


5" = 100' FEET MD

<div><div>Scientific Drilling</div></div>												GAMMA RAY											
5" = 100' FEET MD																							
COMPANY : ENCANA OIL AND GAS (U.S.A.) INC WELL : RUHL 1C-32H-B264 FIELD : WATTENBERG COUNTY : WELD STATE : COLORADO COUNTRY : U.S.A. UWI : 05-123-40279						COMPANY : ENCANA OIL AND GAS (U.S.A.) INC WELL : RUHL 1C-32H-B264 FIELD : WATTENBERG COUNTY : WELD STATE : COLORADO COUNTRY : U.S.A. UWI : 05-123-40279						OTHER SERVICES											
DEPTH REF. : RKB REF. HEIGHT : 25.000 ft GROUND LEVEL : 4979.000 ft						RKB to Ground Level G.L. to MEAN SEA LEVEL						DIRECTIONAL ROP											
BOREHOLE RECORD						DEVIATION RECORD																	
HOLE SIZE in	FROM ft	TO ft	INCLINATION deg			FROM ft	TO ft																
12.25	149	1220	0 - 12			0	1821																
8.75	1220	7450	12 - 0			1821	6605																
6.125	7450	11754	0 - 79			6605	7450																
			79 - 93			7450	11754																
CASING RECORD																							
CASING SIZE in	FROM ft	TO ft																					
16	0	149																					
9.625	0	1210																					
7	0	7435																					
						DRILLING CO. : H&P RIG : 278 LMD UNIT NO. : MWD-00046-DISTRICT : CASPER, CASPER SPUD DATE : 12/10/2014 LMD START DATE : 01/12/2015 LMD END DATE : 01/20/2015						DEPTH : 5000 ft DEPTH : 11754 ft TOTAL DEPTH : 11754 ft											

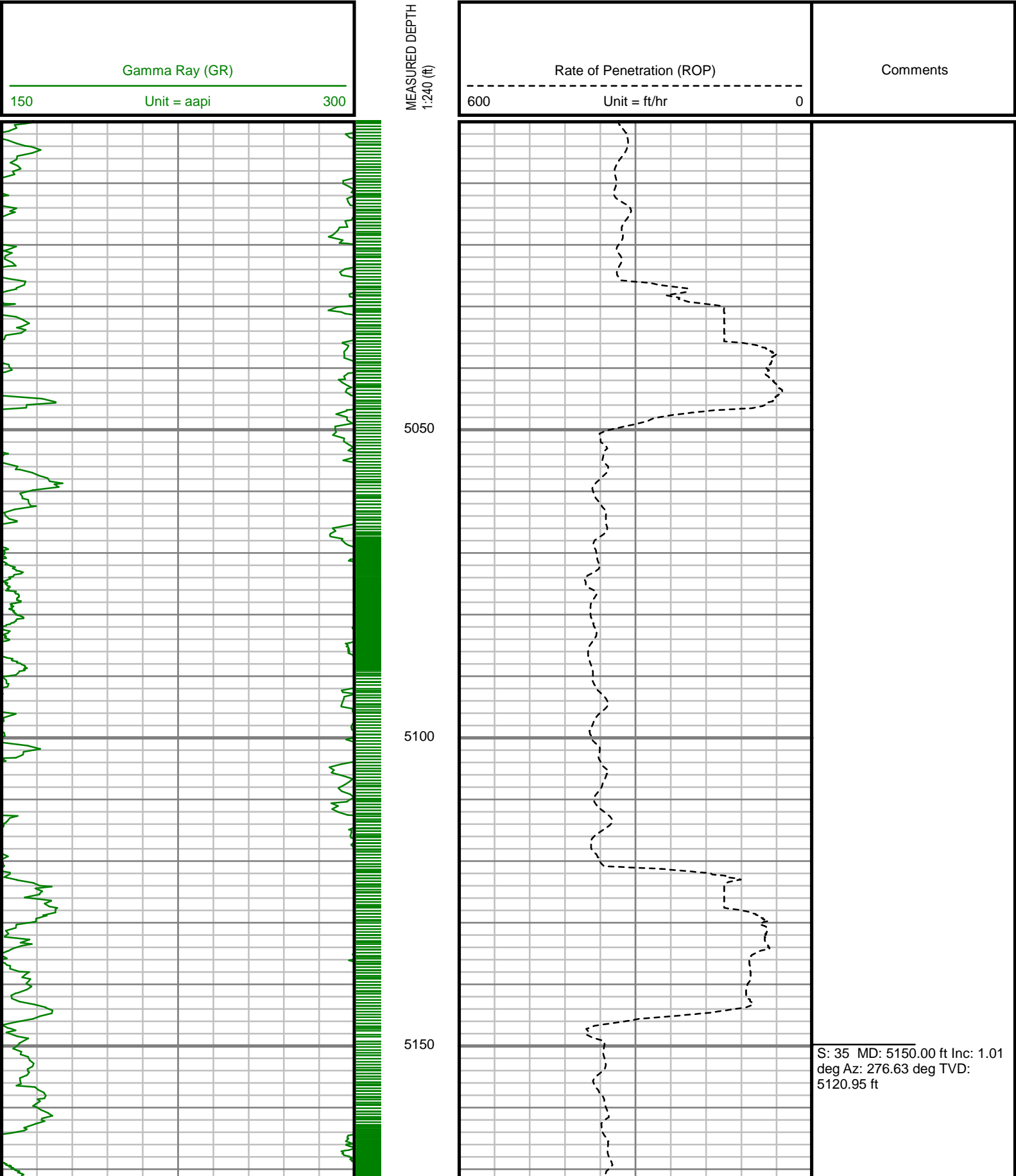
Run Data						
RUN NUMBER	1	2	3	4	5	
START DATE	12/10/2014	01/12/2015	01/13/2015	01/16/2015	01/19/2015	
START TIME	2045	2300	1100	1445	0915	
END DATE	12/11/2014	01/13/2015	01/15/2015	01/19/2015	01/20/2015	
END TIME	0630	1100	0930	0700	0645	
DEPTH IN (ft)	149	1220	2248	7450	11585	
DEPTH OUT (ft)	1220	2248	7450	11585	11754	
LOG TOP (ft)	-	-	5000	7396	11531	
LOG BOTTOM (ft)	-	-	7396	11531	11754	
HOLE SIZE (in)	12.25	8.75	8.75	6.125	6.125	
MUD DATA @ (ft)	1220	1450	7000	10610	11754	
MUD TYPE	WATER-BASED	WATER-BASED	WATER-BASED	WATER-BASED	WATER-BASED	
DENSITY (lb / gal)	8.95	8.55	10.8	10.9	11.15	
VISCOSITY (s / qt)	28	27	36	39	34	
pH	7	11.65	8.3	7.7	7.55	
FLUID LOSS (cm3 / 30)	-	-	-	-	-	
SALINITY (ppm)	-	-	-	-	-	
Rm (ohmm @ deg F)	-	-	-	-	-	
Rmf (ohmm @ deg F)	-	-	-	-	-	
MAX TEMP (deg F)	90	92	172	224	235	
Rm @ MAX TEMP (ohmm)	-	-	-	-	-	
LWD ENGINEER #1	C. WILSON	C. WILSON	S. WAXLER	S. WAXLER	S. WAXLER	
LWD ENGINEER #2	T. LE	T.LE	T. LE	J. GREGORY	J. GREGORY	
LWD ENGINEER #3	-	-	J. GREGORY	D. PADULA	D. PADULA	
LOG WTINNESS #1	-	-	I. SMITH	I. SMITH	I. SMITH	
LOG WTINNESS #2	-	-	S. GILBERT	S. GILBERT	S. GILBERT	

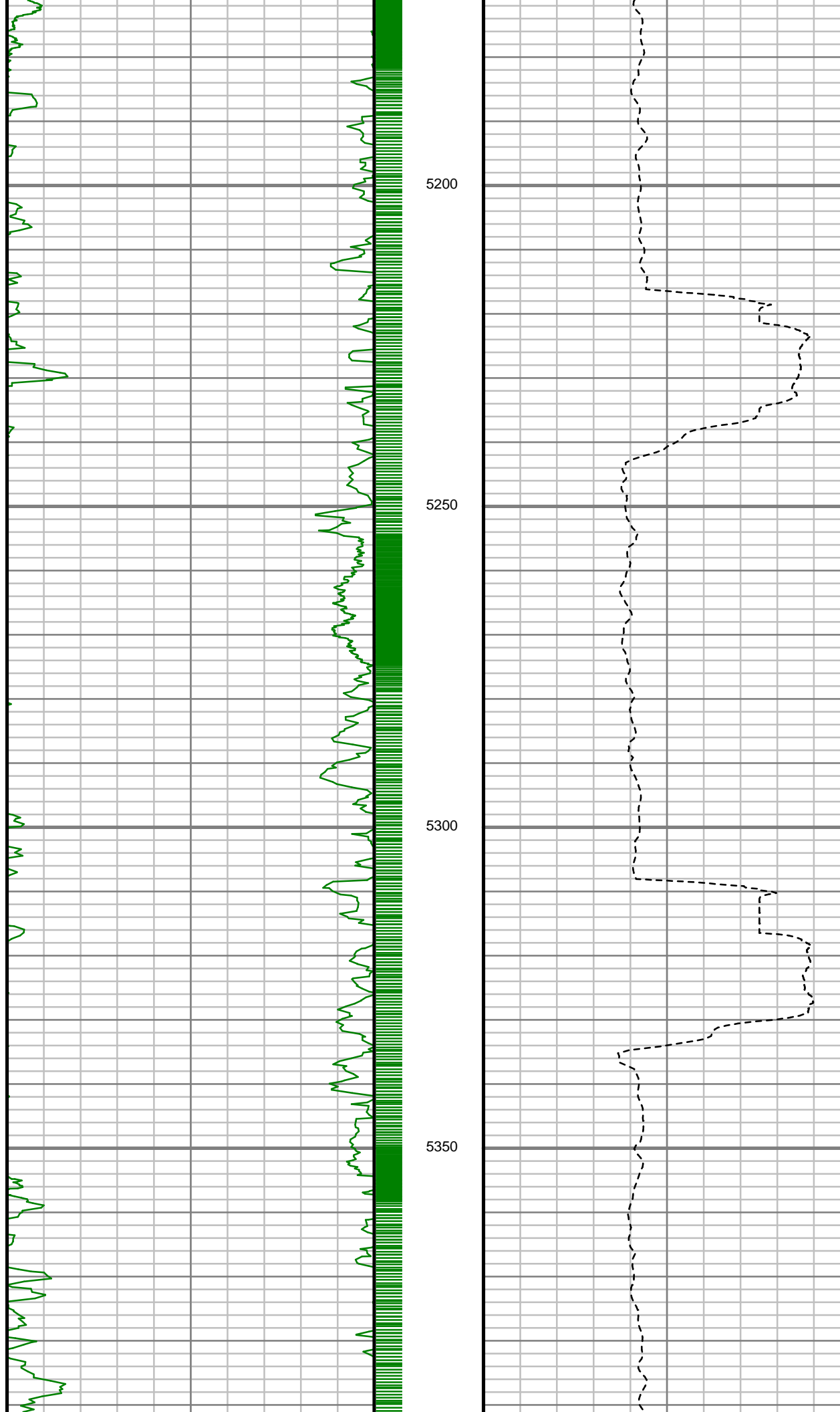
Remarks
ENCANA OIL AND GAS (U.S.A.) INC PRODUCTION AFE# 13179004
SCIENTIFIC DRILLING INTERNATIONAL JOB# 232801, 244541
ALL REFERENCES IN THE DEPTH TRACK ARE AT BIT DEPTH.
ALL DATA IS MEMORY DATA UNLESS STATED OTHERWISE.
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO GAMMA RAY CURVE
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO RATE OF PENETRATION CURVE
RUN #1: MWD / DIRECTIONAL RUN
SENSORS S/N: EM5 = 1154 / MWD EYE = 0645
BIT TO SENSOR OFFSET: SURVEY = 60.90 FT.
RUN #2: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 128-062 / CONT = 126 / MWD EYE = 0522 / GAMMA RAY = 1076
BIT TO SENSOR OFFSETS: SURVEY = 62.76 FT. / GAMMA RAY = 54.11 FT.
RUN #3: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 128-350 / CONT = 858 / MWD EYE = 0645 / GAMMA RAY = 1271
BIT TO SENSOR OFFSETS: SURVEY = 62.76 FT. / GAMMA RAY = 54.11 FT.
RUN #4: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 78-104 / CONT = 126 / MWD EYE = 0522 / GAMMA RAY = 1076
BIT TO SENSOR OFFSETS: SURVEY = 62.76 FT. / GAMMA RAY = 54.11 FT.

[illegible]

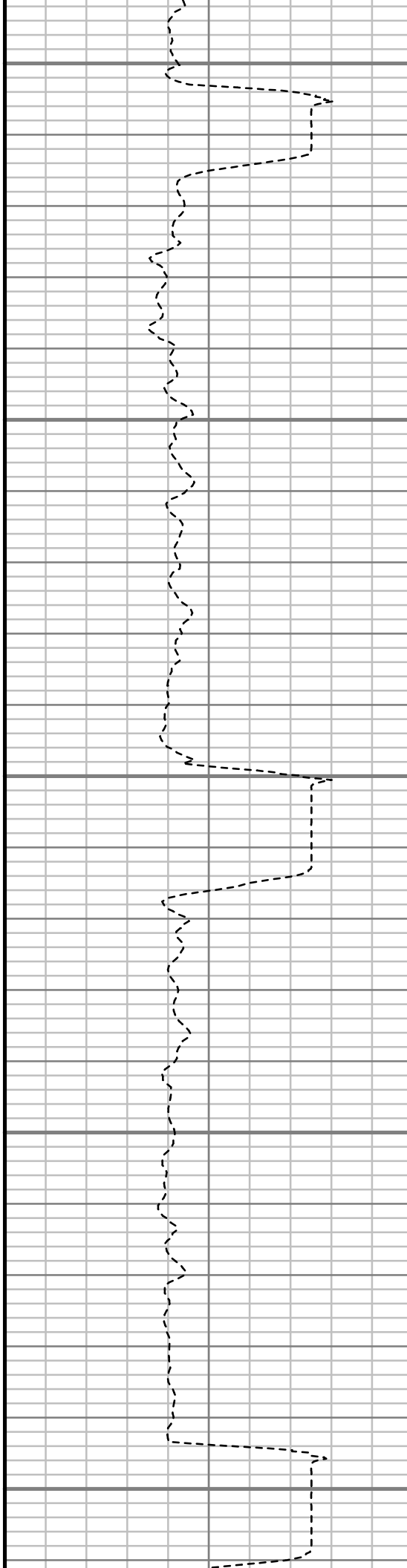
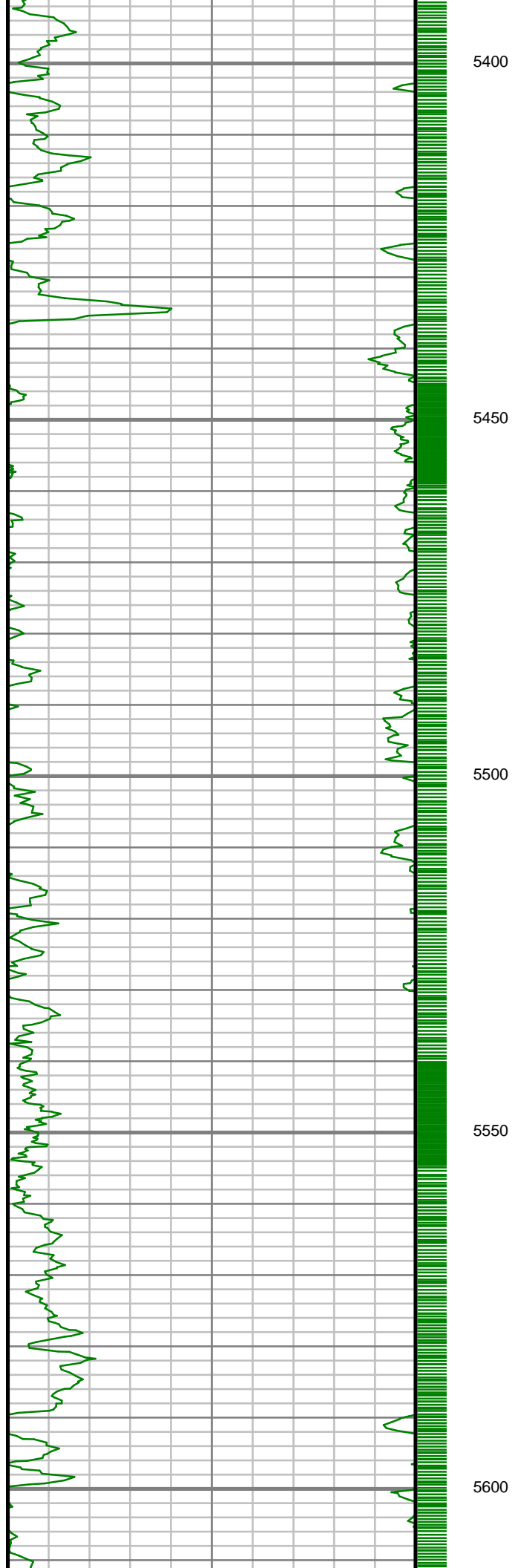
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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 (U.S.A.) INC  
RUHL 1C-32H-B264  
WATTENBERG FIELD  
WELD COUNTY, COLORADO  
05-123-40279





S: 36 MD: 5340.00 ft Inc: 0.65  
deg Az: 81.42 deg TVD:  
5310.94 ft



5400

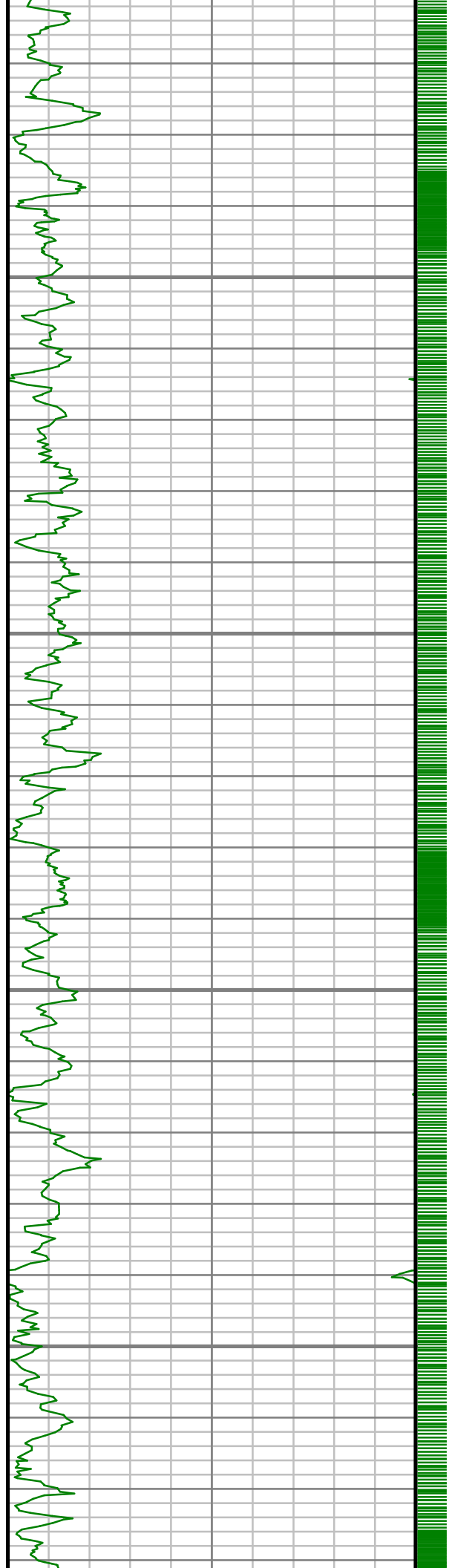
5450

5500

5550

5600

S: 37 MD: 5530.00 ft Inc: 0.13  
deg Az: 172.28 deg TVD:  
5500.94 ft

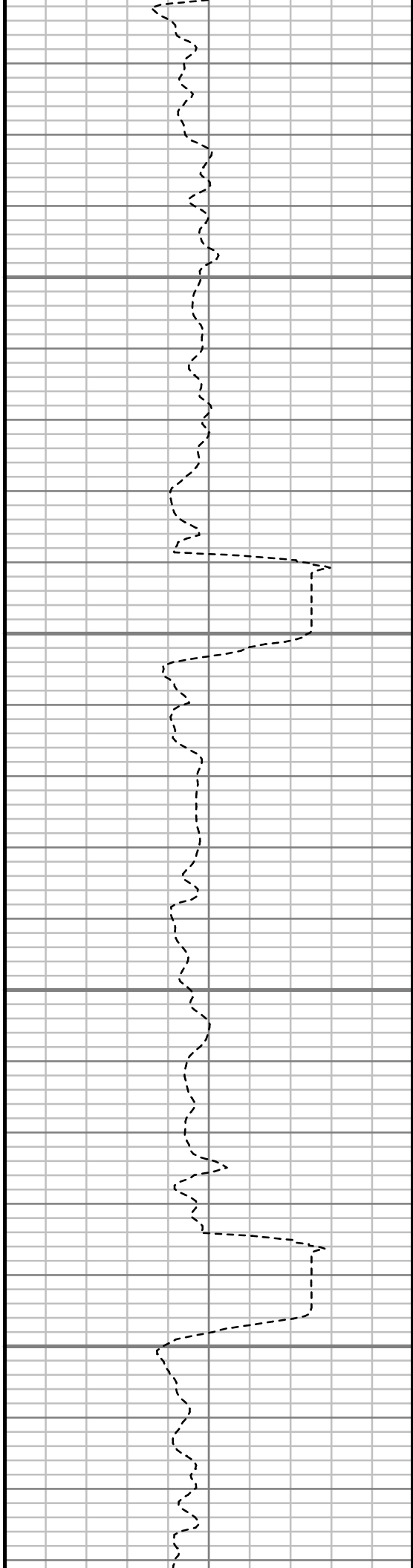


5650

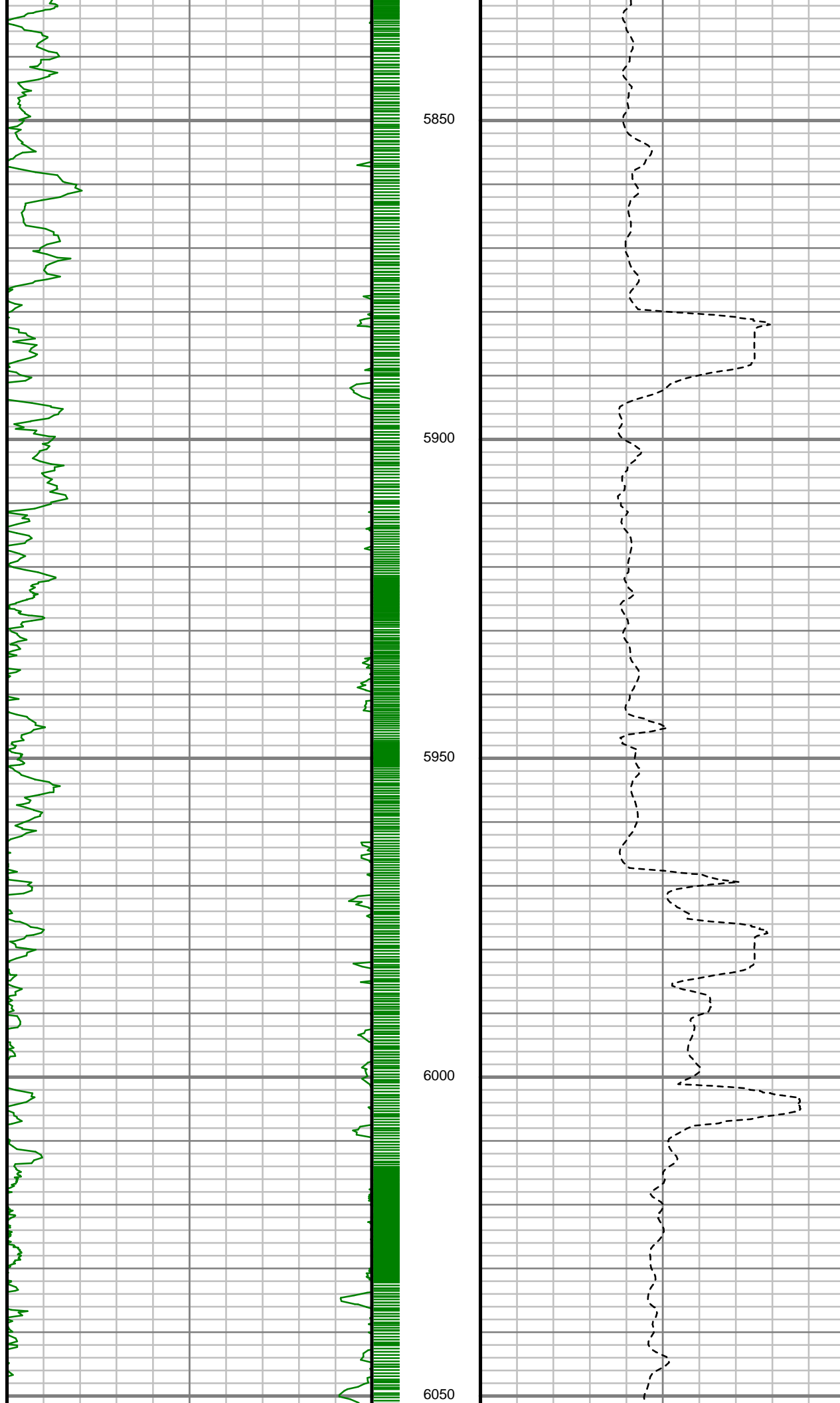
5700

5750

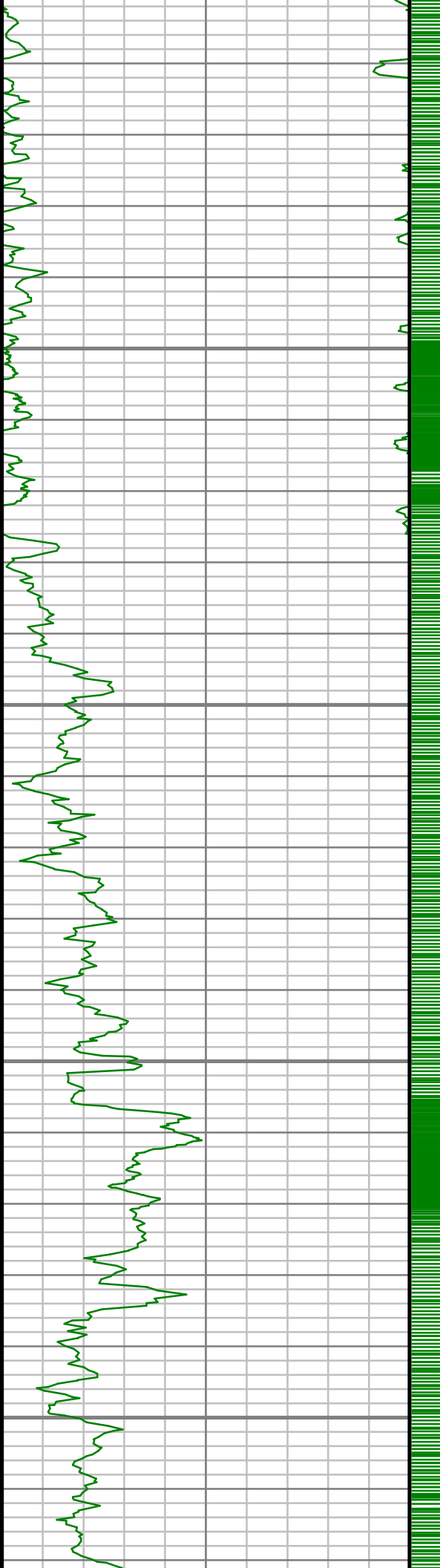
5800



S: 38 MD: 5720.00 ft Inc: 0.24  
deg Az: 74.63 deg TVD:  
5690.93 ft



S: 39 MD: 5909.00 ft Inc: 0.26  
deg Az: 70.36 deg TVD:  
5879.93 ft



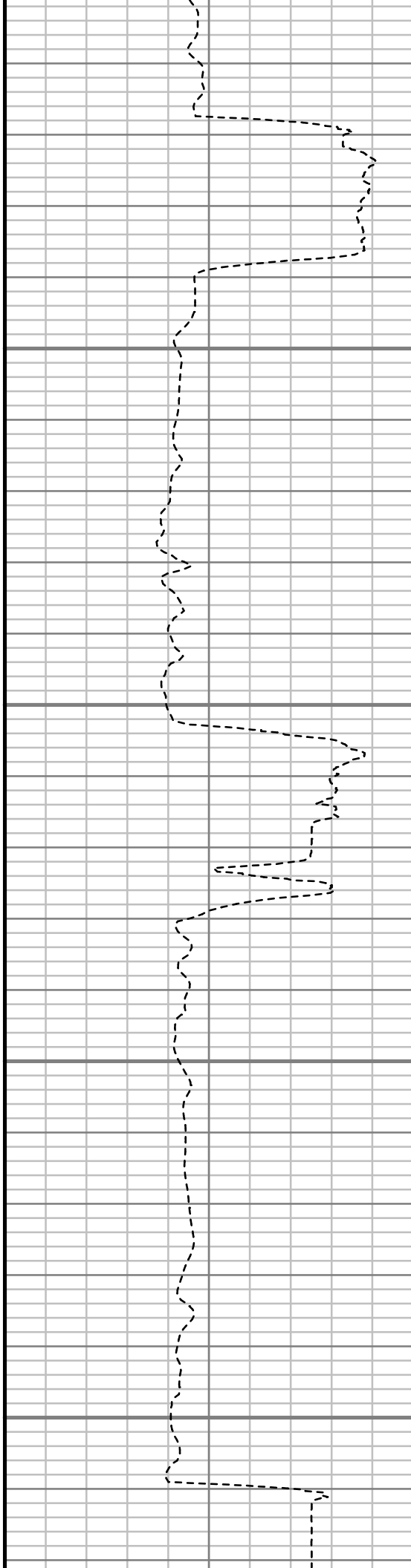
6100

6150

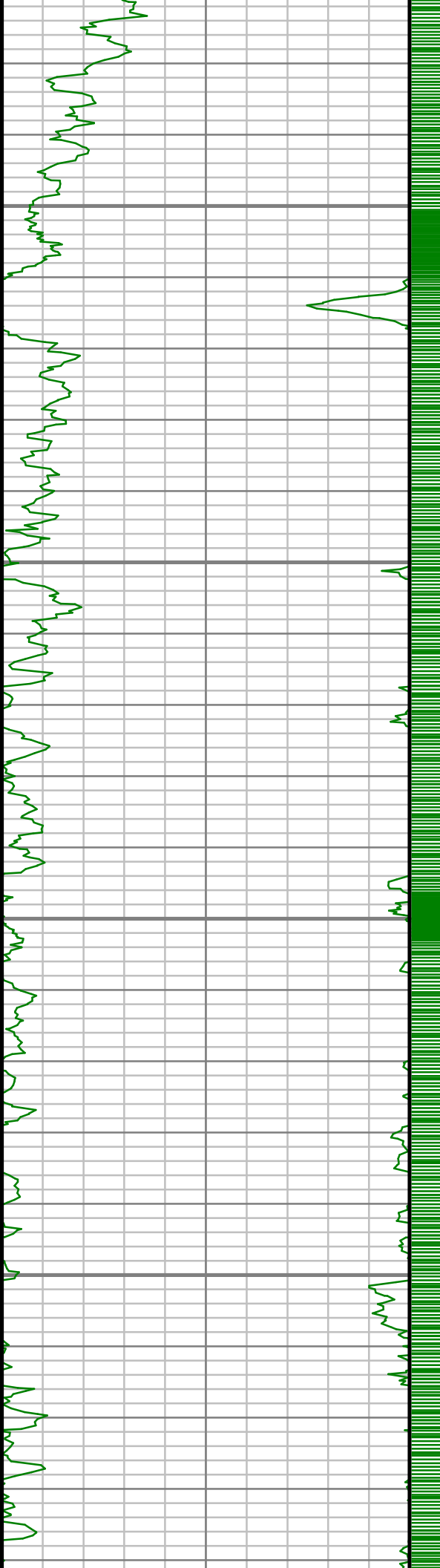
6200

6250

S: 40 MD: 6100.00 ft Inc: 0.85  
deg Az: 118.61 deg TVD:  
6070.92 ft





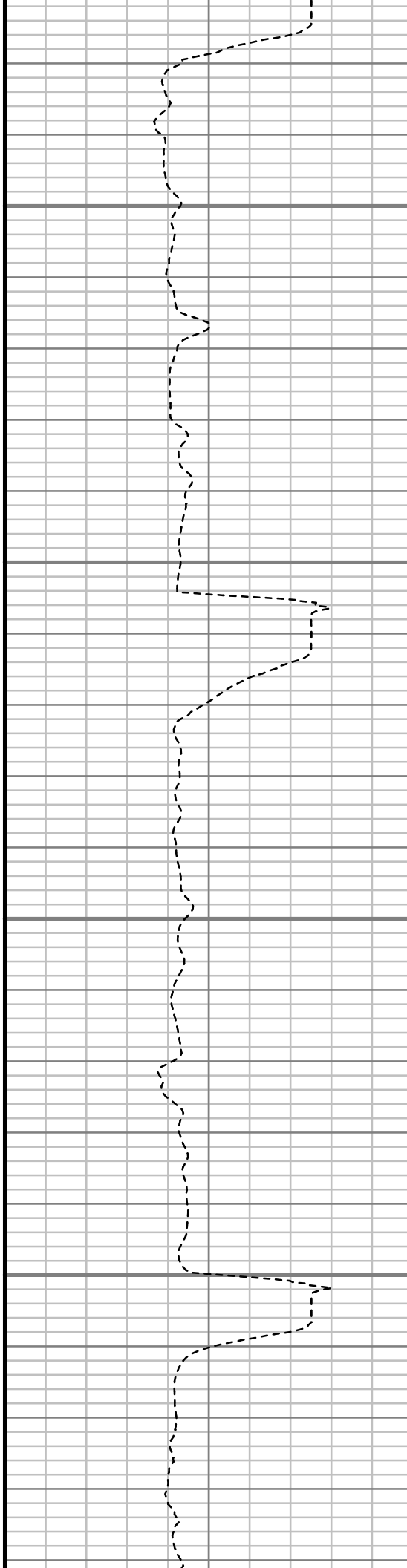


6300

6350

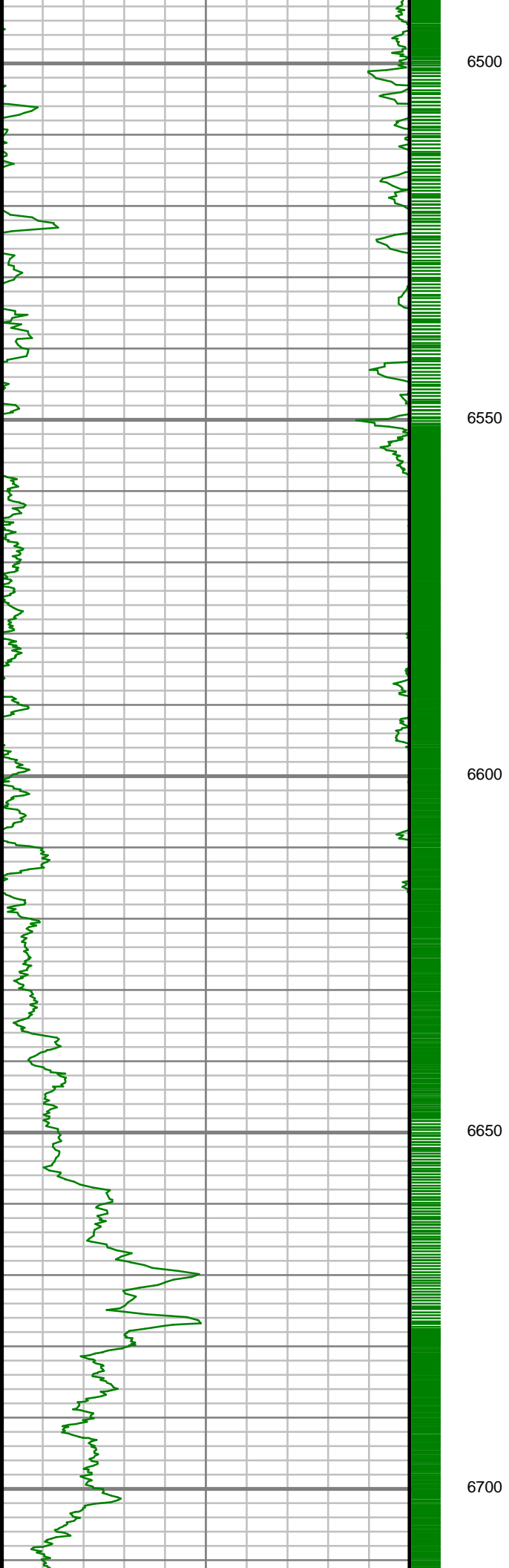
6400

6450



S: 41 MD: 6289.00 ft Inc: 0.41  
deg Az: 135.55 deg TVD:  
6259.91 ft

S: 42 MD: 6478.00 ft Inc: 0.39  
deg Az: 290.80 deg TVD:  
6448.91 ft



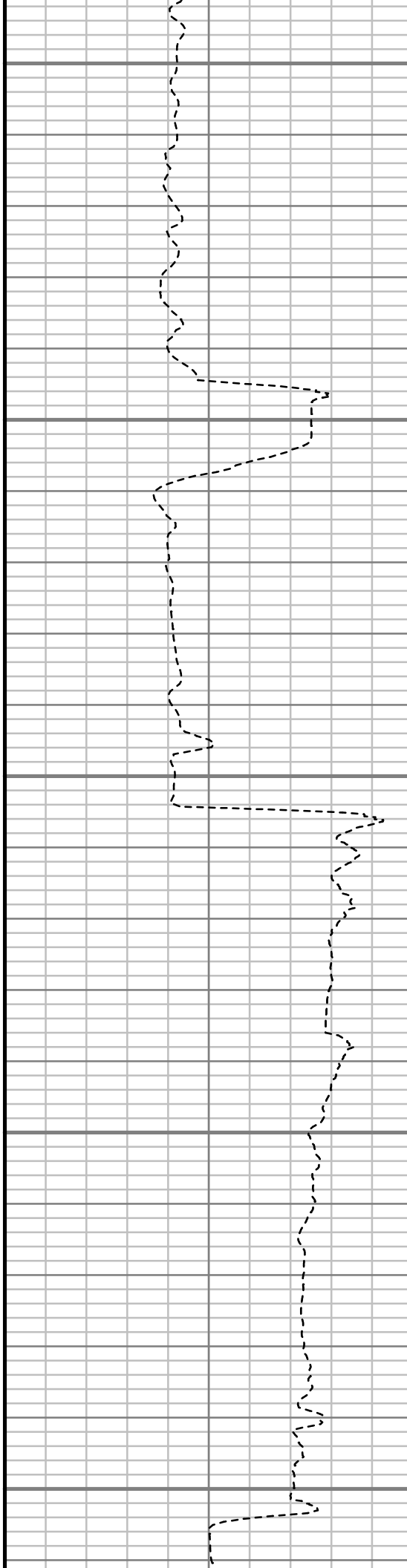
6500

6550

6600

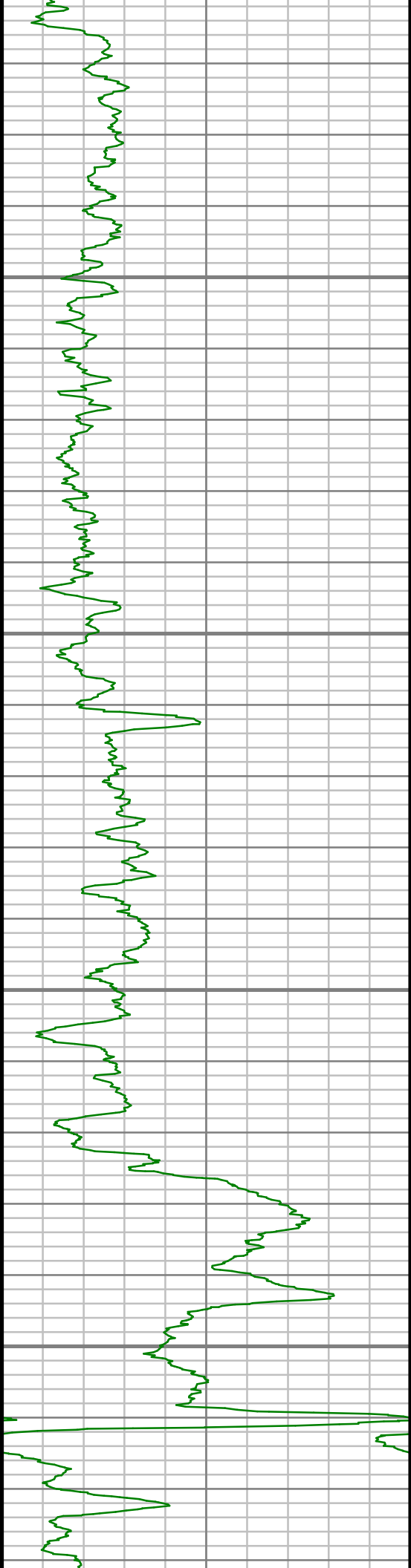
6650

6700



S: 43 MD: 6573.00 ft Inc: 0.54  
deg Az: 274.65 deg TVD:  
6543.91 ft

S: 44 MD: 6668.00 ft Inc: 7.12  
deg Az: 162.31 deg TVD:  
6638.67 ft



6750

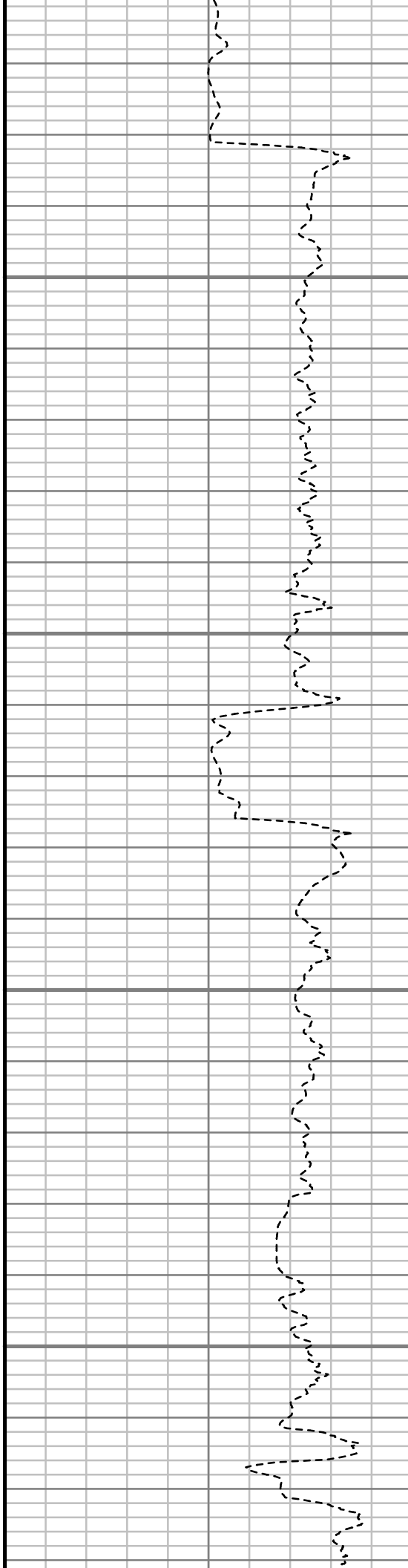
6800

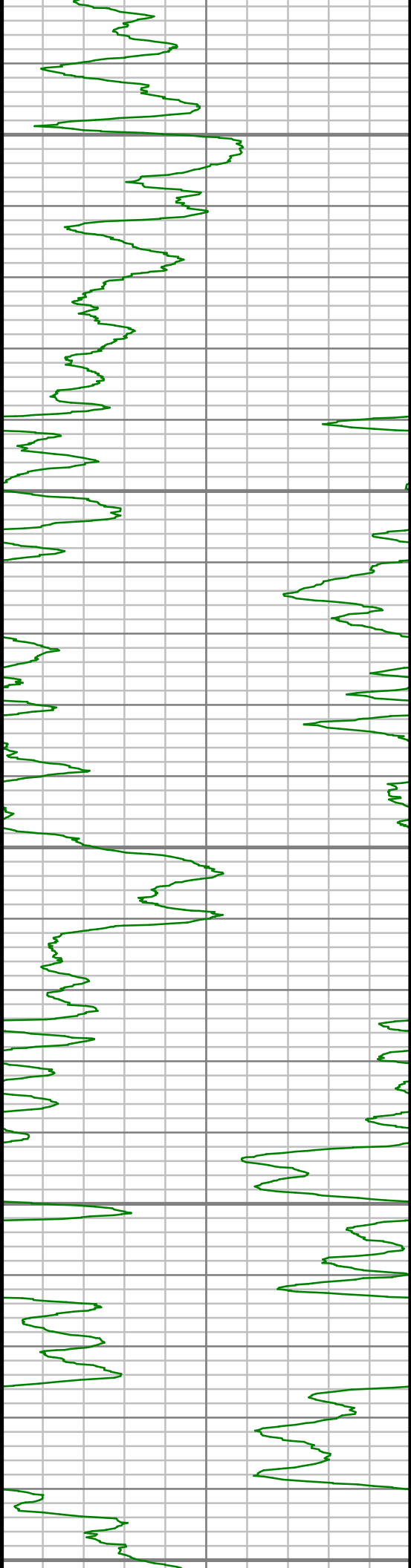
6850

6900

S: 45 MD: 6763.00 ft Inc: 14.31  
deg Az: 174.13 deg TVD:  
6731.96 ft

S: 46 MD: 6858.00 ft Inc: 21.42  
deg Az: 177.84 deg TVD:  
6822.33 ft





6950

7000

7050

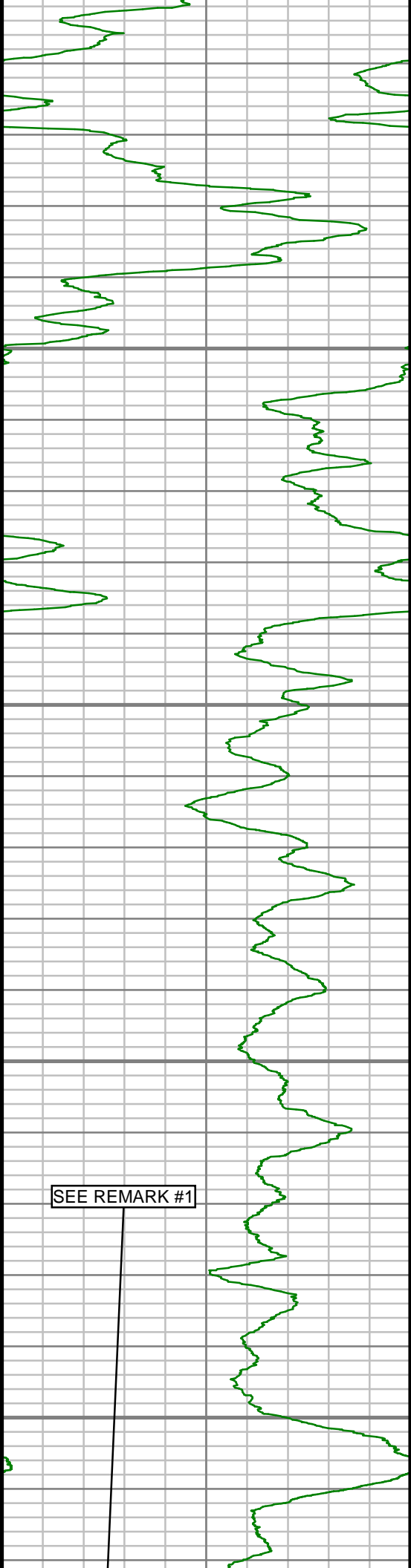
7100

7150

S: 47 MD: 6952.00 ft Inc: 29.98  
deg Az: 181.17 deg TVD:  
6906.95 ft

S: 48 MD: 7047.00 ft Inc: 39.26  
deg Az: 172.76 deg TVD:  
6985.09 ft

S: 49 MD: 7142.00 ft Inc: 50.43  
deg Az: 179.67 deg TVD:  
7052.38 ft



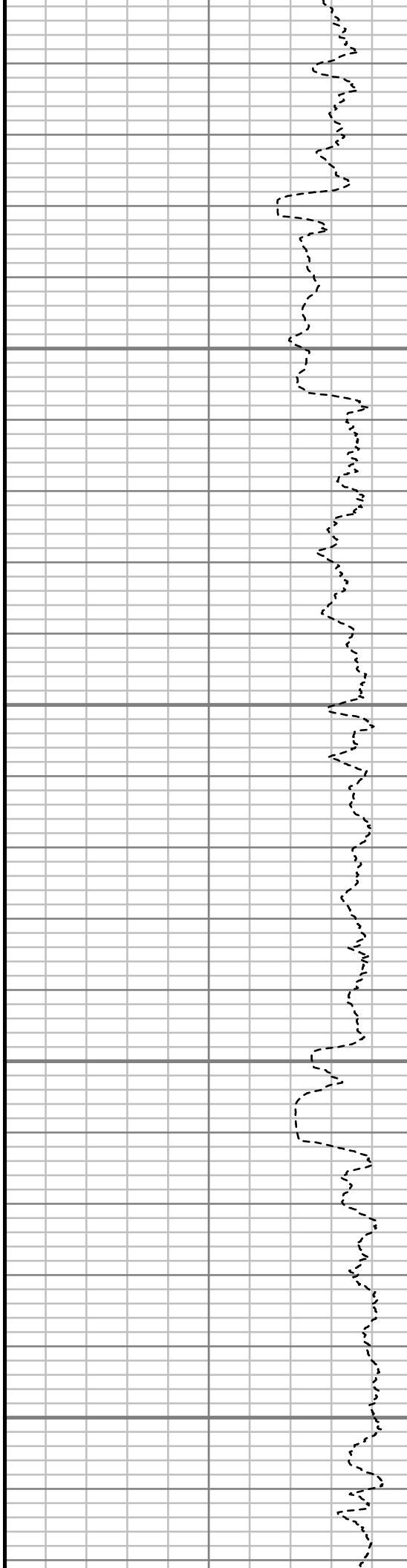
7200

7250

7300

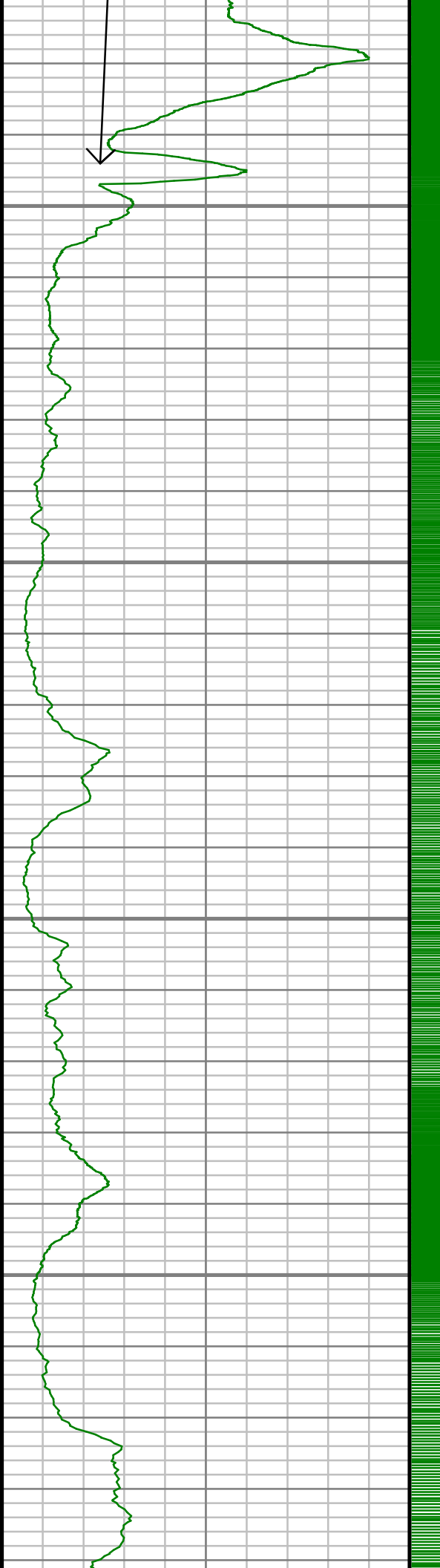
7350

SEE REMARK #1



S: 50 MD: 7237.00 ft Inc: 61.18  
deg Az: 180.22 deg TVD:  
7105.69 ft

S: 51 MD: 7332.00 ft Inc: 72.32  
deg Az: 183.46 deg TVD:  
7143.14 ft

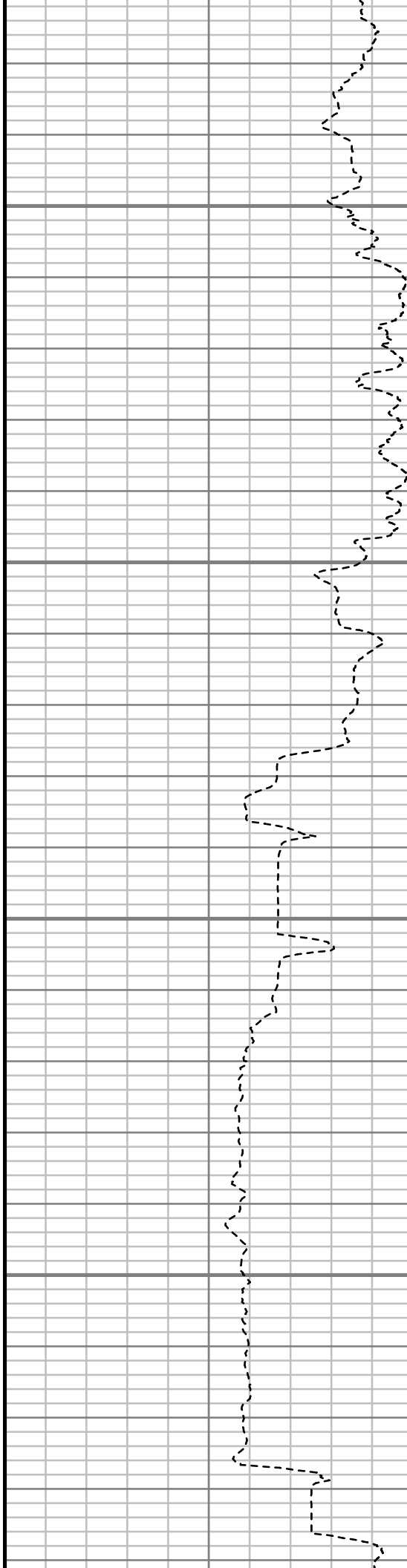


7400

7450

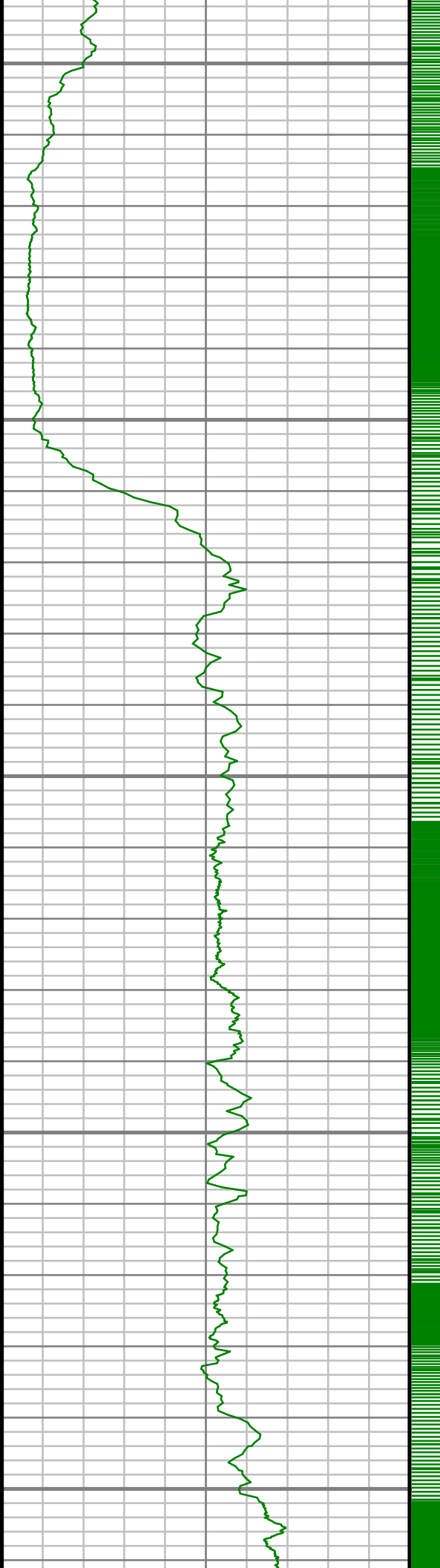
7500

7550



S: 52 MD: 7385.00 ft Inc: 78.76  
deg Az: 183.98 deg TVD:  
7156.37 ft

S: 53 MD: 7513.00 ft Inc: 83.47  
deg Az: 183.84 deg TVD:  
7176.13 ft



7600

7650

7700

7750

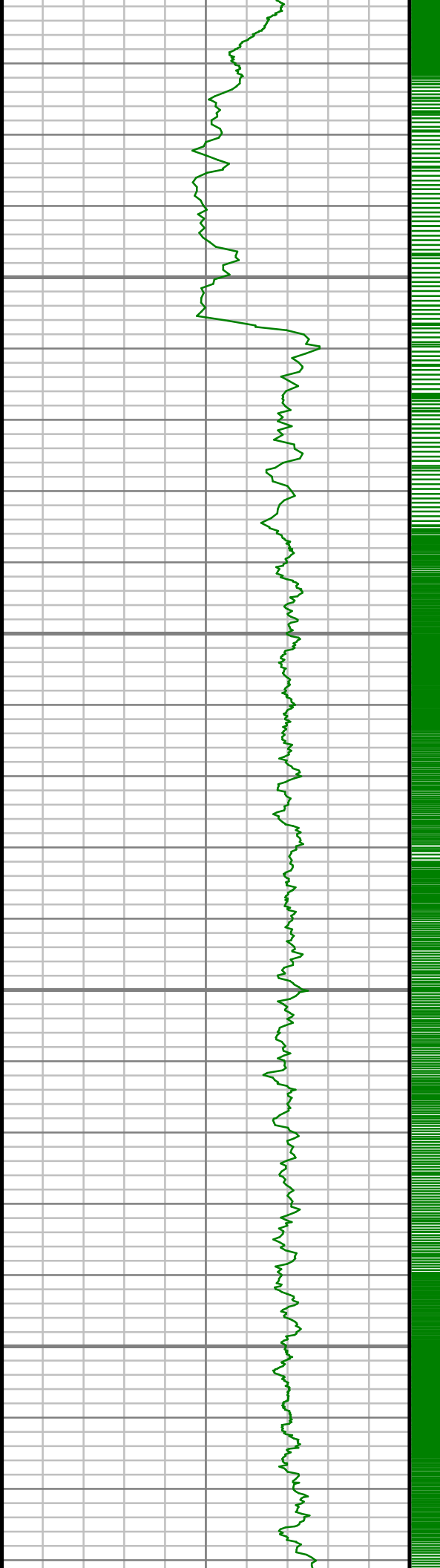
7800



S: 54 MD: 7604.00 ft Inc: 85.26  
deg Az: 183.38 deg TVD:  
7185.06 ft

S: 55 MD: 7695.00 ft Inc: 87.01  
deg Az: 183.86 deg TVD:  
7191.19 ft

S: 56 MD: 7790.00 ft Inc: 88.69  
deg Az: 182.19 deg TVD:  
7194.75 ft

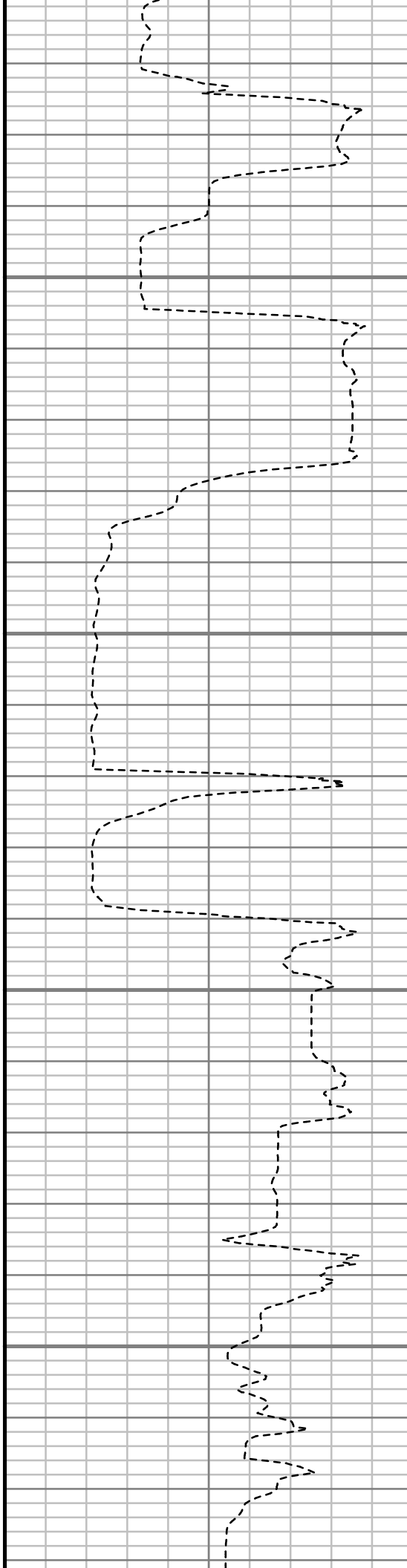


7850

7900

7950

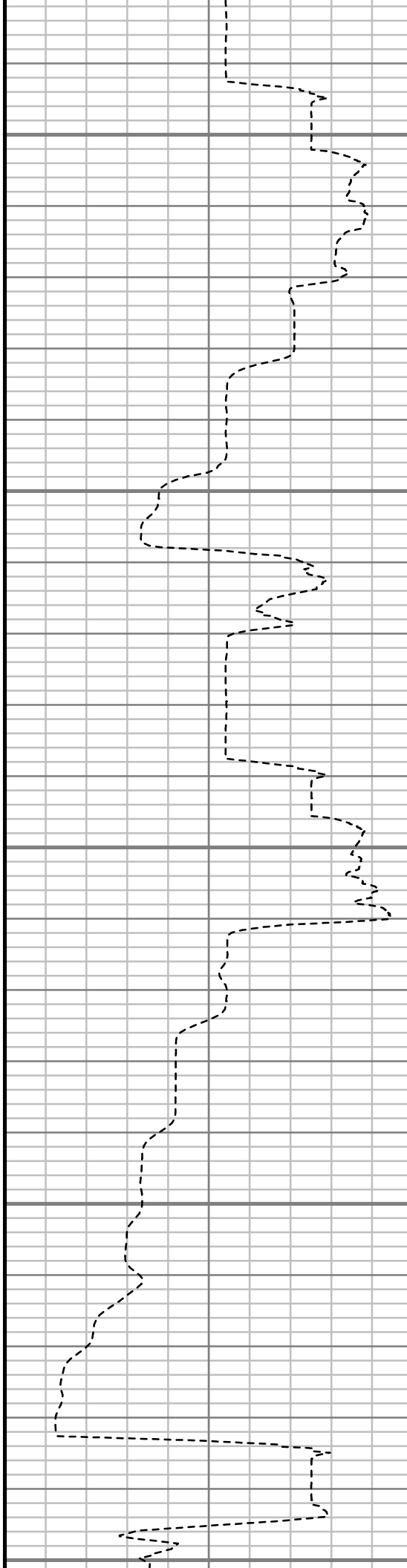
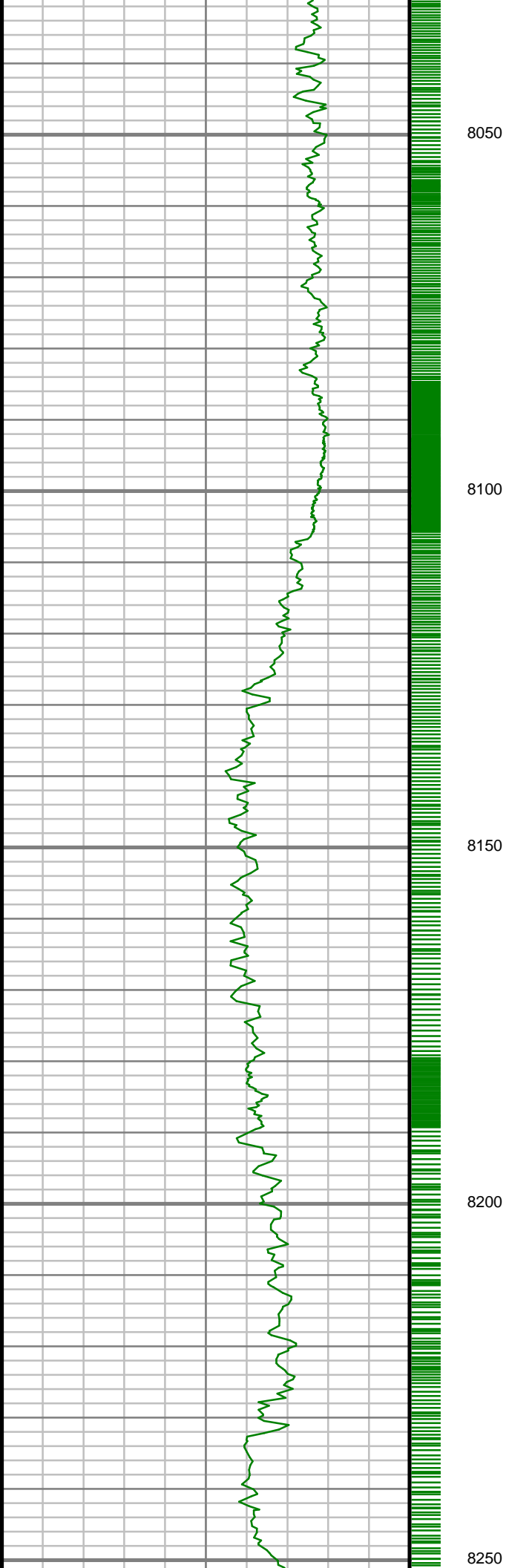
8000



S: 57 MD: 7885.00 ft Inc: 91.41  
deg Az: 180.93 deg TVD:  
7194.67 ft

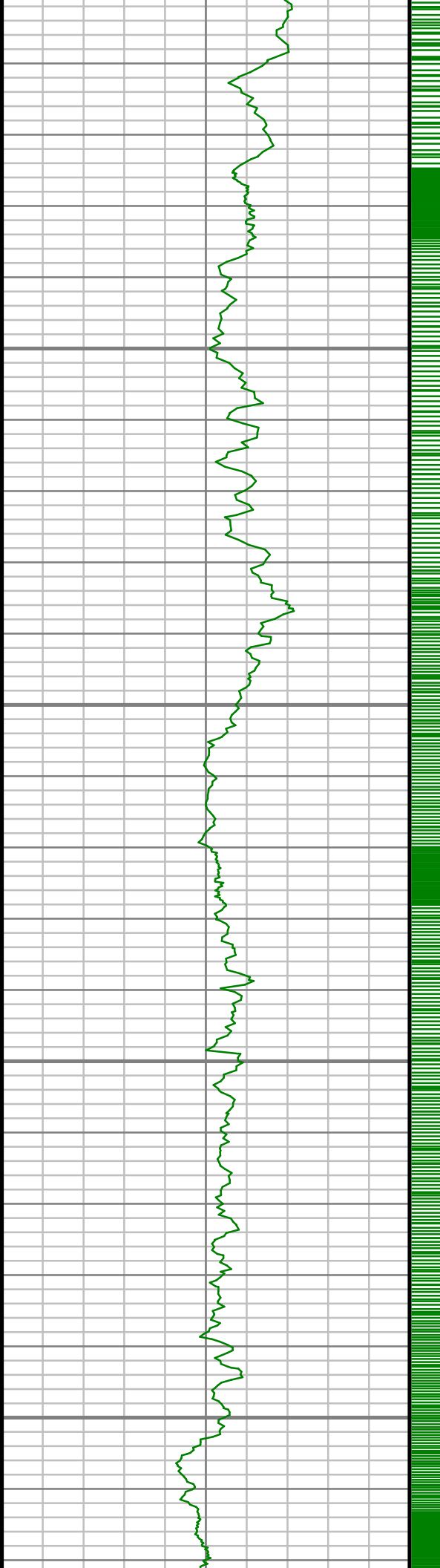
S: 58 MD: 7980.00 ft Inc: 91.08  
deg Az: 180.50 deg TVD:  
7192.61 ft





S: 59 MD: 8075.00 ft Inc: 91.88  
deg Az: 179.14 deg TVD:  
7190.15 ft

S: 60 MD: 8169.00 ft Inc: 92.05  
deg Az: 177.89 deg TVD:  
7186.93 ft

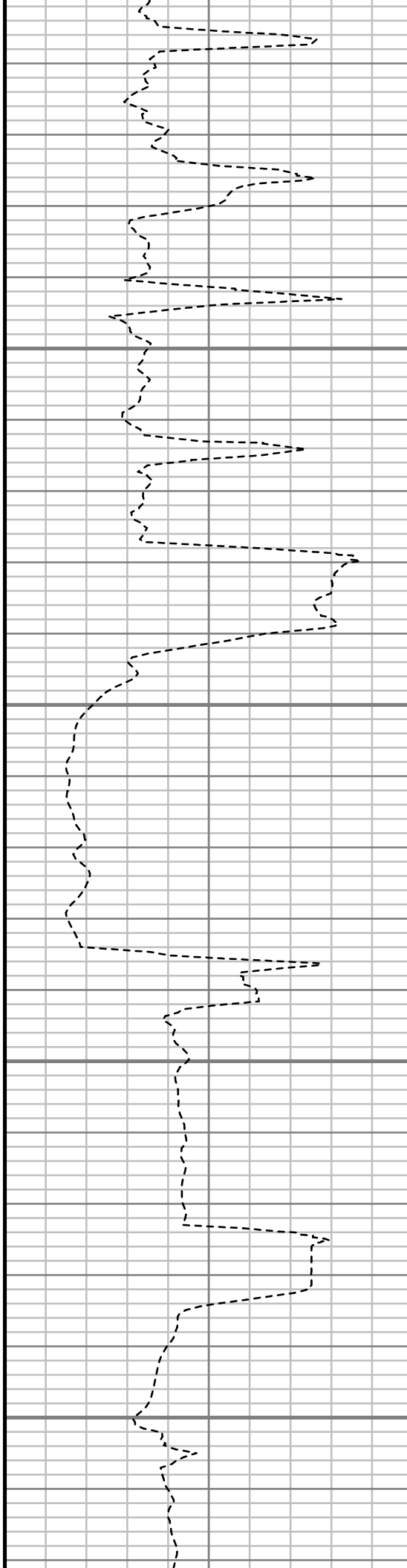


8300

8350

8400

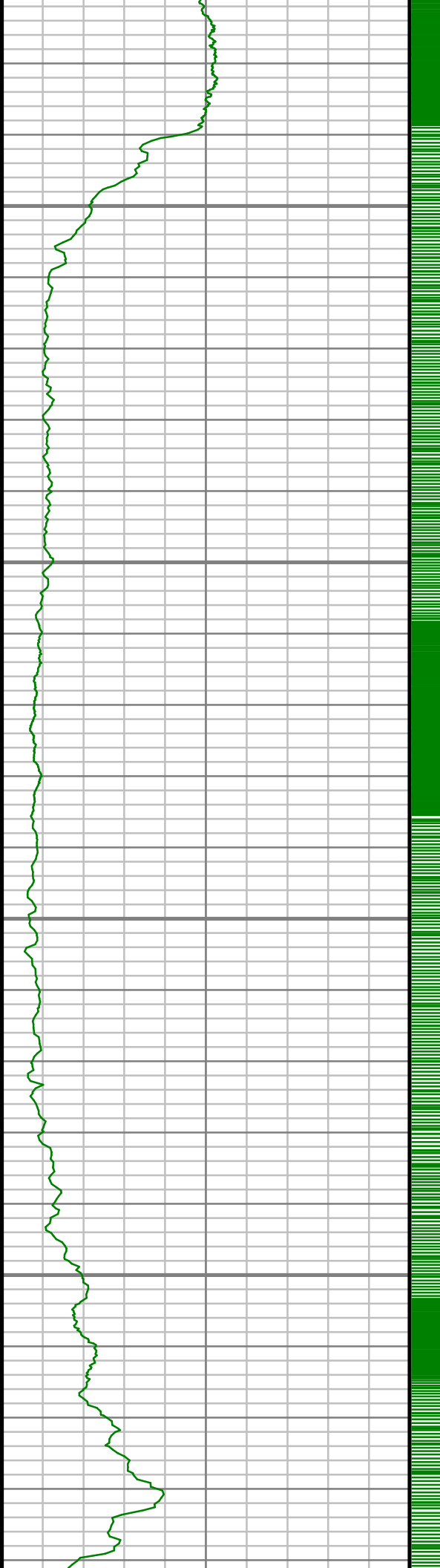
8450



S: 61 MD: 8264.00 ft Inc: 91.71  
deg Az: 177.49 deg TVD:  
7183.81 ft

S: 62 MD: 8358.00 ft Inc: 92.79  
deg Az: 177.79 deg TVD:  
7180.12 ft

S: 63 MD: 8453.00 ft Inc: 91.82  
deg Az: 176.45 deg TVD:  
7176.30 ft

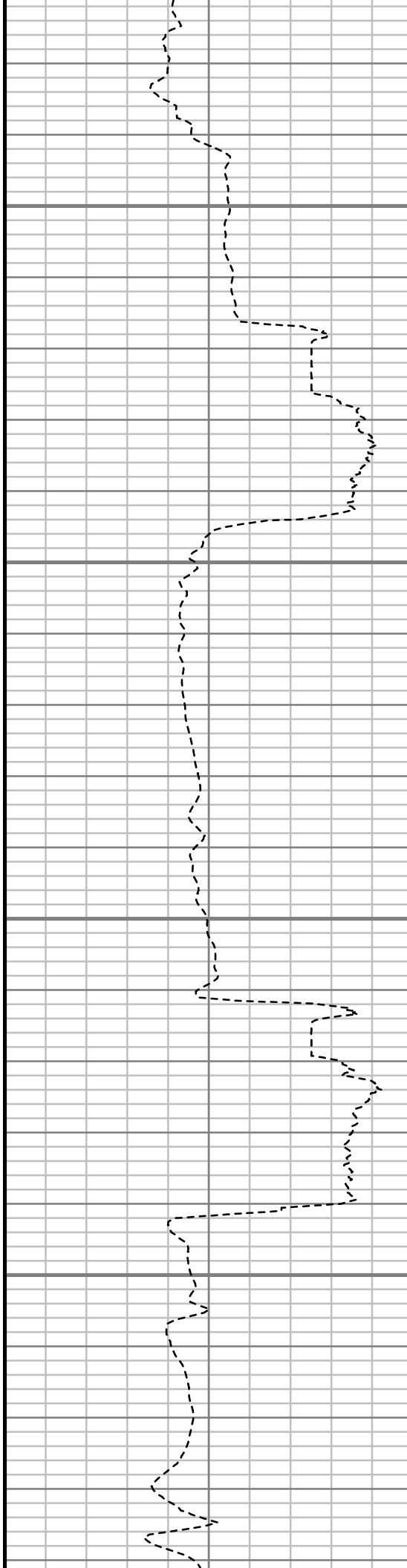


8500

8550

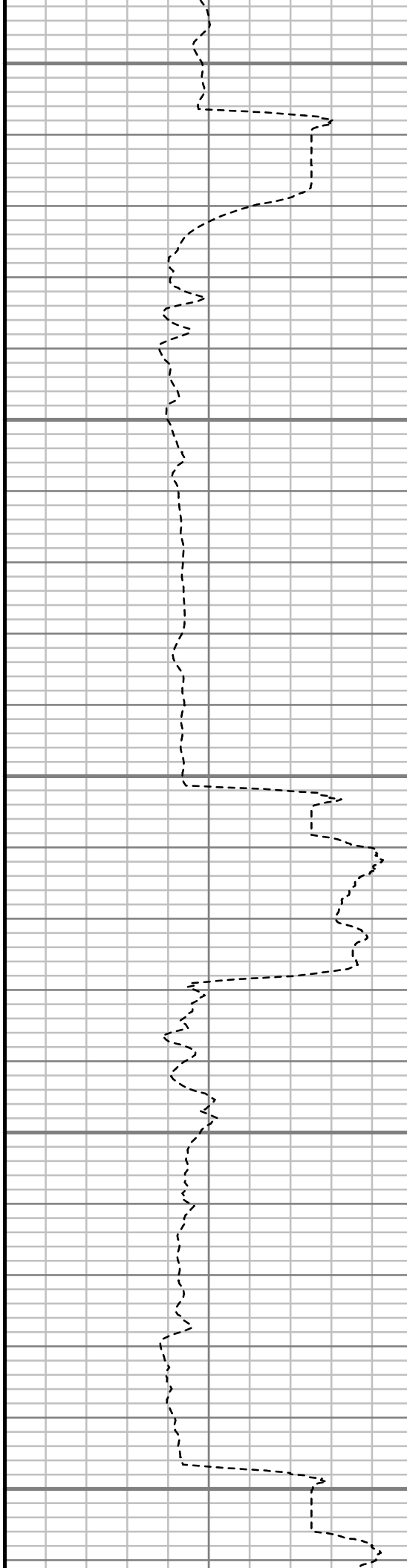
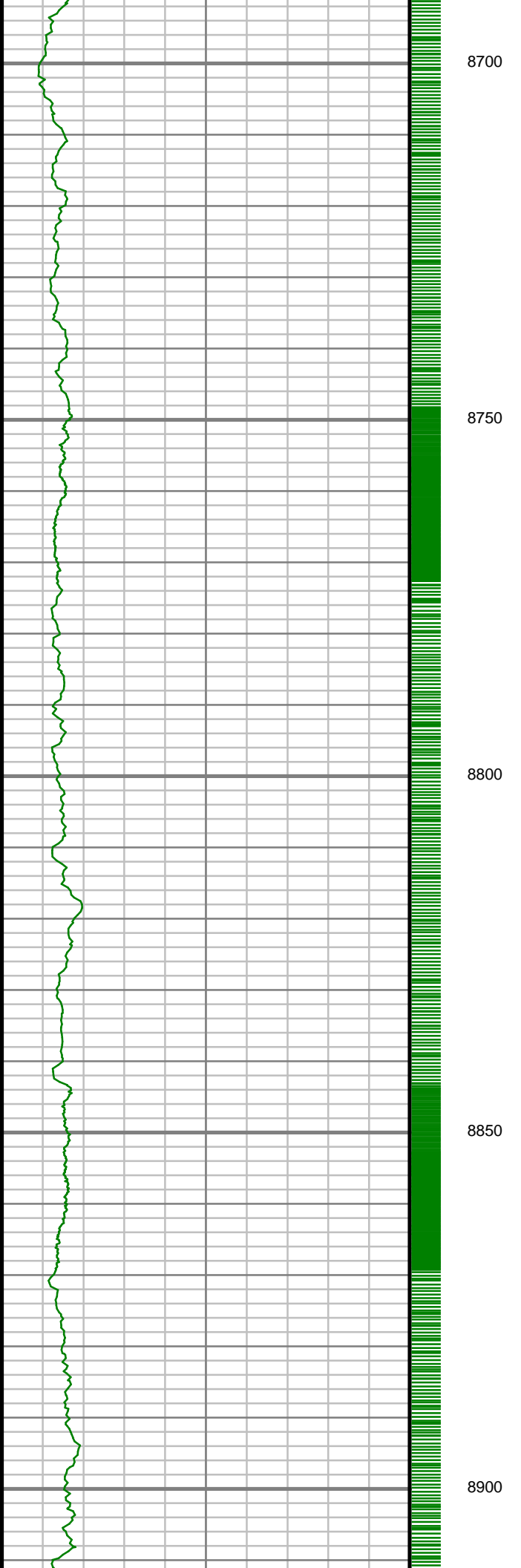
8600

8650



S: 64 MD: 8548.00 ft Inc: 91.38  
deg Az: 177.41 deg TVD:  
7173.66 ft

S: 65 MD: 8643.00 ft Inc: 90.91  
deg Az: 179.54 deg TVD:  
7171.76 ft



8700

8750

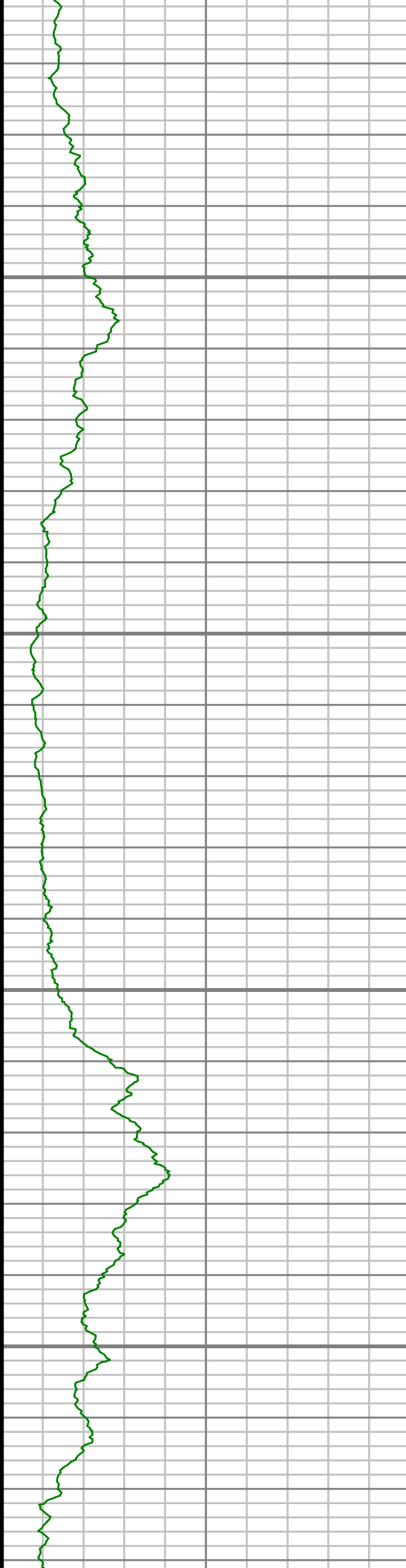
8800

8850

8900

S: 66 MD: 8737.00 ft Inc: 90.17  
deg Az: 178.91 deg TVD:  
7170.88 ft

S: 67 MD: 8833.00 ft Inc: 92.45  
deg Az: 181.07 deg TVD:  
7168.68 ft

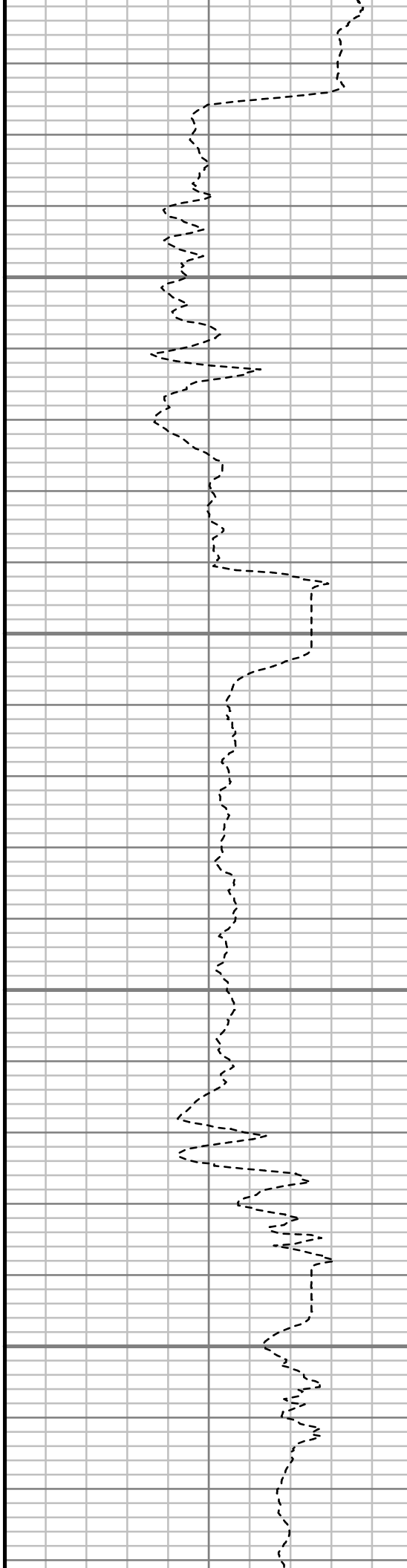


8950

9000

9050

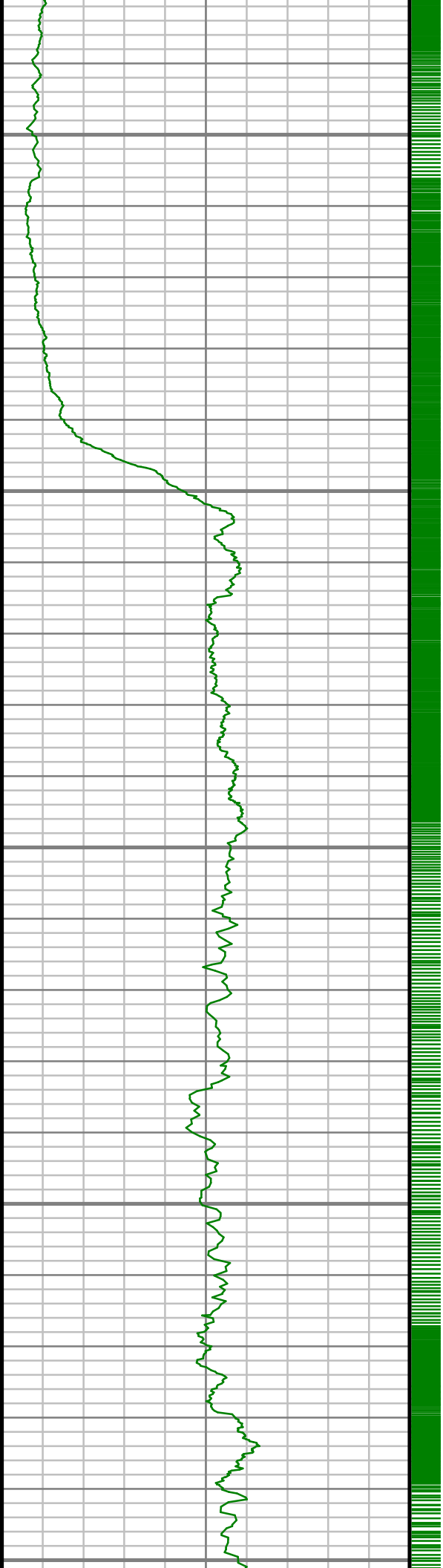
9100



S: 68 MD: 8928.00 ft Inc: 89.90  
deg Az: 180.31 deg TVD:  
7166.73 ft

S: 69 MD: 9023.00 ft Inc: 89.70  
deg Az: 180.58 deg TVD:  
7167.07 ft

S: 70 MD: 9117.00 ft Inc: 88.76  
deg Az: 180.04 deg TVD:  
7168.33 ft



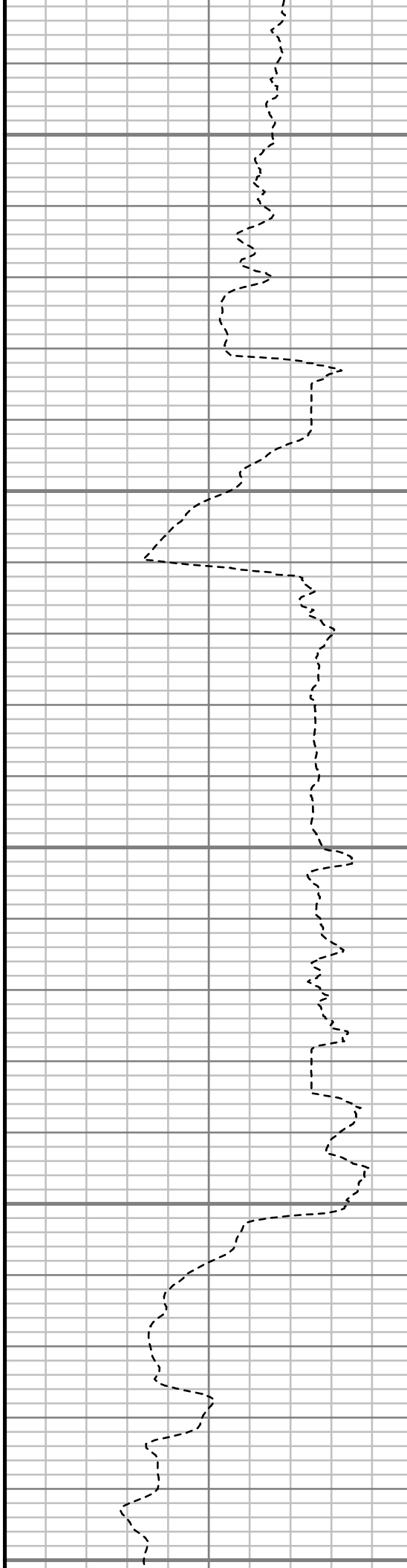
9150

9200

9250

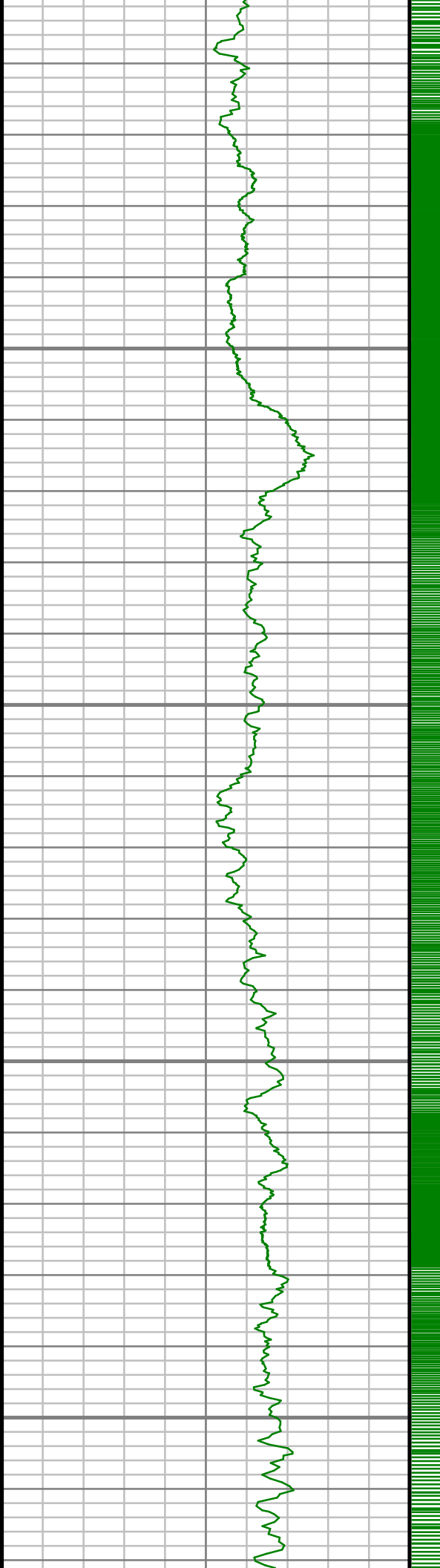
9300

9350



S: 71 MD: 9212.00 ft Inc: 88.49  
deg Az: 179.69 deg TVD:  
7170.62 ft

S: 72 MD: 9307.00 ft Inc: 89.19  
deg Az: 180.14 deg TVD:  
7172.54 ft

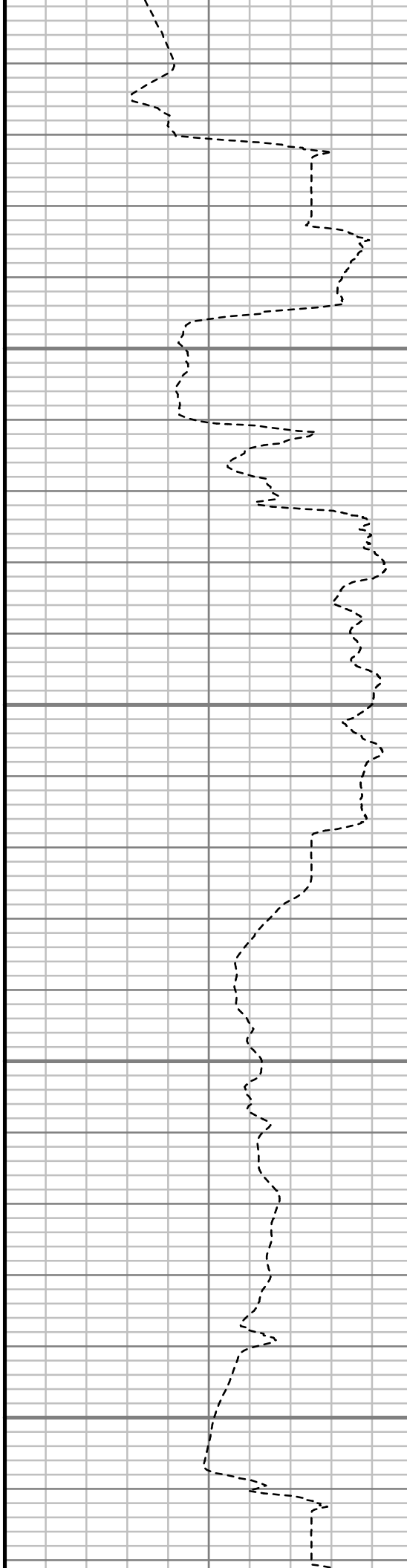


9400

9450

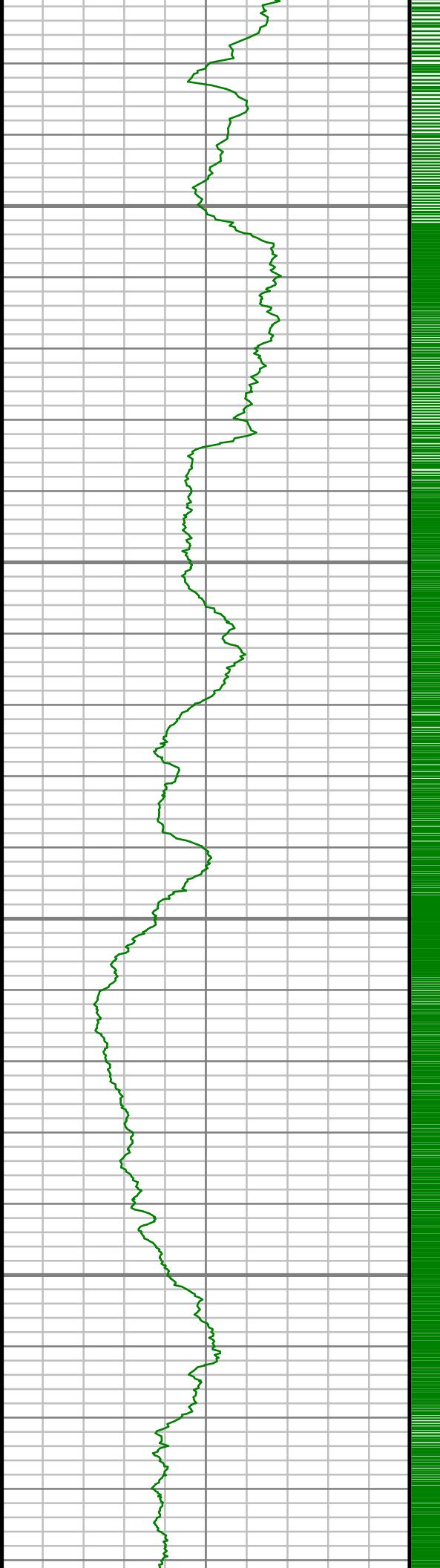
9500

9550



S: 73 MD: 9402.00 ft Inc: 90.20  
deg Az: 180.13 deg TVD:  
7173.04 ft

S: 74 MD: 9497.00 ft Inc: 90.10  
deg Az: 179.65 deg TVD:  
7172.79 ft

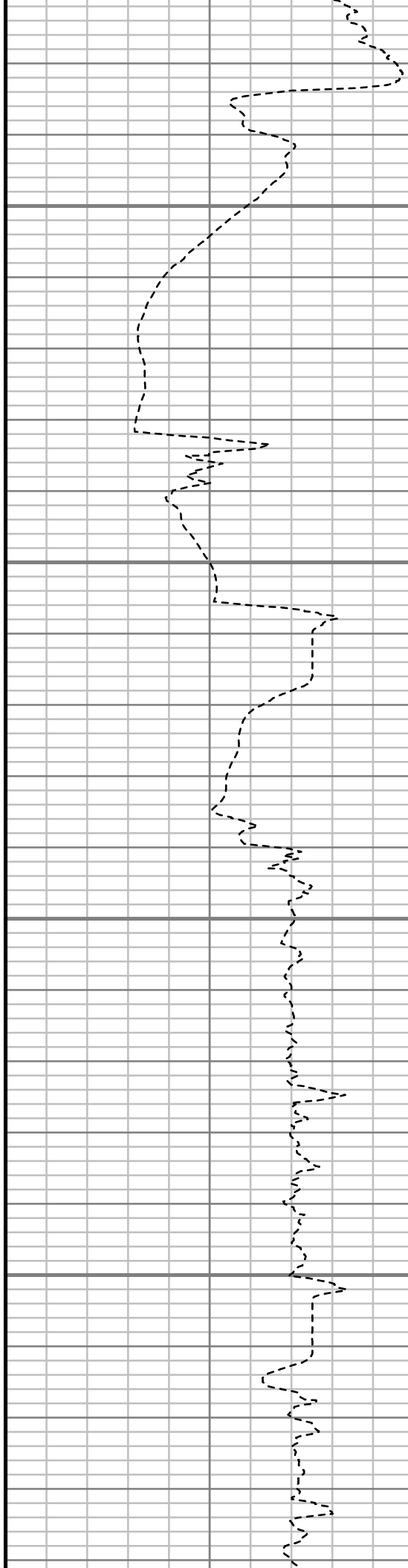


9600

9650

9700

9750

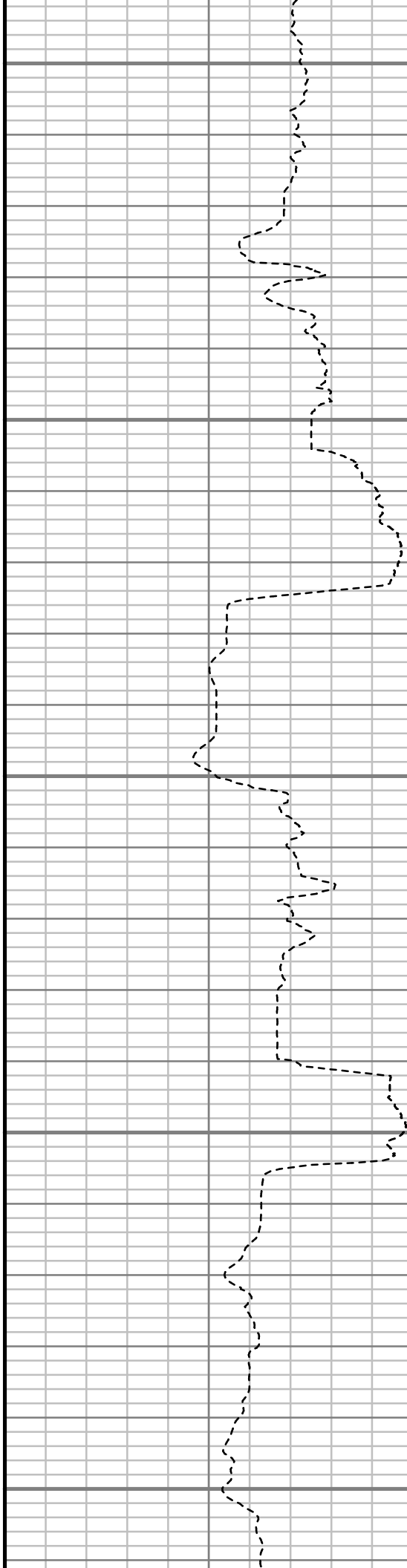
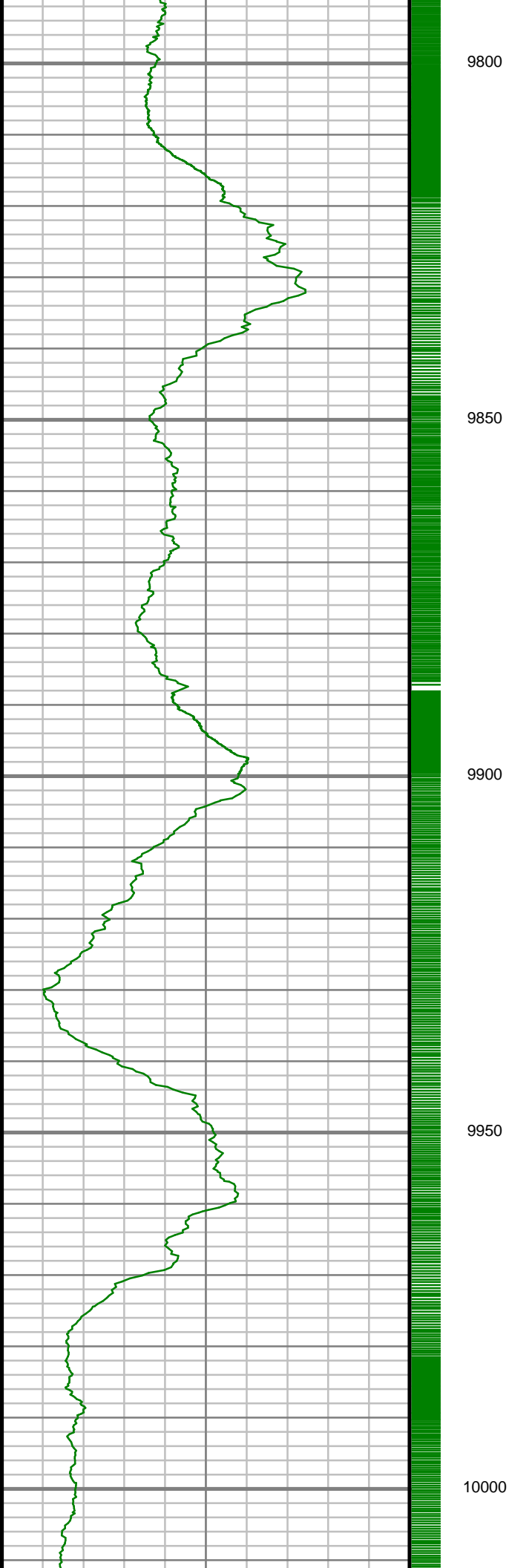


S: 75 MD: 9592.00 ft Inc: 91.88  
deg Az: 180.81 deg TVD:  
7171.14 ft

S: 76 MD: 9687.00 ft Inc: 90.84  
deg Az: 180.12 deg TVD:  
7168.89 ft

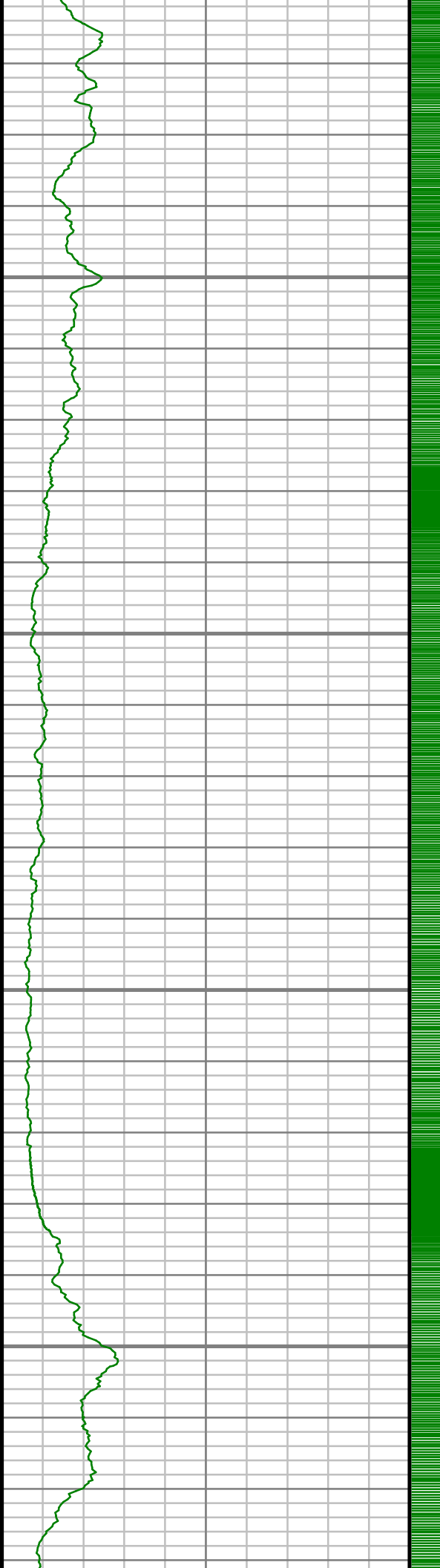
S: 77 MD: 9782.00 ft Inc: 89.56  
deg Az: 179.49 deg TVD:  
7168.56 ft





S: 78 MD: 9876.00 ft Inc: 89.87  
deg Az: 178.99 deg TVD:  
7169.03 ft

S: 79 MD: 9972.00 ft Inc: 90.47  
deg Az: 179.82 deg TVD:  
7168.75 ft

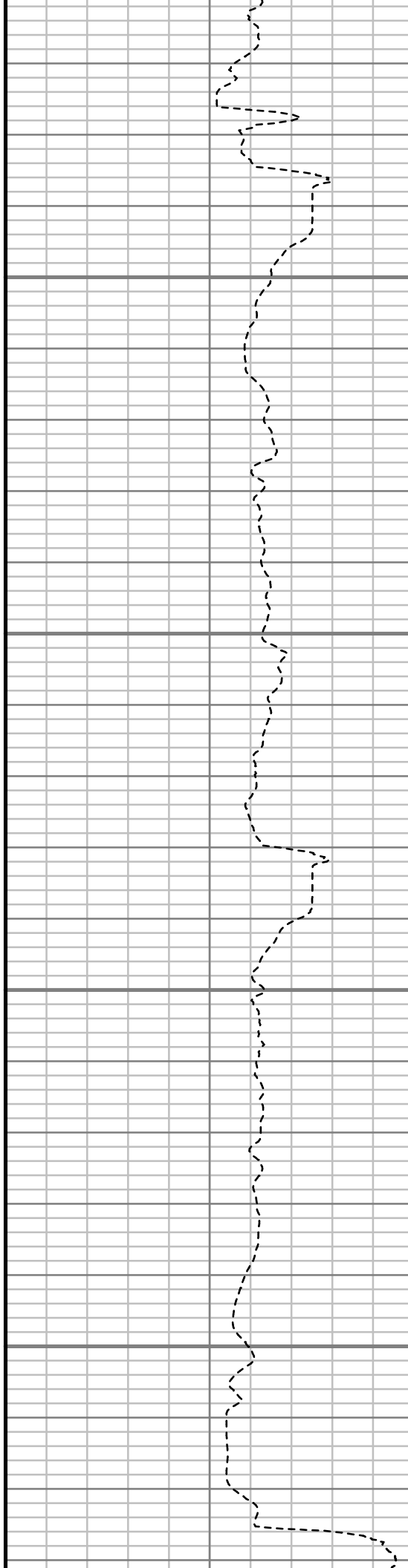


10050

10100

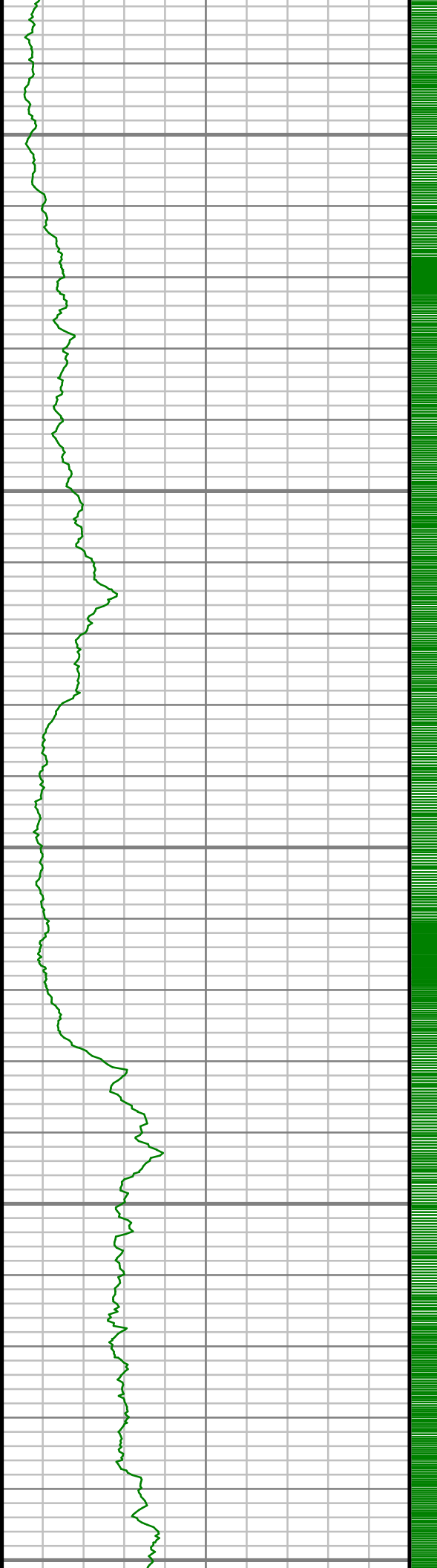
10150

10200



S: 80 MD: 10067.00 ft Inc:  
90.54 deg Az: 180.11 deg TVD:  
7167.91 ft

S: 81 MD: 10161.00 ft Inc:  
90.77 deg Az: 180.13 deg TVD:  
7166.84 ft



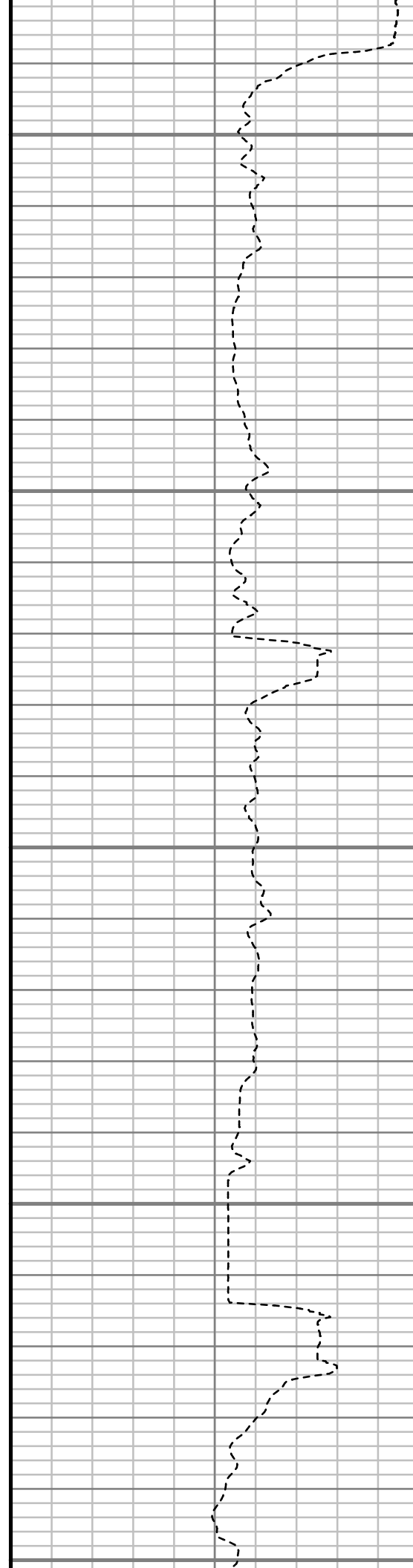
10250

10300

10350

10400

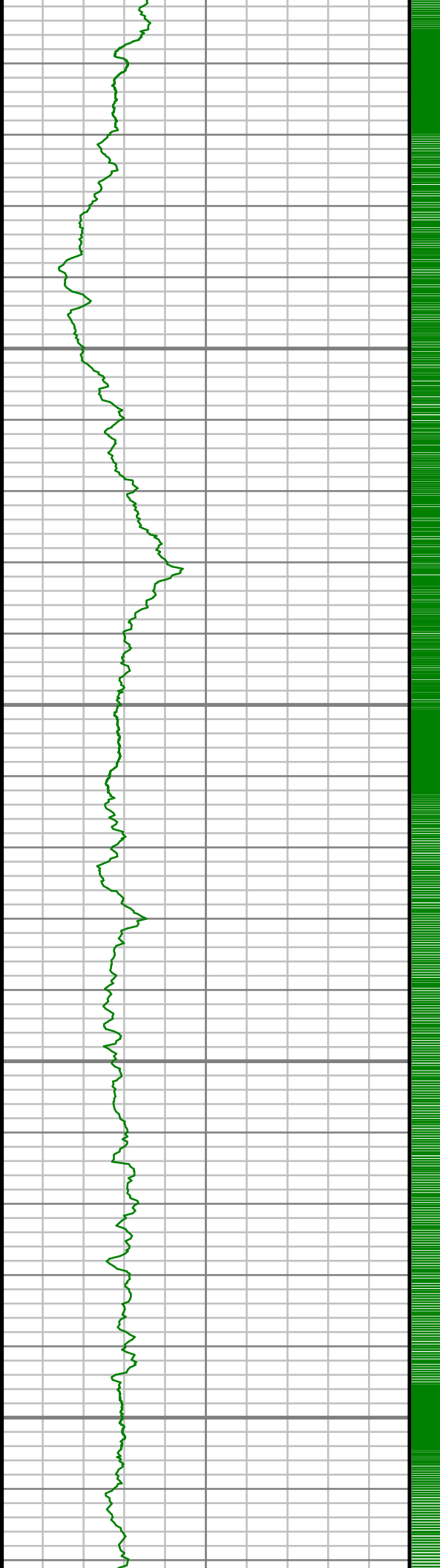
10450



S: 82 MD: 10256.00 ft Inc:  
89.76 deg Az: 180.49 deg TVD:  
7166.39 ft

S: 83 MD: 10351.00 ft Inc:  
89.70 deg Az: 180.34 deg TVD:  
7166.84 ft

S: 84 MD: 10446.00 ft Inc:  
91.38 deg Az: 181.94 deg TVD:



10500

10550

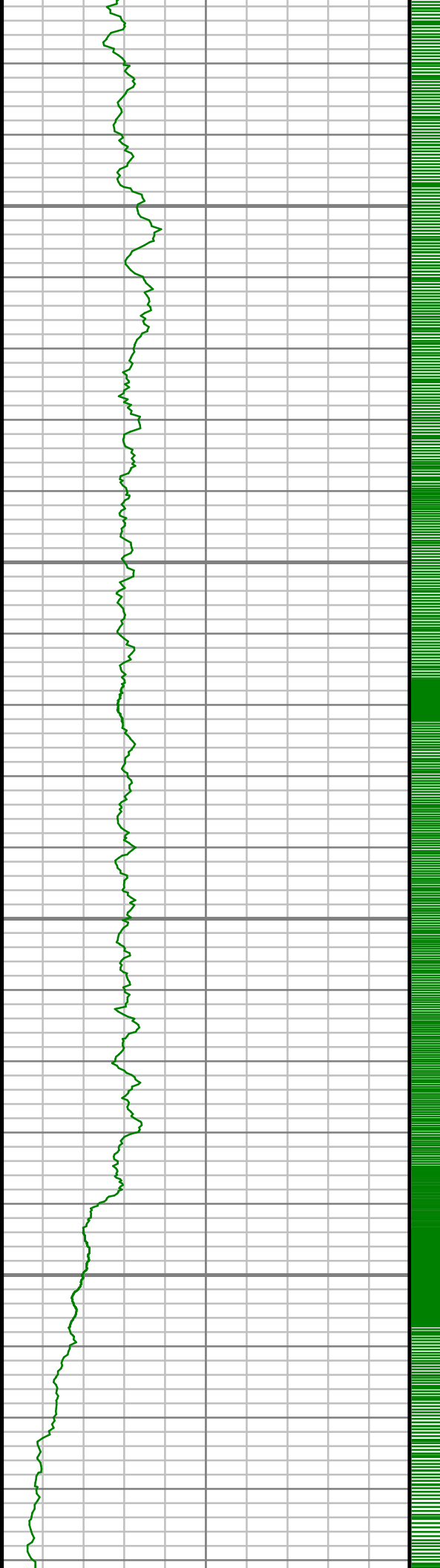
10600

10650

7165.95 ft

S: 85 MD: 10540.00 ft Inc:  
88.15 deg Az: 180.19 deg TVD:  
7166.33 ft

S: 86 MD: 10635.00 ft Inc:  
90.77 deg Az: 182.08 deg TVD:  
7167.23 ft



10700

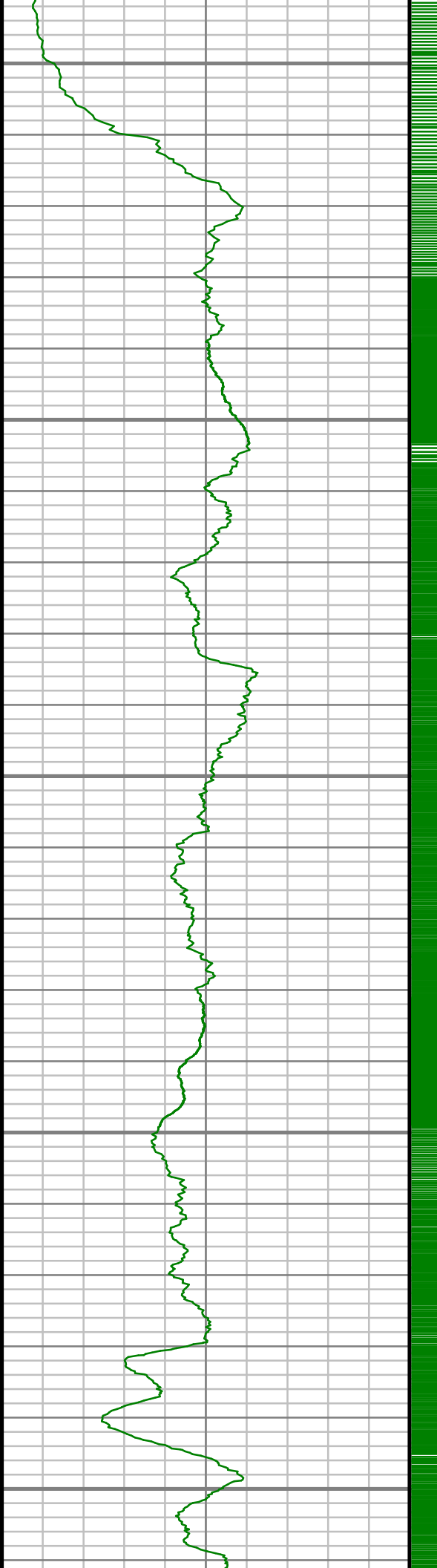
10750

10800

10850

S: 87 MD: 10730.00 ft Inc:  
89.93 deg Az: 180.14 deg TVD:  
7166.64 ft

S: 88 MD: 10825.00 ft Inc:  
90.20 deg Az: 175.89 deg TVD:  
7166.53 ft



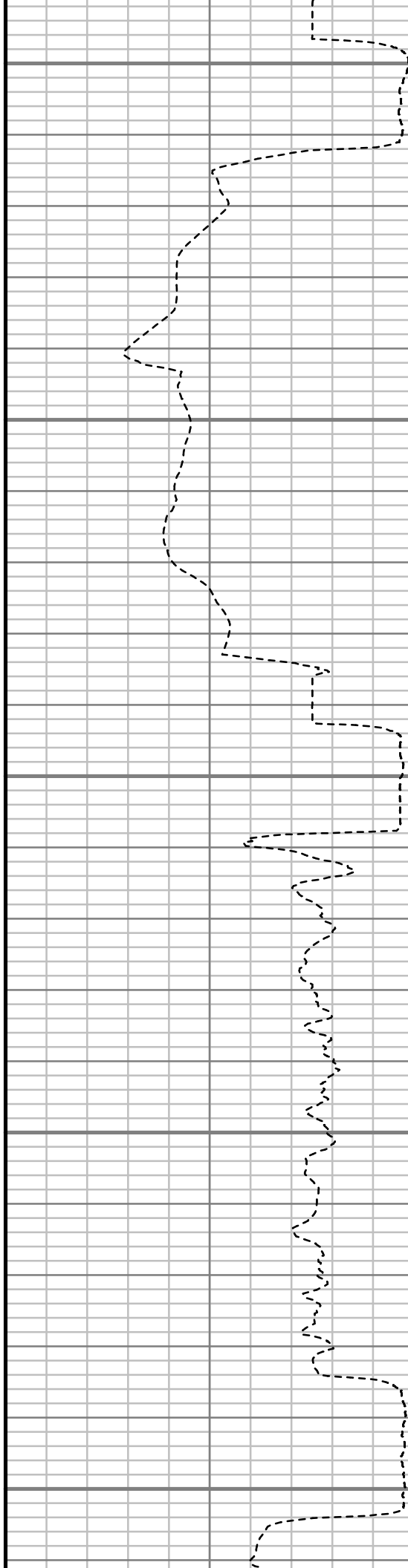
10900

10950

11000

11050

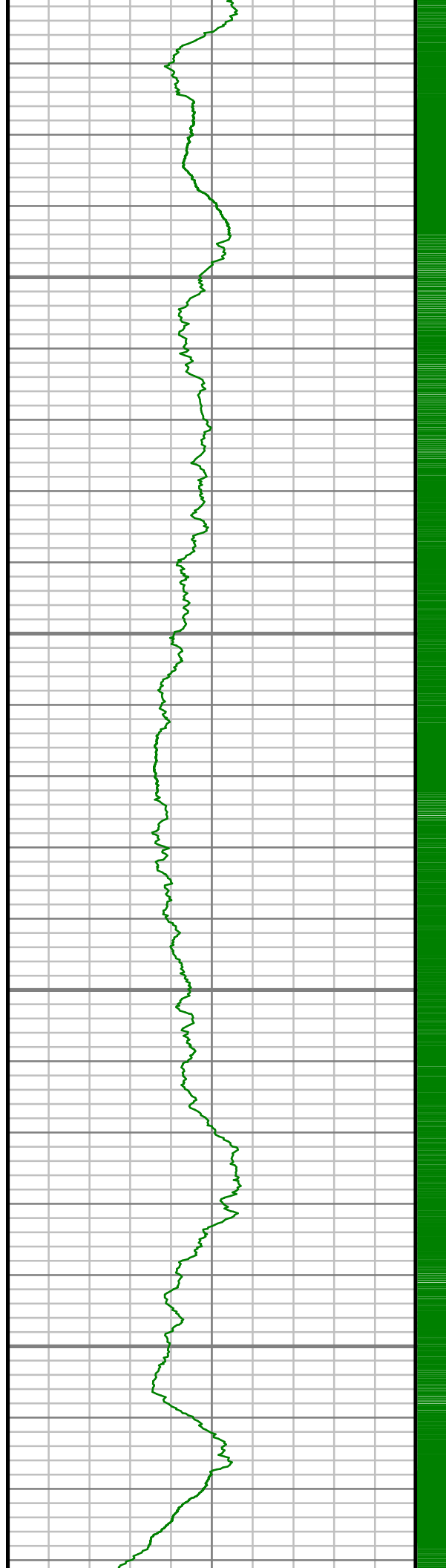
11100



S: 89 MD: 10920.00 ft Inc:  
89.80 deg Az: 177.22 deg TVD:  
7166.53 ft

S: 90 MD: 11014.00 ft Inc:  
89.03 deg Az: 178.28 deg TVD:  
7167.49 ft

S: 91 MD: 11109.00 ft Inc:



11150

11200

11250

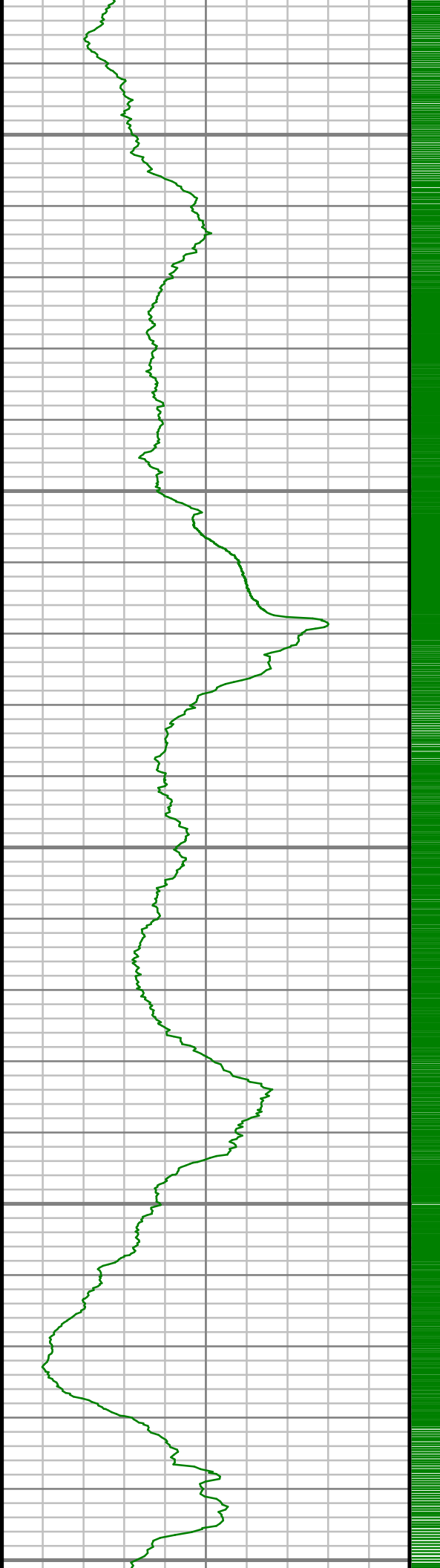
11300



89.83 deg Az: 179.24 deg TVD:  
7168.44 ft

S: 92 MD: 11204.00 ft Inc:  
89.46 deg Az: 180.85 deg TVD:  
7169.03 ft

S: 93 MD: 11299.00 ft Inc:  
88.63 deg Az: 181.49 deg TVD:  
7170.61 ft



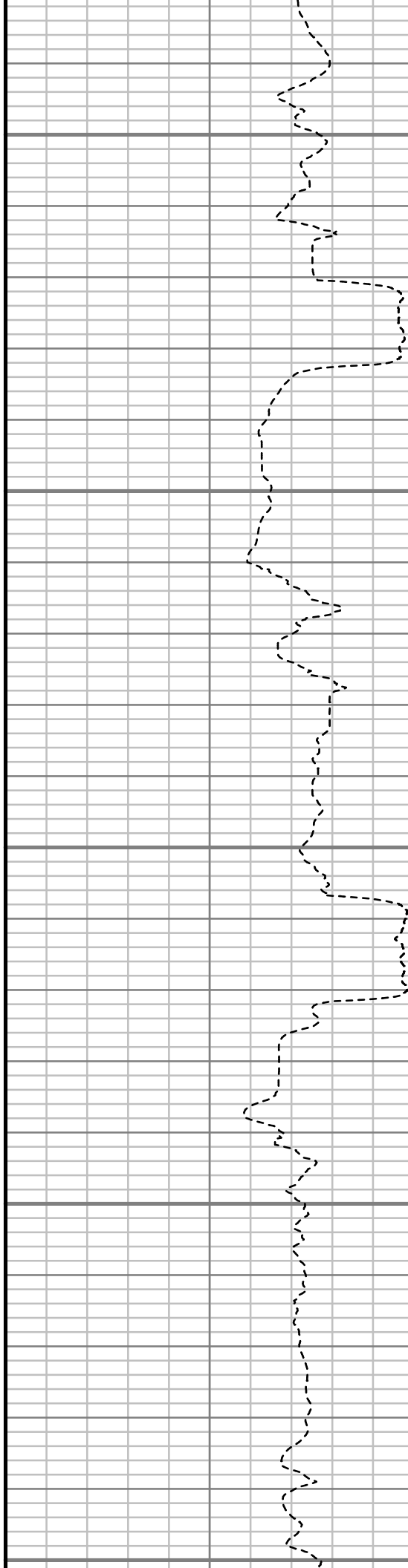
11350

11400

11450

11500

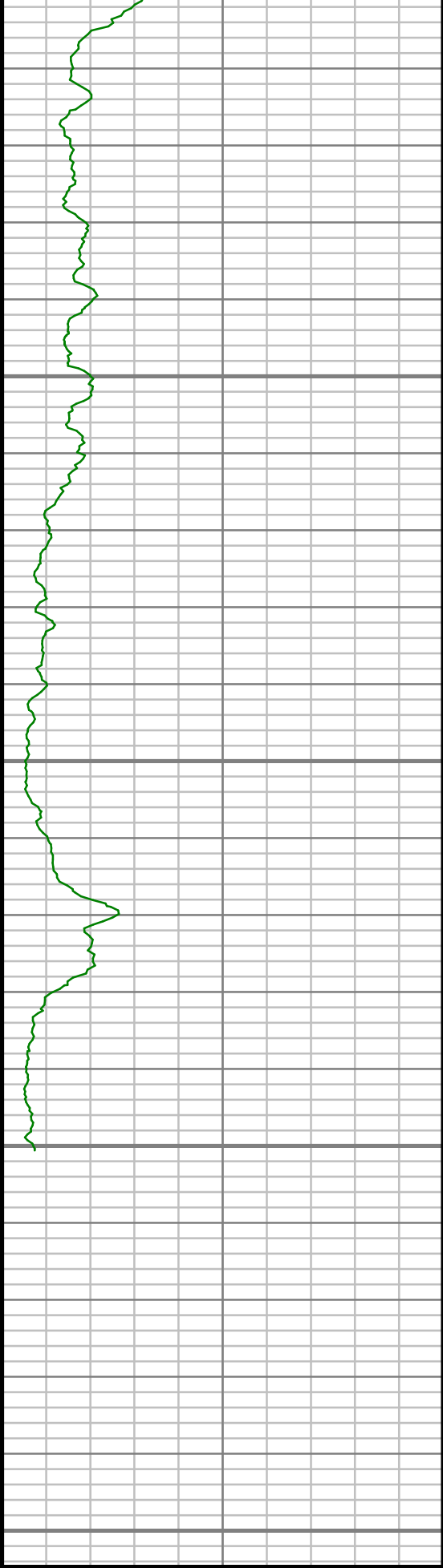
11550



S: 94 MD: 11394.00 ft Inc:  
88.42 deg Az: 180.96 deg TVD:  
7173.06 ft

S: 95 MD: 11489.00 ft Inc:  
88.42 deg Az: 180.11 deg TVD:  
7175.67 ft





Gamma Ray (GR)

Unit = aapi

0

150

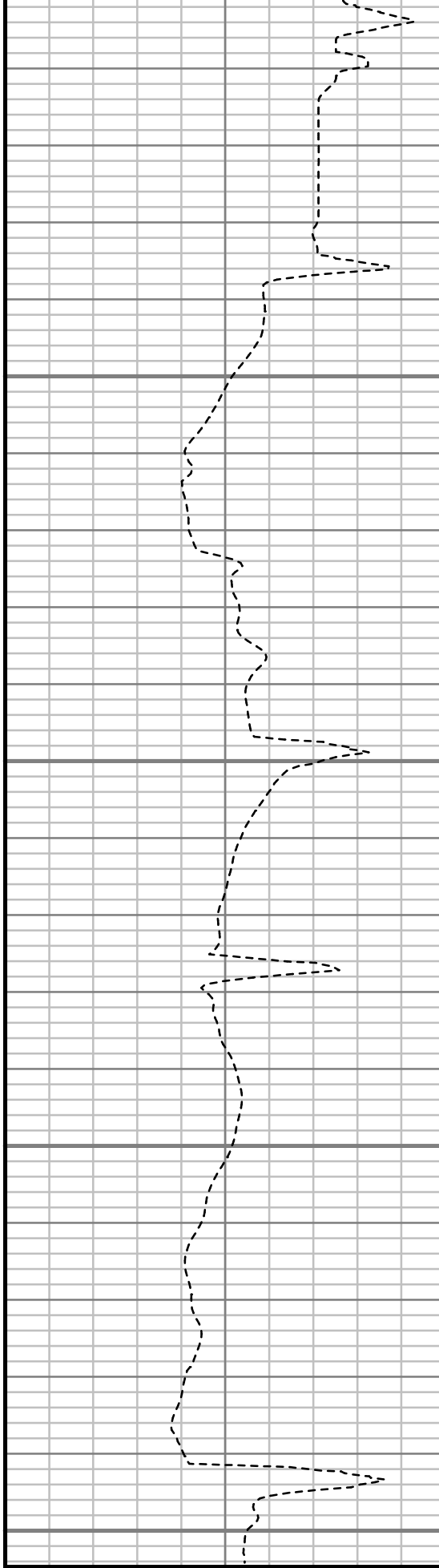
11600

11650

11700

11750

MEASURED DEPTH  
1:240 (ft)



Rate of Penetration (ROP)

Unit = ft/hr

600

0

S: 96 MD: 11583.00 ft Inc:  
88.13 deg Az: 180.25 deg TVD:  
7178.50 ft

S: 97 MD: 11678.00 ft Inc:  
88.02 deg Az: 180.02 deg TVD:  
7181.70 ft

S: 98 MD: 11689.00 ft Inc:  
87.95 deg Az: 180.22 deg TVD:  
7182.08 ft

Comments

--

TH

--

--



## MWD Survey Report

Well Location	RUHL PAD
Well Name	RUHL 1C-32H-B264
Survey Date	12/10/2014
Latitude	40°6'5.180"N
Longitude	104°34'25.208"W
Btotal	52499, 52503, 52514 nT
Dip	66.71 deg
Magnetic Declination	8.36, 8.37 deg
North Reference	True North
Grid Correction	None
Depth Reference	RKB (25.00 ft)
Calculation Method	Minimum Curvature
Section (VS) Ref	0.00N (ft), 0.00E (ft), 180.00Azim (deg)
Operator(s)	C. WILSON, J. GREGORY, S. WAXLER, T. LE

### Well Notes

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	"/100ft
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid
244.00	1.31	45.90	243.98	-1.94	1.94	2.01	2.79	45.90	0.54
336.00	2.39	31.78	335.93	-4.31	4.31	3.77	5.72	41.22	1.26
428.00	3.80	33.93	427.79	-8.47	8.47	6.48	10.67	37.45	1.55
519.00	5.50	24.71	518.49	-14.93	14.93	9.99	17.97	33.79	2.03
611.00	6.90	30.17	609.95	-23.71	23.71	14.61	27.85	31.64	1.65
701.00	8.68	33.85	699.12	-34.03	34.03	21.11	40.05	31.82	2.05
791.00	11.56	39.34	787.71	-46.64	46.64	30.61	55.79	33.28	3.37
882.00	11.32	40.18	876.91	-60.51	60.51	42.15	73.75	34.86	0.32
973.00	11.82	40.38	966.06	-74.44	74.44	53.95	91.93	35.94	0.56
1062.00	11.42	37.36	1053.23	-88.38	88.38	65.21	109.83	36.42	0.82
1153.00	10.74	36.49	1142.54	-102.36	102.36	75.71	127.32	36.49	0.77
1276.00	10.15	37.00	1263.50	-120.22	120.22	89.05	149.61	36.53	0.49
1367.00	11.84	42.24	1352.83	-133.54	133.54	100.15	166.92	36.87	2.16
1459.00	10.48	41.79	1443.09	-146.76	146.76	112.07	184.66	37.37	1.48
1552.00	10.69	41.00	1534.50	-159.58	159.58	123.36	201.70	37.71	0.27
1641.00	11.36	39.61	1621.86	-172.56	172.56	134.36	218.70	37.91	0.81
1821.00	10.76	42.29	1798.52	-198.63	198.63	156.97	253.17	38.32	0.44
2003.00	9.02	33.80	1977.82	-223.06	223.06	176.33	284.34	38.33	1.24

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	°/100ft
2183.00	7.75	33.95	2155.89	-244.85	244.85	190.96	310.51	37.95	0.71
2366.00	5.33	46.42	2337.70	-260.95	260.95	204.01	331.23	38.02	1.52
2549.00	2.27	60.33	2520.28	-268.60	268.60	213.32	343.01	38.46	1.74
2731.00	0.50	153.59	2702.23	-269.68	269.68	216.80	346.02	38.80	1.29
2912.00	1.10	144.33	2883.21	-267.57	267.57	218.16	345.24	39.19	0.34
3092.00	1.00	101.57	3063.18	-265.86	265.86	220.69	345.53	39.70	0.43
3275.00	0.81	97.00	3246.16	-265.38	265.38	223.54	346.98	40.11	0.11
3457.00	0.91	300.24	3428.15	-265.95	265.95	223.57	347.44	40.05	0.92
3637.00	0.40	327.90	3608.14	-267.21	267.21	222.00	347.40	39.72	0.32
3823.00	0.51	227.07	3794.14	-267.20	267.20	221.05	346.79	39.60	0.38
4013.00	0.20	243.06	3984.13	-266.48	266.48	220.13	345.64	39.56	0.17
4202.00	0.26	290.32	4173.13	-266.47	266.47	219.44	345.19	39.47	0.10
4391.00	1.01	339.82	4362.12	-268.18	268.18	218.47	345.90	39.17	0.46
4581.00	0.30	236.80	4552.11	-269.48	269.48	217.47	346.29	38.90	0.59
4770.00	1.19	329.94	4741.09	-270.91	270.91	216.07	346.53	38.58	0.66
4961.00	2.11	327.06	4932.01	-275.58	275.58	213.17	348.40	37.72	0.48
5150.00	1.01	276.63	5120.95	-278.69	278.69	209.63	348.73	36.95	0.88
5340.00	0.65	81.42	5310.94	-279.04	279.04	209.03	348.65	36.84	0.87

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	°/100ft
5530.00	0.13	172.28	5500.94	-278.98	278.98	210.13	349.26	36.99	0.35
5720.00	0.24	74.63	5690.93	-278.87	278.87	210.55	349.42	37.05	0.15
5909.00	0.26	70.36	5879.93	-279.12	279.12	211.34	350.10	37.13	0.01
6100.00	0.85	118.61	6070.92	-278.59	278.59	212.99	350.68	37.40	0.37
6289.00	0.41	135.55	6259.91	-277.44	277.44	214.69	350.81	37.73	0.25
6478.00	0.39	290.80	6448.91	-277.19	277.19	214.55	350.53	37.74	0.41
6573.00	0.54	274.65	6543.91	-277.35	277.35	213.80	350.19	37.63	0.21
6668.00	7.12	162.31	6638.67	-271.77	271.77	215.14	346.62	38.37	7.73
6763.00	14.31	174.13	6731.96	-254.45	254.45	218.14	335.16	40.61	7.88
6858.00	21.42	177.84	6822.33	-225.40	225.40	220.00	314.97	44.30	7.58
6952.00	29.98	181.17	6906.95	-184.69	184.69	220.16	287.37	50.01	9.23
7047.00	39.26	172.76	6985.09	-130.99	130.99	223.48	259.04	59.62	10.97
7142.00	50.43	179.67	7052.38	-64.30	64.30	227.49	236.40	74.22	12.81
7237.00	61.18	180.22	7105.69	14.16	-14.16	227.54	227.98	93.56	11.33
7332.00	72.32	183.46	7143.14	101.24	-101.24	224.64	246.40	114.26	12.13
7385.00	78.76	183.98	7156.37	152.43	-152.43	221.31	268.73	124.56	12.19
7513.00	83.47	183.84	7176.13	278.56	-278.56	212.69	350.48	142.64	3.68
7604.00	85.26	183.38	7185.06	368.94	-368.94	206.99	423.04	150.71	2.03

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	°/100ft
7695.00	87.01	183.86	7191.19	459.55	-459.55	201.25	501.69	156.35	1.99
7790.00	88.69	182.19	7194.75	554.34	-554.34	196.25	588.06	160.51	2.49
7885.00	91.41	180.93	7194.67	649.30	-649.30	193.66	677.56	163.39	3.15
7980.00	91.08	180.50	7192.61	744.27	-744.27	192.47	768.75	165.50	0.57
8075.00	91.88	179.14	7190.15	839.23	-839.23	192.77	861.09	167.06	1.67
8169.00	92.05	177.89	7186.93	933.14	-933.14	195.21	953.34	168.18	1.34
8264.00	91.71	177.49	7183.81	1028.01	-1028.01	199.03	1047.10	169.04	0.55
8358.00	92.79	177.79	7180.12	1121.86	-1121.86	202.90	1140.06	169.75	1.19
8453.00	91.82	176.45	7176.30	1216.66	-1216.66	207.66	1234.26	170.31	1.74
8548.00	91.38	177.41	7173.66	1311.49	-1311.49	212.75	1328.63	170.79	1.11
8643.00	90.91	179.54	7171.76	1406.43	-1406.43	215.28	1422.81	171.30	2.30
8737.00	90.17	178.91	7170.88	1500.41	-1500.41	216.56	1515.96	171.79	1.03
8833.00	92.45	181.07	7168.68	1596.38	-1596.38	216.58	1611.00	172.27	3.28
8928.00	89.90	180.31	7166.73	1691.34	-1691.34	215.43	1705.01	172.74	2.81
9023.00	89.70	180.58	7167.07	1786.34	-1786.34	214.70	1799.19	173.15	0.36
9117.00	88.76	180.04	7168.33	1880.33	-1880.33	214.19	1892.49	173.50	1.15
9212.00	88.49	179.69	7170.62	1975.30	-1975.30	214.41	1986.90	173.81	0.46
9307.00	89.19	180.14	7172.54	2070.28	-2070.28	214.55	2081.37	174.08	0.88

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	°/100ft
9402.00	90.20	180.13	7173.04	2165.28	-2165.28	214.32	2175.86	174.35	1.06
9497.00	90.10	179.65	7172.79	2260.28	-2260.28	214.51	2270.43	174.58	0.51
9592.00	91.88	180.81	7171.14	2355.25	-2355.25	214.12	2364.97	174.81	2.23
9687.00	90.84	180.12	7168.89	2450.22	-2450.22	213.35	2459.49	175.02	1.32
9782.00	89.56	179.49	7168.56	2545.22	-2545.22	213.68	2554.17	175.20	1.50
9876.00	89.87	178.99	7169.03	2639.21	-2639.21	214.94	2647.95	175.34	0.62
9972.00	90.47	179.82	7168.75	2735.20	-2735.20	215.93	2743.71	175.49	1.08
10067.00	90.54	180.11	7167.91	2830.20	-2830.20	215.99	2838.43	175.64	0.31
10161.00	90.77	180.13	7166.84	2924.19	-2924.19	215.79	2932.14	175.78	0.25
10256.00	89.76	180.49	7166.39	3019.19	-3019.19	215.28	3026.85	175.92	1.12
10351.00	89.70	180.34	7166.84	3114.19	-3114.19	214.60	3121.57	176.06	0.17
10446.00	91.38	181.94	7165.95	3209.16	-3209.16	212.72	3216.20	176.21	2.44
10540.00	88.15	180.19	7166.33	3303.12	-3303.12	210.97	3309.85	176.35	3.90
10635.00	90.77	182.08	7167.23	3398.09	-3398.09	209.08	3404.51	176.48	3.40
10730.00	89.93	180.14	7166.64	3493.06	-3493.06	207.24	3499.20	176.60	2.23
10825.00	90.20	175.89	7166.53	3587.98	-3587.98	210.52	3594.15	176.64	4.48
10920.00	89.80	177.22	7166.53	3682.81	-3682.81	216.23	3689.15	176.64	1.46
11014.00	89.03	178.28	7167.49	3776.73	-3776.73	219.92	3783.13	176.67	1.39

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	°/100ft
11109.00	89.83	179.24	7168.44	3871.70	-3871.70	221.97	3878.06	176.72	1.32
11204.00	89.46	180.85	7169.03	3966.70	-3966.70	221.89	3972.90	176.80	1.74
11299.00	88.63	181.49	7170.61	4061.66	-4061.66	219.95	4067.61	176.90	1.11
11394.00	88.42	180.96	7173.06	4156.61	-4156.61	217.93	4162.32	177.00	0.60
11489.00	88.42	180.11	7175.67	4251.57	-4251.57	217.04	4257.10	177.08	0.89
11583.00	88.13	180.25	7178.50	4345.52	-4345.52	216.75	4350.93	177.14	0.35
11678.00	88.02	180.02	7181.70	4440.47	-4440.47	216.54	4445.75	177.21	0.27
11689.00	87.95	180.22	7182.08	4451.46	-4451.46	216.51	4456.73	177.22	1.92

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	°/100ft

5" = 100' FEET MD