



CATHEDRAL

Cathedral Energy Services
1949 North Pyrite Road
Casper, Wyoming 82604

145130

5":100' - MD

7/15/2014 1:15:00 PM

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

Country: U.S.A.

State / Province: Colorado

County / Parish: Weld

Started: 04/28/2014 07:30 PM

API/UWI: 05-123-38085-00

Field: Wattenberg (Codell)

Well: Edith Ann-Duckworth 4H-21H-O268

Rig: Patterson UTI Drilling 272

Ended: 05/29/2014 05:30 AM

Gamma Ray
Section Plane: 0.00
Magnetic North: 8.58
Gamma Attenuation Factor: 1.80
Gamma Averaging: 7%

Personnel

Day Hand: R. Moulton

Night Hand: E. King

Comp. Emp: Chris Clemens

Maximum Temperature: 250°F

Location

Latitude: 40.117670

Longitude: -105.003420

Elev. GL: 4927

Elev. DF:

Elev. KB: 4955.5

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

Hole Data

| Size | From | To |
|--------|------|-------|
| 12-1/4 | 0 | 974 |
| 8-3/4 | 974 | 8114 |
| 6-1/8 | 8114 | 17064 |

Casing Data

| Size | From | To |
|-------|------|-------|
| 9-5/8 | 0 | 962 |
| 7 | 0 | 8101 |
| 4-1/2 | 0 | 17048 |

Bit Sizes

| Size | From | To |
|--------|------|-------|
| 12-1/4 | 0 | 974 |
| 8-3/4 | 974 | 8114 |
| 6-1/8 | 8114 | 17064 |

Mud Data

| Type | Weight | Density | Viscosity | Rm | Rmf | Rmc | From | To |
|------|--------|---------|-----------|----|-----|-----|------|----|
|------|--------|---------|-----------|----|-----|-----|------|----|

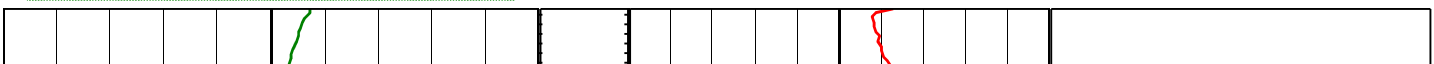
Tool Run Data

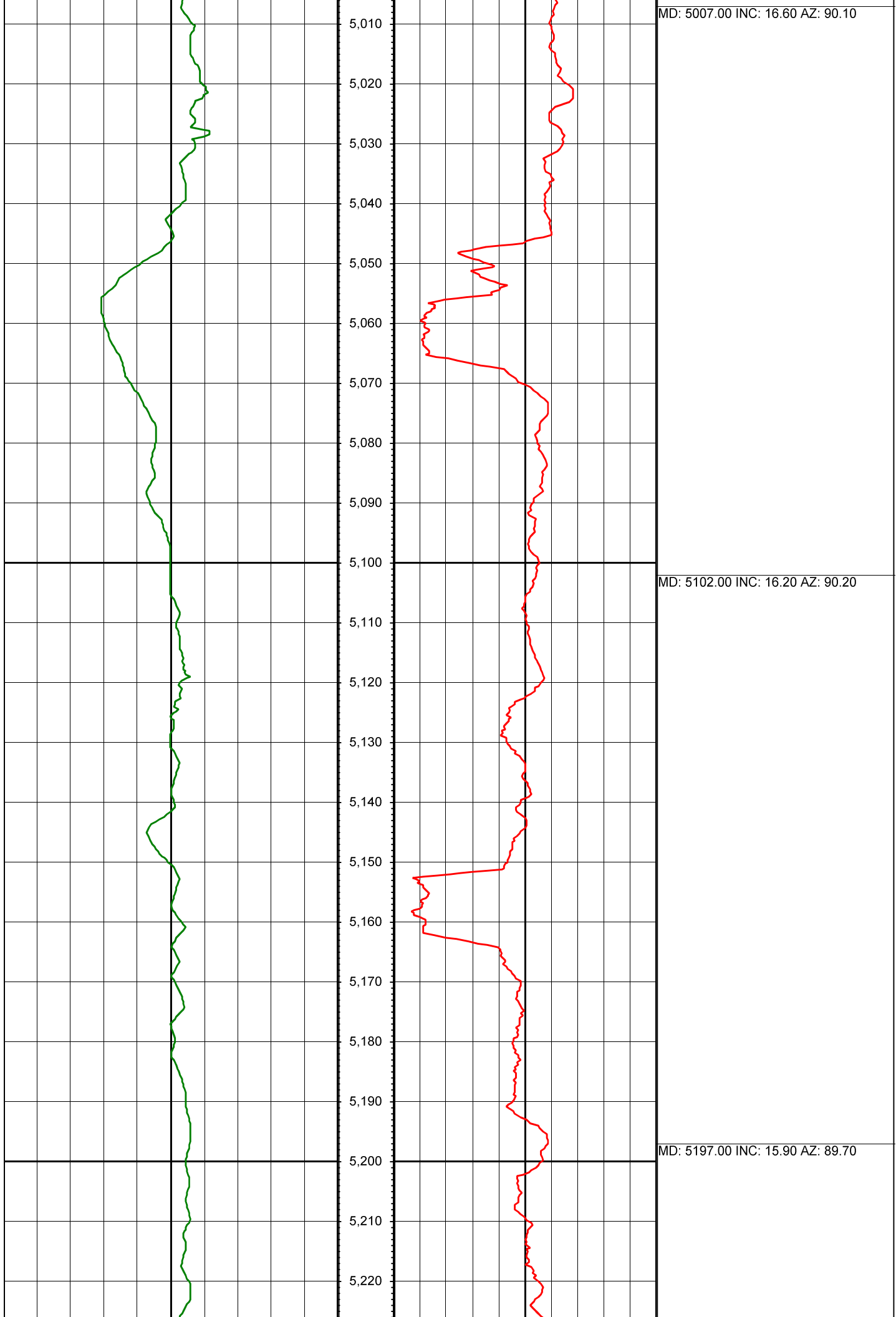
| Serial Number | Gamma Offset | Resist. Offset | Start Time | Start Depth | End Time | End Depth |
|---------------|--------------|----------------|-----------------------|-------------|-----------------------|-----------|
| 1218 | 35.61 | 0 | 4/30/2014 4:30:43 AM | 5000 | 5/4/2014 8:00:43 AM | 8114 |
| 1403 | 37.57 | 0 | 5/8/2014 3:30:38 PM | 8114 | 5/16/2014 5:30:38 PM | 12844 |
| 1323 | 37.52 | 0 | 5/17/2014 11:30:13 PM | 12844 | 5/21/2014 2:00:13 AM | 14700 |
| 1595 | 37.72 | 0 | 5/21/2014 4:00:23 AM | 14700 | 5/23/2014 3:43:23 AM | 15266 |
| 1595 | 37.47 | 0 | 5/23/2014 3:45:41 AM | 15266 | 5/26/2014 10:45:41 AM | 16590 |
| 1641 | 37.25 | 0 | 5/26/2014 10:45:10 AM | 16590 | 5/29/2014 5:30:10 AM | 17064 |

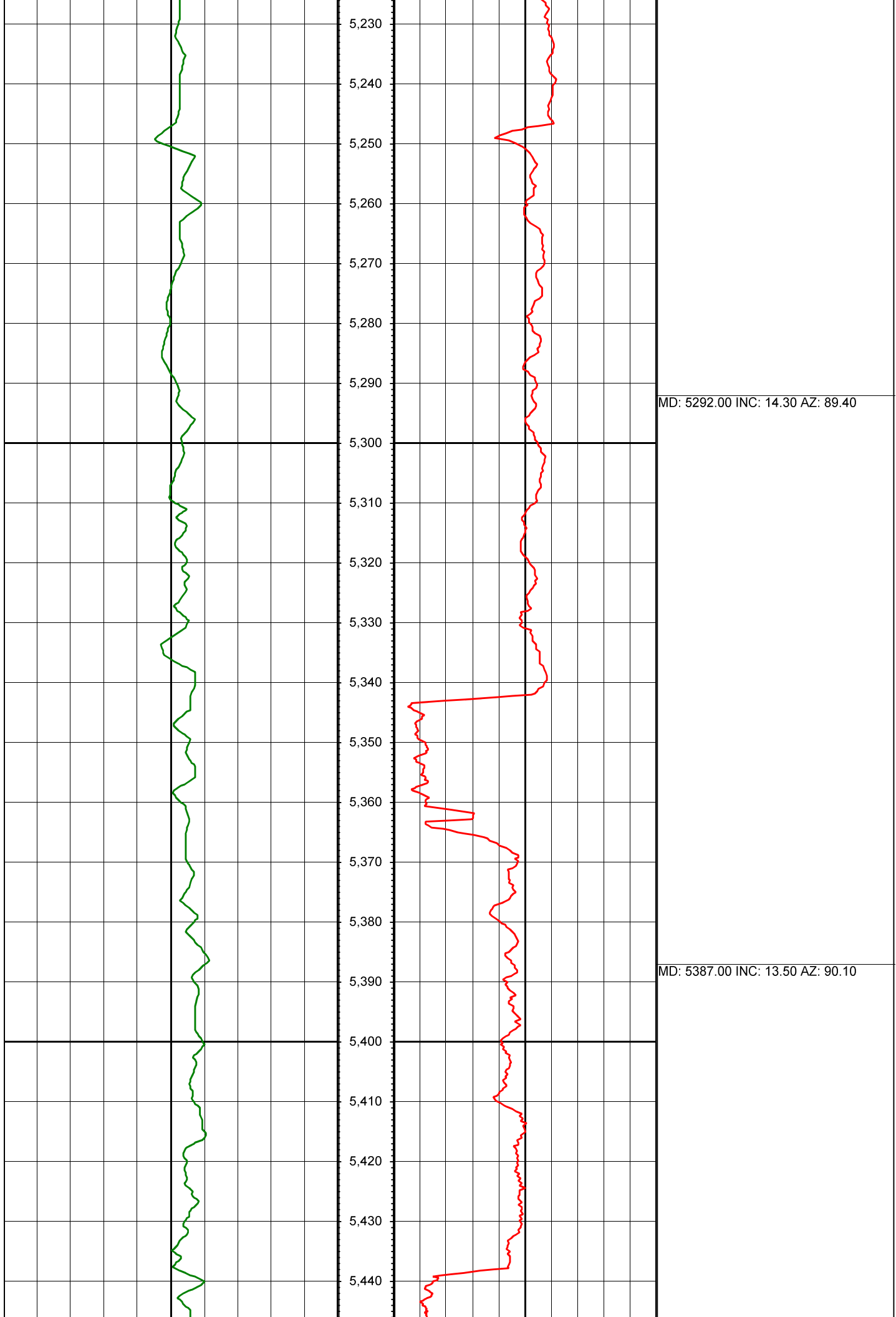
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not except in the case of gross or willful negligence on our part, be liable or responsible for any loss, cost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

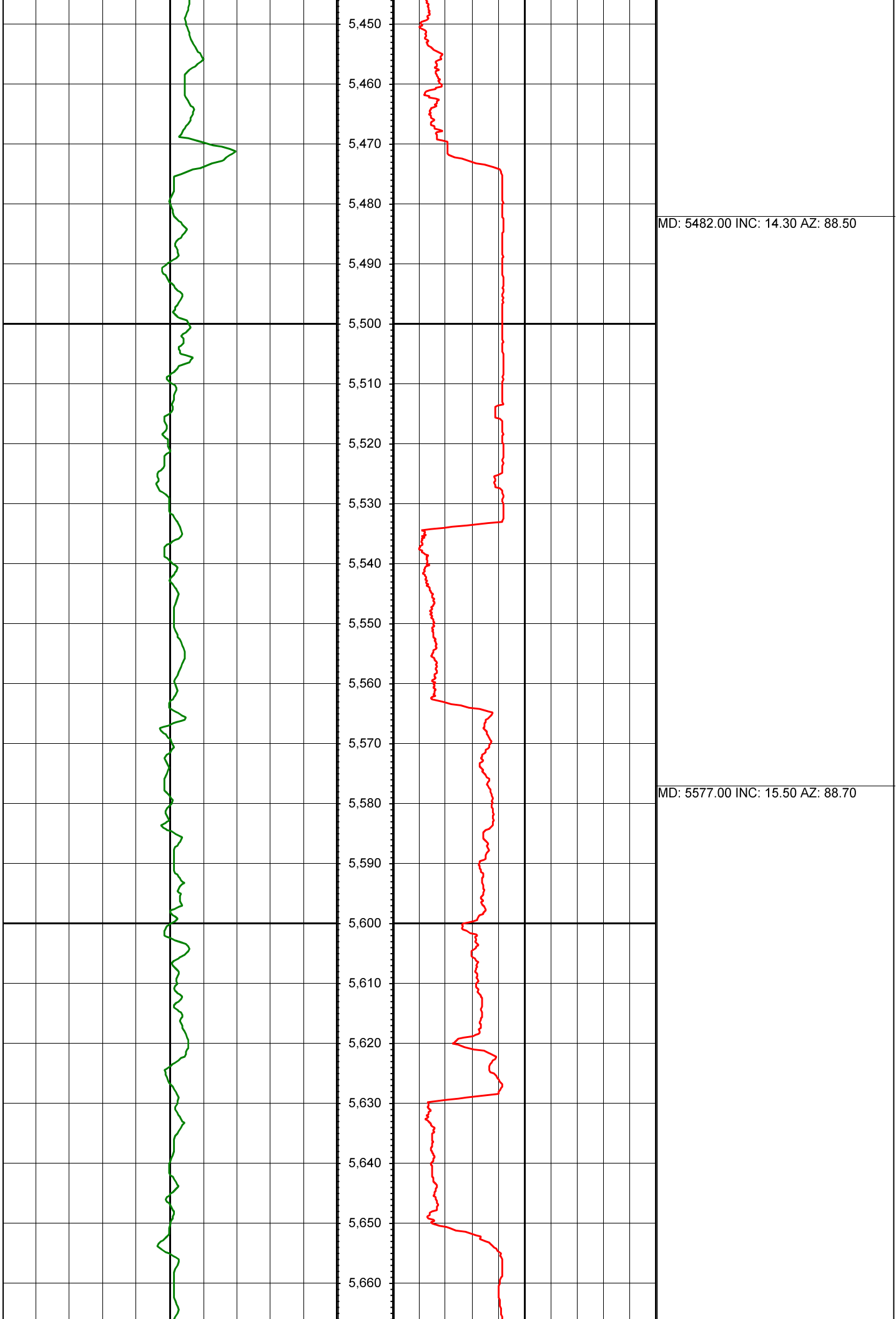
0.00 Gamma Ray (API) 150.00 MD 0.00 ROP (FT/HR) 600.00 Surveys (MD/INC/AZ)

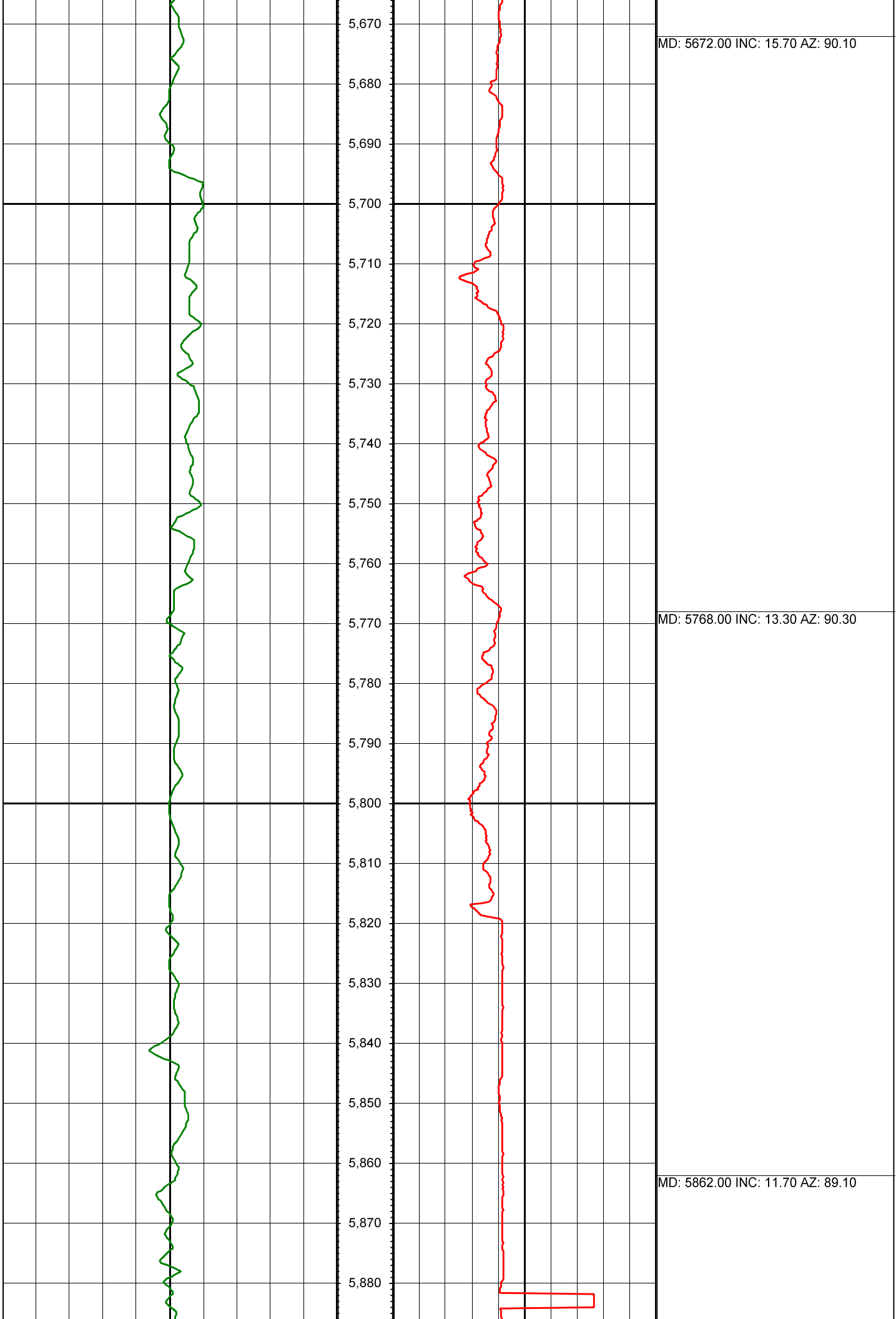
150.00 2 300.00 FT

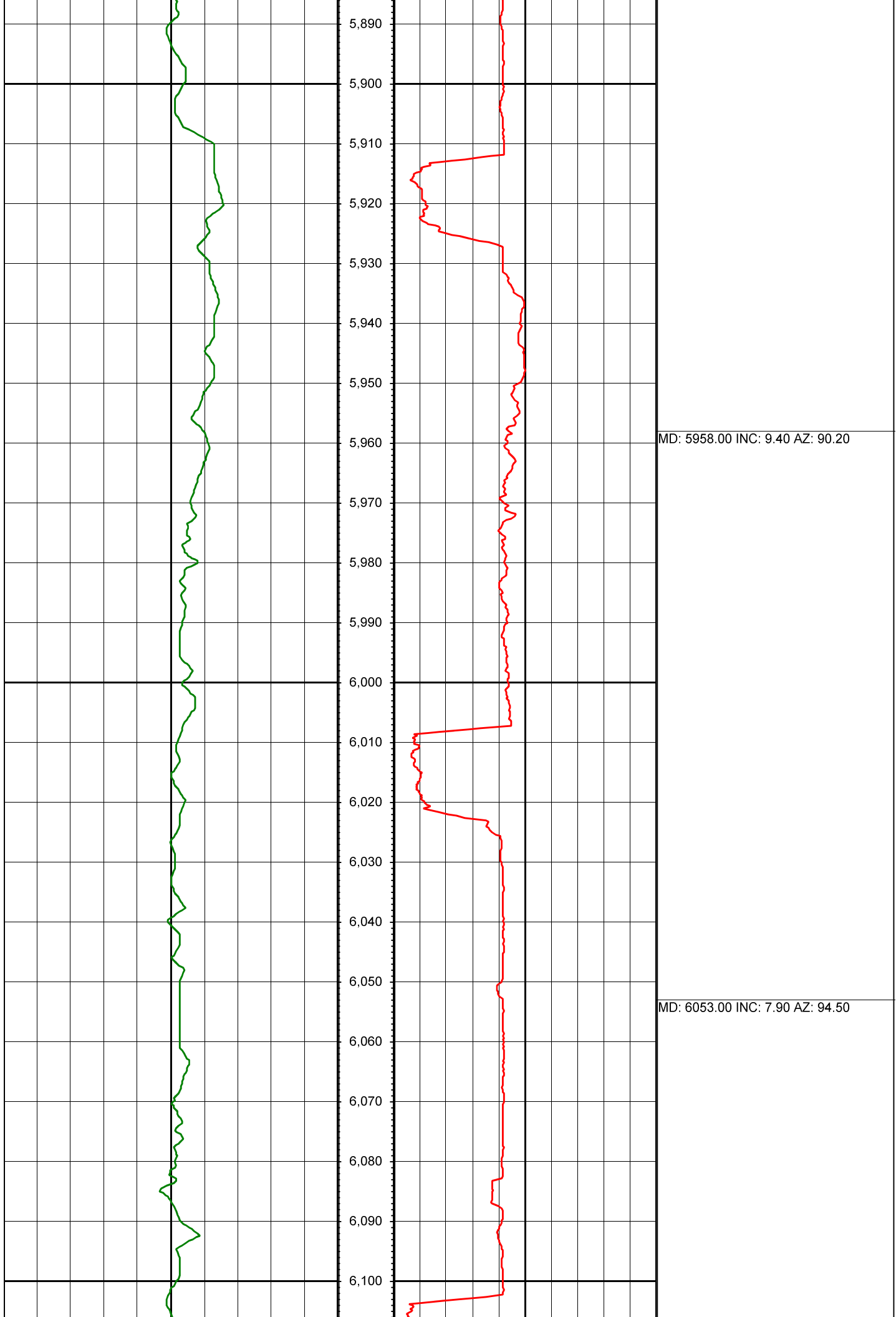


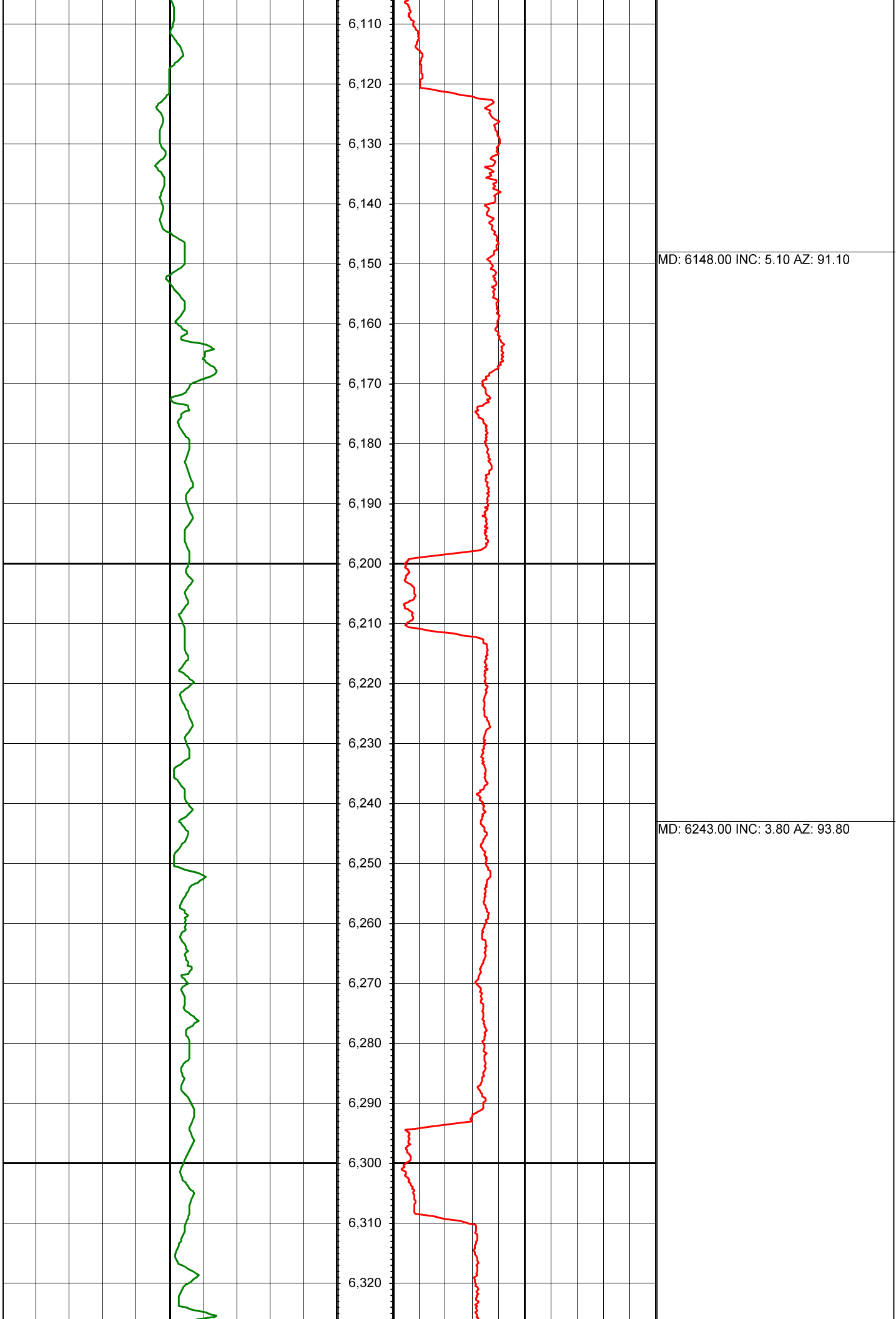


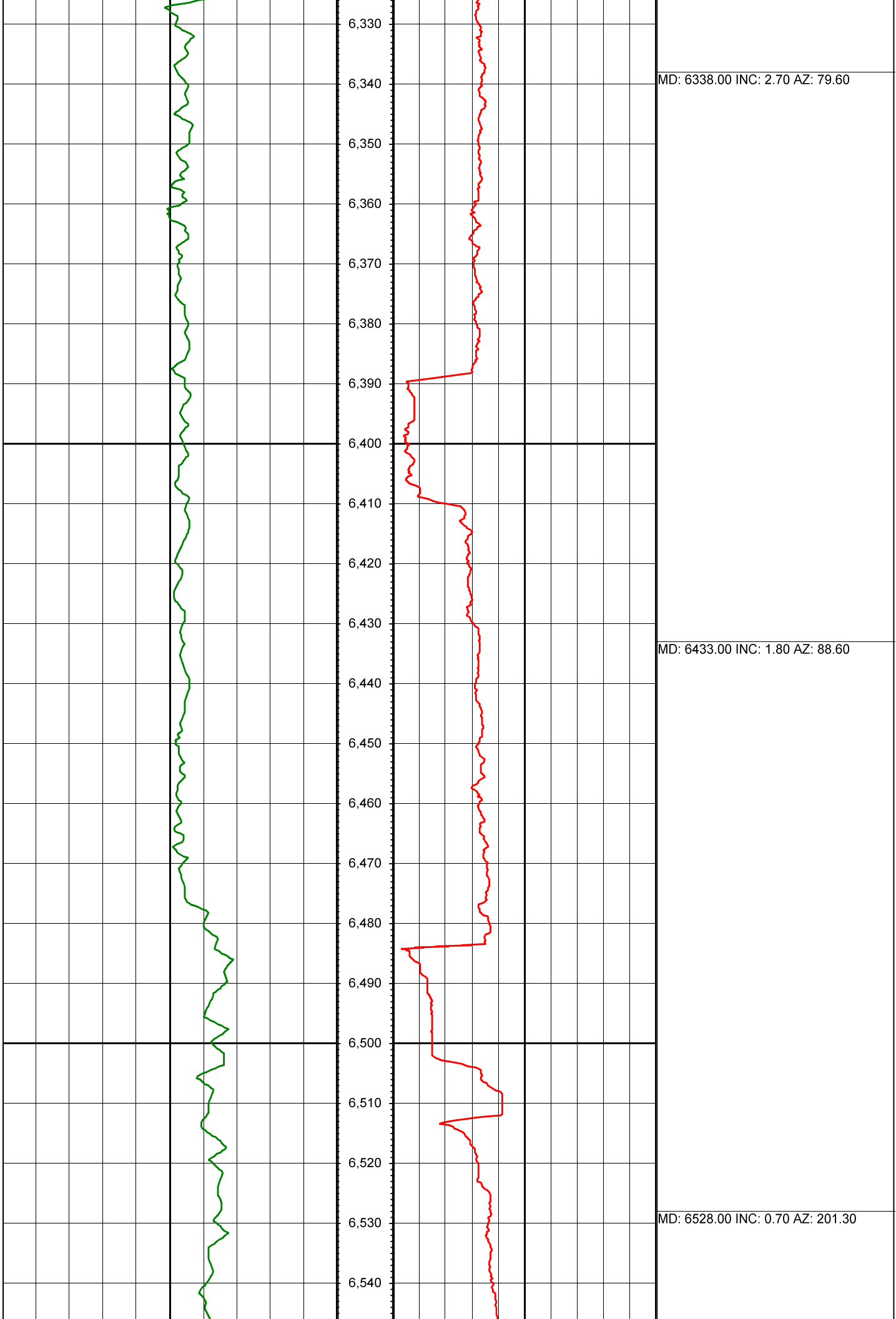


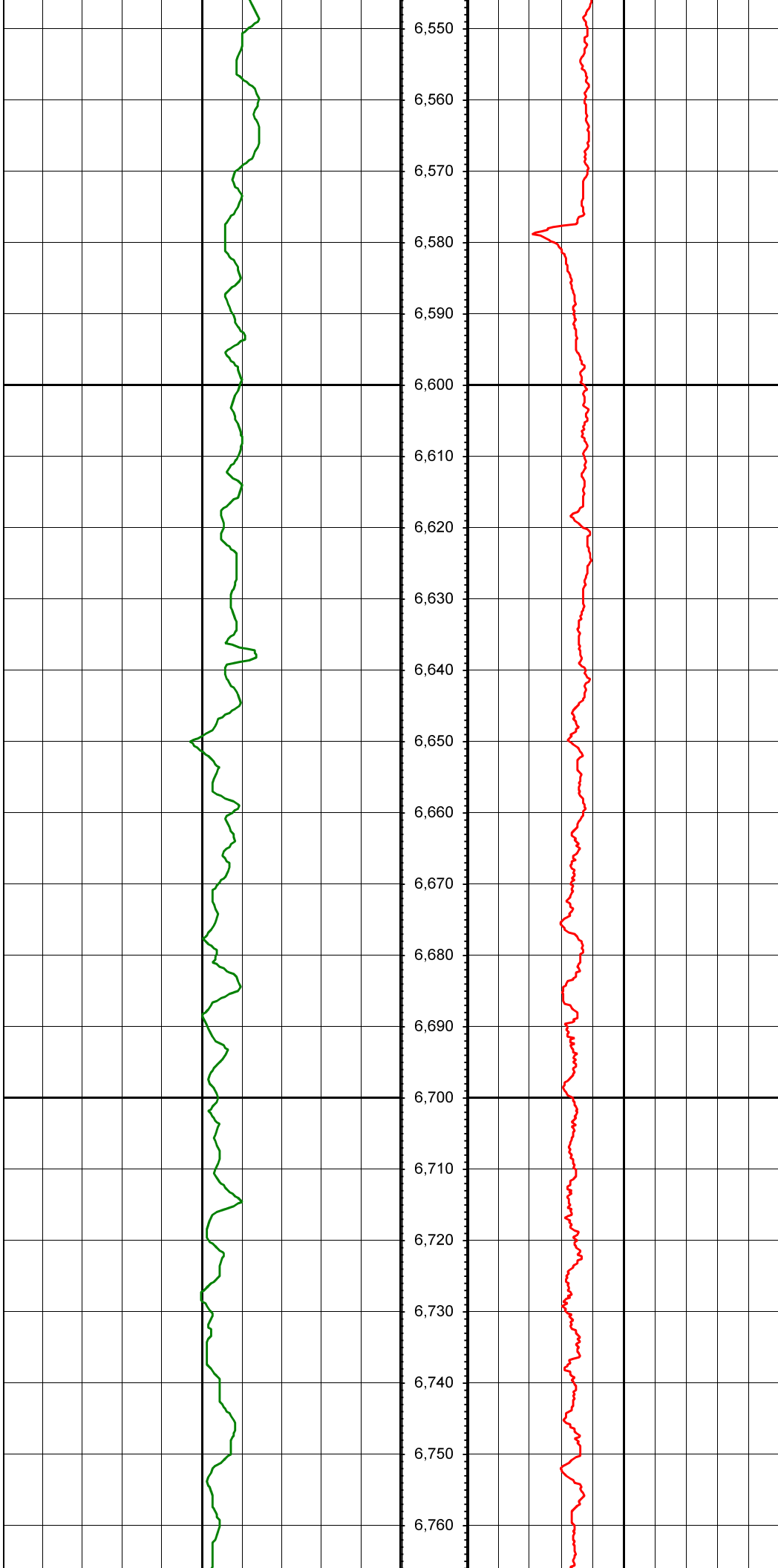






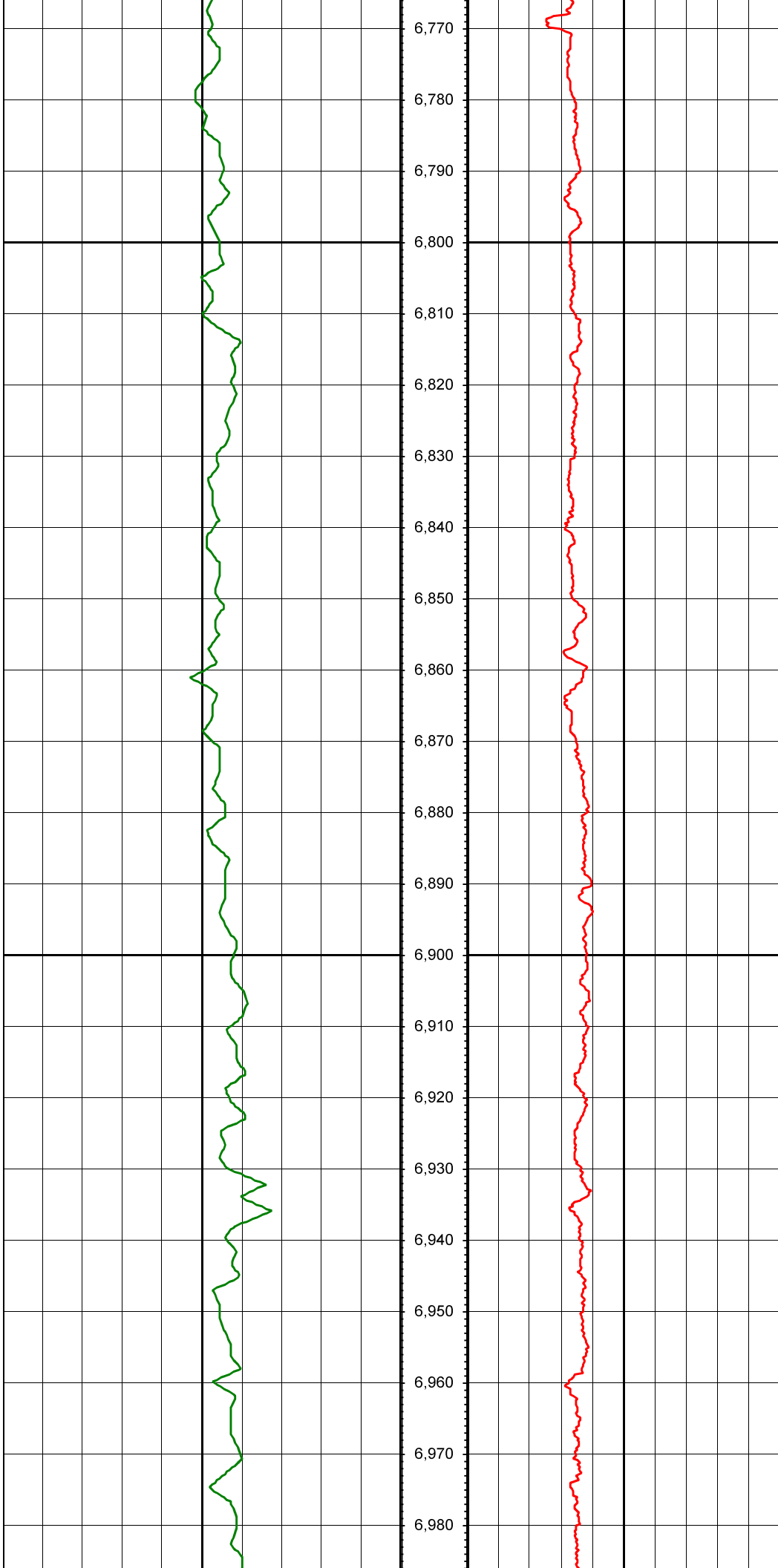






MD: 6623.00 INC: 0.50 AZ: 213.30

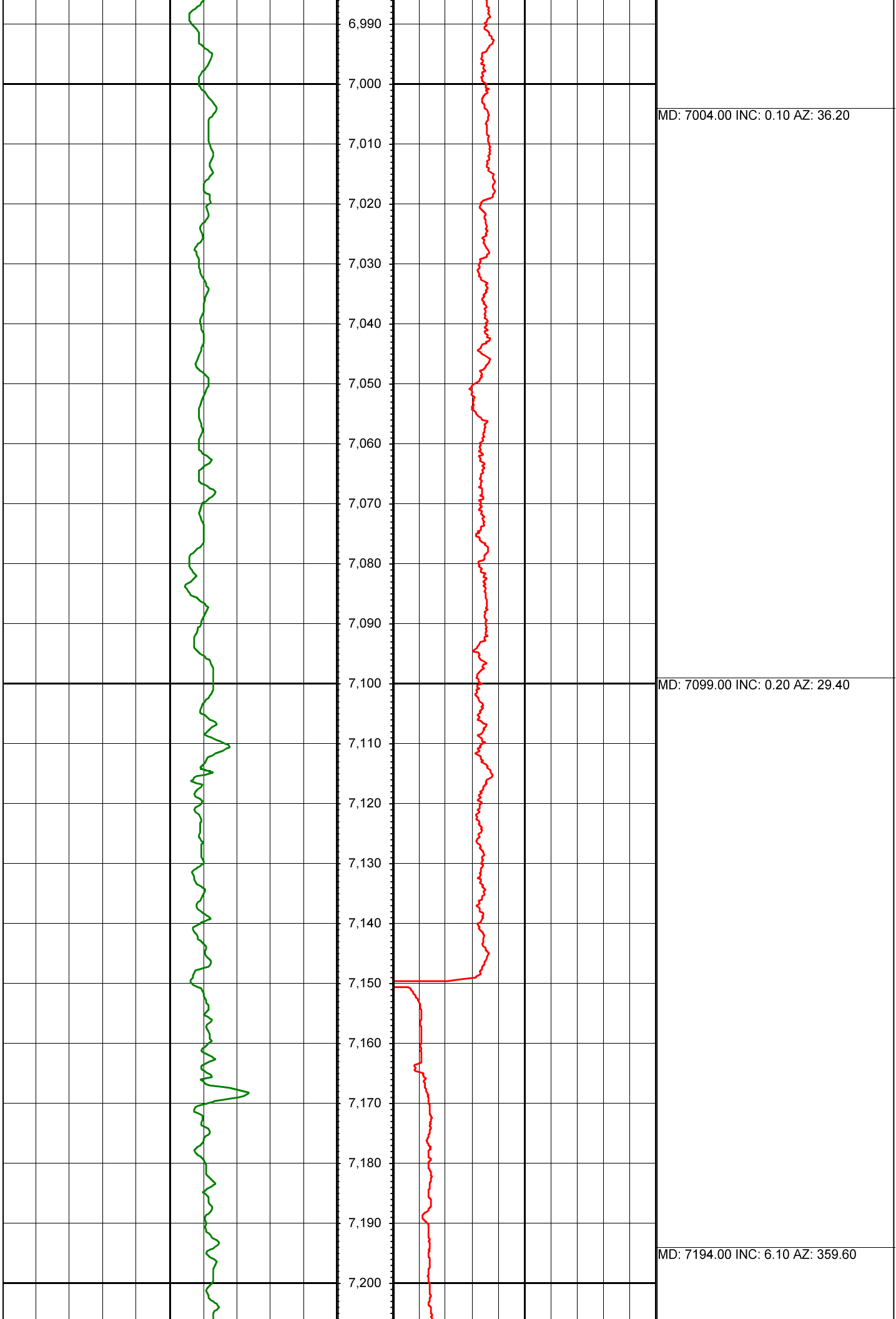
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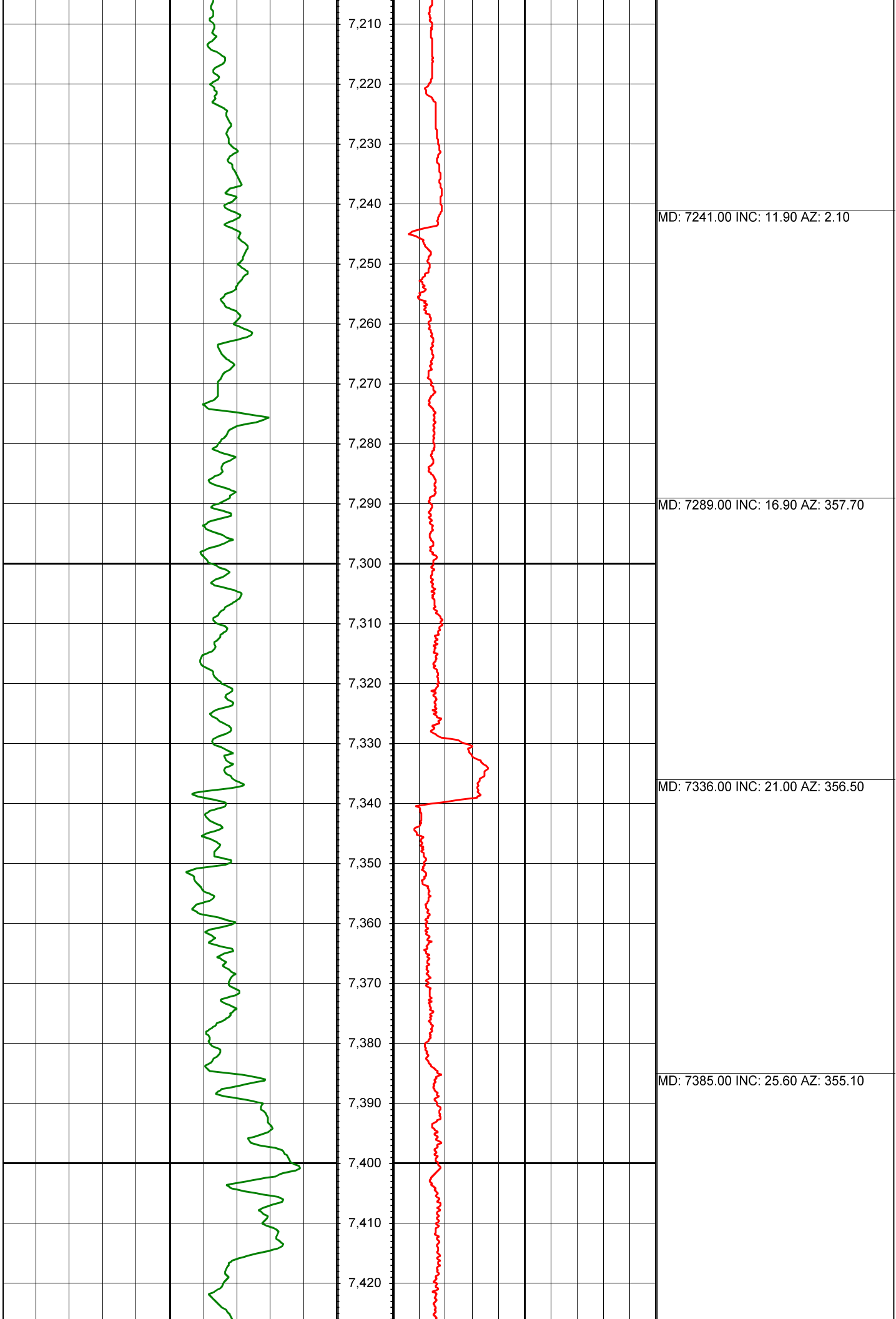


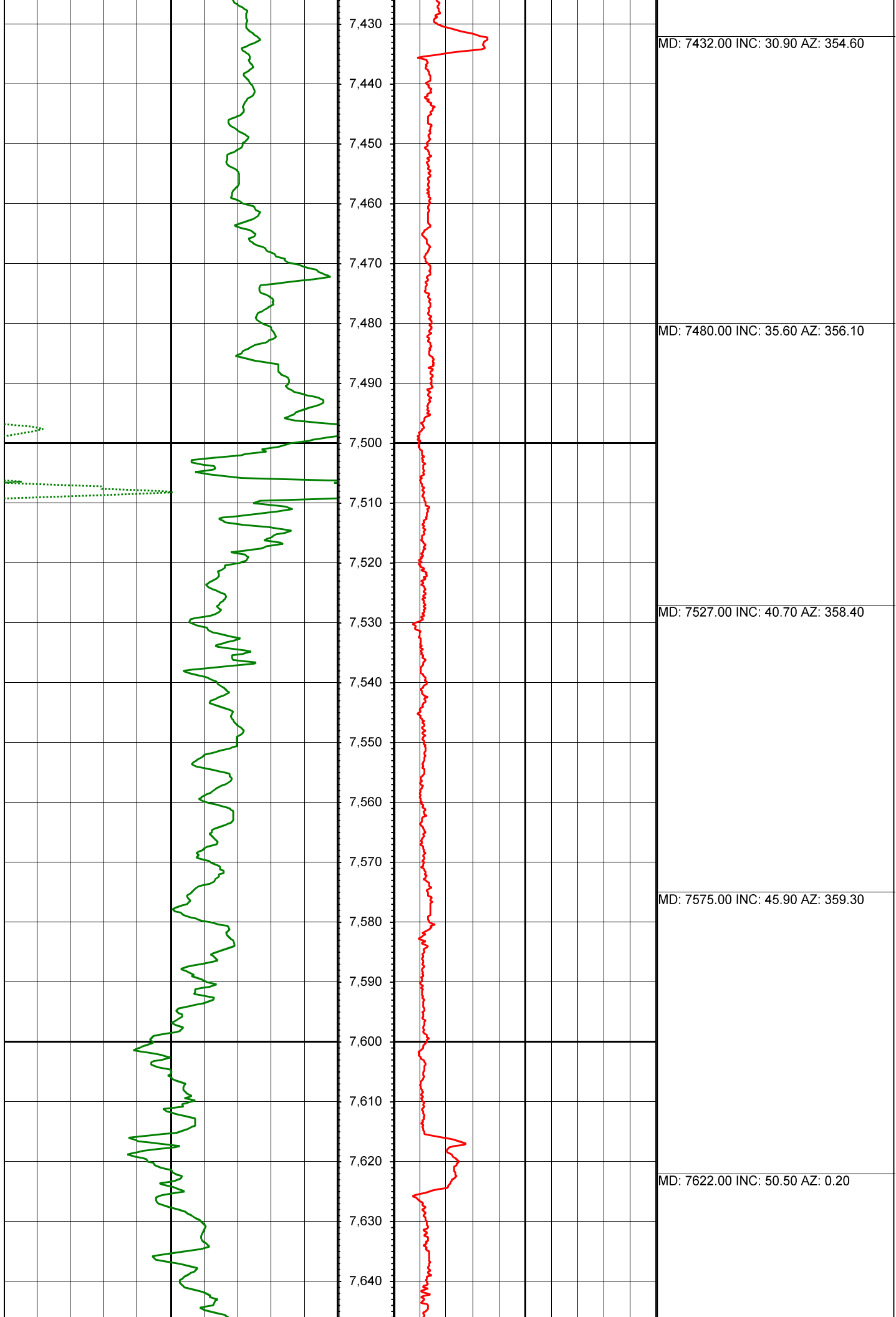
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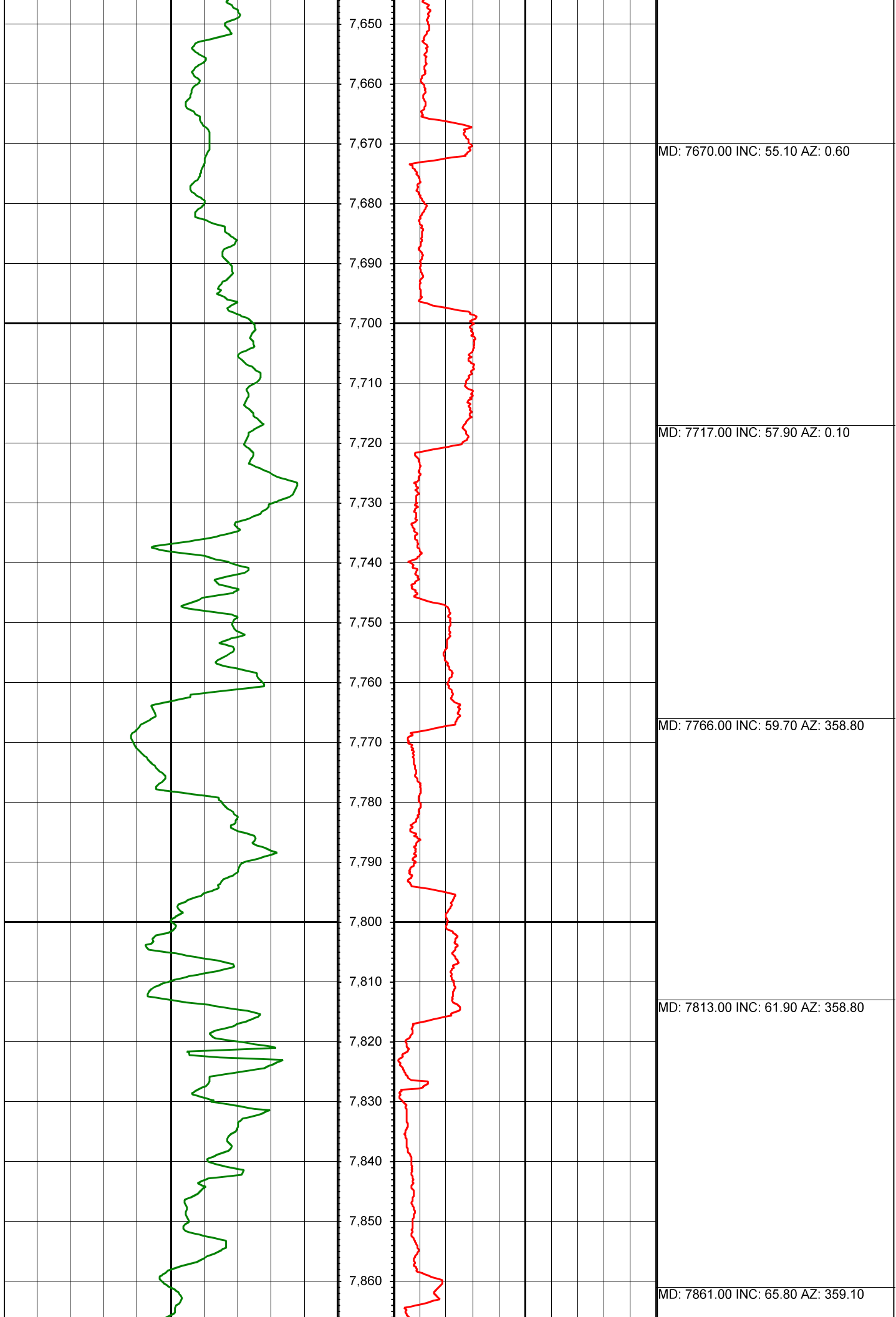
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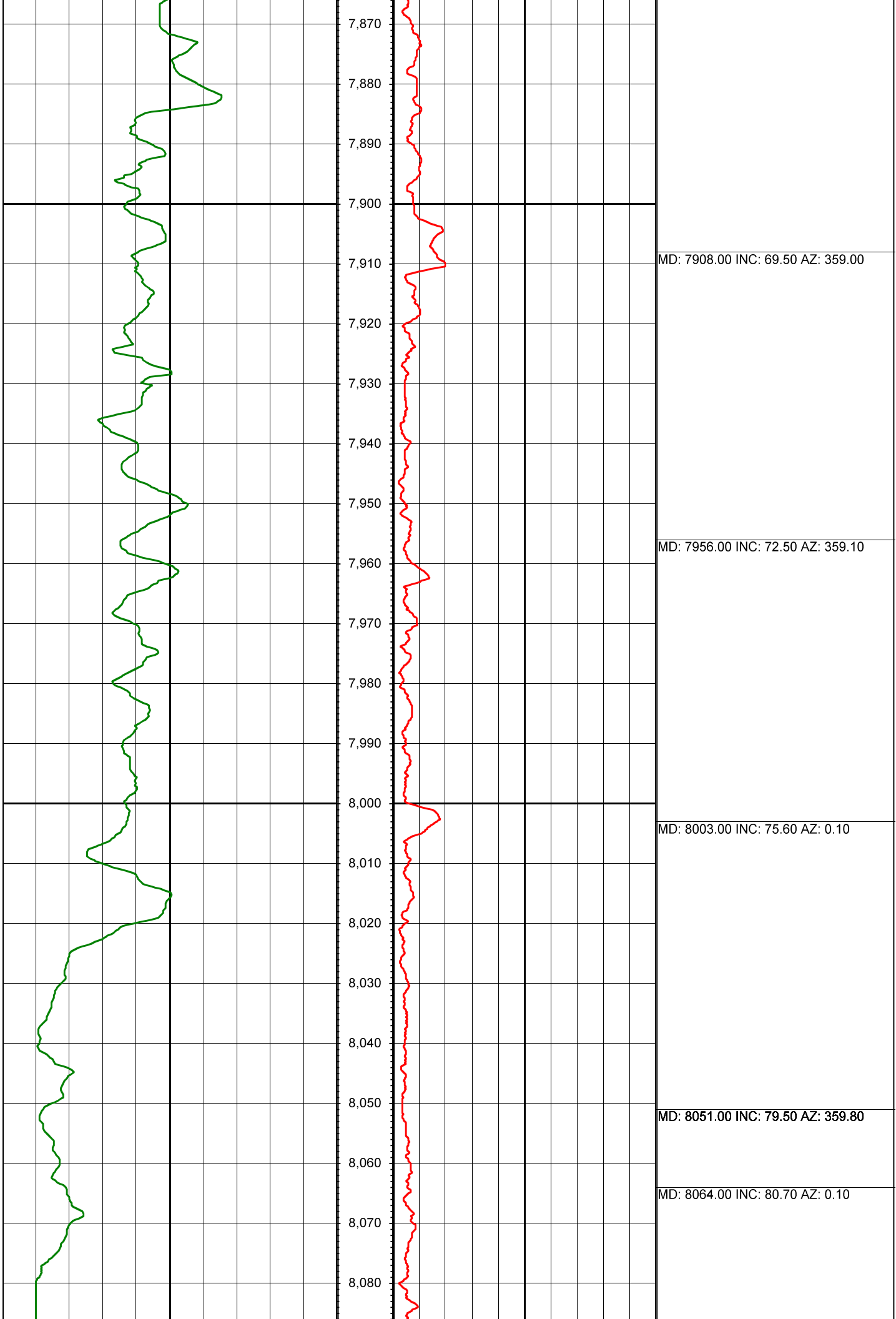
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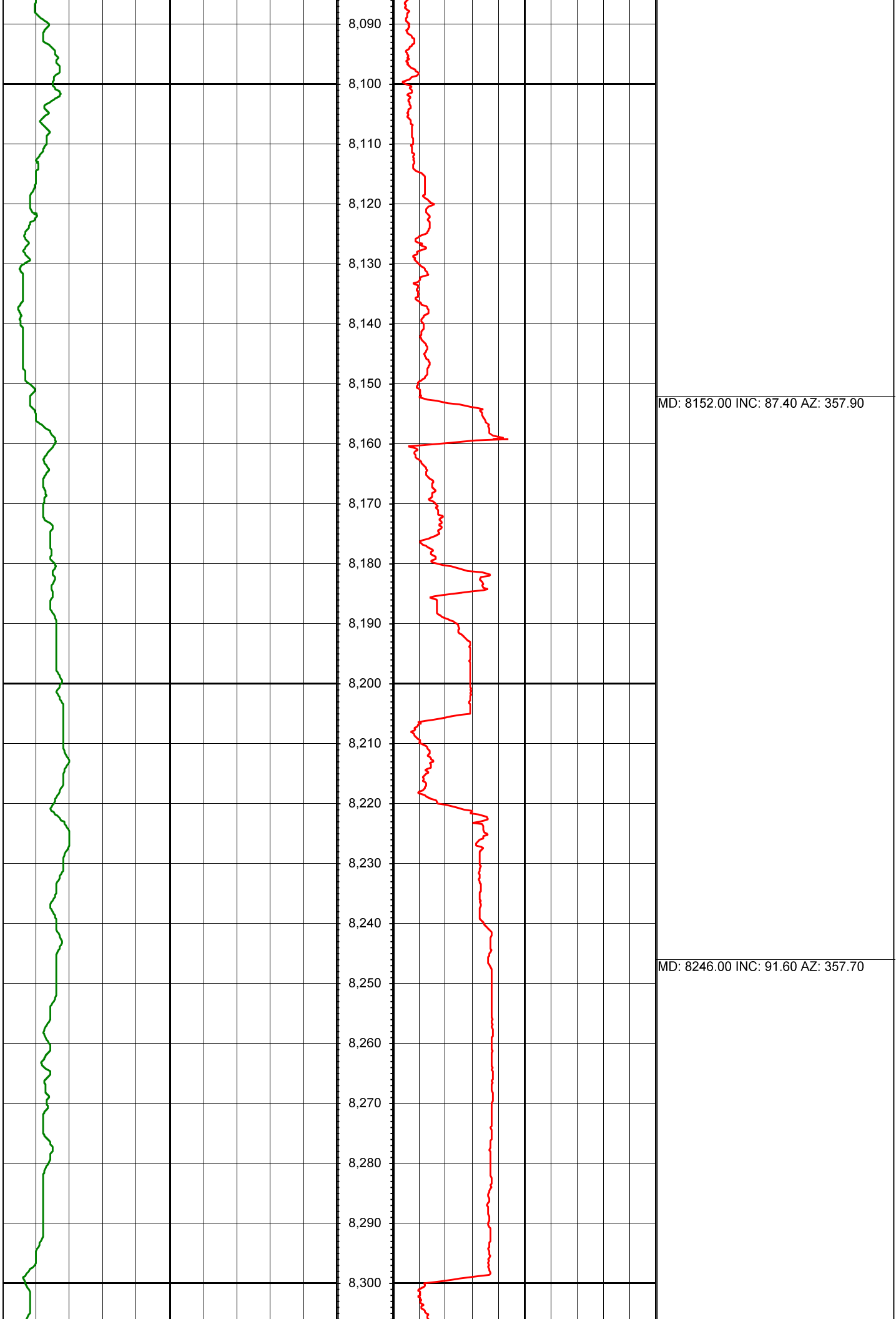


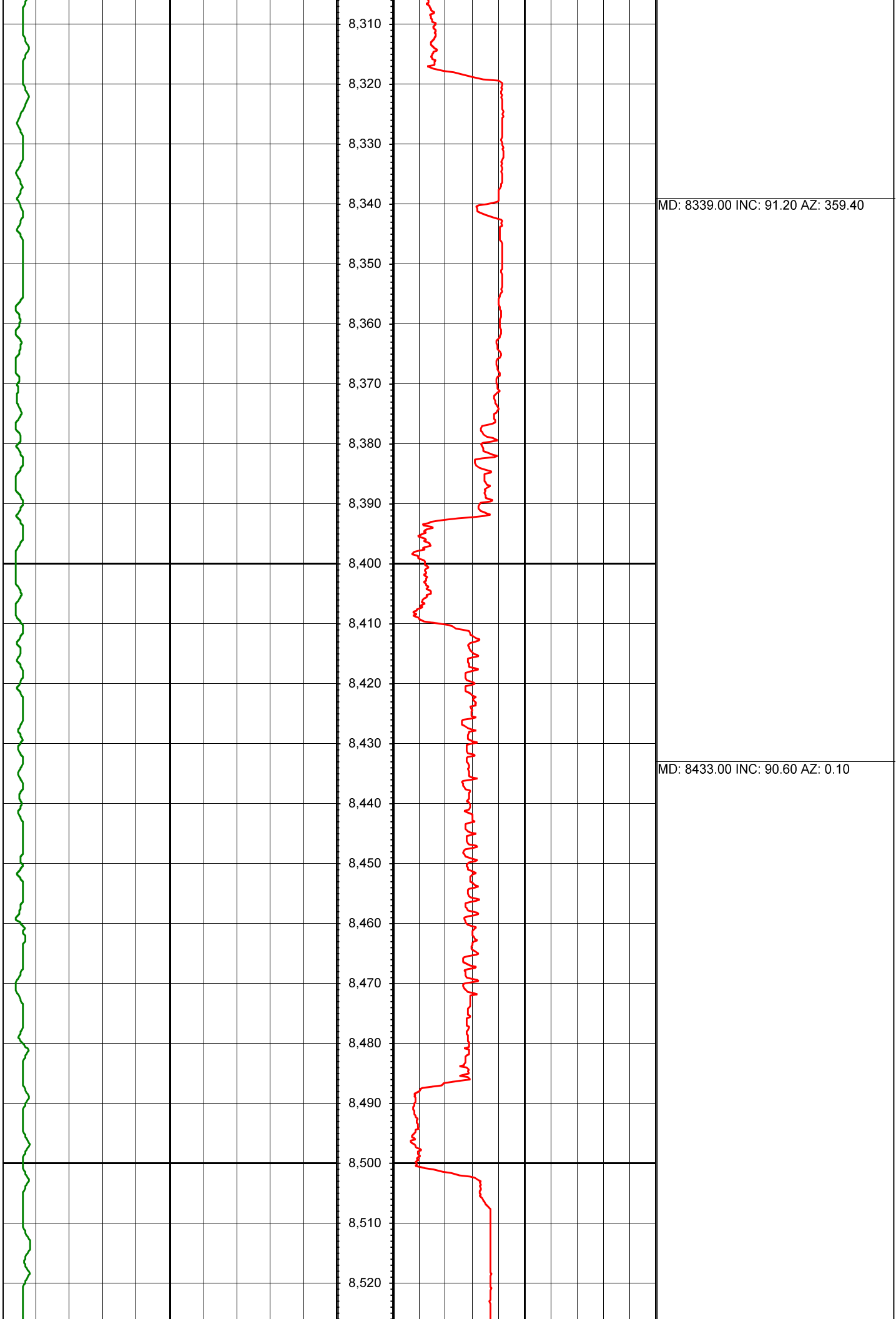


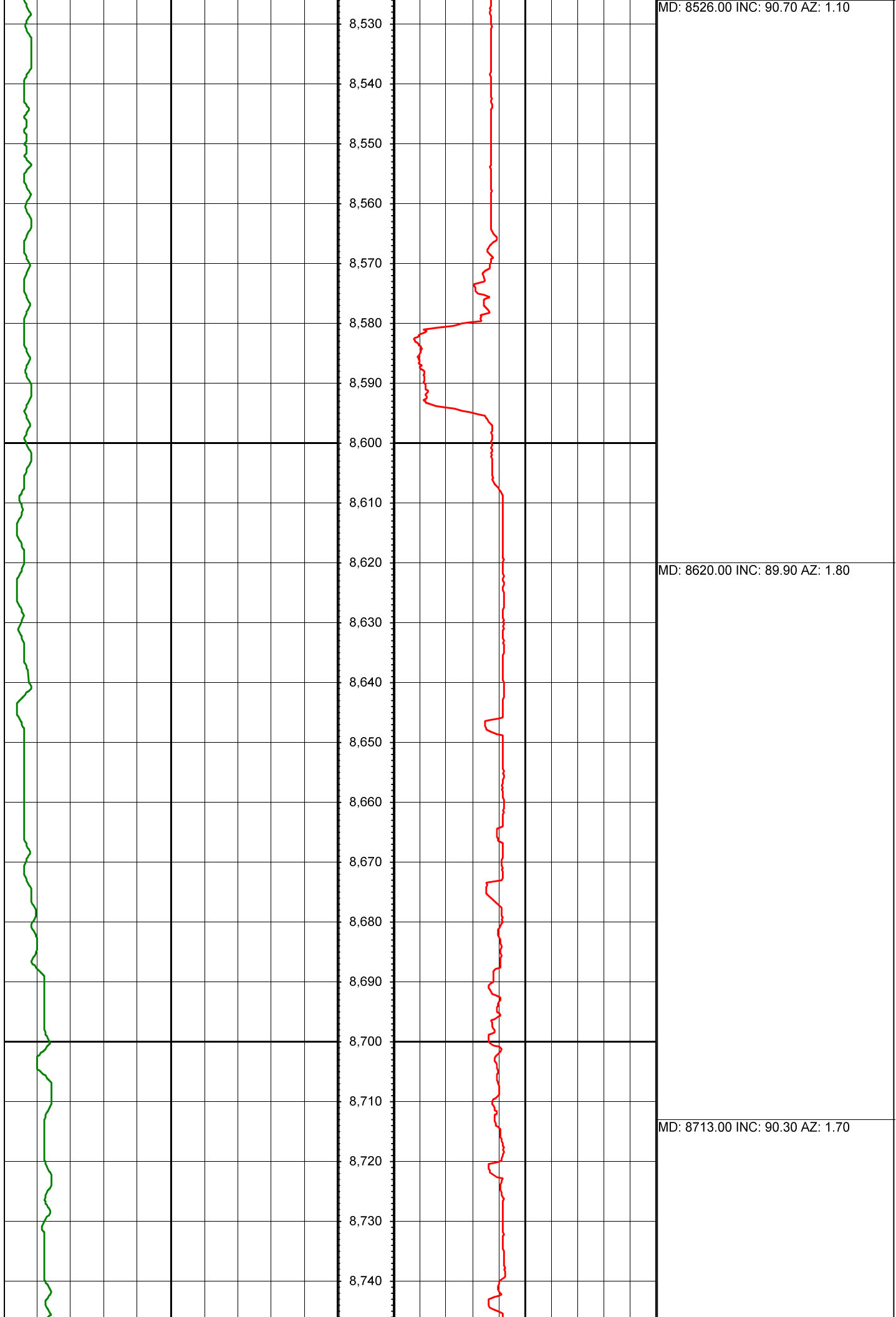


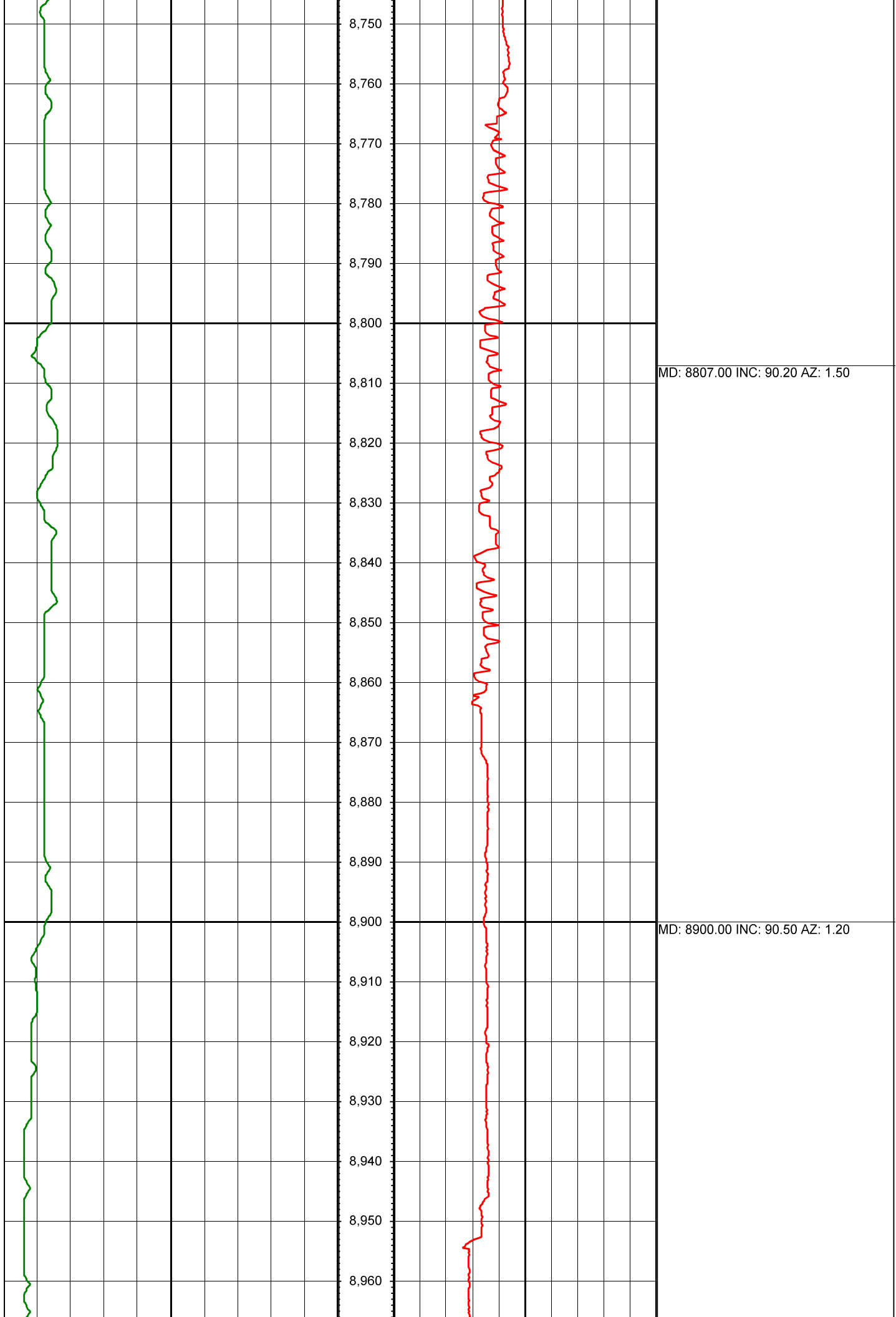


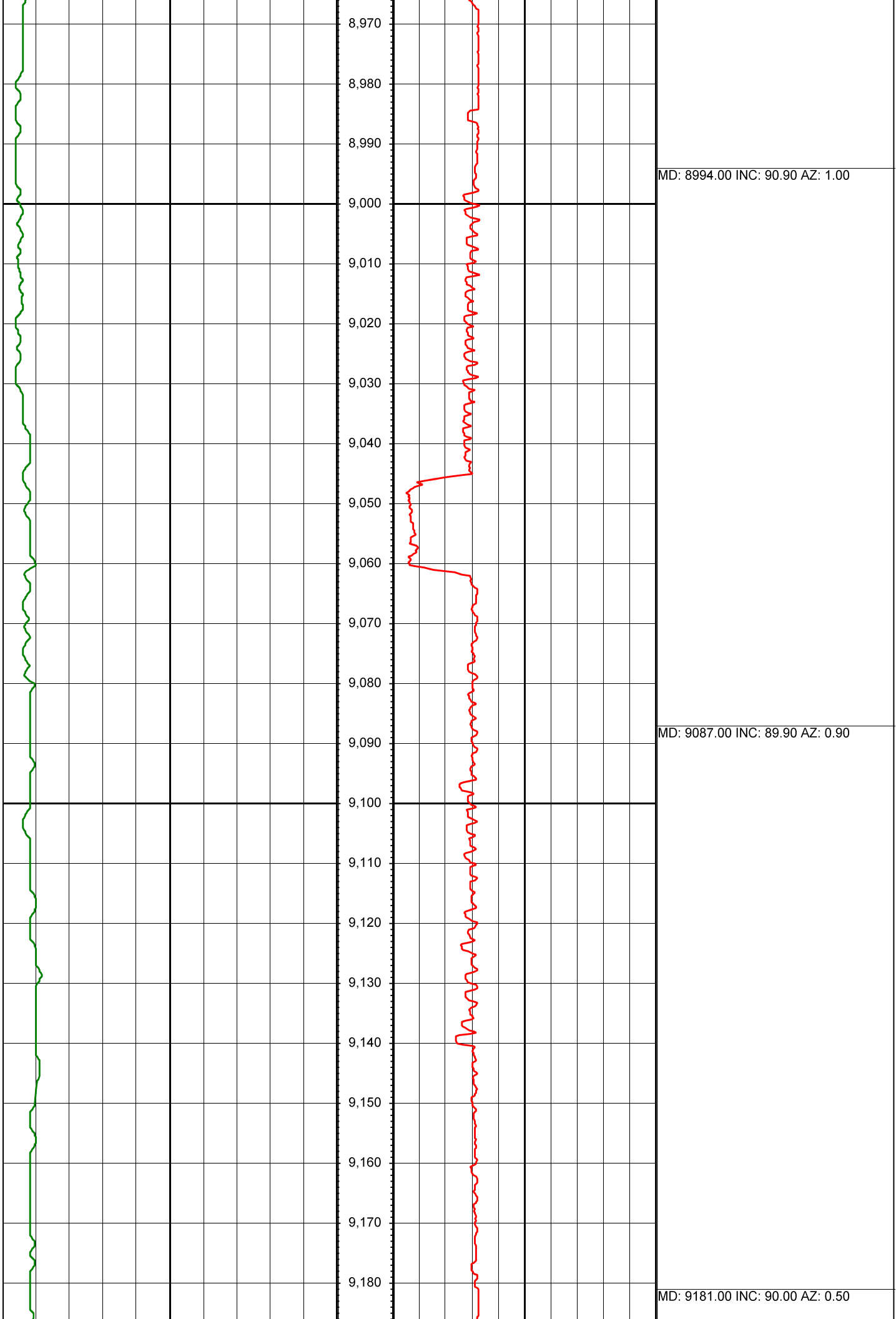


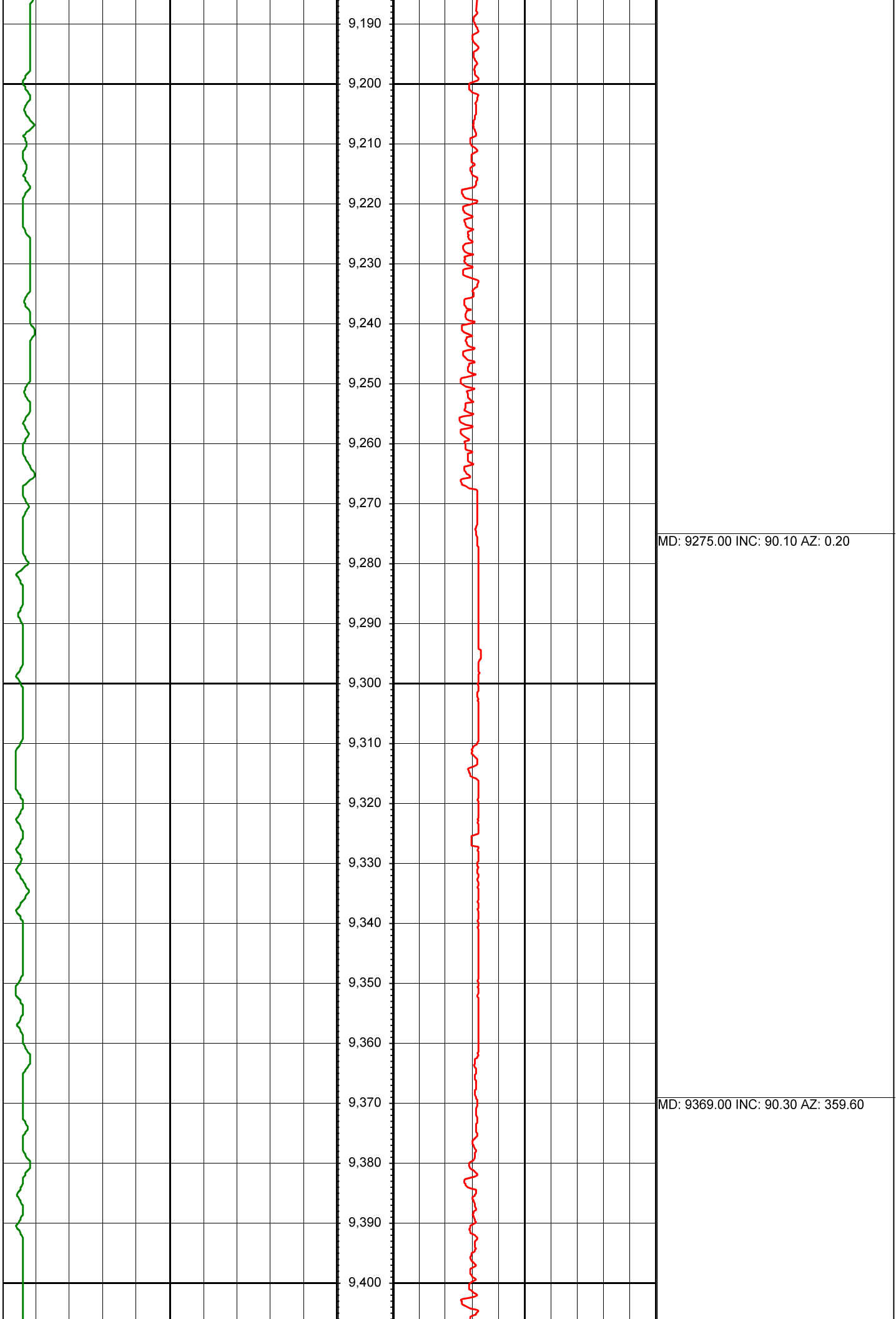


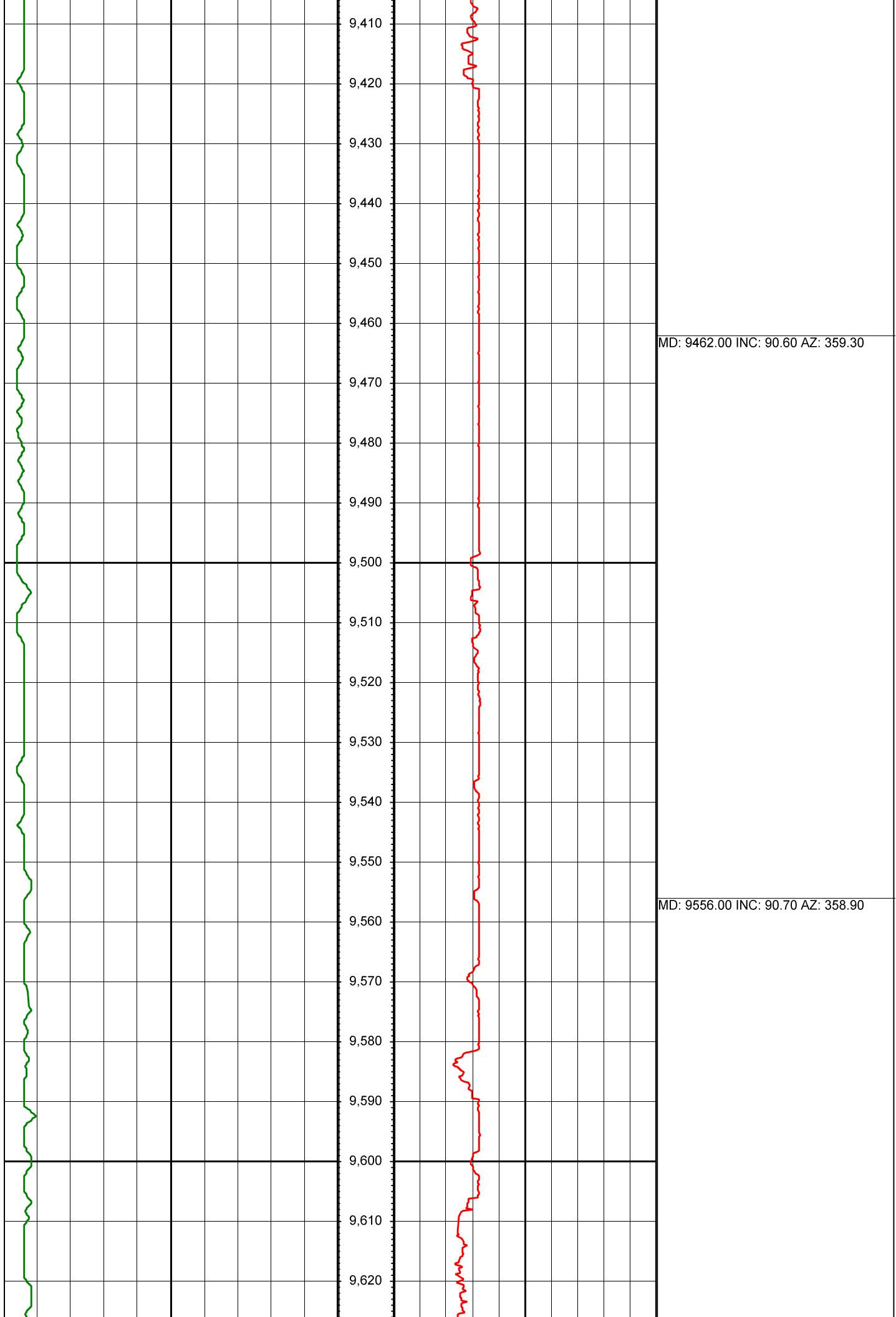


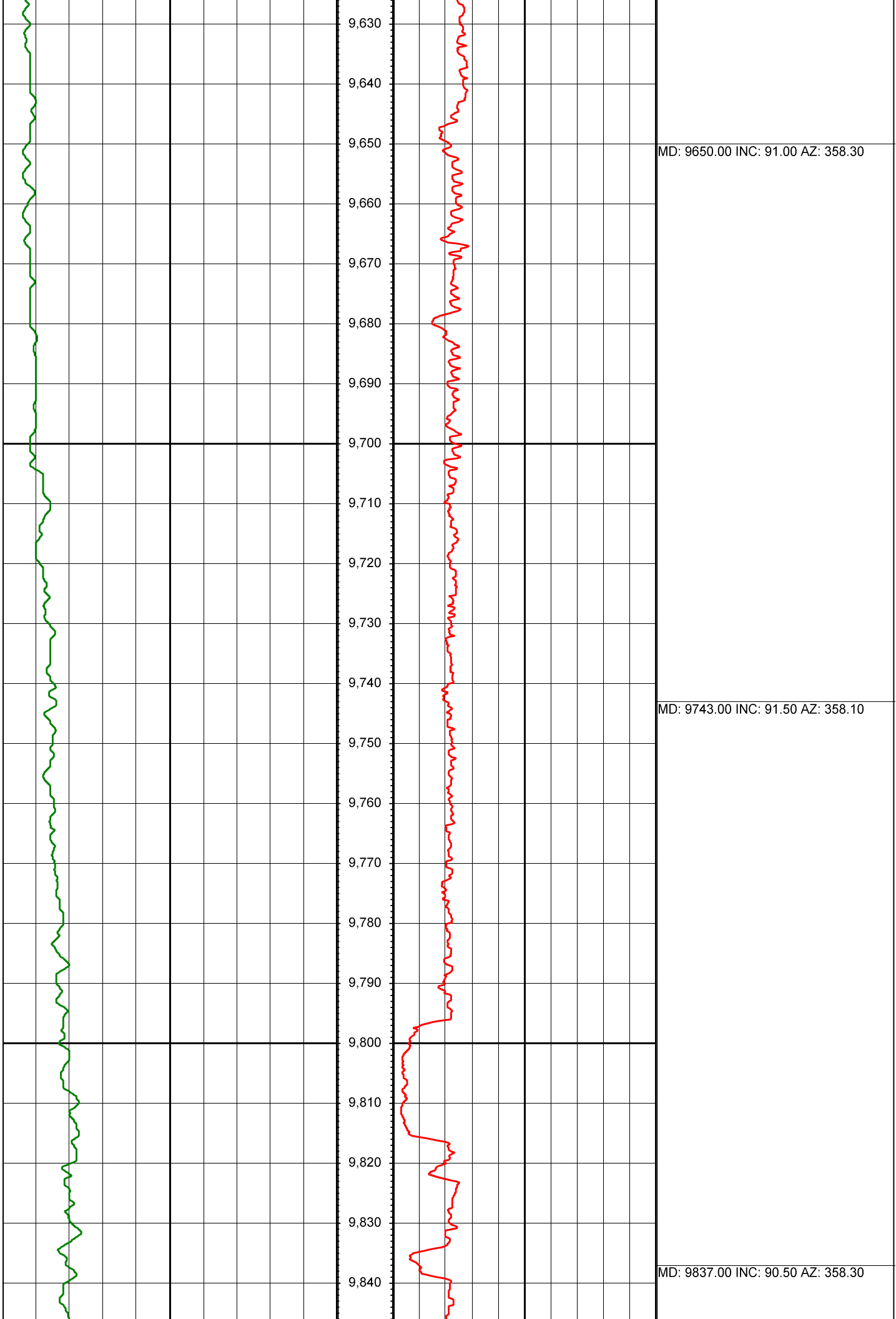


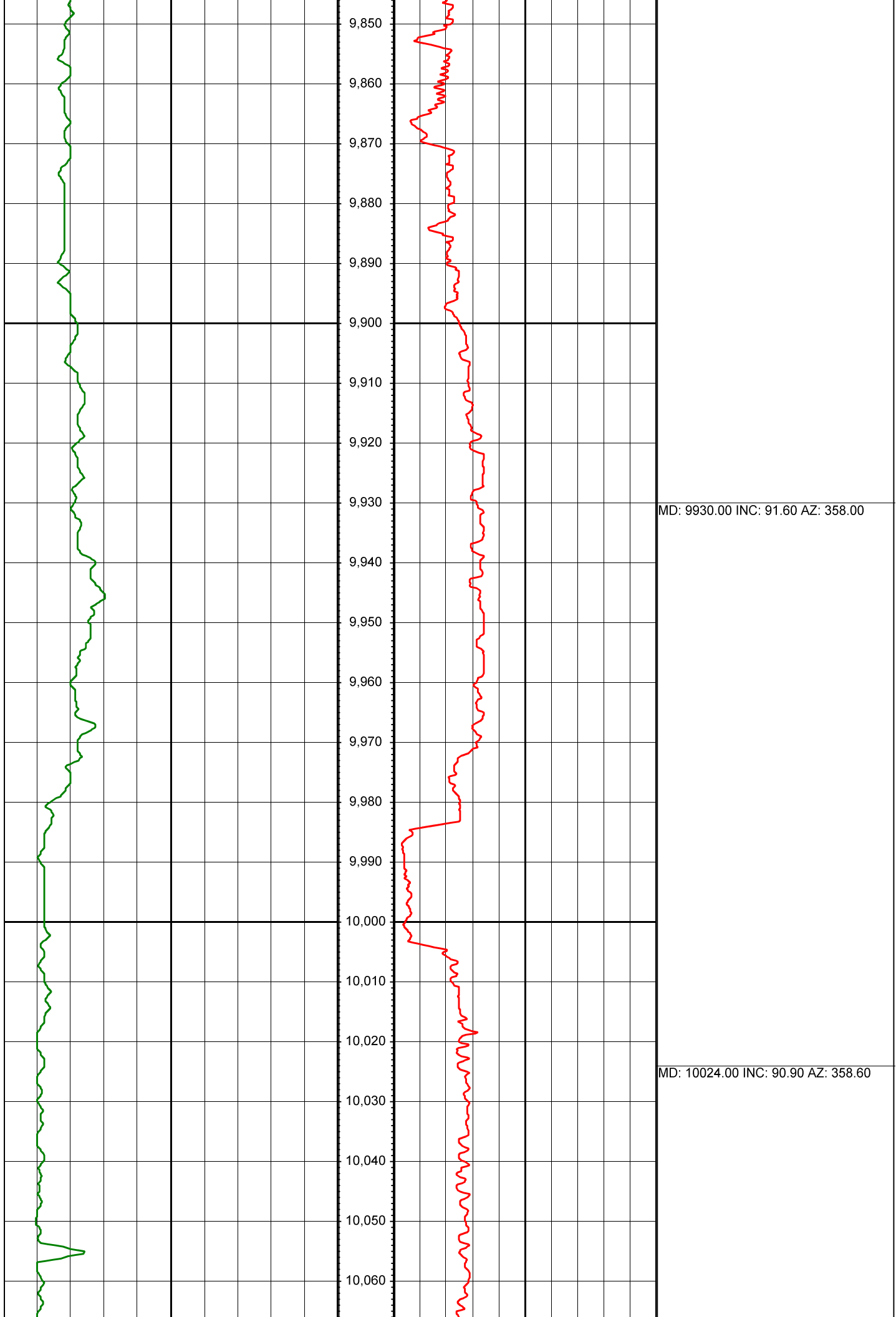


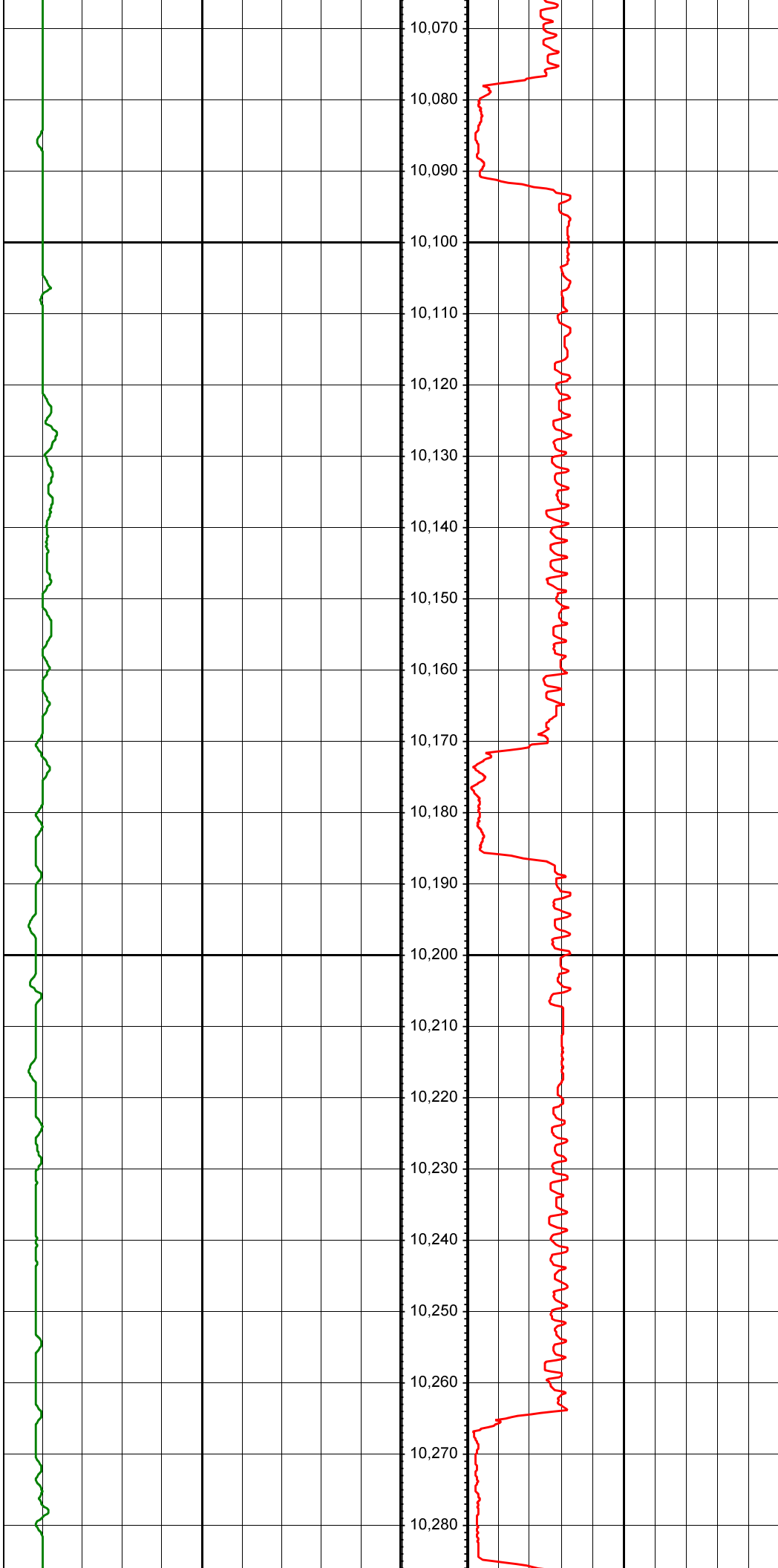








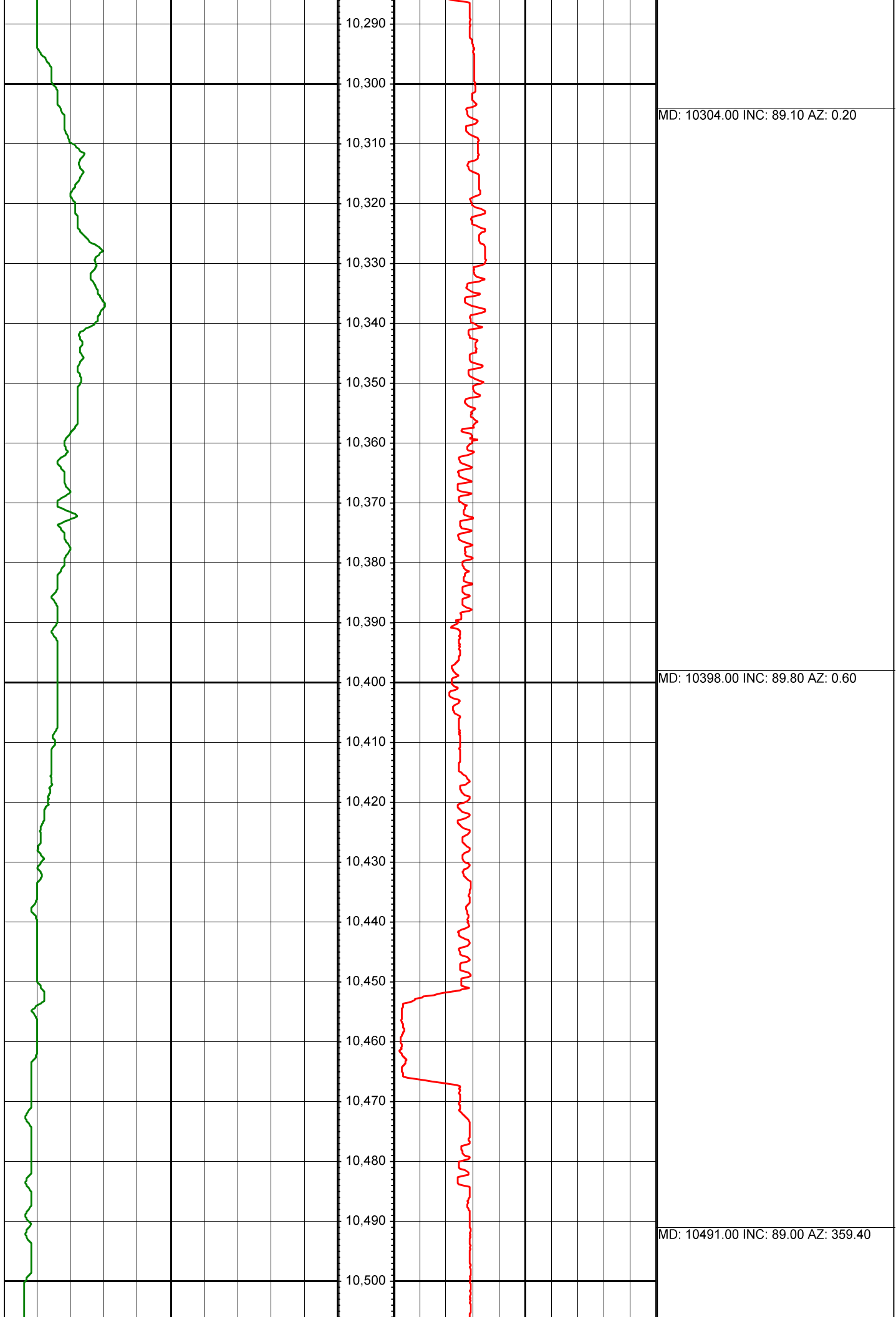


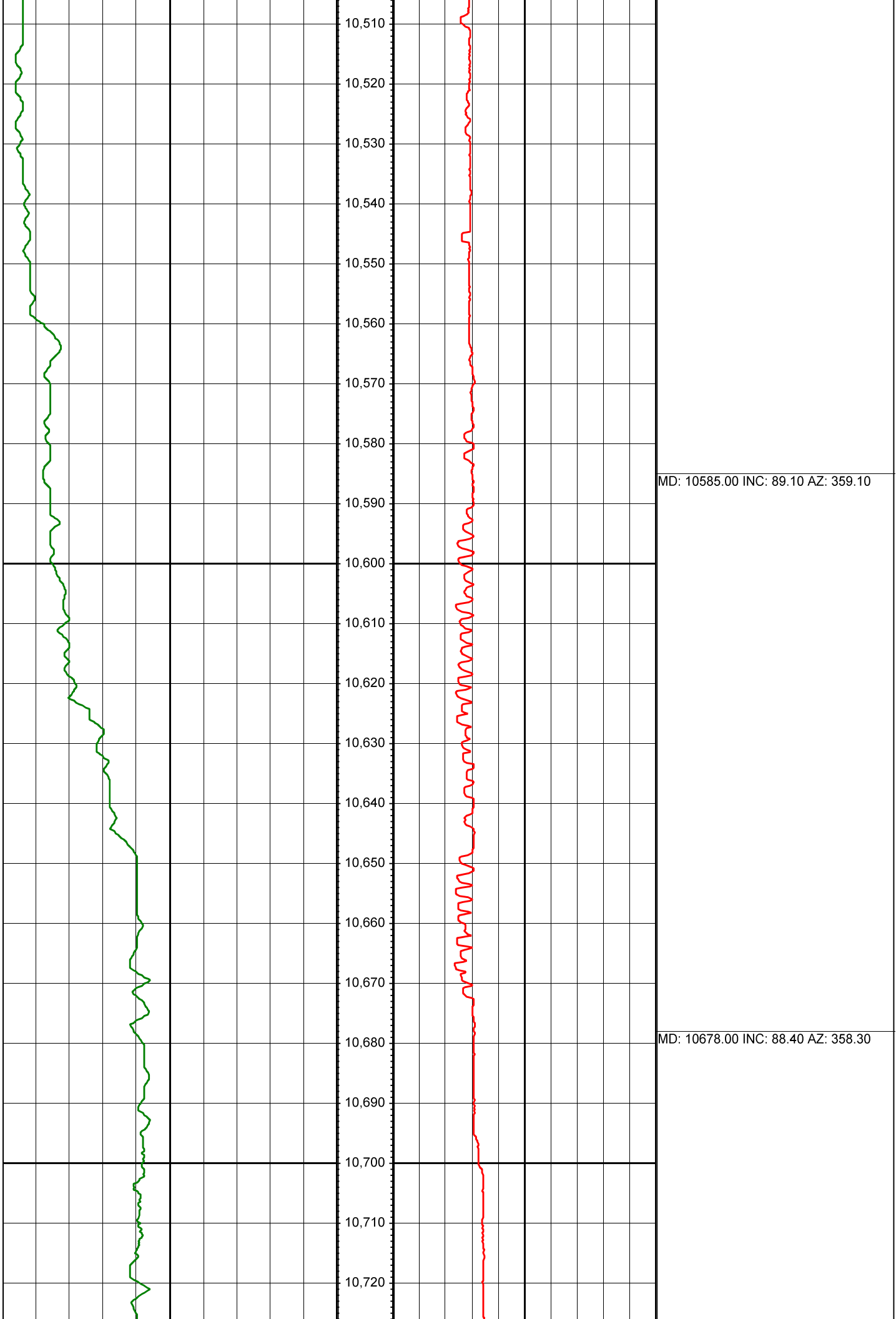


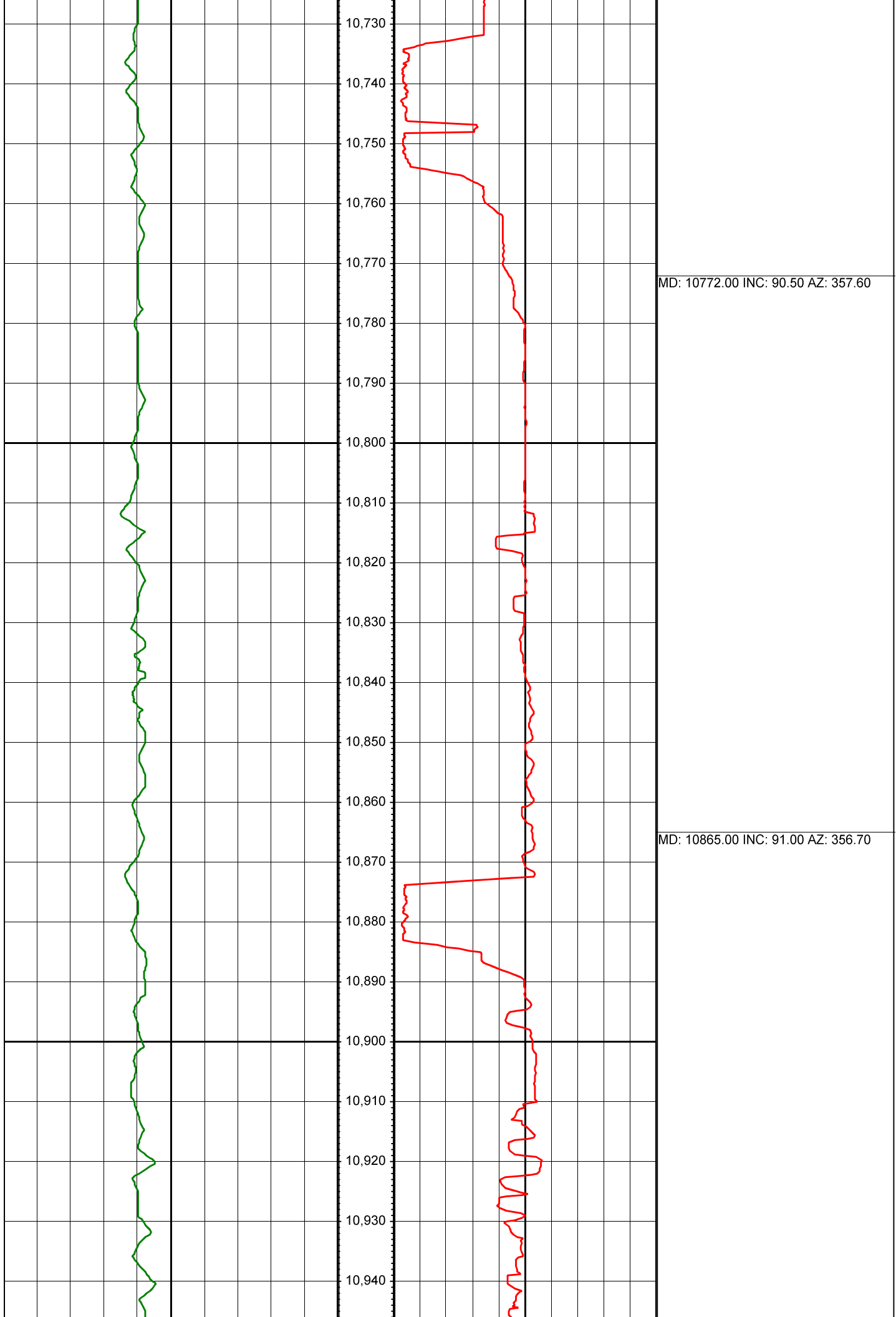
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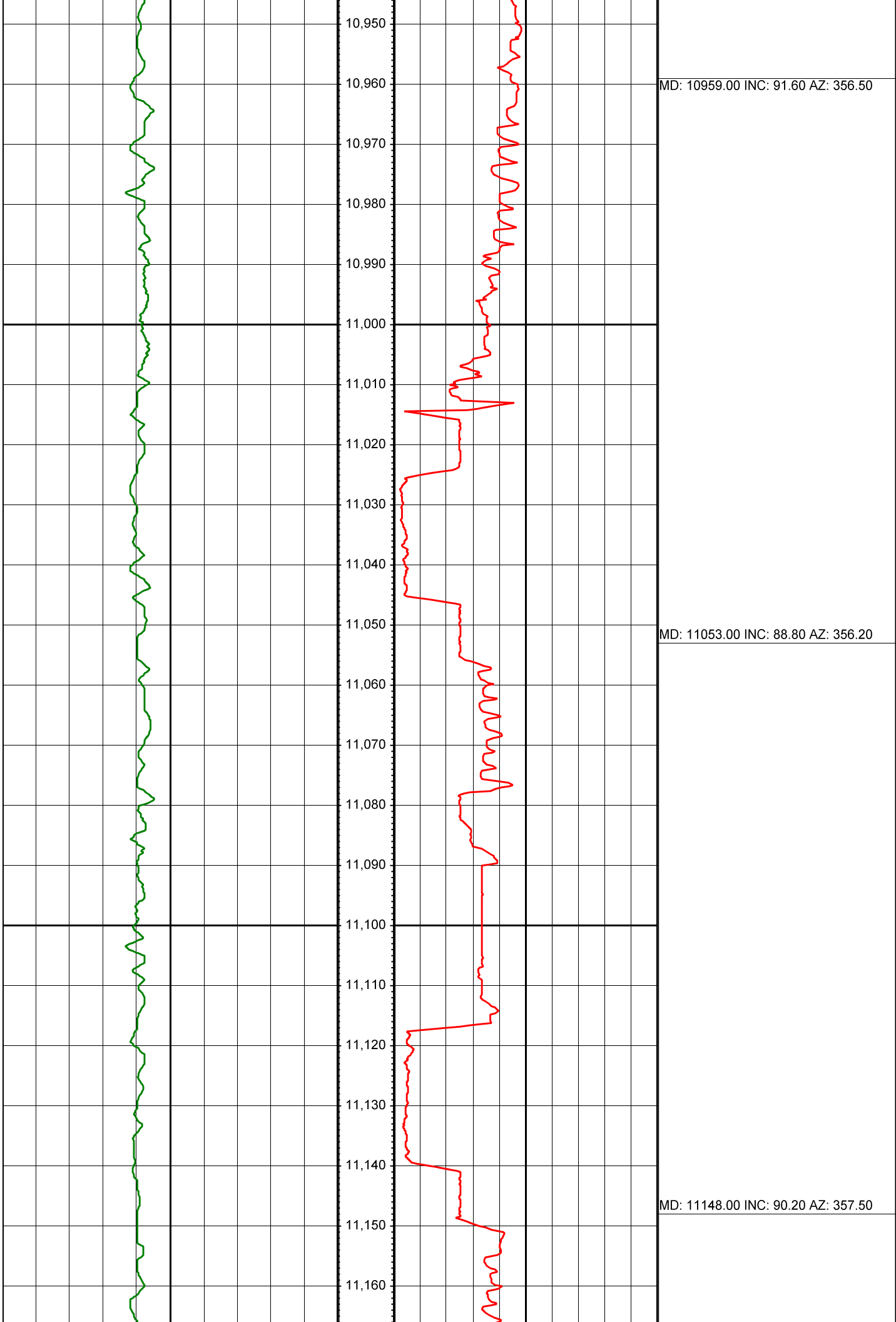
MD: 10117.00 INC: 90.50 AZ: 359.30

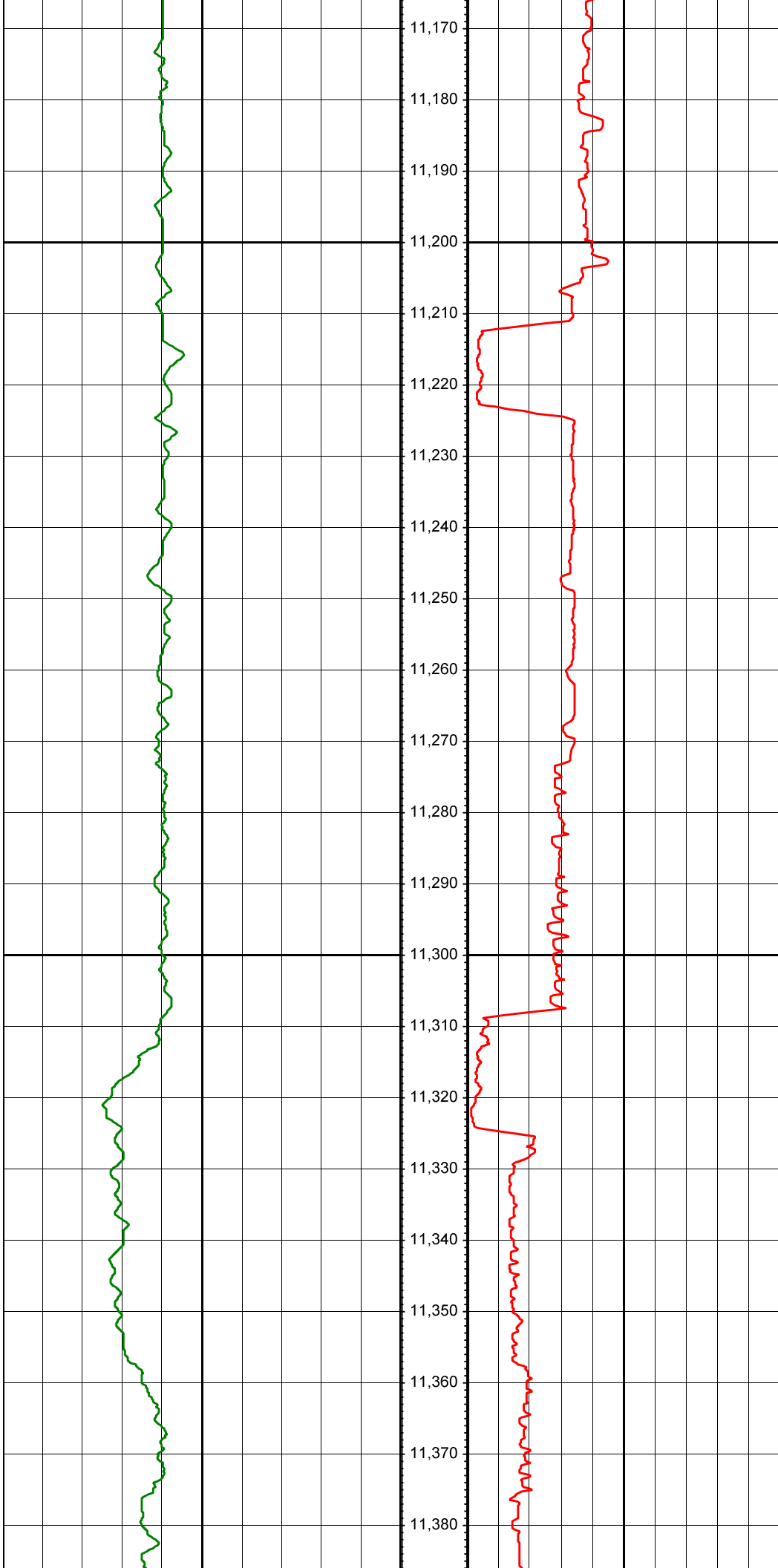
MD: 10211.00 INC: 90.70 AZ: 359.40







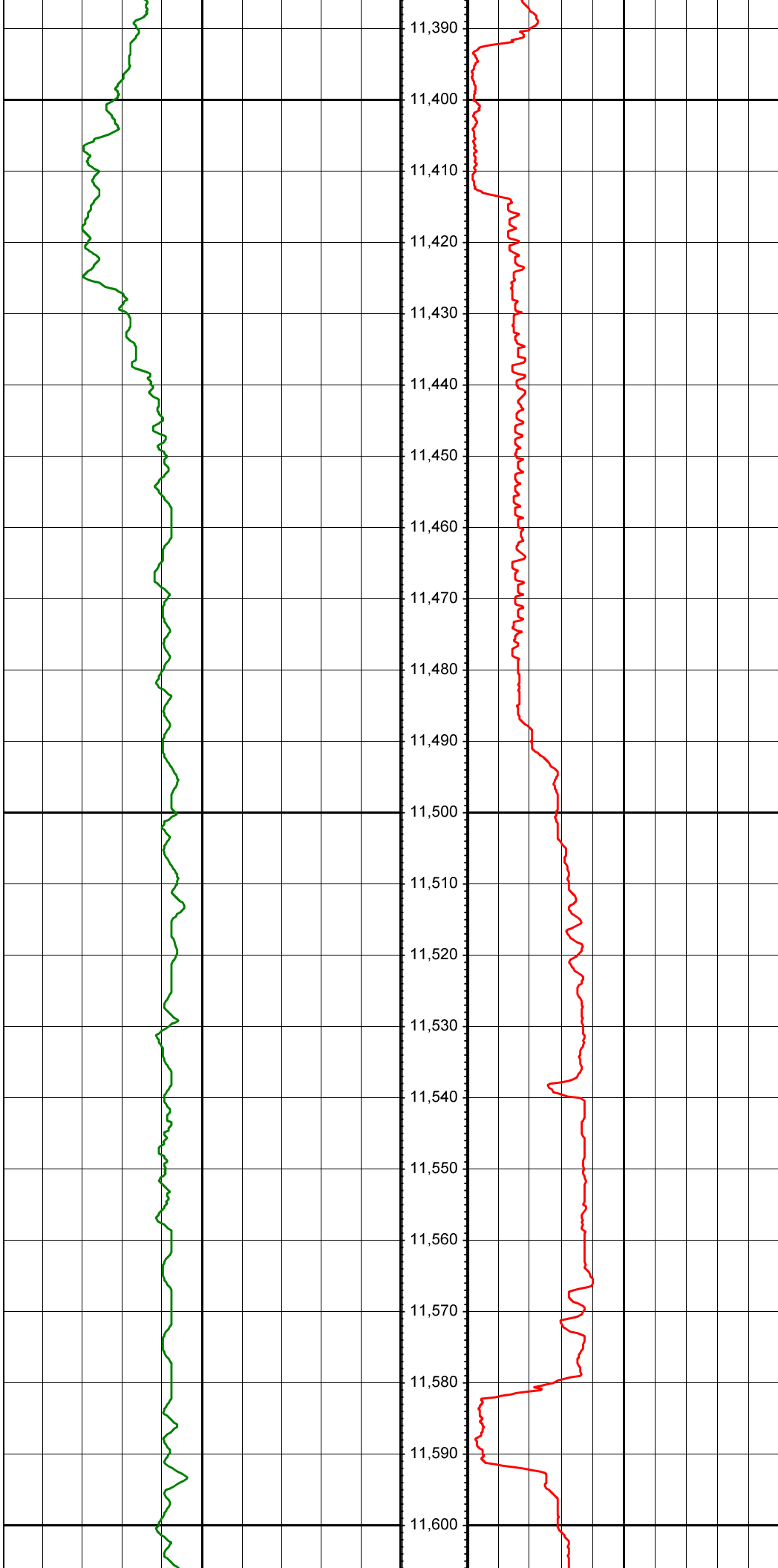




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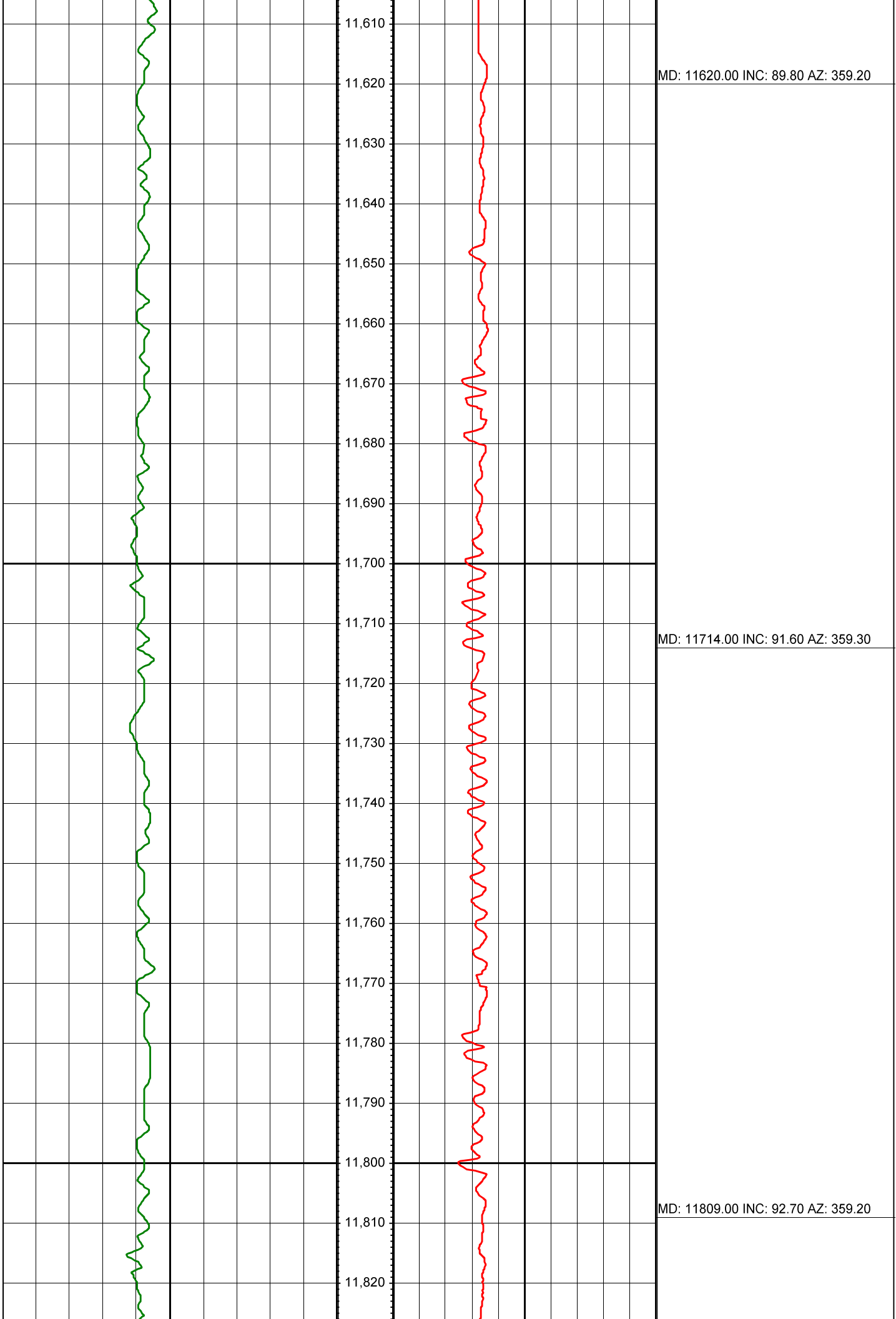
MD: 11242.00 INC: 91.10 AZ: 358.10

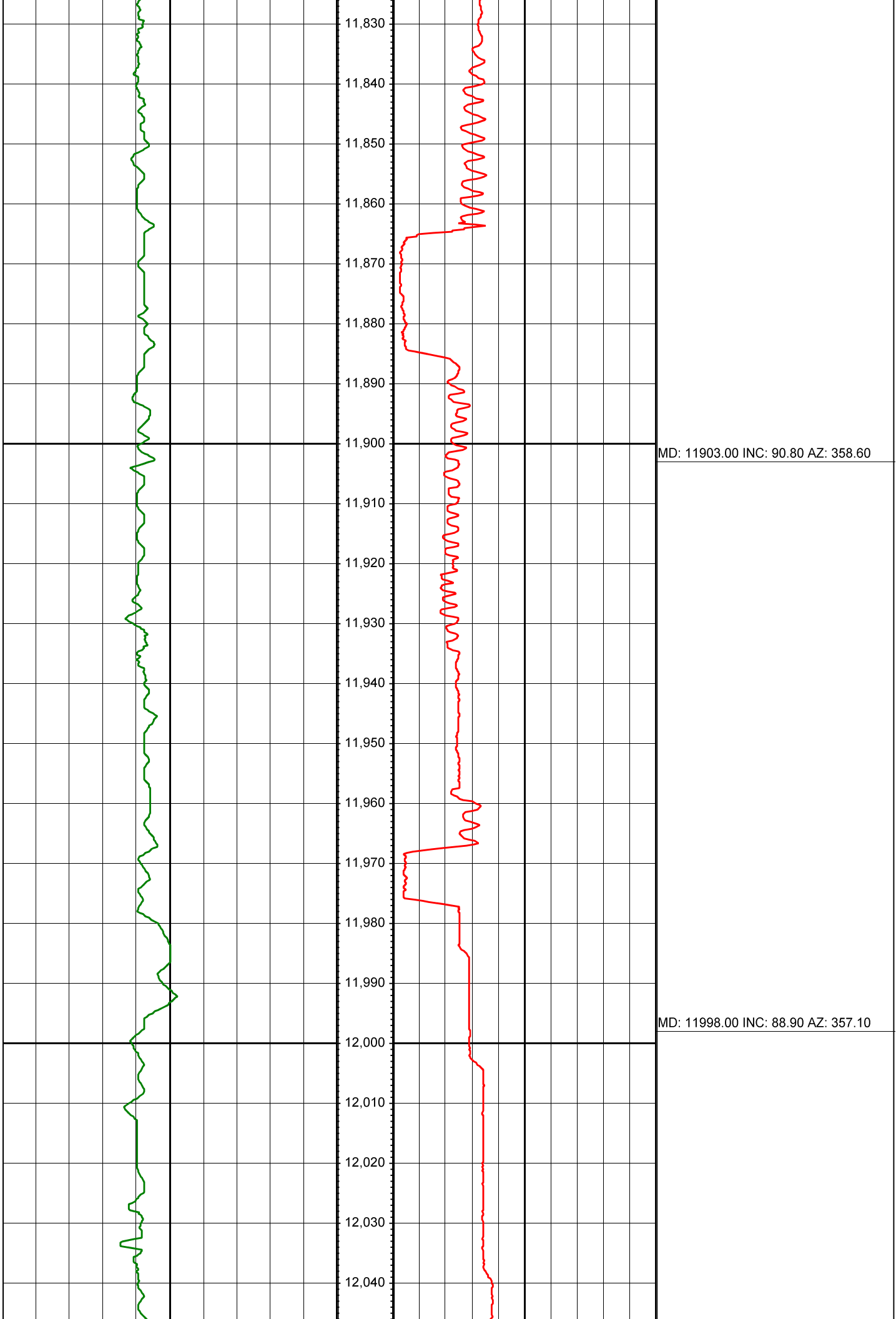
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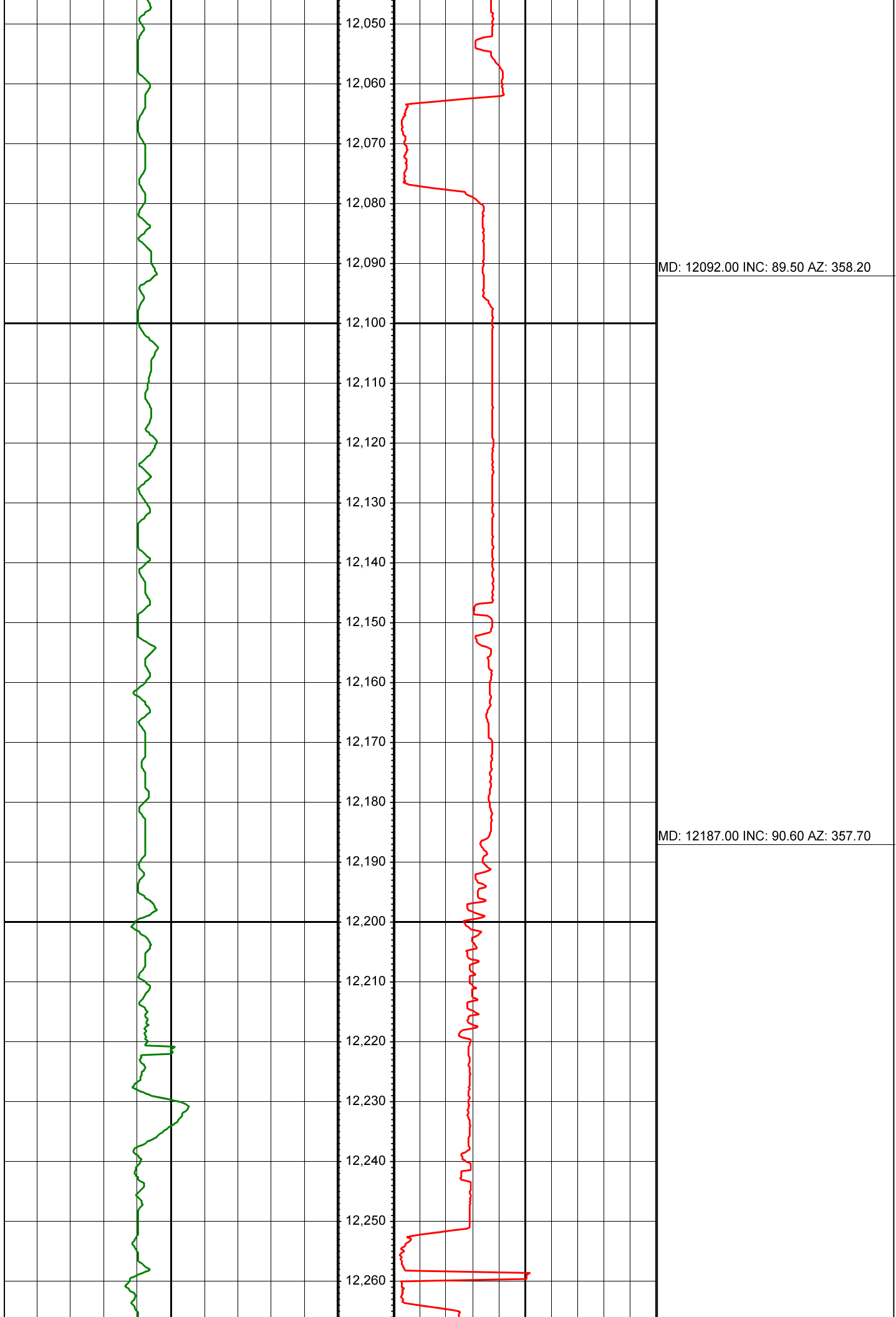


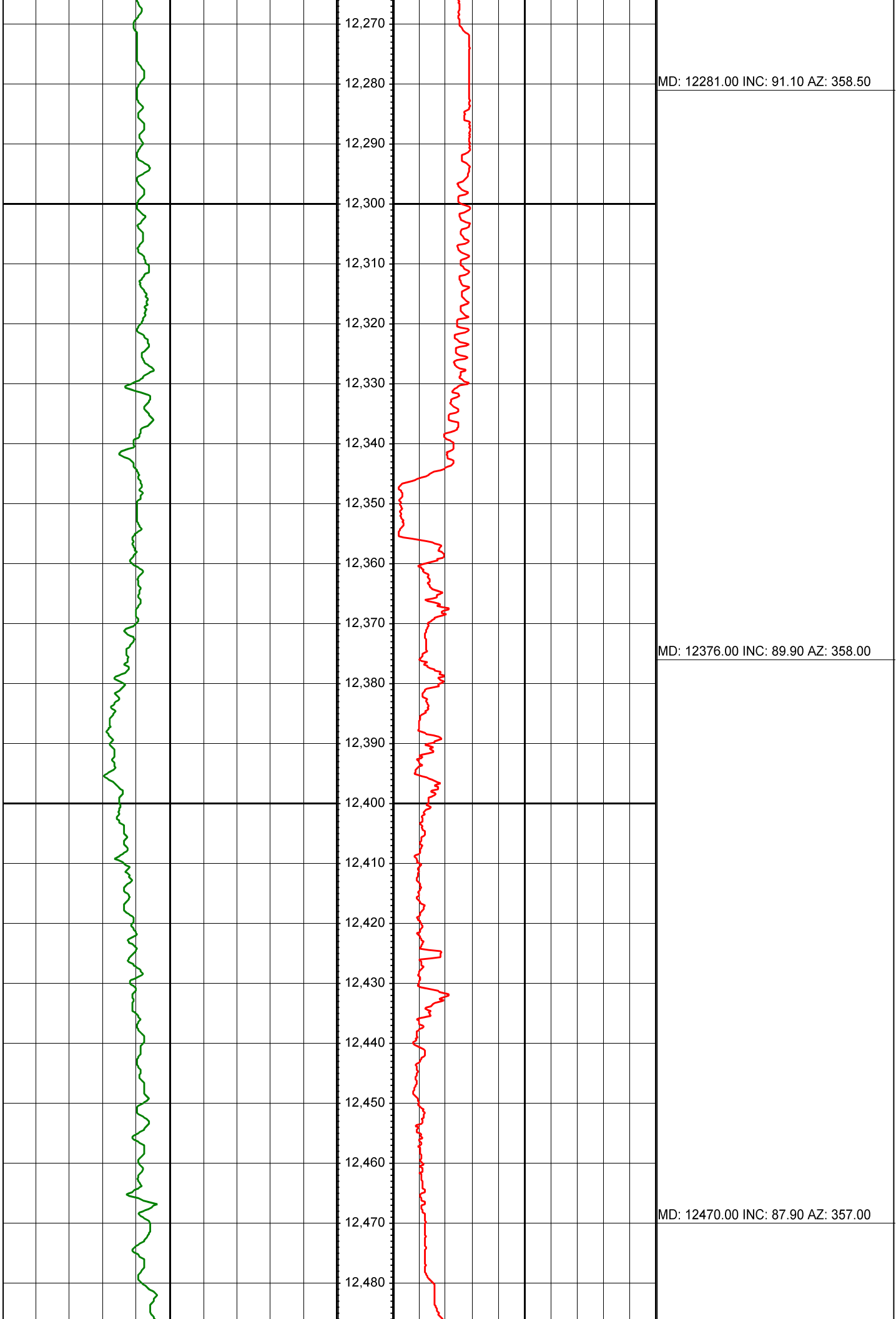
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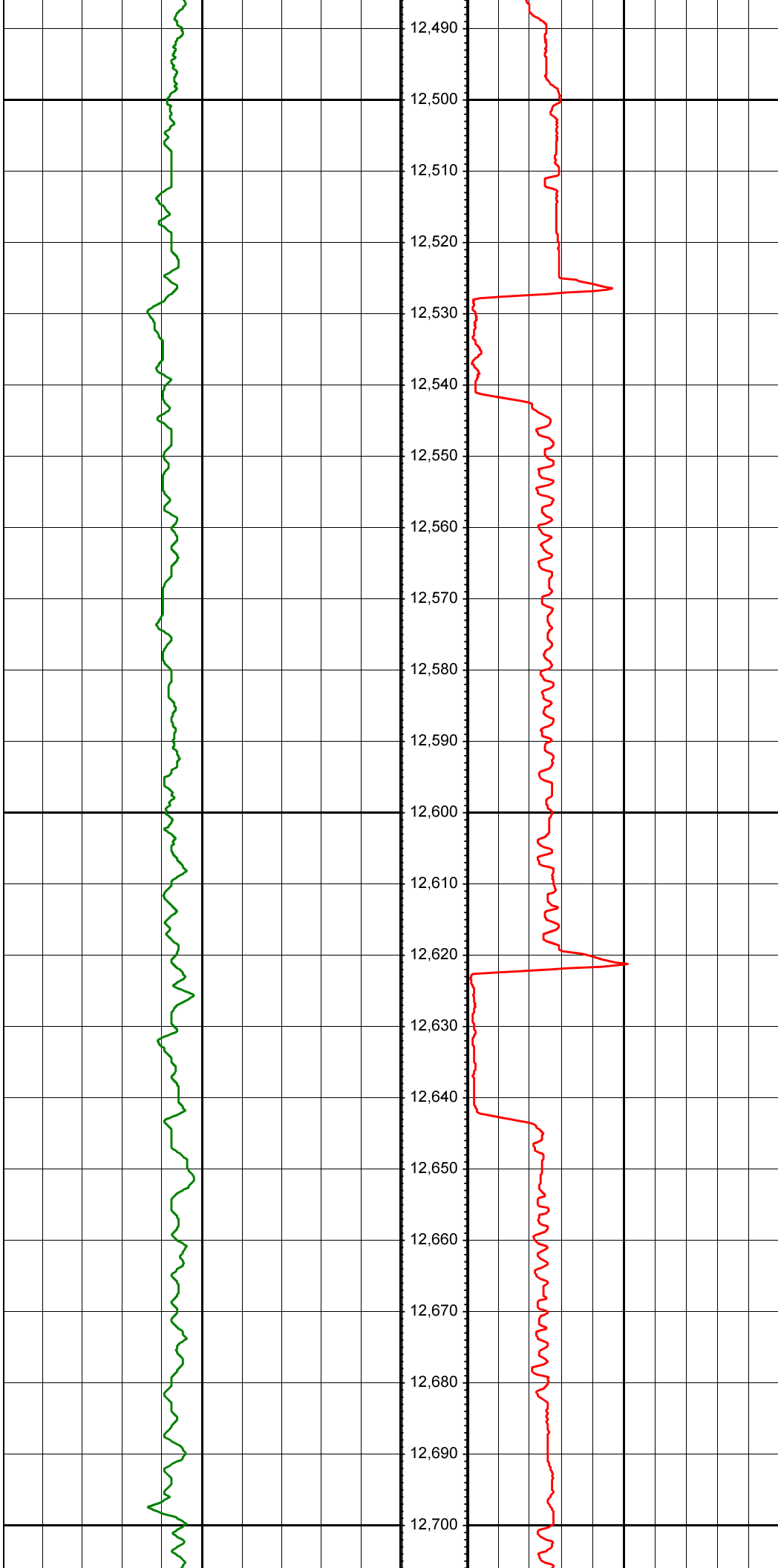
MD: 11525.00 INC: 88.80 AZ: 358.70











MD: 12565.00 INC: 89.70 AZ: 357.00

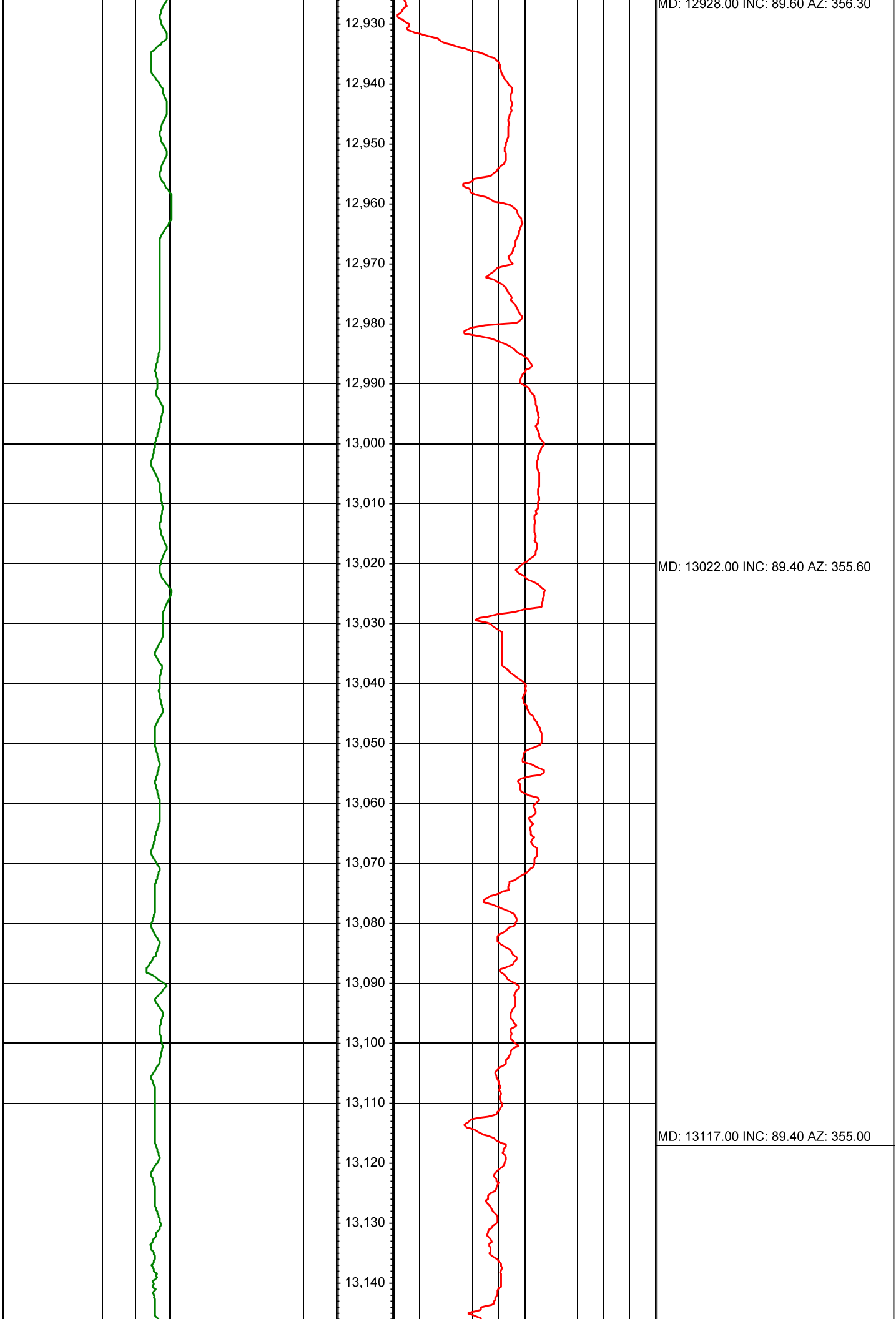
MD: 12659.00 INC: 91.30 AZ: 359.30

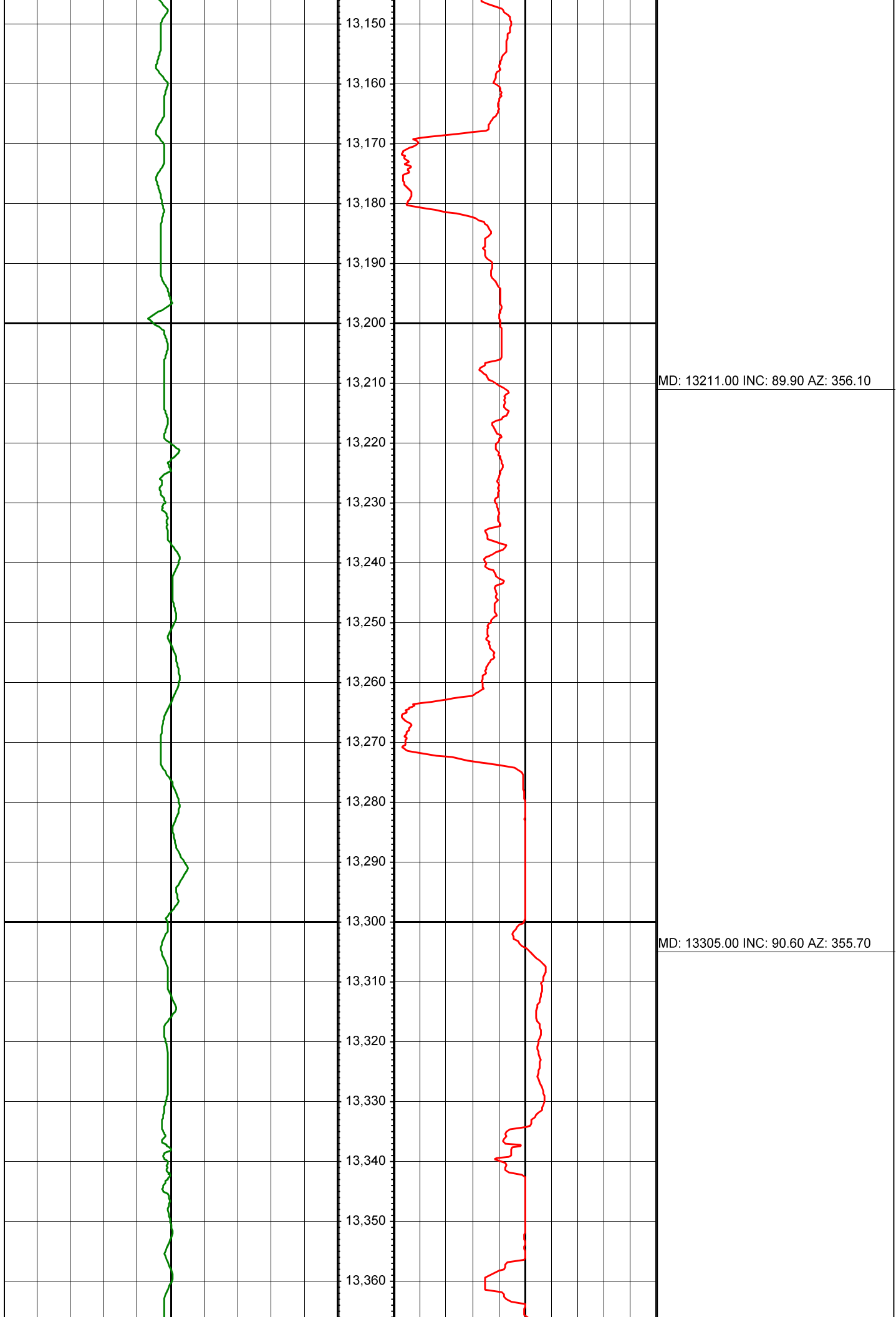


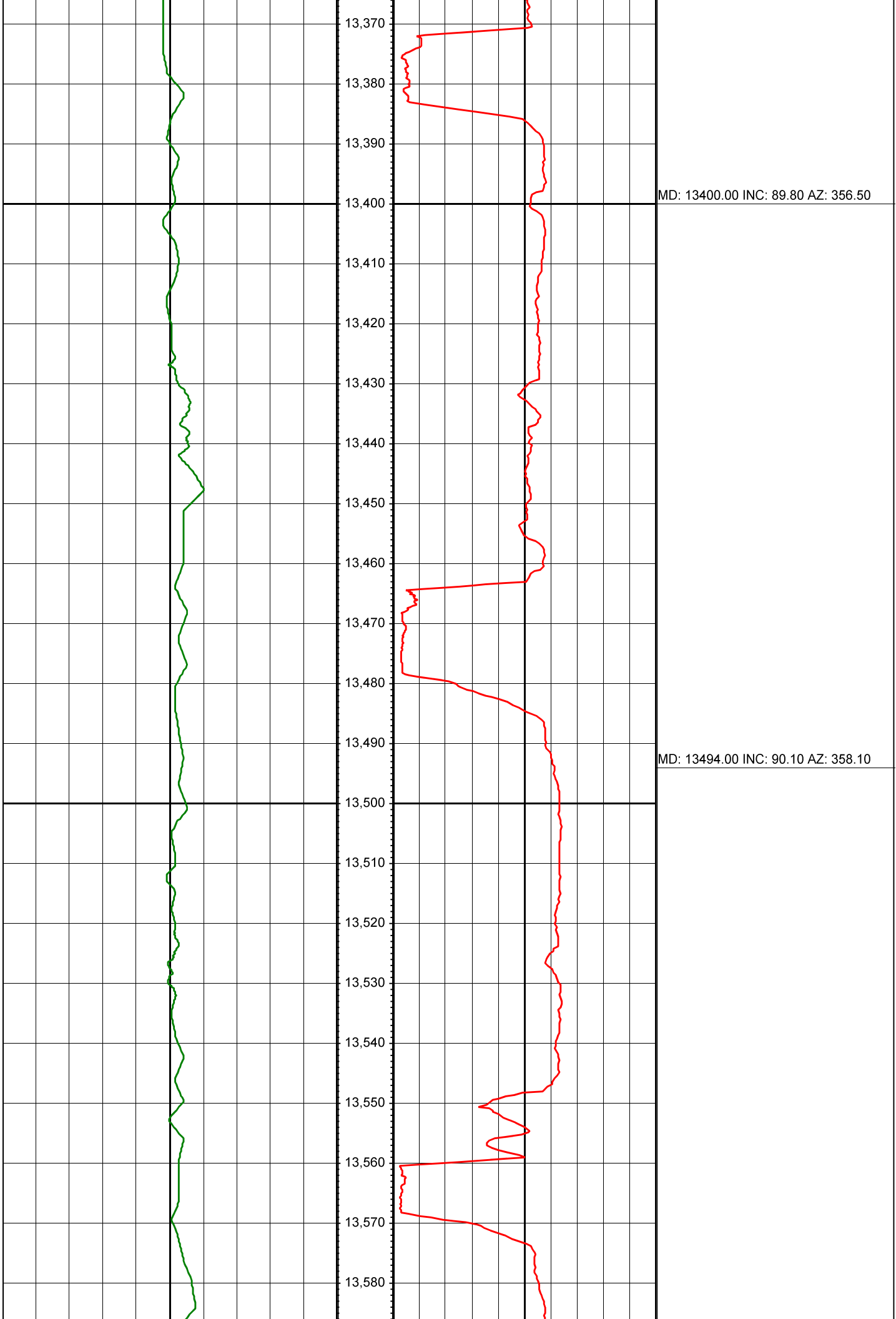
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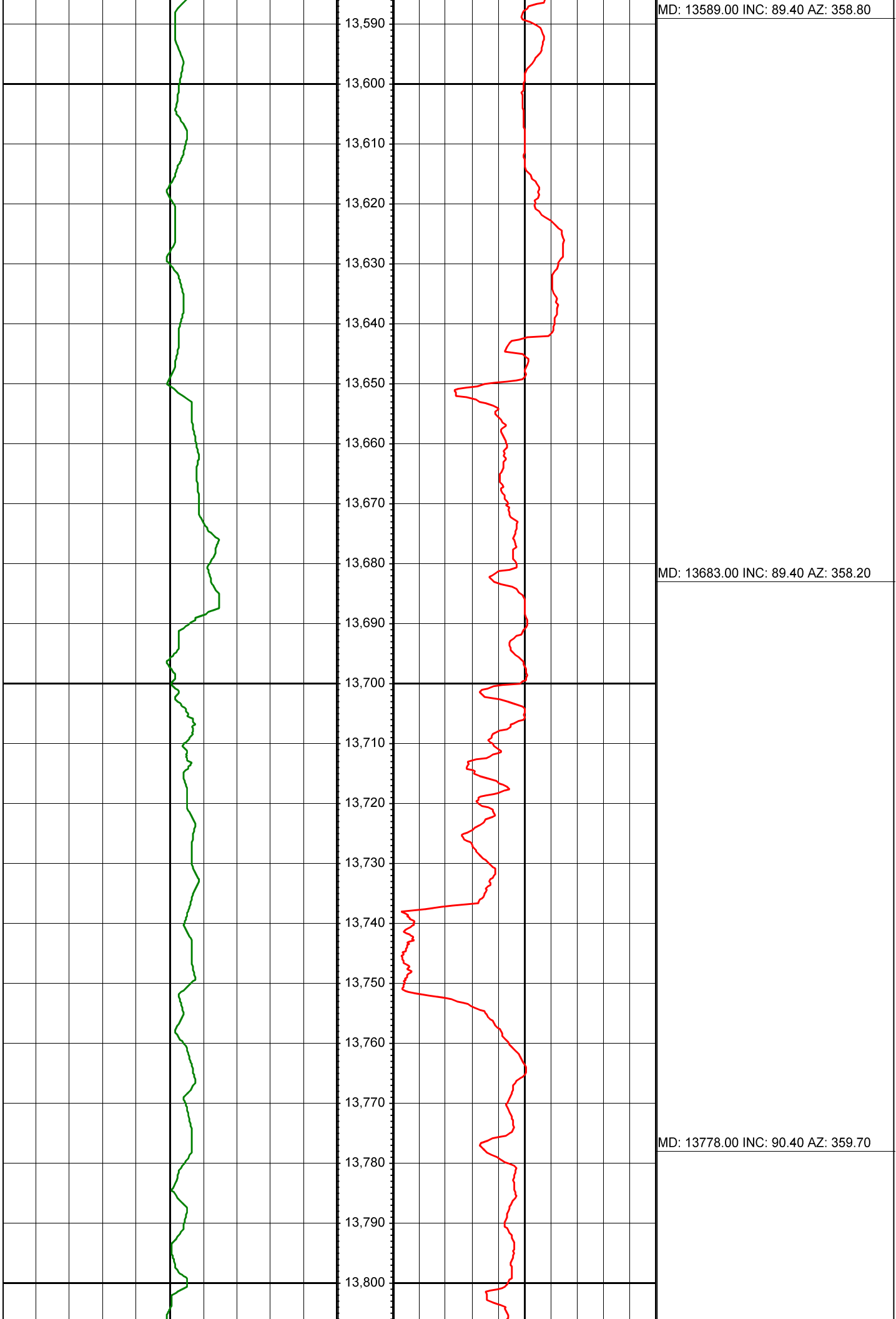
MD: 12833.00 INC: 93.10 AZ: 358.80

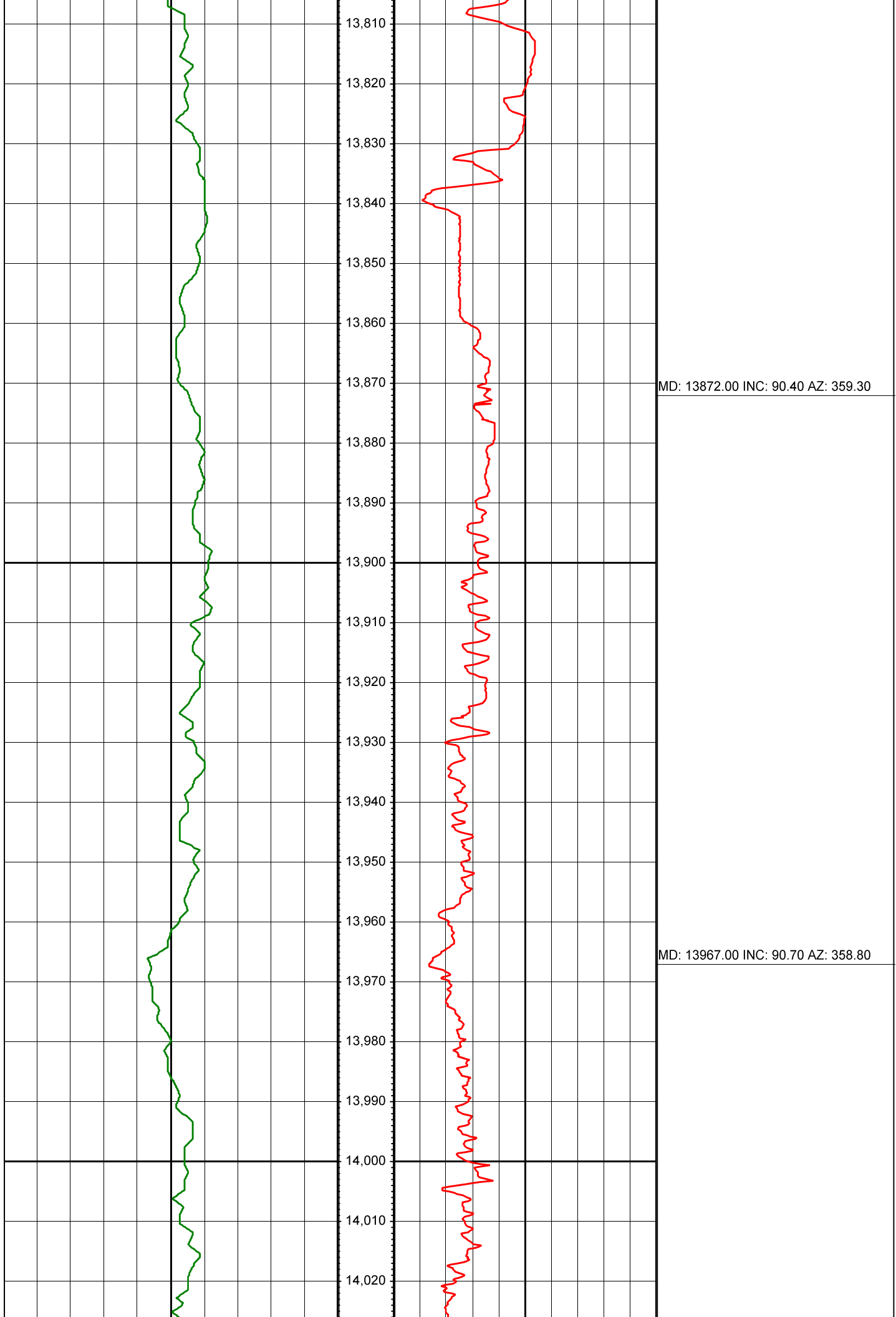
MD: 12912.00 INC: 93.20 AZ: 358.90

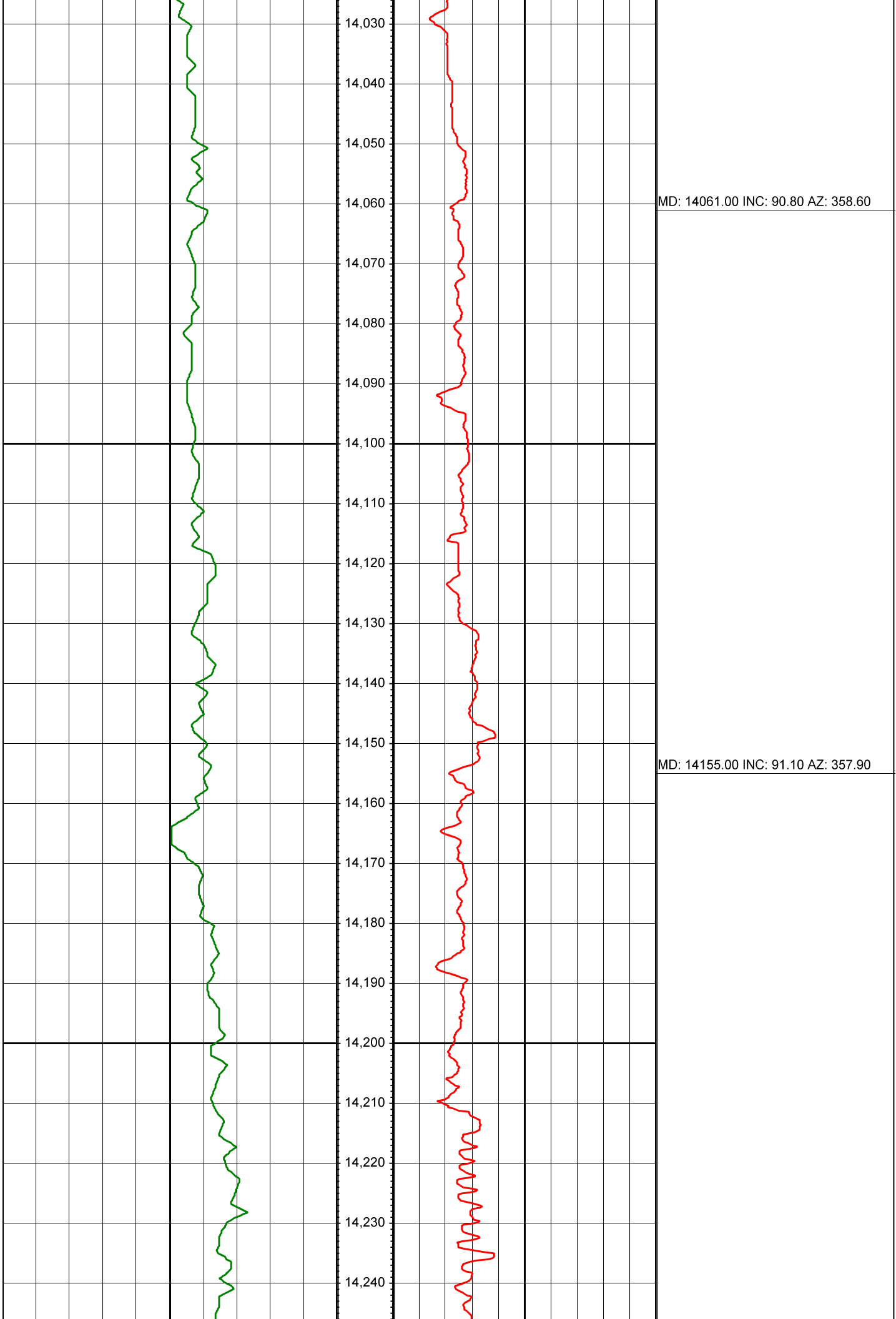


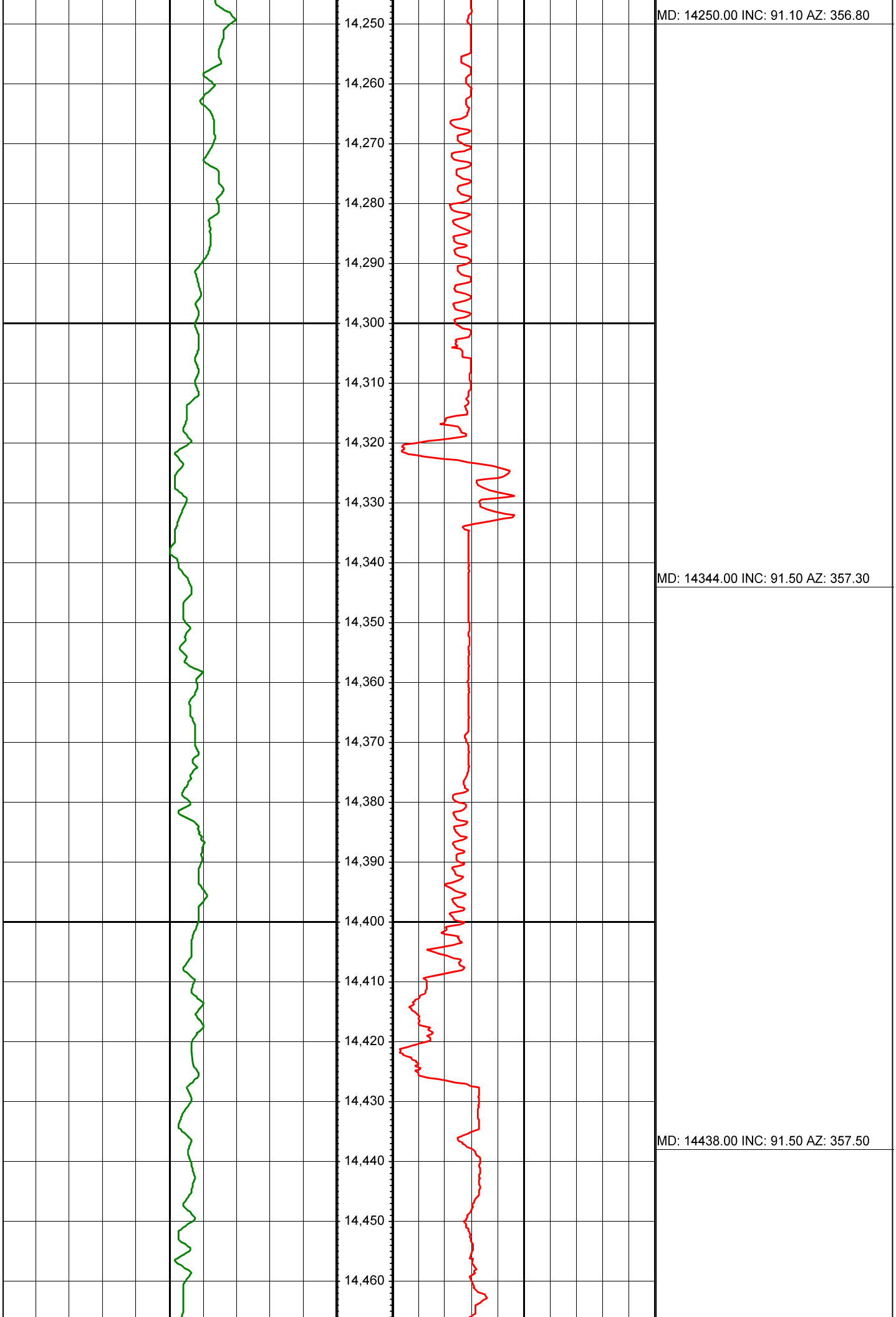


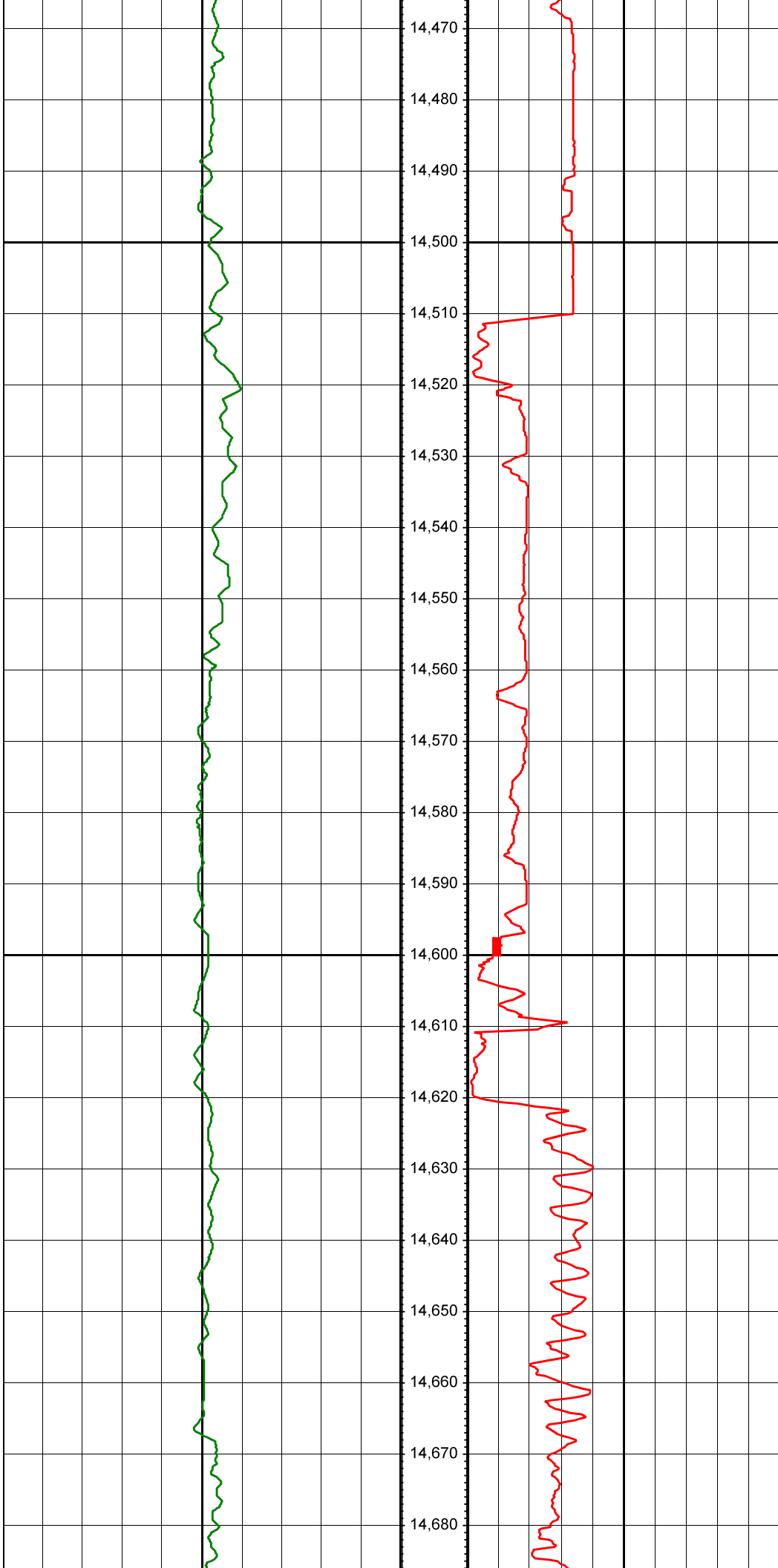








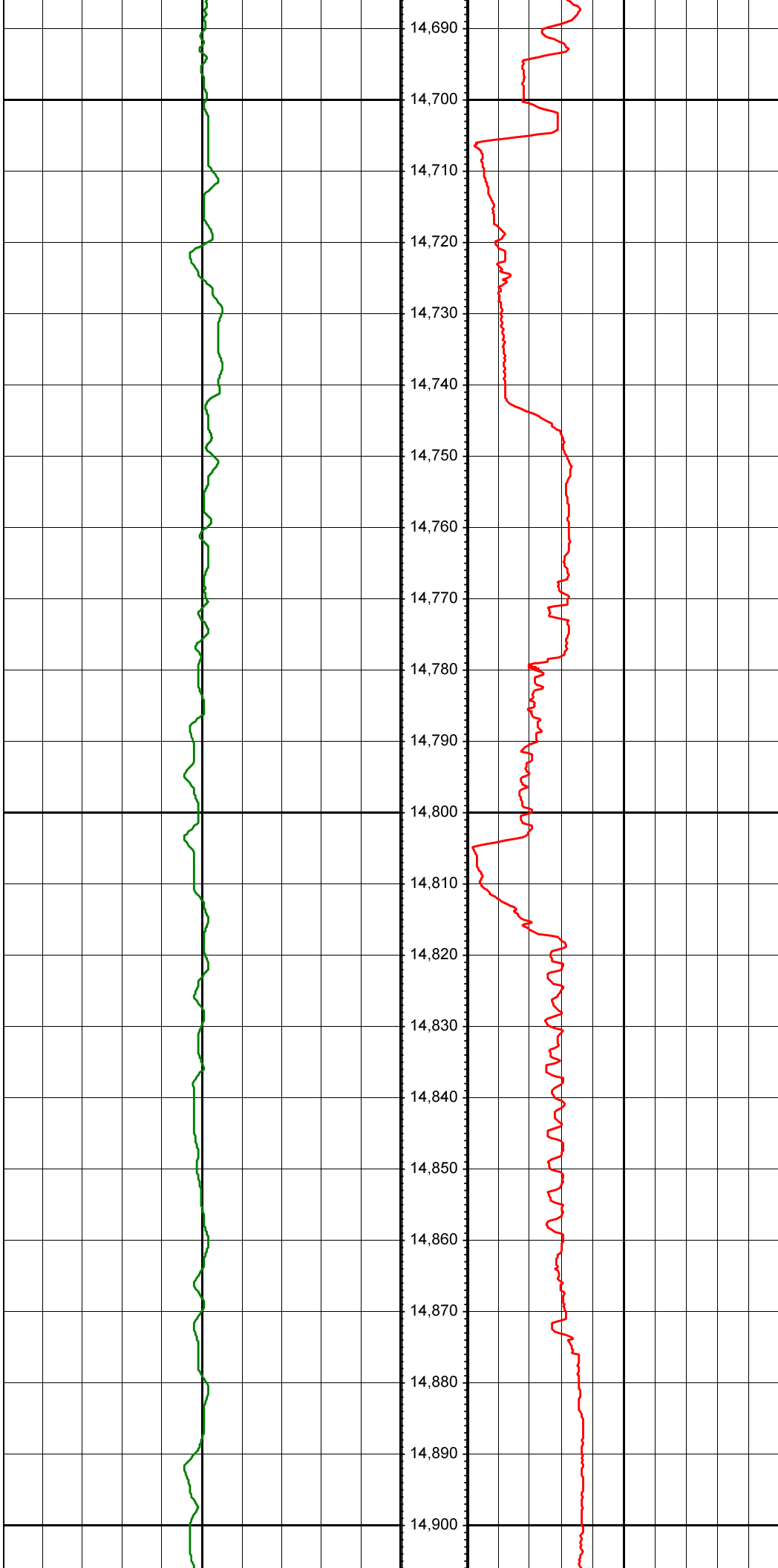




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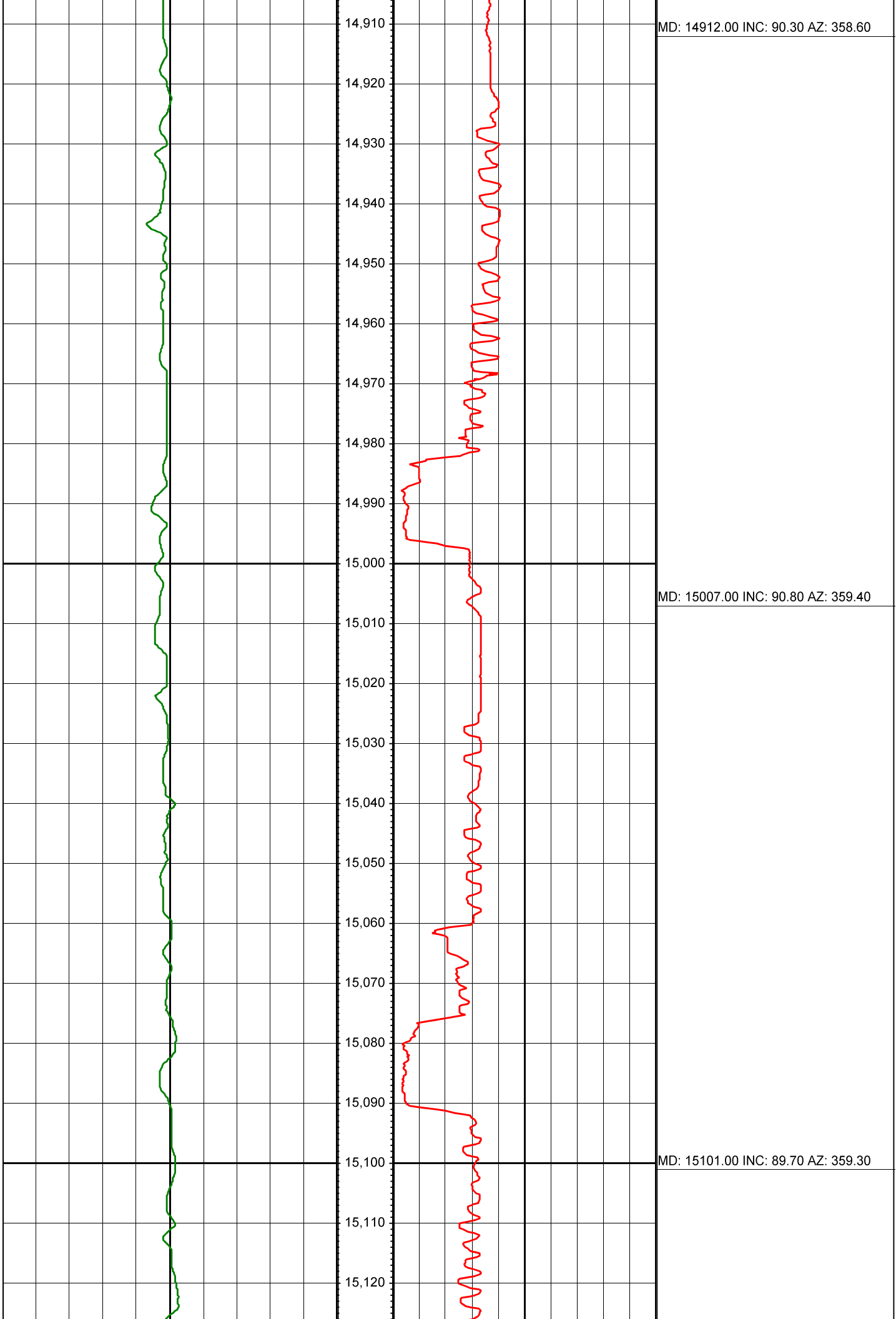
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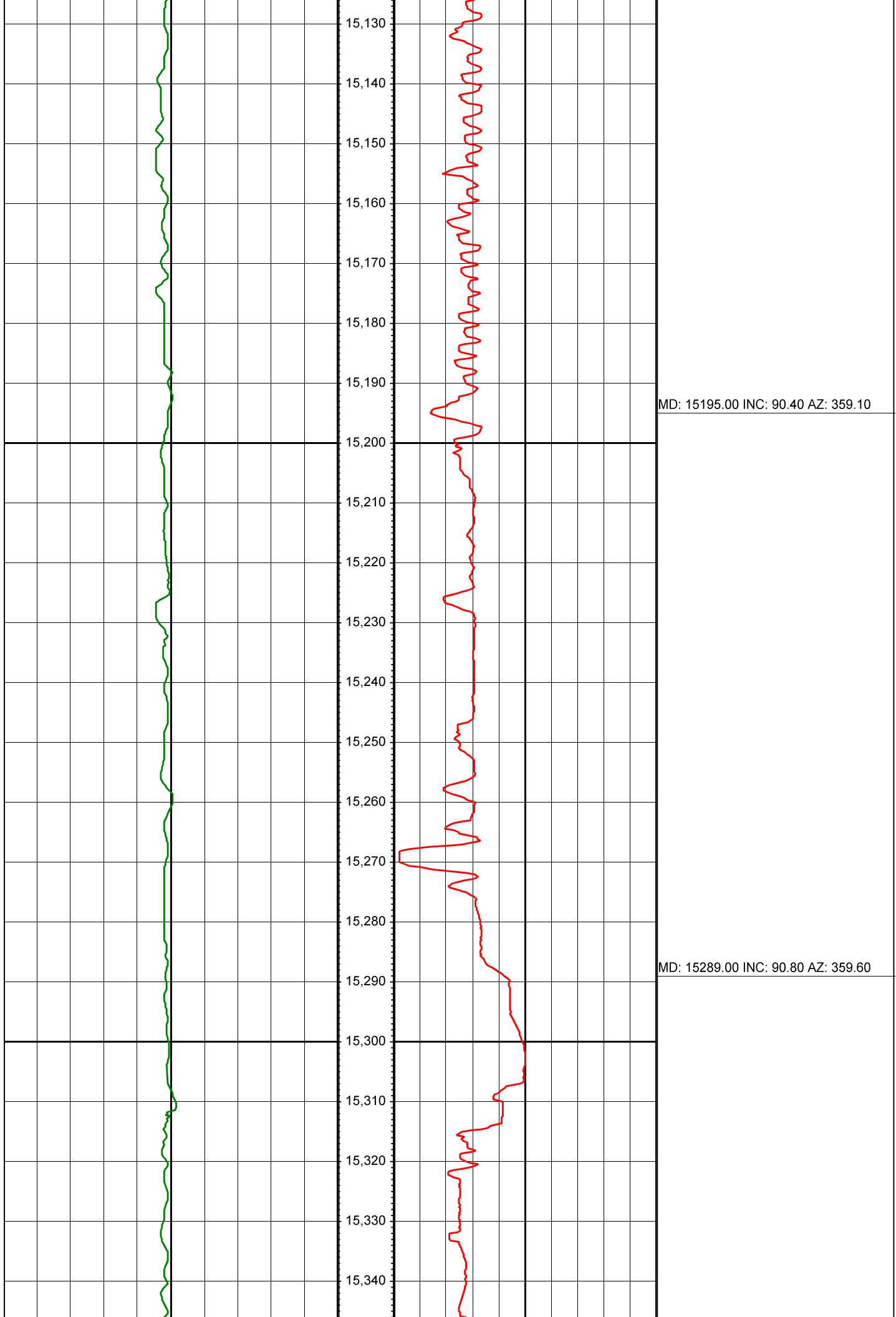
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MD: 14723.00 INC: 90.70 AZ: 358.60

MD: 14818.00 INC: 90.10 AZ: 358.80







MD: 15383.00 INC: 90.90 AZ: 359.50

MD: 15478.00 INC: 89.70 AZ: 359.90

