



Cathedral Energy Services
1949 North Pyrite Road
Casper, Wyoming 82604

145242

5":100' - MD

9/3/2014 9:41:55 AM

CATHEDRAL

Oper. Company: Encana Oil & Gas (USA) Inc.

Country: U.S.A.

State / Province: Colorado

County / Parish: Weld

Started: 08/01/2014 05:00 AM

API/UWI: 05-123-38089-00

Field: Wattenberg (Niobrara)

Well: Grant-Hurt 1B-14H-G268

Rig: Patterson UTI Drilling 326

Ended: 08/06/2014 02:00 PM

Gamma Ray
Section Plane: 0.00
Magnetic North: 8.53
Gamma Attenuation Factor: 2.815
Gamma Averaging: 7%

Personnel

Day Hand: M. Andrew

Night Hand: J. Minter

Comp. Emp: Norman McCreary

Maximum Temperature: 235°F

Location

Latitude: 40.139280

Longitude: -104.966700

Elev. GL: 4888

Elev. DF:

Elev. KB: 4920

Log and Survey Depths Relative to Kelly Bushing (KB) Depth

Hole Data

Size	From	To
12-1/4	0	890
8-3/4	890	7750
6-1/8	7750	14255

Casing Data

Size	From	To
9-5/8	0	890
7	0	7750
4-1/2	0	14255

Bit Sizes

Size	From	To
12-1/4	0	890
8-3/4	890	7750
6.125	7750	14255

Mud Data

Type	Weight	Density	Viscosity	Rm	Rmf	Rmc	From	To
------	--------	---------	-----------	----	-----	-----	------	----

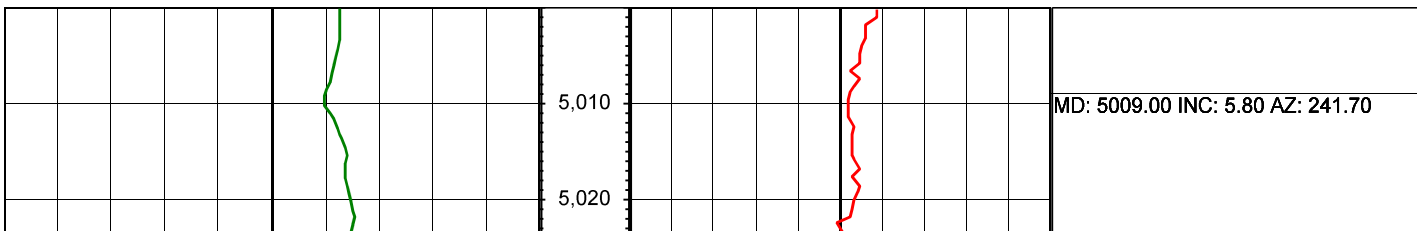
Tool Run Data

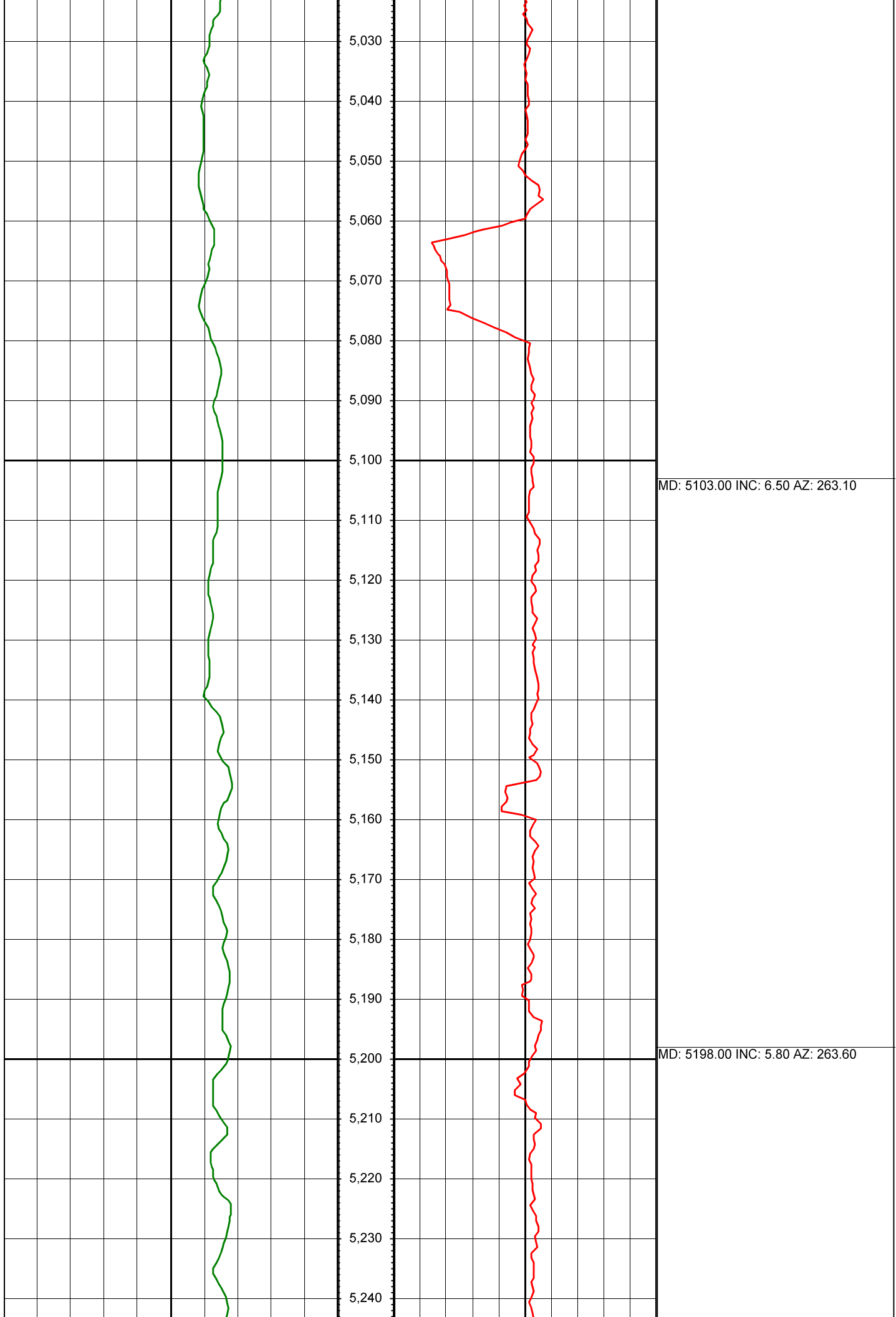
Serial Number	Gamma Offset	Resist. Offset	Start Time	Start Depth	End Time	End Depth
1158	36.28	0	8/1/2014 5:00:15 AM	890	8/2/2014 12:00:15 PM	7750
2019	40.34	0	8/3/2014 2:00:19 PM	7750	8/6/2014 2:00:19 PM	14255

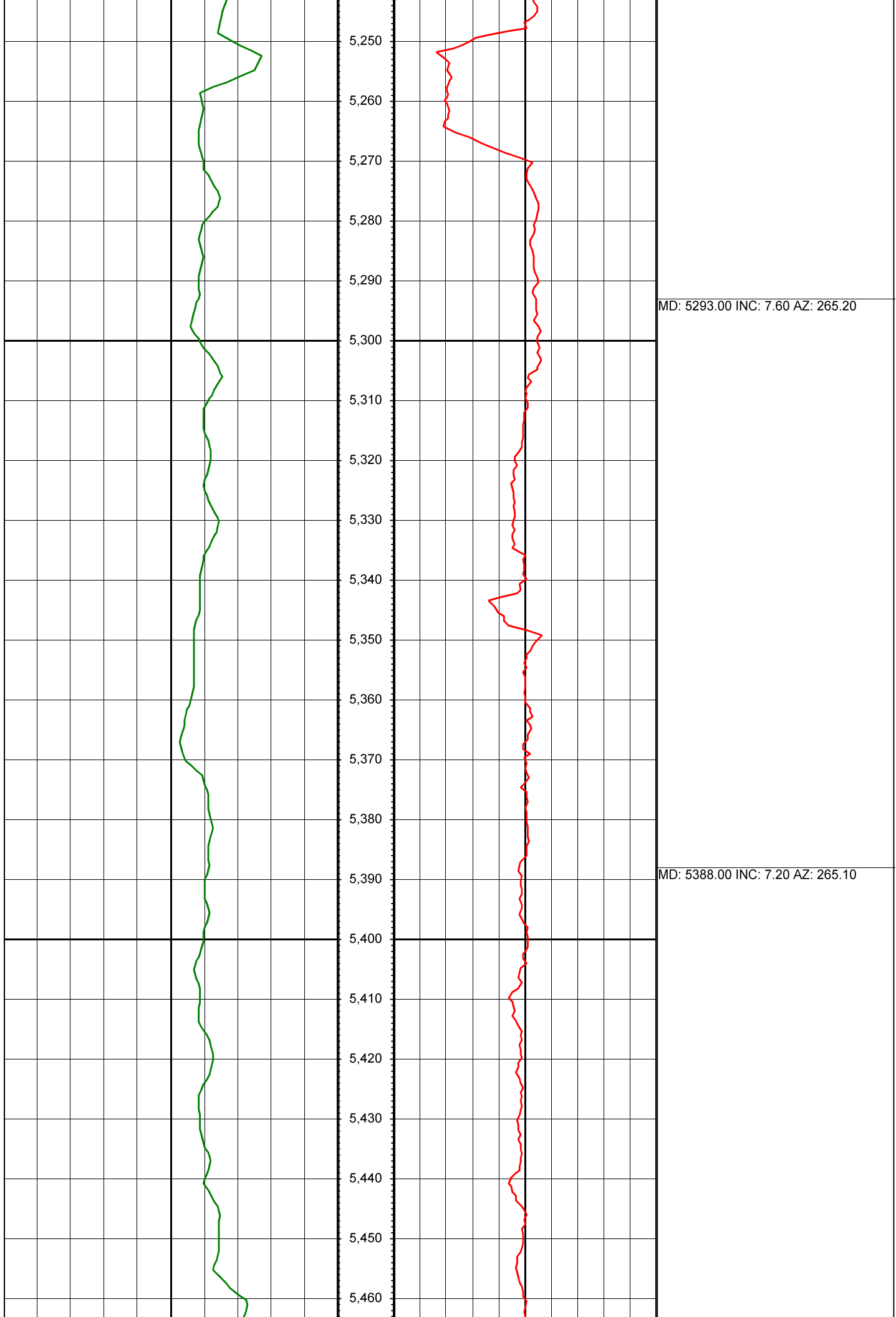
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not except in the case of gross or willful negligence on our part, be liable or responsible for any loss, cost damages or expenses incurred or sustained by anyone resulting from an interpretation made by any of our officers, agents, or employees.

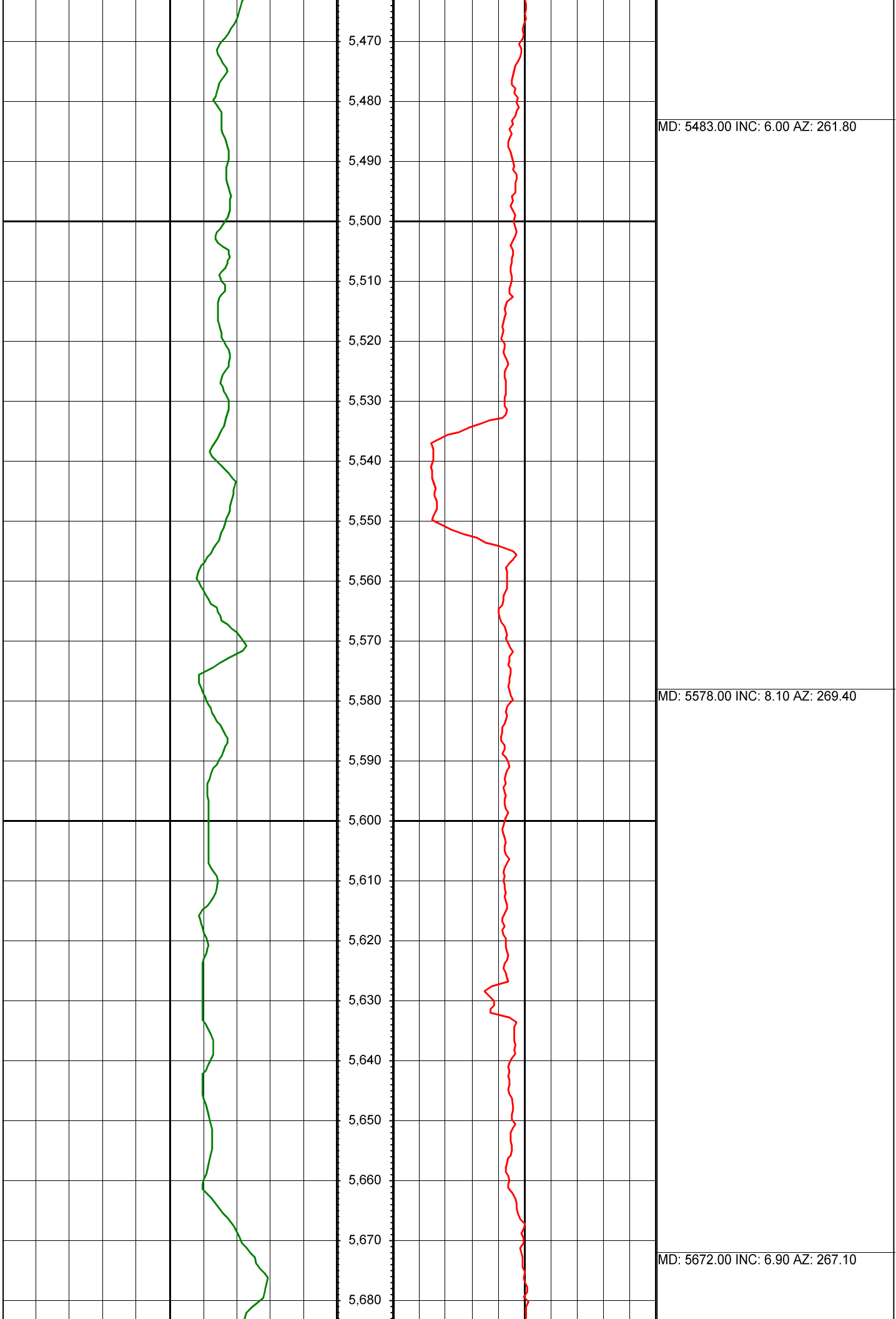
0.00 Gamma Ray (API) 150.00 MD 0.00 ROP (FT/HR) 600.00 Surveys (MD/INC/AZ)

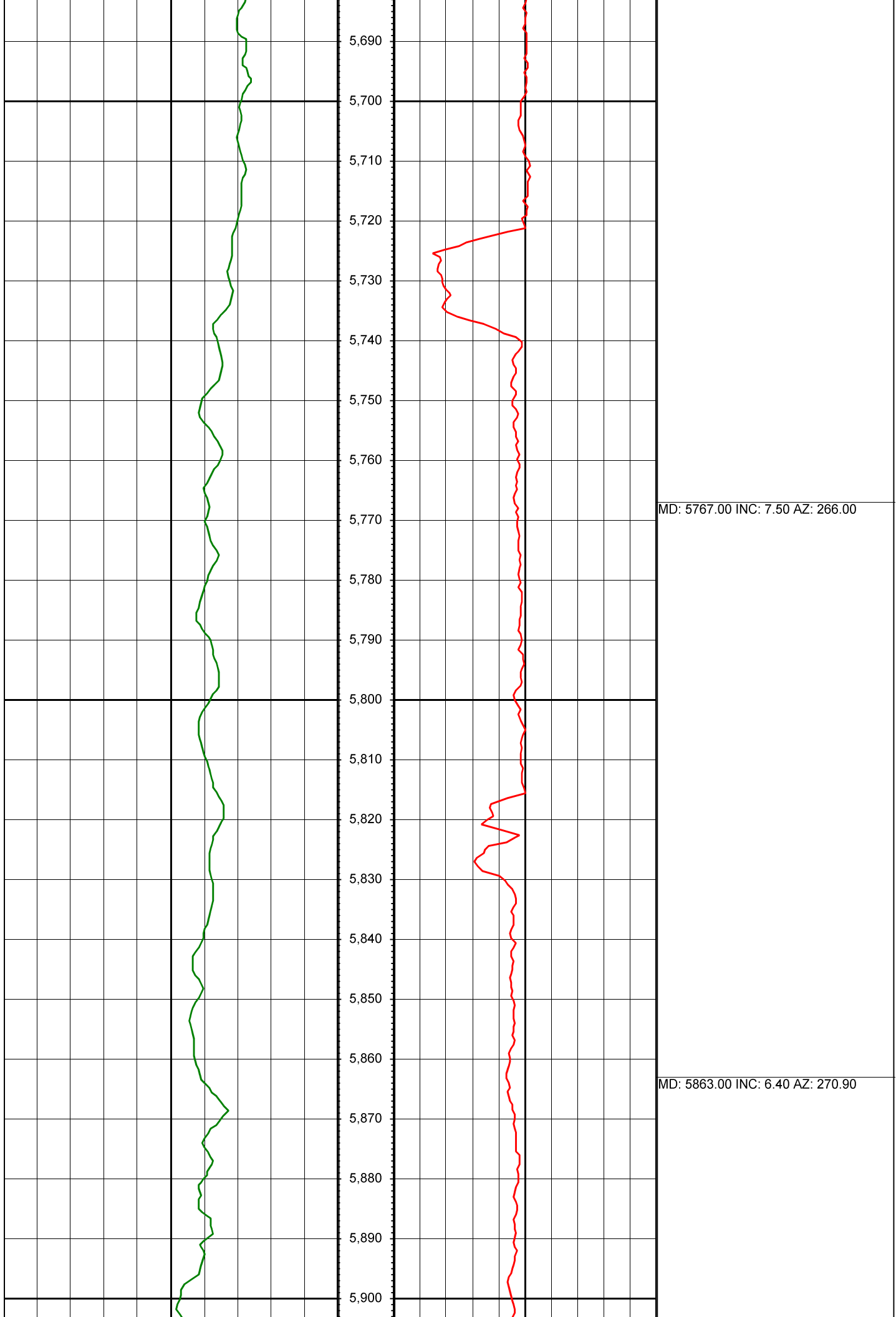
150.00 2 300.00 FT

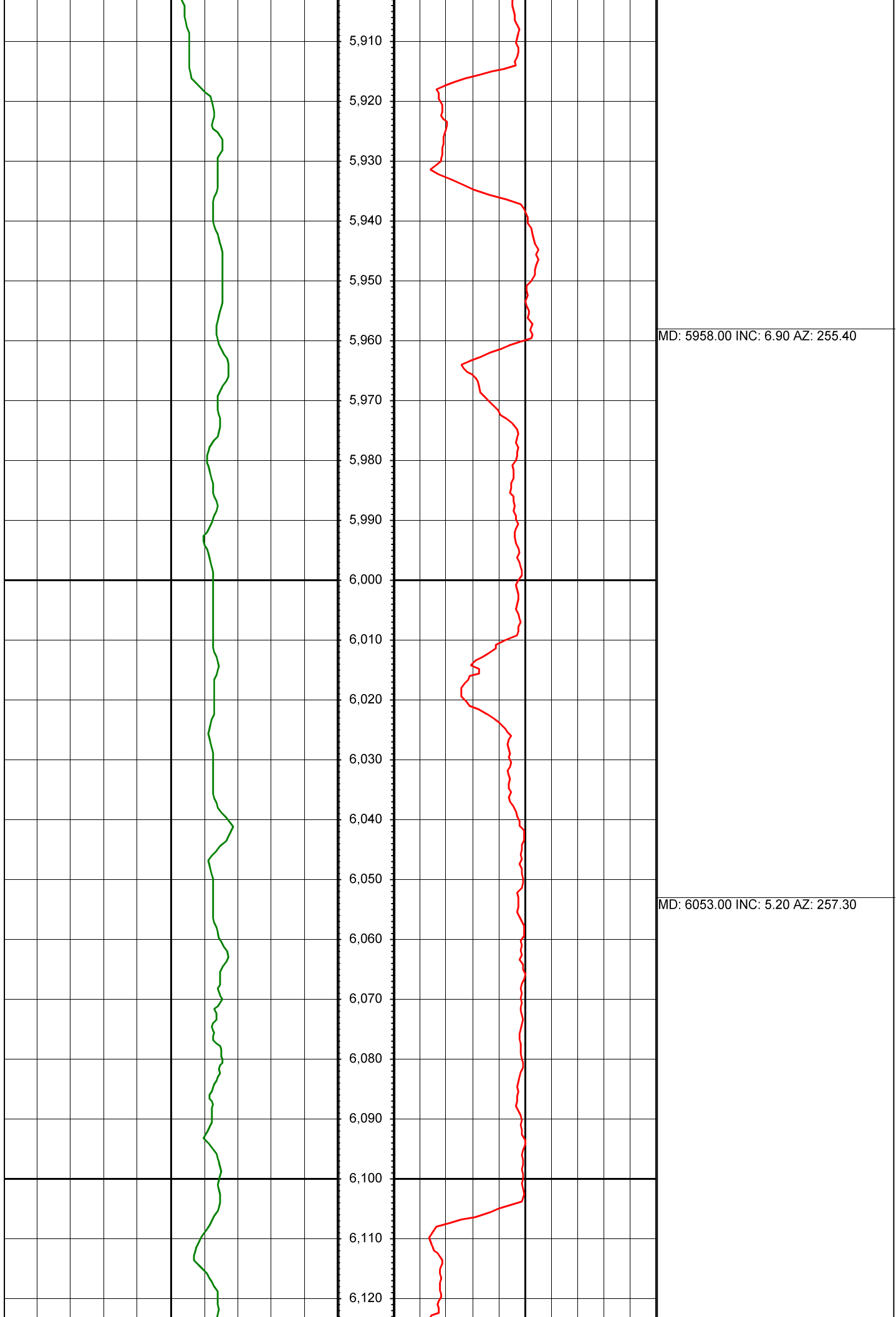


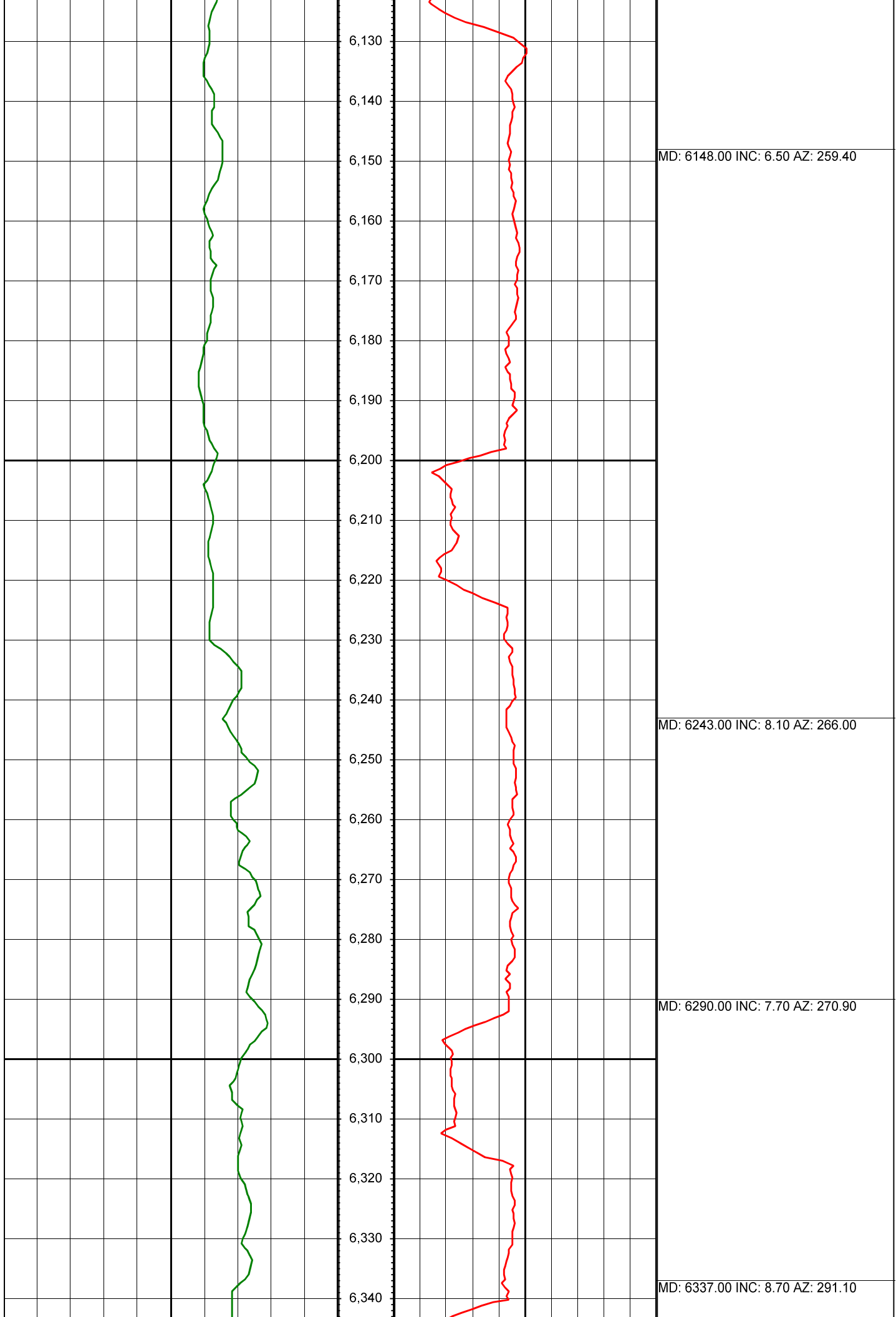


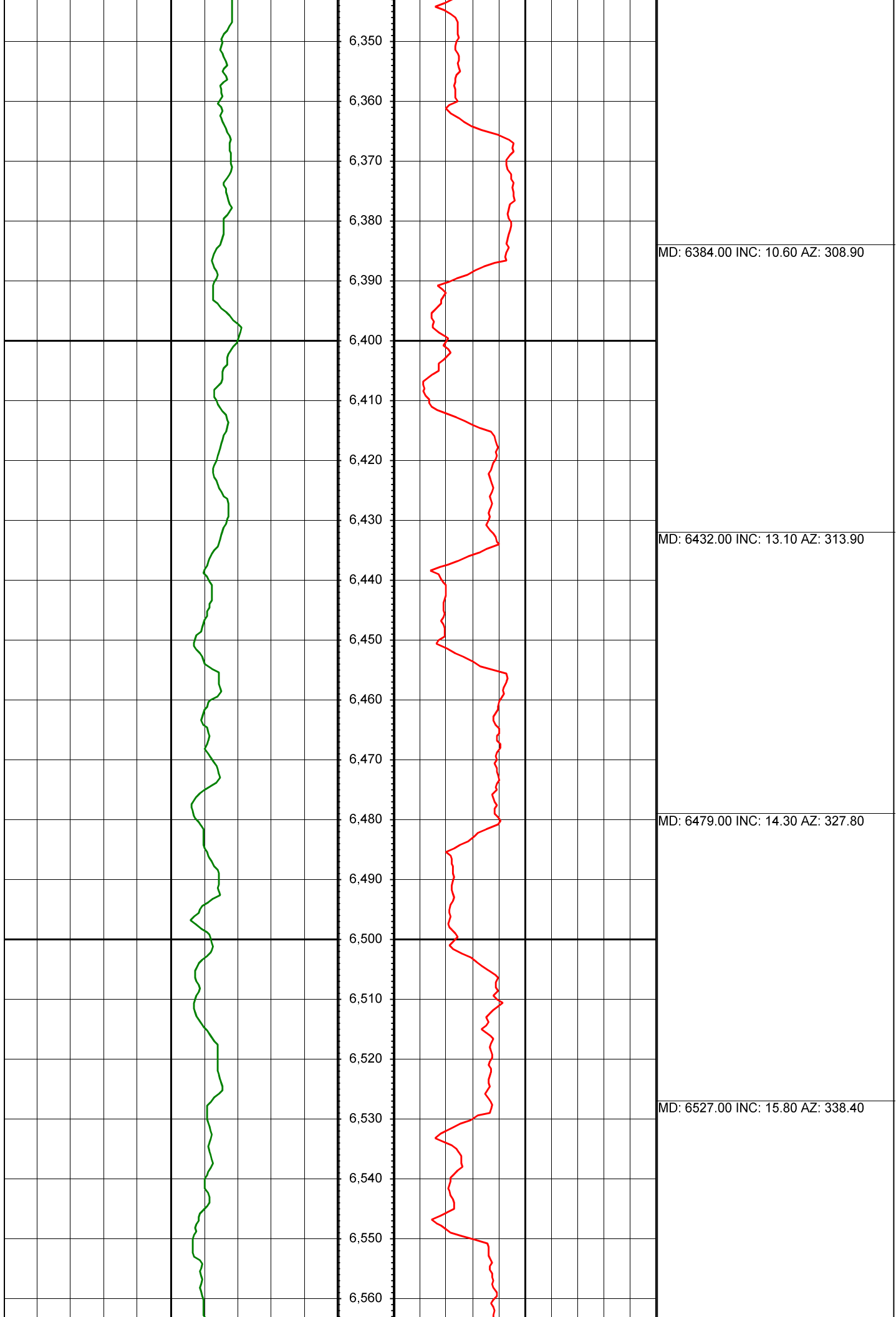


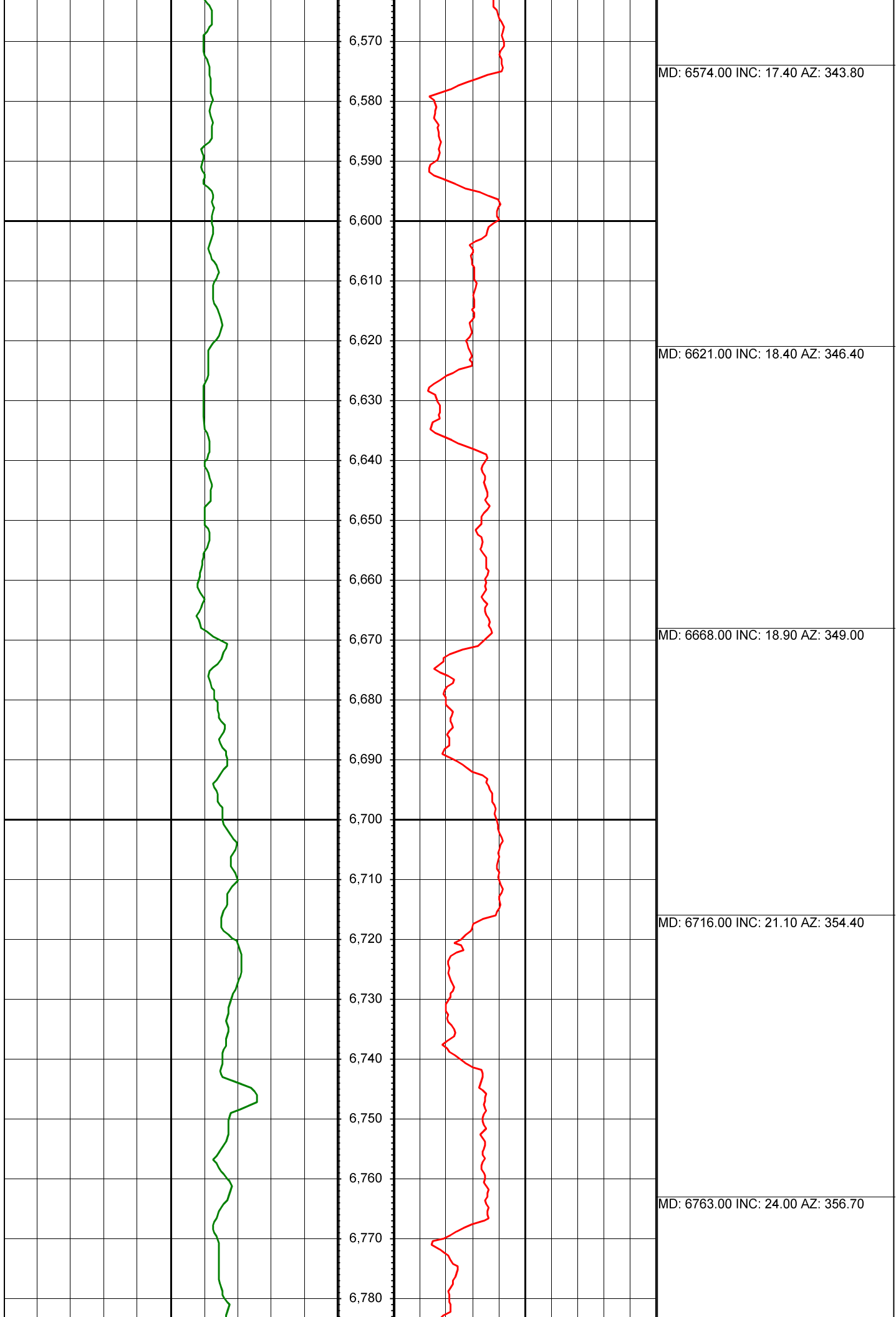


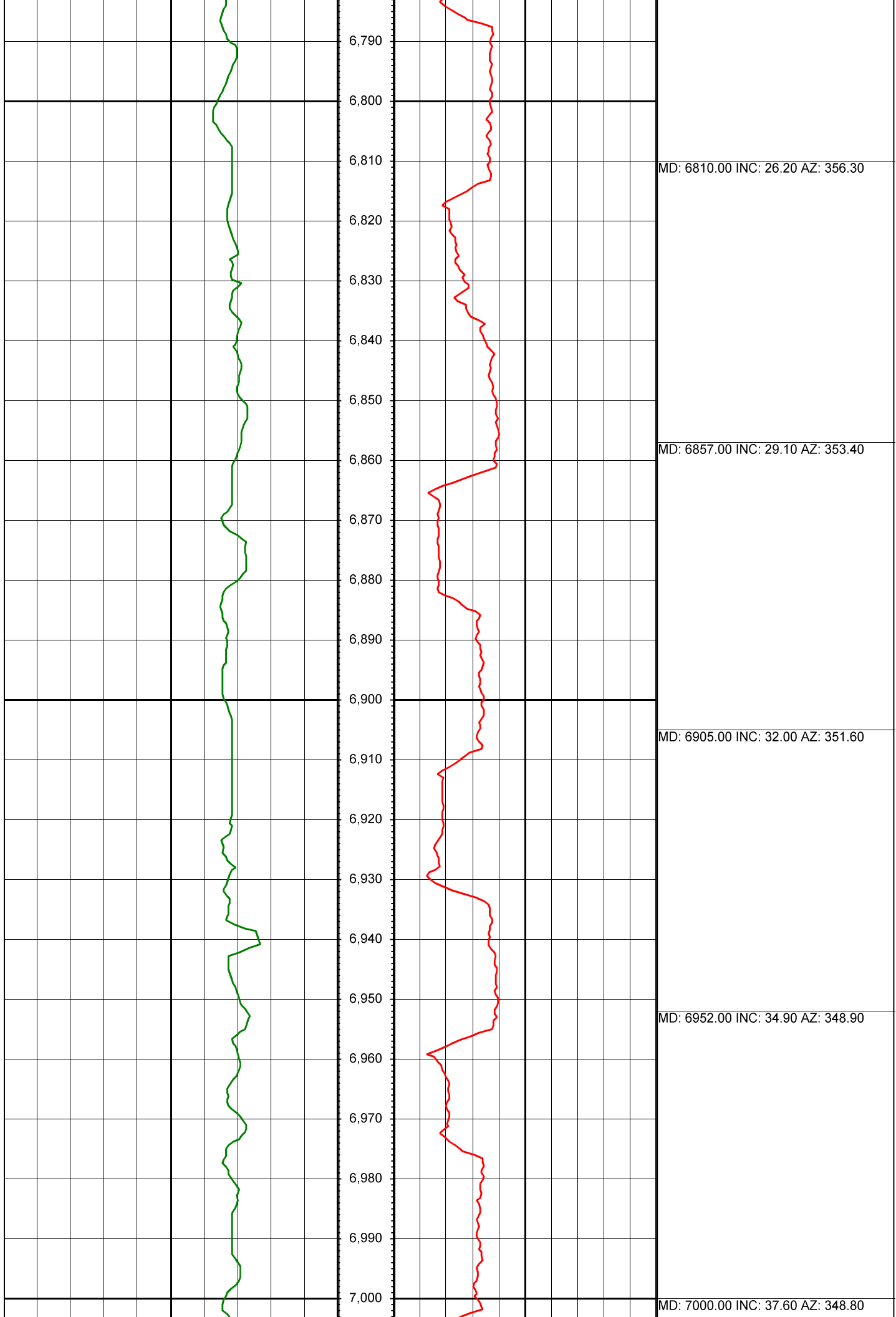


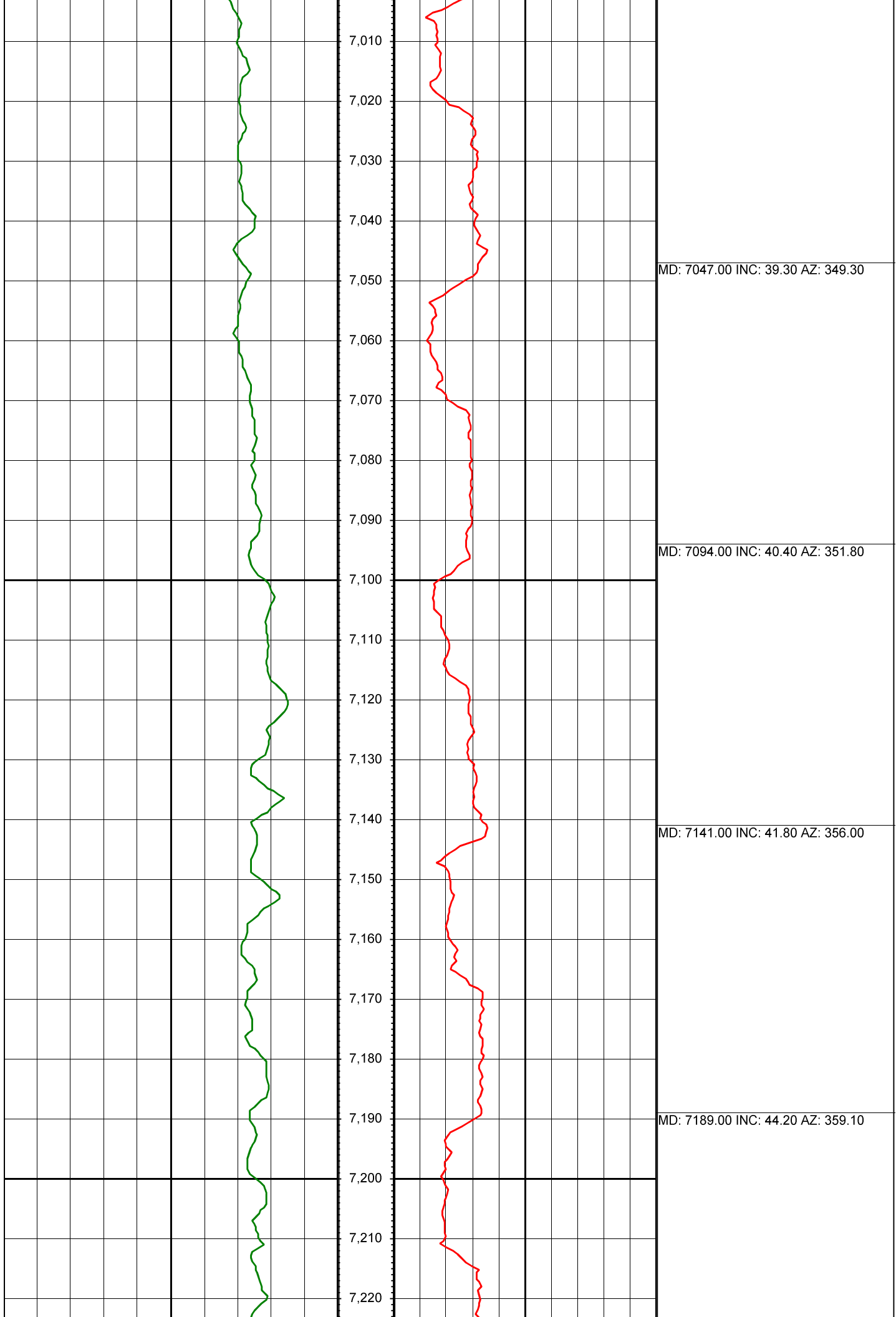


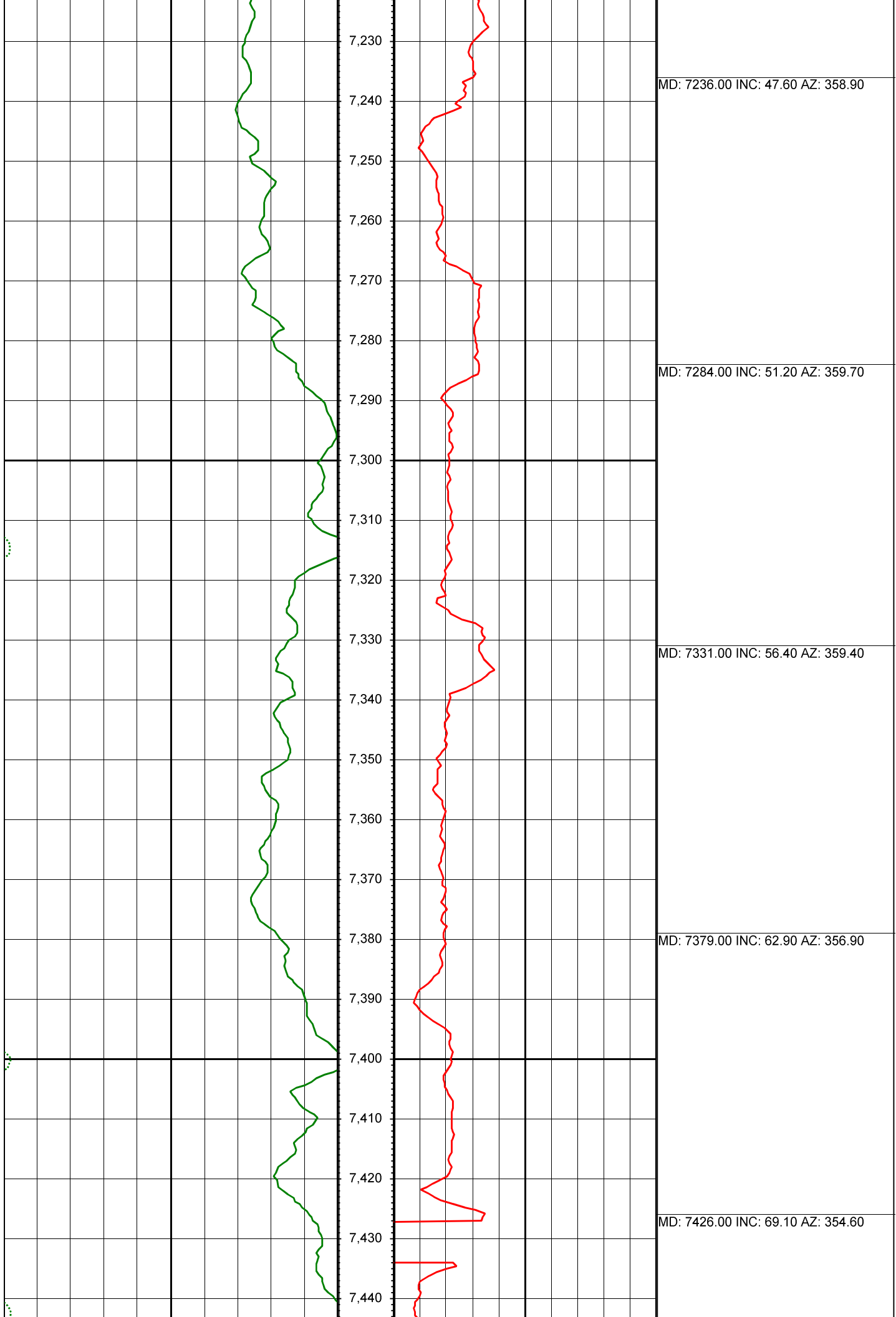


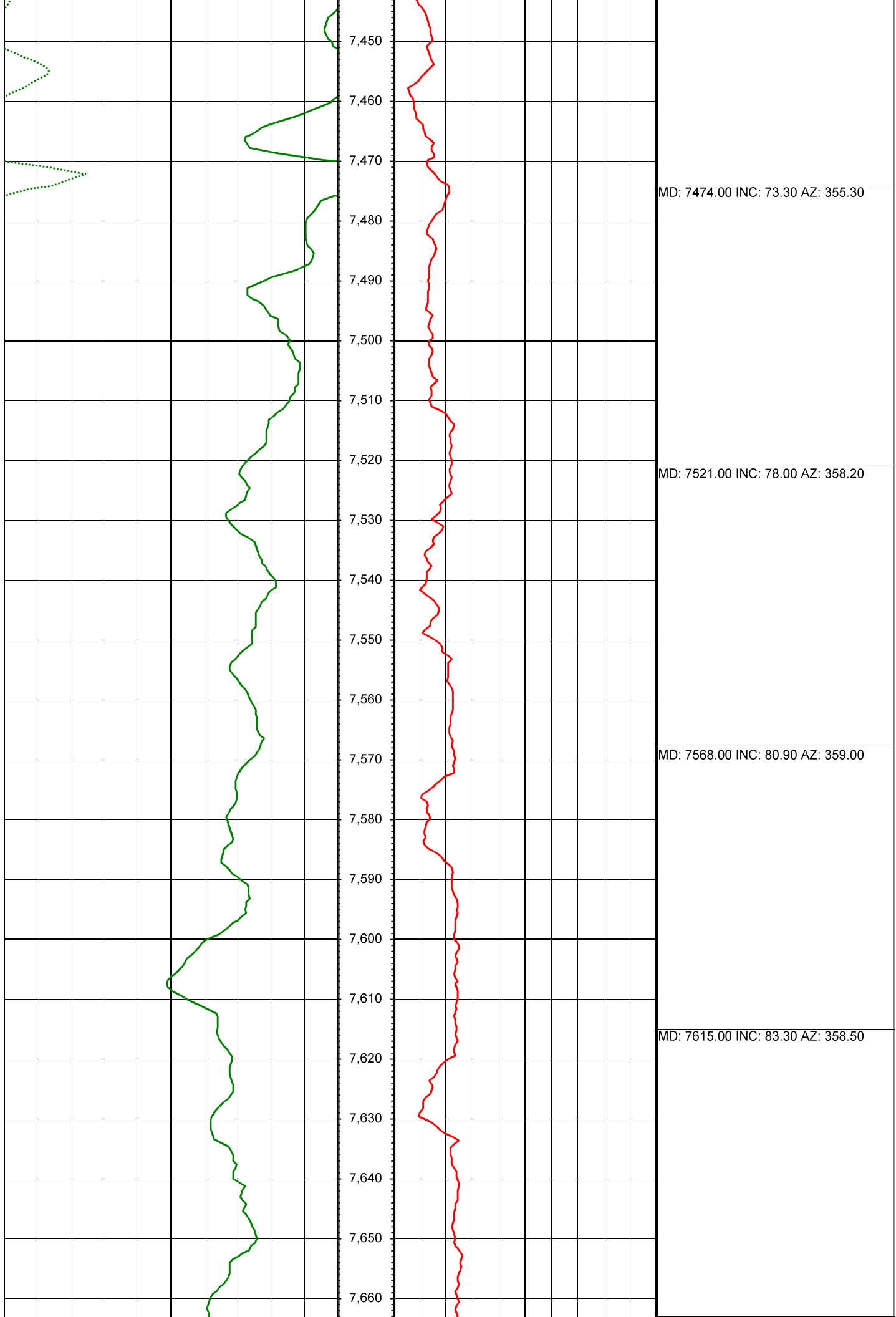


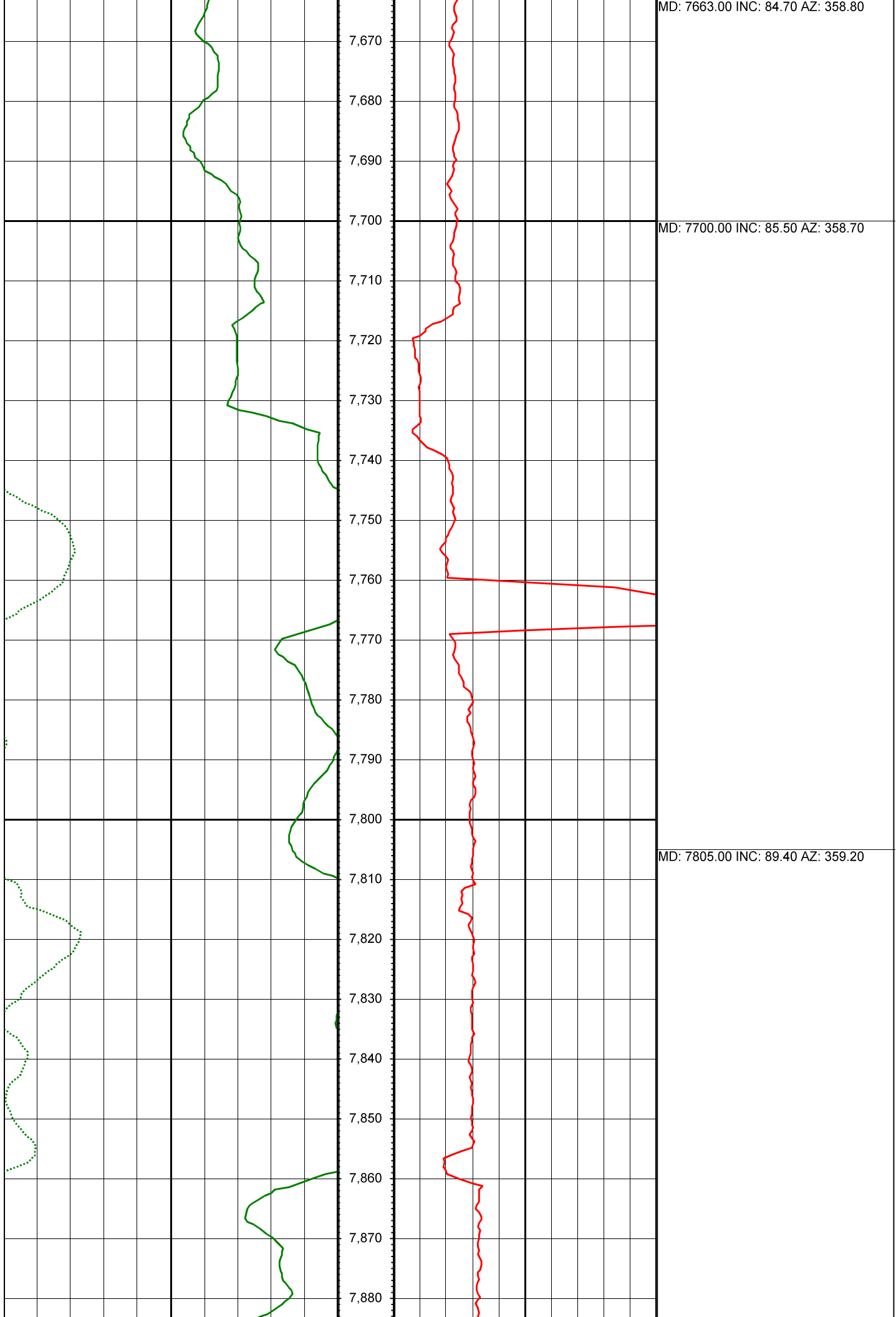


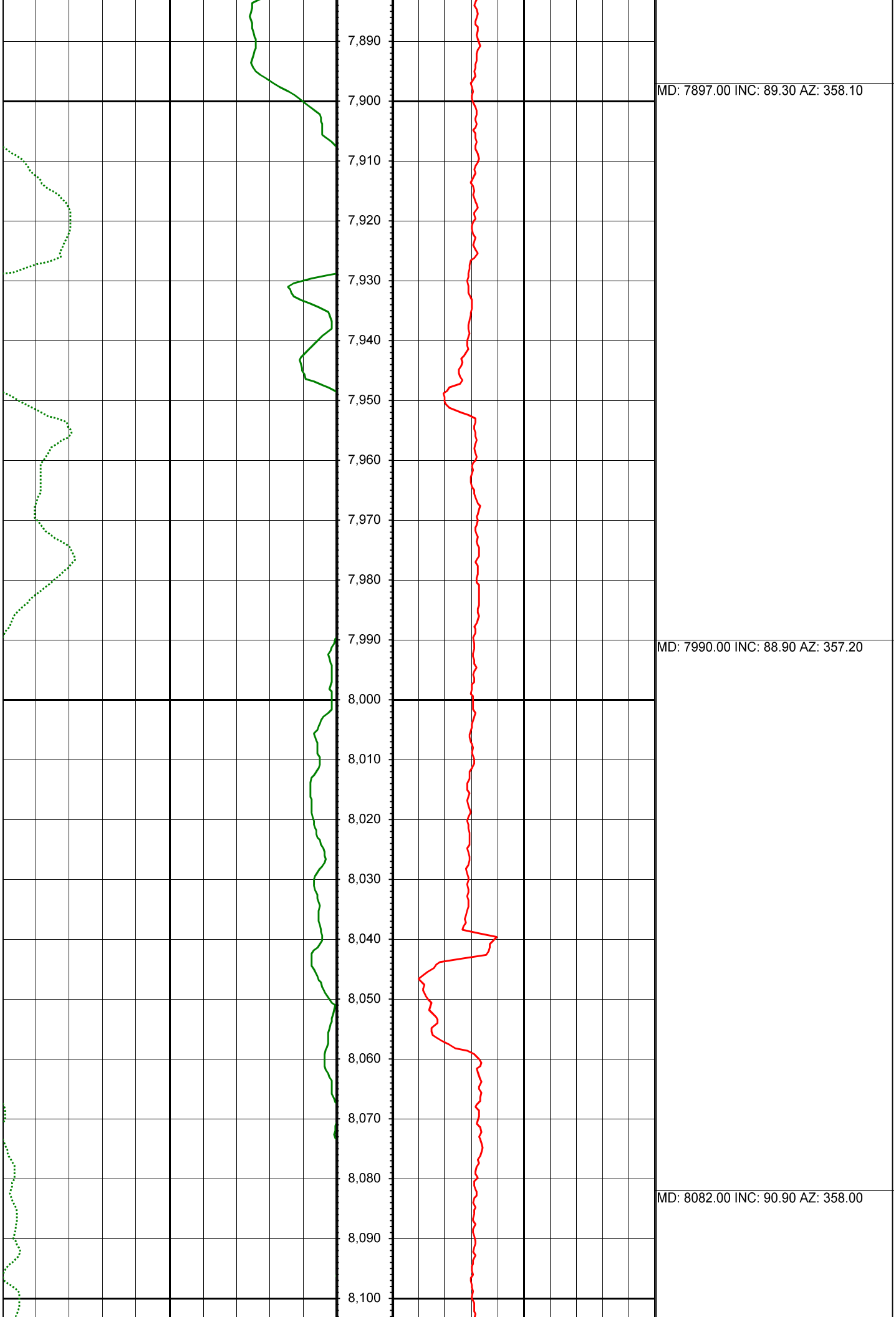


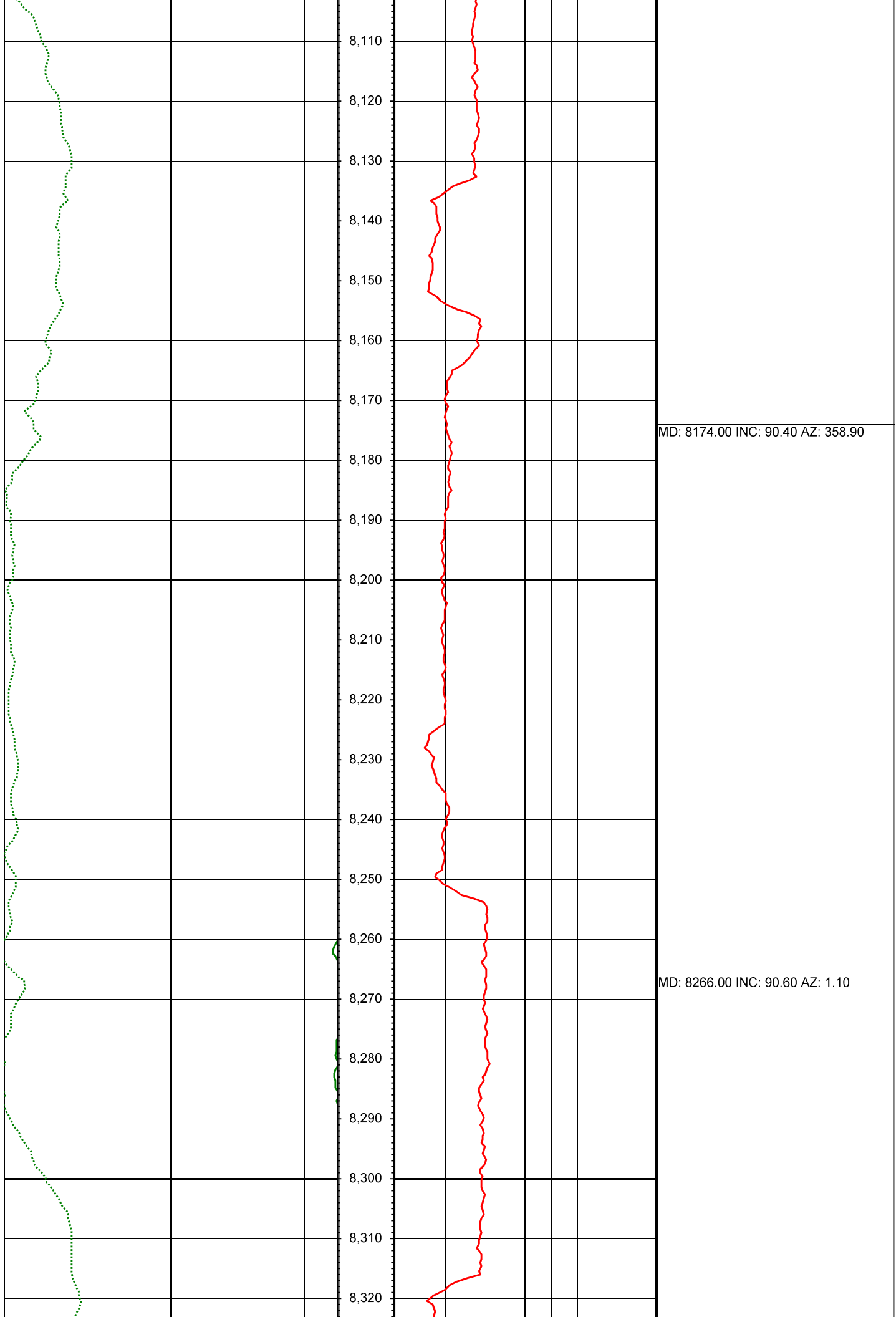


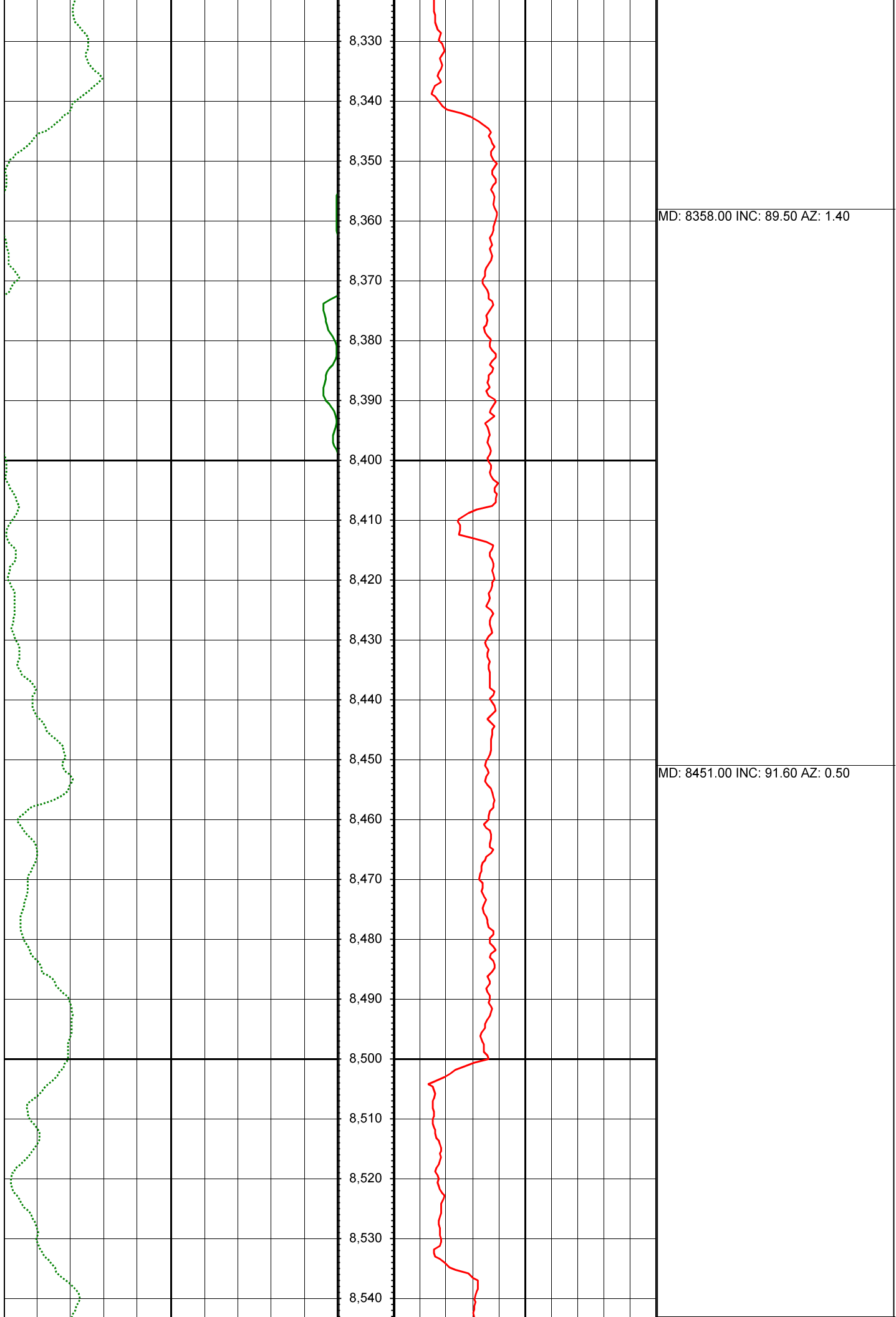










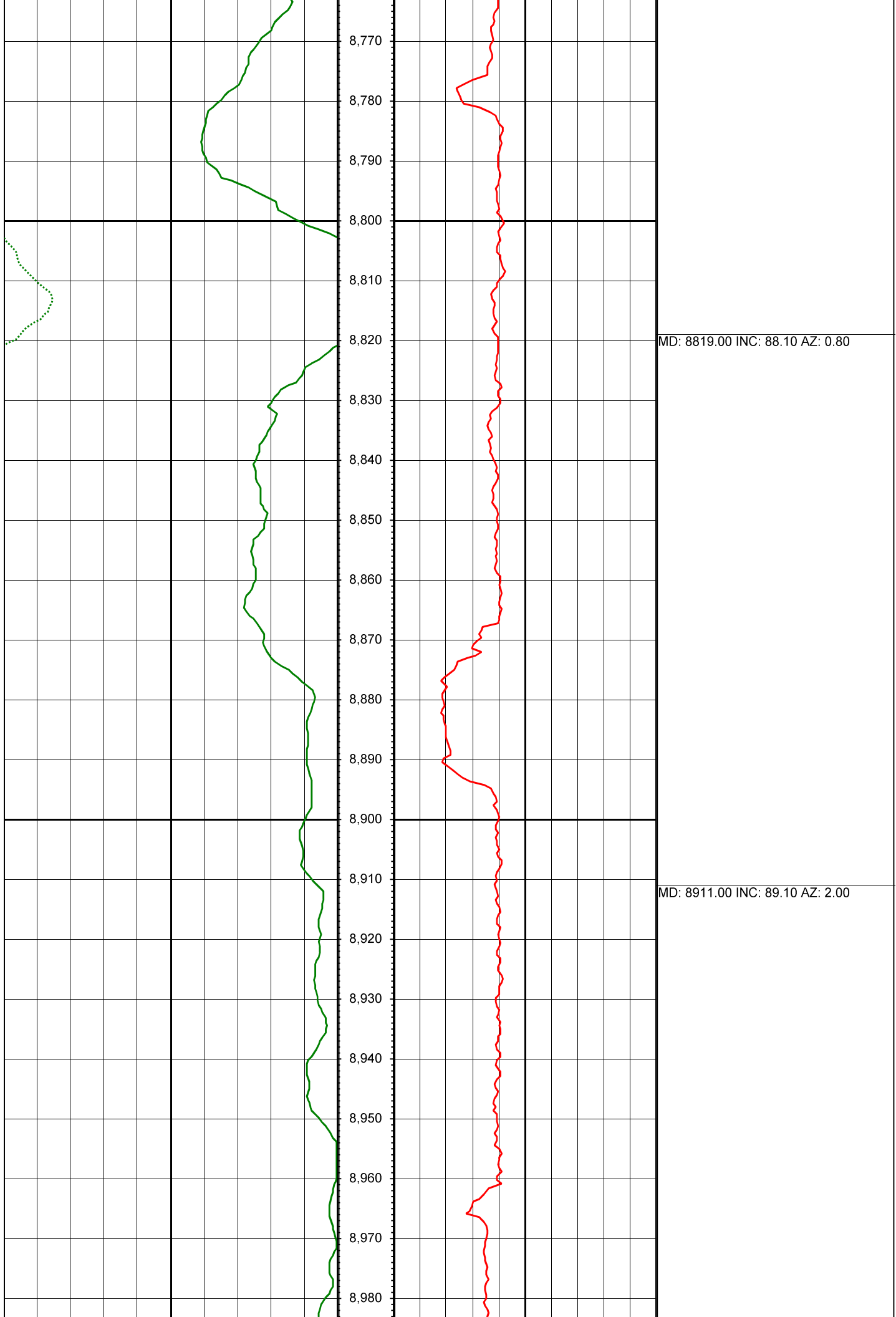


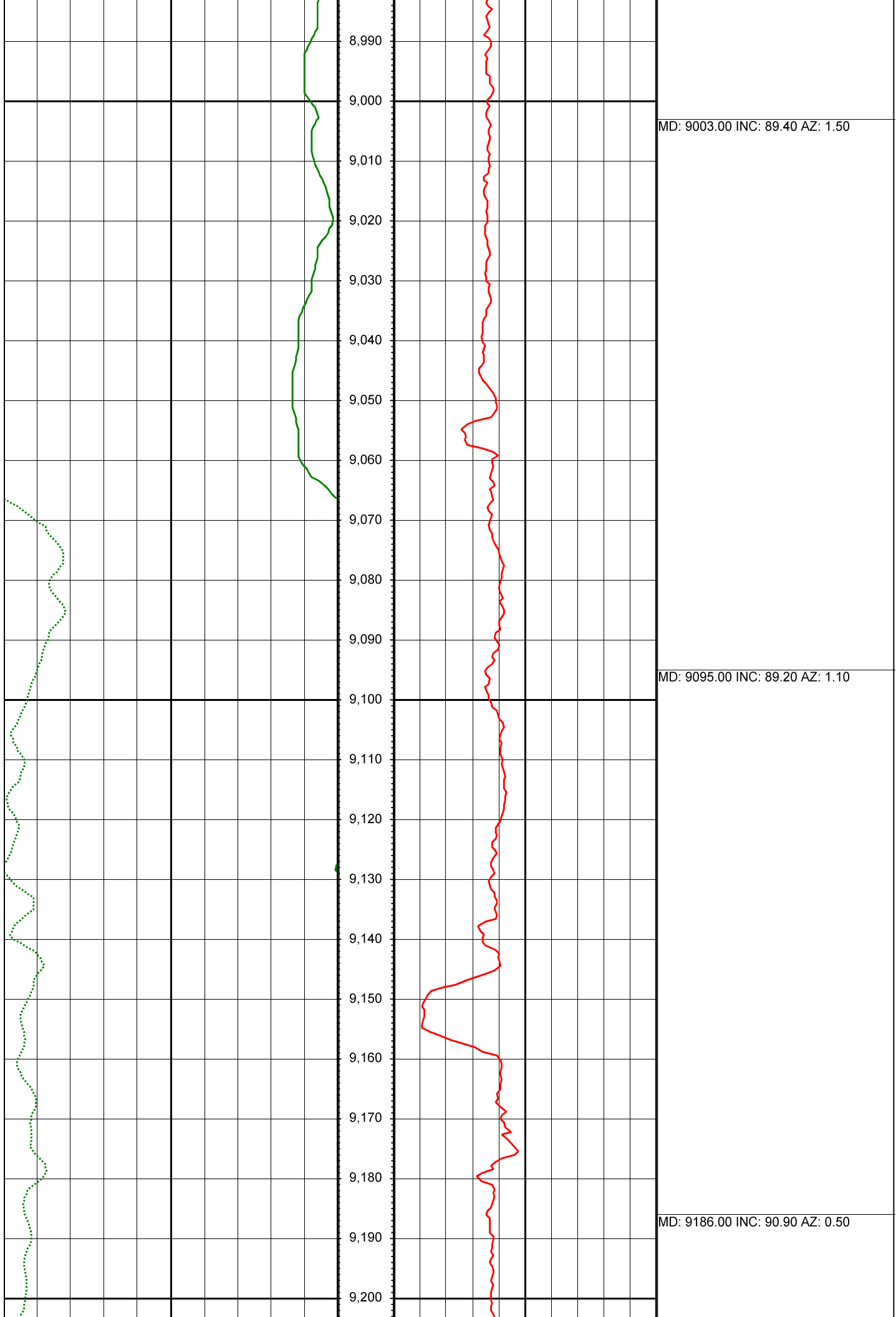


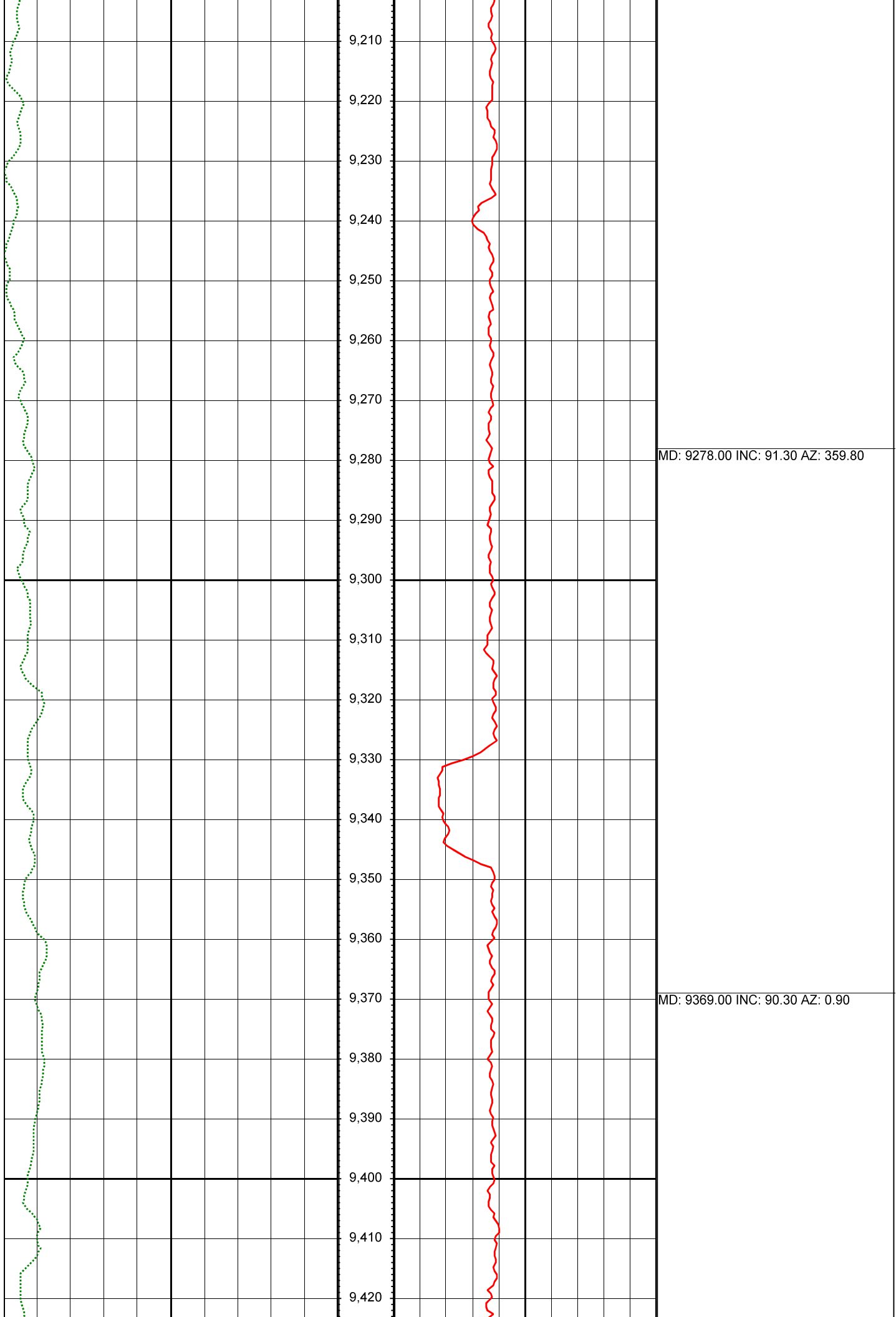
MD: 8543.00 INC: 88.70 AZ: 1.70

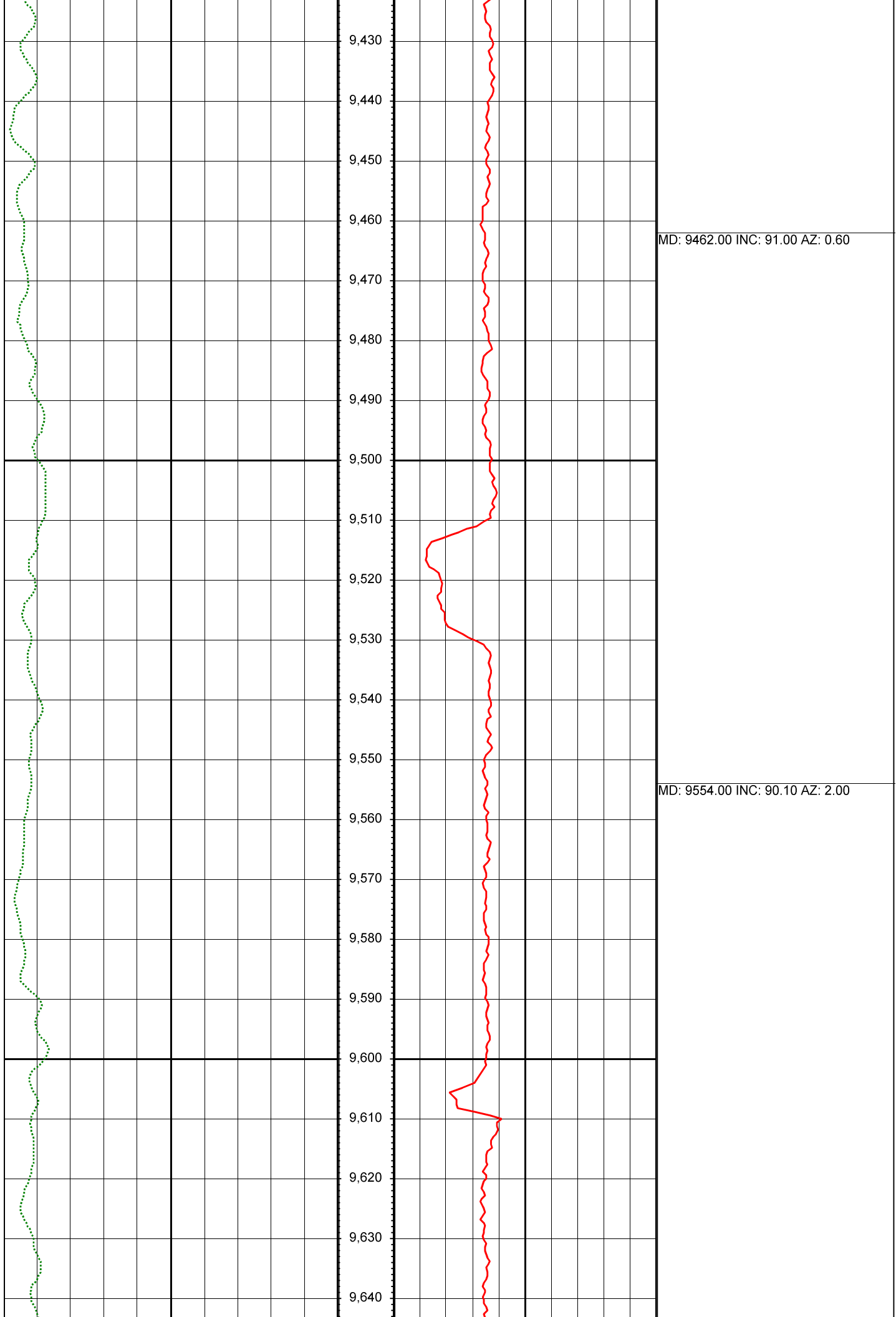
MD: 8635.00 INC: 89.20 AZ: 1.10

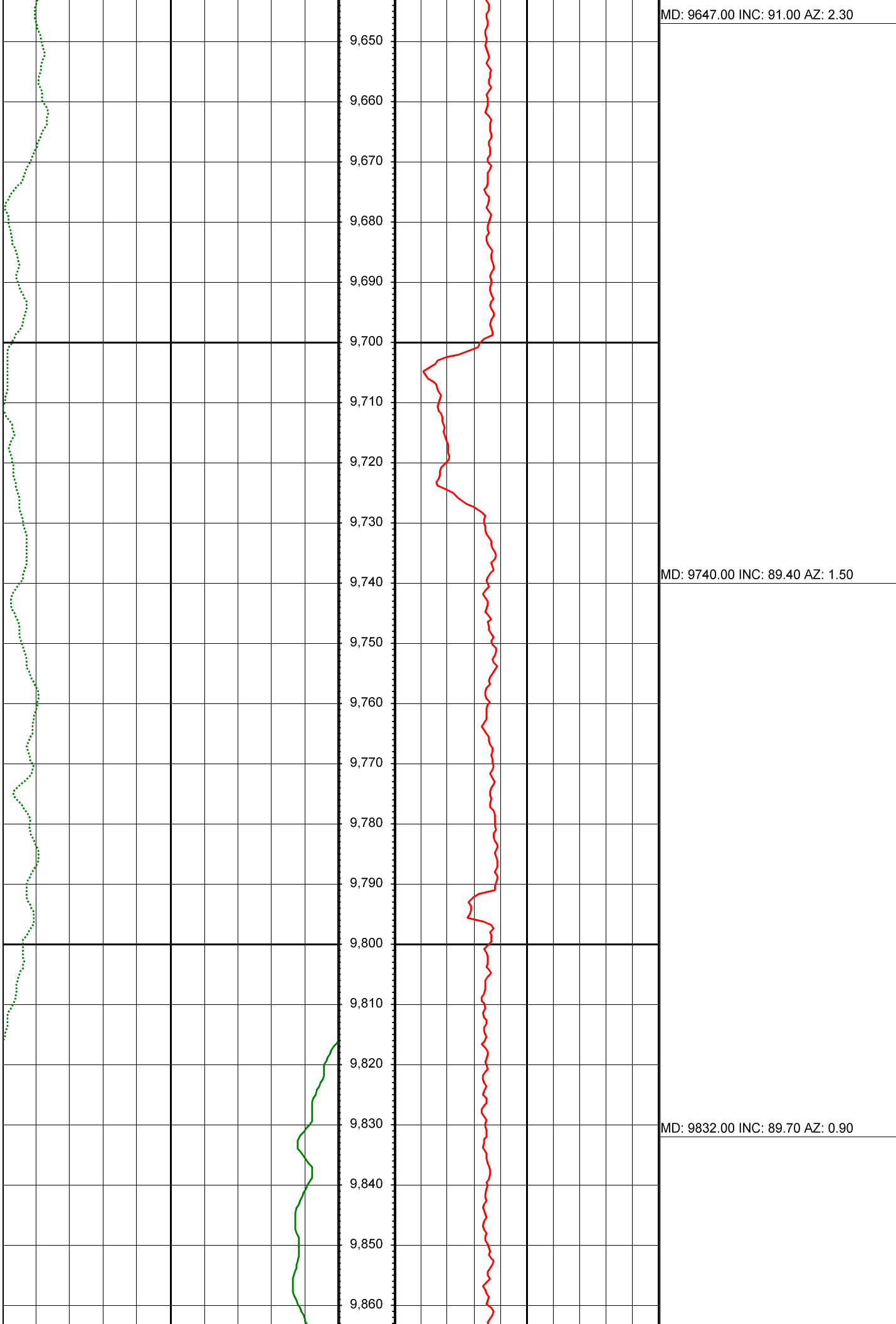
MD: 8727.00 INC: 88.00 AZ: 1.70

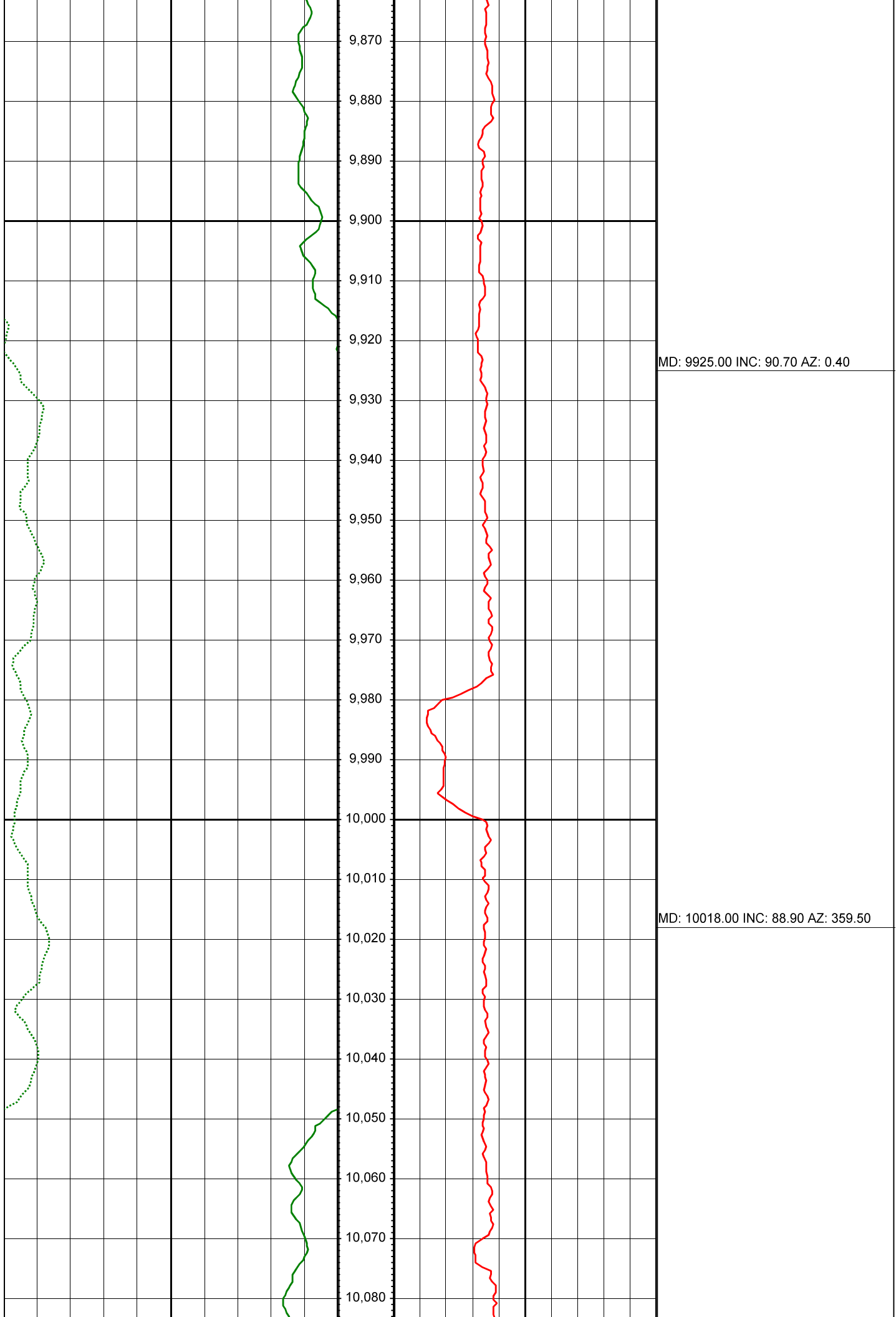


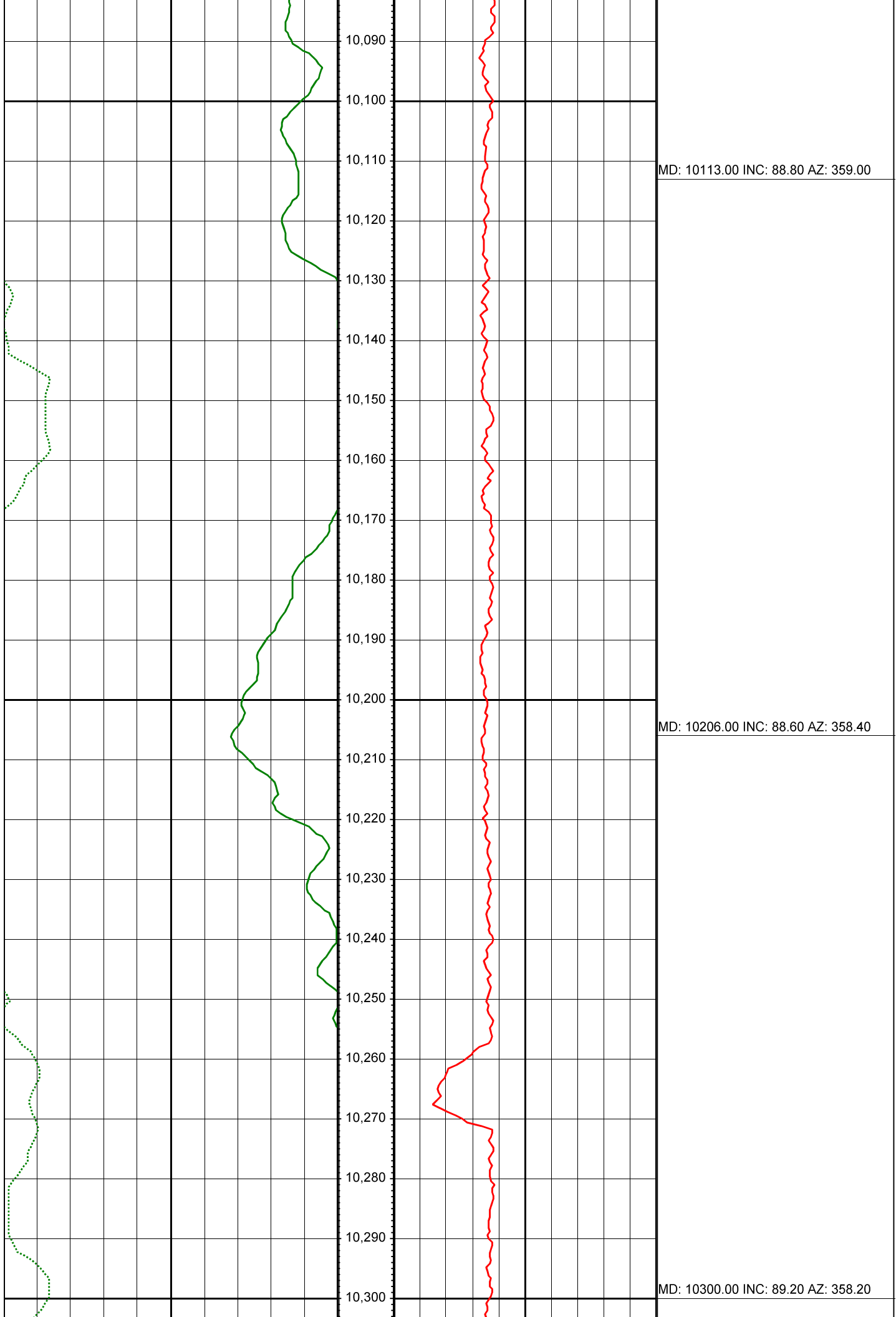


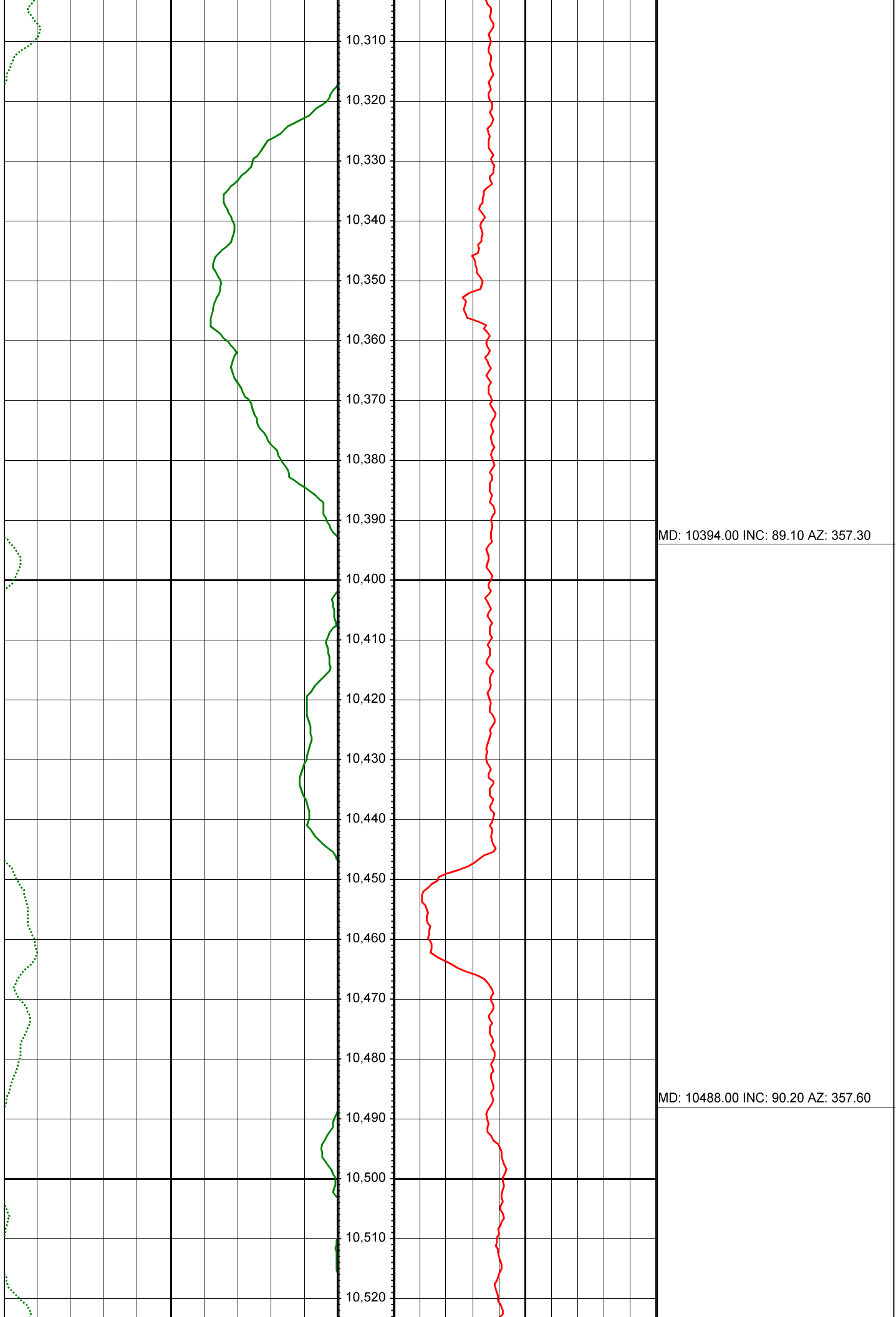


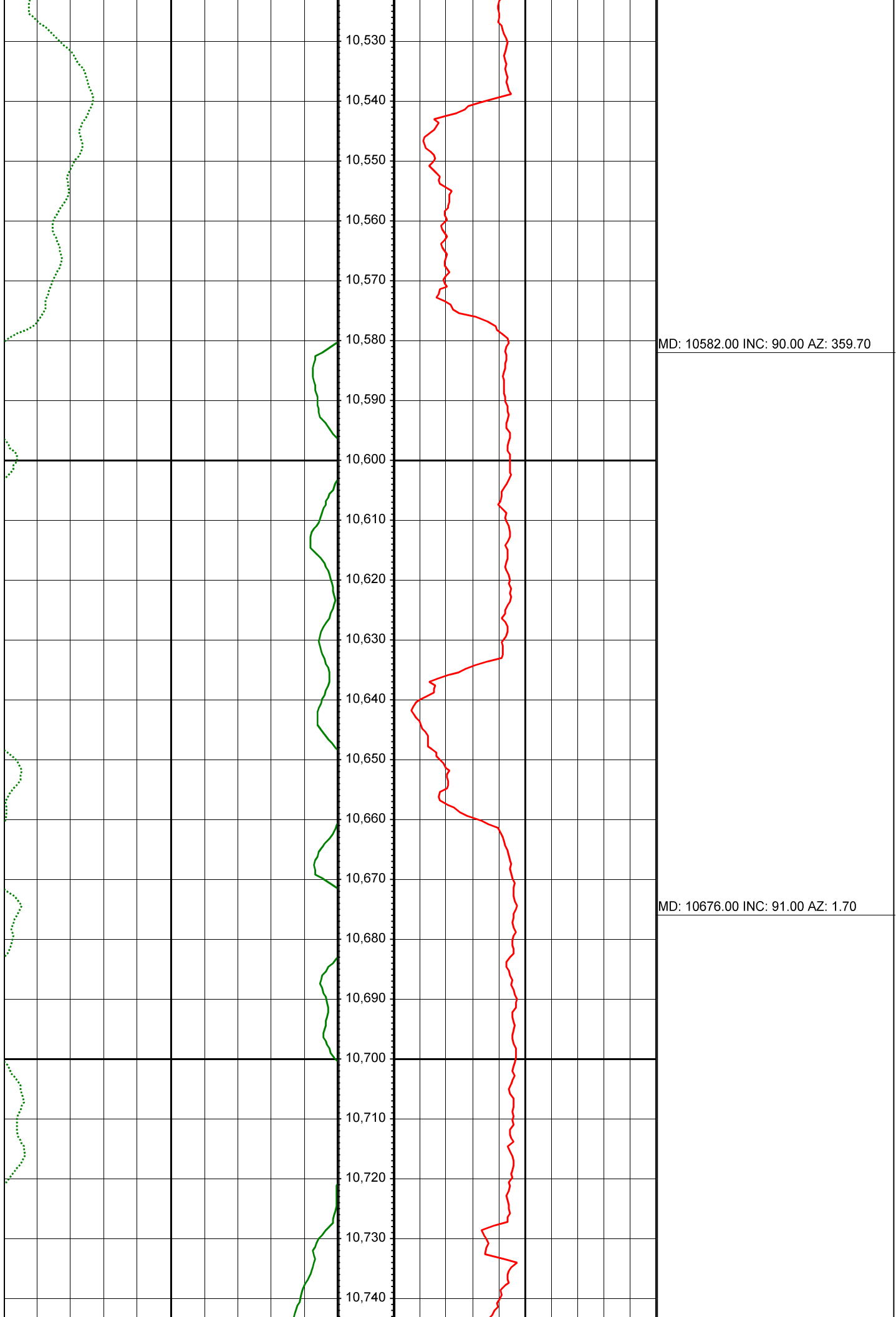


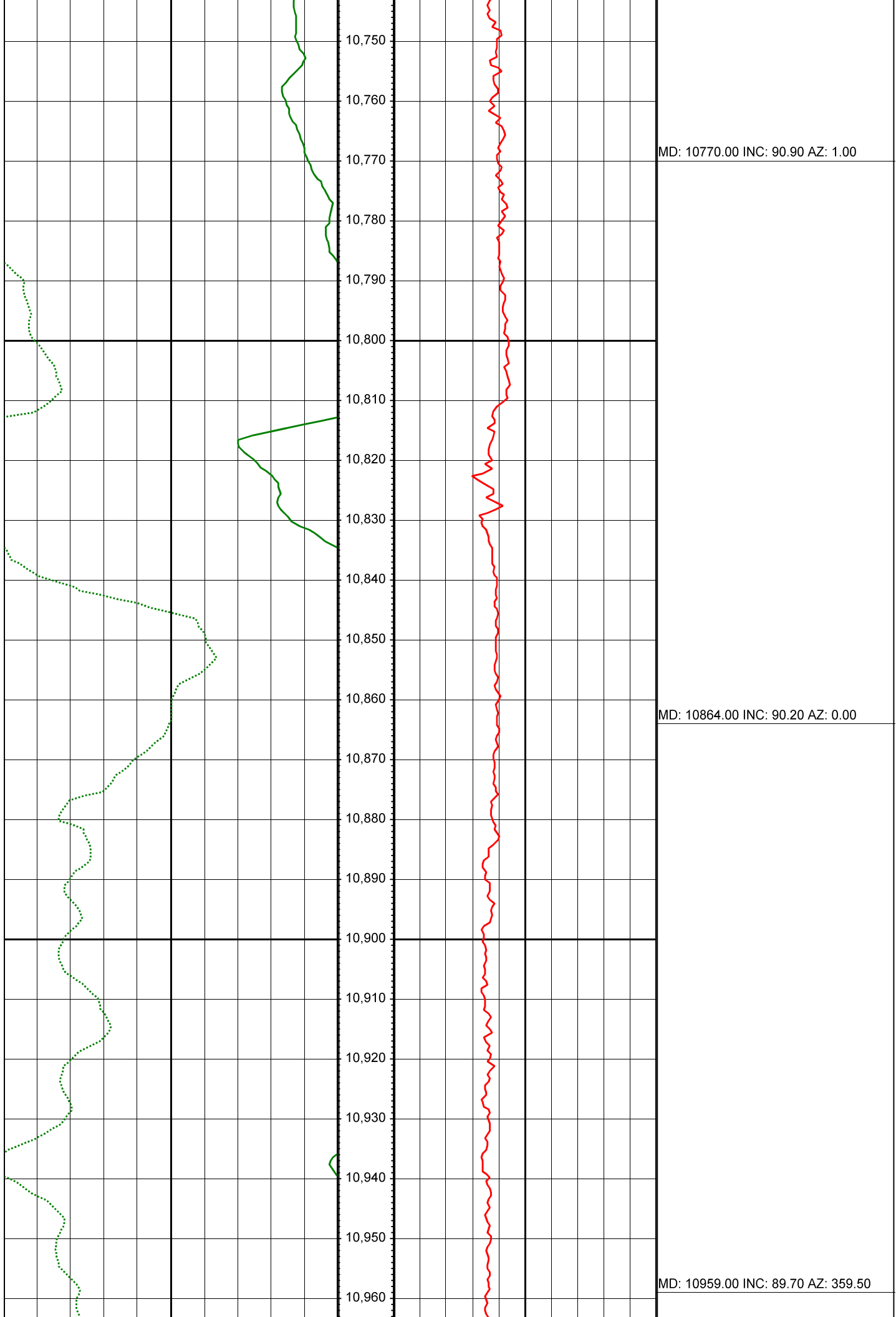


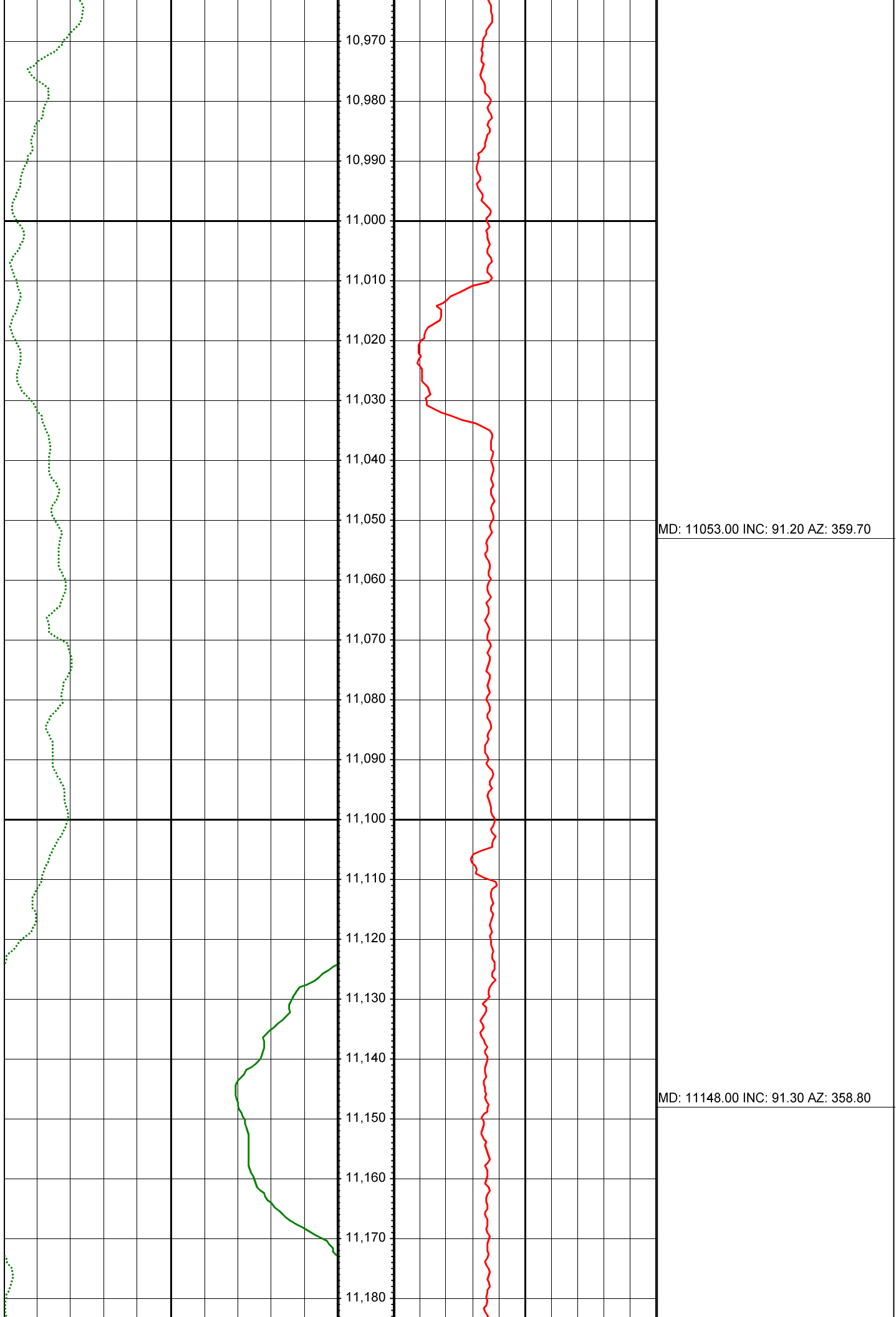


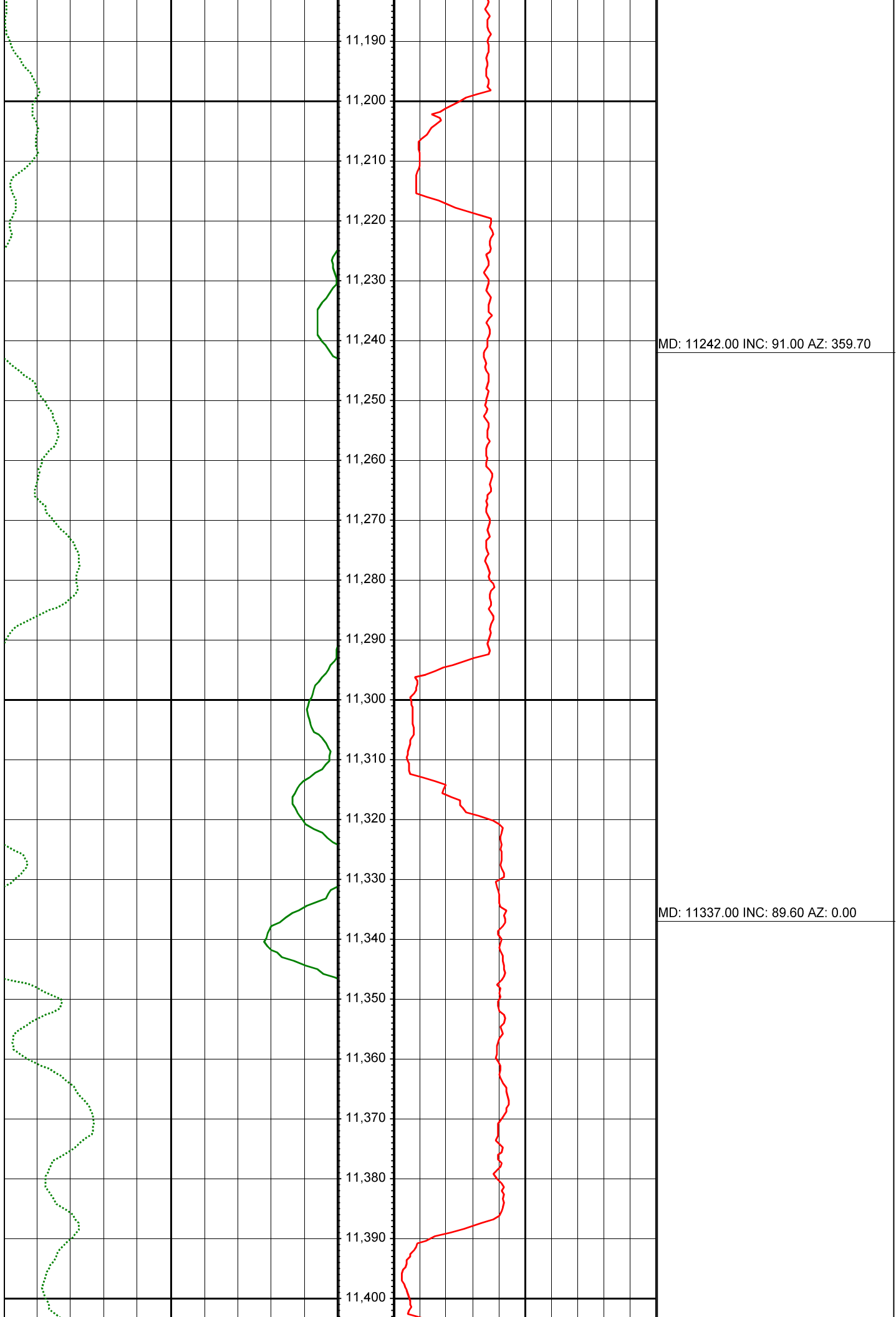


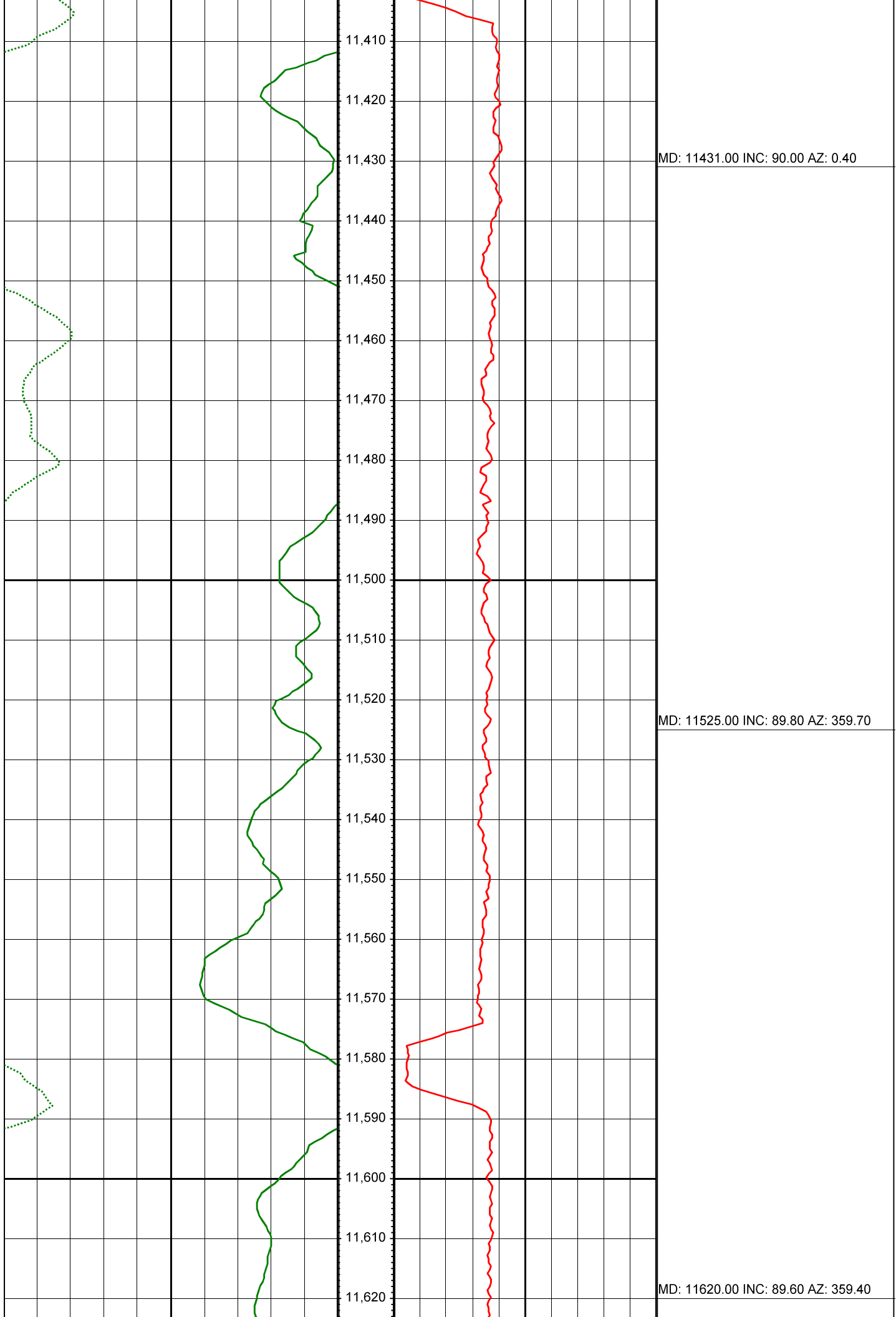


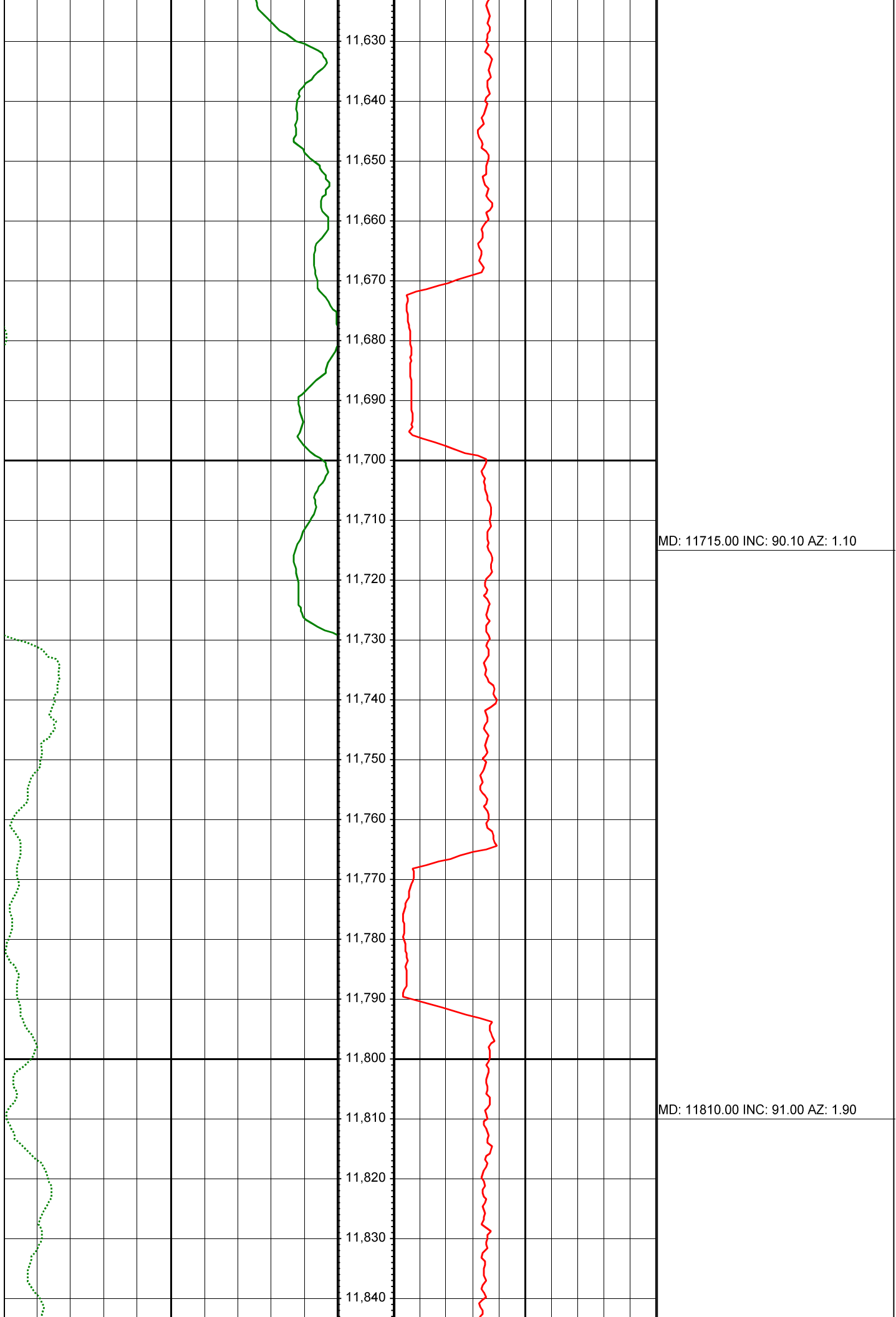


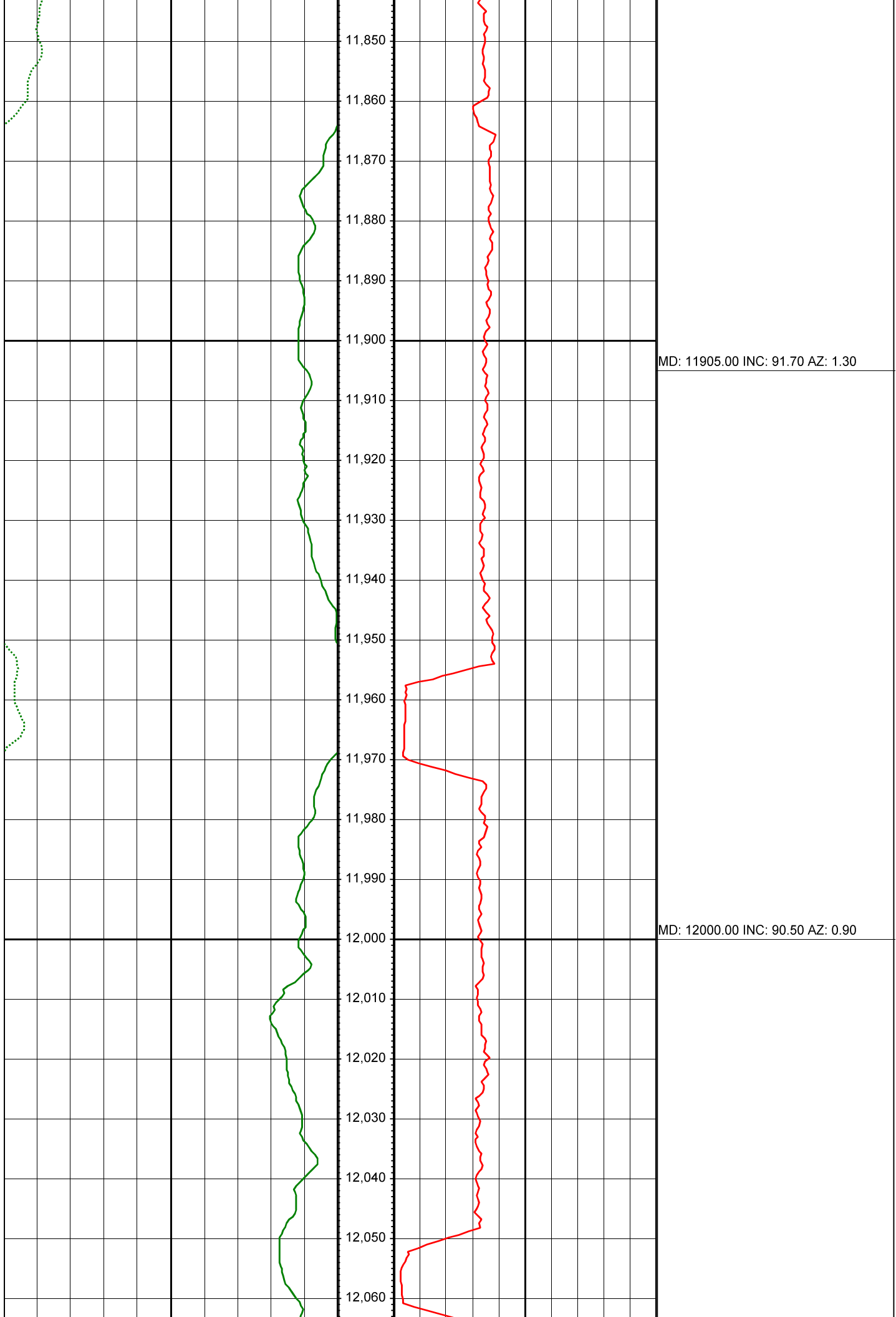


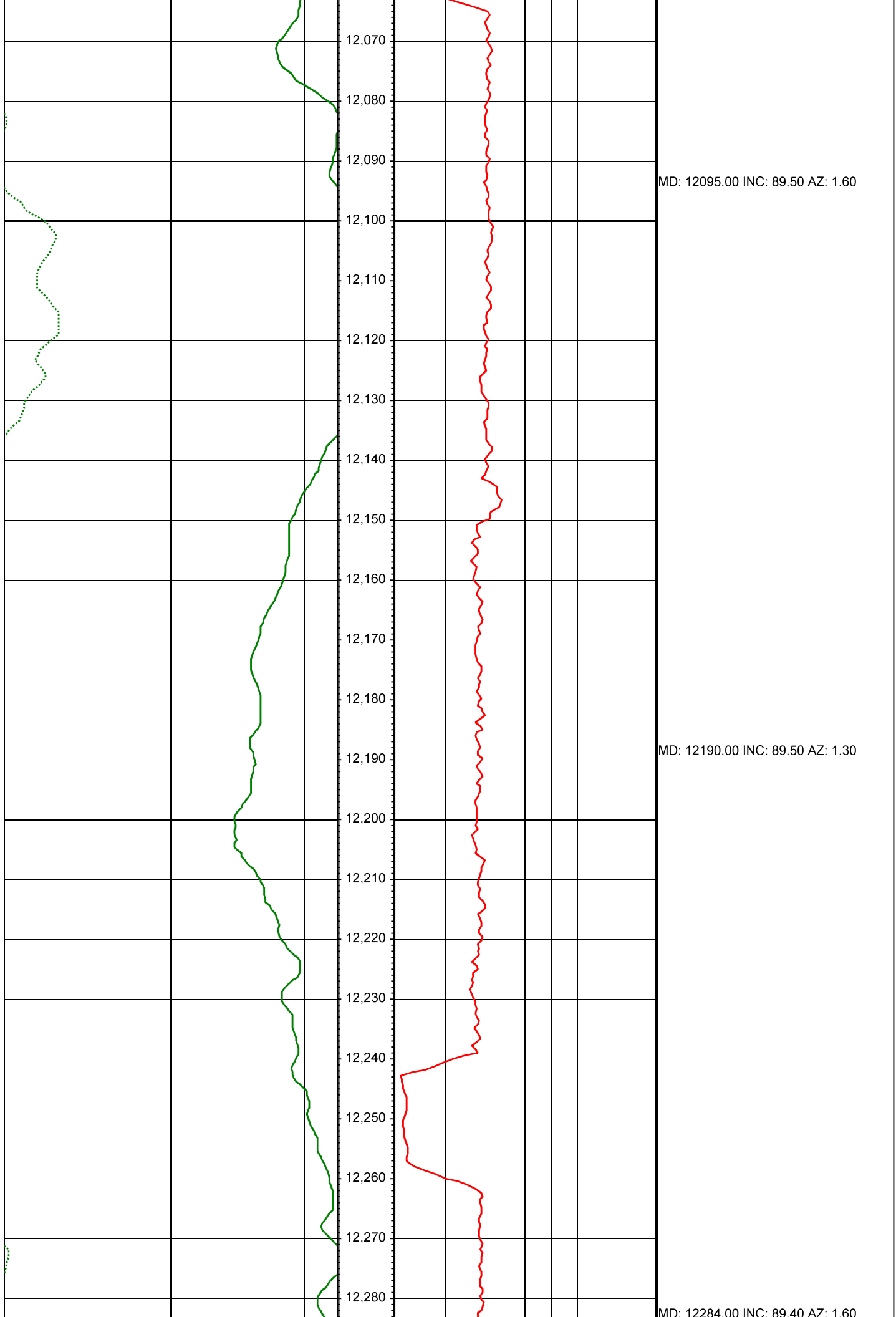


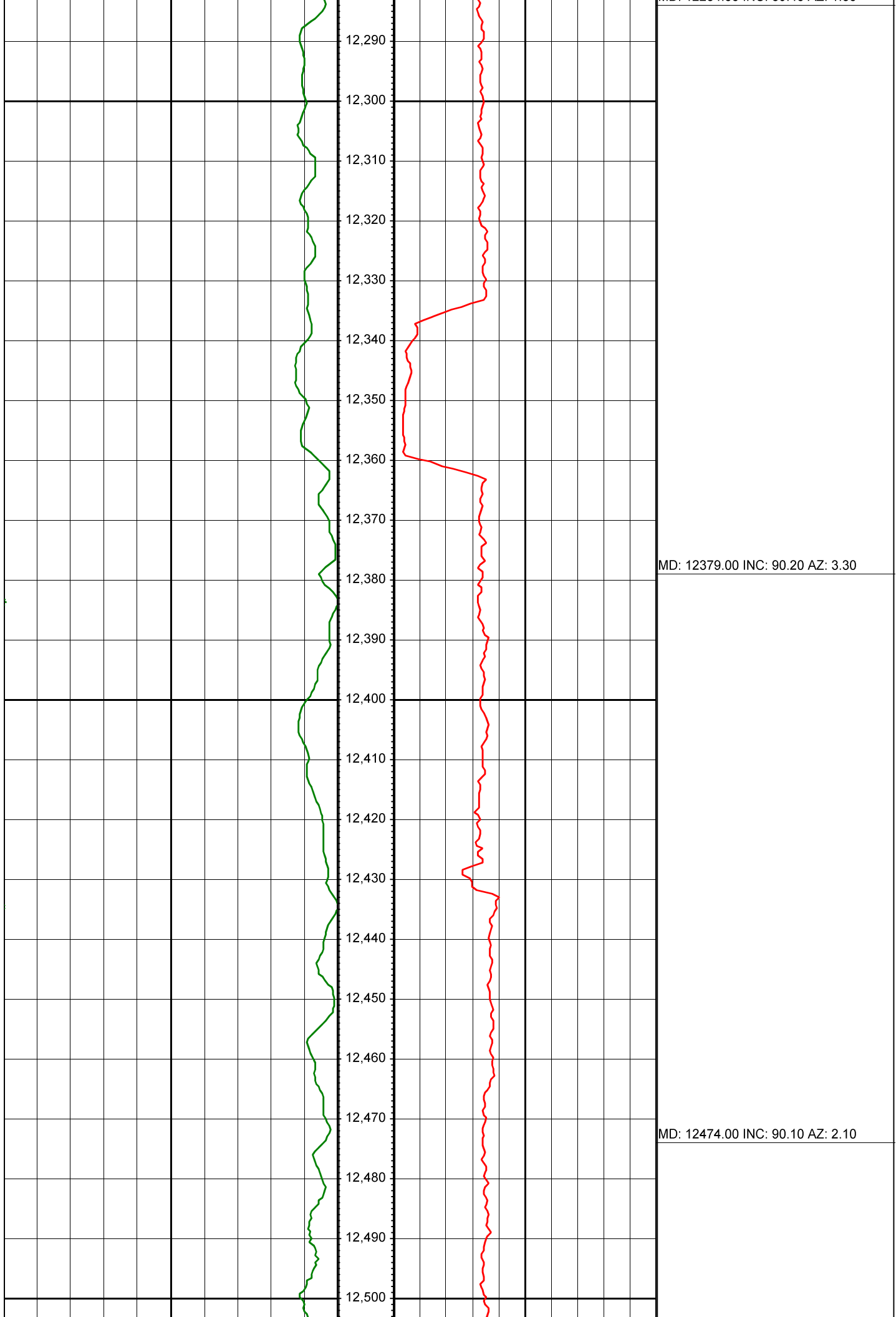


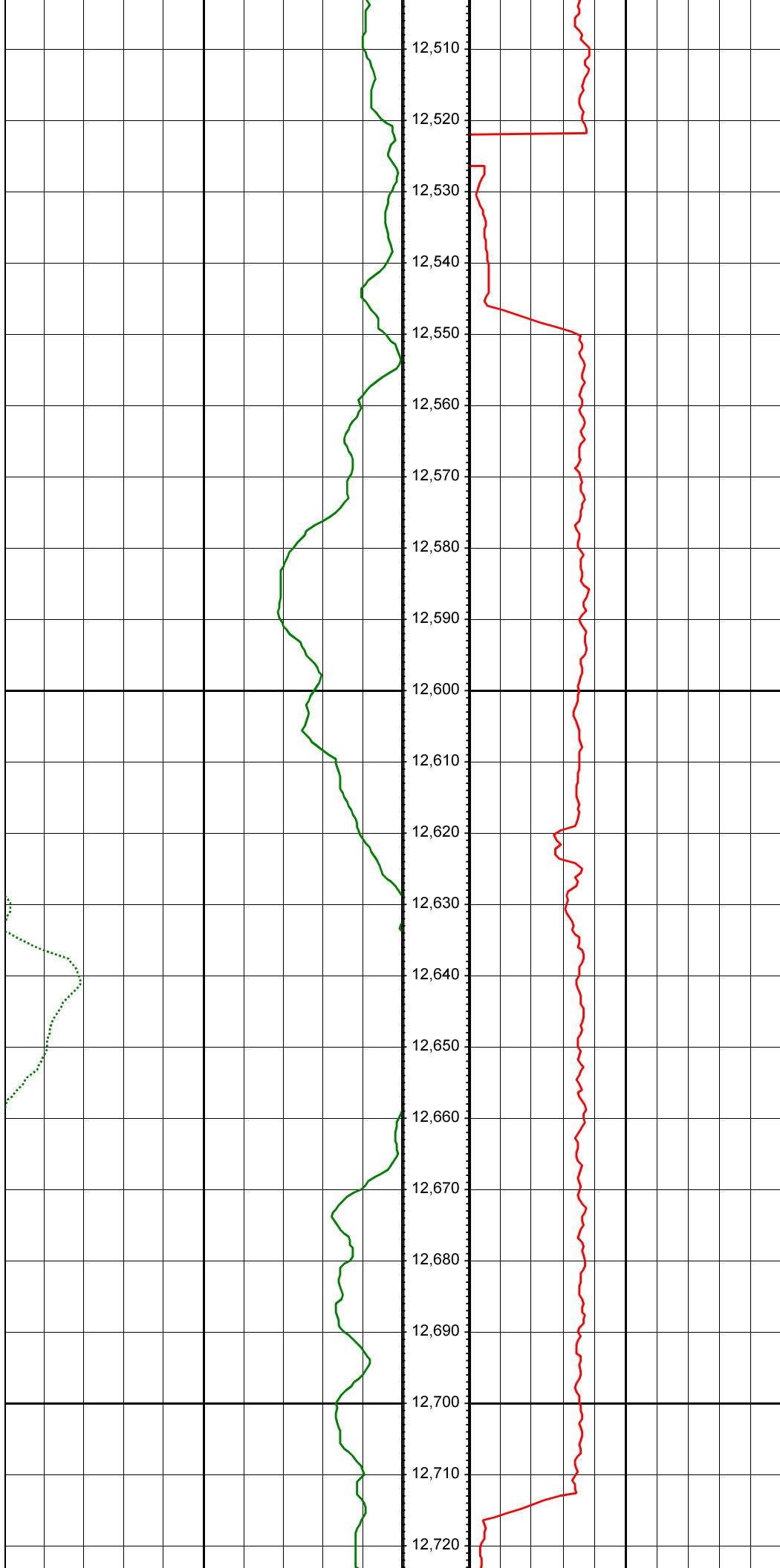






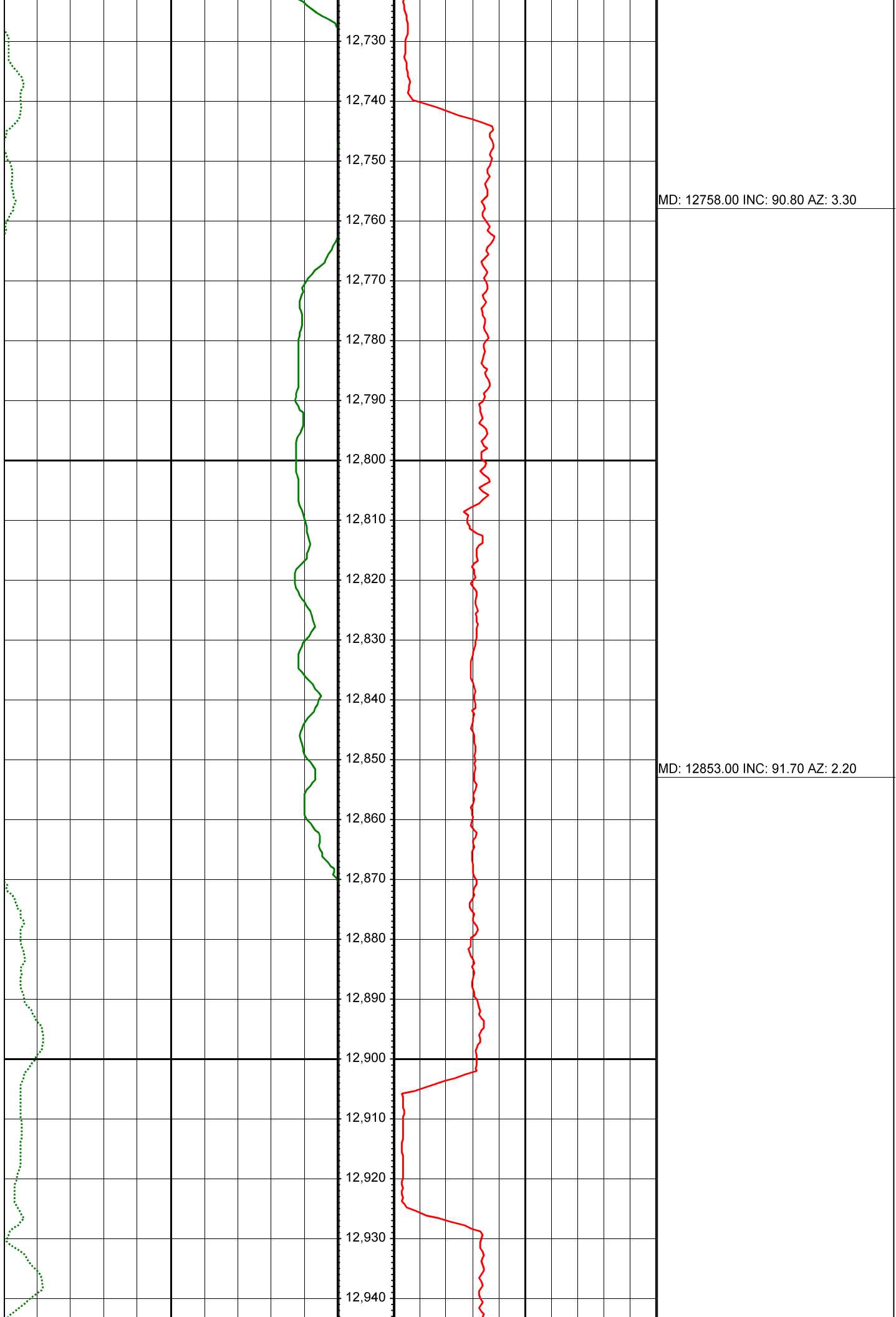


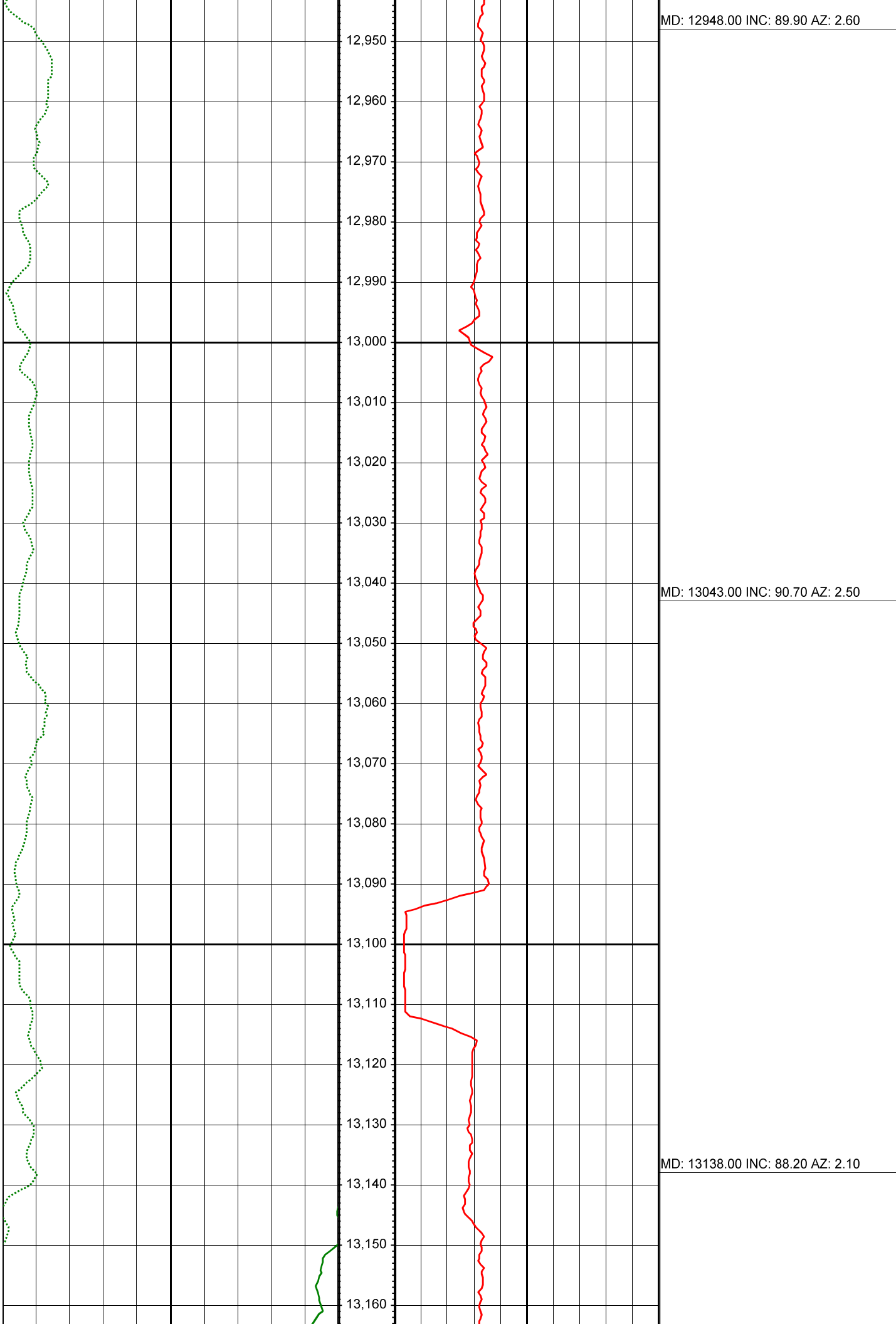


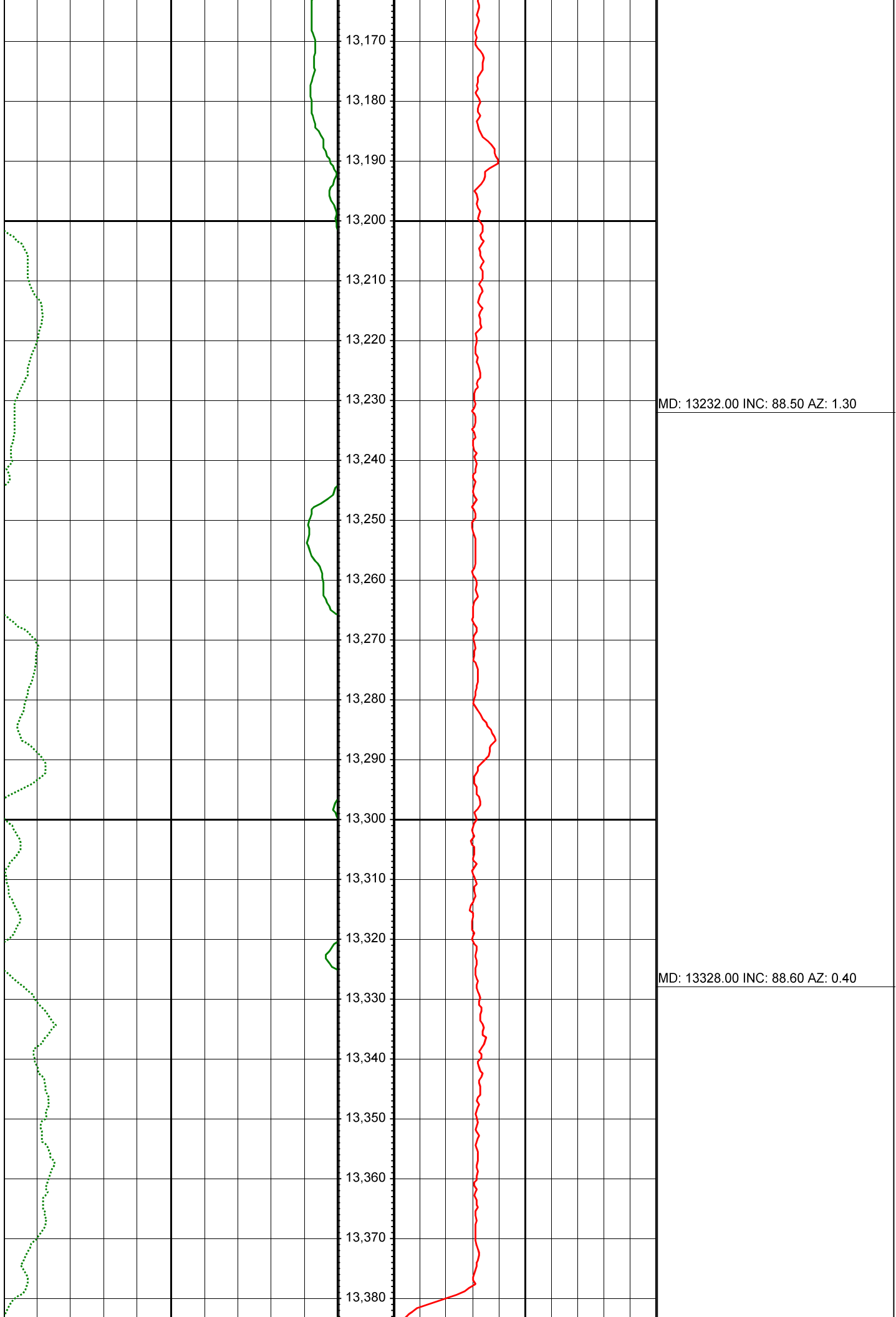


MD: 12569.00 INC: 91.80 AZ: 4.20

MD: 12663.00 INC: 92.70 AZ: 3.30









MD: 13423.00 INC: 88.80 AZ: 0.40

MD: 13518.00 INC: 92.10 AZ: 1.50

