



Cathedral Energy Services  
1949 North Pyrite Road  
Casper, Wyoming 82604

**145244**

5":100' - MD

9/18/2014 2:08:33 PM

**CATHEDRAL**

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

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

**State / Province:** Colorado

**County / Parish:** Weld

**Started:** 07/26/2014 08:00 PM

**API/UWI:** 05-123-39216-00

**Field:** Wattenberg (Codell)

**Well:** Mumby State 4E-36H-P266

**Rig:** Helmerich & Payne 522

**Ended:** 07/31/2014 07:00 PM

Gamma Ray:  
Section Plane: 0.00  
Magnetic North: 8.40  
Gamma Attenuation Factor: 3.642/2.961  
Gamma Averaging: 7%

**Personnel**

**Day Hand:** A. Stewart

**Night Hand:** T. Kapsch

**Comp. Emp:** Kirby Burchett

Maximum Temperature: 230°F

**Location**

**Latitude:** 40.090826

**Longitude:** -104.719552

**Elev. GL:** 5018

**Elev. DF:**

**Elev. KB:** 5048

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

**Hole Data**

Size	From	To
8-3/4	1142	7853
6-1/8	7853	12030

**Casing Data**

Size	From	To
9-5/8	0	1132

**Bit Sizes**

Size	From	To
8-3/4	1142	7853
6-1/8	7853	12030

**Mud Data**

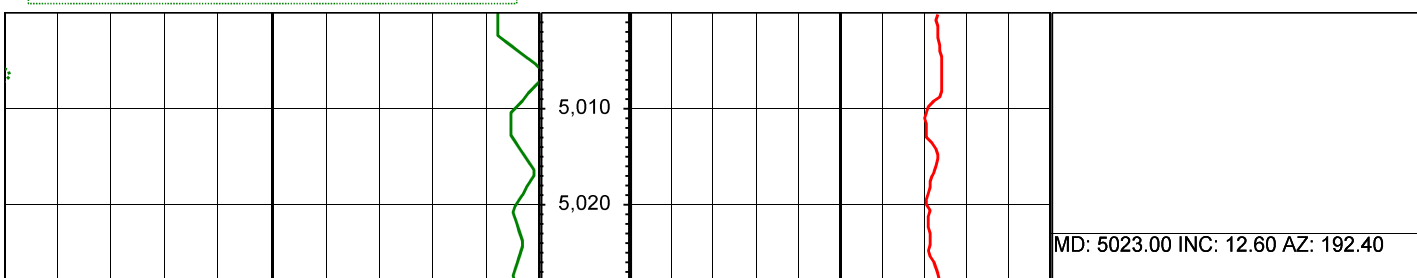
Type	Weight	Density	Viscosity	Rm	Rmf	Rmc	From	To
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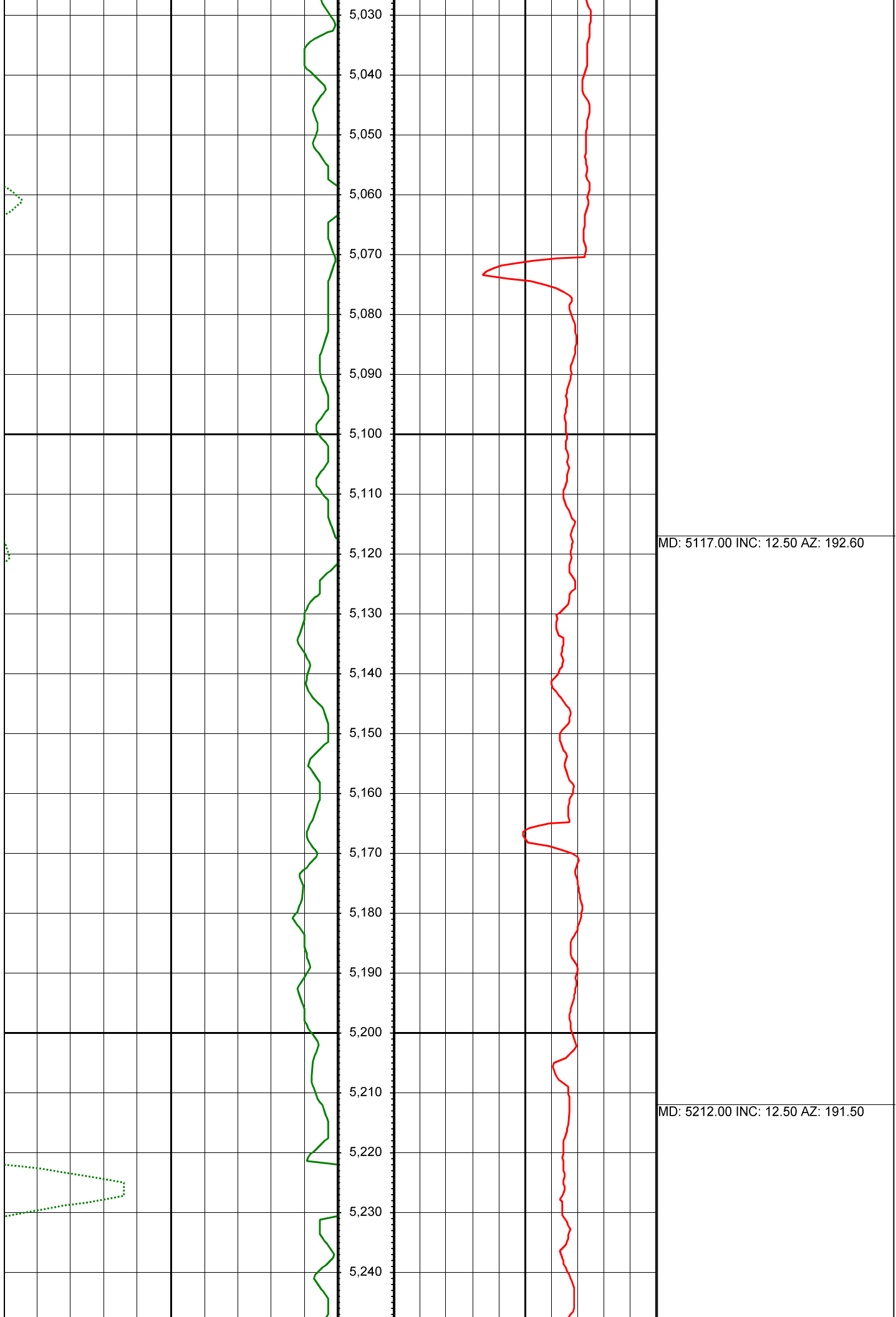
**Tool Run Data**

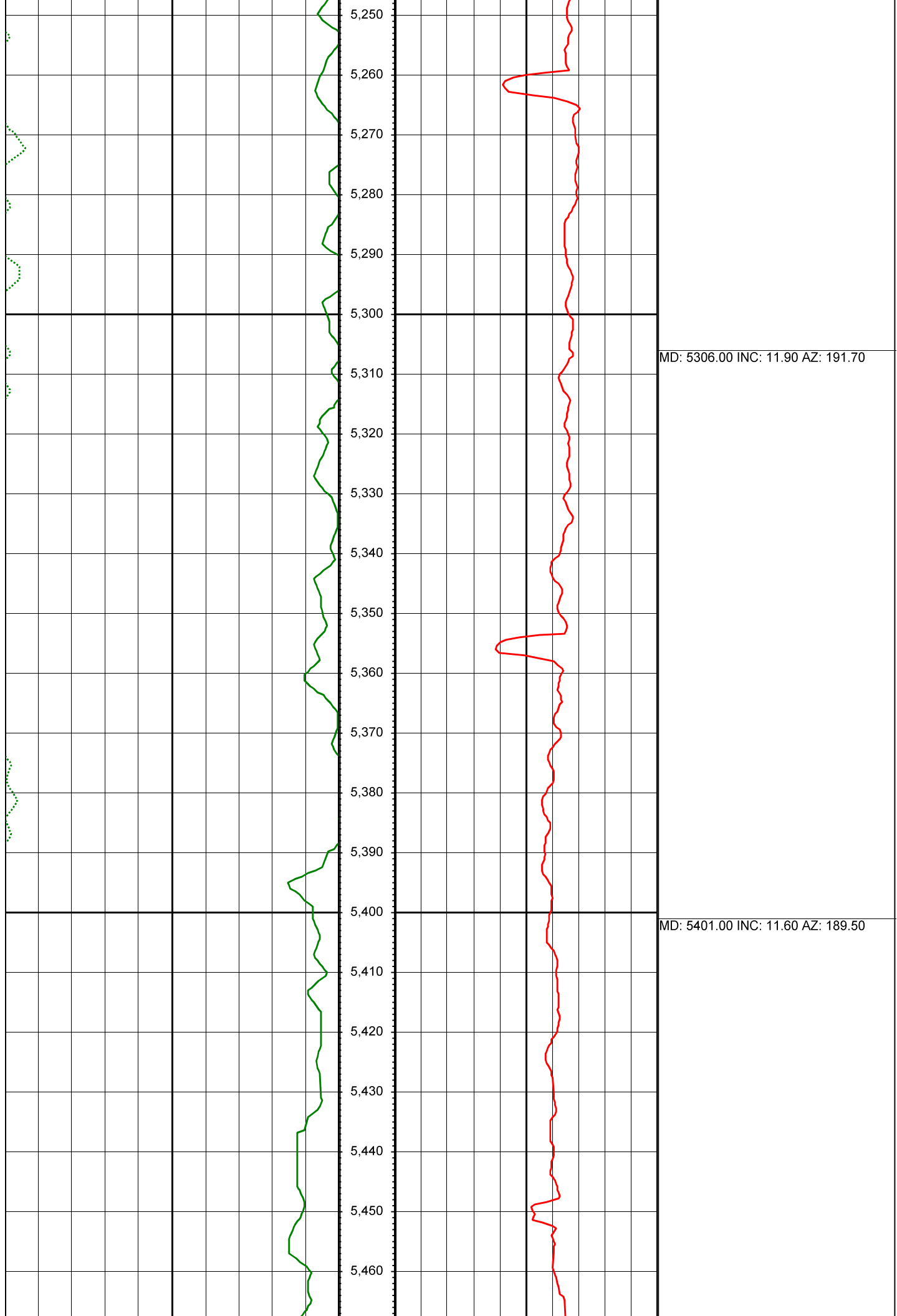
Serial Number	Gamma Offset	Resist. Offset	Start Time	Start Depth	End Time	End Depth
5X-08	37.93	0	7/25/2014 1:30:02 AM	1142	7/28/2014 3:30:02 PM	7853
5X-08	39.51	0	7/30/2014 2:30:15 AM	7853	8/1/2014 1:30:15 PM	12030

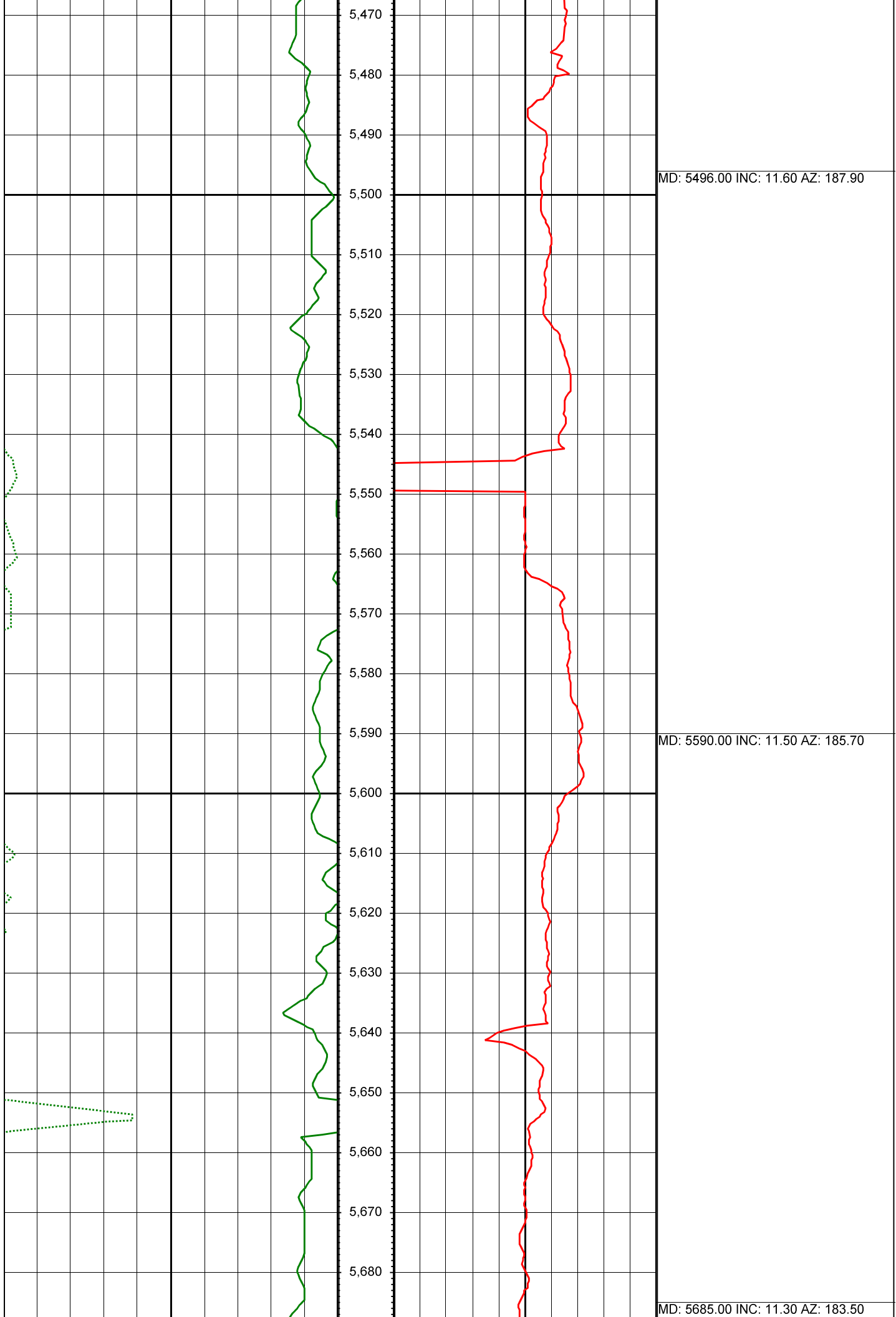
*All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not except in the case of gross or willful negligence on our part, be liable or responsible for any loss, cost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

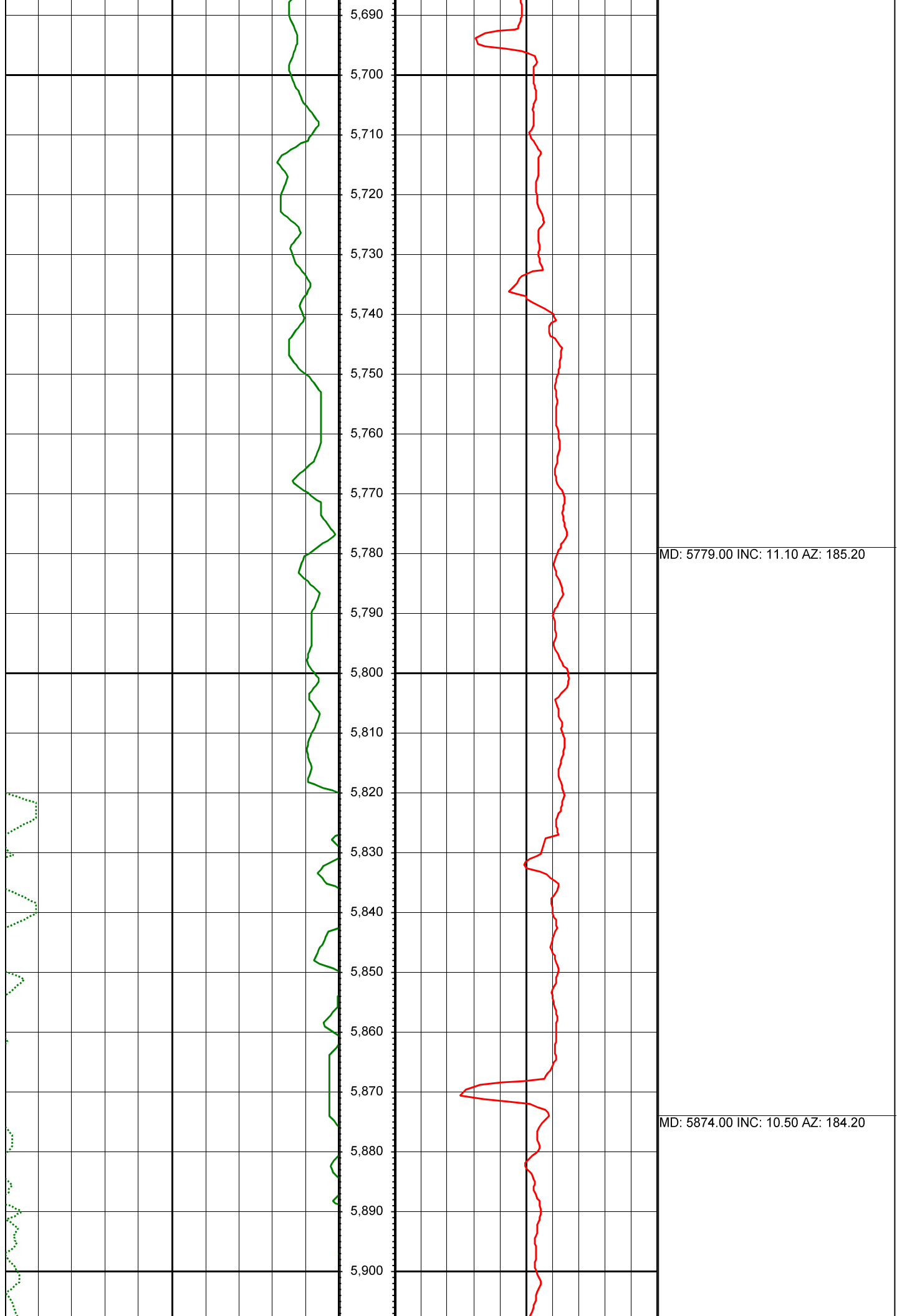
0.00      Gamma Ray (API)      150.00      MD      0.00      ROP (FT/HR)      600.00      Surveys (MD/INC/AZ)

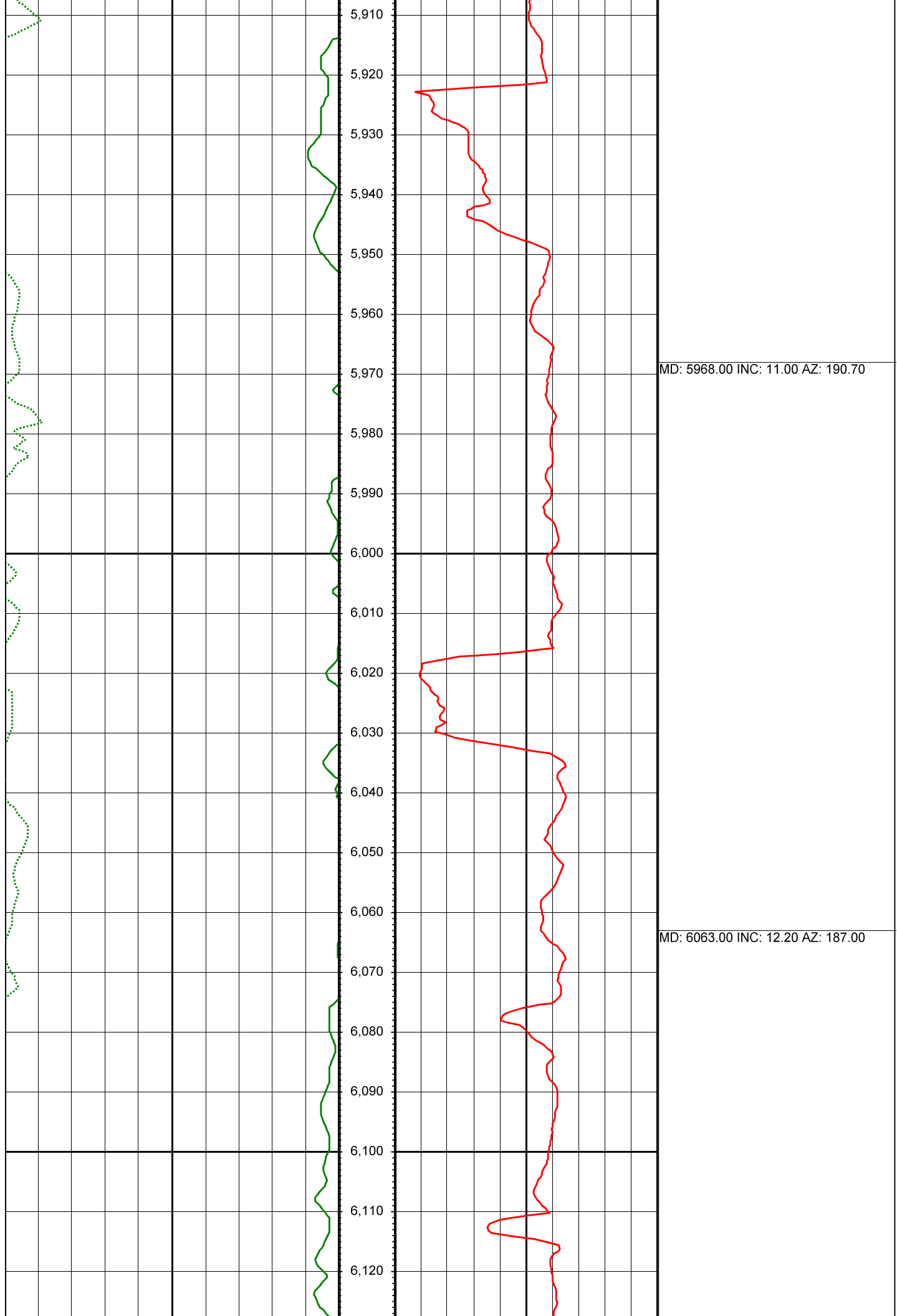


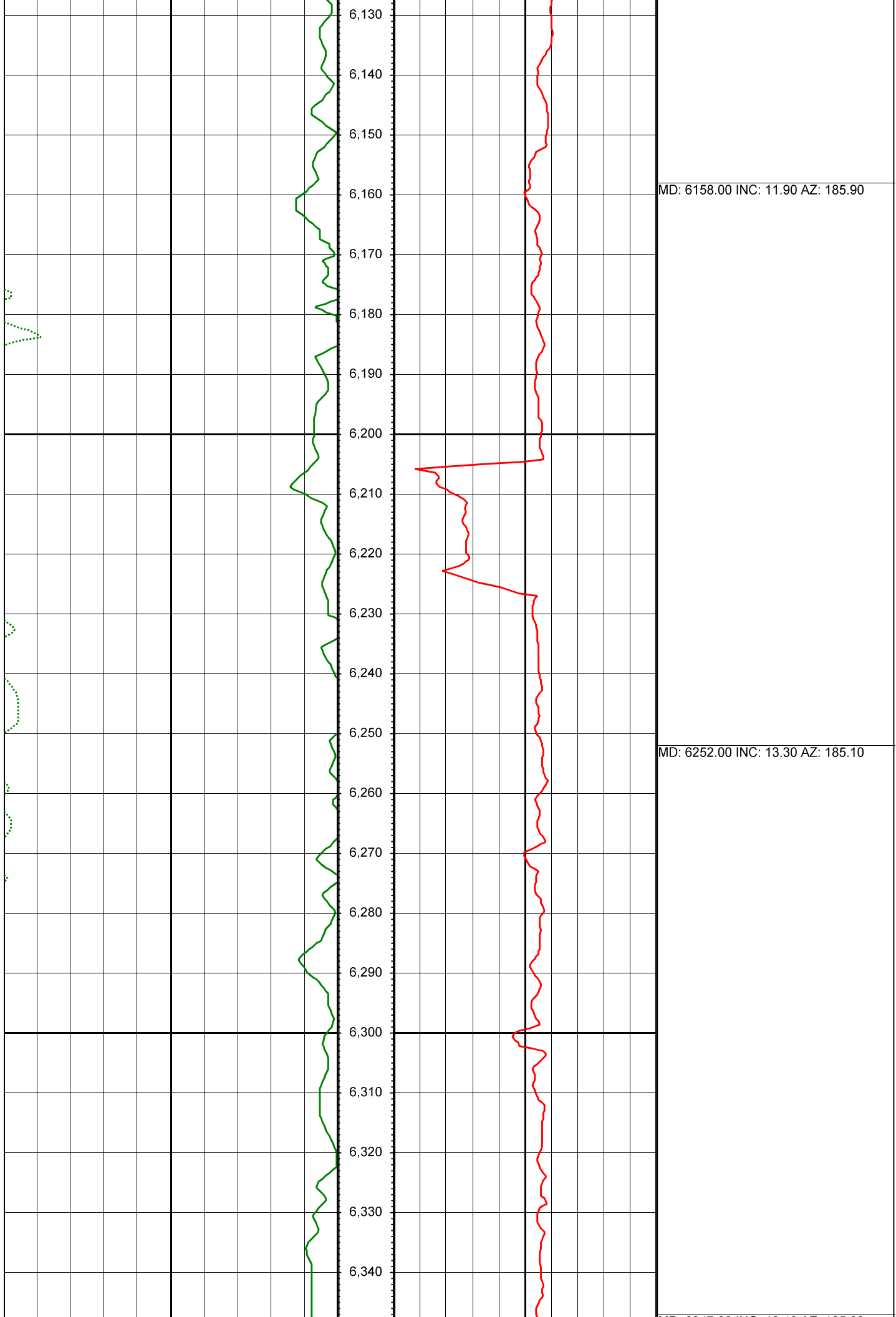


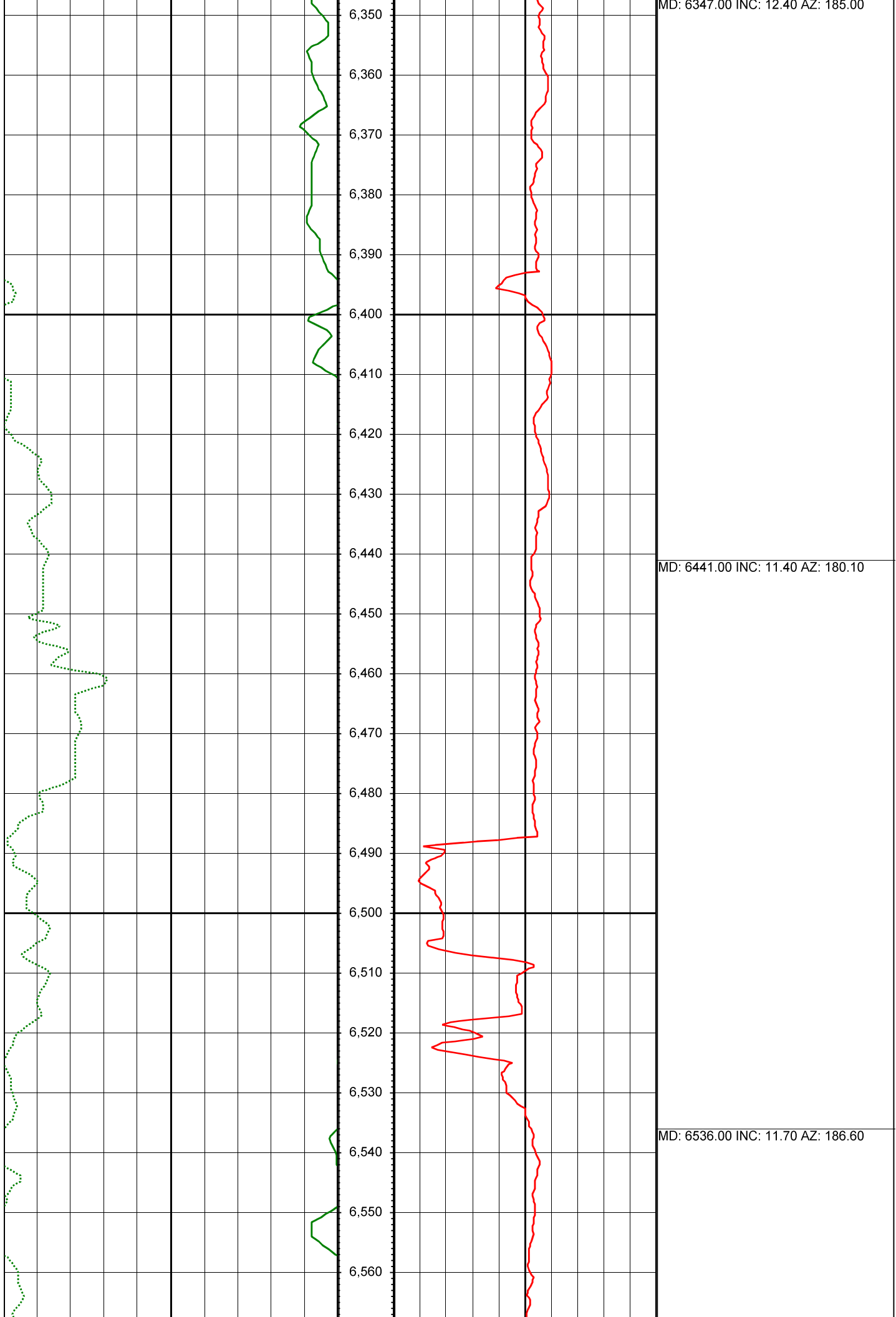




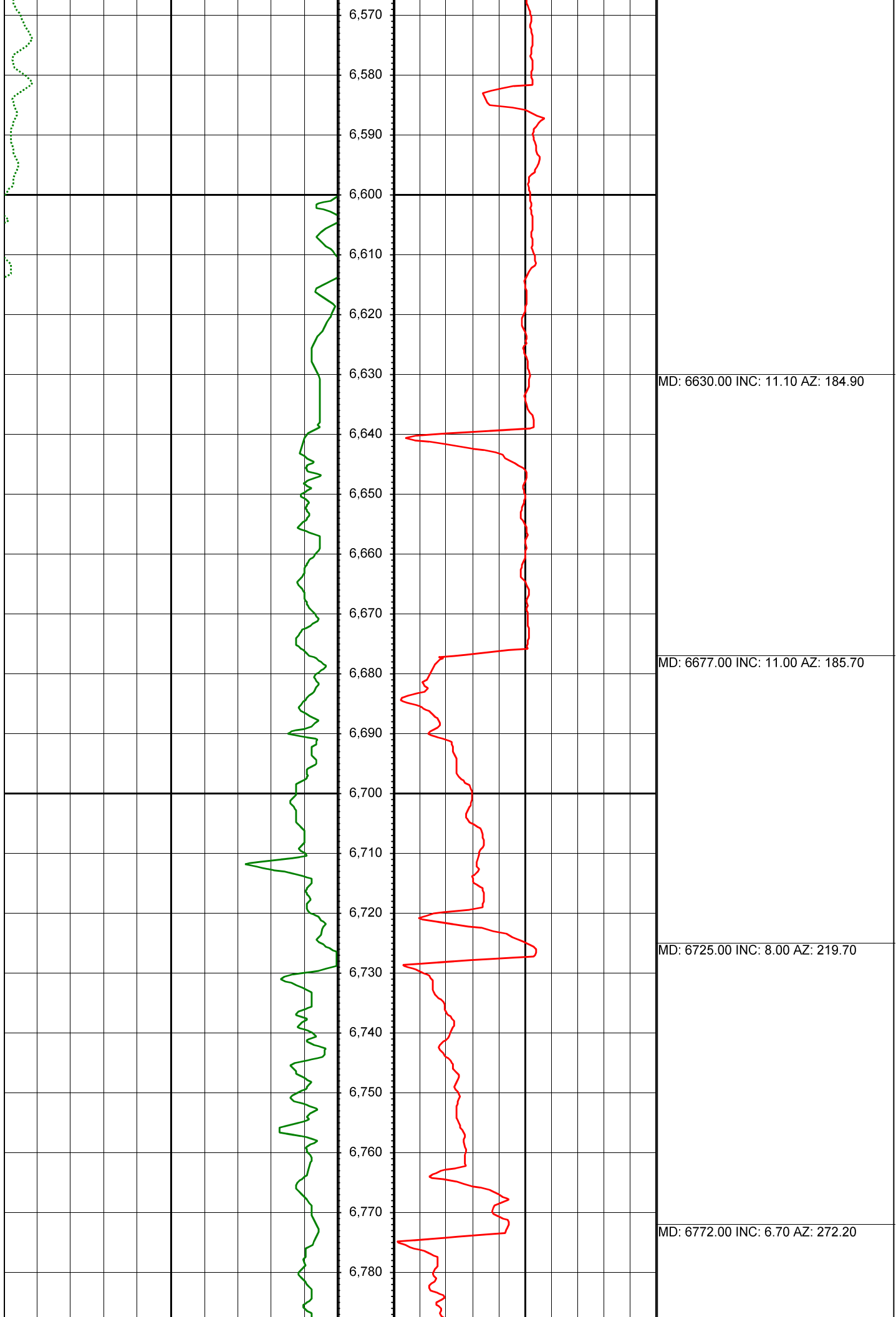


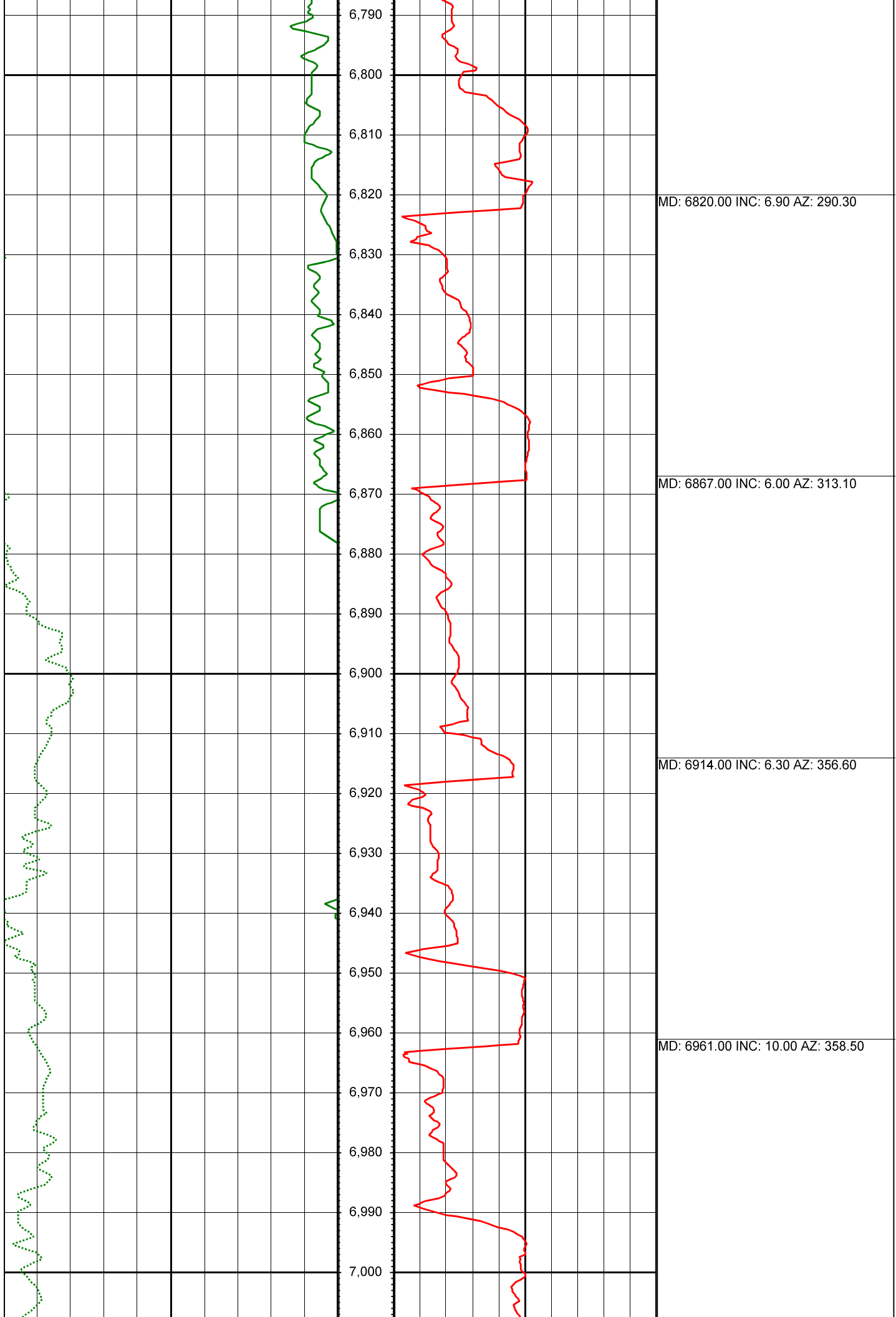


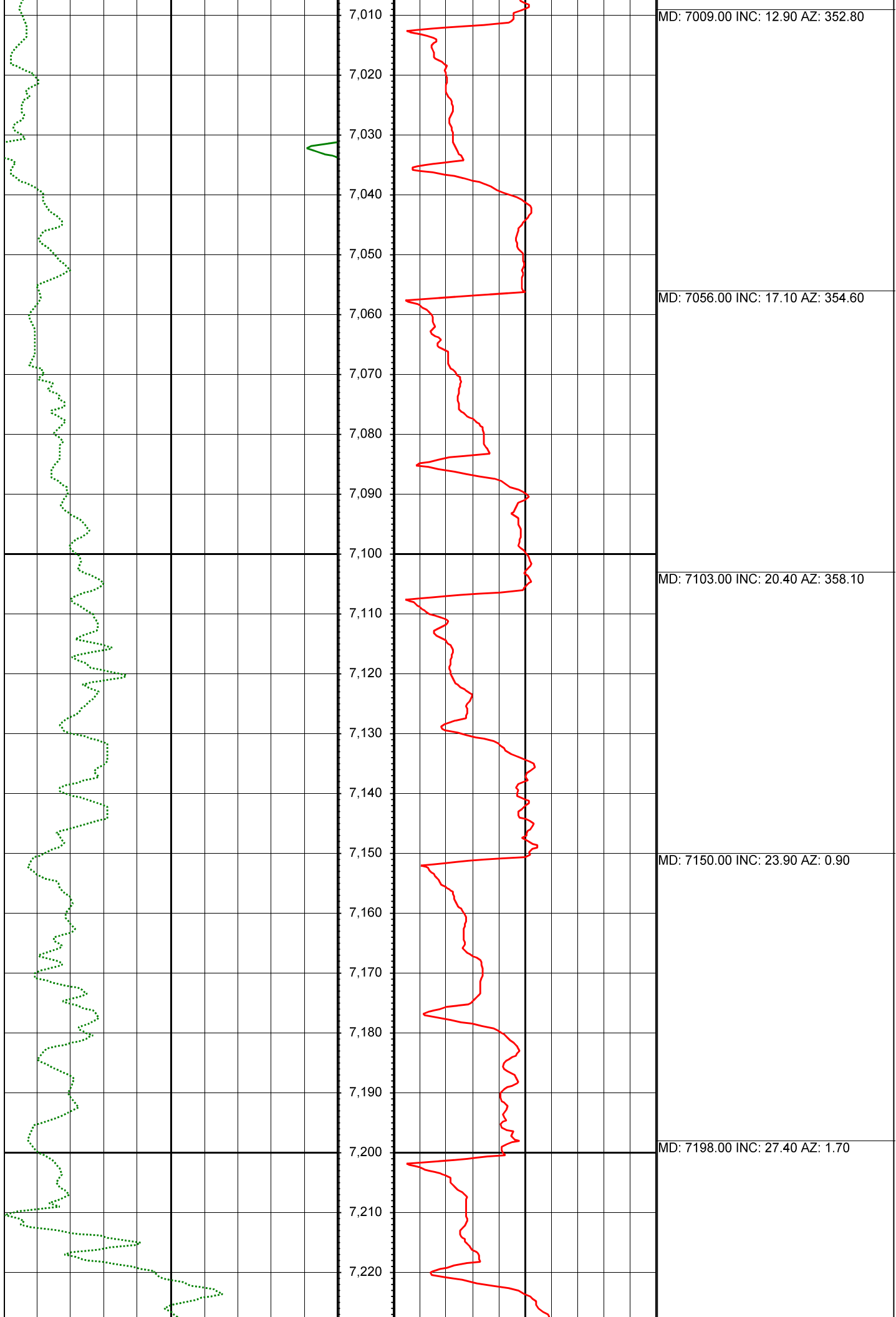


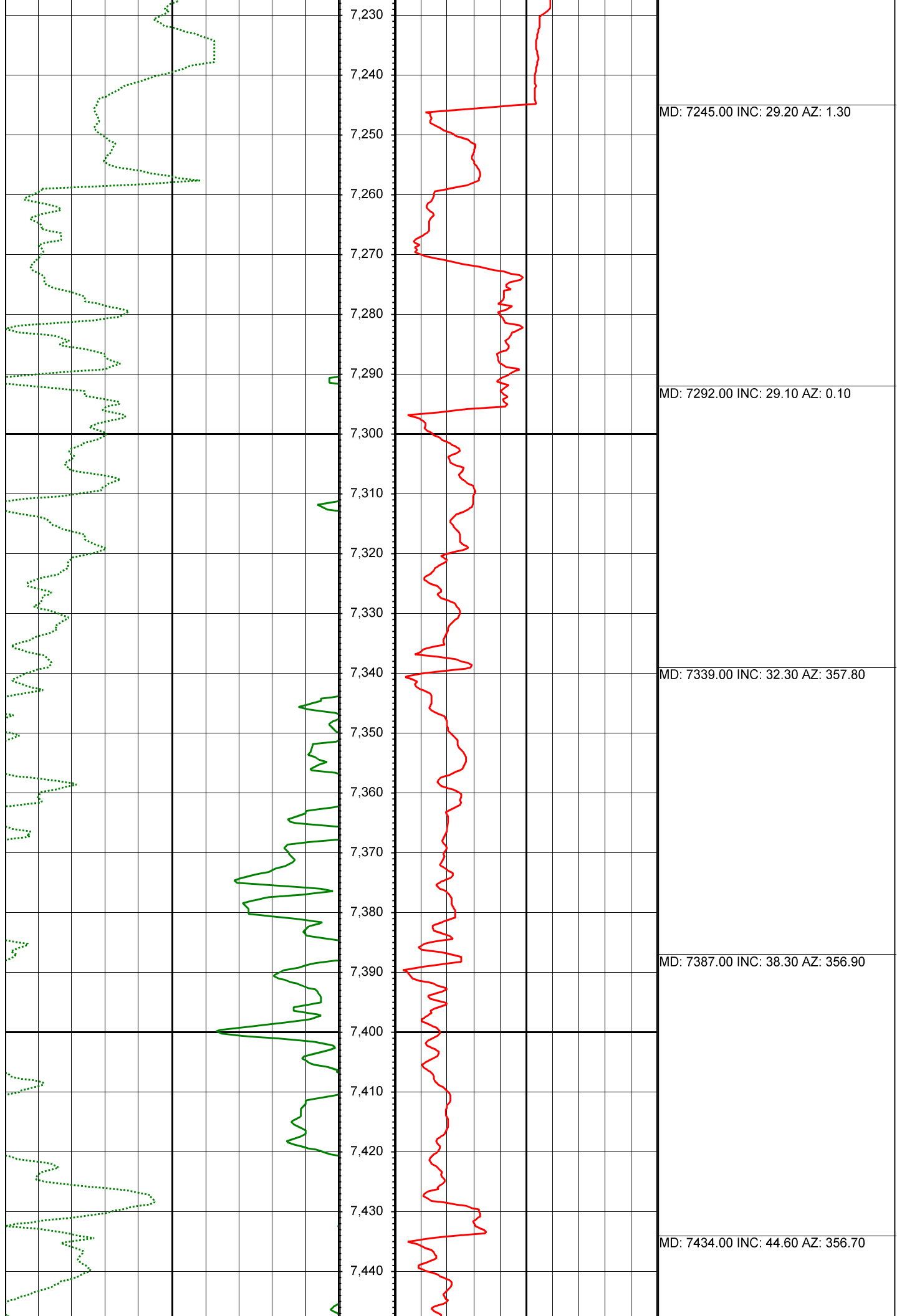


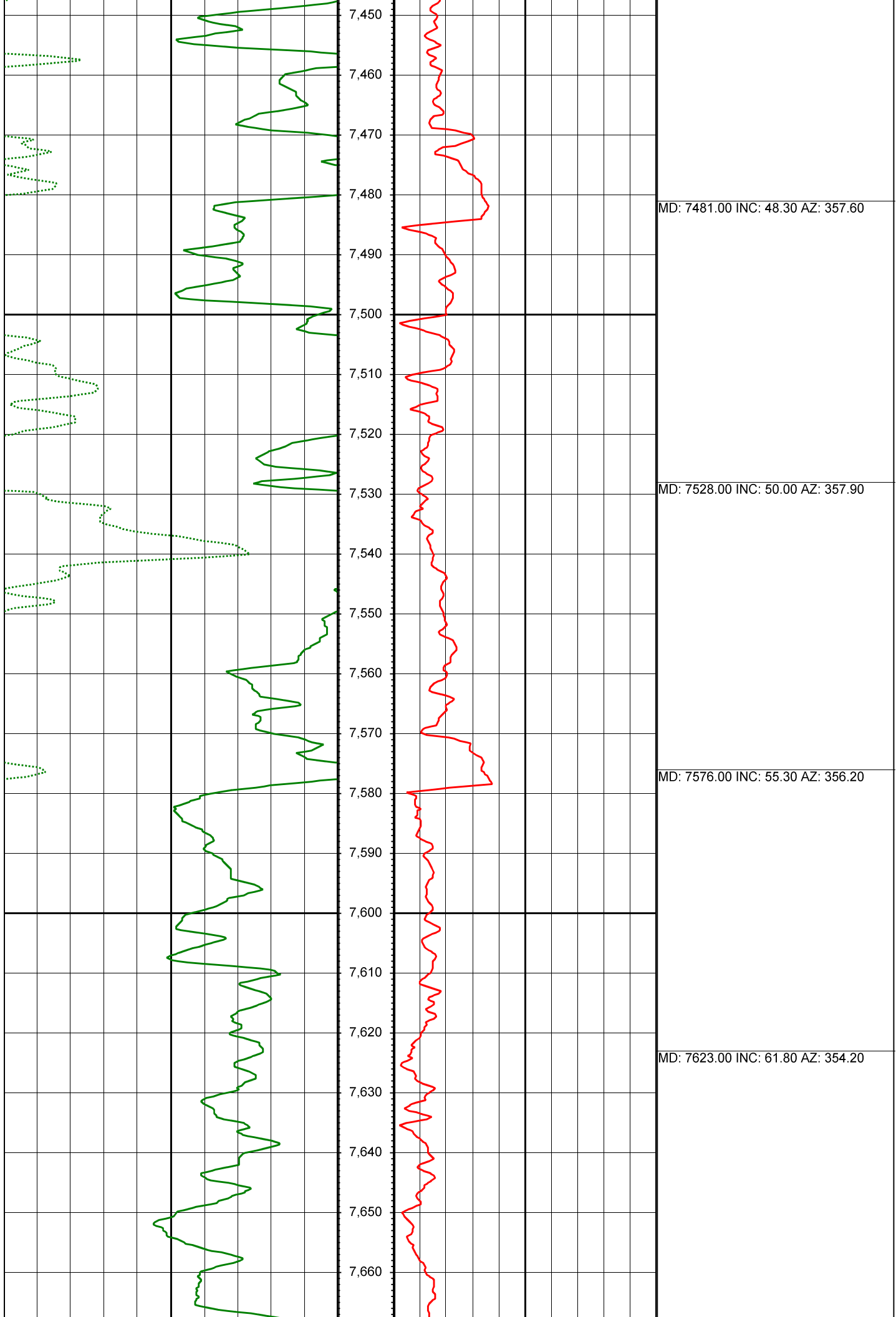


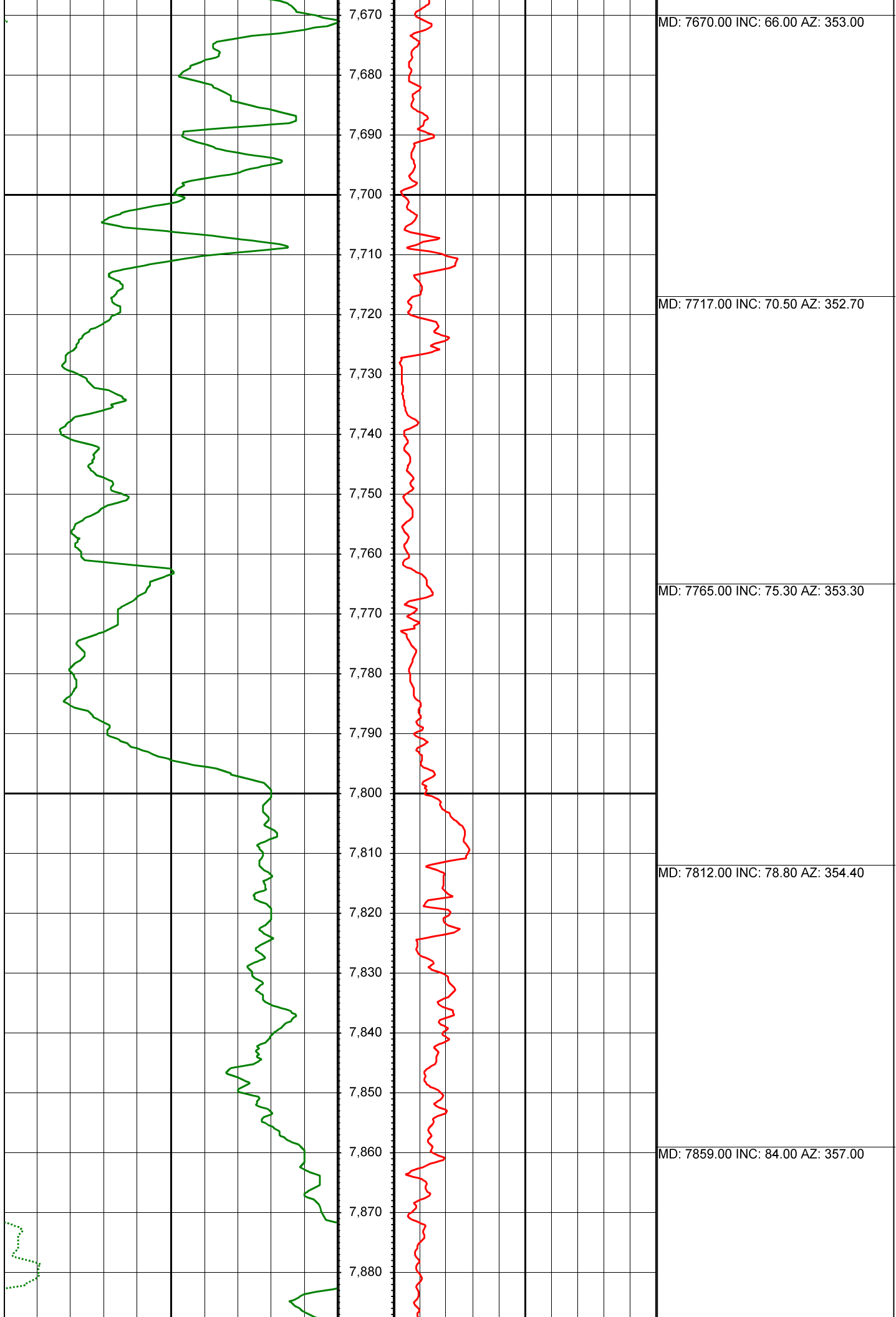


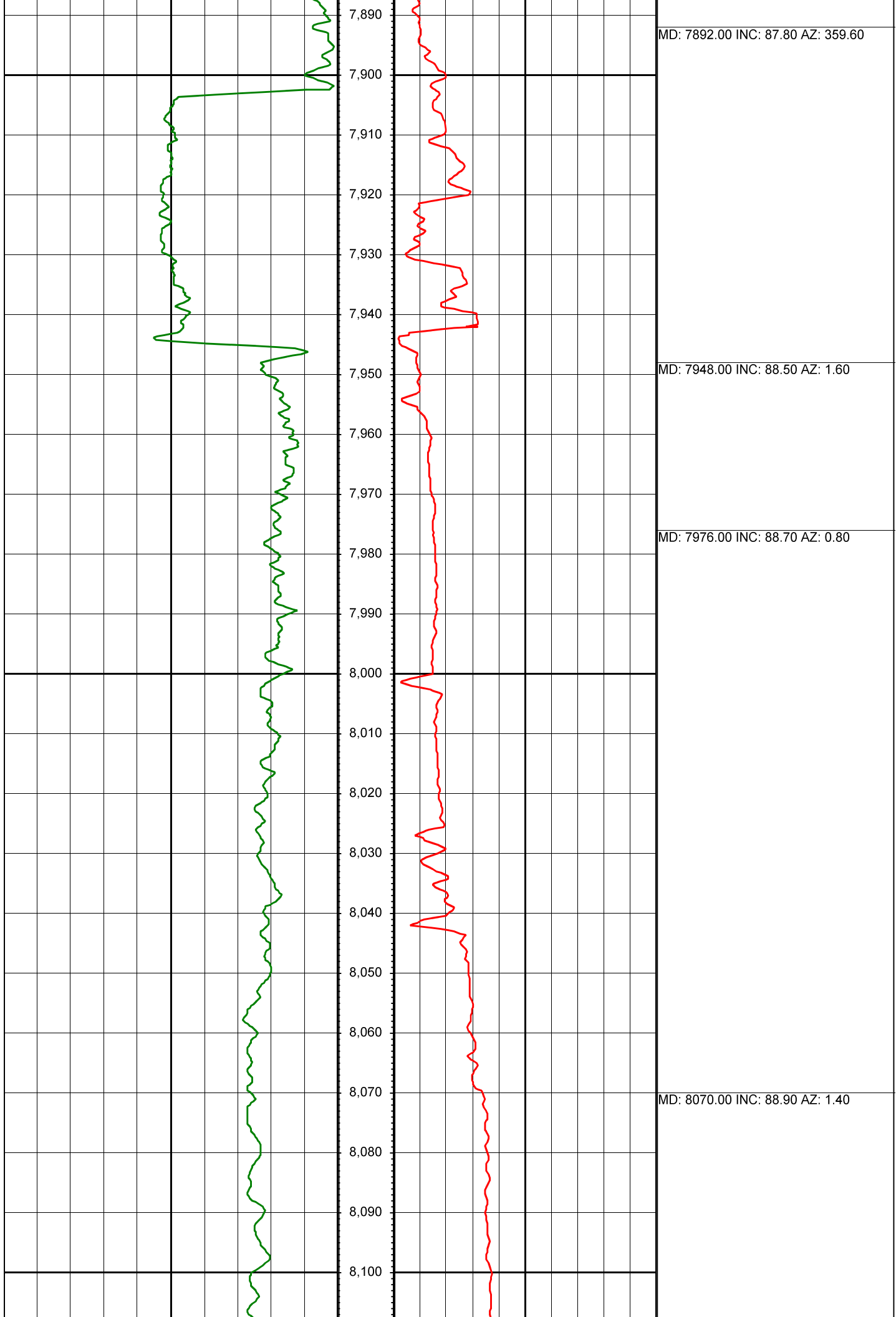


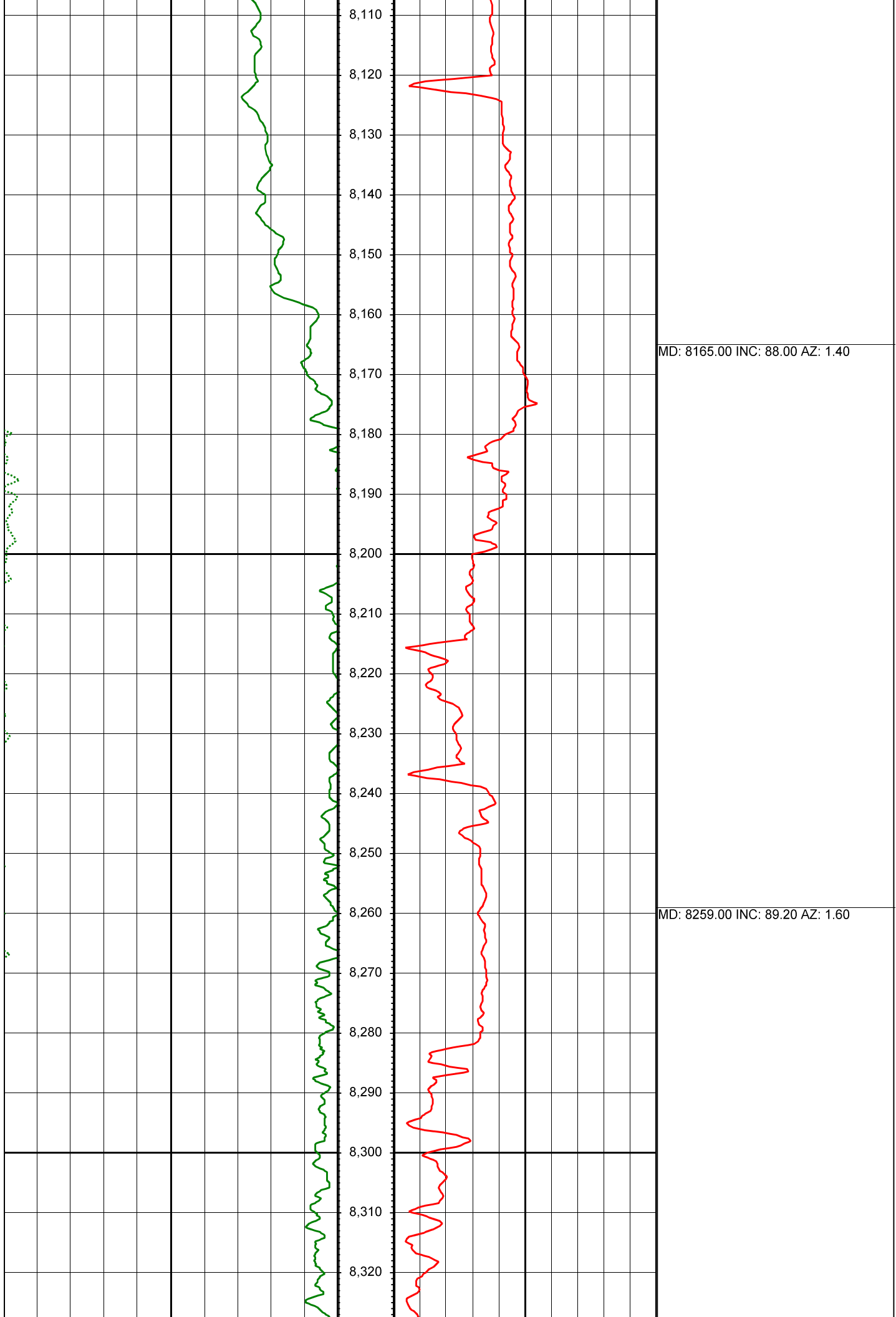




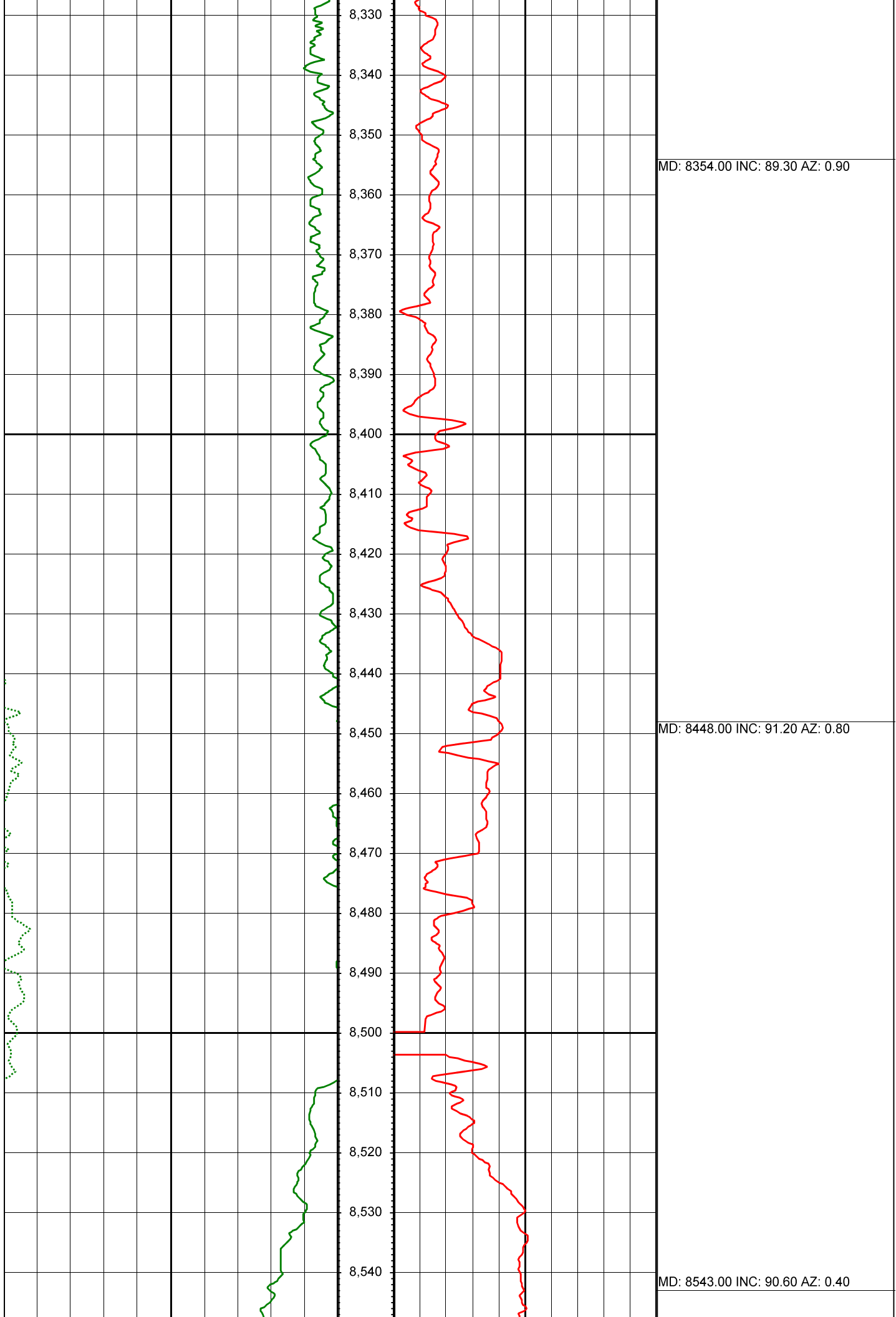


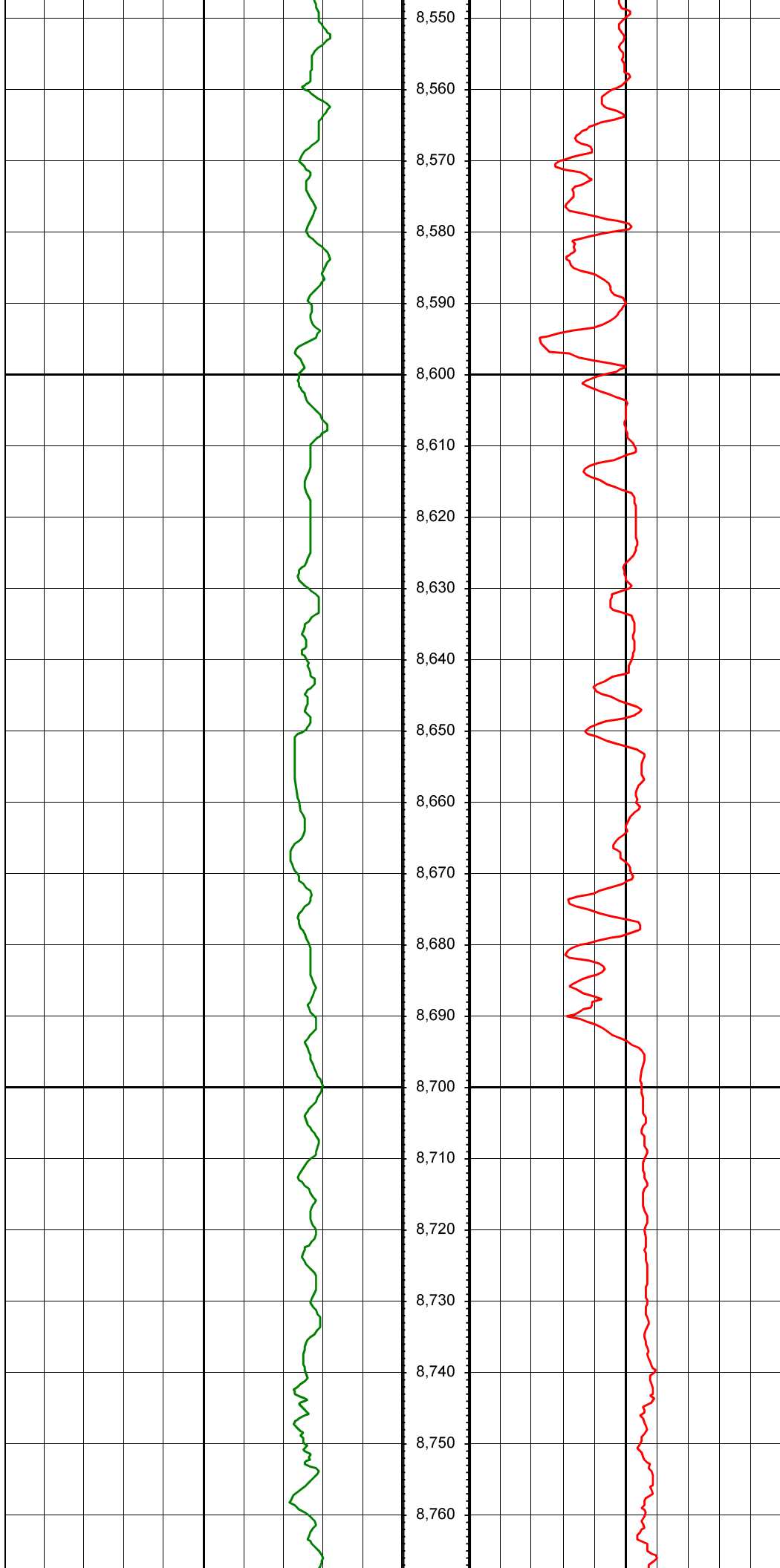






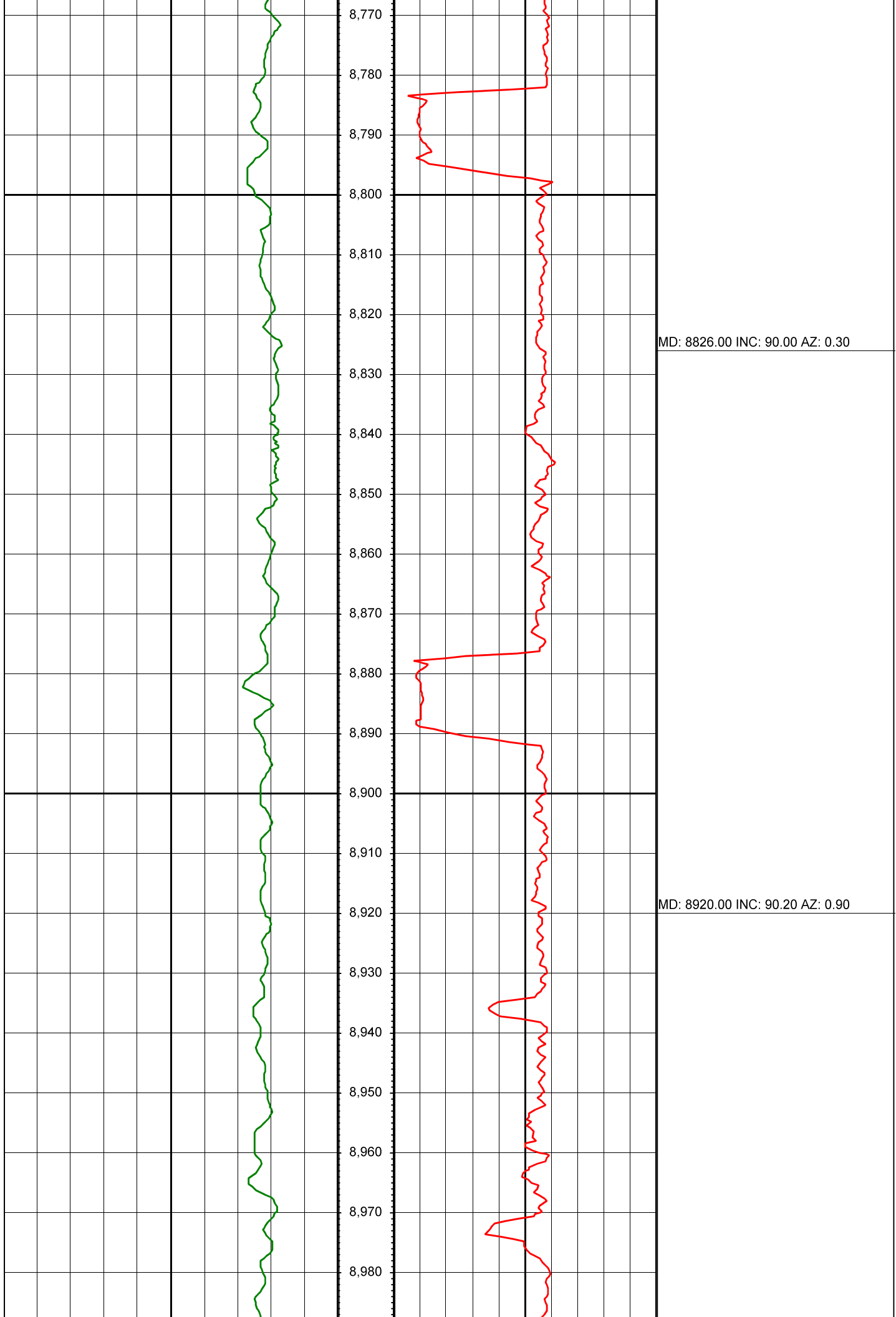


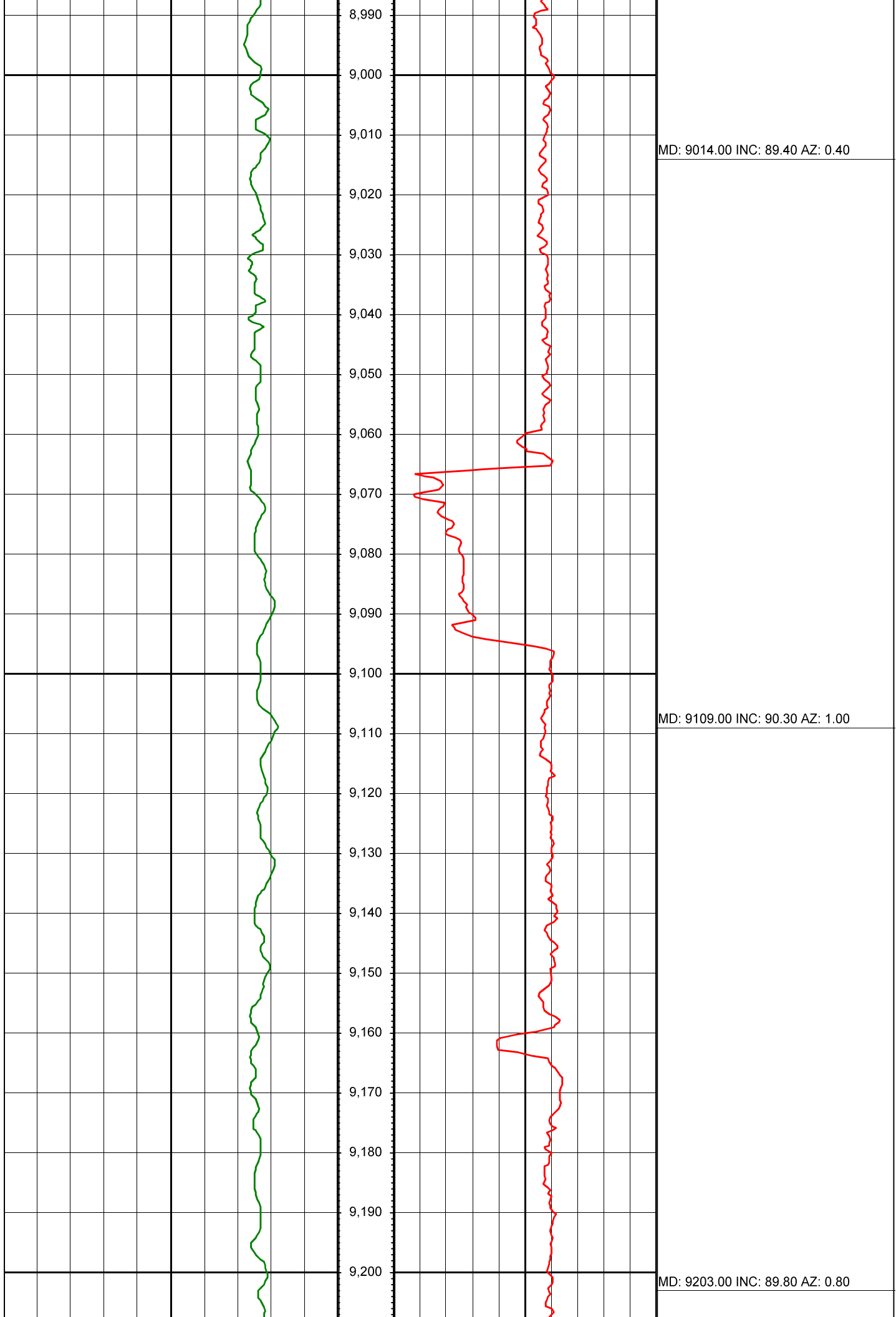


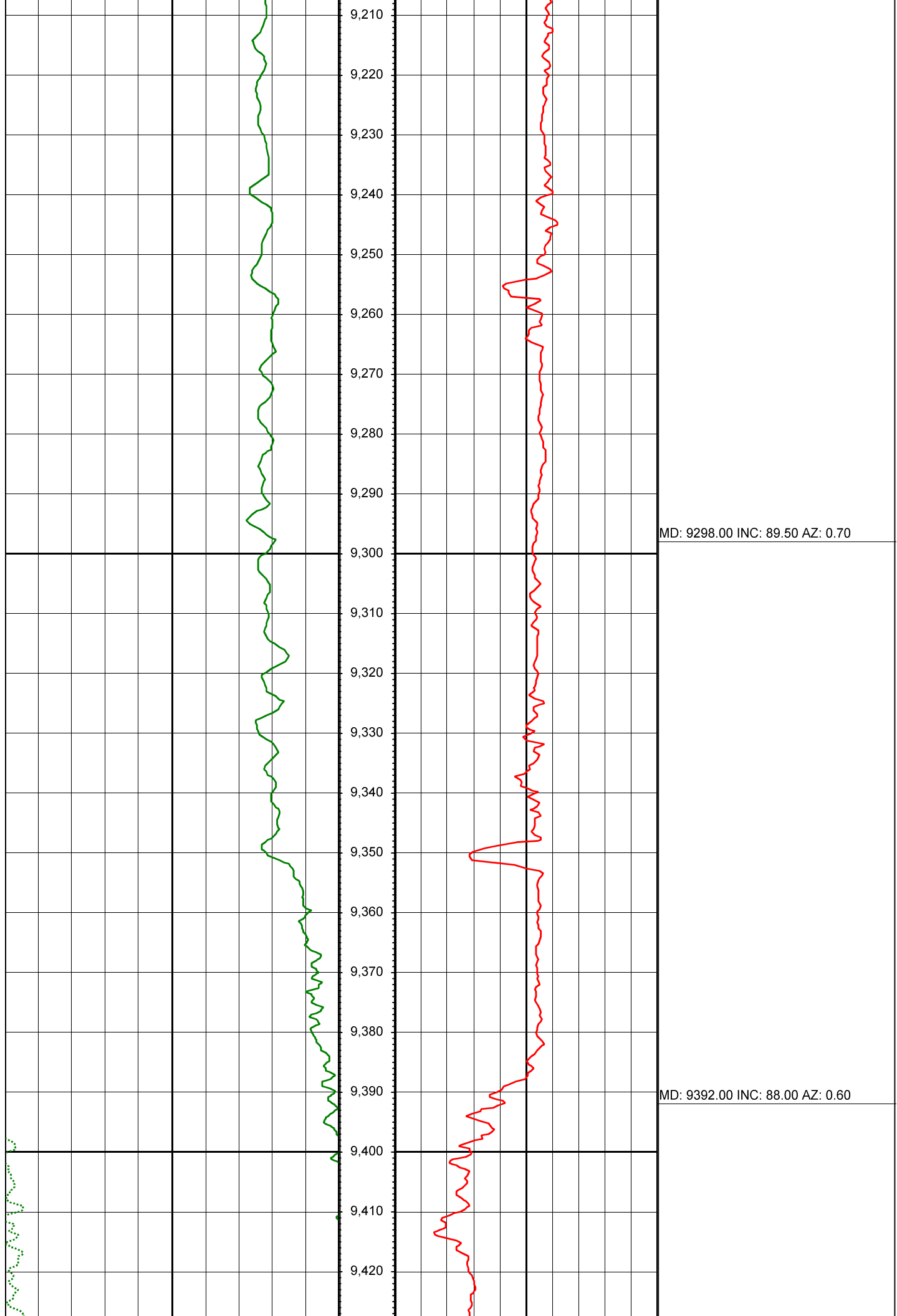


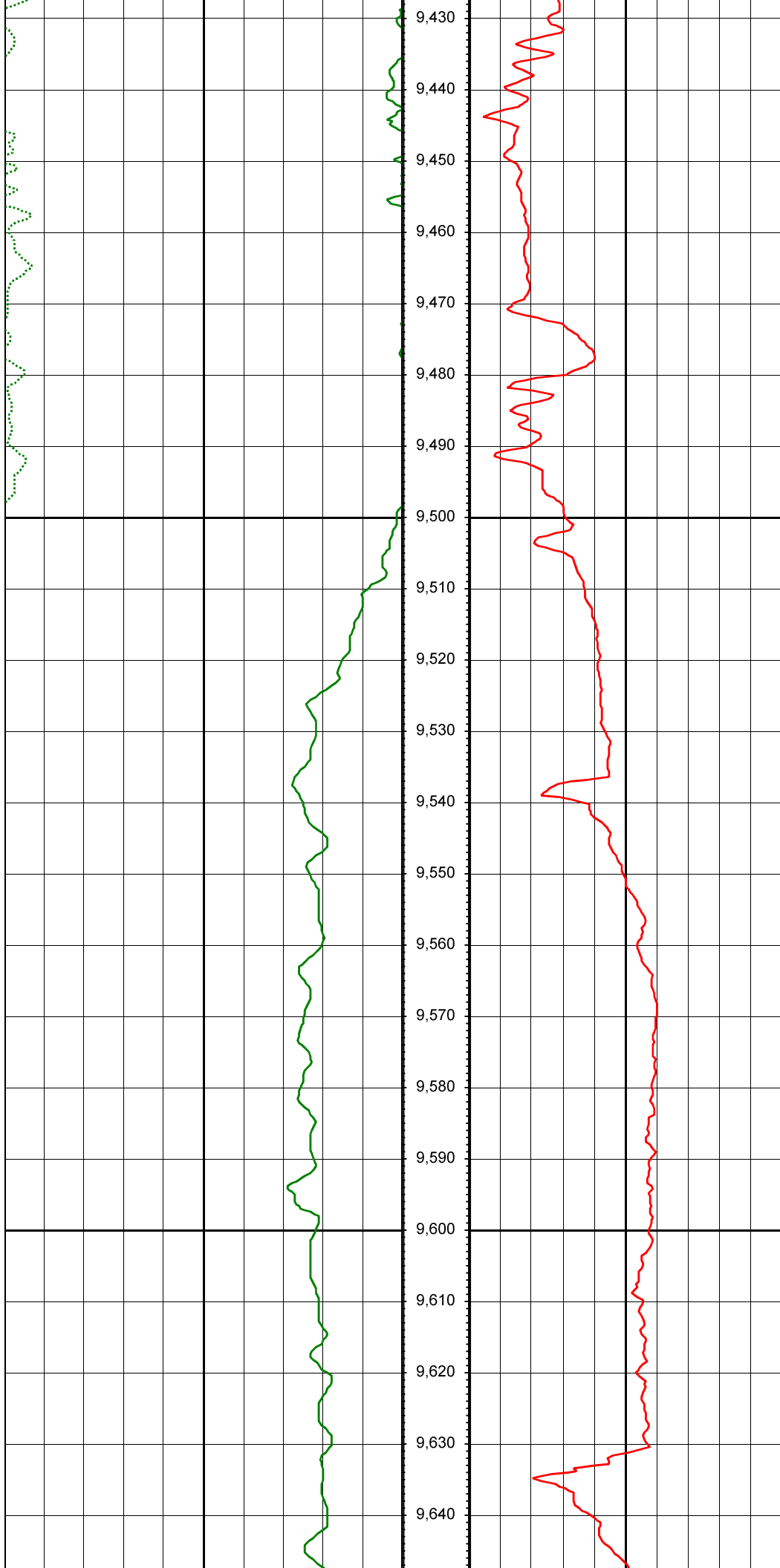
MD: 8637.00 INC: 90.40 AZ: 360.00

MD: 8731.00 INC: 89.90 AZ: 359.90









MD: 9487.00 INC: 91.60 AZ: 0.40

MD: 9581.00 INC: 90.80 AZ: 0.70

