

**Premier Directional Drilling**

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

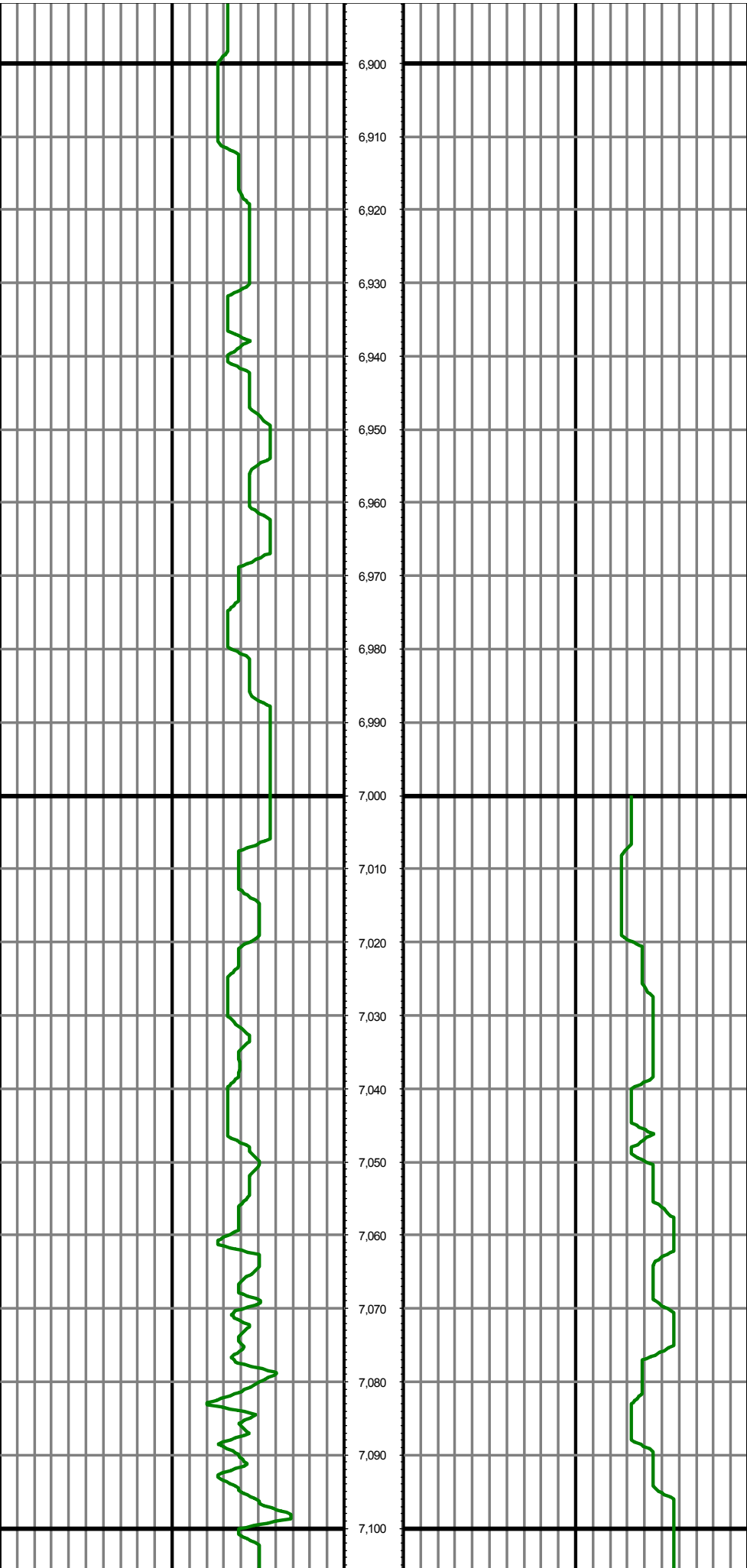
Troudt14C-33HZ**Scale 5":100' - MD****5/11/2015 7:23 AM****Oper. Company:** Anadarko Petroleum Corporation**State:** Coloardo**Well:** Troudt14C-33HZ**County:** Weld**Field:** Wattenburg /DJ Basin**Country:** USA**Rig:** H&P 311**Location:** 2N 67W SEC33**Well ID:** 05123392820000**Start Date:** 05/08/2015 15:00:00**Job Number:** R15193**End Date:** 05/11/2015 07:16:07

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

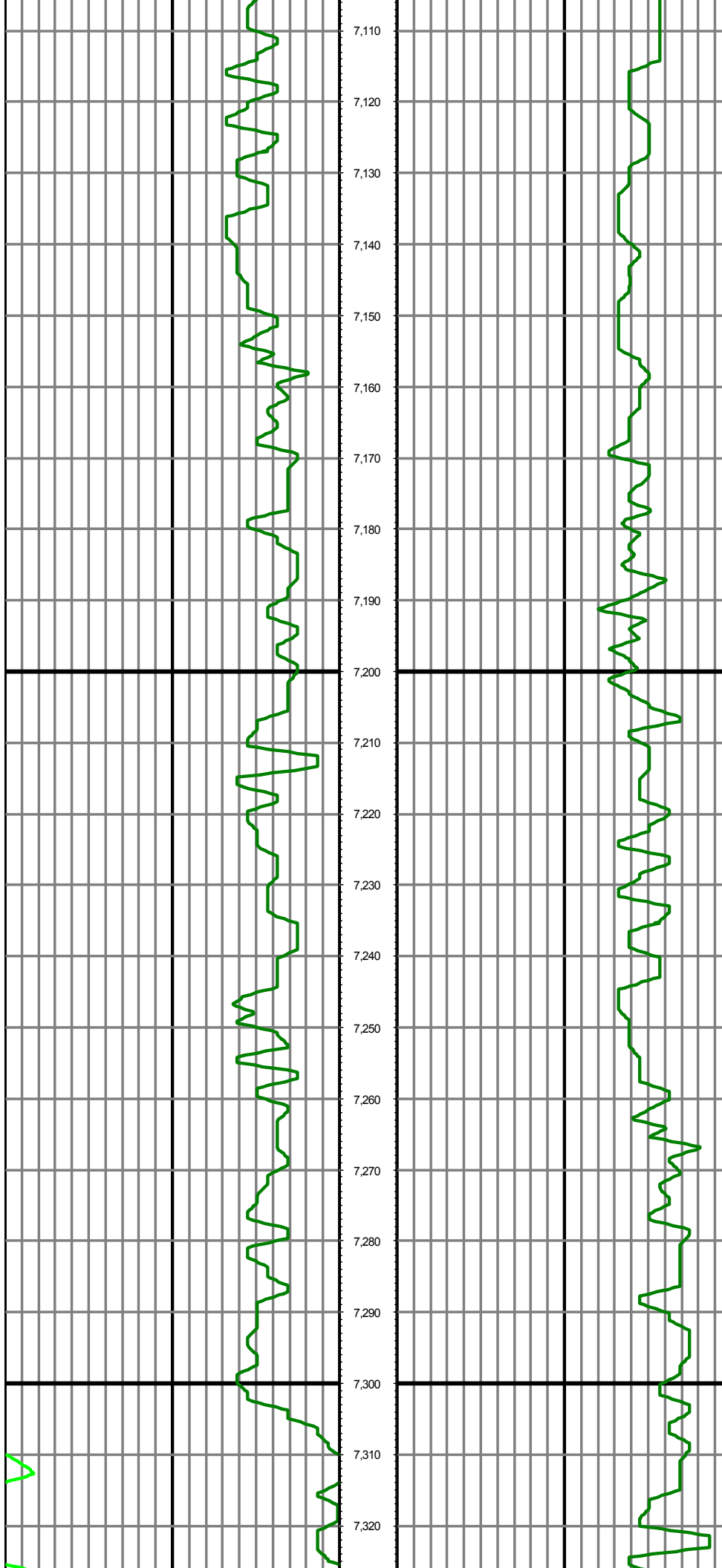
Latitude: 40.088399**Elev KB:** 5062'**Longitude:** -104.899537**Elev DF:** 5062'**Elev GL:** 5037'**Notes:** Datum: NAD 1983Map Zone: 13N (108 W to 102 W)Total Correction: 8.47° (Final Mag Var)Grid Convergence: 0.07°**Operator 1:** Mike Gunther**Operator 2:** Robert Grossman**Notes:** Smoothing: 7Gap Fill: 10Survey Tool Type: Mud PulseCalculation Method: Minimum Curvature

Tool Run Data	Run #1	Run #2	Run #3	Run #4	Run #5
Tool S/N	262	262			
Bit Size	8.50	8.5			
Cal Factor	6.02625	6.02625			
Gamma Offset	54.00	57.00			
Resisitivity Offset	0.00	0.00			
Start Depth	1206.00	11002.00			
StartDate	5/7/2015	5/9/2015			
StartTime	12:15 PM	11:10 PM			
EndDepth	11002.00	12749.00			
EndDate	5/9/2015	5/10/2015			
EndTime	7:45 PM	11:00 AM			
Mud Type	OBM	OBM			
Mud Weight	9.5	9.5			
Funnel Viscosity	61	61			
Plastic Viscosity	17	17			
Yield Point	9	9			
Gel Strength	NA	NA			
Solids Content	9.21	9.21			
Sand Content	NA	NA			
Mud Alkalinity	3.1	3.1			
Filtrate Alkalinity	NA	NA			
Chlorides	46000	46000			
Mud RM	NA	NA			
Mud RMF	NA	NA			
Mud RMC	NA	NA			
Mud RM at BHT	NA	NA			
Temperature	NA	NA			
Hole Data			Casing Data		
Size	From	To	Size	From	To
13.5	0.00	1206.00	9.625	0.00	1197.00
8.5	1206.00	12749.60	5.5	1197.00	12749.00

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: 7041.00 INC: 0.10 AZ: 132.80 TVD: 6932.80 VS: -690.45



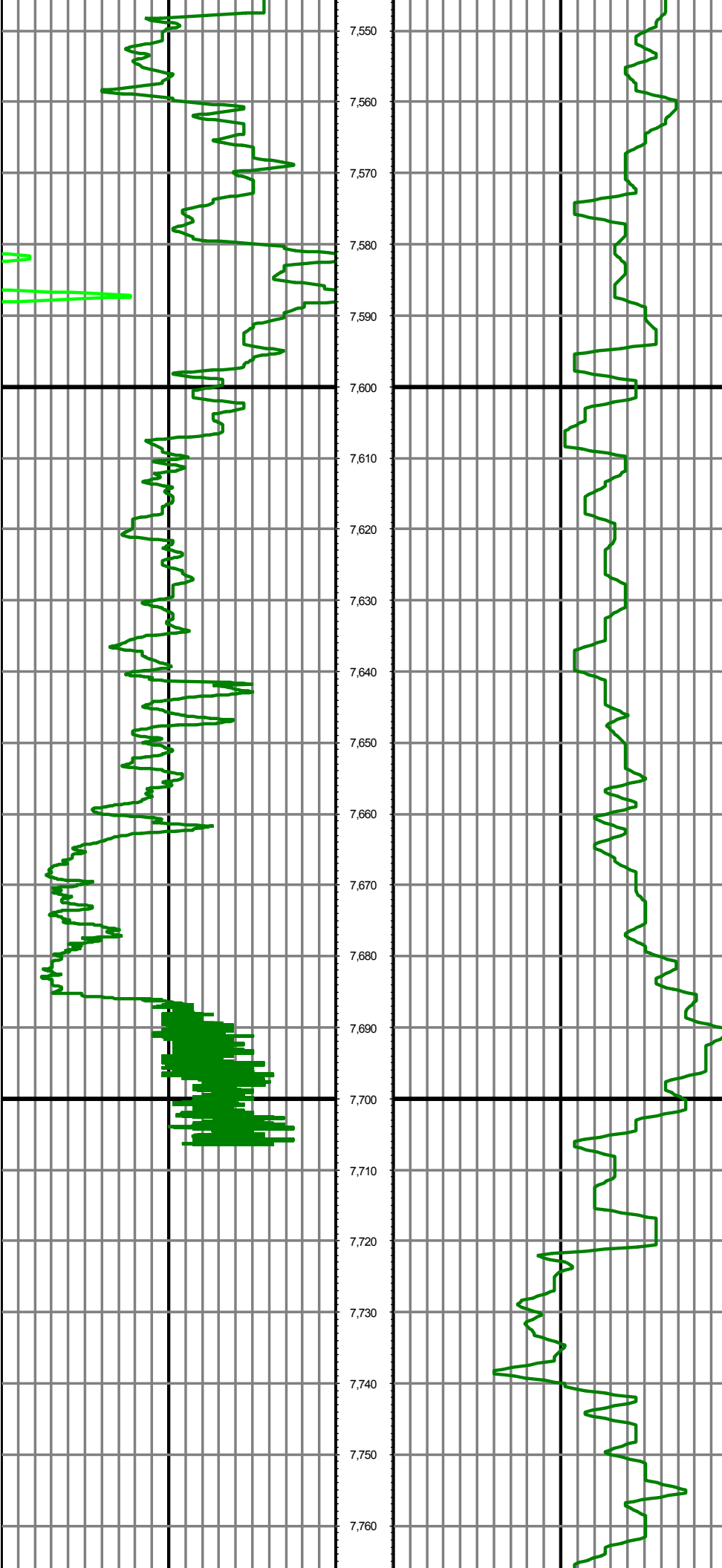
MD: 7230.00 INC: 4.00 AZ: 355.70 TVD: 7121.65 VS: -684.00

MD: 7325.00 INC: 13.40 AZ: 354.80 TVD: 7215.45 VS: -669.71

MD: 7325.00 INC: 13.40 AZ: 354.80 TVD: 7215.45 VS: -669.71

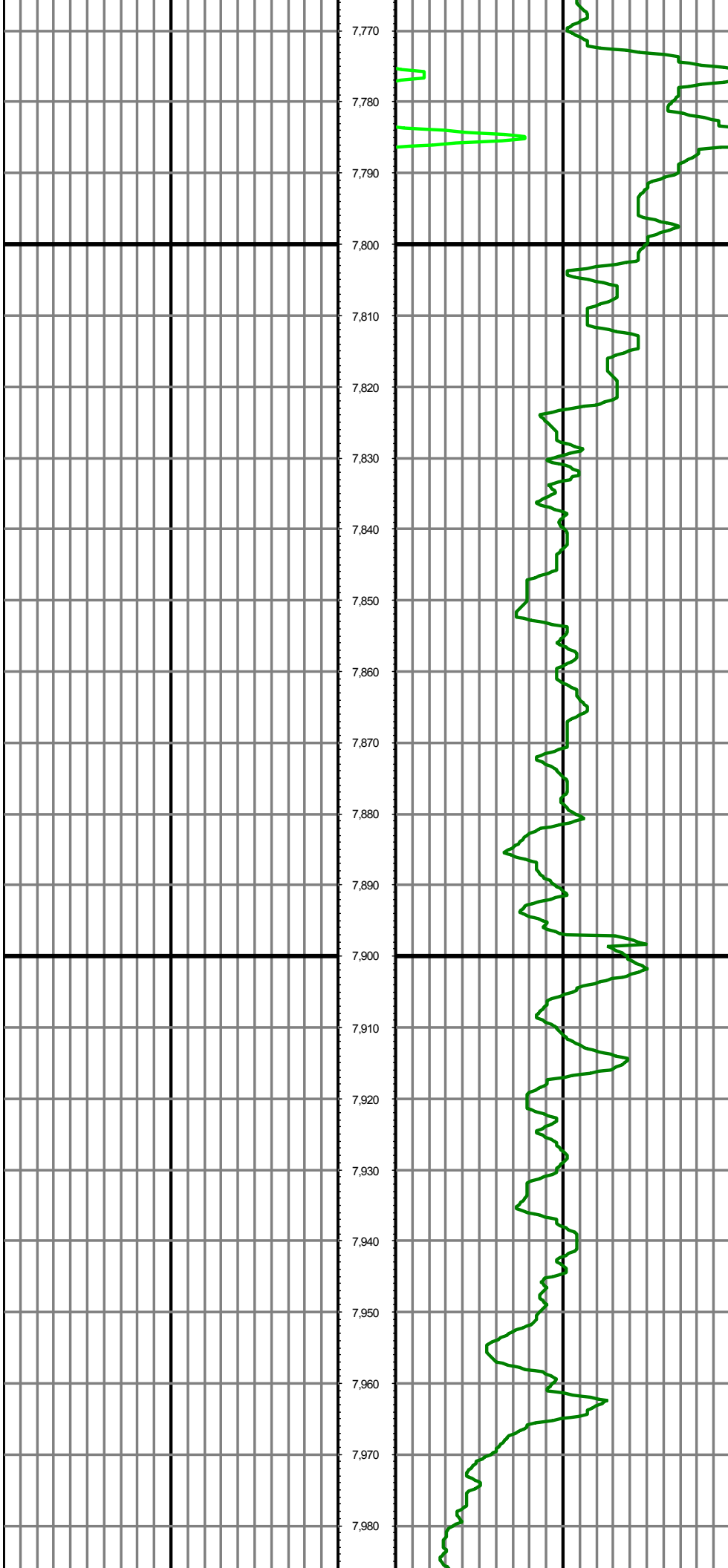
MD: 7420.00 INC: 19.90 AZ: 359.30 TVD: 7306.42 VS: -642.57

MD: 7514.00 INC: 30.30 AZ: 356.10 TVD: 7391.43 VS: -602.83



MD: 7609.00 INC: 40.40 AZ: 357.00 TVD: 7468.82 VS: -548.08

MD: 7704.00 INC: 47.50 AZ: 357.40 TVD: 7537.17 VS: -482.32



MD: 7798.00 INC: 56.00 AZ: 2.20 TVD: 7595.33 VS: -408.61

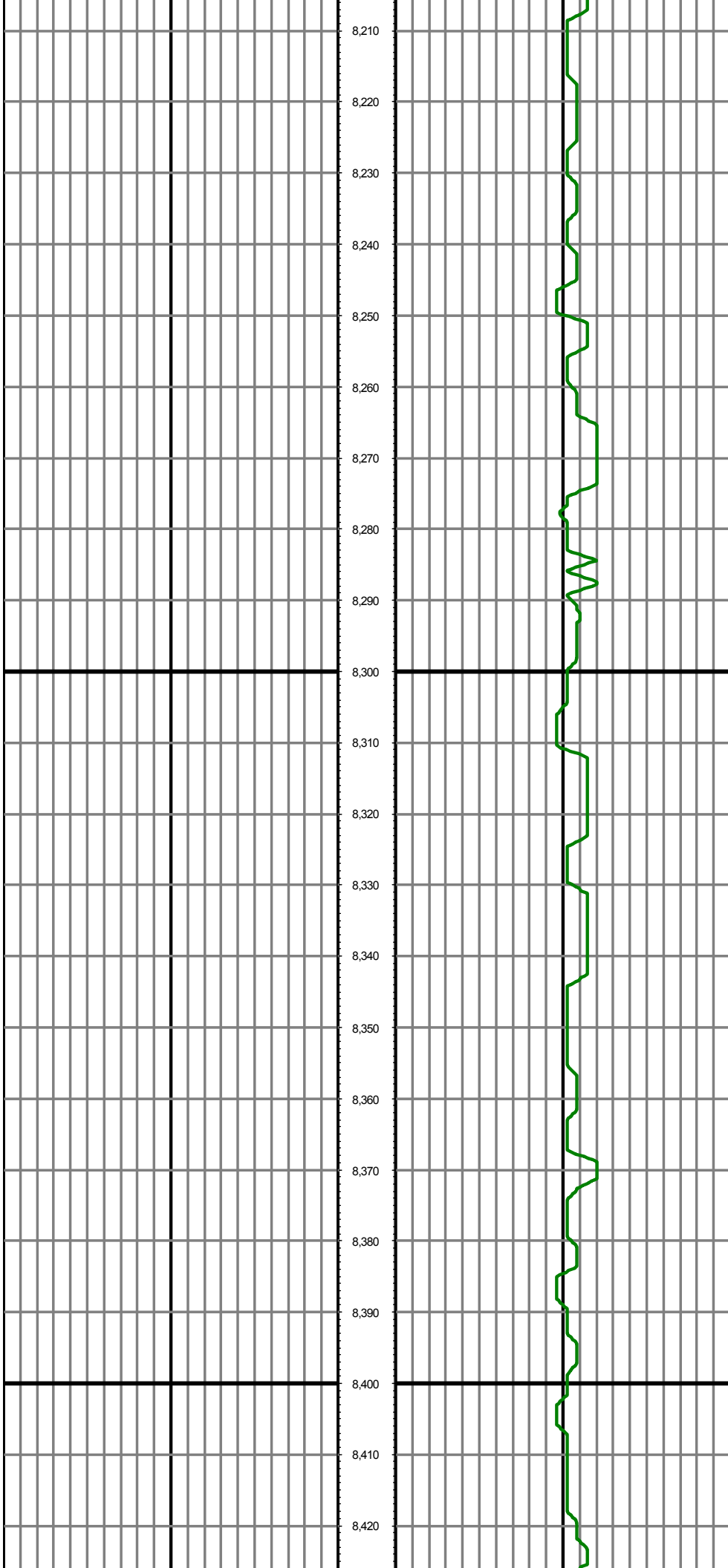
MD: 7893.00 INC: 67.60 AZ: 6.90 TVD: 7640.17 VS: -325.26

MD: 7997.00 INC: 76.20 AZ: 9.60 TVD: 7689.34 VS: -326.67

MD: 7987.00 INC: 76.20 AZ: 8.60 TVD: 7669.34 VS: -236.67

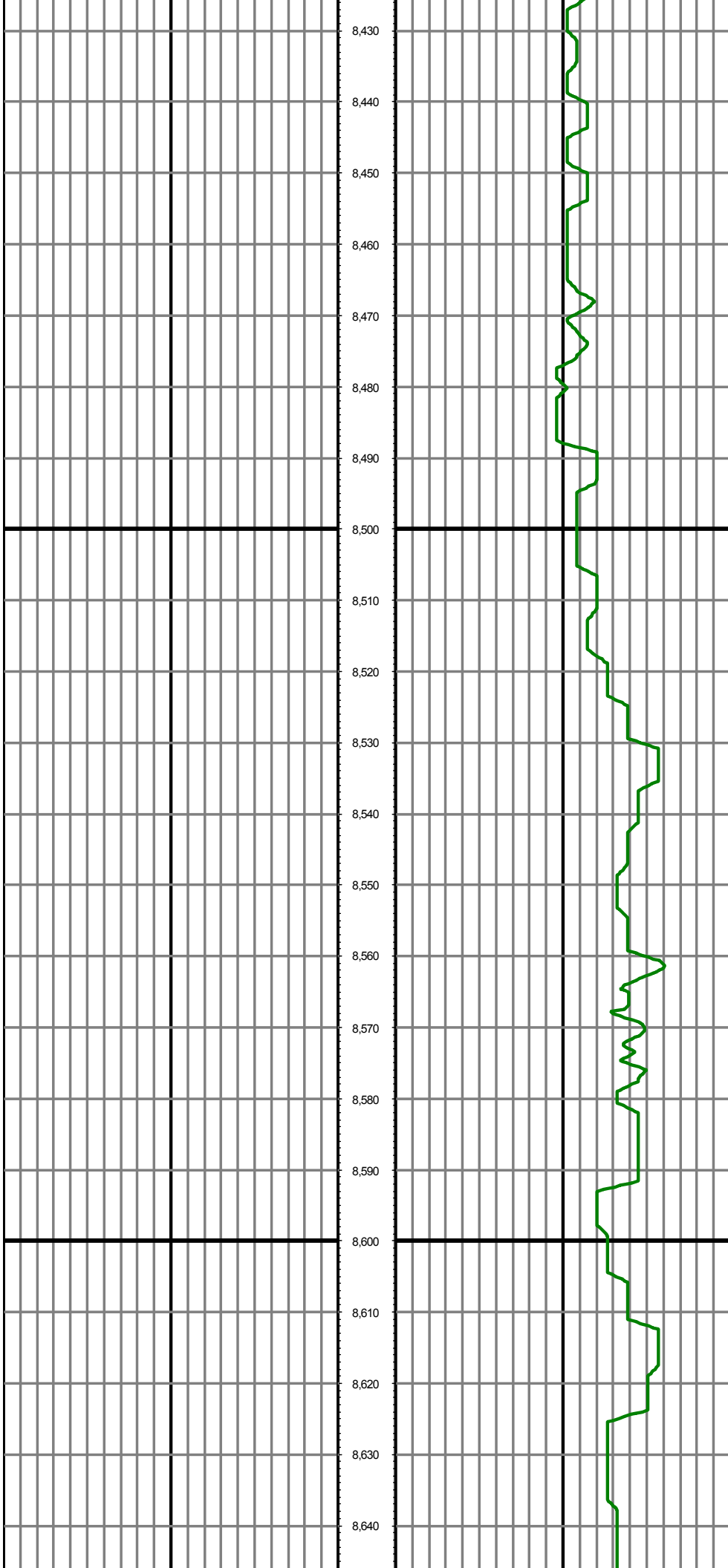
MD: 8082.00 INC: 84.90 AZ: 4.90 TVD: 7684.93 VS: -143.58

MD: 8177.00 INC: 87.30 AZ: 358.50 TVD: 7691.40 VS: -48.87



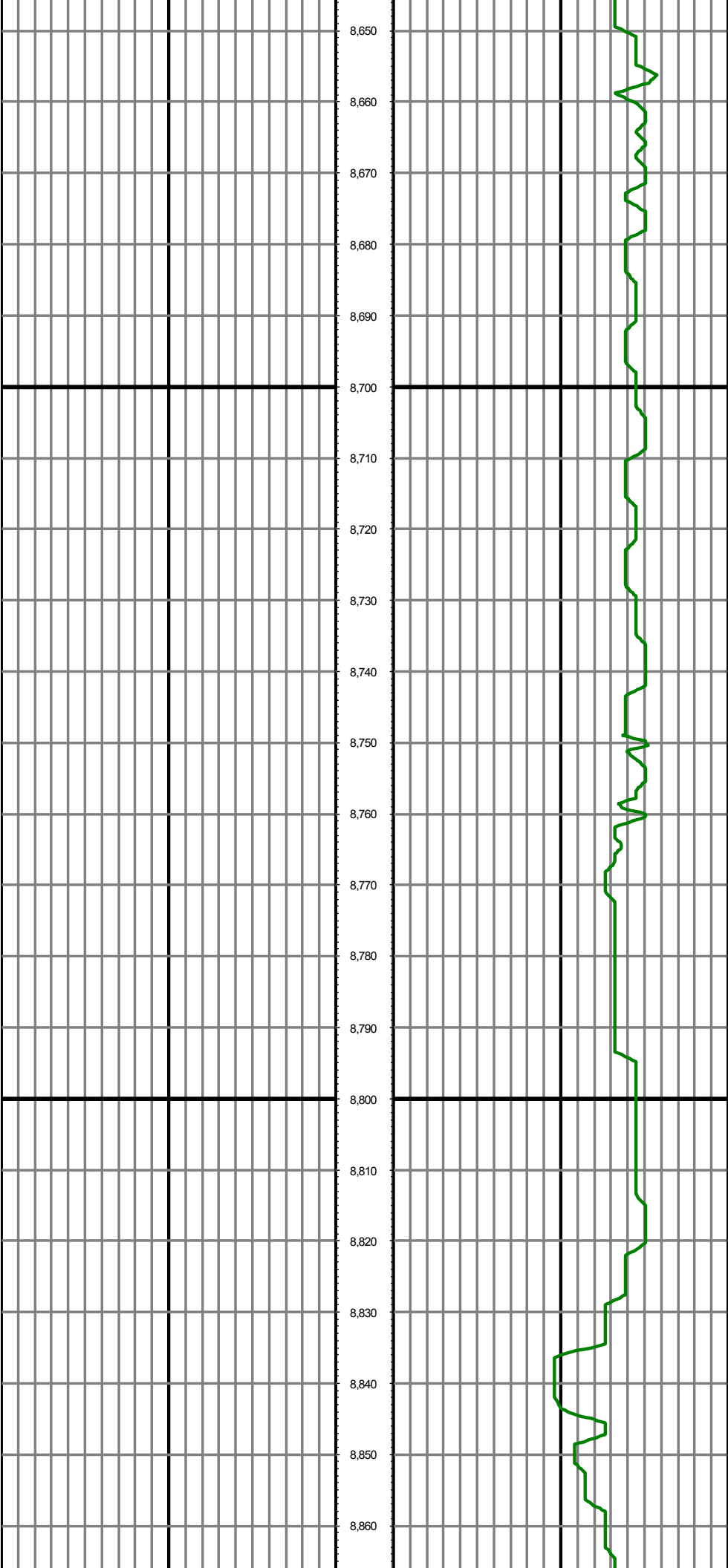
MD: 8271.00 INC: 88.00 AZ: 358.50 TVD: 7695.25 VS: 44.98

MD: 8366.00 INC: 90.50 AZ: 359.00 TVD: 7696.50 VS: 139.91



MD: 8461.00 INC: 89.60 AZ: 355.20 TVD: 7696.42 VS: 234.70

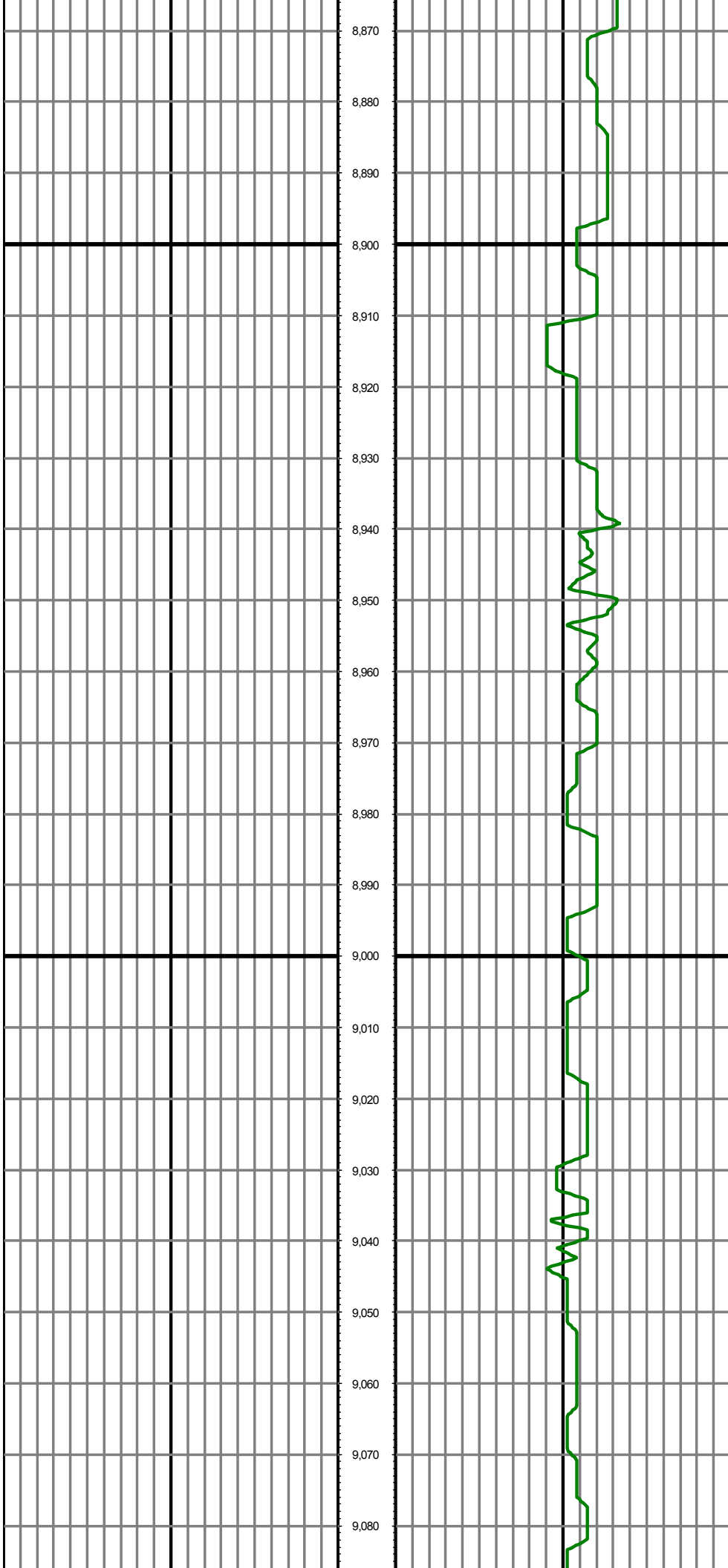
MD: 8555.00 INC: 89.00 AZ: 355.90 TVD: 7697.56 VS: 328.31



MD: 8650.00 INC: 90.30 AZ: 358.90 TVD: 7698.14 VS: 423.13

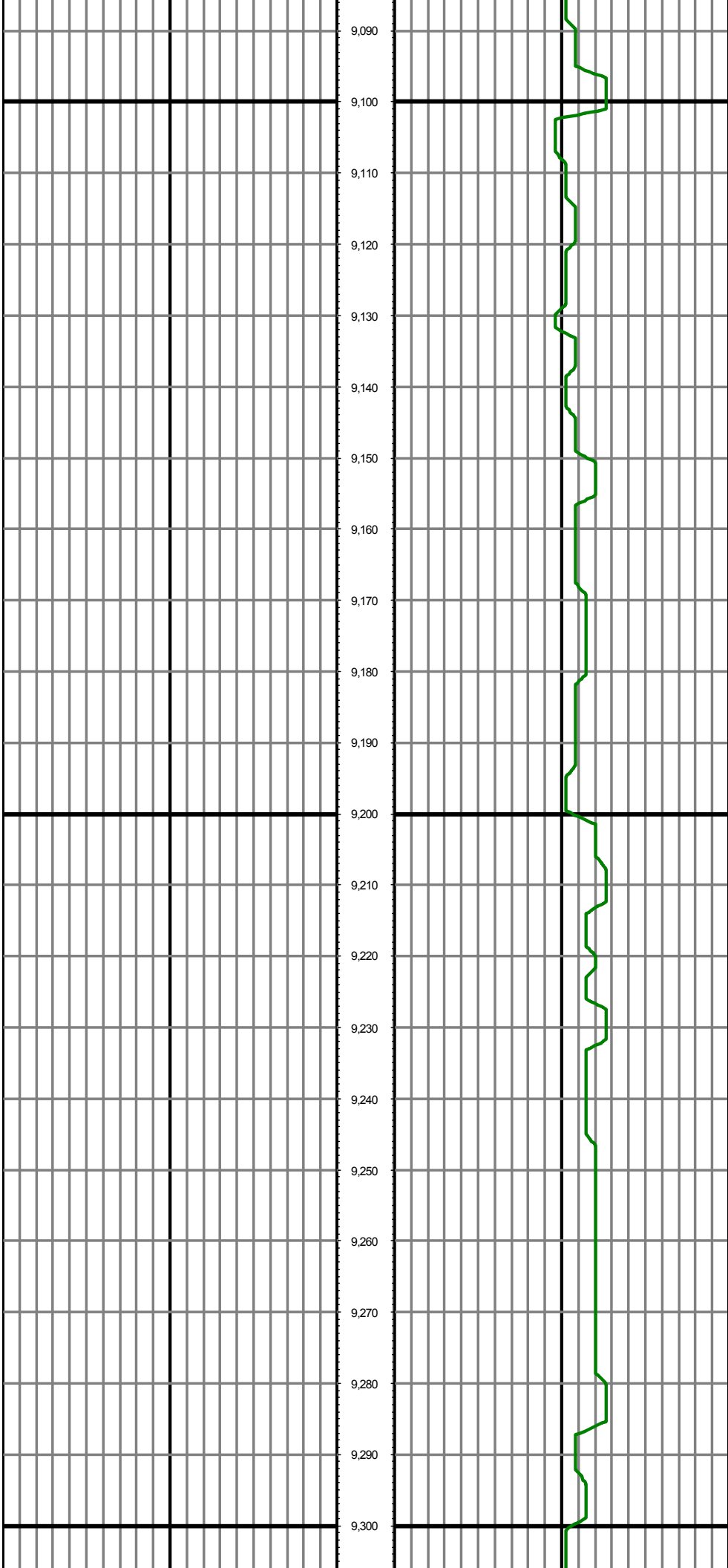
MD: 8744.00 INC: 90.70 AZ: 0.70 TVD: 7697.32 VS: 517.11

MD: 8839.00 INC: 92.30 AZ: 2.70 TVD: 7694.84 VS: 612.06



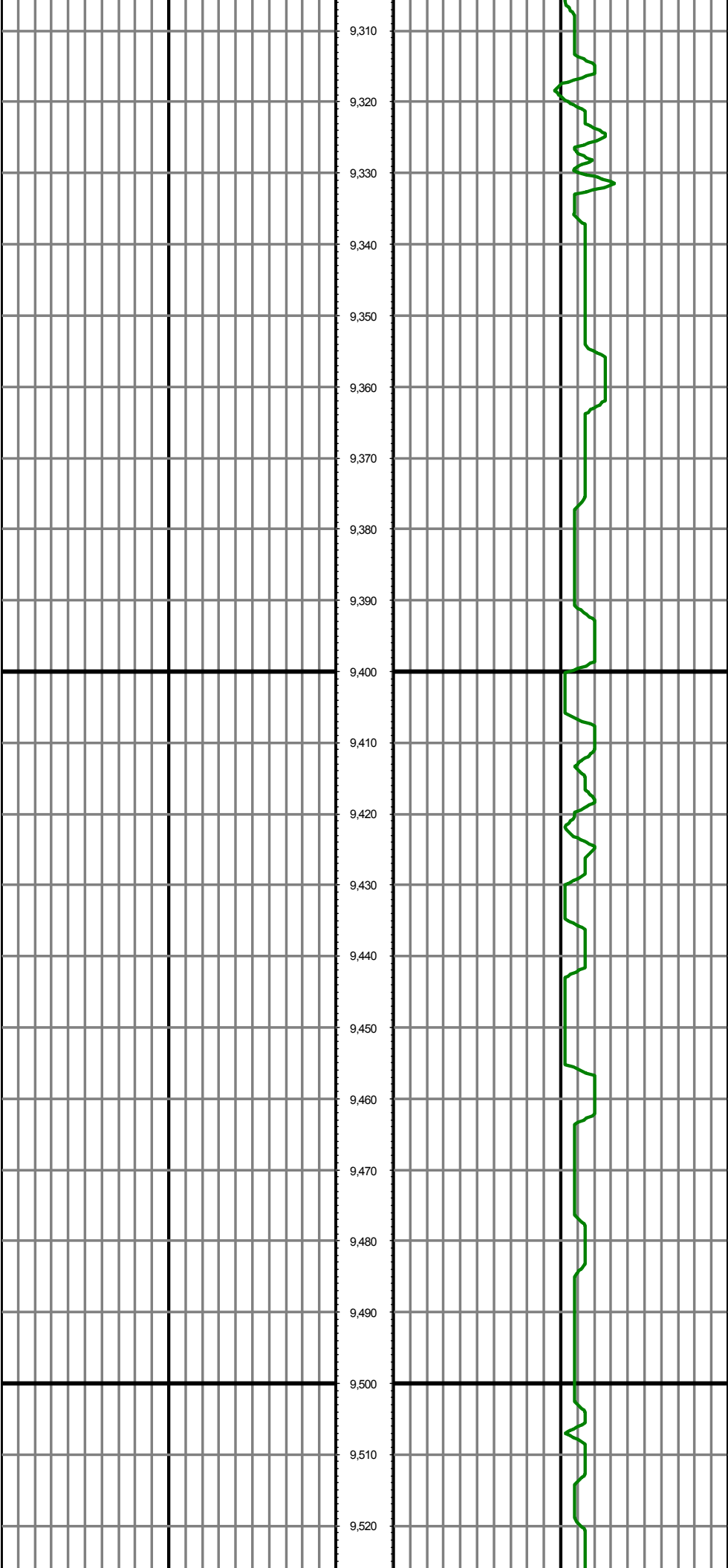
MD: 8933.00 INC: 93.60 AZ: 1.70 TVD: 7690.00 VS: 705.90

MD: 9028.00 INC: 90.20 AZ: 1.30 TVD: 7686.85 VS: 800.82



MD: 9123.00 INC: 87.60 AZ: 0.50 TVD: 7688.67 VS: 895.80

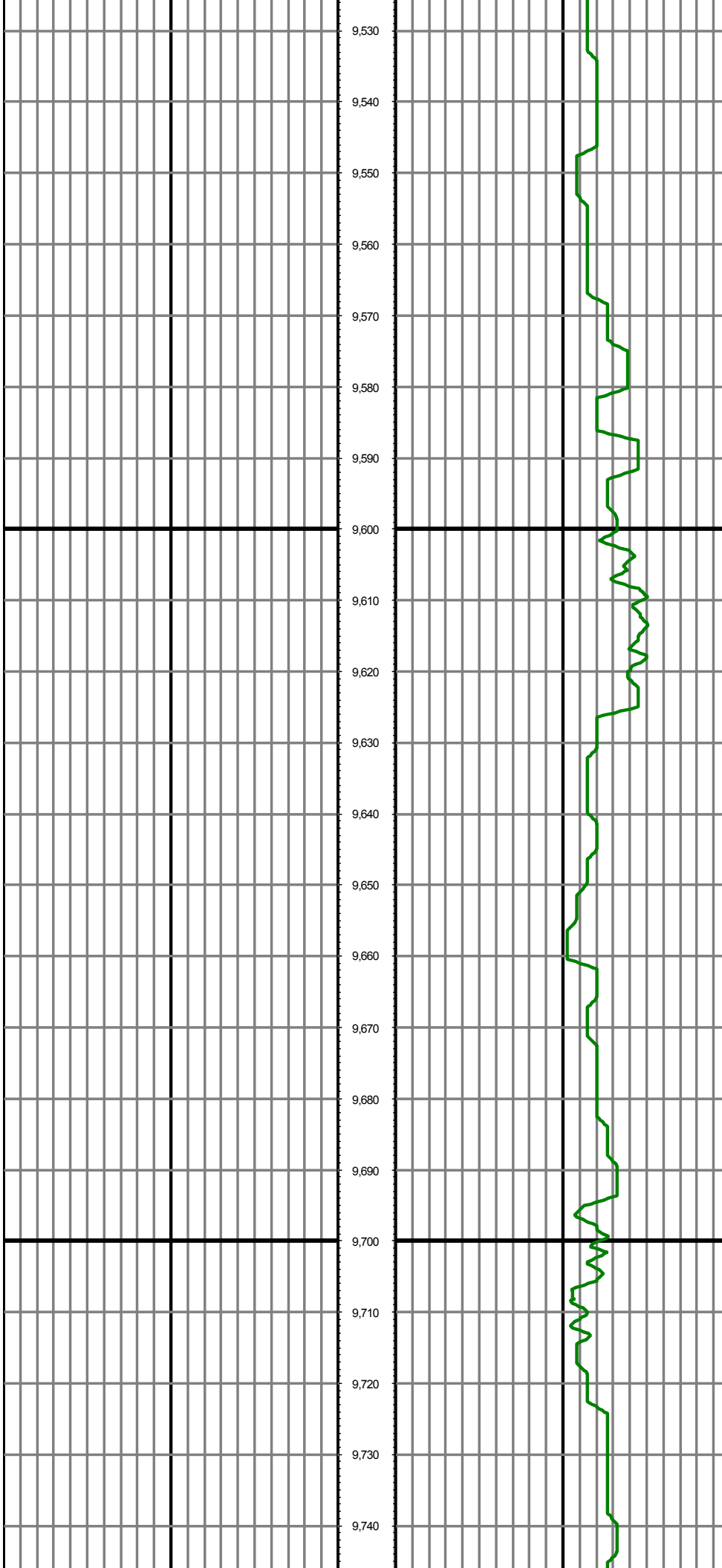
MD: 9217.00 INC: 88.90 AZ: 359.90 TVD: 7691.54 VS: 989.75



MD: 9312.00 INC: 91.30 AZ: 359.60 TVD: 7691.38 VS: 1084.72

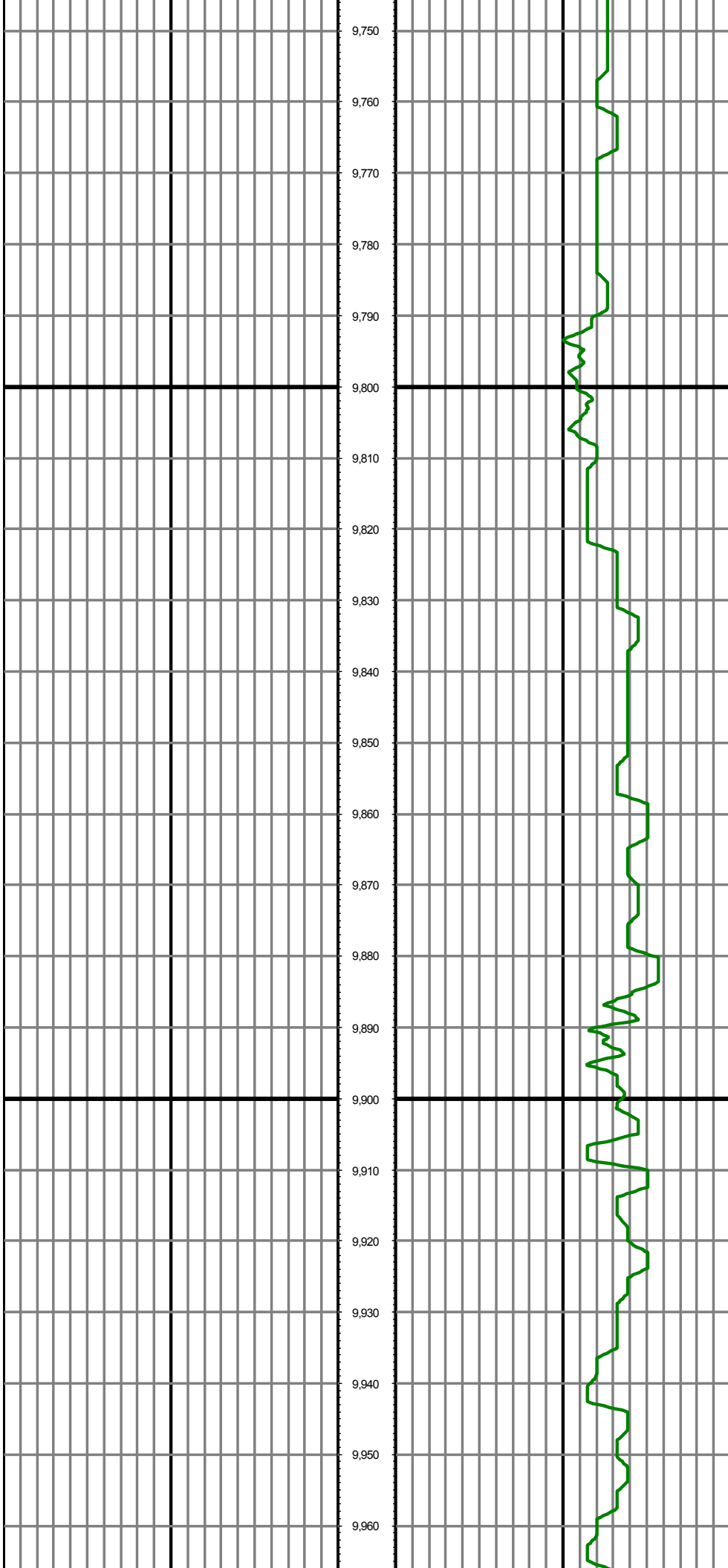
MD: 9406.00 INC: 89.40 AZ: 359.60 TVD: 7690.80 VS: 1178.70

MD: 9501.00 INC: 86.90 AZ: 359.20 TVD: 7693.87 VS: 1273.62



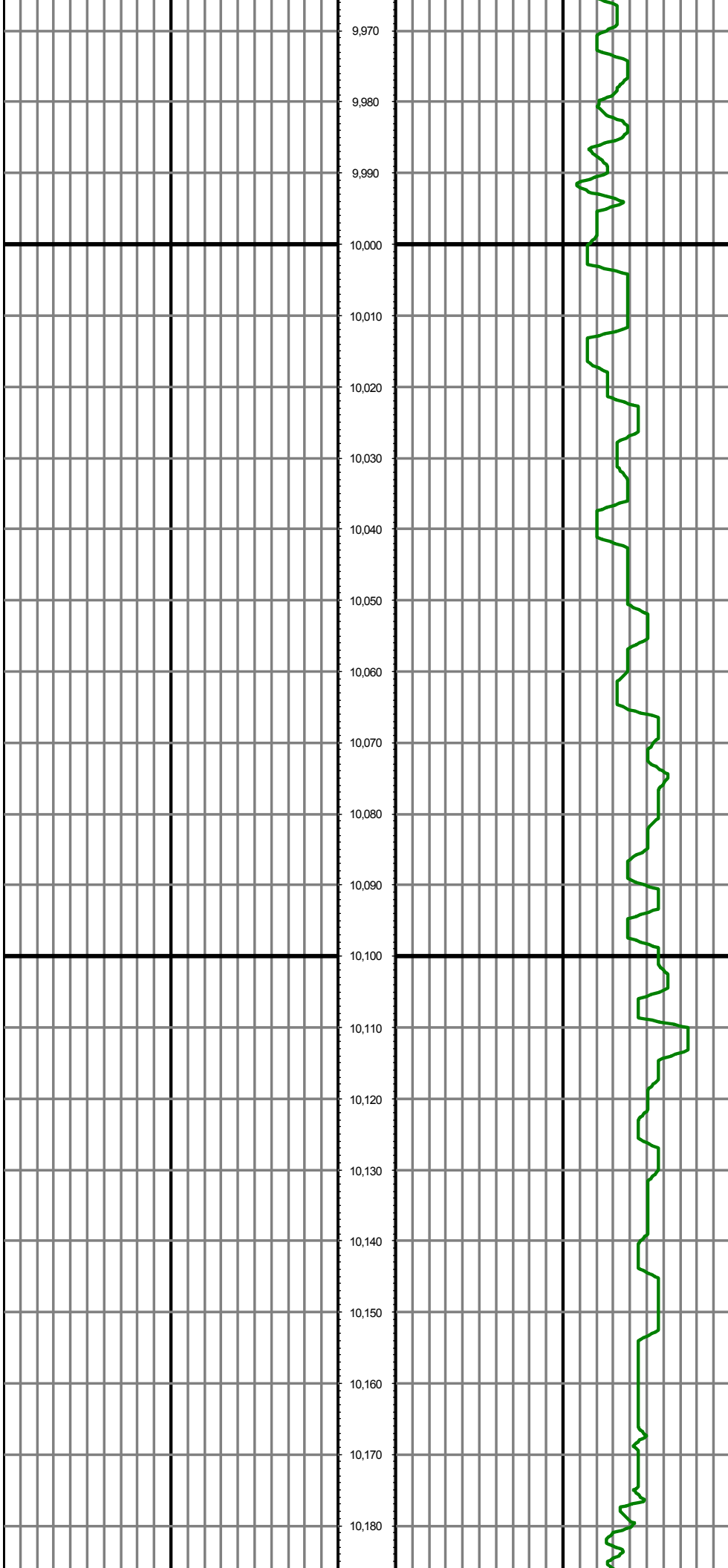
MD: 9595.00 INC: 87.70 AZ: 357.20 TVD: 7698.30 VS: 1367.42

MD: 9690.00 INC: 87.90 AZ: 358.40 TVD: 7701.95 VS: 1462.22



MD: 9784.00 INC: 89.90 AZ: 357.30 TVD: 7703.75 VS: 1556.08

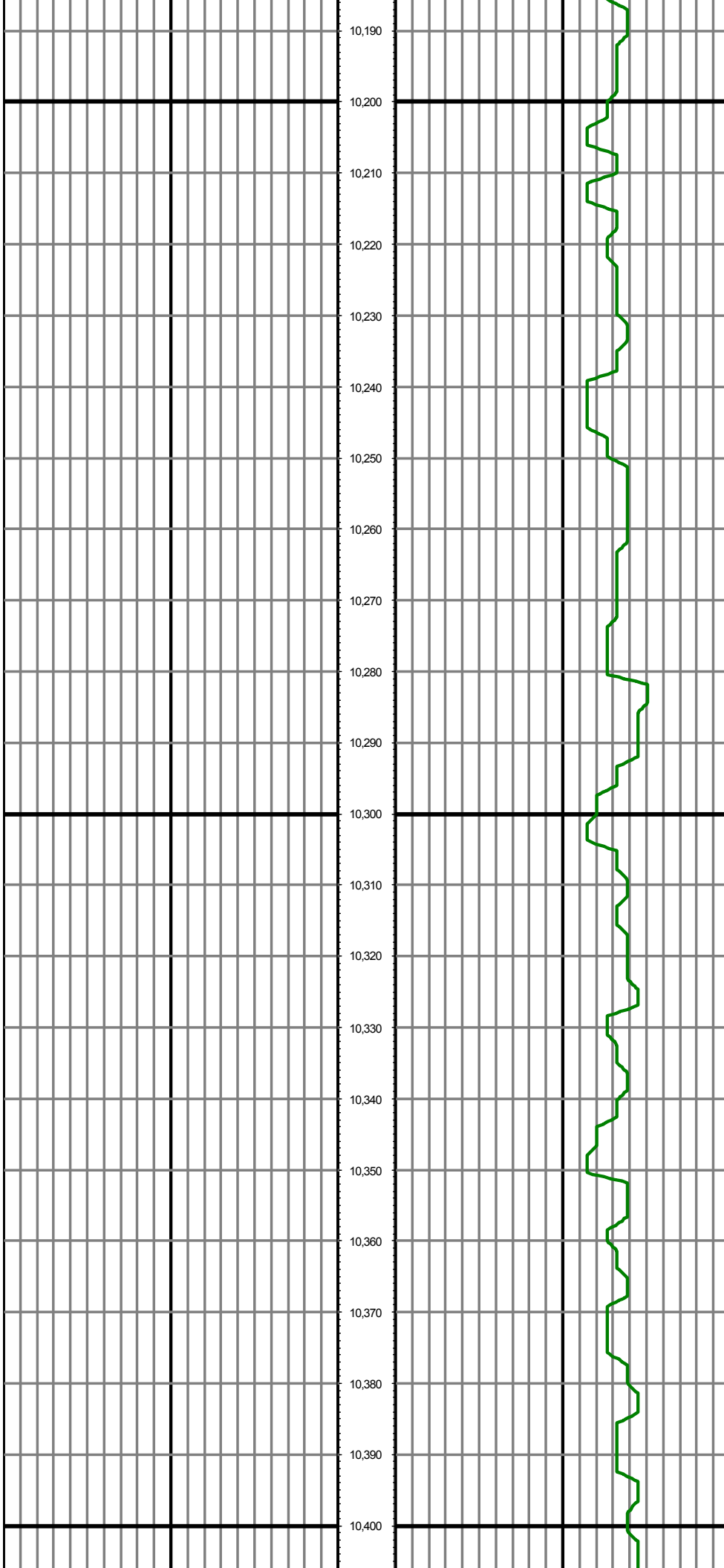
MD: 9879.00 INC: 88.60 AZ: 359.50 TVD: 7704.99 VS: 1650.98



MD: 9973.00 INC: 89.80 AZ: 1.70 TVD: 7706.31 VS: 1744.97

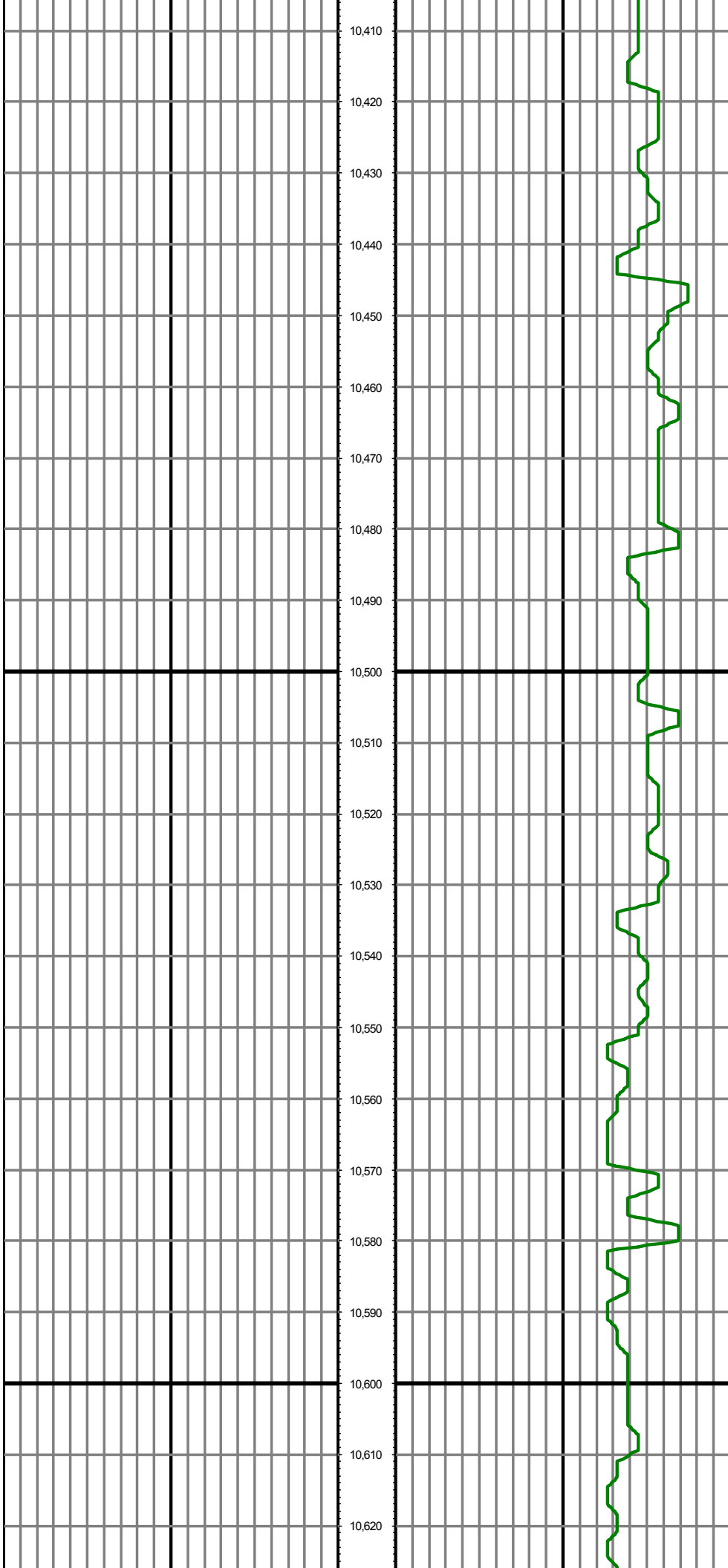
MD: 10068.00 INC: 89.90 AZ: 3.20 TVD: 7706.55 VS: 1839.92

MD: 10162.00 INC: 92.10 AZ: 2.60 TVD: 7704.91 VS: 1933.83



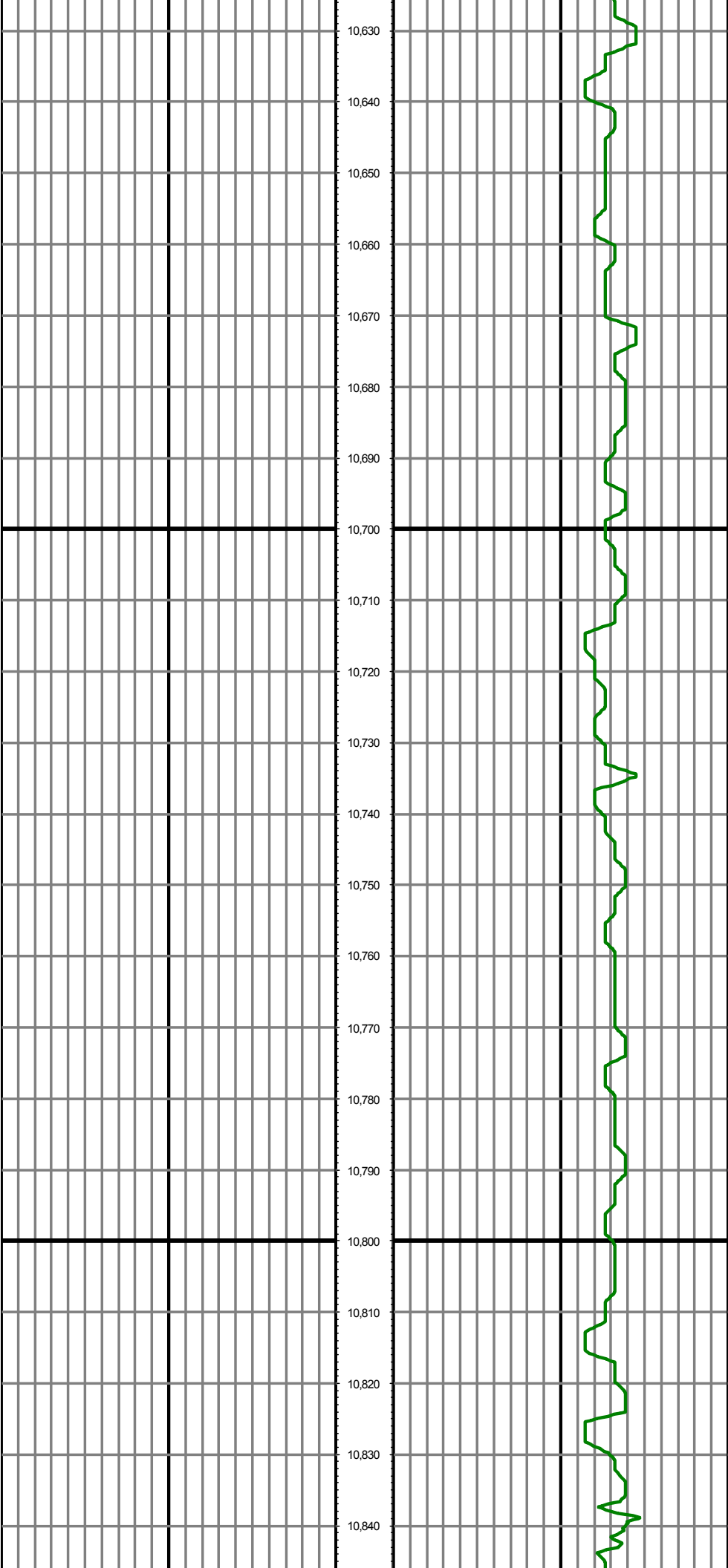
MD: 10257.00 INC: 89.80 AZ: 2.80 TVD: 7703.34 VS: 2028.76

MD: 10351.00 INC: 89.70 AZ: 2.60 TVD: 7703.75 VS: 2122.70



MD: 10446.00 INC: 89.80 AZ: 2.40 TVD: 7704.16 VS: 2217.65

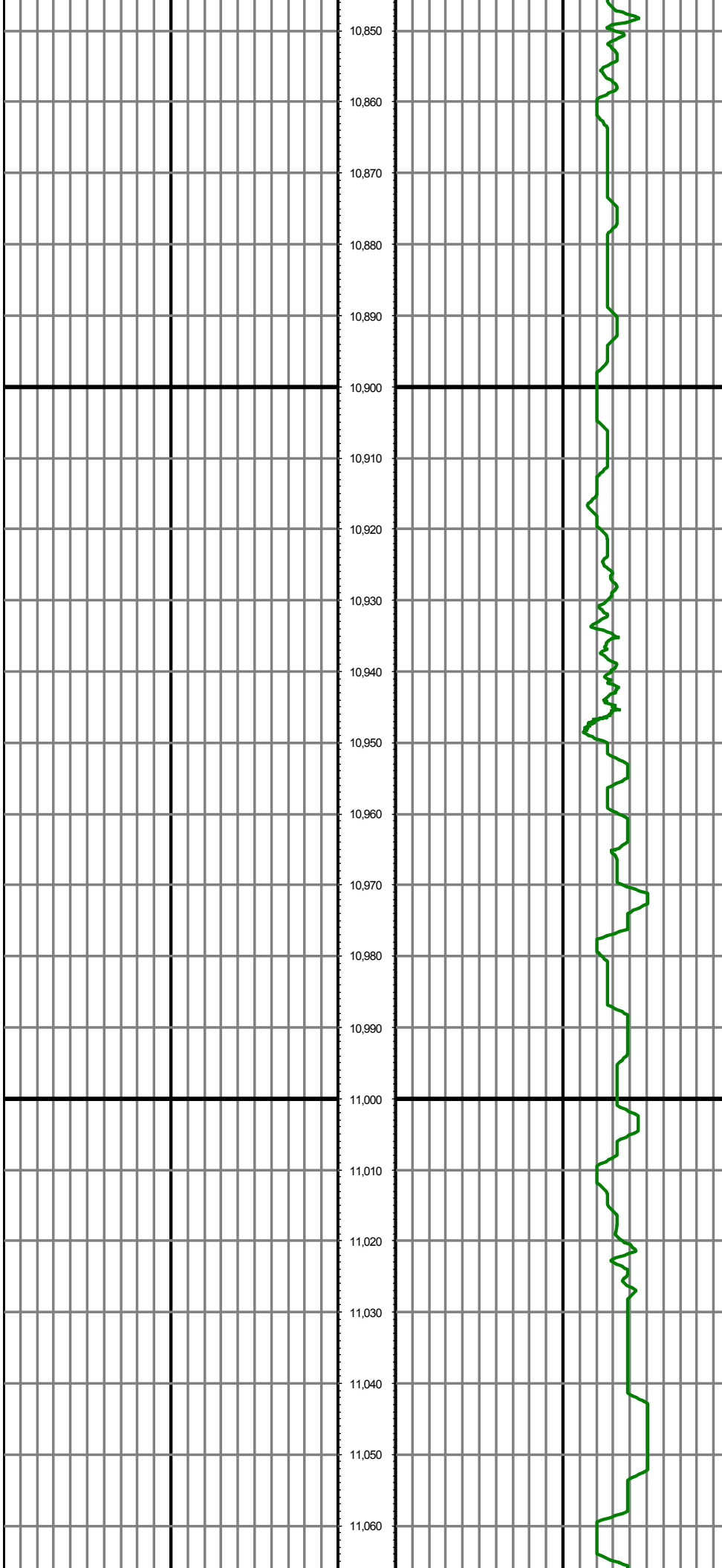
MD: 10541.00 INC: 91.10 AZ: 2.80 TVD: 7703.42 VS: 2312.60



MD: 10635.00 INC: 91.10 AZ: 2.90 TVD: 7701.61 VS: 2406.52

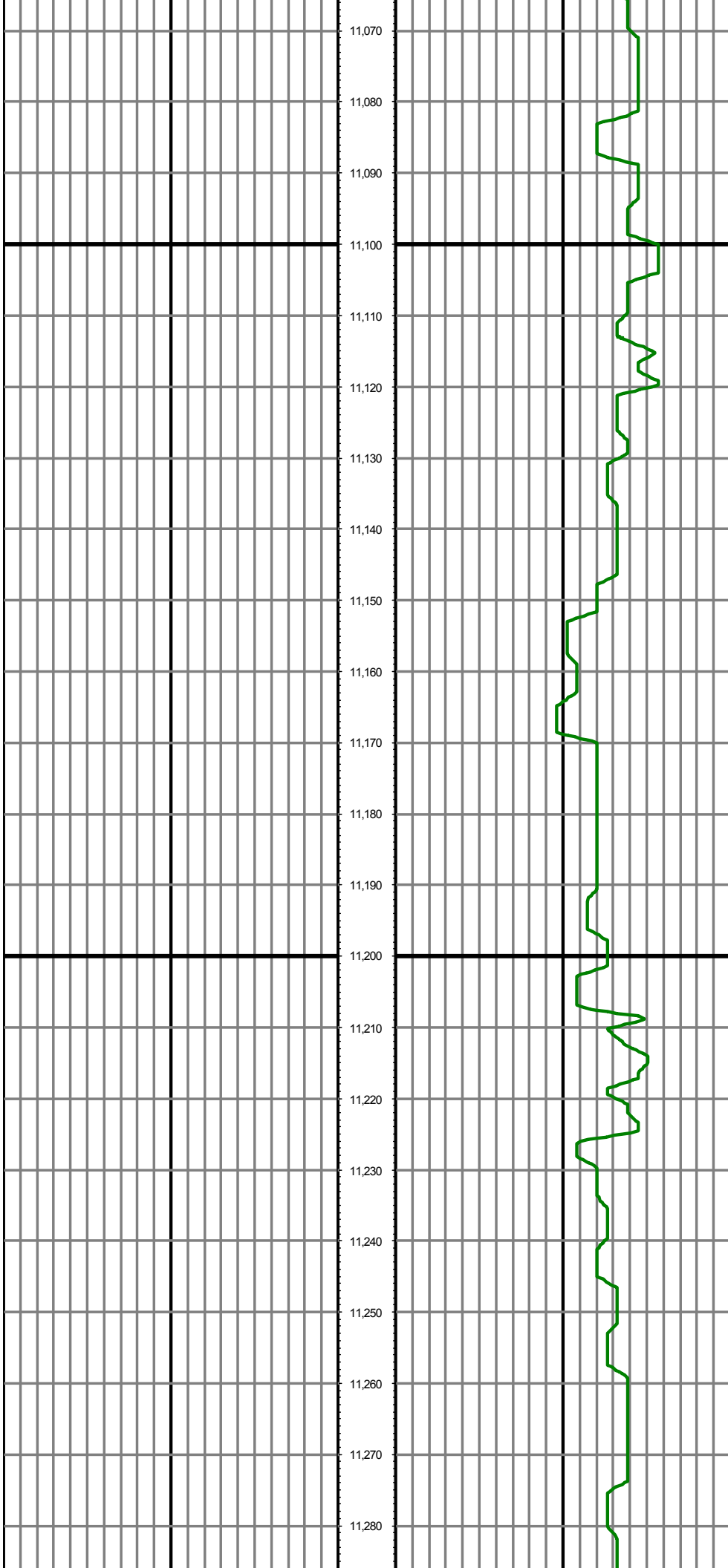
MD: 10730.00 INC: 91.00 AZ: 3.00 TVD: 7699.87 VS: 2501.43

MD: 10824.00 INC: 91.00 AZ: 3.30 TVD: 7698.23 VS: 2595.33



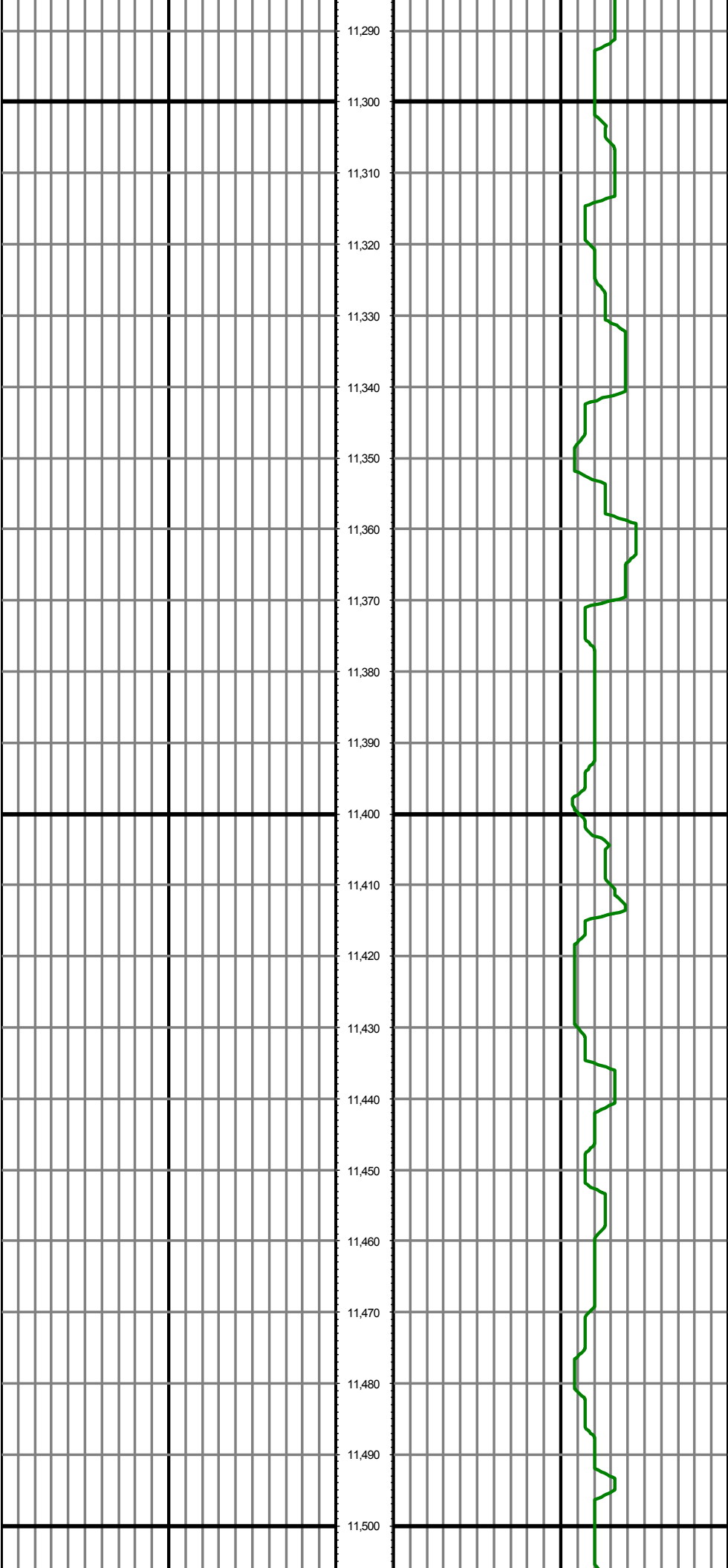
MD: 10919.00 INC: 90.20 AZ: 0.30 TVD: 7697.24 VS: 2690.30

MD: 11013.00 INC: 90.50 AZ: 359.80 TVD: 7696.66 VS: 2784.29



MD: 11107.00 INC: 91.30 AZ: 0.40 TVD: 7695.19 VS: 2878.27

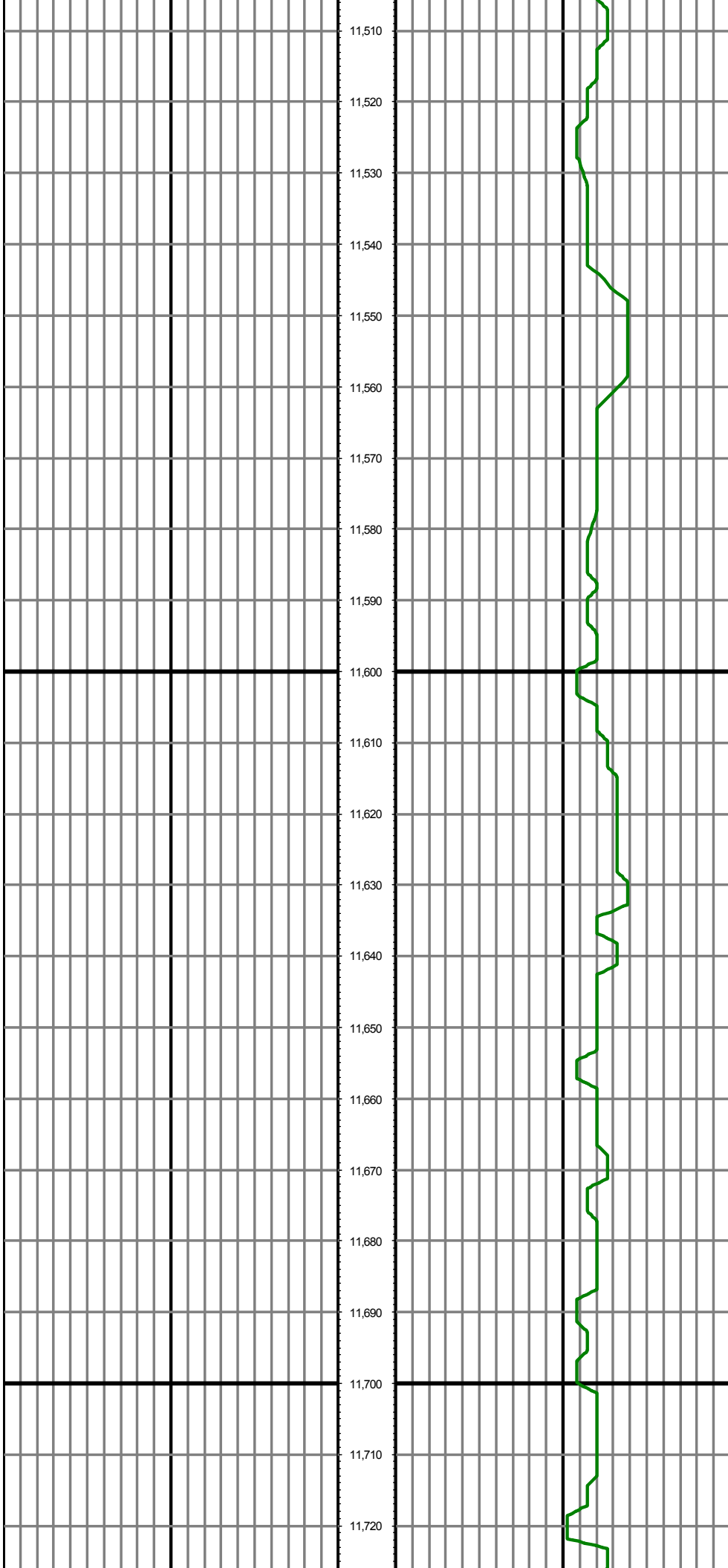
MD: 11202.00 INC: 90.90 AZ: 0.90 TVD: 7693.36 VS: 2973.25



MD: 11297.00 INC: 90.00 AZ: 1.10 TVD: 7692.62 VS: 3068.25

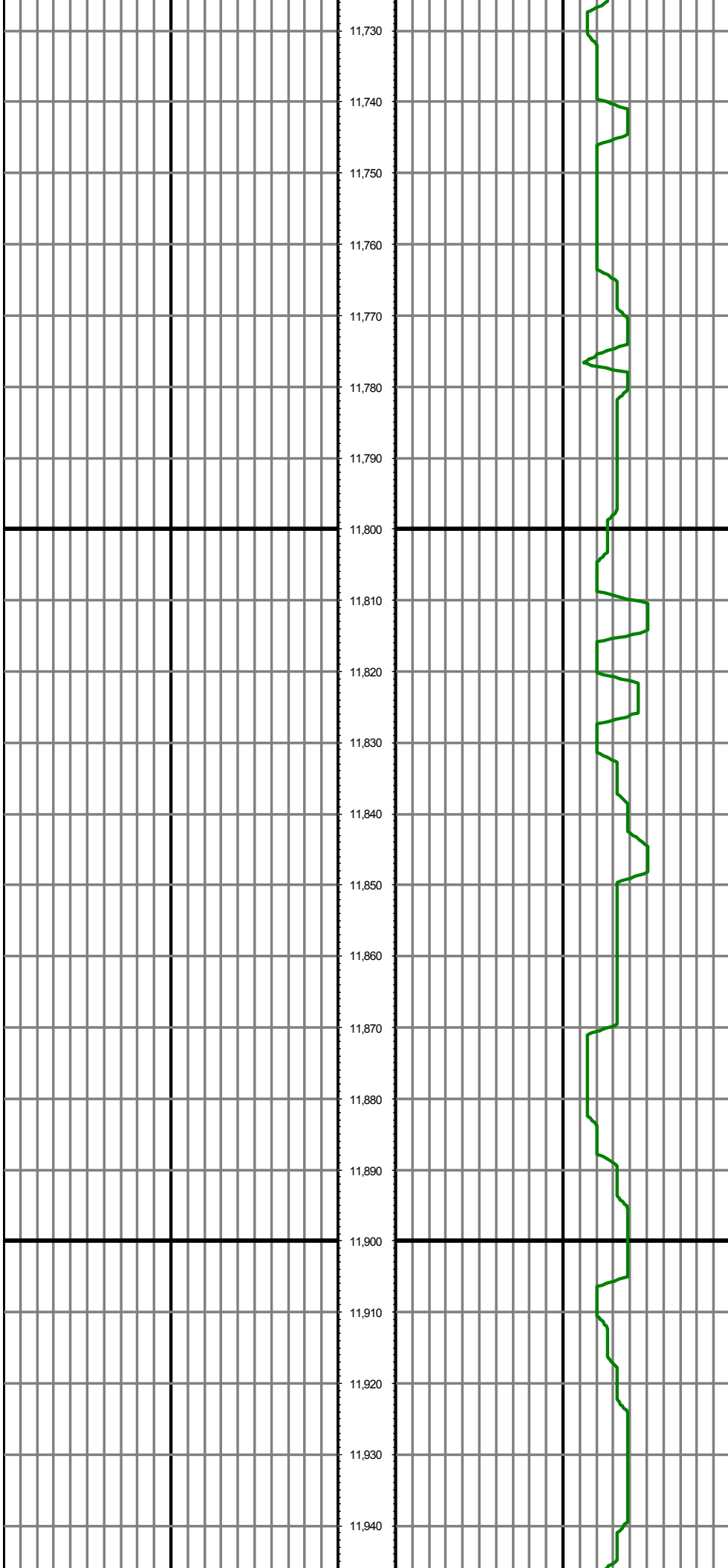
MD: 11391.00 INC: 90.50 AZ: 1.40 TVD: 7692.21 VS: 3162.24

MD: 11486.00 INC: 89.10 AZ: 1.40 TVD: 7692.54 VS: 3257.23



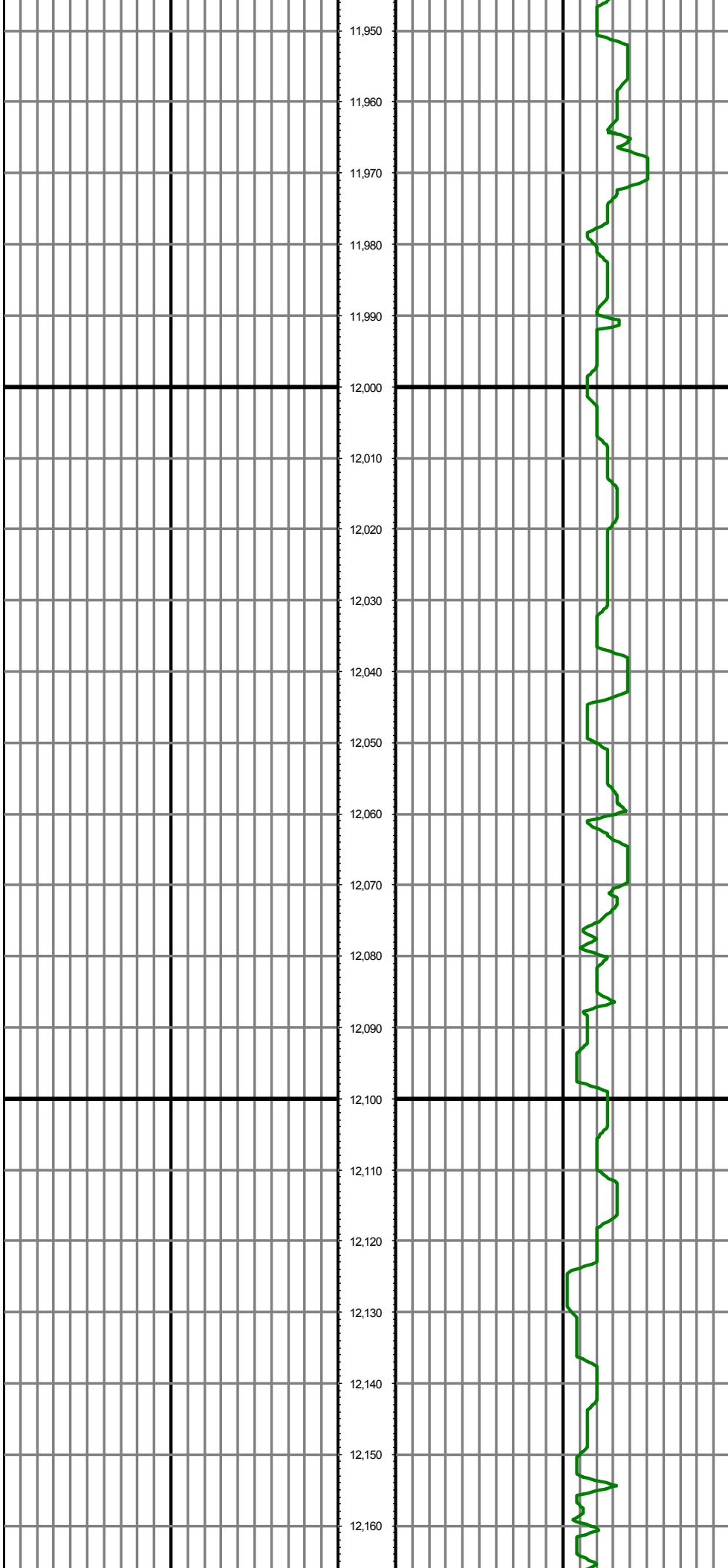
MD: 11580.00 INC: 89.50 AZ: 1.20 TVD: 7693.69 VS: 3351.22

MD: 11675.00 INC: 90.00 AZ: 1.40 TVD: 7694.10 VS: 3446.22



MD: 11770.00 INC: 90.20 AZ: 1.00 TVD: 7693.93 VS: 3541.21

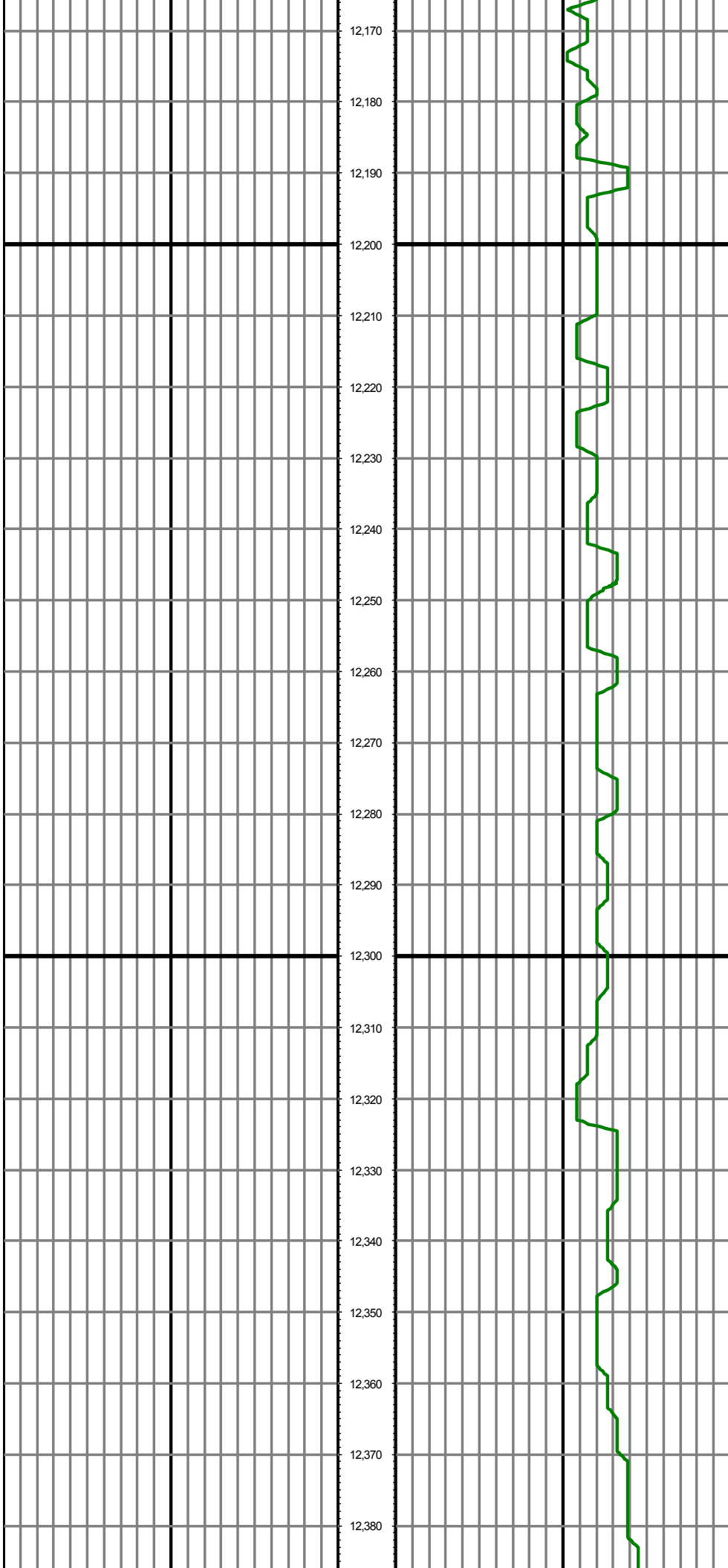
MD: 11864.00 INC: 90.80 AZ: 1.40 TVD: 7693.11 VS: 3635.20



MD: 11959.00 INC: 91.30 AZ: 1.80 TVD: 7691.37 VS: 3730.18

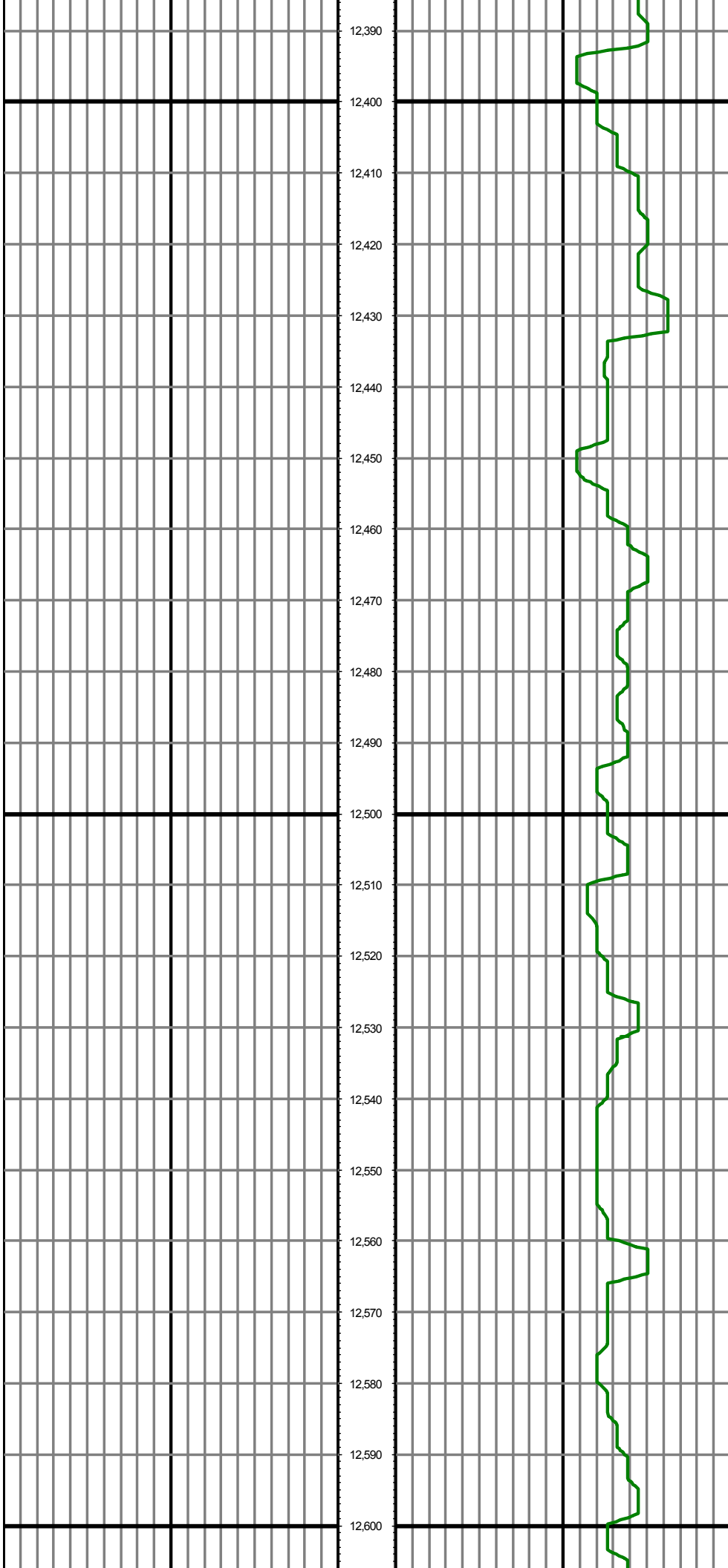
MD: 12053.00 INC: 90.70 AZ: 359.90 TVD: 7689.73 VS: 3824.16

MD: 12148.00 INC: 89.50 AZ: 359.60 TVD: 7689.57 VS: 3919.14



MD: 12242.00 INC: 88.00 AZ: 359.70 TVD: 7691.62 VS: 4013.10

MD: 12336.00 INC: 88.60 AZ: 359.80 TVD: 7694.41 VS: 4107.04



MD: 12431.00 INC: 88.80 AZ: 359.10 TVD: 7696.56 VS: 4202.00

MD: 12525.00 INC: 89.00 AZ: 358.30 TVD: 7698.37 VS: 4295.92

