


5" = 100' FEET MD



Scientific Drilling

GAMMA RAY

5" = 100' FEET MD

COMPANY : BILL BARRETT CORP.
WELL : ANSCHUTZ STATE 05-62-22-1724B2
FIELD : WATTENBERG
COUNTY : WELD
STATE : COLORADO
COUNTRY : U.S.A.
UWI : 05-123-41755

WELL LOCATION
LAT:40°23'13.409"N LONG:104°19'5.452"W
N:1386039.42 ft E:3329201.93 ft
SEC:22 TWP:5N RANGE:62W

OTHER SERVICES
DIRECTIONAL
ROP

COMPANY : BILL BARRETT CORP.
WELL : ANSCHUTZ STATE 05-62-22-1724B2
FIELD : WATTENBERG
COUNTY : WELD
STATE : COLORADO
COUNTRY : U.S.A.
UWI : 05-123-41755

DEPTH REF. : KB
REF. HEIGHT : 16.000 ft
GROUND LEVEL : 4719.000 ft

KB to Ground level
G.I. to MEAN SEA LEVEL

BOREHOLE RECORD

HOLE SIZE in	FROM ft	TO ft	INCLINATION deg	FROM ft	TO ft
			0 - 8	823	5895
			8 - 88	5895	6679
			88 - 93	6679	16407

CASING RECORD

CASING SIZE in	FROM ft	TO ft
9.625	0	832
7	0	6664

DRILLING CO. : CQDE
RIG: 24
LWD UNIT NO. : MWD-00267-DISTRICT: CASPER
SPUD DATE: 10/01/2015
LWD START DATE: 10/02/2015
LWD END DATE: 10/08/2015
DEPTH : 4000 ft
DEPTH : 16407 ft
TOTAL DEPTH : 16407 ft

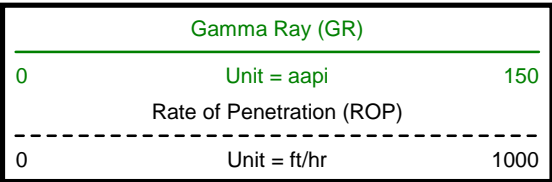
Run Data						
RUN NUMBER	1	2	3	4		
START DATE	10/01/2015	10/02/2015	10/03/2015	10/06/2015		
START TIME	1400	1330	1915	1430		
END DATE	10/02/2015	10/03/2015	10/06/2015	10/08/2015		
END TIME	1330	0800	1430			
DEPTH IN (ft)	823	5895	6679	15027		
DEPTH OUT (ft)	5895	6679	15027	16407		
LOG TOP (ft)	4000	5839	6623	14979		
LOG BOTTOM (ft)	5839	6623	14979	16358		
HOLE SIZE (in)	8.75	8.75	6.125	6.125		
MUD DATA @ (ft)	832	5628	12725	15866		
MUD TYPE	WATER-BASED	WATER-BASED	WATER-BASED	WATER-BASED		
DENSITY (lb / gal)	8.6	9.75	9.1	9.2		
VISCOSITY (s / qt)	28	42	30	29		
pH	8.7	7.7	8.7	8.5		
FLUID LOSS (cm3 / 30)	-	-	-	-		
SALINITY (ppm)	-	-	-	-		
Rm (ohmm @ deg F)	-	-	-	-		
Rmf (ohmm @ deg F)	-	-	-	-		
MAX TEMP (deg F)	160	161	226			
Rm @ MAX TEMP (ohmm)	-	-	-	-		
LWD ENGINEER #1	C. CHRISTMAN	C. CHRISTMAN	C. CHRISTMAN	R. KLASSEN		
LWD ENGINEER #2	Z. BROWN	Z. BROWN	Z. BROWN	Z. BROWN		
LWD ENGINEER #3	-	-	-	-		
LOG WITNESS #1	T. BARNES	T. BARNES	T. BARNES	T. BARNES		
LOG WITNESS #2	K. KNIGHT	K. KNIGHT	K. KNIGHT	K. KNIGHT		

Remarks
BILL BARRETT CORP. PRODUCTION AFE# 19442D
SCIENTIFIC DRILLING INTERNATIONAL JOB# 315077
ALL REFERENCES IN THE DEPTH TRACK ARE AT BIT DEPTH.
ALL DATA IS MEMORY DATA UNLESS STATED OTHERWISE.
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO RATE OF PENETRATION CURVE
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO HOOKLOAD (MAX) CURVE
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO WEIGHT-ON-BIT (SURF,MAX) CURVE
RUN #1: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 128-116 / CONT = 143 / MWD EYE = 1029 / GAMMA RAY = 1141
BIT TO SENSOR OFFSETS: SURVEY = 61.42 FT. / GAMMA RAY = 56.24 FT.
RUN #2: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 128-116 / CONT = 143 / MWD EYE = 1029 / GAMMA RAY = 1141
BIT TO SENSOR OFFSETS: SURVEY = 60.32 FT. / GAMMA RAY = 55.78 FT.
RUN #3: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 78-220 / CONT = 832 / MWD EYE = 0508 / GAMMA RAY = 1188
BIT TO SENSOR OFFSETS: SURVEY = 57.39 FT. / GAMMA RAY = 48.17 FT.
RUN #4: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 78-220 / CONT = 832 / MWD EYE = 0508 / GAMMA RAY = 1188
BIT TO SENSOR OFFSETS: SURVEY = 57.79 FT. / GAMMA RAY = 48.57 FT.

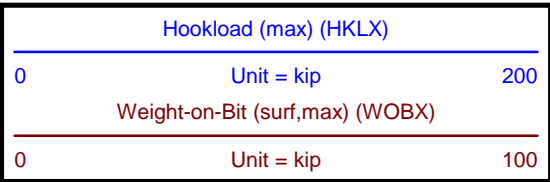
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All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on 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.

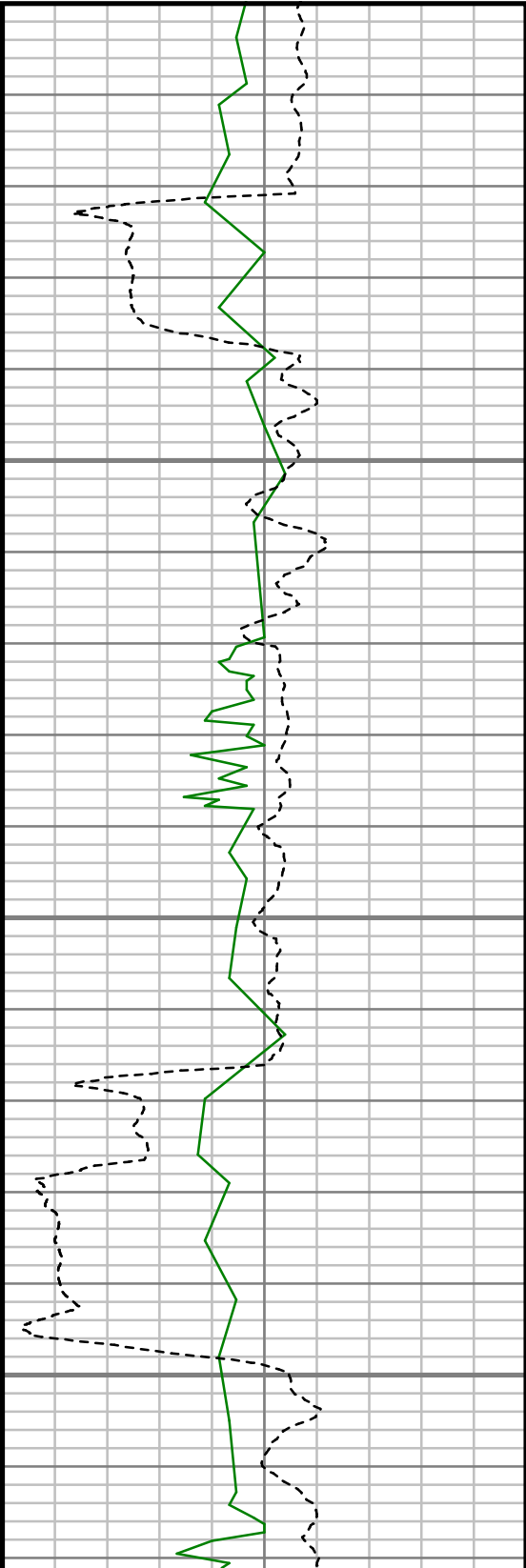
BILL BARRETT CORP.
ANSCHUTZ STATE 05-62-22-1724B2
WATTENBERG FIELD
WELD COUNTY, COLORADO, U.S.A.
05-123-41755



MEASURED DEPTH
1:240 (ft)



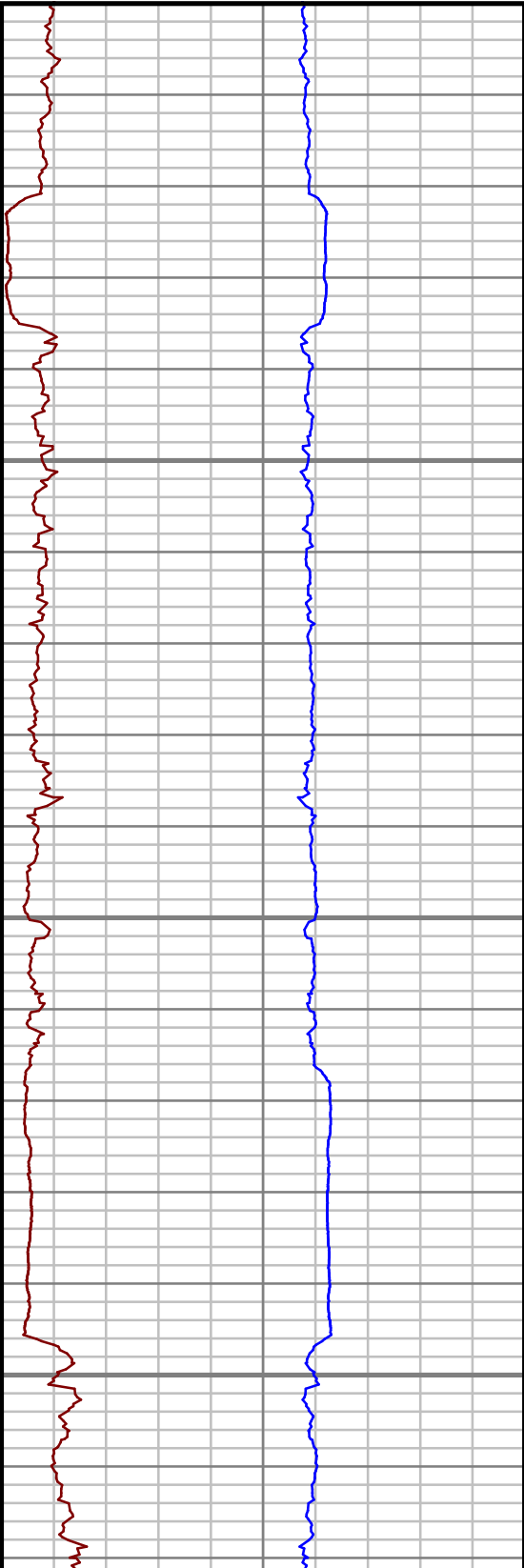
Comments



4050

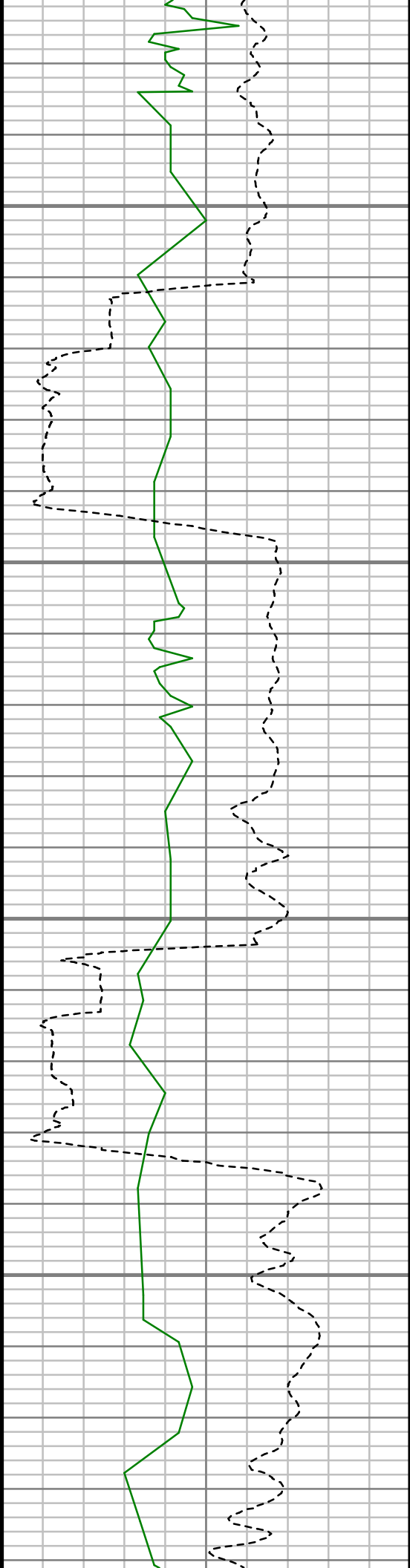
4100

4150



S: 35 MD: 4053.00 ft Inc: 6.07
deg Az: 314.87 deg TVD:
4033.44 ft

S: 36 MD: 4148.00 ft Inc: 6.19
deg Az: 318.92 deg TVD:
4127.89 ft



4200

4250

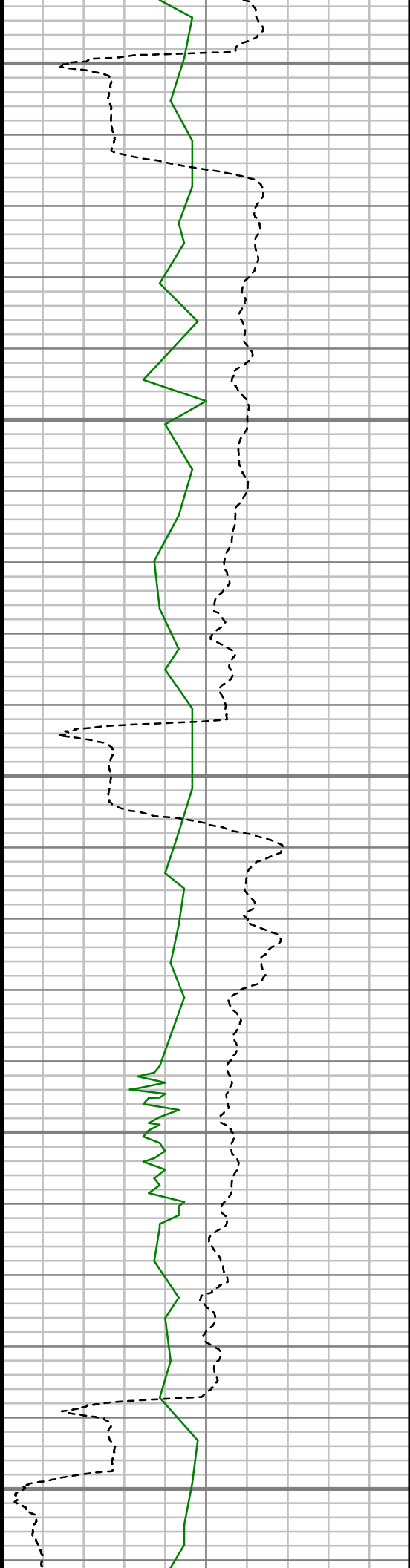
4300

4350



S: 37 MD: 4242.00 ft Inc: 6.45
deg Az: 318.38 deg TVD:
4221.32 ft

S: 38 MD: 4336.00 ft Inc: 7.21
deg Az: 320.44 deg TVD:
4314.65 ft



4400

4450

4500

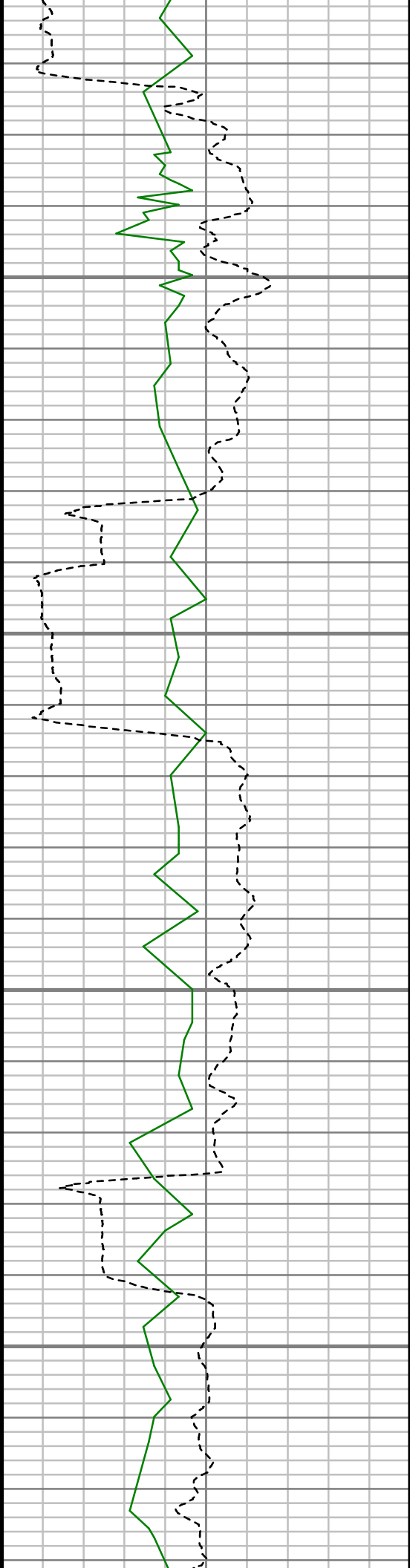
4550

4600

S: 39 MD: 4431.00 ft Inc: 6.88
deg Az: 320.01 deg TVD:
4408.94 ft

S: 40 MD: 4526.00 ft Inc: 5.23
deg Az: 321.79 deg TVD:
4503.40 ft



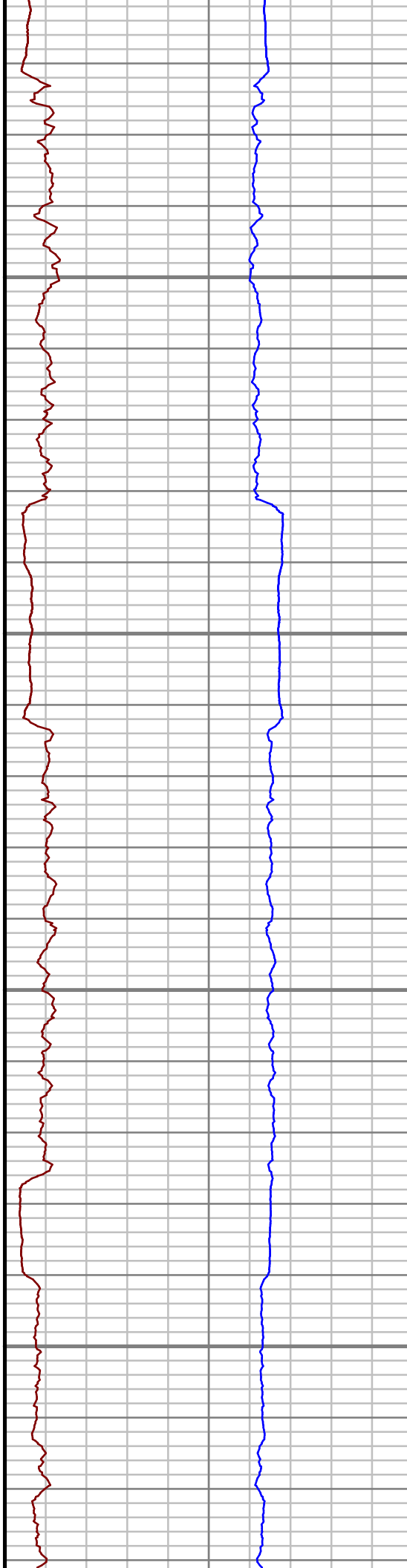


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4700

4750

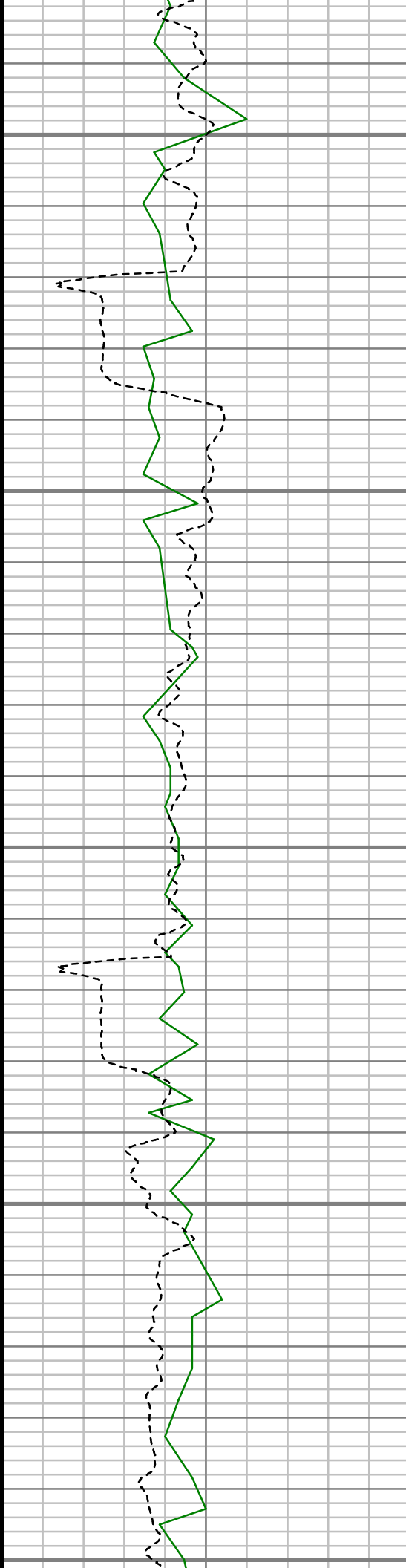
4800



S: 41 MD: 4620.00 ft Inc: 5.30
deg Az: 314.69 deg TVD:
4597.01 ft

S: 42 MD: 4714.00 ft Inc: 6.37
deg Az: 314.44 deg TVD:
4690.52 ft

S: 43 MD: 4809.00 ft Inc: 6.18
deg Az: 317.40 deg TVD:
4784.95 ft



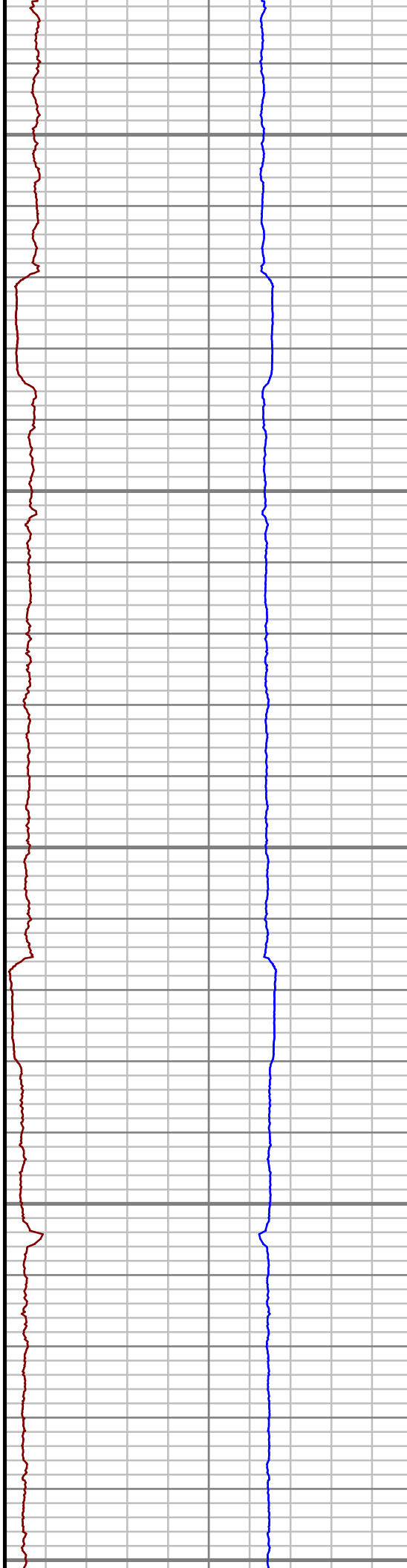
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4900

4950

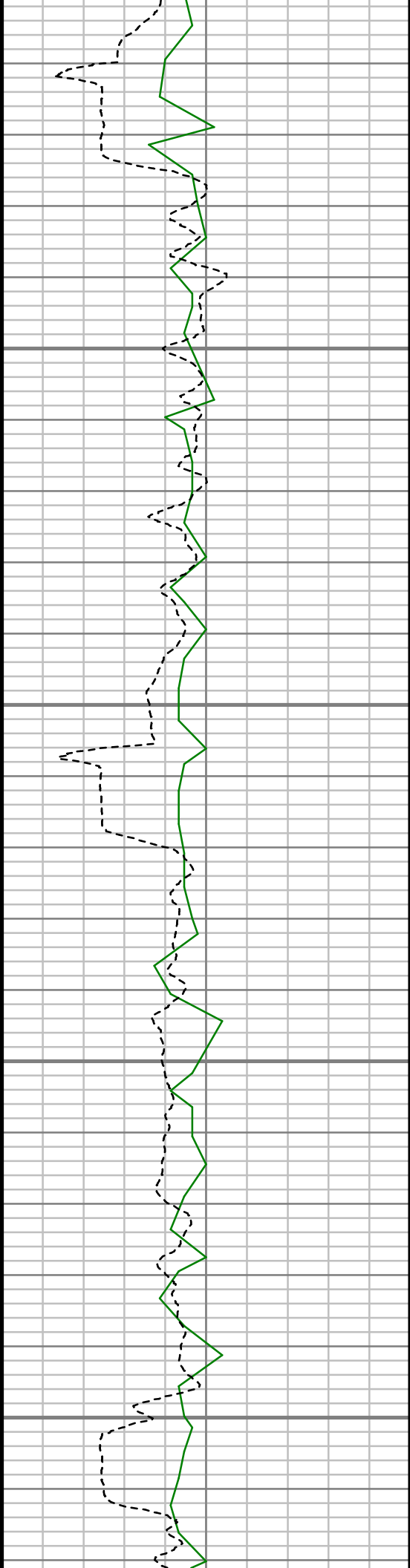
5000

5050



S: 44 MD: 4905.00 ft Inc: 6.47
deg Az: 317.84 deg TVD:
4880.37 ft

S: 45 MD: 4999.00 ft Inc: 5.58
deg Az: 318.75 deg TVD:
4973.85 ft

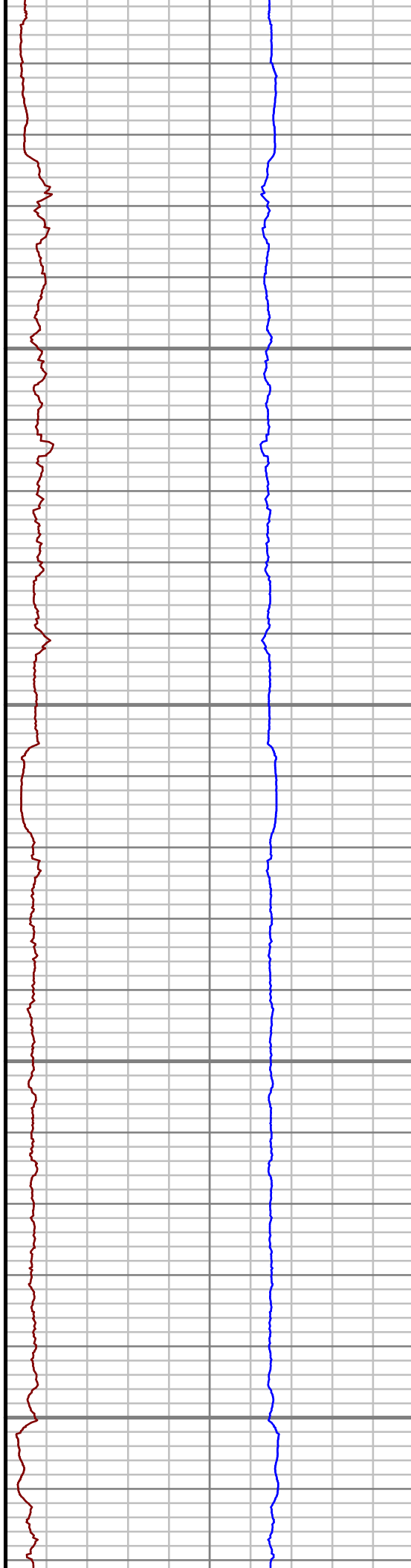


5100

5150

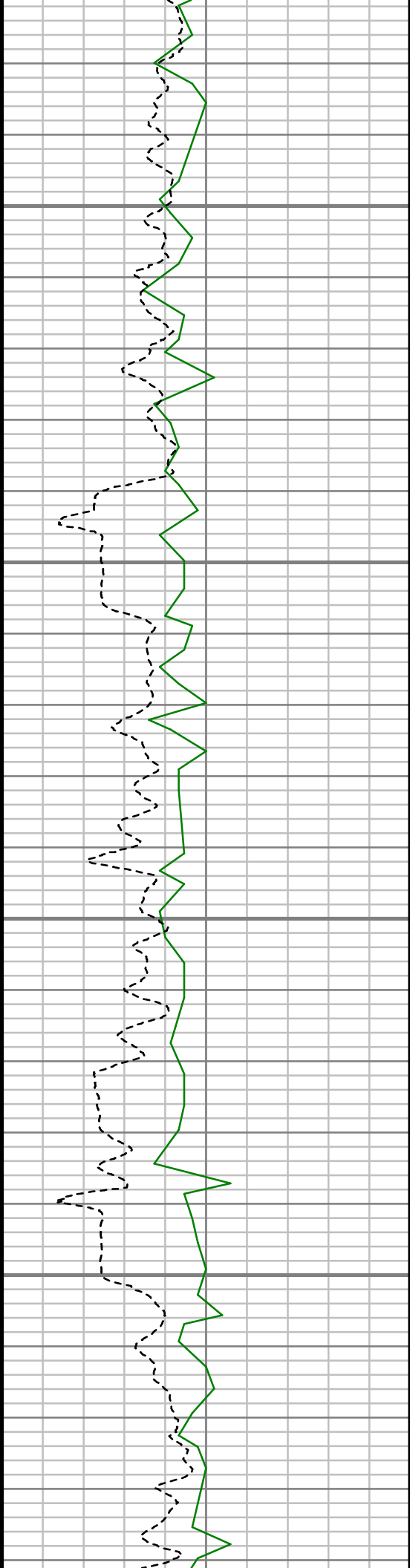
5200

5250



S: 46 MD: 5094.00 ft Inc: 4.89
deg Az: 320.77 deg TVD:
5068.45 ft

S: 47 MD: 5188.00 ft Inc: 4.24
deg Az: 320.78 deg TVD:
5162.15 ft



5300

5350

5400

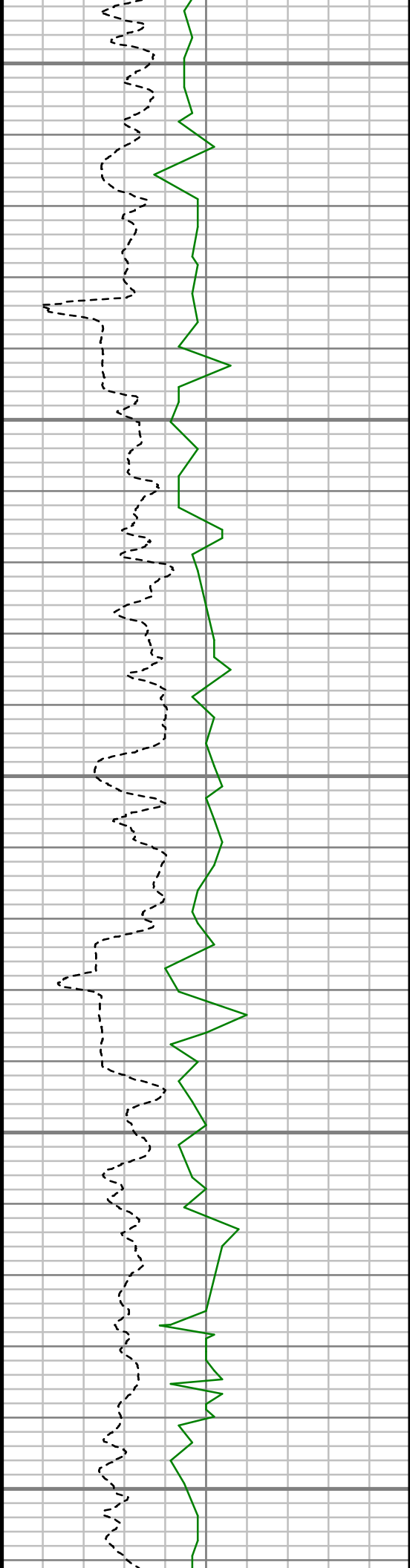
5450



S: 48 MD: 5282.00 ft Inc: 3.34
deg Az: 318.02 deg TVD:
5255.94 ft

S: 49 MD: 5377.00 ft Inc: 2.92
deg Az: 321.04 deg TVD:
5350.80 ft

S: 50 MD: 5472.00 ft Inc: 2.56
deg Az: 326.08 deg TVD:
5445.69 ft



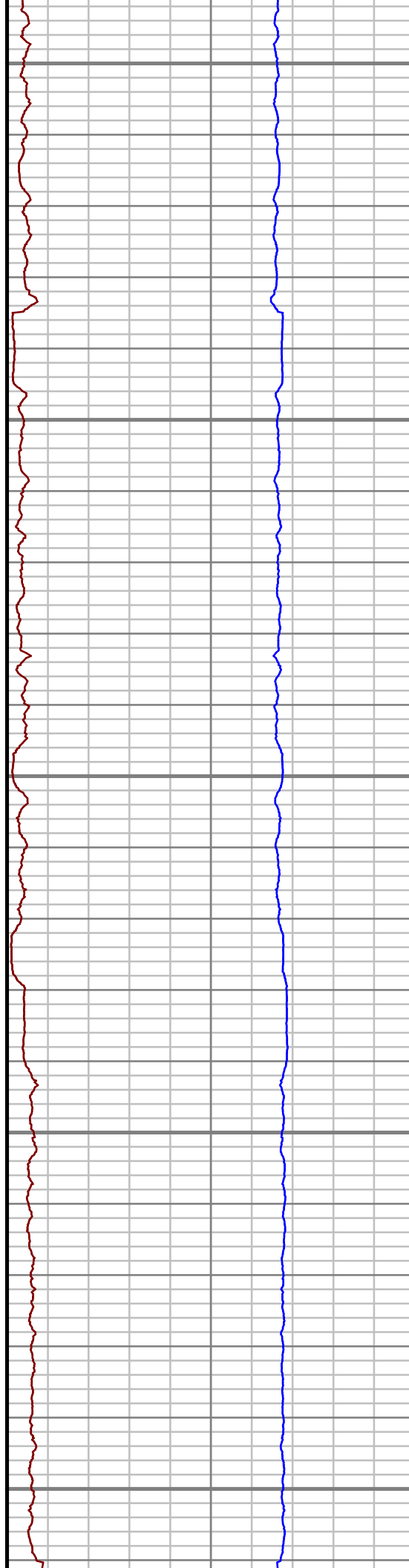
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5550

5600

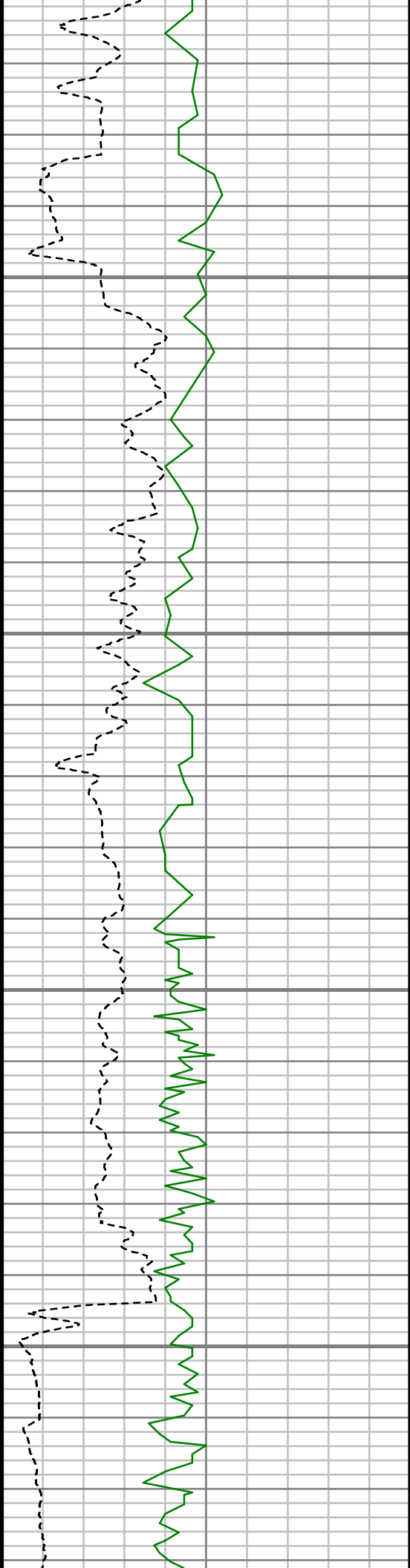
5650

5700



S: 51 MD: 5566.00 ft Inc: 1.97
deg Az: 318.88 deg TVD:
5539.62 ft

S: 52 MD: 5660.00 ft Inc: 1.78
deg Az: 318.54 deg TVD:
5633.57 ft

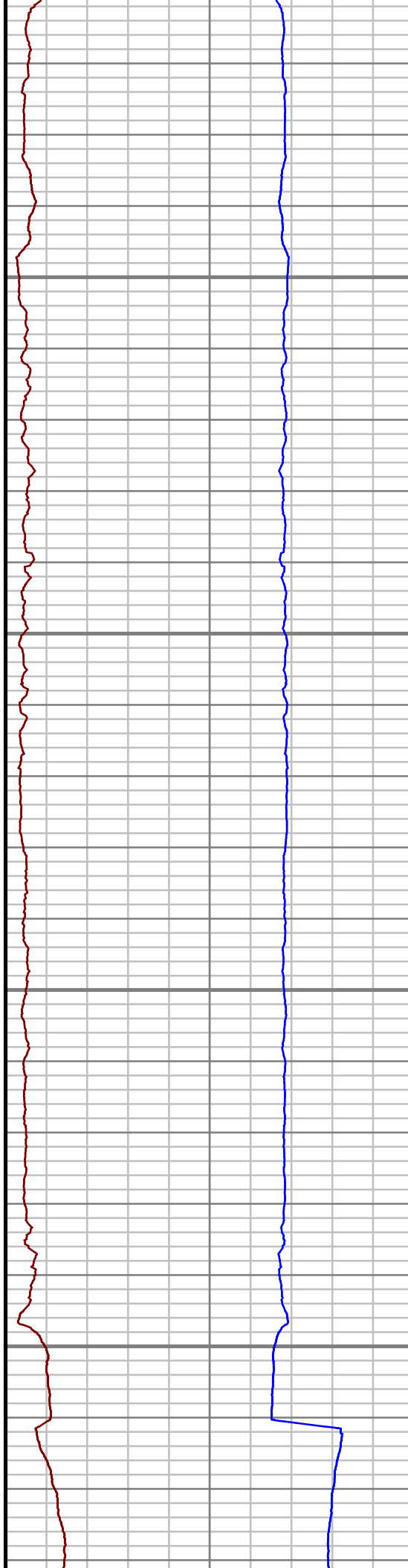


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5800

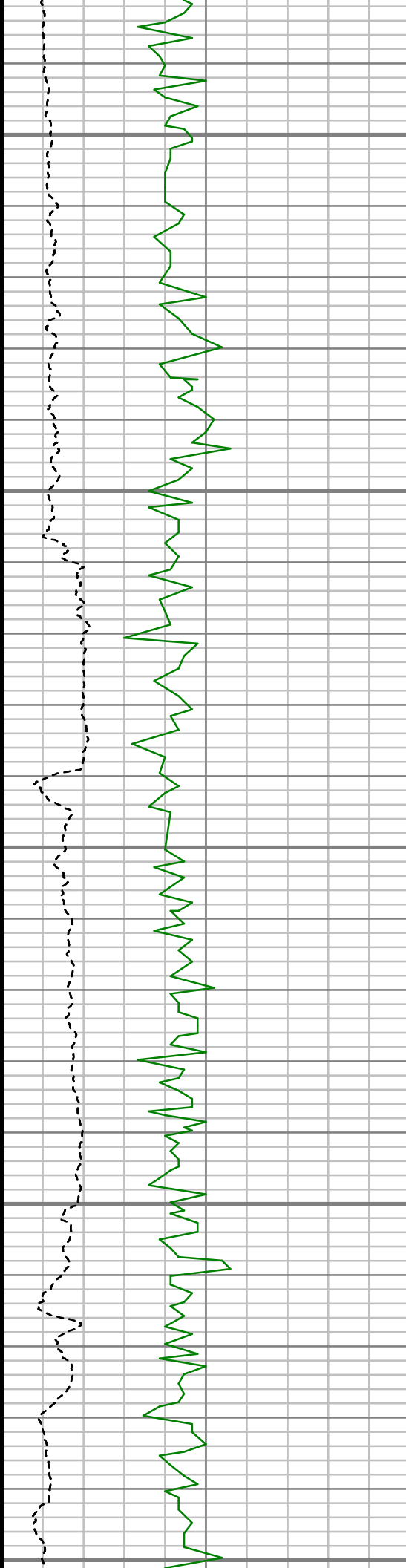
5850

5900



S: 53 MD: 5755.00 ft Inc: 1.04
deg Az: 321.40 deg TVD:
5728.54 ft

S: 54 MD: 5849.00 ft Inc: 1.07
deg Az: 307.71 deg TVD:
5822.53 ft



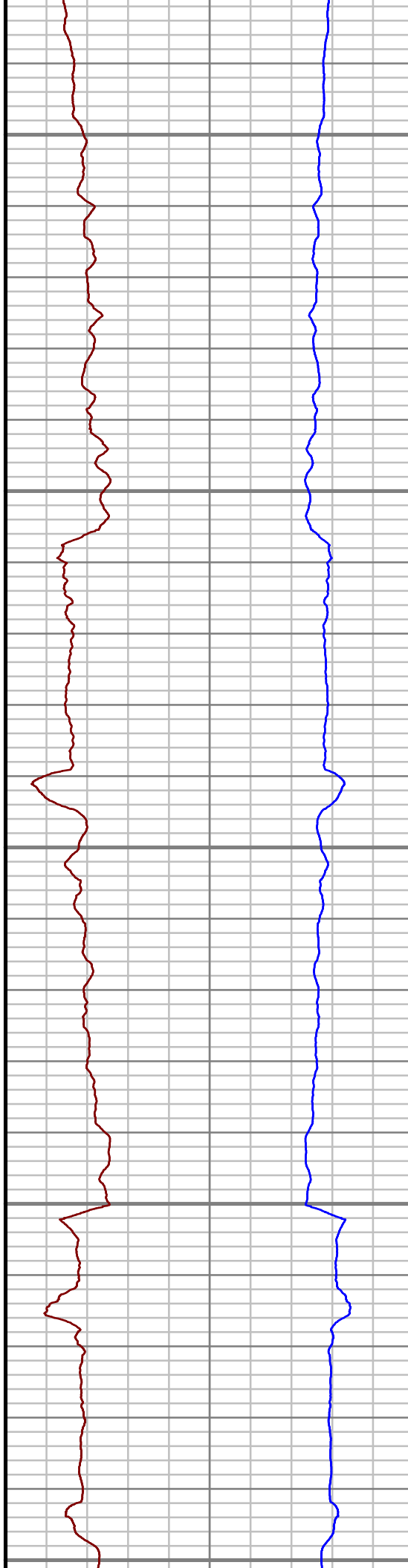
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6000

6050

6100

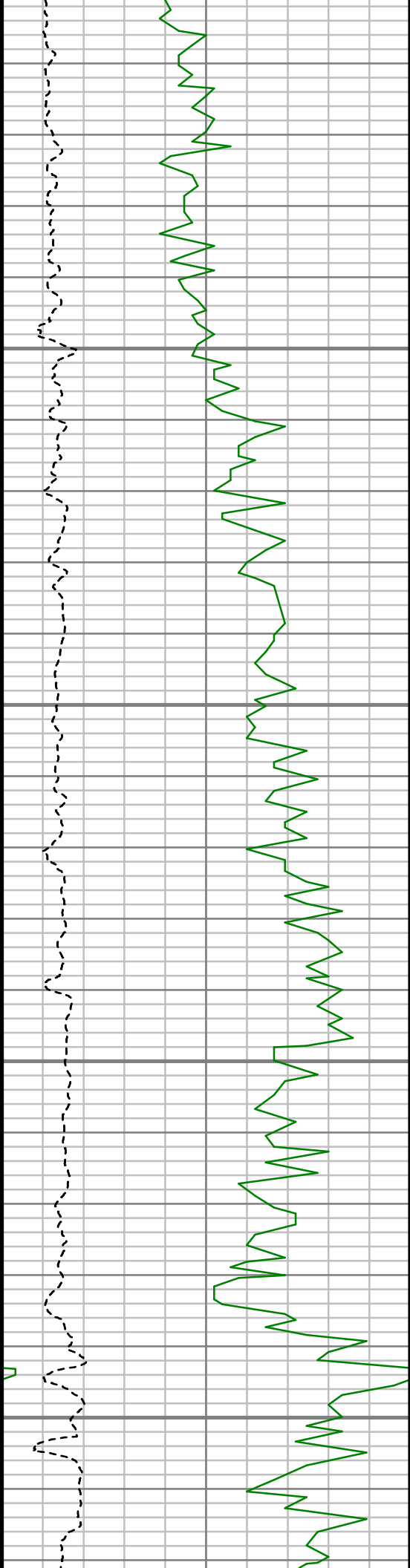
6150



S: 55 MD: 5944.00 ft Inc: 7.22
deg Az: 81.73 deg TVD:
5917.29 ft

S: 56 MD: 6038.00 ft Inc: 18.07
deg Az: 81.41 deg TVD:
6008.88 ft

S: 57 MD: 6132.00 ft Inc: 25.44
deg Az: 85.72 deg TVD:
6096.13 ft



6200

6250

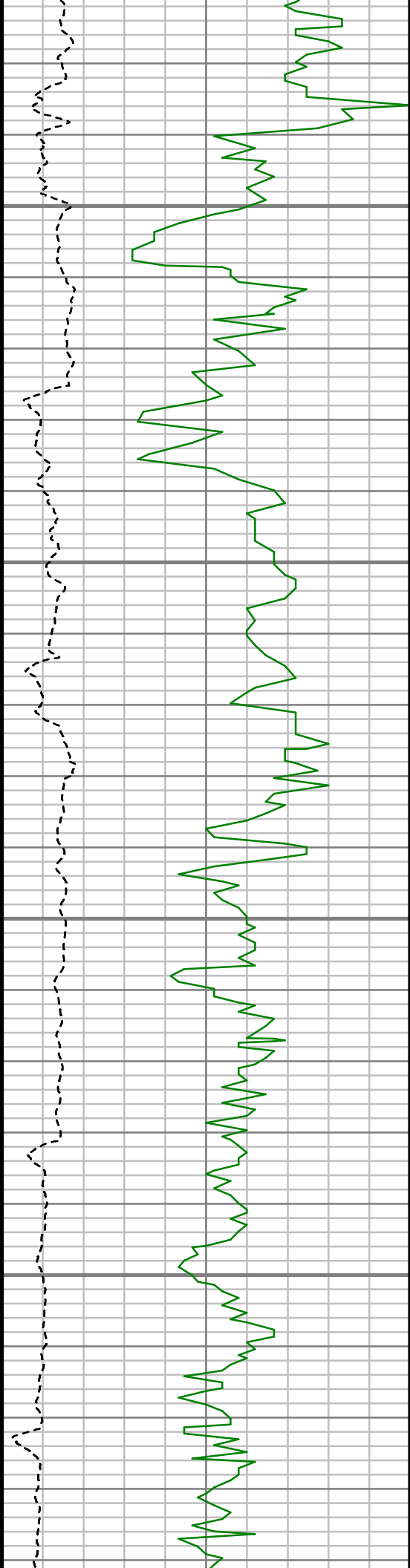
6300

6350



S: 58 MD: 6227.00 ft Inc: 41.75
deg Az: 88.81 deg TVD:
6175.00 ft

S: 59 MD: 6321.00 ft Inc: 49.61
deg Az: 90.27 deg TVD:
6240.63 ft



6400

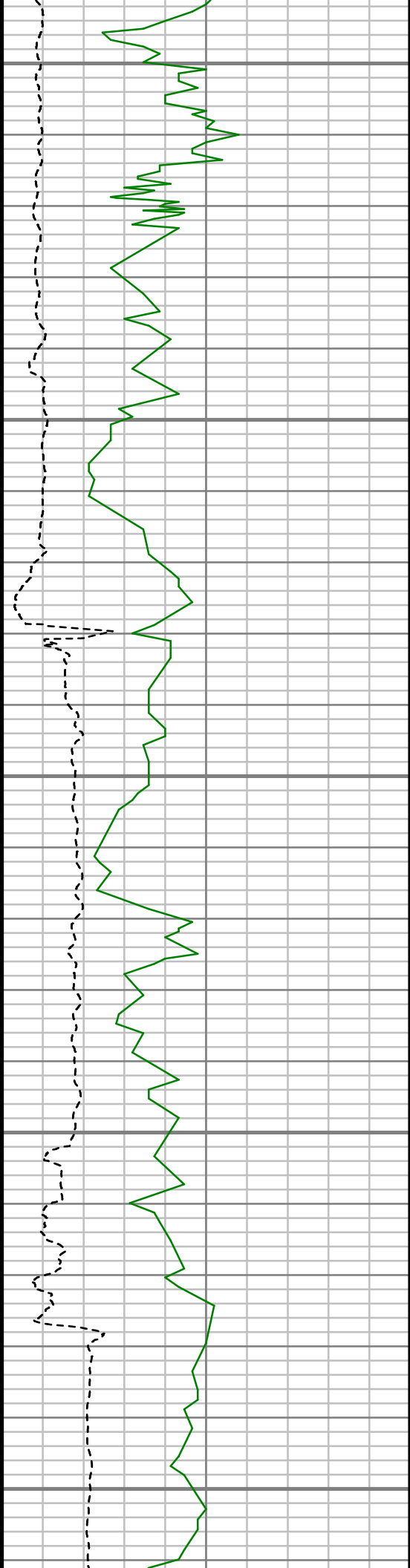
6450

6500

6550

S: 60 MD: 6415.00 ft Inc: 59.24
deg Az: 88.36 deg TVD:
6295.25 ft

S: 61 MD: 6510.00 ft Inc: 66.85
deg Az: 88.53 deg TVD:
6338.29 ft



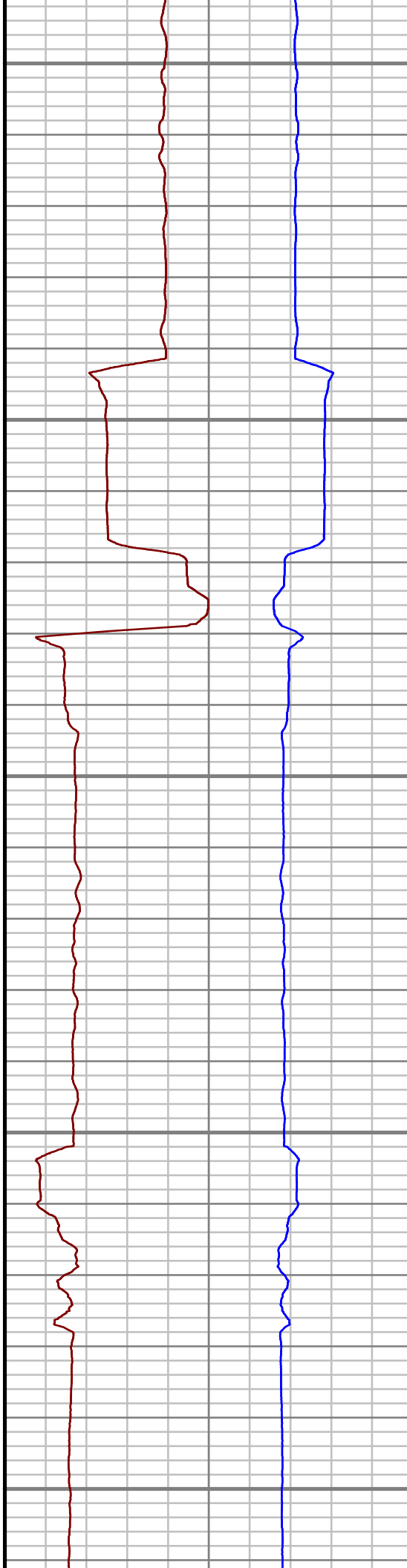
6600

6650

6700

6750

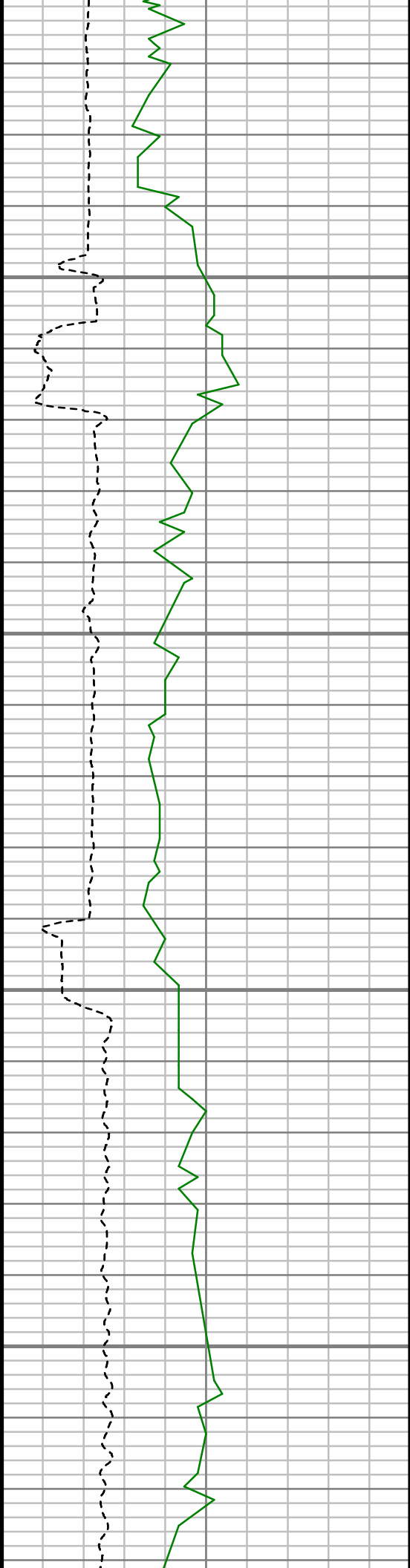
6800



S: 62 MD: 6604.00 ft Inc: 80.66
deg Az: 90.14 deg TVD:
6364.52 ft

S: 63 MD: 6694.00 ft Inc: 88.25
deg Az: 92.00 deg TVD:
6373.21 ft

S: 64 MD: 6788.00 ft Inc: 89.73
deg Az: 91.51 deg TVD:
6374.86 ft

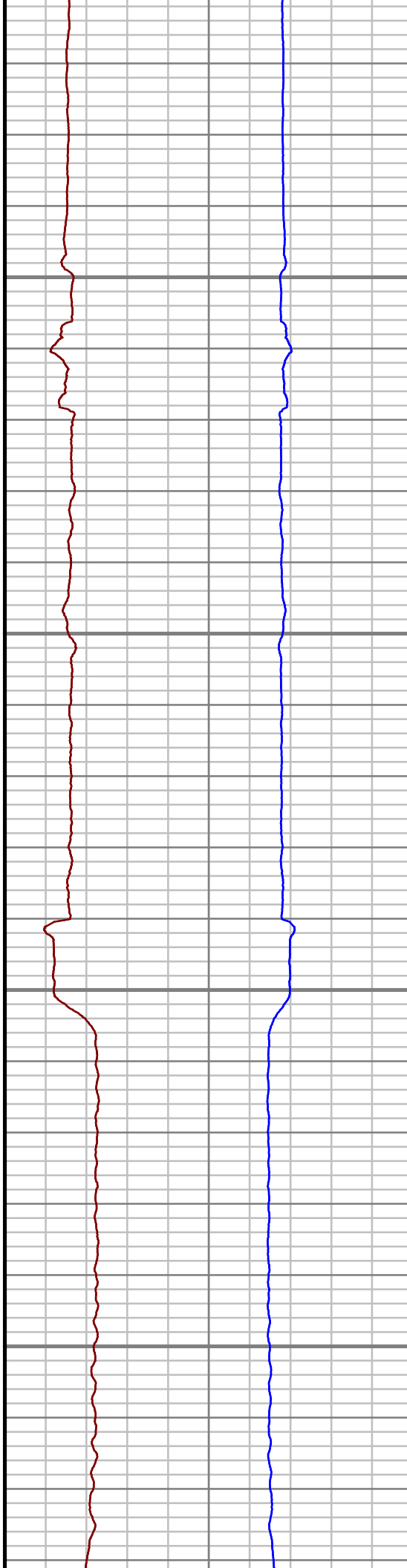


6850

6900

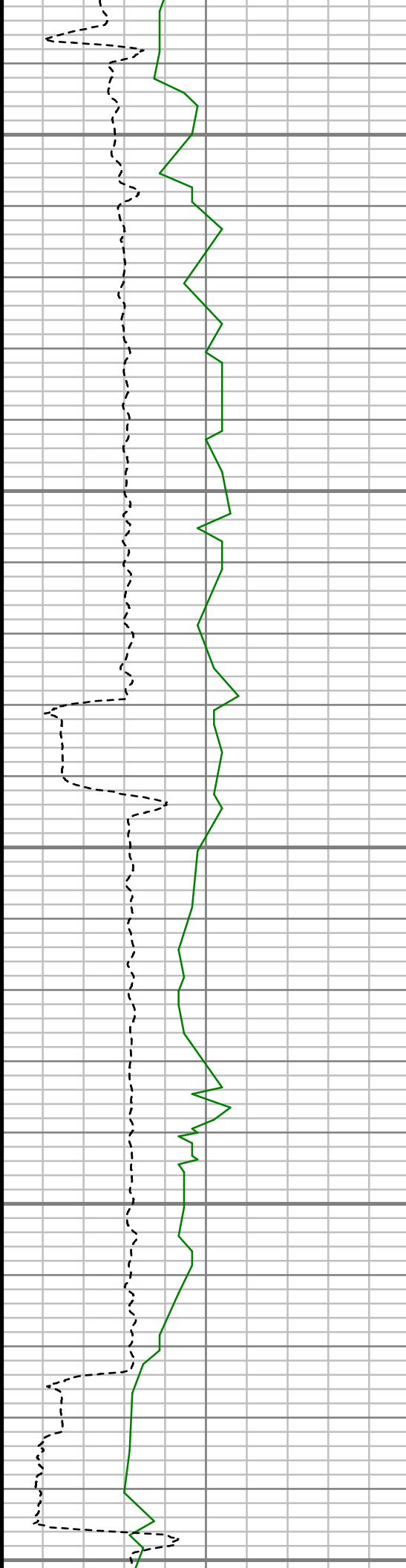
6950

7000



S: 65 MD: 6883.00 ft Inc: 90.60
deg Az: 90.38 deg TVD:
6374.59 ft

S: 66 MD: 6977.00 ft Inc: 91.24
deg Az: 91.29 deg TVD:
6373.07 ft



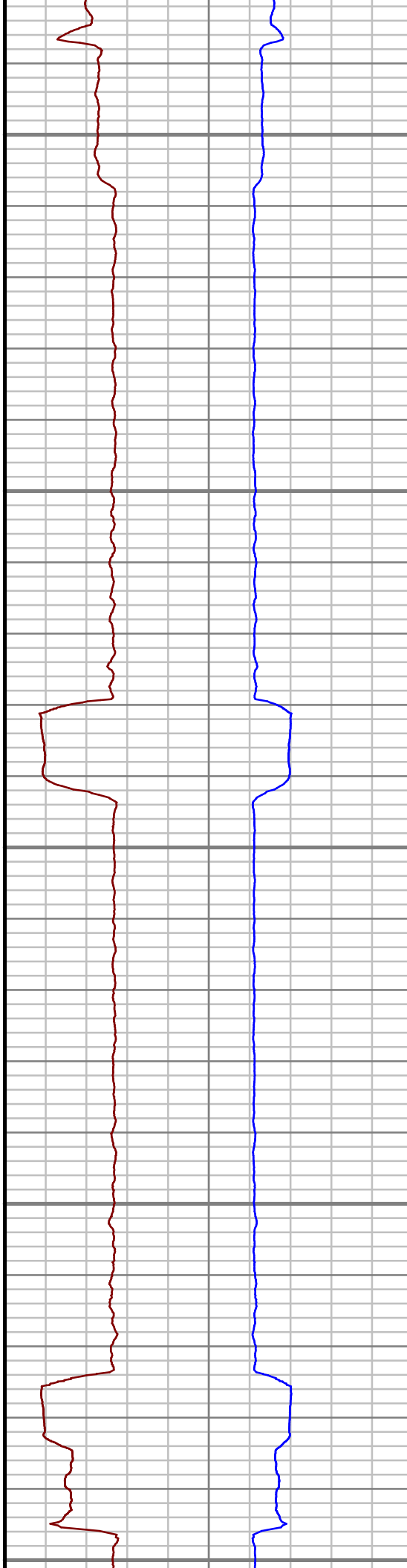
7050

7100

7150

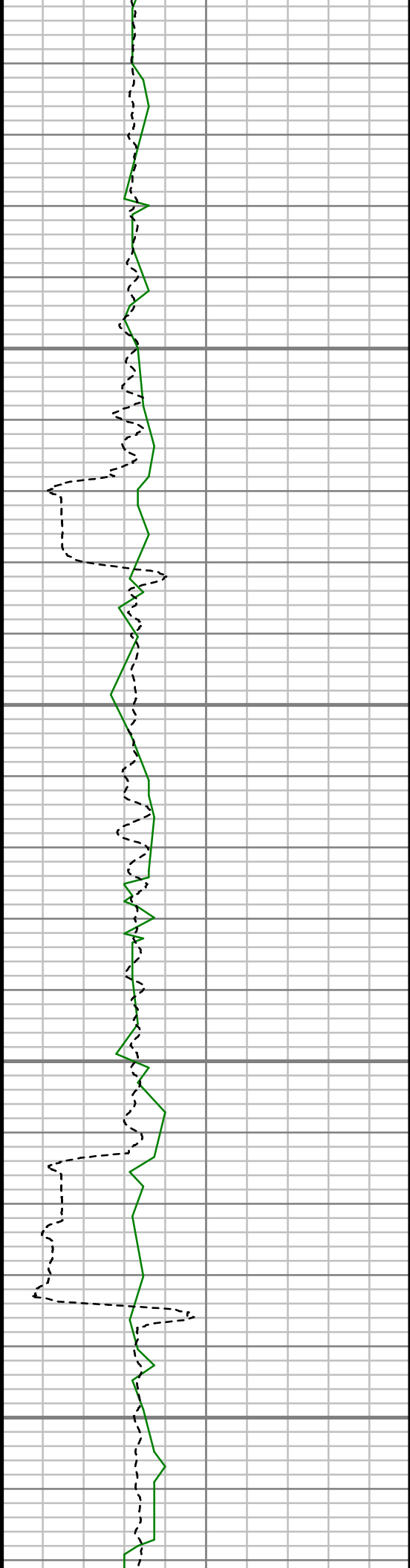
7200

7250



S: 67 MD: 7071.00 ft Inc: 91.11
deg Az: 90.53 deg TVD:
6371.14 ft

S: 68 MD: 7165.00 ft Inc: 89.80
deg Az: 89.50 deg TVD:
6370.40 ft

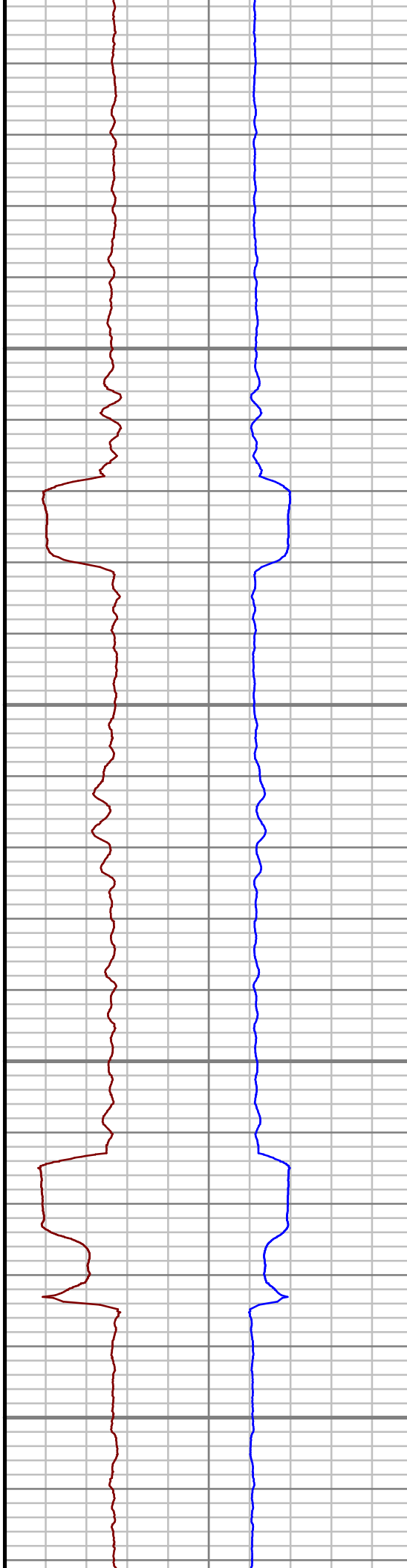


7300

7350

7400

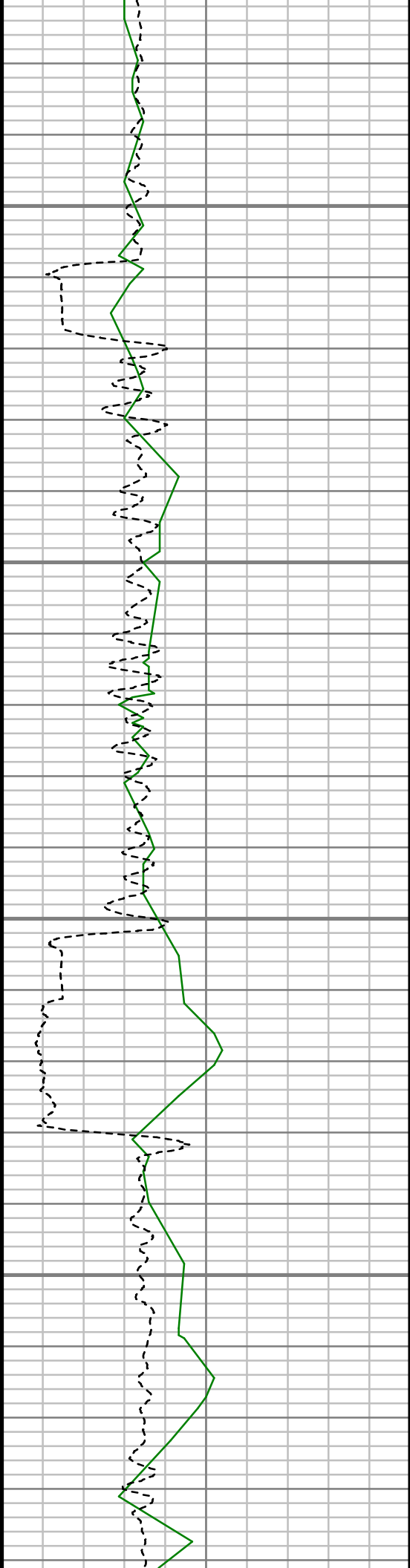
7450



S: 69 MD: 7260.00 ft Inc: 91.24
deg Az: 89.12 deg TVD:
6369.53 ft

S: 70 MD: 7354.00 ft Inc: 90.40
deg Az: 87.48 deg TVD:
6368.18 ft

S: 71 MD: 7449.00 ft Inc: 91.14
deg Az: 86.99 deg TVD:
6366.90 ft

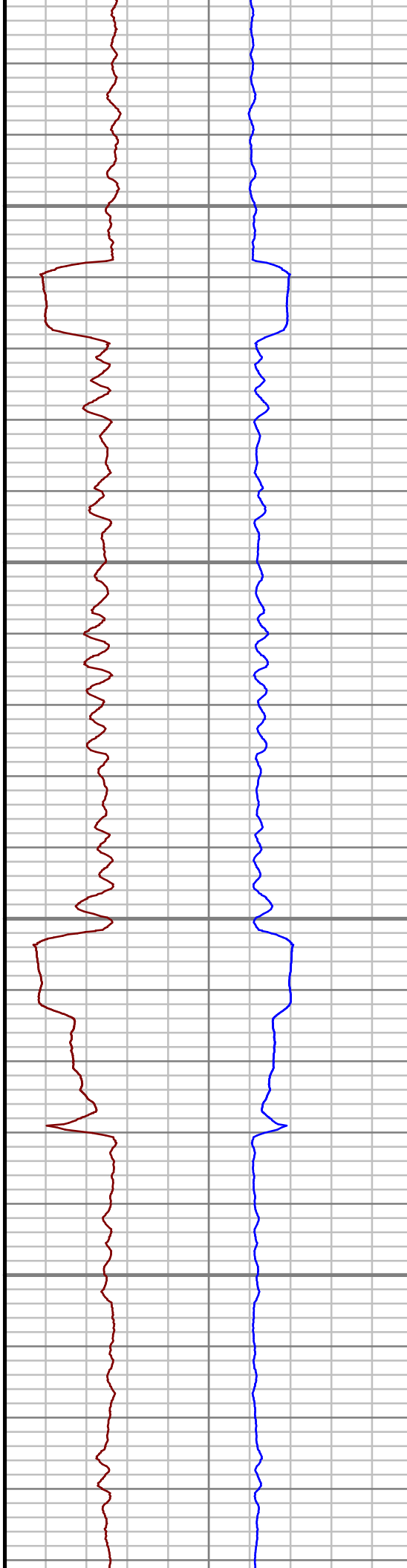


7500

7550

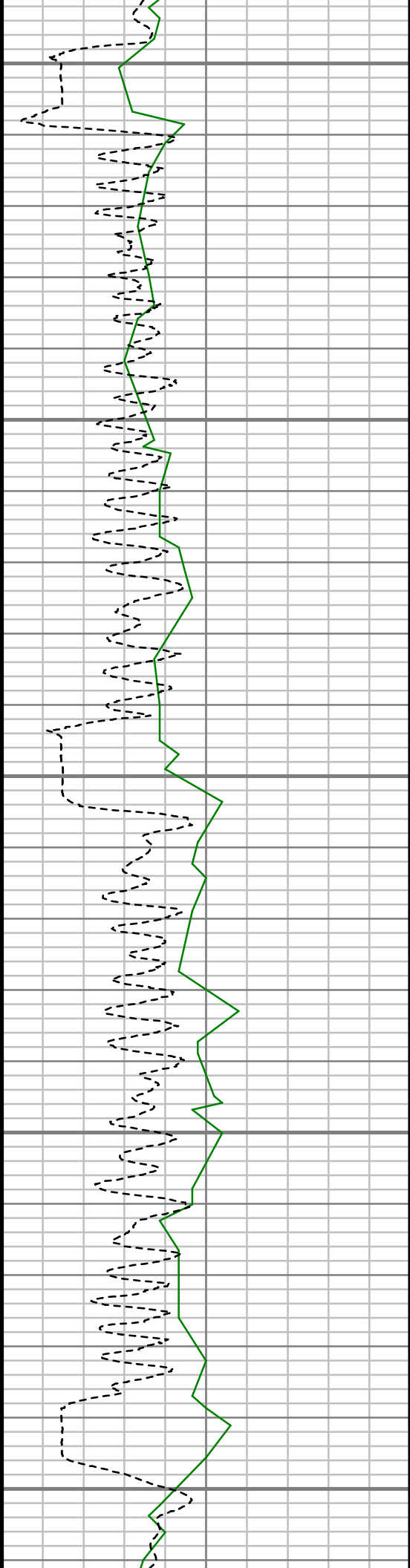
7600

7650



S: 72 MD: 7543.00 ft Inc: 91.07
deg Az: 86.15 deg TVD:
6365.08 ft

S: 73 MD: 7637.00 ft Inc: 91.11
deg Az: 88.09 deg TVD:
6363.29 ft



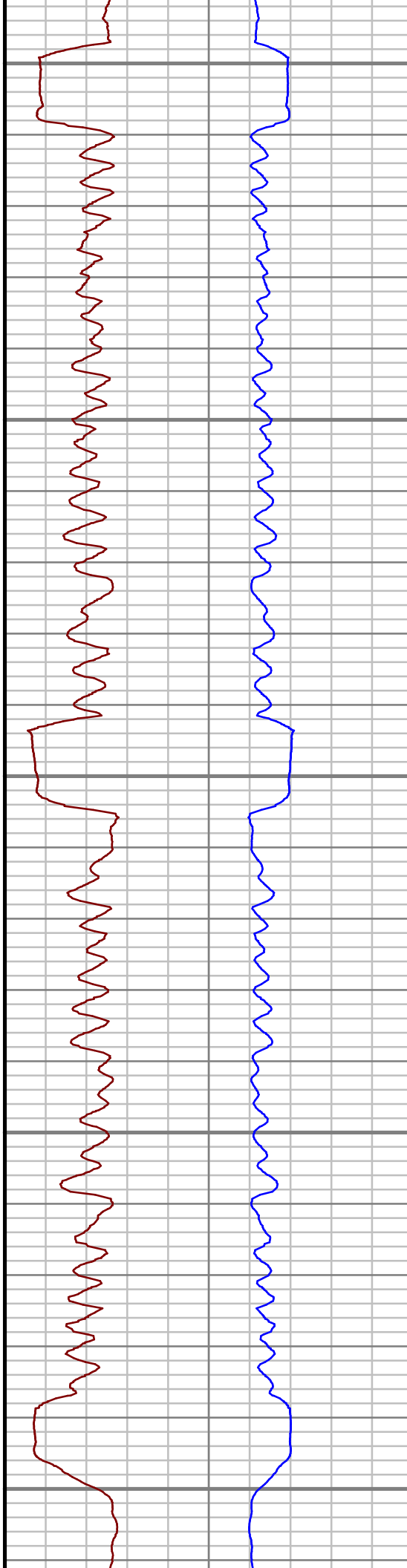
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7750

7800

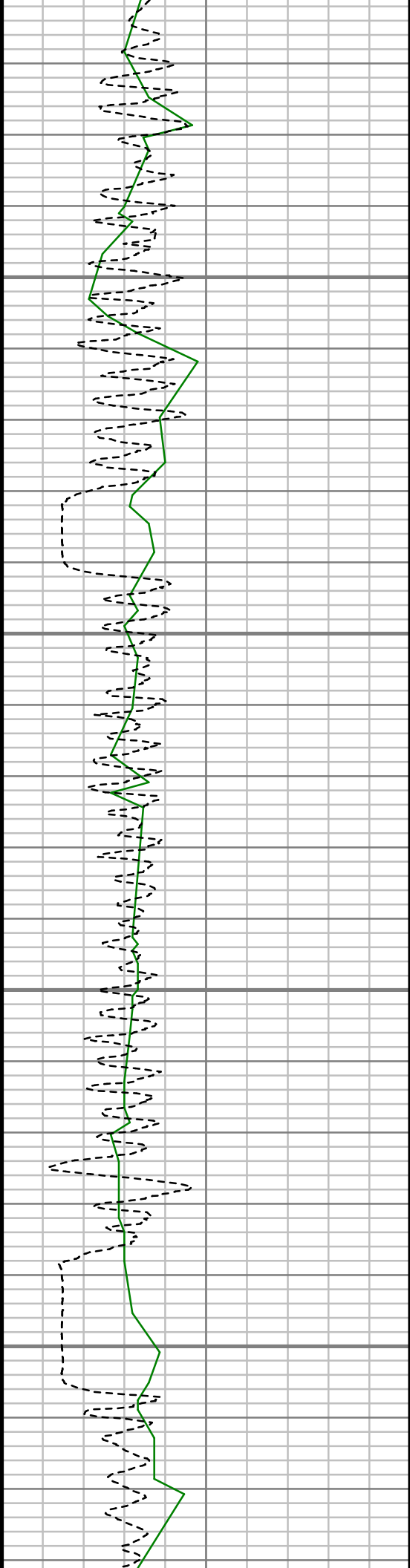
7850

7900



S: 74 MD: 7732.00 ft Inc: 90.84
deg Az: 88.24 deg TVD:
6361.68 ft

S: 75 MD: 7826.00 ft Inc: 90.60
deg Az: 87.63 deg TVD:
6360.49 ft

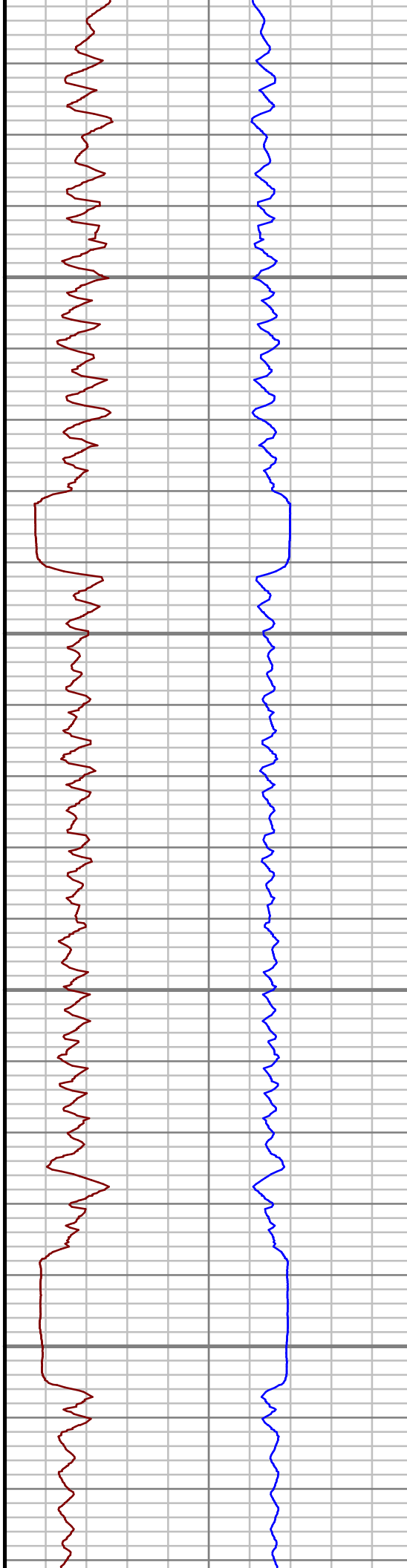


7950

8000

8050

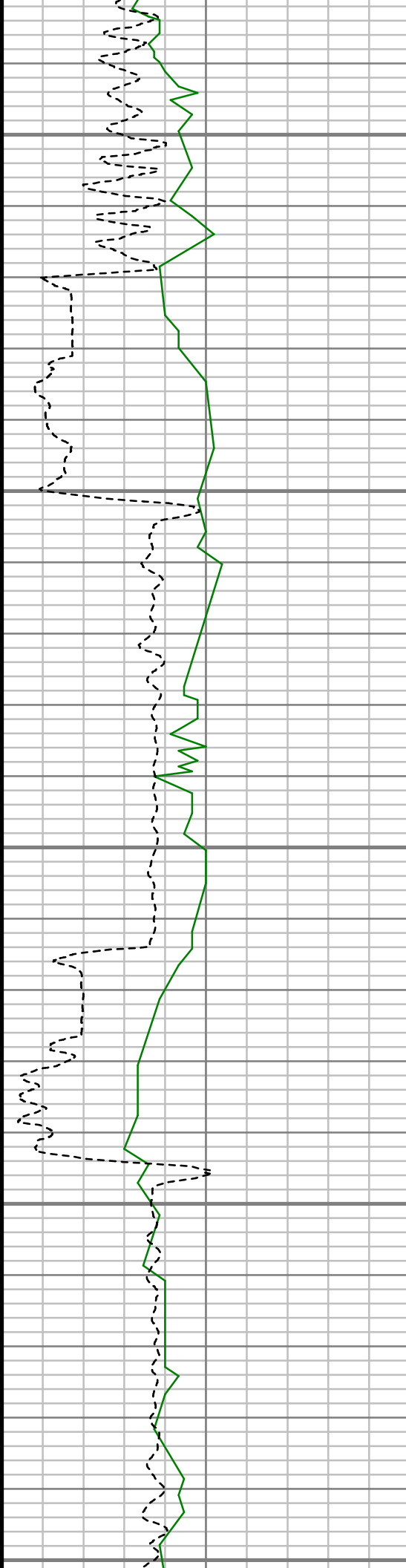
8100



S: 76 MD: 7920.00 ft Inc: 90.57
deg Az: 87.03 deg TVD:
6359.53 ft

S: 77 MD: 8016.00 ft Inc: 90.30
deg Az: 87.18 deg TVD:
6358.80 ft

S: 78 MD: 8110.00 ft Inc: 90.34
deg Az: 87.89 deg TVD:
6358.27 ft



8150

8200

8250

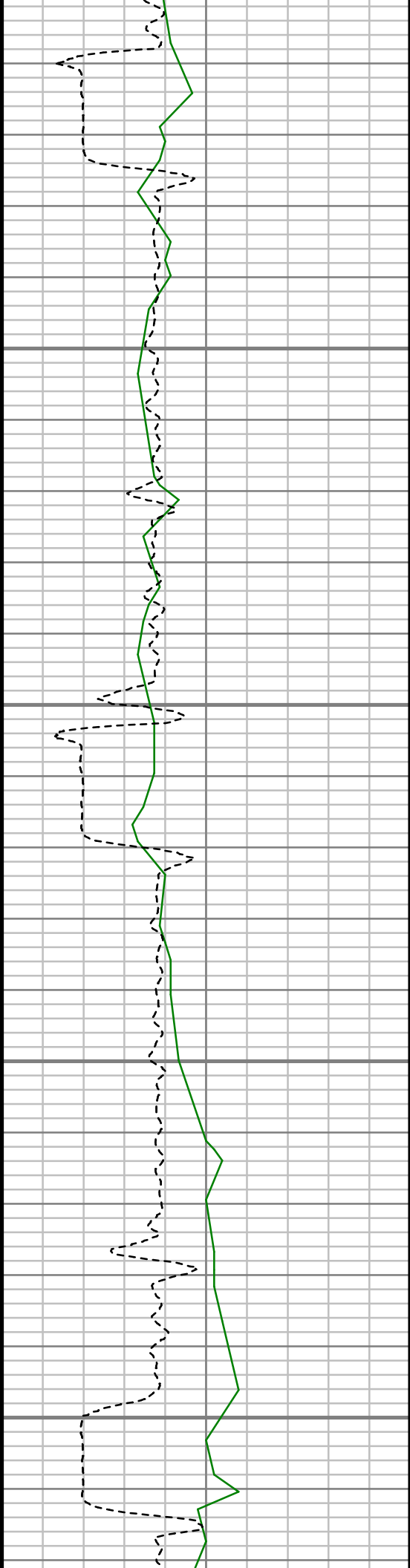
8300

8350



S: 79 MD: 8205.00 ft Inc: 89.87
deg Az: 90.24 deg TVD:
6358.11 ft

S: 80 MD: 8300.00 ft Inc: 91.31
deg Az: 89.53 deg TVD:
6357.13 ft

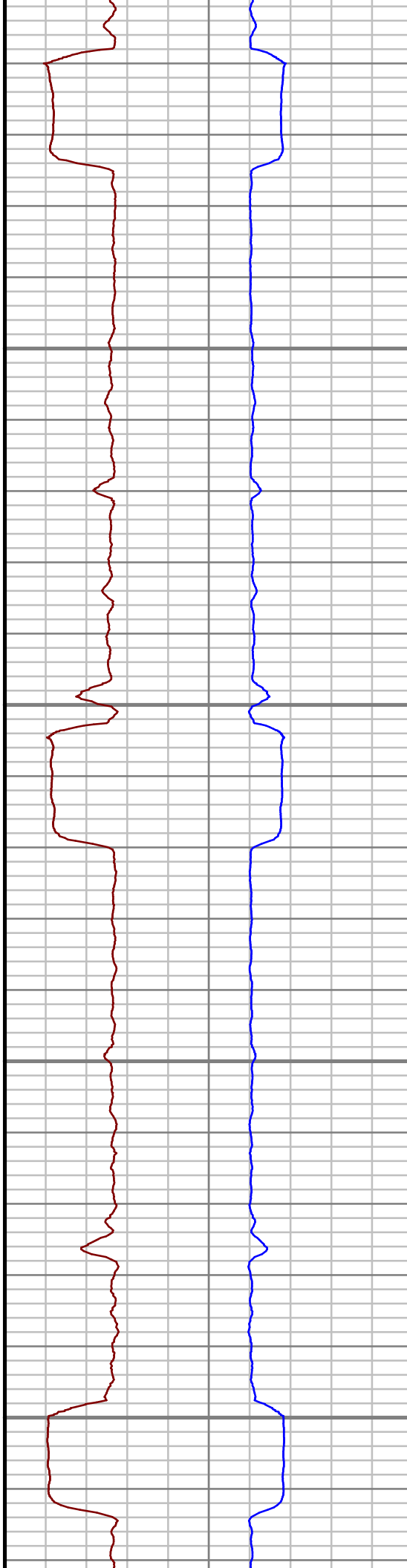


8400

8450

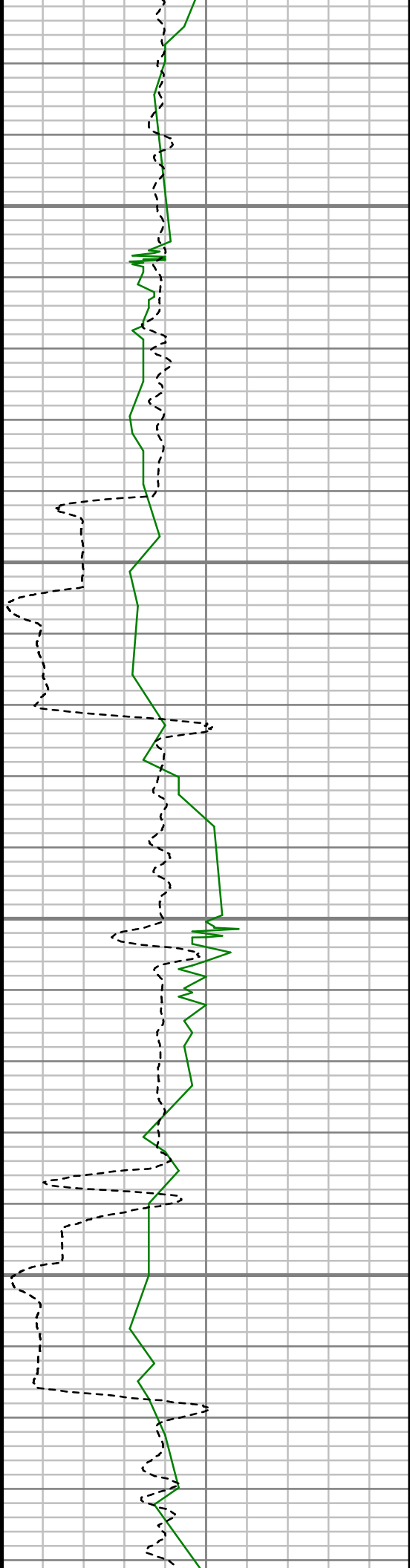
8500

8550



S: 81 MD: 8394.00 ft Inc: 91.11
deg Az: 89.23 deg TVD:
6355.15 ft

S: 82 MD: 8488.00 ft Inc: 90.57
deg Az: 87.80 deg TVD:
6353.77 ft

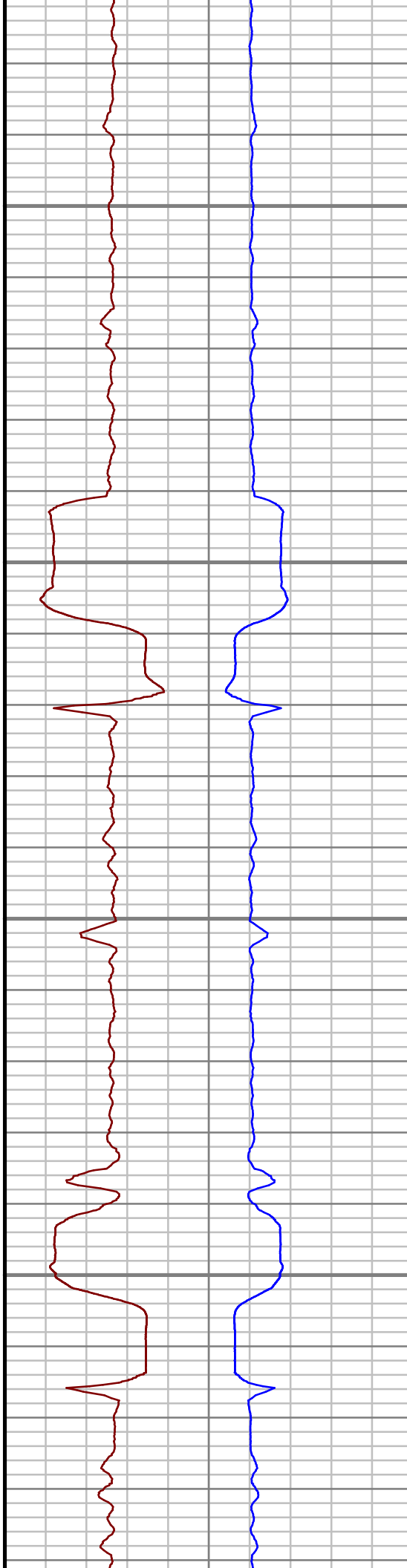


8600

8650

8700

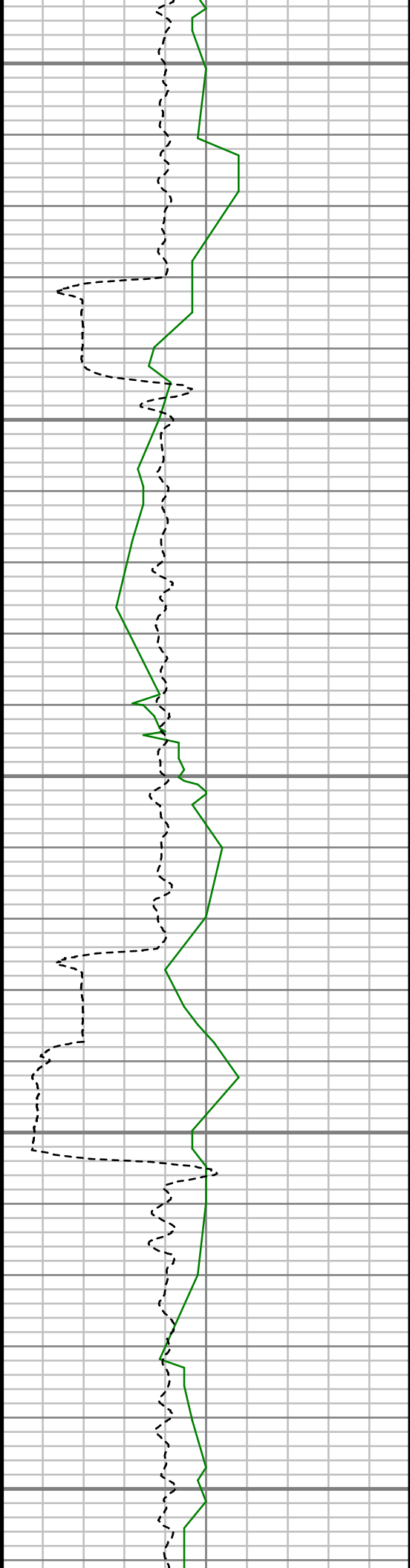
8750



S: 83 MD: 8583.00 ft Inc: 91.58
deg Az: 87.84 deg TVD:
6351.99 ft

S: 84 MD: 8677.00 ft Inc: 89.16
deg Az: 87.18 deg TVD:
6351.38 ft

S: 85 MD: 8771.00 ft Inc: 91.44
deg Az: 89.31 deg TVD:
6350.89 ft



8800

8850

8900

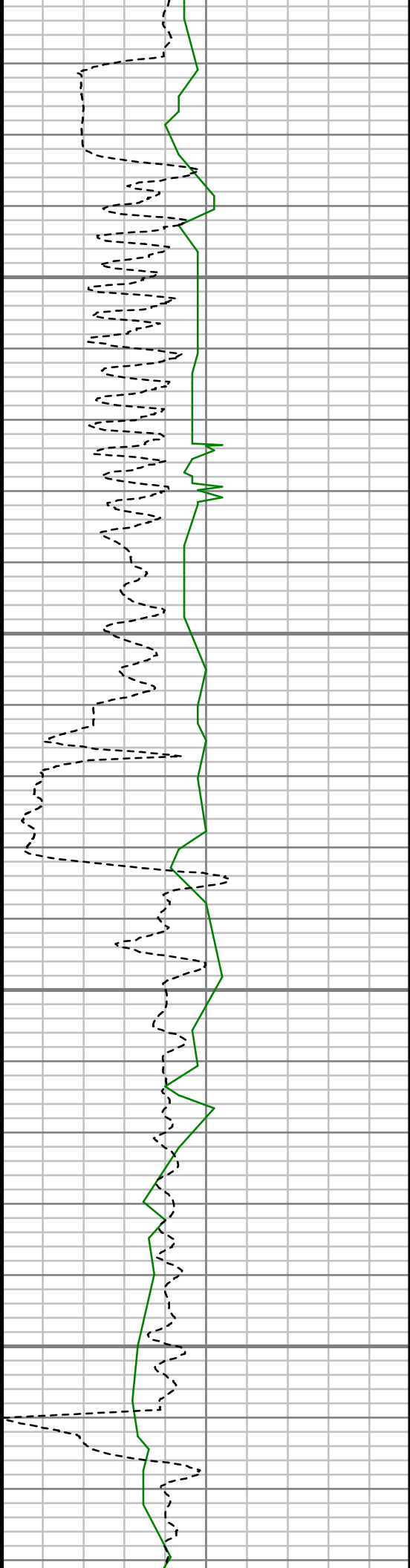
8950

9000



S: 86 MD: 8866.00 ft Inc: 92.12
deg Az: 89.69 deg TVD:
6347.94 ft

S: 87 MD: 8960.00 ft Inc: 90.00
deg Az: 89.37 deg TVD:
6346.20 ft

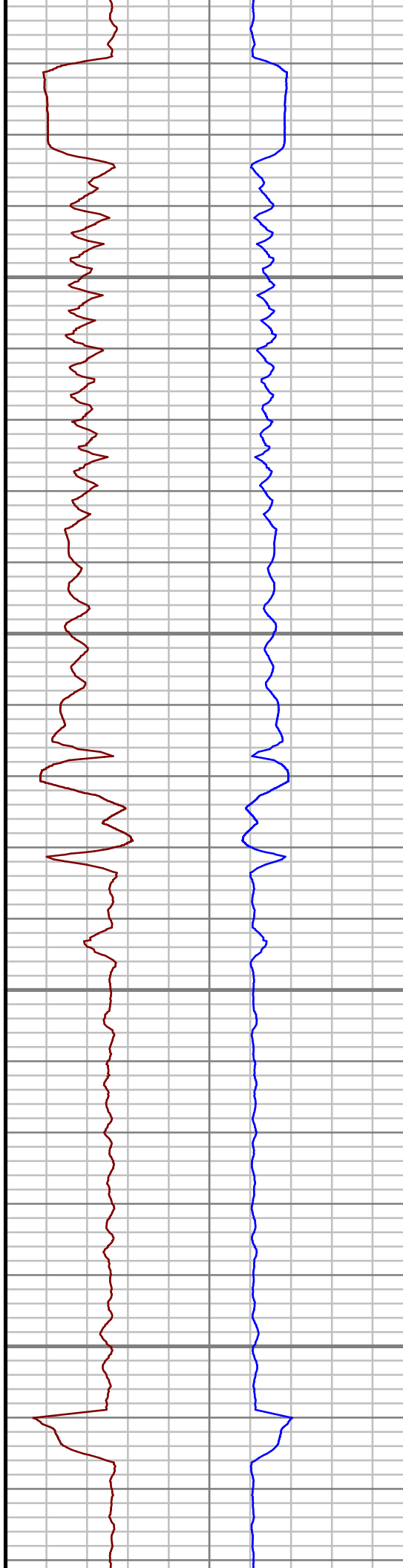


9050

9100

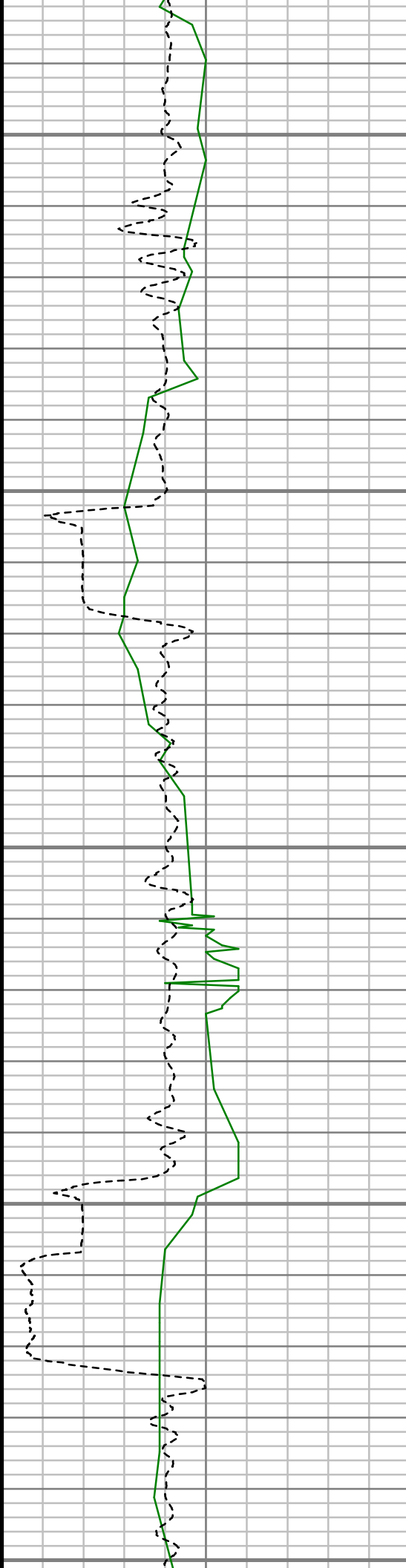
9150

9200



S: 88 MD: 9055.00 ft Inc: 91.21
deg Az: 89.17 deg TVD:
6345.20 ft

S: 89 MD: 9149.00 ft Inc: 89.63
deg Az: 88.88 deg TVD:
6344.51 ft



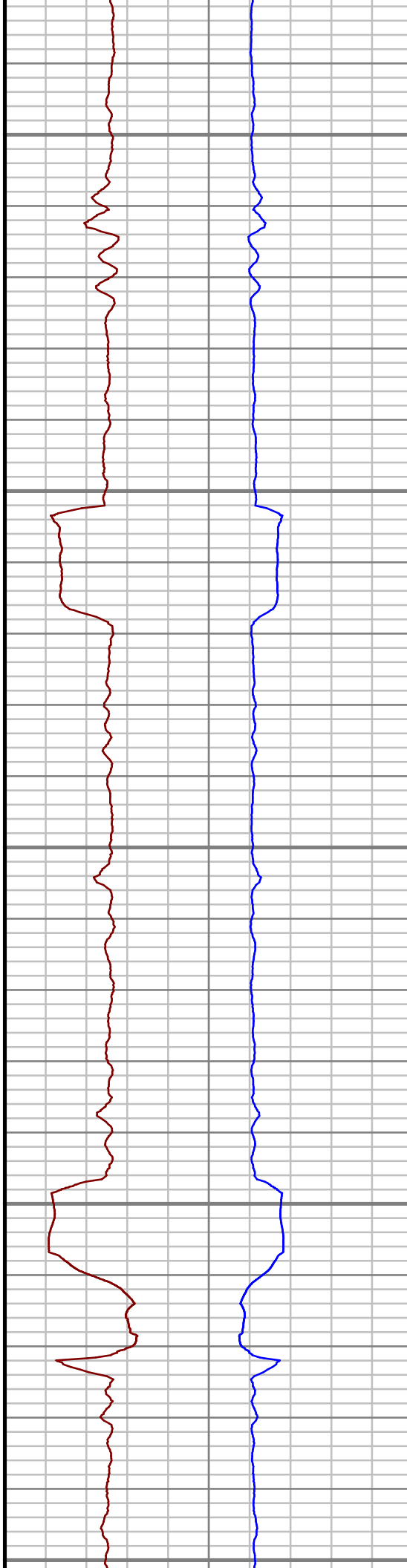
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9300

9350

9400

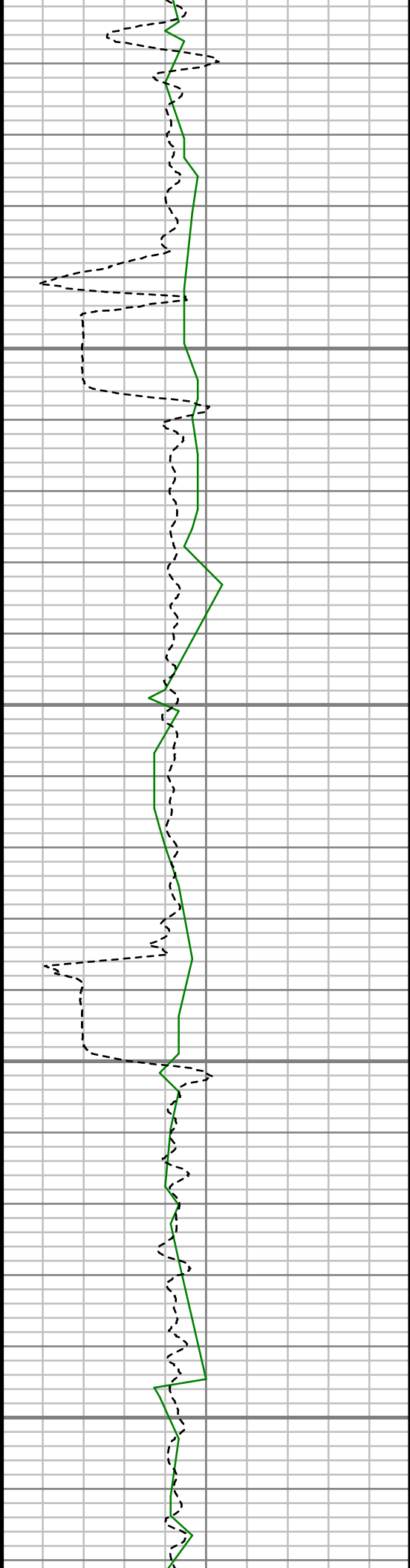
9450



S: 90 MD: 9244.00 ft Inc: 89.43
deg Az: 88.15 deg TVD:
6345.29 ft

S: 91 MD: 9338.00 ft Inc: 89.43
deg Az: 88.08 deg TVD:
6346.22 ft

S: 92 MD: 9432.00 ft Inc: 91.04
deg Az: 89.49 deg TVD:
6345.84 ft

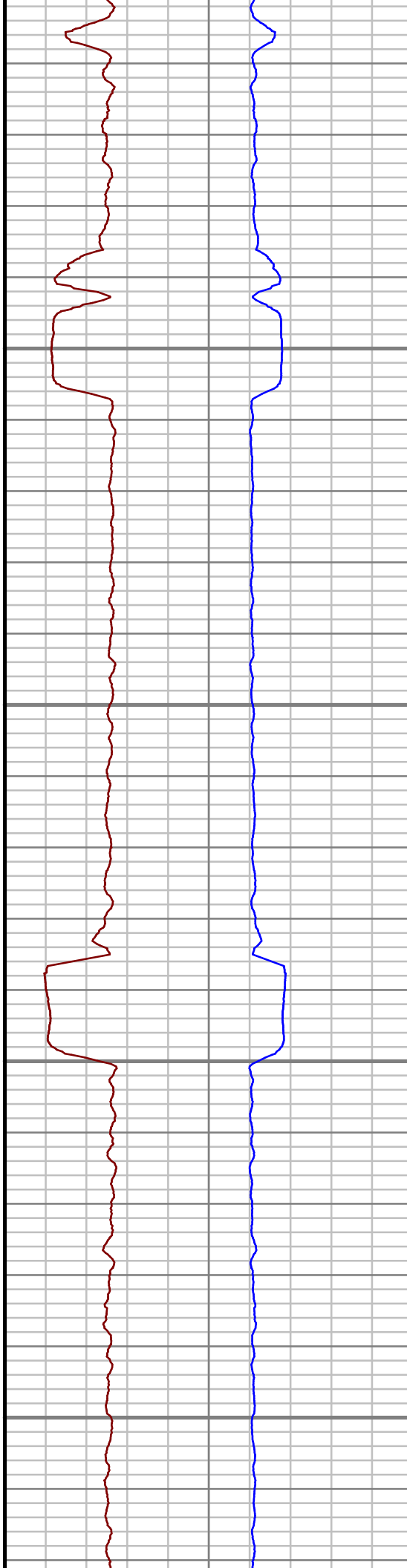


9500

9550

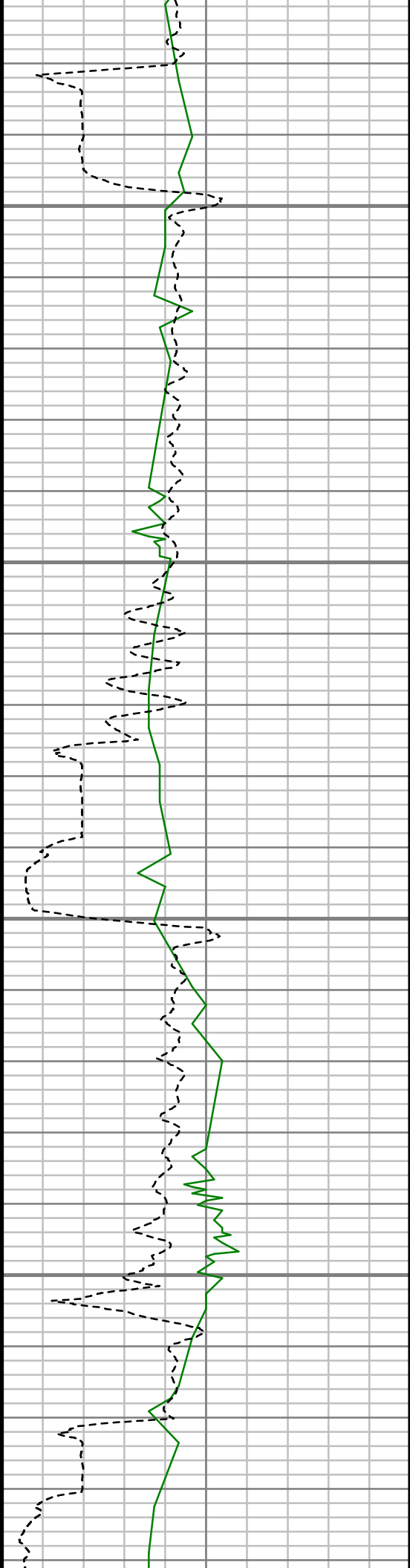
9600

9650



S: 93 MD: 9527.00 ft Inc: 90.54
deg Az: 87.78 deg TVD:
6344.53 ft

S: 94 MD: 9622.00 ft Inc: 90.37
deg Az: 90.36 deg TVD:
6343.78 ft

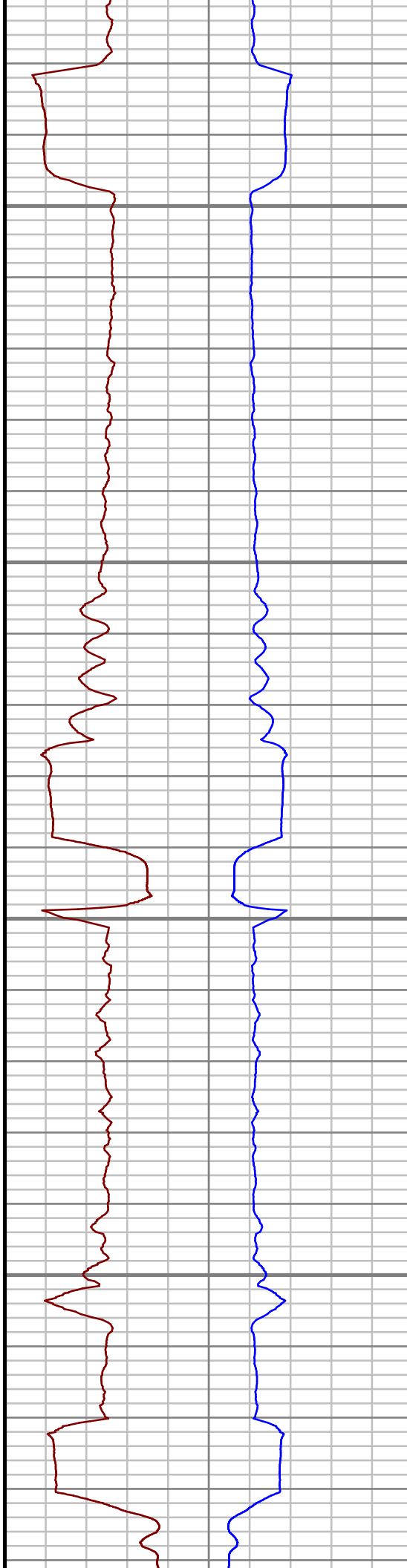


9700

9750

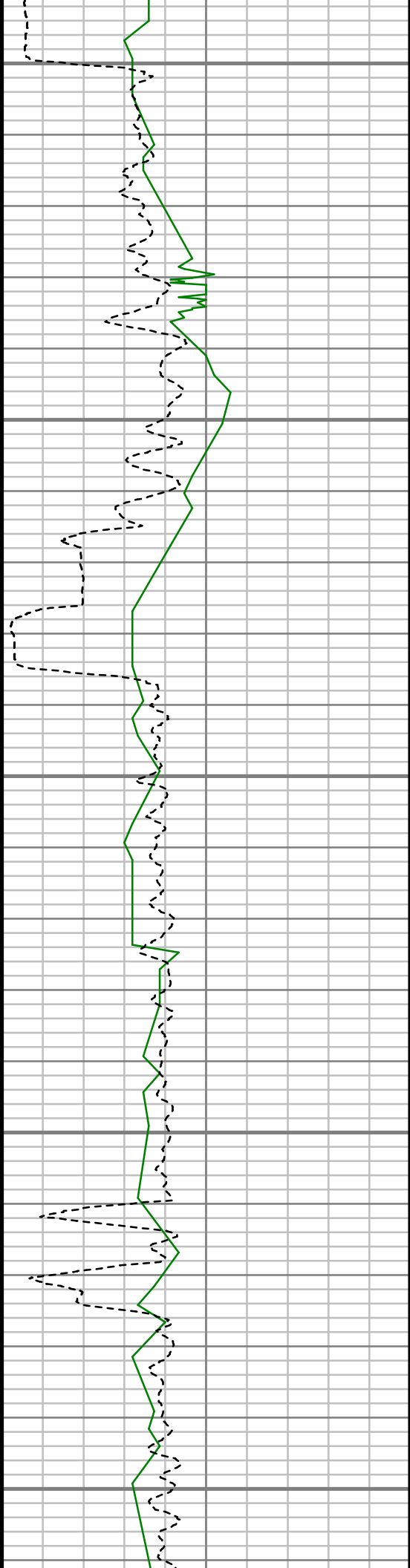
9800

9850



S: 95 MD: 9717.00 ft Inc: 90.00
deg Az: 91.74 deg TVD:
6343.47 ft

S: 96 MD: 9812.00 ft Inc: 92.08
deg Az: 93.50 deg TVD:
6341.74 ft



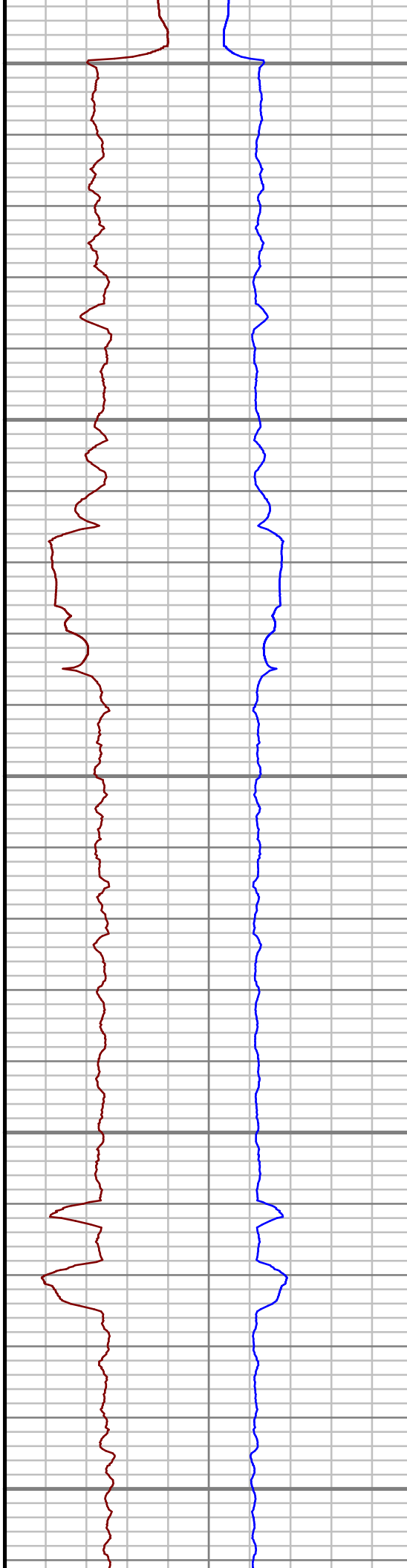
9900

9950

10000

10050

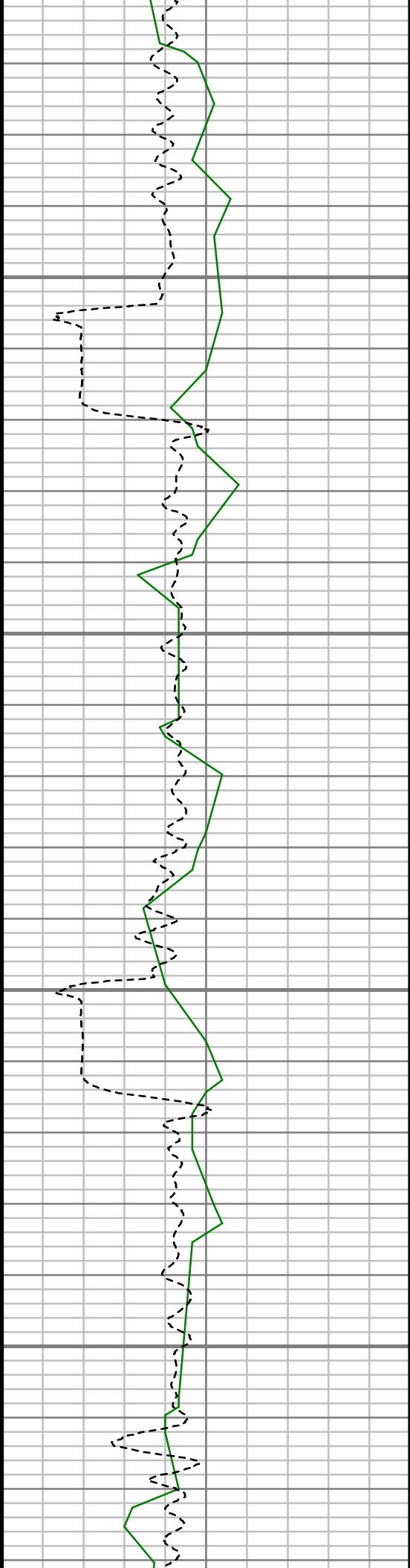
10100



S: 97 MD: 9906.00 ft Inc: 91.92
deg Az: 90.60 deg TVD:
6338.46 ft

S: 98 MD: 10001.00 ft Inc:
90.10 deg Az: 90.39 deg TVD:
6336.79 ft

S: 99 MD: 10095.00 ft Inc:
89.97 deg Az: 88.29 deg TVD:
6336.73 ft



10150

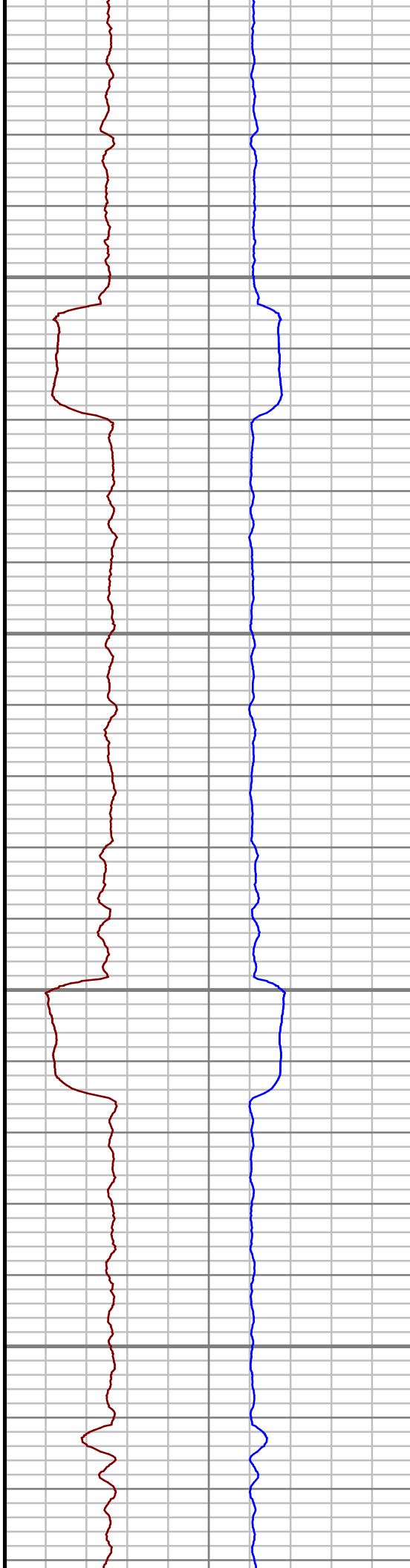
10200

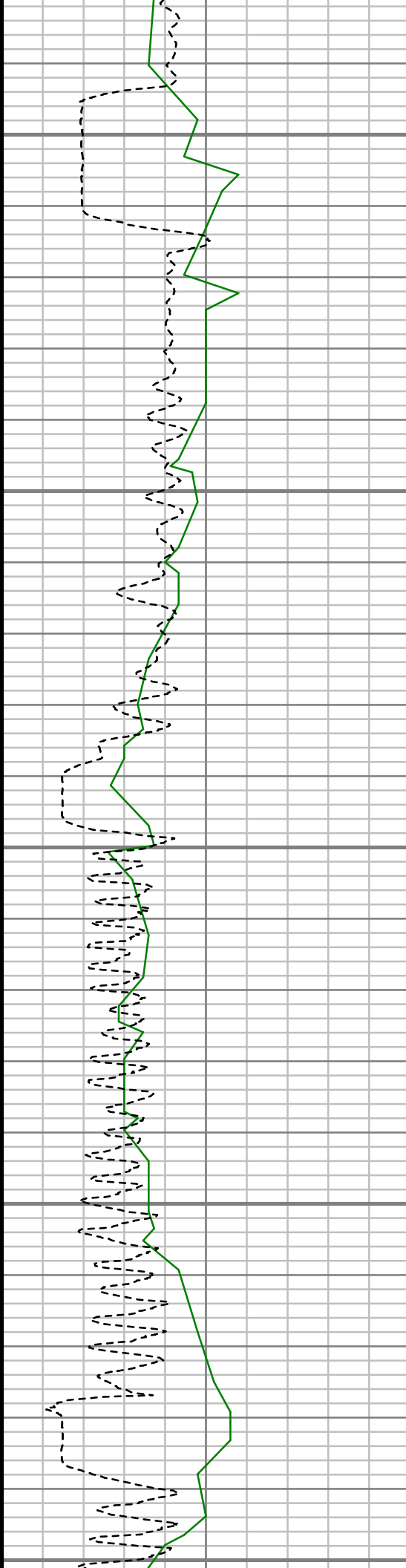
10250

10300

S: 100 MD: 10189.00 ft Inc:
90.44 deg Az: 88.41 deg TVD:
6336.40 ft

S: 101 MD: 10284.00 ft Inc:
89.87 deg Az: 88.54 deg TVD:
6336.15 ft





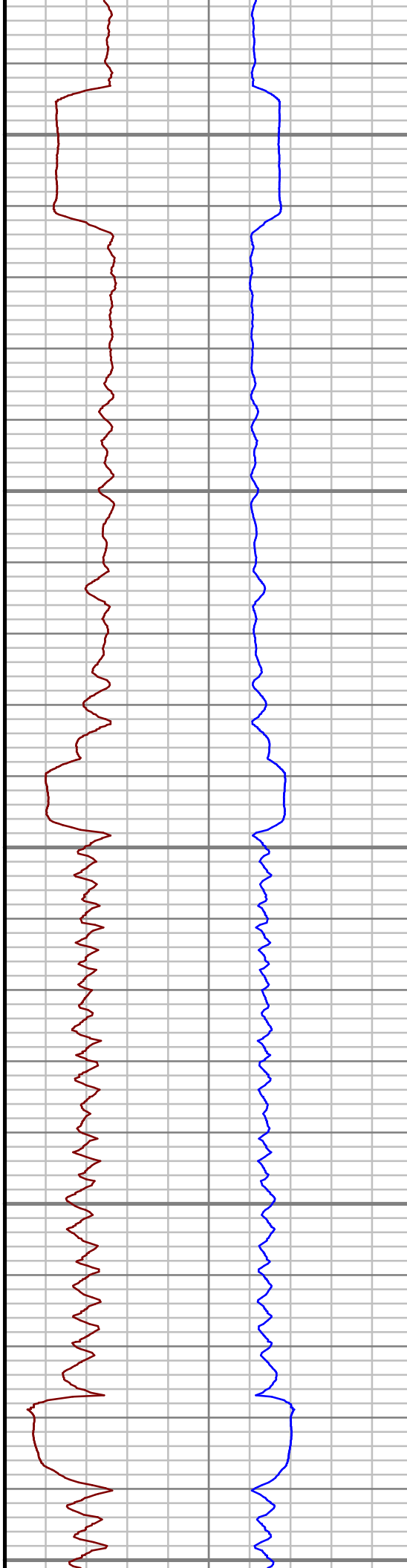
10350

10400

10450

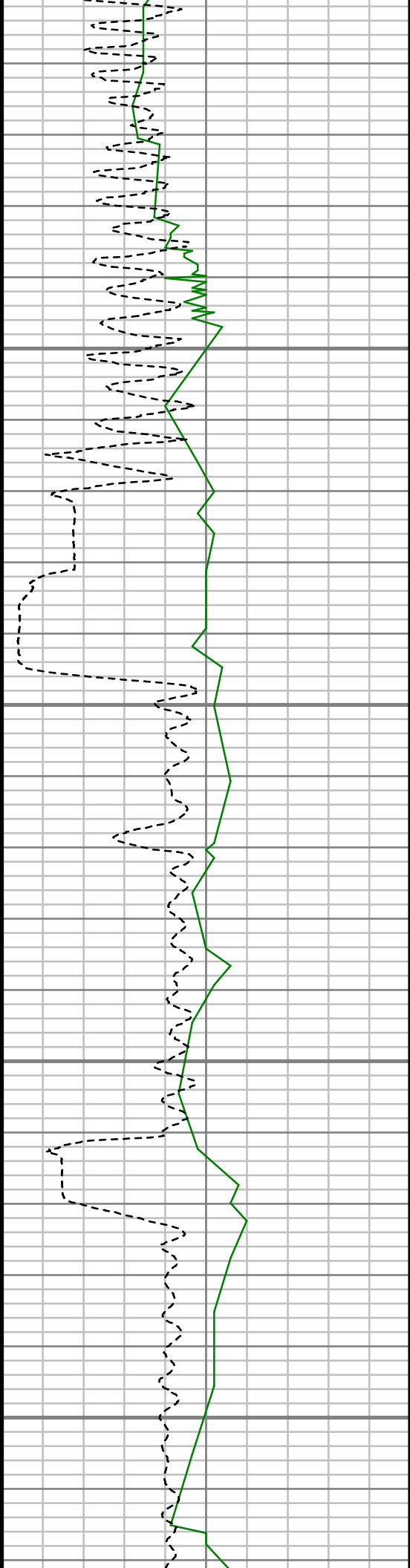
10500

10550



S: 102 MD: 10378.00 ft Inc:
89.80 deg Az: 88.53 deg TVD:
6336.43 ft

S: 103 MD: 10470.00 ft Inc:
90.94 deg Az: 89.21 deg TVD:
6335.84 ft

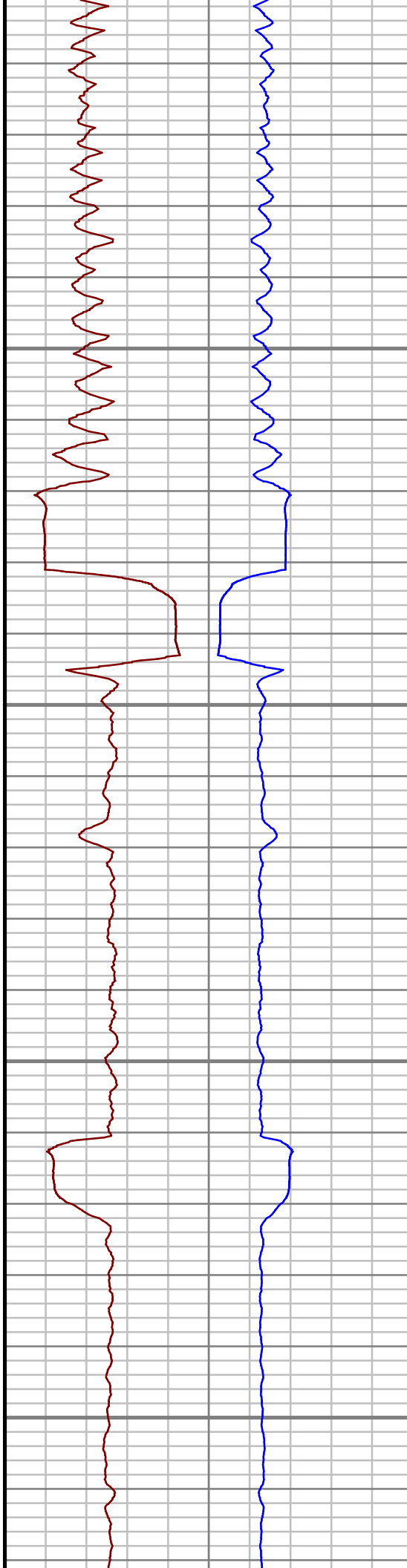


10600

10650

10700

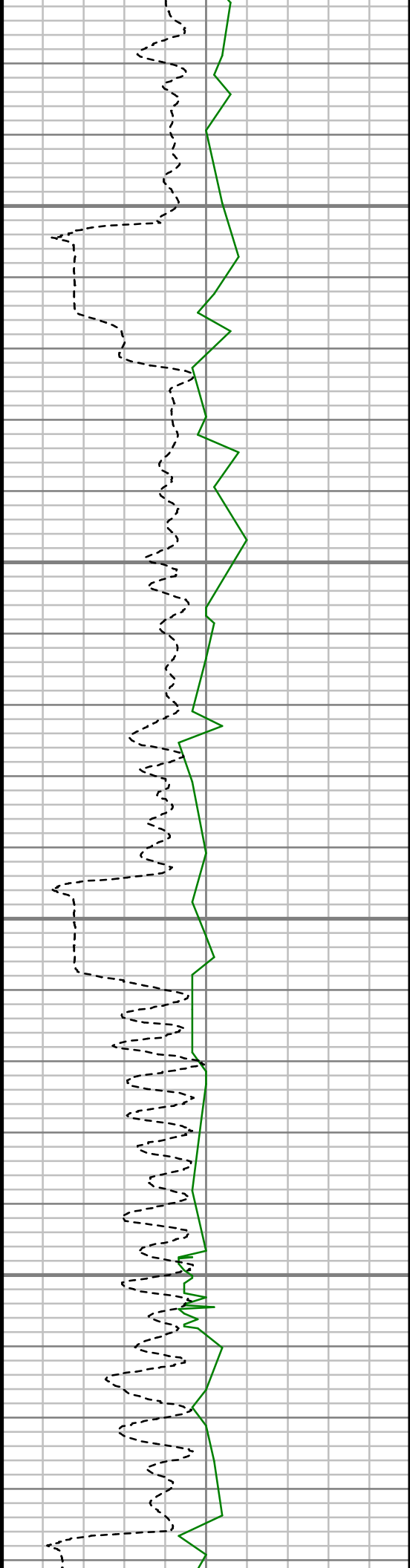
10750



S: 104 MD: 10562.00 ft Inc:
92.12 deg Az: 89.43 deg TVD:
6333.38 ft

S: 105 MD: 10653.00 ft Inc:
90.37 deg Az: 88.19 deg TVD:
6331.41 ft

S: 106 MD: 10745.00 ft Inc:
90.70 deg Az: 88.89 deg TVD:
6330.54 ft

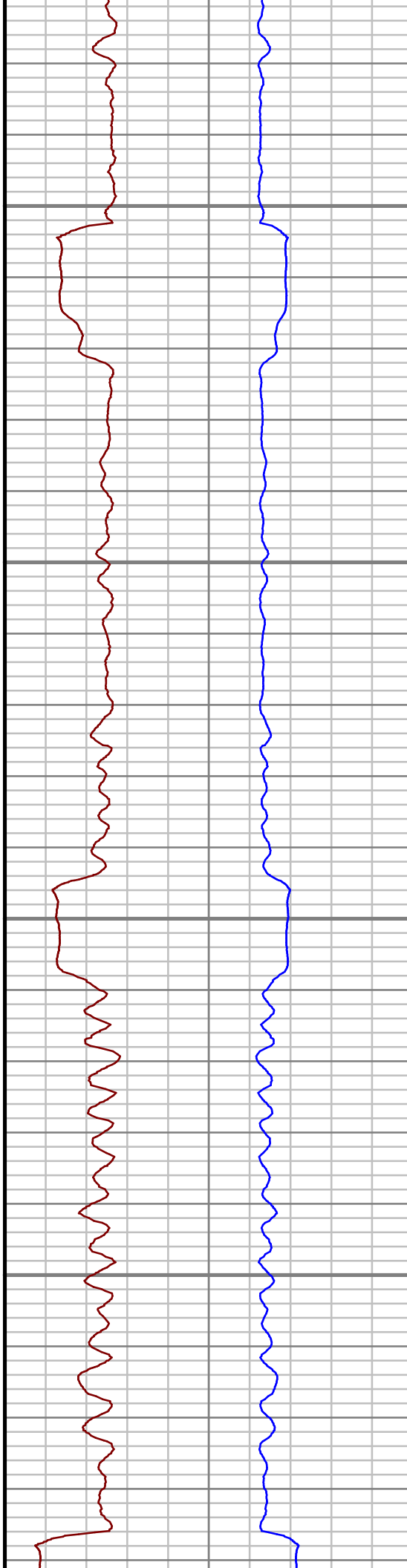


10800

10850

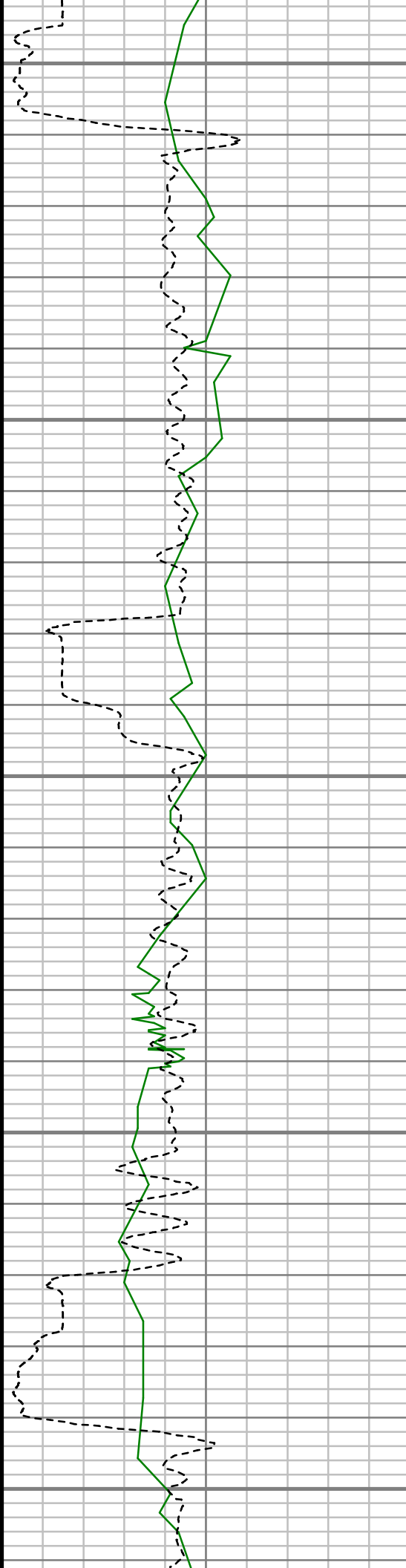
10900

10950



S: 107 MD: 10836.00 ft Inc:
89.76 deg Az: 87.44 deg TVD:
6330.17 ft

S: 108 MD: 10928.00 ft Inc:
89.26 deg Az: 87.51 deg TVD:
6330.95 ft



11000

11050

11100

11150

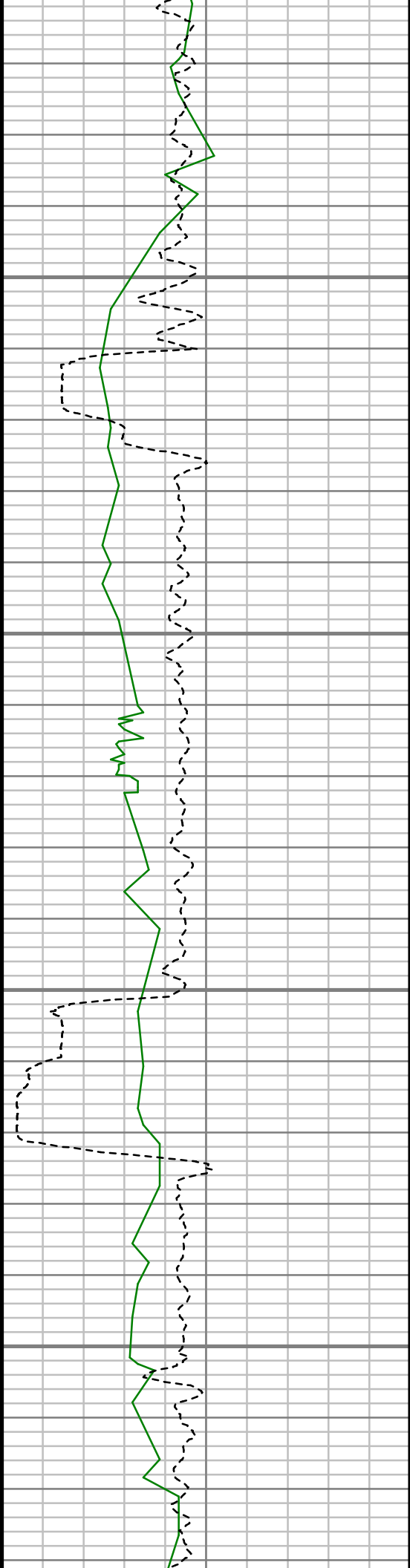
11200



S: 109 MD: 11020.00 ft Inc:
91.61 deg Az: 88.31 deg TVD:
6330.25 ft

S: 110 MD: 11111.00 ft Inc:
92.02 deg Az: 88.18 deg TVD:
6327.37 ft

S: 111 MD: 11202.00 ft Inc:
91.61 deg Az: 87.40 deg TVD:
6324.49 ft

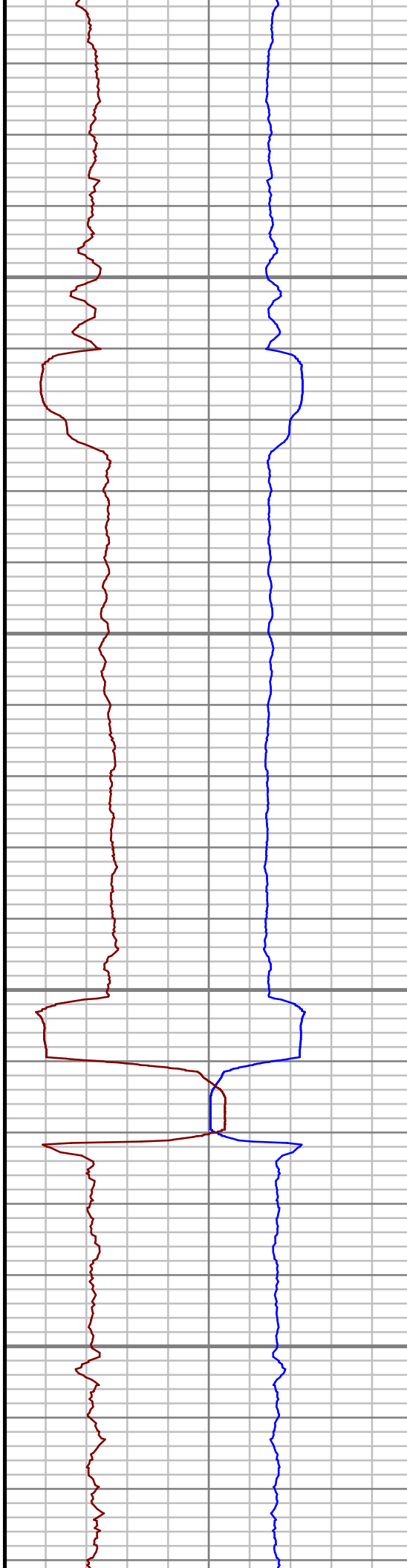


11250

11300

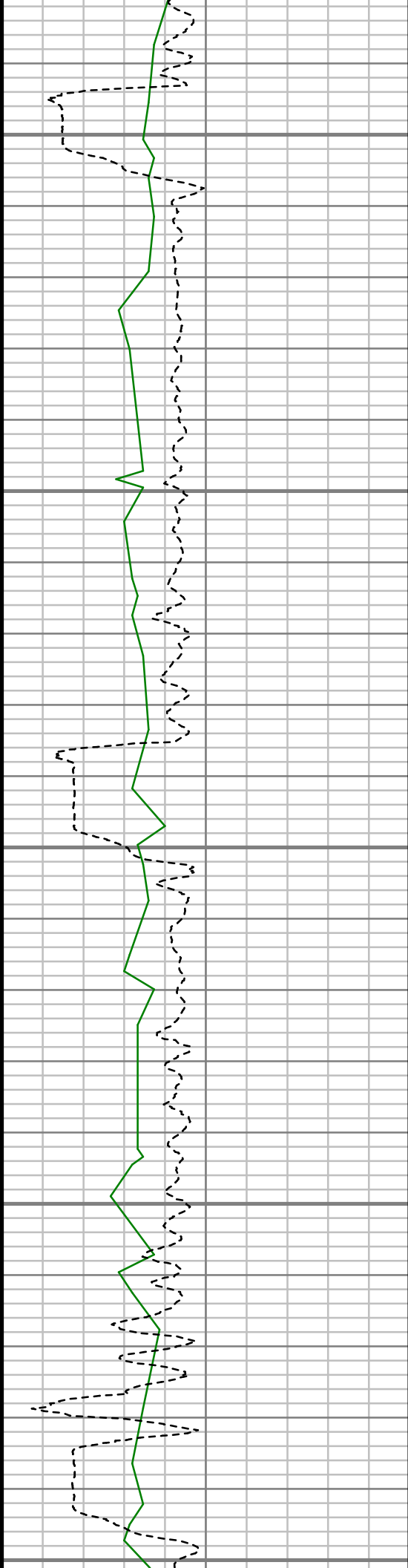
11350

11400



S: 112 MD: 11294.00 ft Inc:
91.78 deg Az: 87.61 deg TVD:
6321.77 ft

S: 113 MD: 11386.00 ft Inc:
90.10 deg Az: 87.47 deg TVD:
6320.26 ft



11450

11500

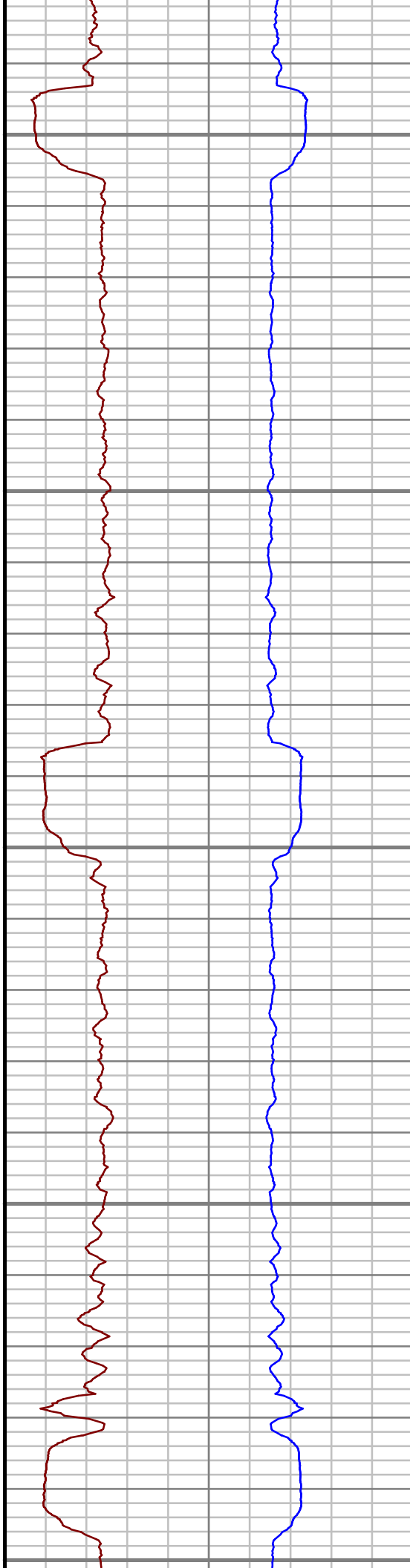
11550

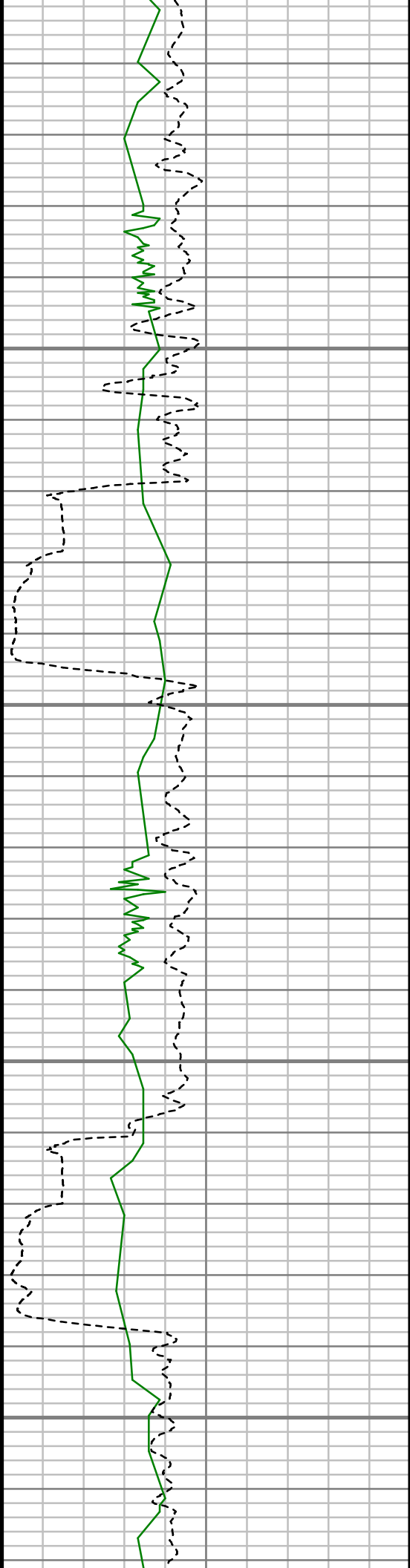
11600

11650

S: 114 MD: 11477.00 ft Inc:
90.44 deg Az: 88.31 deg TVD:
6319.83 ft

S: 115 MD: 11569.00 ft Inc:
90.37 deg Az: 87.73 deg TVD:
6319.18 ft



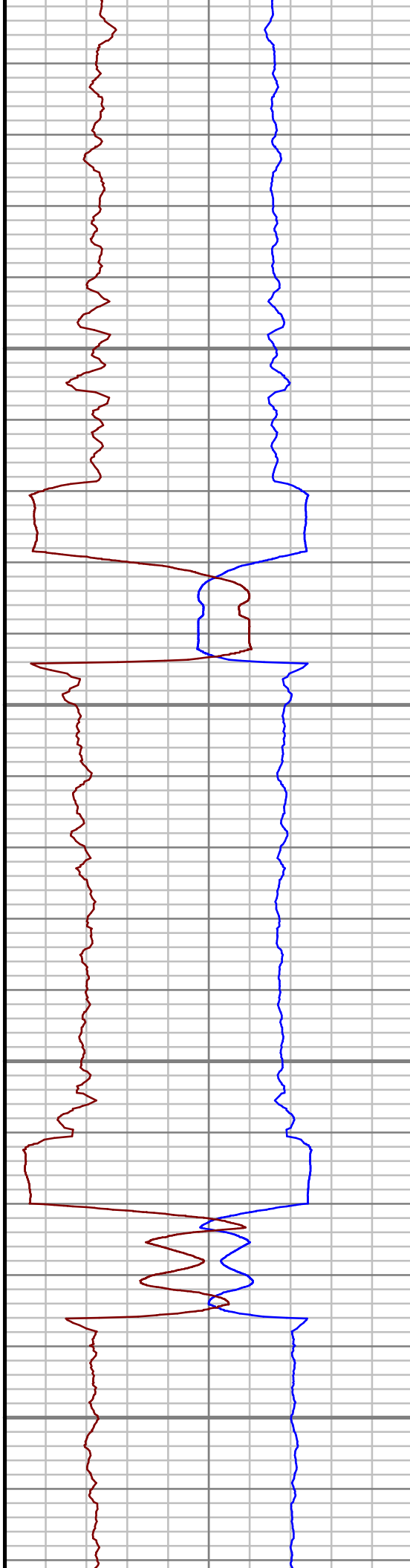


11700

11750

11800

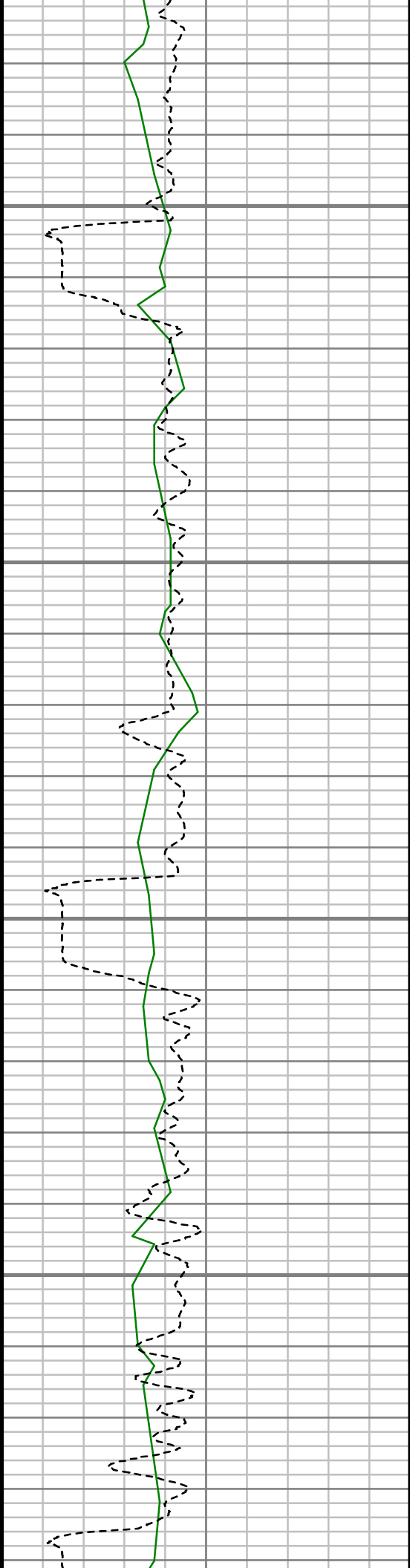
11850



S: 116 MD: 11660.00 ft Inc:
89.80 deg Az: 86.31 deg TVD:
6319.05 ft

S: 117 MD: 11752.00 ft Inc:
89.40 deg Az: 88.09 deg TVD:
6319.70 ft

S: 118 MD: 11844.00 ft Inc:
90.60 deg Az: 89.67 deg TVD:
6319.70 ft



11900

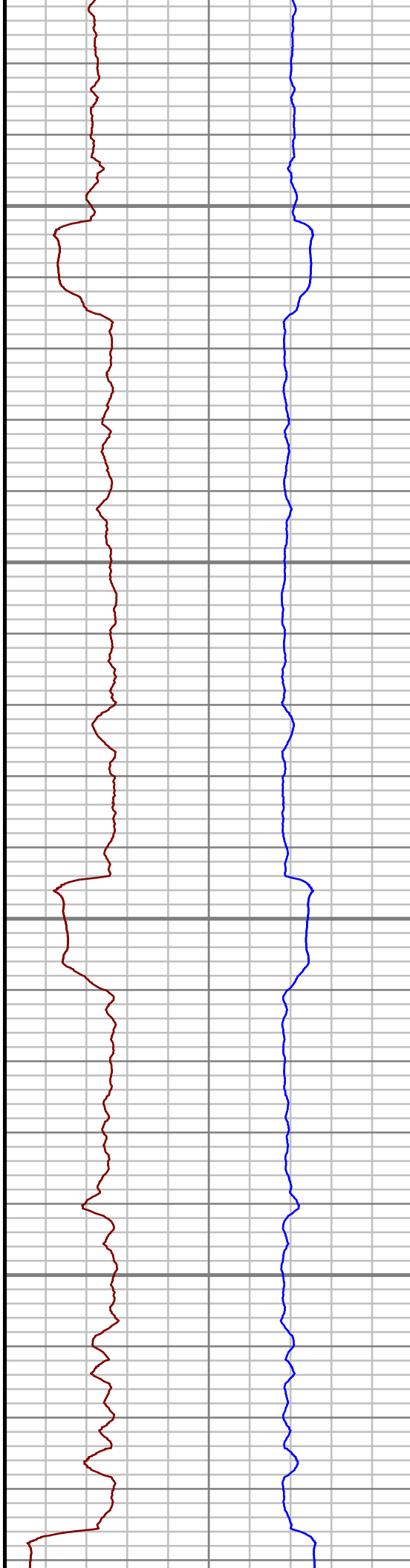
11950

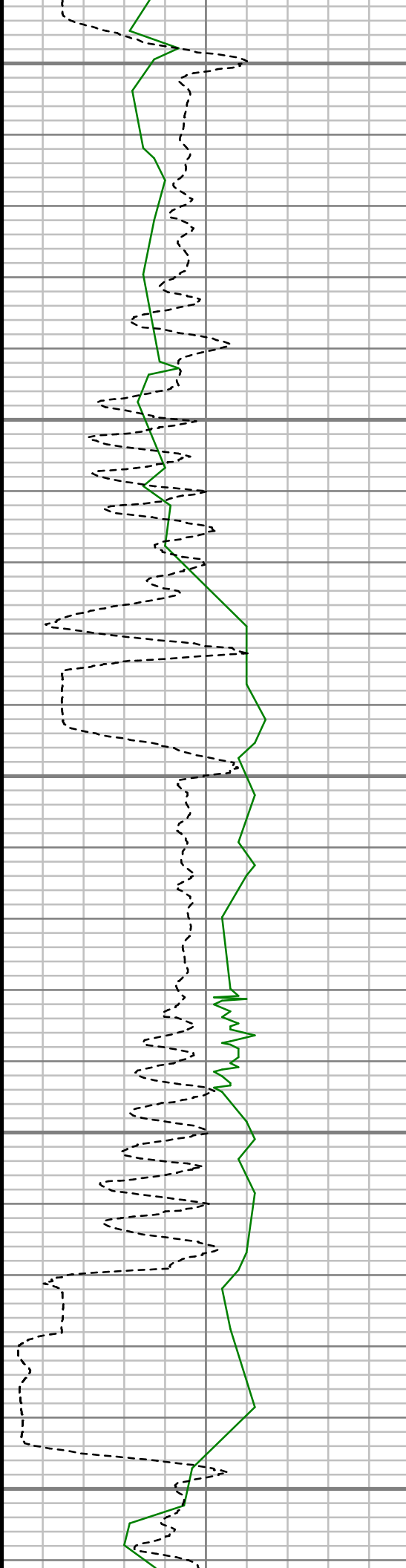
12000

12050

S: 119 MD: 11935.00 ft Inc:
90.97 deg Az: 90.35 deg TVD:
6318.44 ft

S: 120 MD: 12027.00 ft Inc:
90.54 deg Az: 89.85 deg TVD:
6317.23 ft





12100

12150

12200

12250

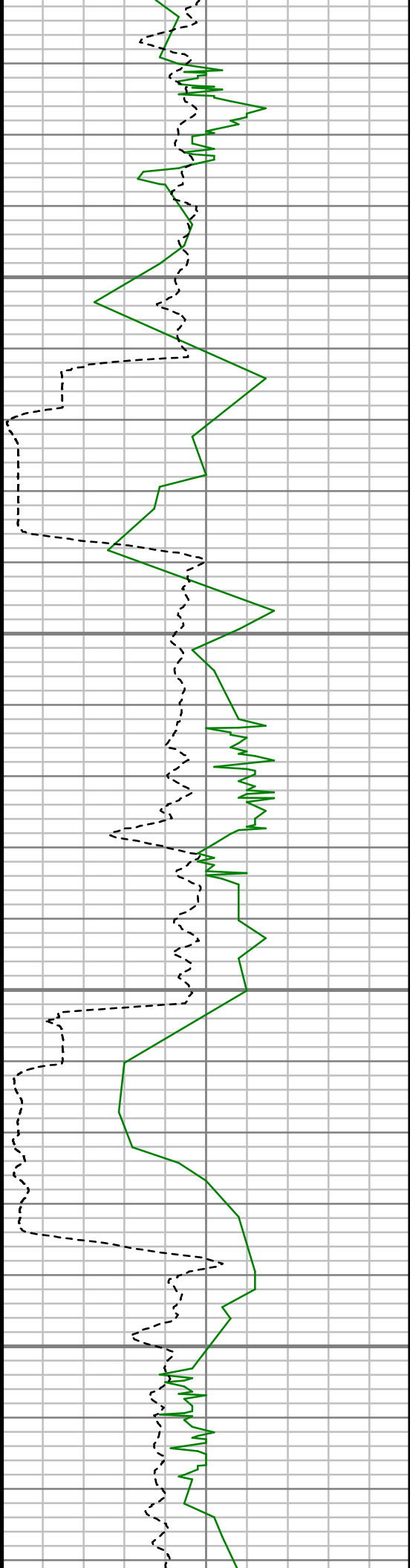
12300



S: 121 MD: 12119.00 ft Inc:
90.37 deg Az: 91.27 deg TVD:
6316.50 ft

S: 122 MD: 12210.00 ft Inc:
90.71 deg Az: 92.35 deg TVD:
6315.65 ft

S: 123 MD: 12302.00 ft Inc:
92.99 deg Az: 92.34 deg TVD:
6312.68 ft

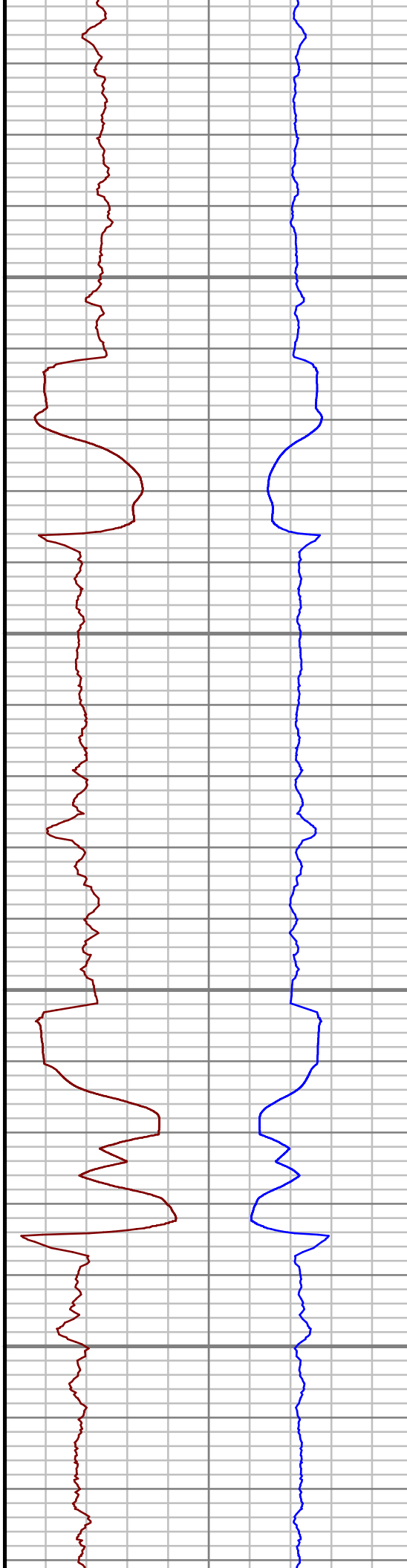


12350

12400

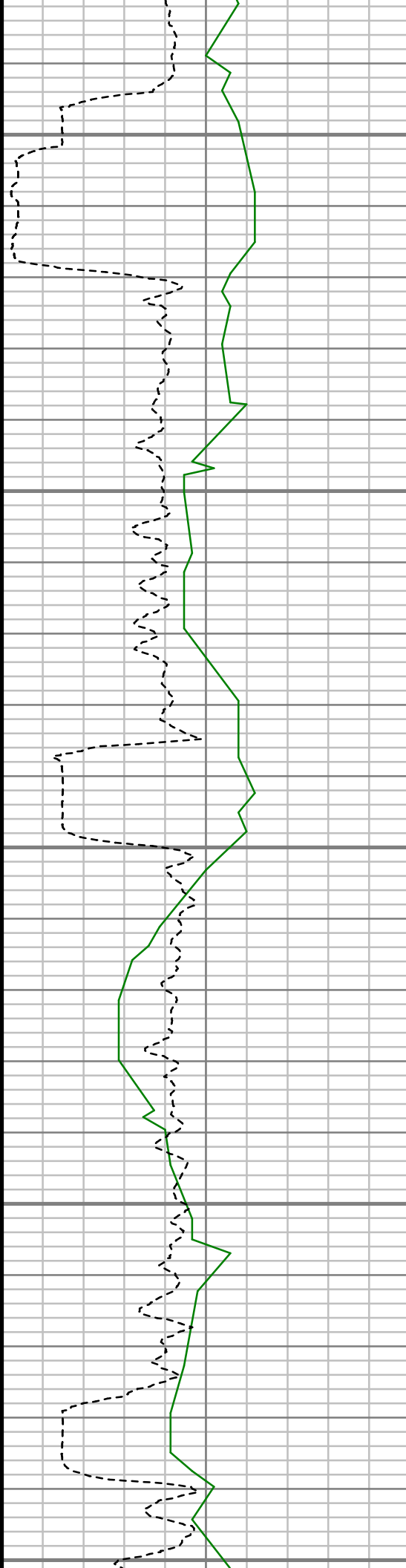
12450

12500



S: 124 MD: 12393.00 ft Inc:
92.79 deg Az: 91.02 deg TVD:
6308.09 ft

S: 125 MD: 12485.00 ft Inc:
91.14 deg Az: 89.72 deg TVD:
6304.94 ft



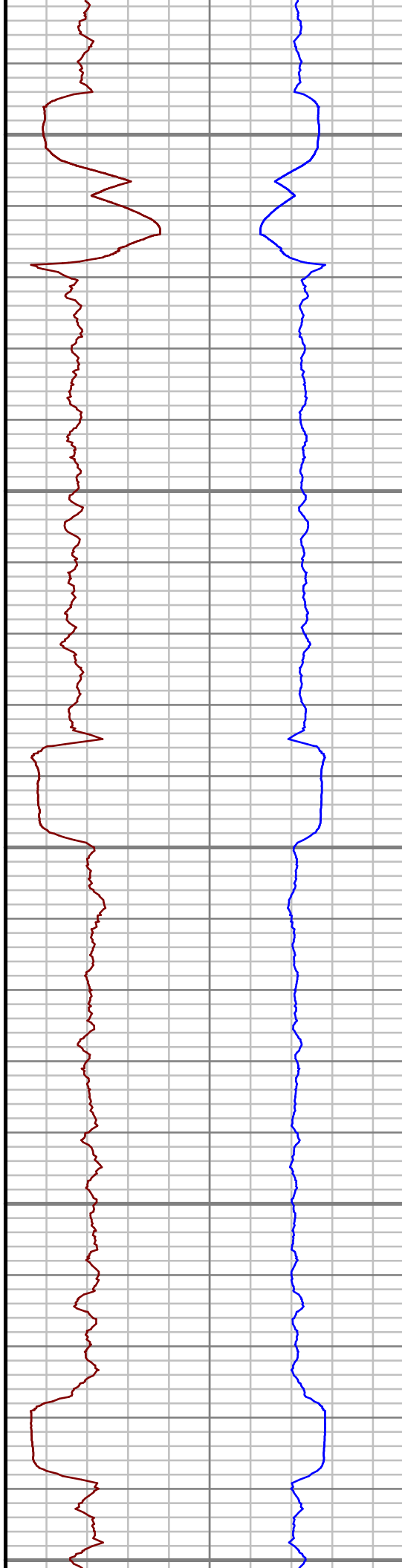
12550

12600

12650

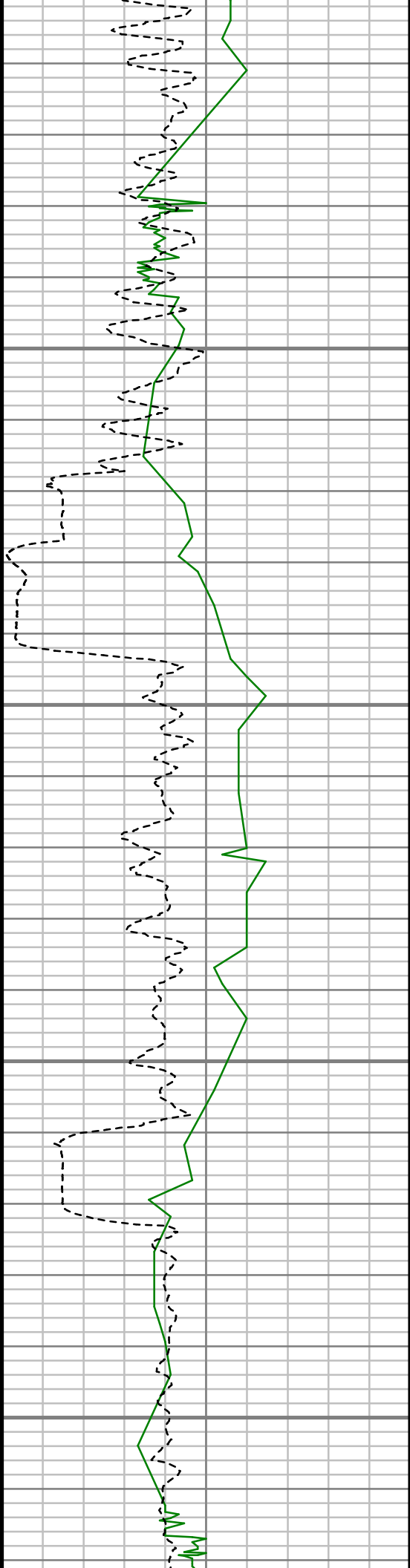
12700

12750



S: 126 MD: 12576.00 ft Inc:
88.92 deg Az: 89.33 deg TVD:
6304.88 ft

S: 127 MD: 12668.00 ft Inc:
88.76 deg Az: 89.07 deg TVD:
6306.74 ft



12800

12850

12900

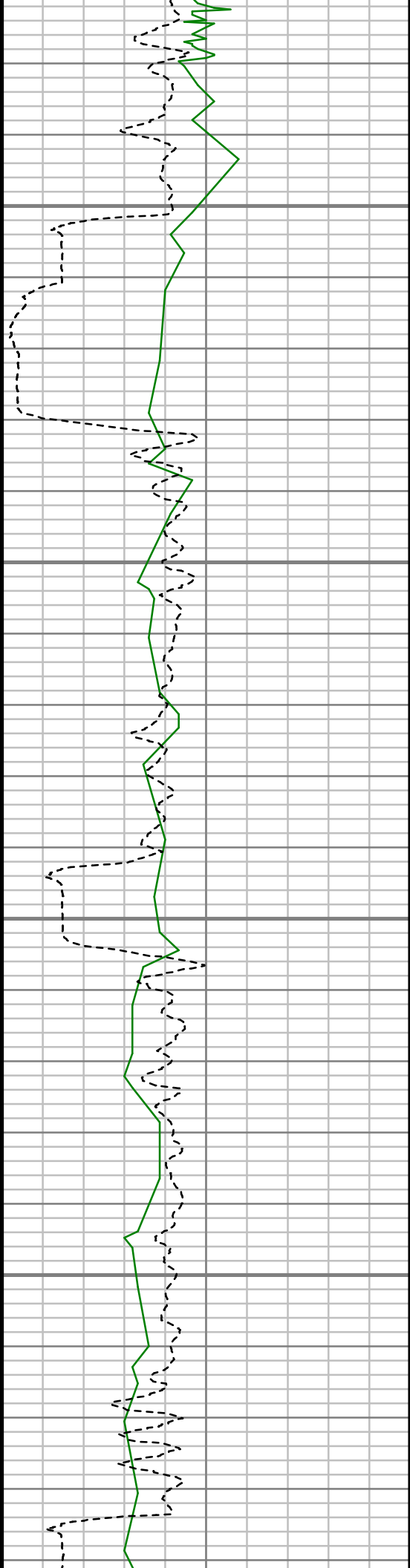
12950



S: 128 MD: 12759.00 ft Inc:
88.02 deg Az: 88.76 deg TVD:
6309.30 ft

S: 129 MD: 12851.00 ft Inc:
89.16 deg Az: 88.78 deg TVD:
6311.57 ft

S: 130 MD: 12943.00 ft Inc:
88.99 deg Az: 88.75 deg TVD:
6313.05 ft

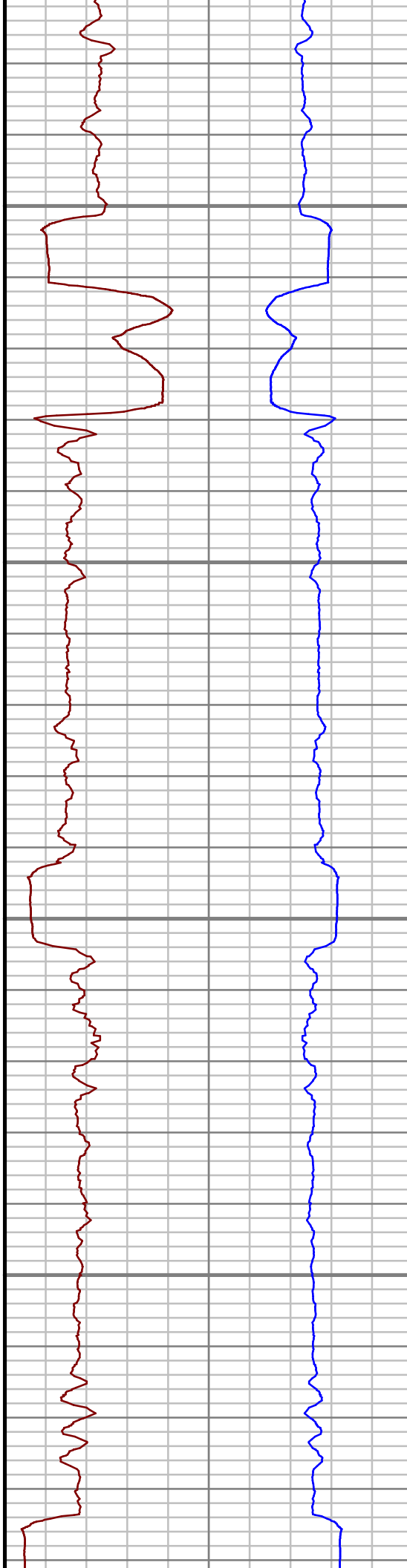


13000

13050

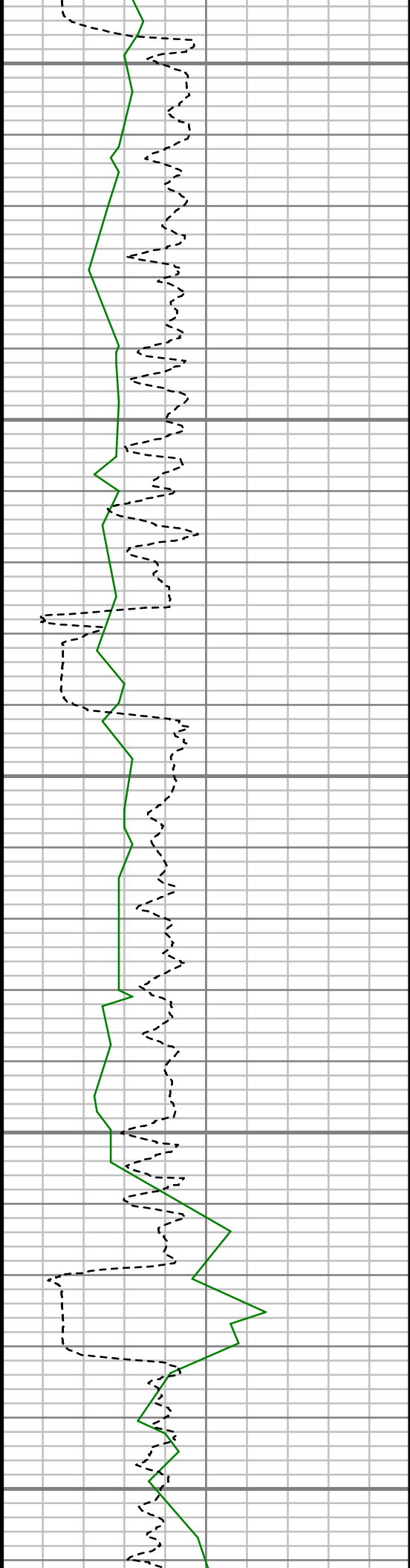
13100

13150



S: 131 MD: 13034.00 ft Inc:
90.60 deg Az: 88.21 deg TVD:
6313.37 ft

S: 132 MD: 13126.00 ft Inc:
90.57 deg Az: 88.59 deg TVD:
6312.43 ft



13200

13250

13300

13350

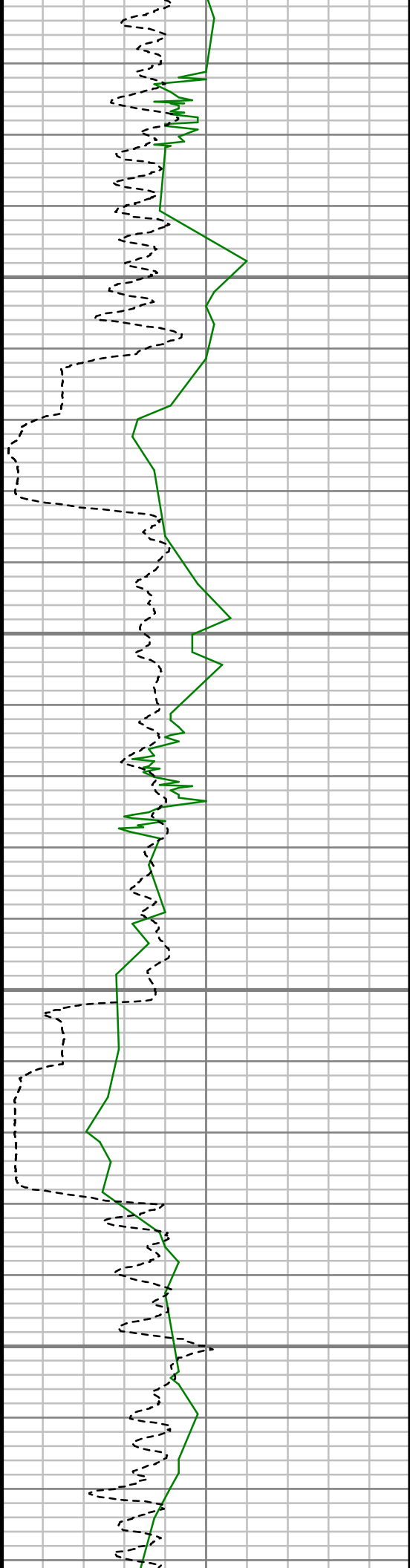
13400



S: 133 MD: 13218.00 ft Inc:
90.54 deg Az: 88.49 deg TVD:
6311.54 ft

S: 134 MD: 13310.00 ft Inc:
90.71 deg Az: 88.43 deg TVD:
6310.54 ft

S: 135 MD: 13401.00 ft Inc:
91.04 deg Az: 88.87 deg TVD:
6309.15 ft

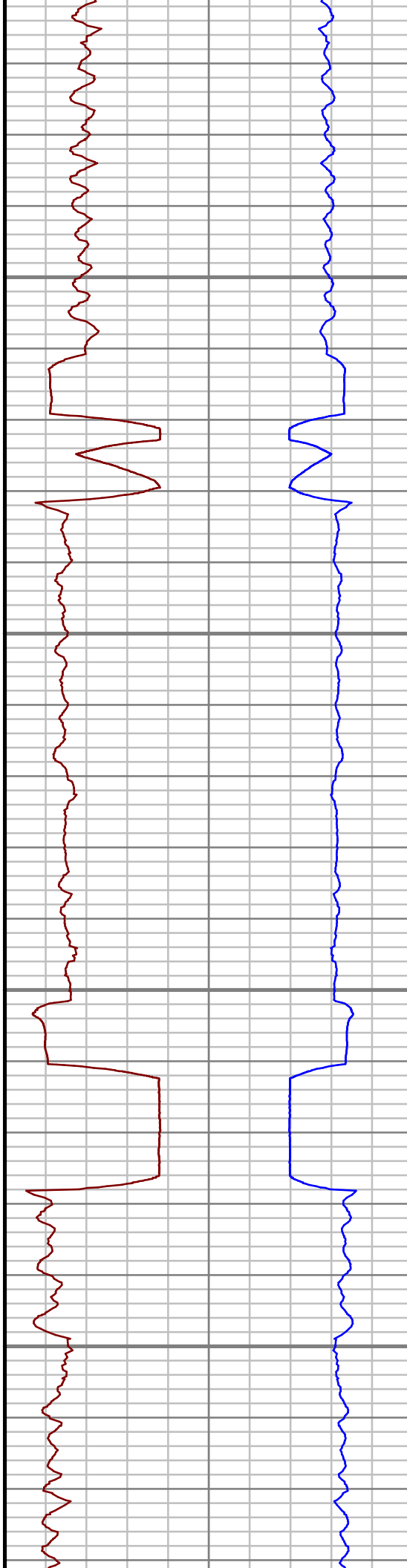


13450

13500

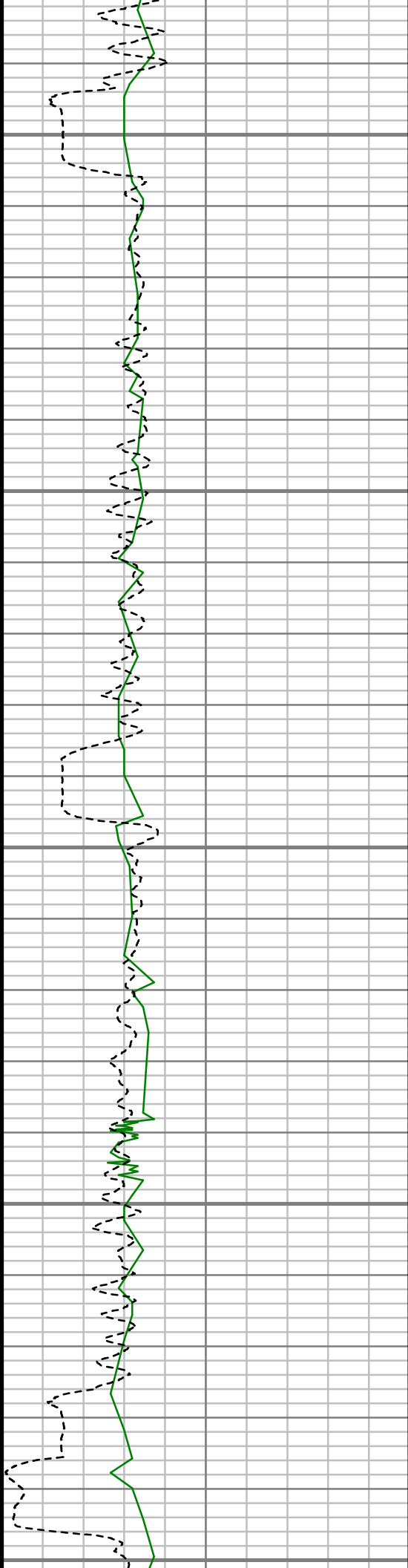
13550

13600



S: 136 MD: 13493.00 ft Inc:
88.66 deg Az: 88.62 deg TVD:
6309.40 ft

S: 137 MD: 13585.00 ft Inc:
89.80 deg Az: 88.93 deg TVD:
6310.64 ft



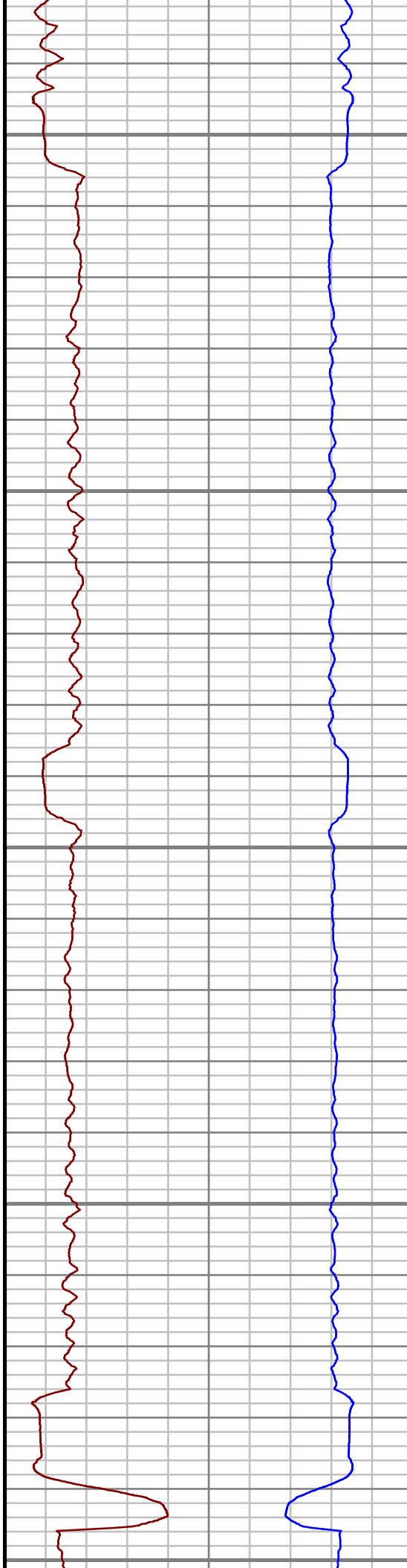
13650

13700

13750

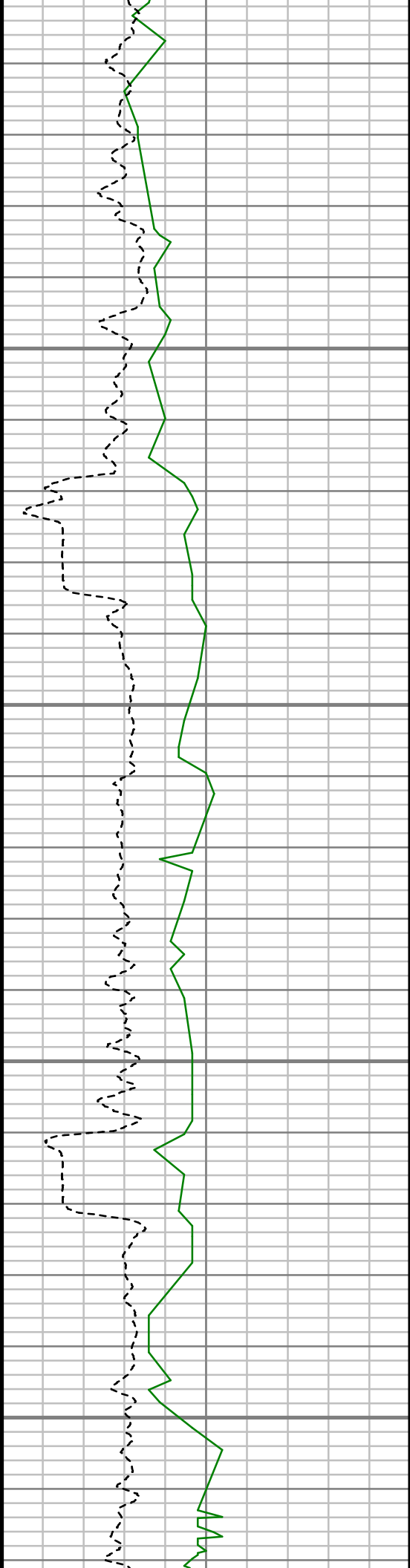
13800

13850



S: 138 MD: 13676.00 ft Inc:
90.20 deg Az: 89.36 deg TVD:
6310.64 ft

S: 139 MD: 13767.00 ft Inc:
90.91 deg Az: 89.68 deg TVD:
6309.76 ft

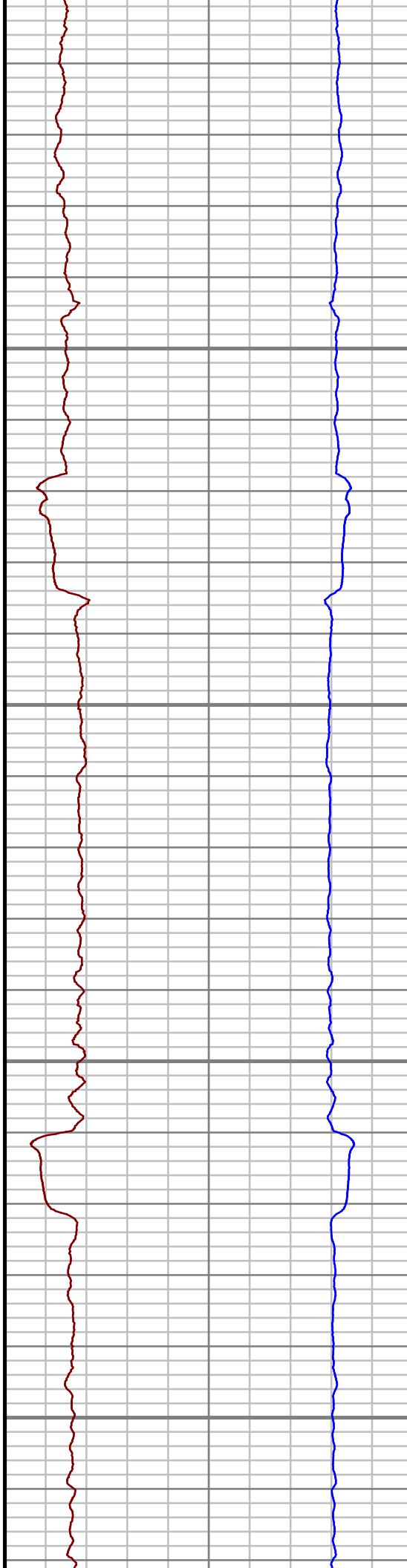


13900

13950

14000

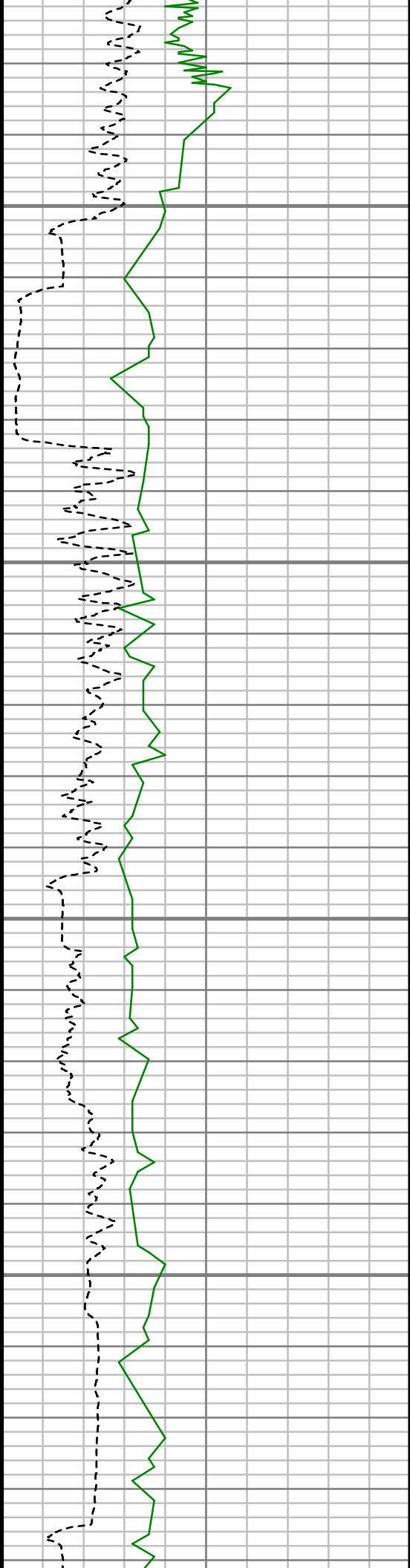
14050



S: 140 MD: 13859.00 ft Inc:
89.13 deg Az: 89.69 deg TVD:
6309.73 ft

S: 141 MD: 13951.00 ft Inc:
89.16 deg Az: 89.42 deg TVD:
6311.10 ft

S: 142 MD: 14043.00 ft Inc:
88.39 deg Az: 88.88 deg TVD:
6313.07 ft

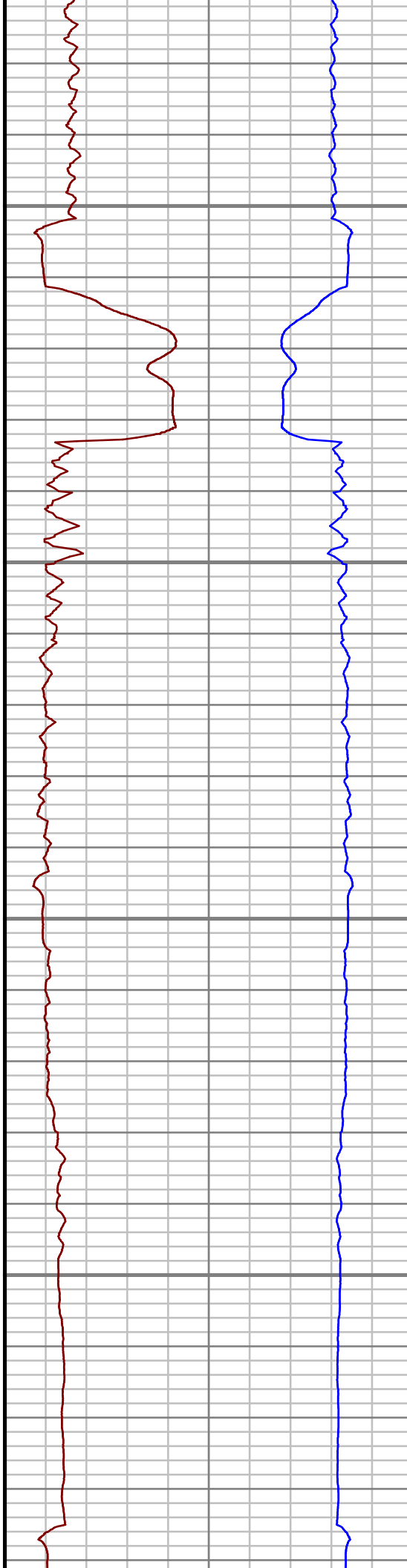


14100

14150

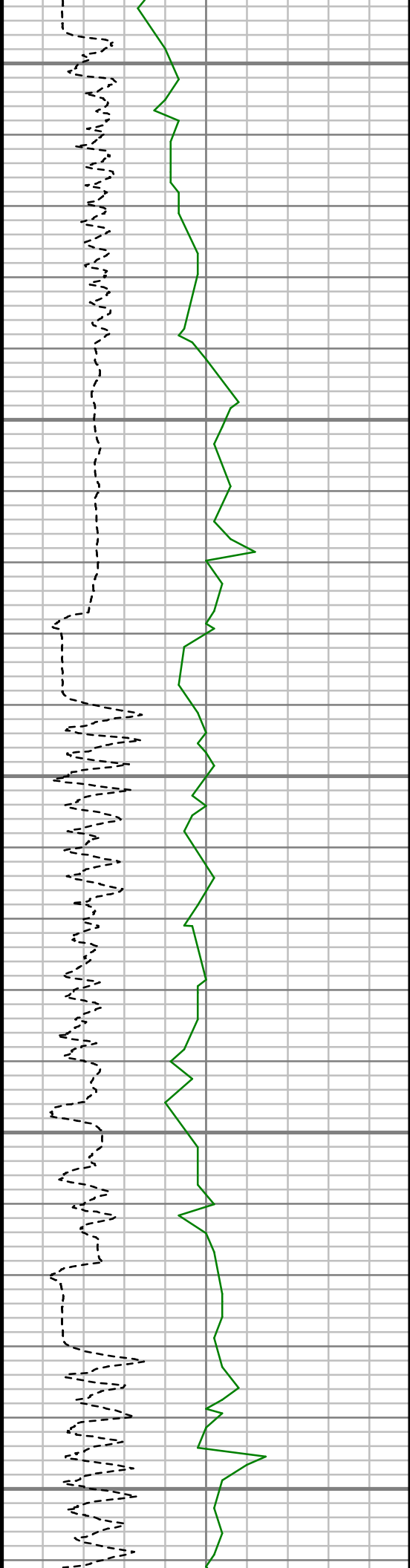
14200

14250



S: 143 MD: 14135.00 ft Inc:
90.13 deg Az: 88.46 deg TVD:
6314.26 ft

S: 144 MD: 14227.00 ft Inc:
89.97 deg Az: 87.81 deg TVD:
6314.18 ft



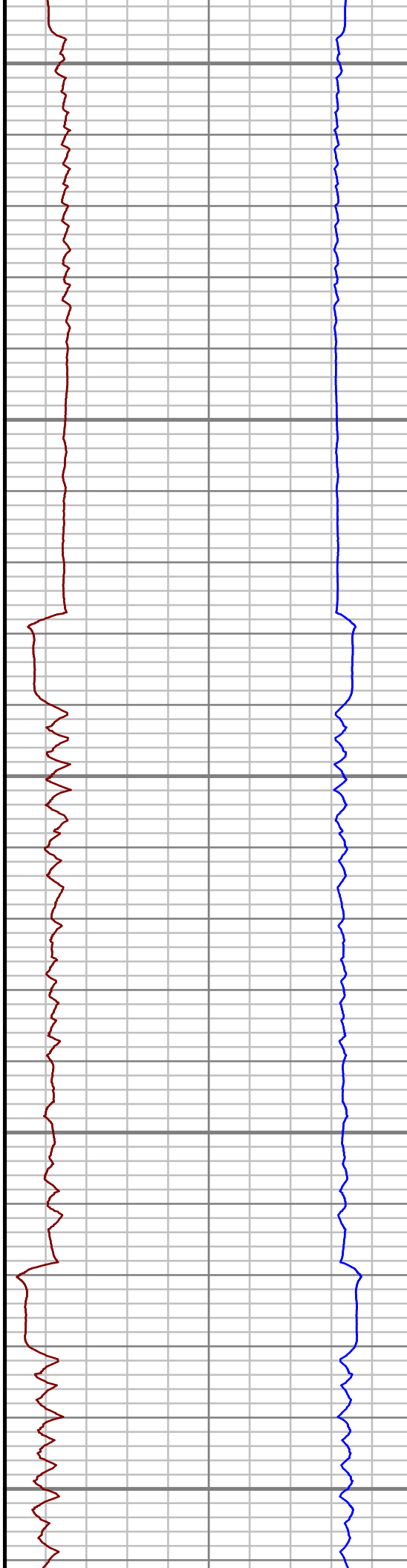
14300

14350

14400

14450

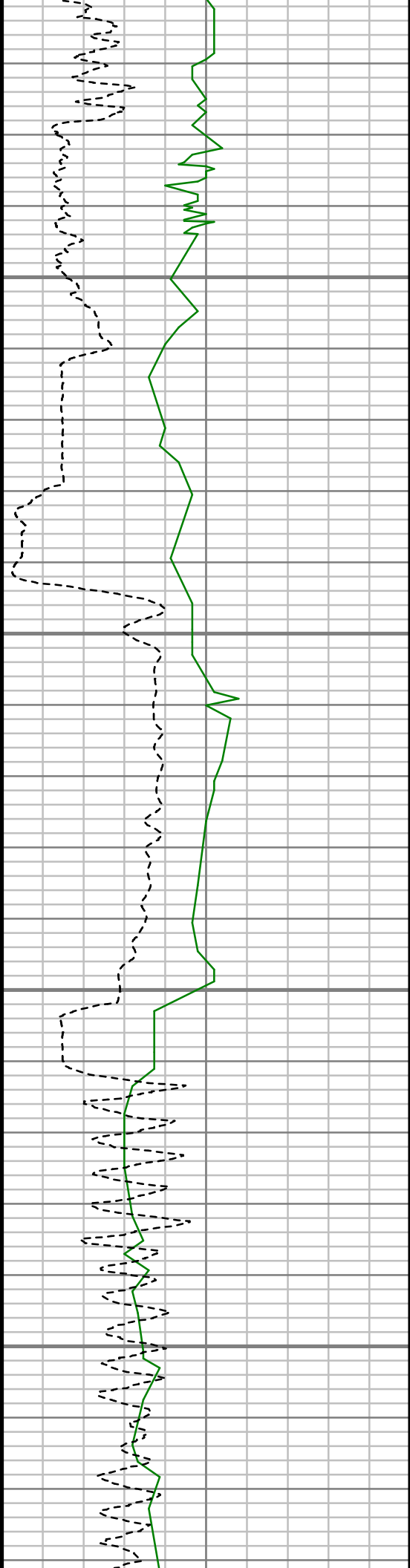
14500



S: 145 MD: 14318.00 ft Inc:
89.97 deg Az: 87.38 deg TVD:
6314.23 ft

S: 146 MD: 14410.00 ft Inc:
90.44 deg Az: 87.71 deg TVD:
6313.91 ft

S: 147 MD: 14501.00 ft Inc:
91.18 deg Az: 88.16 deg TVD:
6312.63 ft

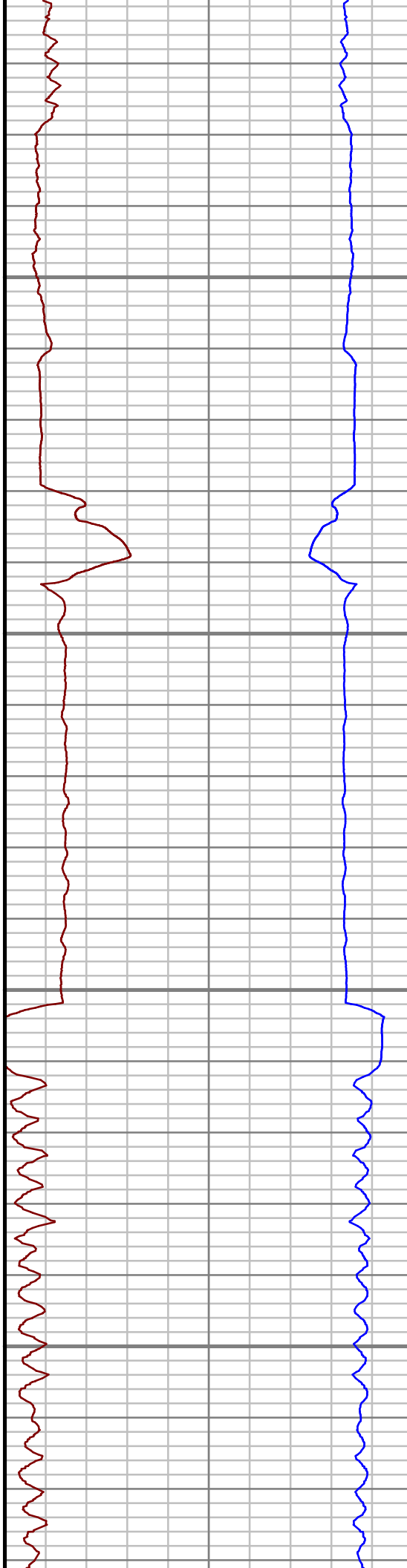


14550

14600

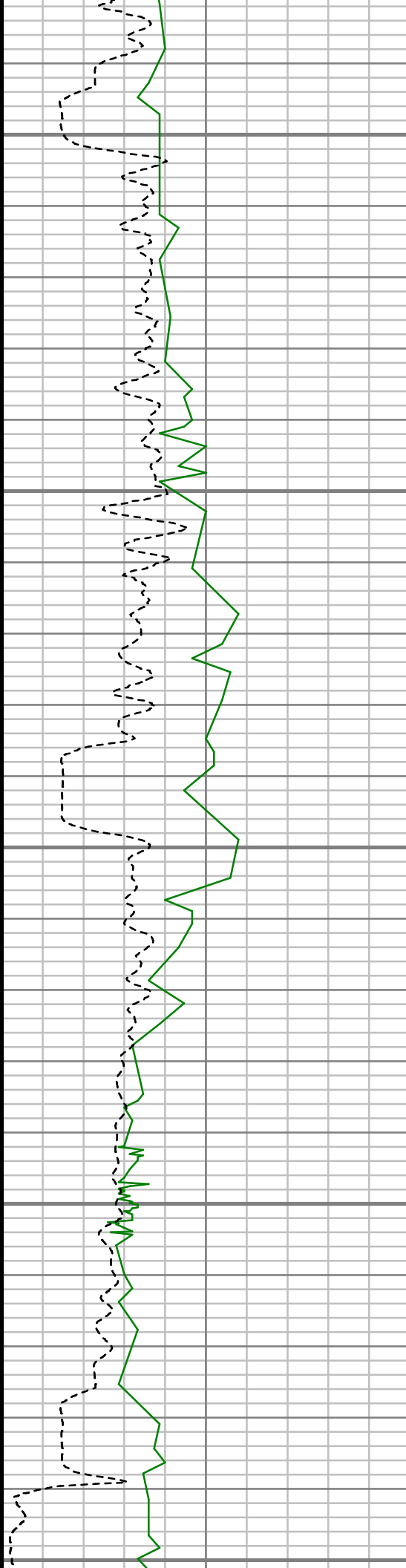
14650

14700



S: 148 MD: 14592.00 ft Inc:
89.83 deg Az: 88.06 deg TVD:
6311.83 ft

S: 149 MD: 14684.00 ft Inc:
90.47 deg Az: 88.55 deg TVD:
6311.59 ft



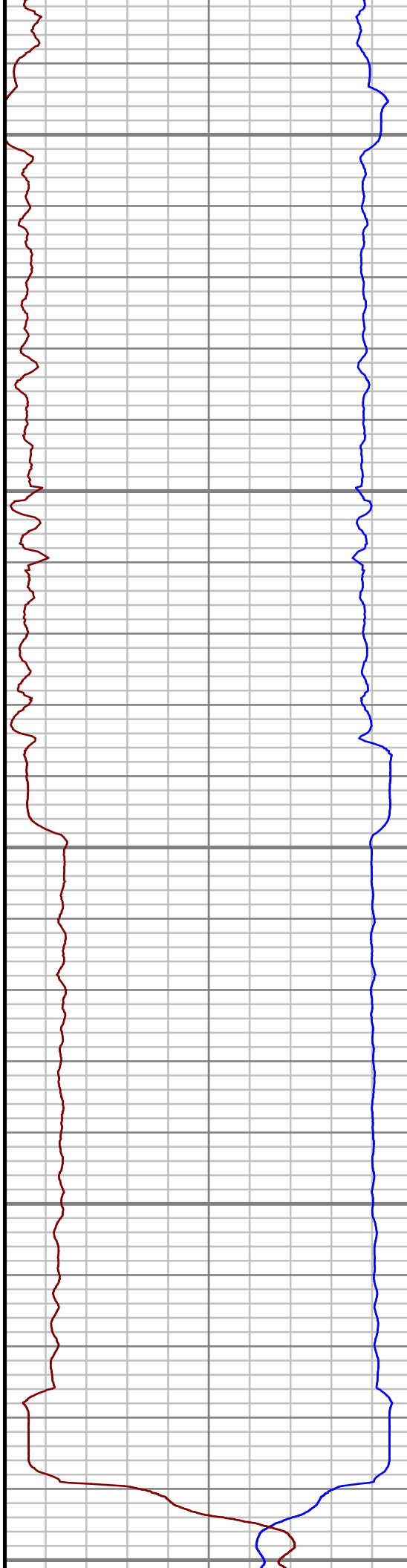
14750

14800

14850

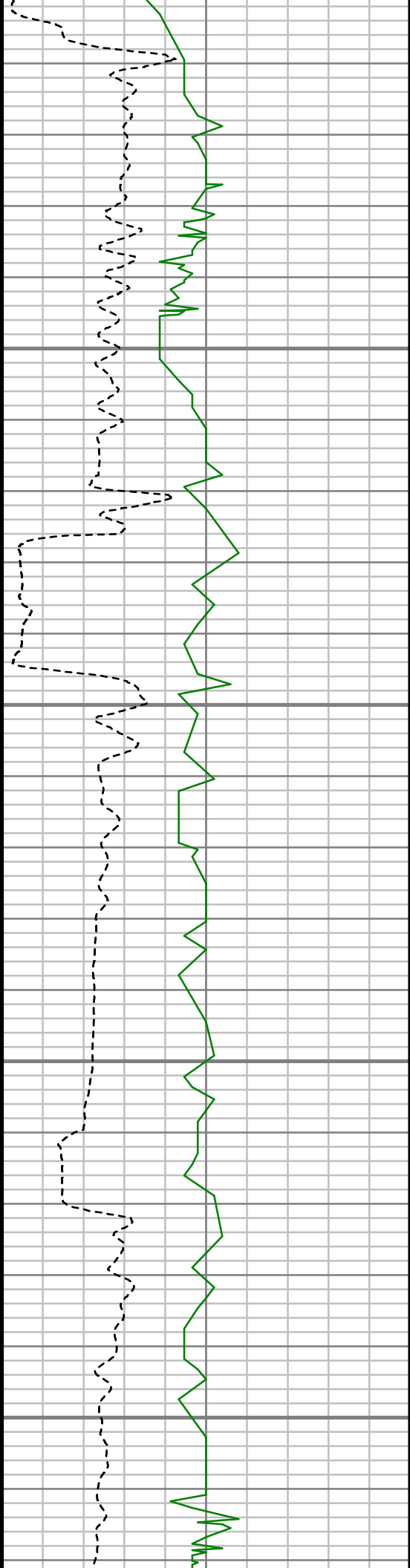
14900

14950



S: 150 MD: 14775.00 ft Inc:
90.23 deg Az: 87.45 deg TVD:
6311.03 ft

S: 151 MD: 14866.00 ft Inc:
89.73 deg Az: 86.78 deg TVD:
6311.05 ft



15000

15050

15100

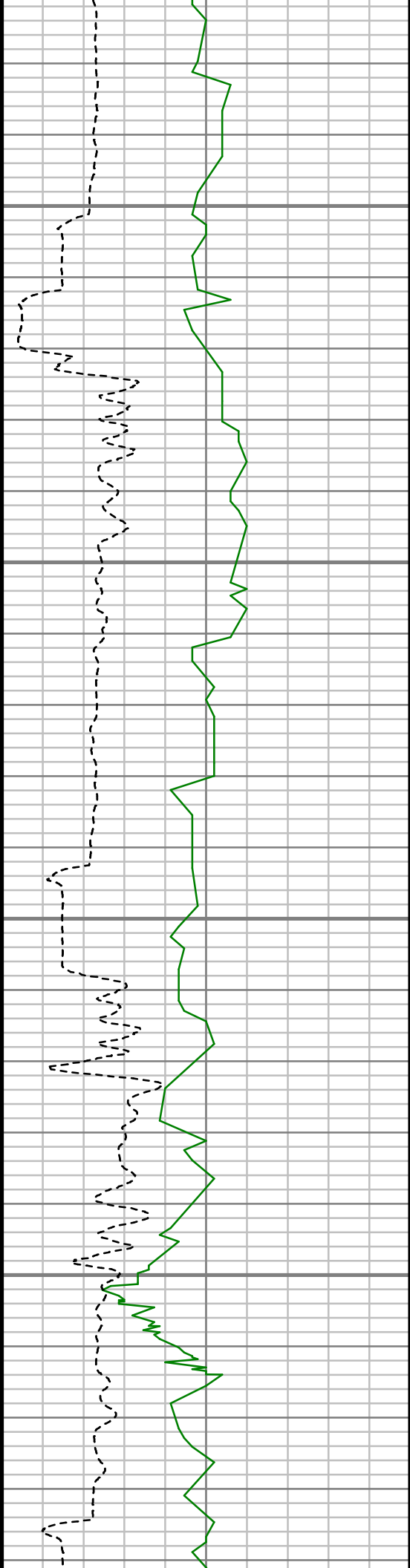
15150



S: 152 MD: 14958.00 ft Inc:
89.23 deg Az: 87.69 deg TVD:
6311.89 ft

S: 153 MD: 15049.00 ft Inc:
90.30 deg Az: 88.26 deg TVD:
6312.26 ft

S: 154 MD: 15141.00 ft Inc:
91.18 deg Az: 89.70 deg TVD:
6311.08 ft

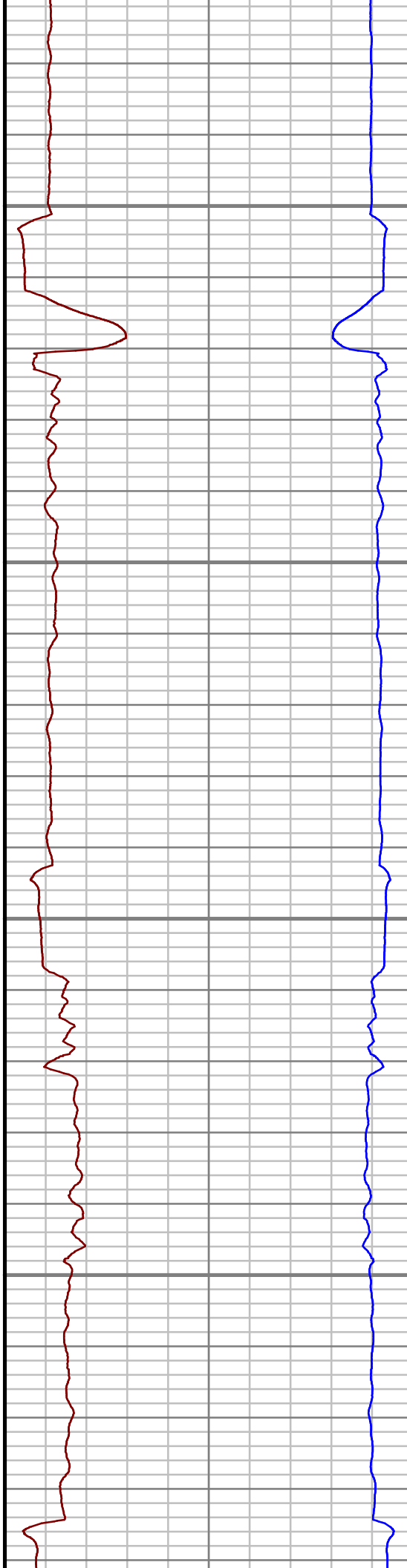


15200

15250

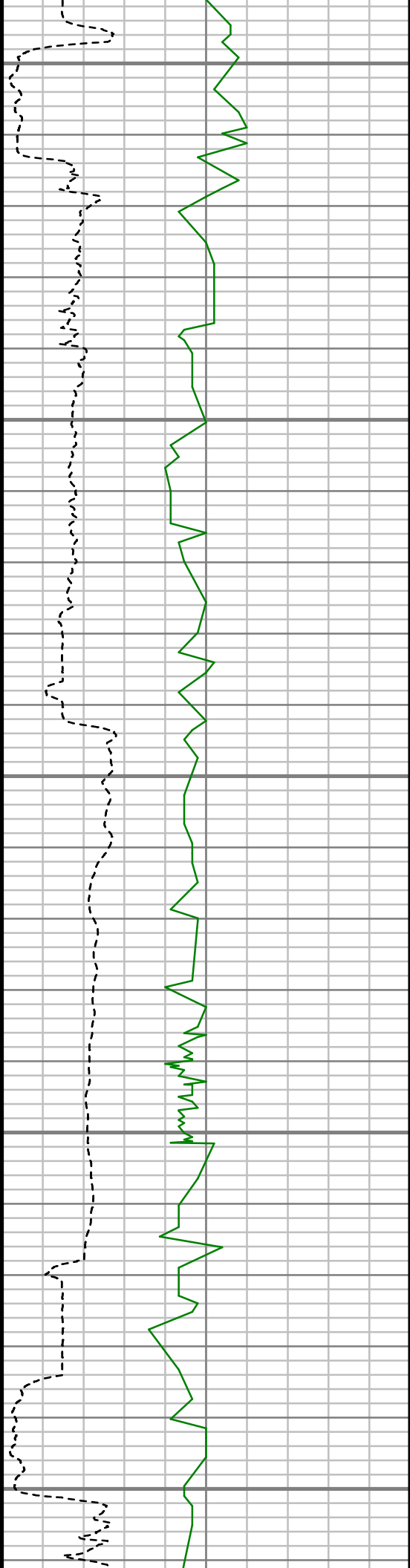
15300

15350



S: 155 MD: 15233.00 ft Inc:
89.77 deg Az: 92.01 deg TVD:
6310.32 ft

S: 156 MD: 15325.00 ft Inc:
89.30 deg Az: 91.68 deg TVD:
6311.06 ft



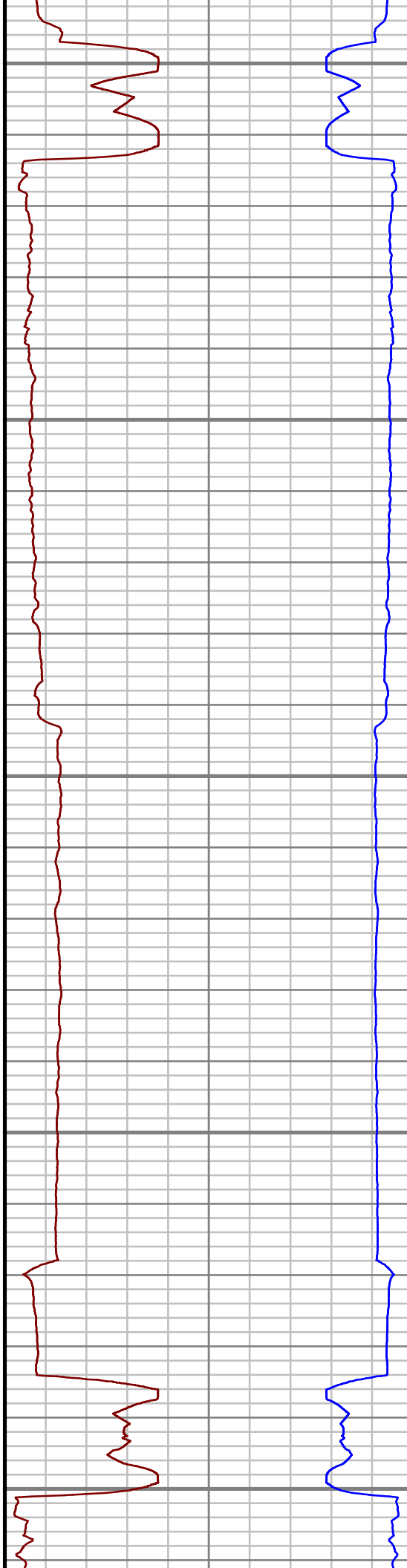
15400

15450

15500

15550

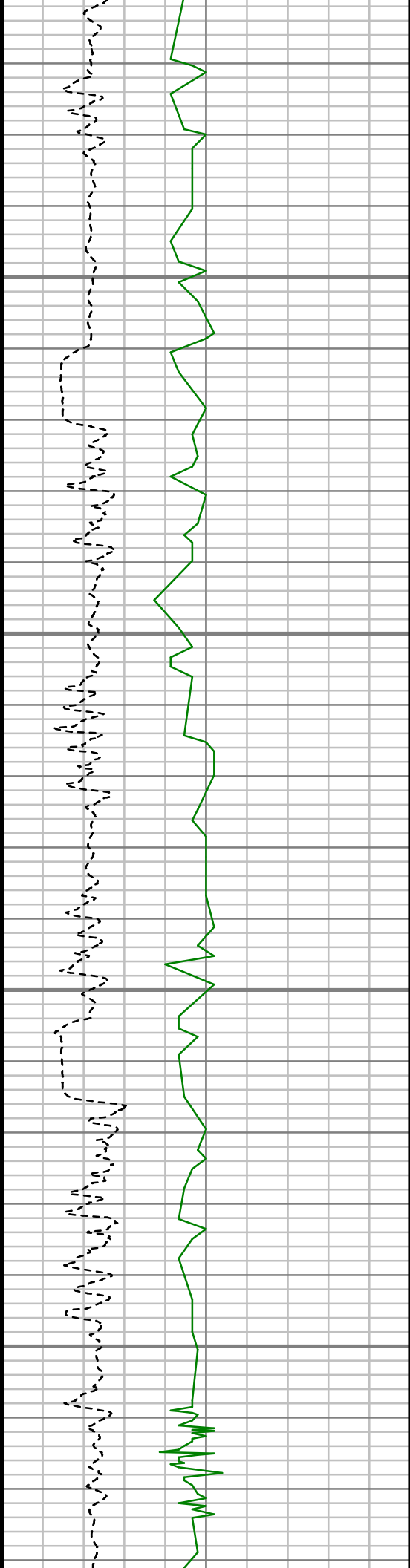
15600



S: 157 MD: 15416.00 ft Inc:
90.00 deg Az: 90.40 deg TVD:
6311.62 ft

S: 158 MD: 15508.00 ft Inc:
89.63 deg Az: 90.47 deg TVD:
6311.92 ft

S: 159 MD: 15599.00 ft Inc:
90.57 deg Az: 89.65 deg TVD:
6311.76 ft

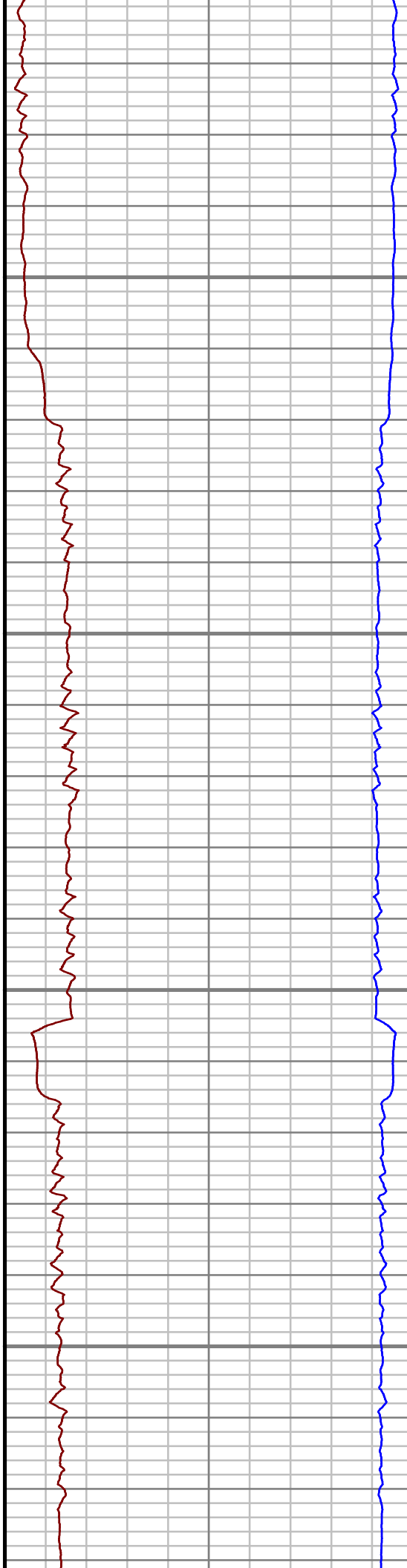


15650

15700

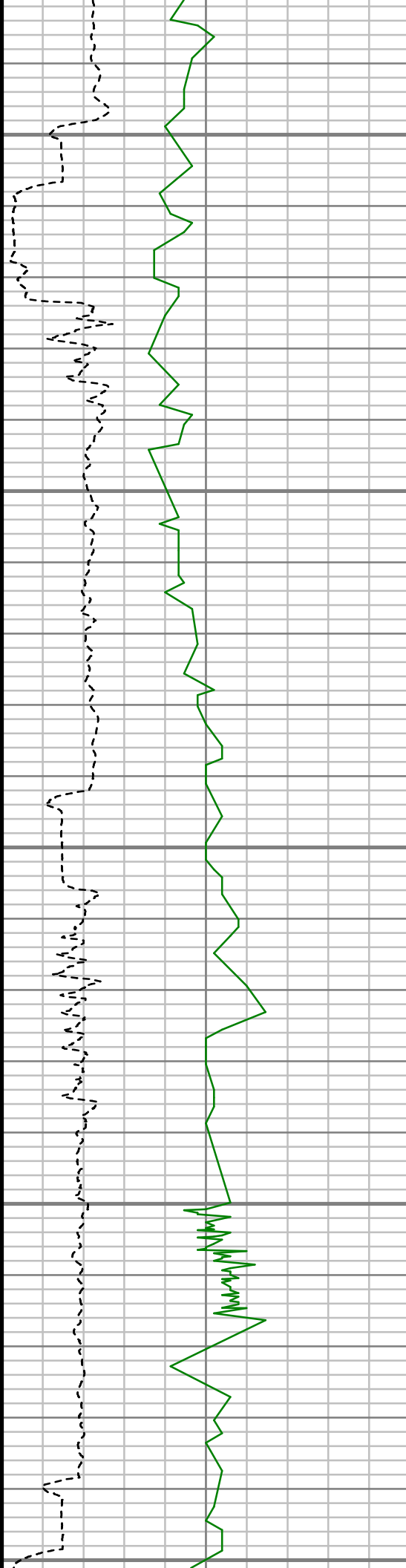
15750

15800



S: 160 MD: 15694.00 ft Inc:
90.50 deg Az: 89.02 deg TVD:
6310.88 ft

S: 161 MD: 15788.00 ft Inc:
89.97 deg Az: 88.23 deg TVD:
6310.49 ft



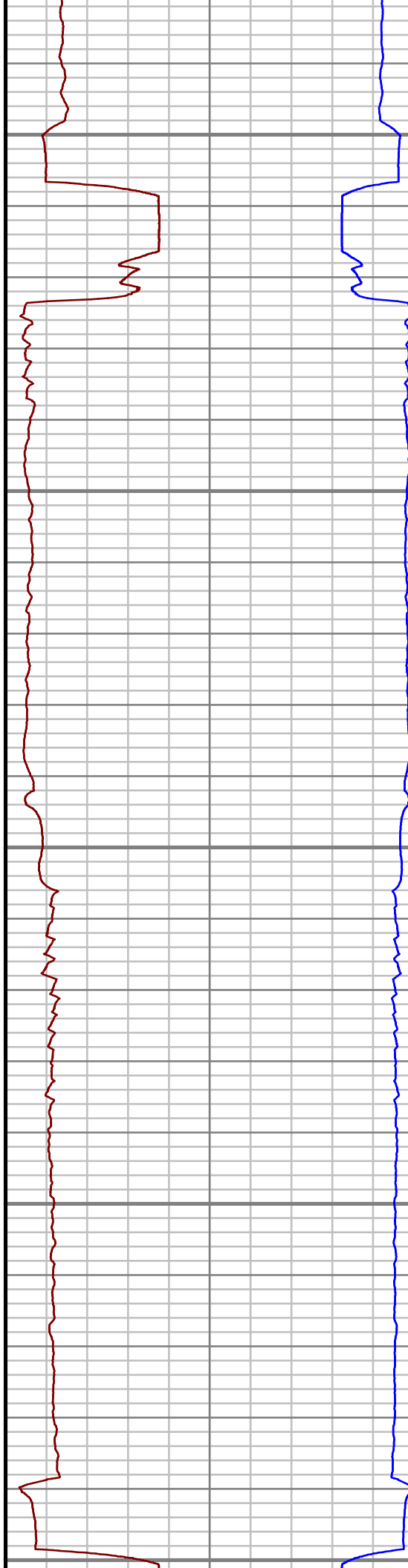
15850

15900

15950

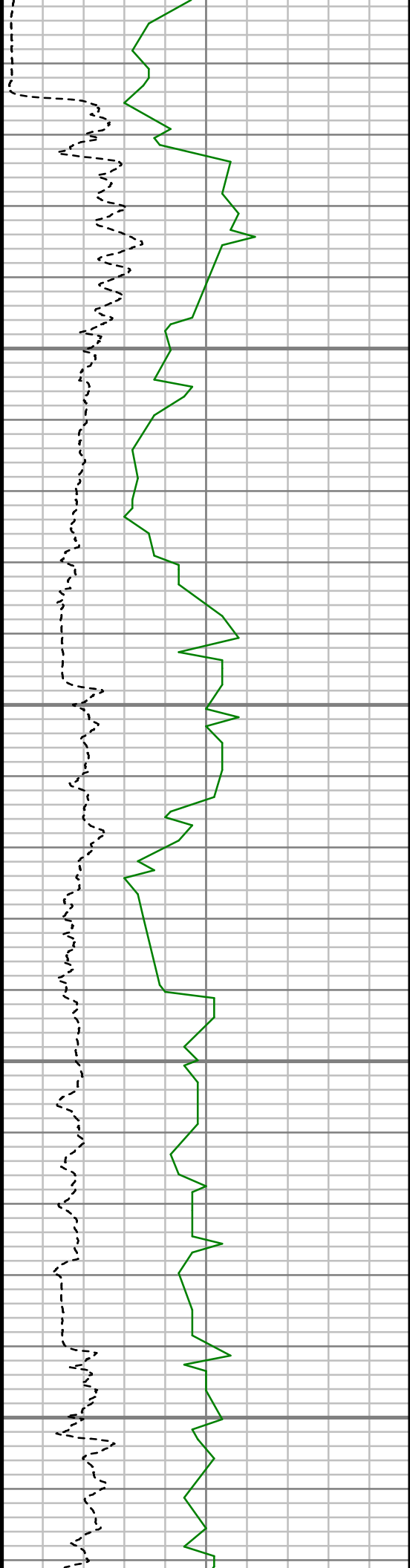
16000

16050



S: 162 MD: 15883.00 ft Inc:
90.75 deg Az: 88.16 deg TVD:
6309.90 ft

S: 163 MD: 15979.00 ft Inc:
90.24 deg Az: 88.91 deg TVD:
6309.08 ft



16100

16150

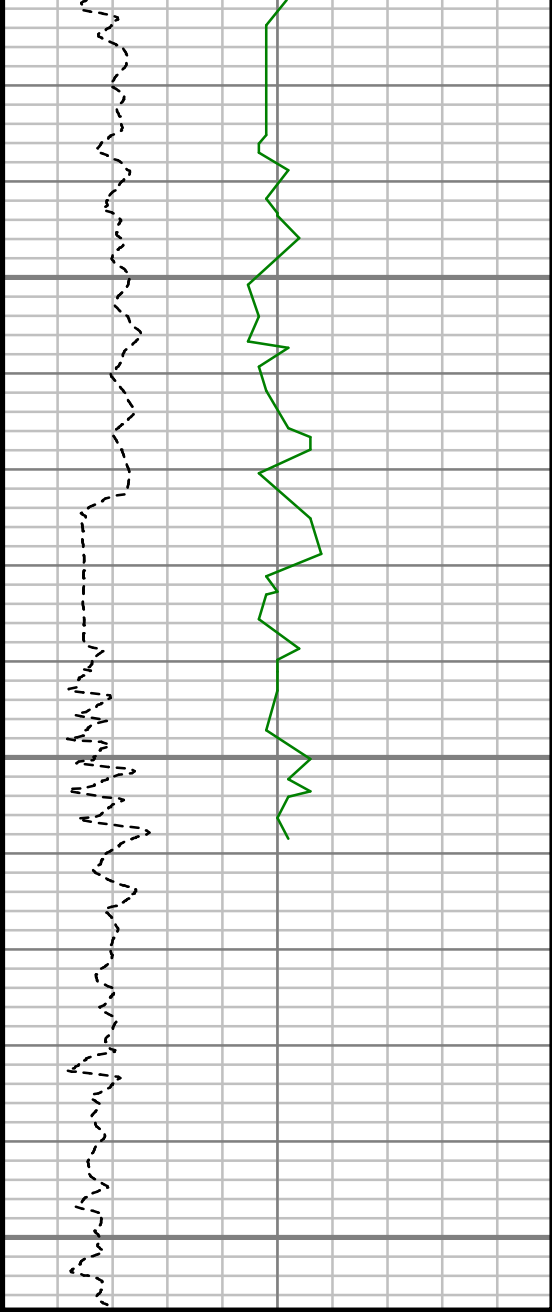
16200

16250

S: 164 MD: 16074.00 ft Inc:
91.14 deg Az: 88.72 deg TVD:
6307.94 ft

S: 165 MD: 16168.00 ft Inc:
91.39 deg Az: 87.95 deg TVD:
6305.87 ft

S: 166 MD: 16263.00 ft Inc:
90.80 deg Az: 87.47 deg TVD:
6304.05 ft



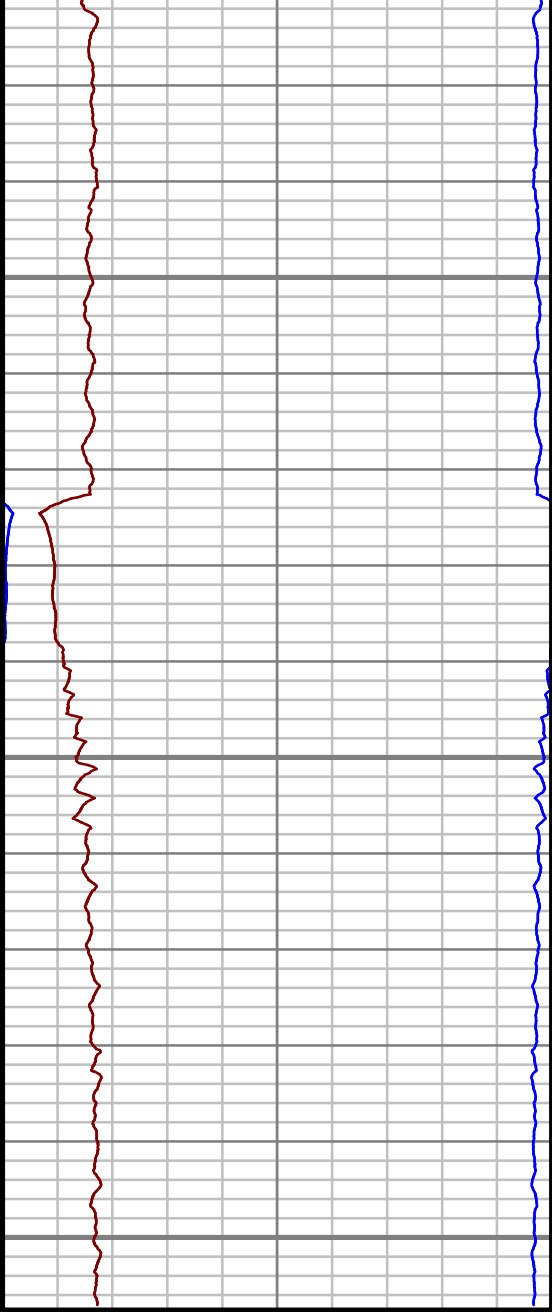
Rate of Penetration (ROP)		
0	Unit = ft/hr	1000
Gamma Ray (GR)		
0	Unit = aapi	150

16300

16350

16400

MEASURED DEPTH
1:240 (ft)



S: 167 MD: 16347.00 ft Inc:
90.70 deg Az: 86.43 deg TVD:
6302.95 ft

Weight-on-Bit (surf,max) (WOBX)		
0	Unit = kip	100
Hookload (max) (HKLX)		
0	Unit = kip	200

Comments

MWD Survey Report

Well Location	ANSCHUTZ STATE 5-62-22_23 SWNW PAD
Well Name	ANSCHUTZ STATE 05-62-22-1724B2
Survey Date	9/30/2015
Latitude	40°23'13.409"N
Longitude	104°19'5.452"W
Btotal	52582 nT
Dip	66.95 deg
Magnetic Declination	8.17 deg
North Reference	True North
Grid Correction	None
Depth Reference	KB (16.00 ft)
Calculation Method	Minimum Curvature
Section (VS) Ref	0.00N (ft), 0.00E (ft), 88.91Azim (deg)
Operator(s)	C. CHRISTMAN, R. KLASSEN, Z. BROWN

Well Notes

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
832.00	0.00	0.00	832.00	0.00	0.00	0.00	Invalid
886.00	0.07	285.47	886.00	-0.03	0.01	-0.03	0.12
978.00	1.00	316.87	978.00	-0.62	0.61	-0.63	1.03
1069.00	2.15	326.55	1068.96	-2.06	2.61	-2.11	1.29
1161.00	3.54	322.92	1160.84	-4.66	6.32	-4.78	1.52
1252.00	4.91	315.31	1251.60	-8.99	11.33	-9.21	1.62
1344.00	5.60	309.49	1343.21	-15.12	16.98	-15.44	0.95
1435.00	6.65	310.84	1433.69	-22.41	23.25	-22.86	1.16
1527.00	7.21	314.48	1525.02	-30.41	30.77	-31.00	0.77
1619.00	6.90	315.57	1616.32	-38.24	38.76	-38.99	0.37
1710.00	5.94	314.39	1706.75	-45.29	45.95	-46.17	1.07
1802.00	6.26	316.98	1798.23	-51.98	52.95	-53.00	0.46
1894.00	5.65	314.65	1889.73	-58.49	59.80	-59.64	0.72
1985.00	5.95	319.39	1980.27	-64.62	66.53	-65.89	0.62
2077.00	6.56	320.77	2071.72	-70.89	74.21	-72.32	0.68
2168.00	5.84	324.45	2162.19	-76.72	82.01	-78.30	0.90
2260.00	6.30	319.44	2253.67	-82.58	89.65	-84.30	0.76
2352.00	5.55	315.42	2345.18	-88.85	96.65	-90.70	0.94
2446.00	6.34	313.27	2438.67	-95.68	103.44	-97.67	0.87
2541.00	6.27	315.94	2533.10	-102.97	110.76	-105.10	0.32

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
2636.00	7.15	316.26	2627.45	-110.51	118.76	-112.79	0.93
2730.00	7.94	315.96	2720.63	-118.90	127.66	-121.35	0.85
2824.00	7.73	314.51	2813.76	-127.75	136.77	-130.38	0.31
2919.00	6.82	309.98	2907.99	-136.48	144.87	-139.26	1.14
3014.00	6.66	324.60	3002.34	-143.83	152.99	-146.77	1.81
3108.00	6.54	326.42	3095.72	-149.78	161.89	-152.89	0.26
3202.00	5.69	331.25	3189.18	-154.82	170.43	-158.09	1.05
3297.00	6.62	319.95	3283.64	-160.45	178.75	-163.88	1.60
3392.00	6.99	314.03	3377.97	-167.97	186.96	-171.56	0.84
3486.00	7.39	314.94	3471.23	-176.20	195.21	-179.95	0.44
3580.00	7.82	315.16	3564.40	-184.82	204.01	-188.74	0.46
3674.00	8.00	315.02	3657.51	-193.77	213.17	-197.87	0.19
3769.00	7.78	314.44	3751.61	-202.86	222.34	-207.13	0.25
3864.00	7.23	314.46	3845.80	-211.55	231.03	-215.98	0.58
3959.00	7.09	315.76	3940.06	-219.74	239.41	-224.34	0.22
4053.00	6.07	314.87	4033.44	-227.17	247.08	-231.91	1.09
4148.00	6.19	318.92	4127.89	-233.95	254.48	-238.83	0.47
4242.00	6.45	318.38	4221.32	-240.64	262.25	-245.67	0.28
4336.00	7.21	320.44	4314.65	-247.74	270.74	-252.94	0.84
4431.00	6.88	320.01	4408.94	-255.02	279.70	-260.39	0.35

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
4526.00	5.23	321.79	4503.40	-261.21	287.46	-266.72	1.75
4620.00	5.30	314.69	4597.01	-266.82	293.88	-272.46	0.70
4714.00	6.37	314.44	4690.52	-273.50	300.58	-279.27	1.14
4809.00	6.18	317.40	4784.95	-280.59	308.04	-286.50	0.40
4905.00	6.47	317.84	4880.37	-287.56	315.85	-293.62	0.31
4999.00	5.58	318.75	4973.85	-293.99	323.21	-300.19	0.95
5094.00	4.89	320.77	5068.45	-299.47	329.82	-305.80	0.75
5188.00	4.24	320.78	5162.15	-304.09	335.62	-310.53	0.70
5282.00	3.34	318.02	5255.94	-308.03	340.34	-314.56	0.97
5377.00	2.92	321.04	5350.80	-311.32	344.28	-317.93	0.47
5472.00	2.56	326.08	5445.69	-313.96	347.92	-320.63	0.46
5566.00	1.97	318.88	5539.62	-316.13	350.88	-322.87	0.70
5660.00	1.78	318.54	5633.57	-318.12	353.19	-324.90	0.19
5755.00	1.04	321.40	5728.54	-319.60	354.97	-326.41	0.78
5849.00	1.07	307.71	5822.53	-320.81	356.18	-327.65	0.27
5944.00	7.22	81.73	5917.29	-315.58	357.59	-322.44	8.42
6038.00	18.07	81.41	6008.88	-295.20	360.62	-302.12	11.54
6132.00	25.44	85.72	6096.13	-260.55	364.31	-267.53	8.02
6227.00	41.75	88.81	6175.00	-208.19	366.50	-215.20	17.26
6321.00	49.61	90.27	6240.63	-140.99	366.98	-148.00	8.43

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
6415.00	59.24	88.36	6295.25	-64.64	367.97	-71.65	10.37
6510.00	66.85	88.53	6338.29	19.97	370.27	12.93	8.01
6604.00	80.66	90.14	6364.52	110.00	371.26	102.95	14.79
6694.00	88.25	92.00	6373.21	199.44	369.58	192.45	8.68
6788.00	89.73	91.51	6374.86	293.31	366.71	286.39	1.66
6883.00	90.60	90.38	6374.59	388.25	365.14	381.37	1.51
6977.00	91.24	91.29	6373.07	482.18	363.77	475.35	1.18
7071.00	91.11	90.53	6371.14	576.10	362.28	569.31	0.82
7165.00	89.80	89.50	6370.40	670.08	362.25	663.31	1.77
7260.00	91.24	89.12	6369.53	765.07	363.40	758.29	1.57
7354.00	90.40	87.48	6368.18	859.05	366.19	852.24	1.96
7449.00	91.14	86.99	6366.90	954.00	370.78	947.12	0.93
7543.00	91.07	86.15	6365.08	1047.90	376.40	1040.93	0.90
7637.00	91.11	88.09	6363.29	1141.84	381.12	1134.79	2.06
7732.00	90.84	88.24	6361.68	1236.81	384.16	1229.73	0.33
7826.00	90.60	87.63	6360.49	1330.79	387.55	1323.66	0.70
7920.00	90.57	87.03	6359.53	1424.75	391.93	1417.55	0.63
8016.00	90.30	87.18	6358.80	1520.70	396.77	1513.43	0.32
8110.00	90.34	87.89	6358.27	1614.67	400.81	1607.34	0.76
8205.00	89.87	90.24	6358.11	1709.66	402.35	1702.32	2.52

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
8300.00	91.31	89.53	6357.13	1804.64	402.53	1797.31	1.70
8394.00	91.11	89.23	6355.15	1898.62	403.55	1891.28	0.39
8488.00	90.57	87.80	6353.77	1992.60	405.99	1985.24	1.62
8583.00	91.58	87.84	6351.99	2087.57	409.60	2080.15	1.06
8677.00	89.16	87.18	6351.38	2181.53	413.68	2174.05	2.67
8771.00	91.44	89.31	6350.89	2275.51	416.55	2268.00	3.32
8866.00	92.12	89.69	6347.94	2370.46	417.37	2362.95	0.81
8960.00	90.00	89.37	6346.20	2464.43	418.14	2456.92	2.28
9055.00	91.21	89.17	6345.20	2559.42	419.35	2551.91	1.29
9149.00	89.63	88.88	6344.51	2653.42	420.95	2645.89	1.71
9244.00	89.43	88.15	6345.29	2748.41	423.42	2740.85	0.79
9338.00	89.43	88.08	6346.22	2842.40	426.51	2834.80	0.07
9432.00	91.04	89.49	6345.84	2936.39	428.50	2928.77	2.28
9527.00	90.54	87.78	6344.53	3031.38	430.75	3023.73	1.88
9622.00	90.37	90.36	6343.78	3126.37	432.29	3118.71	2.72
9717.00	90.00	91.74	6343.47	3221.30	430.55	3213.69	1.50
9812.00	92.08	93.50	6341.74	3316.07	426.21	3308.56	2.87
9906.00	91.92	90.60	6338.46	3409.87	422.85	3402.44	3.08
10001.00	90.10	90.39	6336.79	3504.81	422.02	3497.41	1.92
10095.00	89.97	88.29	6336.73	3598.80	423.10	3591.40	2.24

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
10189.00	90.44	88.41	6336.40	3692.80	425.81	3685.36	0.51
10284.00	89.87	88.54	6336.15	3787.79	428.34	3780.33	0.62
10378.00	89.80	88.53	6336.43	3881.79	430.74	3874.30	0.07
10470.00	90.94	89.21	6335.84	3973.79	432.55	3966.28	1.45
10562.00	92.12	89.43	6333.38	4065.75	433.64	4058.24	1.30
10653.00	90.37	88.19	6331.41	4156.72	435.52	4149.19	2.35
10745.00	90.70	88.89	6330.54	4248.72	437.87	4241.15	0.84
10836.00	89.76	87.44	6330.17	4339.70	440.78	4332.10	1.89
10928.00	89.26	87.51	6330.95	4431.67	444.83	4424.01	0.55
11020.00	91.61	88.31	6330.25	4523.65	448.18	4515.94	2.70
11111.00	92.02	88.18	6327.37	4614.60	450.97	4606.85	0.47
11202.00	91.61	87.40	6324.49	4705.53	454.48	4697.74	0.96
11294.00	91.78	87.61	6321.77	4797.46	458.49	4789.61	0.29
11386.00	90.10	87.47	6320.26	4889.42	462.44	4881.51	1.83
11477.00	90.44	88.31	6319.83	4980.41	465.80	4972.44	0.99
11569.00	90.37	87.73	6319.18	5072.39	468.98	5064.39	0.63
11660.00	89.80	86.31	6319.05	5163.34	473.72	5155.26	1.68
11752.00	89.40	88.09	6319.70	5255.29	478.21	5247.14	1.98
11844.00	90.60	89.67	6319.70	5347.29	480.01	5339.12	2.17
11935.00	90.97	90.35	6318.44	5438.26	480.00	5430.11	0.85

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
12027.00	90.54	89.85	6317.23	5530.23	479.84	5522.10	0.72
12119.00	90.37	91.27	6316.50	5622.19	478.95	5614.09	1.55
12210.00	90.71	92.35	6315.65	5713.07	476.08	5705.04	1.24
12302.00	92.99	92.34	6312.68	5804.85	472.32	5796.91	2.48
12393.00	92.79	91.02	6308.09	5895.63	469.66	5887.76	1.47
12485.00	91.14	89.72	6304.94	5987.54	469.07	5979.70	2.28
12576.00	88.92	89.33	6304.88	6078.52	469.82	6070.69	2.47
12668.00	88.76	89.07	6306.74	6170.50	471.09	6162.66	0.34
12759.00	88.02	88.76	6309.30	6261.47	472.81	6253.61	0.88
12851.00	89.16	88.78	6311.57	6353.44	474.79	6345.55	1.24
12943.00	88.99	88.75	6313.05	6445.43	476.78	6437.52	0.18
13034.00	90.60	88.21	6313.37	6536.42	479.19	6528.49	1.87
13126.00	90.57	88.59	6312.43	6628.41	481.76	6620.44	0.41
13218.00	90.54	88.49	6311.54	6720.40	484.11	6712.41	0.11
13310.00	90.71	88.43	6310.54	6812.40	486.58	6804.37	0.19
13401.00	91.04	88.87	6309.15	6903.38	488.72	6895.34	0.61
13493.00	88.66	88.62	6309.40	6995.38	490.74	6987.31	2.61
13585.00	89.80	88.93	6310.64	7087.37	492.71	7079.27	1.29
13676.00	90.20	89.36	6310.64	7178.37	494.08	7170.26	0.65
13767.00	90.91	89.68	6309.76	7269.36	494.84	7261.26	0.85

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
13859.00	89.13	89.69	6309.73	7361.34	495.35	7353.25	1.93
13951.00	89.16	89.42	6311.10	7453.33	496.06	7445.24	0.29
14043.00	88.39	88.88	6313.07	7545.30	497.43	7537.21	1.03
14135.00	90.13	88.46	6314.26	7637.29	499.56	7629.17	1.95
14227.00	89.97	87.81	6314.18	7729.28	502.55	7721.12	0.74
14318.00	89.97	87.38	6314.23	7820.26	506.38	7812.04	0.48
14410.00	90.44	87.71	6313.91	7912.23	510.32	7903.95	0.63
14501.00	91.18	88.16	6312.63	8003.21	513.60	7994.89	0.95
14592.00	89.83	88.06	6311.83	8094.19	516.60	8085.83	1.48
14684.00	90.47	88.55	6311.59	8186.19	519.32	8177.79	0.87
14775.00	90.23	87.45	6311.03	8277.17	522.49	8268.73	1.23
14866.00	89.73	86.78	6311.05	8368.13	527.07	8359.61	0.92
14958.00	89.23	87.69	6311.89	8460.08	531.50	8451.50	1.13
15049.00	90.30	88.26	6312.26	8551.07	534.72	8542.44	1.33
15141.00	91.18	89.70	6311.08	8643.06	536.37	8634.42	1.83
15233.00	89.77	92.01	6310.32	8734.99	535.00	8726.40	2.94
15325.00	89.30	91.68	6311.06	8826.87	532.04	8818.34	0.62
15416.00	90.00	90.40	6311.62	8917.80	530.39	8909.33	1.60
15508.00	89.63	90.47	6311.92	9009.77	529.69	9001.32	0.41
15599.00	90.57	89.65	6311.76	9100.75	529.60	9092.32	1.36

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
15694.00	90.50	89.02	6310.88	9195.74	530.69	9187.31	0.67
15788.00	89.97	88.23	6310.49	9289.74	532.94	9281.28	1.02
15883.00	90.75	88.16	6309.90	9384.73	535.93	9376.23	0.82
15979.00	90.24	88.91	6309.08	9480.72	538.38	9472.19	0.94
16074.00	91.14	88.72	6307.94	9575.71	540.35	9567.17	0.97
16168.00	91.39	87.95	6305.87	9669.69	543.07	9661.10	0.86
16263.00	90.80	87.47	6304.05	9764.65	546.87	9756.01	0.80
16347.00	90.70	86.43	6302.95	9848.59	551.33	9839.88	1.24



GAMMA RAY

5" = 100' FEET MD