



Scale: 5" / 100'
Measured Depth Log

Well Name TINA LC29-75-1HNA

Location SWSE SEC 29 T9N R59W

State COLORADO

County WELD

Country USA

Rig Number H&P 273

API Number 05-123-38781

Field WILDCAT

Region DJ BASIN

Drilling Completed 6/15/2014

Spud Date 6/6/2014

Surface Coordinates 340' FSL; 2129' FEL

Ground Elevation 4872'

K.B. Elevation 4896'

Logged Interval 5517' To 15534'

Total Depth 15534'

Formation NIOBRARA

Type of Drilling Fluid LSND

Operator

Company NOBLE ENERGY INC.

Address 1625 Broadway Suite 2200
Denver, CO 80202

Geologist

Name SARAH COMPTON

Company NOBLE ENERGY INC.

Address 1625 Broadway Suite 2200
Denver, CO 80202

Other

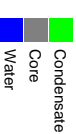
Wellsite Geologist #1 Jeremy Loftness

Wellsite Geologist #2 Tim Bright






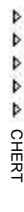



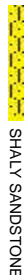





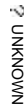
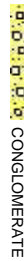



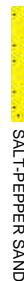
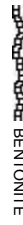





Wellsite Geologist #3 Laura Kellogg

Wellsite Geological Services Provided By Columbine Logging Inc.



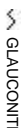
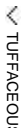
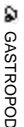

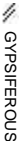

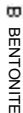




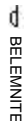
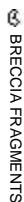

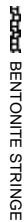
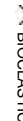

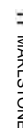
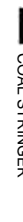
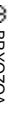

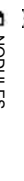
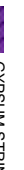
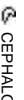

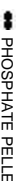
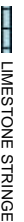
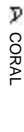
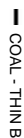
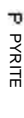


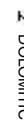
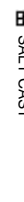
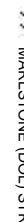
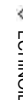
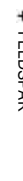
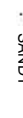
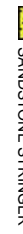
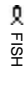
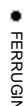

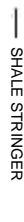



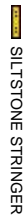





Zone Color Coding



Rock Types

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











Accessories

	F FOSSIL		ARGILLACEOUS		GLAUCONITE		TUFFACEOUS
	GASTROPOD		ARGILLITE GRAIN		GYPSIFEROUS		
	OOLITE		B BENTONITE		HEAVY MINERAL		
	AMPHIPORA		BITUMENOUS SUBSTANCE		INOCERAMUS		ANHYDRITE STRINGER
	BELEMNITE		BRECCIA FRAGMENTS		K KAOLIN		BENTONITE STRINGER
	BIOCLASTIC		PELECYPOD PELLET		T MARLSTONE		COAL STRINGER
	BRACHIOPOD		RISOLITE		C CARBONACEOUS FLAKES		DOLOMITE STRINGER
	BRYOZOA		PLANT REMAINS		N NODULES		GYPSUM STRINGER
	CEPHALOPOD		PLANT SPORES		P PHOSPHATE PELLETS		LIMESTONE STRINGER
	CORAL		SCAPHOPOD		C COAL - THIN BEDS		MARLSTONE (CALC) STRG
	CRINOID		STROMATOPOROID		D DOLOMITIC		MARLSTONE (DOL) STRG
	ECHINOID		FELDSPAR		S SANDY		SANDSTONE STRINGER
	FISH		FERRUGINOUS PELLET		S SILICEOUS		SHALE STRINGER
	FORAMINIFERA		ANHYDRITIC		S SILTY		SILTSTONE STRINGER





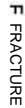


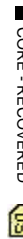
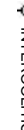
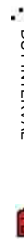
Minerals

Other

Oil Show

	MOLDIC		FA
	ORGANIC		P PINPOINT
	DEAD		V VUGGY
	EVEN		Q QUESTIONABLE
	SPOTTED STAINING		Engineering

Porosity

	E EARTHY		CONNECTION (RIGHT)
	F FENESTRAL		CONNECTION GAS
	F FRACTURE		CORE - LOST
	INTERCRYSTALLINE		CORE - RECOVERED
	INTEROOLITIC		DST INTERVAL

er Symbols

ULT  WIRELINE TESTED - LEFT **E** EARTHY

FORMATION TOP  WIRELINE TESTED - RT **FX** FINELYXLN

AS SHOW

GS GRAINSTONE

Rounding

DEPTH MN DEPTH

L LITHOGRAPHIC

RRMAL FAULT **A** ANGULAR

MX MICROXLN

L SHOW **R** ROUNDED

MS MUDSTONE

VERTURNED STRATA **B** SUBANG

PS PACKSTONE

VERSE FAULT **F** SUBRND

WS WACKESTONE

DEWALL CORE (LEFT)

Textures

Sorting

DEWALL CORE (RIGHT)

IDE **BS** BOUNDSTONE

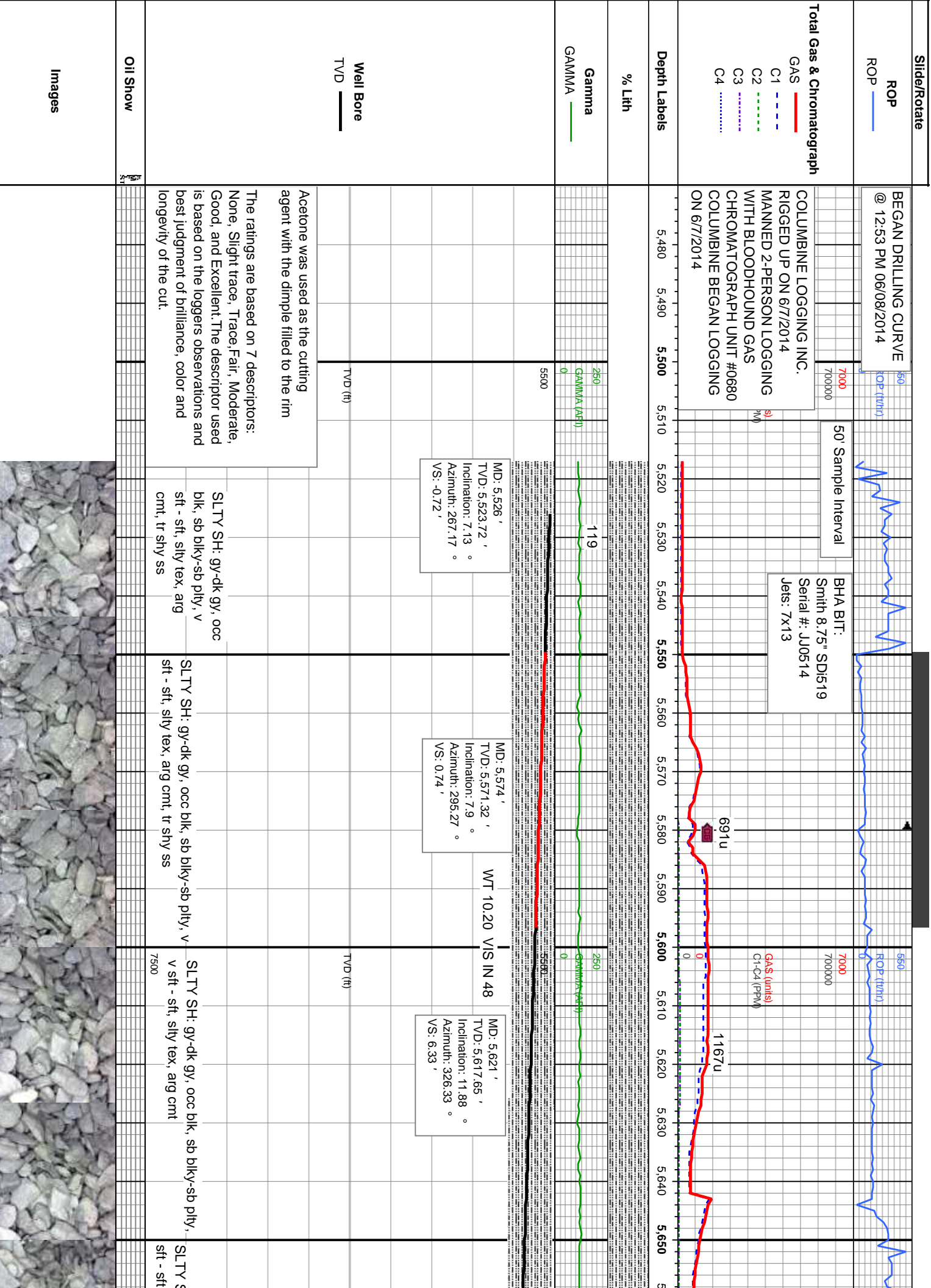
M MODERATE

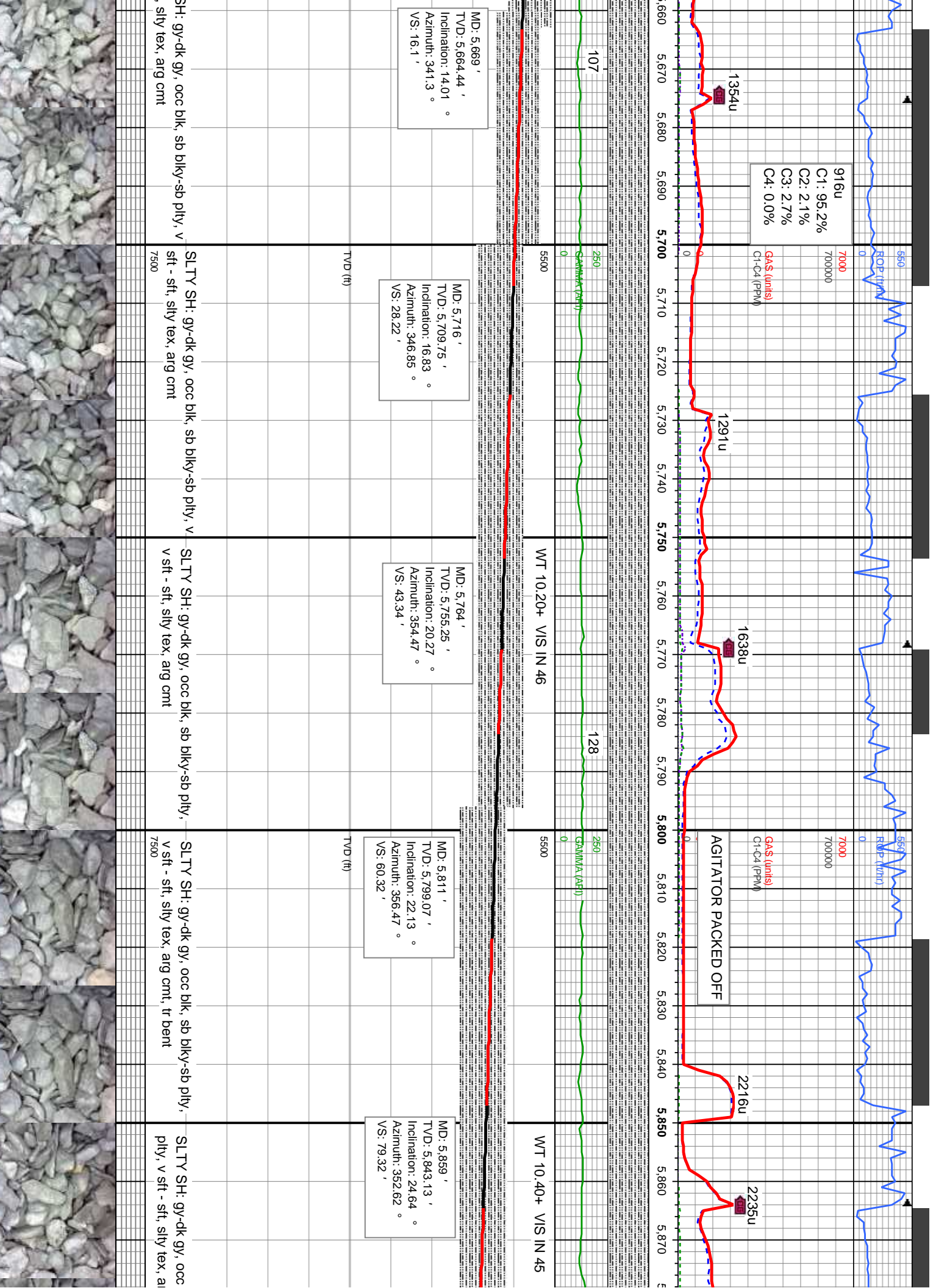
SURVEY **C** CHALKY

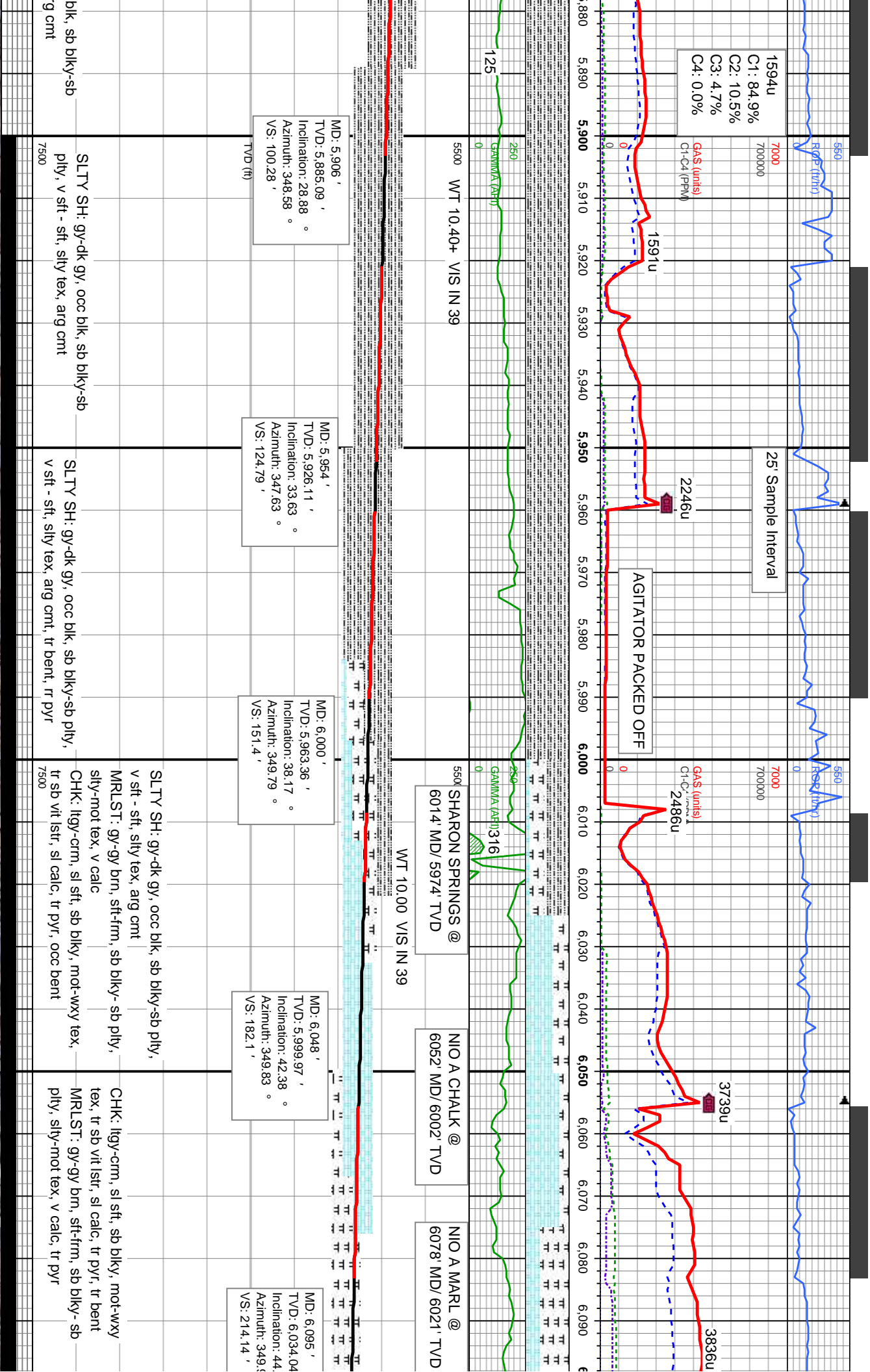
P POOR

RIP GAS **CX** CRYPTOXLN

W WELL





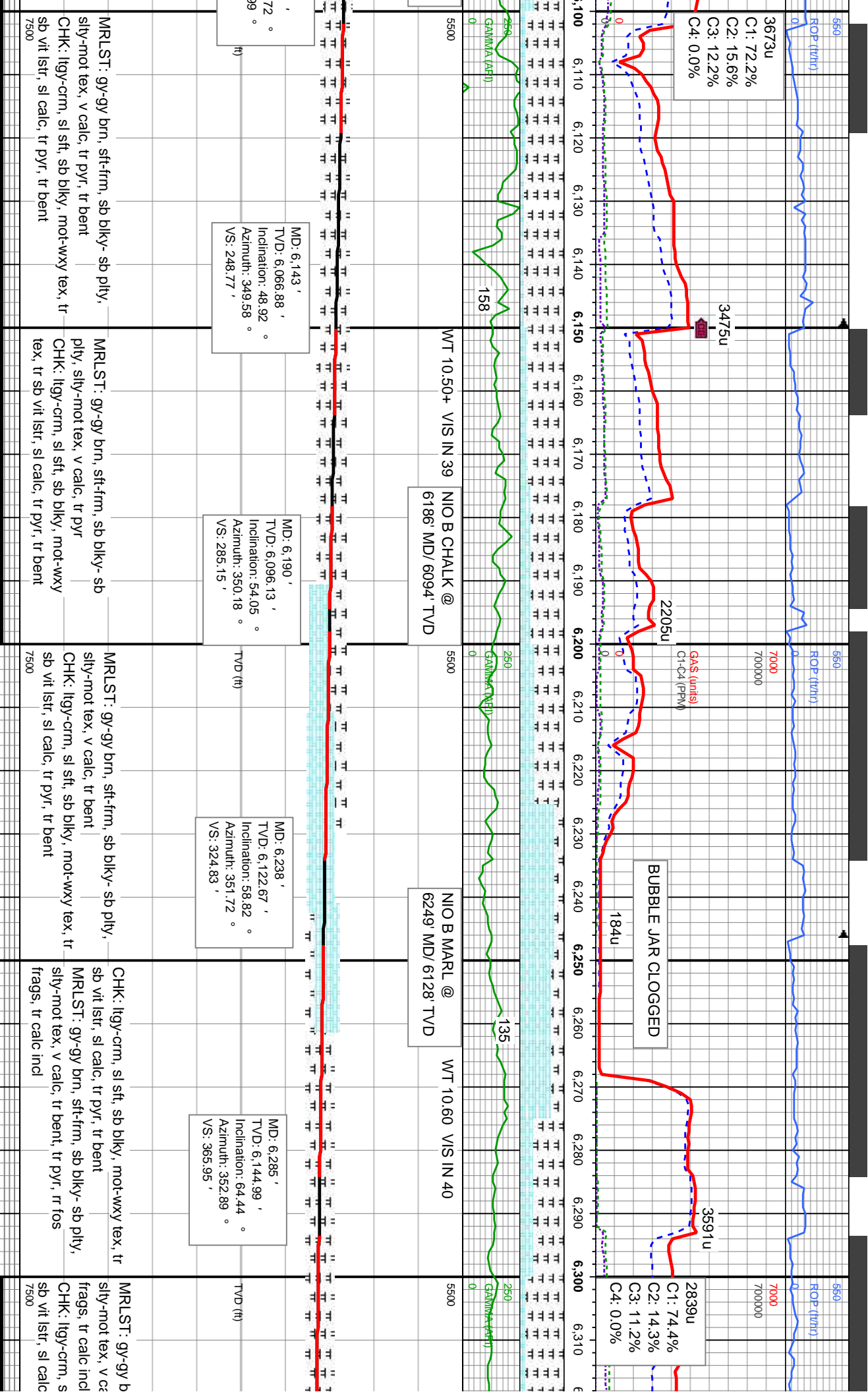


SLTY SH: gy-dk gy, occ blk, sb blk-y-sb
ply, v sft - sft, silty tex, arg cmt

SLTY SH: gy-dk gy, occ blk, sb blk-y-sb ply,
v sft - sft, slty tex, arg cmt, tr bent, rr pyr

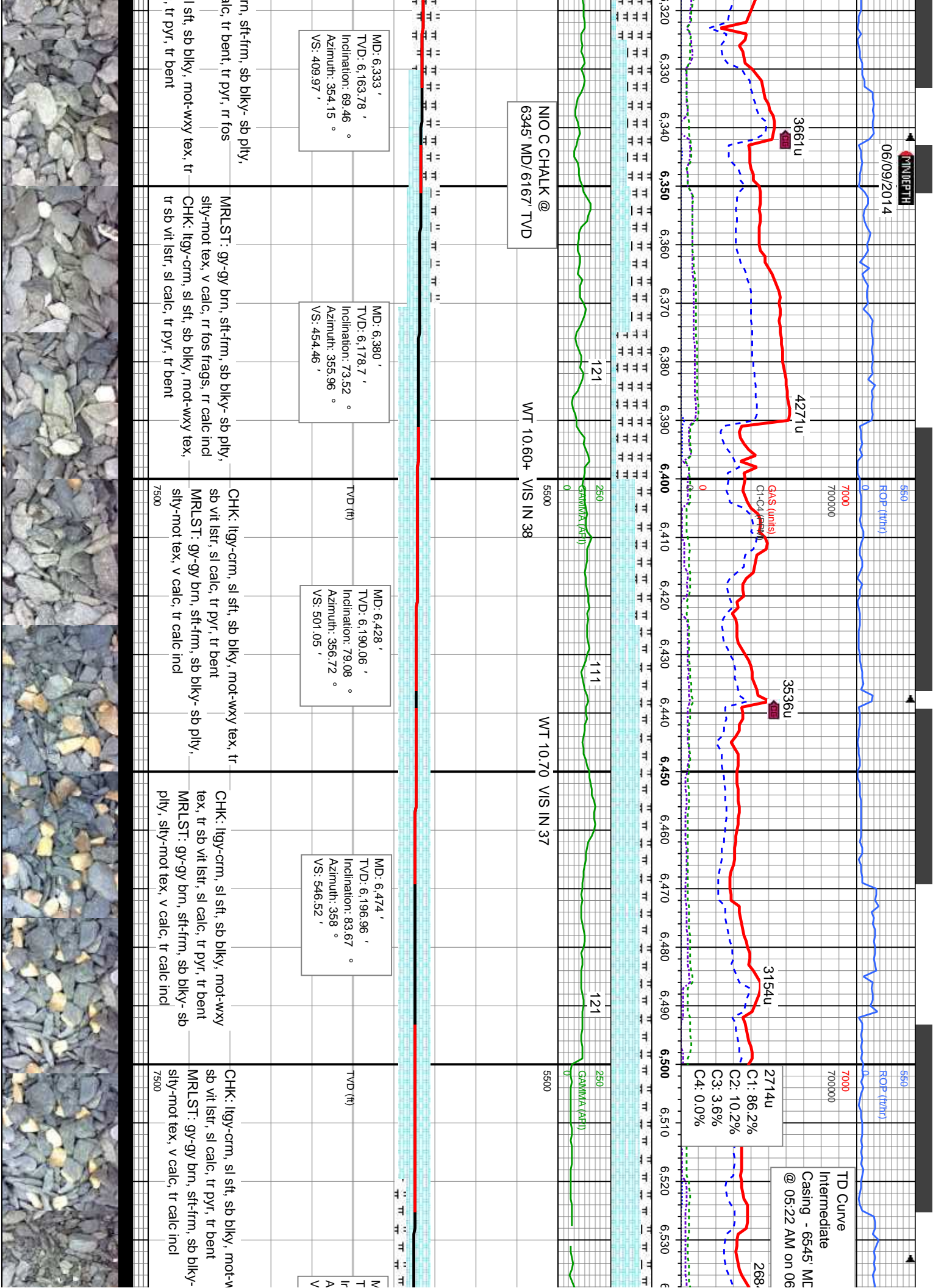
SLTY SH: gy-dk gy, occ blk, sb bkly-sb pty,
v sft - sft, sily tex, aig cmt
MRLST: gy-gy brn, sft-frn, sb bkly- sb pty, -
sily-mot tex, v calc
CHK: lly-gy-crm, sl sft, sb bkly, mot-wxy tex, -
tr sb vit istr, sl calc, tr pyr, occ bent
1500

CHK: lty-crm, sl sft, sb blk, mot-wxy
tex, tr sb vit lstr, sl calc, tr pyr, tr bent
MRLST: gy-gy brn, sft-frm, sb blk-sb
ply, slty-mot tex, v calc, tr pyr



CHK: llyg-crm, sl sft, sb blk, mot-wxy tex, tr	
sb vit lstr, sl calc, tr pyr, tr bent	
MRLST: gy-gy brn, sft-firm, sb blk- sb ply,	
slty-mot tex, v calc, tr bent, tr pyr, tr fos	
frags, tr calc incl	

MRLST: gy-gy b
sly-mot tex, v c
frags, tr calc incl
CHK: lty-crm, s
sb vit lstr, sl calc
7500



DEPTH

6/10/2014

BHA BIT:
Smith 6.125" SD513
Serial #: JH9705
Jets: 5x16

Drilled out of
7" Casing
@ 1:23 PM
06/10/2014

50' Sample Interval

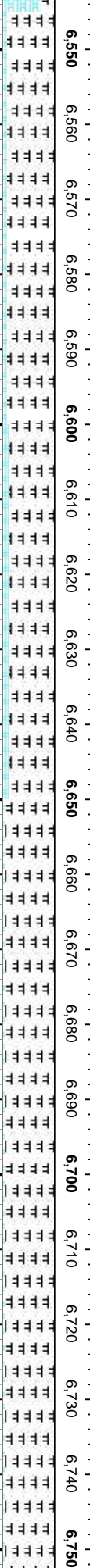
1436u

4626u

4502u

3302u

3942u
C1: 69.3%
C2: 17.1%
C3: 13.6%
C4: 0.0%



WT IN 10.00/ OUT 10.00
VIS IN 35/ OUT 35

MD: 6.572 '
TVD: 6,201.87 '
Inclination: 89.42 °
Azimuth: 358.96 °
VS: 644.35 '

MD: 6.629 '
TVD: 6,202.36 '
Inclination: 89.59 °
Azimuth: 358.17 °
VS: 701.35 '

MD: 6.724 '
TVD: 6,203.07 '
Inclination: 89.55 °
Azimuth: 357.02 °
VS: 796.34 '

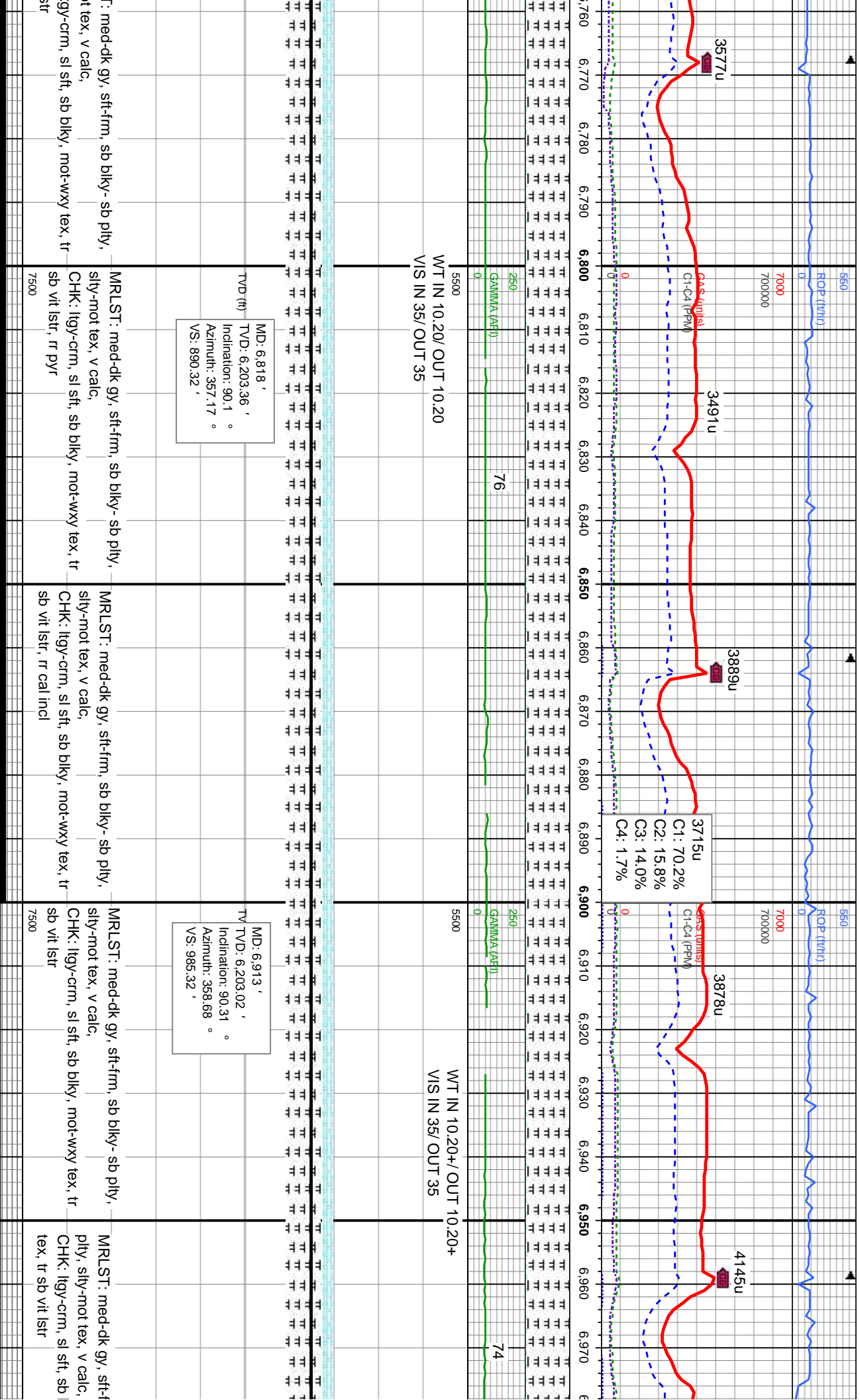
MRLST: med-dk gy, sft-frn, sb blk- sb ply,
sily-mot tex, v calc,
CHK: ltgy-crm, sl sft, sb blk, mot-wxy tex, tr
sb vit lstr, tr calc incl

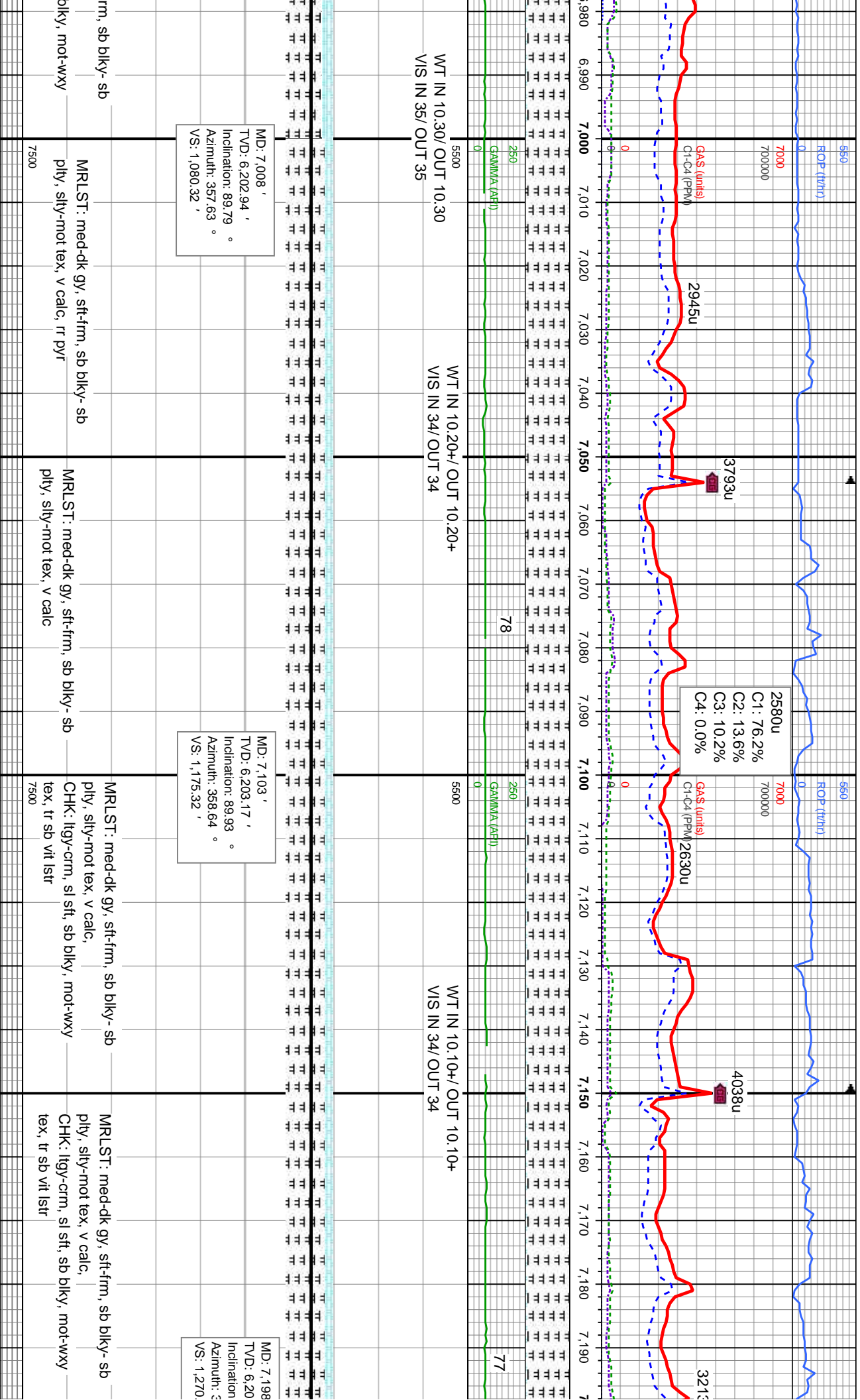
MRLST: med-dk gy, sft-frn, sb blk- sb ply,
sily-mot tex, v calc,
CHK: ltgy-crm, sl sft, sb blk, mot-wxy tex, tr
sb vit lstr, tr calc incl

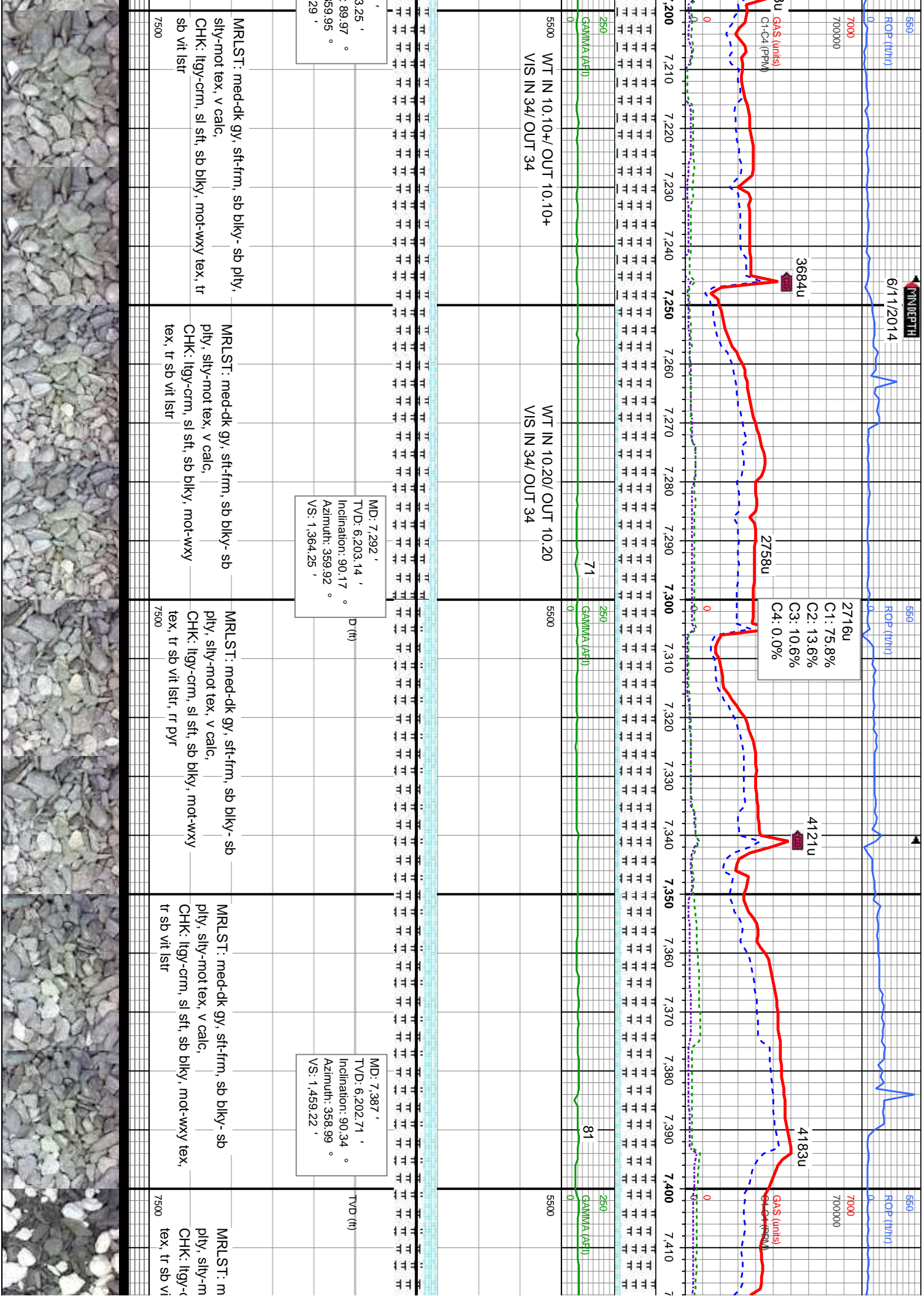
MRLST: med-dk gy, sft-frn, sb blk- sb
ply, sily-mot tex, v calc,
CHK: ltgy-crm, sl sft, sb blk, mot-wxy
tex, tr sb vit lstr

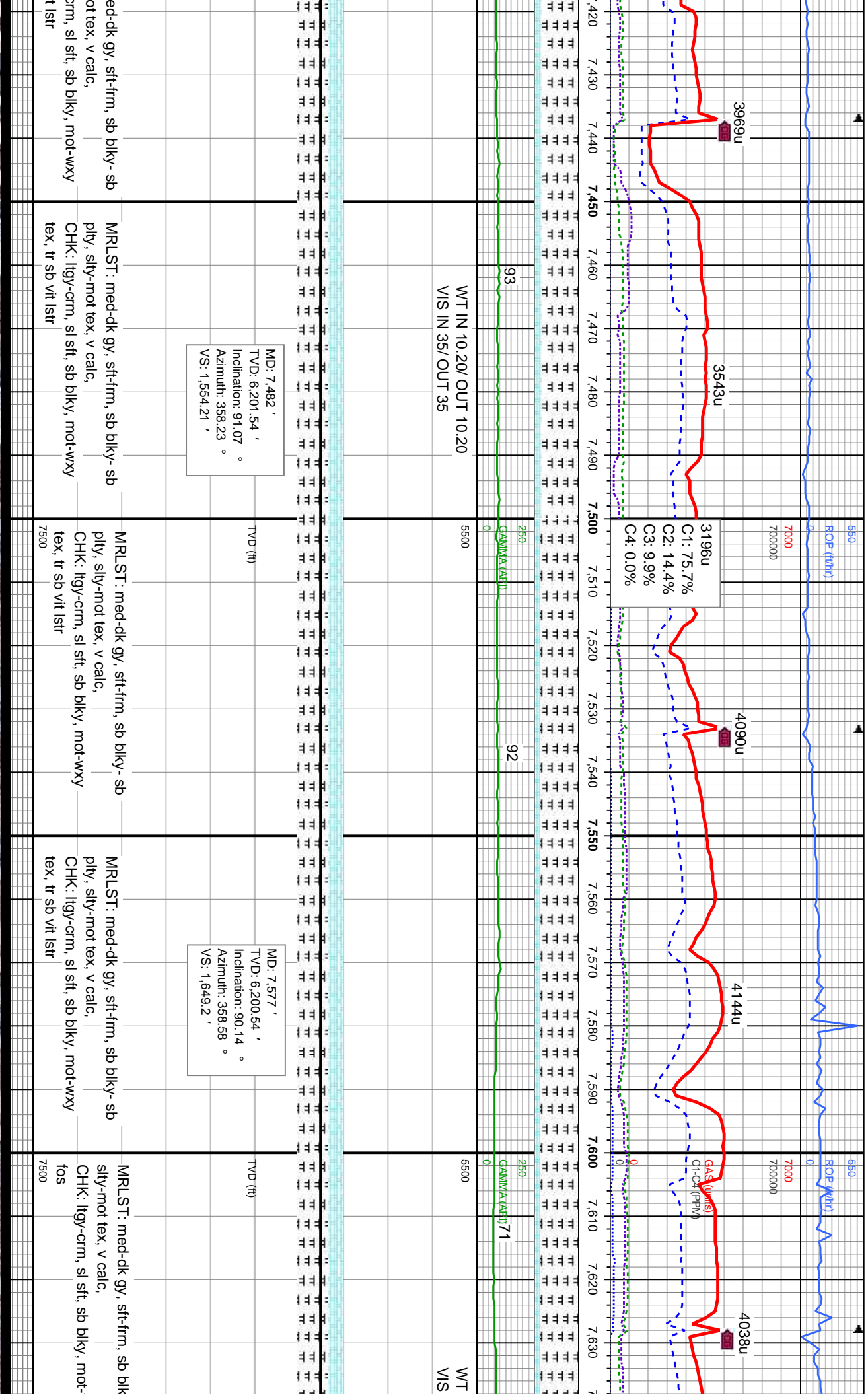
MRLST: med-dk gy, sft-frn, sb blk- sb
ply, sily-mot tex, v calc,
CHK: ltgy-crm, sl sft, sb blk, mot-wxy
tex, tr sb vit lstr











MD: 7.482 '
TVD: 6.201.54 '
Inclination: 91.07 °
Azimuth: 358.23 °
VS: 1.554.21 '

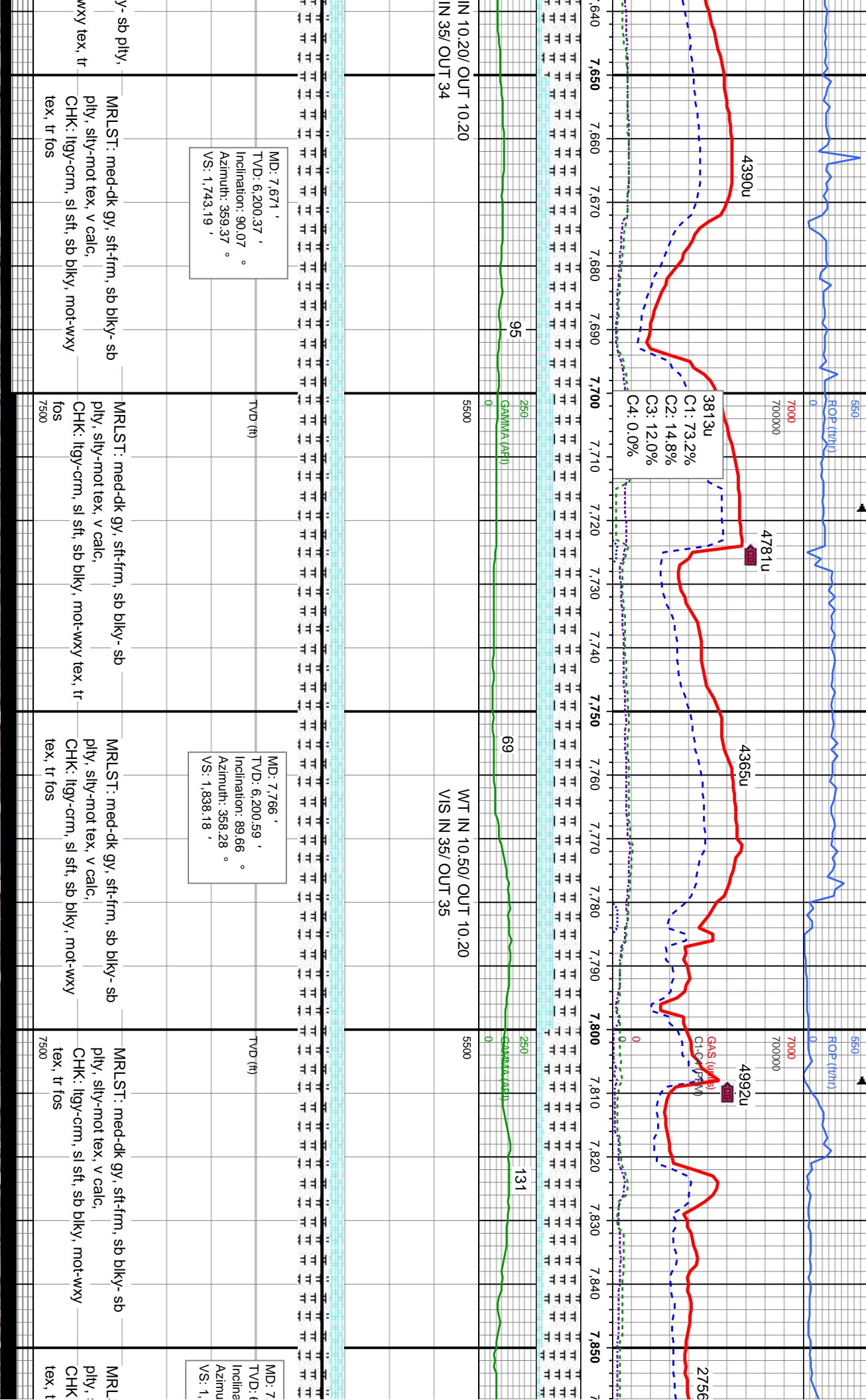
MD: 7.577 '
TVD: 6.200.54 '
Inclination: 90.14 °
Azimuth: 358.58 °
VS: 1.649.2 '

MRLST: med-dk gy, sft-fm, sb blk- sb
ply, silty-mot tex, v calc,
CHK: lgy-crm, sl sft, sb blk, mot-wxy
tex, tr sb vit lstr

MRLST: med-dk gy, sft-fm, sb blk- sb
ply, silty-mot tex, v calc,
CHK: lgy-crm, sl sft, sb blk, mot-wxy
tex, tr sb vit lstr

MRLST: med-dk gy, sft-fm, sb blk- sb
ply, silty-mot tex, v calc,
CHK: lgy-crm, sl sft, sb blk, mot-wxy
tex, tr sb vit lstr

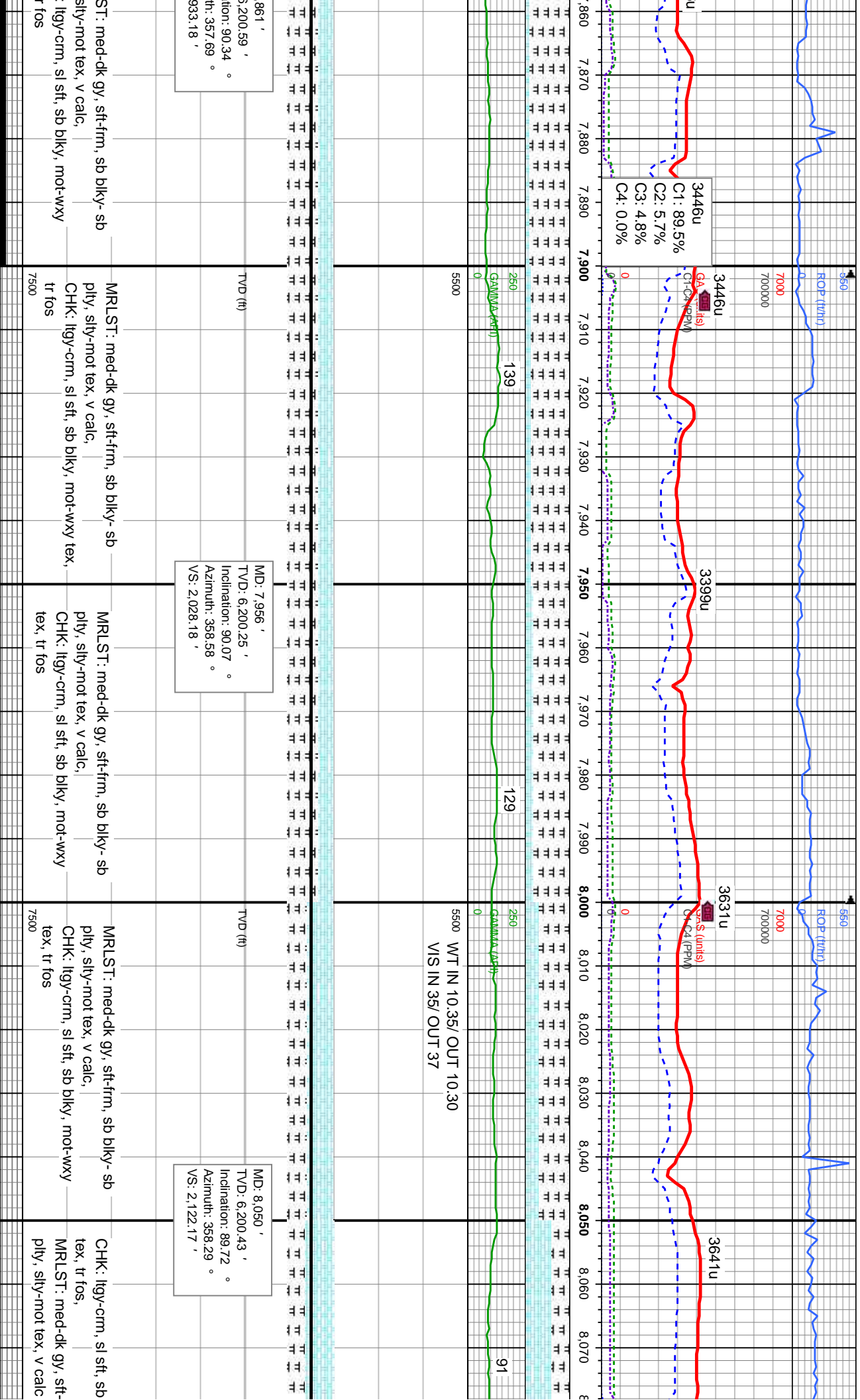
MRLST: med-dk gy, sft-fm, sb blk
silty-mot tex, v calc,
CHK: lgy-crm, sl sft, sb blk, mot-
fos

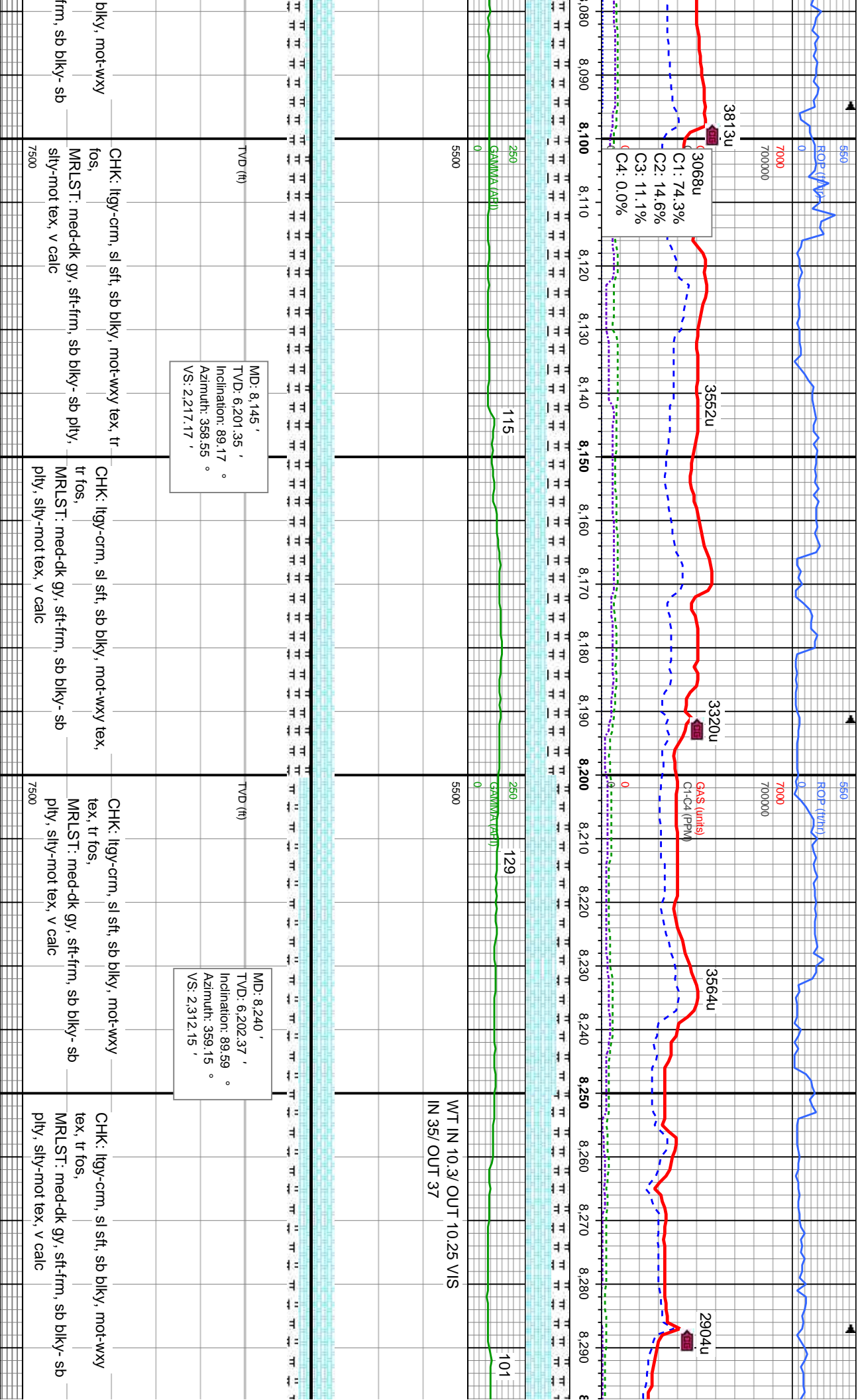


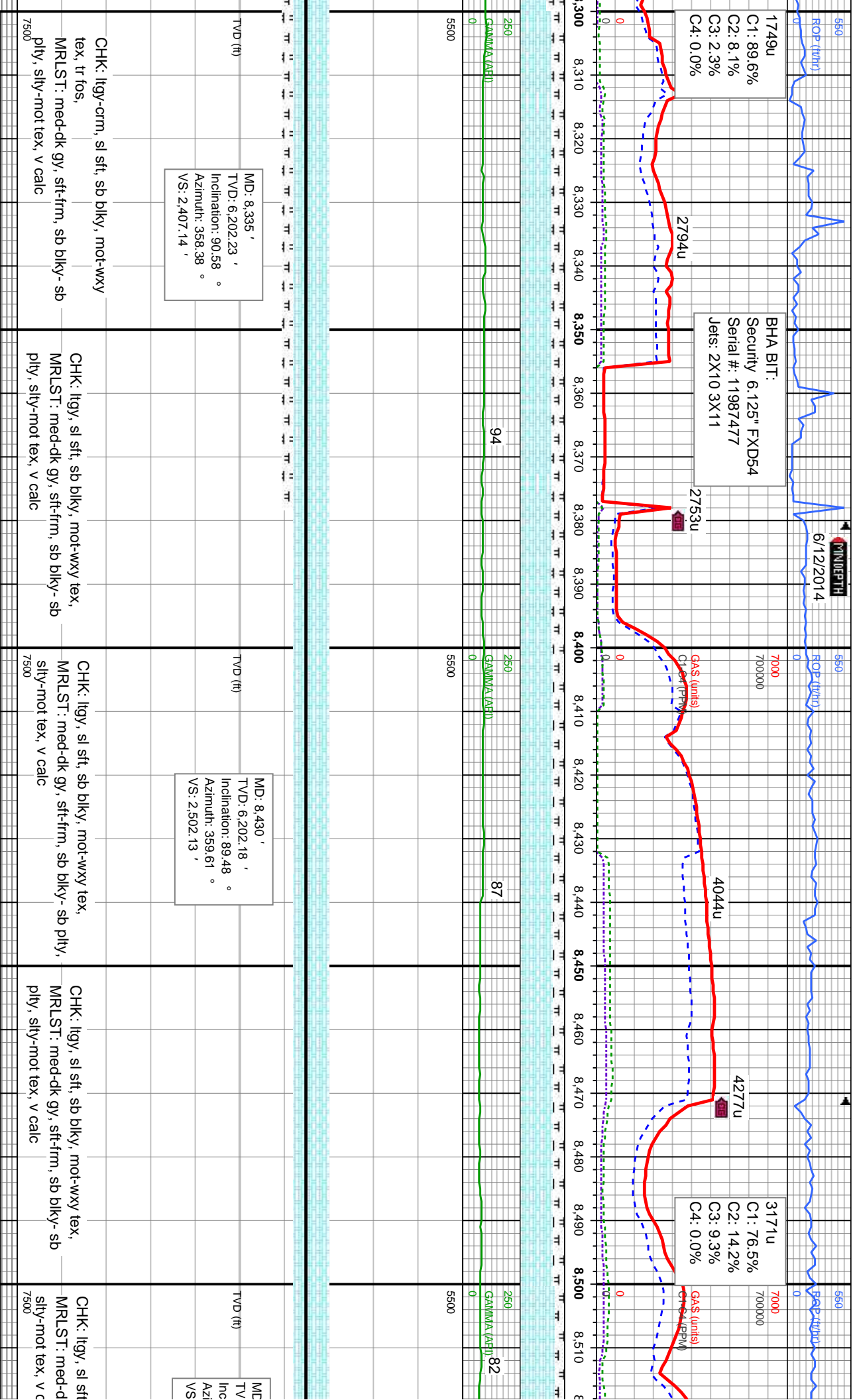
MD: 7,671 '
TVD: 6,200.37 '
Inclination: 90.07 °
Azimuth: 359.37 °
VS: 1,743.19 '

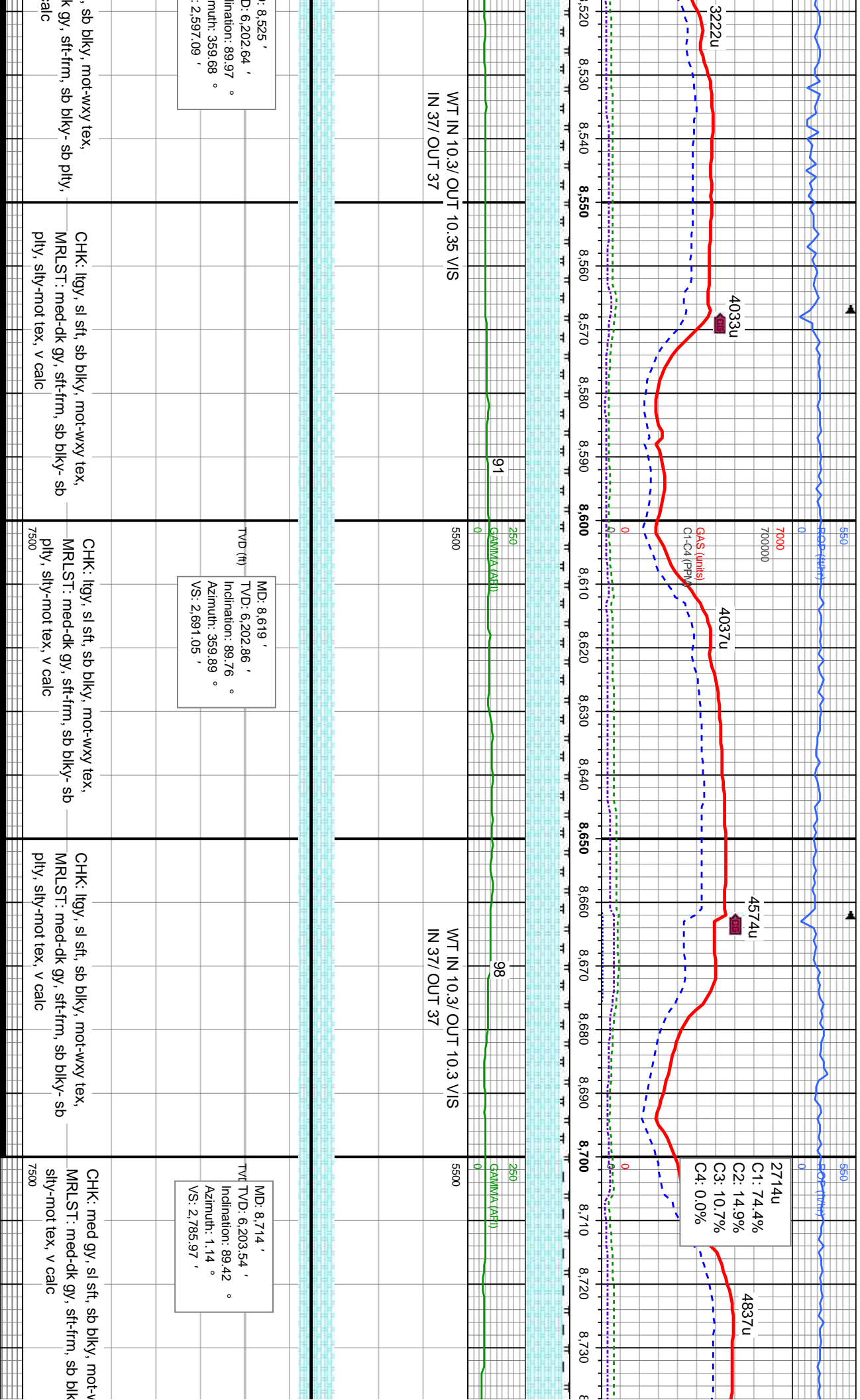
MD: 7,766 '
TVD: 6,200.59 '
Inclination: 89.66 °
Azimuth: 358.28 °
VS: 1,838.18 '

MD: 7
TVD: 6
Inclina
Azimu
VS: 1,





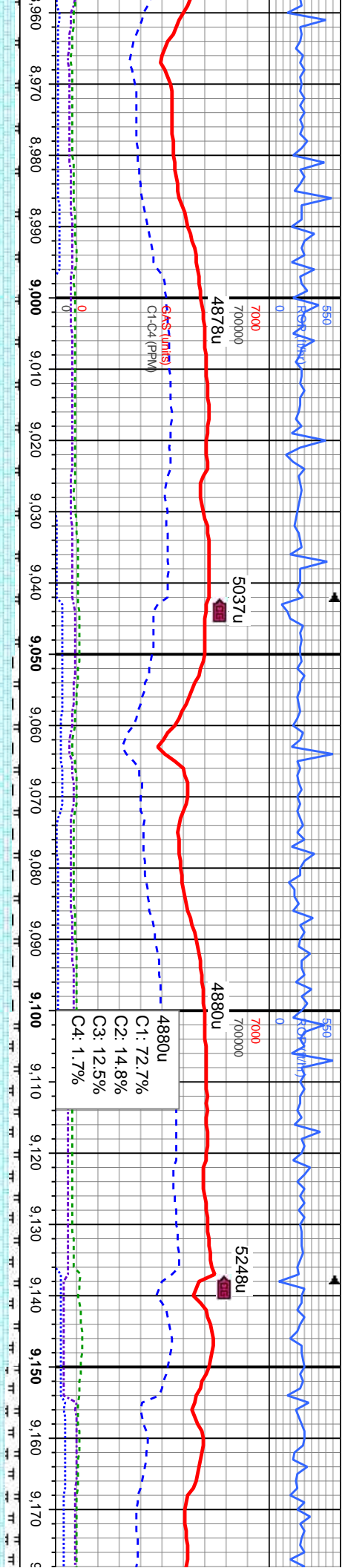




MD: 8.625 ' TVD: 6,202.64 ' Incination: 89.97 ° Azimuth: 359.68 ° VS: 2,597.09 '

MD: 8.619 ' TVD: 6,202.86 ' Incination: 89.76 ° Azimuth: 359.89 ° VS: 2,691.05 '

MD: 8.714 ' TVD: 6,203.54 ' Incination: 89.42 ° Azimuth: 1.14 ° VS: 2,785.97 '



WT IN 10.3/ OUT 10.3 VIS
IN 37/ OUT 38

MD: 8.999 '
TVD: 6,206.08 '
Inclination: 89.72 °
Azimuth: 358.59 °
VS: 3,070.78 '

MD: 9.094 '
TVD: 6,206.59 '
Inclination: 89.66 °
Azimuth: 359.61 °
VS: 3,165.76 '

med gy, sl sft, sb blk, mot-wxy tex,
sft: med-dk gy, sft-firm, sb blk- sb
sily-mot tex, v calc

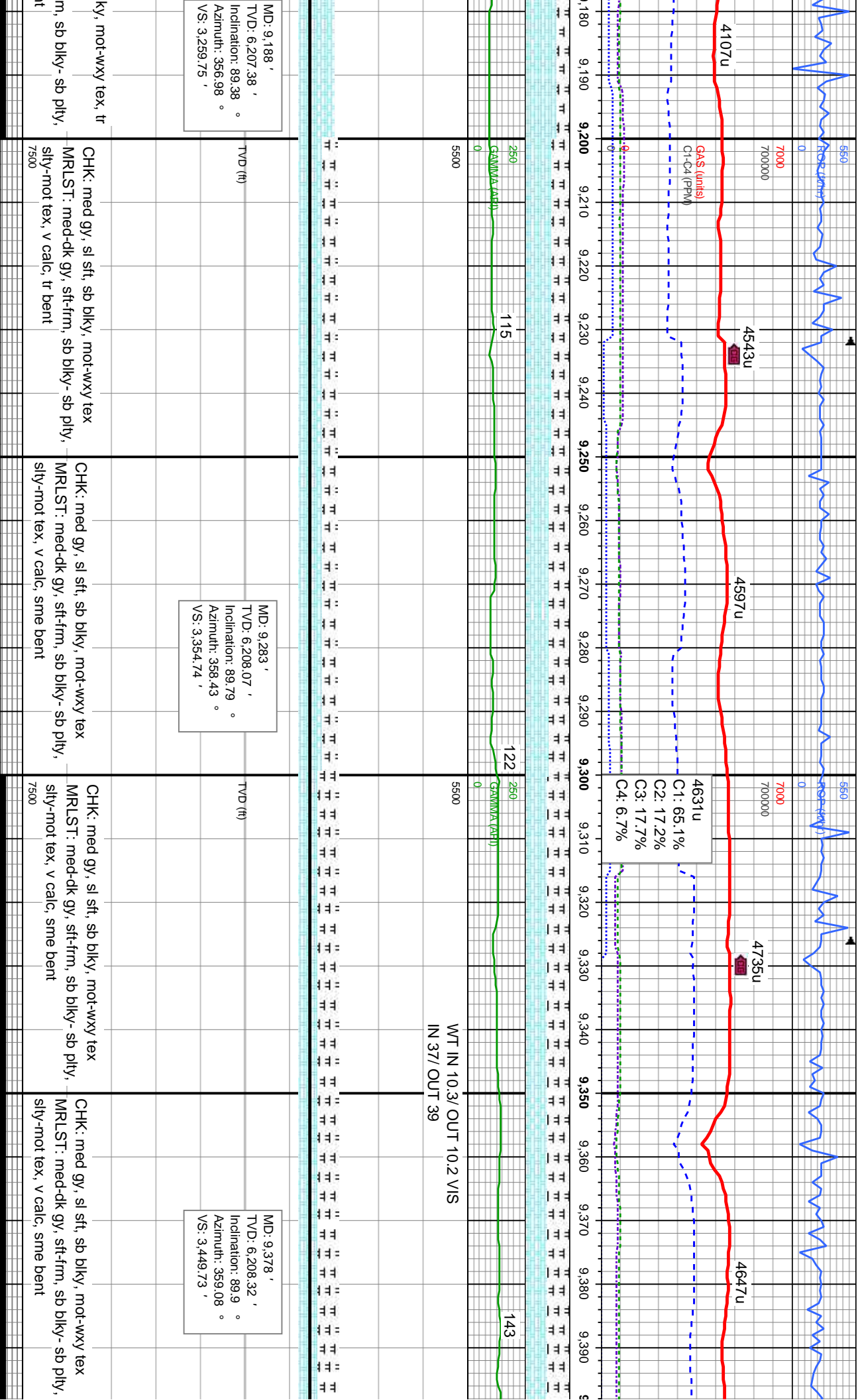
CHK: med gy, sl sft, sb blk, mot-wxy tex,
MRLST: med-dk gy, sft-firm, sb blk- sb ply,
sily-mot tex, v calc

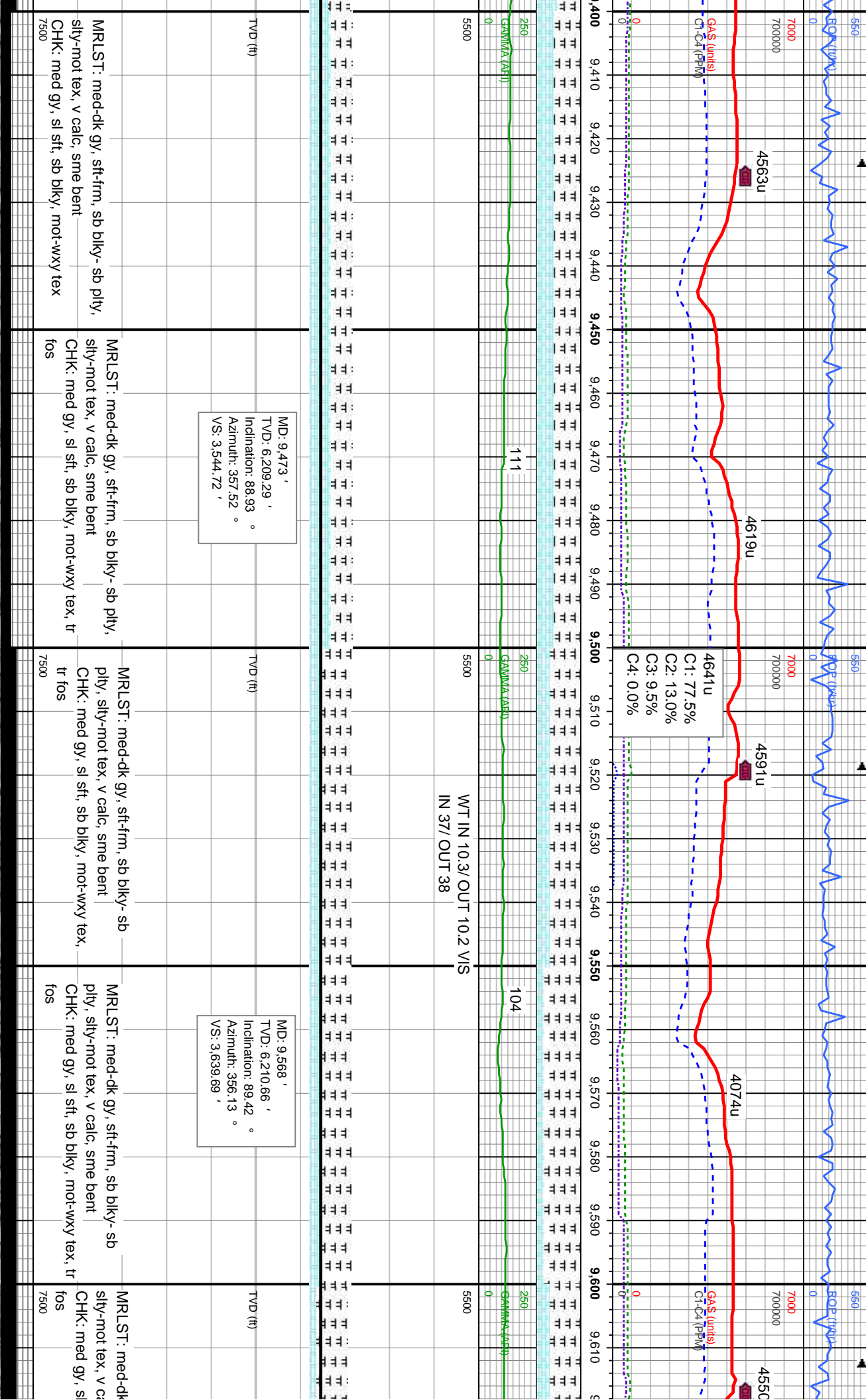
CHK: med gy, sl sft, sb blk, mot-wxy tex,
MRLST: med-dk gy, sft-firm, sb blk- sb ply,
sily-mot tex, v calc

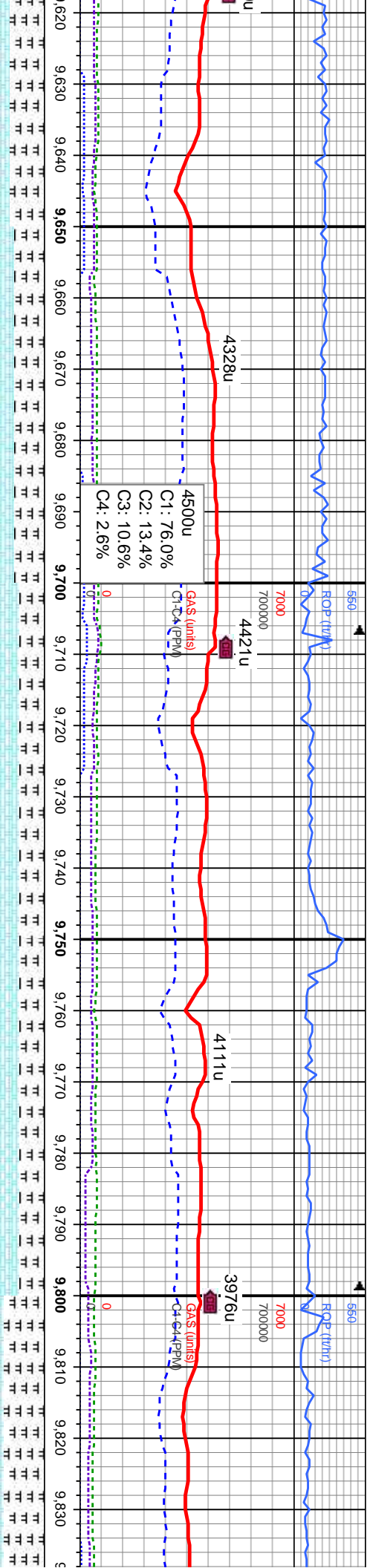
CHK: med gy, sl sft, sb blk, mot-wxy tex, tr
cal incl
MRLST: med-dk gy, sft-firm, sb blk- sb ply,
sily-mot tex, v calc

CHK: med gy, sl sft, sb blk
cal incl
MRLST: med-dk gy, sft-firm
sily-mot tex, v calc, tr ber









MD: 9.663 '
TVD: 6,211.14 '
Inclination: 90 °
Azimuth: 358.43 °
VS: 3.734.67 '

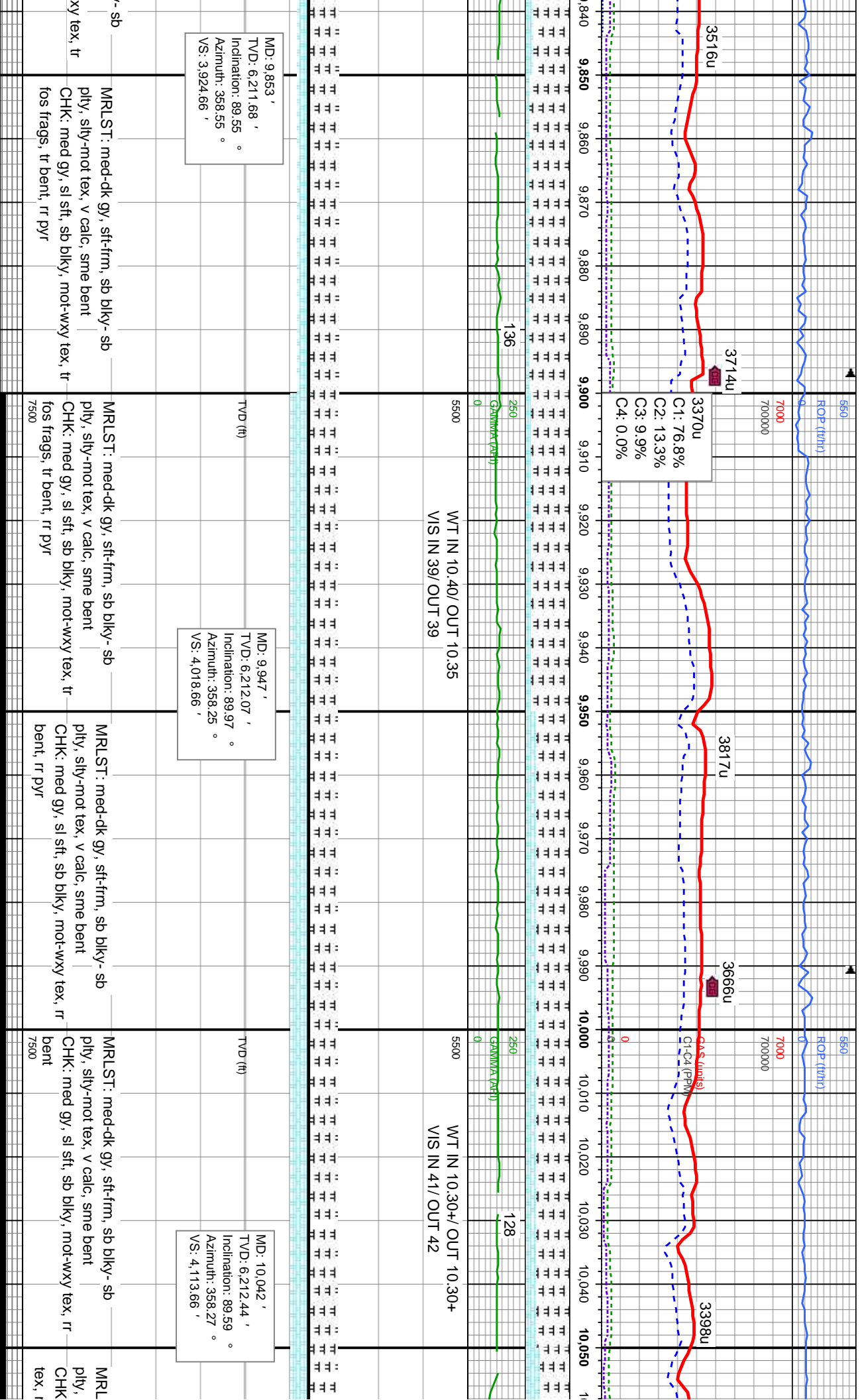
MD: 9.758 '
TVD: 6,211.23 '
Inclination: 89.9 °
Azimuth: 358.66 °
VS: 3.829.67 '

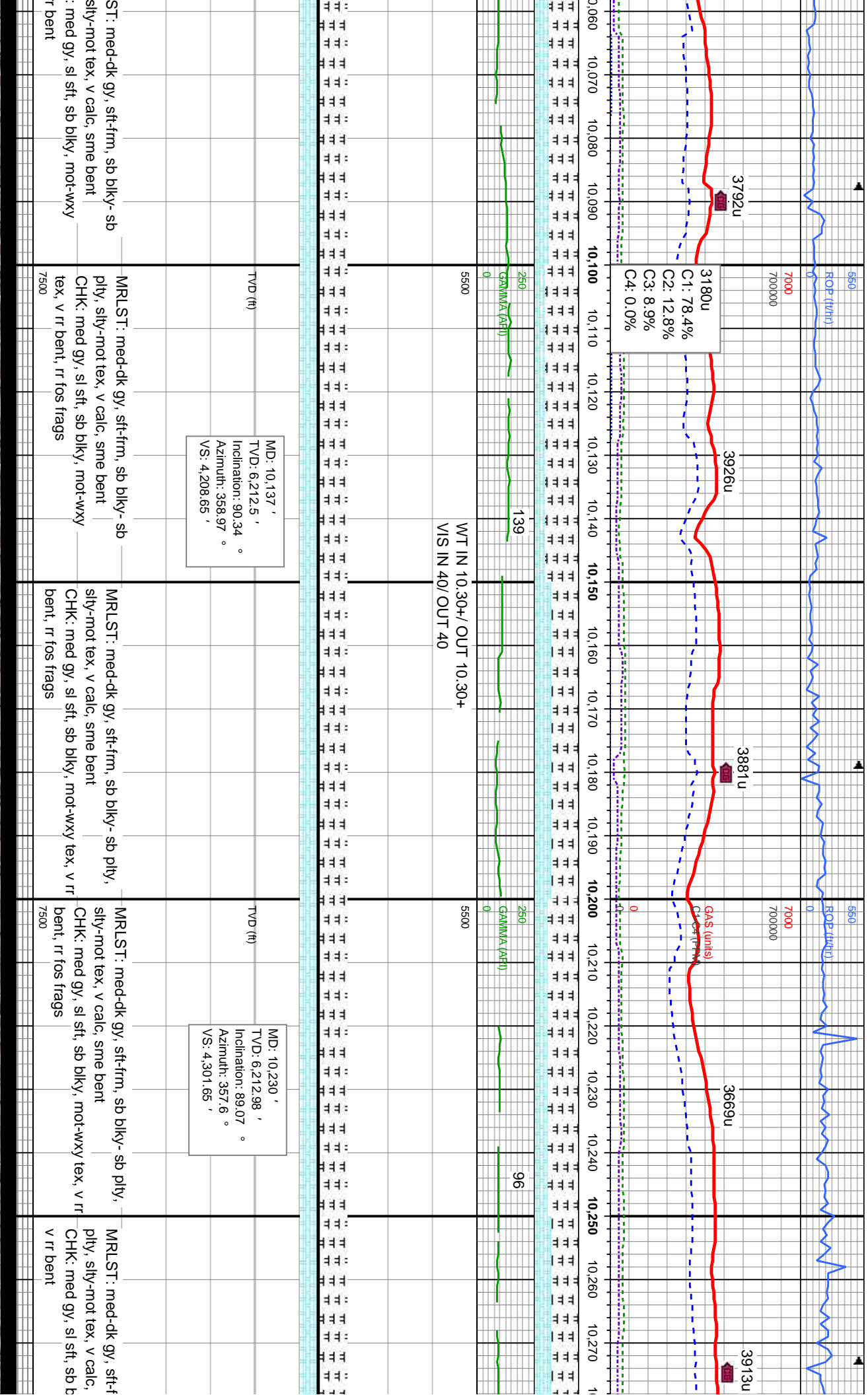
gy, sft-frm, sb blkly- sb plty, alac, sme bent	MR LST: med-dk gy, sft-frm, sb blkly- sb plty, silty-mot tex, v calc, sme bent	MR LST: med-dk gy, sft-frm, sb blkly- sb plty, silty-mot tex, v calc, sme bent	MR LST: med-dk gy, sft-frm, sb blkly- sb plty, silty-mot tex, v calc, sme bent
sft, sb blkly, mot-wxy tex, tr	CHK: med gy, sl sft, sb blkly, mot-wxy tex, tr fos	CHK: med gy, sl sft, sb blkly, mot-wxy tex, tr fos, tr bent	CHK: med gy, sl sft, sb blkly, mot-wxy tex, tr fos, tr bent

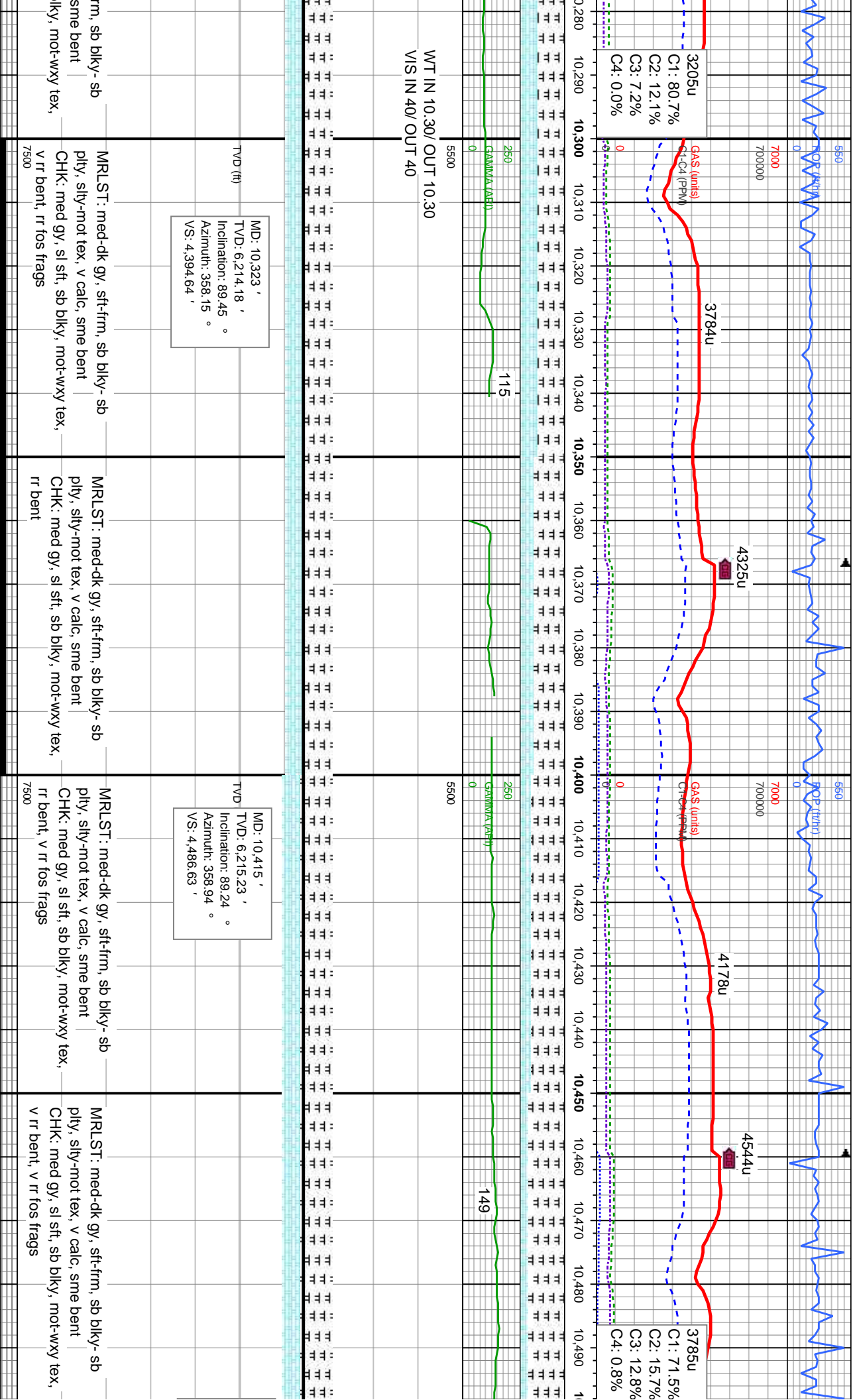
WT IN 10.20/ OUT 10.25
VIS IN 38/ OUT 39

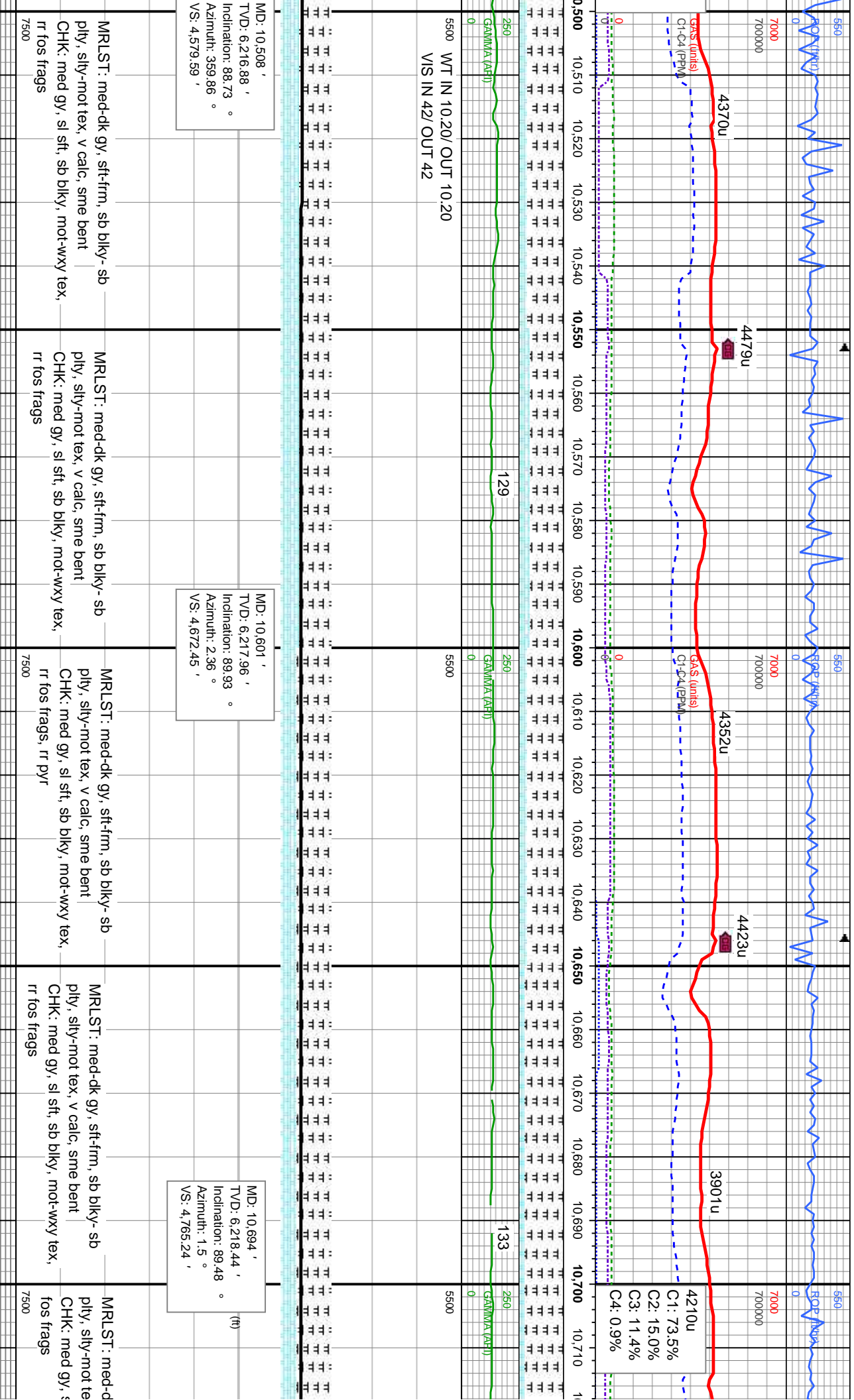
WT IN 10.15/ OUT 10.15
VIS IN 38/ OUT 38

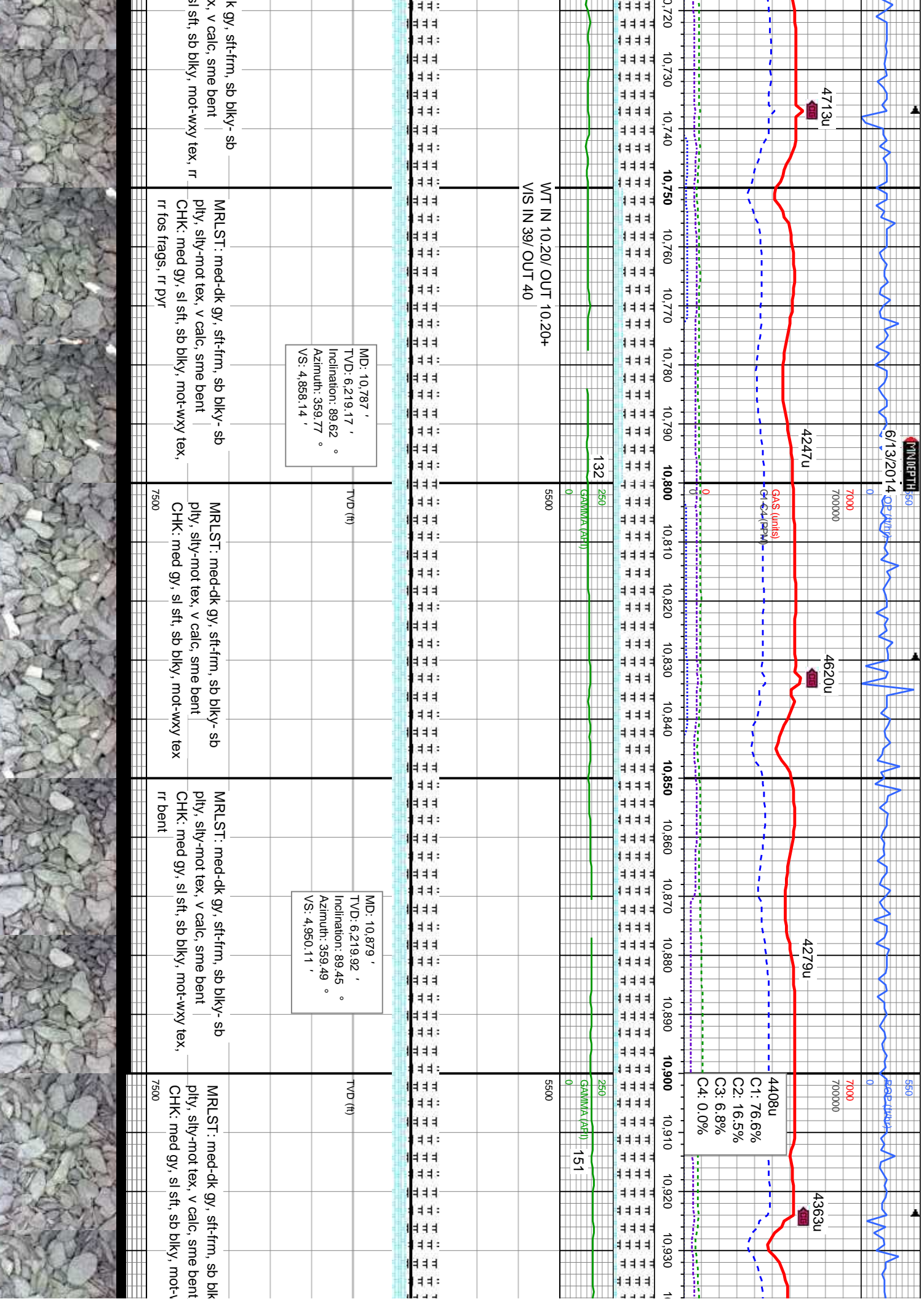


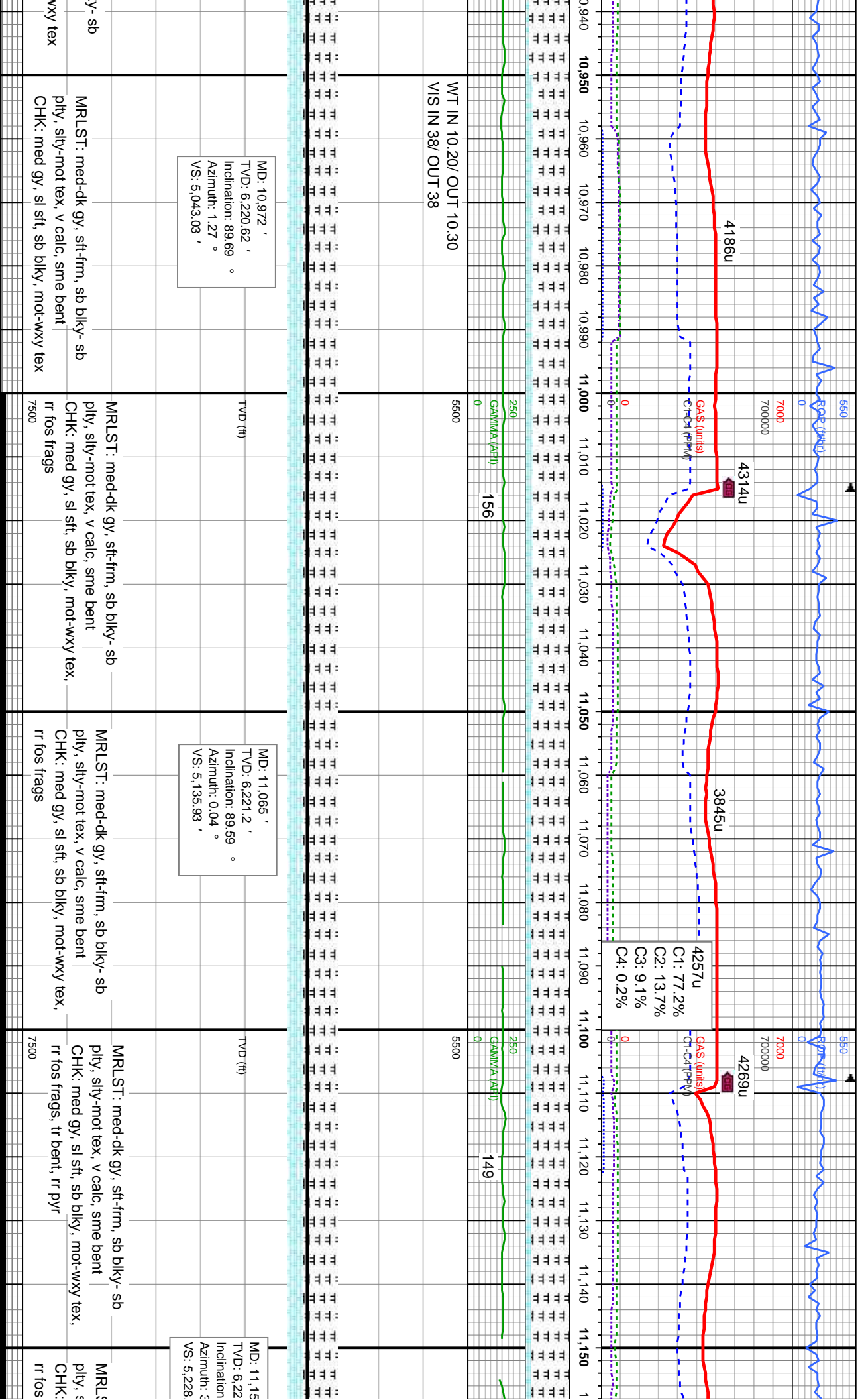










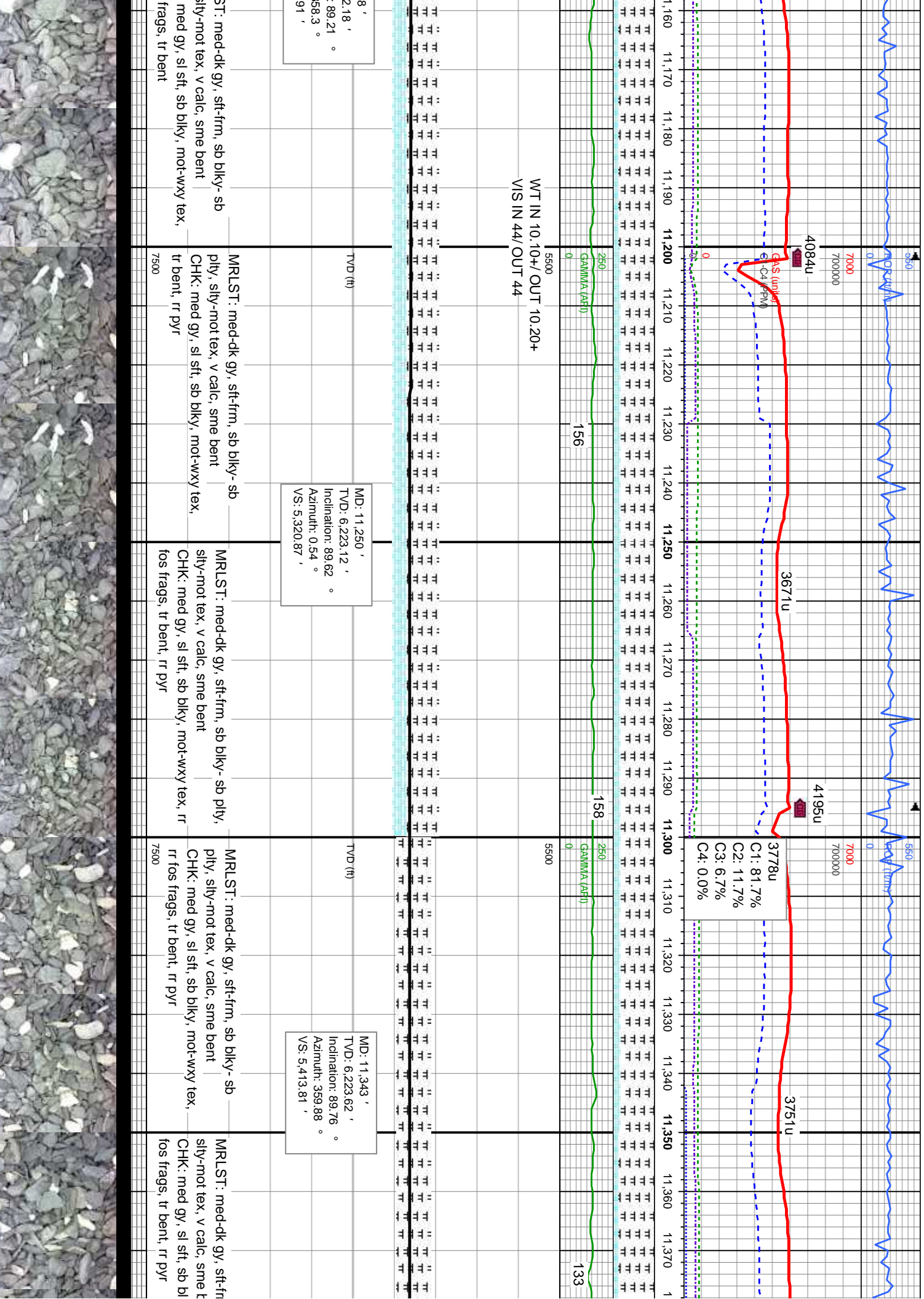


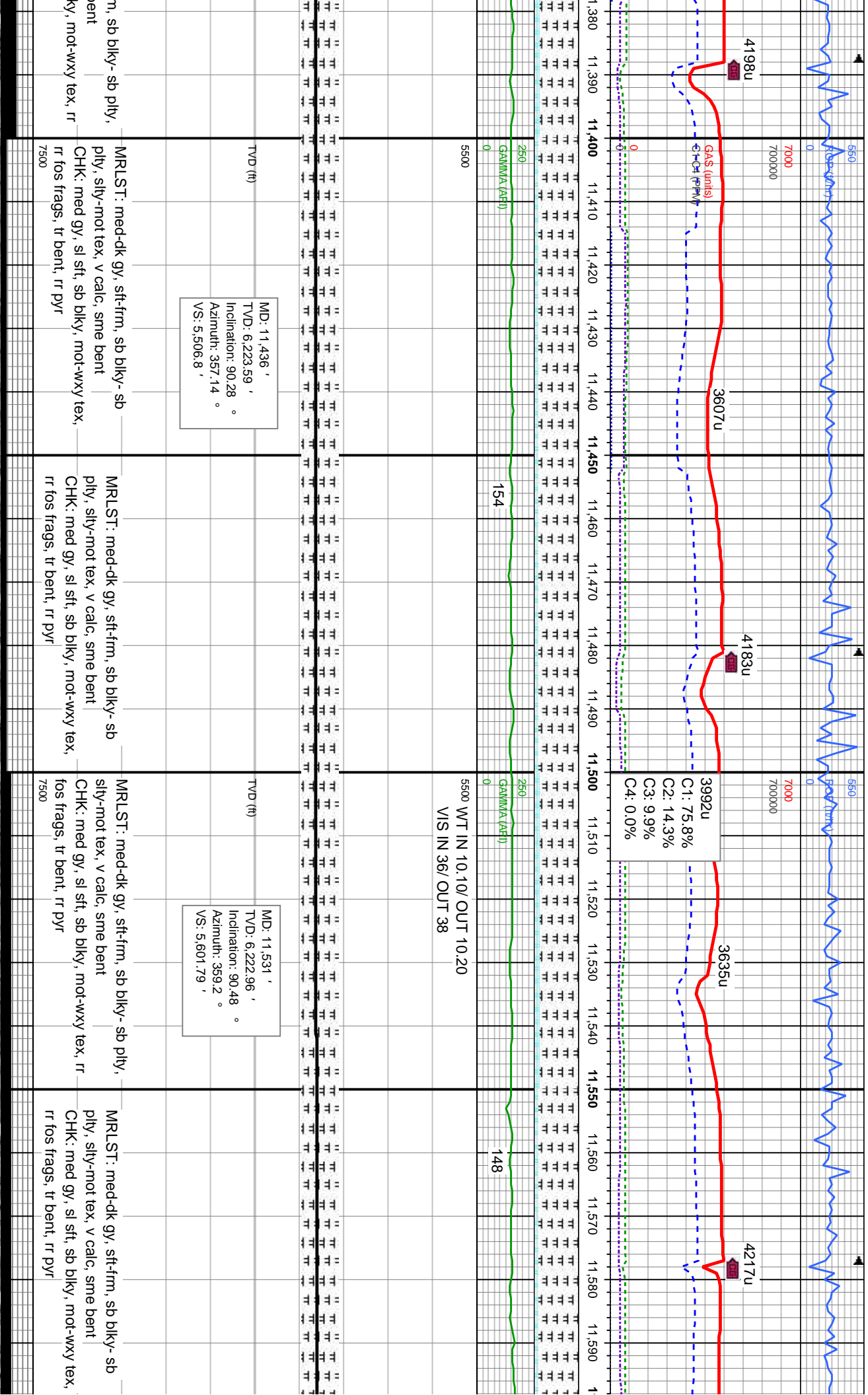
MD: 10,972 '
TVD: 6,220.62 '
Inclination: 89.69 °
Azimuth: 1.27 °
VS: 5.043.03 '

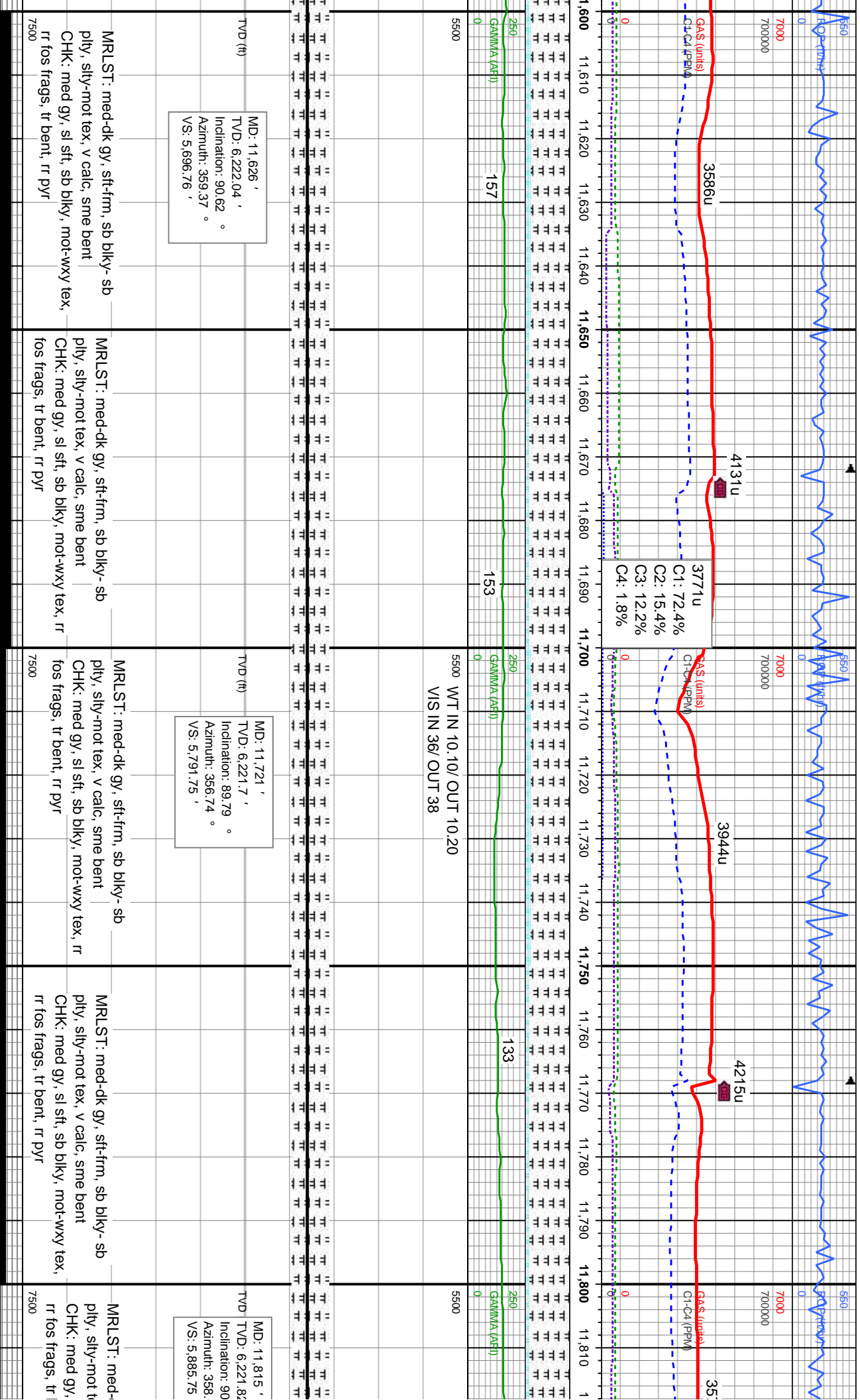
4257u
GCS (units)
GCS (ppm)
C1: 77.2%
C2: 13.7%
C3: 9.1%
C4: 0.2%

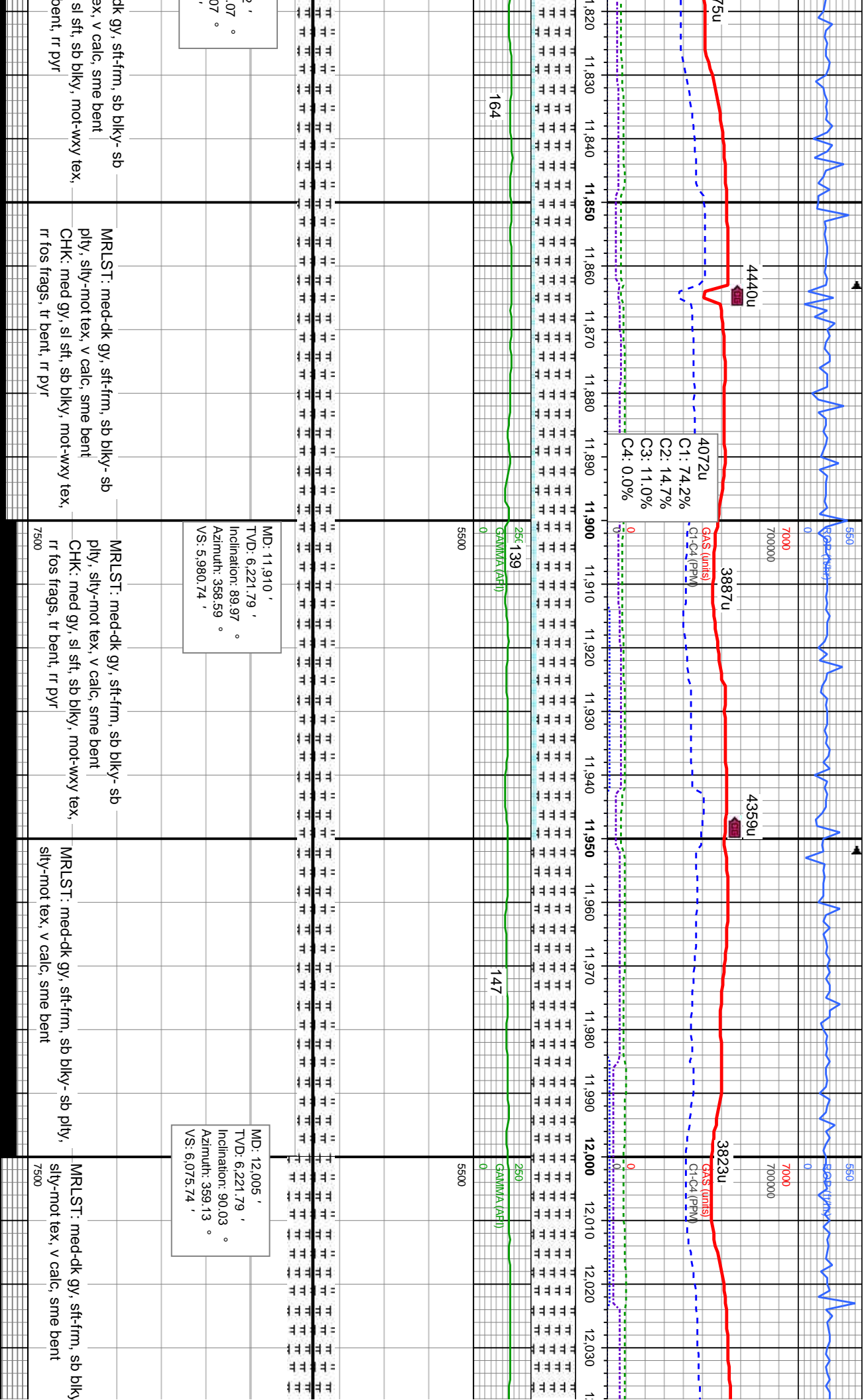
MD: 11,065 '
TVD: 6,221.2 '
Inclination: 89.59 °
Azimuth: 0.04 °
VS: 5.135.93 '

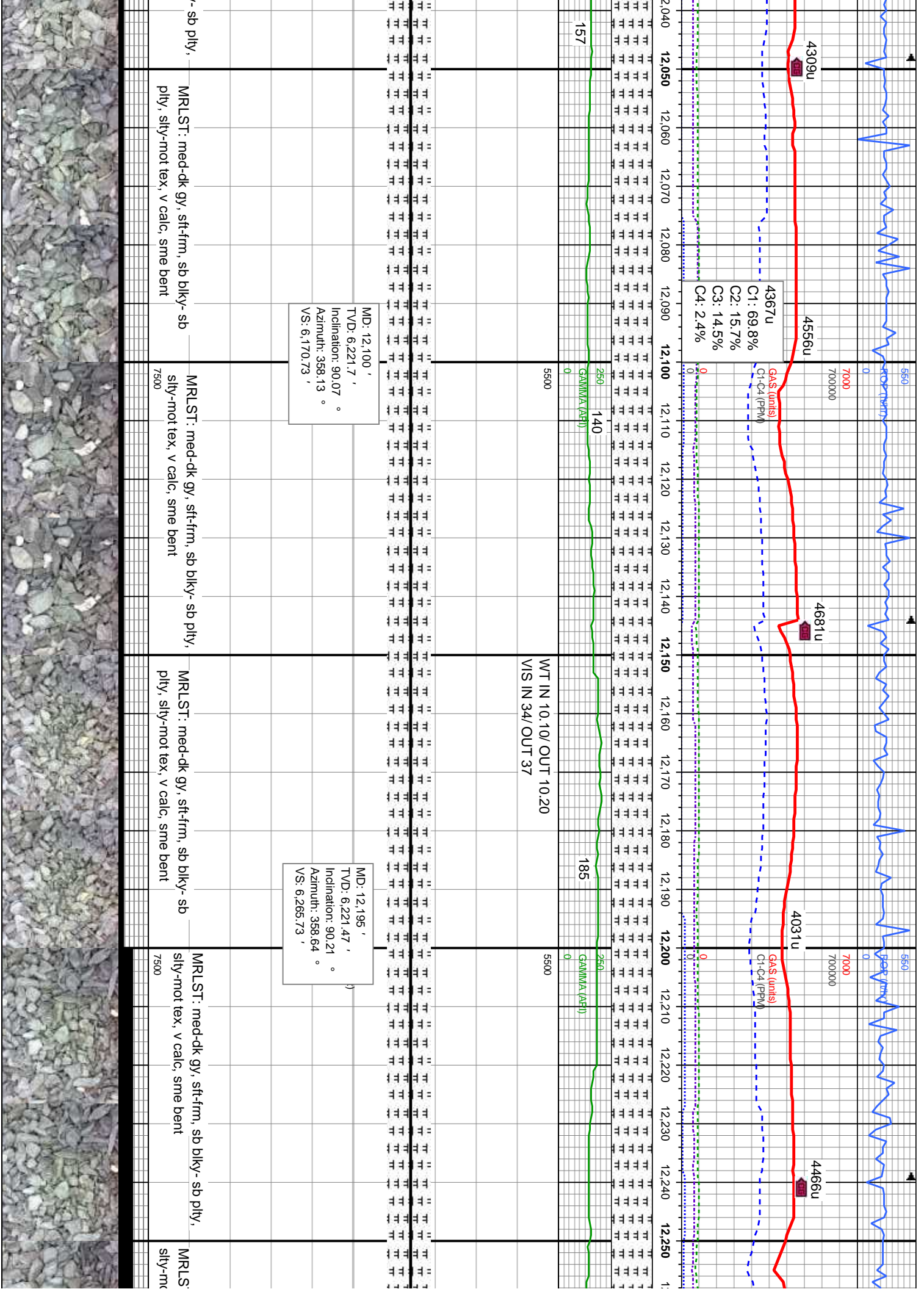
MD: 11,15 '
TVD: 6,22 '
Inclination
Azimuth: 3
VS: 5.228

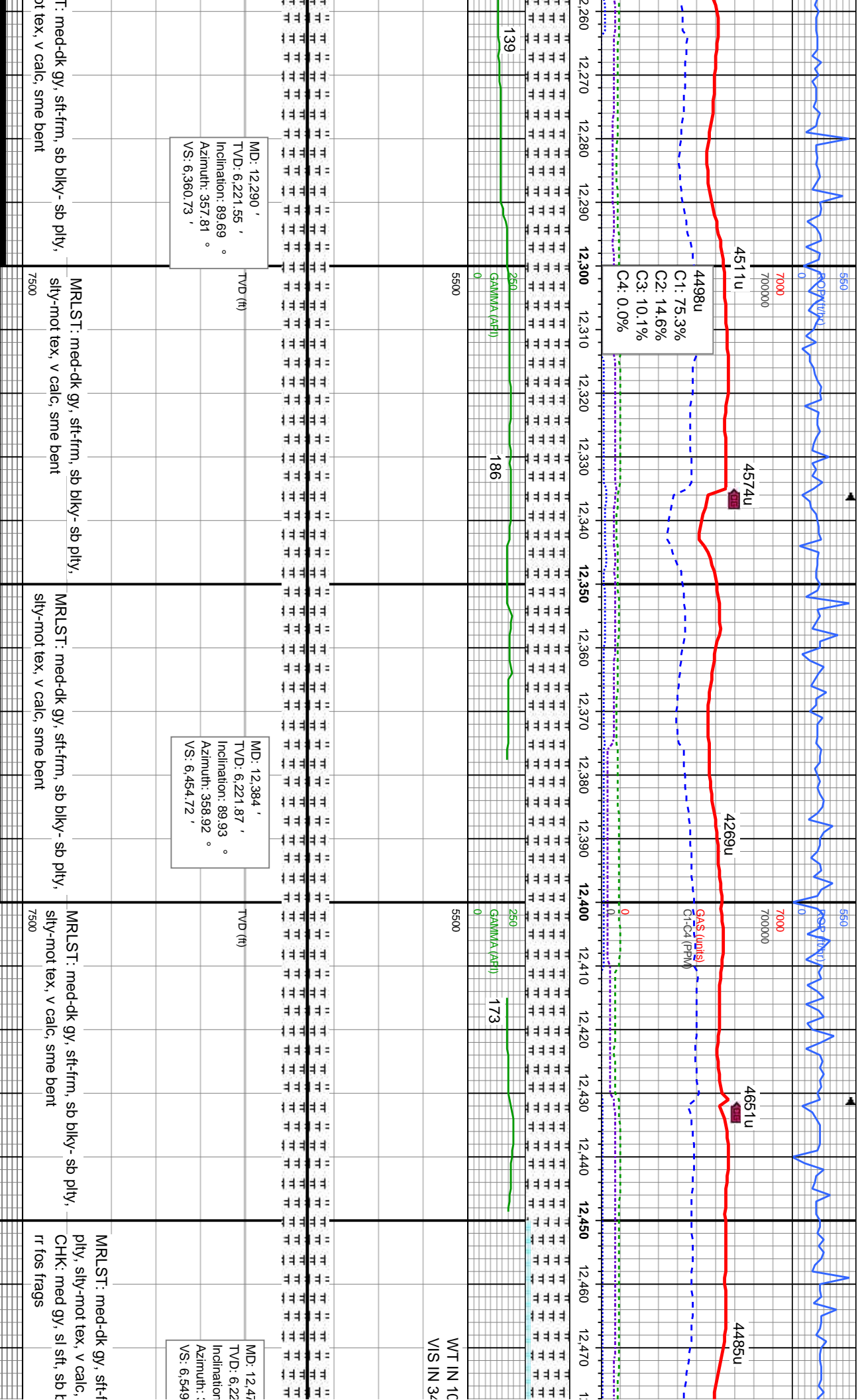


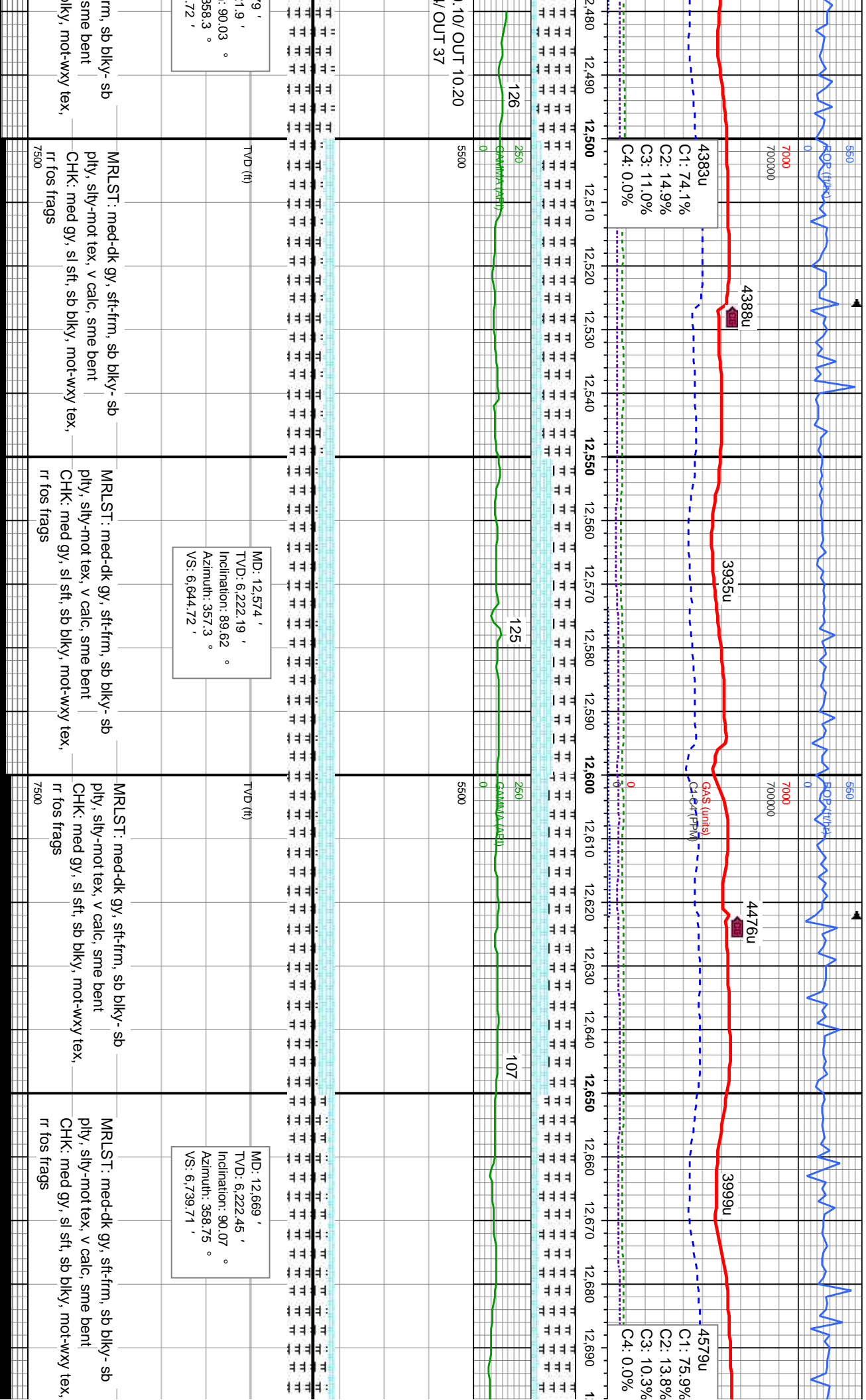


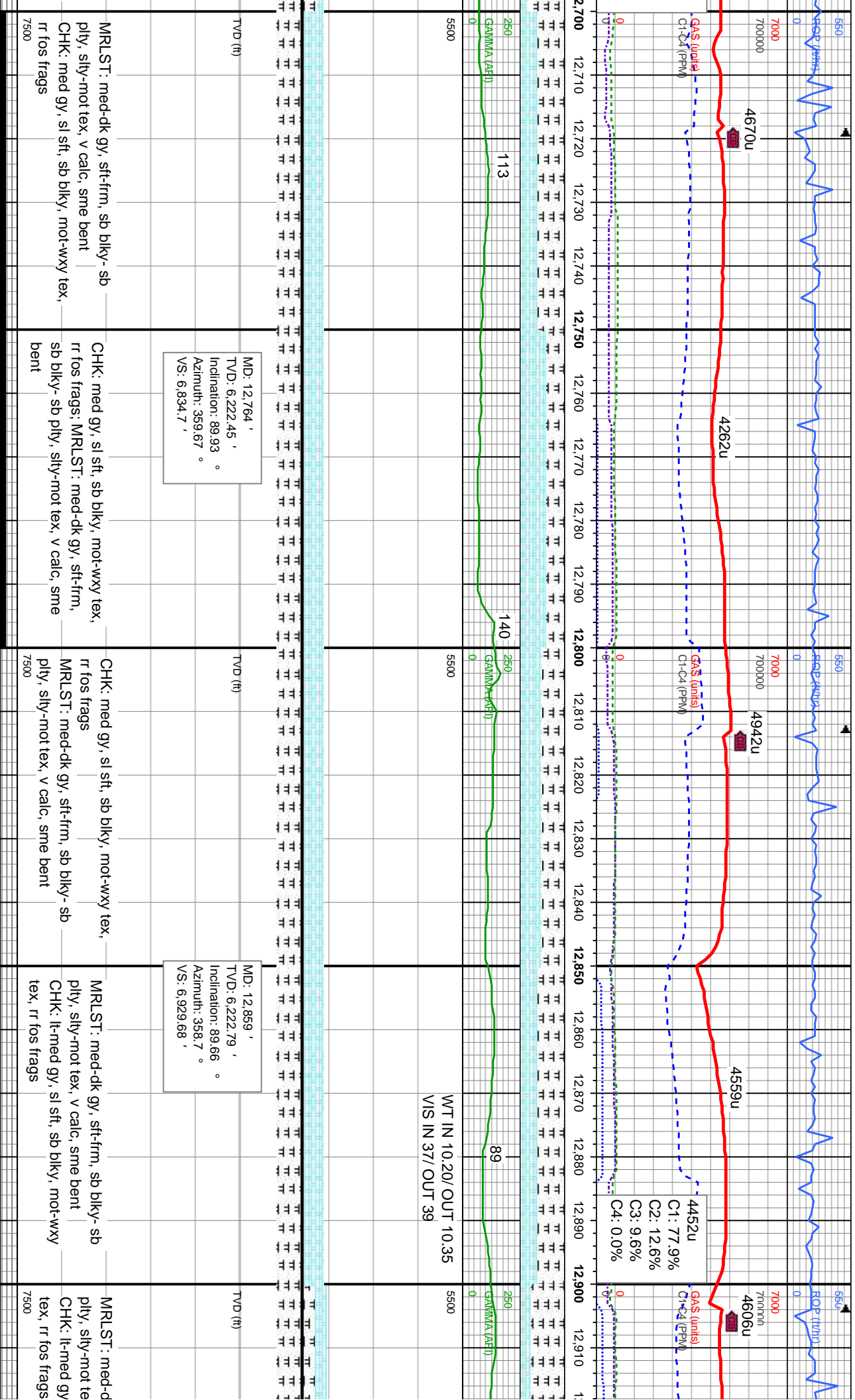


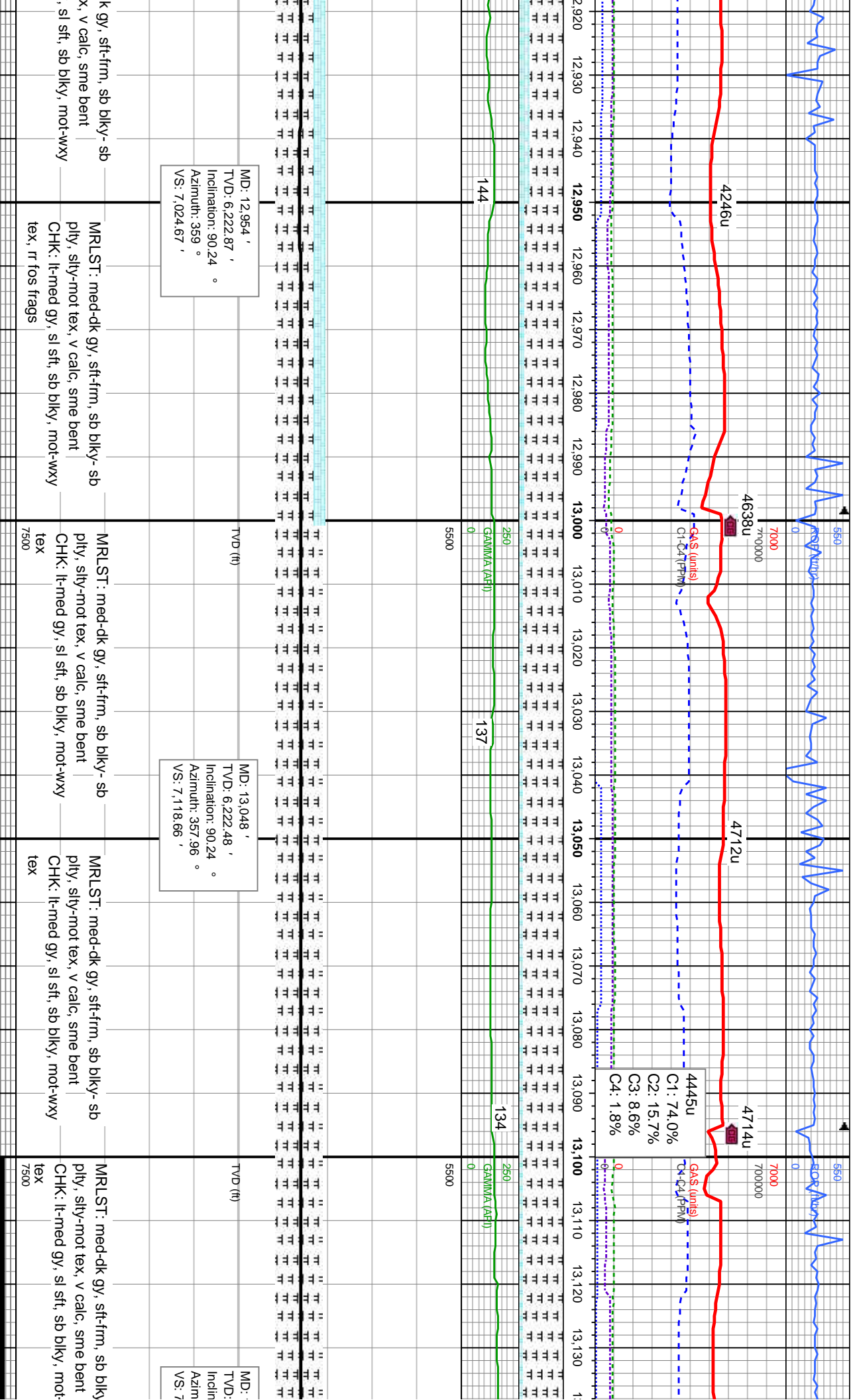


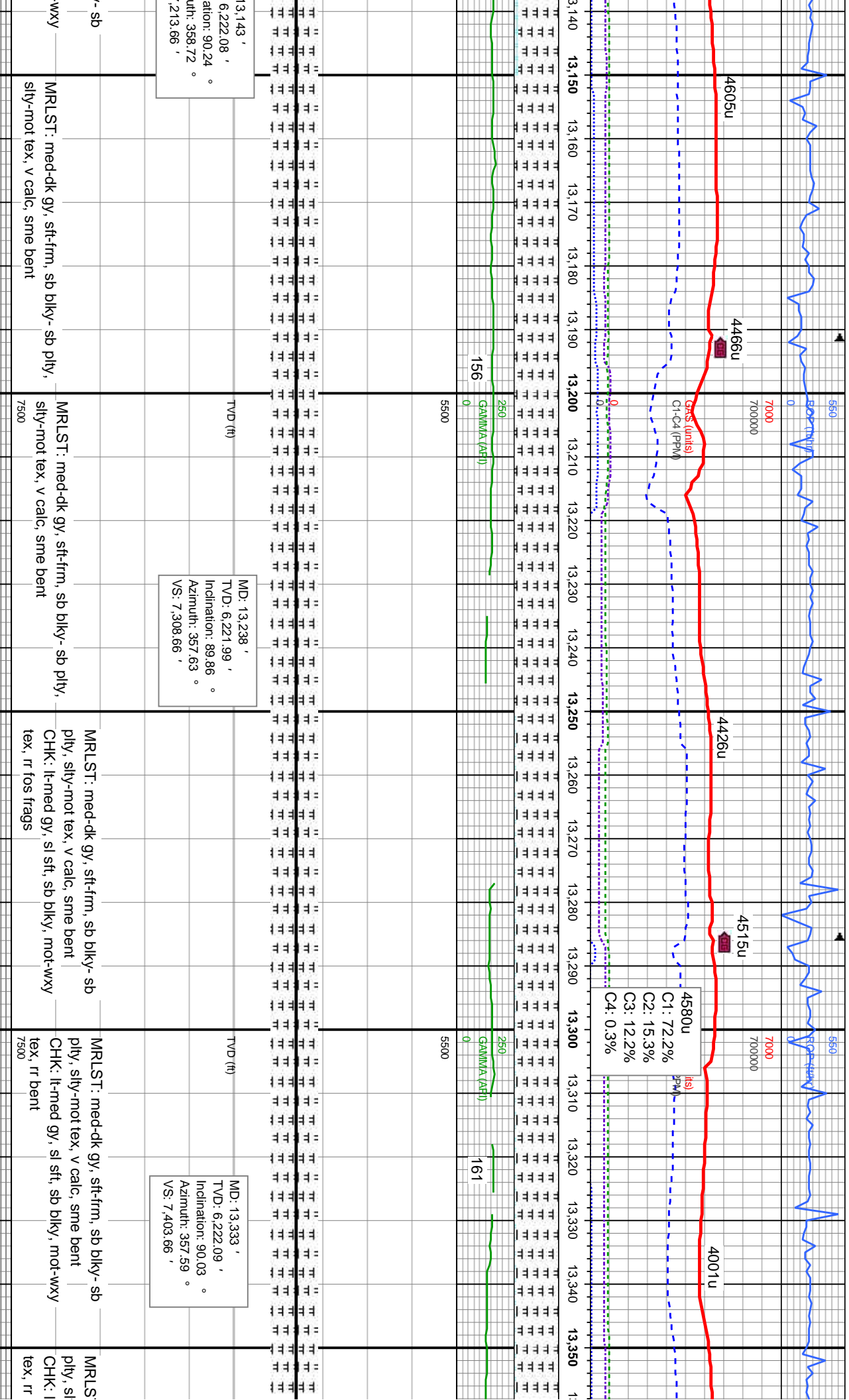


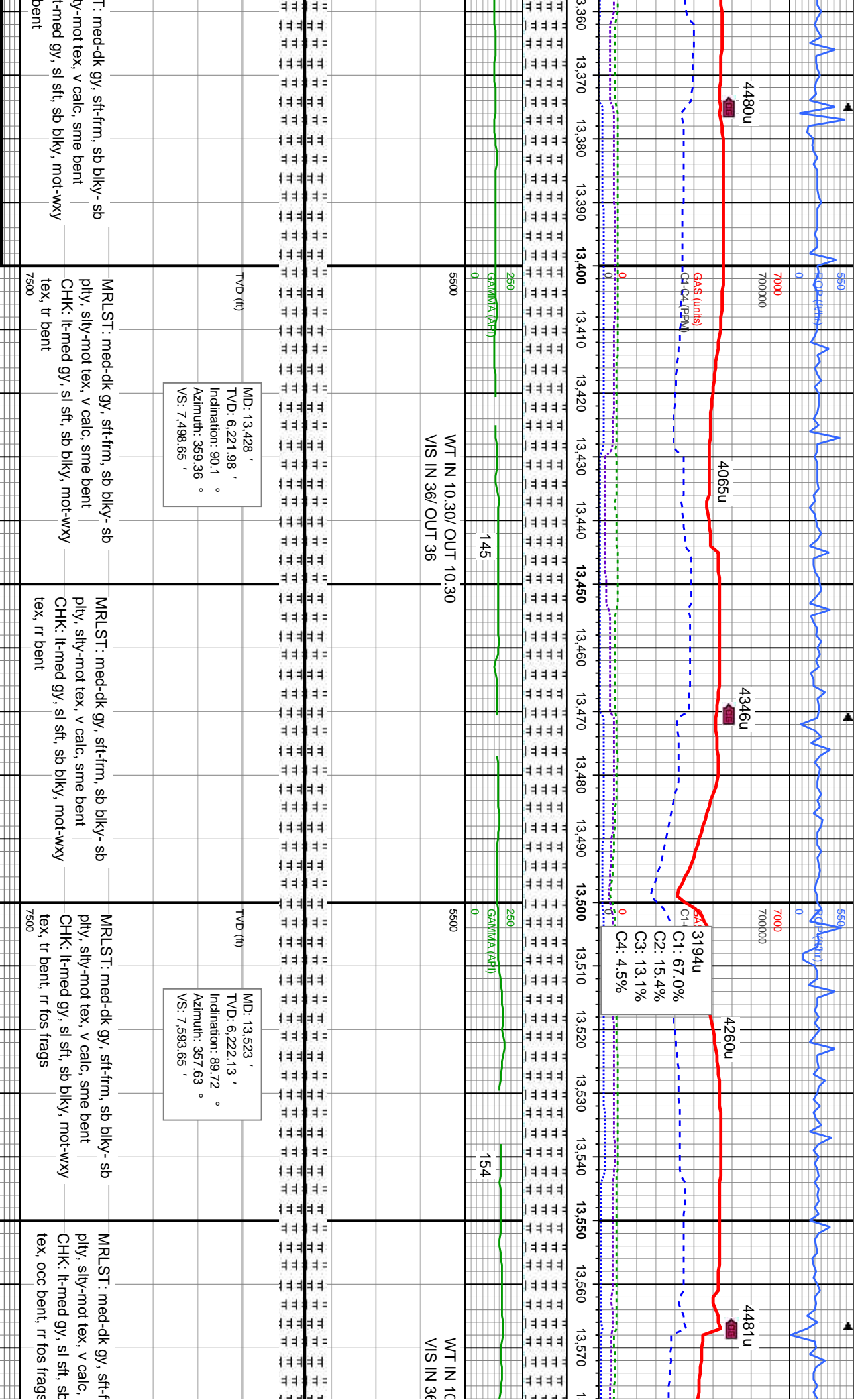


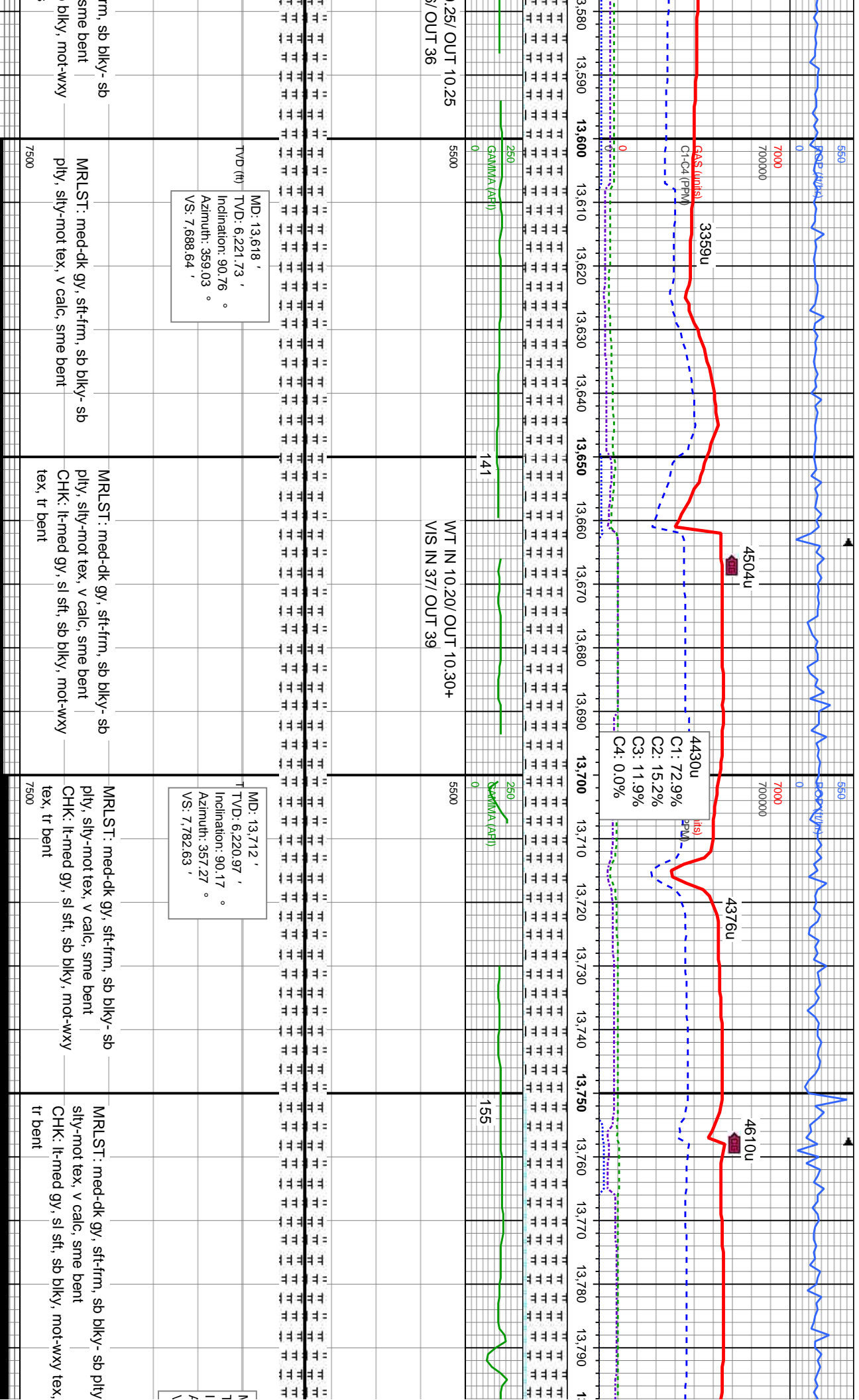


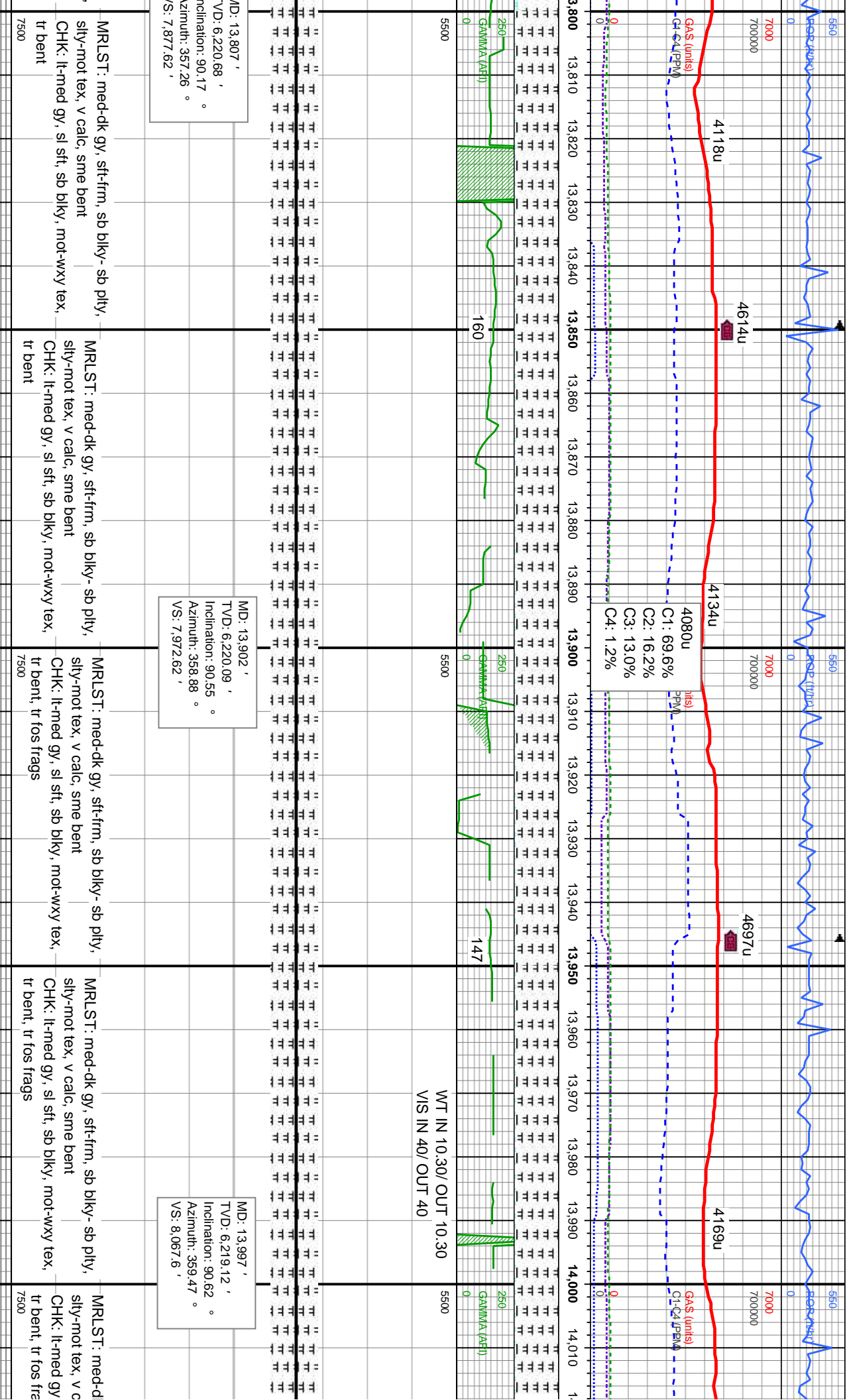


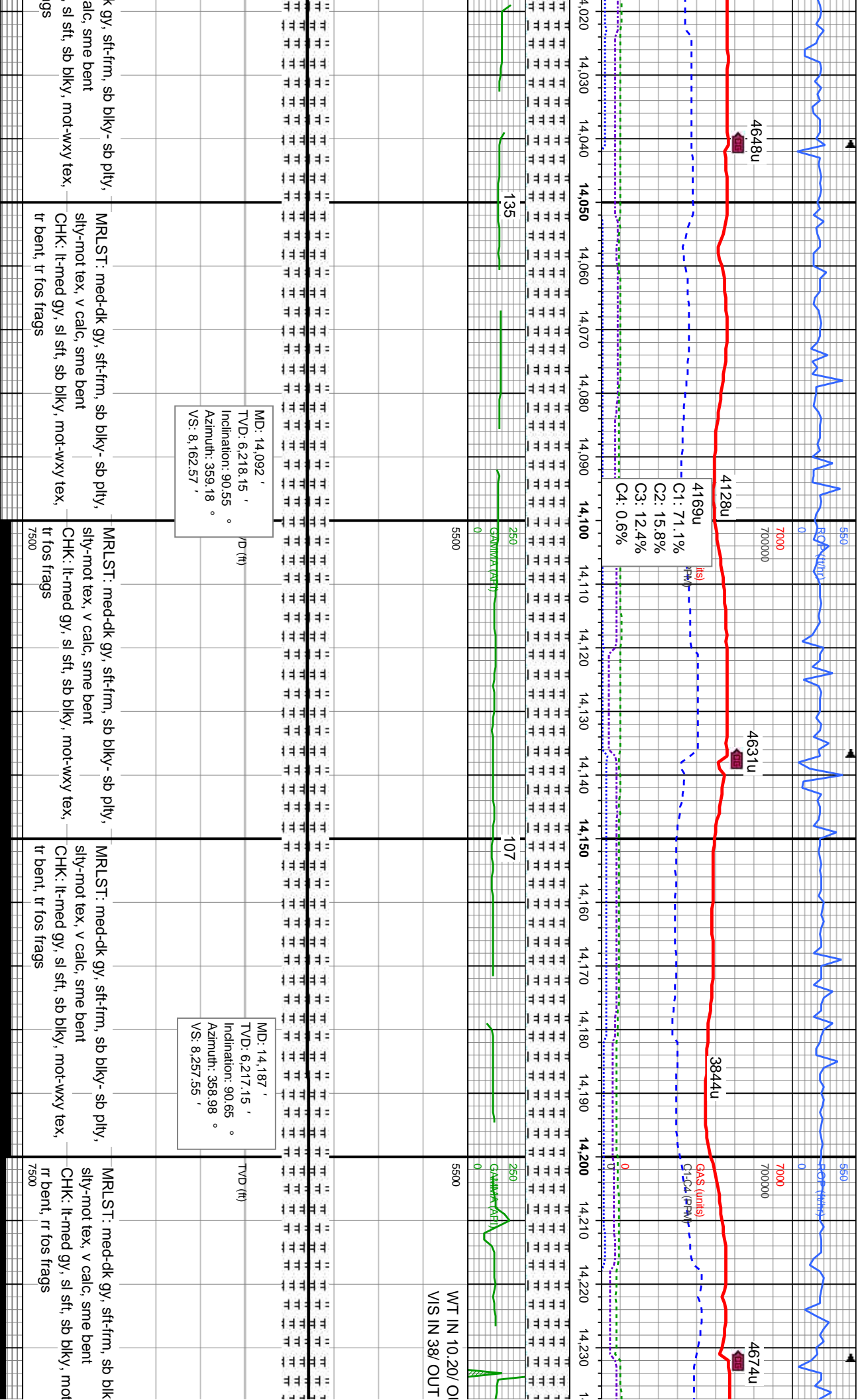


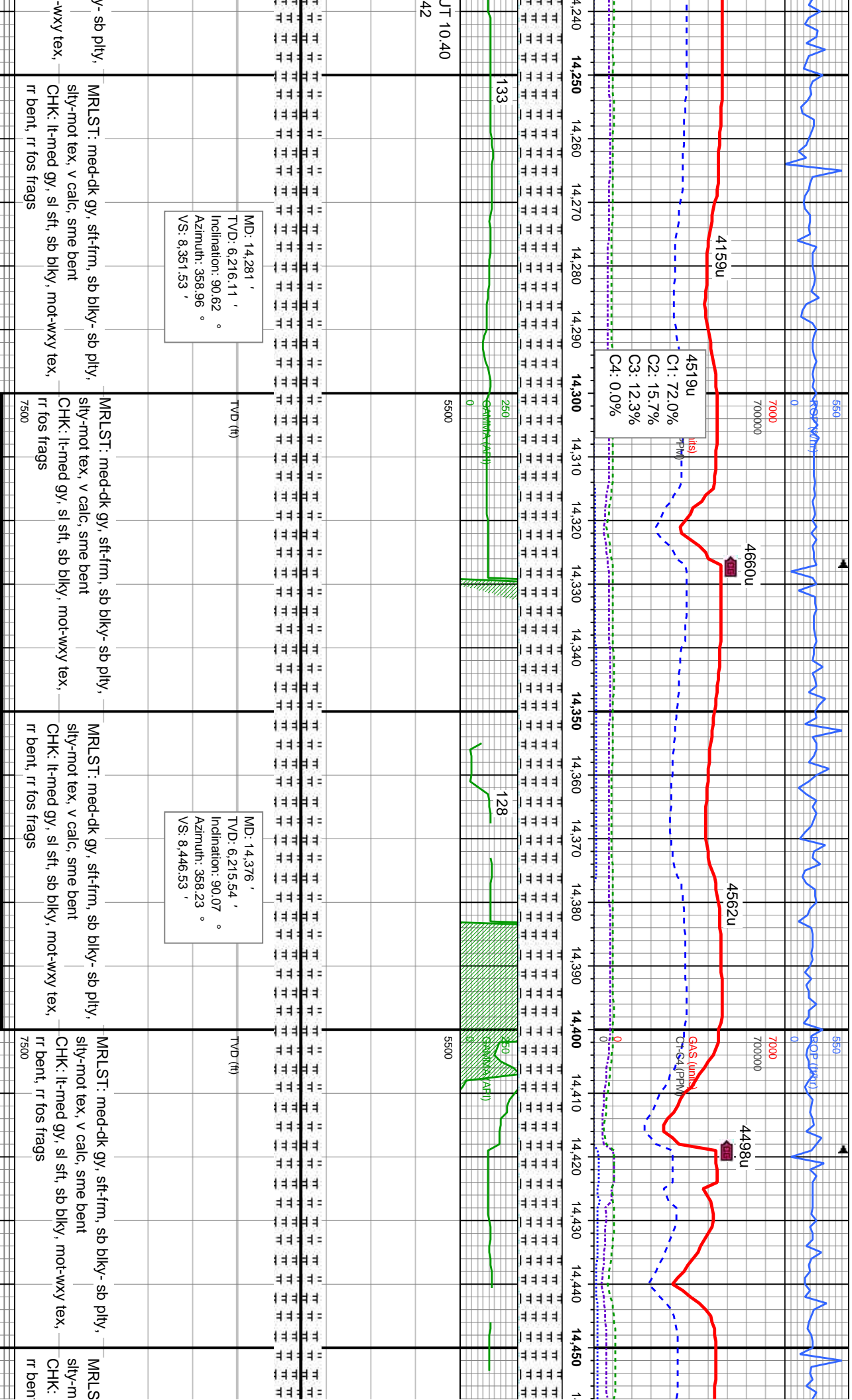


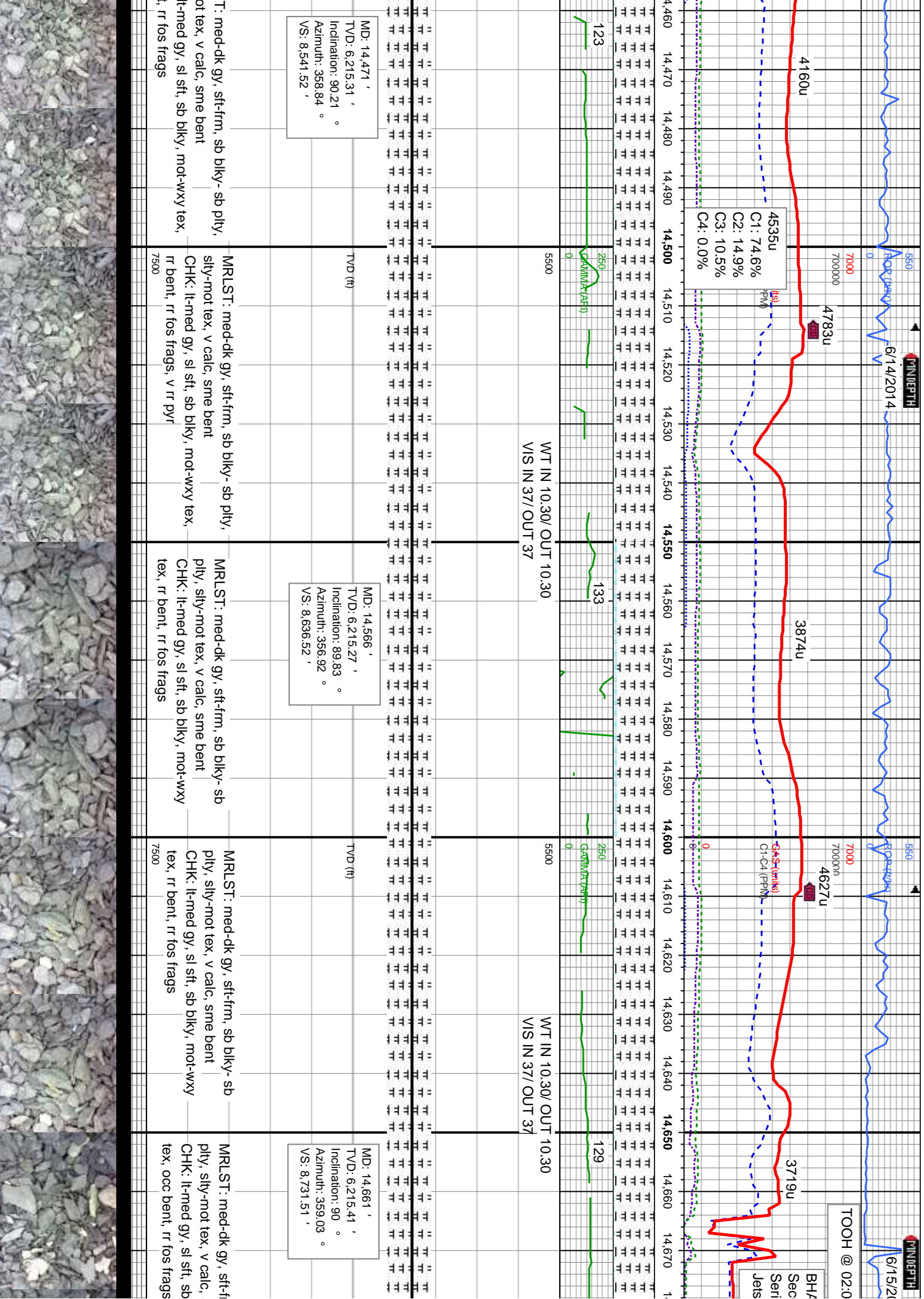


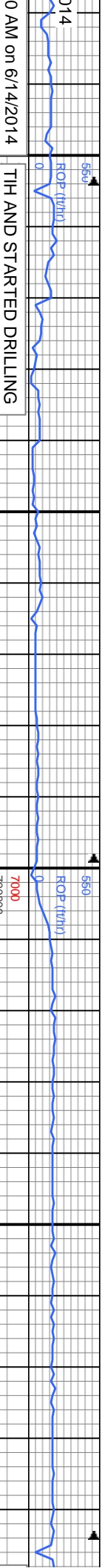












BIT:

urity 6.125" FXD54
al #: 12007609
: 2X10 3X11

TIH AND STARTED DRILLING
@ 1:59AM ON 6/15/2014

GAS (units)
C1: 90.3%
C2: 7.7%
C3: 2.0%
C4: 0.0%

1580u
C1-C4 (PPM)

2264u

2750u
C1-C4 (PPM)

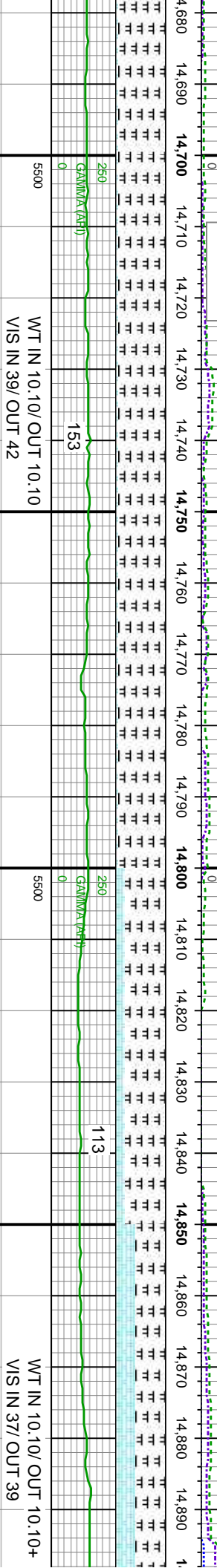
ROP (ft/hr)

550

7000

700000

3939u



250

153

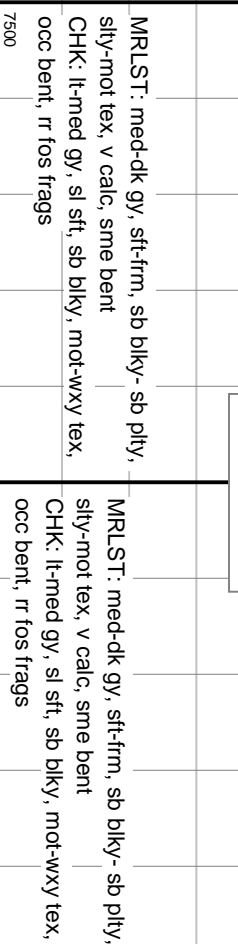
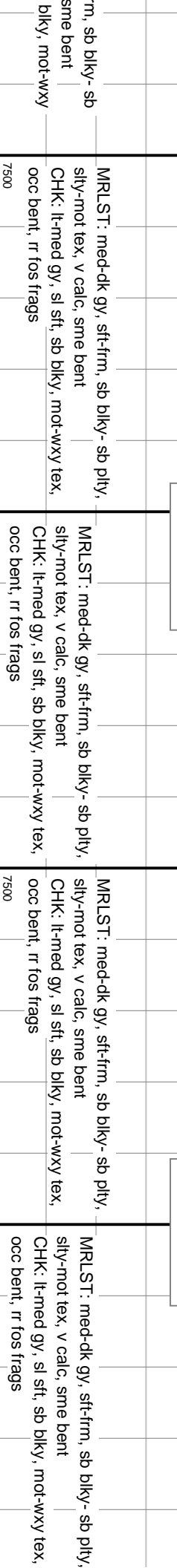
250

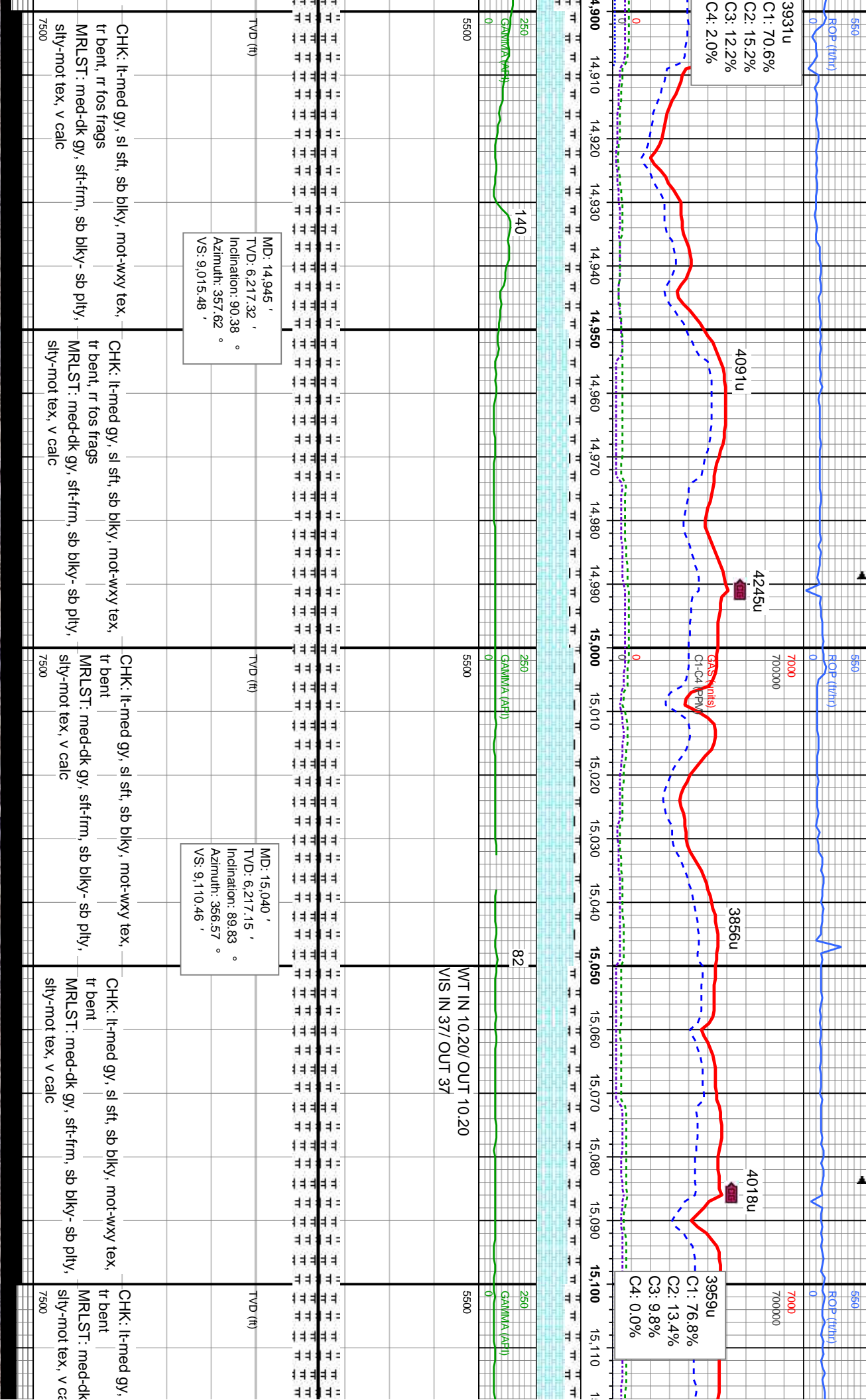
113

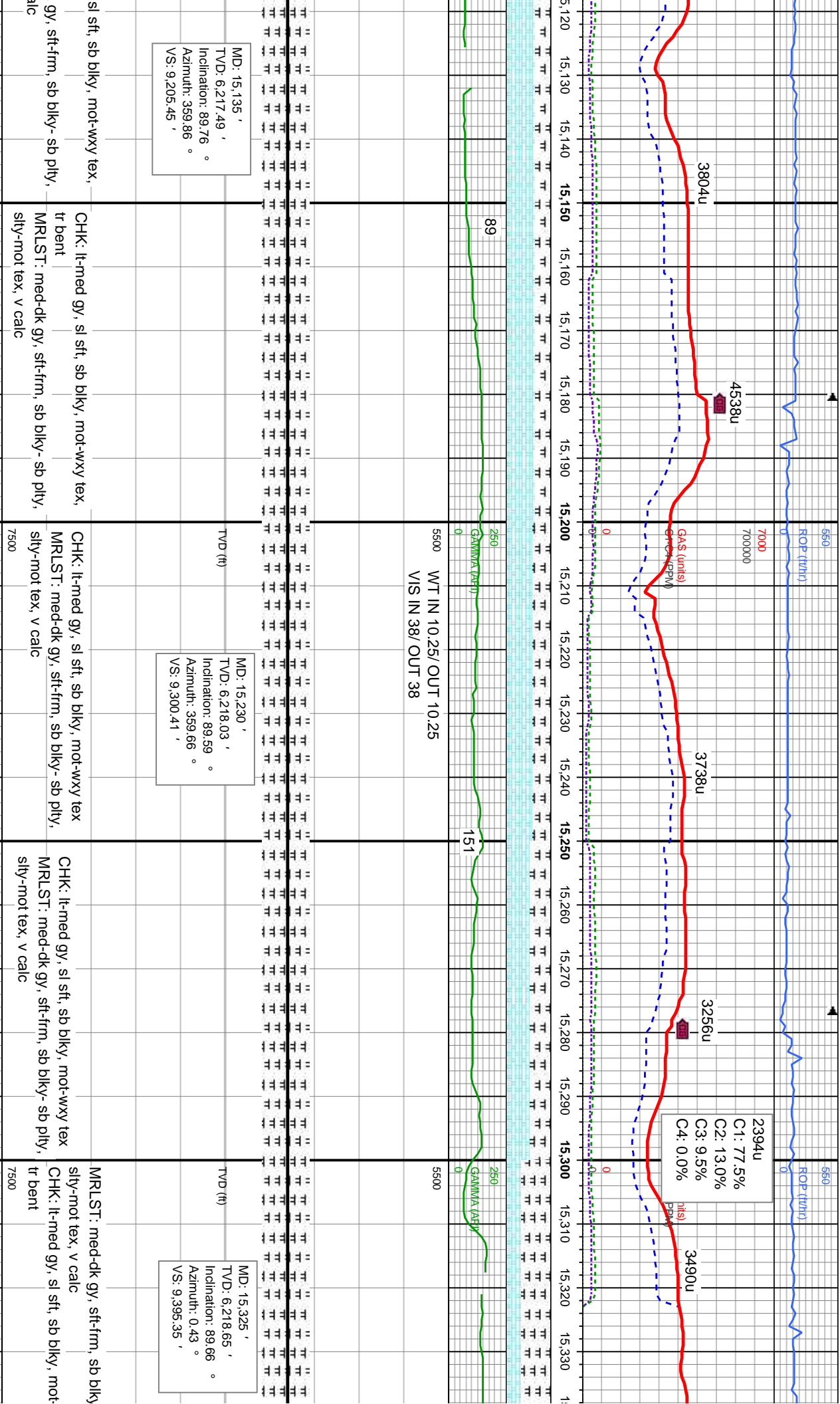
WT IN 10.10/ OUT 10.10+
VIS IN 37/ OUT 39



MD: 14,851 '
TVD: 6,217.38 '
Inclination: 89.69 °
Azimuth: 358.24 °
VS: 8,921.48 '







MD: 15,135 '
TVD: 6,217.49 '
Inclination: 89.76 °
Azimuth: 359.86 °
VS: 9,205.45 '

MD: 15,230 '
TVD: 6,218.03 '
Inclination: 89.59 °
Azimuth: 359.66 °
VS: 9,300.41 '

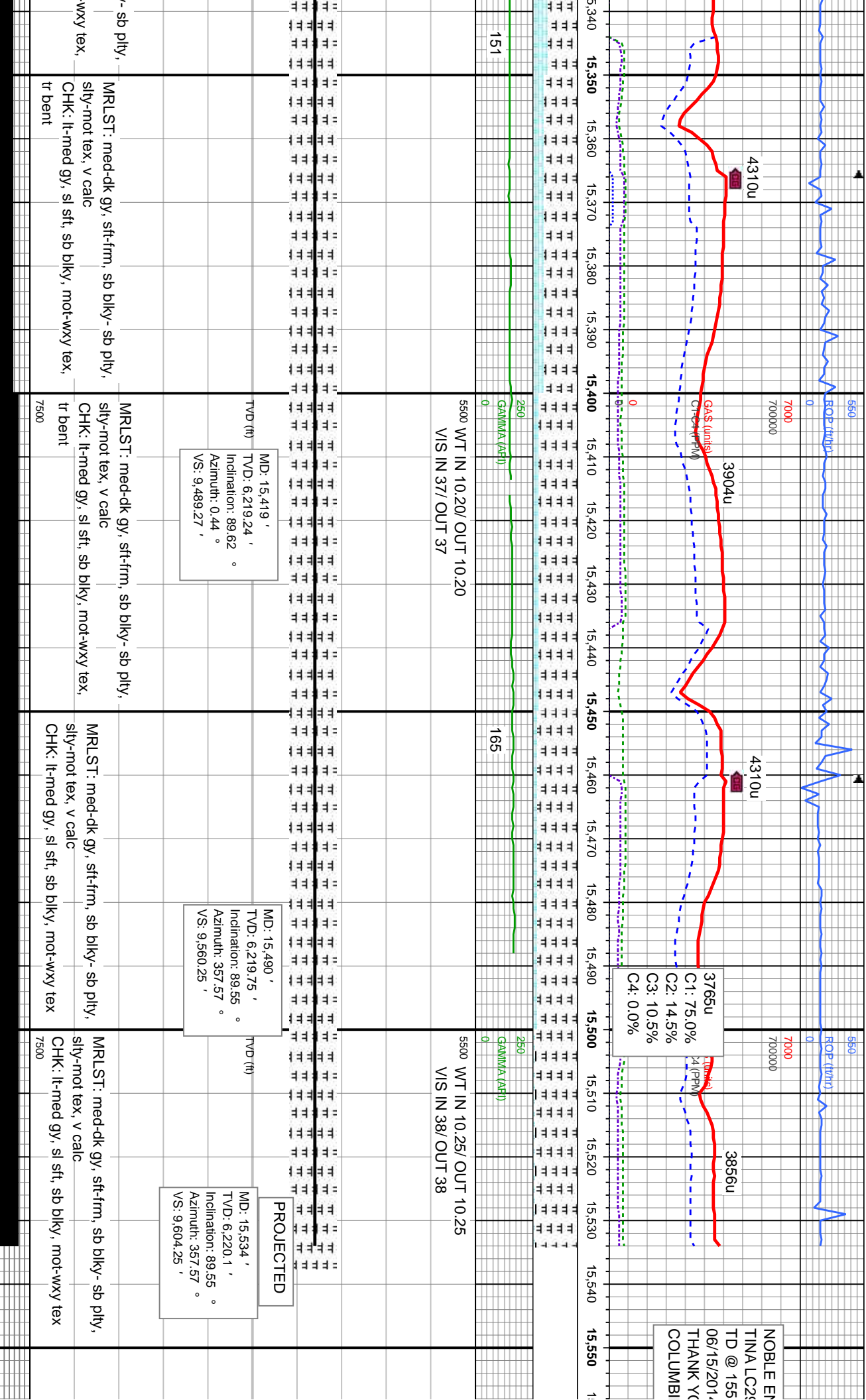
MD: 15,325 '
TVD: 6,218.65 '
Inclination: 89.66 °
Azimuth: 0.43 °
VS: 9,395.35 '

CHK: lt-med gy, sl sft, sb blk, mot-wxy tex,
tr bent
MRLST: med-dk gy, sft-frm, sb blk - sb ply,
sily-mot tex, v calc

CHK: lt-med gy, sl sft, sb blk, mot-wxy tex
MRLST: med-dk gy, sft-frm, sb blk - sb ply,
sily-mot tex, v calc

CHK: lt-med gy, sl sft, sb blk, mot-wxy tex
MRLST: med-dk gy, sft-frm, sb blk - sb ply,
sily-mot tex, v calc

MRLST: med-dk gy, sft-frm, sb blk
sily-mot tex, v calc
CHK: lt-med gy, sl sft, sb blk, mot-wxy
tr bent



ENERGY INC.
3-75-1HNA
34' MD
4 @ 10:23 AM
DU
NE LOGGING

