator

Company      Bill Barrett Corp.

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

## Geologist

Name      Scott Hampton

Company      Bill Barrett Corp.

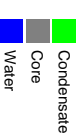
Address      1099 18th Street, Suite 2300  
Denver, CO 80202

## Other



































Charles Trodick      Senior Wellsite Geologist

Mark Raimo      Senior Wellsite Geologist

























































## Zone Color Coding



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 SANC	 TUFF
 CHERT	 IGNEOUS	 SHALE	 WELDED TUFF
 CLAY CHOKE SANC	 SIDERITE or LIMONITE	 SHALE COLORED	
 CLAYSTONE	 LIMESTONE	 SHALE GRAY	







Accessories

 GASTROPOD	 ARGILLITE GRAIN	 HEAVY MINERAL	
 INOCERAMUS	 B BENTONITE	 K KAOLIN	
 ALGAE	 BITUMENOUS SUBSTANCE	 M MARCASITE	 ANHYDRITE STRINGER
 AMPHIPORA	 BRECCIA FRAGMENTS	 M MARLSTONE	 BENTONITE STRINGER
 BELEMNITE	 CALCAREOUS	 MICACEOUS	 COAL STRINGER
 BIOCLASTIC	 CARBONACEOUS FLAKES	 MINERAL CRYSTALS	 DOLOMITE STRINGER
 BRACHIOPOD	 CHITDK	 NODULES	 GYPSUM STRINGER
 BRYOZOA	 CHITLT	 PHOSPHATE PELLETS	 LIMESTONE STRINGER
 CEPHALOPOD	 COAL - THIN BEDS	 P PYRITE	 MARLSTONE (CALC) STRG
 CORAL	 DOLOMITIC	 SALT CAST	 MARLSTONE (DOL) STRG
 CRINOID	 F FELDSPAR	 SANDY	 SANDSTONE STRINGER
 ECHINOID	 FERRUGINOUS PELLET	 S SIDERITE	 SHALE STRINGER
 FISH	 FERRUGINOUS	 SILICEOUS	 SILTSTONE STRINGER
 FORAMINIFERA	 ANHYDRITIC	 SILTY	
 F FOSSIL	 ARGILLACEOUS	 TUFFACEOUS	

Oil Show

 PINPOINT
 VUGGY






































Engineering

 DEAD	 EVEN	 QUESTIONABLE	 SPOTTED STAINING
		 BIT	 CONNECTION (UP)

Porosity

 CONNECTION (DOWN)	 CONNECTION GAS	 E EARTHLY	 FENESTRAL
	 TRIP GAS		 TRIP GAS (LEFT)
		 F FRACTURE	 INTERCRYSTALLINE
	 DOWN TIME GAS		 INTEROOLITIC
	 CORE - LOST		 MOLDIC
	 CORE - RECOVERED		

Other Symbols

	DST INTERVAL		WIRELINE TESTED - LEFT		E EARTHY
	FAULT		WIRELINE TESTED - RT		FX FINELYXLN
	FORMATION TOP		DRILL STEM TEST		BS GRAINSTONE
	GAS SHOW		MIN DEPTH		L LITHOGRAPHIC
	OIL SHOW				MX MICROXLN
	MIN DEPTH UP	<b>Rounding</b>			
					MX 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
	SIDEWALL CORE (RIGHT)		BS BOUNDSTONE		W WELL
	SLIDE		CHALKY		
	SURVEY		CX CRYPTOXLN		

Slide/Rotate

10/13/2014

In/Out Mud Wt: 9.8/9.7 Vis 38/45

MINDEPTH

99

94

77

Columbine Logging 2-Manned  
Geosteering Operational 10/12/2014  
Bloodhound # 0052

ROP  
ROP  
GAMMA

ROP (ft/hr)

GAMMA (api)

Total Gas & Chromatograph

GAS

C1

C2

C3

C4

Log continues from  
Fiducial 6-62-34-6457 BH2 VERT

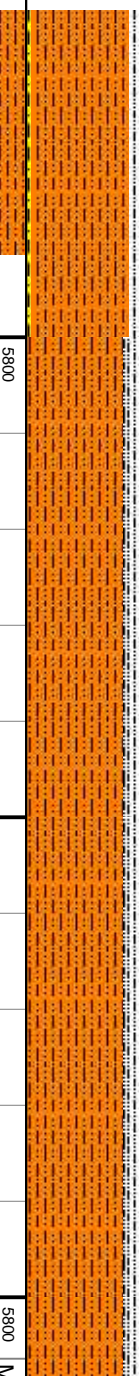
91u  
C1 76.9%  
C2 9.4%  
C3 9.4% (units)  
C4 4.2% (ppm)

GAS (unit)  
C1-C4 (ppm)

Depth Labels

5,830 5,840 5,850 5,860 5,870 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

% Lith



MD: 5,876'  
TVD: 5,858.5'  
Inclination: 3.2 °  
Azimuth: 85.4 °  
VS: -343.44'

MD: 5,923'  
TVD: 5,905.25'  
Inclination: 8.4 °  
Azimuth: 106.2 °  
VS: -338.85'

MD: 5,970'  
TVD: 5,951.44'  
Inclination: 12.8 °  
Azimuth: 115.2 °  
VS: -330.92'

SHY SLTST: lt - med gy, sl tan, s&p, mod frm, brit, sb ply - sb blkly, rthy tex, vf occ f-med gr, mod srt, non calc; SLTY SH: lt - dk gy, mod frm, ply - sb blkly, rthy tex, non calc, SS: wh, lt gy-gy, s&p, sb rd - sb ang, f-med gr, mod - w srt, sb frm, fri, sl calc, tr glau

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

SHY SLTST: lt - med gy, sl tan, s&p, mod frm, brit, sb ply - sb blkly, rthy tex, vf occ f-med gr, mod srt, non calc; SLTY SH: lt - dk gy, mod frm, ply - sb blkly, rthy tex, non calc, scat wh ss

SLTY SH: lt - med gy, sl tan, s&p, mod frm, brit, sb ply - sb blkly, rthy tex, vf occ f-med gr, mod srt, non calc; SLTY SH: lt - dk gy, mod frm, ply - sb blkly, rthy tex, non calc, scat wh ss

Oil Show

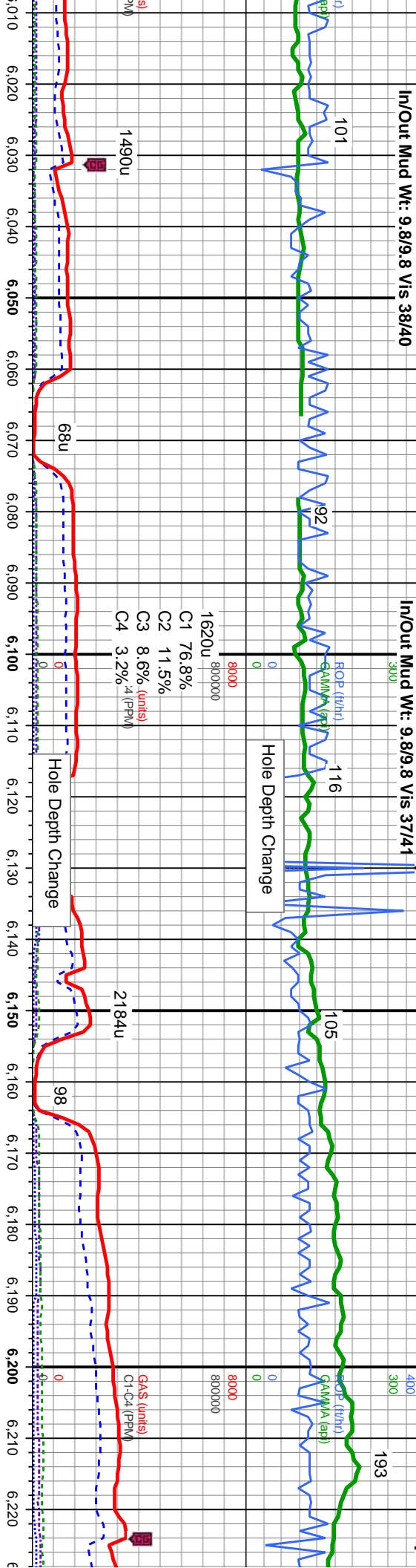
Oil Show

Images



In/Out Mud Wt: 9.8/9.8 Vis 38/40

In/Out Mud Wt: 9.8/9.8 Vis 37/41



Logger Top Sharon Springs  
6130' MD/ 6102.44' TVD

SHY SLTST: lt - dk gy, mod frm, pty - sb blkly, rthy  
brlt, sb pty - sb blkly, rthy tex, vt occ f-med gr, mod  
srt, non calc, SLTY SH: lt - dk gy, mod frm, pty -  
sb blkly, rthy tex, non calc

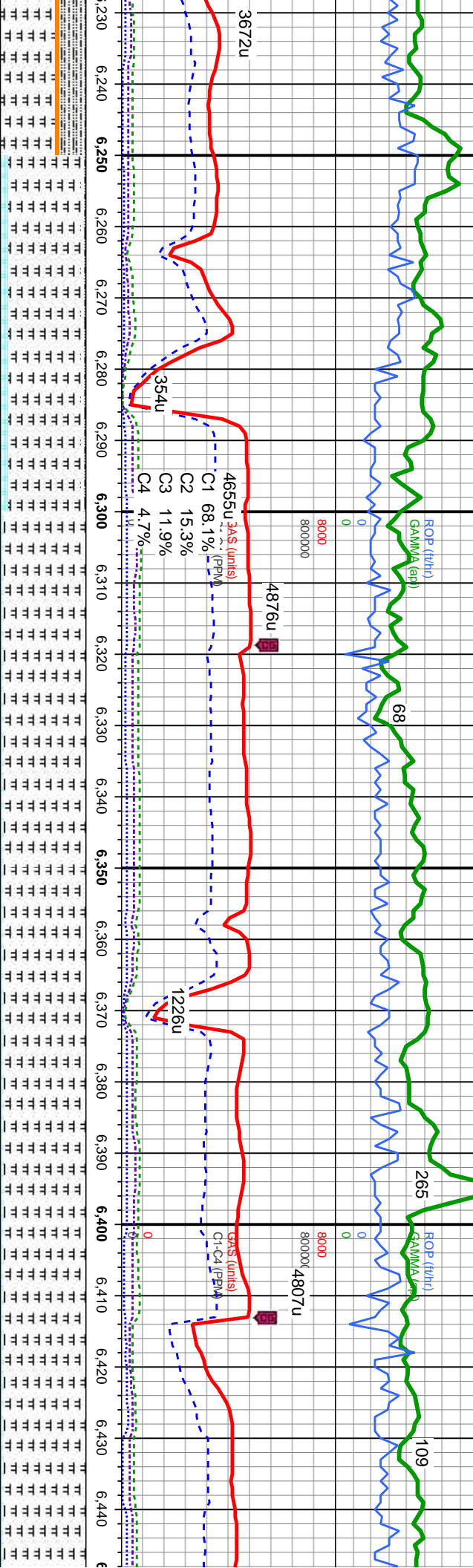
SHY SLTST: lt - med gy, sl tan, s&p, mod frm,  
brlt, sb pty - sb blkly, rthy tex, vt occ f-med gr, mod  
srt, non calc, SLTY SH: lt - dk gy, mod frm, pty -  
sb blkly, rthy tex, non calc

SHY SLTST: lt - med gy, sl tan, s&p, mod frm,  
brlt, sb pty - sb blkly, rthy tex, vt occ f-med gr, mod  
srt, non calc, SLTY SH: lt - dk gy, mod frm, pty -  
sb blkly, rthy tex, non calc



209 In/Out Mud Wt: 9.7/9.5 Vis 35/45

In/Out Mud Wt: 9.7/9.5 Vis 34/36



1, s&g, mod frm, loc f-med gr, w srt, stf - frm, sb pily - sb med-dk gy, stri, sil

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

5800

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

5800

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

5800

MD: 6,256'  
TVD: 6,207.54'  
Inclination: 41.2°  
Azimuth: 118.5°  
VS: -227.16'

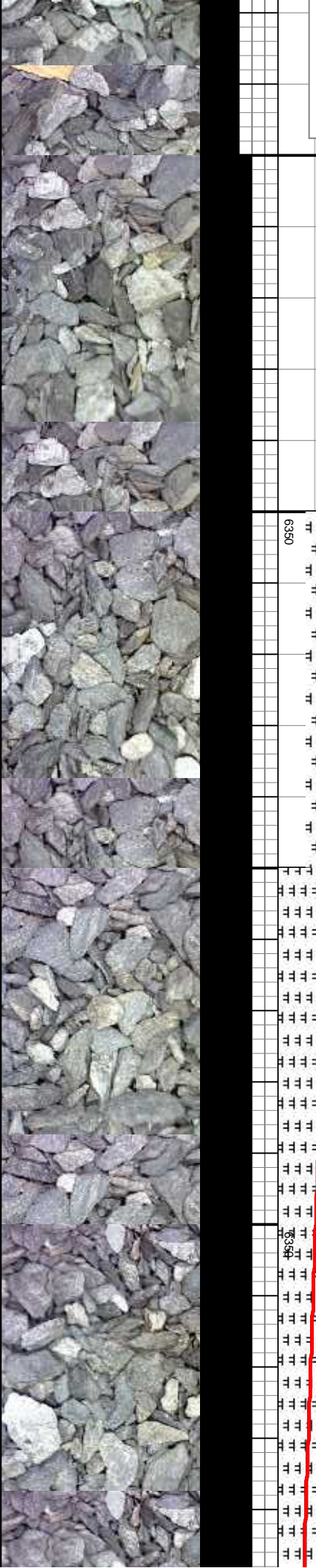
MD: 6,303'  
TVD: 6,240.6'  
Inclination: 49.3°  
Azimuth: 118°  
VS: -198.18'

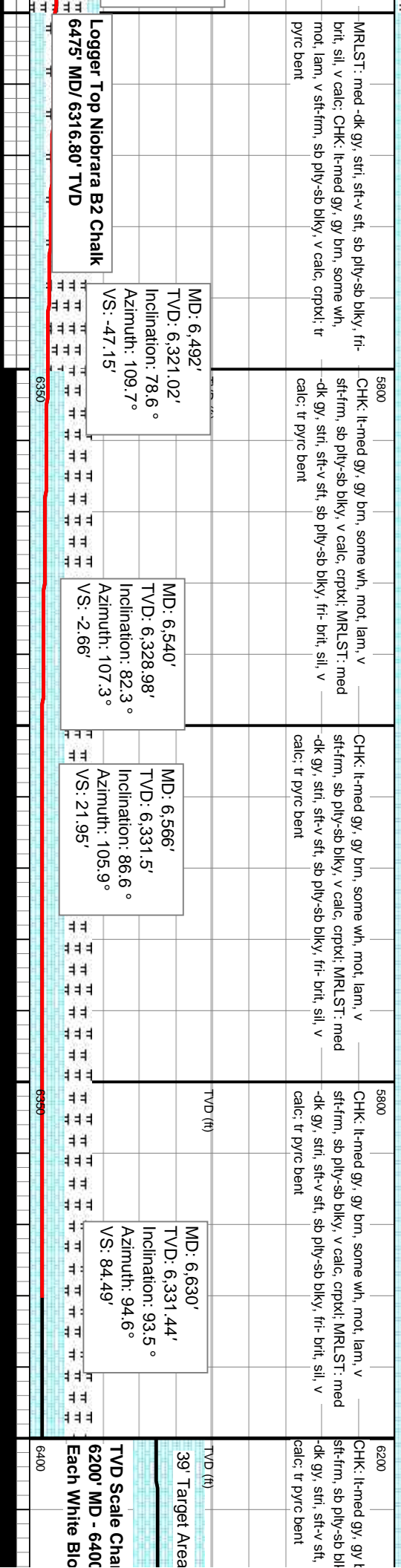
MD: 6,351'  
TVD: 6,269.5'  
Inclination: 56.6°  
Azimuth: 116.6°  
VS: -164.59'

MD: 6,398'  
TVD: 6,292.27'  
Inclination: 65.4°  
Azimuth: 116.2°  
VS: -128.26'

MD: 6,445'  
TVD: 6,309.22'  
Inclination: 72.3°  
Azimuth: 113.6°  
VS: -88.99'

Top Niobrara  
D/6198.17' TVD





MINDEPTH

In/Out Mud Wt: 9.2/9.1 Vis 35/33

10/15/2014

ROP (ft/hr)  
GAMMA (api)

78

4841u

8000

800000

4110u

49.0%

15.6%

18.8%

16.6%

4110u

49.0%

15.6%

18.8%

16.6%

4110u

49.0%

15.6%

18.8%

16.6%

4110u

49.0%

15.6%

18.8%

16.6%

4110u

49.0%

15.6%

18.8%

16.6%

4110u

49.0%

15.6%

18.8%

16.6%

4110u

49.0%

15.6%

18.8%

16.6%

4110u

49.0%

15.6%

18.8%

16.6%

4110u

49.0%

15.6%

18.8%

16.6%

4110u

49.0%

15.6%

18.8%

16.6%

4110u

49.0%

15.6%

18.8%

16.6%

4110u

49.0%

15.6%

18.8%

16.6%

4110u

49.0%

15.6%

18.8%

16.6%

4110u

49.0%

15.6%

18.8%

16.6%

4110u

49.0%

15.6%

18.8%

16.6%

400

300

ROP (ft/hr)  
GAMMA (api)

65

4470u

8000

800000

4470u

49.0%

15.6%

18.8%

16.6%

4470u

49.0%

15.6%

18.8%

16.6%

4470u

49.0%

15.6%

18.8%

16.6%

4470u

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4470u

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4470u

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4470u

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4470u

49.0%

15.6%

18.8%

16.6%

4470u

49.0%

15.6%

18.8%

16.6%

400

300

ROP (ft/hr)  
GAMMA (api)

66

4470u

8000

800000

4470u

49.0%

15.6%

4470u

49.0%

15.6%

4470u

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4470u

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15.6%

4470u

49.0%

15.6%

4470u

49.0%

15.6%

rn, some wh, mot, lam, v  
st-frm, sb ply-sb blkly, v calc, crptxl; MRLST: med  
-dk gy, strf, sft-v sft, sb ply-sb blkly, frt- brt, sil, v  
calc; tr pyrc bent

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
st-frm, sb ply-sb blkly, v calc, crptxl; MRLST: med  
-dk gy, strf, sft-v sft, sb ply-sb blkly, frt- brt, sil, v  
calc; tr pyrc bent

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
st-frm, sb ply-sb blkly, v calc, crptxl; MRLST: med  
-dk gy, strf, sft-v sft, sb ply-sb blkly, frt- brt, sil, v  
calc; tr pyrc bent

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
st-frm, sb ply-sb blkly, v calc, crptxl; MRLST: med  
-dk gy, strf, sft-v sft, sb ply-sb blkly, frt- brt, sil, v  
calc; tr pyrc bent

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
st-frm, sb ply-sb blkly, v calc, crptxl; MRLST: med  
-dk gy, strf, sft-v sft, sb ply-sb blkly, frt- brt, sil, v  
calc; tr pyrc bent

TVD (ft)

TVD (ft)

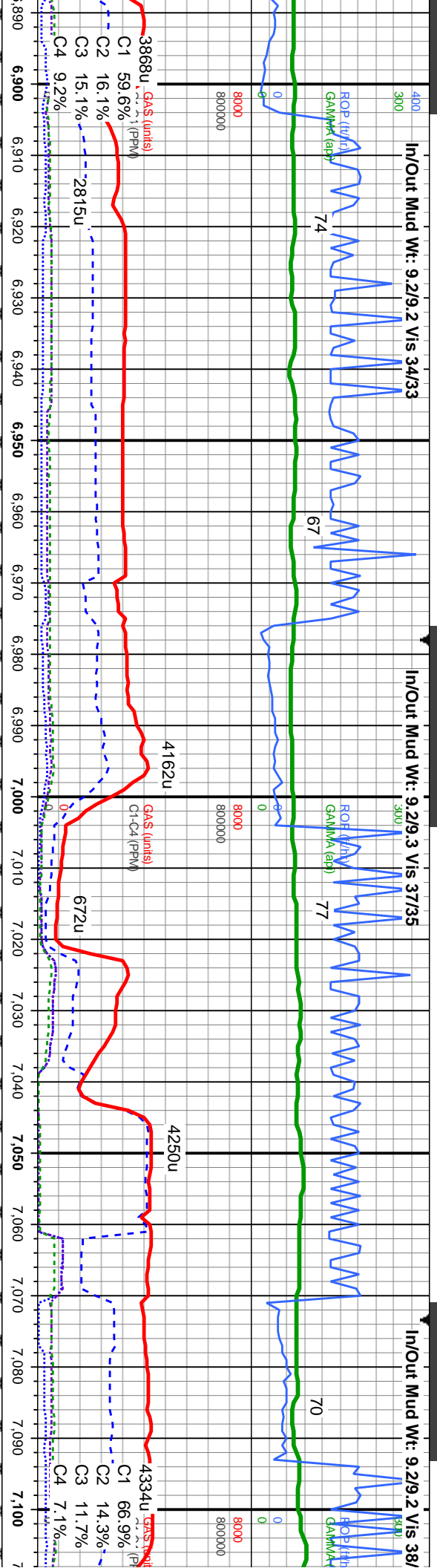
MD: 6,820'  
TVD: 6,323.55'  
Inclination: 91.2°  
Azimuth: 98.7°  
VS: 271.66'

MD: 6,726'  
TVD: 6,326.5'  
Inclination: 92.4°  
Azimuth: 99.5°  
VS: 179.29'

TVD (ft)

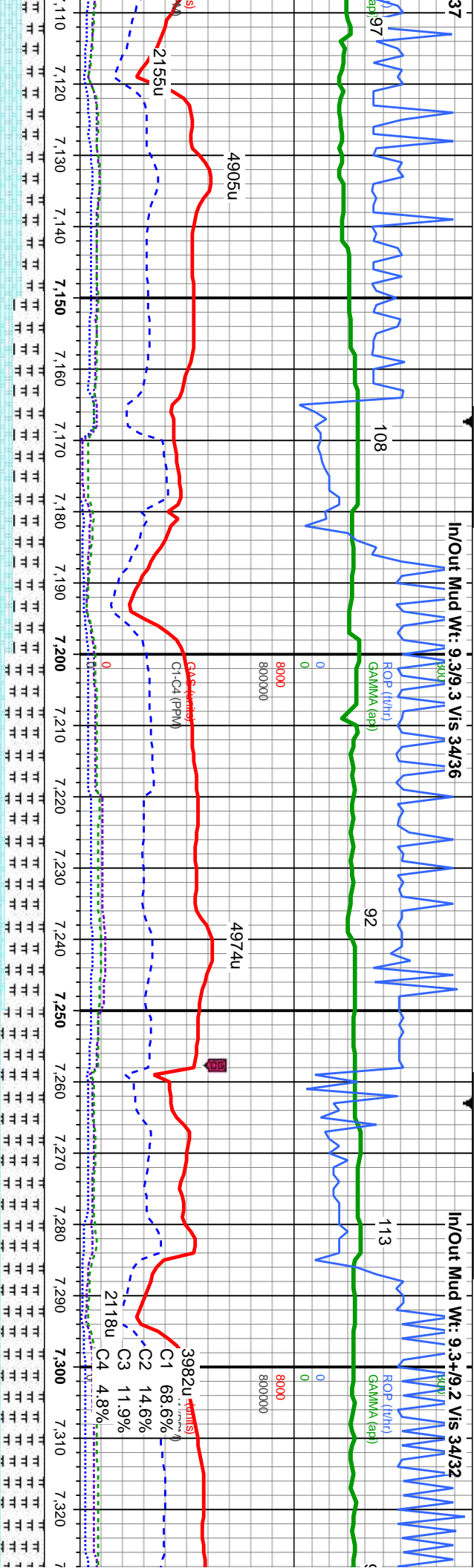
TVD (ft)

age  
MD  
ck is 20'



6200	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, fr- brit, sil, v calc; tr pyrc bent	6200	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, fr- brit, sil, v calc; tr pyrc bent	6200	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, fr- brit, sil, v calc; tr pyrc bent, tr inoc fos, tr cal	6200	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, crptx; MRLST: med -dk gy, s, sft-v sft, sb ply-sb blk, fr- brit, sil, v calc; tr p
TVD (ft)		TVD (ft)		TVD (ft)		TVD (ft)	
MD: 6,915' TVD: 6,322.55' Inclination: 90 ° Azimuth: 98.2 ° VS: 365.25'		MD: 7,010' TVD: 6,322.63' Inclination: 89.9 ° Azimuth: 95.8 ° VS: 459.22'		MD: 7,104' TVD: 6,323.33' Inclination: 8 Azimuth: 93 VS: 552.68'			

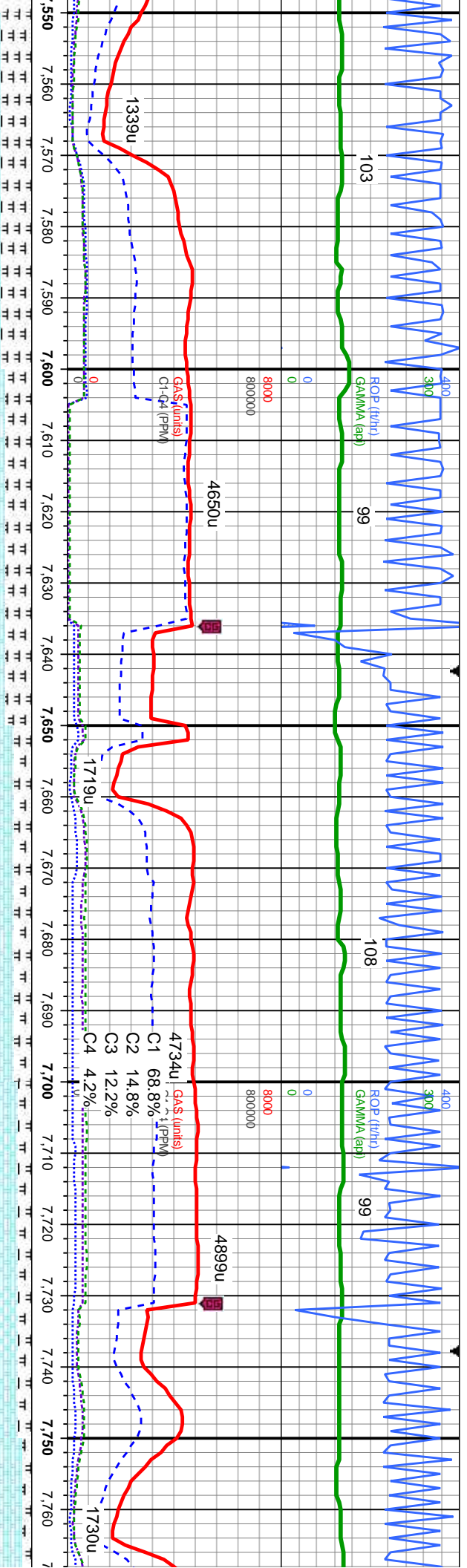




med gy, gy brn, some wh, mot, lam, v	CHK: lt-med gy, gy brn, some wh, mot, lam, v	CHK: lt-med gy, gy brn, some wh, mot, lam, v	CHK: lt-med gy, gy brn, some wh, mot, lam, v
sb ply-sb bkly, v	stf-fm, sb ply-sb bkly, v	stf-fm, sb ply-sb bkly, v	stf-fm, sb ply-sb bkly, v
calc, cpxpt; MRLST: med	calc, cpxpt; MRLST: med	calc, cpxpt; MRLST: med	calc, cpxpt; MRLST: med
brt, stf-v stf, sb ply-sb bkly, fir- brt, sil, v	brt, stf-v stf, sb ply-sb bkly, fir- brt, sil, v	brt, stf-v stf, sb ply-sb bkly, fir- brt, sil, v	brt, stf-v stf, sb ply-sb bkly, fir- brt, sil, v
calc; tr pyc bent, tr inoc fos, tr cal	calc; tr pyc bent, tr inoc fos, tr cal	calc; tr pyc bent, tr inoc fos, tr cal	calc; tr pyc bent, tr inoc fos, tr cal

[illegible]





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, tr inoc fos, tr cal

6200  
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, tr inoc fos, tr cal

6200  
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, tr inoc fos, tr cal

6200  
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, tr inoc fos, tr cal

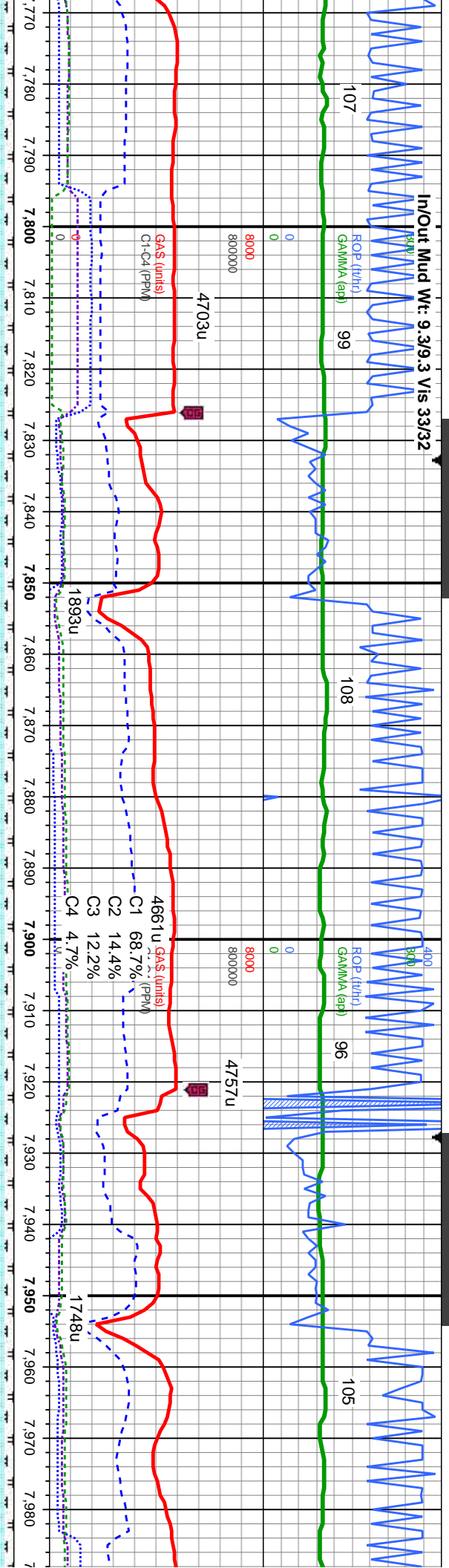
CHK: lt-med gy, gy  
sft-frn, sb ply-sb bl  
-dk gy, stri, sft-v sft,  
calc: tr pyrc bent, tr

MD: 7,579'  
TVD: 6,321.8'  
Inclination: 91.3°  
Azimuth: 85.6°  
VS: 1.027.05'

MD: 7,674'  
TVD: 6,319.73'  
Inclination: 91.2°  
Azimuth: 84.7°  
VS: 1.121.86'

MD: 7,  
TVD: 6  
Inclina  
Azimu  
VS: 1.2

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



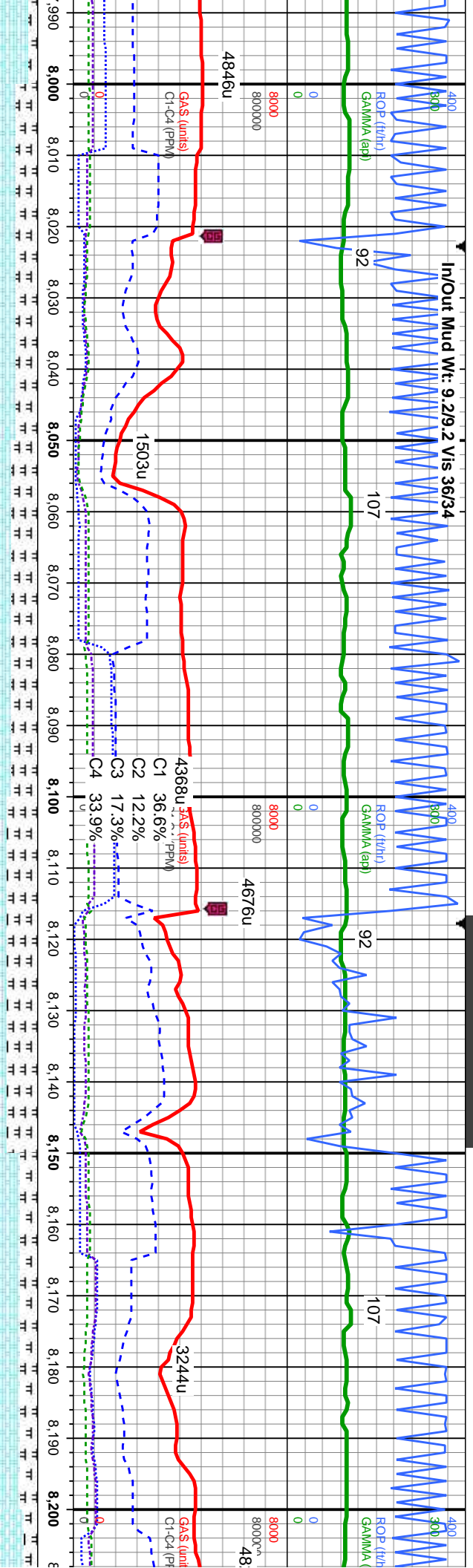
6200	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frn, sb pily-sb blkly, v calc, crpxl: MRLST: med -dk gy, strl, sft-v sft, sb pily-sb blkly, fri- brtl, sil, v calc; tr pyrc bent, tr inoc fos, tr cal	6200	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frn, sb pily-sb blkly, v calc, crpxl: MRLST: med -dk gy, strl, sft-v sft, sb pily-sb blkly, fri- brtl, sil, v calc; tr pyrc bent, tr inoc fos, tr cal	6200	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frn, sb pily-sb blkly, v calc, crpxl: MRLST: med -dk gy, strl, sft-v sft, sb pily-sb blkly, fri- brtl, sil, v calc; tr pyrc bent, tr inoc fos, tr cal
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TVD (ft)

TVD (ft)

769'	MD: 7.864'	MD: 7.959'
ion: 90.9°	TVD: 6,316.99'	TVD: 6,316.24'
h: 83.4°	Inclination: 90.3°	Inclination: 90.6°
216.54'	Azimuth: 83.2°	Azimuth: 85°
	VS: 1,311.13'	VS: 1,405.83'





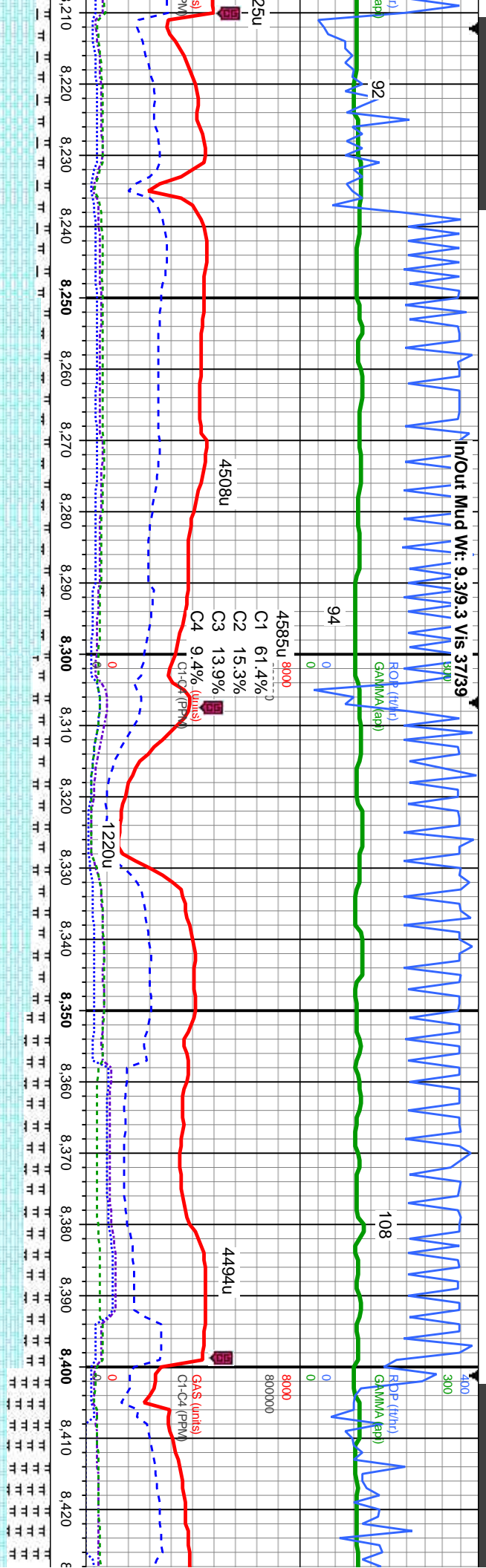
6200	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-firm, sb ply-sb blk, v calc, crpt; MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, frt- brt, sil, v calc; tr cal	6200	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-firm, sb ply-sb blk, v calc, crpt; MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, frt- brt, sil, v calc; tr cal	6200	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-firm, sb ply-sb blk, v calc, crpt; MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, frt- brt, sil, v calc; tr cal
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TVD (ft)	TVD (ft)	TVD (ft)
6400	6400	6400

MD: 8,054'  
TVD: 6,315.58'  
Inclination: 90.2°  
Azimuth: 83.7°  
VS: 1,500.57'

MD: 8,149'  
TVD: 6,315'  
Inclination: 90.5°  
Azimuth: 85°  
VS: 1,595.31'

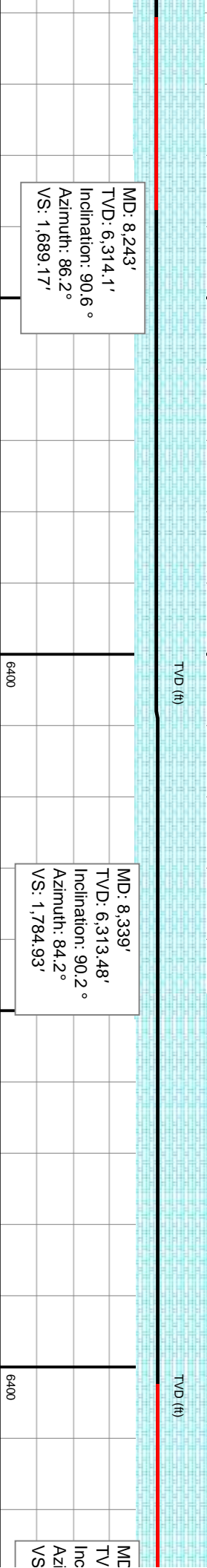


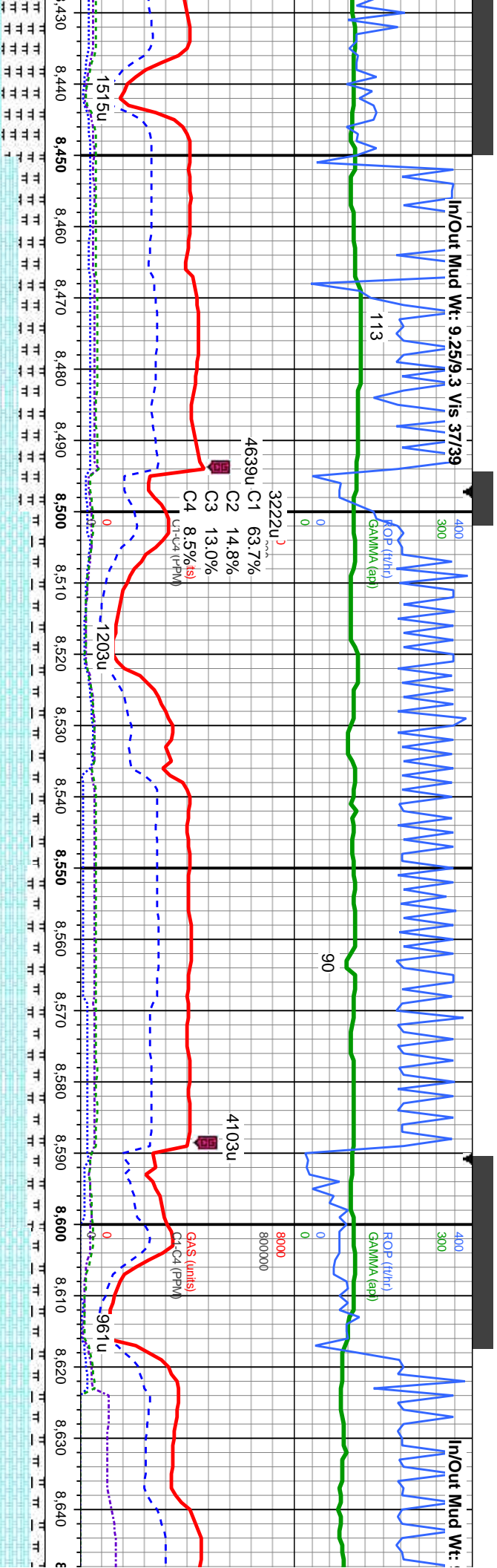


med gy, gy brn, some wh, mot, lam, v	CHK: lt-med gy, gy brn, some wh, mot, lam, v	6200	CHK: lt-med gy, gy brn, some wh, mot, lam, v	6200	CHK: lt-med gy, gy brn, some wh, mot, lam, v
b ply-sb blk, v calc, cpx: med	st-frn, sb ply-sb blk, v calc, cpx: med		st-frn, sb ply-sb blk, v calc, cpx: med		st-frn, sb ply-sb blk, v calc, cpx: med
st-v sft, sb ply-sb blk, fr- brt, sil, v	-dk gy, stri, st-v sft, sb ply-sb blk, fr- brt, sil, v		-dk gy, stri, st-v sft, sb ply-sb blk, fr- brt, sil, v		-dk gy, stri, st-v sft, sb ply-sb blk, fr- brt, sil, v
calc: tr cal	calc: tr cal		calc: tr cal		calc: tr cal

MD: 8,243'  
TVD: 6,314.1'  
Inclination: 90.6°  
Azimuth: 86.2°  
VS: 1,689.17'

MD: 8,339'  
TVD: 6,313.48'  
Inclination: 90.2°  
Azimuth: 84.2°  
VS: 1,784.93'





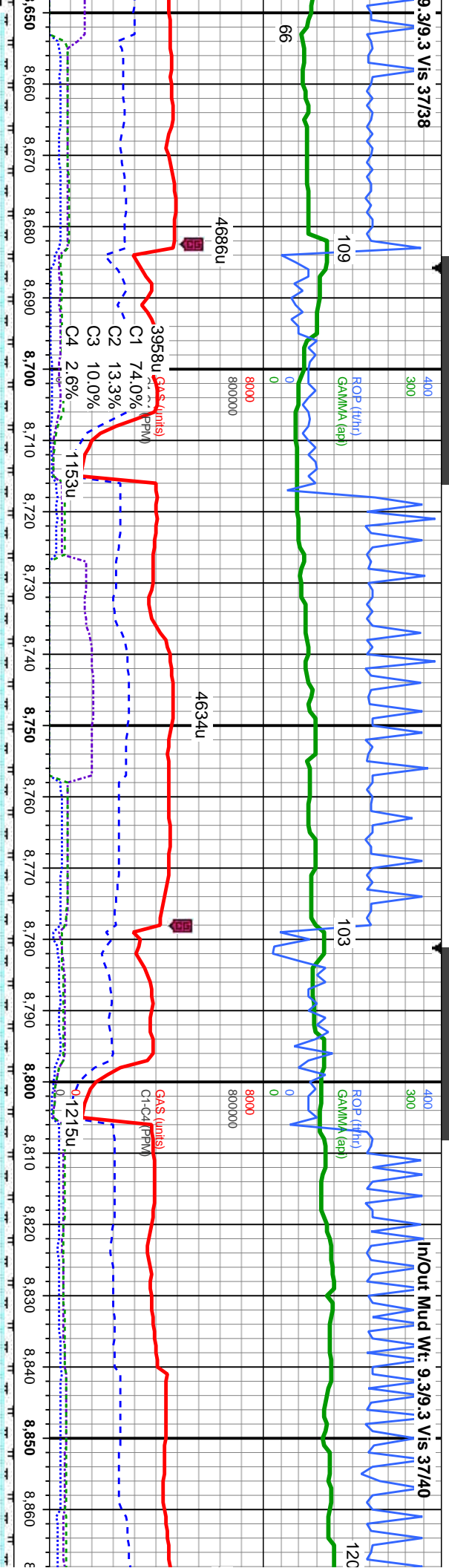
CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frn, sb pty-sb blkly, v calc, crptx; MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blkly, frt- brt, sil, v calc; tr cal	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frn, sb pty-sb blkly, v calc, crptx; MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blkly, frt- brt, sil, v calc; tr cal, tr inoc fos	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frn, sb pty-sb blkly, v calc, crptx; MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blkly, frt- brt, sil, v calc; tr cal, tr inoc fos
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MD: 8.434' D: 6.312.9' Inclination: 90.5° Azimuth: 86.8° VS: 1.879.78'	MD: 8.528' TV/D: 6.312.24' Inclination: 90.3° Azimuth: 86.8° VS: 1.973.73'	MD: 8.623' TV/D: 6.310.17' Inclination: 92.2° Azimuth: 87.4° VS: 2.068.67'
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9.3/9.3 Vis 37/38

In/Out Mud Wt: 9.3/9.3 Vis 37/40



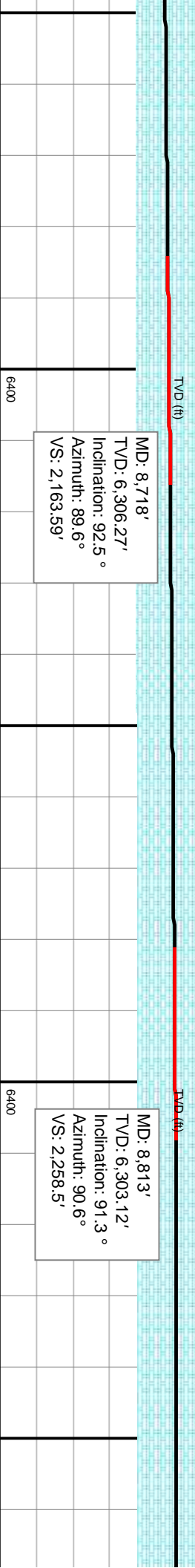
CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frn, sb ply-sb blk, v calc, cpbxi: MRLST: med  
-dk gy, str, sft-v sft, sb ply-sb blk, fri- brt, sil, v  
calc: tr cal, tr inoc fos

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frn, sb ply-sb blk, v calc, cpbxi: MRLST: med  
-dk gy, str, sft-v sft, sb ply-sb blk, fri- brt, sil, v  
calc: tr cal, tr inoc fos

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frn, sb ply-sb blk, v calc, cpbxi: MRLST: med  
-dk gy, str, sft-v sft, sb ply-sb blk, fri- brt, sil, v  
calc: tr cal, tr inoc fos

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frn, sb ply-sb blk, v calc, cpbxi: MRLST: med  
-dk gy, str, sft-v sft, sb ply-sb blk, fri- brt, sil, v  
calc: tr cal, tr inoc fos

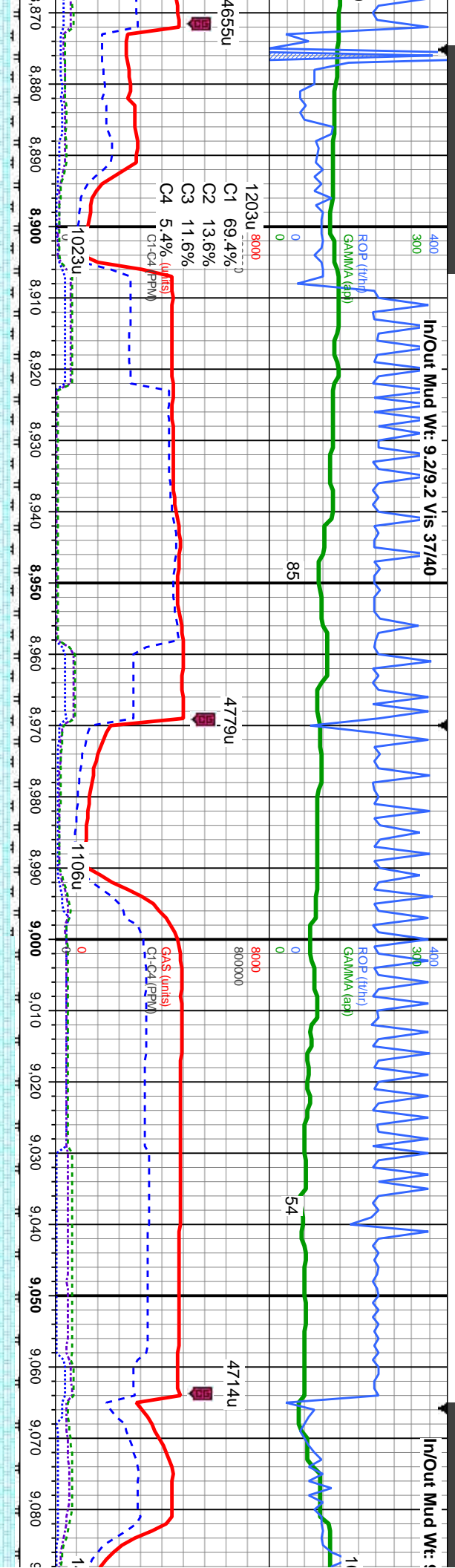
CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frn, sb ply-sb blk, v calc, cpbxi: MRLST: med  
-dk gy, str, sft-v sft, sb ply-sb blk, fri- brt, sil, v  
calc: tr cal, tr inoc fos



MD: 8,813'  
TVD: 6,303.12'  
Inclination: 91.3°  
Azimuth: 90.6°  
VS: 2,258.5'

In/Out Mud Wt: 9.2/9.2 Vis 37/40

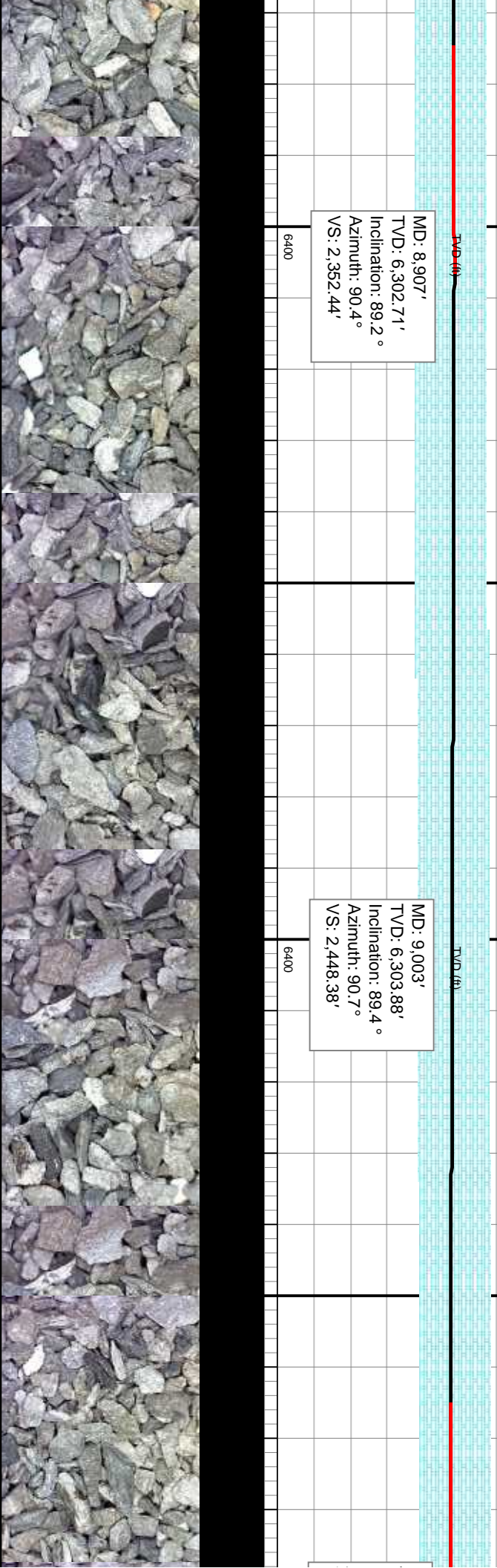
In/Out Mud Wt: 9.2/9.2 Vis 37/40

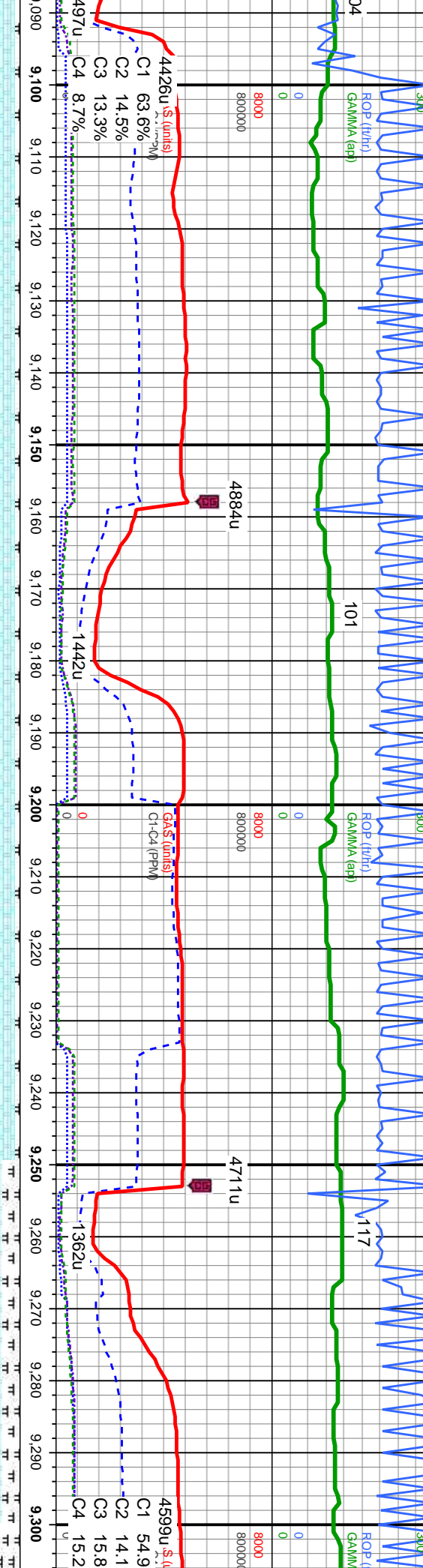


CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frn, sb ply-sb blkly, v calc, cpxxt: MRLST: med  
-dk gy, strf, sft-v sft, sb ply-sb blkly, frt- brt, sil, v  
calc; tr cal, tr inoc fos

MD: 8,907'  
TVD: 6,302.71'  
Inclination: 89.2°  
Azimuth: 90.4°  
VS: 2,352.44'

MD: 9,003'  
TVD: 6,303.88'  
Inclination: 89.4°  
Azimuth: 90.7°  
VS: 2,448.38'

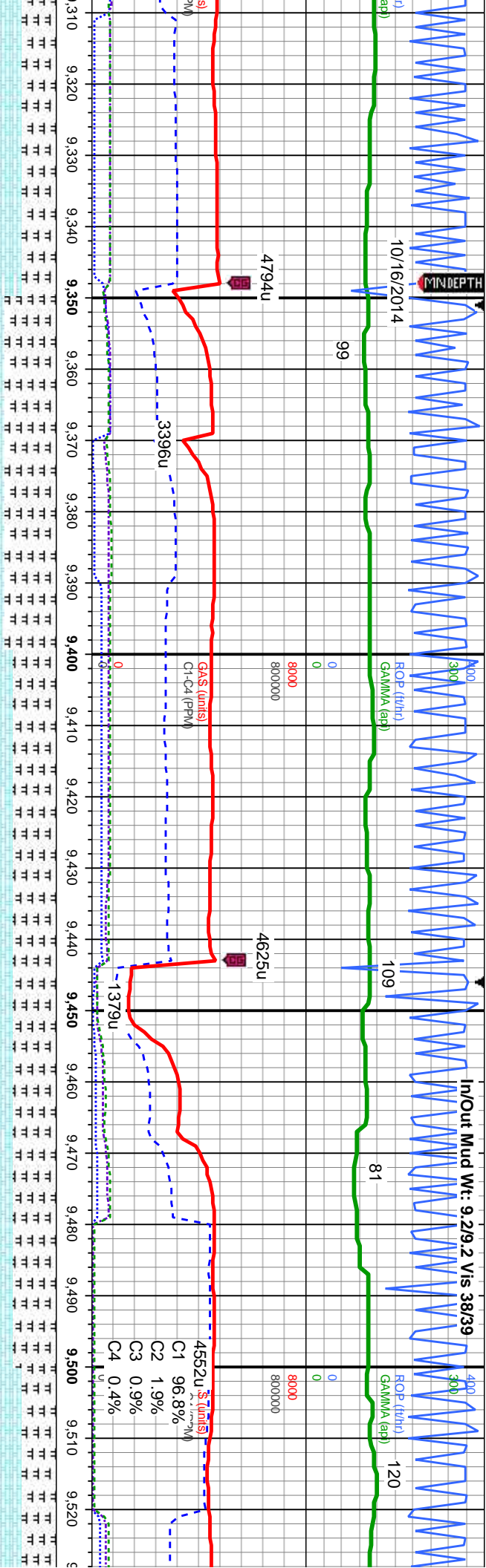




6200	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frn, sb ply-sb blk, v calc, cpxl: MRLST: med -dk gy, str, sft-v sft, sb ply-sb blk, fr- brt, sil, v calc: tr cal, tr inoc fos	6200	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frn, sb ply-sb blk, v calc, cpxl: MRLST: med -dk gy, str, sft-v sft, sb ply-sb blk, fr- brt, sil, v calc: tr cal, tr inoc fos	6200	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frn, sb ply-sb blk, v calc, cpxl: MRLST: med -dk gy, str, sft-v sft, sb ply-sb blk, fr- brt, sil, v calc: tr cal, tr inoc fos
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MD: 9.097' TVD: 6,305.2' Inclination: 89.0° Azimuth: 88.5° VS: 2,542.35'	MD: 9.192' TVD: 6,306.61' Inclination: 89.3° Azimuth: 88.3° VS: 2,637.33'	MD: 9.288' TVD: 6,307.28' Inclination: 89.9° Azimuth: 88° VS: 2,733.33'
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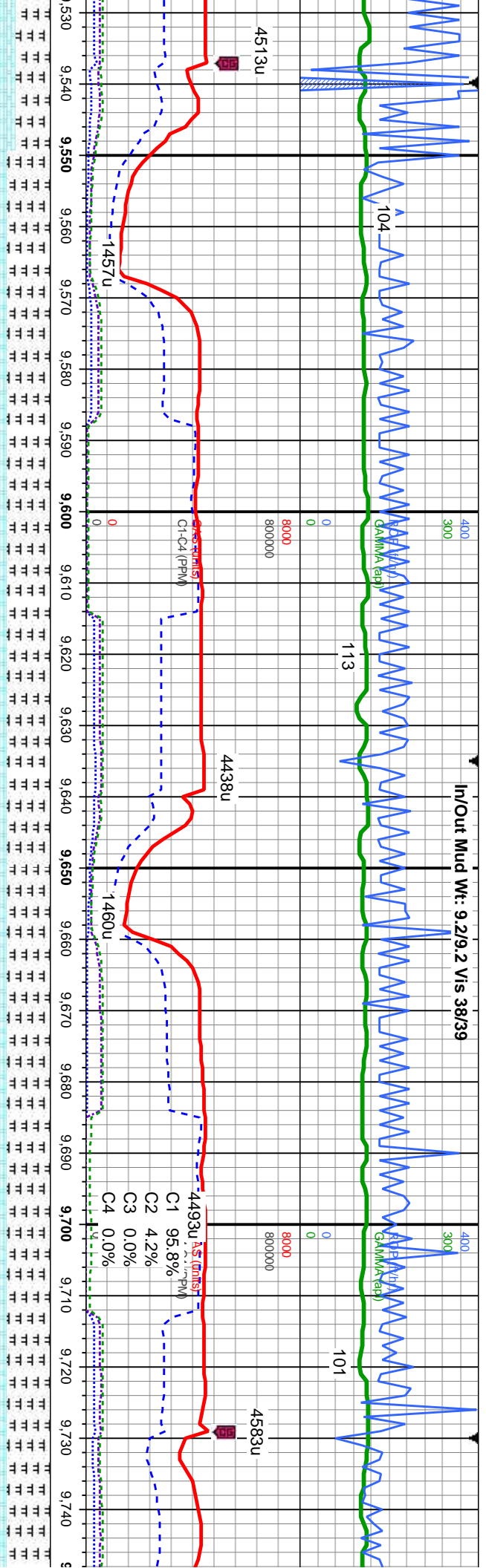


med gy, gy brn, some wh, mot, lam, v	CHK: lt-med gy, gy brn, some wh, mot, lam, v	CHK: lt-med gy, gy brn, some wh, mot, lam, v	CHK: lt-med gy, gy brn, some wh, mot, lam, v
st-frm, sb ply-sb blk, v calc, cpxi: MRLST: med	st-frm, sb ply-sb blk, v calc, cpxi: MRLST: med	st-frm, sb ply-sb blk, v calc, cpxi: MRLST: med	st-frm, sb ply-sb blk, v calc, cpxi: MRLST: med
-dk gy, str, sft-v sft, sb ply-sb blk, fr- brt, sil, v	-dk gy, str, sft-v sft, sb ply-sb blk, fr- brt, sil, v	-dk gy, str, sft-v sft, sb ply-sb blk, fr- brt, sil, v	-dk gy, str, sft-v sft, sb ply-sb blk, fr- brt, sil, v
al, tr inoc fos	calc: tr cal, tr inoc fos	calc: tr cal, tr inoc fos	calc: tr cal, tr inoc fos

MD: 9,383'  
TVD: 6,307.03'  
Inclination: 90.4°  
Azimuth: 88.3°  
VS: 2,828.33'

MD: 9,477'  
TVD: 6,305.71'  
Inclination: 91.2°  
Azimuth: 88.5°  
VS: 2,922.31'



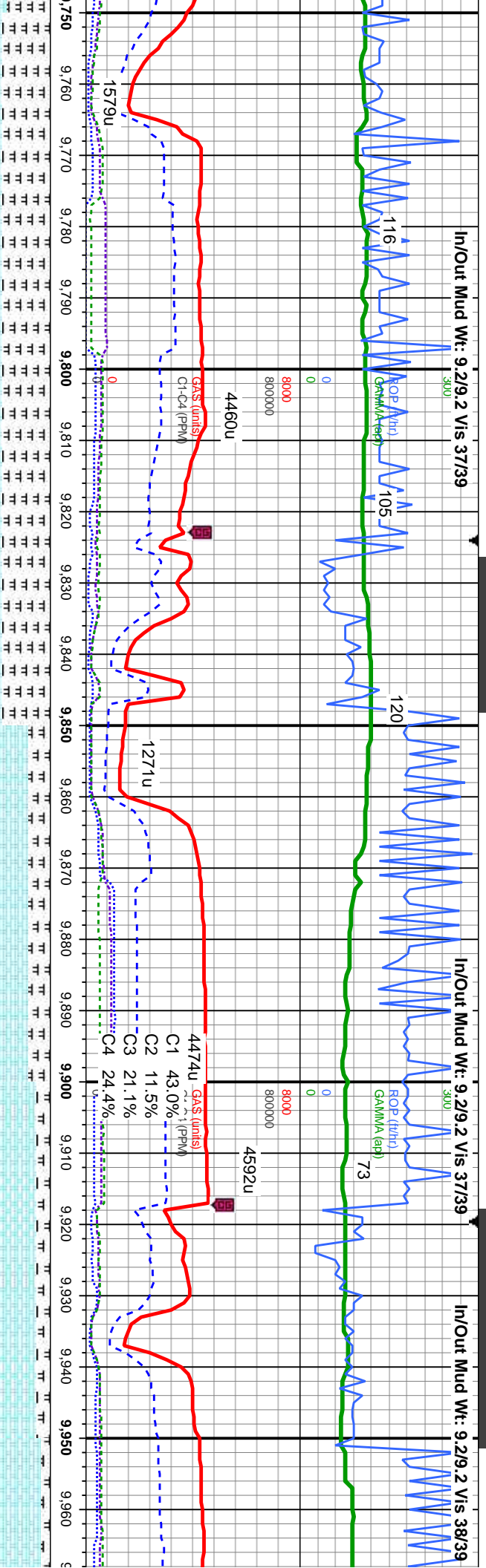


4513u	CHK: lt-med gy, gy brn, some wh, mot, lam, v	CHK: lt-med gy, gy brn, some wh, mot, lam, v	CHK: lt-med gy, gy brn, some wh, mot, lam, v
	stf-firm, sb ply-sb blkly, v calc, cpxxi: MRLST: med	stf-firm, sb ply-sb blkly, v calc, cpxxi: MRLST: med	stf-firm, sb ply-sb blkly, v calc, cpxxi: MRLST: med
	-dk gy, strf, stf-v stf, sb ply-sb blkly, frf- brt, sil, v	-dk gy, strf, stf-v stf, sb ply-sb blkly, frf- brt, sil, v	-dk gy, strf, stf-v stf, sb ply-sb blkly, frf- brt, sil, v
	calc: tr cal, tr inoc fos	calc: tr cal, tr inoc fos	calc: tr cal, tr inoc fos

MD: 9,572'  
TVD: 6,303.97'  
Inclination: 90.9°  
Azimuth: 88.3°  
VS: 3,017.3'

MD: 9,667'  
TVD: 6,301.98'  
Inclination: 91.5°  
Azimuth: 88.1°  
VS: 3,112.27'

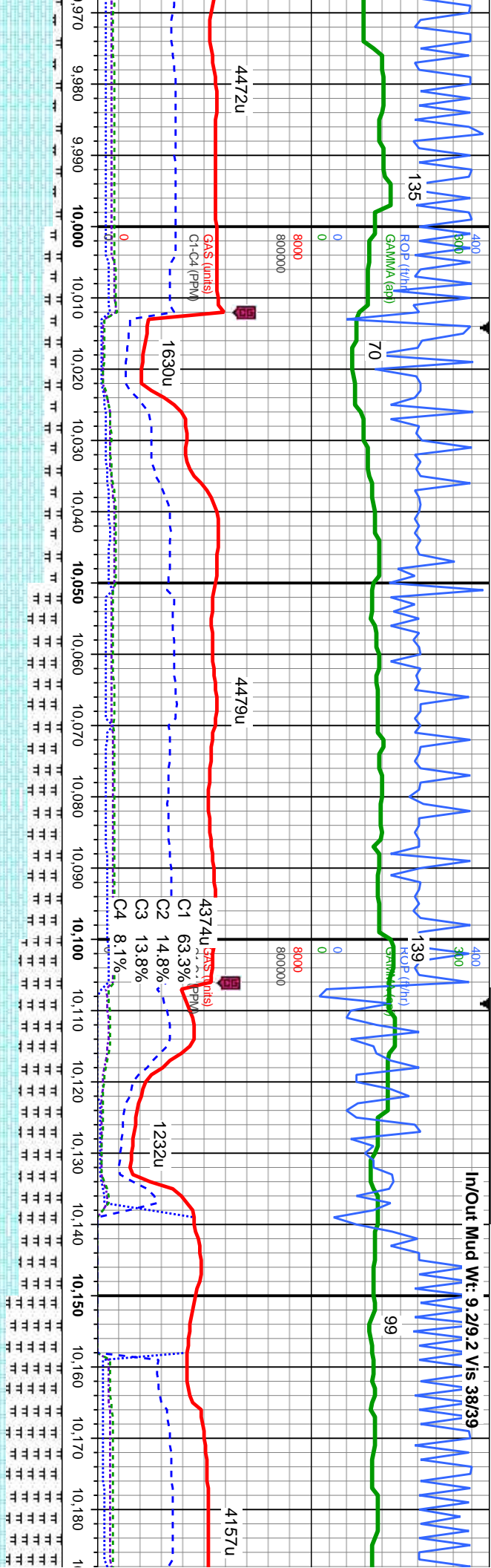




CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frm, sb pty-sb blk, v calc, crptxl: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, fri- brt, sil, v calc: tr cal, tr inoc fos	6200	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frm, sb pty-sb blk, v calc, crptxl: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, fri- brt, sil, v calc: tr cal, tr inoc fos	6200	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frm, sb pty-sb blk, v calc, crptxl: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, fri- brt, sil, v calc: tr cal, tr inoc fos	6200	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frm, sb pty-sb blk, v calc, crptxl: MRLST: med -dk gy, stri, sft-v sft, sb pty-sb blk, fri- brt, sil, v calc: tr cal, tr inoc fos	6200
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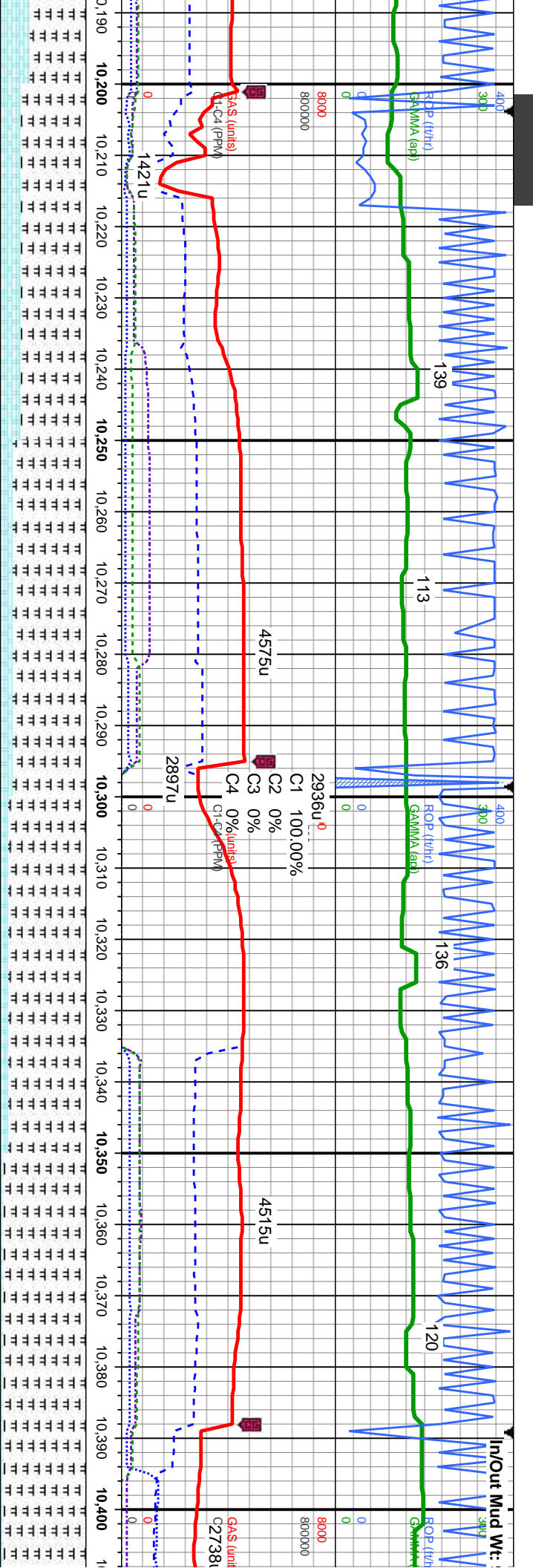
MD: 9.761' TVD: 6,299.61' Inclination: 91.4 ° Azimuth: 88.4 ° VS: 3,206.24'	6400	MD: 9.856' TVD: 6,298.03' Inclination: 90.5 ° Azimuth: 89.1 ° VS: 3,301.23'	6400	MD: 9.951' TVD: 6,297.53' Inclination: 90.1 ° Azimuth: 88.3 ° VS: 3,396.23'	6400
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6200	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frn, sb ply-sb blk, v calc, crpxl: MRLST: med -dk gy, str, sft-v sft, sb ply-sb blk, fr- brt, sil, v calc: tr cal, tr inoc fos	6200	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frn, sb ply-sb blk, v calc, crpxl: MRLST: med -dk gy, str, sft-v sft, sb ply-sb blk, fr- brt, sil, v calc: tr cal, tr inoc fos	6400	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-frn, sb ply-sb blk, v calc, crpxl: MRLST: med -dk gy, str, sft-v sft, sb ply-sb blk, fr- brt, sil, v calc: tr cal, tr inoc fos
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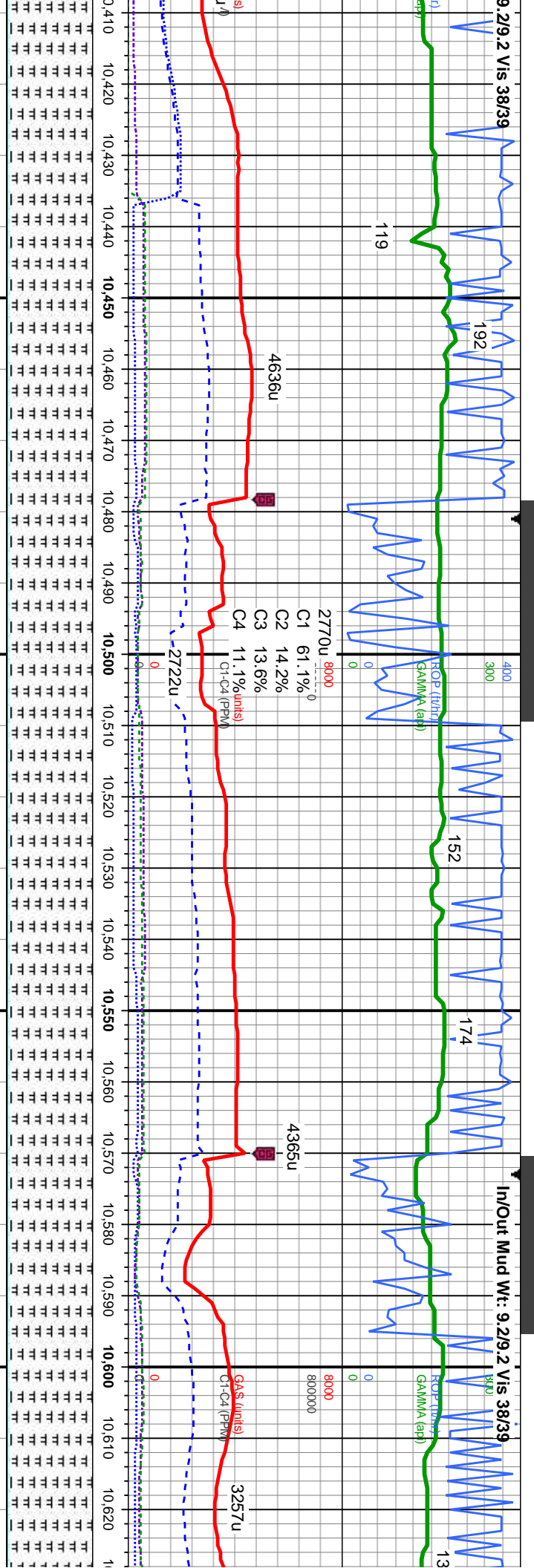


MD: 10,235'  
TVD: 6,298.77'  
Inclination: 90.2°  
Azimuth: 86°  
VS: 3,680.1'

MD: 10,326'  
TVD: 6,298.85'  
Inclination: 89.7°  
Azimuth: 84°  
VS: 3,770.91'

CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, cpxl: MRLST: med -dk gy, str, sft-v sft, sb ply-sb blk, fr- brt, sil, v calc: tr cal, tr inoc fos	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, cpxl: MRLST: med -dk gy, str, sft-v sft, sb ply-sb blk, fr- brt, sil, v calc: tr cal, tr inoc fos	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, cpxl: MRLST: med -dk gy, str, sft-v sft, sb ply-sb blk, fr- brt, sil, v calc: tr cal, tr inoc fos	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, cpxl: MRLST: med -dk gy, str, sft-v sft, sb ply-sb blk, fr- brt, sil, v calc: tr cal, tr inoc fos
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MD: 10,418'  
TVD: 6,299.49'  
Inclination: 89.5°  
Azimuth: 84°  
VS: 3,862.62'

MD: 10,509'  
TVD: 6,300.21'  
Inclination: 89.6°  
Azimuth: 84.7°  
VS: 3,953.36'

MD: 10,601'  
TVD: 6,299.32'  
Inclination: 91.5°  
Azimuth: 85.4°  
VS: 4,045.18'

60' Fault

TVD (ft)

TVD (ft)

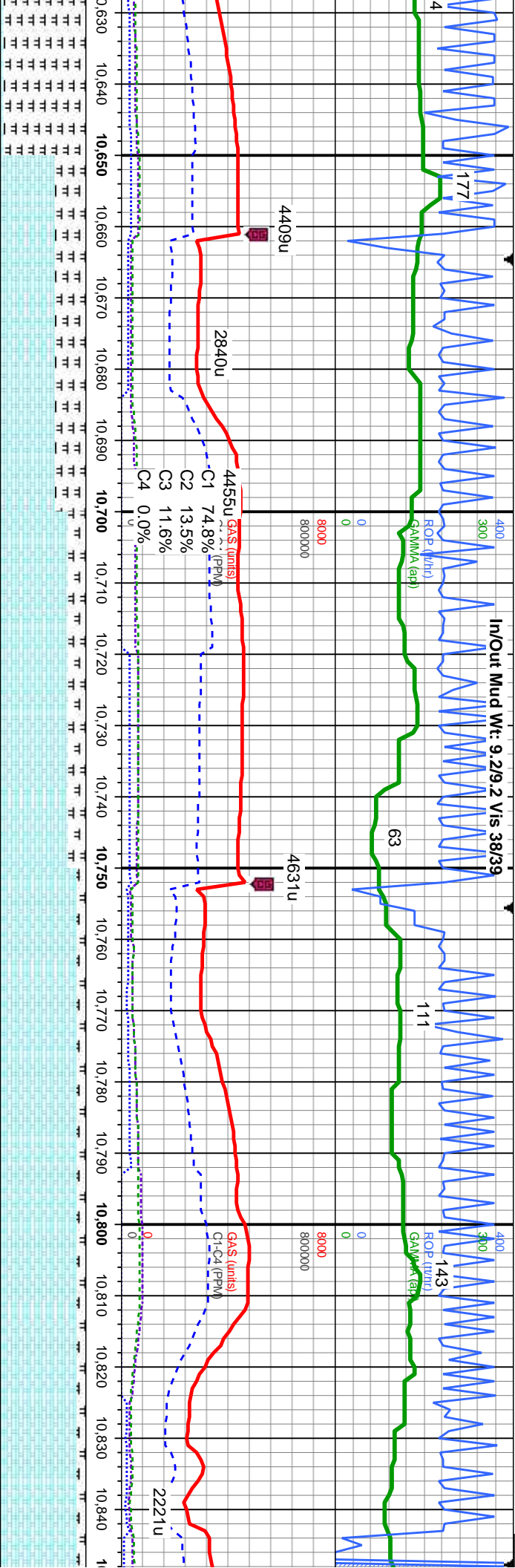
TVD (ft)

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
stf-fm, sb ply-sb blk, v calc, cpbk: MRLST: med  
-dk gy, str, stf-v stf, sb ply-sb blk, fir- brt, sil, v  
calc: tr cal, tr inoc fos

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
stf-fm, sb ply-sb blk, v calc, cpbk: MRLST: med  
-dk gy, str, stf-v stf, sb ply-sb blk, fir- brt, sil, v  
calc: tr cal, tr inoc fos

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
stf-fm, sb ply-sb blk, v calc, cpbk: MRLST: med  
-dk gy, str, stf-v stf, sb ply-sb blk, fir- brt, sil, v  
calc: tr cal, tr inoc fos



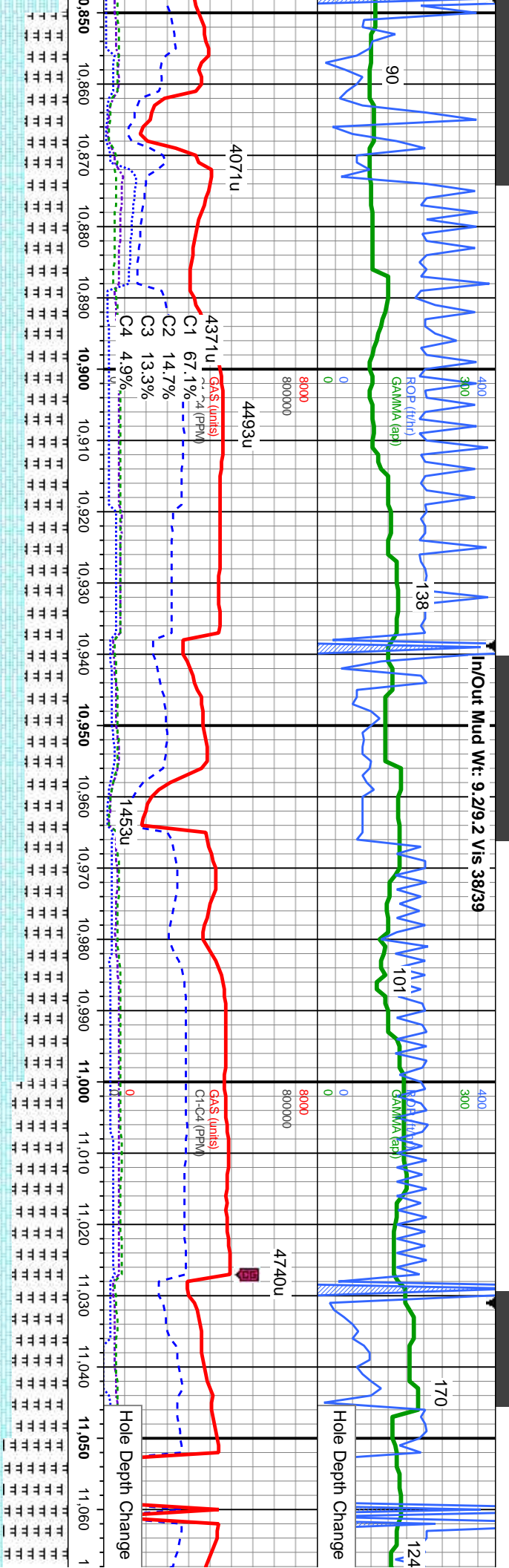


MD: 10,692'  
TVD: 6,296.94'  
Inclination: 91.5°  
Azimuth: 85.6°  
VS: 4,136.02'

MD: 10,784'  
TVD: 6,294.21'  
Inclination: 91.9°  
Azimuth: 85.2°  
VS: 4,227.83'

TVD (ft)		TVD (ft)	
with, mot. lam, v	CHK: lt-med gy, gy brn, some wh, mot. lam, v	with, mot. lam, v	CHK: lt-med gy, gy brn, some wh, mot. lam, v
st-frn, sb ply-sb blk, v calc, crptk: MRLST: med	st-frn, sb ply-sb blk, v calc, crptk: MRLST: med	st-frn, sb ply-sb blk, v calc, crptk: MRLST: med	st-frn, sb ply-sb blk, v calc, crptk: MRLST: med
dk-gy, str, stf-v stf, sb ply-sb blk, fr- brt, sil, v	dk-gy, str, stf-v stf, sb ply-sb blk, fr- brt, sil, v	dk-gy, str, stf-v stf, sb ply-sb blk, fr- brt, sil, v	dk-gy, str, stf-v stf, sb ply-sb blk, fr- brt, sil, v
calc: tr cal, tr inoc fos	calc: tr cal, tr inoc fos	calc: tr cal, tr inoc fos	calc: tr cal, tr inoc fos





MD: 10,875'  
TVD: 6,290.56'  
Inclination: 92.7 °  
Azimuth: 86.5 °  
VS: 4,318.65'

MD: 10,967'  
TVD: 6,287.03'  
Inclination: 91.7 °  
Azimuth: 87.5 °  
VS: 4,410.55'

MD: 11,060'  
TVD: 6,284.84'  
Inclination: 91 °  
Azimuth: 87.9 °  
VS: 4,503.51'

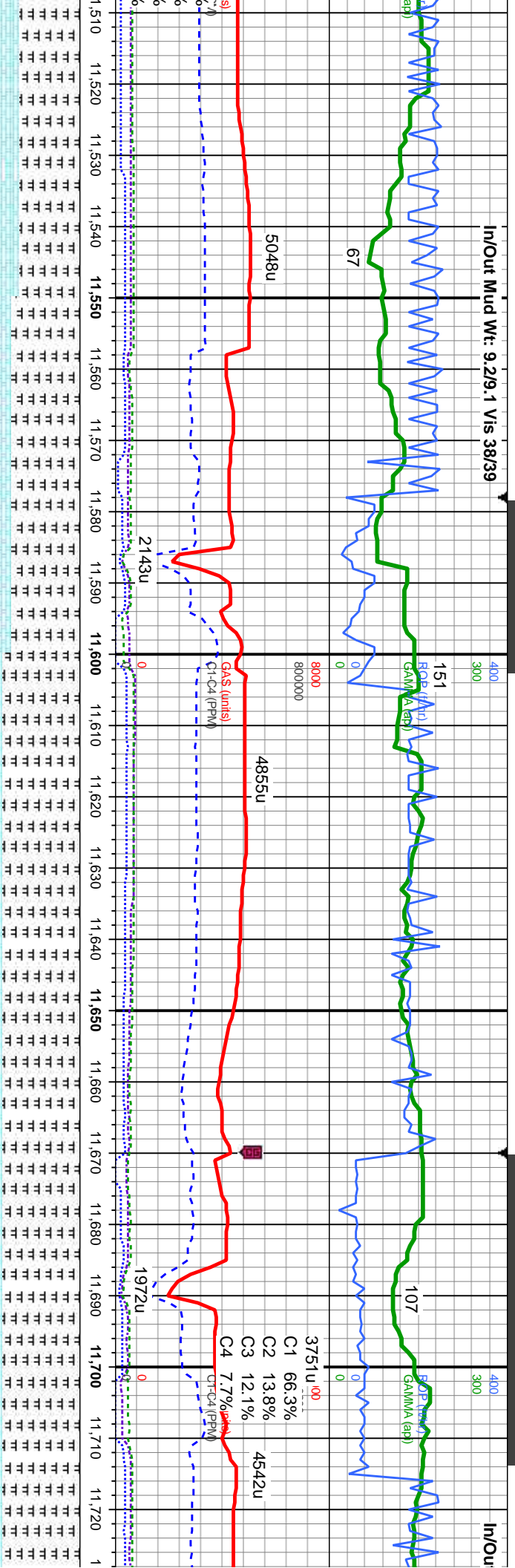
TVD (ft)		TVD (ft)	
CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, crptxl: MRLST: med -dk gy, strl, sft-v sft, sb ply-sb blk, frt- brt, sil, v calc, tr cal, tr inoc fos	6400	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, crptxl: MRLST: med -dk gy, strl, sft-v sft, sb ply-sb blk, frt- brt, sil, v calc, tr cal, tr inoc fos	6400
CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, crptxl: MRLST: med -dk gy, strl, sft-v sft, sb ply-sb blk, frt- brt, sil, v calc, tr cal, tr inoc fos	6400	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, crptxl: MRLST: med -dk gy, strl, sft-v sft, sb ply-sb blk, frt- brt, sil, v calc, tr cal, tr inoc fos	6400







In/Out Mud Wt: 9.2/9.1 Vis 38/39



MD: 11,606'  
TVD: 6,282.7'  
Inclination: 91.9°  
Azimuth: 88.1°  
VS: 5,049.47'

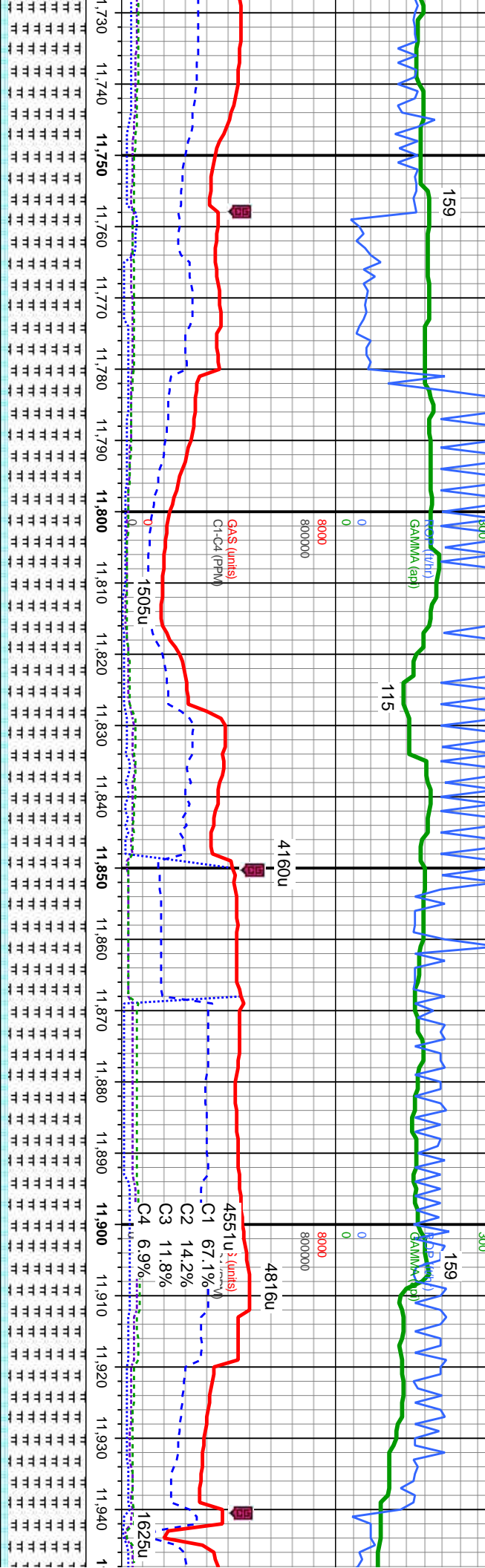
MD: 11,698'  
TVD: 6,279.89'  
Inclination: 91.6°  
Azimuth: 88.1°  
VS: 5,141.42'

TVD (ft)	
med gy, gy brn, some wh, mot, lam, v	CHK: lt-med gy, gy brn, some wh, mot, lam, v
sb ply-sb blkly, v calc, cpxl: MRLST: med	stf-fm, sb ply-sb blkly, v calc, cpxl: MRLST: med
itr, stf-v stf, sb ply-sb blkly, frt- brt, sil, v	-dk gy, str, stf-v stf, sb ply-sb blkly, frt- brt, sil, v
calc, tr inoc fos	calc, tr cal, tr pyr bent
6400	6400



In Mud Wt: 9.2/9.1 Vis 38/38

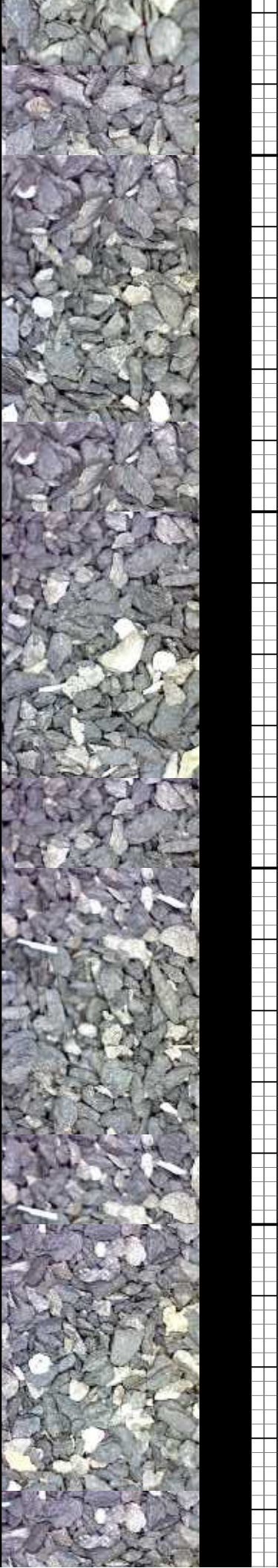
In/Out Mud Wt: 9.2/9.2 Vis 38/38

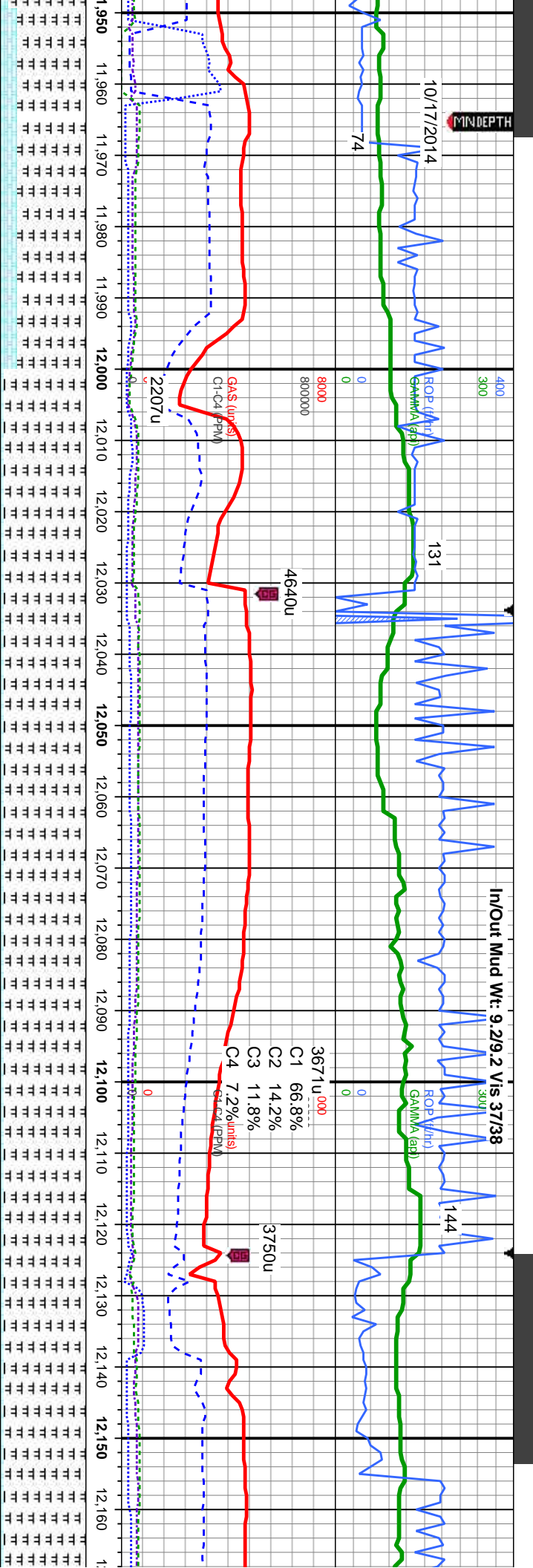


MD: 11,789'  
TVD: 6,279.02'  
Inclination: 89.5°  
Azimuth: 88.2°  
VS: 5,232.41'

MD: 11,880'  
TVD: 6,279.73'  
Inclination: 89.6°  
Azimuth: 87.9°  
VS: 5,323.41'

Log	11,730 - 11,750	11,750 - 11,780	11,780 - 11,850	11,850 - 11,900	11,900 - 11,940
CHK	lt-med gy, gy brn, some wh, mot, lam, v	lt-med gy, gy brn, some wh, mot, lam, v	lt-med gy, gy brn, some wh, mot, lam, v	lt-med gy, gy brn, some wh, mot, lam, v	lt-med gy, gy brn, some wh, mot, lam, v
stf	stf-firm, sb pty-sb blk, v calc, cpbxt, MRLST: med	stf-firm, sb pty-sb blk, v calc, cpbxt, MRLST: med	stf-firm, sb pty-sb blk, v calc, cpbxt, MRLST: med	stf-firm, sb pty-sb blk, v calc, cpbxt, MRLST: med	stf-firm, sb pty-sb blk, v calc, cpbxt, MRLST: med
dk	dk gy, str, stf-v stf, sb pty-sb blk, frt- brt, sil, v	dk gy, str, stf-v stf, sb pty-sb blk, frt- brt, sil, v	dk gy, str, stf-v stf, sb pty-sb blk, frt- brt, sil, v	dk gy, str, stf-v stf, sb pty-sb blk, frt- brt, sil, v	dk gy, str, stf-v stf, sb pty-sb blk, frt- brt, sil, v
calc	calc: tr cal, tr inoc fos, tr pyr bent	calc: tr cal, tr inoc fos, tr pyr bent	calc: tr cal, tr inoc fos, tr pyr bent	calc: tr cal, tr inoc fos, tr pyr bent	calc: tr cal, tr inoc fos, tr pyr bent





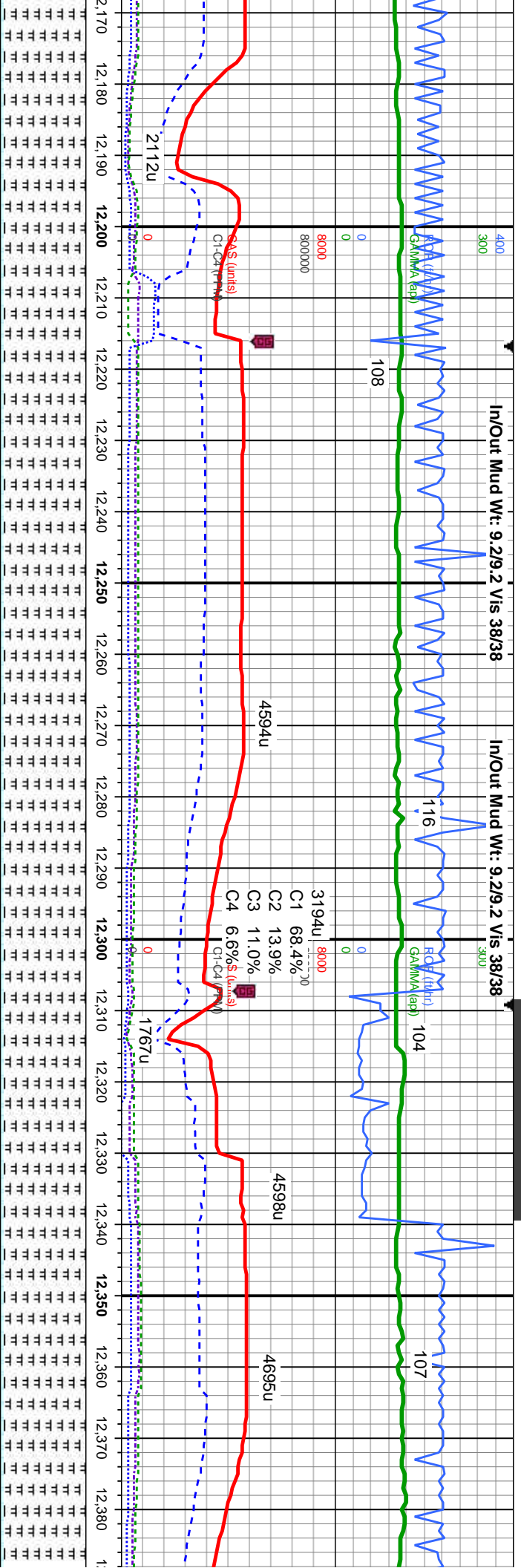
MD: 11,971'  
TVD: 6,281.08'  
Inclination: 88.7°  
Azimuth: 86.9°  
VS: 5,414.37'

CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, crpxl: MRLST: med -dk gy, sfti, sft-v sft, sb ply-sb blk, ftr- brt, sil, v calc: tr cal, tr inoc fos, tr pyr bent	TVD (ft)	6400
CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, crpxl: MRLST: med -dk gy, sfti, sft-v sft, sb ply-sb blk, ftr- brt, sil, v calc: tr cal, tr pyr bent	TVD (ft)	6400
CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, crpxl: MRLST: med -dk gy, sfti, sft-v sft, sb ply-sb blk, ftr- brt, sil, v calc: tr cal, tr pyr bent	TVD (ft)	6400
CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, crpxl: MRLST: med -dk gy, sfti, sft-v sft, sb ply-sb blk, ftr- brt, sil, v calc: tr cal, tr pyr bent	TVD (ft)	6400

MD: 12,062'  
TVD: 6,283.46'  
Inclination: 88.3°  
Azimuth: 85.9°  
VS: 5,505.28'

MD: 12,154'  
TVD: 6,284.83'  
Inclination: 90°  
Azimuth: 84.1°  
VS: 5,597.08'





MD: 12,246'  
TVD: 6,284.51'  
Inclination: 90.4 °  
Azimuth: 83.3 °  
VS: 5,688.74'

MD: 12,338'  
TVD: 6,283.14'  
Inclination: 91.3 °  
Azimuth: 84.2 °  
VS: 5,760.4'

CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, cpxl: MRLST: med -dk gy, str, sft-v sft, sb ply-sb blk, fri- brt, sil, v calc, tr cal, tr pyr bent	6400
CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, cpxl: MRLST: med -dk gy, str, sft-v sft, sb ply-sb blk, fri- brt, sil, v calc, tr cal, tr pyr bent	6400
CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, cpxl: MRLST: med -dk gy, str, sft-v sft, sb ply-sb blk, fri- brt calc, tr cal, tr pyr bent, tr inoc fos	

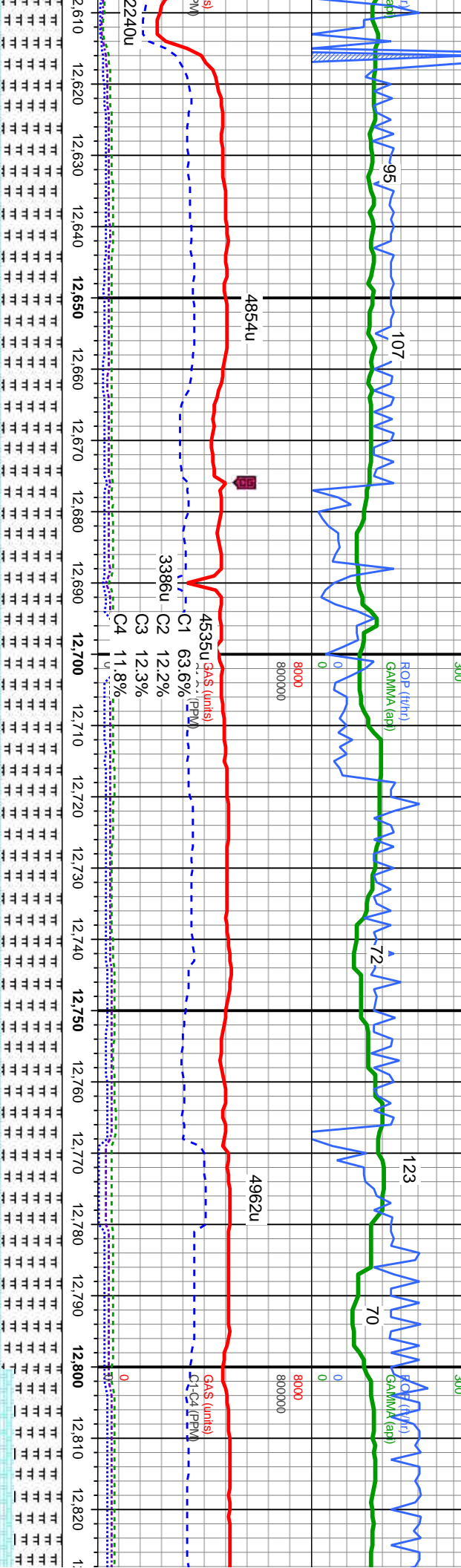




9.2/9.2 Vis 37/38

In/Out Mud Wt: 9.2/9.2 Vis 37/38

In/Out

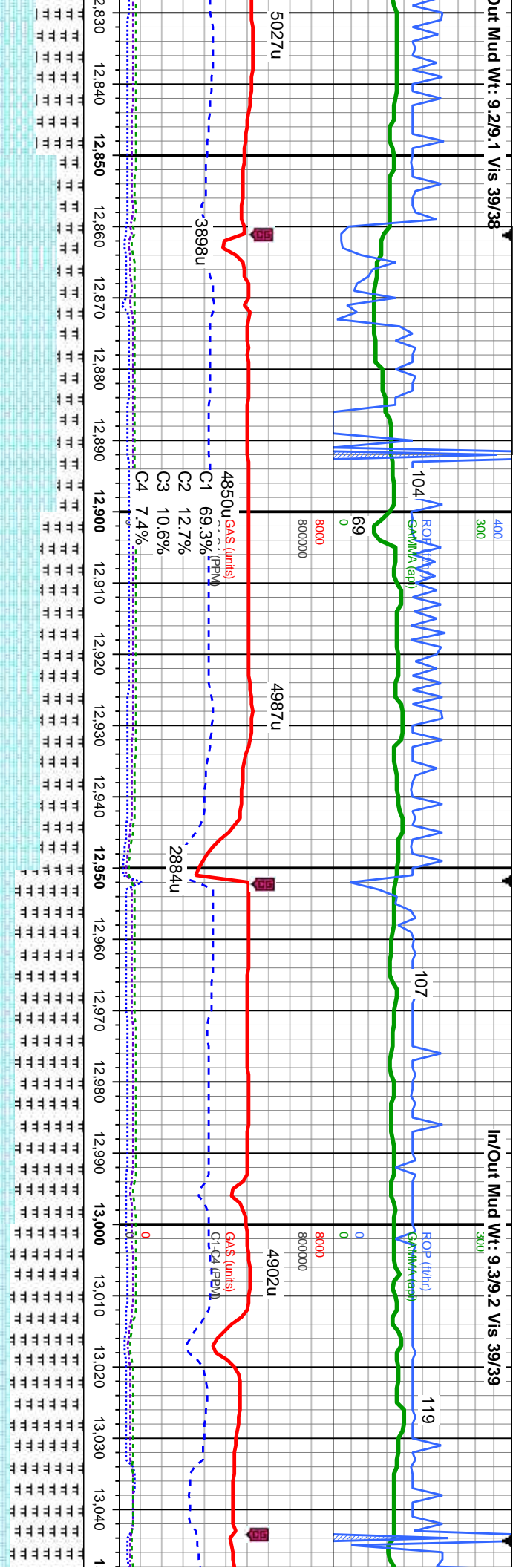


12,614'	MD: 12,706'	MD: 12,798'
6,276.71'	TVD: 6,276.47'	TVD: 6,279.36'
Inclination: 91.9°	Inclination: 88.4°	Inclination: 88°
North: 87.4°	Azimuth: 86.9°	Azimuth: 89.8°
6,055.86'	VS: 6,147.81'	VS: 6,239.76'

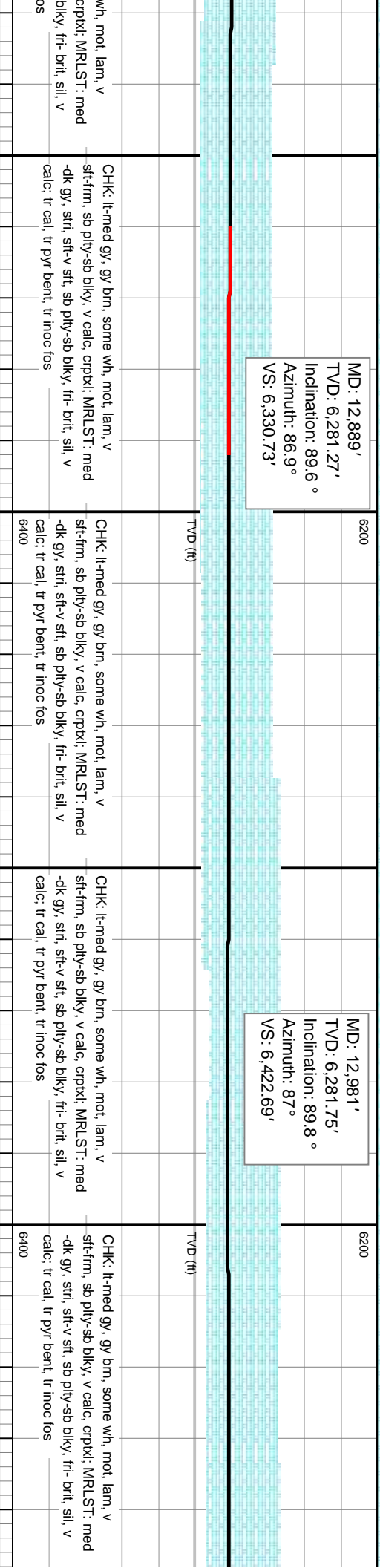
	TVD (ft)	TVD (ft)
med gy, gy brn, some wh, mot, lam, v sft-frm, sb ply-sb blk, v calc, crptxl: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v cal, tr pyr bent, tr inoc fos	CHK: It-med gy, gy brn, some wh, mot, lam, v sft-frm, sb ply-sb blk, v calc, crptxl: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v calc, tr cal, tr pyr bent, tr inoc fos	CHK: It-med gy, gy brn, some wh, mot, lam, v sft-frm, sb ply-sb blk, v calc, crptxl: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, sil, v calc, tr cal, tr pyr bent, tr inoc fos
	6400	6400



Out Mud Wt: 9.2/9.1 Vis 39/38



In/Out Mud Wt: 9.3/9.2 Vis 39/39

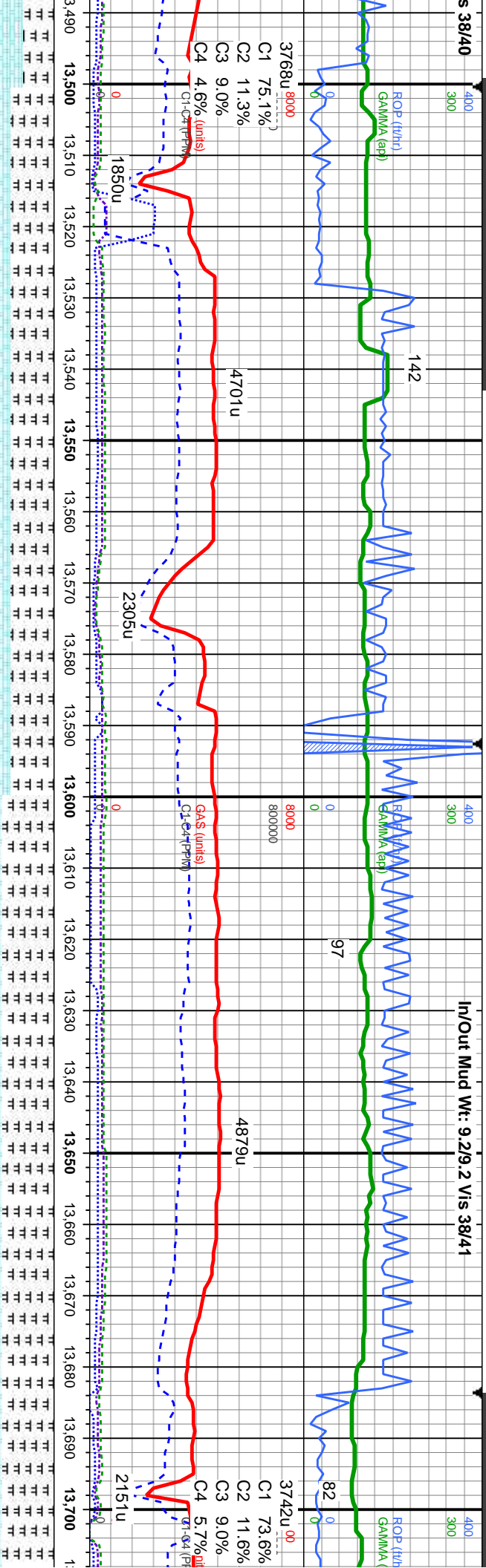


MD: 12,889'  
TVD: 6,281.27'  
Inclination: 89.6 °  
Azimuth: 86.9 °  
VS: 6,330.73'

MD: 12,981'  
TVD: 6,281.75'  
Inclination: 89.8 °  
Azimuth: 87°  
VS: 6,422.69'

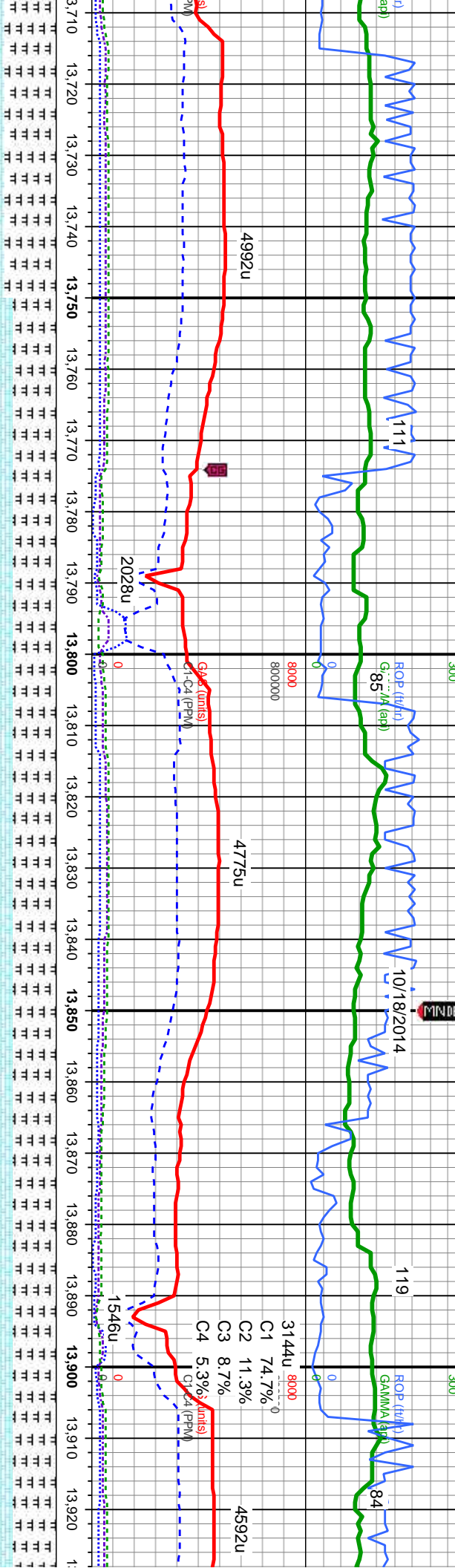




[illegible]

In/Out Mud Wt: 9.2/9.2 Vis 38/40

In/Out Mud Wt: 9.2/9.2 Vis 38/40



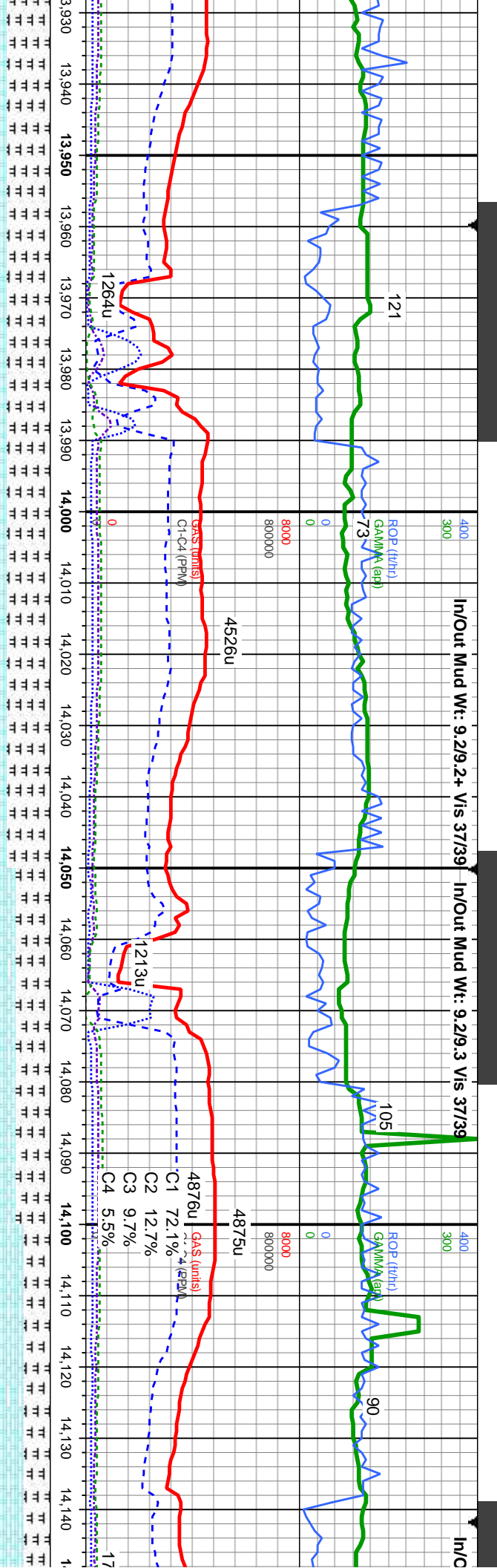
13,713'  
6,273.36'  
ation: 91.3°  
uth: 84.7°  
7,153.62'

MD: 13,804'  
TVD: 6,270.82'  
Inclination: 91.9°  
Azimuth: 84.7°  
VS: 7,244.37'

MD: 13,896'  
TVD: 6,267.45'  
Inclination: 92.3°  
Azimuth: 86.5°  
VS: 7,336.18'

Depth (ft)	ROP (ft/hr)	Gamma Ray (API)	C1 (PPM)	C2 (PPM)	C3 (PPM)	C4 (PPM)
13,710	0	85	0	0	0	0
13,720	0	85	0	0	0	0
13,730	0	85	0	0	0	0
13,740	0	85	0	0	0	0
13,750	0	85	0	0	0	0
13,760	0	85	0	0	0	0
13,770	0	85	0	0	0	0
13,780	2028u	111	0	0	0	0
13,790	0	85	0	0	0	0
13,800	0	85	0	0	0	0
13,810	0	85	0	0	0	0
13,820	0	85	0	0	0	0
13,830	0	85	0	0	0	0
13,840	0	85	0	0	0	0
13,850	0	85	0	0	0	0
13,860	0	85	0	0	0	0
13,870	0	85	0	0	0	0
13,880	0	85	0	0	0	0
13,890	0	85	0	0	0	0
13,900	0	85	0	0	0	0
13,910	0	85	0	0	0	0
13,920	0	85	0	0	0	0





MD: 13,987'  
TVD: 6,264.51'  
Inclination: 91.4°  
Azimuth: 87.6°  
VS: 7,427.1'

CHK: It-med gy, gy brn, some wh, mot. lam, v  
stf-frm, sb ply-sb blk, v calc, crptl: MRLST: med  
-dk gy, stri, stf-v stf, sb ply-sb blk, fir- brt, sil, v  
calc: tr cal, tr pyr bent, tr inoc fos

CHK: It-med gy, gy brn, some wh, mot. lam, v  
stf-frm, sb ply-sb blk, v calc, crptl: MRLST: med  
-dk gy, stri, stf-v stf, sb ply-sb blk, fir- brt, sil, v  
calc: abnt cal, tr pyr bent, tr inoc fos

MD: 14,078'  
TVD: 6,262.05'  
Inclination: 91.7°  
Azimuth: 89°  
VS: 7,518.06'

CHK: It-med gy, gy brn, some wh, mot. lam, v  
stf-frm, sb ply-sb blk, v calc, crptl: MRLST: med  
-dk gy, stri, stf-v stf, sb ply-sb blk, fir- brt, sil, v  
calc: abnt cal, tr pyr bent, tr inoc fos

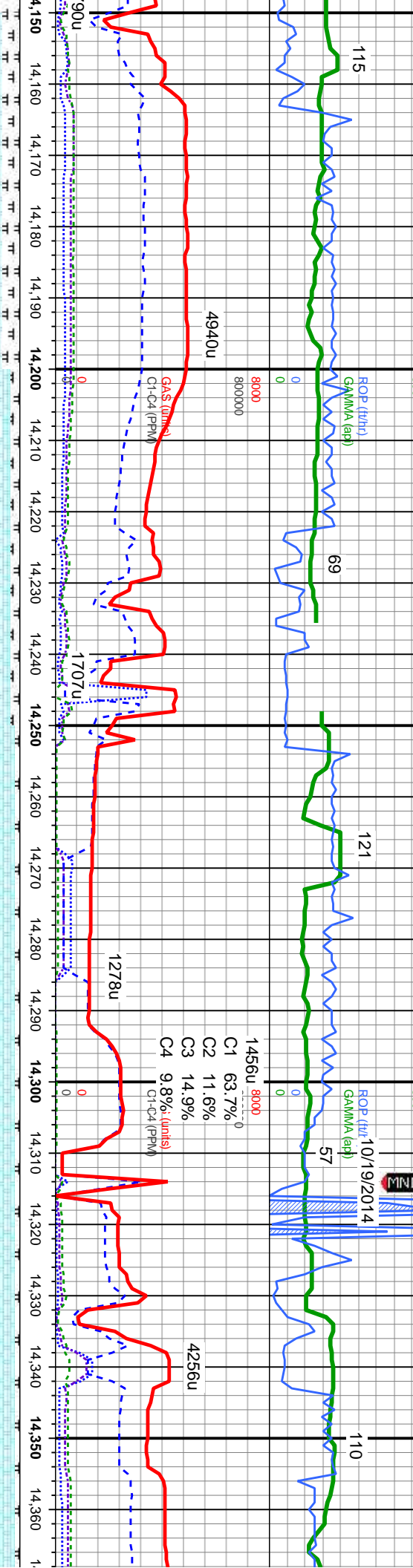
CHK: It-med gy, gy brn, some wh, mot. lam, v  
stf-frm, sb ply-sb blk, v calc, crptl: MRLST: med  
-dk gy, stri, stf-v stf, sb ply-sb blk, fir- brt, sil, v  
calc: abnt cal, tr pyr bent, tr inoc fos



Out Mud Wt: 9.2/9.2 Vis 37/38

In/Out Mud Wt: 9.1/9.2 Vis 39/39

In/Out Mud Wt: 9.3/9.2 Vis 38/40



MD: 14,170'  
TVD: 6,259.88'  
Inclination: 91 °  
Azimuth: 90.2 °  
VS: 7,610.02'

MD: 14,262'  
TVD: 6,259.08'  
Inclination: 90 °  
Azimuth: 90.6 °  
VS: 7,701.97'

MD: 14,353'  
TVD: 6,259.32'  
Inclination: 89.7 °  
Azimuth: 91.1 °  
VS: 7,792.9'

CHK: It-med gy, gy brn, some wh, mot, lam, v  
sft-frm, sb ply-sb blk, v calc, crptl: MRLST: med  
dk gy, str, sft-v sft, sb ply-sb blk, fir- brt, sil, v  
calc; tr cal, tr pyr bent, tr inoc fos

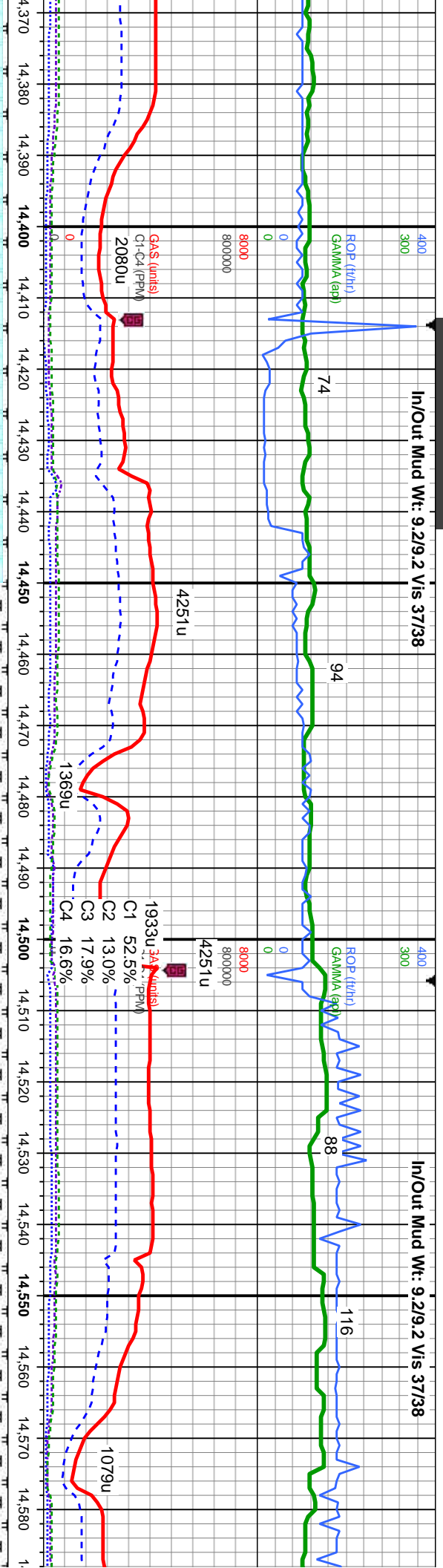
CHK: It-med gy, gy brn, some wh, mot, lam, v  
sft-frm, sb ply-sb blk, v calc, crptl: MRLST: med  
dk gy, str, sft-v sft, sb ply-sb blk, fir- brt, sil, v  
calc; tr cal, tr pyr bent, tr inoc fos

CHK: It-med gy, gy brn, some wh, mot, lam, v  
sft-frm, sb ply-sb blk, v calc, crptl: MRLST: med  
dk gy, str, sft-v sft, sb ply-sb blk, fir- brt, sil, v  
calc; tr cal, tr pyr bent, tr inoc fos



In/Out Mud Wt: 9.2/9.2 Vis 37/38

In/Out Mud Wt: 9.2/9.2 Vis 37/38



MD: 14,444'  
TVD: 6,260.75'  
Inclination: 88.5°  
Azimuth: 88.6°  
VS: 7,883.86'

MD: 14,536'  
TVD: 6,263.07'  
Inclination: 88.6°  
Azimuth: 88.6°  
VS: 7,975.83'

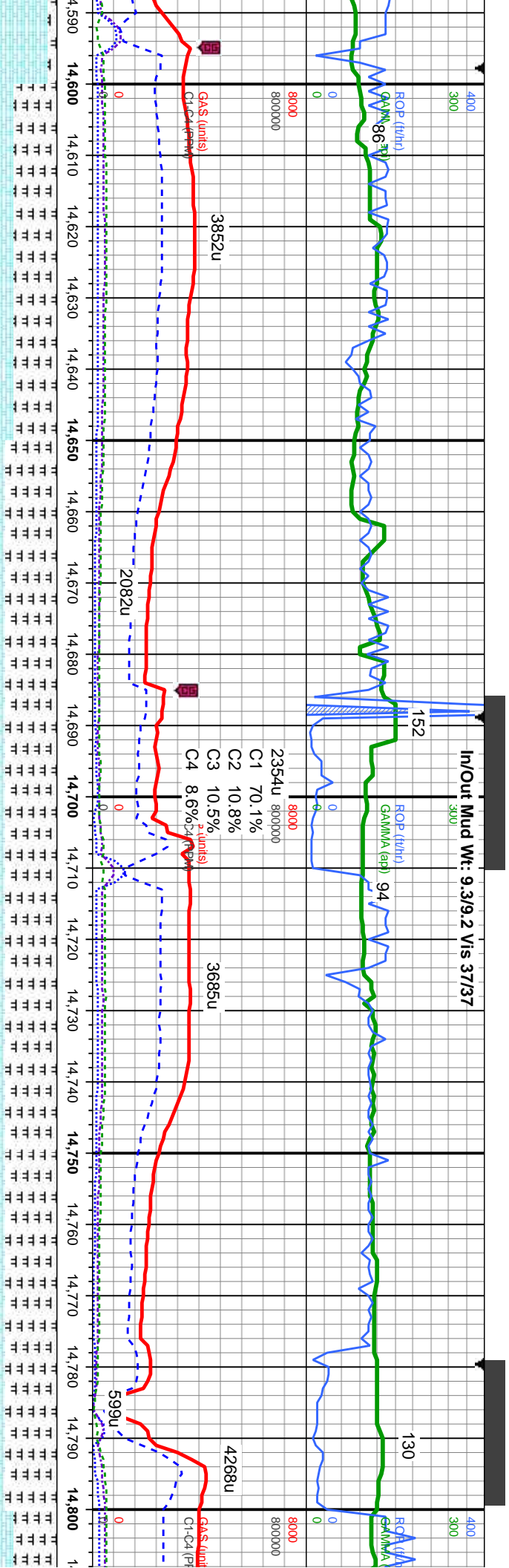
brn, some wh, mot. lam, v  
sh, v calc, crptk: MRLST: med  
sb ply-sb blk, fir- brt, sil, v  
nt, tr inoc fos

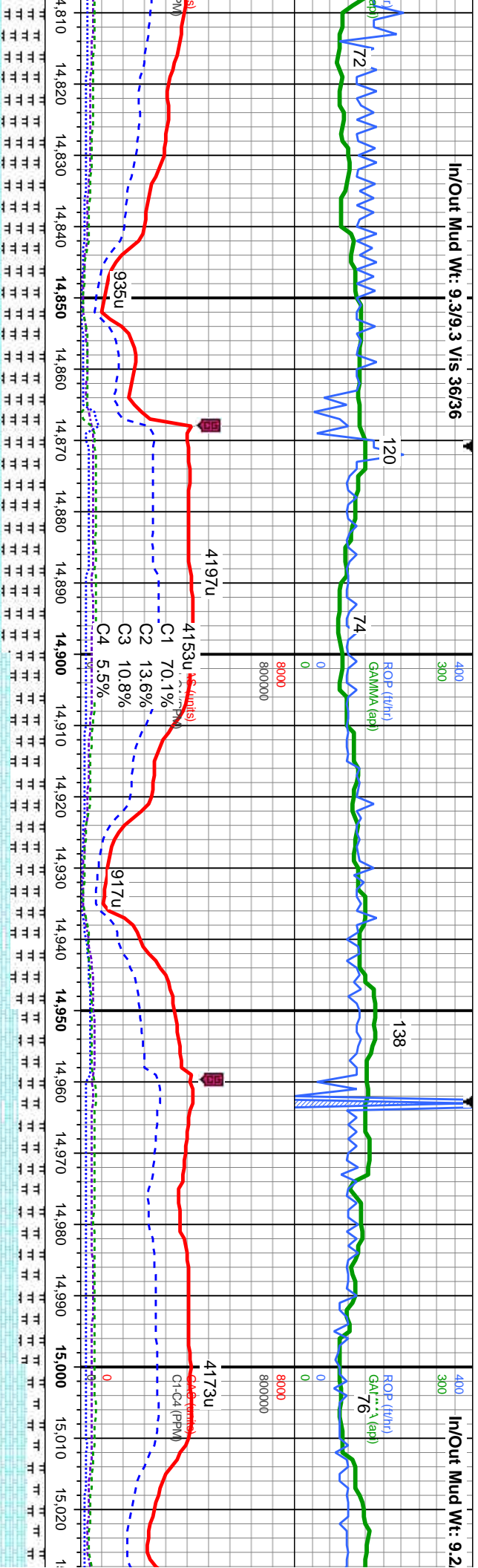
CHK: It-med gy, gy brn, some wh, mot. lam, v  
st-frn, sb ply-sb blk, v calc, crptk: MRLST: med  
dk gy, str, st-v st, sb ply-sb blk, fir- brt, sil, v  
calc: tr cal, tr pyr bent, tr inoc fos

CHK: It-med gy, gy brn, some wh, mot. lam, v  
st-frn, sb ply-sb blk, v calc, crptk: MRLST: med  
dk gy, str, st-v st, sb ply-sb blk, fir- brt, sil, v  
calc: tr cal, tr pyr bent, tr inoc fos

CHK: It-med gy, gy brn, some wh, mot. lam, v  
st-frn, sb ply-sb blk, v calc, crptk: MRLST: med  
dk gy, str, st-v st, sb ply-sb blk, fir- brt, sil, v  
calc: tr cal, tr pyr bent, tr inoc fos



[illegible]

[illegible]

CHIK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb ply-sb blkly, v calc, cipxli; MRST: med-  
dk gy, sfti, sft-v sft, sb ply-sb blkly, fri- brit, sil, v  
calc; abnt cal, tr pyr bent, abnt inoc fos

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frm, sb ply-sb blk, v calc, crptxl; MRLST: med  
-dk gy, sfti, sft-v sft, sb ply-sb blk, fri-  
brit, sil, v  
calc: t cal, tr pyr bent, tr inoc fos  
beau,

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-firm, sb ply-sb biky, v calc, crptxl: MRLST: me  
-dk gy, stri, sft-v sft, sb ply-sb biky, fri-  
brit, sil, v calc, tr cal, tr pyr bent, tr inoc tos

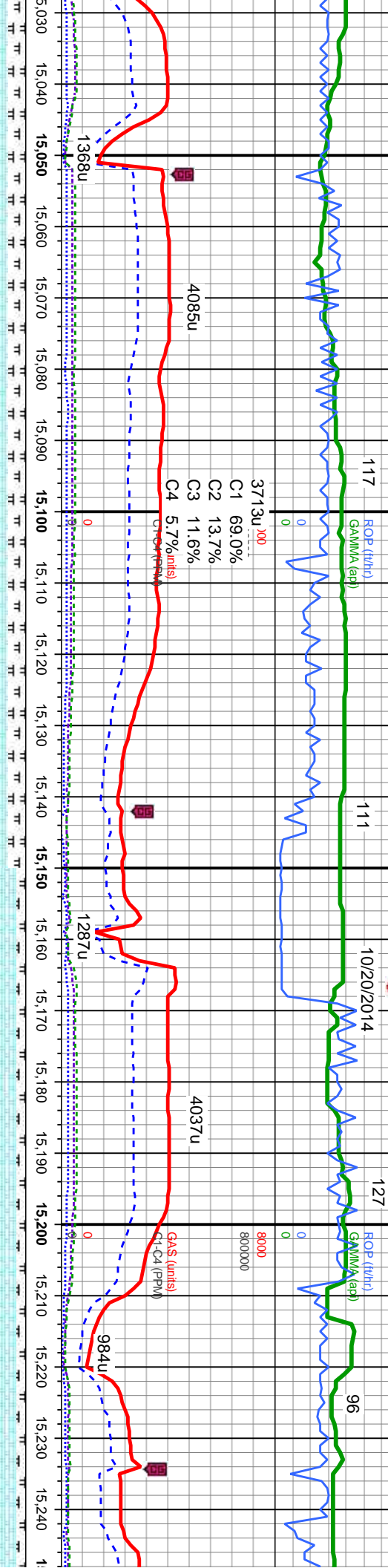
CHK: lt-med gy, gy brn, some  
sft-firm, sb pty-sb blkyy, v calc,  
-dk gy, stri, sft-v sft, sb pty-sb  
calc; tr cal, tr pyr bent, tr inoc f



9.25 Vis 36/38

In/Out Mud Wt: 9.2/9.25 Vis 38/40

MINDEPTH



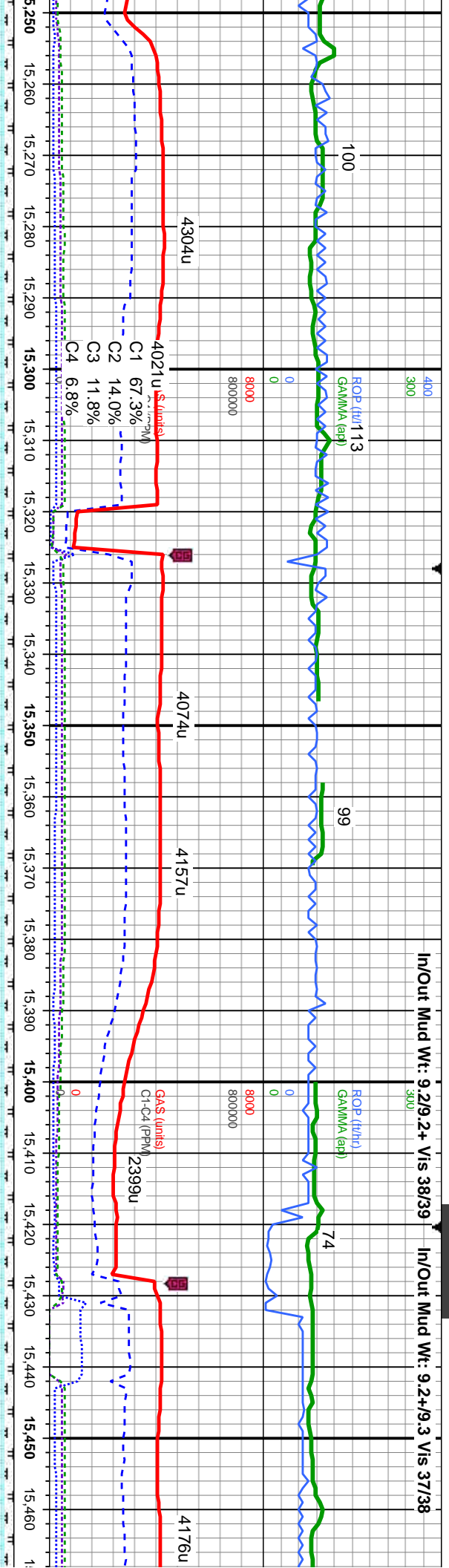
MD: 15,083'  
TVD: 6,262.63'  
Inclination: 91.8°  
Azimuth: 84.8°  
VS: 8,522.19'

MD: 15,175'  
TVD: 6,260.7'  
Inclination: 90.6°  
Azimuth: 86.1°  
VS: 8,614.03'

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
cpkx: MRLST: med	sft-frm, sb ply-sb blk, v calc, cpkx: MRLST: med	sft-frm, sb ply-sb blk, v calc, cpkx: MRLST: med	sft-frm, sb ply-sb blk, v calc, cpkx: MRLST: med
blk, frt- brt, sil, v	-dk gy, str, sft-v sft, sb ply-sb blk, frt- brt, sil, v	-dk gy, str, sft-v sft, sb ply-sb blk, frt- brt, sil, v	-dk gy, str, sft-v sft, sb ply-sb blk, frt- brt, sil, v
calc: tr cal, tr pyr bent, tr inoc fos	calc: tr cal, tr pyr bent, tr inoc fos	calc: tr cal, tr pyr bent, tr inoc fos	calc: tr cal, tr pyr bent, tr inoc fos



In/Out Mud Wt: 9.2/9.2+ Vis 38/39 In/Out Mud Wt: 9.2+/9.3 Vis 37/38



MD: 15,267'  
TVD: 6,259.66'  
Inclination: 90.7°  
Azimuth: 86°  
VS: 8,705.93'

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frn, sb ply-sb blkly, v calc, crptxl: MRLST: med  
-dk gy, strl, sft-v sft, sb ply-sb blkly, fir- brt, sil, v  
calc: tr cal, tr pyr bent, tr inoc fos

MD: 15,359'  
TVD: 6,259.26'  
Inclination: 89.8°  
Azimuth: 85.4°  
VS: 8,797.81'

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frn, sb ply-sb blkly, v calc, crptxl: MRLST: med  
-dk gy, strl, sft-v sft, sb ply-sb blkly, fir- brt, sil, v  
calc: tr cal, tr pyr bent, tr inoc fos

MD: 15,454'  
TVD: 6,258.26'  
Inclination: 91.4°  
Azimuth: 85.6°  
VS: 8,892.67'

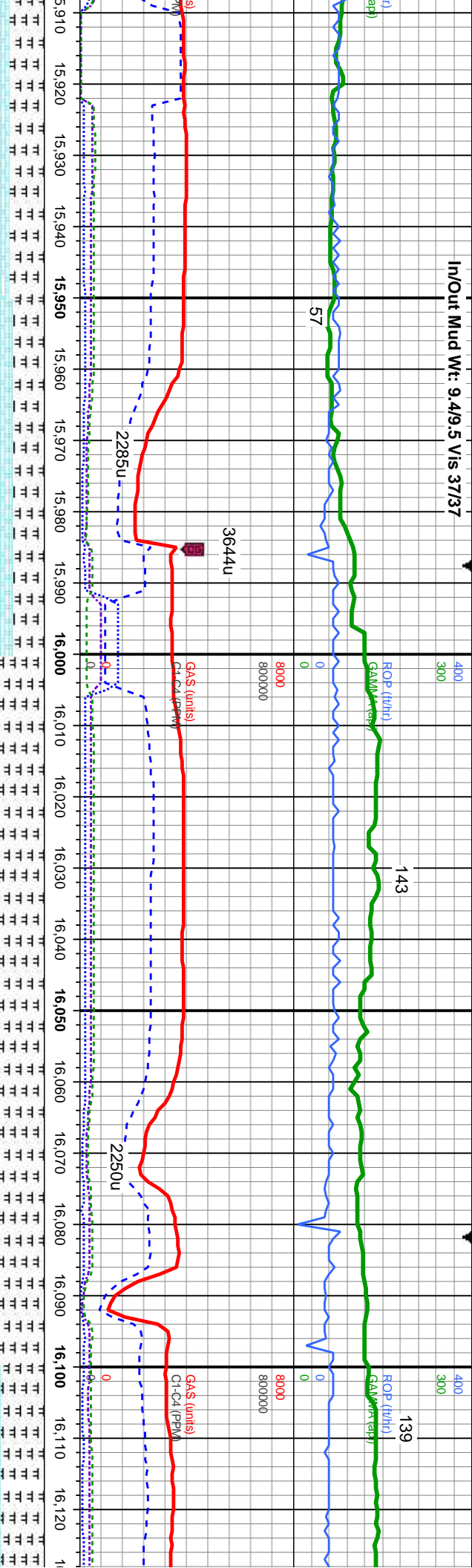
CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frn, sb ply-sb blkly, v calc, crptxl: MRLST: med  
-dk gy, strl, sft-v sft, sb ply-sb blkly, fir- brt, sil, v  
calc: tr cal, tr pyr bent, tr inoc fos







In/Out Mud Wt: 9.4/9.5 Vis 37/37



MD: 15,927'  
TVD: 6,251.65'  
Inclination: 89.8 °  
Azimuth: 85.9 °  
VS: 9,364.98'

med gy, gy brn, some wh, mot, lam, v  
sb ply-sb blkly, v calc, crptxl; MRLST: med  
stri, sft-v sft, sb ply-sb blkly, fri- brit, sil, v  
calc, tr pyr bent, tr inoc fos

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frn, 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 cal, tr pyr bent, tr inoc fos

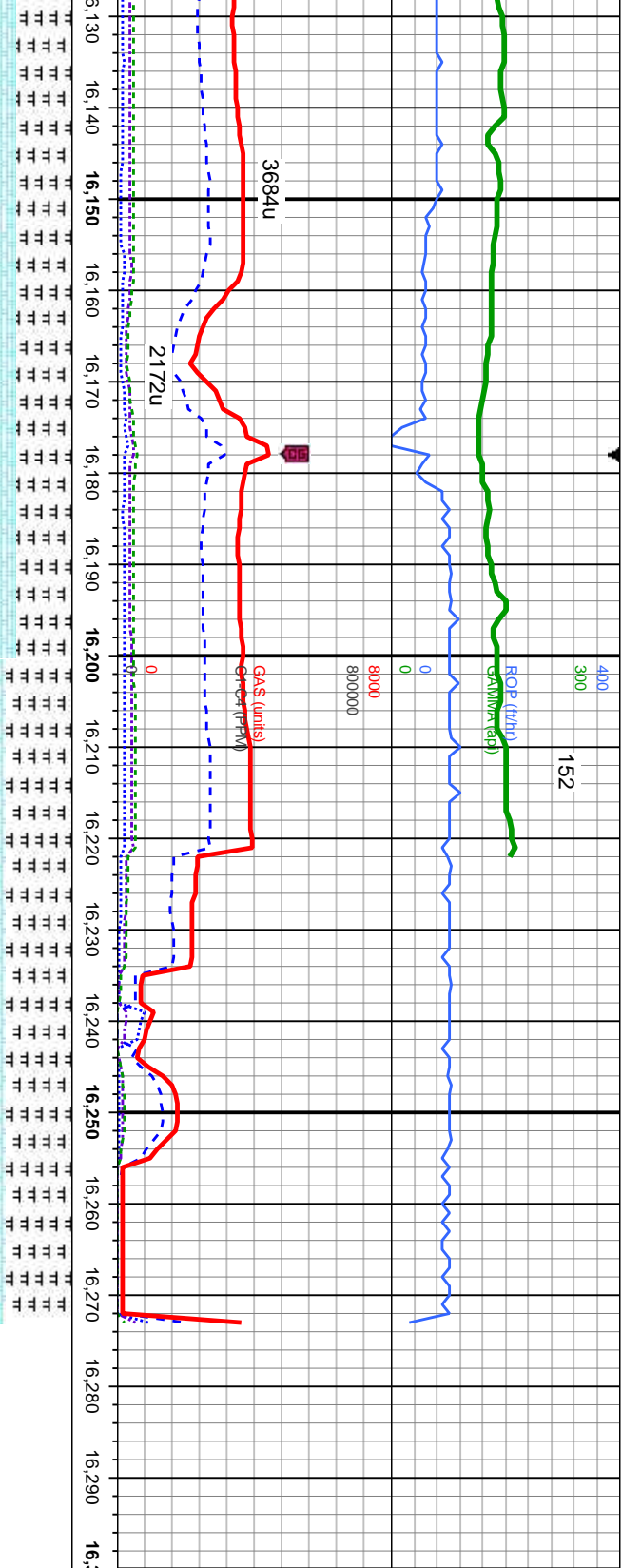
MD: 16,021'  
TVD: 6,251.16'  
Inclination: 90.8 °  
Azimuth: 85.7 °  
VS: 9,458.86'

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frn, 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 cal, tr pyr bent, tr inoc fos

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frn, 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 cal, tr pyr bent, tr inoc fos

MD: 16,117'  
TVD: 6,249.32'  
Inclination: 91.4 °  
Azimuth: 85.8 °  
VS: 9,554.73'

CHK: lt-med gy, gy brn, some wh, mot, lam, v  
sft-frn, 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 cal, tr pyr bent, tr inoc fos



TD @ 16273  
20:10 MST 10/20/2014

THANK YOU FOR USING  
COLUMBINE LOGGING INC.

MD: 16,212'  
TVD: 6,246.5'  
Inclination: 92°  
TV Azimuth: 85.7°  
VS: 9,649.57'

wh, mot, lam, v  
st-frm, sb ply-sb blk, v calc, crptxl; MRLST: med  
dk, gy, str, str-v str, sb ply-sb blk, fr- brt, sil, v  
calc; tr cal, tr pyr bent, tr inoc fos

