



Scale: 5" / 100'  
Measured Depth Log

Well Name ROHN STATE LD09-69-1HN(HORZ)

Location NENE SEC 9 T9N R58W

State COLORADO

County WELD

Country USA

Rig Number H&P 326

API Number 05-123-37546

Region DJ BASIN

Field SABINE PASS

Spud Date 9/8/2013

Drilling Completed 9/15/2013

Surface Coordinates 860' FNL, 480' FEL

Bottom Hole Coordinates 394' FNL, 680' FWL

Ground Elevation 4740'

K.B. Elevation 4770'

Logged Interval 4900' To 9697'

Total Depth 9697'

Formation NIOBRARA A MARL

Type of Drilling Fluid FW LSND

Company NOBLE ENERGY  
Address 1625 Broadway  
Denver, CO 80202

Name EVAN HOWELL  
Company NOBLE ENERGY  
Address 1625 Broadway  
Denver, CO 80202

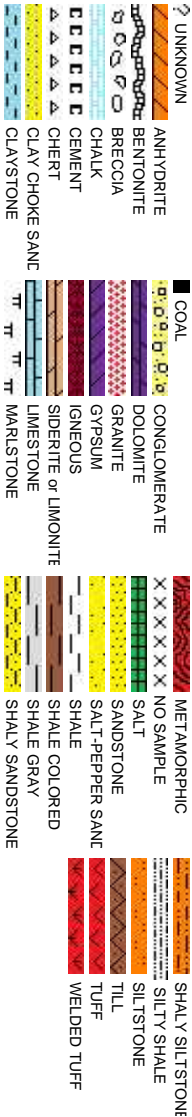
COLUMBINE LOGGING, INC.  
WELL SITE GEOLOGISTS

Operator

BY INC.

Suite 2200  
202

Rock Types

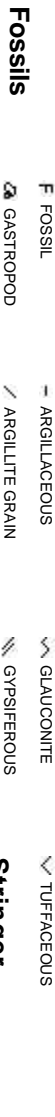


Geologist

BY INC.

Suite 2200  
202

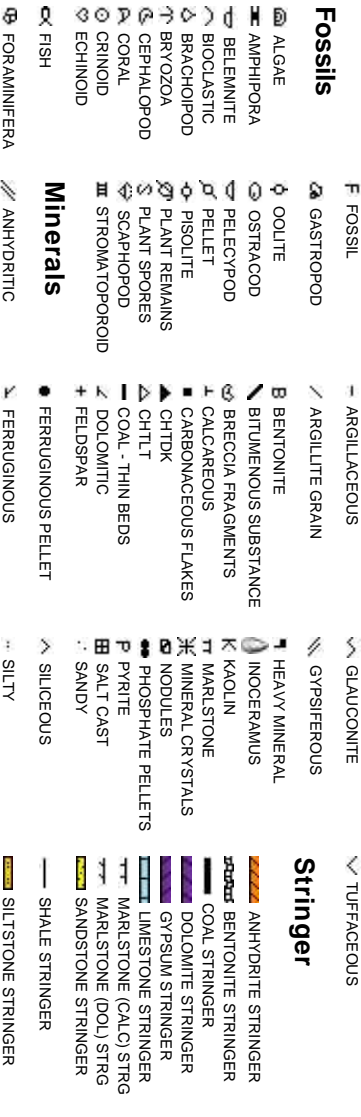
Accessories



Other







2385 S. LIPAN ST.  
DENVER, CO 80223

JOEY LUCE  
MATT HOPKINS











Other Symbols

Oil Show




-  MOLDIC
-  ORGANIC
-  DEAD
-  EVEN
-  PINPOINT
-  VUGGY

-  QUESTIONABLE
-  SPOTTED STAINING

Porosity

-  EARTHY
-  FENESTRAL
-  FRACTURE
-  INTERCRYSTALLINE
-  INTEROOLITIC
-  CORE - LOST
-  CORE - RECOVERED
-  DST INTERVAL

Engineering

-  BIT
-  CONNECTION (LEFT)
-  CONNECTION (RIGHT)
-  CONNECTION GAS
-  NORMAL FAULT
-  OIL SHOW
-  OVERTURNED STRATA
-  REVERSE FAULT
-  SIDE WALL CORE (LEFT)
-  SIDE WALL CORE (RIGHT)
-  SLIDE
-  SURVEY
-  TRIP GAS

-  FAULT
-  FORMATION TOP
-  GAS SHOW
-  MINDEPTH MN DEPTH

Rounding

-  WIRELINE TESTED - LEFT
-  WIRELINE TESTED - RT
-  ANGULAR
-  ROUNDED
-  SUBANG
-  SUBRND
-  BOUNDSTONE
-  CHALKY
-  CRYPTOXLN
-  EARTHY
-  FINELYXLN
-  GRAINSTONE
-  LITHOGRAPHIC
-  MICROXLN
-  MUDSTONE
-  PACKSTONE
-  WACKESTONE
-  MODERATE
-  POOR
-  WELL

Textures

Sorting

Slide/Rotate

ROP

ROF

LOG CONTINUES FROM MPLOT  
"ROHN STATE LD09-69-1HN(VERT)"

Begin 50' Sample Intervals

Bit Data

Bit #: 2

Type: MD5/16

Size: 8.75

Jets: 5x14

BEGAN DRILLING CURVE

@ 0806 HRS on 09/11/2013

WT IN 9.3/ OUT 9.3  
VIS IN 42/ OUT 42

Total Gas & Chromatograph

GAS

C1

C2

C3

C4

Depth Labels

% Lith

GAMMA

GAMMA

COLUMBINE LOGGING INC.  
RIGGED UP ON 09/08/2013  
MANNED 2-PERSON LOGGING  
WITH BLOODHOUND GAS  
CHROMATOGRAPH UNIT #0298  
COLUMBINE BEGAN LOGGING  
ON 09/10/2013

Well Bore

TVD

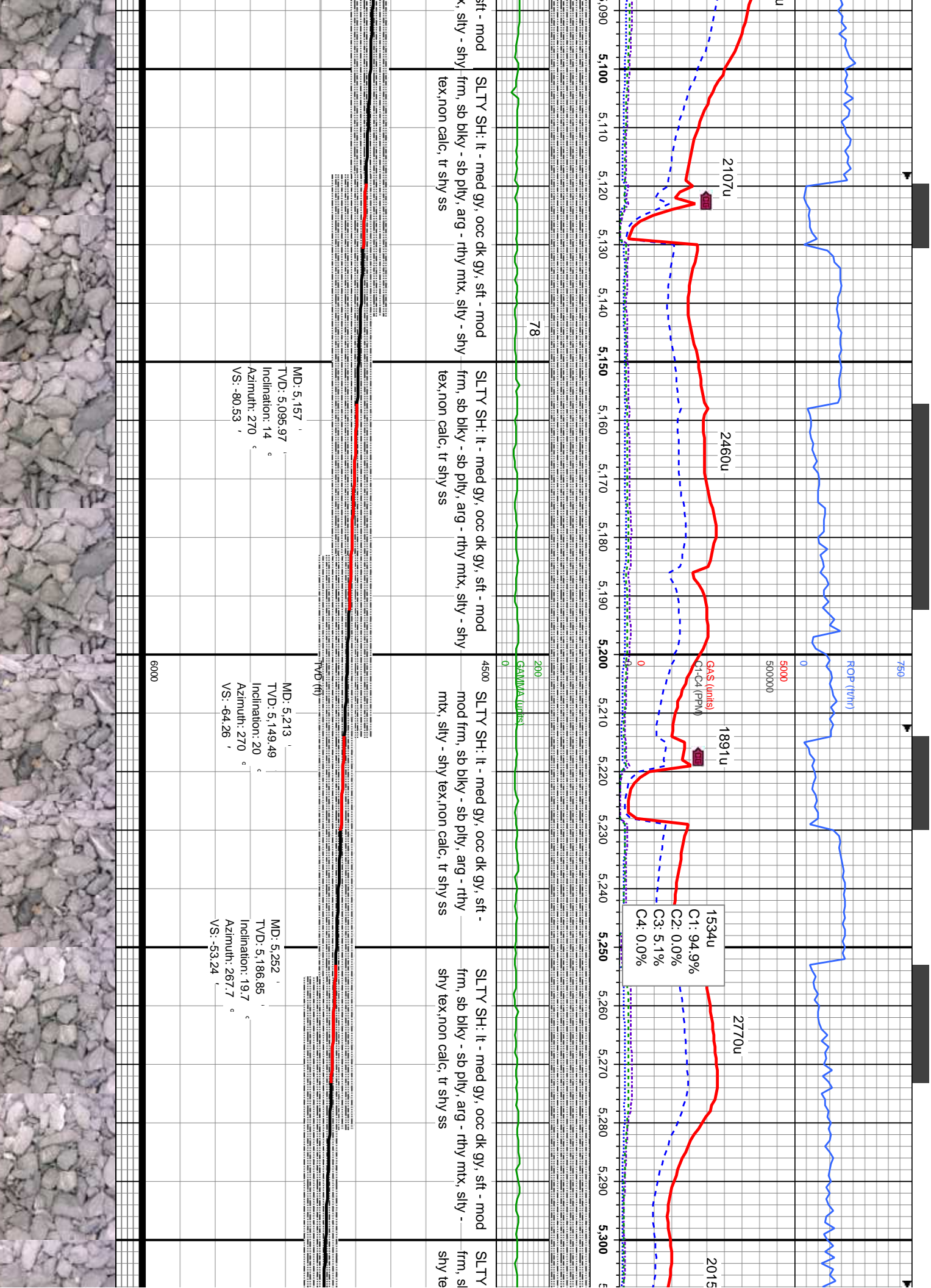
Acetone was used as the cutting  
agent with the dimple filled to the rim

The ratings are based on 7 descriptors:  
None, Slight trace, Trace, Fair, Moderate,  
Good, and Excellent. The descriptor used  
is based on the loggers observations and  
best judgment of brilliance, color and  
longevity of the cut.

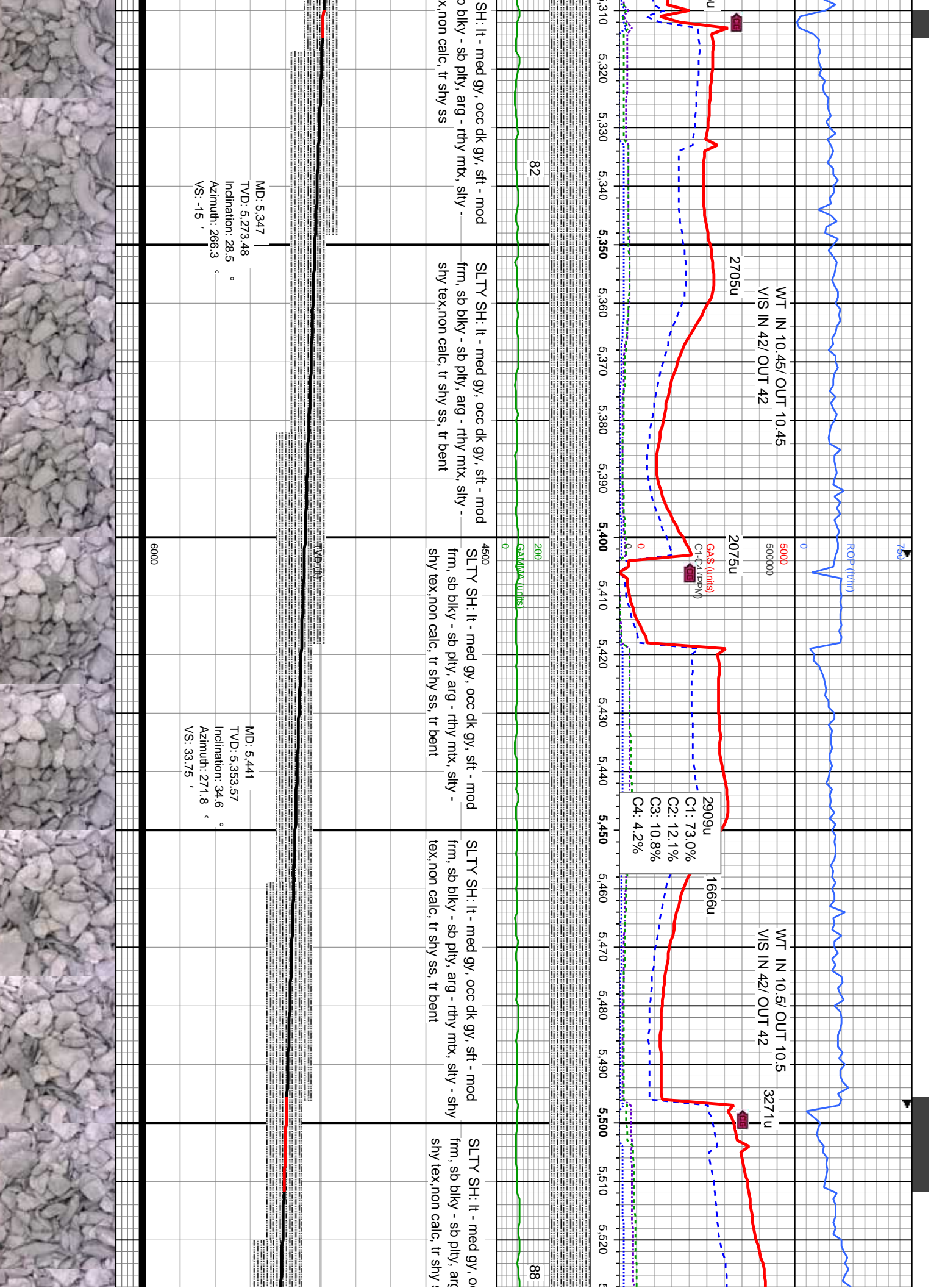
Oil Show

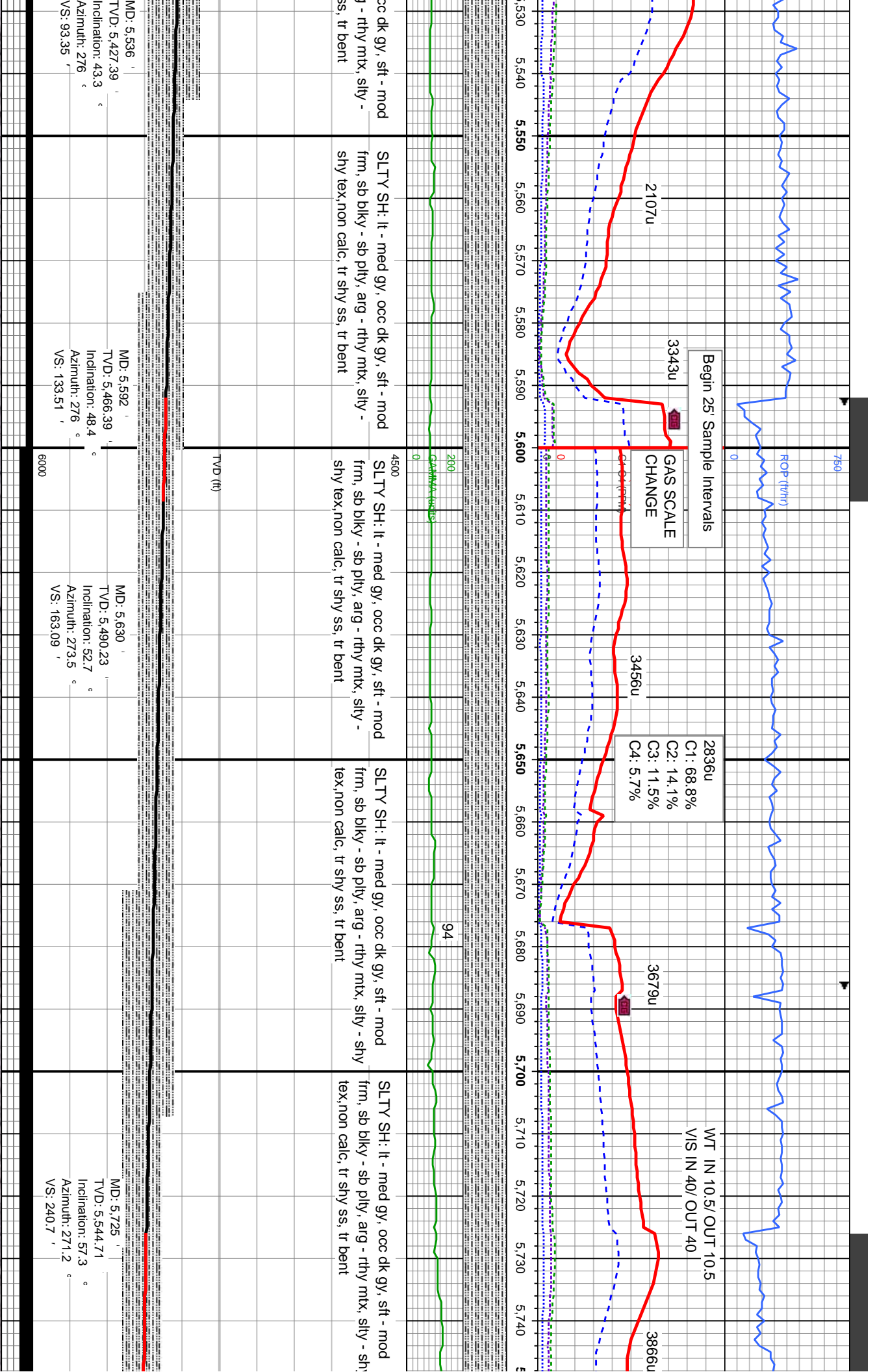
Images



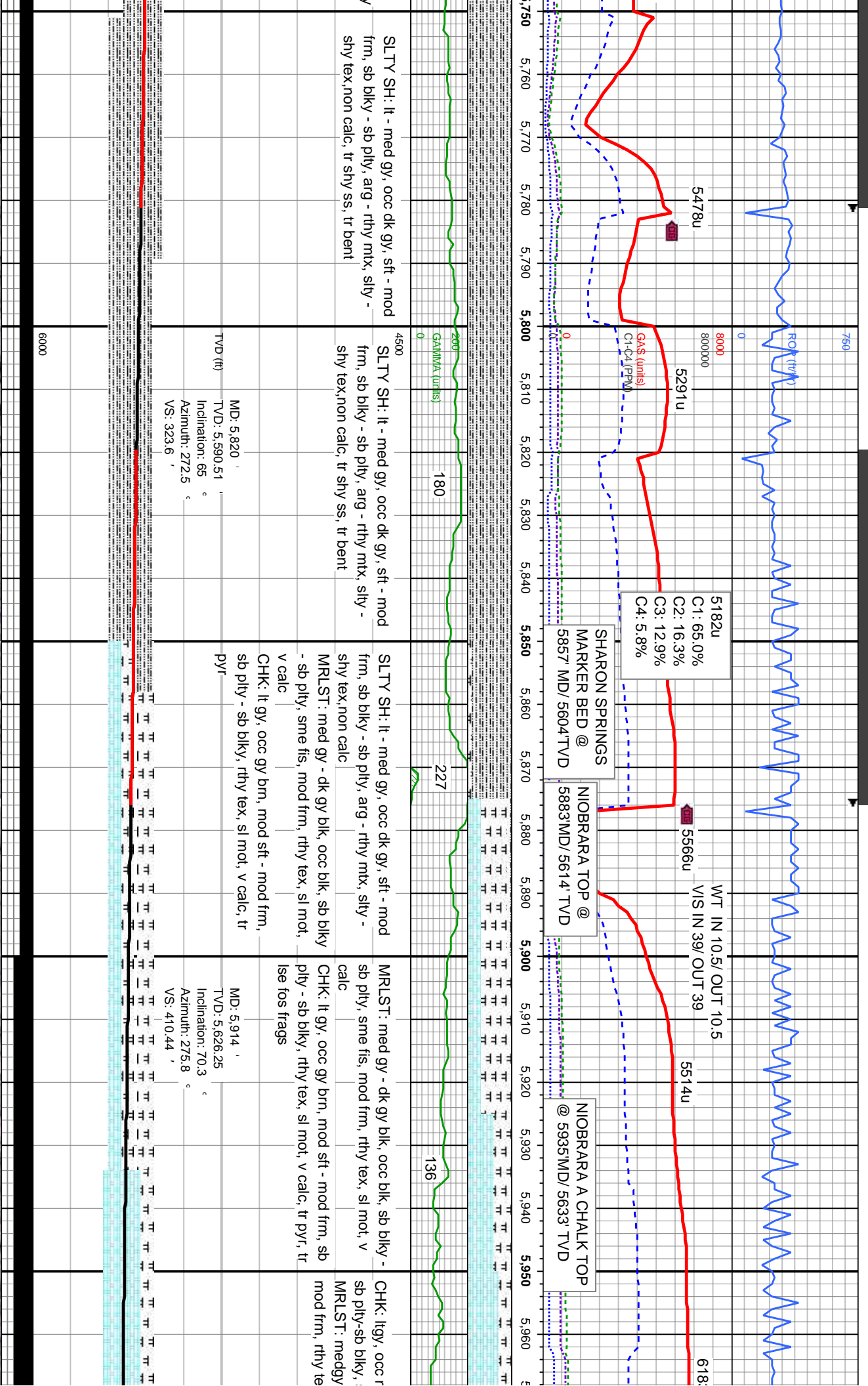










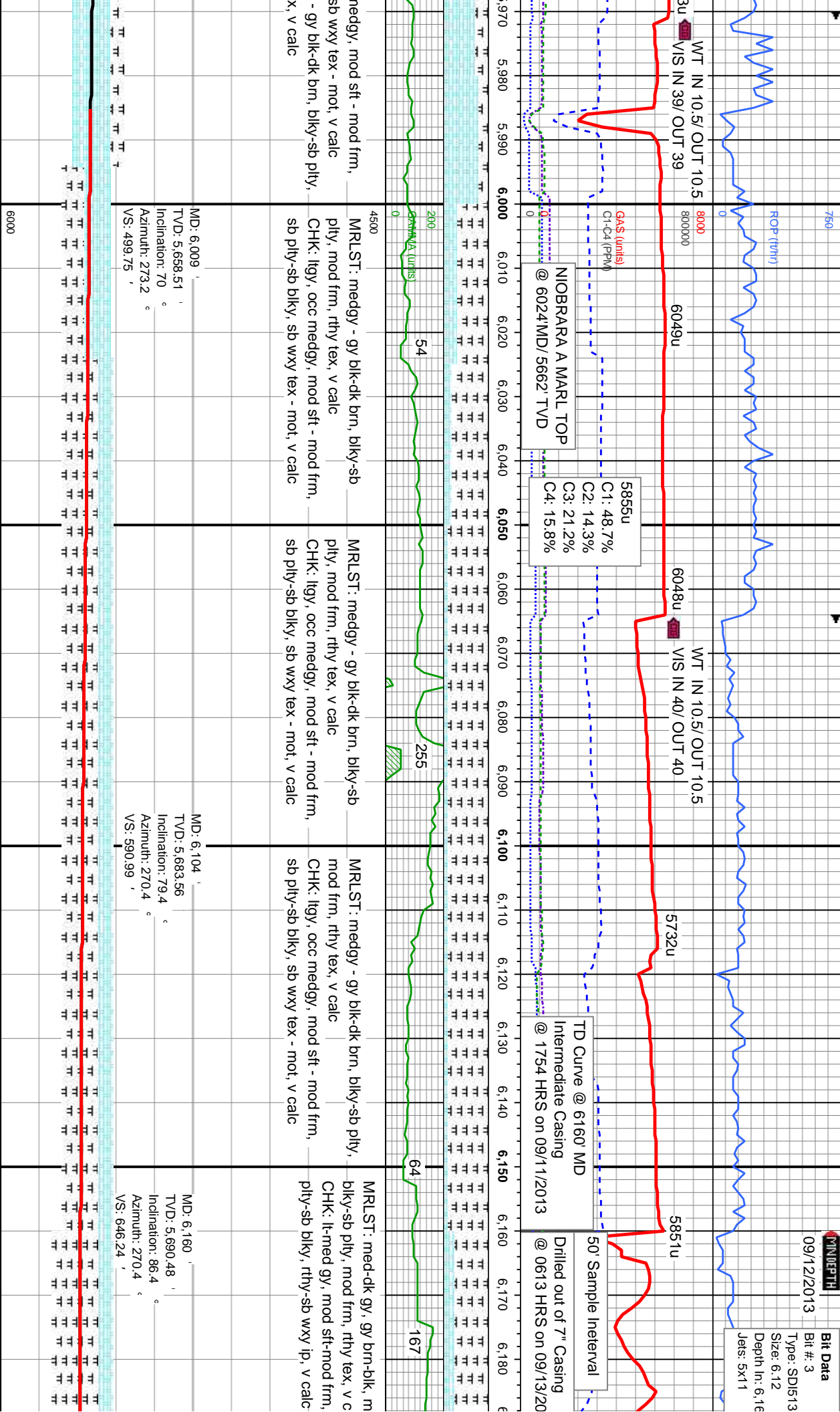




PROPERTY

09/12/2013

Bit Data  
Bit #: 3  
Type: SD1513  
Size: 6.12  
Depth In: 6.16  
Jets: 5x11



MD: 6,009  
TVD: 5,658.51  
Inclination: 70  
Azimuth: 273.2  
VS: 499.75

MD: 6,104  
TVD: 5,683.56  
Inclination: 79.4  
Azimuth: 270.4  
VS: 590.99

MD: 6,160  
TVD: 5,690.48  
Inclination: 86.4  
Azimuth: 270.4  
VS: 646.24

medgy, mod sft - mod frm, sb wxy tex - mot, v calc  
- gy blk-dk brn, blkly-sb pty, x, v calc  
MRSLT: medgy - gy blk-dk brn, blkly-sb pty, mod frm, rthy tex, v calc  
CHK: ltgy, occ medgy, mod sft - mod frm, sb pty-sb blkly, sb wxy tex - mot, v calc

MRSLT: medgy - gy blk-dk brn, blkly-sb pty, mod frm, rthy tex, v calc  
CHK: ltgy, occ medgy, mod sft - mod frm, sb pty-sb blkly, sb wxy tex - mot, v calc

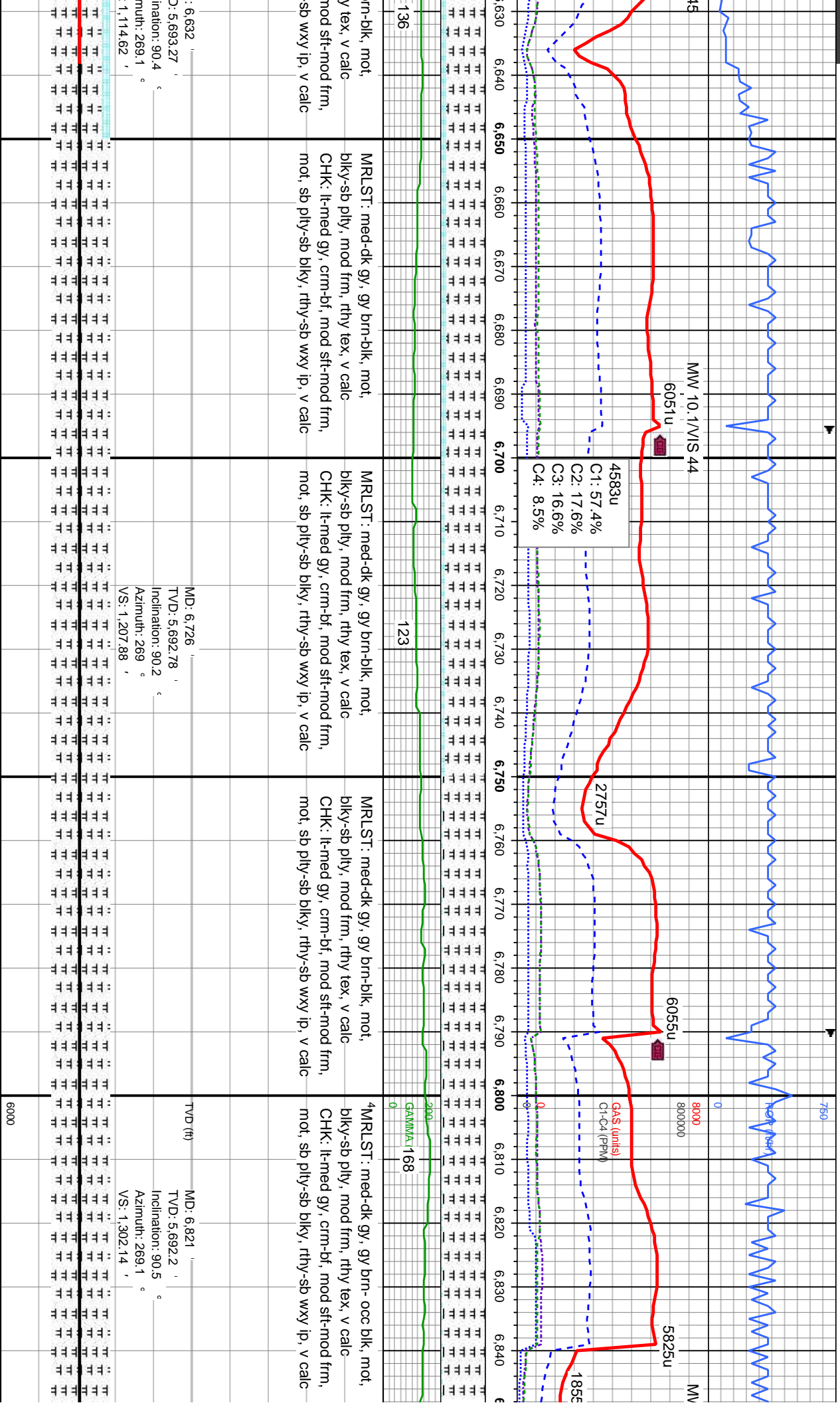
MRSLT: med-dk gy, gy brn-blk, m blkly-sb pty, mod frm, rthy tex, v c  
CHK: lt-med gy, mod sft-mod frm, pty-sb blkly, rthy-sb wxy ip, v calc

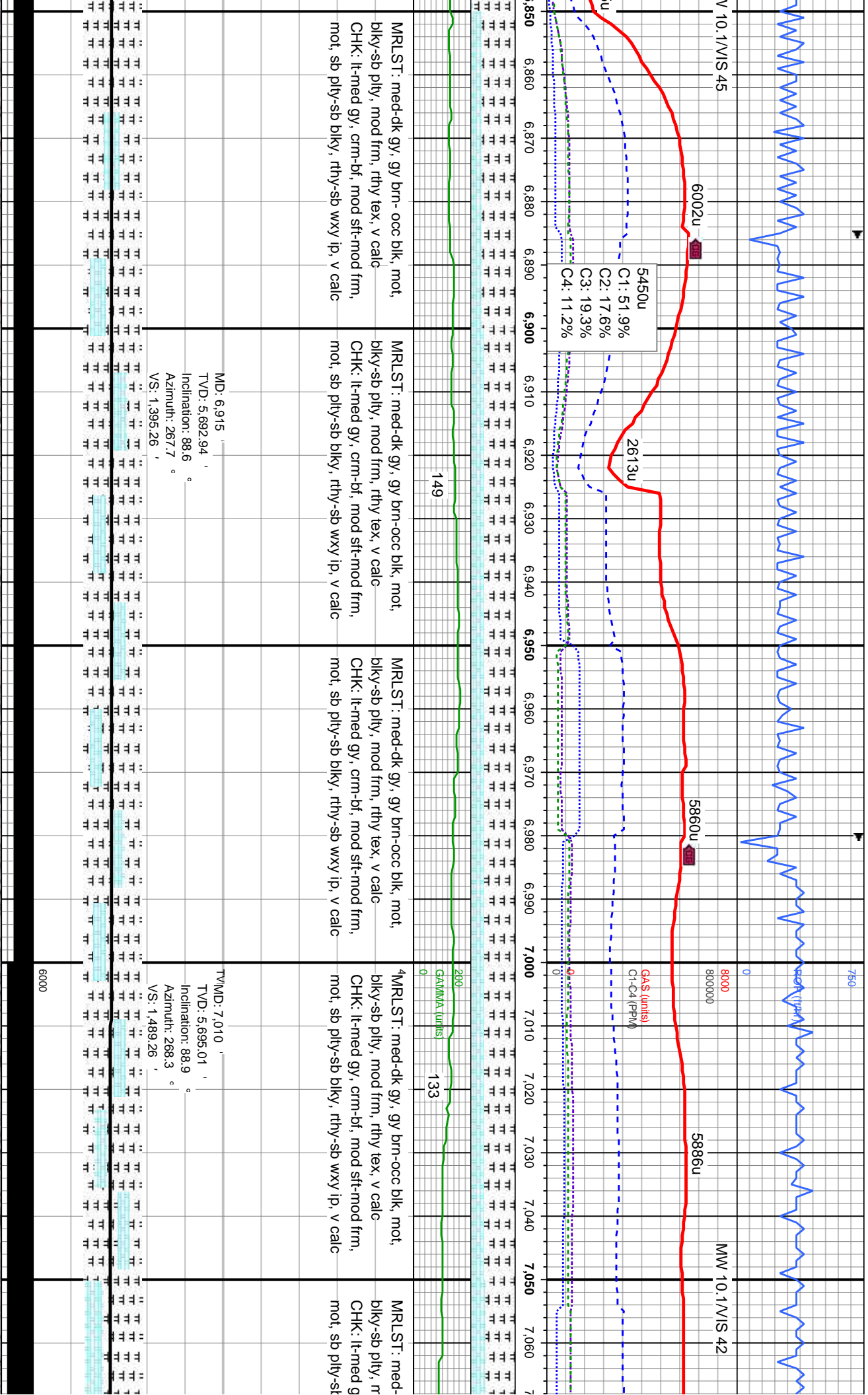




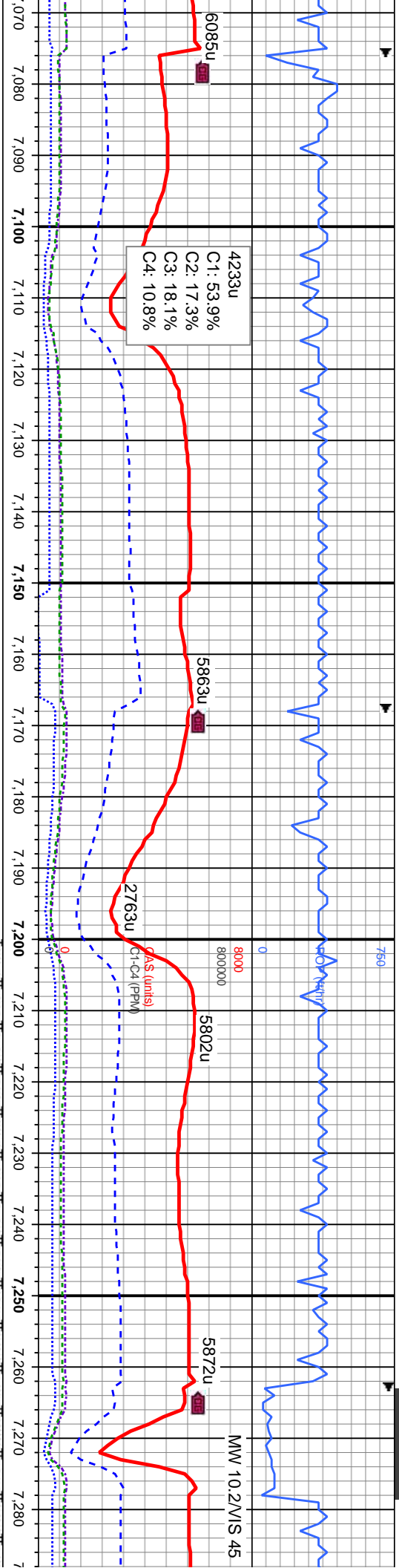








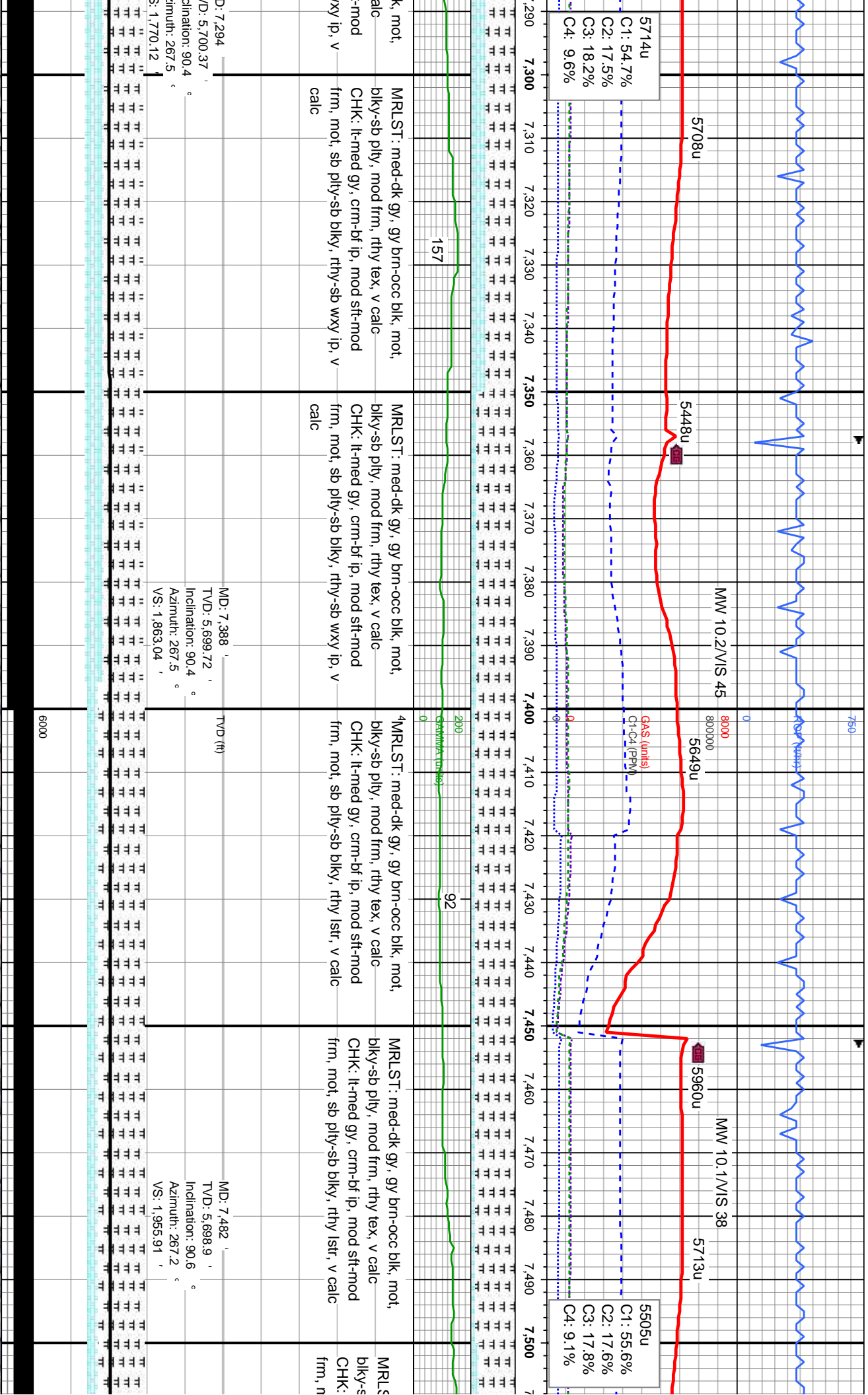


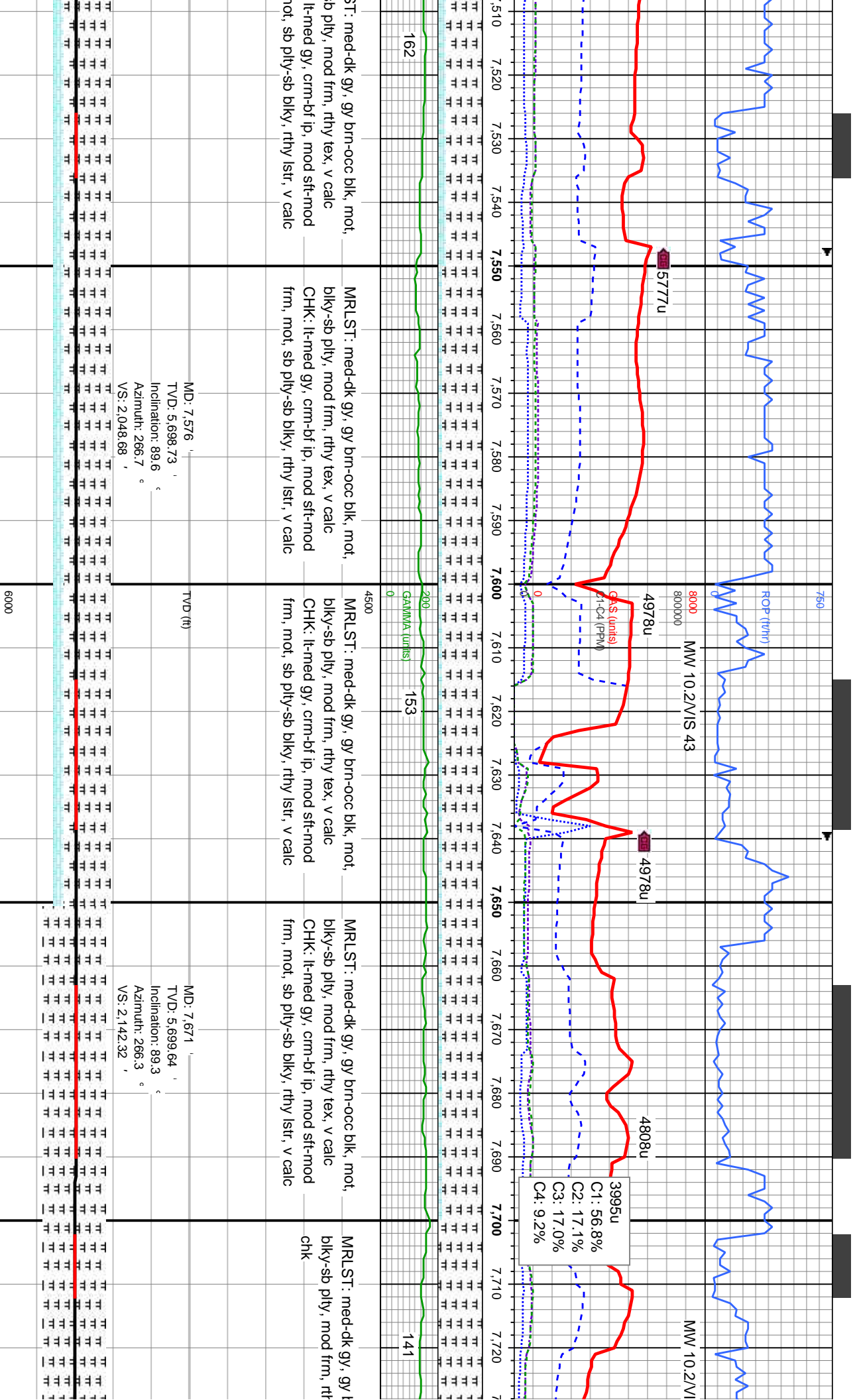


dk gy, gy brn-occ blk, mot, frm, rthy tex, v calc	MRSLT: med-dk gy, gy brn-occ blk, mot, blk-sb pty, mod frm, rthy tex, v calc	MRSLT: med-dk gy, gy brn-occ blk, mot, blk-sb pty, mod frm, rthy tex, v calc, rr inoc frags	MRSLT: med-dk gy, gy brn-occ blk, mot, blk-sb pty, mod frm, rthy tex, v calc, rr inoc frags	MRSLT: med-dk gy, gy brn-occ blk, mot, blk-sb pty, mod frm, rthy tex, v calc
gy, crm-bf, mod sft-mod frm, blk, rthy-sb wxy ip, v calc	CHK: lt-med gy, crm-bf, mod sft-mod frm, mot, sb pty-sb blk, rthy-sb wxy ip, v calc	CHK: lt-med gy, crm-bf, mod sft-mod frm, mot, sb pty-sb blk, rthy-sb wxy ip, v calc	CHK: lt-med gy, crm-bf, mod sft-mod frm, mot, sb pty-sb blk, rthy-sb wxy ip, v calc	CHK: lt-med gy, crm-bf, mod sft-mod frm, mot, sb pty-sb blk, rthy-sb wxy ip, v calc
MD: 7,105 TVD: 5,696.92 ' Inclination: 88.8 ° Azimuth: 267.9 ° VS: 1,583.29 '				
MD: 7,199 TVD: 5,699.3 ' Inclination: 88.3 ° Azimuth: 267.5 ° VS: 1,676.23 '				
MD: 7,199 TVD: 5,699.3 ' Inclination: 88.3 ° Azimuth: 267.5 ° VS: 1,676.23 '				





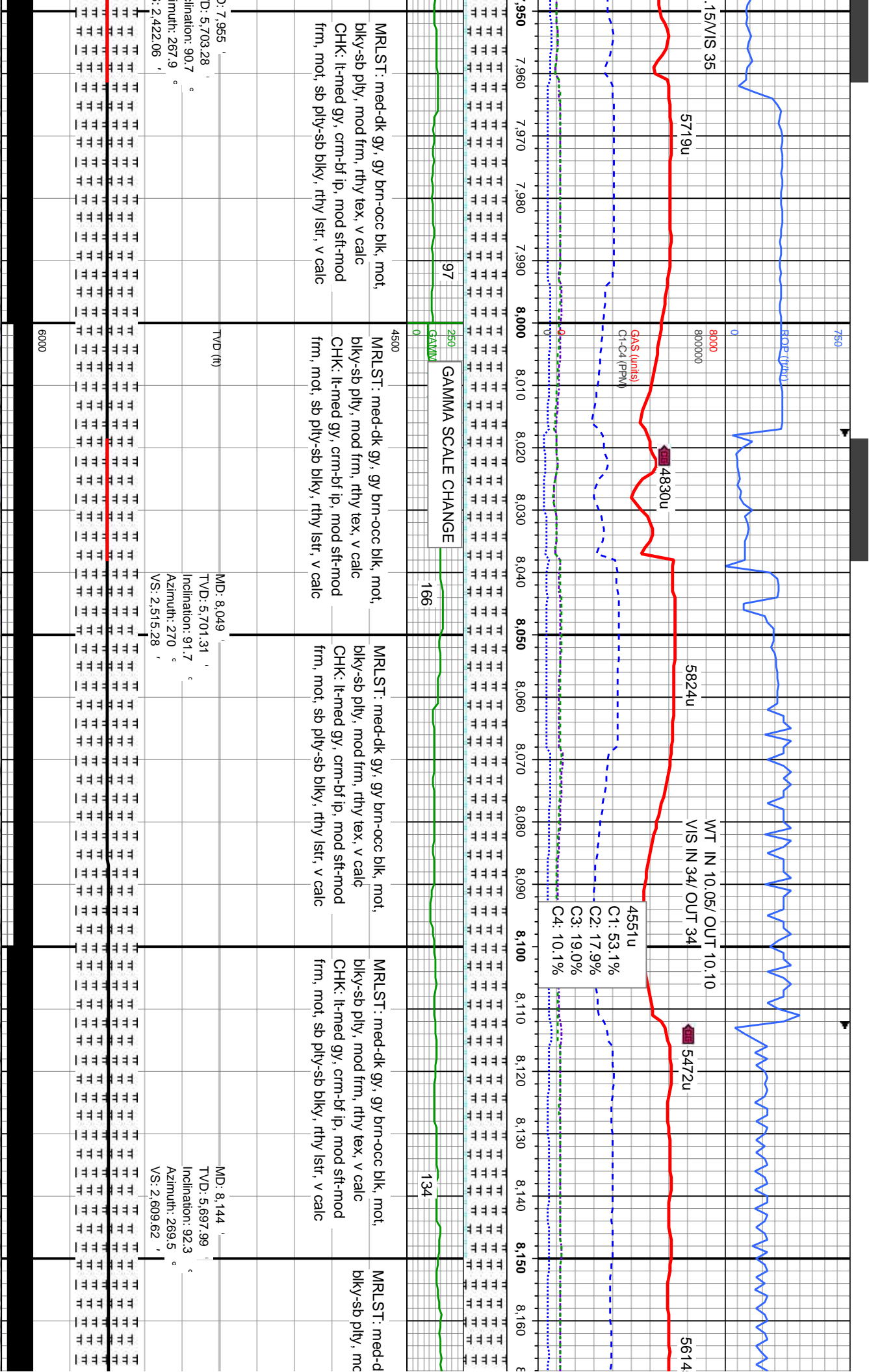


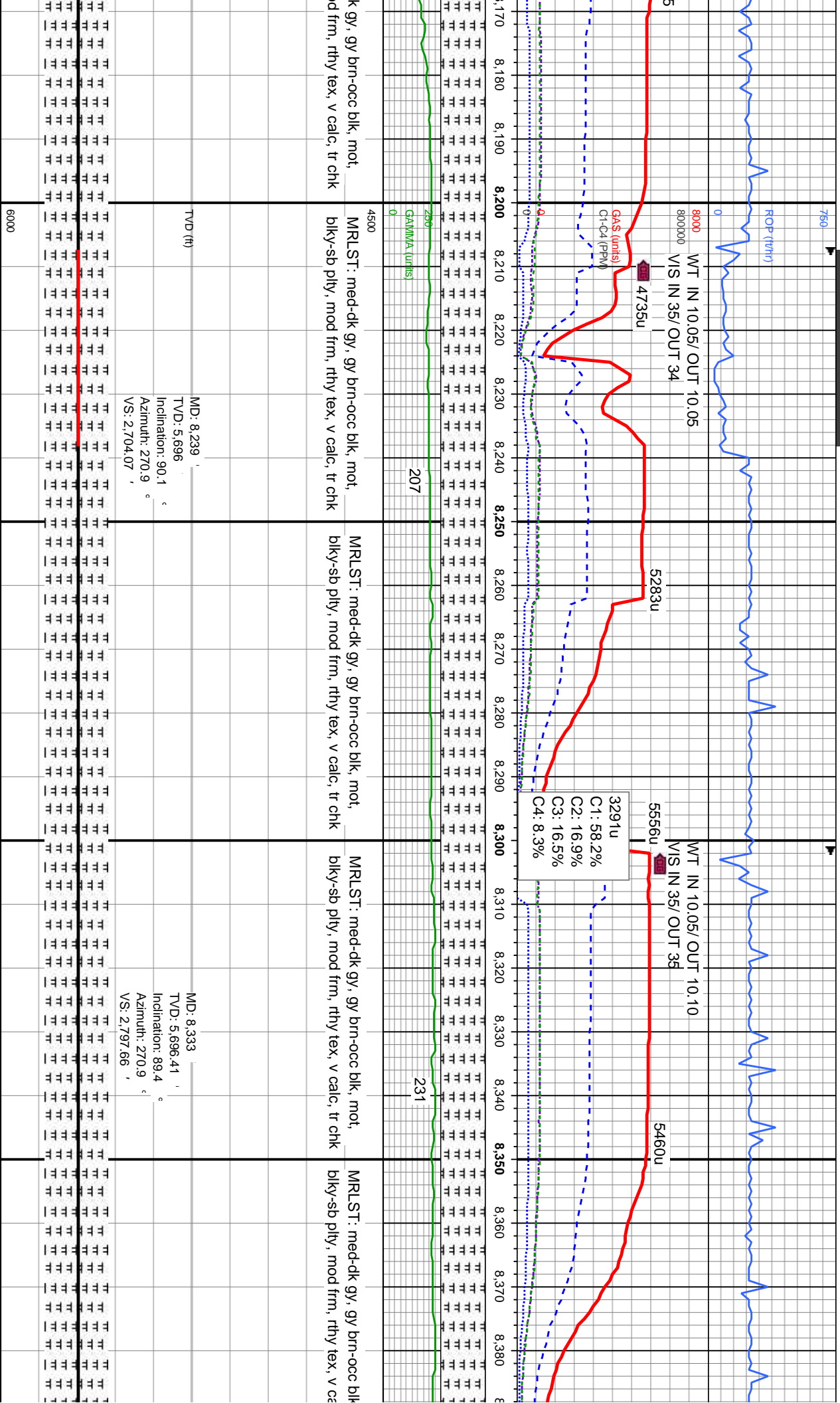




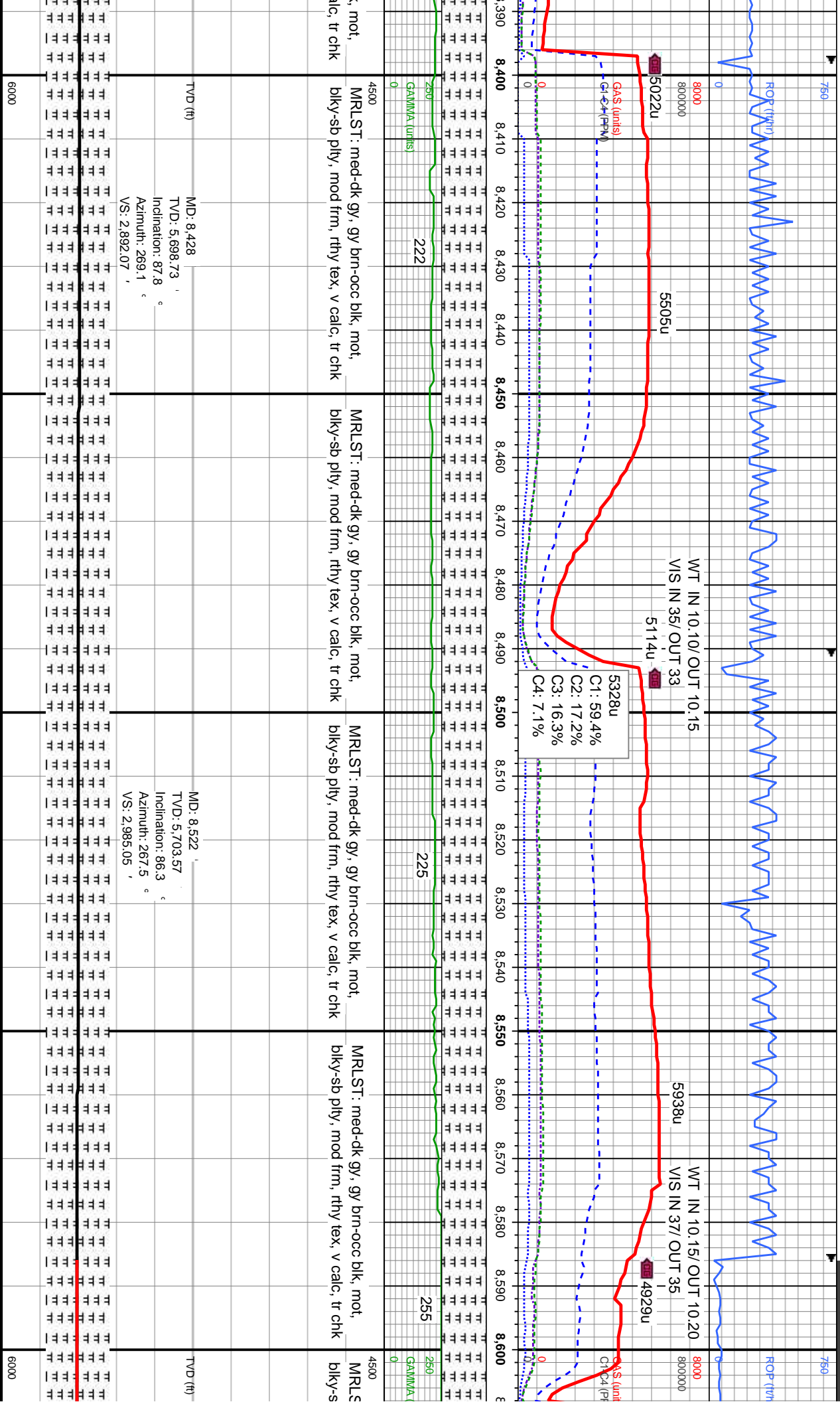






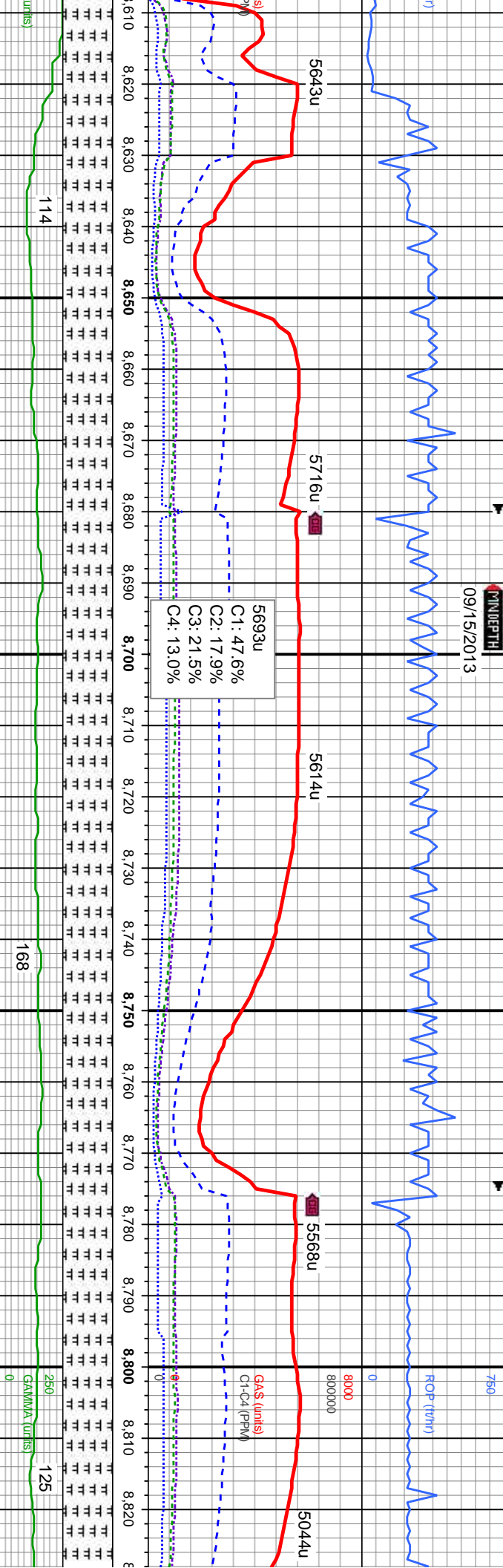








09/15/2013



LT: med-dk gy, gy brn-occ blk, mot, b pty, mod frm, rthy tex, v calc, tr chk

MRLST: med-dk gy, gy brn-occ blk, mot, blk-y-sb pty, mod frm, rthy tex, v calc, tr chk

MRLST: med-dk gy, gy brn-occ blk, mot, blk-y-sb pty, mod frm, rthy tex, v calc, tr chk

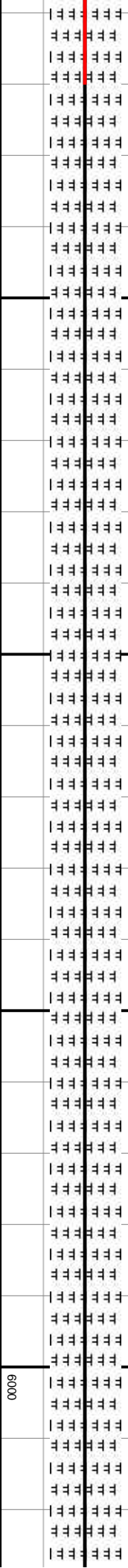
MRLST: med-dk gy, gy brn-occ blk, mot, blk-y-sb pty, mod frm, rthy tex, v calc, tr chk

MRLST: med-dk gy, gy brn-occ blk, mot, blk-y-sb pty, mod frm, rthy tex, v calc, tr chk

MD: 8.627  
TVD: 5,707.6  
Inclination: 89.3  
Azimuth: 272.1  
VS: 3.089.28

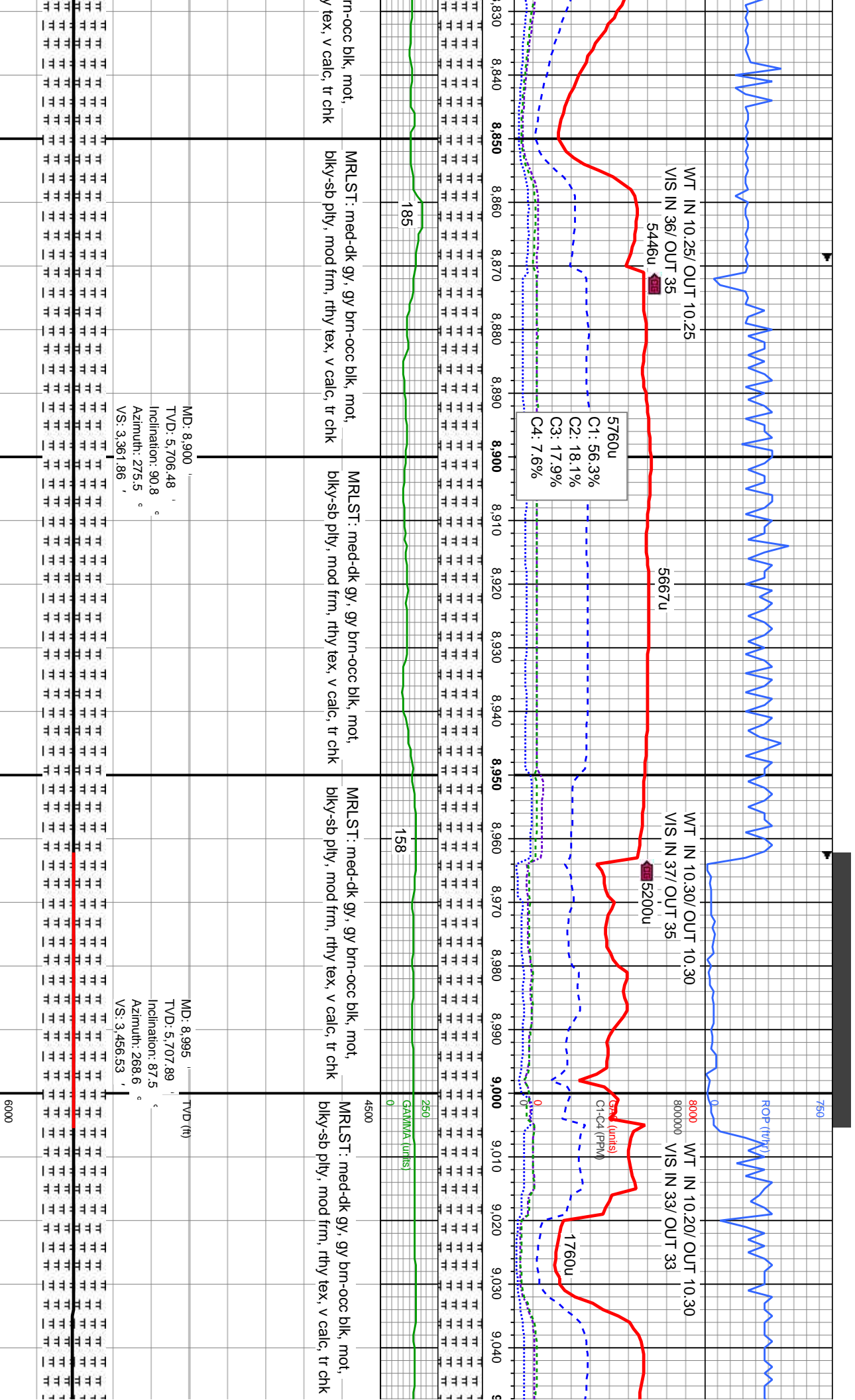
MD: 8.711  
TVD: 5,708.12  
Inclination: 90  
Azimuth: 271.9  
VS: 3.173.05

MD: 8.806  
TVD: 5,707.79  
Inclination: 90.4  
Azimuth: 273.5  
VS: 3.267.87

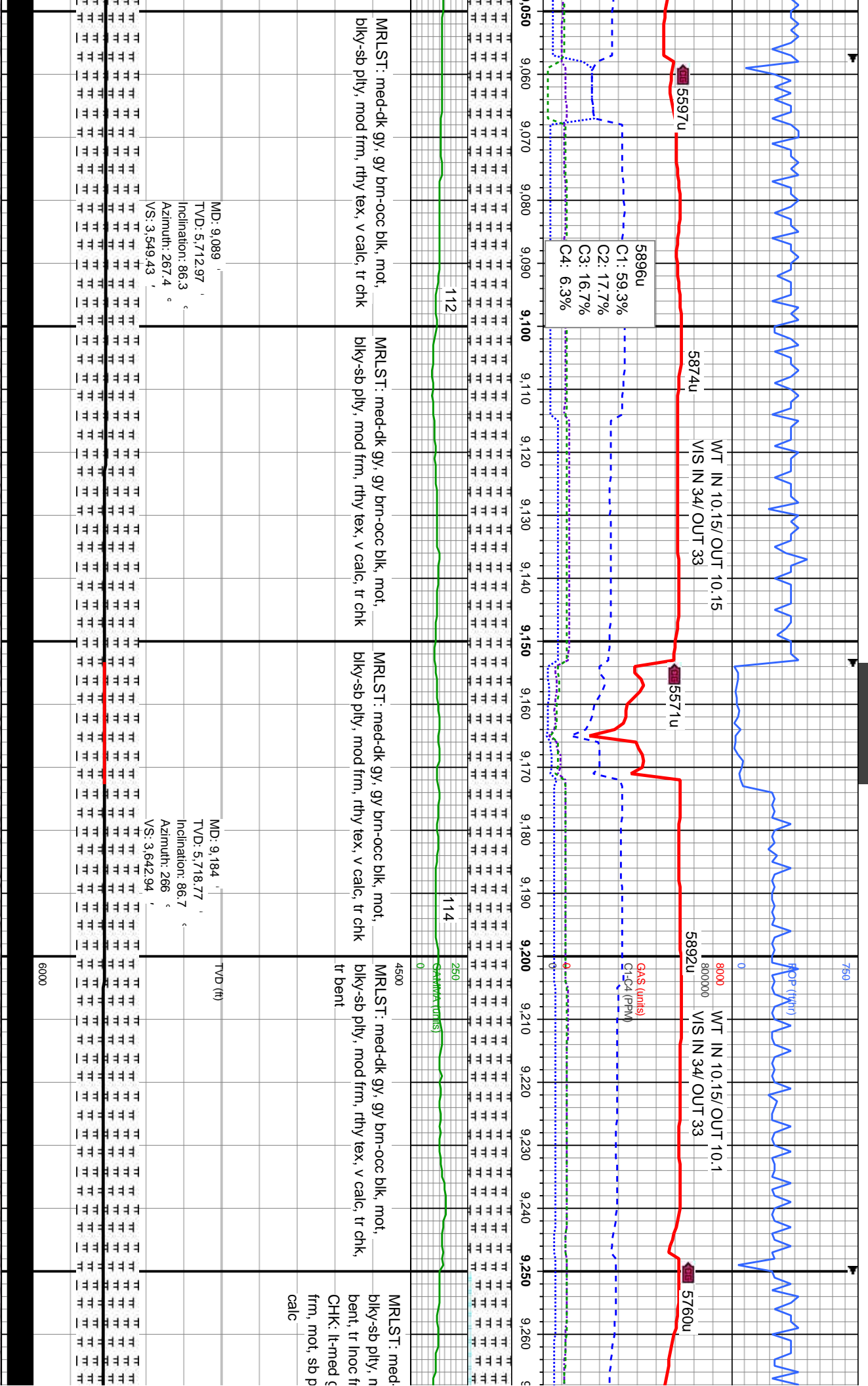


6000

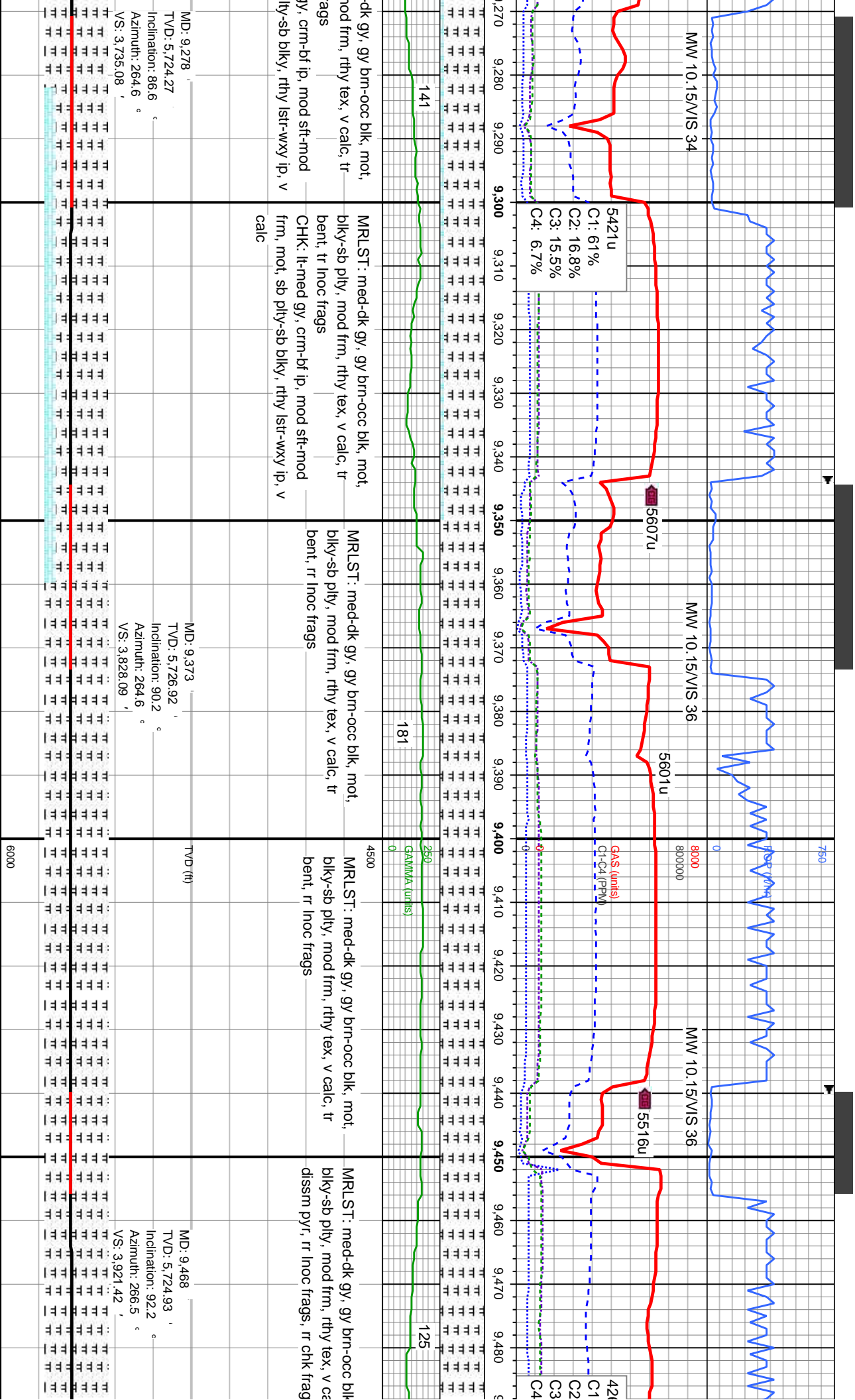


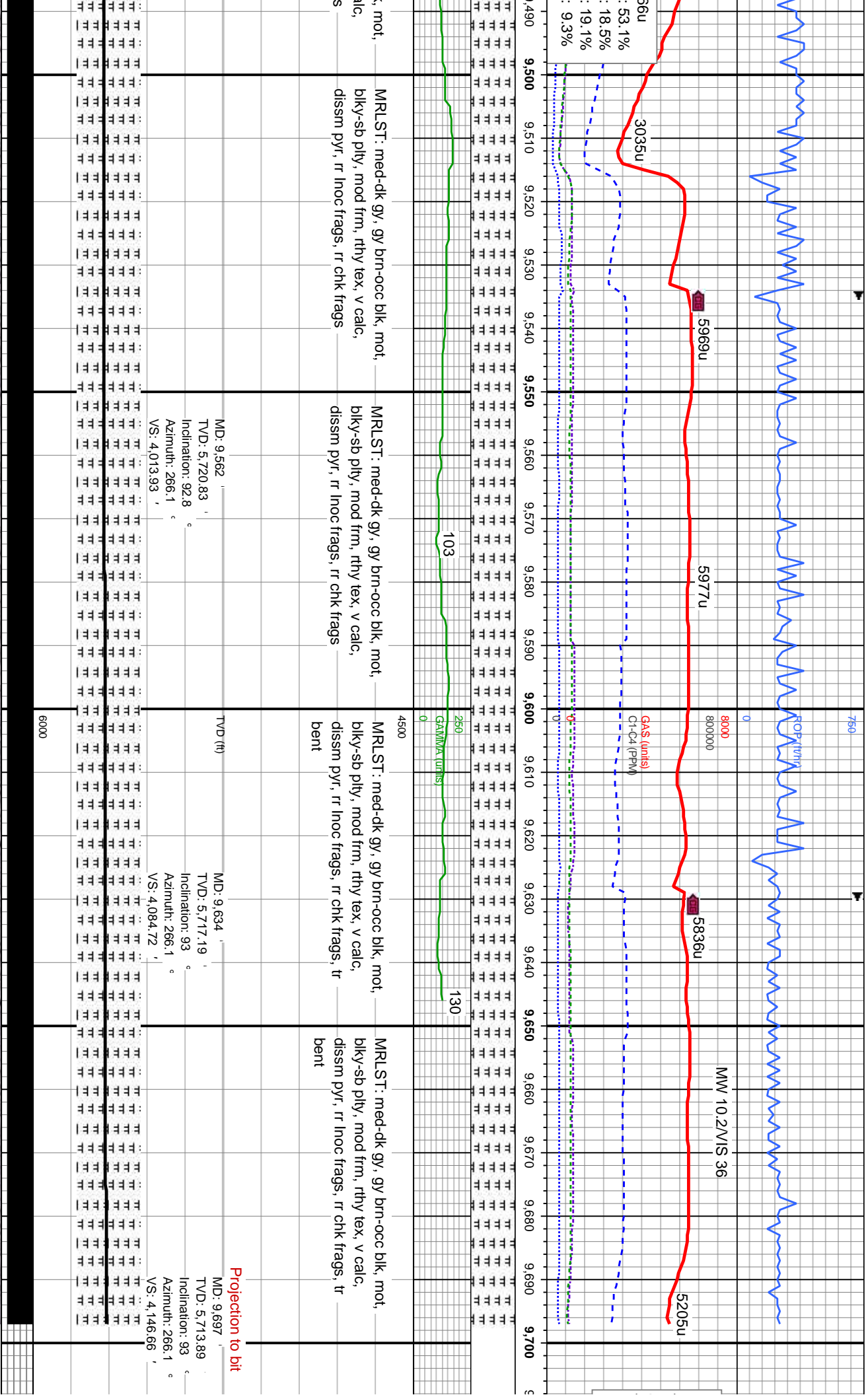












NOBLE ENERGY INC.  
CROHN STATE LD09-69-1HN  
TTD @ 9697' MD  
09/15/2013 @ 1105 MST  
THANK YOU FOR USING  
COLUMBINE LOGGING, INC.

9,710 9,720 9,730 9,740 **9,7**

[illegible]