

Décollement
Consulting
Inc.



Scale: 4.78" / 100'
Measured Depth Log

Well Name Antelope K-0-18HNB

Location NWNW Sec 18, T5N, R62W

State Colorado

Country USA

API Number 05-123-36836-00

County Weld

Rig Number Ensign 136

Field Wattenberg

Spud Date 3/31/2013

Surface Coordinates 565 FNL X 1179 FWL

Ground Elevation 4,614

Logged Interval 5,560

Formation Niobrara "B" Chalk

K.B. Elevation 4,626

Company Bonanza Creek Energy
Address 410 17th Street, Suite
Denver, CO 80202

Name Leo Carrasco/Chirs
Company Décollement Consulting
13300 Braun Road
Golden, CO 80401



Operator

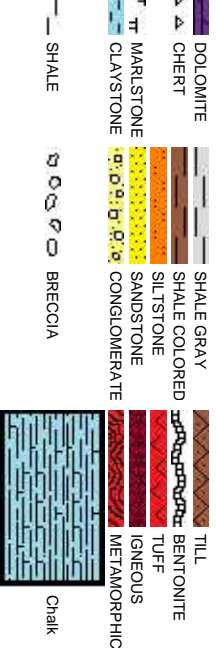
BY

1500

Geologist




















































ng Inc.

Rock Types



Accessories

Fossils










	F FOSSIL		ARGILLACEOUS		GLAUCONITE
	GASTROPOD		ARGILLITE GRAIN		GYPSEIFEROUS
	OOOLITE		B BENTONITE		HEAVY MINERAL
	OSTRACOD		BITUMENOUS SUBSTANCE		K KAOLIN
	PELECYPOD		BRECCIA FRAGMENTS		M MARLSTONE
	BIOCLASTIC		CALCAREOUS		M MINERAL CRYSTALS
	BIOCLASTIC		CARBONACEOUS FLAKES		N NODULES
	BRYOZOA		CHERT		P PHOSPHATE PELLETS
	CEPHALOPOD		CHERT		P PYRITE
	PLANT REMAINS		COAL - THIN BEDS		S SALT CAST
	PLANT REMAINS		DOLOMITE		S SANDY
	SCAPHOPOD		FELDSPAR		S SILTY
	CRINOID		FERRUGINOUS PELLET		TUFFACEOUS
	CRINOID		FERRUGINOUS		SILTSTONE STRINGER
	ECHINOID		ECHINOID		SILTSTONE STRINGER
	FISH		FISH		SILTSTONE STRINGER
	FORAMINIFERA		ANHYDRITIC		SILTSTONE STRINGER

Other Symbols

Oil Show

		
Oil Show	GAS SHOW	M _X MICROXYN
		
ORGANIC	MIN DEPTH	M _S MUDSTONE
		
P PINPOINT	NORMAL FAULT	A ANGULAR
		
DEAD	OIL SHOW	R SUBANG
		
EVEN	OVERTURNED STRATA	P SUBUND
		
QUESTIONABLE		M _W WACKESTONE

Engineering

	BIT
	CONNECTION (LEFT)
	CONNECTION (RIGHT)
	REVERSE FAULT
	SIDEWALL CORE (LEFT)
	SIDEWALL CORE (RIGHT)
	BOUNDSTONE
	POOR
	MODERATE

Porosity

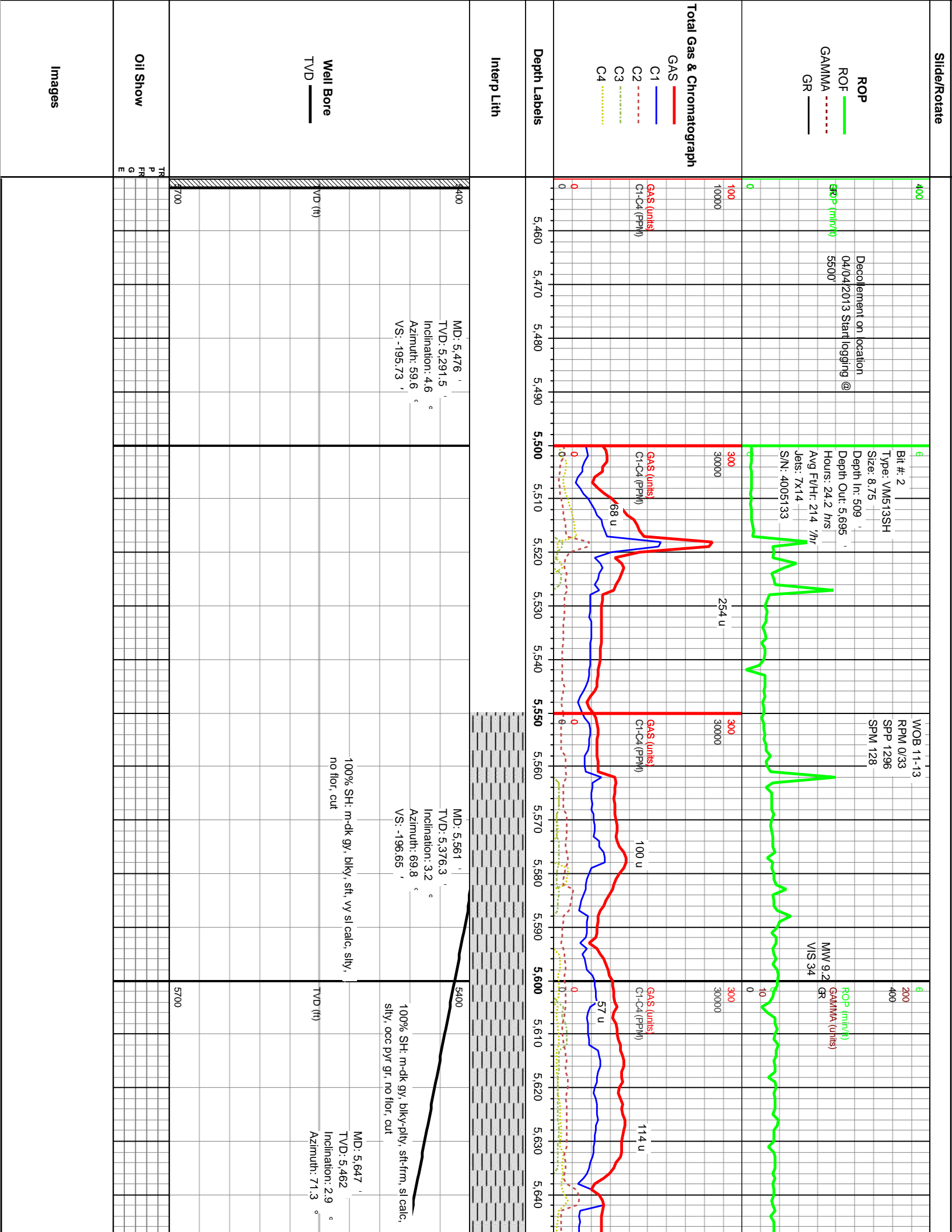
	W WELL
	Chalk
	C CRYSTAL
	CX CRYPTOXIN
	E EARTH
	FX FINELYXYN
	GS GRAINSTONE
	L LITHOGRAPHIC
	SLIDE
	S SURVEY
	Trip Gas
	Wireline Tested - Left
	Wireline Tested - RT
	Connection Gas
	Core - Lost
	Core - Recovered
	DST Interval
	Fault
	Formation Top
	Moldic
	Intercrystalline
	Interoolitic
	E EARTH
	F FENESTRAL
	F FRACTURE

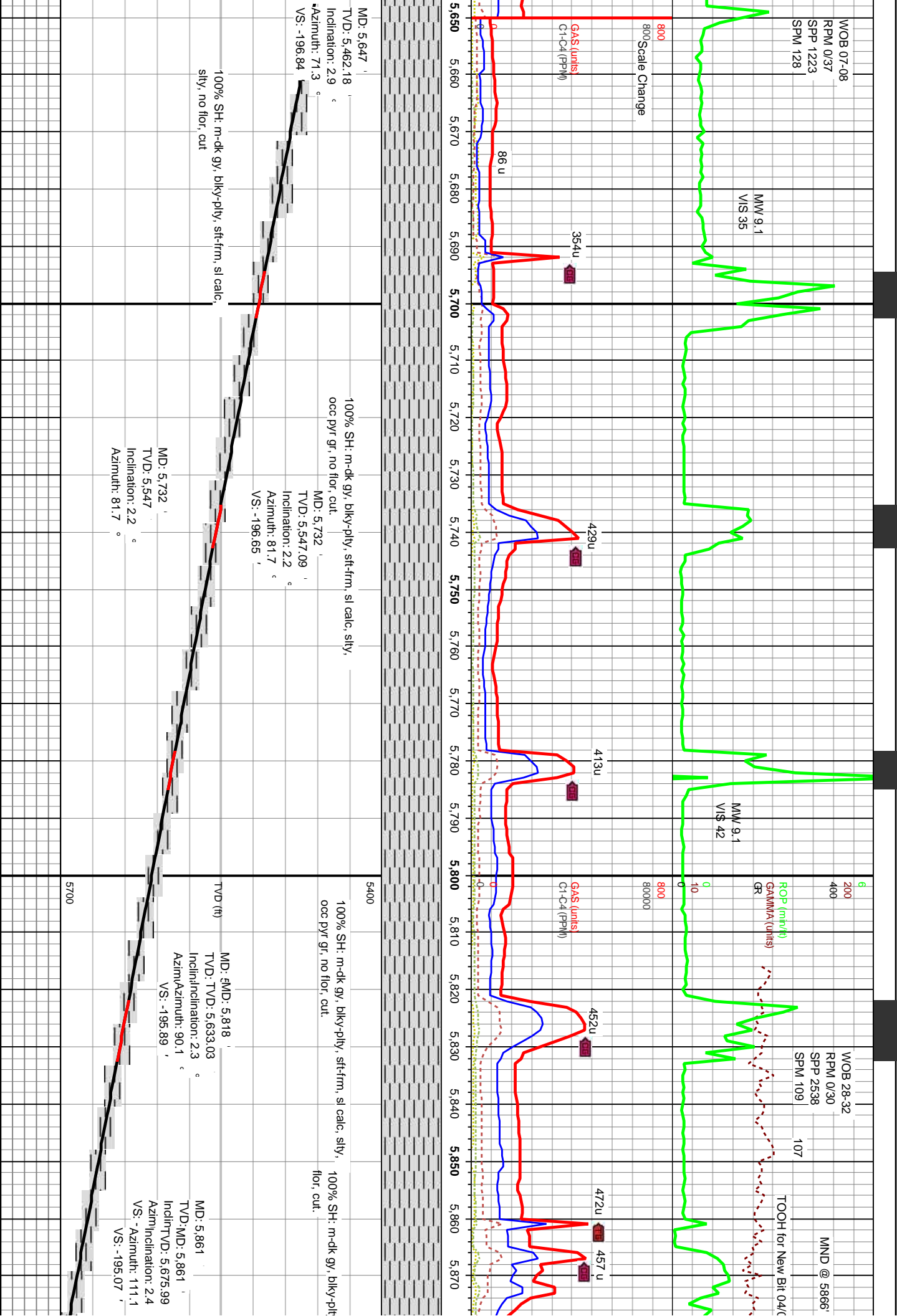
Rounding

Chalk

WELL

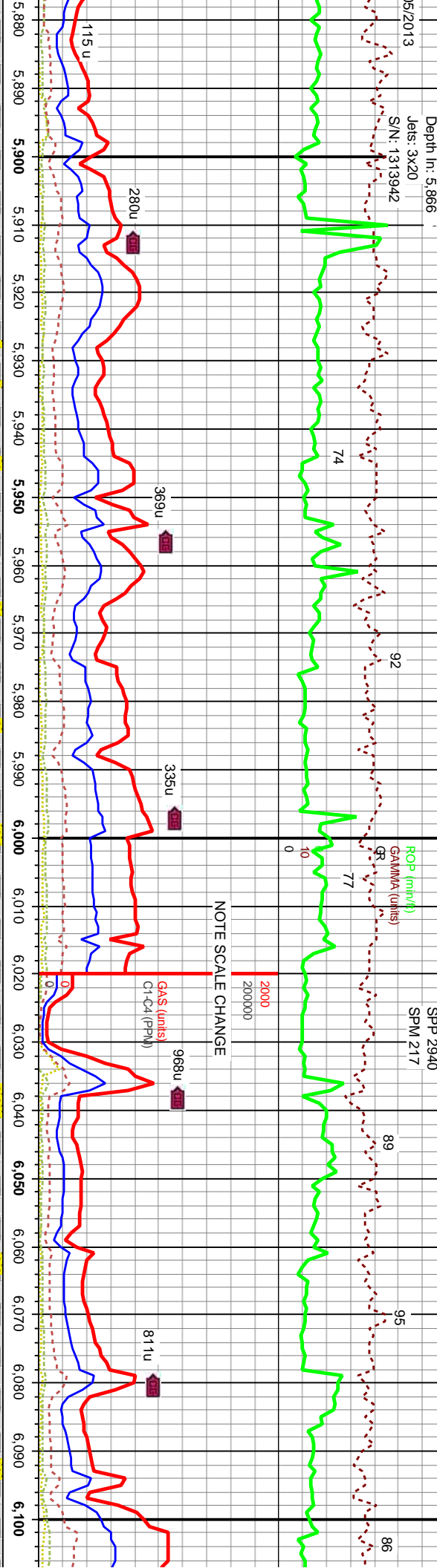
Chalk



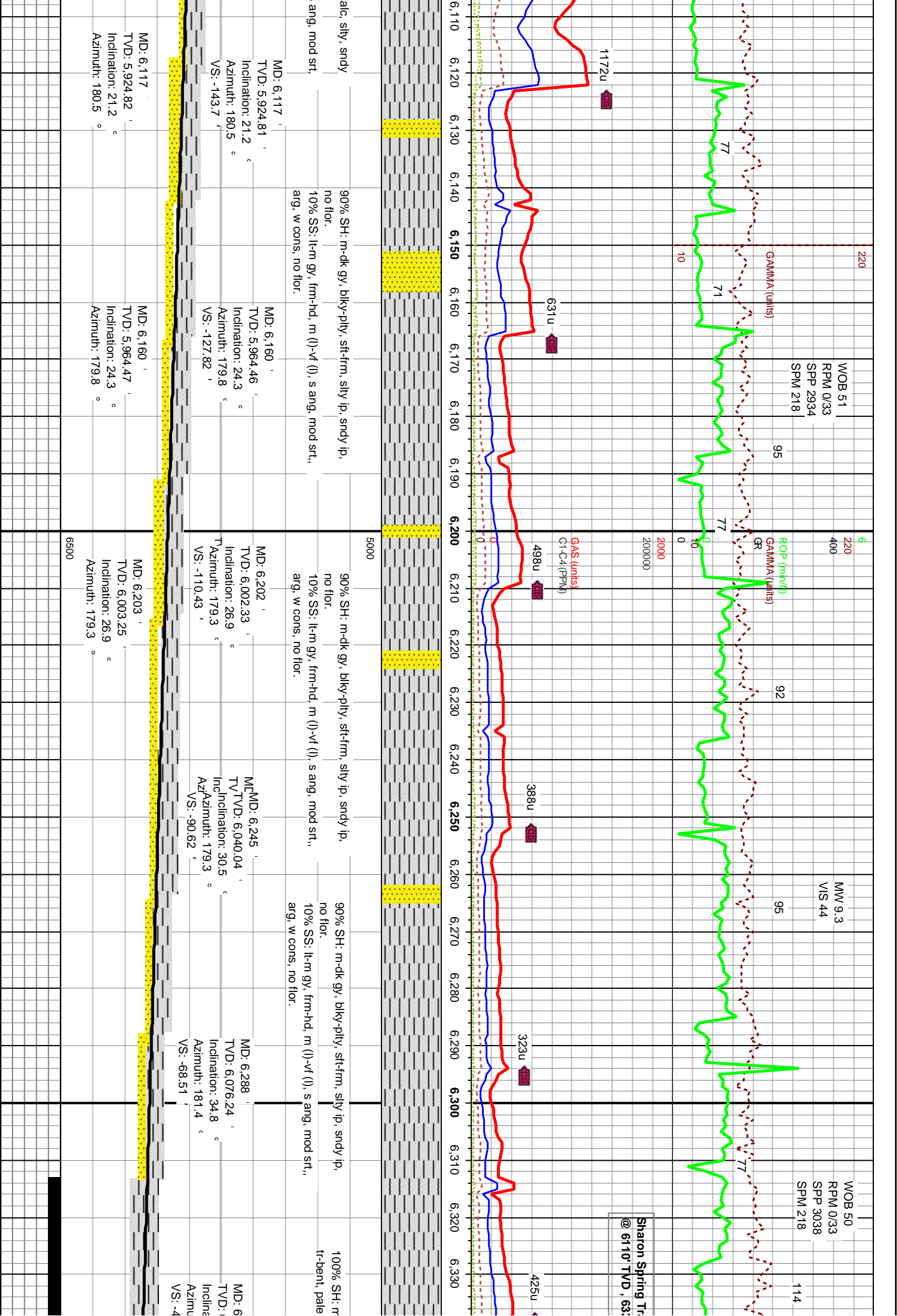


Bit #: 3
Type: HEADJMRSV
Size: 8.75
Depth In: 5.866
Jets: 3x20
S/N: 1313942

WOB 52
RPM 0/33
SPP 2940
SPM 217
MW 9.2
VIS 37



5000	80% SH: m-dk gy, blk-y-pty, sft-frm, calc, silty, no floor MD: 5.903 20° TVD: 5.717.91 calc Inclination: 5.2 Azimuth: 166.8 VS: -192.63	80% SH: m-dk gy, blk-y-pty, sft-frm, calc, silty, no floor MD: 5.946 S: lt-m gy, frm-hd, m (l)-vf (l), s ang TVD: 5.760.54 Inclination: 9.7 Azimuth: 180.5 VS: -187.23	75% SH: m-dk gy, blk-y-pty, sft-frm, calc, silty, sandy ip, no floor. 25% SS: lt-m gy, frm-hd, m (l)-vf (l), s ang, mod srt, calc, arg, w cons, no floor. MD: 6.031 TVD: 5.843.29 Inclination: 16.1 Azimuth: 186.5 VS: -169.2	80% SH: m-dk gy, blk-y-pty, sft-frm, calc, silty, no floor MD: 6.075 20% SS: lt-m gy, frm-hd, m (l)-vf (l), s ang calc, arg w cons, no floor. MD: 6.074 TVD: 5.884.35 Inclination: 18.4 Azimuth: 184.5 VS: -157.42
6500	MD: 5.903 TVD: 5.717.91 Inclination: 5.2 Azimuth: 166.8 VS: -192.63	MD: 5.946 TVD: 5.760.54 Inclination: 9.7 Azimuth: 180.5 VS: -187.23	MD: 6.031 TVD: 5.843.29 Inclination: 16.1 Azimuth: 186.5 VS: -169.2	MD: 6.075 TVD: 5.884.35 Inclination: 18.4 Azimuth: 184.5 VS: -157.42



MIND @ 6367' 04/06/2013

132 160

187

"Top NIOBRARA" A" Cha
@ 6244' TVD, 6534' MD"

ROP (mm/f)
GAMMA (units)
GR

WOB 50
RPM 0/33
SPM 3038
SPM 218

Transition Zone
12' MD

12' MD

775u

GAS (units)
C1-C4 (PPM)

1103u

1309u

1354u

GAS (units)
C1-C4 (PPM)

5133u

5000

-dk gy, blk-y-ply ip, wxy ip, carb ip,
yel flr, slw wht cut

100% SH: m-dk gy, blk-y-sbbkly
ip, tr-bent, pale yel flr, slw wht cut

100% SH: m-dk gy, blk-y-sbbkly -ply ip, wxy
ip, carb ip, tr-bent, pale yel flr, slw wht cut

100% SH: m-dk gy, blk-y-sbbkly -ply ip, wxy 60% MRL: dkgy, sft-frn, sbbkly, occ 80% CHKL: lt-m gy, of
ip, carb ip, tr-bent, pale yel flr, slw wht cut v calc, no flr, diffuse wh cuts.

40% CHKL: lt-m gy, off wht, sft-mod frn,
blk-y-sbbkly, calc, wxy ip, tr Bent, no 20% MRL: dkgy, sft-fr
diffuse wh cut.
v calc, no flr, diffuse

331'

331'

MD: 6.374
TVD: 6,110.57
Inclination: 39.2
Azimuth: 181.7
VS: -17.03

TVD (ft)

MD: 6.416
TVD: 6,172.02
Inclination: 48.1
Azimuth: 180.3
VS: 11.66 80.3

MD: 6.459
TVD: 6,199.54
Inclination: 52.3
Azimuth: 178.7
VS: 43.32

MD: 6.502
TVD: 6,224.81
Inclination: 56.3
Azimuth: 178.7
VS: 76.91

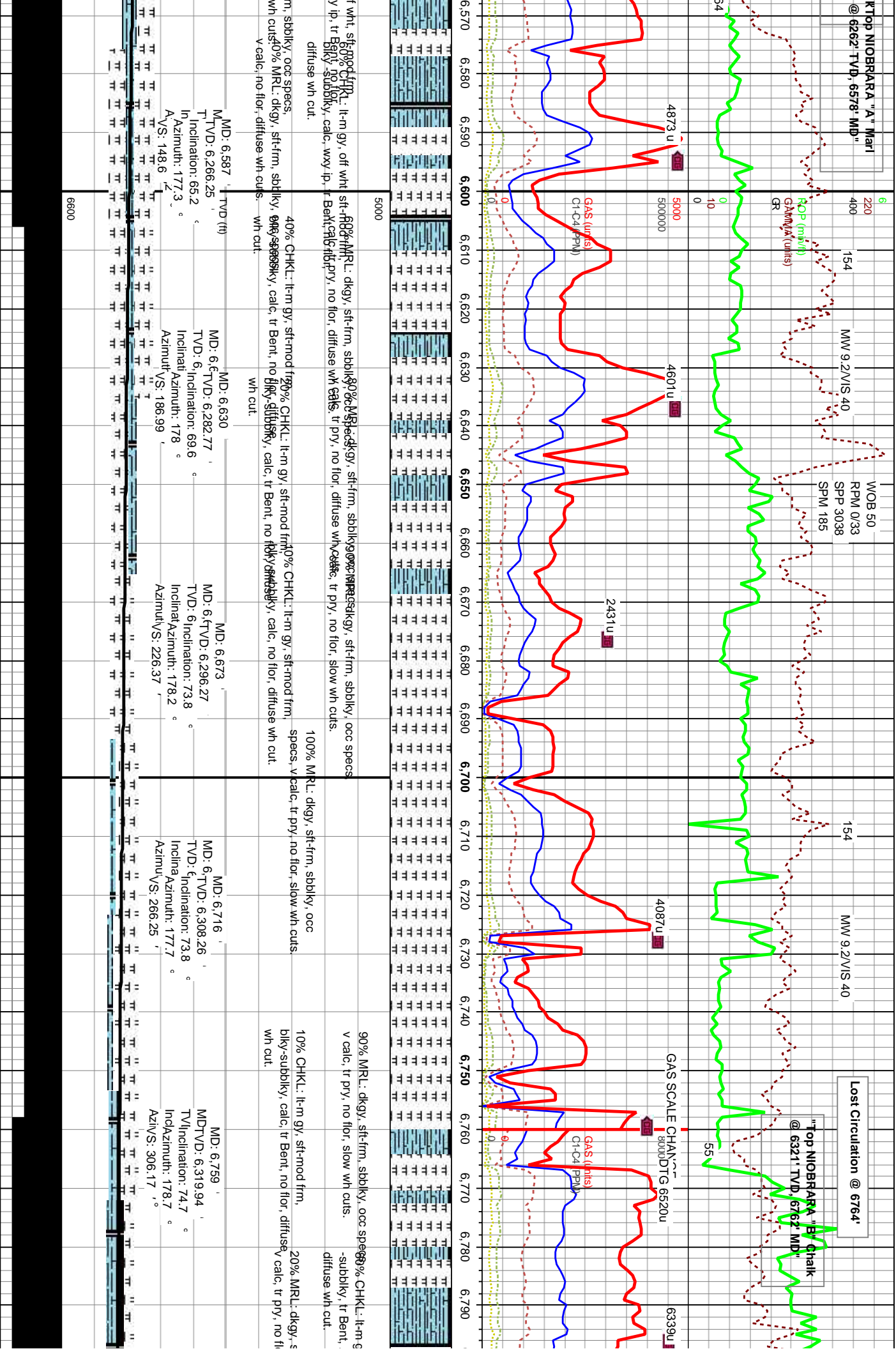
MD: 6.502
TVD: 6,224.62
Inclination: 56.3
Azimuth: 178.7
VS: 76.91

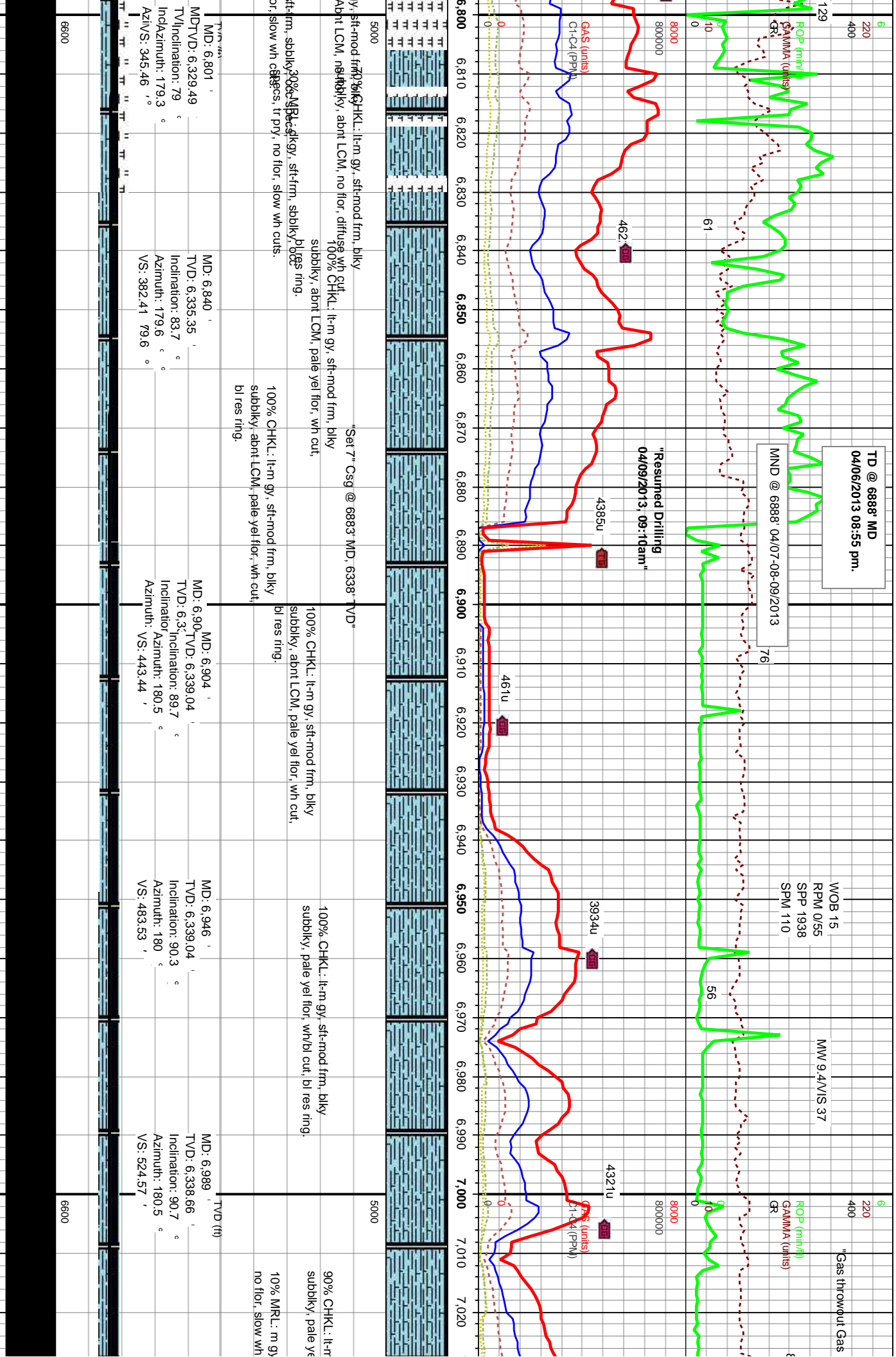
MD: 6.5MD: 6.545
TVD: 6,247.12
Inclination: 60.6
Azimuth: 176.6
VS: 112.34

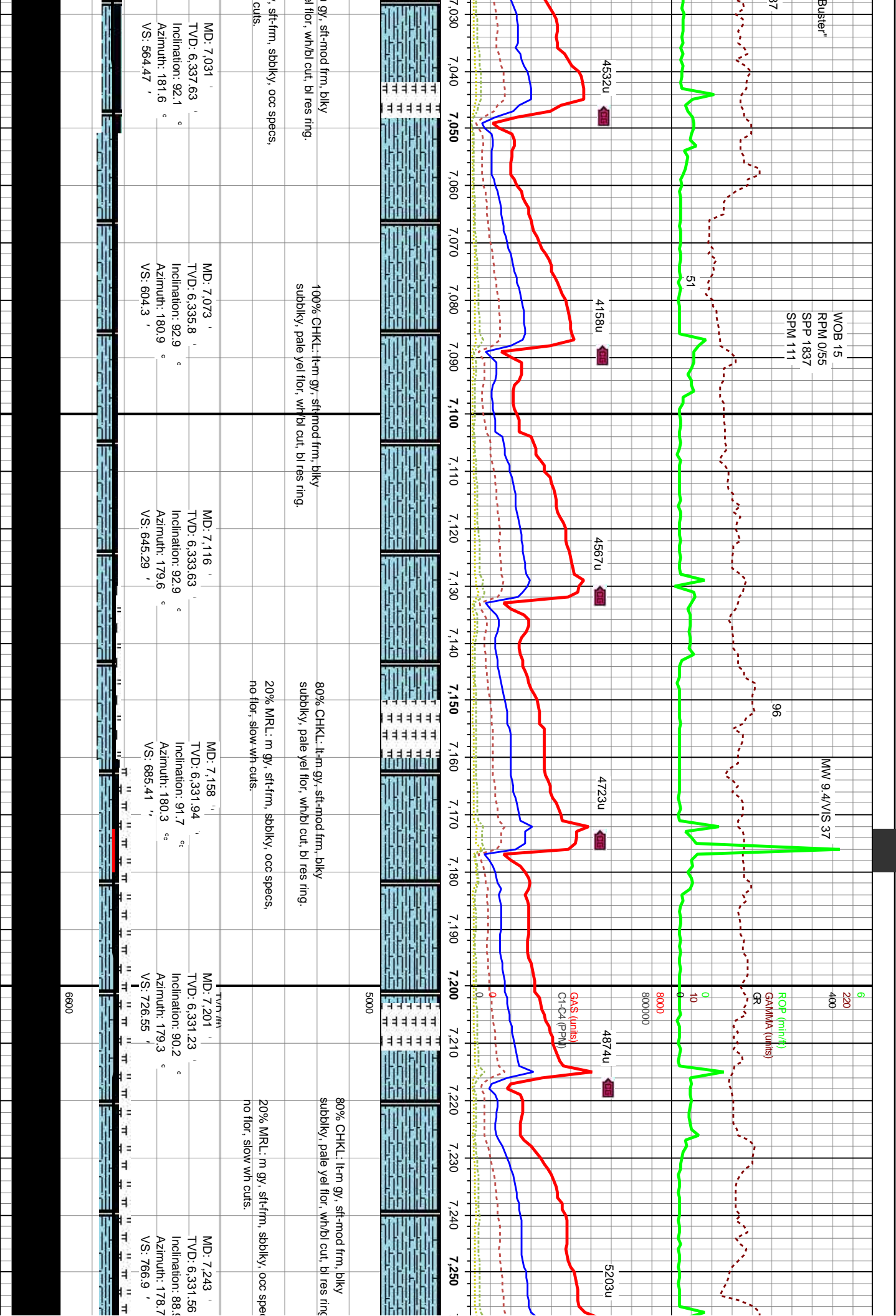
6600

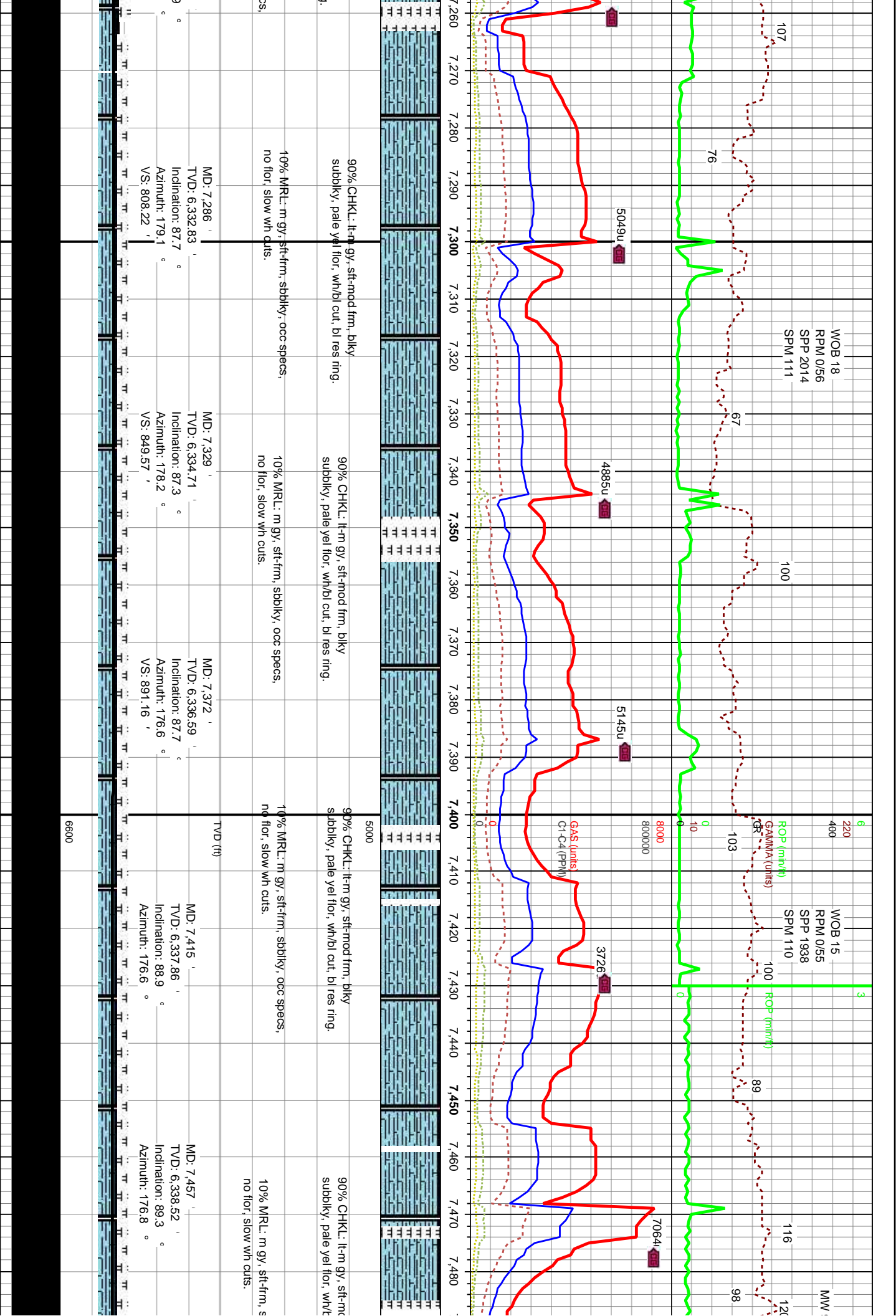
KT0p NIOBRARA "A" Mari
@ 6262' TVD, 6578' MD"

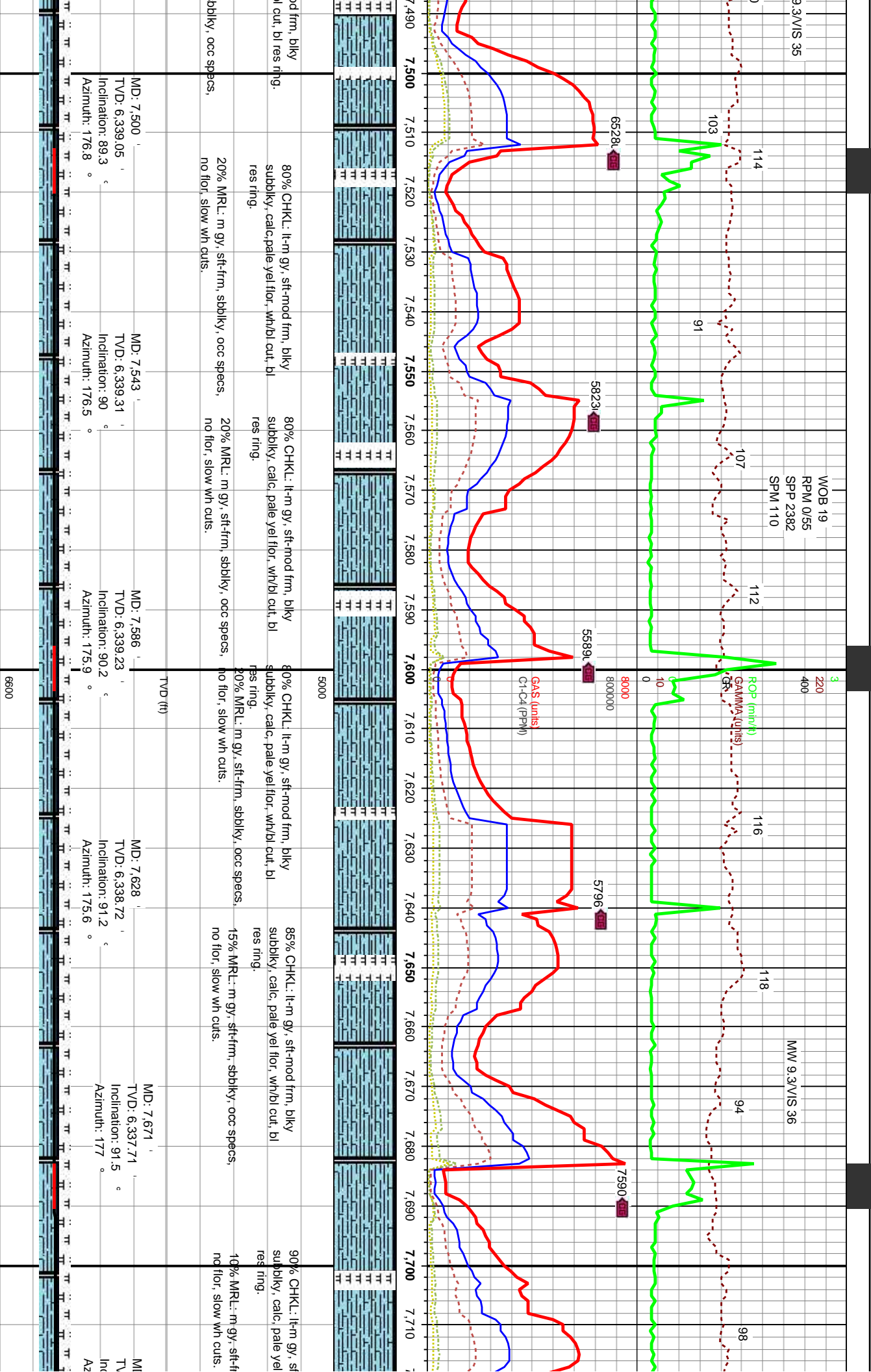
Top NIOBRARA "B" Chalk
@ 6321' TVD, 6762' MD"

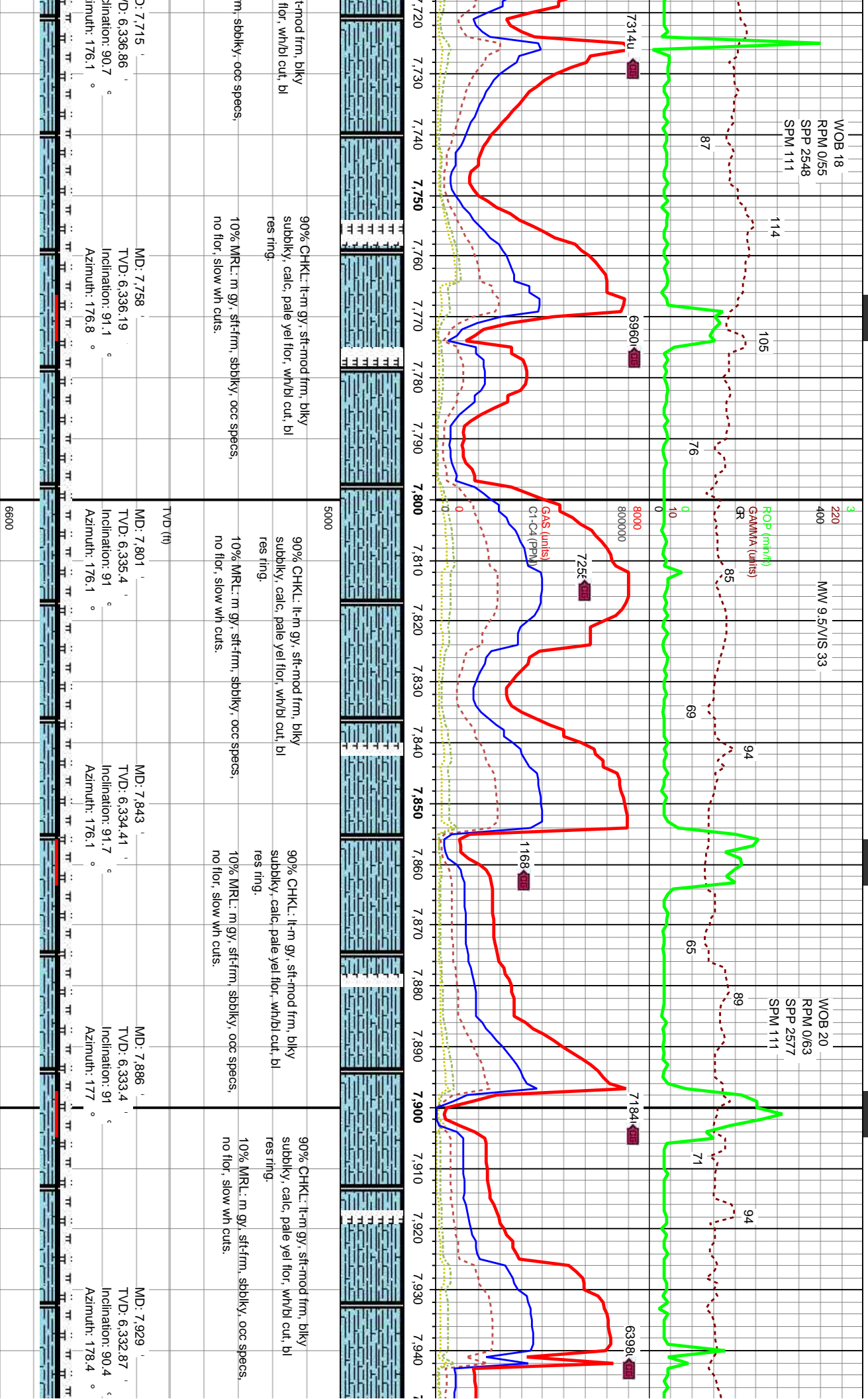


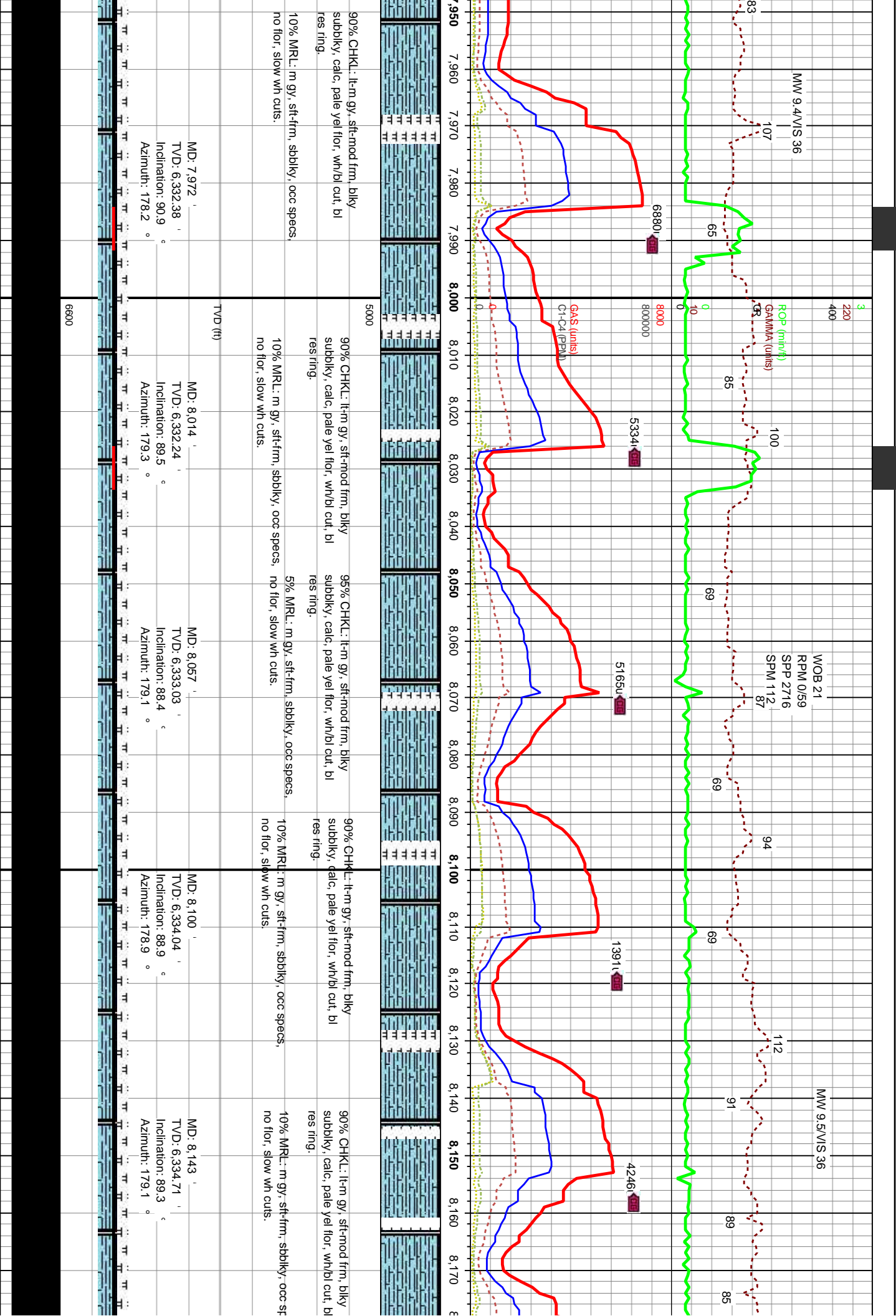


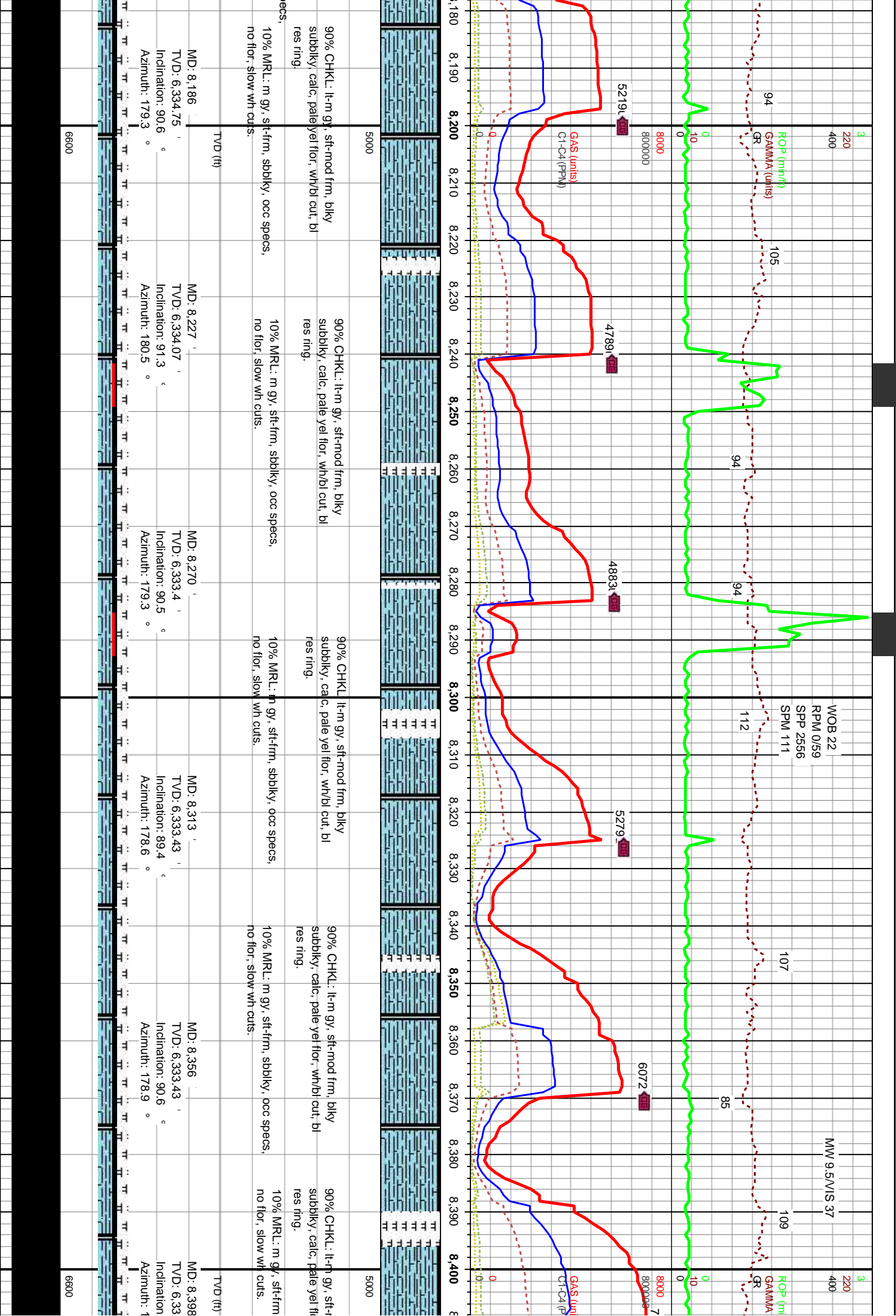




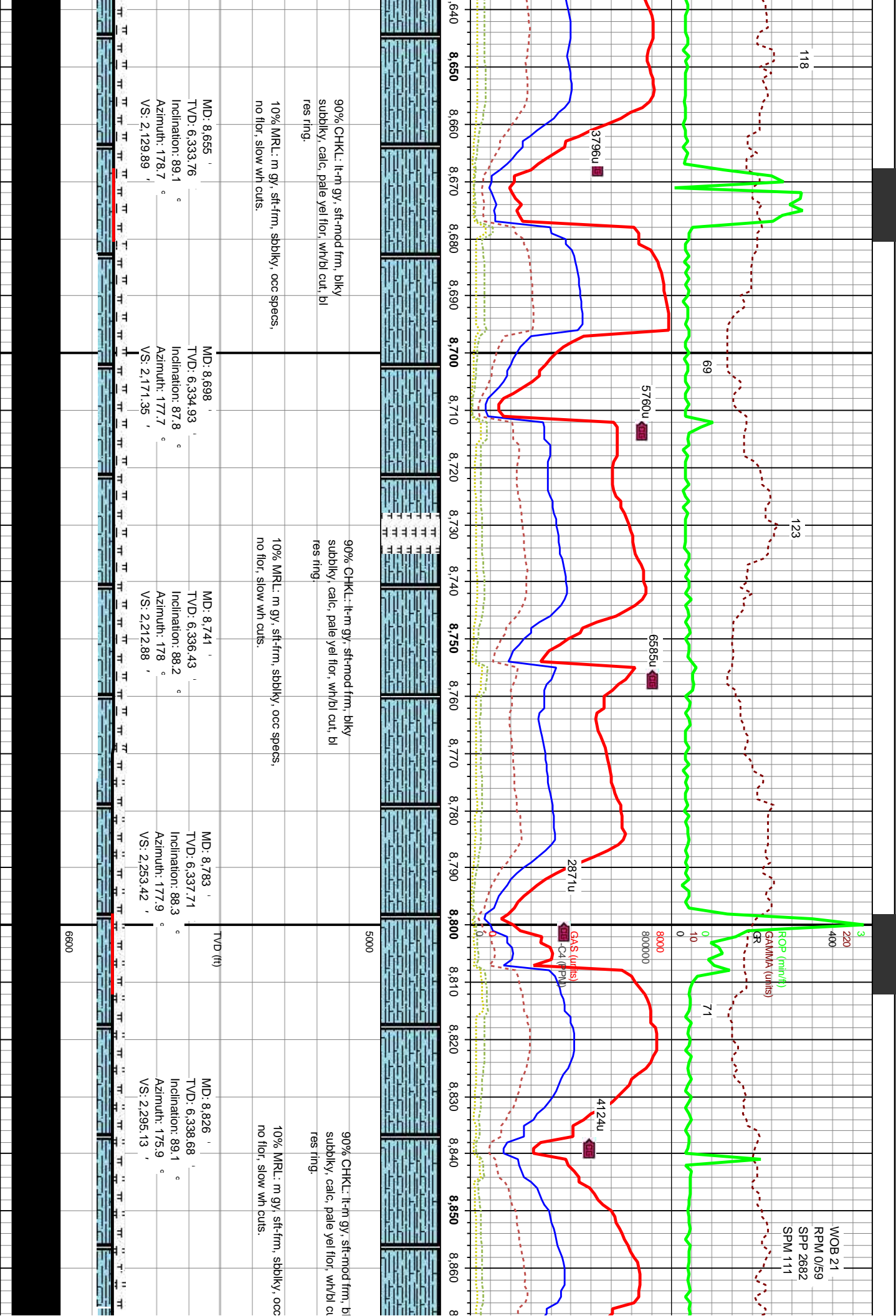


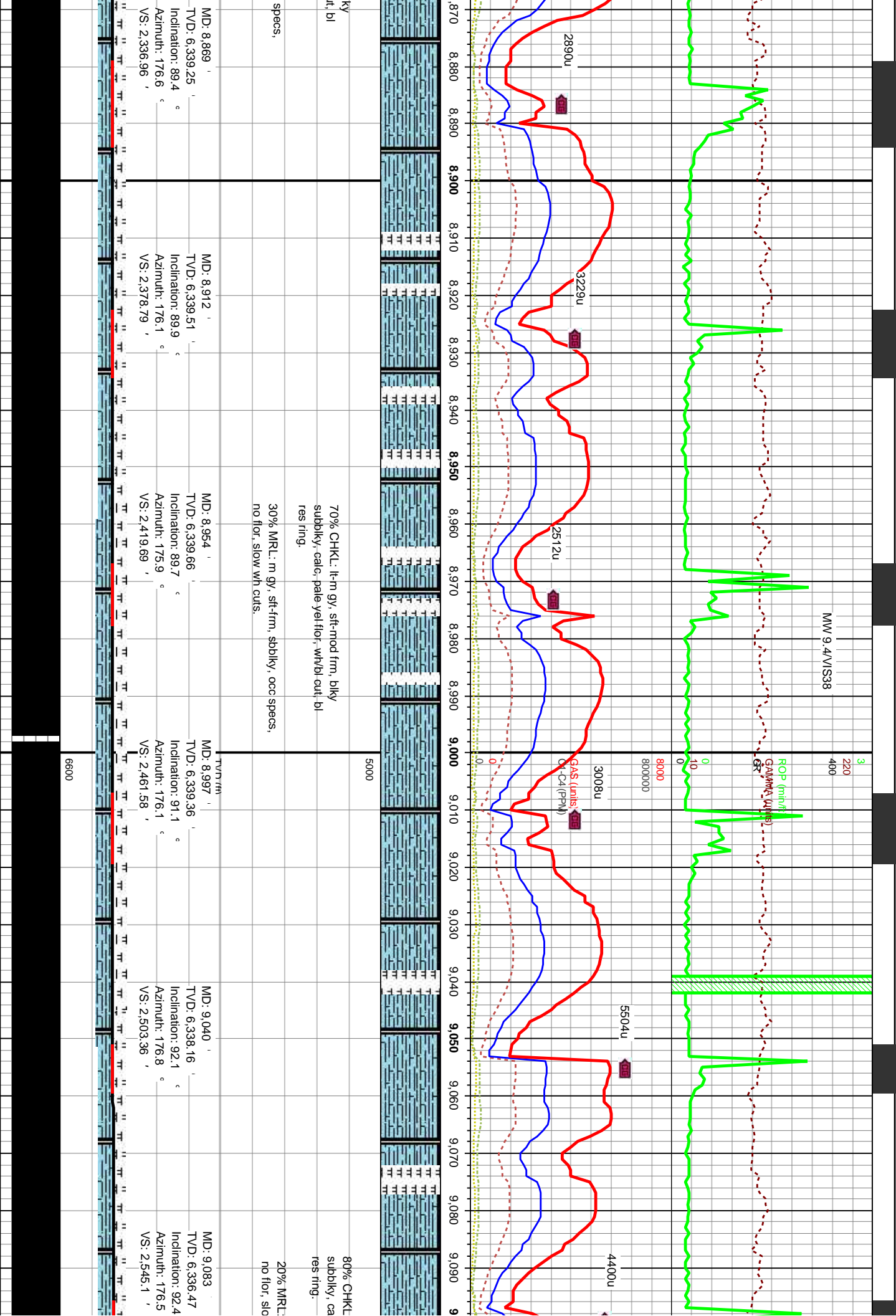


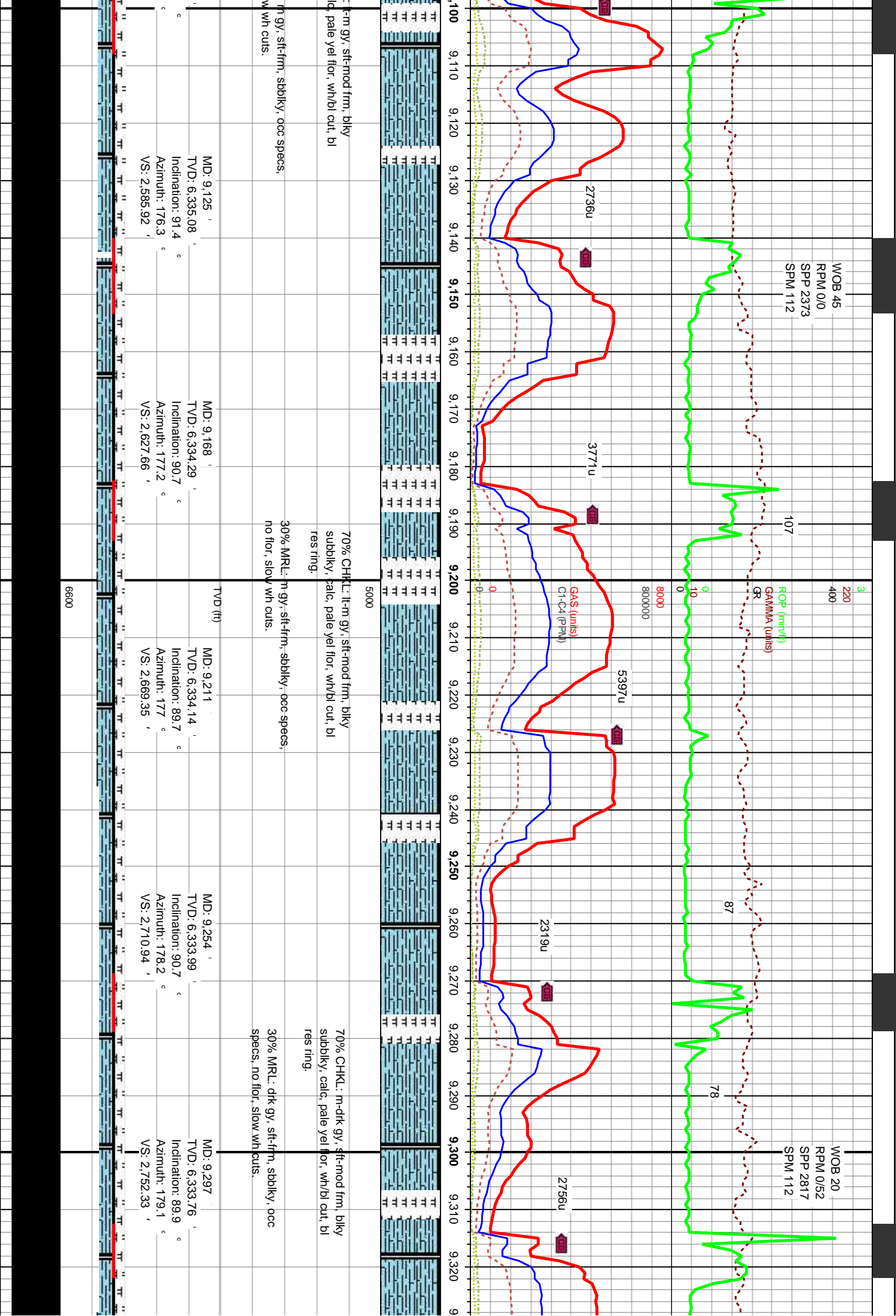


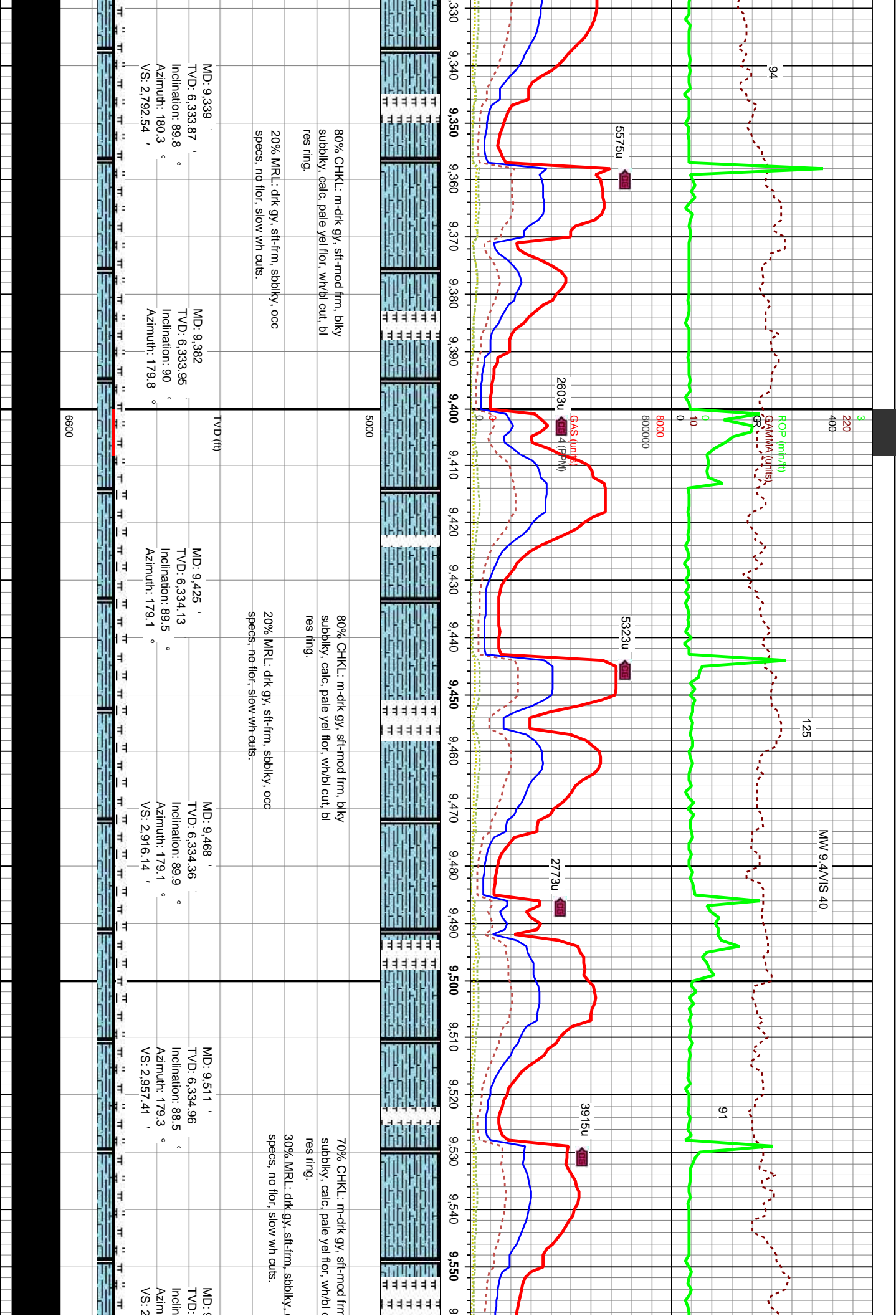


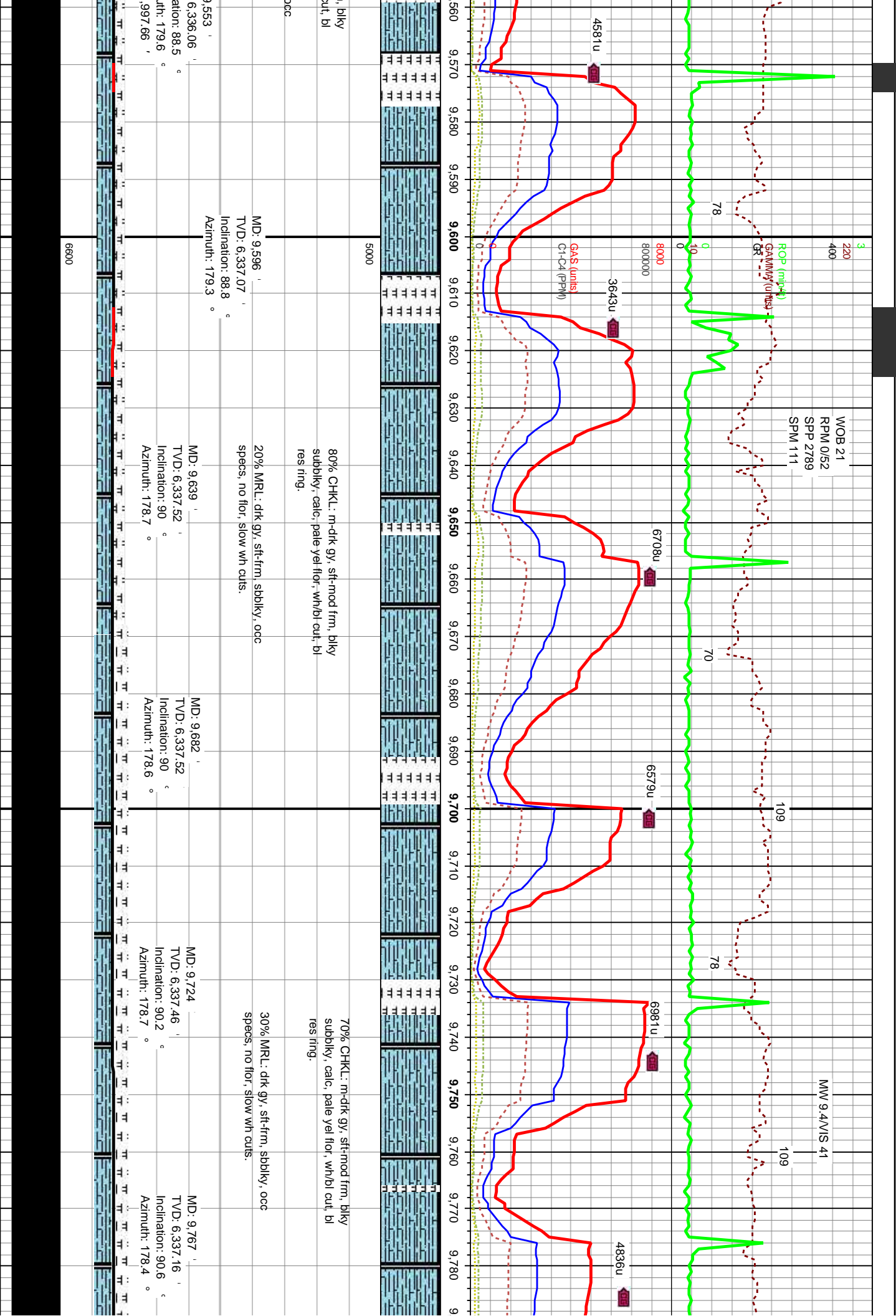


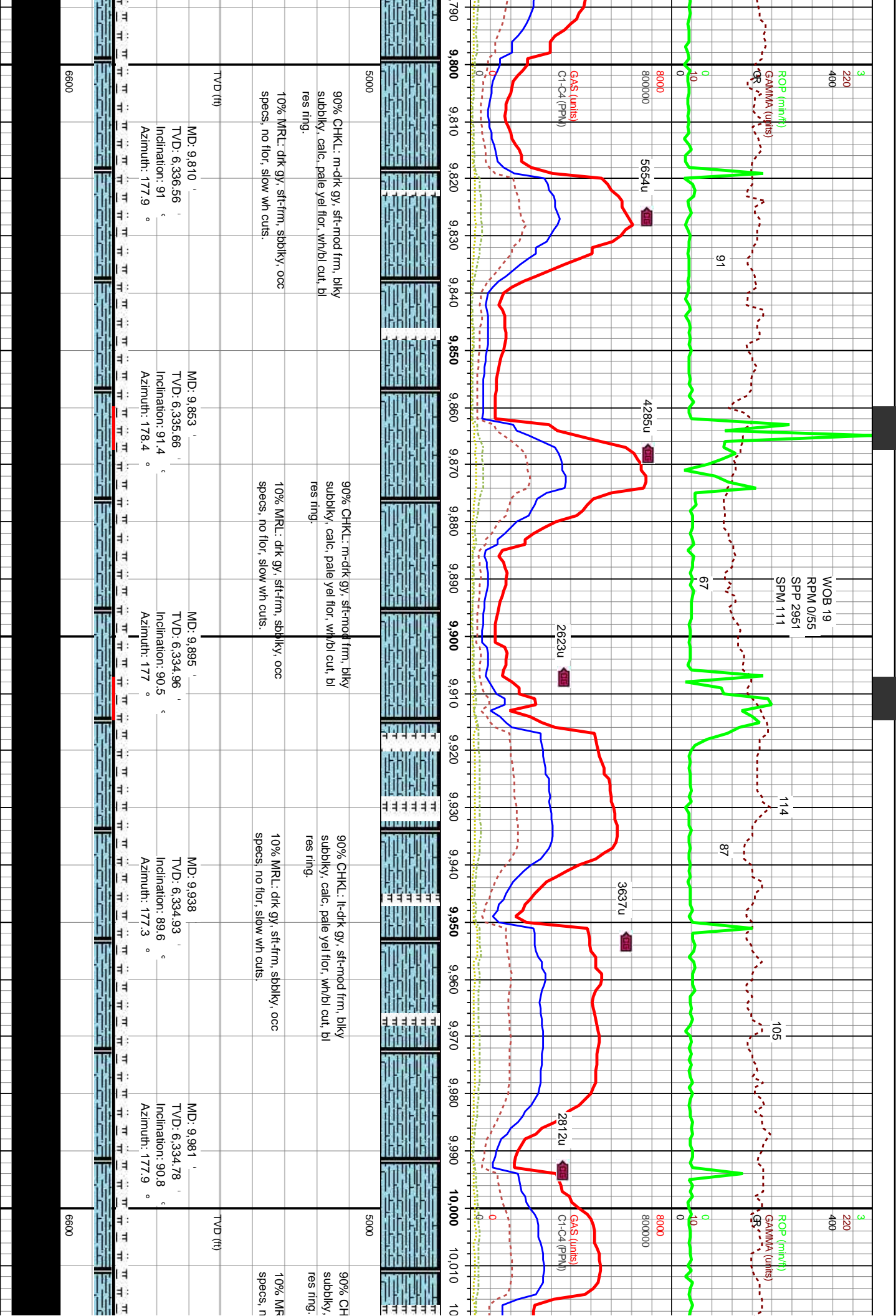


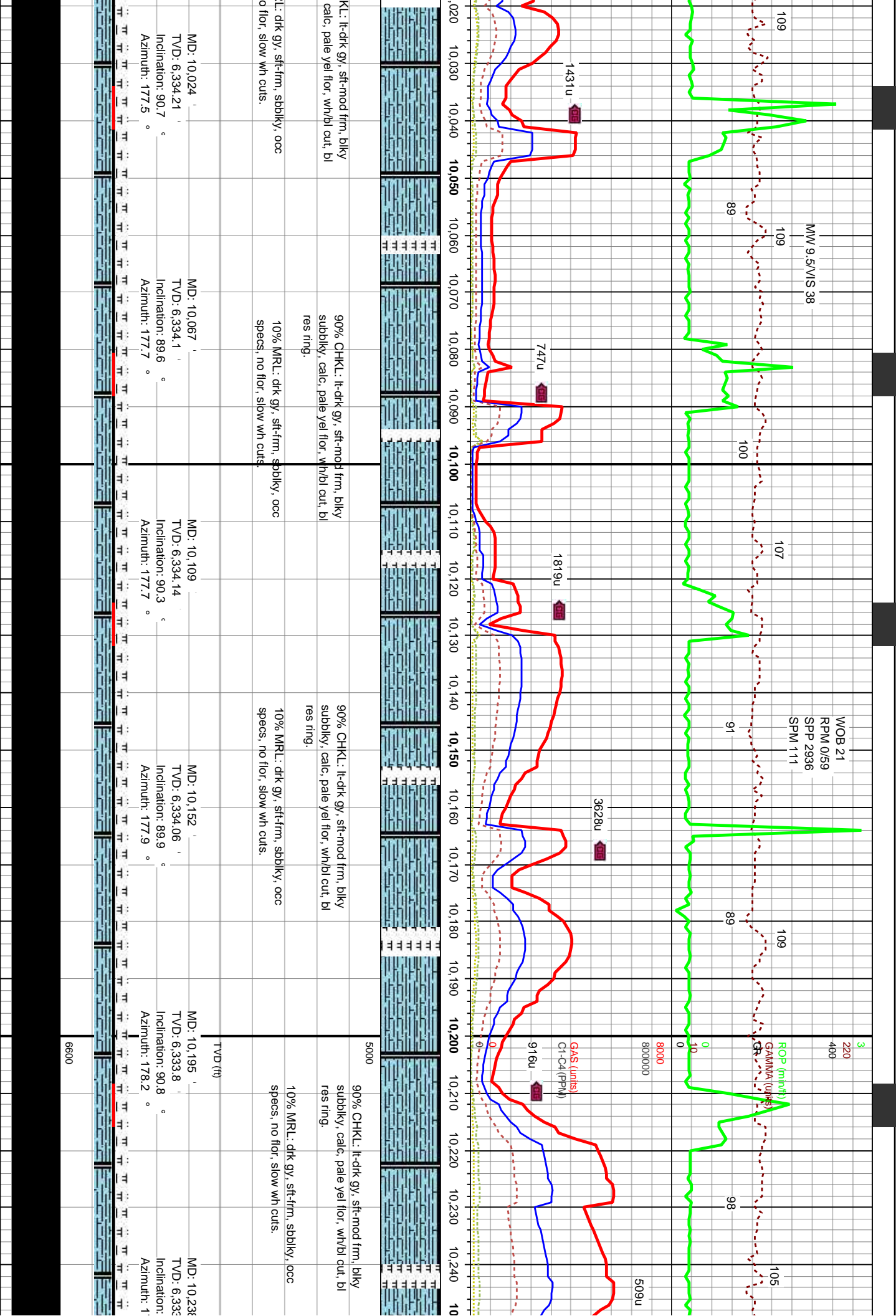


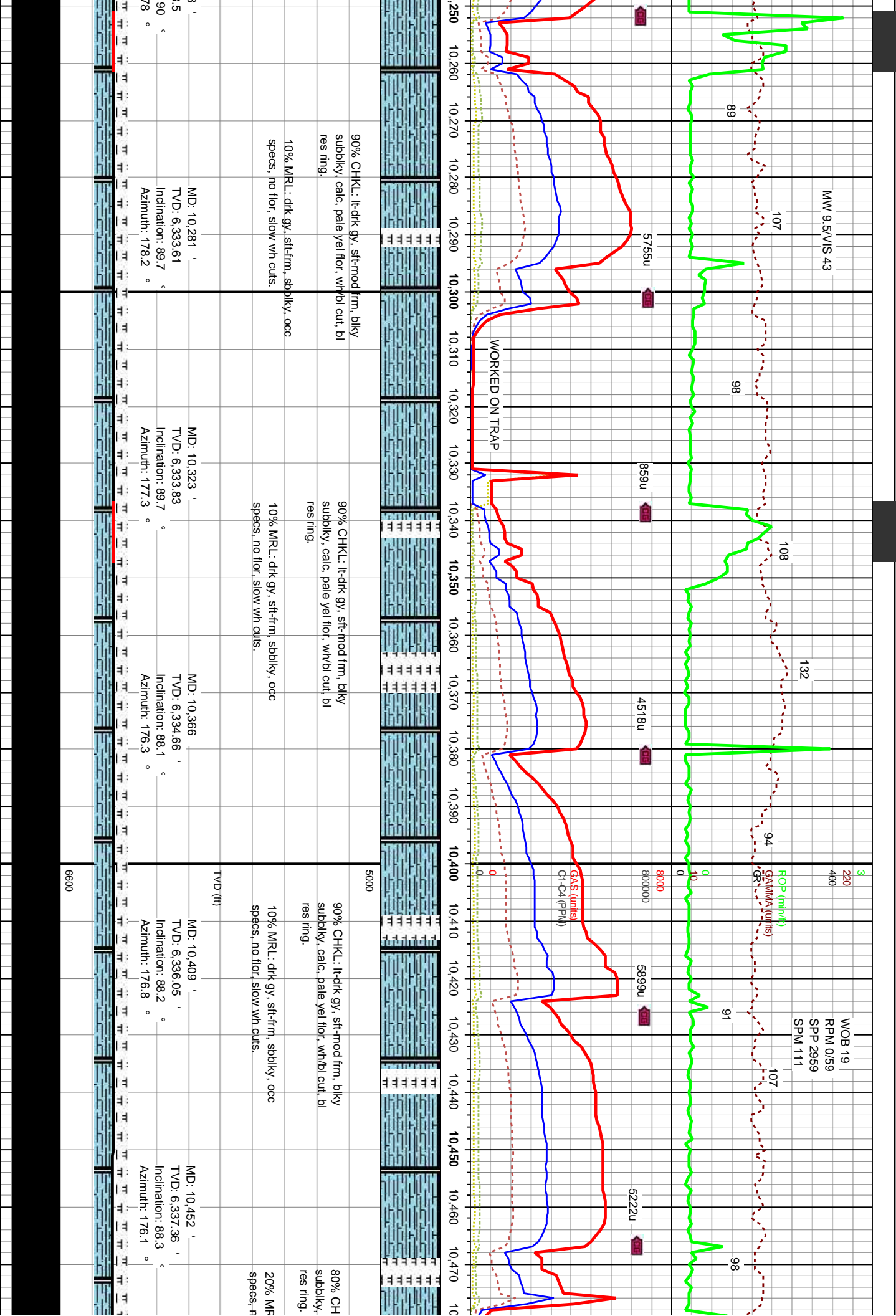












MND @ 10518 04/1/2013

MW 9.5/VIS 42

3

220

400

ROP (m/m)

GAMMA (r/m)

GR

0

10

8000

80000

GAS (units)

C1-C4 (Pm)

POWER DOWN TO TRAP

91

123

109

119

107

118

4032u

5492u

5419u

3824u

5000

L: lt-drk gy, sft-mod frm, blk
calc, pale yel flr, wh/bl cut, bl

70% CHKL: lt-drk gy, sft-mod frm, blk
subbly, calc, pale yel flr, wh/bl cut, bl
res ring.

70% CHKL: lt-drk gy, sft-mod frm, blk
subbly, calc, pale yel flr, wh/bl cut, bl
res ring.

70% CHKL: lt-drk gy, sft-mod frm, blk
subbly, calc, pale yel flr, wh/bl cut, bl
res ring.

L: drk gy, sft-frm, sbbly, occ
g flr, slow wh cuts.

30% MRL: drk gy, sft-frm, sbbly, occ
specs, no flr, slow wh cuts.

30% MRL: drk gy, sft-frm, sbbly, occ
specs, no flr, slow wh cuts.

30% MRL: drk gy, sft-frm, sbbly, occ
specs, no flr, slow wh cuts.

MD: 10.495
TVD: 6.338.56
Inclination: 88.5
Azimuth: 176.5

MD: 10.537
TVD: 6.339.22
Inclination: 89.7
Azimuth: 178.2

MD: 10.580
TVD: 6.339.14
Inclination: 90.5
Azimuth: 178.6

MD: 10.623
TVD: 6.339.03
Inclination: 89.8
Azimuth: 177.5

MD: 10.666
TVD: 6.339.33
Inclination: 89.4
Azimuth: 177.3

TVD (ft)

6600

