



Scale: 5" / 100'
Measured Depth Log

Well Name		Anshutz 4-62-2-1721 BH2	
Location		SWNW Sec 2 T4N R62W	
State		CO	County Weld
Country		USA	Rig Number Nabors M22
API Number		05-123-38961	AFE # 18457D
Region		DJ Basin	Field Wildcat
Spud Date		4/18/2014	Drilling Completed 4/28/2014
Surface Coordinates		SWNW Sec 02-T4N-R62W 1640' FNL 2280' FEL	
Bottom Hole Coordinates		Projected: SWNW Sec 02-T4N-R62W 1640' FNL 500' FWL	
Ground Elevation		4544'	K.B. Elevation 4566'
Logged Interval		5621' To 13756'	Total Depth 13756'
Formation		Niobrara B Chalk	
Type of Drilling Fluid		LSND	

Company Bill Barret Corp
Address 1099 18th Street
Denver, CO 80202

Name John Roesink
Company Bill Barrett Corp
Address 1099 18th Street
Denver, CO 80202

Charles Trodick
Mark Raimo

Rock Types

Accessories

OK T

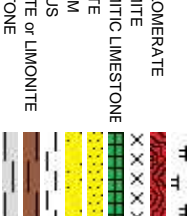
OMITIC
SPAR
UGINOUS PELLET
UGINOUS
CONITE
SIFEROUS

ONITE K

- T**
- ACONITE
CONTAINING SUBSTANCE
FRAGMENTS
AREOUS
IONCEOUS FLAKES
KOK
- THIN BEDS
PAR
MATIC
PELLET
INOUS

Accessories

Rock Types



Other Symbols

Oil Show P PINPOINT ∴ DST INTERVAL ▽ WIRELINE TESTED - LEFT E EARTHY
V VUGGY / FAULT ▽ WIRELINE TESTED - RT FX FINELYXLN

Engineering D DEAD [] FORMATION TOP [DST] DRILL STEM TEST ES GRAINSTONE
● EVEN ✖ GAS SHOW [MINDEPTH] MN DEPTH L LITHOGRAPHIC
○ QUESTIONABLE ● BIT ● OIL SHOW [MINDEPTH] MN DEPTH MX MICROXLN
● SPOTTED STAINING ▲ CONNECTION (UP) MN DEPTH UP MS MUDSTONE

Rounding MN DEPTH DOWN ▲ ANGULAR PS PACKSTONE
MN DEPTH UP MN DEPTH (DOWN)

Porosity ▼ CONNECTION (DOWN) R ROUNDED WS WACKSTONE
CONNECTION GAS OVERTURNED STRATA
CONNECTION GAS (LEFT) REVERSE FAULT SUBANG SUBRND

Sorting F FRACTURE CASING M MODERATE
TRIP GAS (LEFT)
INTERCRYSTALLINE SIDEWALL CORE (LEFT)
DOWN TIME GAS SIDEWALL CORE (RIGHT)
INTEROOLITIC DOWN TIME GAS (LEFT)
MOLDIC CORE - LOST BS BOUNDSTONE P POOR
ORGANIC CORE - RECOVERED SURVEY CHALKY IW WELL
CRYPTOXLN

Textures INTERCRYSTALLINE SIDEWALL CORE (LEFT)
DOWN TIME GAS SIDEWALL CORE (RIGHT)
INTEROOLITIC DOWN TIME GAS (LEFT)
MOLDIC CORE - LOST BS BOUNDSTONE P POOR
ORGANIC CORE - RECOVERED SURVEY CHALKY IW WELL
CRYPTOXLN

Columbine Logging 2-Manned
Geosteering Operational 4/20/2014
Bloodhound # 311

In/Out Mud Wt: 10.1/10 Vis 43/41

ROP
ROF
GAMMA

ROP (ft/min)
GAMMA (api)

Log continues from
Anshutz 4-62-2-1721 BH2

Bit Data
Bit #: 3
Type: Varel PDC
Size: 8.75
Depth In: 5,623'
Jets: 5x16
S/N: 4006870

Total Gas & Chromatograph

GAS
C1
C2
C3
C4

8000
800000
GAS (units)
C1-C4 (PPM)

Depth Labels

5,570 5,580 5,590 5,600 5,610 5,620 5,630 5,640 5,650 5,660 5,670 5,680 5,690 5,700 5,710 5,720 5,730 5,740 5,750

% Lith

5600

Well Bore
TVD

TVD (ft)

Oil Show

Oil Show

Images





4/21/2014

86

97

114

144

135

ROP (ft/hr)
GAMMA (api)

0

8000

800000

GA⁵ (mud)

CI: 815u

1143u

513u

1291u

C1 80.4%

C2 8.1%

C3 9.0%

C4 2.6%

1624u

1465u

8

In/Out Mud Wt: 9.9/9.85 Vis 41/42

5,760 5,770 5,780 5,790 5,800 5,810 5,820 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

372u

0

1143u

513u

1291u

C1 80.4%

C2 8.1%

C3 9.0%

C4 2.6%

1624u

1465u

8

2.56'

20.6°

-33.3°

MD: 5,820'
TVD: 5,801.81'
Inclination: 27.8°
Azimuth: 64.5°
VS: -172.78'

MD: 5,850'
TVD: 5,827.83'
Inclination: 31.9°
Azimuth: 70.3°
VS: -158.9'

MD: 5,883'
TVD: 5,855.12'
Inclination: 36.5°
Azimuth: 73.9°
VS: -141.16'

MD: 5,917'
TVD: 5,881.75'
Inclination: 40°
Azimuth: 77.7°
VS: -120.45'

MD: 5,946'
TVD: 5,903.67'
Inclination: 41.8°
Azimuth: 81.9°
VS: -101.72'

MD:
TVD:
Inclir
Azim
VS: -

SLTST: lt - med gy, gy brn, mod frm, sb-ply -
ry, rthy tex, vf occ f-med gr, w srt, non calc;
SH: med - dk gy, sft - frm, sb ply - sb blk, y,
tex, non calc, tr ss

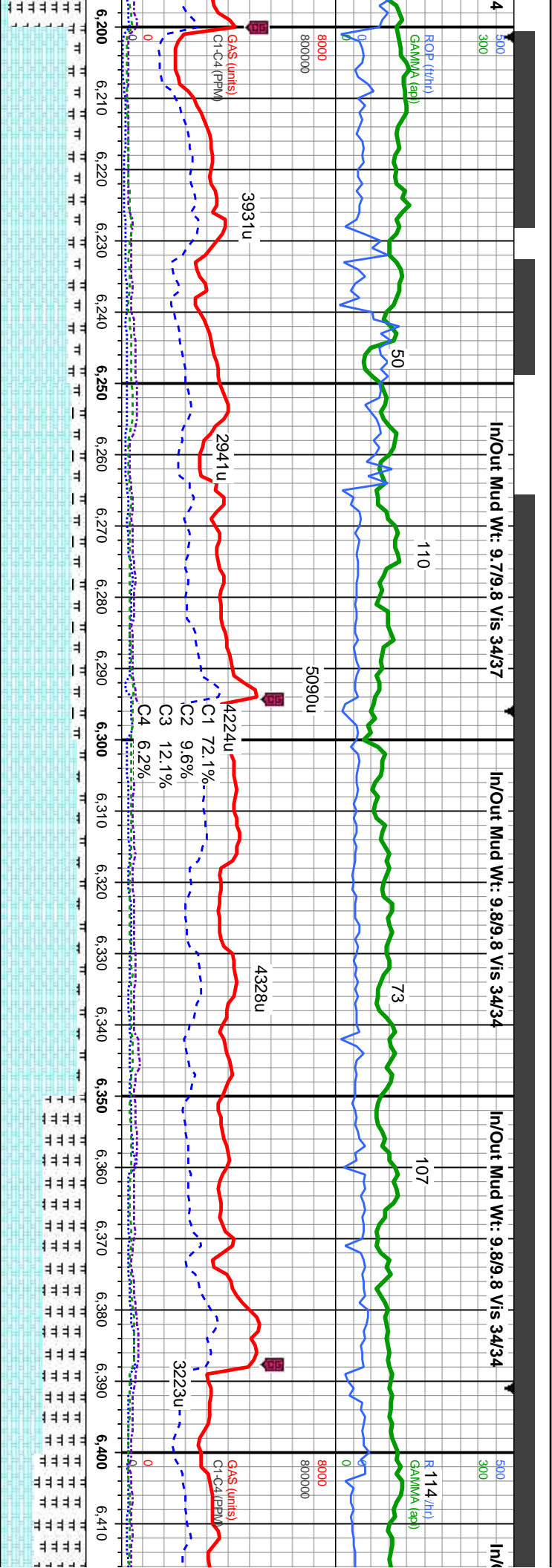
SHY SLTST: lt - med gy, gy brn, mod frm, sb-ply -
sb blk, rthy tex, vf occ f-med gr, w srt, non calc;
SLTY SH: med - dk gy, sft - frm, sb ply - sb blk, y,
wxy tex, non calc, tr ss

SHY SLTST: lt - med gy, gy brn, mod frm, sb-ply -
sb blk, rthy tex, vf occ f-med gr, w srt, non calc;
SLTY SH: med - dk gy, sft - frm, sb ply - sb blk, y,
wxy tex, non calc

SHY SLTST: lt - med gy, gy brn, mod frm, sb-ply -
sb blk, rthy tex, vf occ f-med gr, w srt, non calc;
SLTY SH: med - dk gy, sft - frm, sb ply - sb blk, y,
wxy tex, non calc, tr bent, tr dissim pyr

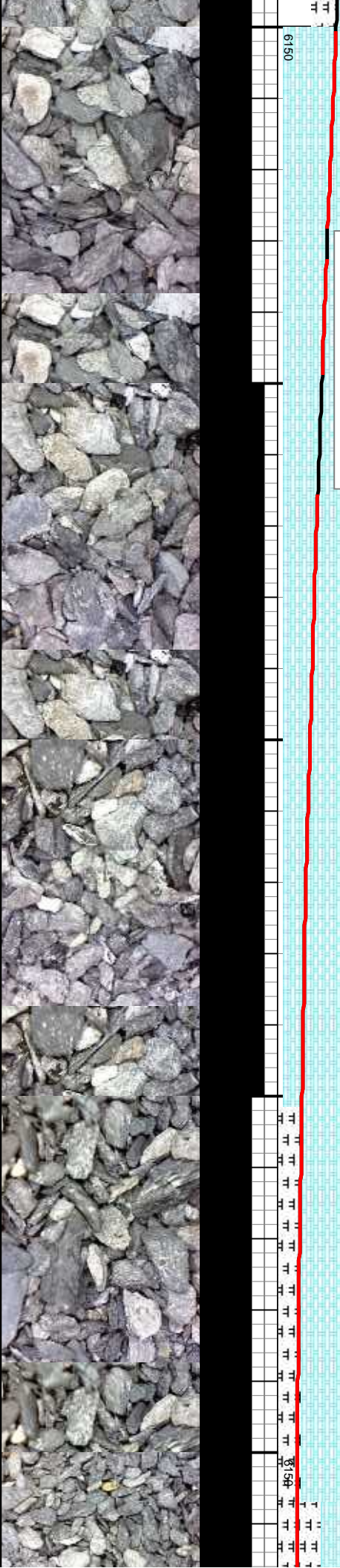
SHY SLTST: lt - med gy, gy
sb blk, rthy tex, vf occ f-me
SLTY SH: med - dk gy, sft -
wxy tex, non calc, tr bent, tr

Logger Top Sharon Springs
5913' MD/5878.61' TVD



CHK: It-med gy, some brn-red, lam, mot, v sft-sft, sb ply-dlky, v calc, crptxl, intbd w/marl, v tr bent MARL: It-dk gy, stri, sft-v sft, sb ply-pty, fri- brt, sil, vf grn, rr vf dissn pyr	CHK: It-med gy, some brn-red, lam, mot, v sft-sft, sb ply-dlky, v calc, crptxl, intbd w/marl, v tr bent MARL: It-dk gy, stri, sft-v sft, sb ply-pty, fri- brt, sil, vf grn, rr vf dissn pyr	CHK: It-med gy, some brn-red, lam, mot, v sft-sft, sb ply-dlky, v calc, crptxl, intbd w/marl, v tr bent MARL: It-dk gy, stri, sft-v sft, sb ply-pty, fri- brt, sil, vf grn, rr vf dissn pyr, tr inoc fos	CHK: It-med gy, some brn-red, lam, mot, v sft-sft, sb ply-dlky, v calc, crptxl, intbd w/marl, v tr bent MARL: It-dk gy, stri, sft-v sft, sb ply-pty, fri- brt, sil, vf grn, rr vf dissn pyr, tr inoc fos	CHK: It-med gy, some brn-red, lam, mot, v sft-sft, sb ply-dlky, v calc, crptxl, intbd w/marl, v tr bent MARL: It-dk gy, stri, sft-v sft, sb ply-pty, fri- brt, sil, vf grn, rr vf dissn
MD: 6,230' TVD: 6,075.73' Inclination: 64.4 ° Azimuth: 94.3 ° VS: 121.46'	MD: 6,276' TVD: 6,094.03' Inclination: 68.7 ° Azimuth: 94.5 ° VS: 163.47'	MD: 6,323' TVD: 6,108.63' Inclination: 75.1 ° Azimuth: 93.2 ° VS: 207.96'	MD: 6,381' TVD: 6,119.29' Inclination: 83.7 ° Azimuth: 92 ° VS: 264.81'	MD: 6,407' TVD: 6,121.26' Inclination: 87.6 ° Azimuth: 91.3 ° VS: 290.7'

Logger Top Niobrara B2 Chalk
6248' MD/ 6082.89' TVD



Out Mud Wt: 9.9/9.9 Vis 34/34

In/Out Mud Wt: 9.3/9.3 Vis 30/30

MINDEPTH

4/22-23/2014 119

Possum Belly
Filled with Mud

3945u

5125u

3154u

C1 73.0%
C2 10.2%
C3 12.5%
C4 4.2%

Curve Landed @ 16:10 MST
4/21/2014 @ 6470' MD

Resumed Drilling @ 9:12 MST
4/23/2014

1383u

4127u

99

121

500
300
8000
800000
0
0
GAMMA (API)
BO (lbm/lb)
Ct-C4 (PPM)

106

6,420 6,430 6,440 6,450 6,460 6,470 6,480 6,490 6,500 6,510 6,520 6,530 6,540 6,550 6,560 6,570 6,580 6,590 6,600 6,610 6,620 6,630

some brn-red, lam, mo, v sft-sft, sb
criptkl, intbd w/marl, v tr bent
stri, sft-v sft, sb ply-ply, fri- brit, sil,
pyr, tr inoc fos

CHK: lt-med gy, some brn-red, lam, mo, v sft-sft, sb
ply-diky, v calc, cripkl, intbd w/marl, v tr bent
MARL: lt-dk gy, stri, sft-v sft, sb ply-ply, fri- brit, sil,
vf gln, tr vf dissn pyr, tr inoc fos

CHK: lt-med gy, some brn-red, lam, mo, v sft-sft, sb
ply-diky, v calc, cripkl, intbd w/marl, v tr bent
MARL: lt-dk gy, stri, sft-v sft, sb ply-ply, fri- brit, sil,
vf gln, tr vf dissn pyr, tr inoc fos

CHK: lt-med gy, some brn-red, lam, mo, v sft-sft, sb
ply-diky, v calc, cripkl, intbd w/marl, v tr bent
MARL: lt-dk gy, stri, sft-v sft, sb ply-ply, fri- brit, sil,
vf gln, tr vf dissn pyr, tr inoc fos

CHK: lt-med gy, some brn-red, lam, mo, v sft-sft, sb
ply-diky, v calc, cripkl, intbd w/marl, v tr bent
MARL: lt-dk gy, stri, sft-v sft, sb ply-ply
vf gln, tr vf dissn pyr, tr inoc fos

TVD Scale Change
6040' MD - 6140' MD
Each White Block is 10'

Bit Data
Bit #: 4
Size: 6.12

MD: 6,489'
TVD: 6,121.62'
Inclination: 91.9°
Azimuth: 91.6°
VS: 372.61'

TVD (ft)
45' Target Zone

MD: 6,581'
TVD: 6,118.81'
Inclination: 91.6°
Azimuth: 91.6°
VS: 464.47'

TVD (ft)

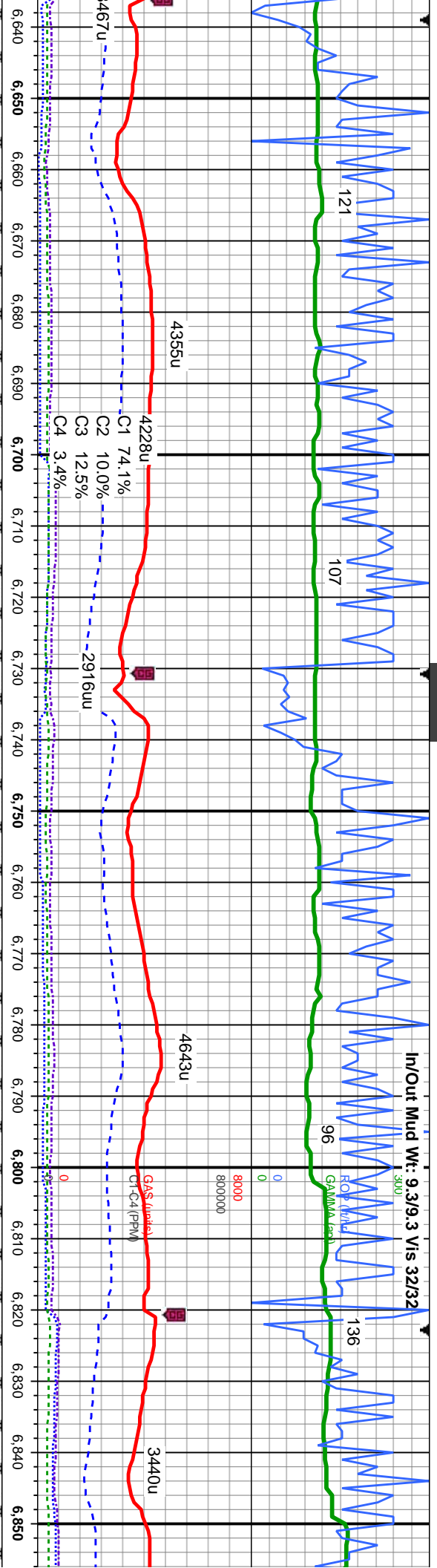
6140

6140

6140



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



6640	6650	6660	6670	6680	6690	6700	6710	6720	6730	6740	6750	6760	6770	6780	6790	6800	6810	6820	6830	6840	6850
fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.
fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.	fr- brt. sil.

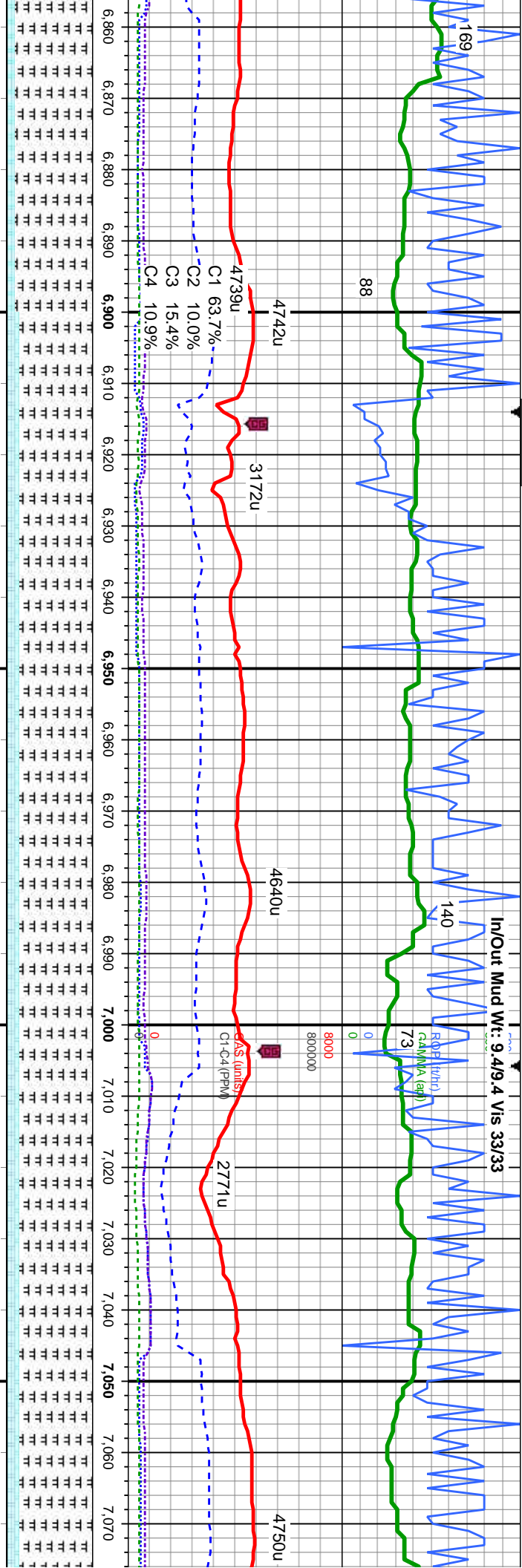
MD: 6,672'
TVD: 6,116.51'
Inclination: 91.3 °
Azimuth: 91.7°
VS: 555.35'

MD: 6,764'
TVD: 6,115.46'
Inclination: 90 °
Azimuth: 91.2°
VS: 647.26'

MD: 6,855'
TVD: 6,115.46'
Inclination: 90 °
Azimuth: 91.2°
VS: 739.2'



In/Out Mud Wt: 9.4/9.4 Vis 33/33

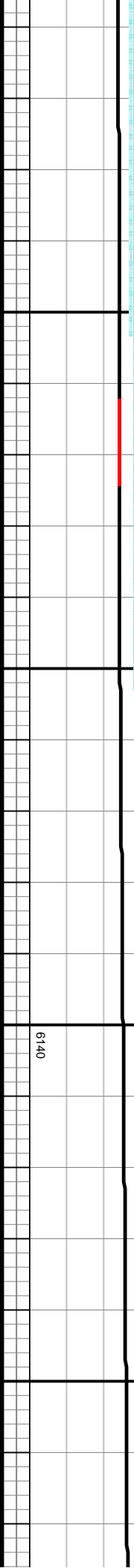


CHK: It-med gy, some brn-red, lam, mot, v sft-sft, sb	CHK: It-med gy, some brn-red, lam, mot, v sft-sft, sb	CHK: It-med gy, some brn-red, lam, mot, v sft-sft, sb	CHK: It-med gy, some brn-red, lam, mot, v sft-sft, sb
ply-dlky, v calc, crptl, intbd w/marl, v tr bent	ply-dlky, v calc, crptl, intbd w/marl, v tr bent	ply-dlky, v calc, crptl, intbd w/marl, v tr bent	ply-dlky, v calc, crptl, intbd w/marl, v tr bent
MARL: It-dk gy, stri, sft-v sft, sb ply-pty, fri- brti, sil,	MARL: It-dk gy, stri, sft-v sft, sb ply-pty, fri- brti, sil,	MARL: It-dk gy, stri, sft-v sft, sb ply-pty, fri- brti, sil,	MARL: It-dk gy, stri, sft-v sft, sb ply-pty, fri- brti, sil,
vif grn, tr vf dissim pyr, tr inoc fos	vif grn, tr vf dissim pyr, tr inoc fos	vif grn, tr vf dissim pyr, tr inoc fos	vif grn, tr vf dissim pyr, tr inoc fos

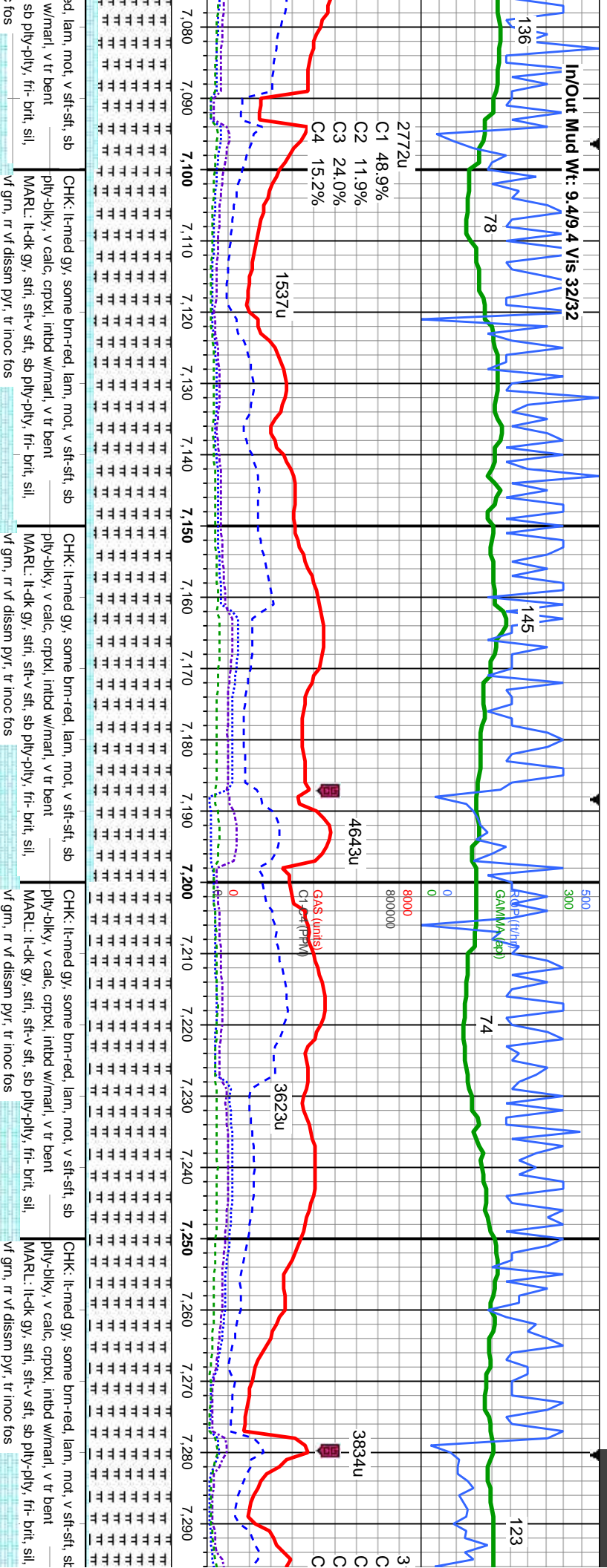
MD: 6.948'
TVD: 6.115.46'
Inclination: 91.6°
Azimuth: 91.6°
VS: 831.15'

MD: 6.948'
TVD: 6.115.46'
Inclination: 91.6°
Azimuth: 91.6°
VS: 831.15'

MD: 7.038'
TVD: 6.113.97'
Inclination: 90.9°
Azimuth: 91.6°
VS: 921.05'



In/Out Mud Wc: 9.4/9.4 Vis 32/32

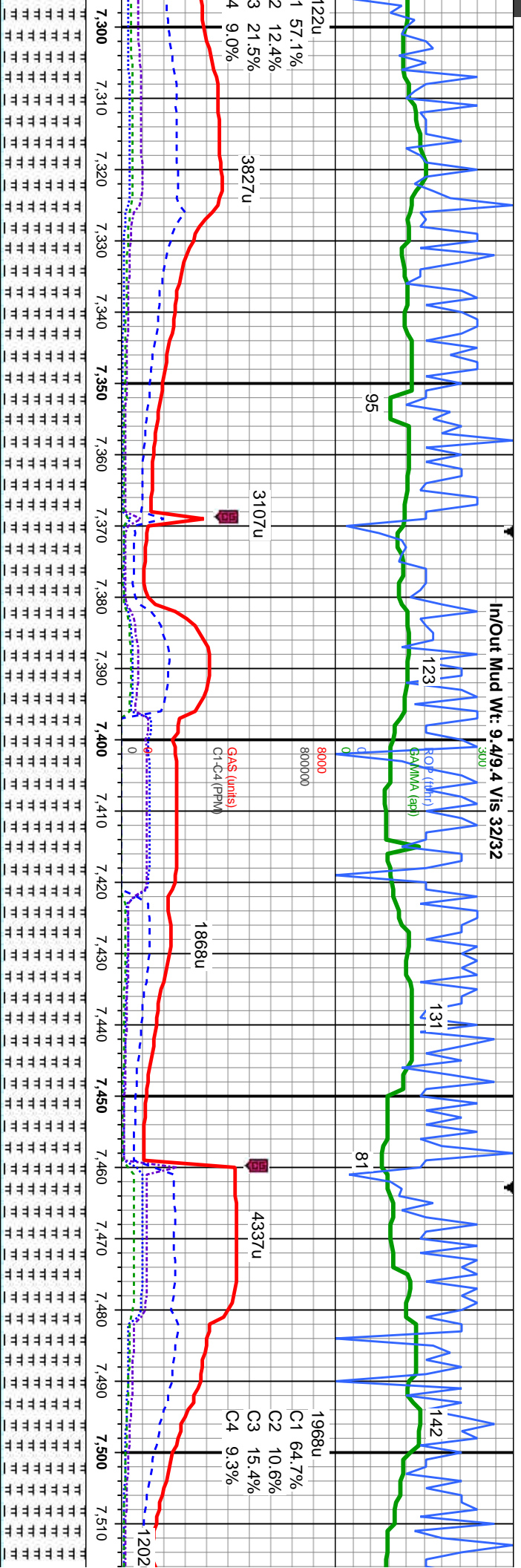


MD: 7,130'
TVD: 6,112.6'
Inclination: 90.8°
Azimuth: 91.6°
VS: 1,012.95'

MD: 7,222'
TVD: 6,110.52'
Inclination: 91.8°
Azimuth: 92.1°
VS: 1,104.81'

6140





CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb
ply-bkly, v calc, crptxl, inbnd w/marl, v tr bent
MARL: lt-dk gy, strf, sft-v sft, sb ply-pty, fri- brt, sil,
vf grn, tr vf diassm pyr, tr inoc fos

MD: 7,314'
TVD: 6,108.51'
Inclination: 90.7°
Azimuth: 89.9°
VS: 1,196.73'

CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb
ply-bkly, v calc, crptxl, inbnd w/marl, v tr bent
MARL: lt-dk gy, strf, sft-v sft, sb ply-pty, fri- brt, sil,
vf grn, com cal, tr inoc fos

MD: 7,405'
TVD: 6,107.8'
Inclination: 90.2°
Azimuth: 90.1°
VS: 1,287.71'

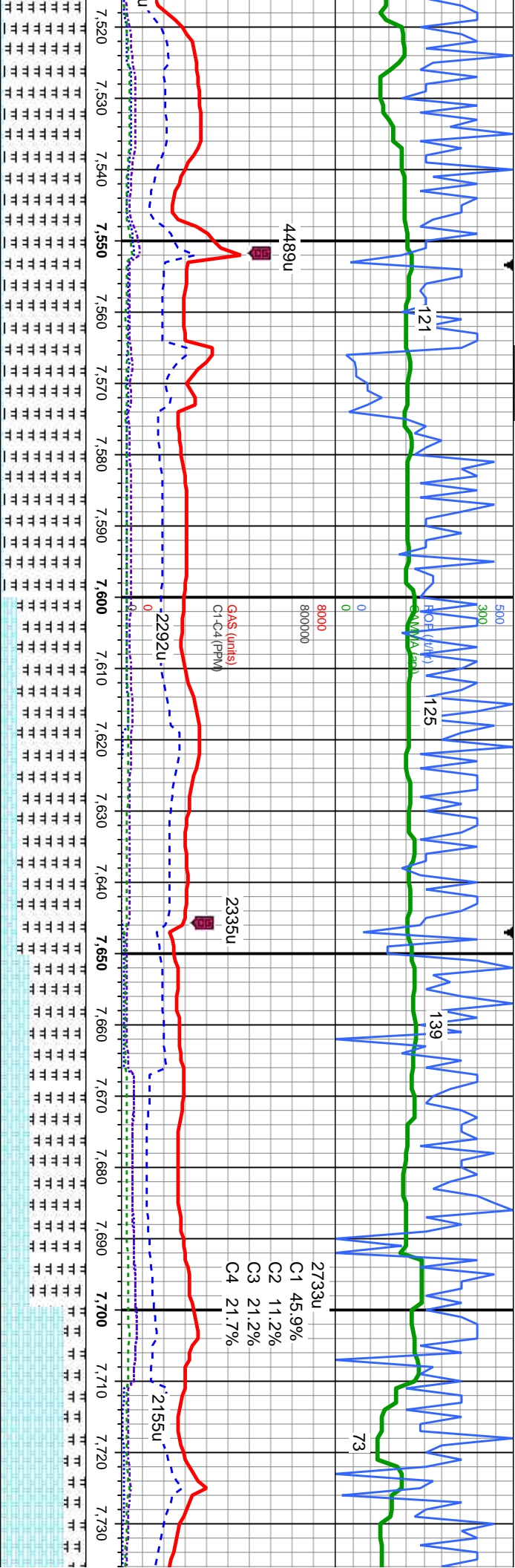
CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb
ply-bkly, v calc, crptxl, inbnd w/marl, v tr bent
MARL: lt-dk gy, strf, sft-v sft, sb ply-pty, fri- brt, sil,
vf grn, com cal, tr inoc fos

CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb
ply-bkly, v calc, crptxl, inbnd w/marl, v tr bent
MARL: lt-dk gy, strf, sft-v sft, sb ply-pty, fri- brt, sil,
vf grn, com cal, tr inoc fos

MD: 7,497'
TVD: 6,107.88'
Inclination: 89.7°
Azimuth: 90°
VS: 1,379.7'

CHK: lt-med gy, s
ply-bkly, v calc, c
MARL: lt-dk gy, s
vf grn, com cal, tr





MD: 7,589'
TVD: 6,107.31'
Inclination: 91.0°
Azimuth: 89.5°
VS: 1,471.69'

MD: 7,682'
TVD: 6,105.37'
Inclination: 91.4°
Azimuth: 89.9°
VS: 1,564.66'

25' Fault

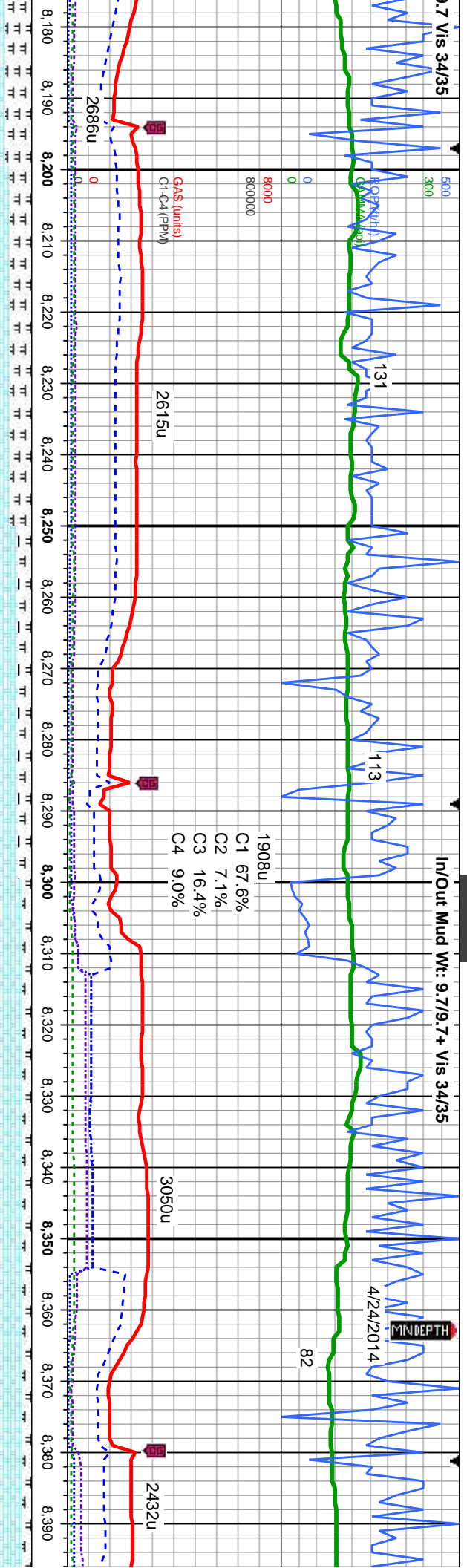
some brn-red, lam, mot, v sft-sft, sb prpxl, inbd w/marl, v tr bent sft-v sft, sb ply-ply, fri- brt, sil, inoc fos	CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb ply-blky, v calc, crpxl, inbd w/marl, v tr bent MARL: lt-dk gy, stri, sft-v sft, sb ply-ply, fri- brt, sil, vf grn, com cal, tr inoc fos	CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb ply-blky, v calc, crpxl, inbd w/marl, v tr bent MARL: lt-dk gy, stri, sft-v sft, sb ply-ply, fri- brt, sil, vf grn, tr inoc fos	CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb ply-blky, v calc, crpxl, inbd w/marl, v tr bent MARL: lt-dk gy, stri, sft-v sft, sb ply-ply, fri- brt, sil, vf grn, tr inoc fos, tr dissn pyr
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1.7 VIS 34/35

In/Out Mud Wt: 9.7/9.7 + Vis 34/35

MINDEPTH
4/24/2014

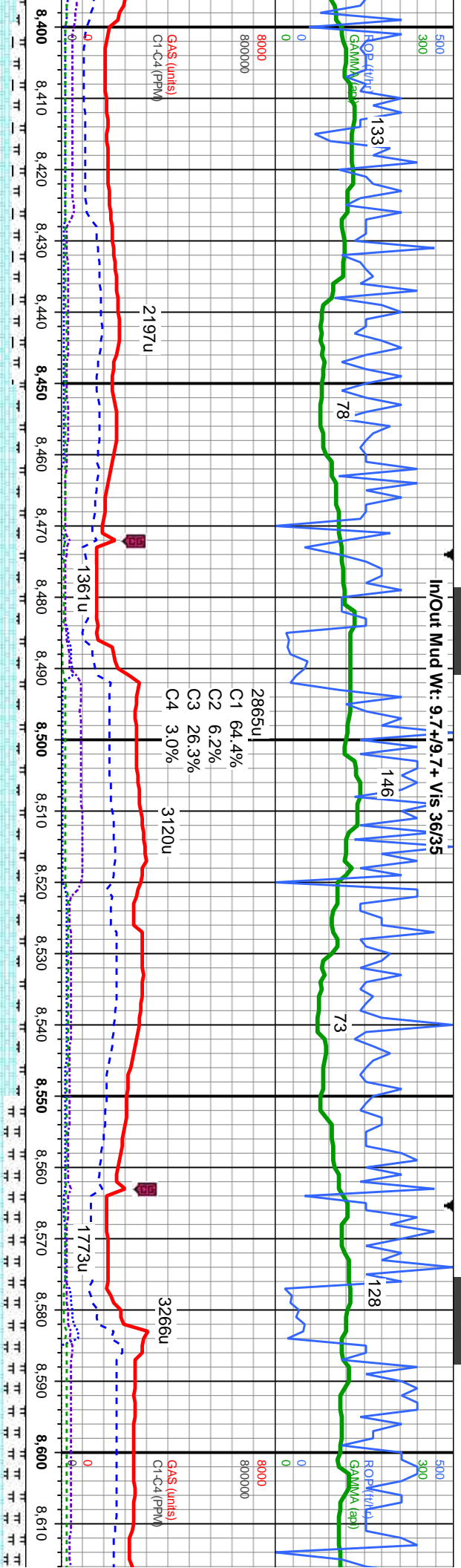


MD: 8,231'
TVD: 6,097.46'
Inclination: 91.3 °
Azimuth: 88.7 °
VS: 2,113.56'

MD: 8,323'
TVD: 6,096.9'
Inclination: 89.4 °
Azimuth: 89.3 °
VS: 2,205.65'

d. lam, mot. v sft-sft, sb	CHK: lt-med gy, some brn-red, lam, mot. v sft-sft, sb	CHK: lt-med gy, some brn-red, lam, mot. v sft-sft, sb	CHK: lt-med gy, some brn-red, lam, mot. v sft-sft, sb
ply-blky, v tr bent	ply-blky, v calc, crptxl, intbd w/marl, v tr bent	ply-blky, v calc, crptxl, intbd w/marl, v tr bent	ply-blky, v calc, crptxl, intbd w/marl, v tr bent
sb ply-pty, frt- brt, sil.	MARL: lt-dk gy, str, sft-v sft, sb ply-pty, frt- brt, sil.	MARL: lt-dk gy, str, sft-v sft, sb ply-pty, frt- brt, sil.	MARL: lt-dk gy, str, sft-v sft, sb ply-pty, frt- brt, sil.
	vf grn, tr inoc fos, tr cal	vf grn, tr inoc fos, tr cal	vf grn, tr inoc fos, tr cal





2865u
C1 64.4%
C2 6.2%
C3 26.3%
C4 3.0%

2197u

3266u

MD: 8,416'
TVD: 6,098.2'
Inclination: 89.0°
Azimuth: 88.9°
VS: 2,298.54'

MD: 8,508'
TVD: 6,099.8'
Inclination: 89.0°
Azimuth: 90.4°
VS: 2,390.52'

MD: 8,600'
TVD: 6,100.45'
Inclination: 90.2°
Azimuth: 90.4°
VS: 2,482.49'

CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb ply-dkly, v calc, cpxl, inbd w/marl, v tr bent
MARL: lt-dk gy, strl, sft-v sft, sb ply-pty, frt- brt, sil, vif grn, tr inoc fos, tr cal

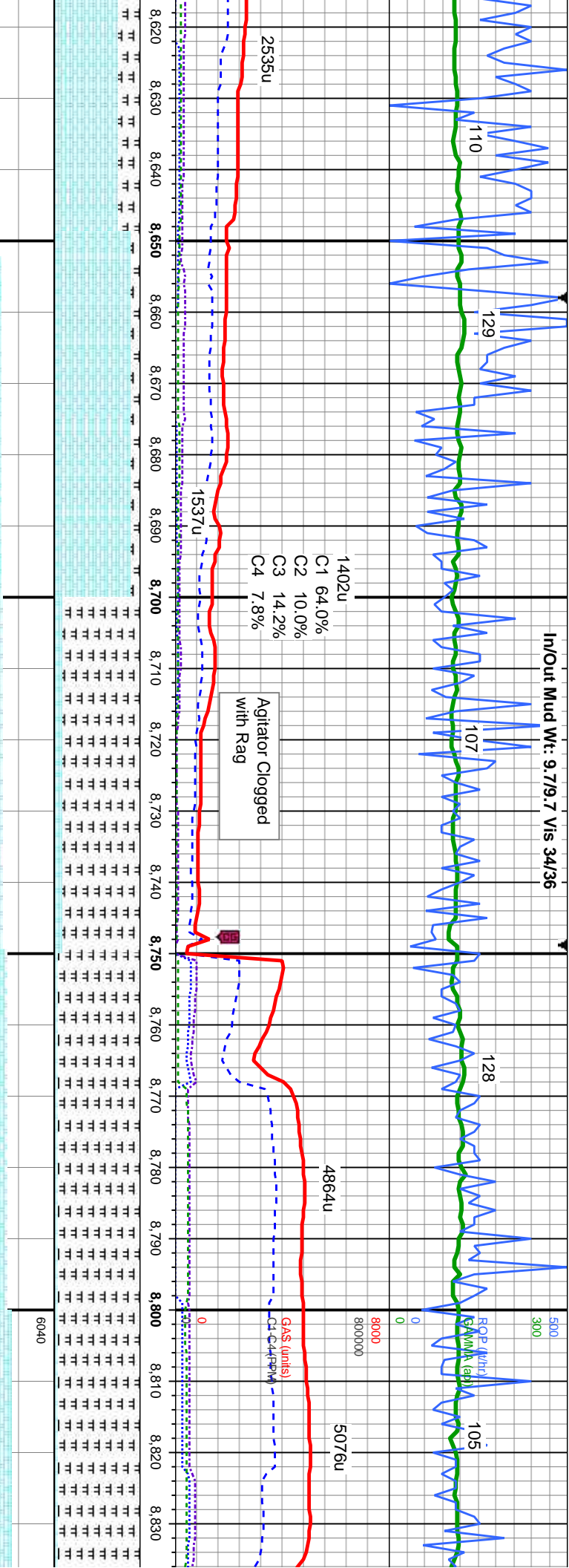
CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb ply-dkly, v calc, cpxl, inbd w/marl, v tr bent
MARL: lt-dk gy, strl, sft-v sft, sb ply-pty, frt- brt, sil, vif grn, tr inoc fos, tr cal

CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb ply-dkly, v calc, cpxl, inbd w/marl, v tr bent
MARL: lt-dk gy, strl, sft-v sft, sb ply-pty, frt- brt, sil, vif grn, tr inoc fos, tr cal

CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb ply-dkly, v calc, cpxl, inbd w/marl, v tr bent
MARL: lt-dk gy, strl, sft-v sft, sb ply-pty, frt- brt, sil, vif grn, tr inoc fos, tr cal

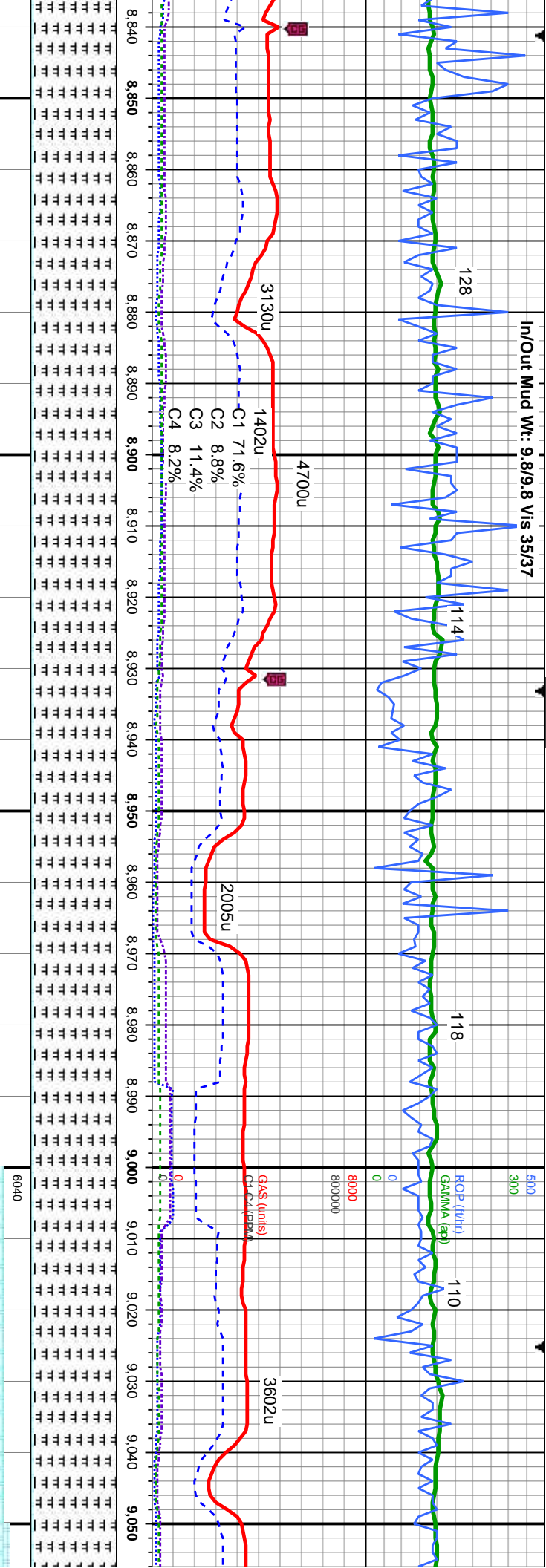
CHK: lt-med gy, s
ply-dkly, v calc, c
MARL: lt-dk gy, str
vif grn, tr inoc fos,





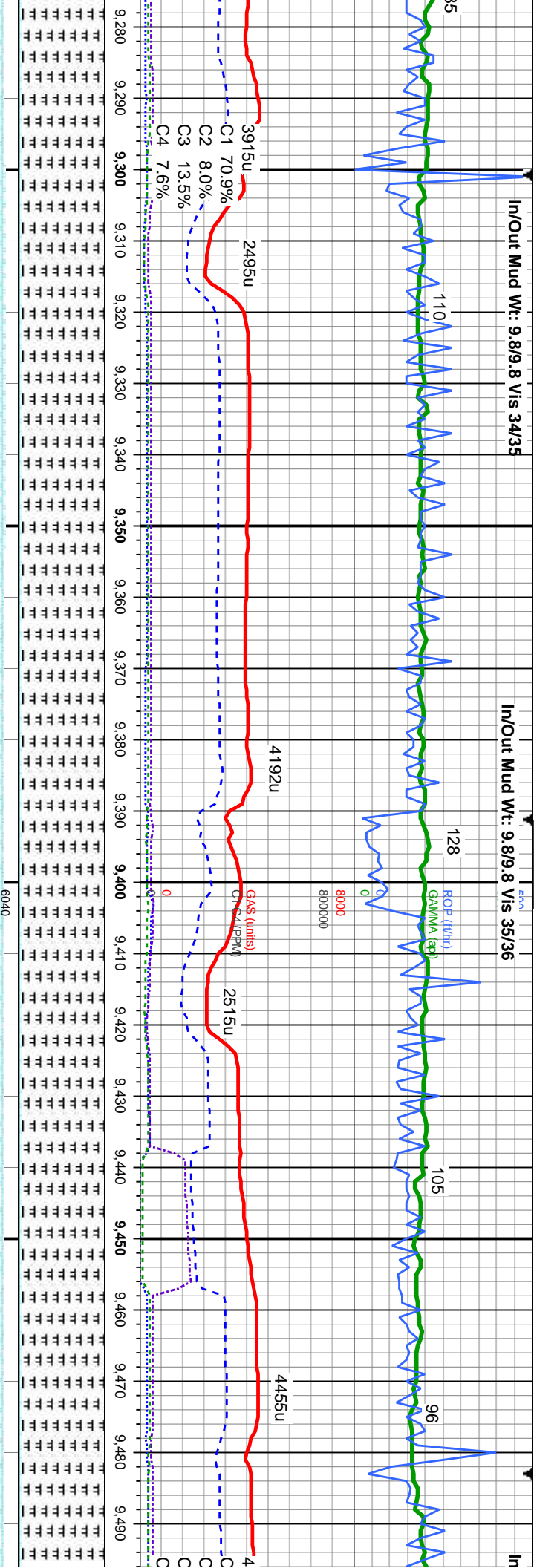
some brn-red, lam, mot, v sft-sft, sb ppxl, intbd w/marl, v tr bent ri, sft-v sft, sb pily-pily, fri- brit, sil, tr cal	CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb pily-blky, v calc, crptxl, intbd w/marl, v tr bent MARL: lt-dk gy, stri, sft-v sft, sb pily-pily, fri- brit, sil, vf gm, tr inoc fos, tr cal	CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb pily-blky, v calc, crptxl, intbd w/marl, v tr bent MARL: lt-dk gy, stri, sft-v sft, sb pily-pily, fri- brit, sil, vf gm, tr inoc fos, tr cal	CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb pily-blky, v calc, crptxl, intbd w/marl, v tr bent MARL: lt-dk gy, stri, sft-v sft, sb pily-pily, fri- brit, sil, vf gm, tr inoc fos, tr cal	CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb pily-blky, v calc, crptxl, intbd w/marl, v tr bent MARL: lt-dk gy, stri, sft-v sft, sb pily-pily, fri- brit, sil, vf gm, tr inoc fos, tr cal
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v sft-sft, sb		CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb	CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb	CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb	CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb
bent		ply-blky, v calc, crptxl, intbd w/marl, v tr bent	ply-blky, v calc, crptxl, intbd w/marl, v tr bent	ply-blky, v calc, crptxl, intbd w/marl, v tr bent	ply-blky, v calc, crptxl, intbd w/marl, v tr bent
fri- brt, sil,		MARL: lt-dk gy, stri, sft-v sft, sb ply-pty, fri- brt, sil,	MARL: lt-dk gy, stri, sft-v sft, sb ply-pty, fri- brt, sil,	MARL: lt-dk gy, stri, sft-v sft, sb ply-pty, fri- brt, sil,	MARL: lt-dk gy, stri, sft-v sft, sb ply-pty, fri- brt, sil,
		vf grn, tr inoc fos, tr cal	vf grn, tr inoc fos, tr cal	vf grn, tr inoc fos, tr cal	vf grn, tr inoc fos, tr cal





MD: 9.333'
TVD: 6,094.46'
Inclination: 90.3 °
Azimuth: 86.6 °
VS: 3,214.97'

MD: 9.425'
TVD: 6,093.82'
Inclination: 90.5 °
Azimuth: 88.2 °
VS: 3,306.93'

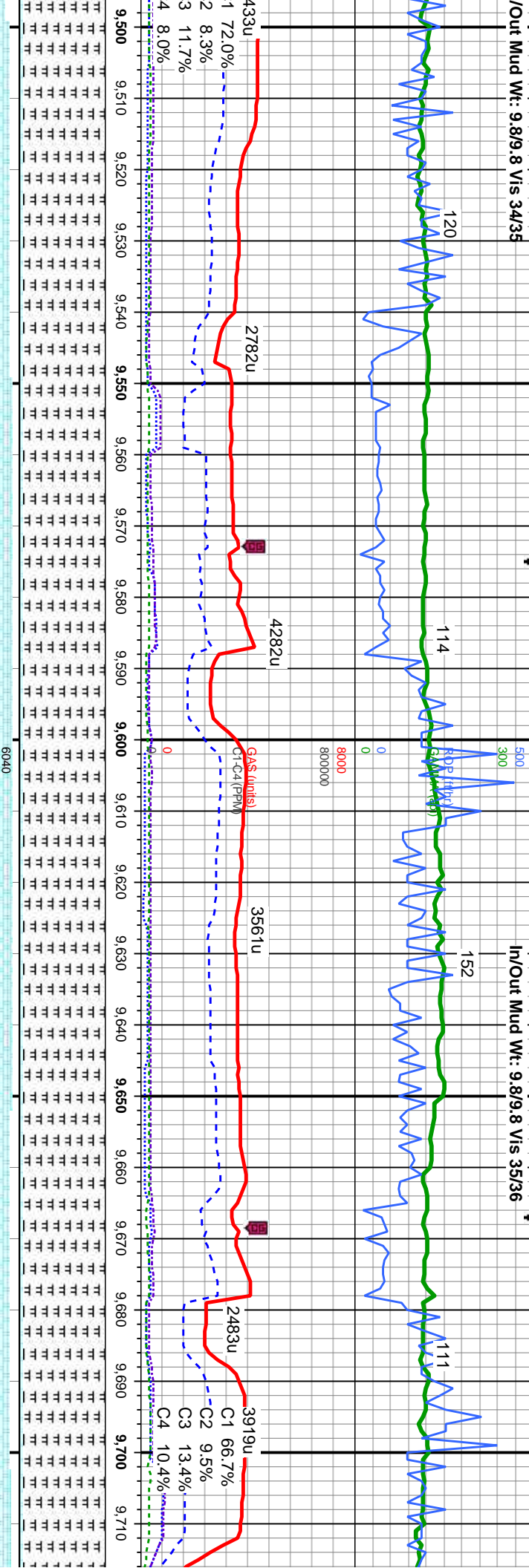
TVD (ft)

d, lam, mot, v sft-sft, sb	CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb	CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb	CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb	CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb
ply-marl, v tr bent	ply-blky, v calc, crptxl, intbd w/marl, v tr bent	ply-blky, v calc, crptxl, intbd w/marl, v tr bent	ply-blky, v calc, crptxl, intbd w/marl, v tr bent	ply-blky, v calc, crptxl, intbd w/marl, v tr bent
sb ply-ply, fir- brt, sil,	MARL: lt-dk gy, str, sft-v sft, sb ply-ply, fir- brt, sil,	MARL: lt-dk gy, str, sft-v sft, sb ply-ply, fir- brt, sil,	MARL: lt-dk gy, str, sft-v sft, sb ply-ply, fir- brt, sil,	MARL: lt-dk gy, str, sft-v sft, sb ply-ply, fir- brt, sil,
	vf grn, tr inoc fos, tr cal	vf grn, tr inoc fos, tr cal	vf grn, tr inoc fos, tr cal	vf grn, tr inoc fos, tr cal



/Out Mud Wt: 9.8/9.8 Vis 34/35

In/Out Mud Wt: 9.8/9.8 Vis 35/36



MD: 9,517'
TVD: 6,093.82'
Inclination: 89.5
Azimuth: 87.1°
VS: 3,398.9'

MD: 9,608'
 TVD: 6,094.69'
 Inclination: 89.4 °
 Azimuth: 89 °
 VS: 3,489.87'

MD: 9,701'
TVD: 6,095.34'
Inclination: 89.8 °
Azimuth: 89.4 °
VS: 3,582.87'

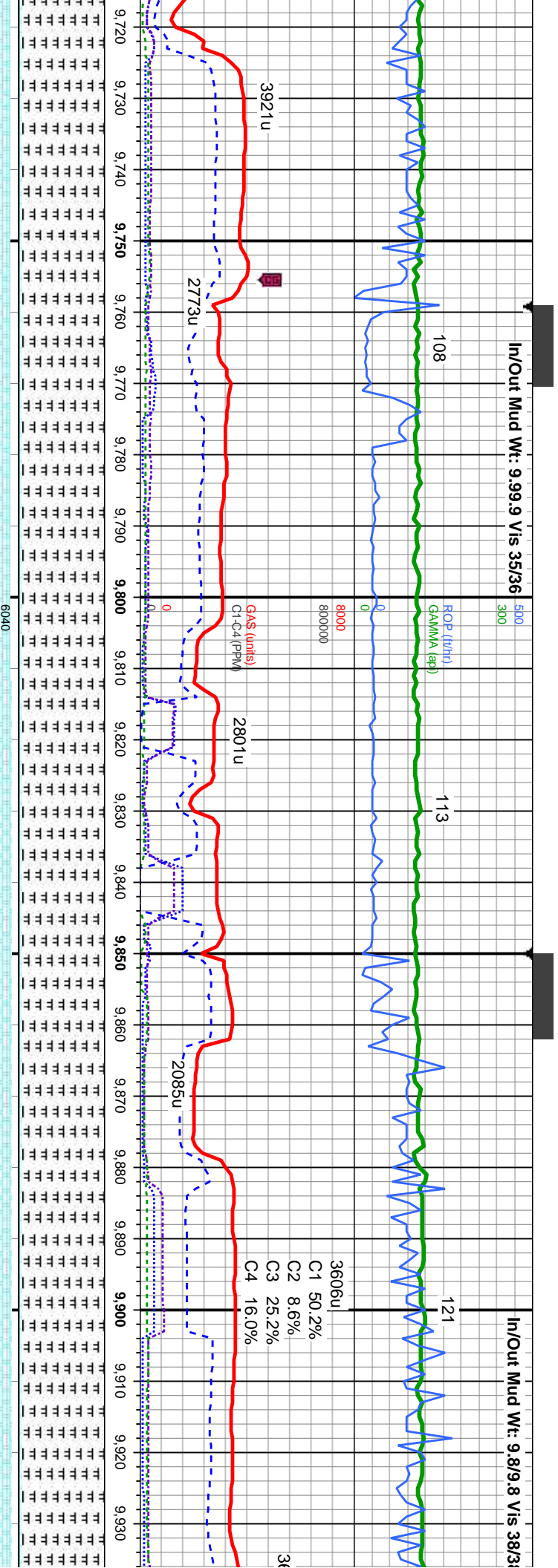
CHK: lt-med gy, some br-red, lam, mot, v sft-sft, sb
ply-dlky, v calc, crptxl, intbd w/marl, v tr bent
MARL: lt-dk gy, stri, sft-v sft, sb ply-ply, fri-
brit, sil, vfgm, tr inoc fos, tr cal

CH&K: lt-med gy, some br-red, lam, mot, v sft-sft, sb
ply-dlky, v calic, crptxl, imbd w/marl, v tr bent
MARL: lt-dk gy, sti, sft-v sft, sb ply-pty, fri-
brit, sil, vf gm, tr inoc fos, tr cal

CHK: lt-med gy, some bn-red, lam, mot. v sft-sft, st-
ply-dlky, v calc, crptxl, inbnd w/marl, v tr bent
MARL: lt-dk gy, sfti, sft-v-sft, sb ply-ply, fri-
brft, sil, vf grn, tr inoc fos, tr cal

CHK: lt-med gy, some dm-red, lam, mot, v sft-sft, sb
ply-bkly, v calc, cripd, intbd w/marl, v tr bent
MARL: lt-dk gy, sft, sft-v-sft, sb ply-ply, fir- brt, sil,
vf grn, tr inoc fos, tr cal

CHK: It-med gy, s
ply-blky, v calc, c
MARL: It-dk gy, s
vf grn, tr inoc fos,



MD: 9.792'
TVD: 6,095.58'
Inclination: 89.9 °
Azimuth: 90.3 °
VS: 3.673.86'

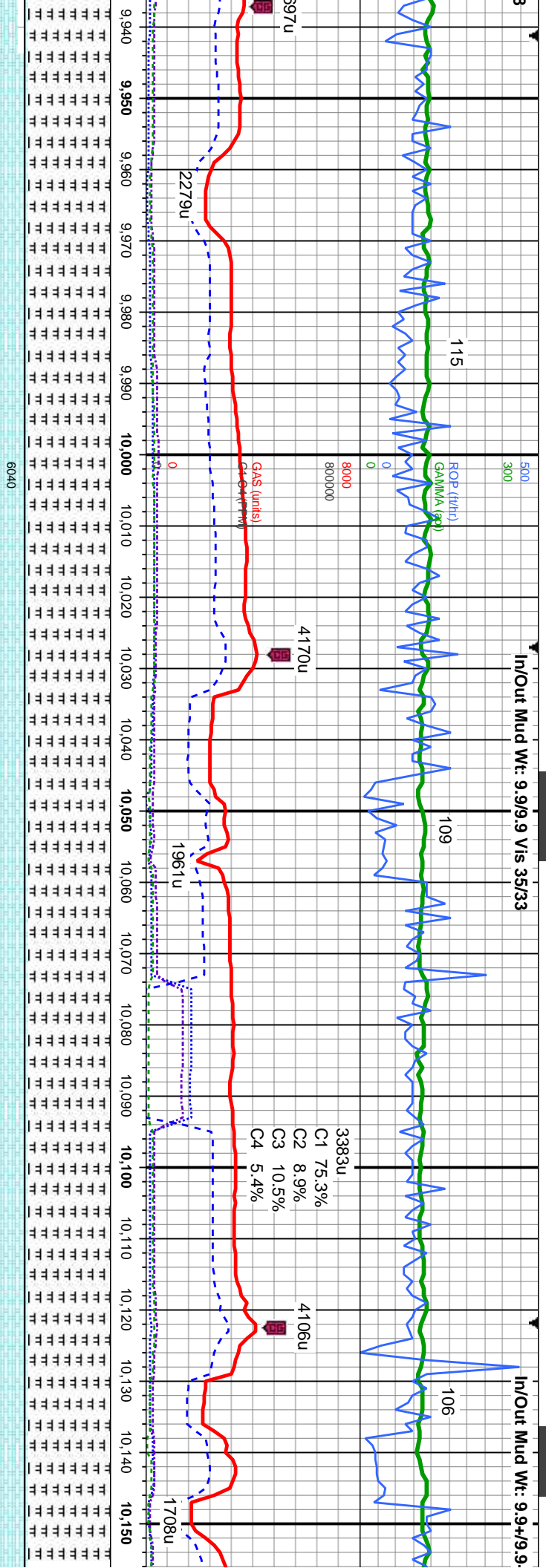
MD: 9.884'
TVD: 6,094.94'
Inclination: 90.9 °
Azimuth: 91.3 °
VS: 3.765.81'

some brn-red, lam, mot. v sft-sft, sb ply-dkly, inbnd w/marl, tr bent tri, sft-v sft, sb ply-ply, fir- brit, sil, tr cal	CHK: lt-med gy, some brn-red, lam, mot. v sft-sft, sb ply-dkly, v calc, crptxl, inbnd w/marl, tr bent MARL: lt-dk gy, stri, sft-v sft, sb ply-ply, fir- brit, sil, vf grn, tr inoc fos, tr cal	CHK: lt-med gy, some brn-red, lam, mot. v sft-sft, sb ply-dkly, v calc, crptxl, inbnd w/marl, com bent MARL: lt-dk gy, stri, sft-v sft, sb ply-ply, fir- brit, sil, vf grn, tr inoc fos, tr cal	CHK: lt-med gy, some brn-red, lam, mot. v sft-sft, sb ply-dkly, v calc, crptxl, inbnd w/marl, cor MARL: lt-dk gy, stri, sft-v sft, sb ply-ply vf grn, tr inoc fos, tr cal
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In/Out Mud Wt: 9.9/9.9 Vis 35/33

In/Out Mud Wt: 9.9+/9.9



MD: 9,976'
TVD: 6,094.53'
Inclination: 89.6 °
Azimuth: 90.2 °
VS: 3,857.77'

MD: 10,069'
TVD: 6,094.29'
Inclination: 90.7 °
Azimuth: 91.8 °
VS: 3,950.71'

ME
TV
Inc
Az
VS

v sft-sft, sb n bent fir- brit, sil,	CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb ply-blky, v calc, crpxl, intbd w/marl, com bent MARL: lt-dk gy, stri, sft-v sft, sb ply-ply, fir- brit, sil, vf grn, tr inoc fos, tr cal	TVD (ft)	CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb ply-blky, v calc, crpxl, intbd w/marl, com bent MARL: lt-dk gy, stri, sft-v sft, sb ply-ply, fir- brit, sil, vf grn, tr inoc fos, tr cal	CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb ply-blky, v calc, crpxl, intbd w/marl, com bent MARL: lt-dk gy, stri, sft-v sft, sb ply-ply, fir- brit, sil, vf grn, tr inoc fos, tr cal	CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb ply-blky, v calc, crpxl, intbd w/marl, com bent MARL: lt-dk gy, stri, sft-v sft, sb ply-ply, fir- brit, sil, vf grn, tr inoc fos, tr cal



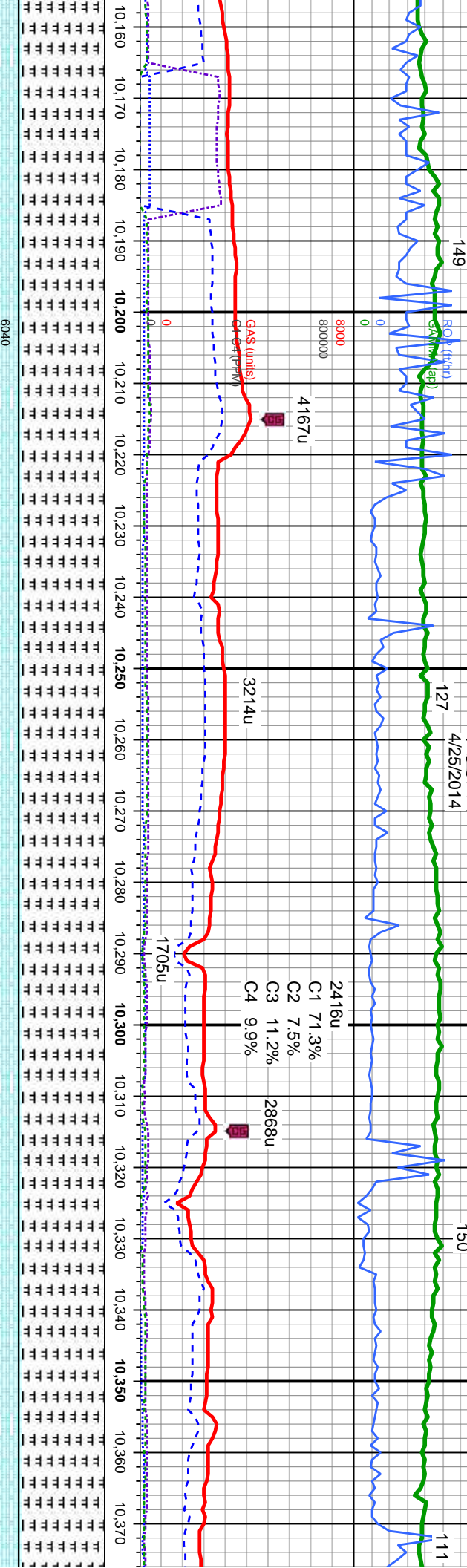
+ Vis 35/36

In/Out Mud Wt: 9.9+/9.9+ Vis 34/36

In/Out Mud Wt: 9.9



4/25/2014

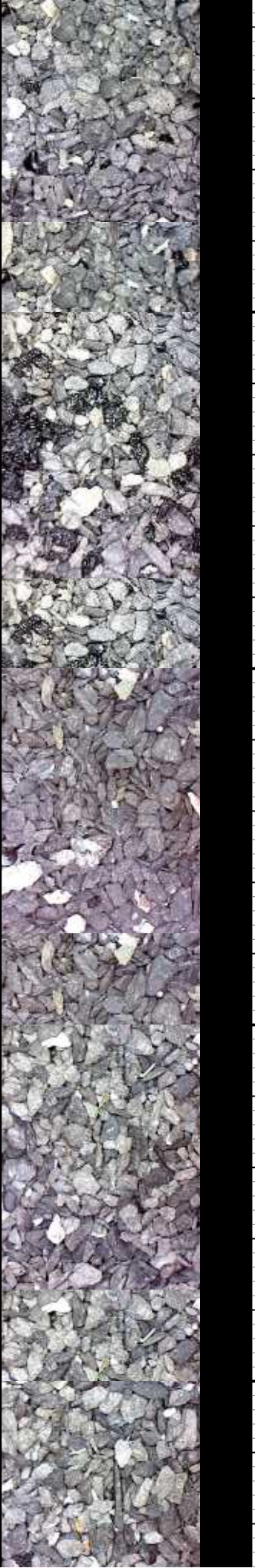


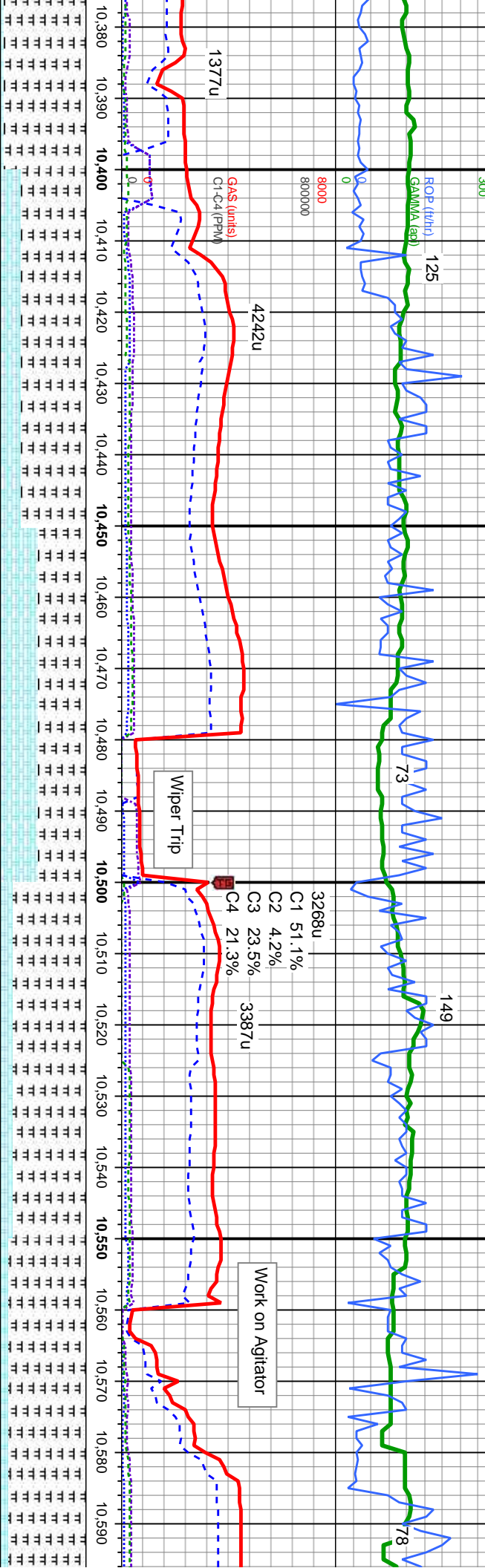
D: 10,164'
D: 6,092.72'
Inclination: 91.2°
Azimuth: 92.3°
VS: 4,045.56'

MD: 10,259'
TV/D: 6,091.14'
Inclination: 90.7°
Azimuth: 91.5°
VS: 4,140.43'

MD: 10,354'
TV/D: 6,089.15'
Inclination: 91.7°
Azimuth: 90.9°
VS: 4,235.34'

CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb
ply-blky, v calc, crpxl, inbd w/marl, com bent
MARL: lt-dk gy, strf, sft-v sft, sb ply-pty, fri- brt, sil,
vf grn, tr inoc fos, tr cal





MD: 10,442'
TVD: 6,086.08'
Inclination: 92.3°
Azimuth: 90.4°
VS: 4,323.25'

TVD Scale Change
6000' MD - 6100' MD
Each White Block is 10'

MD: 10,502'
TVD: 6,083.67'
Inclination: 92.3°
Azimuth: 90.3°
VS: 4,383.19'

MD: 10,594'
TVD: 6,081.1'
Inclination: 90.3°
Azimuth: 88.3°
VS: 4,475.14'

CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb ply-blky, v calc, crptxl, intbd w/marl, com bent
MARL: lt-dk gy, stri, sft-v sft, sb ply-ply, fri- brit, sil, vif grn, tr inoc fos, tr cal

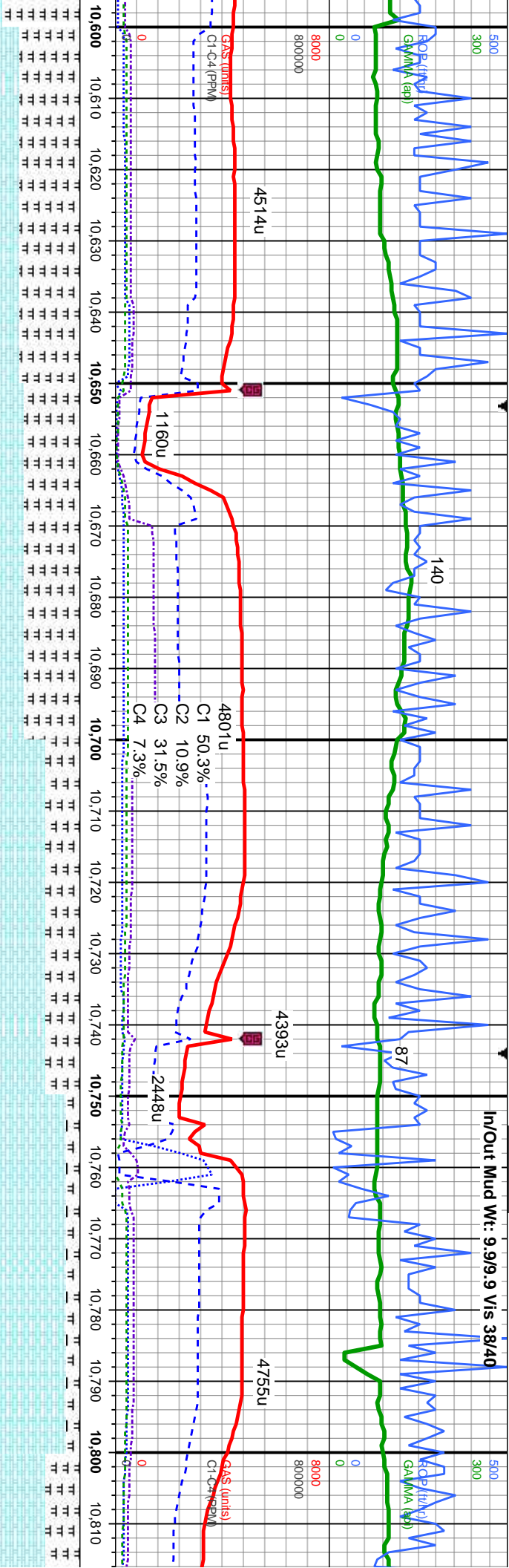
CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb ply-blky, v calc, crptxl, intbd w/marl, com bent
MARL: lt-dk gy, stri, sft-v sft, sb ply-ply, fri- brit, sil, vif grn, tr inoc fos, tr cal

CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb ply-blky, v calc, crptxl, intbd w/marl, tr bent
MARL: lt-dk gy, stri, sft-v sft, sb ply-ply, fri- brit, sil, vif grn, tr inoc fos, tr cal

CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb ply-blky, v calc, crptxl, intbd w/marl, tr bent
MARL: lt-dk gy, stri, sft-v sft, sb ply-ply, fri- brit, sil, vif grn, tr inoc fos, tr cal

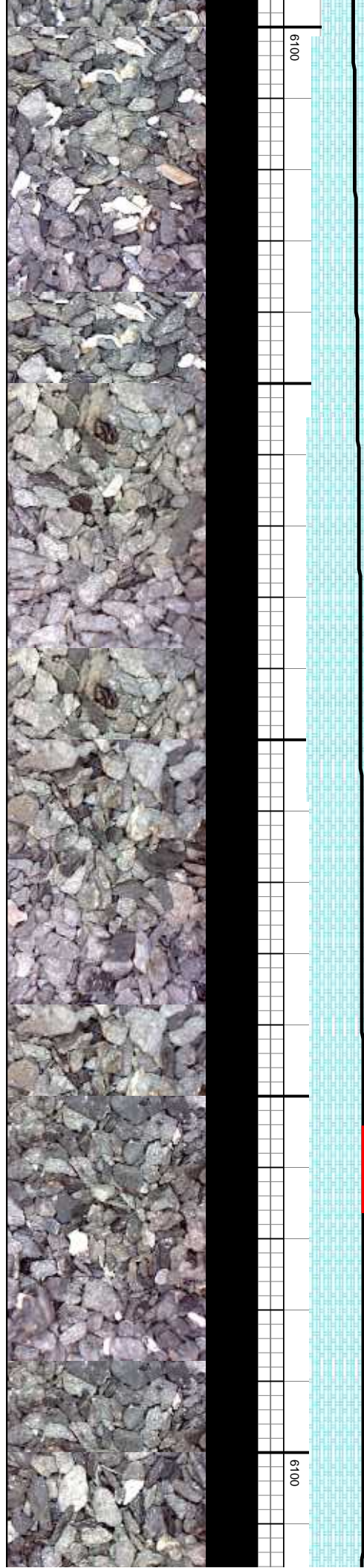
6100



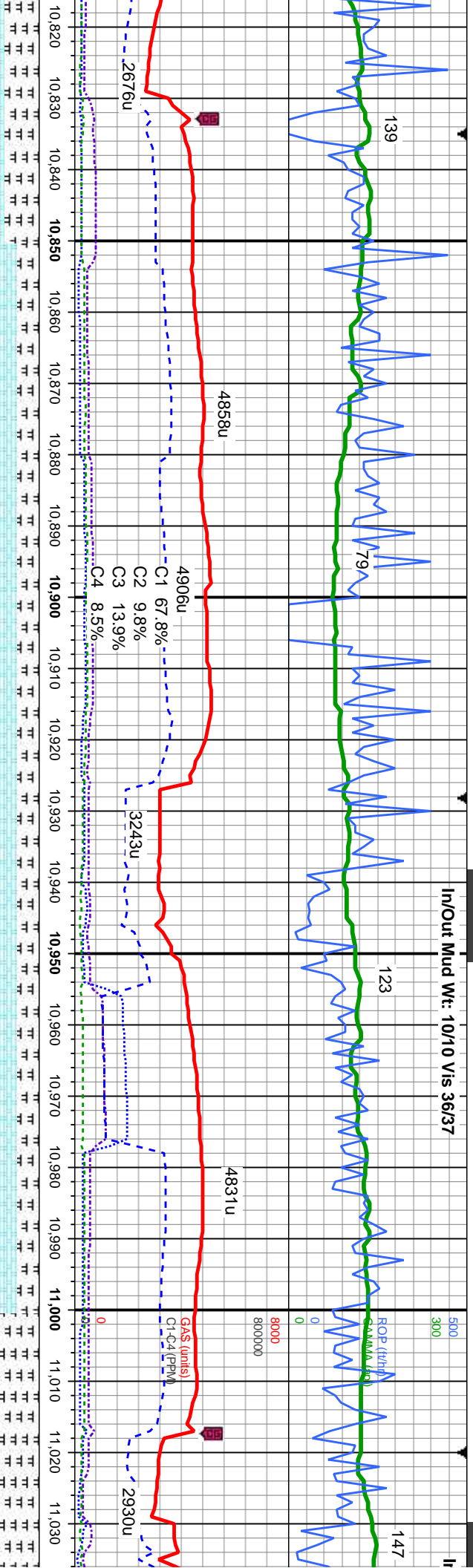


CHK: It-med gy, some brn-red, lam, mot, v sft-sft, sb	CHK: It-med gy, some brn-red, lam, mot, v sft-sft, sb	CHK: It-med gy, some brn-red, lam, mot, v sft-sft, sb	CHK: It-med gy, some brn-red, lam, mot, v sft-sft, sb
ply-blky, v calc, crptl, inbnd w/marl, com bent	ply-blky, v calc, crptl, inbnd w/marl, tr bent	ply-blky, v calc, crptl, inbnd w/marl, tr bent	ply-blky, v calc, crptl, inbnd w/marl, tr bent
MARL: lt-dk gy, stri, sft-v sft, sb ply-pty, fri- brt, sil,	MARL: lt-dk gy, stri, sft-v sft, sb ply-pty, fri- brt, sil,	MARL: lt-dk gy, stri, sft-v sft, sb ply-pty, fri- brt, sil,	MARL: lt-dk gy, stri, sft-v sft, sb ply-pty, fri- brt, sil,
vif grn, com inoc fos, tr cal	vif grn, com inoc fos, tr cal	vif grn, com inoc fos, tr cal	vif grn, com inoc fos, tr cal

MD: 10,686'	MD: 10,778'
TVD: 6,079.1'	TVD: 6,078.13'
Inclination: 91.6°	Inclination: 89.6°
Azimuth: 88.7°	Azimuth: 87.7°
VS: 4,567.12'	VS: 4,659.1'



In/Out Mud Wt: 10/10 Vis 36/37

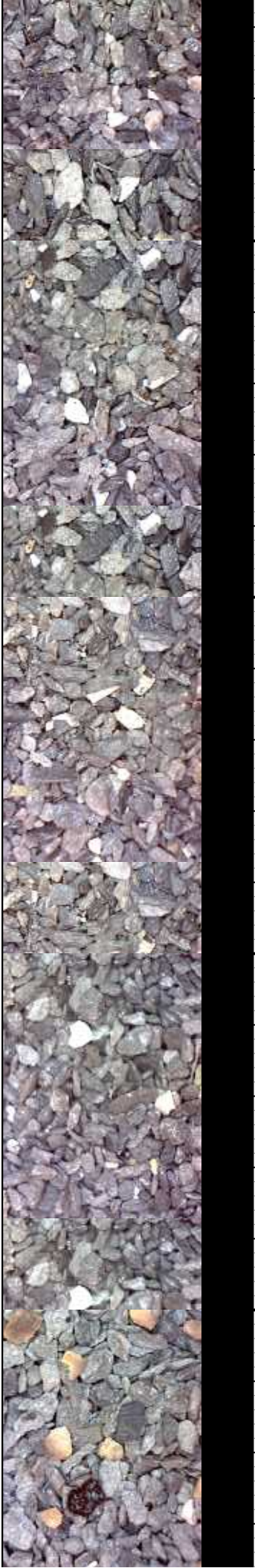


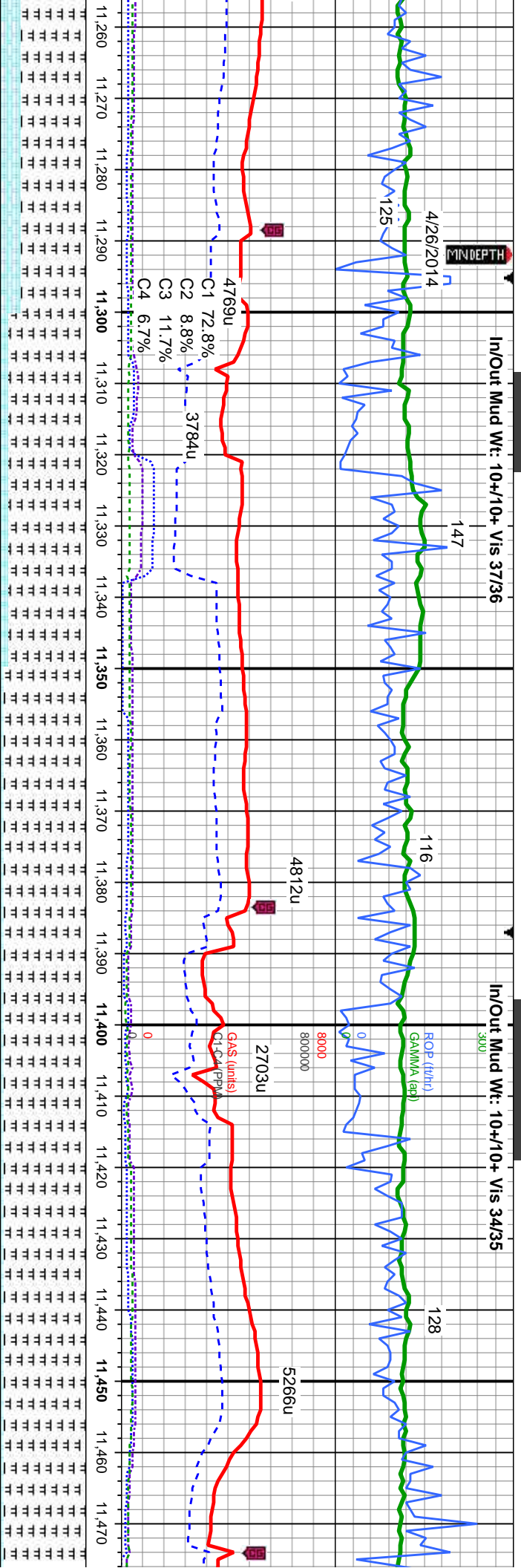
some brn-red, lam, mot, v sft-sft, sb	CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb	CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb	CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb
crptxl, inbnd w/mari, tr bent	ply-blky, v calc, crptxl, inbnd w/mari, tr bent	ply-blky, v calc, crptxl, inbnd w/mari, tr bent	ply-blky, v calc, crptxl, inbnd w/mari, tr bent
tri, sft-v sft, sb ply-pty, fri- brt, sil,	MARL: lt-dk gy, stri, sft-v sft, sb ply-pty, fri- brt, sil,	MARL: lt-dk gy, stri, sft-v sft, sb ply-pty, fri- brt, sil,	MARL: lt-dk gy, stri, sft-v sft, sb ply-pty, fri- brt, sil,
os, tr cal	vf grn, com inoc fos, tr cal	vf grn, com inoc fos, tr cal	vf grn, com inoc fos, tr cal

MD: 10,869'
TVD: 6,079.09'
Inclination: 89.2 °
Azimuth: 86.7°
VS: 4,750.04'

MD: 10,962'
TVD: 6,080.06'
Inclination: 89.6 °
Azimuth: 87.1°
VS: 4,842.97'

TVD (ft)
6100





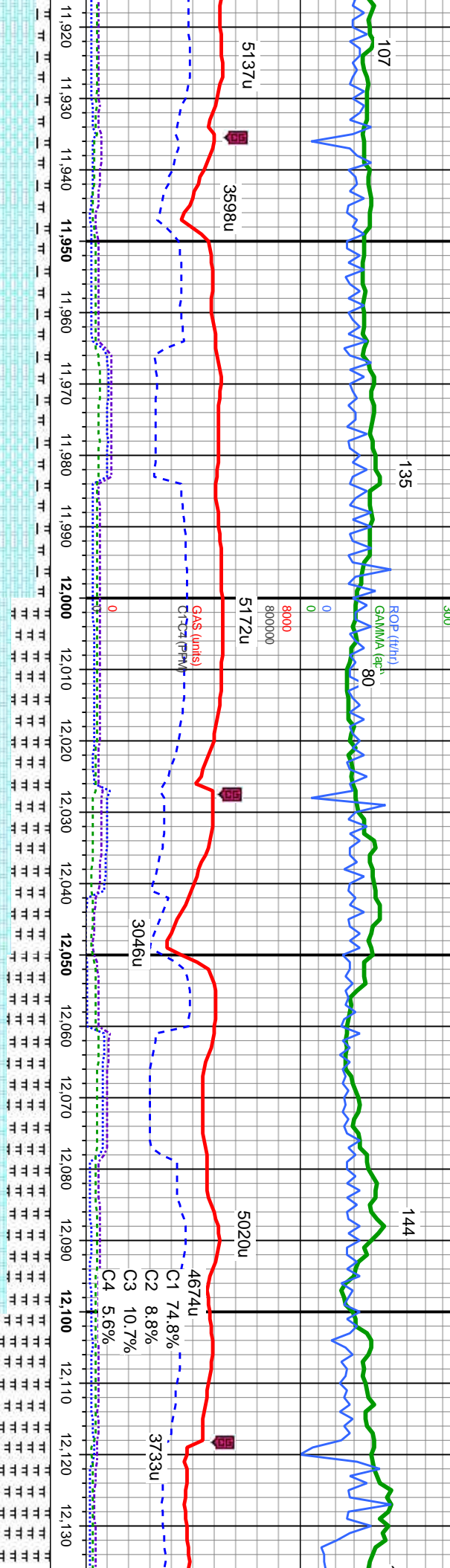
<p>Il-med gy, some brn-red, lam, mot, v stf-stf, sb chy, v calc, cpxxl, inbnd w/mari, tr bent MAR: Il-dk gy, strf, stf-v stf, sb ply-pty, ffr- brt, sil, com inoc fos, tr cal</p>	<p>CHK: Il-med gy, some brn-red, lam, mot, v stf-stf, sb ply-dky, v calc, cpxxl, inbnd w/mari, tr bent MAR: Il-dk gy, strf, stf-v stf, sb ply-pty, ffr- brt, sil, vf grn, com inoc fos, tr cal</p>	<p>CHK: Il-med gy, some brn-red, lam, mot, v stf-stf, sb ply-dky, v calc, cpxxl, inbnd w/mari, tr bent MAR: Il-dk gy, strf, stf-v stf, sb ply-pty, ffr- brt, sil, vf grn, com inoc fos, tr cal</p>	<p>CHK: Il-med gy, some brn-red, lam, mot, v stf-stf, sb ply-dky, v calc, cpxxl, inbnd w/mari, tr bent MAR: Il-dk gy, strf, stf-v stf, sb ply-pty, ffr- brt, sil, vf grn, com inoc fos, tr cal</p>
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MD: 11,329'
TVD: 6,082.62'
Inclination: 89.4 °
Azimuth: 89.3 °
VS: 5,209.94'

MD: 11,420'
TVD: 6,082.07'
Inclination: 91.3 °
Azimuth: 89.2 °
VS: 5,300.93'

TVD (ft)
6100

0-+10.0-+ Vis 36/36 In/Out Mud Wt: 10.0/10.0 Vis 36/37 In/Out Mud Wt: 10.0-+/10.0-+ Vis 37/37



some brn-red, lam, mot, v sft-sft, sb
crptxl, intbd w/marl, tr bent
tri, sft-v-sft, sb ply-pty, fri- brt, sil,
os, tr cal

CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb
ply-diky, v calc, crptxl, intbd w/marl, tr bent
MARL: lt-dk gy, stri, sft-v-sft, sb ply-pty, fri- brt, sil,
vf grn, com inoc fos, tr cal

CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb
ply-diky, v calc, crptxl, intbd w/marl, tr bent
MARL: lt-dk gy, stri, sft-v-sft, sb ply-pty, fri- brt, sil,
vf grn, tr inoc fos, tr cal

CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb
ply-diky, v calc, crptxl, intbd w/marl, tr bent
MARL: lt-dk gy, stri, sft-v-sft, sb ply-pty, fri- brt, sil,
vf grn, tr inoc fos, tr cal

MD: 11,971'
TVD: 6,071.09'
Inclination: 90.8 °
Azimuth: 86.6 °
VS: 5,851.71'

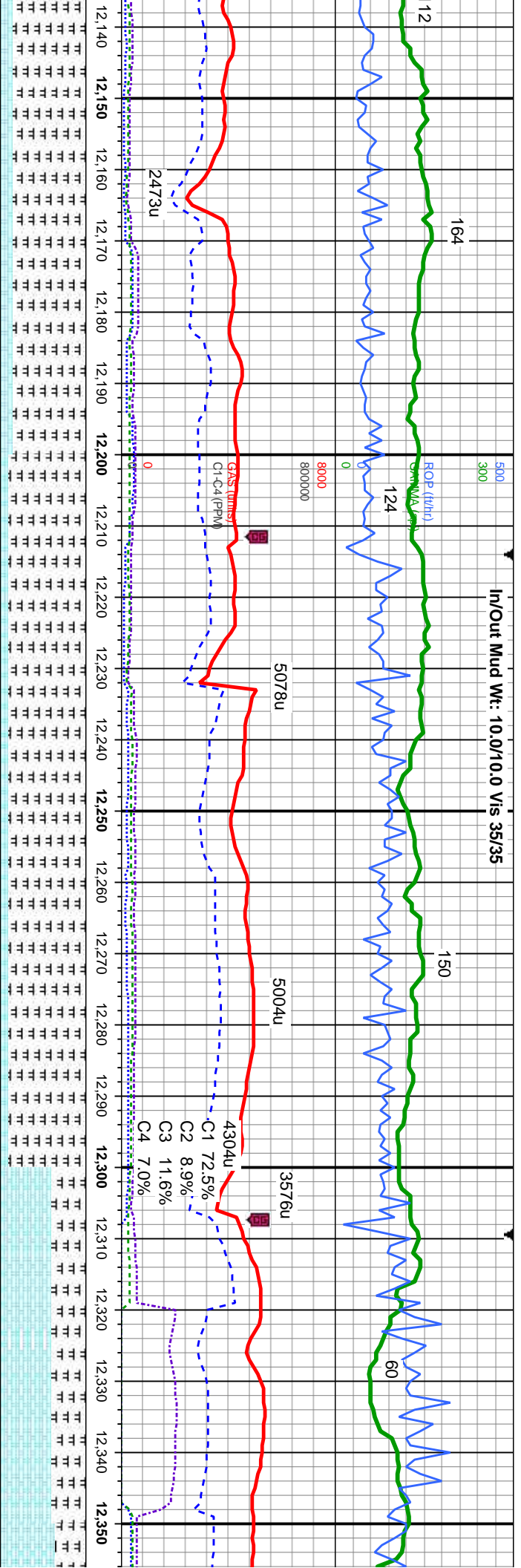
MD: 12,063'
TVD: 6,069.89'
Inclination: 90.7 °
Azimuth: 86.8 °
VS: 5,943.63'

49' Fault

6100



In/Out Mud Wt: 10.0/10.0 Vis 35/35



MD: 12,155'
TVD: 6,069.41'
Inclination: 89.9°
Azimuth: 86°
VS: 6,035.53'

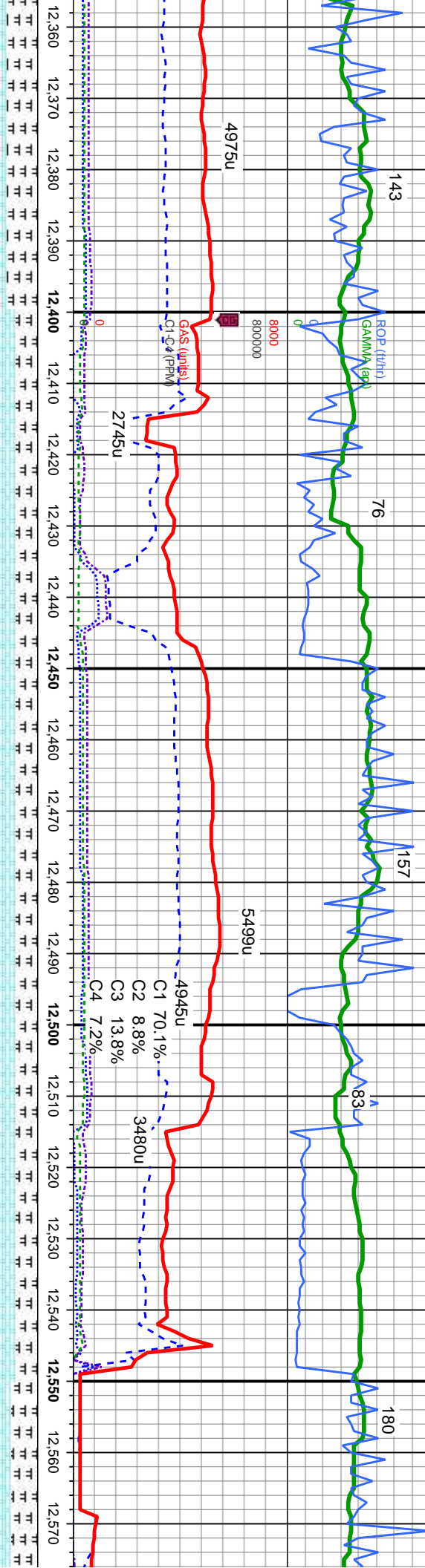
MD: 12,250'
TVD: 6,070.15'
Inclination: 89.2°
Azimuth: 85.1°
VS: 6,130.34'

MD: 12,345'
TVD: 6,072.39'
Inclination: 88.1°
Azimuth: 84.4°
VS: 6,225.05'

6100



In/Out Mud Wt: 10.0+/-0.0+ Vis 36/36



It-med gy, some brn-red, lam, mot, v sft-sft, sb ky, v calc, crpxl, intbd w/marl, tr bent : It-dk gy, stri, sft-v sft, sb ply-ply, fri- brt, sil, tr inoc fos, tr cal	CHK: It-med gy, some brn-red, lam, mot, v sft-sft, sb ply-biky, v calc, crpxl, intbd w/marl, tr bent MARL: It-dk gy, stri, sft-v sft, sb ply-ply, fri- brt, sil, vf grn, tr inoc fos, tr cal	CHK: It-med gy, some brn-red, lam, mot, v sft-sft, sb ply-biky, v calc, crpxl, intbd w/marl, tr bent MARL: It-dk gy, stri, sft-v sft, sb ply-ply, fri- brt, sil, vf grn, tr inoc fos, tr cal	CHK: It-med gy, some brn-red, lam, mot, v sft-sft, sb ply-biky, v calc, crpxl, intbd w/marl, tr bent MARL: It-dk gy, stri, sft-v sft, sb ply-ply, fri- brt, sil, vf grn, tr inoc fos, tr cal
	MD: 12,441' TVD: 6,075.32' Inclination: 88.4° Azimuth: 86.3° VS: 6,320.8'		MD: 12,536' TVD: 6,076.48' Inclination: 90.2° Azimuth: 88.1° VS: 6,415.74'
TVD (ft)			

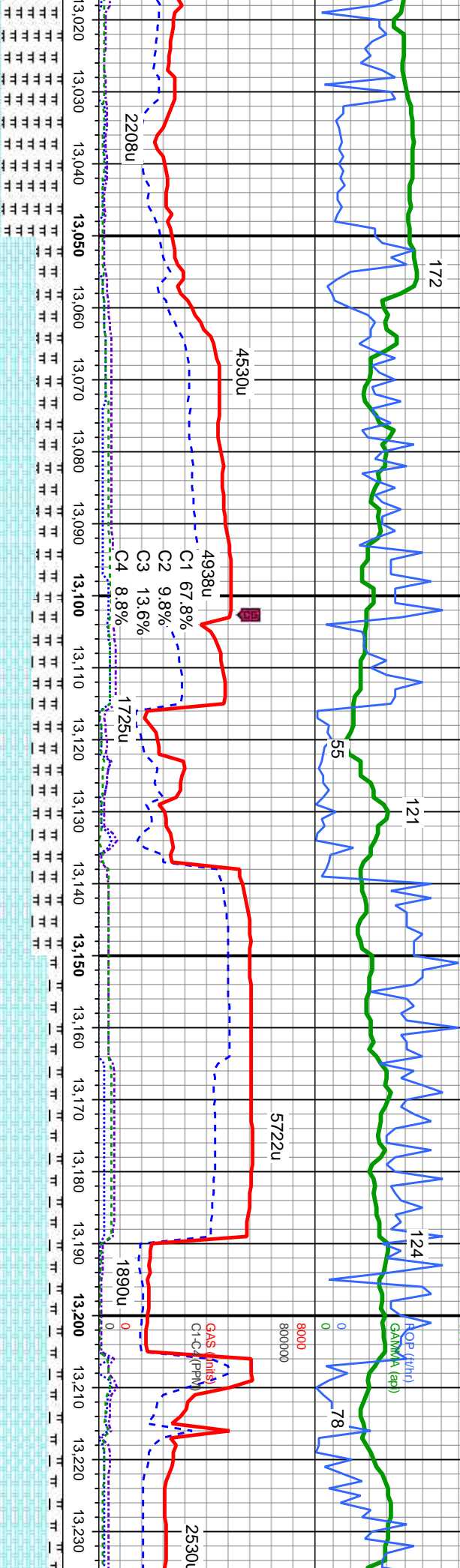
6100



In/Out Mud Wt: 9.9/9.9 Vis 35/36

In/Out Mud Wt: 10/10 Vis 34/36

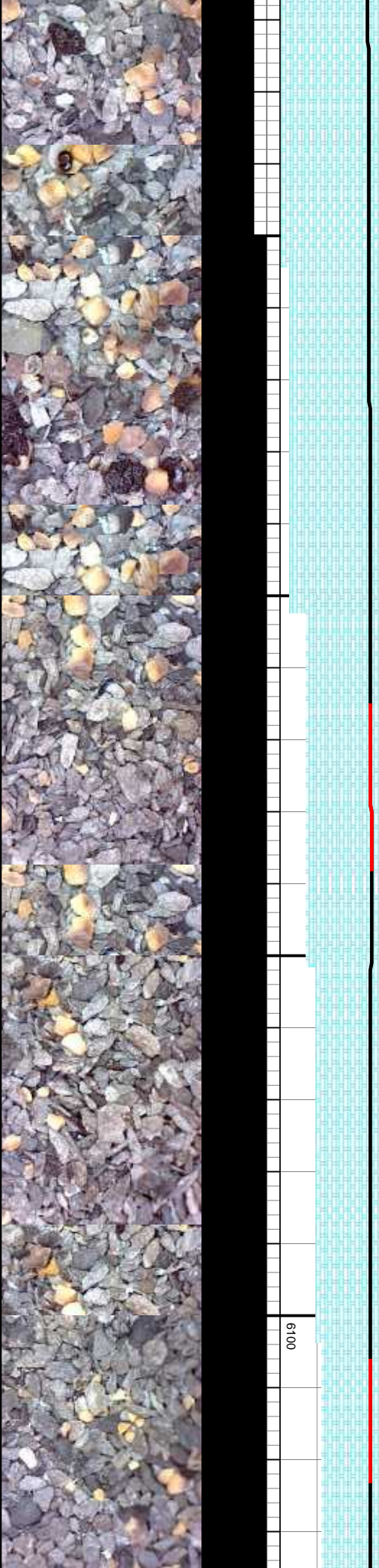
In/Out Mud Wt: 10/10 Vis 34/36

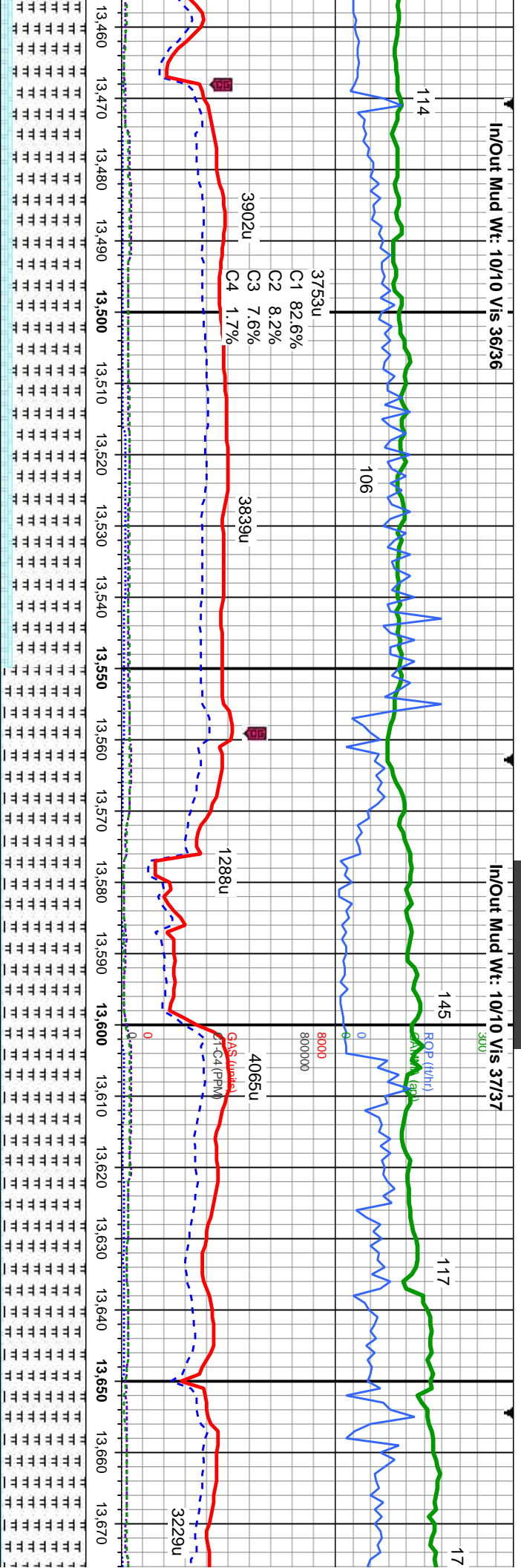


MD: 13,045'
TVD: 6,075.98'
Inclination: 91 °
Azimuth: 91.7°
VS: 6,924.44'

MD: 13,138'
TVD: 6,075.33'
Inclination: 89.8 °
Azimuth: 91.6°
VS: 7,017.34'

MD: 13,230'
TVD: 6,075.73'
Inclination: 89.7°
Azimuth: 91.3°
VS: 7,109.26'





MD: 13,504'
TVD: 6,063.11'
Inclination: 93.1°
Azimuth: 92.6°
VS: 7,382.32'

MD: 13,595'
TVD: 6,059.61'
Inclination: 91.3°
Azimuth: 91°
VS: 7,473.14'

lt-med gy, some brn-red, lam, mot, v sft-sft, sb ply-blky, v calc, crptxl, inbtd w/marl MARL: lt-dk gy, stri, sft-v sft, sb ply-ply, fri- brit, sil, vif grn, tr inoc fos, tr cal	CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb ply-blky, v calc, crptxl, inbtd w/marl MARL: lt-dk gy, stri, sft-v sft, sb ply-ply, fri- brit, sil, vif grn, tr inoc fos, tr cal	CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb ply-blky, v calc, crptxl, inbtd w/marl MARL: lt-dk gy, stri, sft-v sft, sb ply-ply, fri- brit, sil, vif grn, tr inoc fos, tr cal	CHK: lt-med gy, some brn-red, lam, mot, v sft-sft, sb ply-blky, v calc, crptxl, inbtd w/marl MARL: lt-dk gy, stri, sft-v sft, sb ply-ply, fri- brit, sil, vif grn, tr inoc fos, tr cal
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