

# Décollement Consulting Inc.



Scale: 5" / 100'  
Measured Depth Log

**Well Name** North Platte Federal F-J-22HNC

**Location** NW/NW Section 22, T5N - R63W

**State** CO

**County** Weld

**Country** USA

**Rig Number** Xtreme 22

**API Number** 05-123-40198

**Field** Wattenberg

**Region** D.J. Basin

**Drilling Completed** 5/18/2015

**Spud Date** 5/14/2015

**Surface Coordinates** 717 FNL x 1206 FWL (Lat: 40.390175, -104.426817)

**Bottom Hole Coordinates** 470 FSL x 1303 FWL (Lat: 40.378942, -104.426450)

**Ground Elevation** 4,662'

**K.B. Elevation** 4,679'

**Logged Interval** 6,000' To 11,151'

**Total Depth** 11,151'

**Formation** Niobrara "C" Chalk

**Type of Drilling Fluid** Water Based Mud

## Operator

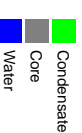
**Address** Bonanza Creek Energy, Inc.  
410 17th Street, Suite 1500  
Denver, Colorado 80202

## Geologist

**Name** Scott Sawyer / Paul Givens  
**Company** Decollement Consulting, Inc.  
**Address** 13300 Braun Road  
Golden, CO 80401



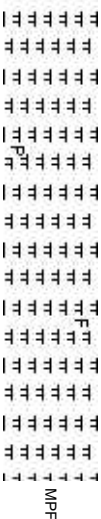
## Zone Color Coding



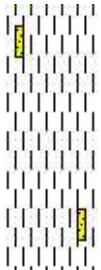
Rock Types

Blank

CEMENT



SHALE S



CHALK

LIMESTONE

SANDSTONE



SHALE SF

CPF TT TT TT MARLSTONE --- -- -- SHALE



Fossils

- ALGAE
- AMPHIPORA
- BELEMNITE
- BIOCLASTIC
- BRACHIOPOD
- BRYOZOA
- CERPHALOPOD
- CORAL
- CRINOID
- ECHINOID
- FISH
- FORAMINIFERA

F FOSSIL

GASTROPOD

OOLITE

OSTRACOD

PELECYPOD

PELLET

PISOLITE

PLANT REMAINS

PLANT SPORES

SCAPHOPOD

STROMATOPOROID

Minerals

ANHYDRITIC

ARGILLACEOUS

ARGILLITE GRAIN

BENTONITE

BITUMENOUS SUBSTANCE

BRECCIA FRAGMENTS

CALCAREOUS

CARBONACEOUS FLAKES

CHITDK

CHTLT

COAL - THIN BEDS

DOLOMITIC

FELDSPAR

FERRUGINOUS PELLET

FERRUGINOUS

GLAUCONITE

GYPSIFEROUS

HEAVY MINERAL

KAOLIN

MARLSTONE

MINERAL CRYSTALS

NODULES

PHOSPHATE PELLETS

PYRITE

SALT CAST

SANDY

SILICEOUS

SILTY

TUFFACEOUS

Stringer

- ANHYDRITE STRINGER
- BENTONITE STRINGER
- COAL STRINGER
- DOLOMITE STRINGER
- GYPSUM STRINGER
- LIMESTONE STRINGER
- MARLSTONE (CALC) STRG
- MARLSTONE (DOL) STRG
- SANDSTONE STRINGER
- SHALE STRINGER
- SILTSTONE STRINGER

Accessories

# Other Symbols

O ORGANIC

FORMATION TOP

L LITHOGRAPHIC

Oil Show

P PINPOINT

GAS SHOW

MX MICROXLN

DEAD

VUGGY

MN DEPTH

A ANGULAR

MS MUDSTONE

EVEN

NORMAL FAULT

R ROUNDED

PS PACKSTONE

## Engineering

QUESTIONABLE

OIL SHOW

B SUBANG

WS WACKESTONE

SPOTTED STAINING

BIT

OVERTURNED STRATA

R SUBRND

## Sorting

CASING

REVERSE FAULT

Porosity

CONNECTION (LEFT)

SIDEWALL CORE (LEFT)

M MODERATE

EARTHY

CONNECTION (RIGHT)

SIDEWALL CORE (RIGHT)

BS BOUNDSTONE

P POOR

FENESTRAL

CONNECTION GAS

SLIDE

C CHALKY

W WELL

FRACTURE

CORE - LOST

SURVEY

CX CRYPTOXLN

INTERCRYSTALLINE

CORE - RECOVERED

TRIP GAS

E EARTHY

INTEROOLITIC

DST INTERVAL

WIRELINE TESTED - LEFT

FX FINELYXLN

MOLDIC

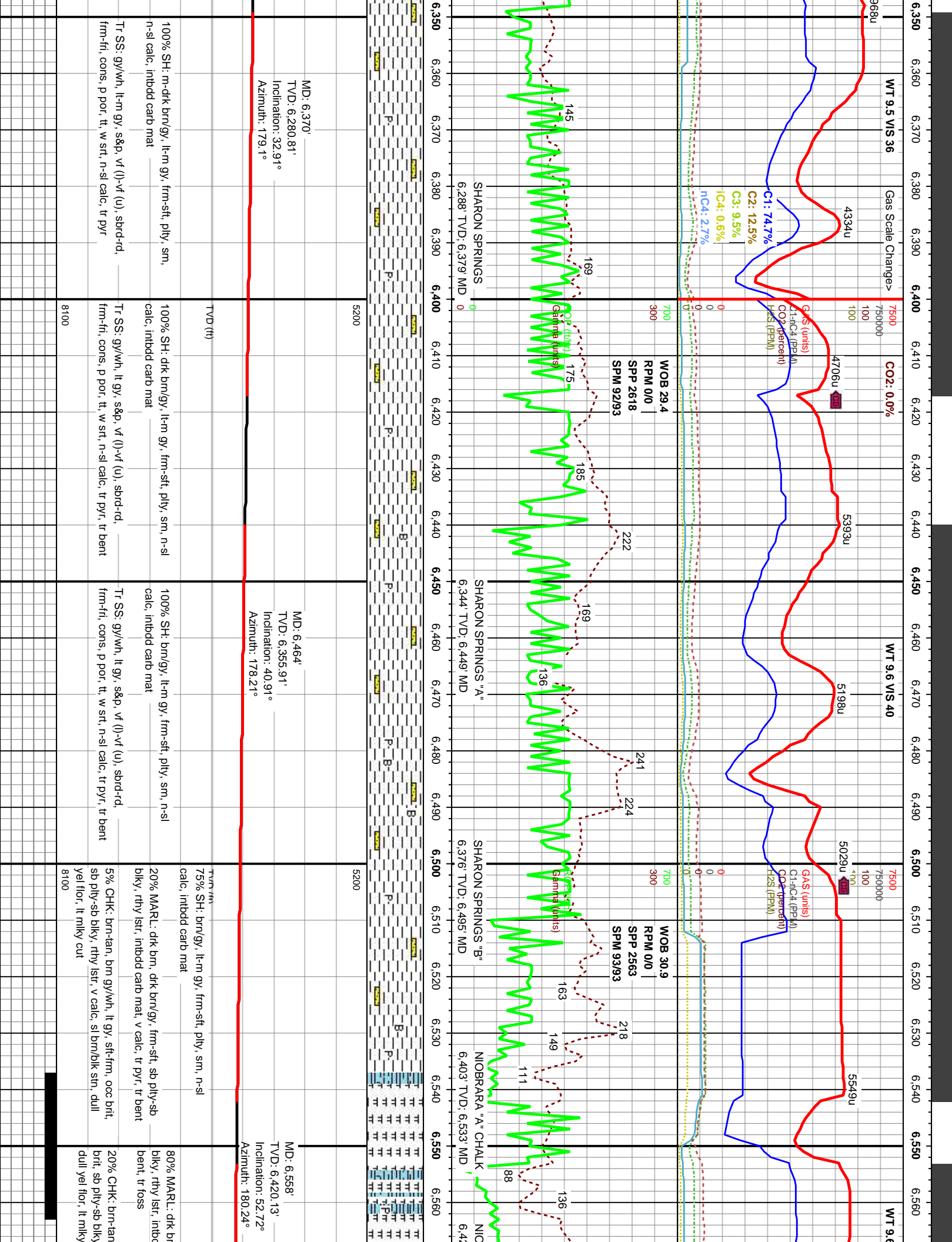
FAULT

WIRELINE TESTED - RT

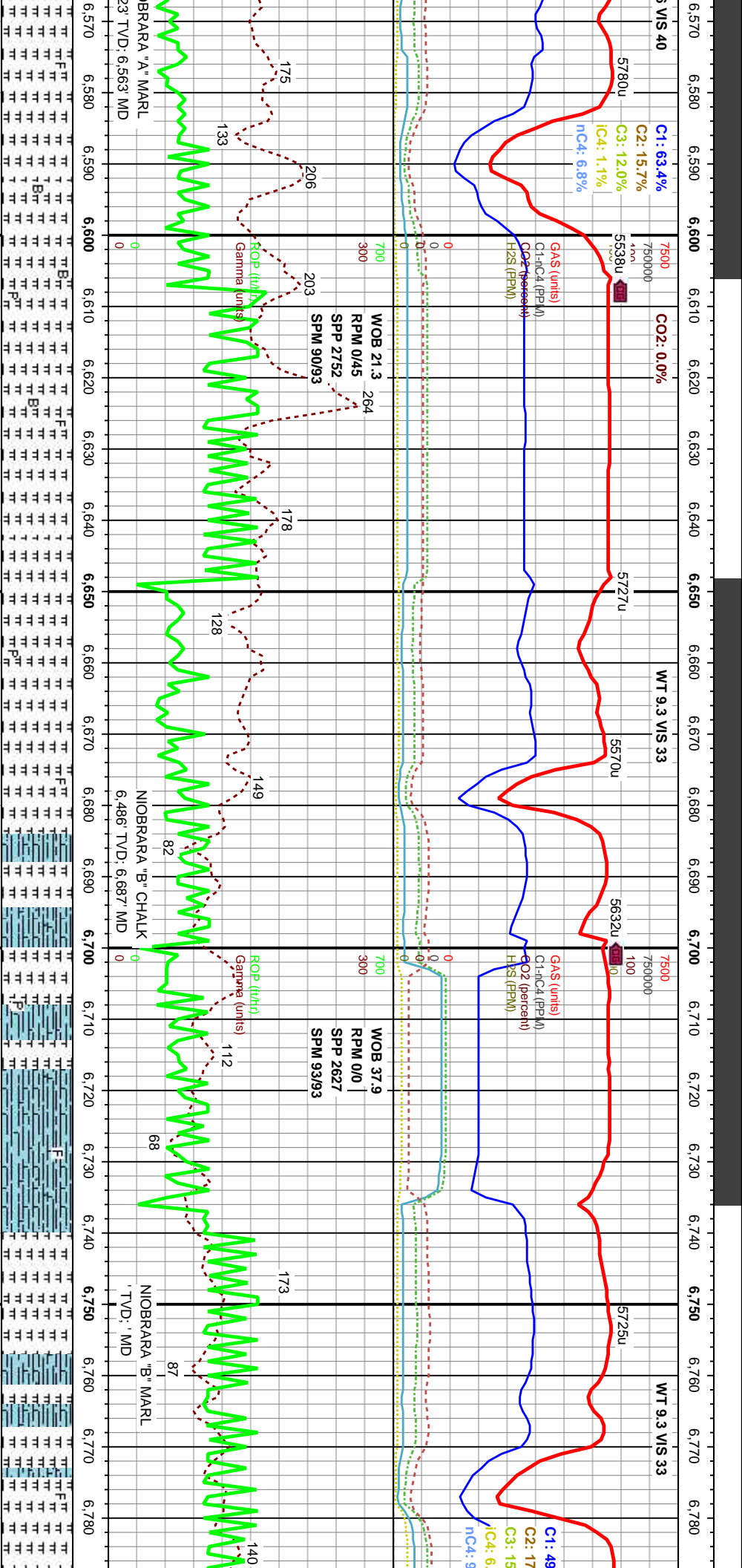
GS GRAINSTONE







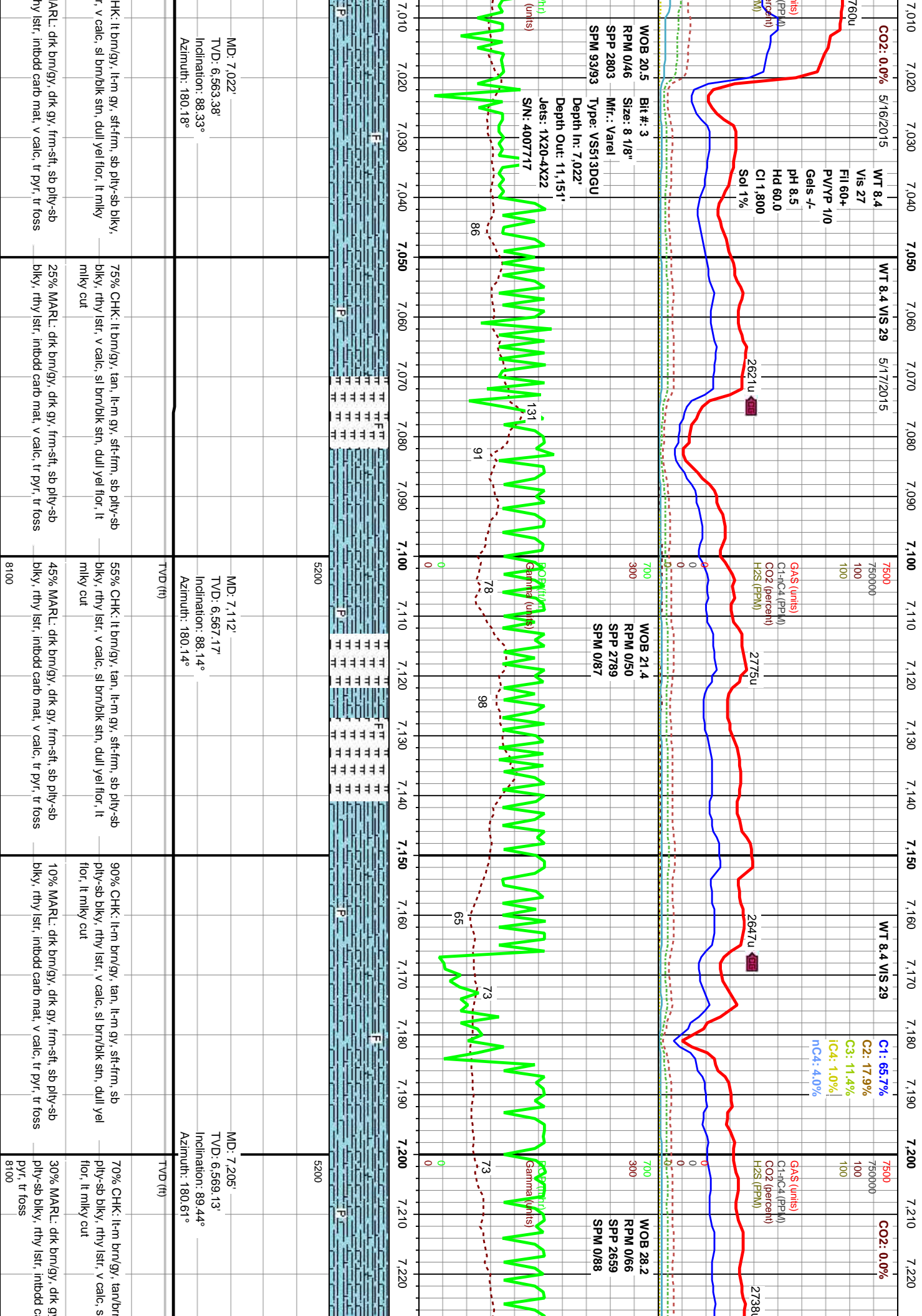


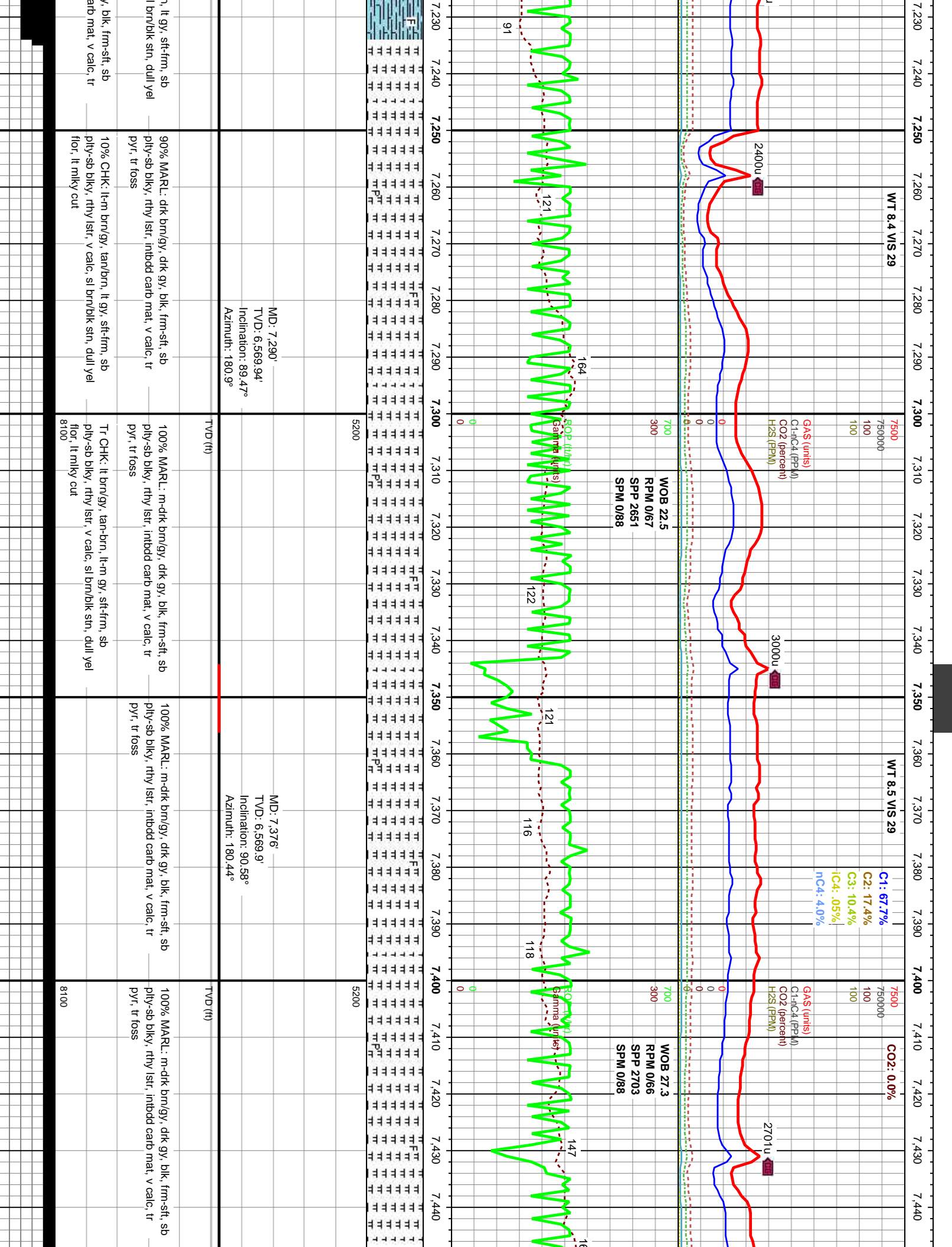


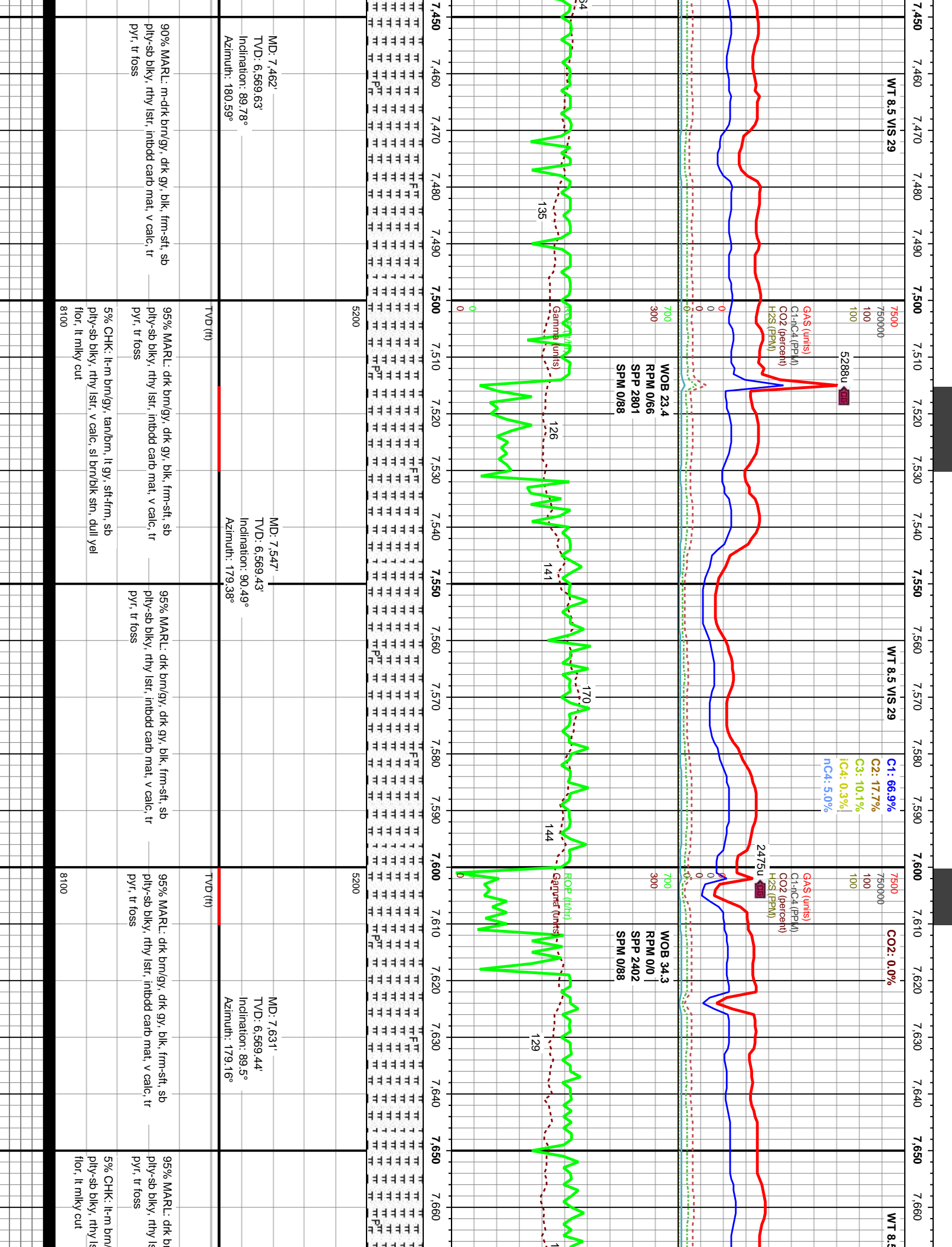
Interval	MD	TVD	Inclination	Azimuth
5200	MD: 6.663'	TVD: 6.472.56'	Inclination: 60.23°	Azimuth: 180.41°
5200	MD: 6.747'	TVD: 6.510.33'	Inclination: 72.3°	Azimuth: 181.82°

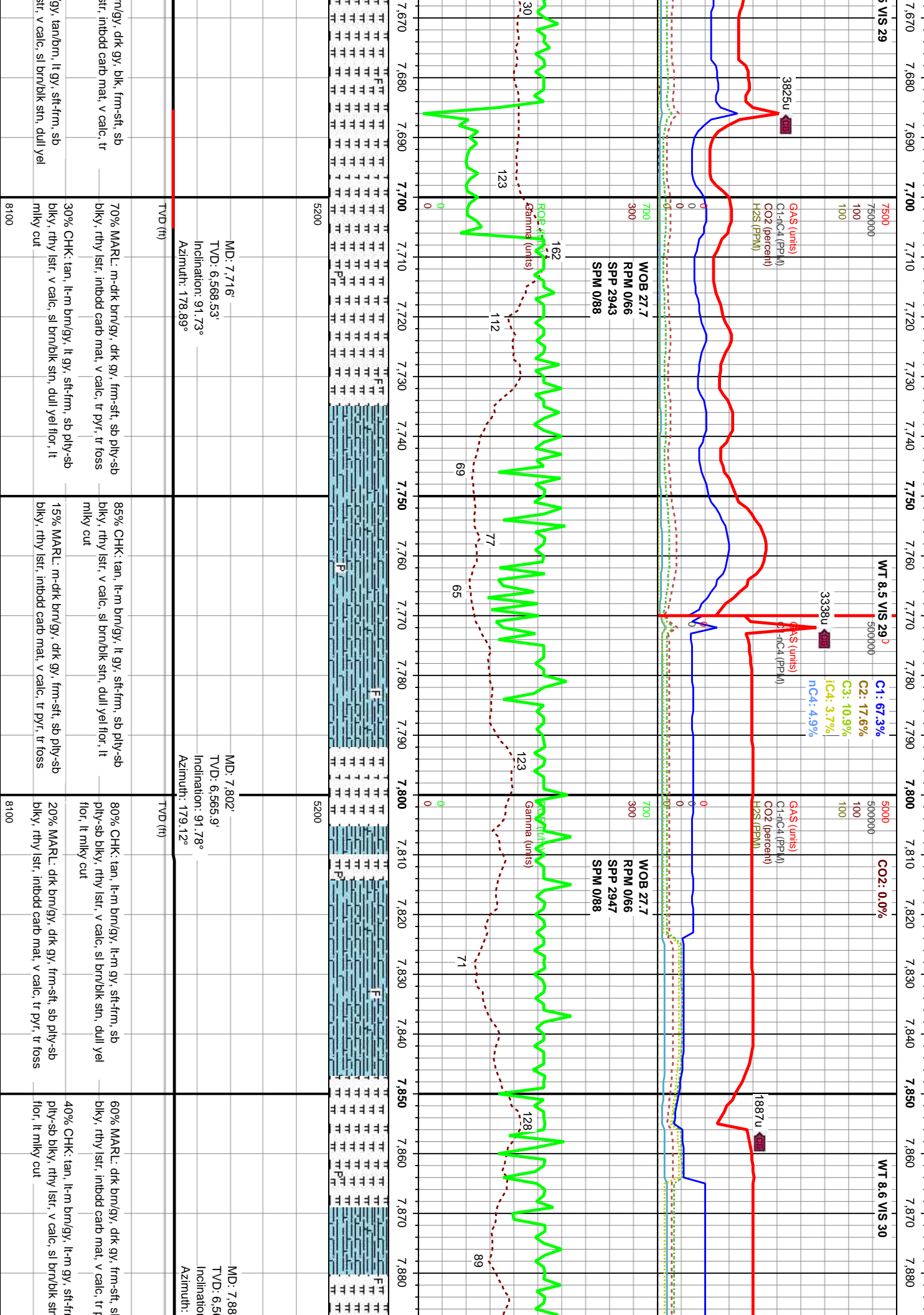










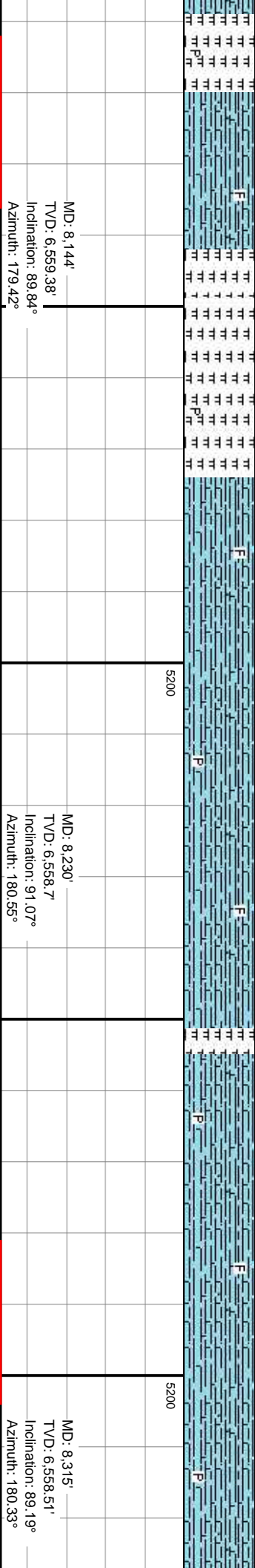
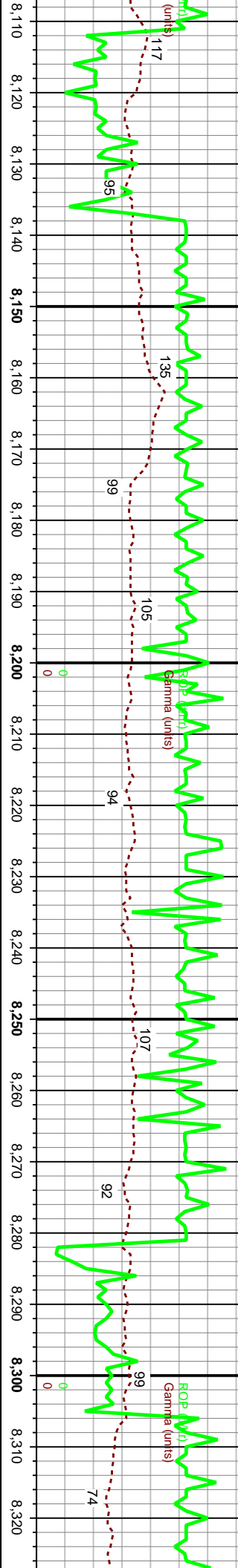
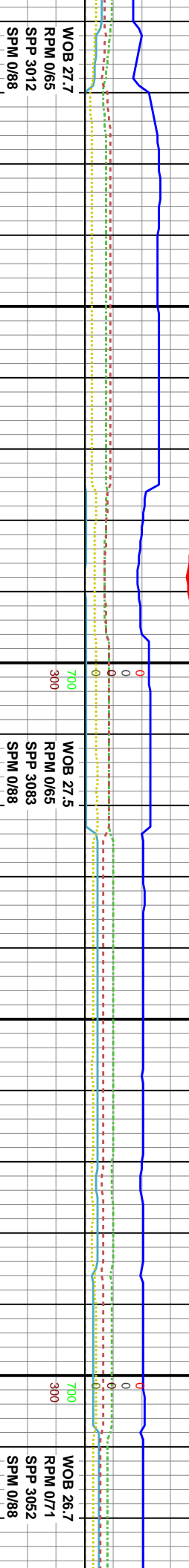
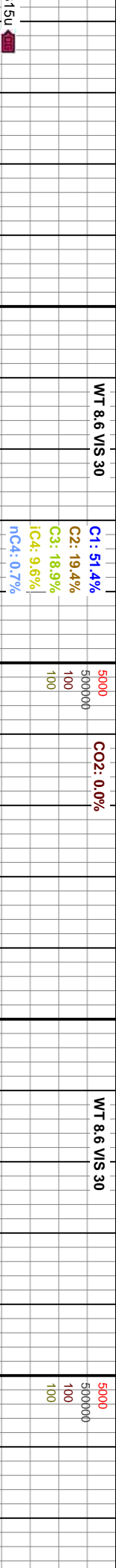








8.110 8.120 8.130 8.140 8.150 8.160 8.170 8.180 8.190 8.200 8.210 8.220 8.230 8.240 8.250 8.260 8.270 8.280 8.290 8.300 8.310 8.320



HK: tan/brn, lt brn/gy, lt-m gy, sft-frn, occ ply-sb blk, rthy lstr, v calc, sl brn/blk stn, flor, lt milky cut	55% CHK: tan, lt brn, lt brn/gy, lt-m gy, sft-frn, occ brt, sb ply-sb blk, rthy lstr, v calc, sl brn/blk stn, dull yel flor, lt milky cut	90% CHK: tan-brn, lt brn/gy, lt-m gy, sft-frn, occ brt, sb ply-sb blk, rthy lstr, v calc, sl brn/blk stn, dull yel flor, lt milky cut	10% MARL: dk brn/gy, dk gy, blk, frm-sft, sb ply-sb blk, rthy lstr, imbd carb mat, v calc, tr pyr, tr foss
MD: 8.144' TVD: 6.559.38' Inclination: 89.84° Azimuth: 179.42°	MD: 8.230' TVD: 6.558.7' Inclination: 91.07° Azimuth: 180.55°	MD: 8.315' TVD: 6.558.51' Inclination: 89.19° Azimuth: 180.33°	

8.330 8.340 8.350 8.360 8.370 8.380 8.390 8.400 8.410 8.420 8.430 8.440 8.450 8.460 8.470 8.480 8.490 8.500 8.510 8.520 8.530 8.540

WT 8.6 VIS 32

C1: 56.7%  
C2: 18.7%  
C3: 16.6%  
iC4: 6.4%  
nC4: 1.6%

5000  
500000  
100  
100  
CO2: 0.0%

GA\$ (units)  
C1-iC4 (ppm)  
CO2 (percent)  
H2S (ppm)

2219u

2692u

2763u

5000  
500000  
100  
100  
GA\$ (units)  
C1-iC4 (ppm)  
CO2 (percent)  
H2S (ppm)

2475u

700  
300  
WOB 24.2  
RPM 0/75  
SPM 3003  
SPM 0/88

700  
300  
WOB 28.2  
RPM 0/65  
SPM 3123  
SPM 0/88

Gamma (units)

Gamma (units)

Gamma (units)

101

122

85

67

127

169

116



MD: 8.401'  
TVD: 6.559.9'  
Inclination: 88.95°  
Azimuth: 180.29°

MD: 8.486'  
TVD: 6.561.74'  
Inclination: 88.57°  
Azimuth: 180.11°

TVD (ft)

TVD (ft)

gy, sft-frim, occ brit,  
sb ply-sb blkly, rthy lstr, v calc, sl brn/bk sin, dull  
60% CHK: tan/brn, lt-m brn/gy, gy, sft-frim, occ brit,  
sb ply-sb blkly, rthy lstr, v calc, sl brn/bk sin, dull  
yel flor, lt milky cut

gy, blk, frm-sft, sb  
arab mat, v calc, tr  
40% MARL: dk brn/gy, m-dk gy, blk, frm-sft, sb  
ply-sb blkly, rthy lstr, imbdd carb mat, v calc, tr  
pyr, tr foss

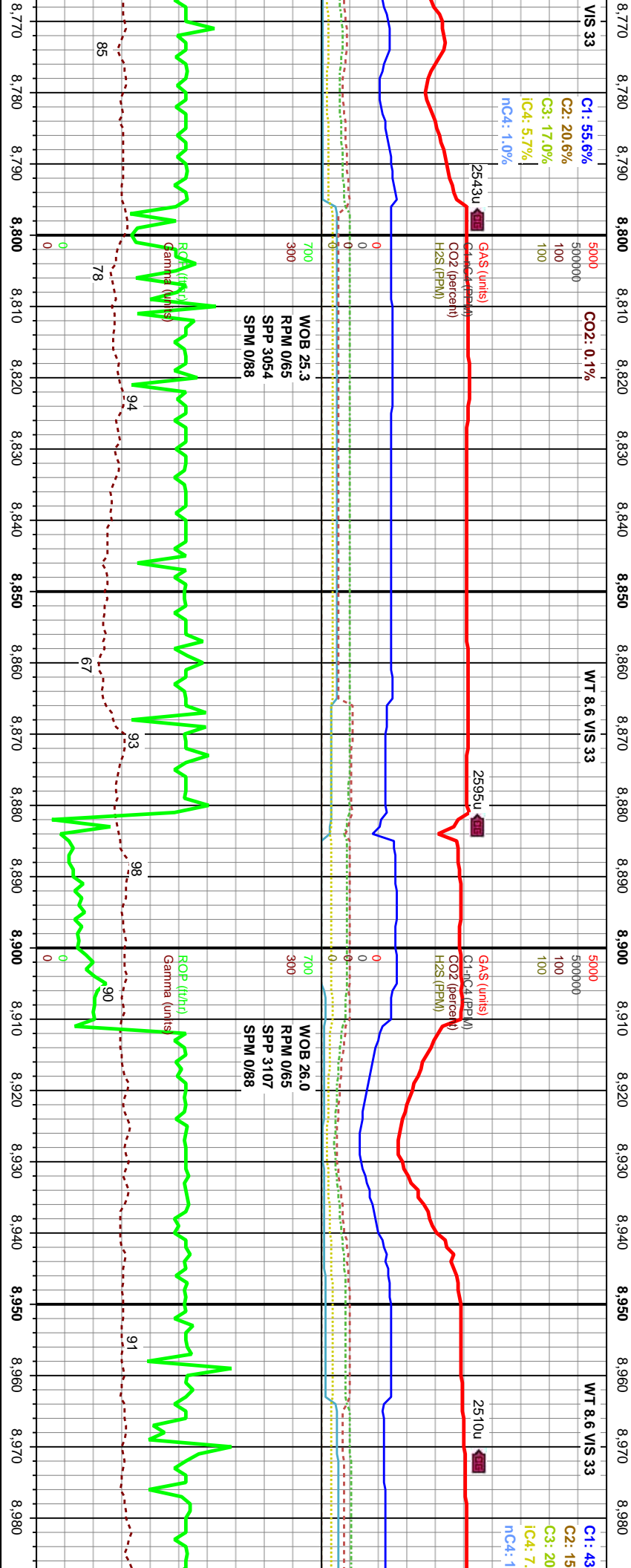
80% MARL: dk brn/gy, dk gy, frm-sft, sb ply-sb  
blkly, rthy lstr, imbdd carb mat, v calc, tr pyr, tr foss  
dull yel flor, lt milky cut

20% CHK: brn, m-dk brn/gy, m-dk gy, sft-frim, occ  
brit, sb ply-sb blkly, rthy lstr, v calc, sl brn/bk sin,  
dull yel flor, lt milky cut

80% MARL: dk brn/gy, dk gy, frm-sft, sb ply-sb  
blkly, rthy lstr, imbdd carb mat, v calc, tr pyr, tr foss  
dull yel flor, lt milky cut

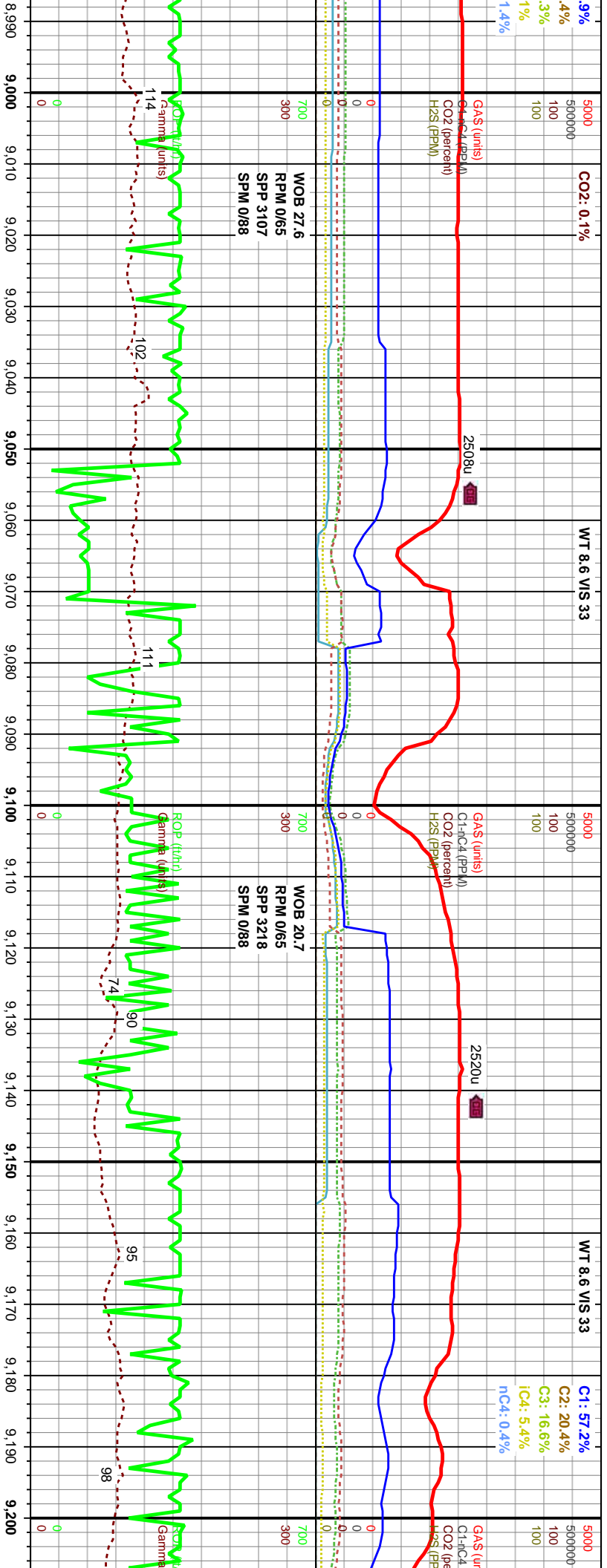
20% CHK: brn, m-dk brn/gy, m-dk gy, sft-frim, occ  
brit, sb ply-sb blkly, rthy lstr, v calc, sl brn/bk sin,  
dull yel flor, lt milky cut





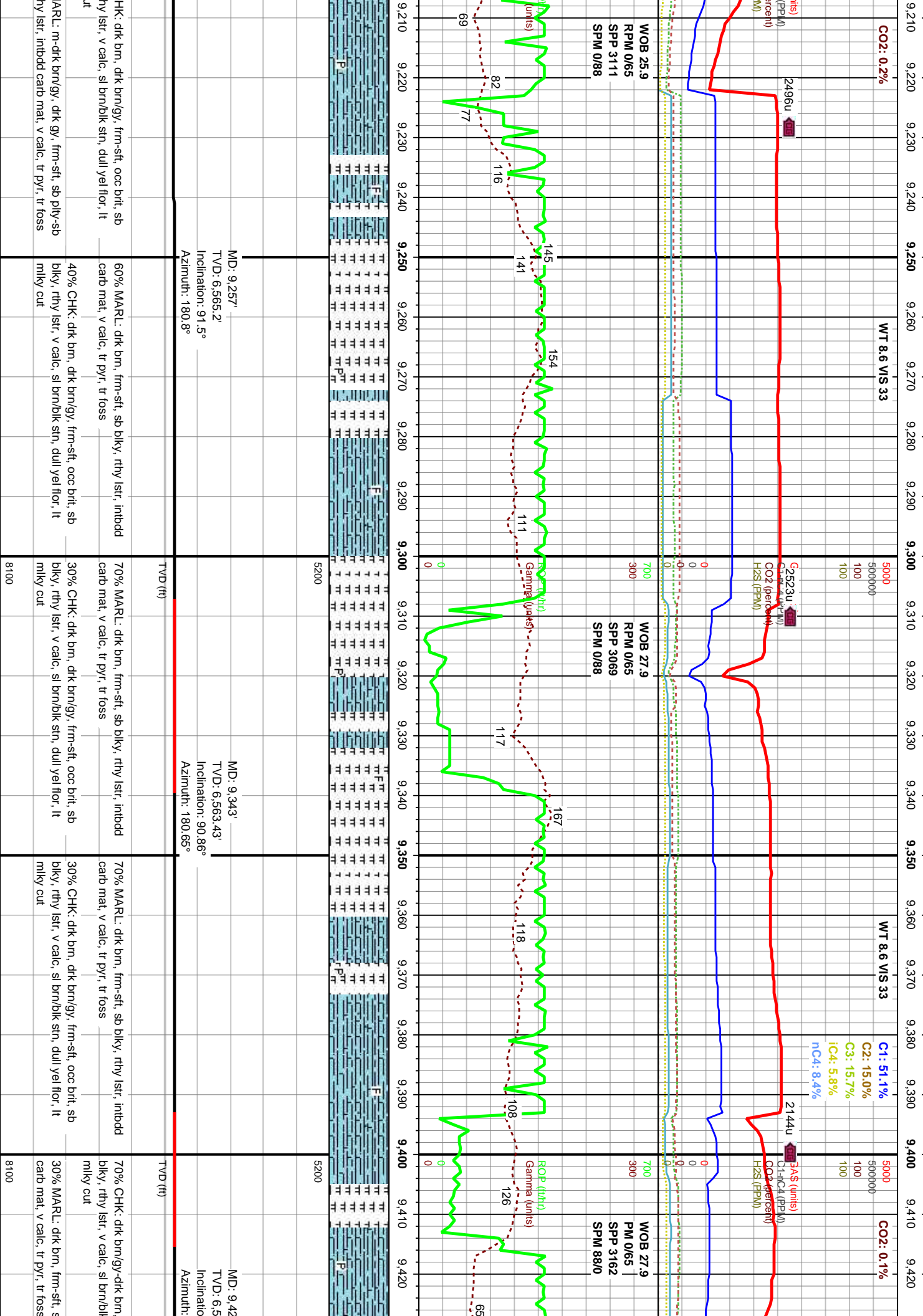
VIS 33		WT 8.6 VIS 33		WT 8.6 VIS 33	
C1: 55.6% C2: 20.6% C3: 17.0% IC4: 5.7% nC4: 1.0%		C1: 43% C2: 15% C3: 20% IC4: 7% nC4: 1%			
5000 50000 100 100		5000 50000 100 100			
GAS (units) C1-IC4 (ppm) CO2 (percent) H2S (ppm)		GAS (units) C1-IC4 (ppm) CO2 (percent) H2S (ppm)			
2543u		2595u		2510u	
0 0 0 0		0 0 0 0			
WOB 25.3 RPM 0/65 SPP 3054 SPM 0/88		WOB 26.0 RPM 0/65 SPP 3107 SPM 0/88			
85 78 94 67 93 98 90 91					
ROP (ft/hr) Gamma (units)		ROP (ft/hr) Gamma (units)			
8,770 8,780 8,790 8,800 8,810 8,820 8,830 8,840 8,850 8,860 8,870 8,880 8,890 8,900 8,910 8,920 8,930 8,940 8,950 8,960 8,970 8,980					
5200		5200			
MD: 8.828' TVD: 6,569.46' Inclination: 88.47° Azimuth: 179.46°		MD: 8.914' TVD: 6,570.42' Inclination: 90.24° Azimuth: 179.82°			
TVD (ft)		TVD (ft)			
v/gy, lt-m gy, m-dtk brn, sft-firm, blkly, rthy lstr, v calc, sl brn/blk milky cut		85% CHK: tan/brn, brn/gy, lt-m gy, sft-firm, ooc brit, sb ply-sb blkly, rthy lstr, v calc, sl brn/blk stn, dull yel flor, lt milky cut		85% CHK: dk brn, brn, sft-firm, ooc brit, blkly, rthy lstr, v calc, sl brn/blk stn, dull yel milky cut	
15% MARL: m-dtk brn/gy, dtk gy, firm-sft, sb ply-sb blkly, rthy lstr, inbdd carb mat, v calc, tr pyr, tr foss		15% MARL: m-dtk brn/gy, dtk gy, firm-sft, sb ply-sb blkly, rthy lstr, inbdd carb mat, v calc, tr pyr, tr foss		15% MARL: m-dtk brn/gy, dtk gy, firm-sft, sb ply-sb blkly, rthy lstr, inbdd carb mat, v calc, tr pyr, tr foss	
8100		8100			





MD: 9.000' TVD: 6,570.54' Inclination: 89.6° Azimuth: 180.31°		MD: 9.085' TVD: 6,569.74' Inclination: 91.48° Azimuth: 180.57°		MD: 9.171' TVD: 6,567.48' Inclination: 91.54° Azimuth: 180.44°	
80% CHK: brn-drk brn, lt-m gy, sft-frm, occ brt, sb ply-sb blkly, rthy lstr, v calc, sl brn/blk stn, dull yel flor, lt mlky cut		85% CHK: drk brn, brn, sft-frm, occ brt, sb ply-sb blkly, rthy lstr, v calc, sl brn/blk stn, dull yel flor, lt mlky cut		90% CHK: brn-drk brn, lt-m gy, sft-frm, occ brt, sb ply-sb blkly, rthy lstr, v calc, sl brn/blk stn, dull yel flor, lt mlky cut	
20% MARL: m-drk brn/gy, drk gy, frm-sft, sb ply-sb blkly, rthy lstr, inbdd carb mat, v calc, tr pyr, tr foss		15% MARL: m-drk brn/gy, drk gy, frm-sft, sb ply-sb blkly, rthy lstr, inbdd carb mat, v calc, tr pyr, tr foss		10% MARL: m-drk brn/gy, drk gy, frm-sft, sb ply-sb blkly, rthy lstr, inbdd carb mat, v calc, tr pyr, tr foss	
8100		8100		8100	





9,430 9,440 9,450 9,460 9,470 9,480 9,490 9,500 9,510 9,520 9,530 9,540 9,550 9,560 9,570 9,580 9,590 9,600 9,610 9,620 9,630 9,640

WT 8.6 VIS 33

WT 8.8 VIS 34

CO2: 0.0%

5000  
500000  
100  
100

C1: 48.8%  
C2: 19.0%  
C3: 18.2%  
iC4: 7.4%  
nC4: 6.6%

GA\$ (units)  
C1-NC4 (PPM)  
CO2 (percent)  
H2S (PPM)

GA\$ (units)  
C1-NC4 (PPM)  
CO2 (percent)  
H2S (PPM)

0  
0  
0  
0

0  
0  
0  
0

WOB 22.9  
RPM 0/65  
SP 3104  
SPM 88/0

WOB 28.0  
RPM 0/65  
SP 3158  
SPM 86/0

Gamma (units)

Gamma (units)

96  
126  
98  
105  
78  
91  
104  
90

149  
48  
91  
64

137  
90

5200

5200

MD: 9.513'  
TVD: 6,565.68'  
Inclination: 88.94°  
Azimuth: 179.47°

MD: 9.598'  
TVD: 6,567.11'  
Inclination: 89.13°  
Azimuth: 180.48°

TVD (ft)

TVD (ft)

55% CHK: dk brn/gy-dk brn, frm-st, occ brt, sb  
biky, rthy lst, v calc, sl brn/bk stn, dull yel flr, lt  
milky cut

80% CHK: dk brn/gy-dk brn, frm-st, occ brt, sb  
biky, rthy lst, v calc, sl brn/bk stn, dull yel flr, lt  
milky cut

45% MARL: dk brn, frm-st, sb biky, rthy lst, intodd  
carb mat, v calc, tr pyr, tr foss

20% MARL: dk brn, frm-st, sb biky, rthy lst, intodd  
carb mat, v calc, tr pyr, tr foss

15% MARL: dk brn, frm-st, sb biky, rthy lst, intodd  
carb mat, v calc, tr pyr, tr foss

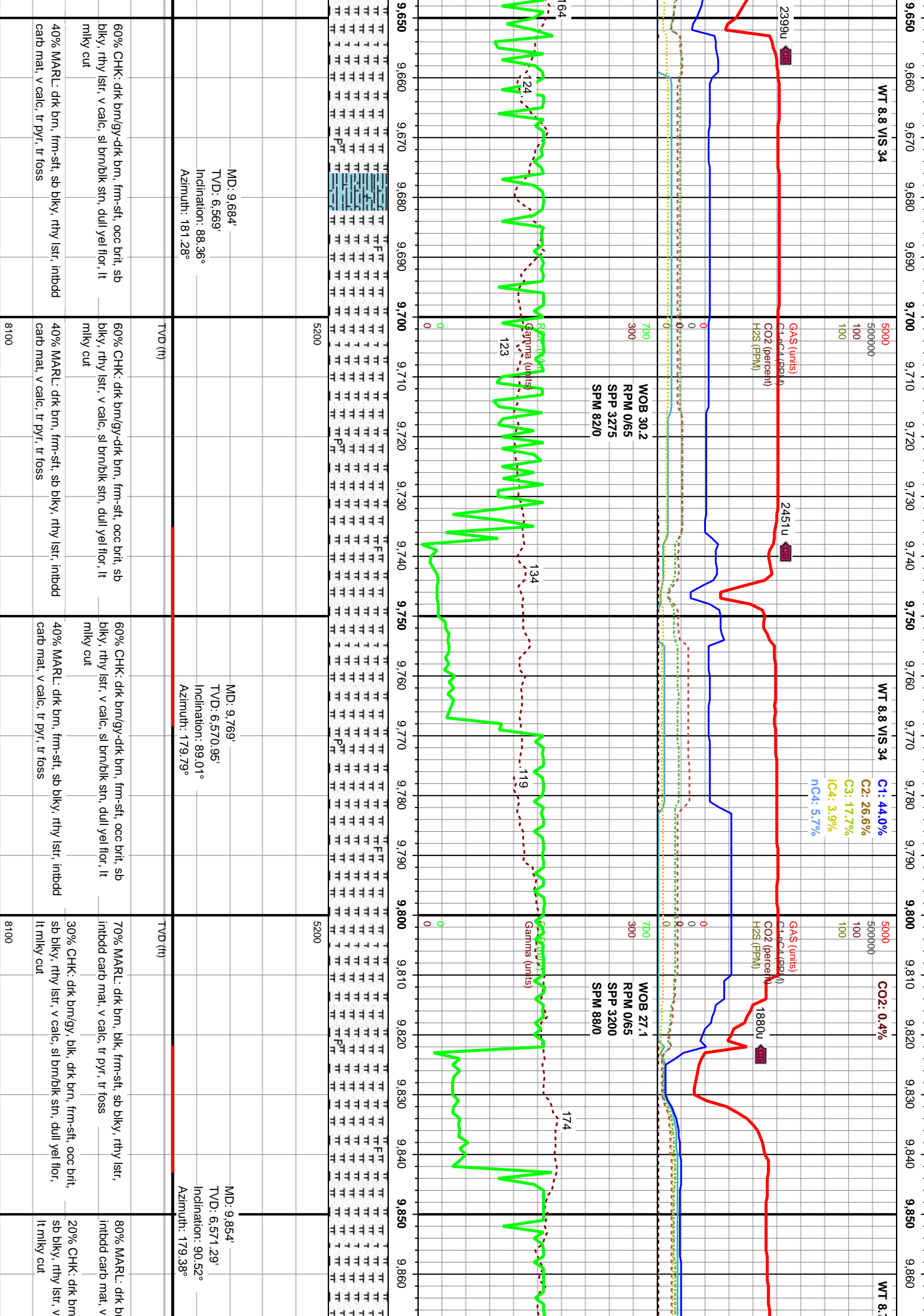
8100

8100

frm-st, occ brt, sb  
stn, dull yel flr, lt  
biky, rthy lst, intodd  
carb mat, v calc, tr pyr, tr foss

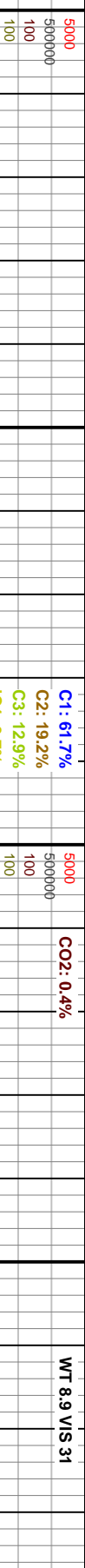
frm-st, occ brt, sb  
biky, rthy lst, intodd  
carb mat, v calc, tr pyr, tr foss

frm-st, occ brt, sb  
biky, rthy lst, intodd  
carb mat, v calc, tr pyr, tr foss



9,870 9,880 9,890 9,900 9,910 9,920 9,930 9,940 9,950 9,960 9,970 9,980 9,990 10,000 10,010 10,020 10,030 10,040 10,050 10,060 10,070 10,080

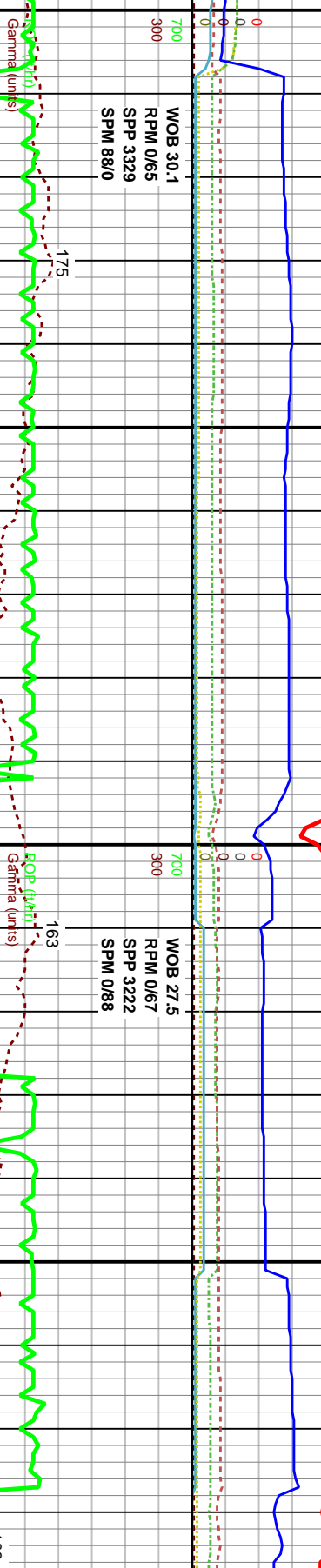
WT 8.9 VIS 31



2375u  
GAS (units)  
C1-HC4 (ppm)  
CO2 (percent)  
H2S (ppm)

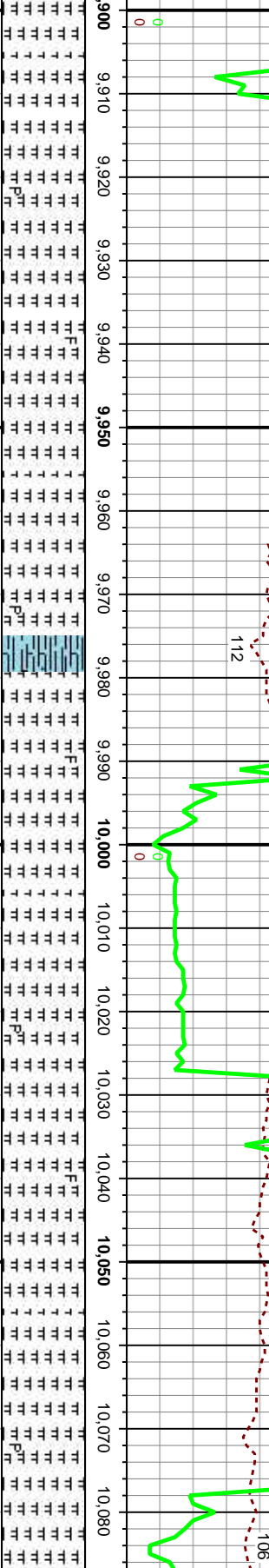
C1: 61.7%  
C2: 19.2%  
C3: 12.9%  
iC4: 3.7%  
nC4: 2.5%

WOB 30.1  
RPM 0/65  
SPP 3329  
SPM 880



Gamma (units)  
Gamma-oil (units)

WOB 27.5  
RPM 0/67  
SPP 3222  
SPM 0/88



Formation (units)  
Fracture (units)

MD: 9.940'  
TVD: 6.571.62'  
Inclination: 89.04°  
Azimuth: 179.19°

TVD (ft)

90% MARL: dkf brn, blk, frm-sft, sb blk, rthy lstr,  
Intbdc carb mat, v calc, tr pyr, tr foss

10% CHK: dkf brn, frm-sft, occ brt,  
sb blk, rthy lstr, v calc, sl brn/blk sn, dull yel flr,  
lt milky cut

8100

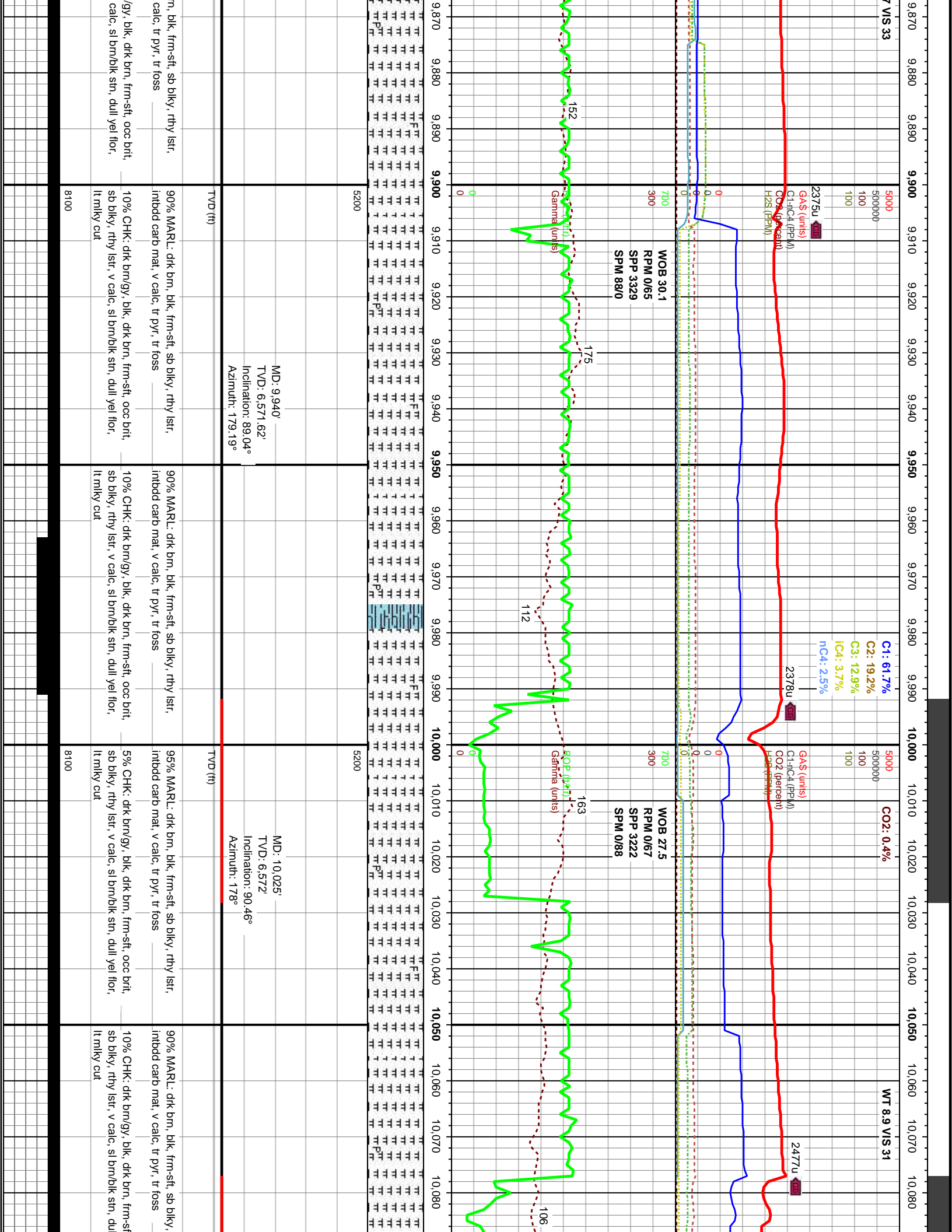
MD: 10.025'  
TVD: 6.572'  
Inclination: 90.46°  
Azimuth: 178°

TVD (ft)

95% MARL: dkf brn, blk, frm-sft, sb blk, rthy lstr,  
Intbdc carb mat, v calc, tr pyr, tr foss

5% CHK: dkf brn/gy, blk, dkf brn, frm-sft, occ brt,  
sb blk, rthy lstr, v calc, sl brn/blk sn, dull yel flr,  
lt milky cut

8100

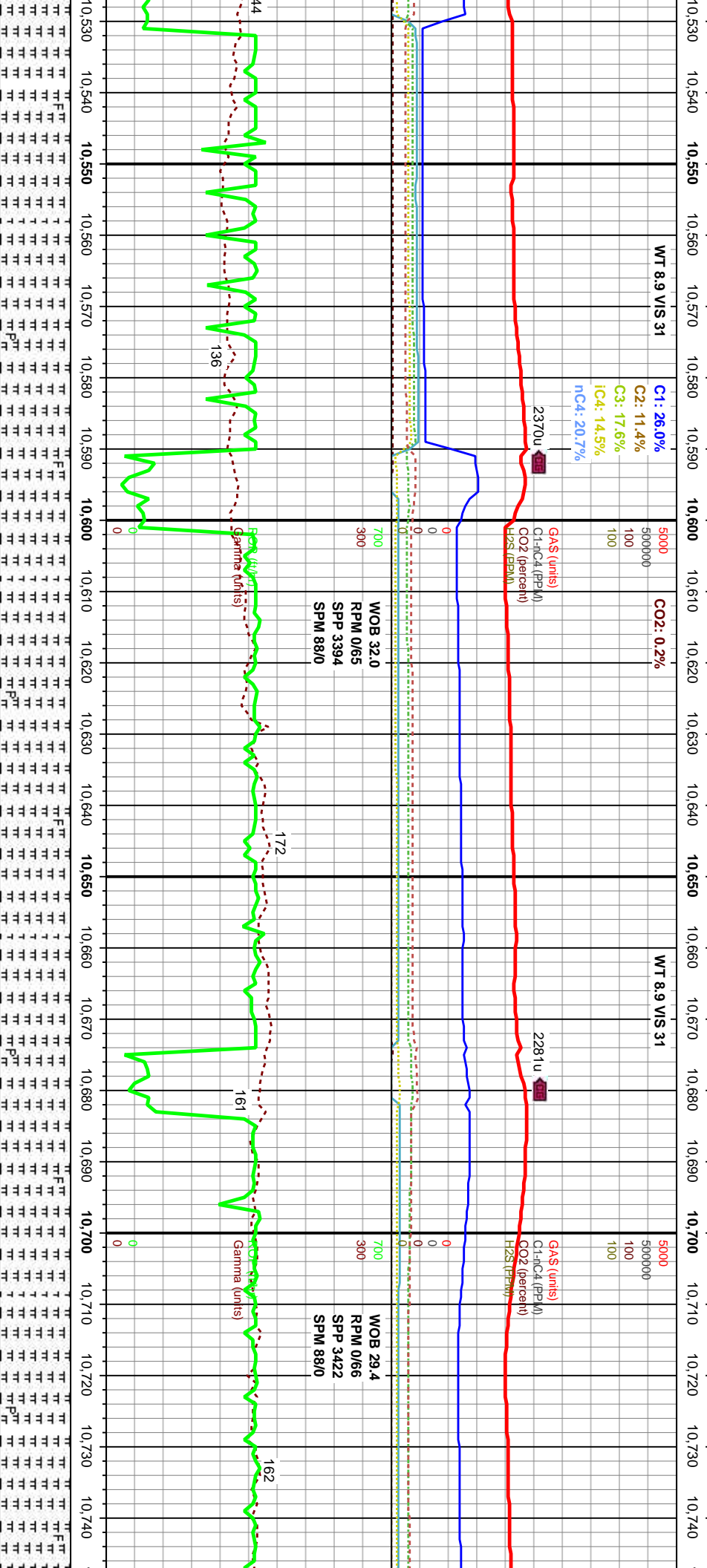













MD: 10.538' TVD: 6,566.69' Inclination: 90.95° Azimuth: 178.88°	5200	MD: 10.624' TVD: 6,565.2' Inclination: 91.04° Azimuth: 179.15°	5200
stf, sb blk, rthy lst, tr foss	95% MARL: dk brn, blk, frm-stf, sb blk, rthy lst, intbd carb mat, v calc, tr pyr, tr foss	95% MARL: dk brn, blk, frm-stf, sb blk, rthy lst, intbd carb mat, v calc, tr pyr, tr foss	95% MARL: dk brn, blk, frm-stf, sb blk, rthy lst, intbd carb mat, v calc, tr pyr, tr foss
brn, frm-stf, occ brit, /blk stn, dull yel flr,	5% CHK: dk brn/gy, blk, dk brn, frm-stf, occ brit, sb blk, rthy lst, v calc, sl brn/blk stn, dull yel flr, lt milky cut	5% CHK: dk brn/gy, blk, dk brn, frm-stf, occ brit, sb blk, rthy lst, v calc, sl brn/blk stn, dull yel flr, lt milky cut	5% CHK: dk brn/gy, blk, dk brn, frm-stf, occ brit, sb blk, rthy lst, v calc, sl brn/blk stn, dull yel flr, lt milky cut
	8-100		8-100

10,750 10,760 10,770 10,780 10,790 10,800 10,810 10,820 10,830 10,840 10,850 10,860 10,870 10,880 10,890 10,900 10,910 10,920 10,930 10,940 10,950 10,960

WT 8.9 VIS 31

C1: 62.5%  
C2: 18.8%  
C3: 12.8%  
iC4: 3.6%  
nC4: 1.6%

2307u   
GAS (units)  
C1-iC4 (ppm)  
CO2 (percent)  
H2S (ppm)

CO2: 0.3%

WOB 35.7  
RPM 0/66  
SPM 3541  
SPM 88/0

2351u 

WT 8.9 VIS 31

5/18/2015

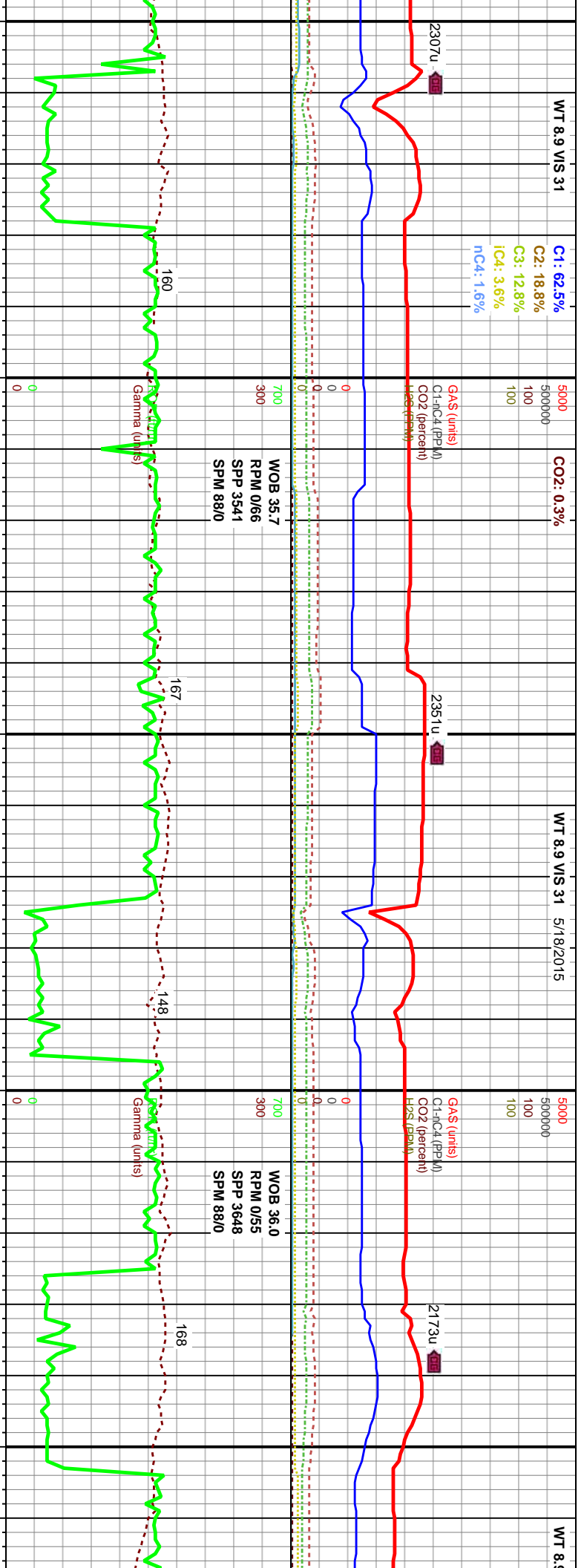
GAS (units)  
C1-iC4 (ppm)  
CO2 (percent)  
H2S (ppm)

CO2: 0.3%

WOB 36.0  
RPM 0/55  
SPM 3648  
SPM 88/0

2173u 

WT 8.



MD: 10,795'  
TVD: 6,562.69'  
Inclination: 90.86°  
Azimuth: 179.92°

TVD (ft)

95% MARL: dk brn, blk, frm-sft, sb blk, rthy lstr,  
Intbdc carb mat, v calc, tr pyr, tr foss

5% CHK: dk brn/gy, blk, dk brn, frm-sft, occ brt,  
sb blk, rthy lstr, v calc, sl brn/blk sn, dull yel flr,  
lt milky cut

95% MARL: dk brn, blk, frm-sft, sb blk, rthy lstr,  
Intbdc carb mat, v calc, tr pyr, tr foss

5% CHK: dk brn/gy, blk, dk brn, frm-sft, occ brt,  
sb blk, rthy lstr, v calc, sl brn/blk sn, dull yel flr,  
lt milky cut

MD: 10,860'  
TVD: 6,562.15'  
Inclination: 89.87°  
Azimuth: 179.58°

TVD (ft)

95% MARL: dk brn, blk, frm-sft, sb blk, rthy lstr,  
Intbdc carb mat, v calc, tr pyr, tr foss

5% CHK: dk brn/gy, blk, dk brn, frm-sft, occ brt,  
sb blk, rthy lstr, v calc, sl brn/blk sn, dull yel flr,  
lt milky cut

MD: 10,966'  
TVD: 6,560  
Inclination: 18  
Azimuth: 18

