

Décollement
Consulting
Inc.



Scale: 5" / 100'
Measured Depth Log

Well Name Antelope B-V-33HNB

Location SWNW Sec 33, T5N, R62W

State Colorado

Country USA

API Number 05-123-37054-00

County Weld

Rig Number Ensign 136

Field D.J. Basin

Spud Date 5/6/2013

Drilling Completed 5/13/2013

Surface Coordinates 1471 FNL X 430 FWL

Ground Elevation 4,579

K.B. Elevation 4,591

Logged Interval 5,000 To 10716'

Total Depth 10716'

Formation Niobrara "B" Chalk

Type of Drilling Fluid WBM

Company Bonanza Creek Energy
Address 410 17th Street, Suite 1000
Denver, CO 80202

Name Leo Carrasco/Chris I
Company Decollement Consulting
Address 13300 Braun Road
Golden, CO 80401



Operator

gy

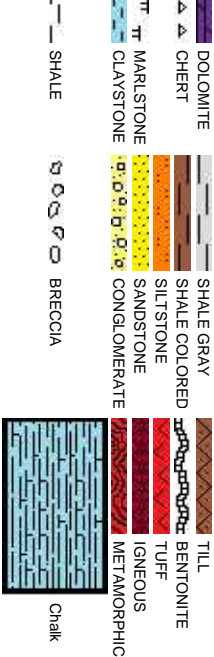
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Geologist

twin

ing Inc.

Rock Types

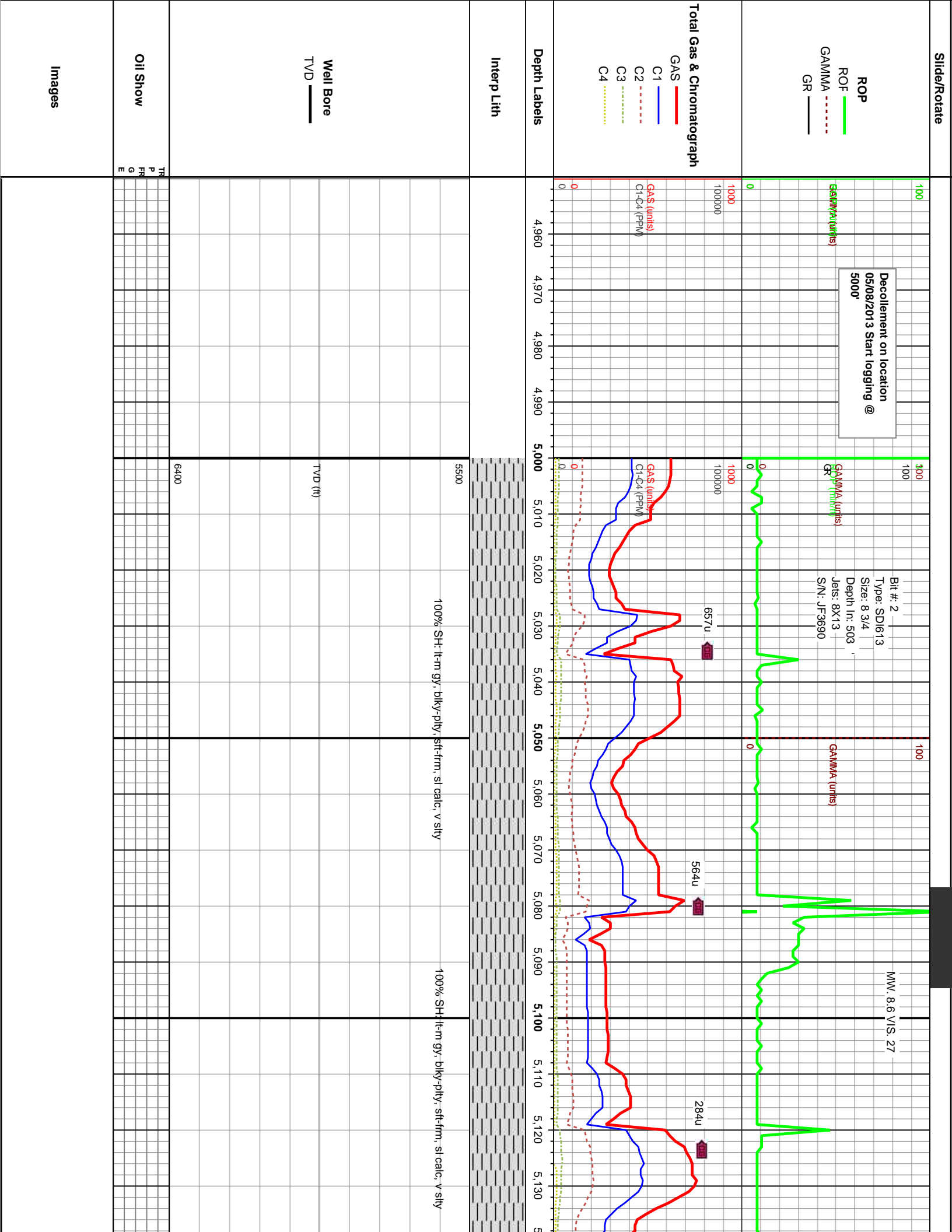


Accessories

Fossils	F FOSSIL	- ARGILLACEOUS	✓ GLAUCONITE	Stringer
GASTROPOD	GA GASTROPOD	/ ARGILLITE GRAIN	≡ GYPSIFEROUS	ANHYDRITE STRINGER
ALGAE	Φ OOLITE	B BENTONITE	↑ HEAVY MINERAL	BENTONITE STRINGER
AMPHIPORA	OSTRACOD	BITUMENOUS SUBSTANCE	K KAOLIN	COAL STRINGER
BELEMNITE	PELECYPOD	BRECCIA FRAGMENTS	TT MARLSTONE	DOLOMITE STRINGER
BIOCLASTIC	PELLET	LCALCAREOUS	MINERAL CRYSTALS	GYPSUM STRINGER
BRACHIOPOD	PISOLITE	CARBONACEOUS FLAKES	NOODULES	LIMESTONE STRINGER
BRYOZOA	PLANT REMAINS	CHTDK	PHOSPHATE PELLETS	MARLSTONE (CALC) STRG
CERPHALOPOD	PLANT SPORES	CHTLT	P PYRITE	MARLSTONE (DOL) STRG
CORAL	SCAPHOPOD	COAL - THIN BEDS	SA SALT CAST	SANDSTONE STRINGER
CRINOID	STROMATOPOROID	DOLOMITIC	S SANDY	SHALE STRINGER
ECHINOID		+ FELDSPAR	SLICEOUS	SILTSTONE STRINGER
FISH	Minerals	● FERRUGINOUS PELLETT	.. SILTY	
FORAMINIFERA	ANHYDRITIC	✓ FERRUGINOUS	✓ TUFACEOUS	

Other Symbols

Oil Show	ORGANIC	GAS SHOW	ANGULAR	MX MICROXLN
P PINPOINT	✓ VUGGY	MINDEPTH MN DEPTH	R ROUNDED	MS MUDSTONE
DEAD	EVEN	NORMAL FAULT	B SUBANG	PS PACKSTONE
QUESTIONABLE	SPOTTED STAINING	OIL SHOW	OVERTURNED STRATA	WS WACKESTONE
BIT	REVERSE FAULT	REVERSE FAULT	SUBRAND	
CONNECTION (LEFT)	SIDEWALL CORE (LEFT)	SIDEWALL CORE (LEFT)	Textures	M MODERATE
CONNECTION (RIGHT)	SIDEWALL CORE (RIGHT)	SIDEWALL CORE (RIGHT)	B3 BOUNDSTONE	P POOR
E EARTHY	CONNECTION GAS	SLIDE	C CHALKY	W WELL
F FENESTRAL	CONNECTION - LOST	SURVEY	CX CRYPTOXLN	
FRACTURE	CORE - RECOVERED	TRIP GAS	E EARTHY	Chalk
INTERCRYSTALLINE	DST INTERVAL	WIRELINE TESTED - LEFT	FX FINELYXLN	
INTEROOLITIC	FAULT	WIRELINE TESTED - RT	BS GRAINSTONE	
MOLDIC	FORMATION TOP		L LITHOGRAPHIC	
		Rounding		



WOB 22
RPM 0/33
SPM 2805
SPM 127/111

3
100
100
ROP (mbl/t)
GAMMA (units)
GR

MND @ 5283 05/09/2013

MW 9.0 VIS. 27

614u

555u

700u

688u

574u

GAS (mbl/s)
C1-C4 (PMD)

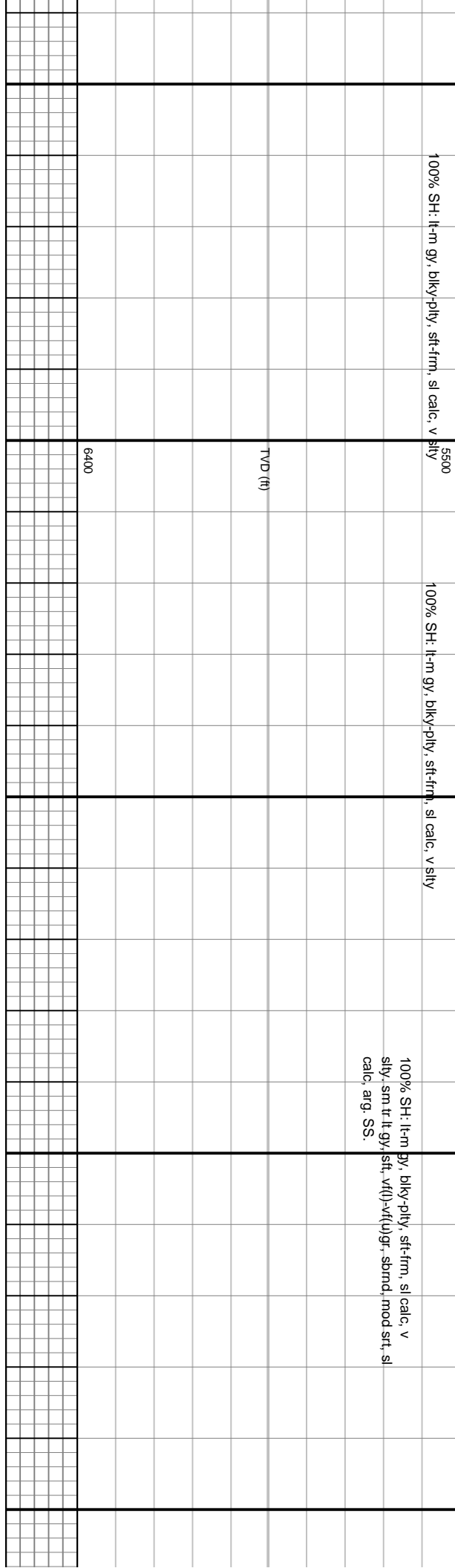
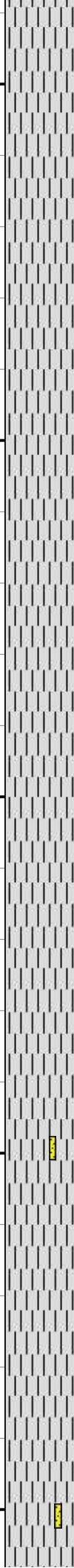
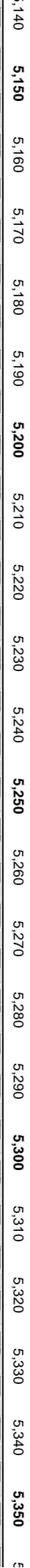
100% SH: lt-m gy, blk-y-pily, sft-frn, sl calc, v sily

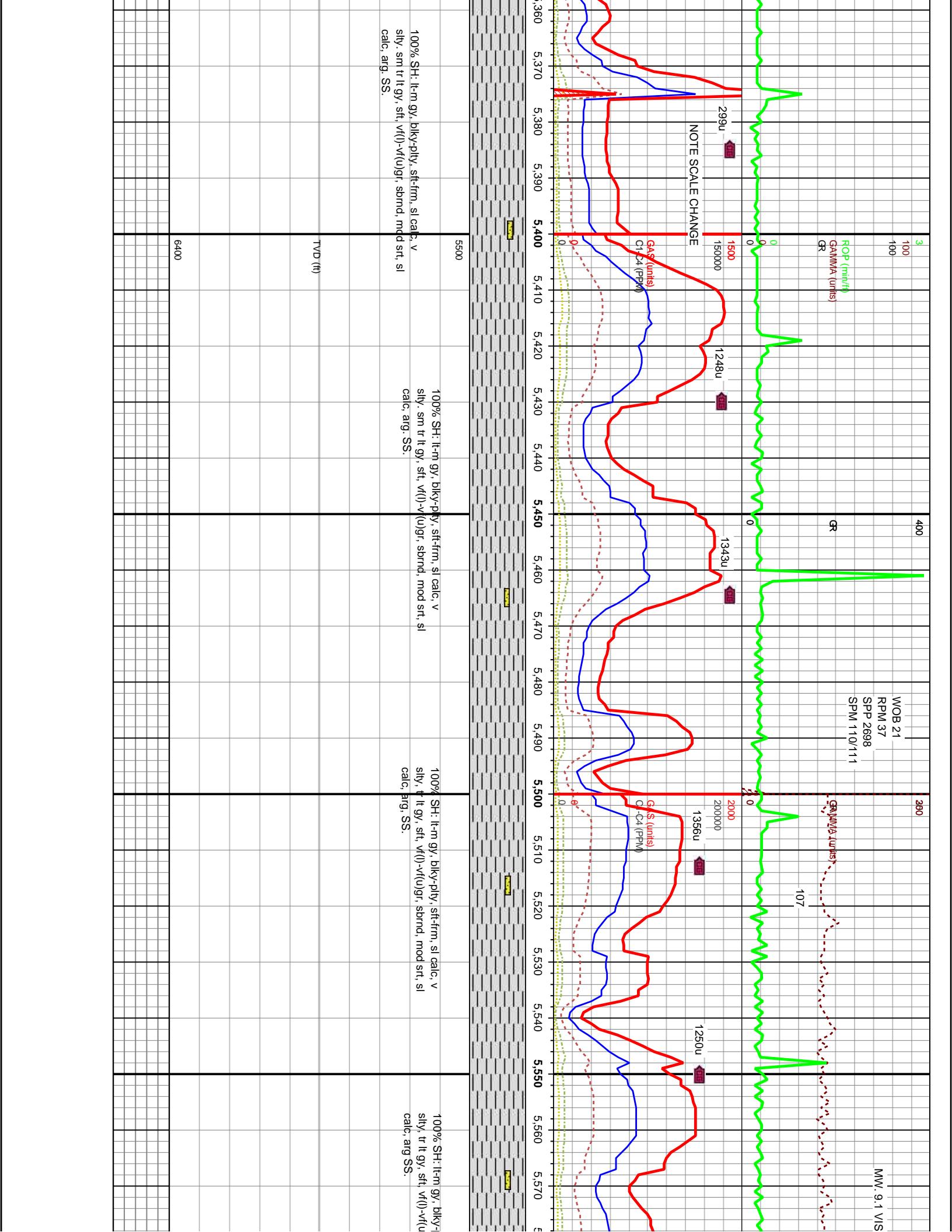
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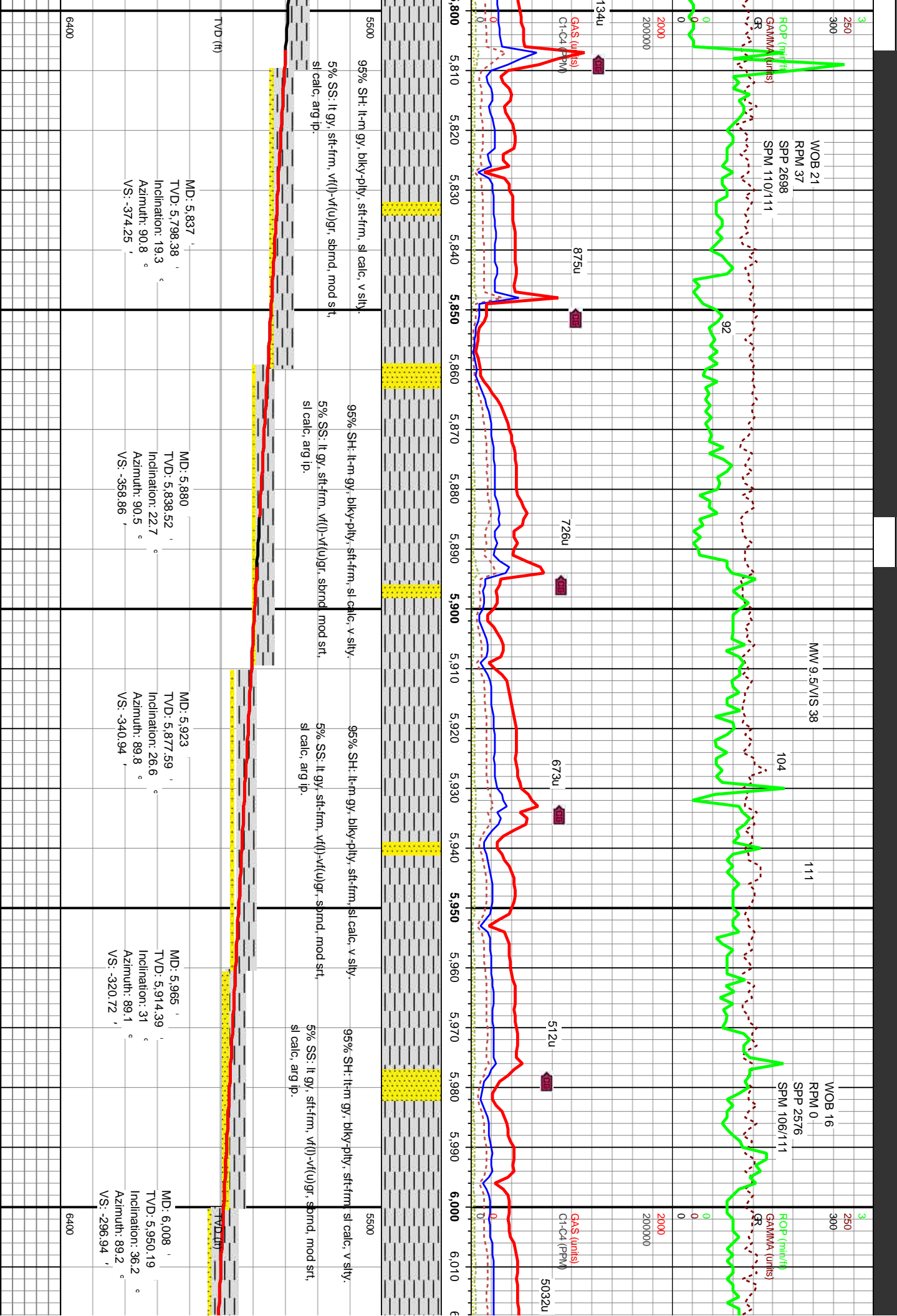
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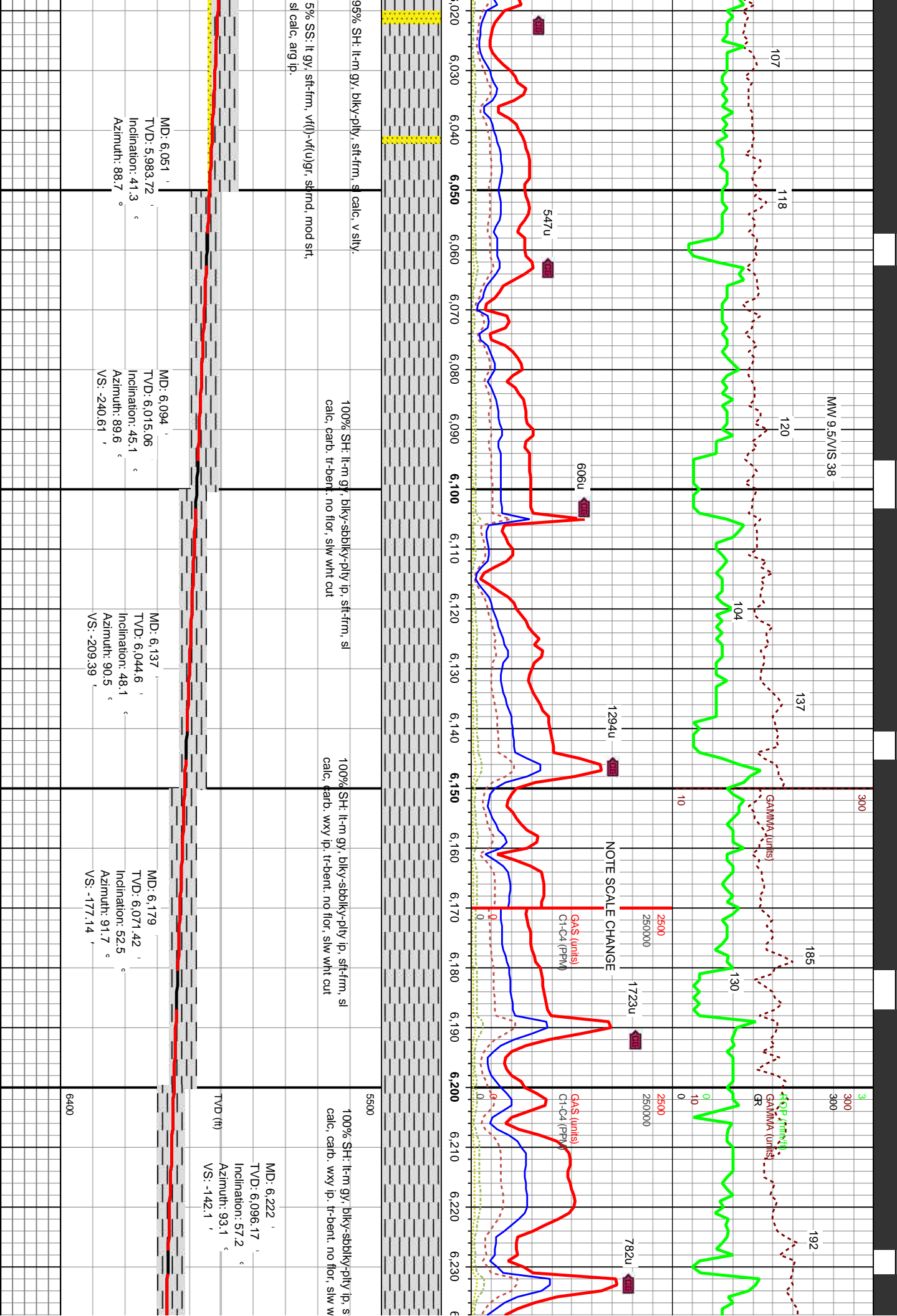
TVD (ft)

6400









WOB 24
RPM 0/33
SPM 2748
SPM 106/111

5000
500000

NOTE SCALE CHANGE

GAS (units)
C1-C4 (PPM)

1355u

1325u

1508u

NOTE SCALE CHANGE

GAS (units)
C1-C4 (PPM)

1776u

4757u

"Top NIOBRARA "A" Chalk @
6186' TVD, 6448' MD"

MW 9.5/VIS 38

RCI (mN/t)
GR (MMA units)

152

159

194

133

185

130

196

133

78

100% SH: lt-m gy, blk-y-sbdkly-pty ip, sft-frm, sl
calc, carb. wxy ip, tr-bent, no flor, slw wht cut

MD: 6,265 '
TVD: 6,118.12 '
Inclination: 61.4 °
Azimuth: 93.8 °
VS: -105.3 '

MD: 6,308 '
TVD: 6,137.23 '
Inclination: 65.8 °
Azimuth: 93.1 °
VS: -66.97 '

100% SH: lt-m gy, blk-y-sbdkly-pty ip, sft-frm, sl
calc, carb. wxy ip, tr-bent, no flor, slw wht cut

MD: 6,350 '
TVD: 6,153.07 '
Inclination: 69.9 °
Azimuth: 92 °
VS: -28.21 '

100% SH: lt-m gy, blk-y-sbdkly-pty ip, sft-frm, sl
calc, carb. wxy ip, tr-bent, no flor, slw wht cut

MD: 6,393 '
TVD: 6,167.63 '
Inclination: 70.5 °
Azimuth: 91.3 °
VS: 12.17 '

90% CHLK: m-dk gy, off wht, sft-frm
calc, wxy ip, tr-bent, no flor, wht t

MD: 6,436 '
TVD: 6,181.88 '
Inclination: 70.8 °
Azimuth: 90.8 °
VS: 52.68 '

6400

6400

"Top NIOBRARA 'A' Mari @
6191' TVD, 6463 MD"

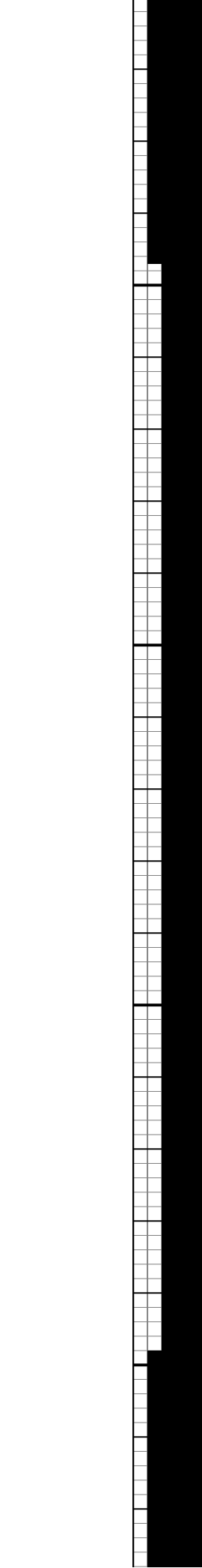
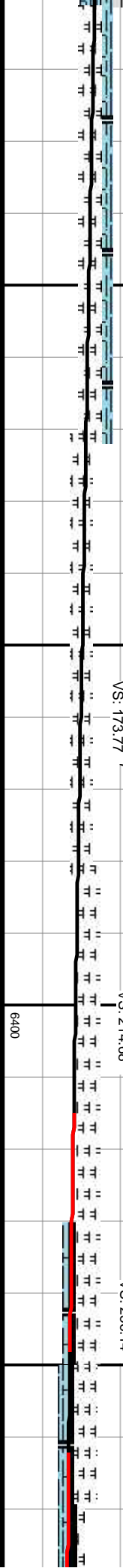
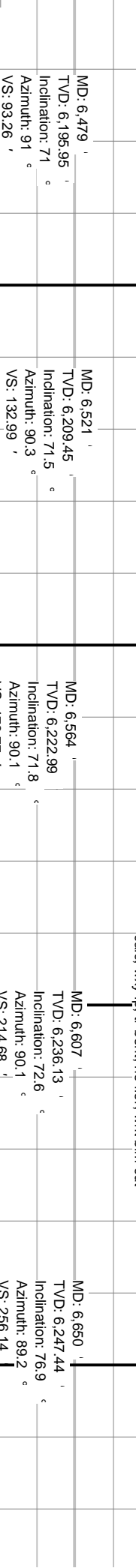
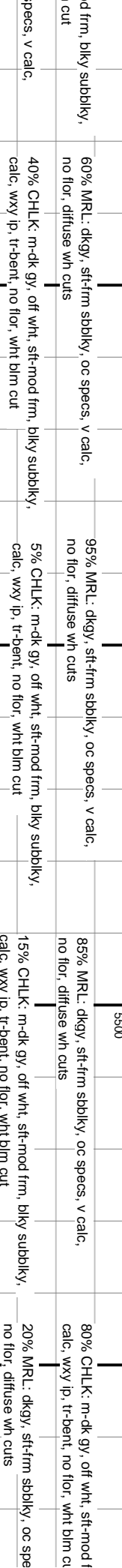
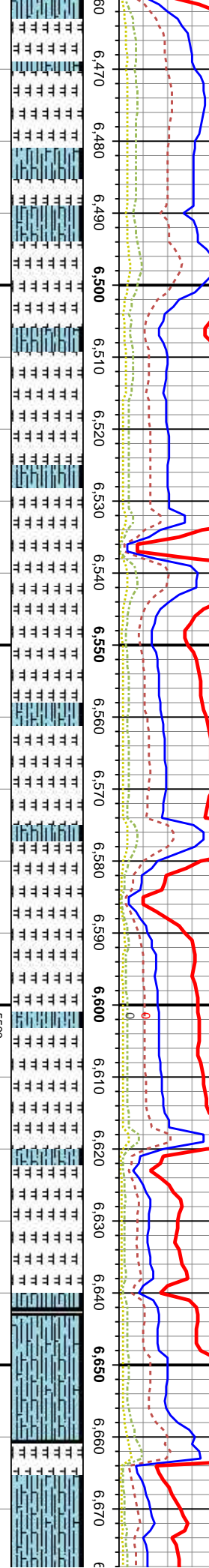
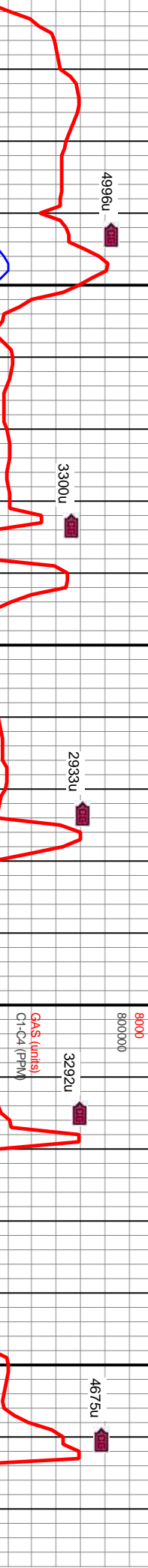
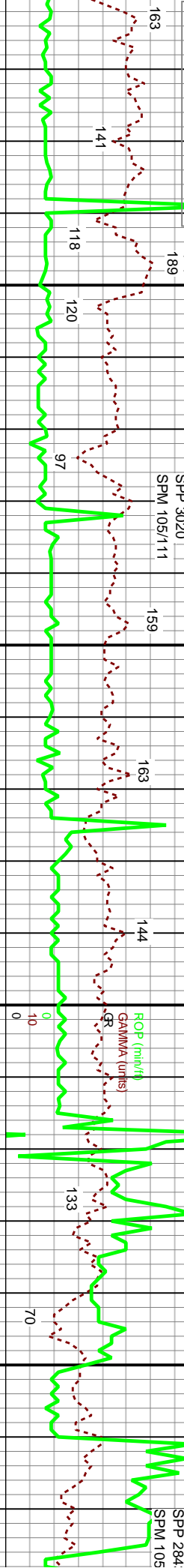
WOB 20
RPM 33
SPP 3020
SPM 105/111

NMW 9.4/VIS 41

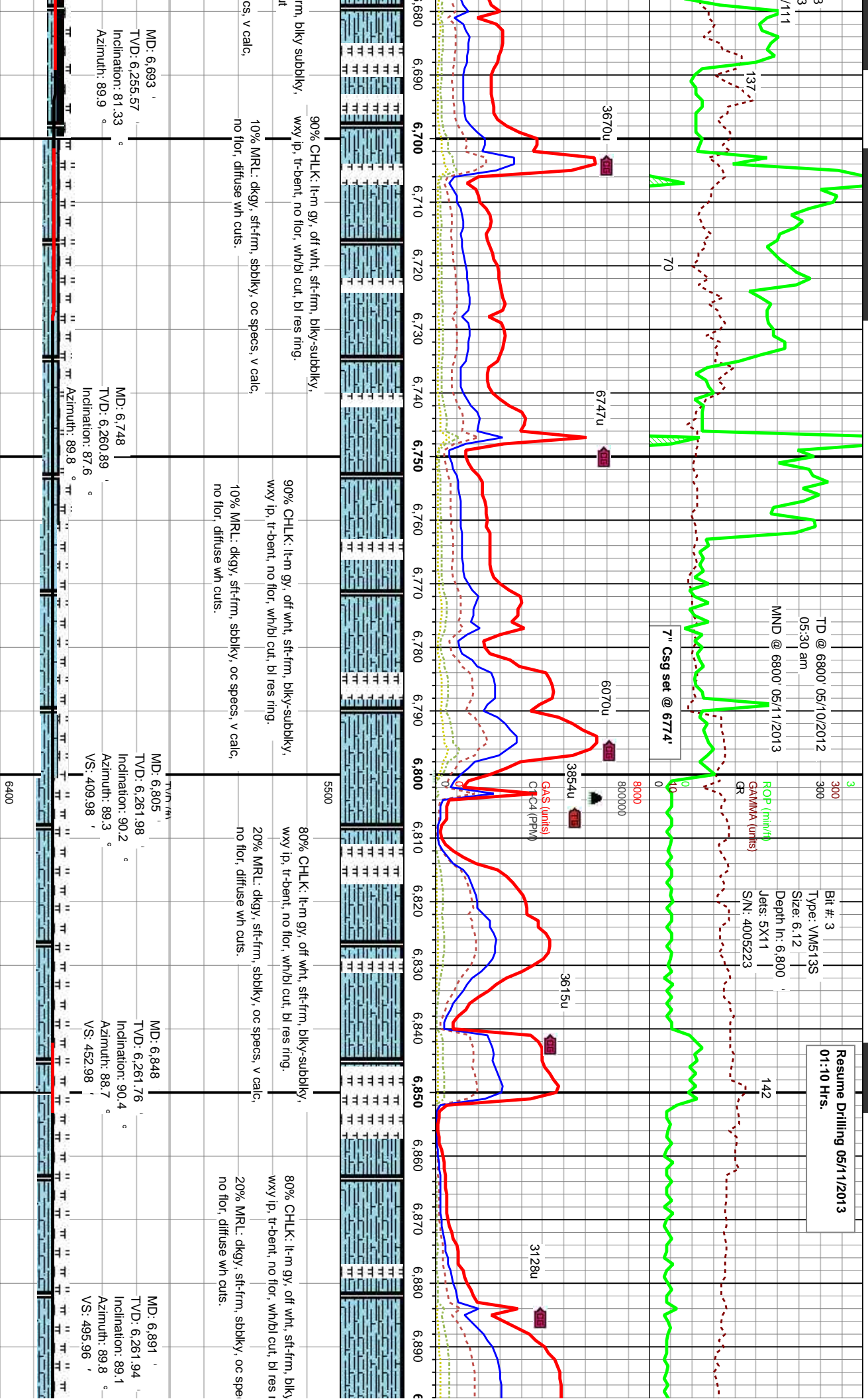
MND @ 6607 05/10/2013
300

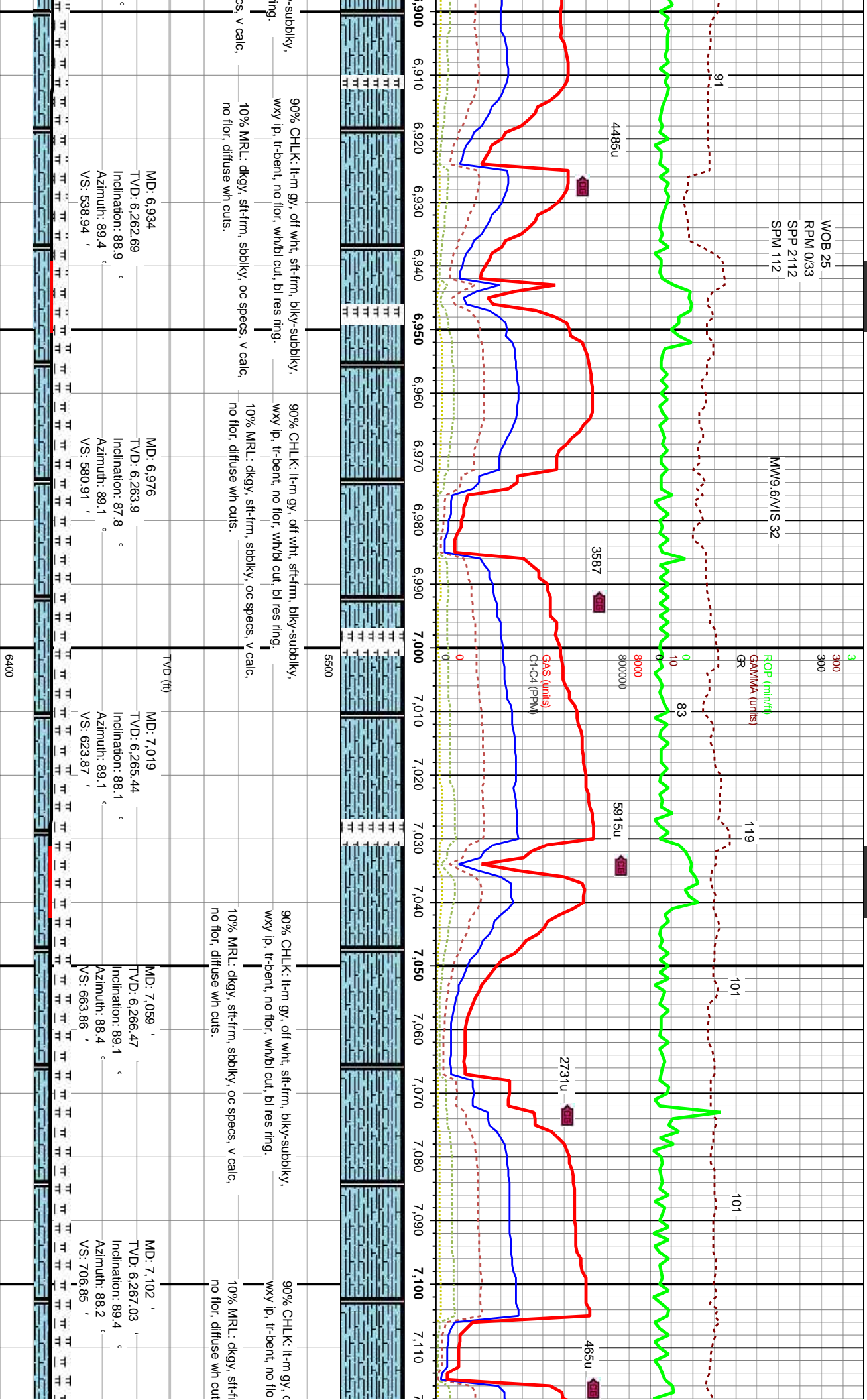
"Top NIOBRARA 'B' Chaik
@ 6243' TVD, 6631' MD"

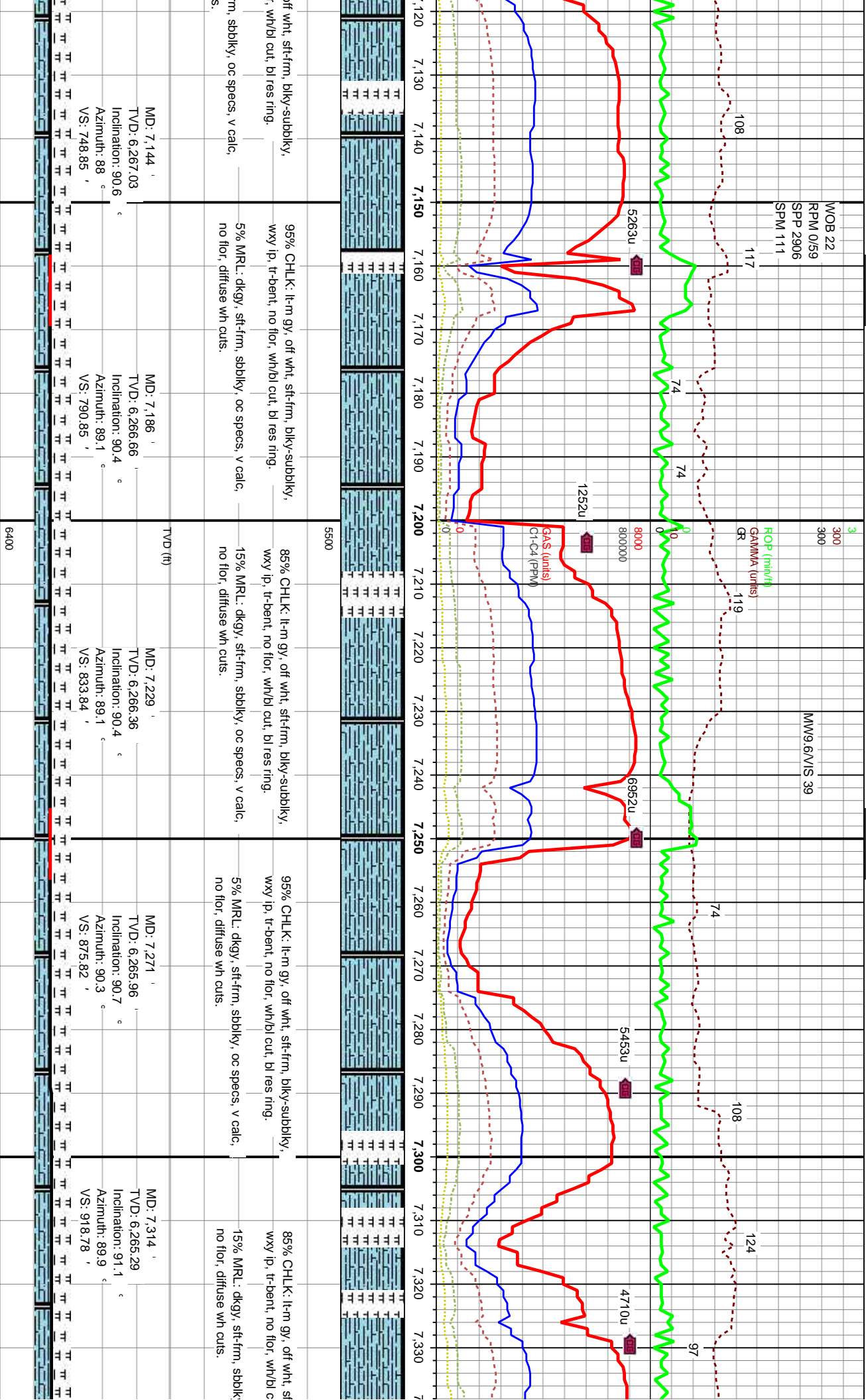
WOB 21
RPM 0/3:
SPP 284
SPM 105

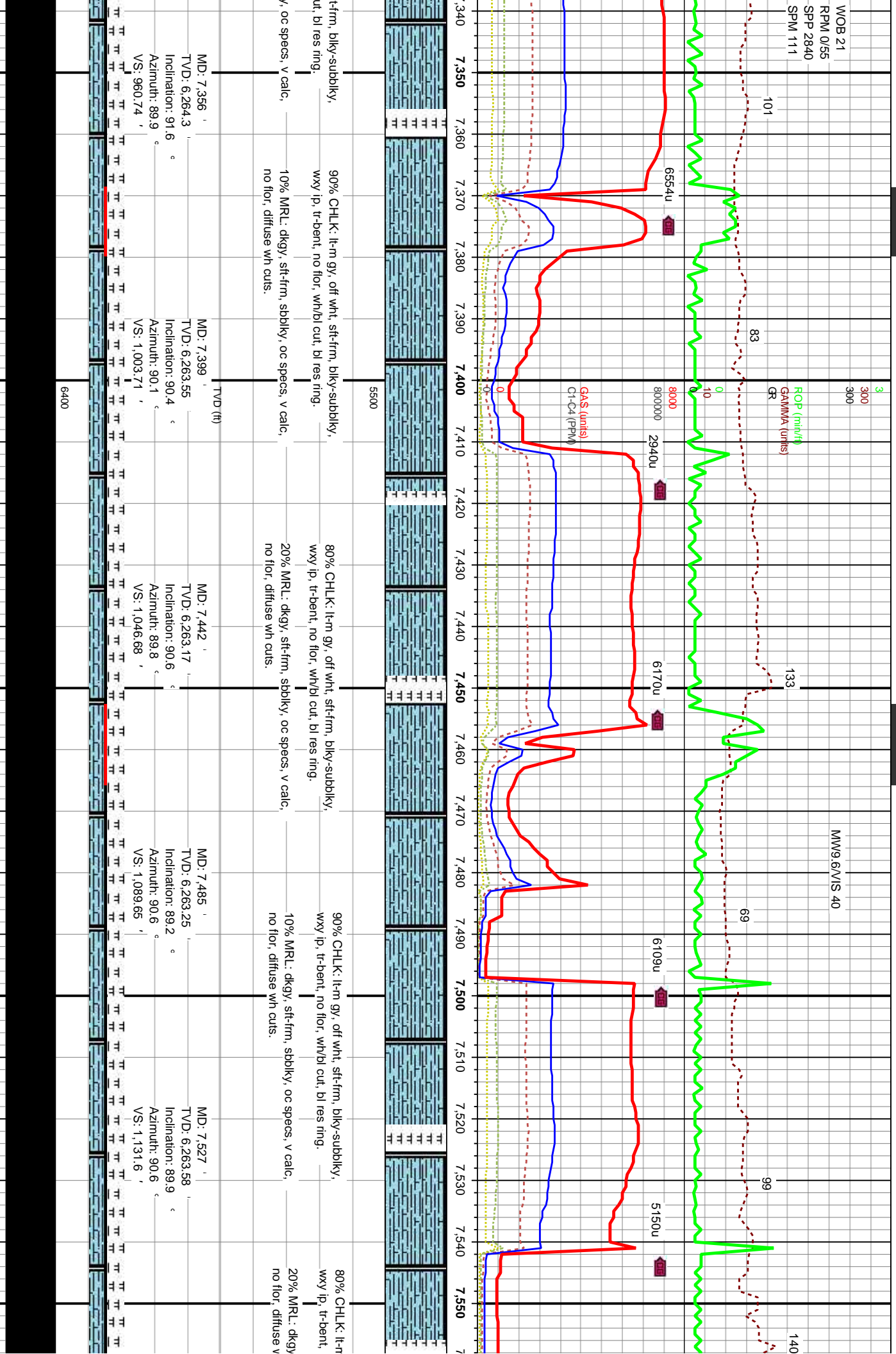


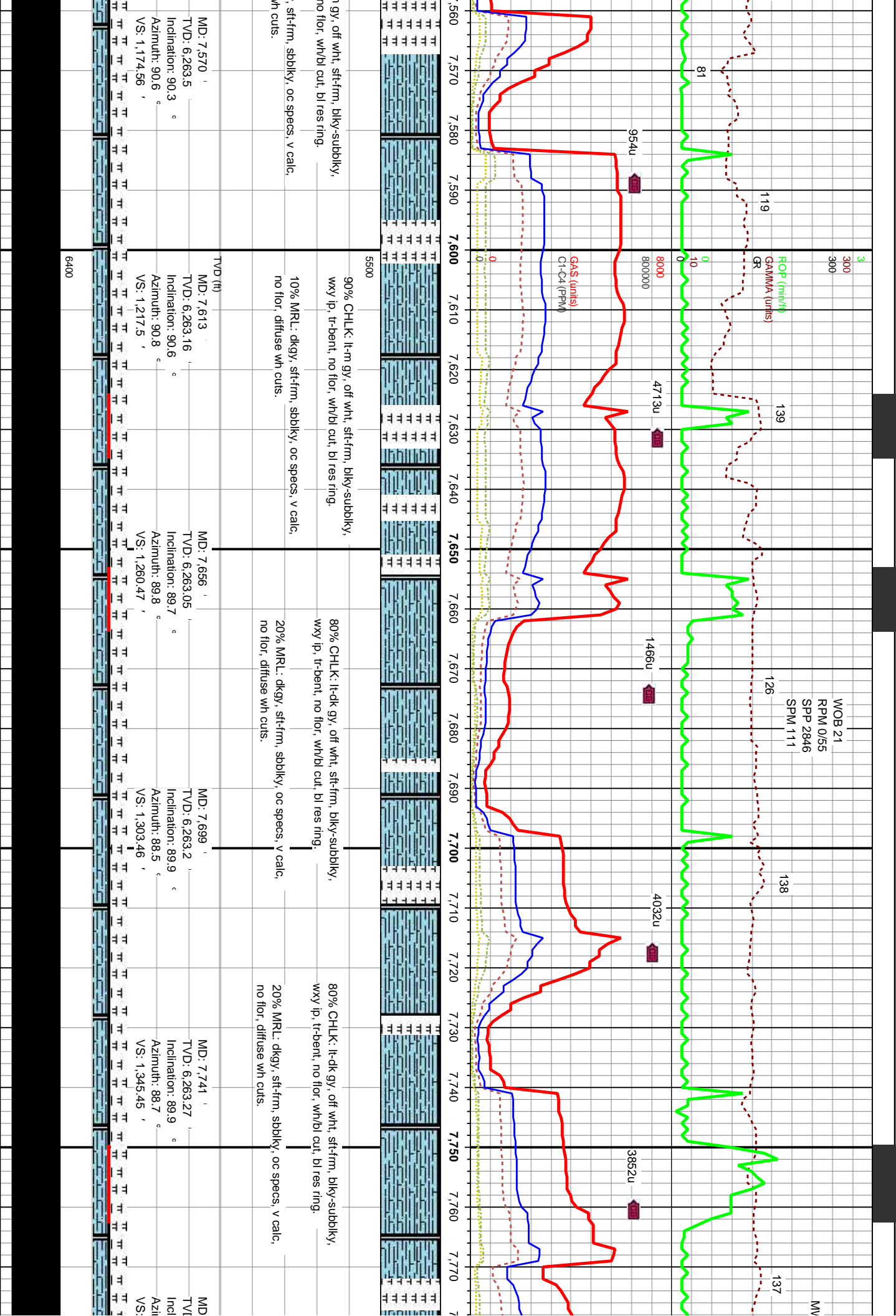
Resume Drilling 05/11/2013
01:10 Hrs.

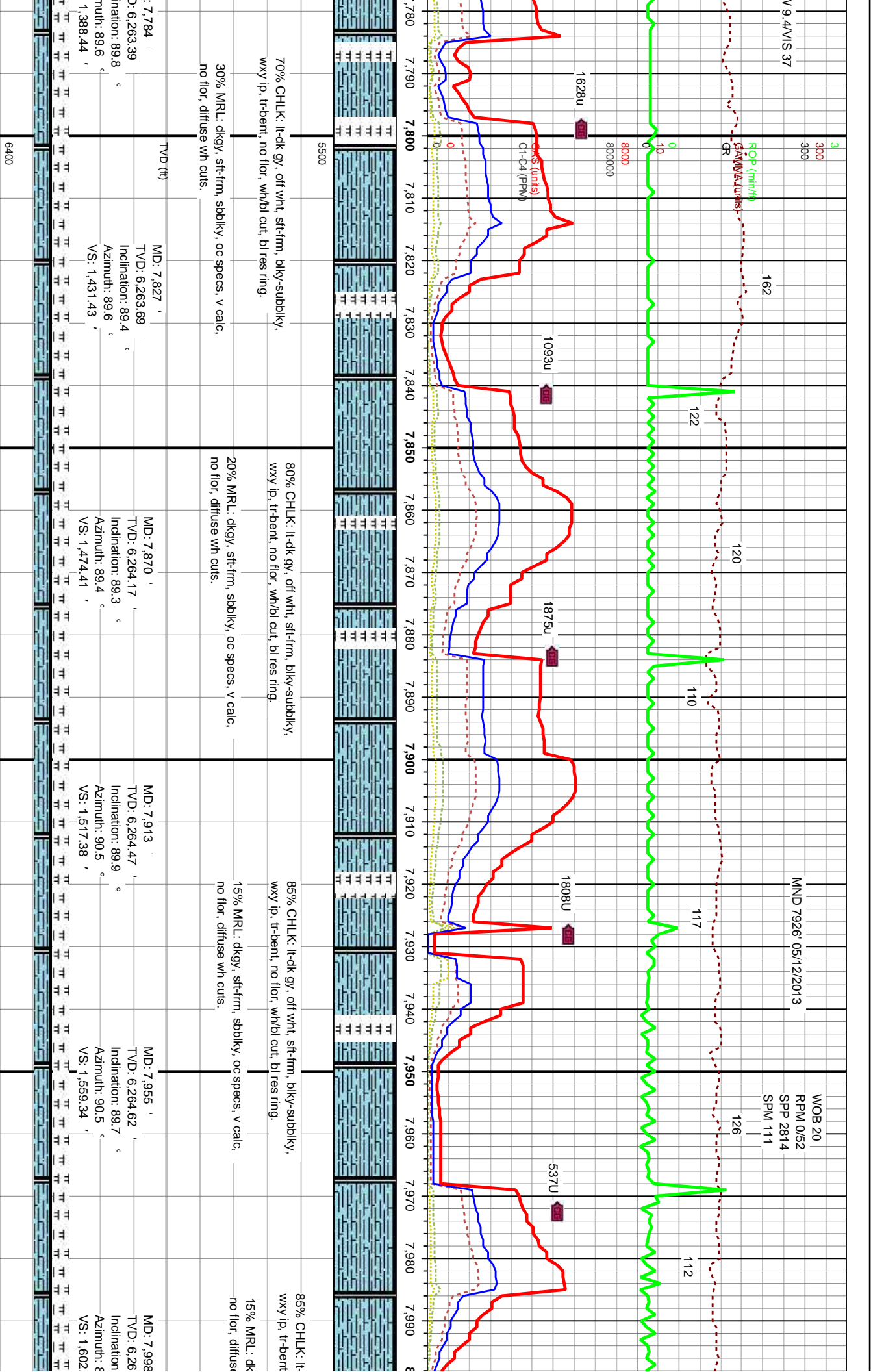


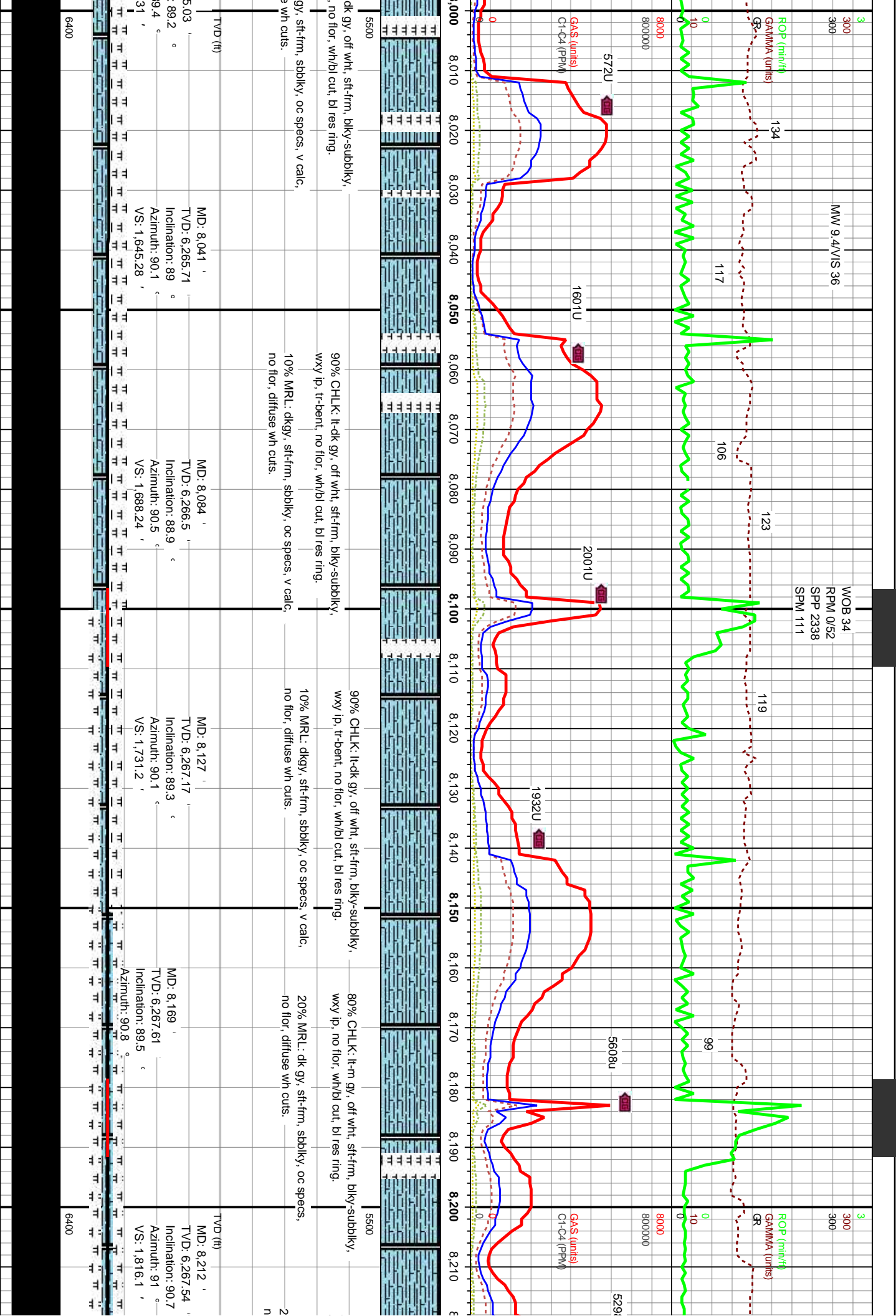


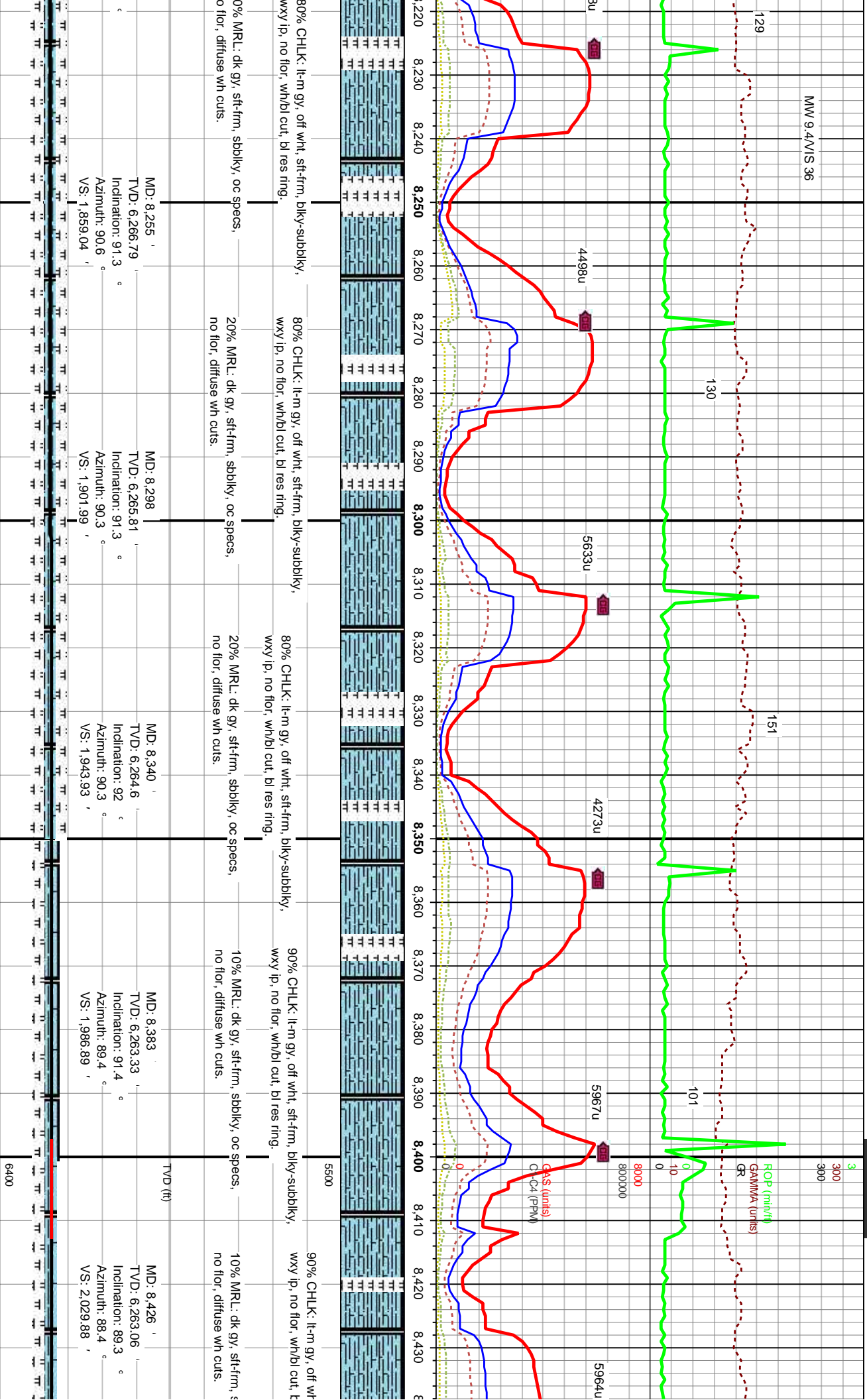


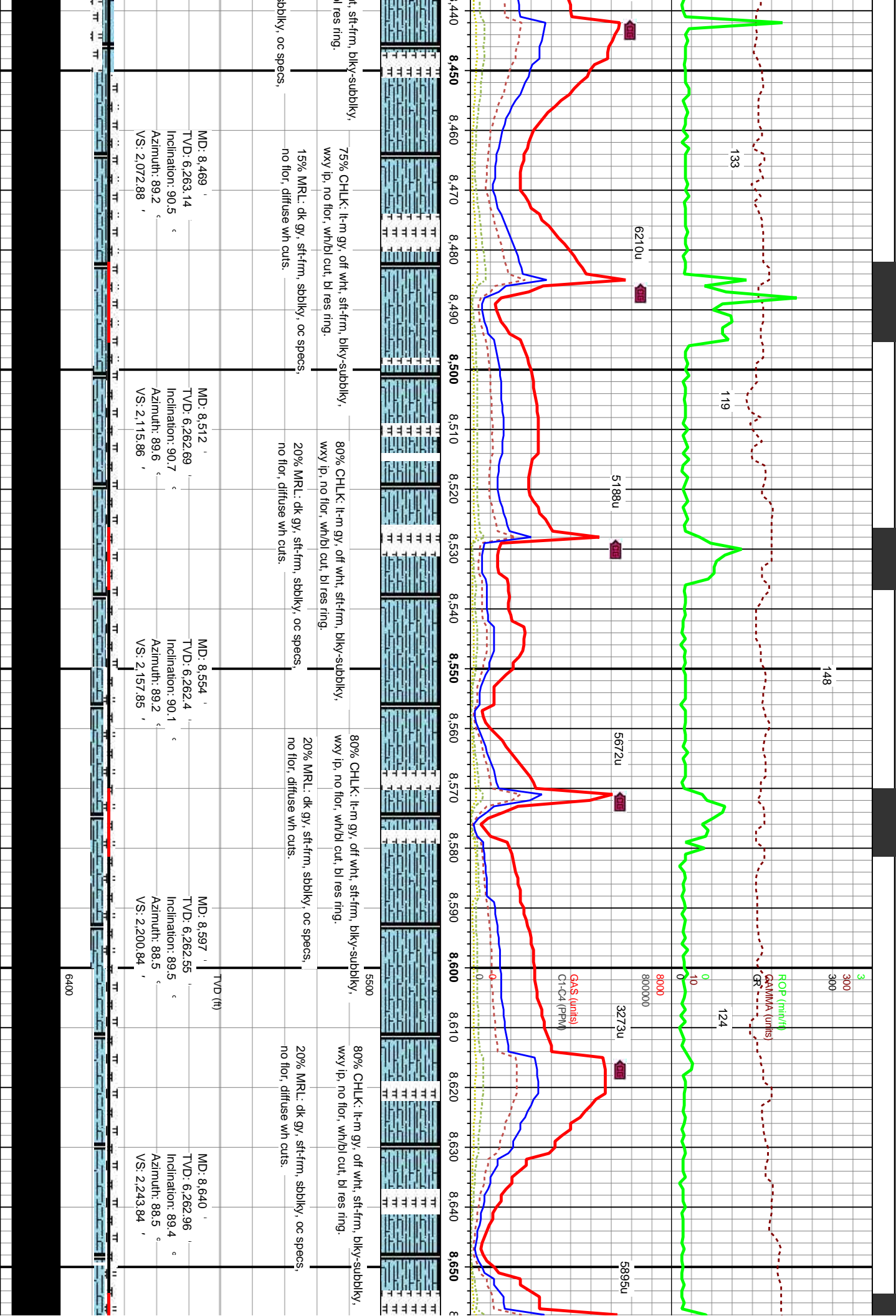


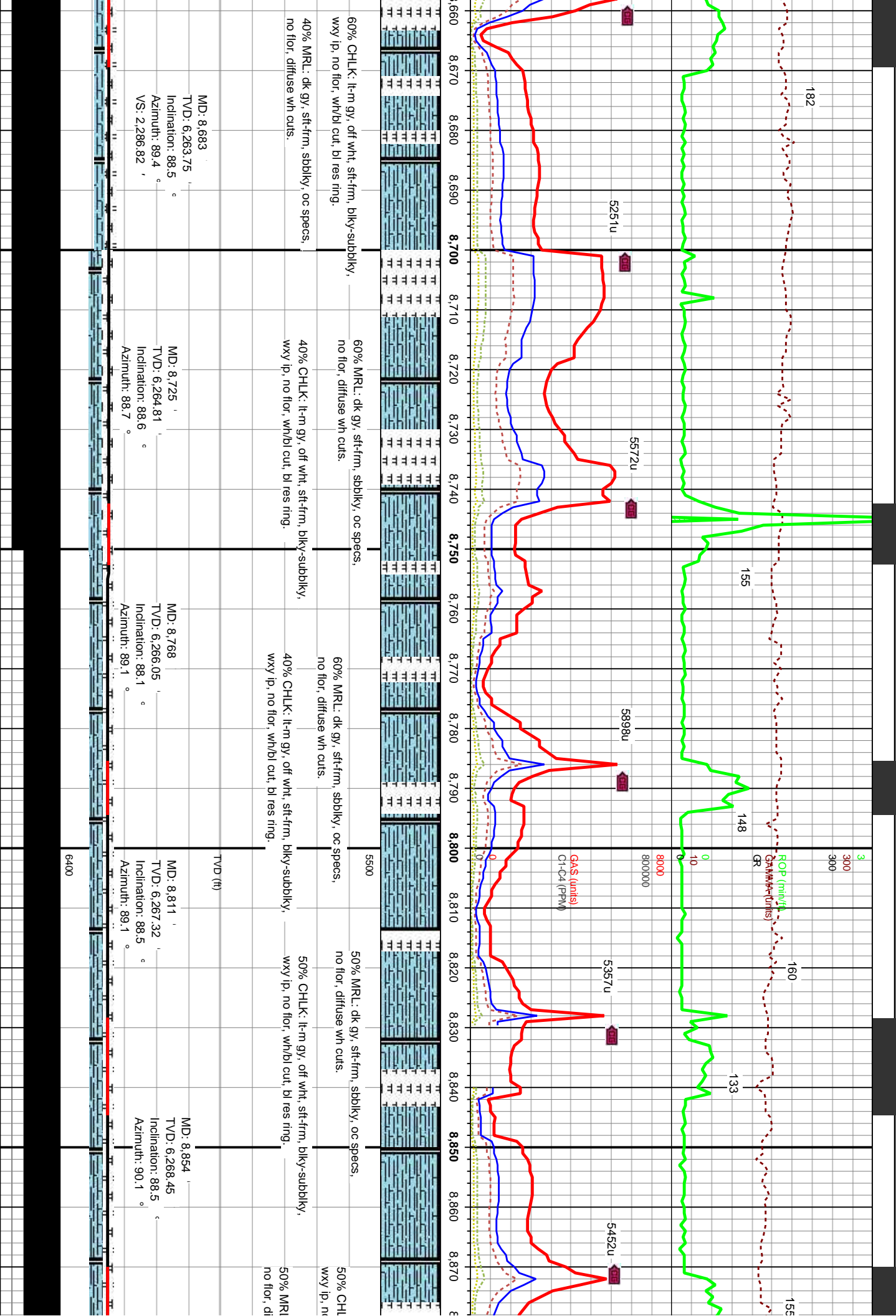


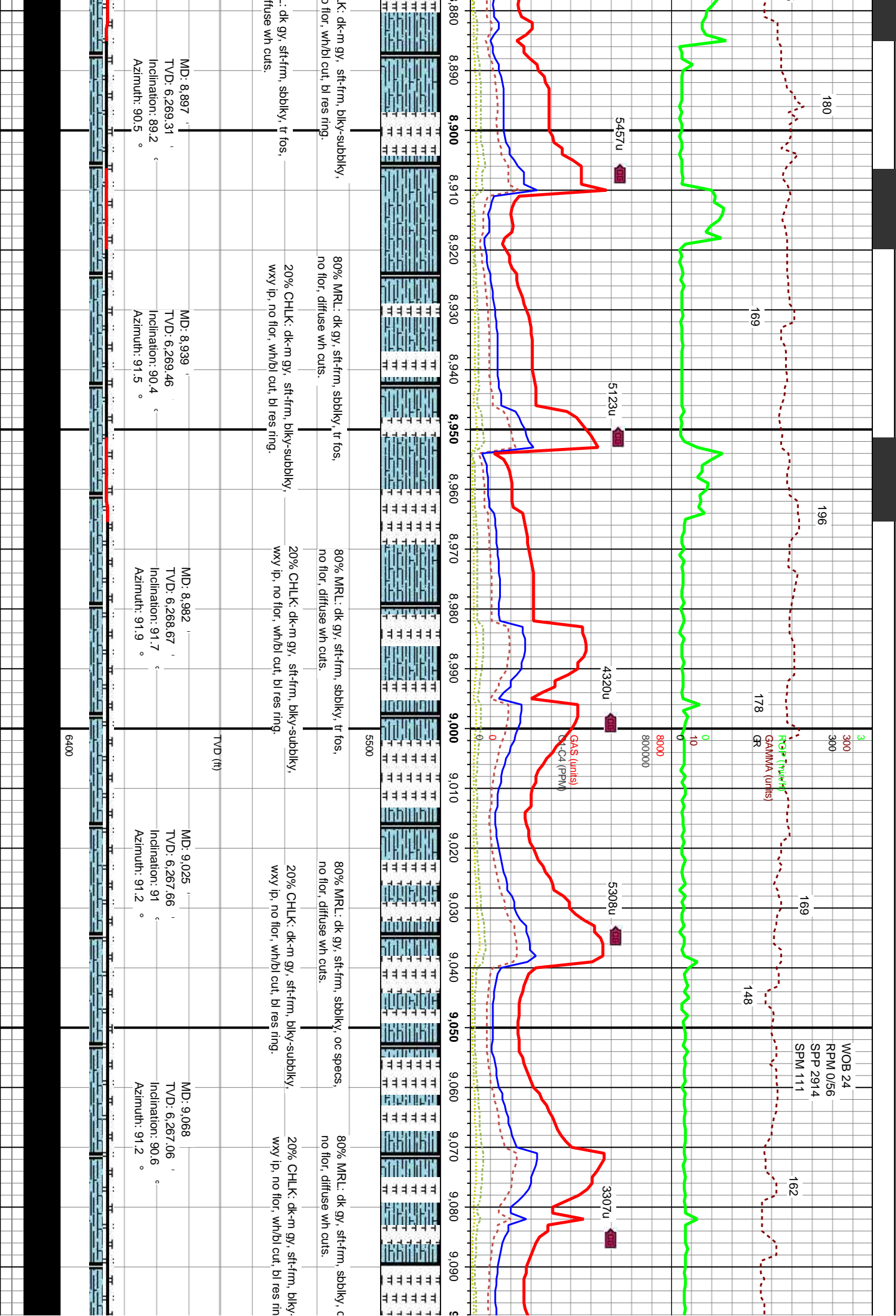


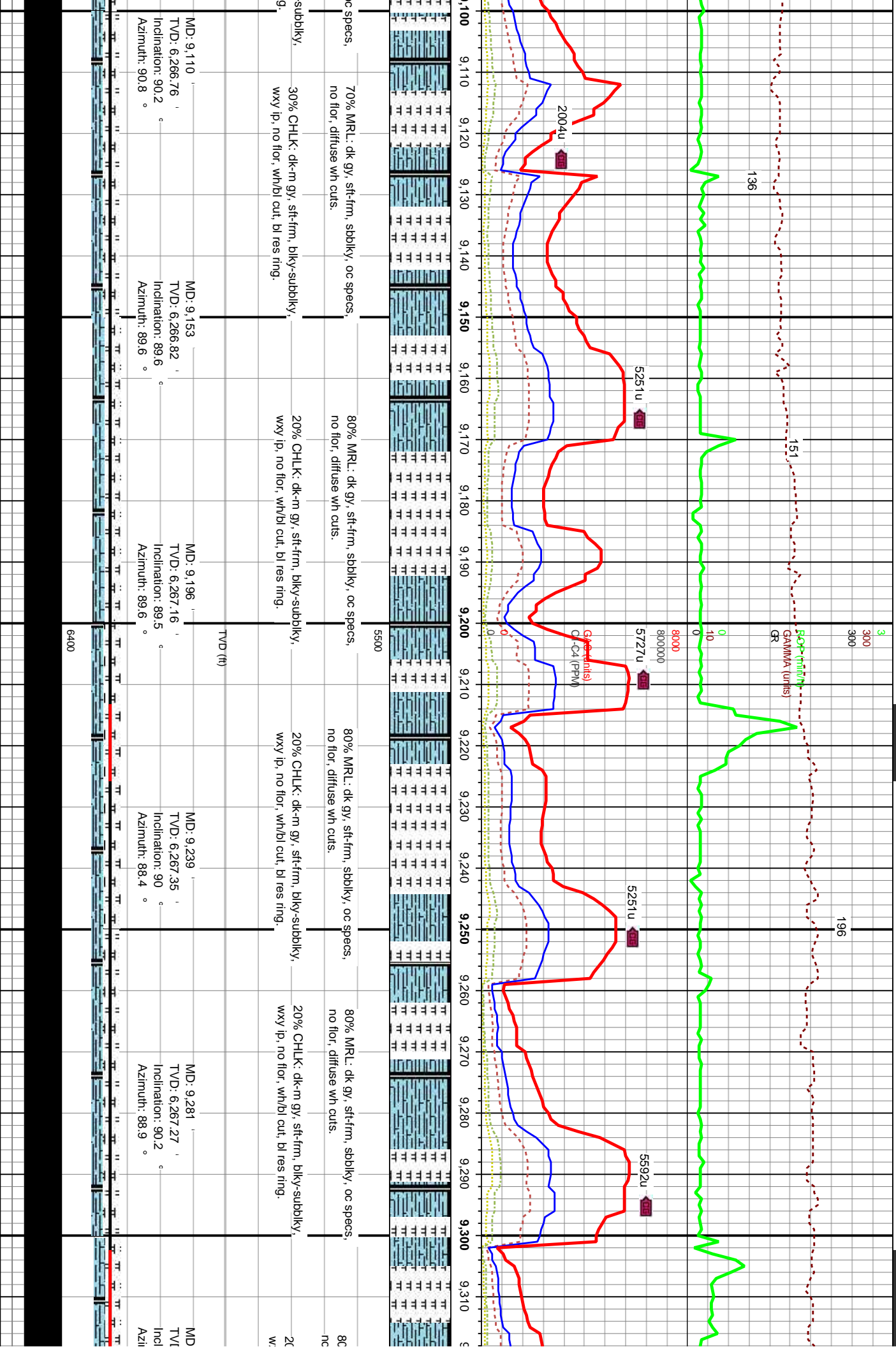


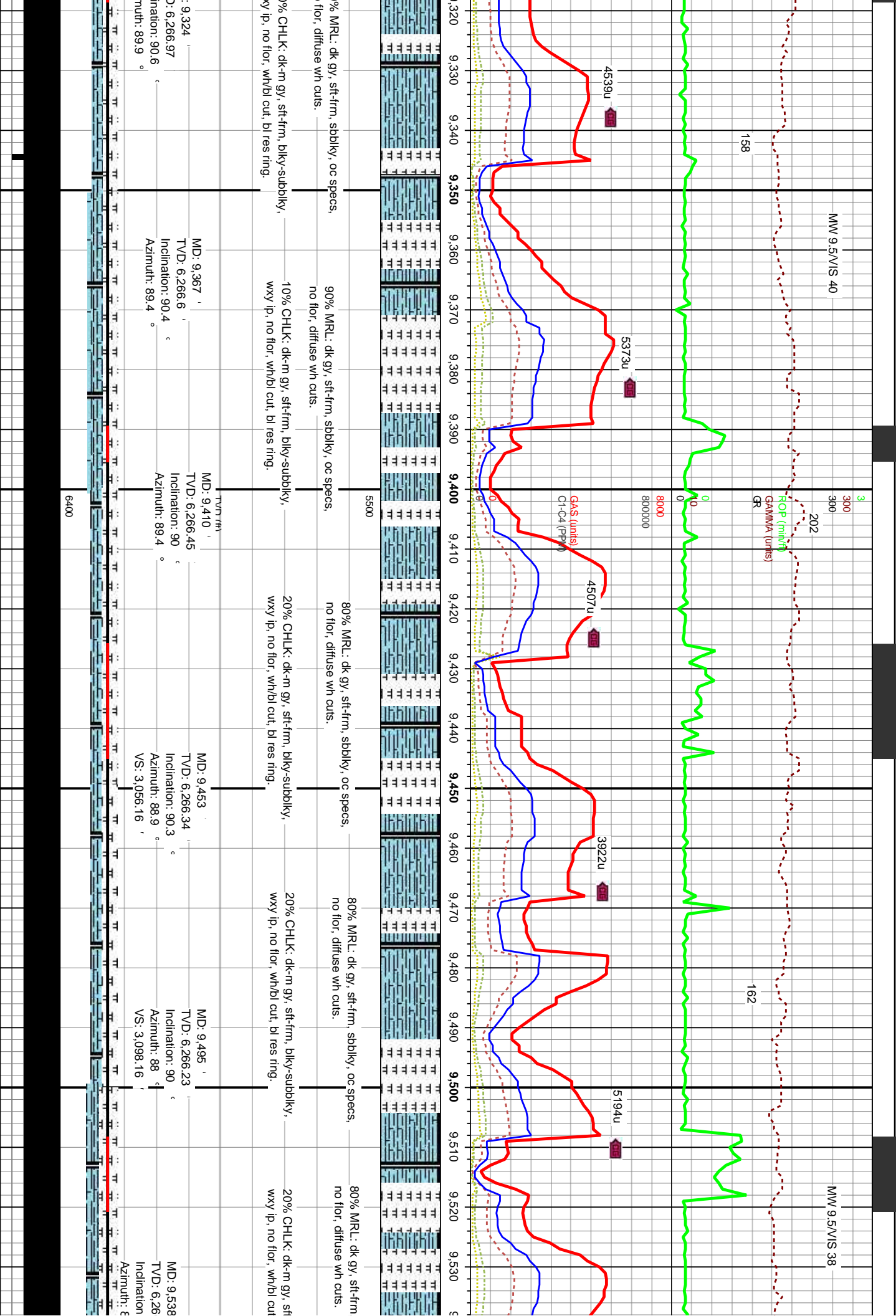


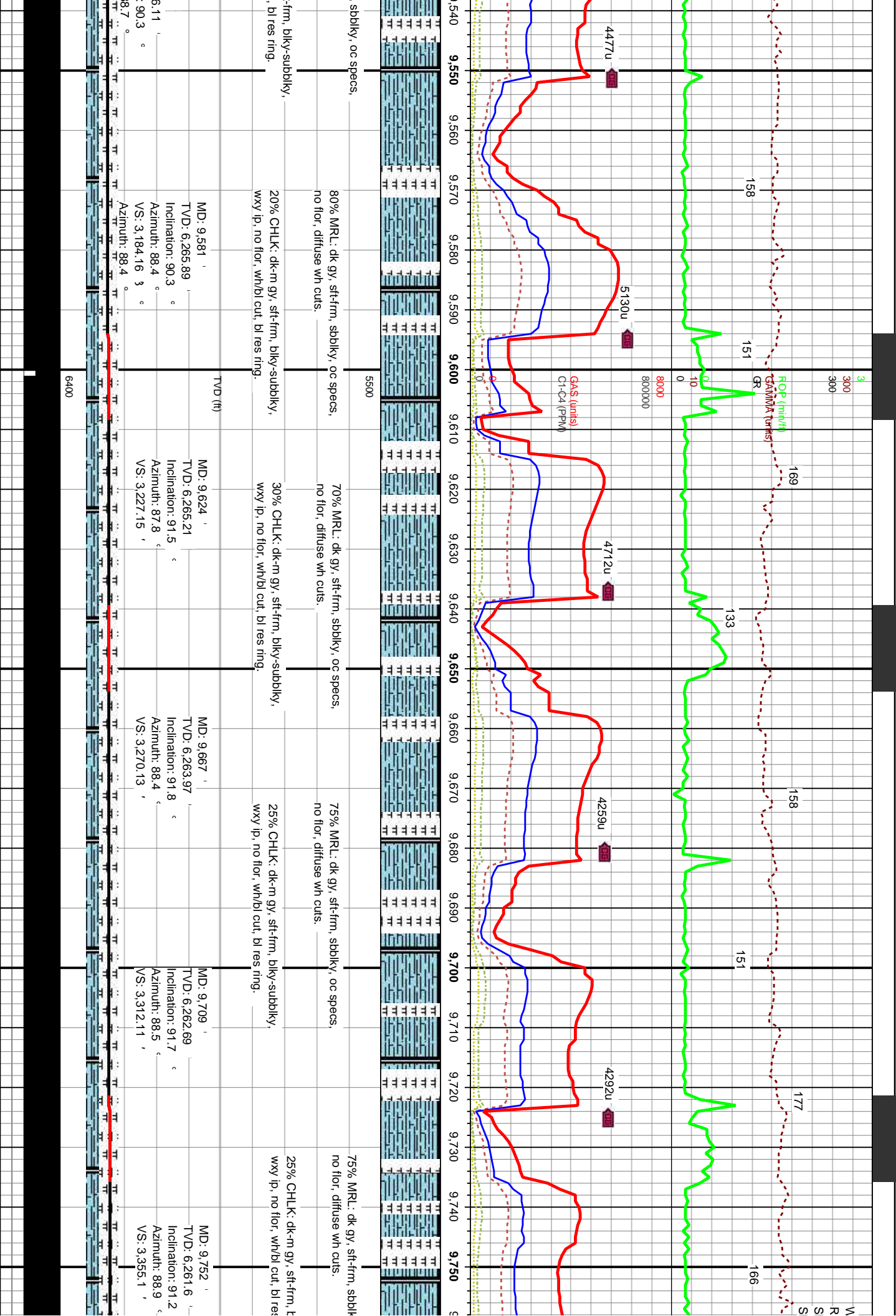












176

202

MMW 9.4/VIS 40

ROP (m/h)
GR

3000
3000
800000

148

101

126

146

4111u

4376u

4961u

1758u

5027u

4329u

9.760

9.770

9.780

9.790

9.800

9.810

9.820

9.830

9.840

9.850

9.860

9.870

9.880

9.890

9.900

9.910

9.920

9.930

9.940

9.950

9.960

9.970

y, oc specs,

5500

75% MRL: dk gy, sft-frm, sbblky, oc specs,
no flr, diffuse wh cuts.

75% MRL: dk gy, sft-frm, sbblky, oc specs,
no flr, diffuse wh cuts.

75% MRL: dk gy, sft-frm, sbblky, oc specs,
no flr, diffuse wh cuts.

65% MRL: dk gy, sft-frm, sbblky, oc specs,
no flr, diffuse wh cuts.

25% CHLK: dk-m gy, sft-frm, blky-sbblky,
wxy ip, no flr, wh/bl cut, bl res ring.

25% CHLK: dk-m gy, sft-frm, blky-sbblky,
wxy ip, no flr, wh/bl cut, bl res ring.

25% CHLK: dk-m gy, sft-frm, blky-sbblky,
wxy ip, no flr, wh/bl cut, bl res ring.

35% CHLK: dk-m gy, sft-frm, blky-sbblky,
wxy ip, no flr, wh/bl cut, bl res ring.

MD: 9.795
TVD: 6,260.89
Inclination: 90.7
Azimuth: 88
VS: 3,398.09

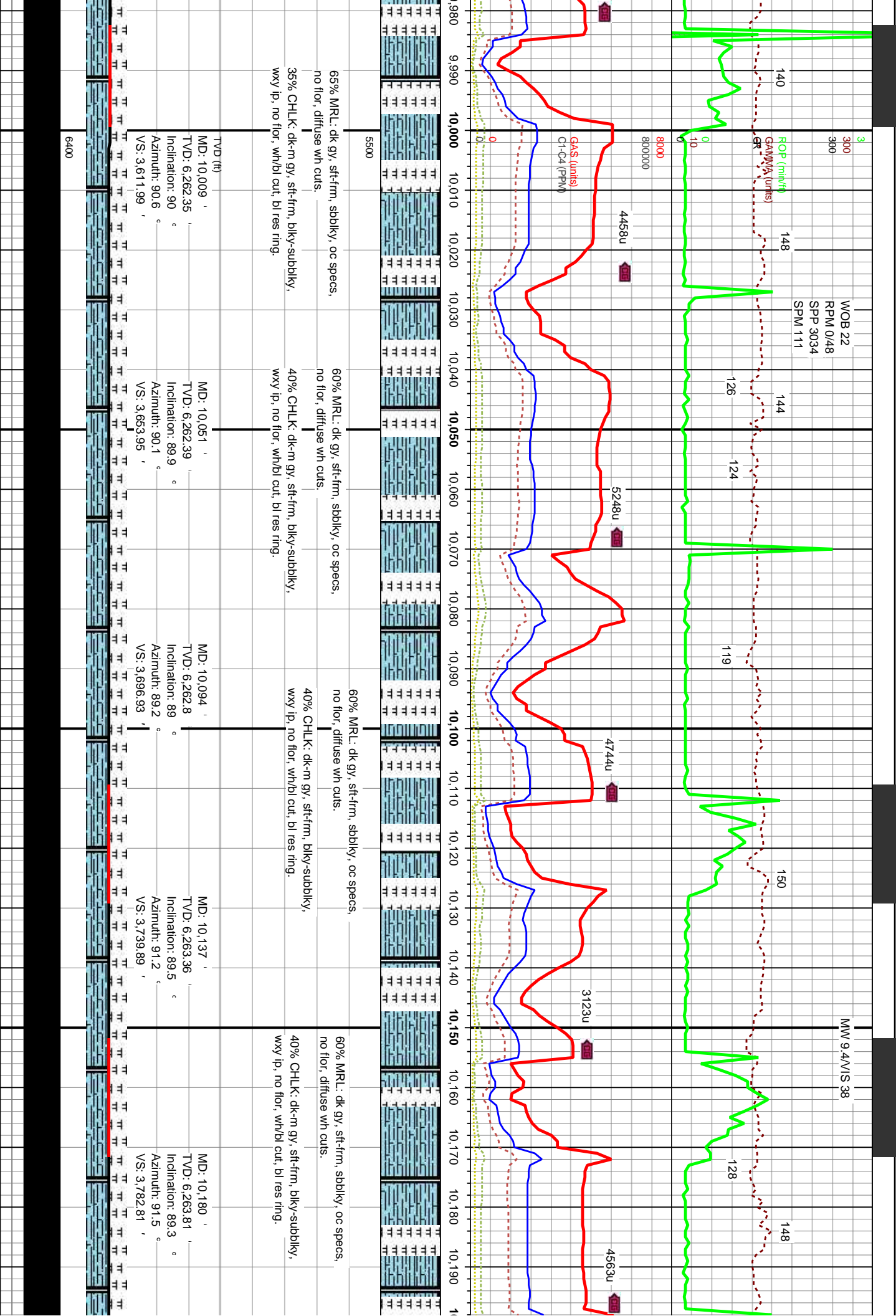
MD: 9.838
TVD: 6,260.63
Inclination: 90
Azimuth: 88.5
VS: 3,441.09

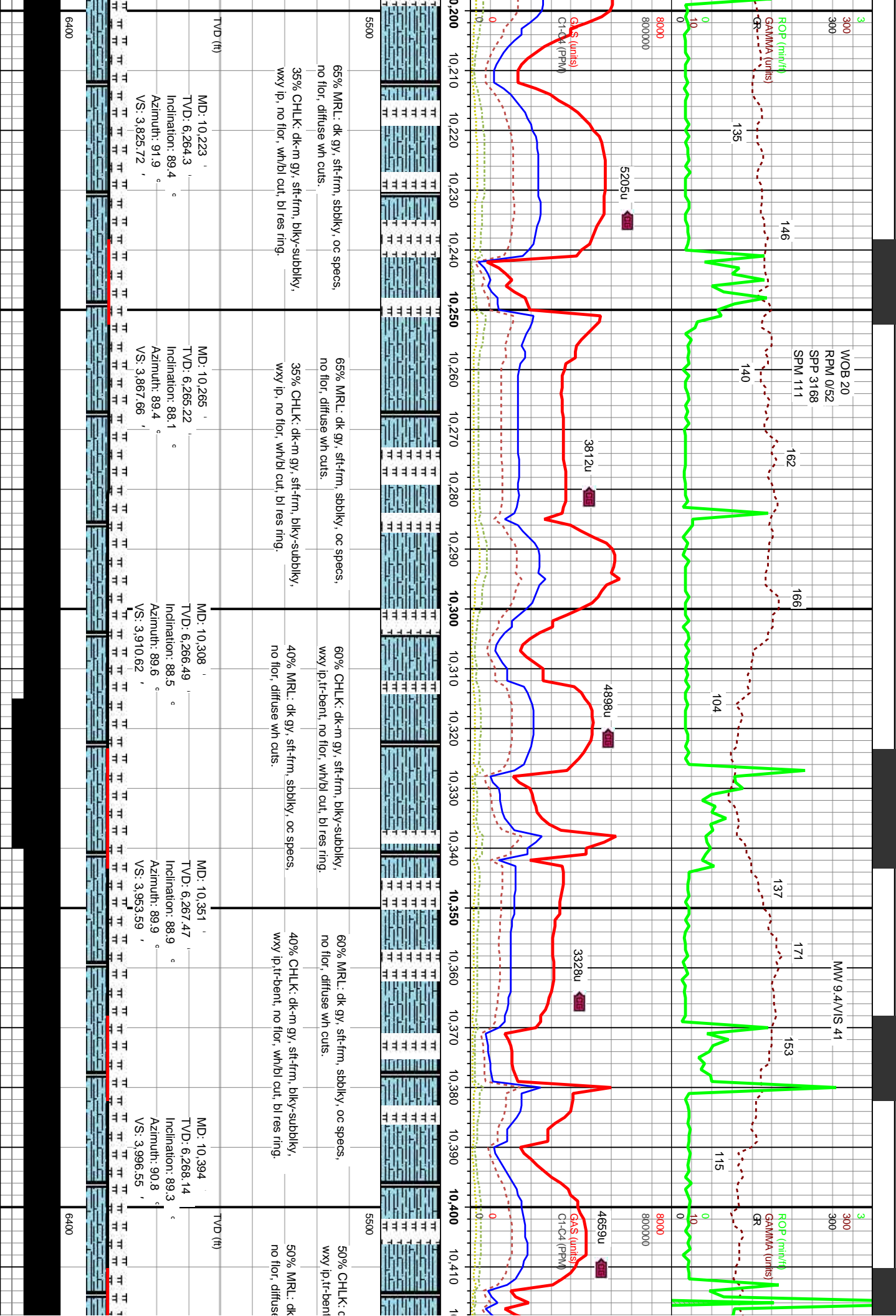
MD: 9.880
TVD: 6,260.89
Inclination: 89.3
Azimuth: 88.9
VS: 3,483.08

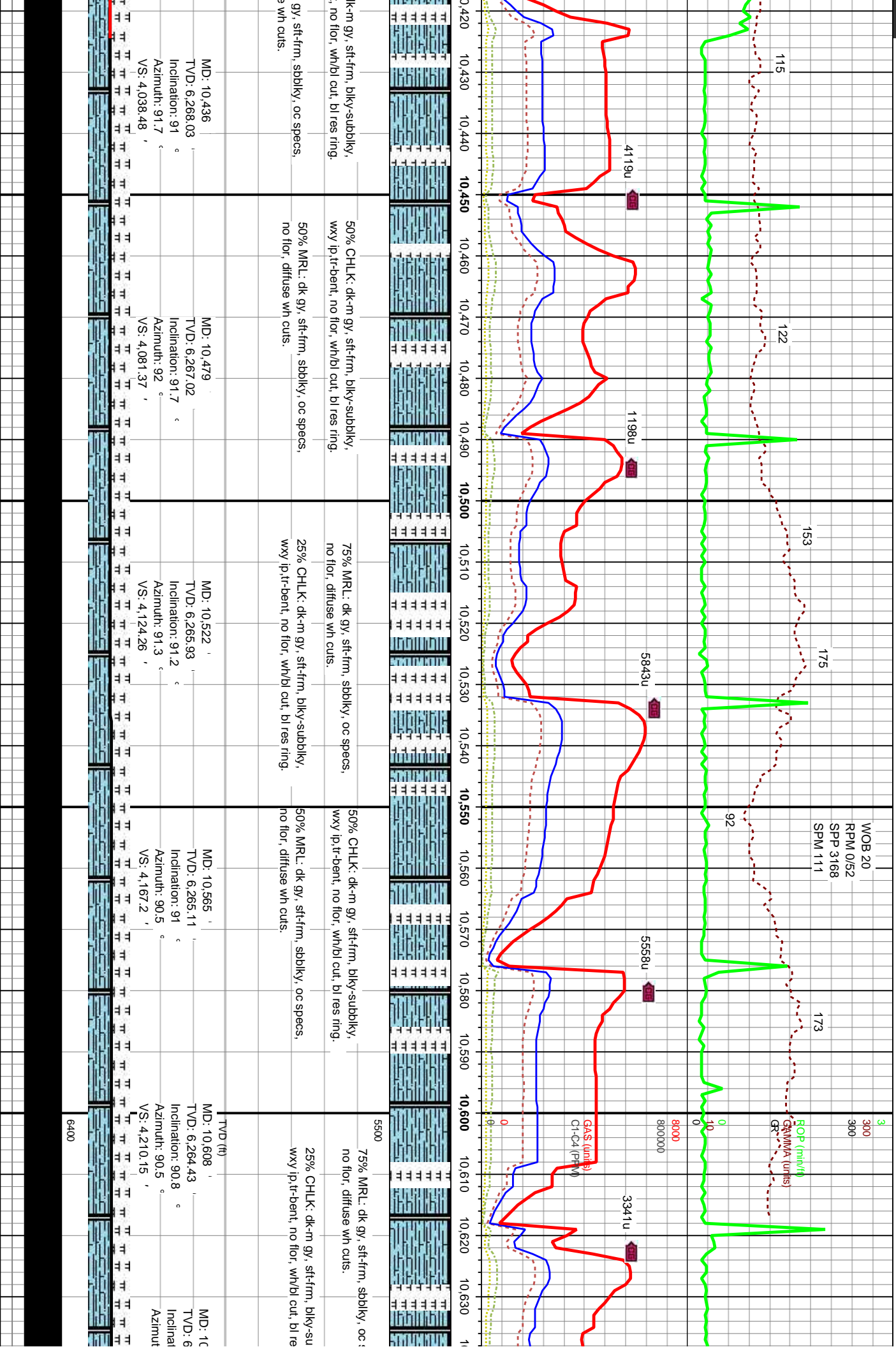
MD: 9.923
TVD: 6,261.52
Inclination: 89
Azimuth: 89.8
VS: 3,526.06

MD: 9.966
TVD: 6,262.12
Inclination: 89.4
Azimuth: 90.3
VS: 3,569.03

6400

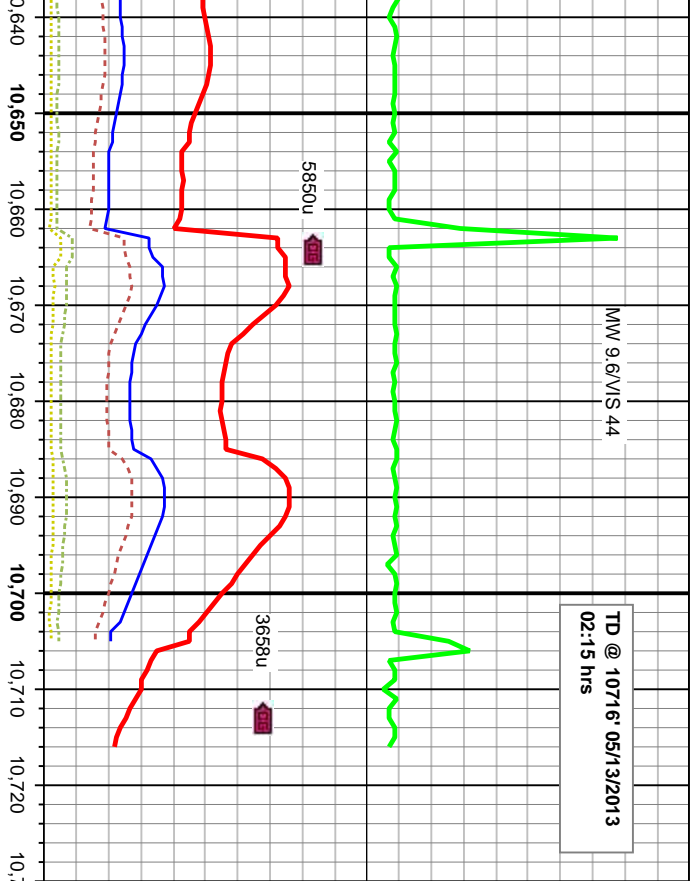






MW 9.6/VIS 44

TD @ 10716' 05/13/2013
02:15 hrs



75% MRL: dk gy, sft-fm, sbblky, oc specs,
no flr, diffuse wh cuts.

25% CHLK: dk-m gy, sft-fm, blk-y-sbblky,
wxy ip, tr-bent, no flr, wh/bl cut, bl res ring.

MD: 10,661'
TVD: 6,263.4'
Inclination: 91.4°
Azimuth: 90.6°

