



CATHEDRAL

Cathedral Energy Services
1949 North Pyrite Road
Casper, Wyoming 82604

145306

5":100' - MD

10/22/2014 8:25:44 AM

Oper. Company: Encana Oil & Gas (USA) Inc.**Country:** U.S.A.**State / Province:** Colorado**County / Parish:** Weld**Started:** 09/17/2014 03:28 AM**API/UWI:** 05-123-37656-00**Field:** Wattenberg (Niobrara - B Chalk)**Well:** Grant Salisbury 2E-14H-C268**Rig:** Patterson Drilling 272**Ended:** 09/25/2014 02:40 AM

Gamma Ray
Section Plane: 0.00
Magnetic North: 8.66
Gamma Averaging: 7%

Personnel

Day Hand: R. Moulton**Night Hand:** A. Clark**Comp. Emp:** Chris Clemens

Location

Latitude: 40.142340**Longitude:** -104.973720**Elev. GL:** 4886**Elev. DF:****Elev. KB:** 4914.5

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

Hole Data

Size	From	To
12-1/4	0	920
8-3/4	920	7711
6-1/8	7711	13166

Casing Data

Size	From	To
9-5/8	0	877
7	0	7697
4-1/2	0	13122

Bit Sizes

Size	From	To
12-1/4	0	920
8-3/4	920	7711
6-1/8	7711	13166

Mud Data

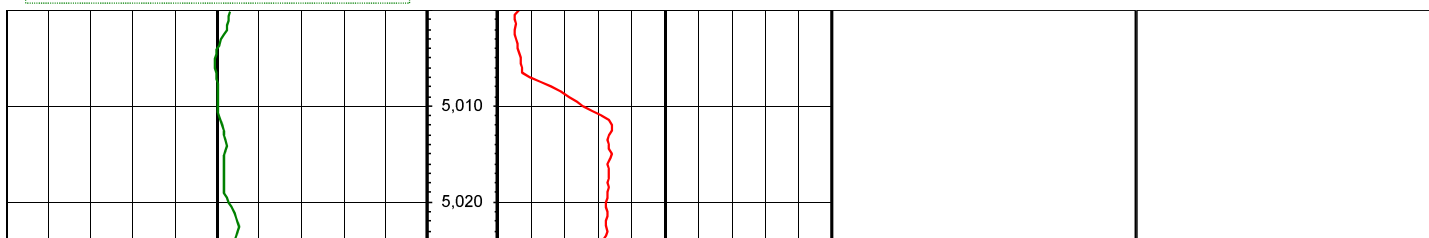
Type	Weight	Density	Viscosity	Rm	Rmf	Rmc	From	To
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Tool Run Data

Serial Number	Gamma Offset	Resist. Offset	Start Time	Start Depth	End Time	End Depth
1095	41.41	0	9/17/2014 12:54:24 PM	4573	9/19/2014 12:32:24 PM	7711
1095	40	0	9/20/2014 5:41:02 PM	7711	9/23/2014 4:59:02 AM	11985
1218	39.79	0	9/23/2014 6:24:07 AM	11985	9/25/2014 2:40:07 AM	13166

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

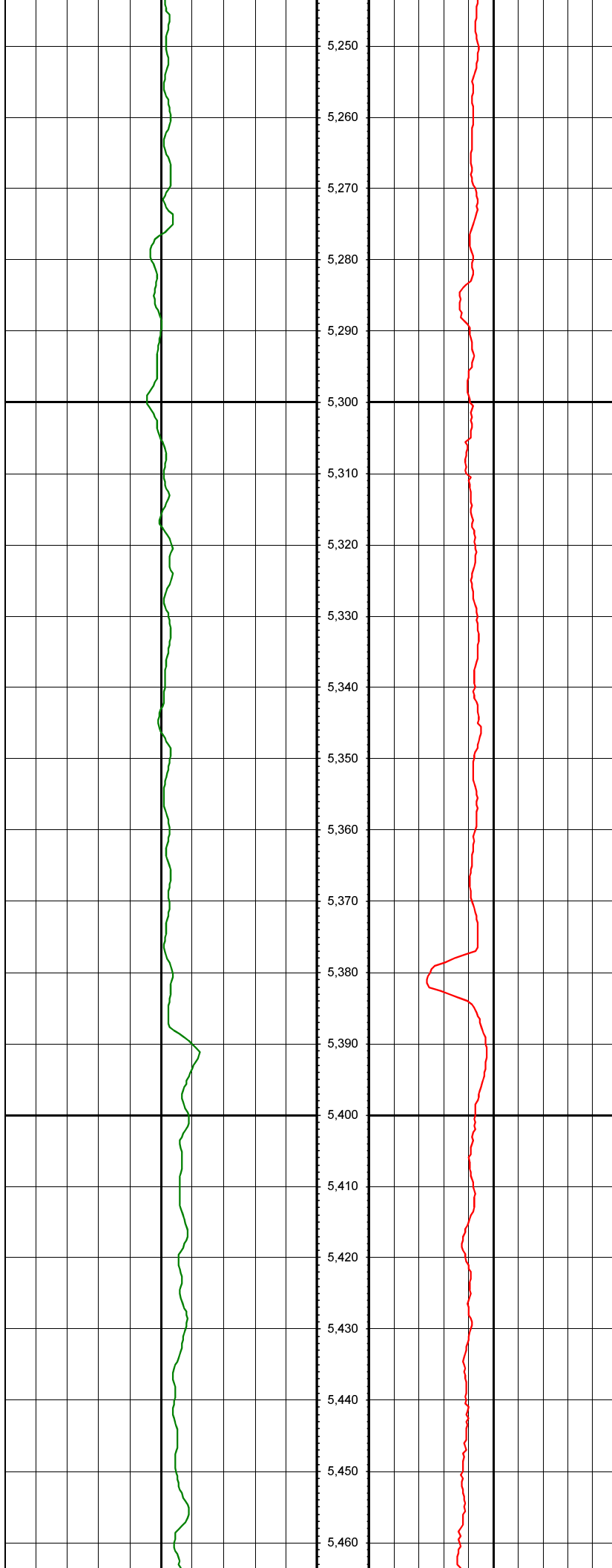




MD: 5044.00 INC: 0.80 AZ: 162.30

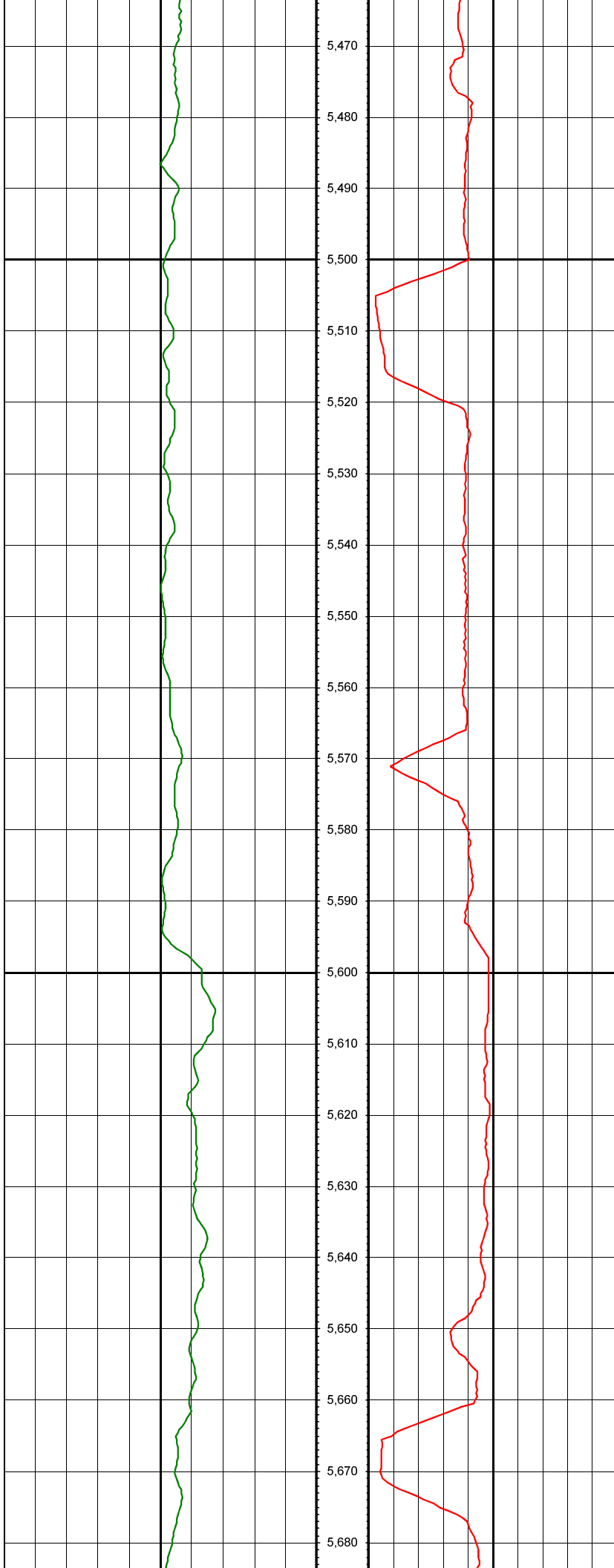
MD: 5139.00 INC: 1.80 AZ: 142.80

MD: 5233.00 INC: 1.50 AZ: 146.20



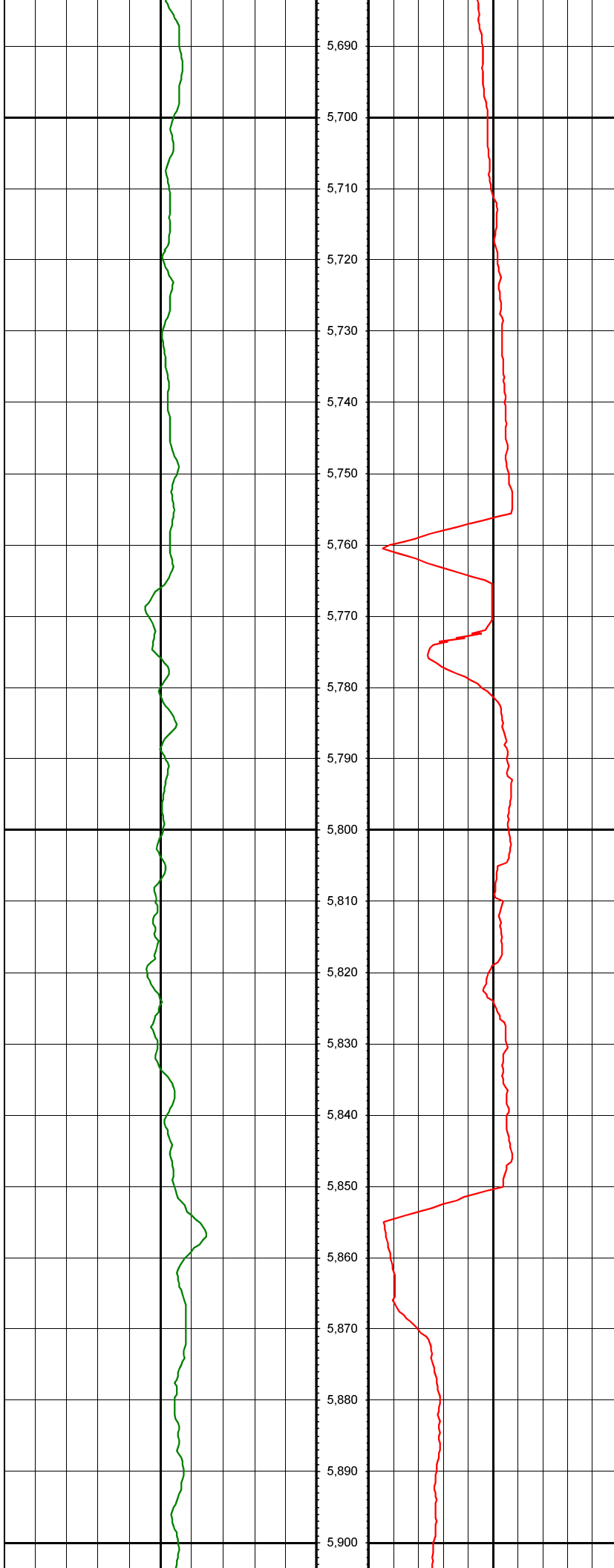
MD: 5328.00 INC: 1.20 AZ: 145.70

MD: 5422.00 INC: 0.90 AZ: 134.50



MD: 5517.00 INC: 2.30 AZ: 185.40

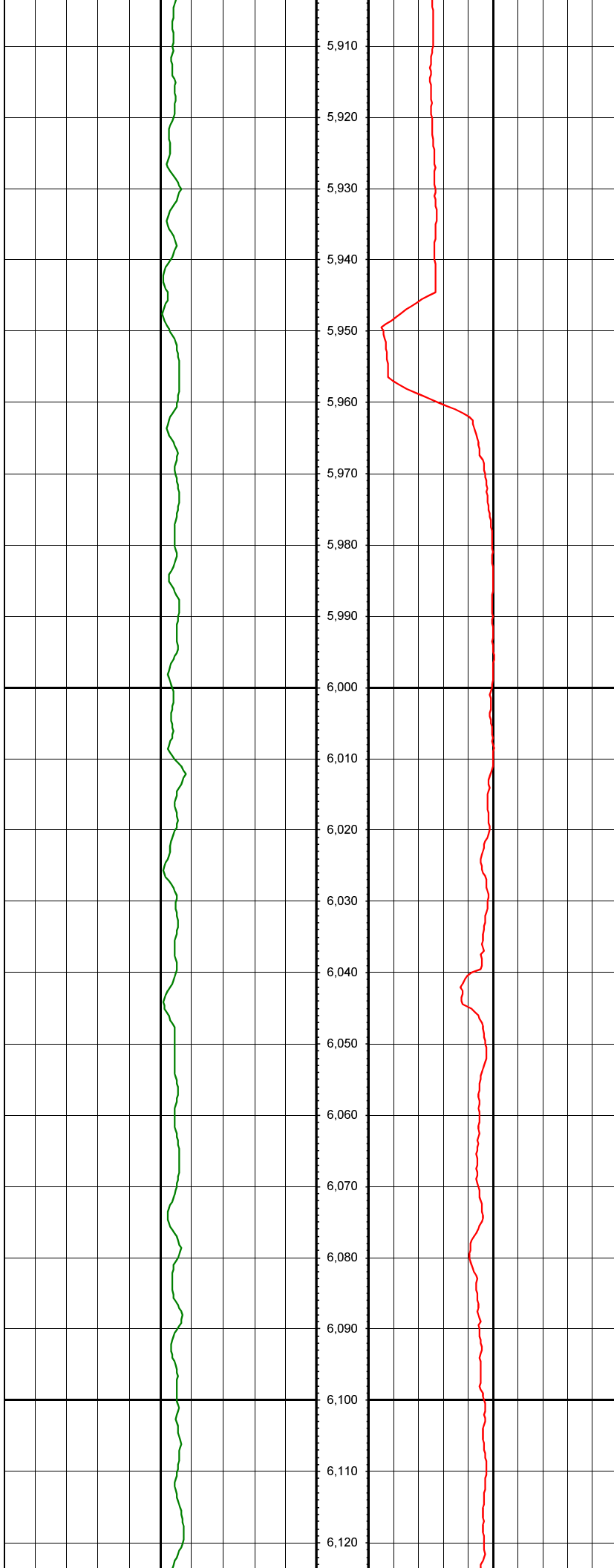
MD: 5612.00 INC: 2.80 AZ: 185.60



MD: 5706.00 INC: 3.30 AZ: 185.20

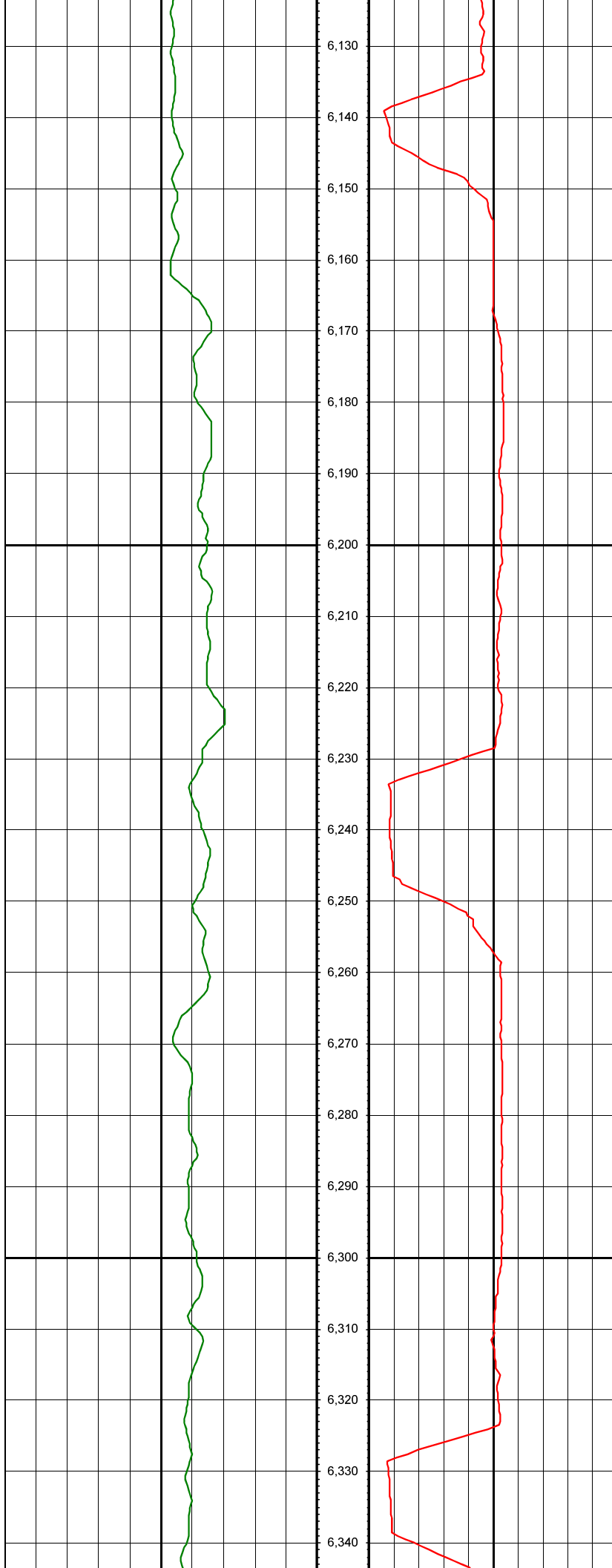
MD: 5801.00 INC: 4.60 AZ: 186.90

MD: 5895.00 INC: 6.50 AZ: 191.20



MD: 5990.00 INC: 4.90 AZ: 208.20

MD: 6085.00 INC: 3.90 AZ: 207.90



MD: 6179.00 INC: 4.60 AZ: 199.70

MD: 6274.00 INC: 5.30 AZ: 196.80

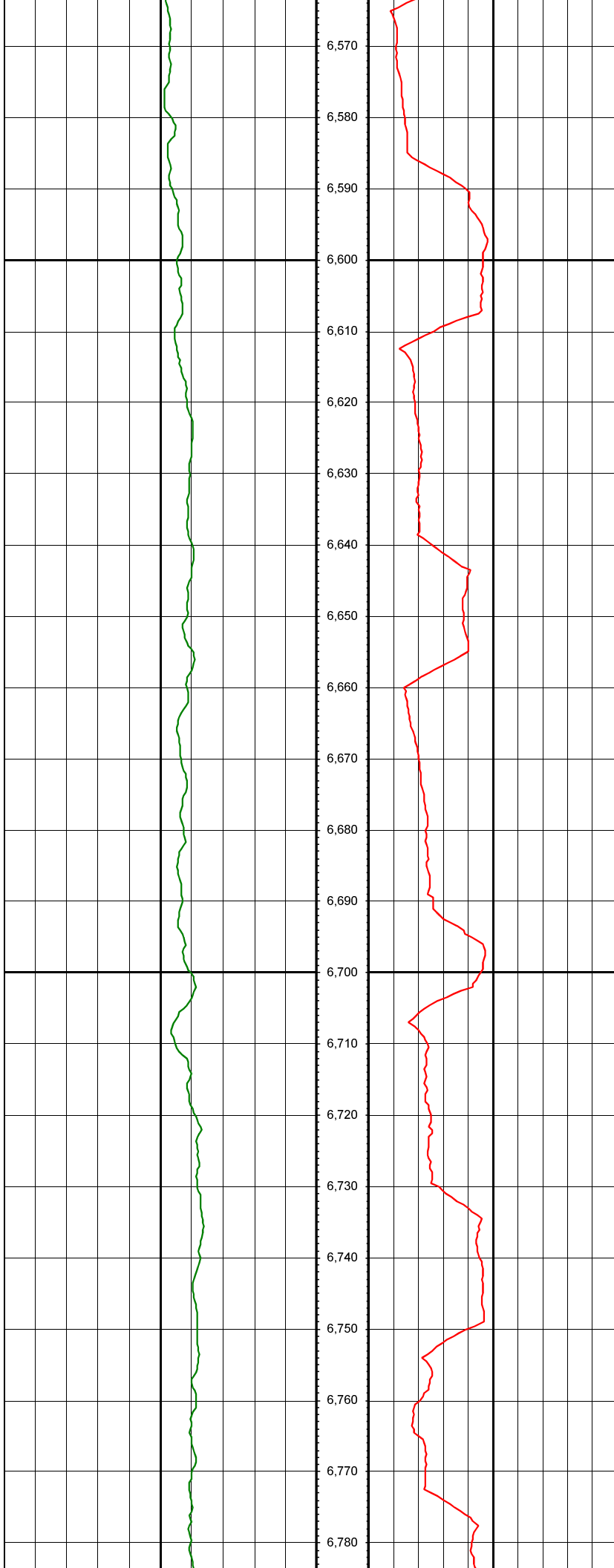


MD: 6368.00 INC: 6.20 AZ: 199.50

MD: 6463.00 INC: 4.90 AZ: 198.60

MD: 6510.00 INC: 2.40 AZ: 282.70

MD: 6558.00 INC: 4.70 AZ: 354.60

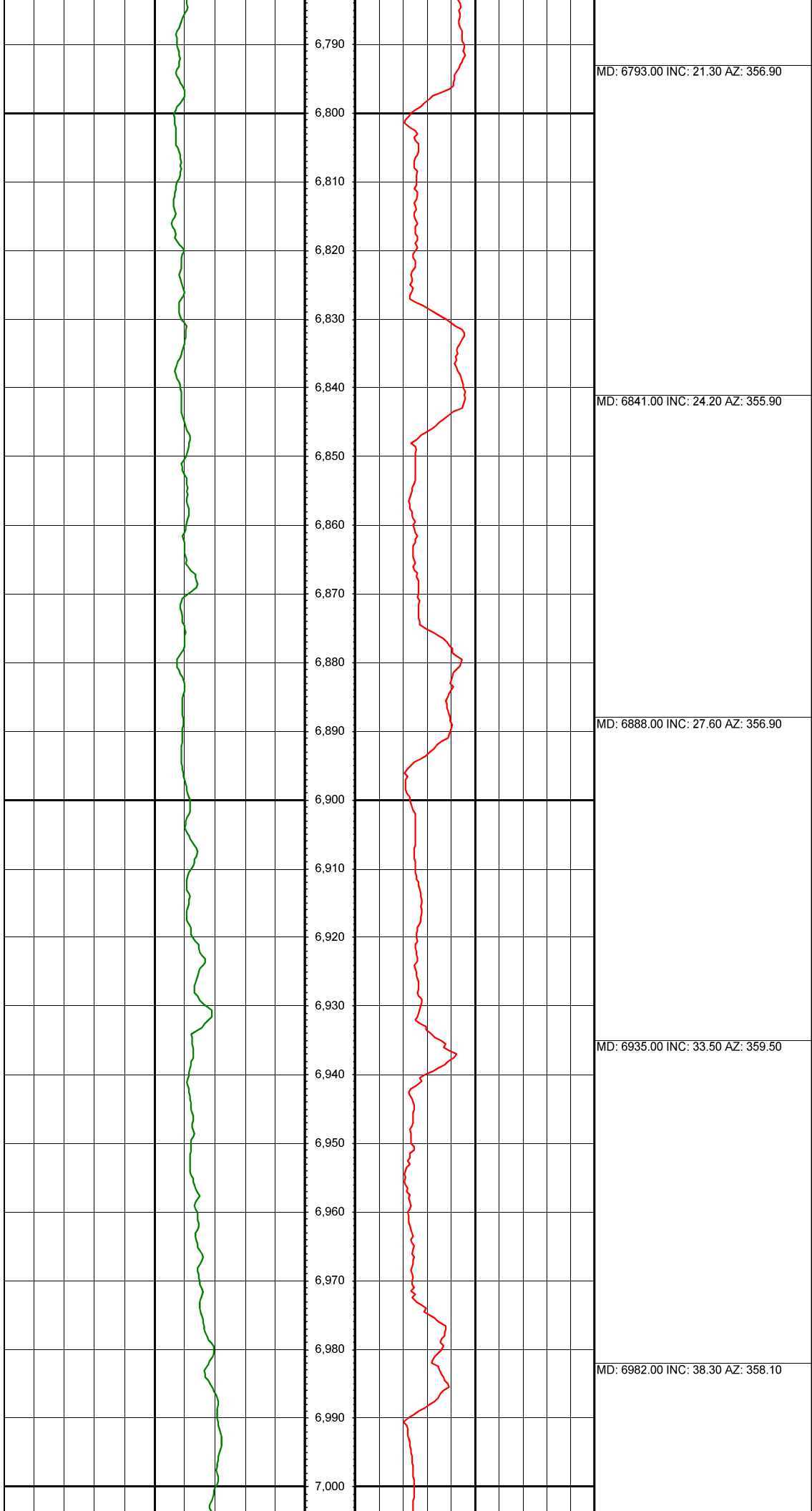


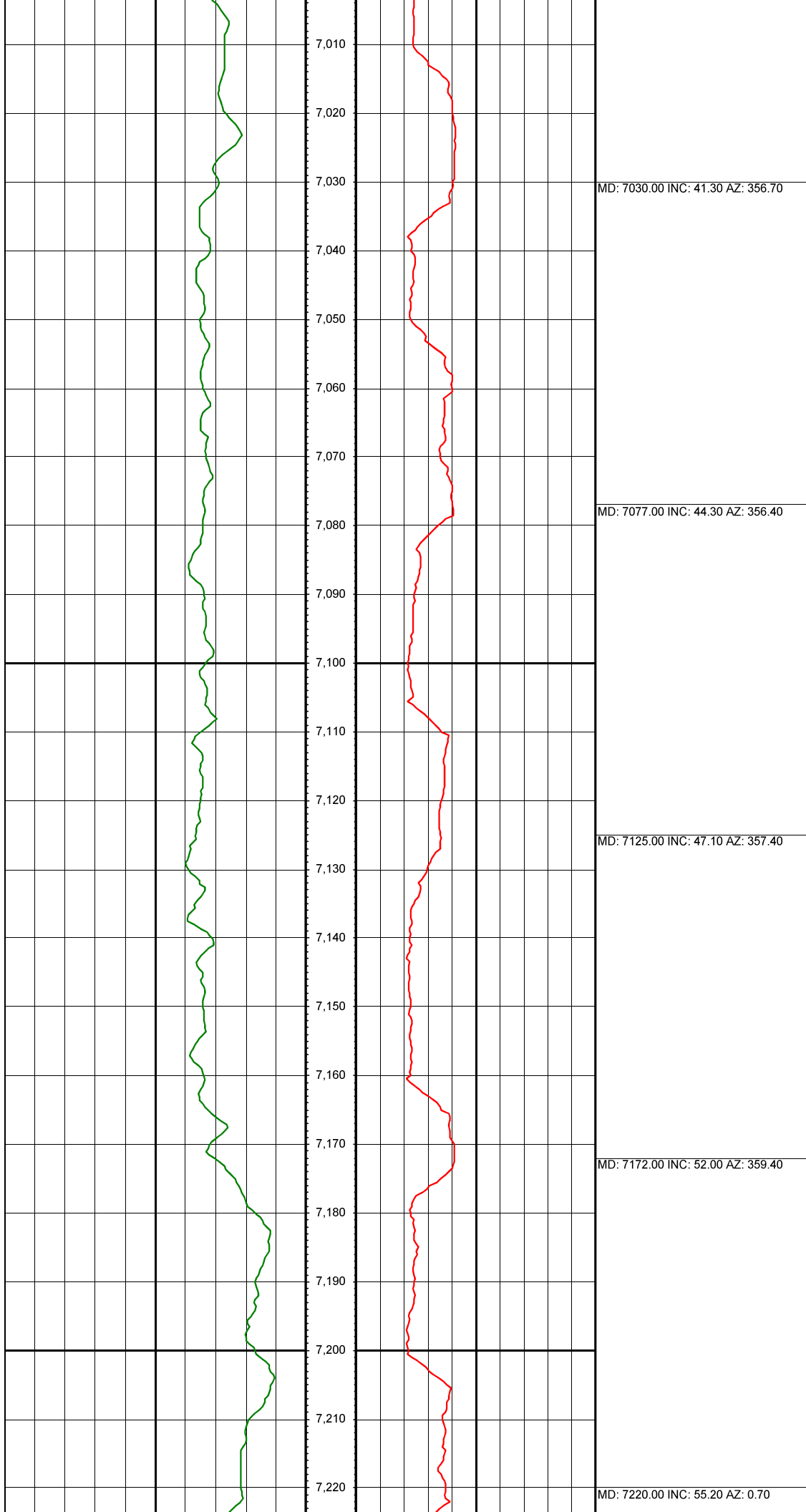
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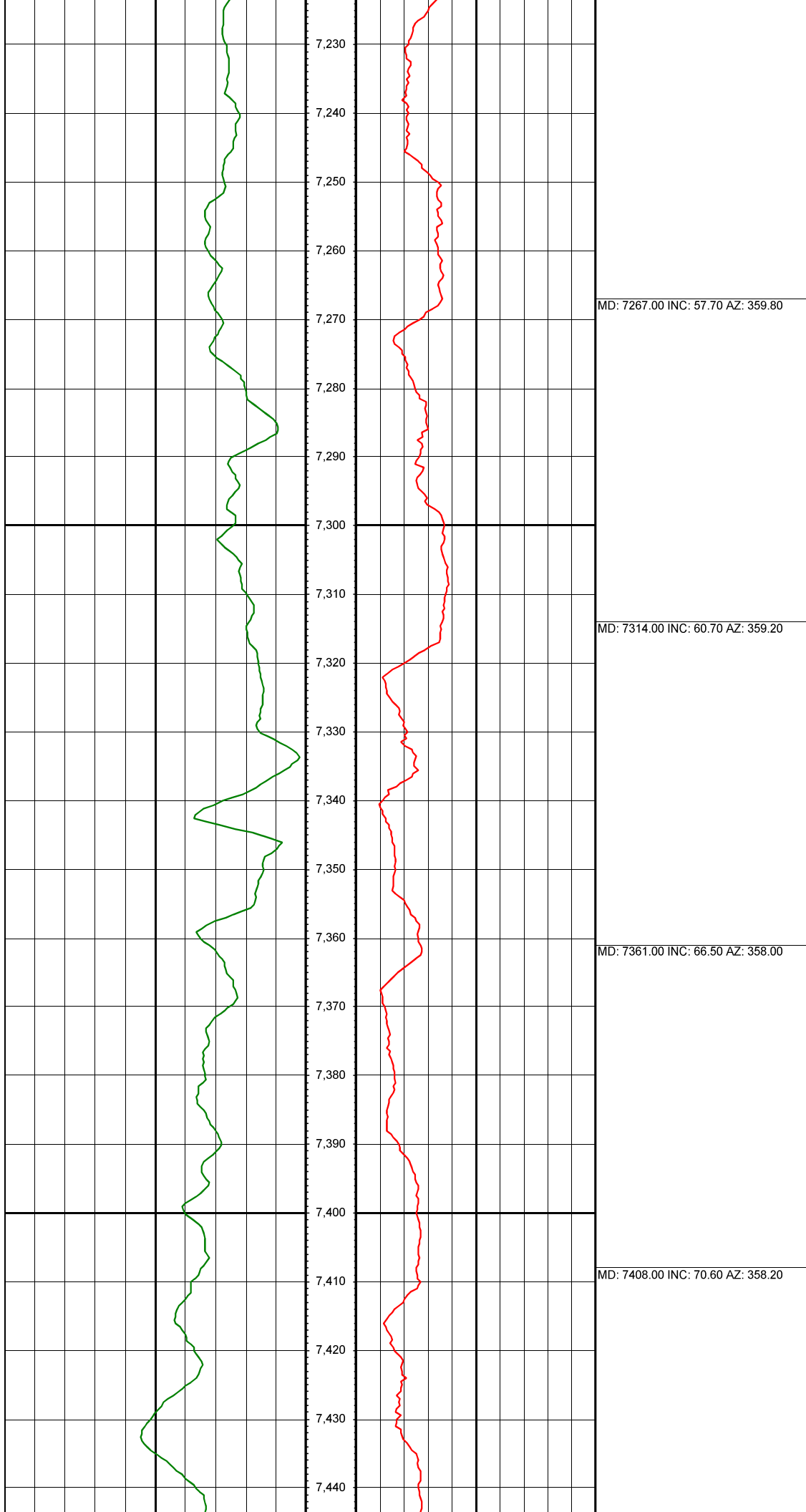
MD: 6652.00 INC: 11.60 AZ: 359.00

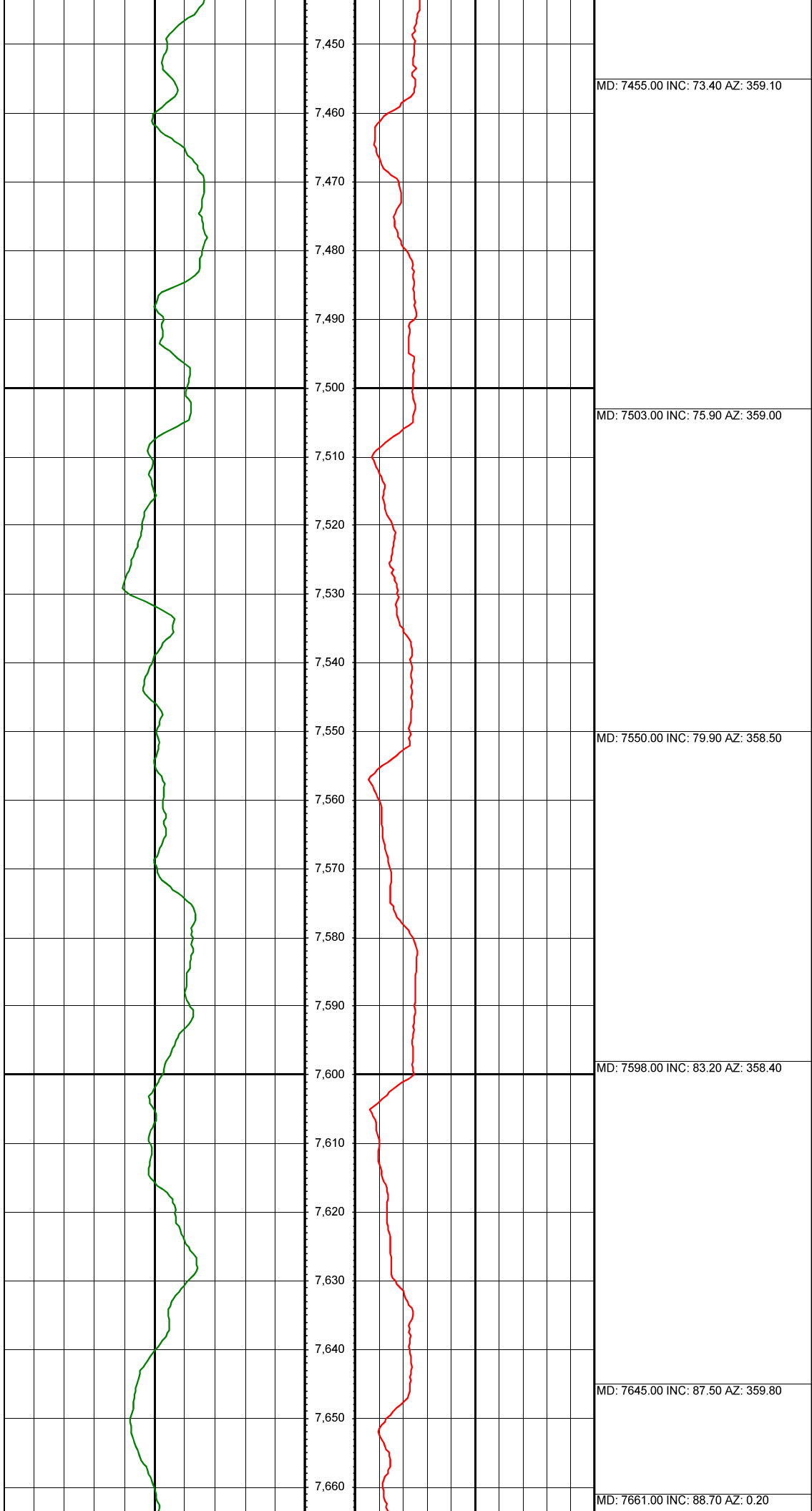
MD: 6699.00 INC: 16.30 AZ: 358.50

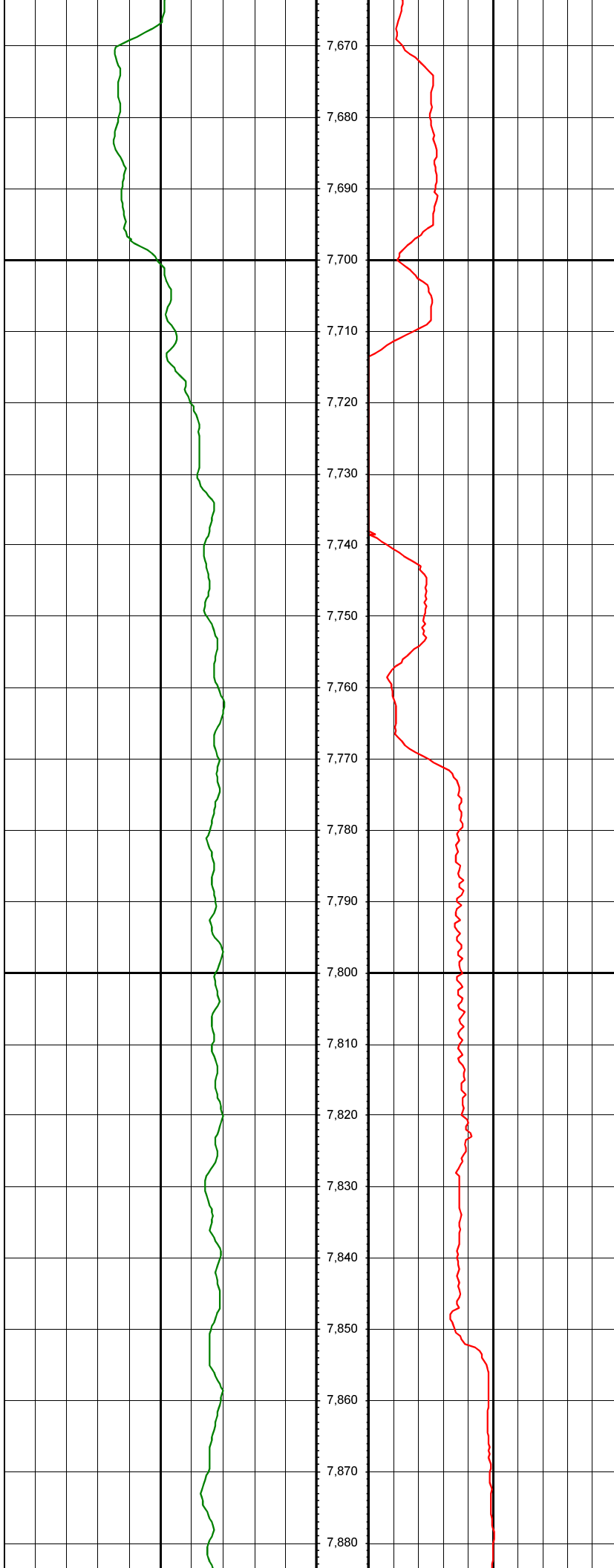
MD: 6746.00 INC: 19.50 AZ: 359.30





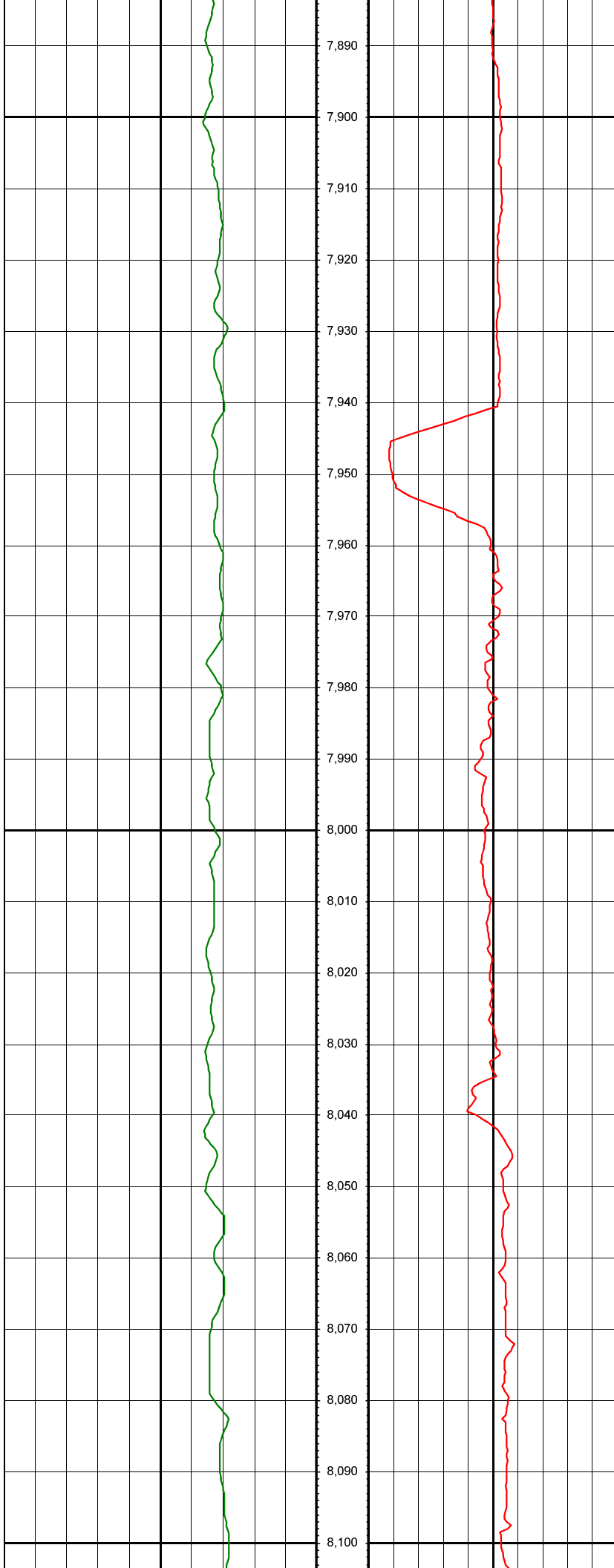






MD: 7704.00 INC: 89.70 AZ: 1.30

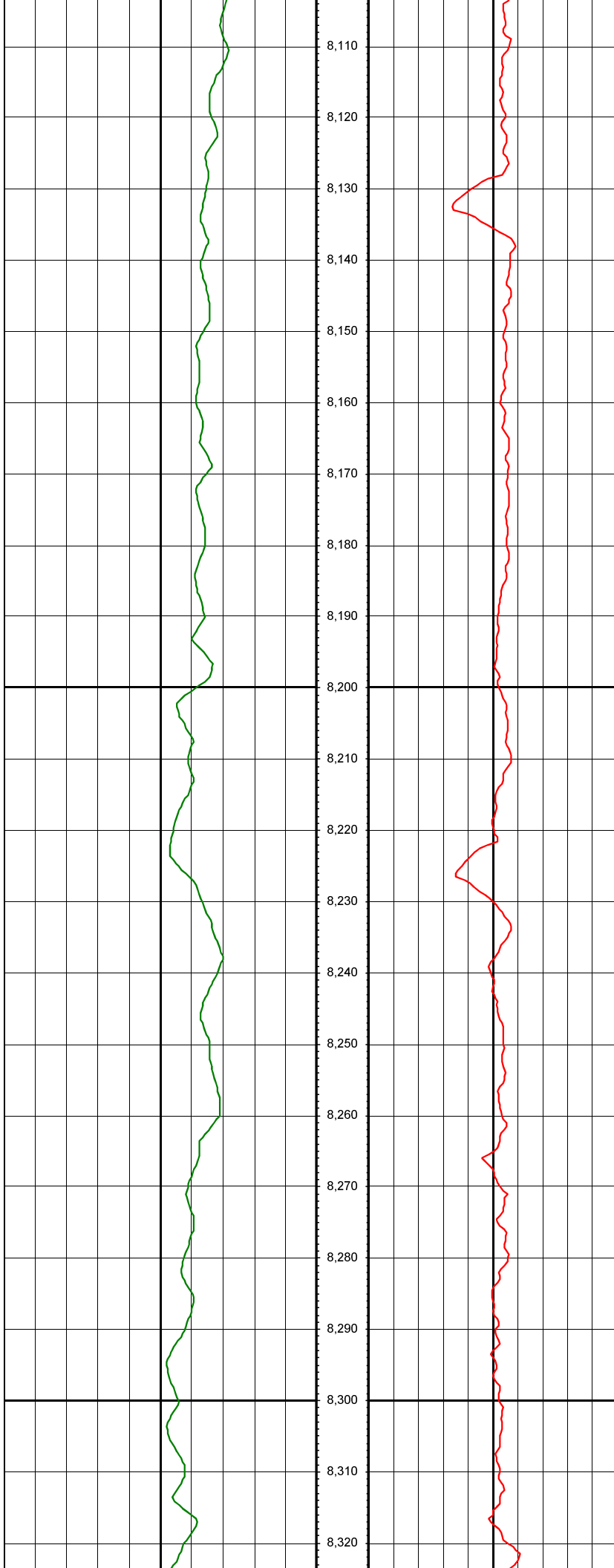
MD: 7798.00 INC: 90.70 AZ: 359.20



MD: 7891.00 INC: 91.70 AZ: 359.30

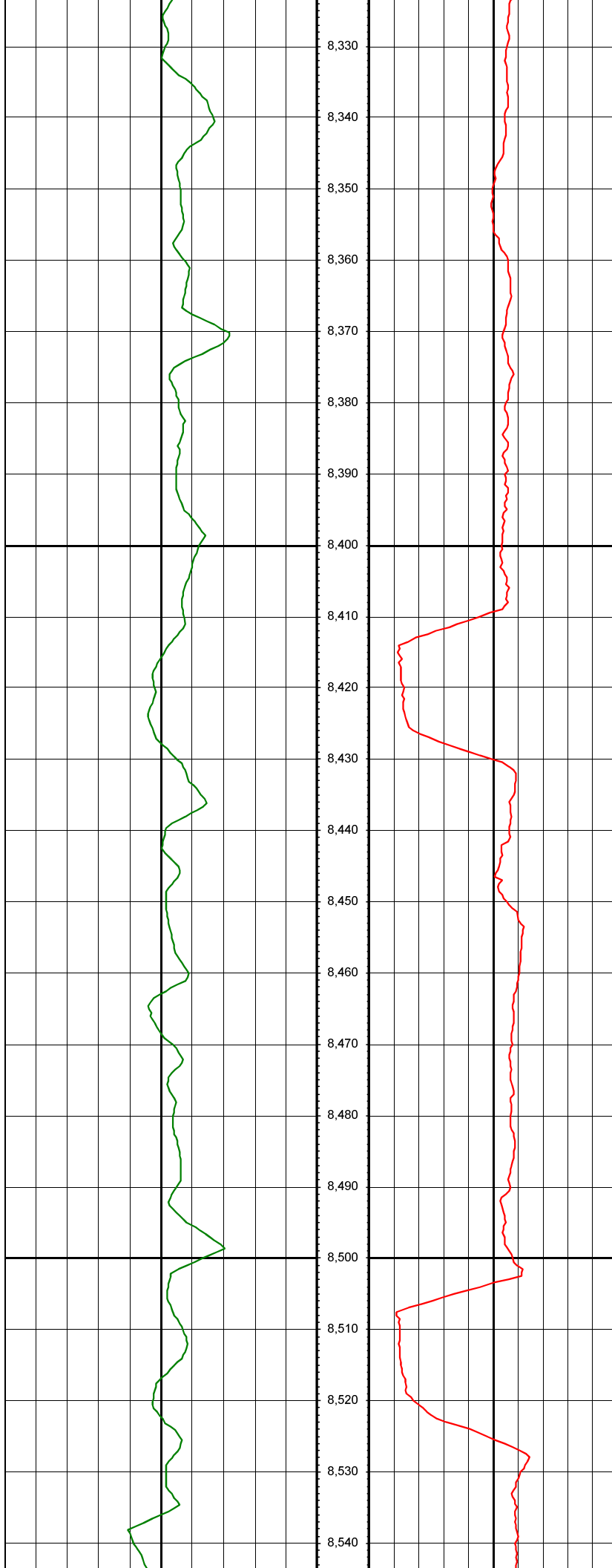
MD: 7985.00 INC: 90.30 AZ: 359.00

MD: 8078.00 INC: 91.10 AZ: 359.30



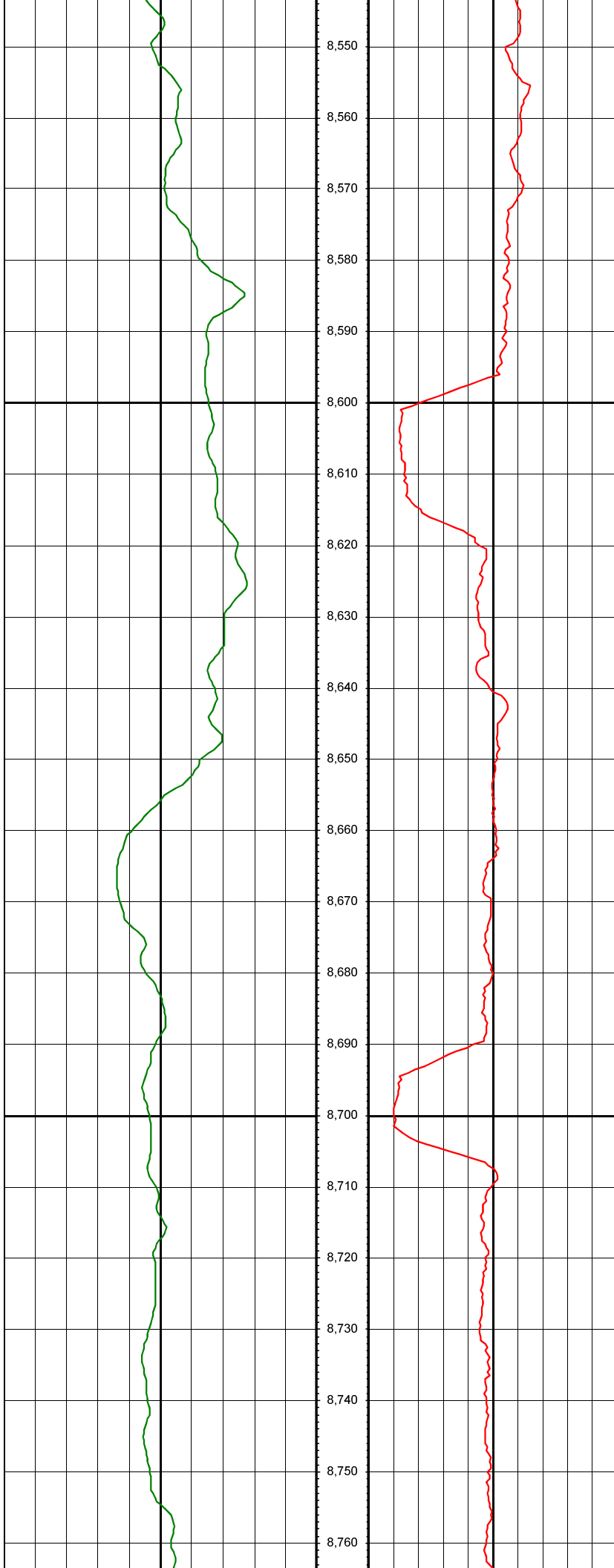
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MD: 8265.00 INC: 90.80 AZ: 358.90



MD: 8359.00 INC: 92.00 AZ: 359.00

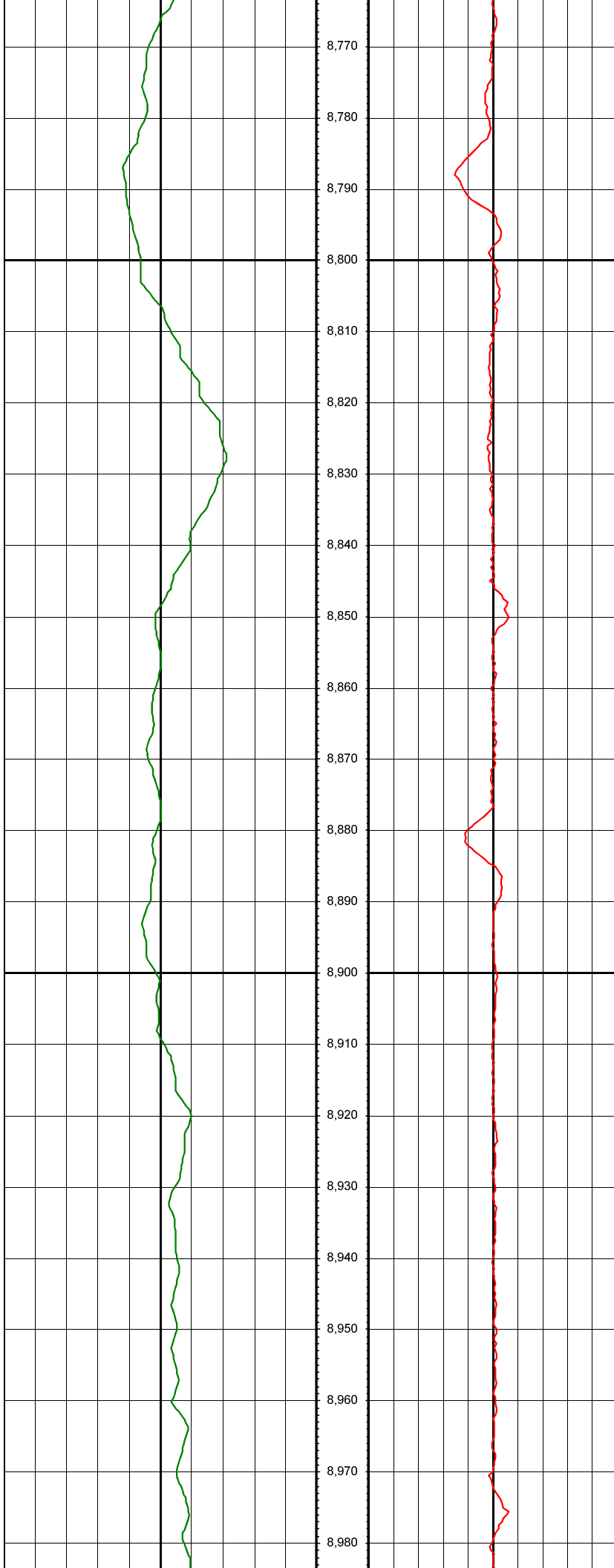
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MD: 8546.00 INC: 91.60 AZ: 0.90

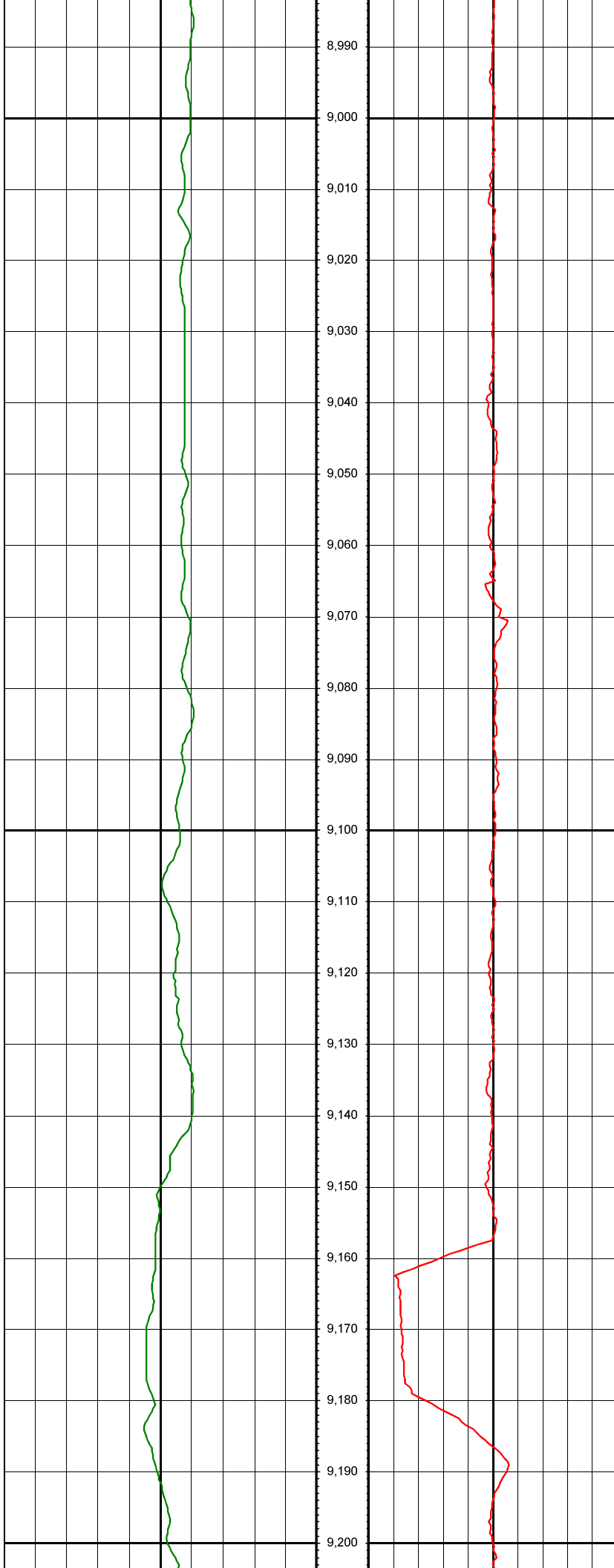
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MD: 8733.00 INC: 89.80 AZ: 0.90



MD: 8826.00 INC: 90.10 AZ: 0.40

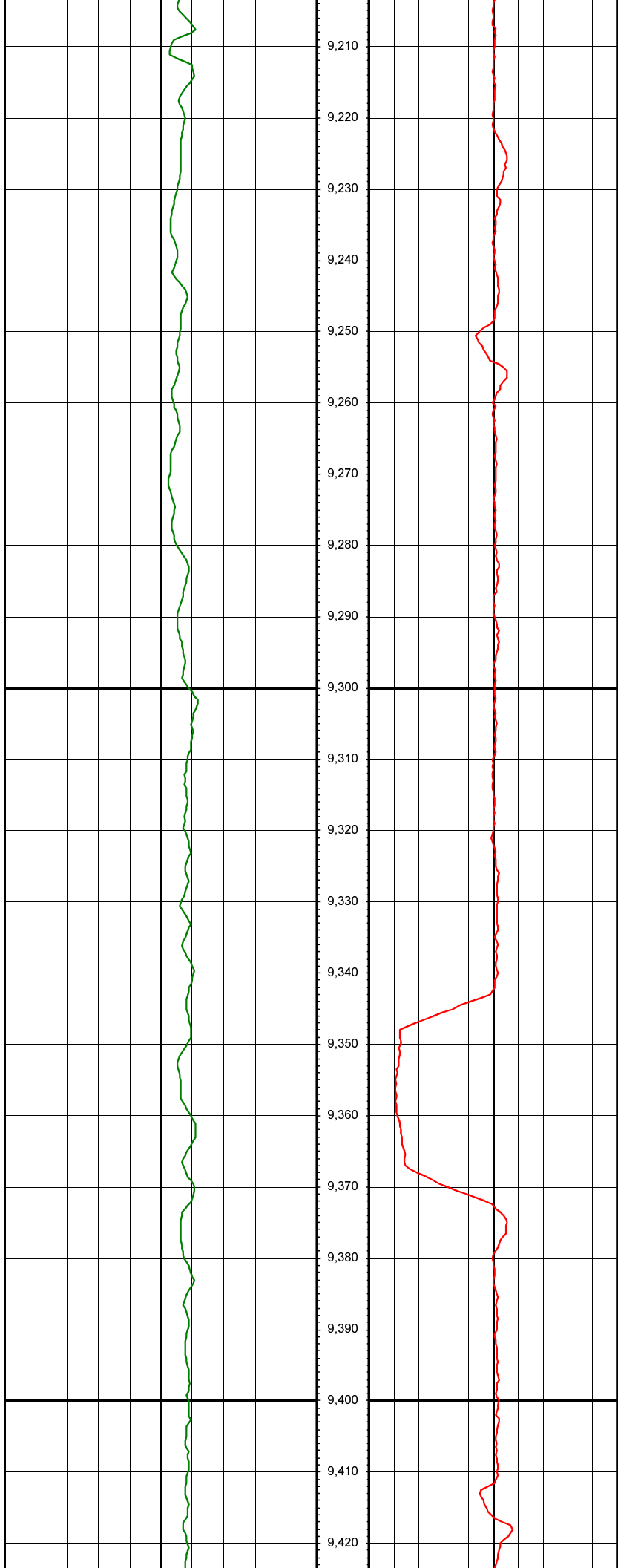
MD: 8920.00 INC: 90.20 AZ: 0.30



MD: 9013.00 INC: 90.80 AZ: 359.60

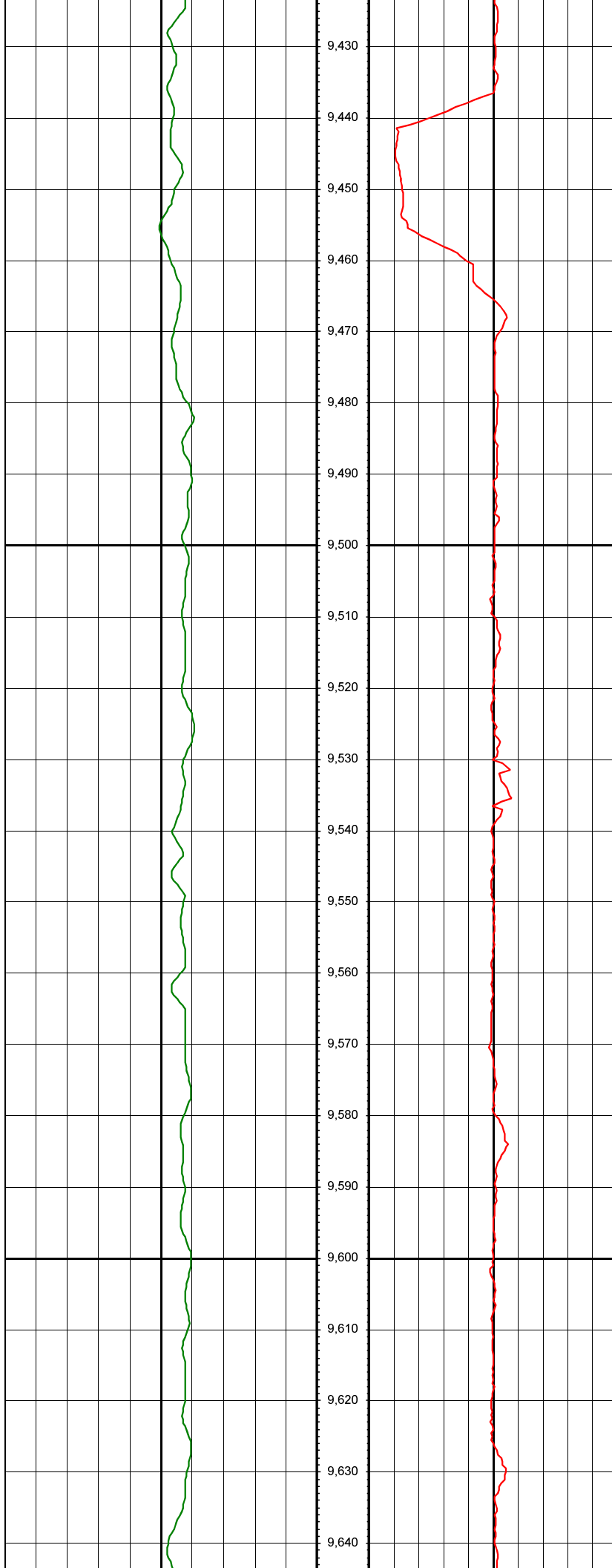
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MD: 9201.00 INC: 89.30 AZ: 359.70



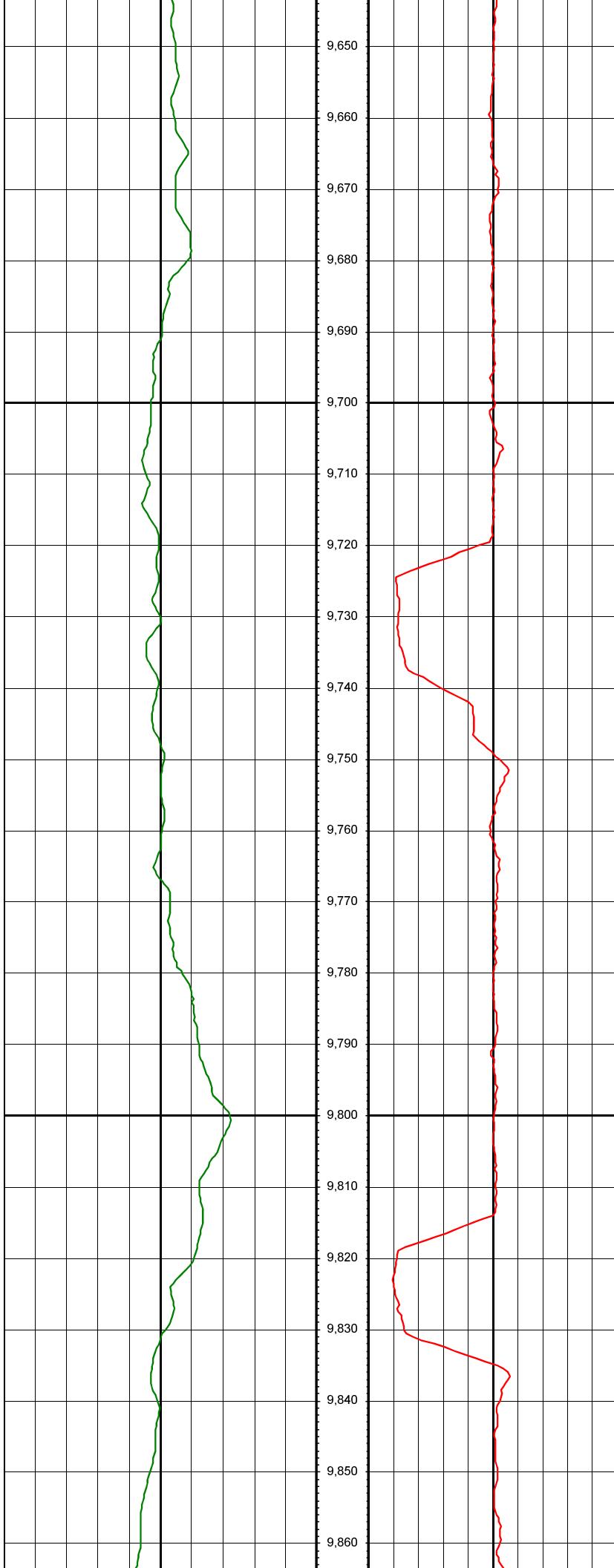
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MD: 9388.00 INC: 90.70 AZ: 0.30



MD: 9481.00 INC: 89.10 AZ: 1.40

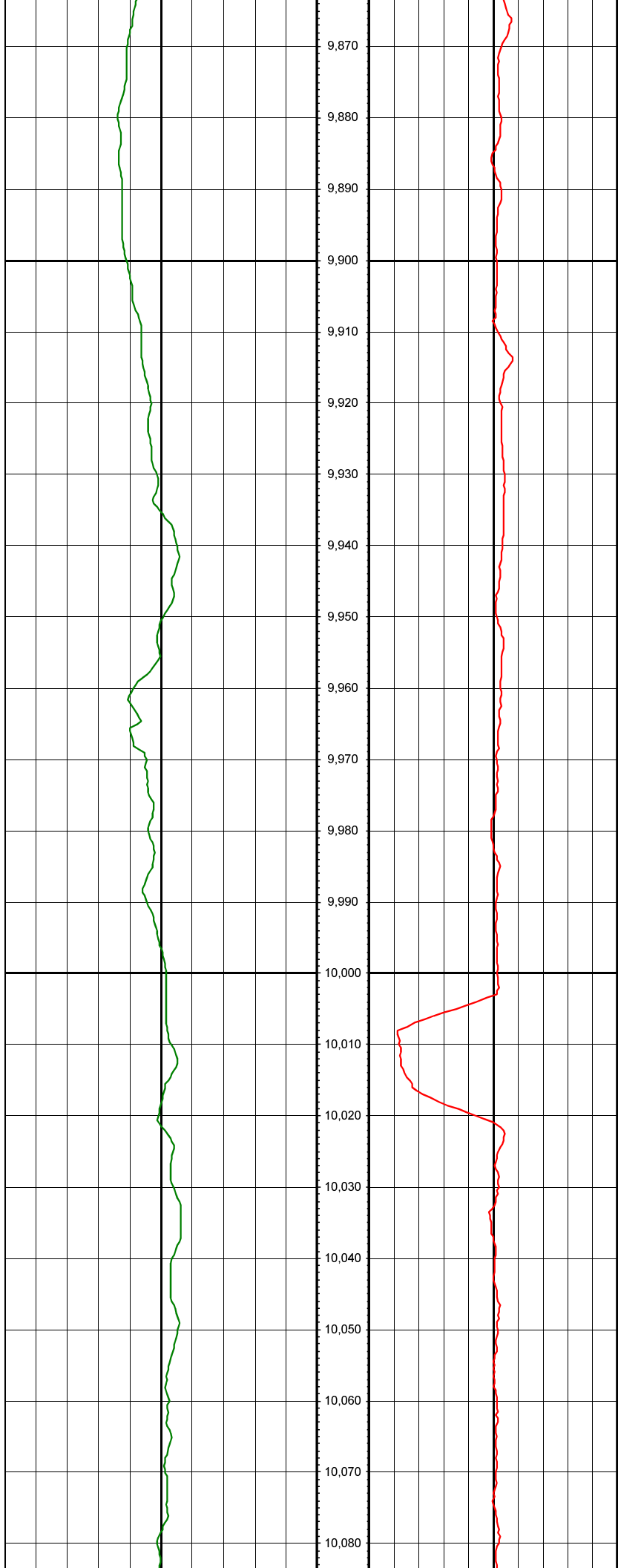
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MD: 9670.00 INC: 91.10 AZ: 0.30

MD: 9765.00 INC: 90.60 AZ: 1.40

MD: 9859.00 INC: 89.70 AZ: 1.60



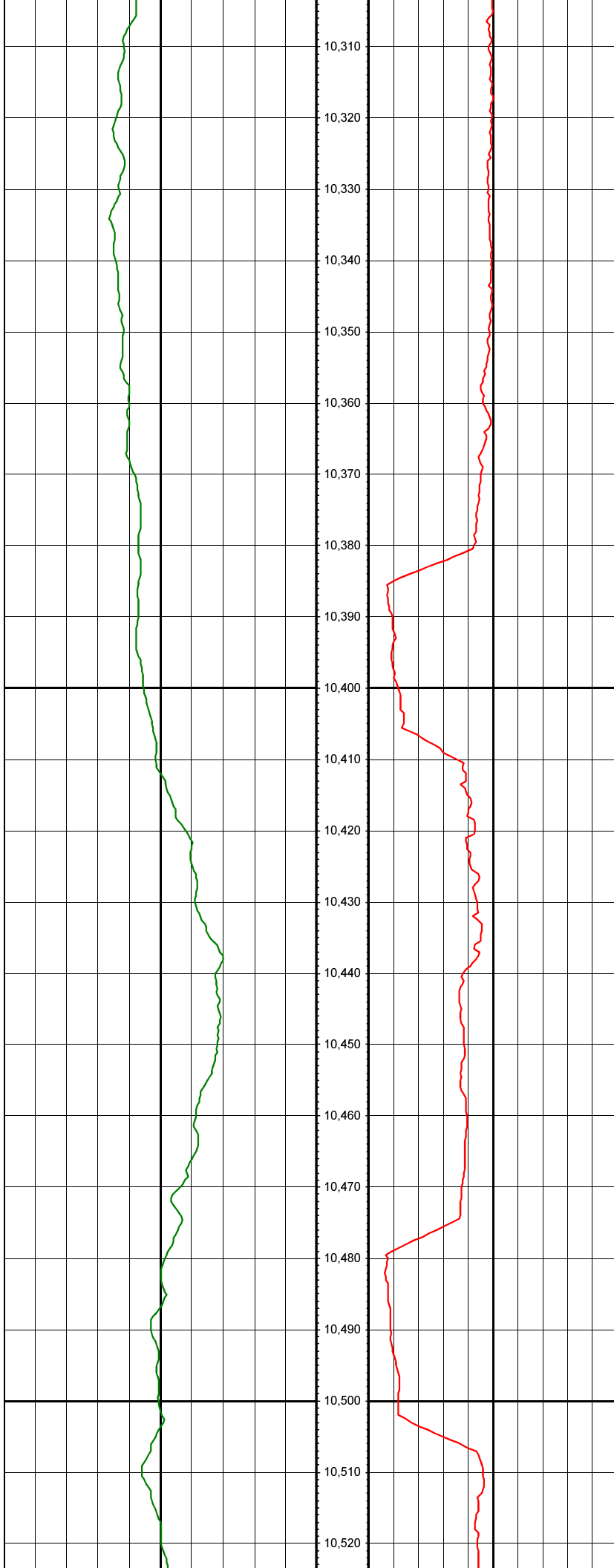
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MD: 10048.00 INC: 89.90 AZ: 0.30



MD: 10142.00 INC: 91.10 AZ: 0.80

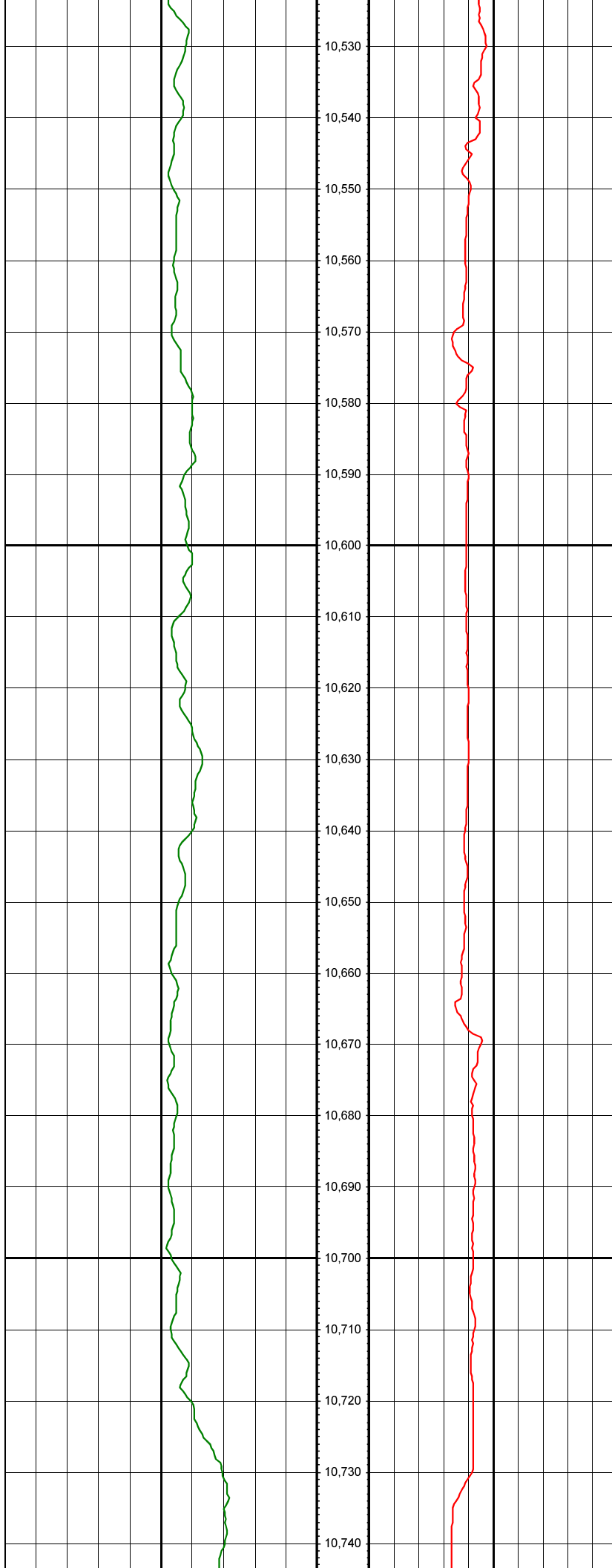
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MD: 10331.00 INC: 90.50 AZ: 359.80

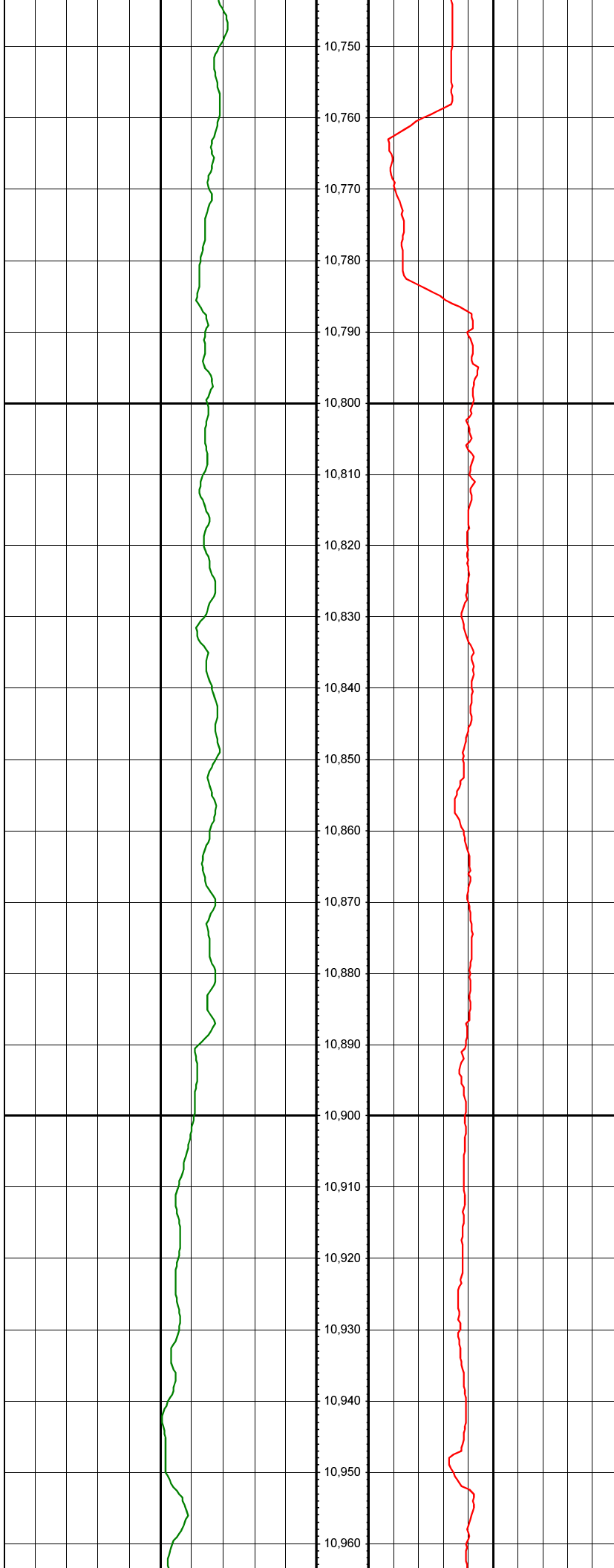
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MD: 10520.00 INC: 89.00 AZ: 1.90



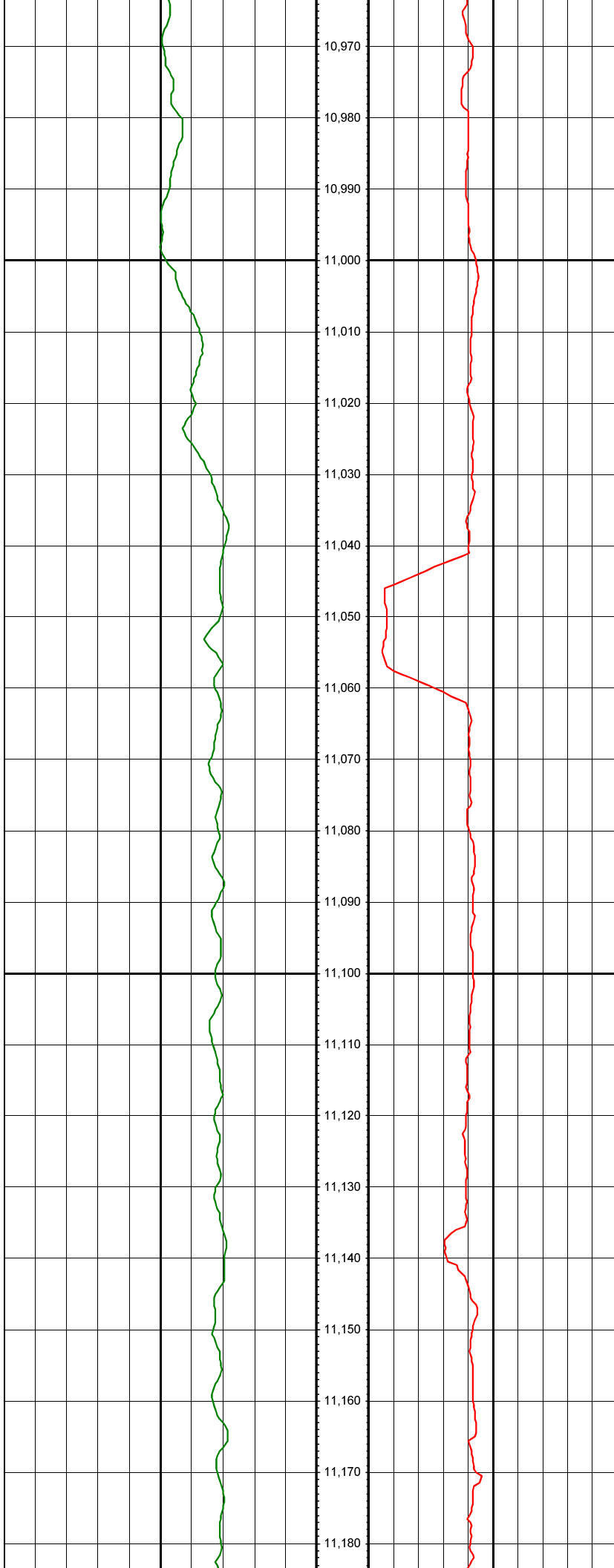
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MD: 10709.00 INC: 89.80 AZ: 0.30



MD: 10803.00 INC: 89.80 AZ: 1.80

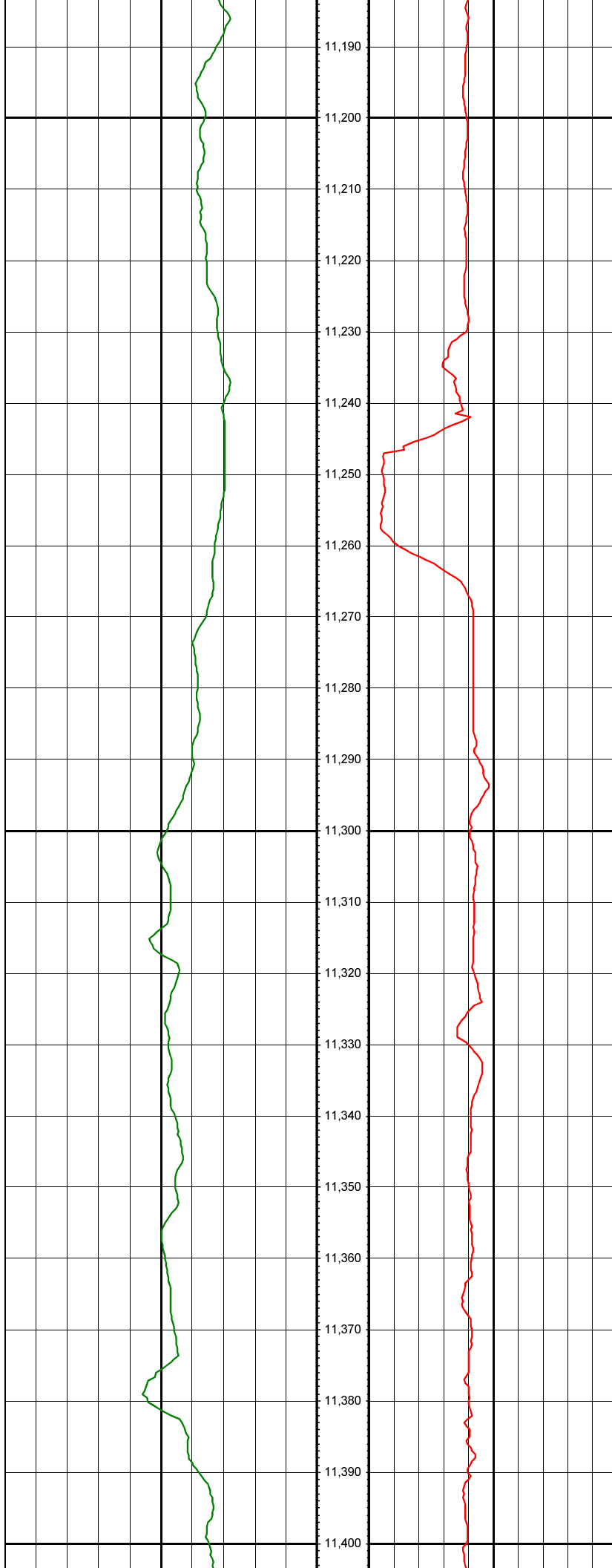
MD: 10897.00 INC: 89.80 AZ: 1.50



MD: 10992.00 INC: 89.60 AZ: 1.00

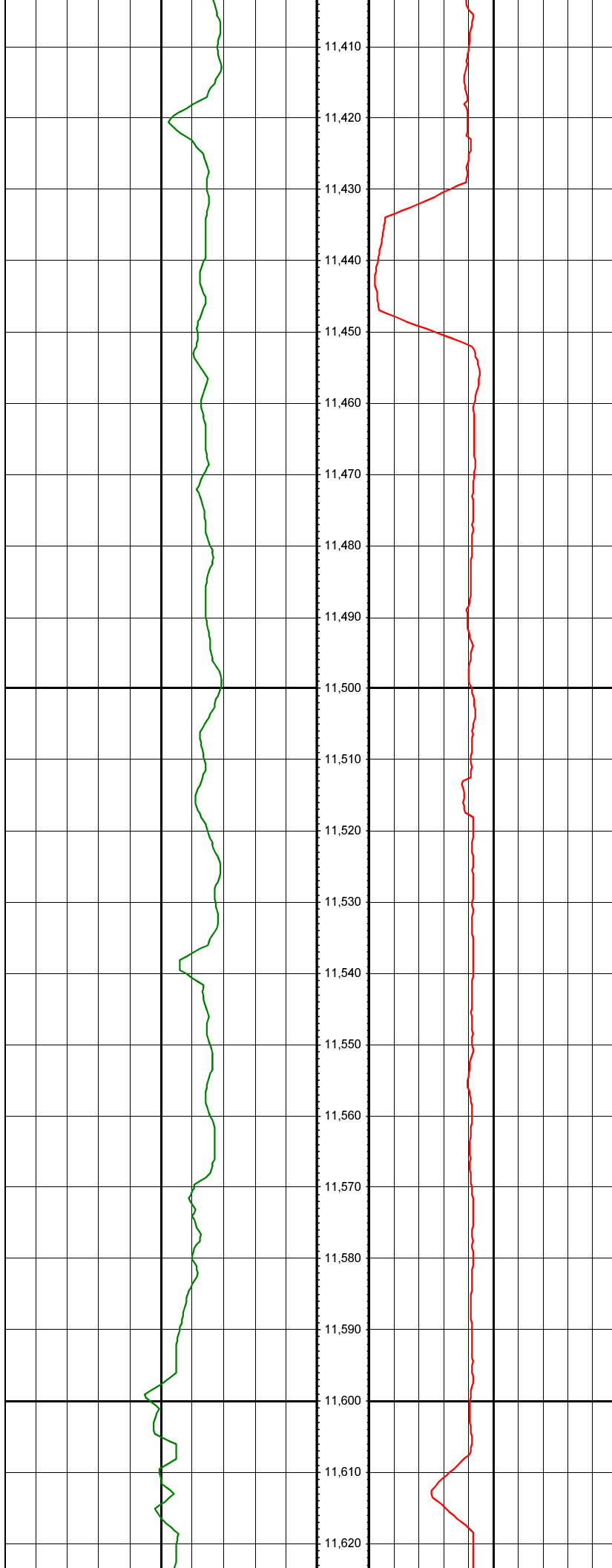
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MD: 11181.00 INC: 90.50 AZ: 0.90



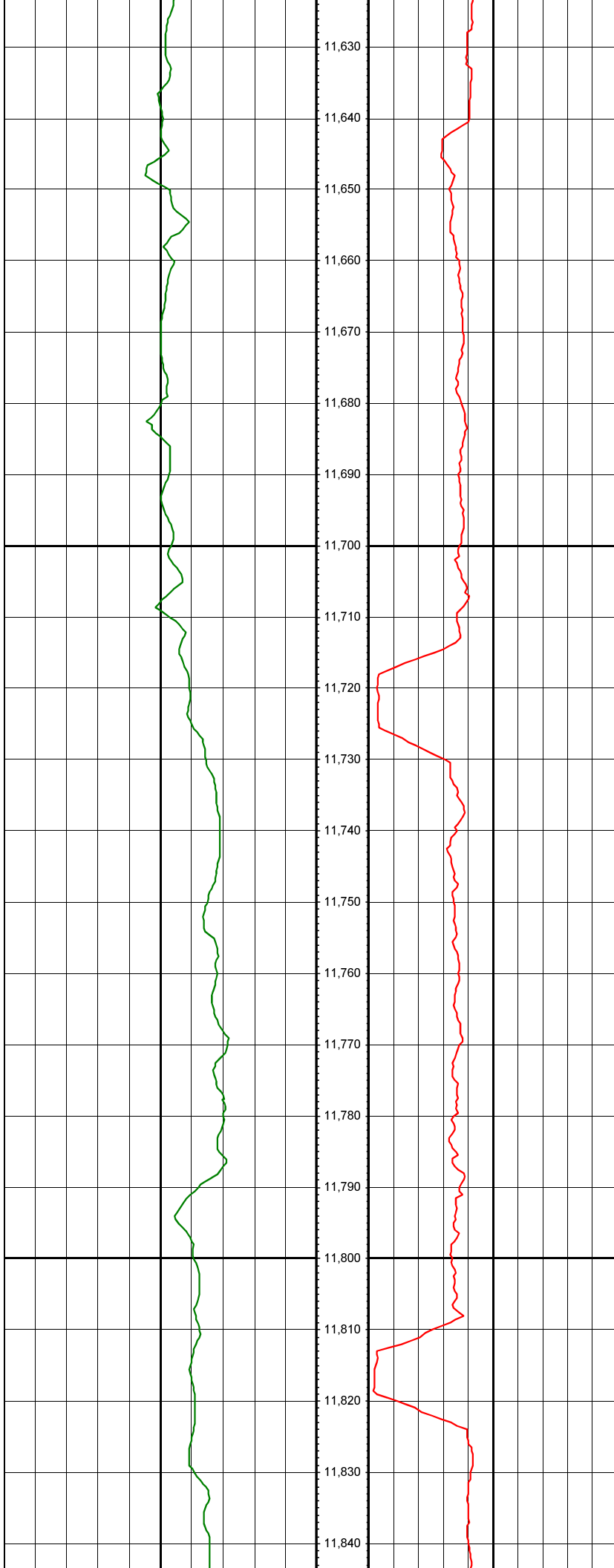
MD: 11275.00 INC: 91.90 AZ: 2.20

MD: 11369.00 INC: 92.00 AZ: 1.60



MD: 11464.00 INC: 90.10 AZ: 2.10

MD: 11558.00 INC: 89.60 AZ: 1.30



MD: 11653.00 INC: 89.30 AZ: 0.90

MD: 11747.00 INC: 89.80 AZ: 1.60

MD: 11842.00 INC: 91.50 AZ: 2.90



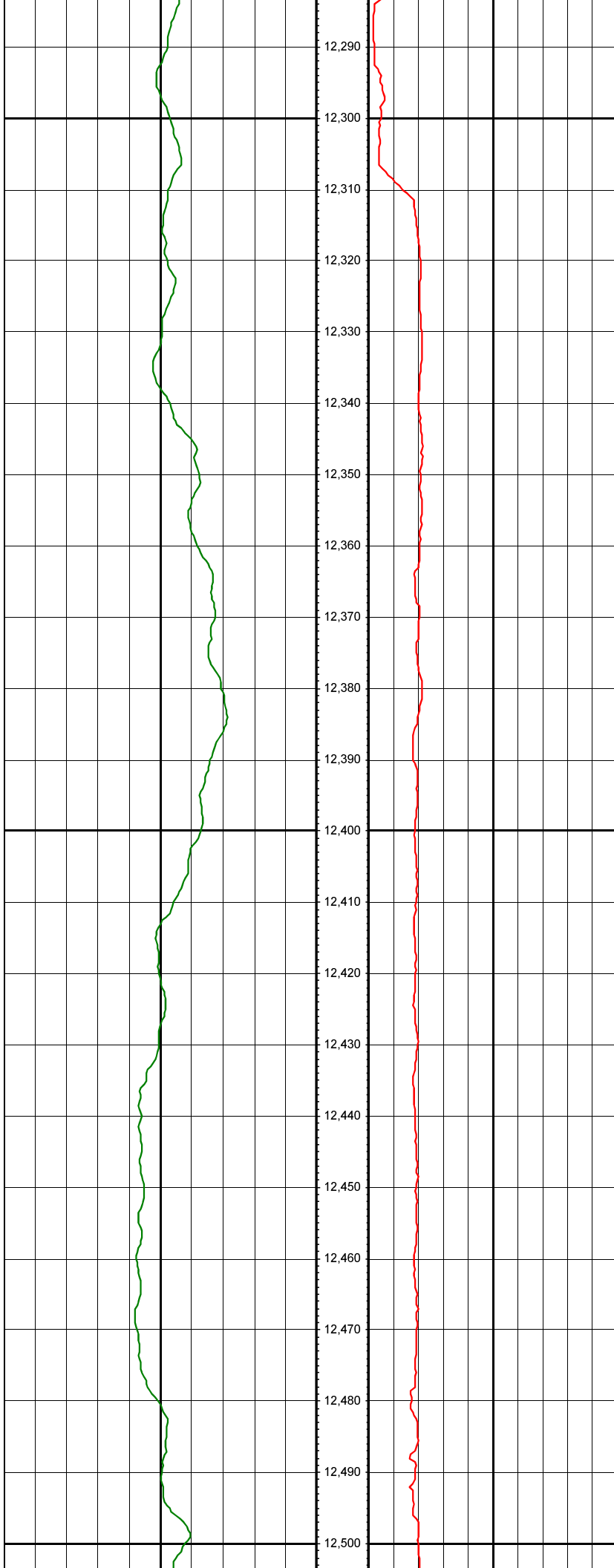
MD: 11937.00 INC: 91.30 AZ: 2.40

MD: 12031.00 INC: 92.30 AZ: 2.60



MD: 12126.00 INC: 90.90 AZ: 0.60

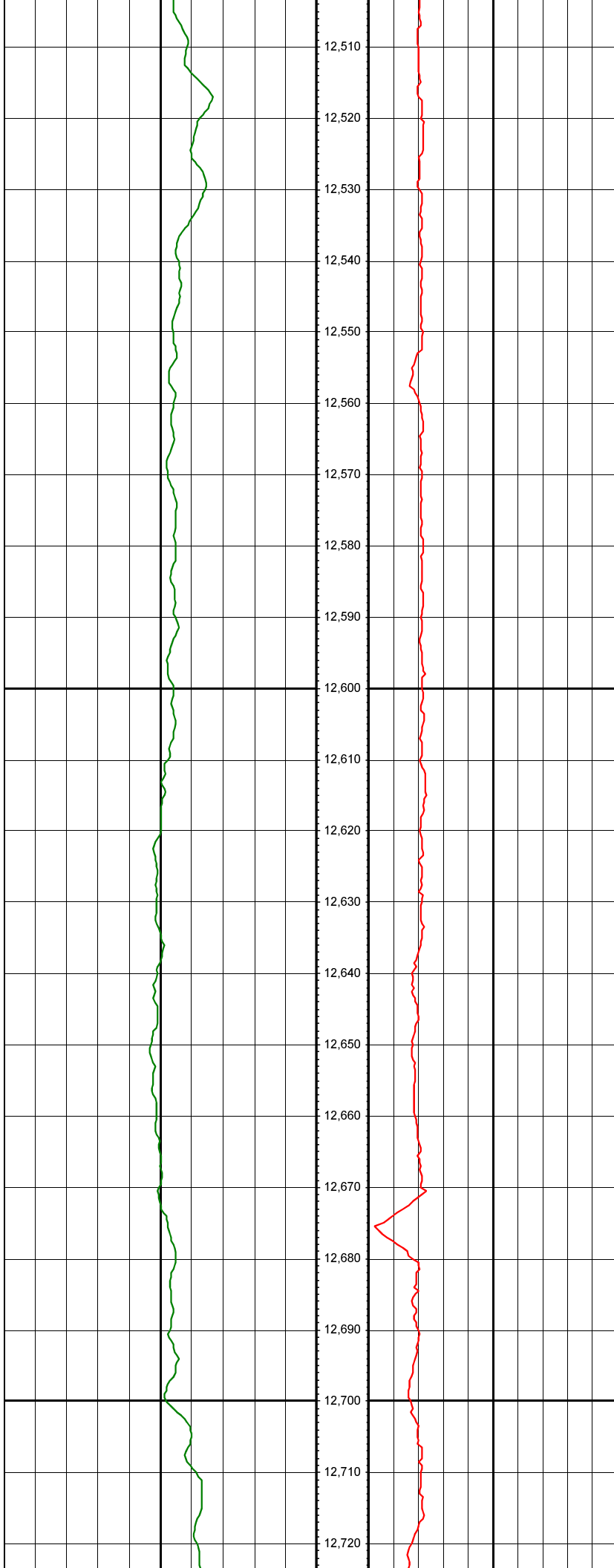
MD: 12219.00 INC: 89.00 AZ: 360.00



MD: 12314.00 INC: 89.00 AZ: 356.40

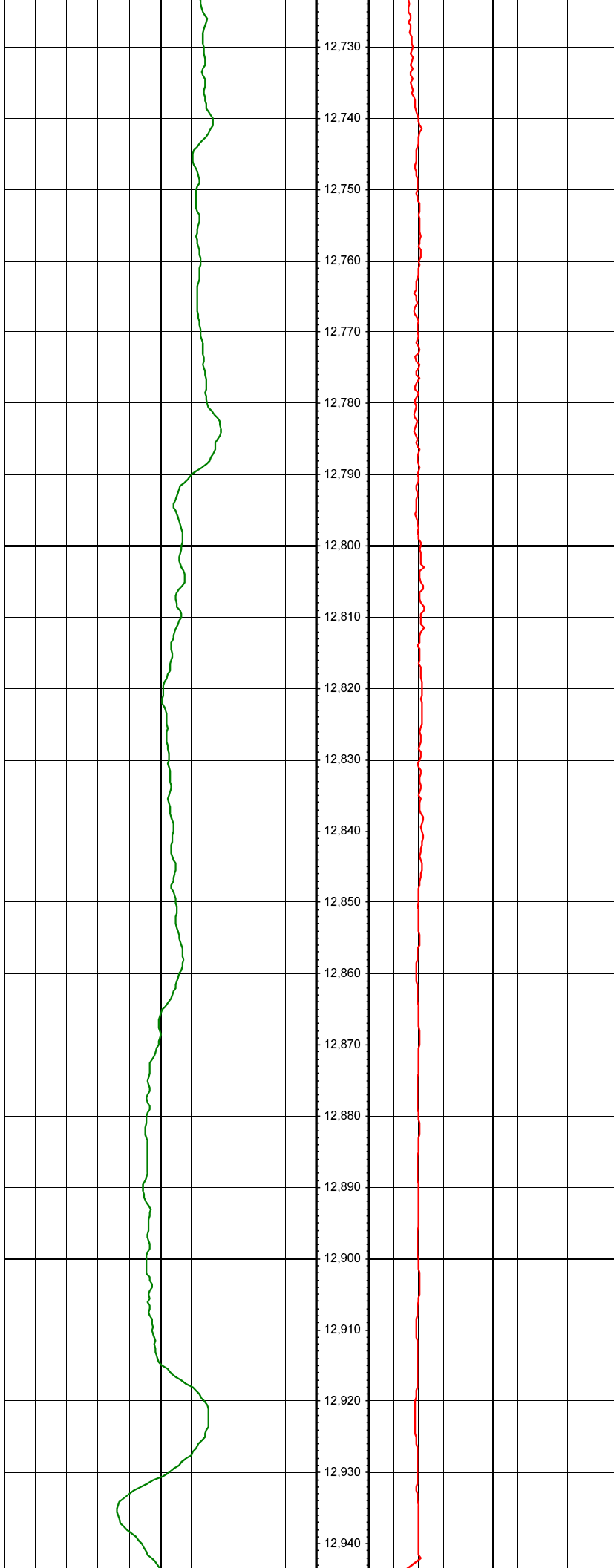
MD: 12409.00 INC: 89.10 AZ: 357.10

MD: 12503.00 INC: 89.40 AZ: 356.70



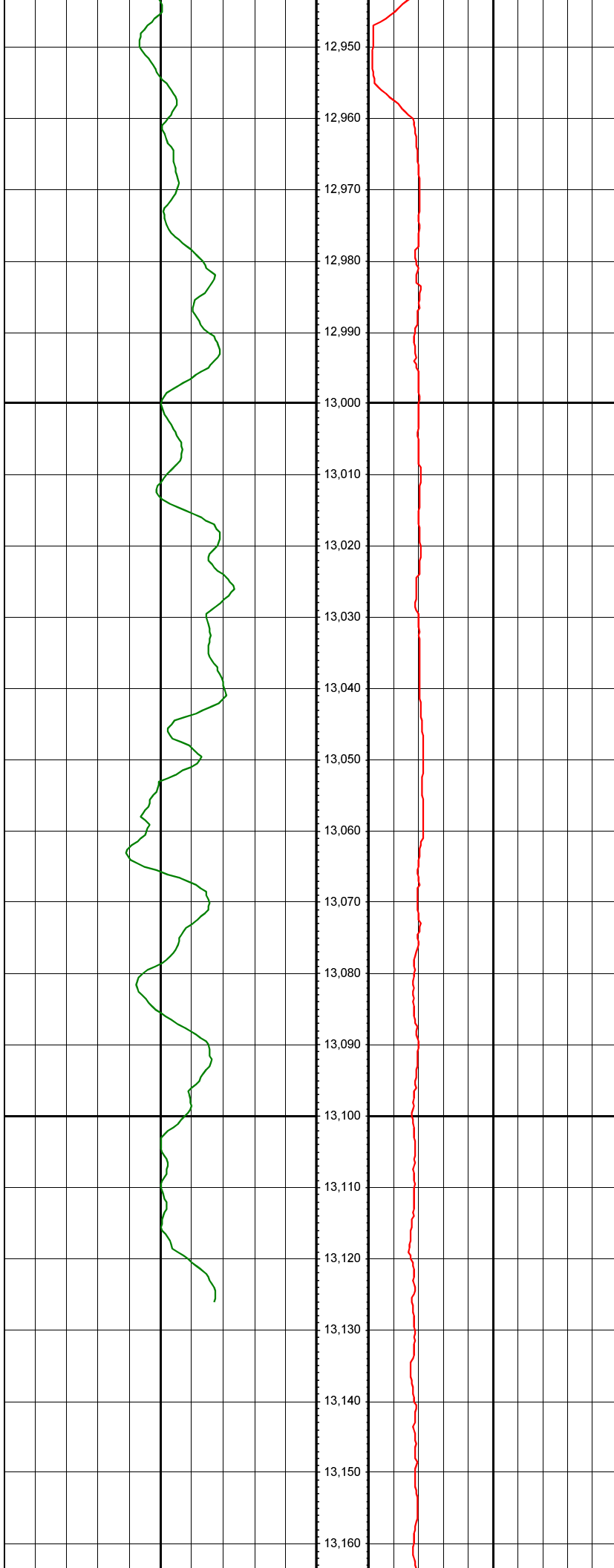
MD: 12598.00 INC: 89.60 AZ: 355.60

MD: 12692.00 INC: 89.90 AZ: 356.00



MD: 12786.00 INC: 90.90 AZ: 355.80

MD: 12881.00 INC: 91.70 AZ: 356.10



MD: 12975.00 INC: 92.00 AZ: 356.00

MD: 13070.00 INC: 92.10 AZ: 356.20

MD: 13116.00 INC: 93.00 AZ: 355.40