

COLUMBINE LOGGING

Scale: 5" / 100'
Measured Depth Log

Well Name Rohn State LD10-63-1HN

Location SESE SEC 9 T9N R58W

State COLORADO

Country USA

API Number 05-123-37623

Region DJ BASIN

Spud Date 10/15/2014

Surface Coordinates 848' FSL; 330' FEL

Bottom Hole Coordinates 990' FFSSL; 660' FFELL

County WELD

Rig Number H&P 273

Field WILDCAT

Drilling Completed 10/20/2014

Ground Elevation 4719'

K.B. Elevation 4743'

Logged Interval 4880' To 10118'

Total Depth 10118'

Formation NIOBRARA

Type of Drilling Fluid LSND

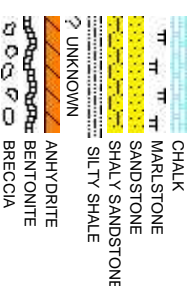
Company NOBLE ENERGY

Address 1625 Broadway
Denver, CO 80202

Name RENEE CLACK

Company NOBLE ENERGY

Address 1625 Broadway
Denver, CO 80202



Operator

SY INC.

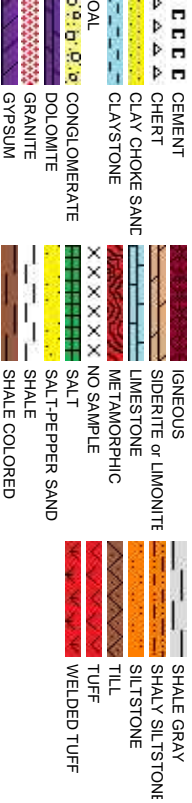
Suite 2200
202

Geologist

TER
SY INC.

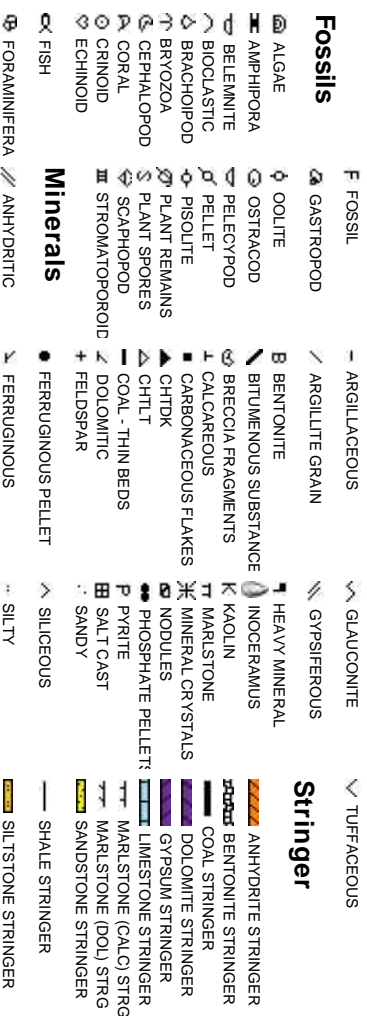
Suite 2200
202

Rock Types



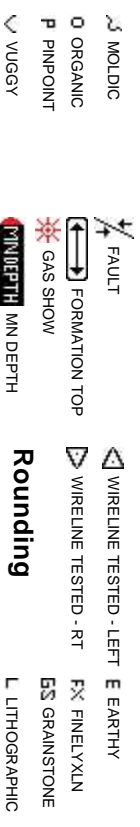
Accessories

Fossils



Other Symbols

Oil Show



Rounding

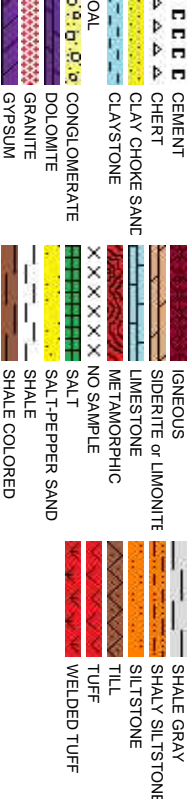


Engineering



Textures

Sorting



Slide/Rotate

ROP

ROF

Total Gas & Chromatograph

GAS

C1

C2

C3

C4

COLUMBINE LOGGING INC.
RIGGED UP ON 10/15/2014
MANNED 2-PERSON LOGGING
WITH BLOODHOUND GAS
CHROMATOGRAPH UNIT
#0680 COLUMBINE BEGAN
LOGGING ON 10/16/2014

BHA BIT:
8.75" HDBS SECURITY MMD55M
Serial #: 12372567
Jets: 5x15

50' Sample Interval

BEGAN DRILLING CURVE
@ 4:36 PM 10/17/2014

418u
C1: 100.0%
C2: 0.0%
C3: 0.0%
C4: 0.0%

778u

611u

Depth Labels

% Lith

Gamma

GAMMA

Well Bore
TVD

Oil Show

Images

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.

SLTY SH: lt
gy-dk gy, sb
biky-sb ply, v
sft, silty tex, arg
cmt

SLTY SH: lt gy-dk gy, sb biky-sb ply, v
sft, silty tex, arg cmt; tr pyr

SLTY SH: lt gy-dk gy, sb biky-sb ply, v sft,
silty tex, arg cmt; tr pyr

SLTY SH: lt
silty tex, arg

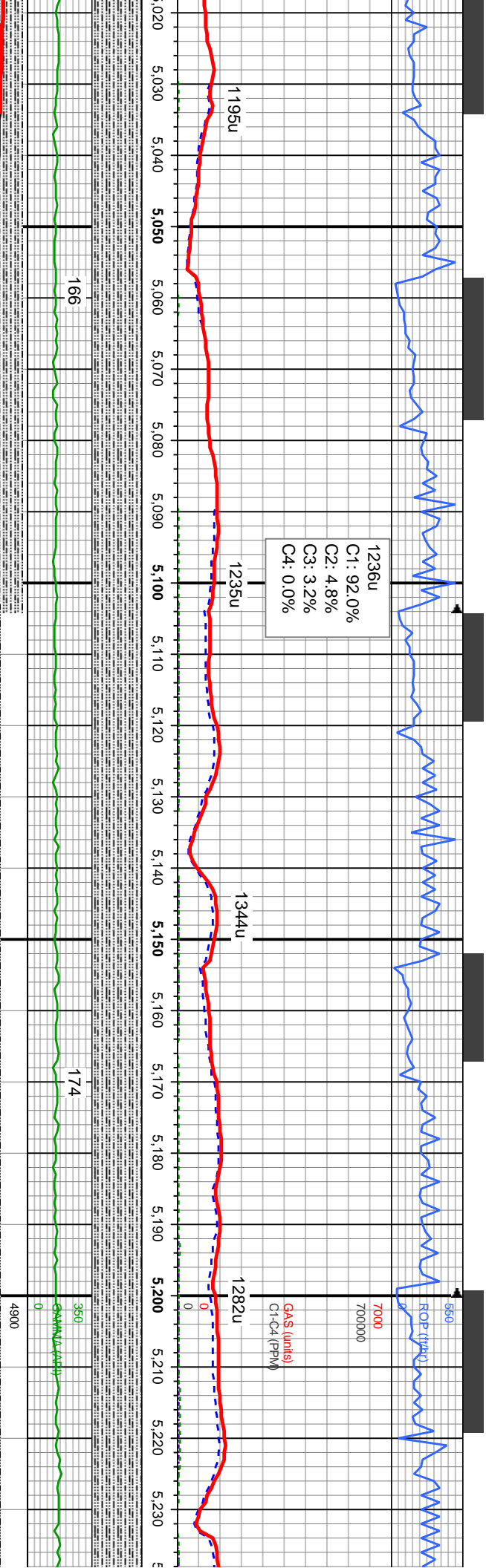
MD: 4,907 '
TVD: 4,893.95 '
Inclination: 0.56 °
Azimuth: 264.14 °
VS: 156.25 '

MD: 4,954 '
TVD: 4,940.93 '
Inclination: 2.85 °
Azimuth: 90.66 °
VS: 157.19 '

MD: 5,002 '
TVD: 4,988.57 '
Inclination: 10.62 °
Azimuth: 85.54 °
VS: 162.81 '

TVD (ft)





MD: 5,049 '
TVD: 5,034.35 '
Inclination: 15.33 °
Azimuth: 87.73 °
VS: 173.35 '

WT IN 10.60/ OUT 10.60
VIS IN 42/ OUT 42

MD: 5,097 '
TVD: 5,080.24 '
Inclination: 18.76 °
Azimuth: 89.29 °
VS: 187.41 '

MD: 5,144 '
TVD: 5,124.45 '
Inclination: 20.94 °
Azimuth: 90.96 °
VS: 203.34 '

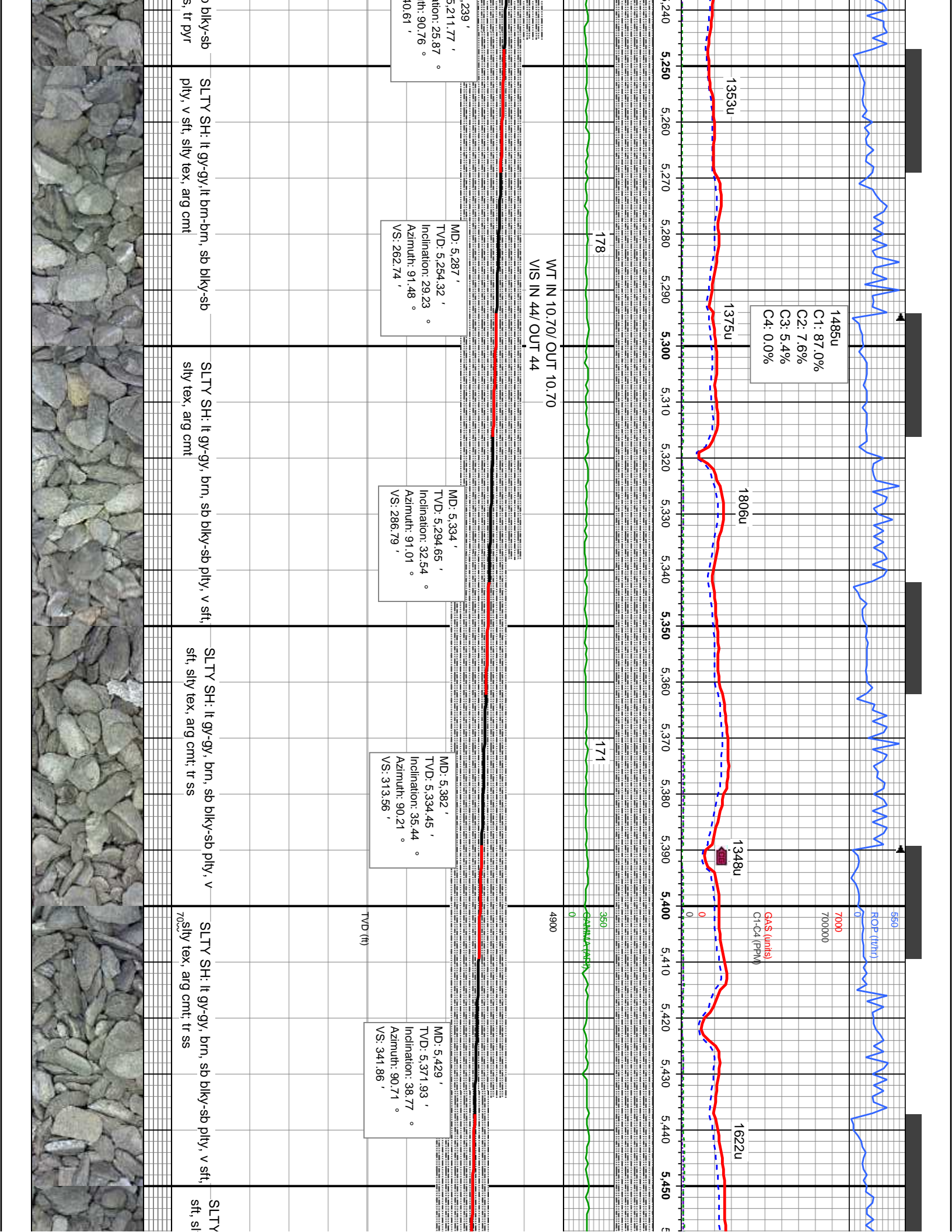
MD: 5,192 '
TVD: 5,168.97 '
Inclination: 22.92 °
Azimuth: 89.83 °
VS: 221.23 '

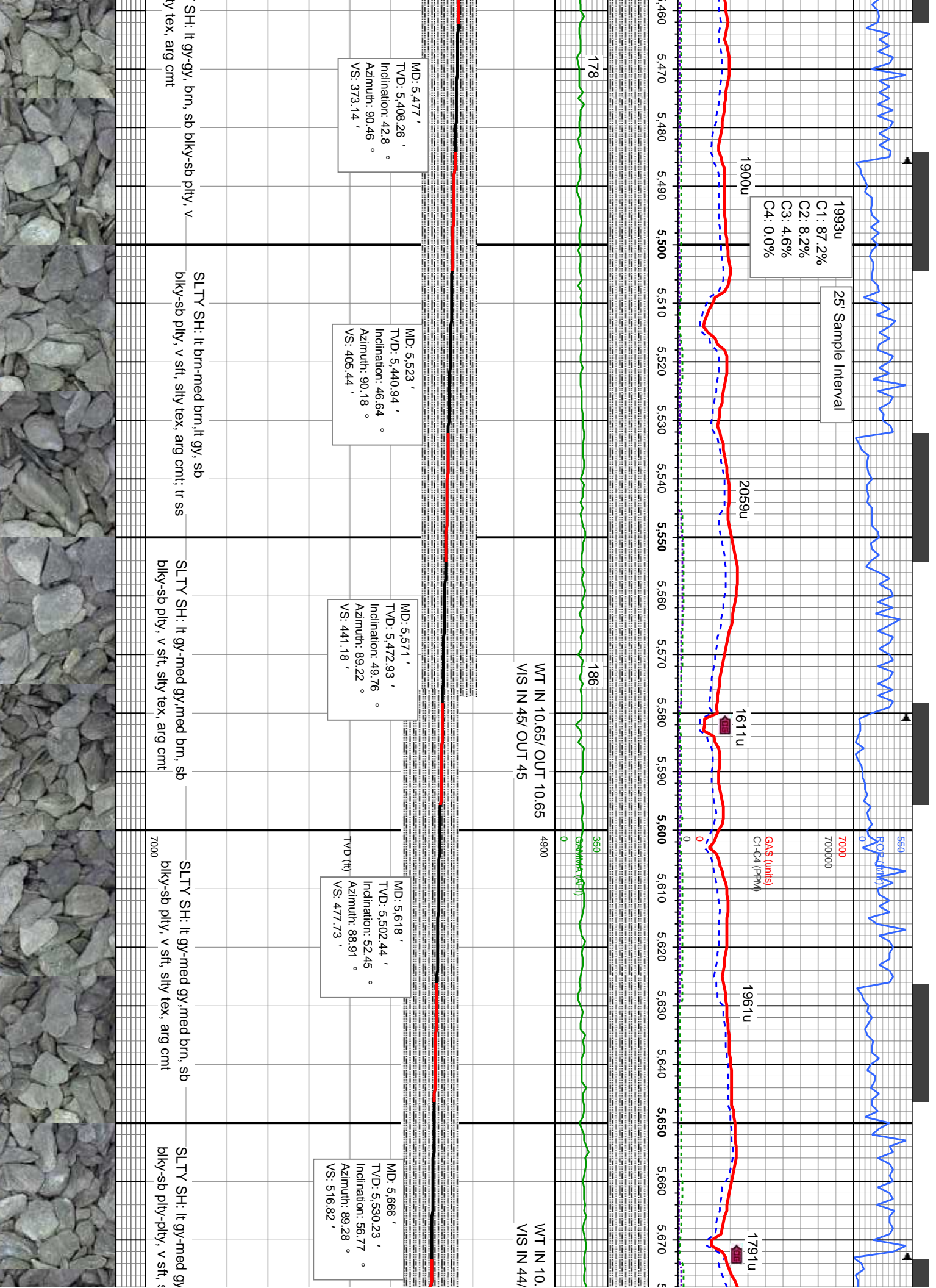
WT IN 10.65/ OUT 10.65
VIS IN 42/ OUT 42

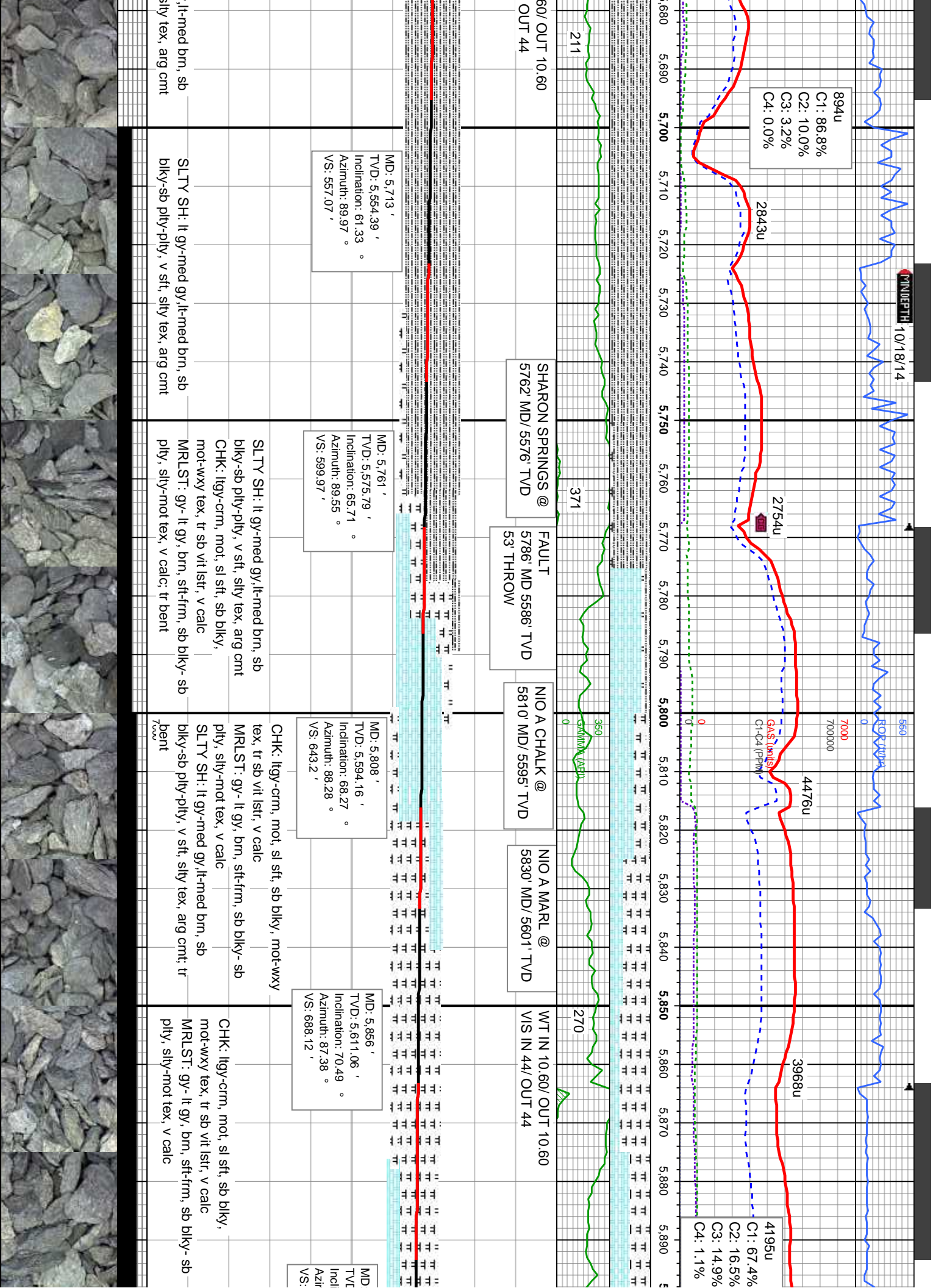
MD: 5,220 '
TVD: 5,200.00 '
Inclination: 22.92 °
Azimuth: 89.83 °
VS: 221.23 '

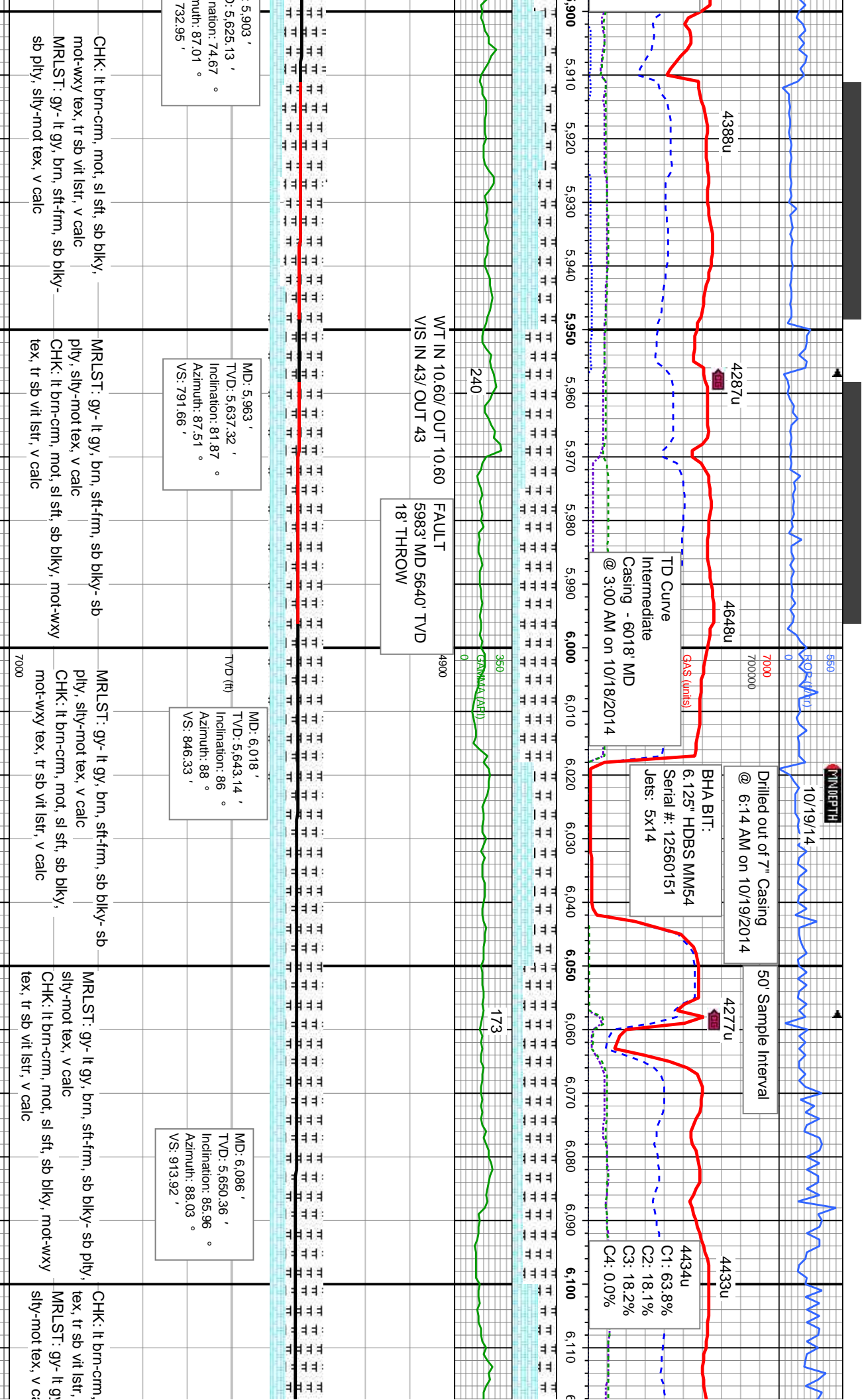
SLTY SH: lt gy-gy,lt brn-brn, sb blkgy-sb pily, v sft, silty tex, arg cnt; tr SS

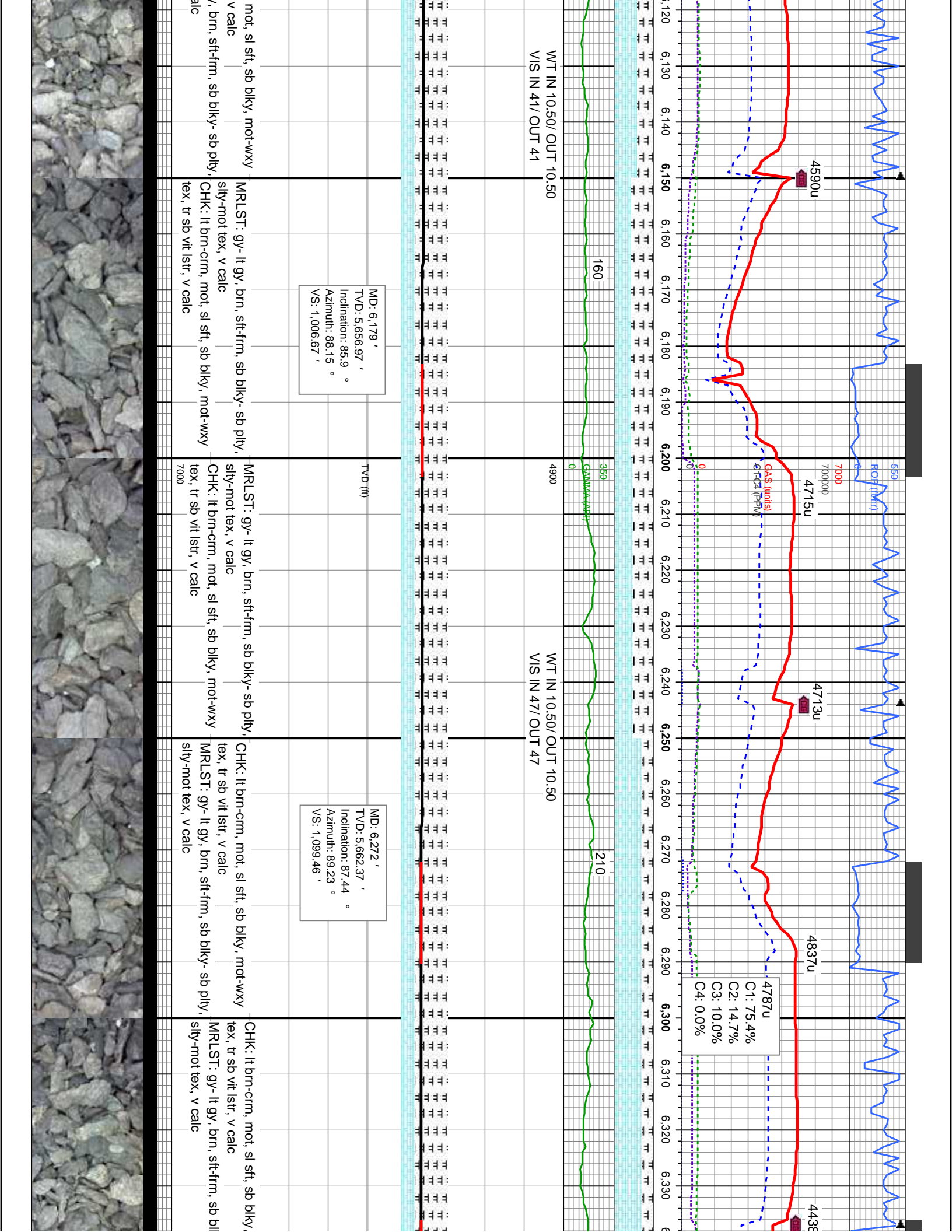


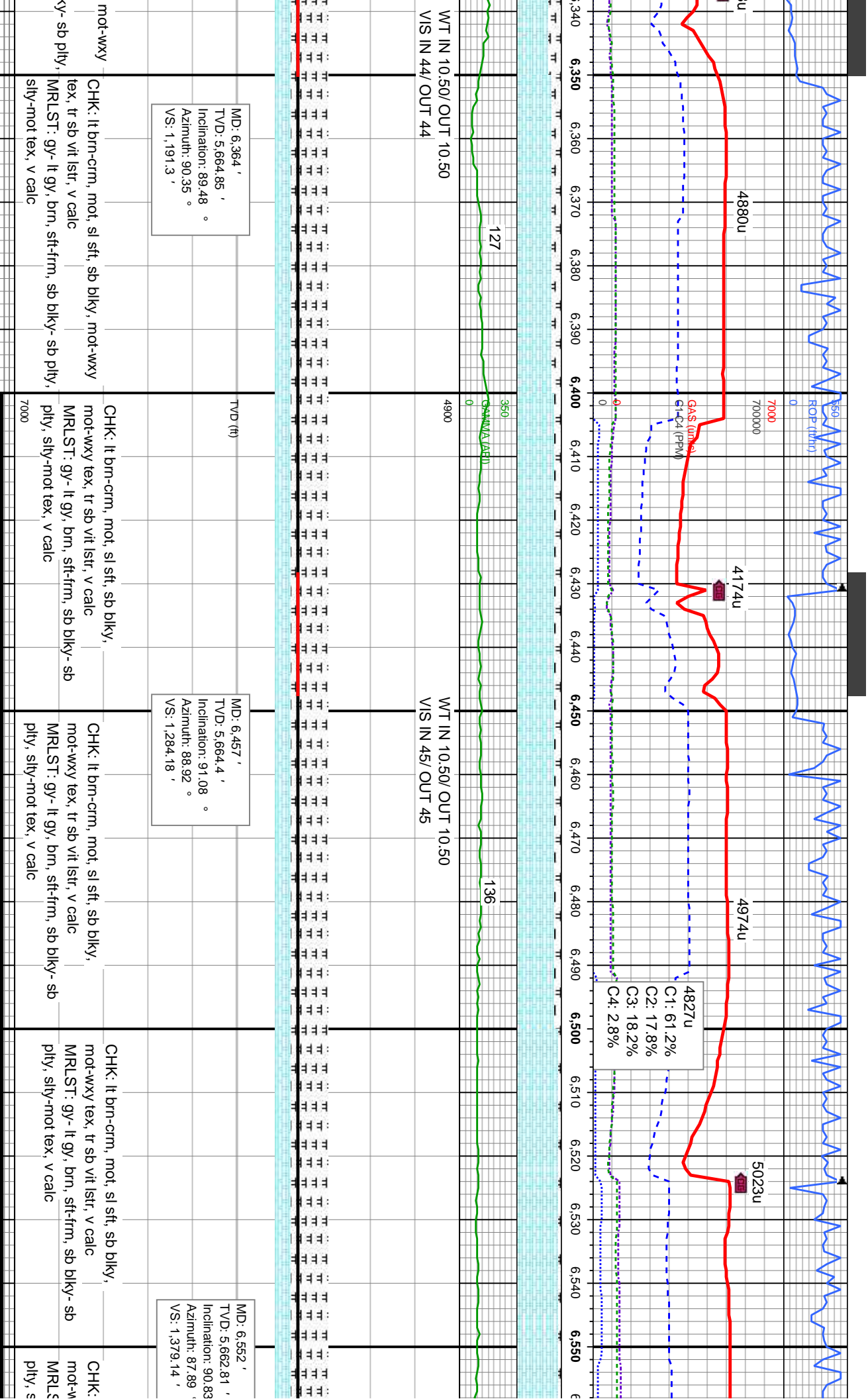


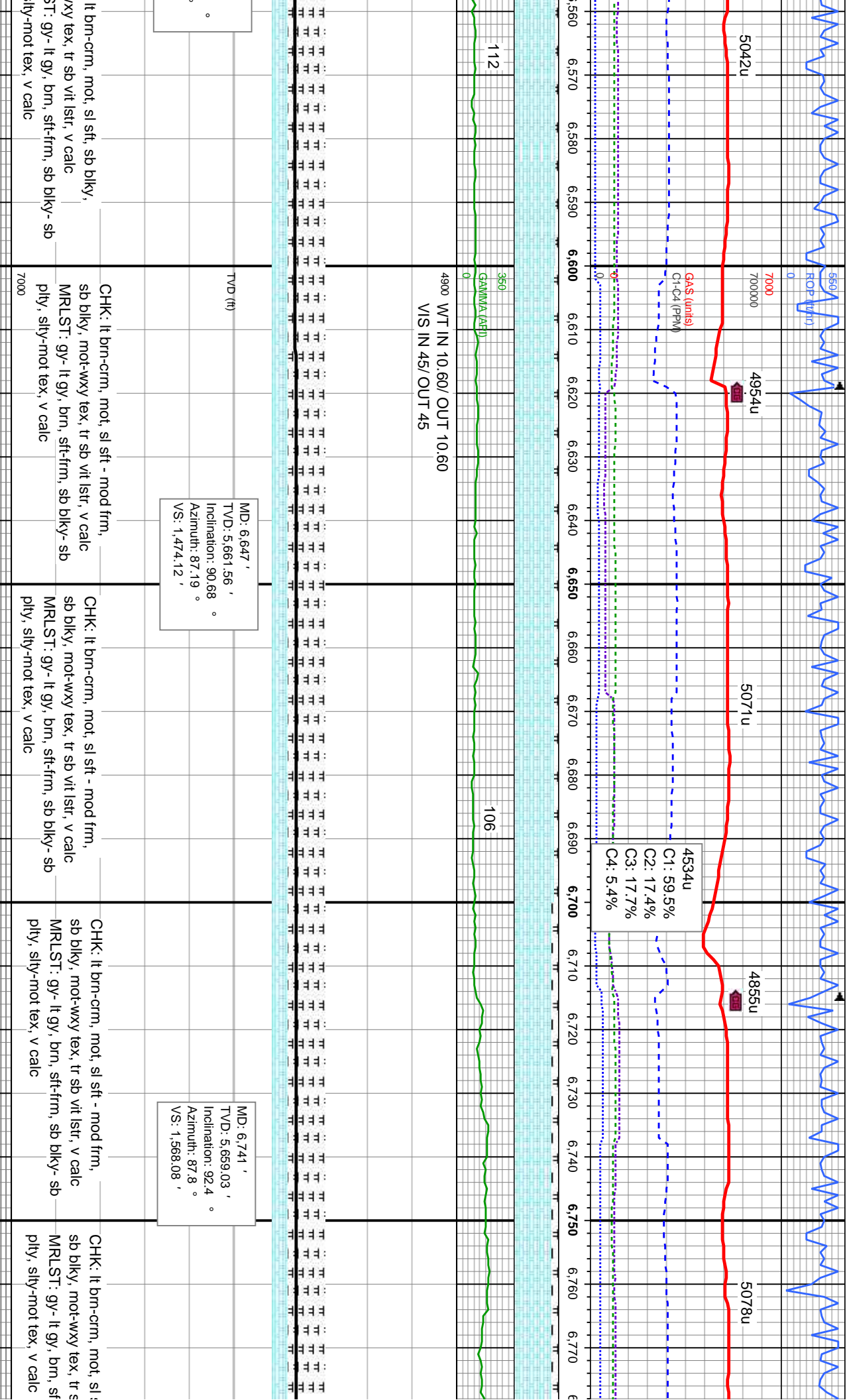


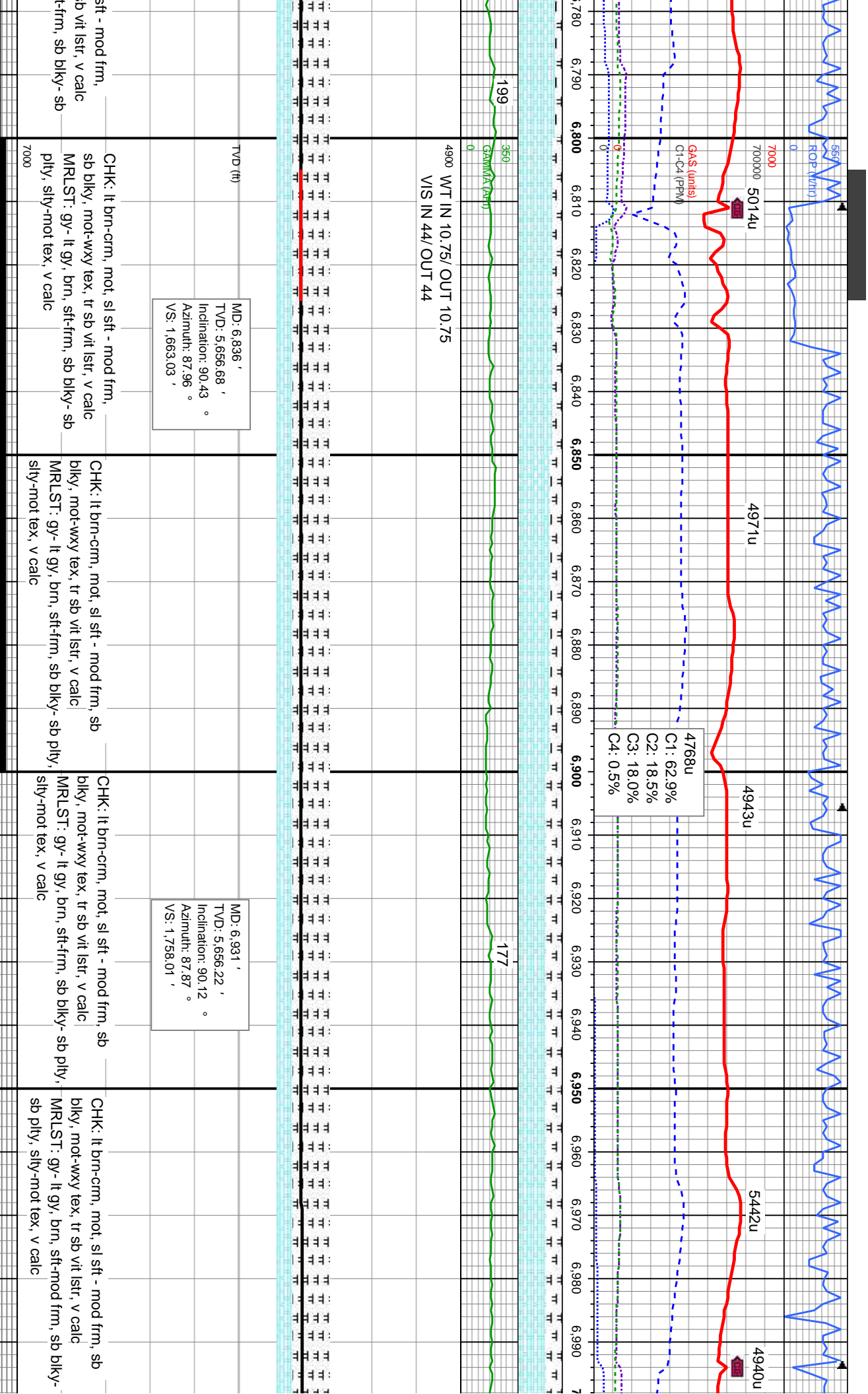


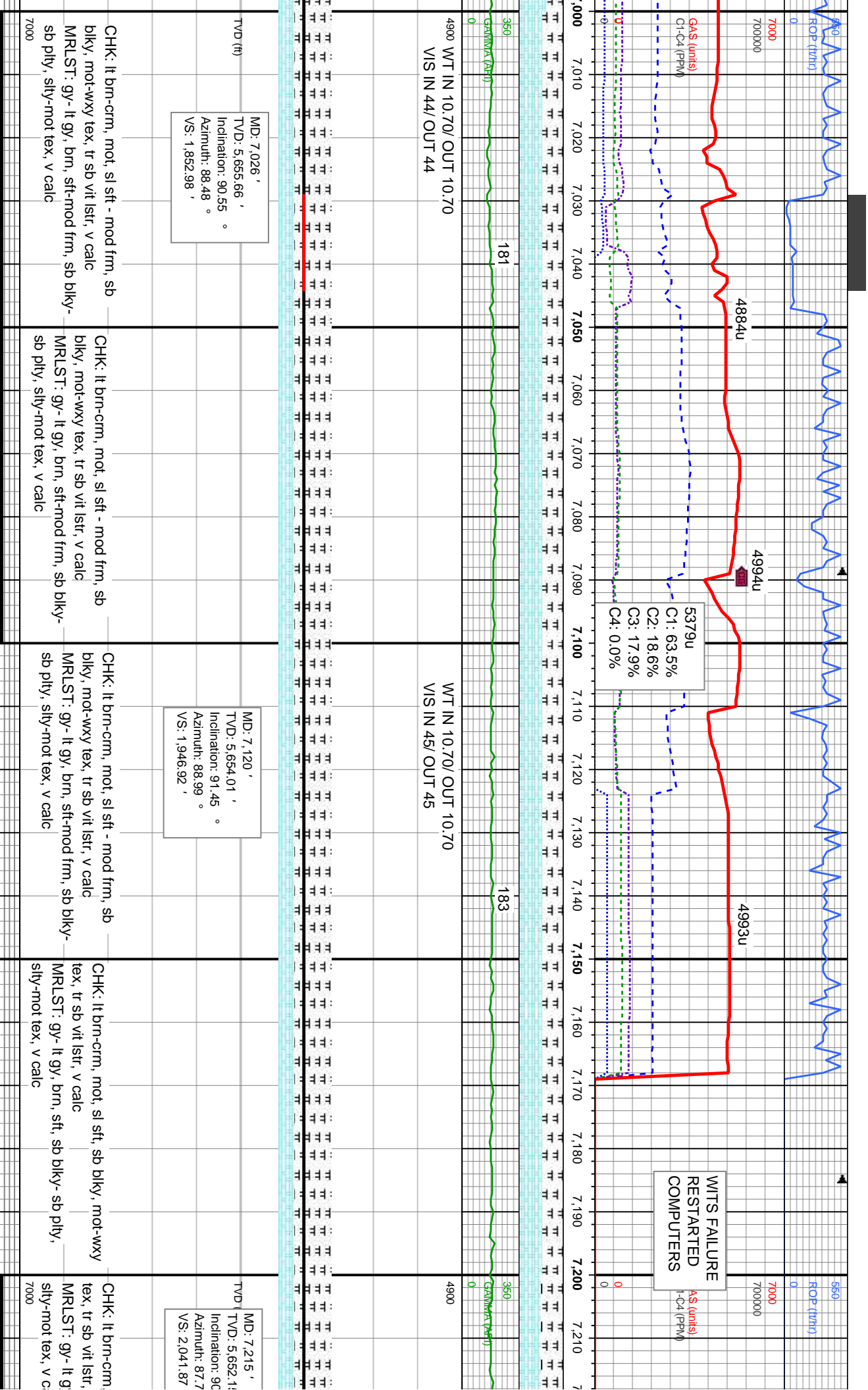


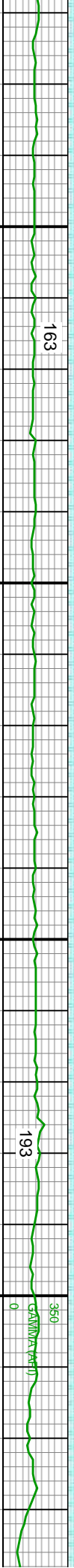
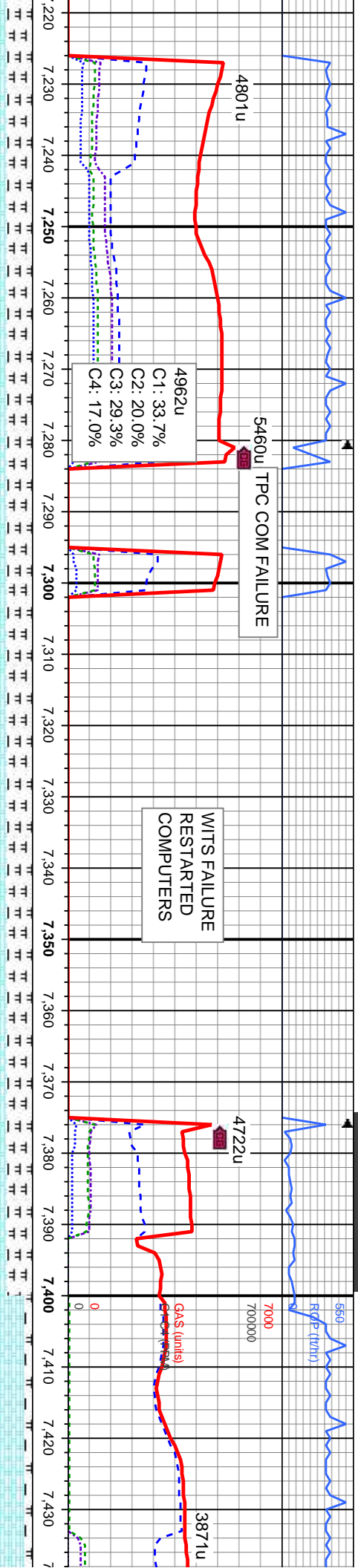












WT IN 10.70/ OUT 10.70
VIS IN 44/ OUT 44

MD: 7,310 '
TVD: 5,649 '
Inclination: 92.99 °
Azimuth: 88.71 °
VS: 2,136.78 '

MD: 7,405 '
TVD: 5,646.83 '
Inclination: 89.63 °
Azimuth: 88.65 °
VS: 2,231.69 '

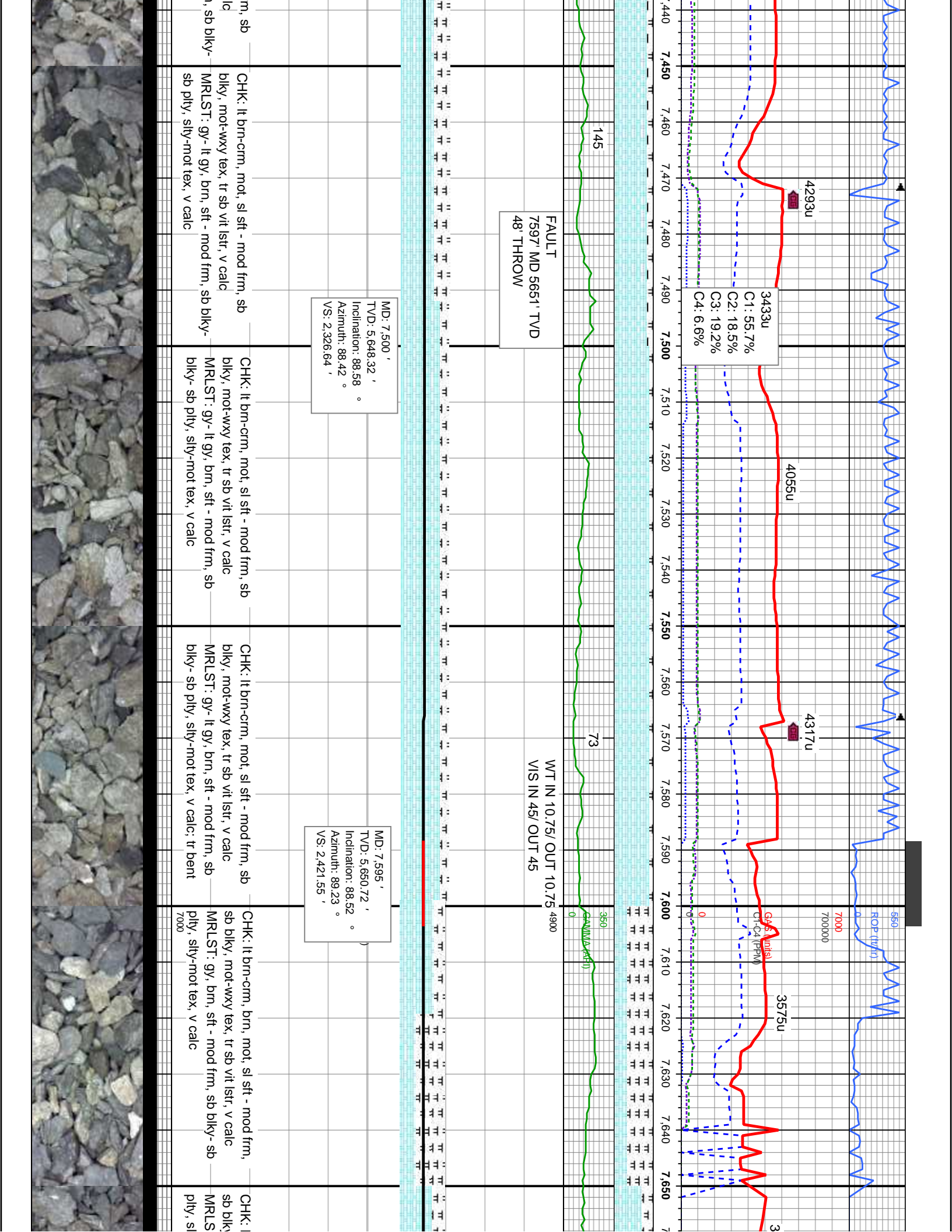
mot, sl sft, sb blkly, mot-wxy
v calc
y, brn, sft, sb blkly- sb ply, alc

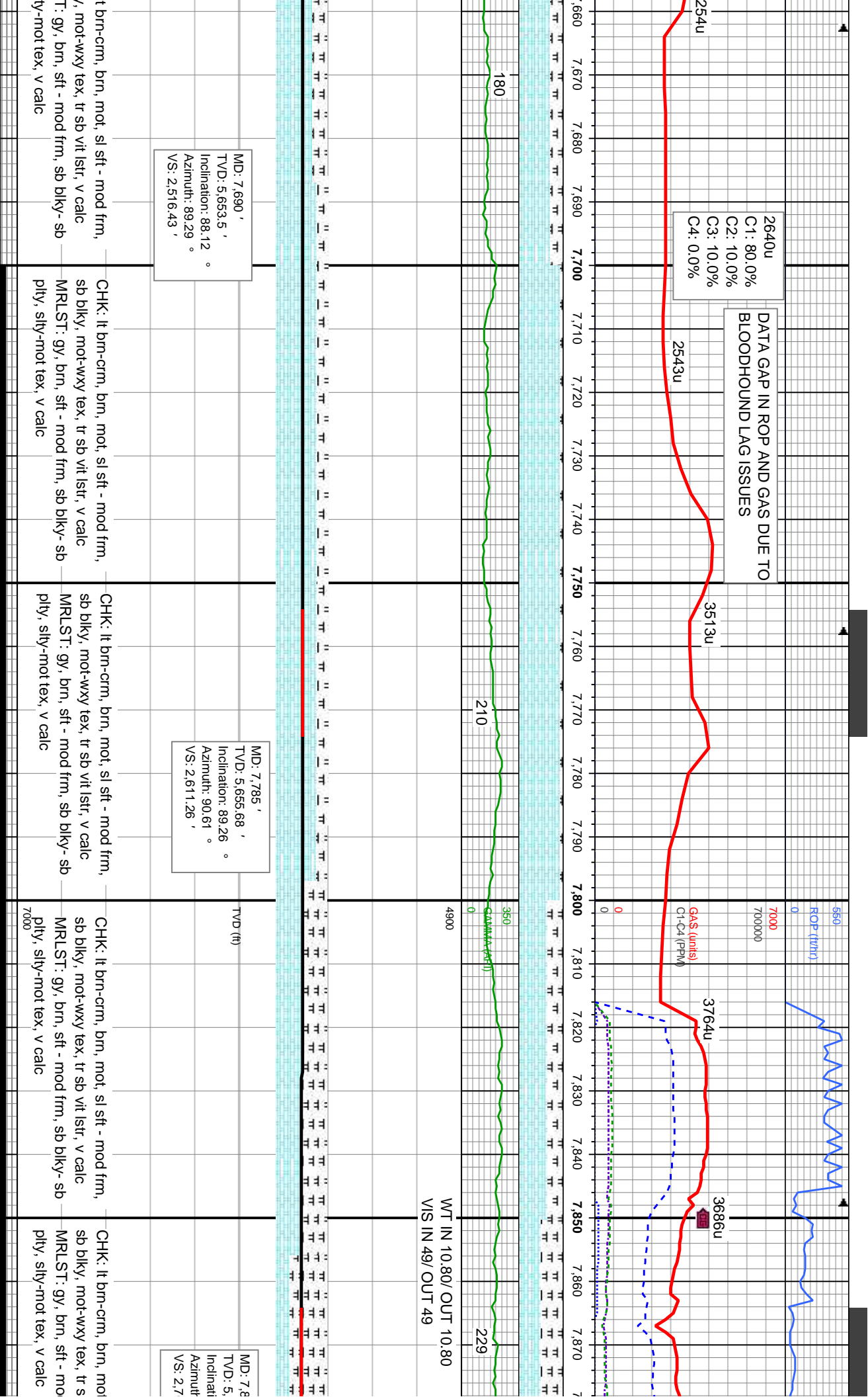
CHK: lt brn-crm, mot, sl sft - mod frm, sb blkly, mot-wxy tex, tr sb vit lstr, v calc
MRLST: gy- lt gy, brn, sft - mod frm, sb blkly- sb ply, silty-mot tex, v calc

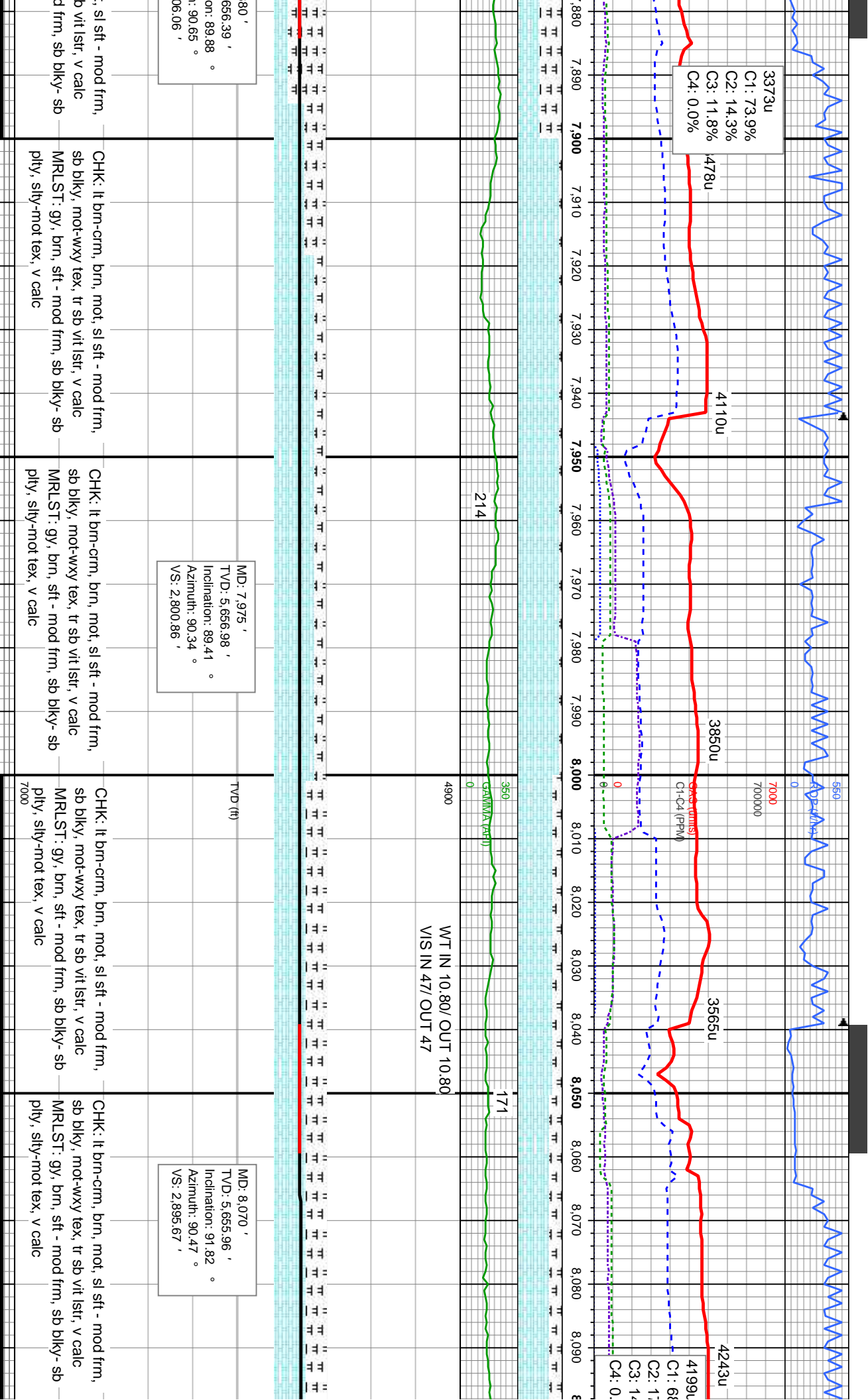
CHK: lt brn-crm, mot, sl sft - mod frm, sb blkly, mot-wxy tex, tr sb vit lstr, v calc
MRLST: gy- lt gy, brn, sft - mod frm, sb blkly- sb ply, silty-mot tex, v calc

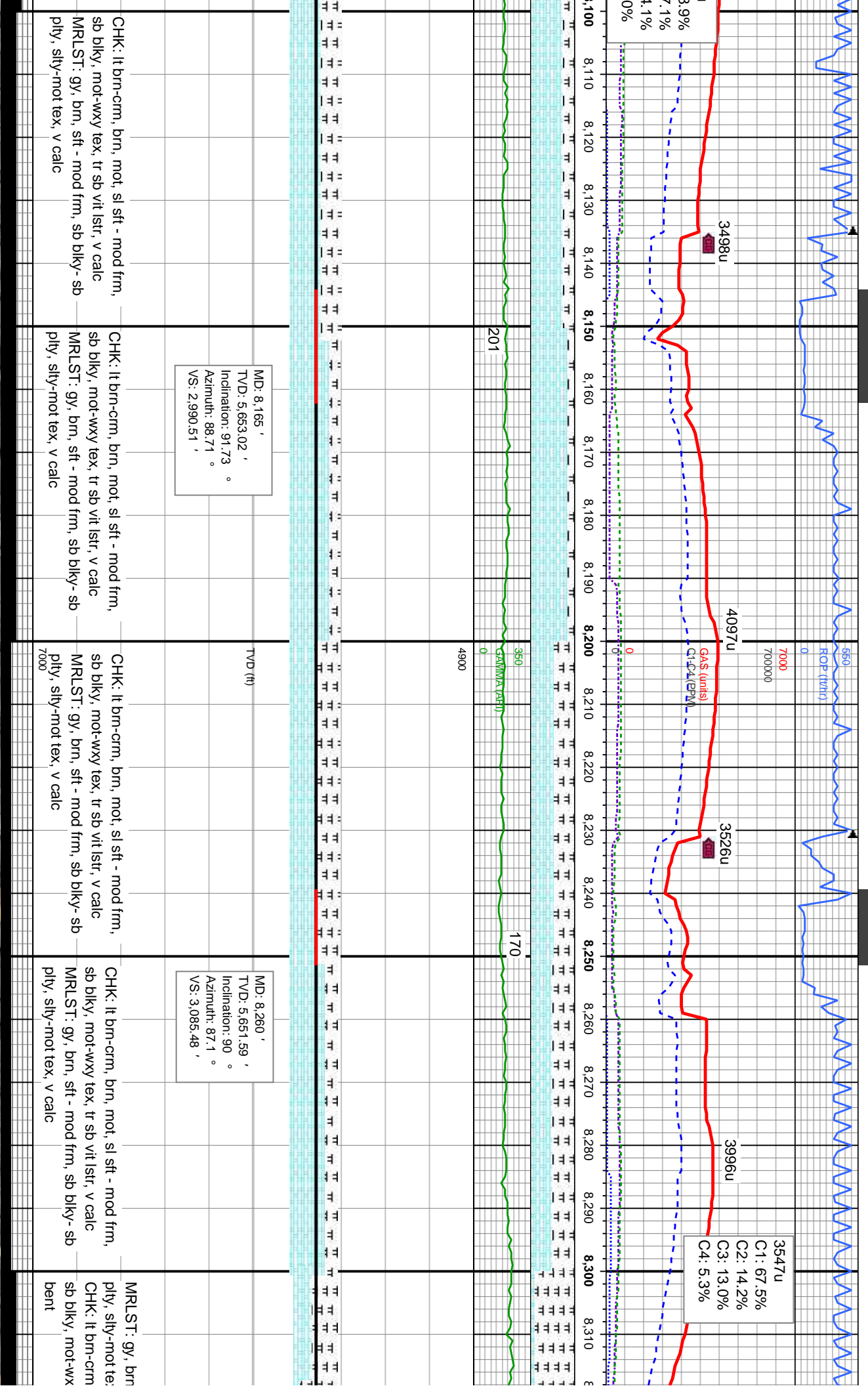
CHK: lt brn-crm, mot, sl sft - mod frm, sb blkly, mot-wxy tex, tr sb vit lstr, v calc
MRLST: gy- lt gy, brn, sft - mod frm, sb blkly- sb ply, silty-mot tex, v calc

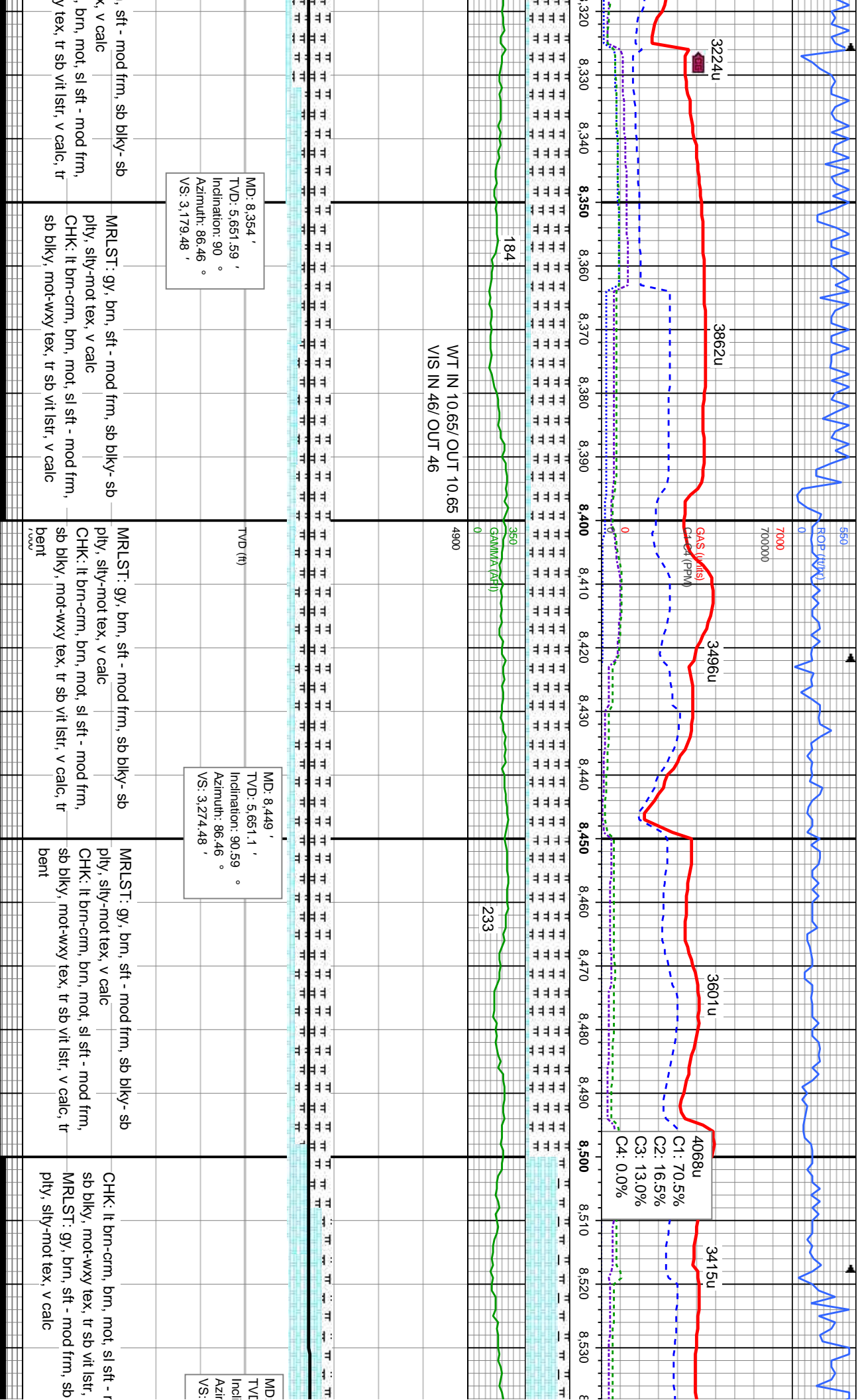












10/20/14

ROP (ft/hr)

7000

700000

4153u

Gas (units)

3194u

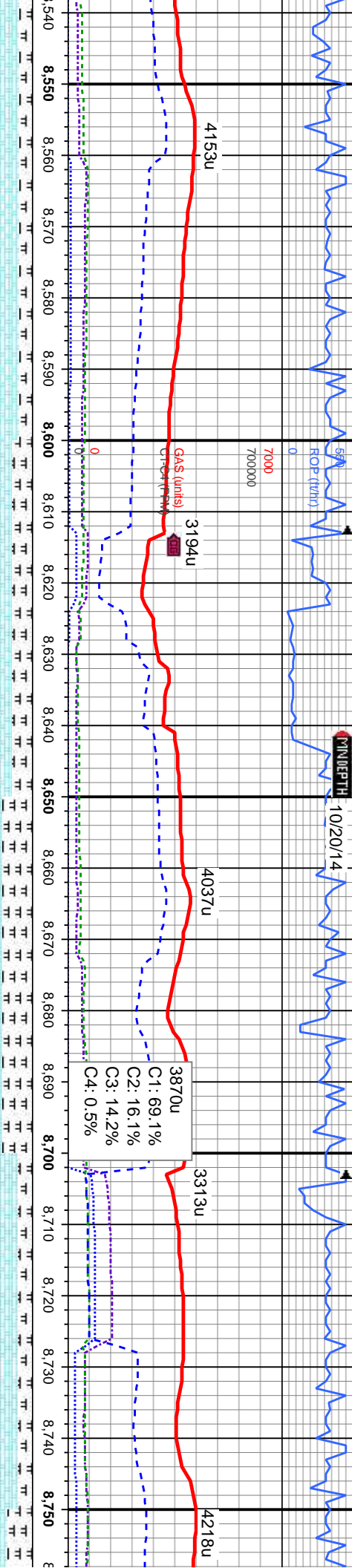
4037u

3870u

3313u

4218u

C1: 69.1%
C2: 16.1%
C3: 14.2%
C4: 0.5%



4900 WT IN 10.60/ OUT 10.60
VIS IN 43/ OUT 43

196

350

168

241

8,544' ±
5,649.82' ±
nation: 90.96 °
nuth: 86.11 °
3,369.46'

TVD (ft)

MD: 8,639' ±
TVD: 5,648.77' ±
Inclination: 90.31 °
Azimuth: 86.61 °
VS: 3,464.45'

MD: 8,733' ±
TVD: 5,647.61' ±
Inclination: 91.11 °
Azimuth: 85.95 °
VS: 3,558.44'

CHK: It brn-crm, brn, mot, sl sft - mod frm,
sb blkly, mot-wxy tex, tr sb vit lstr, v calc
MRLST: gy, brn, sft - mod frm, sb blkly- sb
ply, silty-mot tex, v calc

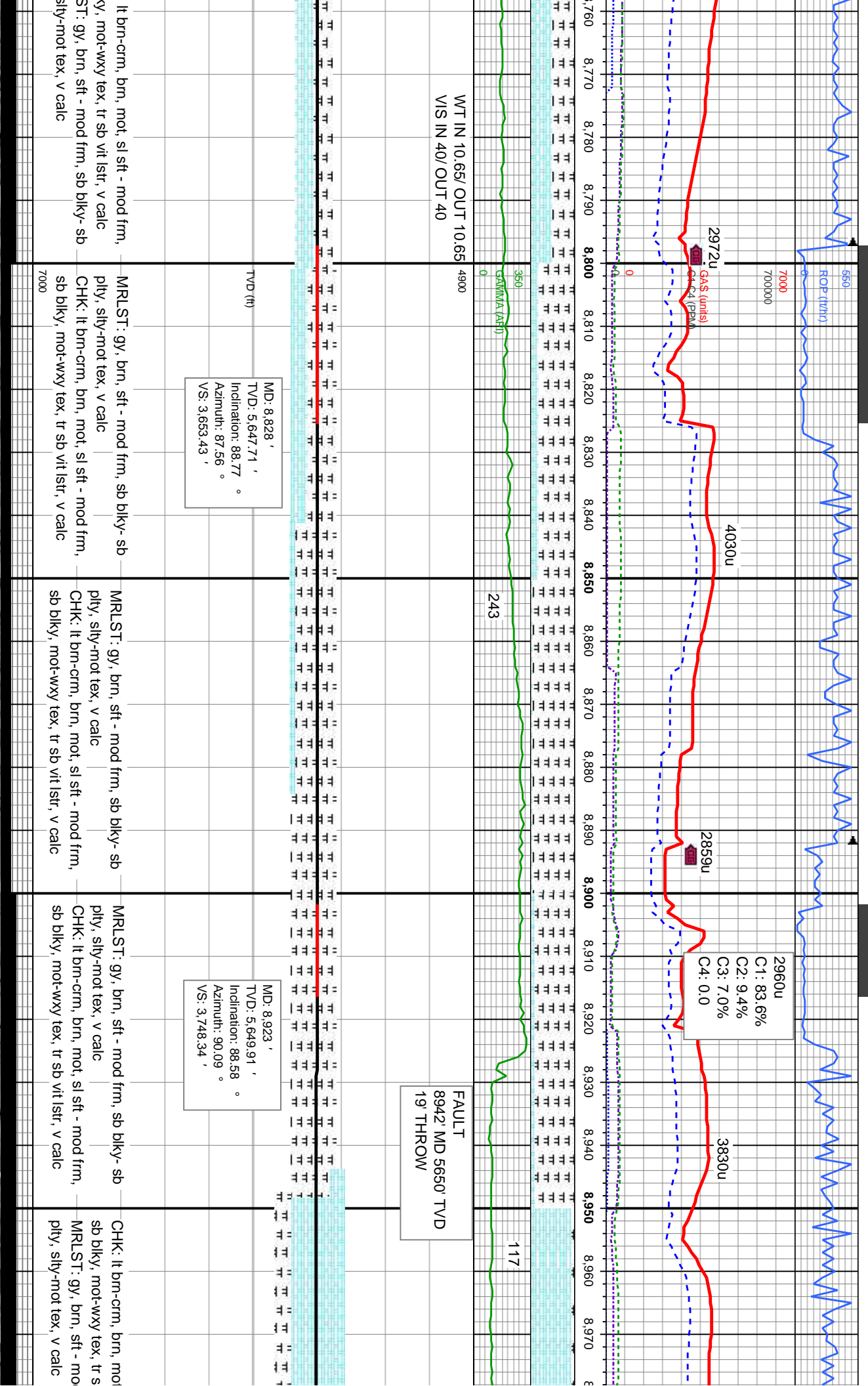
CHK: It brn-crm, brn, mot, sl sft - mod frm,
sb blkly, mot-wxy tex, tr sb vit lstr, v calc
MRLST: gy, brn, sft - mod frm, sb blkly- sb
ply, silty-mot tex, v calc

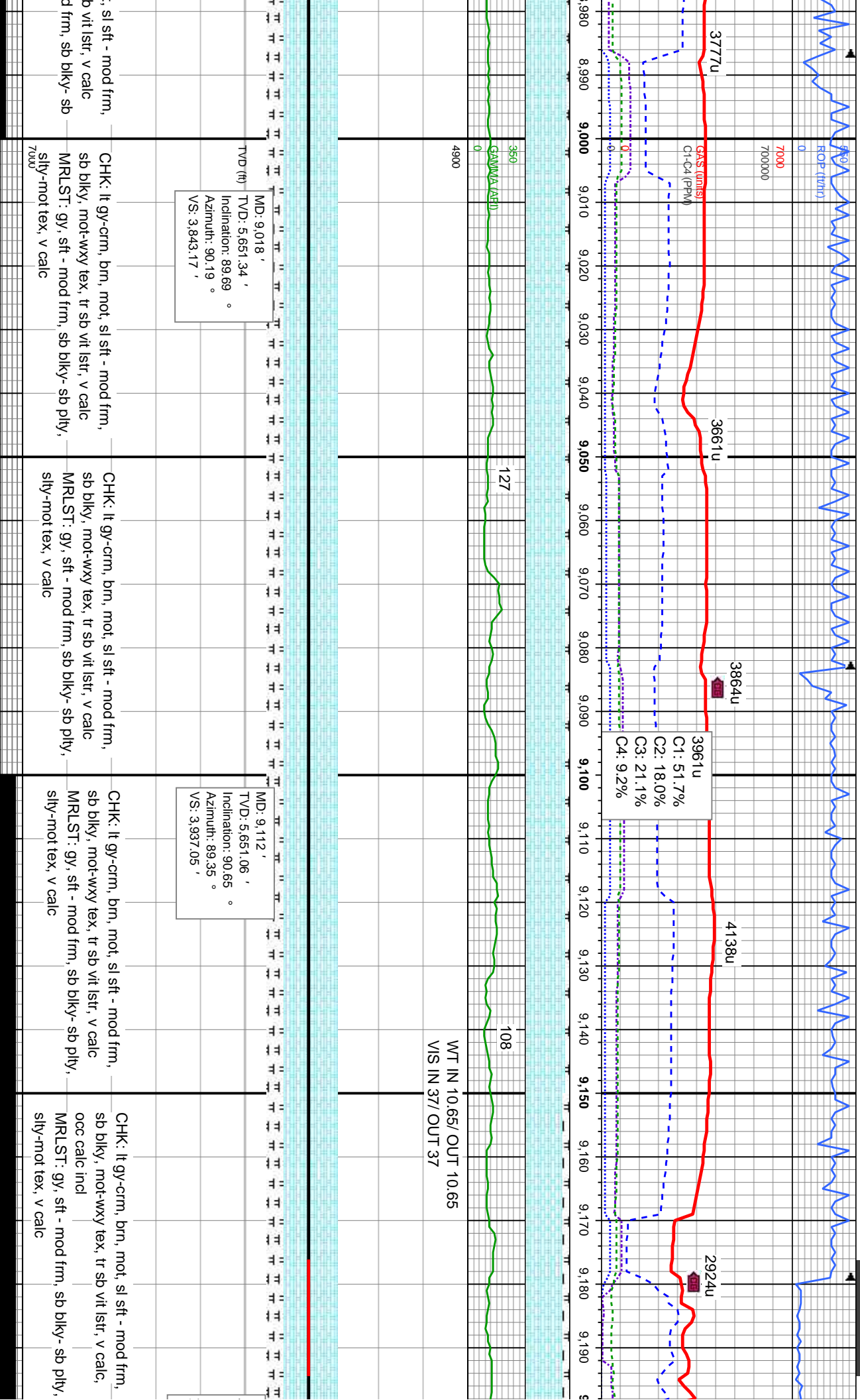
MRLST: gy, brn, sft - mod frm, sb blkly- sb
ply, silty-mot tex, v calc
CHK: It brn-crm, brn, mot, sl sft - mod frm,
sb blkly, mot-wxy tex, tr sb vit lstr, v calc

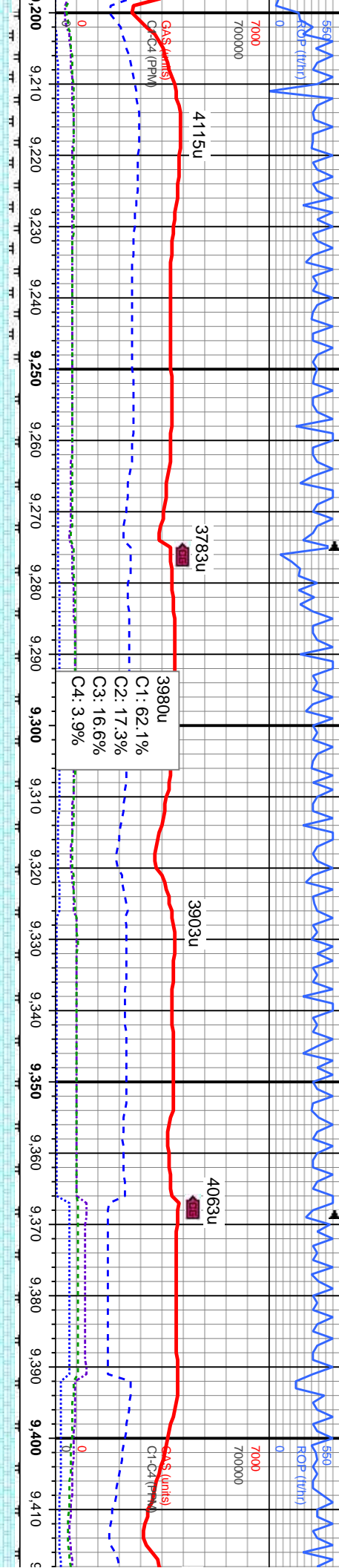
CHK: It brn-crm, brn, mot, sl sft - mod frm,
sb blkly, mot-wxy tex, tr sb vit lstr, v calc
MRLST: gy, brn, sft - mod frm, sb blkly- sb
ply, silty-mot tex, v calc

CHK: It brn-crm, brn, mot, sl sft - mod frm,
sb blkly, mot-wxy tex, tr sb vit lstr, v calc
MRLST: gy, brn, sft - mod frm, sb blkly- sb
ply, silty-mot tex, v calc









FAULT
9335' MD 5655' TVD
107' THROW

MD: 9,207 '	MD: 9,302 '	MD: 9,397 '
TVD: 5,651.98 '	TVD: 5,654.59 '	TVD: 5,656.56 '
Inclination: 88.24 °	Inclination: 88.61 °	Inclination: 89.01 °
Azimuth: 88.08 °	Azimuth: 87.23 °	Azimuth: 86.5 °
VS: 4,031.99 '	VS: 4,126.94 '	VS: 4,221.92 '

CHK: It gy-crm, brn, mot, sl sft - mod frm, sb blkly, mot-wxy tex, tr sb vit lstr, v calc, occ calc incl	CHK: It gy-crm, brn, mot, sl sft - mod frm, sb blkly, mot-wxy tex, tr sb vit lstr, v calc, occ calc incl	CHK: It gy-crm, brn, mot, sl sft - mod frm, sb blkly, mot-wxy tex, tr sb vit lstr, v calc, occ calc incl	CHK: It gy-crm, brn, mot, sl sft - mod frm, sb blkly, mot-wxy tex, tr sb vit lstr, v calc, occ calc incl
MRLST: gy, sft - mod frm, sb blkly- sb ply, silty-mot tex, v calc	MRLST: gy, sft - mod frm, sb blkly- sb ply, silty-mot tex, v calc	MRLST: gy, sft - mod frm, sb blkly- sb ply, silty-mot tex, v calc	MRLST: gy, sft - mod frm, sb blkly- sb ply, silty-mot tex, v calc



