

5" = 100' FEET MD

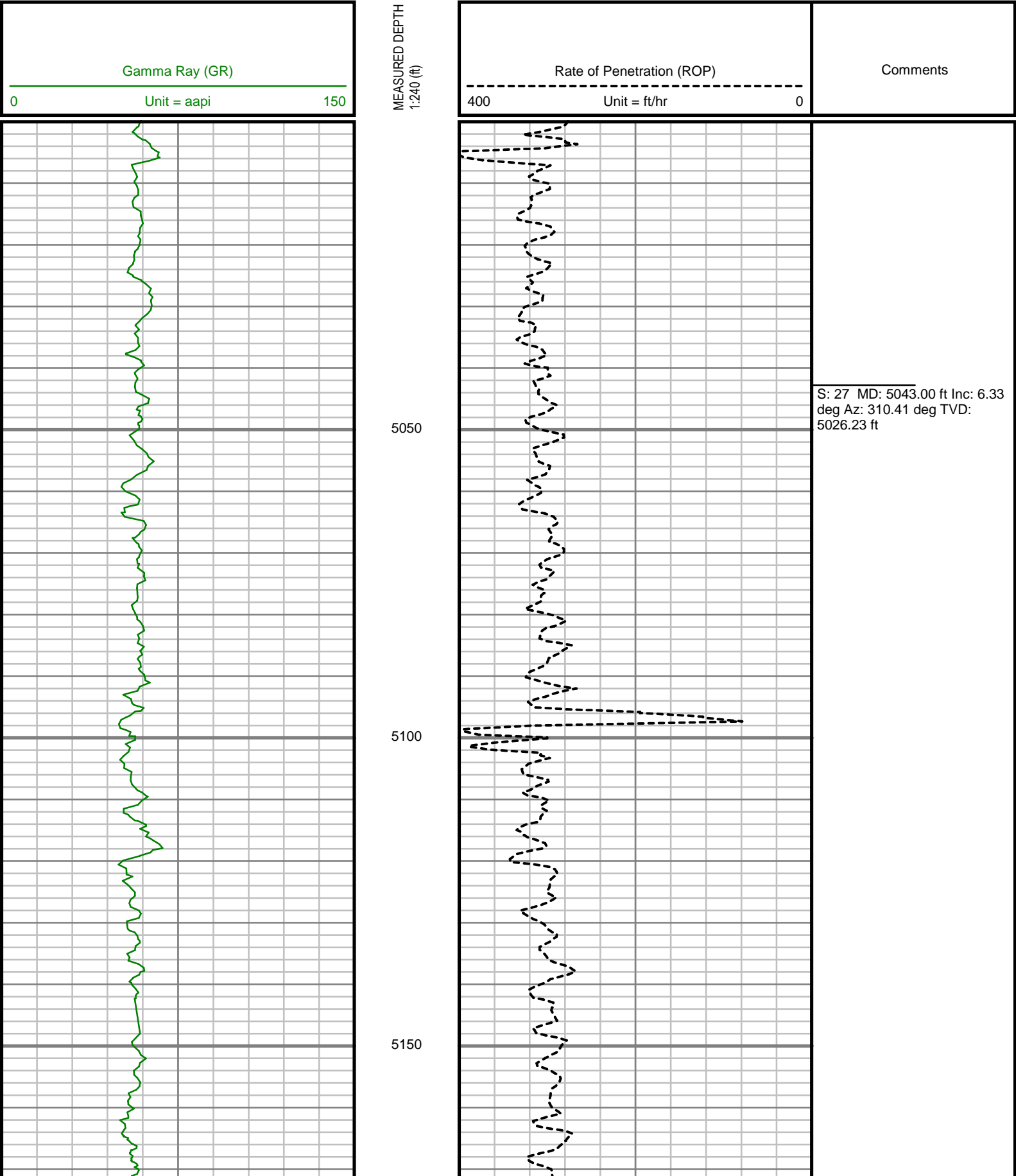
COMPANY : ENCANA OIL AND GAS (USA) INC WELL : RODMAN BRUNTZ 2B-26H FIELD : WATTENBERG COUNTY : WELD STATE : COLORADO COUNTRY : U.S.A. UWI : 05-123-38181										COMPANY : ENCANA OIL AND GAS (USA) INC WELL : RODMAN BRUNTZ 2B-26H FIELD : WATTENBERG COUNTY : WELD STATE : COLORADO COUNTRY : U.S.A. UWI : 05-123-38181									
DEPTH REF. : RKB REF. HEIGHT : 13.000 ft GROUND LEVEL : 5079.000 ft										RKB to Ground Level G.L. to MEAN SEA LEVEL									
BOREHOLE RECORD										DEVIATION RECORD									
HOLE SIZE in	FROM ft	TO ft	INCLINATION deg							FROM ft	TO ft								
12.25	0	1229	0 - 7							0	6906								
8.75	1229	7818	7 - 85							6906	7799								
6.125	7818	14214	85 - 92							7799	14214								
CASING RECORD																			
CASING SIZE in	FROM ft	TO ft																	
9.625	0	1218																	
7	0	7792																	
DRILLING CO. : ENSIGN RIG : 124 LWD UNIT NO. : C-70 SPUD DATE : 12/31/2013 LWD START DATE : 01/02/2014 LWD END DATE : 01/12/2014										DISTRICT : CASPER DEPTH : 5000 ft DEPTH : 14214 ft TOTAL DEPTH : 14214 ft									

Run Data						
RUN NUMBER	1	2	3	4		
START DATE	12/31/2013	01/02/2014	01/06/2014	01/08/2014		
START TIME	2130	1100	1500	0900		
END DATE	01/01/2014	01/04/2014	01/08/2014	01/12/2014		
END TIME	0430	2200	0730	1800		
DEPTH IN (ft)	96	1229	7818	9672		
DEPTH OUT (ft)	1229	7818	9672	14214		
LOG TOP (ft)	-	5000	7771	9622		
LOG BOTTOM (ft)	-	7771	9622	14162		
HOLE SIZE (in)	12.25	8.75	6.125	6.125		
MUD DATA @ (ft)	1229	7818	9672	13126		
MUD TYPE	WATER-BASED	WATER-BASED	WATER-BASED	WATER-BASED		
DENSITY (lb / gal)	8.5	10.65	10.5	10.7		
VISCOSITY (s / qt)	27	40	37	48		
pH	7.2	8.3	8.3	8.2		
FLUID LOSS (cm3 / 30)	-	-	-	-		
SALINITY (ppm)	-	-	-	-		
Rm (ohmm @ deg F)	-	-	-	-		
Rmf (ohmm @ deg F)	-	-	-	-		
MAX TEMP (deg F)	85	110	212			
Rm @ MAX TEMP (ohmm)	-	-	-	-		
LWD ENGINEER #1	M. SMITH	M. SMITH	M. SMITH	M. SMITH		
LWD ENGINEER #2	J. SMITH	J. SMITH	J. SMITH	J. SMITH		
LWD ENGINEER #3	-	-	-	-		
LOG WITNESS #1	D. HILDRETH	D. HILDRETH	D. HILDRETH	D. HILDRETH		
LOG WITNESS #2	-	-	-	-		



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 interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions as set out in our current price schedule.

ENCANA OIL AND GAS (USA) INC  
RODMAN BRUNTZ 2B-26H  
WATTENBURG FIELD  
WELD COUNTY, COLORADO  
05-123-38181





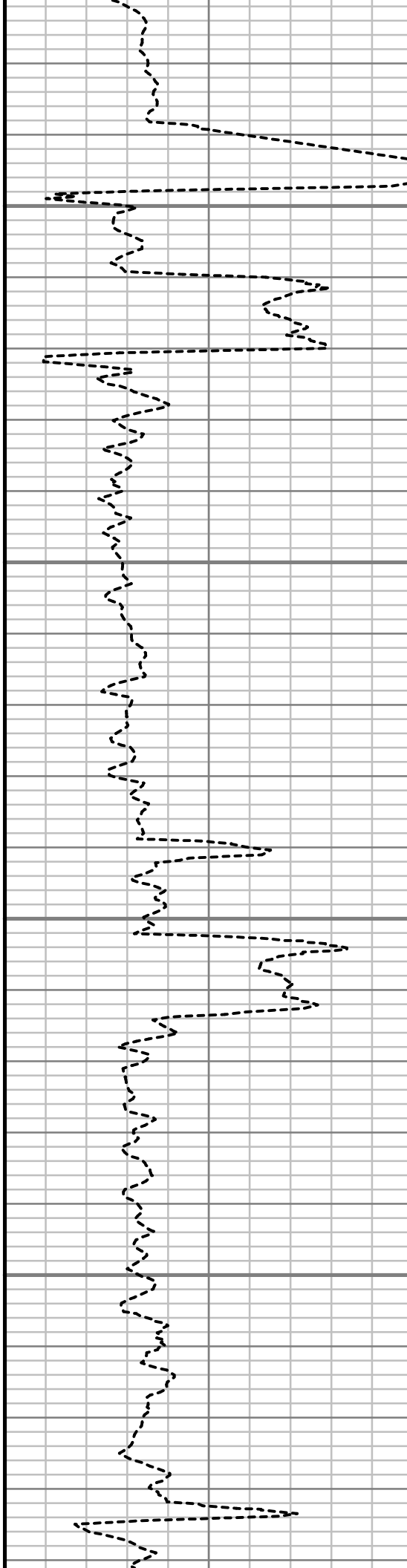
5200

5250

5300

5350

S: 28 MD: 5233.00 ft Inc: 6.53  
deg Az: 303.46 deg TVD:  
5215.03 ft





5400

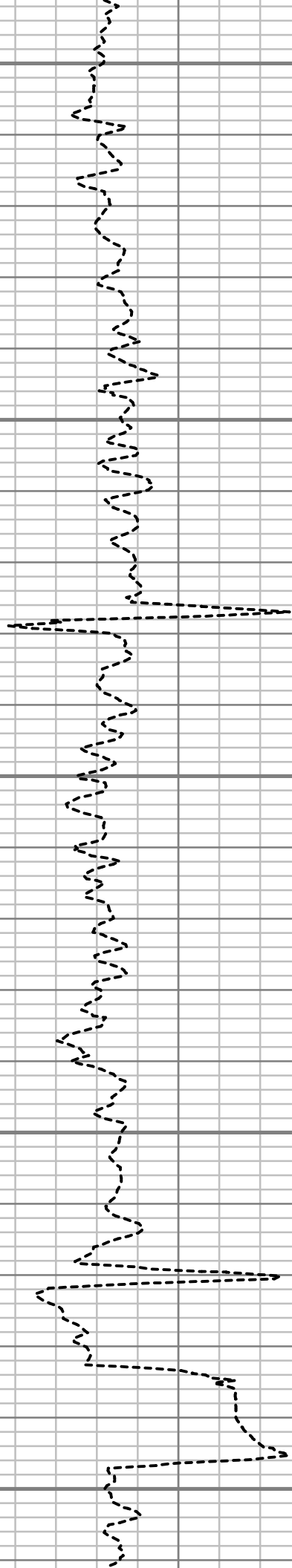
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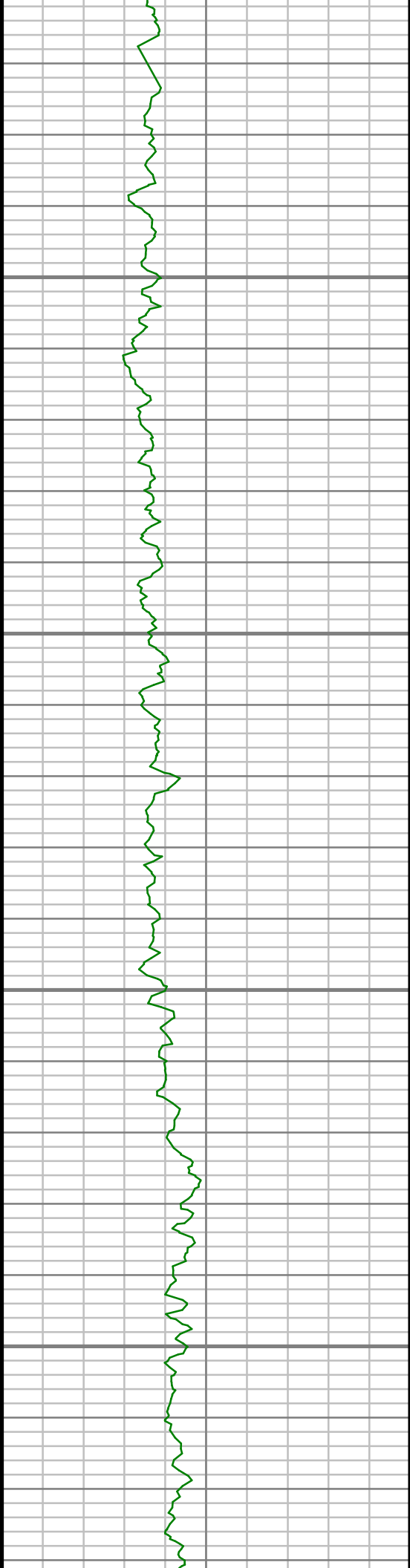
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5550

5600

S: 29 MD: 5422.00 ft Inc: 6.07  
deg Az: 312.73 deg TVD:  
5402.90 ft



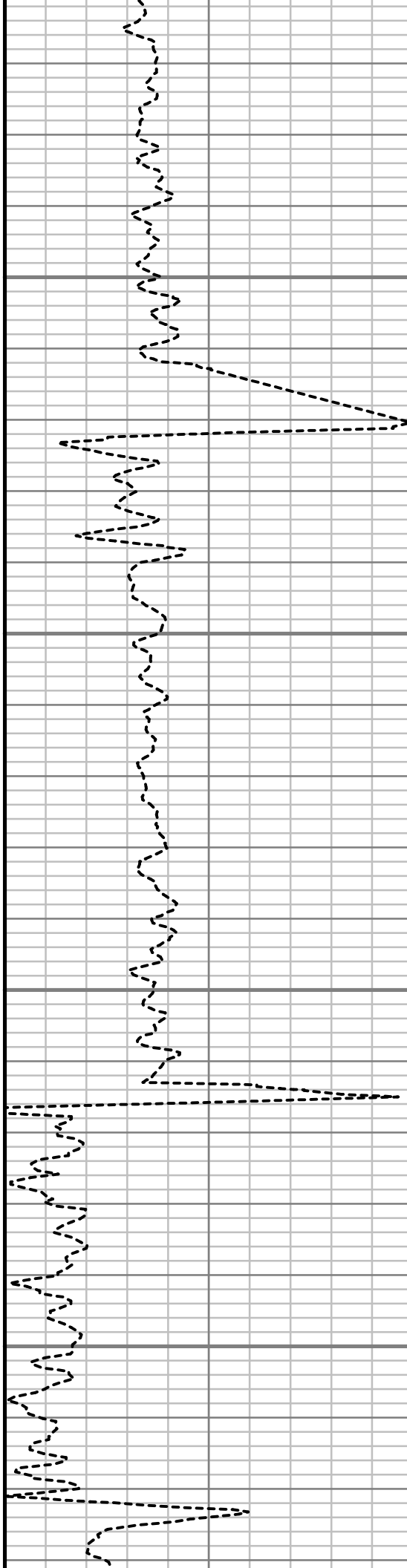


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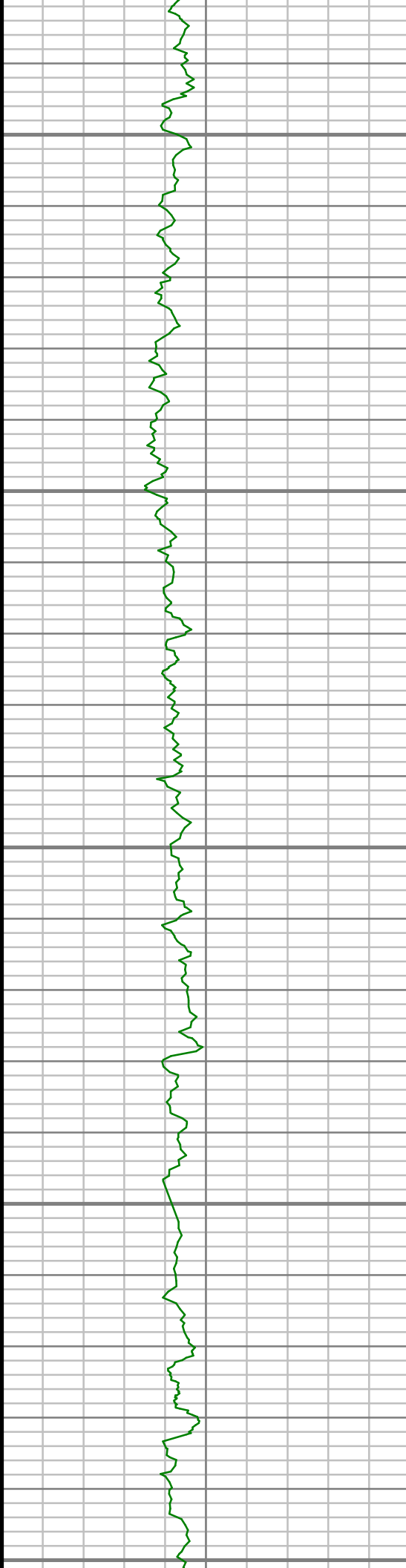
5750

5800



S: 30 MD: 5612.00 ft Inc: 5.36  
deg Az: 321.04 deg TVD:  
5591.96 ft

S: 31 MD: 5802.00 ft Inc: 3.60  
deg Az: 340.14 deg TVD:  
5781.38 ft



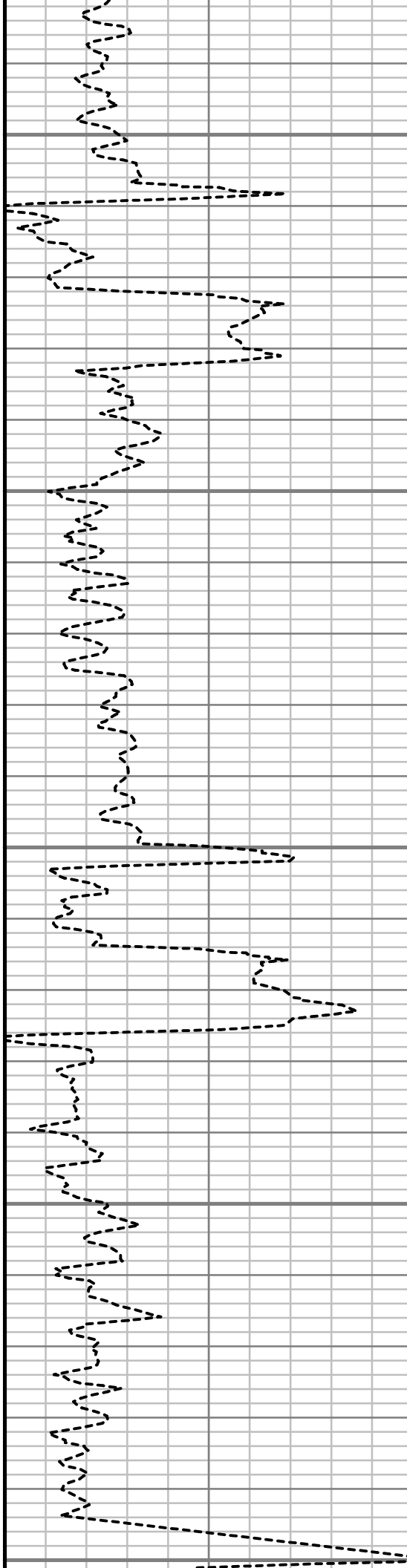
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5900

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6000

6050



S: 32 MD: 5991.00 ft Inc: 1.69  
deg Az: 325.64 deg TVD:  
5970.17 ft

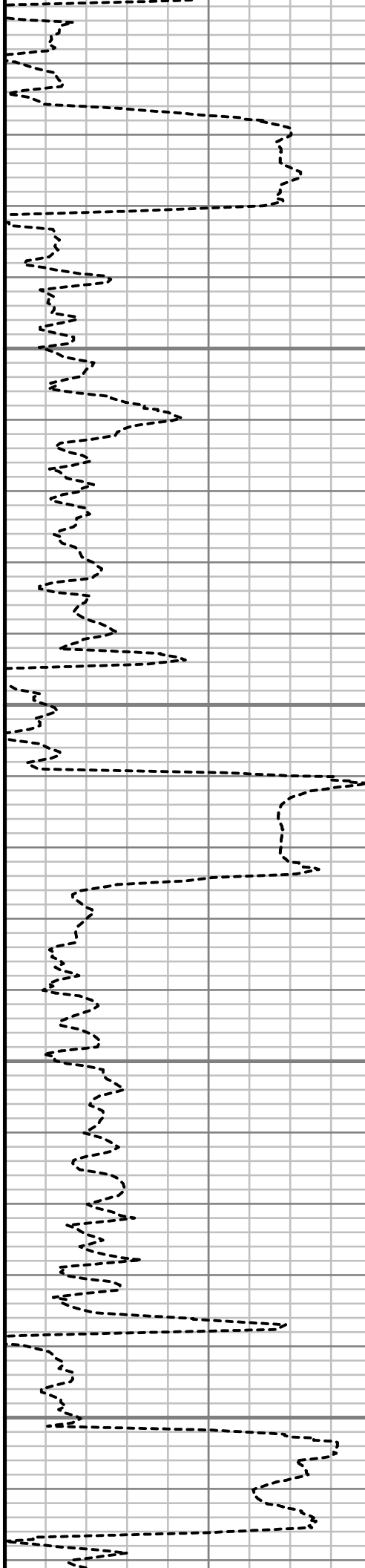


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6150

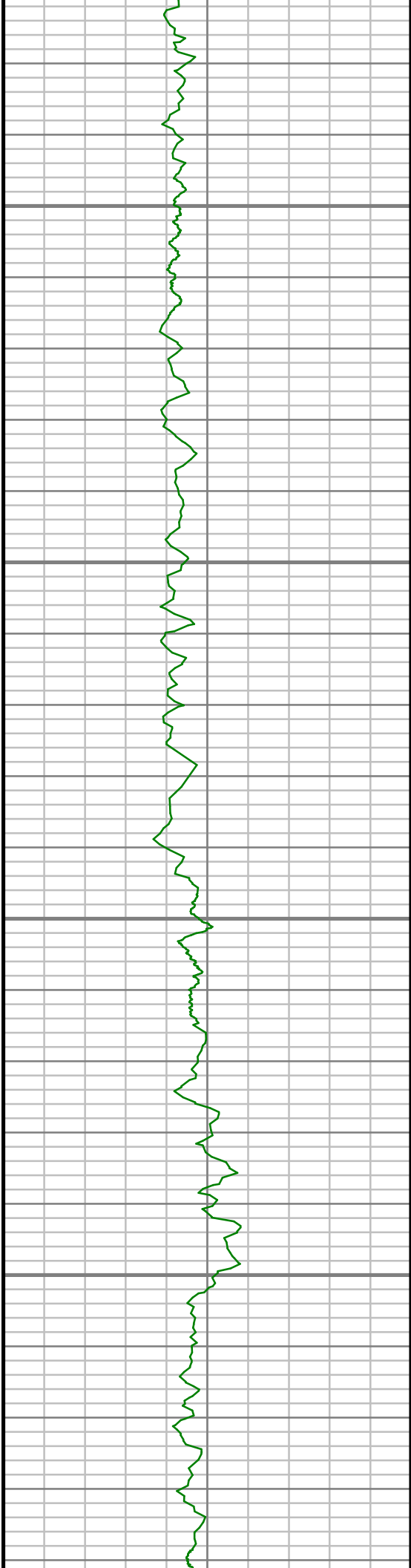
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S: 33 MD: 6180.00 ft Inc: 2.60  
deg Az: 307.67 deg TVD:  
6159.04 ft



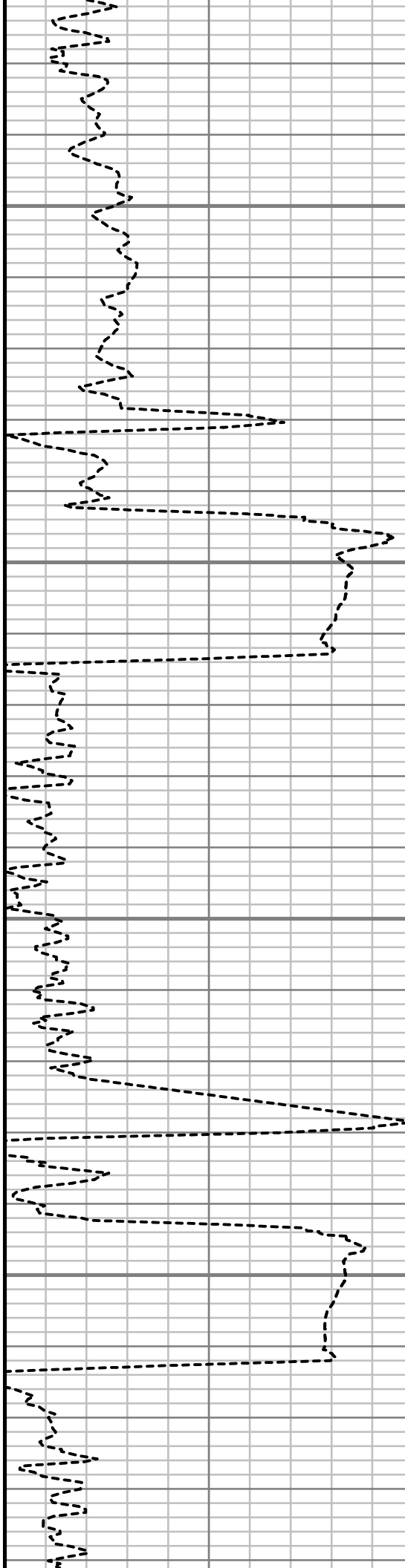


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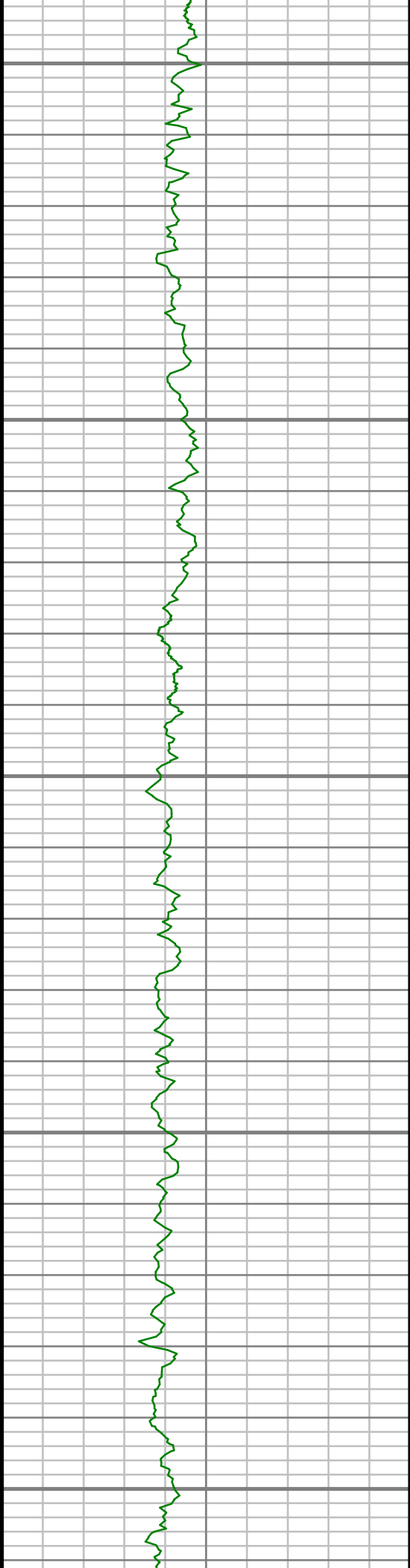
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6400

6450



S: 34 MD: 6370.00 ft Inc: 2.77  
deg Az: 279.20 deg TVD:  
6348.84 ft



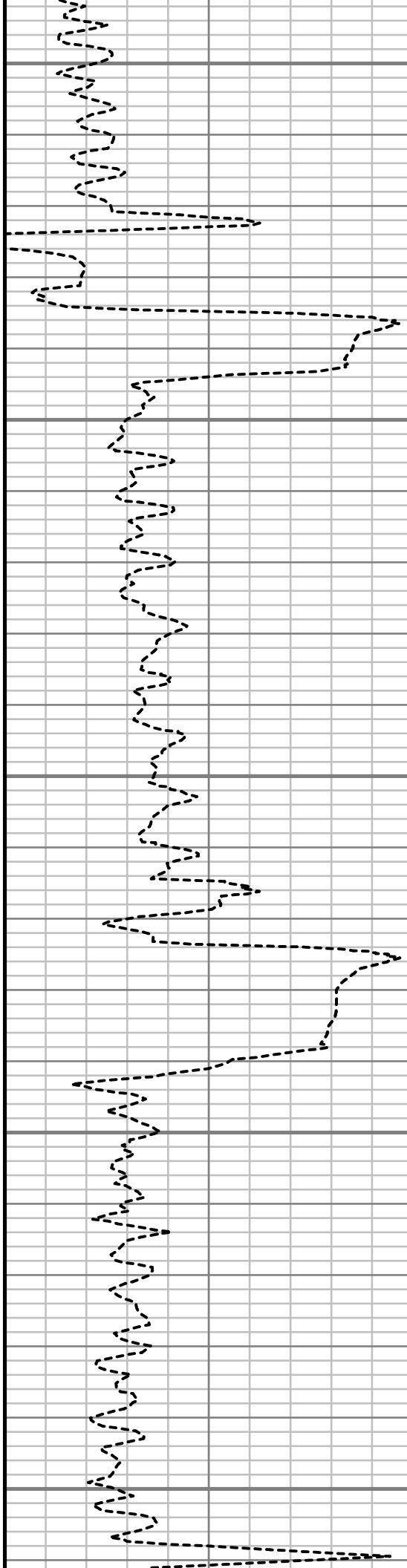
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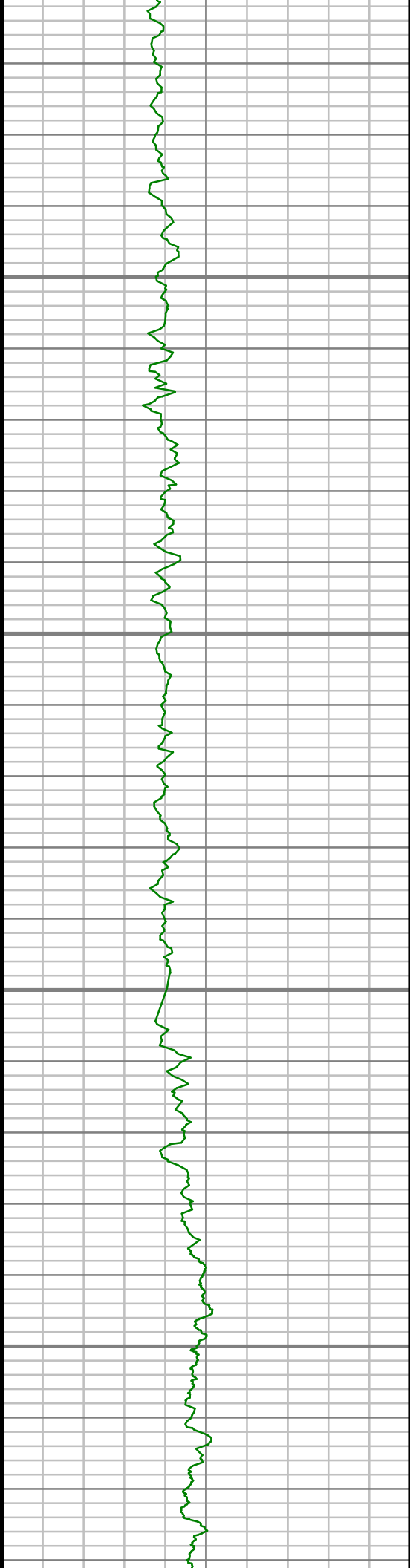
6600

6650

6700



S: 35 MD: 6559.00 ft Inc: 5.01  
deg Az: 291.70 deg TVD:  
6537.39 ft

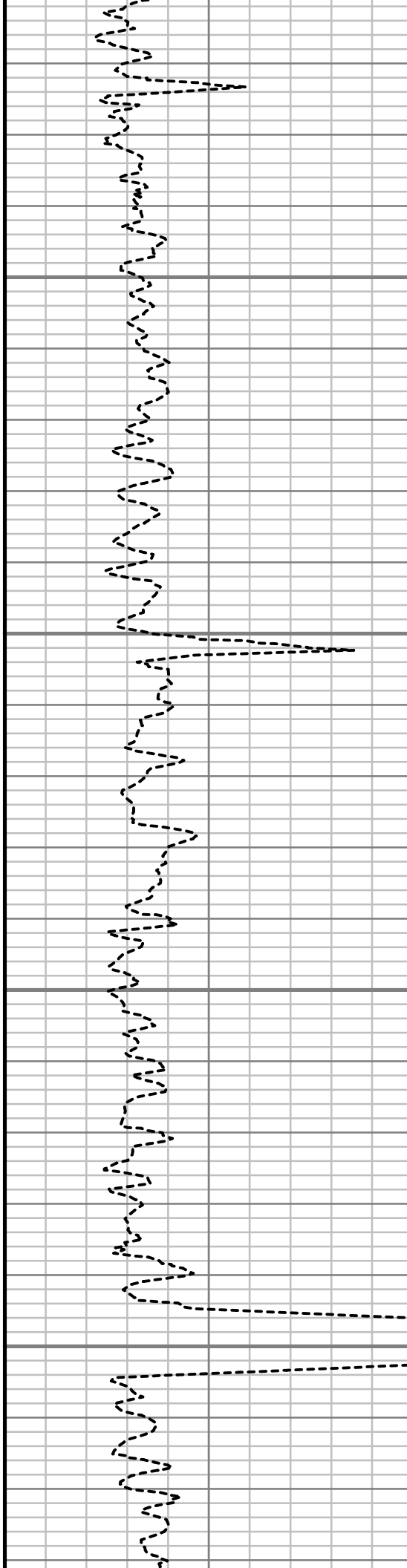


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6800

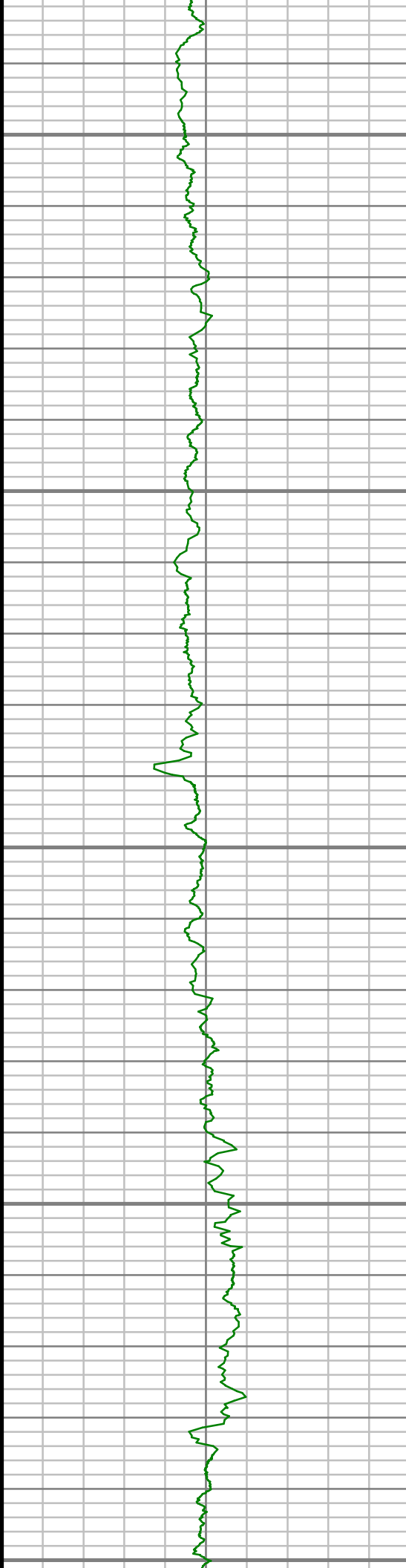
6850

6900



S: 36 MD: 6748.00 ft Inc: 5.73  
deg Az: 302.40 deg TVD:  
6725.57 ft

S: 37 MD: 6906.00 ft Inc: 3.81  
deg Az: 308.90 deg TVD:  
6883.01 ft



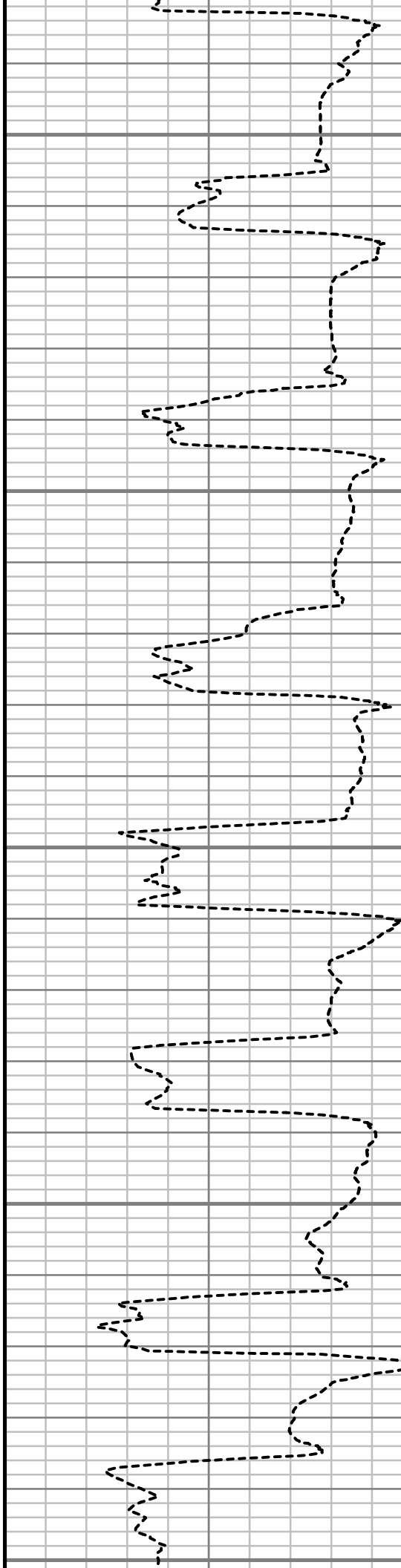
6950

7000

7050

7100

7150



S: 38 MD: 6938.00 ft Inc: 3.21  
deg Az: 291.60 deg TVD:  
6914.95 ft

S: 39 MD: 6969.00 ft Inc: 3.04  
deg Az: 240.08 deg TVD:  
6945.91 ft

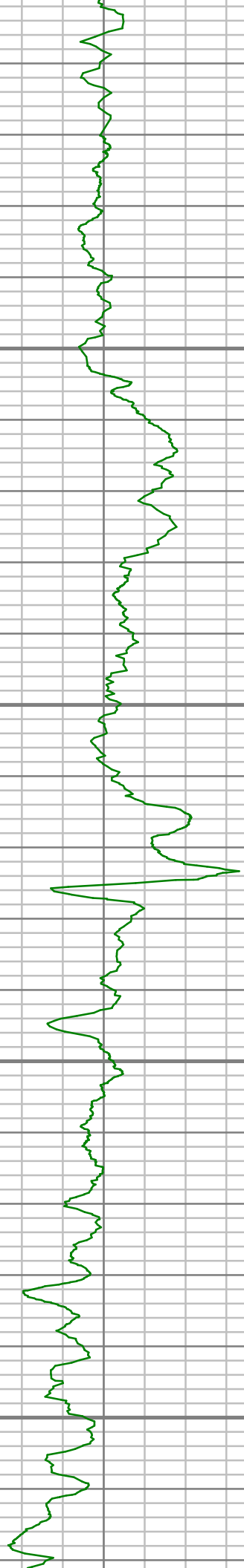
S: 40 MD: 7001.00 ft Inc: 5.58  
deg Az: 211.79 deg TVD:  
6977.82 ft

S: 41 MD: 7033.00 ft Inc: 7.66  
deg Az: 200.95 deg TVD:  
7009.61 ft

S: 42 MD: 7064.00 ft Inc: 10.24  
deg Az: 197.88 deg TVD:  
7040.23 ft

S: 43 MD: 7096.00 ft Inc: 14.27  
deg Az: 198.73 deg TVD:  
7071.49 ft

S: 44 MD: 7127.00 ft Inc: 16.76  
deg Az: 195.99 deg TVD:  
7101.36 ft

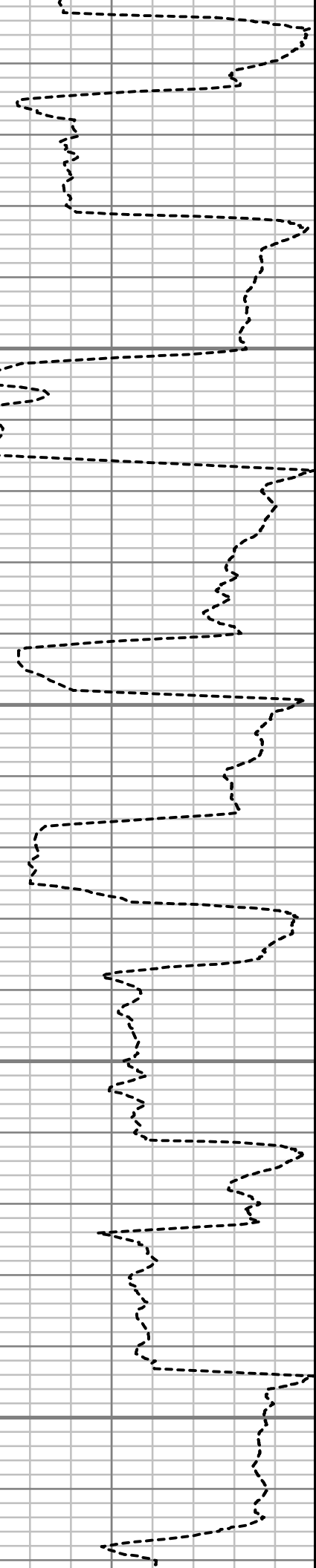


7200

7250

7300

7350



S: 45 MD: 7159.00 ft Inc: 18.33  
deg Az: 194.06 deg TVD:  
7131.87 ft

S: 46 MD: 7191.00 ft Inc: 20.19  
deg Az: 192.55 deg TVD:  
7162.08 ft

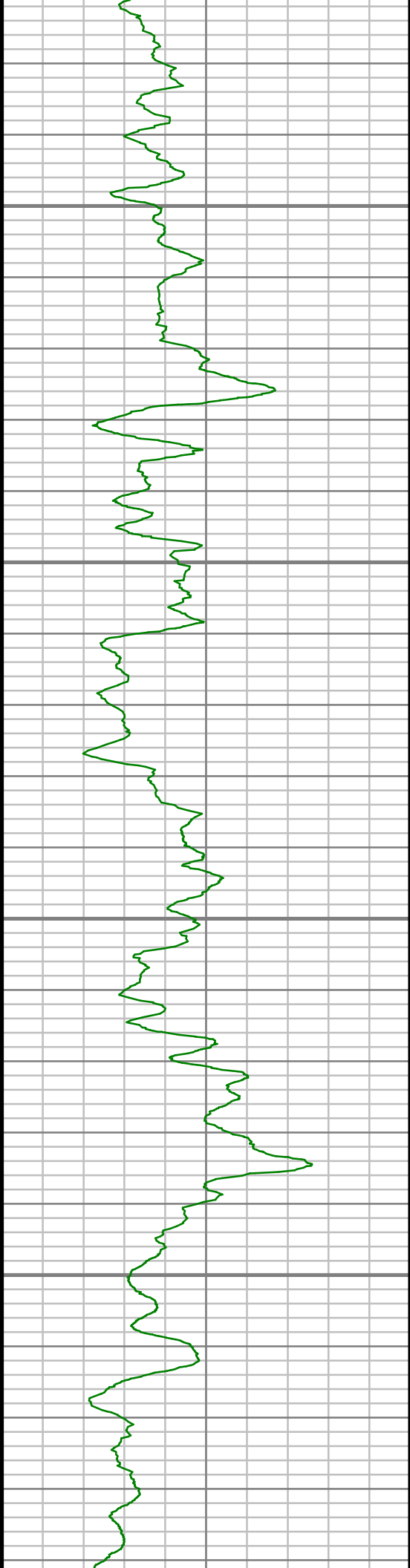
S: 47 MD: 7222.00 ft Inc: 23.26  
deg Az: 187.34 deg TVD:  
7190.88 ft

S: 48 MD: 7254.00 ft Inc: 27.29  
deg Az: 183.84 deg TVD:  
7219.81 ft

S: 49 MD: 7285.00 ft Inc: 29.41  
deg Az: 182.20 deg TVD:  
7247.09 ft

S: 50 MD: 7317.00 ft Inc: 31.08  
deg Az: 180.41 deg TVD:  
7274.73 ft

S: 51 MD: 7349.00 ft Inc: 34.29  
deg Az: 177.71 deg TVD:  
7301.66 ft

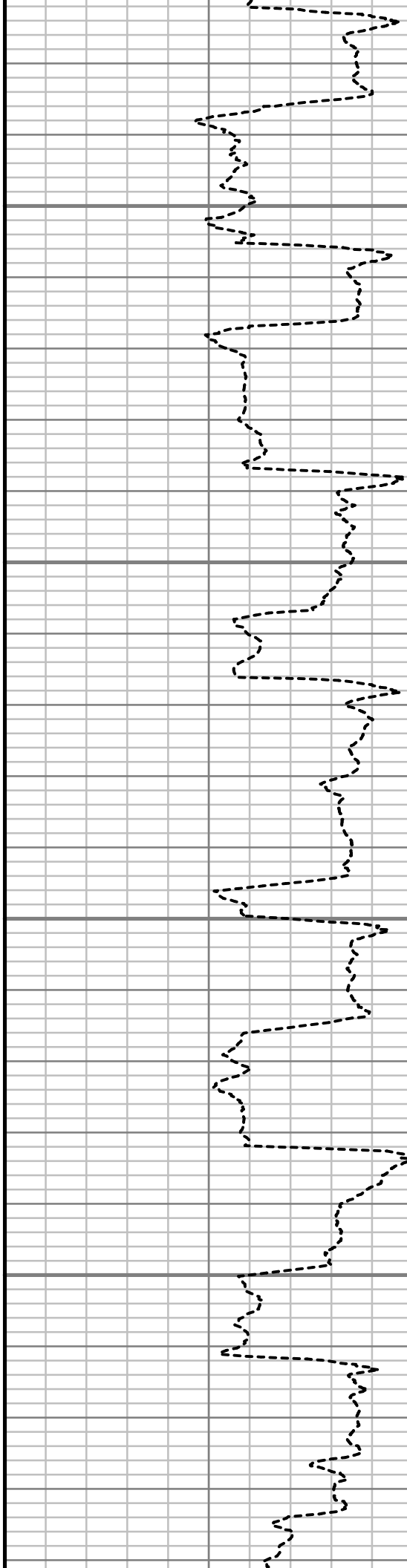


7400

7450

7500

7550



S: 52 MD: 7380.00 ft Inc: 37.78  
deg Az: 177.09 deg TVD:  
7326.73 ft

S: 53 MD: 7412.00 ft Inc: 39.40  
deg Az: 177.59 deg TVD:  
7351.74 ft

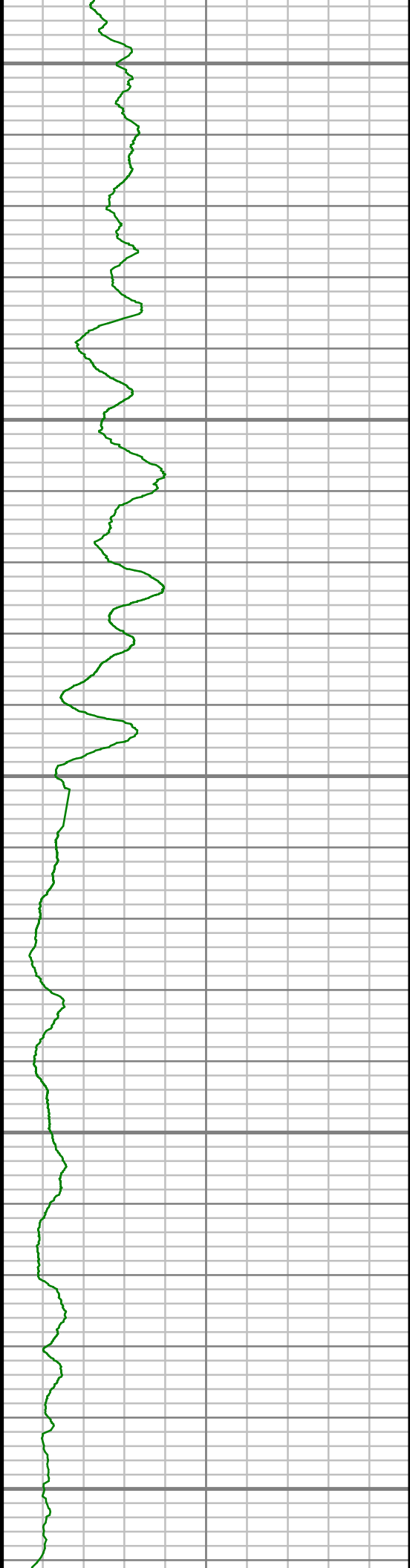
S: 54 MD: 7443.00 ft Inc: 41.93  
deg Az: 179.44 deg TVD:  
7375.25 ft

S: 55 MD: 7475.00 ft Inc: 46.11  
deg Az: 180.60 deg TVD:  
7398.26 ft

S: 56 MD: 7507.00 ft Inc: 50.49  
deg Az: 182.13 deg TVD:  
7419.54 ft

S: 57 MD: 7538.00 ft Inc: 53.38  
deg Az: 182.05 deg TVD:  
7438.65 ft

S: 58 MD: 7570.00 ft Inc: 56.88  
deg Az: 180.87 deg TVD:  
7456.95 ft



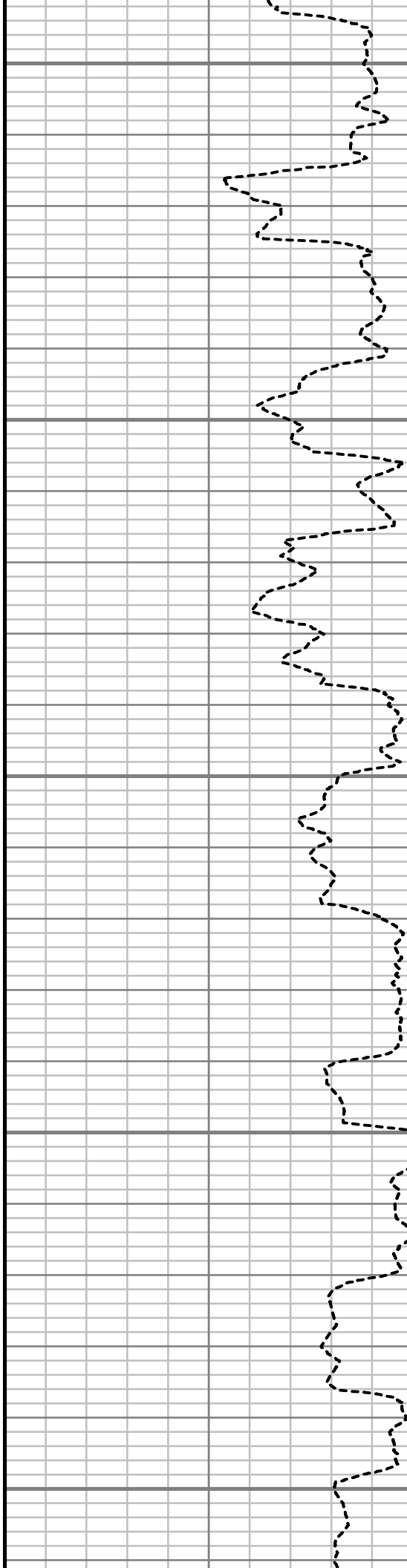
7600

7650

7700

7750

7800



S: 59 MD: 7601.00 ft Inc: 61.33  
deg Az: 179.47 deg TVD:  
7472.86 ft

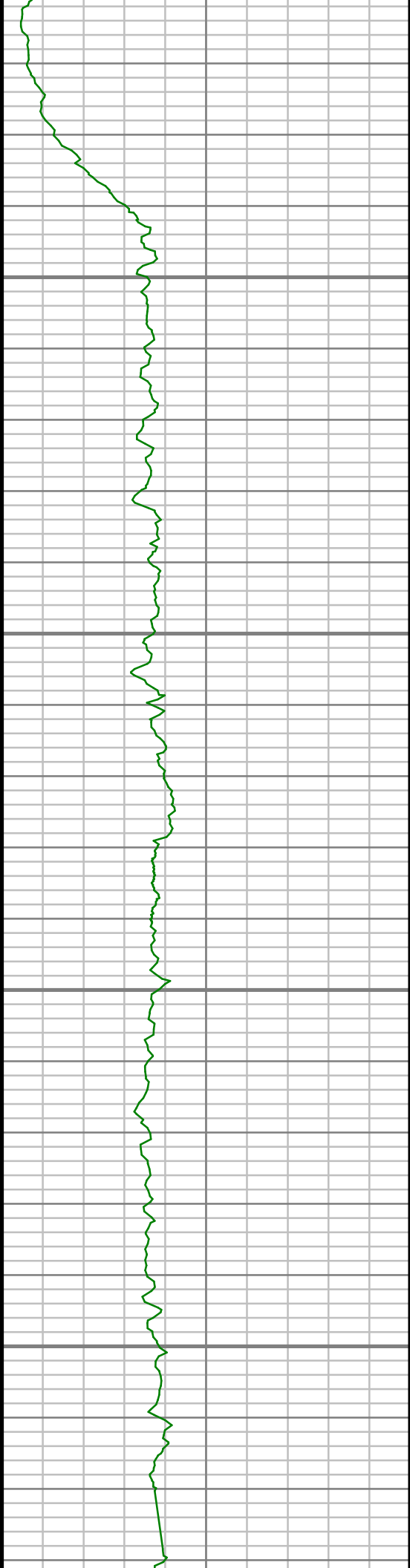
S: 60 MD: 7633.00 ft Inc: 66.18  
deg Az: 179.14 deg TVD:  
7487.01 ft

S: 61 MD: 7665.00 ft Inc: 69.27  
deg Az: 178.83 deg TVD:  
7499.14 ft

S: 62 MD: 7696.00 ft Inc: 72.12  
deg Az: 178.37 deg TVD:  
7509.39 ft

S: 63 MD: 7728.00 ft Inc: 76.01  
deg Az: 178.39 deg TVD:  
7518.17 ft

S: 64 MD: 7799.00 ft Inc: 85.05  
deg Az: 178.87 deg TVD:  
7529.84 ft

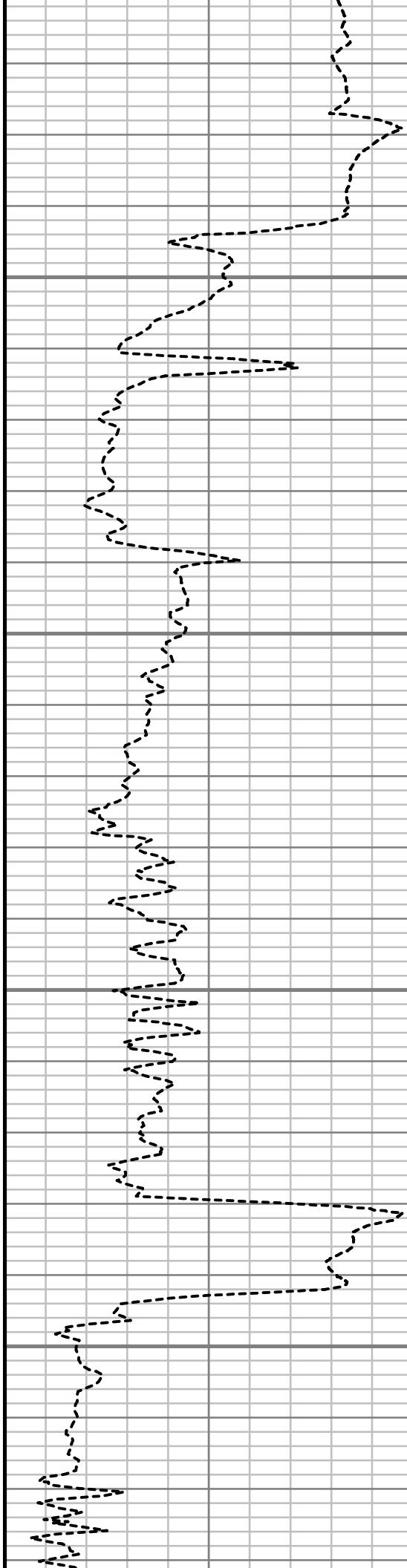


7850

7900

7950

8000

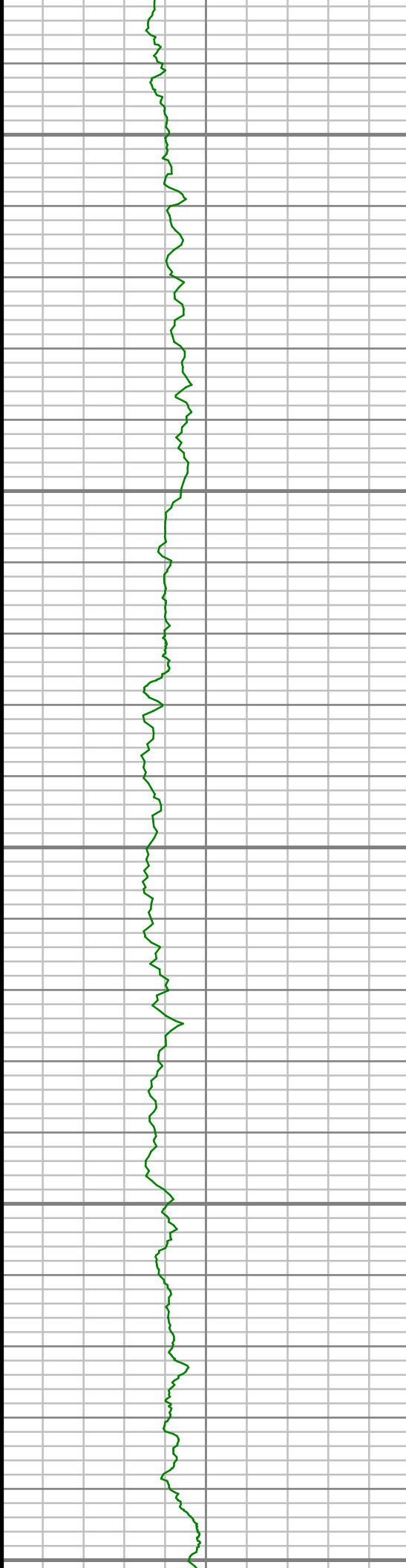


S: 65 MD: 7830.00 ft Inc: 87.54  
deg Az: 179.61 deg TVD:  
7531.85 ft

S: 66 MD: 7923.00 ft Inc: 89.02  
deg Az: 179.74 deg TVD:  
7534.64 ft

S: 67 MD: 8016.00 ft Inc: 88.15  
deg Az: 180.53 deg TVD:  
7536.93 ft





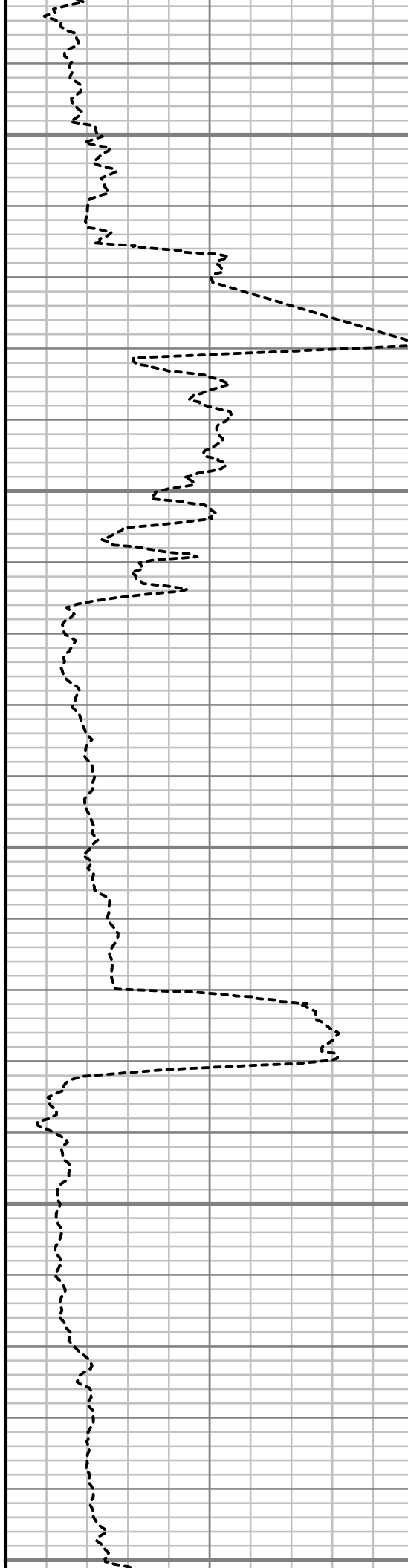
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8100

8150

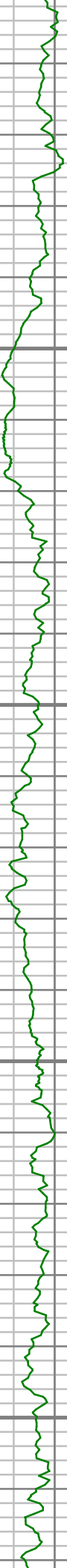
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8250



S: 68 MD: 8109.00 ft Inc: 87.82  
deg Az: 179.19 deg TVD:  
7540.20 ft

S: 69 MD: 8202.00 ft Inc: 88.76  
deg Az: 180.12 deg TVD:  
7542.98 ft

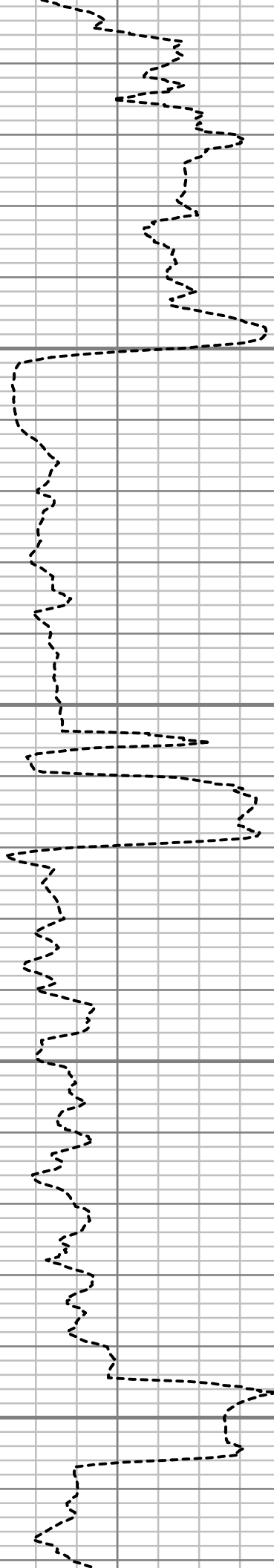


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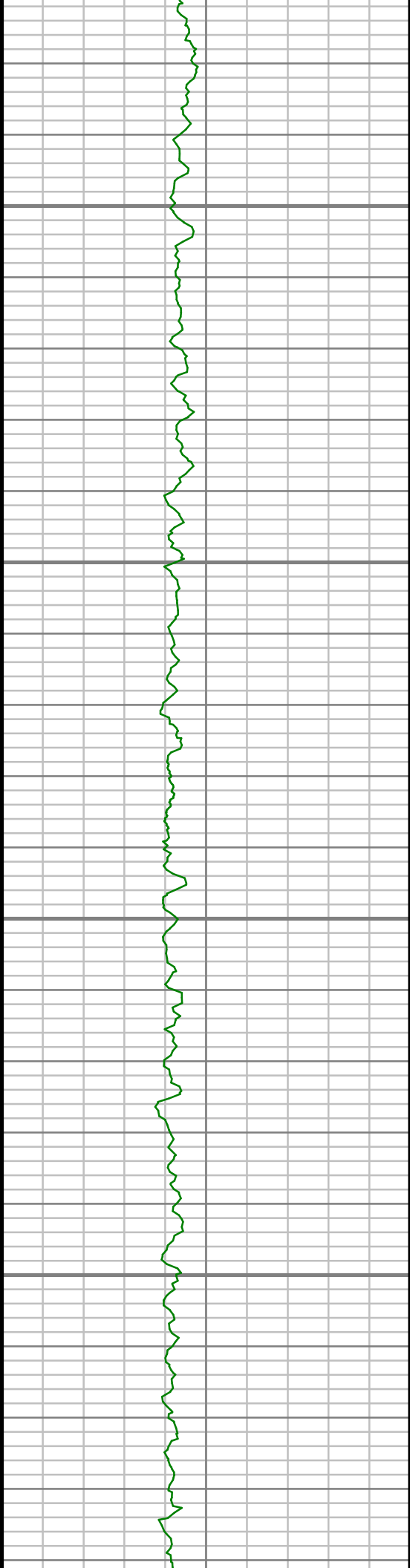
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8450



S: 70 MD: 8295.00 ft Inc: 89.26  
deg Az: 179.34 deg TVD:  
7544.58 ft

S: 71 MD: 8388.00 ft Inc: 89.26  
deg Az: 180.74 deg TVD:  
7545.78 ft

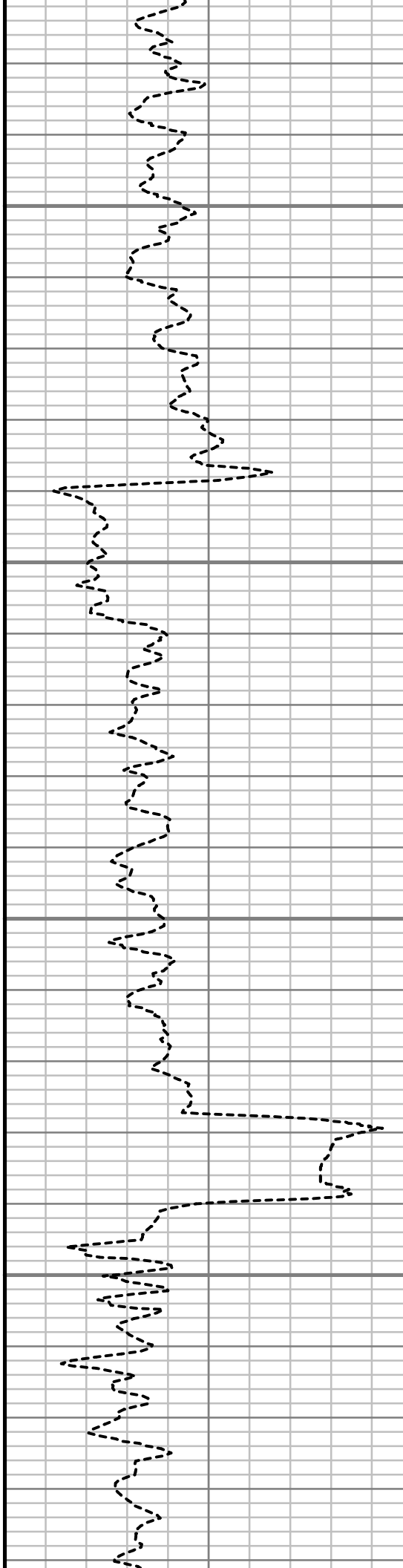


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8550

8600

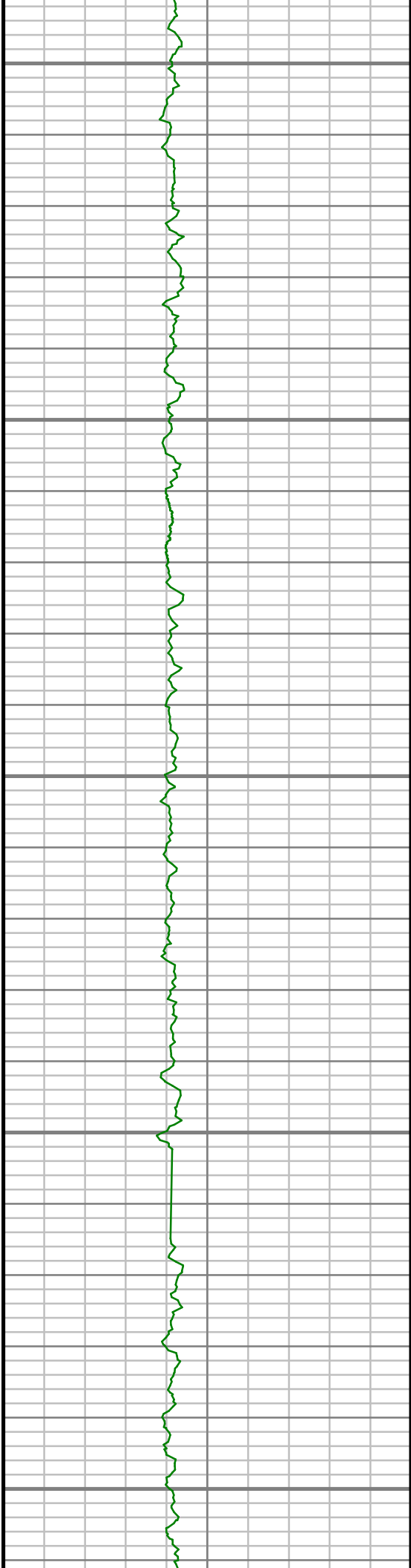
8650



S: 72 MD: 8481.00 ft Inc: 90.54  
deg Az: 180.76 deg TVD:  
7545.94 ft

S: 73 MD: 8574.00 ft Inc: 89.66  
deg Az: 179.83 deg TVD:  
7545.78 ft

S: 74 MD: 8667.00 ft Inc: 90.27  
deg Az: 179.31 deg TVD:  
7545.83 ft



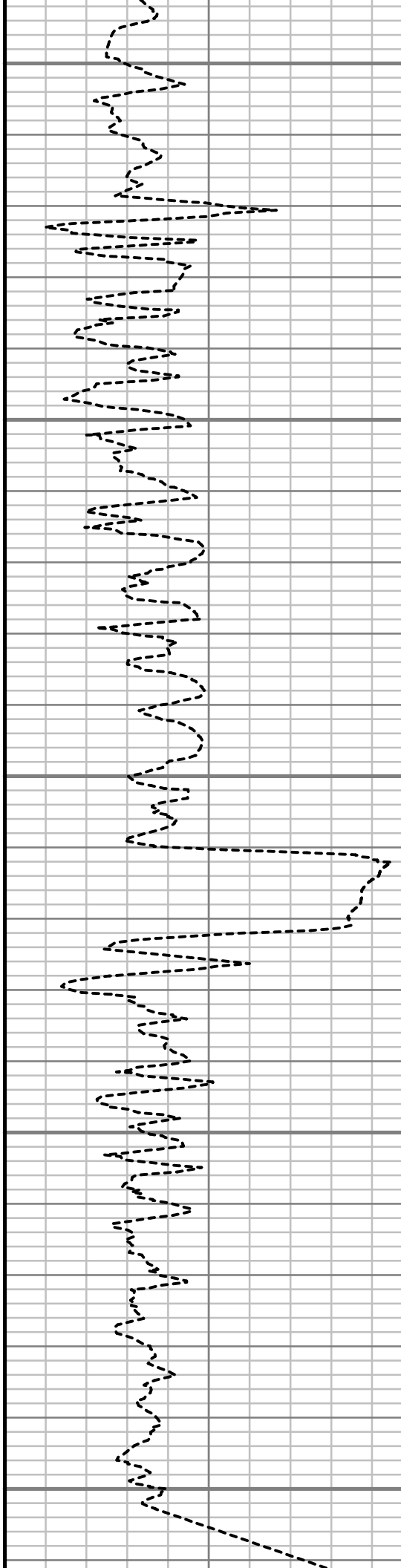
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8800

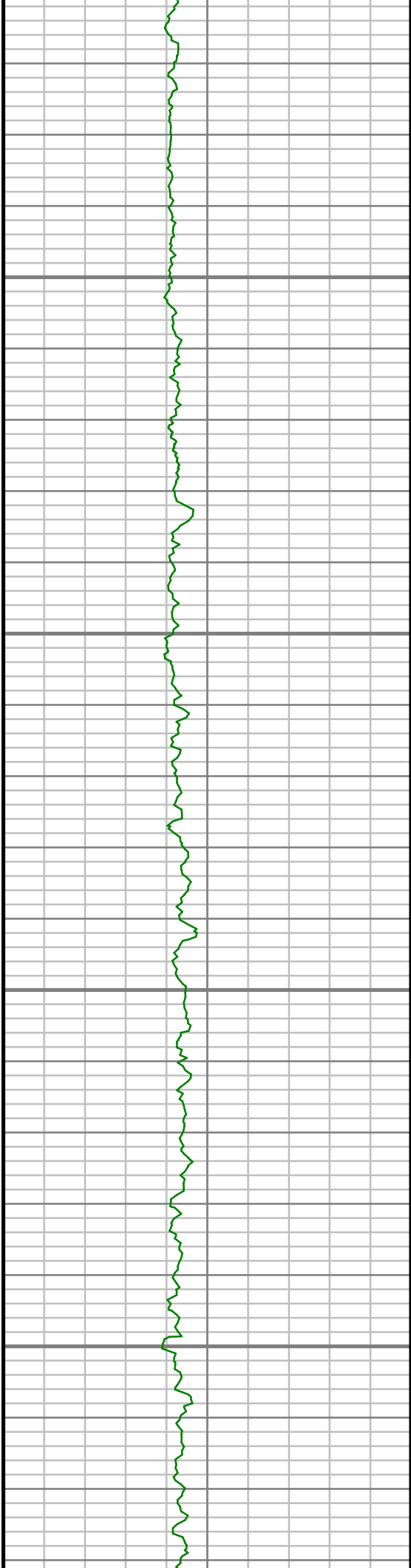
8850

8900



S: 75 MD: 8760.00 ft Inc: 90.03  
deg Az: 179.60 deg TVD:  
7545.59 ft

S: 76 MD: 8853.00 ft Inc: 90.34  
deg Az: 177.28 deg TVD:  
7545.29 ft

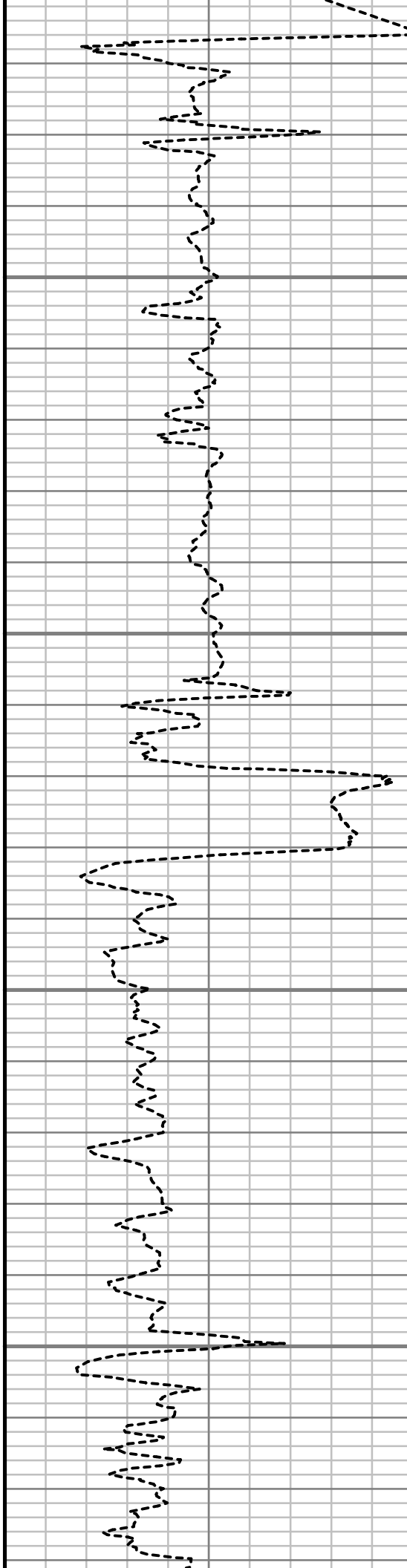


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9000

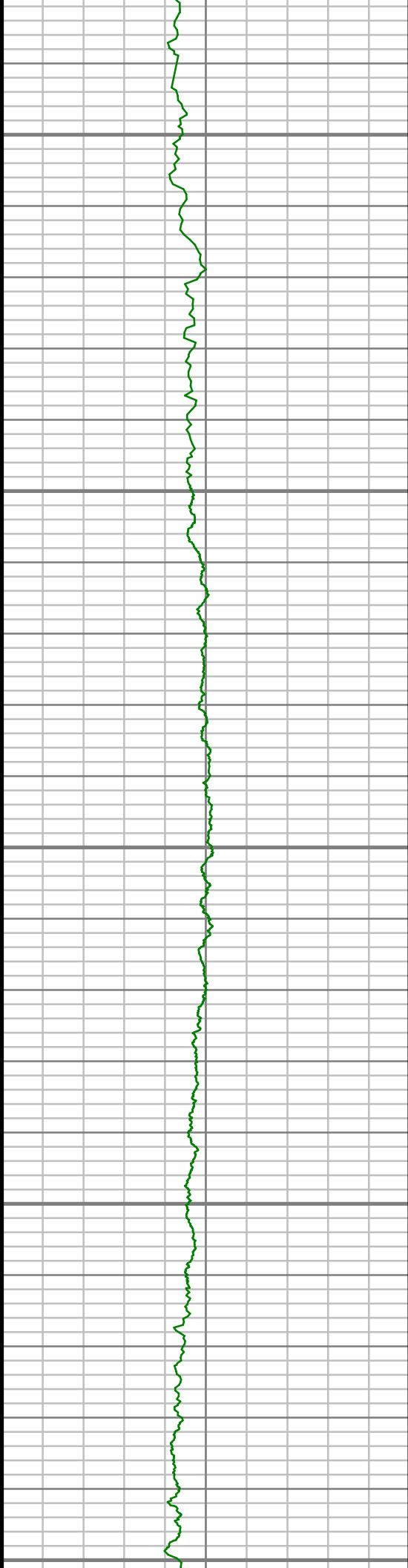
9050

9100



S: 77 MD: 8946.00 ft Inc: 89.70  
deg Az: 177.29 deg TVD:  
7545.26 ft

S: 78 MD: 9039.00 ft Inc: 90.47  
deg Az: 177.85 deg TVD:  
7545.12 ft



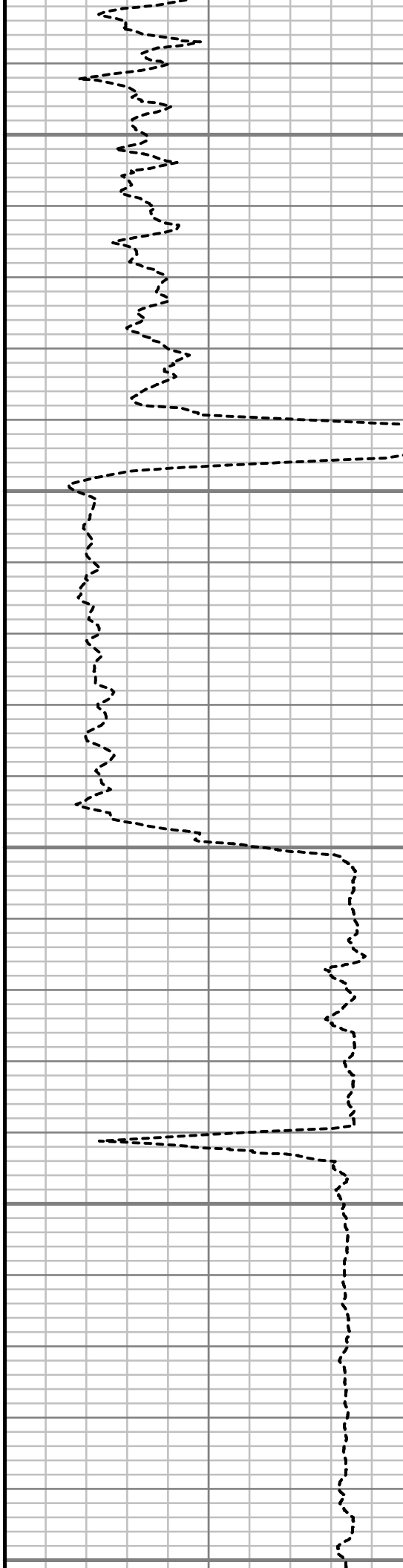
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9200

9250

9300

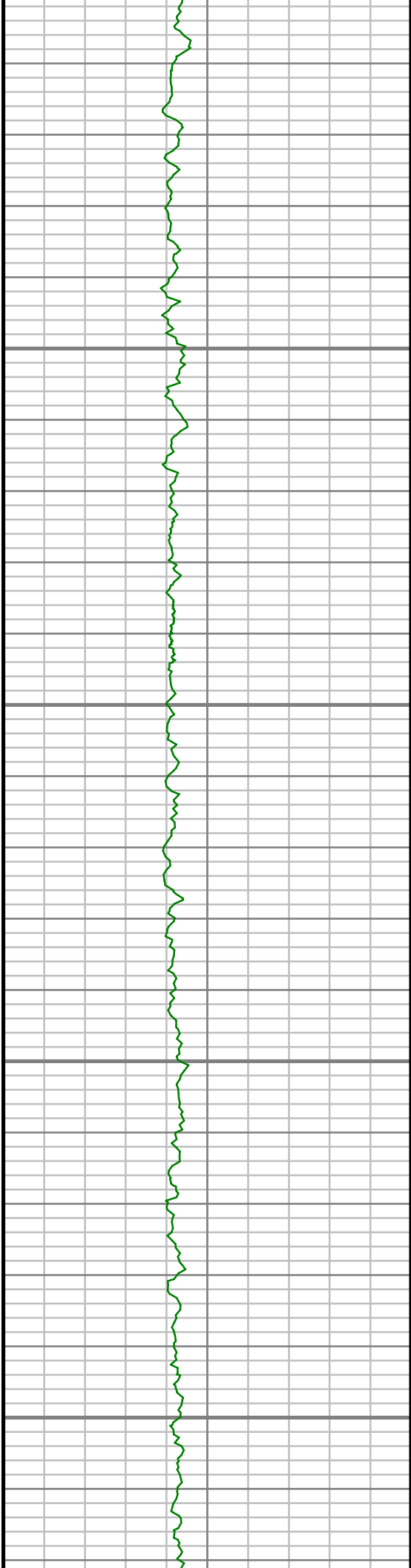
9350



S: 79 MD: 9132.00 ft Inc: 90.37  
deg Az: 177.96 deg TVD:  
7544.44 ft

S: 80 MD: 9226.00 ft Inc: 90.07  
deg Az: 176.37 deg TVD:  
7544.08 ft

S: 81 MD: 9321.00 ft Inc: 91.11  
deg Az: 176.44 deg TVD:  
7543.11 ft

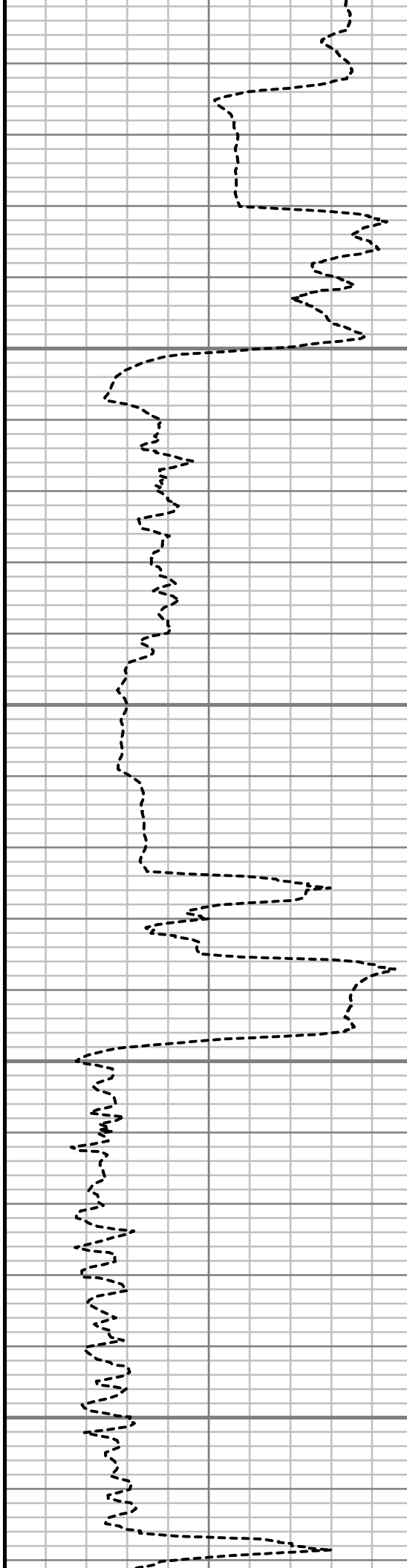


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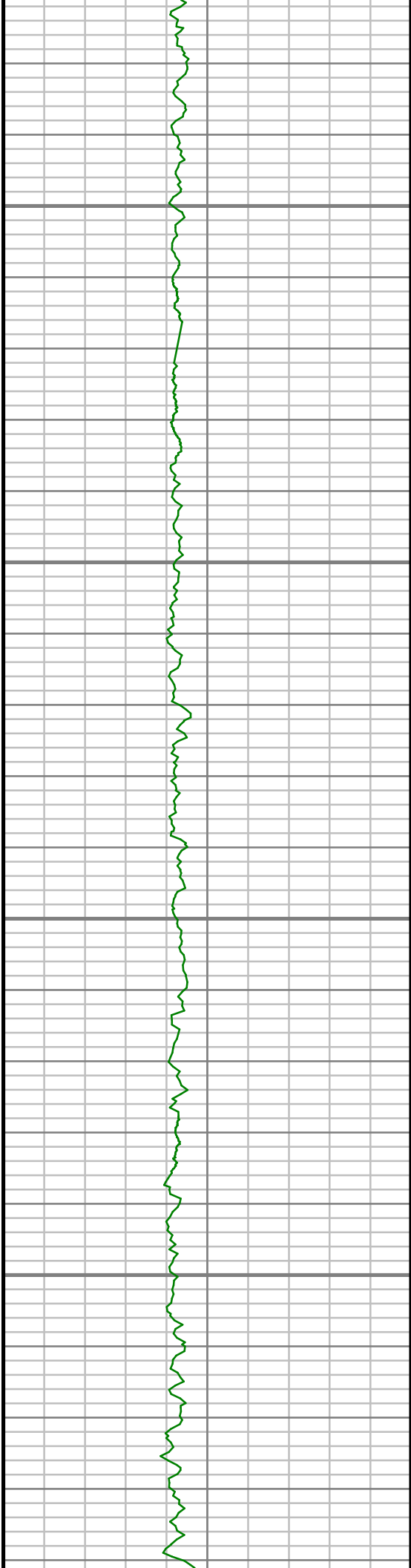
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9550



S: 82 MD: 9416.00 ft Inc: 90.07  
deg Az: 176.15 deg TVD:  
7542.13 ft

S: 83 MD: 9511.00 ft Inc: 89.66  
deg Az: 176.63 deg TVD:  
7542.36 ft

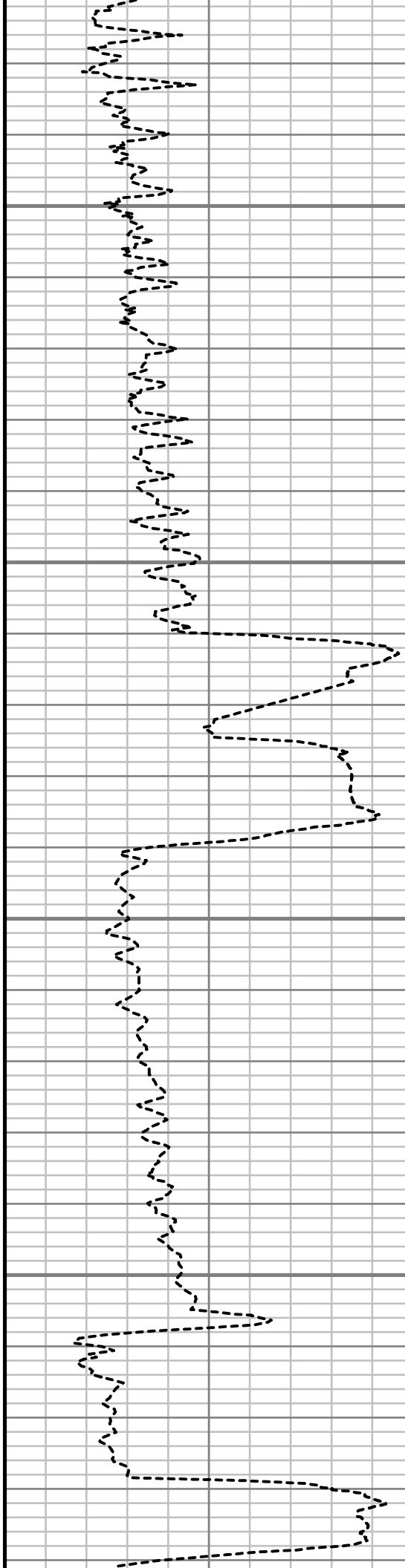


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9650

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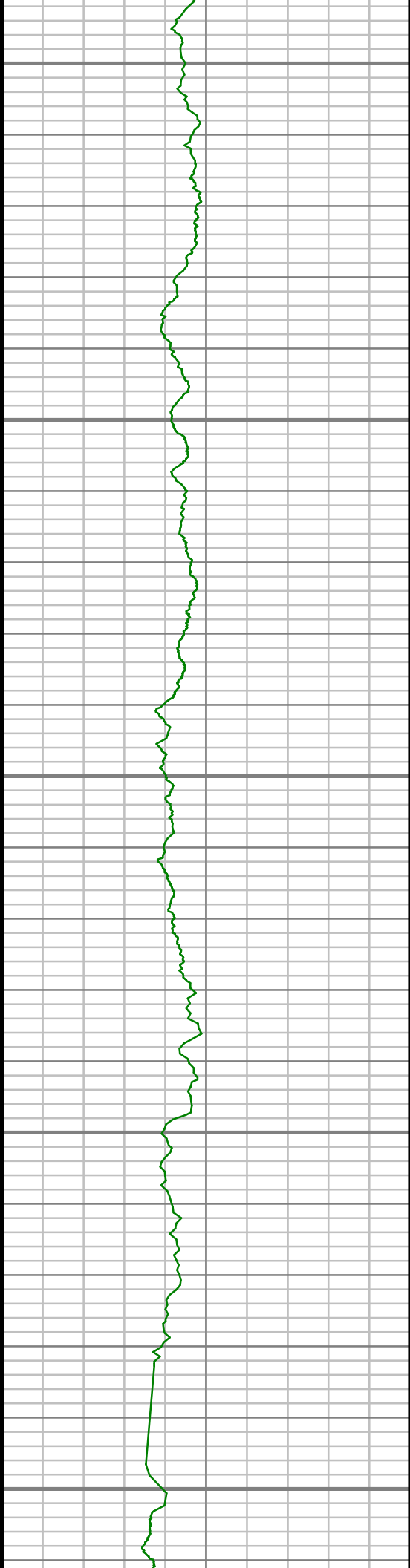
9750



S: 84 MD: 9606.00 ft Inc: 89.66  
deg Az: 176.49 deg TVD:  
7542.91 ft

S: 85 MD: 9701.00 ft Inc: 90.13  
deg Az: 178.18 deg TVD:  
7543.08 ft





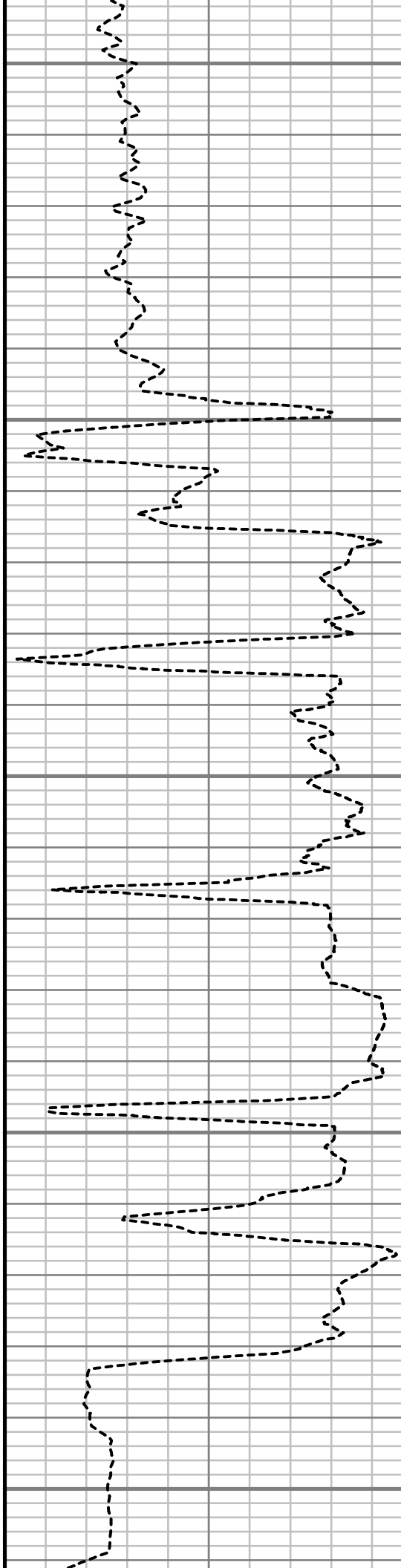
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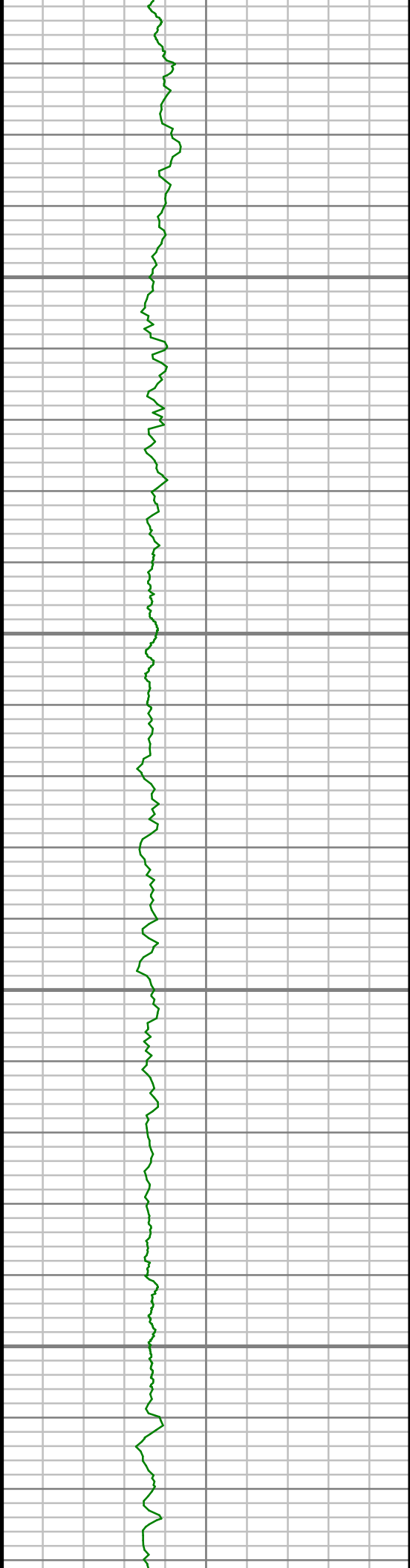
10000



S: 86 MD: 9795.00 ft Inc: 91.14  
deg Az: 177.35 deg TVD:  
7542.03 ft

S: 87 MD: 9890.00 ft Inc: 91.51  
deg Az: 178.48 deg TVD:  
7539.84 ft

S: 88 MD: 9985.00 ft Inc: 92.28  
deg Az: 178.19 deg TVD:  
7536.69 ft

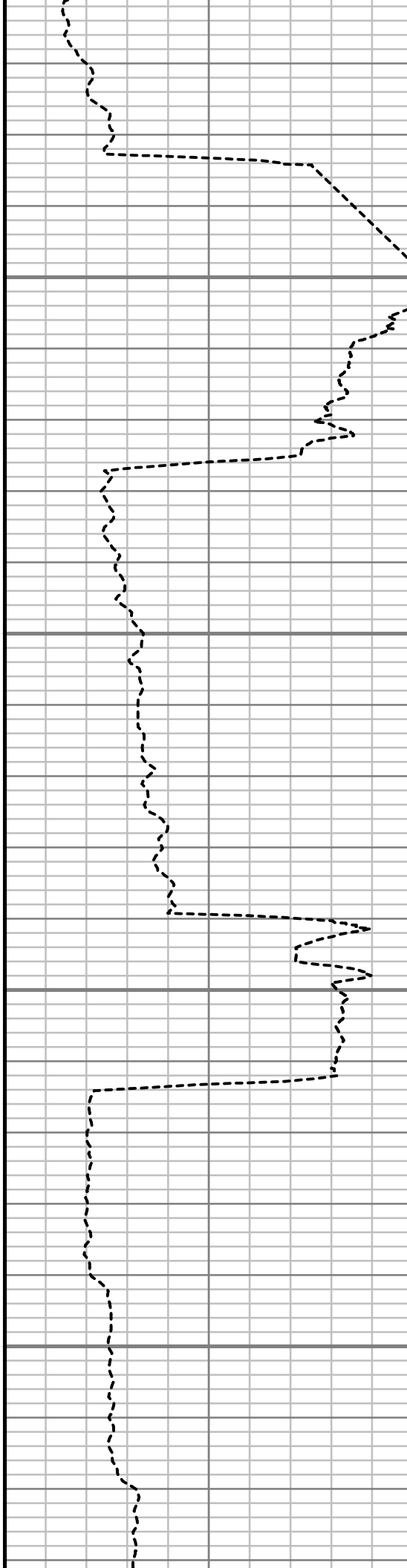


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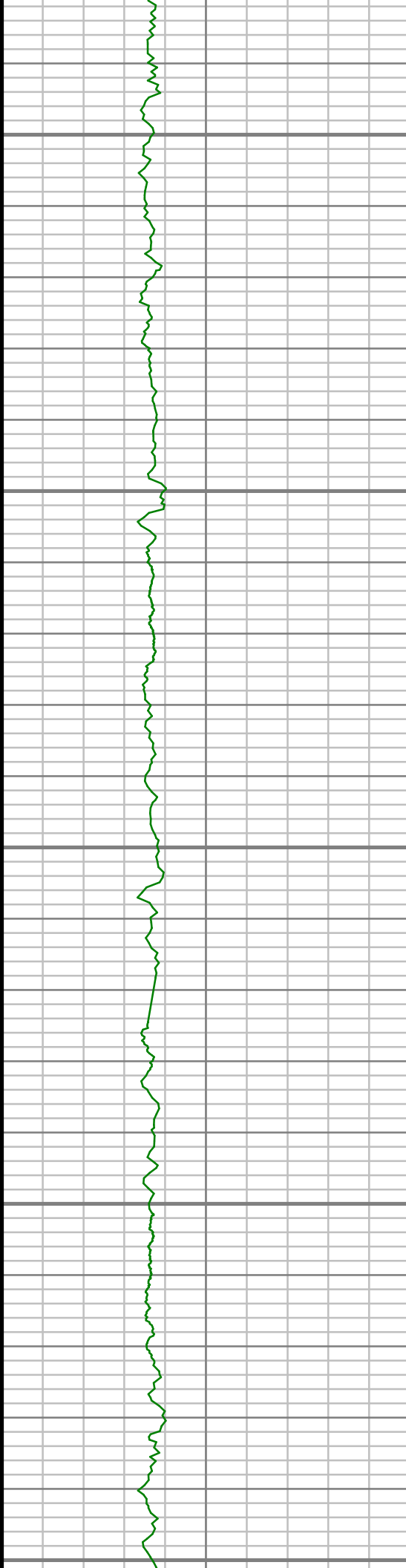
10150

10200



S: 89 MD: 10080.00 ft Inc:  
91.58 deg Az: 178.78 deg TVD:  
7533.49 ft

S: 90 MD: 10175.00 ft Inc:  
90.27 deg Az: 177.91 deg TVD:  
7531.96 ft



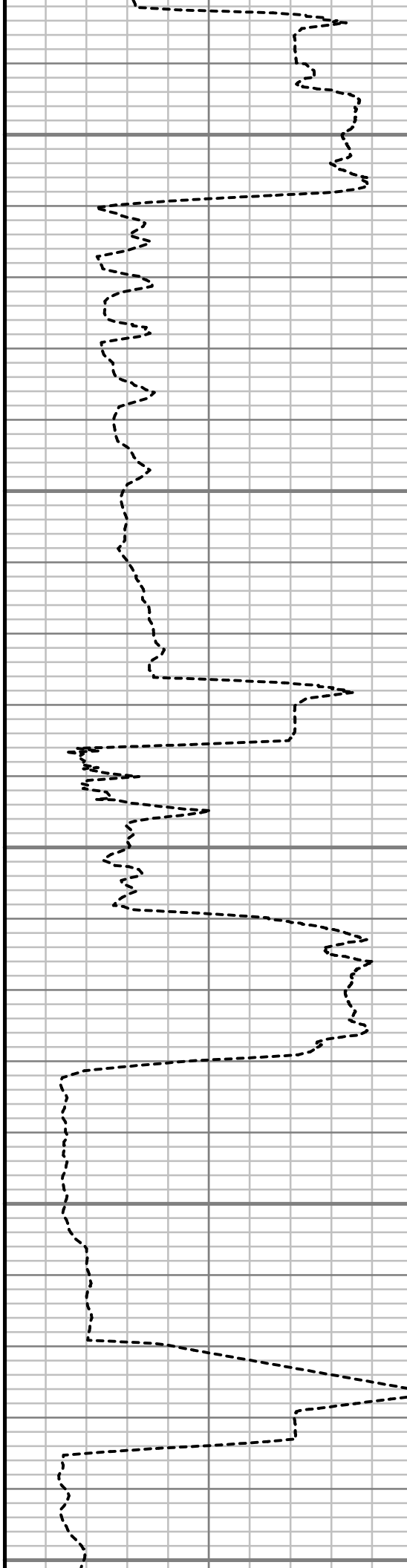
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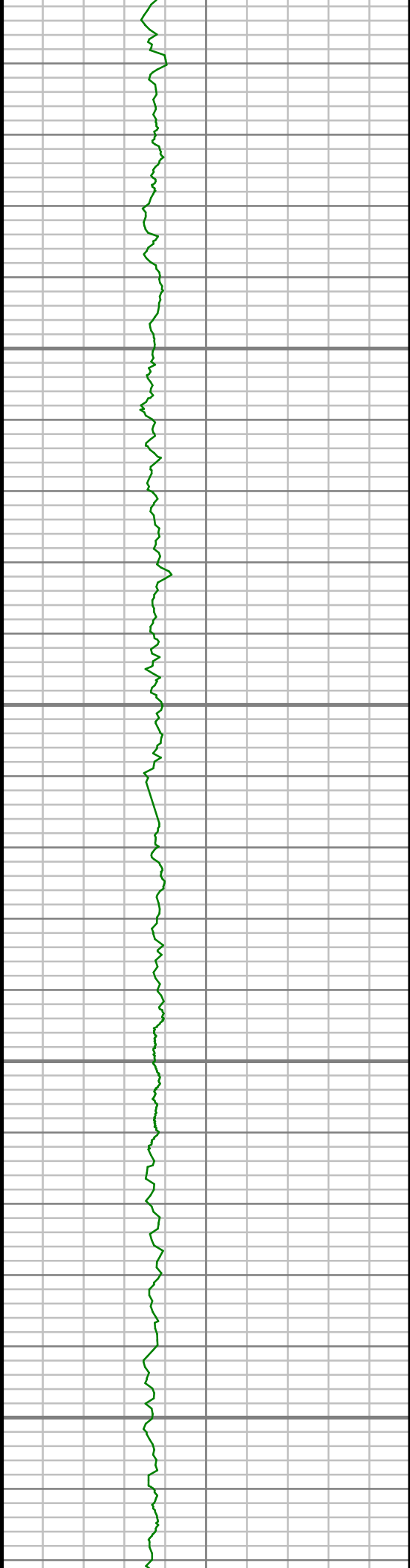
10400

10450



S: 91 MD: 10270.00 ft Inc:  
89.60 deg Az: 177.88 deg TVD:  
7532.08 ft

S: 92 MD: 10365.00 ft Inc:  
90.40 deg Az: 178.46 deg TVD:  
7532.08 ft

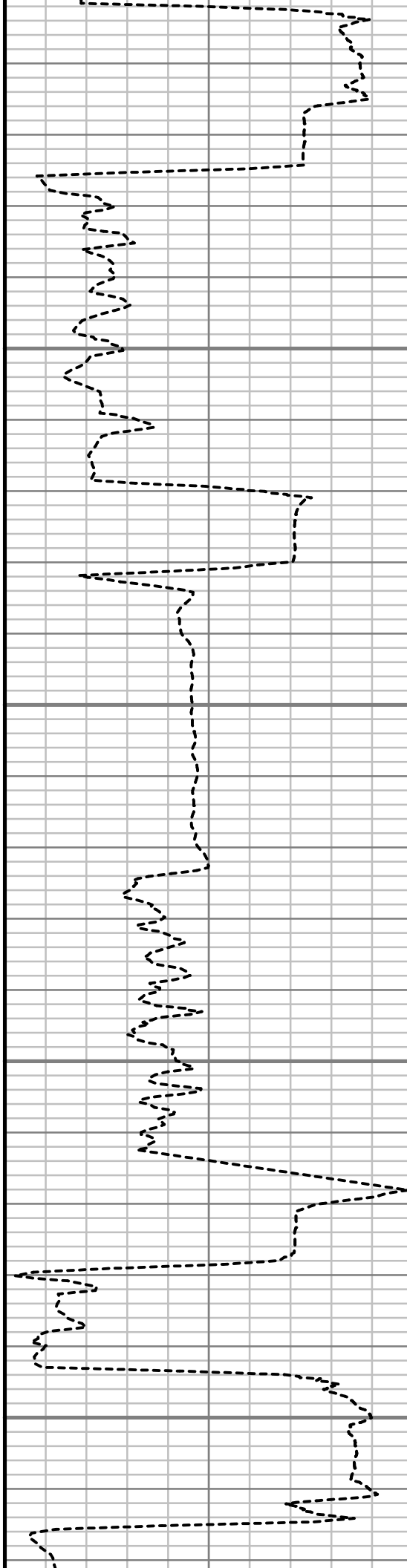


10500

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10600

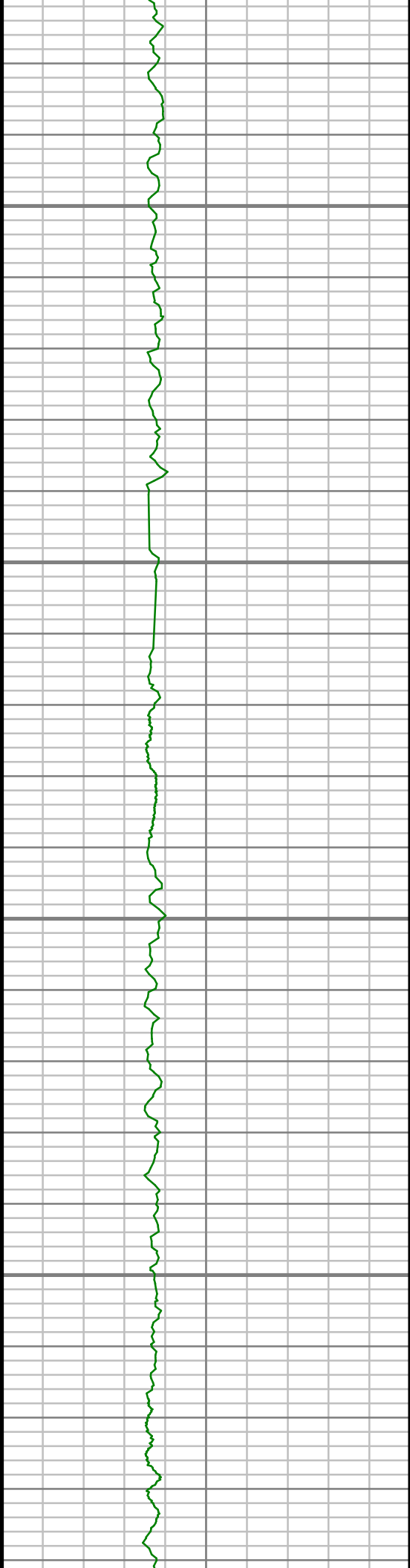
10650



S: 93 MD: 10460.00 ft Inc:  
89.80 deg Az: 178.81 deg TVD:  
7531.91 ft

S: 94 MD: 10555.00 ft Inc:  
90.27 deg Az: 177.90 deg TVD:  
7531.85 ft

S: 95 MD: 10649.00 ft Inc:  
89.87 deg Az: 177.97 deg TVD:  
7531.74 ft

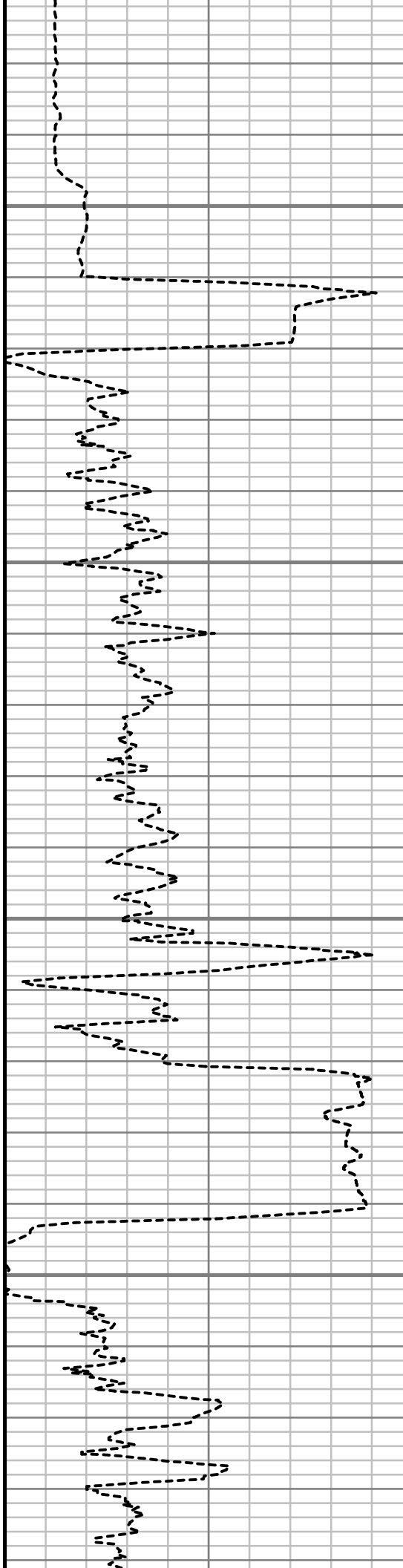


10700

10750

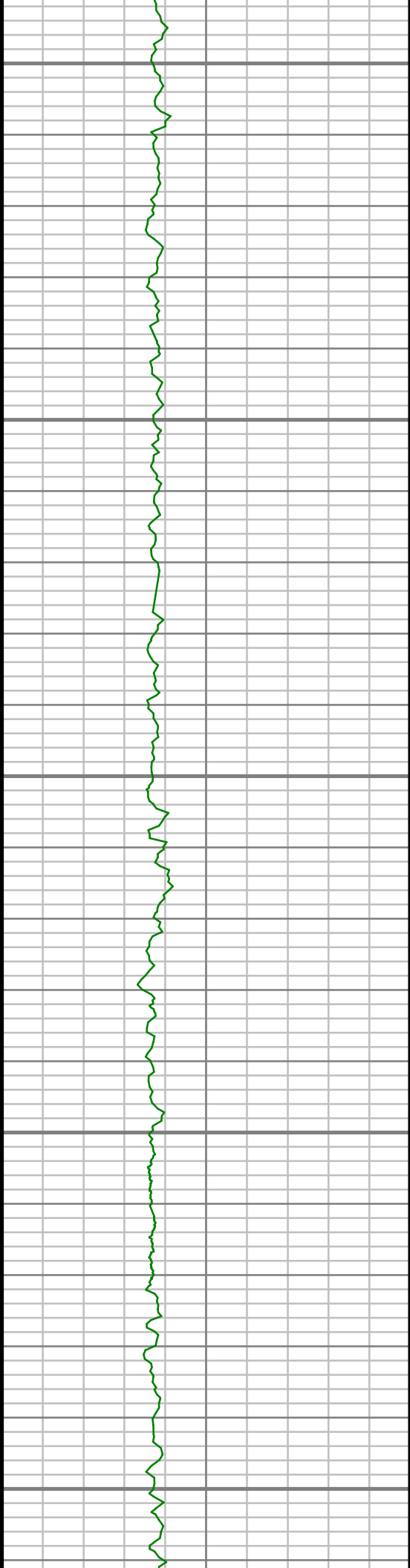
10800

10850



S: 96 MD: 10743.00 ft Inc:  
89.93 deg Az: 177.36 deg TVD:  
7531.91 ft

S: 97 MD: 10838.00 ft Inc:  
89.36 deg Az: 177.89 deg TVD:  
7532.49 ft



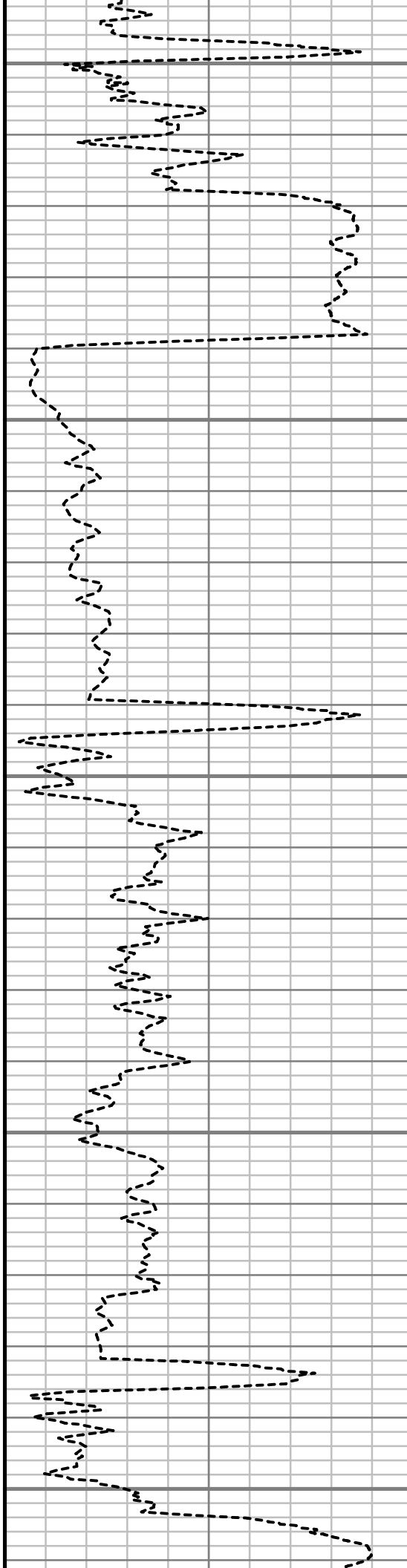
10900

10950

11000

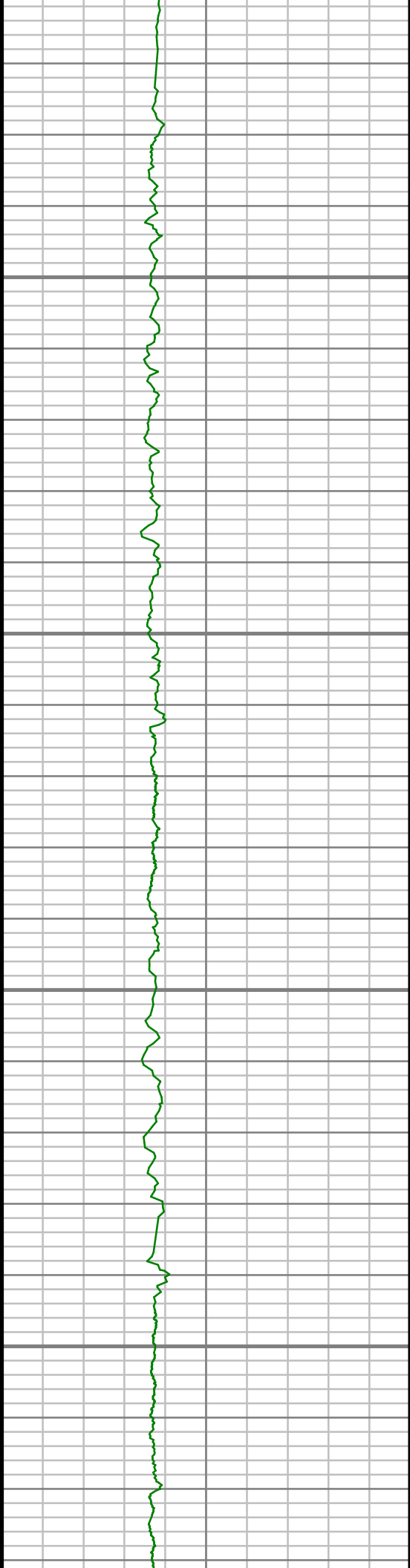
11050

11100



S: 98 MD: 10933.00 ft Inc:  
89.60 deg Az: 178.41 deg TVD:  
7533.35 ft

S: 99 MD: 11028.00 ft Inc:  
90.10 deg Az: 177.78 deg TVD:  
7533.60 ft

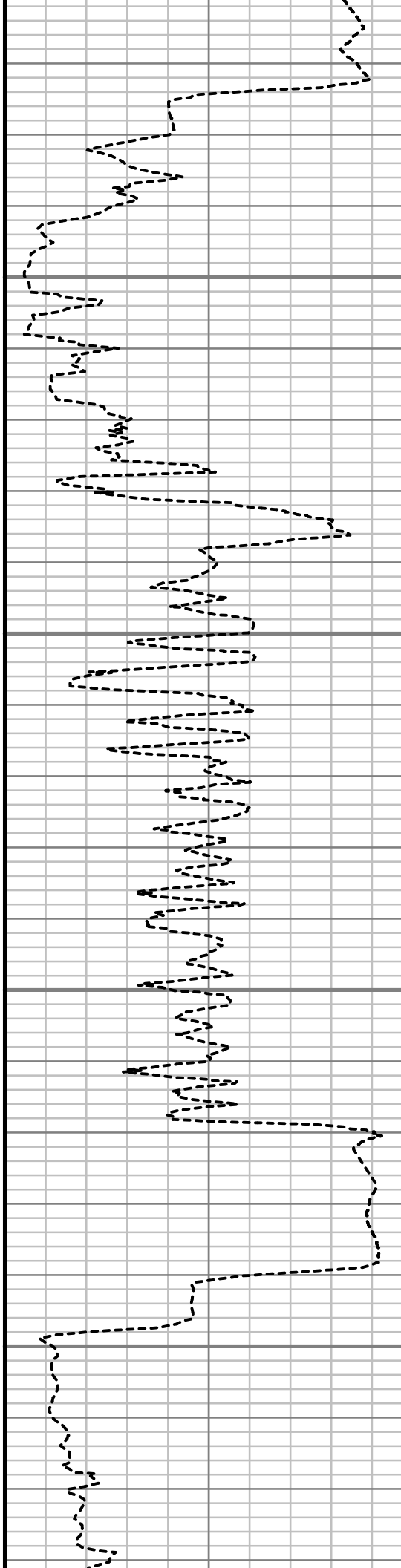


11150

11200

11250

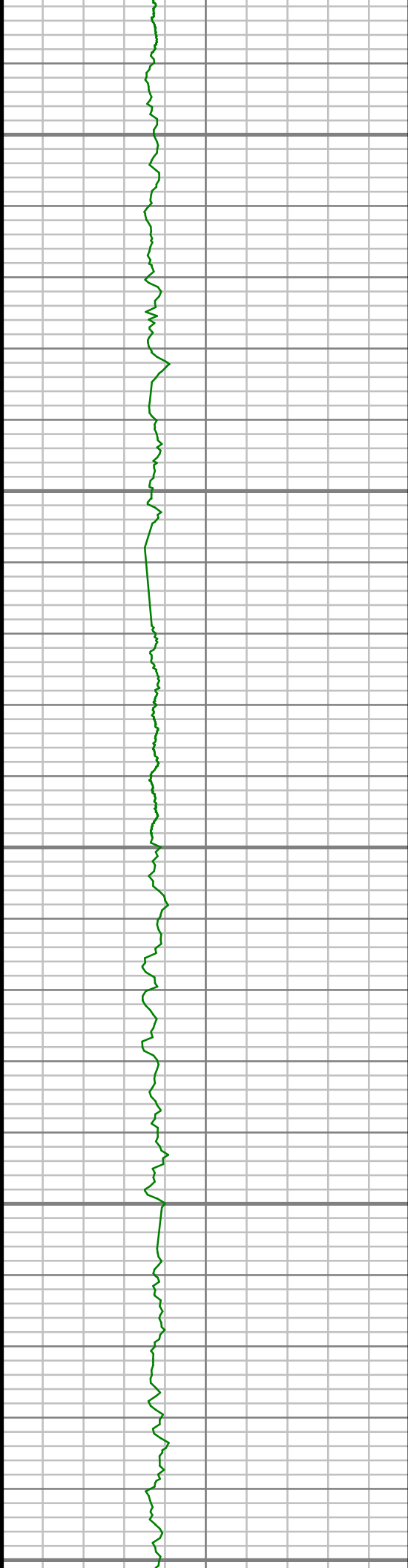
11300



S: 100 MD: 11123.00 ft Inc:  
90.20 deg Az: 179.08 deg TVD:  
7533.35 ft

S: 101 MD: 11217.00 ft Inc:  
90.47 deg Az: 177.28 deg TVD:  
7532.80 ft

S: 102 MD: 11312.00 ft Inc:  
90.44 deg Az: 178.03 deg TVD:  
7532.05 ft



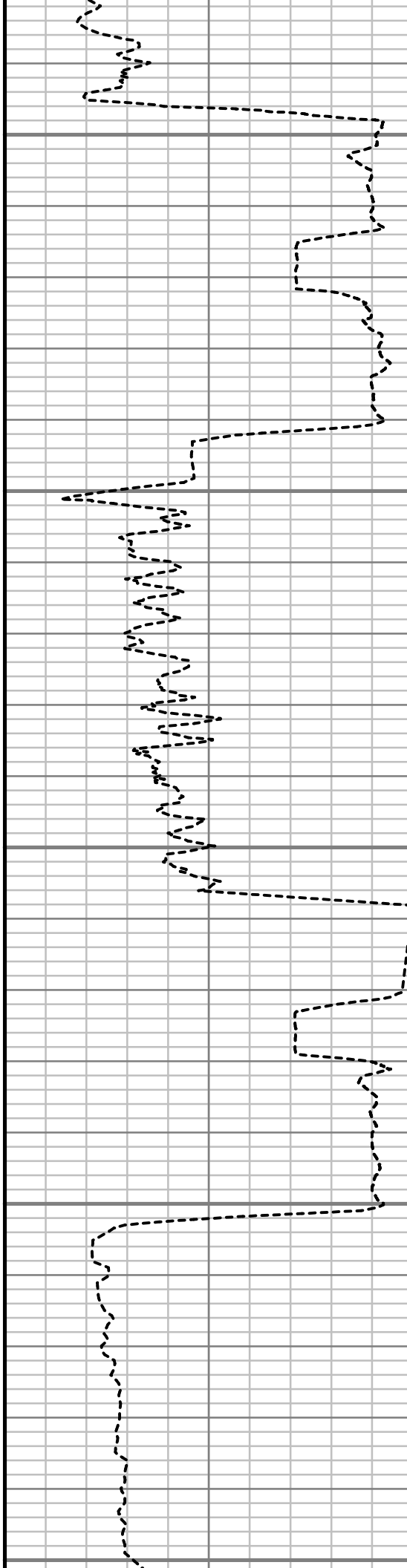
11350

11400

11450

11500

11550



S: 103 MD: 11407.00 ft Inc:  
90.00 deg Az: 178.47 deg TVD:  
7531.69 ft

S: 104 MD: 11502.00 ft Inc:  
89.60 deg Az: 179.02 deg TVD:  
7532.02 ft



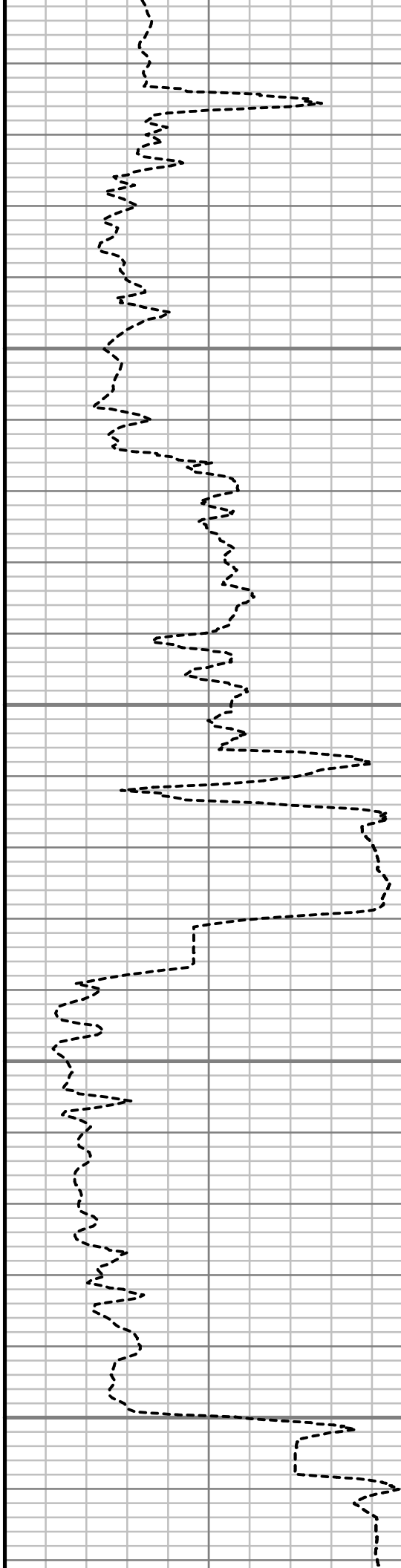


11600

11650

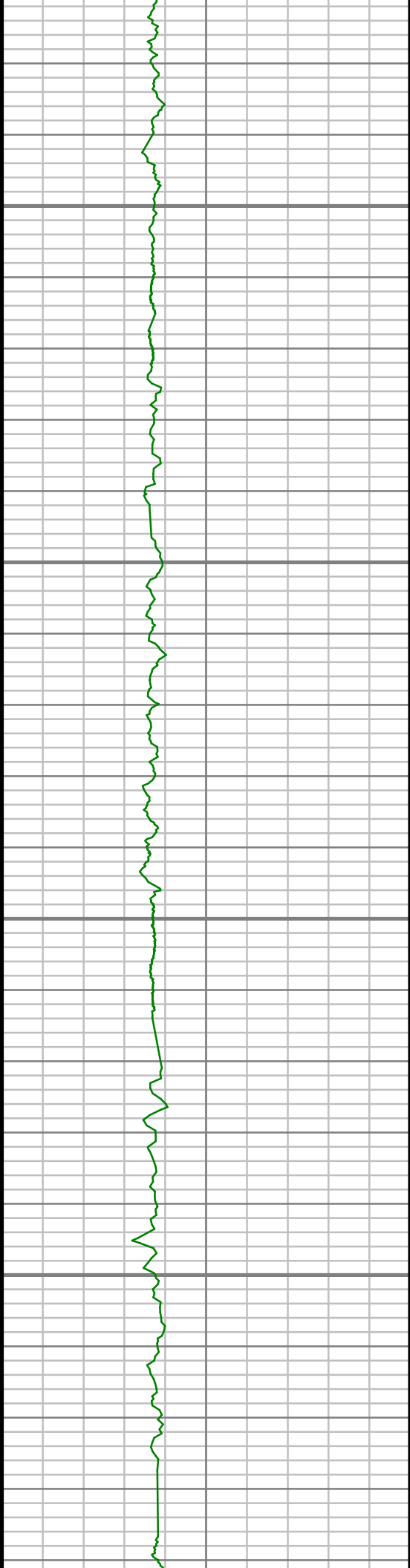
11700

11750



S: 105 MD: 11596.00 ft Inc:  
90.74 deg Az: 178.92 deg TVD:  
7531.75 ft

S: 106 MD: 11691.00 ft Inc:  
88.39 deg Az: 177.06 deg TVD:  
7532.47 ft

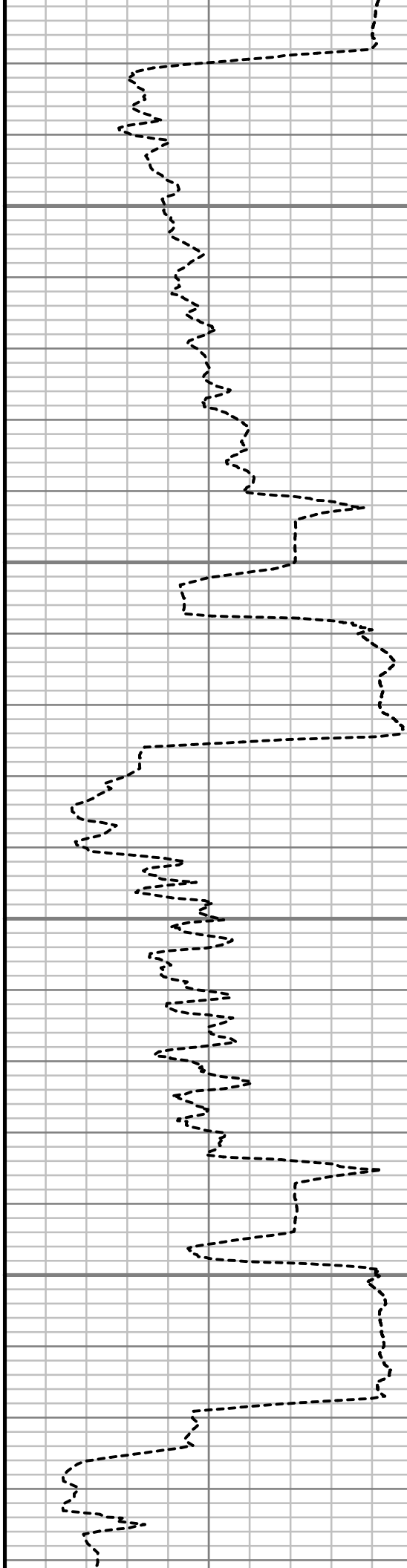


11800

11850

11900

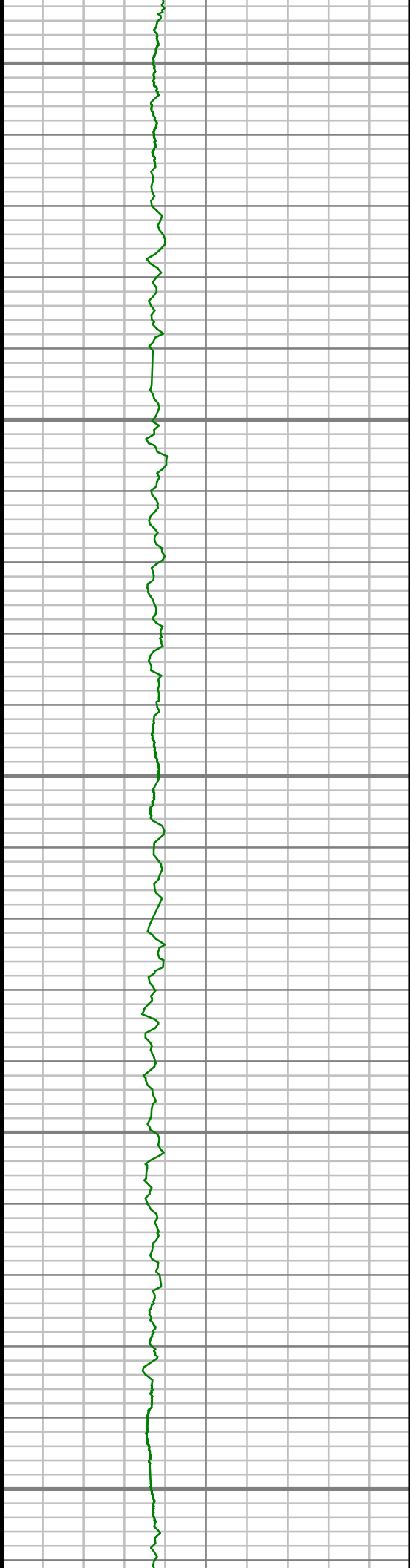
11950



S: 107 MD: 11785.00 ft Inc:  
89.46 deg Az: 178.15 deg TVD:  
7534.23 ft

S: 108 MD: 11880.00 ft Inc:  
90.13 deg Az: 178.05 deg TVD:  
7534.56 ft

S: 109 MD: 11974.00 ft Inc:  
90.54 deg Az: 178.26 deg TVD:  
7534.01 ft



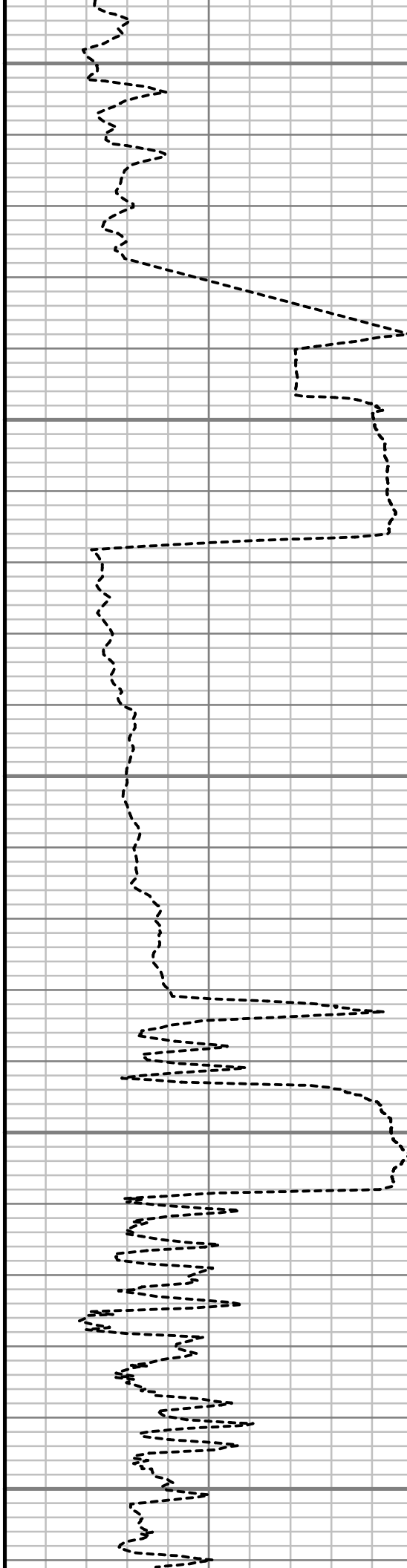
12000

12050

12100

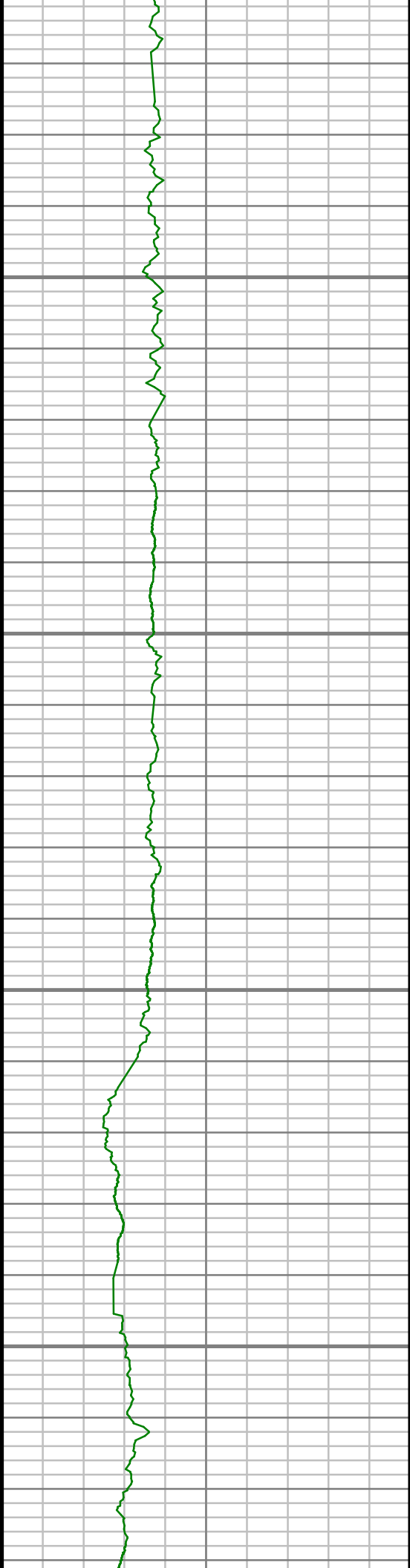
12150

12200



S: 110 MD: 12069.00 ft Inc:  
90.91 deg Az: 179.59 deg TVD:  
7532.82 ft

S: 111 MD: 12164.00 ft Inc:  
90.47 deg Az: 179.17 deg TVD:  
7531.67 ft

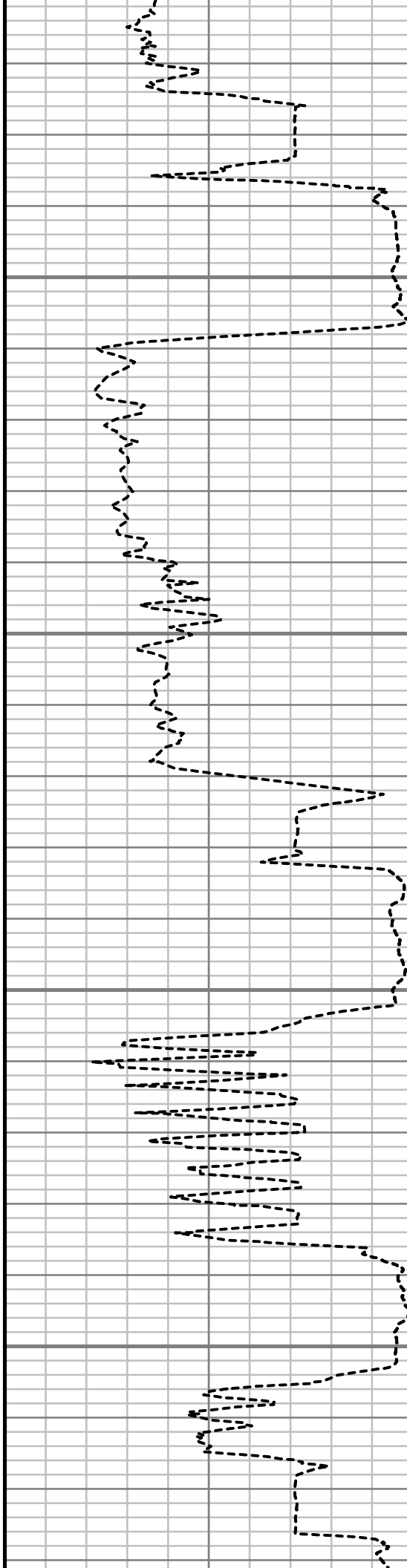


12250

12300

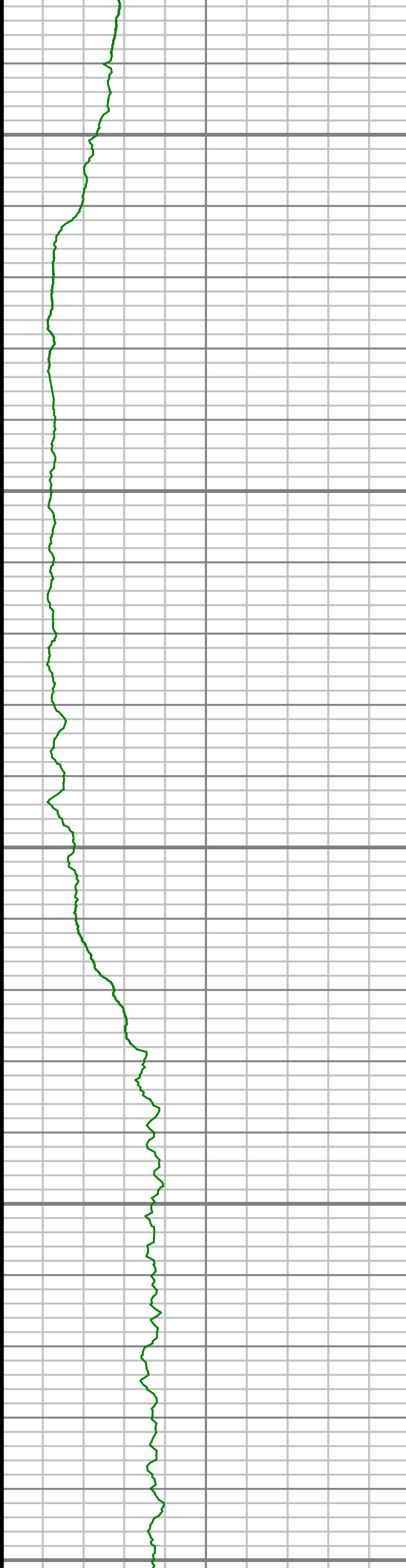
12350

12400



S: 112 MD: 12259.00 ft Inc:  
90.13 deg Az: 177.72 deg TVD:  
7531.17 ft

S: 113 MD: 12354.00 ft Inc:  
90.20 deg Az: 177.32 deg TVD:  
7530.89 ft



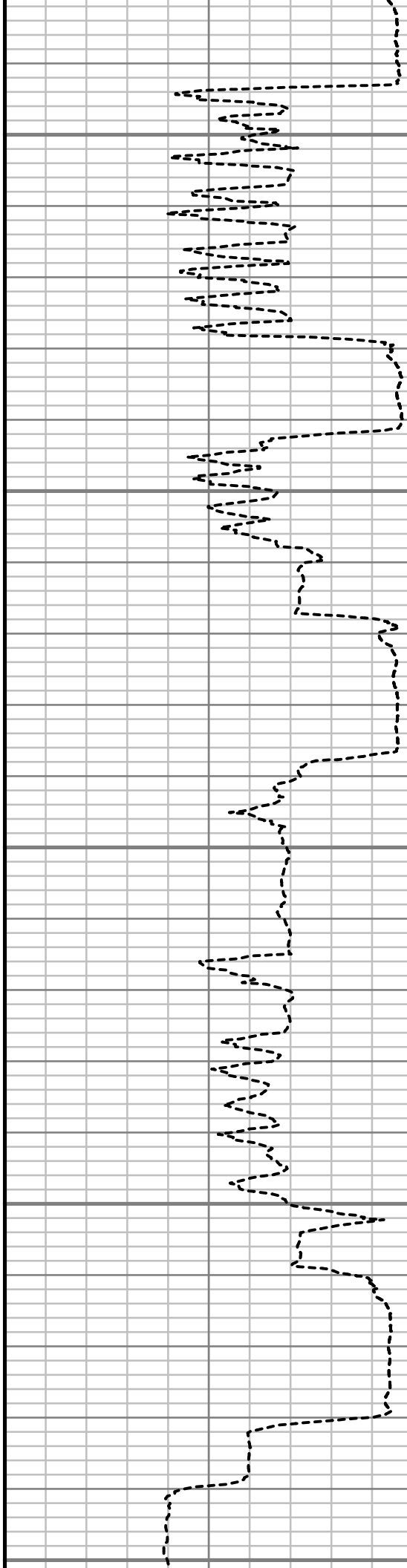
12450

12500

12550

12600

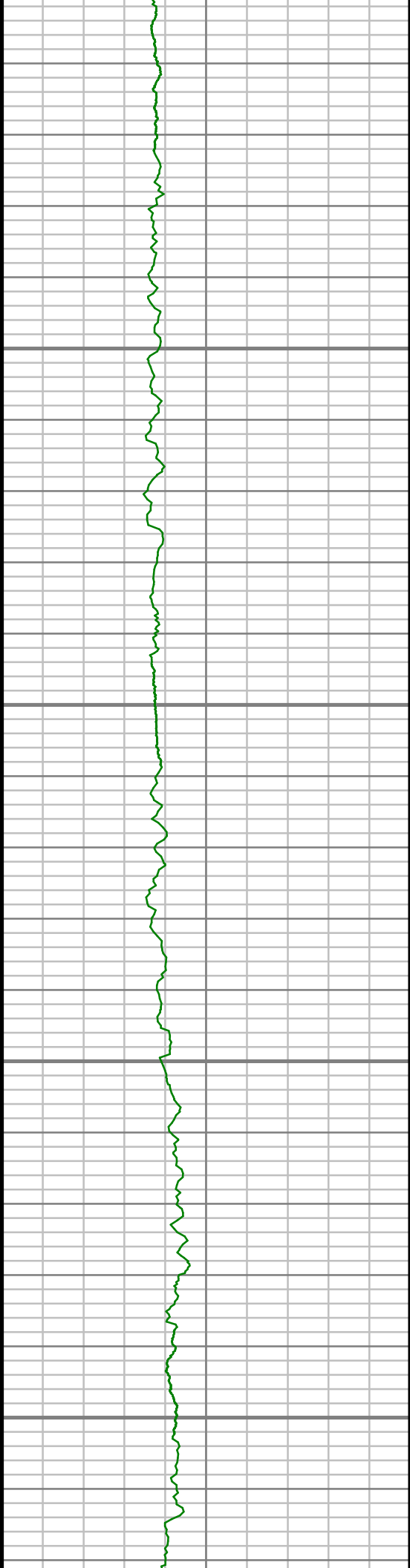
12650



S: 114 MD: 12449.00 ft Inc:  
90.67 deg Az: 179.37 deg TVD:  
7530.17 ft

S: 115 MD: 12543.00 ft Inc:  
89.03 deg Az: 181.44 deg TVD:  
7530.42 ft

S: 116 MD: 12638.00 ft Inc:  
88.42 deg Az: 182.52 deg TVD:  
7532.53 ft

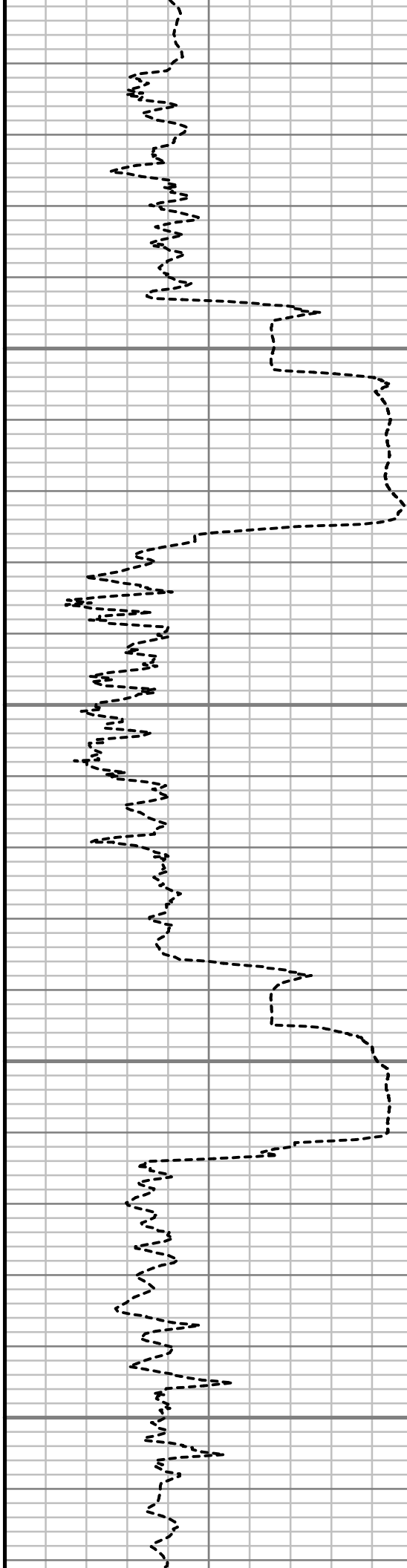


12700

12750

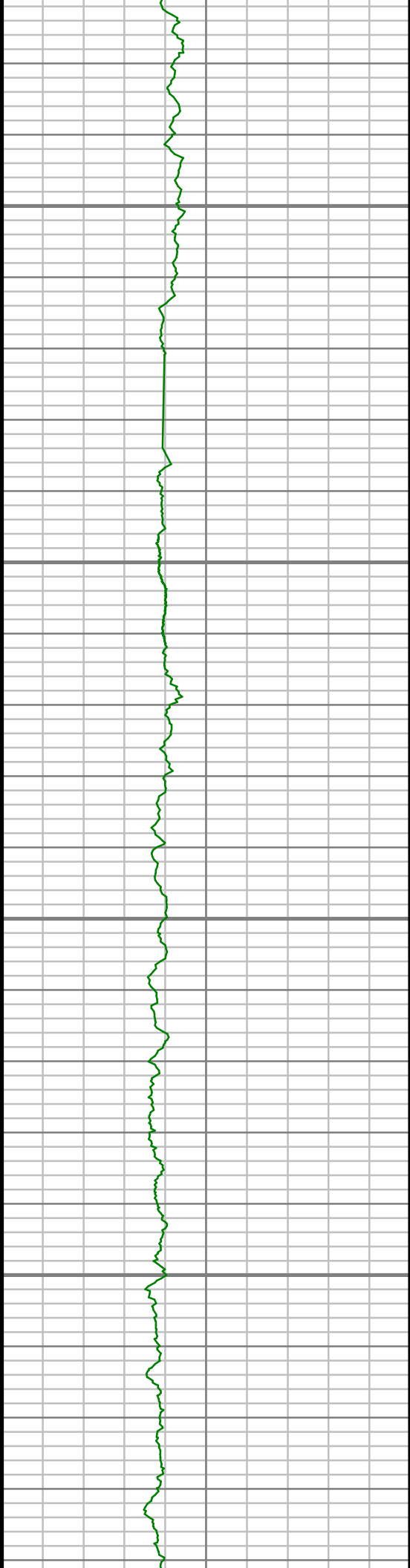
12800

12850



S: 117 MD: 12734.00 ft Inc:  
89.19 deg Az: 183.31 deg TVD:  
7534.52 ft

S: 118 MD: 12828.00 ft Inc:  
90.27 deg Az: 183.57 deg TVD:  
7534.96 ft

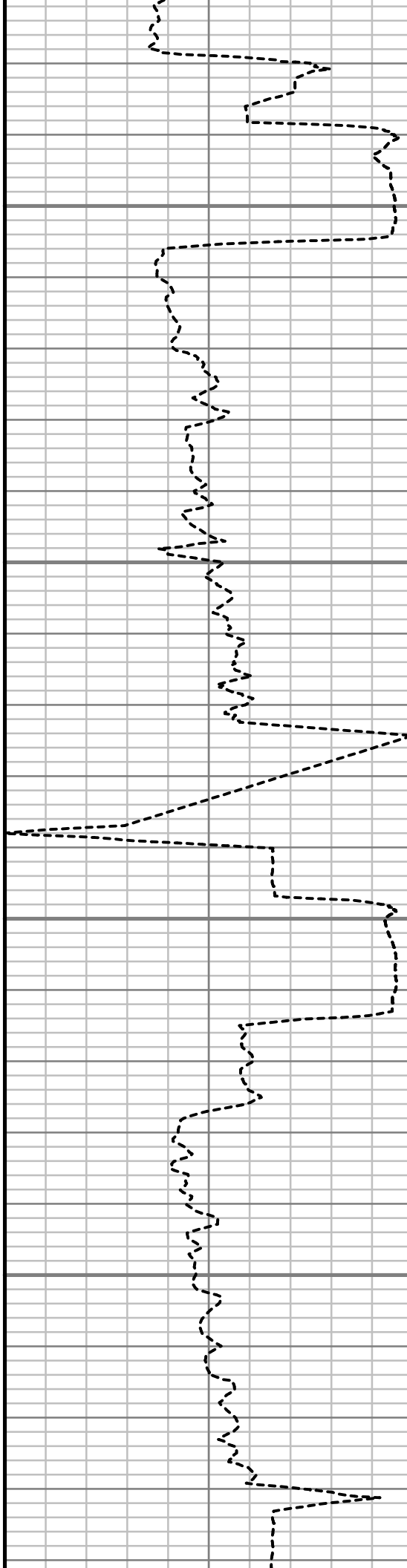


12900

12950

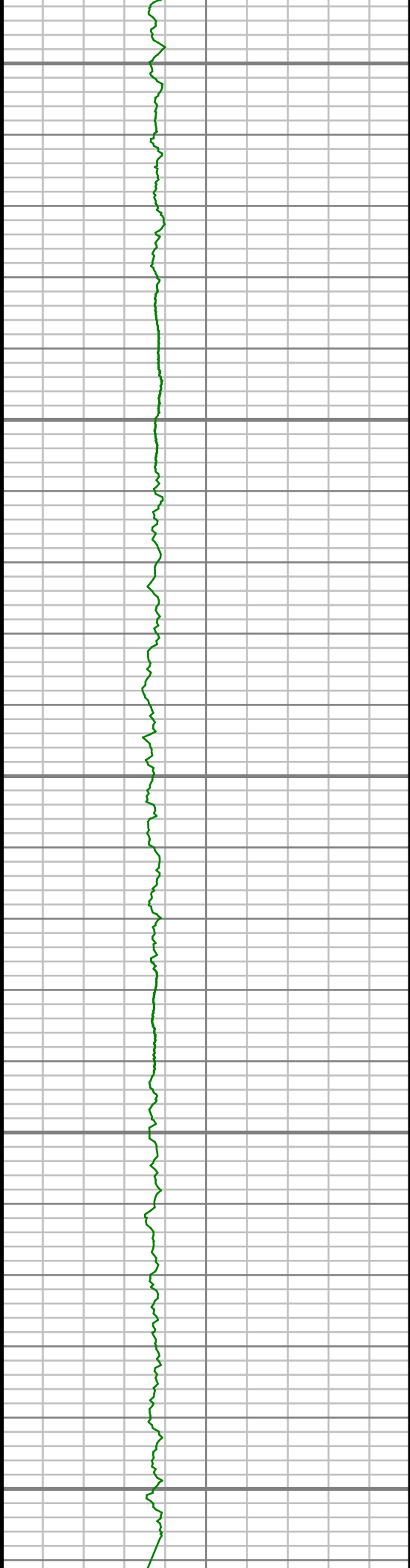
13000

13050



S: 119 MD: 12923.00 ft Inc:  
90.74 deg Az: 185.03 deg TVD:  
7534.13 ft

S: 120 MD: 13018.00 ft Inc:  
89.93 deg Az: 184.84 deg TVD:  
7533.57 ft



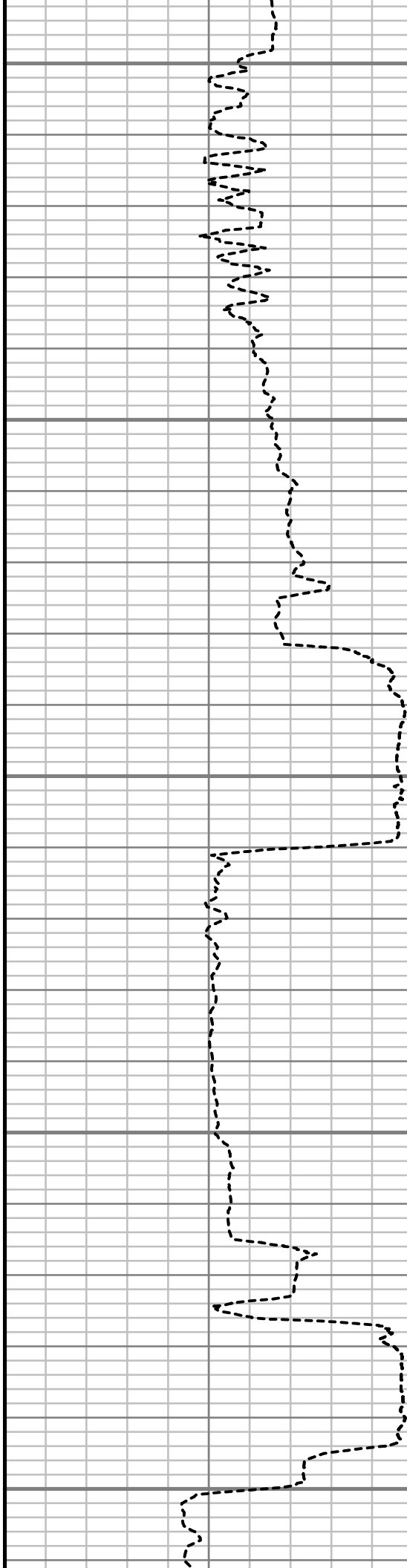
13100

13150

13200

13250

13300

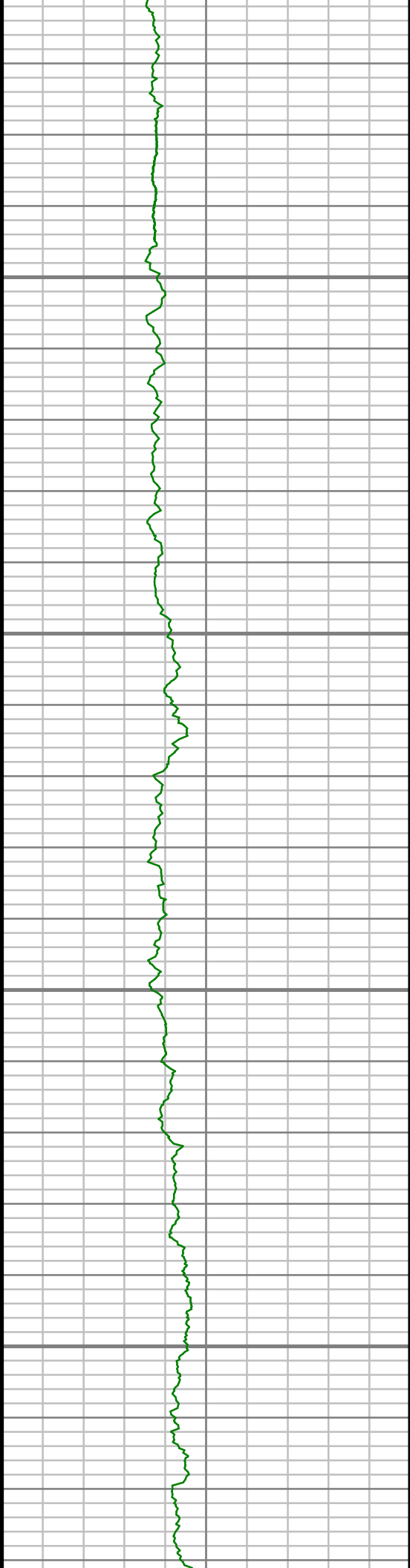


S: 121 MD: 13112.00 ft Inc:  
90.94 deg Az: 183.56 deg TVD:  
7532.86 ft

S: 122 MD: 13207.00 ft Inc:  
89.06 deg Az: 181.95 deg TVD:  
7532.86 ft

S: 123 MD: 13302.00 ft Inc:  
88.76 deg Az: 181.81 deg TVD:  
7534.66 ft





13350

13400

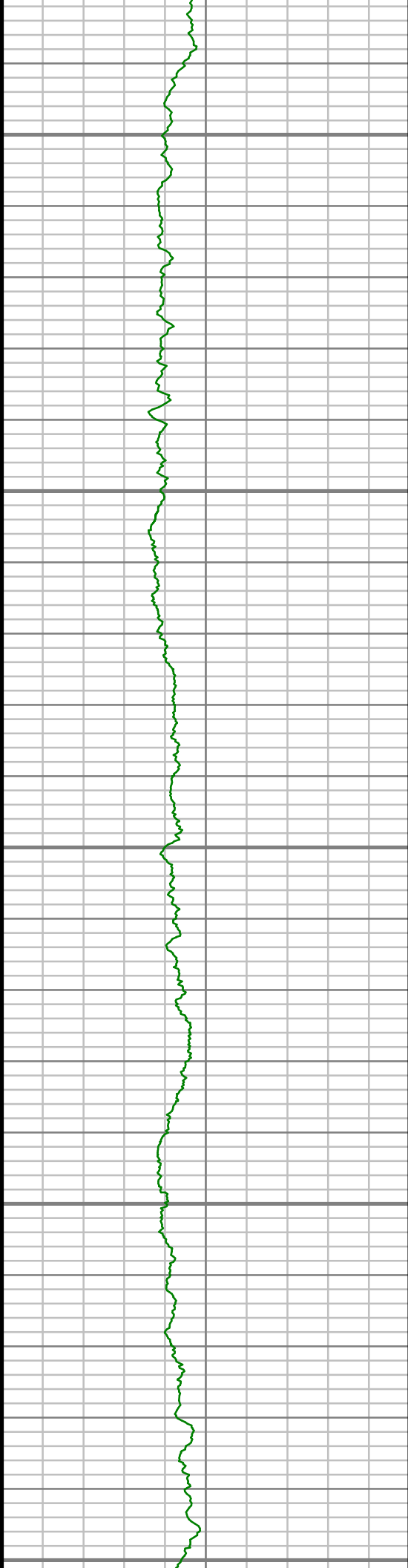
13450

13500



S: 124 MD: 13397.00 ft Inc:  
88.79 deg Az: 182.39 deg TVD:  
7536.69 ft

S: 125 MD: 13491.00 ft Inc:  
89.43 deg Az: 182.62 deg TVD:  
7538.15 ft



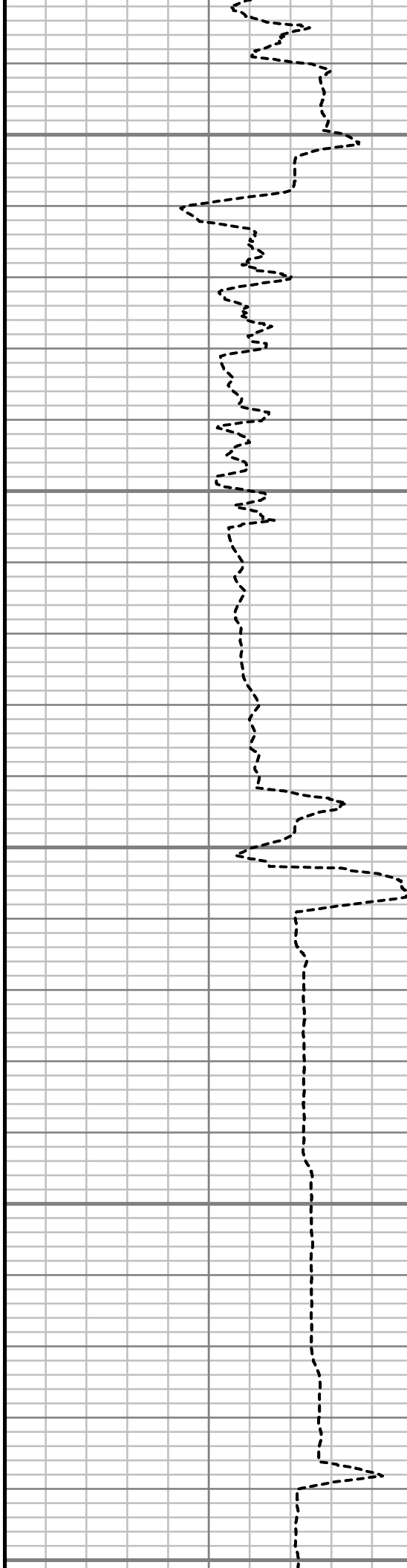
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13600

13650

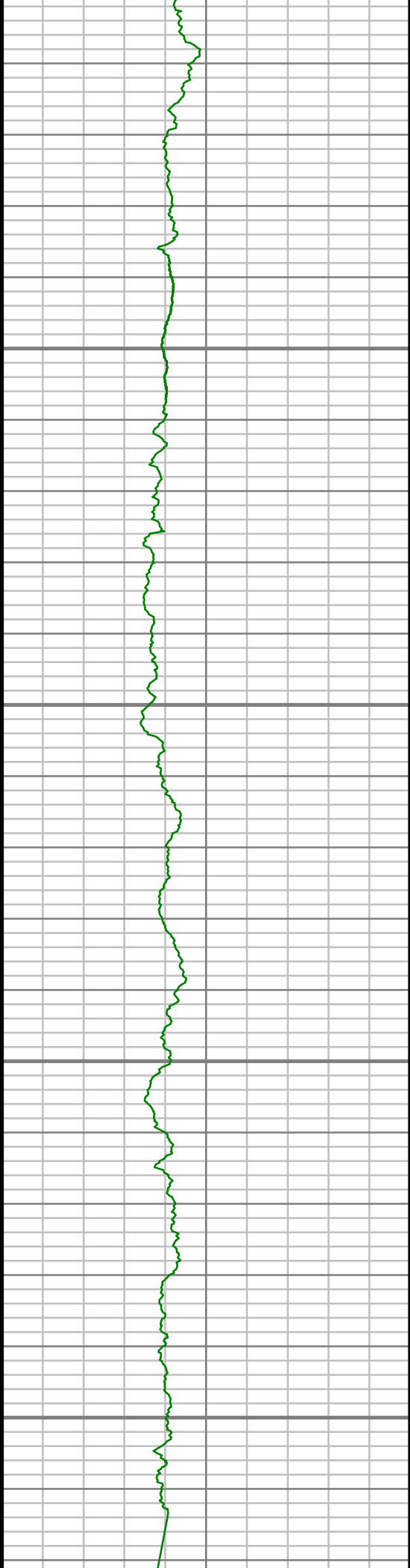
13700

13750



S: 126 MD: 13586.00 ft Inc:  
89.33 deg Az: 181.28 deg TVD:  
7539.18 ft

S: 127 MD: 13681.00 ft Inc:  
89.97 deg Az: 181.48 deg TVD:  
7539.77 ft



13800

13850

13900

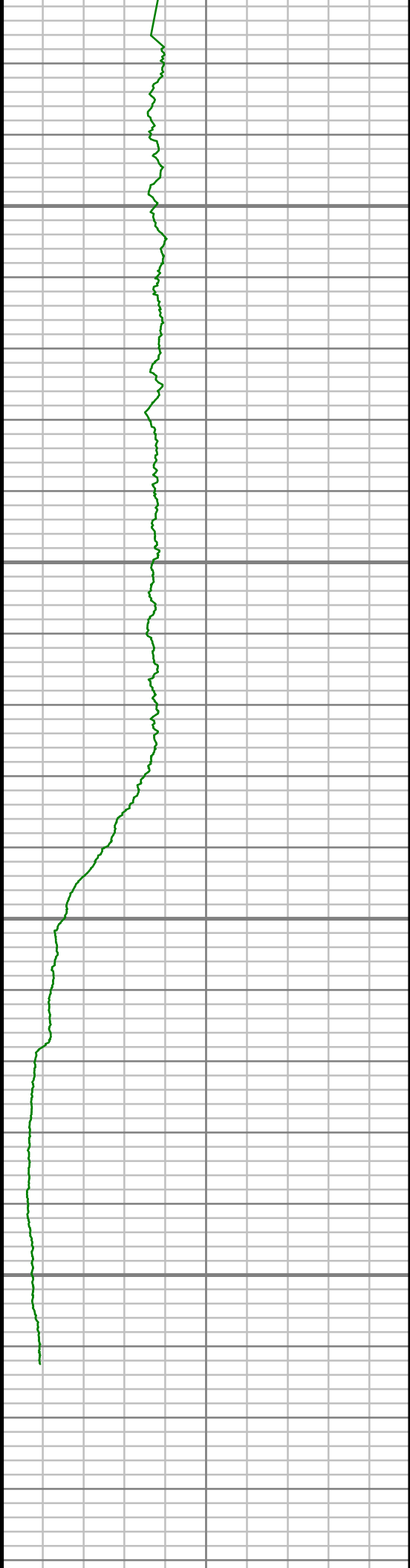
13950



S: 128 MD: 13776.00 ft Inc:  
91.11 deg Az: 181.17 deg TVD:  
7538.88 ft

S: 129 MD: 13870.00 ft Inc:  
90.44 deg Az: 180.07 deg TVD:  
7537.61 ft

S: 130 MD: 13965.00 ft Inc:  
91.54 deg Az: 179.56 deg TVD:  
7535.07 ft

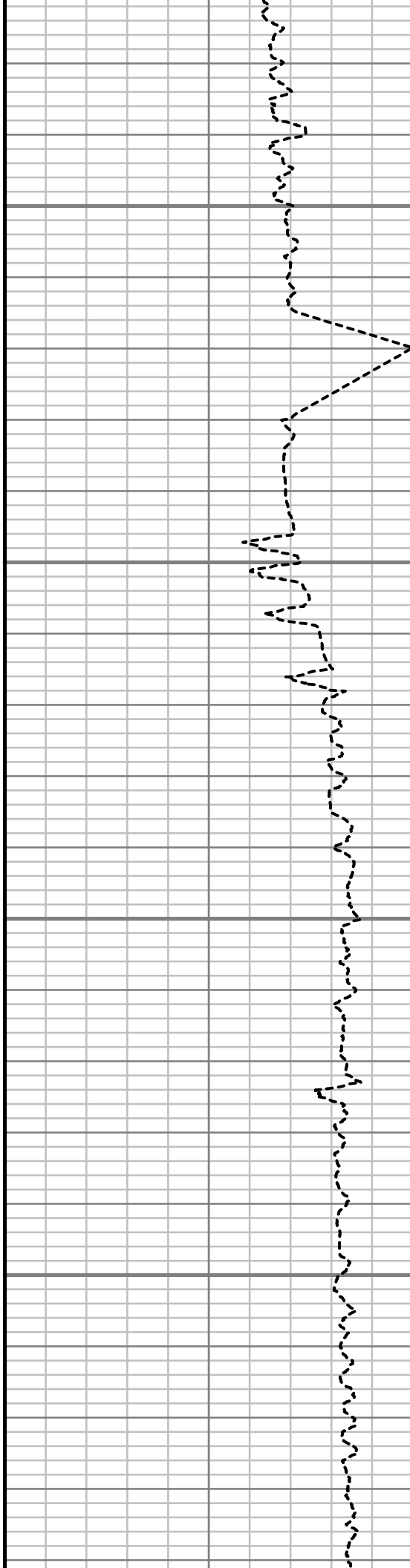


14000

14050

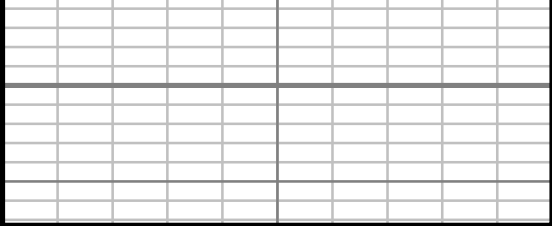
14100

14150



S: 131 MD: 14060.00 ft Inc:  
92.58 deg Az: 178.15 deg TVD:  
7532.55 ft

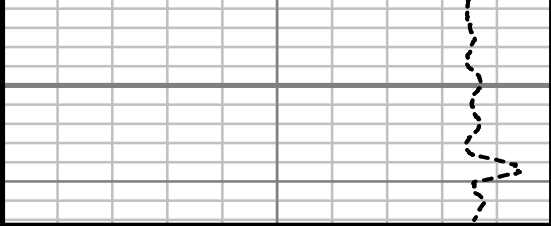
S: 132 MD: 14151.00 ft Inc:  
92.82 deg Az: 176.72 deg TVD:  
7528.26 ft



Gamma Ray (GR)									
0	Unit = aapi								150

14200

MEASURED DEPTH  
1:240 (#)



Rate of Penetration (ROP)									
400	Unit = ft/hr								0



Comments
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# Survey Report

<b>Customer Name:</b>	ENCANA OIL AND GAS (USA) INC						
<b>Site Name:</b>	RODMAN BRUNTZ						
<b>Well Name:</b>	RODMAN BRUNTZ 2B-26H						
<b>Survey:</b>	RODMAN BRUNTZ 2B-26H						
<b>Survey Date:</b>	12/31/2013						
<b>Magnetic Declination:</b>	8.49 deg						
<b>North Reference:</b>	True North						
<b>Calculation Method:</b>	Minimum Curvature						
<b>Section (VS) Ref:</b>	0.00N (ft), 0.00E (ft), 180.00Azim (deg)						
<b>MD</b> ft	<b>Inc</b> deg	<b>Azim</b> deg	<b>TVD</b> ft	<b>VS</b> ft	<b>+N/-S</b> ft	<b>+E/-W</b> ft	<b>DLS</b> 7100ft
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid
527.00	0.35	38.74	527.00	-1.24	1.24	1.00	0.07
806.00	0.36	22.25	805.99	-2.70	2.70	1.85	0.04
898.00	0.77	320.46	897.99	-3.45	3.45	1.57	0.74
991.00	0.44	308.74	990.98	-4.16	4.16	0.89	0.38
1084.00	0.61	323.38	1083.98	-4.77	4.77	0.32	0.23
1172.00	1.29	320.82	1171.97	-5.91	5.91	-0.59	0.78
1264.00	1.48	299.08	1263.94	-7.29	7.29	-2.28	0.60
1450.00	4.57	301.22	1449.66	-12.30	12.30	-10.71	1.66

<b>MD</b> ft	<b>Inc</b> deg	<b>Azim</b> deg	<b>TVD</b> ft	<b>VS</b> ft	<b>+N/-S</b> ft	<b>+E/-W</b> ft	<b>DLS</b> 7100ft
1636.00	5.93	309.55	1634.88	-22.26	22.26	-24.46	0.84
1822.00	6.18	304.20	1819.84	-34.01	34.01	-40.15	0.33
2010.00	5.79	295.60	2006.82	-43.79	43.79	-57.07	0.52
2199.00	5.56	307.79	2194.90	-53.52	53.52	-72.90	0.65
2389.00	5.49	304.22	2384.02	-64.27	64.27	-87.69	0.18
2578.00	4.44	323.88	2572.32	-75.26	75.26	-99.48	1.05
2768.00	3.56	314.18	2761.86	-85.32	85.32	-108.05	0.58
2958.00	5.08	305.70	2951.31	-94.35	94.35	-119.12	0.87
3147.00	5.01	306.50	3139.58	-104.14	104.14	-132.56	0.05
3336.00	4.06	304.35	3327.98	-112.83	112.83	-144.72	0.51
3526.00	5.29	305.69	3517.35	-121.74	121.74	-157.40	0.65
3715.00	3.23	296.77	3705.82	-129.23	129.23	-169.23	1.15
3905.00	4.96	307.32	3895.33	-136.62	136.62	-180.54	0.99
4094.00	6.78	302.01	4083.33	-147.49	147.49	-196.50	1.00
4284.00	5.54	298.38	4272.23	-157.79	157.79	-214.07	0.69
4473.00	7.25	304.38	4460.05	-168.86	168.86	-231.94	0.97
4664.00	6.25	307.06	4649.72	-181.94	181.94	-250.19	0.55
4853.00	6.88	313.94	4837.49	-195.98	195.98	-266.54	0.53
5043.00	6.33	310.41	5026.23	-210.67	210.67	-282.71	0.36
5233.00	6.53	303.46	5215.03	-223.41	223.41	-299.69	0.42

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
5422.00	6.07	312.73	5402.90	-236.11	236.11	-316.00	0.59
5612.00	5.36	321.04	5591.96	-249.83	249.83	-328.96	0.57
5802.00	3.60	340.14	5781.38	-262.34	262.34	-336.56	1.20
5991.00	1.69	325.64	5970.17	-270.22	270.22	-340.15	1.06
6180.00	2.60	307.67	6159.04	-275.14	275.14	-345.11	0.59
6370.00	2.77	279.20	6348.84	-278.50	278.50	-353.05	0.70
6559.00	5.01	291.70	6537.39	-282.29	282.29	-365.23	1.26
6748.00	5.73	302.40	6725.57	-290.39	290.39	-380.86	0.65
6906.00	3.81	308.90	6883.01	-297.92	297.92	-391.62	1.26
6938.00	3.21	291.60	6914.95	-298.92	298.92	-393.28	3.78
6969.00	3.04	240.08	6945.91	-298.83	298.83	-394.80	8.78
7001.00	5.58	211.79	6977.82	-297.08	297.08	-396.35	10.14
7033.00	7.66	200.95	7009.61	-293.77	293.77	-397.94	7.55
7064.00	10.24	197.88	7040.23	-289.21	289.21	-399.52	8.44
7096.00	14.27	198.73	7071.49	-282.77	282.77	-401.66	12.61
7127.00	16.76	195.99	7101.36	-274.85	274.85	-404.12	8.36
7159.00	18.33	194.06	7131.87	-265.54	265.54	-406.62	5.22
7191.00	20.19	192.55	7162.08	-255.27	255.27	-409.04	6.04
7222.00	23.26	187.34	7190.88	-243.97	243.97	-410.98	11.69

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
7254.00	27.29	183.84	7219.81	-230.37	230.37	-412.28	13.42
7285.00	29.41	182.20	7247.09	-215.68	215.68	-413.05	7.28
7317.00	31.08	180.41	7274.73	-199.56	199.56	-413.41	5.93
7349.00	34.29	177.71	7301.66	-182.29	182.29	-413.11	11.02
7380.00	37.78	177.09	7326.73	-164.07	164.07	-412.28	11.31
7412.00	39.40	177.59	7351.74	-144.14	144.14	-411.35	5.14
7443.00	41.93	179.44	7375.25	-123.95	123.95	-410.84	9.06
7475.00	46.11	180.60	7398.26	-101.71	101.71	-410.85	13.30
7507.00	50.49	182.13	7419.54	-77.84	77.84	-411.43	14.15
7538.00	53.38	182.05	7438.65	-53.45	53.45	-412.32	9.33
7570.00	56.88	180.87	7456.95	-27.21	27.21	-412.99	11.34
7601.00	61.33	179.47	7472.86	-0.61	0.61	-413.06	14.87
7633.00	66.18	179.14	7487.01	28.08	-28.08	-412.71	15.17
7665.00	69.27	178.83	7499.14	57.68	-57.68	-412.18	9.71
7696.00	72.12	178.37	7509.39	86.92	-86.92	-411.47	9.31
7728.00	76.01	178.39	7518.17	117.68	-117.68	-410.60	12.15
7799.00	85.05	178.87	7529.84	187.62	-187.62	-408.93	12.74
7830.00	87.54	179.61	7531.85	218.55	-218.55	-408.52	8.40
7923.00	89.02	179.74	7534.64	311.50	-311.50	-407.99	1.60
8016.00	88.15	180.53	7536.93	404.47	-404.47	-408.21	1.27

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
8109.00	87.82	179.19	7540.20	497.41	-497.41	-407.99	1.48
8202.00	88.76	180.12	7542.98	590.36	-590.36	-407.43	1.42
8295.00	89.26	179.34	7544.58	683.35	-683.35	-406.98	1.00
8388.00	89.26	180.74	7545.78	776.34	-776.34	-407.04	1.51
8481.00	90.54	180.76	7545.94	869.33	-869.33	-408.25	1.38
8574.00	89.66	179.83	7545.78	962.33	-962.33	-408.73	1.37
8667.00	90.27	179.31	7545.83	1055.32	-1055.32	-408.04	0.86
8760.00	90.03	179.60	7545.59	1148.32	-1148.32	-407.15	0.40
8853.00	90.34	177.28	7545.29	1241.28	-1241.28	-404.61	2.51
8946.00	89.70	177.29	7545.26	1334.17	-1334.17	-400.21	0.69
9039.00	90.47	177.85	7545.12	1427.09	-1427.09	-396.26	1.02
9132.00	90.37	177.96	7544.44	1520.02	-1520.02	-392.86	0.16
9226.00	90.07	176.37	7544.08	1613.90	-1613.90	-388.21	1.73
9321.00	91.11	176.44	7543.11	1708.71	-1708.71	-382.25	1.10
9416.00	90.07	176.15	7542.13	1803.50	-1803.50	-376.11	1.14
9511.00	89.66	176.63	7542.36	1898.31	-1898.31	-370.12	0.66
9606.00	89.66	176.49	7542.91	1993.14	-1993.14	-364.42	0.14
9701.00	90.13	178.18	7543.08	2088.03	-2088.03	-360.00	1.85
9795.00	91.14	177.35	7542.03	2181.96	-2181.96	-356.34	1.39

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
9890.00	91.51	178.48	7539.84	2276.87	-2276.87	-352.89	1.25
9985.00	92.28	178.19	7536.69	2371.77	-2371.77	-350.13	0.87
10080.00	91.58	178.78	7533.49	2466.68	-2466.68	-347.62	0.97
10175.00	90.27	177.91	7531.96	2561.63	-2561.63	-344.87	1.66
10270.00	89.60	177.88	7532.08	2656.56	-2656.56	-341.39	0.71
10365.00	90.40	178.46	7532.08	2751.51	-2751.51	-338.35	1.04
10460.00	89.80	178.81	7531.91	2846.49	-2846.49	-336.09	0.74
10555.00	90.27	177.90	7531.85	2941.45	-2941.45	-333.37	1.08
10649.00	89.87	177.97	7531.74	3035.39	-3035.39	-329.98	0.43
10743.00	89.93	177.36	7531.91	3129.31	-3129.31	-326.16	0.66
10838.00	89.36	177.89	7532.49	3224.22	-3224.22	-322.22	0.82
10933.00	89.60	178.41	7533.35	3319.17	-3319.17	-319.16	0.60
11028.00	90.10	177.78	7533.60	3414.12	-3414.12	-316.00	0.85
11123.00	90.20	179.08	7533.35	3509.08	-3509.08	-313.41	1.37
11217.00	90.47	177.28	7532.80	3603.02	-3603.02	-310.42	1.94
11312.00	90.44	178.03	7532.05	3697.94	-3697.94	-306.52	0.79
11407.00	90.00	178.47	7531.69	3792.90	-3792.90	-303.62	0.65
11502.00	89.60	179.02	7532.02	3887.87	-3887.87	-301.53	0.72
11596.00	90.74	178.92	7531.75	3981.85	-3981.85	-299.85	1.22
11691.00	88.39	177.06	7532.47	4076.78	-4076.78	-296.52	3.16



MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS
ft	deg	deg	ft	ft	ft	ft	7100ft
11785.00	89.46	178.15	7534.23	4170.68	-4170.68	-292.59	1.63
11880.00	90.13	178.05	7534.56	4265.63	-4265.63	-289.44	0.71
11974.00	90.54	178.26	7534.01	4359.58	-4359.58	-286.41	0.48
12069.00	90.91	179.59	7532.82	4454.55	-4454.55	-284.62	1.46
12164.00	90.47	179.17	7531.67	4549.54	-4549.54	-283.60	0.64
12259.00	90.13	177.72	7531.17	4644.50	-4644.50	-281.02	1.57
12354.00	90.20	177.32	7530.89	4739.41	-4739.41	-276.91	0.43
12449.00	90.67	179.37	7530.17	4834.36	-4834.36	-274.16	2.21
12543.00	89.03	181.44	7530.42	4928.35	-4928.35	-274.82	2.82
12638.00	88.42	182.52	7532.53	5023.27	-5023.27	-278.10	1.30
12734.00	89.19	183.31	7534.52	5119.12	-5119.12	-282.98	1.15
12828.00	90.27	183.57	7534.96	5212.95	-5212.95	-288.62	1.18
12923.00	90.74	185.03	7534.13	5307.68	-5307.68	-295.74	1.62
13018.00	89.93	184.84	7533.57	5402.32	-5402.32	-303.92	0.87
13112.00	90.94	183.56	7532.86	5496.06	-5496.06	-310.80	1.73
13207.00	89.06	181.95	7532.86	5590.95	-5590.95	-315.37	2.60
13302.00	88.76	181.81	7534.66	5685.88	-5685.88	-318.49	0.35
13397.00	88.79	182.39	7536.69	5780.79	-5780.79	-321.97	0.61
13491.00	89.43	182.62	7538.15	5874.69	-5874.69	-326.07	0.72

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS
ft	deg	deg	ft	ft	ft	ft	7100ft
13586.00	89.33	181.28	7539.18	5969.63	-5969.63	-329.31	1.42
13681.00	89.97	181.48	7539.77	6064.60	-6064.60	-331.60	0.70
13776.00	91.11	181.17	7538.88	6159.57	-6159.57	-333.79	1.25
13870.00	90.44	180.07	7537.61	6253.55	-6253.55	-334.80	1.37
13965.00	91.54	179.56	7535.97	6348.53	-6348.53	-334.49	1.28
14060.00	92.58	178.15	7532.55	6443.45	-6443.45	-332.59	1.85
14151.00	92.82	176.72	7528.26	6534.25	-6534.25	-328.52	1.58

5" = 100' FEET MD