

**Premier Directional Drilling**

12941 North Freeway  
# 400  
Houston, TX 77060  
281-673-4000

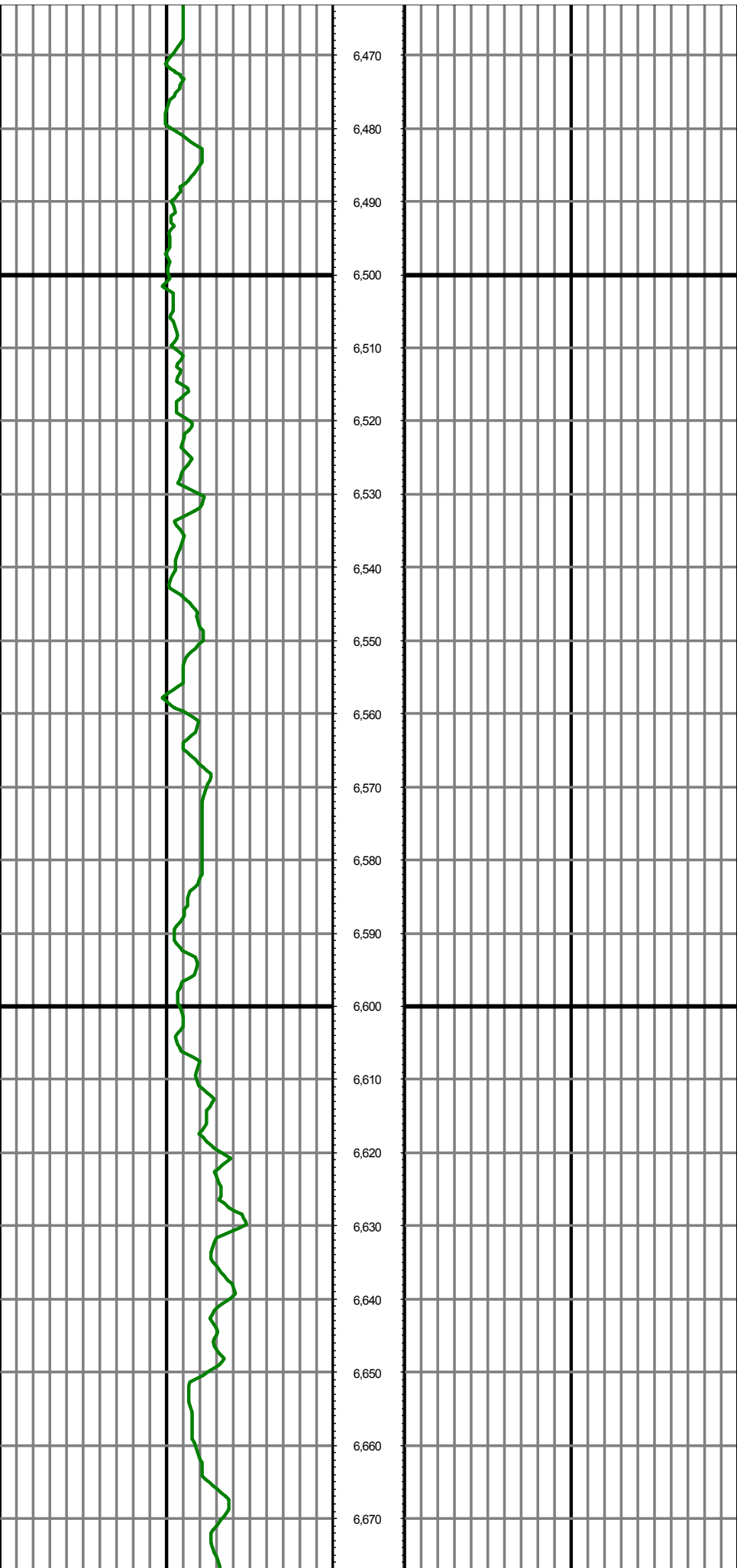
**Bat 4C-9HZ****Scale 5":100' - MD****7/1/2015 9:18 PM****Oper. Company:** Anadarko Petroleum Corporation**State:** Colorado**Well:** Bat 4C-9HZ**County:** Weld**Field:** Wattenberg / Niobrara**Country:** USA**Rig:** H&P 311**Location:** 1N 65W Sect.9**Well ID:** 05123412900000**Start Date:** 06/28/2015 09:38:00**Job Number:** R15237**End Date:**

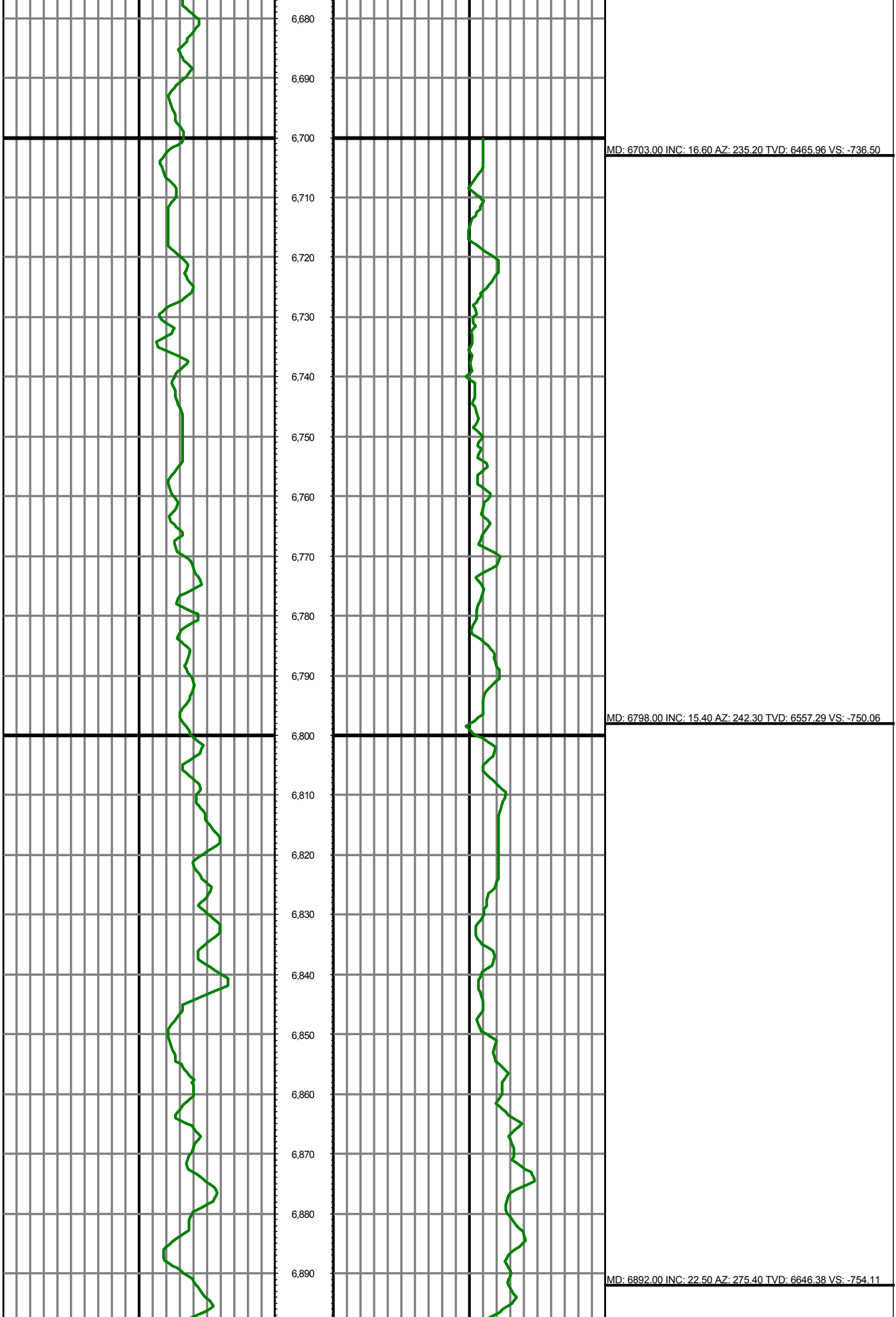
**Notes:** LWD Real Time Log  
Gamma Correction Determined by Pipe ID & OD, Mud Weight & Bit Size

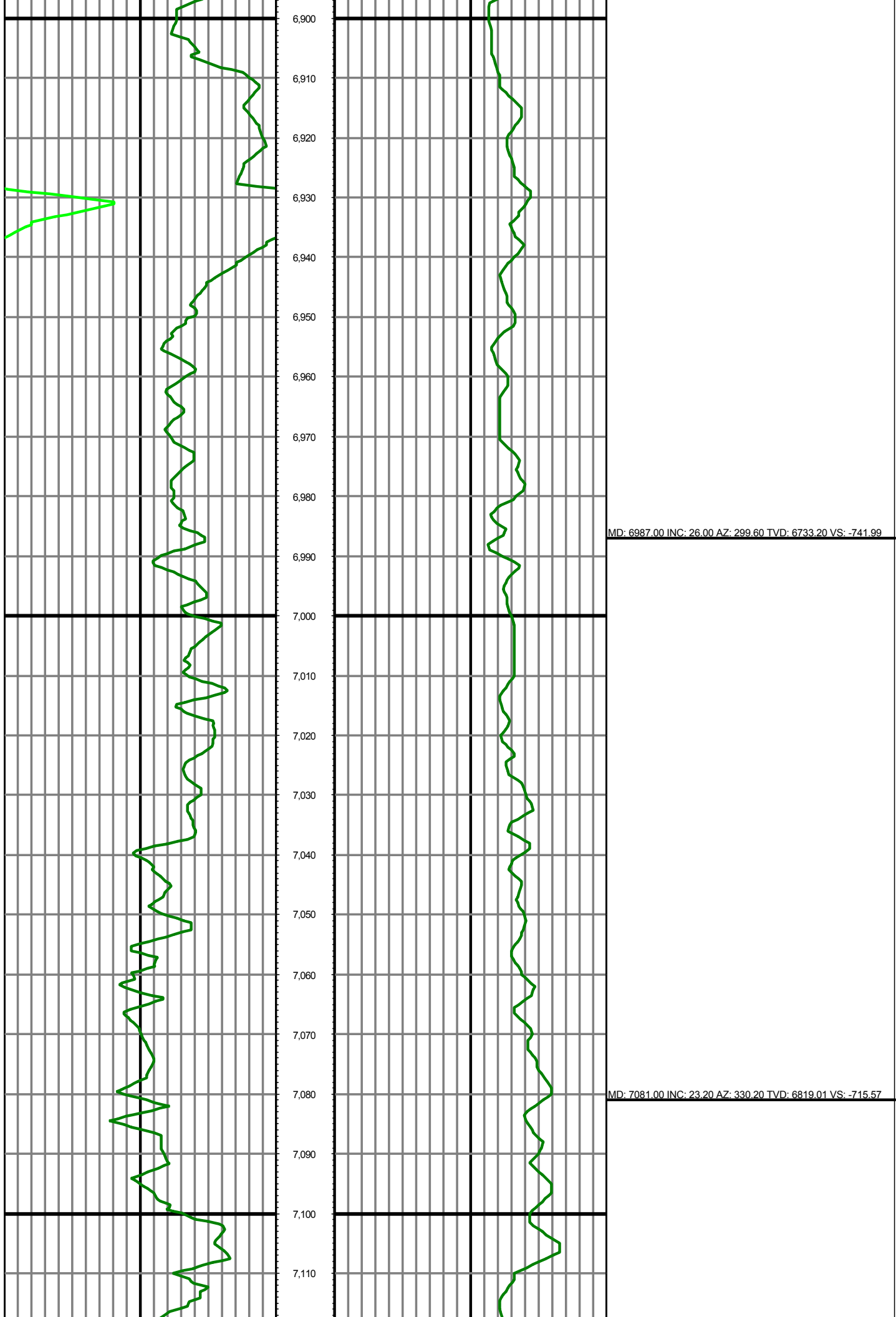
**Latitude:** 40.060443**Elev KB:** 4956'**Longitude:** -104.669613**Elev DF:** 4956'**Elev GL:** 4931'**Notes:** Datum: NAD 1983 Map Zone: 13N (108 W to 102 W) Total Correction: 8.12° (Mean MagVar) Grid Convergence: 0.00° (True N)**Operator 1:** Robert Grossman**Operator 2:** Mike Gunther**Notes:** Smoothing: 7Gap Fill: 10Survey Tool Type: Mud Pulse Calculation Method: Minimum Curvature

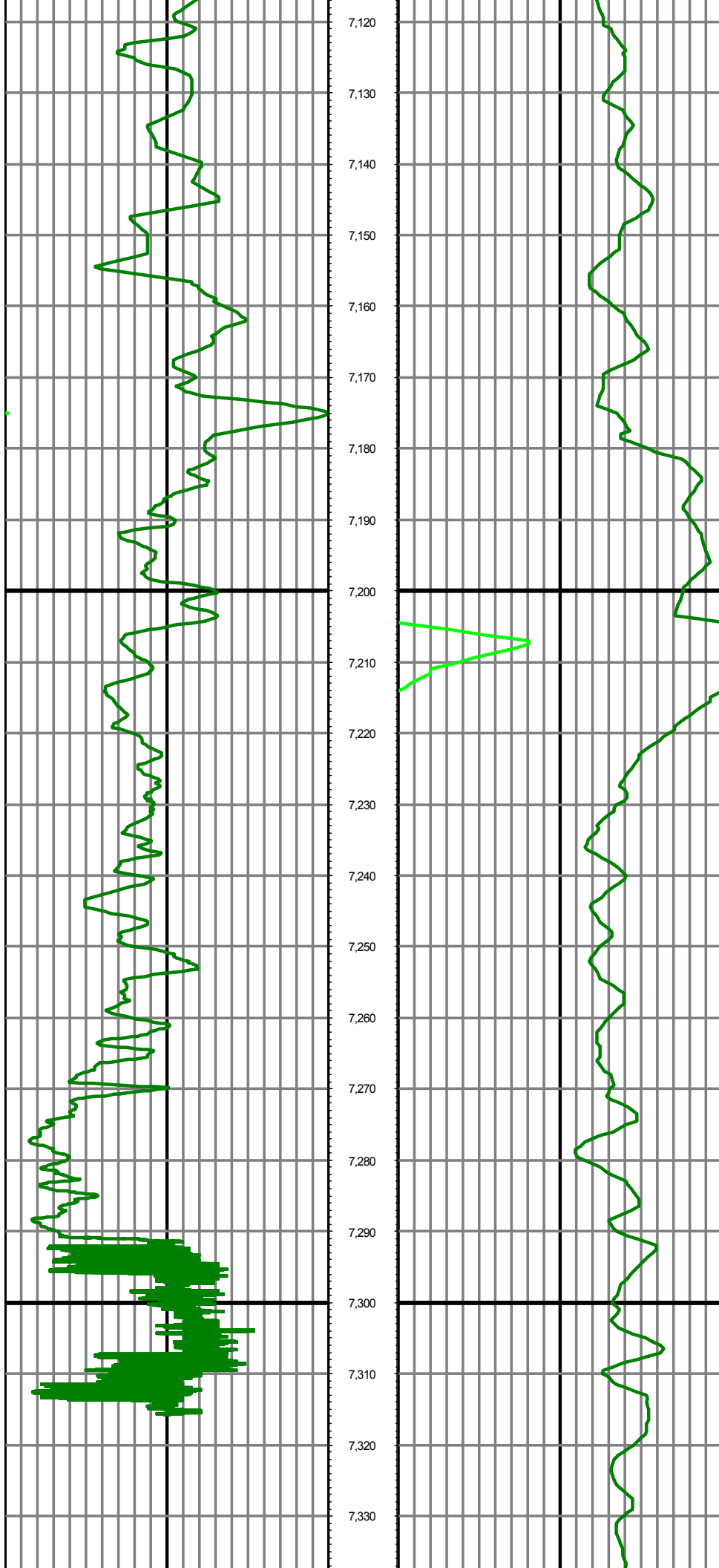
Tool Run Data	Run #1	Run #2	Run #3	Run #4	Run #5
Tool S/N	234	165	164		
Bit Size	8.5	8.5	8.5		
Cal Factor	5.50357	5.50357	5.4894		
Gamma Offset	57.00	57.00	52.00		
Resistivity Offset	0.00	0.00	0.00		
Start Depth	1608.00	11373.00	11465.00		
StartDate	6/27/2015	7/1/2015	7/1/2015		
StartTime	11:40 AM	9:05 PM	9:14 PM		
EndDepth	11373.00	11465.00	12230.00		
EndDate	6/30/2015		7/1/2015		
EndTime	5:45 AM		9:15 AM		
Mud Type	OBM	OBM	OBM		
Mud Weight	9.5	9.5	9.5		
Funnel Viscosity	51	51	51		
Plastic Viscosity	16	16	16		
Yield Point	13	13	13		
Gel Strength	NA	NA	NA		
Solids Content	4.4	4.6	4.6		
Sand Content	NA	NA	NA		
Mud Alkalinity	NA	NA	NA		
Filtrate Alkalinity	NA	NA	NA		
Chlorides	58000	58000	58000		
Mud RM	NA	NA	NA		
Mud RMF	NA	NA	NA		
Mud RMC	NA	NA	NA		
Mud RM at BHT	NA	NA	NA		
Temperature	NA	NA	NA		
Hole Data			Casing Data		
Size	From	To	Size	From	To
13.5	0.00	1608.00	9.625	0.00	1604.00
8.5	1608.00	12230.00	5.5	1604.00	12230.00

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.



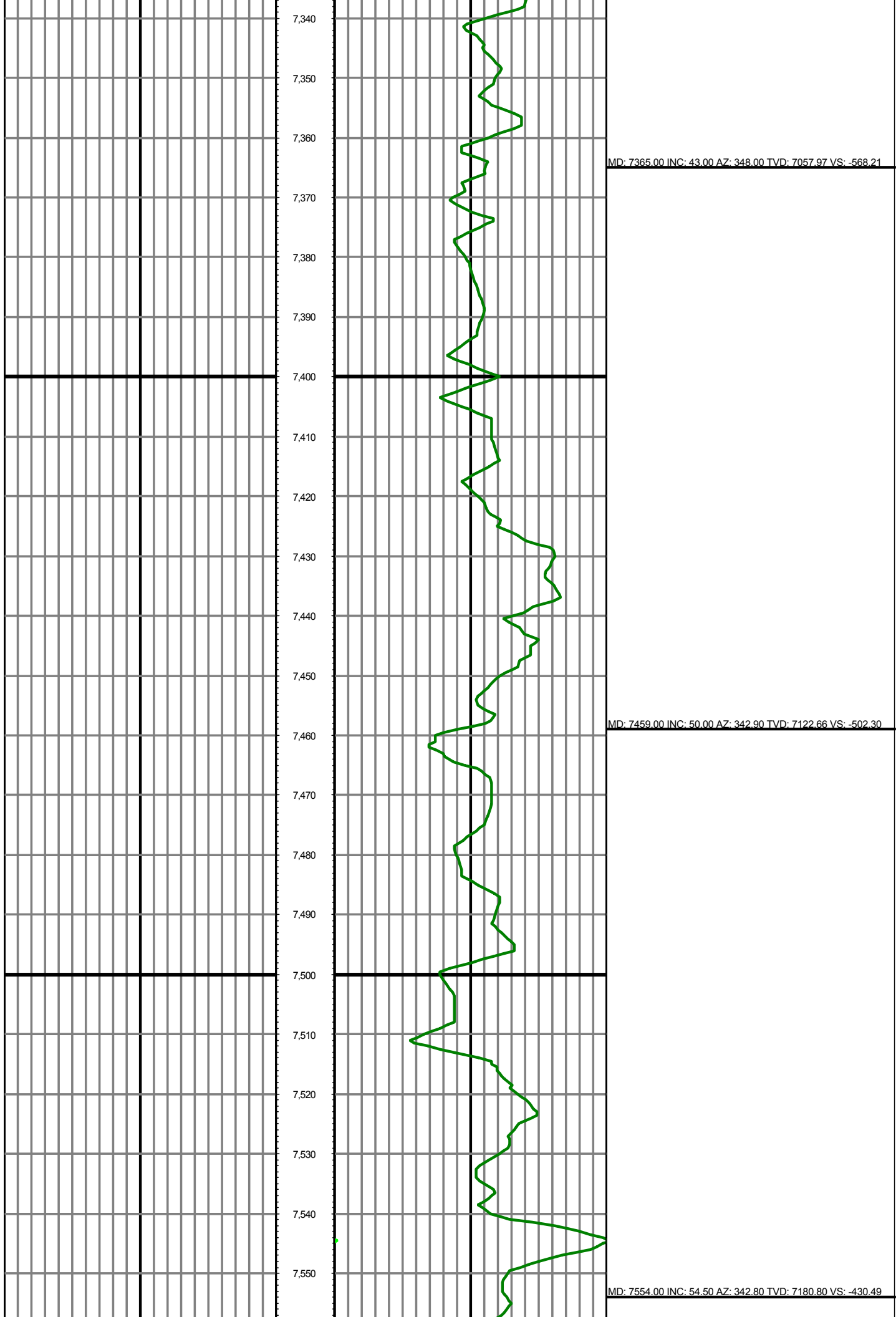


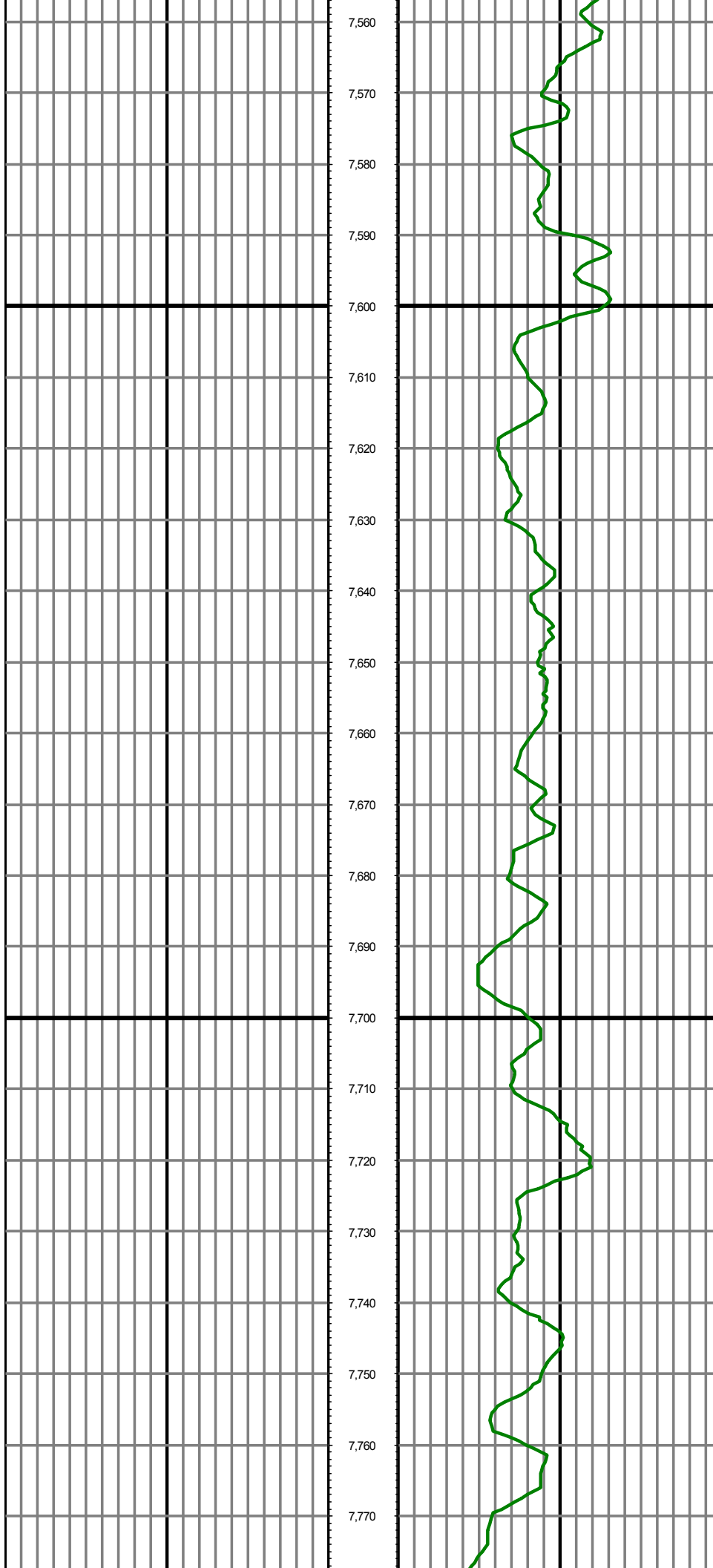




MD: 7176.00 INC: 29.00 AZ: 348.80 TVD: 6904.43 VS: -676.61

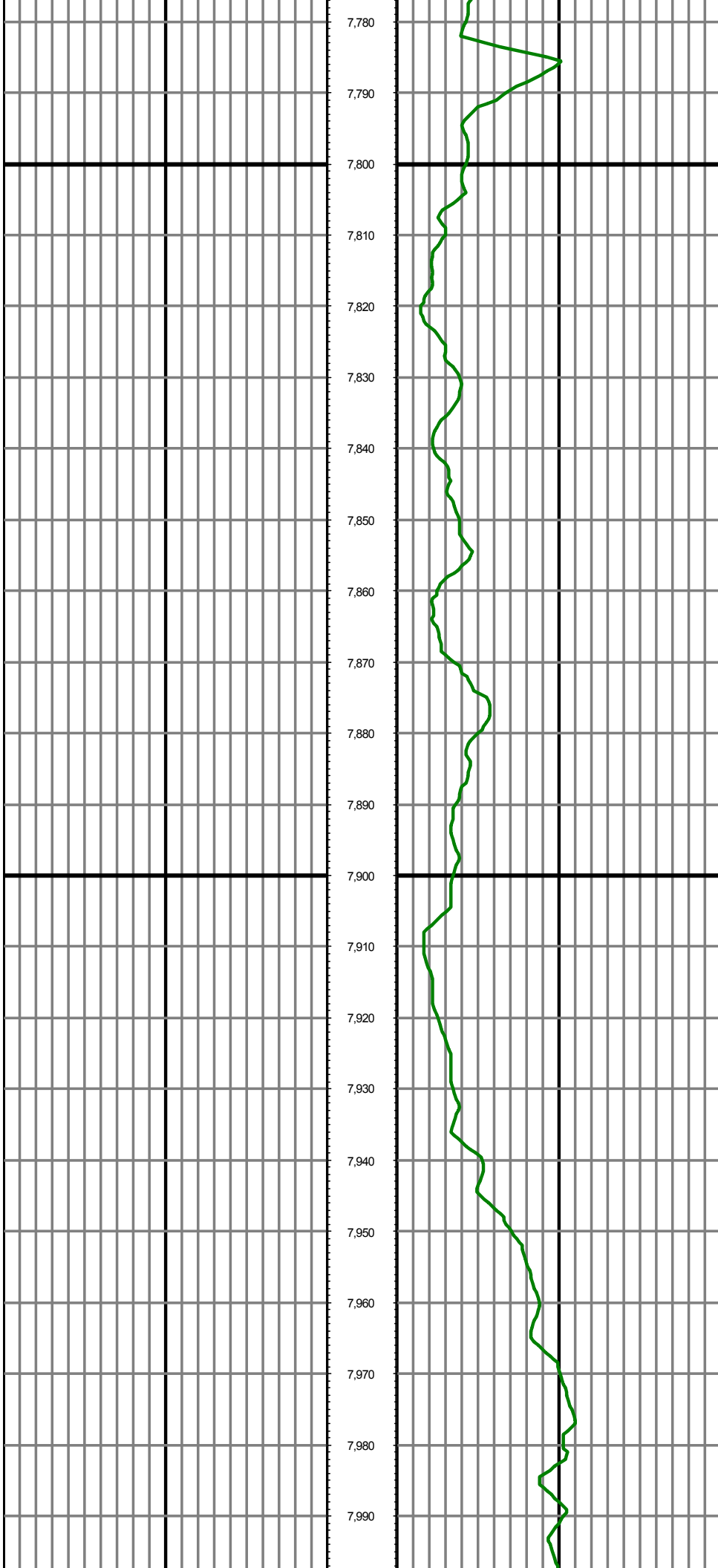
MD: 7270.00 INC: 35.00 AZ: 356.80 TVD: 6984.14 VS: -627.26





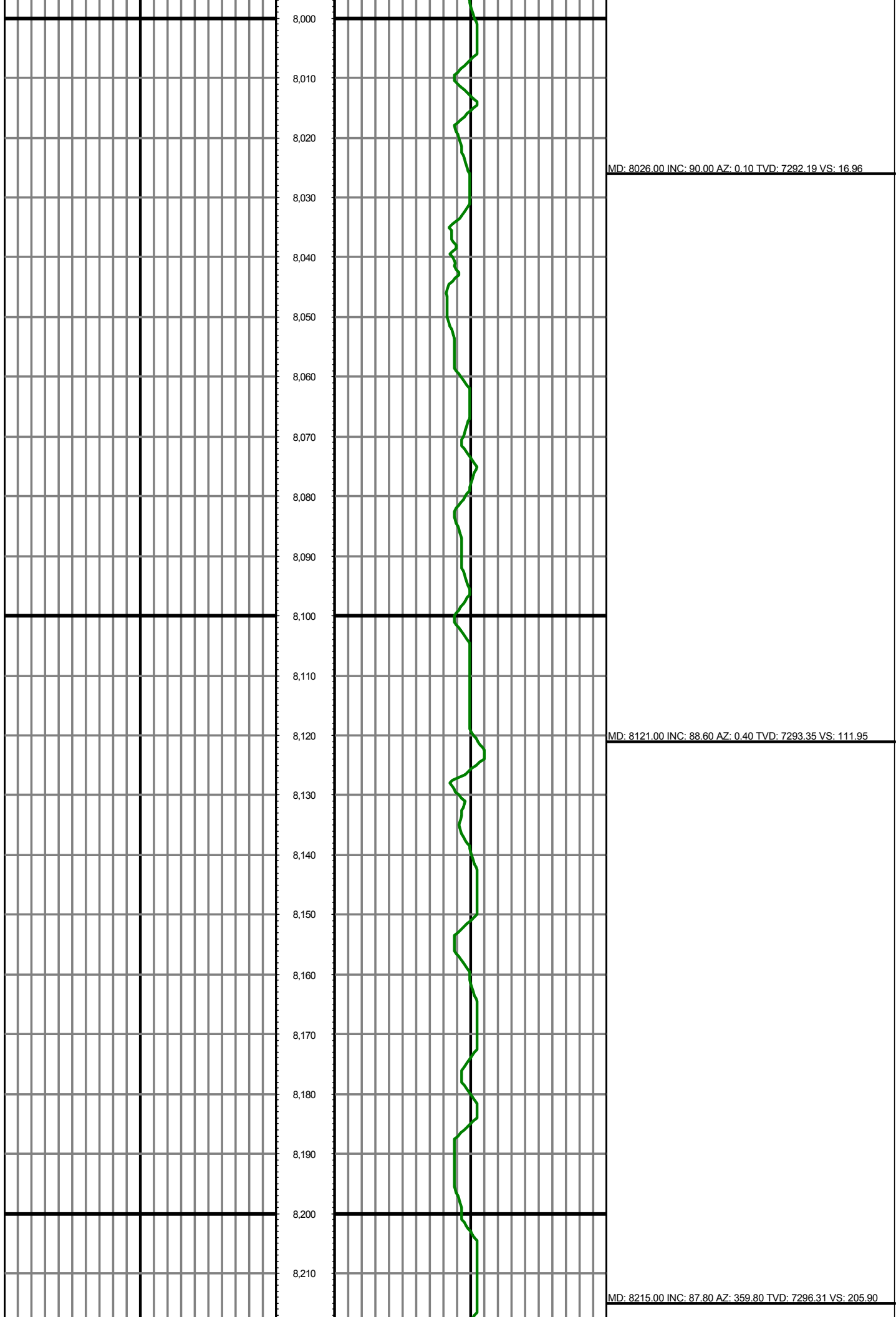
MD: 7648.00 INC: 64.90 AZ: 351.70 TVD: 7228.23 VS: -351.44

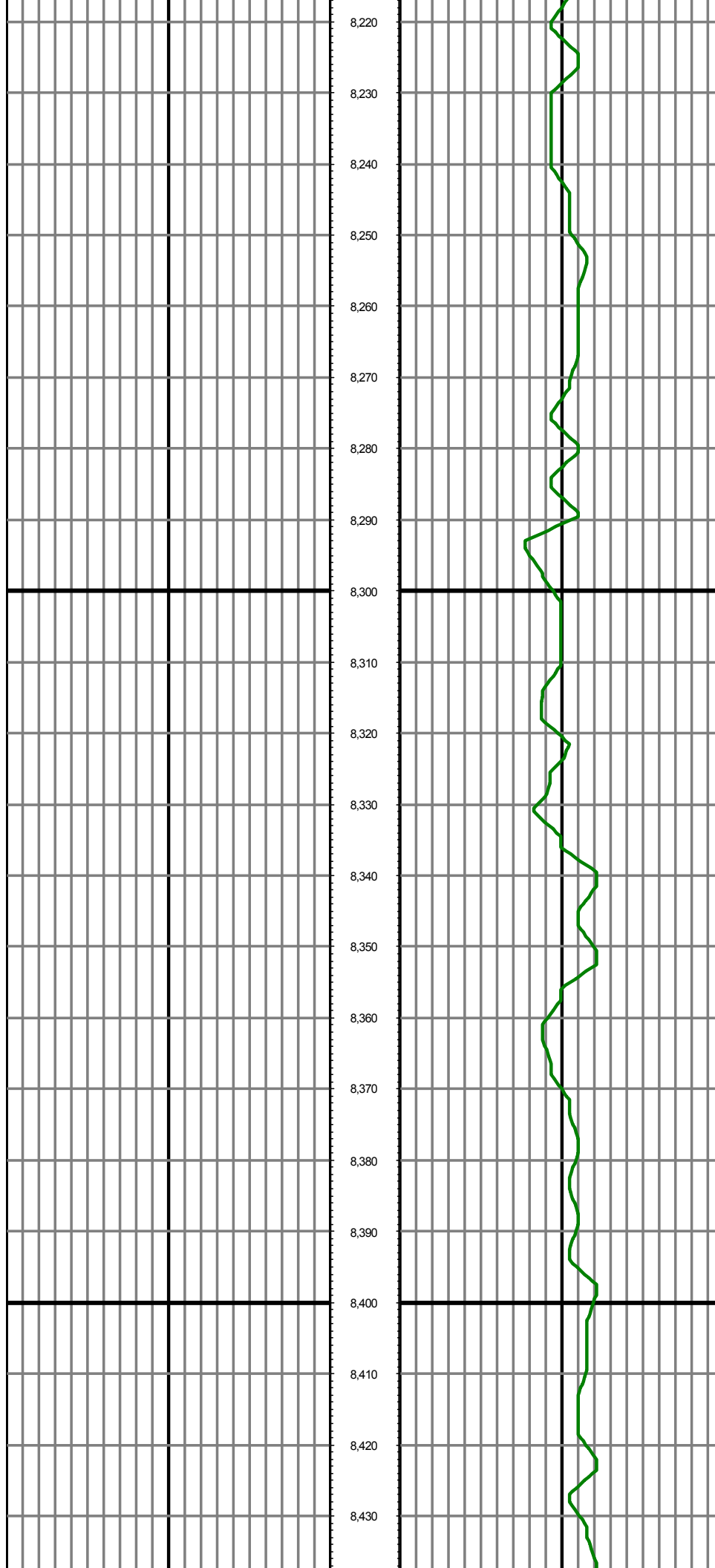
MD: 7743.00 INC: 75.20 AZ: 355.00 TVD: 7260.61 VS: -262.84



MD: 7837.00 INC: 79.90 AZ: 355.80 TVD: 7280.87 VS: -171.36

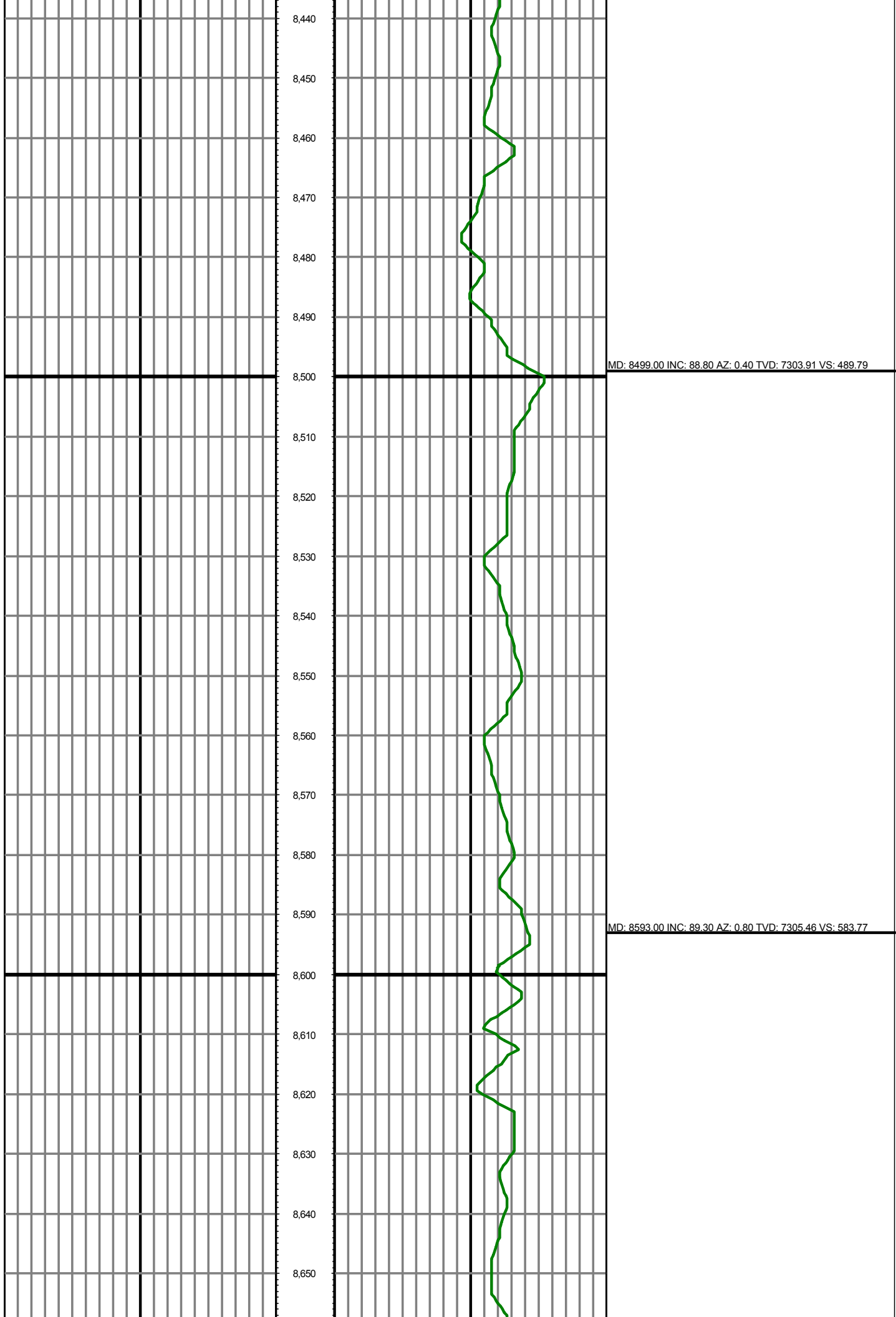
MD: 7932.00 INC: 88.20 AZ: 0.60 TVD: 7290.72 VS: -77.02

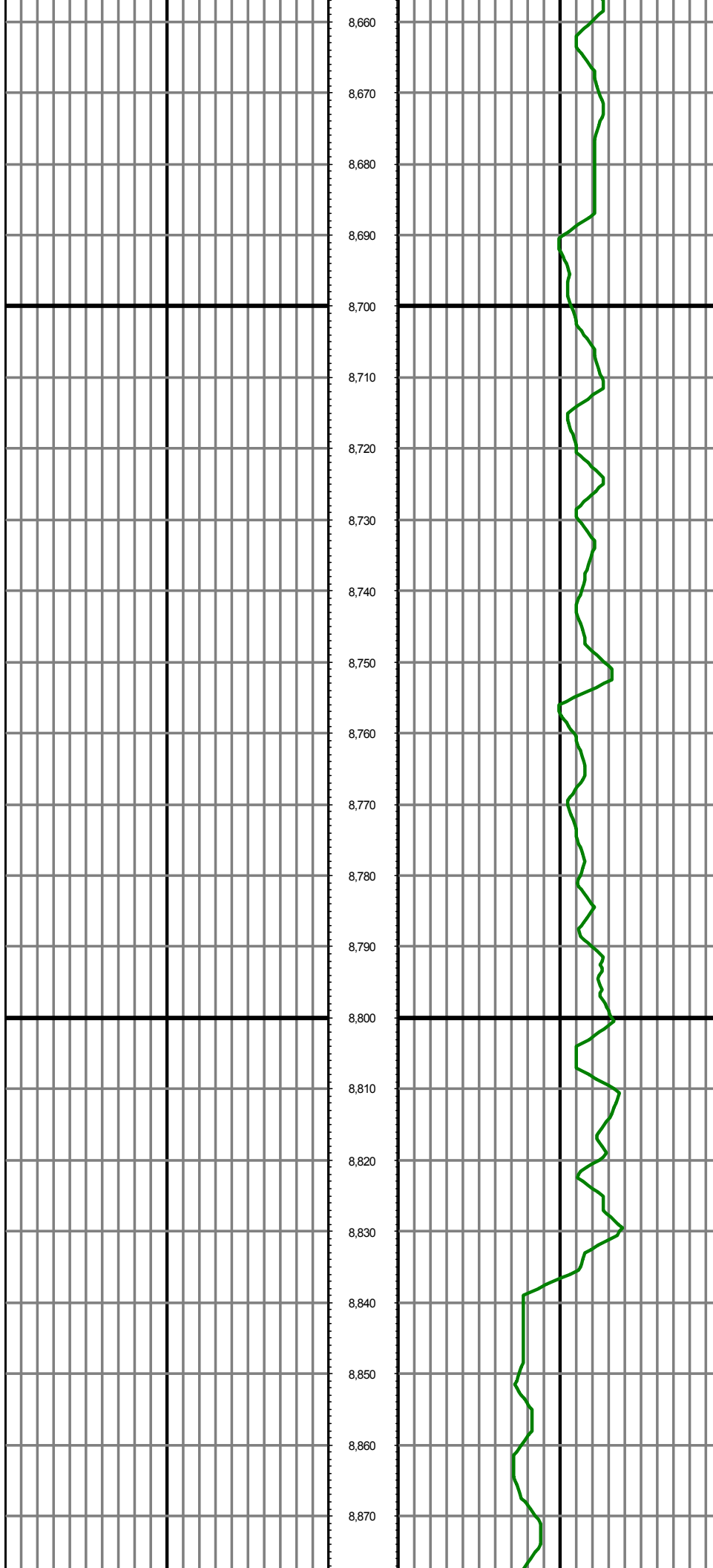




MD: 8310.00 INC: 89.10 AZ: 0.00 TVD: 7298.88 VS: 300.86

MD: 8404.00 INC: 88.00 AZ: 0.50 TVD: 7301.25 VS: 394.83





MD: 8688.00 INC: 88.50 AZ: 359.70 TVD: 7307.29 VS: 678.74

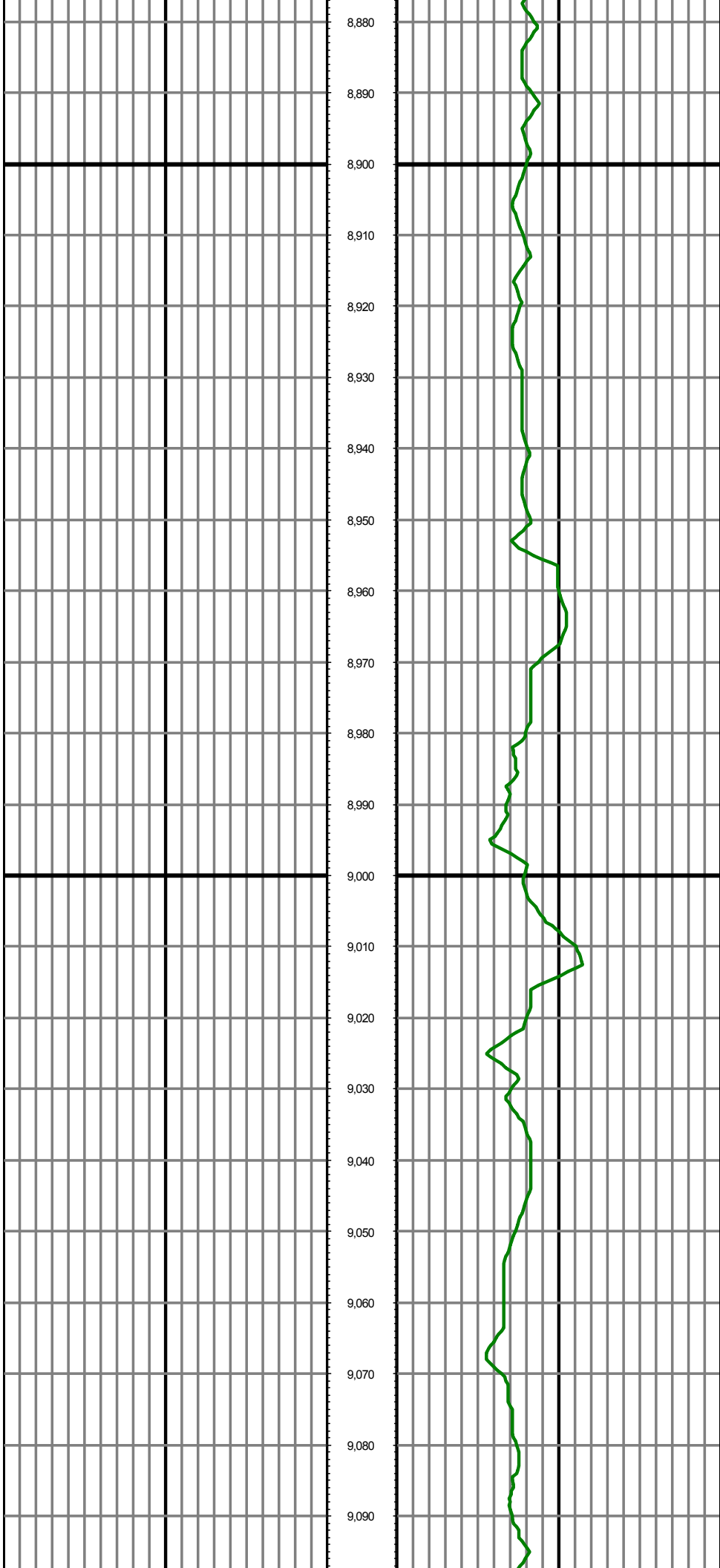
MD: 8783.00 INC: 89.20 AZ: 0.10 TVD: 7309.20 VS: 773.72

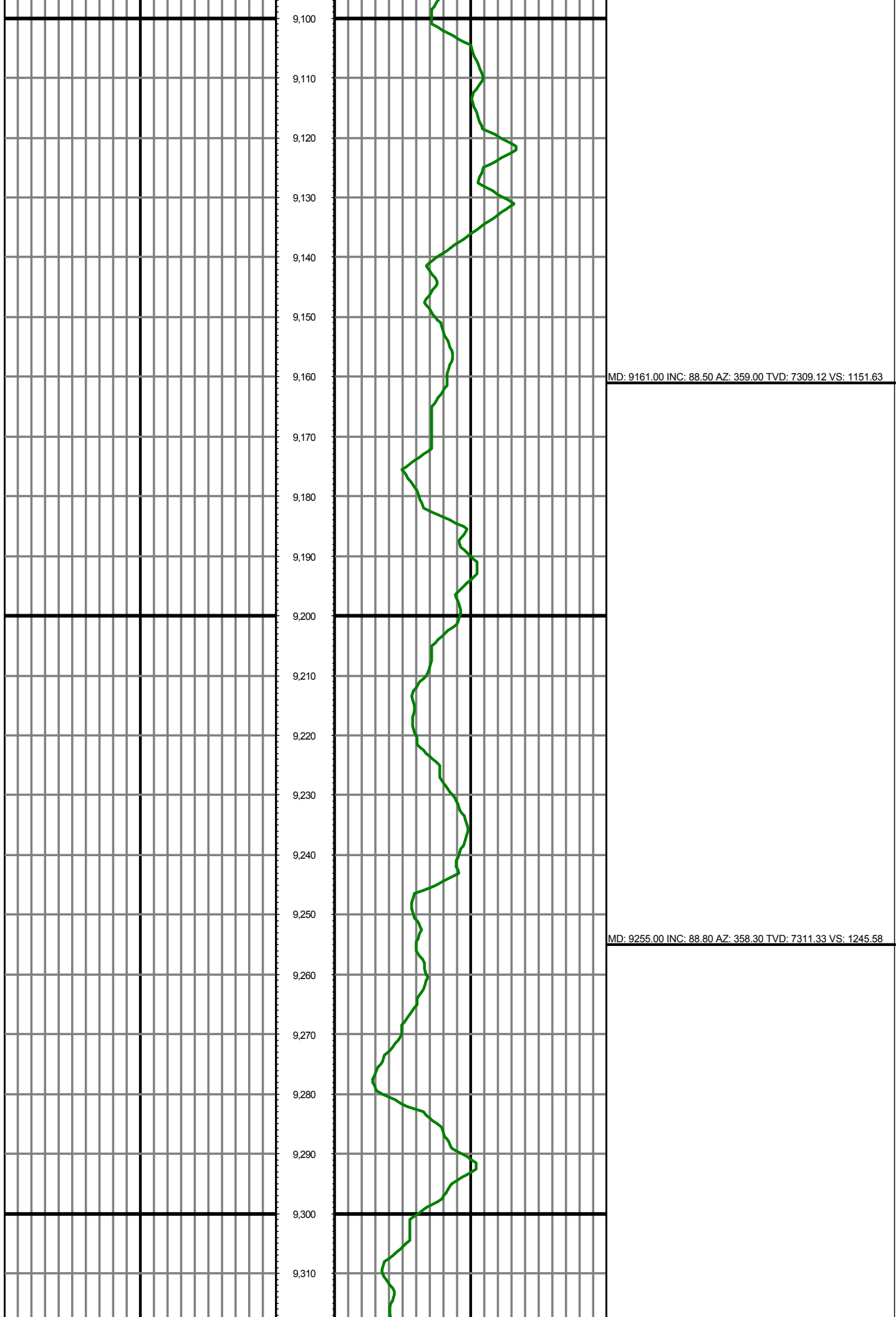
MD: 8877.00 INC: 90.60 AZ: 358.60 TVD: 7309.36 VS: 867.71

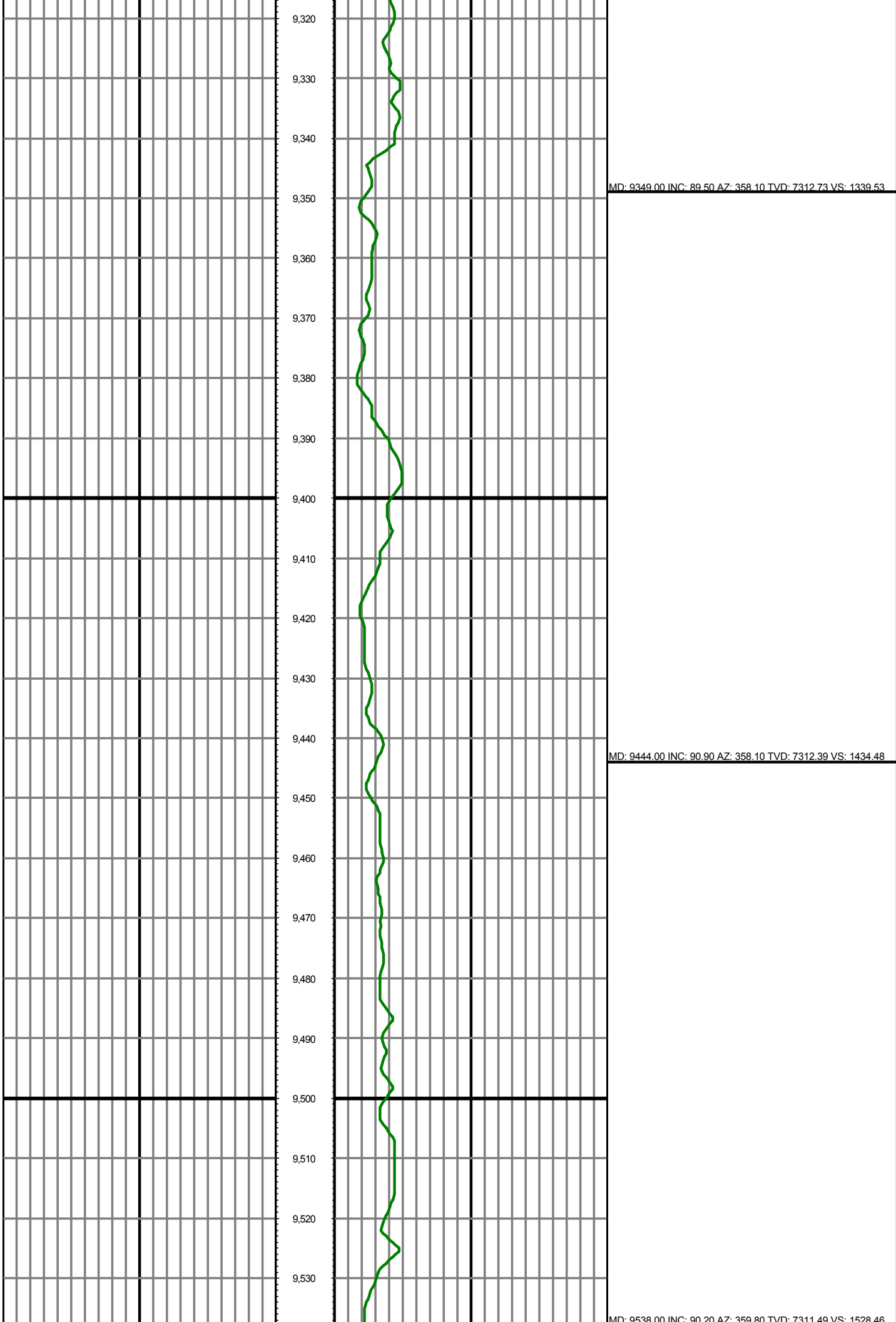
MD: 8877.00 INC: 90.60 AZ: 358.60 TVD: 7309.36 VS: 867.71

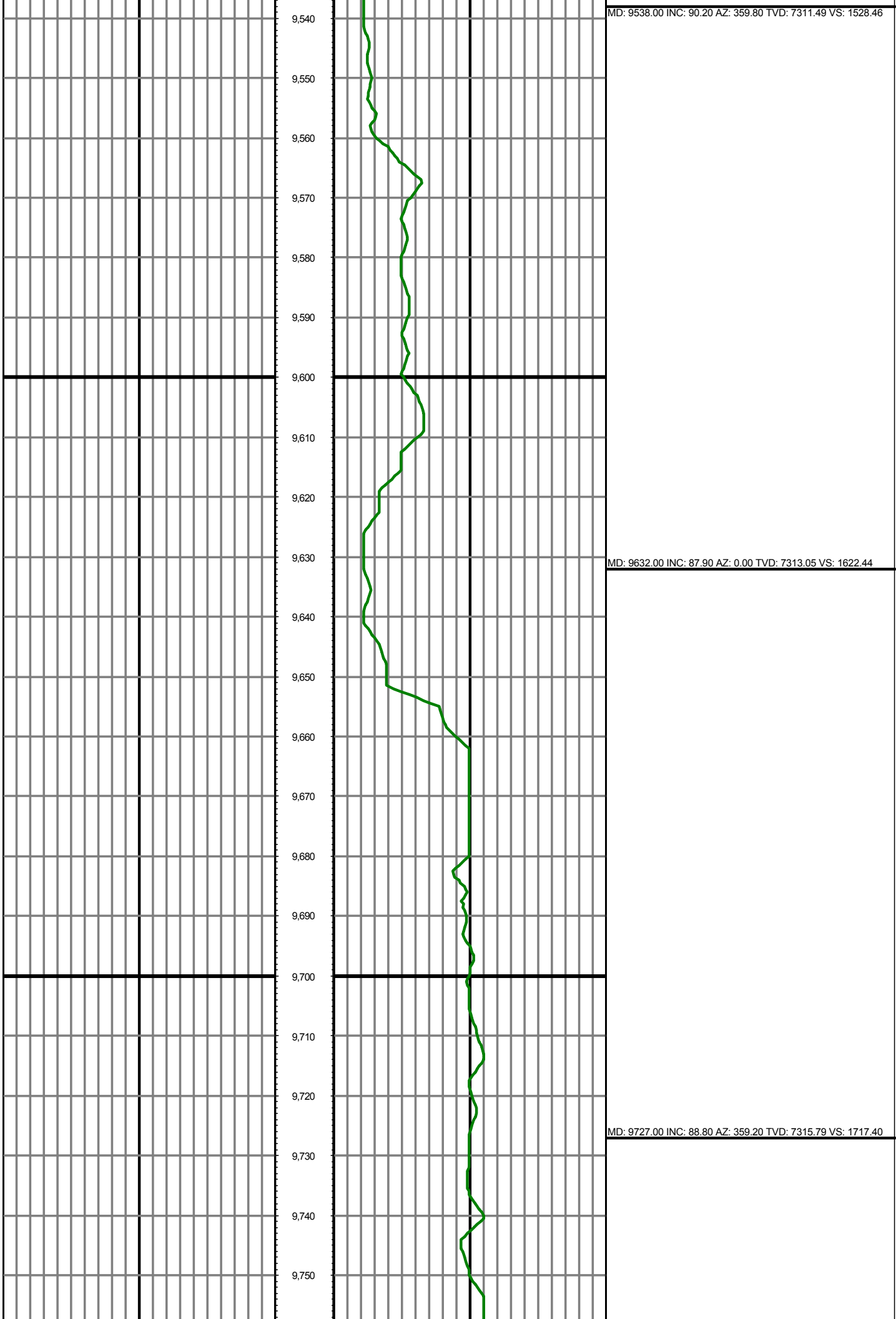
MD: 8972.00 INC: 91.30 AZ: 358.70 TVD: 7307.78 VS: 962.68

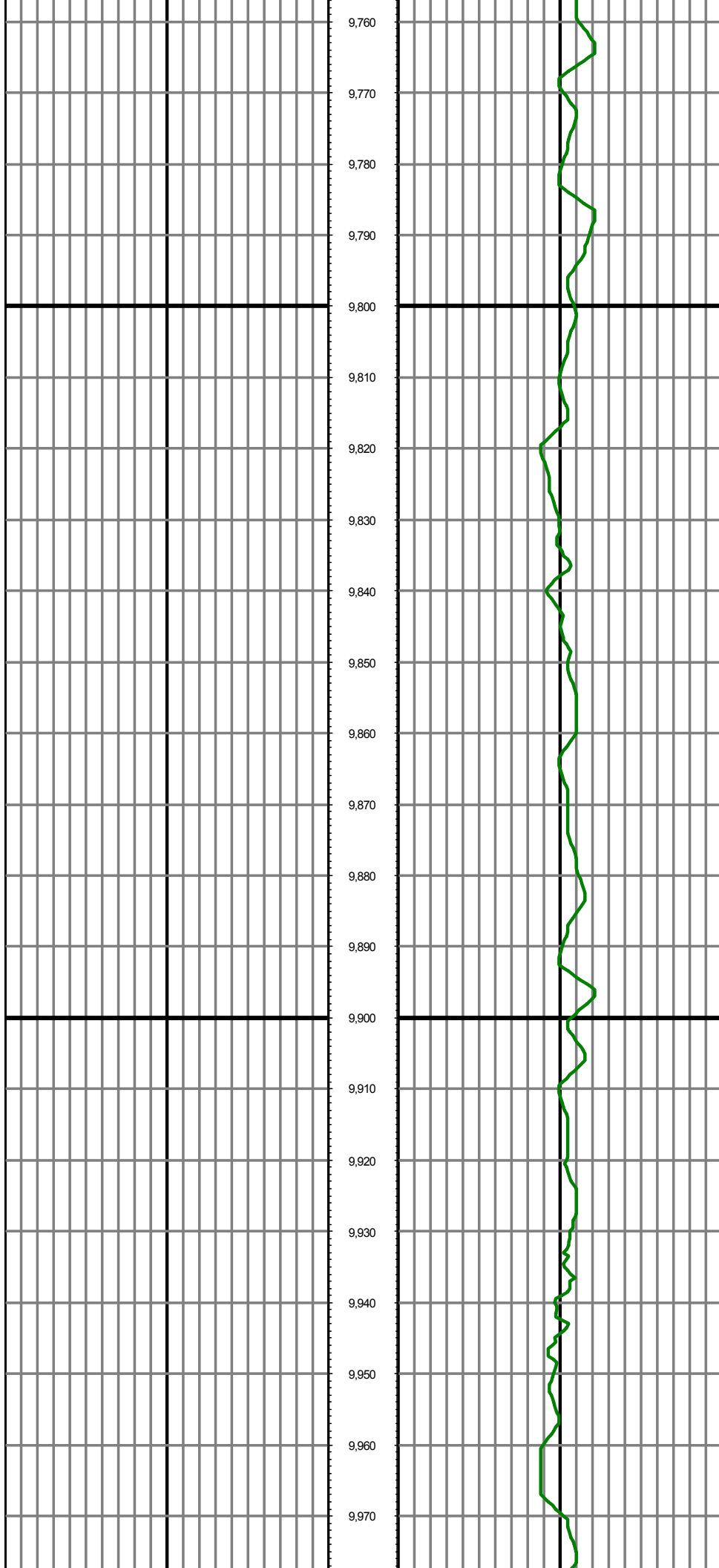
MD: 9066.00 INC: 89.30 AZ: 358.90 TVD: 7307.29 VS: 1056.66





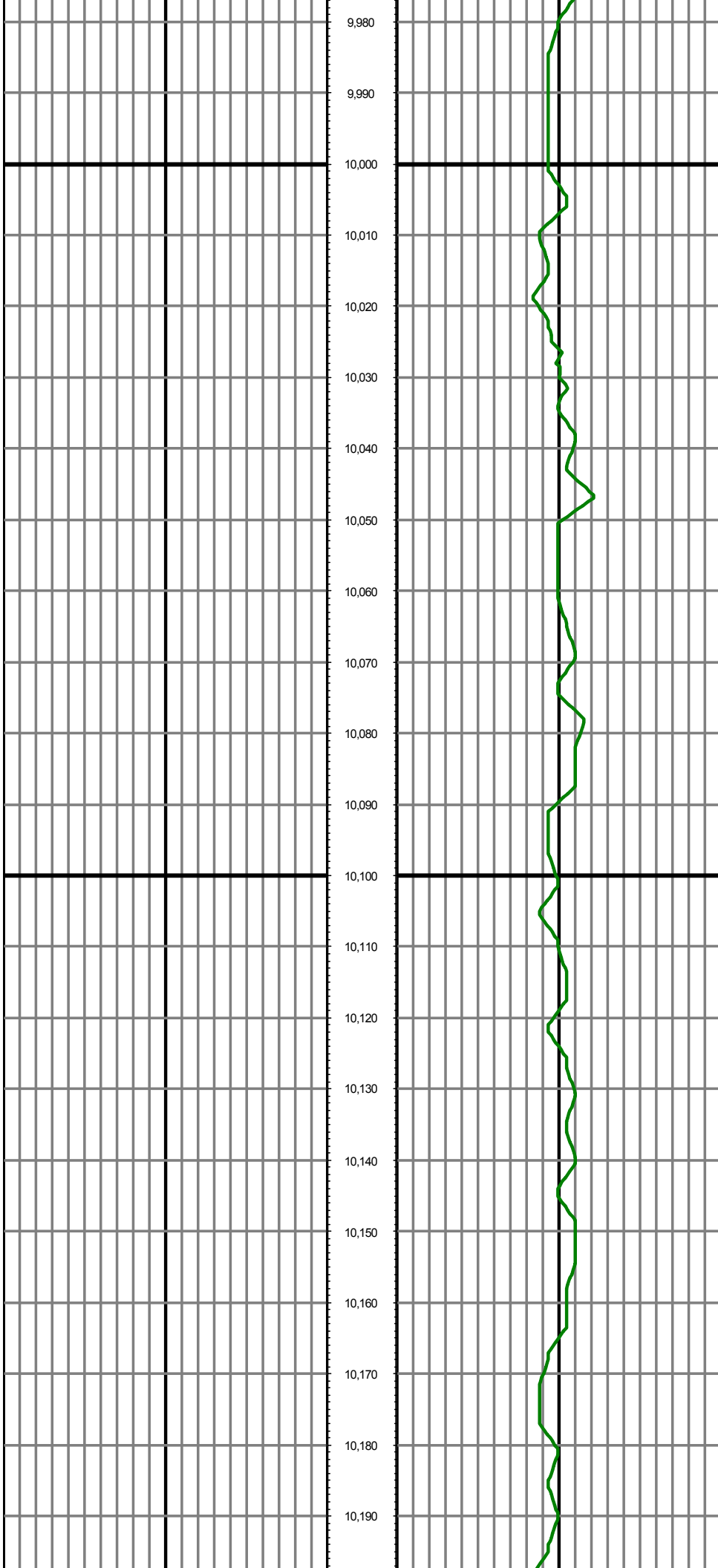






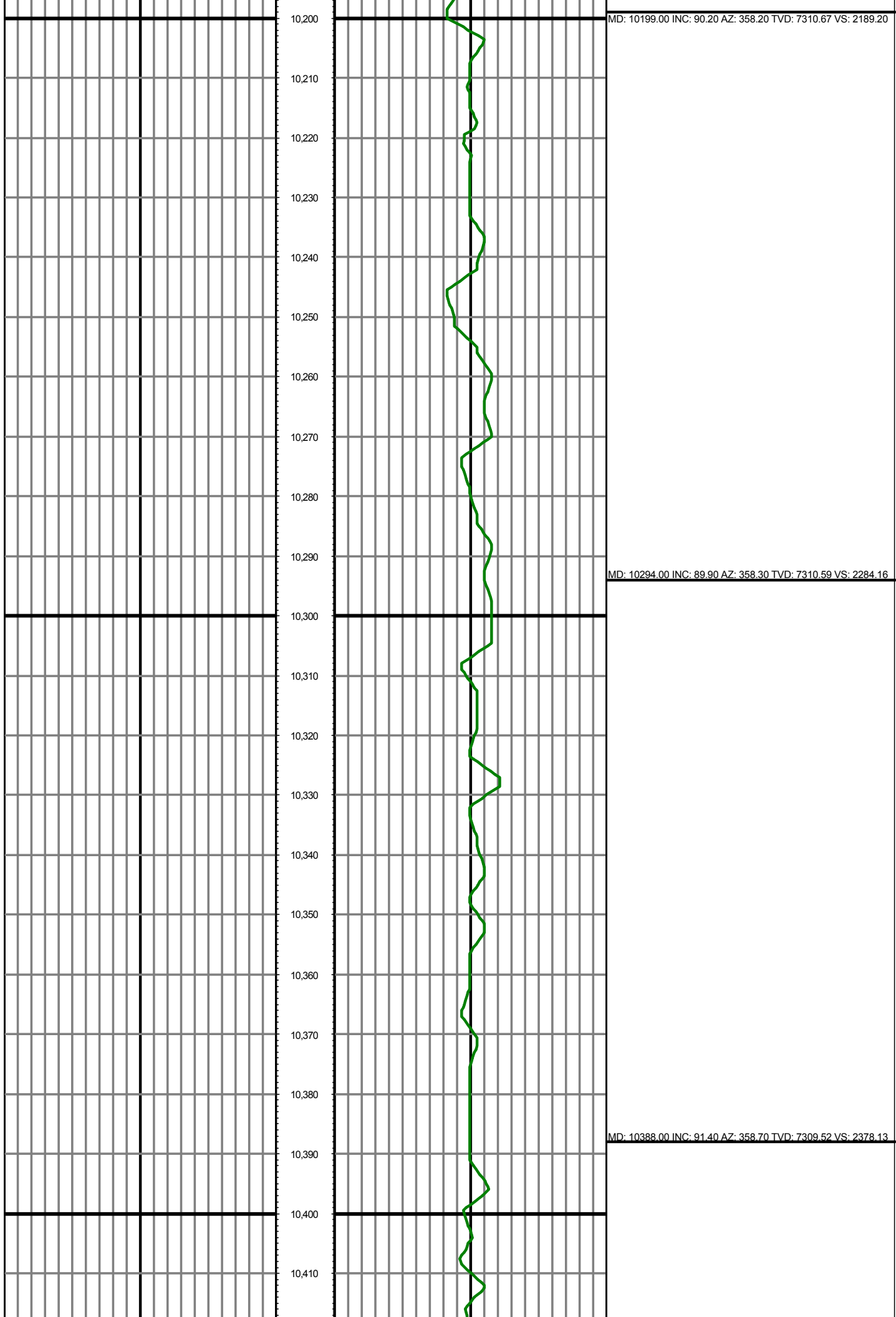
MD: 9821.00 INC: 92.30 AZ: 359.00 TVD: 7314.88 VS: 1811.37

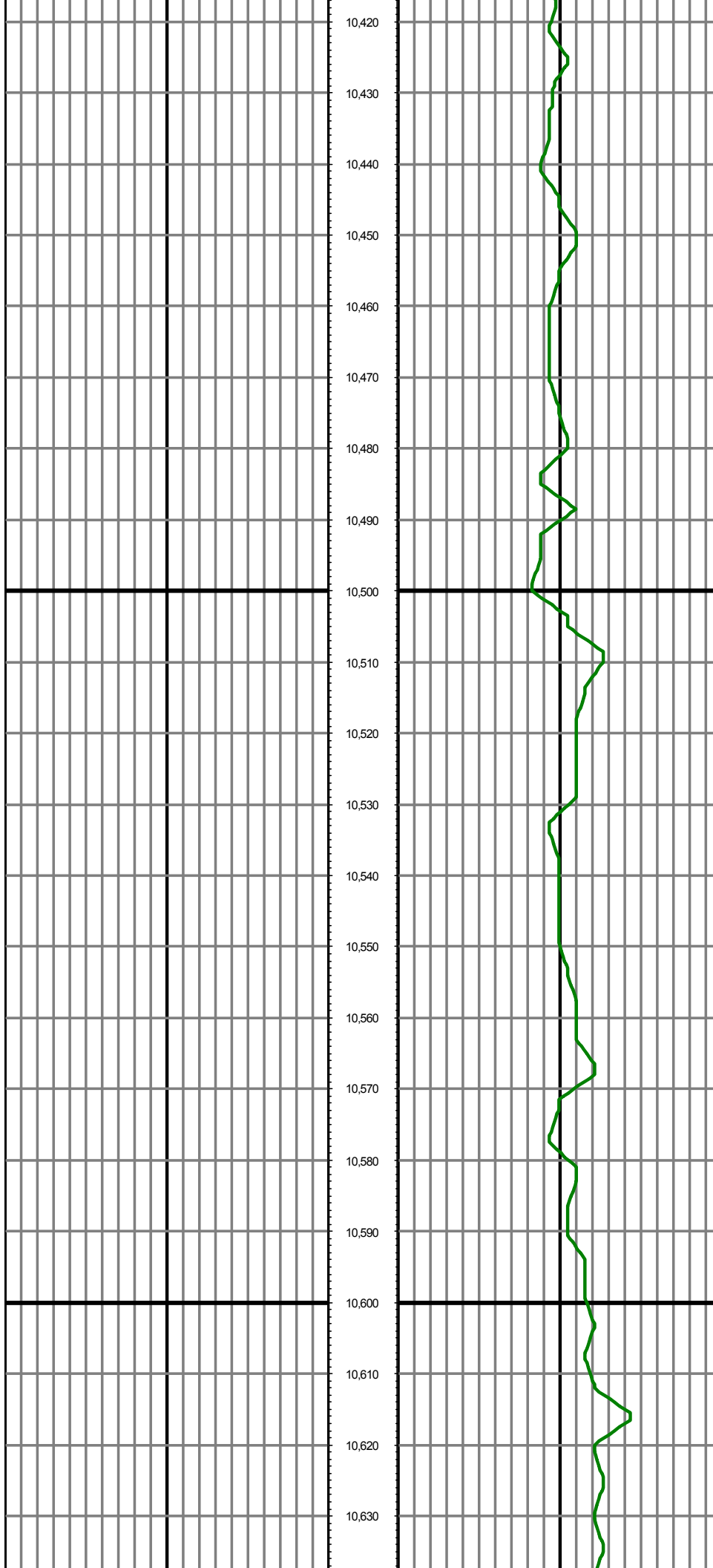
MD: 9916.00 INC: 91.60 AZ: 358.40 TVD: 7311.65 VS: 1906.30



MD: 10010.00 INC: 90.60 AZ: 358.90 TVD: 7309.85 VS: 2000.26

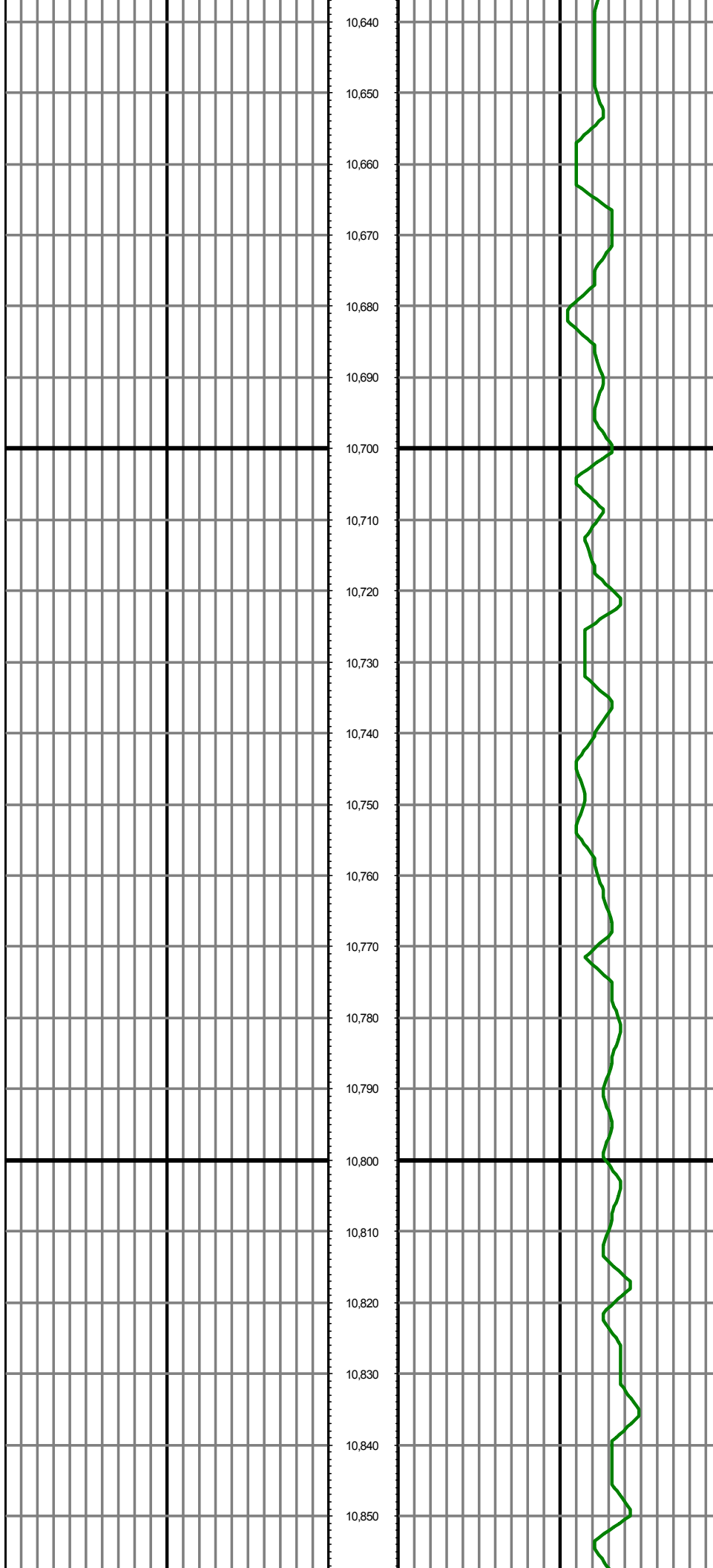
MD: 10104.00 INC: 89.10 AZ: 358.50 TVD: 7310.09 VS: 2094.24





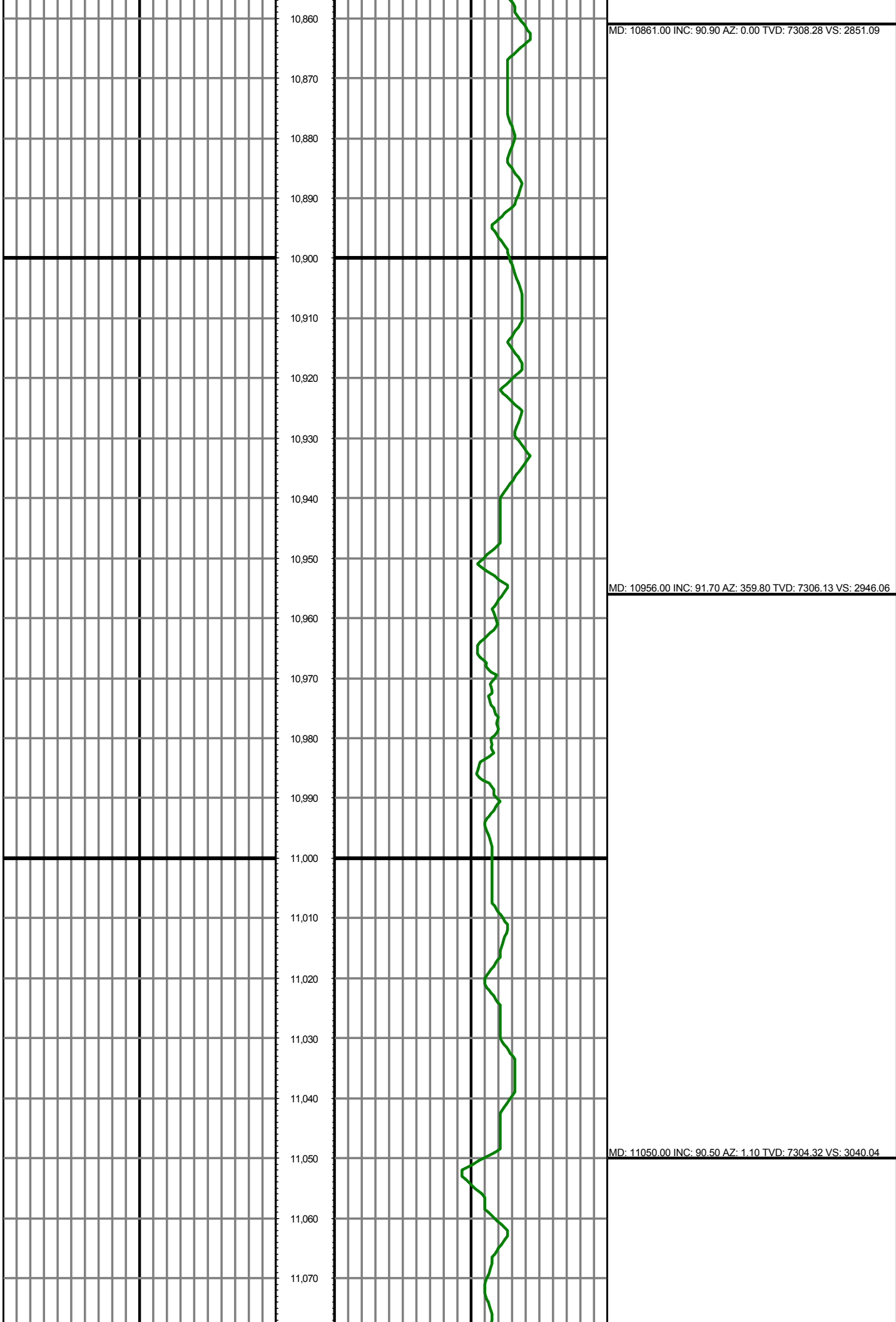
MD: 10483.00 INC: 89.20 AZ: 0.60 TVD: 7309.02 VS: 2473.11

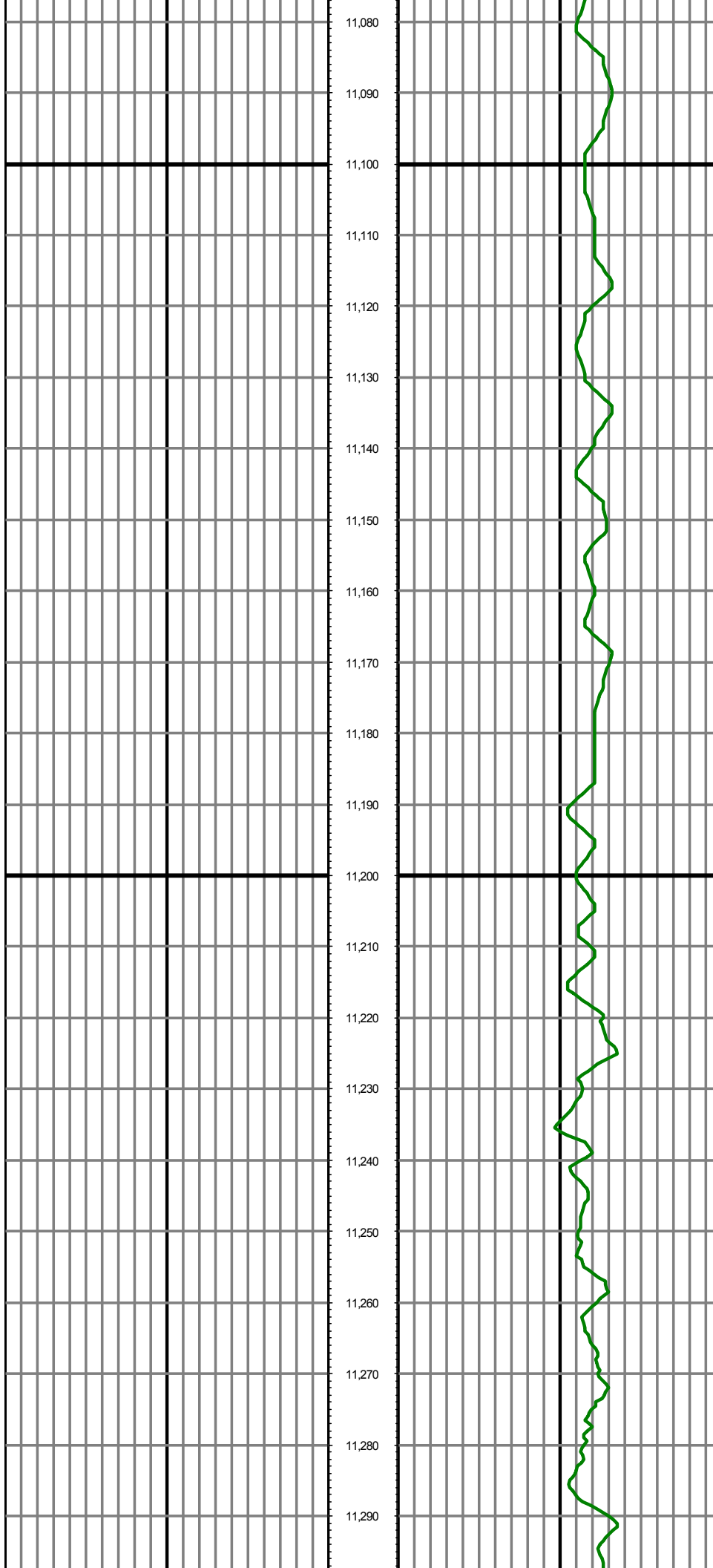
MD: 10577.00 INC: 90.10 AZ: 0.80 TVD: 7309.60 VS: 2567.10



MD: 10672.00 INC: 90.00 AZ: 0.10 TVD: 7309.52 VS: 2662.10

MD: 10767.00 INC: 90.30 AZ: 359.70 TVD: 7309.27 VS: 2757.09

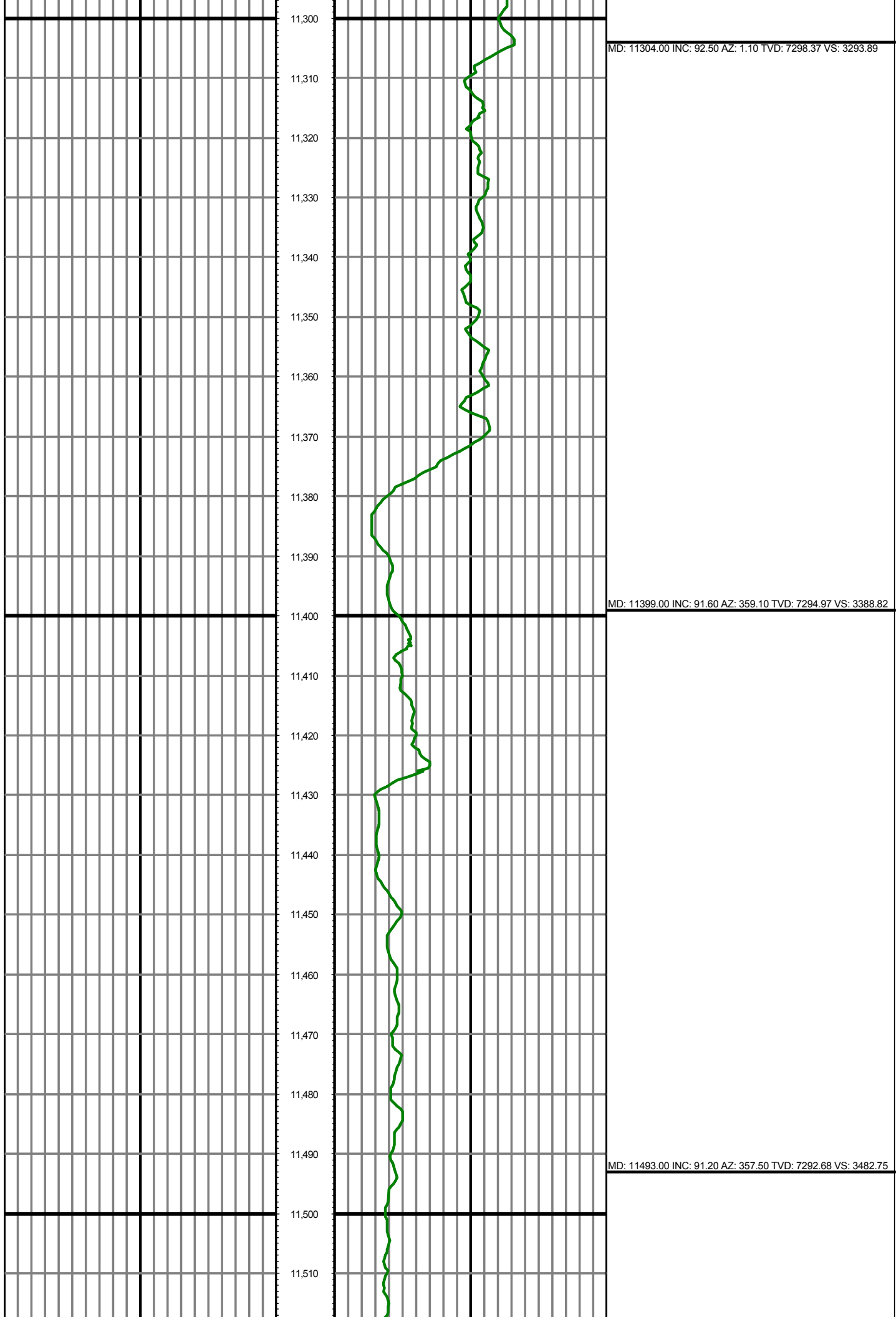


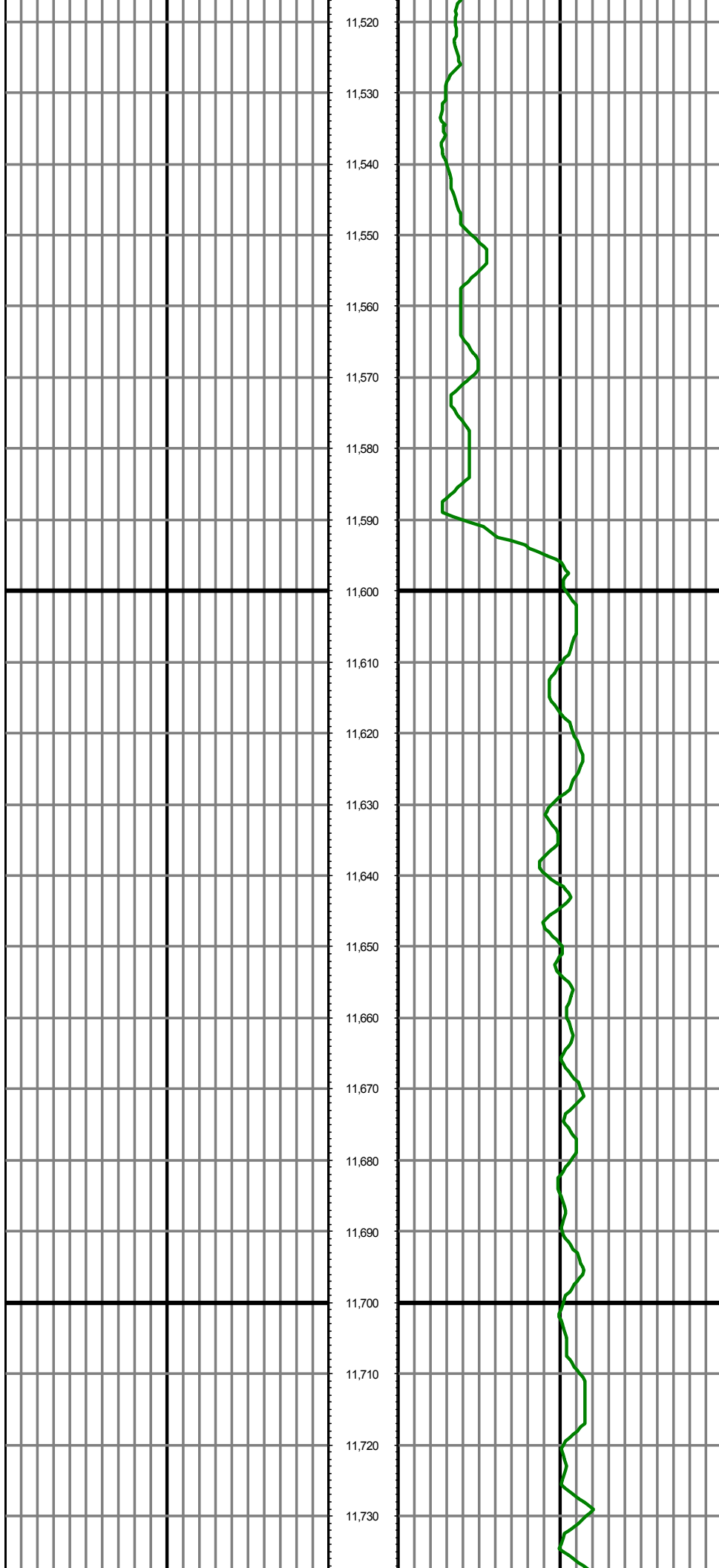


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MD: 11145.00 INC: 90.90 AZ: 1.00 TVD: 7303.16 VS: 3135.01

MD: 11239.00 INC: 91.90 AZ: 1.40 TVD: 7300.87 VS: 3228.96





MD: 11587.00 INC: 89.50 AZ: 358.20 TVD: 7292.10 VS: 3576.69

MD: 11682.00 INC: 89.60 AZ: 358.00 TVD: 7292.85 VS: 3671.64

