



Cathedral Energy Services  
1949 Pyrite Rd.  
Casper, WY 82601

**135332**

5":100' - MD

8/16/2013 2:40:57 AM

**Oper. Company:** Encana Oil & Gas  
**Country:** US  
**State / Province:** CO  
**County / Parish:** Weld  
**Started:** 08/12/2013 07:30 PM

**API/UWI:** 051233744300  
**Field:** Wattenburg  
**Well:** Marcus State 3A-36H  
**Rig:** Ensign 135  
**Ended:** 08/15/2013 04:30 AM

### Personnel

**Day Hand:** K. Wagoner  
**Night Hand:** C. Horkan  
**Comp. Emp:** Cathedral Energy Service

### Location

**Latitude:** 40.088280  
**Longitude:** -104.730140  
**Elev. GL:** 5040.0  
**Elev. DF:** 5053.0  
**Elev. KB:** 5053.0

### Hole Data

Size	From	To
12.25	0	1227
8.75	1227	7920
6.125	7920	12142

### Casing Data

Size	From	To
9 5/8	0	1228
7	1228	7906

### Bit Sizes

Size	From	To
12.25	0	1227
8.75	1227	7920
6.125	7920	12142

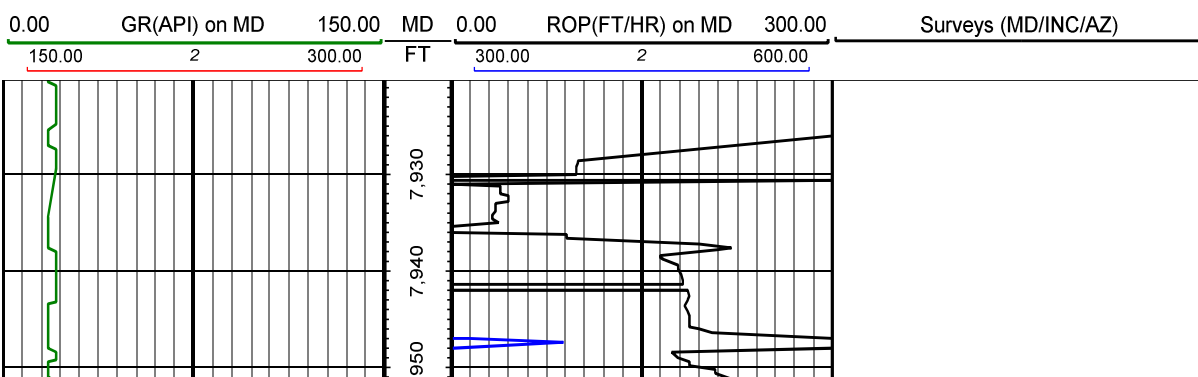
### Mud Data

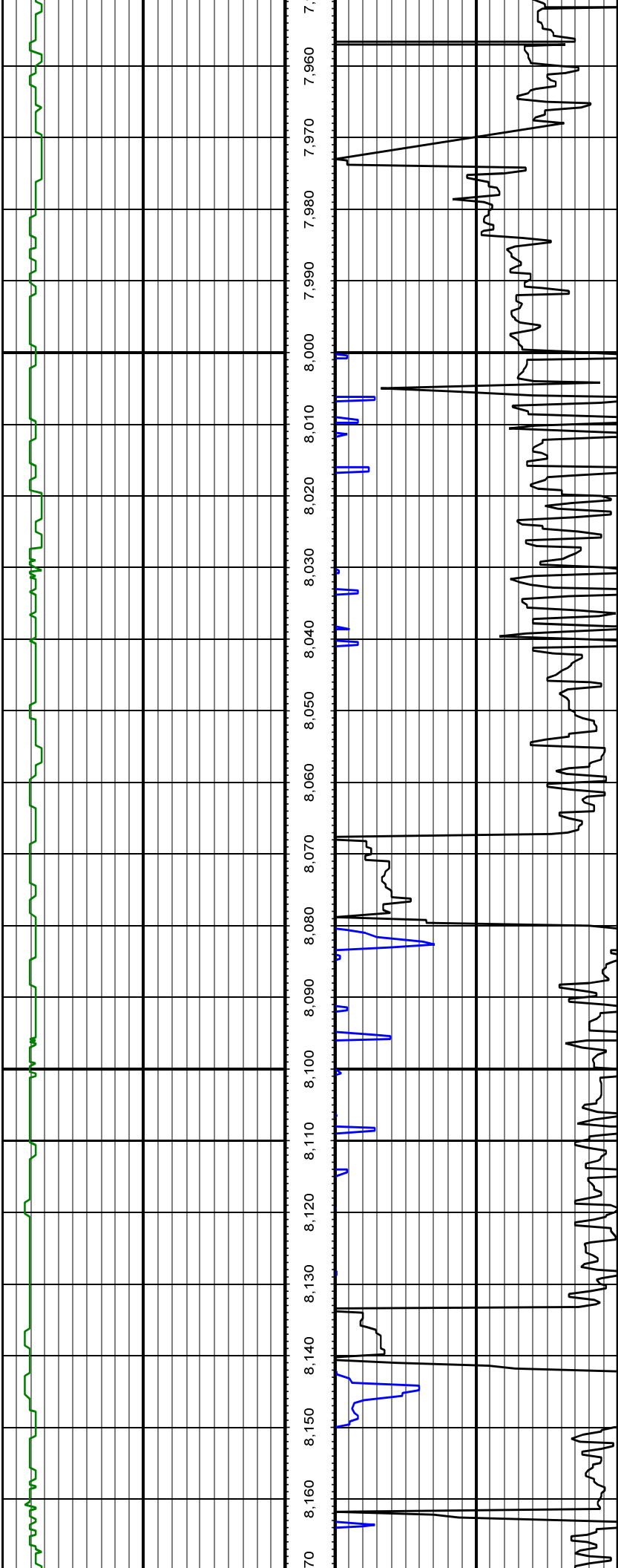
Type	Weight	Density	Viscosity	Rm	Rmf	Rmc	From	To
LSND	10.10	10.10	40	N/A	N/A		5000	12142

### Tool Run Data

Serial Number	Gamma Offset	Resist. Offset	Start Time	Start Depth	End Time	End Depth
235	41.29	0	8/9/2013 8:00:51 AM	5000	8/11/2013 5:00:51 AM	7920
235	38.54	0	8/12/2013 7:30:24 PM	7920	8/15/2013 4:30:24 AM	12142

*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.*



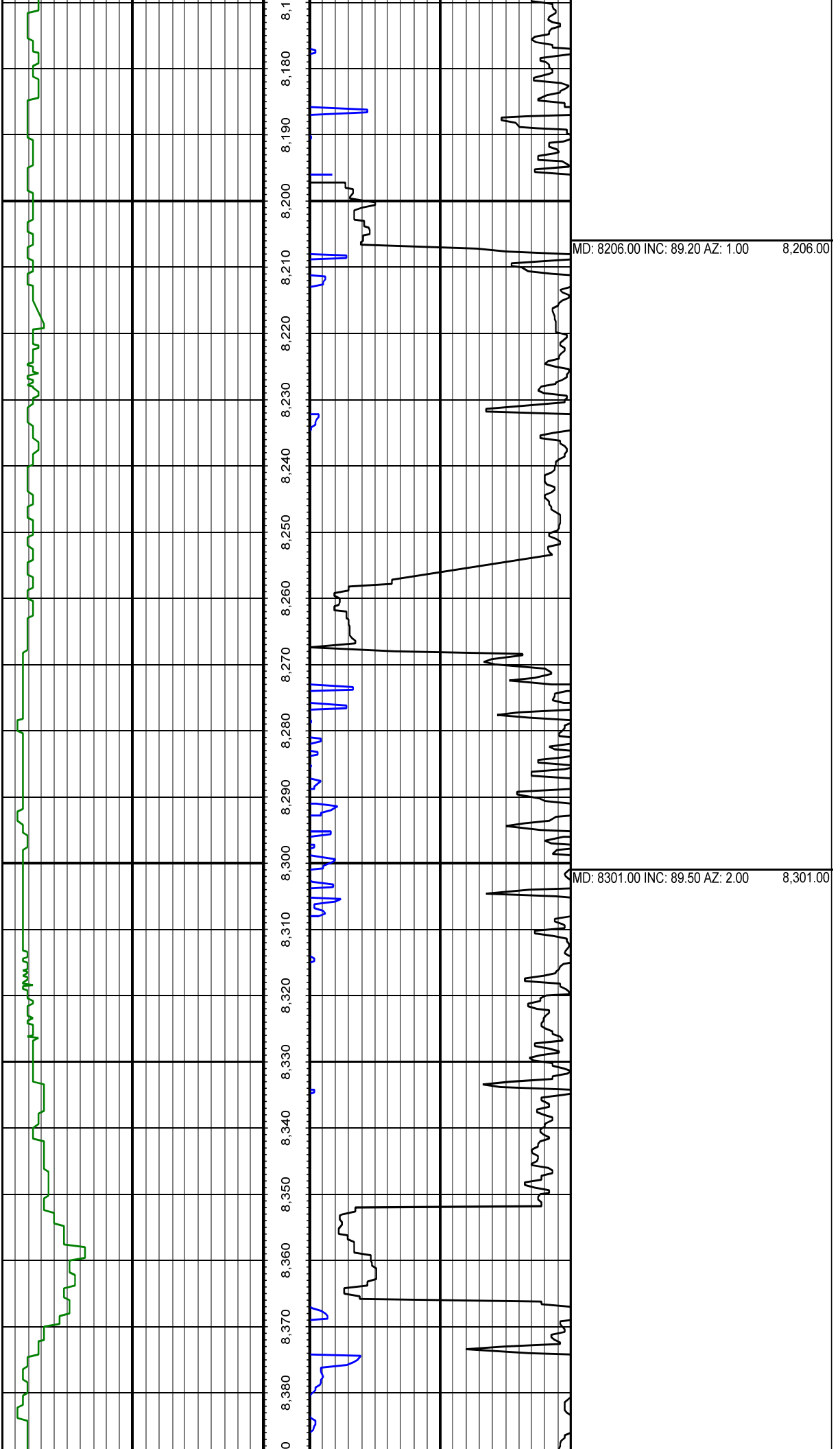


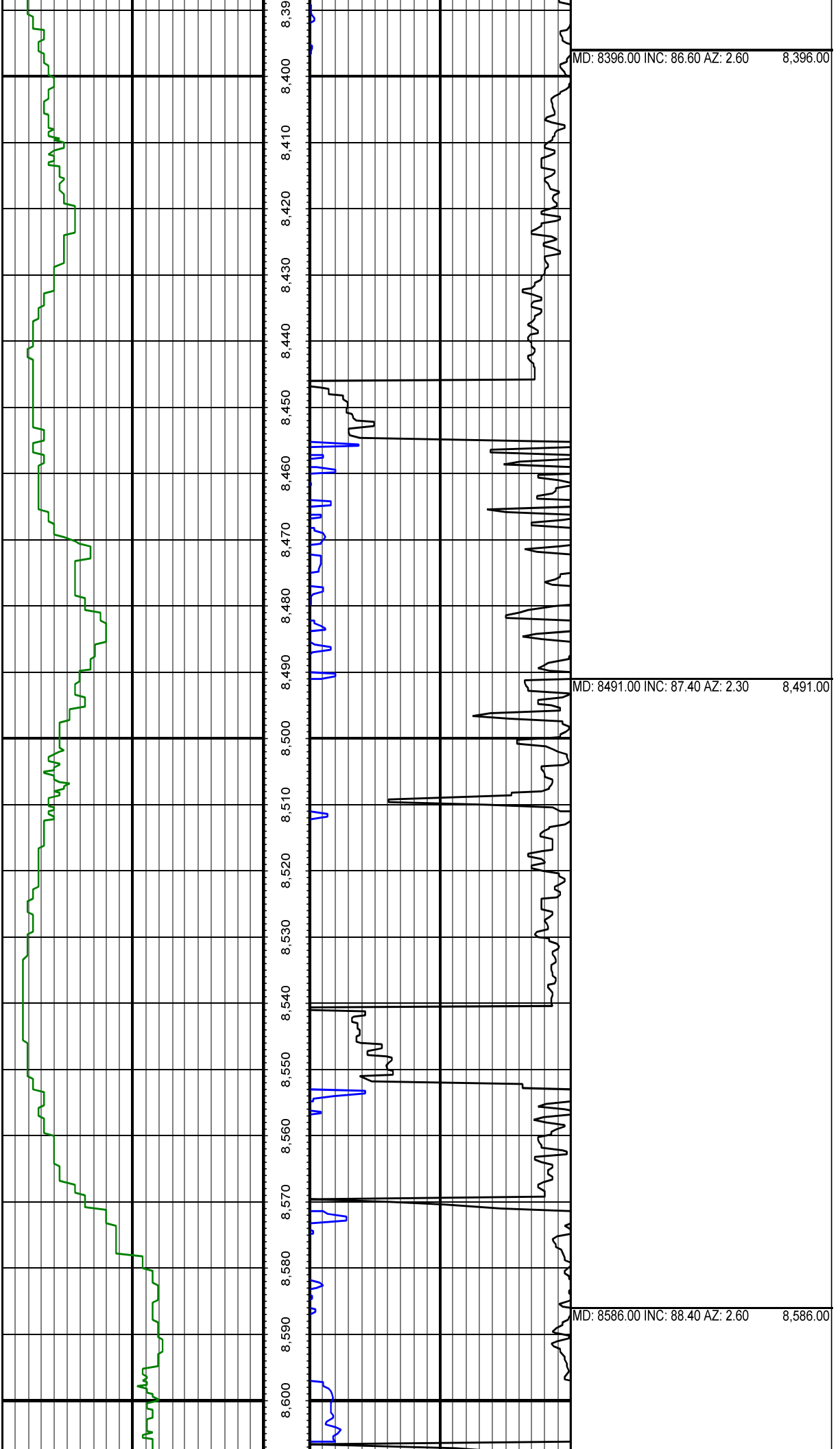
MD: 7954.00 INC: 89.10 AZ: 358.80 7,954.00

MD: 8017.00 INC: 91.20 AZ: 358.50 8,017.00

MD: 8080.00 INC: 89.60 AZ: 359.50 8,080.00

MD: 8143.00 INC: 90.20 AZ: 0.40 8,143.00

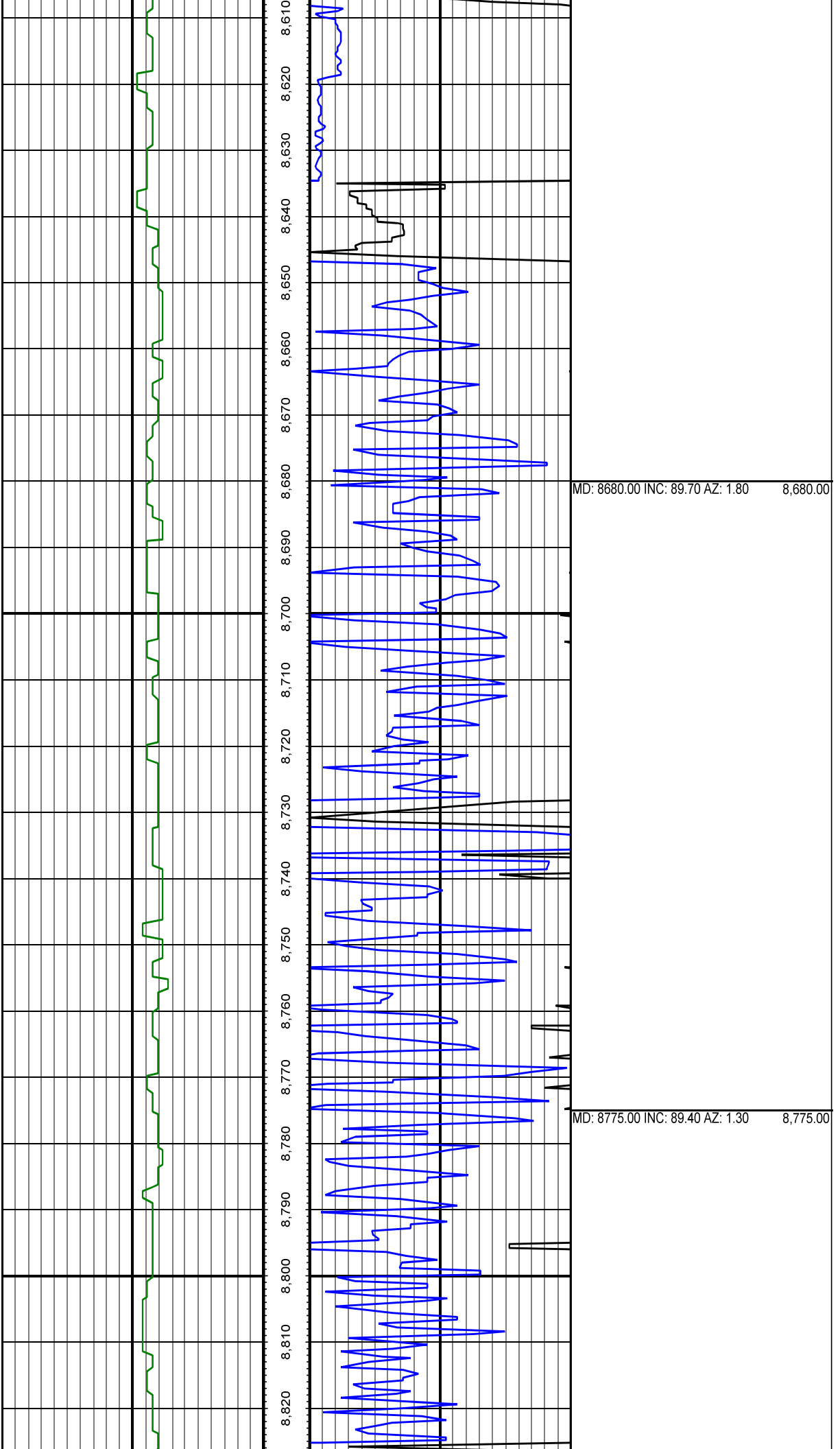


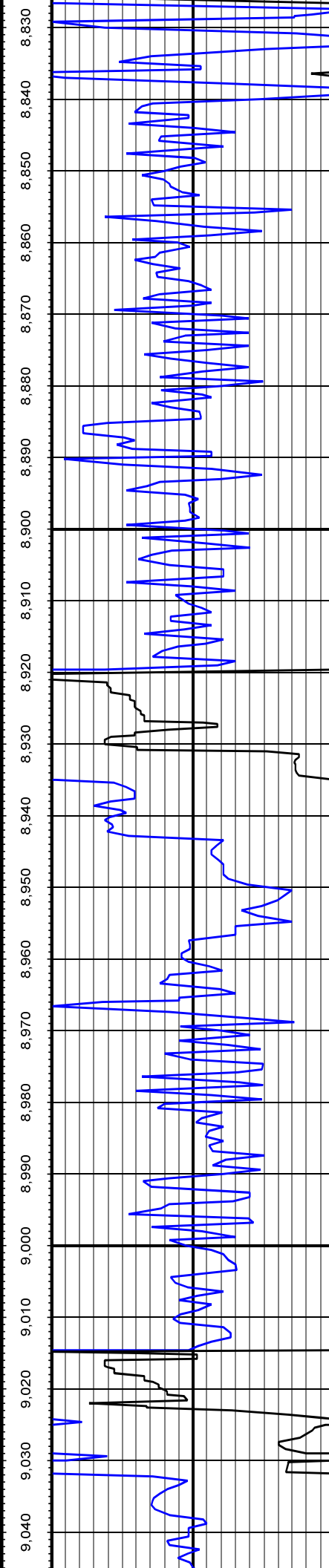
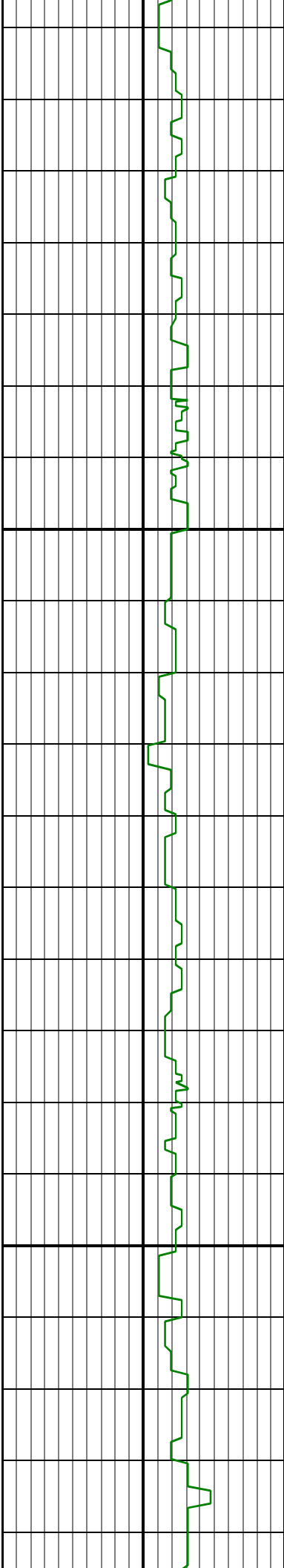


MD: 8396.00 INC: 86.60 AZ: 2.60 8,396.00

MD: 8491.00 INC: 87.40 AZ: 2.30 8,491.00

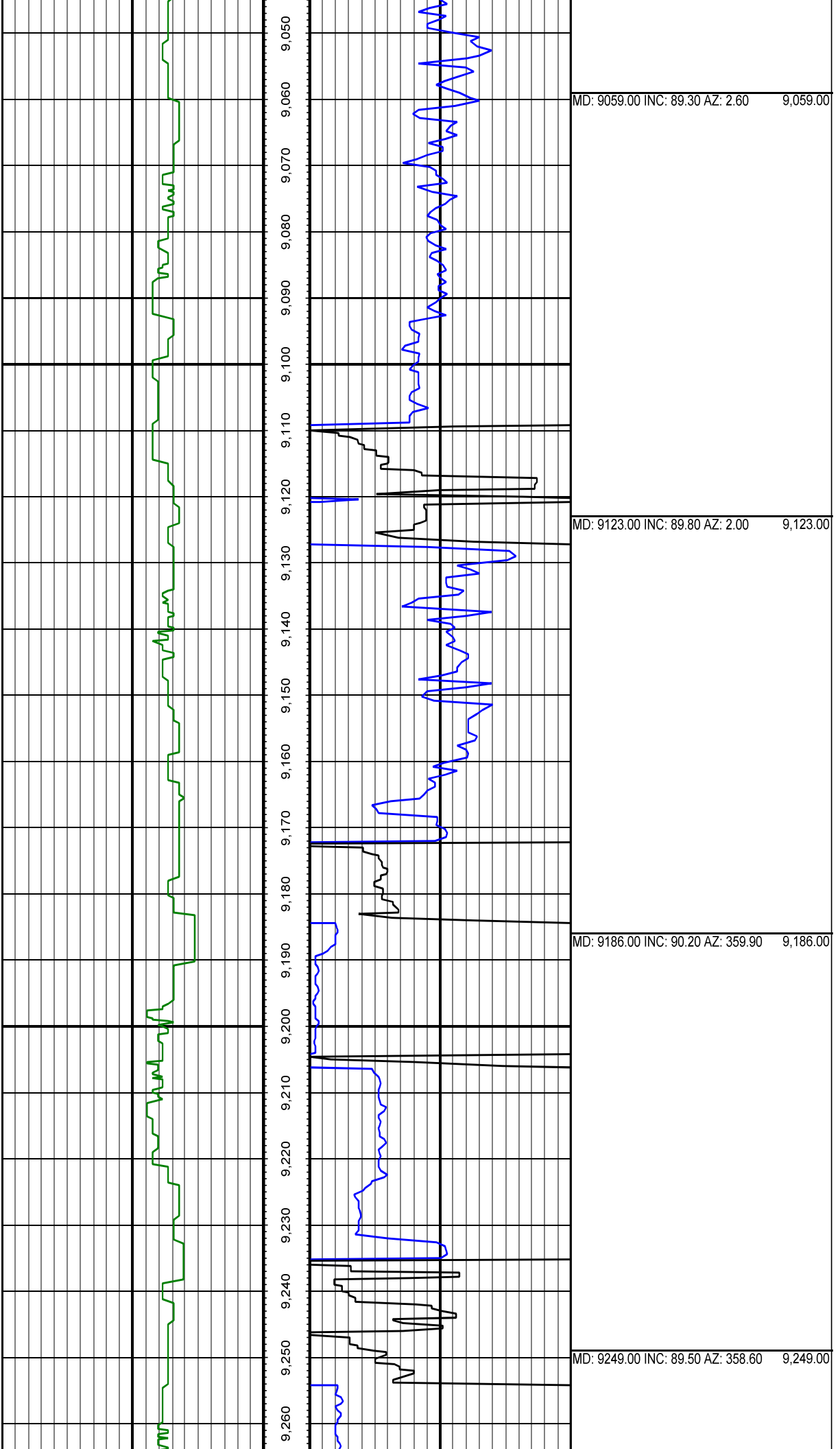
MD: 8586.00 INC: 88.40 AZ: 2.60 8,586.00

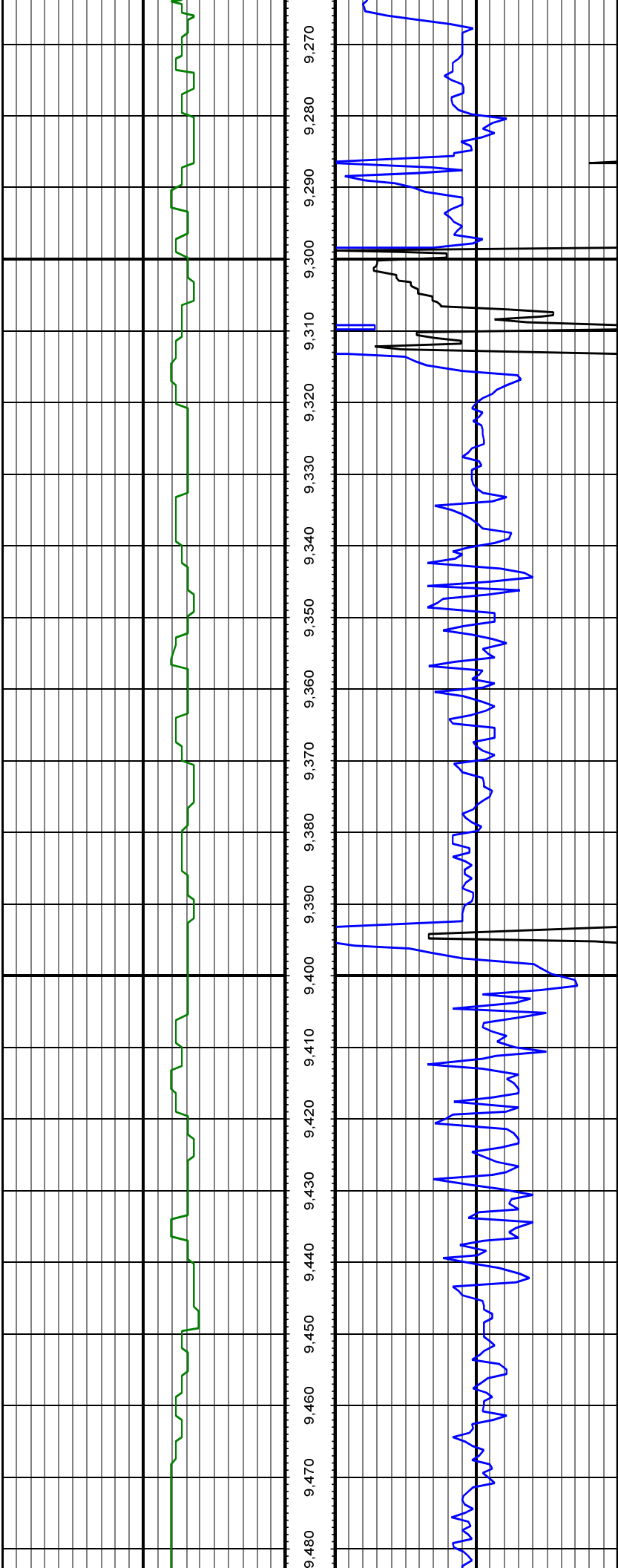




MD: 8870.00 INC: 88.50 AZ: 1.50 8,870.00

MD: 8965.00 INC: 89.50 AZ: 2.10 8,965.00

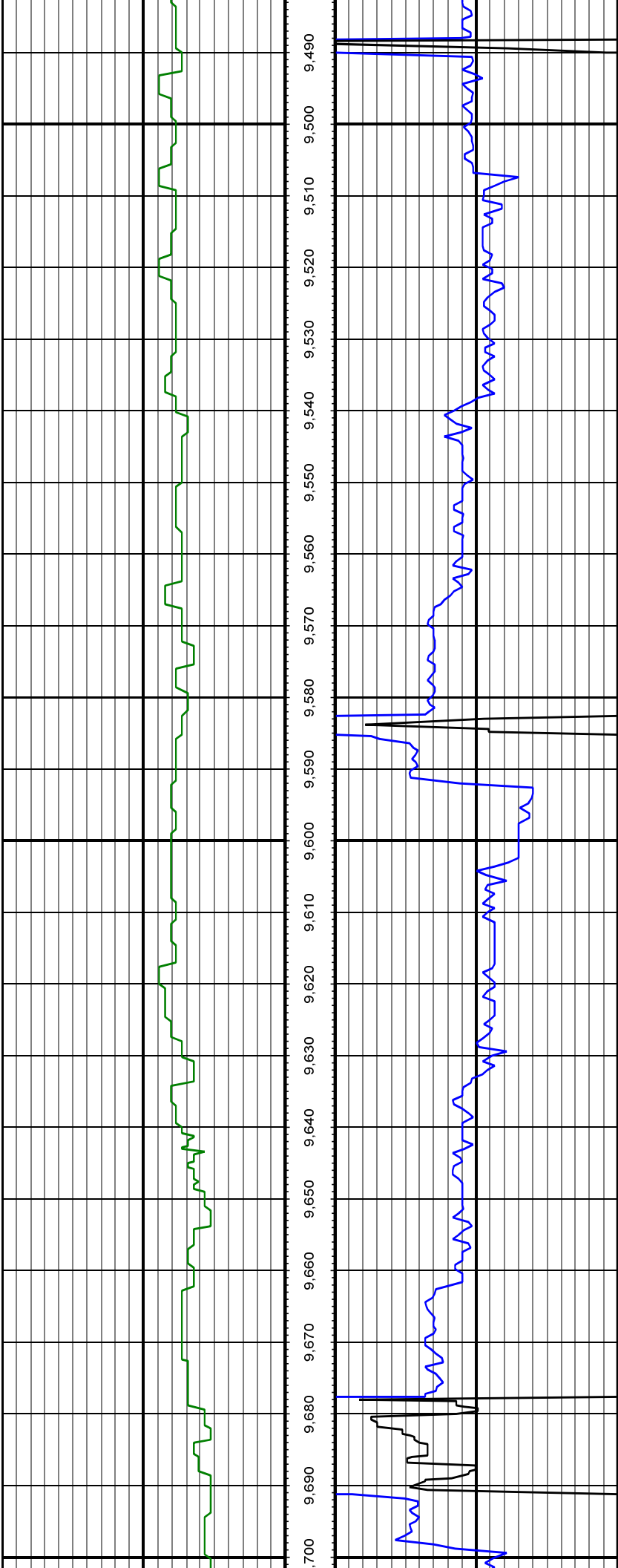




MD: 9343.00 INC: 90.50 AZ: 358.60 9,343.00

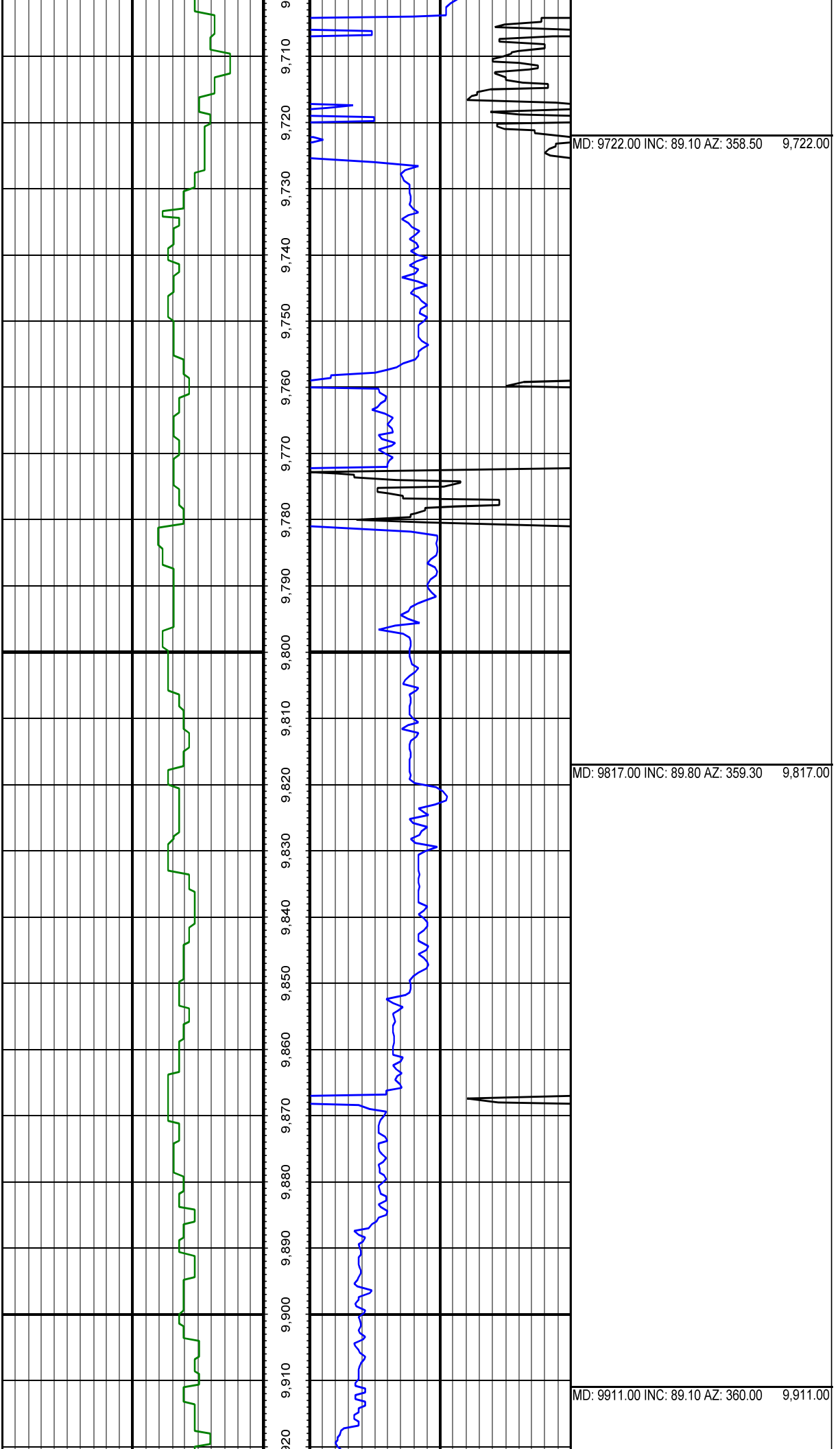
MD: 9438.00 INC: 89.80 AZ: 359.80 9,438.00

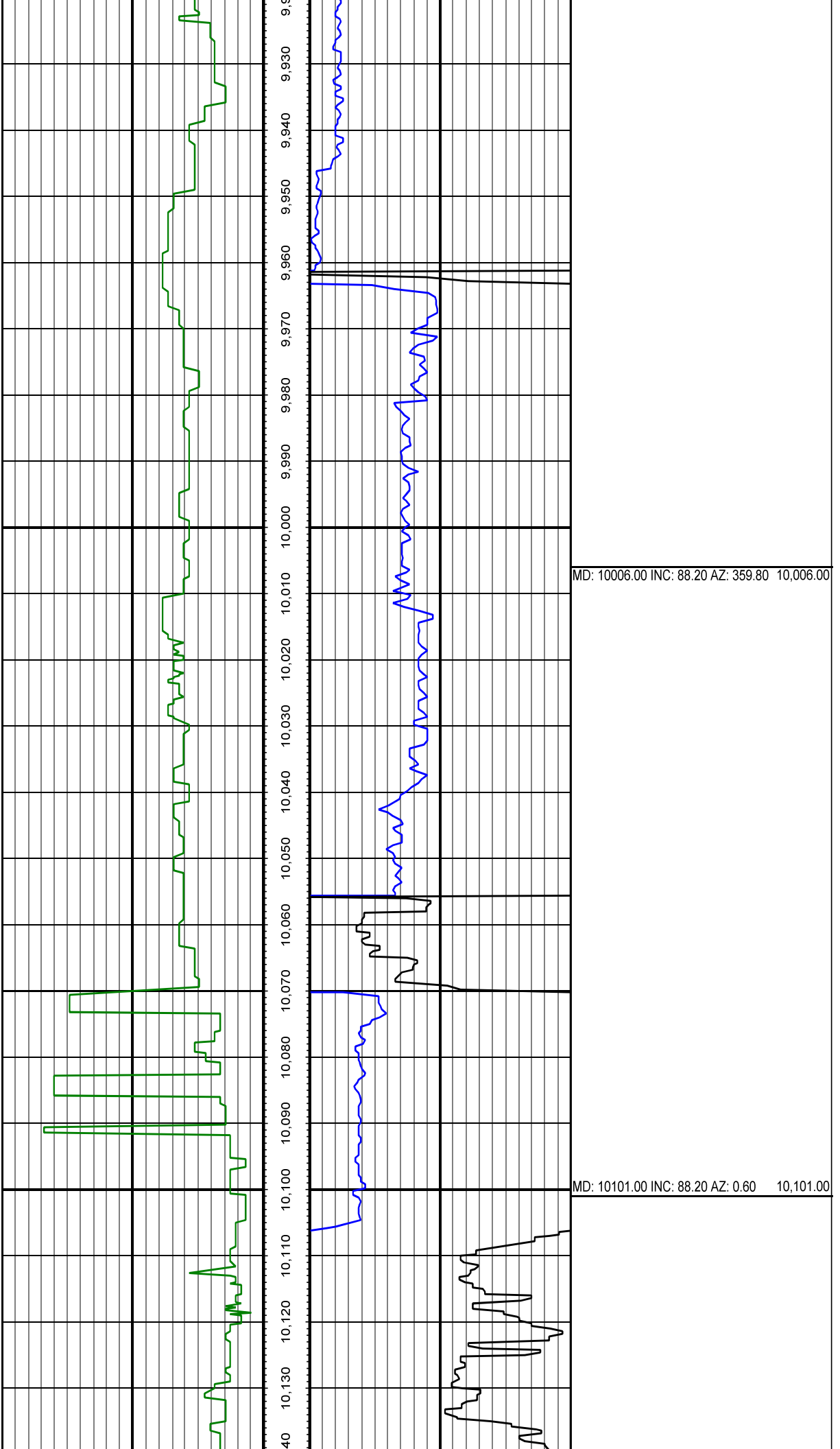


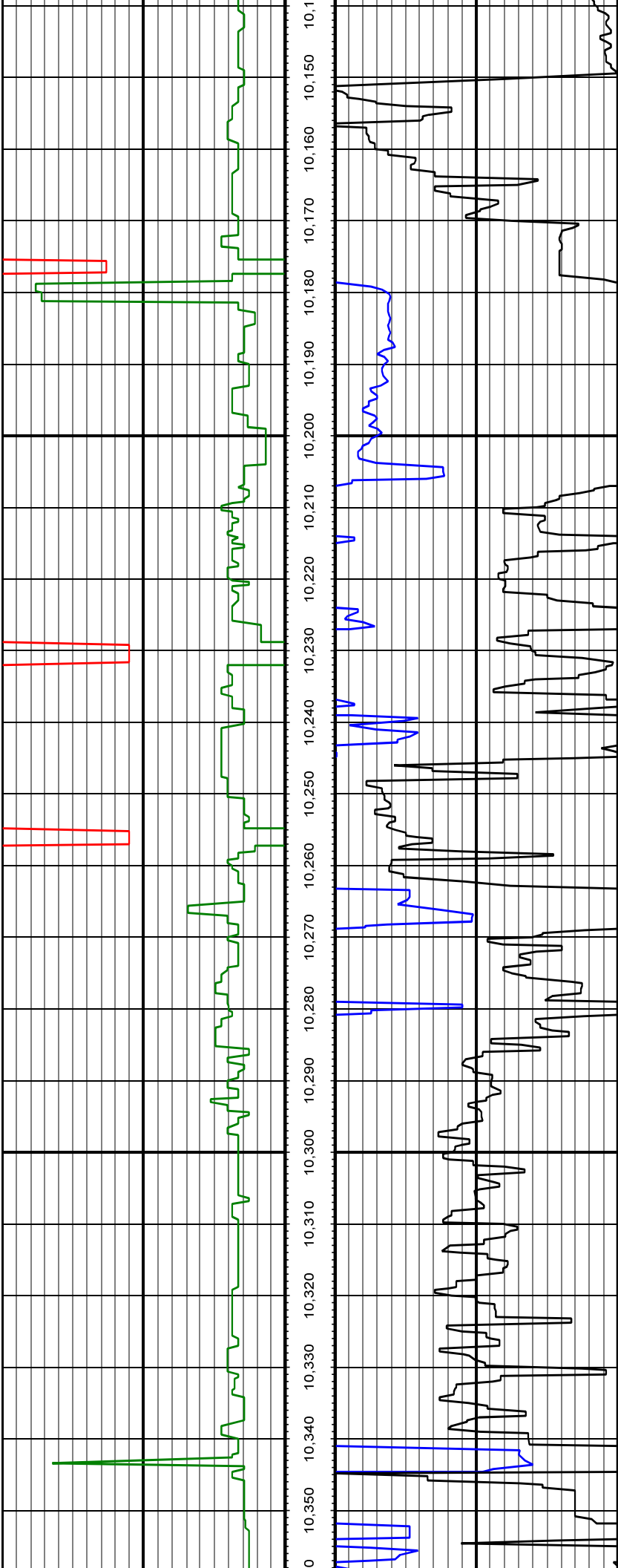


MD: 9533.00 INC: 89.40 AZ: 0.10 9,533.00

MD: 9628.00 INC: 88.40 AZ: 359.90 9,628.00

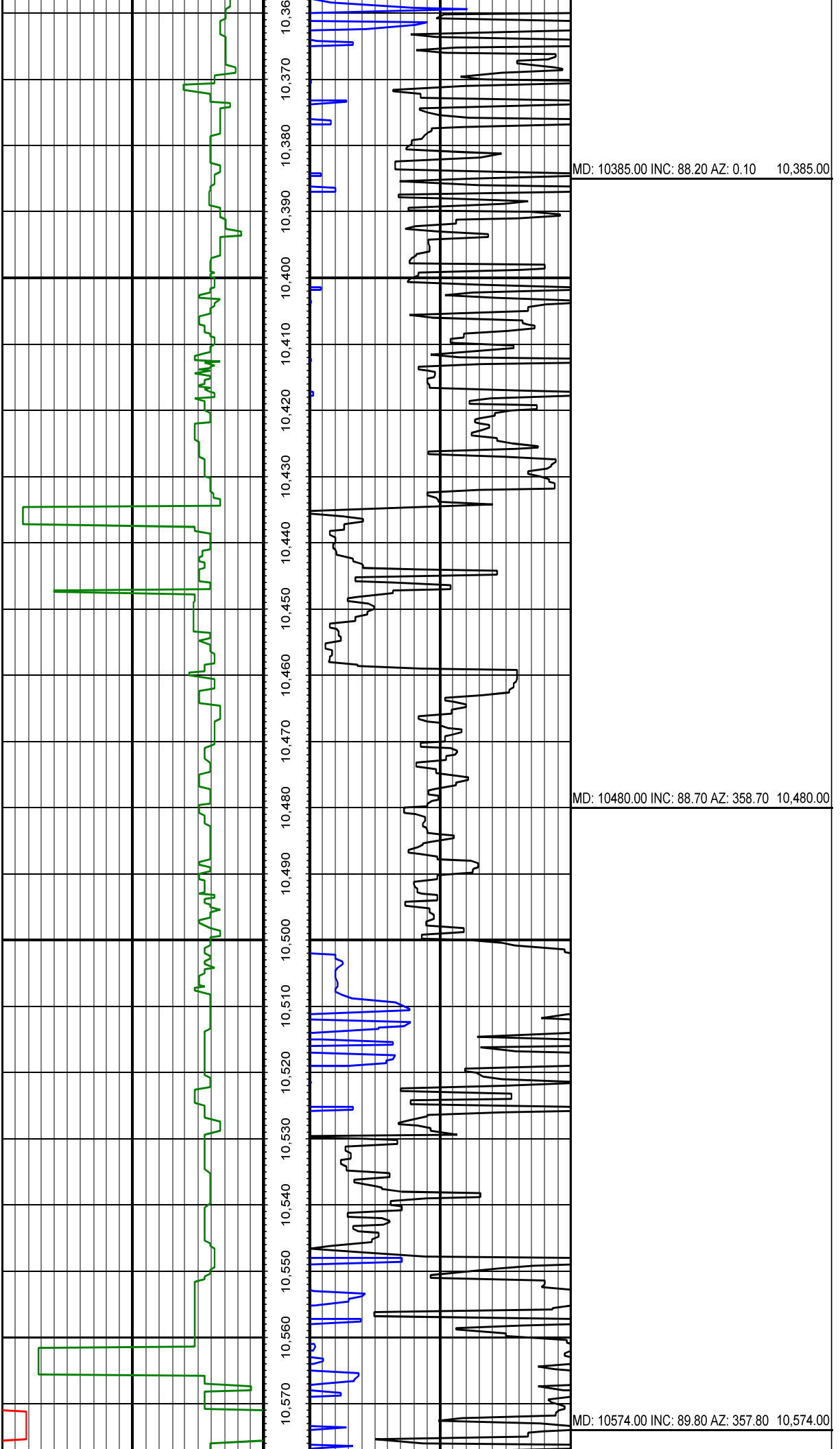


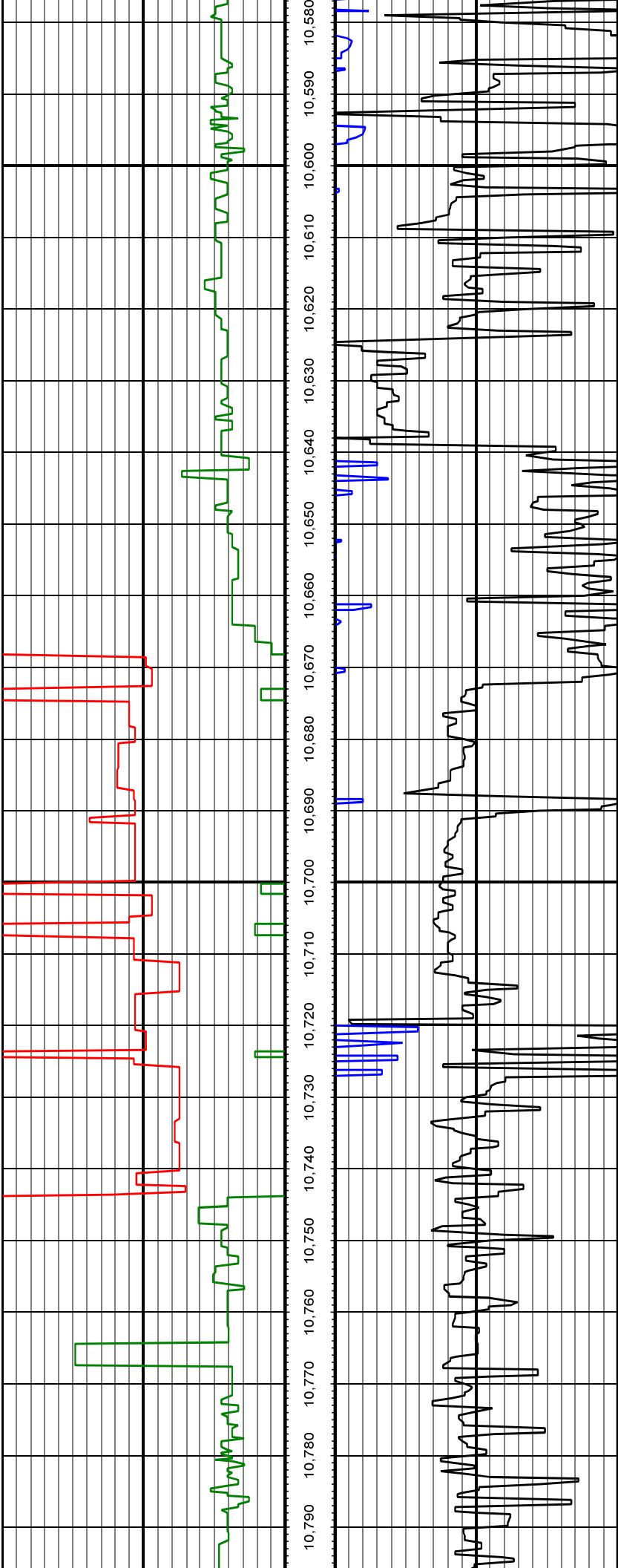




MD: 10196.00 INC: 88.40 AZ: 0.80 10,196.00

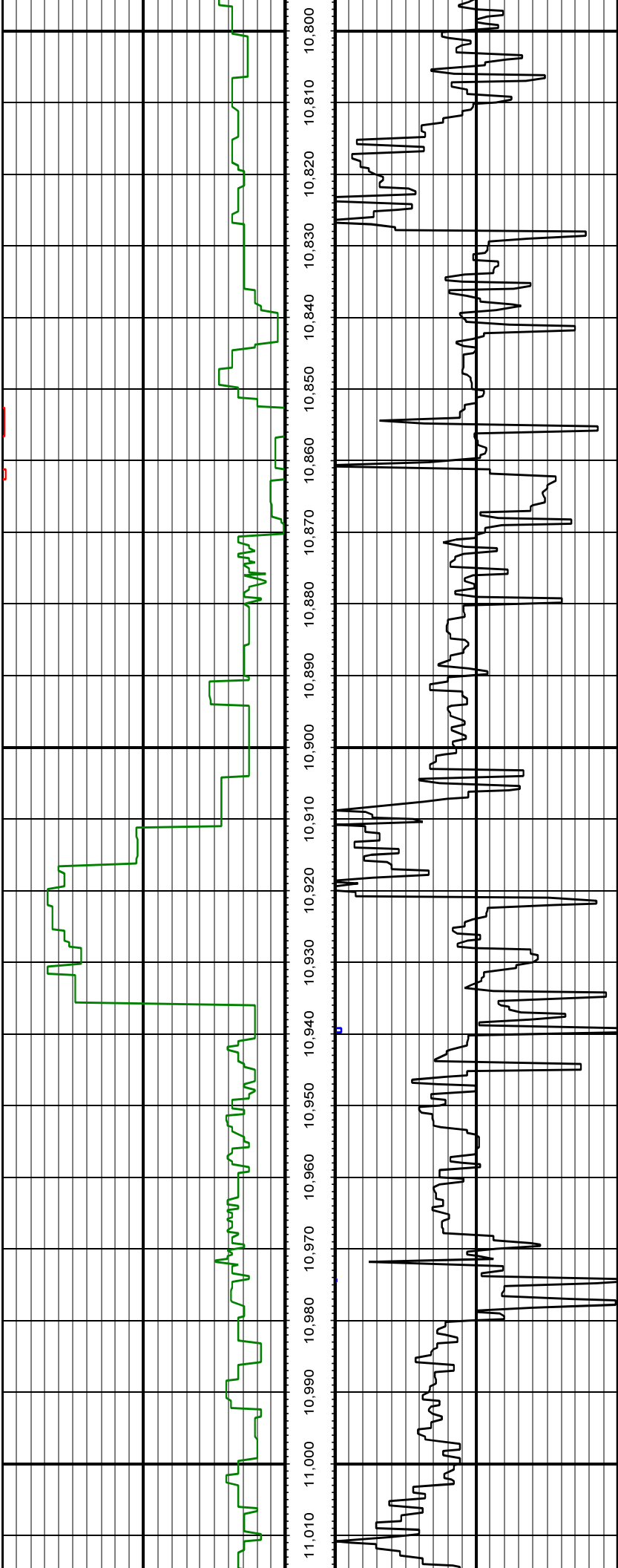
MD: 10290.00 INC: 89.70 AZ: 0.70 10,290.00





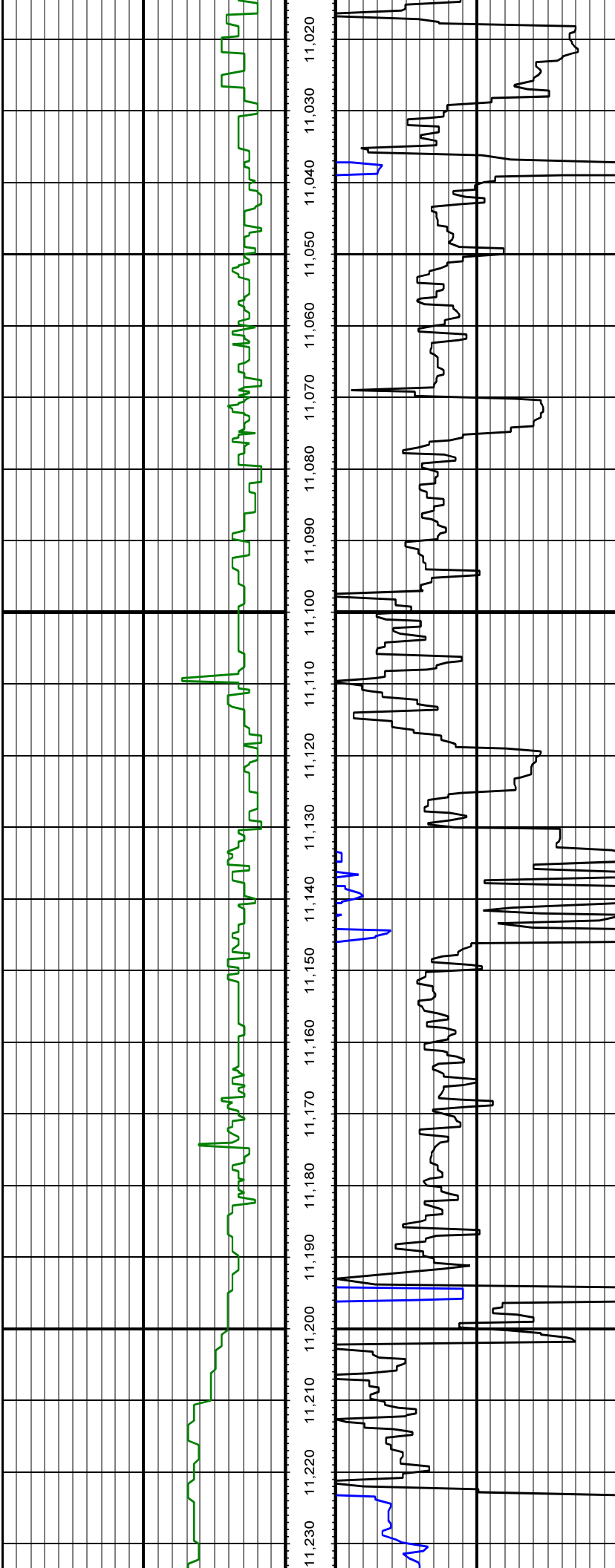
MD: 10669.00 INC: 90.70 AZ: 358.60 10,669.00

MD: 10763.00 INC: 90.30 AZ: 358.50 10,763.00



MD: 10858.00 INC: 91.60 AZ: 357.80 10,858.00

MD: 10953.00 INC: 91.40 AZ: 358.80 10,953.00



MD: 11048.00 INC: 90.30 AZ: 357.90 11,048.00

MD: 11142.00 INC: 91.60 AZ: 357.80 11,142.00



