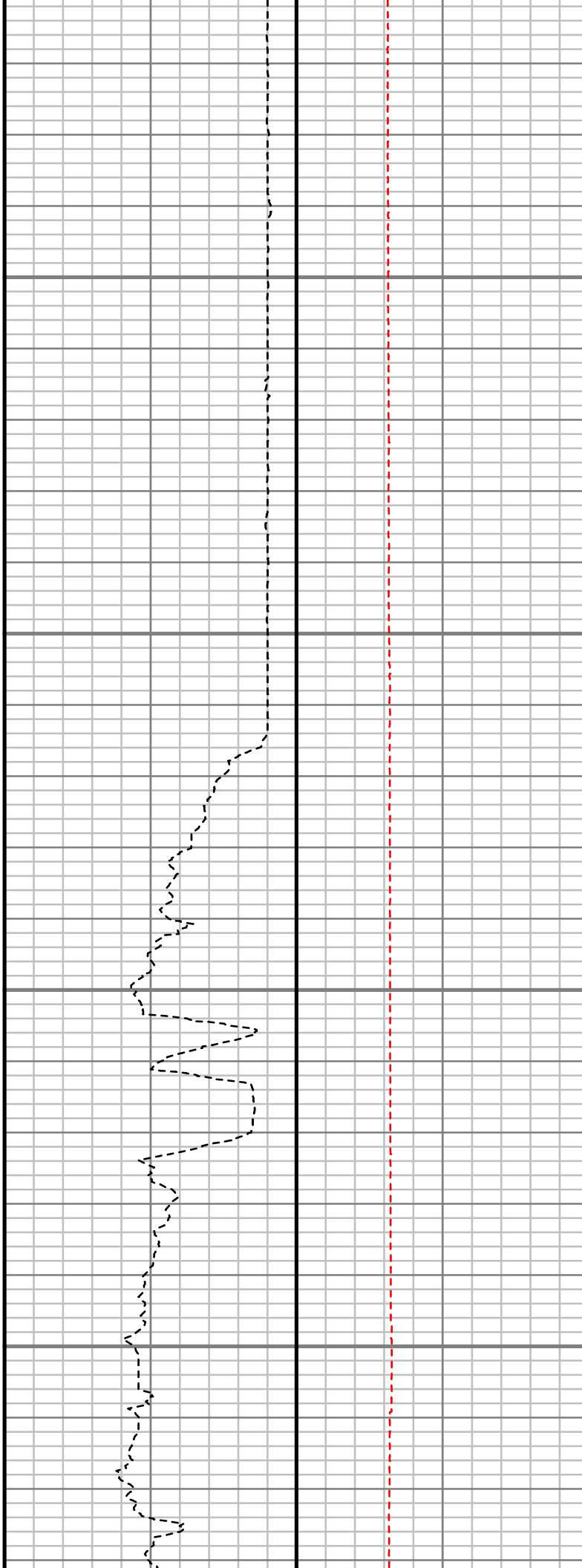
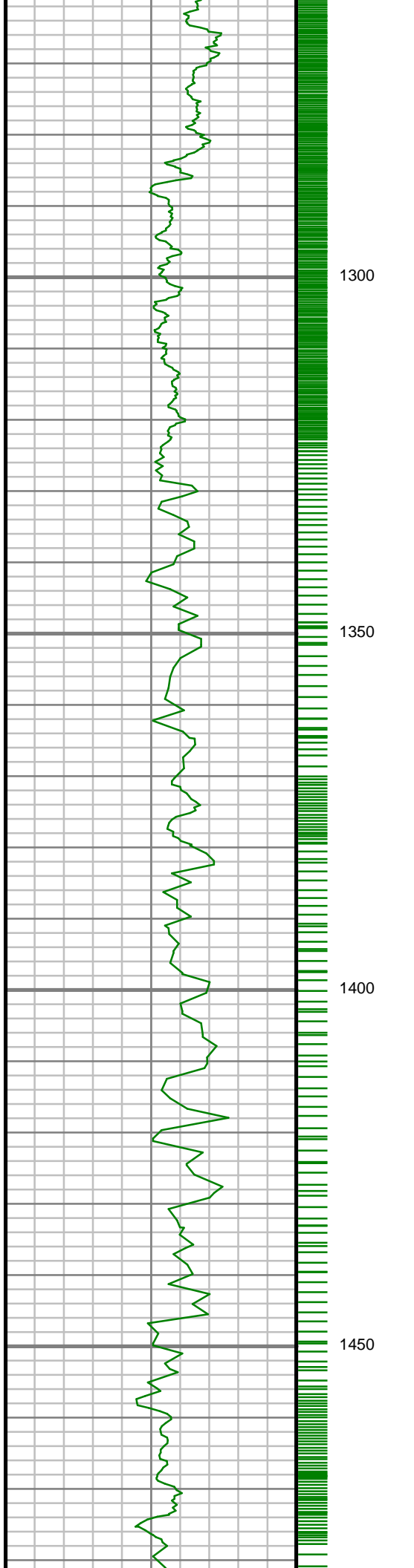




Remarks
ANADARKO EP ONSHORE LLC PRODUCTION AFE# 2088916
SCIENTIFIC DRILLING INTERNATIONAL JOB# 259457
ALL REFERENCES IN THE DEPTH TRACK ARE AT BIT DEPTH.
ALL DATA IS MEMORY DATA UNLESS STATED OTHERWISE.
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO GAMMA RAY CURVE
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO RATE OF PENETRATION CURVE
RUN # 1: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 128-214 / CONT = 277 / MWD EYE = 894 / GAMMA RAY = 1031
BIT TO SENSOR OFFSETS: SURVEY = 50.14 FT. / GAMMA RAY= 40.89 FT.
RUN # 2: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 078-255 / CONT = 221 / MWD EYE = 937 / GAMMA RAY = 1474
BIT TO SENSOR OFFSETS: SURVEY = 61.58 FT. / GAMMA RAY= 52.33 FT.
RUN # 3: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 078-279 / CONT = 605 / MWD EYE = 774 / GAMMA RAY = 1264
BIT TO SENSOR OFFSETS: SURVEY = 58.96 FT. / GAMMA RAY= 48.48 FT.
MNEMONICS LIST:
GR = GAMMA RAY
ROP = RATE OF PENETRATION
T-TEMP = TOOL TEMPERATURE

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.

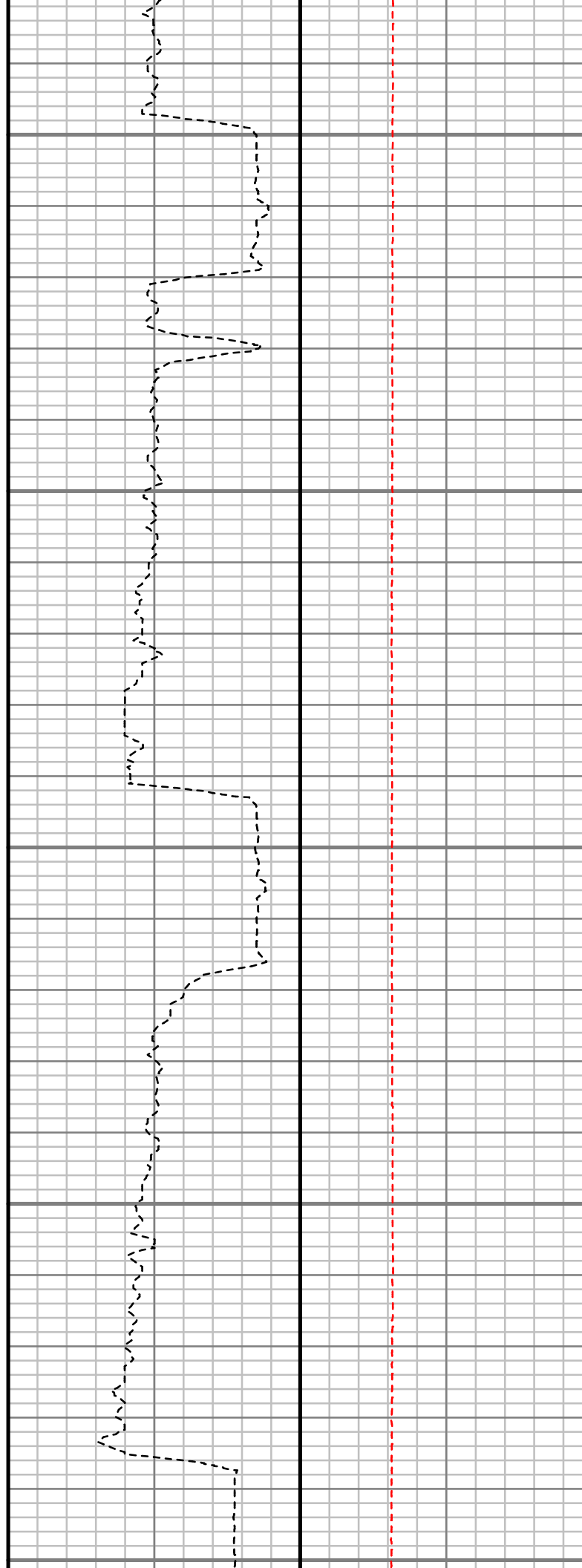
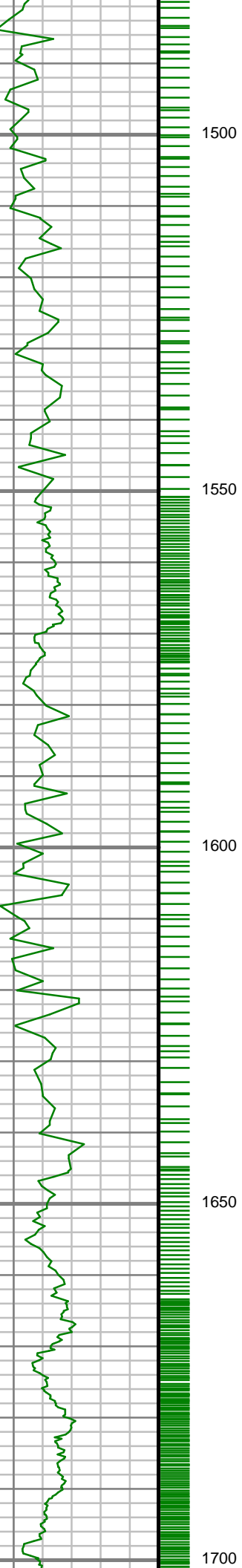
ANADARKO E&P ONSHORE LLC COBRA 30C-14HZ WATTENBURG FIELD WELD COUNTY, COLORADO 05-123-40406			
<p>Gamma Ray (GR)</p> <p>Unit = aapi</p>	<p>MEASURED DEPTH</p> <p>1:240 (ft)</p>	<p>Rate of Penetration (ROP)</p> <p>Unit = ft/hr</p>	<p>Tool Temperature (T-TEMP)</p> <p>Unit = °F</p>
			<p>Comments</p>



S: 17 MD: 1261.00 ft  
Inc: 0.74 deg Az: 8.57  
deg TVD: 1260.94 ft

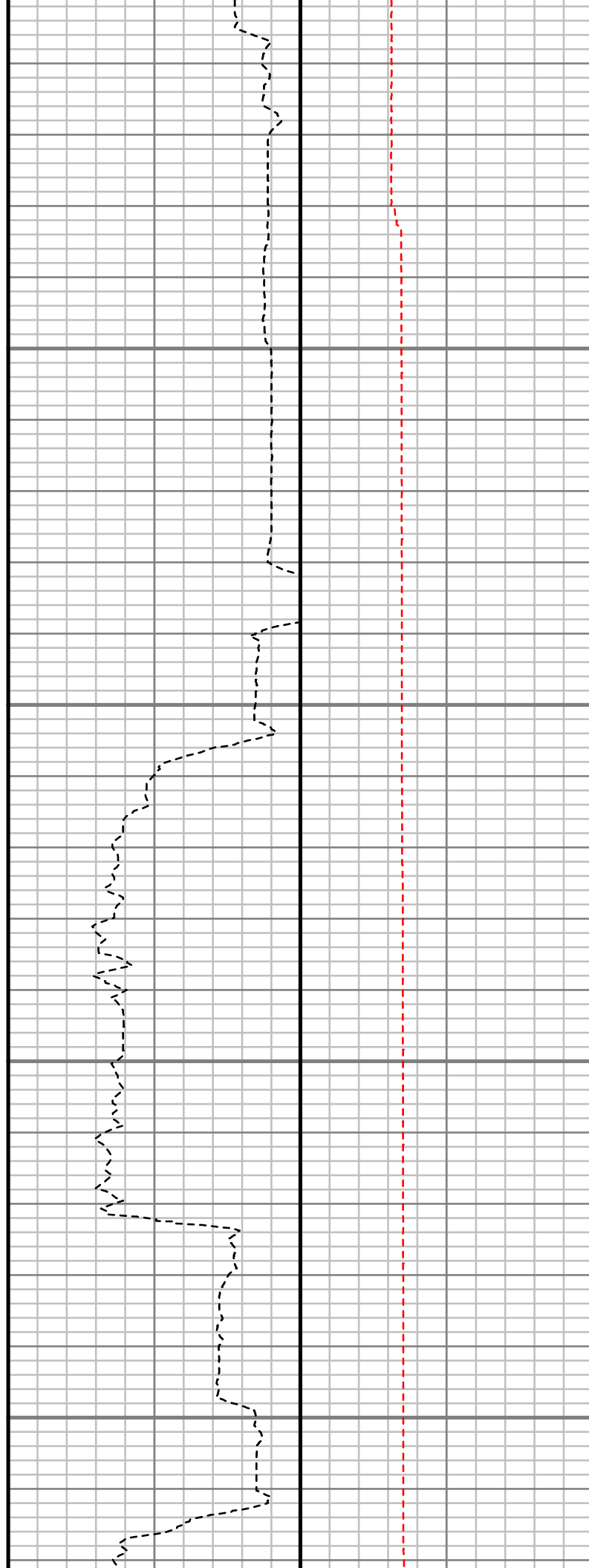
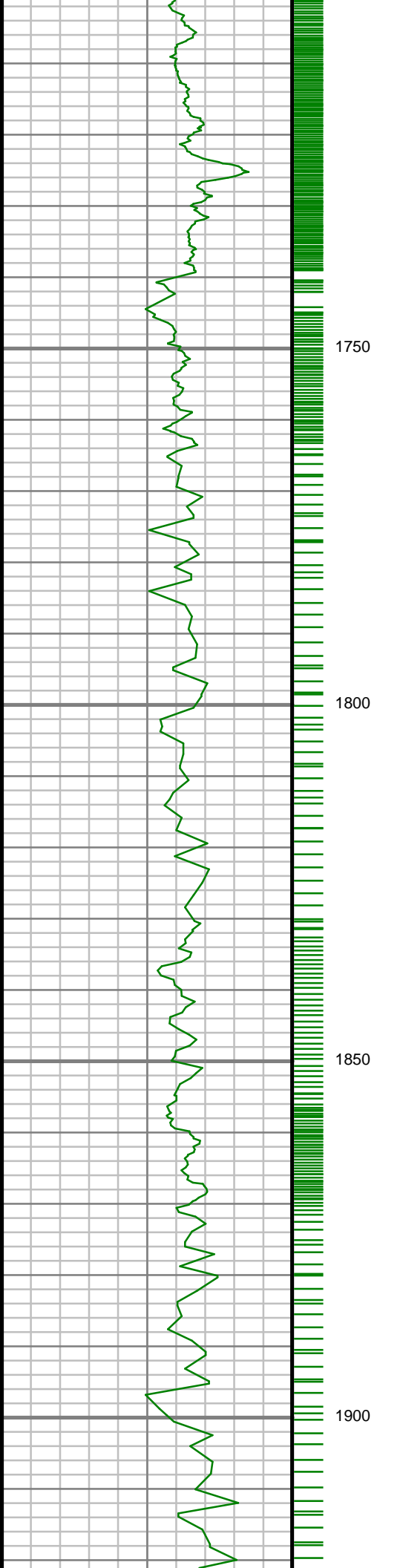
S: 18 MD: 1353.00 ft  
Inc: 1.14 deg Az: 33.56  
deg TVD: 1352.93 ft

S: 19 MD: 1444.00 ft  
Inc: 1.44 deg Az: 23.74  
deg TVD: 1443.91 ft



S: 20 MD: 1538.00 ft  
Inc: 3.06 deg Az: 9.72  
deg TVD: 1537.83 ft

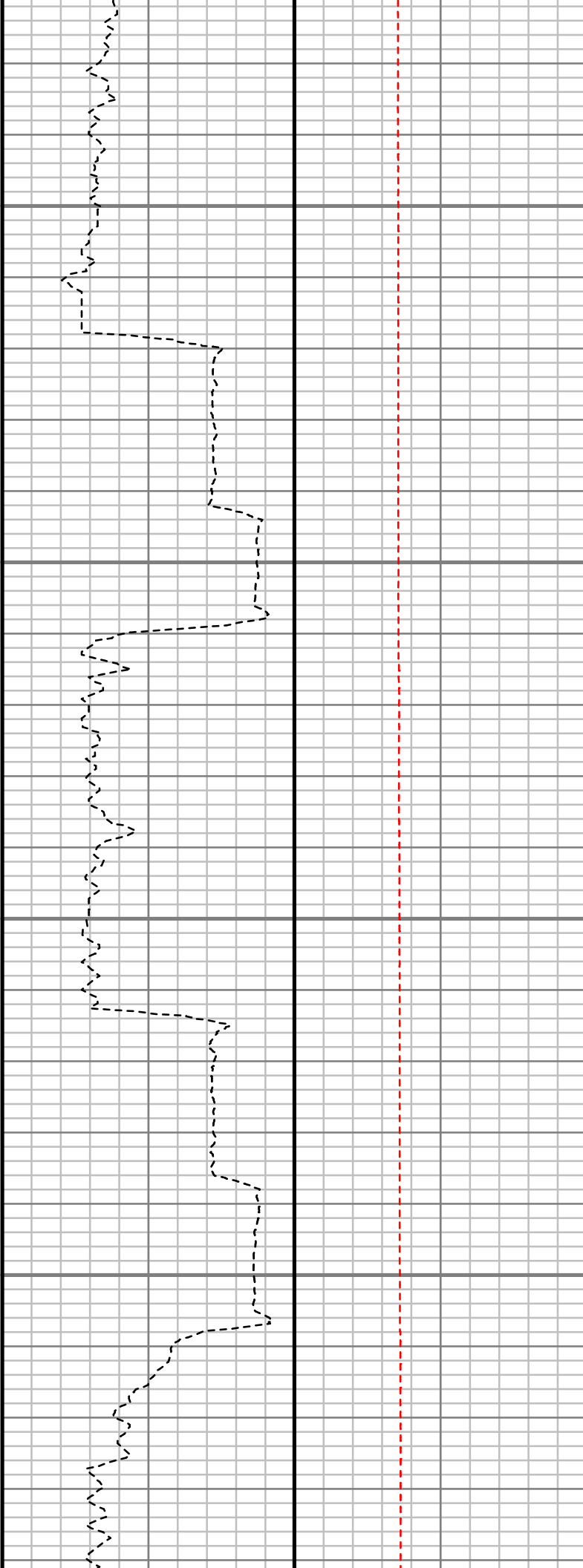
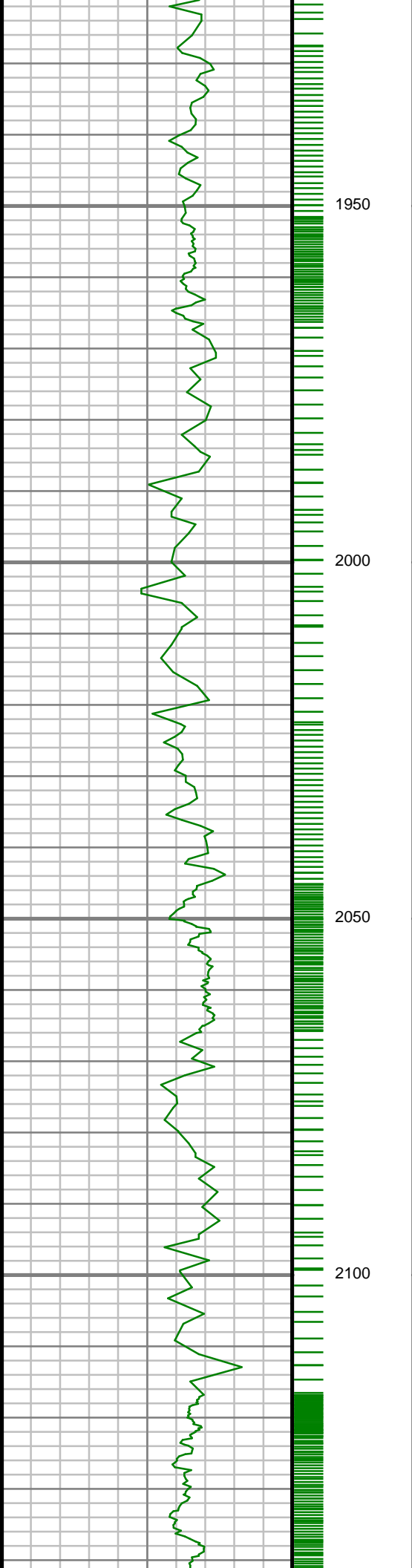
S: 21 MD: 1632.00 ft  
Inc: 4.35 deg Az: 3.29  
deg TVD: 1631.63 ft



S: 22 MD: 1726.00 ft  
Inc: 5.45 deg Az:  
356.22 deg TVD:  
1725.29 ft

S: 23 MD: 1821.00 ft  
Inc: 7.78 deg Az:  
352.46 deg TVD:  
1819.65 ft

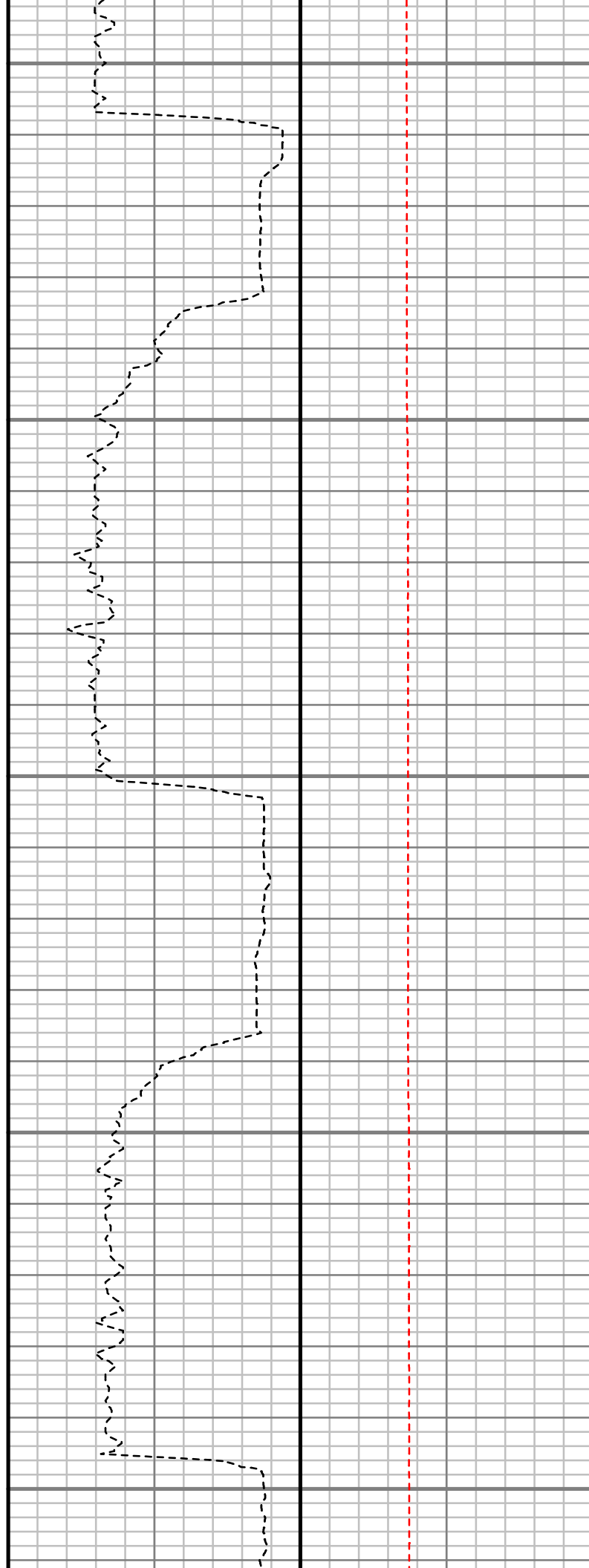
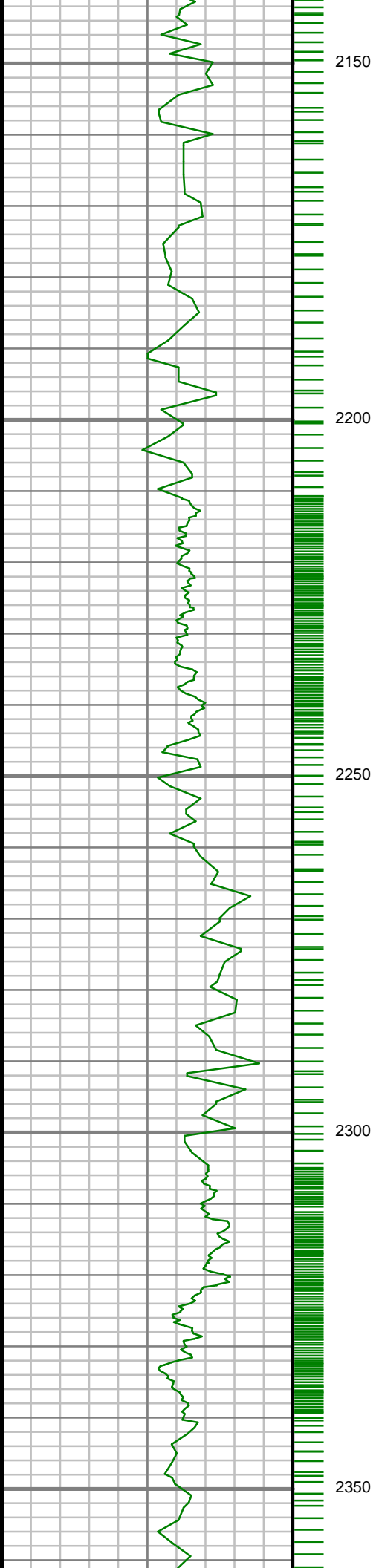
S: 24 MD: 1915.00 ft  
Inc: 8.68 deg Az:  
351.88 deg TVD:



331.89 deg TVD:  
1912.68 ft

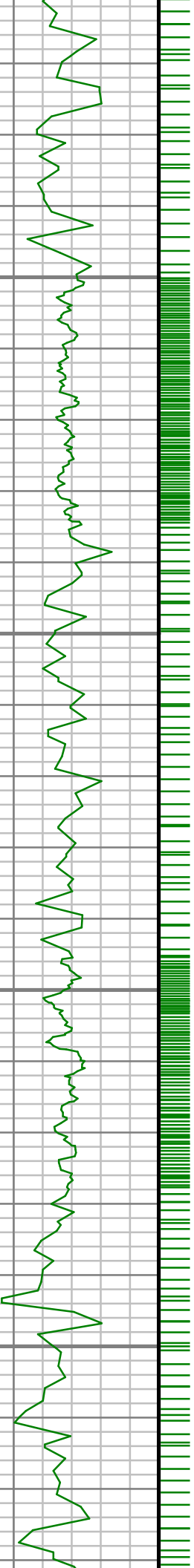
S: 25 MD: 2009.00 ft  
Inc: 9.44 deg Az:  
353.72 deg TVD:  
2005.51 ft

S: 26 MD: 2103.00 ft  
Inc: 11.56 deg Az:  
354.21 deg TVD:  
2097.93 ft



S: 27 MD: 2198.00 ft  
Inc: 13.88 deg Az:  
352.30 deg TVD:  
2190.59 ft

S: 28 MD: 2292.00 ft  
Inc: 14.95 deg Az:  
351.49 deg TVD:  
2281.63 ft

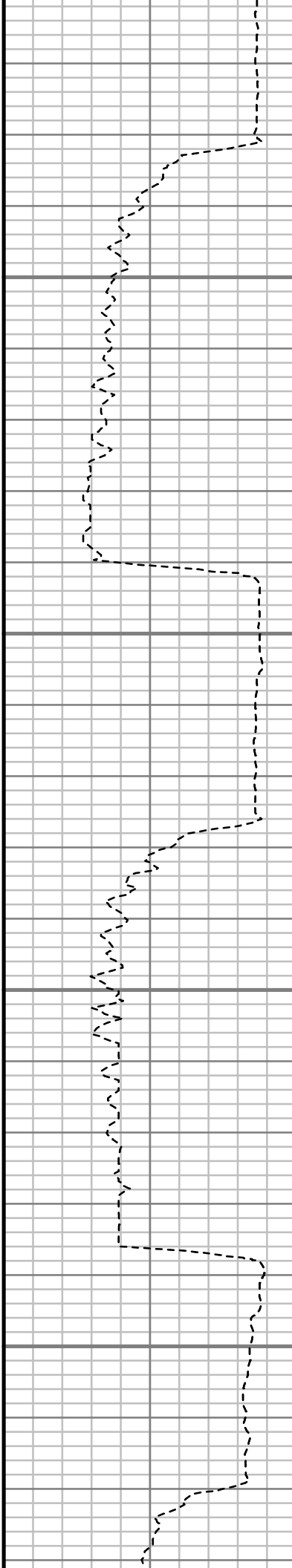


2400

2450

2500

2550

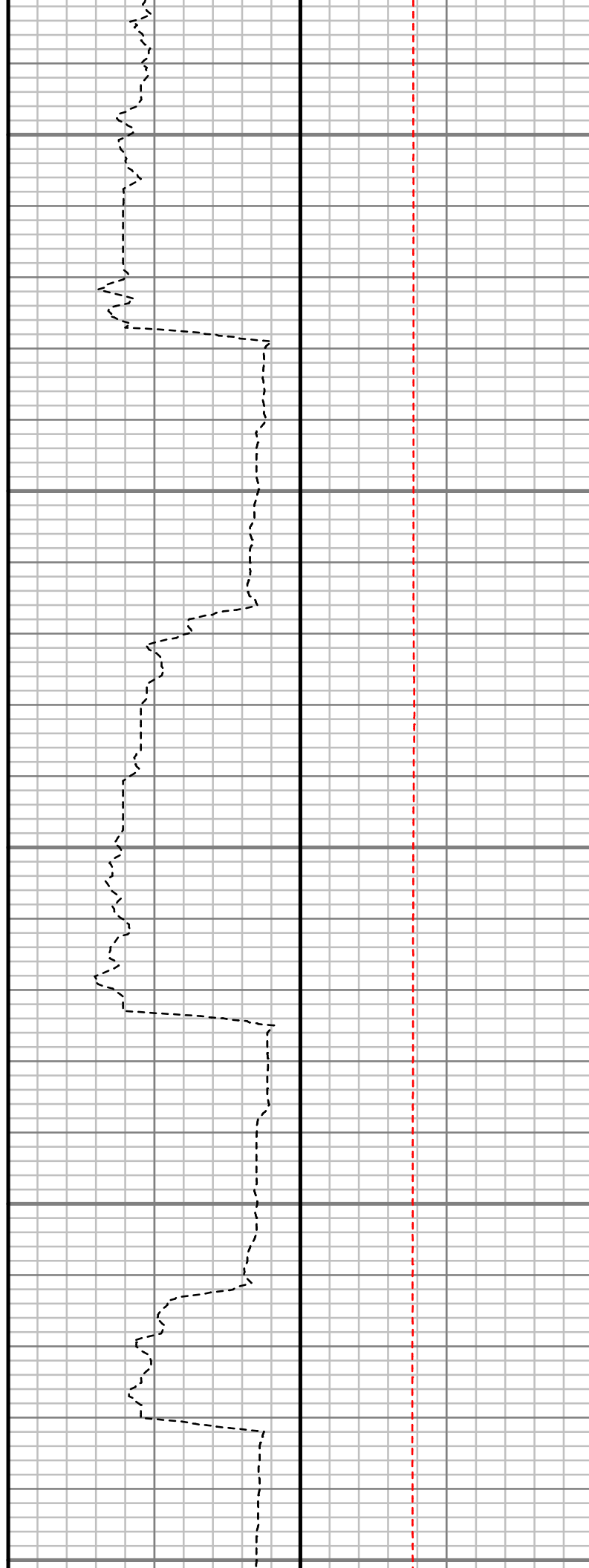
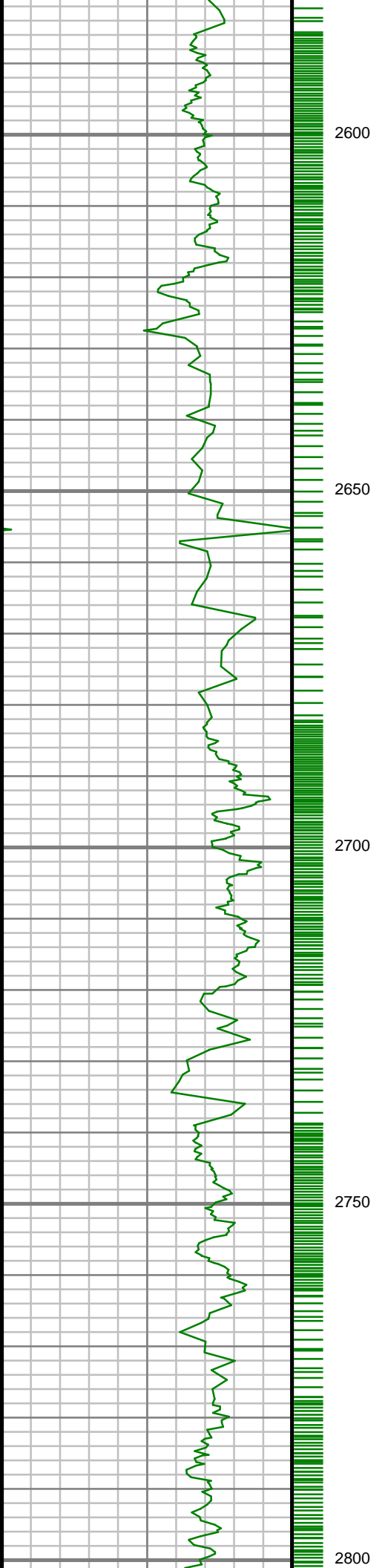


S: 29 MD: 2386.00 ft  
Inc: 17.08 deg Az:  
350.89 deg TVD:  
2371.98 ft

S: 30 MD: 2480.00 ft  
Inc: 18.31 deg Az:  
353.19 deg TVD:  
2461.53 ft

S: 31 MD: 2575.00 ft  
Inc: 19.09 deg Az:  
354.76 deg TVD:

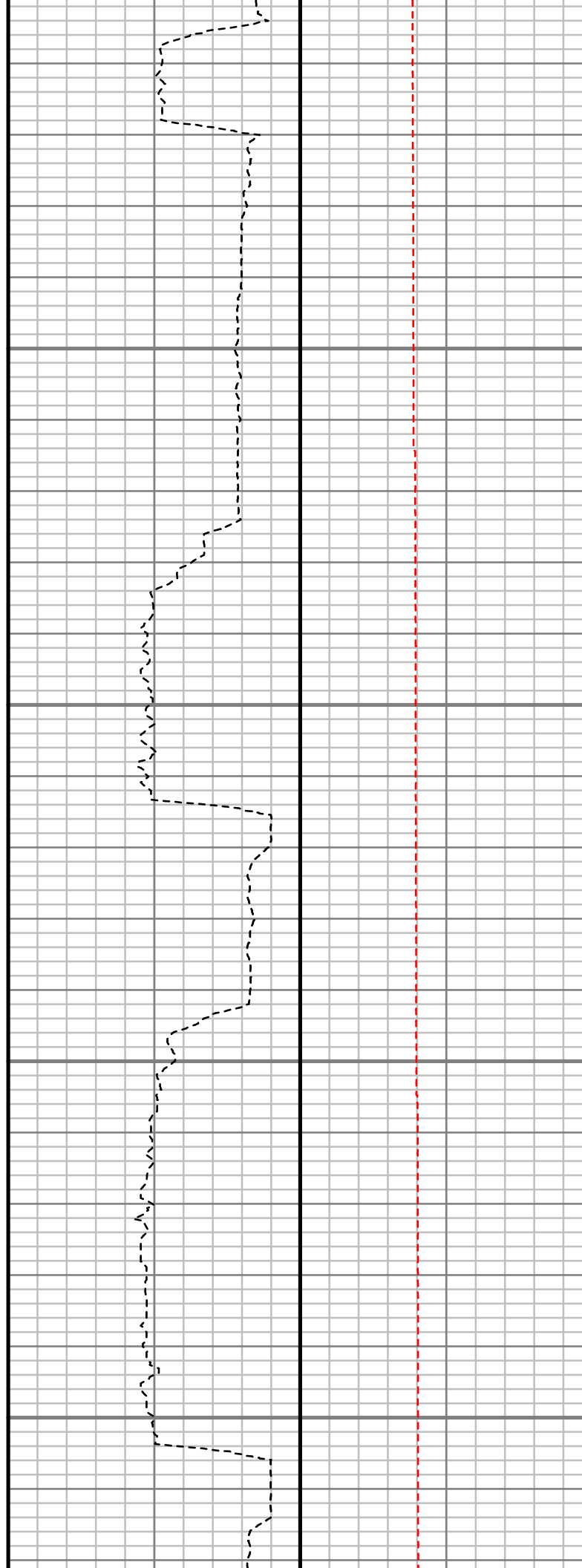
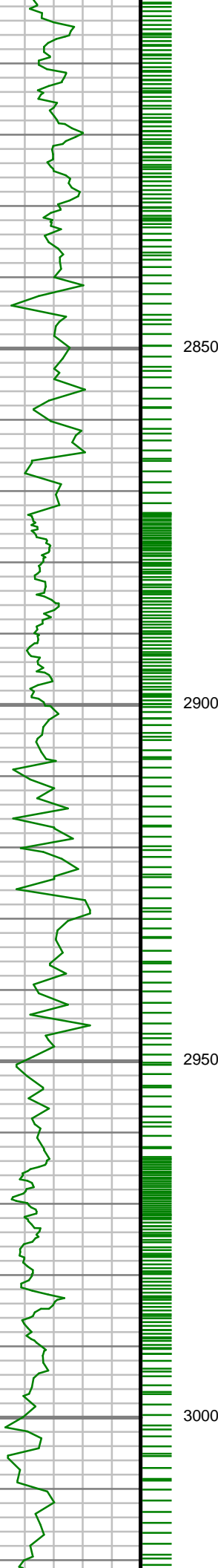




334.76 deg TVD:  
2551.52 ft

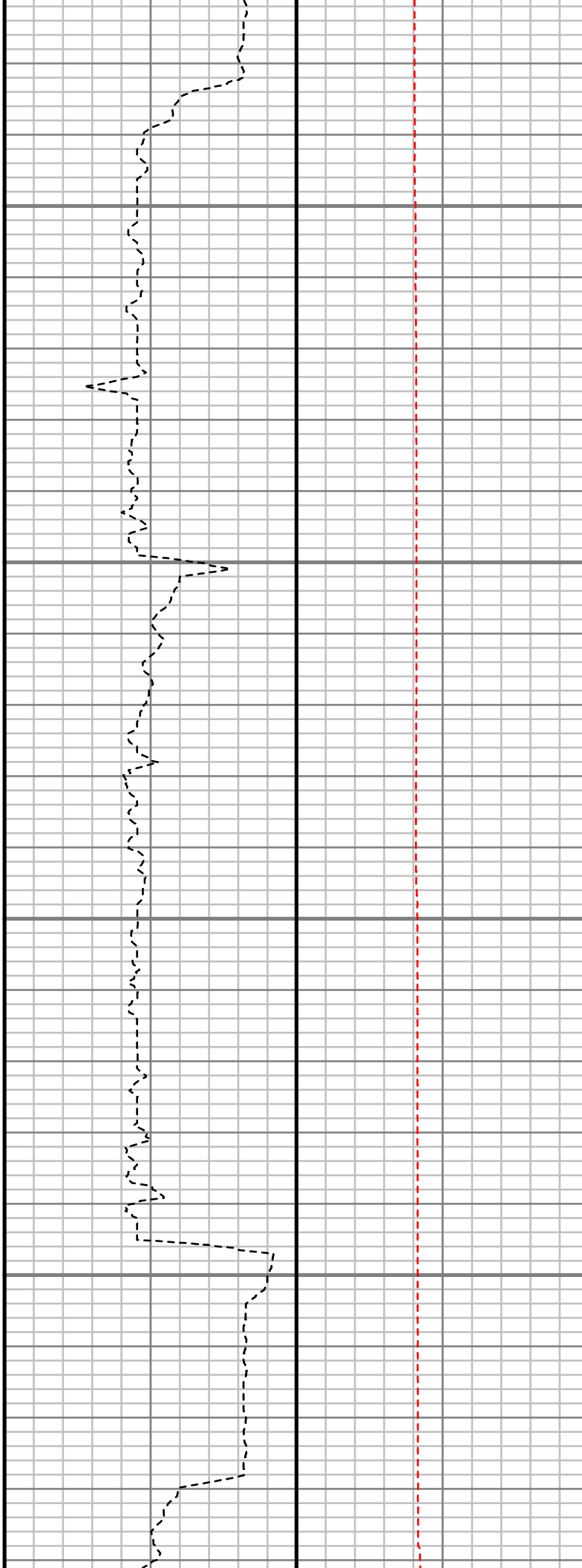
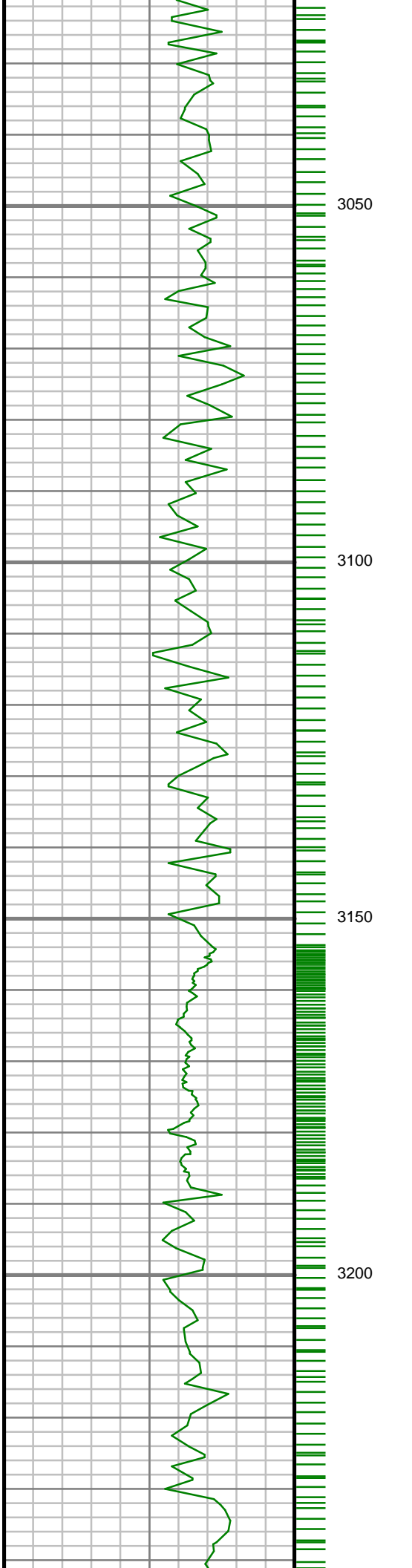
S: 32 MD: 2669.00 ft  
Inc: 19.35 deg Az:  
351.79 deg TVD:  
2640.28 ft

S: 33 MD: 2763.00 ft  
Inc: 19.39 deg Az:  
351.39 deg TVD:  
2728.96 ft



S: 34 MD: 2857.00 ft  
Inc: 25.70 deg Az:  
354.46 deg TVD:  
2815.74 ft

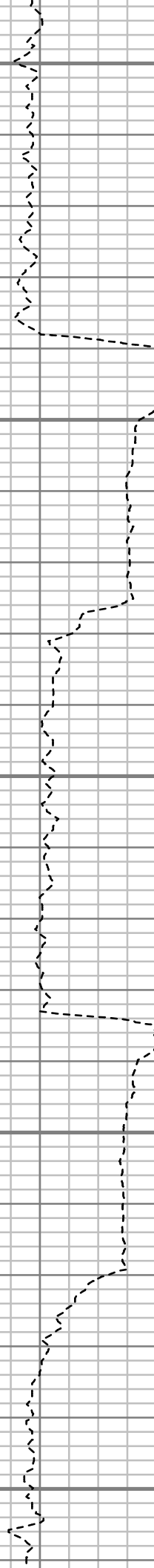
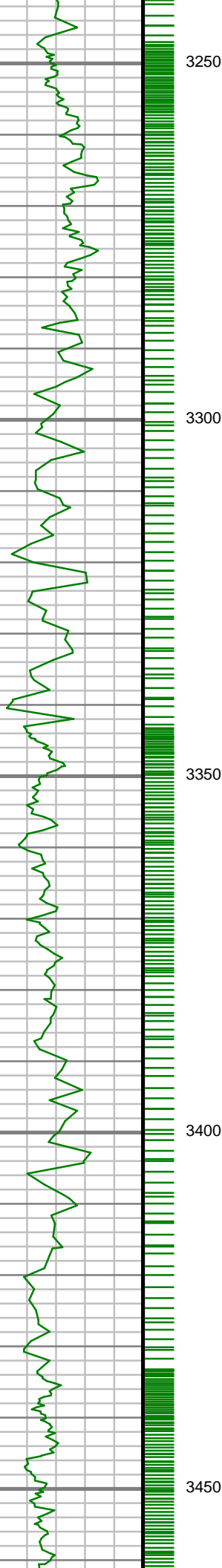
S: 35 MD: 2951.00 ft  
Inc: 29.41 deg Az:  
350.58 deg TVD:  
2899.07 ft



S: 36 MD: 3045.00 ft  
Inc: 30.14 deg Az:  
350.52 deg TVD:  
2980.66 ft

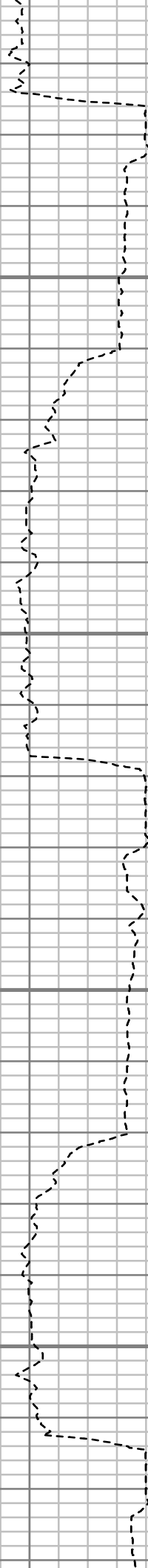
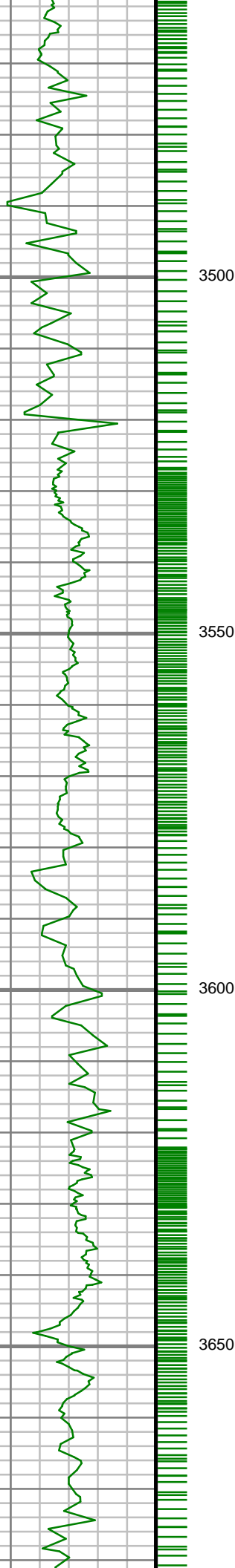
S: 37 MD: 3139.00 ft  
Inc: 27.10 deg Az:  
349.83 deg TVD:  
3063.16 ft

S: 38 MD: 3233.00 ft  
Inc: 27.41 deg Az:  
348.83 deg TVD:



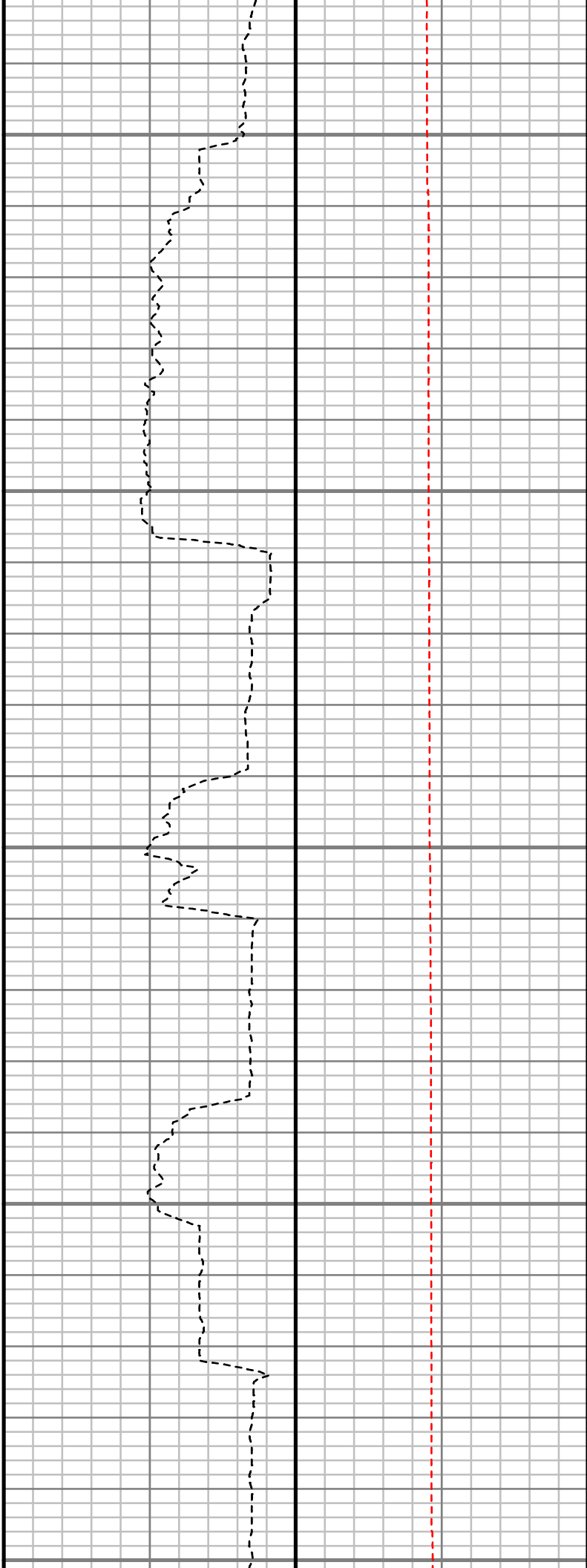
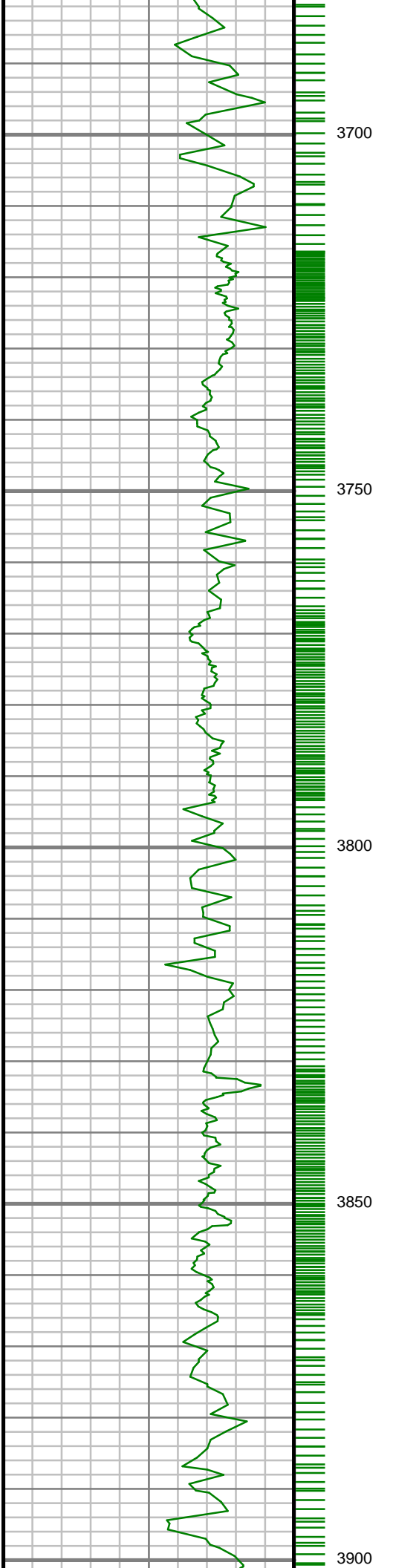
S: 39 MD: 3327.00 ft  
Inc: 26.93 deg Az:  
351.19 deg TVD:  
3230.36 ft

S: 40 MD: 3421.00 ft  
Inc: 27.10 deg Az:  
350.95 deg TVD:  
3314.11 ft



S: 41 MD: 3515.00 ft  
Inc: 27.14 deg Az:  
351.56 deg TVD:  
3397.77 ft

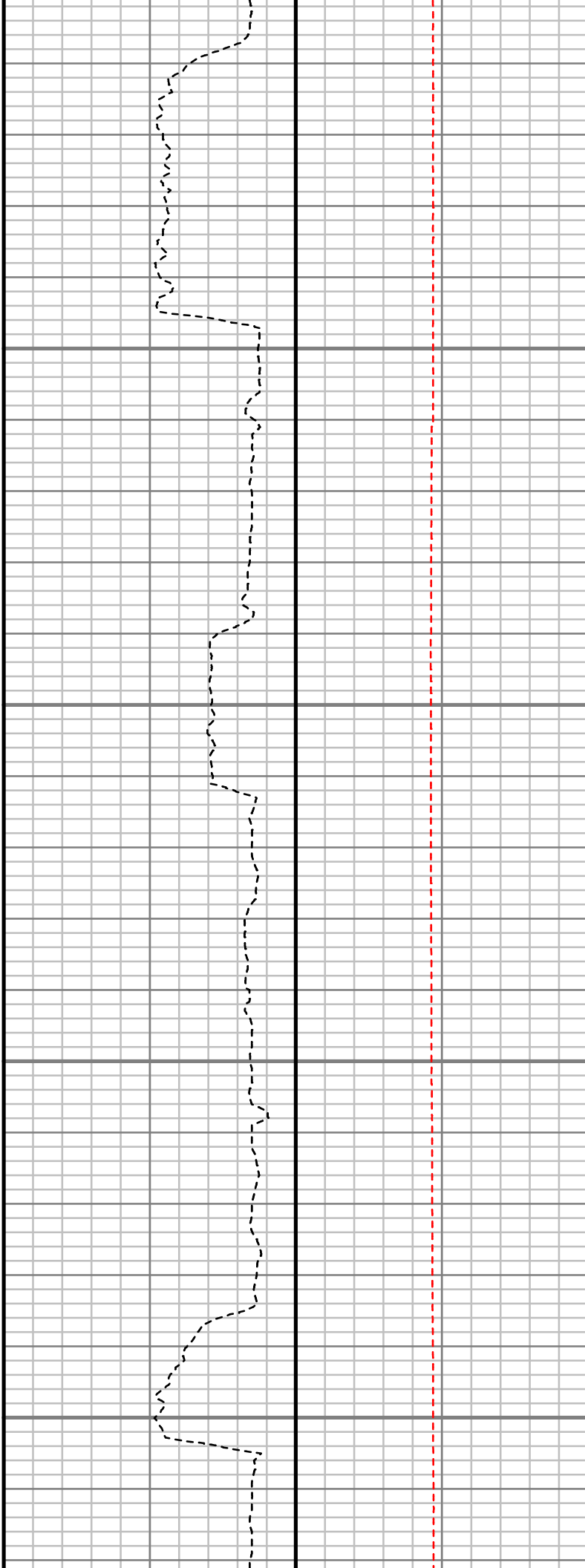
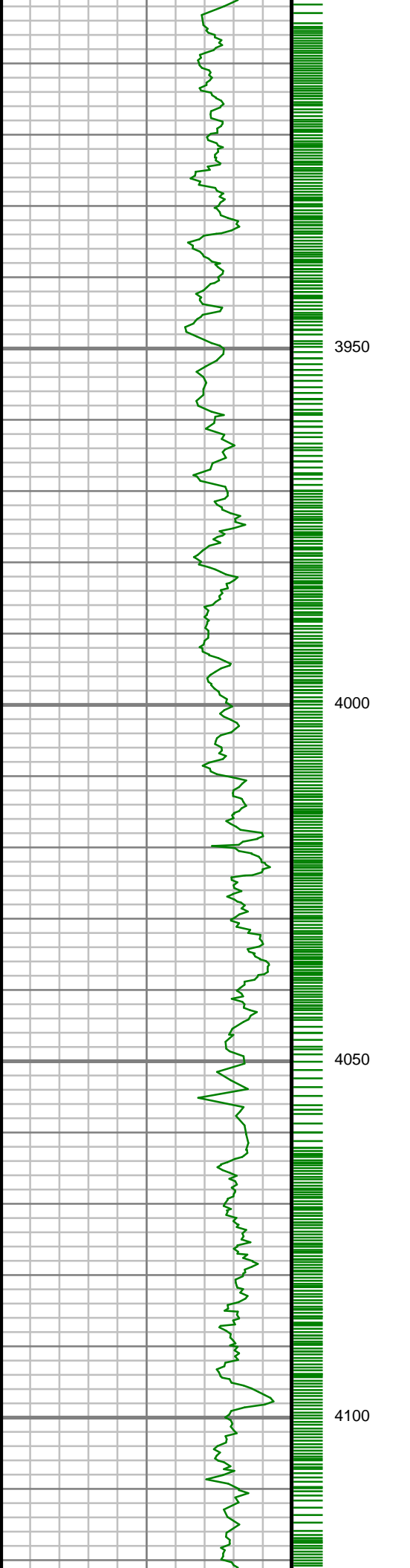
S: 42 MD: 3609.00 ft  
Inc: 24.91 deg Az:  
351.61 deg TVD:  
3482.24 ft



S: 43 MD: 3703.00 ft  
Inc: 23.60 deg Az:  
349.82 deg TVD:  
3567.94 ft

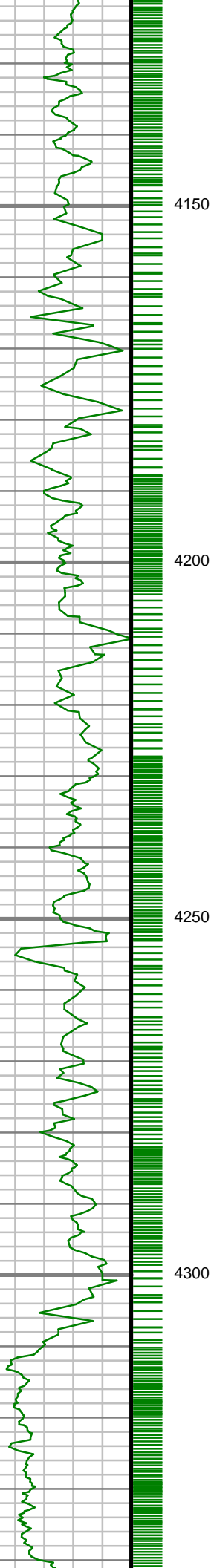
S: 44 MD: 3798.00 ft  
Inc: 22.67 deg Az:  
348.46 deg TVD:  
3655.30 ft

S: 45 MD: 3892.00 ft  
Inc: 24.59 deg Az:  
351.92 deg TVD:  
3741.42 ft



S: 46 MD: 3986.00 ft  
Inc: 23.64 deg Az:  
356.32 deg TVD:  
3827.23 ft

S: 47 MD: 4081.00 ft  
Inc: 25.60 deg Az:  
354.17 deg TVD:  
3913.59 ft

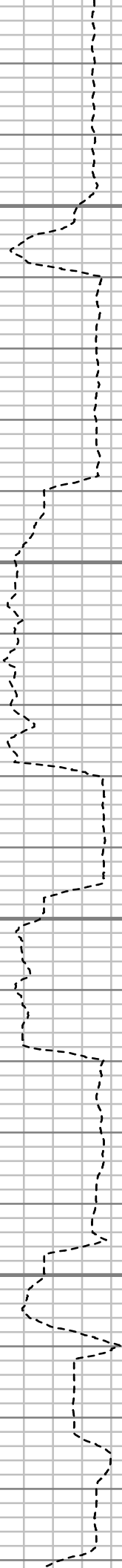


4150

4200

4250

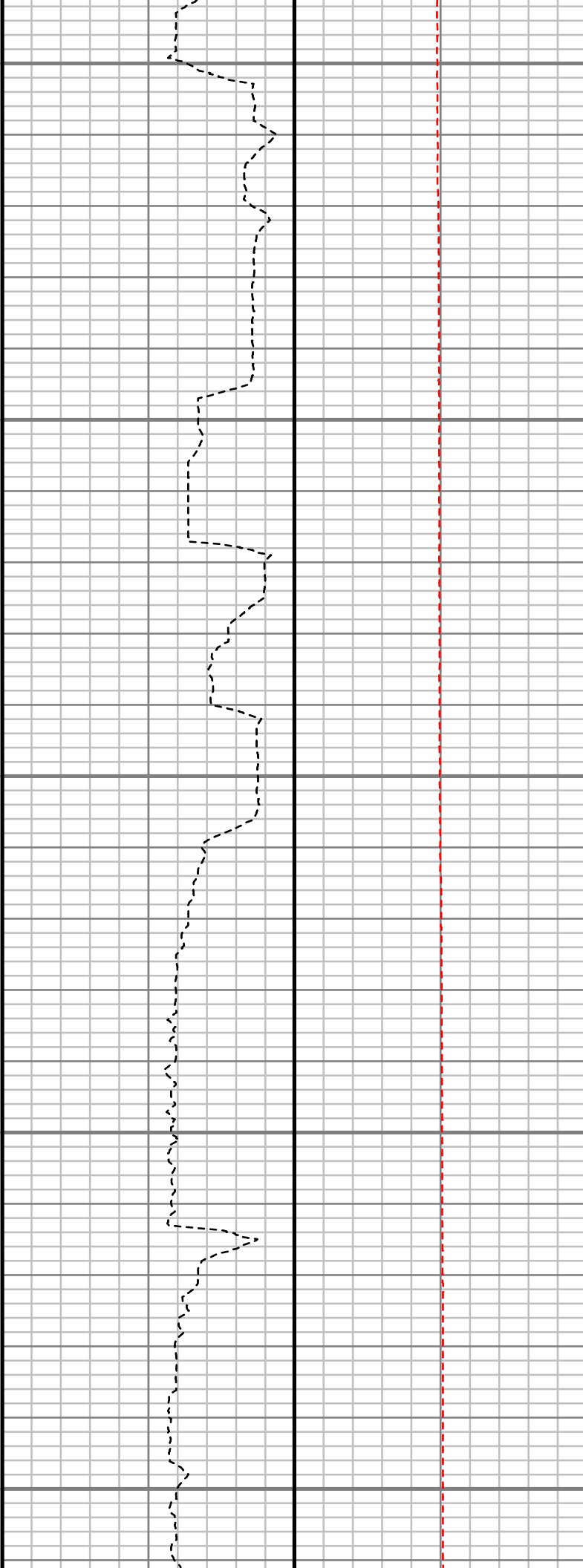
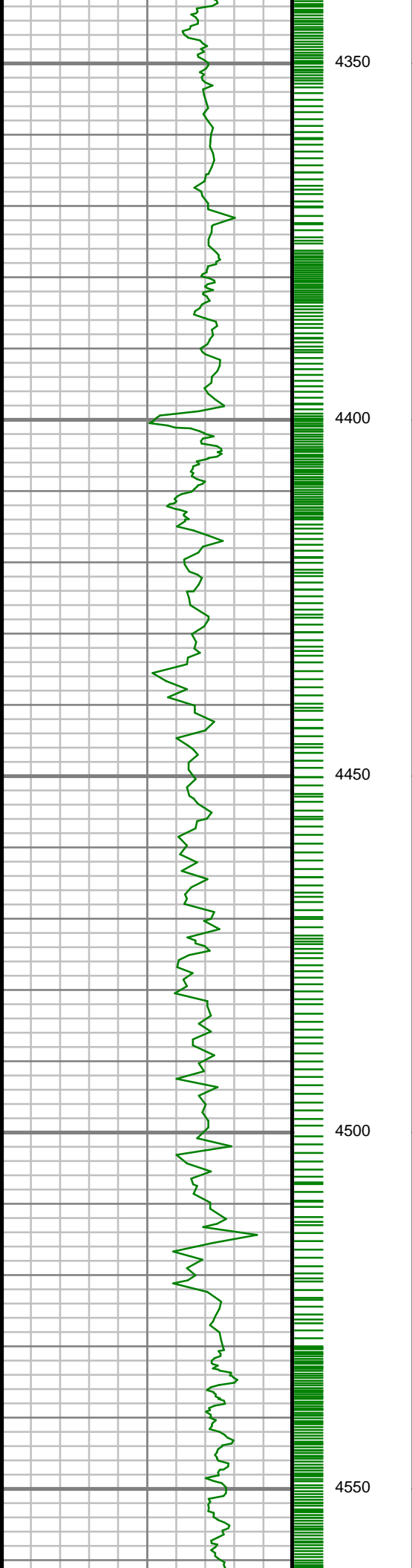
4300



S: 48 MD: 4175.00 ft  
Inc: 29.12 deg Az:  
356.98 deg TVD:  
3997.06 ft

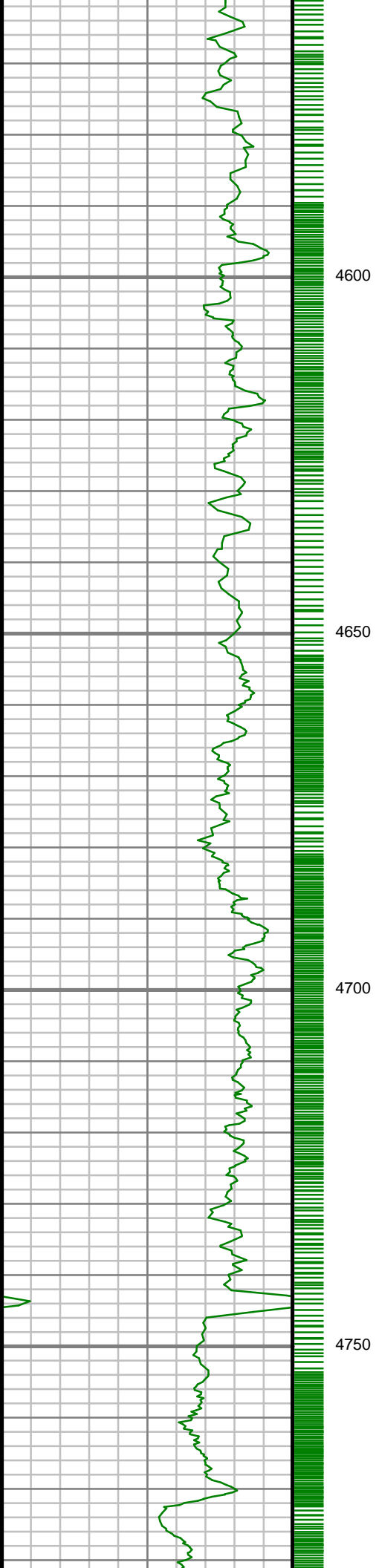
S: 49 MD: 4269.00 ft  
Inc: 27.80 deg Az:  
356.54 deg TVD:  
4079.70 ft





S: 50 MD: 4364.00 ft  
Inc: 27.38 deg Az:  
351.59 deg TVD:  
4163.91 ft

S: 51 MD: 4552.00 ft  
Inc: 26.90 deg Az:  
343.20 deg TVD:  
4331.27 ft

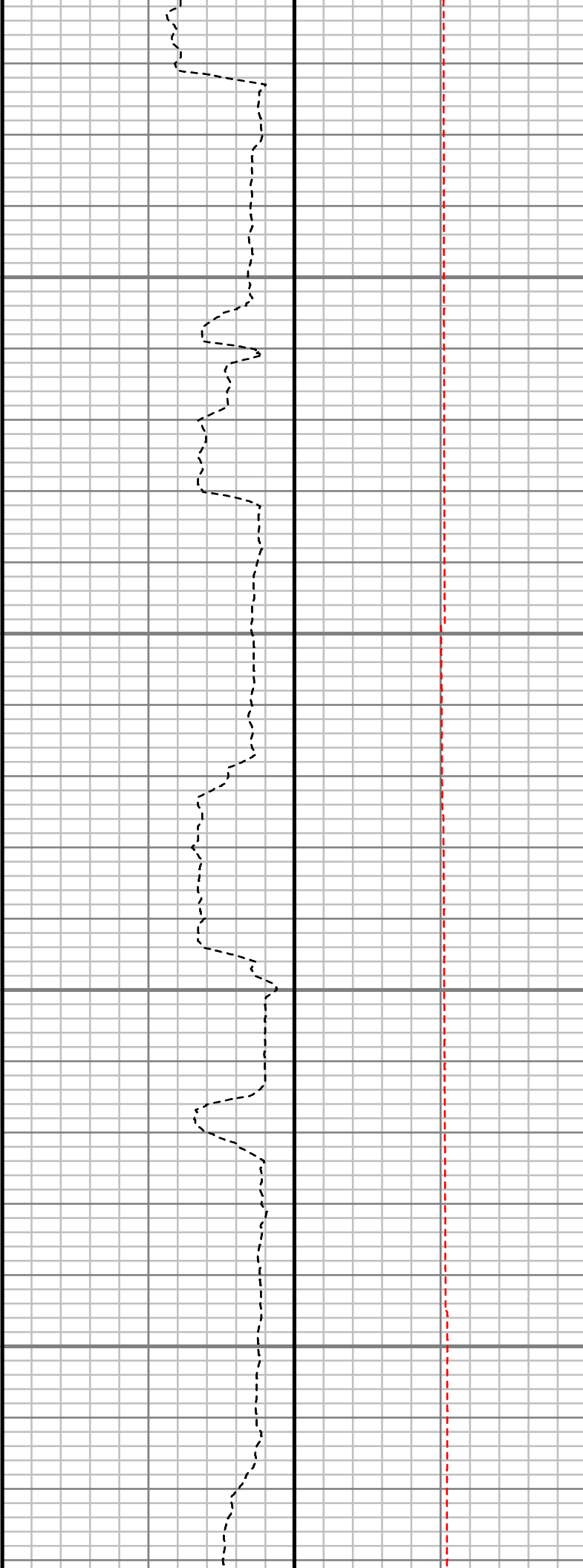


4600

4650

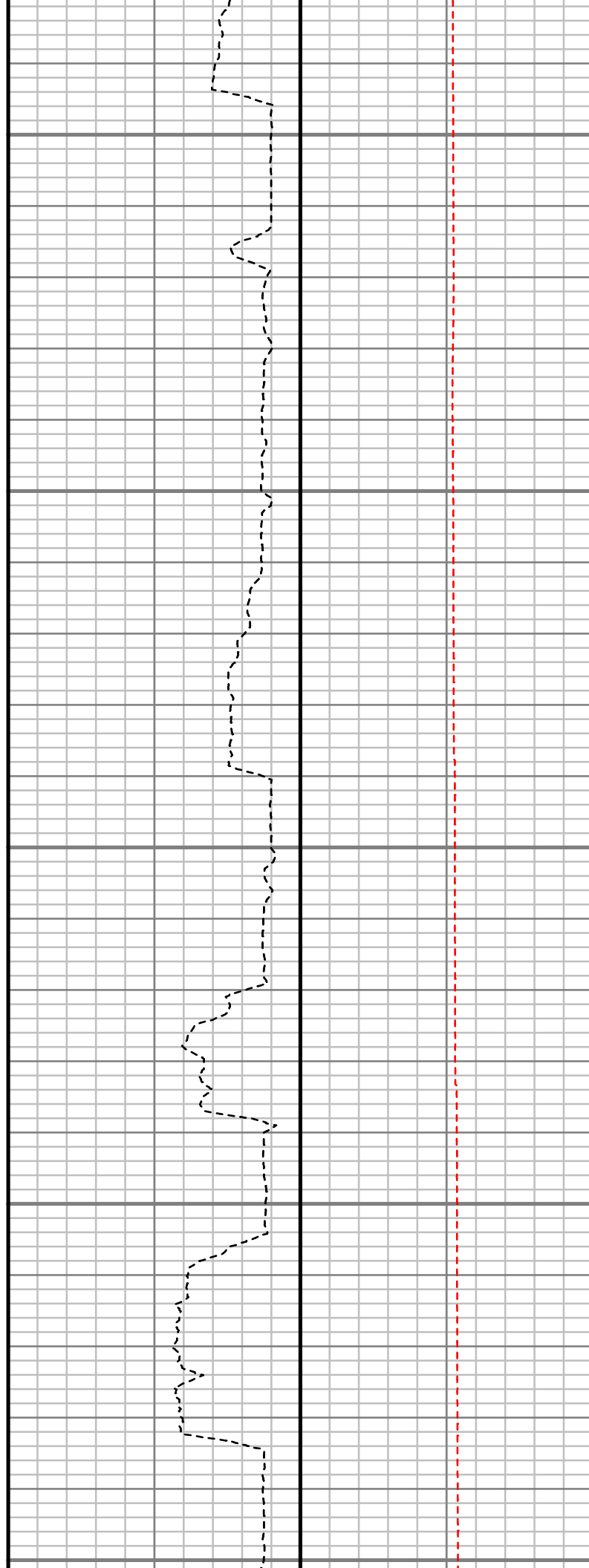
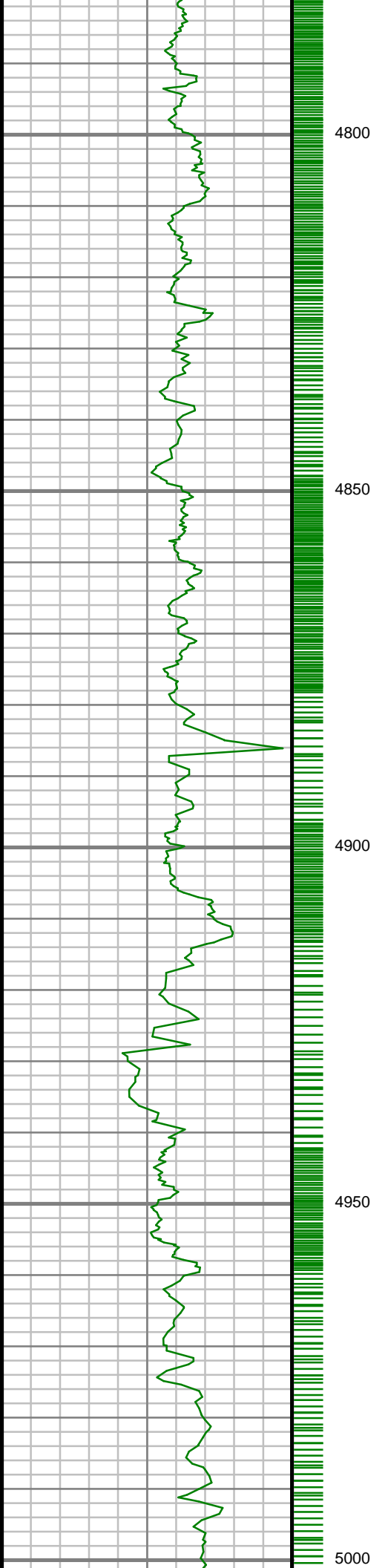
4700

4750



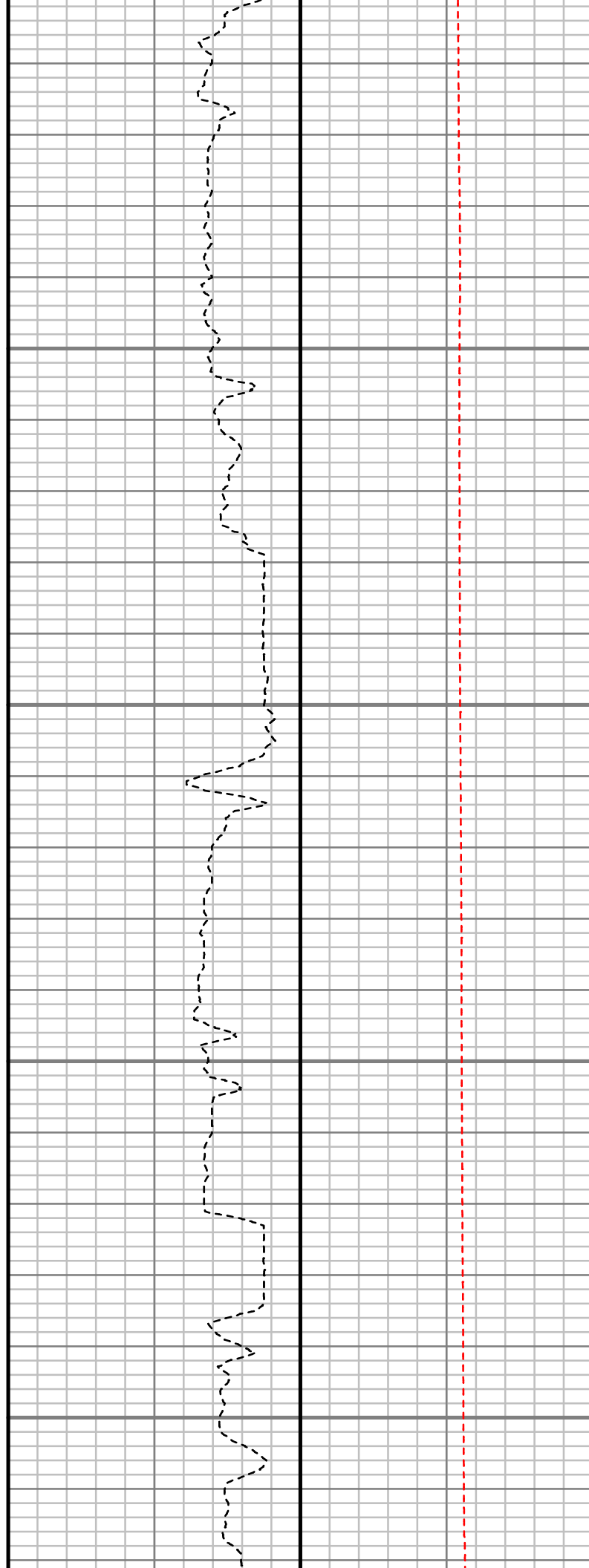
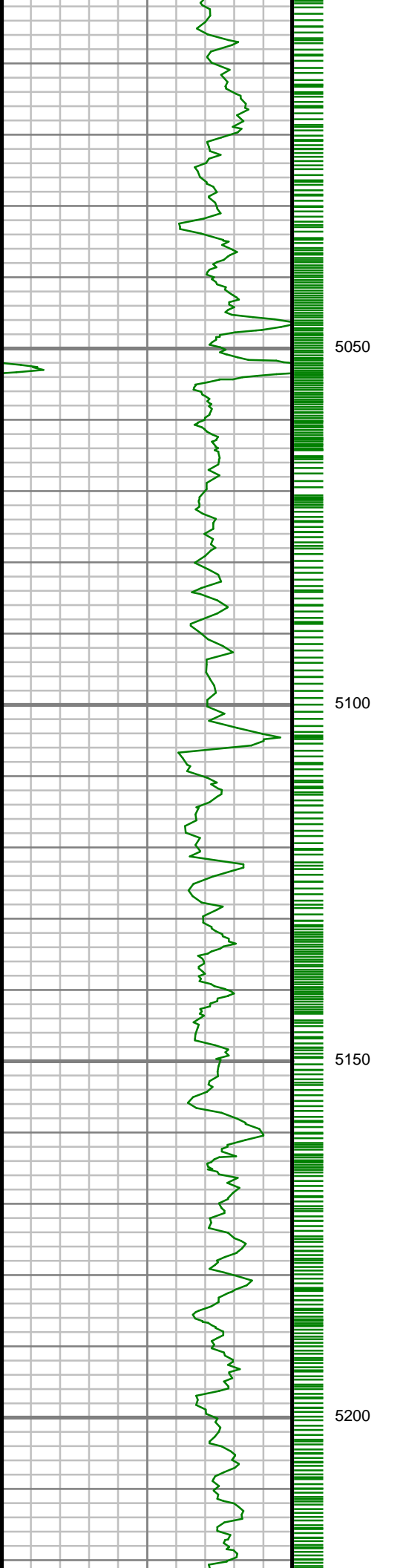
S: 52 MD: 4646.00 ft  
Inc: 28.86 deg Az:  
347.79 deg TVD:  
4414.36 ft

S: 53 MD: 4741.00 ft  
Inc: 27.95 deg Az:  
349.68 deg TVD:  
4497.93 ft



S: 54 MD: 4835.00 ft  
Inc: 30.24 deg Az:  
347.75 deg TVD:  
4580.06 ft

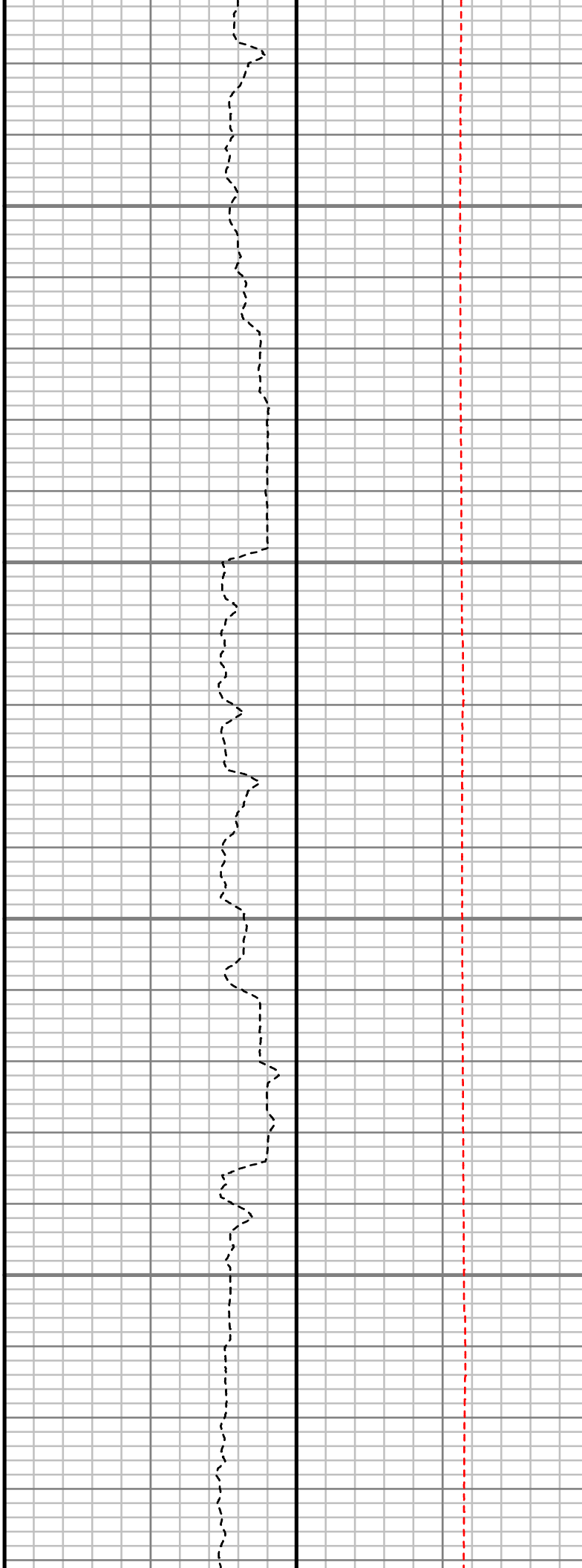
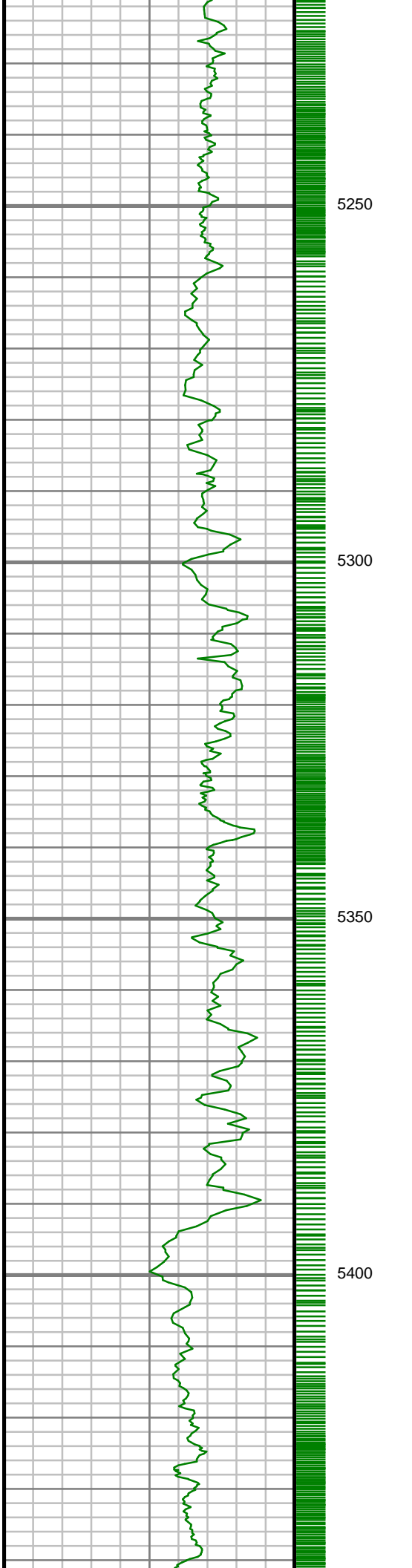
S: 55 MD: 4929.00 ft  
Inc: 30.50 deg Az:  
351.58 deg TVD:  
4661.17 ft



S: 56 MD: 5024.00 ft  
Inc: 28.82 deg Az:  
355.29 deg TVD:  
4743.73 ft

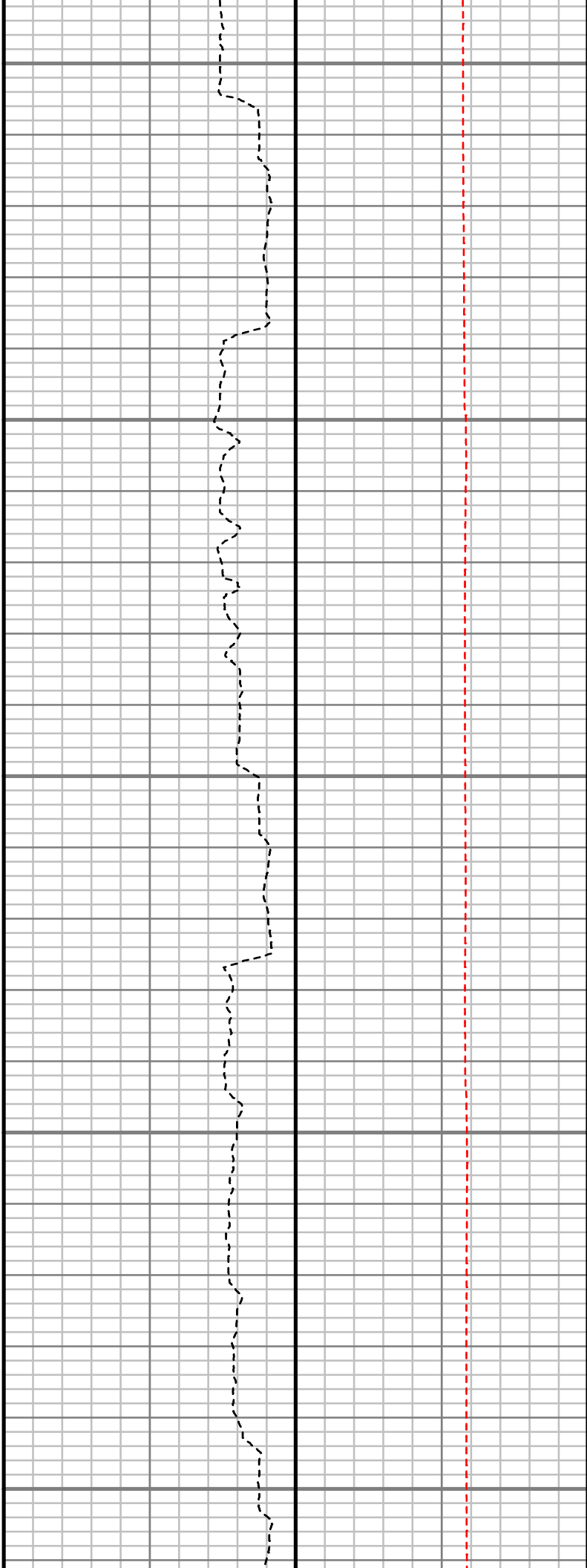
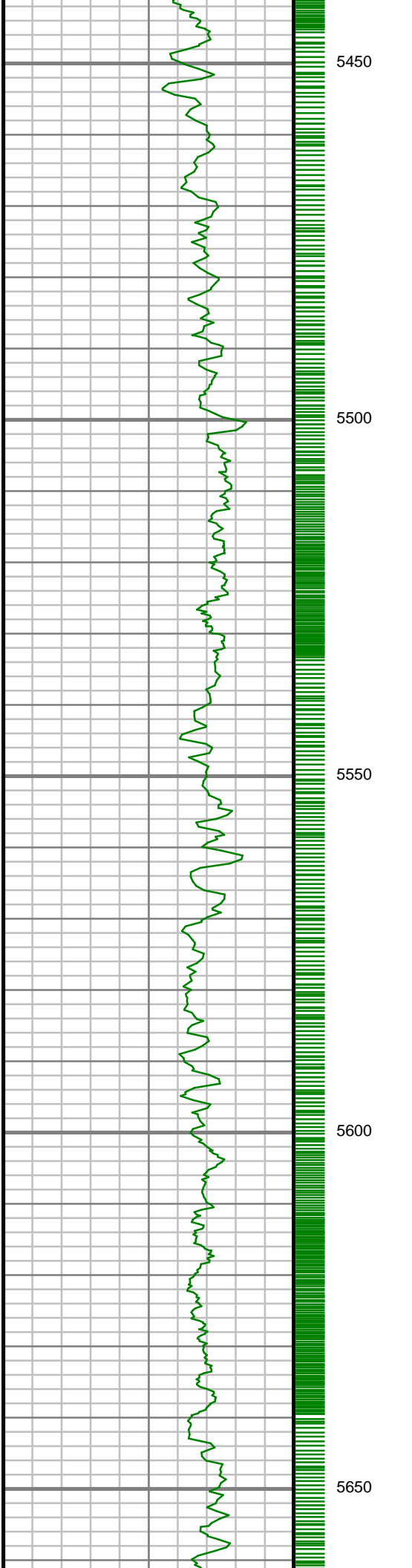
S: 57 MD: 5118.00 ft  
Inc: 27.99 deg Az:  
352.84 deg TVD:  
4826.42 ft

S: 58 MD: 5212.00 ft  
Inc: 25.17 deg Az:  
351.95 deg TVD:  
4910.47 ft



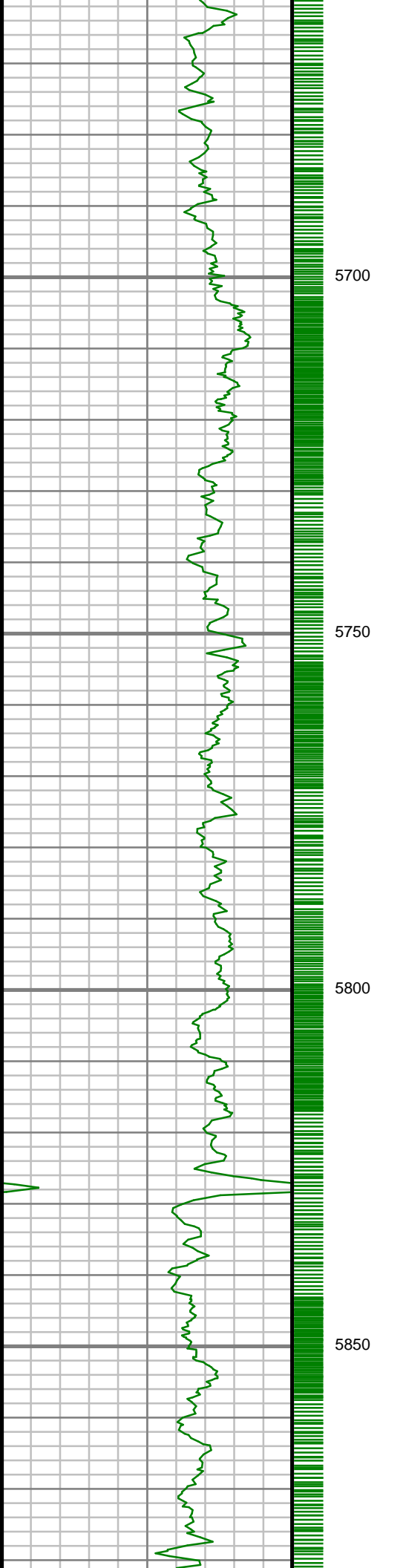
S: 59 MD: 5306.00 ft  
Inc: 25.69 deg Az:  
354.23 deg TVD:  
4995.37 ft

S: 60 MD: 5400.00 ft  
Inc: 24.02 deg Az:  
354.30 deg TVD:  
5080.65 ft



S: 61 MD: 5495.00 ft  
Inc: 25.58 deg Az:  
353.65 deg TVD:  
5166.89 ft

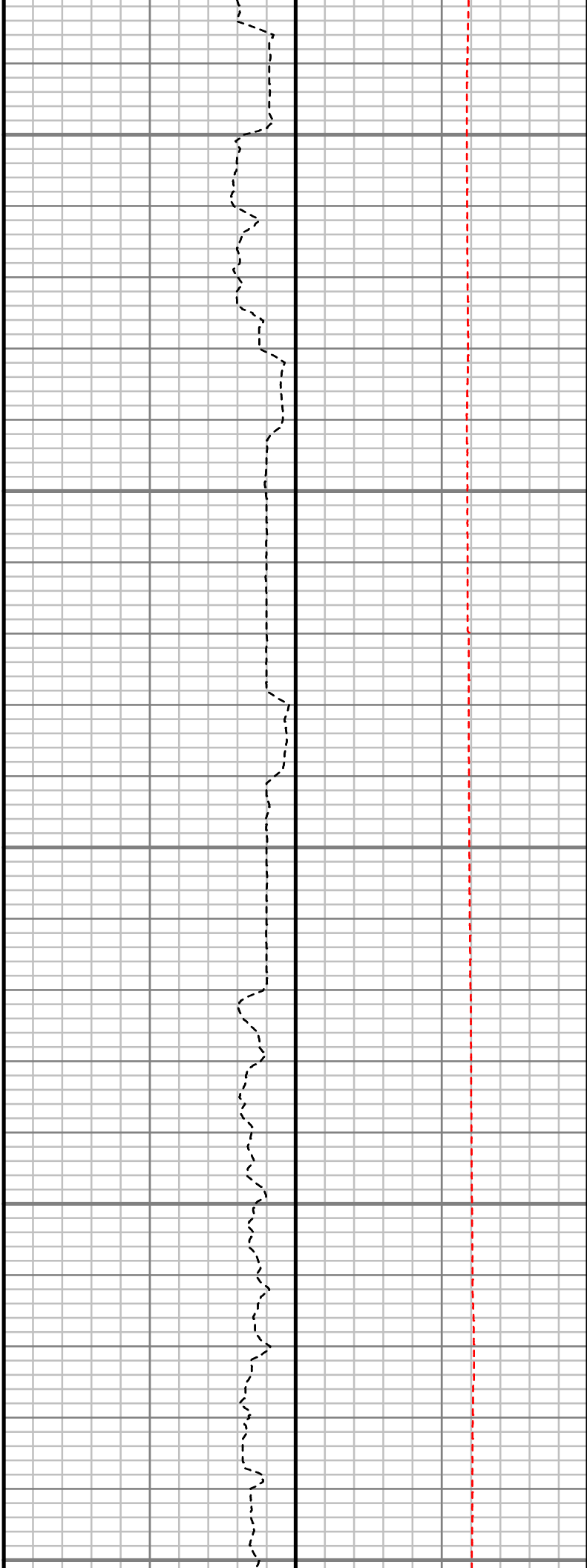
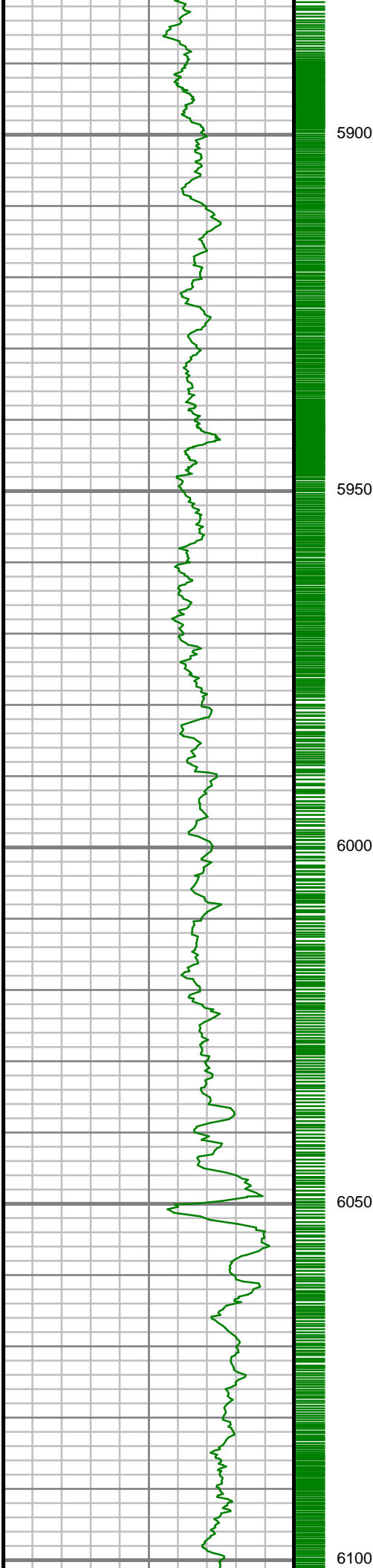
S: 62 MD: 5589.00 ft  
Inc: 24.62 deg Az:  
351.33 deg TVD:  
5252.01 ft



S: 63 MD: 5683.00 ft  
Inc: 23.24 deg Az:  
354.18 deg TVD:  
5337.93 ft

S: 64 MD: 5777.00 ft  
Inc: 23.35 deg Az:  
353.43 deg TVD:  
5424.27 ft

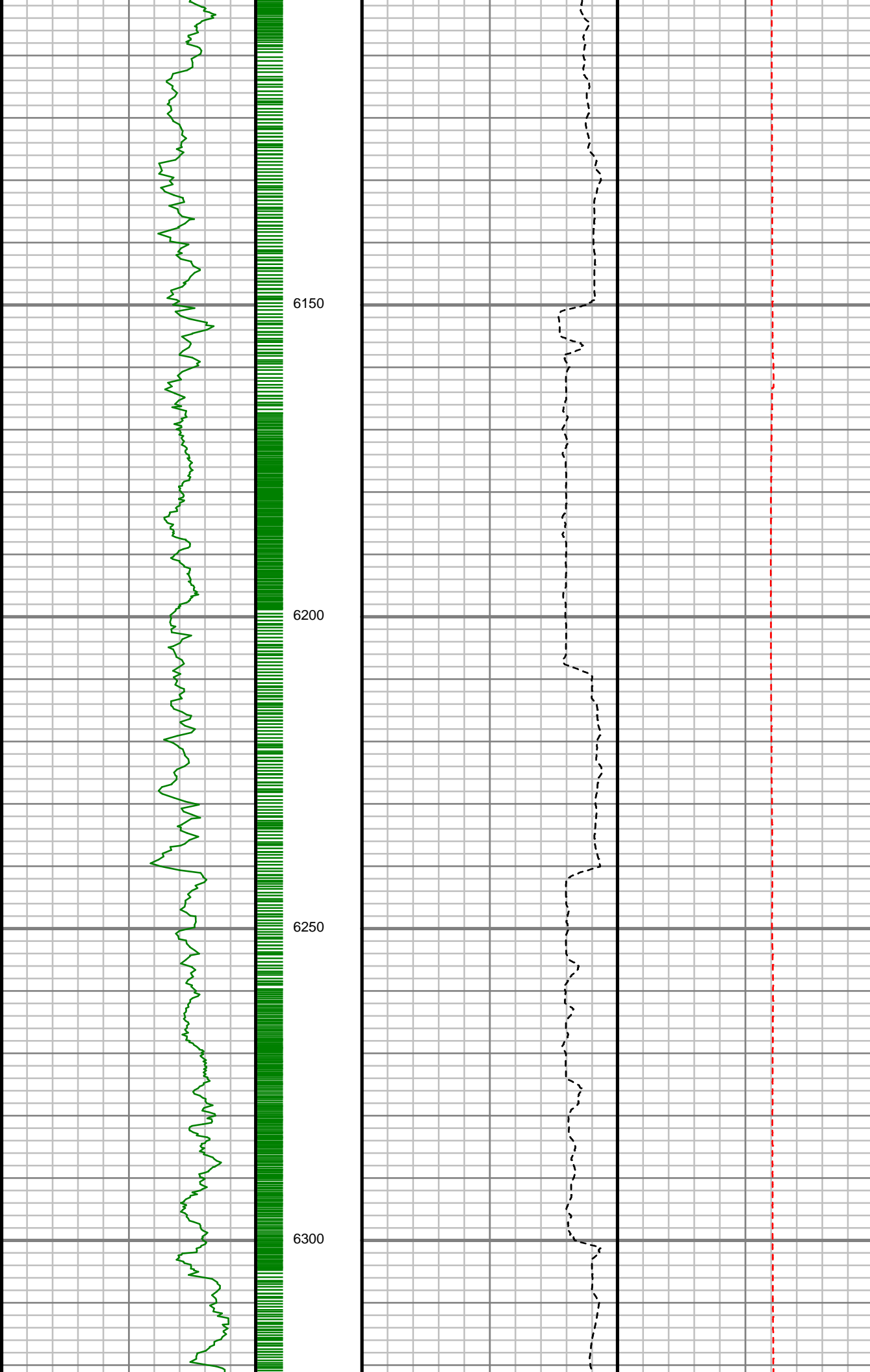
S: 65 MD: 5871.00 ft  
Inc: 25.50 deg Az:  
354.84 deg TVD:  
5509.86 ft



S: 66 MD: 5965.00 ft  
Inc: 26.90 deg Az:  
353.15 deg TVD:  
5594.20 ft

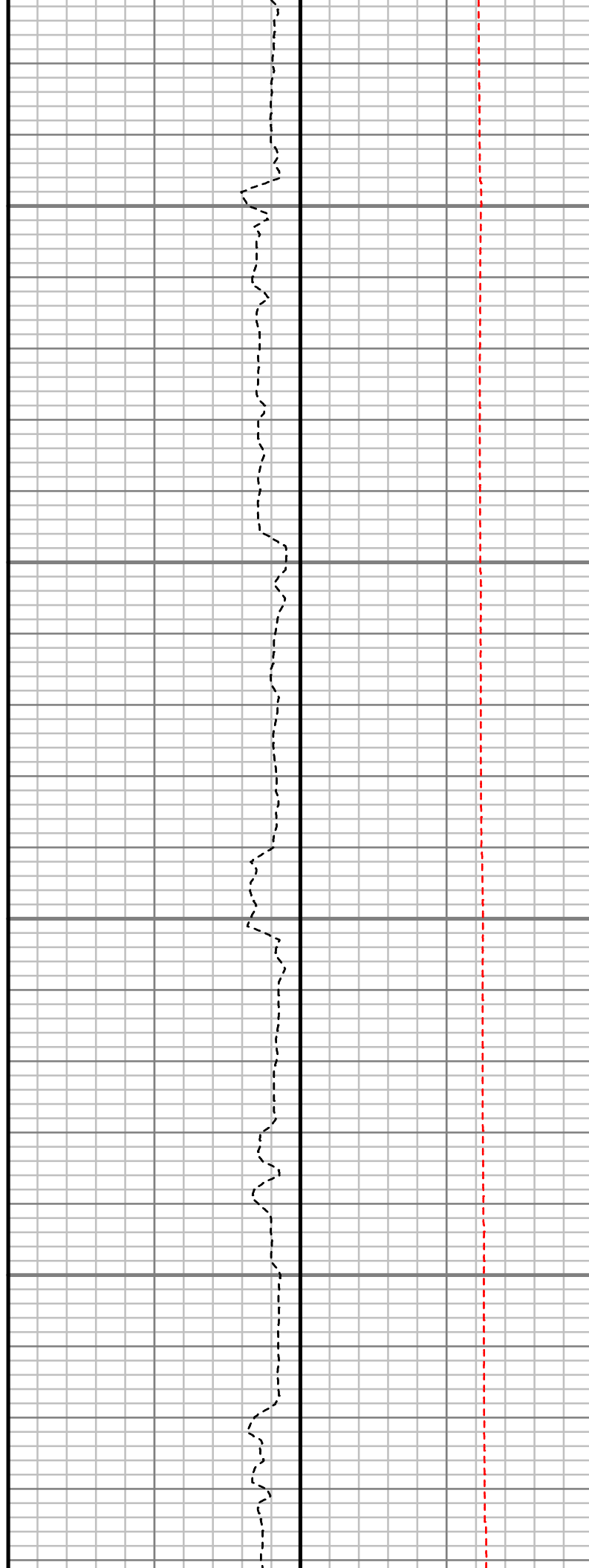
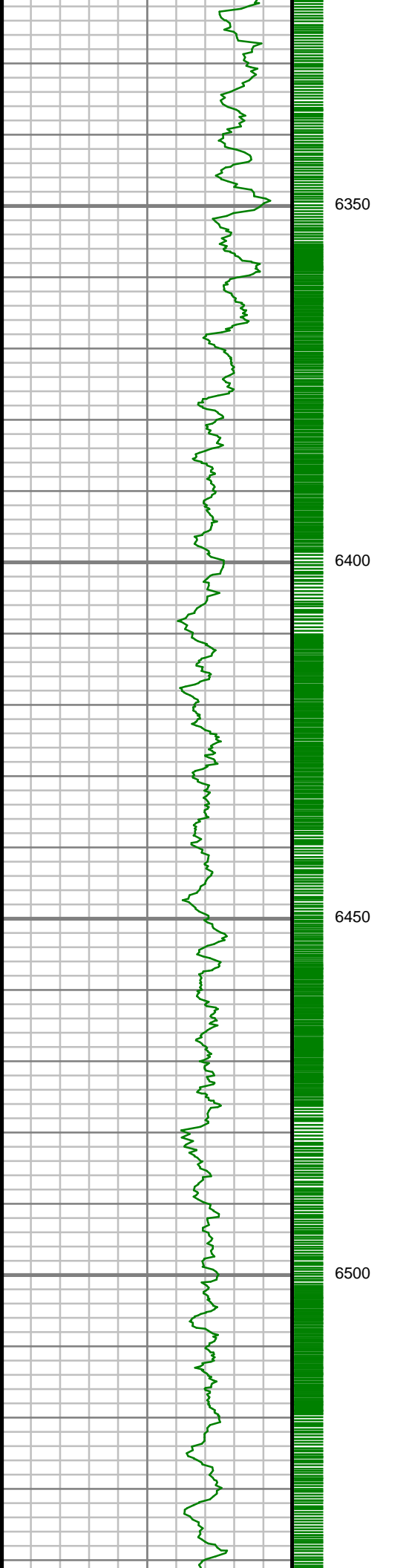
S: 67 MD: 6060.00 ft  
Inc: 24.59 deg Az:  
351.07 deg TVD:  
5679.77 ft





S: 68 MD: 6154.00 ft  
Inc: 24.90 deg Az:  
349.03 deg TVD:  
5765.14 ft

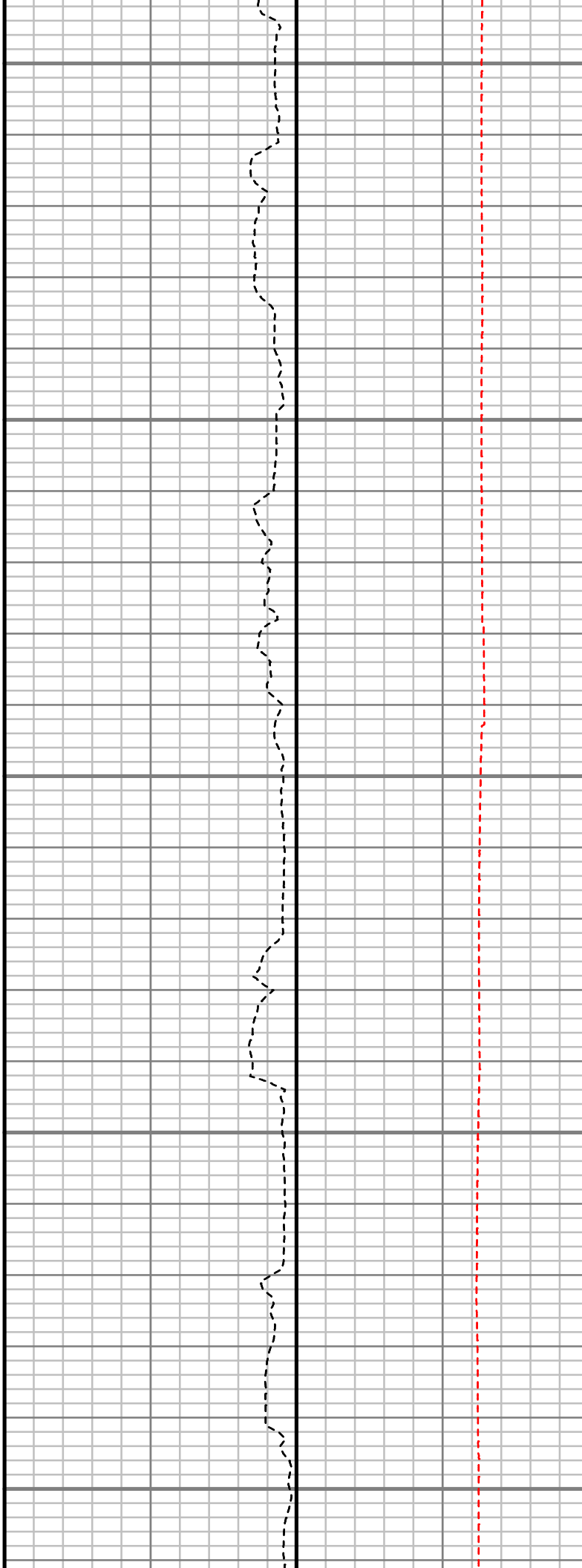
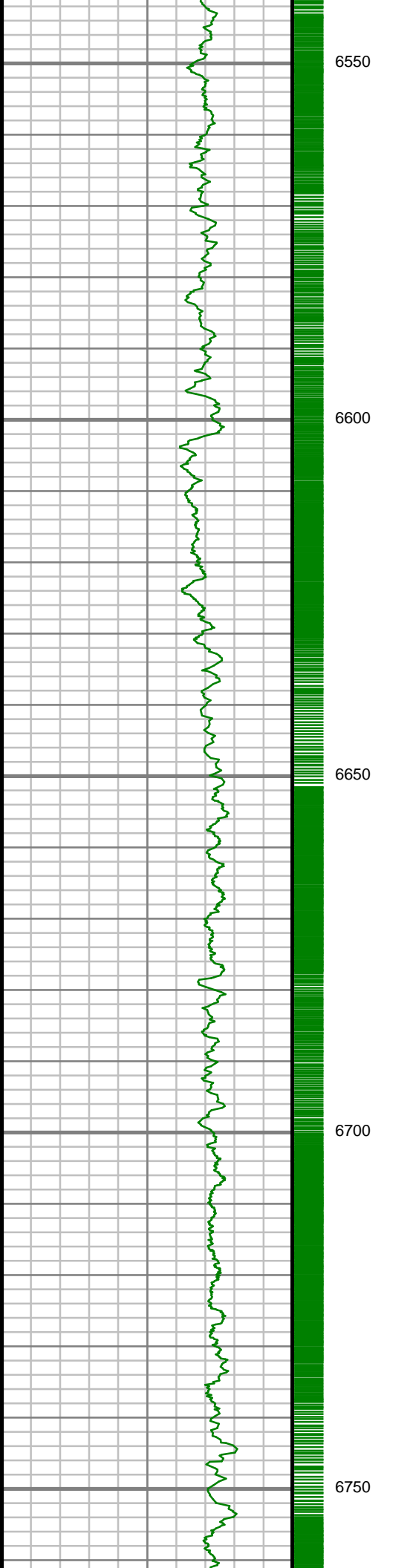
S: 69 MD: 6248.00 ft  
Inc: 24.33 deg Az:  
348.96 deg TVD:  
5850.59 ft



S: 70 MD: 6342.00 ft  
Inc: 22.32 deg Az:  
351.82 deg TVD:  
5936.91 ft

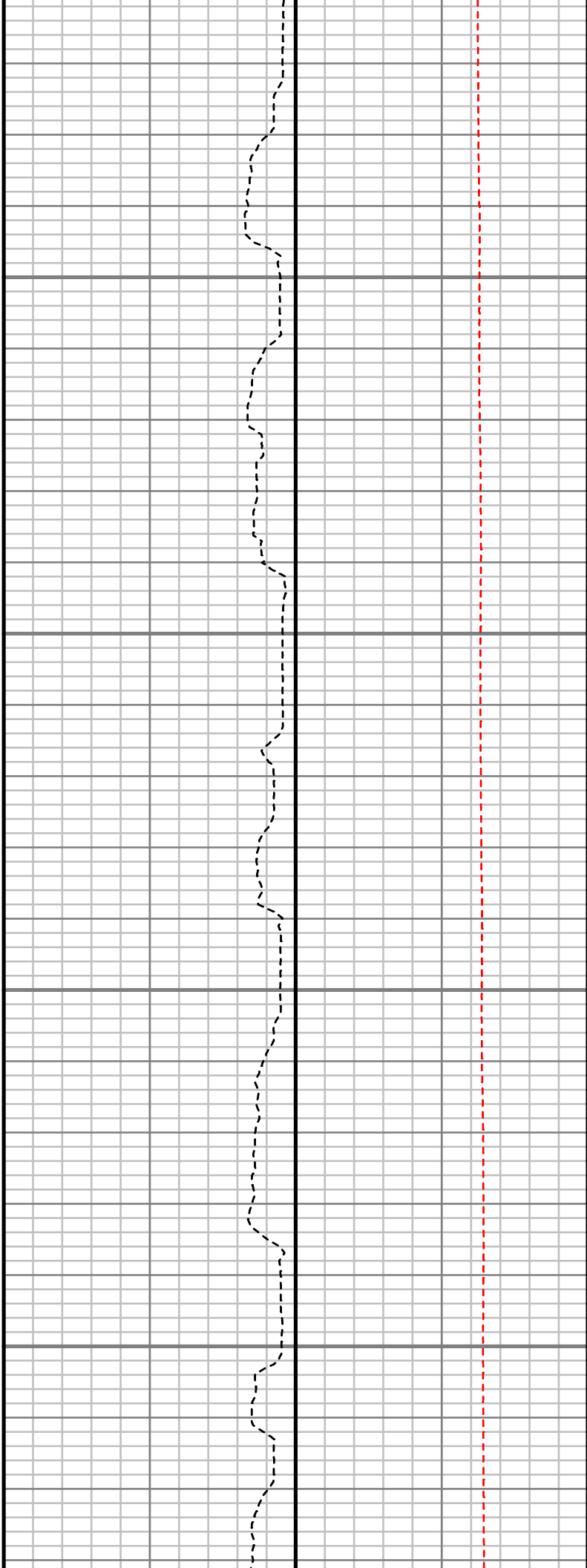
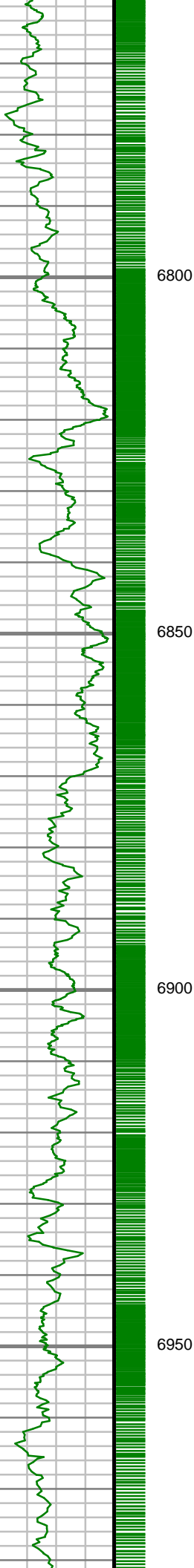
S: 71 MD: 6436.00 ft  
Inc: 21.39 deg Az:  
354.70 deg TVD:  
6024.15 ft

S: 72 MD: 6531.00 ft  
Inc: 23.42 deg Az:  
352.87 deg TVD:  
6111.98 ft



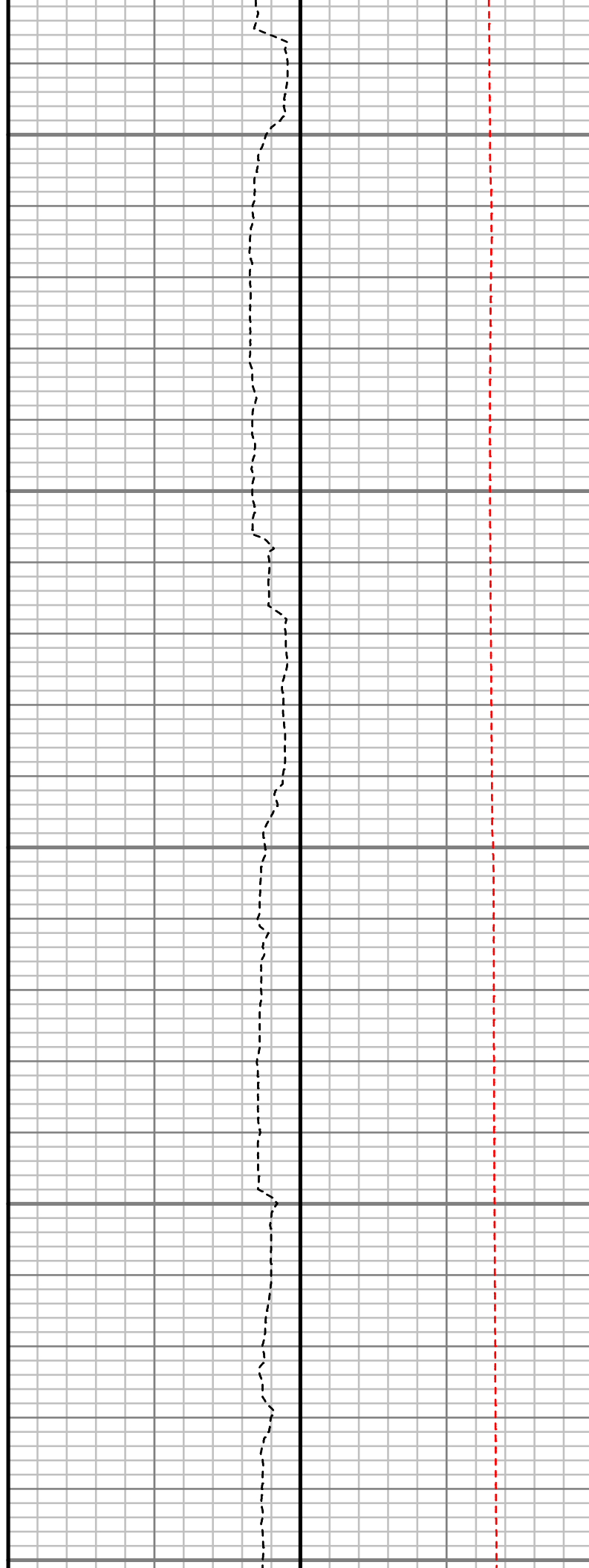
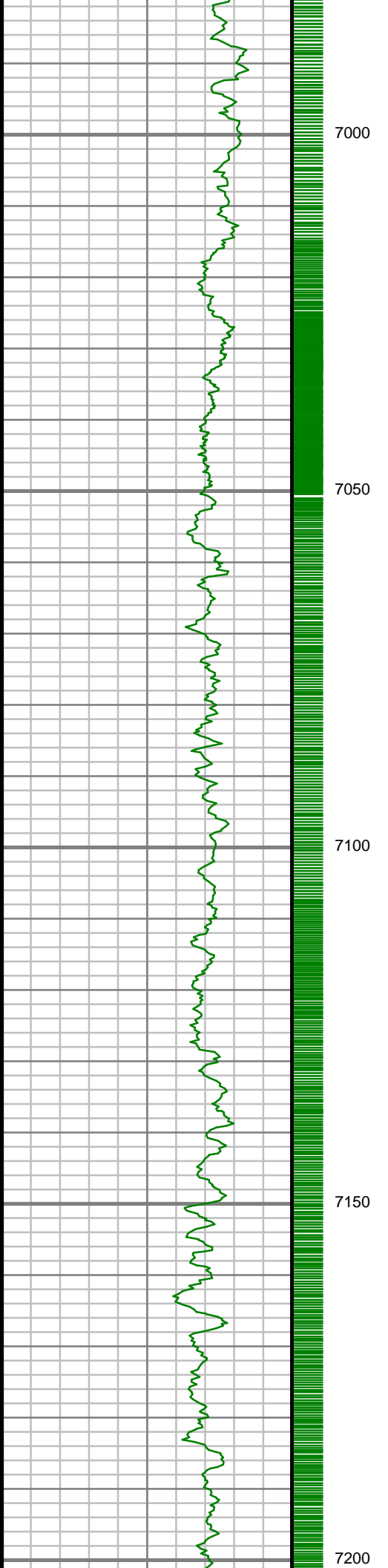
S: 73 MD: 6625.00 ft  
Inc: 23.64 deg Az:  
354.31 deg TVD:  
6198.16 ft

S: 74 MD: 6719.00 ft  
Inc: 26.41 deg Az:  
355.92 deg TVD:  
6283.33 ft



S: 75 MD: 6813.00 ft  
Inc: 27.78 deg Az:  
358.65 deg TVD:  
6367.02 ft

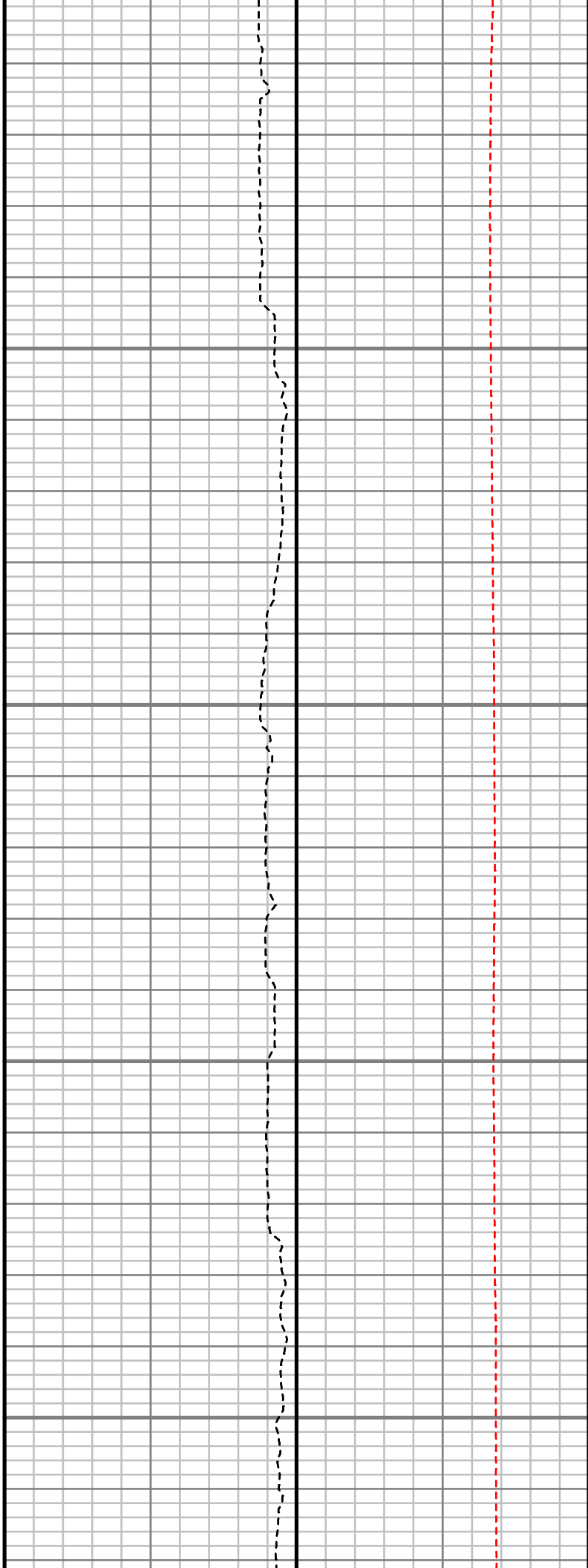
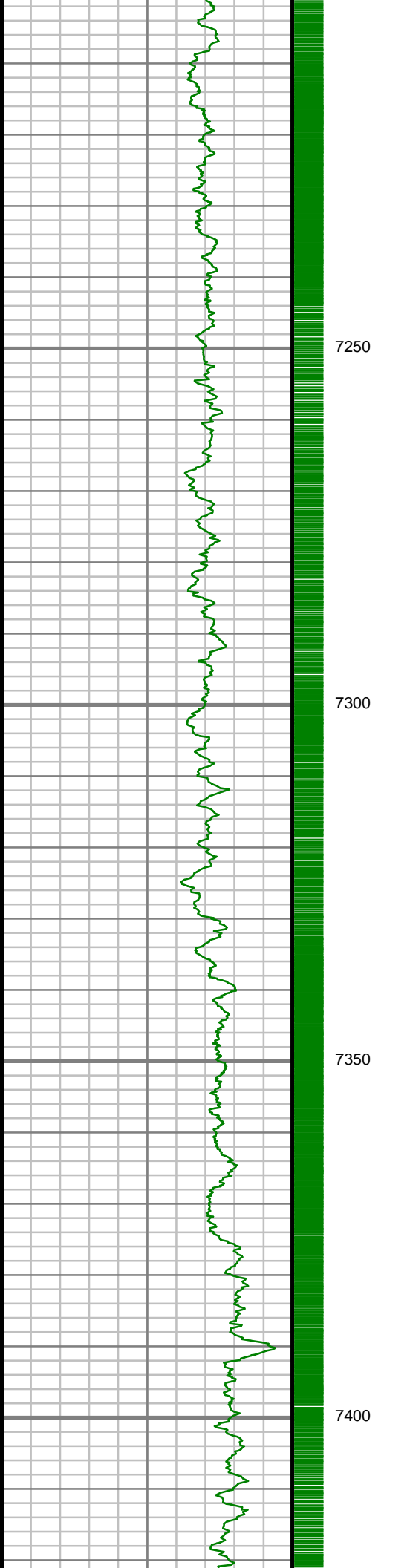
S: 76 MD: 6908.00 ft  
Inc: 30.93 deg Az:  
357.00 deg TVD:  
6449.81 ft



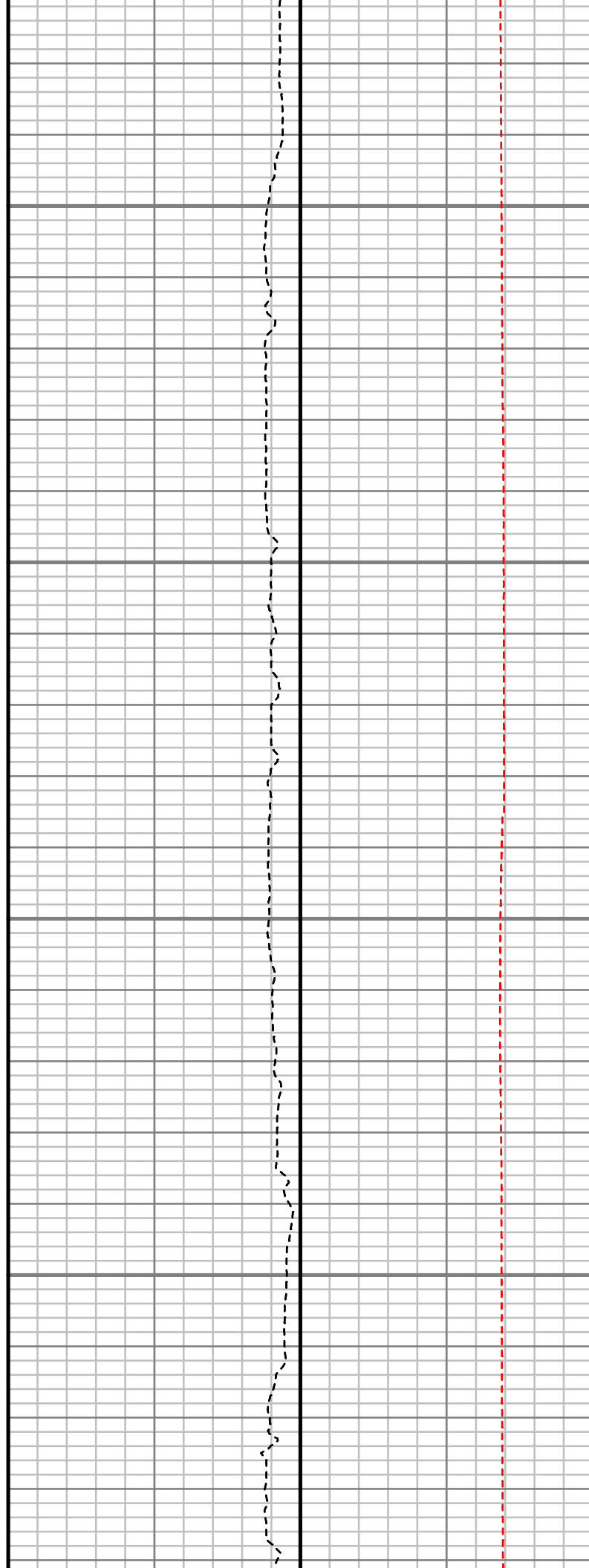
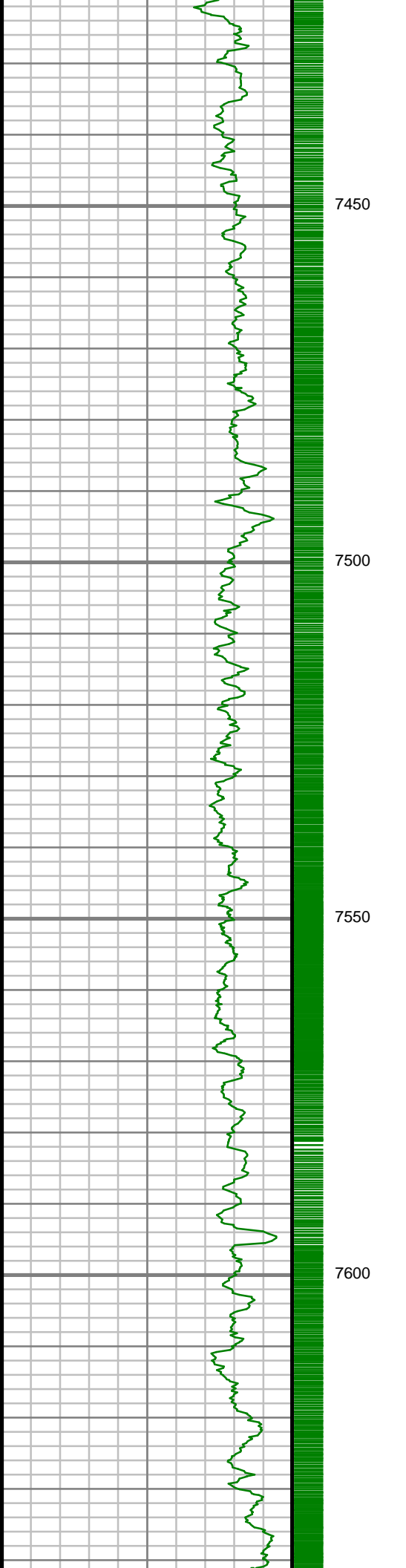
S: 77 MD: 7002.00 ft  
Inc: 31.15 deg Az:  
353.45 deg TVD:  
6530.35 ft

S: 78 MD: 7096.00 ft  
Inc: 31.45 deg Az:  
351.19 deg TVD:  
6610.68 ft

S: 79 MD: 7190.00 ft  
Inc: 28.19 deg Az:  
350.07 deg TVD:  
6692.22 ft

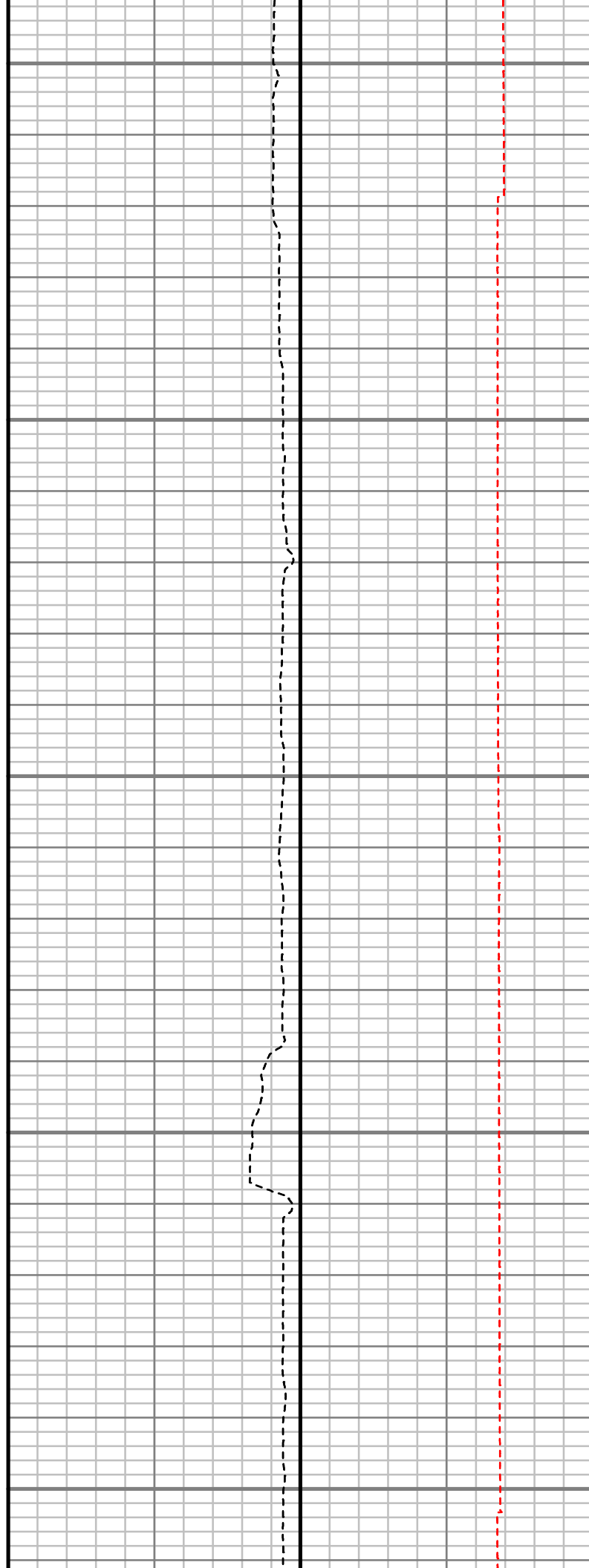
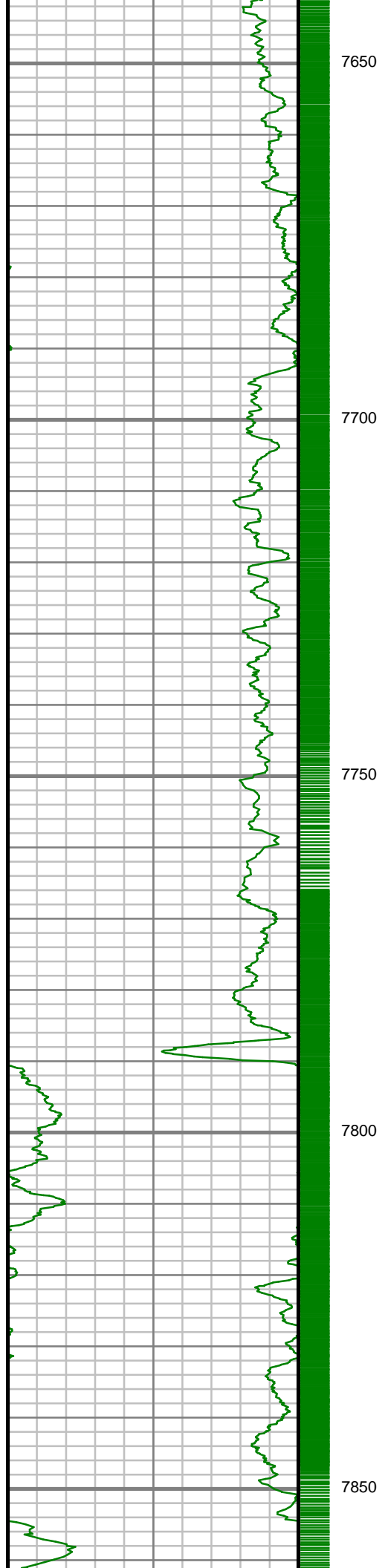


S: 80 MD: 7284.00 ft  
Inc: 28.37 deg Az:  
351.31 deg TVD:  
6775.00 ft



S: 81 MD: 7472.00 ft  
Inc: 26.73 deg Az:  
351.22 deg TVD:  
6941.67 ft

S: 82 MD: 7566.00 ft  
Inc: 24.22 deg Az:  
349.76 deg TVD:  
7026.53 ft

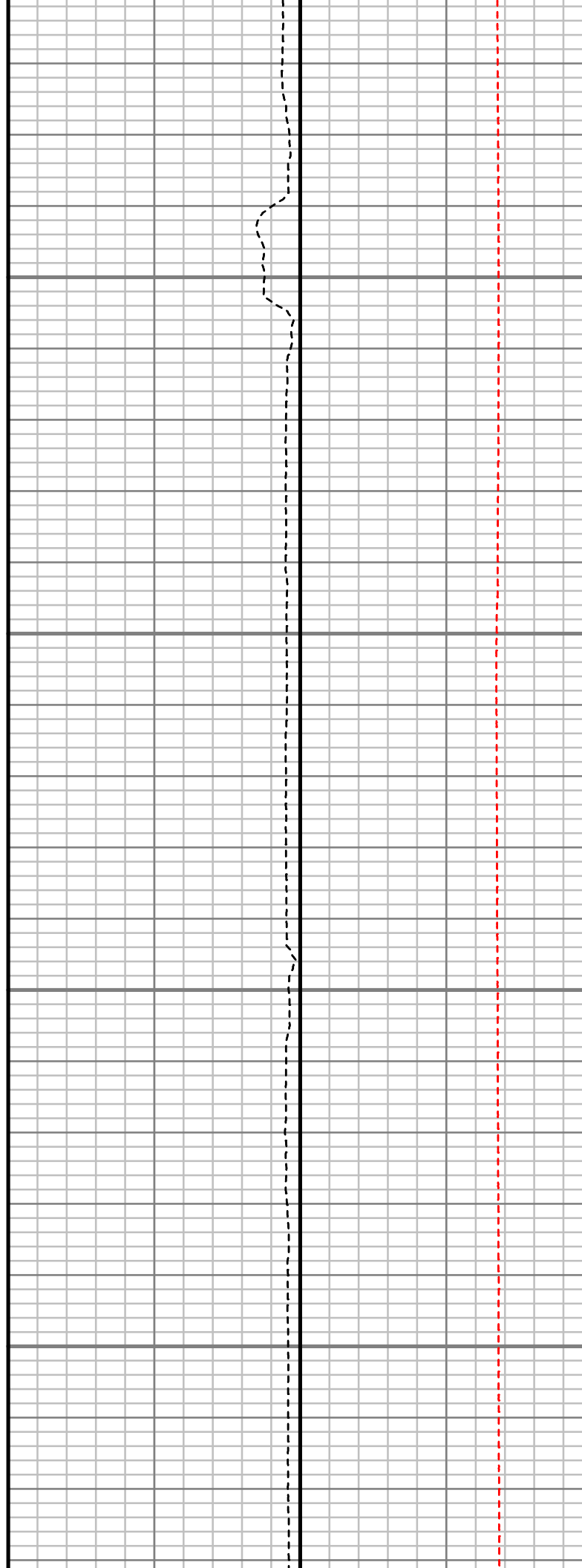
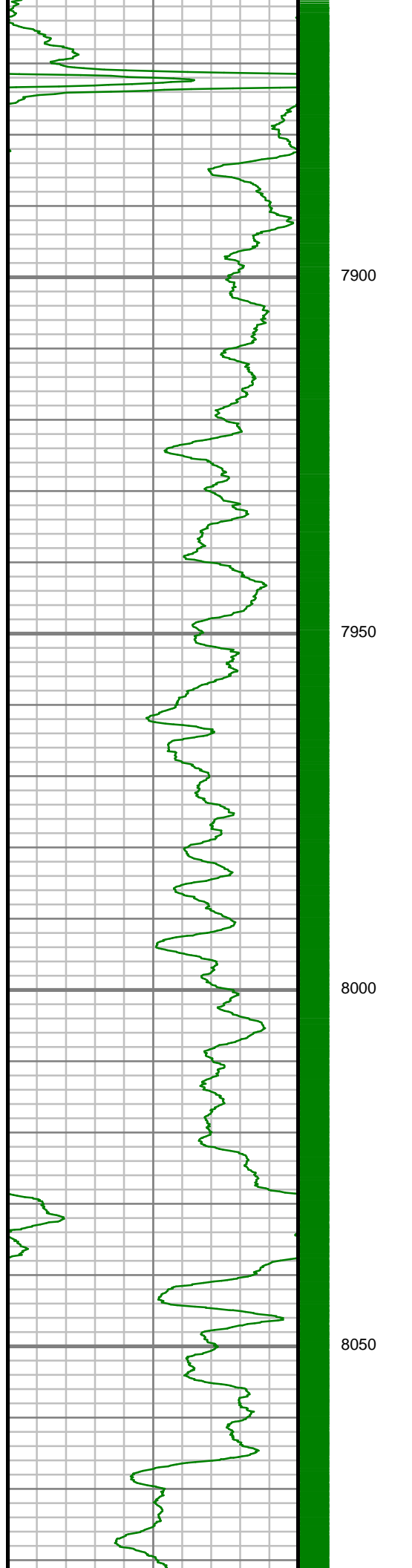


S: 83 MD: 7661.00 ft  
Inc: 24.23 deg Az:  
346.52 deg TVD:  
7113.17 ft

S: 84 MD: 7755.00 ft  
Inc: 27.46 deg Az:  
348.57 deg TVD:  
7197.75 ft

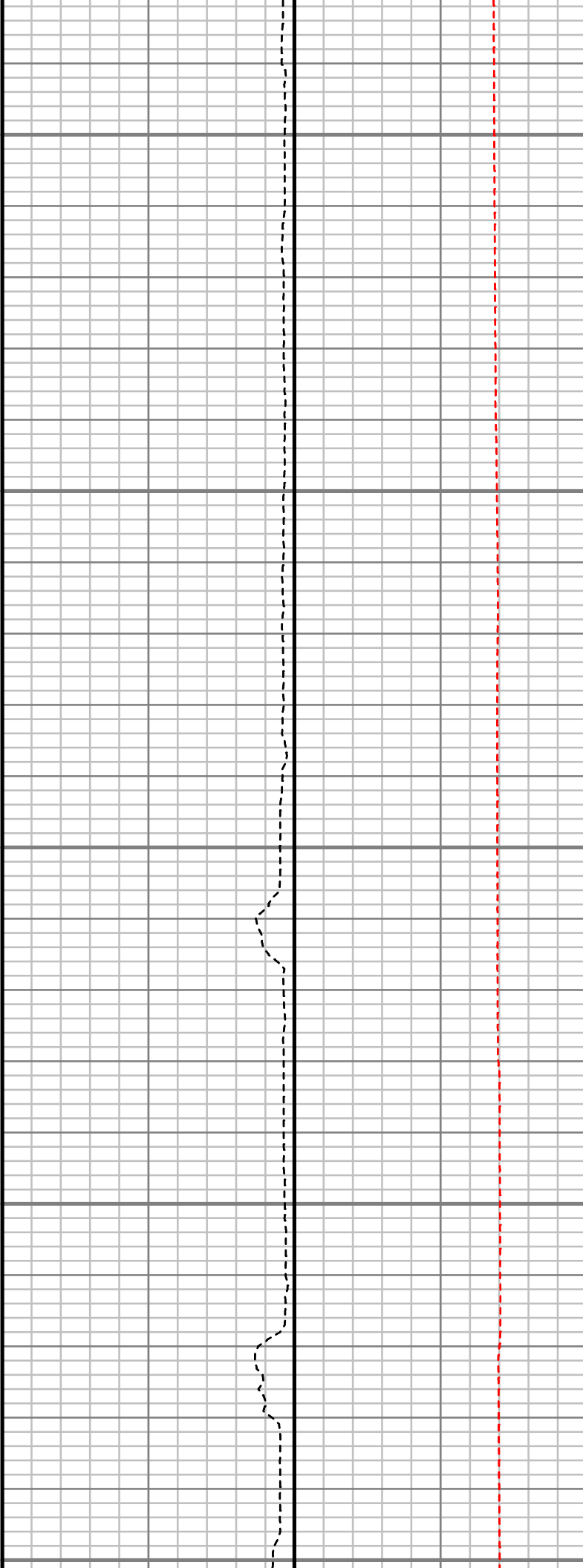
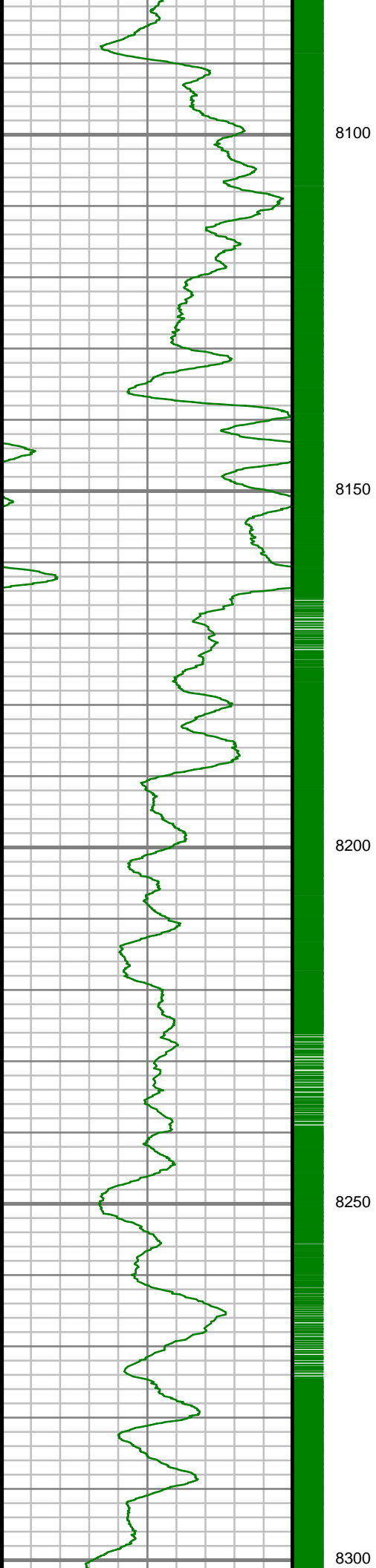
S: 85 MD: 7849.00 ft  
Inc: 32.62 deg Az:  
352.26 deg TVD:  
7279.10 ft





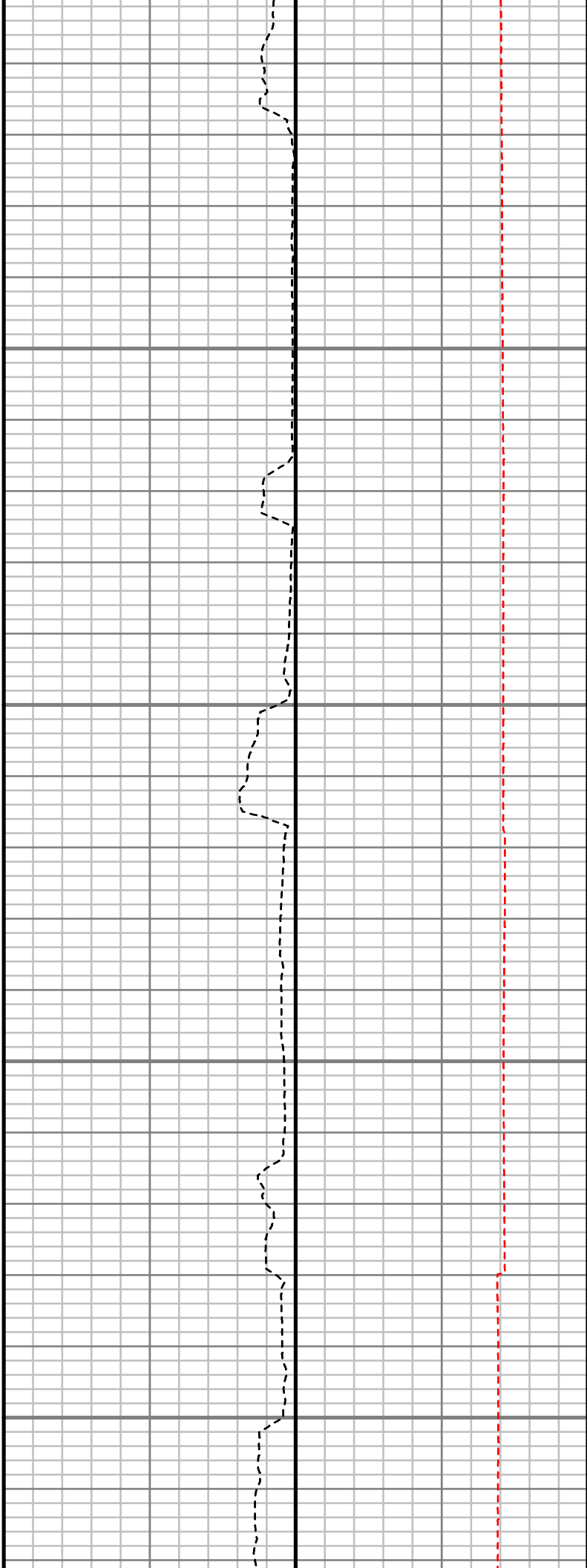
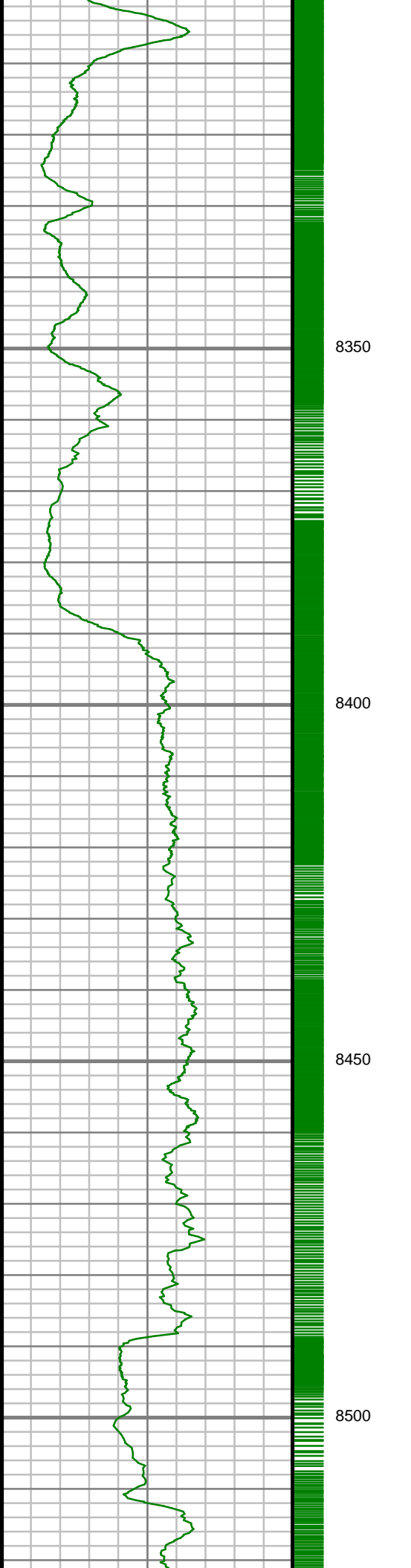
S: 86 MD: 7943.00 ft  
Inc: 37.67 deg Az:  
353.35 deg TVD:  
7355.94 ft

S: 87 MD: 8038.00 ft  
Inc: 47.45 deg Az:  
356.17 deg TVD:  
7425.84 ft



S: 88 MD: 8132.00 ft  
Inc: 58.60 deg Az:  
359.14 deg TVD:  
7482.30 ft

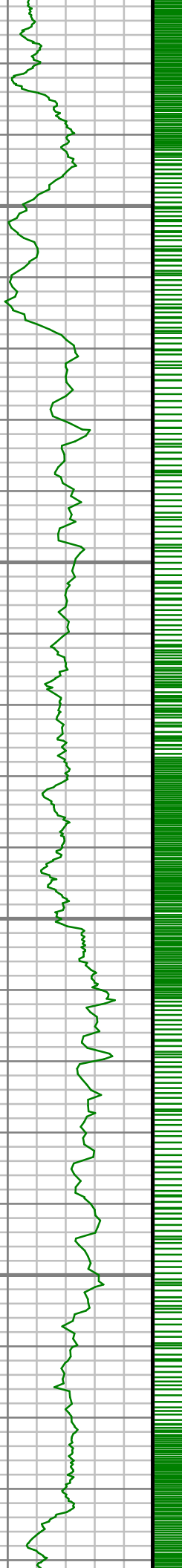
S: 89 MD: 8226.00 ft  
Inc: 66.91 deg Az: 1.53  
deg TVD: 7525.30 ft



S: 90 MD: 8321.00 ft  
Inc: 72.58 deg Az: 1.95  
deg TVD: 7558.17 ft

S: 91 MD: 8415.00 ft  
Inc: 81.16 deg Az: 1.50  
deg TVD: 7579.50 ft

S: 92 MD: 8478.00 ft  
Inc: 86.34 deg Az: 0.85  
deg TVD: 7586.35 ft

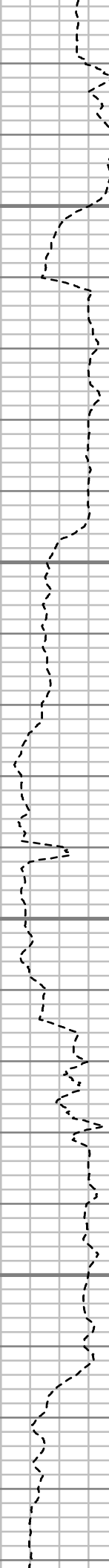


8550

8600

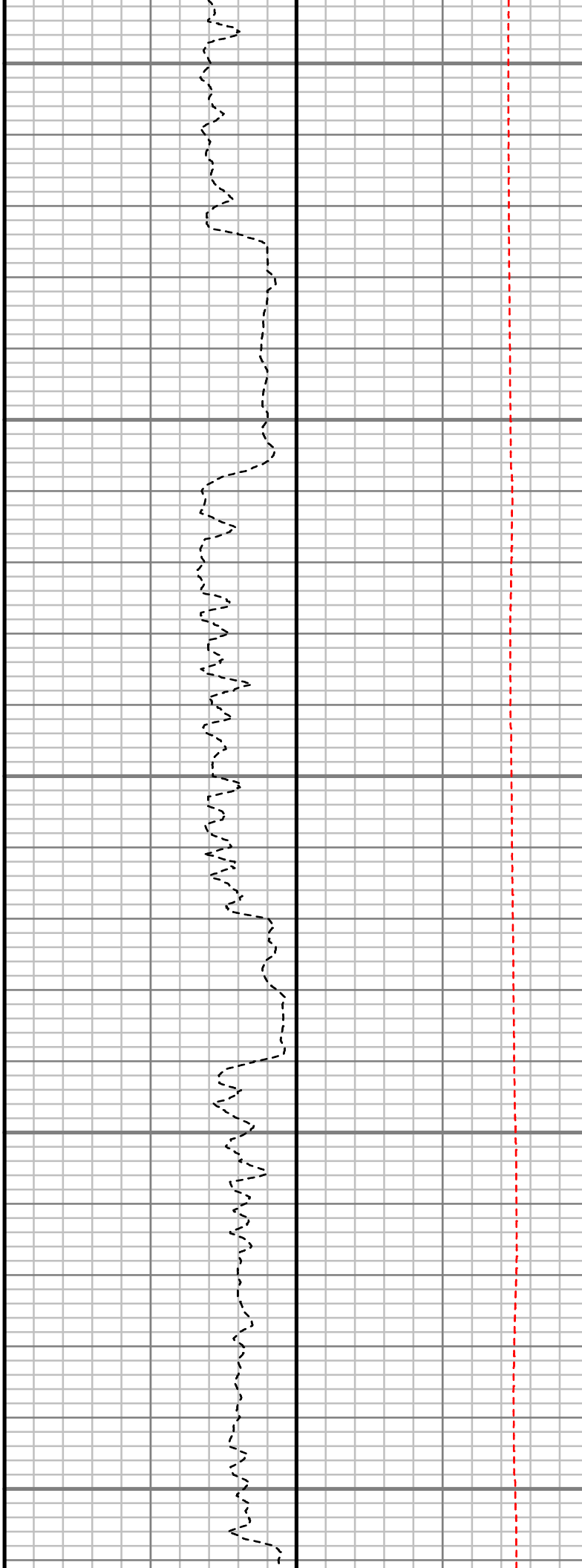
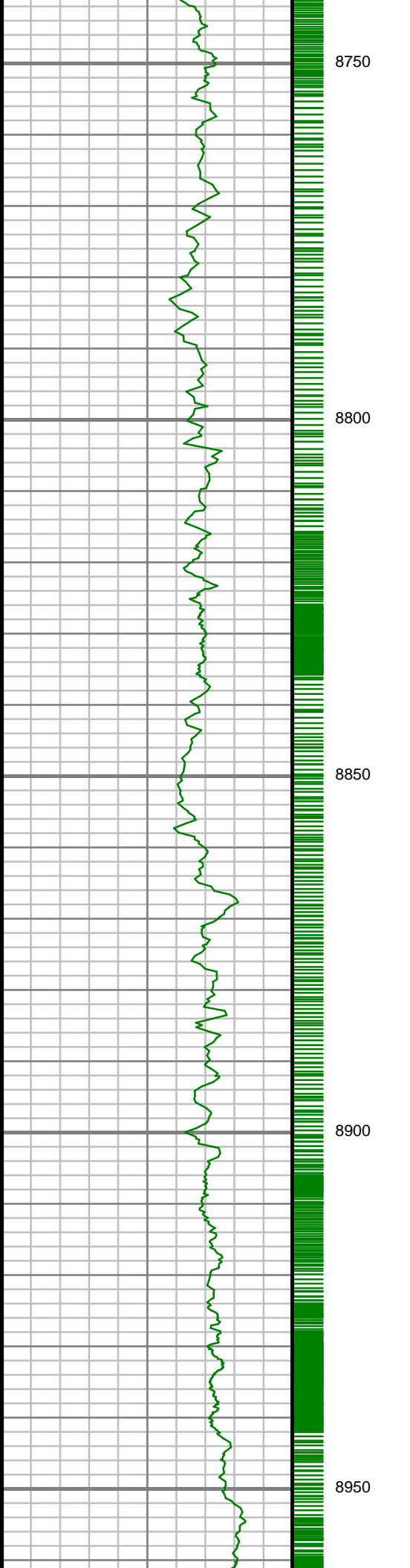
8650

8700



S: 93 MD: 8615.00 ft  
Inc: 89.03 deg Az: 1.29  
deg TVD: 7591.90 ft

S: 94 MD: 8709.00 ft  
Inc: 89.63 deg Az: 0.05  
deg TVD: 7593.00 ft



S: 95 MD: 8804.00 ft  
Inc: 90.07 deg Az: 0.20  
deg TVD: 7593.25 ft

S: 96 MD: 8898.00 ft  
Inc: 90.54 deg Az:  
359.77 deg TVD:  
7592.76 ft



9000

9050

9100

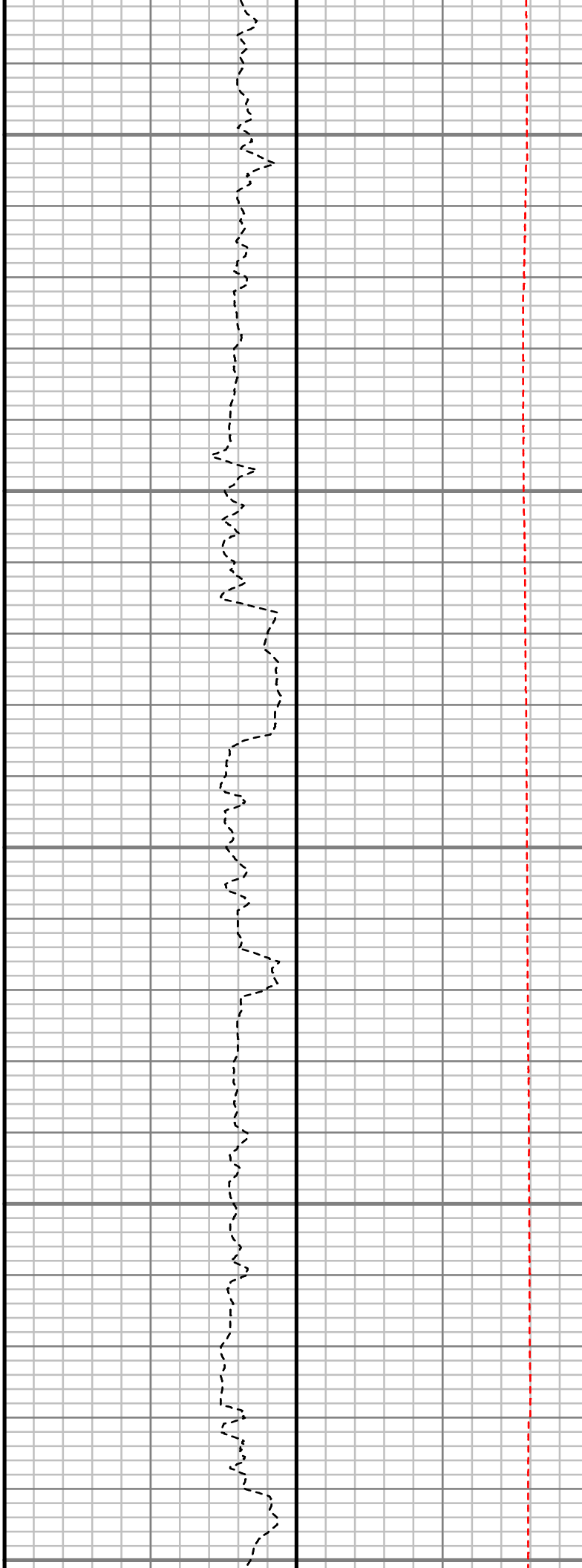
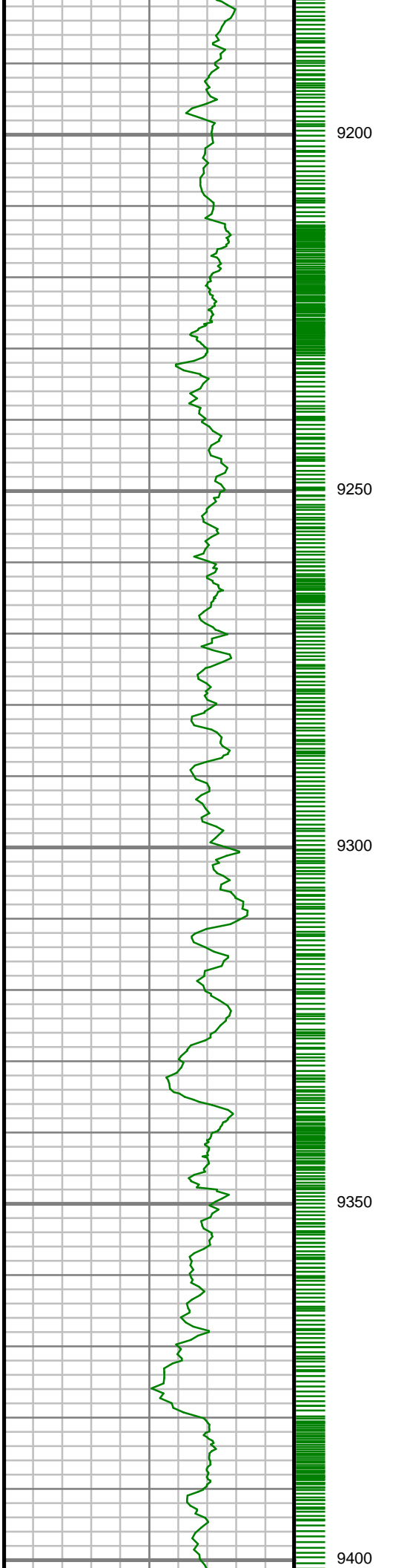
9150



S: 97 MD: 8992.00 ft  
Inc: 91.11 deg Az: 0.10  
deg TVD: 7591.41 ft

S: 98 MD: 9086.00 ft  
Inc: 90.87 deg Az: 0.37  
deg TVD: 7589.78 ft

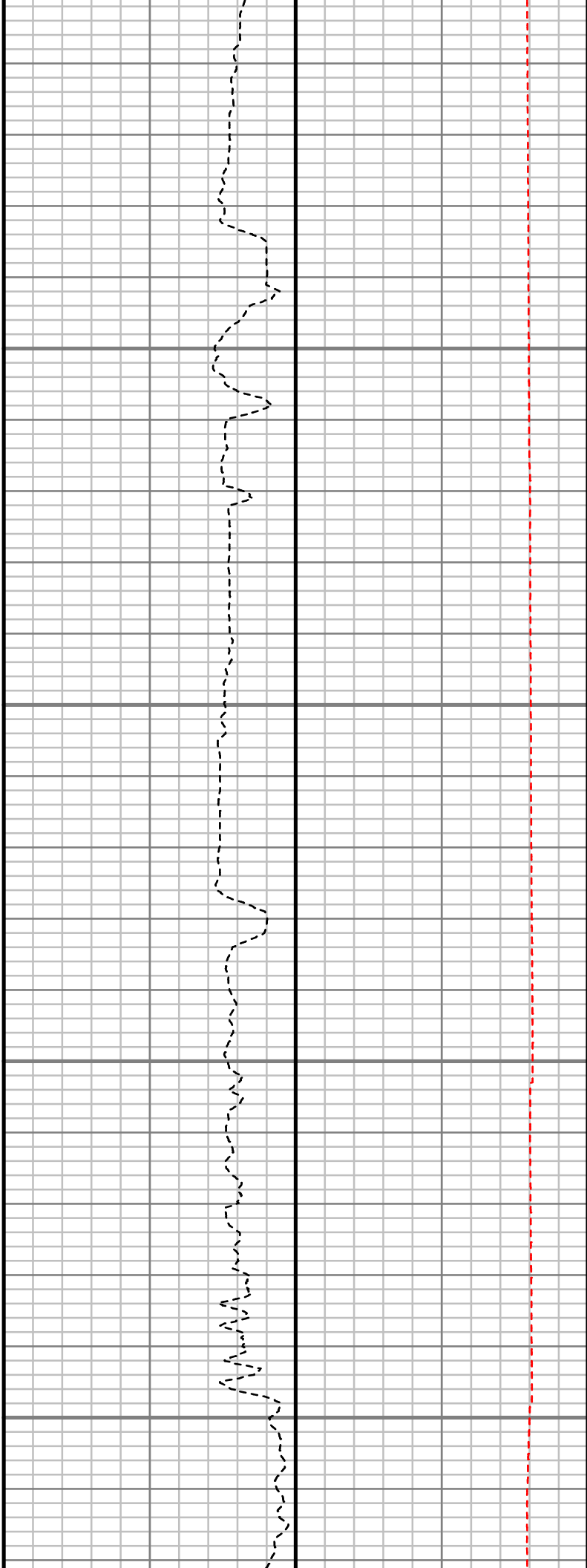
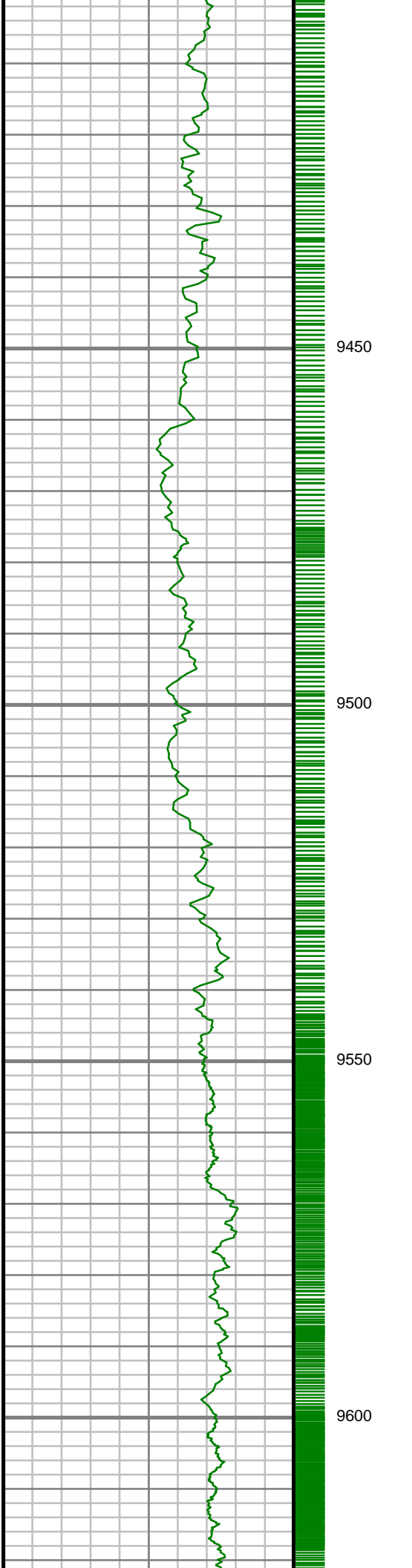
S: 99 MD: 9180.00 ft



S: 99 MD: 9180.00 ft  
Inc: 90.27 deg Az: 0.23  
deg TVD: 7588.84 ft

S: 100 MD: 9274.00 ft  
Inc: 90.84 deg Az: 0.89  
deg TVD: 7587.93 ft

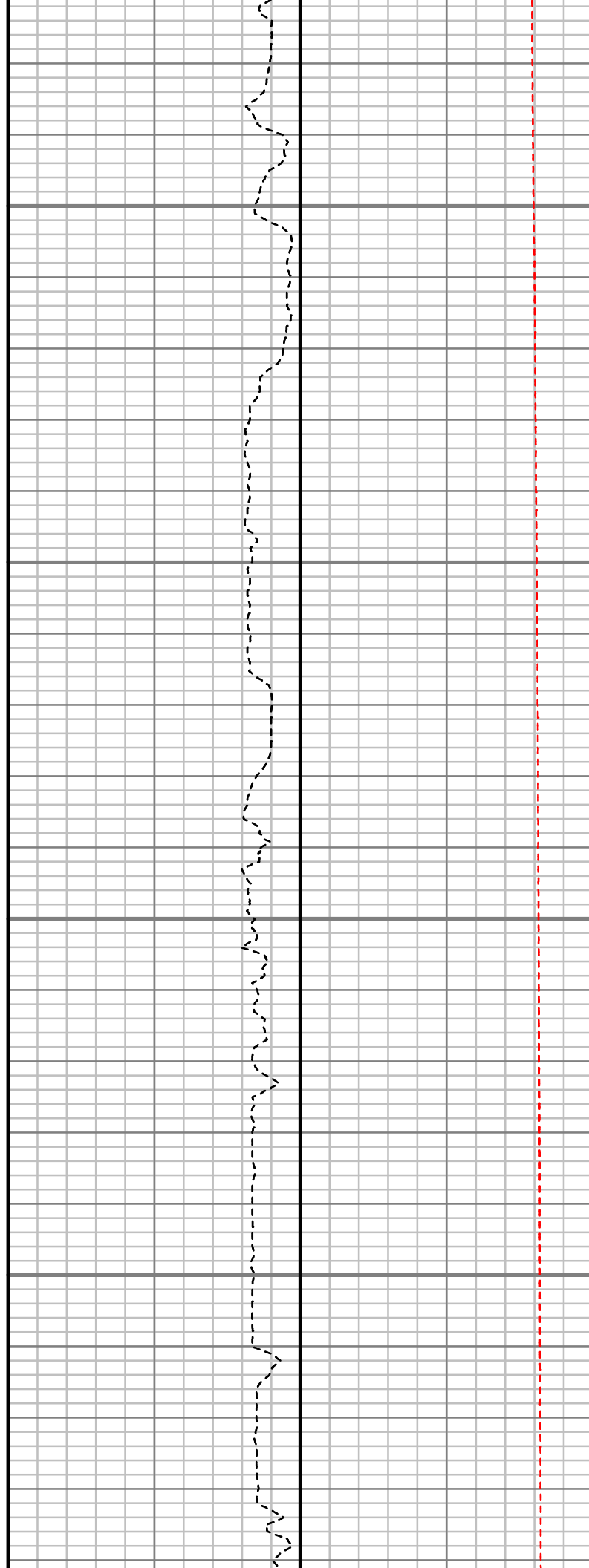
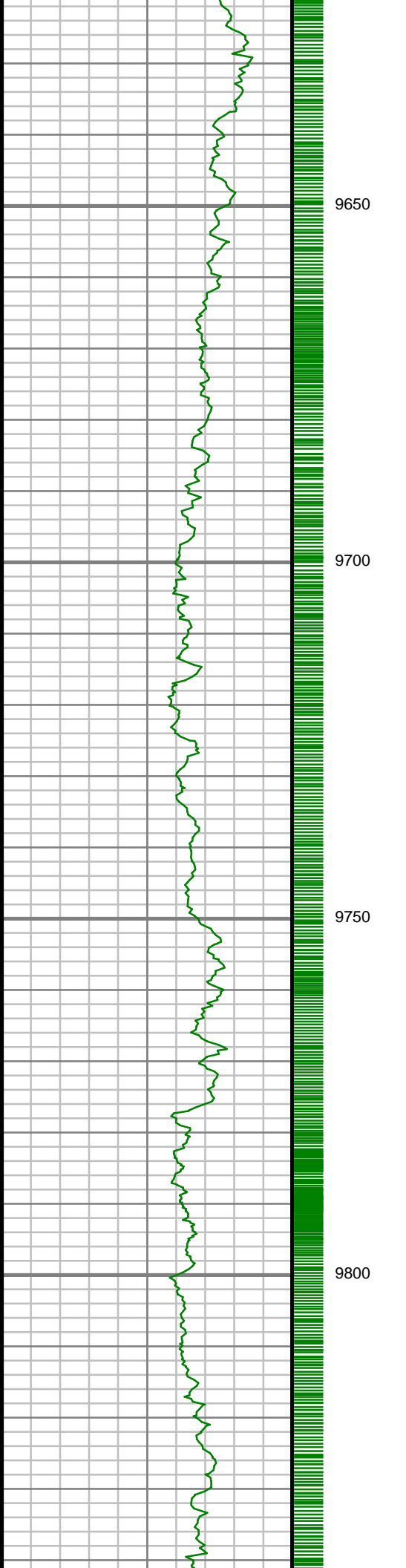
S: 101 MD: 9368.00 ft  
Inc: 91.64 deg Az: 1.33  
deg TVD: 7585.90 ft



S: 102 MD: 9462.00 ft  
Inc: 91.14 deg Az: 1.44  
deg TVD: 7583.61 ft

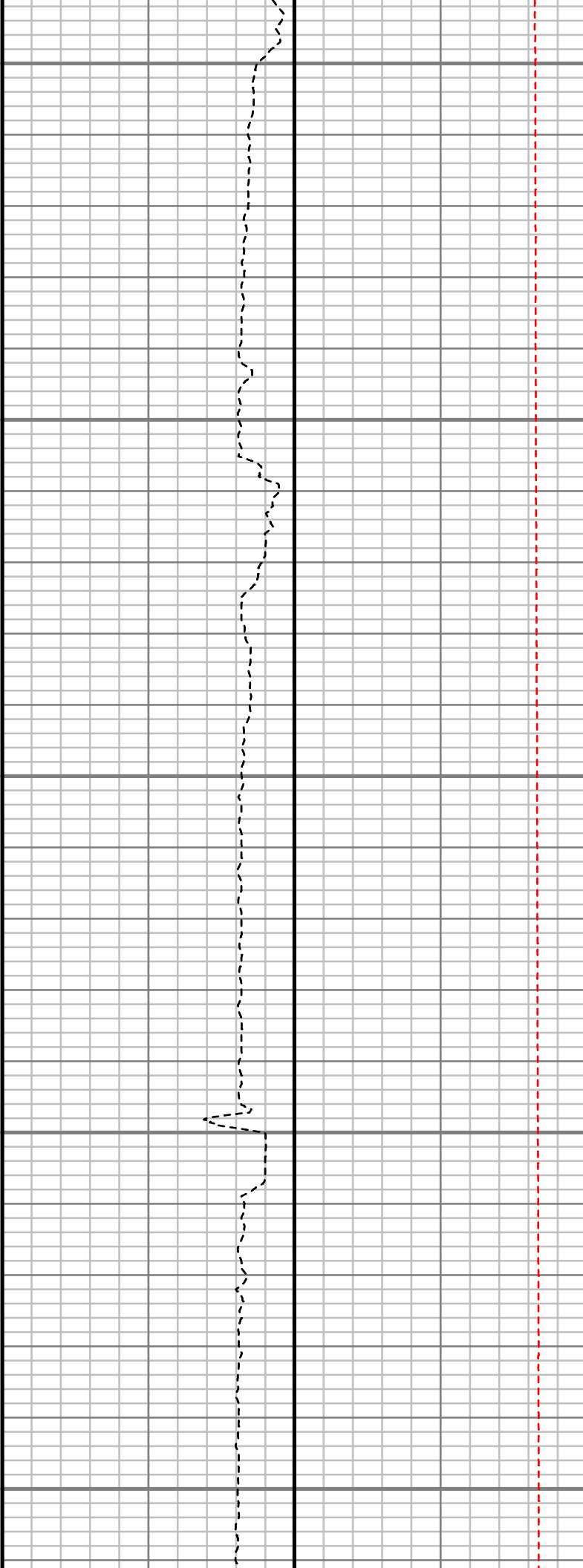
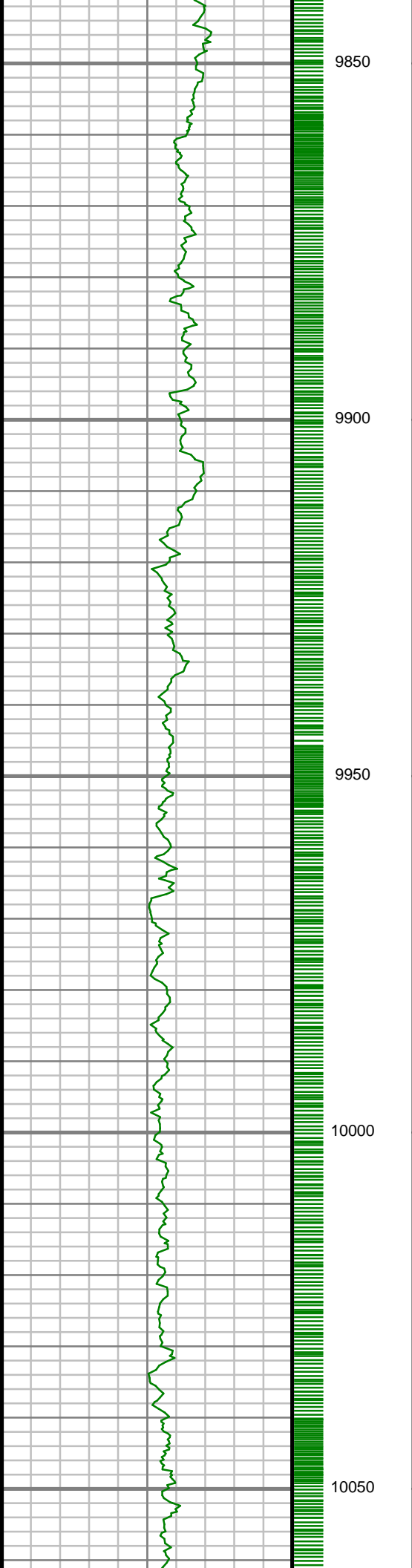
S: 103 MD: 9557.00 ft  
Inc: 90.44 deg Az: 0.62  
deg TVD: 7582.30 ft





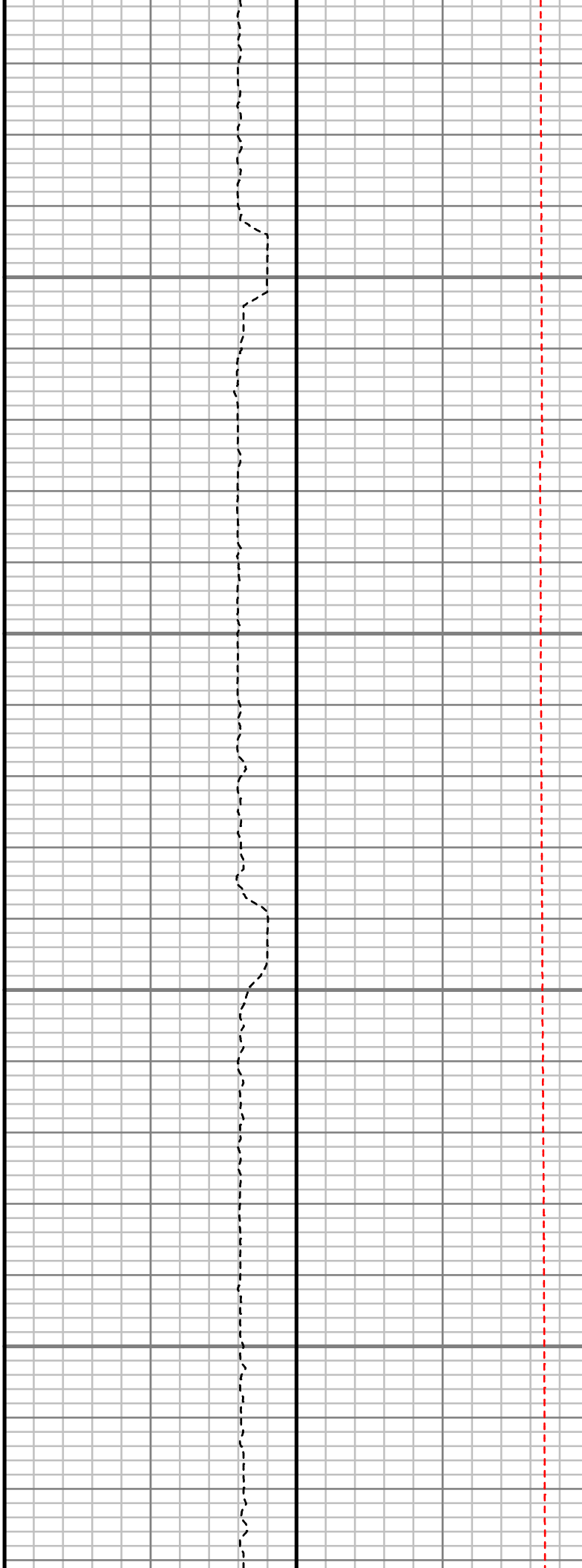
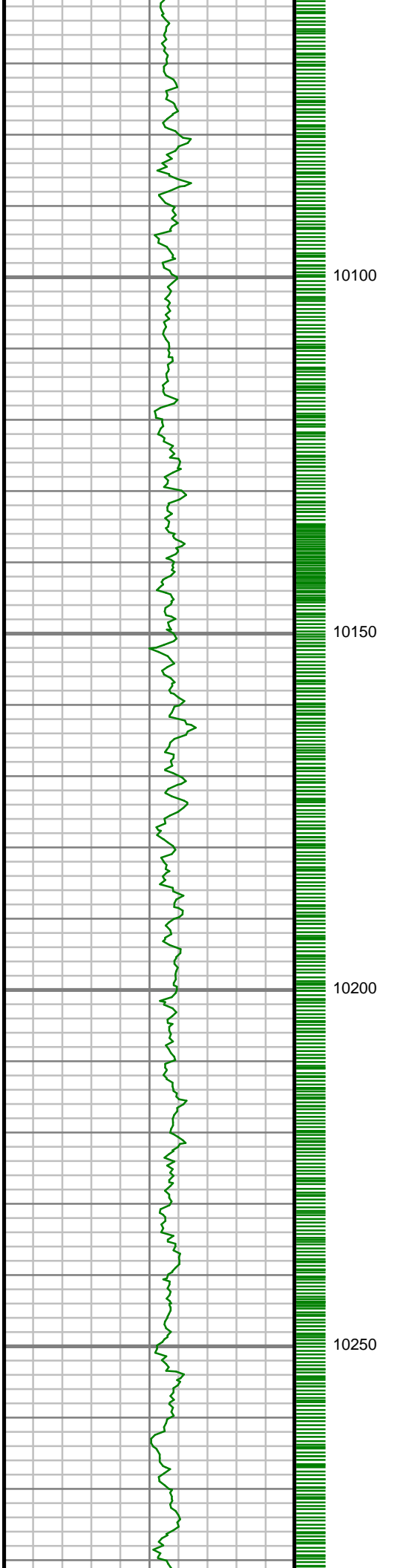
S: 104 MD: 9651.00 ft  
Inc: 90.57 deg Az: 1.06  
deg TVD: 7581.47 ft

S: 105 MD: 9745.00 ft  
Inc: 90.94 deg Az: 1.04  
deg TVD: 7580.24 ft



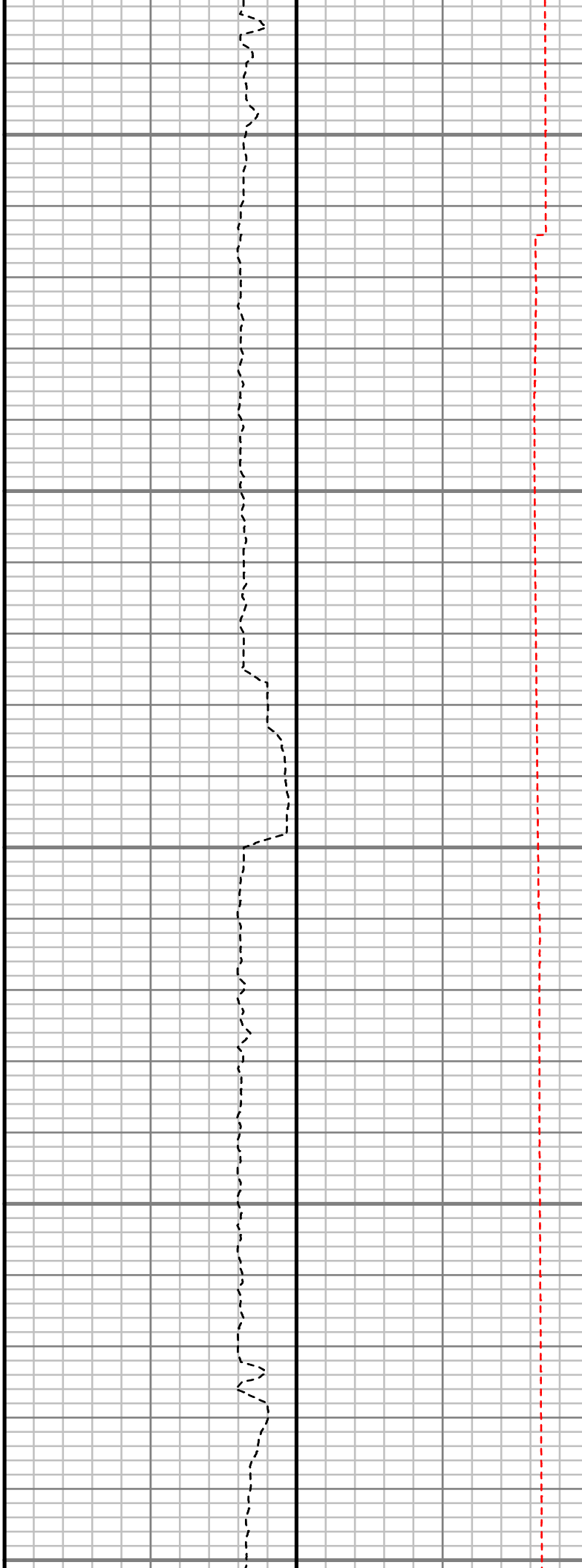
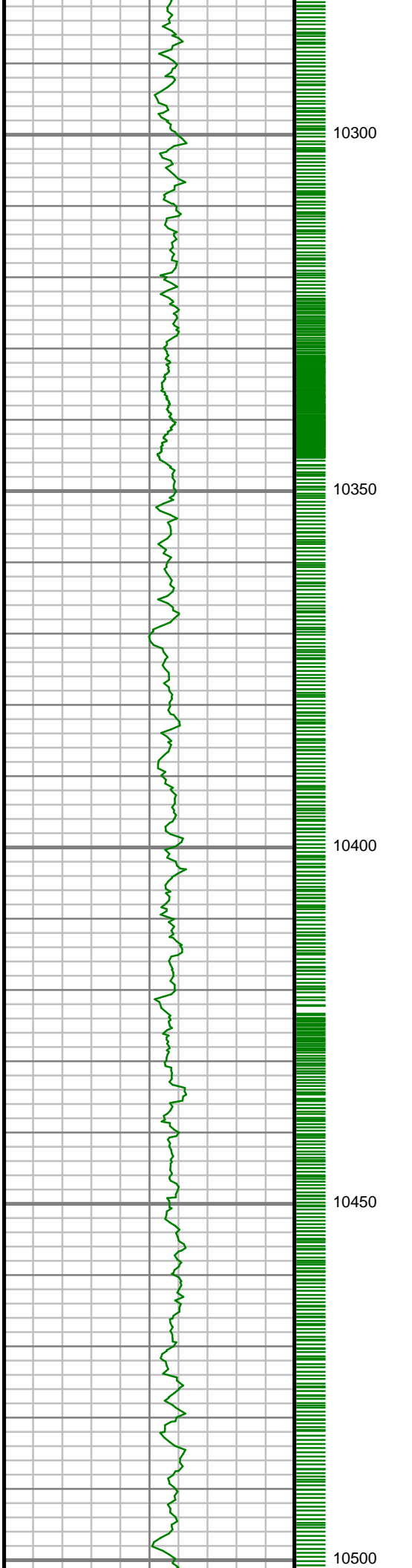
S: 106 MD: 9933.00 ft  
Inc: 90.24 deg Az: 1.49  
deg TVD: 7578.31 ft

S: 107 MD: 10028.00 ft  
Inc: 89.70 deg Az: 1.10  
deg TVD: 7578.37 ft



S: 108 MD: 10122.00 ft  
Inc: 89.66 deg Az: 0.75  
deg TVD: 7578.89 ft

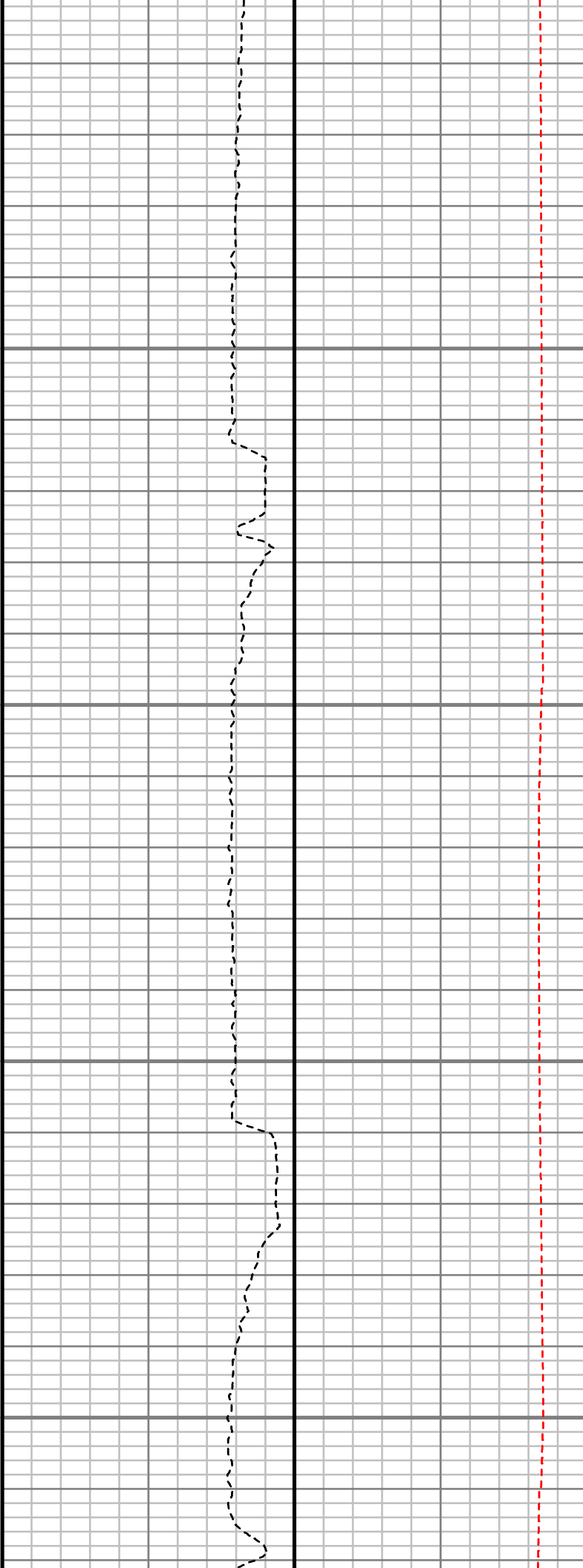
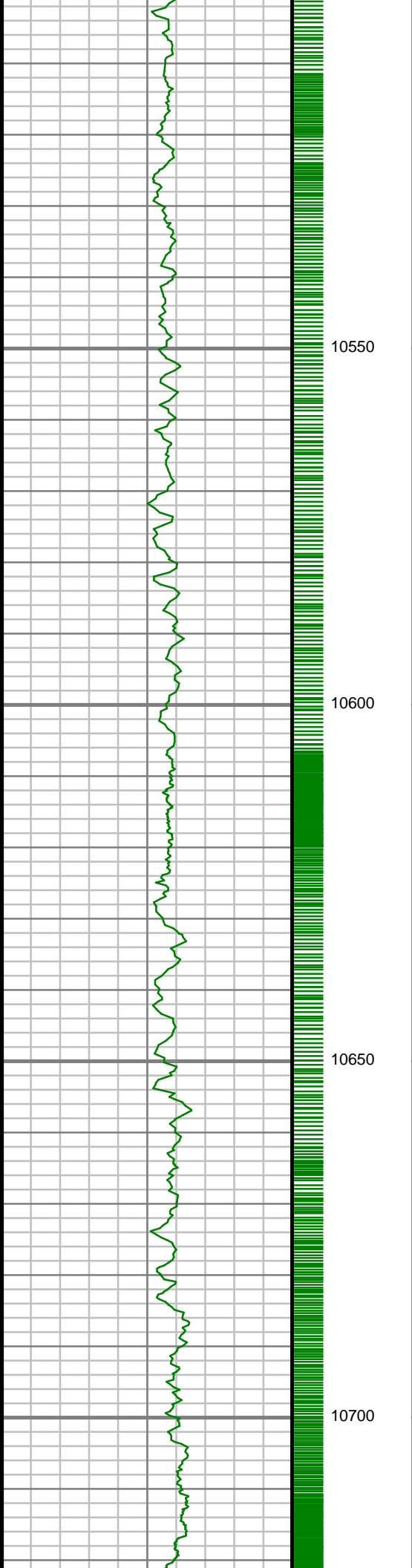
S: 109 MD: 10216.00 ft  
Inc: 90.17 deg Az: 0.88  
deg TVD: 7579.03 ft



S: 110 MD: 10311.00 ft  
Inc: 91.01 deg Az: 1.84  
deg TVD: 7578.05 ft

S: 111 MD: 10405.00 ft  
Inc: 89.73 deg Az: 2.08  
deg TVD: 7577.45 ft

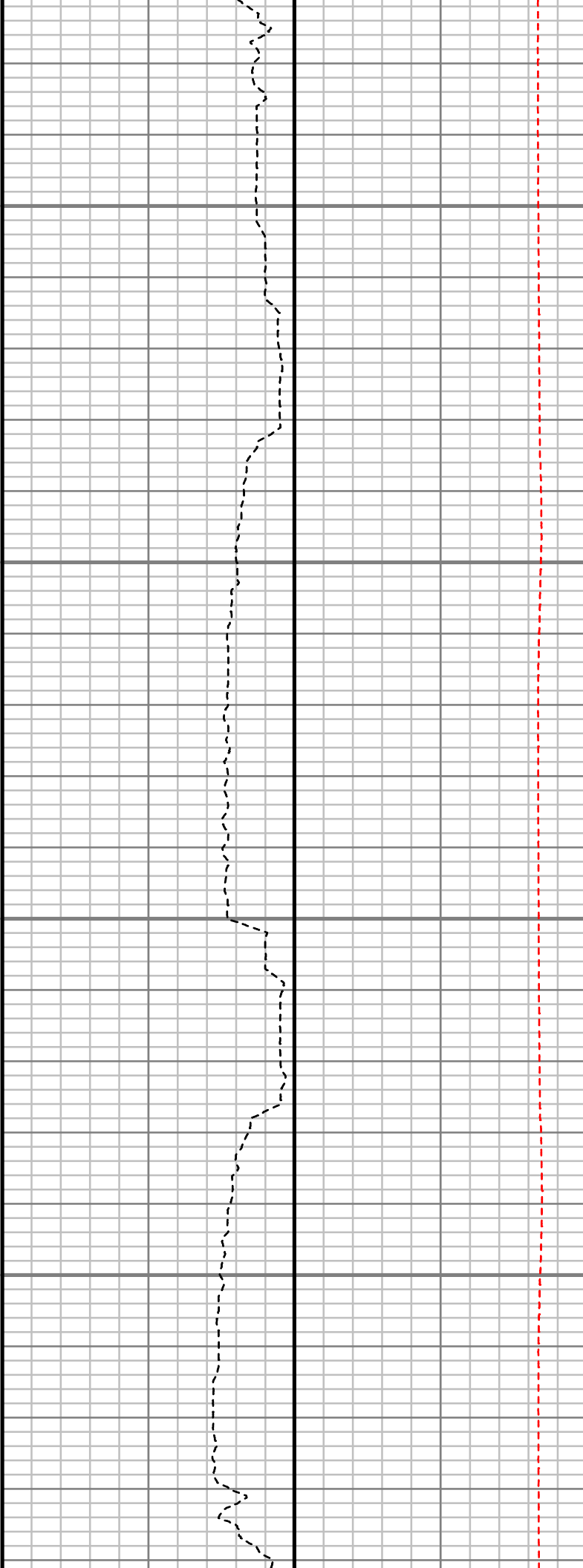
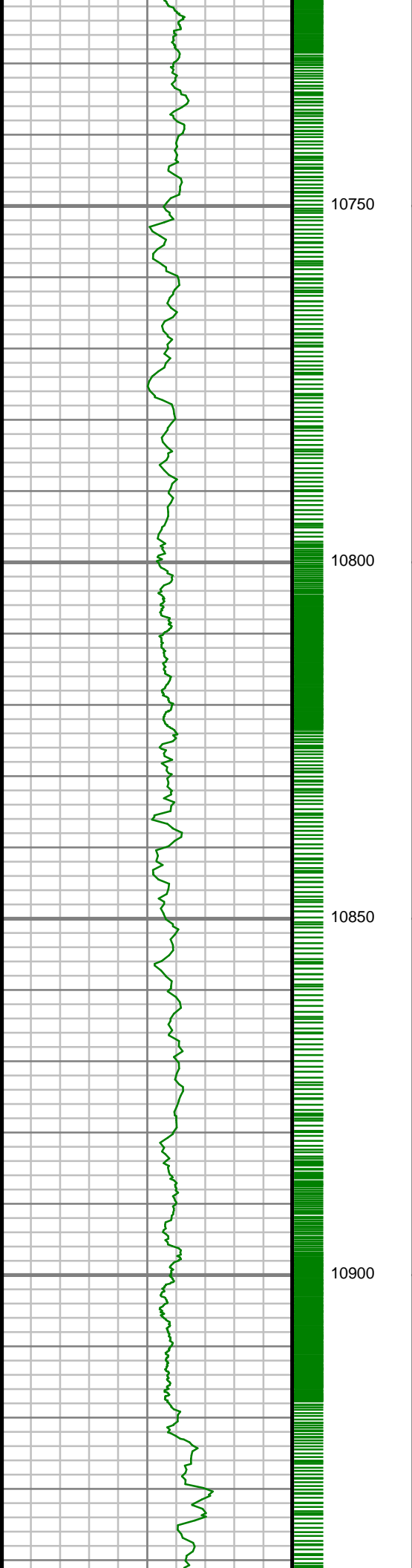
S: 112 MD: 10499.00 ft



Inc: 90.07 deg Az: 2.21  
deg TVD: 7577.61 ft

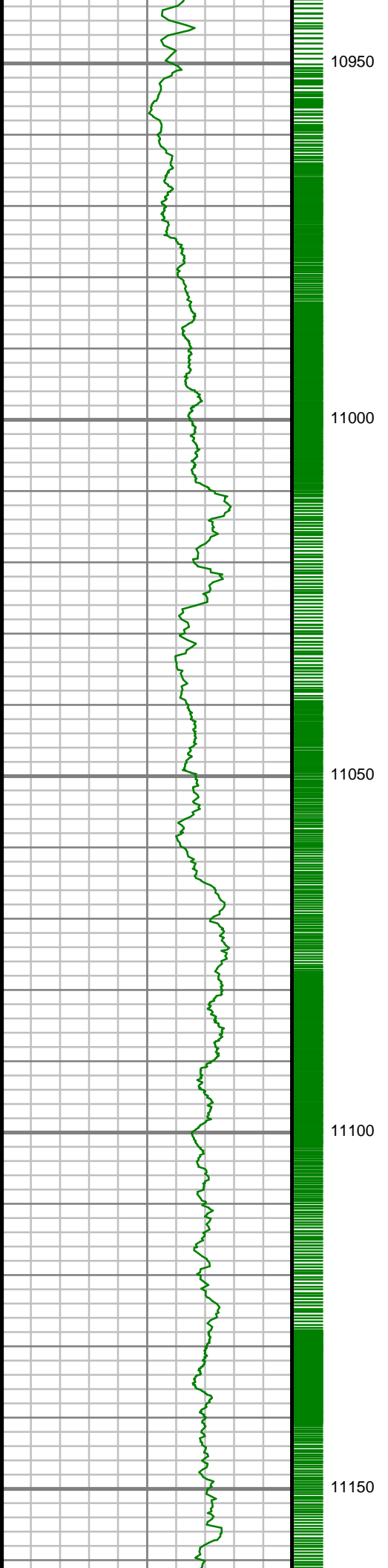
S: 113 MD: 10593.00 ft  
Inc: 89.90 deg Az: 2.93  
deg TVD: 7577.64 ft

S: 114 MD: 10688.00 ft  
Inc: 90.40 deg Az: 2.81  
deg TVD: 7577.39 ft



S: 115 MD: 10782.00 ft  
Inc: 90.60 deg Az: 2.65  
deg TVD: 7576.56 ft

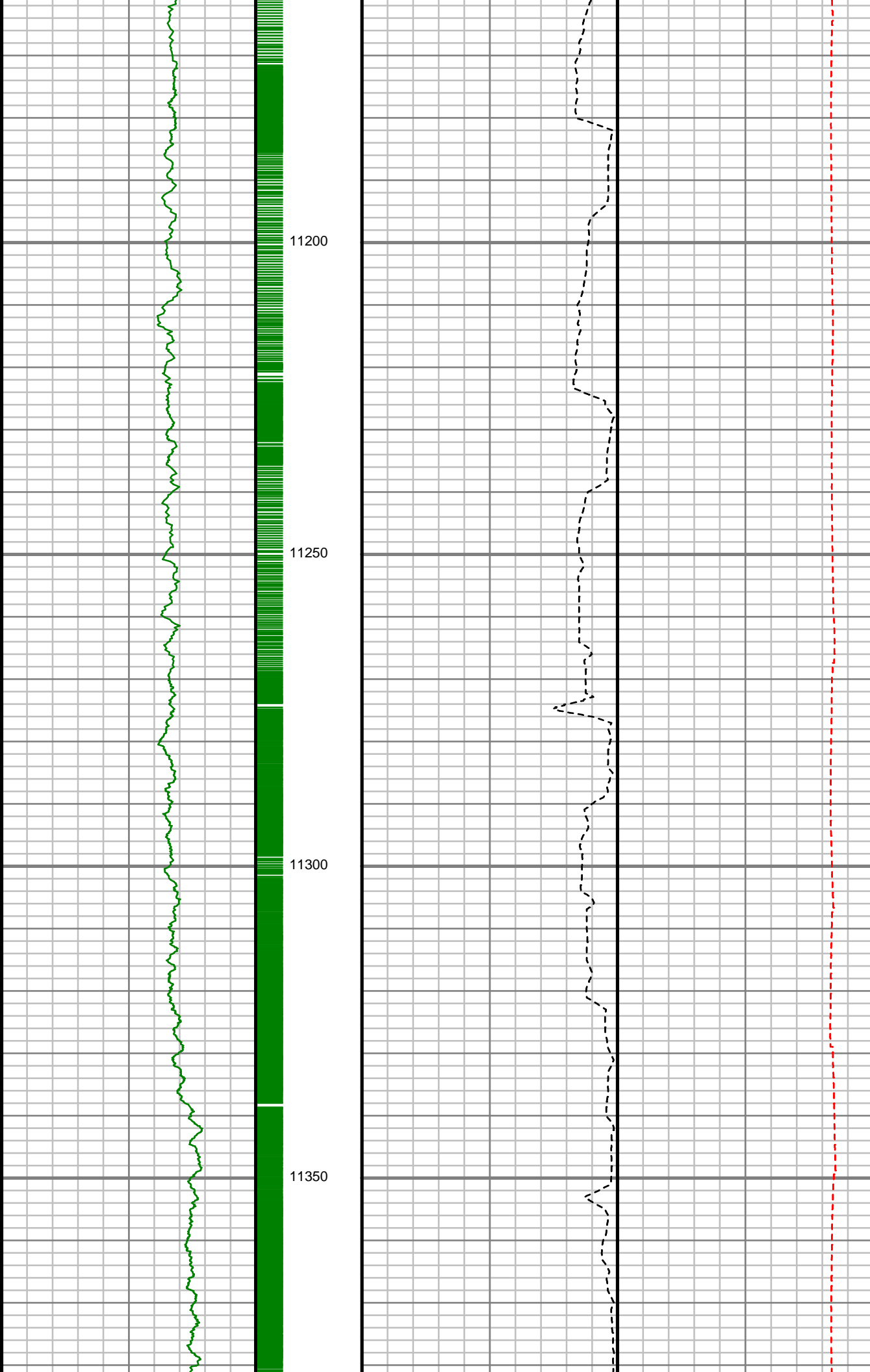
S: 116 MD: 10876.00 ft  
Inc: 88.76 deg Az: 1.78  
deg TVD: 7577.09 ft



S: 117 MD: 10971.00 ft  
Inc: 87.85 deg Az: 1.04  
deg TVD: 7579.90 ft

S: 118 MD: 11065.00 ft  
Inc: 87.62 deg Az: 0.47  
deg TVD: 7583.62 ft

S: 119 MD: 11159.00 ft

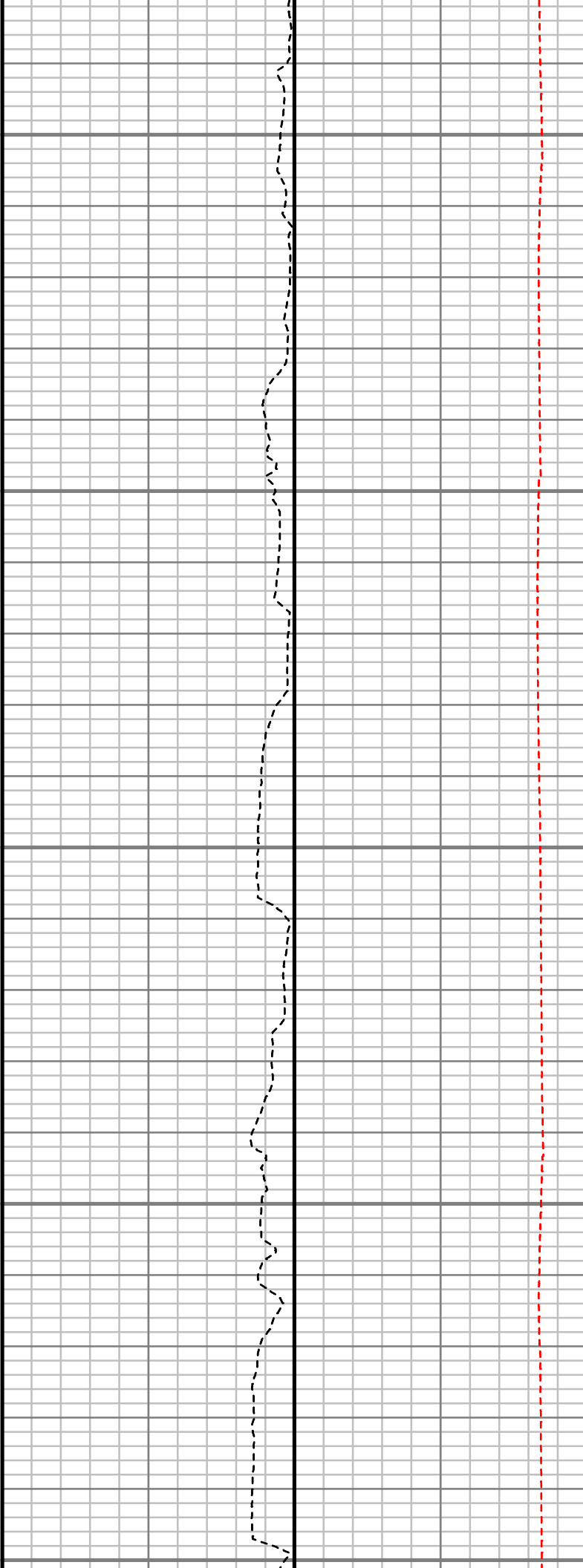
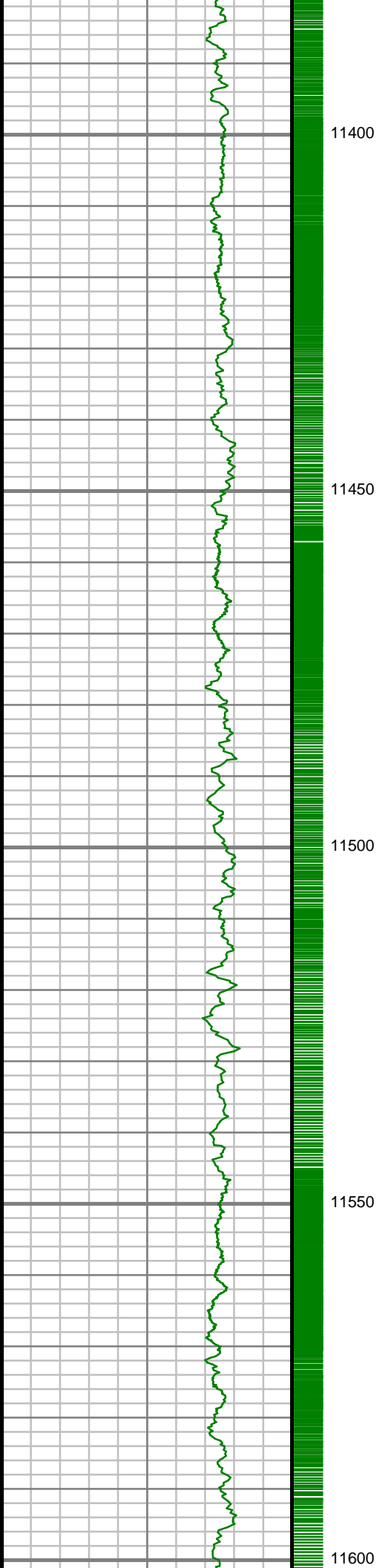


Inc: 88.59 deg Az: 0.24  
deg TVD: 7586.73 ft

S: 120 MD: 11254.00 ft  
Inc: 88.96 deg Az:  
359.76 deg TVD:  
7588.76 ft

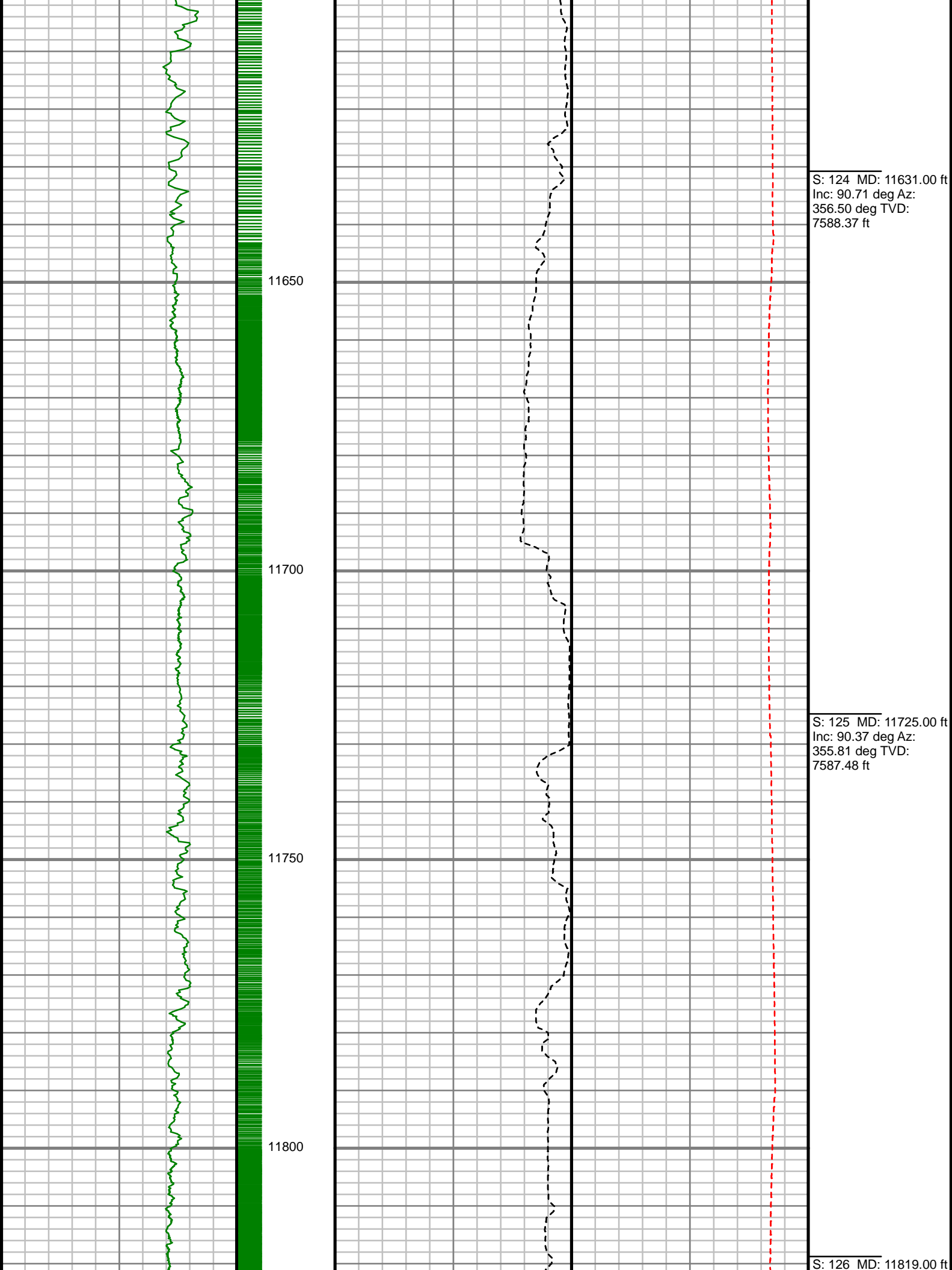
S: 121 MD: 11348.00 ft  
Inc: 89.53 deg Az:  
359.11 deg TVD:  
7590.00 ft

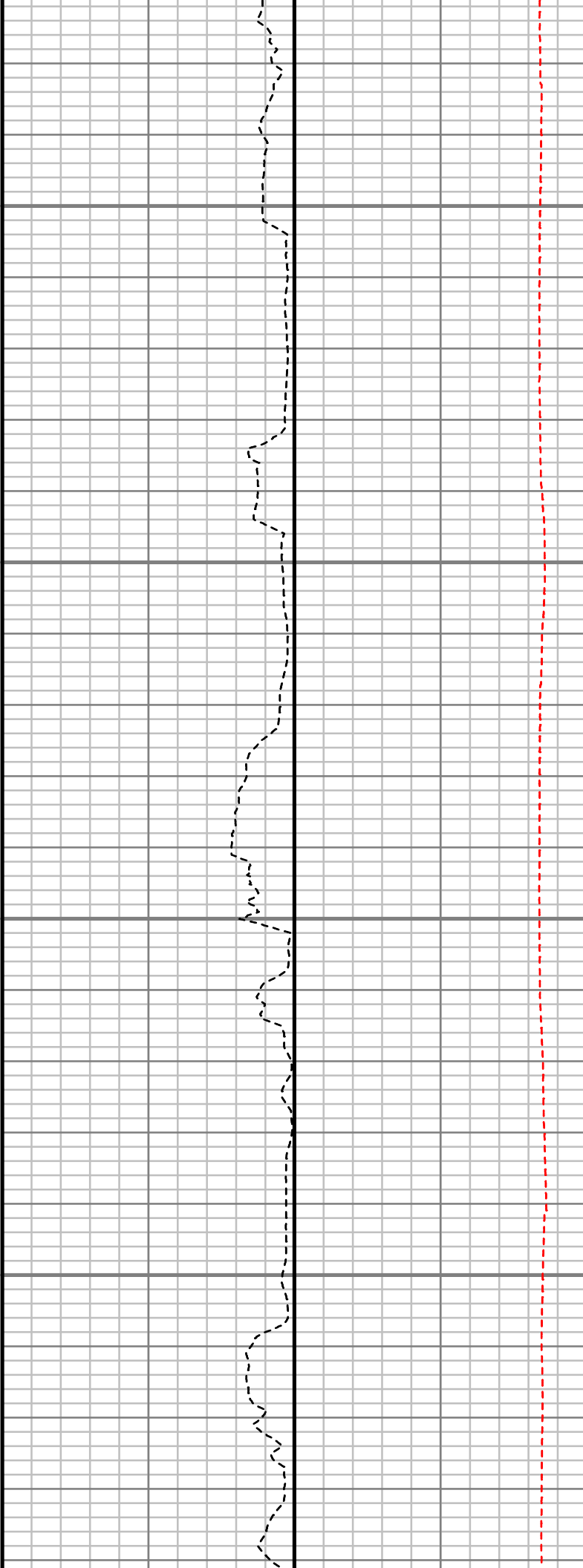
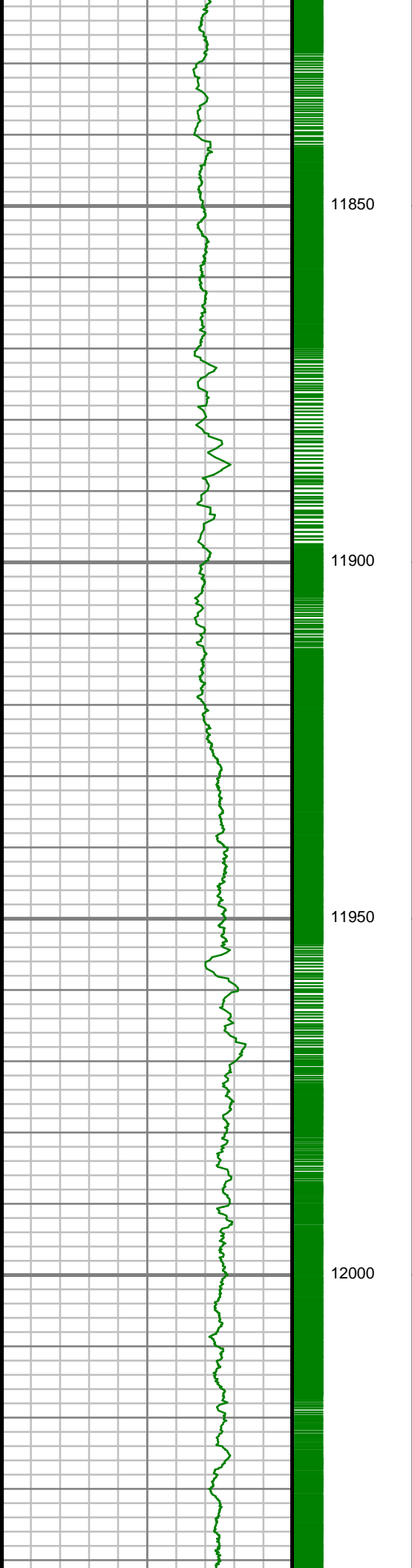




S: 122 MD: 11442.00 ft  
Inc: 90.50 deg Az:  
357.88 deg TVD:  
7589.97 ft

S: 123 MD: 11537.00 ft  
Inc: 90.37 deg Az:  
357.05 deg TVD:  
7589.25 ft

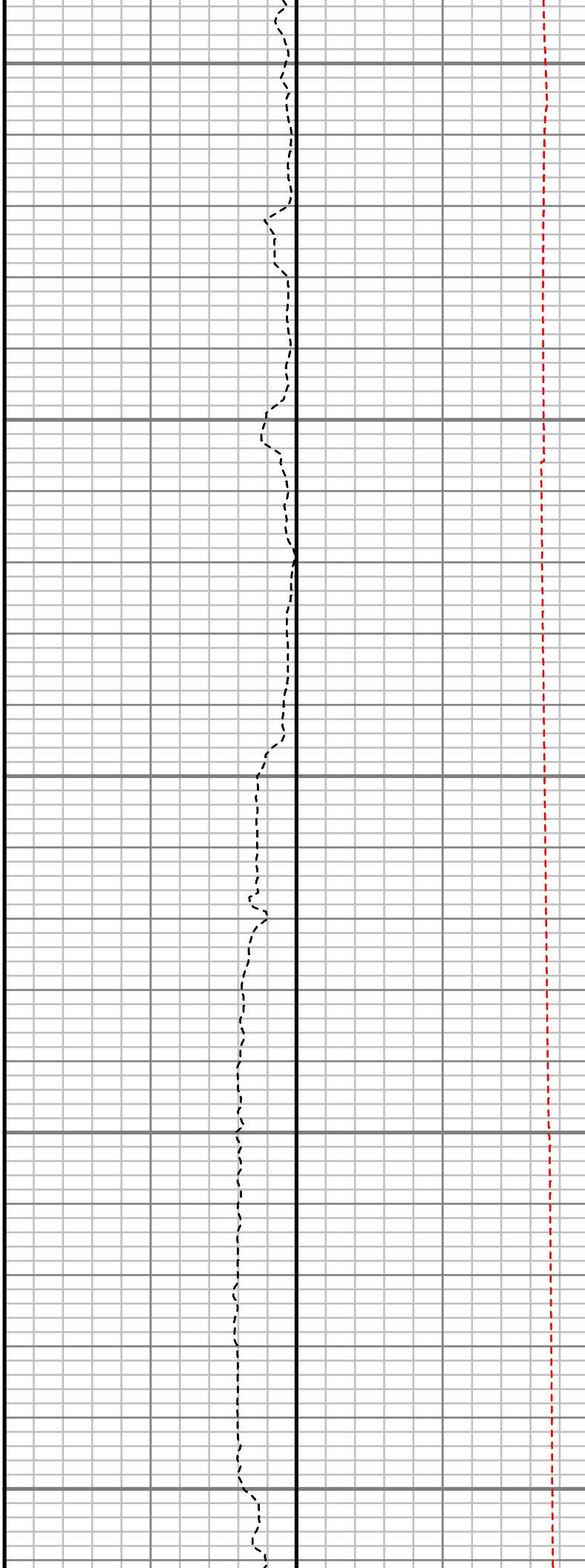
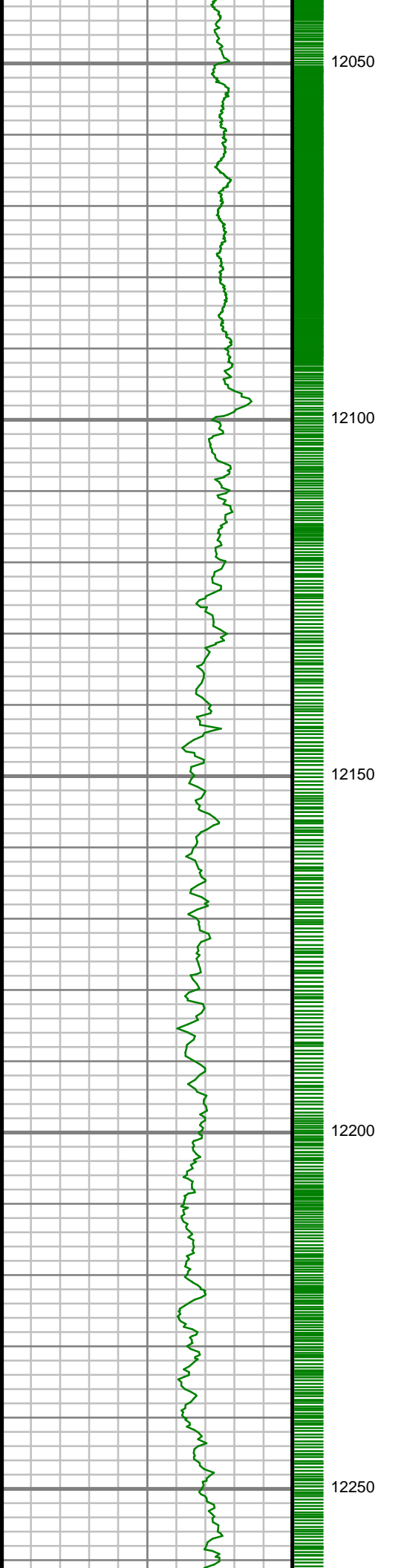




Inc: 91.28 deg Az:  
354.67 deg TVD:  
7586.13 ft

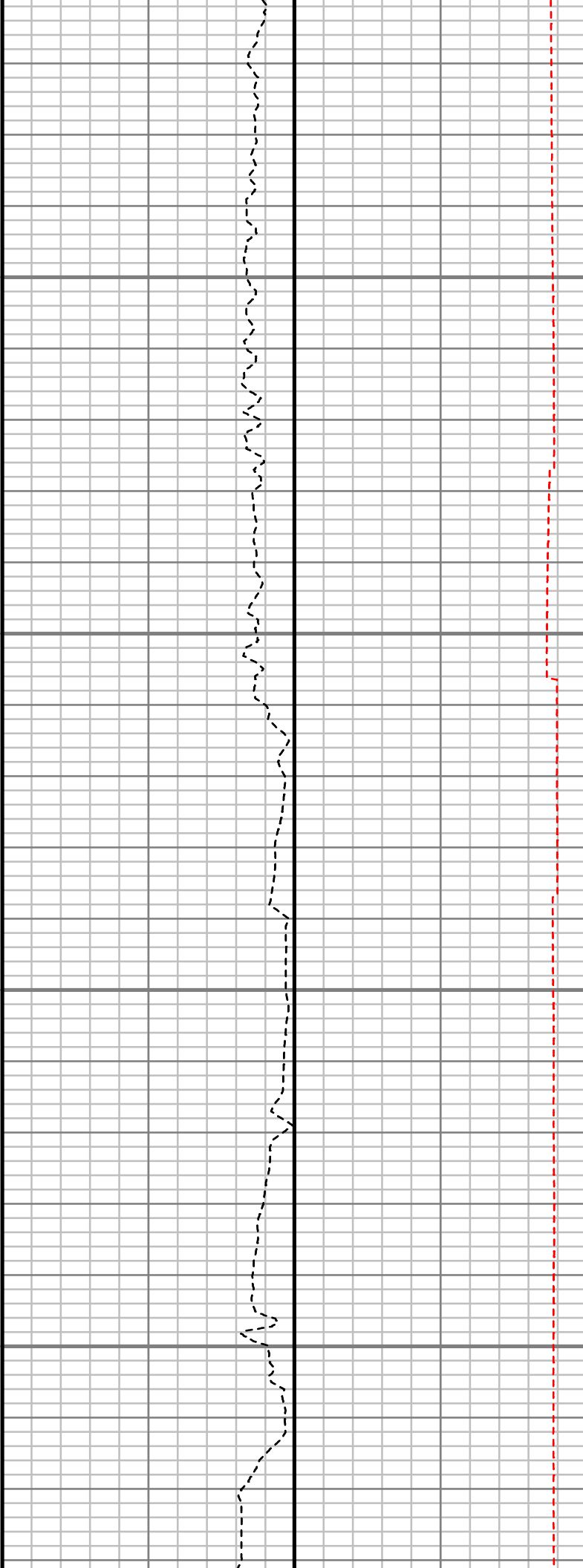
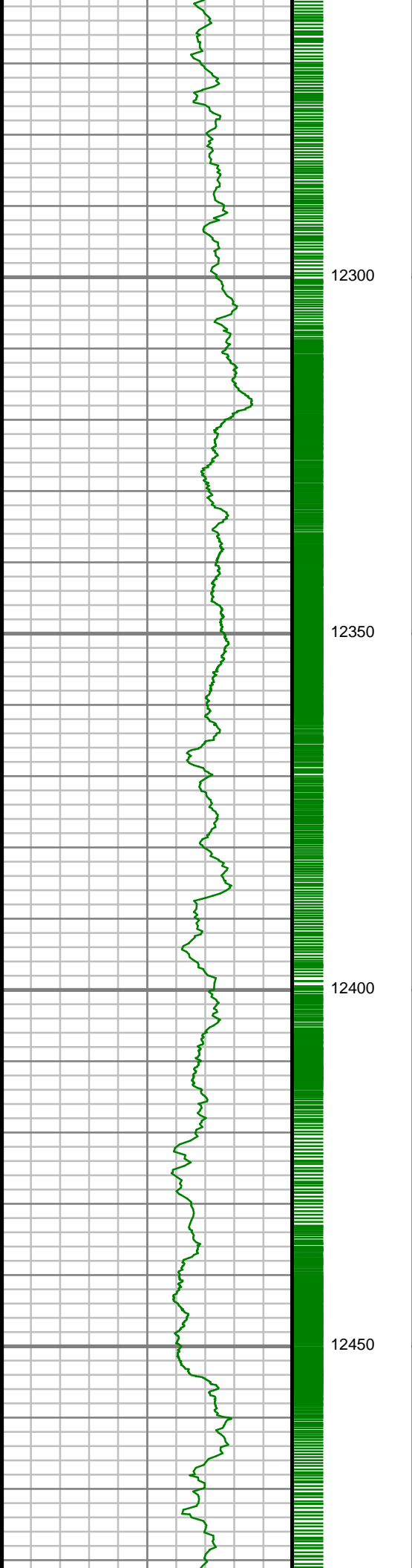
S: 127 MD: 11914.00 ft  
Inc: 89.40 deg Az:  
357.50 deg TVD:  
7585.58 ft

S: 128 MD: 12008.00 ft  
Inc: 89.93 deg Az:  
358.36 deg TVD:  
7586.13 ft



S: 129 MD: 12102.00 ft  
Inc: 91.44 deg Az:  
358.74 deg TVD:  
7585.00 ft

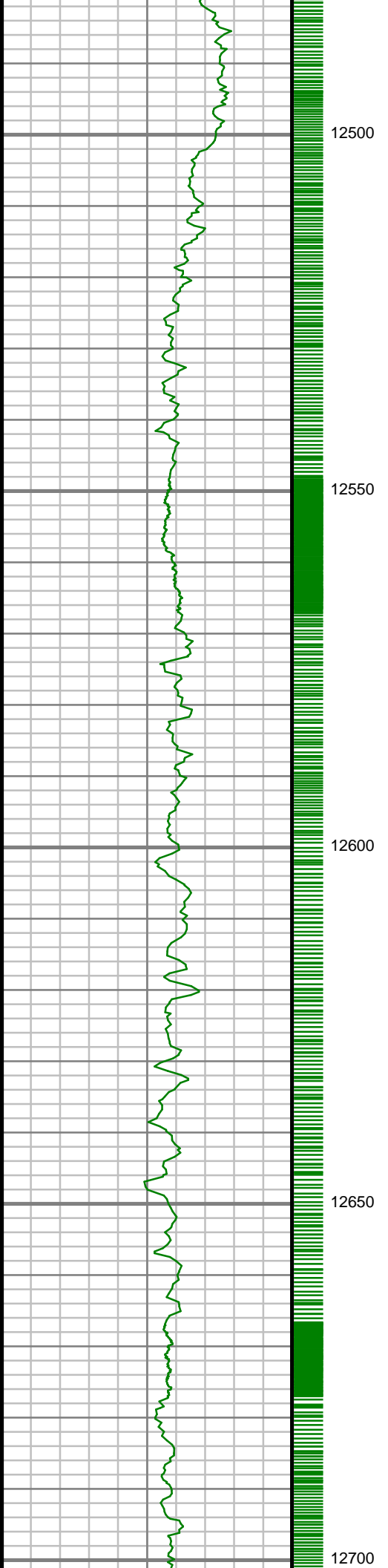
S: 130 MD: 12197.00 ft  
Inc: 91.65 deg Az:  
359.65 deg TVD:  
7582.44 ft



S: 131 MD: 12291.00 ft  
Inc: 91.48 deg Az: 359.55 deg TVD: 7579.87 ft

S: 132 MD: 12386.00 ft  
Inc: 91.54 deg Az: 0.31 deg TVD: 7577.37 ft

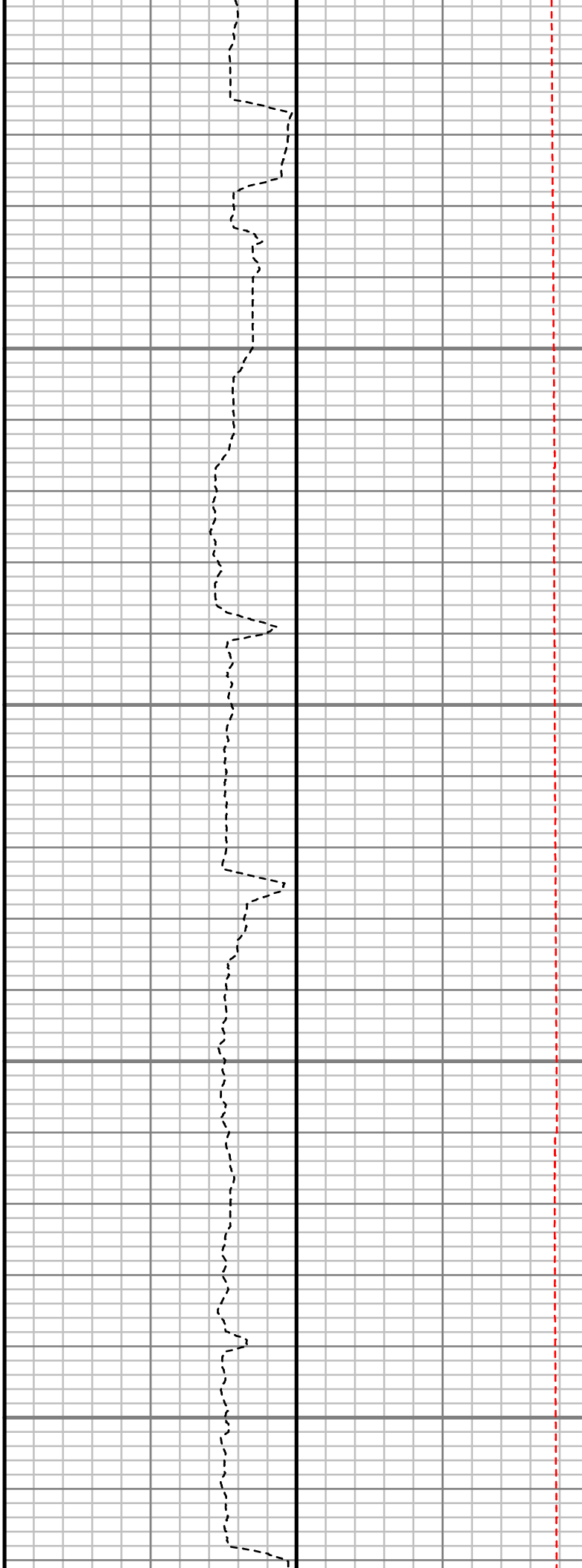
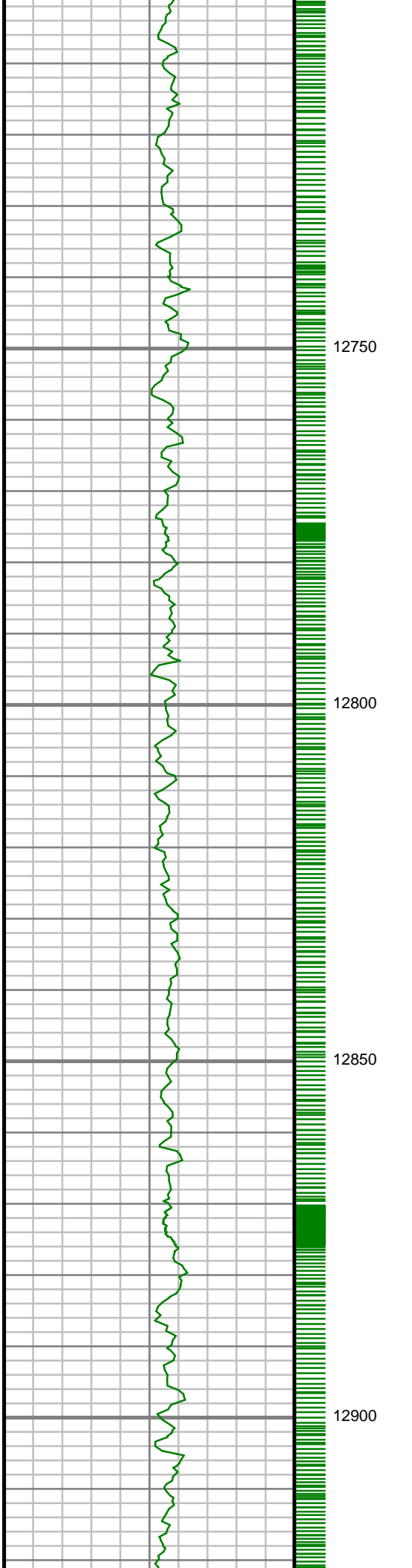
S: 133 MD: 12480.00 ft



S: 133 MD: 12460.00 ft  
Inc: 92.08 deg Az: 0.48  
deg TVD: 7574.40 ft

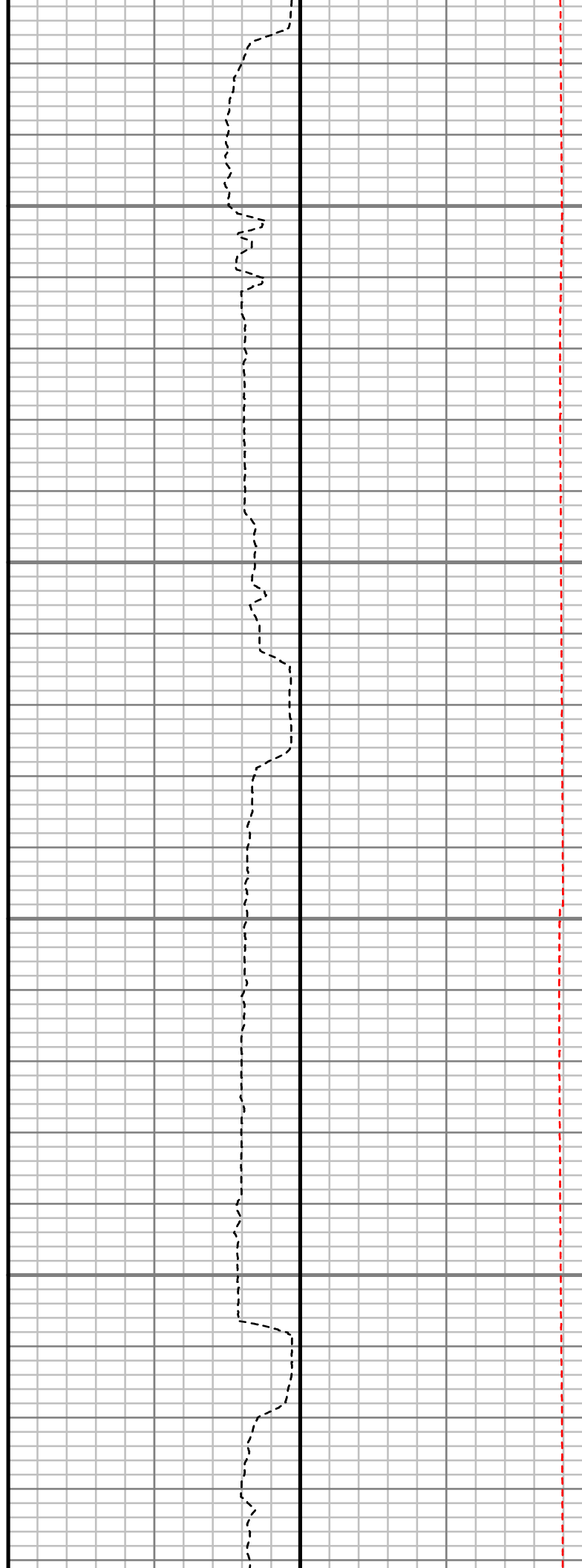
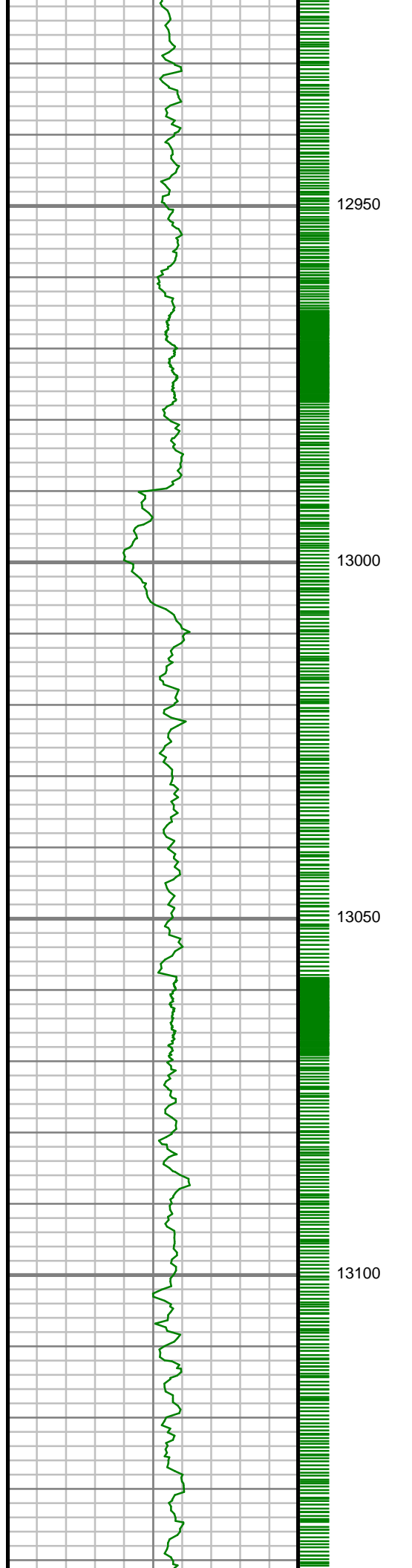
S: 134 MD: 12574.00 ft  
Inc: 92.28 deg Az: 0.10  
deg TVD: 7570.82 ft

S: 135 MD: 12668.00 ft  
Inc: 90.77 deg Az: 1.04  
deg TVD: 7568.32 ft



S: 136 MD: 12762.00 ft  
Inc: 89.90 deg Az: 0.85  
deg TVD: 7567.77 ft

S: 137 MD: 12857.00 ft  
Inc: 89.77 deg Az: 0.04  
deg TVD: 7568.04 ft

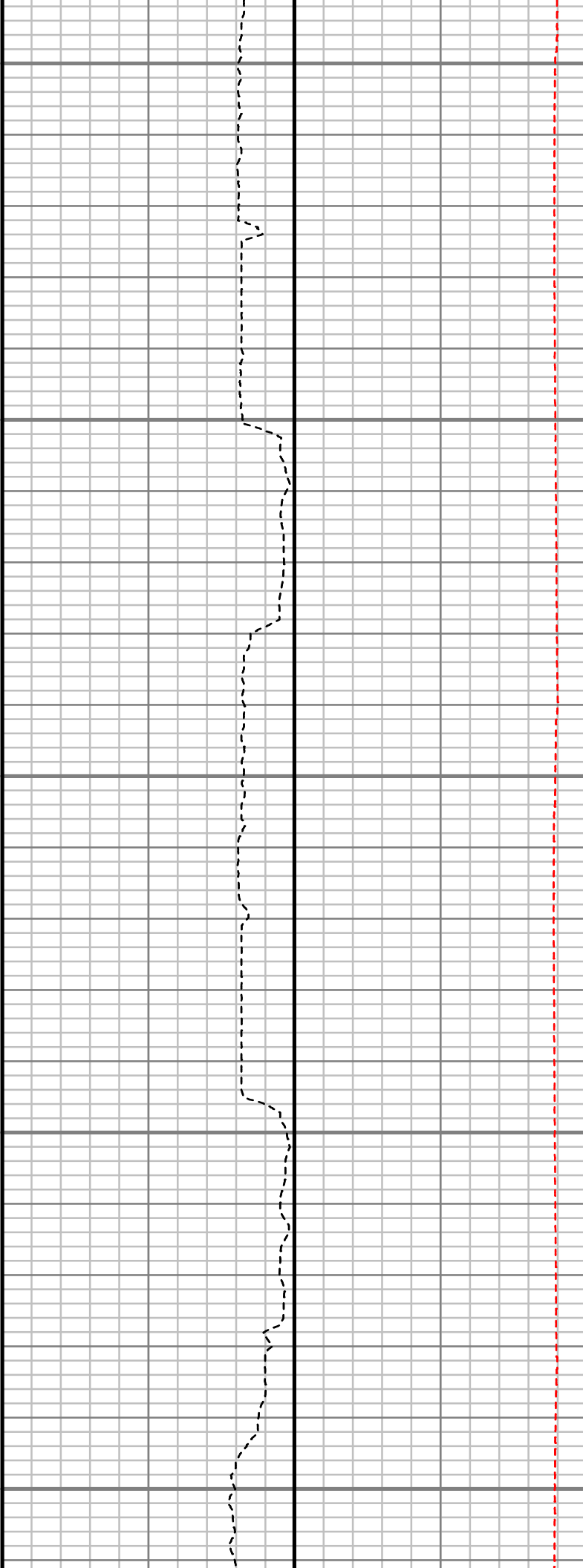
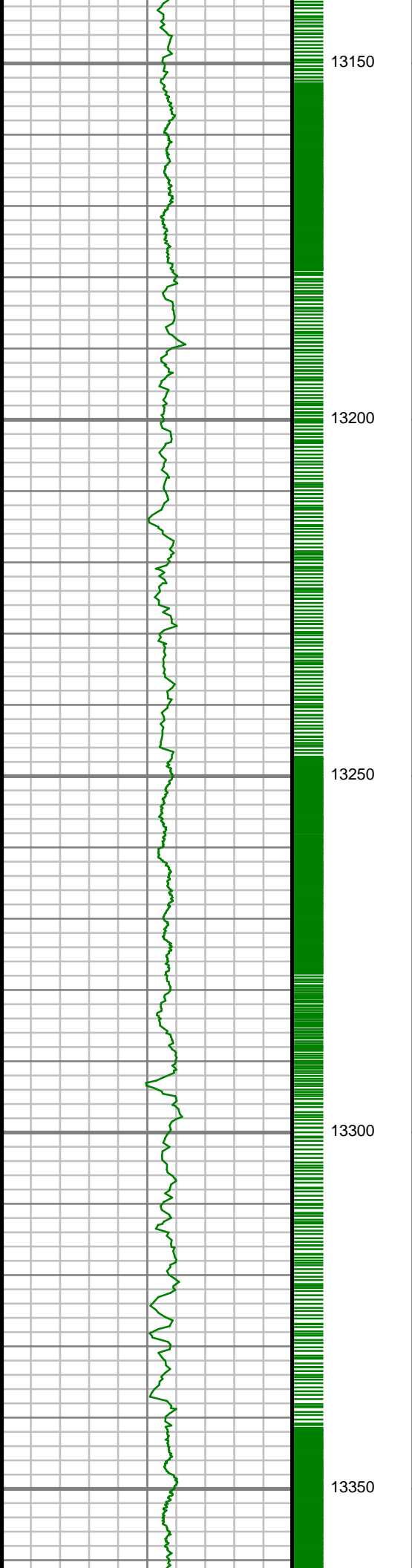


S: 138 MD: 12951.00 ft  
Inc: 89.90 deg Az:  
359.86 deg TVD:  
7568.32 ft

S: 139 MD: 13045.00 ft  
Inc: 90.17 deg Az:  
359.09 deg TVD:  
7568.26 ft

S: 140 MD: 13140.00 ft

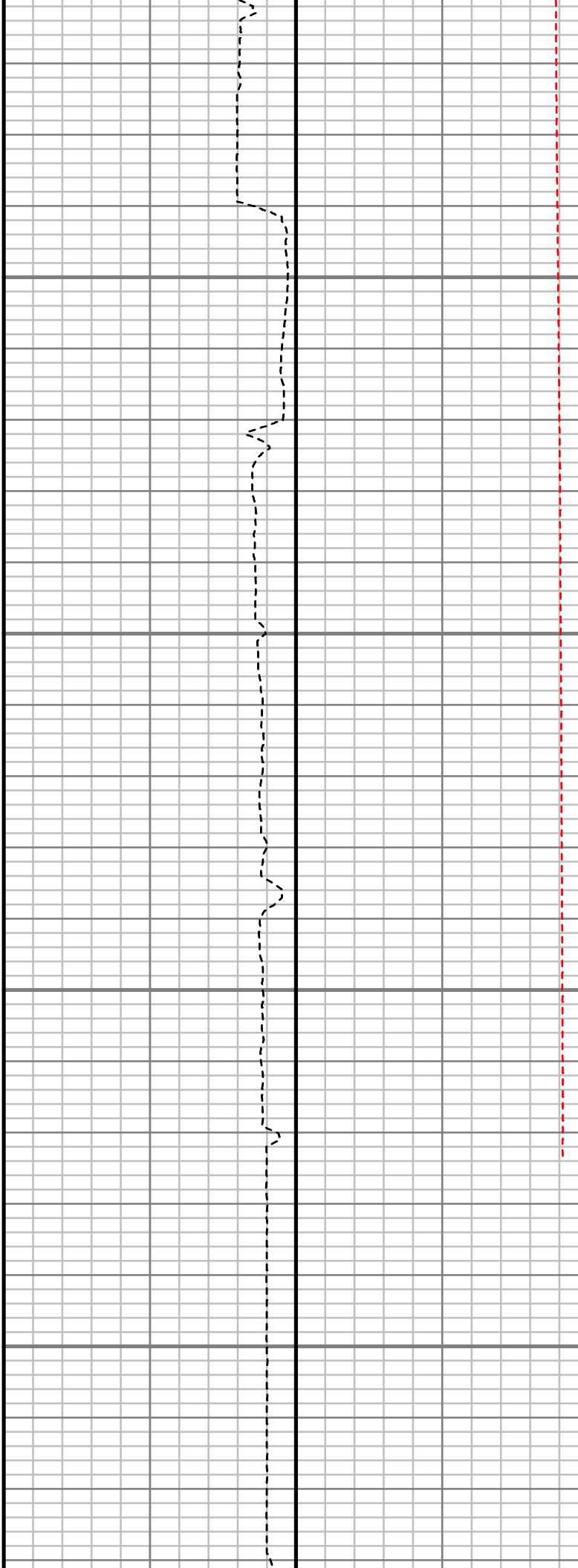
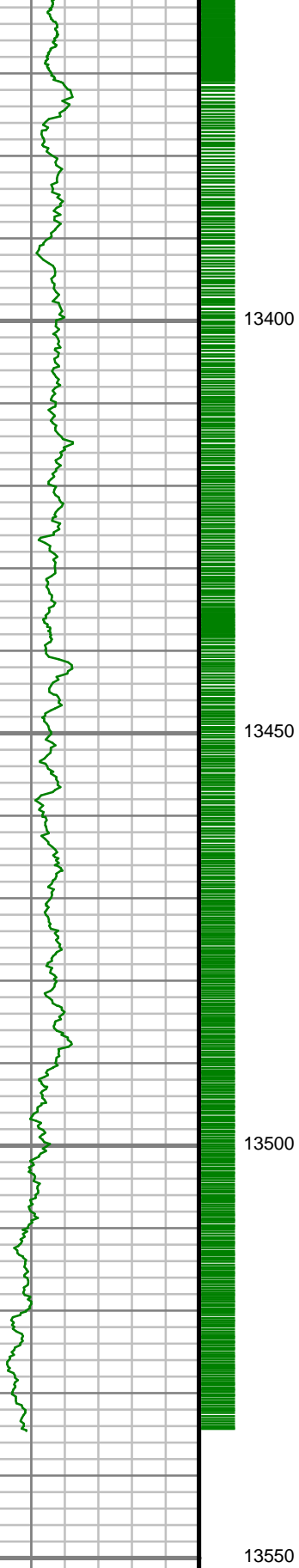




S: 140 MD: 13140.00 ft  
Inc: 90.03 deg Az:  
358.26 deg TVD:  
7568.10 ft

S: 141 MD: 13234.00 ft  
Inc: 90.57 deg Az:  
358.06 deg TVD:  
7567.60 ft

S: 142 MD: 13328.00 ft  
Inc: 89.87 deg Az:  
357.81 deg TVD:  
7567.24 ft



S: 143 MD: 13422.00 ft  
Inc: 91.51 deg Az:  
359.76 deg TVD:  
7566.11 ft

S: 144 MD: 13516.00 ft  
Inc: 90.67 deg Az:  
358.45 deg TVD:  
7564.33 ft



## MWD Survey Report

Well Location	COBRA 12-23HZ PAD
Well Name	COBRA 30C-14HZ
Survey Date	2/27/2015
Latitude	40°7'22.138"N
Longitude	104°51'53.629"W
Btotal	52674, 52679 nT
Dip	66.78, 66.84 deg
Magnetic Declination	8.55, 8.59 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), 0.42Azim (deg)
Operator(s)	B. GREER, B. MILBURN

### Well Notes

SURVEYS FROM 0 FT. TO 1223 FT. WERE ACQUIRED BY CATHEDRAL MWD.

SURVEYS FROM 1223 FT. TO 13583 FT. WERE ACQUIRED BY SCIENTIFIC DRILLING INTERNATIONAL MWD.

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid
19.00	0.00	0.00	19.00	0.00	0.00	0.00	0.00
71.00	0.10	278.40	71.00	0.01	0.01	-0.04	0.19
181.00	0.30	89.30	181.00	0.03	0.02	0.15	0.36
259.00	0.30	71.70	259.00	0.09	0.09	0.55	0.12
339.00	0.10	38.90	339.00	0.22	0.21	0.79	0.28
419.00	0.80	178.50	419.00	-0.29	-0.29	0.85	1.10
499.00	0.90	176.70	498.99	-1.47	-1.48	0.90	0.13
579.00	0.70	35.20	578.98	-1.70	-1.71	1.22	1.89
659.00	0.70	60.00	658.98	-1.05	-1.06	1.92	0.38
739.00	0.90	30.80	738.97	-0.26	-0.28	2.67	0.56
819.00	0.40	63.50	818.97	0.41	0.39	3.24	0.75
899.00	0.20	37.00	898.96	0.65	0.62	3.57	0.30
979.00	0.90	271.20	978.96	0.77	0.75	3.03	1.29
1059.00	1.00	280.30	1058.95	0.90	0.88	1.71	0.23
1139.00	0.40	46.30	1138.95	1.21	1.20	1.23	1.60
1178.00	0.30	112.60	1177.95	1.27	1.26	1.42	1.00
1261.00	0.74	8.57	1260.94	1.72	1.70	1.70	1.04
1353.00	1.14	33.56	1352.93	3.07	3.05	2.29	0.61
1444.00	1.44	23.74	1443.91	4.88	4.86	3.26	0.41

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
1538.00	3.06	9.72	1537.83	8.45	8.42	4.16	1.81
1632.00	4.35	3.29	1631.63	14.49	14.45	4.79	1.44
1726.00	5.45	356.22	1725.29	22.50	22.47	4.70	1.33
1821.00	7.78	352.46	1819.65	33.36	33.34	3.56	2.50
1915.00	8.68	351.89	1912.68	46.68	46.67	1.72	0.96
2009.00	9.44	353.72	2005.51	61.35	61.35	-0.12	0.87
2103.00	11.56	354.21	2097.93	78.37	78.39	-1.92	2.26
2198.00	13.88	352.30	2190.59	99.12	99.15	-4.40	2.47
2292.00	14.95	351.49	2281.63	122.26	122.32	-7.71	1.16
2386.00	17.08	350.89	2371.98	147.86	147.95	-11.69	2.27
2480.00	18.31	353.19	2461.53	176.12	176.24	-15.63	1.50
2575.00	19.09	354.76	2551.52	206.38	206.52	-18.82	0.98
2669.00	19.35	351.79	2640.28	237.07	237.24	-22.44	1.08
2763.00	19.39	351.39	2728.96	267.88	268.08	-27.00	0.15
2857.00	25.70	354.46	2815.74	303.60	303.84	-31.31	6.82
2951.00	29.41	350.58	2899.07	346.63	346.91	-37.06	4.38
3045.00	30.14	350.52	2980.66	392.61	392.95	-44.72	0.78
3139.00	27.10	349.83	3063.16	436.91	437.31	-52.39	3.25
3233.00	27.41	348.83	3146.73	479.15	479.60	-60.36	0.59
3327.00	26.93	351.19	3230.36	521.35	521.86	-67.81	1.25

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
3421.00	27.10	350.95	3314.11	563.48	564.04	-74.44	0.22
3515.00	27.14	351.56	3397.77	605.78	606.39	-80.95	0.30
3609.00	24.91	351.61	3482.24	646.53	647.19	-86.99	2.38
3703.00	23.60	349.82	3567.94	684.59	685.29	-93.21	1.60
3798.00	22.67	348.46	3655.30	721.19	721.94	-100.23	1.13
3892.00	24.59	351.92	3741.42	758.25	759.05	-106.60	2.52
3986.00	23.64	356.32	3827.23	796.40	797.23	-110.56	2.16
4081.00	25.60	354.17	3913.59	835.80	836.66	-113.87	2.26
4175.00	29.12	356.98	3997.06	878.83	879.72	-117.14	3.99
4269.00	27.80	356.54	4079.70	923.53	924.44	-119.67	1.42
4364.00	27.38	351.59	4163.91	967.23	968.16	-124.21	2.45
4552.00	26.90	343.20	4331.27	1050.60	1051.68	-142.83	2.05
4646.00	28.86	347.79	4414.36	1093.06	1094.22	-153.78	3.09
4741.00	27.95	349.68	4497.93	1137.31	1138.53	-162.62	1.35
4835.00	30.24	347.75	4580.06	1182.05	1183.34	-171.59	2.63
4929.00	30.50	351.58	4661.17	1228.72	1230.07	-180.11	2.08
5024.00	28.82	355.29	4743.73	1275.35	1276.75	-185.52	2.62
5118.00	27.99	352.84	4826.42	1319.78	1321.21	-190.13	1.52
5212.00	25.17	351.95	4910.47	1361.43	1362.90	-195.68	3.03
5306.00	25.69	354.23	4995.37	1401.46	1402.97	-200.52	1.17

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
5400.00	24.02	354.30	5080.65	1440.75	1442.29	-204.48	1.77
5495.00	25.58	353.65	5166.89	1480.35	1481.91	-208.67	1.66
5589.00	24.62	351.33	5252.01	1519.83	1521.44	-213.87	1.46
5683.00	23.24	354.18	5337.93	1557.61	1559.26	-218.70	1.92
5777.00	23.35	353.43	5424.27	1594.54	1596.21	-222.71	0.34
5871.00	25.50	354.84	5509.86	1633.16	1634.87	-226.66	2.37
5965.00	26.90	353.15	5594.20	1674.39	1676.13	-231.01	1.69
6060.00	24.59	351.07	5679.77	1715.22	1717.00	-236.65	2.61
6154.00	24.90	349.03	5765.14	1753.92	1755.75	-243.45	0.97
6248.00	24.33	348.96	5850.59	1792.30	1794.18	-250.92	0.61
6342.00	22.32	351.82	5936.91	1828.93	1830.86	-257.17	2.46
6436.00	21.39	354.70	6024.15	1863.63	1865.60	-261.29	1.51
6531.00	23.42	352.87	6111.98	1899.59	1901.59	-265.24	2.26
6625.00	23.64	354.31	6198.16	1936.85	1938.88	-269.42	0.65
6719.00	26.41	355.92	6283.33	1976.44	1978.49	-272.78	3.04
6813.00	27.78	358.65	6367.02	2019.18	2021.25	-274.78	1.97
6908.00	30.93	357.00	6449.81	2065.70	2067.78	-276.58	3.43
7002.00	31.15	353.45	6530.35	2113.95	2116.06	-280.62	1.96
7096.00	31.45	351.19	6610.68	2162.29	2164.45	-287.15	1.29
7190.00	28.19	350.07	6692.22	2208.35	2210.57	-294.73	3.52

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
7284.00	28.37	351.31	6775.00	2252.25	2254.52	-301.93	0.65
7472.00	26.73	351.22	6941.67	2338.09	2340.46	-315.13	0.88
7566.00	24.22	349.76	7026.53	2377.91	2380.33	-321.79	2.75
7661.00	24.23	346.52	7113.17	2415.99	2418.47	-329.80	1.40
7755.00	27.46	348.57	7197.75	2455.94	2458.49	-338.59	3.56
7849.00	32.62	352.26	7279.10	2502.27	2504.87	-346.31	5.82
7943.00	37.67	353.35	7355.94	2555.89	2558.54	-353.05	5.42
8038.00	47.45	356.17	7425.84	2619.75	2622.45	-358.76	10.49
8132.00	58.60	359.14	7482.30	2694.63	2697.36	-361.69	12.12
8226.00	66.91	1.53	7525.30	2778.12	2780.85	-361.14	9.13
8321.00	72.58	1.95	7558.17	2867.19	2869.89	-358.42	5.98
8415.00	81.16	1.50	7579.50	2958.62	2961.31	-355.67	9.14
8478.00	86.34	0.85	7586.35	3021.22	3023.90	-354.39	8.28
8615.00	89.03	1.29	7591.90	3158.09	3160.75	-351.84	1.99
8709.00	89.63	0.05	7593.00	3252.08	3254.74	-350.73	1.47
8804.00	90.07	0.20	7593.25	3347.08	3349.74	-350.52	0.48
8898.00	90.54	359.77	7592.76	3441.07	3443.73	-350.55	0.68
8992.00	91.11	0.10	7591.41	3535.06	3537.72	-350.65	0.71
9086.00	90.87	0.37	7589.78	3629.04	3631.71	-350.26	0.38
9180.00	90.27	0.23	7588.84	3723.04	3725.70	-349.77	0.66

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
9274.00	90.84	0.89	7587.93	3817.03	3819.69	-348.86	0.93
9368.00	91.64	1.33	7585.90	3911.00	3913.65	-347.04	0.98
9462.00	91.14	1.44	7583.61	4004.96	4007.60	-344.76	0.55
9557.00	90.44	0.62	7582.30	4099.95	4102.57	-343.05	1.14
9651.00	90.57	1.06	7581.47	4193.94	4196.56	-341.67	0.49
9745.00	90.94	1.04	7580.24	4287.93	4290.53	-339.95	0.39
9933.00	90.24	1.49	7578.31	4475.89	4478.47	-335.79	0.45
10028.00	89.70	1.10	7578.37	4570.88	4573.45	-333.64	0.70
10122.00	89.66	0.75	7578.89	4664.88	4667.44	-332.12	0.37
10216.00	90.17	0.88	7579.03	4758.87	4761.43	-330.78	0.55
10311.00	91.01	1.84	7578.05	4853.85	4856.39	-328.53	1.35
10405.00	89.73	2.08	7577.45	4947.82	4950.33	-325.31	1.38
10499.00	90.07	2.21	7577.61	5041.77	5044.27	-321.80	0.38
10593.00	89.90	2.93	7577.64	5135.71	5138.17	-317.59	0.79
10688.00	90.40	2.81	7577.39	5230.62	5233.05	-312.83	0.54
10782.00	90.60	2.65	7576.56	5324.54	5326.94	-308.35	0.28
10876.00	88.76	1.78	7577.09	5418.49	5420.87	-304.72	2.17
10971.00	87.85	1.04	7579.90	5513.43	5515.79	-302.38	1.23
11065.00	87.62	0.47	7583.62	5607.35	5609.71	-301.15	0.66
11159.00	88.59	0.24	7586.73	5701.30	5703.66	-300.57	1.07

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
11254.00	88.96	359.76	7588.76	5796.28	5798.63	-300.57	0.63
11348.00	89.53	359.11	7590.00	5890.25	5892.62	-301.49	0.92
11442.00	90.50	357.88	7589.97	5984.20	5986.59	-303.96	1.67
11537.00	90.37	357.05	7589.25	6079.07	6081.49	-308.16	0.88
11631.00	90.71	356.50	7588.37	6172.87	6175.34	-313.45	0.69
11725.00	90.37	355.81	7587.48	6266.61	6269.12	-319.75	0.81
11819.00	91.28	354.67	7586.13	6360.21	6362.78	-327.54	1.55
11914.00	89.40	357.50	7585.58	6454.92	6457.55	-334.03	3.58
12008.00	89.93	358.36	7586.13	6548.83	6551.48	-337.42	1.08
12102.00	91.44	358.74	7585.00	6642.77	6645.44	-339.80	1.66
12197.00	91.65	359.65	7582.44	6737.72	6740.40	-341.13	0.99
12291.00	91.48	359.55	7579.87	6831.67	6834.36	-341.79	0.21
12386.00	91.54	0.31	7577.37	6926.63	6929.33	-341.90	0.81
12480.00	92.08	0.48	7574.40	7020.59	7023.28	-341.25	0.60
12574.00	92.28	0.10	7570.82	7114.52	7117.21	-340.77	0.46
12668.00	90.77	1.04	7568.32	7208.48	7211.17	-339.83	1.89
12762.00	89.90	0.85	7567.77	7302.47	7305.15	-338.28	0.95
12857.00	89.77	0.04	7568.04	7397.47	7400.15	-337.54	0.86
12951.00	89.90	359.86	7568.32	7491.47	7494.15	-337.62	0.24
13045.00	90.17	359.09	7568.26	7585.46	7588.14	-338.47	0.87

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS
ft	deg	deg	ft	ft	ft	ft	°/100ft
13140.00	90.03	358.26	7568.10	7680.41	7683.11	-340.66	0.89
13234.00	90.57	358.06	7567.60	7774.34	7777.06	-343.67	0.61
13328.00	89.87	357.81	7567.24	7868.25	7871.00	-347.05	0.80
13422.00	91.51	359.76	7566.11	7962.19	7964.97	-349.05	2.71
13516.00	90.67	358.45	7564.33	8056.15	8058.94	-350.51	1.66

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



5" = 100' FEET MD