



Cathedral Energy Services
1949 North Pyrite Road
Casper, Wyoming 82604

145511

5":100' - MD

1/2/2015 10:47:03 AM

CATHEDRAL

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

Country: U.S.A.

State / Province: Colorado

County / Parish: Weld

Started: 12/24/2014 12:00 AM

API/UWI: 05-123-39411-00

Field: Wattenberg (Niobrara)

Well: Minch 3E-4H

Rig: Helmerich & Payne 522

Ended: 01/01/2015 12:30 PM

Gamma Ray
Section Plane: 90.00
Magnetic North: 8.52
Gamma Averaging: 7%

Personnel

Day Hand: J. Minter

Night Hand: T. Kaptch

Comp. Emp: Dave Hildreth

Maximum Temperature: 219°F

Location

Latitude: 40.252220

Longitude: -105.016080

Elev. GL: 5110

Elev. DF:

Elev. KB: 5140

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

Hole Data

Size	From	To
12-1/4	0	878
8-3/4	864	7433
6-1/8	7490	11752

Casing Data

Size	From	To
9-5/8	0	878
7	0	7433
4-1/2	0	11752

Bit Sizes

Size	From	To
12-1/4	0	878
8-3/4	864	7433
6-1/8	7433	11752

Mud Data

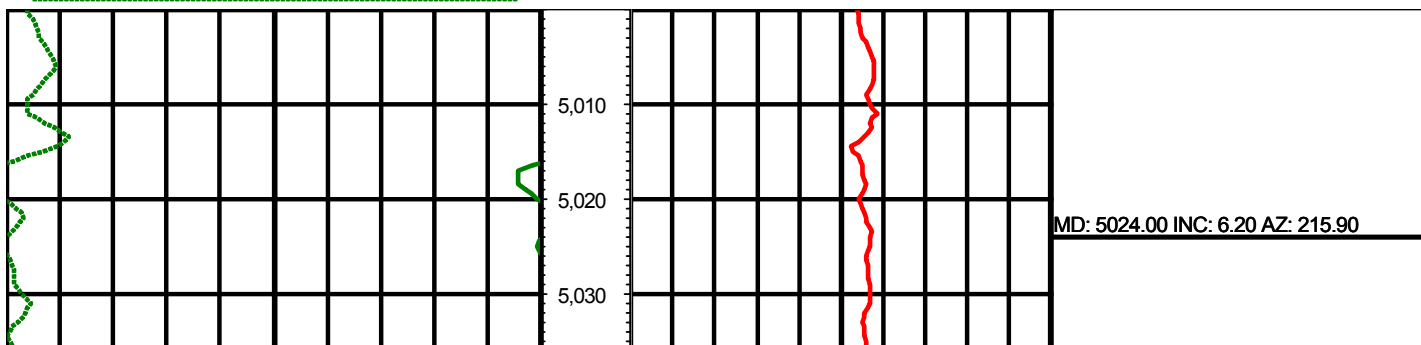
Type	Weight	Density	Viscosity	Rm	Rmf	Rmc	From	To
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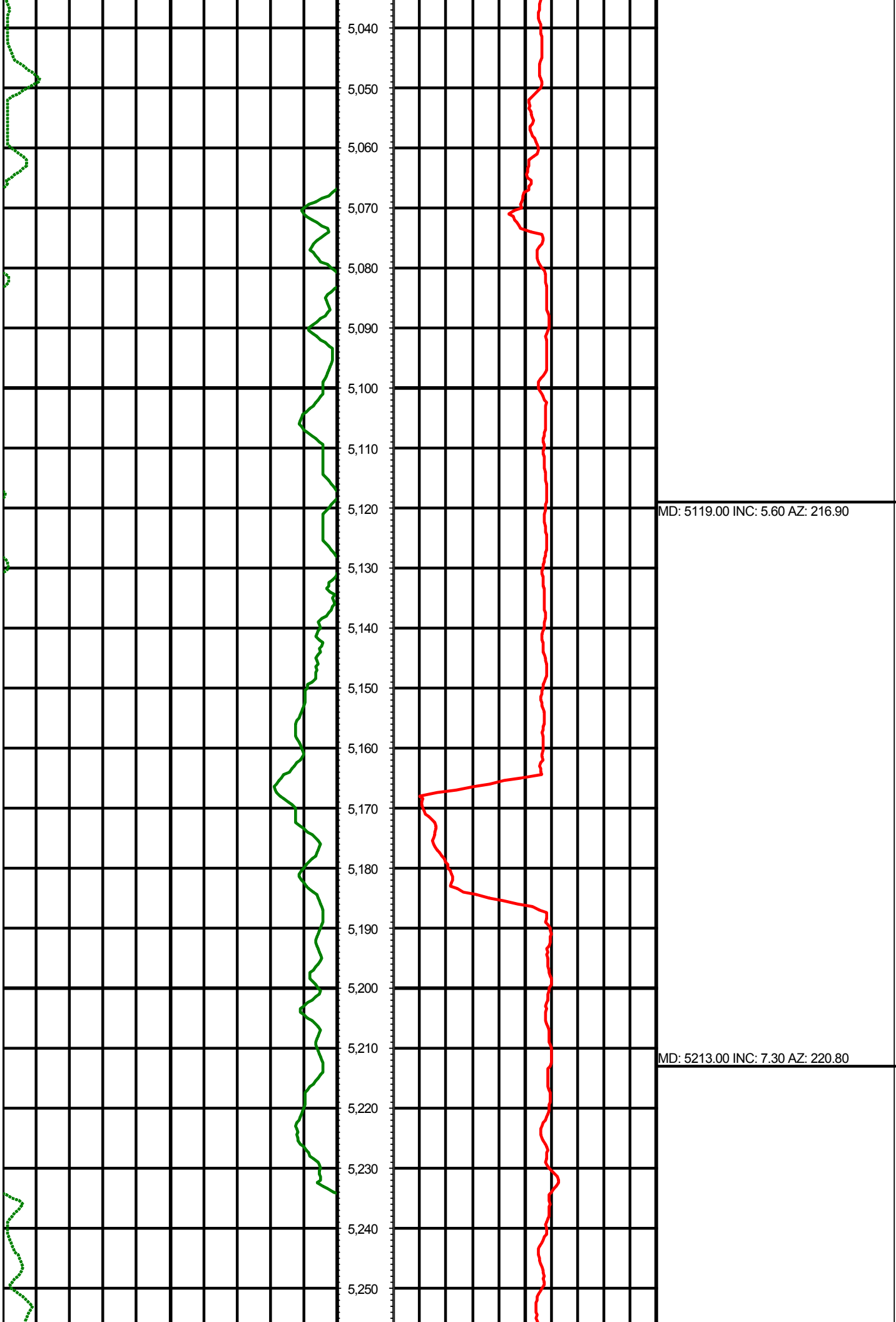
Tool Run Data

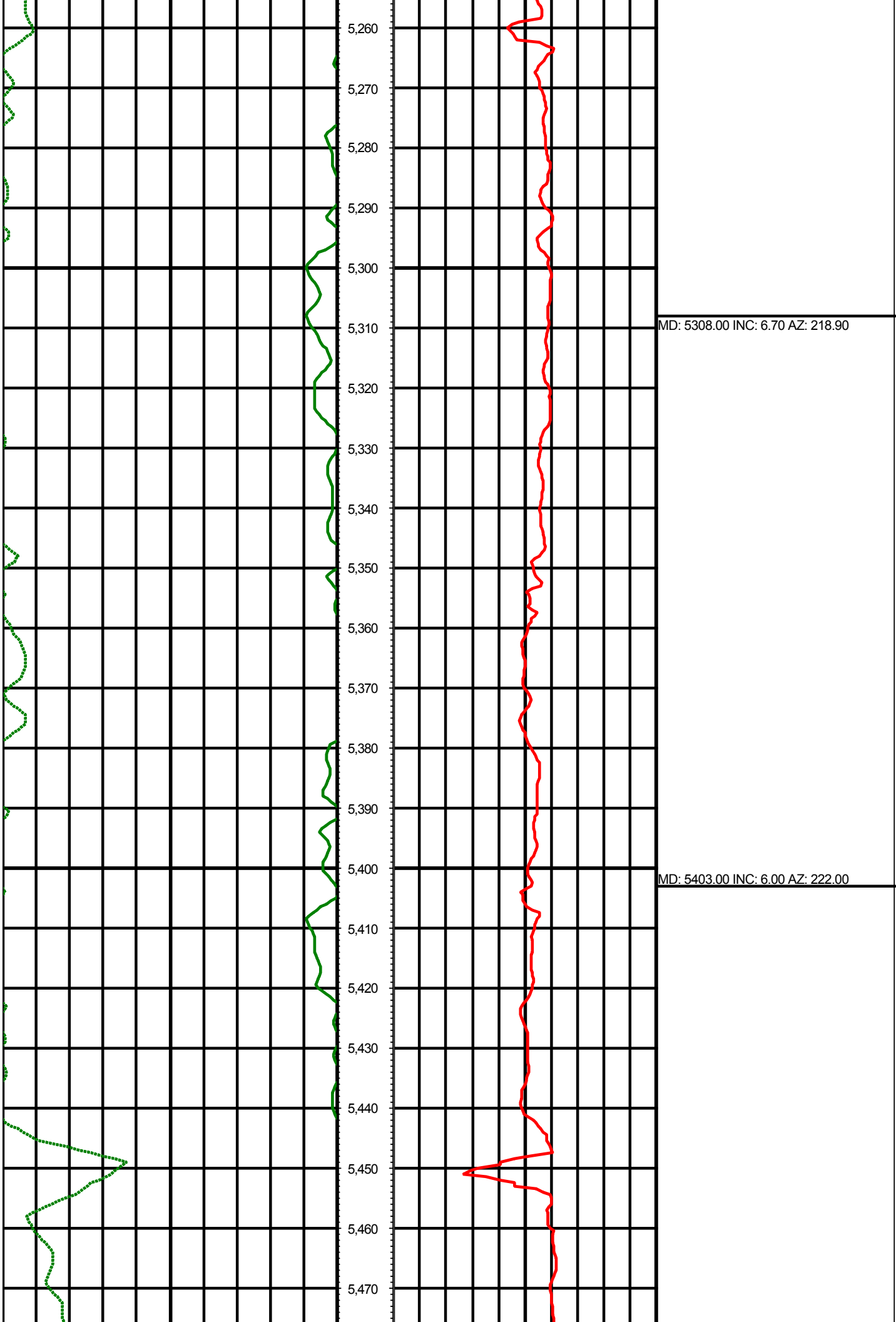
Serial Number	Gamma Offset	Resist. Offset	Start Time	Start Depth	End Time	End Depth
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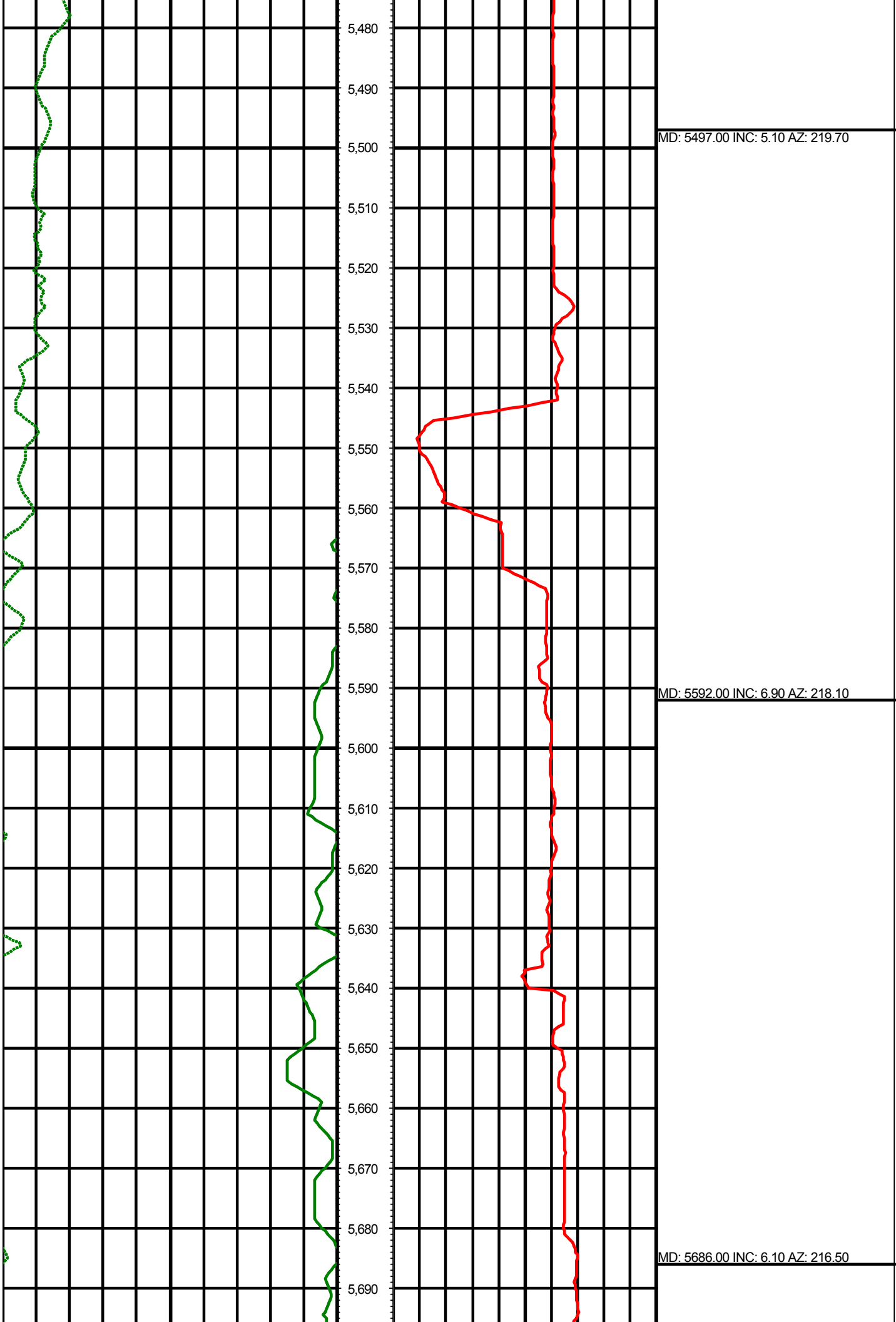
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not except in the case of gross or willful negligence on our part, be liable or responsible for any loss, cost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

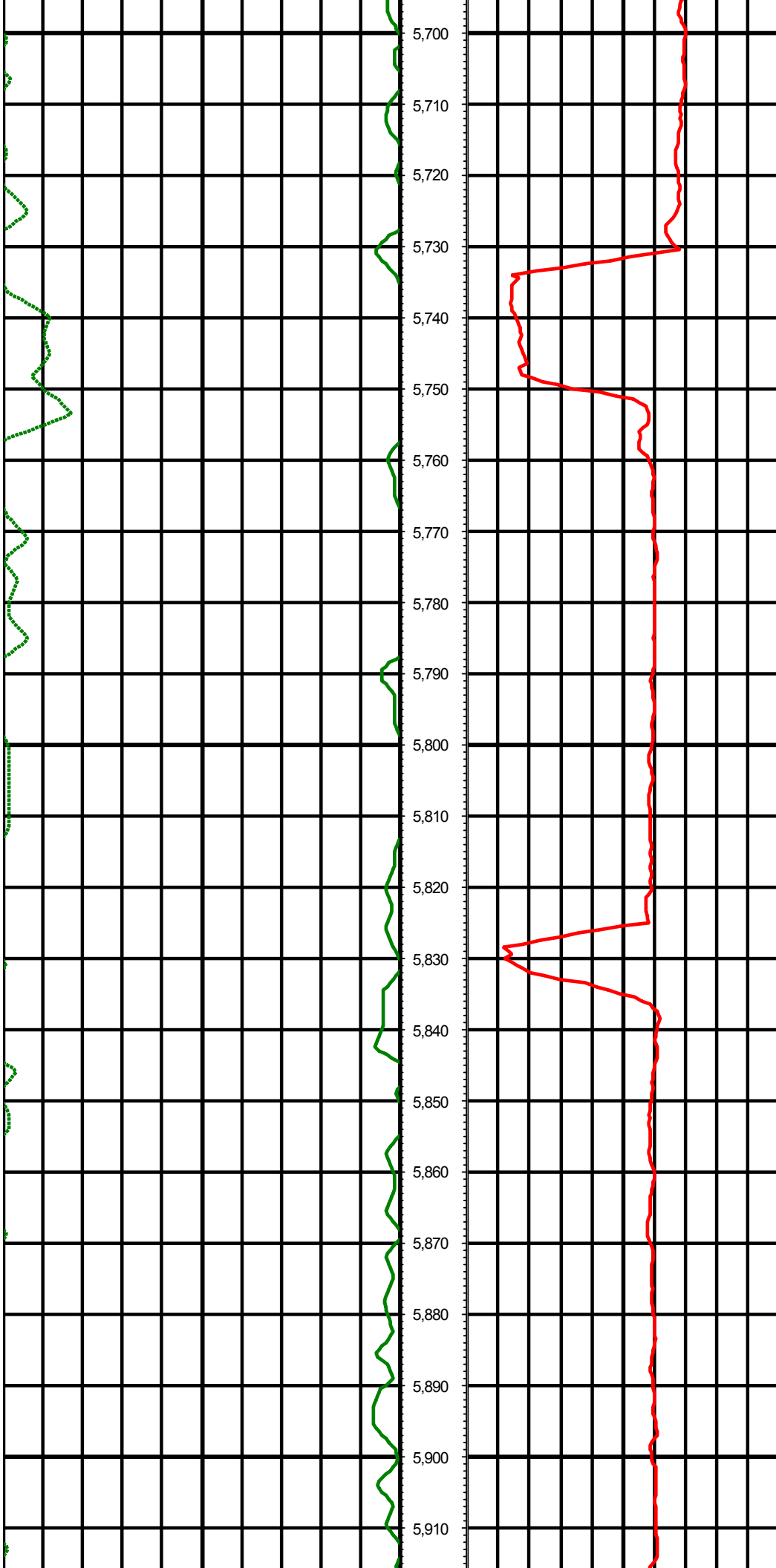
0.00 Gamma Ray (API) 150.00 MD 0.00 ROP (FT/HR) 600.00 Surveys (MD/INC/AZ)
150.00 2 300.00 FT





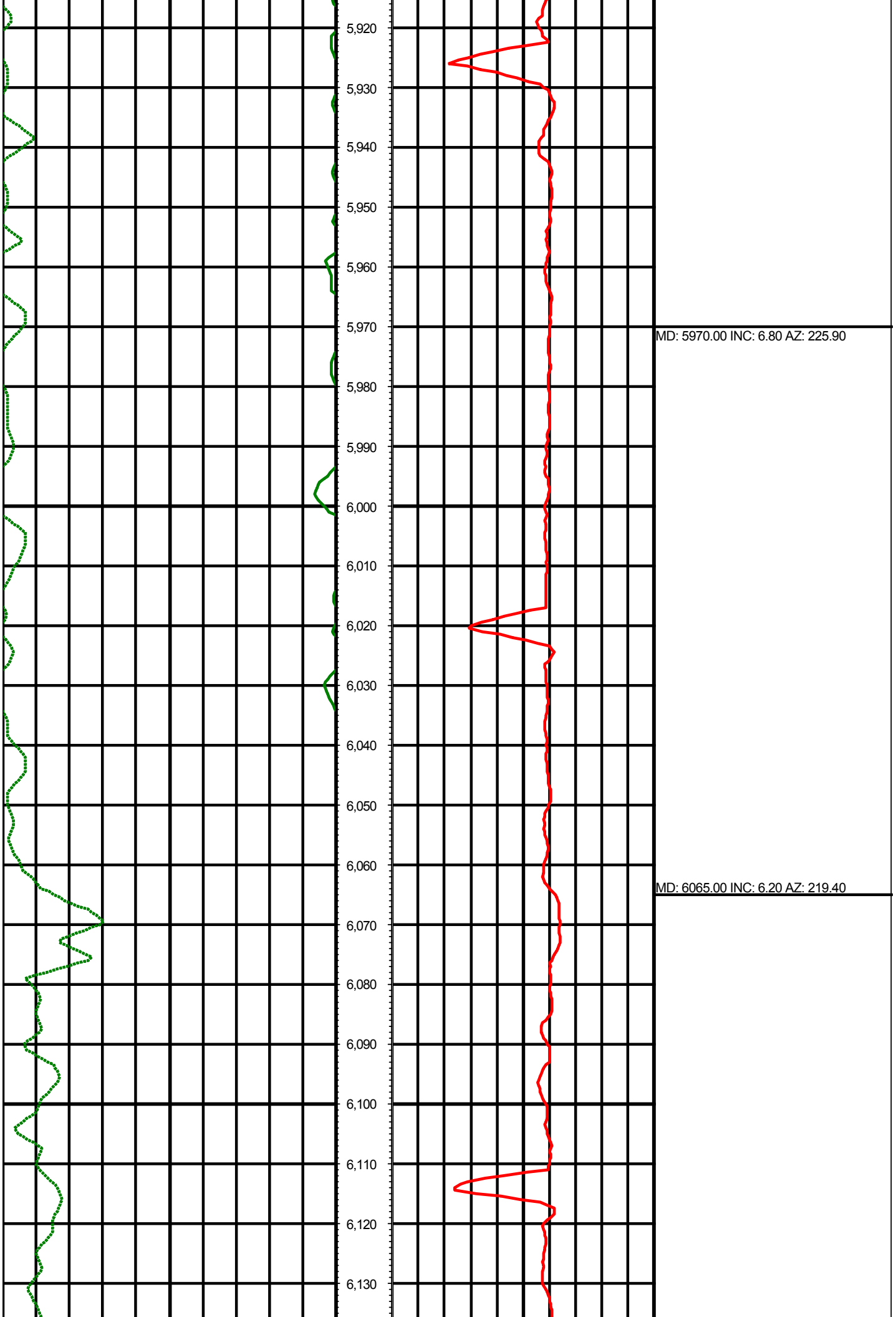


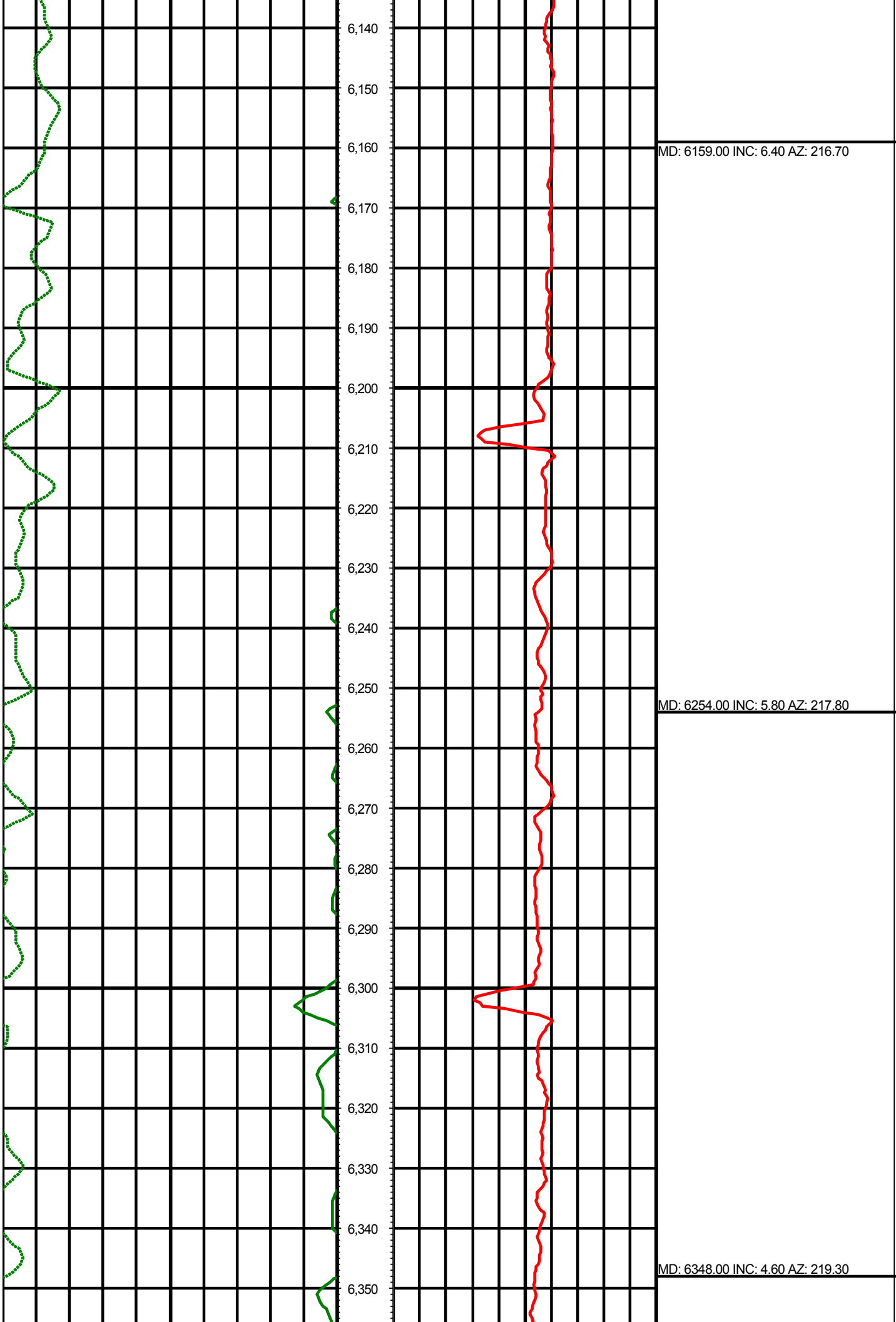


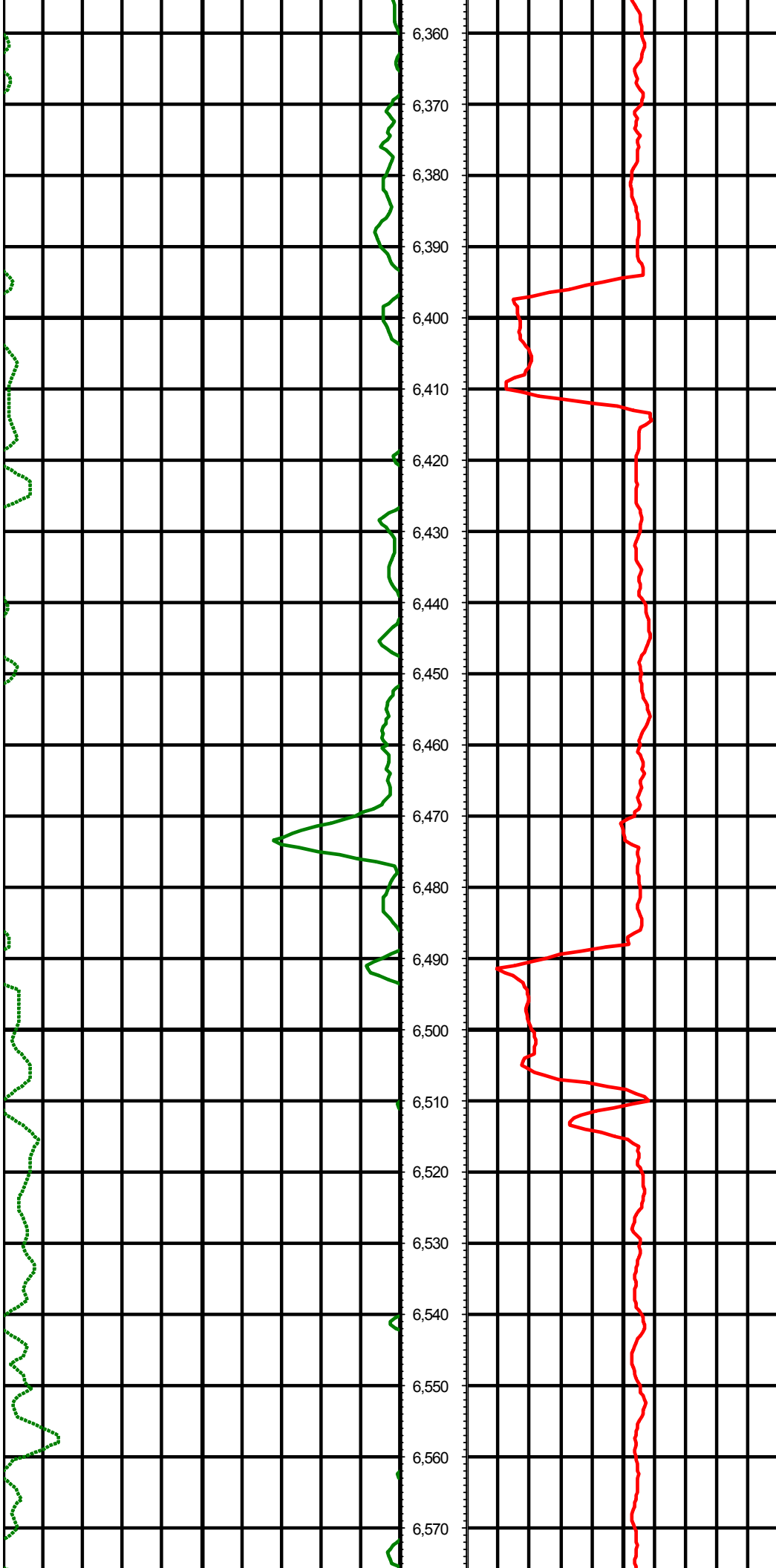


MD: 5781.00 INC: 8.10 AZ: 228.40

MD: 5876.00 INC: 7.40 AZ: 227.70

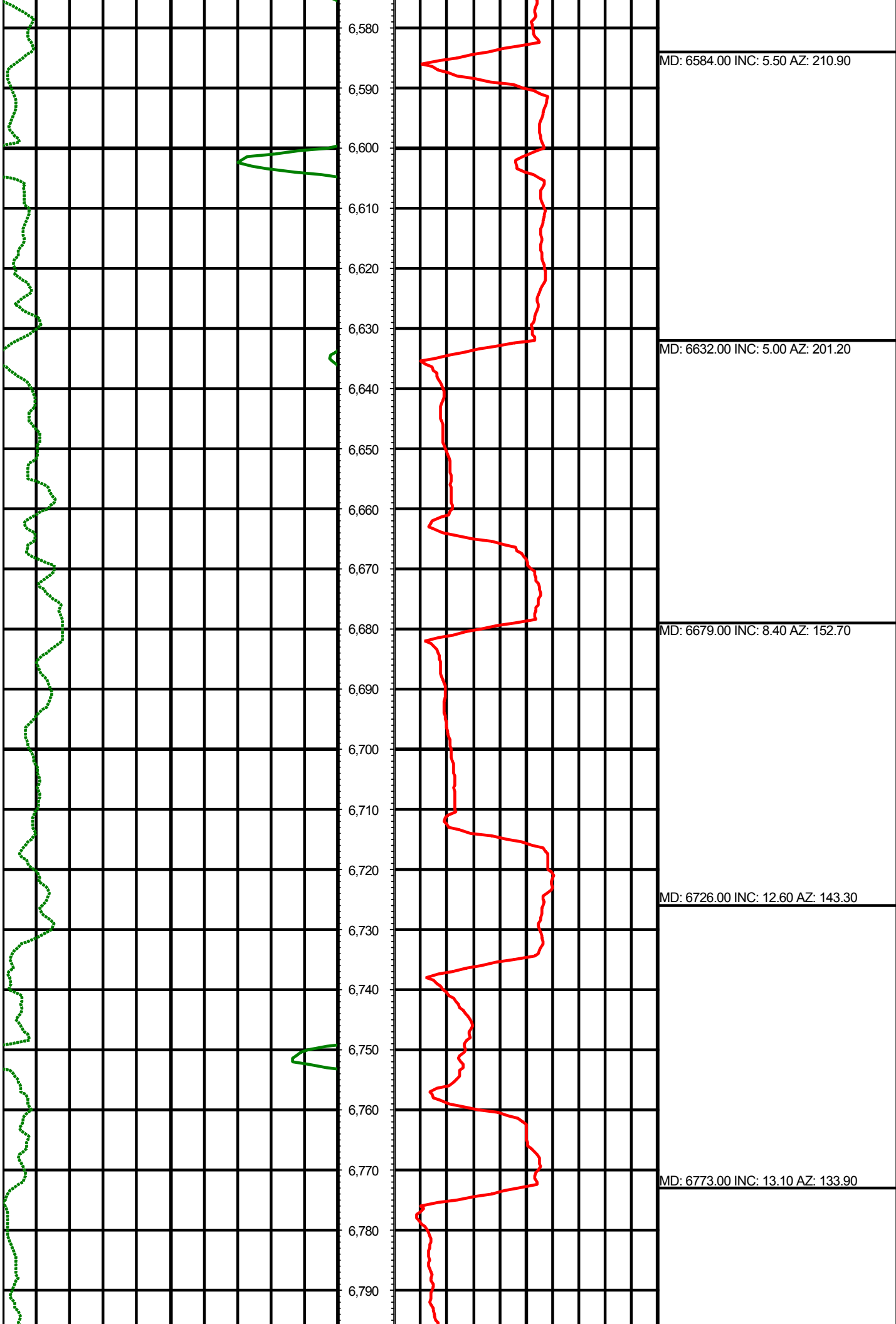


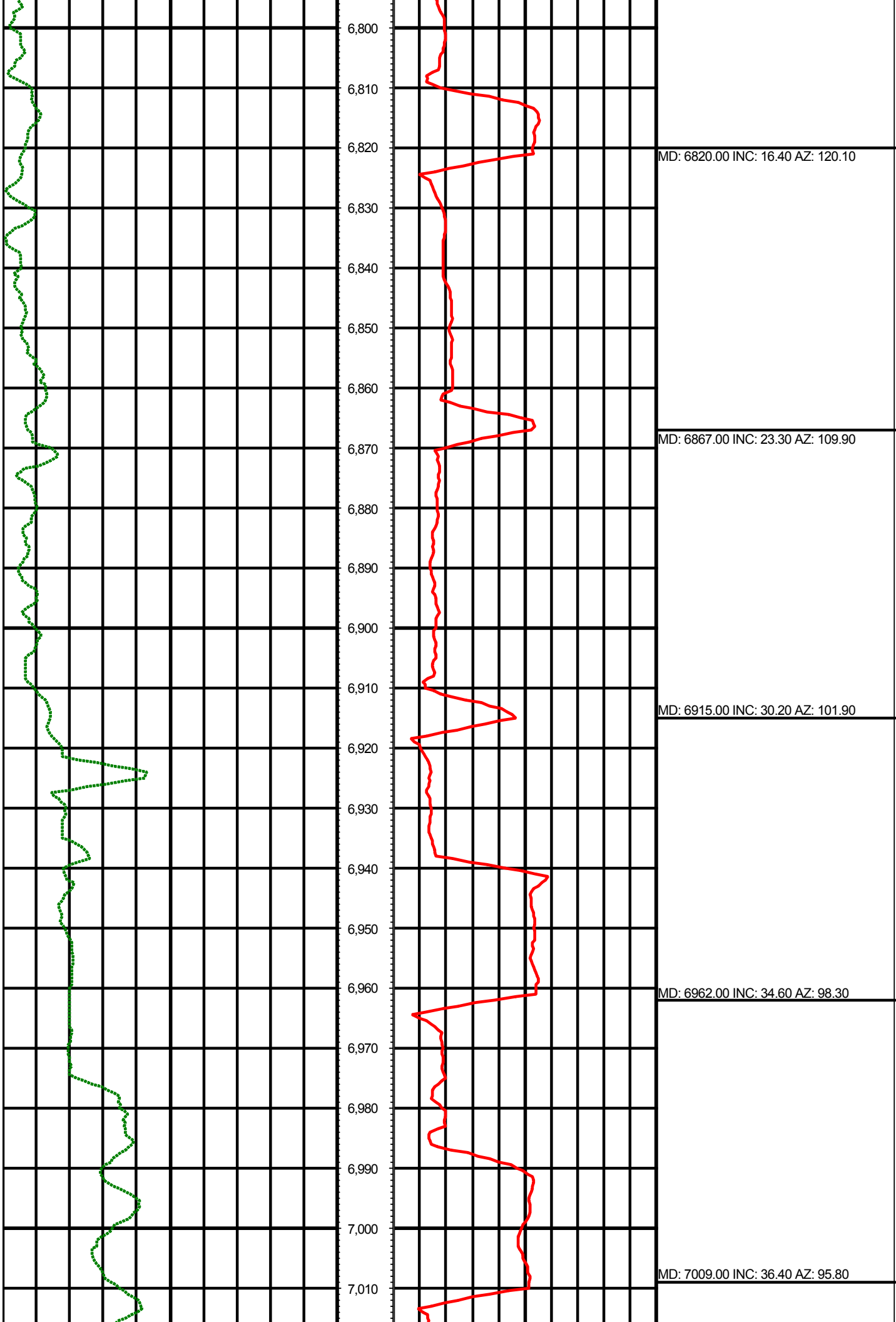


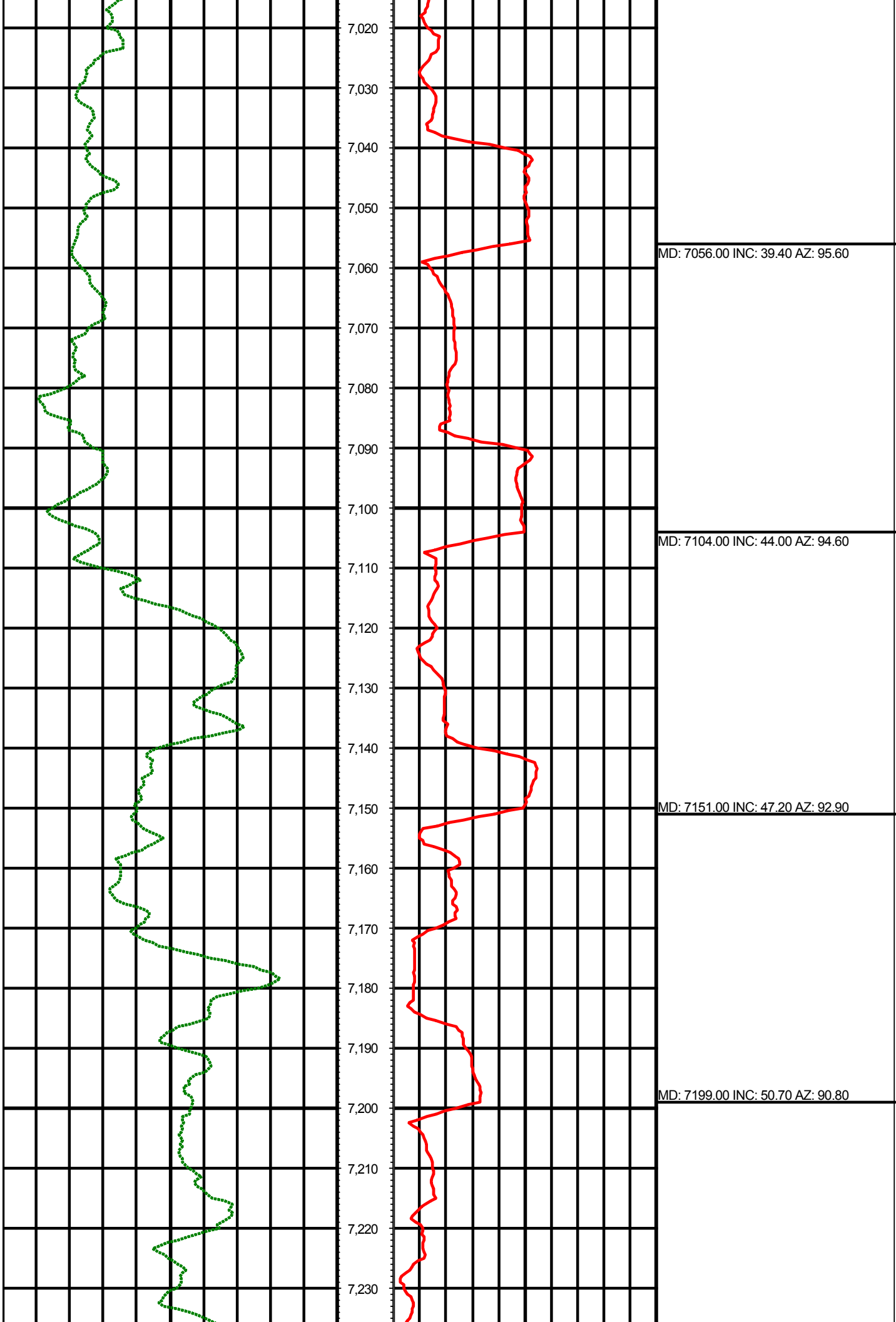


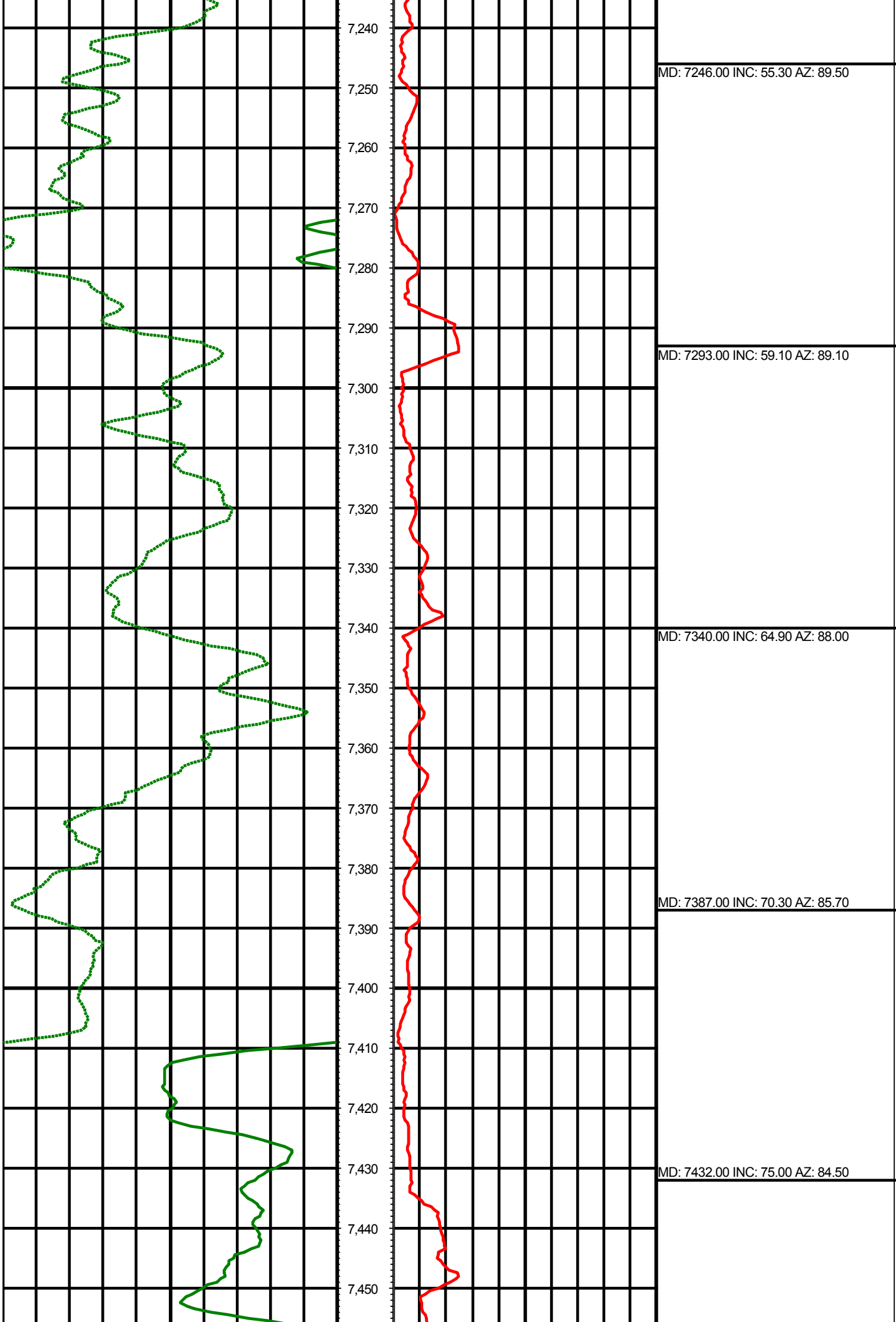
MD: 6443.00 INC: 4.60 AZ: 207.90

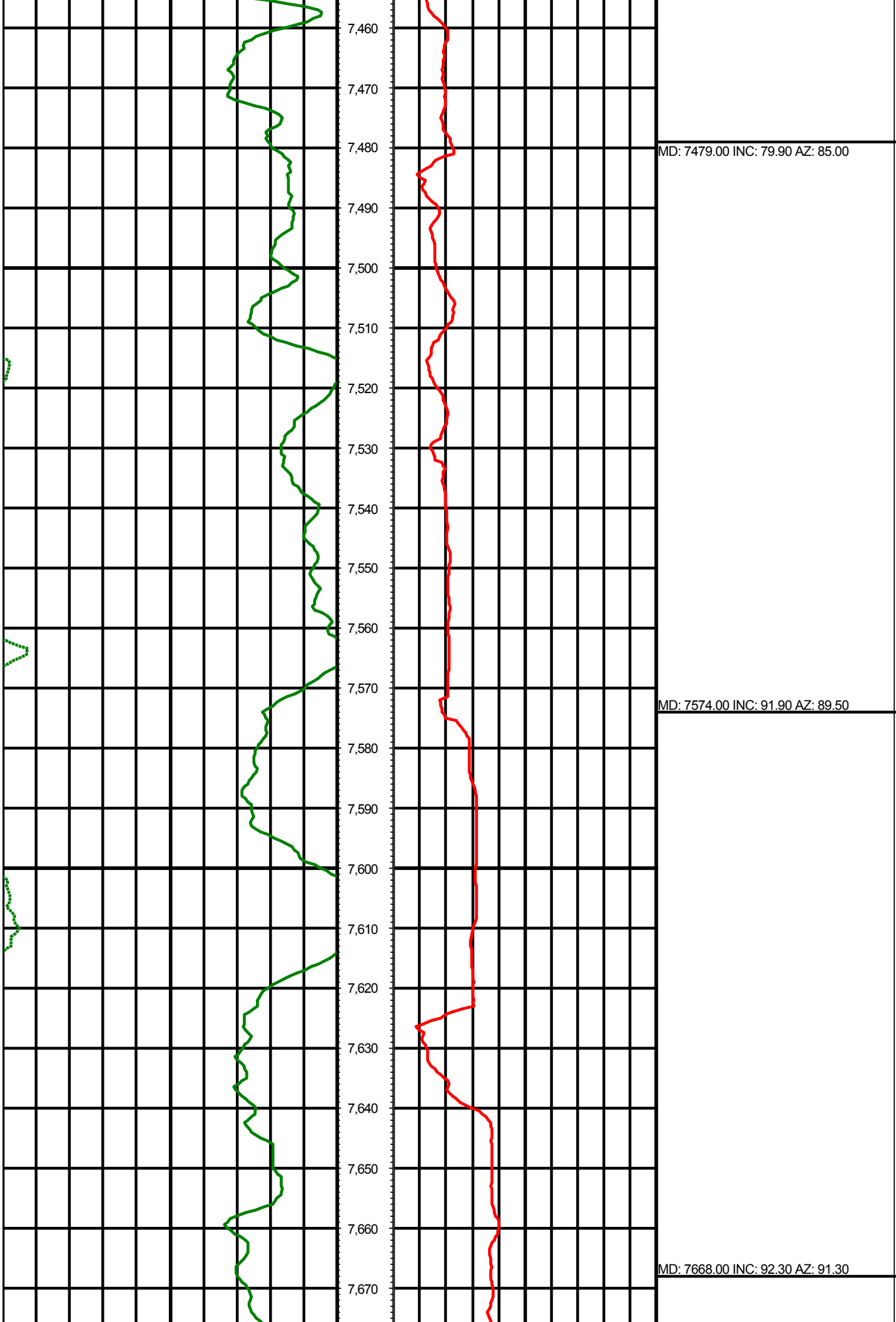
MD: 6537.00 INC: 6.20 AZ: 211.50

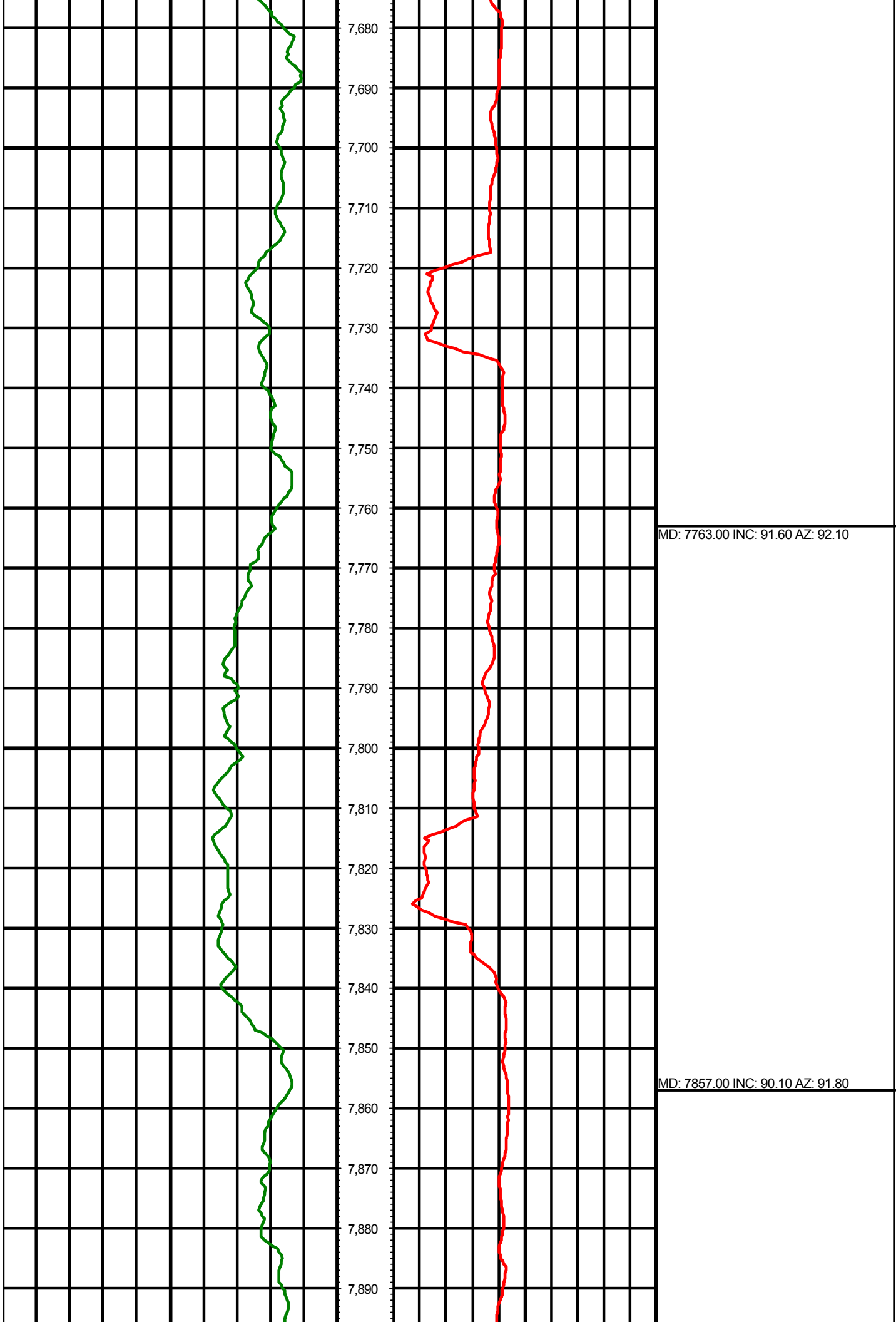


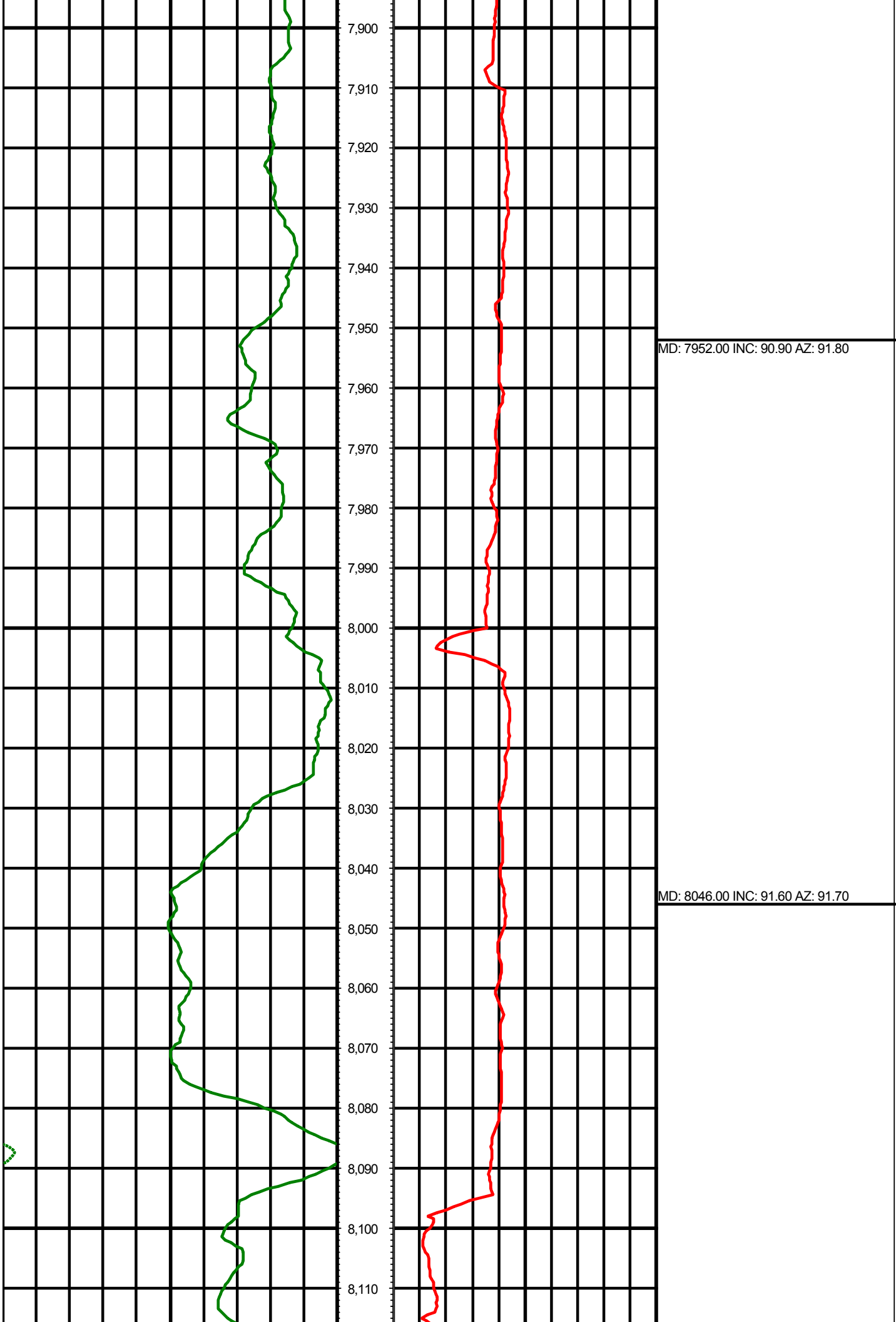


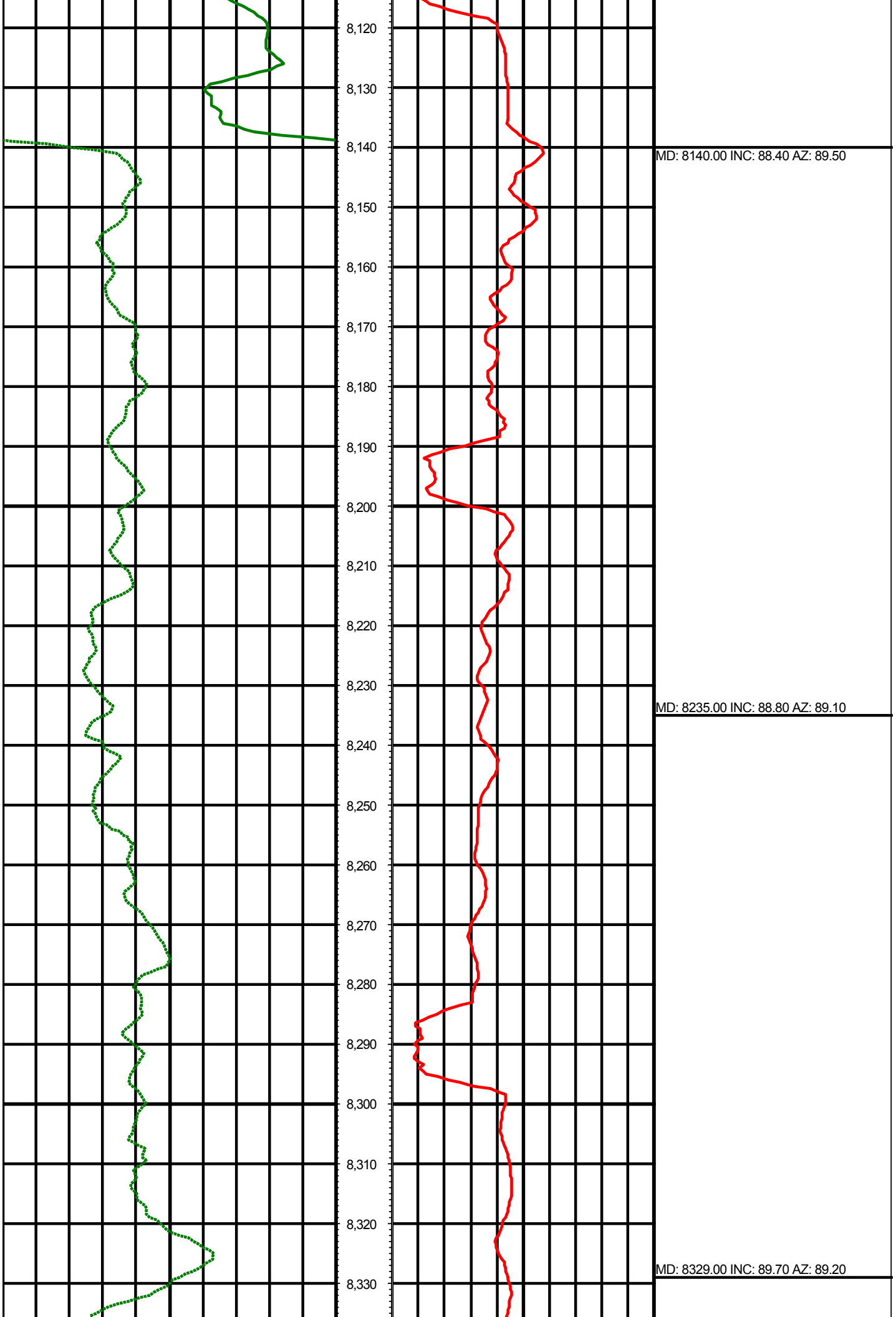


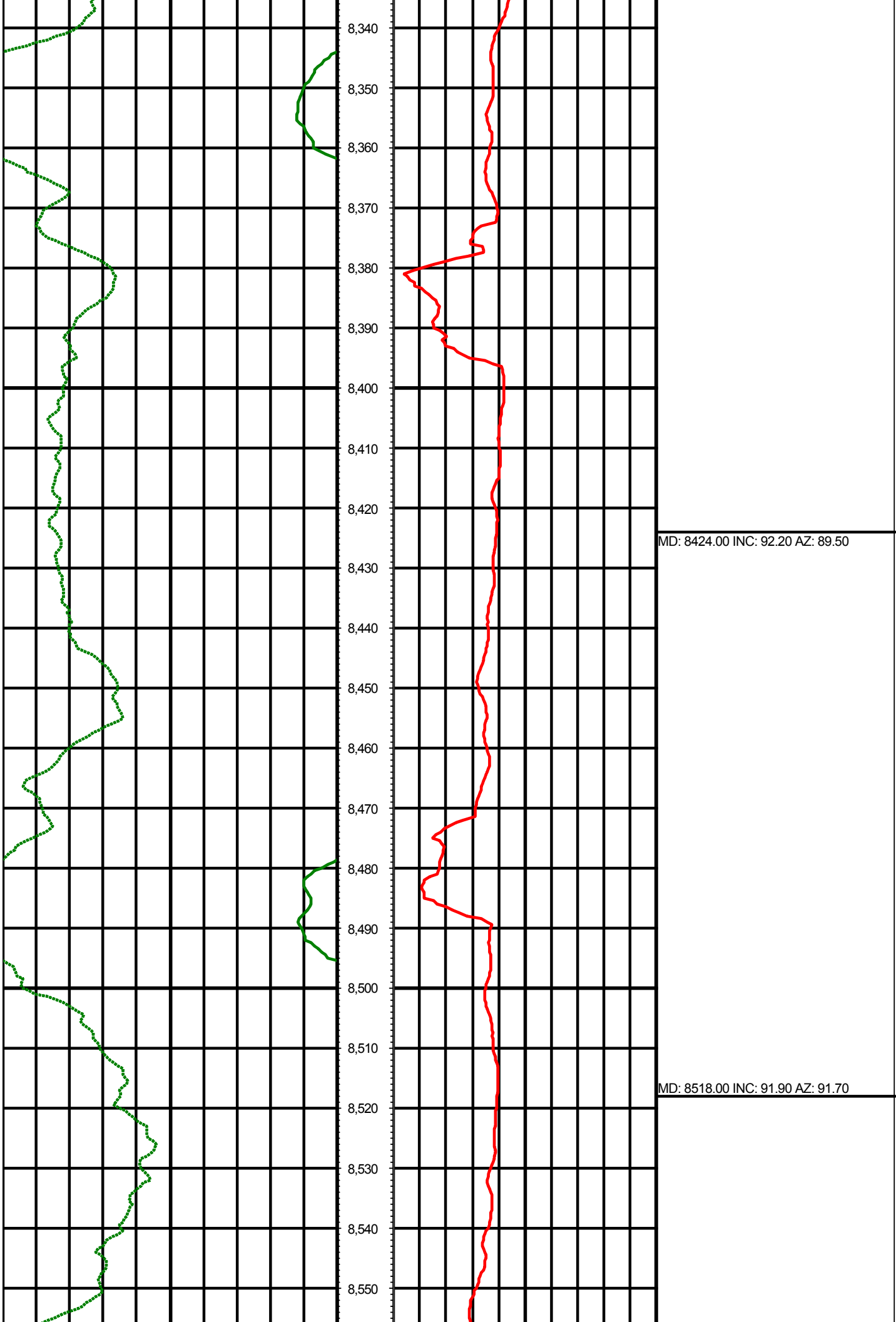


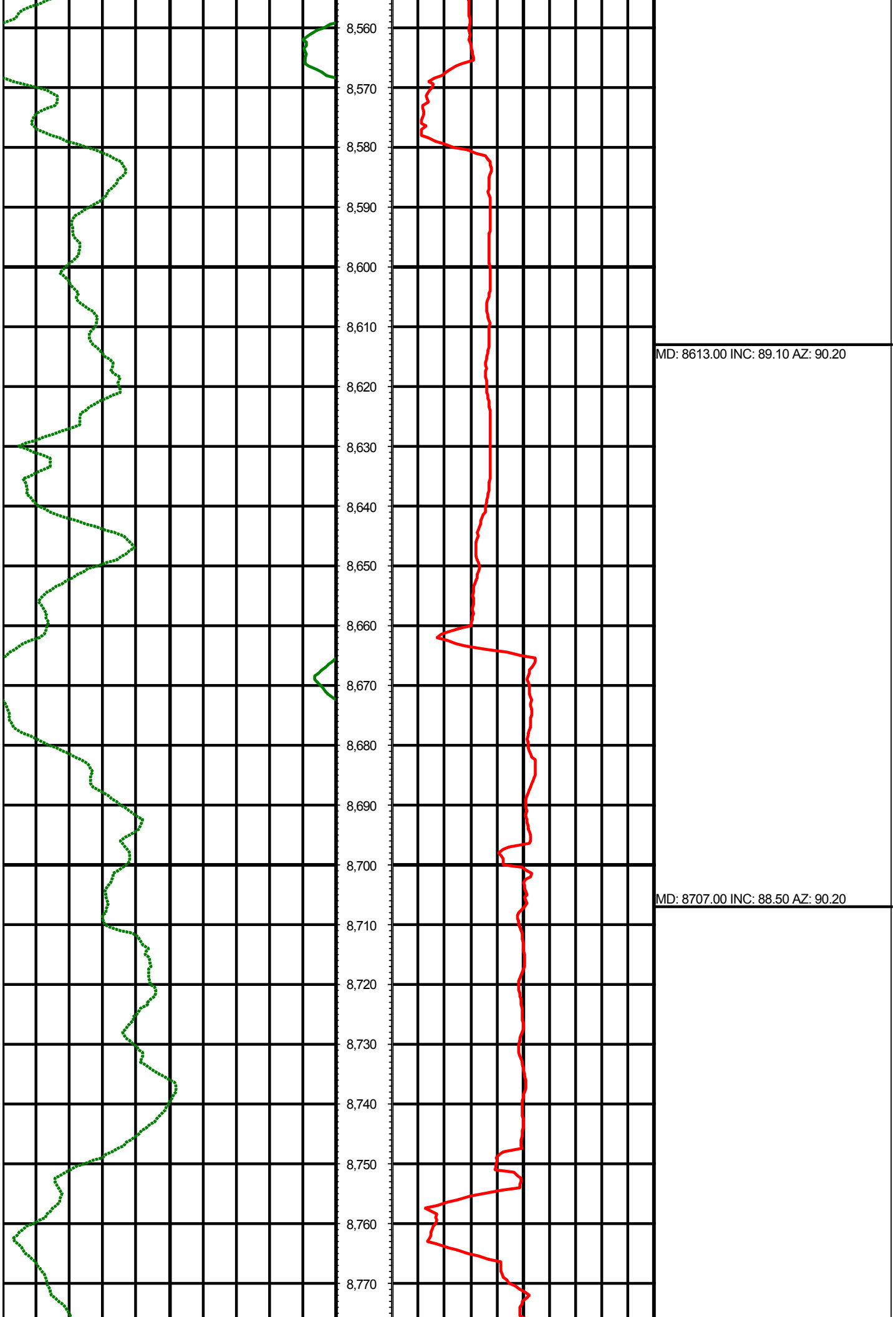


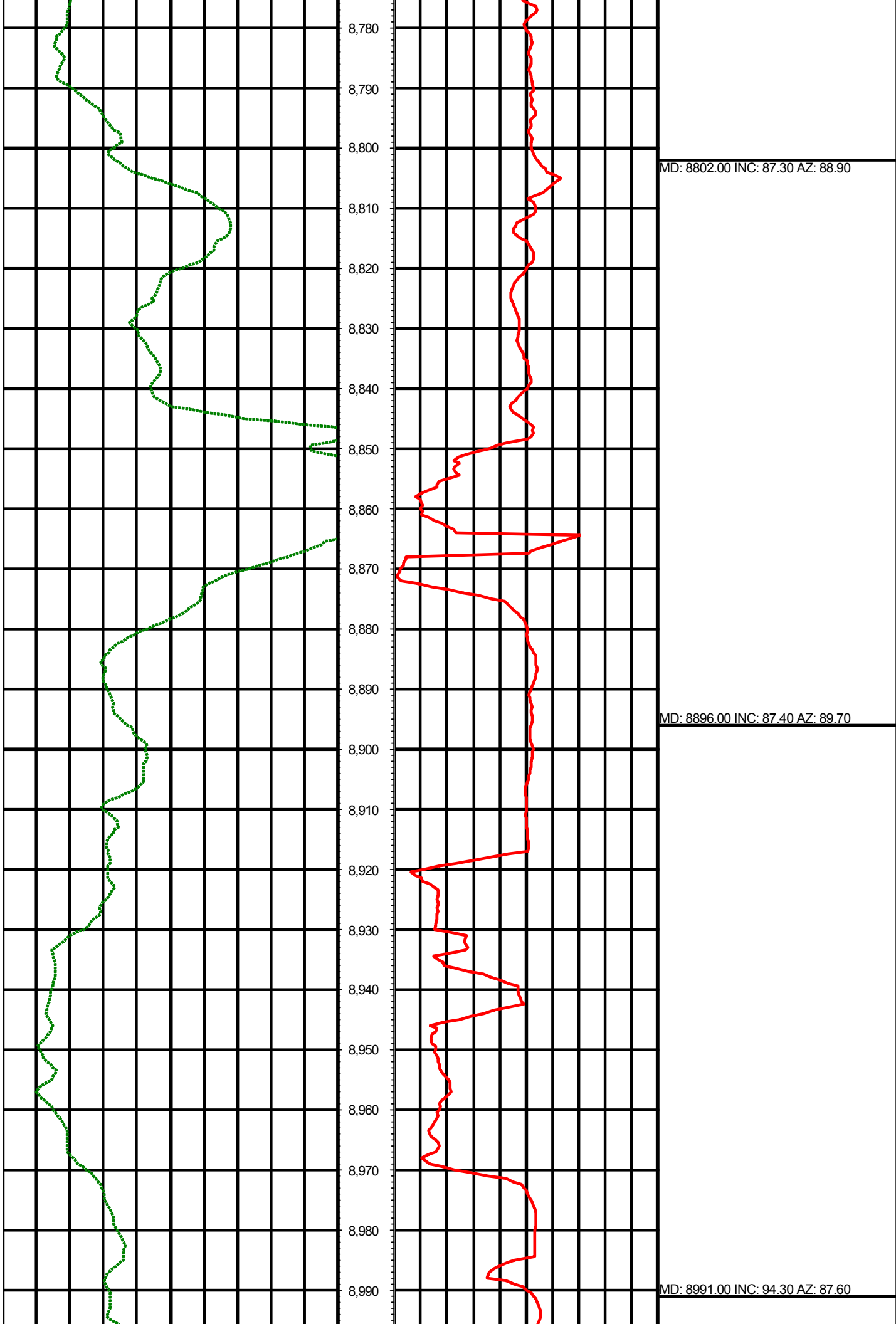


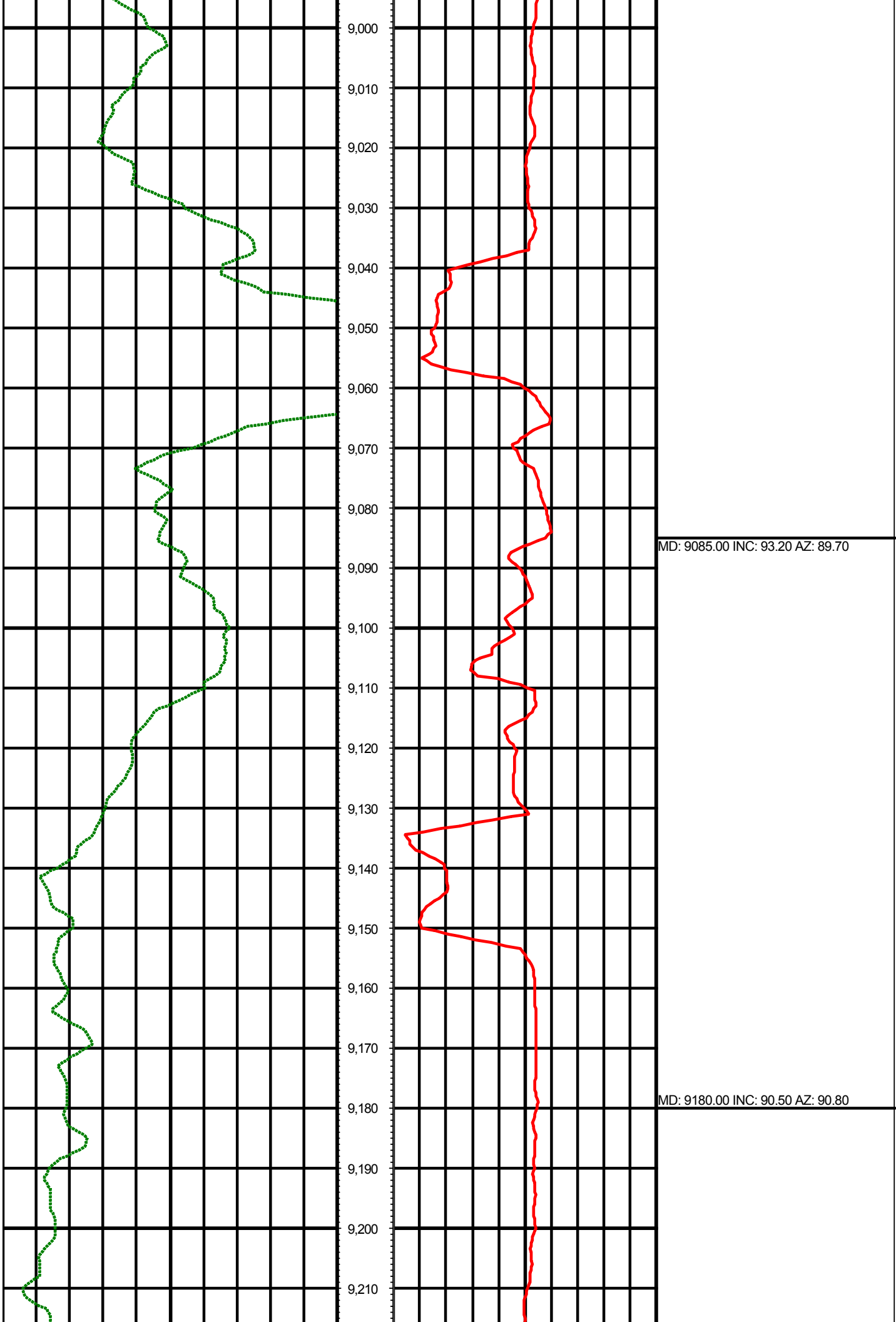


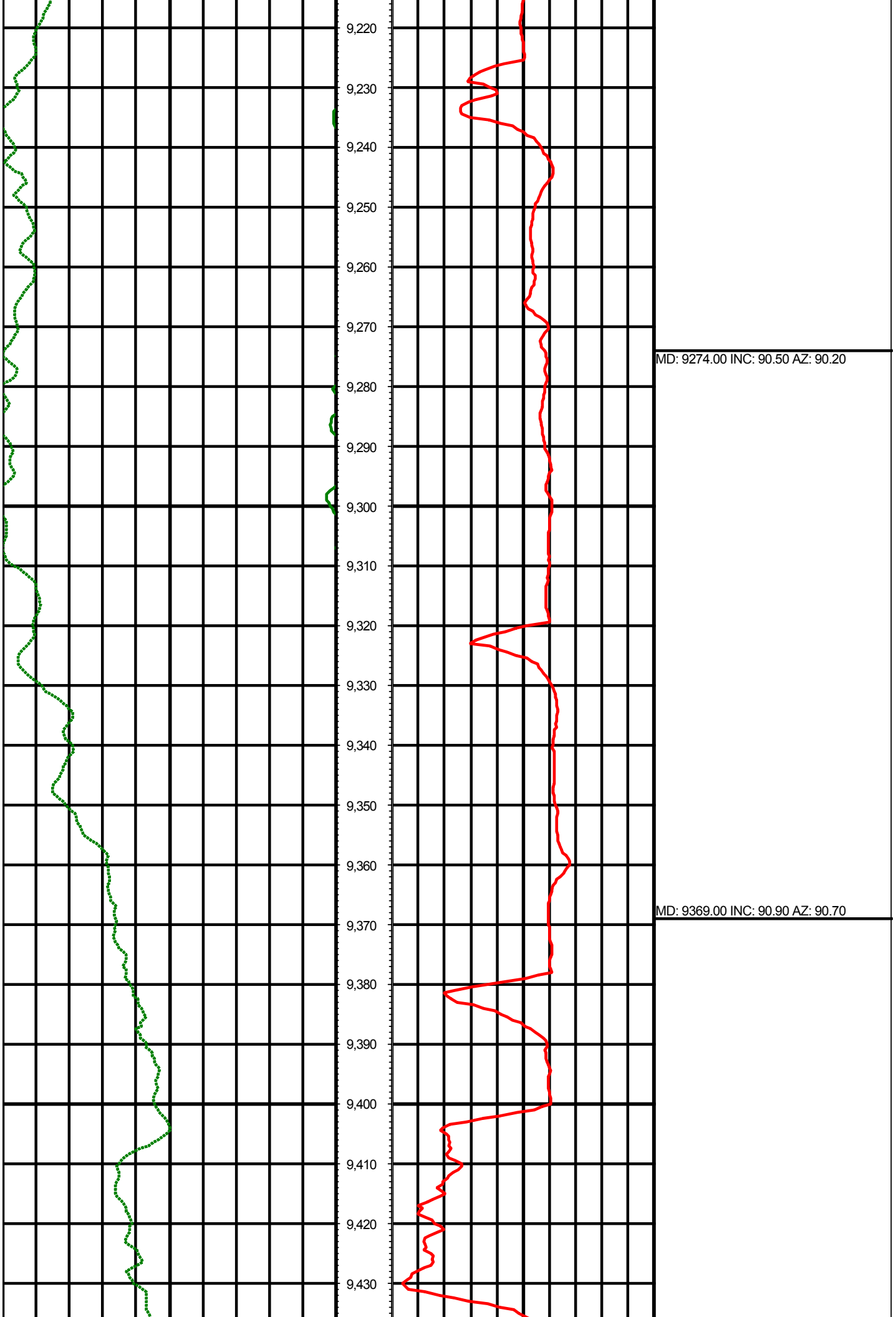


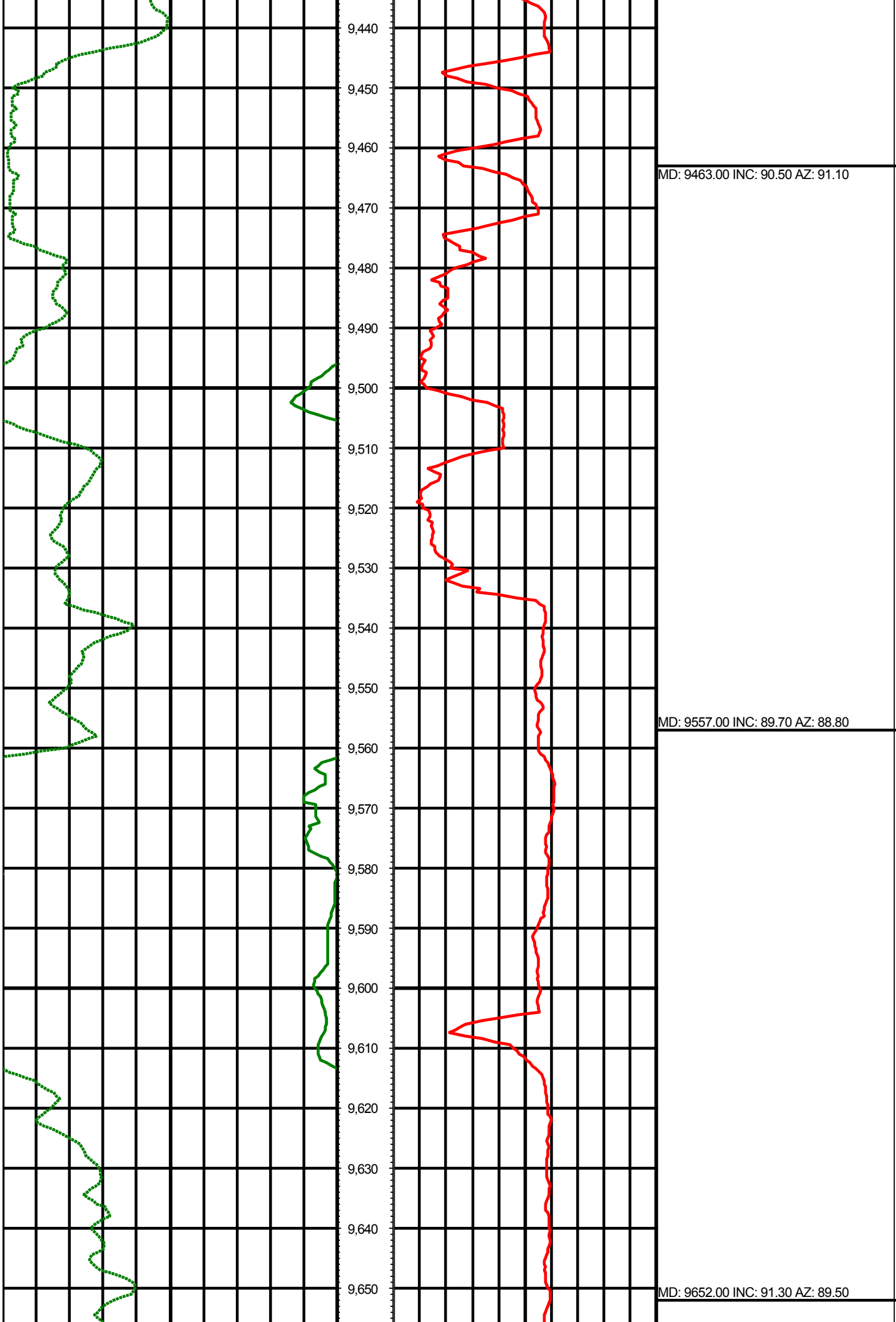


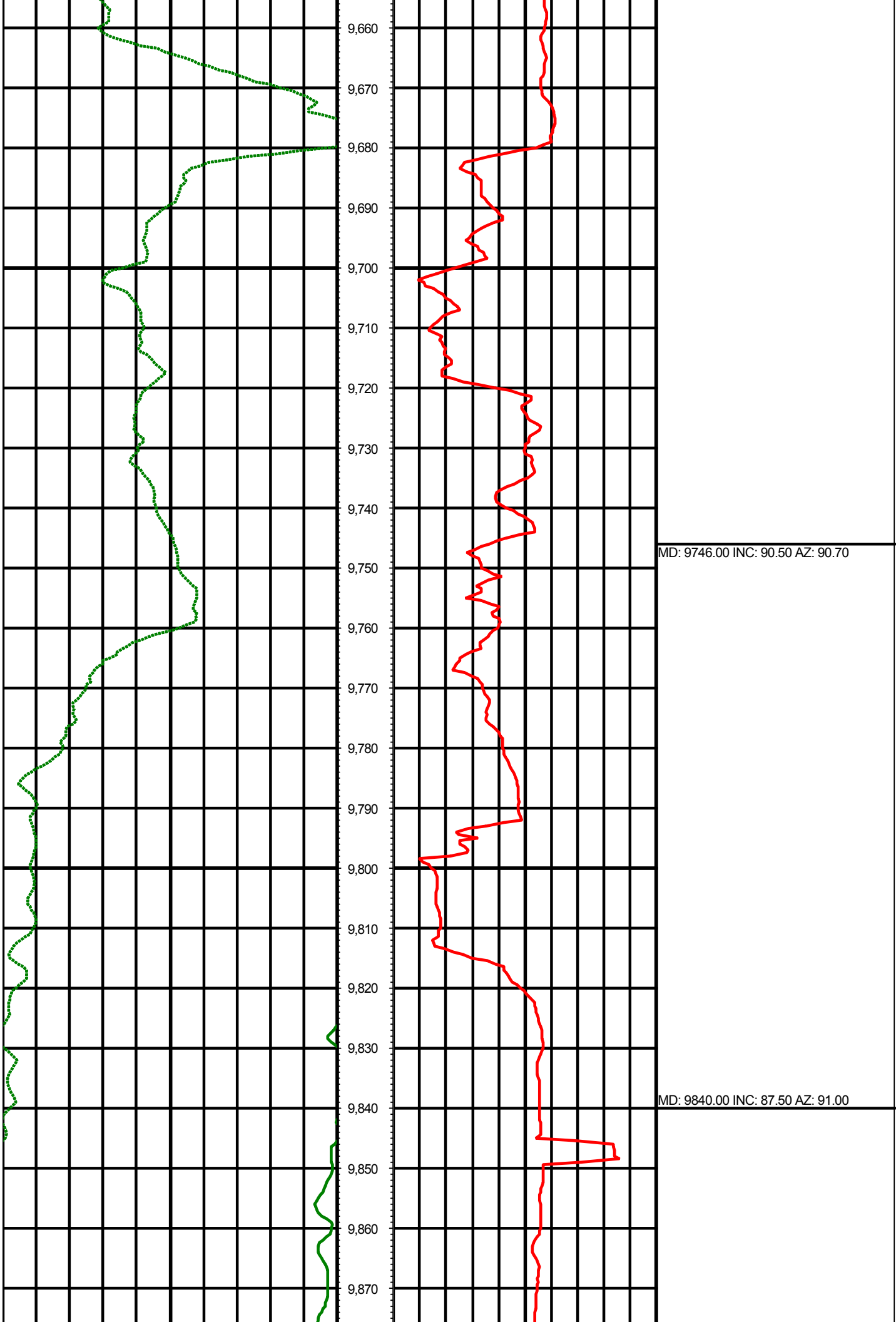


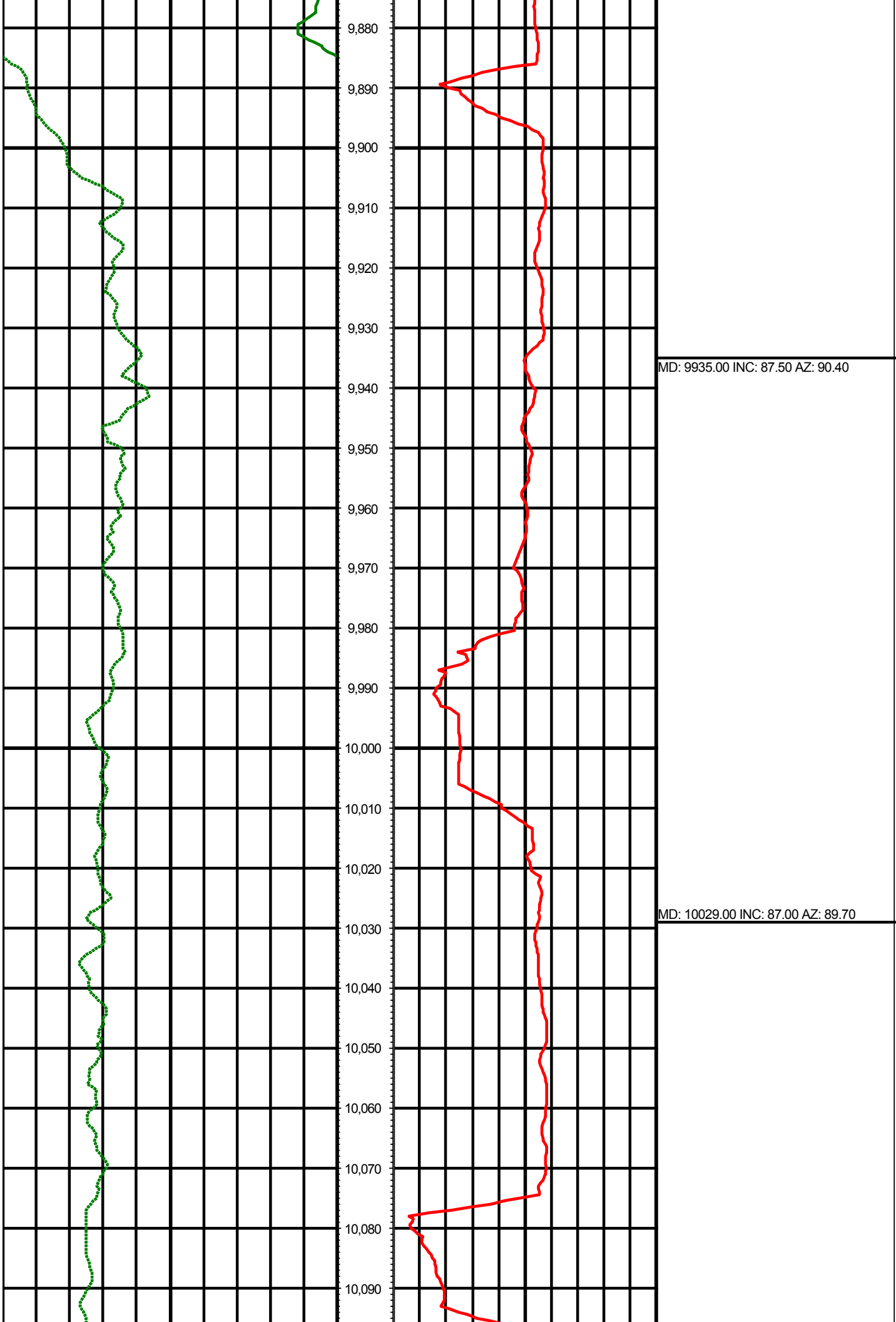


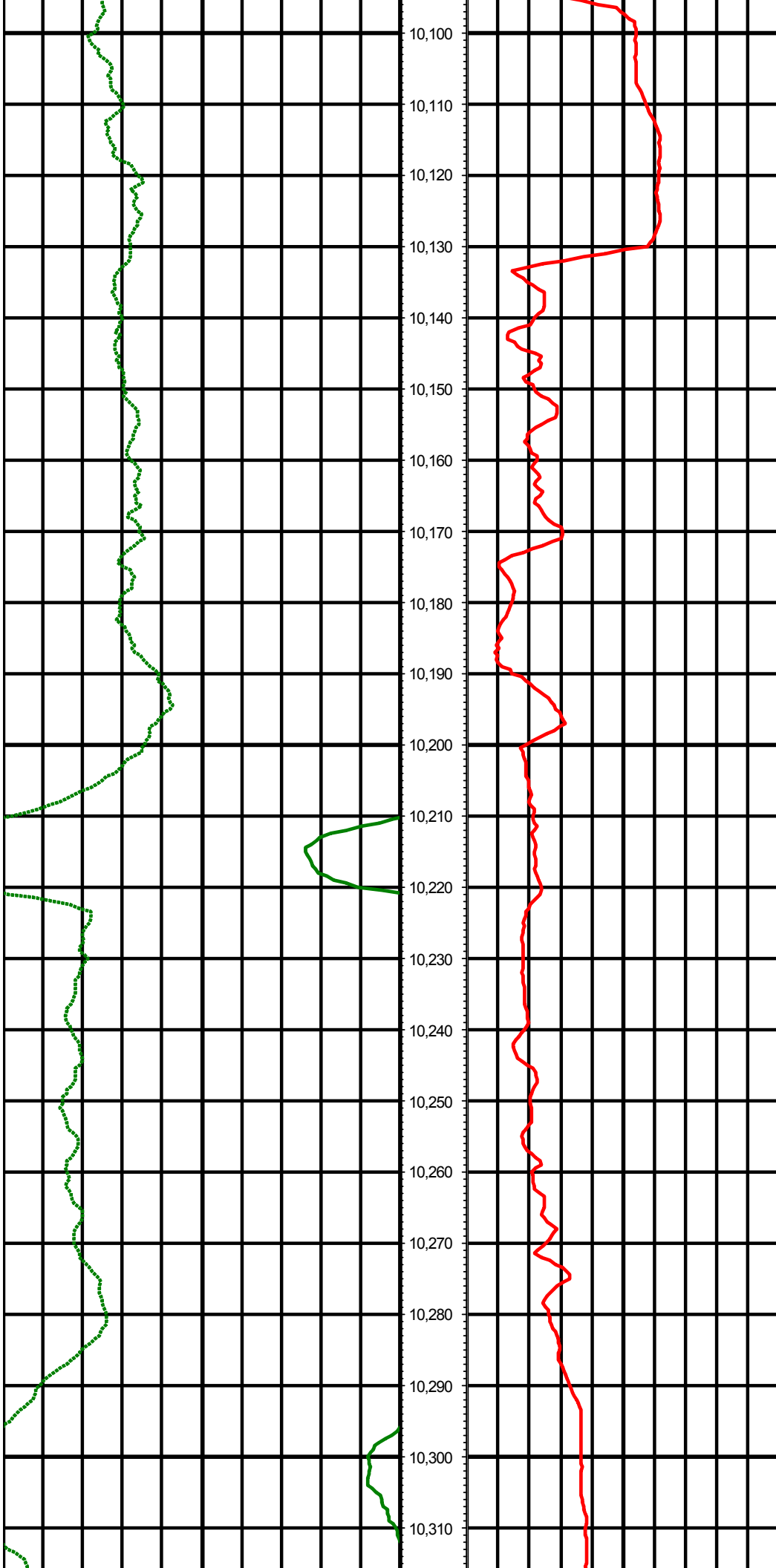










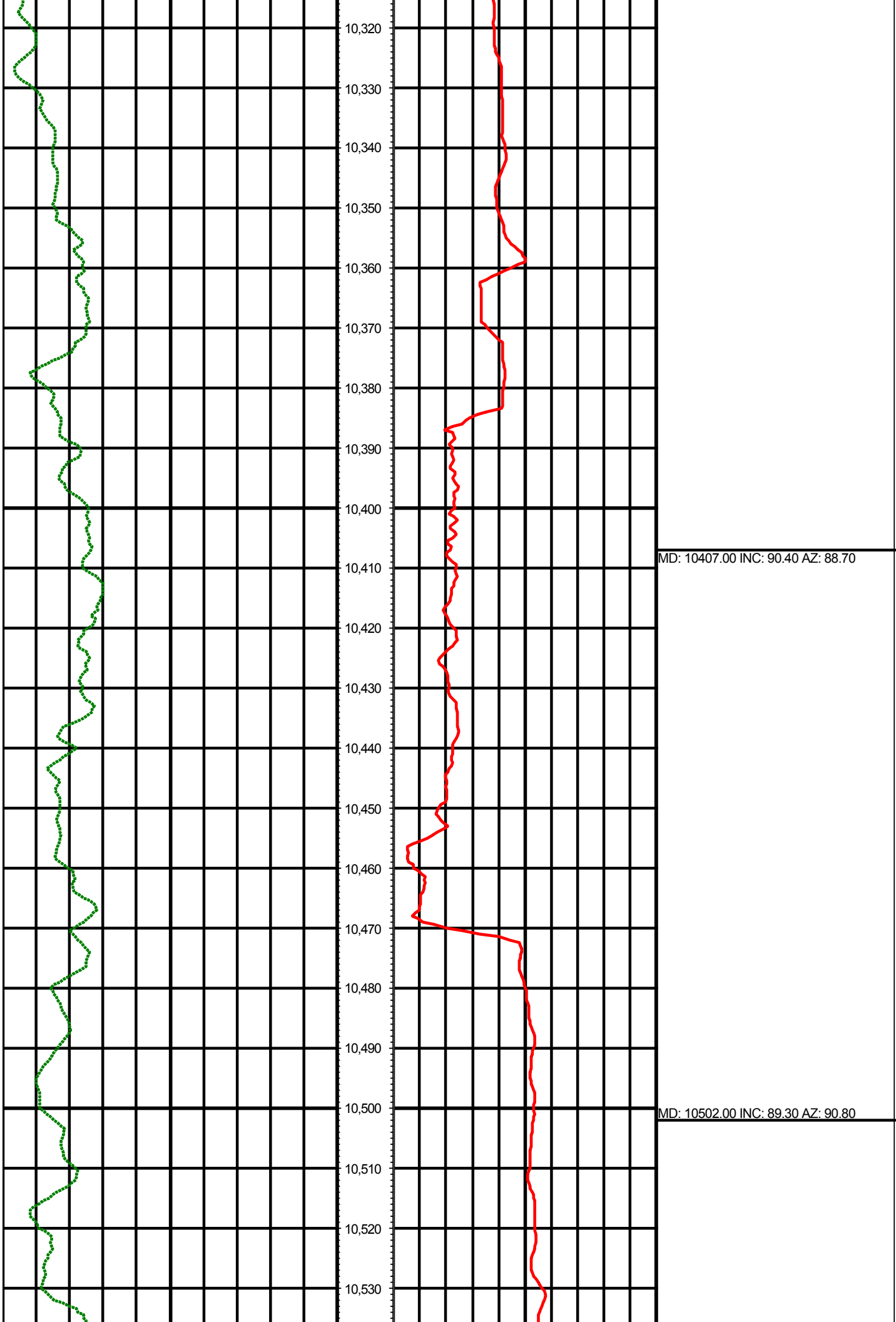


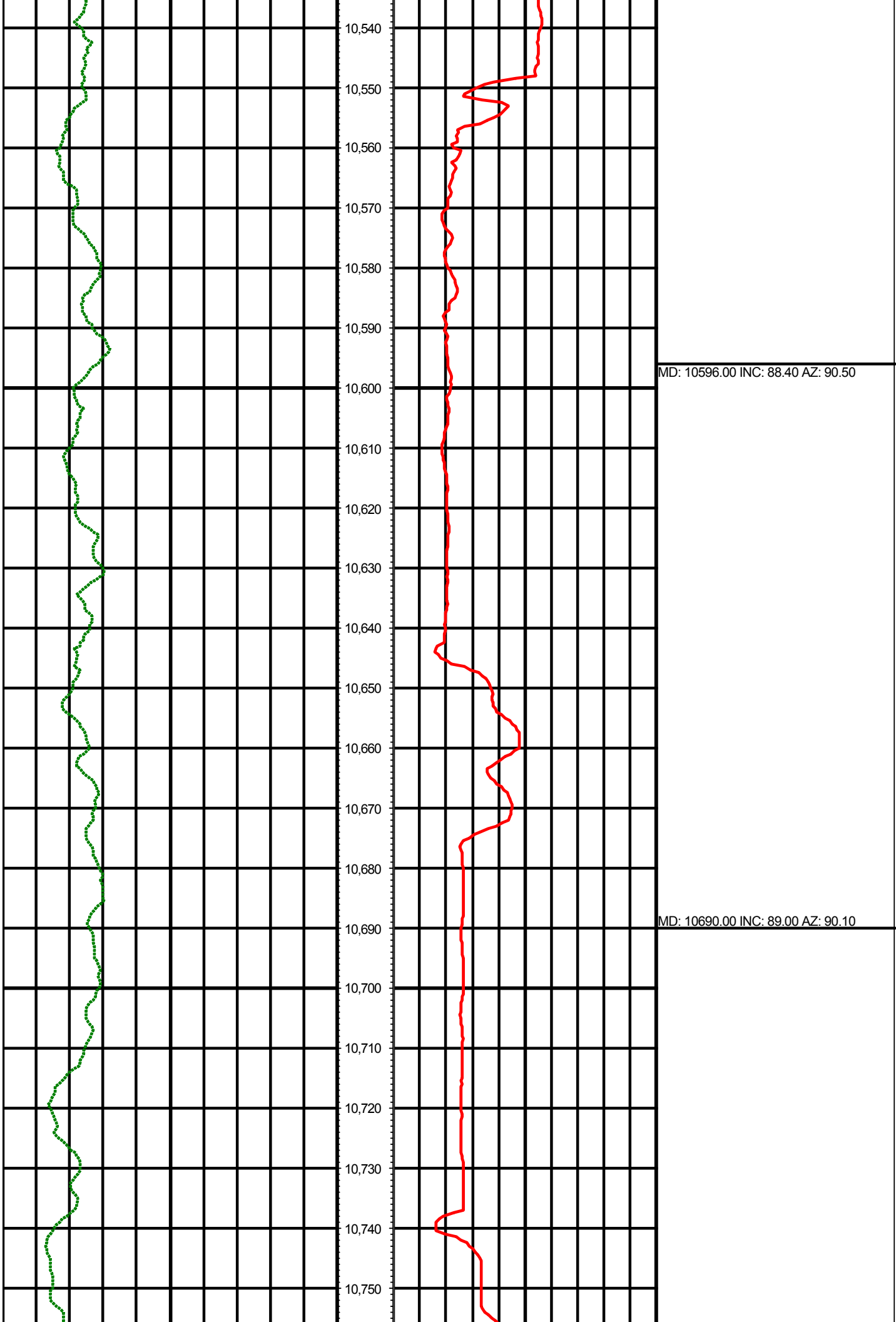
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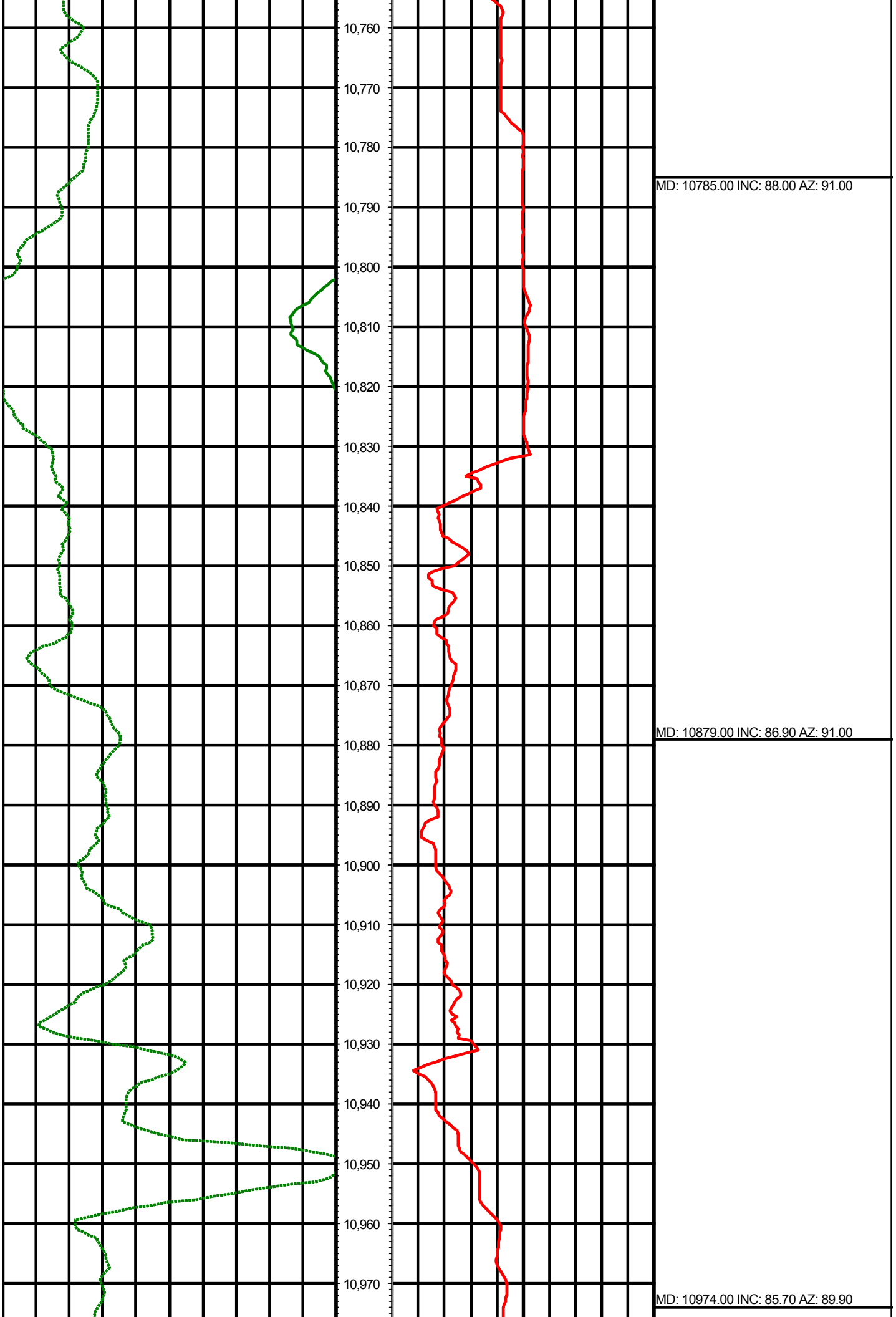
MD: 10124.00 INC: 88.60 AZ: 89.20

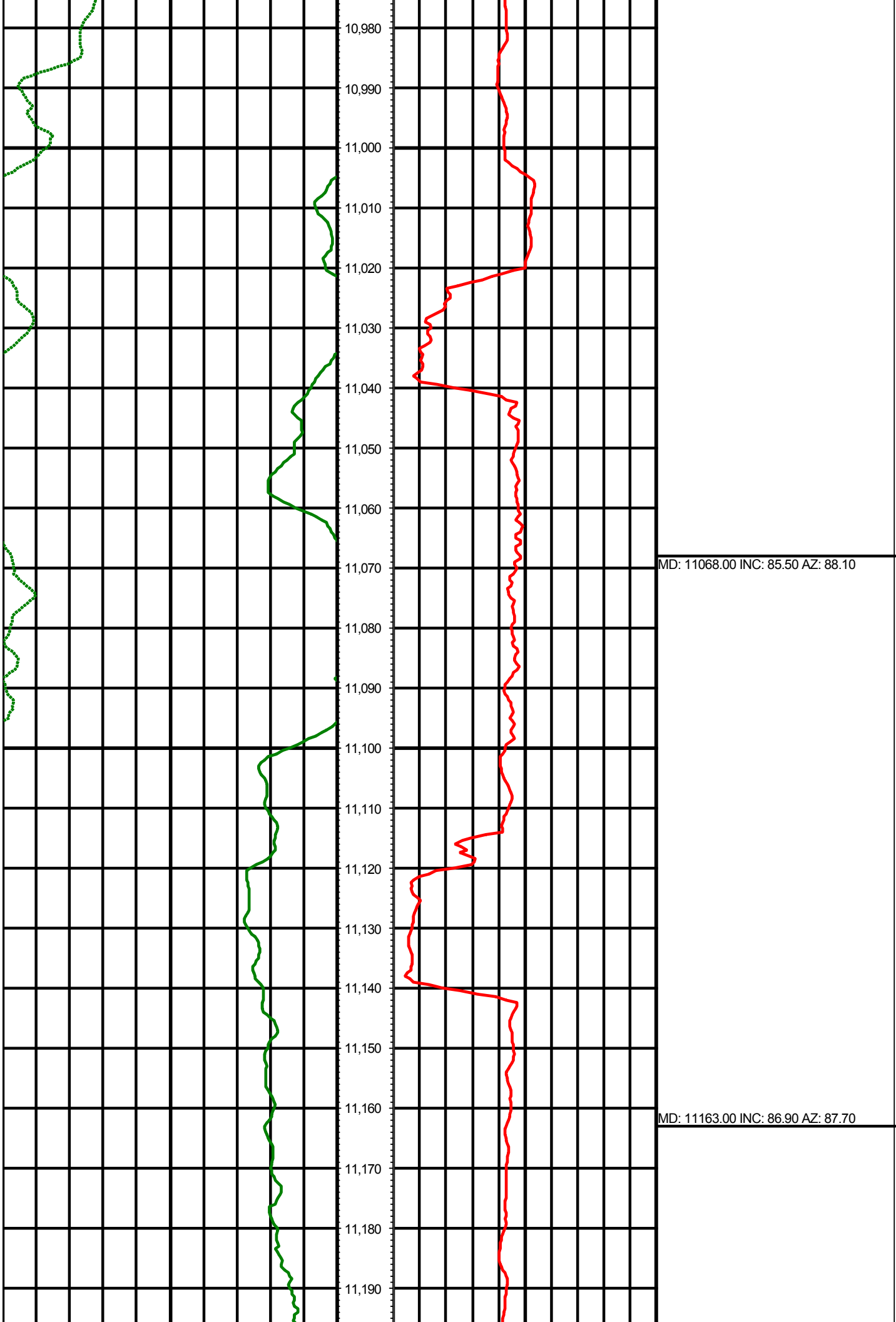
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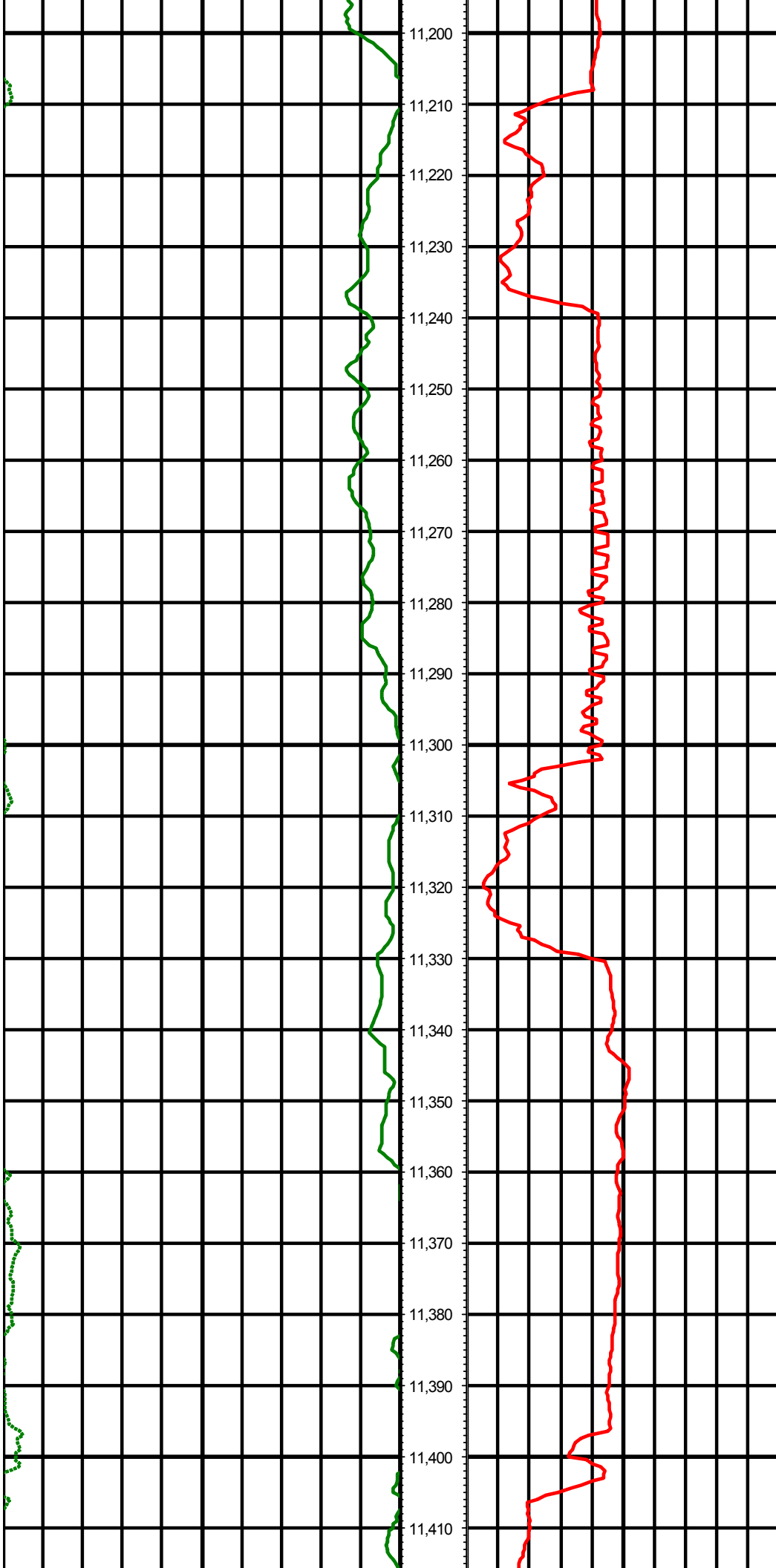
MD: 10312.00 INC: 90.20 AZ: 89.60











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MD: 11257.00 INC: 88.60 AZ: 89.80

MD: 11351.00 INC: 89.60 AZ: 89.30

