



Cathedral Energy Services  
1949 North Pyrite Road  
Casper, Wyoming 82604

**145250**

5":100' - MD

9/19/2014 12:59:39 PM

**CATHEDRAL**

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

**Country:** U.S.A.

**State / Province:** Colorado

**County / Parish:** Weld

**Started:** 03/24/2014 05:00 PM

**API/UWI:** 05-123-38348-00

**Field:** Wattenberg

**Well:** Edith Ann-Duckworth21H 4B-O268

**Rig:** Patterson UTI Drilling

**Ended:** 08/08/2014 01:00 AM

Gamma Ray  
Section Plane: 0.00  
Magnetic North: 8.59  
Gamma Attenuation Factor: 2.40  
Gamma Averaging: 7%

**Personnel**

**Day Hand:** A. Clark

**Night Hand:** E. King

**Comp. Emp:** Andrew Baltes

**Location**

**Latitude:** 40.117670

**Longitude:** -105.003680

**Elev. GL:** 4926

**Elev. DF:**

**Elev. KB:** 4954.5

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

**Hole Data**

Size	From	To
12-1/4	0	907
8-3/4	966	7946
6-1/8	7876	17238

**Casing Data**

Size	From	To
9-5/8	0	897
7	0	7932
4-1/2	0	17223

**Bit Sizes**

Size	From	To
12-1/4	0	907
8-3/4	966	7946
6-1/8	7876	17238

**Mud Data**

Type	Weight	Density	Viscosity	Rm	Rmf	Rmc	From	To
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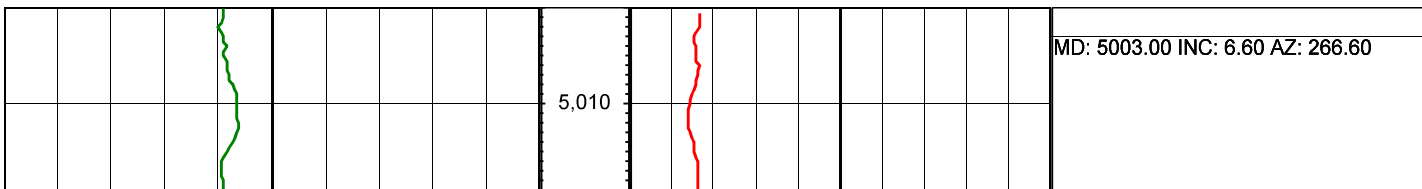
**Tool Run Data**

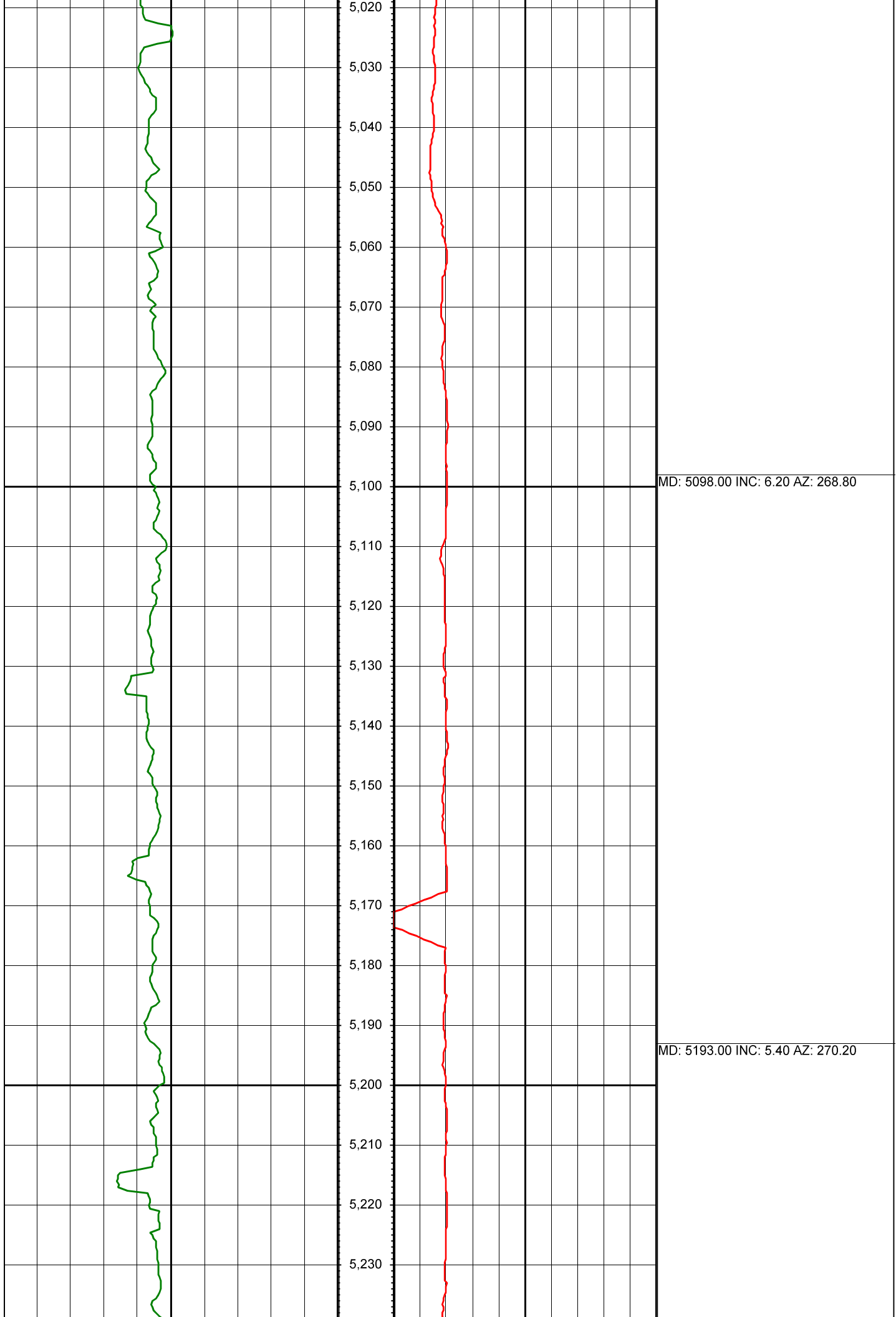
Serial Number	Gamma Offset	Resist. Offset	Start Time	Start Depth	End Time	End Depth
1580	36.4	0	3/25/2014 9:00:25 PM	5000	3/28/2014 7:30:25 AM	6008
1580	39.67	0	3/28/2014 9:00:33 AM	6008	3/30/2014 4:00:33 PM	7946
1634	40.37	0	7/31/2014 5:00:50 PM	7946	8/8/2014 1:00:50 AM	17238

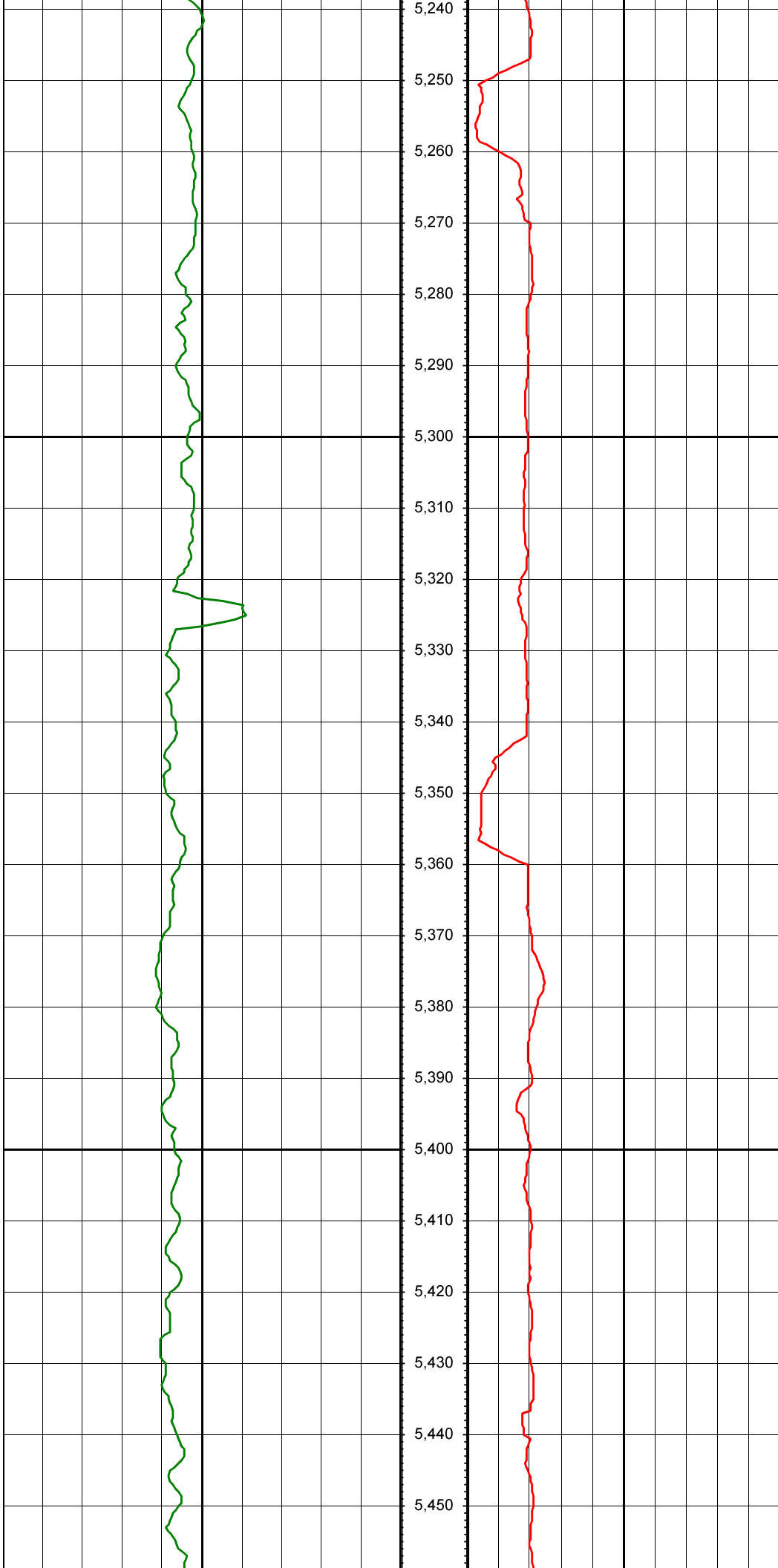
*All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not except in the case of gross or willful negligence on our part, be liable or responsible for any loss, cost 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

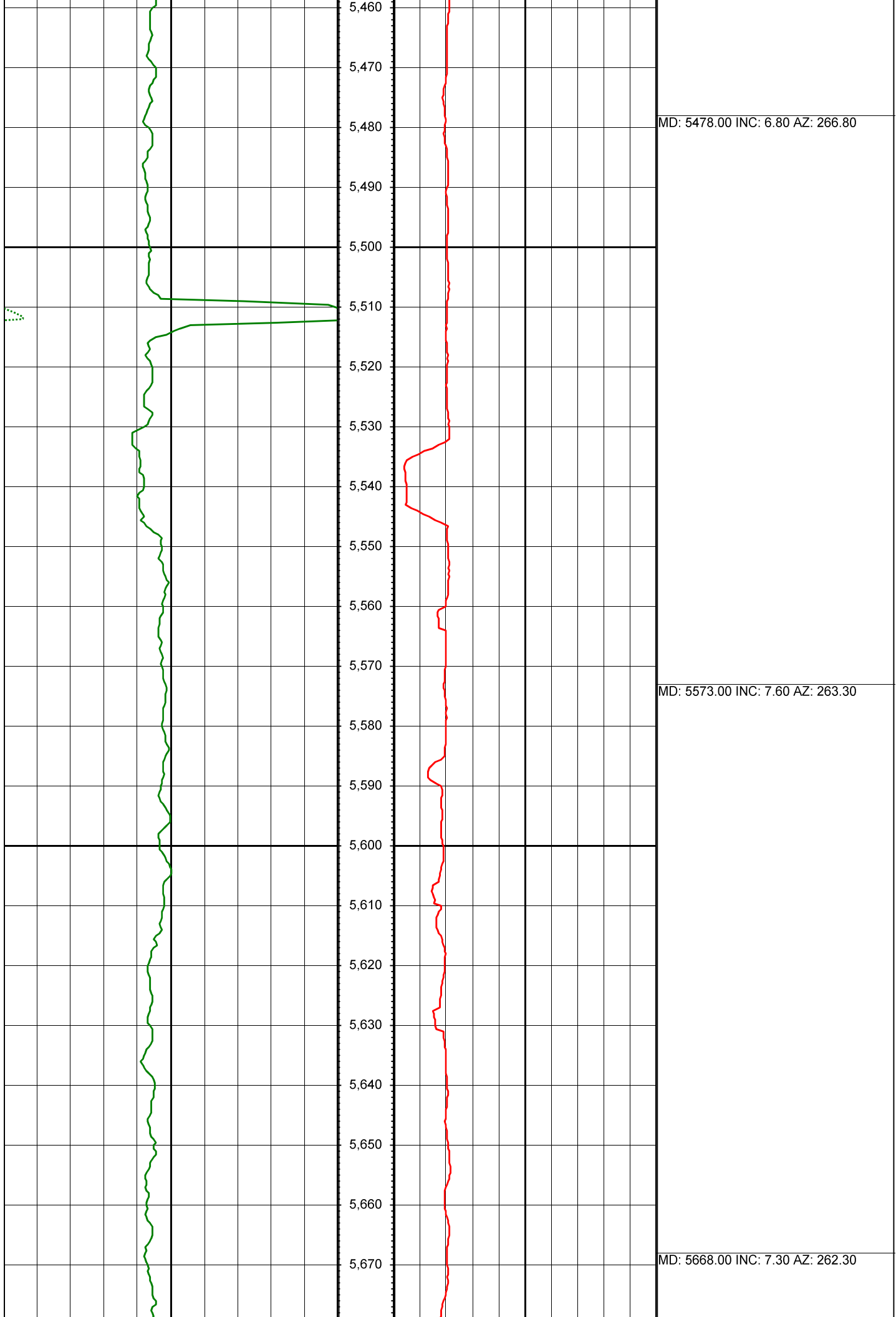




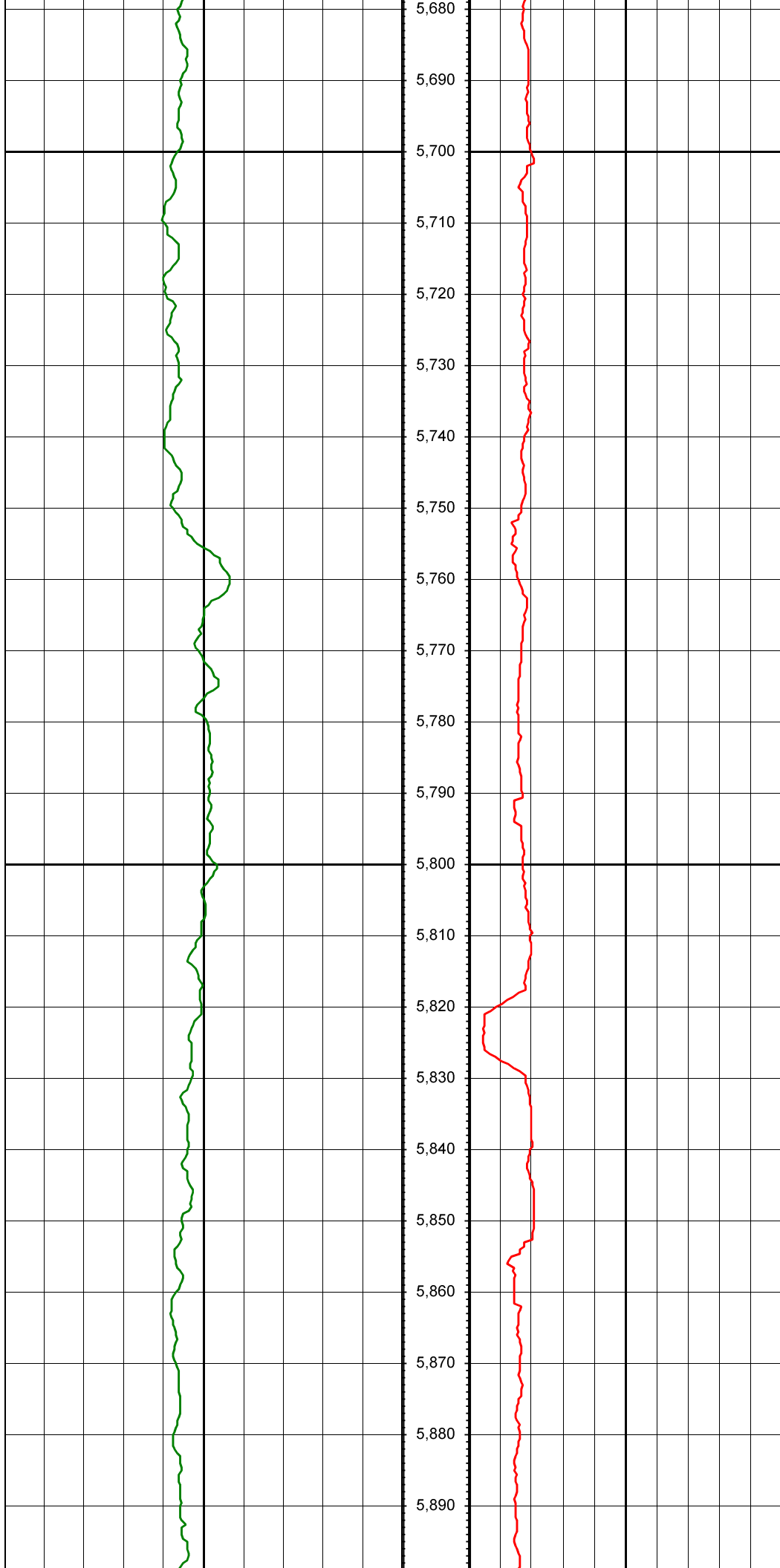


MD: 5288.00 INC: 6.10 AZ: 269.80

MD: 5383.00 INC: 7.10 AZ: 266.60







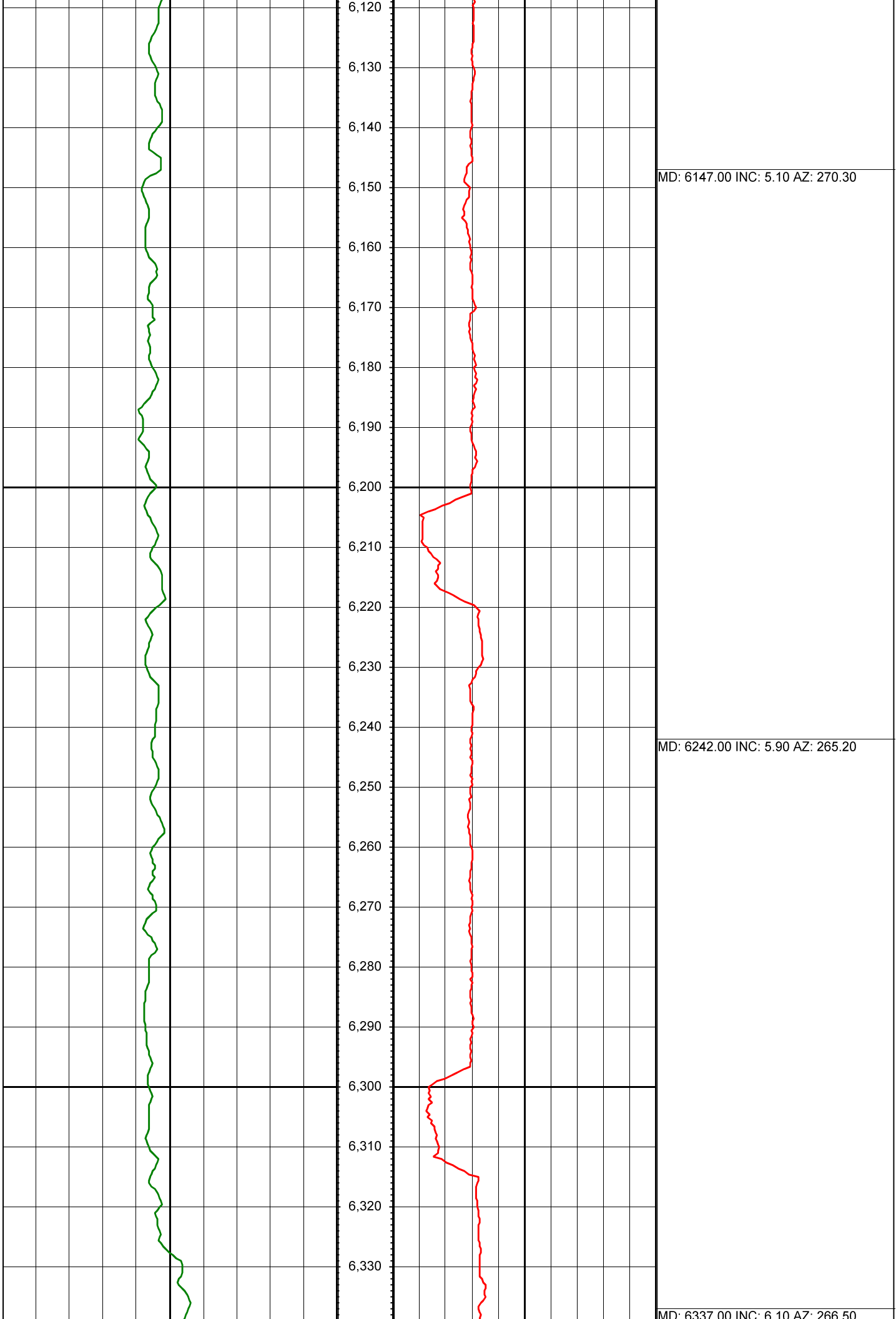
MD: 5763.00 INC: 6.90 AZ: 262.30

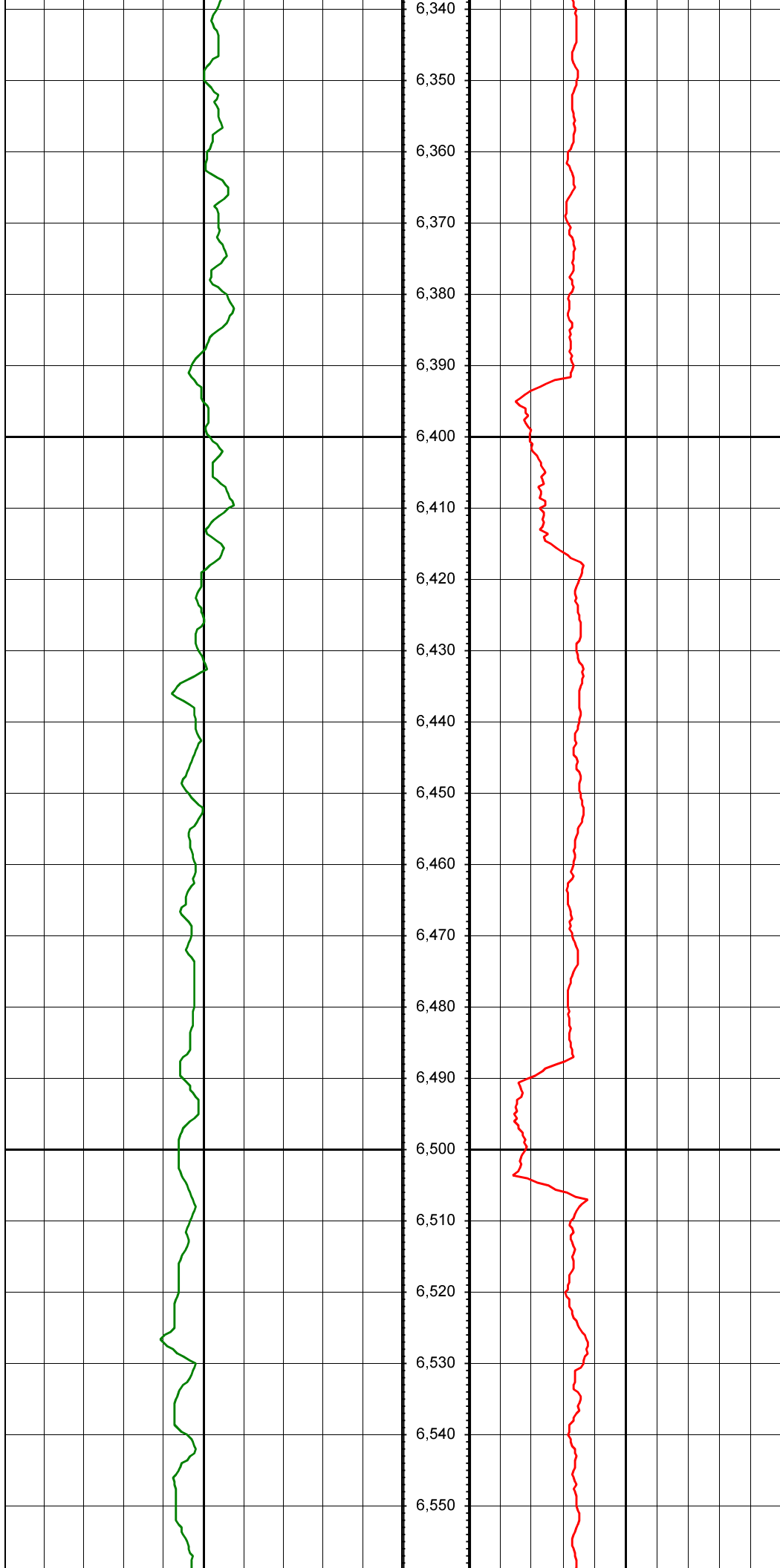
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MD: 5957.00 INC: 6.20 AZ: 265.00

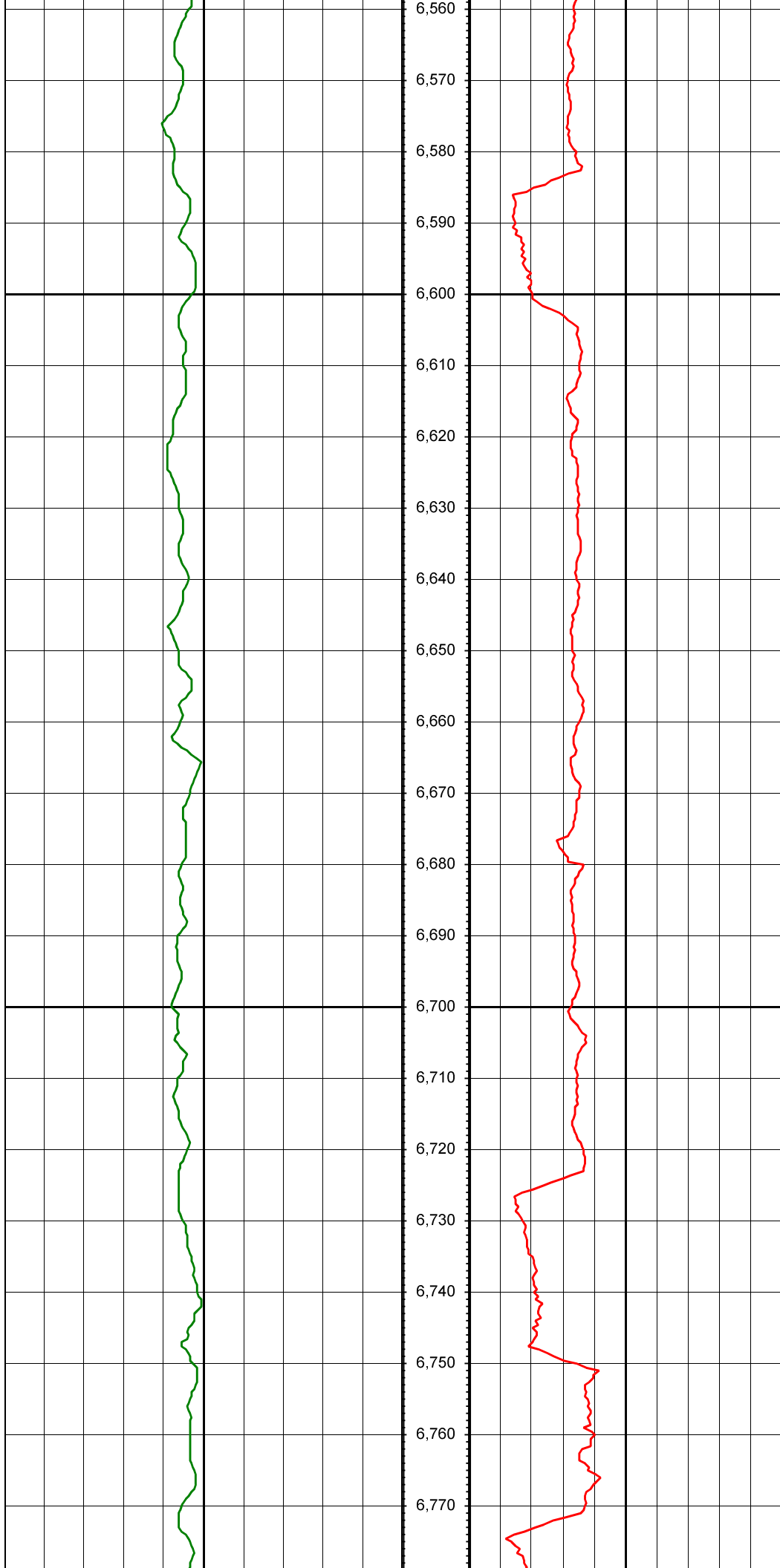
MD: 6052.00 INC: 7.40 AZ: 263.00





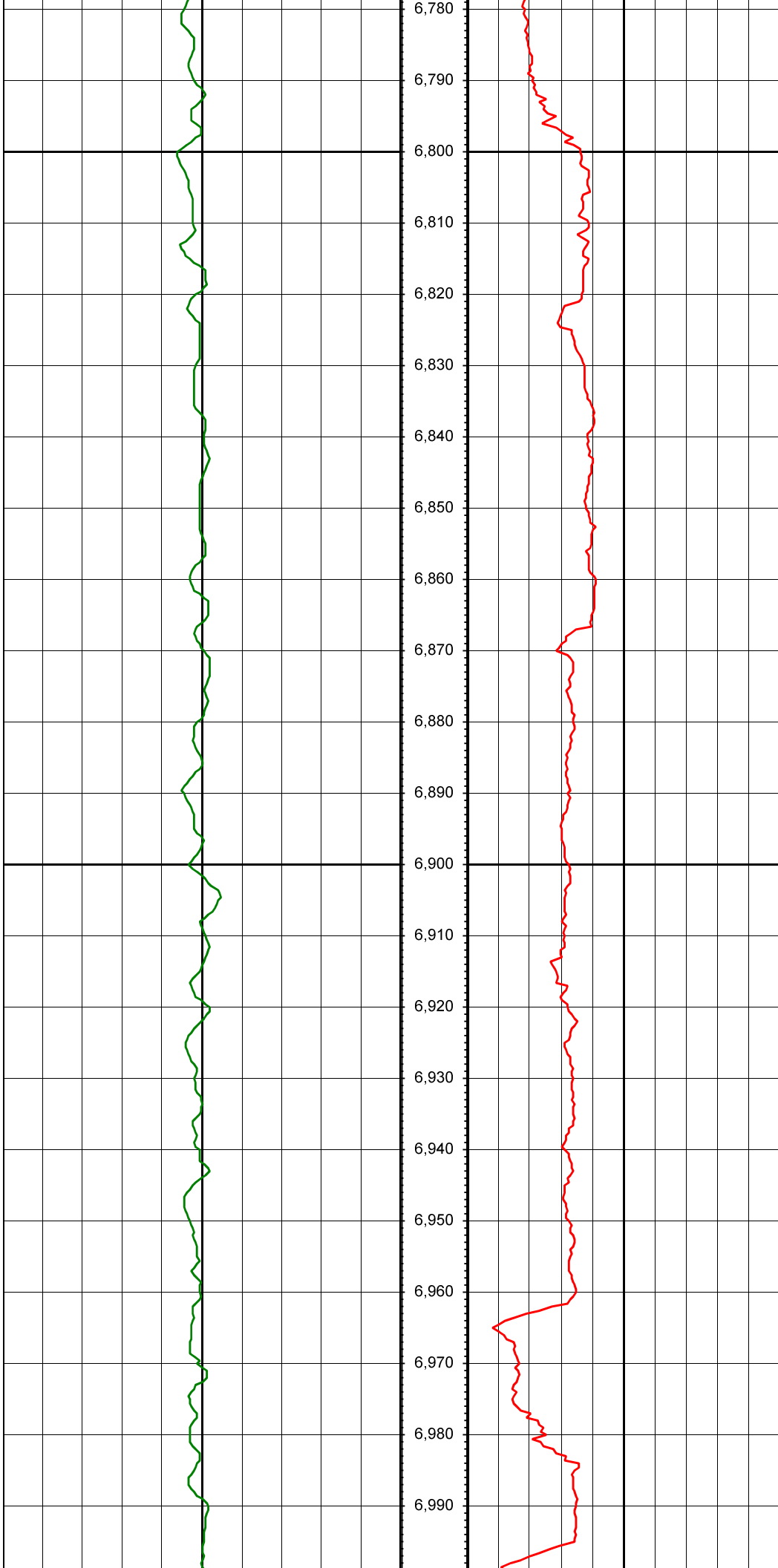
MD: 6432.00 INC: 6.90 AZ: 265.80

MD: 6528.00 INC: 6.80 AZ: 269.70



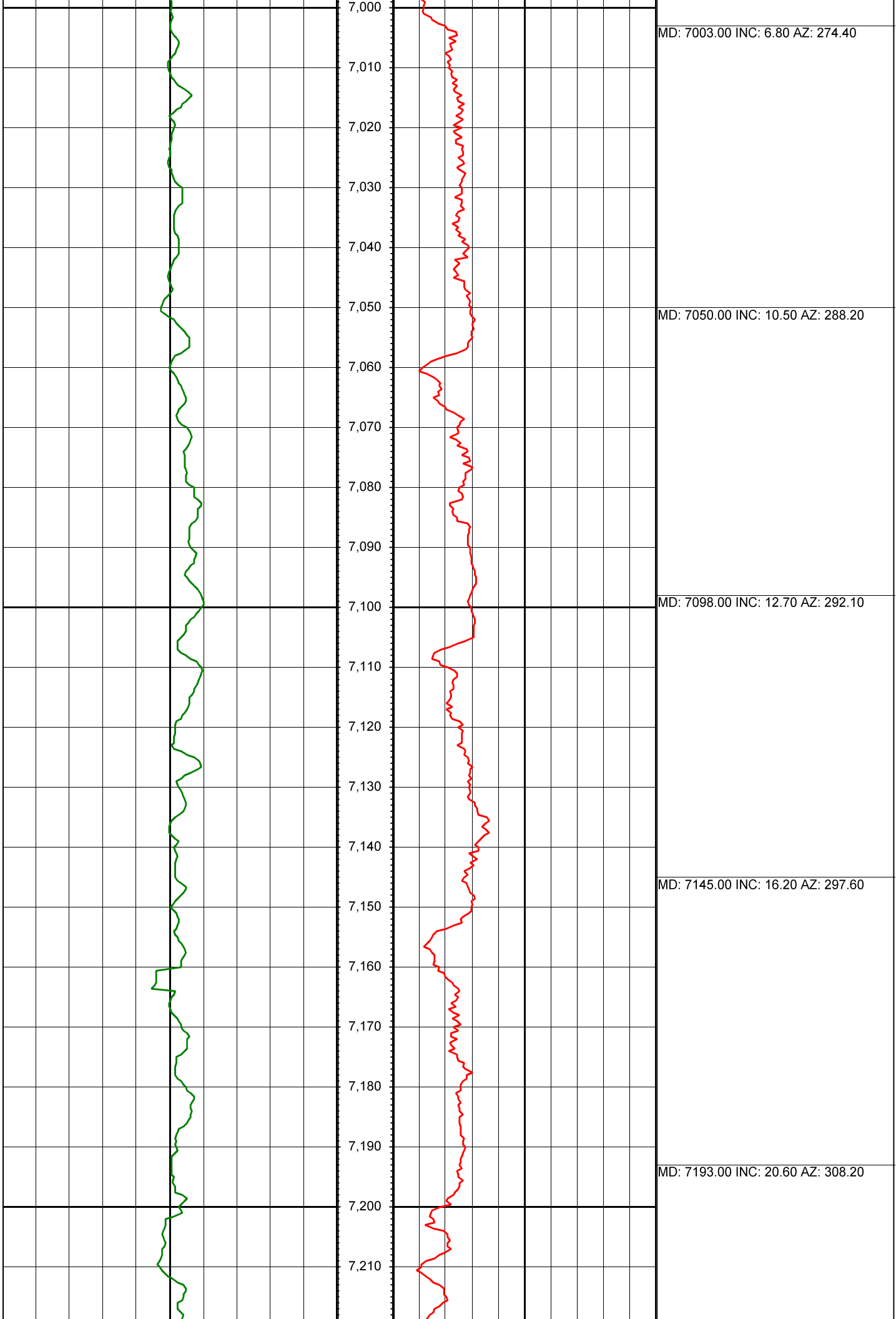
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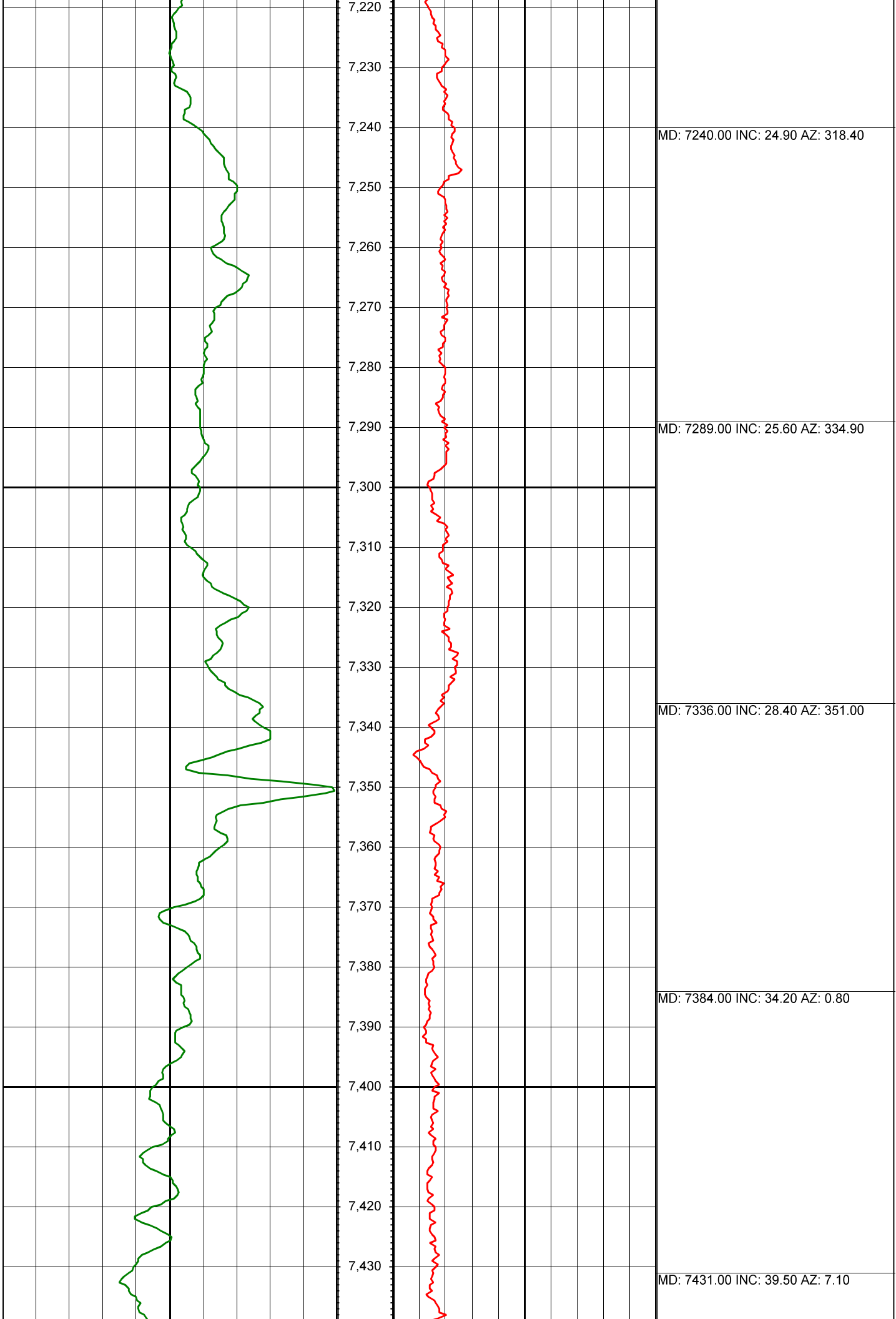
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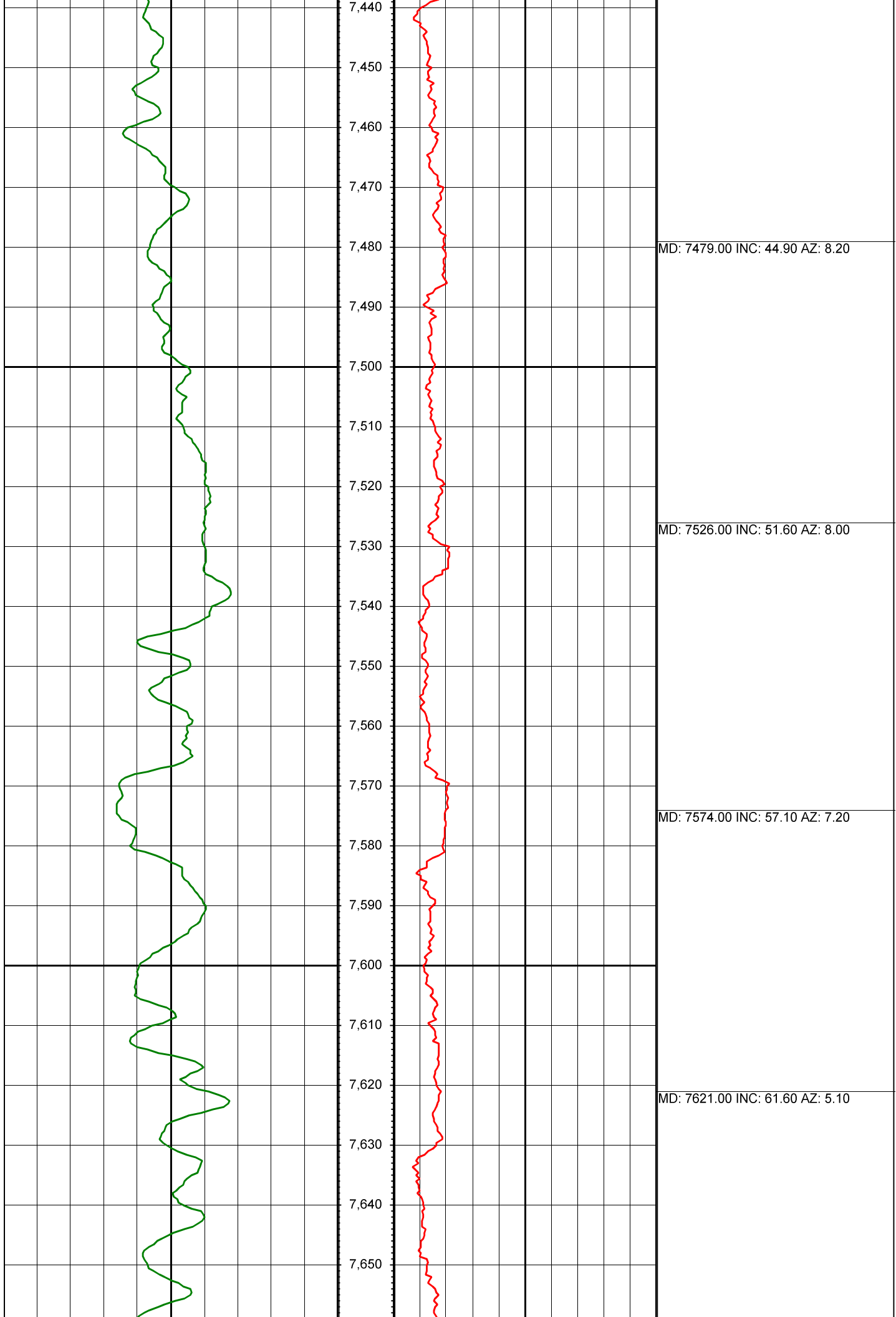
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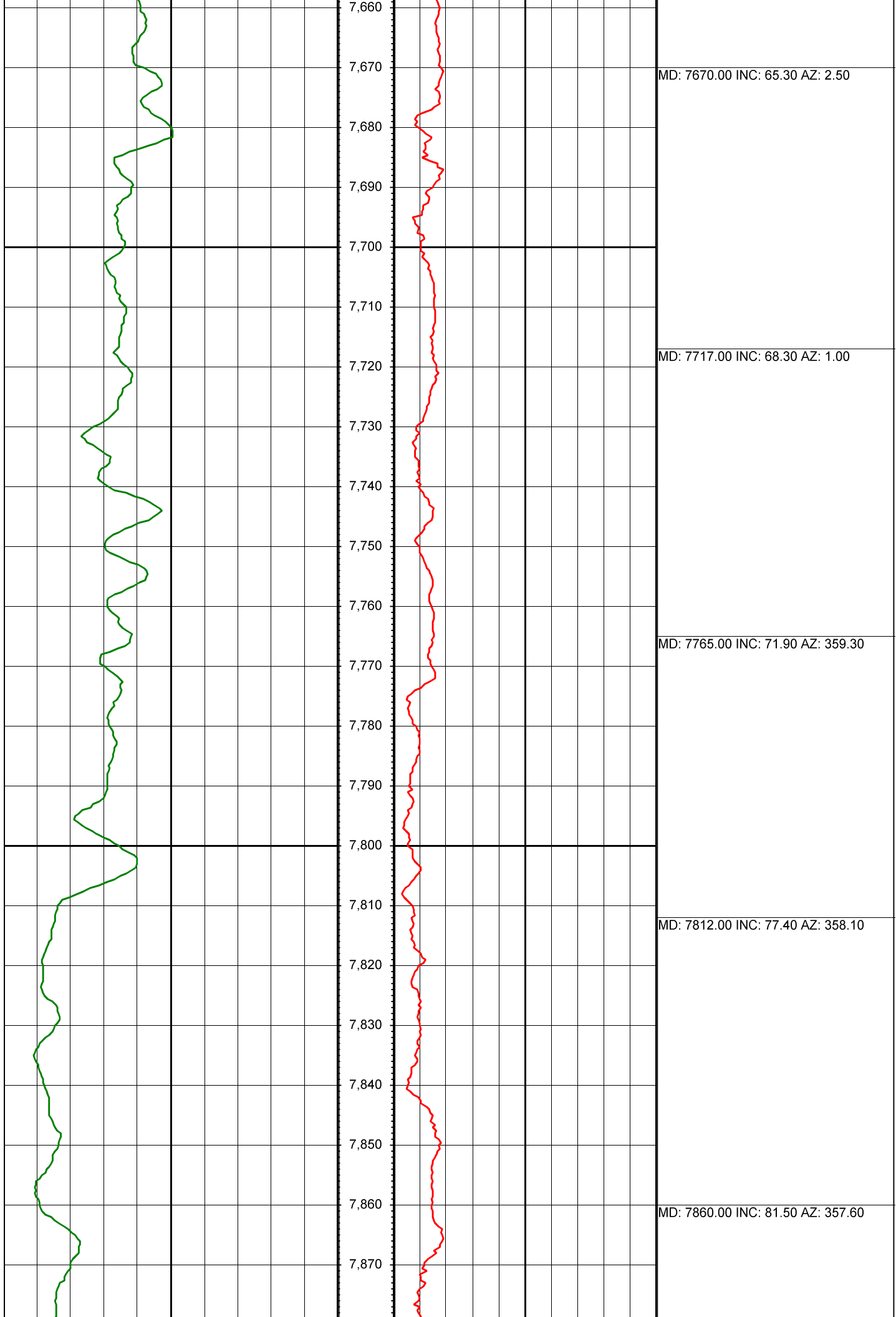
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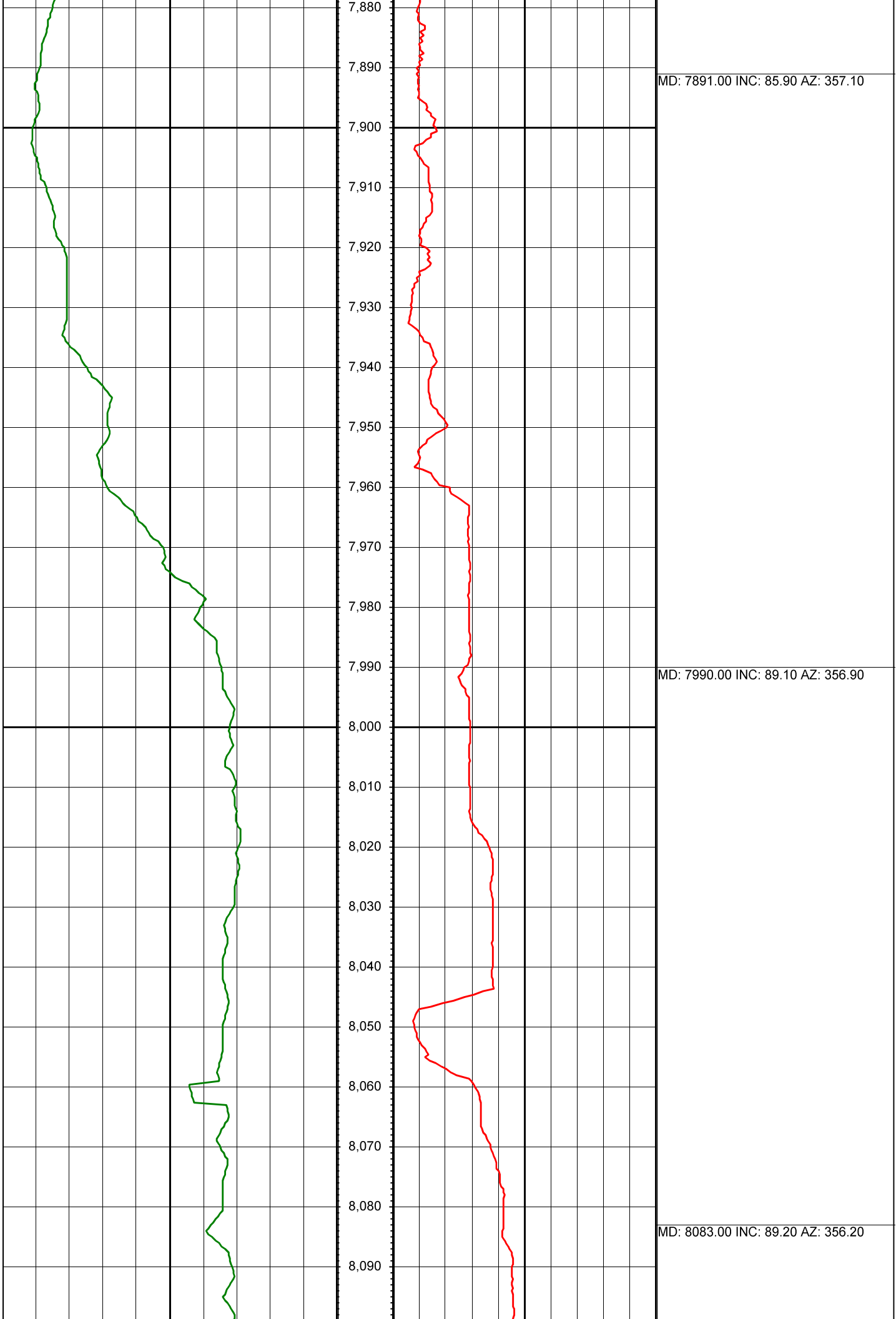


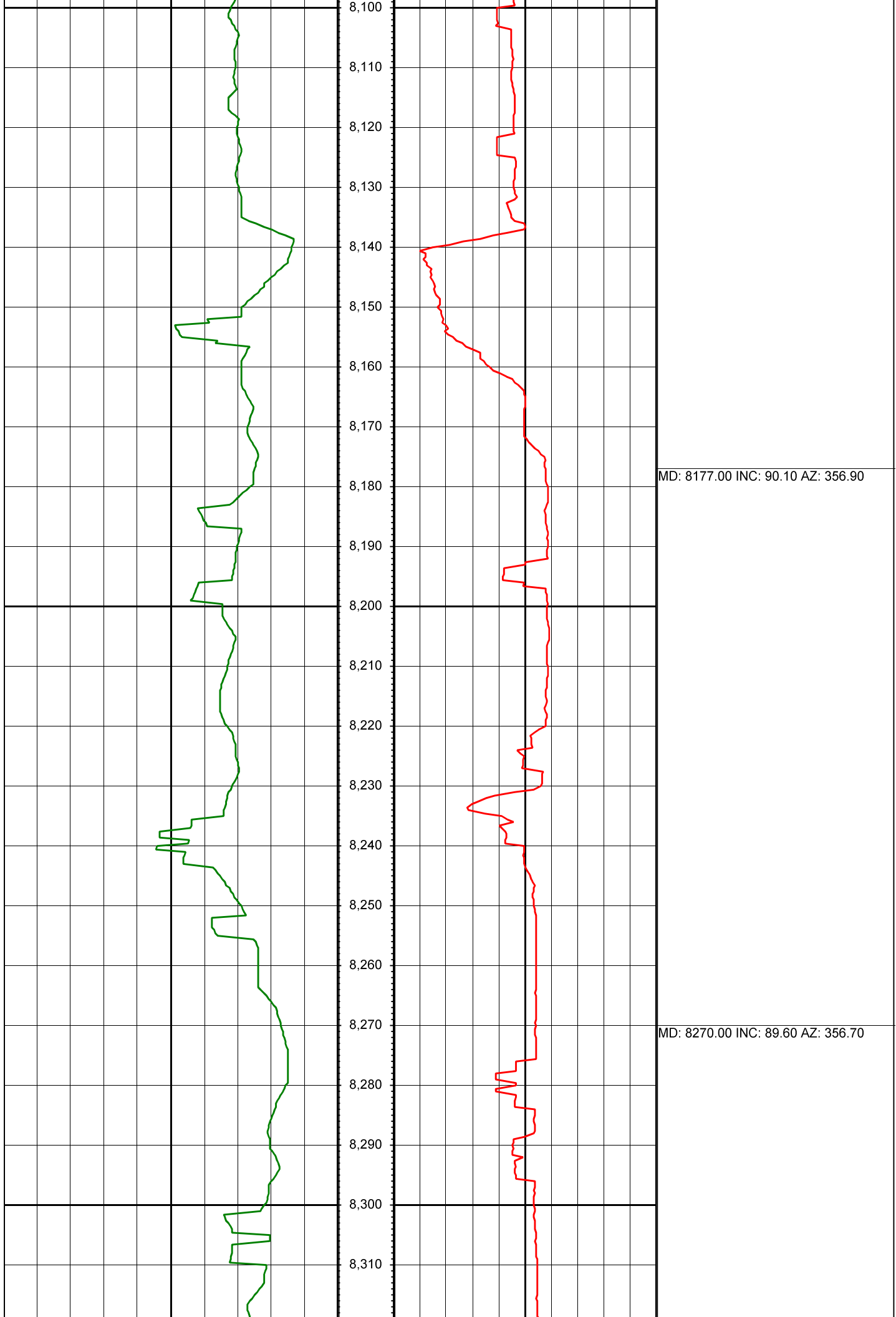


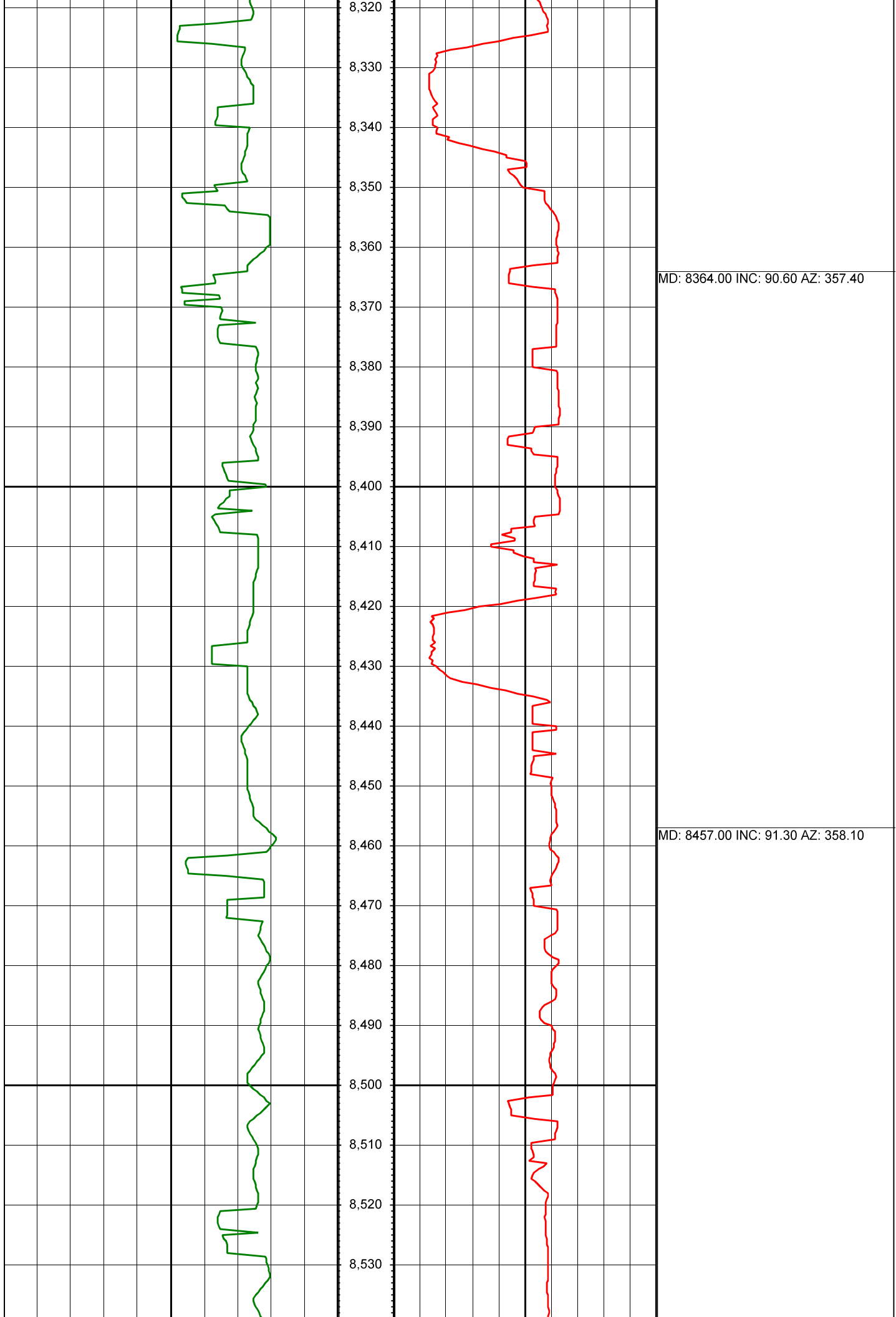


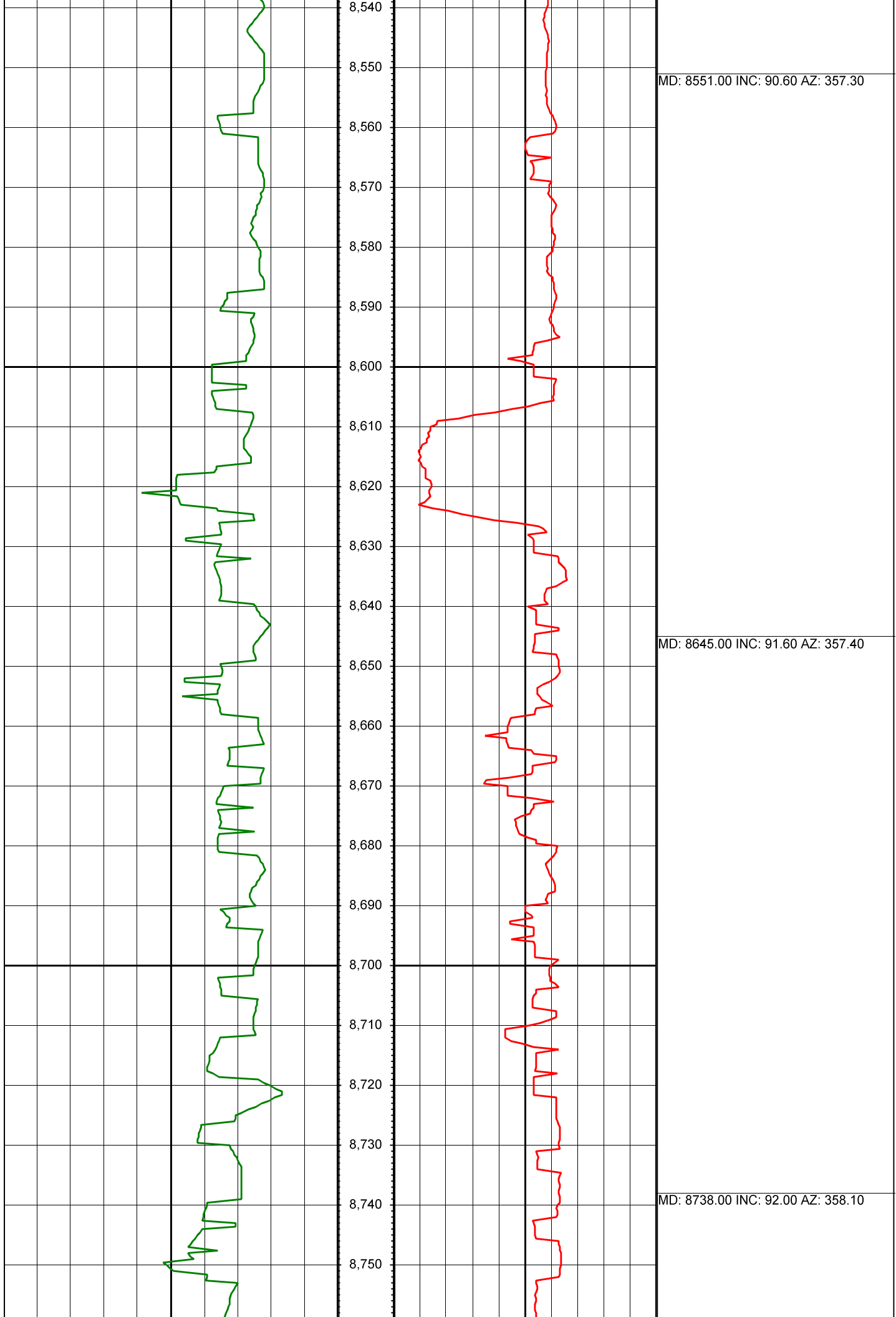


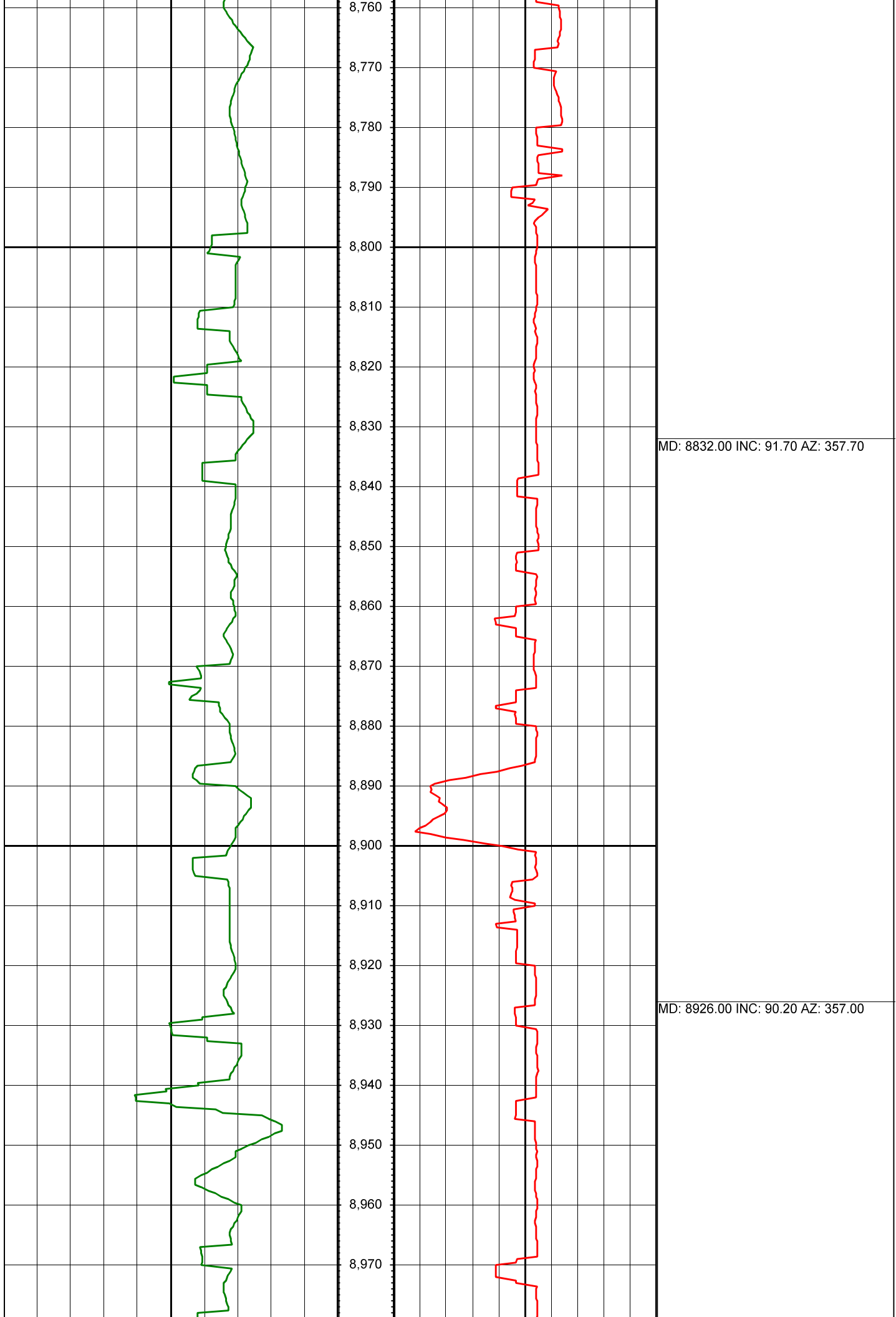


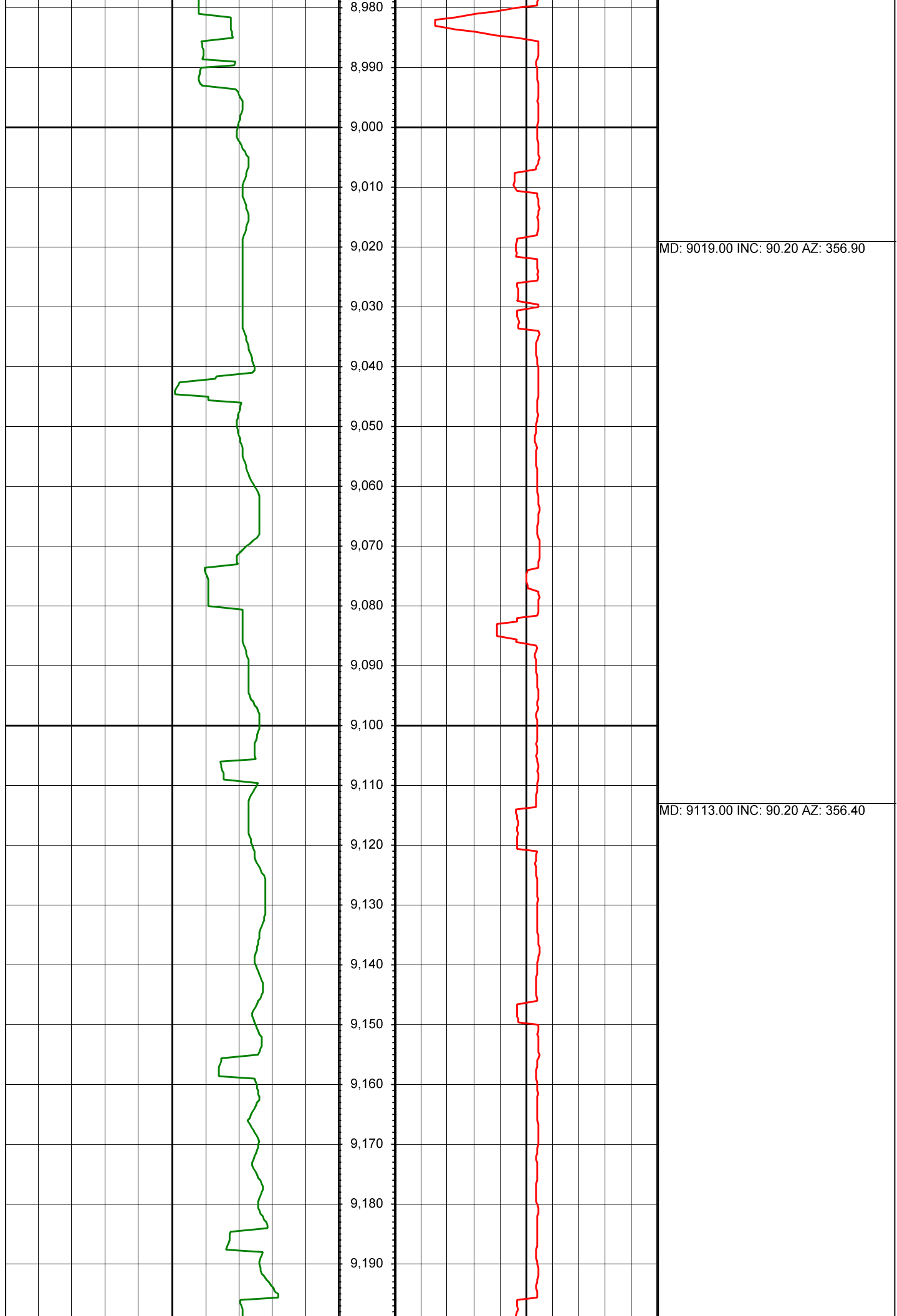




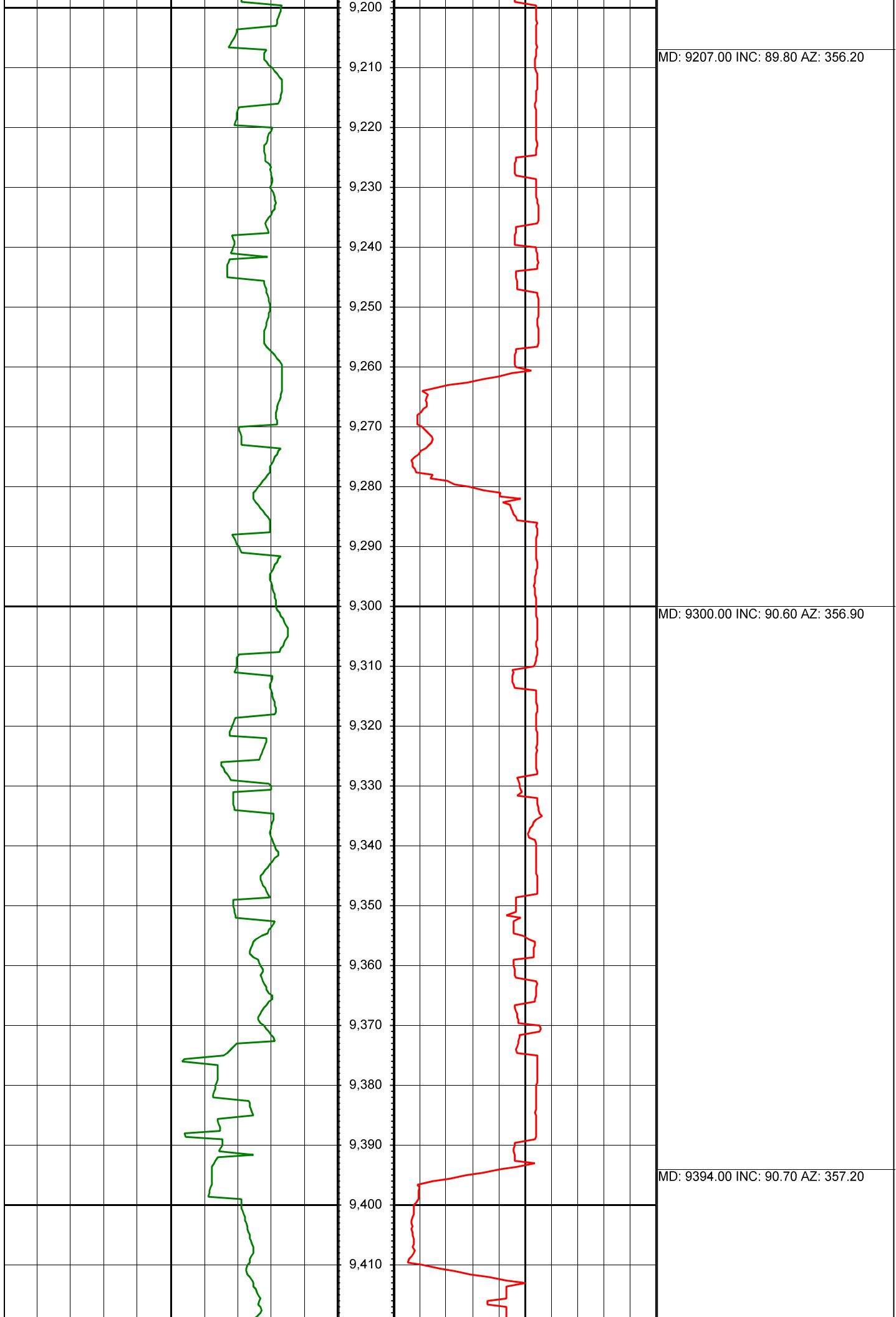


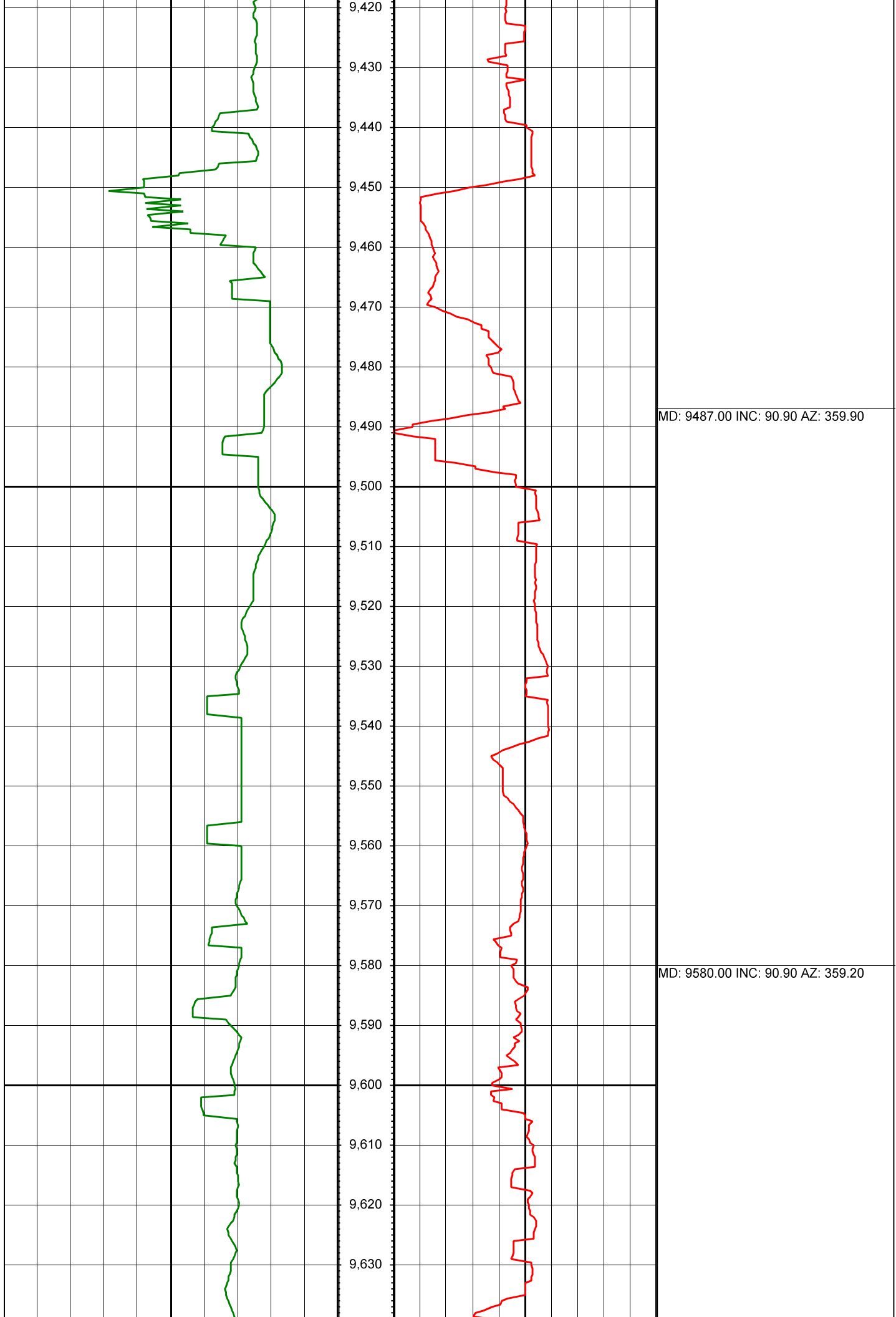


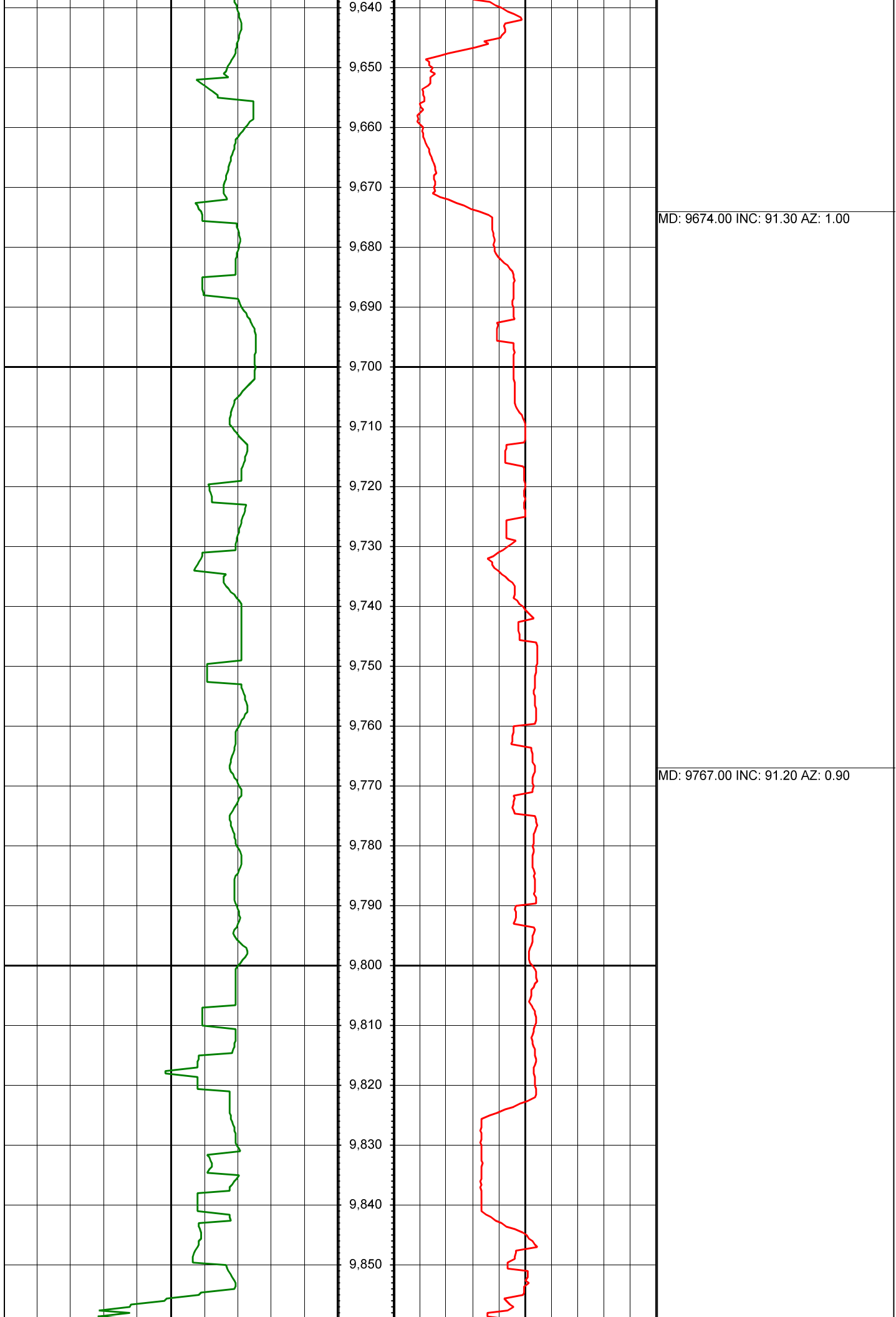


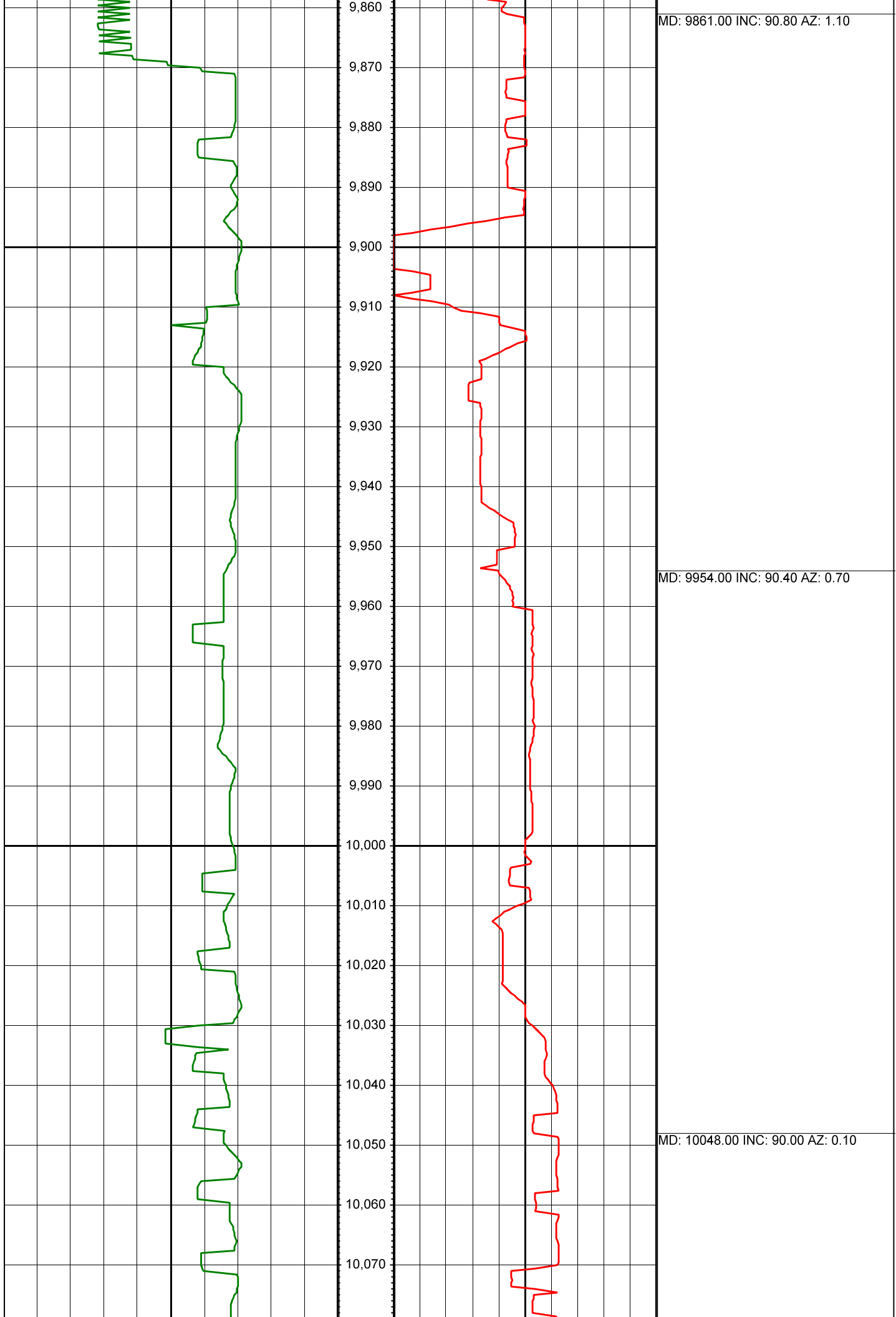


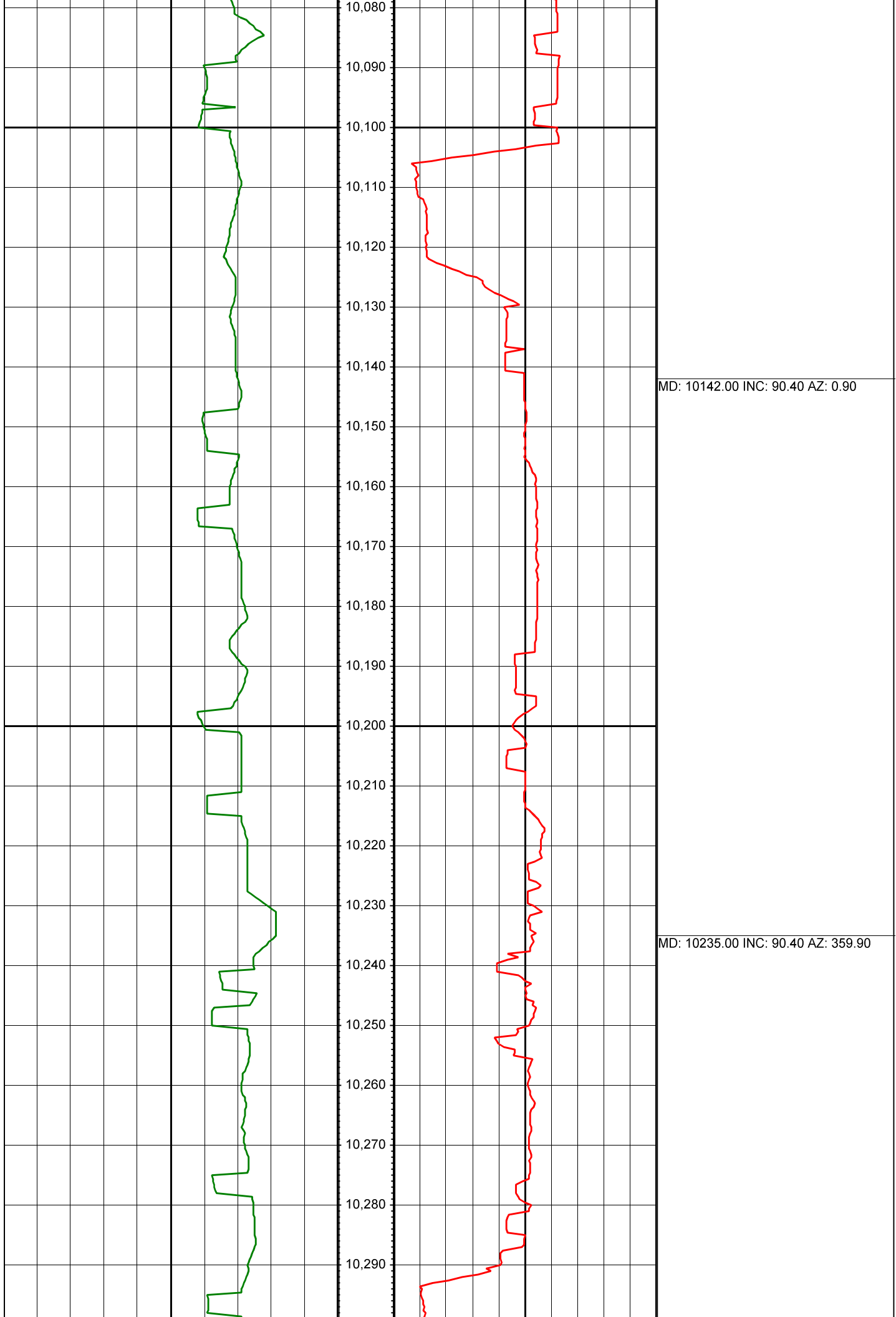


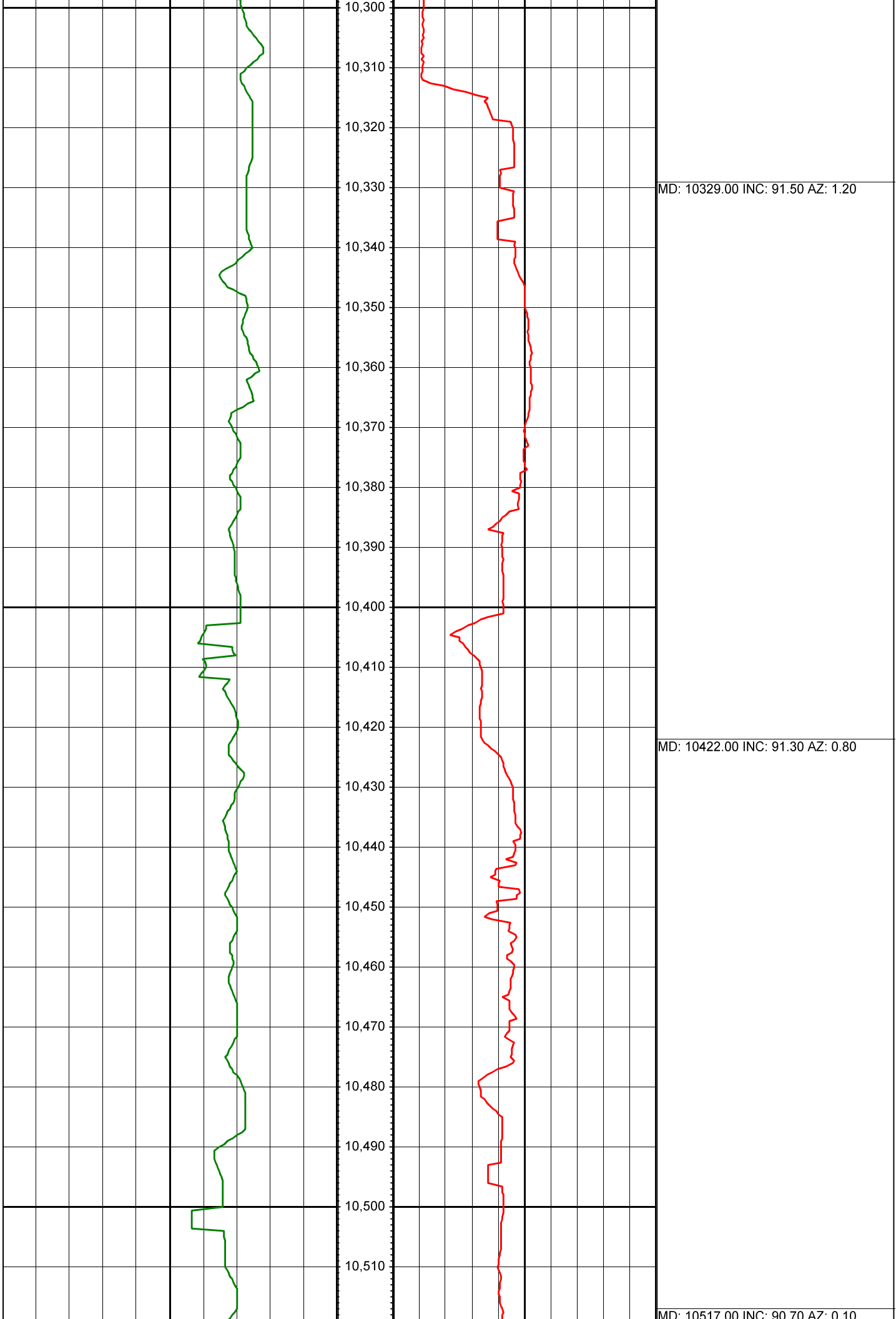


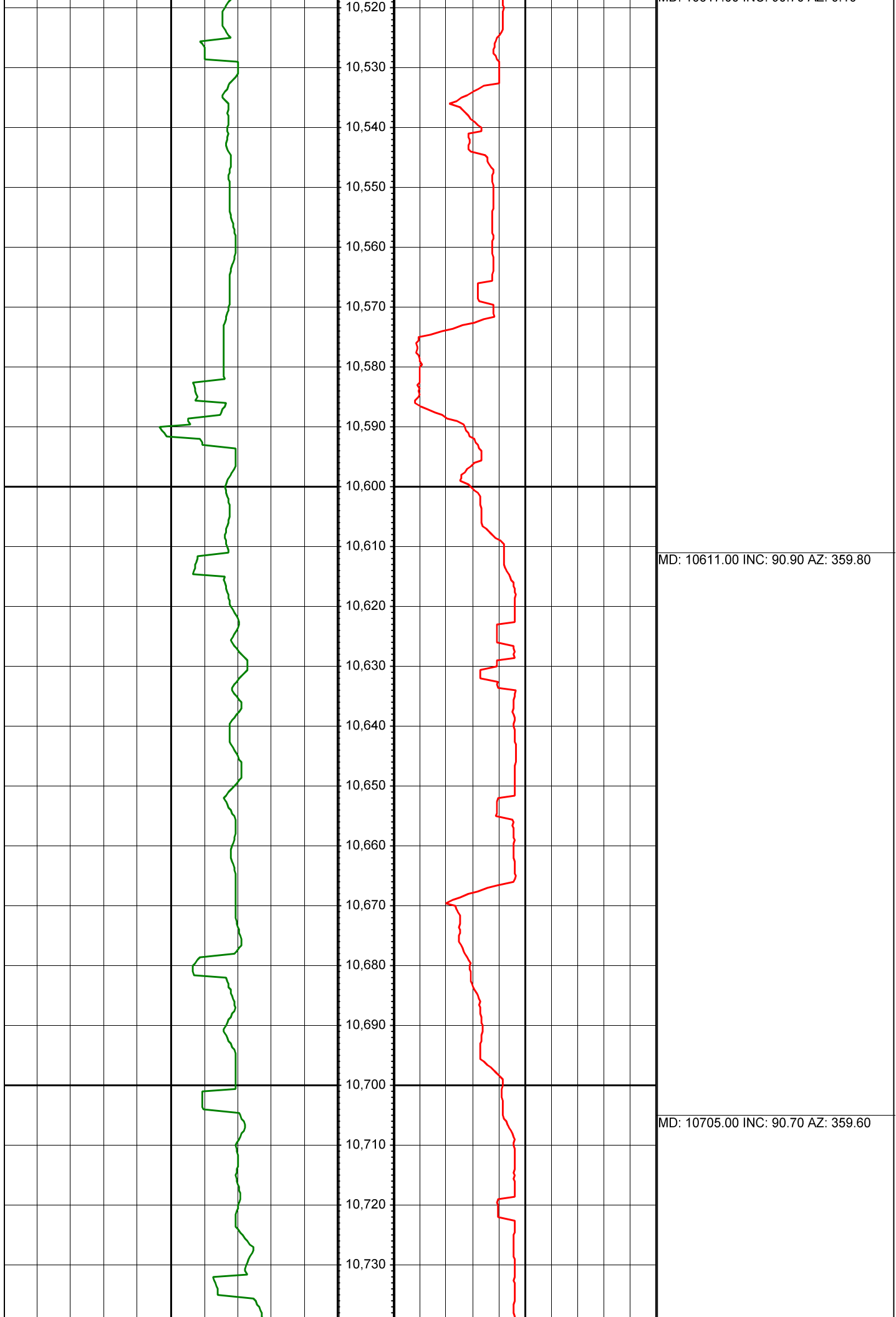


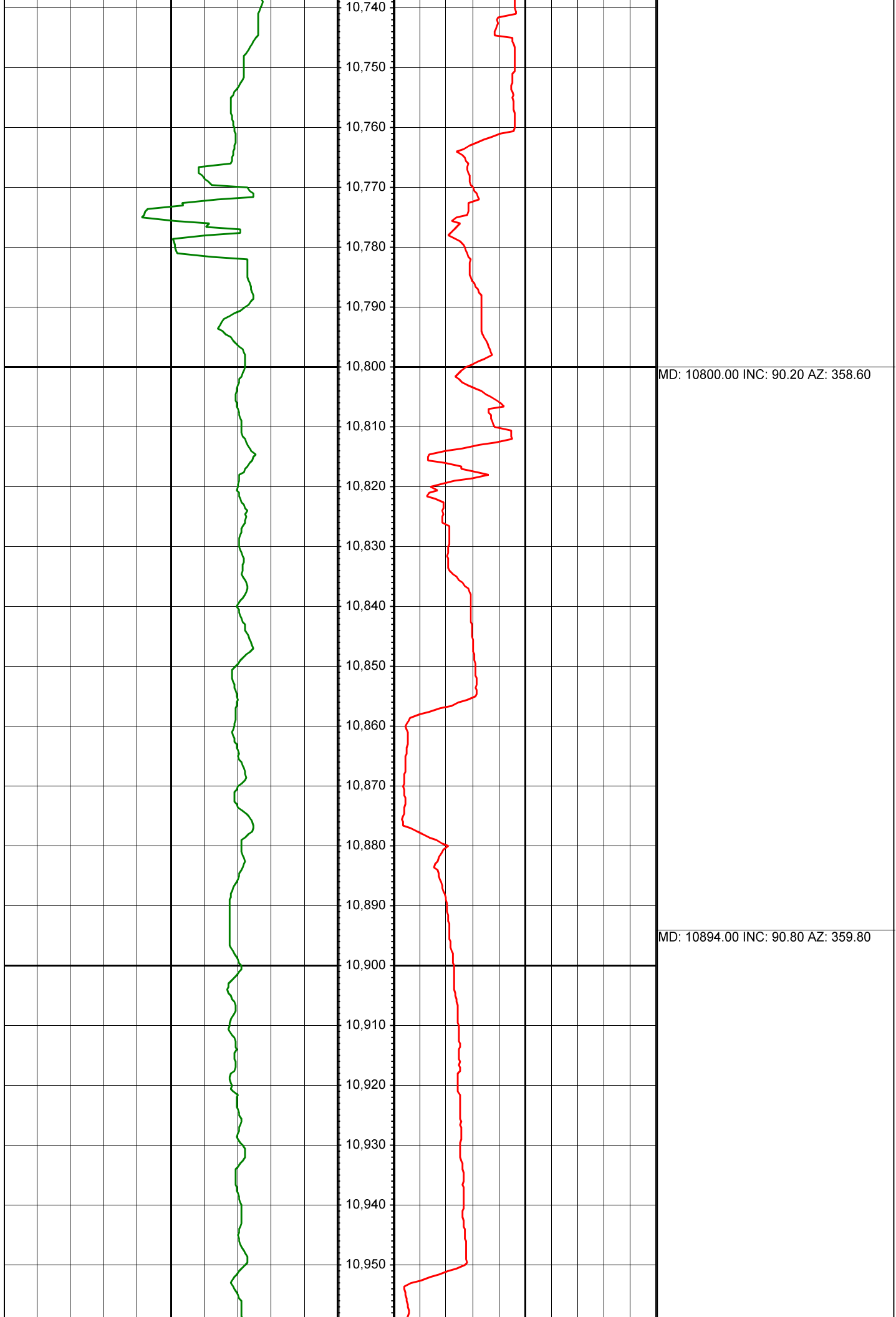




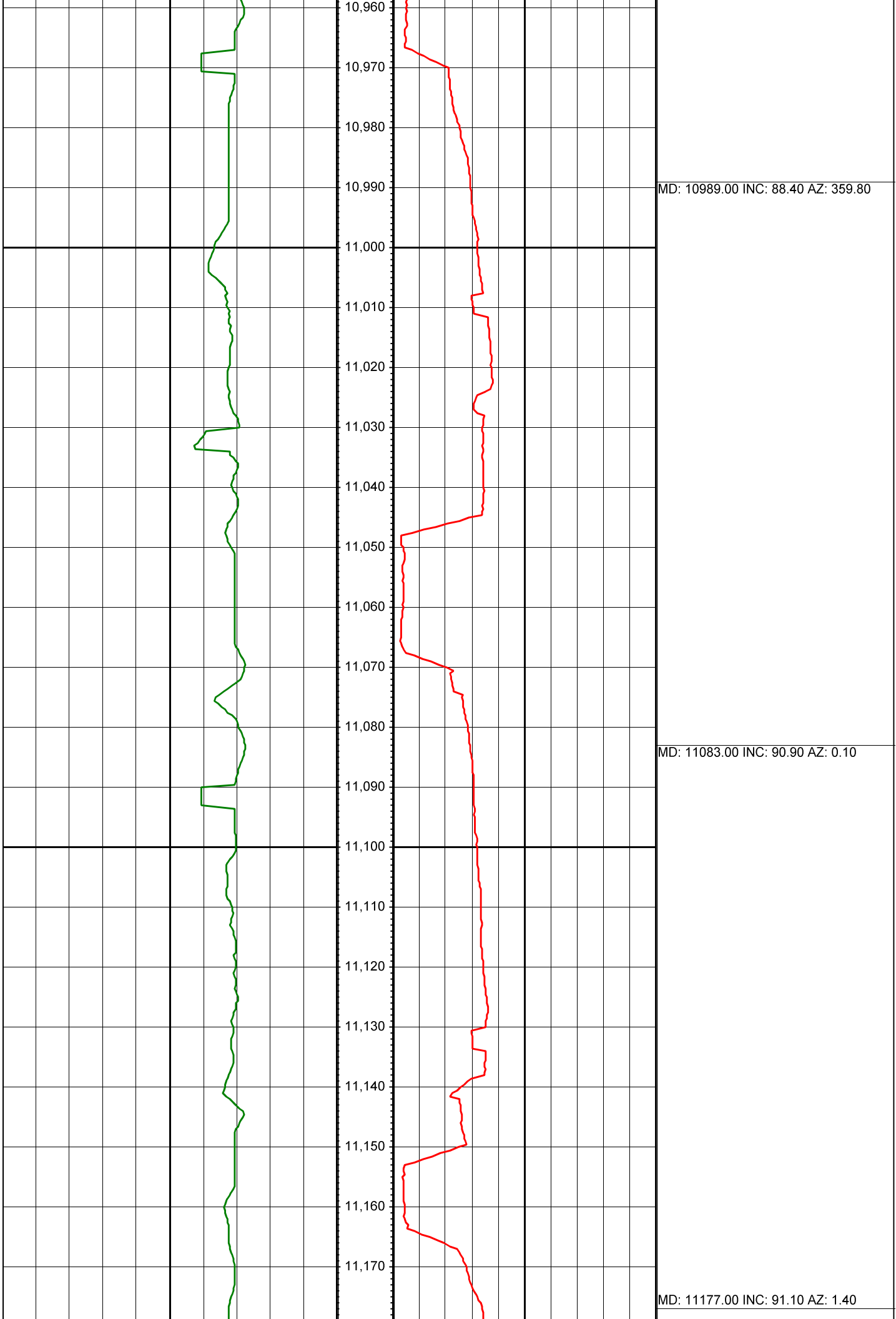








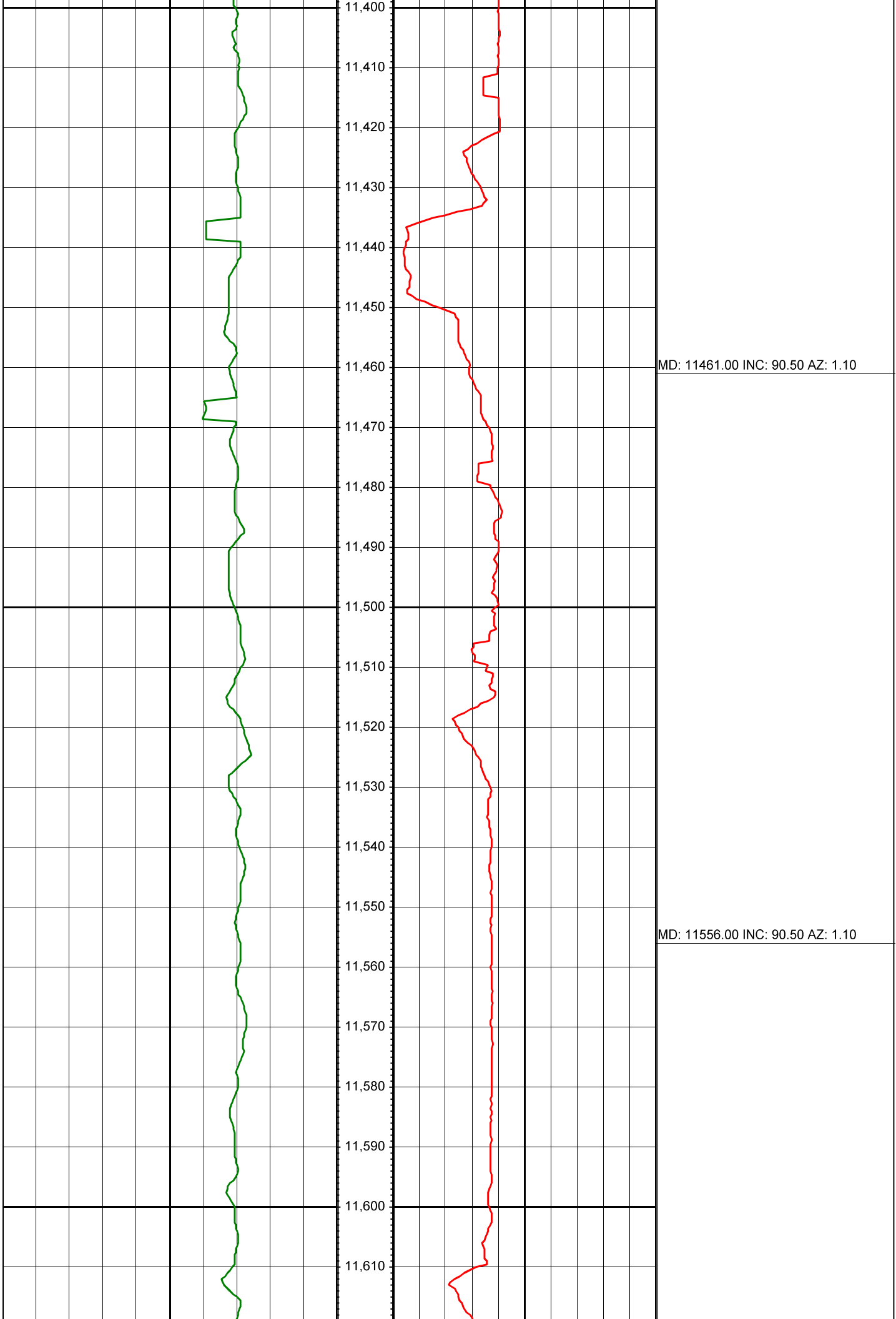


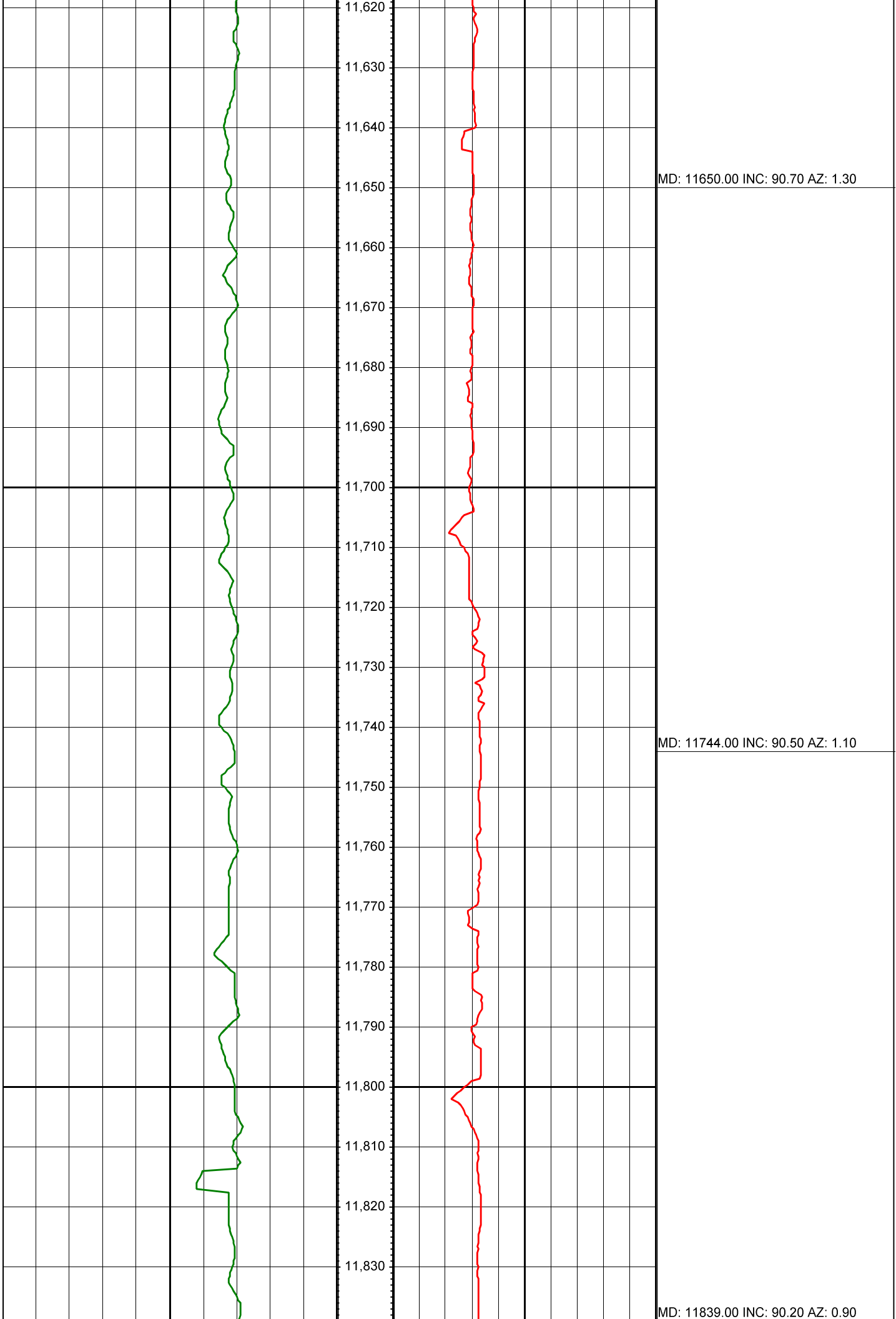


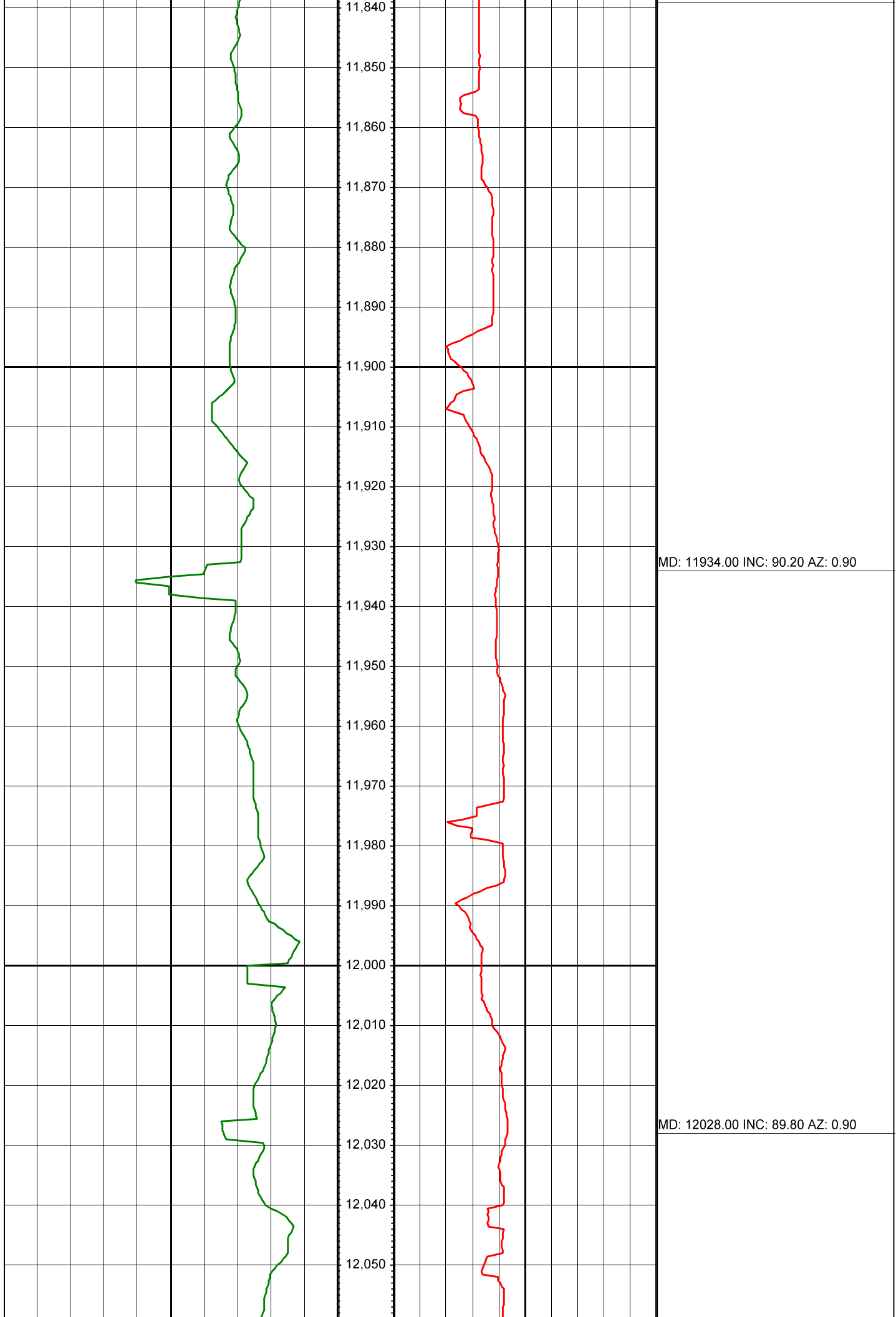


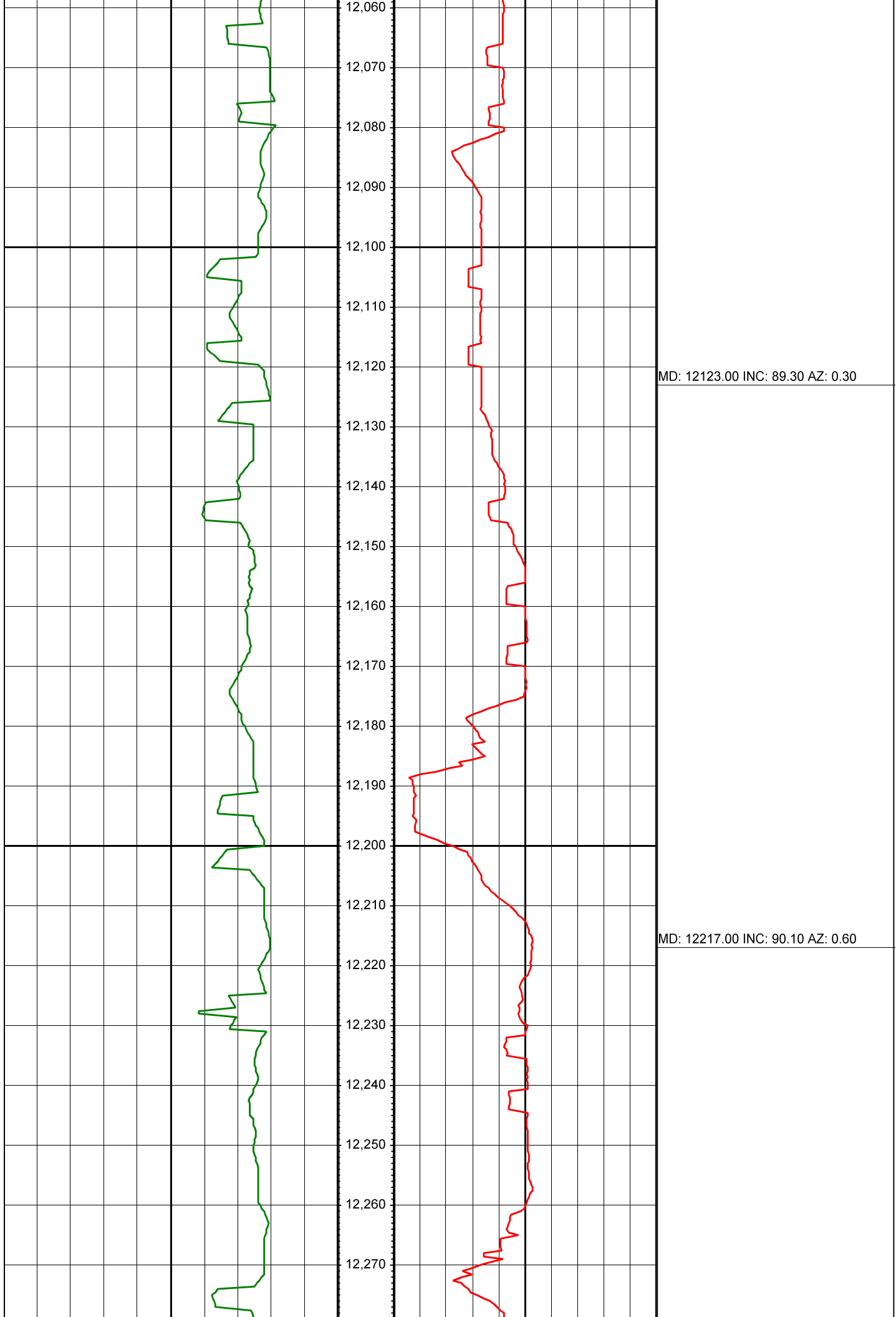
MD: 11272.00 INC: 89.90 AZ: 1.10

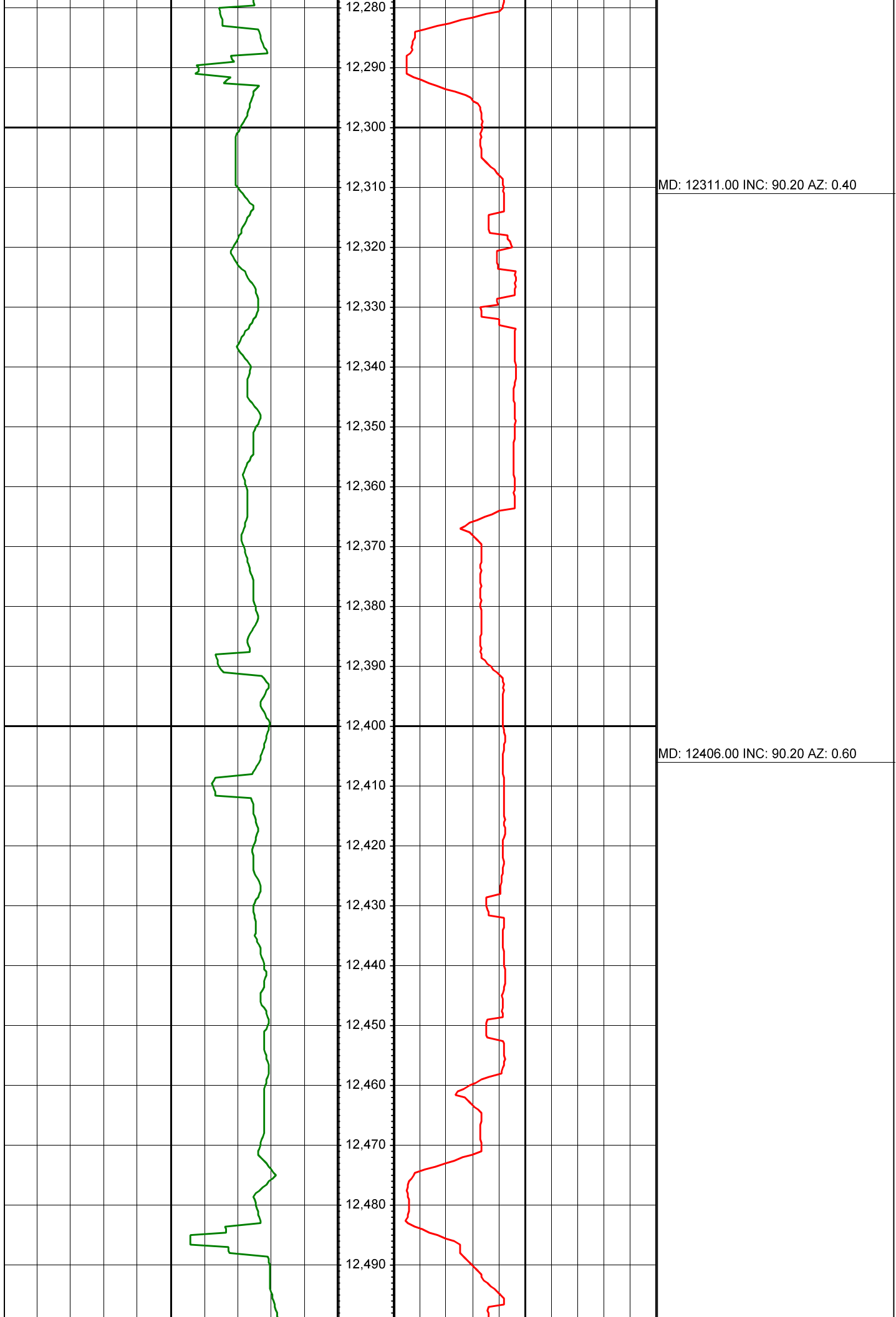
MD: 11367.00 INC: 89.60 AZ: 0.80

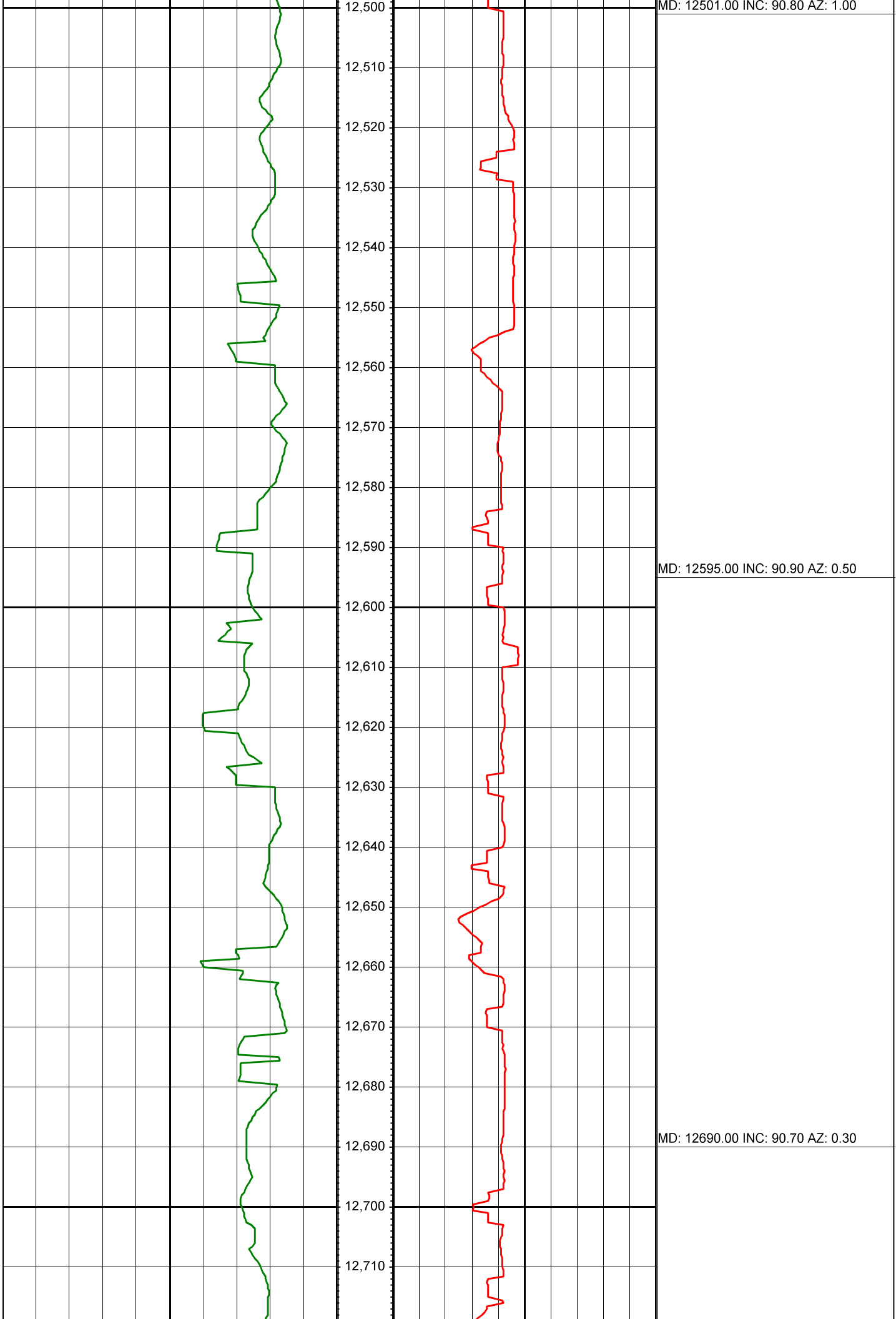






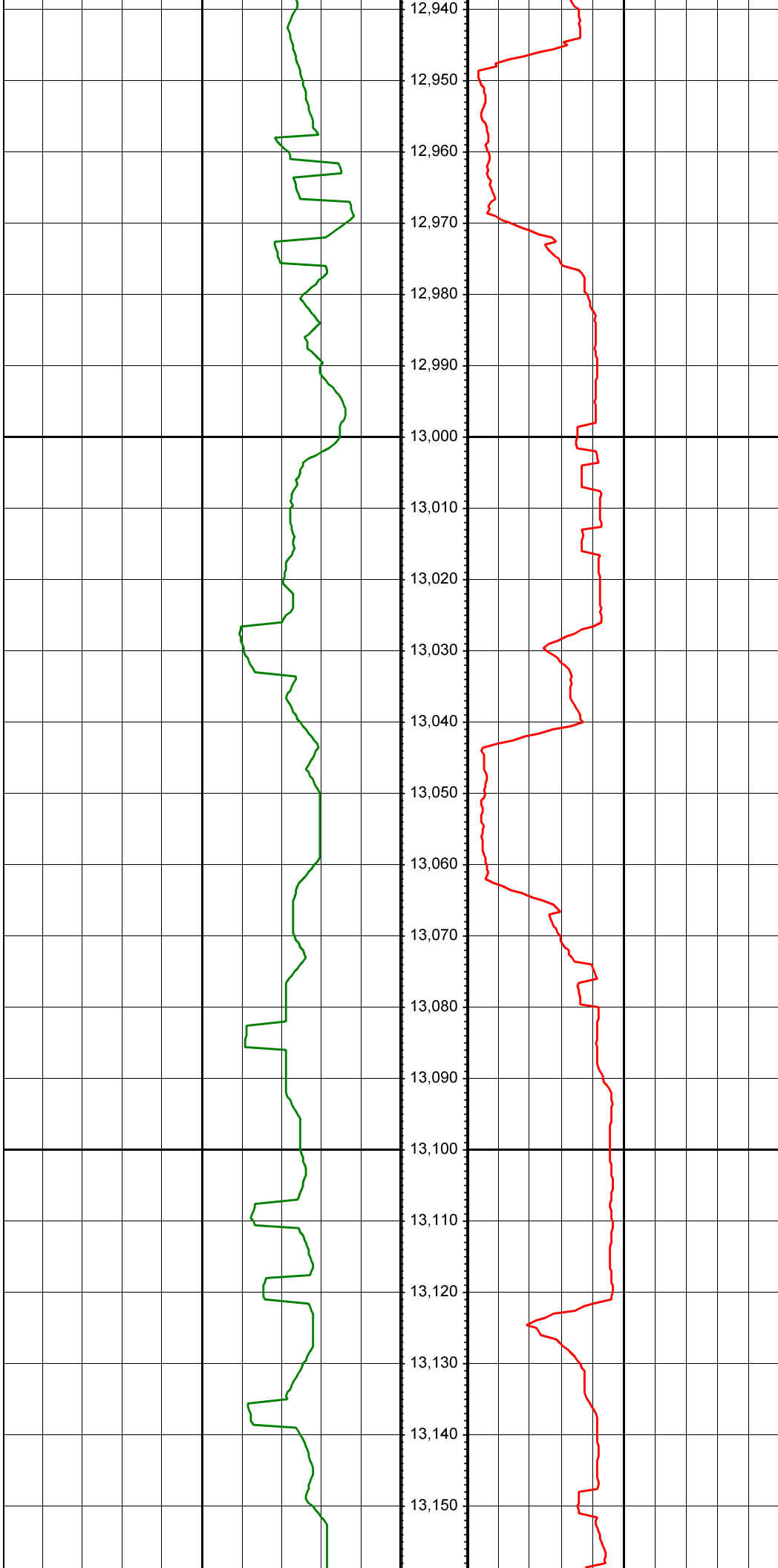






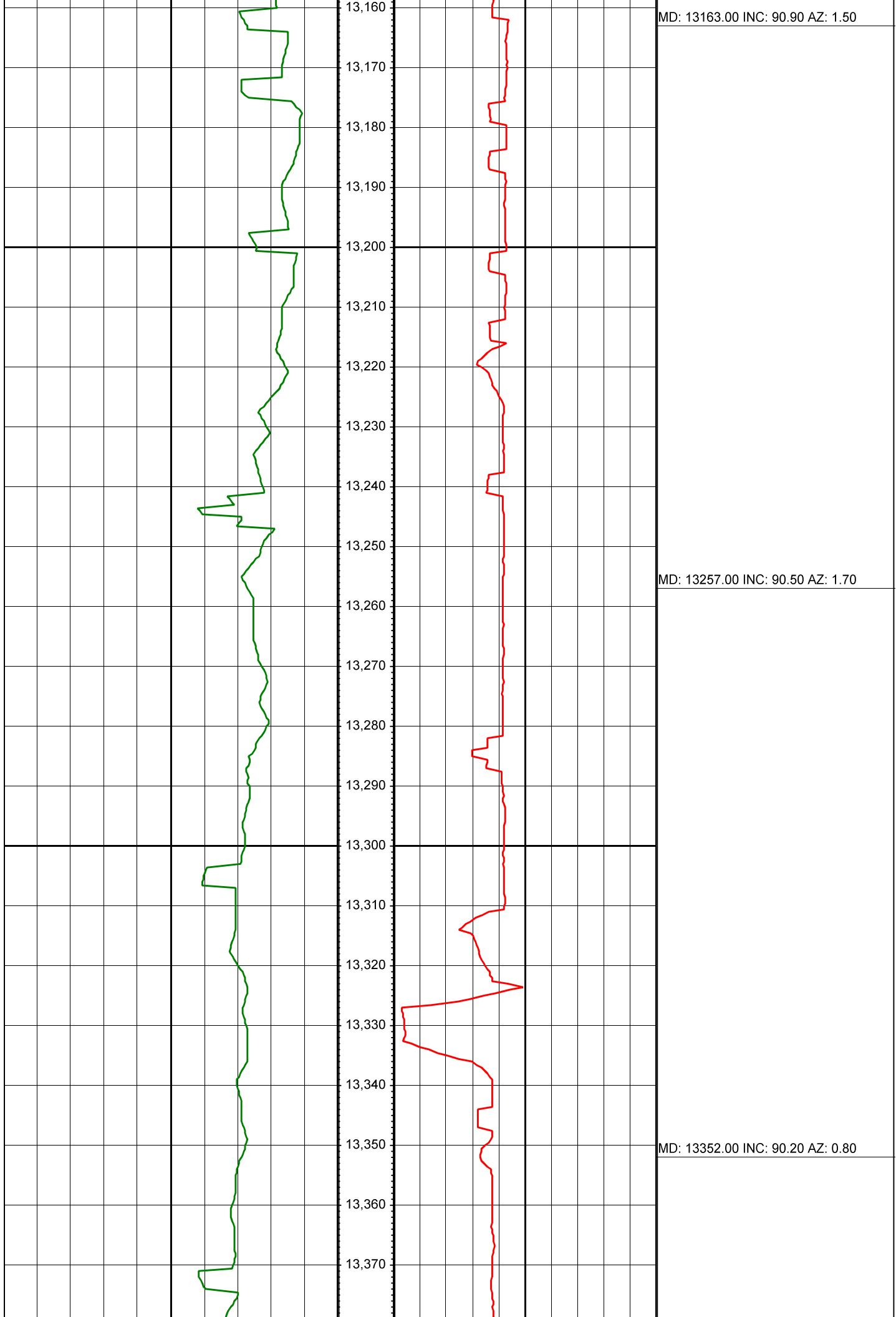


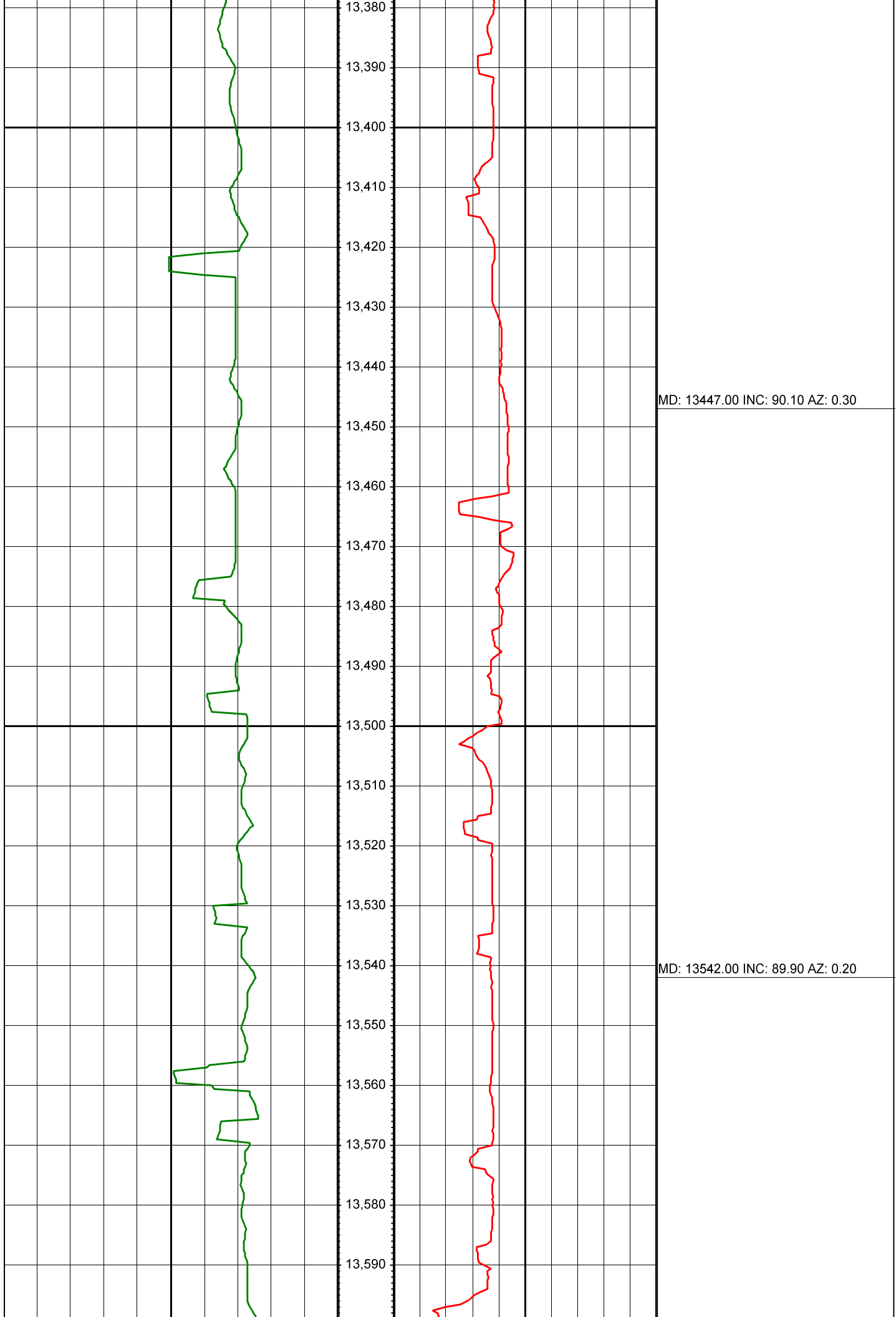


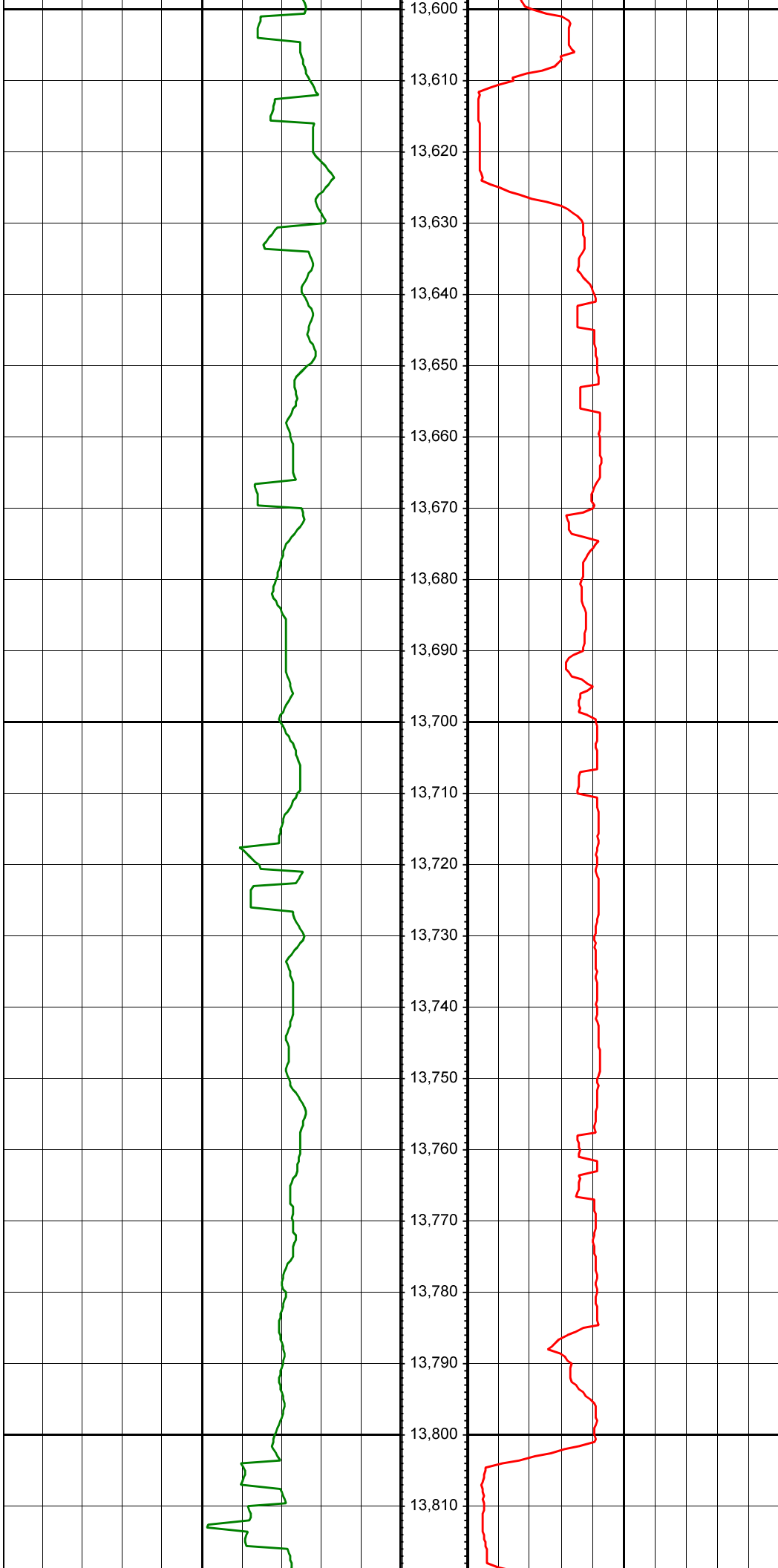


MD: 12974.00 INC: 91.90 AZ: 0.20

MD: 13068.00 INC: 91.00 AZ: 1.70

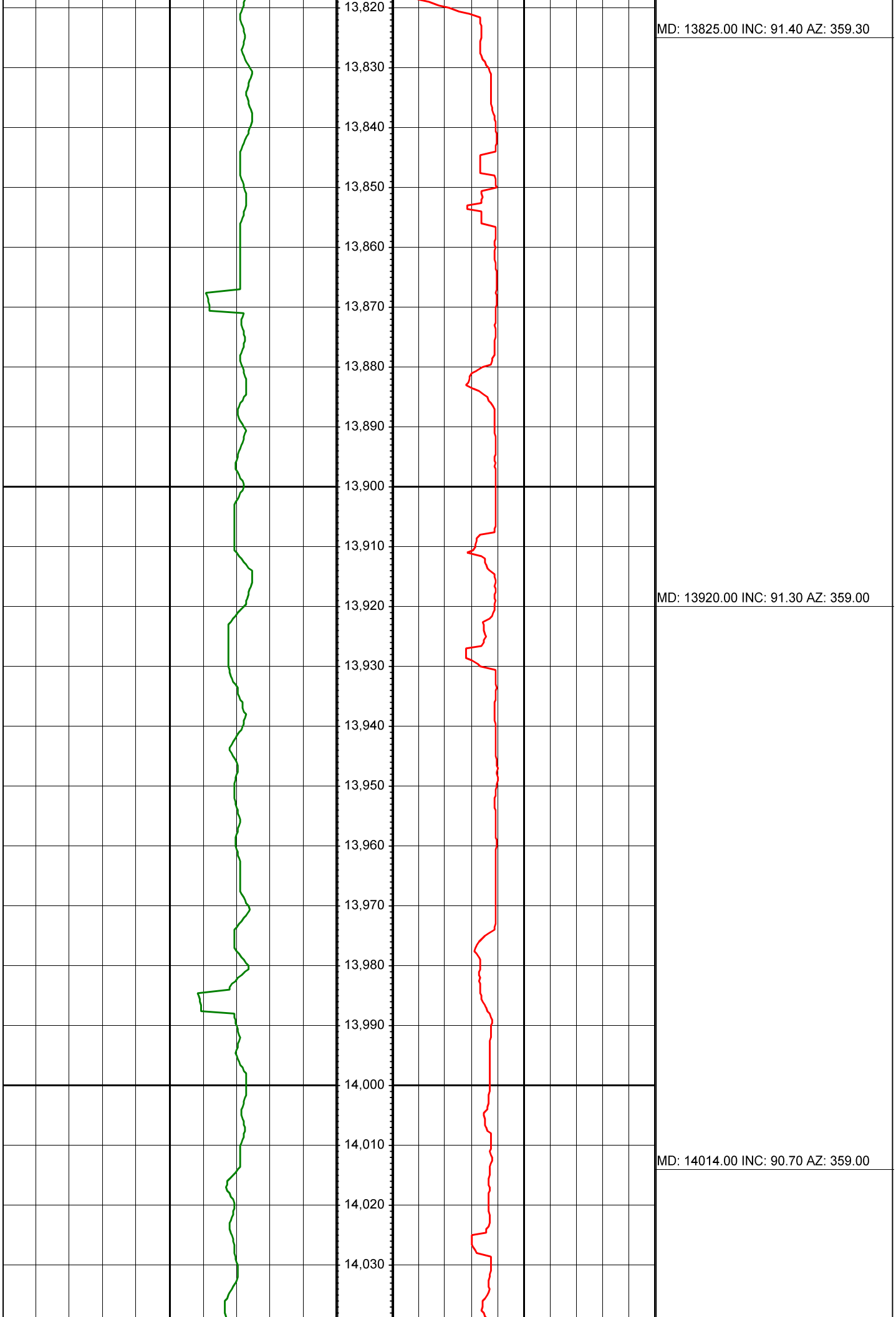


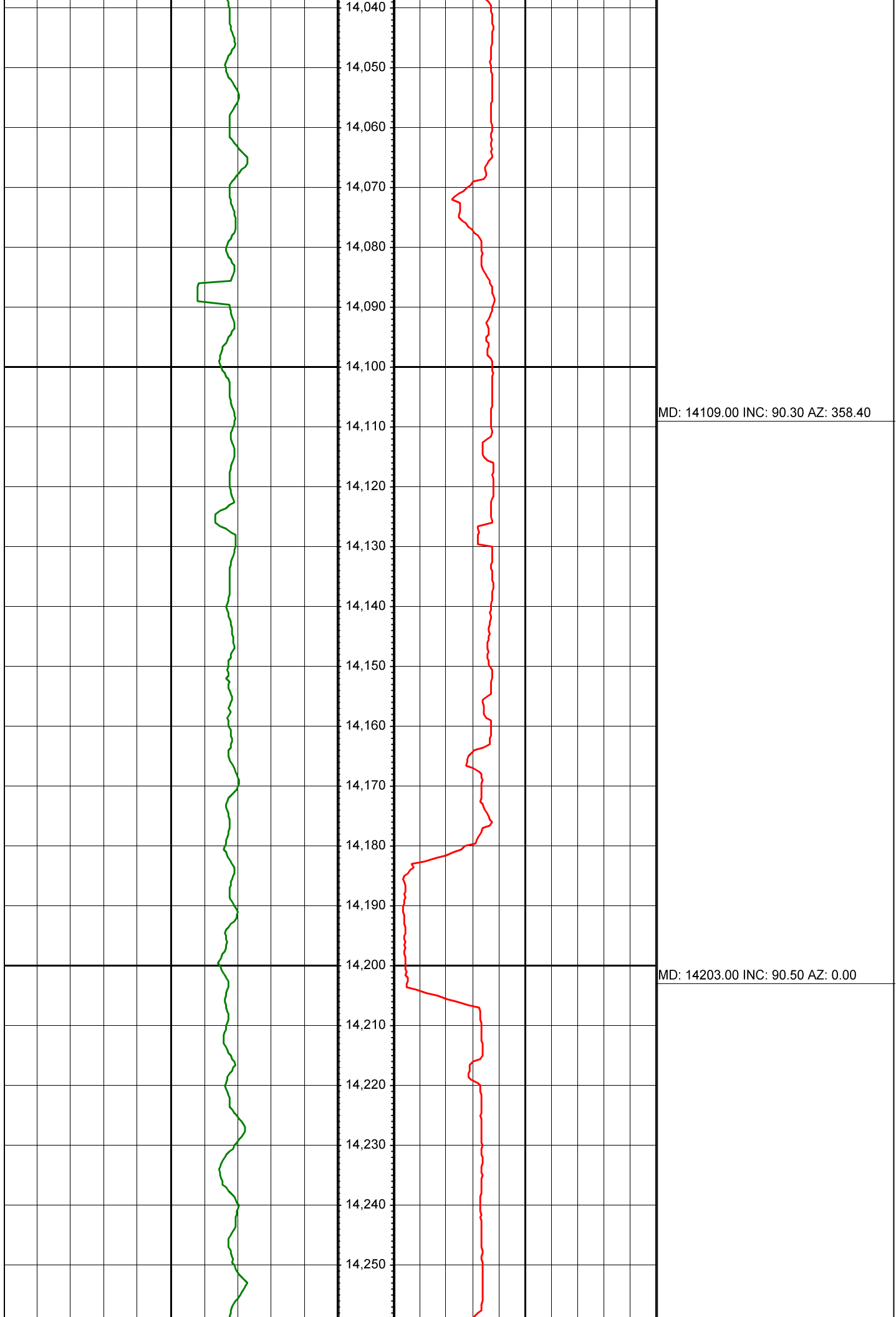


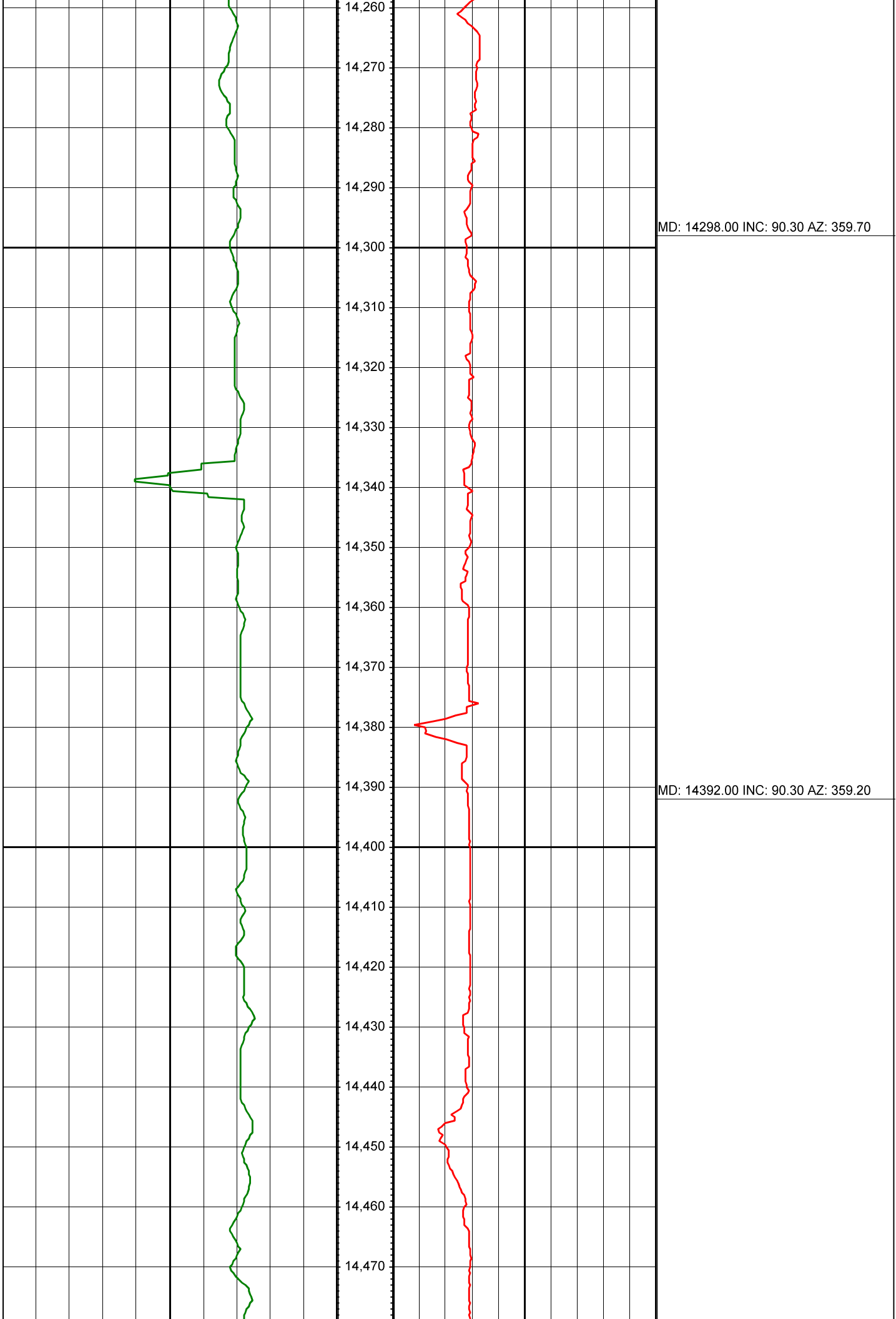


MD: 13637.00 INC: 91.60 AZ: 0.40

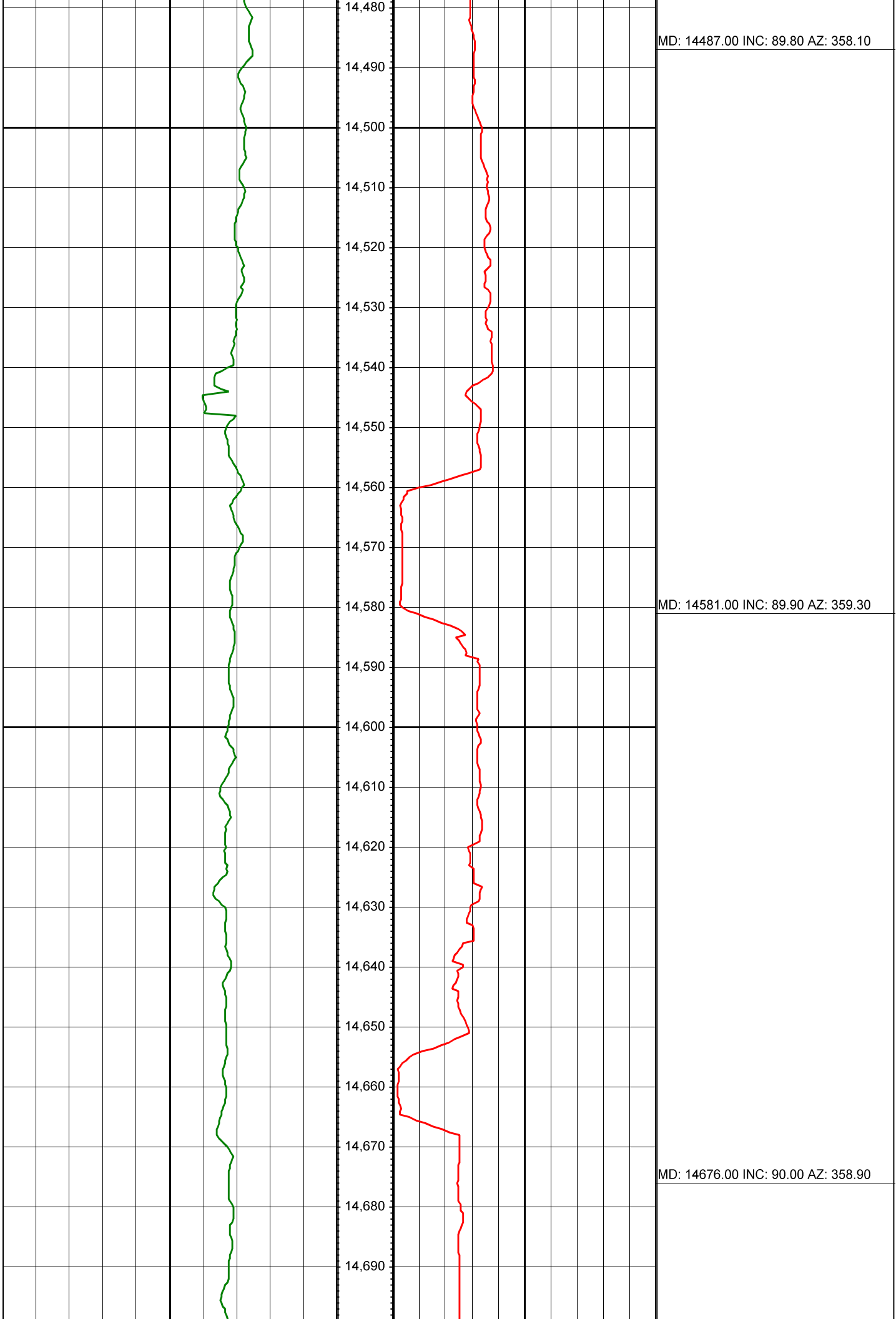
MD: 13731.00 INC: 90.90 AZ: 359.20

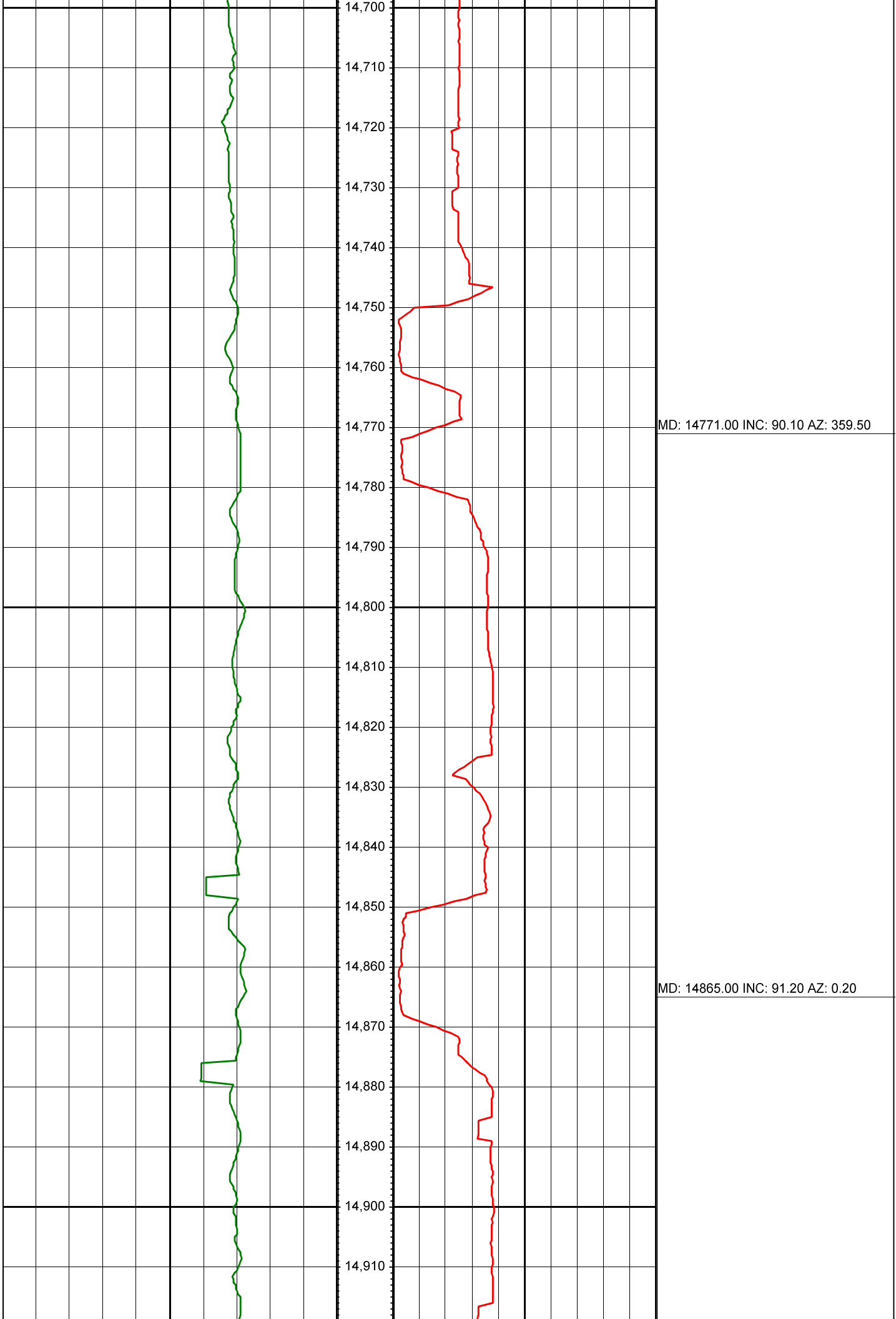


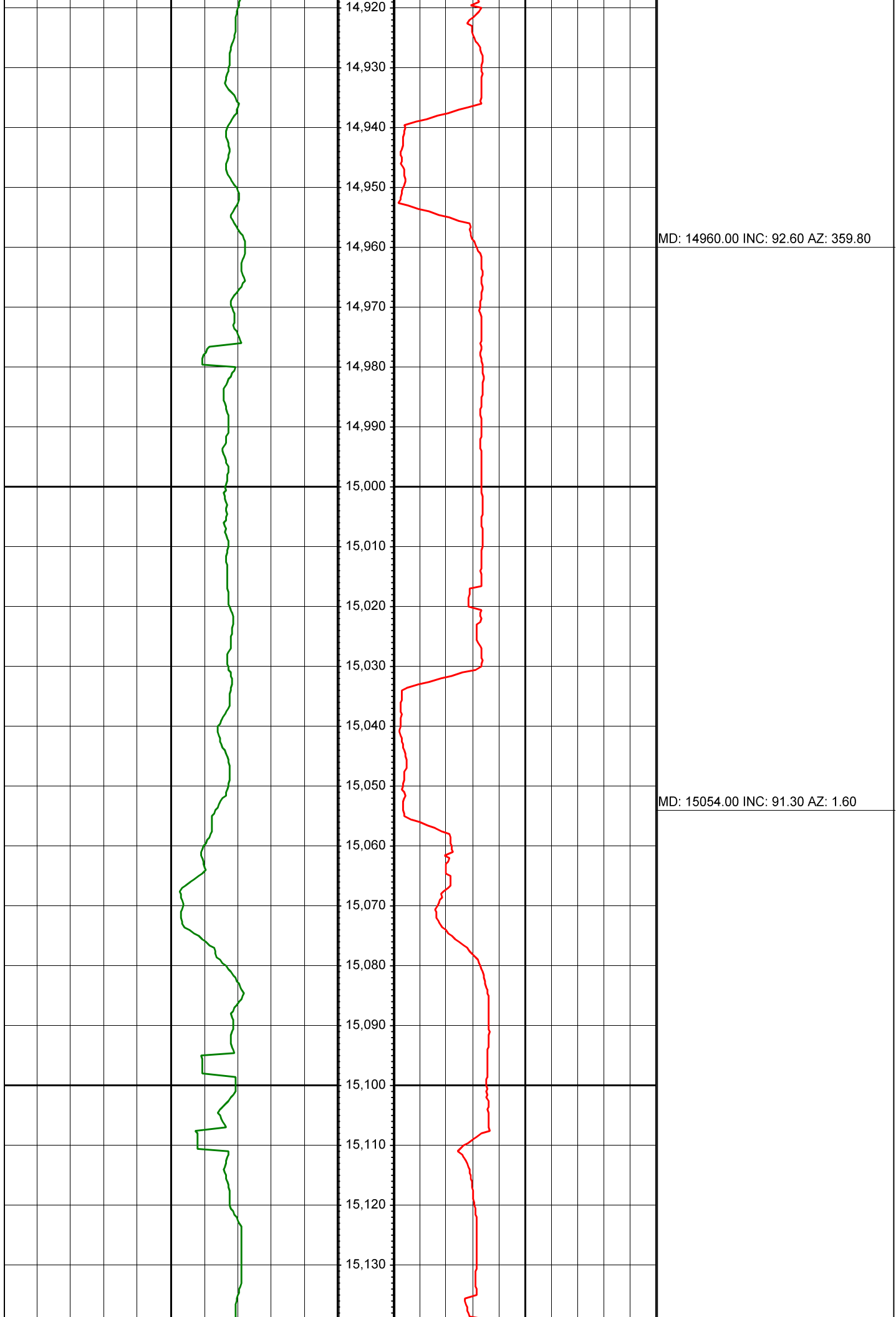


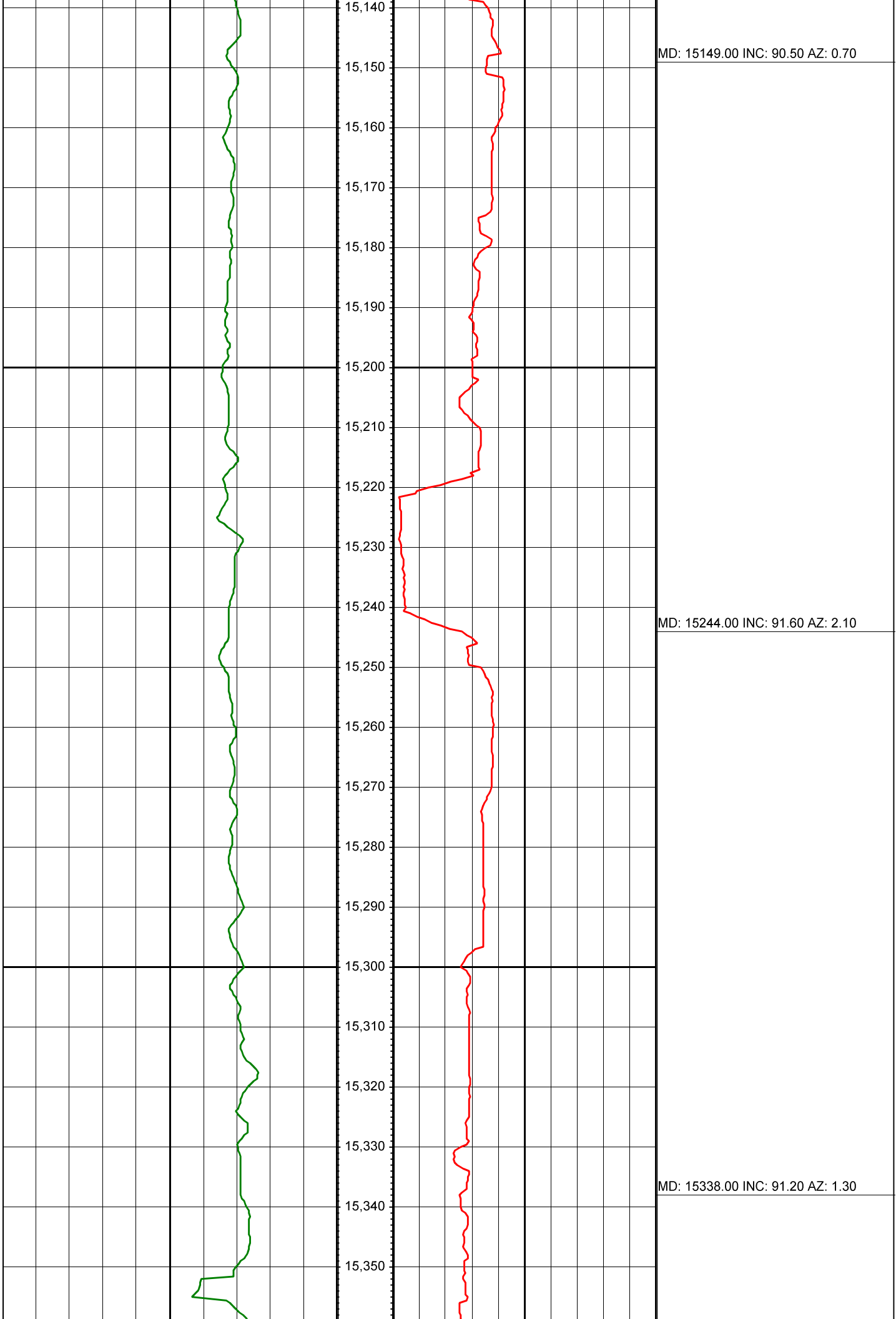














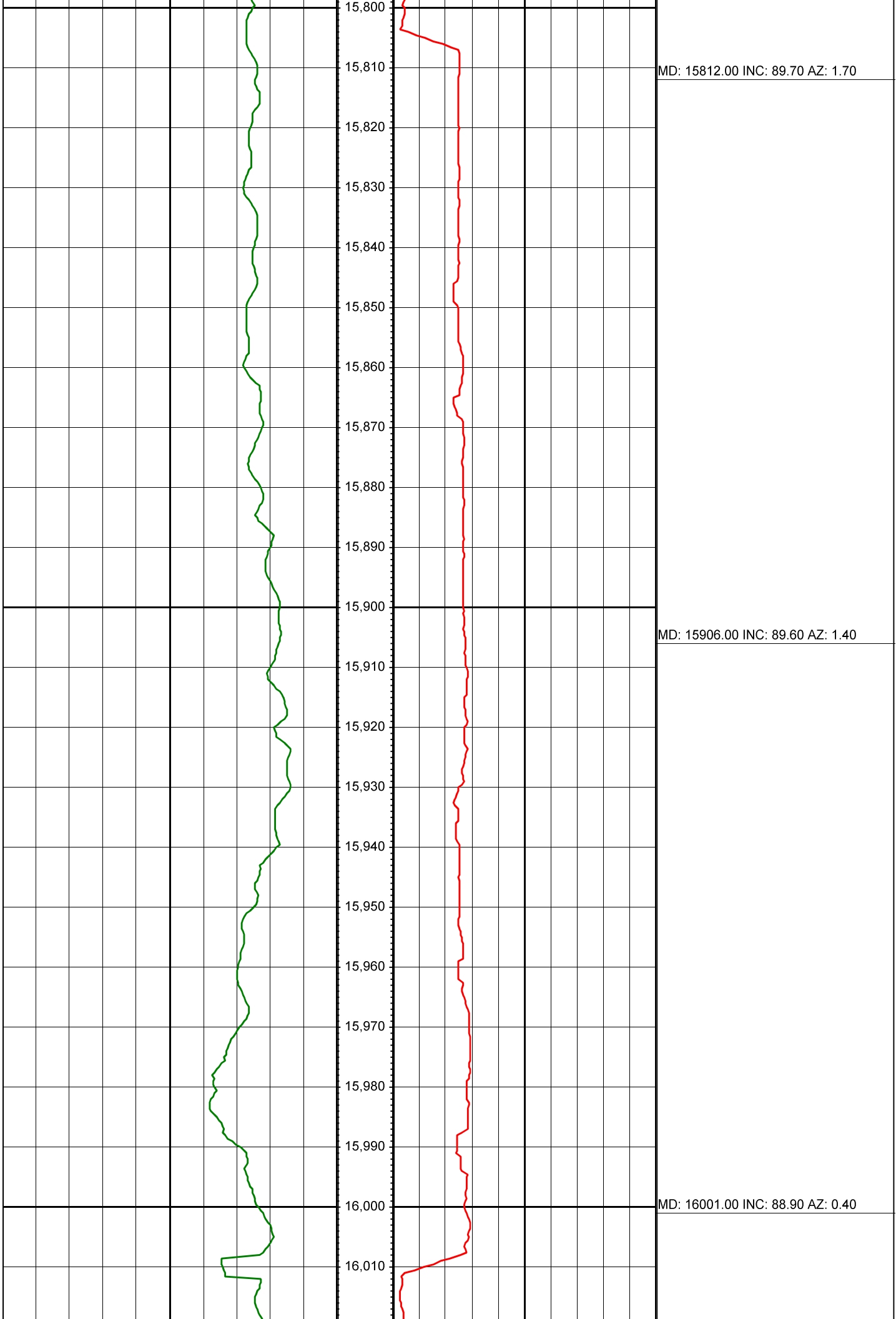
MD: 15432.00 INC: 89.50 AZ: 359.70

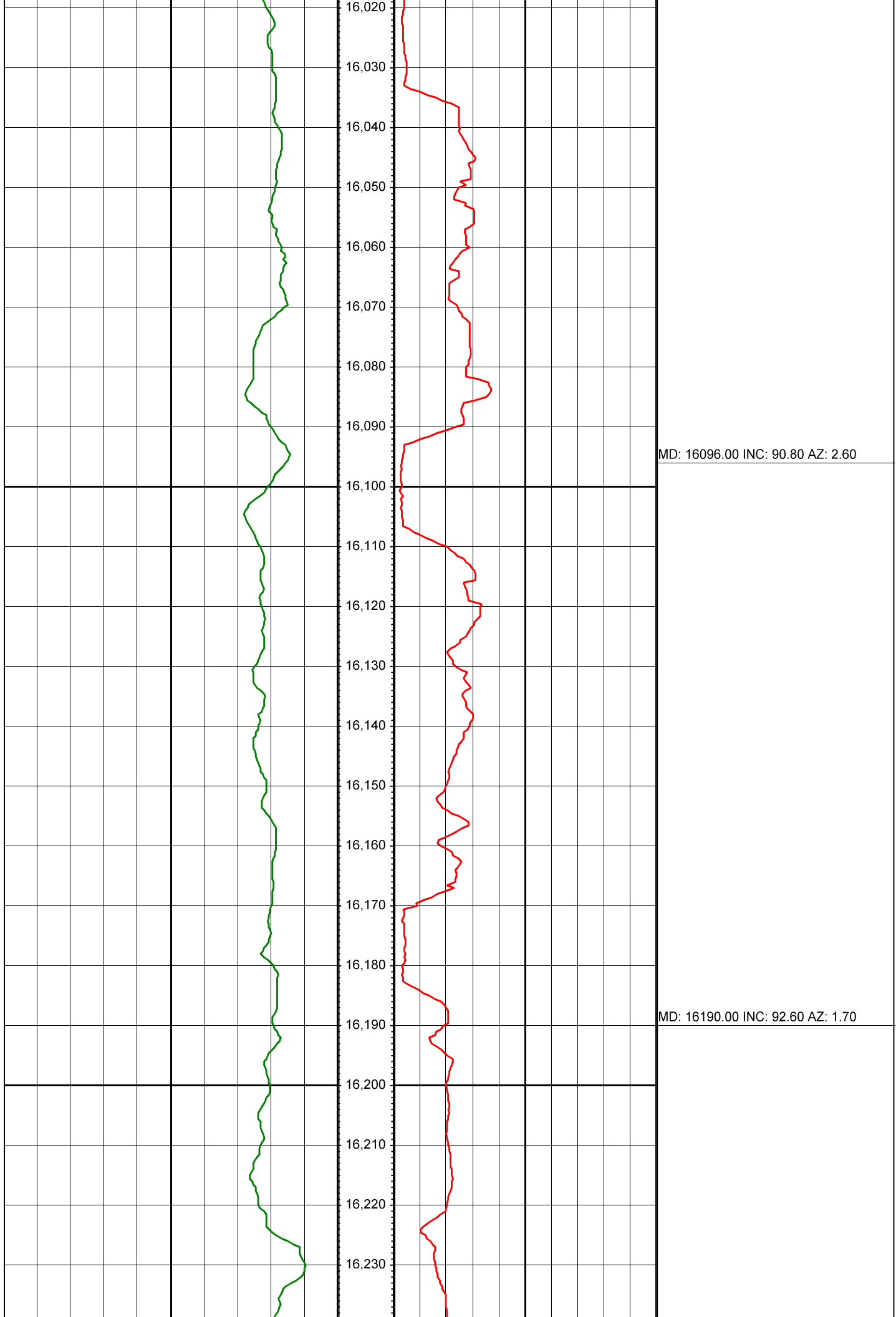
MD: 15527.00 INC: 90.50 AZ: 1.30



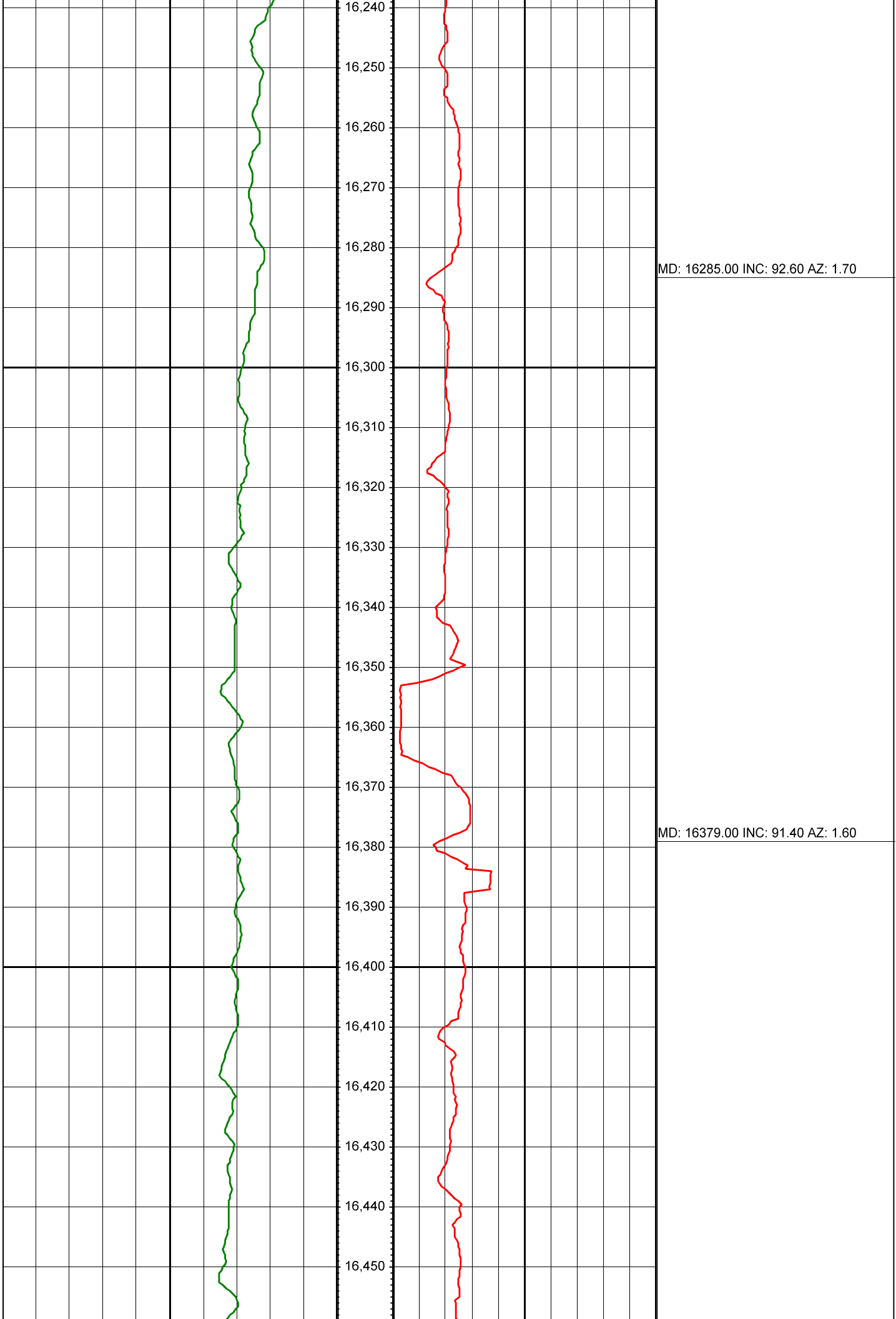
MD: 15621.00 INC: 90.30 AZ: 2.20

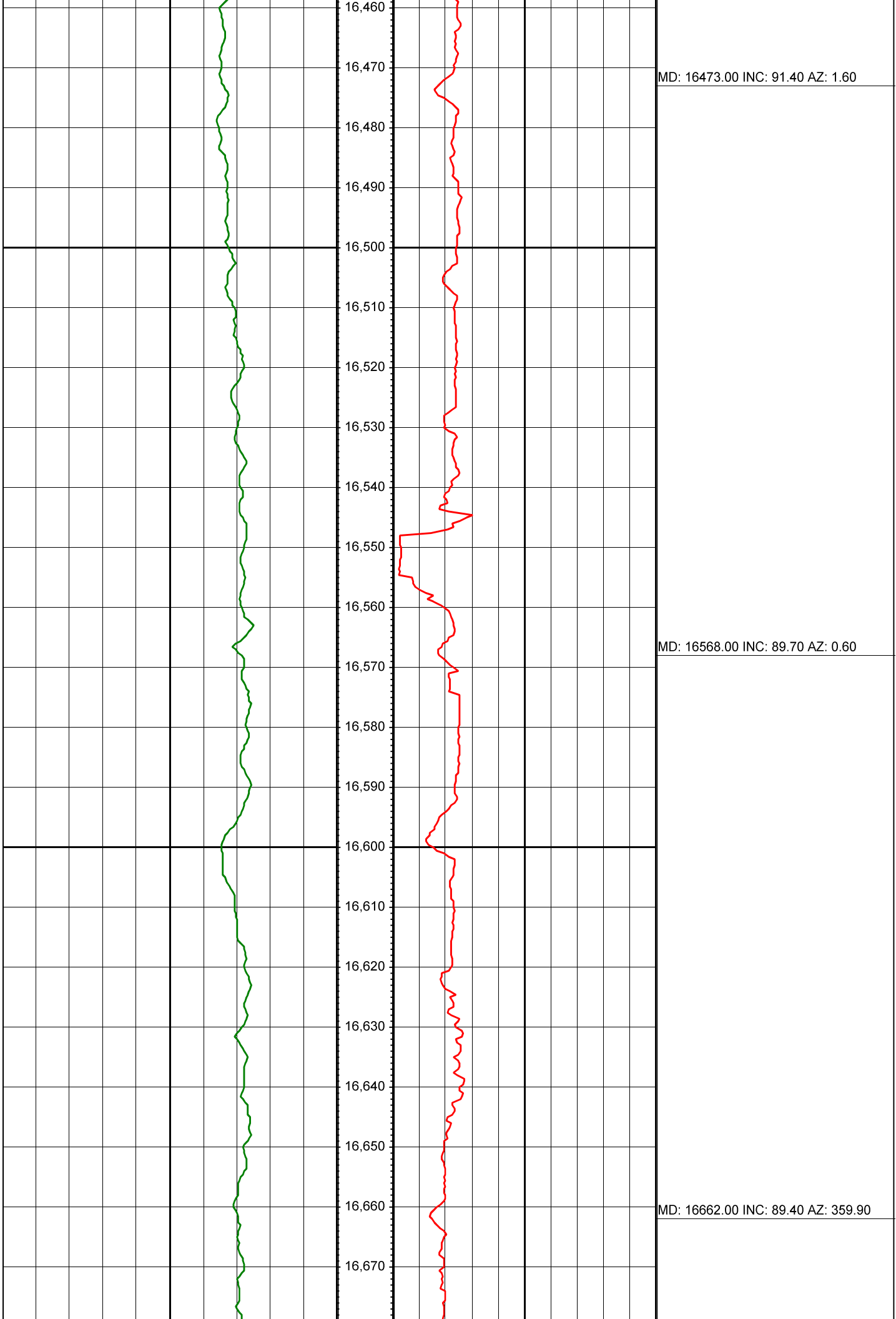
MD: 15716.00 INC: 89.80 AZ: 1.90







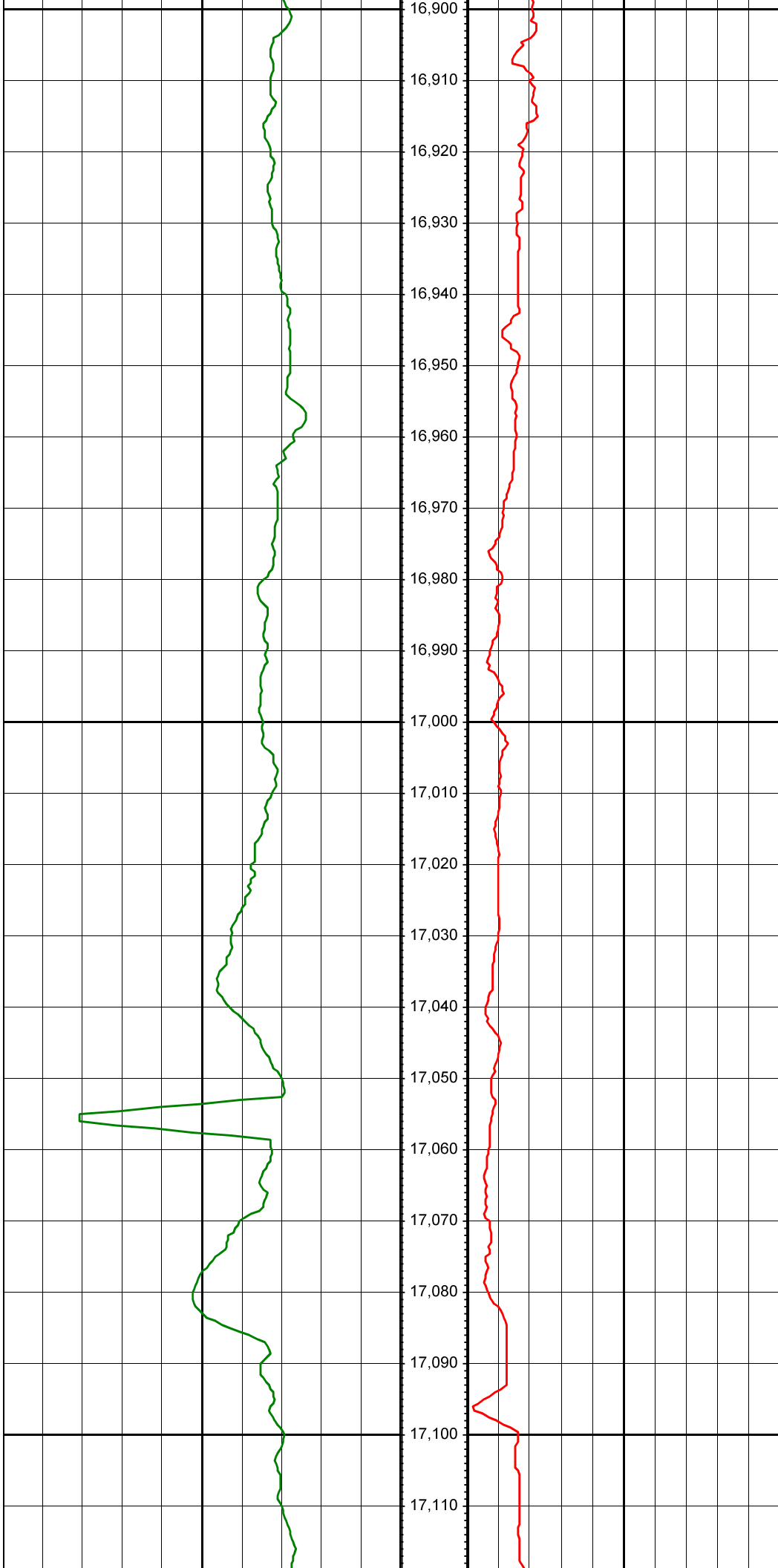






MD: 16756.00 INC: 89.50 AZ: 359.90

MD: 16851.00 INC: 90.10 AZ: 359.90



MD: 16946.00 INC: 90.30 AZ: 359.70

MD: 17040.00 INC: 86.60 AZ: 359.00

