



Cathedral Energy Company  
1949 North Pyrite Road  
Casper, Wyoming 82604

**155065**

5":100' - MD

2/2/2015 3:00:44 PM

**CATHEDRAL**

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

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

**State / Province:** Colorado

**County / Parish:** Weld

**Started:** 01/27/2015 09:00 PM

**API/UWI:** 05-123-40285-00

**Field:** Wattenberg ( B Chalk)

**Well:** Ruhl 1H-32H-B264

**Rig:** Ensign Drilling 135

**Ended:** 02/01/2015 02:30 PM

Gamma Ray  
Section Plane: 180.00  
Magnetic North: 8.25  
Gamma Attenuation Factor: 5000'MD-7445'MD = 4.149  
7446'MD-11445'MD = 2.851  
Gamma Averaging: 7%

### Personnel

**Day Hand:** J. Corby  
**Night Hand:** J. Starkey  
**Comp. Emp:** Gage Soehner

Maximum Temperature: 207°F

### Location

**Latitude:** 40.101448  
**Longitude:** -104.570873  
**Elev. GL:** 4997  
**Elev. DF:**  
**Elev. KB:** 5010

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

### Hole Data

Size	From	To
12-1/4	137	1152
8-3/4	1152	7446
6-1/8	7446	11445

### Casing Data

Size	From	To
9-5/8	0	1142
7	0	7427

### Bit Sizes

Size	From	To
12-1/4	137	1152
8-3/4	1152	7446
6-1/8	7446	11445

### Mud Data

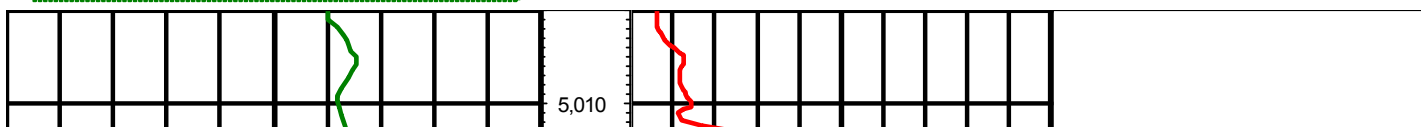
Type	Weight	Density	Viscosity	Rm	Rmf	Rmc	From	To
Water/LSND	9.8	9.8	35				1893	7446
Water/LSND	10.4	10.4	44				7446	11445

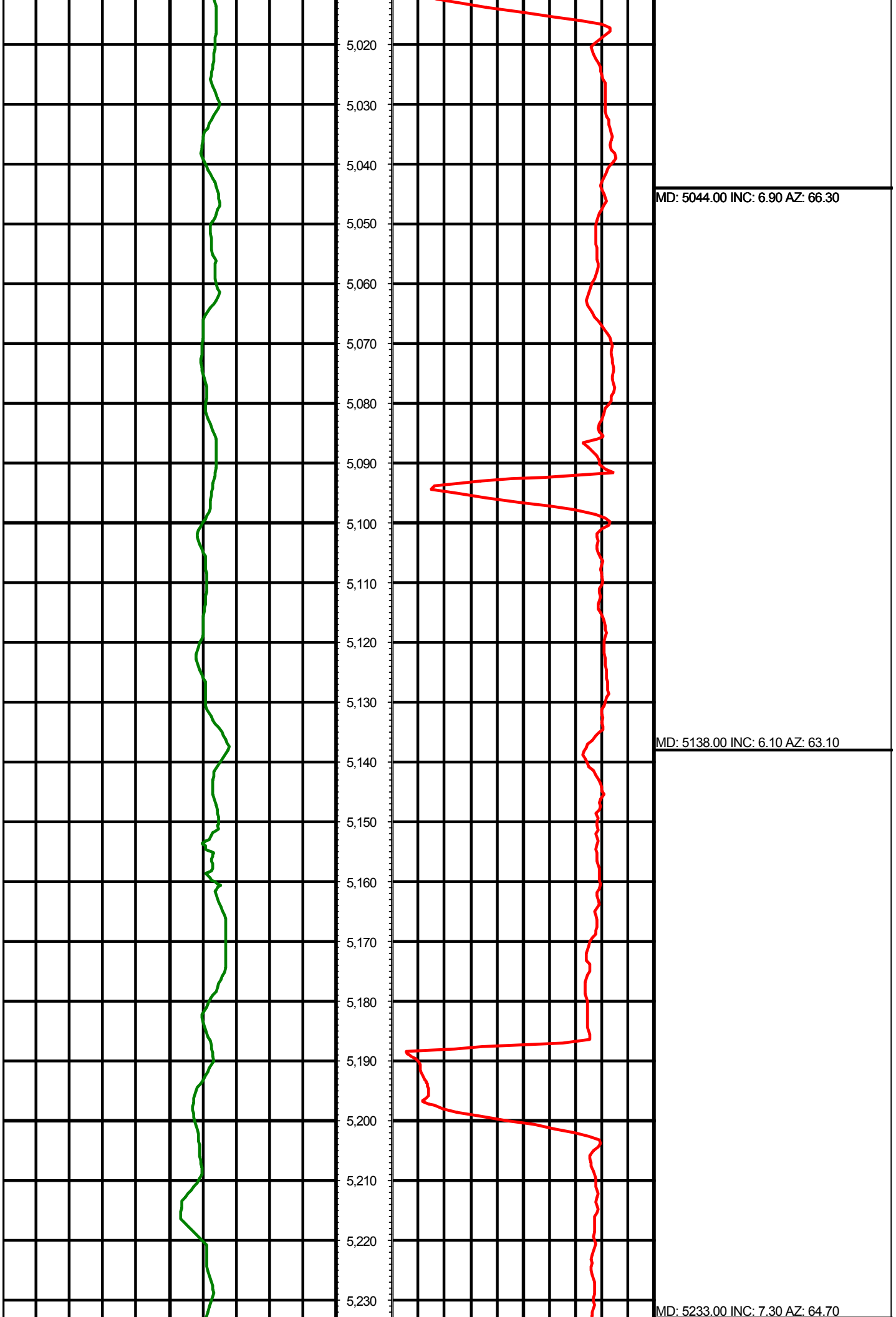
### Tool Run Data

Serial Number	Gamma Offset	Resist. Offset	Start Time	Start Depth	End Time	End Depth
1519	35.79	0	1/27/2015 4:00:12 AM	1893	1/29/2015 10:00:12 AM	7446
1519	43.66	0	1/30/2015 6:30:21 PM	7446	2/1/2015 9:36:21 AM	11445

*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) on MD      150.00      MD      0.00      ROP (FT/HR) on MD      600.00      Surveys (MD/INC/AZ)  
150.00      2      300.00      FT

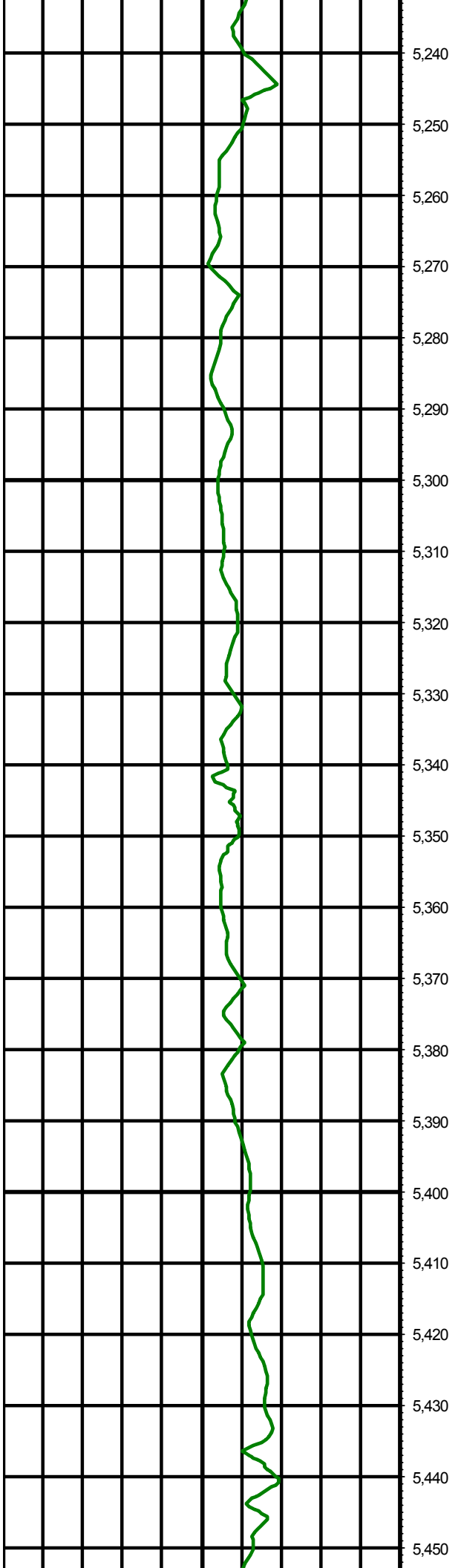




MD: 5044.00 INC: 6.90 AZ: 66.30

MD: 5138.00 INC: 6.10 AZ: 63.10

MD: 5233.00 INC: 7.30 AZ: 64.70



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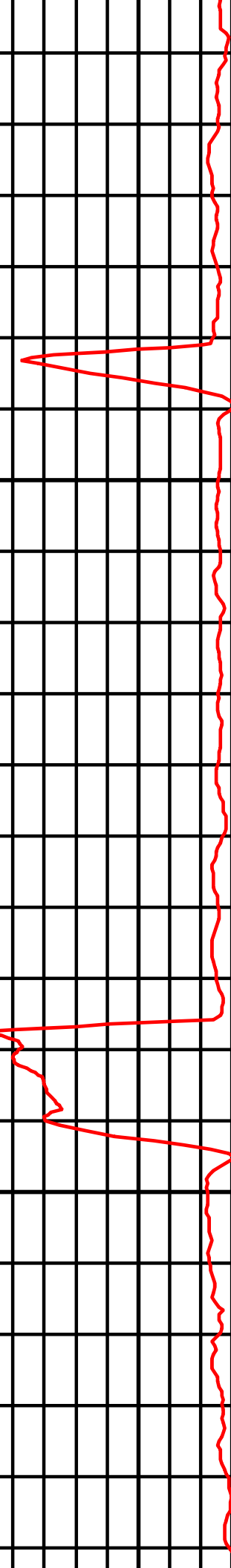
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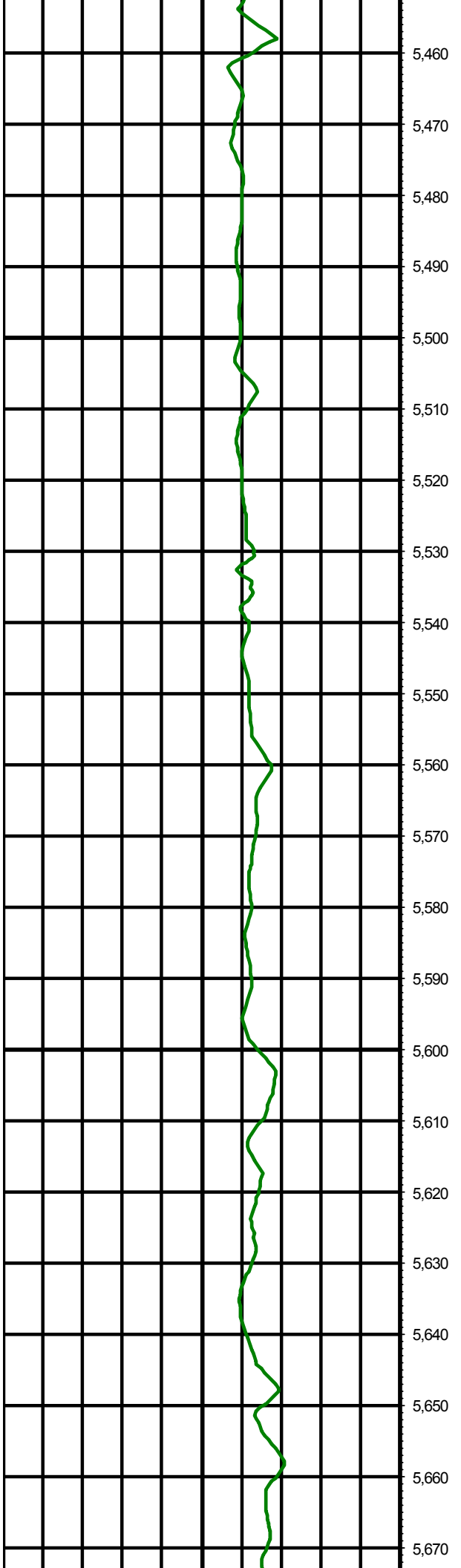
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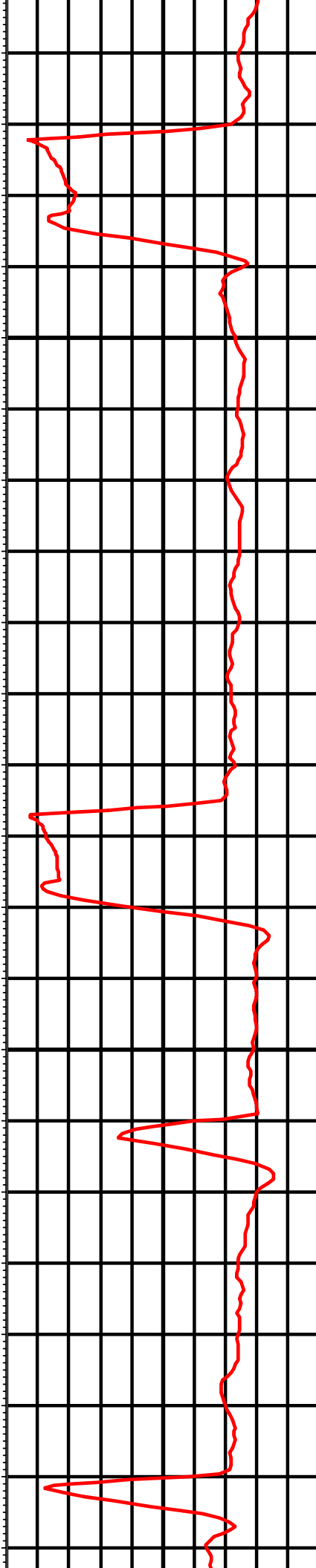
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MD: 5422.00 INC: 6.20 AZ: 64.20



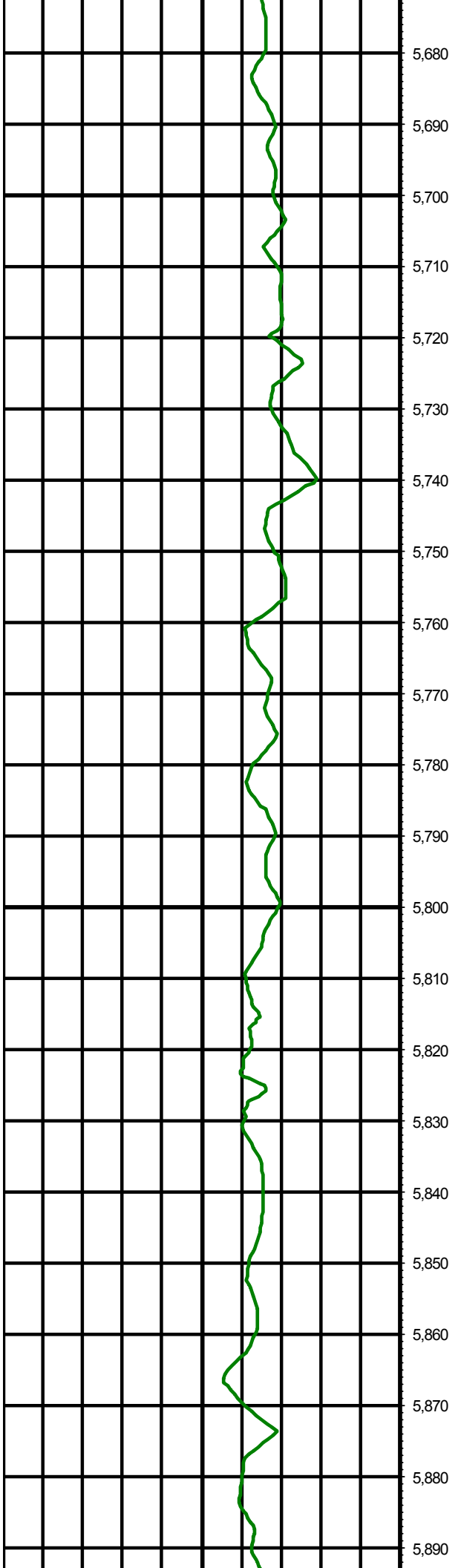


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MD: 5517.00 INC: 6.40 AZ: 78.10

MD: 5611.00 INC: 6.90 AZ: 72.40



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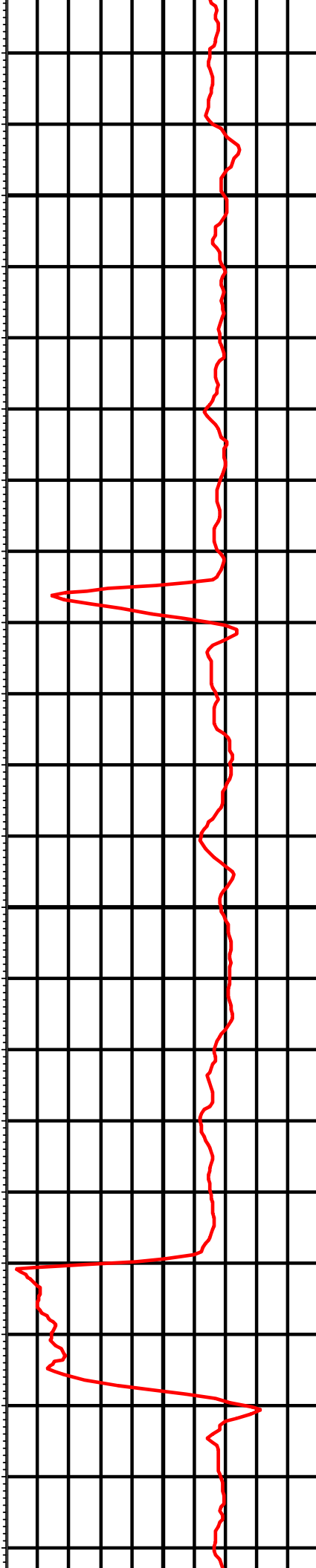
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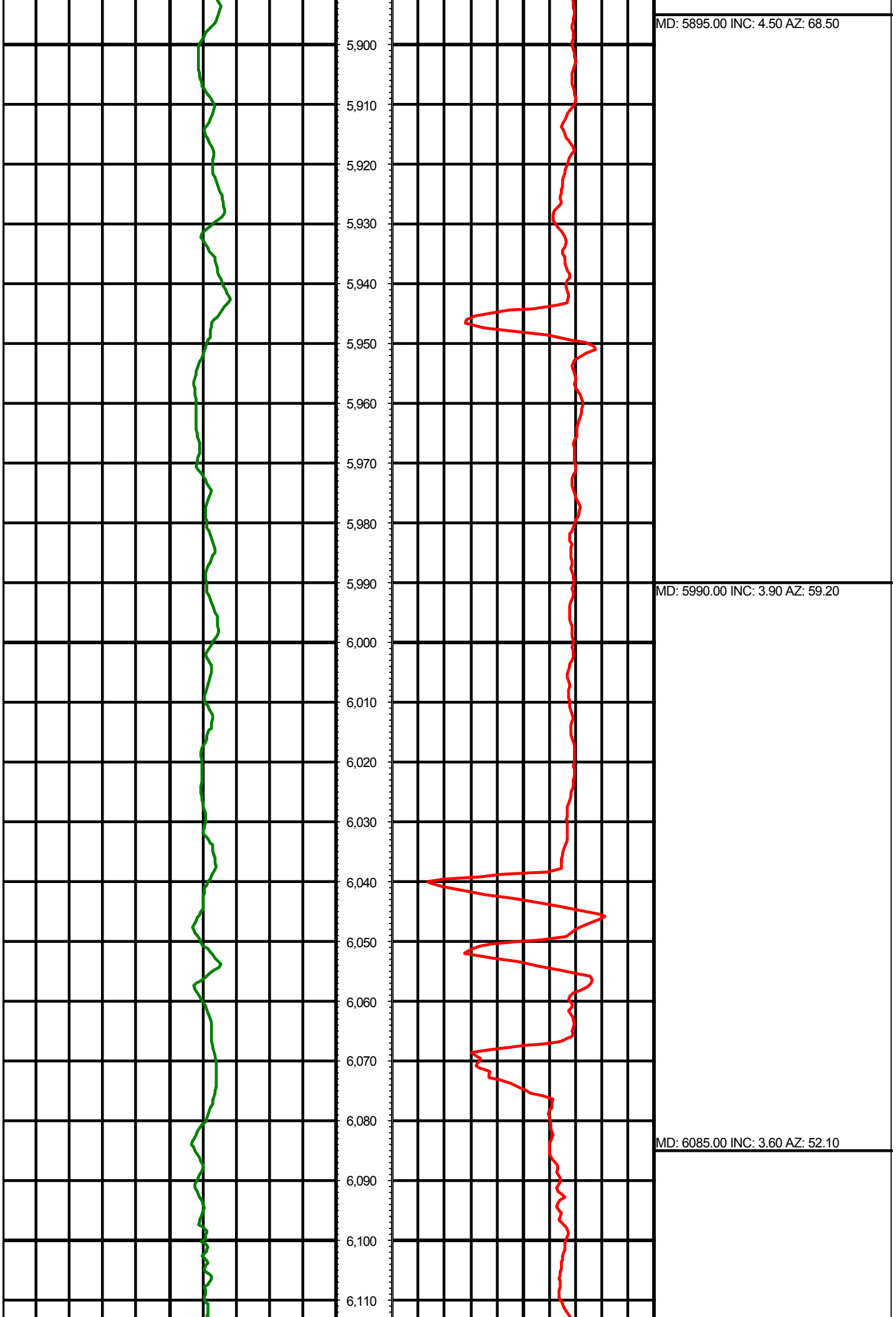
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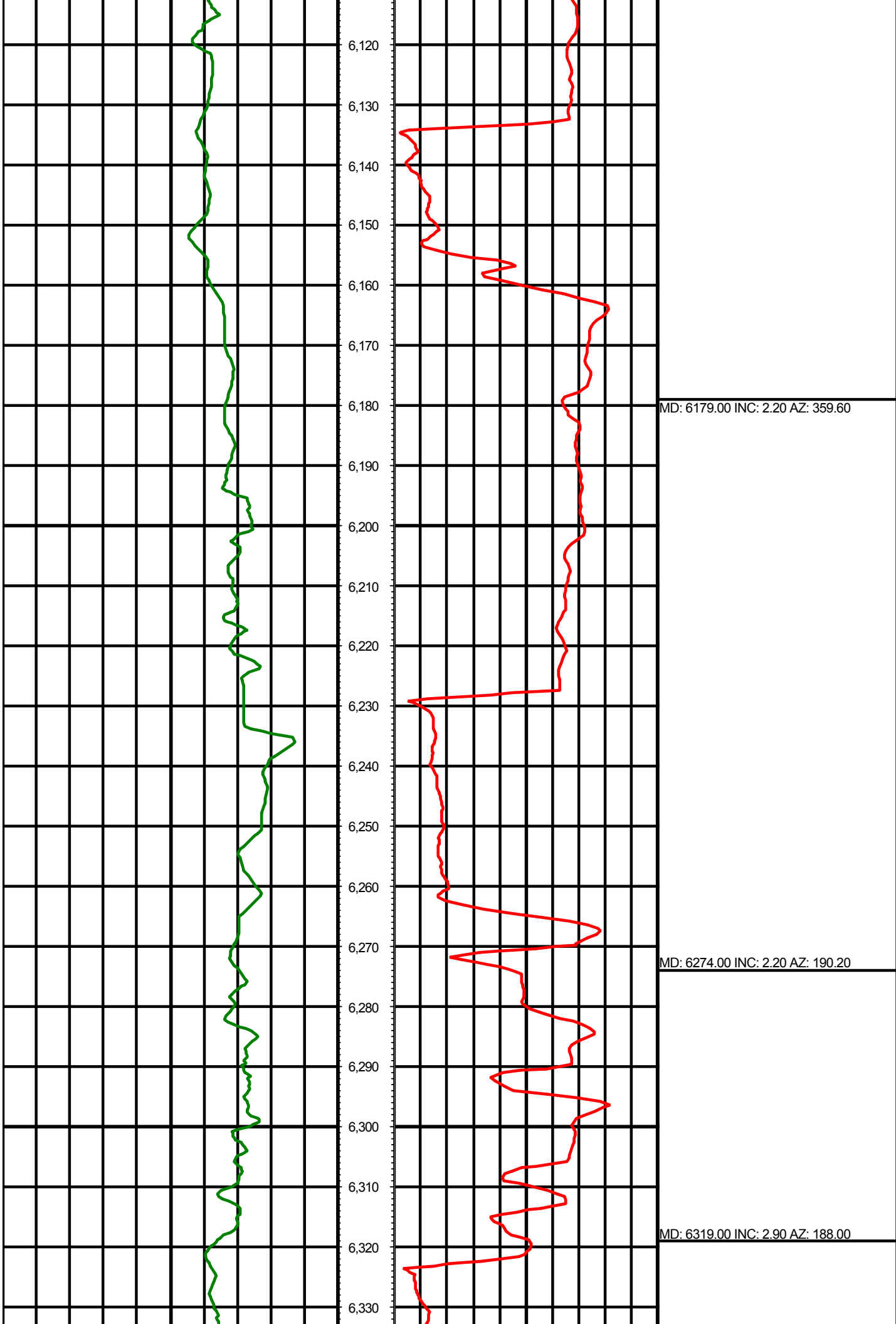
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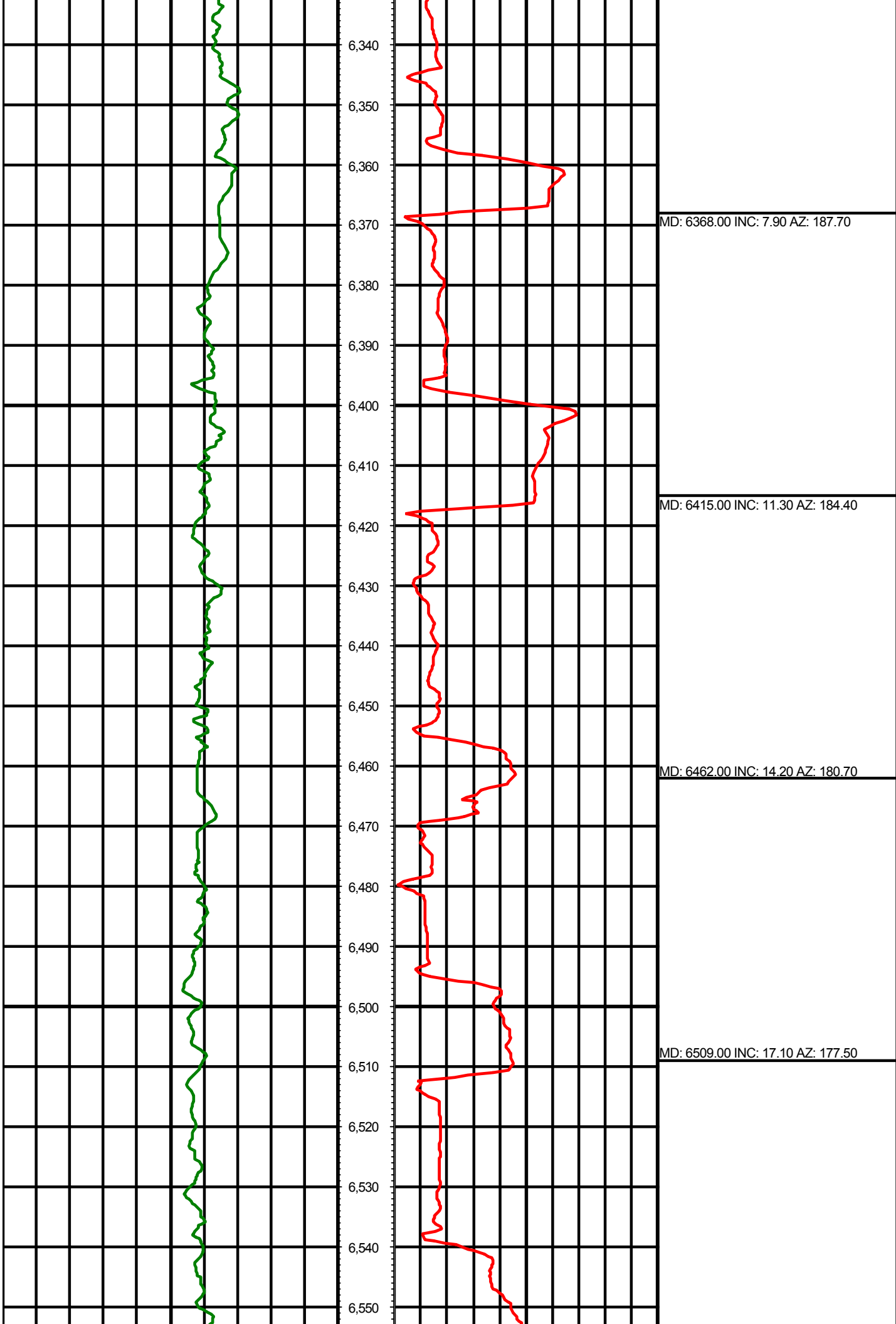
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MD: 5801.00 INC: 4.50 AZ: 58.90

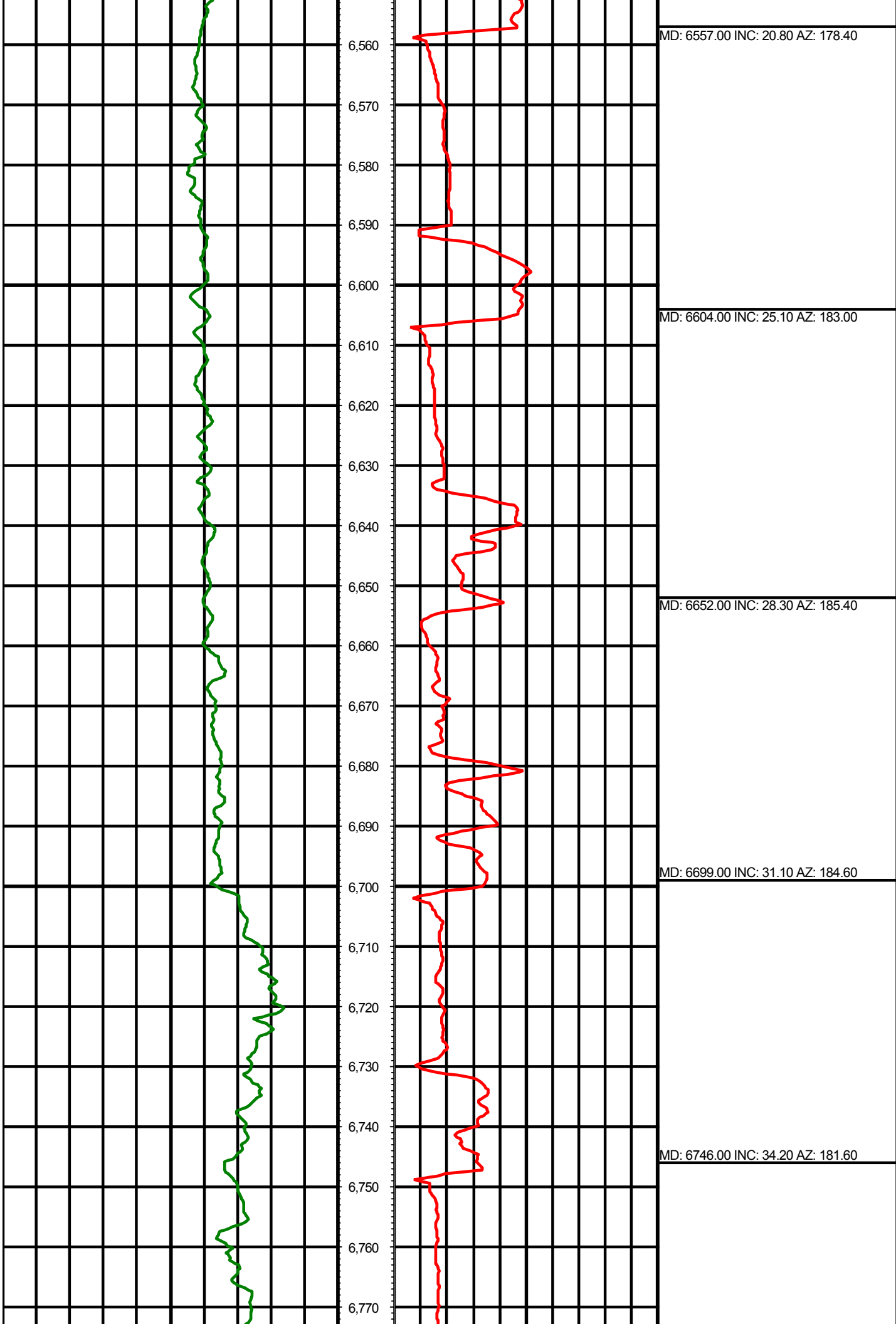


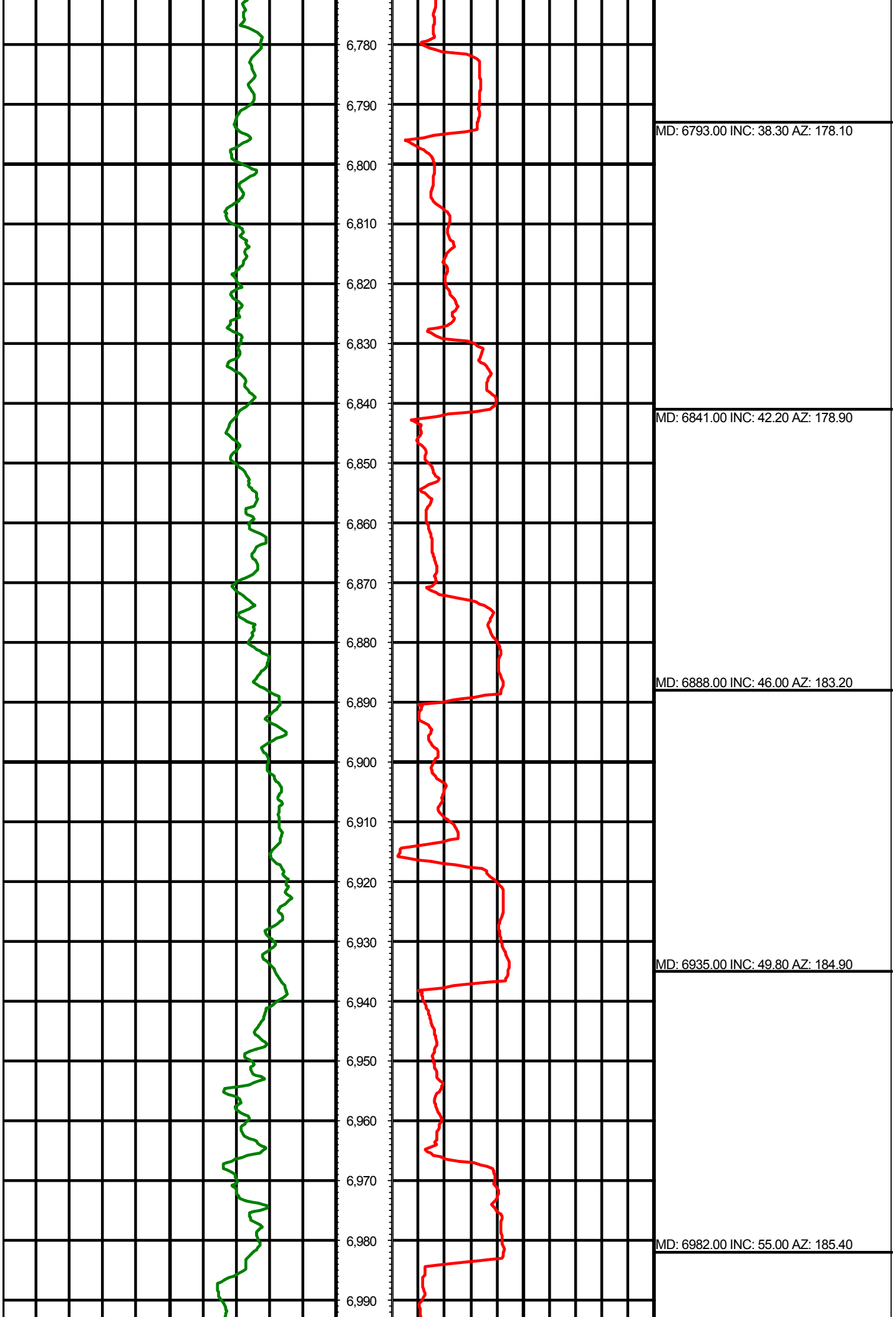


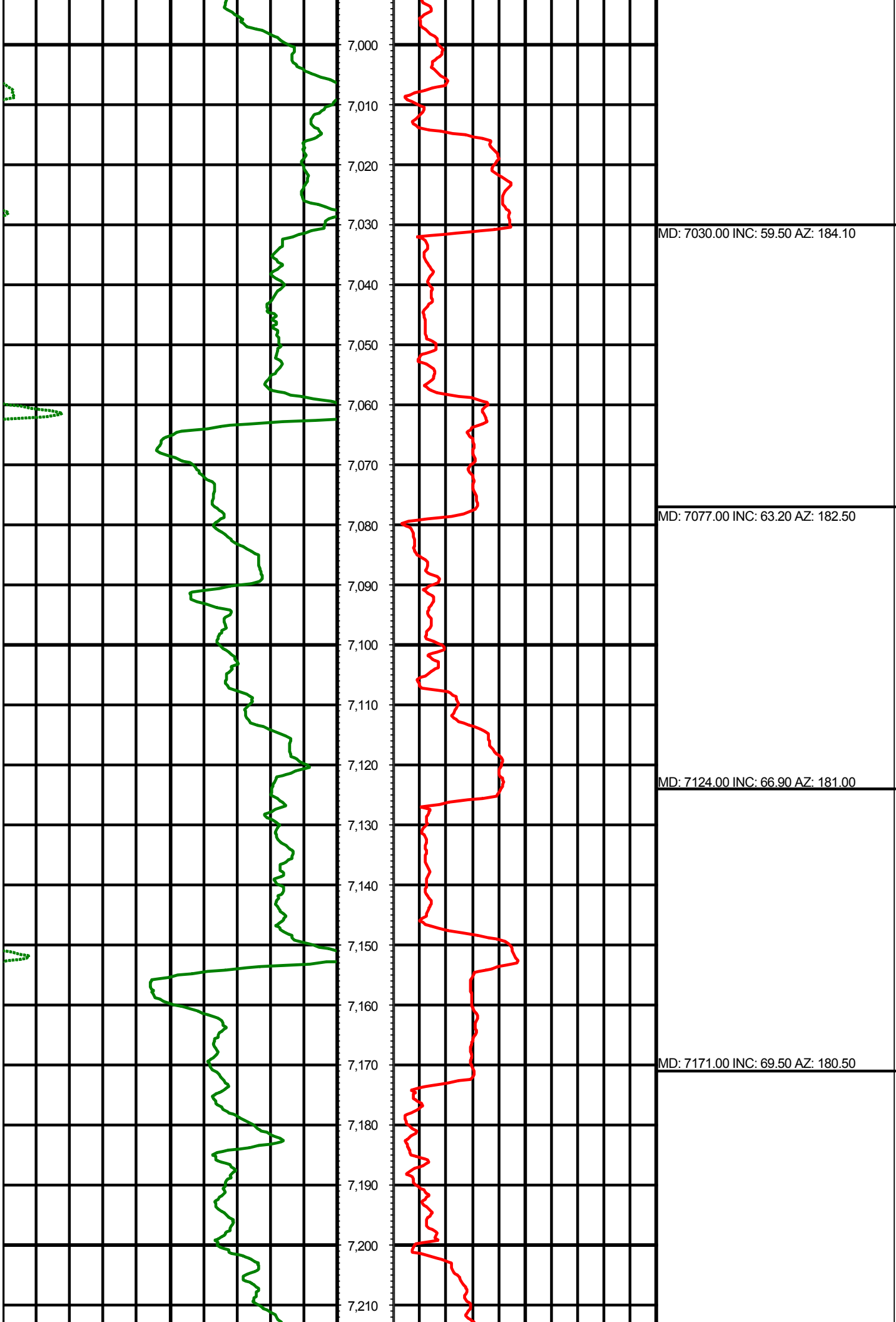


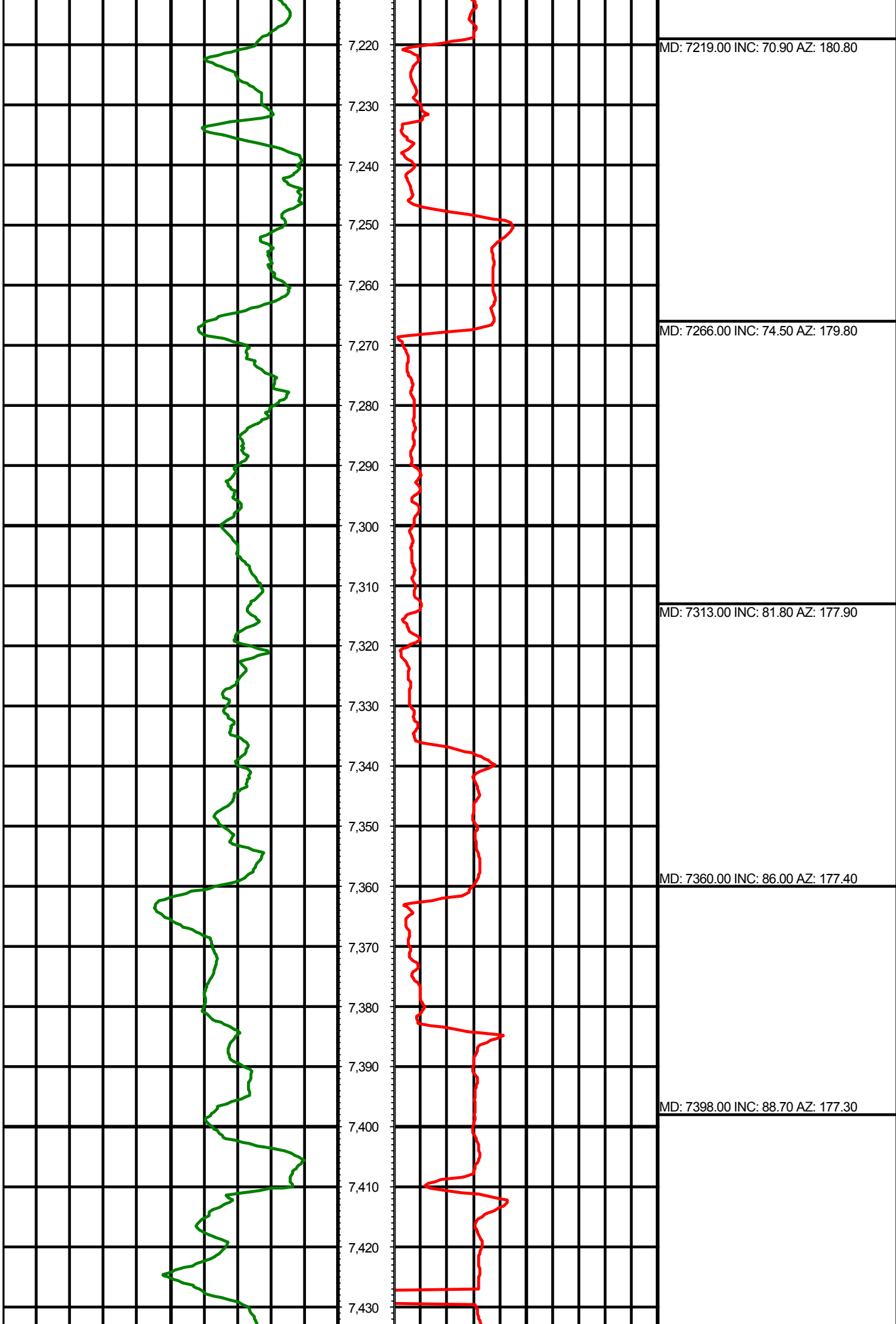


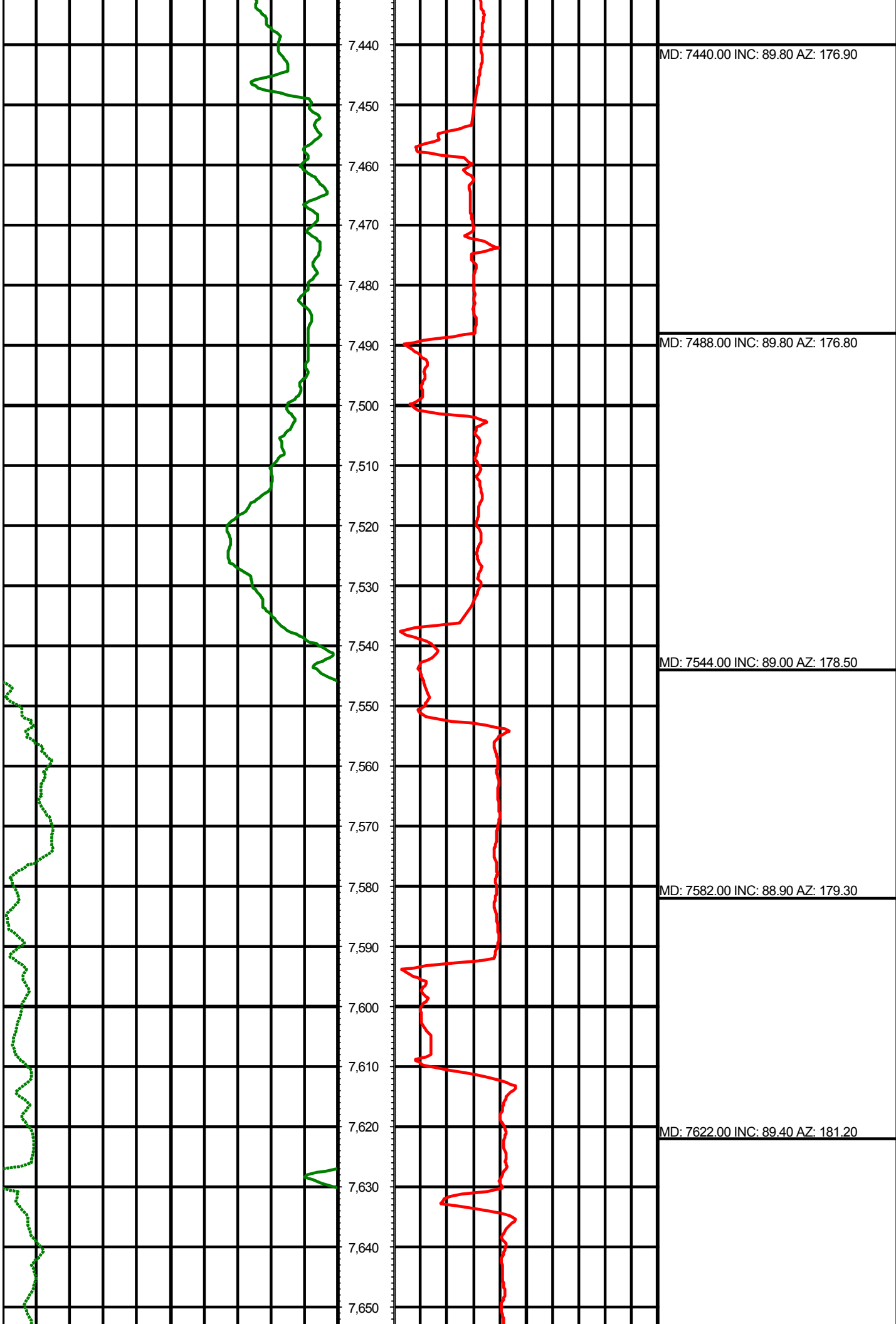


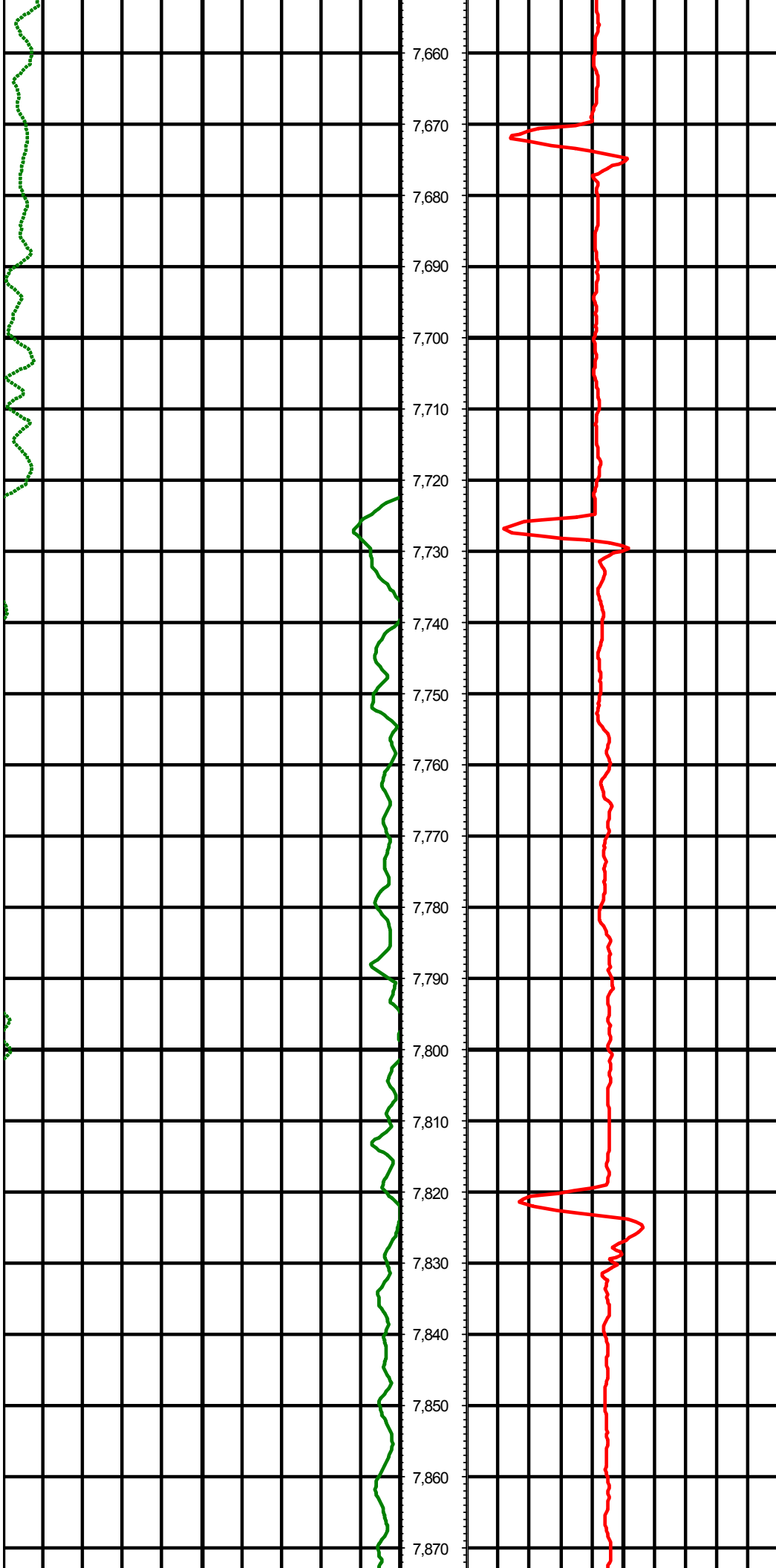








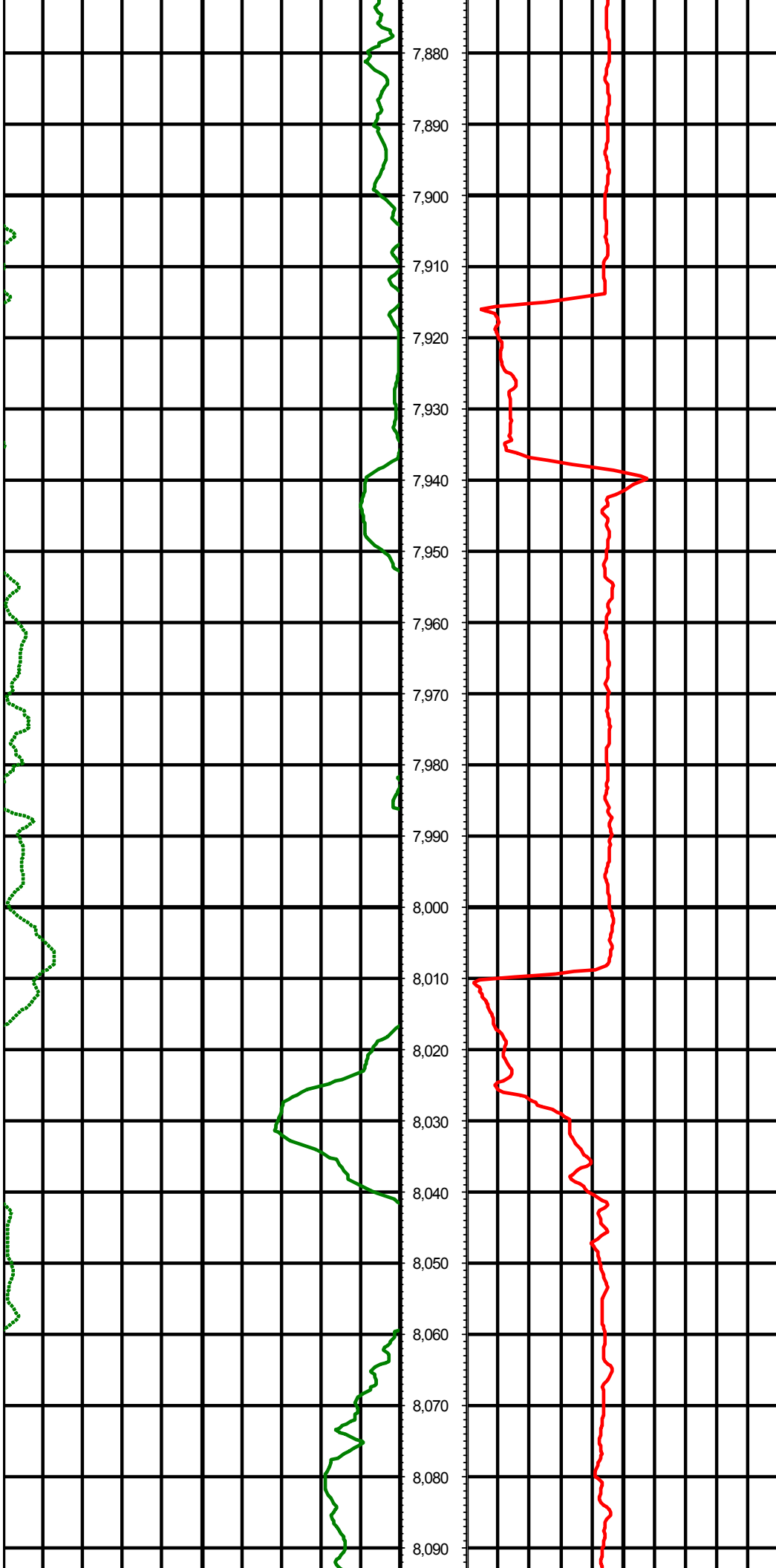




MD: 7677.00 INC: 89.50 AZ: 180.90

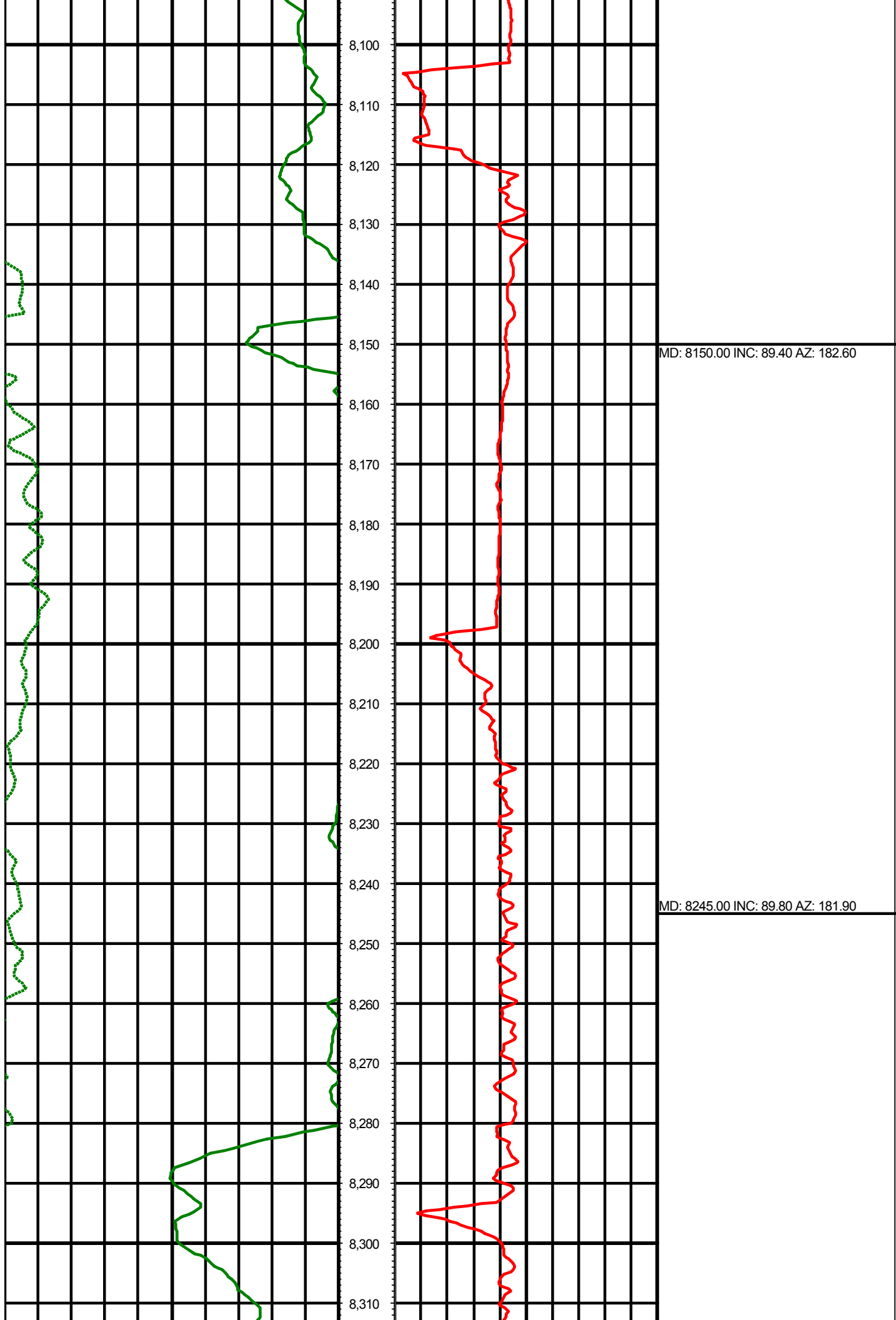
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MD: 7866.00 INC: 89.50 AZ: 179.50

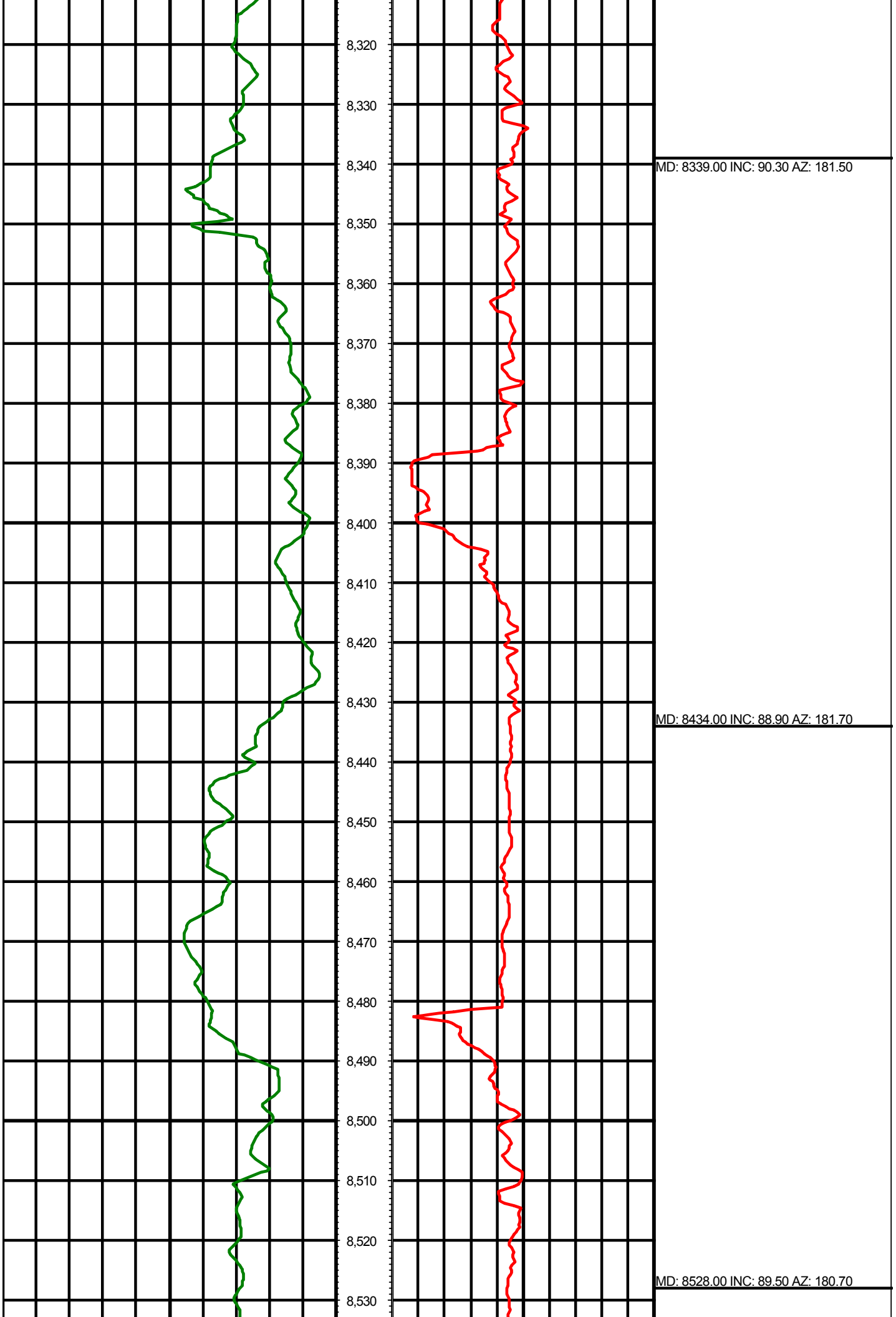


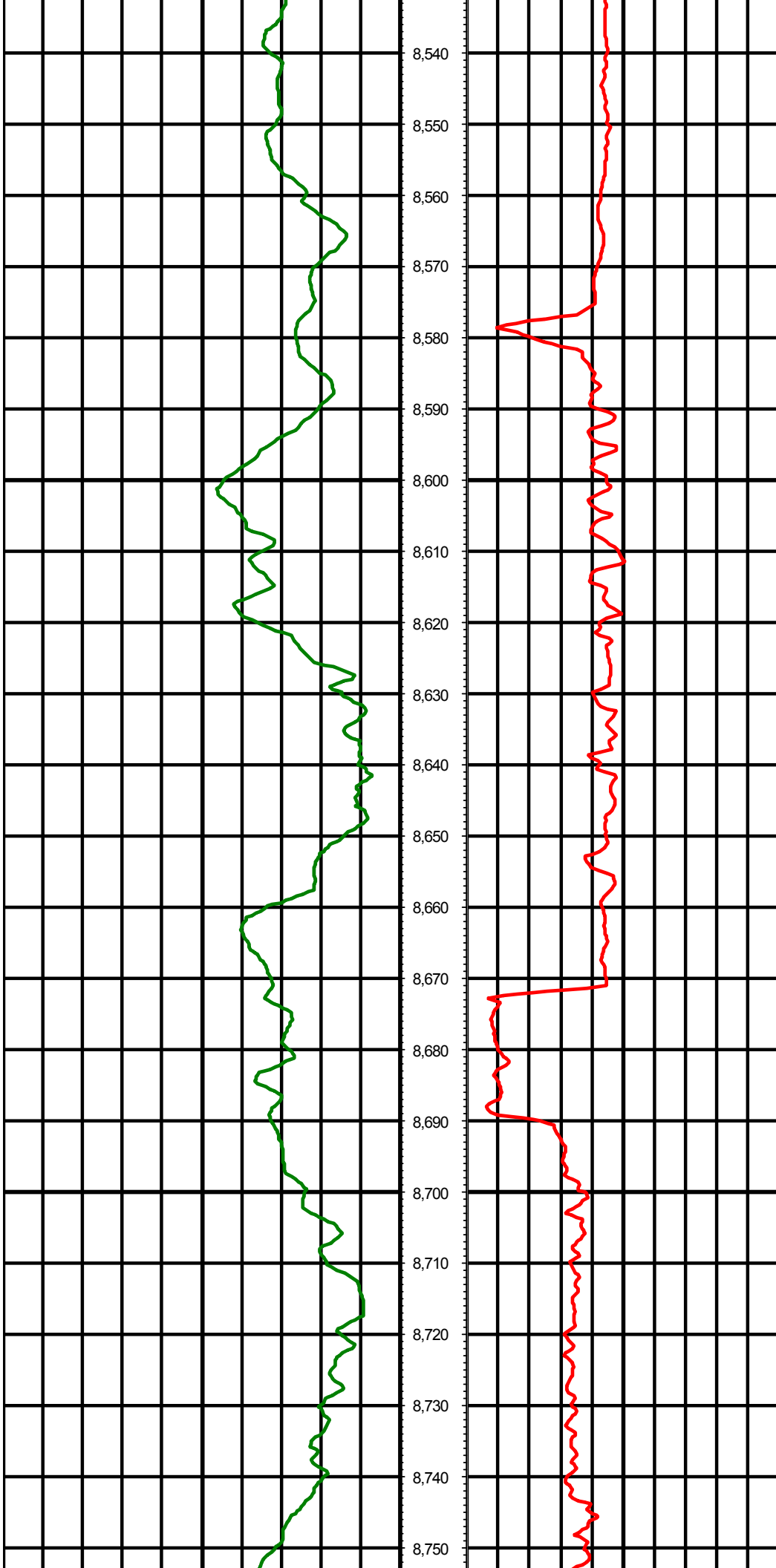
MD: 7961.00 INC: 90.80 AZ: 181.30

MD: 8055.00 INC: 90.70 AZ: 182.10



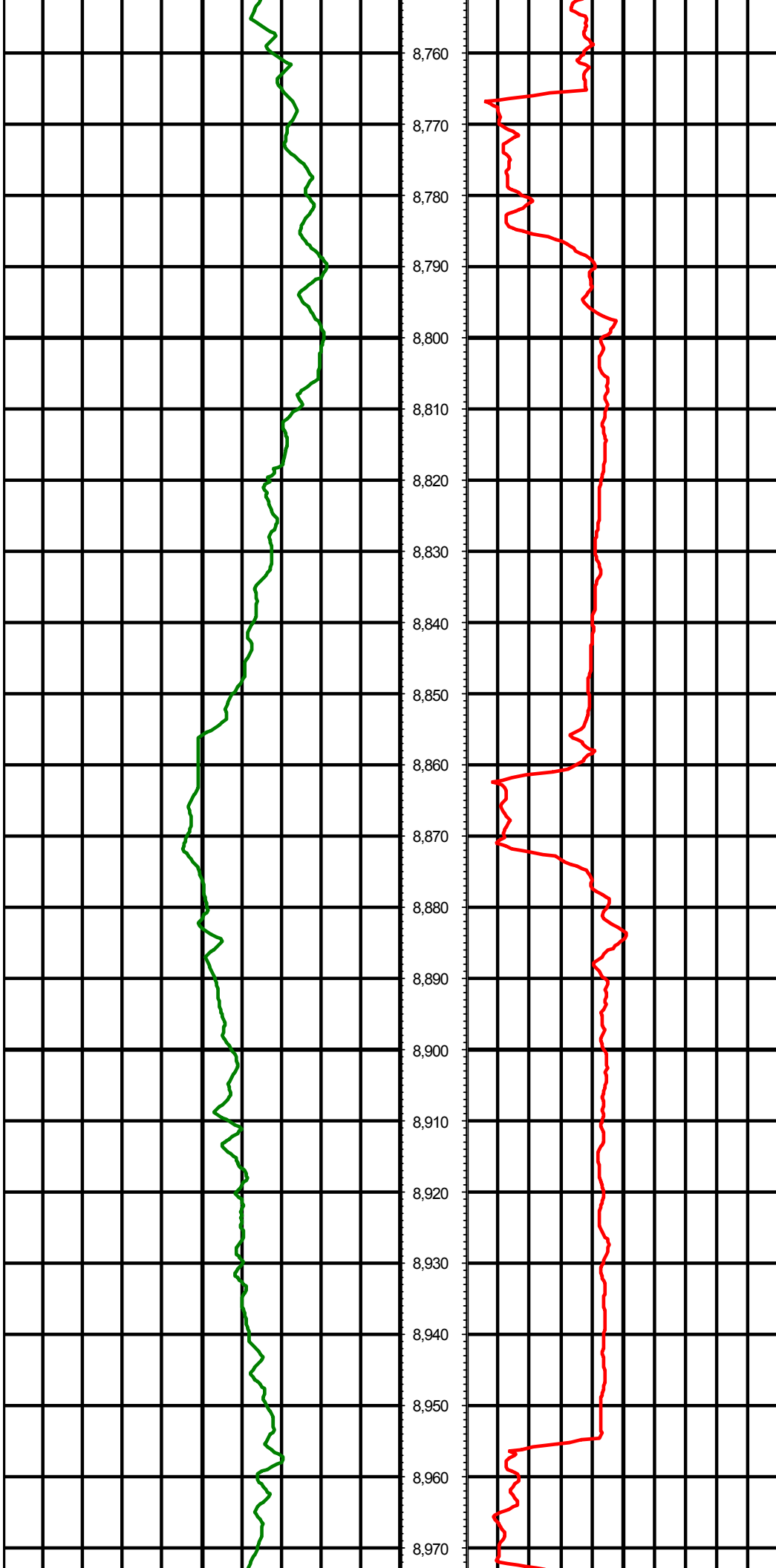






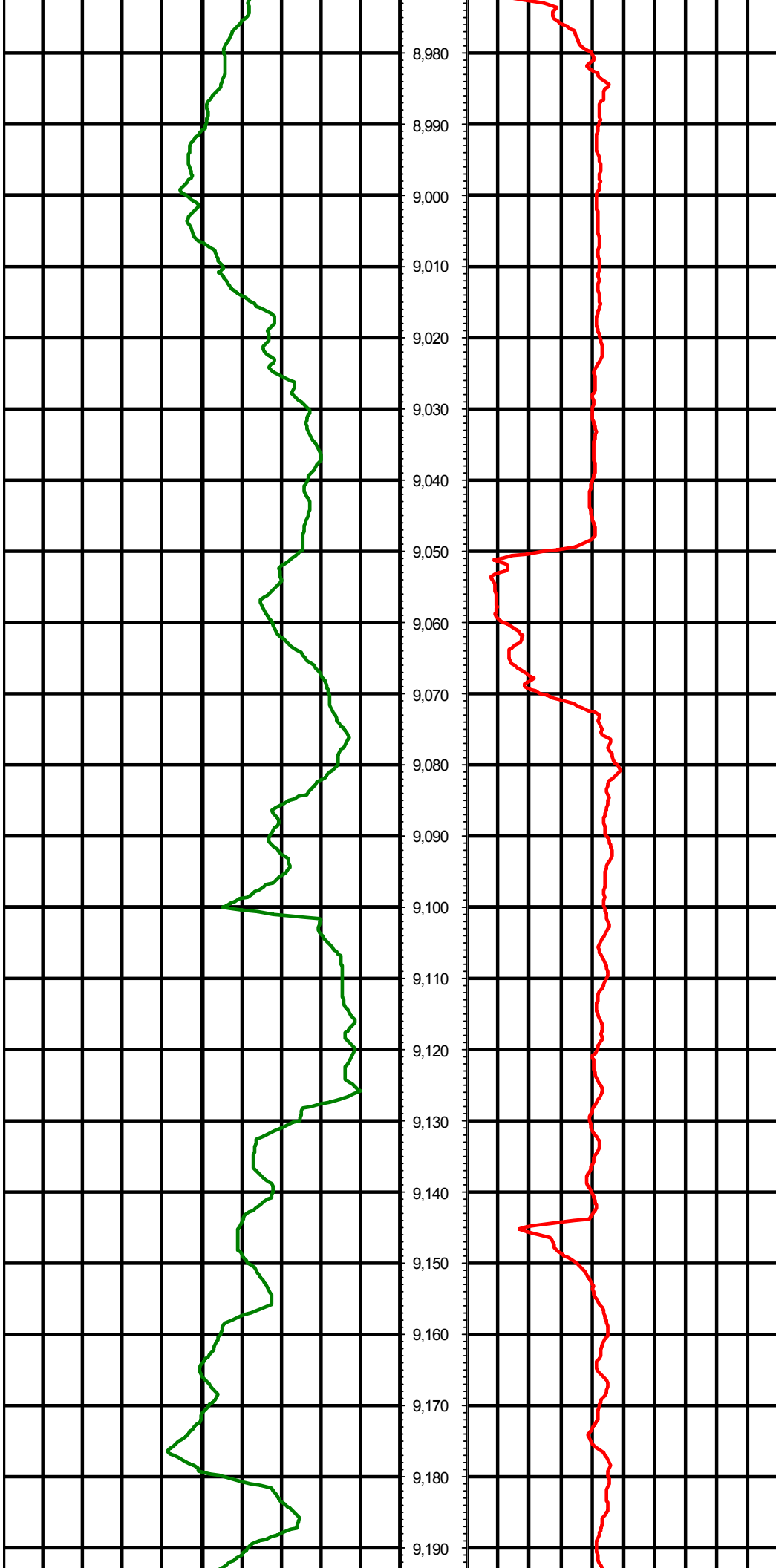
MD: 8623.00 INC: 91.60 AZ: 180.00

MD: 8717.00 INC: 91.30 AZ: 181.50



MD: 8812.00 INC: 90.20 AZ: 182.30

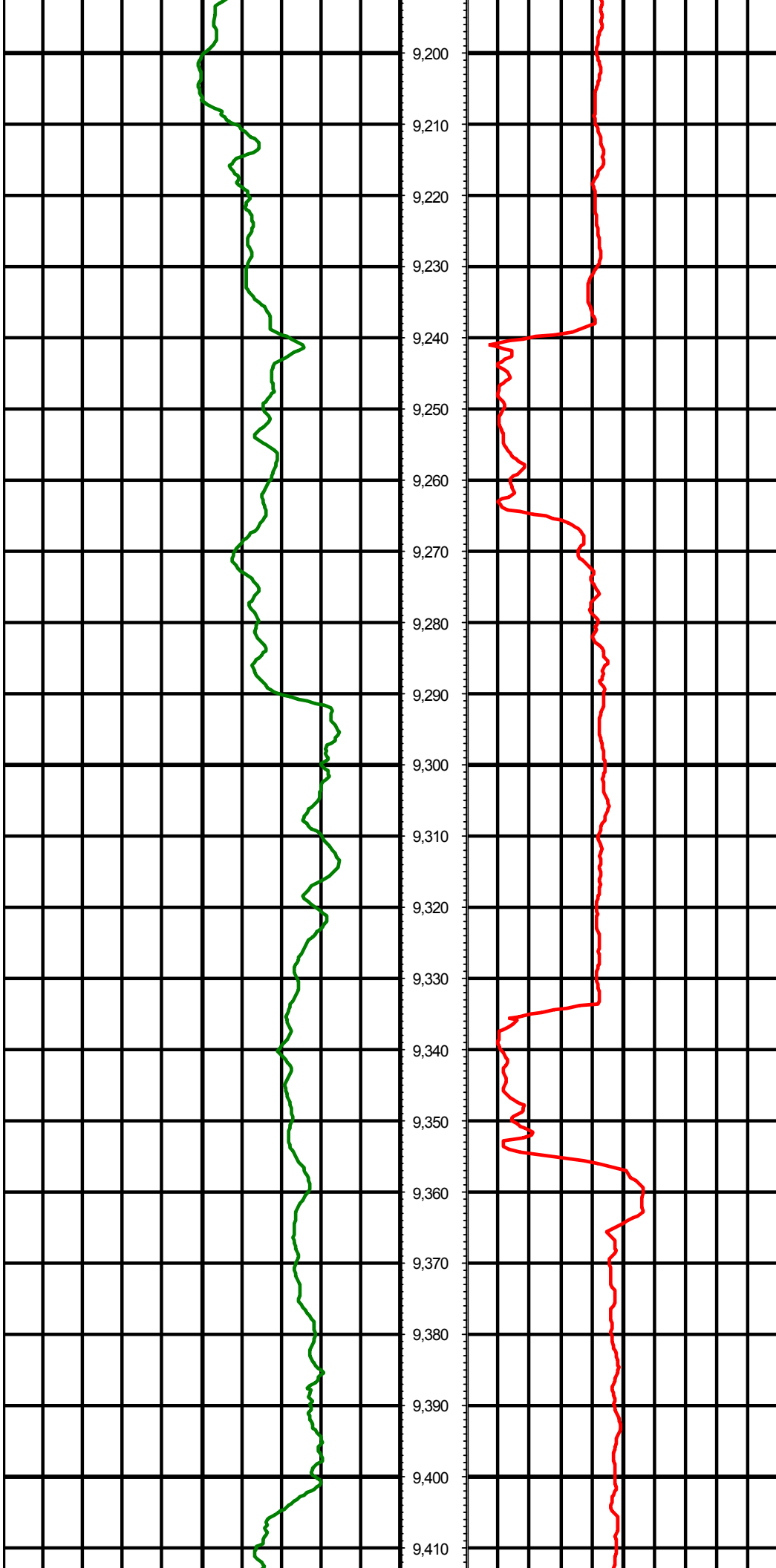
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MD: 9001.00 INC: 89.80 AZ: 183.80

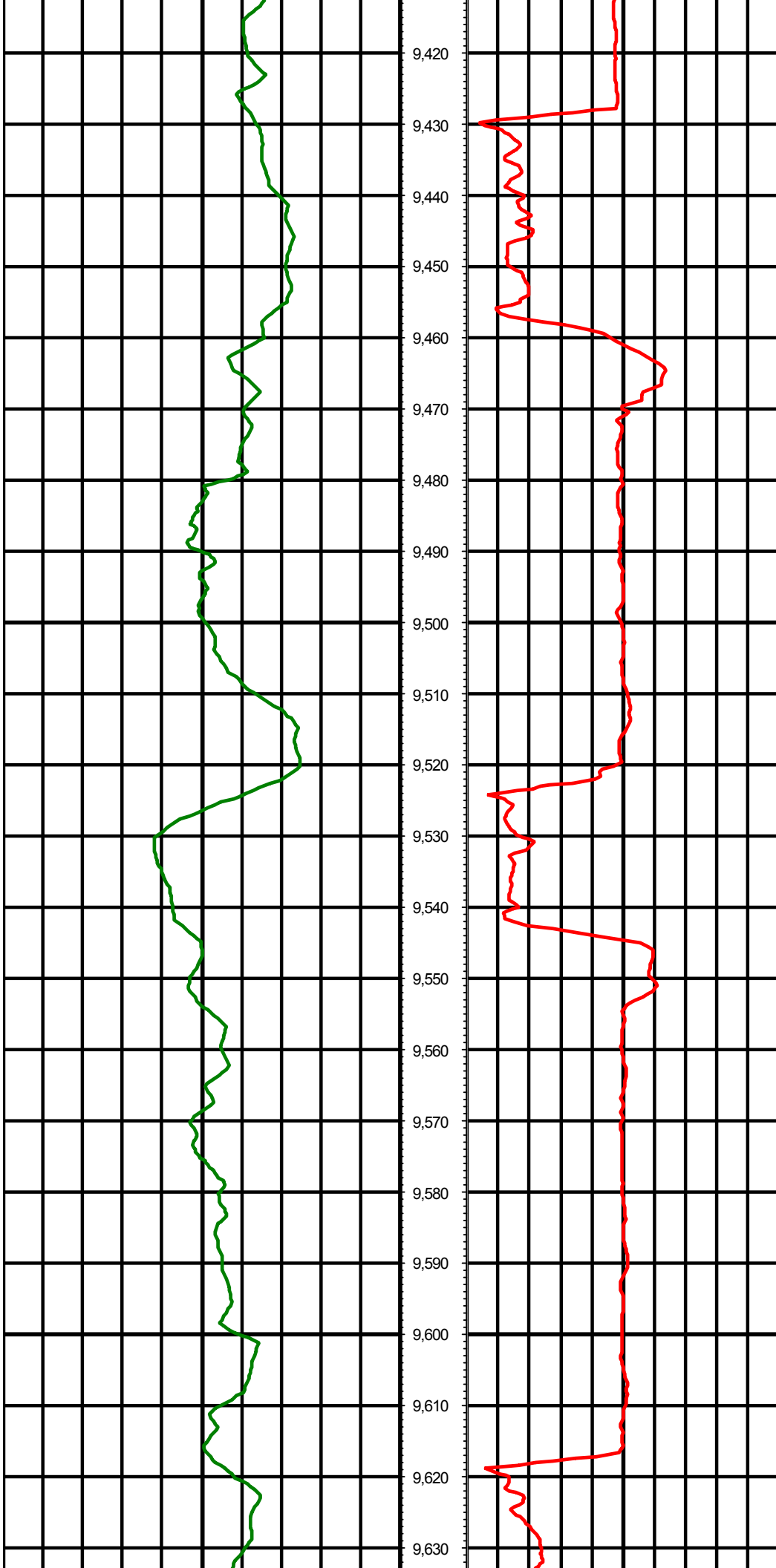
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MD: 9191.00 INC: 87.40 AZ: 181.10



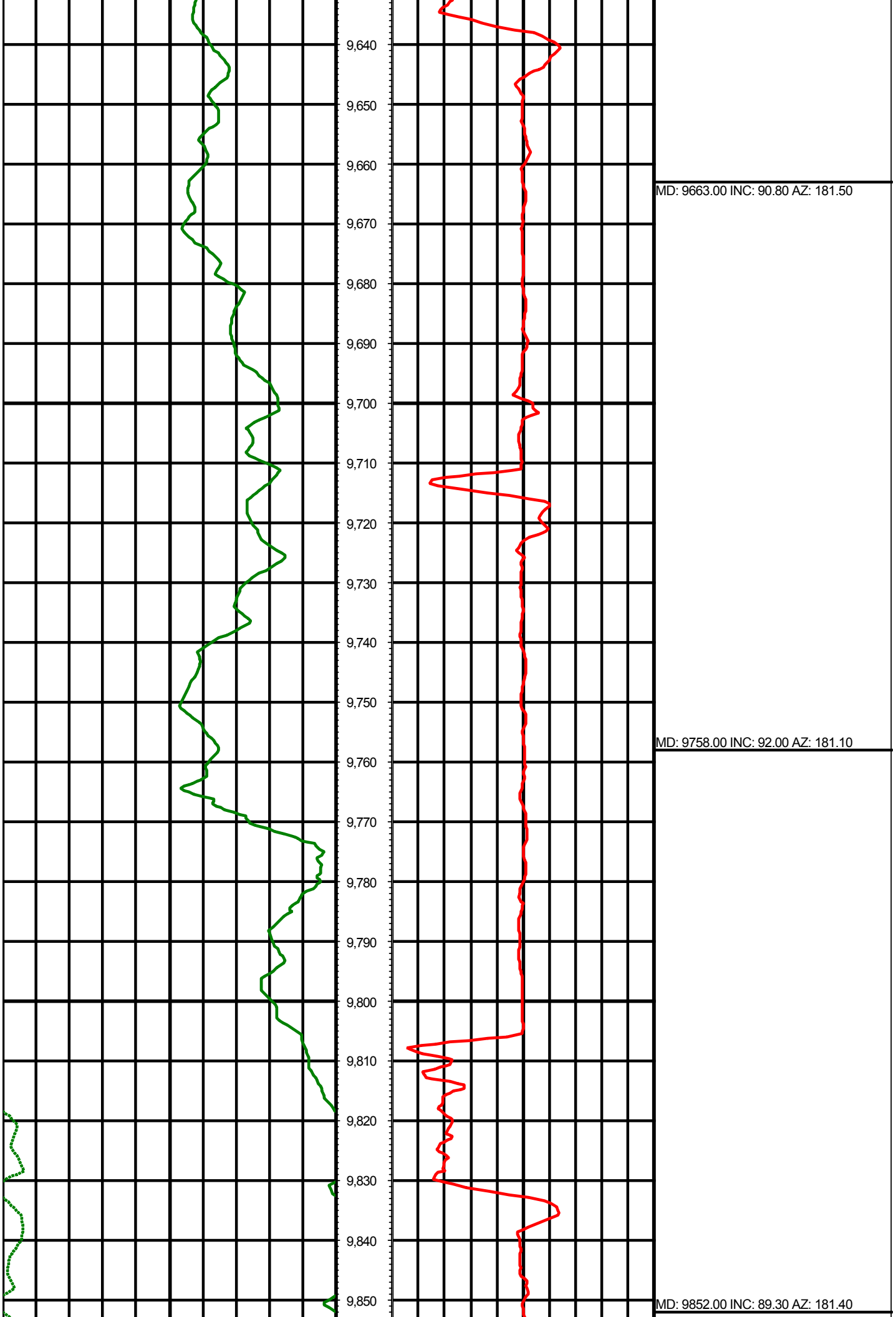
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MD: 9380.00 INC: 90.90 AZ: 177.00



MD: 9474.00 INC: 92.00 AZ: 179.10

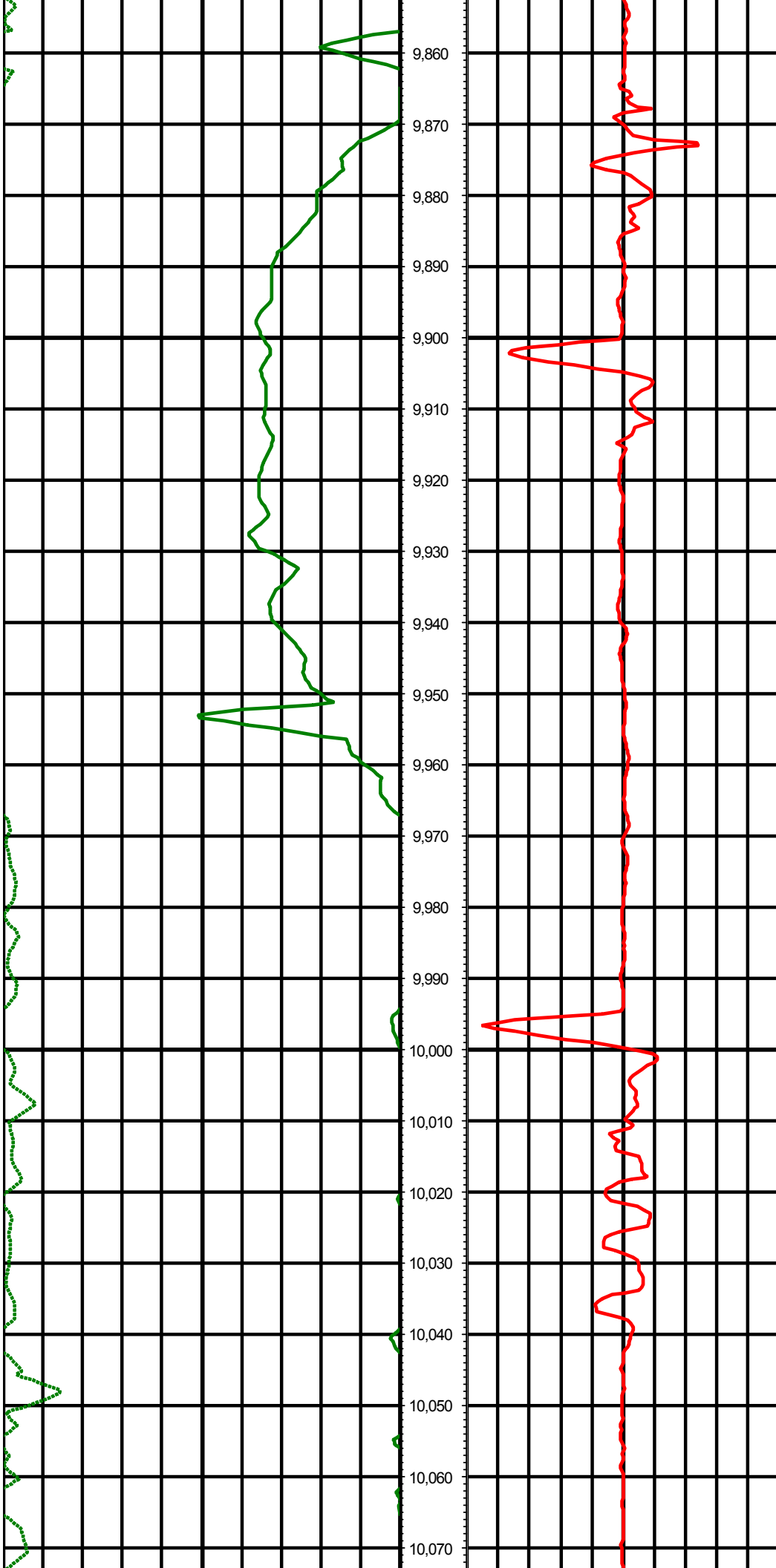
MD: 9569.00 INC: 91.70 AZ: 180.30



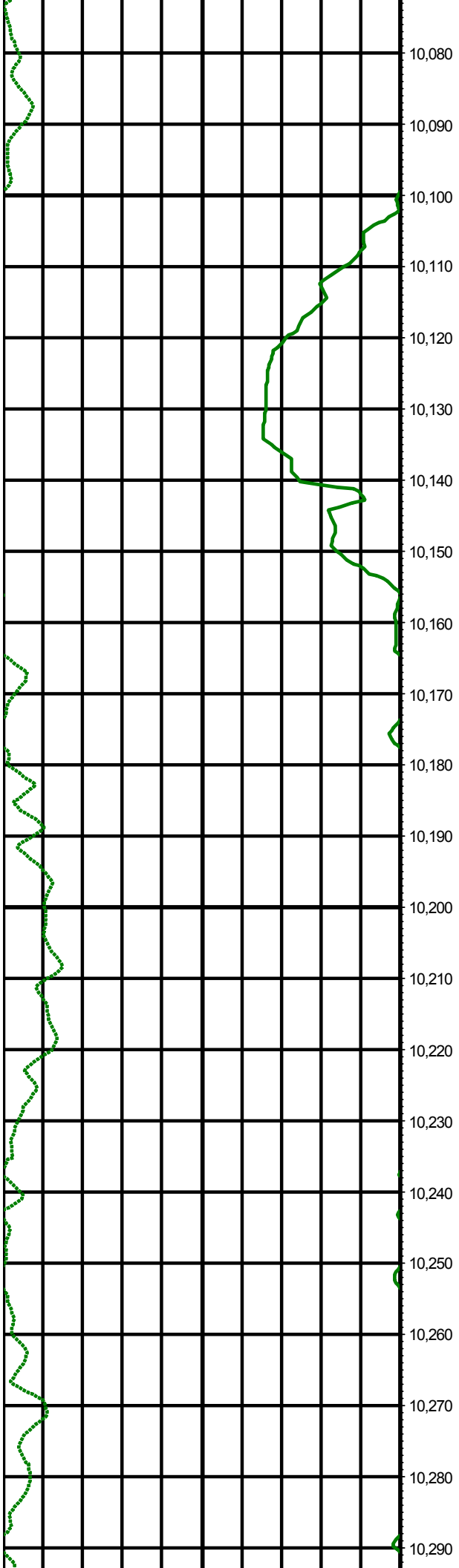
MD: 9852.00 INC: 89.30 AZ: 181.40

MD: 9947.00 INC: 90.10 AZ: 180.90

MD: 10041.00 INC: 90.10 AZ: 180.60







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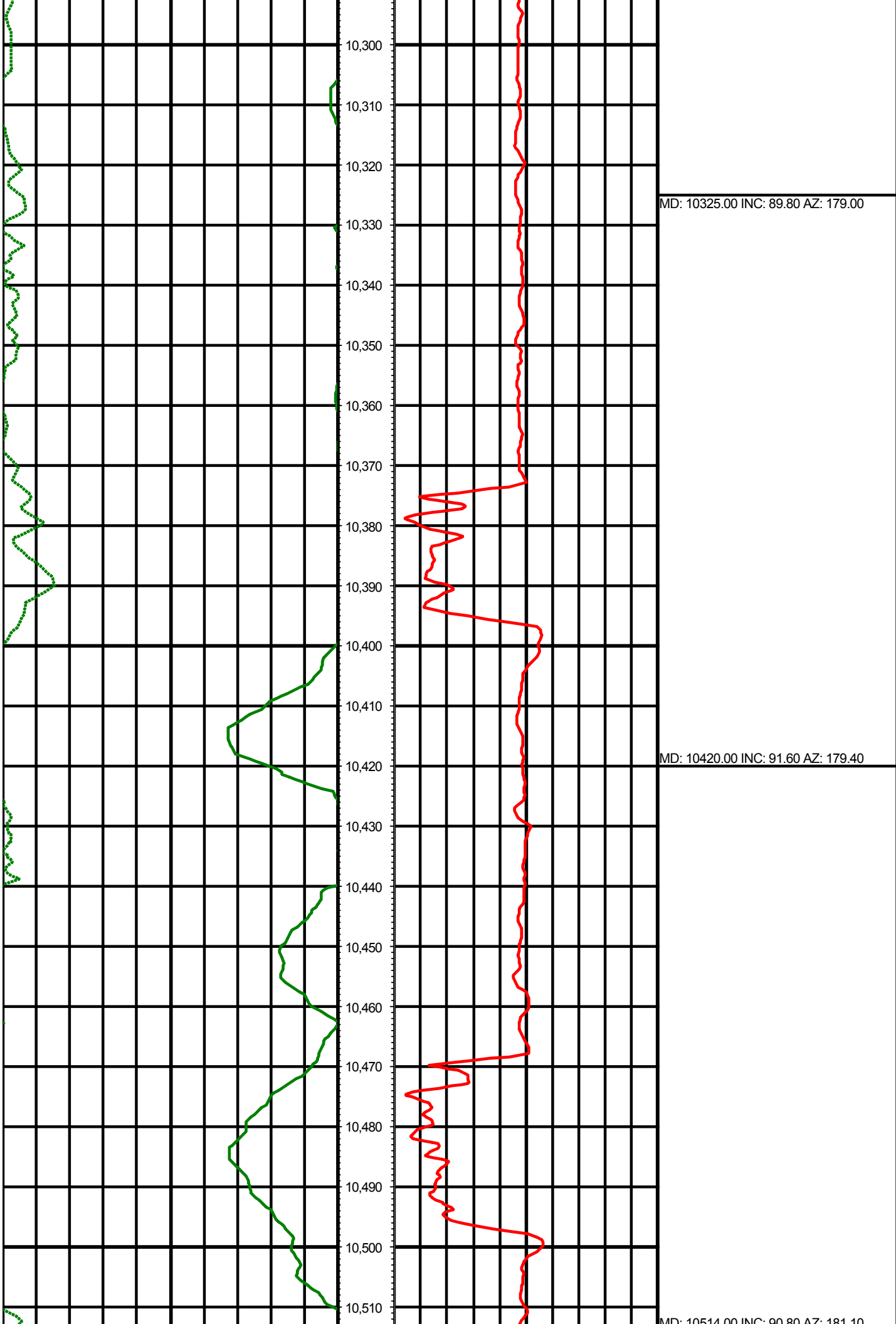
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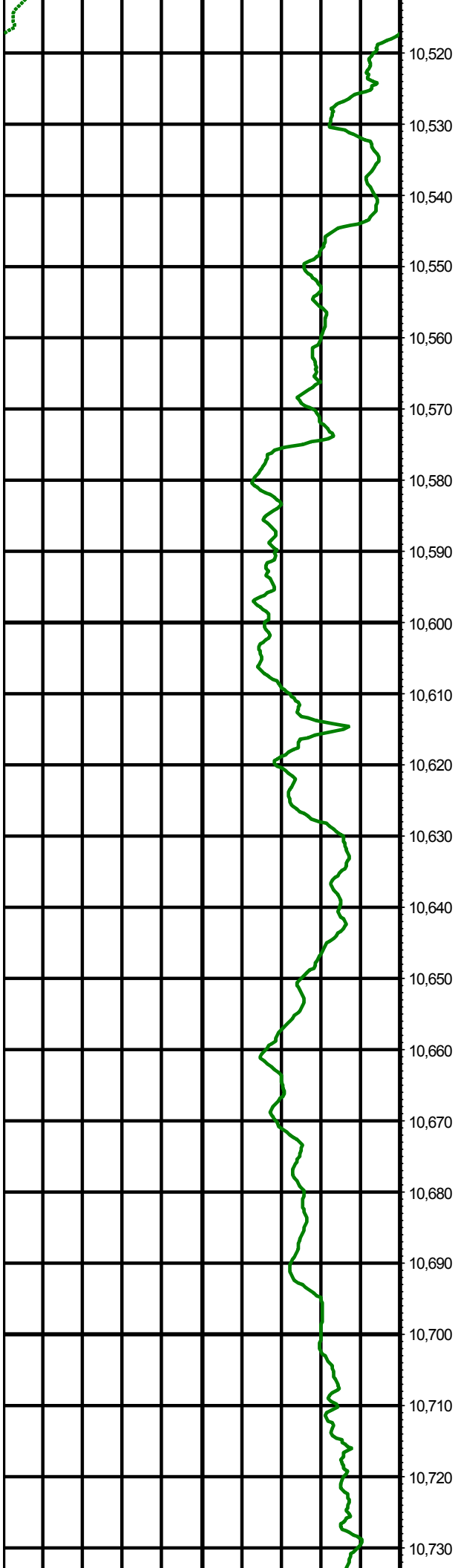
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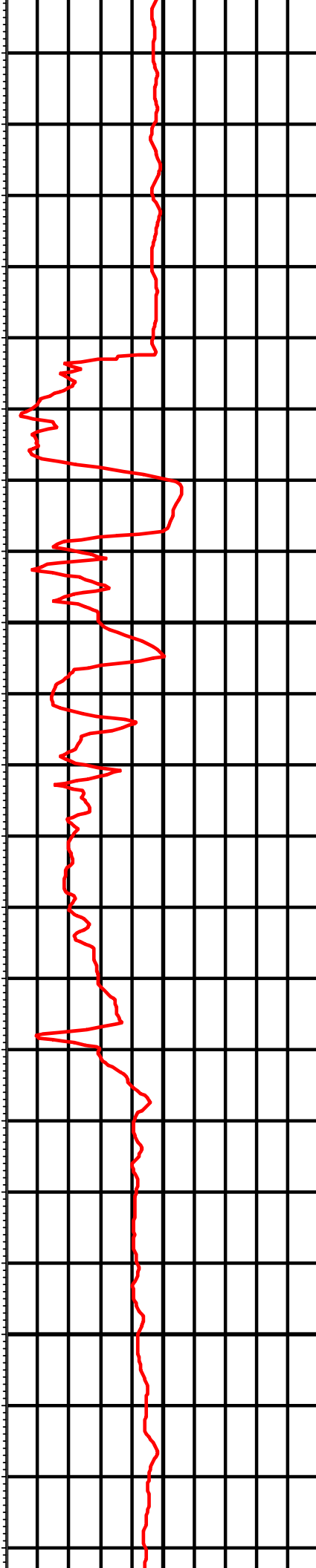
MD: 10136.00 INC: 89.90 AZ: 179.70

MD: 10230.00 INC: 89.80 AZ: 179.20





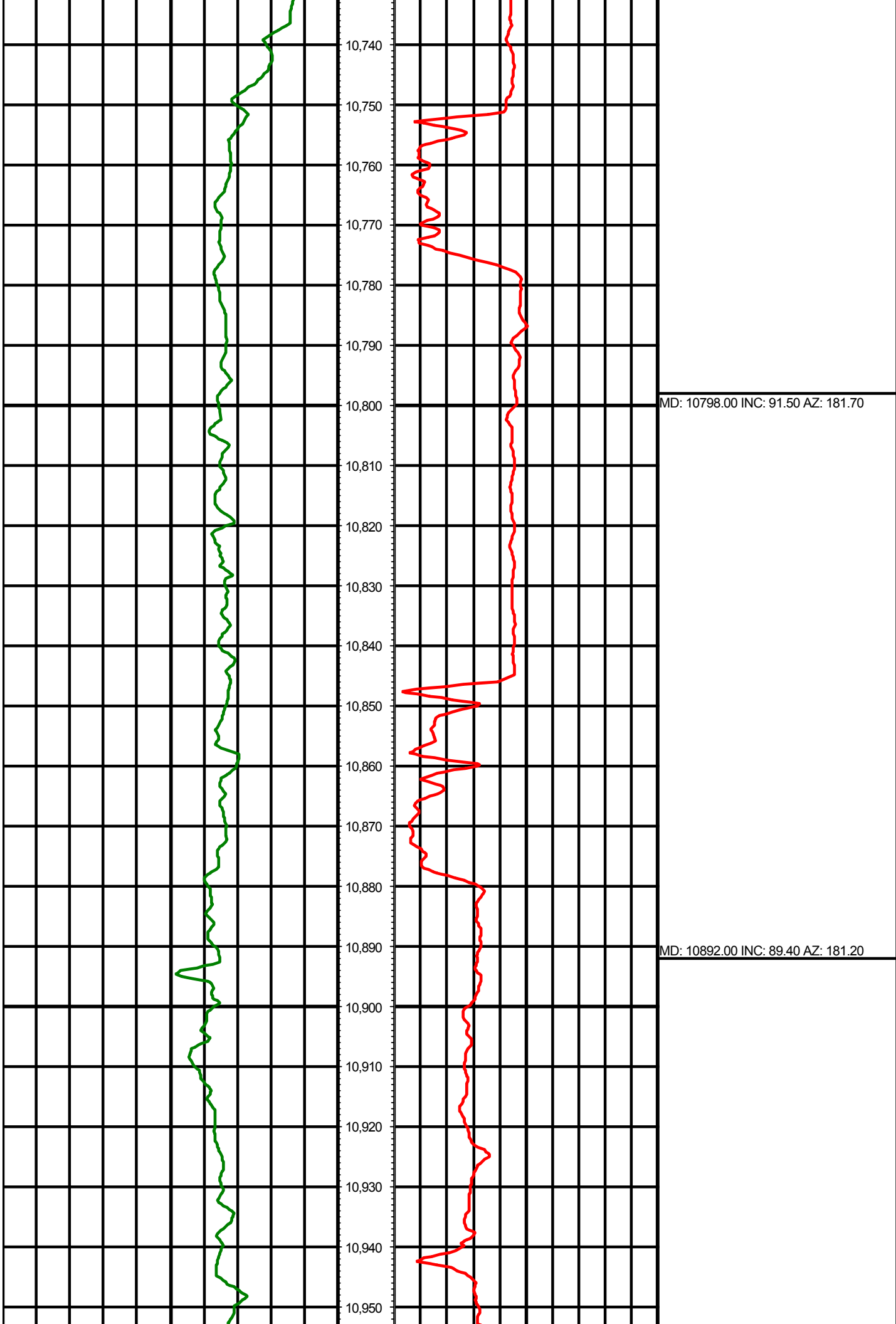
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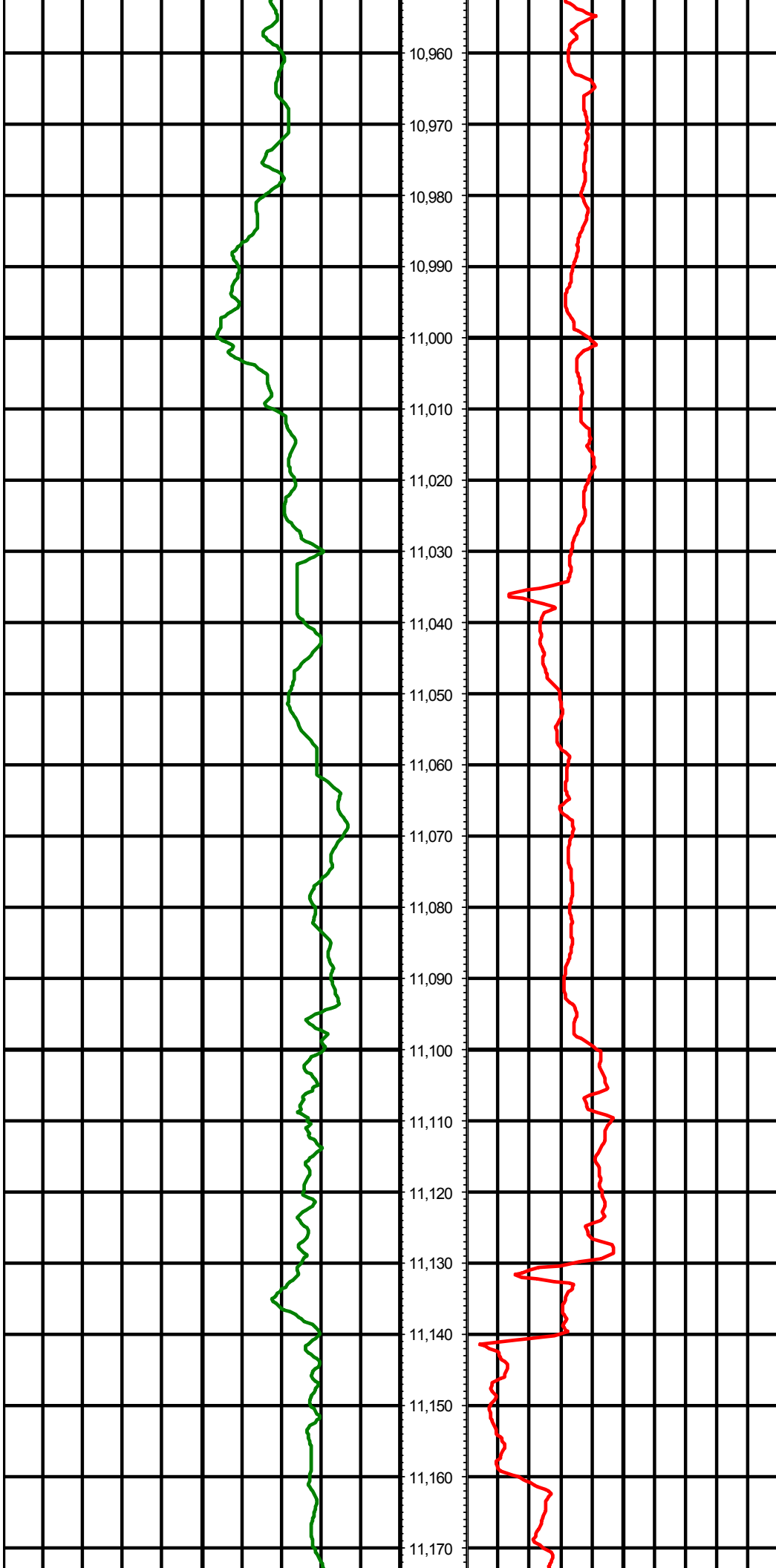


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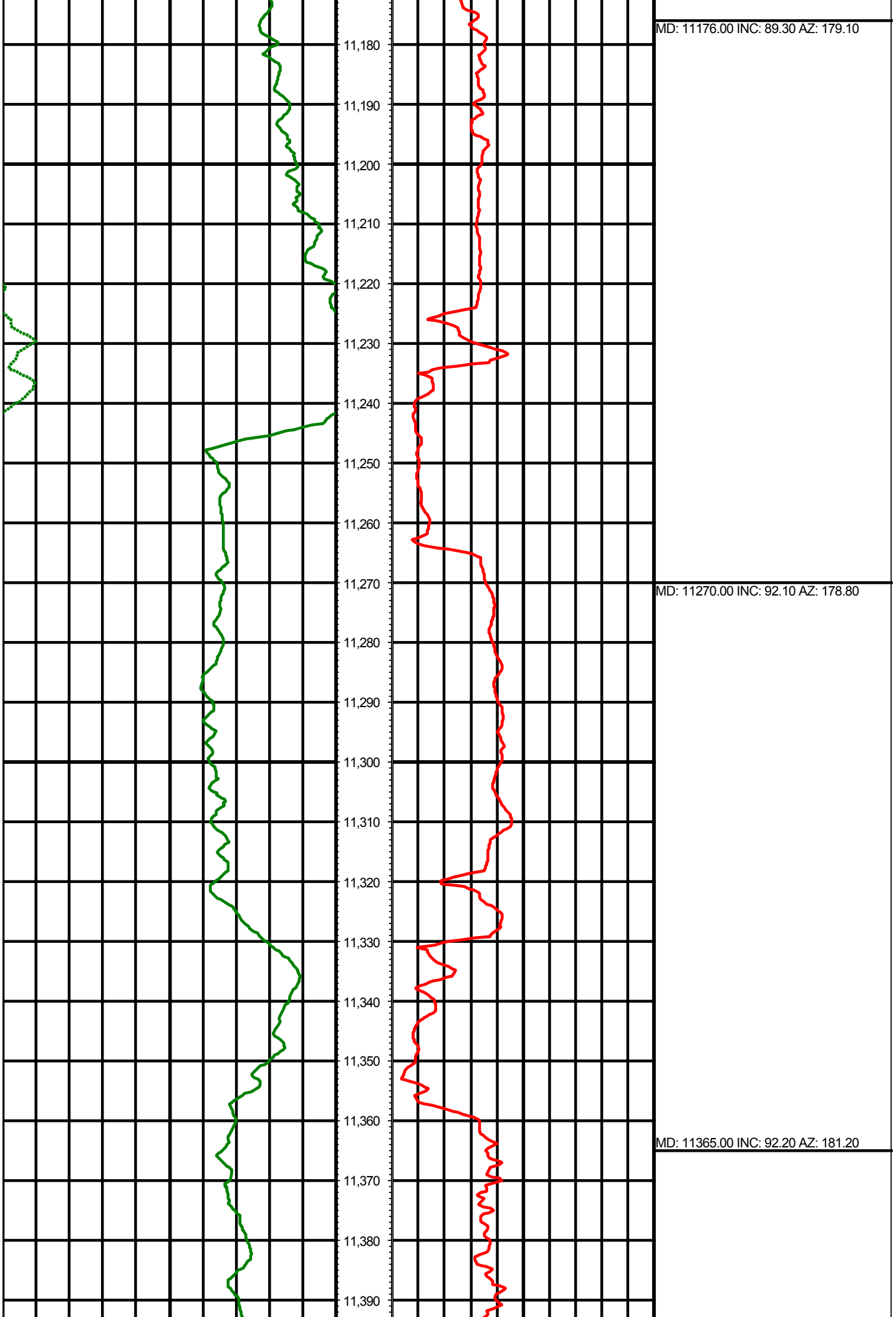
MD: 10703.00 INC: 90.30 AZ: 180.20





MD: 10987.00 INC: 89.20 AZ: 180.90

MD: 11081.00 INC: 88.80 AZ: 180.60



MD: 11176.00 INC: 89.30 AZ: 179.10

MD: 11270.00 INC: 92.10 AZ: 178.80

MD: 11365.00 INC: 92.20 AZ: 181.20

