



Scale: 5" / 100'
Measured Depth Log

Well Name TRISHA LC29-78HNB

Location SWSW SEC 29 T9N R59W

State COLORADO

Country UNITED STATES

API Number 05-123-38622

Region DJ BASIN

Spud Date 3/20/2014

Surface Coordinates 340' FSL; 955' FWL

Bottom Hole Coordinates 675' FNL; 675' FWL

County WELD

Rig Number H&P 273

AFE # 140709

Field WILDCAT

Drilling Completed 3/29/2014

Ground Elevation 4882'

K.B. Elevation 4906'

Logged Interval 5465' To 15574'

Total Depth 15574'

Formation NIOBRARA

Type of Drilling Fluid LSND

Company NOBLE ENERGY
Address 1625 Broadway
 Denver, CO 80202

Name SARAH COMPTON
Company NOBLE ENERGY
Address 1625 Broadway
 Denver, CO 80202

Wellsite Geologist #1: LAURENCE
Wellsite Geologist #2: TIM
Wellsite Geologist #3: KYLLIAN
Wellsite Geologist #4: BEN

Wellsite Geological Service

Operator

BY INC.

Suite 2200
202

Geologist

TON

BY INC.

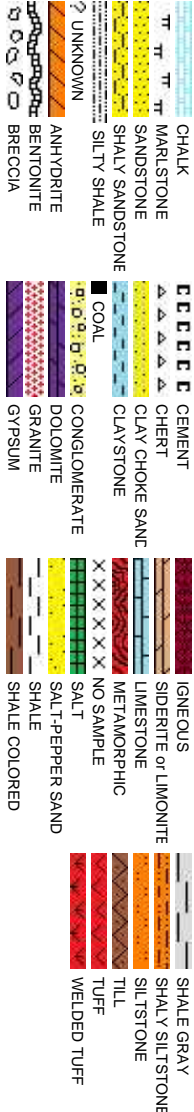
Suite 2200
202

Other

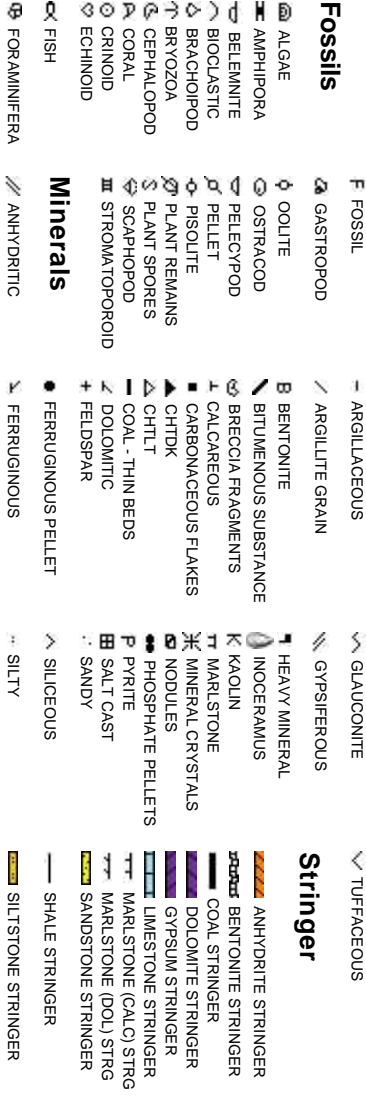
RA KELLOGG
BRIGHT
E KNIGHT
KATKA

s Provided By Columbine Logging Inc.

Rock Types



Accessories









Other Symbols

Oil Show














-  MOLDIC
-  ORGANIC
-  DEAD
-  EVEN
-  VUGGY

-  QUESTIONABLE
-  SPOTTED STAINING

Porosity

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

Engineering

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

Rounding

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

Textures

Sorting

Slide/Rotate

ROP

ROF

Total Gas & Chromatograph

GAS

C1

C2

C3

C4

Depth Labels

% Lith

Gamma

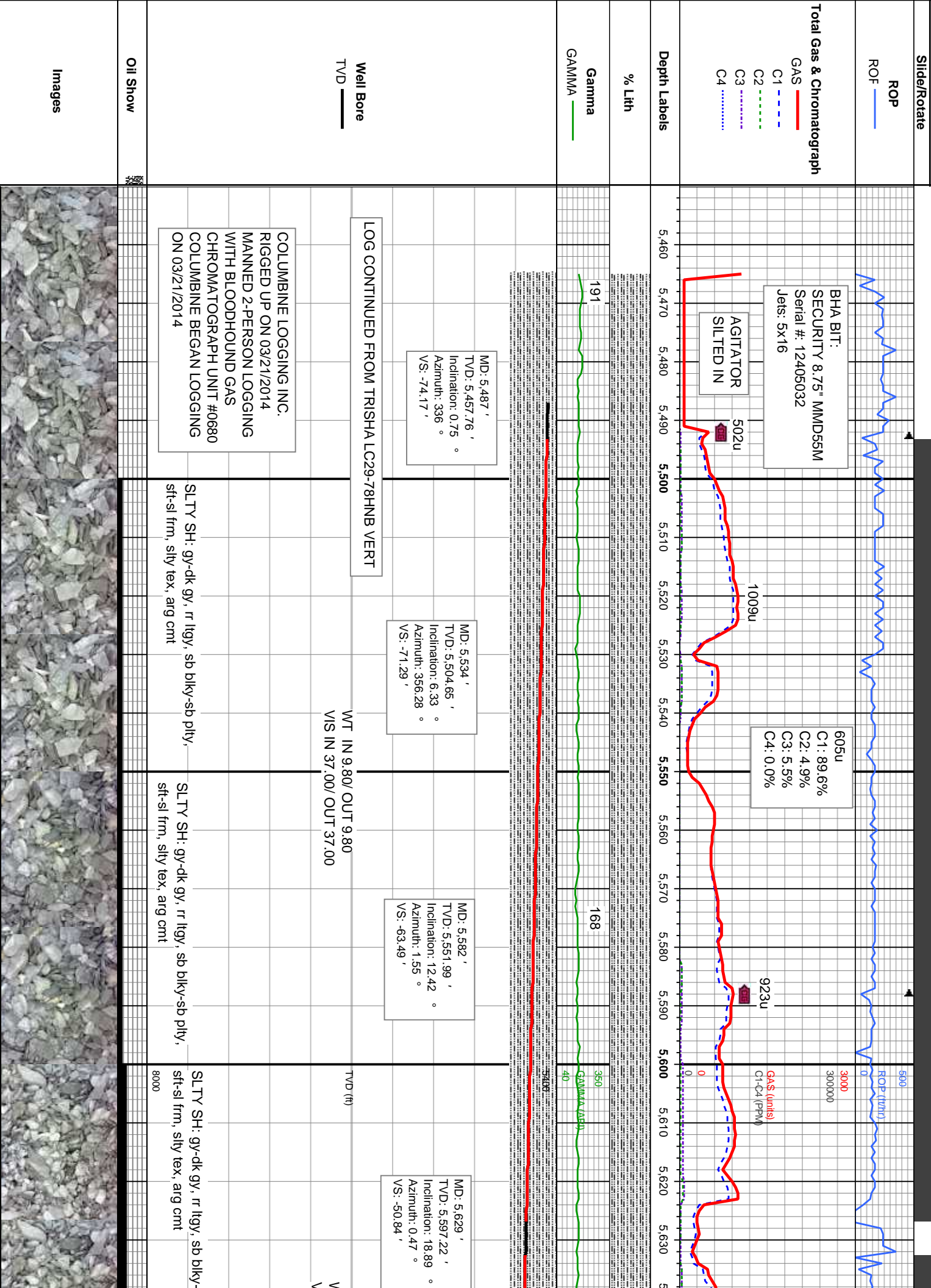
GAMMA

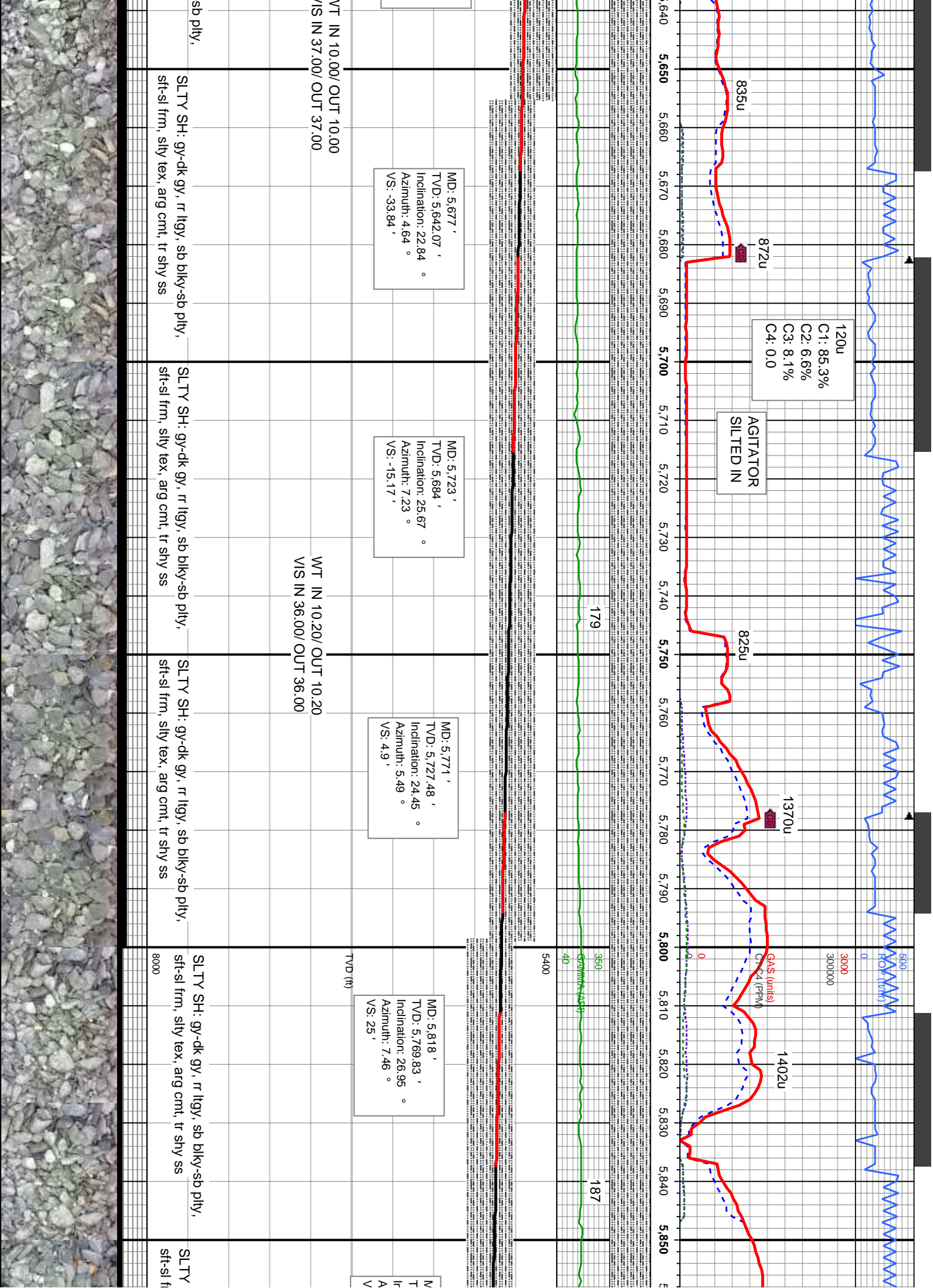
Well Bore

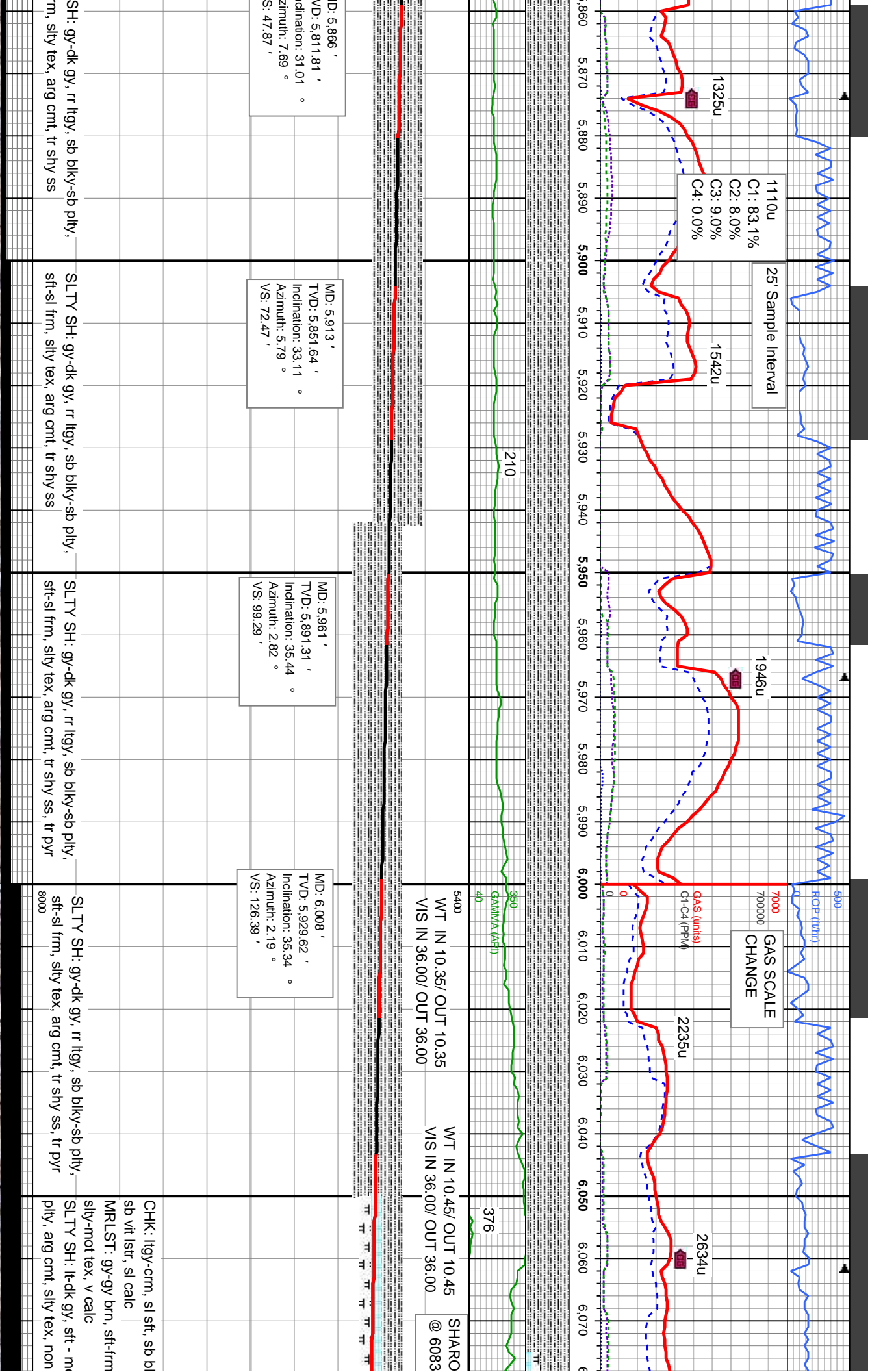
TVD

Oil Show

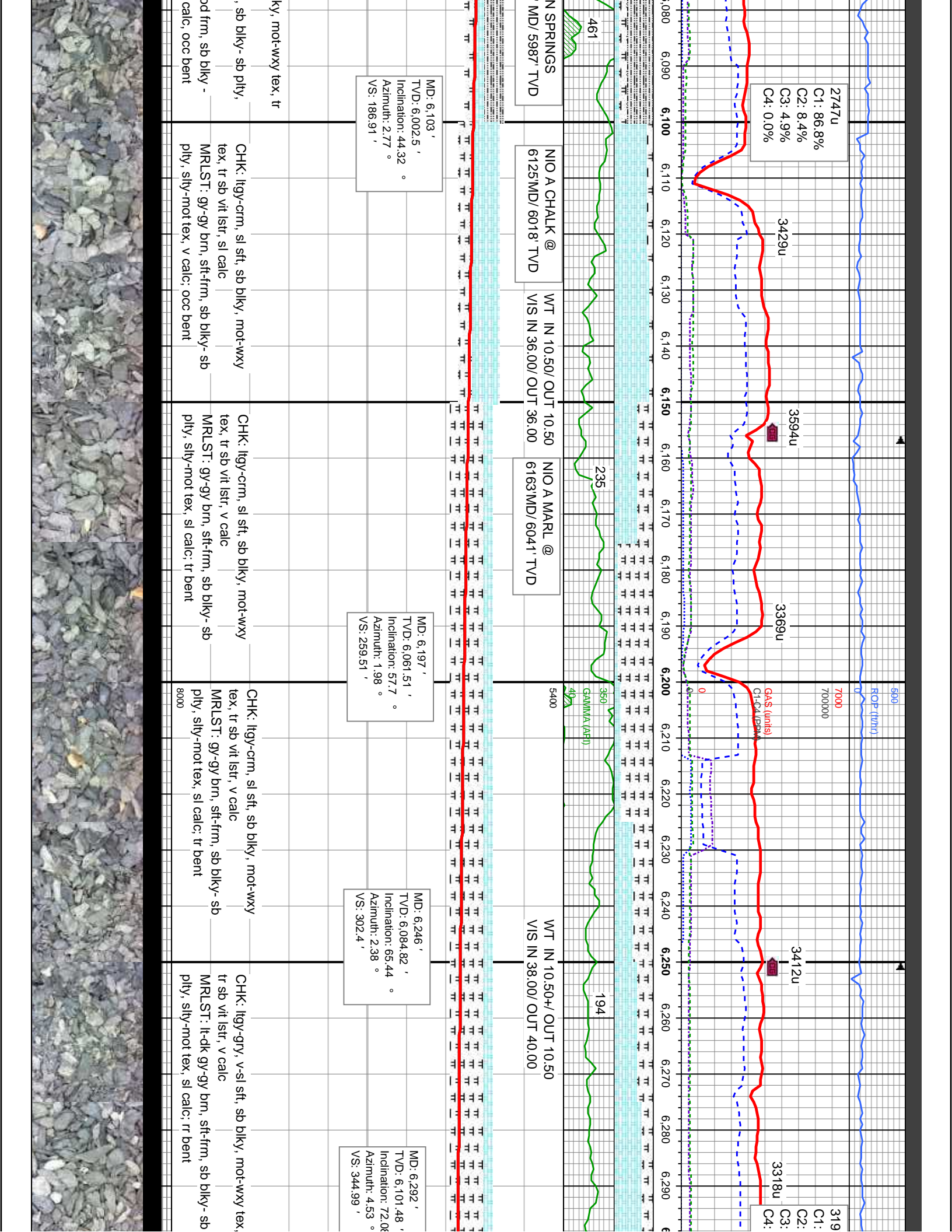
Images

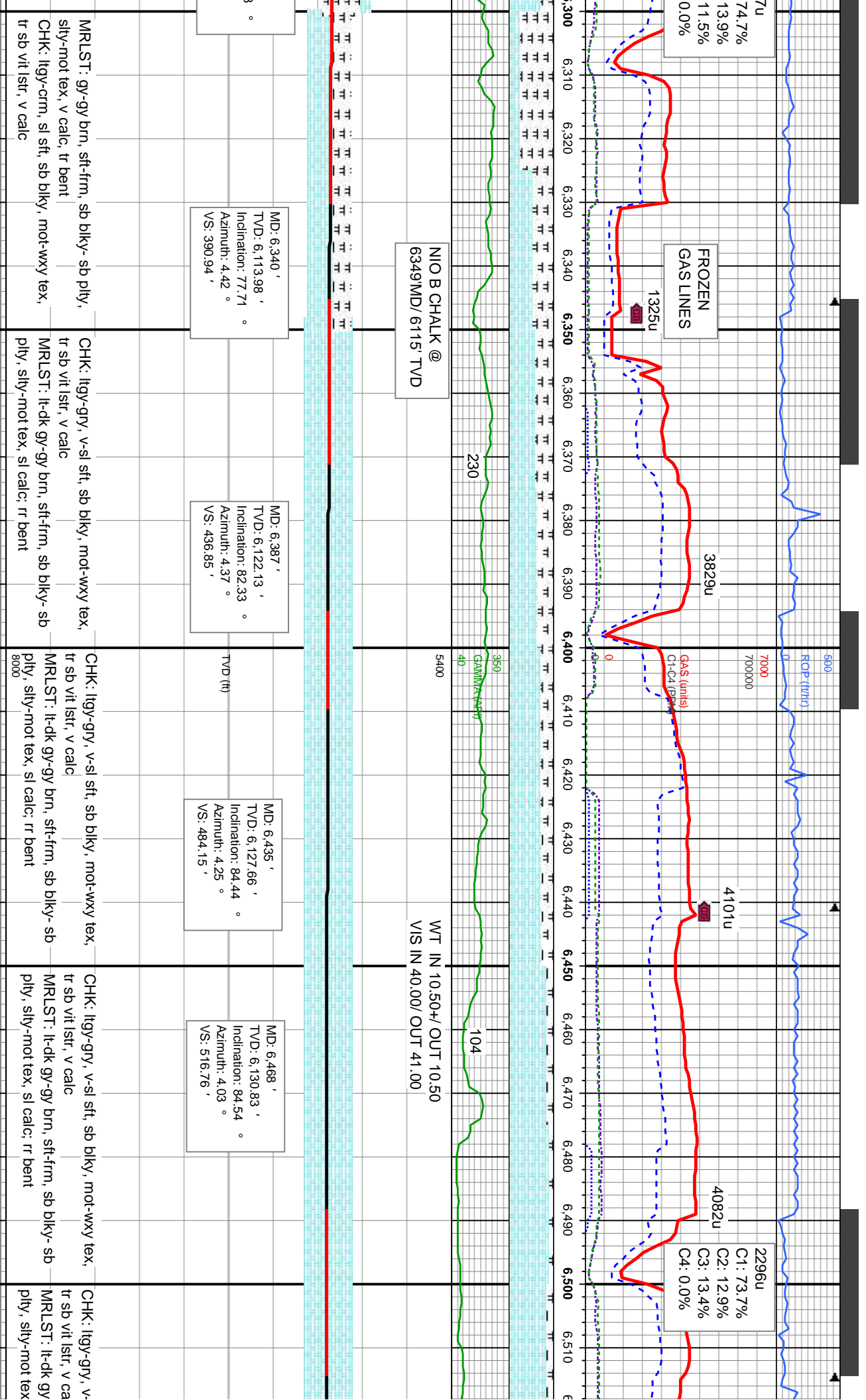






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3543.23 ' MD: 11.720 ' TVD: 8.983.78 ' Inclination: 21.74 ° Azimuth: 2.19 ° VS: 3568.54 ' MD: 11.762 ' TVD: 9.006.09 ' Inclination: 21.64 ° Azimuth: 2.19 ° VS: 3593.85 ' MD: 11.804 ' TVD: 9.028.40 ' Inclination: 21.54 ° Azimuth: 2.19 ° VS: 3619.16 ' MD: 11.846 ' TVD: 9.050.71 ' Inclination: 21.44 ° Azimuth: 2.19 ° VS: 3644.47 ' MD: 11.888 ' TVD: 9.073.02 ' Inclination: 21.34 ° Azimuth: 2.19 ° VS: 3669.78 ' MD: 11.930 ' TVD: 9.095.33 ' Inclination: 21.24 ° Azimuth: 2.19 ° VS: 3695.09 ' MD: 11.972 ' TVD: 9.117.64 ' Inclination: 21.14 ° Azimuth: 2.19 ° VS: 3720.40 ' MD: 12.014 ' TVD: 9.139.95 ' Inclination: 21.04 ° Azimuth: 2.19 ° VS: 3745.71 ' MD: 12.056 ' TVD: 9.162.26 ' Inclination: 20.94 ° Azimuth: 2.19 ° VS: 3771.02 ' MD: 12.098 ' TVD: 9.184.57 ' Inclination: 20.84 ° Azimuth: 2.19 ° VS: 3796.33 ' MD: 12.140 ' TVD: 9.206.88 ' Inclination: 20.74 ° Azimuth: 2.19 ° VS: 3821.64 ' MD: 12.182 ' TVD: 9.229.19 ' Inclination: 20.64 ° Azimuth: 2.19 ° VS: 3846.95 ' MD: 12.224 ' TVD: 9.251.50 ' Inclination: 20.54 ° Azimuth: 2.19 ° VS: 3872.26 ' MD: 12.266 ' TVD: 9.273.81 ' Inclination: 20.44 ° Azimuth: 2.19 ° VS: 3897.57 ' MD: 12.308 ' TVD: 9.296.12 ' Inclination: 20.34 ° Azimuth: 2.19 ° VS: 3922.88 ' MD: 12.350 ' TVD: 9.318.43 ' Inclination: 20.24 ° Azimuth: 2.19 ° VS: 3948.19 ' MD: 12.392 ' TVD: 9.340.74 ' Inclination: 20.14 ° Azimuth: 2.19 ° VS: 3973.50 ' MD: 12.434 ' TVD: 9.363.05 ' Inclination: 20.04 ° Azimuth: 2.19 ° VS: 3998.81 ' MD: 12.476 ' TVD: 9.385.36 ' Inclination: 19.94 ° Azimuth: 2.19 ° VS: 4024.12 ' MD: 12.518 ' TVD: 9.407.67 ' Inclination: 19.84 ° Azimuth: 2.19 ° VS: 4049.43 ' MD: 12.560 ' TVD: 9.429.98 ' Inclination: 19.74 ° Azimuth: 2.19 ° VS: 4074.74 ' MD: 12.602 ' TVD: 9.452.29 ' Inclination: 19.64 ° Azimuth: 2.19 ° VS: 4100.05 ' MD: 12.644 ' TVD: 9.474.60 ' Inclination: 19.54 ° Azimuth: 2.19 ° VS: 4125.36 ' MD: 12.686 ' TVD: 9.496.91 ' Inclination: 19.44 ° Azimuth: 2.19 ° VS: 4150.67 ' MD: 12.728 ' TVD: 9.519.22 ' Inclination: 19.34 ° Azimuth: 2.19 ° VS: 4175.98 ' MD: 12.770 ' TVD: 9.541.53 ' Inclination: 19.24 ° Azimuth: 2.19 ° VS: 4201.29 ' MD: 12.812 ' TVD: 9.563.84 ' Inclination: 19.14 ° Azimuth: 2.19 ° VS: 4226.60 ' MD: 12.854 ' TVD: 9.586.15 ' Inclination: 19.04 ° Azimuth: 2.19 ° VS: 4251.91 ' MD: 12.896 ' TVD: 9.608.46 ' Inclination: 18.94 ° Azimuth: 2.19 ° VS: 4277.22 ' MD: 12.938 ' TVD: 9.630.77 ' Inclination: 18.84 ° Azimuth: 2.19 ° VS: 4302.53 ' MD: 12.980 ' TVD: 9.653.08 ' Inclination: 18.74 ° Azimuth: 2.19 ° VS: 4327.84 ' MD: 13.022 ' TVD: 9.675.39 ' Inclination: 18.64 ° Azimuth: 2.19 ° VS: 4353.15 ' MD: 13.064 ' TVD: 9.697.70 ' Inclination: 18.54 ° Azimuth: 2.19 ° VS: 4378.46 ' MD: 13.106 ' TVD: 9.720.01 ' Inclination: 18.44 ° Azimuth: 2.19 ° VS: 4403.77 ' MD: 13.148 ' TVD: 9.742.32 ' Inclination: 18.34 ° Azimuth: 2.19 ° VS: 4429.08 ' MD: 13.190 ' TVD: 9.764.63 ' Inclination: 18.24 ° Azimuth: 2.19 ° VS: 4454.39 ' MD: 13.232 ' TVD: 9.786.94 ' Inclination: 18.14 ° Azimuth: 2.19 ° VS: 4479.70 ' MD: 13.274 ' TVD: 9.809.25 ' Inclination: 18.04 ° Azimuth: 2.19 ° VS: 4505.01 ' MD: 13.316 ' TVD: 9.831.56 ' Inclination: 17.94 ° Azimuth: 2.19 ° VS: 4530.32 ' MD: 13.358 ' TVD: 9.853.87 ' Inclination: 17.84 ° Azimuth: 2.19 ° VS: 4555.63 ' MD: 13.400 ' TVD: 9.876.18 ' Inclination: 17.74 ° Azimuth: 2.19 ° VS: 4580.94 ' MD: 13.442 ' TVD: 9.898.49 ' Inclination: 17.64 ° Azimuth: 2.19 ° VS: 4606.25 ' MD: 13.484 ' TVD: 9.920.80 ' Inclination: 17.54 ° Azimuth: 2.19 ° VS: 4631.56 ' MD: 13.526 ' TVD: 9.943.11 ' Inclination: 17.44 ° Azimuth: 2.19 ° VS: 4656.87 ' MD: 13.568 ' TVD: 9.965.42 ' Inclination: 17.34 ° Azimuth: 2.19 ° VS: 4682.18 ' MD: 13.610 ' TVD: 9.987.73 ' Inclination: 17.24 ° Azimuth: 2.19 ° VS: 4707.49 ' MD: 13.652 ' TVD: 10.010.04 ' Inclination: 17.14 ° Azimuth: 2.19 ° VS: 4732.80 ' MD: 13.694 ' TVD: 10.032.35 ' Inclination: 17.04 ° Azimuth: 2.19 ° VS: 4758.11 ' MD: 13.736 ' TVD: 10.054.66 ' Inclination: 16.94 ° Azimuth: 2.19 ° VS: 4783.42 ' MD: 13.778 ' TVD: 10.076.97 ' Inclination: 16.84 ° Azimuth: 2.19 ° VS: 4808.73 ' MD: 13.820 ' TVD: 10.099.28 ' Inclination: 16.74 ° Azimuth: 2.19 ° VS: 4834.04 ' MD: 13.862 ' TVD: 10.121.59 ' Inclination: 16.64 ° Azimuth: 2.19 ° VS: 4859.35 ' MD: 13.904 ' TVD: 10.143.90 ' Inclination: 16.54 ° Azimuth: 2.19 ° VS: 4884.66 ' MD: 13.946 ' TVD: 10.166.21 ' Inclination: 16.44 ° Azimuth: 2.19 ° VS: 4909.97 ' MD: 13.988 ' TVD: 10.188.52 ' Inclination: 16.34 ° Azimuth: 2.19 ° VS: 4935.28 ' MD: 14.030 ' TVD: 10.210.83 ' Inclination: 16.24 ° Azimuth: 2.19 ° VS: 4960.59 ' MD: 14.072 ' TVD: 10.233.14 ' Inclination: 16.14 ° Azimuth: 2.19 ° VS: 4985.90 ' MD: 14.114 ' TVD: 10.255.45 ' Inclination: 16.04 ° Azimuth: 2.19 ° VS: 5011.21 ' MD: 14.156 ' TVD: 10.277.76 ' Inclination: 15.94 ° Azimuth: 2.19 ° VS: 5036.52 ' MD: 14.198 ' TVD: 10.299.07 ' Inclination: 15.84 ° Azimuth: 2.19 ° VS: 5061.83 ' MD: 14.240 ' TVD: 10.321.38 ' Inclination: 15.74 ° Azimuth: 2.19 ° VS: 5087.14 ' MD: 14.282 ' TVD: 10.343.69 ' Inclination: 15.64 ° Azimuth: 2.19 ° VS: 5112.45 ' MD: 14.324 ' TVD: 10.365.99 ' Inclination: 15.54 ° Azimuth: 2.19 ° VS: 5137.76 ' MD: 14.366 ' TVD: 10.388.30 ' Inclination: 15.44 ° Azimuth: 2.19 ° VS: 5163.07 ' MD: 14.408 ' TVD: 10.410.61 ' Inclination: 15.34 ° Azimuth: 2.19 ° VS: 5188.38 ' MD: 14.450 ' TVD: 10.432.92 ' Inclination: 15.24 ° Azimuth: 2.19 ° VS: 5213.69 ' MD: 14.492 ' TVD: 10.455.23 ' Inclination: 15.14 ° Azimuth: 2.19 ° VS: 5239.00 ' MD: 14.534 ' TVD: 10.477.54 ' Inclination: 15.04 ° Azimuth: 2.19 ° VS: 5264.31 ' MD: 14.576 ' TVD: 10.499.85 ' Inclination: 14.94 ° Azimuth: 2.19 ° VS: 5289.62 ' MD: 14.618 ' TVD: 10.522.16 ' Inclination: 14.84 ° Azimuth: 2.19 ° VS: 5314.93 ' MD: 14.660 ' TVD: 10.544.47 ' Inclination: 14.74 ° Azimuth: 2.19 ° VS: 5340.24 ' MD: 14.702 ' TVD: 10.566.78 ' Inclination: 14.64 ° Azimuth: 2.19 ° VS: 5365.55 ' MD: 14.744 ' TVD: 10.589.09 ' Inclination: 14.54 ° Azimuth: 2.19 ° VS: 5390.86 ' MD: 14.786 ' TVD: 10.611.40 ' Inclination: 14.44 ° Azimuth: 2.19 ° VS: 5416.17 ' MD: 14.828 ' TVD: 10.633.71 ' Inclination: 14.34 ° Azimuth: 2.19 ° VS: 5441.48 ' MD: 14.870 ' TVD: 10.656.02 ' Inclination: 14.24 ° Azimuth: 2.19 ° VS: 5466.79 ' MD: 14.912 ' TVD: 10.678.33 ' Inclination: 14.14 ° Azimuth: 2.19 ° VS: 5492.10 ' MD: 14.954 ' TVD: 10.700.64 ' Inclination: 14.04 ° Azimuth: 2.19 ° VS: 5517.41 ' MD: 14.996 ' TVD: 10.722.95 ' Inclination: 13.94 ° Azimuth: 2.19 ° VS: 5542.72 ' MD: 15.038 ' TVD: 10.745.26 ' Inclination: 13.84 ° Azimuth: 2.19 ° VS: 5568.03 ' MD: 15.080 ' TVD: 10.767.57 ' Inclination: 13.74 ° Azimuth: 2.19 ° VS: 5593.34 ' MD: 15.122 ' TVD: 10.789.88 ' Inclination: 13.64 ° Azimuth: 2.19 ° VS: 5618.65 ' MD: 15.164 ' TVD: 10.812.19 ' Inclination: 13.54 ° Azimuth: 2.19 ° VS: 5643.96 ' MD: 15.206 ' TVD: 10.834.50 ' Inclination: 13.44 ° Azimuth: 2.19 ° VS: 5669.2





DATE: 03/23/2014-03/24/2014

50' Sample Interval

Drilled out of 7" Casing @ 01:24 PM 03/24/2014

BHA BIT: SECURITY 6.125" MMD54 Serial #: 12301813 Jets: 5x20

TD Curve Intermediate Casing - 6522' MD @ 10:44 PM 03/22/2014

AGITATOR SILTED IN

118u

GAS (units)

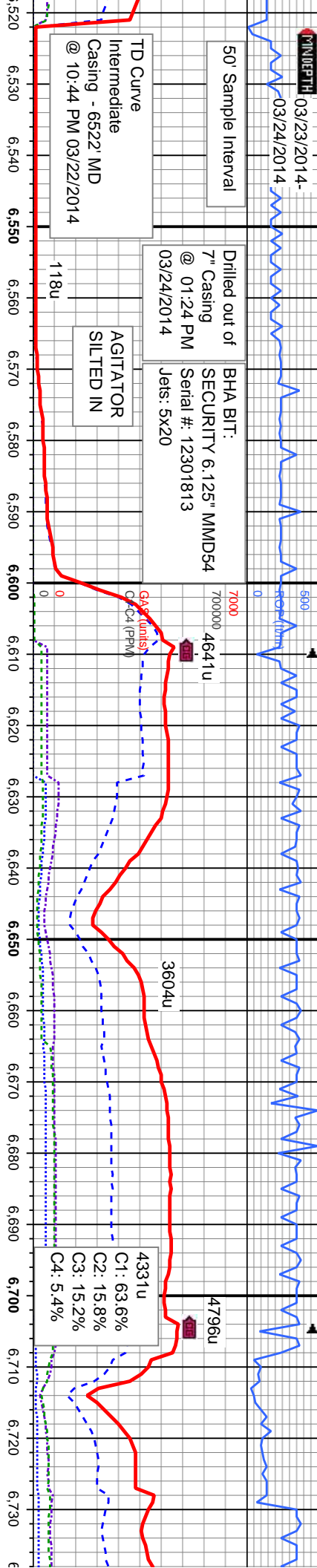
CC4 (PPM)

4641u

3604u

4796u

C1: 63.6%
C2: 15.8%
C3: 15.2%
C4: 5.4%



95

350
GAMMA (API)

5400

WT IN 10.10/ OUT 10.10
VIS IN 34.00/ OUT 34.00

WT IN 10.10/ OUT 10.10
VIS IN 34.00/ OUT 34.00

TVD (ft)

MD: 6,647 '
TVD: 6,138.1 '
Inclination: 90.8 °
Azimuth: 1.84 °
VS: 694.61 '

MD: 6
TVD: 6
Incline
Azimu
VS: 78

sl sft, sb blk, mot-wxy tex, sl calc; rr bent

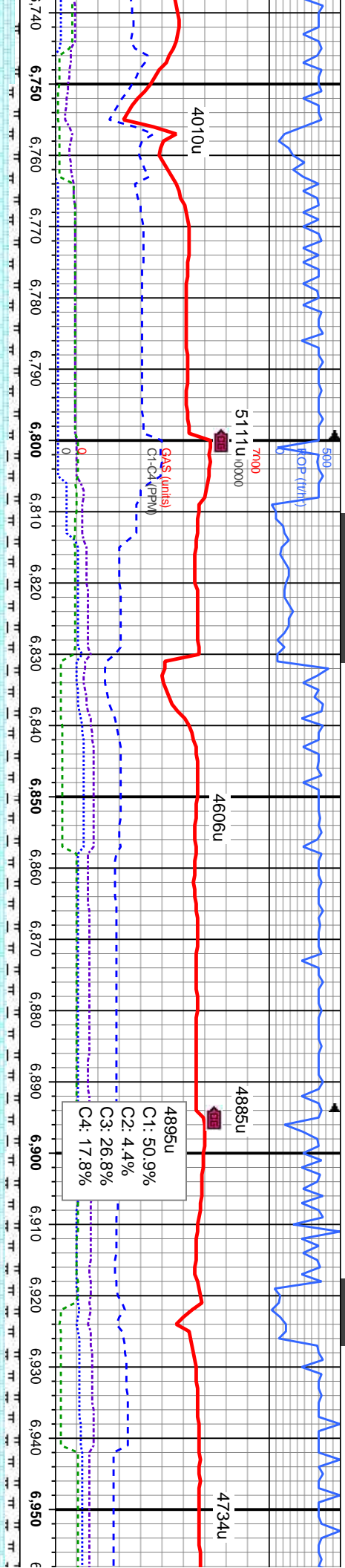
CHK: ltgy-gr, v-sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc
MRLST: lt-dk gy-gry brn-blk, sft-frm, sb blk, sb ply, silty-mot tex, sl calc; rr bent

CHK: ltgy-gr, v-sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc
MRLST: lt-dk gy-gry brn-blk, sft-frm, sb blk, sb ply, silty-mot tex, sl calc; rr bent

CHK: ltgy-gr, v-sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc
MRLST: lt-dk gy-gry brn-blk, sft-frm, sb blk, sb ply, silty-mot tex, sl calc

CHK: ltgy-gr, v-sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc
MRLST: lt-dk gy-gry brn-blk, sft-frm, sb ply, silty-mot tex, sl calc





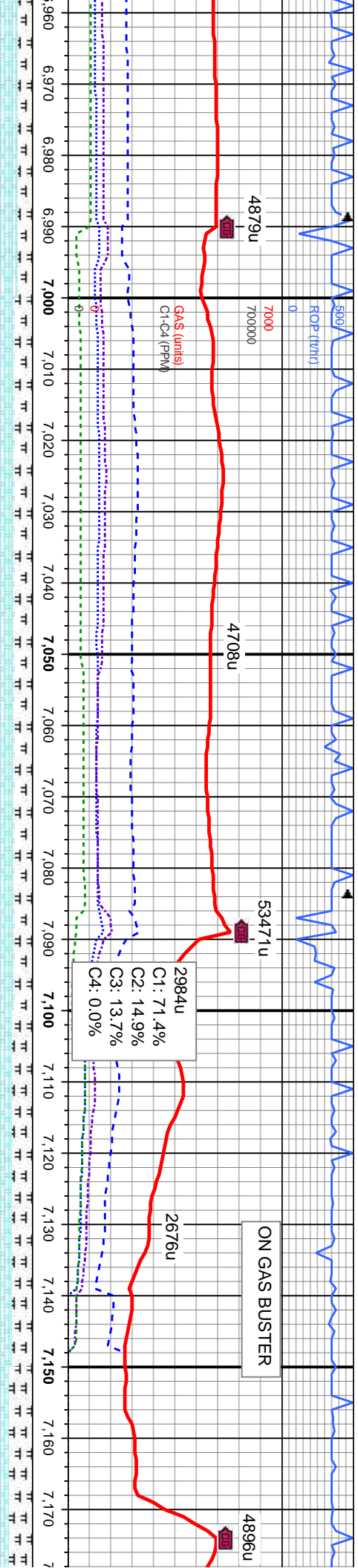
741' 3,137.24' 359.23° 8.43'

MD: 6,836' TVD: 6,136.54' Inclination: 90.59° Azimuth: 356.91° VS: 883.41'

MD: 6,931' TVD: 6,136' Inclination: 90.06° Azimuth: 356.02° VS: 978.4'

wxy tex, tr	CHK: ltgy-gry, v-sl sft, sb blk, mot-wxy tex, tr	CHK: ltgy-gry, v-sl sft, sb blk, mot-wxy tex, tr	CHK: ltgy-gry, v-sl sft, sb blk, mot-wxy tex, tr	CHK: ltgy-gry, v-sl sft, sb blk, mot-wxy tex, tr
sb vit lstr, v calc	sb vit lstr, v calc	sb vit lstr, v calc	sb vit lstr, v calc	sb vit lstr, v calc
MRLST: lt-dk gy-gry brn-blk, sft-frn, sb blk	MRLST: lt-dk gy-gry brn-blk, sft-frn, sb blk	MRLST: lt-dk gy-gry brn-blk, sft-frn, sb blk	MRLST: lt-dk gy-gry brn-blk, sft-frn, sb blk	MRLST: lt-dk gy-gry brn-blk, sft-frn, sb blk
sb pily, silty-mot tex, sl calc, tr pyr	sb pily, silty-mot tex, sl calc, tr pyr	sb pily, silty-mot tex, sl calc	sb pily, silty-mot tex, sl calc	sb pily, silty-mot tex, sl calc





350
GAMMA (API)
5400

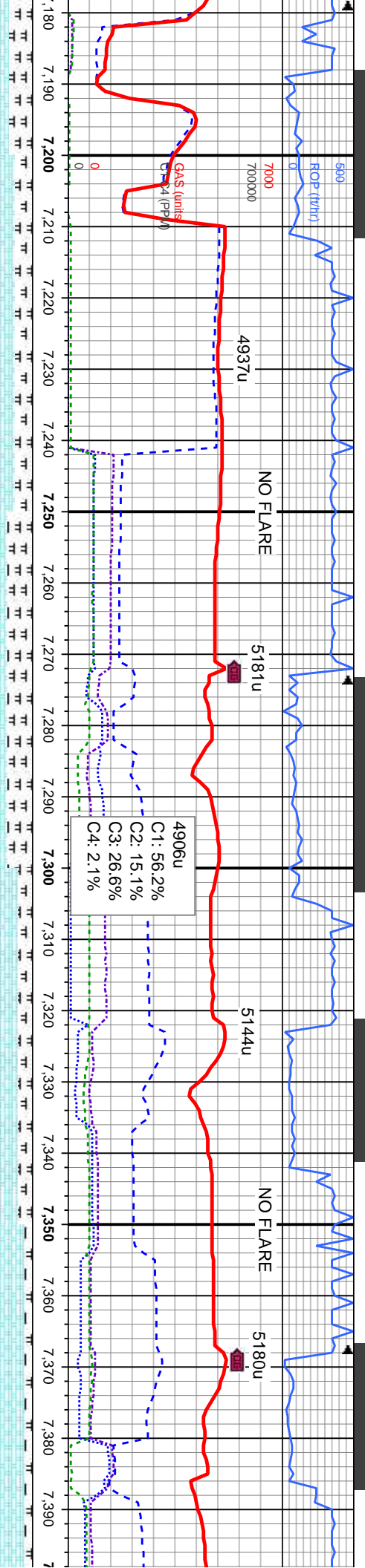
105

MD: 7.026 '
TVD: 6,136.29 '
Inclination: 89.6 °
Azimuth: 354.02 °
VS: 1,073.33 '

MD: 7.121 '
TVD: 6,136.62 '
Inclination: 90 °
Azimuth: 351.76 °
VS: 1,168.06 '

gy-gry, v-sl sft, sb blk, mot-wxy tex, tr	CHK: lgy-gry, v-sl sft, sb blk, mot-wxy tex, tr	CHK: lgy-gry, v-sl sft, sb blk, mot-wxy tex, tr	CHK: lgy-gry, v-sl sft, sb blk, mot-wxy tex, tr
tr, v calc	sb vit lstr, v calc	sb vit lstr, v calc	sb vit lstr, v calc
lt-dk gy-gy brn-blk, sft-firm, sb blk-	MRLST: lt-dk gy-gy brn-blk, sft-firm, sb blk-	MRLST: lt-dk gy-gy brn-blk, sft-firm, sb blk-	MRLST: lt-dk gy-gy brn-blk, sft-firm, sb blk-
stly-mot tex, sl calc	sb pily, stly-mot tex, sl calc, tr pyr	sb pily, stly-mot tex, sl calc	sb pily, stly-mot tex, sl calc





WT IN 10.30/ OUT 10.30
VIS IN 33.00/ OUT 33.00

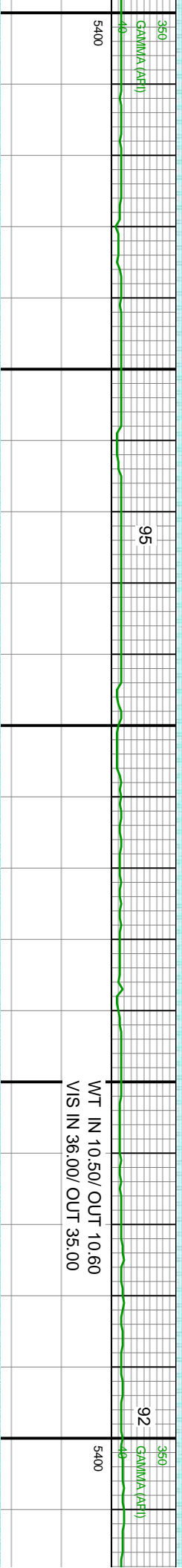
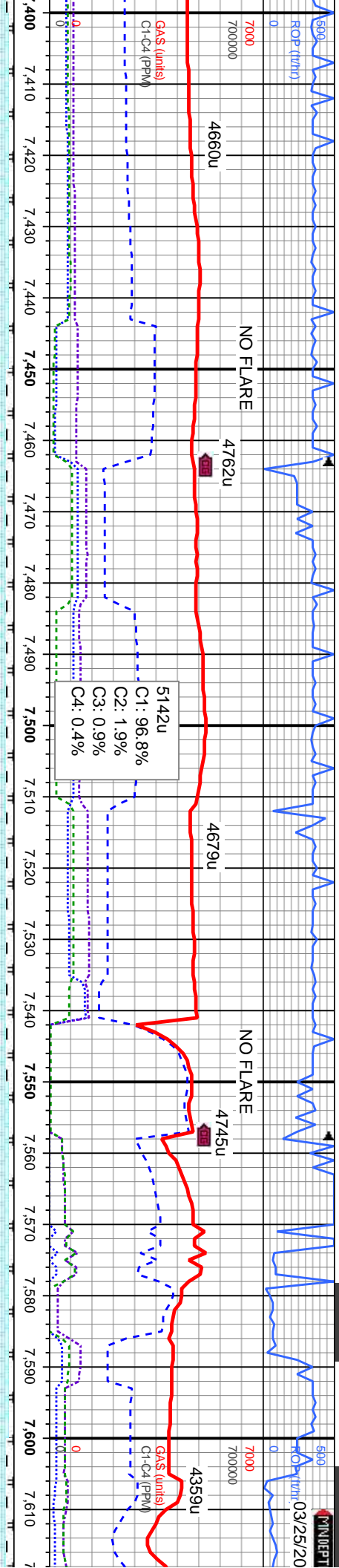
MD: 7,216 '
TVD: 6,137.49 '
Inclination: 88.95 °
Azimuth: 350.48 °
VS: 1,262.52 '

MD: 7,264 '
TVD: 6,137.57 '
Inclination: 90.86 °
Azimuth: 353.01 °
VS: 1,310.3 '

MD: 7,310 '
TVD: 6,136.91 '
Inclination: 90.77 °
Azimuth: 354.53 °
VS: 1,356.21 '

CHK: lgy-gry, v-sl sft, sb blk, mot-wxy tex, tr	CHK: lgy-gry, v-sl sft, sb blk, mot-wxy tex, tr	CHK: lgy-gry, v-sl sft, sb blk, mot-wxy tex, tr	CHK: lgy-gry, v-sl sft, sb blk, mot-wxy tex, tr
sb vit lstr, v calc	sb vit lstr, v calc	sb vit lstr, v calc	sb vit lstr, v calc
MRLST: lt-dk gy-gy brn-blk, sft-firm, sb blk	MRLST: lt-dk gy-gy brn-blk, sft-firm, sb blk	MRLST: lt-dk gy-gy brn-blk, sft-firm, sb blk	MRLST: lt-dk gy-gy brn-blk, sft-firm, sb blk
sb pfty, silty-mot tex, sl calc	sb pfty, silty-mot tex, sl calc, tr pyr	sb pfty, silty-mot tex, sl calc, tr pyr	sb pfty, silty-mot tex, sl calc





ID: 7,405'
 VD: 6,136.3'
 Inclination: 89.97°
 Azimuth: 359.51°
 VS: 1,451.18'

MD: 7,500'
 TVD: 6,137.22'
 Inclination: 88.92°
 Azimuth: 356.78°
 VS: 1,546.15'

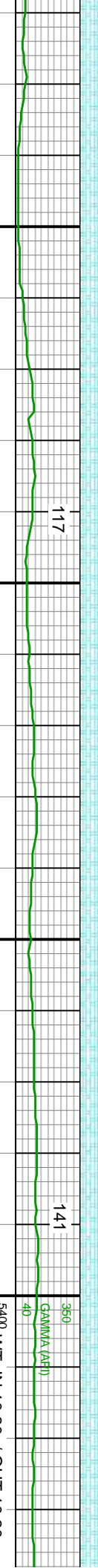
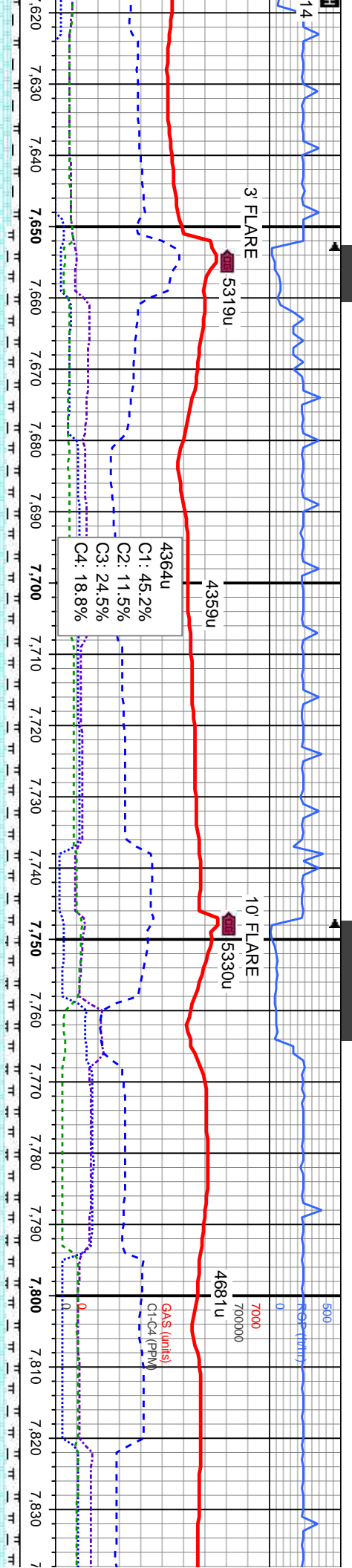
MD: 7,595'
 TVD: 6,137.83'
 Inclination: 90.34°
 Azimuth: 0.89°
 VS: 1,641.09'

CHK: lgy-gry, v-sl sft, sb blk, mot-wxy tex, tr
 sb vit lstr, v calc
 MRLST: lt-dk gy-gry brn-blk, sft-firm, sb blk, sb ply, slty-mot tex, sl calc

CHK: lgy-gry, v-sl sft, sb blk, mot-wxy tex, tr
 sb vit lstr, v calc
 MRLST: lt-dk gy-gry brn-blk, sft-firm, sb blk, sb ply, slty-mot tex, sl calc, tr pyr

CHK: lgy-gry, v-sl sft, sb blk, mot-wxy tex, tr
 sb vit lstr, v calc
 MRLST: lt-dk gy-gry brn-blk, sft-firm, sb blk, sb ply, slty-mot tex, sl calc, tr pyr





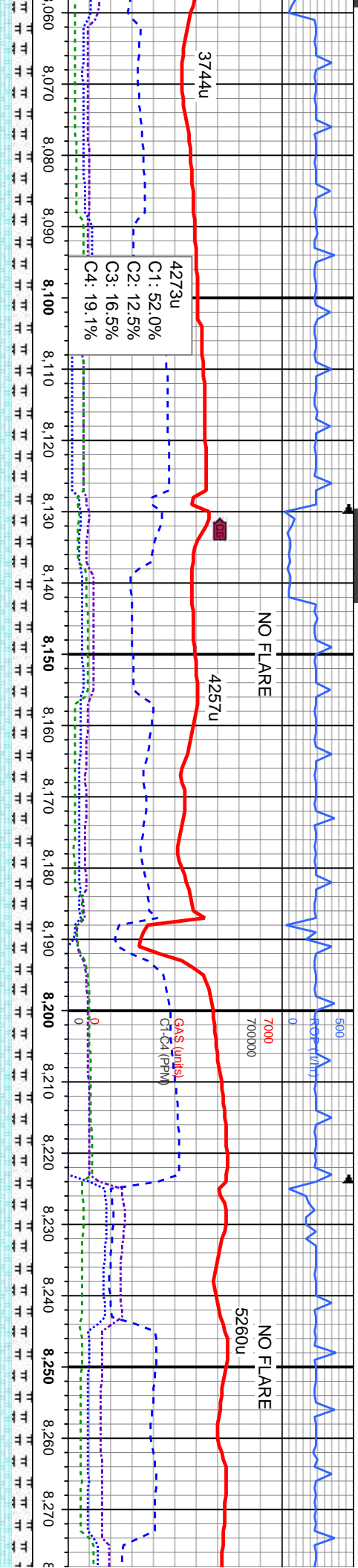
5400 WT IN 10.20+/ OUT 10.20+
VIS IN 37.00/ OUT 33.00

MD: 7.690 '
TVD: 6,135.71 '
Inclination: 92.22 °
Azimuth: 2.83 °
VS: 1,735.74 '

MD: 7.785 '
TVD: 6,132.26 '
Inclination: 91.94 °
Azimuth: 3.37 °
VS: 1,830.17 '

sl sft, sb blk, mot-wxy tex, tr	CHK: lgy-gry, v-sl sft, sb blk, mot-wxy tex, tr	CHK: lgy-gry, v-sl sft, sb blk, mot-wxy tex, tr	CHK: lgy-gry, v-sl sft, sb blk, mot-wxy tex, tr
gy brn-blk, sft-frm, sb blk, tex, sl calc, tr pyr	sb vit lstr, v calc	sb vit lstr, v calc	sb vit lstr, v calc
	MRLST: lt-dk gy-gy brn-blk, sft-frm, sb blk, sb pily, slty-mot tex, sl calc	MRLST: lt-dk gy-gy brn-blk, sft-frm, sb blk, sb pily, slty-mot tex, sl calc	MRLST: lt-dk gy-gy brn-blk, sft-frm, sb blk, sb pily, slty-mot tex, sl calc





WT IN 10.30+ / OUT 10.30
VIS IN 36.00 / OUT 33.00

350
GAMMA (API)

95

WT IN 10.30 / OUT 10.30+
VIS IN 33.00 / OUT 33.00

MD: 8,069 '
TVD: 6,132.91 '
Inclination: 88.34 °
Azimuth: 2.18 °
VS: 2,112.29 '

MD: 8,164 '
TVD: 6,135.33 '
Inclination: 88.74 °
Azimuth: 0.38 °
VS: 2,207.02 '

TVD (ft)

MD: 8,258 '
TVD: 6,136.34 '
Inclination: 90.03 °
Azimuth: 0.24 °
VS: 2,300.87 '

gy-gry, v-sl sft, sb blk, mot-wxy tex, tr
itr, v calc
CHK: Itgy-gry, v-sl sft, sb blk, mot-wxy tex, tr
sb vit lstr, v calc
MRLST: It-dk gy-gry brn-blk, sft-frn, sb blk, sb ply, slty-mot tex, sl calc

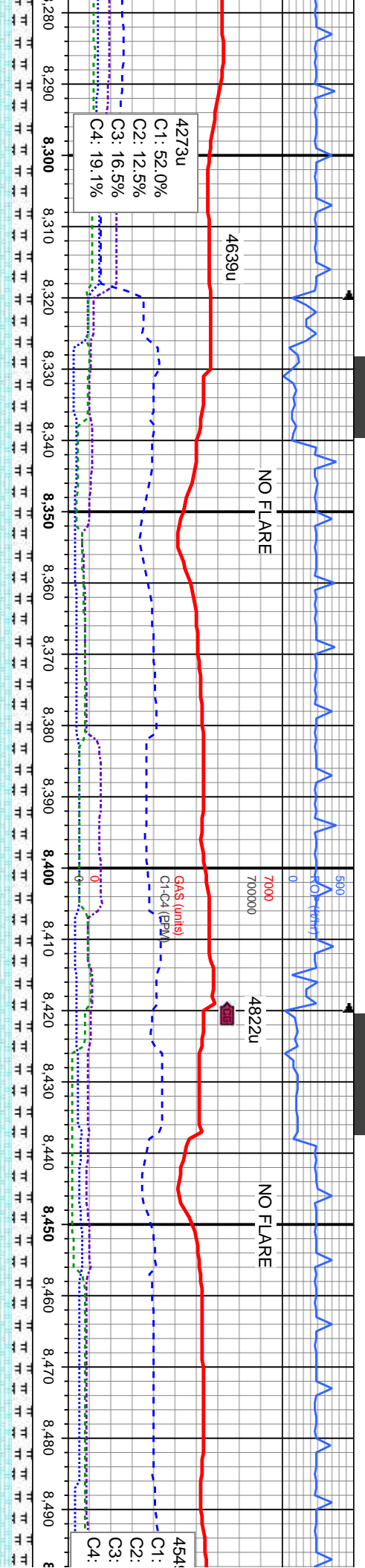
CHK: Itgy-gry, v-sl sft, sb blk, mot-wxy tex, tr
sb vit lstr, v calc
MRLST: It-dk gy-gry brn-blk, sft-frn, sb blk, sb ply, slty-mot tex, sl calc

CHK: Itgy-gry, v-sl sft, sb blk, mot-wxy tex, tr
sb vit lstr, v calc
MRLST: It-dk gy-gry brn-blk, sft-frn, sb blk, sb ply, slty-mot tex, sl calc

CHK: Itgy-gry, v-sl sft, sb blk, mot-wxy tex, tr
sb vit lstr, v calc
MRLST: It-dk gy-gry brn-blk, sft-frn, sb blk, sb ply, slty-mot tex, sl calc

CHK: Itgy-gry, v-sl sft, sb blk, mot-wxy tex, tr
sb vit lstr, v calc
MRLST: It-dk gy-gry brn-blk, sft-frn, sb blk, sb ply, slty-mot tex, sl calc



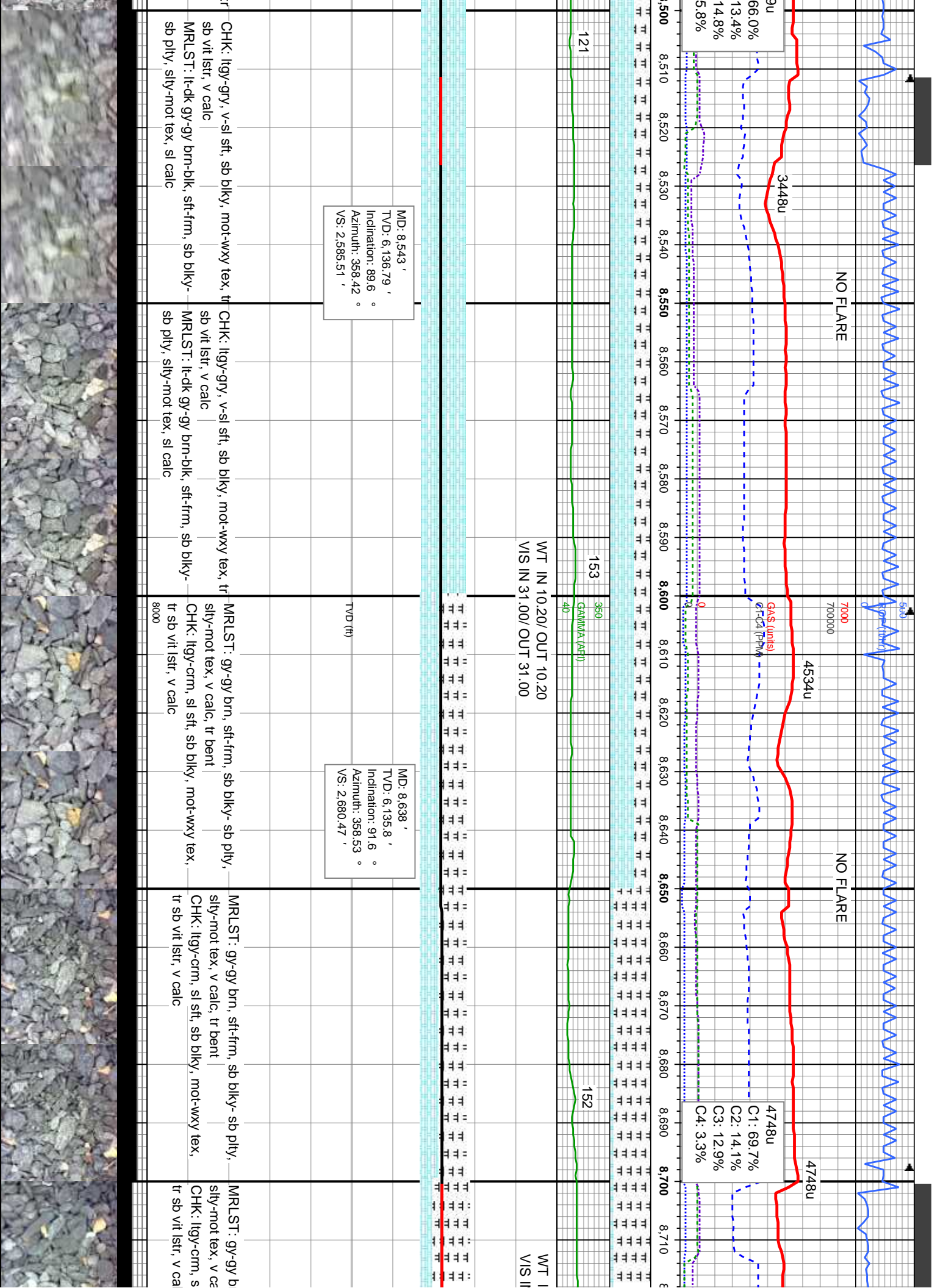


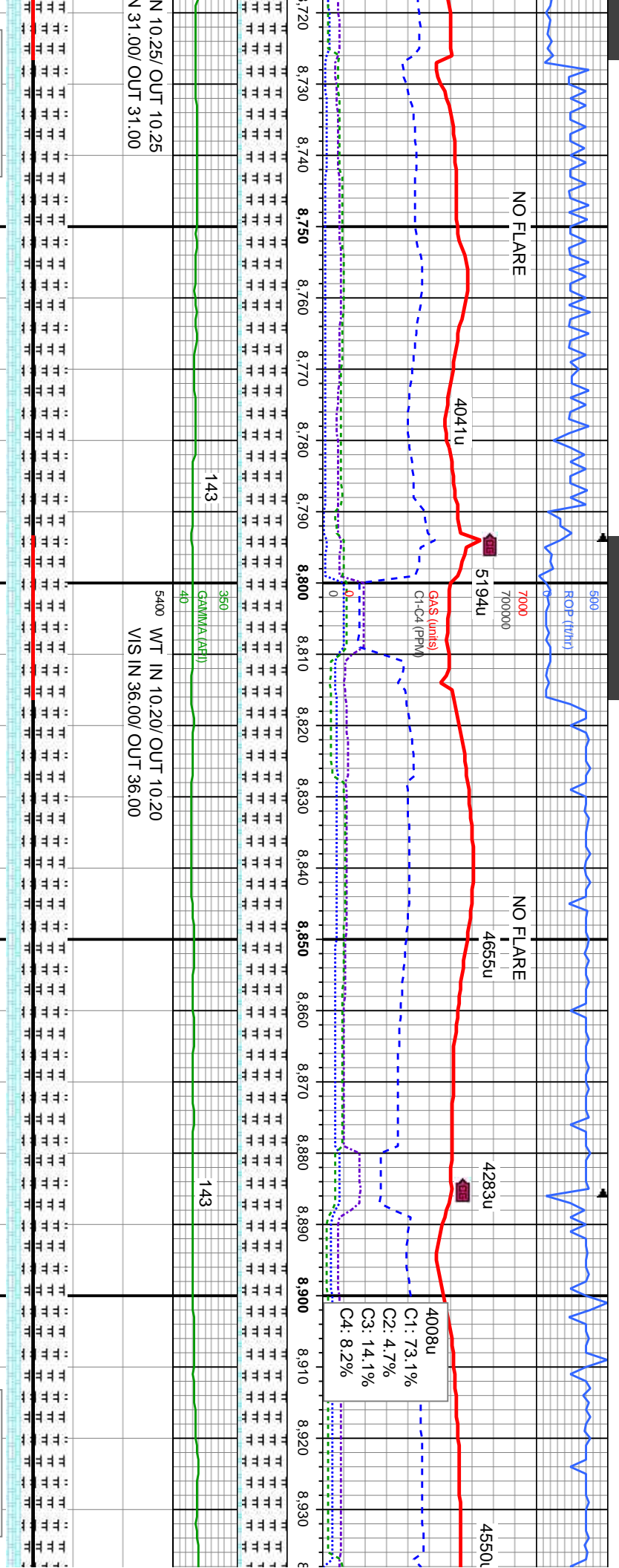
MD: 8,353 '
TVD: 6,136.29 '
Inclination: 90.03 °
Azimuth: 0.65 °
VS: 2,395.71 '

MD: 8,448 '
TVD: 6,136.36 '
Inclination: 89.88 °
Azimuth: 359.94 °
VS: 2,490.57 '

CHK: ltgy-gry, v-sl sft, sb blk, mot-wxy tex, tr	CHK: ltgy-gry, v-sl sft, sb blk, mot-wxy tex, tr	CHK: ltgy-gry, v-sl sft, sb blk, mot-wxy tex, tr	CHK: ltgy-gry, v-sl sft, sb blk, mot-wxy tex, tr
sb vit lstr, v calc	sb vit lstr, v calc	sb vit lstr, v calc	sb vit lstr, v calc
MRLST: lt-dk gy-gy brn-blk, sft-frm, sb blk-	MRLST: lt-dk gy-gy brn-blk, sft-frm, sb blk-	MRLST: lt-dk gy-gy brn-blk, sft-frm, sb blk-	MRLST: lt-dk gy-gy brn-blk, sft-frm, sb blk-
sb plty, slty-mot tex, sl calc	sb plty, slty-mot tex, sl calc	sb plty, slty-mot tex, sl calc	sb plty, slty-mot tex, sl calc







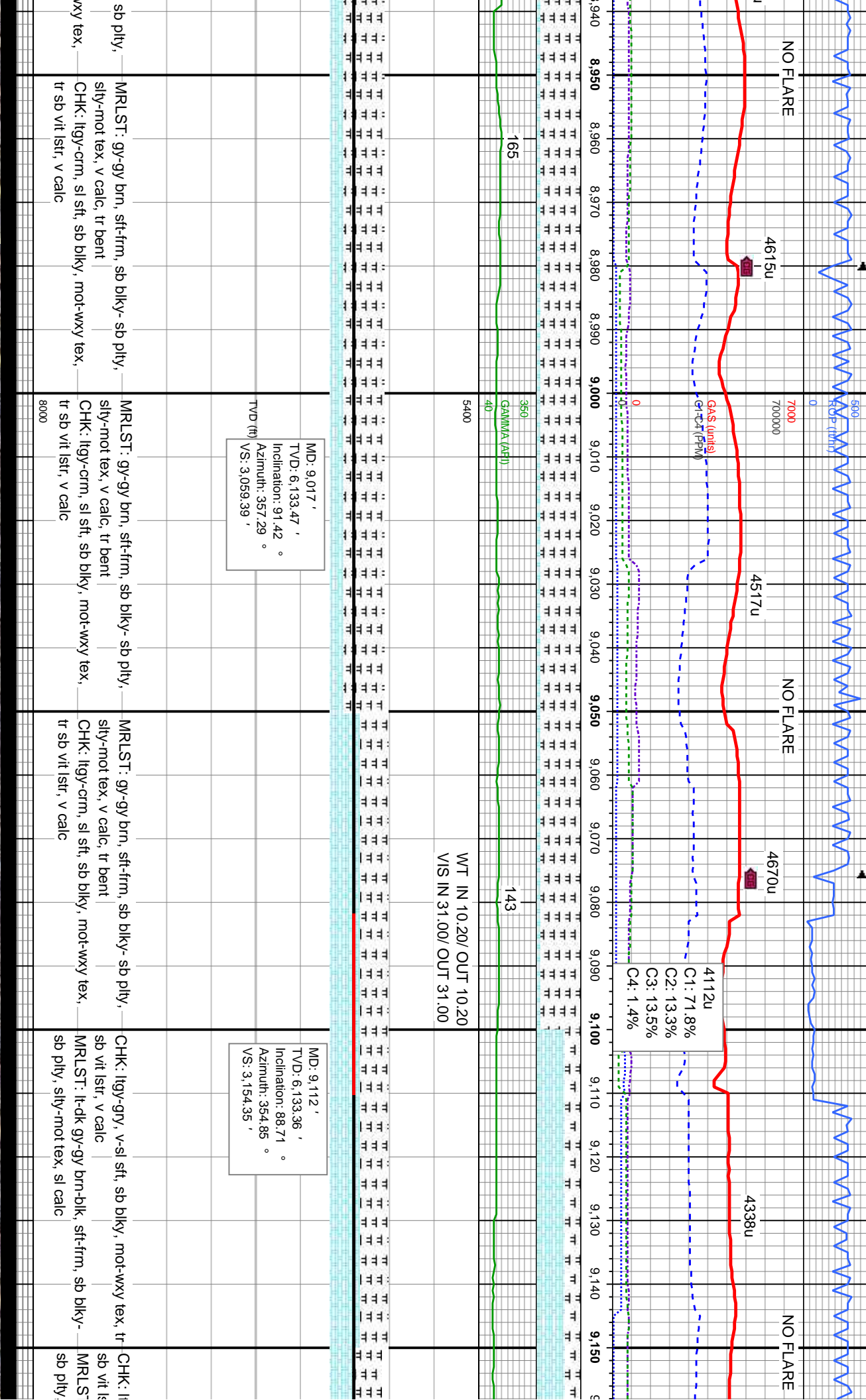
MD: 8.732 '
TVD: 6,133.58 '
Inclination: 91.11 °
Azimuth: 358.54 °
VS: 2.774.42 '

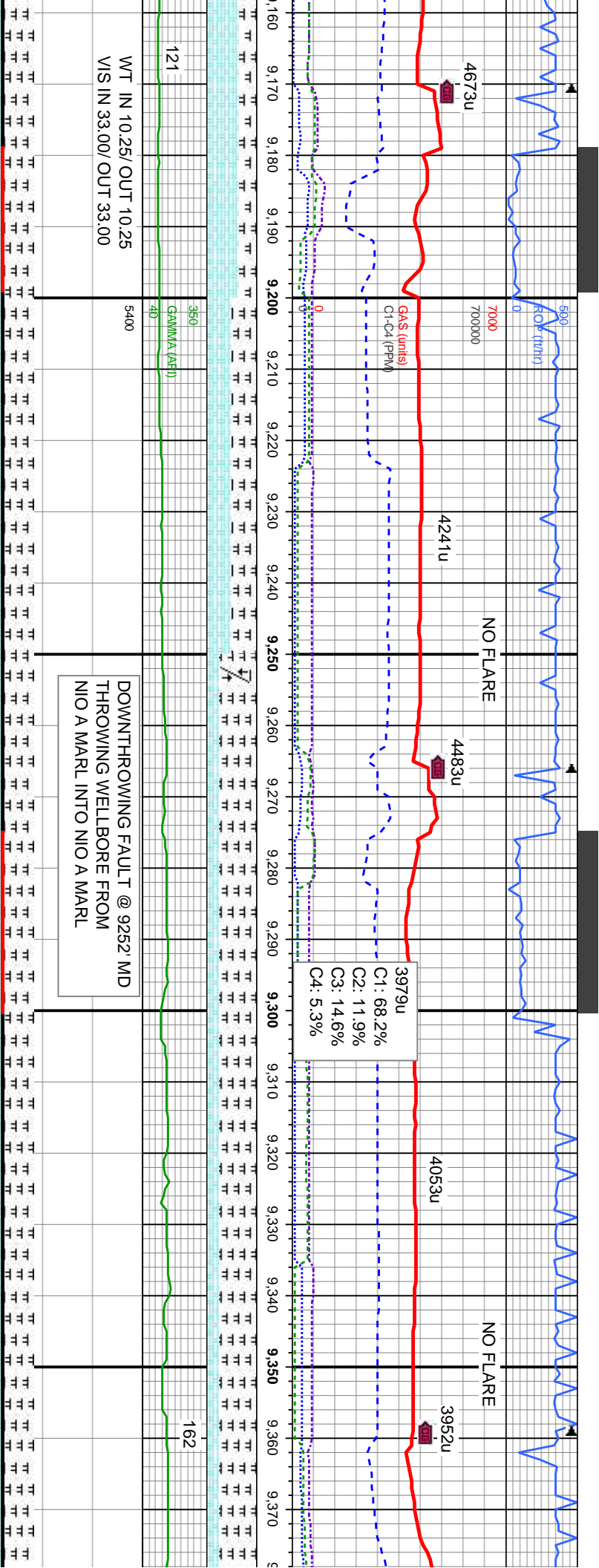
MD: 8.827 '
TVD: 6,133.27 '
Inclination: 89.26 °
Azimuth: 357.59 °
VS: 2.869.4 '

MD: 8.922 '
TVD: 6,134.27 '
Inclination: 89.54 °
Azimuth: 356.92 °
VS: 2.964.4 '

N 10.25/ OUT 10.25 N 31.00/ OUT 31.00	WT IN 10.20/ OUT 10.20 VIS IN 36.00/ OUT 36.00	MRLST: gy-gy brn, sft-frm, sb blk- sb pily, sily-mot tex, v calc, tr bent CHK: ltgy-crm, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc	MRLST: gy-gy brn, sft-frm, sb blk- sb pily, sily-mot tex, v calc, tr bent CHK: ltgy-crm, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc	MRLST: gy-gy brn, sft-frm, sb blk- sb pily, sily-mot tex, v calc, tr bent CHK: ltgy-crm, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc	MRLST: gy-gy brn, sft-frm, sb blk- sb pily, sily-mot tex, v calc, tr bent CHK: ltgy-crm, sl sft, sb blk, mot-wxy tex, tr sb vit lstr, v calc







WT IN 10.25/ OUT 10.25
VIS IN 33.00/ OUT 33.00

DOWNTROWING FAULT @ 9252' MD
THROWING WELLBORE FROM
NIO A MARL INTO NIO A MARL

MD: 9,206 '
TVD: 6,133.3 '
Inclination: 91.36 °
Azimuth: 357.34 °
VS: 3,248.32 '

MD: 9,301 '
TVD: 6,132.36 '
Inclination: 89.78 °
Azimuth: 357.98 °
VS: 3,343.31 '

gy-gry, v-sl sft, sb blk, mot-wxy tex, tr
str, v calc
: lt-dk gy-gy brn-blk, sft-firm, sb blk, sly-mot tex, sl calc

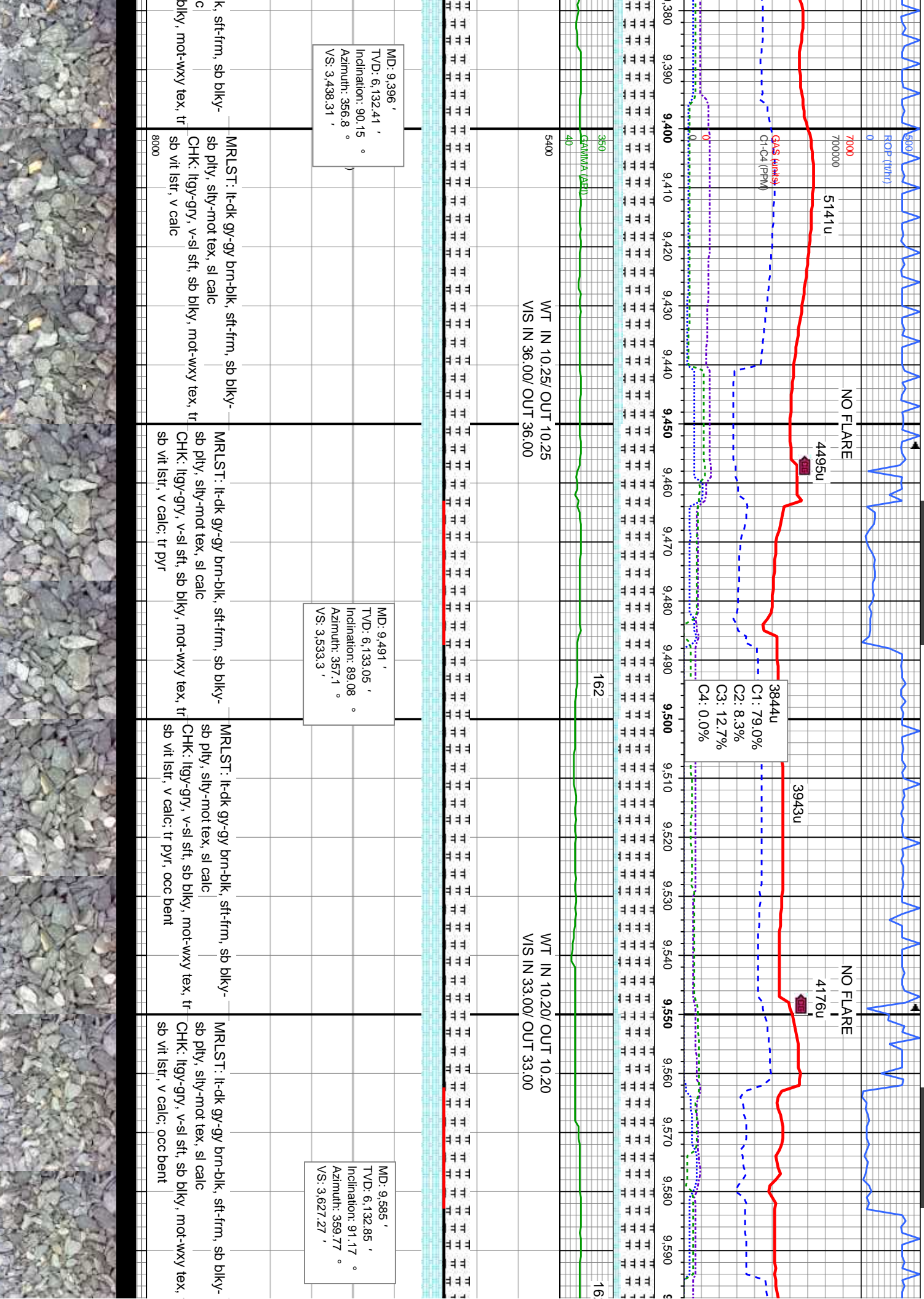
CHK: ltgy-gry, v-sl sft, sb blk, mot-wxy tex, tr
sb vit lstr, v calc
MRLST: lt-dk gy-gy brn-blk, sft-firm, sb blk, sb ply, sly-mot tex, sl calc

MRLST: lt-dk gy-gy brn-blk, sft-firm, sb blk, sb ply, sly-mot tex, sl calc
CHK: ltgy-gry, v-sl sft, sb blk, mot-wxy tex, tr
sb vit lstr, v calc

MRLST: lt-dk gy-gy brn-blk, sft-firm, sb blk, sb ply, sly-mot tex, sl calc
CHK: ltgy-gry, v-sl sft, sb blk, mot-wxy tex, tr
sb vit lstr, v calc

MRLST: lt-dk gy-gy brn-blk, sft-firm, sb blk, sb ply, sly-mot tex, sl calc
CHK: ltgy-gry, v-sl sft, sb sb vit lstr, v calc





ROP (ft/hr)

7000

5141u

NO FLARE

4495u

GAS (ml/g)

C1-C4 (PPM)

C1: 79.0%
C2: 8.3%
C3: 12.7%
C4: 0.0%

NO FLARE

4176u

3943u

WT IN 10.25/ OUT 10.25
VIS IN 36.00/ OUT 36.00

WT IN 10.20/ OUT 10.20
VIS IN 33.00/ OUT 33.00

MD: 9,396'
TVD: 6,132.41'
Inclination: 90.15°
Azimuth: 356.8°
VS: 3,438.31'

MD: 9,491'
TVD: 6,133.05'
Inclination: 89.08°
Azimuth: 357.1°
VS: 3,533.3'

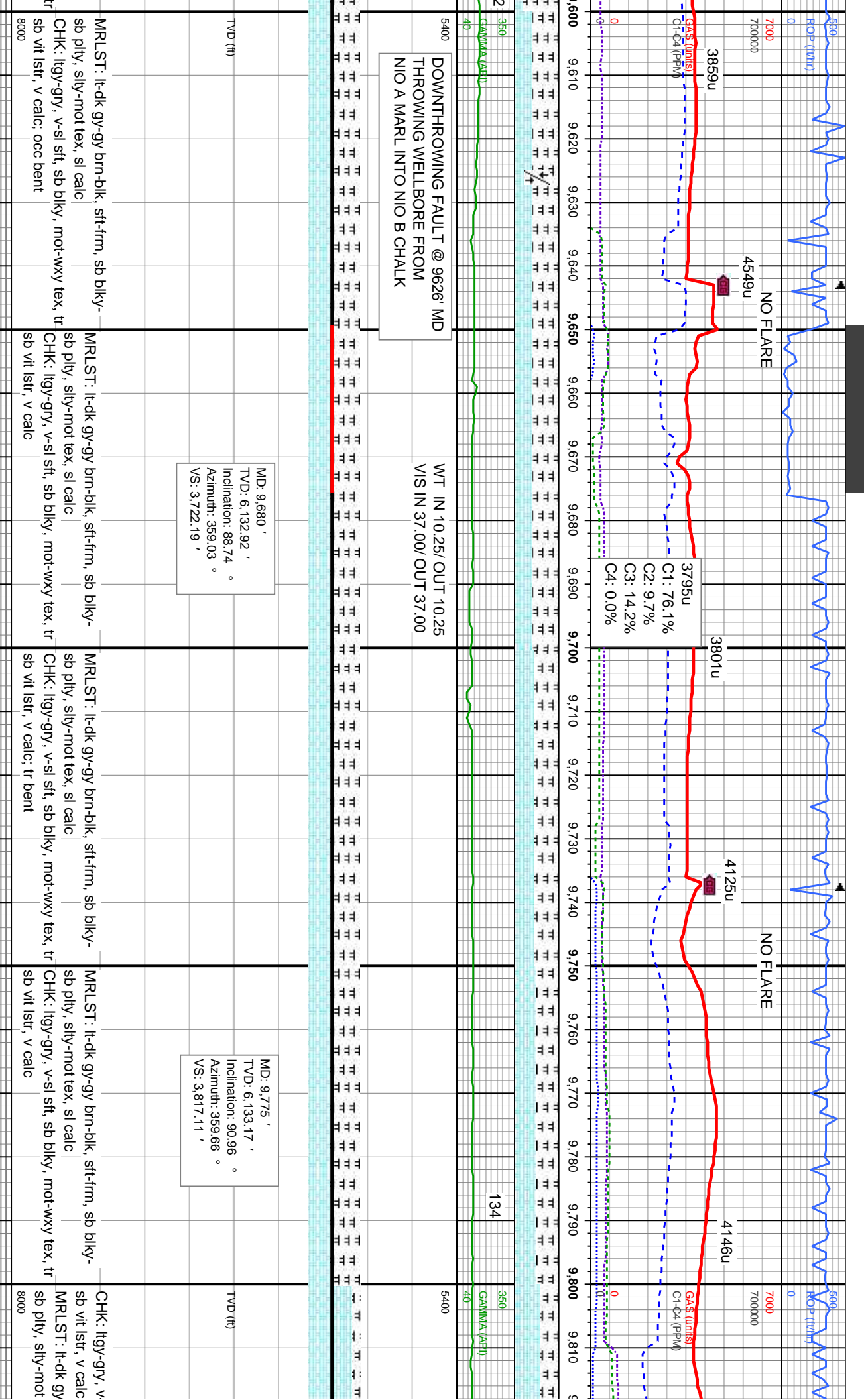
MD: 9,585'
TVD: 6,132.85'
Inclination: 91.17°
Azimuth: 359.77°
VS: 3,627.27'

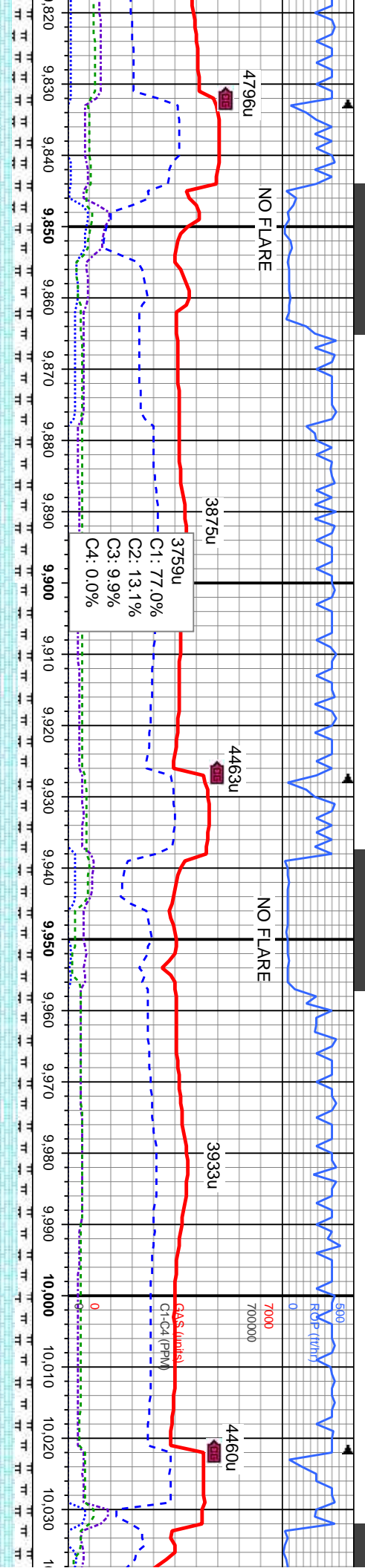
MRLST: lt-dk gy-gy brn-blk, sft-frn, sb blk-
sb pty, silty-mot tex, sl calc
CHK: ltgy-gry, v-sl sft, sb blk, mot-wxy tex, tr
sb vit lstr, v calc

MRLST: lt-dk gy-gy brn-blk, sft-frn, sb blk-
sb pty, silty-mot tex, sl calc
CHK: ltgy-gry, v-sl sft, sb blk, mot-wxy tex, tr
sb vit lstr, v calc, tr pyr

MRLST: lt-dk gy-gy brn-blk, sft-frn, sb blk-
sb pty, silty-mot tex, sl calc
CHK: ltgy-gry, v-sl sft, sb blk, mot-wxy tex, tr
sb vit lstr, v calc, tr pyr, occ bent

MRLST: lt-dk gy-gy brn-blk, sft-frn, sb blk-
sb pty, silty-mot tex, sl calc
CHK: ltgy-gry, v-sl sft, sb blk, mot-wxy tex,
sb vit lstr, v calc, occ bent





WT IN 10.40/ OUT 10.40
VIS IN 39.00/ OUT 38.00

WT IN 10.30+/ OUT 10.30+
VIS IN 38.00/ OUT 38.00

WT IN 1
VIS IN 3

MD: 9.870 '
TVD: 6.134.31 '
Inclination: 87.66 °
Azimuth: 356.45 °
VS: 3.912.07 '

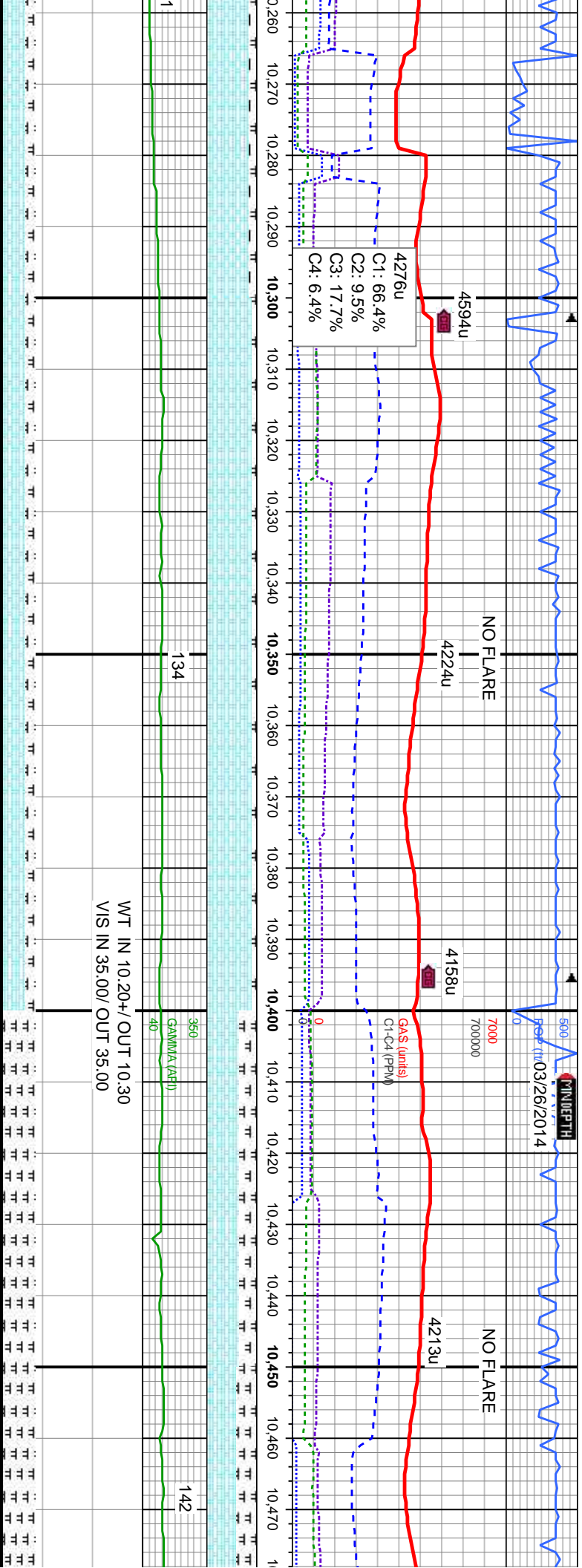
MD: 9.964 '
TVD: 6.137.62 '
Inclination: 88.31 °
Azimuth: 357.92 °
VS: 4.006.01 '

TVD (ft)

gy brn-blk, sft-firm, sb blk-	CHK: ltgy-gry, v-sl sft, sb blk, mot-wxy tex, tr	CHK: ltgy-gry, v-sl sft, sb blk, mot-wxy tex, tr	CHK: ltgy-gry, v-sl sft, sb blk, mot-wxy tex, tr
tex, sl calc; tr bent	sb vit lst, v calc	sb vit lst, v calc	sb vit lst, v calc
	MRLST: lt-dk gy-gry brn-blk, sft-firm, sb blk-	MRLST: lt-dk gy-gry brn-blk, sft-firm, sb blk-	MRLST: lt-dk gy-gry brn-blk, sft-firm, sb blk-
	sb ply, silty-mot tex, sl calc; tr bent	sb ply, silty-mot tex, sl calc	sb ply, silty-mot tex, sl calc; tr bent

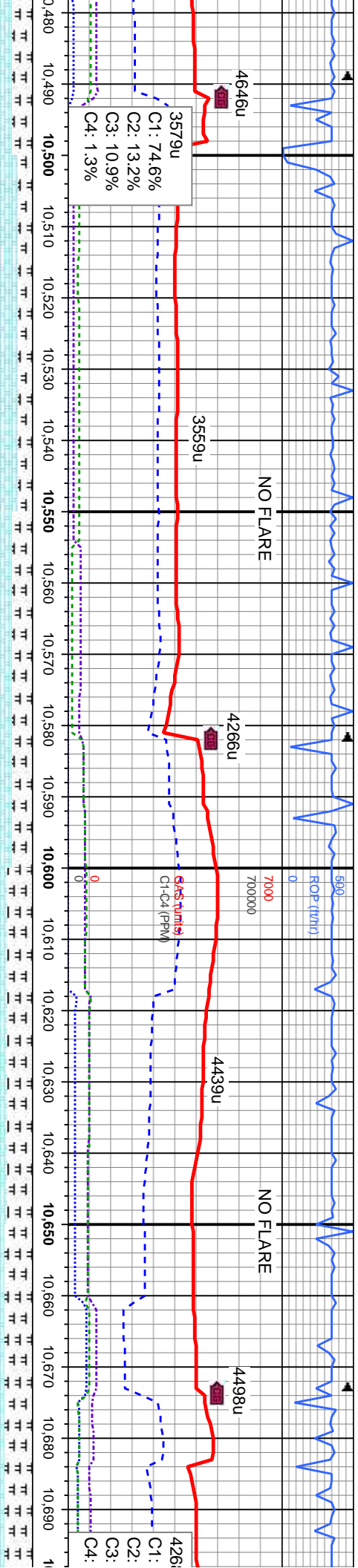
CHK: ltgy-gry, v-sl sft, sb blk, mot
sb vit lst, v calc
MRLST: lt-dk gy-gry brn-blk, sft-firm
sb ply, silty-mot tex, sl calc; tr bent
frags
8000





gy-gry, v-sl sft, sb blk, mot-wxy tex, tr	CHK: lgy-gry, v-sl sft, sb blk, mot-wxy tex, tr	CHK: lgy-gry, v-sl sft, sb blk, mot-wxy tex, tr	CHK: lgy-gry, v-sl sft, sb blk, mot-wxy tex, tr	CHK: lgy-gry, v-sl sft, sb blk, mot-wxy tex, tr
str, v calc	sb vit lstr, v calc	sb vit lstr, v calc	sb vit lstr, v calc	sb vit lstr, v calc
lt-dk gy-gy brn-blk, sft-firm, sb blk	MRLST: lt-dk gy-gy brn-blk, sft-firm, sb blk	MRLST: lt-dk gy-gy brn-blk, sft-firm, sb blk	MRLST: lt-dk gy-gy brn-blk, sft-firm, sb blk	MRLST: lt-dk gy-gy brn-blk, sft-firm, sb blk
stly-mot tex, sl calc, tr pyr	sb ply, stly-mot tex, sl calc, tr pyr	sb ply, stly-mot tex, sl calc	sb ply, stly-mot tex, sl calc	sb ply, stly-mot tex, sl cal





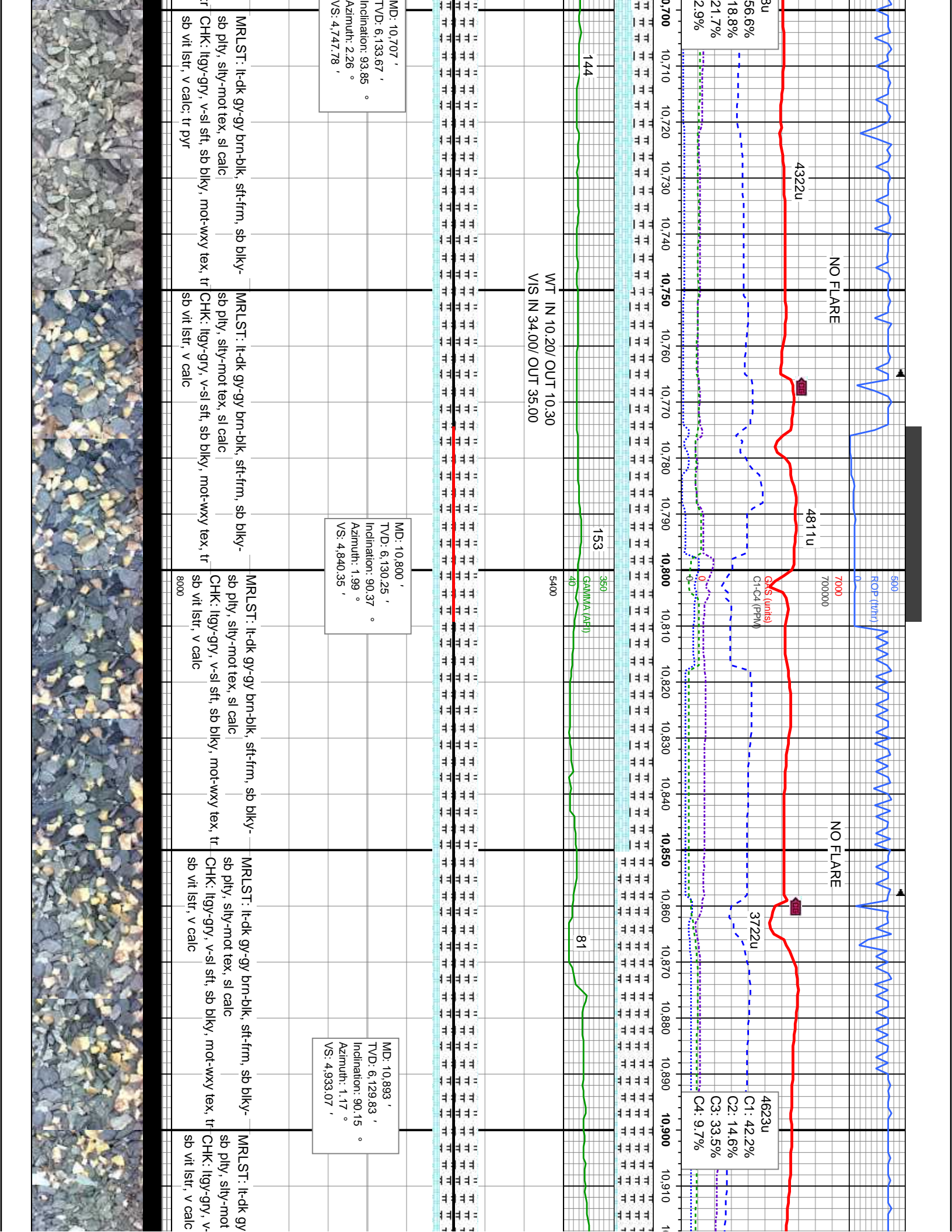
WT IN 10.30/ OUT 10.30
VIS IN 35.00/ OUT 36.00

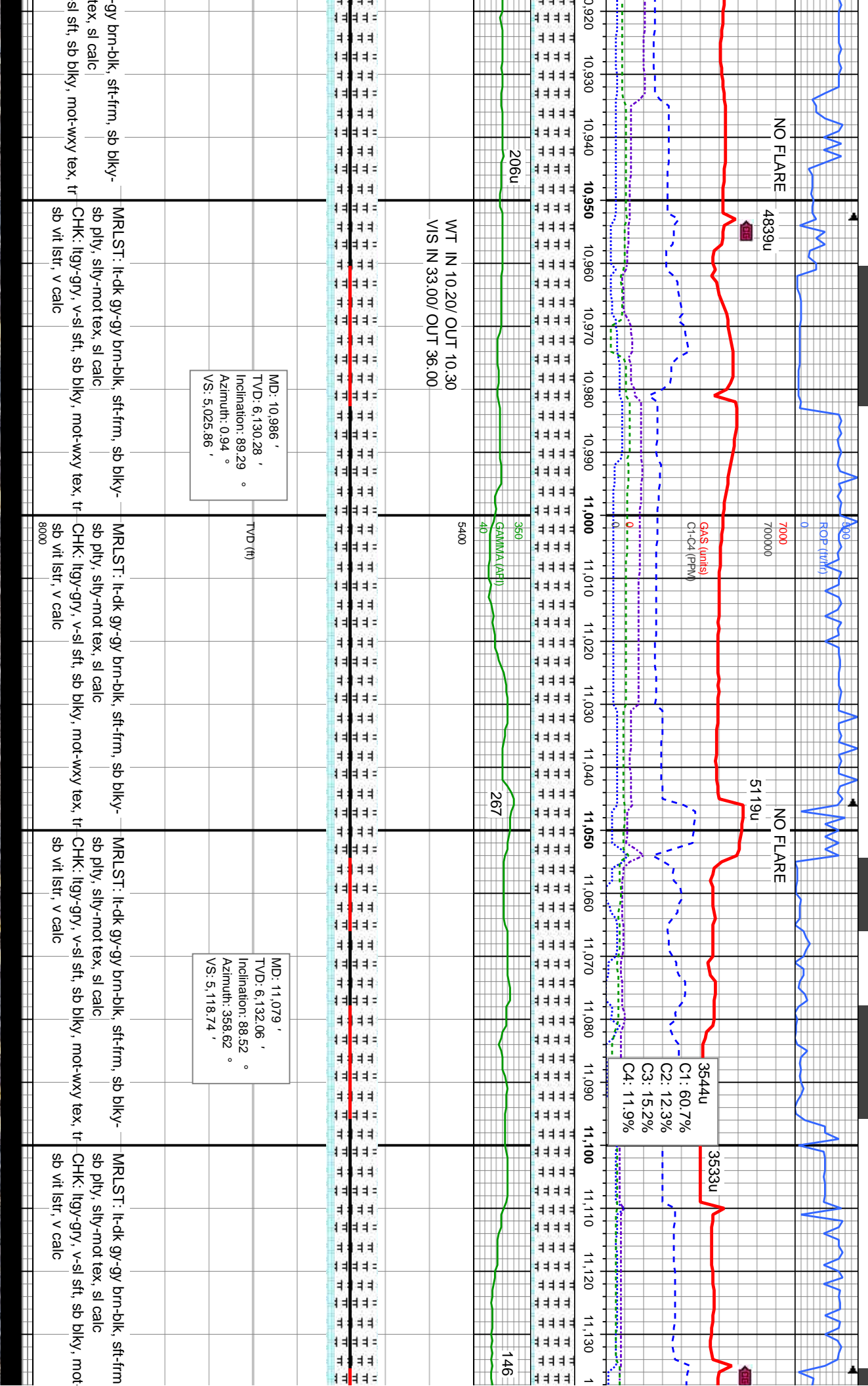
MD: 10,524 '
TVD: 6,136.72 '
Inclination: 91.26 °
Azimuth: 2.02 °
VS: 4,565.15 '

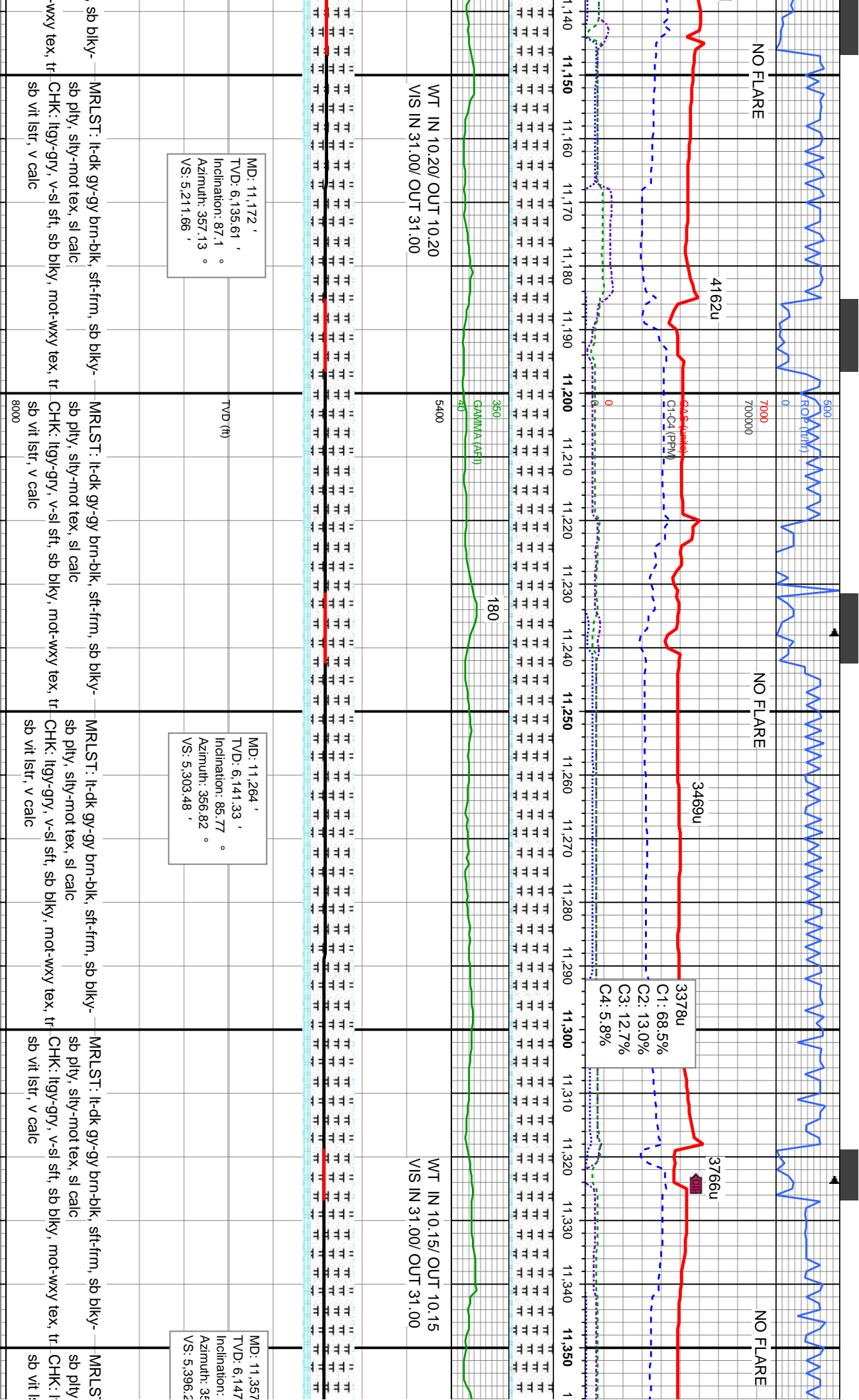
MD: 10,615 '
TVD: 6,136.24 '
Inclination: 89.35 °
Azimuth: 358.59 °
VS: 4,656 '

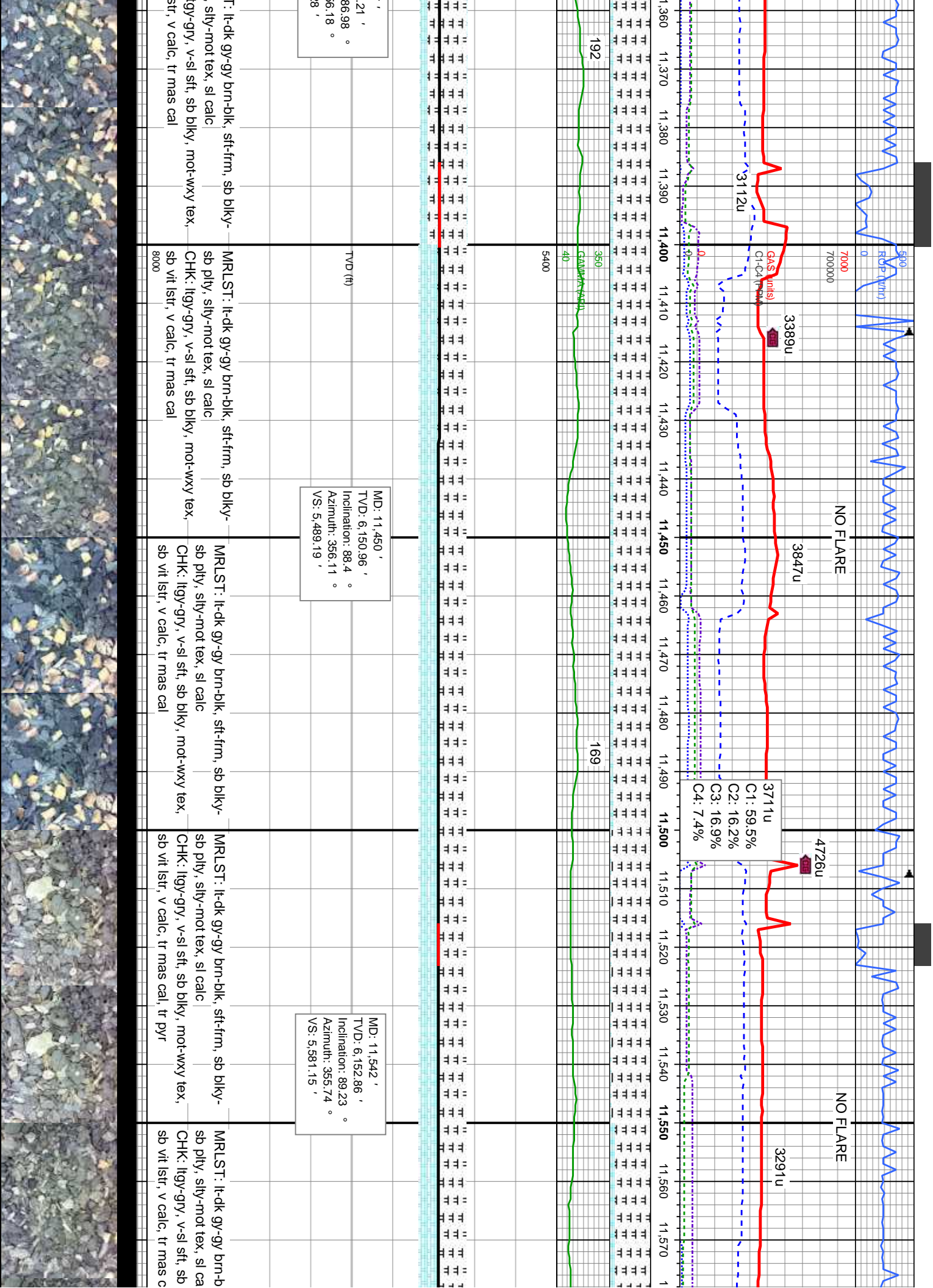
CHK: ltgy-gry, v-sl sft, sb blk, mot-wxy tex, tr	CHK: ltgy-gry, v-sl sft, sb blk, mot-wxy tex, tr	CHK: ltgy-gry, v-sl sft, sb blk, mot-wxy tex, tr
sb vit lst, v calc	sb vit lst, v calc	sb vit lst, v calc
MRLST: lt-dk gy-gy brn-blk, sft-frm, sb blk-	MRLST: lt-dk gy-gy brn-blk, sft-frm, sb blk-	MRLST: lt-dk gy-gy brn-blk, sft-frm, sb blk-
sb ply, slty-mot tex, sl calc	sb ply, slty-mot tex, sl calc; tr pyr	sb ply, slty-mot tex, sl calc; tr pyr

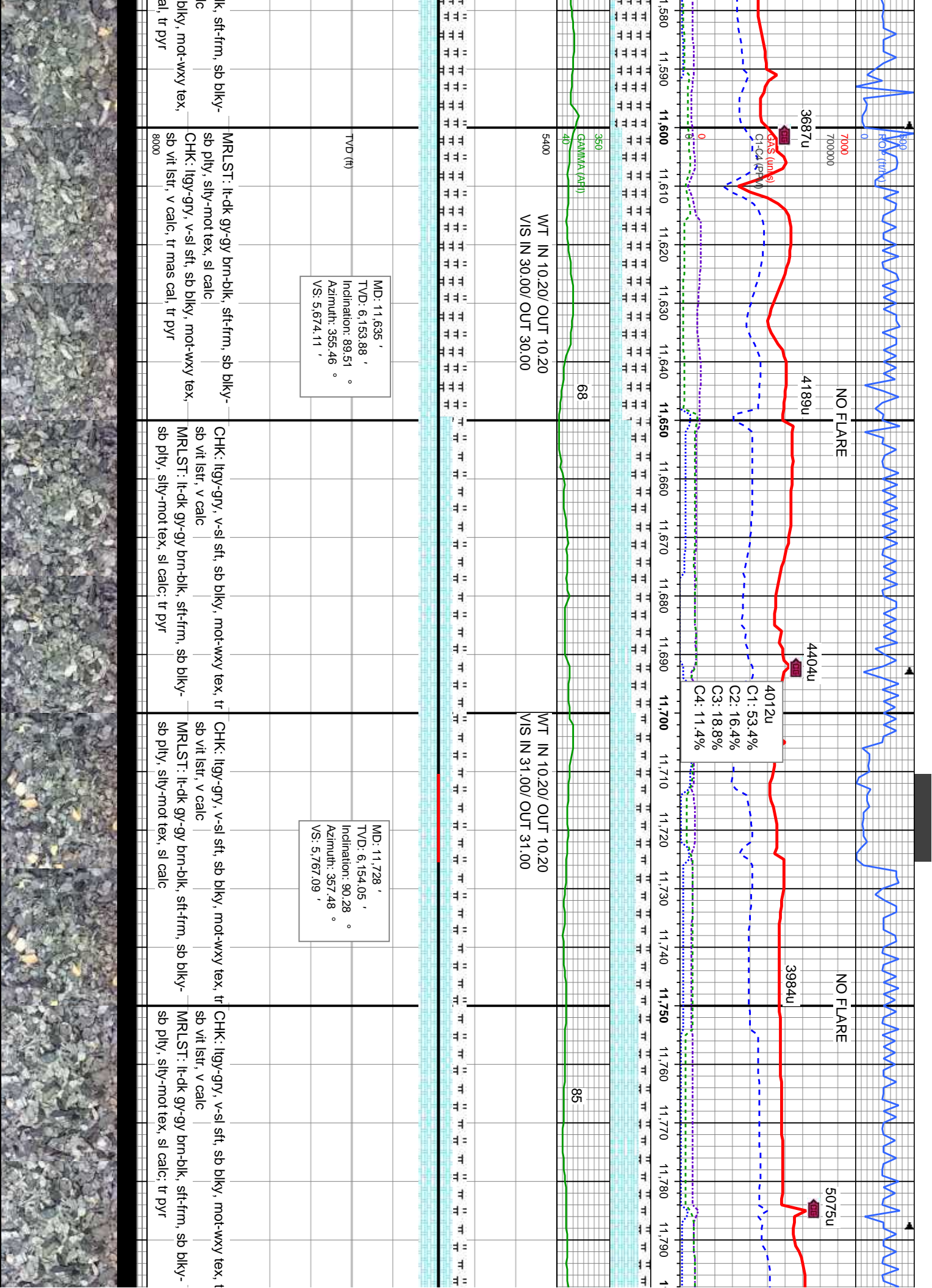


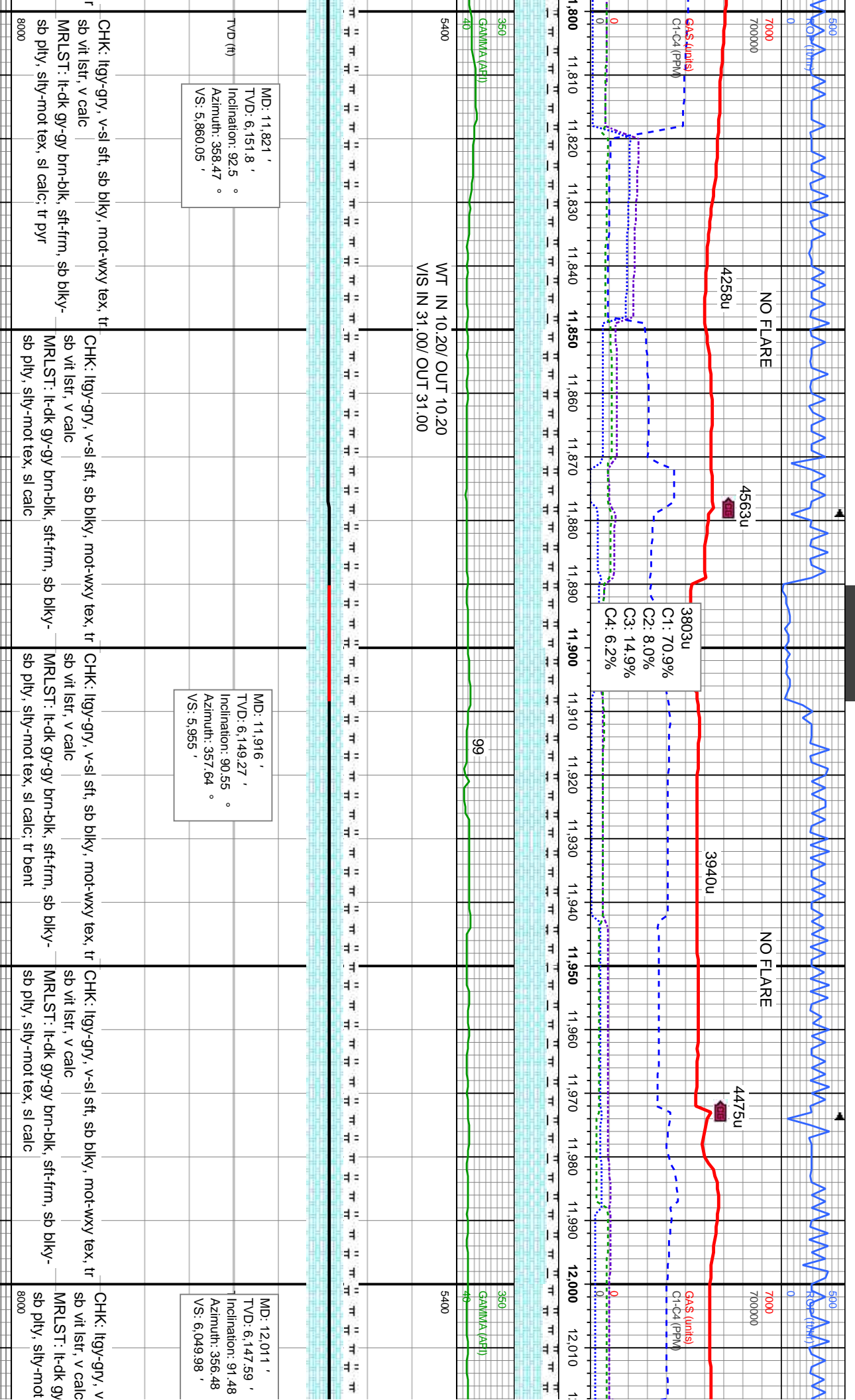


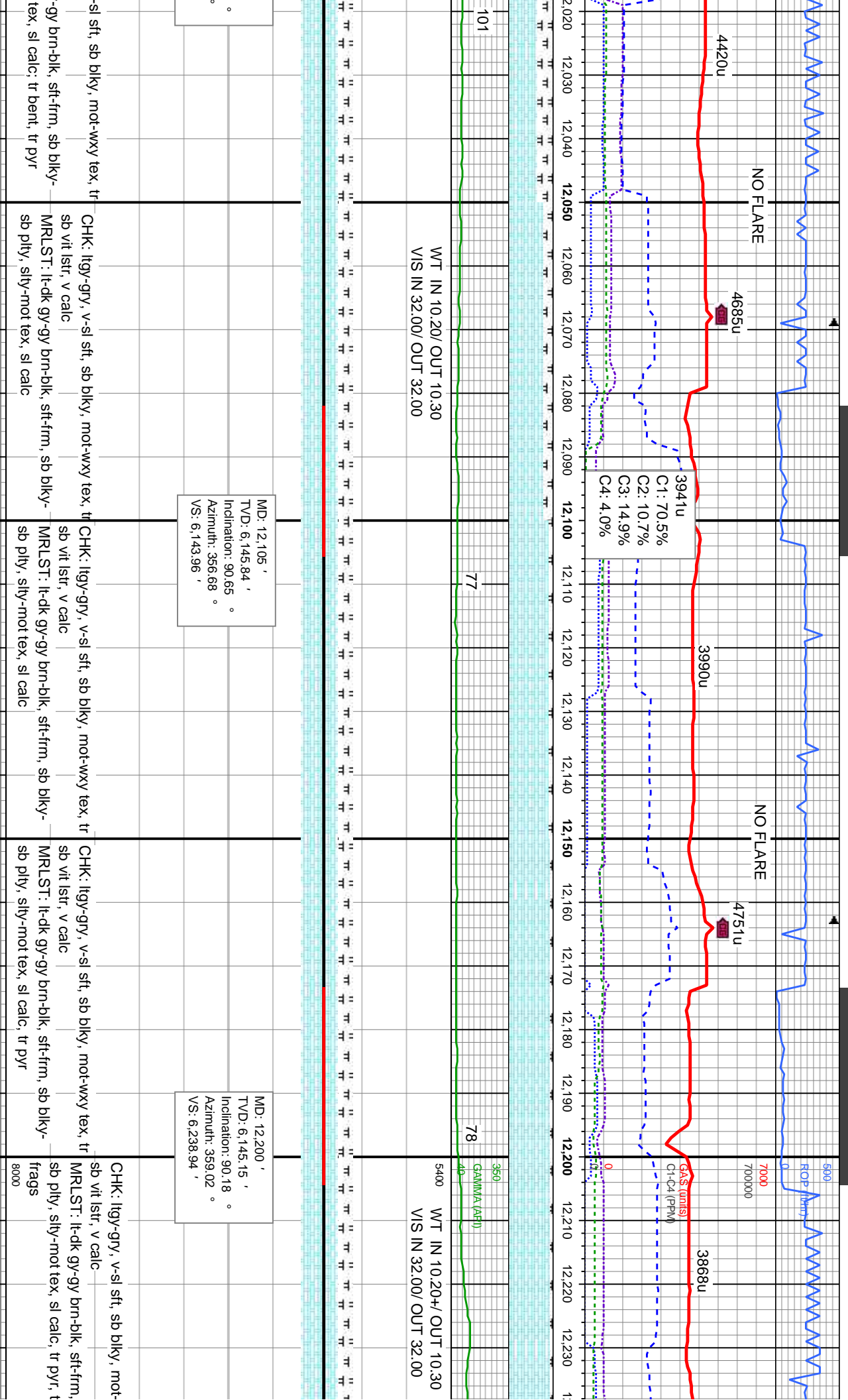


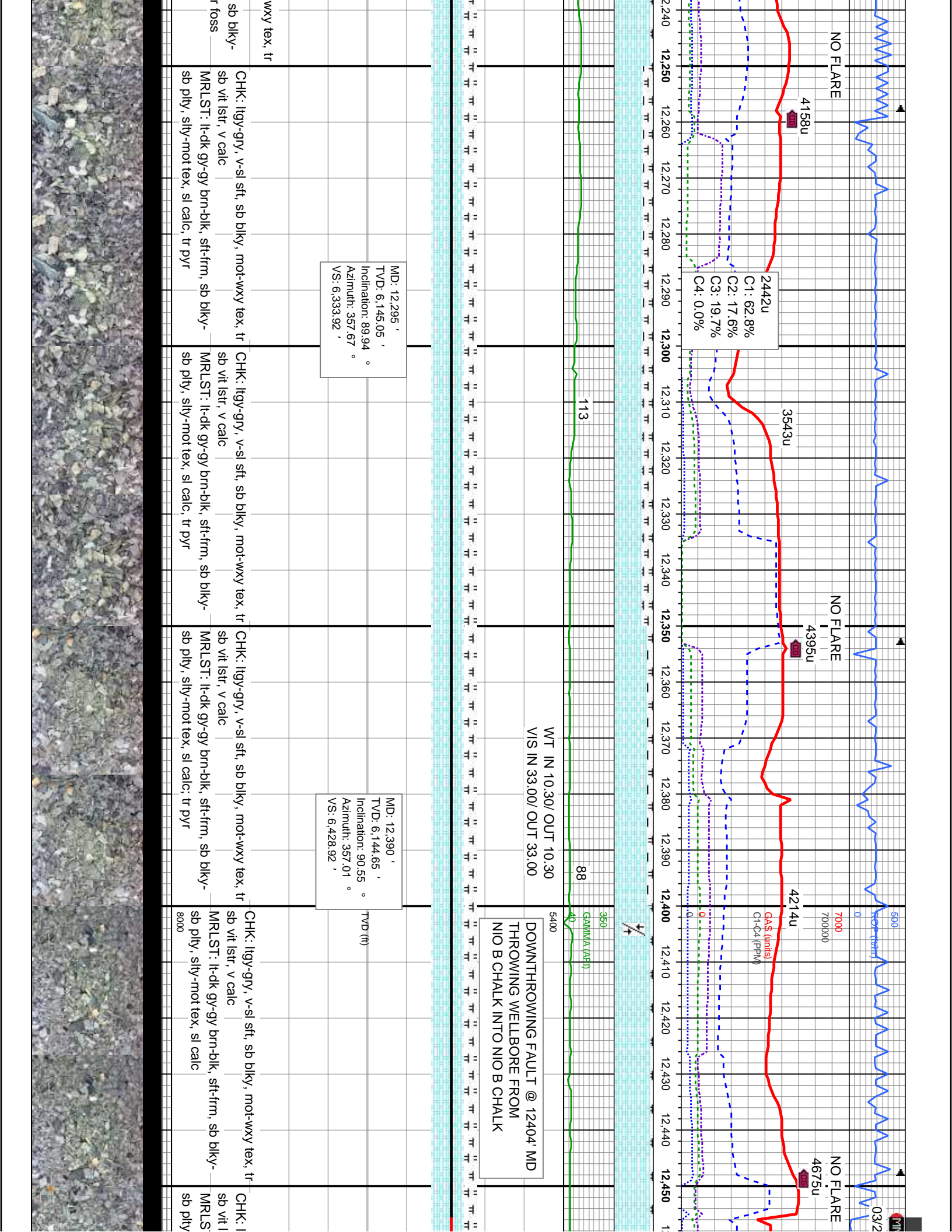


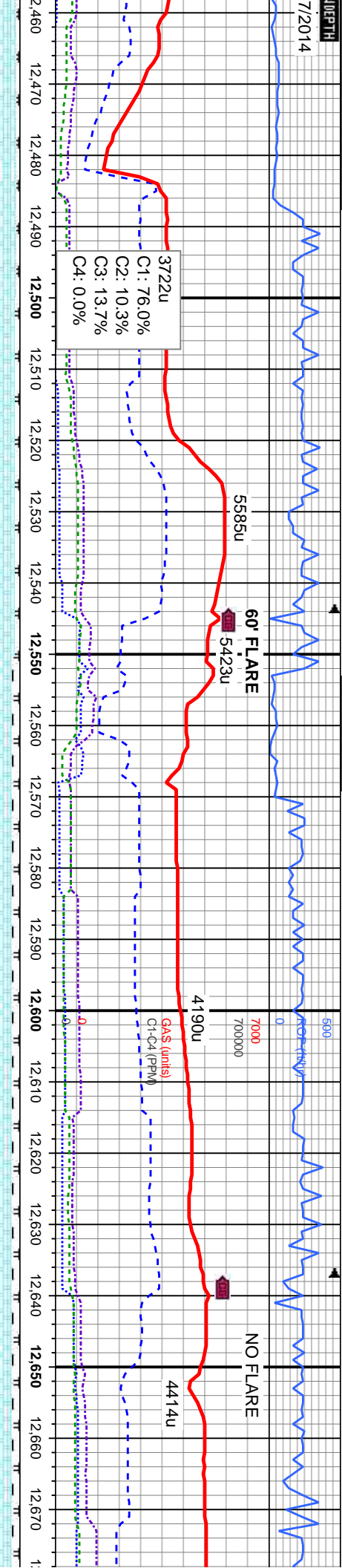












WT IN 10.30/ OUT 10.30
VIS IN 33.00/ OUT 35.00

WT IN 10.20/ OUT 10.30+
VIS IN 34.00/ OUT 33.00

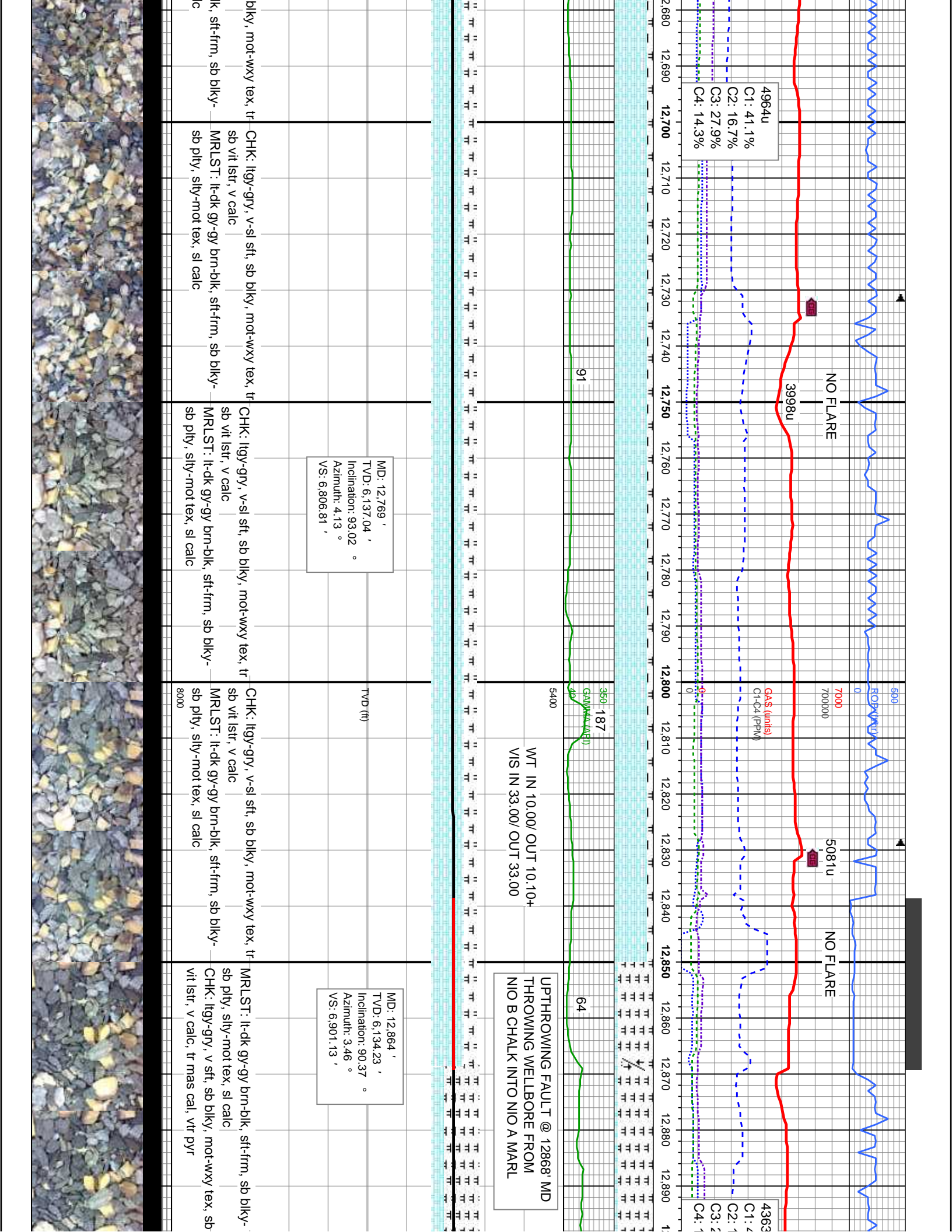
MD: 12,484 '
TVD: 6,143.16 '
Inclination: 91.26 °
Azimuth: 0.19 °
VS: 6,522.87 '

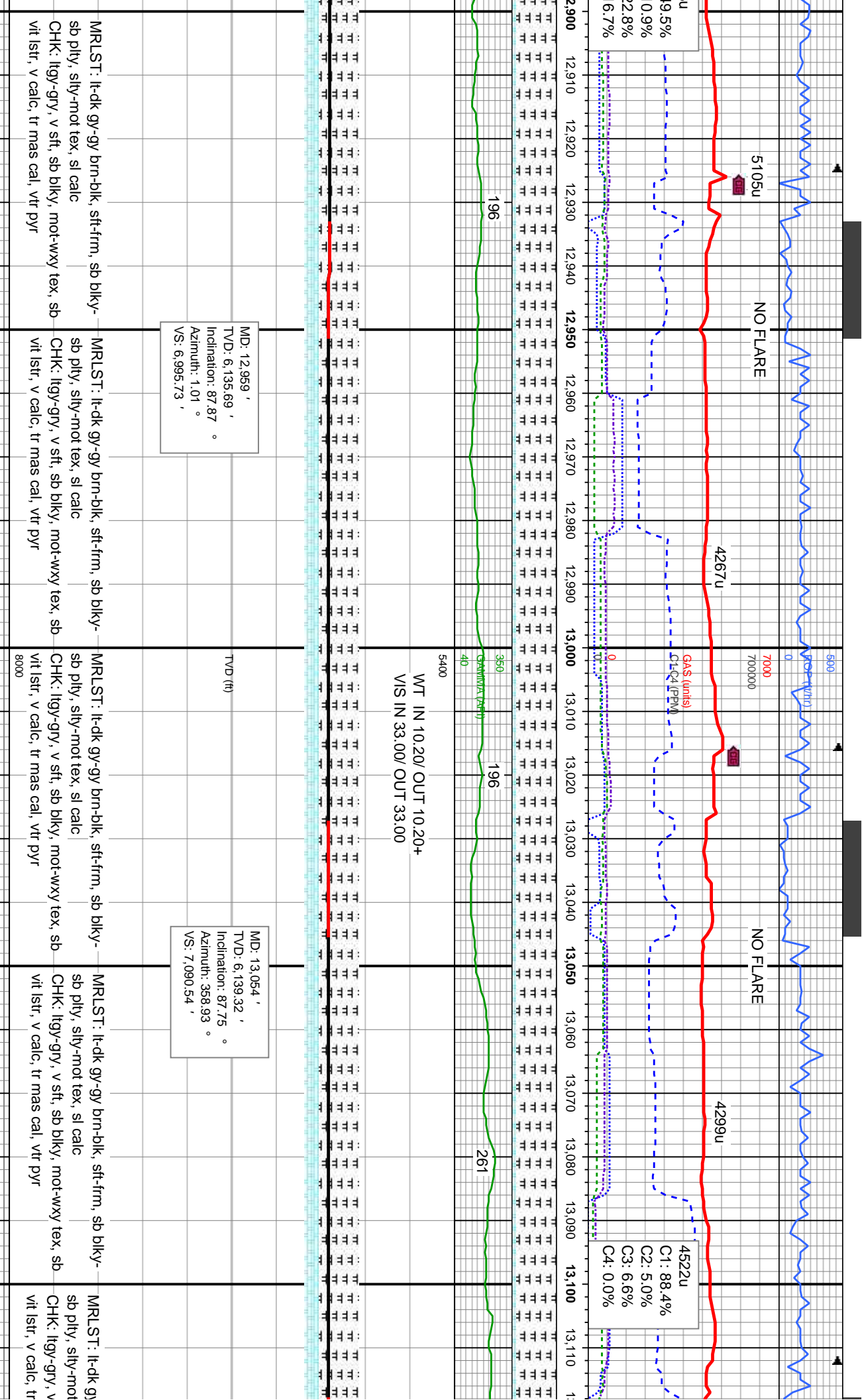
MD: 12,579 '
TVD: 6,142.09 '
Inclination: 90.03 °
Azimuth: 0.58 °
VS: 6,617.71 '

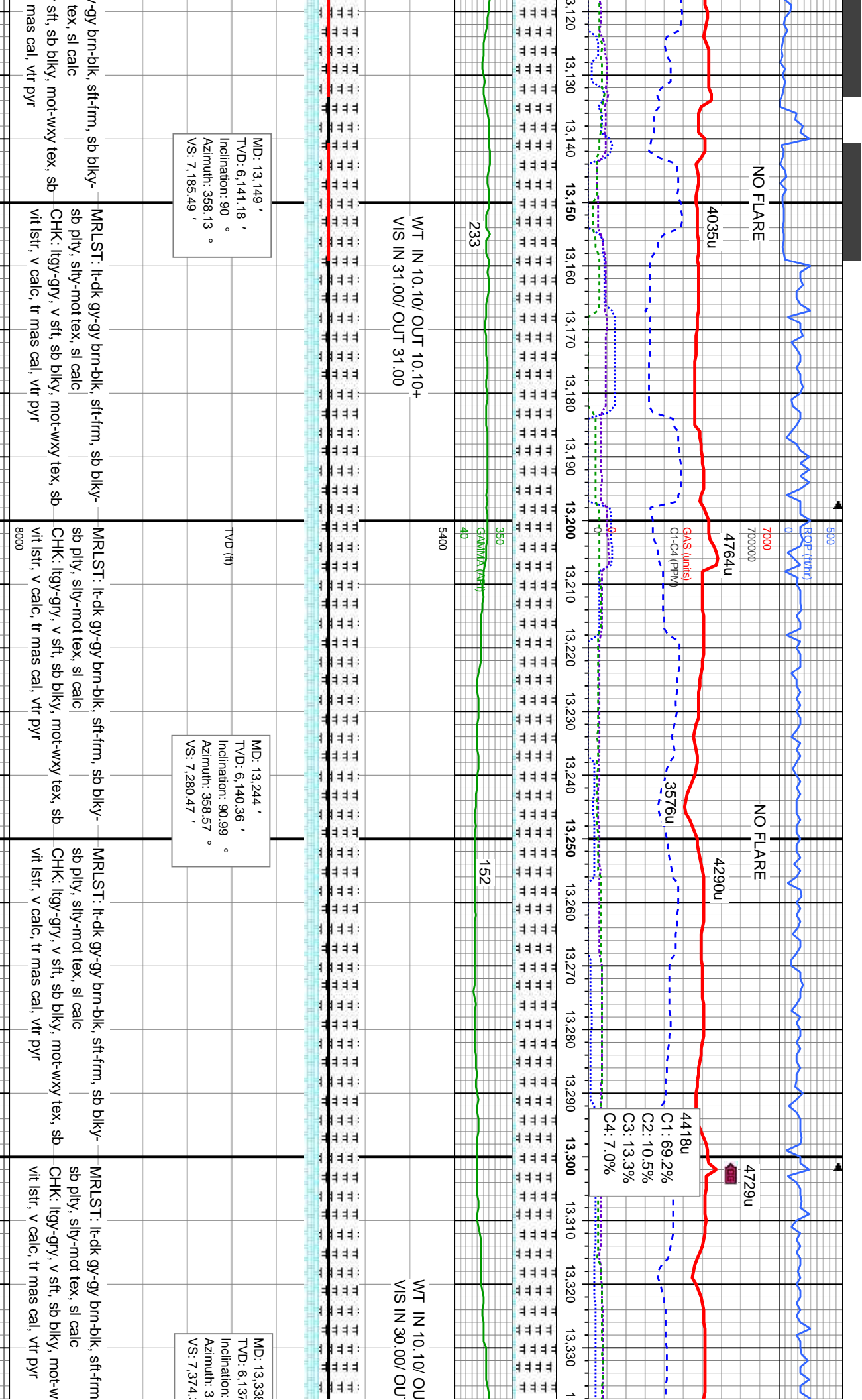
TVD (ft)

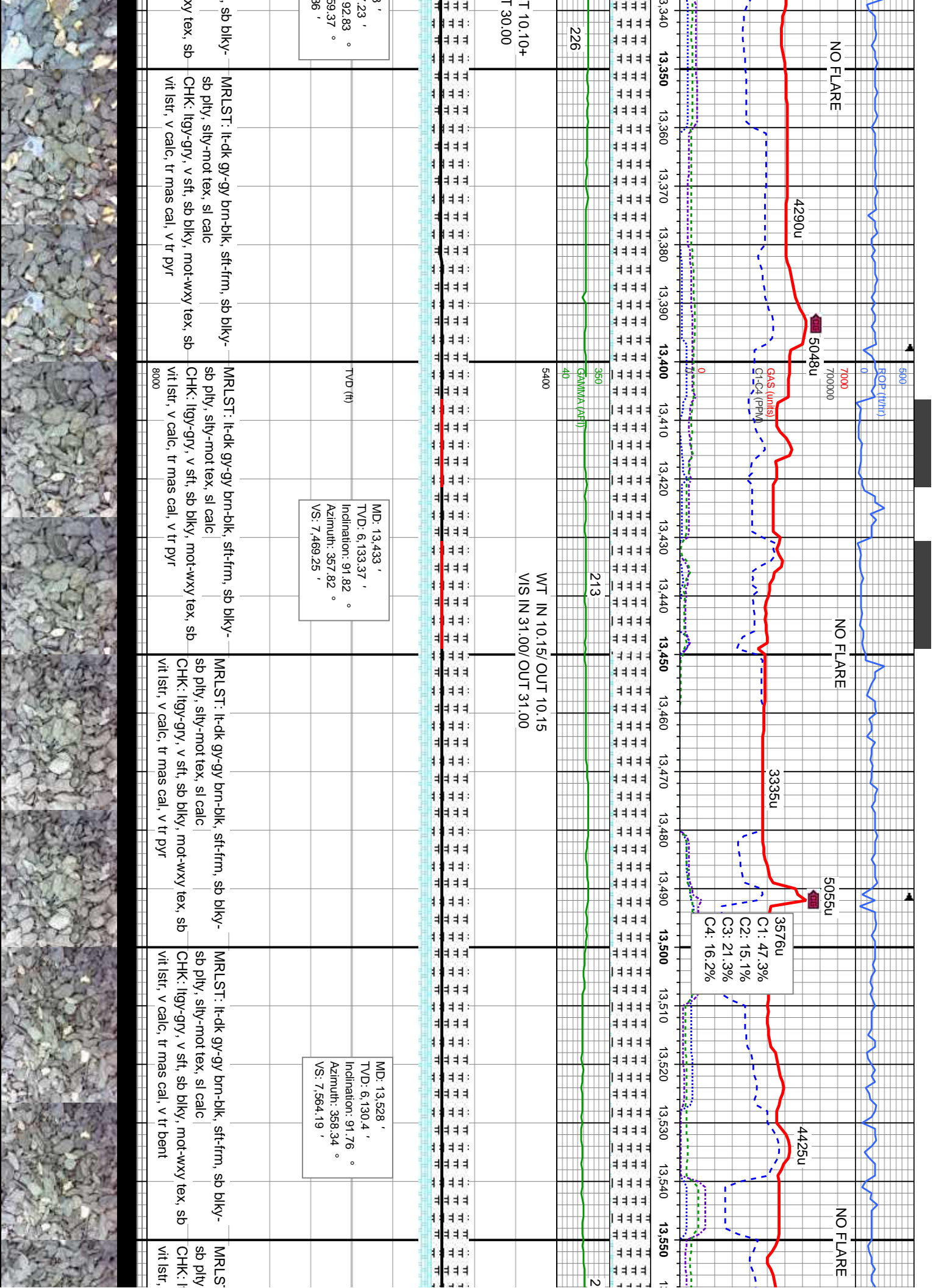
gy-gry, v-sl sft, sb blk, mot-wxy tex, tr	CHK: Itgy-gry, v-sl sft, sb blk, mot-wxy tex, tr	CHK: Itgy-gry, v-sl sft, sb blk, mot-wxy tex, tr	CHK: Itgy-gry, v-sl sft, sb blk, mot-wxy tex, tr
str, v calc	sb vit lstr, v calc	sb vit lstr, v calc	sb vit lstr, v calc
It-dk gy-gry brn-blk, sft-frn, sb blk	MRLST: It-dk gy-gry brn-blk, sft-frn, sb blk	MRLST: It-dk gy-gry brn-blk, sft-frn, sb blk	MRLST: It-dk gy-gry brn-blk, sft-frn, sb blk
, silty-mot tex, sl calc	sb pily, silty-mot tex, sl calc, tr bent, tr pyr	sb pily, silty-mot tex, sl calc	sb pily, silty-mot tex, sl calc

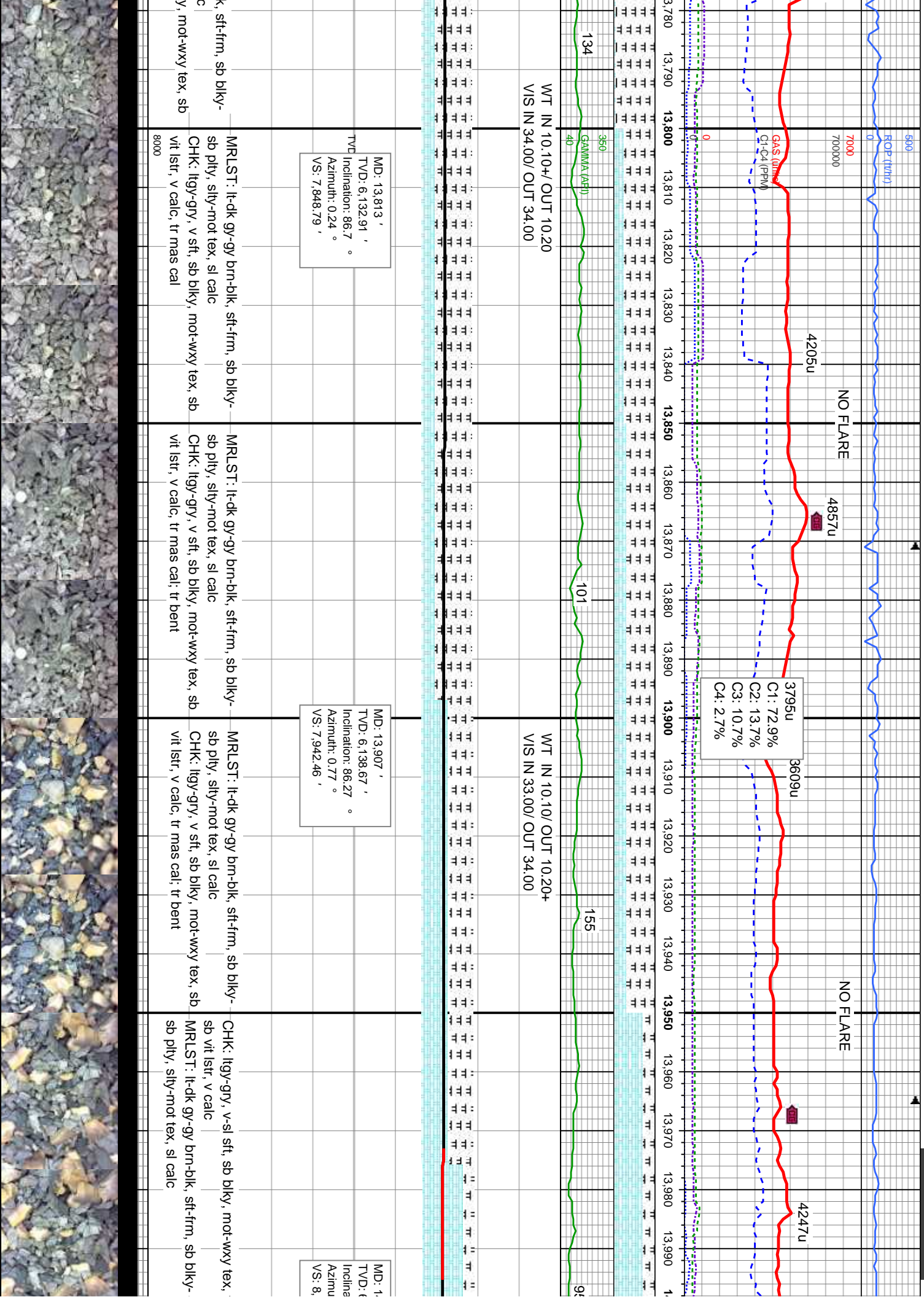


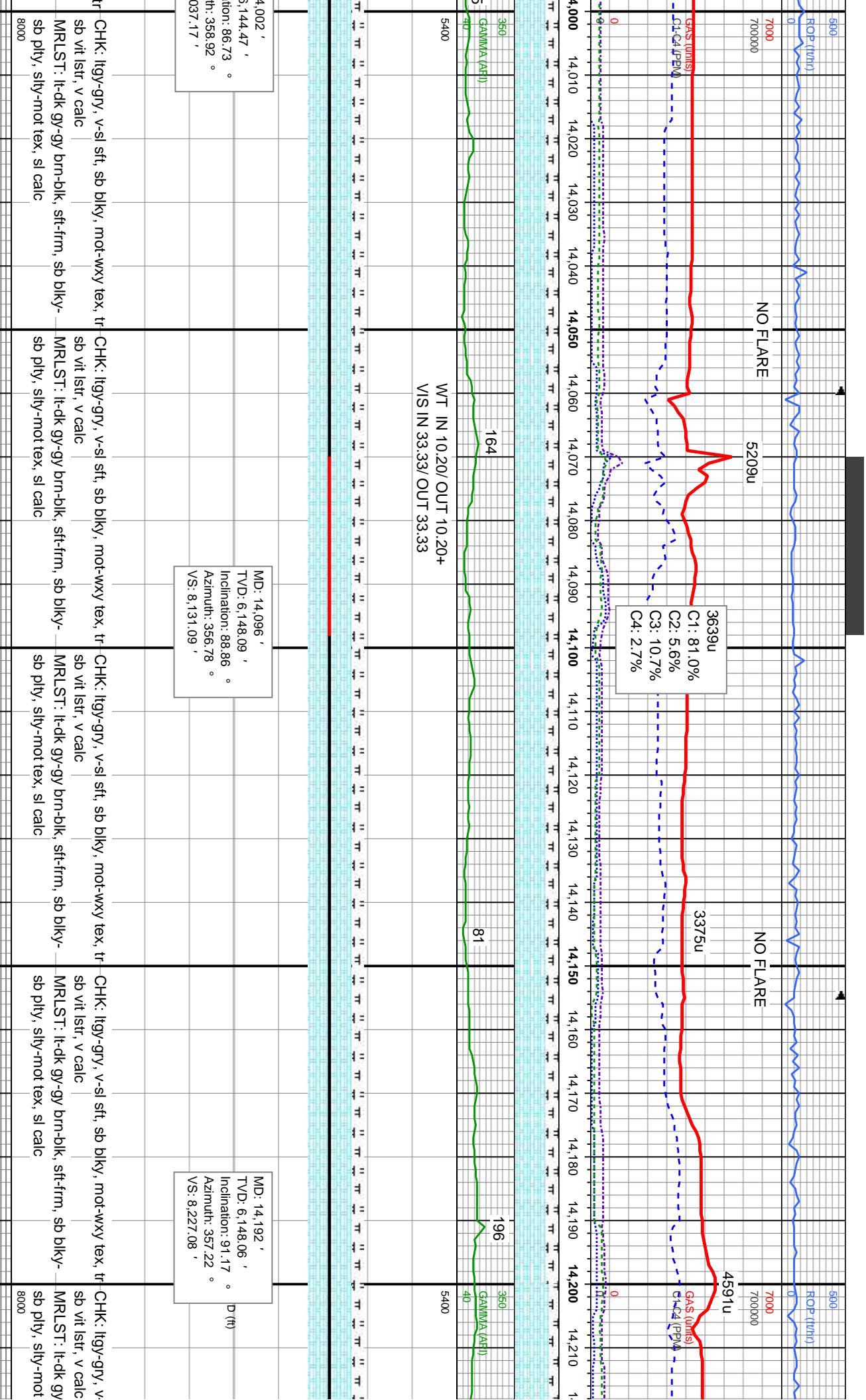












4,002 '
3,144.47 '
tion: 86.73 °
th: 358.92 °
037.17 '

MD: 14,096 '
TVD: 6,148.09 '
Inclination: 88.86 °
Azimuth: 356.78 °
VS: 8,131.09 '

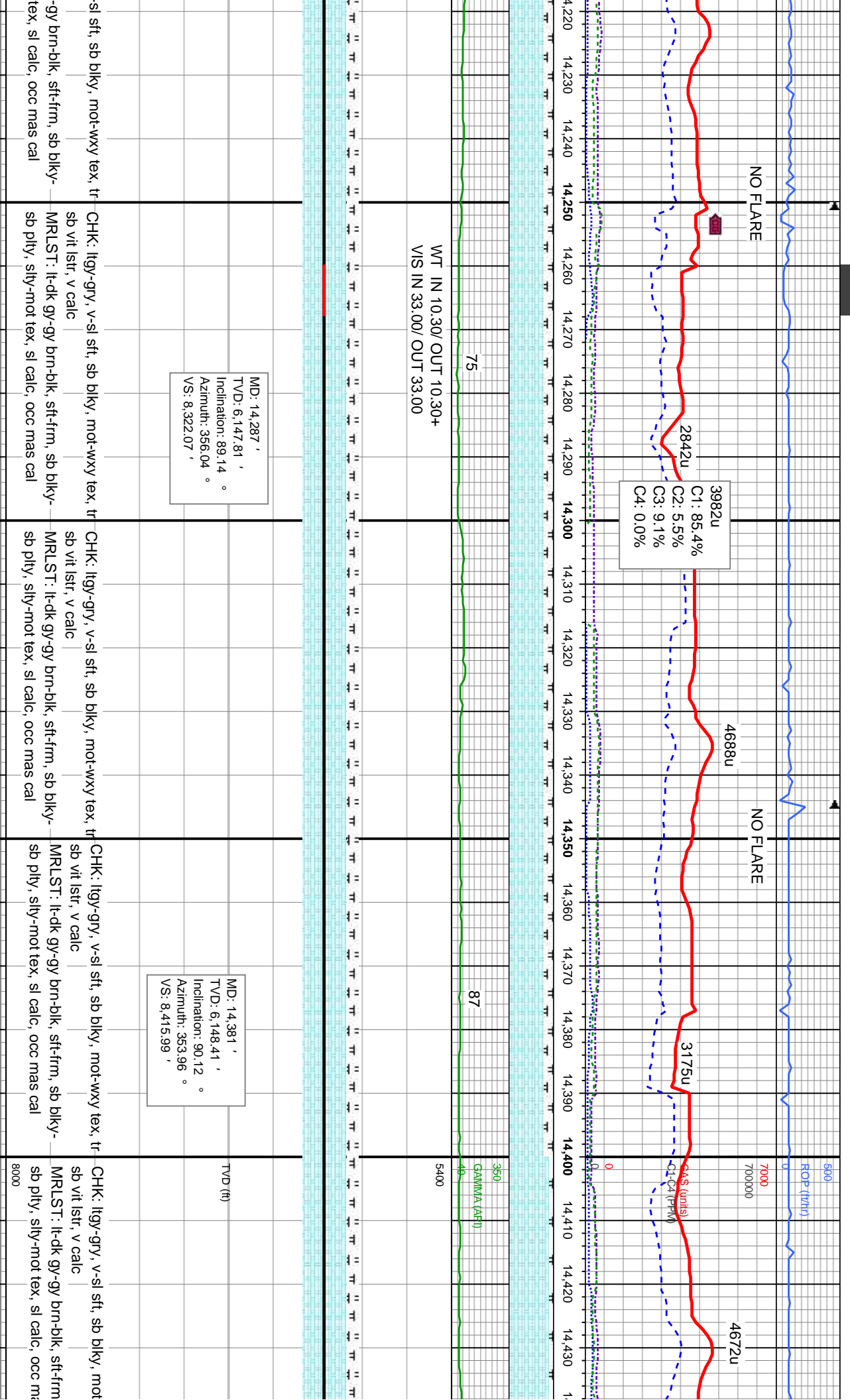
MD: 14,192 '
TVD: 6,148.06 '
Inclination: 91.17 °
Azimuth: 357.22 °
VS: 8,227.08 '

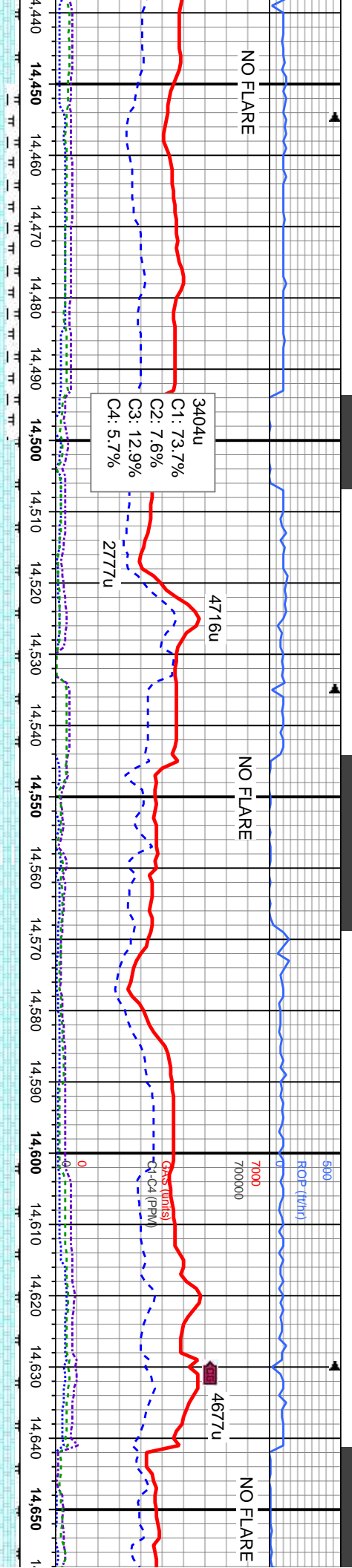
CHK: lly-gry, v-sl sft, sb blk, mot-wxy tex, tr
sb vit lstr, v calc
MRLST: lt-dk gy-gy brn-blk, sft-frn, sb blk-
sb ply, slty-mot tex, sl calc

CHK: lly-gry, v-sl sft, sb blk, mot-wxy tex, tr
sb vit lstr, v calc
MRLST: lt-dk gy-gy brn-blk, sft-frn, sb blk-
sb ply, slty-mot tex, sl calc

CHK: lly-gry, v-sl sft, sb blk, mot-wxy tex, tr
sb vit lstr, v calc
MRLST: lt-dk gy-gy brn-blk, sft-frn, sb blk-
sb ply, slty-mot tex, sl calc







MD: 14,476 '
TVD: 6,146.17 '
Inclination: 92.59 °
Azimuth: 354.03 °
VS: 8,510.81 '

MD: 14,571 '
TVD: 6,144.12 '
Inclination: 89.88 °
Azimuth: 355.87 °
VS: 8,605.71 '

TVD (ft)

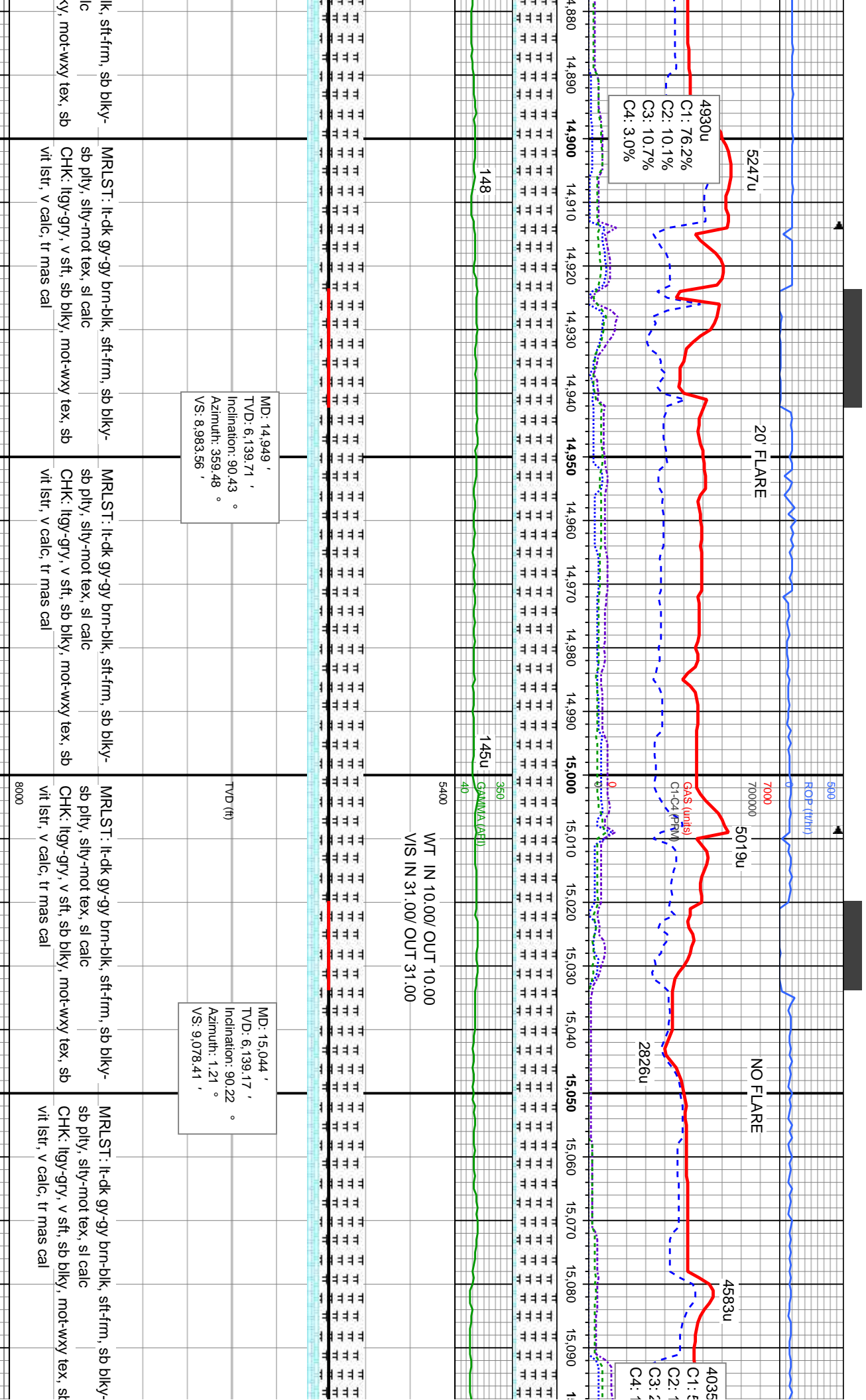
WT IN 10.20/ OUT 10.20+
VIS IN 34.00/ OUT 33.00

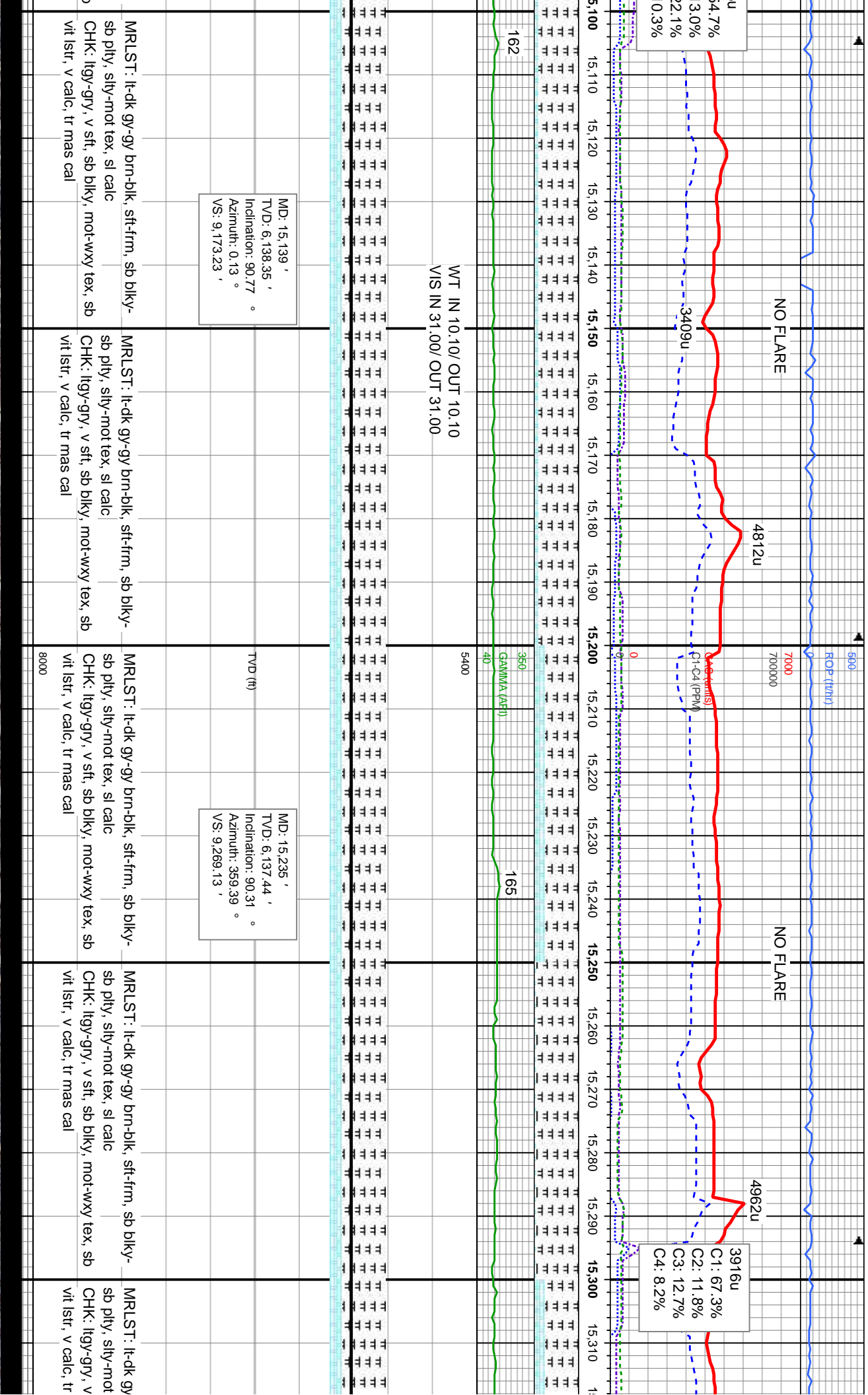
Depth (ft)	Log Description
14,440 - 14,450	CHK: ltgy-gry, v-sl sft, sb blk, mot-wxy tex, tr
14,450 - 14,460	sb vit lstr, v calc
14,460 - 14,470	MRLST: lt-dk gy-gry brn-blk, sft-firm, sb blk, occ bent
14,470 - 14,480	sb vit lstr, v calc
14,480 - 14,490	MRLST: lt-dk gy-gry brn-blk, sft-firm, sb blk, occ bent
14,490 - 14,500	sb vit lstr, v calc
14,500 - 14,510	MRLST: lt-dk gy-gry brn-blk, sft-firm, sb blk, occ bent
14,510 - 14,520	sb vit lstr, v calc
14,520 - 14,530	MRLST: lt-dk gy-gry brn-blk, sft-firm, sb blk, occ bent
14,530 - 14,540	sb vit lstr, v calc
14,540 - 14,550	MRLST: lt-dk gy-gry brn-blk, sft-firm, sb blk, occ bent
14,550 - 14,560	sb vit lstr, v calc
14,560 - 14,570	MRLST: lt-dk gy-gry brn-blk, sft-firm, sb blk, occ bent
14,570 - 14,580	sb vit lstr, v calc
14,580 - 14,590	MRLST: lt-dk gy-gry brn-blk, sft-firm, sb blk, occ bent
14,590 - 14,600	sb vit lstr, v calc
14,600 - 14,610	MRLST: lt-dk gy-gry brn-blk, sft-firm, sb blk, occ bent
14,610 - 14,620	sb vit lstr, v calc
14,620 - 14,630	MRLST: lt-dk gy-gry brn-blk, sft-firm, sb blk, occ bent
14,630 - 14,640	sb vit lstr, v calc
14,640 - 14,650	MRLST: lt-dk gy-gry brn-blk, sft-firm, sb blk, occ bent

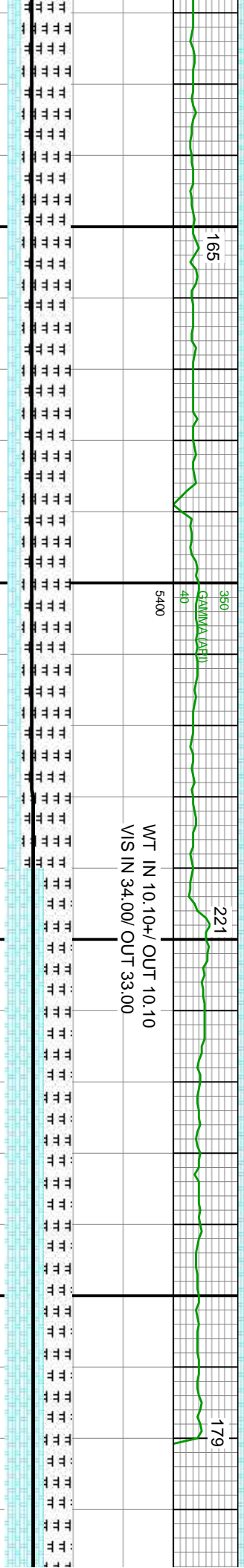
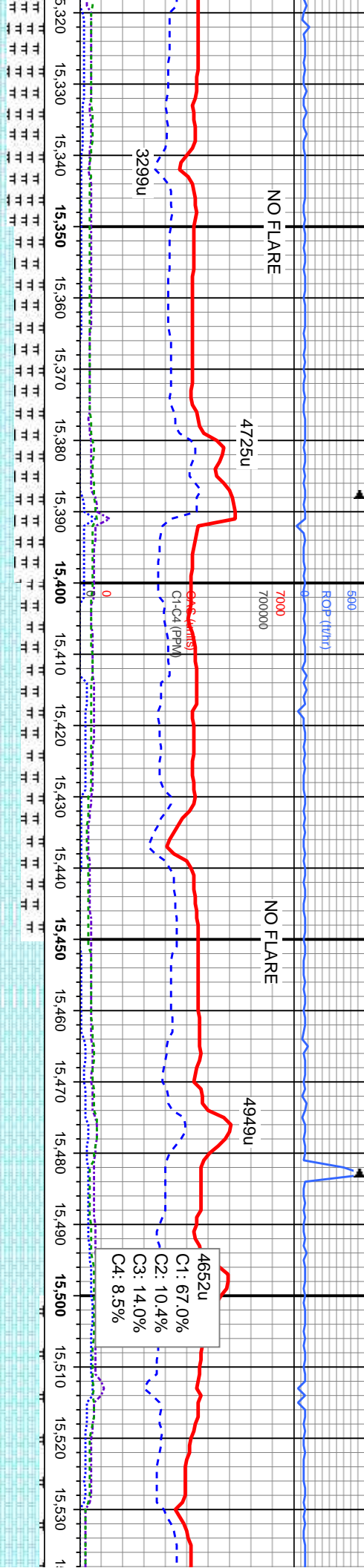


03/29/2014









MD: 15,329 '
TVD: 6,137.44 '
Inclination: 89.69 °
Azimuth: 358.02 °
VS: 9,363.09 '

TVD (ft)

MD: 15,424 '
TVD: 6,135.63 '
Inclination: 92.49 °
Azimuth: 359.18 °
VS: 9,458.03 '

MD: 15,516 '
TVD: 6,131.97 '
Inclination: 92.07 °
Azimuth: 358.82 °
VS: 9,549.91 '

gy brn-blk, sft-frn, sb blk- tex, sl calc	MRLST: lt-dk gy-gy brn-blk, sft-frn, sb blk- sb ply, silty-mot tex, sl calc	CHK: ltgy-gry, v sft, sb blk, mot-wxy tex, sb vit lstr, v calc, tr mas cal	CHK: ltgy-gry, v sft, sb blk, mot-wxy tex, sb vit lstr, v calc, tr mas cal	CHK: ltgy-gry, v sft, sb blk, mot-wxy tex, sb vit lstr, v calc, tr mas cal
sft, sb blk, mot-wxy tex, sb mas cal	CHK: ltgy-gry, v sft, sb blk, mot-wxy tex, sb vit lstr, v calc, tr mas cal	MRLST: lt-dk gy-gy brn-blk, sft-frn, sb blk- sb ply, silty-mot tex, sl calc	MRLST: lt-dk gy-gy brn-blk, sft-frn, sb blk- sb ply, silty-mot tex, sl calc	MRLST: lt-dk gy-gy brn-blk, sft-frn, sb blk- sb ply, silty-mot tex, sl calc



