



Scale: 5" / 100'  
Measured Depth Log

**Well Name**    Anschutz Equus Farms 4-62-15-0560 BH2

**Location**    NWNE Sec 15-T4N-R62W

**State**    Colorado                      **County**    Weld

**Country**    USA                                      **Rig Number**    Nabors M22

**API Number**    05-123-40444                      **AFE #**    19141D

**Region**    DJ Basin                                      **Field**    Wattenberg

**Spud Date**    12/28/2014                      **Drilling Completed**    1/7/2015

**Surface Coordinates**    NWNE Sec 15-T4N-R62W  
250' FNL 2250' FWL

**Bottom Hole Coordinates**    PROJECTED:  
SWSE Sec 22-T4N-R62W  
500' FSL 2500' FEL

**Ground Elevation**    4514'                                      **K.B. Elevation**    4536'

**Logged Interval**    4500' To    16105'                                      **Total Depth**    16105'

**Formation**    Niobrara B2 Chalk

**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.

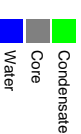
**Address**    1099 18th Street, Suite 2300  
Denver, CO 80202

## Other

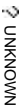

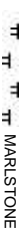
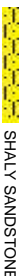

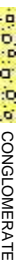

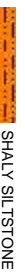



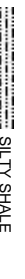
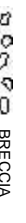
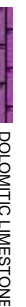

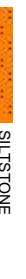






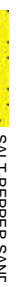





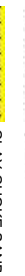





**Charles Trodick**    Senior Wellsite Geologist

**Nick Barber**    Wellsite Geologist

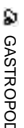

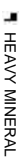
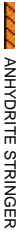
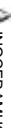
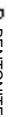

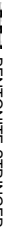
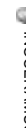


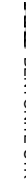
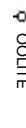
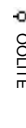
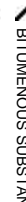
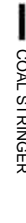
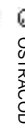
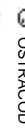

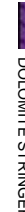


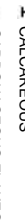
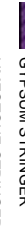
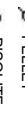
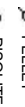

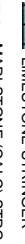
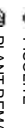
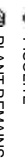

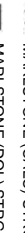
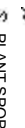
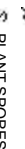

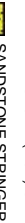


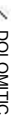
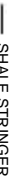
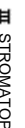
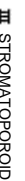



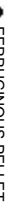


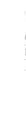


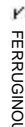


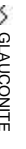
## Zone Color Coding



Rock Types

 UNKNOWN	 COAL	 MARLSTONE	
 ANHYDRITE	 CONGLOMERATE	 METAMORPHIC	
 BENTONITE	 DOLOMITE	 NO SAMPLE	
 BRECCIA	 DOLOMITIC LIMESTONE	 SALT	
 CHALK	 GRANITE	 SANDSTONE	
 CEMENT	 GYPSUM	 SALT-PEPPER SANC	
 CHERT	 IGNEOUS	 SHALE	
 CLAY CHOKE SANC	 SIDERITE or LIMONITE	 SHALE COLORED	
 CLAYSTONE	 LIMESTONE	 SHALE GRAY	

Accessories

 GASTROPOD	 ARGILLITE GRAIN	 HEAVY MINERAL	
 INOCERAMUS	 B BENTONITE	 K KAOLIN	
 ALGAE	 Ø OOLITE	 BITUMENOUS SUBSTANCE	
 AMPHIPORA	 Ø OSTRACOD	 BRECCIA FRAGMENTS	
 BELLENNITE	 Ø PELECYPD	 CALCAREOUS	
 BIOCLASTIC	 Ø PELLET	 CARBONACEOUS FLAKES	
 Ø BRACHIOPOD	 Ø PISOLITE	 ▲ CHTDK	
 ⤴ BRYOZOA	 Ø PLANT REMAINS	 ▲ CH TTL	
 Ø CEPHALOPOD	 Ø PLANT SPORES	 — COAL - THIN BEDS	
 Ø CORAL	 Ø SCAPHOPOD	 ▲ DOLOMITIC	
 Ø CRINOID	 III STROMATOPOROID	 + FELDSPAR	
 Ø ECHINOID		 ● FERRUGINOUS PELLET	
 🐟 FISH	<b>Minerals</b>	 ▲ FERRUGINOUS	
 Ø FORAMINIFERA	 // ANHYDRITIC	 ▲ GLAUCONITE	
 F FOSSIL	 — ARGILLACEOUS	 // GYPSIFEROUS	<b>Stringer</b>

Oil Show

- P PINPOINT
- VUGGY






































Engineering

- D DEAD
- EVEN
- QUESTIONABLE
- BIT
- SPOTTED STAINING
- CONNECTION (UP)

Porosity

- CONNECTION GAS
- CONNECTION GAS
- TRIP GAS
- TRIP GAS (LEFT)
- FRACTURE
- INTERCRYSTALLINE
- DOWN TIME GAS
- INTEROOLITIC
- DOWN TIME GAS
- MOLDIC
- CORE - LOST
- 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

ROP  
ROP  
GAMMA

BEGIN Anschutz Equus Farms 4-62-15-0-560  
BH2 @ 5650' MD. DRILLING 8.75" HOLE. BIT  
#1, PDC Log/c. SO9328. DEPTH IN: 804' MD.  
KOP: 5621' MD.

ROP & GAS DATA PROVIDED BY IBALL/  
BLOODHOUND - GAMMA & SURVEY DATA  
PROVIDED BY ARCHER DIRECTIONAL  
DRILLING SERVICES

COLUMBINE LOGGING INC., 2-MAN  
LOGGING CREW 12/30/2014 -  
BLOODHOUND UNIT #0052

Total Gas & Chromatograph  
GAS  
C1  
C2  
C3  
C4

Depth Labels

% Lith

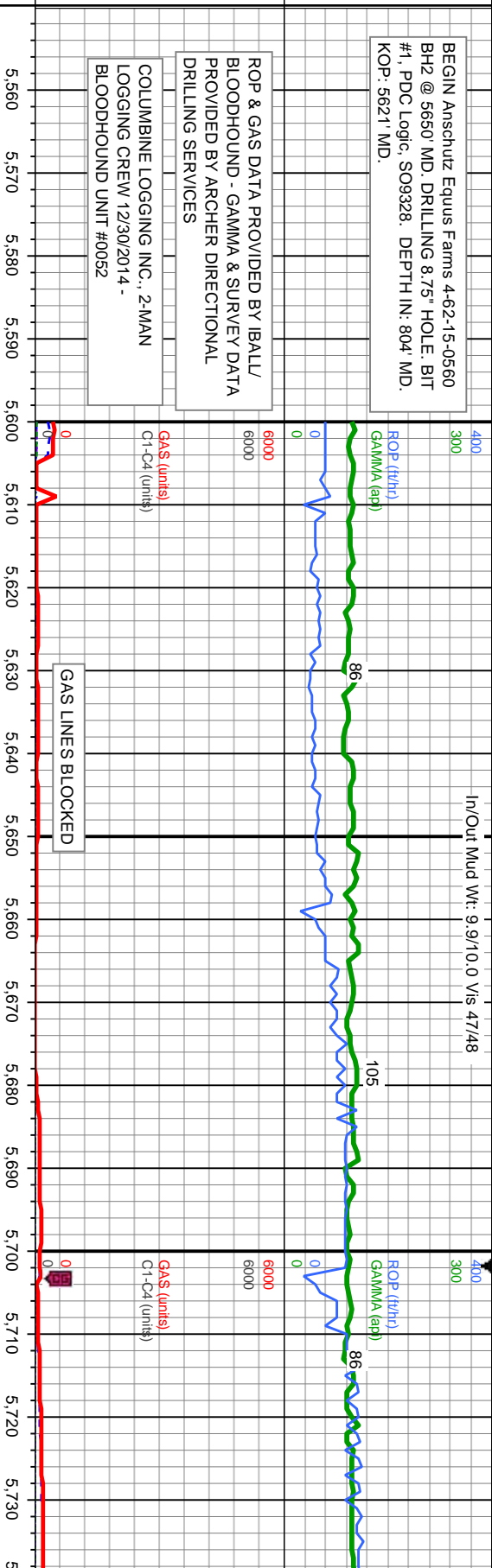
Well Bore  
TVD

Oil Show

EGMFTST

Images

In/Out Mud Wt: 9.9/10.0 Vis 47/48



THE INTERPRETATION OF THE  
WELLBORE LITHOLOGY IS NOT  
TO SCALE

50' SAMPLE INTERVAL  
100' SAMPLE DESCRIPTION

MD: 5,603'  
TVD: 5,590.38'  
Inclination: 2.8°  
Azimuth: 164°  
VS: -198.45'

MD: 5,650'  
TVD: 5,637.17'  
Inclination: 7.7°  
Azimuth: 169.9°  
VS: -194.22'

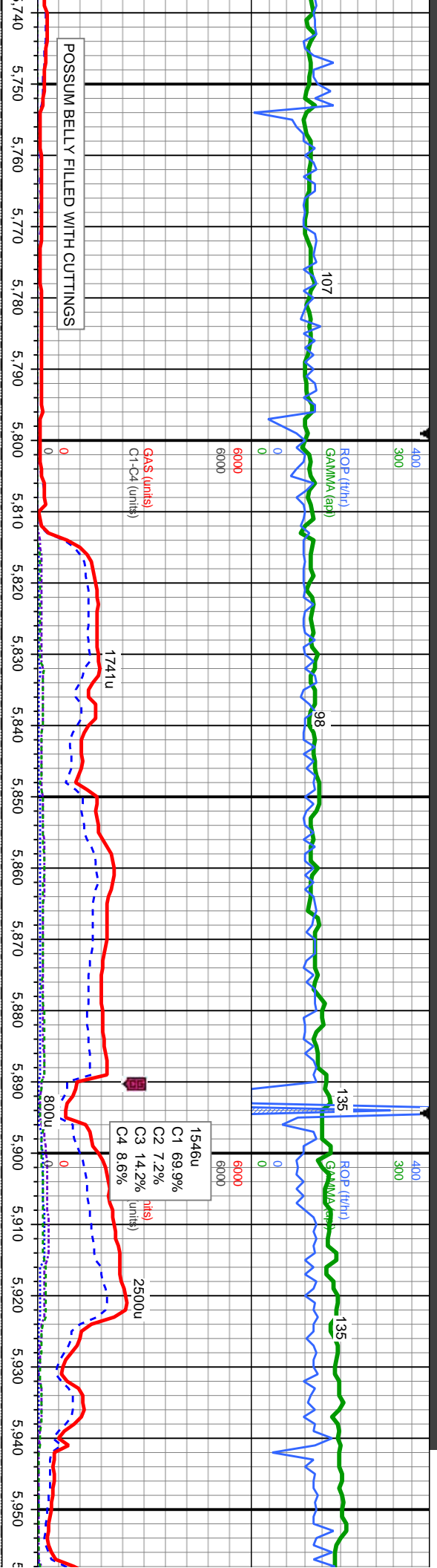
MD: 5,697'  
TVD: 5,683.29'  
Inclination: 14.2°  
Azimuth: 173.8°  
VS: -185.35'

SHY SLTST: lt - med gy, gy brn, mod frm, brlt, sb ply - sb blkly, rthy tex, vf occ f-med gr, w srl,  
6100 non calc; SLTY SH: med - dk gy, sft - frm, sb ply - sb blkly, wxy tex, non calc; tr SHY SS

SHY SLTST: lt - med gy, gy brn, mo  
6100 non calc; SLTY SH: med - dk gy, sft

MD  
TVD  
Inc  
Az  
VS





MD: 5,839'  
TVD: 5,815.31'  
Inclination: 28.2°  
Azimuth: 180.1°  
VS: -134.27'

MD: 5,886'  
TVD: 5,855.42'  
Inclination: 34.6°  
Azimuth: 175.2°  
VS: -109.82'

MD: 5,934'  
TVD: 5,893.32'  
Inclination: 41°  
Azimuth: 174.1°  
VS: -80.48'

MD: 5,791'  
TVD: 5,772.17'  
Inclination: 23.8°  
Azimuth: 185.9°  
VS: -155.22'

MD: 5,744'  
TVD: 5,728.37'  
Inclination: 18.6°  
Azimuth: 182.1°  
VS: -172.12'

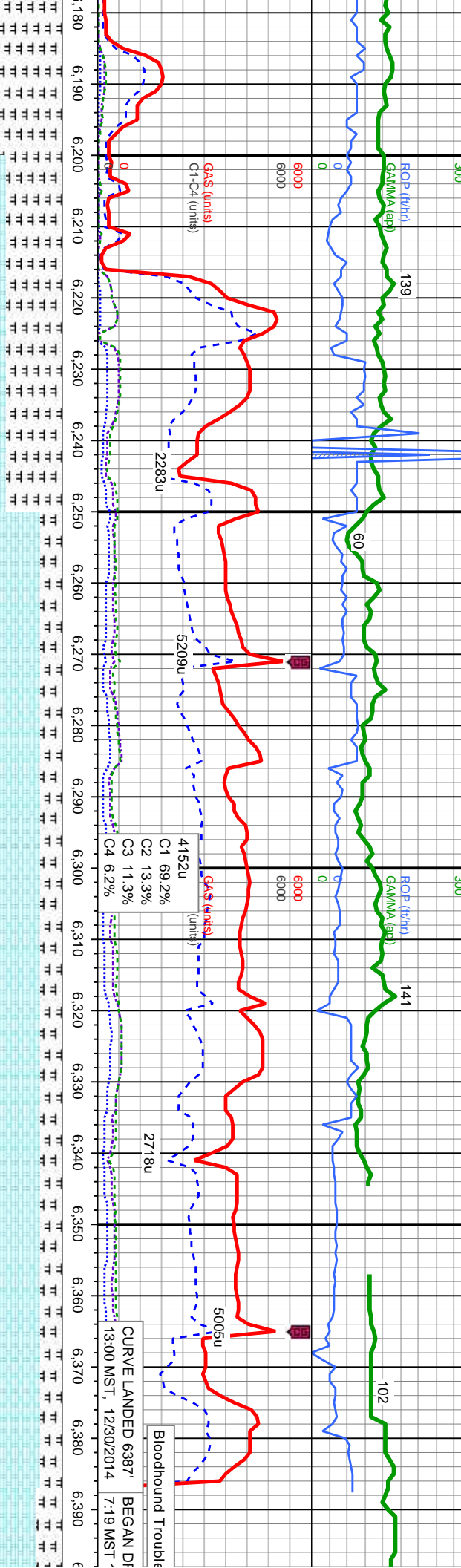
Logger Top Sharon Springs  
5879' MD/5849.44' TVD

SHY SLTST: lt - med gy, gy brn, mod frm, brlt, sb ply - sb blkly, rthy tex, vt occ f-med gr, w srt, non calc; SLTY SH: med - dk gy, sft - frm, sb ply - sb blkly, wxy tex, non calc; tr SHY SS

SHY SLTST: lt - med gy, gy brn, mod frm, brlt, sb ply - sb blkly, rthy tex, vt occ f-med gr, w srt, non calc; SLTY SH: med - dk gy, sft - frm, sb ply - sb blkly, wxy tex, non calc; tr SHY SS



In/Out Mud Wt: 9.9+/10.0 Vis 35/36  
In/Out Mud Wt: 9.9+/10.0 Vis 35/36  
In/Out Mud Wt: 9.9+/9.9+ Vis 35/35  
In/Out



5550 MRLST: med -dk gy, strl, sft-v sft, sb ply-sb blk, fir- brt, sil, v calc, CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-firm, sb ply-sb blk, v calc, crptx: tr pyc bent

MD: 6,218'  
TVD: 6,057.85'  
Inclination: 73.9°  
Azimuth: 177.5°  
VS: 145.44'

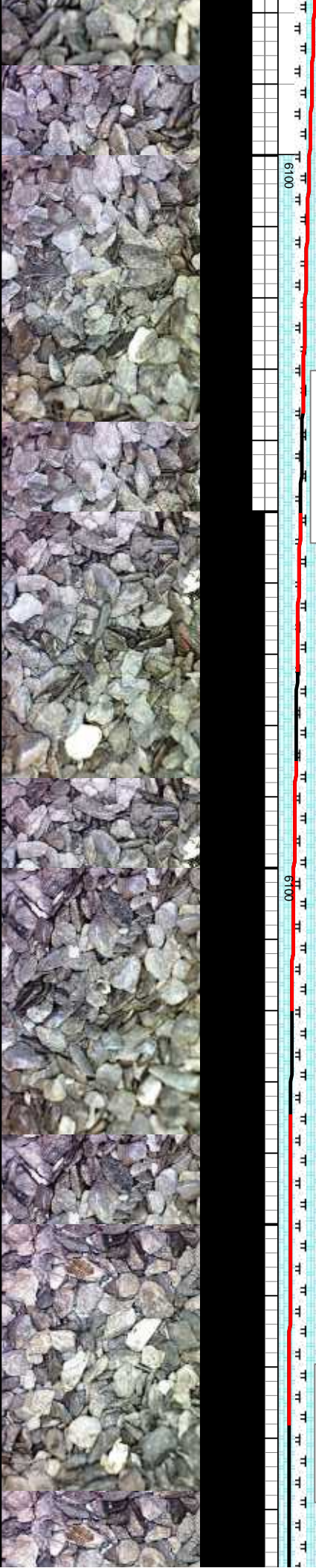
MD: 6,265'  
TVD: 6,069.34'  
Inclination: 77.8°  
Azimuth: 178.9°  
VS: 191'

MD: 6,313'  
TVD: 6,077.59'  
Inclination: 82.4°  
Azimuth: 179.2°  
VS: 238.27'

MD: 6,332'  
TVD: 6,079.84'  
Inclination: 84°  
Azimuth: 179.3°  
VS: 257.14'

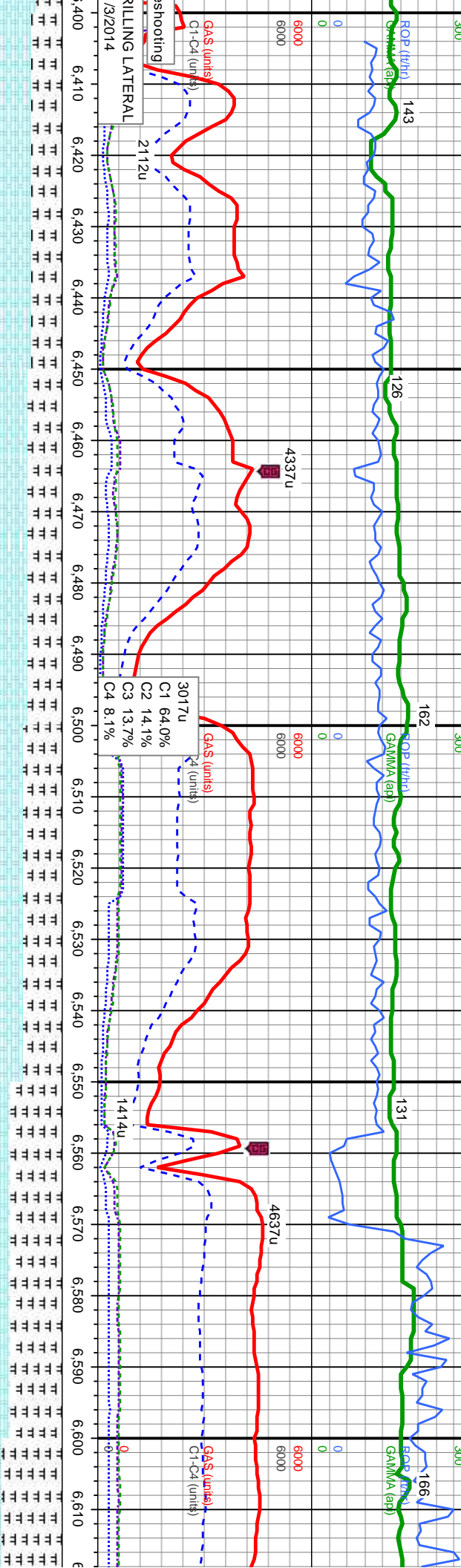
MD: 6,378'  
TVD: 6,082.53'  
Inclination: 89.3°  
Azimuth: 179°  
VS: 303.04'

Logger Top Niobrara B2  
6245' MD/ 6065.19' TVD



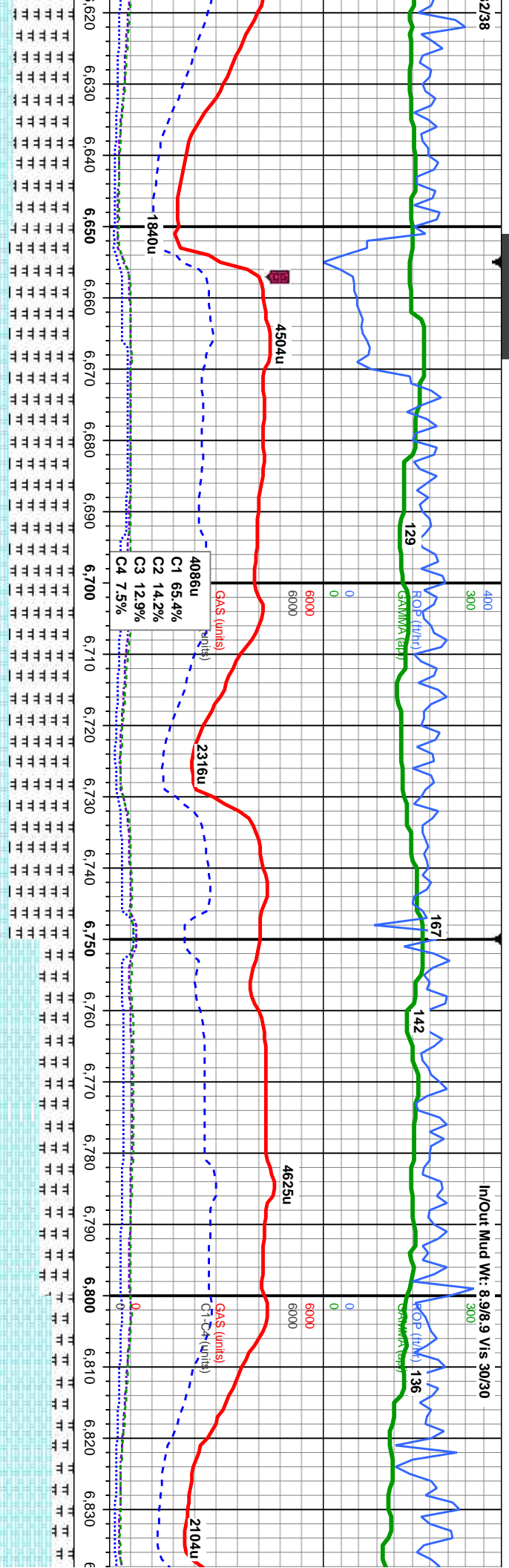
In Mud Wt: 8.9/8.9 Vis 45/32

In/Out Mud Wt: 8.9/8.9 Vis 3



6000	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-firm, sb ply-sb blk, v calc, crptxt, MRLST: med -dk gy, sft, sft-v sft, sb ply-sb blk, fri- brt, sil, v calc; tr pyrc bent; bri mky wh sting cut, bri thk bl ring cut, no floor	6000	CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-firm, sb ply-sb blk, v calc, crptxt, MRLST: med -dk gy, sft, sft-v sft, sb ply-sb blk, fri- brt, sil, v calc; tr pyrc bent; bri mky wh sting cut, bri thk bl ring cut, no floor	6000	CHK: lt-med g med -dk gy, st thk bl ring cut,
MD: 6.406'	VD: 6.082.77'	MD: 6.501'	TV: 6.083.19'	MD: 6.569'	TV: 6.082.89'
Inclination: 89.7°	VS: 331.04'	Inclination: 89.8°	VS: 426.03'	Inclination: 90.7°	VS: 494.01'
VS: 331.04'		Azimuth: 177.2°		Azimuth: 177.4°	





MD: 6,690'  
TVD: 6,082.36'  
Inclination: 89.8°  
Azimuth: 179.7°  
VS: 615'

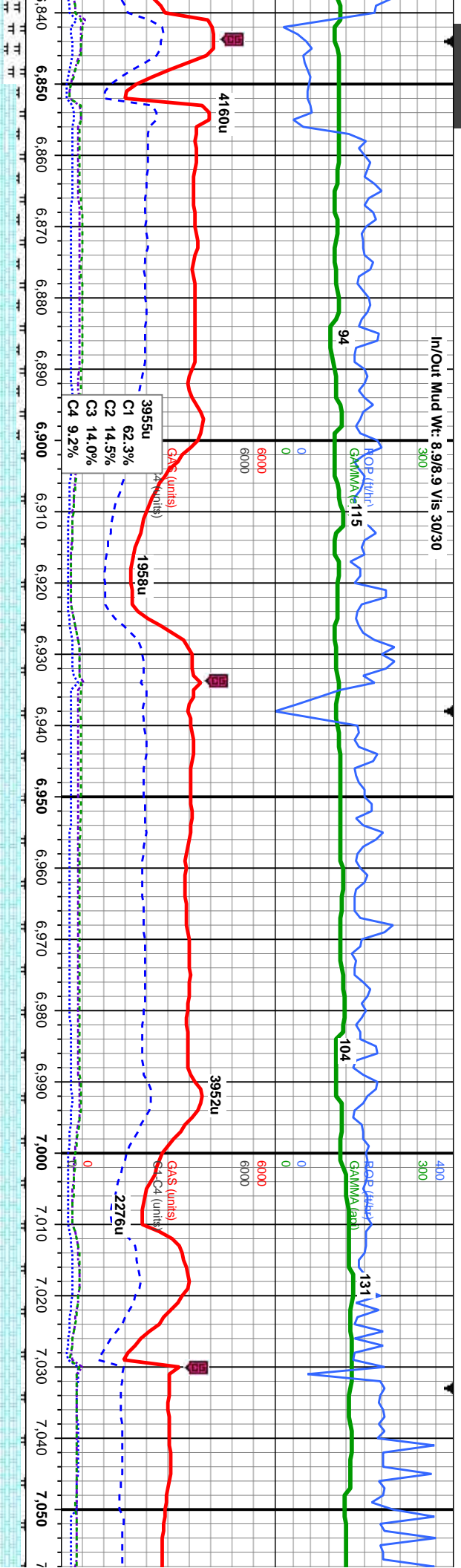
MD: 6,784'  
TVD: 6,081.46'  
Inclination: 91.3°  
Azimuth: 179.5°  
VS: 708.98'

6000 CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-fm, sb ply-sb blk, v calc, crpxl, MRLST: med -dk gy, sft-v sft, sb ply-sb blk, fri- brt, sil, v calc; lt pyrc bent; bri mky wh sting cut, bri thk bl ring cut, no flor

6000 CHK: lt-med gy, gy brn, some wh, nm: med -dk gy, sft-v sft, sb ply-sb b thk bl ring cut, no flor



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



6000 CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-firm, sb ply-sb blkly, v calc; crpxl; MRLST: blkly, fri- brt, sil, v calc; tr pyrc bent; bri mky wh sting cut, bri

6000 CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-firm, sb ply-sb blkly, v calc; crpxl; MRLST: med -dk gy, strf, sft-v sft, sb ply-sb blkly, fri- brt, sil, v calc; tr pyrc bent; bri mky wh sting cut, bri thk bl ring cut, no flor

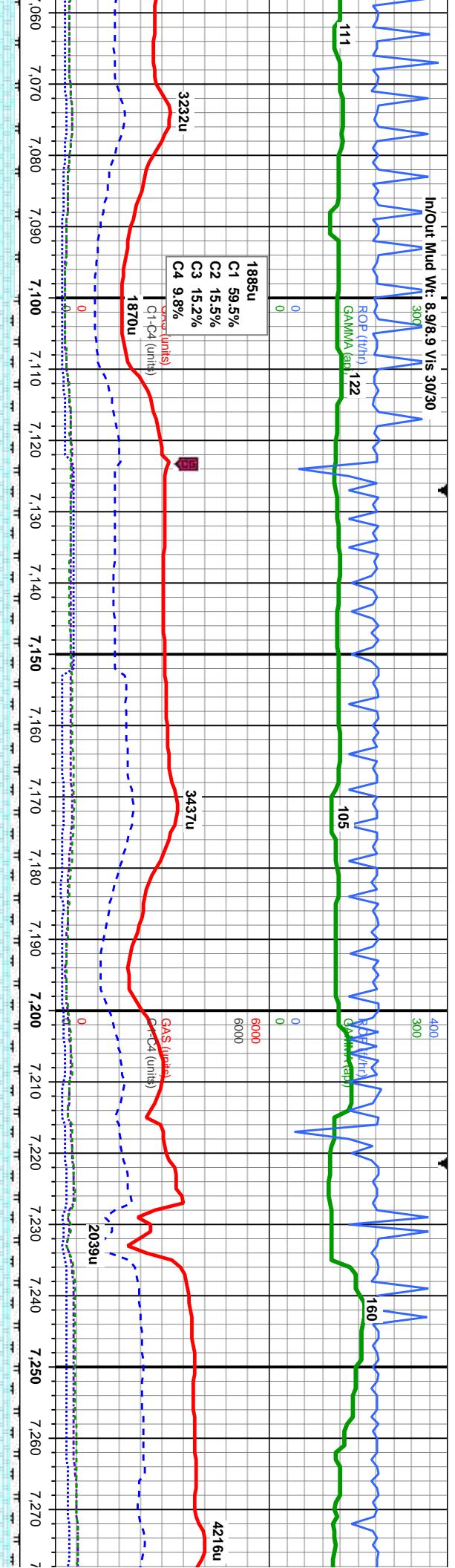
6000 CHK: lt-med gy, gy brn, some wh, mot, lam, v sft-firm, sb ply-sb blkly, v calc; crpxl; MRLST: med -dk gy, strf, sft-v sft, sb ply-sb blkly, fri- brt, sil, v calc; tr pyrc bent; bri mky wh sting cut, bri thk bl ring cut, no flor

MD: 6,878'  
TVD: 6,080.23'  
Inclination: 90.2°  
Azimuth: 179.6°  
VS: 802.95'

MD: 6,973'  
TVD: 6,080.23'  
Inclination: 89.8°  
Azimuth: 179.1°  
VS: 897.93'



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



MD: 7,067'  
TVD: 6,079.82'  
Inclination: 90.7°  
Azimuth: 179.2°  
VS: 991.92'

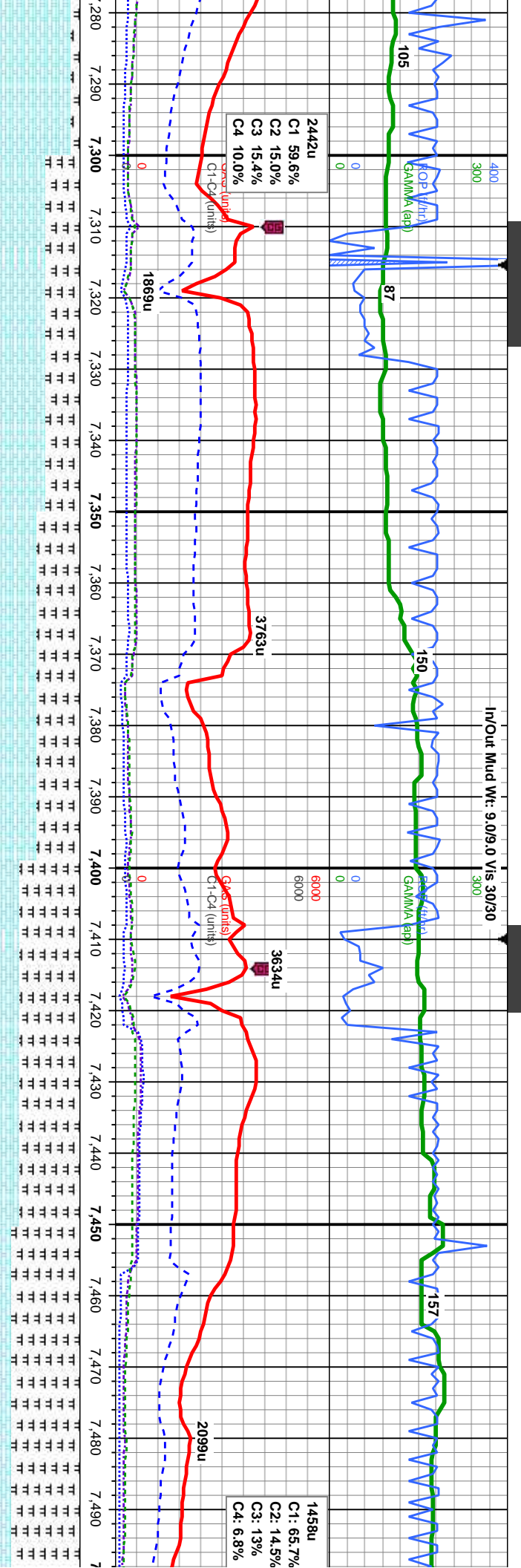
MD: 7,161'  
TVD: 6,078.75'  
Inclination: 90.6°  
Azimuth: 178.7°  
VS: 1,085.91'

MD: 7,256'  
TVD: 6,077.51'  
Inclination: 90.9°  
Azimuth: 178.7°  
VS: 1,180.9'

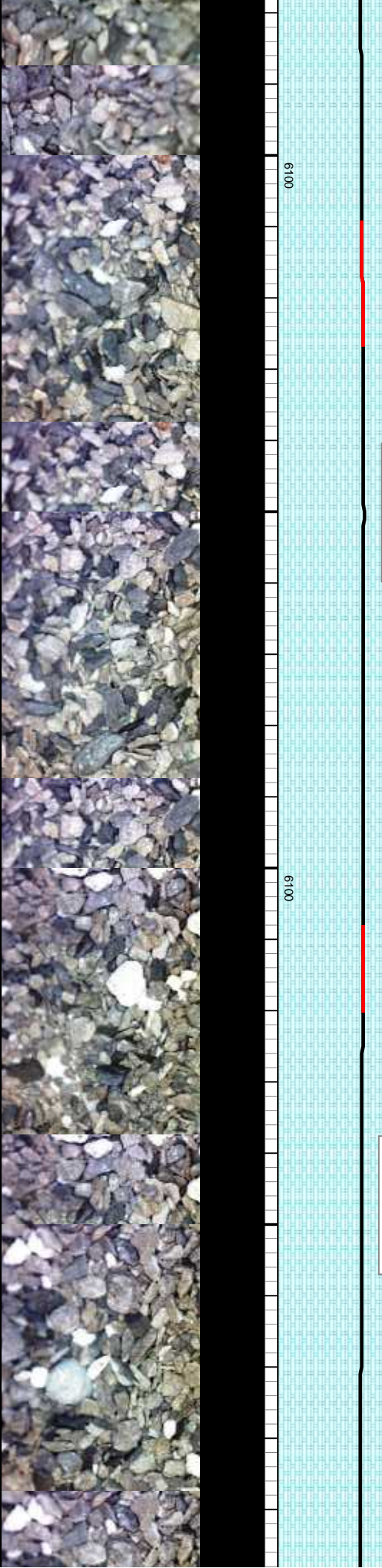
6100

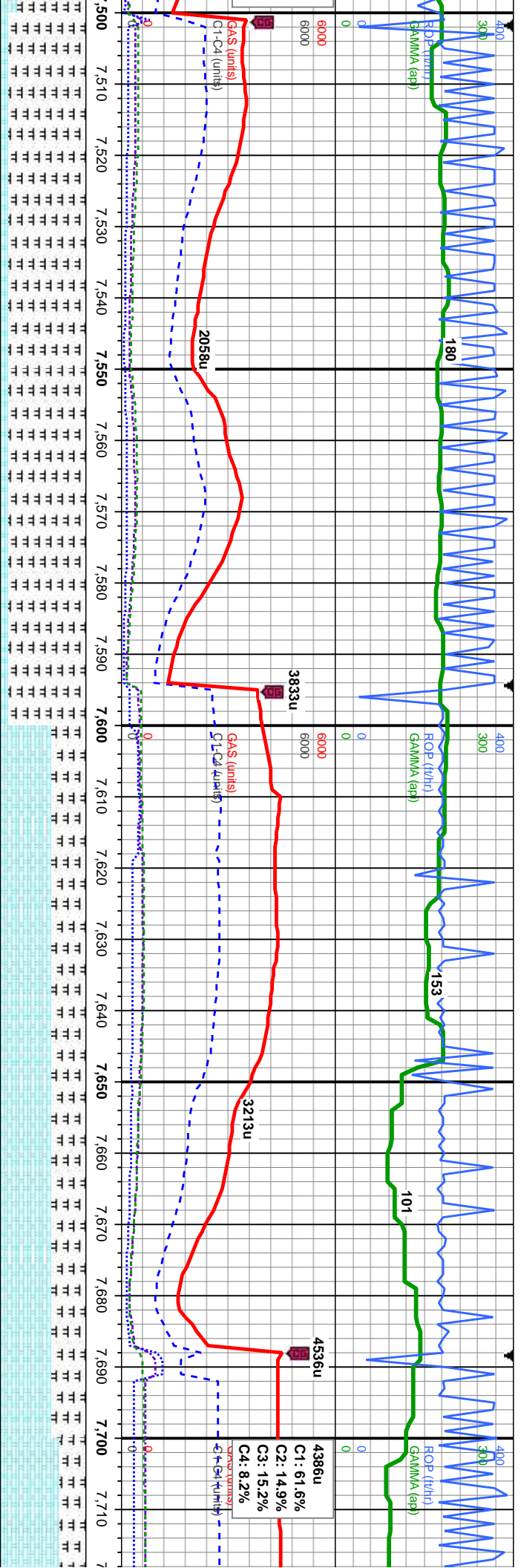
6100





6000	CHK: lt-med gy, sl mot, lam, v sft-firm, sb ply-sb blk, v calc, crpxt; MRLST: med	MD: 7,350' TVD: 6,076.36' Inclination: 90.5° Azimuth: 179.7° VS: 1,274.89'
6100	CHK: lt-med gy, sl mot, lam, v sft-firm, sb ply-sb blk, v calc, crpxt; MRLST: med	MD: 7,444' TVD: 6,076.85' Inclination: 88.9° Azimuth: 180.2° VS: 1,368.85'

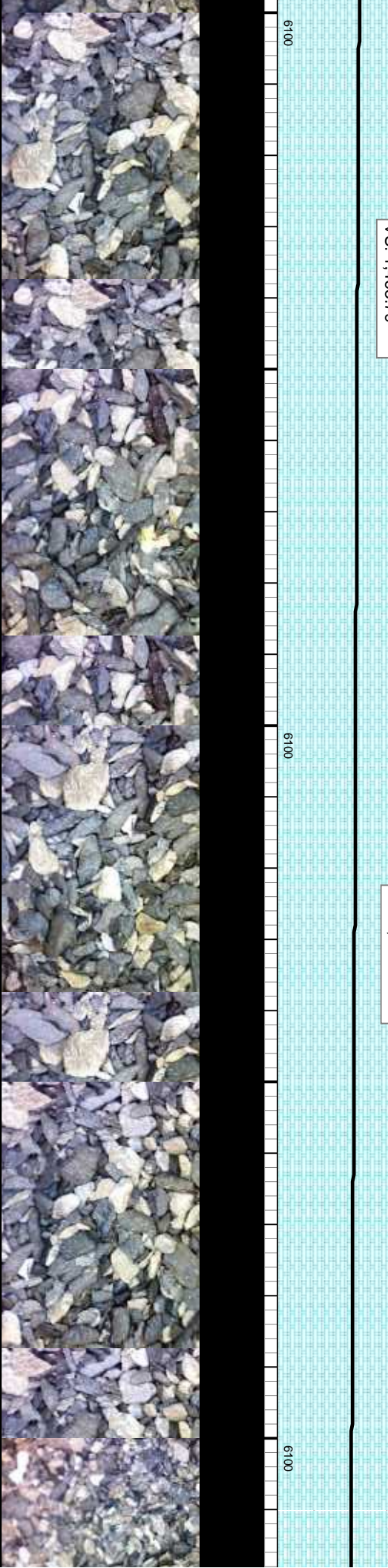


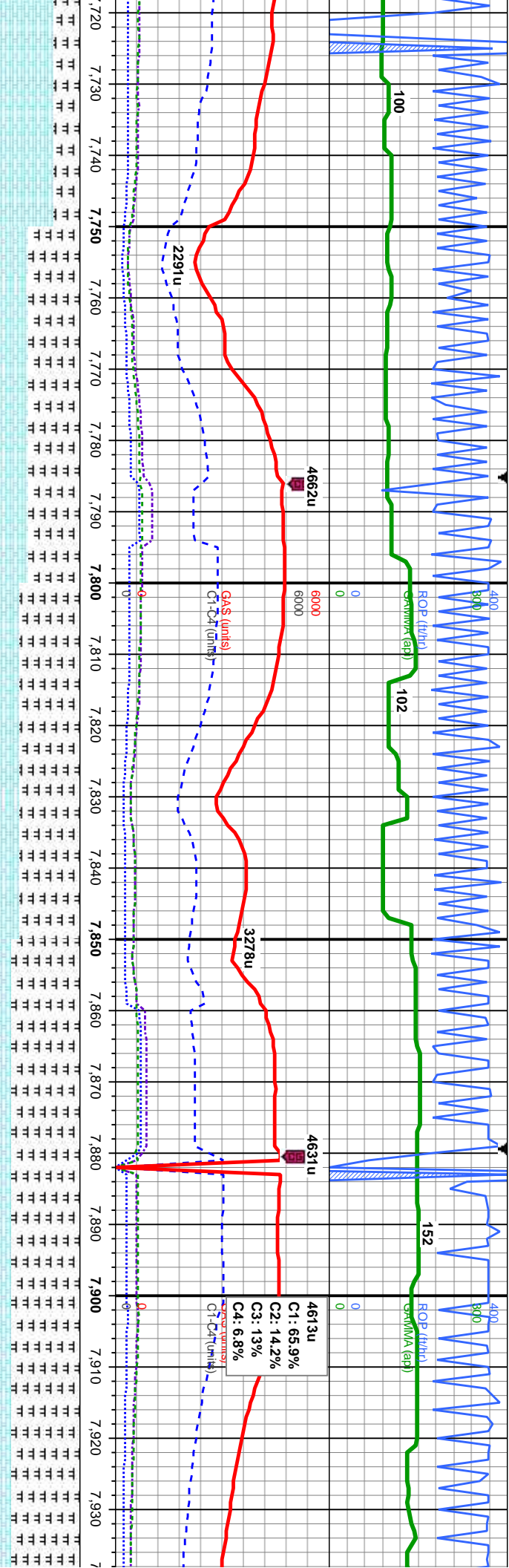


MD: 7,539'  
TVD: 6,077.93'  
Inclination: 89.8°  
Azimuth: 180.3°  
VS: 1,463.79'

MD: 7,633'  
TVD: 6,078.75'  
Inclination: 89.2°  
Azimuth: 180.2°  
VS: 1,557.74'

6000	CHK: lt-med gy, gy brn, mot, lam, v sft-frm, sb ply-sb blk, v calc, crpxl; MRLST: med -dk gy, sft, sft-v sft, sb ply-sb blk, sl mot, fri- brit, sil, v calc; tr pyrc bent; bri mky wh string cut, bri thk bl ring cut, no flr	6000	CHK: lt-med gy, mot, sl lam, v sft-frm, sb ply-sb blk, v calc, crpxl; MRLST: med -dk gy, sft, sft-v sft, sb ply-sb blk, sl mot, fri- brit, v calc; bri mky wh string cut, bri thk bl ring cut, no flr	6000	CHK: lt-med gy, ; thk bl rit
TVD (ft)		TVD (ft)		TVD (ft)	





med gy, mot sl lam, v sft frm, sb ply-sb blk, v calc, crptxt, MRLST: med  
sft, sft-v sft, sb ply-sb blk, sl mot, fri- brit, v calc; bri mky wh string cut, bri  
ing cut, no flr

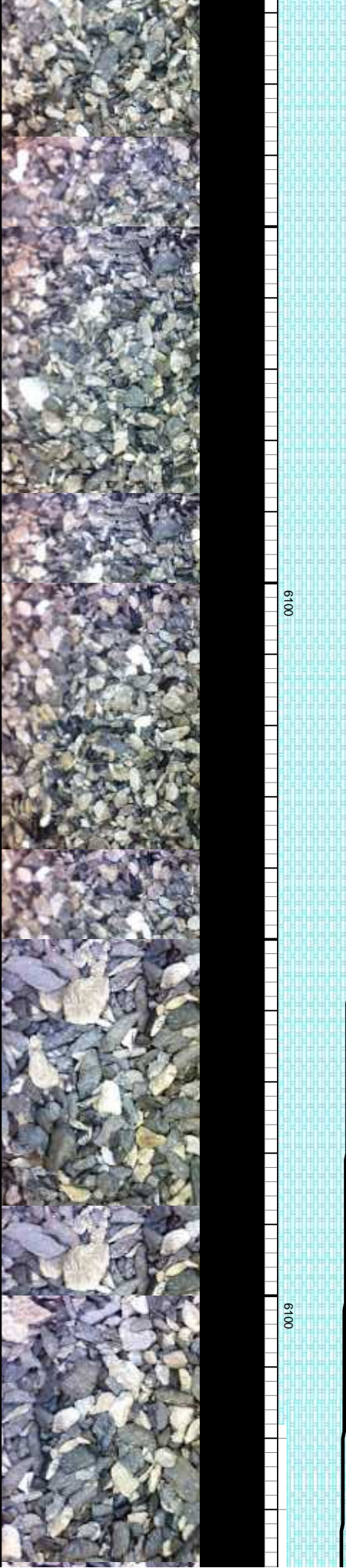
CHK: lt-med gy, mot sl lam, v sft frm, sb ply-sb blk, v calc, crptxt, MRLST: med  
-dk gy, sft, sft-v sft, sb ply-sb blk, sl mot, fri- brit, v calc; tr cal; bri mky wh string  
cut, bri thk bl ring cut, no flr

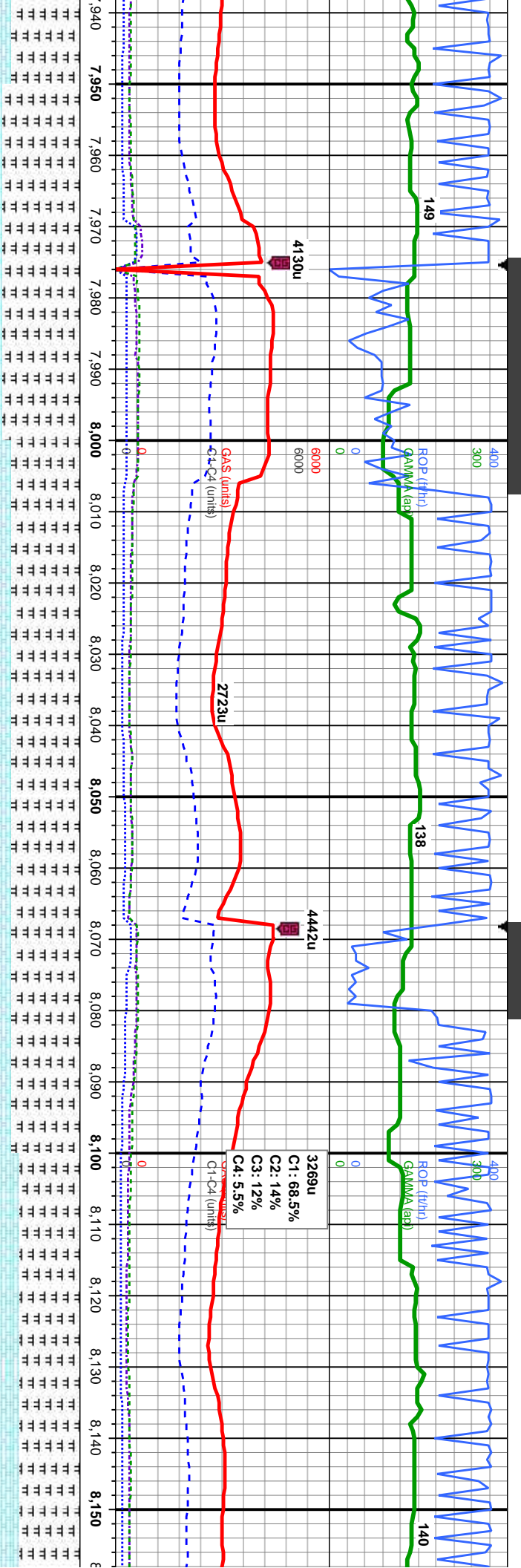
CHK: lt-med gy, m  
MRLST: med -dk gy  
mky wh string cut, b

MD: 7,729'  
TVD: 6,079.84'  
Inclination: 89.5°  
Azimuth: 179.4°  
VS: 1,653.7'

MD: 7,823'  
TVD: 6,080'  
Inclination: 90.3°  
Azimuth: 179.2°  
VS: 1,747.69'

MD: 7,913'  
TVD: 6,081.65'  
Inclination: 87.6°  
Azimuth: 178.3°  
VS: 1,837.67'





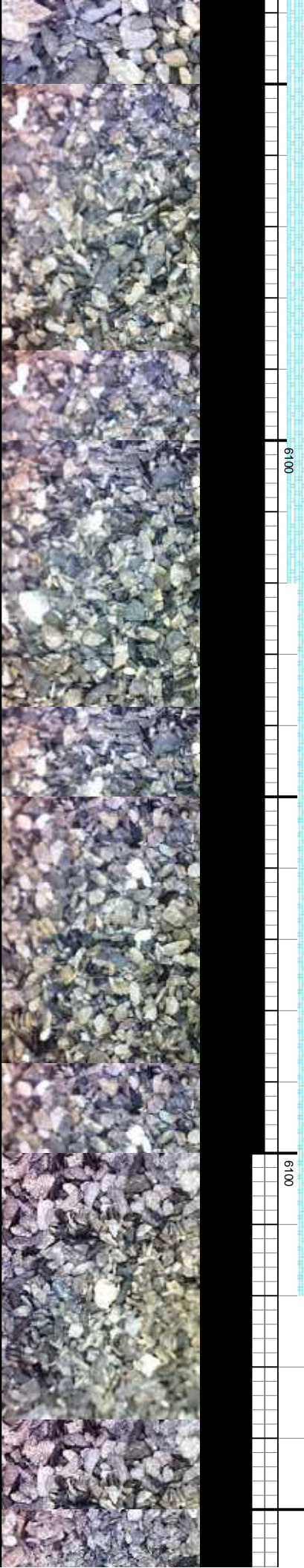
slam, v sft-frm, sb ply-sb blky, v calc, crpxl:  
gy, sft-v sft, sb ply-sb blky, sl mot, fri- brt, v calc;brt  
ring cut, no flr

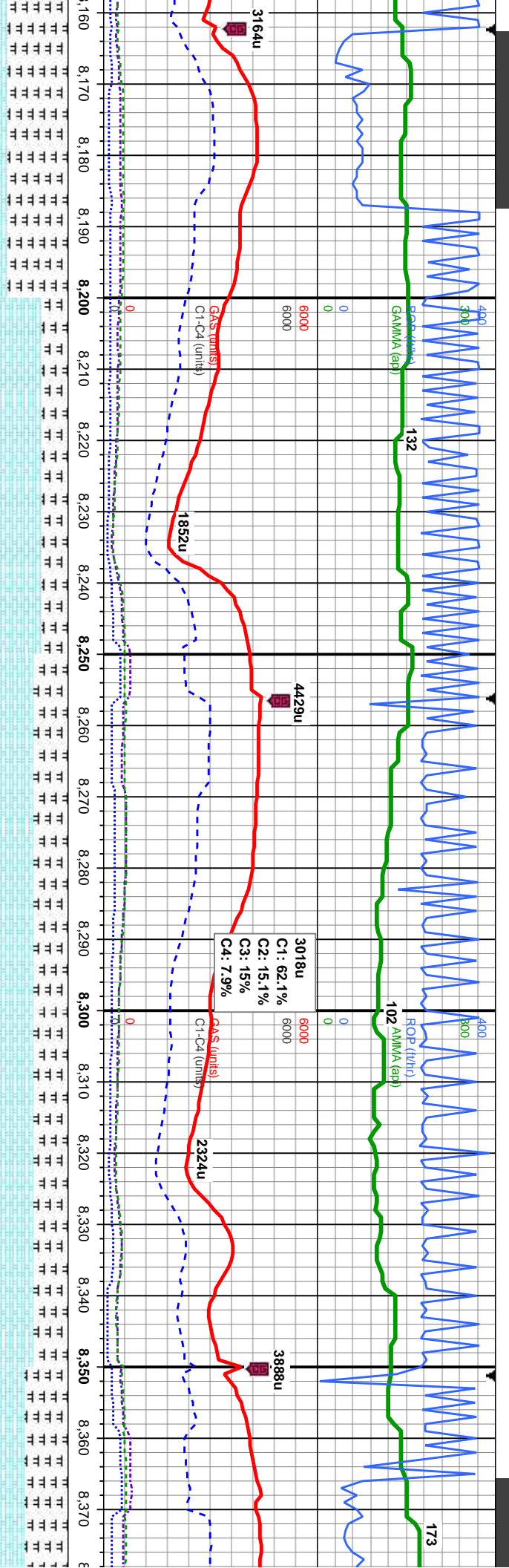
MD: 8,012'  
TVD: 6,084.5'  
Inclination: 89.1°  
Azimuth: 179.9°  
VS: 1,936.61'

CHK: lt-med gy, mot, lam, sft-frm, sb ply-sb blky, v calc, crpxl: MRLST: med- dk  
gy, sft, sft-v sft, sb ply-sb blky, sl mot, fri- brt, v calc;brt mky wh sting cut, brt thk bl  
ring cut, no flr

MD: 8,107'  
TVD: 6,086.33'  
Inclination: 88.7°  
Azimuth: 177.9°  
VS: 2,031.59'

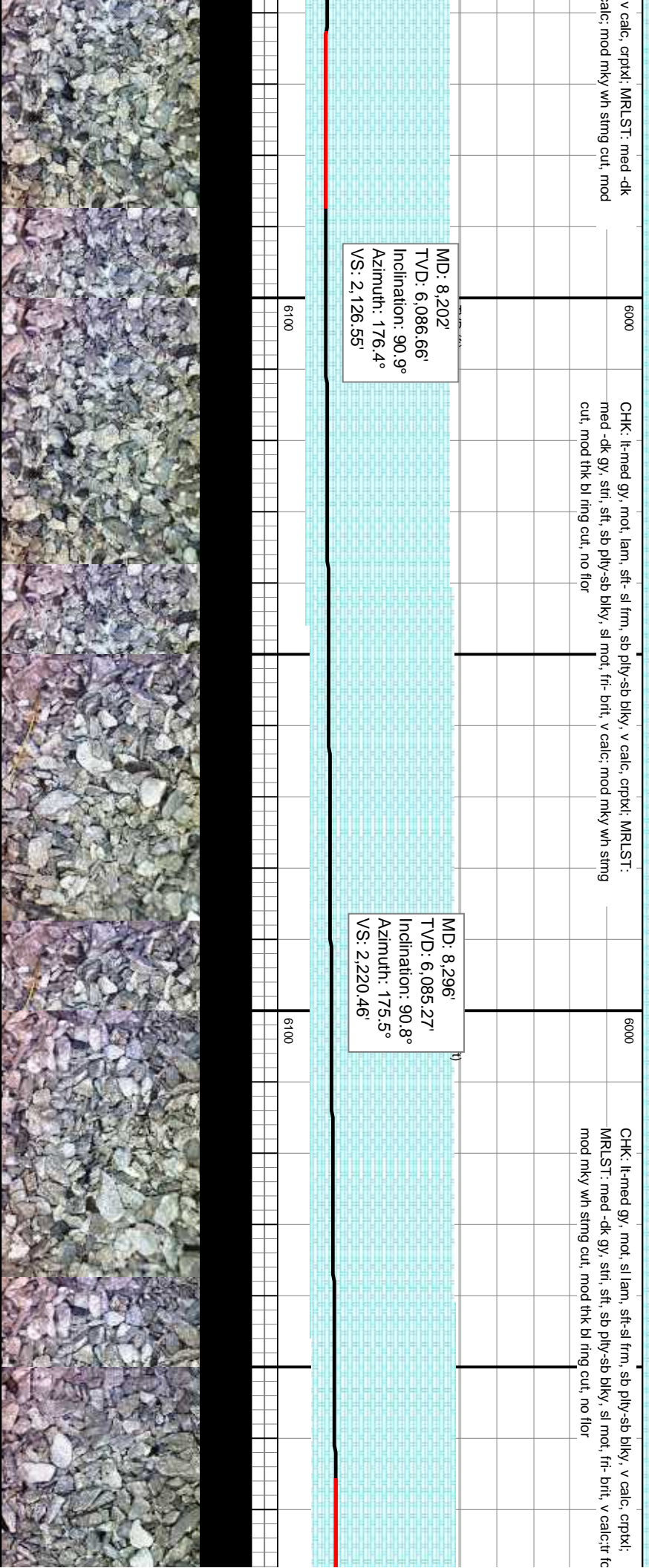
CHK: lt-med gy, mot, lam, sft-frm, sb ply-sb blky,  
gy, sft, sft-v sft, sb ply-sb blky, sl mot, fri- brt, v c  
thk bl ring cut, no flr

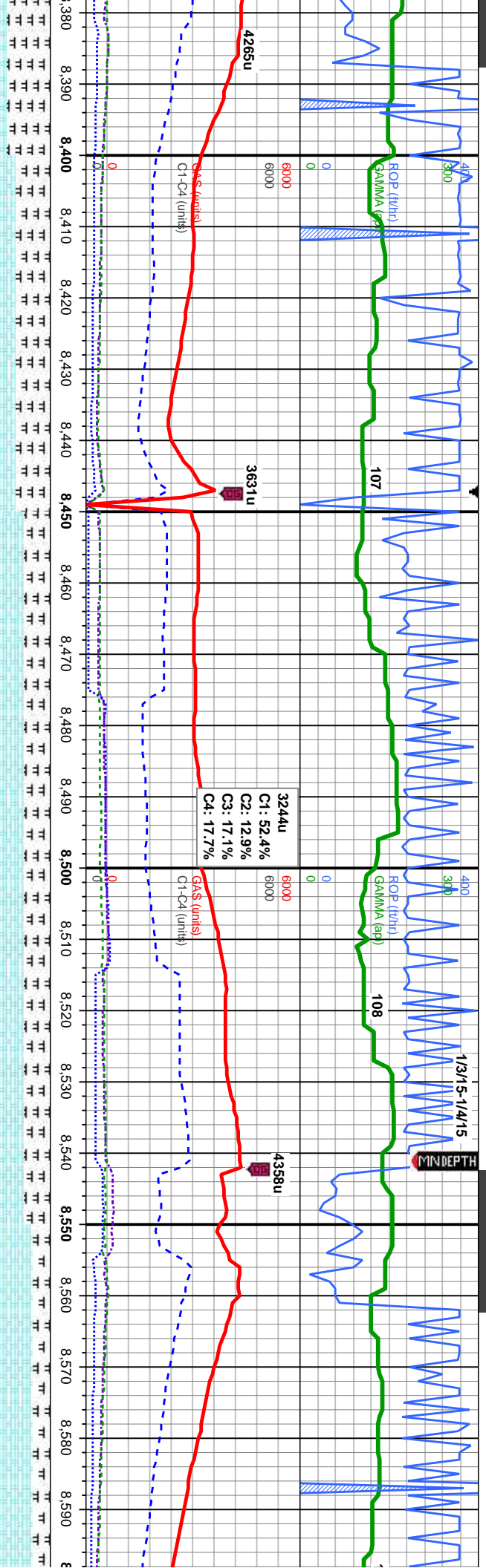




MD: 8,202'  
TVD: 6,086.66'  
Inclination: 90.9°  
Azimuth: 176.4°  
VS: 2,126.55'

MD: 8,296'  
TVD: 6,085.27'  
Inclination: 90.8°  
Azimuth: 175.5°  
VS: 2,220.46'





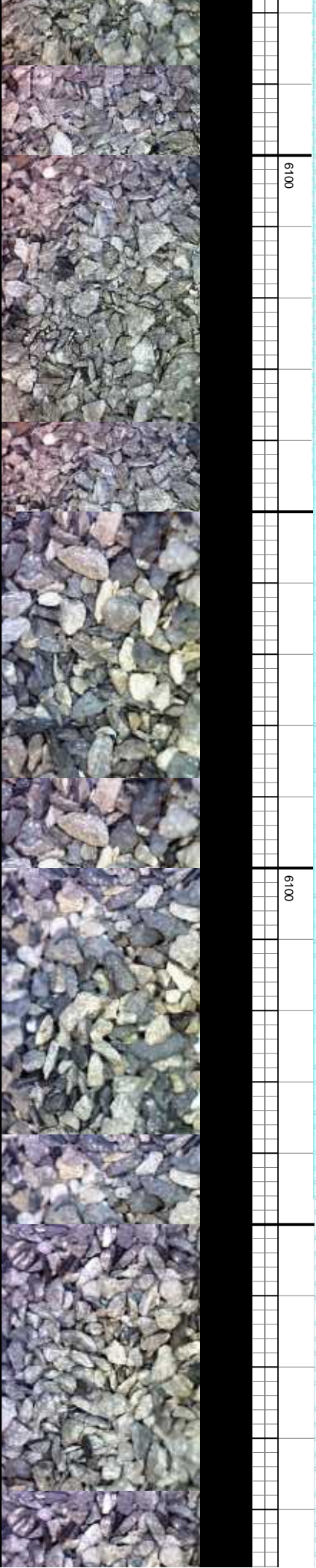
MD: 8,391'  
TVD: 6,083.69'  
Inclination: 91.1°  
Azimuth: 177.6°  
VS: 2,315.39'

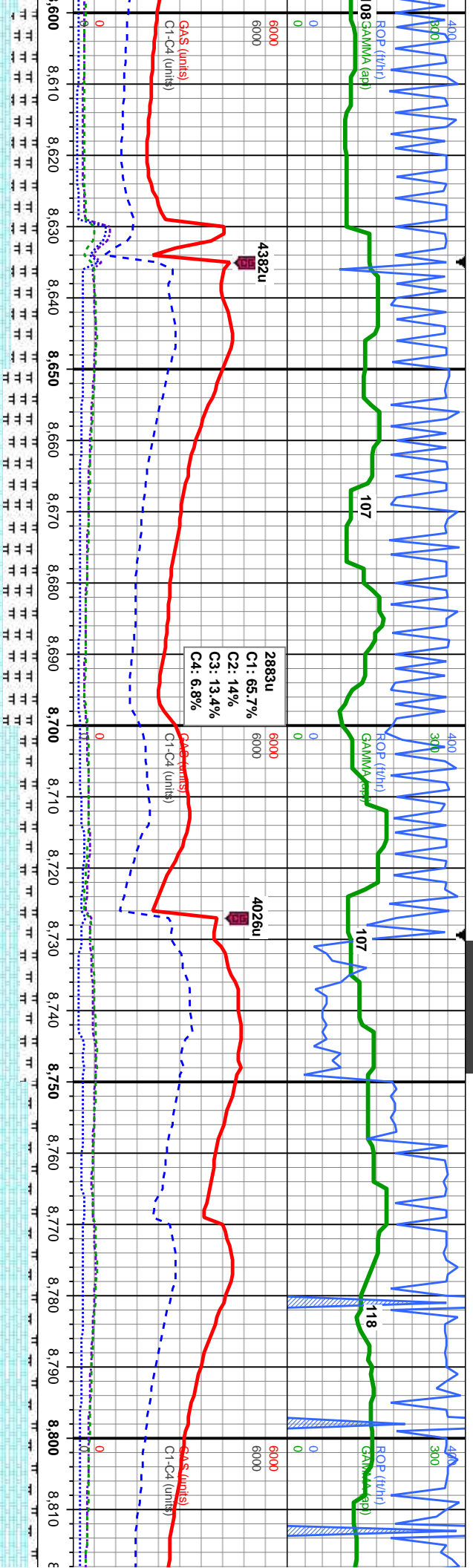
MD: 8,485'  
TVD: 6,081.23'  
Inclination: 91.9°  
Azimuth: 177.3°  
VS: 2,409.34'

MD: 8,580'  
TVD: 6,078.58'  
Inclination: 91.3°  
Azimuth: 178°  
VS: 2,504.3'

CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blk, v calc, cpxl; MRLST: med -dk gy, sft, sft-sb blk, sl mot, fri- brt, v calc; tr fos; mod mky wh string cut, mod thk bl ring cut, no flr

CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blk, v calc, cpxl; MRLST: med -dk gy, sft, sft-v sft, sb ply-sb blk, fri- brt, v calc; mod mky wh string cut, mod thk bl ring cut, no flr



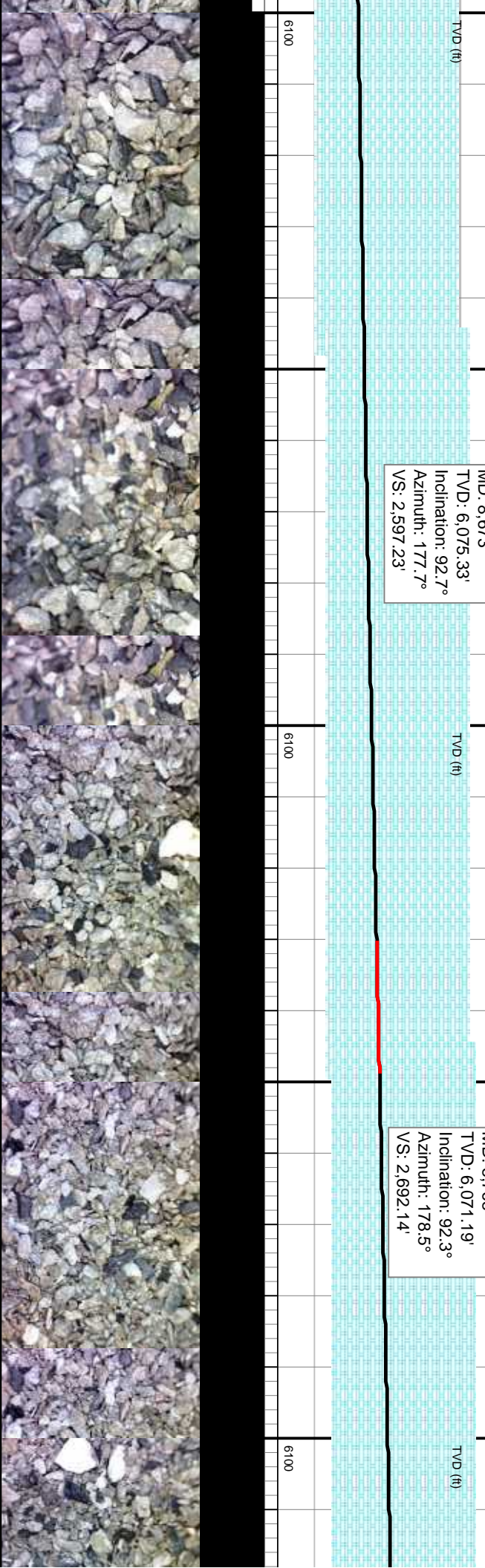


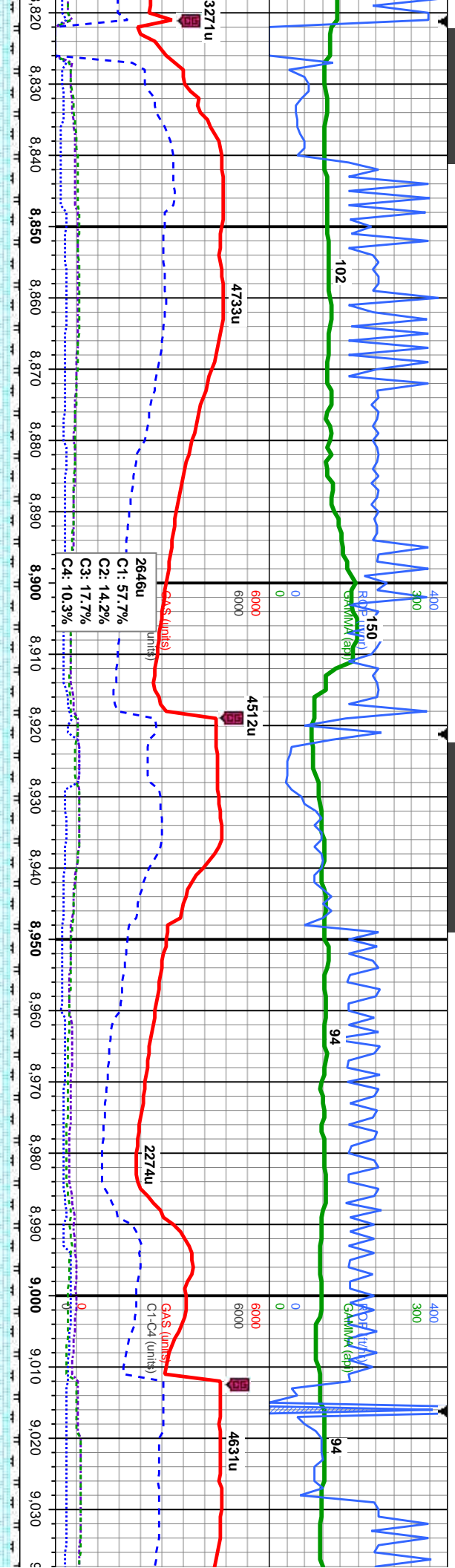
CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blkly, v calc, cpxlx;  
MRLST: med -dk gy, strf, sft-v sft, sb ply-sb blkly, fri- brit, v calc; tr cal;  
bri mky wh string cut, bri thk bl ring cut, no flor

MD: 8,673'  
TVD: 6,075.33'  
Inclination: 92.7°  
Azimuth: 177.7°  
VS: 2,597.23'

CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blkly, v calc, cpxlx;  
MRLST: med -dk gy, strf, sft-v sft, sb ply-sb blkly, fri- brit, v calc; tr cal;  
bri mky wh string cut, bri thk bl ring cut, no flor

MD: 8,768'  
TVD: 6,074.19'  
Inclination: 92.3°  
Azimuth: 178.5°  
VS: 2,692.14'





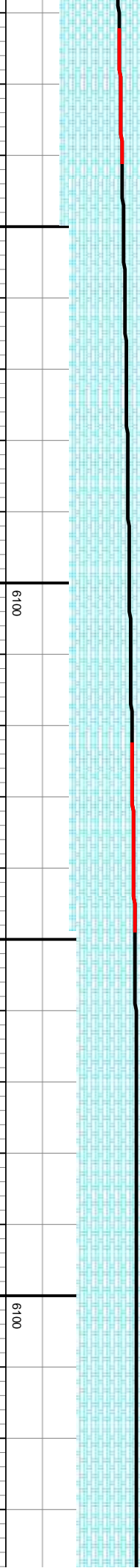
CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blkly, v calc, crptxl;  
MRLST: med -dk gy, strf, sft-v sft, sb ply-sb blkly, fri- brt, v calc; tr cal;  
bri mky wh string cut, bri thk bl ring cut, no flor

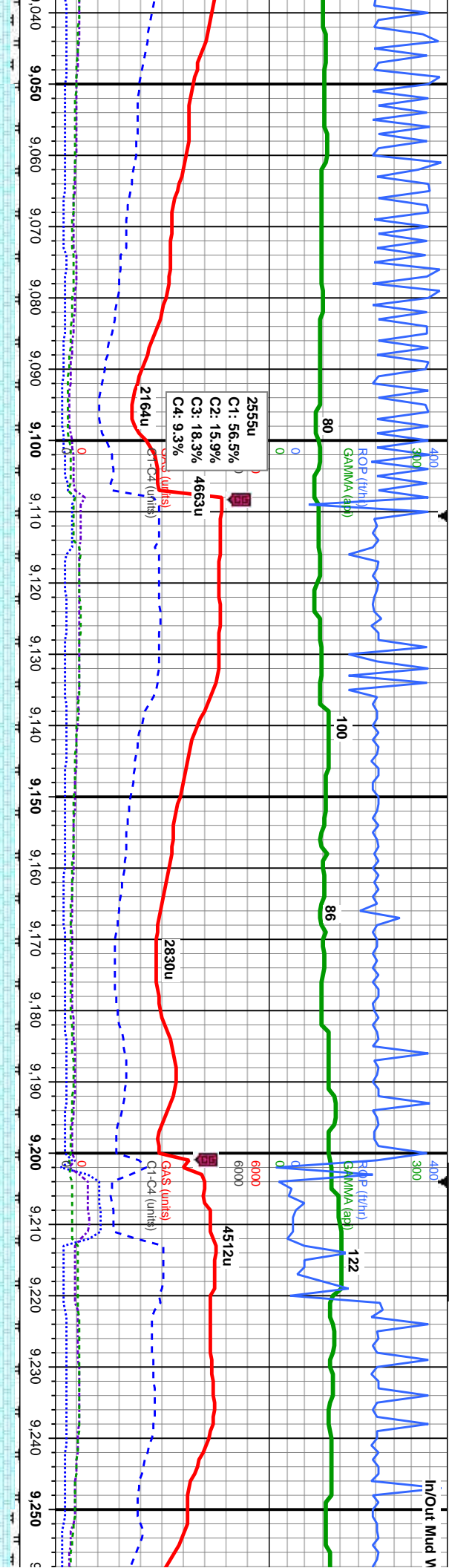
CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blkly, v calc, crptxl;  
MRLST: med -dk gy, strf, sft-v sft, sb ply-sb blkly, fri- brt, v calc; tr cal;  
bri mky wh string cut, bri thk bl ring cut, no flor

CHK: lt-med gy, mot, s  
MRLST: med -dk gy, s  
bri mky wh string cut, b

MD: 8.862'  
TVD: 6,067.09'  
Inclination: 92.7°  
Azimuth: 180°  
VS: 2,786.04'

MD: 8.957'  
TVD: 6,064.27'  
Inclination: 90.7°  
Azimuth: 180.1°  
VS: 2,880.95'



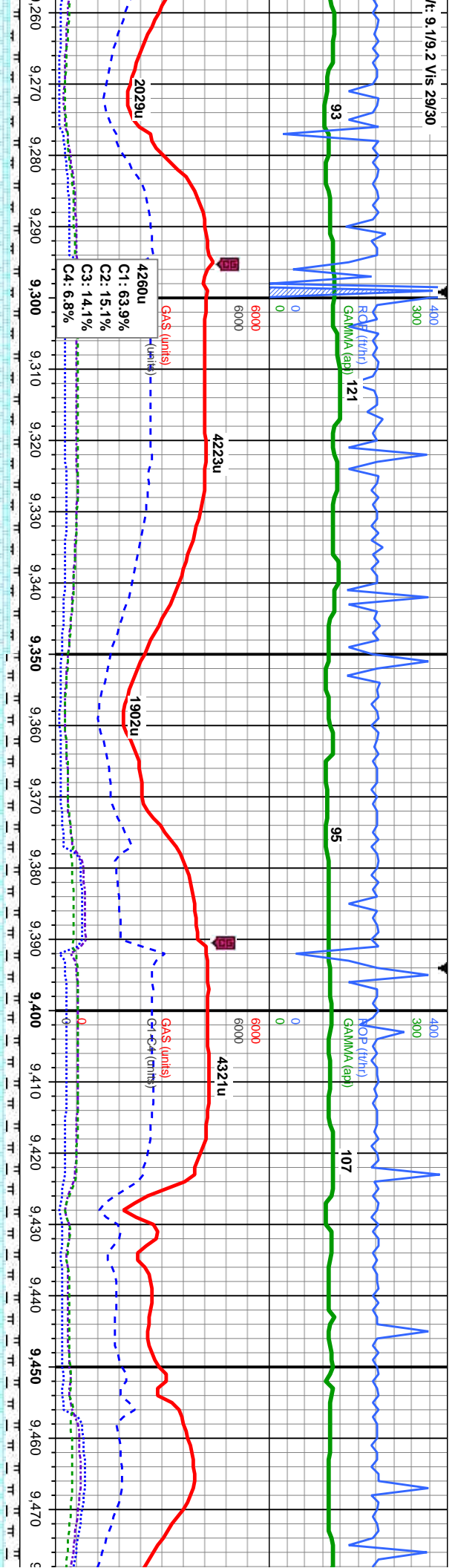


lam, sft-si frm, sb ply-sb blkly, v calc, crpxl;  
MRLST: med -dk gy, sft-v sft, sb ply-sb blkly, fri- brt, v calc; tr cal;  
bri mky wh string cut, bri thk bl ring cut, no flor

MD: 9,051'  
TVD: 6,063.81'  
Inclination: 89.8°  
Azimuth: 178.4°  
VS: 2,974.93'

MD: 9,145'  
TVD: 6,062.9'  
Inclination: 91.3°  
Azimuth: 178.6°  
VS: 3,068.93'

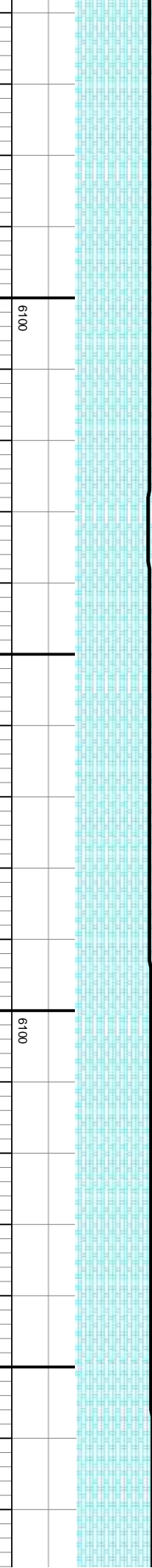


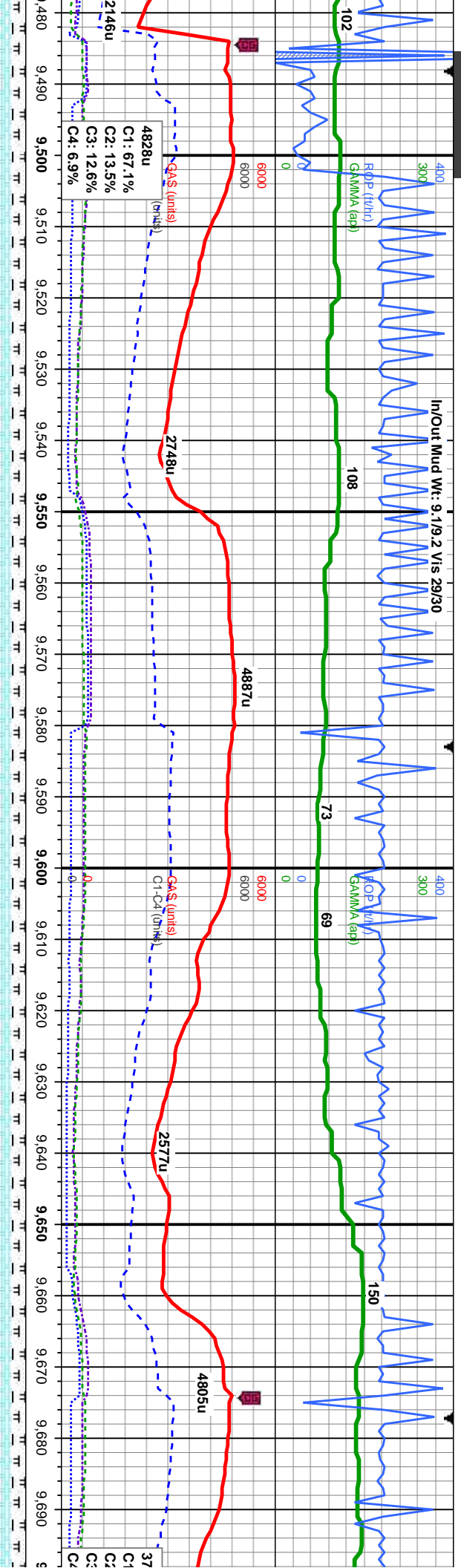


sb blkly, v calc, crpxl;  
blkly, fri- brt, v calc; tr cal;  
CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blkly, v calc, crpxl;  
MRLST: med -dk gy, strf, sft-v sft, sb ply-sb blkly, fri- brt, v calc; tr cal;  
bri mky wh string cut, bri thk bl ring cut, no flor

MD: 9,335'  
TVD: 6,062.32'  
Inclination: 90°  
Azimuth: 177.7°  
VS: 3,258.92'

MD: 9,429'  
TVD: 6,061.67'  
Inclination: 90.8°  
Azimuth: 177.5°  
VS: 3,352.91'



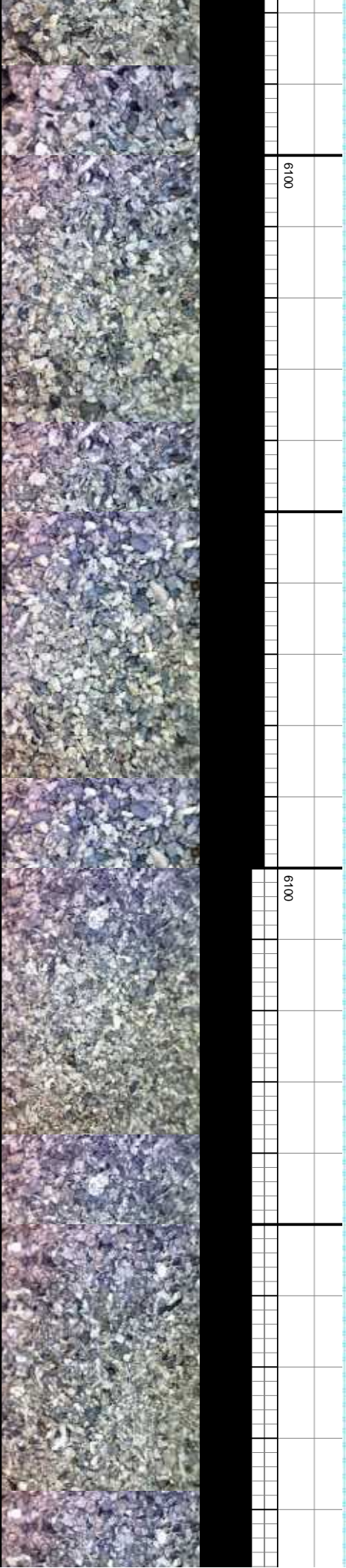


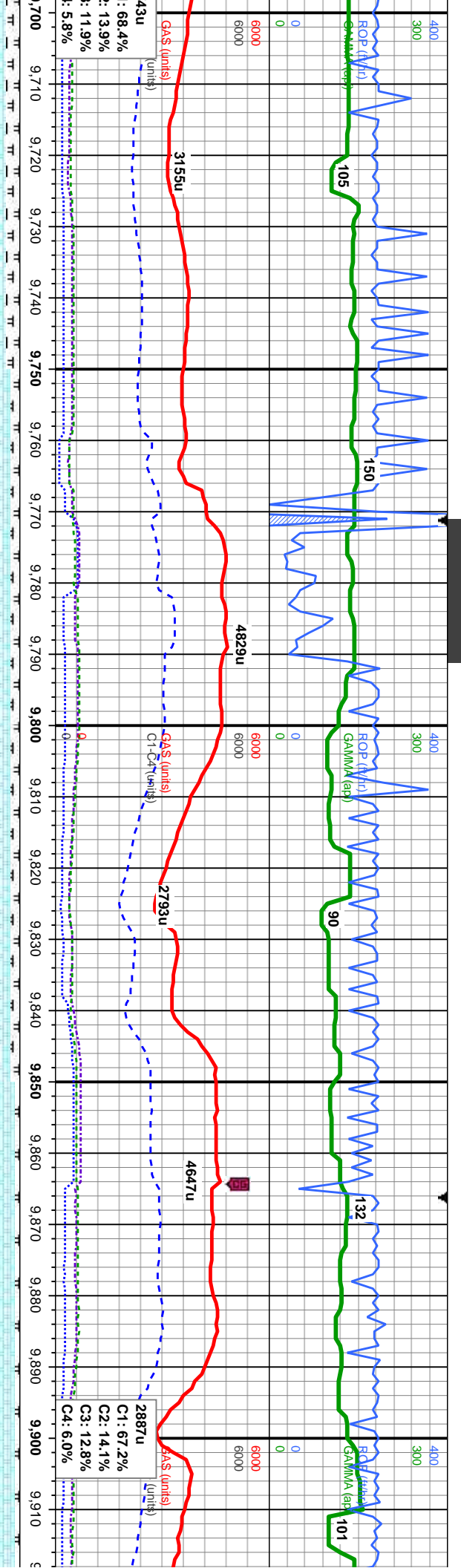
6000  
CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blk, v calc, cpxxl;  
MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, fri- brt, v calc; tr cal;  
bri mky wh sting cut, bri thk bl ring cut, no flor

TVD (ft)  
MD: 9,523'  
TVD: 6,061.18'  
Inclination: 89.8°  
Azimuth: 178.2°  
VS: 3,446.9'

6000  
CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blk, v calc, cpxxl; MRLST: med -dk gy, stri,  
sft-v sft, sb ply-sb blk, fri- brt, v calc; tr cal; mod mky wh sting cut, bri mod thk bl ring cut,  
no flor

TVD (ft)  
MD: 9,618'  
TVD: 6,061.26'  
Inclination: 90.1°  
Azimuth: 178.4°  
VS: 3,541.9'





6000 CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blk, v calc, crpxl; MRLST: med -dk gy, stri,  
sft-v sft, sb ply-sb blk, fri- brit, v calc; tr cal; mod mky wh sting cut, bri mod thk bl ring cut,  
no flor

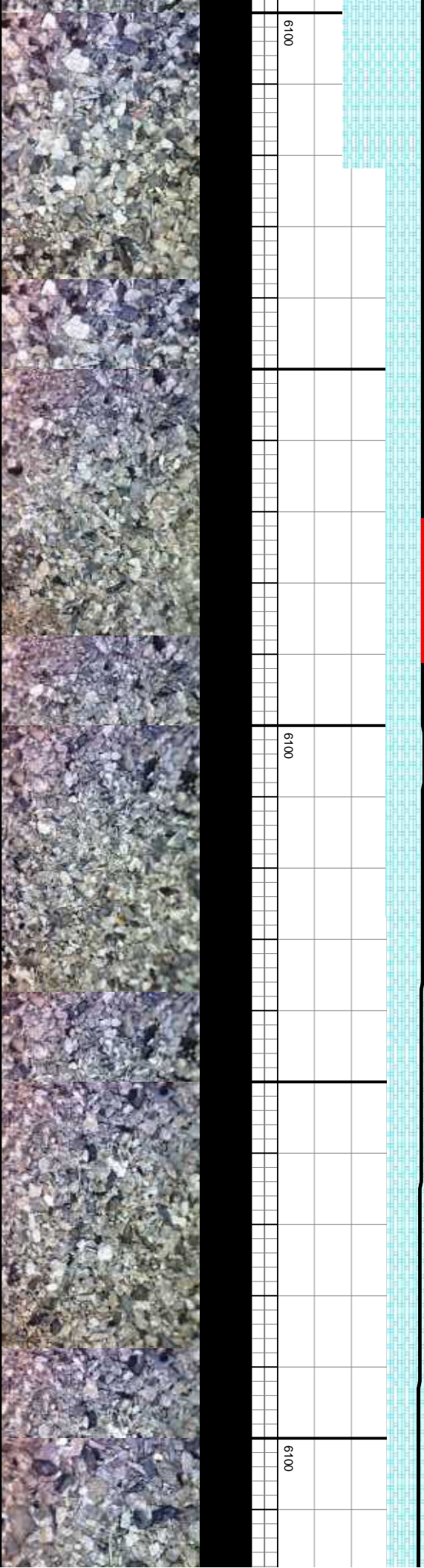
MD: 9,712'  
TVD: 6,060.19'  
Inclination: 91.2°  
Azimuth: 178.2°  
VS: 3,635.89'

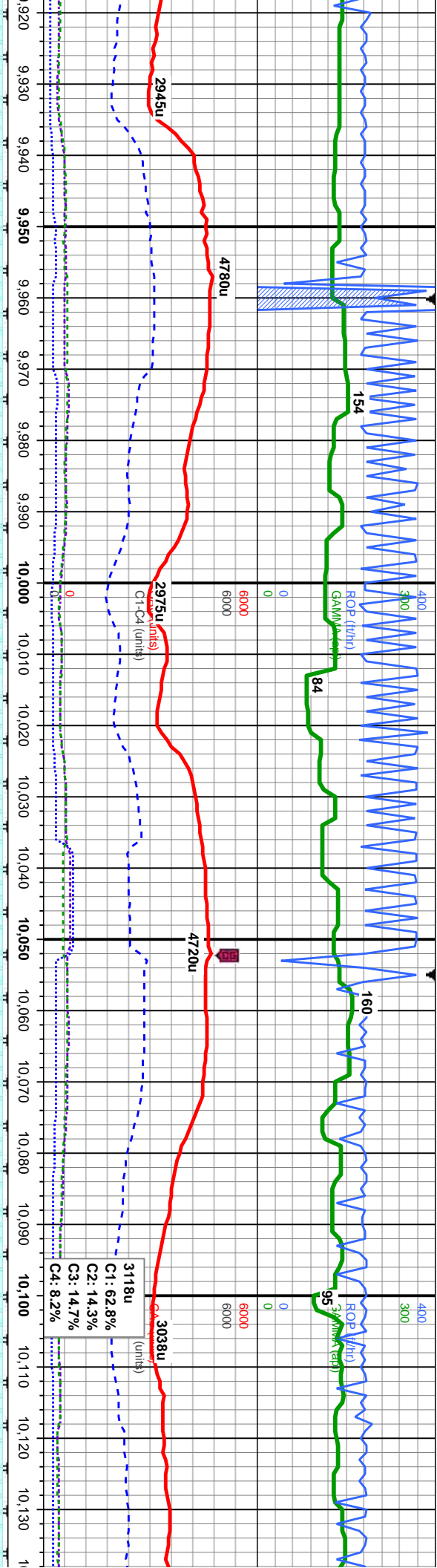
6000 CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blk, v calc, crpxl; MRLST: med -dk gy, stri,  
sft-v sft, sb ply-sb blk, fri- brit, v calc; tr cal; mod mky wh sting cut, bri mod thk bl ring cut,  
no flor

MD: 9,807'  
TVD: 6,059.94'  
Inclination: 89.1°  
Azimuth: 178.3°  
VS: 3,730.88'

6000 CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blk, v calc, crpxl; MRLST: med -dk gy, stri,  
sft-v sft, sb ply-sb blk, fri- brit, v calc; tr cal; mod mky wh sting cut, bri mod thk bl ring cut,  
no flor

MD: 9,901'  
TVD: 6,061.26'  
Inclination: 89.3°  
Azimuth: 177.9°  
VS: 3,824.87'





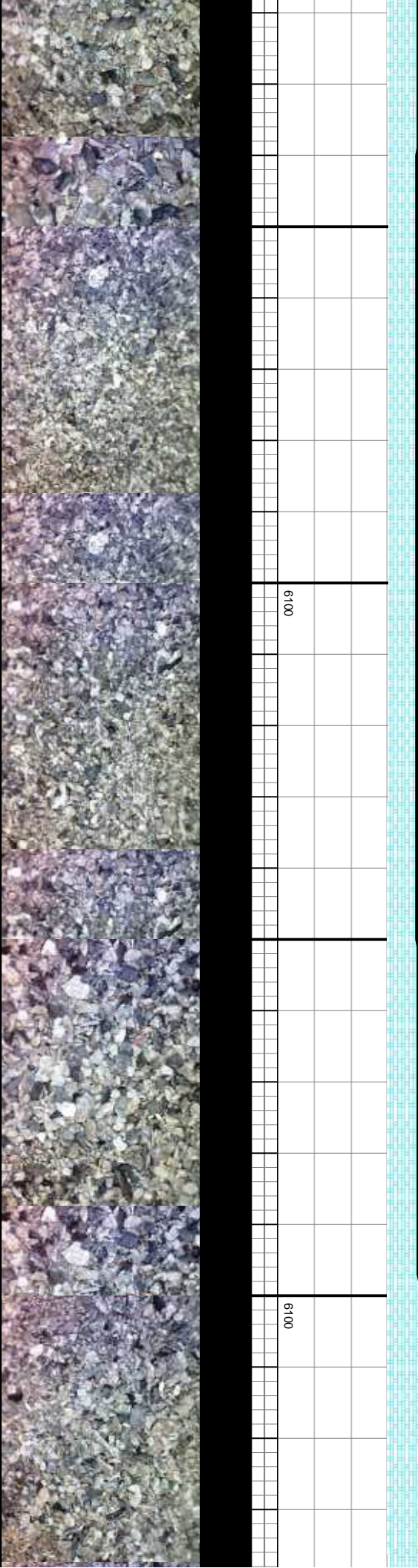
gy, mot, sl lam, sft-sl frm, sb ply-sb blk, v calc, crpxl; MRLST: med -dk gy, stri,  
ply-sb blk, fri- brt, v calc; tr cal; mod mky wh string cut, bri mod thk bl ring cut,

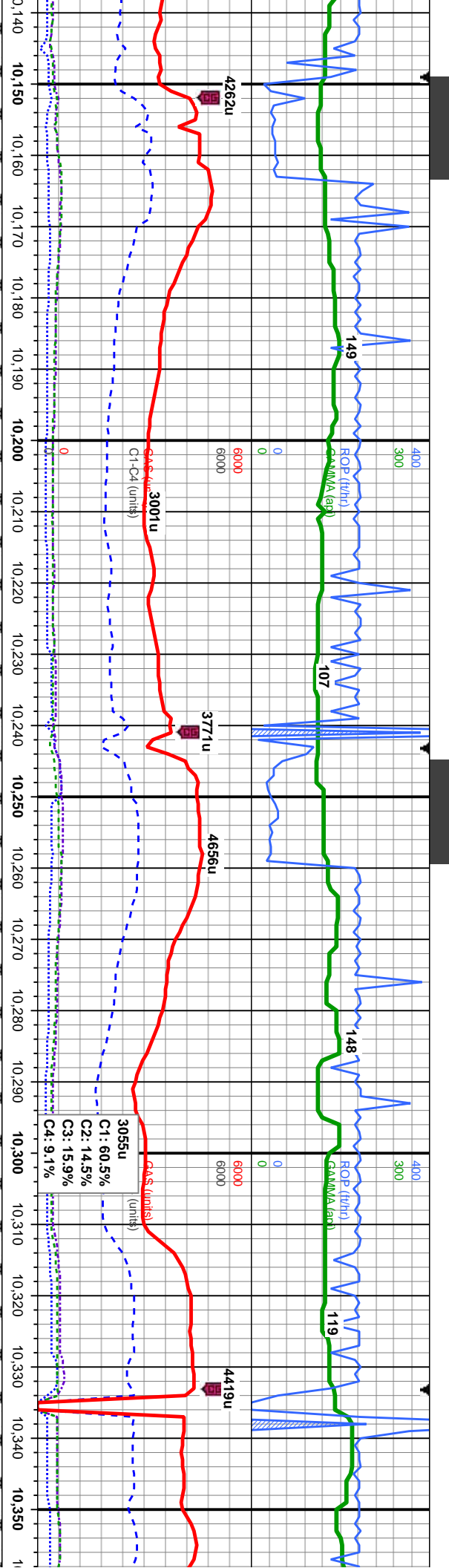
MD: 9,995'  
TVD: 6,061.91'  
Inclination: 89.9°  
Azimuth: 177.9°  
VS: 3,918.87'  
(ft)

6000 CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blk, v calc, crpxl; MRLST: med -dk gy, stri,  
sft-v sft, sb ply-sb blk, fri- brt, v calc; tr cal; mod mky wh string cut, bri mod thk bl ring cut, tr  
flor

MD: 10,090'  
TVD: 6,061.25'  
Inclination: 90.9°  
Azimuth: 177.1°  
VS: 4,013.85'  
TVD (ft)

6000 CHK: lt-med gy, mot, sl lam, sft-s  
sft-v sft, sb ply-sb blk, fri- brt, v  
no flor





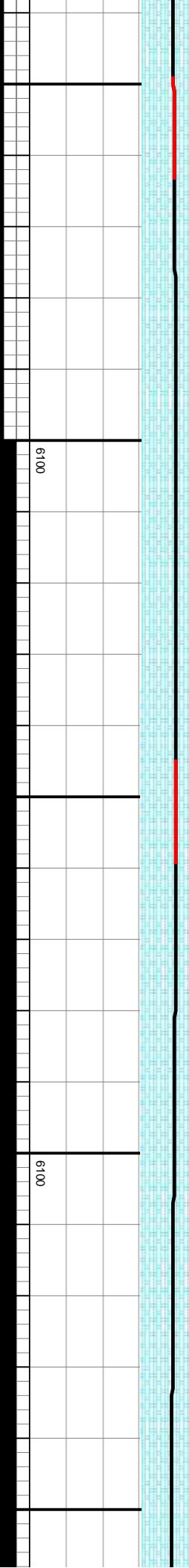
frm, sb ply-sb blk, v calc, crptk; MRLST: med-dk gy, stri,  
calc; tr cal; mod mky wh string cut, bri mod thk bl ring cut,

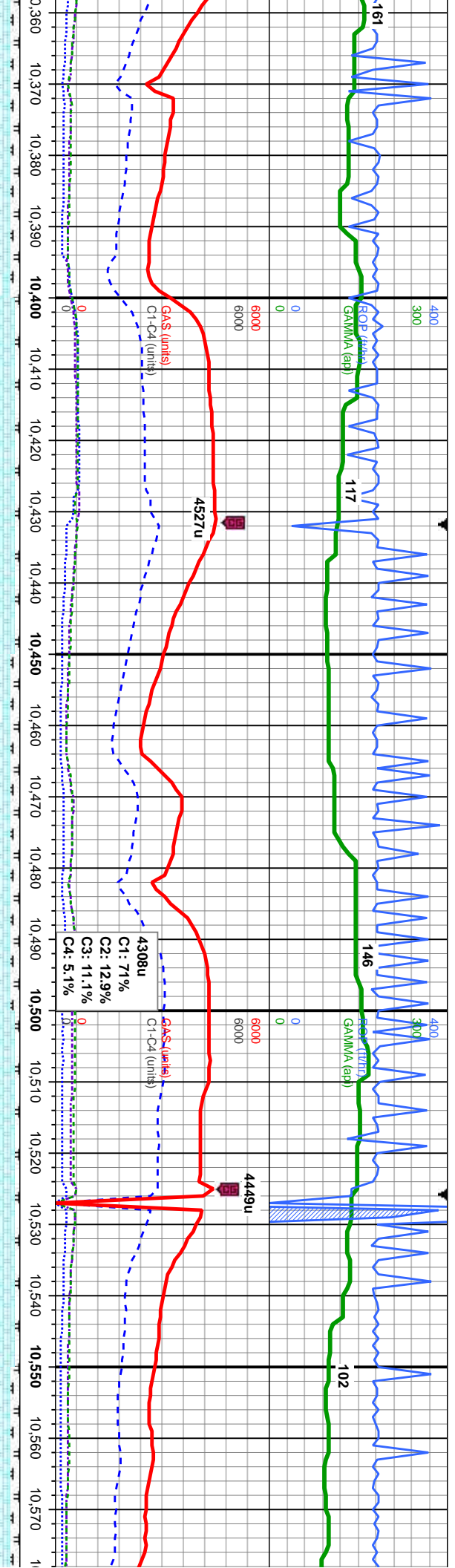
CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blk, v calc, crptk; MRLST: med-dk gy, stri,  
sft-v sft, sb ply-sb blk, fri- brit, v calc; tr cal; bri mky wh string cut, bri thk bl ring cut, tr flr

CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blk, v  
sft-v sft, sb ply-sb blk, fri- brit, v calc; tr cal; bri mky wh

MD: 10,184'  
TVD: 6,059.85'  
Inclination: 90.8°  
Azimuth: 178.2°  
VS: 4,107.83'

MD: 10,279'  
TVD: 6,059.94'  
Inclination: 89.1°  
Azimuth: 178.9°  
VS: 4,202.83'





calc, cpxl: MRLST: med-dk gy, stri,  
sting cut, bri thk bl ring cut, tr floor

CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blk, v calc, cpxl: MRLST: med-dk gy, stri,  
sft-v sft, sb ply-sb blk, fri- brit, v calc; tr cal; bri mky wh sting cut, bri thk bl ring cut, no flor

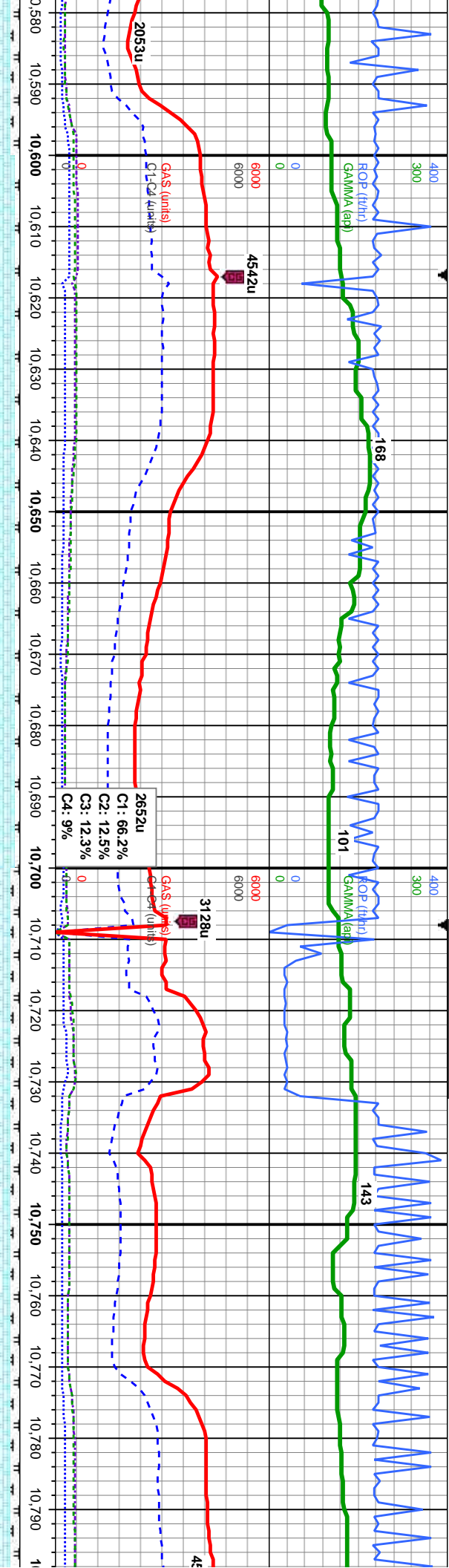
MD: 10,374'  
TVD: 6,061.35'  
Inclination: 89.2°  
Azimuth: 178.5°  
VS: 4,297.81'

MD: 10,469'  
TVD: 6,062.51'  
Inclination: 89.4°  
Azimuth: 178.3°  
VS: 4,392.81'

MD: 10,560'  
TVD: 6,062.83'  
Inclination: 90.2°  
Azimuth: 178.6°  
VS: 4,483.81'

TVD (ft)	6100	6100	6100
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6000  
CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blkly, v calc, crptxt: MRLST: med -dk gy, stri,  
sft-v sft, sb ply-sb blkly, fri- brit, v calc; tr cal; bri mky wh sting cut, bri thk bl ring cut, tr flor

MD: 10,651'  
TVD: 6,060.76'  
Inclination: 92.4°  
Azimuth: 178.6°  
VS: 4,574.78'

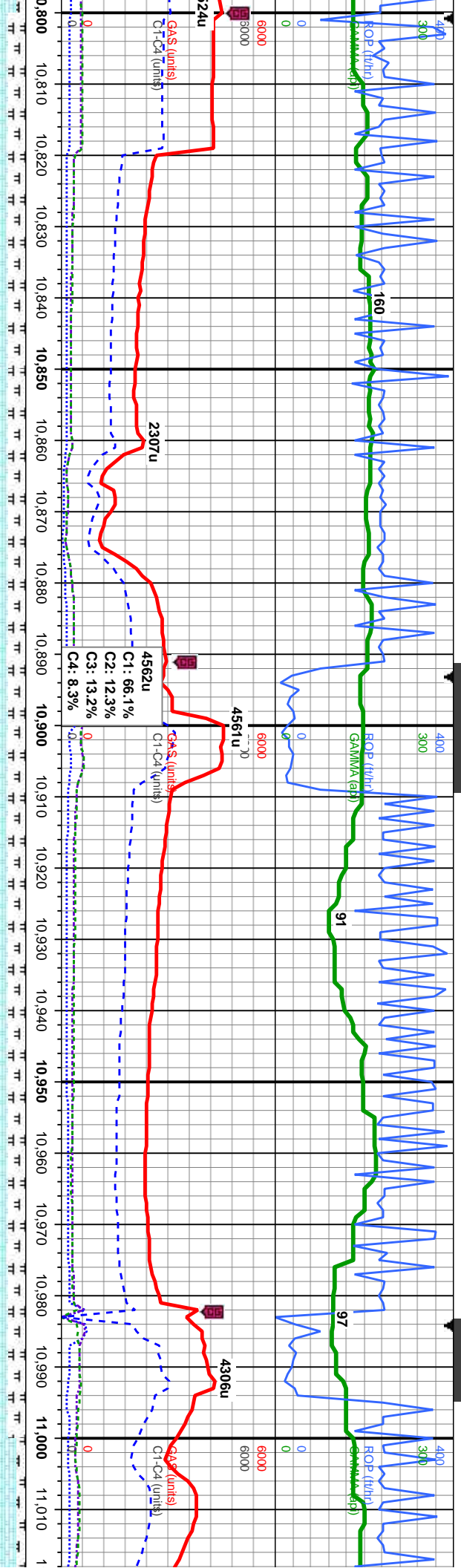
TVD (ft)

6000  
CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blkly, v calc, crptxt: MRLST: med -dk gy, stri,  
sft-v sft, sb ply-sb blkly, fri- brit, v calc; tr cal; bri mky wh sting cut, bri thk bl ring cut, tr flor

MD: 10,743'  
TVD: 6,058.75'  
Inclination: 90.1°  
Azimuth: 179.3°  
VS: 4,666.74'

TVD (ft)





CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blkly, v calc, crpxl; MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brit, v calc; tr cal; bri mky wh stmg cut, bri thk bl ring cut, tr floor

CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blkly, v calc, crpxl; MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brit, v calc; tr cal; bri mky wh stmg cut, bri thk bl ring cut, tr floor

CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blkly, v calc, crpxl; MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brit, v calc; tr cal; bri mky wh stmg cut, bri thk bl ring cut, tr floor

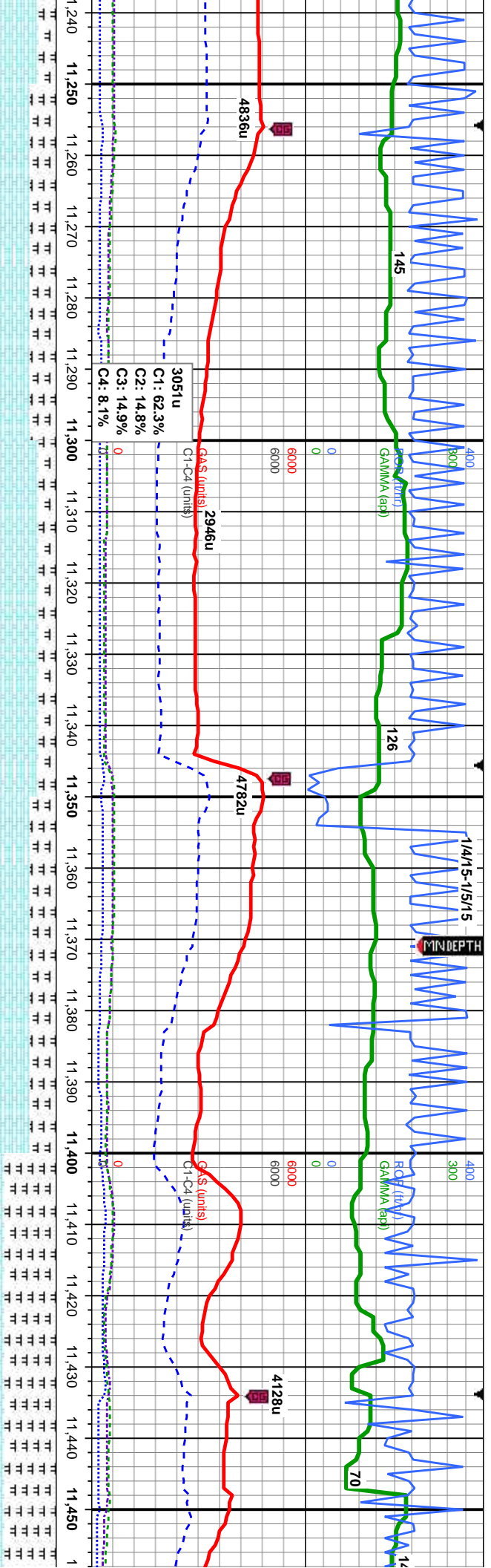
MD: 10,834'  
TVD: 6,057.88'  
Inclination: 91°  
Azimuth: 179.4°  
VS: 4,757.73'

MD: 10,925'  
TVD: 6,058.75'  
Inclination: 87.9°  
Azimuth: 179.4°  
VS: 4,848.7'

MD: 11,011'  
TVD: 6,061.01'  
Inclination: 87.9°  
Azimuth: 179.4°  
VS: 4,939.7'







MD: 11,288'  
TVD: 6,065.42'  
Inclination: 89.5°  
Azimuth: 177.9°  
VS: 5,211.61'

MD: 11,379'  
TVD: 6,065.34'  
Inclination: 90.6°  
Azimuth: 177.6°  
VS: 5,302.6'

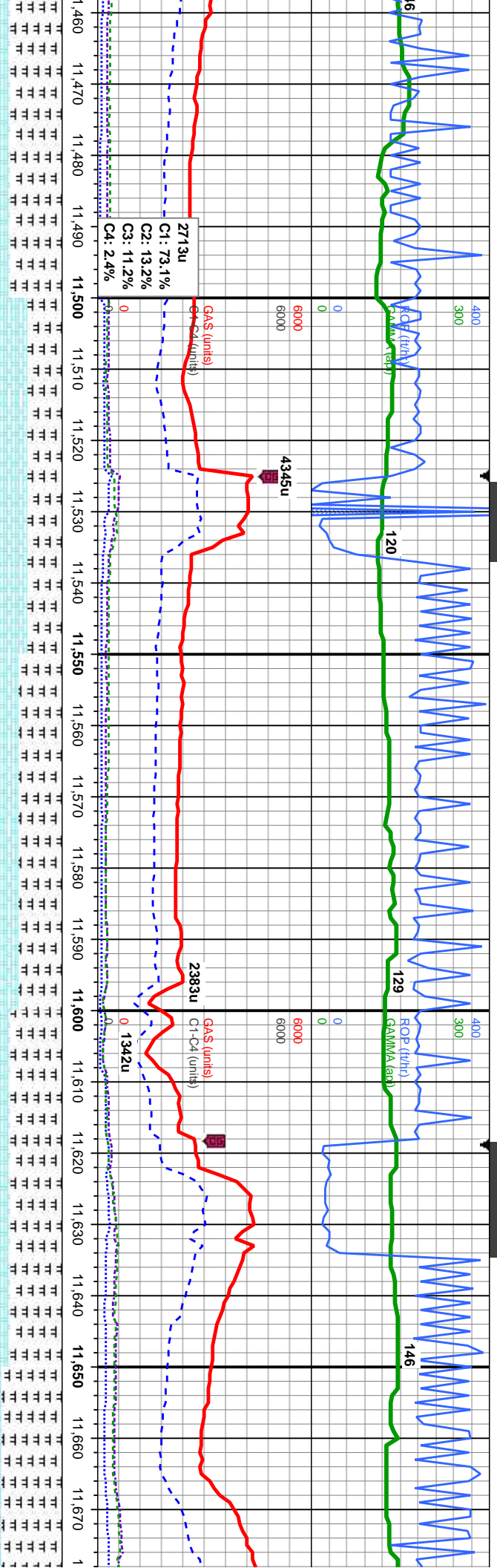
6000 CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blk, v calc, crpxl; MRLST: med-dk gy, sft, calc; tr cat; brt mky wh string cut, brt thk bl ring cut, no flr

6100

6000 CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blk, v calc, crpxl; MRLST: med-dk gy, sft, calc; tr cat; brt mky wh string cut, brt thk bl ring cut, no flr

6100





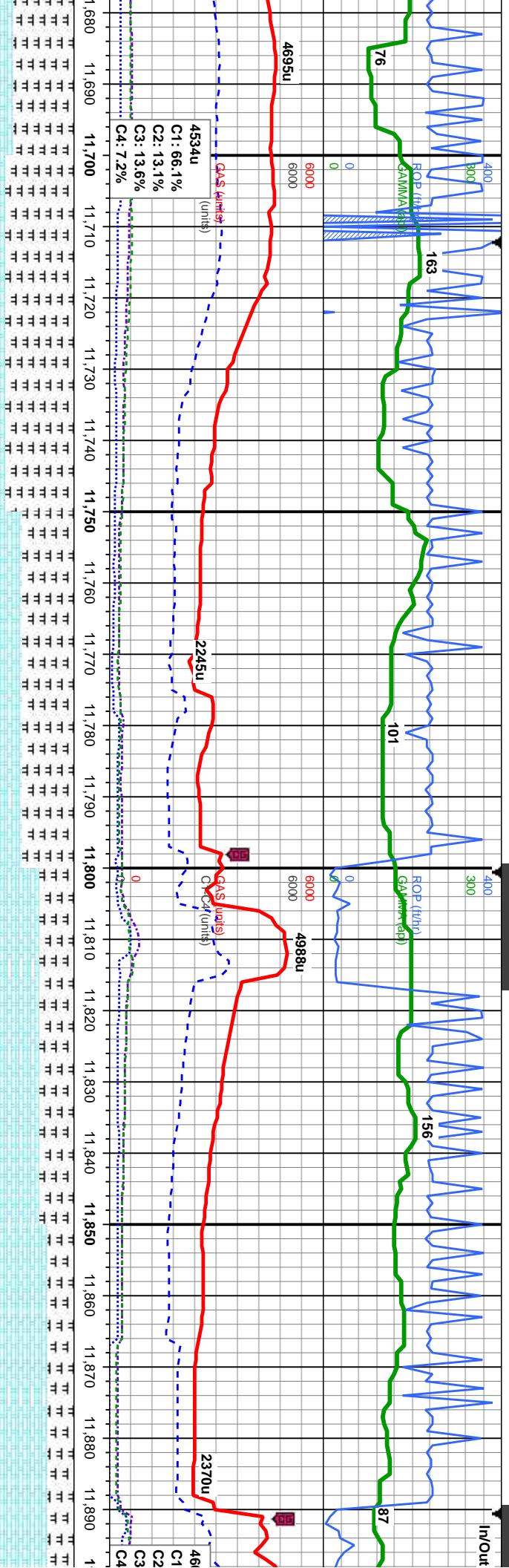
MD: 11,471'  
TVD: 6,063.58'  
Inclination: 91.6°  
Azimuth: 177.3°  
VS: 5,394.57'

MD: 11,561'  
TVD: 6,061.14'  
Inclination: 91.5°  
Azimuth: 177.2°  
VS: 5,484.52'

MD: 11,651'  
TVD: 6,059.57'  
Inclination: 90.5°  
Azimuth: 178.6°  
VS: 5,574.5'

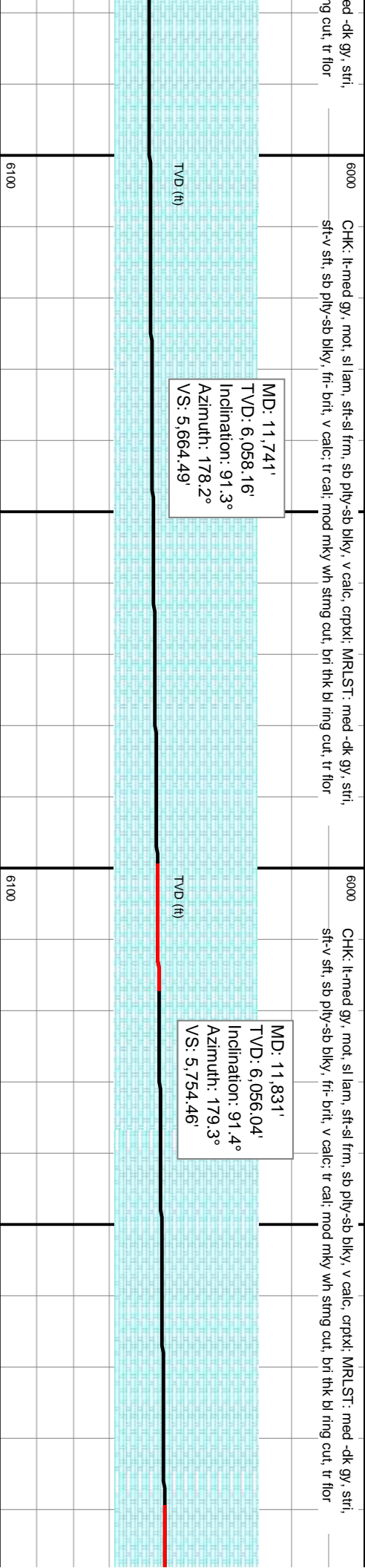
6000	CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blkly, v calc, cpxyl: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brlt, v calc; tr cal; mod mky wh stmg cut, bri thk bl ring cut, tr flr	6100
6000	CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blkly, v calc, cpxyl: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blkly, fri- brlt, v calc; tr cal; mod mky wh stmg cut, bri thk bl ring cut, tr flr	6100



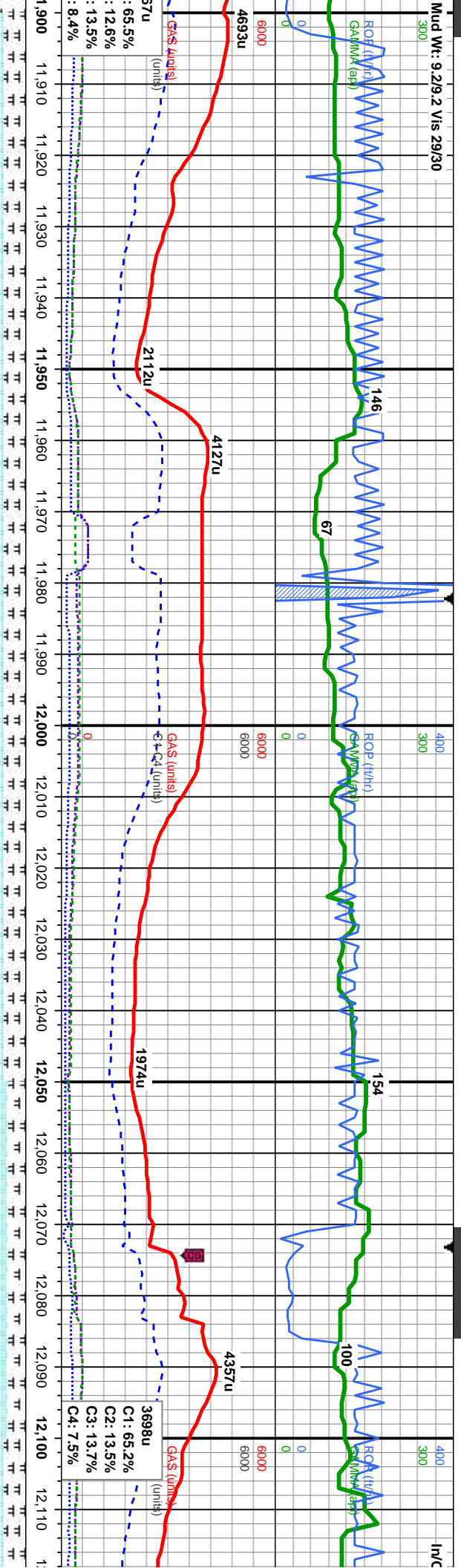


MD: 11,741'  
TVD: 6,058.16'  
Inclination: 91.3°  
Azimuth: 178.2°  
VS: 5,664.49'

MD: 11,831'  
TVD: 6,056.04'  
Inclination: 91.4°  
Azimuth: 179.3°  
VS: 5,754.46'



Mud Wt: 9.2/9.2 Vis 29/30



CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blk, v calc, crptxl; MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, fri- brit, v calc; tr cal; mod mky wh stmg cut, bri thk bl ring cut, tr flr

MD: 11,922'  
TVD: 6,054.13'  
Inclination: 91°  
Azimuth: 179.8°  
VS: 5,845.42'

TVD (ft)

MD: 12,013'  
TVD: 6,052.31'  
Inclination: 91.3°  
Azimuth: 179.8°  
VS: 5,936.38'

TVD (ft)

CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blk, v calc, crptxl; MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, fri- brit, v calc; tr cal; mod mky wh stmg cut, bri thk bl ring cut, tr flr

TVD (ft)

MD: 12,105'  
TVD: 6,051.1'  
Inclination: 90.2°  
Azimuth: 180.2°  
VS: 6,028.33'

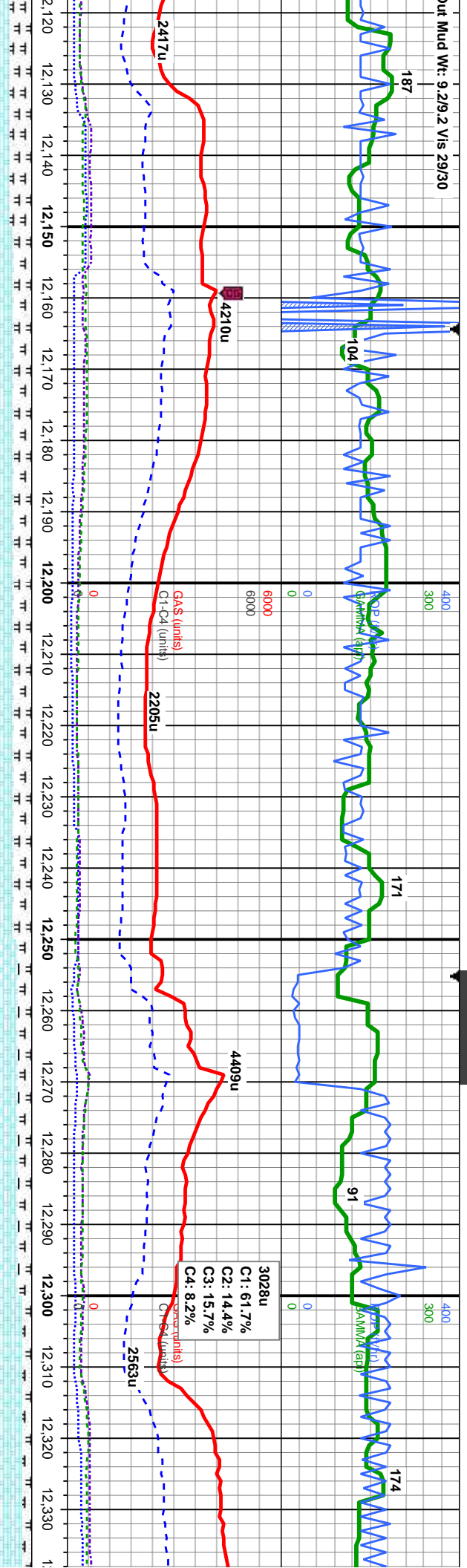
TVD (ft)

CHK: lt-me  
sft-v sft, sb

TVD (ft)



but Mud Wt: 9.2/9.2 Vis 29/30



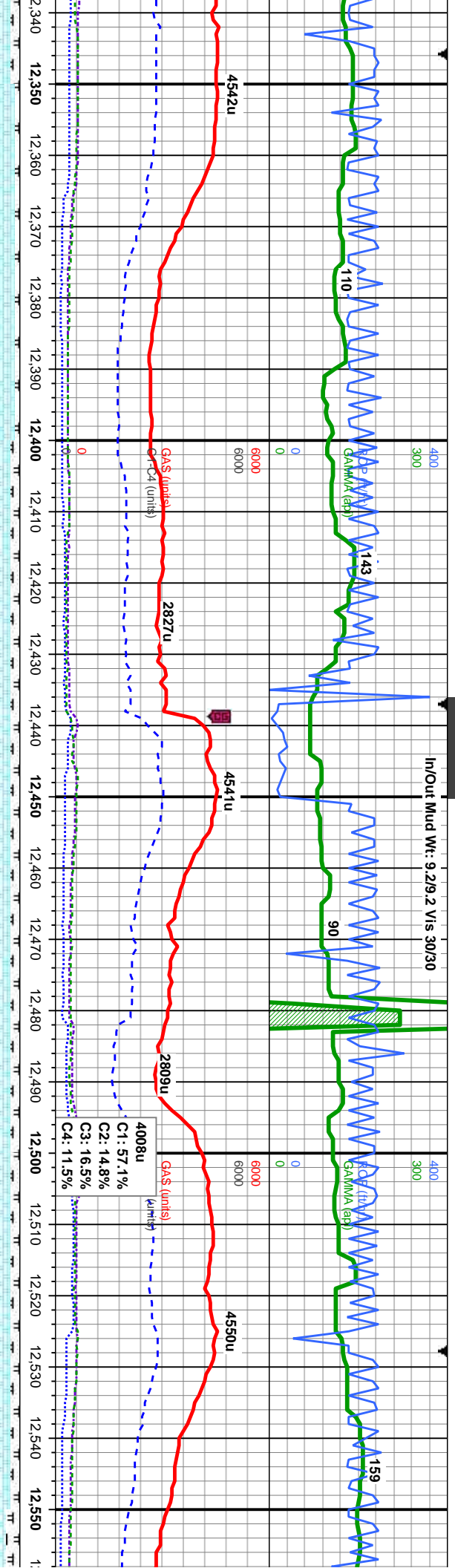
MD: 12,196'  
TVD: 6,049.75'  
Inclination: 91.5°  
Azimuth: 180.2°  
VS: 6,119.28'

MD: 12,286'  
TVD: 6,048.42'  
Inclination: 90.2°  
Azimuth: 179.9°  
VS: 6,209.23'

ply-sb blkly, fir- brit, v calc; tr cal; mod mky wh smg cut, bri thk bl ring cut, tr flor	
CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blkly, v calc, crptxl; MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blkly, fir- brit, v calc; tr cal; dull mky wh smg cut, bri mod thk bl ring cut, no flor	6100



In/Out Mud Wt: 9.2/9.2 Vis 30/30



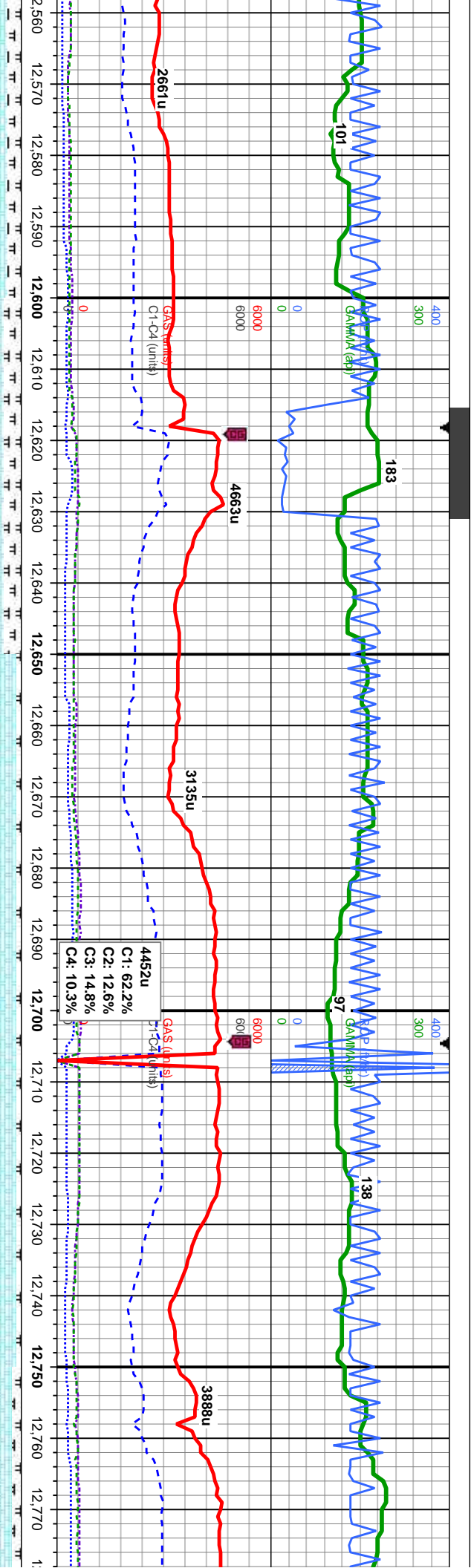
MD: 12,377'  
TVD: 6,047.7'  
Inclination: 90.7°  
Azimuth: 179.3°  
VS: 6,300.2'

MD: 12,468'  
TVD: 6,046.83'  
Inclination: 90.4°  
Azimuth: 179.5°  
VS: 6,391.19'

MD: 12,550'  
TVD: 6,046.83'  
Inclination: 90.4°  
Azimuth: 179.5°  
VS: 6,480.0'

TVD (ft)	
6100	floor
CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blk, v calc, crpxl: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, frt- brt, v calc; tr cal: dull mky wh string cut, bri mod thk bl ring cut, no	
6100	floor
CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blk, v calc, crpxl: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, frt- brt, v calc; tr cal: dull mky wh string cut, bri mod thk bl ring cut, tr	
6100	floor
CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blk, v calc, crpxl: MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, frt- brt, v calc; tr cal: dull mky wh string cut, bri mod thk bl ring cut, tr	
6100	floor





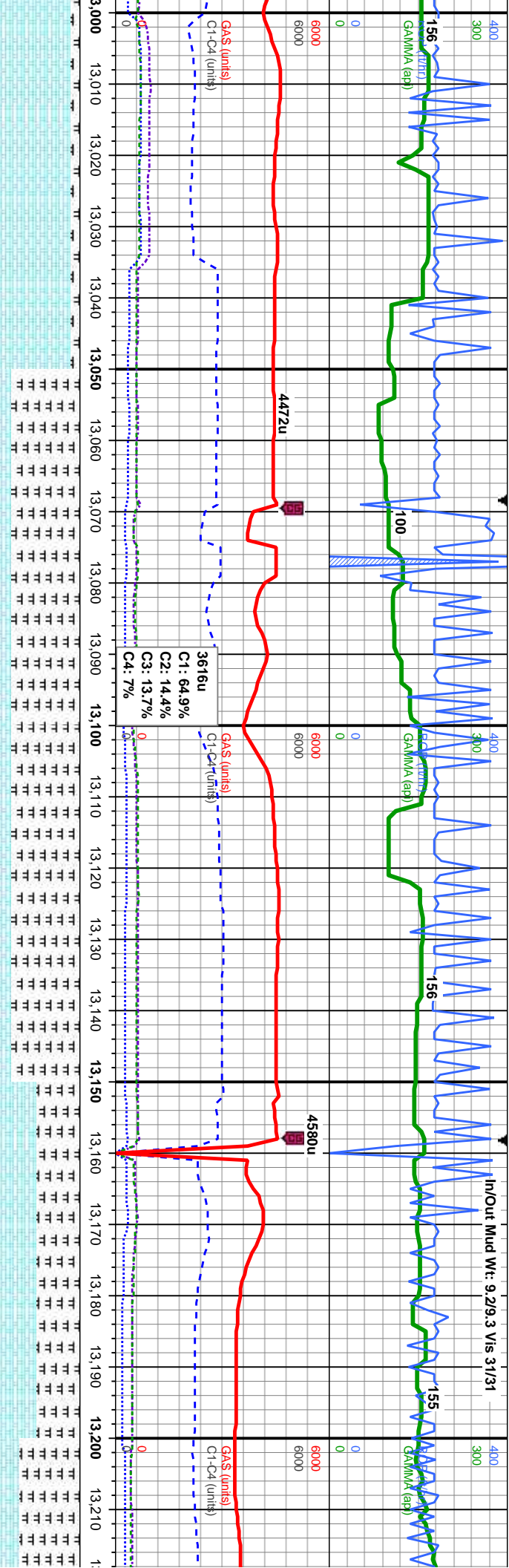
MD: 12,649'  
TVD: 6,045.81'  
Inclination: 89.3°  
Azimuth: 179.6°  
VS: 6,572.15'

MD: 12,739'  
TVD: 6,046.51'  
Inclination: 89.8°  
Azimuth: 179.3°  
VS: 6,662.13'

TVD (ft)	
6100	6100
CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blk, v calc, crptxl, MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, frt- brt, v calc, tr cal, dull mky wh stmg cut, bri mod thk bl ring cut, tr	
6100	6100
CHK: lt-med gy, mot, sl lam, sft-sl frm, sb ply-sb blk, v calc, crptxl, MRLST: med -dk gy, stri, sft-v sft, sb ply-sb blk, frt- brt, v calc, tr cal, mky bl-wh stmg cut, cut, no flr	
6100	6100







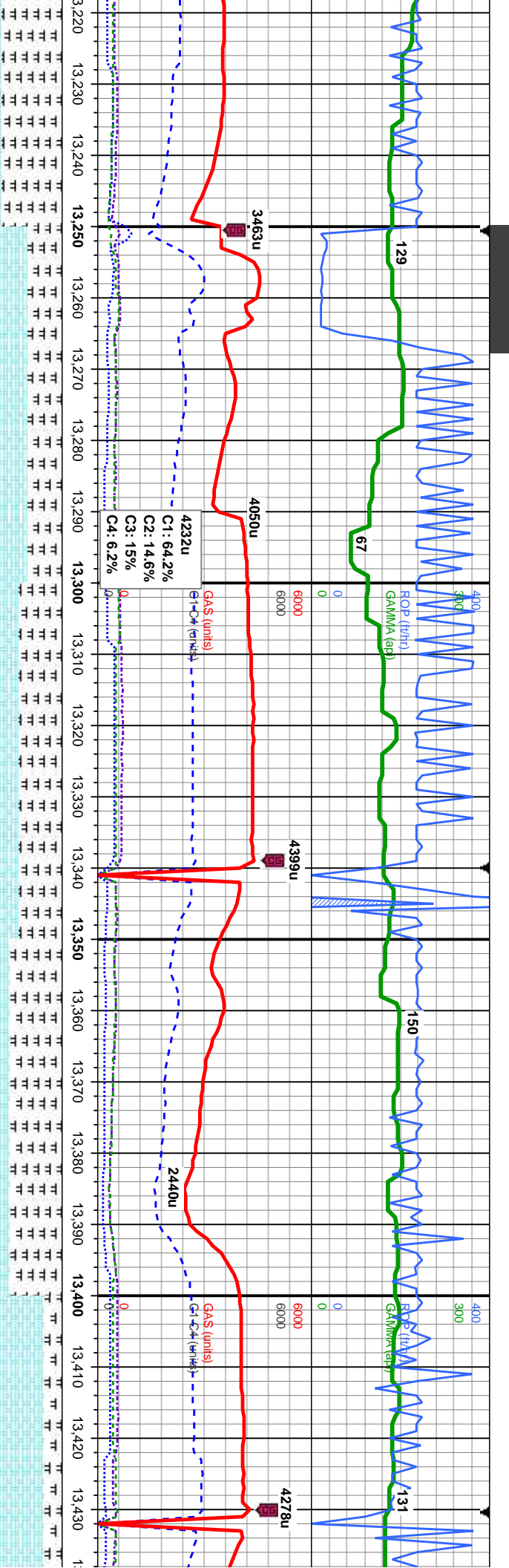
MD: 13,011'  
TVD: 6,046.51'  
Inclination: 89.4°  
Azimuth: 178°  
VS: 6,934.12'

MD: 13,102'  
TVD: 6,047.23'  
Inclination: 89.7°  
Azimuth: 177.2°  
VS: 7,025.11'

MD: 13,193'  
TVD: 6,048.42'  
Inclination: 88.8°  
Azimuth: 176.5°  
VS: 7,116.06'

TVD (ft)		TVD (ft)		TVD (ft)	
6100	CHK: lt-med gy, mot, sft-sl frm, sb ply-sb blkly, v calc, cpxl; MRLST: med -dk gy, stri, sft-sl frm, sb ply-sb blkly, fir- brit, v calc; mod clay; mky bl-wh stmg cut, bri thk bl ring cut, no flr	6100	CHK: lt-med gy, mot, sft-sl frm, sb ply-sb blkly, v calc, cpxl; MRLST: med -dk gy, stri, sft-sl frm, sb ply-sb blkly, fir- brit, v calc; mod clay; mky bl-wh stmg cut, bri thk bl ring cut, no flr	6100	CHK: lt-med gy, mot, sft-sl frm, sb ply-sb blkly, v calc, cpxl; MRLST: med -dk gy, stri, sft-sl frm, sb ply-sb blkly, fir- brit, v calc; mod clay; mky bl-wh stmg cut, bri thk bl ring cut, no flr





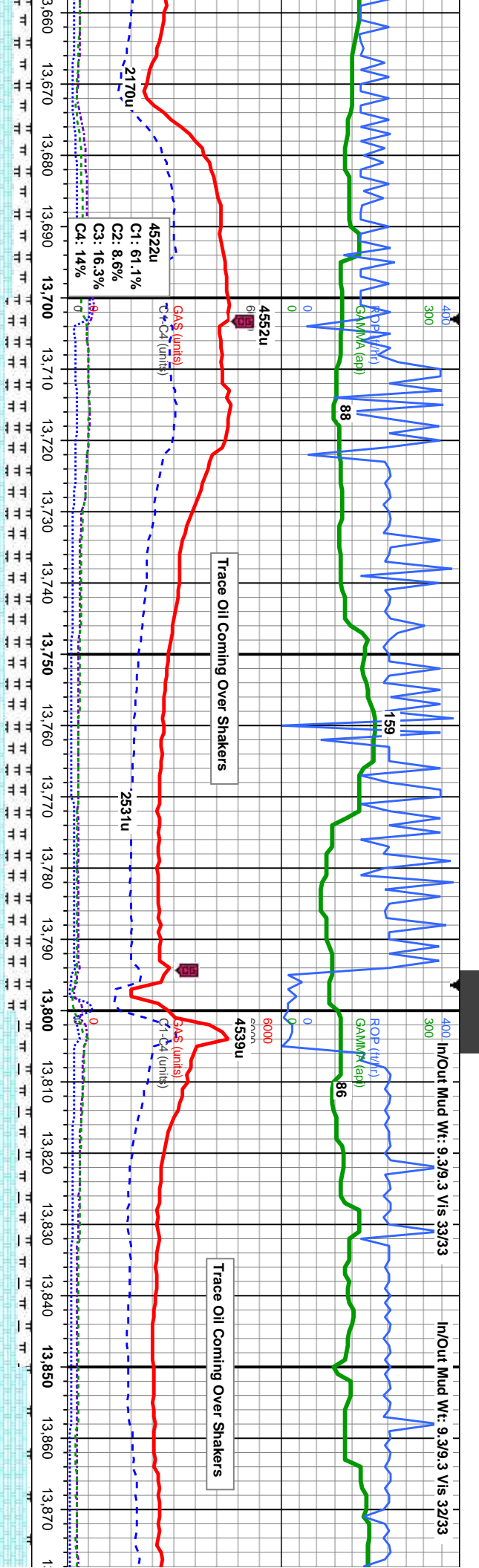
MD: 13,283'  
TVD: 6,048.66'  
Inclination: 90.9°  
Azimuth: 176.6°  
VS: 7,206.01'

MD: 13,374'  
TVD: 6,047.62'  
Inclination: 90.4°  
Azimuth: 175.7°  
VS: 7,296.93'

TVD (ft)	
6100	
IL-med gy, mot, sft-sl frm, sb ply-sb blkly, v calc, crptxl, MRLST: med -dk gy, stri, frm, sb ply-sb blkly, fir- brit, v calc; tr fos; slow mky wh string cut, bri thk bl ring cut, tr flr	
6100	
CHK: IL-med gy, mot, sft-sl frm, sb ply-sb blkly, v calc, crptxl, MRLST: med -dk gy, stri, sft-sl frm, sb ply-sb blkly, fir- brit, v calc; tr fos; dull mky wh string cut, bri mod thk bl ring cut, tr flr	
6100	
CHK: IL-med gy, r med-dk gy, stri, sft-sl frm, sb ply-sb blkly, fir- brit, v calc; tr fos; dull mky wh string cut, bri mod thk bl ring cut, tr flr	





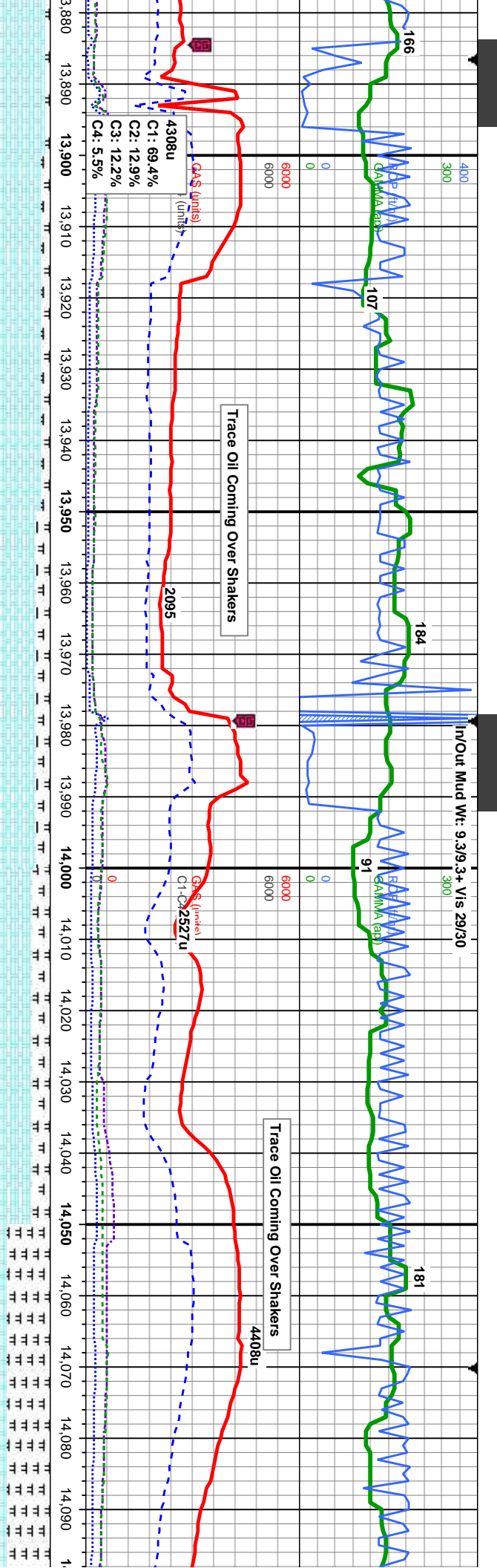


MD: 13,737'  
TVD: 6,045.96'  
Inclination: 89.9°  
Azimuth: 176.2°  
VS: 7,659.62'

MD: 13,827'  
TVD: 6,045.88'  
Inclination: 90.2°  
Azimuth: 177.2°  
VS: 7,749.58'

TVD (ft)	
6100	6100
CHK: lt-med gy, mot, sl frm, sb ply-sb blk, v calc, cpkx: MRLST: med-dk gy, stri, sft-sl frm, sb ply-sb blk, frt- brt, v calc; v tr fos; bri mky wh sting cut, bri thk bl ring cut, tr fltr	
CHK: lt-med gy, mot, sl frm, sb ply-sb blk, v calc, cpkx: MRLST: med-dk gy, stri, sft-sl frm, sb ply-sb blk, frt- brt, v calc; v tr fos; bri mky wh sting cut, bri thk bl ring cut, tr fltr	

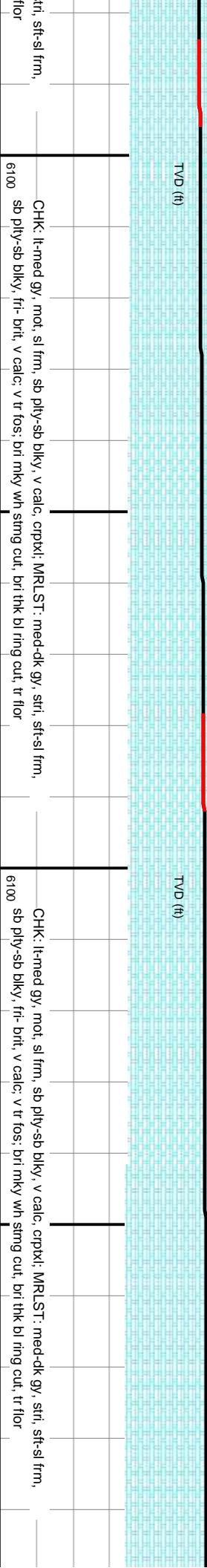




MD: 13,920'  
TVD: 6,044.82'  
Inclination: 91.1°  
Azimuth: 177.2°  
VS: 7,842.55'

MD: 14,010'  
TVD: 6,043.72'  
Inclination: 90.3°  
Azimuth: 178.3°  
VS: 7,932.54'

MD: 14,010'  
TVD: 6,043.72'  
Inclination: 90.3°  
Azimuth: 178.3°  
VS: 7,932.54'





In/Out Mud Wt: 9.3/9.3 Vis 30/31

Trace Oil Coming Over Shakers

Power Outages and IBall Lag Took Time to Catch Up

Trace Oil Coming Over Shakers

Gas (units)  
C1-C4 (units)

C1: 66.5%  
C2: 12.1%  
C3: 13.2%  
C4: 8.2%

MD: 14,375'  
TVD: 6,039.26'  
Inclination: 90.1°  
Azimuth: 180.2°  
VS: 8,297.44'

MD: 14,466'  
TVD: 6,038.86'  
Inclination: 90.4°  
Azimuth: 179.4°  
VS: 8,388.41'

TVD (ft)

TVD (ft)

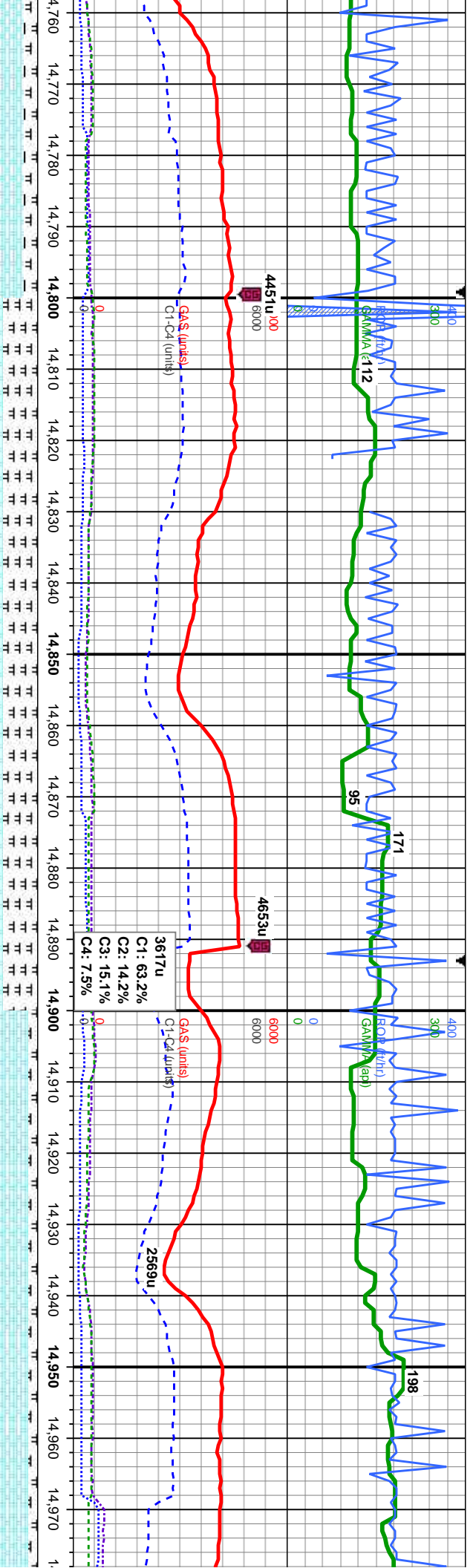
gy, mot, sl frm, sb ply-sb blk, v calc, cpxk; MRLST: med-dk gy, stri, sft-sl frm, /, fri- brt, v calc; v tr fos; bri mky wh smg cut, bri thk bl ring cut, tr flr

CHK: lt-med gy, mot, sl frm, sb ply-sb blk, v calc, cpxk; MRLST: med-dk gy, stri, sft-sl frm, sb ply-sb blk, fri- brt, v calc; v tr fos; bri mky wh smg cut, bri thk bl ring cut, tr flr

CHK: lt-med gy, mot, sl frm-frm, sb ply-frm, sb ply-sb blk, fri- brt, v calc; v tr fos





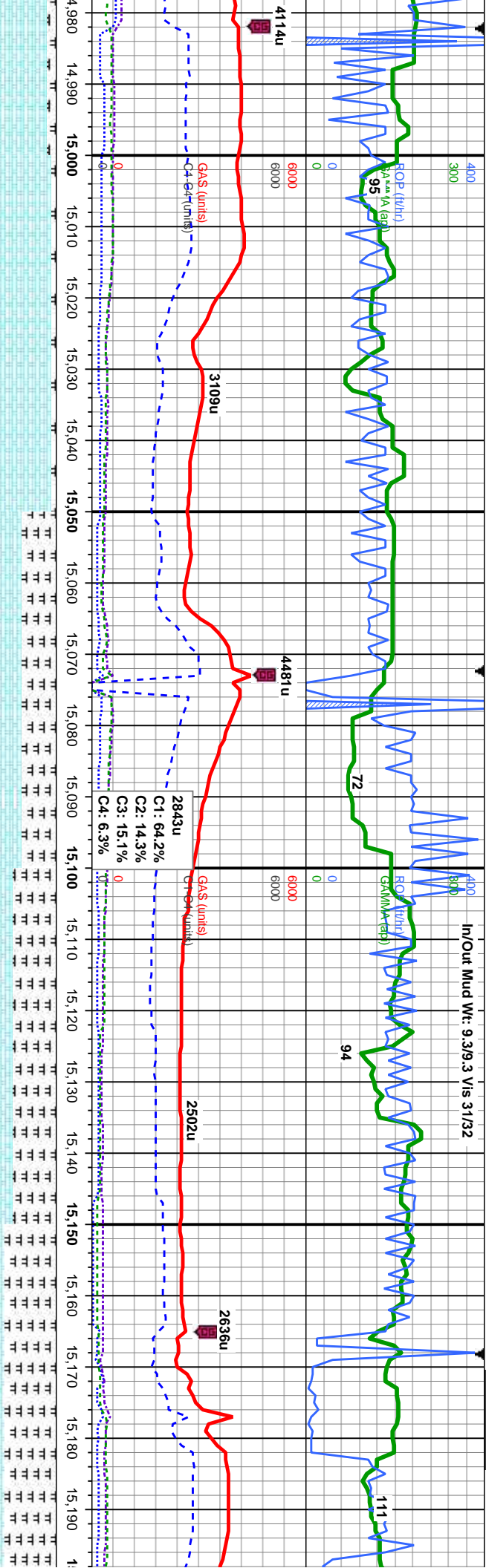


MD: 14,834'  
TVD: 6,037.73'  
Inclination: 89.6°  
Azimuth: 178.3°  
VS: 8,756.31'

MD: 14,926'  
TVD: 6,038.13'  
Inclination: 89.9°  
Azimuth: 178°  
VS: 8,848.31'

TVD (ft)		TVD (ft)	
6000		6000	
6100	CHK: lt-med gy, mot, sl frm, sb ply-sb blk, v calc, crpxl, MRLST: med-dk gy, stri, sft, sb ply-sb blk, fri- brlt, v calc, v tr fos, bri mky wh string cut, bri thk bl ring cut, tr flr	6100	CHK: lt-med gy, mot, sl frm, sb ply-sb blk, v calc, crpxl, MRLST: med-dk gy, stri, sft, sb ply-sb blk, fri- brlt, v calc, v tr fos, bri mky wh string cut, bri thk bl ring cut, tr flr





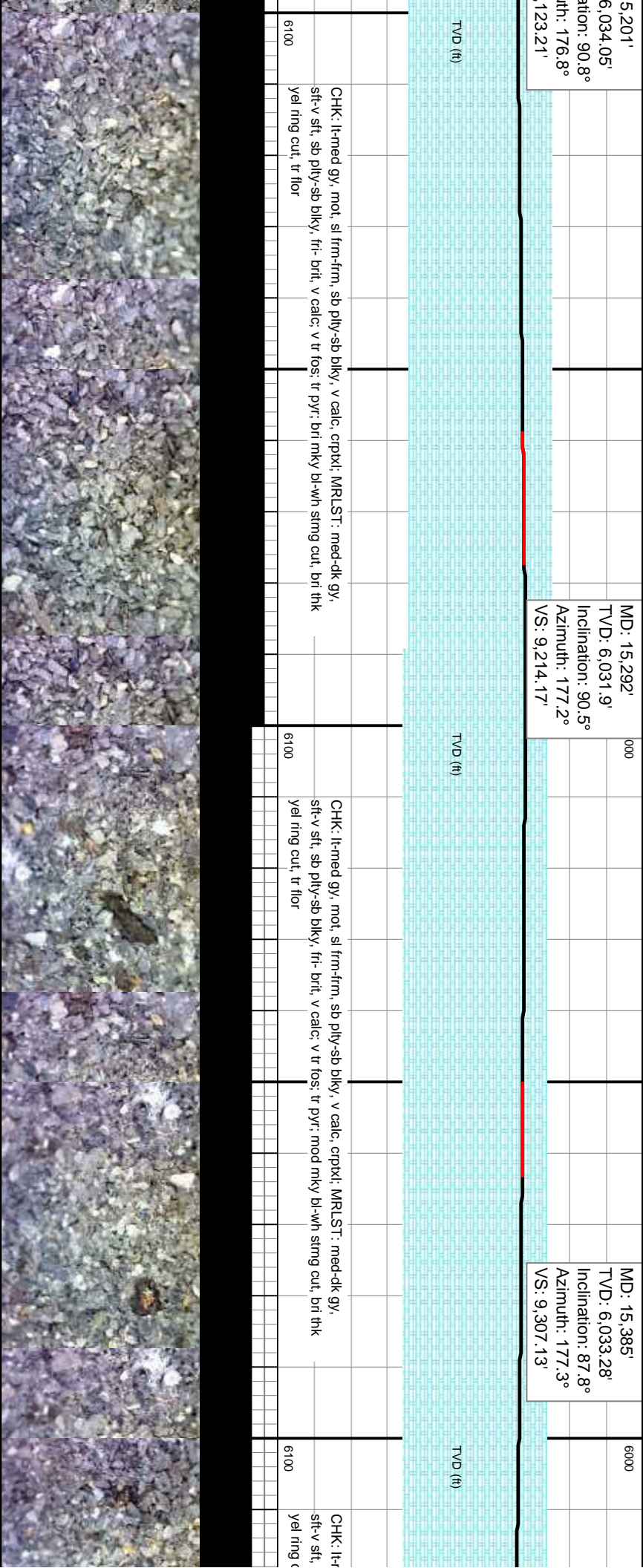
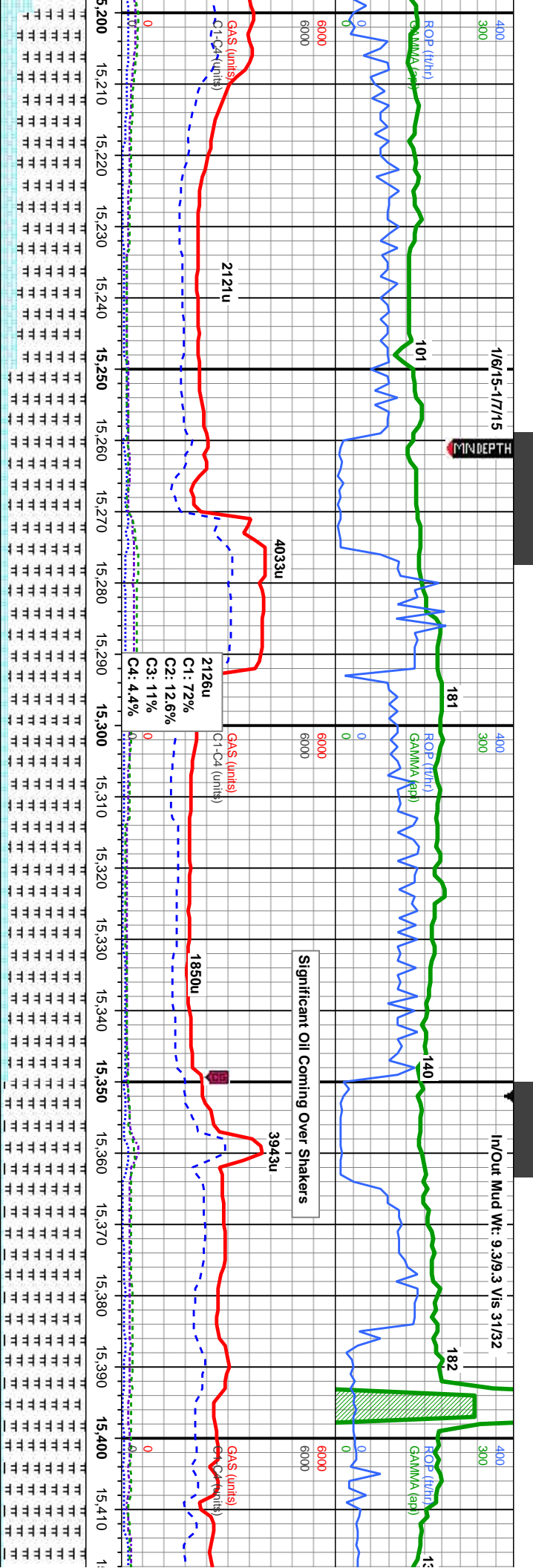
MD: 15,018'  
TVD: 6,037.81'  
Inclination: 90.5°  
Azimuth: 177.6°  
VS: 8,940.3'

MD: 15,109'  
TVD: 6,036.06'  
Inclination: 91.7°  
Azimuth: 177.1°  
VS: 9,031.27'

MD: 1  
TVD:  
Inclin:  
Azimu  
VS: 9

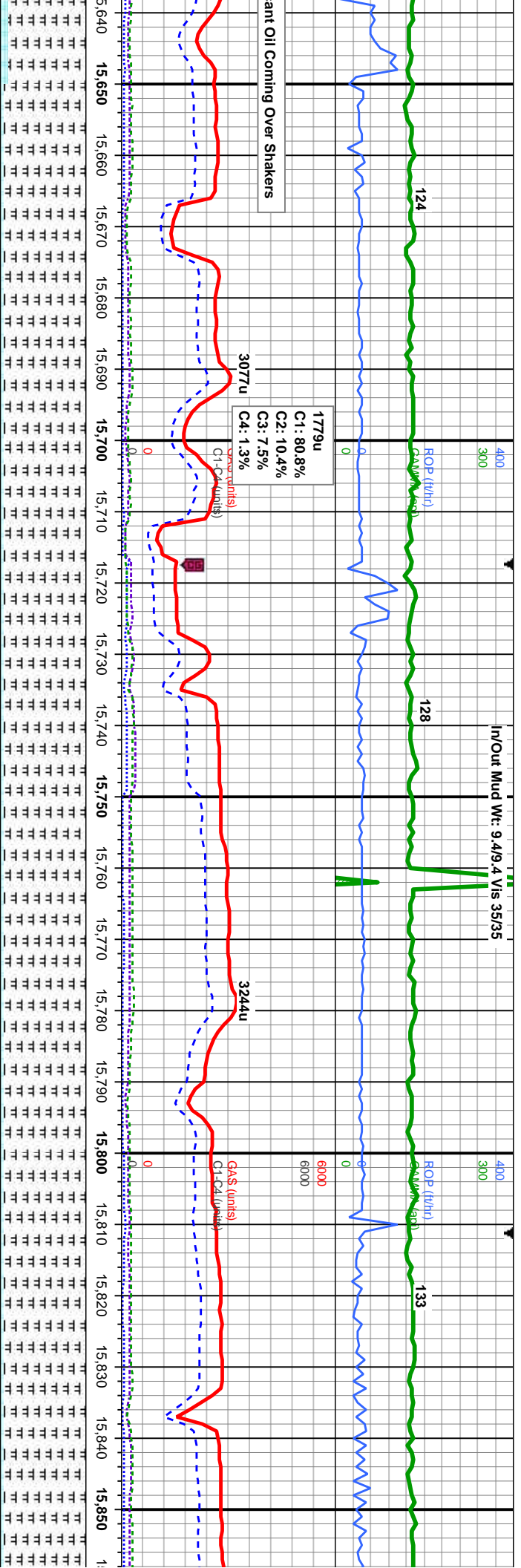
TVD (ft)		TVD (ft)	
6100	CHK: lt-med gy, mot, sl frm, sb ply-sb blk, v calc, crpxl: MRLST: med-dk gy, sfti, sft, sb ply-sb blk, fri- brit, v calc, v tr fos, tr bent, mky bl-wh string cut, bri thk bl ring cut, tr flr	6100	CHK: lt-med gy, mot, sl frm, sb ply-sb blk, v calc, crpxl: MRLST: med-dk gy, sfti, sft-v sft, sb ply-sb blk, fri- brit, v calc, v tr fos, tr pyr, bri mky bl-wh string cut, bri thk yei ring cut, tr flr







In/Out Mud Wt: 9.4/9.4 Vis 35/35



ant Oil Coming Over Shakers

1779u  
C1: 80.8%  
C2: 10.4%  
C3: 7.5%  
C4: 1.3%

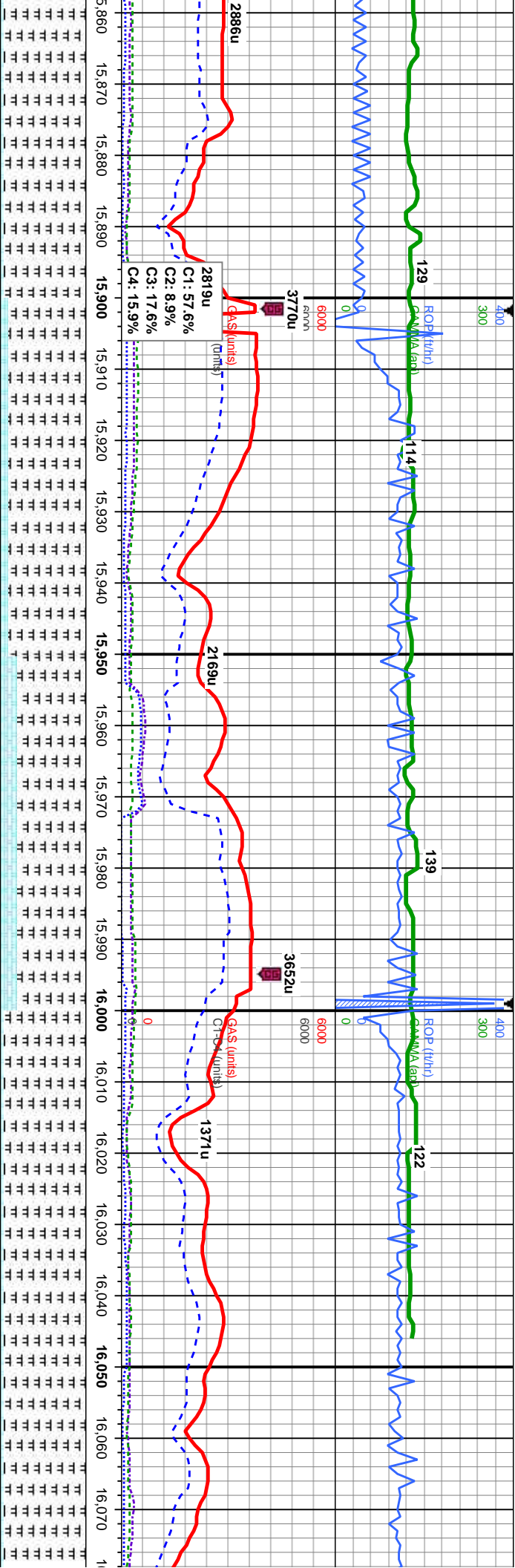
MD: 15,660'  
TVD: 6,037.34'  
Inclination: 89.7°  
Azimuth: 177.9°  
VS: 9,582.05'

MD: 15,751'  
TVD: 6,037.26'  
Inclination: 90.4°  
Azimuth: 177.2°  
VS: 9,673.04'

MD: 15,846'  
TVD: 6,036.6'  
Inclination: 90.4°  
Azimuth: 177.3°  
VS: 9,768.02'

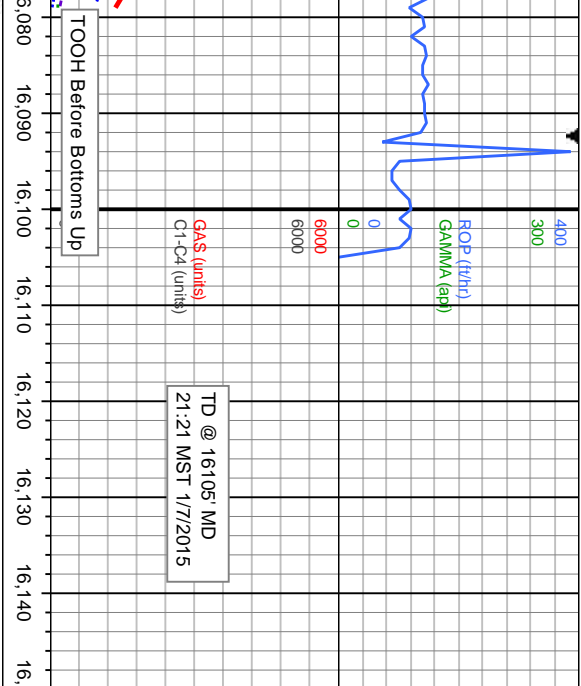
sb ply-sb blkly, v calc, cpxlx; MRLST: med-dk gy, v calc; v tr fos; tr pyr; dull mky bl-wh string cut, bri	6100	CHK: lt-med gy, mot, sl frm-frm, sb ply-sb blkly, v calc, cpxlx; MRLST: med-dk gy, sft-v sft, sb ply-sb blkly, fr- brt, v calc; v tr fos; tr pyr; dull mky bl-wh string cut, bri mod thk bl ring cut, no flr	6100	CHK: lt-med gy, mot, sl frm-frm, sb ply-sb blkly, v calc, cpxlx; MRLST: med-dk gy, sft-v sft, sb ply-sb blkly, fr- brt, v calc; v tr fos; tr pyr; dull mky bl-wh string cut, bri mod thk bl ring cut, no flr	6100
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MD: 15,940'	
TVD: 6,036.35'	
Inclination: 89.9°	
Azimuth: 176.2°	
VS: 9.861'.98'	
TVD (ft)	
6100	
CHK: lt-med gy, mot, sl frm, sb ply-sb blk, v calc, crptxl: MRLST: med-dk gy, sft-v sft, sb	
ply-sb blk, fri, v calc: dull mky bl-wh string cut, bri mod thk bl ring cut, no flr	
6100	
CHK: lt-med gy, mot, sl frm, sb ply-sb blk, v calc, crptxl: MRLST: med-dk gy,	
ply-sb blk, fri, v calc: dull mky bl-wh string cut, bri mod thk bl ring cut, no flr	
6100	





6000	THANK YOU FOR USING COLUMBINE LOGGING INC.
TVD (ft)	
sft-v sft, sb	6100