

Décollement
Consulting
Inc.



Scale: 5" / 100'
Measured Depth Log

Well Name State Seventy Holes O-K-6HNB

Location SESE Sec 6 T4N R62W

State Colorado

Country USA

API Number 05-123-37928-00

County Weld

Rig Number Ensign 136

Field DJ. Basin

Spud Date 9/5/2013

Drilling Completed 10/2/2013

Surface Coordinates 390 FSL X 1135 FEL

Ground Elevation 4530'

K.B. Elevation 4543'

Logged Interval 5800' To 11133'

Total Depth 11133'

Formation Niobrara "B" Chalk

Type of Drilling Fluid WBM

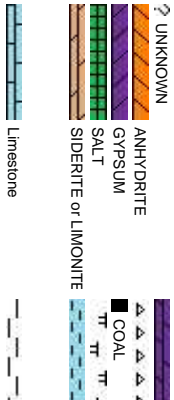
Company Bonanza Creek Energy

Address 410 17th Street, Suite 1100
Denver, CO 80202

Name Leo Carrasco/Chris Irwin

Company Décollement Consulting

Address 13300 Braun Road
Golden, CO 80401



Operator

500

Geologist

Inc.

Rock Types

DOLomite

CHERT

MARLSTONE

CLAYSTONE

SHALE

SHALE GRAY

SHALE COLORED

SILTSTONE

SANDSTONE

CONGLOMERATE

TILL

BENTONITE

TUFF

IGNEOUS

METAMORPHIC

BRECCIA

Chalk

Accessories

Fossils

F FOSSIL

GASTROPD

ALGAE

AMPHIPORA

BELLENITE

BIOLCLASTIC

BRACHIOPOD

BRYOZOA

CEPHALOPD

CORAL

CRINOID

ECHINOID

FISH

FORAMINIFERA

Minerals

ANHYDRITIC

FERRUGINOUS

TUFFACEOUS

SILTY

SILTSTONE STRINGER

Stringer

ANHYDRITE STRINGER

BENTONITE STRINGER

COAL STRINGER

DOLOMITE STRINGER

GYPSUM STRINGER

LIMESTONE STRINGER

MARLSTONE (CALC) STRG

MARLSTONE (DOL) STRG

SANDSTONE STRINGER

SHALE STRINGER

Fossils

F FOSSIL

GASTROPD

ALGAE

AMPHIPORA

BELLENITE

BIOLCLASTIC

BRACHIOPOD

BRYOZOA

CEPHALOPD

CORAL

CRINOID

ECHINOID

FISH

FORAMINIFERA

Minerals

ANHYDRITIC

FERRUGINOUS

TUFFACEOUS

SILTY

SILTSTONE STRINGER

Stringer

ANHYDRITE STRINGER

BENTONITE STRINGER

COAL STRINGER

DOLOMITE STRINGER

GYPSUM STRINGER

LIMESTONE STRINGER

MARLSTONE (CALC) STRG

MARLSTONE (DOL) STRG

SANDSTONE STRINGER

SHALE STRINGER

Other Symbols

Oil Show

ORGANIC

PINPOINT

DEAD

EVEN

QUESTIONABLE

SPOTTED STAINING

Engineering

BIT

CONNECTION (LEFT)

CONNECTION (RIGHT)

EARTHLY

FENESTRAL

FRACTURE

INTERCRYSTALLINE

INTEROOLITIC

MOLDIC

Textures

BOUNDSTONE

CHALKY

CRYPTOXLN

EARTHY

FINELYXLN

GRAINSTONE

LITHOGRAPHIC

Sorting

MICROXLN

MUDSTONE

PACKSTONE

WACKESTONE

Rounding

ANGULAR

ROUNDED

SUBANG

SUBRND

Porosity

CONNECTION (LEFT)

CONNECTION (RIGHT)

EARTHLY

FENESTRAL

FRACTURE

INTERCRYSTALLINE

INTEROOLITIC

MOLDIC

Engineering

BIT

CONNECTION (LEFT)

CONNECTION (RIGHT)

EARTHLY

FENESTRAL

FRACTURE

INTERCRYSTALLINE

INTEROOLITIC

MOLDIC

Textures

BOUNDSTONE

CHALKY

CRYPTOXLN

EARTHY

FINELYXLN

GRAINSTONE

LITHOGRAPHIC

Sorting

MICROXLN

MUDSTONE

PACKSTONE

WACKESTONE

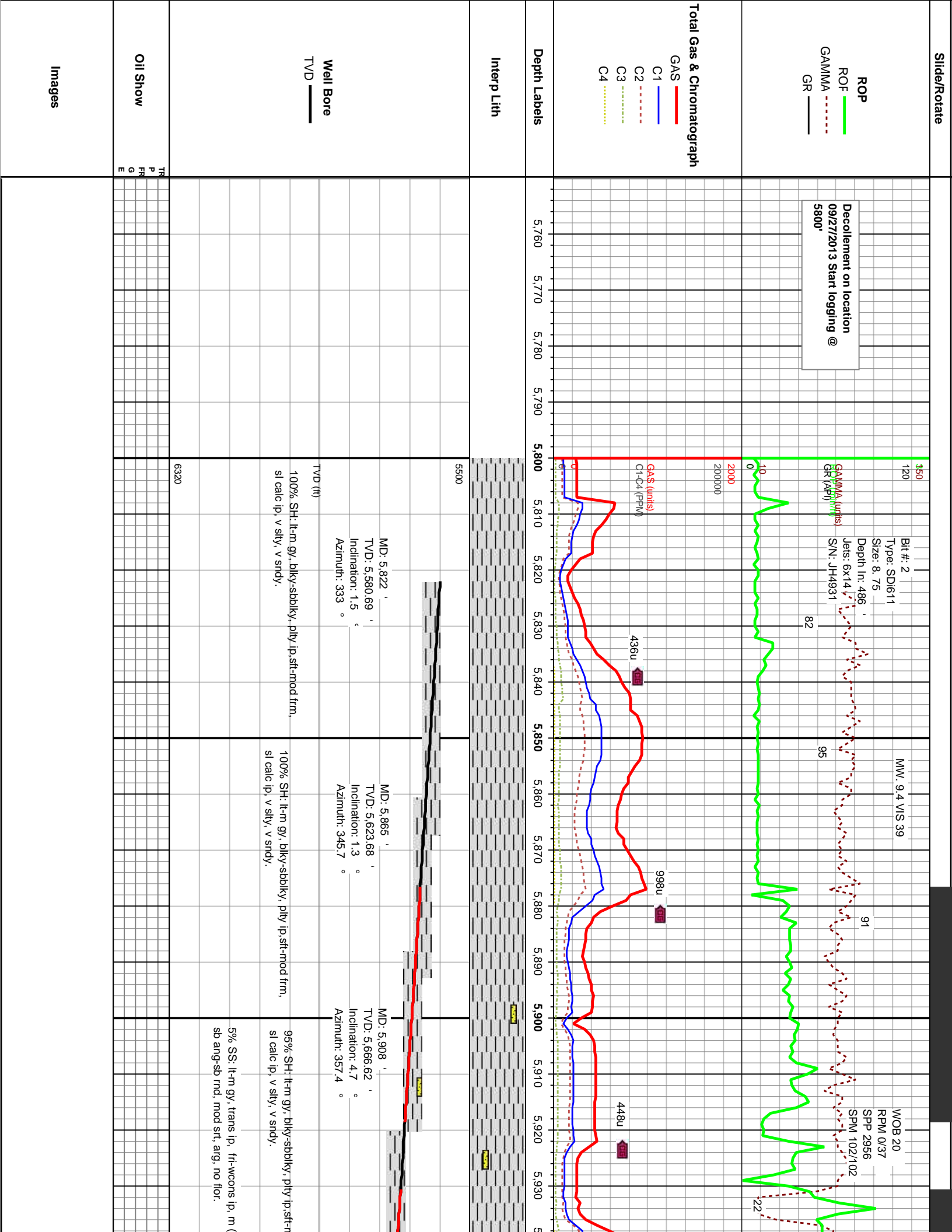
Rounding

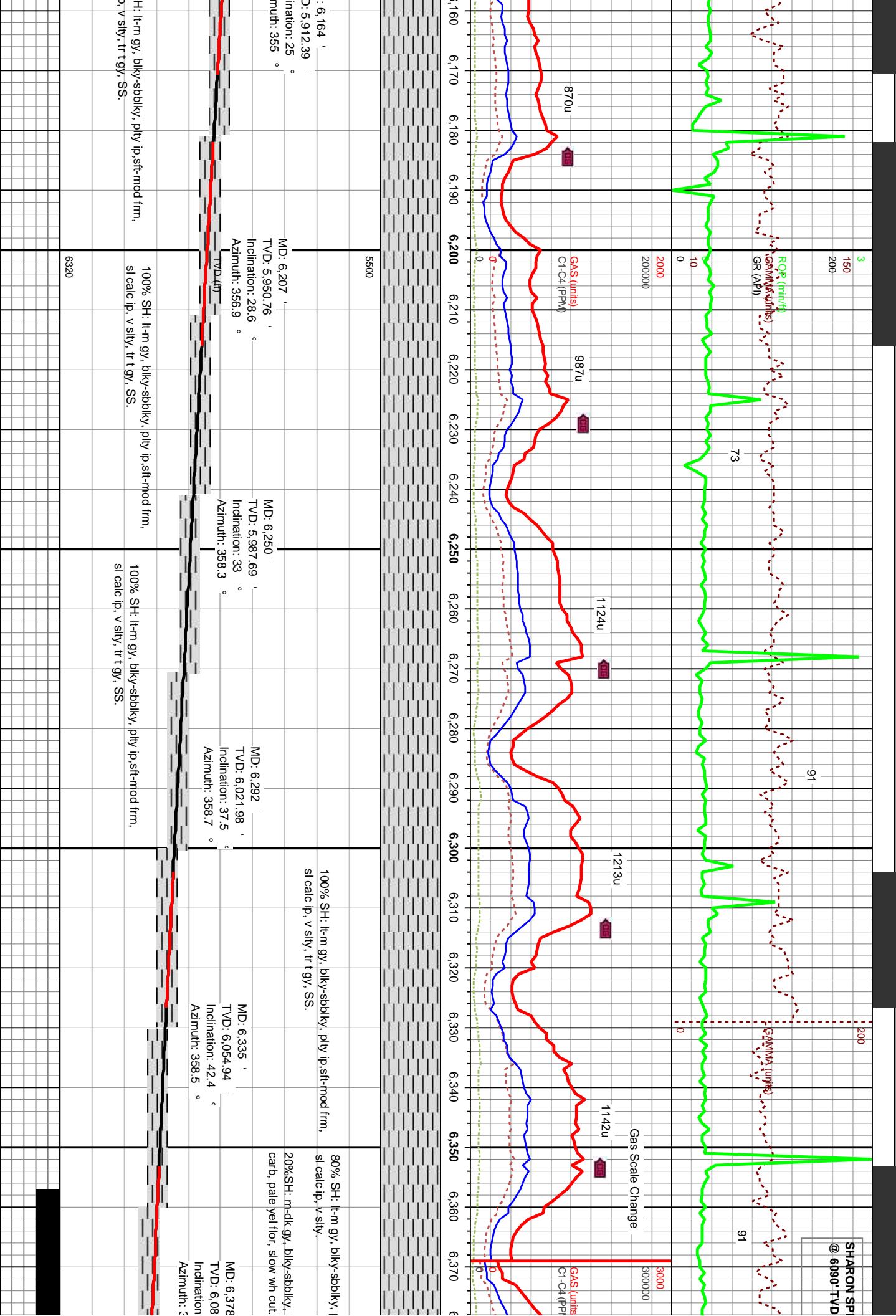
ANGULAR

ROUNDED

SUBANG

SUBRND





RINGS
6385 MD

3
200
200

ROP (min/h)
GAMMA (units)
GR (API)

173

WOB 53
RPM 0/30
SPM 2913
SPM 100/102

114

170

NIOBRARA "A" CHALK
6161 TVD, 6507 MD

NIOBRARA "A" MARL
6170 TVD, 6526 MD

216

72

58

1432u

GAS (units)
C1-C4 (PPM)

1850u

GAS (units)
C1-C4 (PPM)

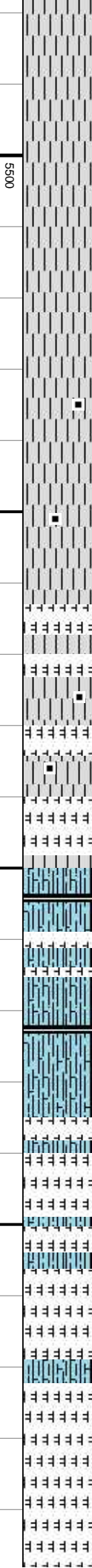
3679u

6393u

6095u

Gas Scale Change

6.380 6.390 6.400 6.410 6.420 6.430 6.440 6.450 6.460 6.470 6.480 6.490 6.500 6.510 6.520 6.530 6.540 6.550 6.560 6.570 6.580 6.590



shly ip, sft-mod frm,

5500

100% SH: m-dk gy, blk-y-sbbiky, pily ip, wxy ip, tr-bent,
carb, pale yel flr, slow wh cut.

shly ip, wxy ip, tr-bent,

70% SH: m-dk gy, blk-y-sbbiky, pily ip, wxy ip, tr-bent,
carb, no flr, no cut.
30% MRL: dk gy, sft-frm, sbbiky, occ specs, v calc,
no flr, poor wh cuts.

95% CHKL: lt-m gy, off wh, sft-mod frm, blk-y -subbiky,
calc, wxy ip, tr Bent, no flr, wh/bl cut, bl res ring.
5% MRL: dk gy, sft-frm, sbbiky, occ specs, v calc,
no flr, poor wh cuts.

100% MRL: dk gy, sft-frm, sbbiky, occ specs, v
calc, no flr, poor wh cuts.

5.3

47.7

559

TVD (ft)

MD: 6,421
TVD: 6,112.94
Inclination: 52.3
Azimuth: 358.7

MD: 6,463

TVD: 6,137.43
Inclination: 56.2
Azimuth: 357.6

MD: 6,506

TVD: 6,160.18
Inclination: 59.9
Azimuth: 355.7

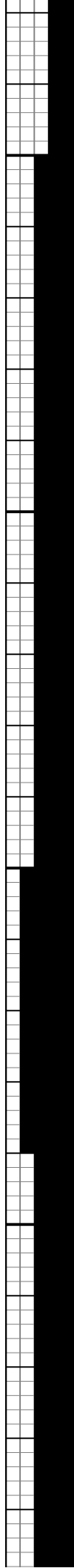
MD: 6,549

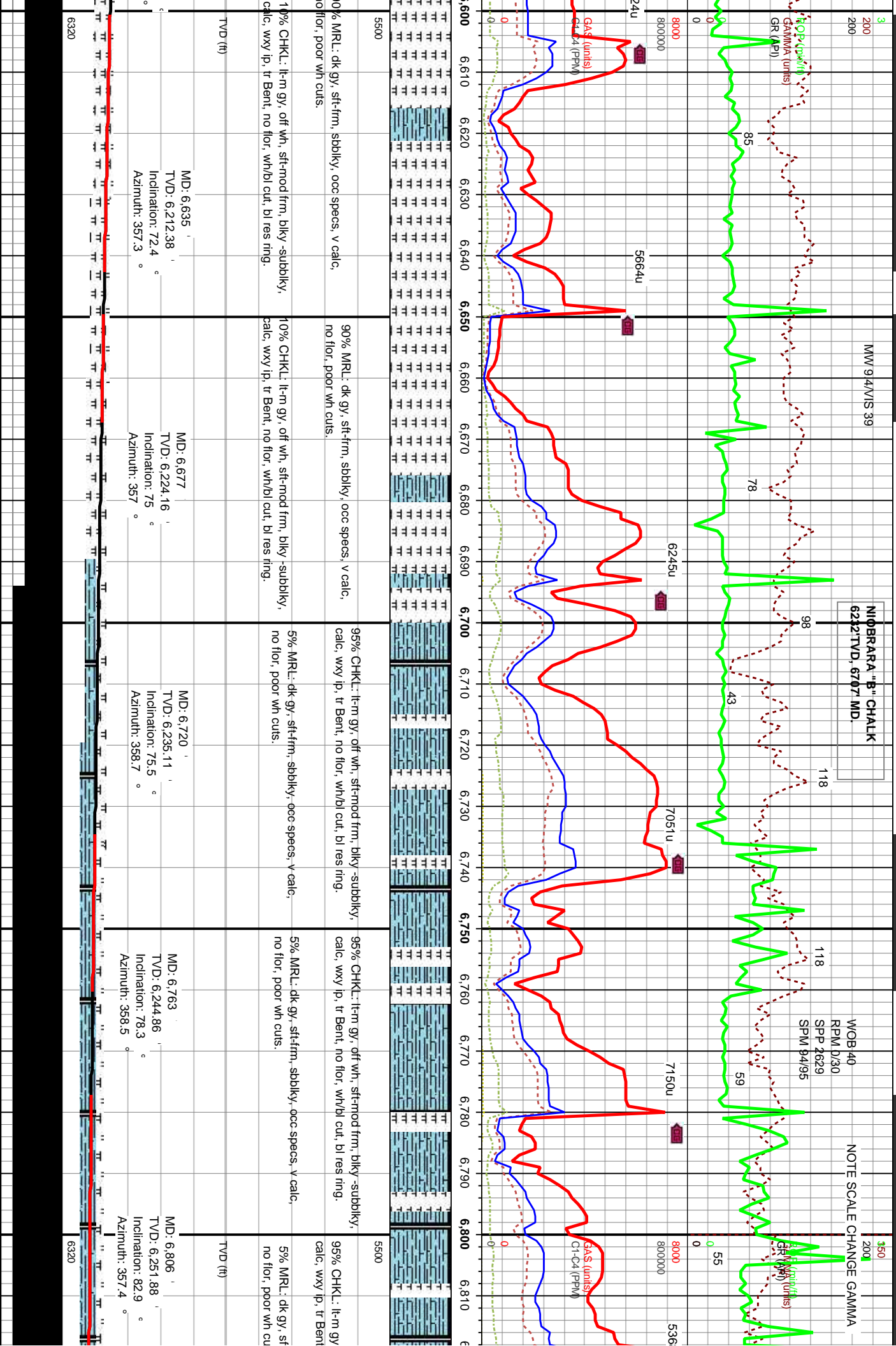
TVD: 6,180.4
Inclination: 64
Azimuth: 355.2

MD: 6,592

TVD: 6,197.85
Inclination: 68.1
Azimuth: 355.5

6320





TD @ 6897' 09/28/2013 05:44 hr.

Resume Drilling 09/29/2013
22:31 hr.

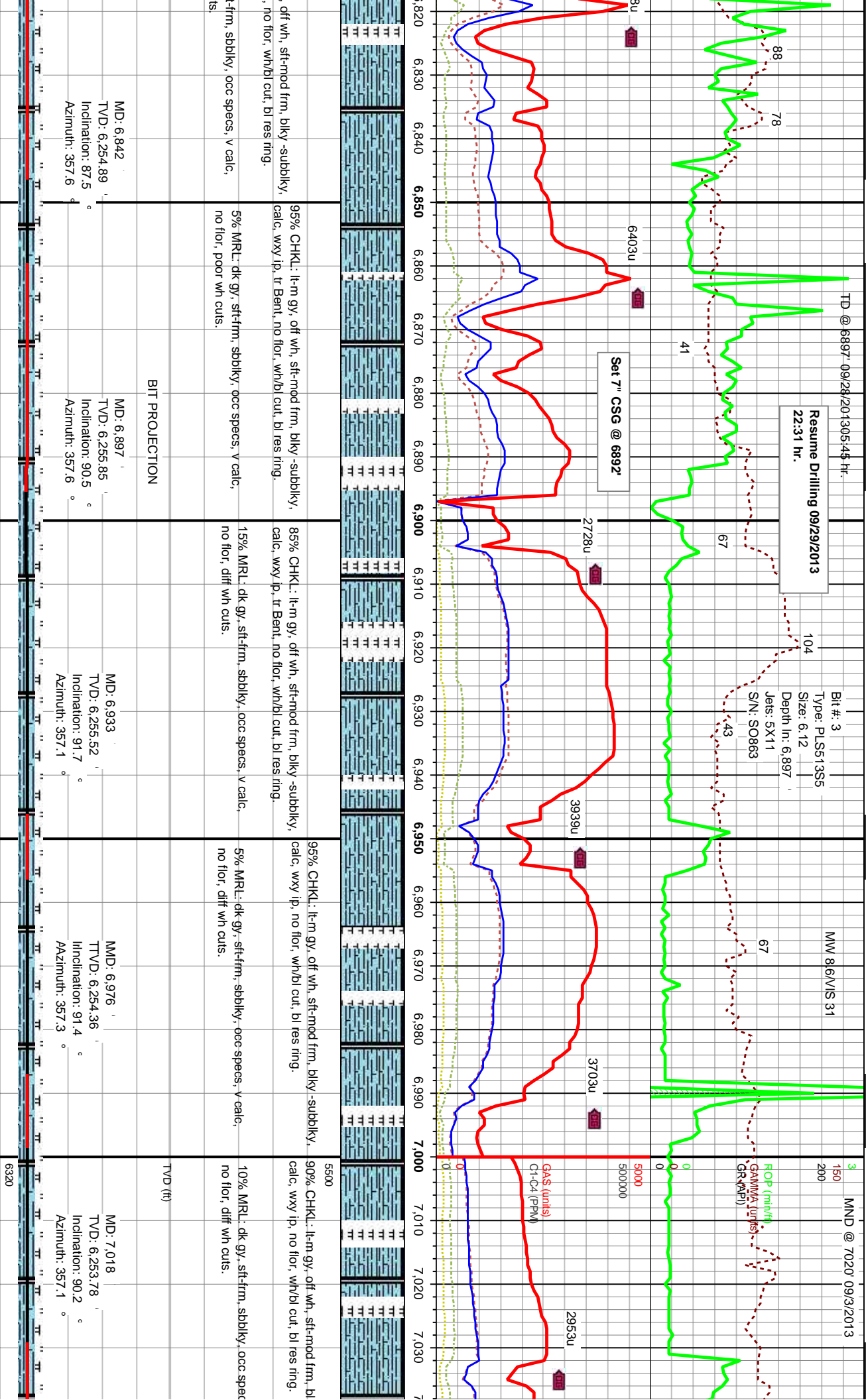
Bit #: 3
Type: PLS513S5
Size: 6.12
Depth In: 6.897
Jets: 5X11
S/N: S0863

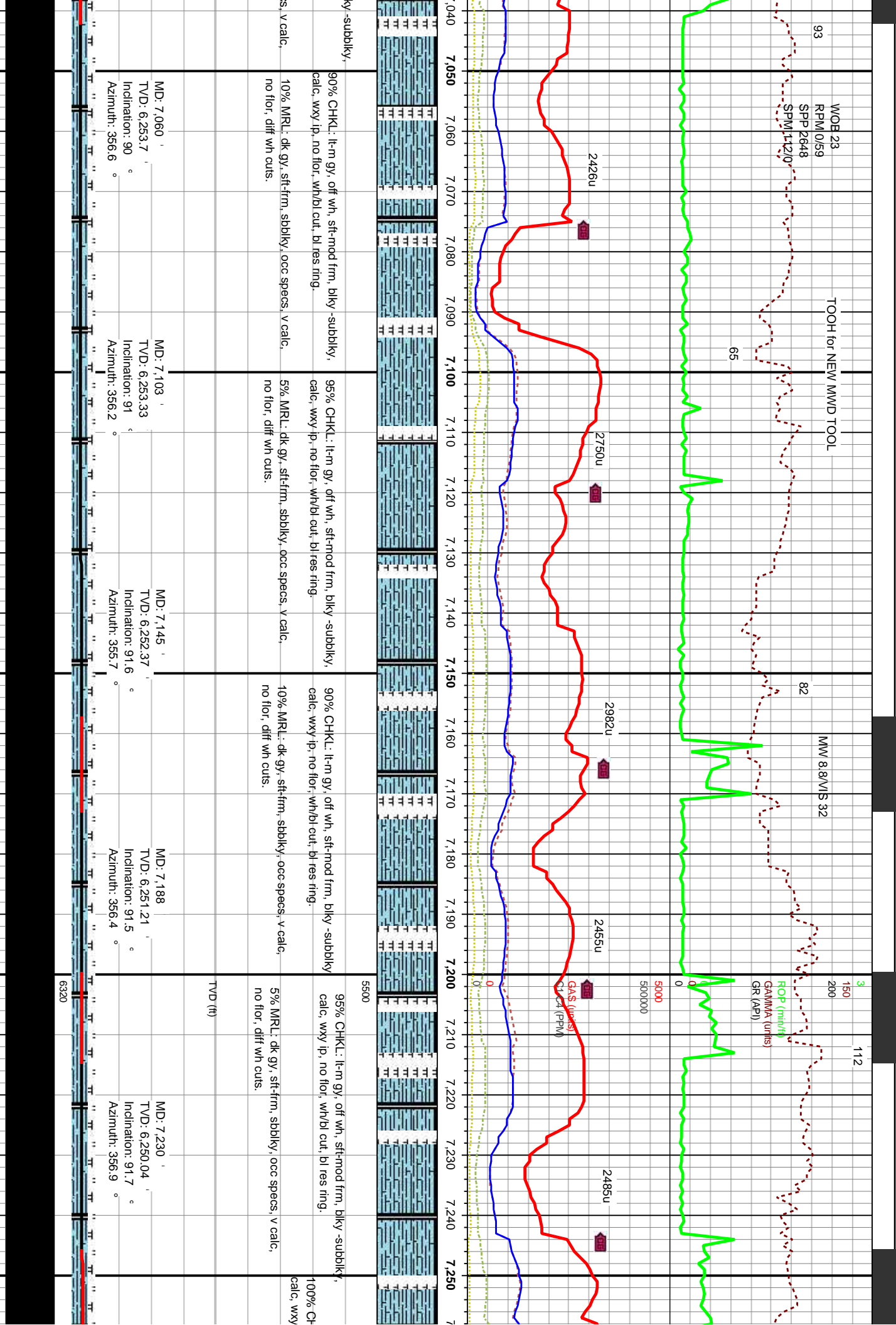
MMW 86/MIS 31

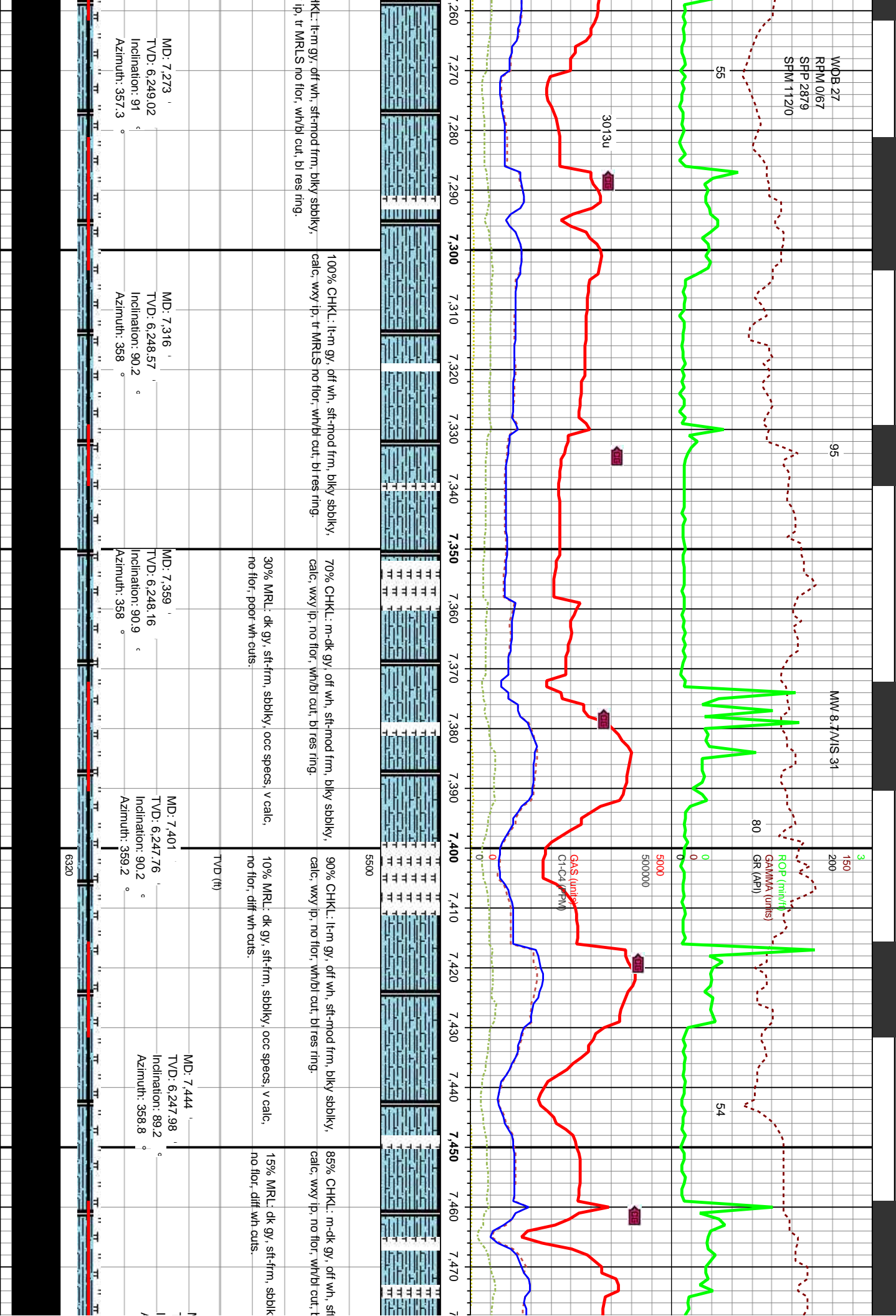
MND @ 7020' 09/3/2013

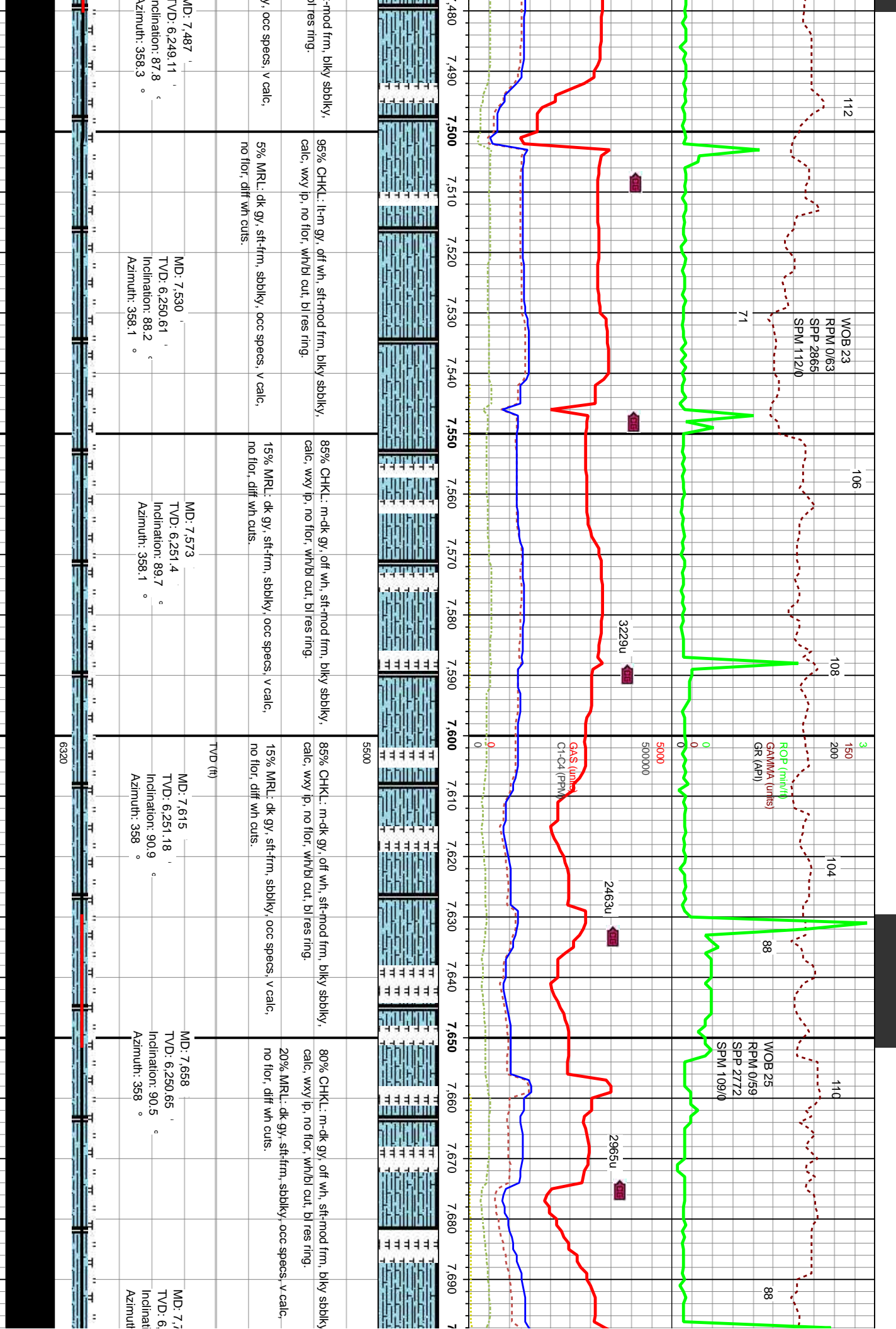
ROP (m/h)
GAMMA (units)
GRAP

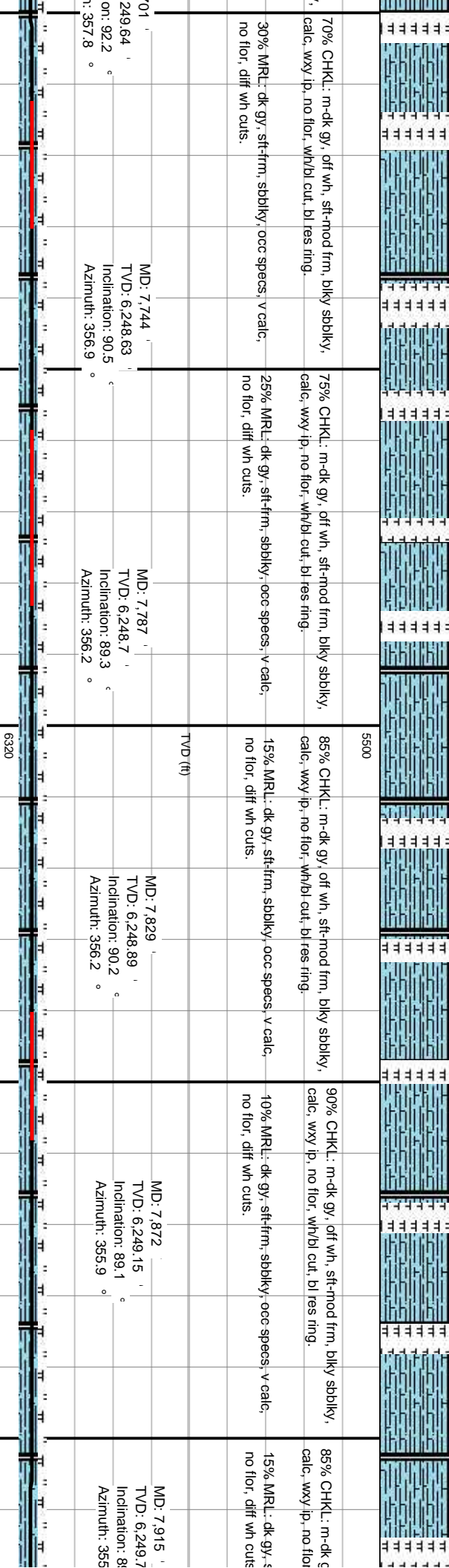
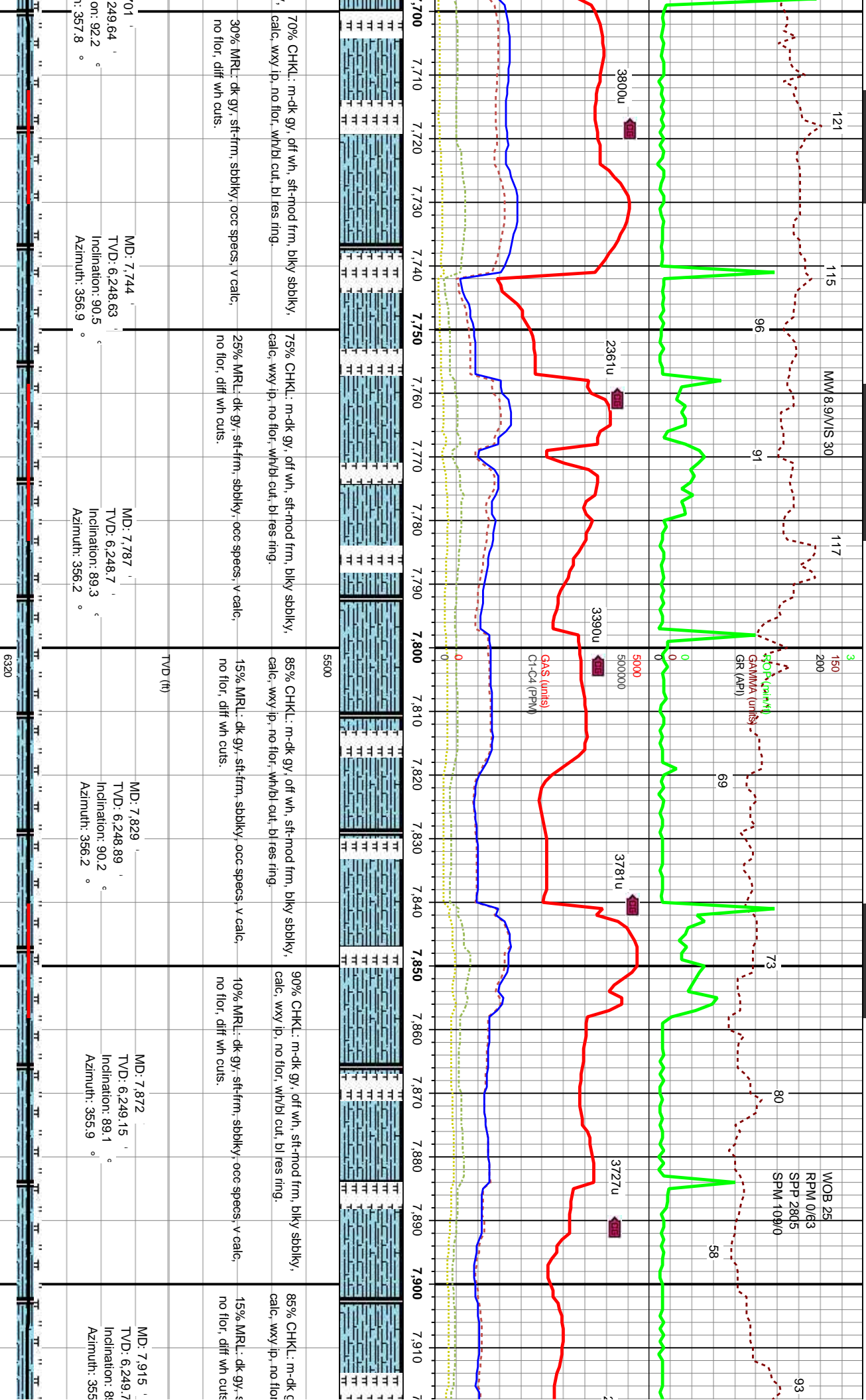
GAS (units)
C1-C4 (PPM)

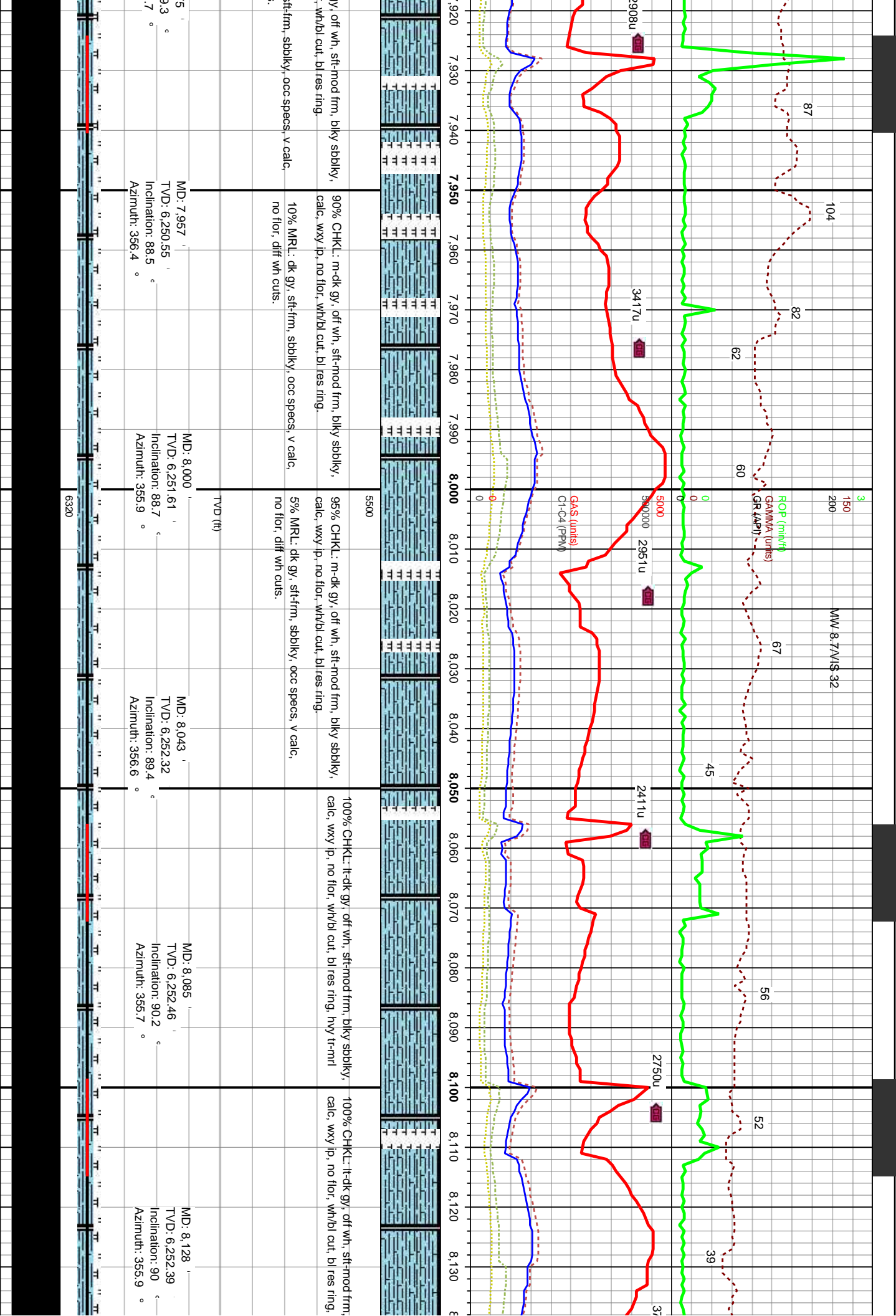


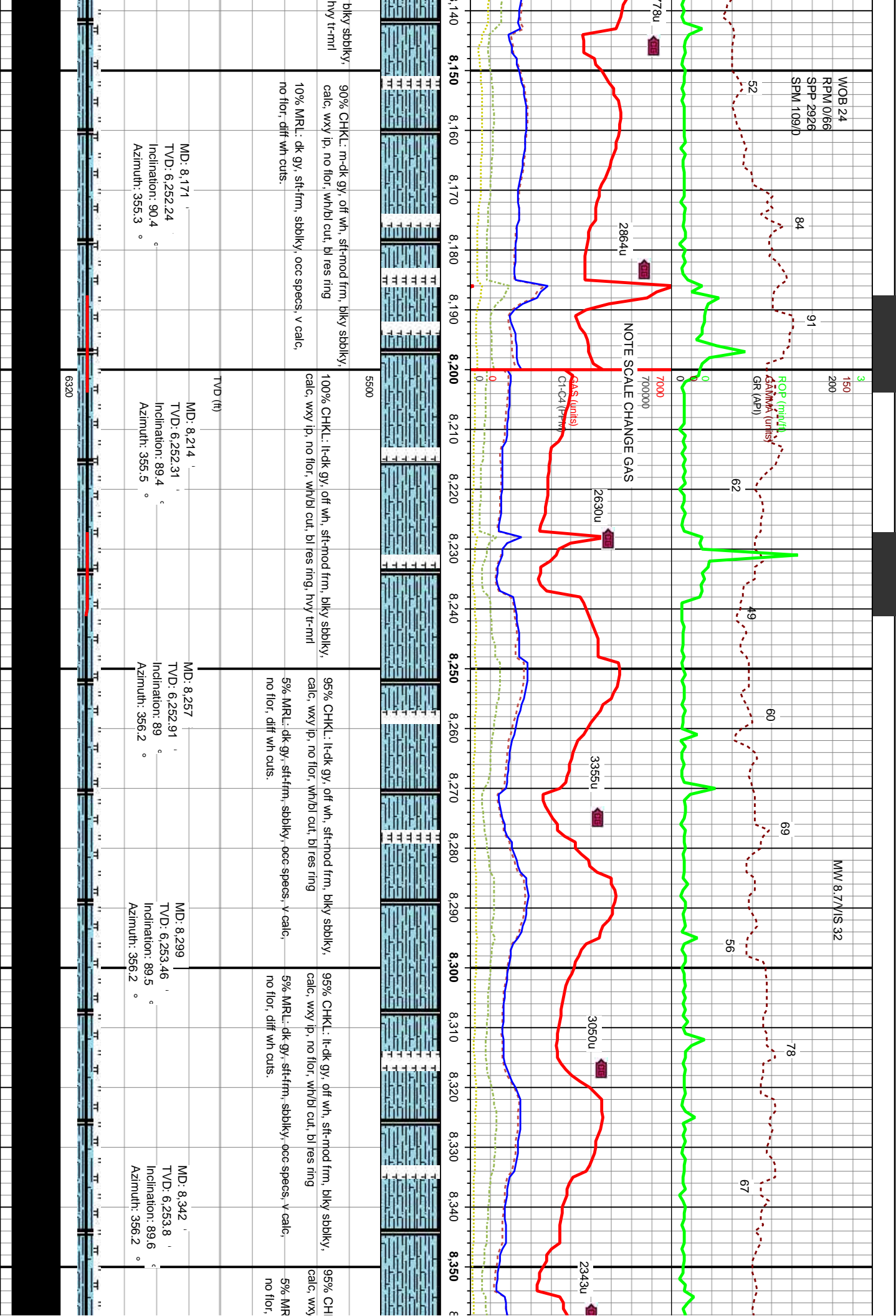


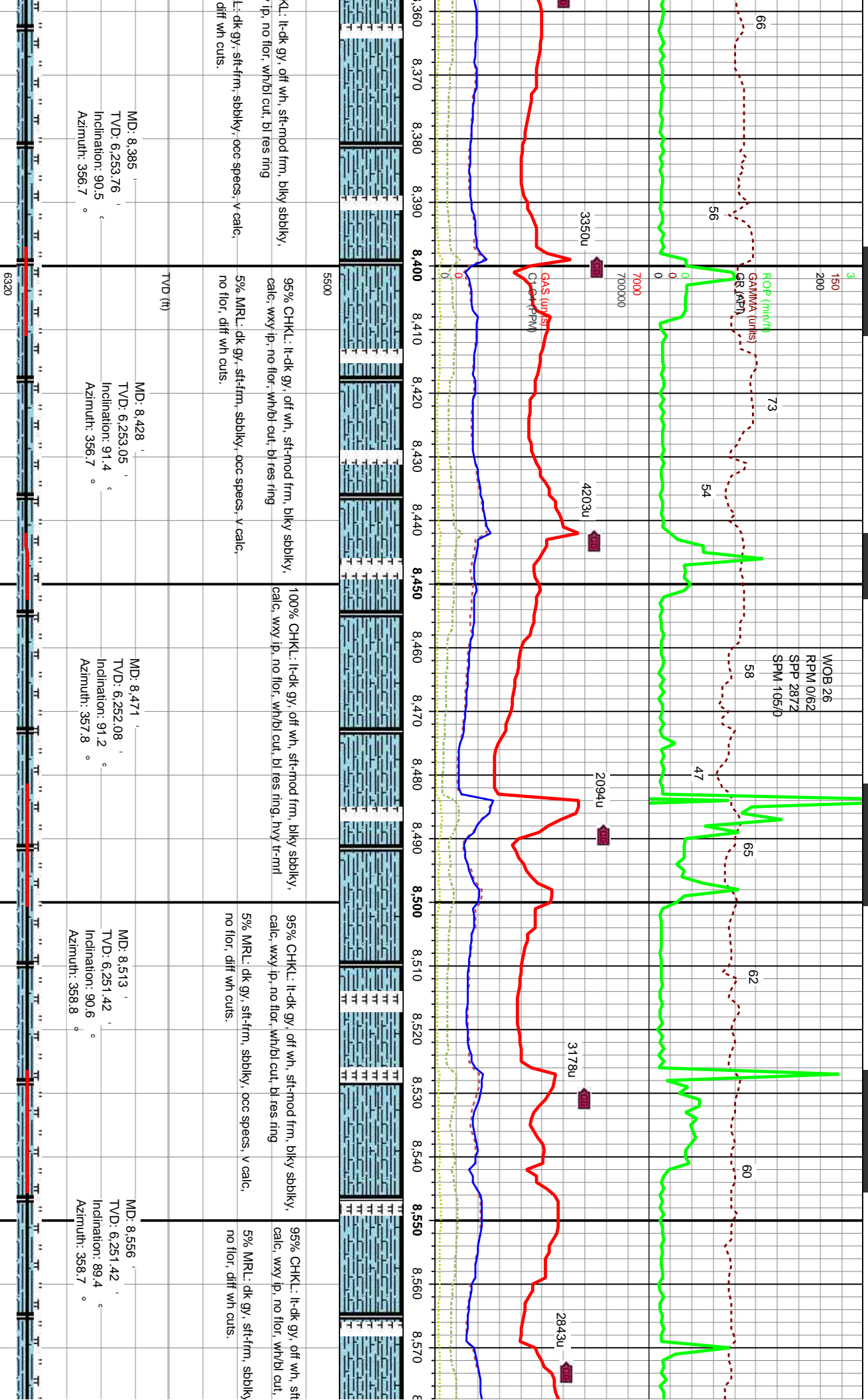


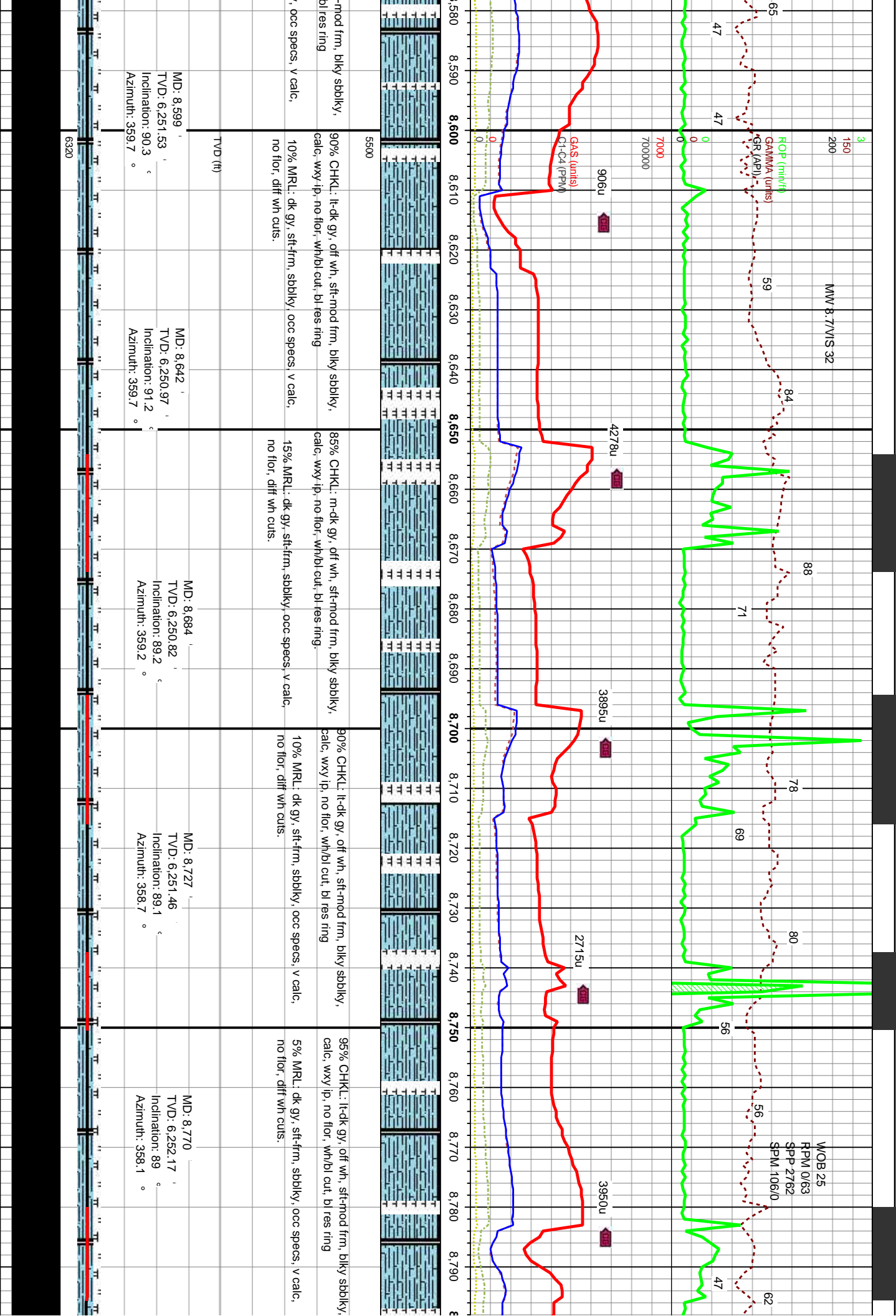


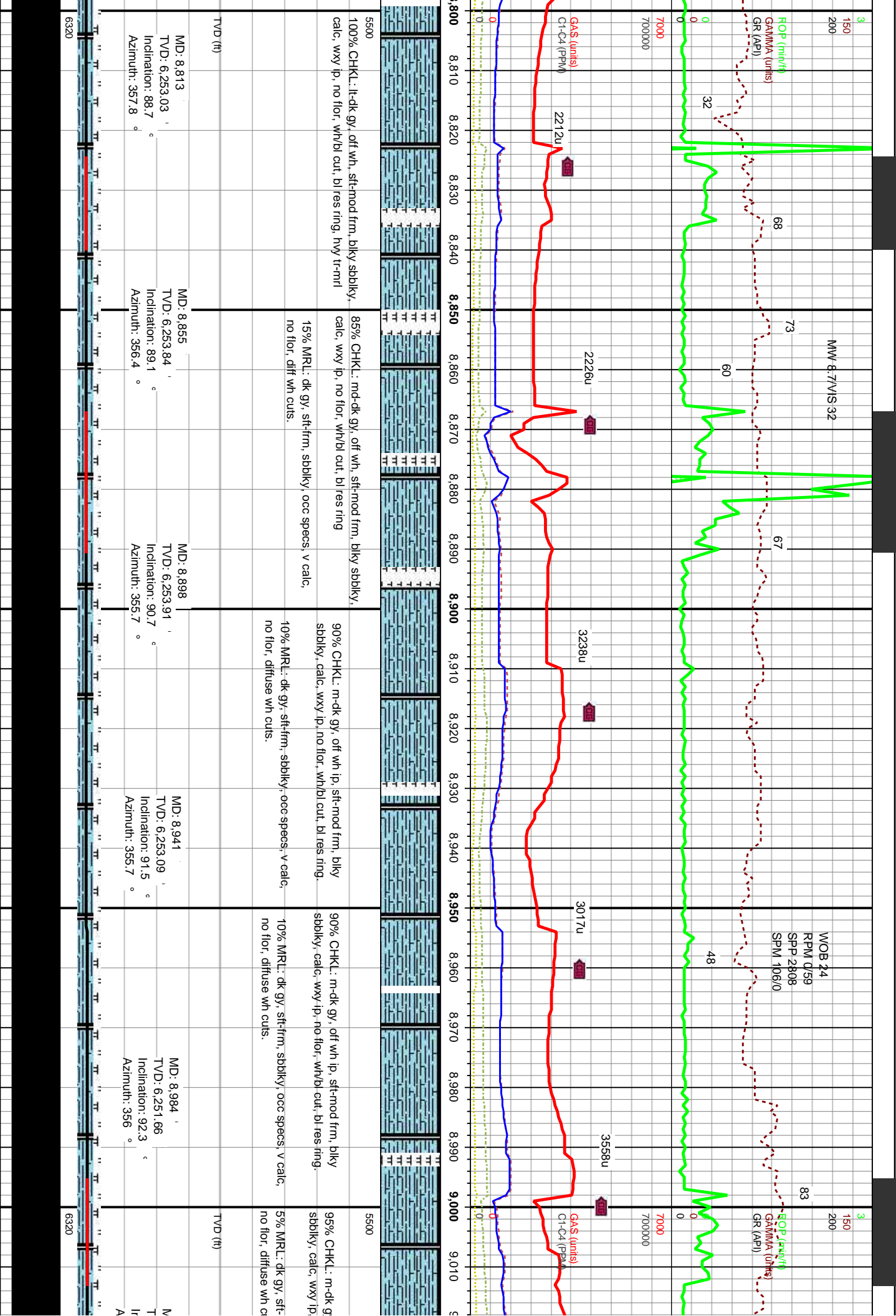


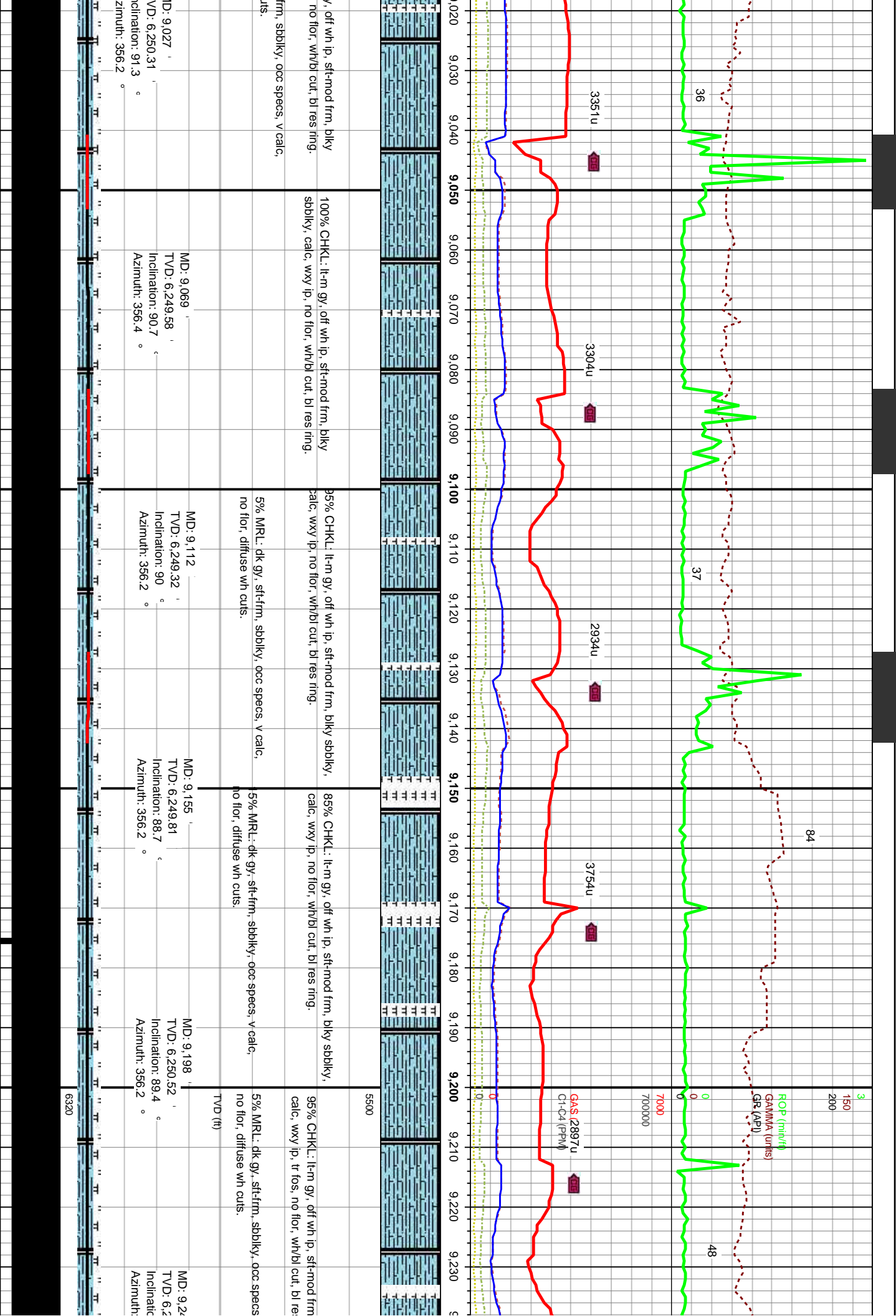


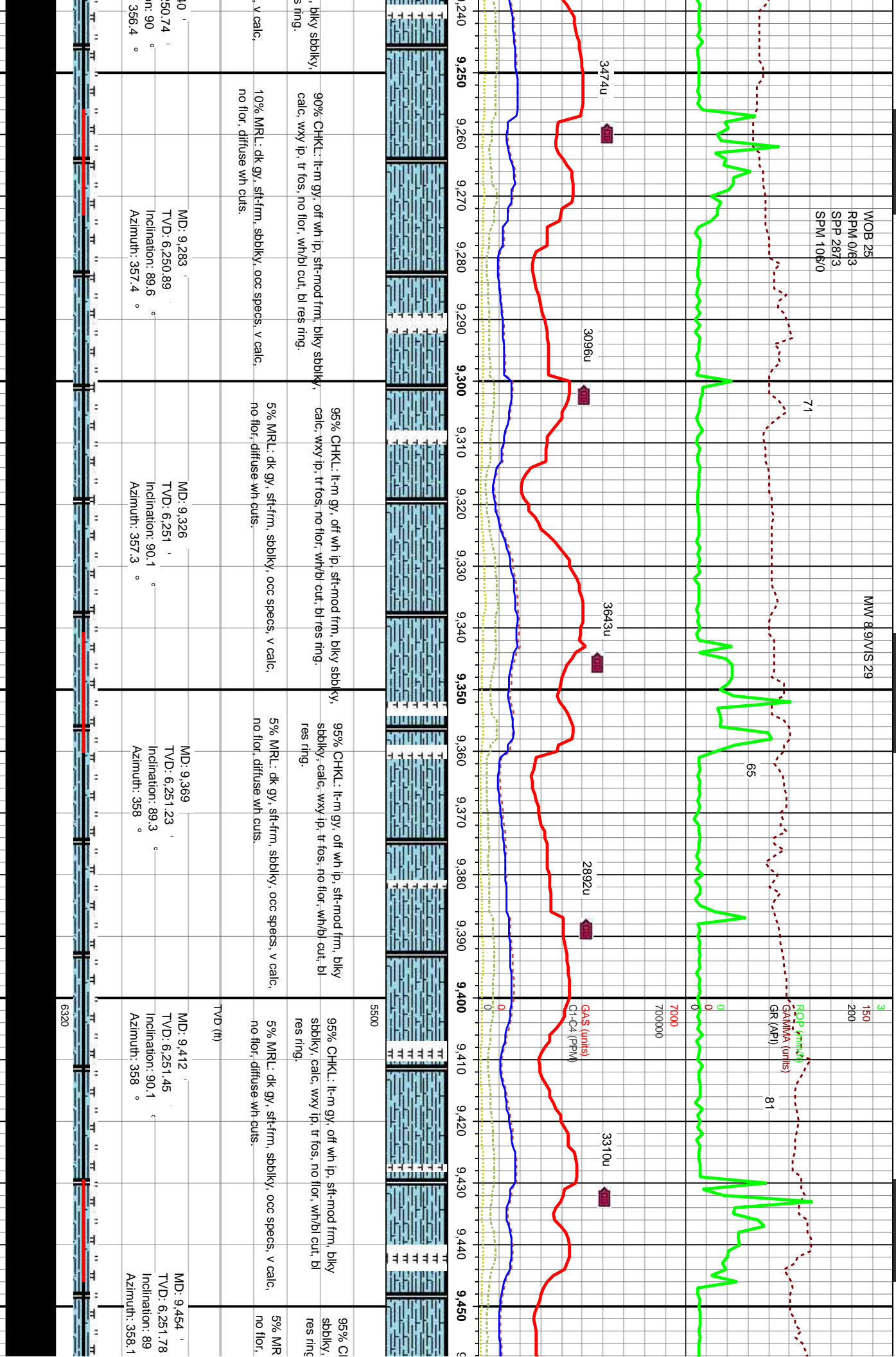


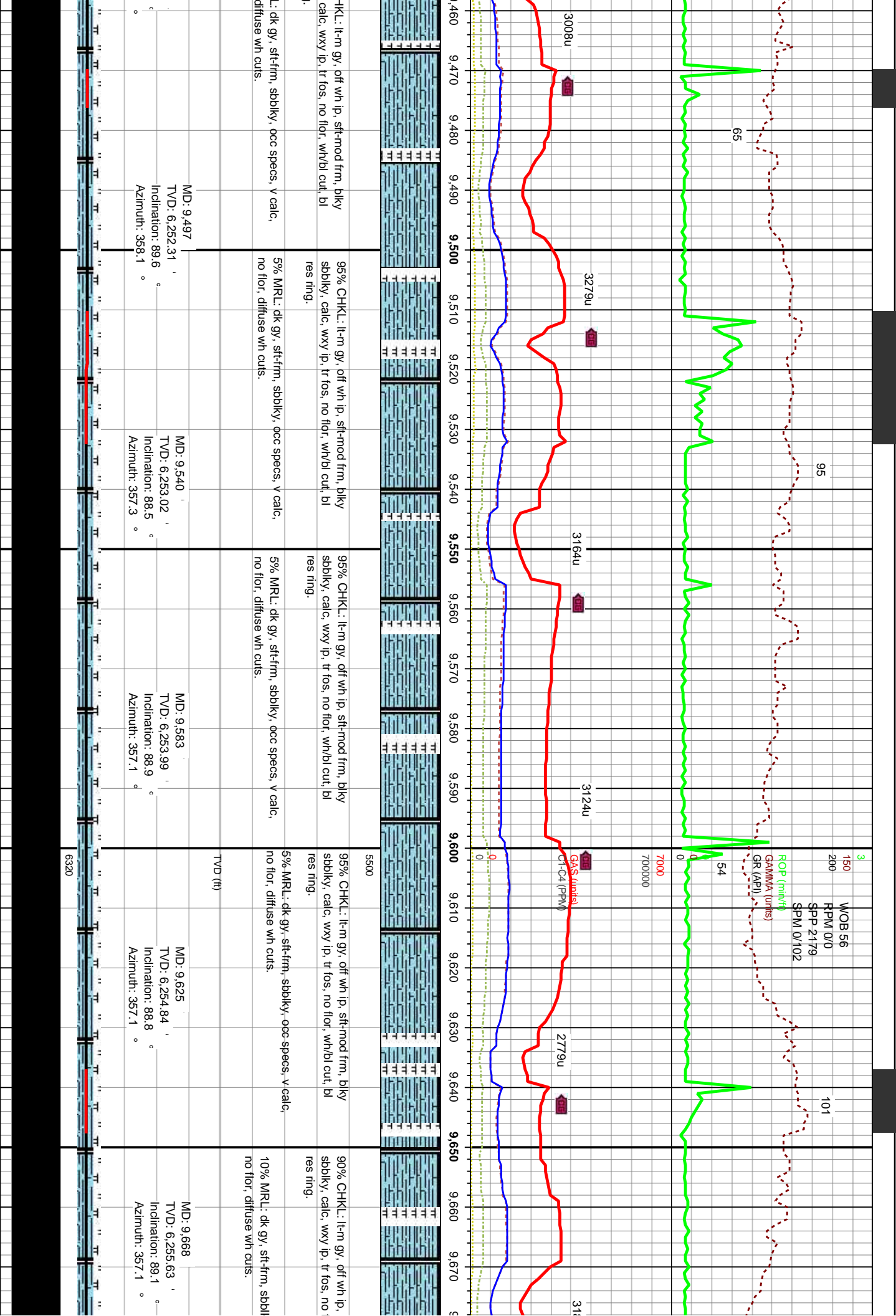


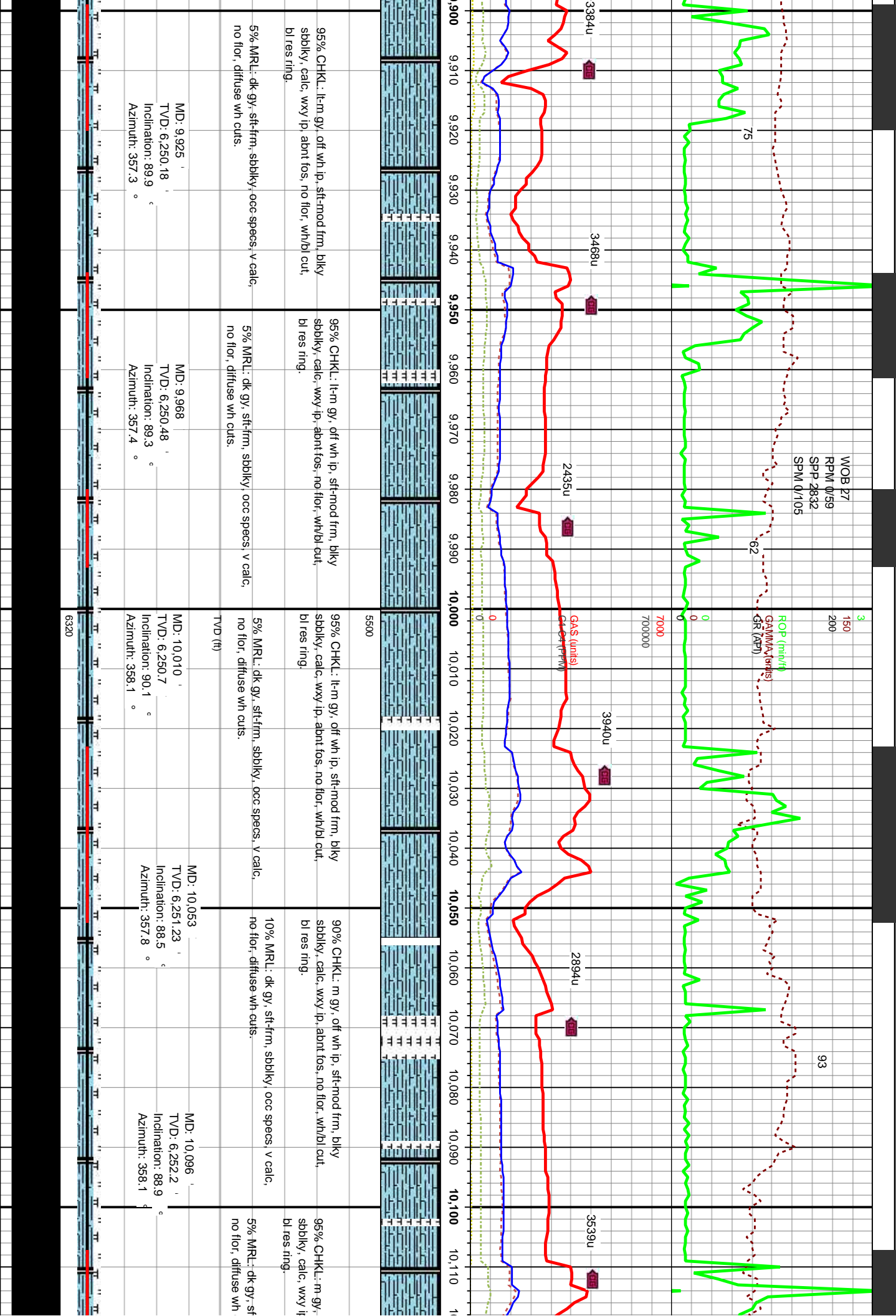


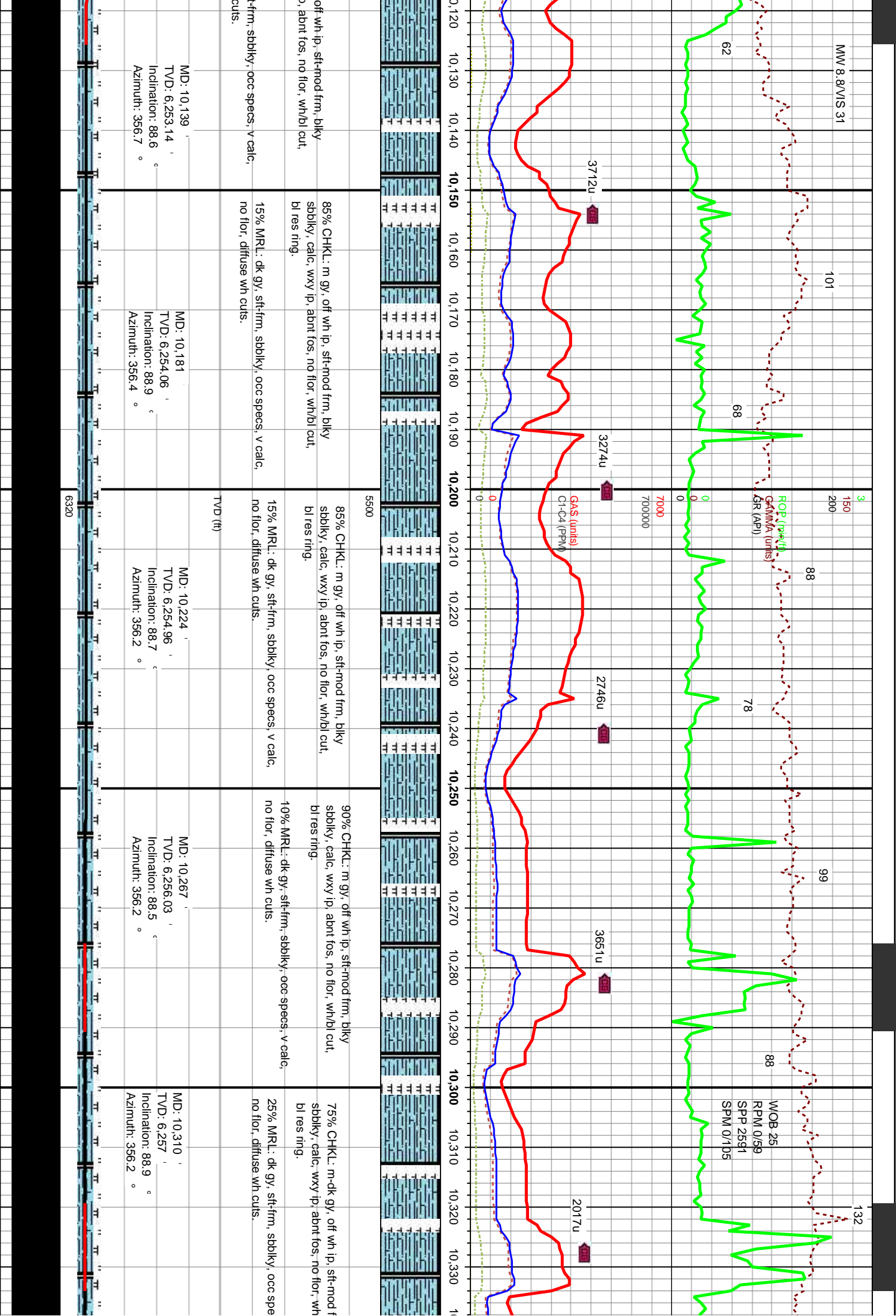


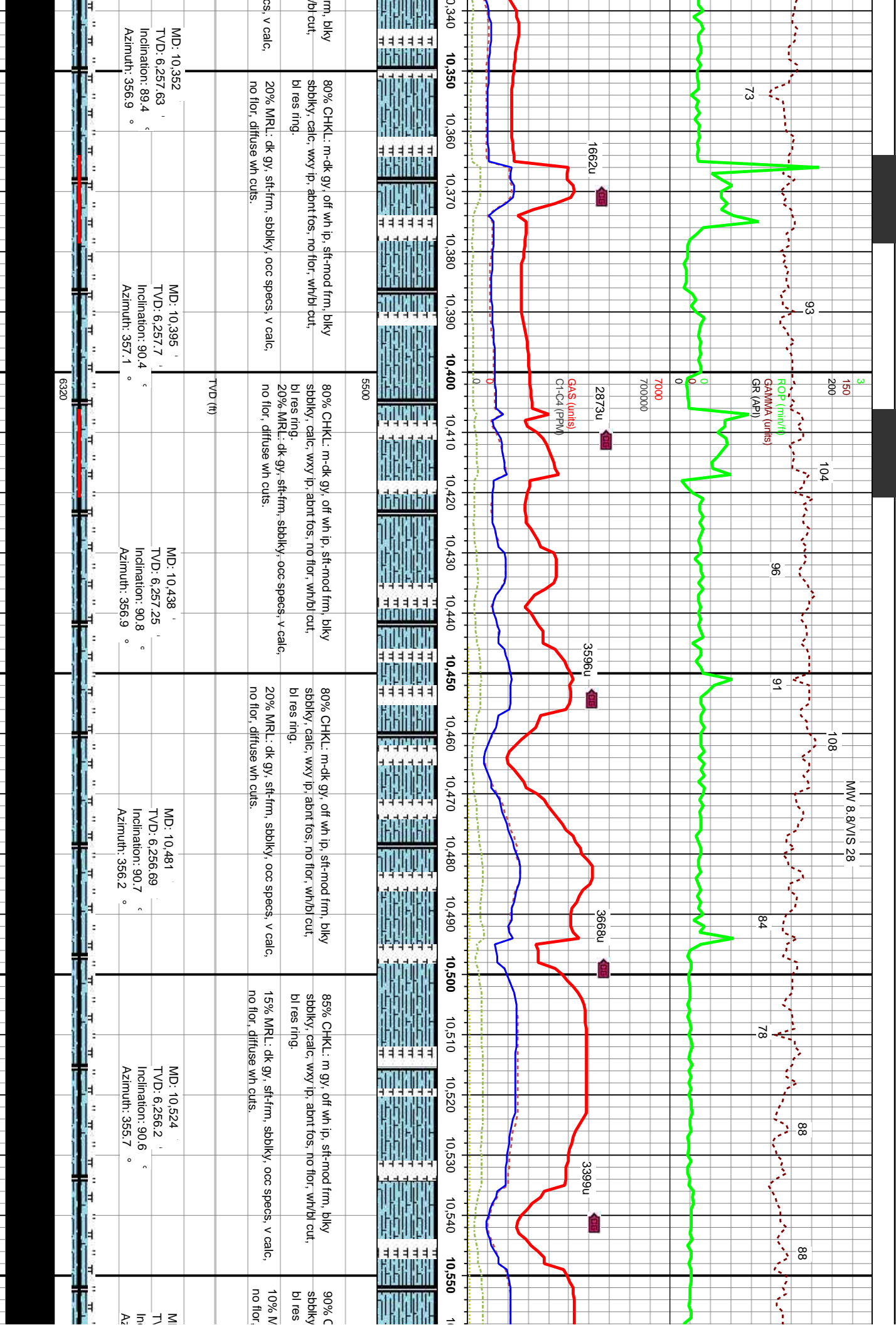


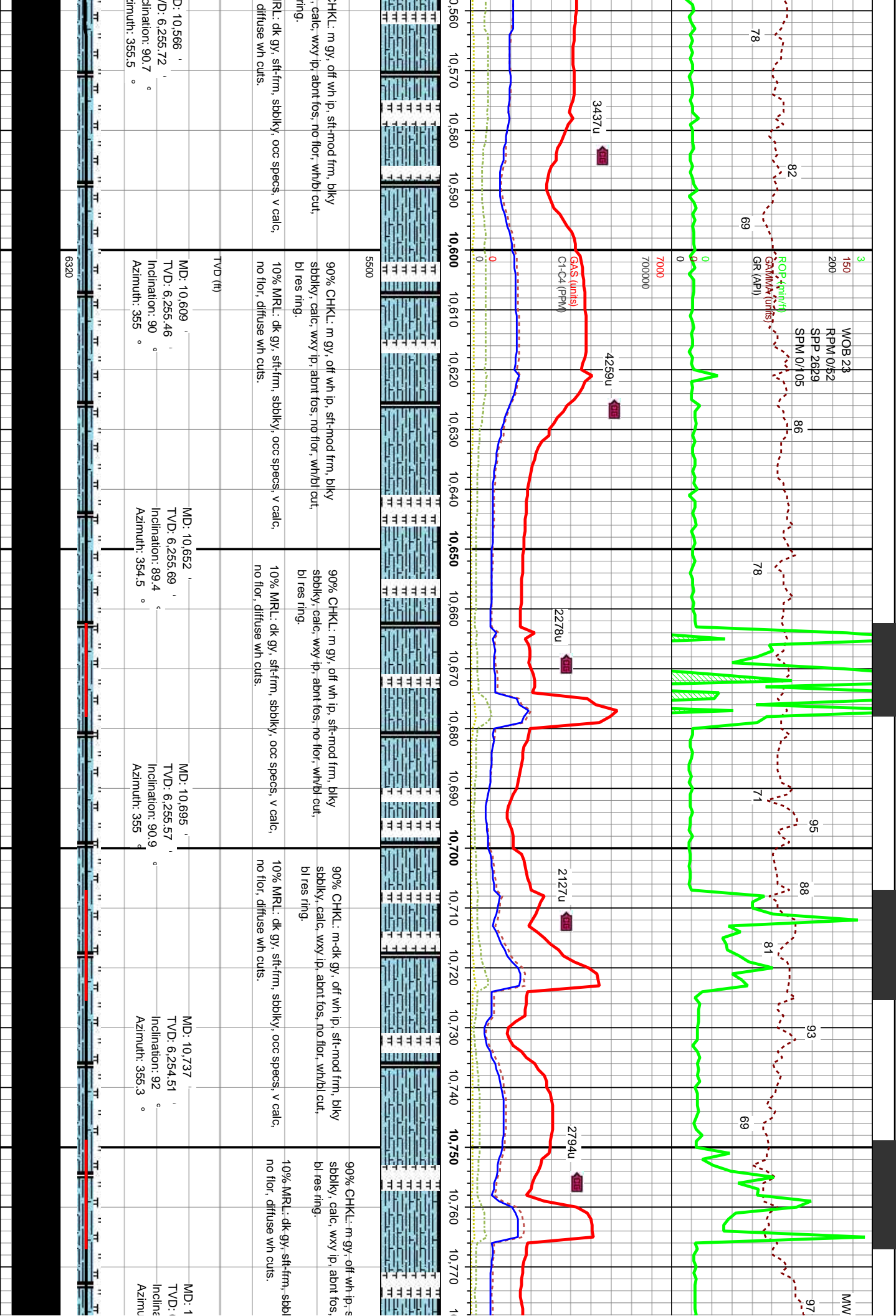


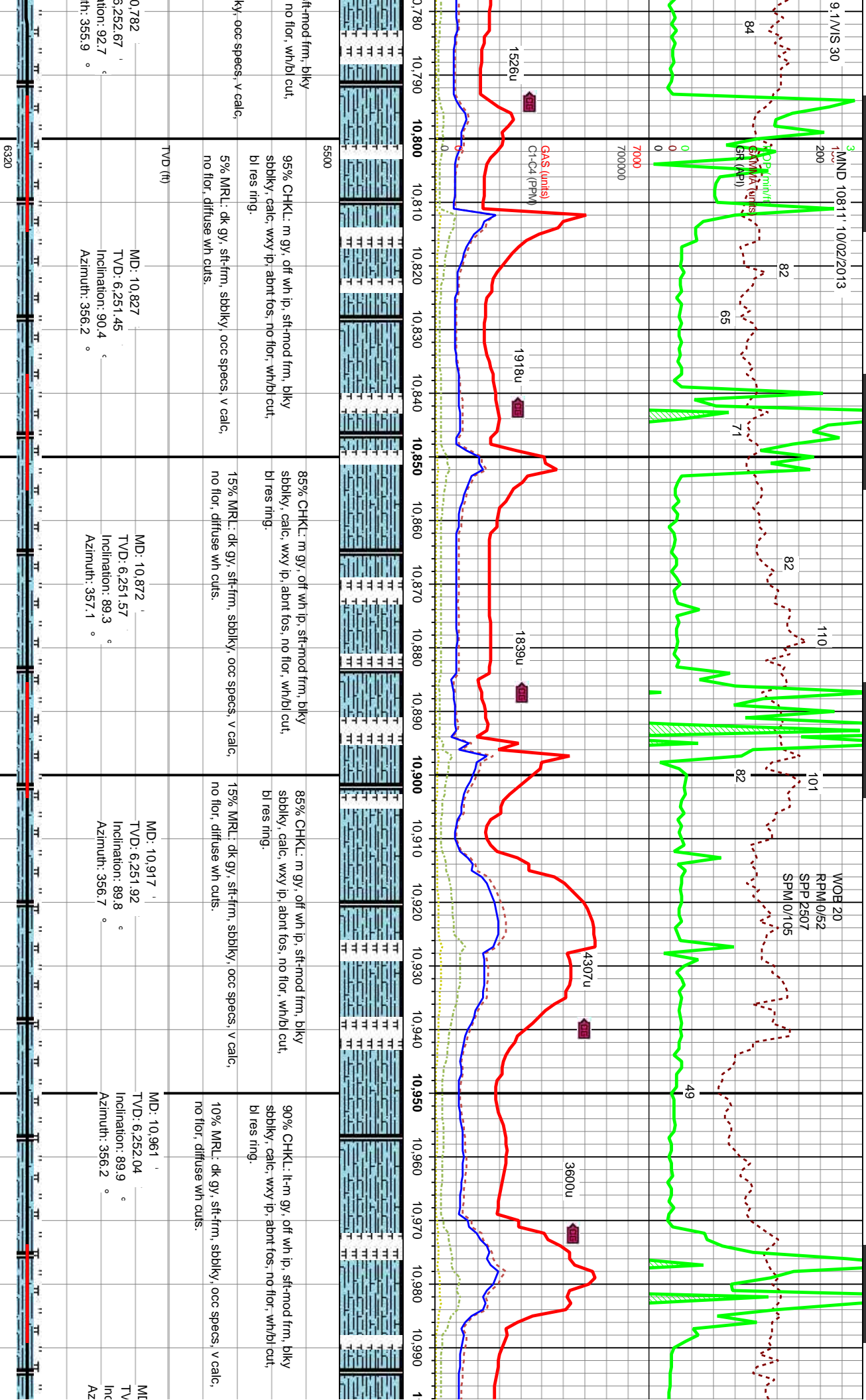












MD: 10.782
TVD: 6,252.67
Inclination: 92.7
Azimuth: 355.9

MD: 10.827
TVD: 6,251.45
Inclination: 90.4
Azimuth: 356.2

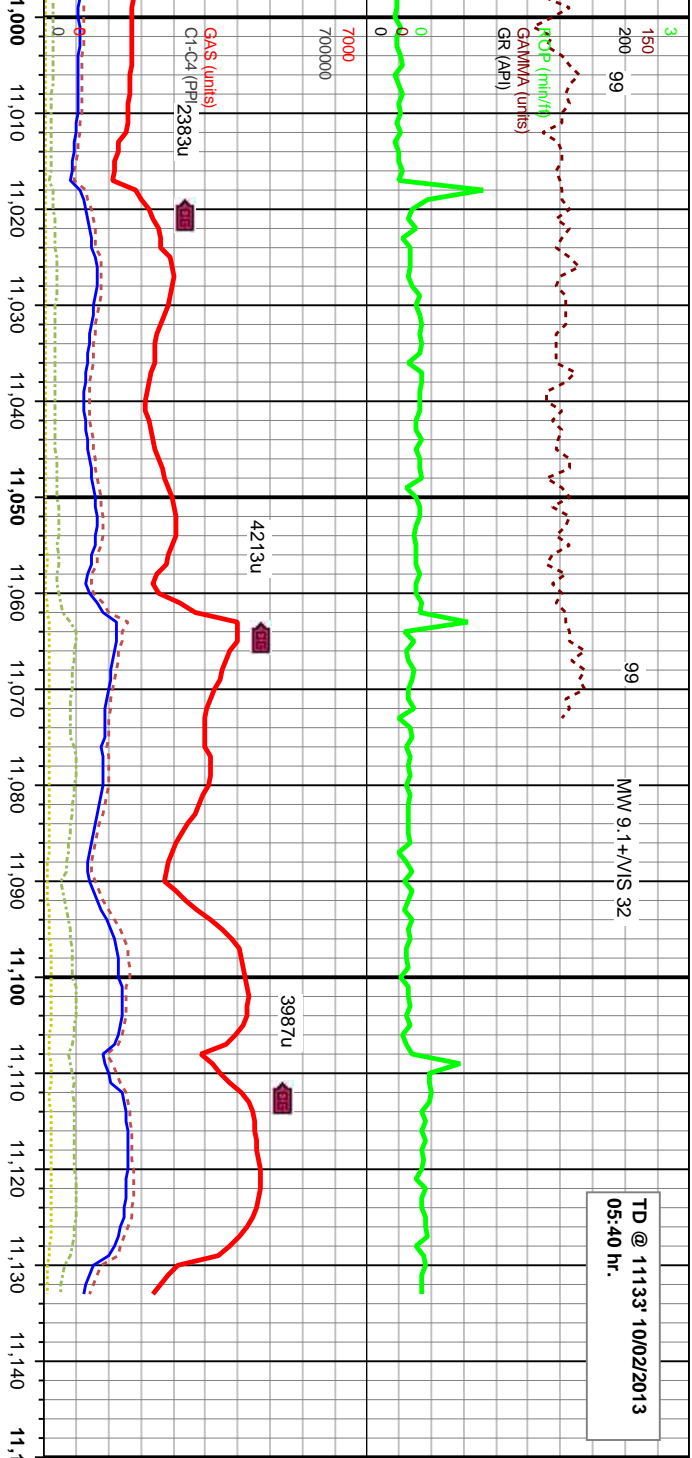
MD: 10.872
TVD: 6,251.57
Inclination: 89.3
Azimuth: 357.1

MD: 10.917
TVD: 6,251.92
Inclination: 89.8
Azimuth: 356.7

MD: 10.961
TVD: 6,252.04
Inclination: 89.9
Azimuth: 356.2



TD @ 11133' 10/02/2013
05:40 hr.



5500	90% CHKL: lt-m gy, off wh ip, sft-mod frm, blkly sbblky, calc, wxy ip, abnt fos, no flor, wh/bl cut, bl res ring.	90% CHKL: m-dk gy, off wh ip, sft-mod frm, blkly sbblky, calc, wxy ip, abnt fos, no flor, wh/bl cut, bl res ring.	90% CHKL: m-dk gy, off wh ip, sft-mod frm, blkly sbblky, calc, wxy ip, abnt fos, no flor, wh/bl cut, bl res ring.
10% MRL: dk gy, sft-frm, sbblky, occ specs, v calc, no flor, diffuse wh cuts.	10% MRL: dk gy, sft-frm, sbblky, occ specs, v calc, no flor, diffuse wh cuts.	10% MRL: dk gy, sft-frm, sbblky, occ specs, v calc, no flor, diffuse wh cuts.	
TVD (ft)	MD: 11,051 D: 6,251.96 Inclination: 90.3 Azimuth: 357.3	MD: 11,078 TVD: 6,251.41 Inclination: 90.5 Azimuth: 357.1	MD: 11,133 TVD: 6,250.92 Inclination: 90.5 Azimuth: 357.1
Projection to Bit			
6320			