



Scale: 5" / 100'  
Measured Depth Log

**Well Name**    Circle B 06-66-09-0461 CH Horz

**Location**    NENW Sec 09-T6N-R66W

**State**    Colorado

**Country**    USA

**API Number**    05-123-37726

**Region**    DJ Basin

**Spud Date**    3/14/2014

**Surface Coordinates**    262' FNL 2222' FWL

**Bottom Hole Coordinates**    Projected  
SESW Sec 09-T6N-R66W  
500' FSL 2500' FWL

**County**    Weld

**Rig Number**    Nabors M22

**Field**    Eaton

**Drilling Completed**    3/21/2014

**Ground Elevation**    4814'

**K.B. Elevation**    4836'

**Logged Interval**    6550'    **To**    11759'

**Total Depth**    11759'

**Formation**    Niobrara C Chalk

**Type of Drilling Fluid**    LSND

**Company**    Bill Barrett Corp  
**Address**    1099 18th Street  
Denver, CO 802

**Name**    John Roesink  
**Company**    Bill Barrett Corp  
**Address**    1099 18th Street  
Denver, CO 802

Charles Trodick  
Mark Raimo  
Jeremy Loftness

Operator

it, Suite 2300  
202

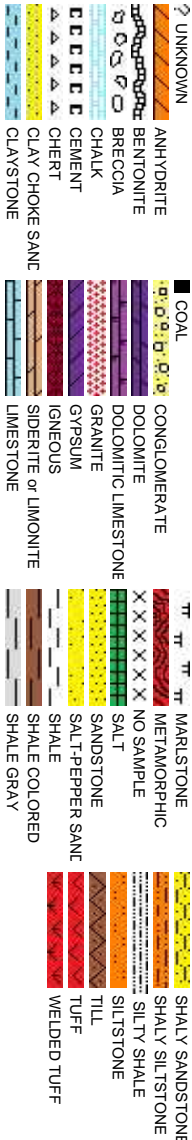
Geologist

it, Suite 2300  
202

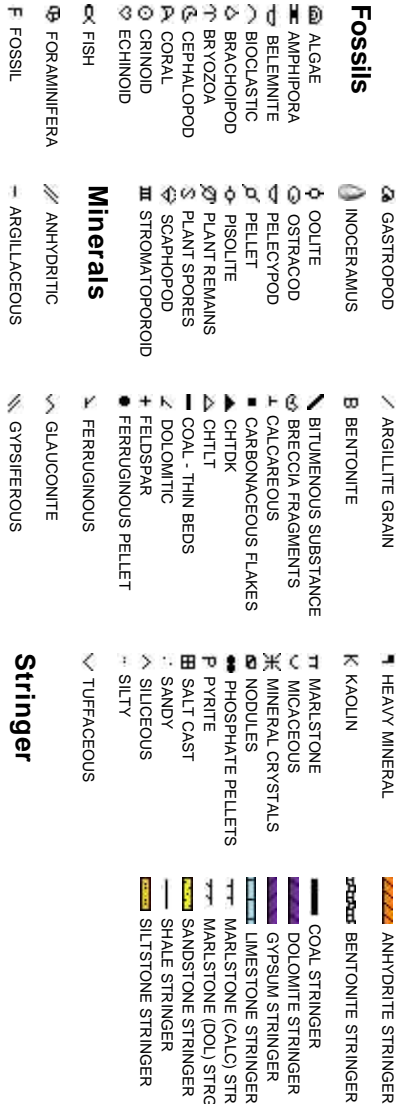
Other

Senior Wellsite Geologist  
Columbine Logging Inc.  
  
Wellsite Geologist  
Columbine Logging Inc.  
  
Wellsite Geologist  
Columbine Logging Inc.

Rock Types



Accessories





Slide/Rotate

Log continues from  
Circle B 06-66-09-0461CH

ROP  
ROF  
GAMMA

ROP (ft/hr)  
GAMMA (api)

Total Gas & Chromatograph

GAS  
C1  
C2  
C3  
C4

GAS (units)  
C1-C4 (PPM)

Columbine Logging 2-Manned  
Geosteering Operational 3/14/2014  
Bloodhound # 311

Depth Labels

% Lith

6625

Start Build - 6,650' MD 3/17/2014  
@ 2:44 MST

Well Bore  
TVD

TVD (ft)

Bit Data  
Bit #: 2  
Type: PDC  
Size: 8.75  
Jets: 6x14  
S/N: JH8112

7225

Oil Show

Excellent  
Good  
Moderate  
Poor  
Trace  
Slight Trace

Images

IN/OUT MD Wt: 10.5/10.5 VIS: 40/43

IN/OUT MD Wt: 10.5/10.5 V

116api

112api

Bad Wits Connection

1844u

Bad Wits Connection

MD: 6,674'  
TVD: 6,659.5'  
Inclination: 5.9 °  
Azimuth: 182.7 °  
VS: -213.68'

MD: 6,705'  
TVD: 6,690.22'  
Inclination: 9.3 °  
Azimuth: 186.9 °  
VS: -209.64'

MD: 6,750'  
TVD: 6,734.17'  
Inclination: 15.3 °  
Azimuth: 189.9 °  
VS: -200.3'

SHY SLTST: It - med gy, blk str, tr gy brn, frm,  
sb-pty, rthy tex, w/occ lig min grns, non calc; SHY  
SS: It - med gy, occ dk gy lam, v frm, sb-pty, aren,  
tr cl lam, non calc; SLTY SH: med - dk gy, sft-sl  
frm, sb-pty - pty, wxy & sl silty tex, v sl calc

SHY SLTST: It - med gy, blk str, tr gy brn, frm,  
sb-pty, rthy tex, w/occ lig min grns, non calc; SHY  
SS: It - med gy, occ dk gy lam, v frm, sb-pty, aren,  
tr cl lam, non calc; SLTY SH: med - dk gy, sft-sl  
frm, sb-pty - pty, wxy & sl silty tex, v sl calc

SHY SLTST: It - med gy, blk str, tr gy brn,  
sb-pty, rthy tex, w/occ lig min grns, non ca  
SS: It - med gy, occ dk gy lam, v frm, sb-pty  
tr cl lam, non calc; SLTY SH: med - dk gy,  
frm, sb-pty - pty, wxy & sl silty tex, v sl cal

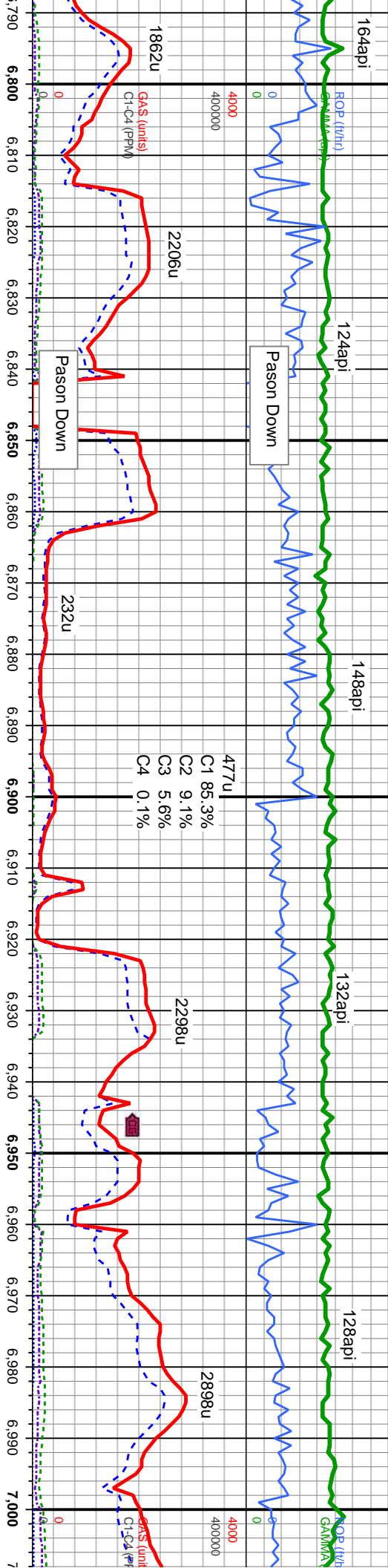




IS: 39/43

IN/OUT MD Wt: 10.45/10.45 VIS: 35/39

IN/OUT MD Wt: 10.45/10.5



6625

6625

MD: 6,940'  
TVD: 6,909.12'  
Inclination: 31.3 °  
Azimuth: 189.7°  
VS: -130.55'

MD: 6,990'  
TVD: 6,950.88'  
Inclination: 35.4 °  
Azimuth: 186.8°  
VS: -103.69'

MD: 6,845'  
TVD: 6,824.18'  
Inclination: 22.1 °  
Azimuth: 194.2°  
VS: -171.17'

MD: 6,895'  
TVD: 6,869.74'  
Inclination: 26.5 °  
Azimuth: 192.7°  
VS: -151.53'

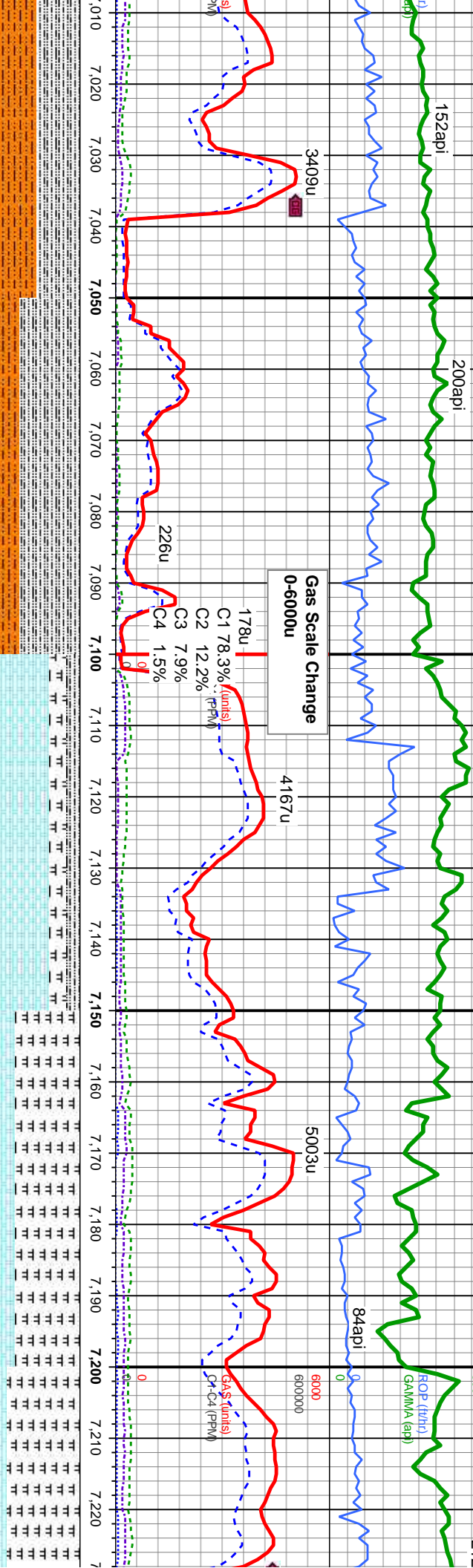
MD: 6,800'  
TVD: 6,781.99'  
Inclination: 18.6 °  
Azimuth: 190.4°  
VS: -186.16'

SHY SLTST: It - med gy, blk str, tr gy brn, frm, sb-pty, rthy tex, w/occ lig min grns, non calc; SHY SS: It - med gy, occ dk gy lam, v frm, sb-pty, aren, tr cl lam, non calc; SLTY SH: med - dk gy, sft-sl frm, sb-pty - pty, wxy & sl sily tex, v sl calc, tr shy ss	SHY SLTST: It - med gy, blk str, tr gy brn, frm, sb-pty, rthy tex, w/occ lig min grns, non calc; SHY SS: It - med gy, occ dk gy lam, v frm, sb-pty, aren, tr cl lam, non calc; SLTY SH: med - dk gy, sft-sl frm, sb-pty - pty, wxy & sl sily tex, v sl calc, tr shy ss	SHY SLTST: It - med gy, blk str, tr gy brn, frm, sb-pty, rthy tex, w/occ lig min grns, non calc; SHY SS: It - med gy, occ dk gy lam, v frm, sb-pty, aren, tr cl lam, non calc; SLTY SH: med - dk gy, sft-sl frm, sb-pty - pty, wxy & sl sily tex, v sl calc, tr shy ss	SHY SLTST: It - med gy, blk str, tr gy brn, frm, sb-pty, rthy tex, w/occ lig min grns, non calc; SHY SS: It - med gy, occ dk gy lam, v frm, sb-pty, aren, tr cl lam, non calc; SLTY SH: med - dk gy, sft-sl frm, sb-pty - pty, wxy & sl sily tex, v sl calc, tr shy ss
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Logger  
7022 N







MD: 7,035'  
TVD: 6,986.12'  
Inclination: 41.5 °  
Azimuth: 182.9 °  
VS: -76.05'

MD: 7,085'  
TVD: 7,021.73'  
Inclination: 47.6 °  
Azimuth: 180.9 °  
VS: -41.18'

Top Sharon Springs  
MD/ 6975.94' TVD

SLTST: lt - med gy, blk str, tr gy brn, frm,  
rthy tex, w/occ lrg min grns, non calc;  
lt - med - dk gy, sft-sl frm, sb-pty - pty, wxy  
tex, v sl calc, tr shy ss

SHY SLTST: lt - med gy, blk str, tr gy brn, frm,  
sb-pty, rthy tex, w/occ lrg min grns, non calc;  
SLTY SH: med - dk gy, sft-sl frm, sb-pty - pty, wxy  
& sl silty tex, v sl calc, tr shy ss

SLTY SH: med - dk gy, sft-sl frm, sb biky - sb pty,  
wxy & sl silty tex, sl calc; MRLST: med-v dk gy, gy  
brn, blk, mot, lam sft-frm, sb-pty - sb-biky, rthy, v  
calc; CHK: lt-medgy, med gy brn, mot, sft, wxy tex,  
v calc, tr bent, tr dissm pyr

MD: 7,130'  
TVD: 7,051.1'  
Inclination: 50.9 °  
Azimuth: 181.9 °  
VS: -7.24'

Logger Top Niobrara  
7111' MD/ 7038.70' TVD

MRLST: med-v dk gy, gy brn, blk, mot, lam  
sft-frm, sb-pty - sb-biky, rthy, v calc; CHK:  
lt-medgy, med gy brn, mot, sft, wxy tex, v calc,  
tr bent

MD: 7,180'  
TVD: 7,081.26'  
Inclination: 54.9 °  
Azimuth: 182.5 °  
VS: 32.4'

Logger Top Niobrara A Chalk  
7163' MD/ 7071.00' TVD

MRLST: med-v dk gy, gy brn, l  
sft-frm, sb-pty - sb-biky, rthy, v  
lt-medgy, med gy brn, mot, sft,  
tr bent

MD: 7,225'  
TVD: 7,105.3'  
Inclination: 6  
Azimuth: 180  
VS: 70.21'

7225



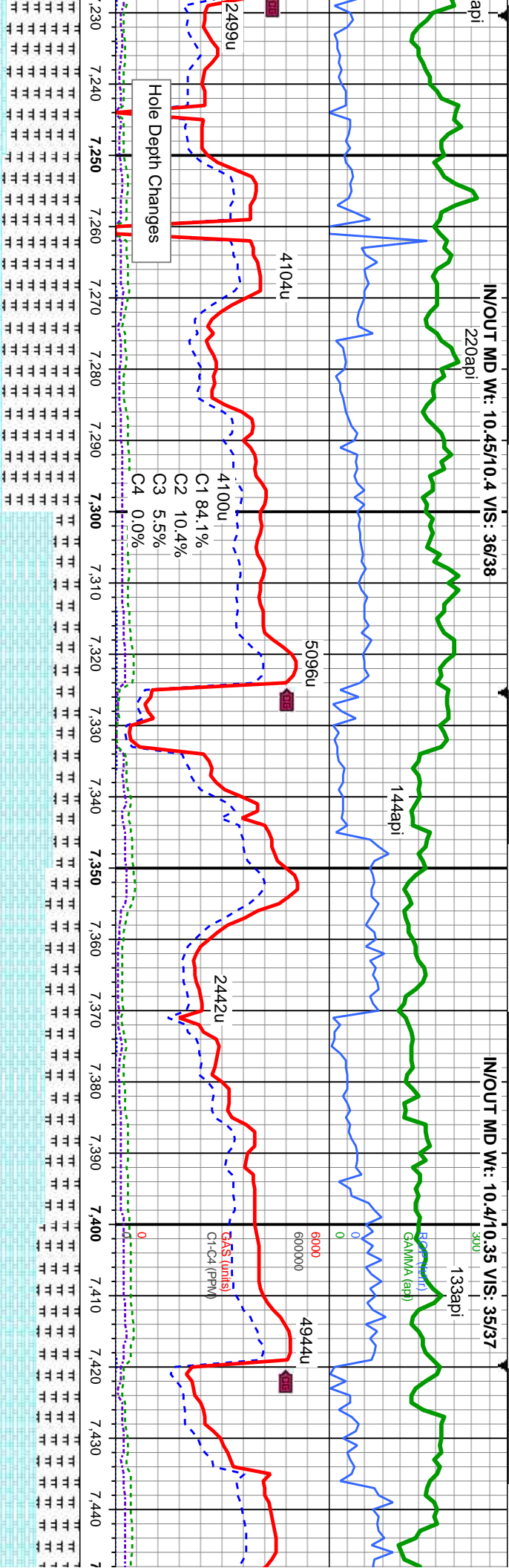


IN/OUT MD Wt: 10.45/10.4 VS: 36/38

220api

IN/OUT MD Wt: 10.4/10.35 VS: 35/37

133api



blk, mot, lam  
calc: CHK:  
wxy tex, v calc,  
MRLST: med-v dk gy, gy brn, blk, mot, lam  
sftfrm, sb-pty - sb-blky, rthy, v calc: CHK:  
lt-medgy, med gy brn, mot, sft, wxy tex, v calc,  
tr bent

CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v  
calc, tr bent  
MRLST: med-v dk gy, gy brn, blk, mot, lam  
sftfrm, sb-pty - sb-blky, rthy, v calc

CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v  
calc, tr bent  
MRLST: med-v dk gy, gy brn, blk, mot, lam  
sftfrm, sb-pty - sb-blky, rthy, v calc

6625  
CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v  
calc, tr bent, tr fos:  
MRLST: med-v dk gy, gy brn, blk, mot, lam  
sftfrm, sb-pty - sb-blky, rthy, v calc

MD: 7,275'  
TVD: 7,128.37'  
Inclination: 64.9 °  
Azimuth: 179.2 °  
VS: 114.5'

MD: 7,320'  
TVD: 7,146.52'  
Inclination: 67.5 °  
Azimuth: 179 °  
VS: 155.61'

MD: 7,370'  
TVD: 7,164.28'  
Inclination: 70.9 °  
Azimuth: 179.1 °  
VS: 202.28'

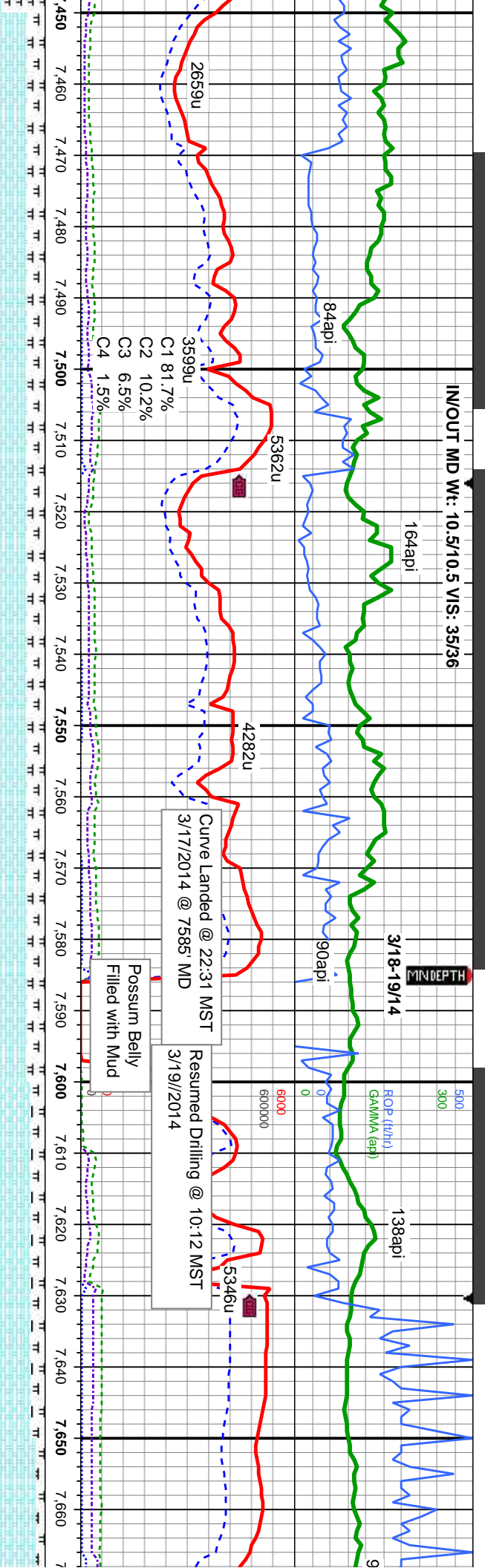
MD: 7,415'  
TVD: 7,177.84'  
Inclination: 74 °  
Azimuth: 179.4 °  
VS: 245.11'

Logger Top  
7,444' MD/

7225







–CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v calc, tr bent, tr fos:

–MRLST: med-v dk gy, gy brn, blk, mot, lam sft-firm, sb-pity -sb-blky, rthy, v calc

CHK: il-medgy, med gy brn, mot, sft, wxy tex, v  
calc, tr bent, tr fos;  
MRLST: med-v dk gy, gy brn, blk, mot, lam  
sft-frm, sb-plty -sb-bilky, rthy, v calc

CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v  
calc, tr bent, tr fos;  
MRLST: med-v dk gy, gy brn, blk, mot, lam  
sft-firm, sb-pty - sb-bilky, rthy, v calc

CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v  
calc, tr bent, tr fos;  
MRST: med-v dk gy, gy brn, blk, mot, lam  
stf-fm, sb-pty - sb-blk, rthy, v calc

CHK: lt-medgy, me  
calc, tr bent, tr fos;  
MRLST: med-v dk  
sft-firm, sb-pty - sb

MD: 7,468'  
TVD: 7,191.2'  
Inclination: 76.8 °  
Azimuth: 179.2°  
VS: 296.31'

MD: 7,511'  
TVD: 7,199.77'  
Inclination: 80.2 °  
Azimuth: 180.6 °  
VS: 338.35'

MD: 7,535'  
TVD: 7,203.3'  
Inclination: 82.9°  
Azimuth: 180.1°  
VS: 362.01'

MD: 7,577'  
TVD: 7,207.91'  
Inclination: 84.5 °  
Azimuth: 179.5 °  
VS: 403.67'

TVD Scale Change  
7150' MD - 7250' MD  
Each White Block is 10'

**Bit Data**  
Bit #: 3  
Type: BFS513  
Size: 6.12  
Jets: 5x16  
S/N: BD020

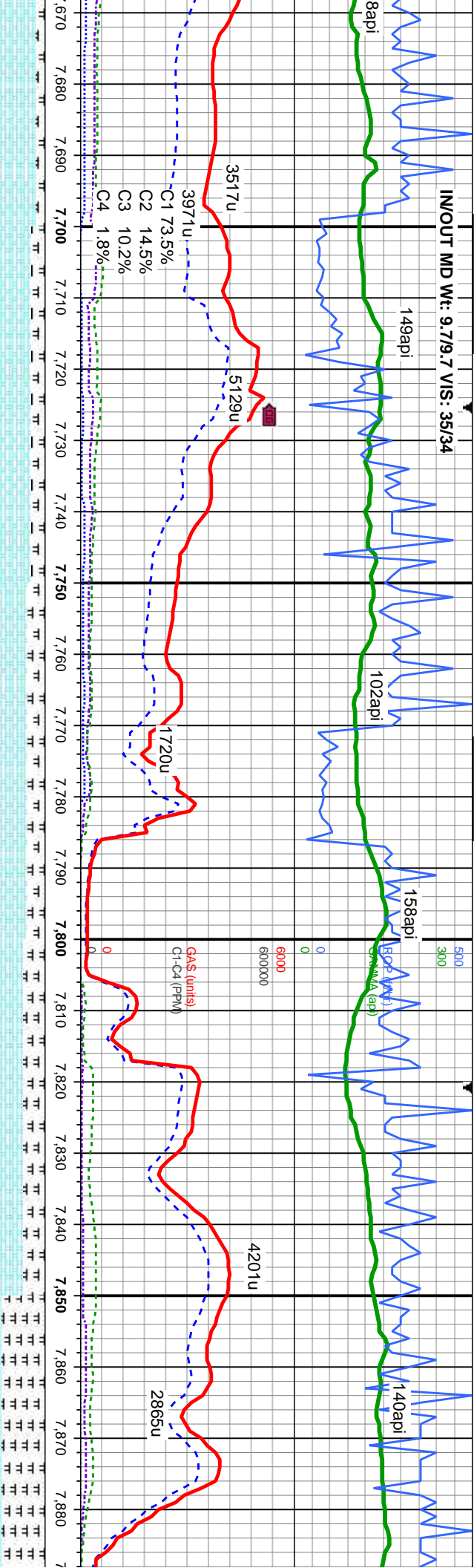
MD: 7,645'  
TVD: 7,212.65'  
Inclination: 87.5°  
Azimuth: 180.4°  
VS: 471.33'

MD: 7
TVD: 1
Incline: 0
Azimuth: 0
VS: 4

o Niobrara B Chalk  
7,185' TVD



IN/OUT MD Wt: 9.7/9.7 VIS: 35/34



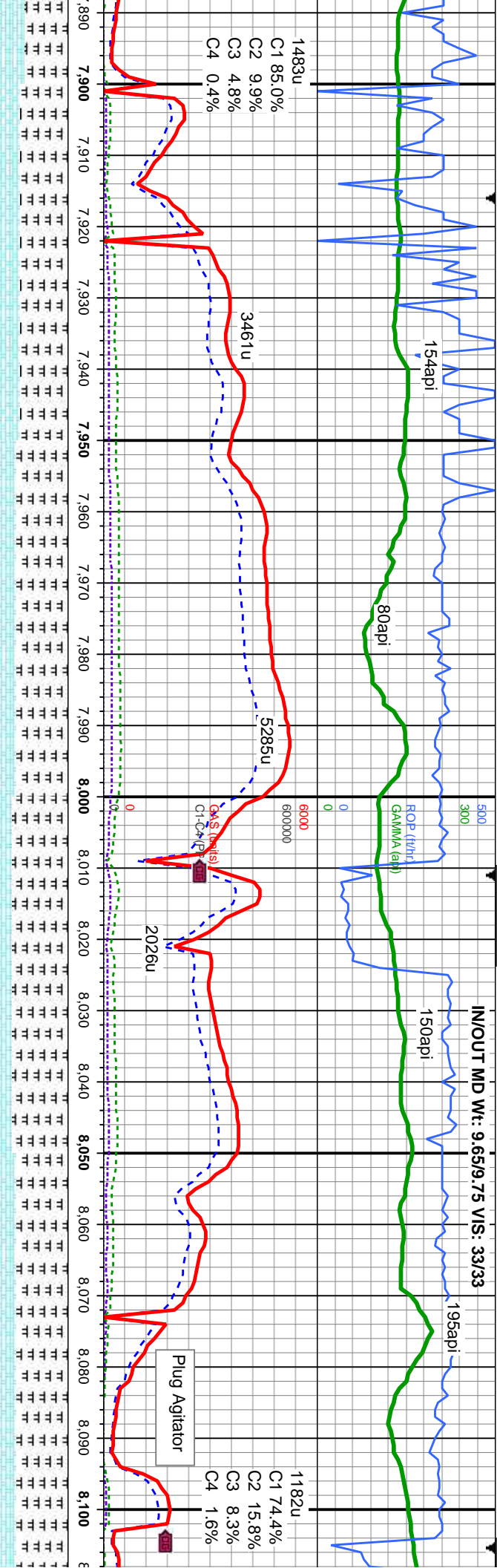
gy brn, mot, sft, wxy tex, v	CHK: lt-meddy, med gy brn, mot, sft, wxy tex, v calc, tr bent, tr fos;	7CHK: lt-meddy, med gy brn, mot, sft, wxy tex, v calc, tr bent, tr fos;	CHK: lt-meddy, med gy brn, mot, sft, wxy tex, v calc, tr bent, tr fos;
gy, gy brn, blk, mot, lam	MRLST: med-v dk gy, gy brn, blk, mot, lam	MRLST: med-v dk gy, gy brn, blk, mot, lam	MRLST: med-v dk gy, gy brn, blk, mot, lam
blky, rthy, v calc	sft-frm, sb-ply - sb-blky, rthy, v calc	sft-frm, sb-ply - sb-blky, rthy, v calc	sft-frm, sb-ply - sb-blky, rthy, v calc
672' 7,213.83' ation: 87.5 ° th: 179.9 ° 98.24'	MD: 7,717' TVD: 7,215.17' Inclination: 89.1 ° Azimuth: 178.8 ° VS: 543.14'	MD: 7,767' TVD: 7,215.82' Inclination: 89.4 ° Azimuth: 178.1 ° VS: 593.09'	MD: 7,863' TVD: 7,215.82' Inclination: 90.6 ° Azimuth: 177.7 ° VS: 689.03'

53' Above Pay Zone

48' Above Pay Zone

7250





CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v	CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v	CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v	CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v
calc, tr bent, tr inoc fos: _____	calc, tr bent, tr inoc fos: _____	calc, tr bent, tr inoc fos: _____	calc, tr bent, tr inoc fos: _____
MRLST: med-v dk gy, gy brn, blk, mot, lam	MRLST: med-v dk gy, gy brn, blk, mot, lam	MRLST: med-v dk gy, gy brn, blk, mot, lam	MRLST: med-v dk gy, gy brn, blk, mot, lam
sftfrm, sb-ply - sb-blky, rthy, v calc _____	sftfrm, sb-ply - sb-blky, rthy, v calc _____	sftfrm, sb-ply - sb-blky, rthy, v calc _____	sftfrm, sb-ply - sb-blky, rthy, v calc _____
<div>MD: 7,957' TVD: 7,214.59' Inclination: 90.9 ° Azimuth: 177.6° VS: 782.99'</div>			
TVD (ft)			
<div>MD: 8,052' TVD: 7,213.76' Inclination: 90.1 ° Azimuth: 177.6° VS: 877.95'</div>			

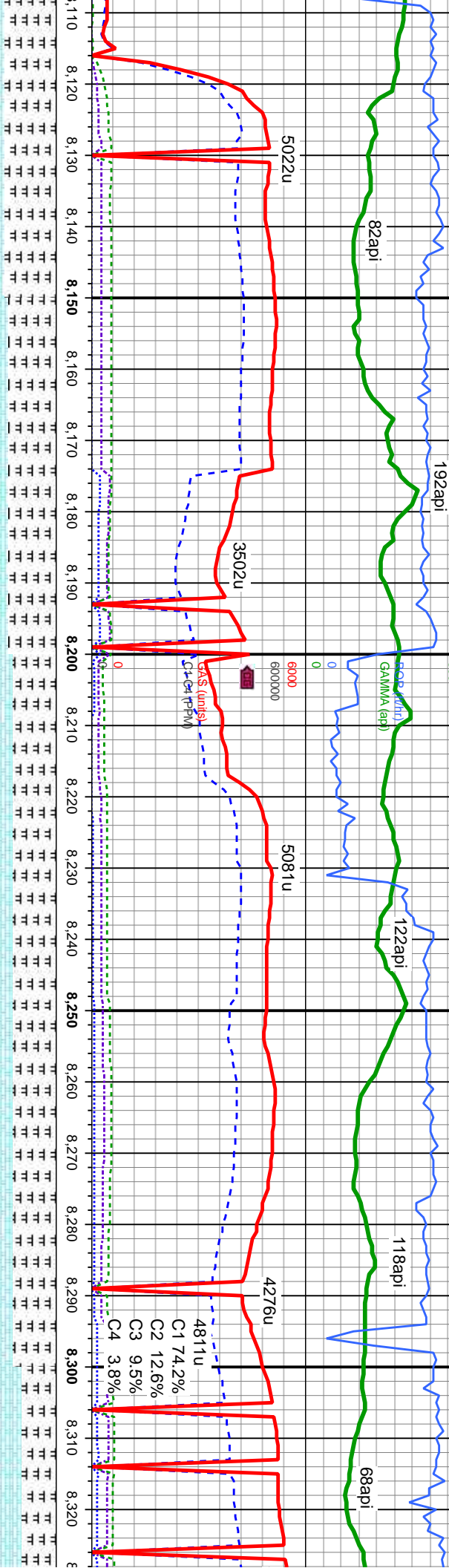
47' Above Pay Zone

42' Above Pay Zone





IN/OUT MD Wt: 9.7/9.85 VIS: 33/35



MD: 8,148'  
TVD: 7,213.76'  
Inclination: 89.9 °  
Azimuth: 177.3 °  
VS: 973.92'

MD: 8,243'  
TVD: 7,213.68'  
Inclination: 90.2 °  
Azimuth: 179.7 °  
VS: 1,068.82'

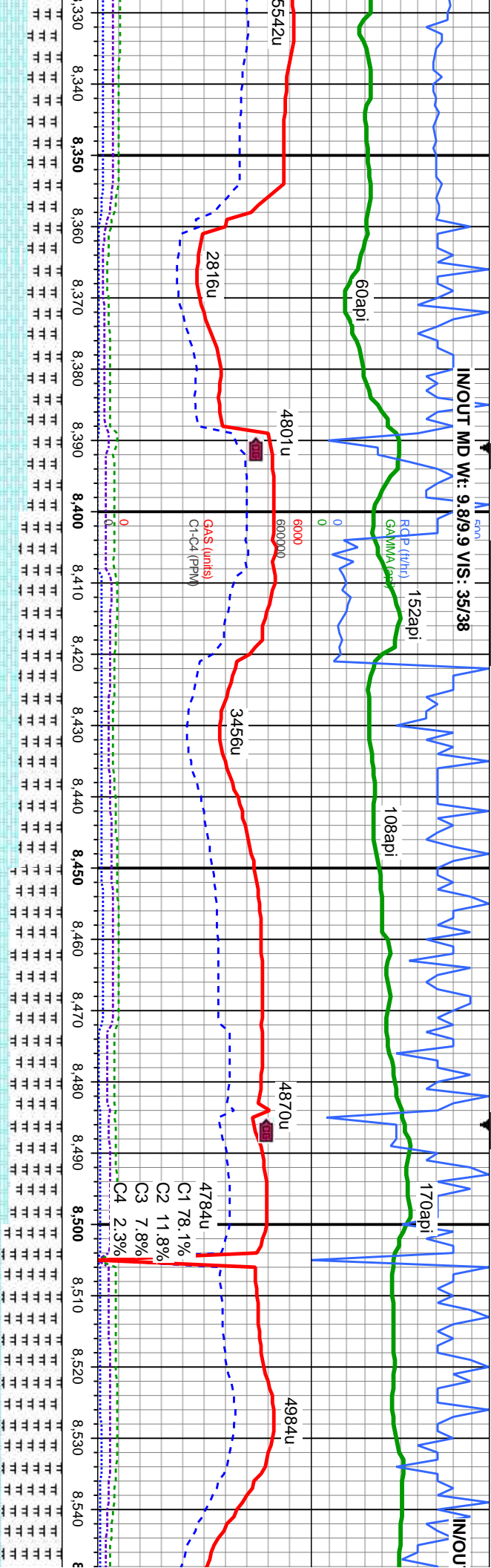
46' Fault

35' Target Zone

7250







mot, sft, wxy tex, v	CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v
blk, mot, lam	calc, tr bent:
v calc	MRLST: med-v dk gy, gy brn, blk, mot, lam
	sft-frm, sb-ply - sb-biky, rthy, v calc

MD: 8,338'

TVD: 7,213.76'

Inclination: 89.7°

Azimuth: 179°

VS: 1,163.66'

TVD (ft)

MD: 8,433'

TVD: 7,213.51'

Inclination: 90.6°

Azimuth: 180.2°

VS: 1,258.47'

	CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v
	calc, tr bent:
	MRLST: med-v dk gy, gy brn, blk, mot, lam
	sft-frm, sb-ply - sb-biky, rthy, v calc

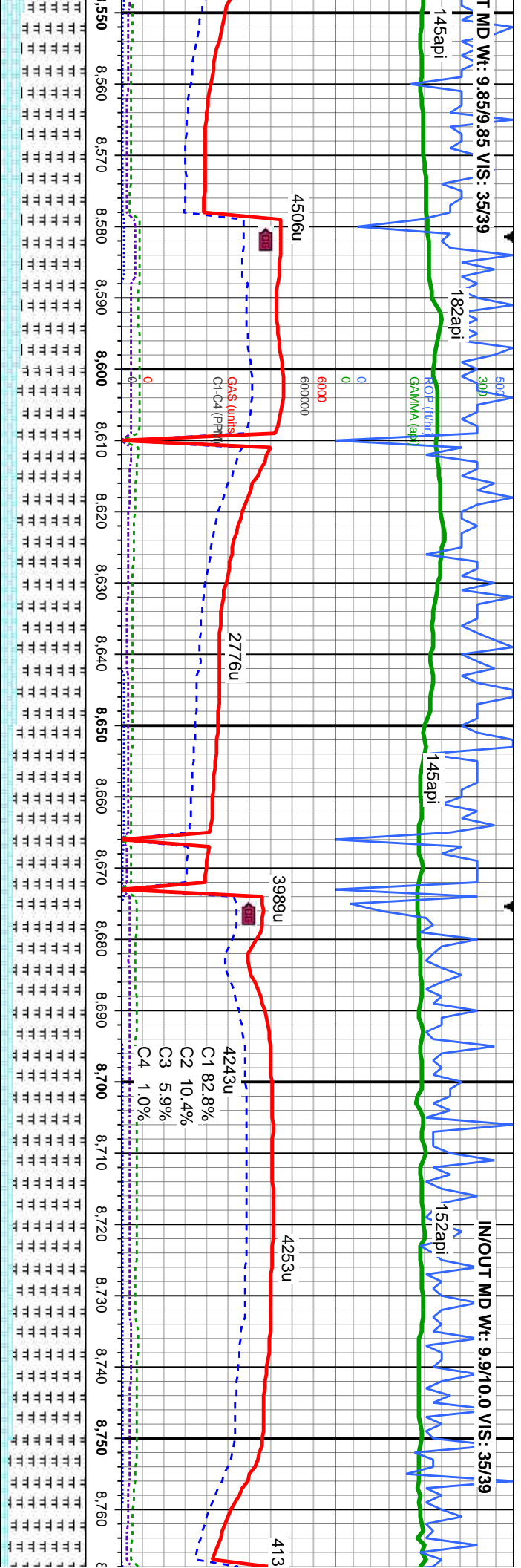
7250





T MD Wt: 9.85/9.85 VIS: 35/39

IN/OUT MD Wt: 9.9/10.0 VIS: 35/39



7150

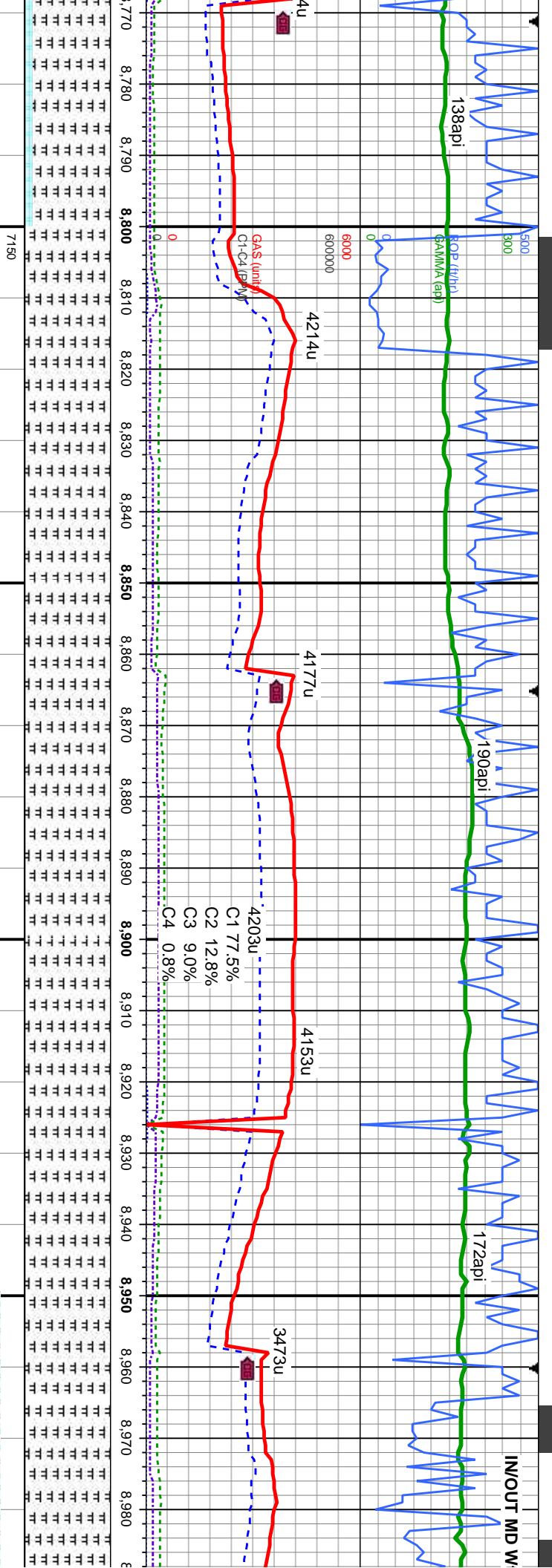
MD: 8,622'  
TVD: 7,210.96'  
Inclination: 91.1°  
Azimuth: 180°  
VS: 1,446.99'

MD: 8,717'  
TVD: 7,208.8'  
Inclination: 91.5°  
Azimuth: 180.3°  
VS: 1,541.72'

CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v	CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v	CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v	CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v
calc, tr bent;	calc, tr bent;	calc, tr bent;	calc, tr bent;
MR.LST: med-v dk gy, gy brn, blk, mot, lam	MR.LST: med-v dk gy, gy brn, blk, mot, lam	MR.LST: med-v dk gy, gy brn, blk, mot, lam	MR.LST: med-v dk gy, gy brn, blk, mot, lam
sft-frm, sb-pty - sb-blky, rthy, v calc	sft-frm, sb-pty - sb-blky, rthy, v calc	sft-frm, sb-pty - sb-blky, rthy, v calc	sft-frm, sb-pty - sb-blky, rthy, v calc







MD: 8,812'  
TVD: 7,207.15'  
Inclination: 90.5°  
Azimuth: 180.5°  
VS: 1,636.42'

MD: 8,907'  
TVD: 7,206.15'  
Inclination: 90.7°  
Azimuth: 180.8°  
VS: 1,731.11'

d gy brn, mot, sft, wxy tex, v	MRSLT: med-v dk gy, gy brn, blk, mot, lam	MRSLT: med-v dk gy, gy brn, blk, mot, lam	MRSLT: med-v dk gy, gy brn, blk, mot, lam
gy brn, blk, mot, lam	sft-frn, sb-pty - sb-blky, rthy, v calc, tr chk	sft-frn, sb-pty - sb-blky, rthy, v calc, tr chk	sft-frn, sb-pty - sb-blky, rthy, v calc, tr chk
blky, rthy, v calc	7250		





500

500



1

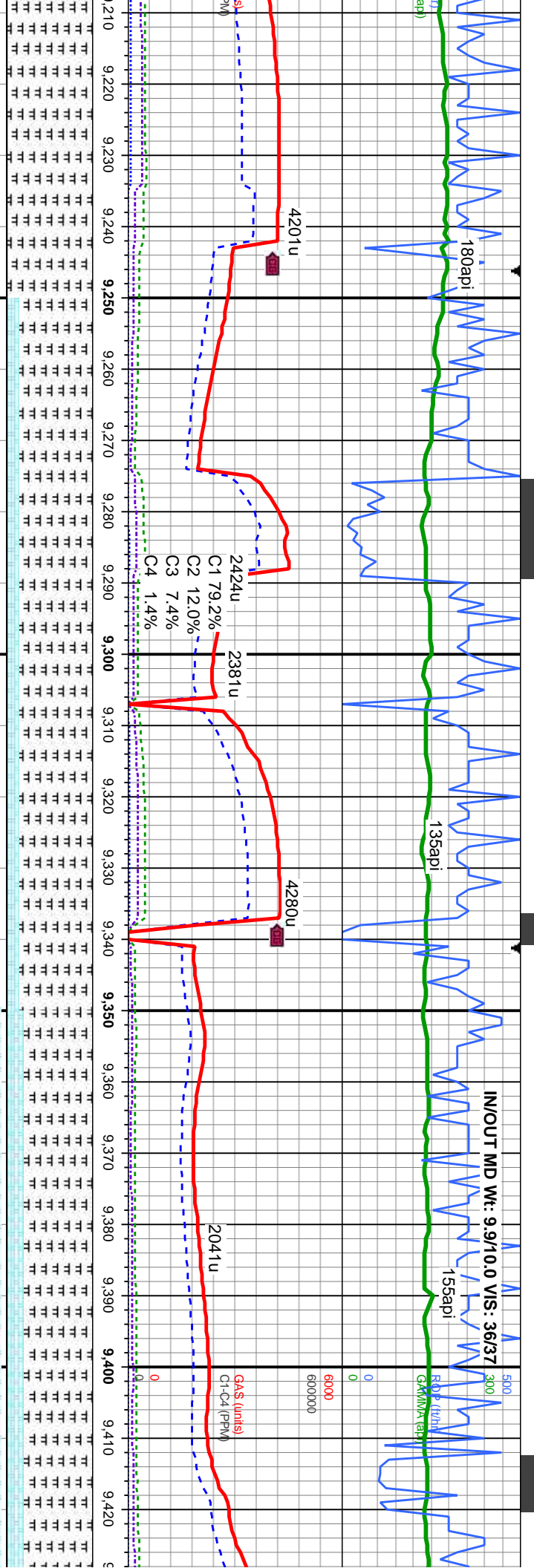
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M	
sf	
72 <sup>tr</sup> <sub>50</sub>	



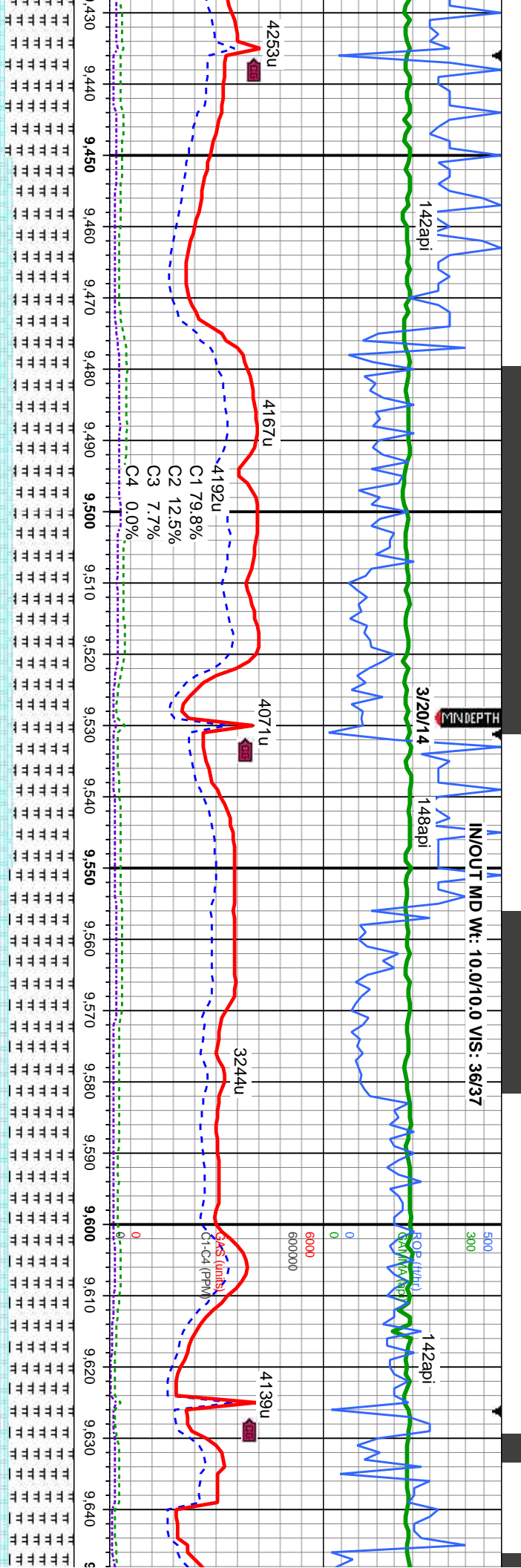




ST: med-v dk gy, gy brn, blk, mot, lam	CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v	CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v	CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v
n, sb-pty - sb-blky, rthy, v calc, tr moc fos,	calc, tr bent;	calc, tr bent;	calc, tr bent;
	MRLST: med-v dk gy, gy brn, blk, mot, lam	MRLST: med-v dk gy, gy brn, blk, mot, lam	MRLST: med-v dk gy, gy brn, blk, mot, lam
	sft-fm, sb-pty - sb-blky, rthy, v calc	sft-fm, sb-pty - sb-blky, rthy, v calc	sft-fm, sb-pty - sb-blky, rthy, v







MD: 9,478'  
TVD: 7,196.35'  
Inclination: 90.5°  
Azimuth: 180.5°  
VS: 2,300.36'

MD: 9,573'  
TVD: 7,195.19'  
Inclination: 90.9°  
Azimuth: 181.9°  
VS: 2,394.96'

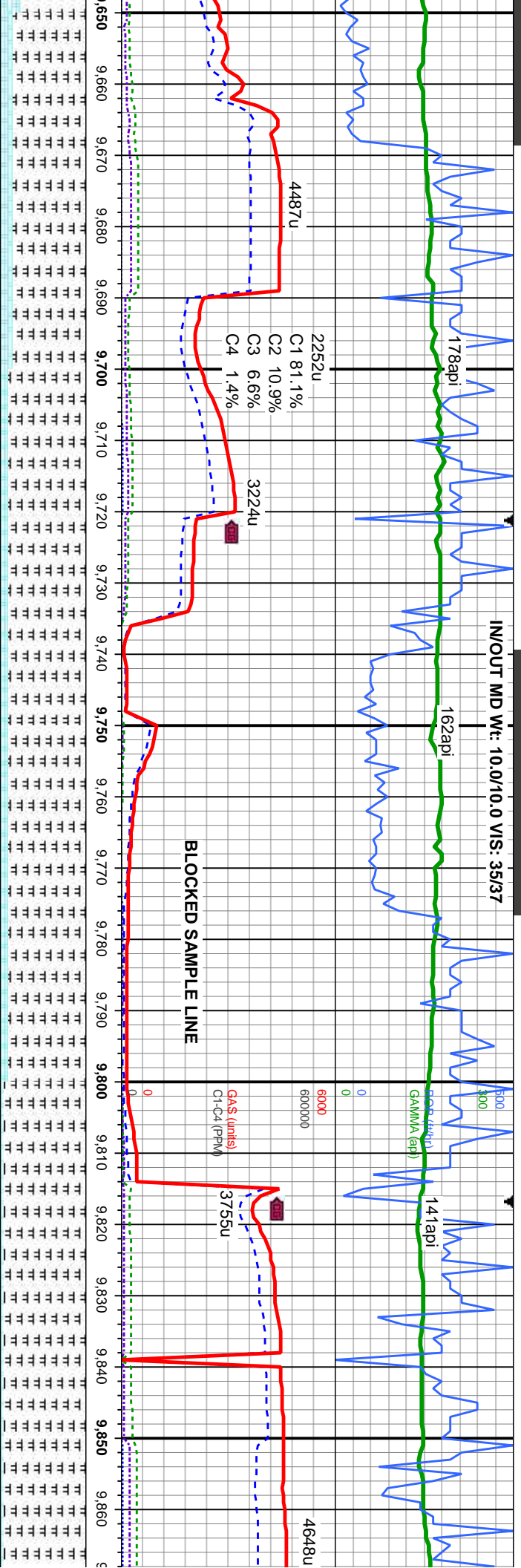
TVD Scale Change  
7125' MD - 7225' MD  
Each White Block is 10'

oi, sft, wxy tex, v	CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v	CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v	CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v
calc, tr bent:	calc, tr bent:	calc, tr bent:	calc, tr bent:
MR LST: med-v dk gy, gy brn, blk, mot, lam	MR LST: med-v dk gy, gy brn, blk, mot, lam	MR LST: med-v dk gy, gy brn, blk, mot, lam	MR LST: med-v dk gy, gy brn, blk, mot, lam
sft-frm, sb-pty - sb-blky, rthy, v calc	sft-frm, sb-pty - sb-blky, rthy, v calc	sft-frm, sb-pty - sb-blky, rthy, v calc	sft-frm, sb-pty - sb-blky, rthy, v calc





IN/OUT MD Wt: 10.0/10.0 VIS: 35/37



MD: 9,668'  
TVD: 7,194.36'  
Inclination: 90.1 °  
Azimuth: 179.4 °  
VS: 2,489.64'

MD: 9,763'  
TVD: 7,194.28'  
Inclination: 90 °  
Azimuth: 178.1 °  
VS: 2,584.53'

MD: 9,859'  
TVD: 7,194.53'  
Inclination: 89.7 °  
Azimuth: 177.7 °  
VS: 2,680.48'

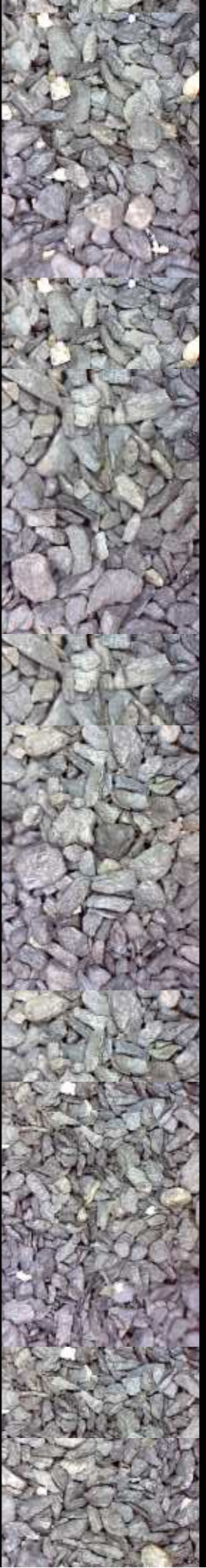
CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v  
calc, tr bent;  
MRLST: med-v dk gy, gy brn, blk, mot, lam  
sft-frm, sb-pty - sb-blky, rthy, v calc

CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v  
calc, tr bent;  
MRLST: med-v dk gy, gy brn, blk, mot, lam  
sft-frm, sb-pty - sb-blky, rthy, v calc

CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v  
calc, tr bent;  
MRLST: med-v dk gy, gy brn, blk, mot, lam  
sft-frm, sb-pty - sb-blky, rthy, v calc

CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v  
calc, tr bent;  
MRLST: med-v dk gy, gy brn, blk, mot, lam  
sft-frm, sb-pty - sb-blky, rthy, v calc

CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v  
calc, tr bent;  
MRLST: med-v dk gy, gy brn, blk, mot, lam  
sft-frm, sb-pty - sb-blky, rthy, v calc



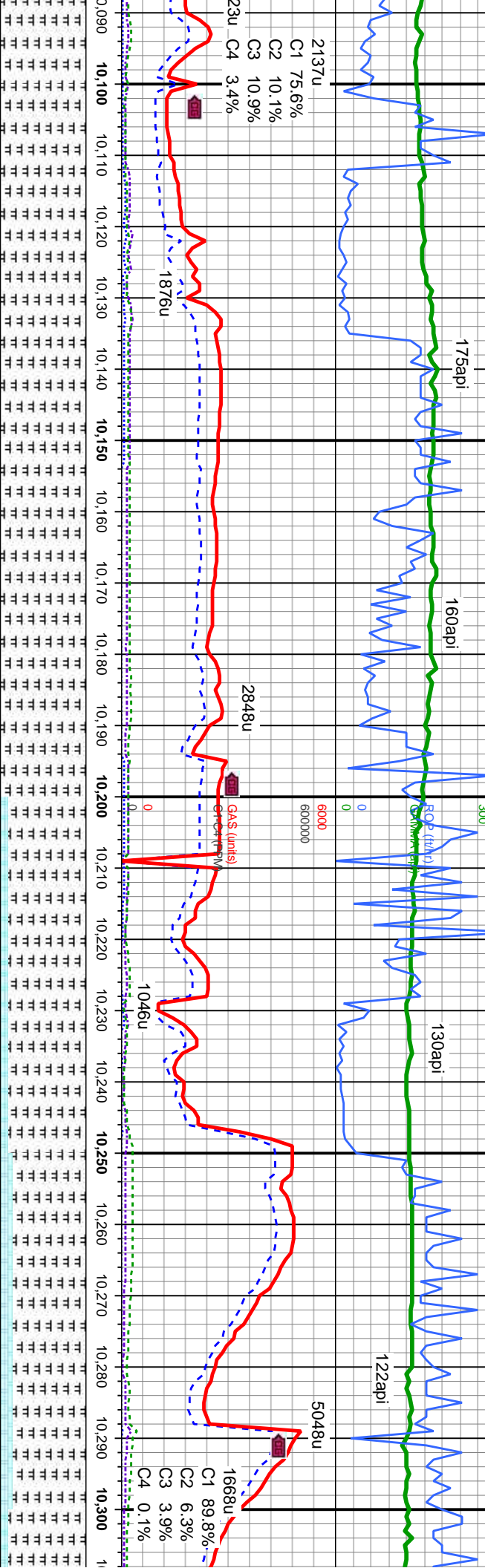






5/5/37 IN/OUT MD Wt: 10.1/10.25 VIS: 34/41

IN/OUT MD Wt: 10.15/10.2 VIS: 36/40



MD: 10,144'  
TVD: 7,186.9'  
Inclination: 91.7°  
Azimuth: 177.4°  
VS: 2,965.18'

MD: 10,240'  
TVD: 7,184.31'  
Inclination: 91.4°  
Azimuth: 177.4°  
VS: 3,061.11'

MR.LST: med-v dk gy, gy brn, blk, mot, lam sft-frm, sb-ply - sb-biky, rthy, v calc, tr chk	MR.LST: med-v dk gy, gy brn, blk, mot, lam sft-frm, sb-ply - sb-biky, rthy, v calc, tr chk	CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v calc, tr bent; MR.LST: med-v dk gy, gy brn, blk, mot, lam sft-frm, sb-ply - sb-biky, rthy, v calc	CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v calc, tr bent; MR.LST: med-v dk gy, gy brn, blk, mot, lam sft-frm, sb-ply - sb-biky, rthy, v calc	CHK: lt- calc, tr t MR.LST: sft-frm, i;
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IN/OUT MD Wt: 10.15/10.05 VIS: 35/31

300

GAS

IN/OUT MD V

ROP (ft/hr)

155api

128api

GAMMA (api)

6000

2854u

956u

3695u

3865u

C1 87.5%  
C2 7.9%  
C3 4.5%  
C4 0.0%

GAS (units)  
C1-C4 (PPM)

1985u

1079u

3657u

7125

TVD (ft)

MD: 10,620'  
TVD: 7,183.81'  
Inclination: 89 °  
Azimuth: 176.1 °  
VS: 3,440.95'

MD: 10,715'  
TVD: 7,184.56'  
Inclination: 90.1 °  
Azimuth: 177.1 °  
VS: 3,535.94'

CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v  
calc, tr bent;  
MRLST: med-v dk gy, gy brn, blk, mot, lam  
sft-firm, sb-pty - sb-biky, rthy, v calc

blk, mot, lam  
v calc, tr chk

MRLST: med-v dk gy, gy brn, blk, mot, lam  
sft-firm, sb-pty - sb-biky, rthy, v calc, tr chk

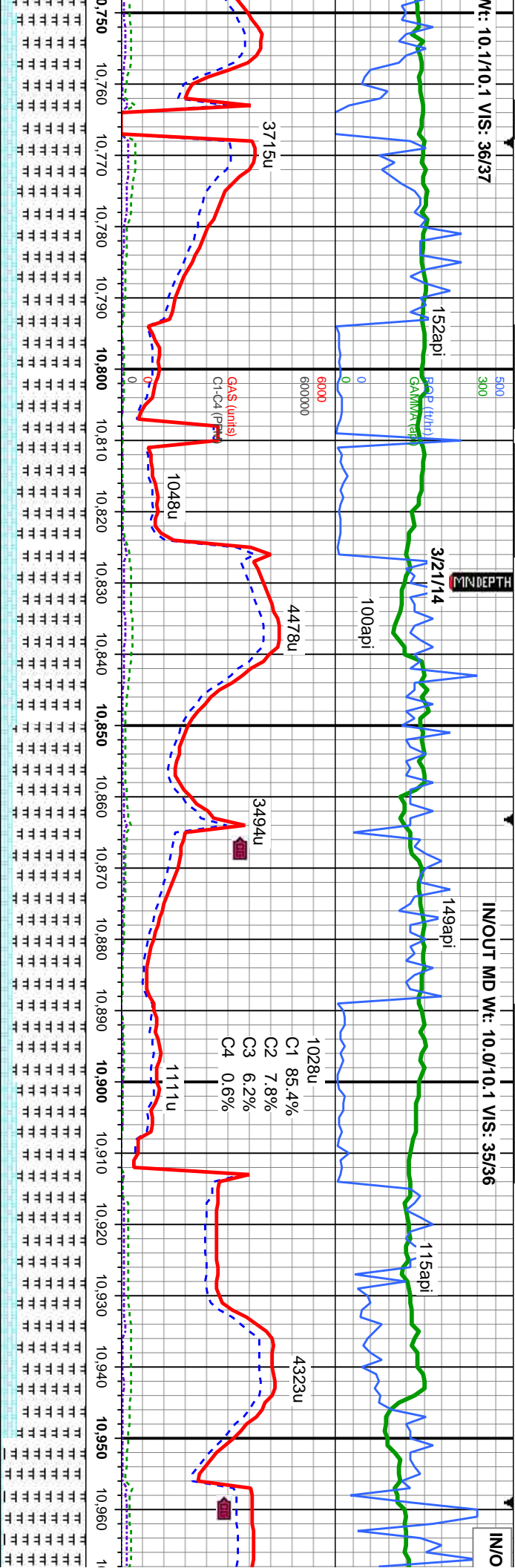
MRLST: med-v dk gy, gy brn, blk, mot, lam  
sft-firm, sb-pty - sb-biky, rthy, v calc, tr chk

MRLST: med-v dk gy, gy brn, blk, mot, lam  
sft-firm, sb-pty - sb-biky, rthy, v calc, tr chk





O/N/



MD: 10,810'  
TVD: 7,184.31'  
Inclination: 90.2°  
Azimuth: 176.7°  
VS: 3,630.93'

MD: 10,905'  
TVD: 7,182.9'  
Inclination: 91.5°  
Azimuth: 178.3°  
VS: 3,725.88'

CHK: lk-medgy, med gy brn, mot, sft, wxy tex, v  
calc, tr bent;  
MRLST: med-v dk gy, gy brn, blk, mot, lam  
sft-frm, sb-pity - sb-biky, rthy, v calc

CHK: l-medgy, med gy bm, mot, sft, wxy tex, v  
calc, t bent;  
MRSLST: med-v dk gy, gy bm, blk, mot, iam  
sft-frim, sb-pity - sb-blky, rthy, v calc  
Z<sub>250V</sub>

CHK: It-medgy, med gy brn, mot, sft, wxy tex, v  
calc, tr bent;  
MRLST: med-v dk gy, gy brn, blk, mot, lam  
sft-frm, sb-ply - sb-blky, rthy, v calc

CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v  
calc, tr bent;  
MRLST: med-v dk gy, gy brn, blk, mot, lam  
sftfrm, sb-pty -sb-blky, rthy, v calc

CHK: lt-medgy, me  
calc, tr bent;  
MRLST: med-v dk (q  
sft-firm, sb-pty - sb-

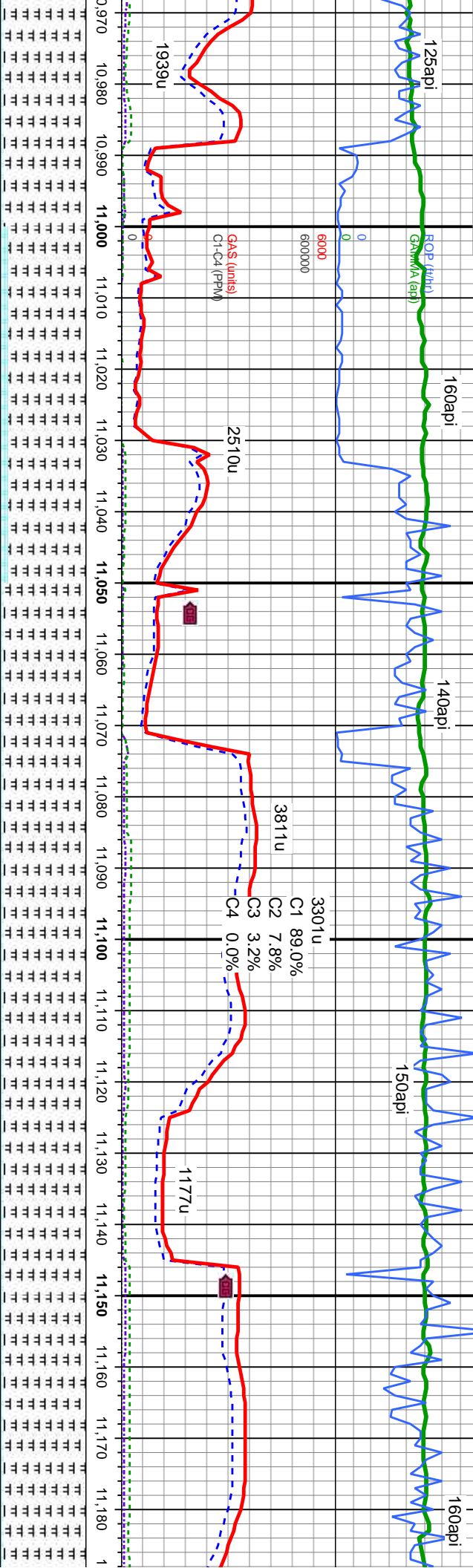




UT MD Wt: 10.0/10.0 VIS: 35/36

IN/OUT MD Wt: 10.0/9.95 VIS: 35/36

IN/OUT MD Wt: 9.95/9.95 VIS: 35/36



MD: 11,001'  
TVD: 7,181.31'  
Inclination: 90.4 °  
Azimuth: 177.6 °  
VS: 3,821.81'

MD: 11,095'  
TVD: 7,180.08'  
Inclination: 91.1 °  
Azimuth: 178.8 °  
VS: 3,915.73'

MD: 11,  
TVD: 7,  
Inclinati  
Azimutth  
VS: 4.0

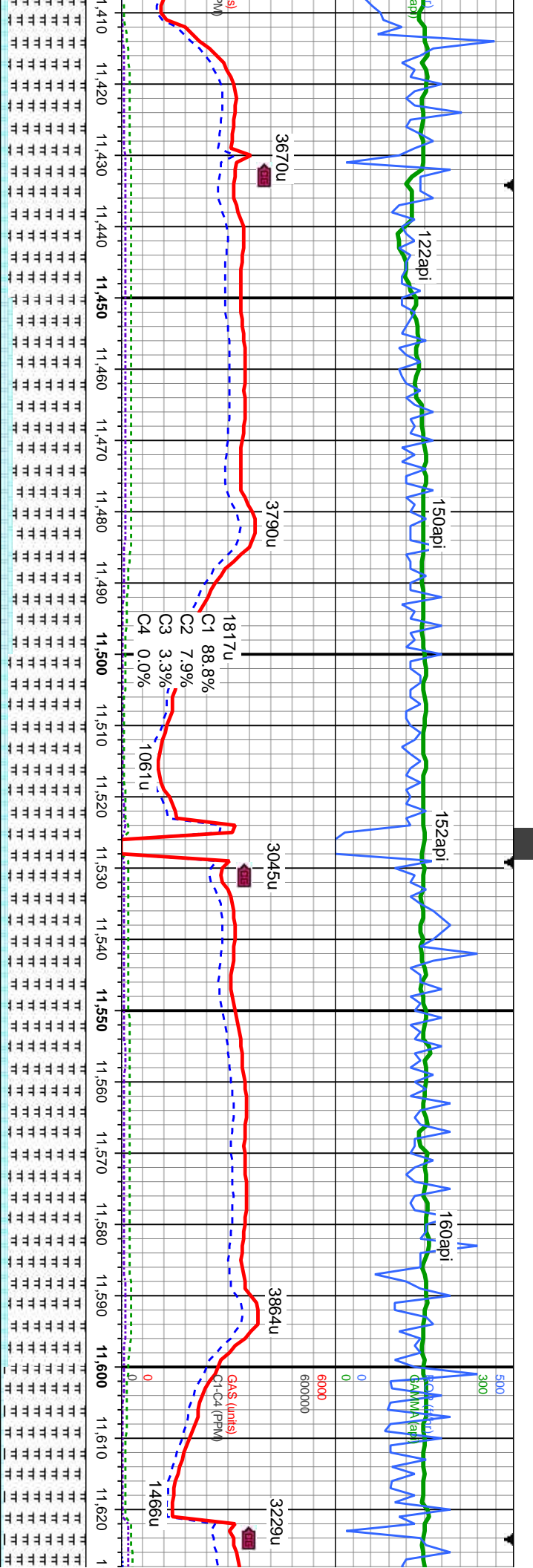
d gy brn, mot, sft, wxy tex, v	CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v	CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v	CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v
gy brn, blk, mot, lam	calc, tr bent;	calc, tr bent;	calc, tr bent;
blky, rthy, v calc	MR.LST: med-v dk gy, gy brn, blk, mot, lam	MR.LST: med-v dk gy, gy brn, blk, mot, lam	MR.LST: med-v dk gy, gy brn, blk, mot, lam
	sft-frm, sb-pty - sb-blky, rthy, v calc	sft-frm, sb-pty - sb-blky, rthy, v calc	sft-frm, sb-pty - sb-blky, rthy, v calc











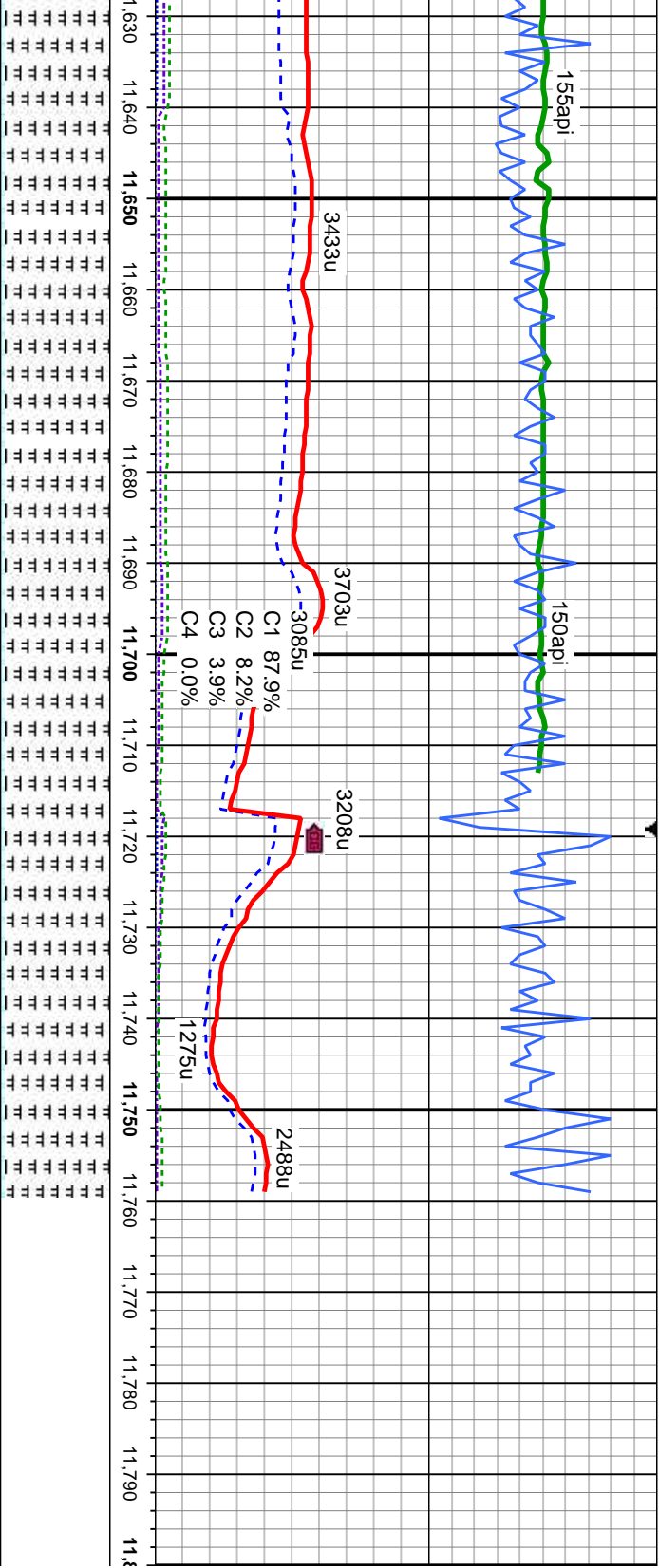
MD: 11,476'  
TVD: 7,172.43'  
Inclination: 90.3°  
Azimuth: 173.8°  
VS: 4,296.53'

MD: 11,571'  
TVD: 7,171.77'  
Inclination: 90.5°  
Azimuth: 172.8°  
VS: 4,391.42'

medgy, med gy brn, mot, sft, wxy tex, v bent;	CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v calc, tr bent;	CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v calc, tr bent;	CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v calc, tr bent;	TVD (ft)
med-v dk gy, gy brn, blk, mot, lam	MRLST: med-v dk gy, gy brn, blk, mot, lam	MRLST: med-v dk gy, gy brn, blk, mot, lam	MRLST: med-v dk gy, gy brn, blk, mot, lam	
sb-ply - sb-biky, rthy, v calc	sft-frm, sb-ply - sb-biky, rthy, v calc	sft-frm, sb-ply - sb-biky, rthy, v calc	sft-frm, sb-ply - sb-biky, rthy, v calc	







MD: 11,666'  
TVD: 7,171.19'  
Inclination: 90.2°  
Azimuth: 171.7°  
VS: 4,486.21'

MD: 11,706'  
TVD: 7,170.88'  
Inclination: 90.7°  
Azimuth: 171.5°  
VS: 4,526.09'

TD: 11,759' MD @ 22:05 MST 3/21/14

Thank you for using  
Columbine Logging Inc.

mot, sft, wxy tex, v  
CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v  
calc, tr bent  
MRLST: med-v dk gy, gy brn, blk, mot, lam  
sft-fm, sb-pty - sb-bky, rthy, v calc

CHK: lt-medgy, med gy brn, mot, sft, wxy tex, v  
calc, tr bent  
MRLST: med-v dk gy, gy brn, blk, mot, lam  
sft-fm, sb-pty - sb-bky, rthy, v calc

