



Cathedral Energy Services
1949 North Pyrite Road
Casper, Wyoming 82604

145451

5":100' - MD

1/14/2015 2:16:00 PM

CATHEDRAL

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

Country: U.S.A.

State / Province: Colorado

County / Parish: Weld

Started: 01/03/2015 01:30 AM

API/UWI: 05-123-40292-00

Field: Wattenberg (Codell)

Well: Sprague 3AA-9H-N267

Rig: Patterson UTI Drilling 272

Ended: 01/11/2014 01:30 AM

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

Personnel

Day Hand: R. Moulton
Night Hand: A. Clark
Comp. Emp: Kirby Burchett

Location

Latitude: 40.147020
Longitude: -104.898666
Elev. GL: 4982.6
Elev. DF:
Elev. KB: 5011.1

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

Hole Data

Size	From	To
12-1/4	0	879
8-3/4	879	8166
6-1/8	8166	12991

Casing Data

Size	From	To
9-5/8	0	863.5
7	0	8150.9
4-1/2	0	12976

Bit Sizes

Size	From	To
12-1/4	0	879
8.75	879	8166
6-1/8	8166	12991

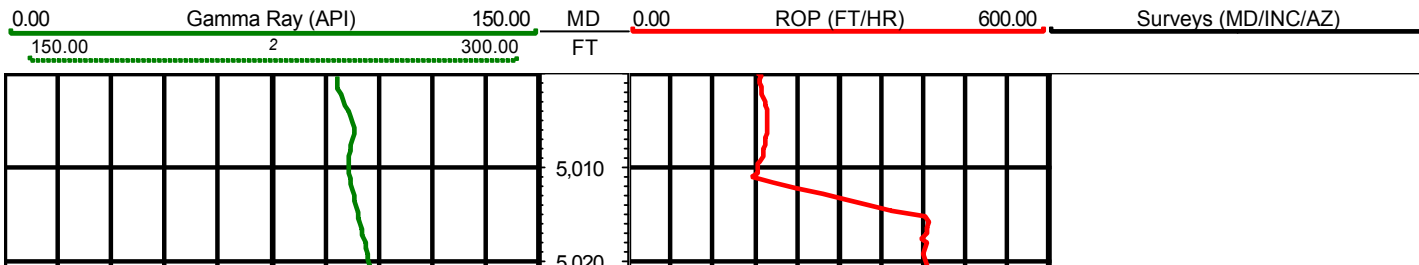
Mud Data

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
1279	41.18	0	1/1/2015 12:00:19 PM	0	1/1/2015 9:00:19 PM	879
1598	38.21	0	1/3/2015 1:30:16 AM	879	1/6/2015 8:00:16 AM	8166
1598	39.12	0	1/7/2015 2:00:51 PM	8166	1/11/2015 1:30:51 AM	12991

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.

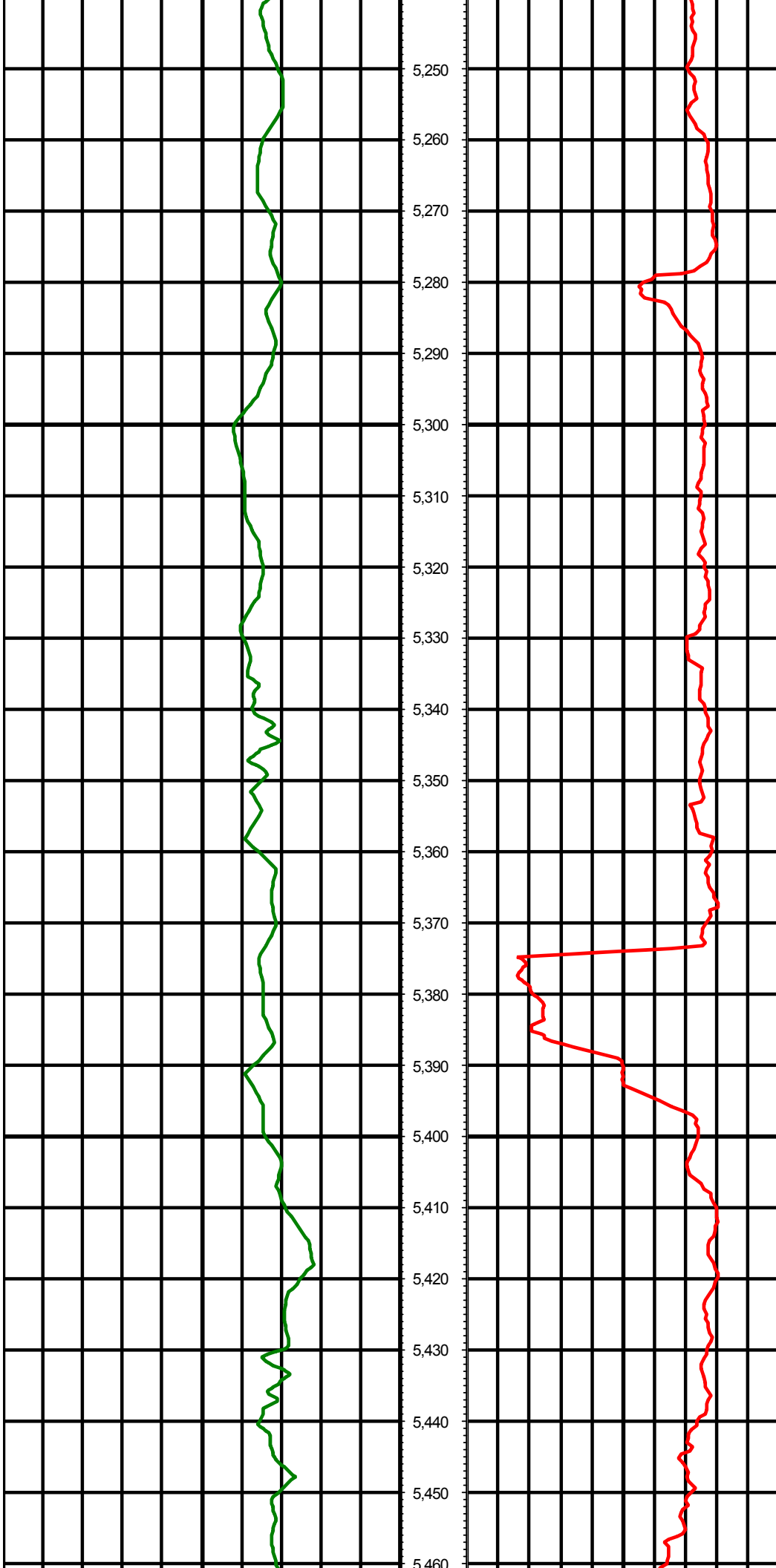




MD: 5034.00 INC: 12.90 AZ: 250.50

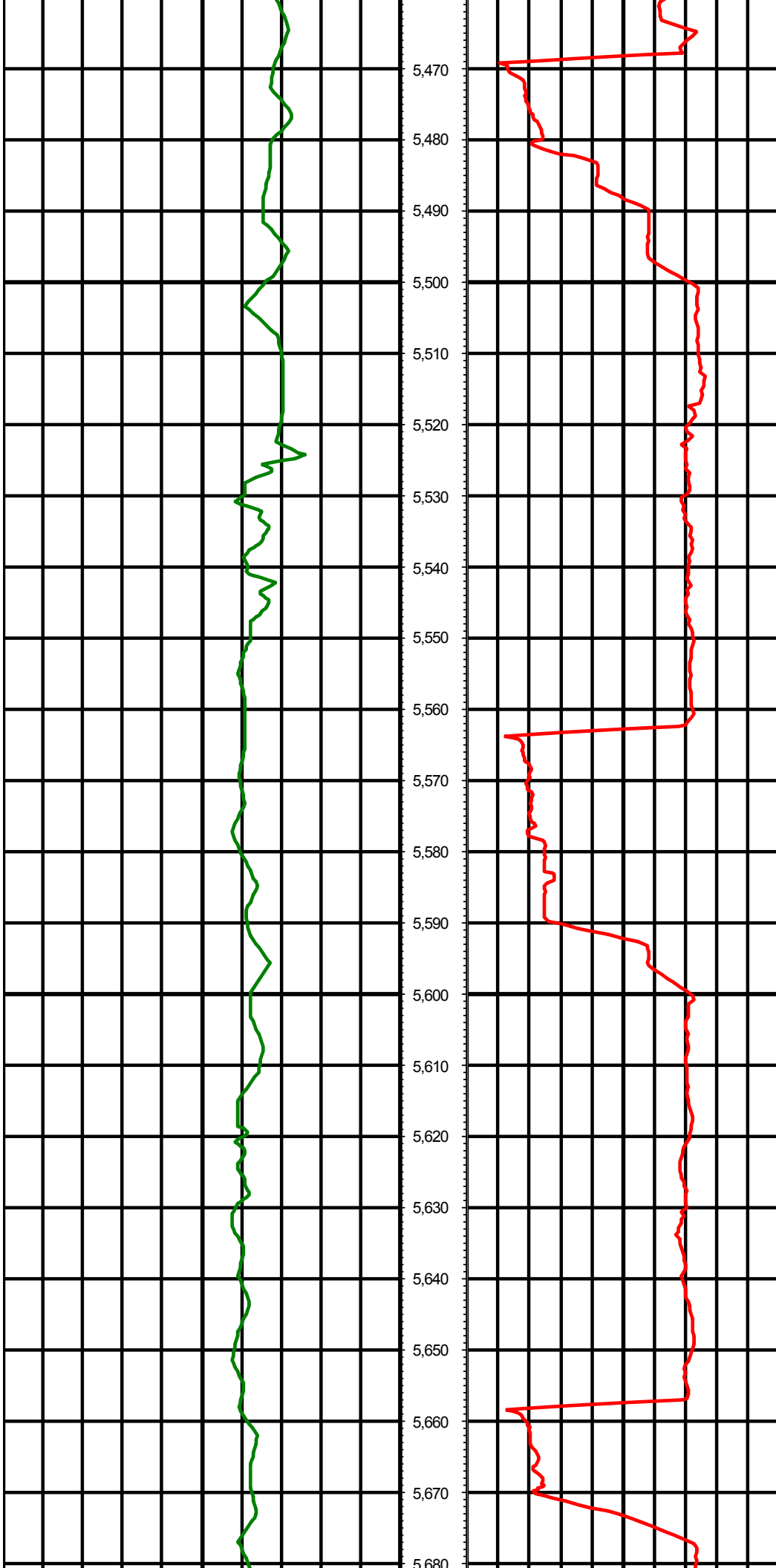
MD: 5129.00 INC: 13.40 AZ: 248.10

MD: 5224.00 INC: 14.00 AZ: 247.20



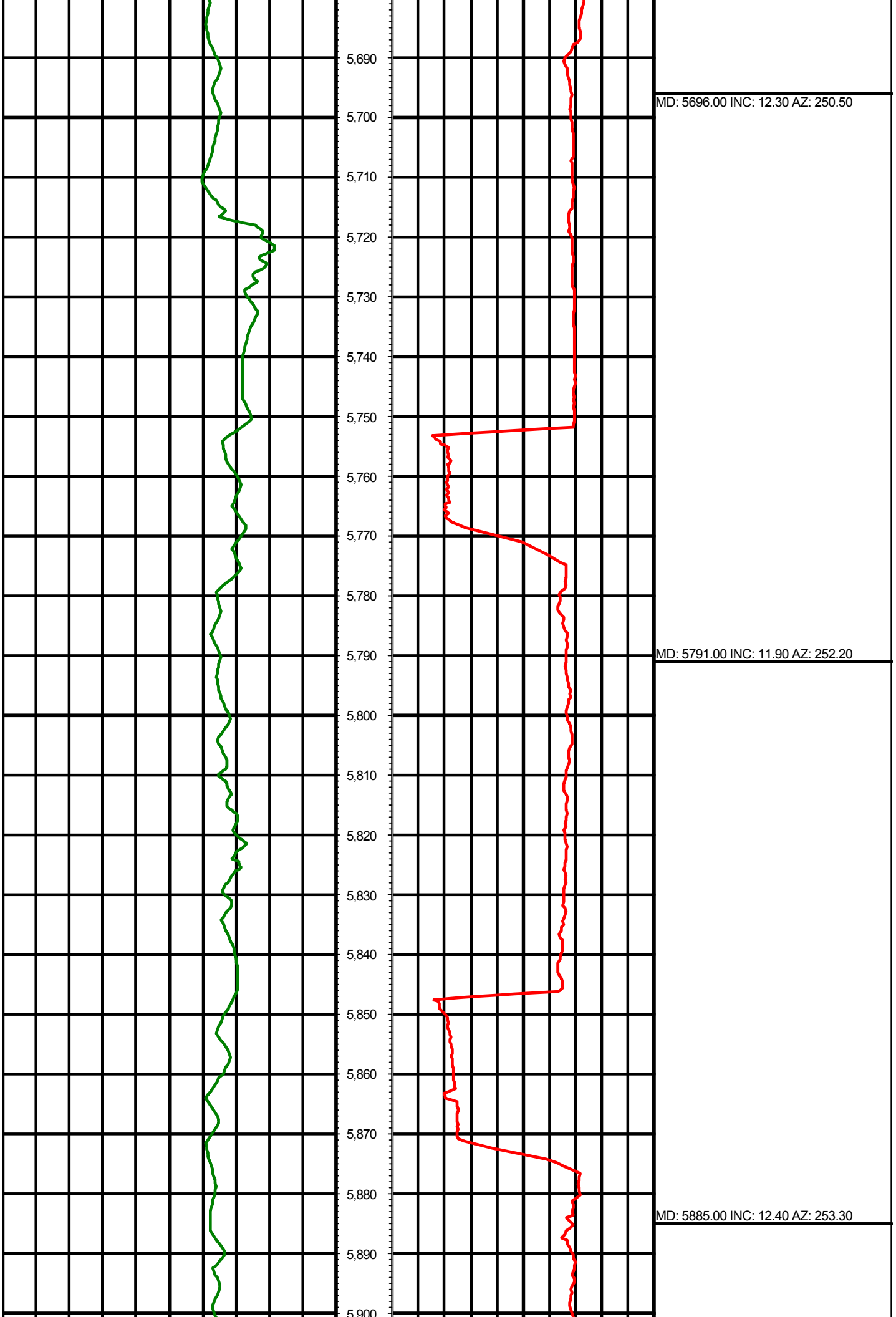
MD: 5318.00 INC: 12.70 AZ: 245.30

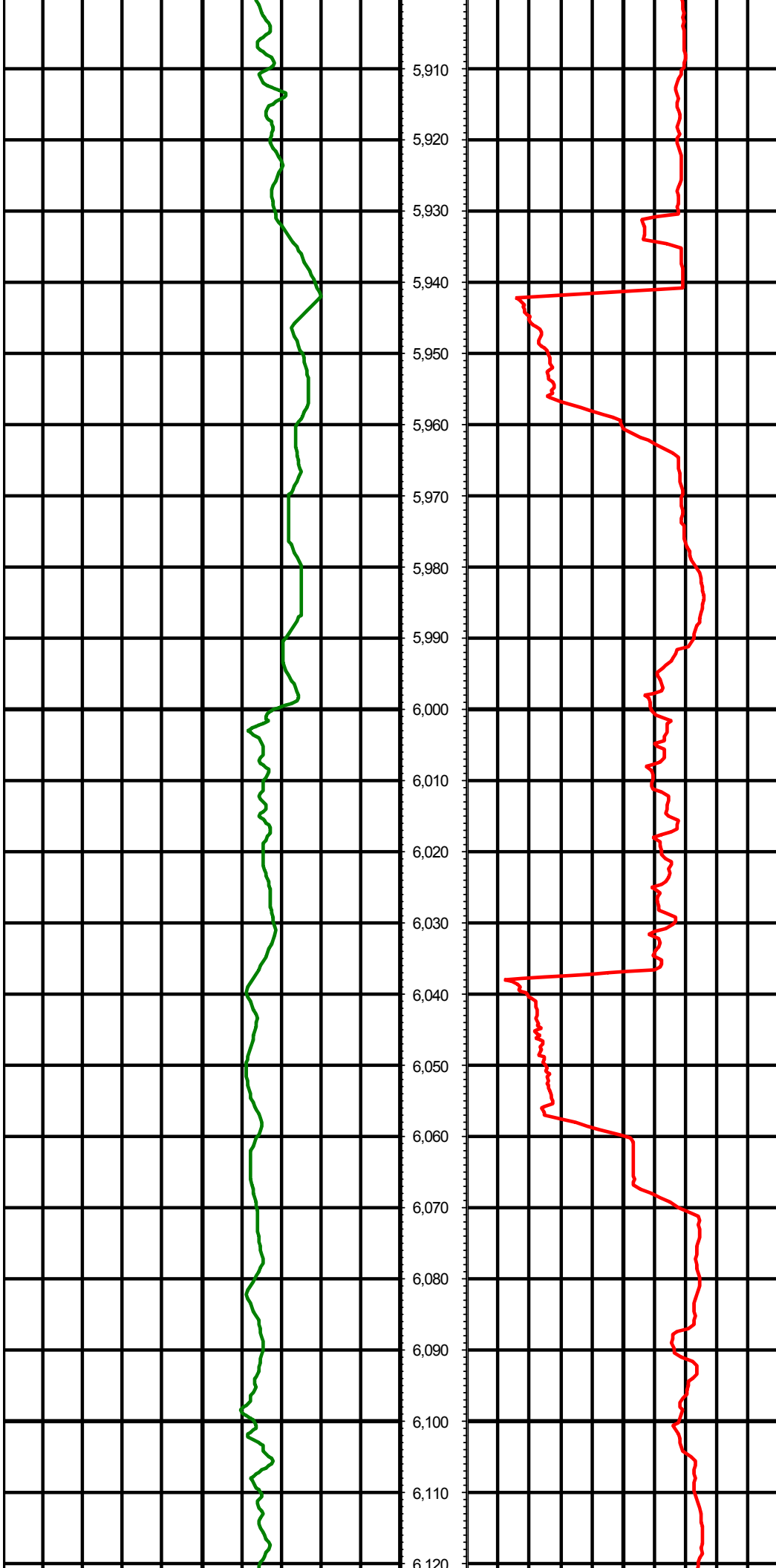
MD: 5413.00 INC: 12.00 AZ: 246.90



MD: 5507.00 INC: 11.80 AZ: 247.80

MD: 5602.00 INC: 12.40 AZ: 249.30





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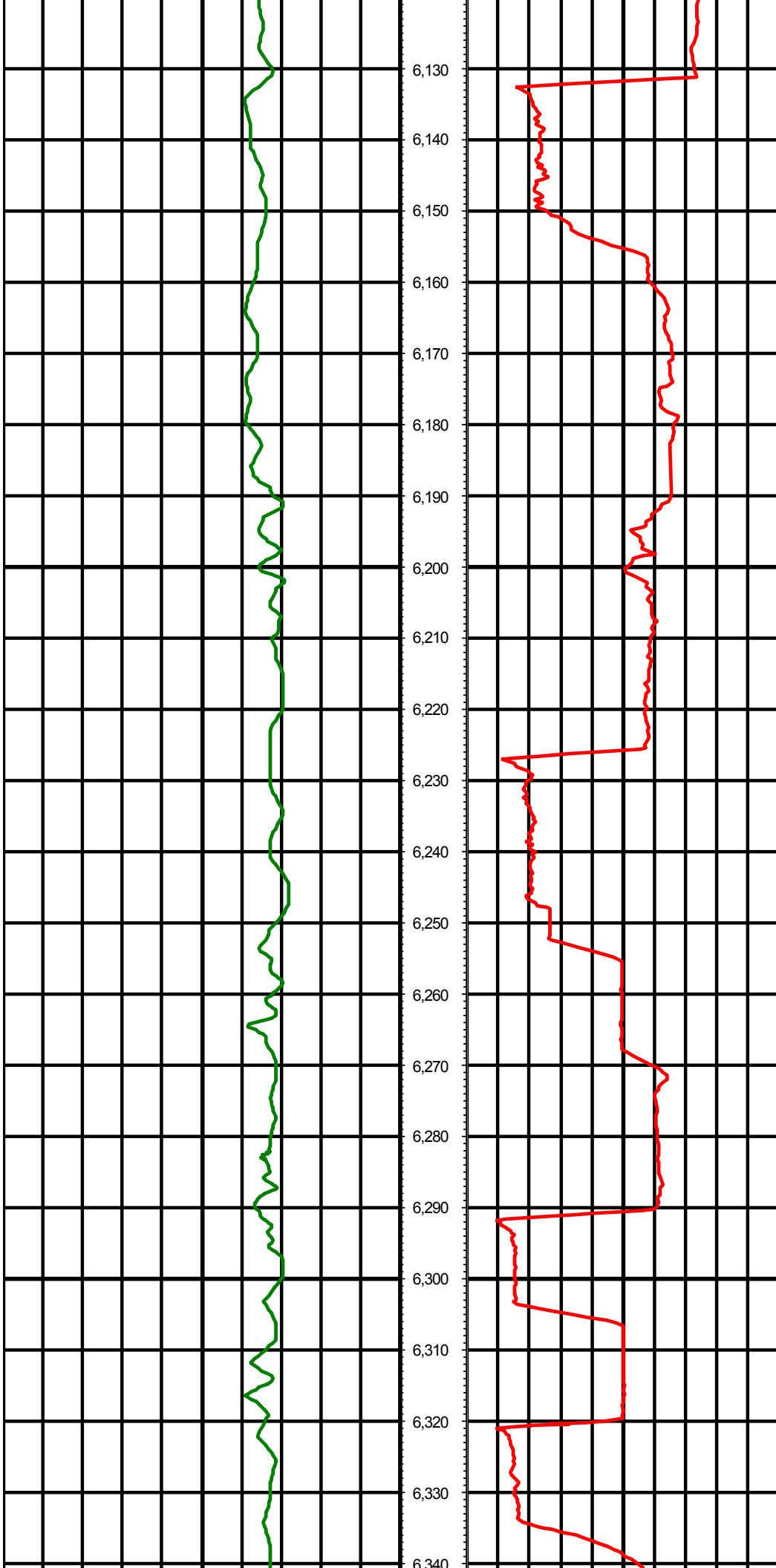
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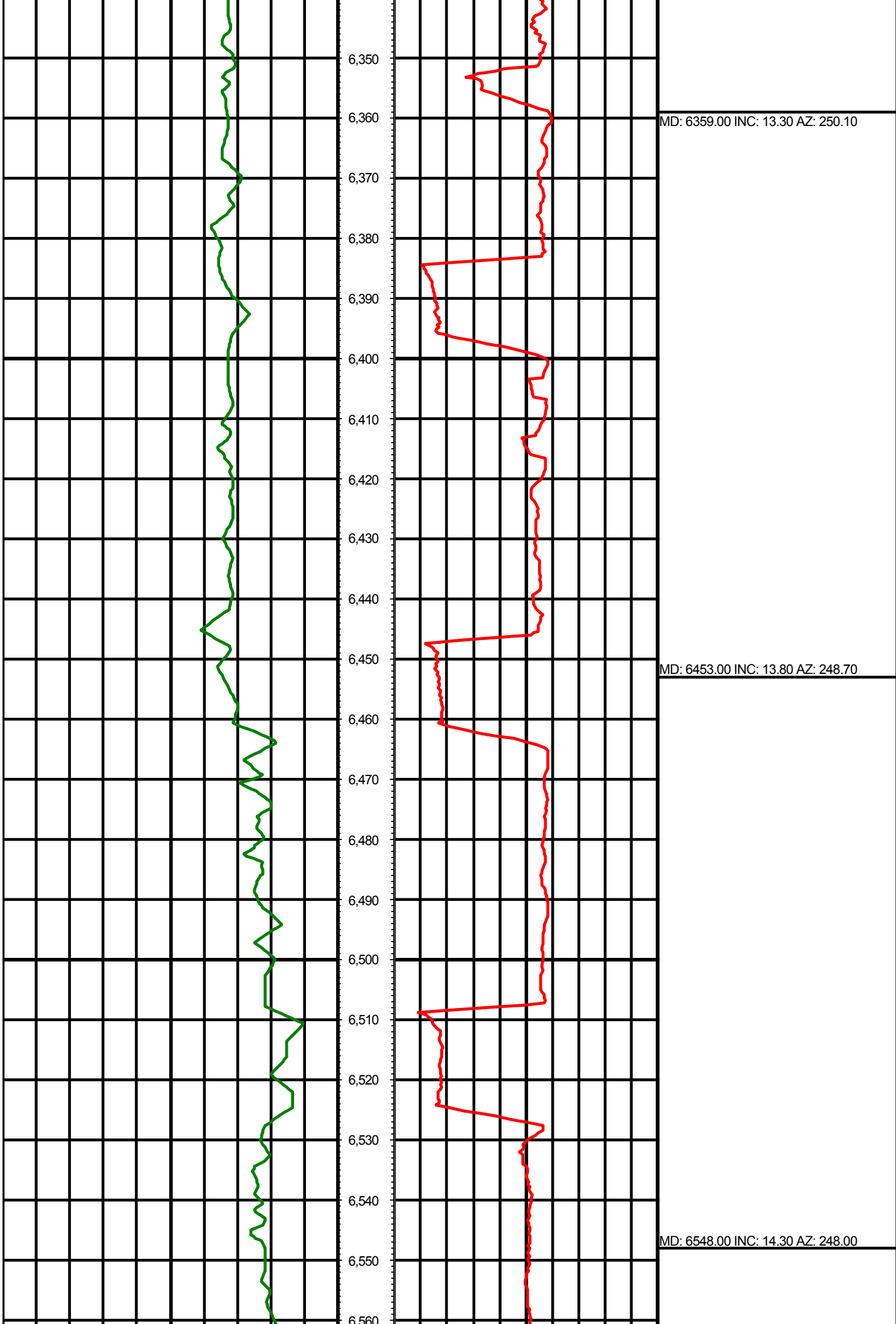
MD: 5981.00 INC: 11.70 AZ: 256.20

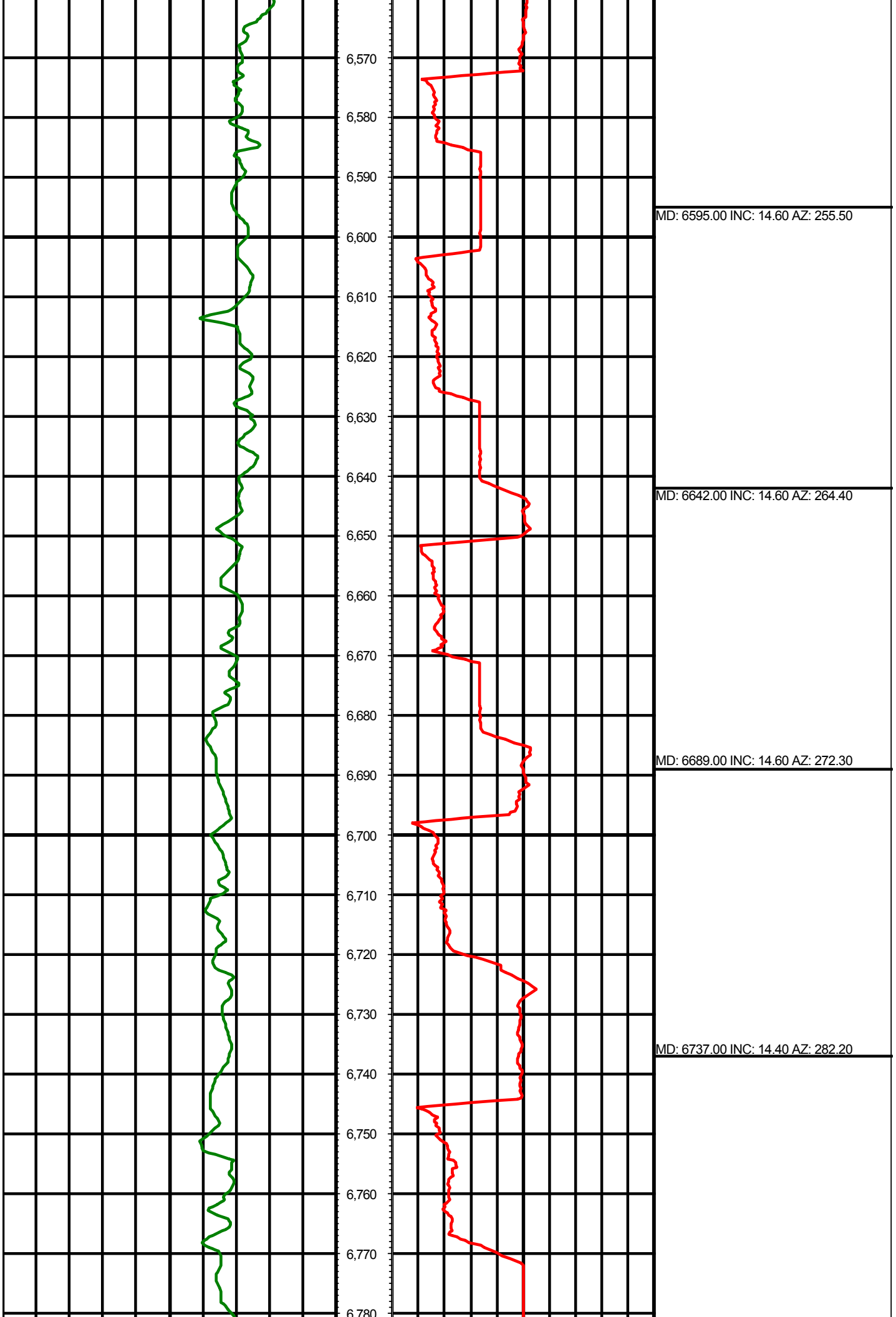
MD: 6075.00 INC: 12.10 AZ: 253.70



MD: 6170.00 INC: 12.00 AZ: 250.50

MD: 6264.00 INC: 12.10 AZ: 247.60





MD: 6784.00 INC: 14.50 AZ: 292.30

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MD: 6831.00 INC: 14.70 AZ: 301.50

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MD: 6878.00 INC: 15.10 AZ: 309.30

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MD: 6926.00 INC: 16.10 AZ: 315.50

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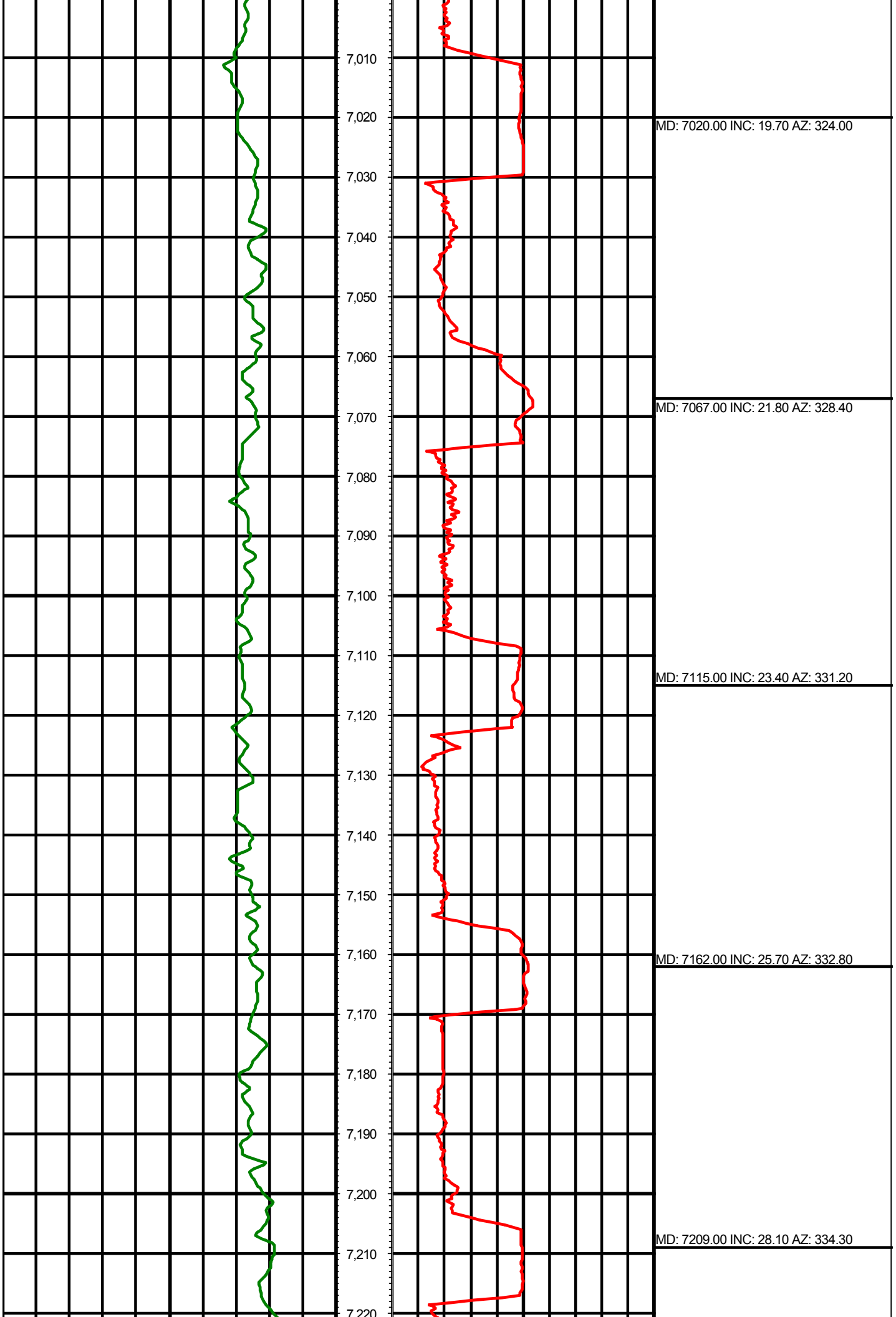
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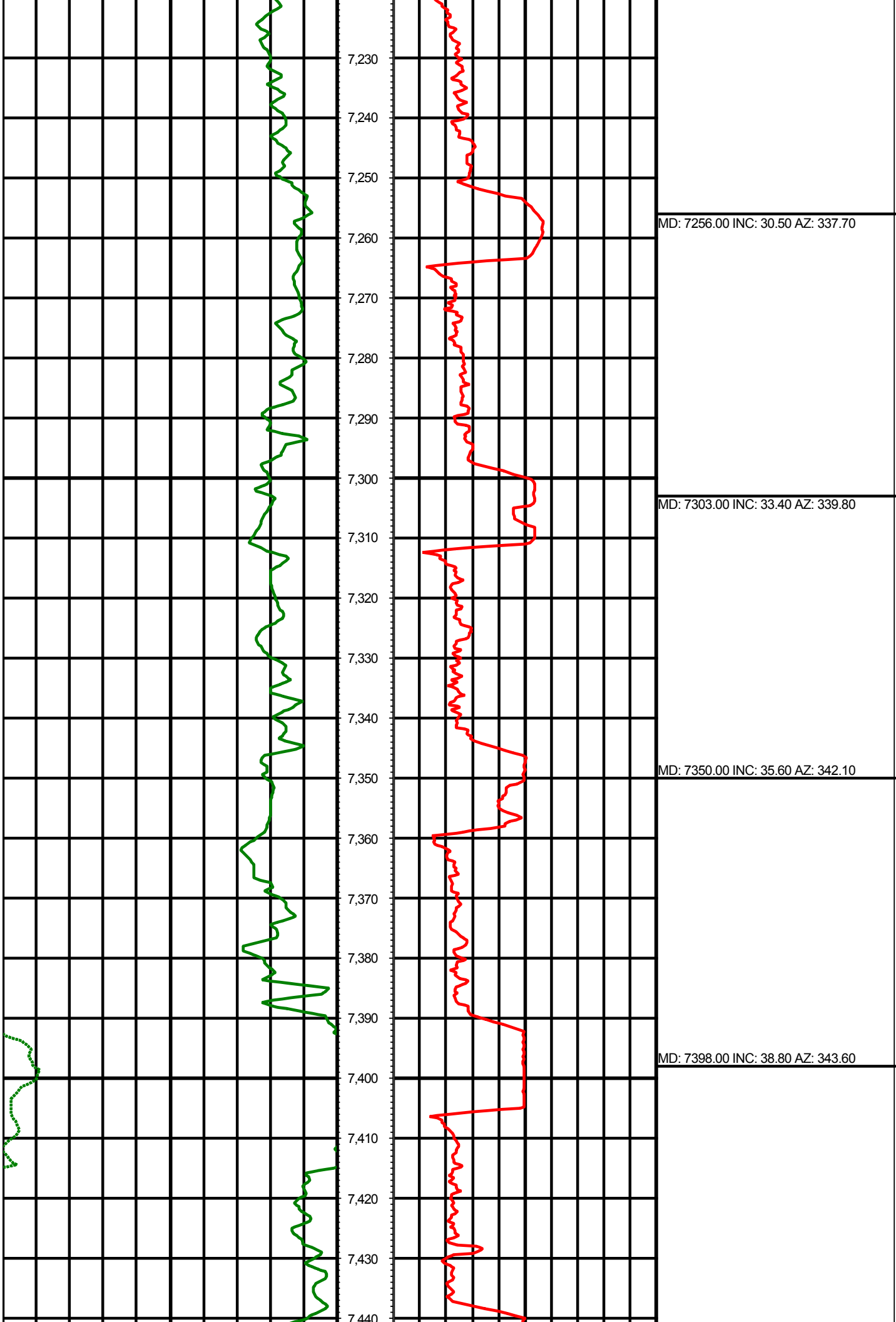
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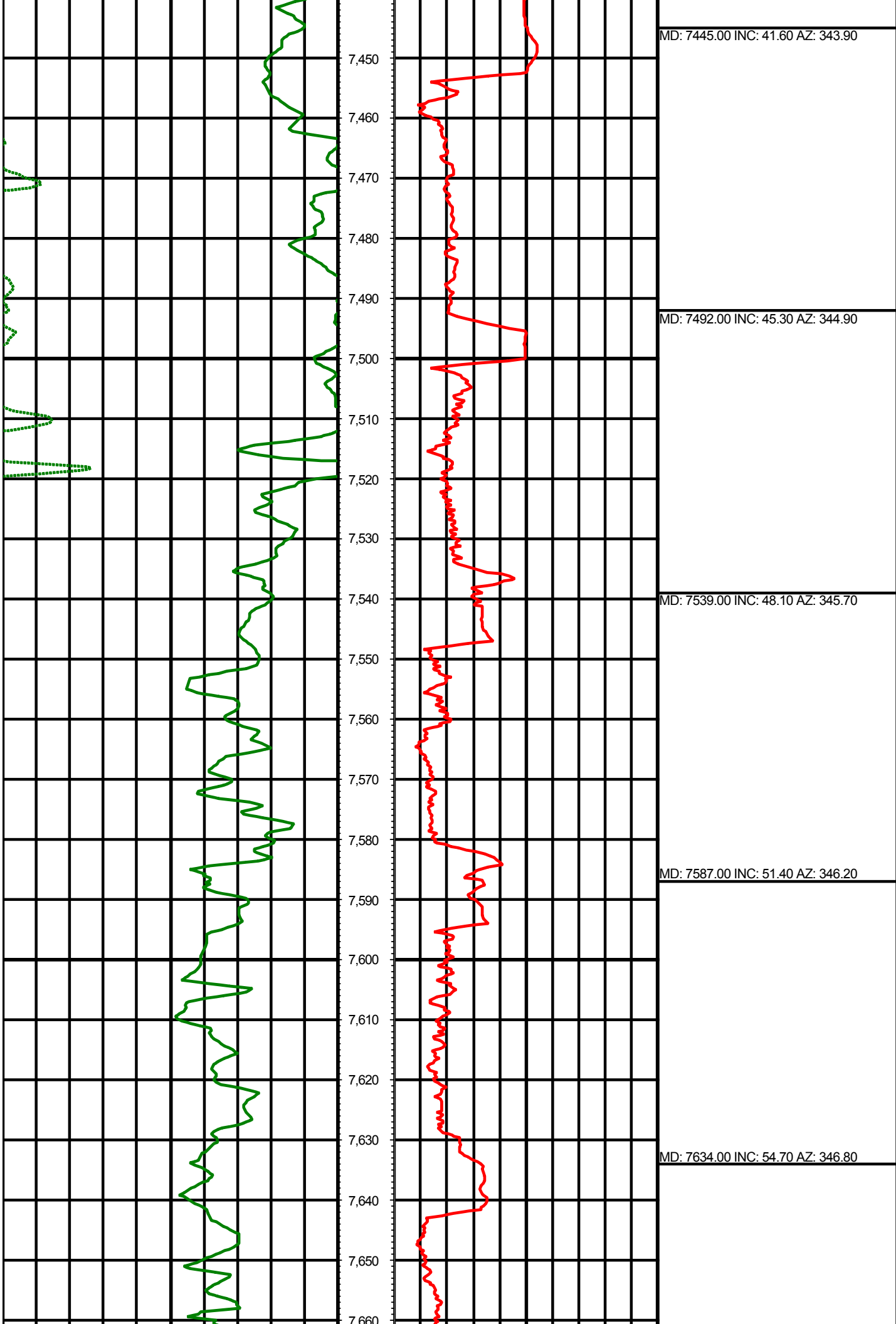
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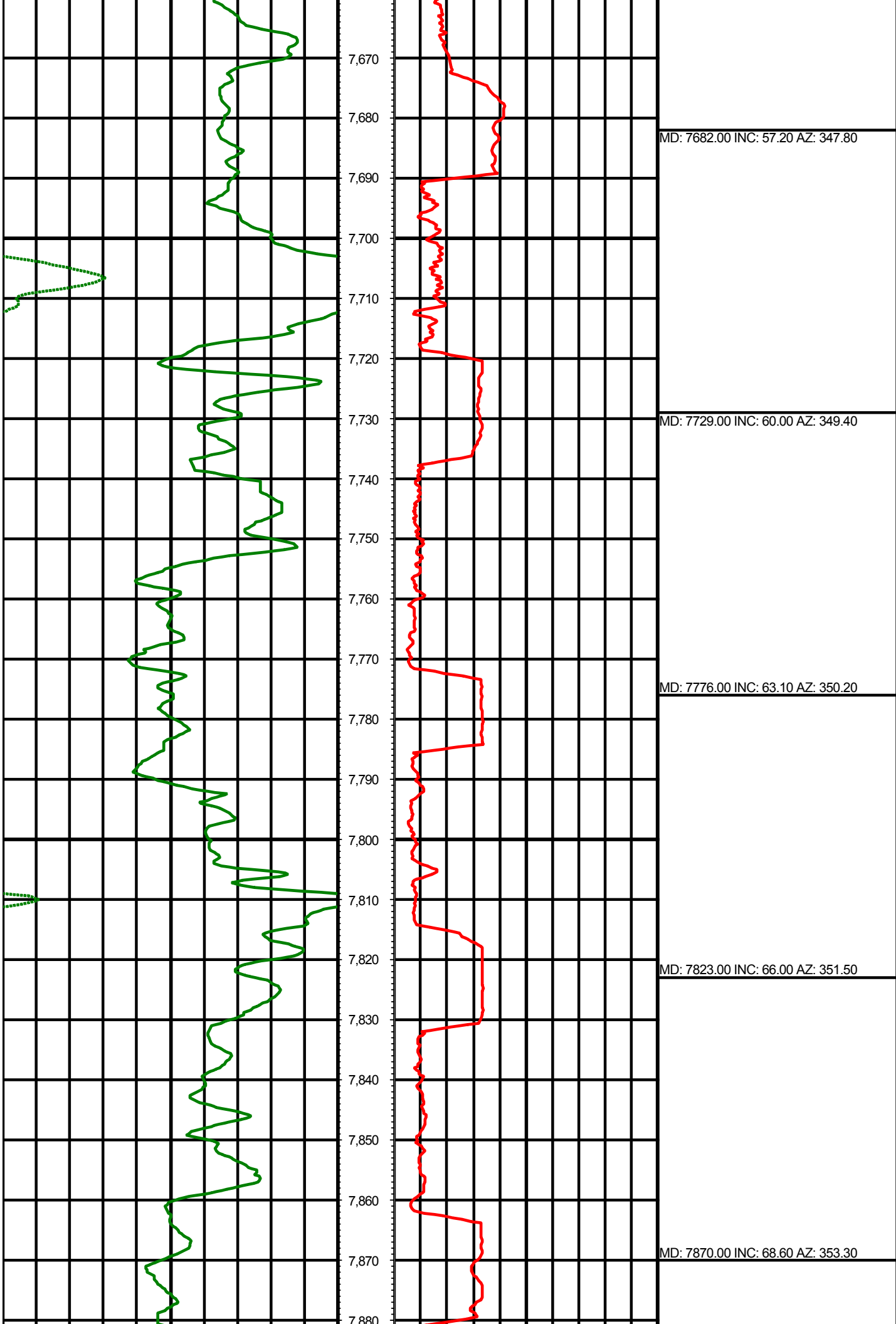
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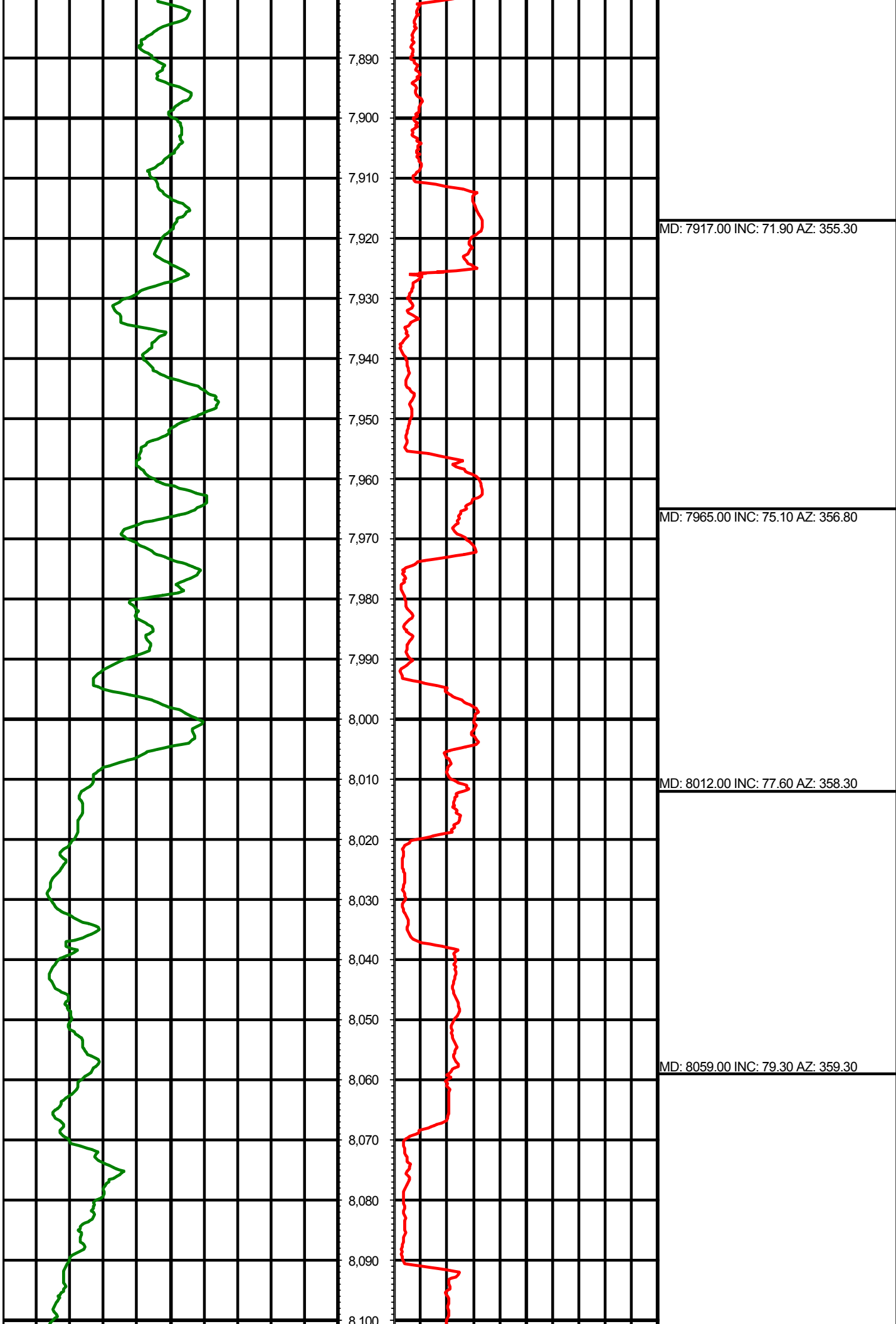
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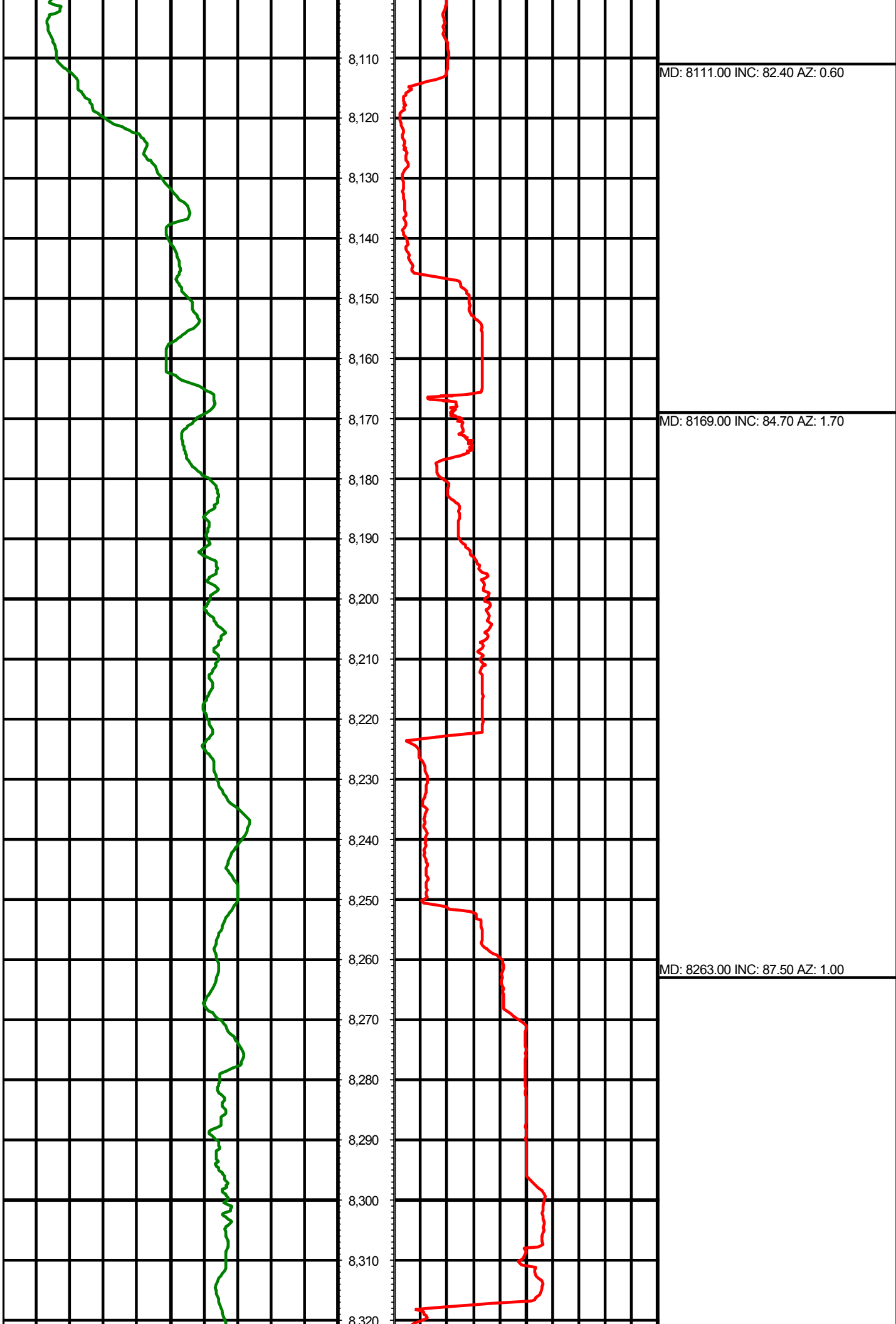


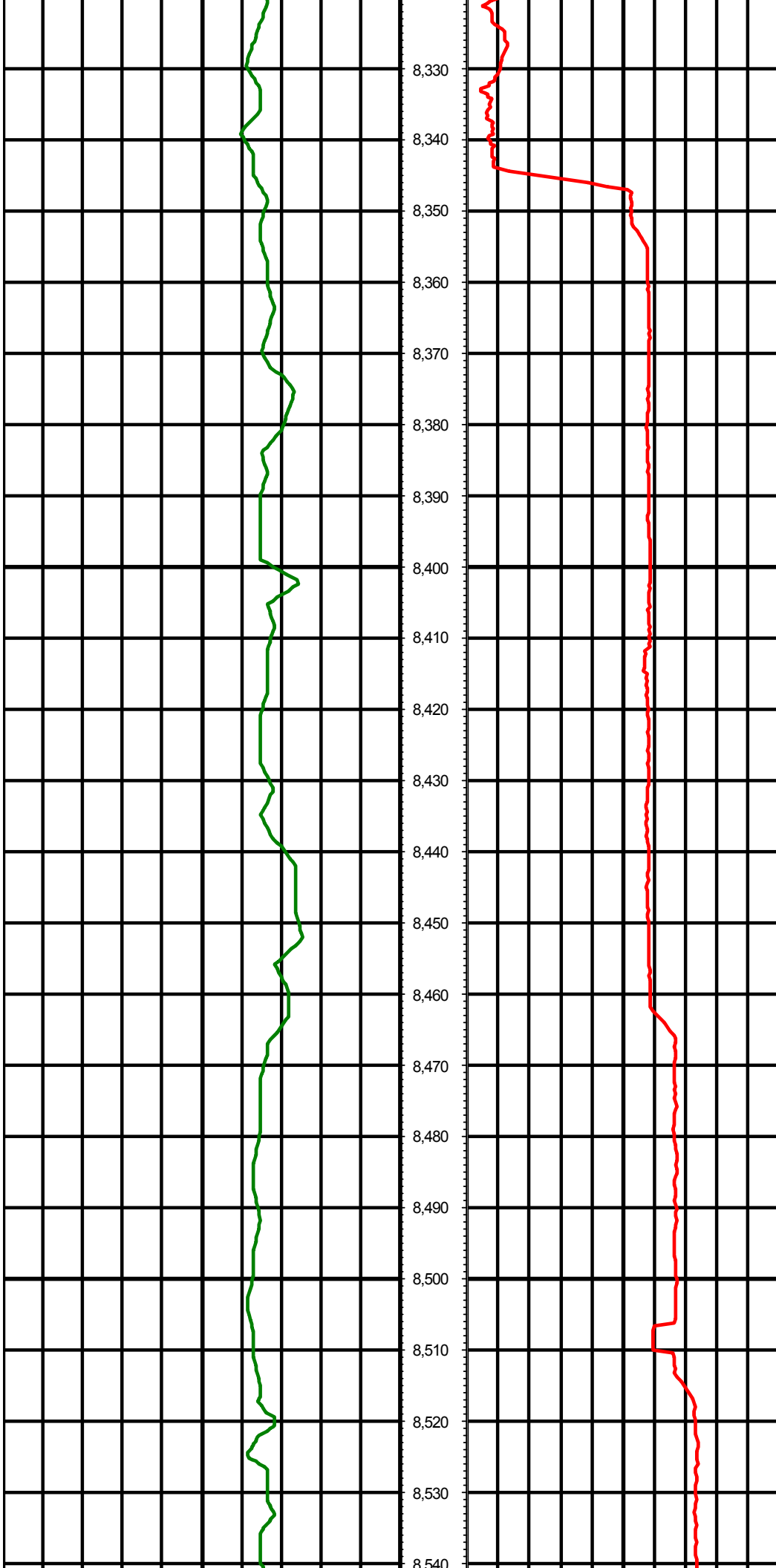












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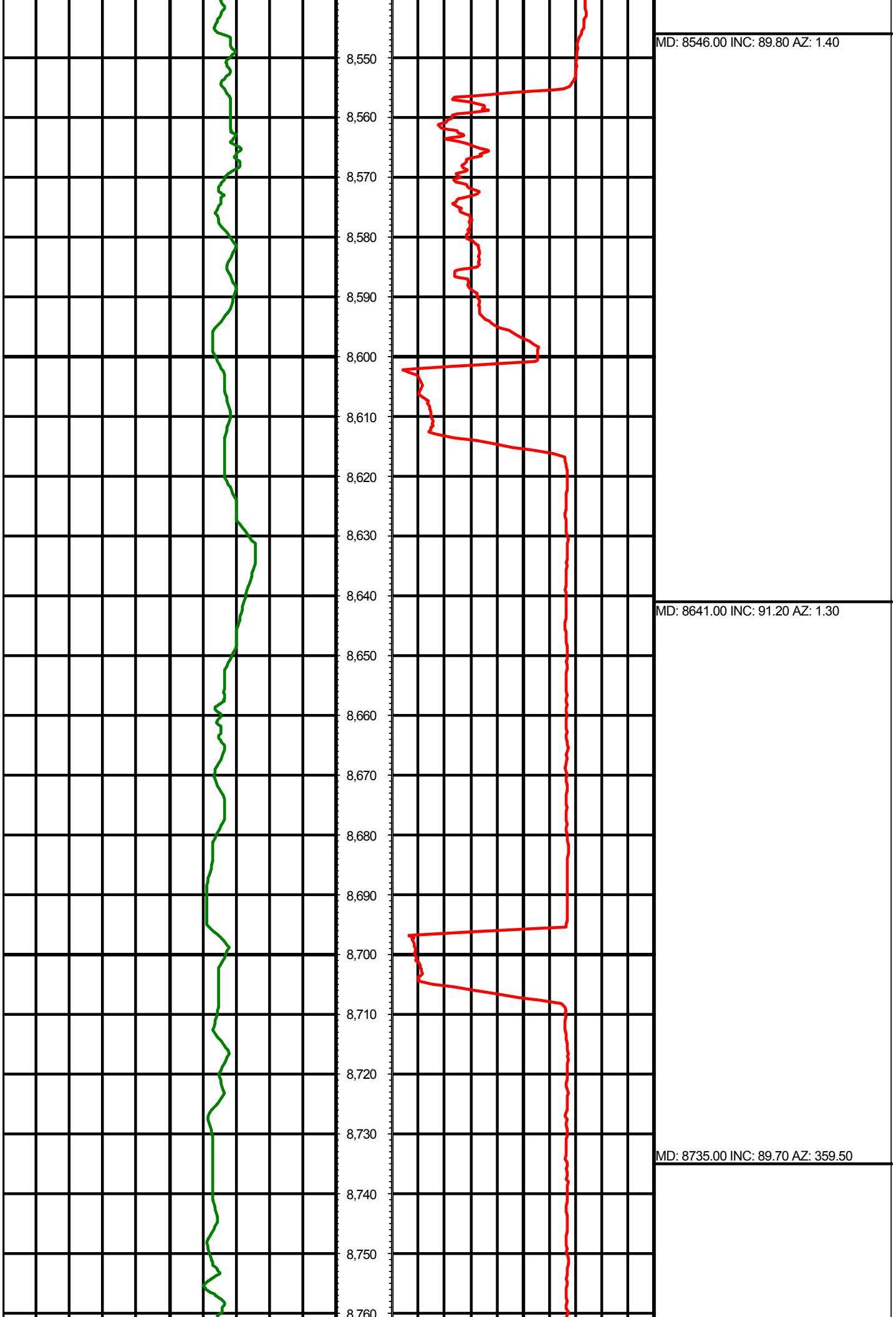
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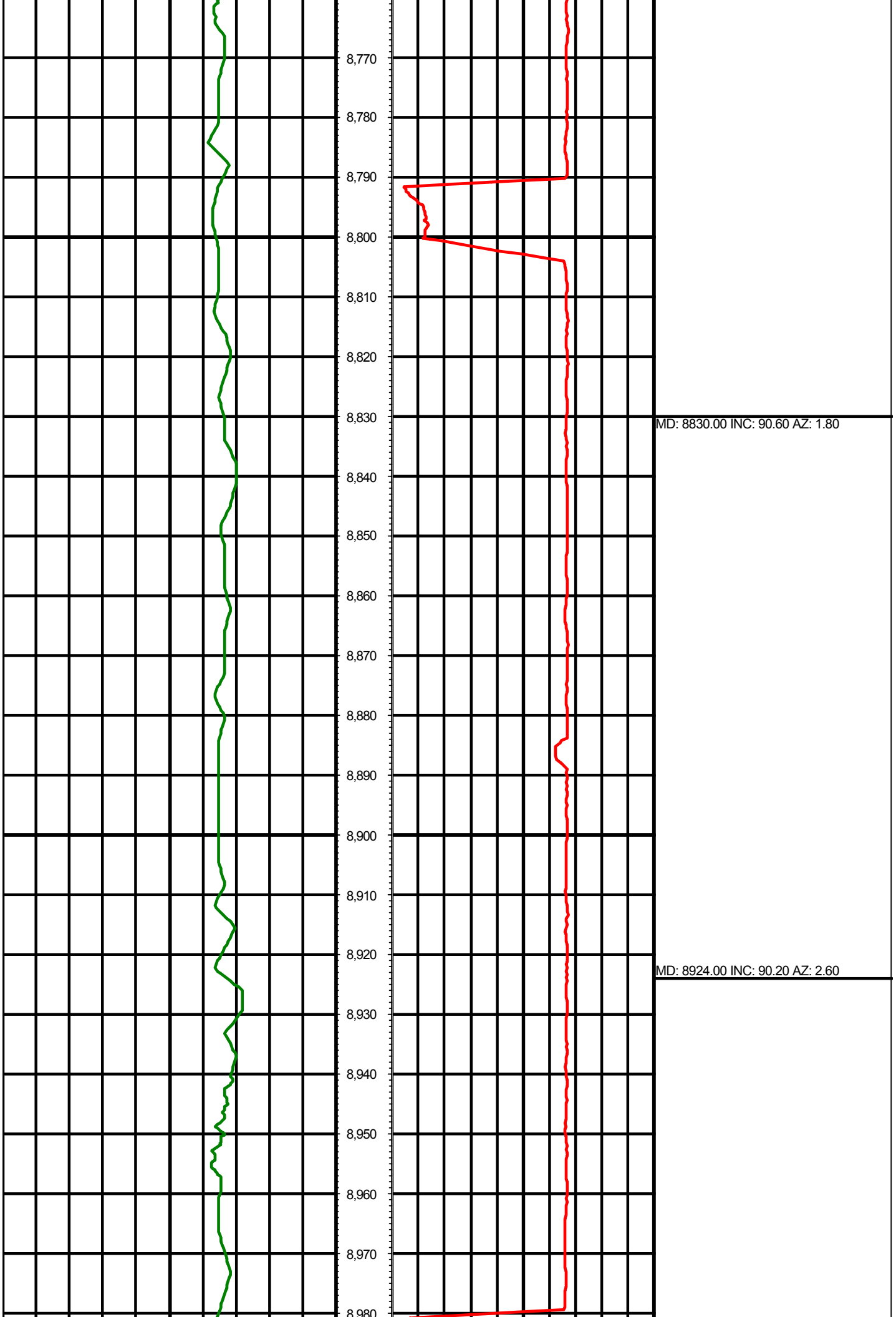
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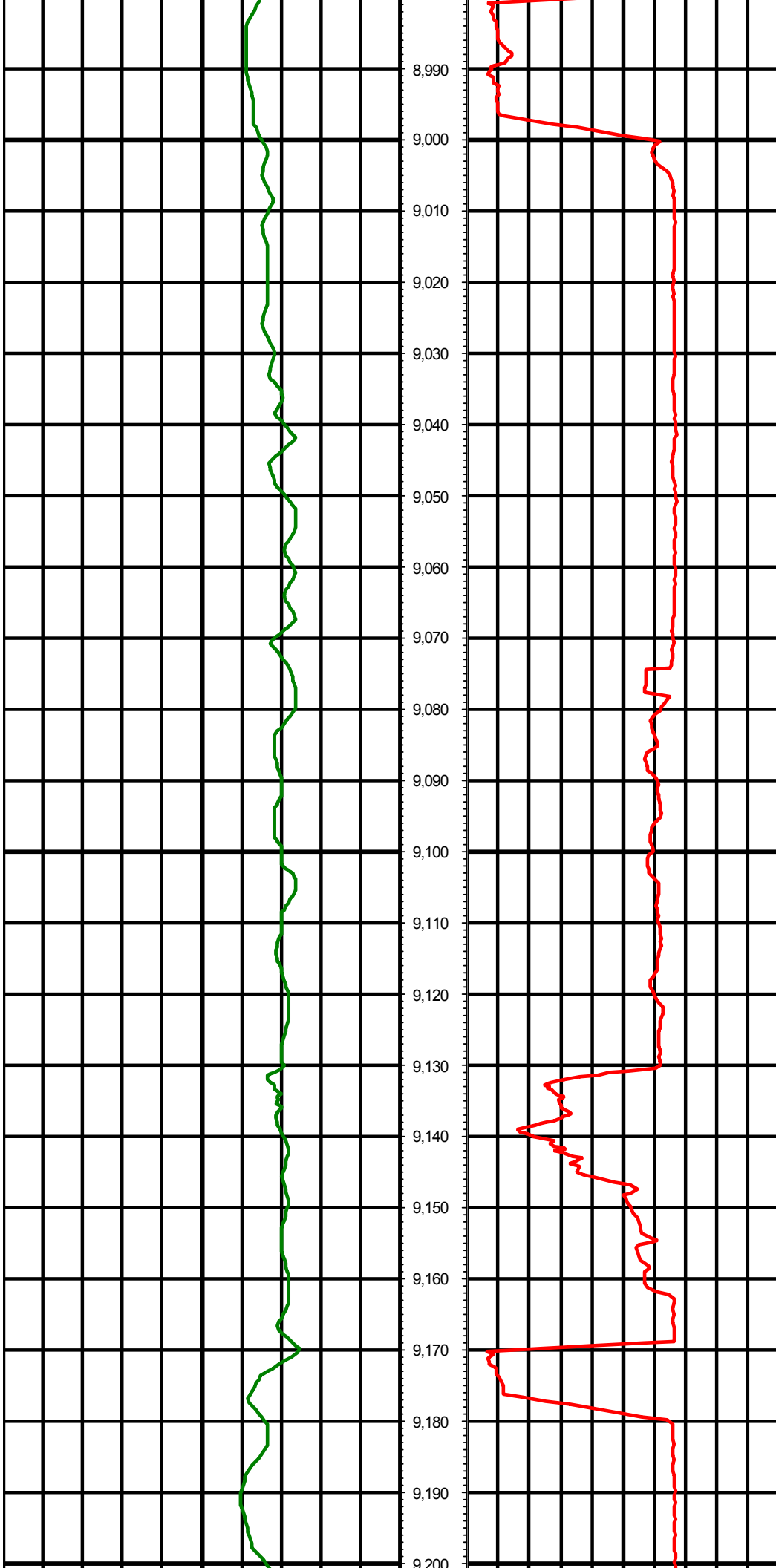
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MD: 8452.00 INC: 90.20 AZ: 1.90

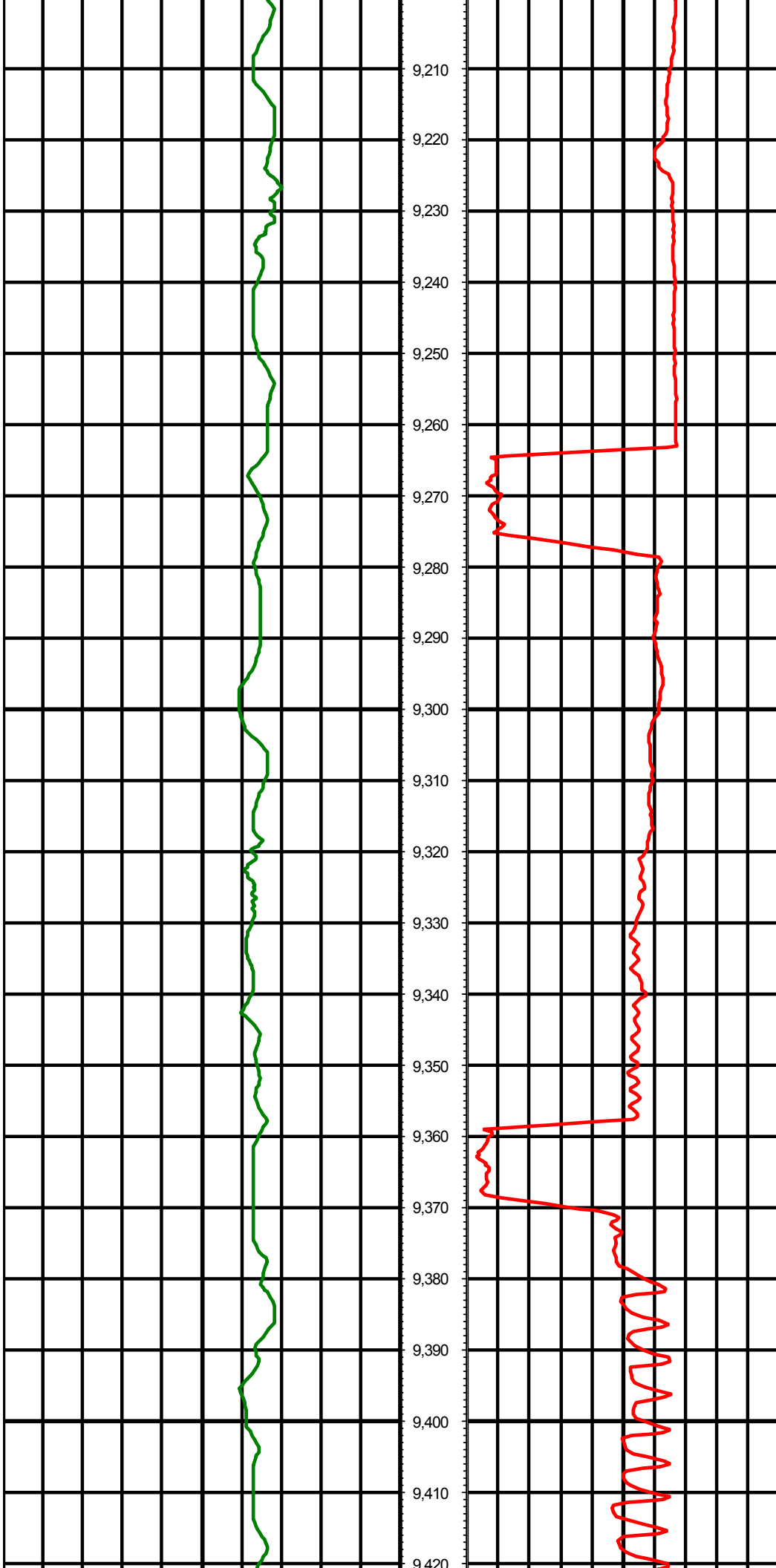






MD: 9019.00 INC: 90.40 AZ: 1.20

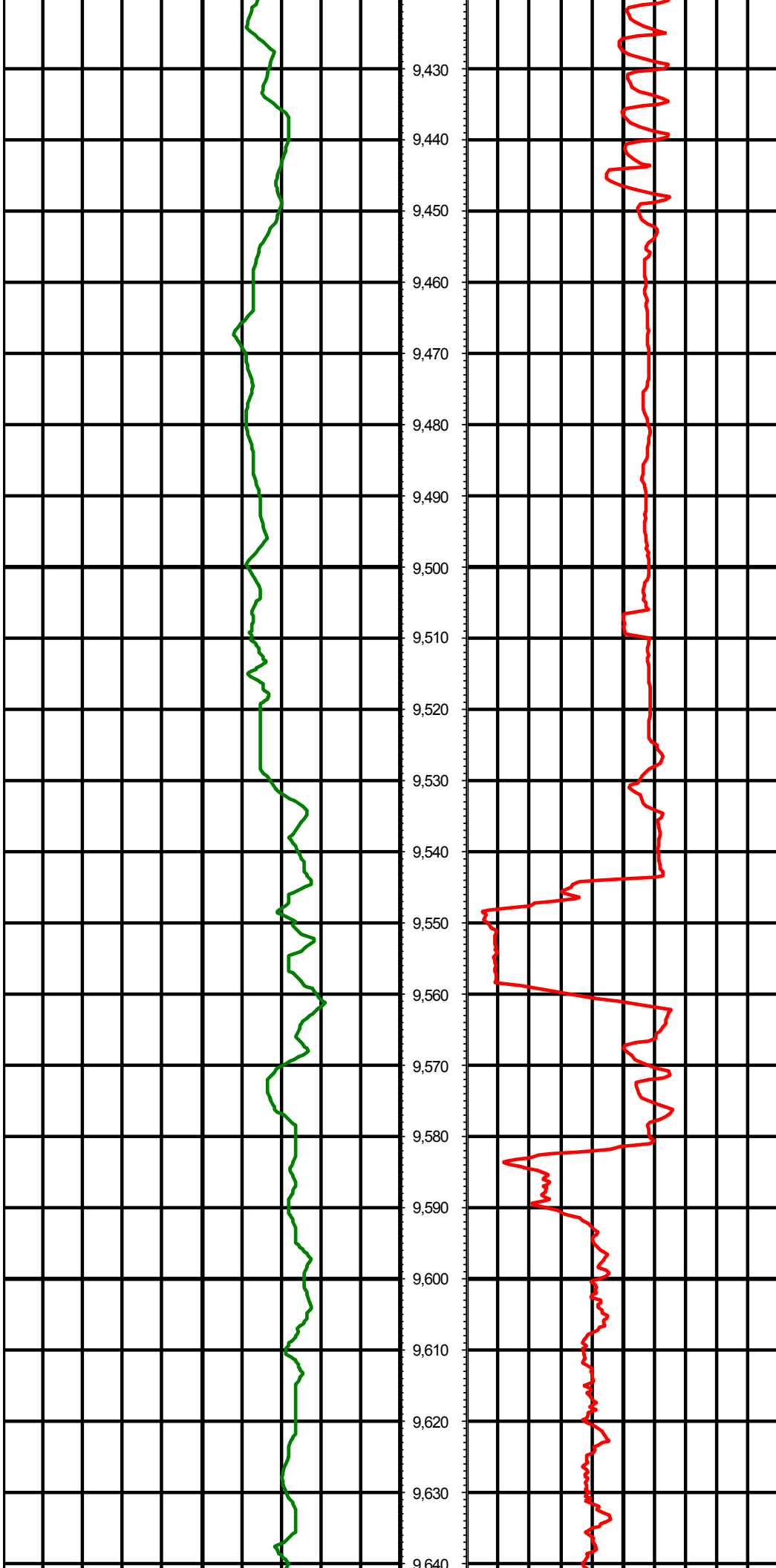
MD: 9113.00 INC: 89.80 AZ: 0.70



MD: 9207.00 INC: 90.10 AZ: 358.30

MD: 9301.00 INC: 90.10 AZ: 359.00

MD: 9396.00 INC: 90.10 AZ: 0.20



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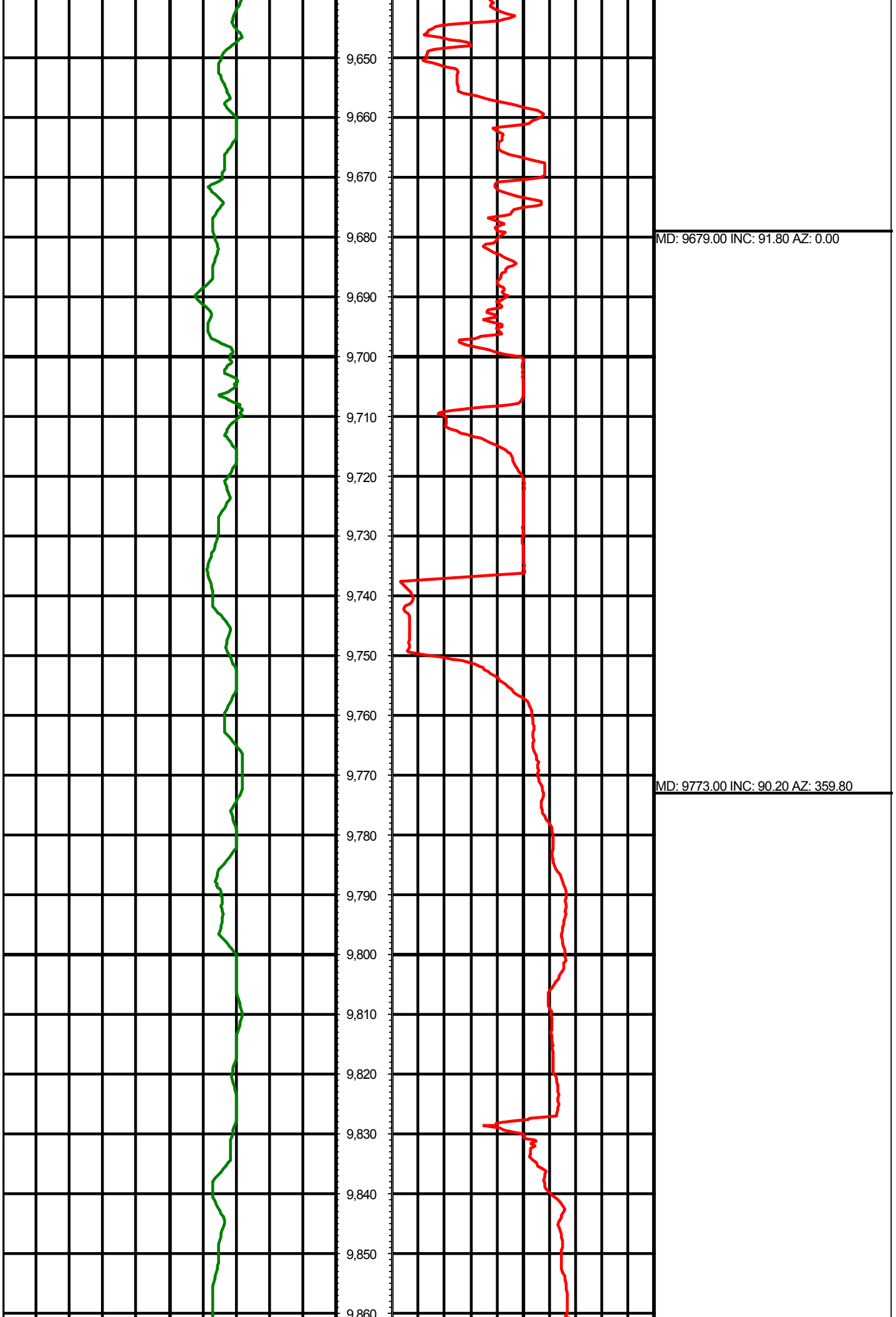
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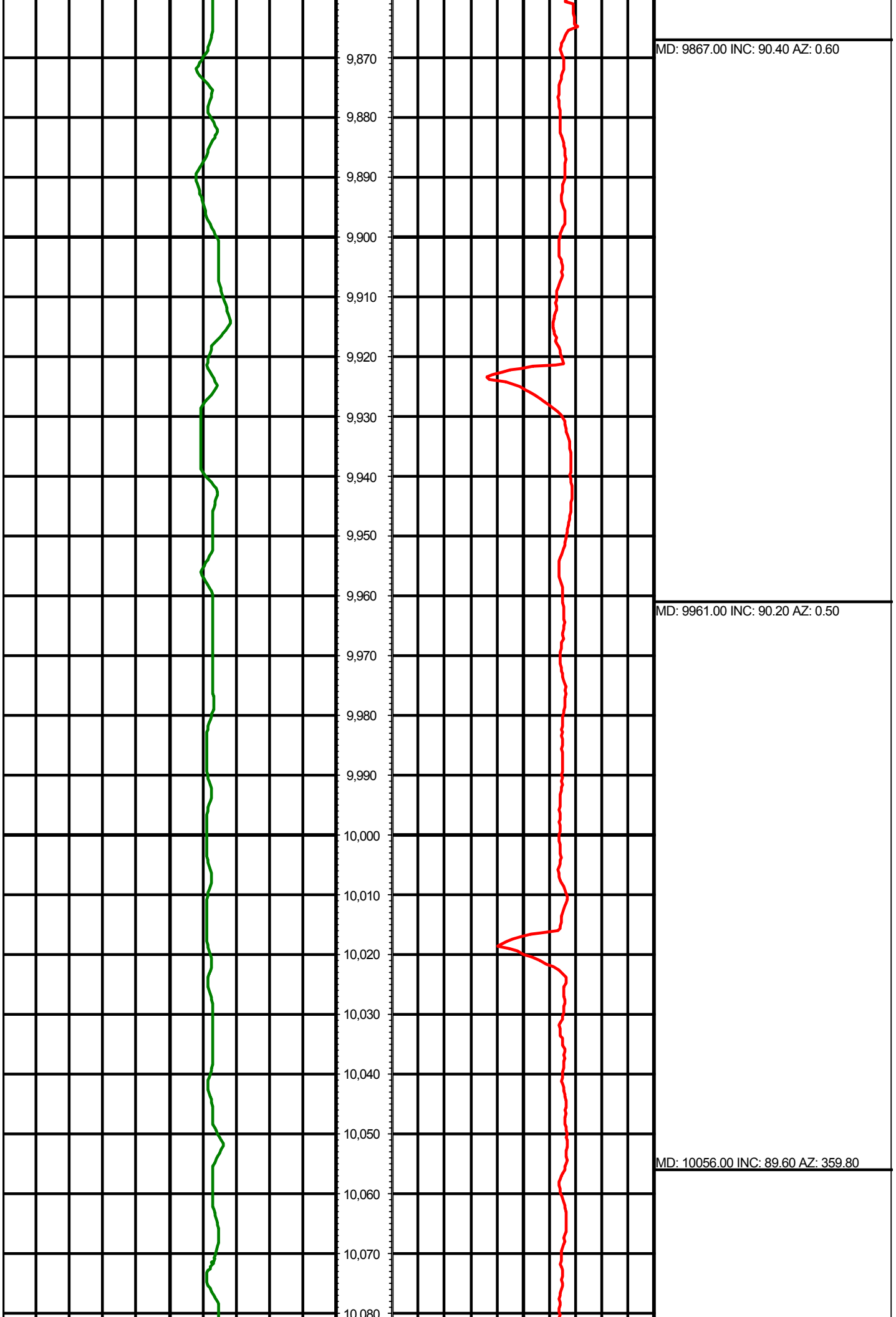
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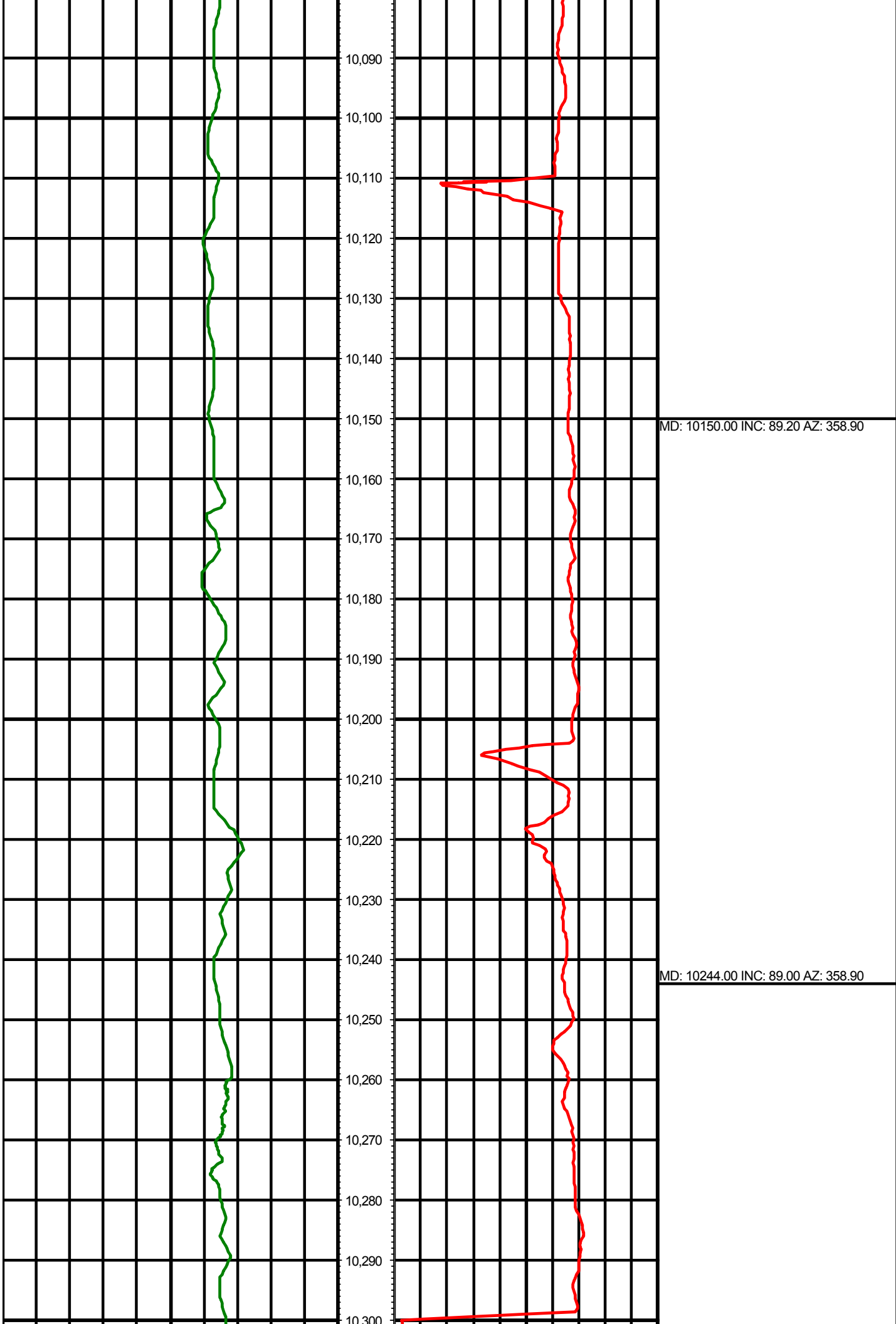
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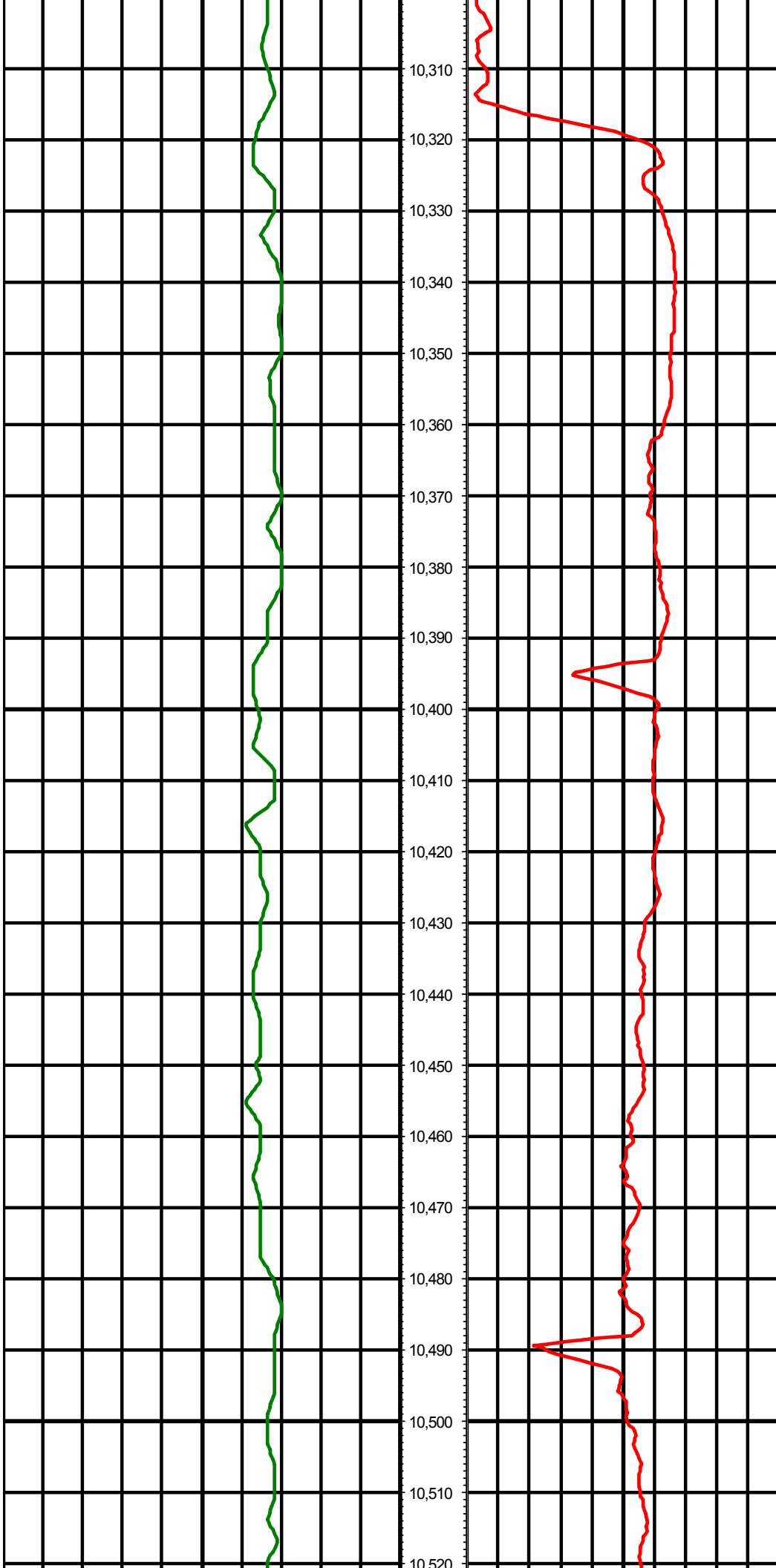
MD: 9490.00 INC: 89.60 AZ: 0.00

MD: 9584.00 INC: 91.30 AZ: 0.20





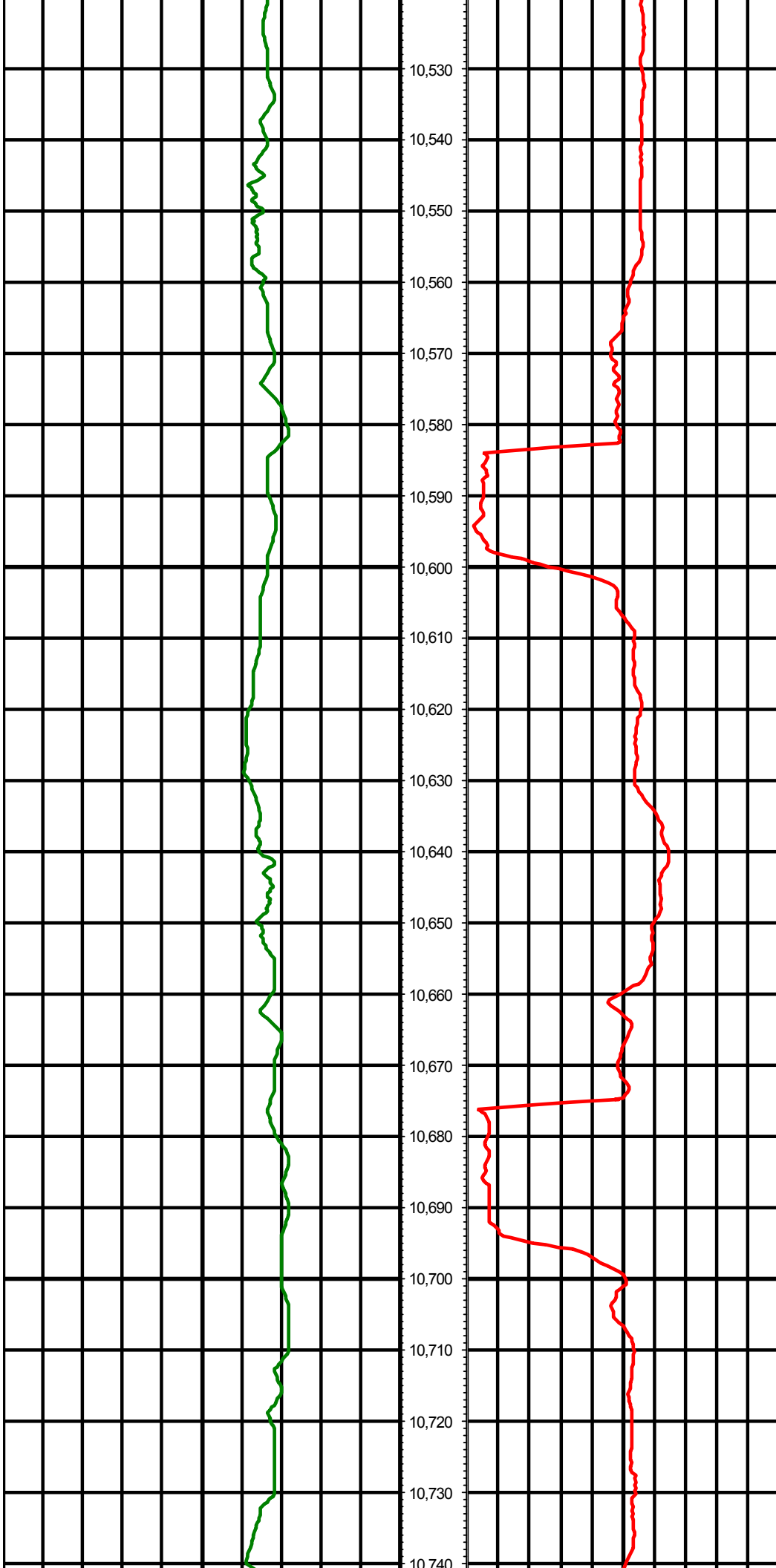




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MD: 10338.00 INC: 90.40 AZ: 359.70

MD: 10433.00 INC: 89.90 AZ: 358.90



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MD: 10527.00 INC: 88.80 AZ: 356.60

MD: 10621.00 INC: 88.70 AZ: 357.80

MD: 10715.00 INC: 90.40 AZ: 0.90



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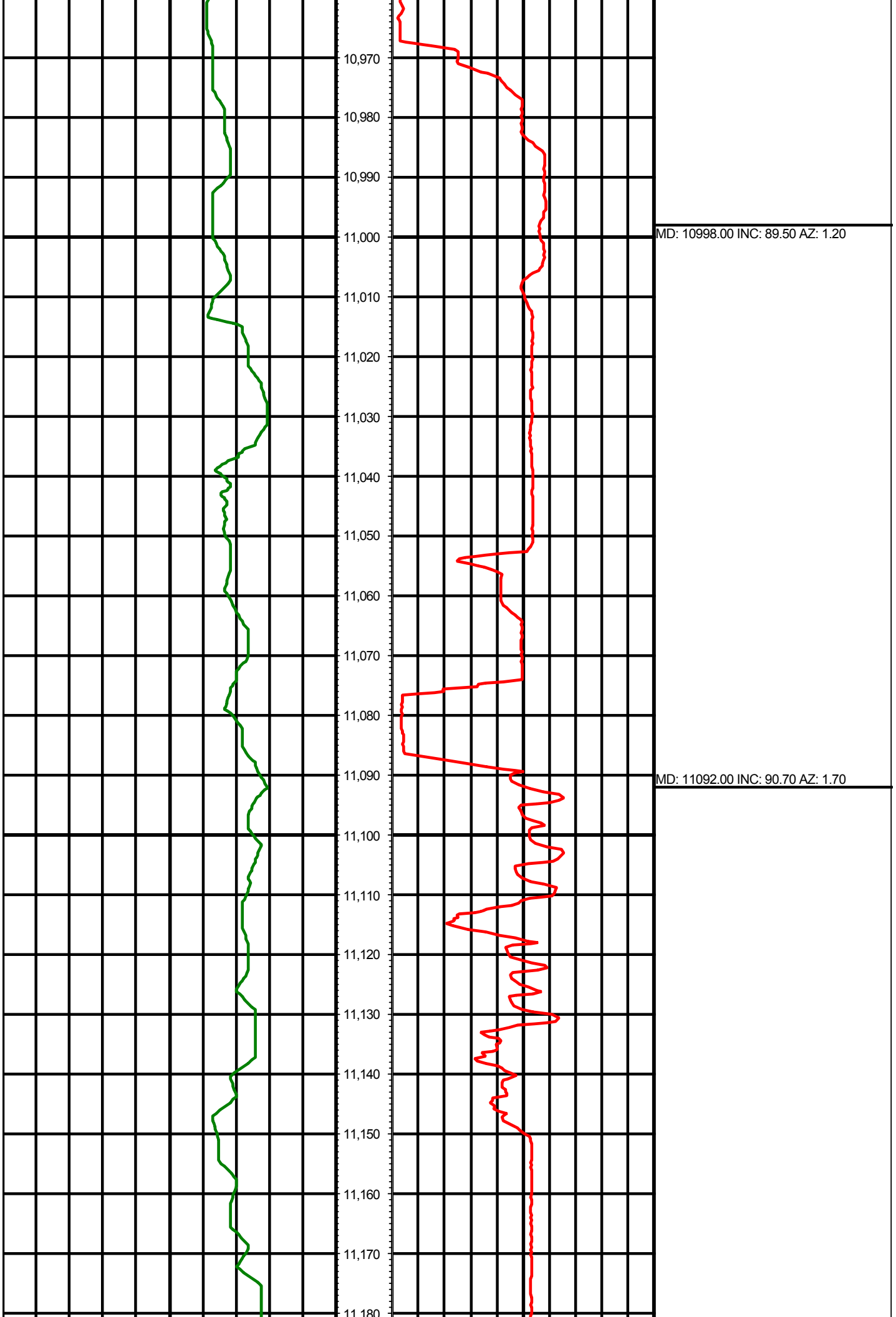
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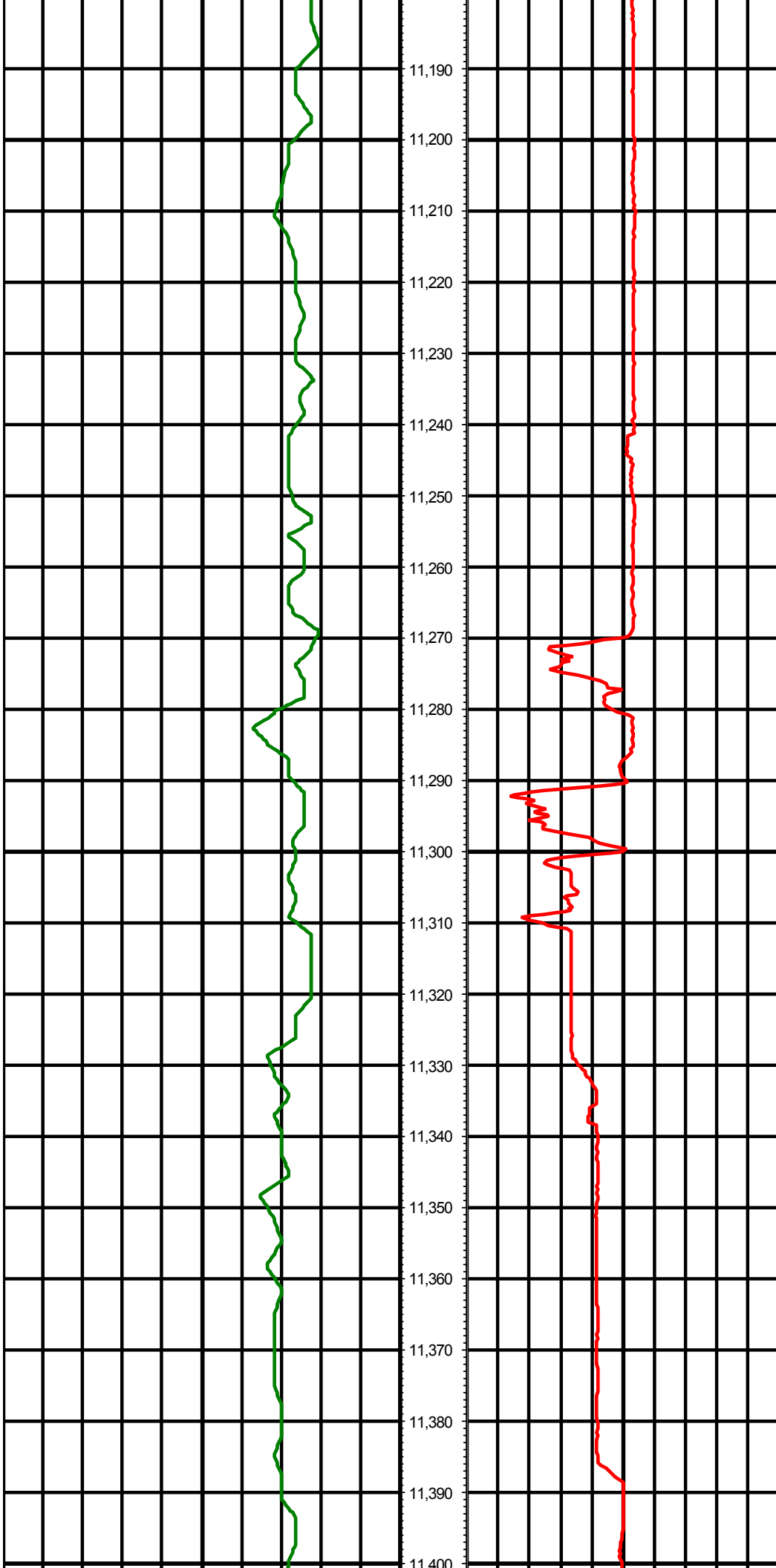
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MD: 10810.00 INC: 90.10 AZ: 0.40

MD: 10904.00 INC: 89.40 AZ: 359.80

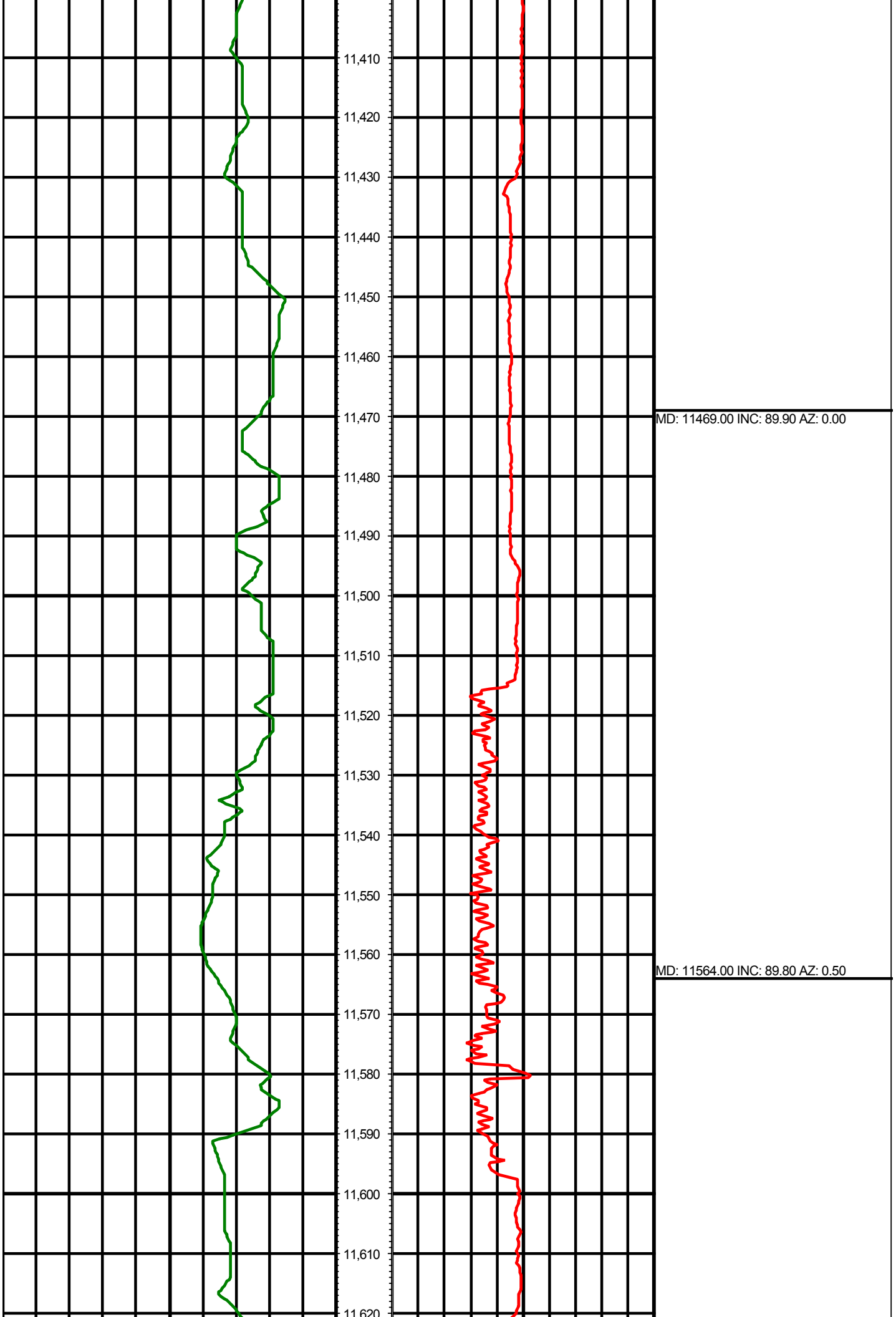


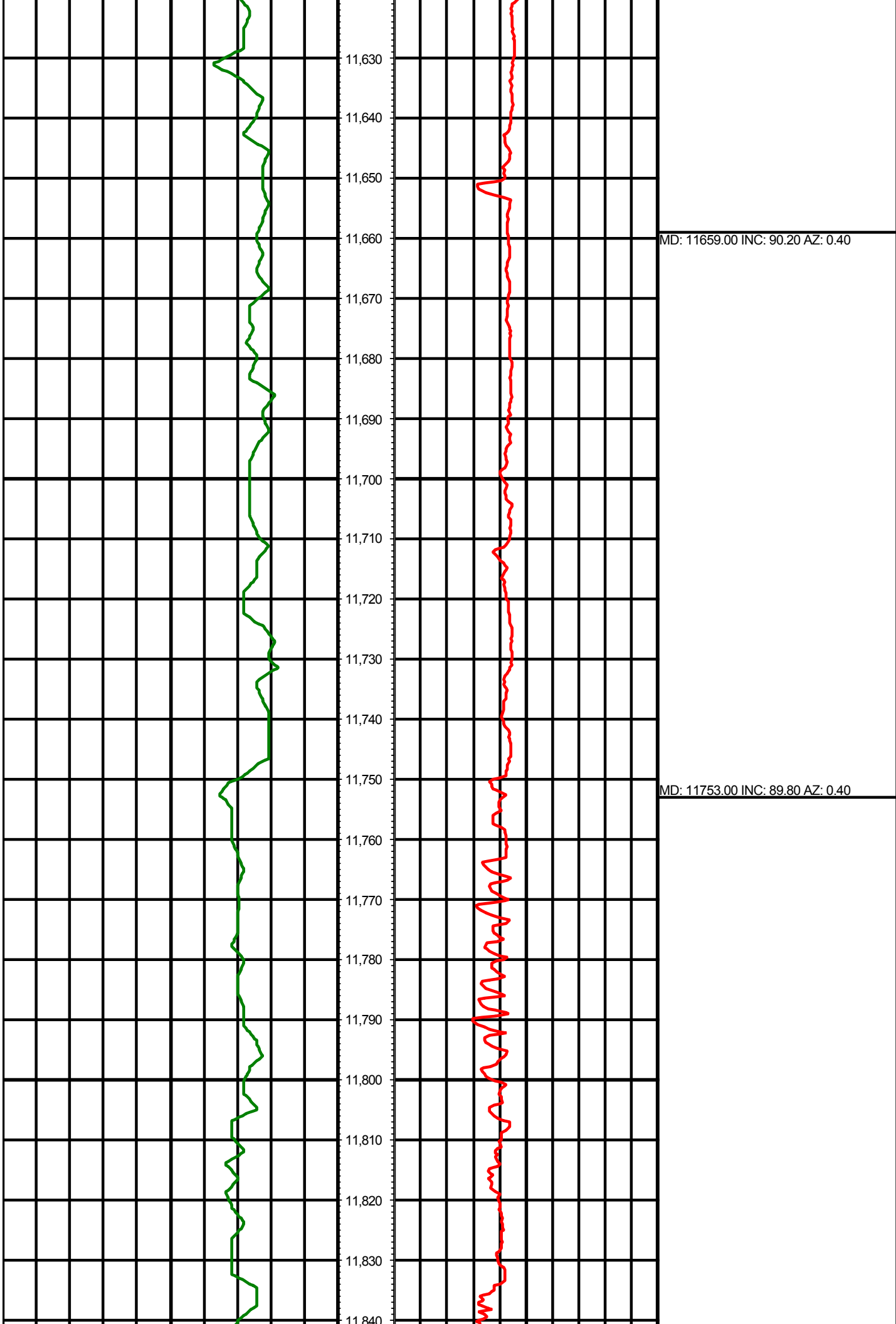


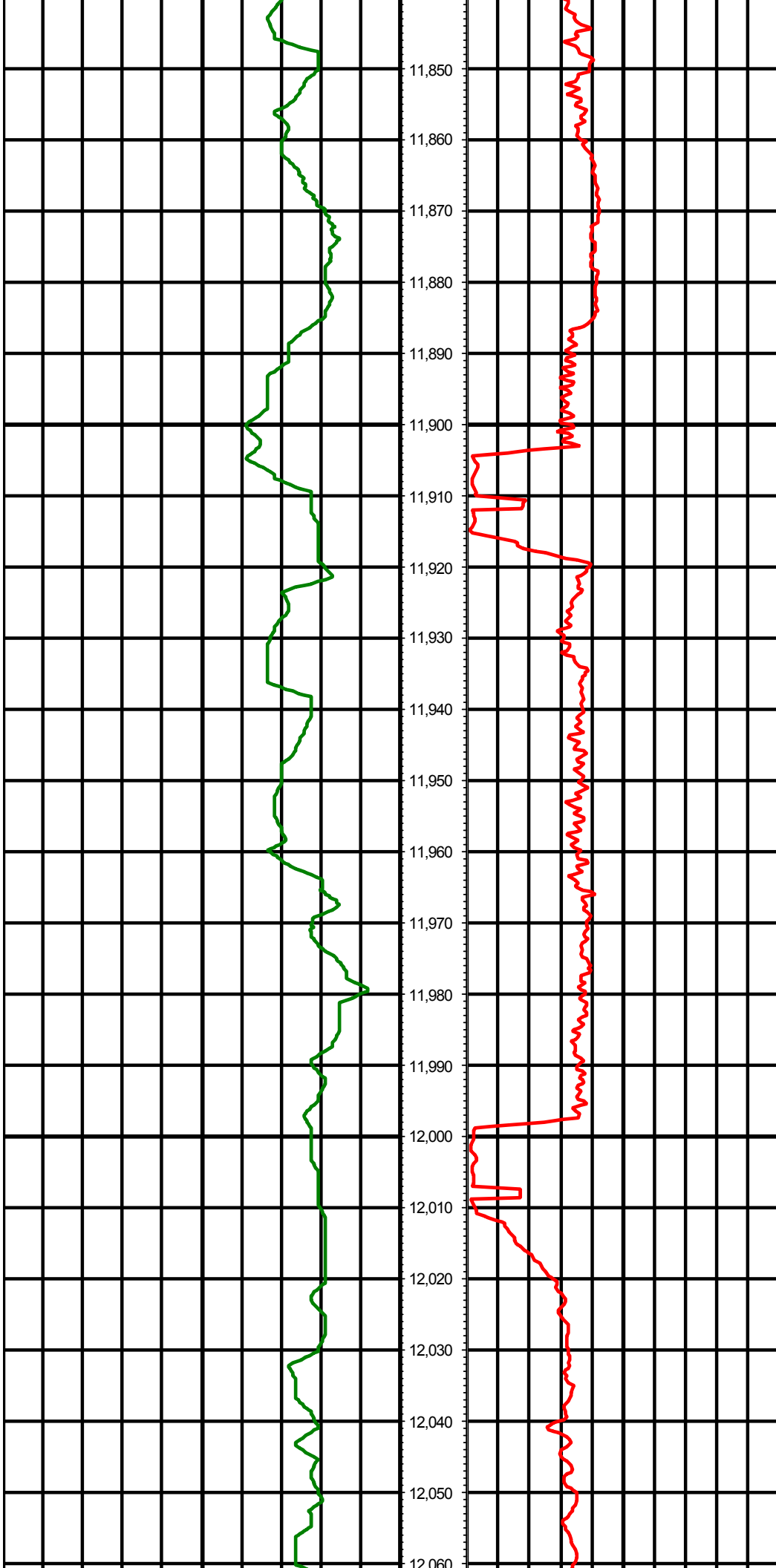
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MD: 11281.00 INC: 90.40 AZ: 1.20

MD: 11375.00 INC: 90.10 AZ: 359.80



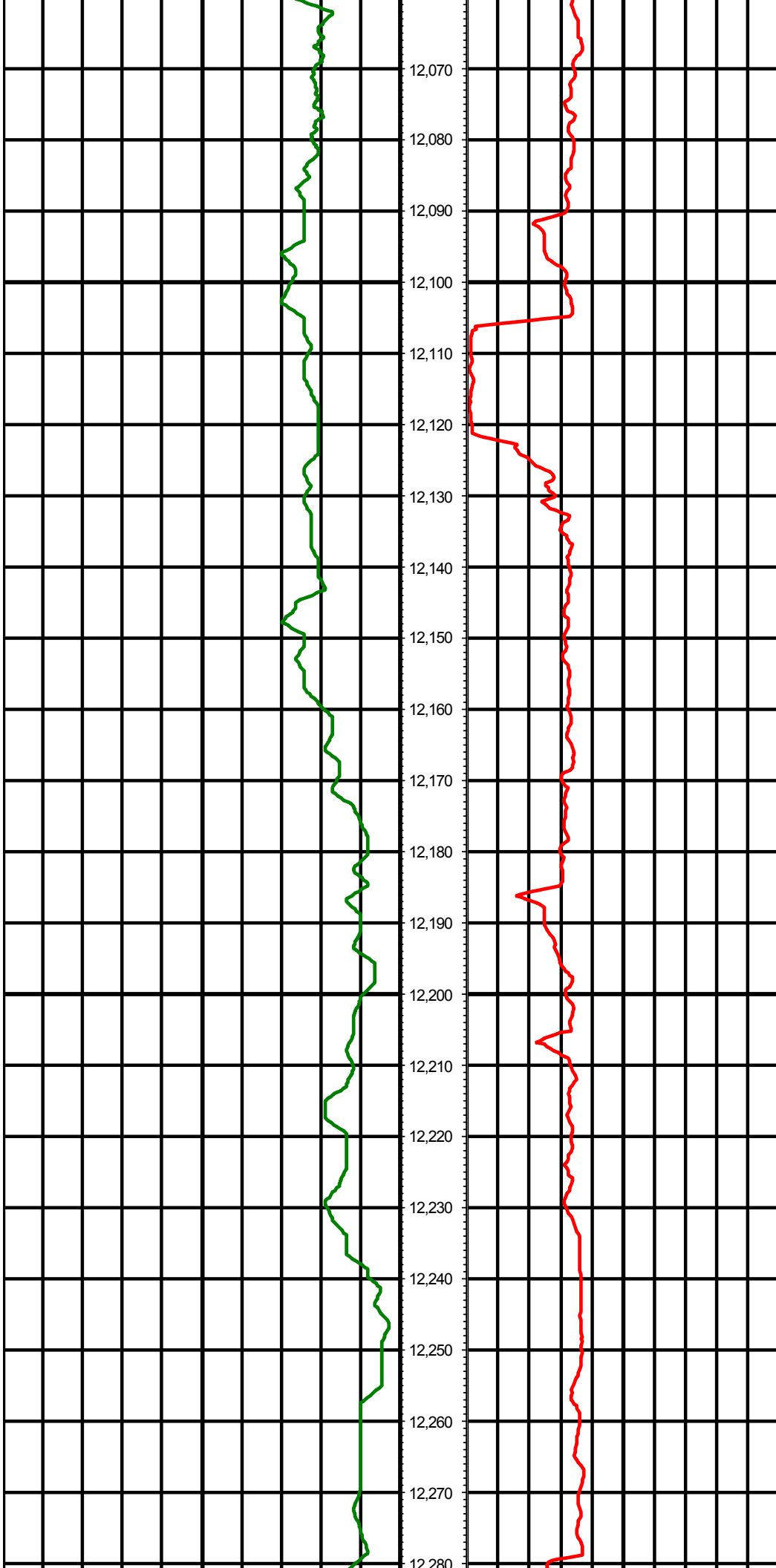




MD: 11847.00 INC: 89.10 AZ: 359.60

MD: 11942.00 INC: 89.50 AZ: 359.80

MD: 12036.00 INC: 89.60 AZ: 359.20



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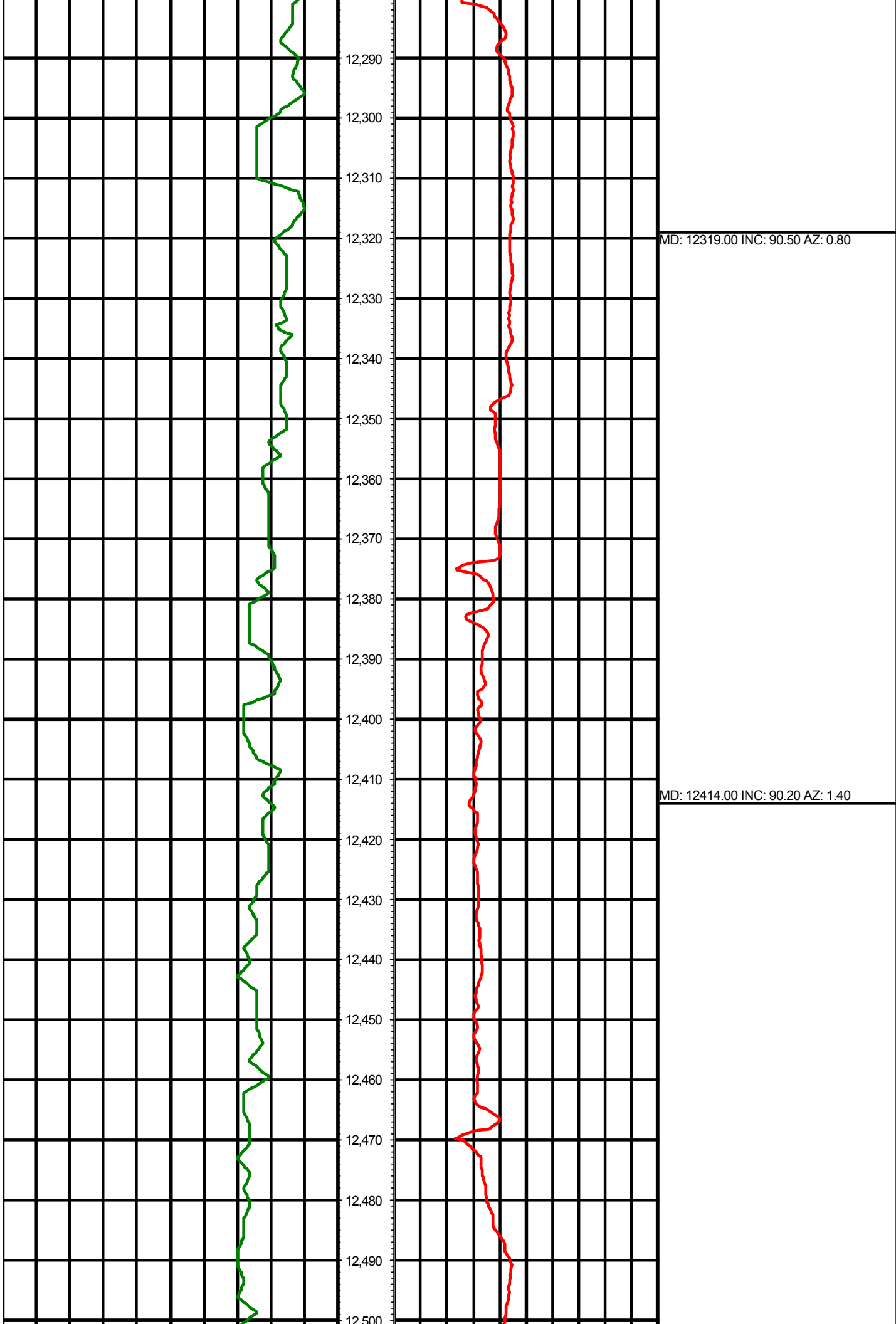
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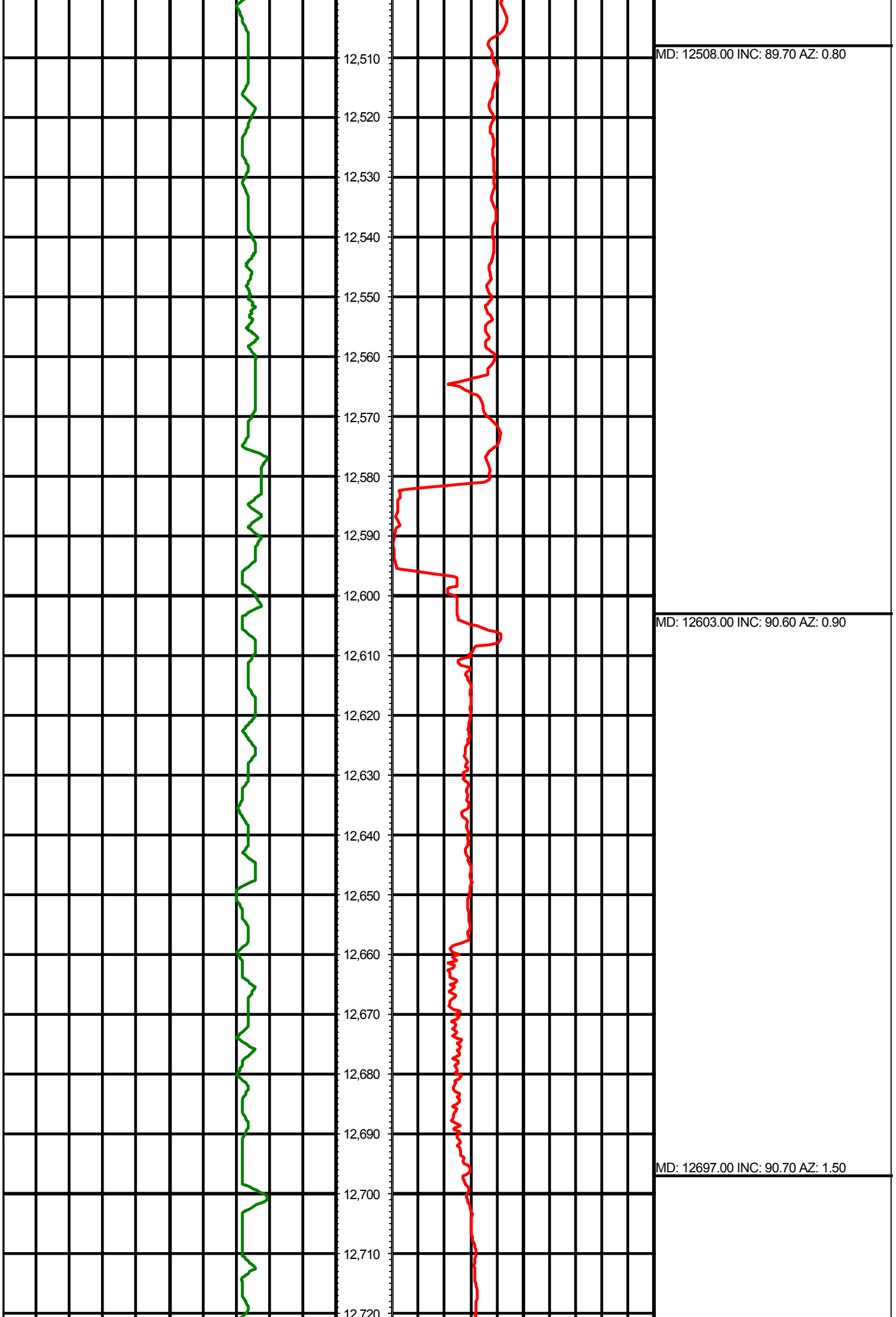
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MD: 12131.00 INC: 90.50 AZ: 359.80

MD: 12225.00 INC: 90.50 AZ: 0.10

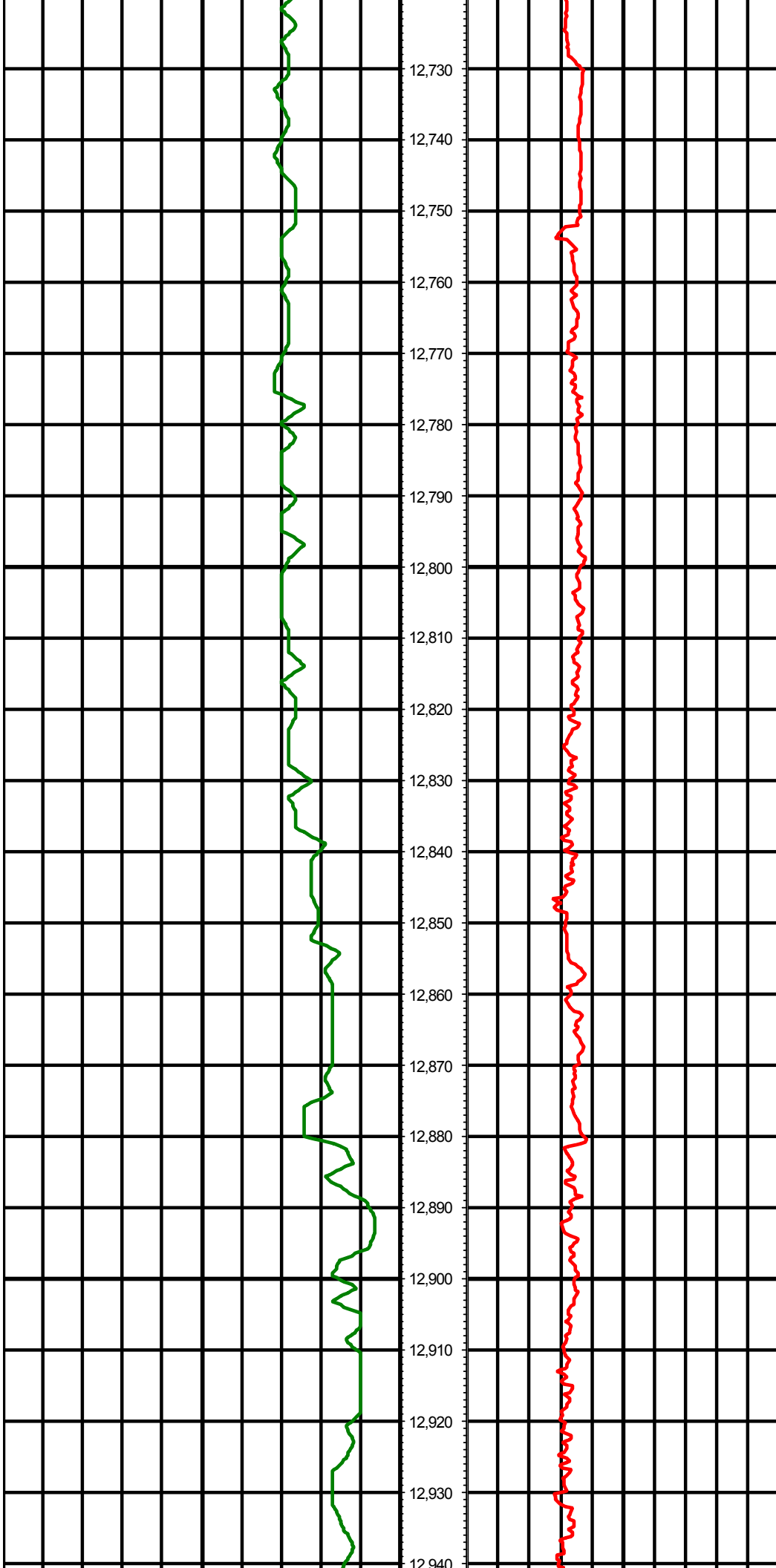




MD: 12508.00 INC: 89.70 AZ: 0.80

MD: 12603.00 INC: 90.60 AZ: 0.90

MD: 12697.00 INC: 90.70 AZ: 1.50



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MD: 12791.00 INC: 90.90 AZ: 1.80

MD: 12886.00 INC: 90.80 AZ: 2.60

MD: 12936.00 INC: 90.80 AZ: 2.70

