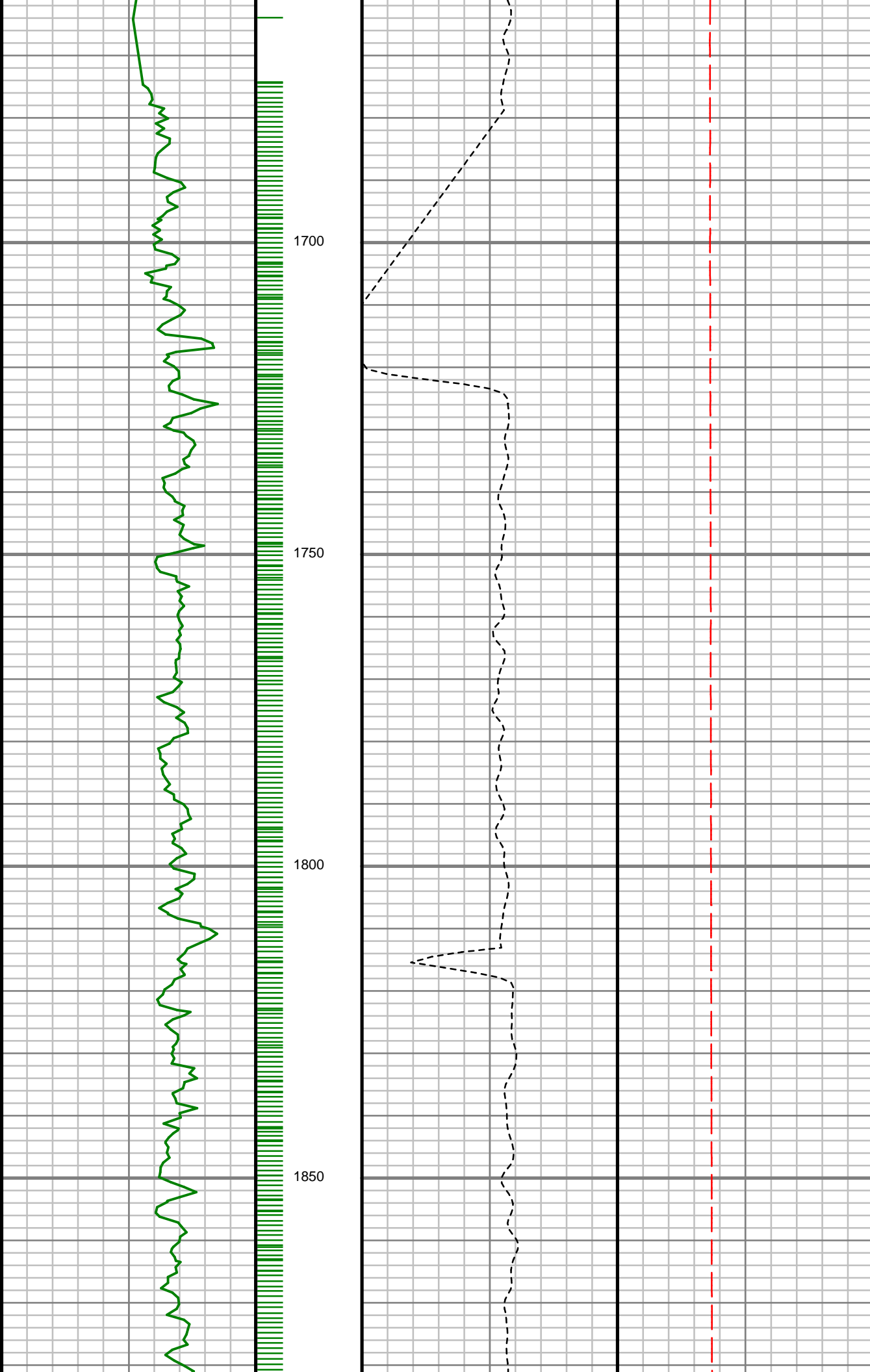


[illegible]

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.

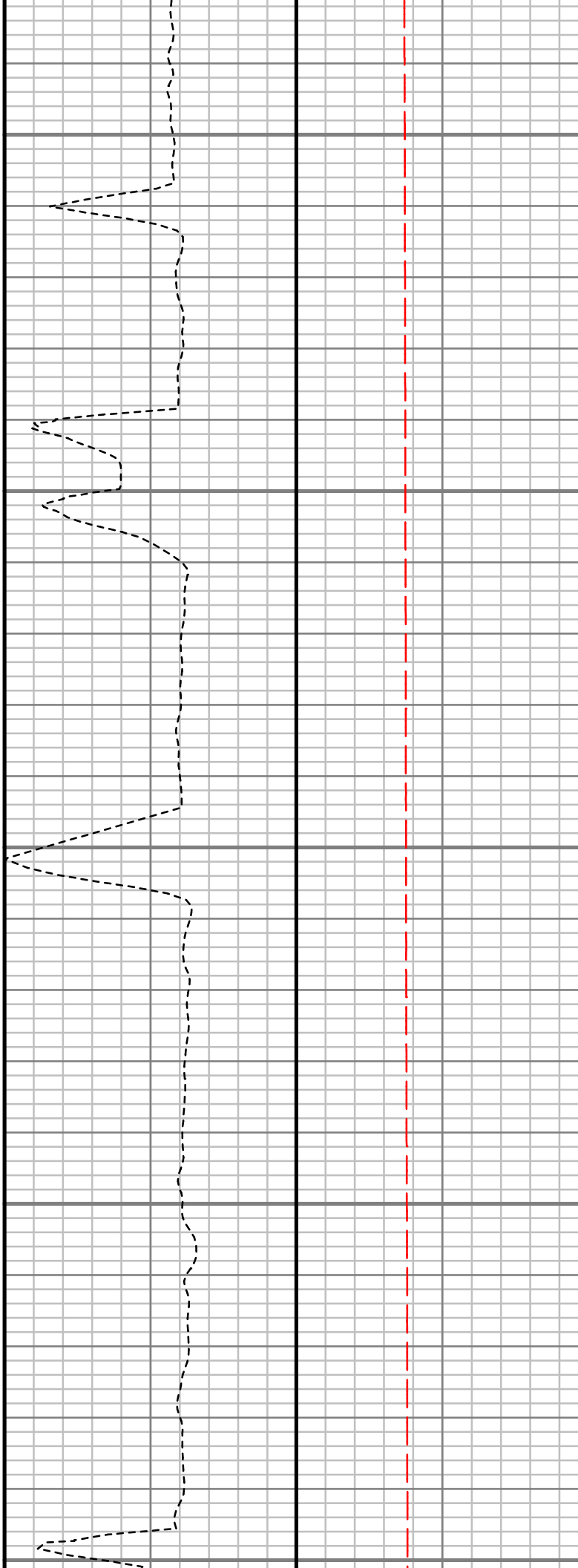
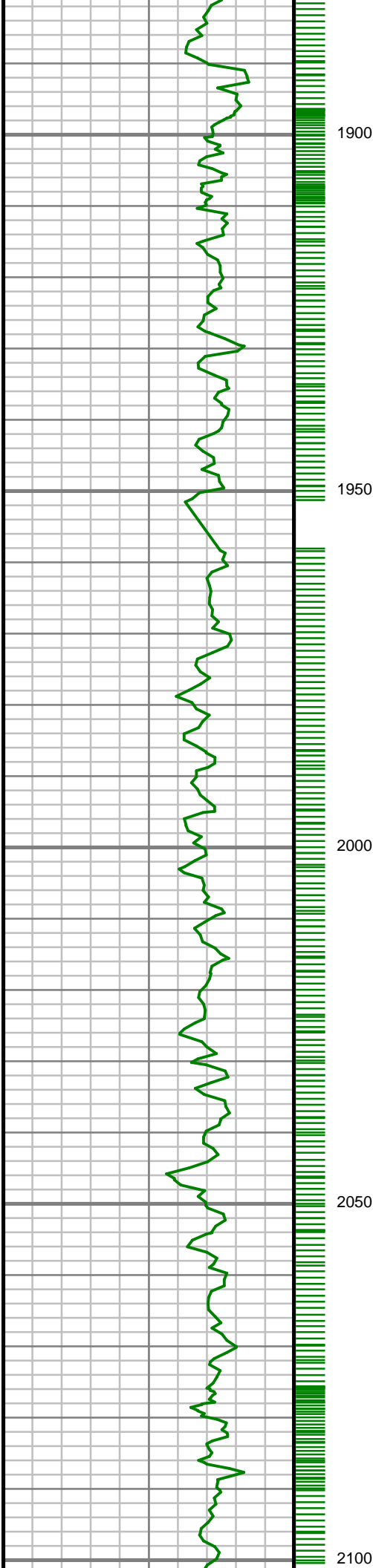
ANADARKO E&P ONSHORE LLC. LAND 15C-32HZ WATTENBERG WELD COUNT, COLORADO 05123423040000				
Gamma Ray (GR) 0 Unit = aapi 150	MEASURED DEPTH 1-240 (ft)	Rate of Penetration (ROP) 0 Unit = ft/hr 1000	Tool Temperature (T-TEMP) 0 Unit = °F 300	Comments



S: 16 MD: 1663.00 ft
Inc: 20.99 deg Az:
335.65 deg TVD:
1635.02 ft

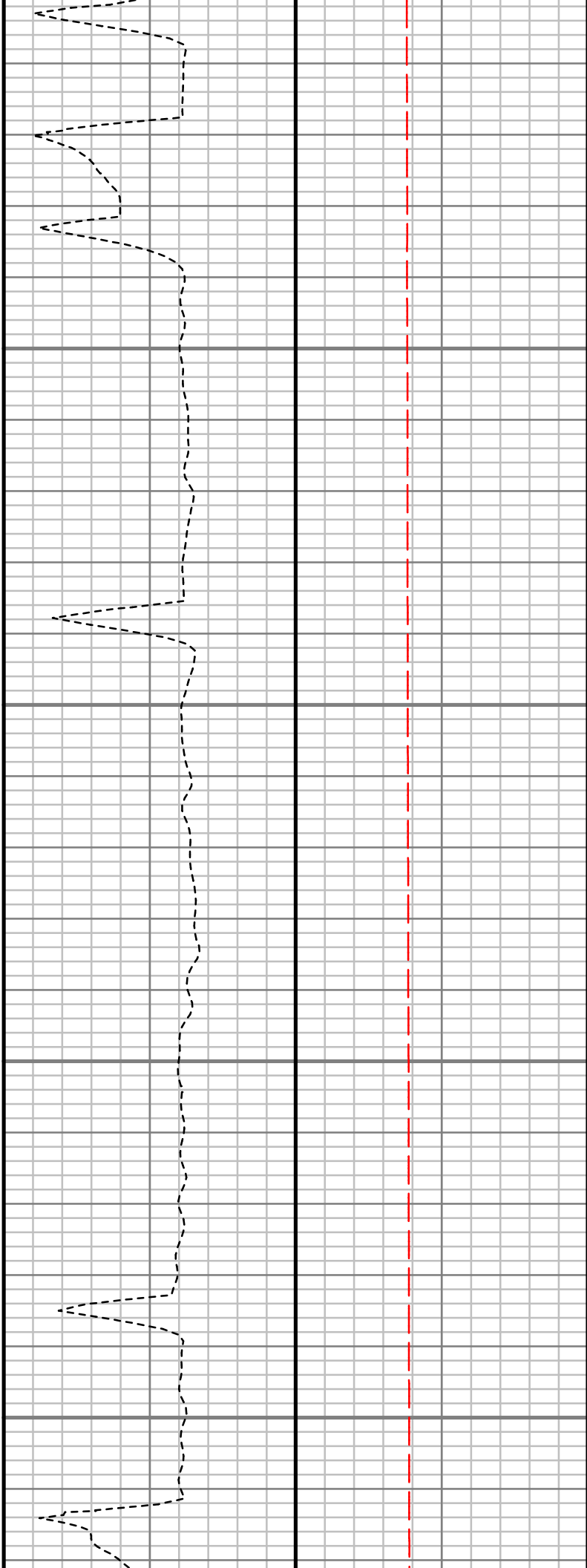
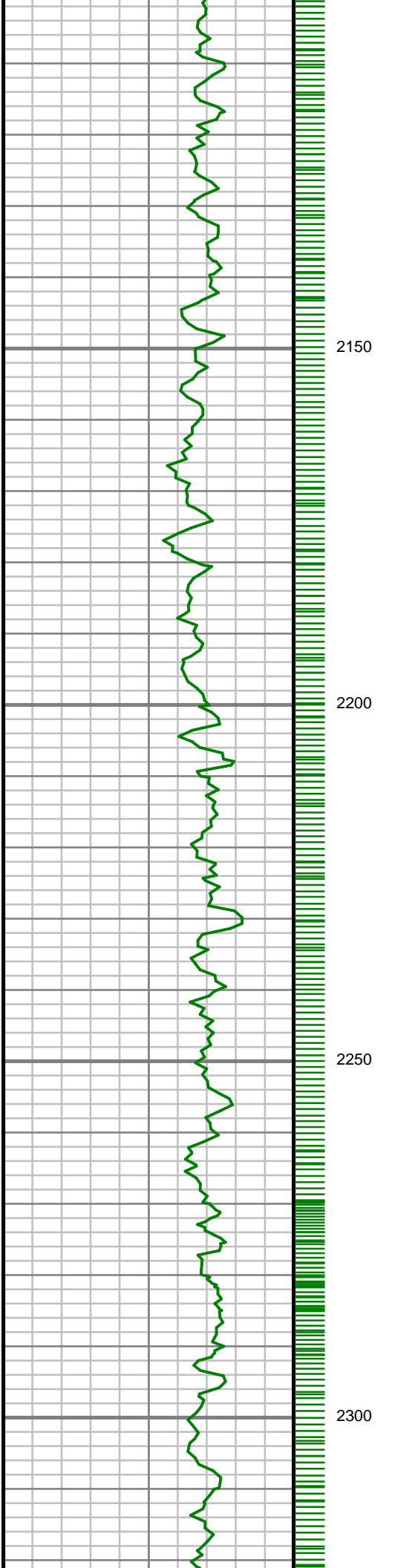
S: 17 MD: 1758.00 ft
Inc: 20.79 deg Az:
333.02 deg TVD:
1723.77 ft

S: 18 MD: 1852.00 ft
Inc: 20.19 deg Az:
331.09 deg TVD:
1811.83 ft



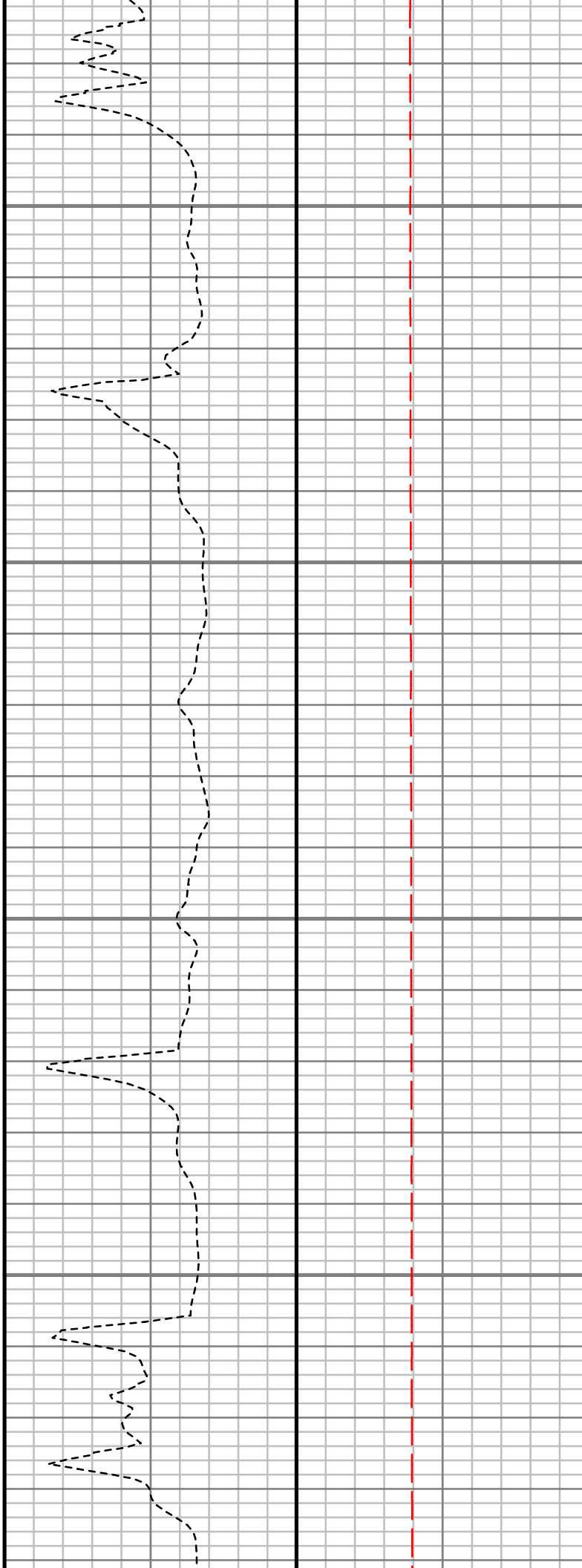
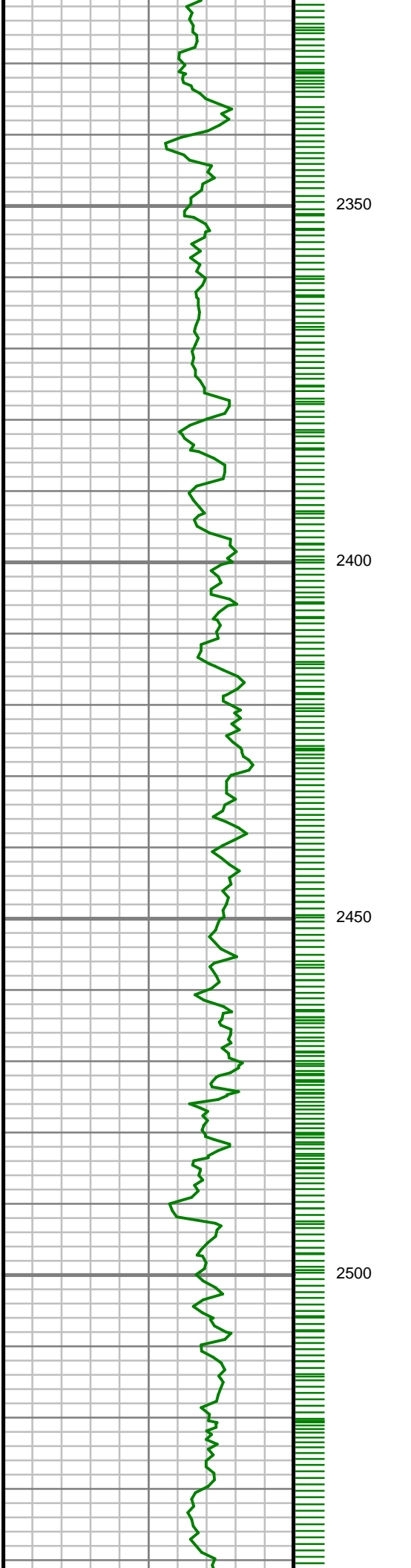
S: 19 MD: 1946.00 ft
Inc: 20.60 deg Az:
333.47 deg TVD:
1899.94 ft

S: 20 MD: 2041.00 ft
Inc: 19.39 deg Az:
330.97 deg TVD:
1989.21 ft



S: 21 MD: 2136.00 ft
Inc: 19.14 deg Az:
337.44 deg TVD:
2078.90 ft

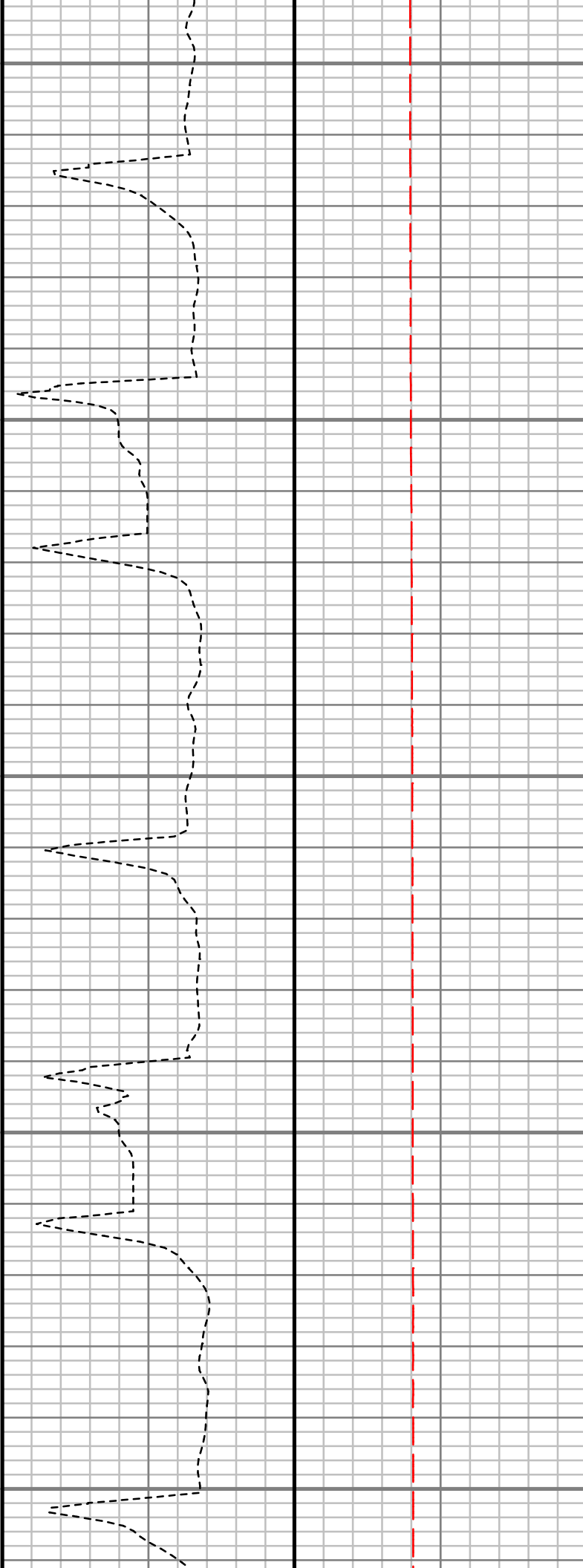
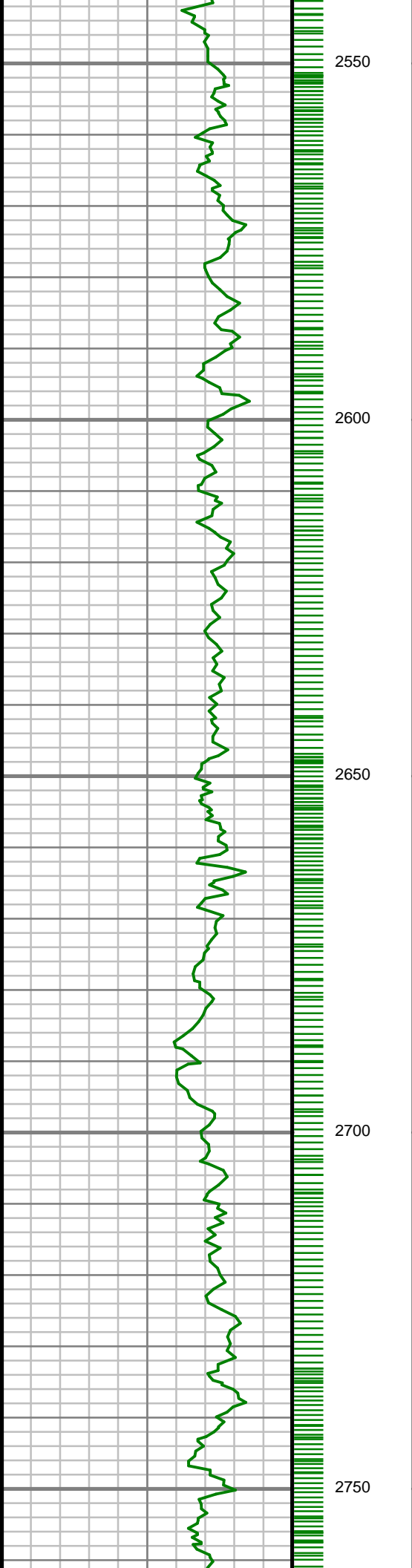
S: 22 MD: 2231.00 ft
Inc: 18.00 deg Az:
335.79 deg TVD:
2168.96 ft



S: 23 MD: 2325.00 ft
Inc: 17.91 deg Az:
340.52 deg TVD:
2258.38 ft

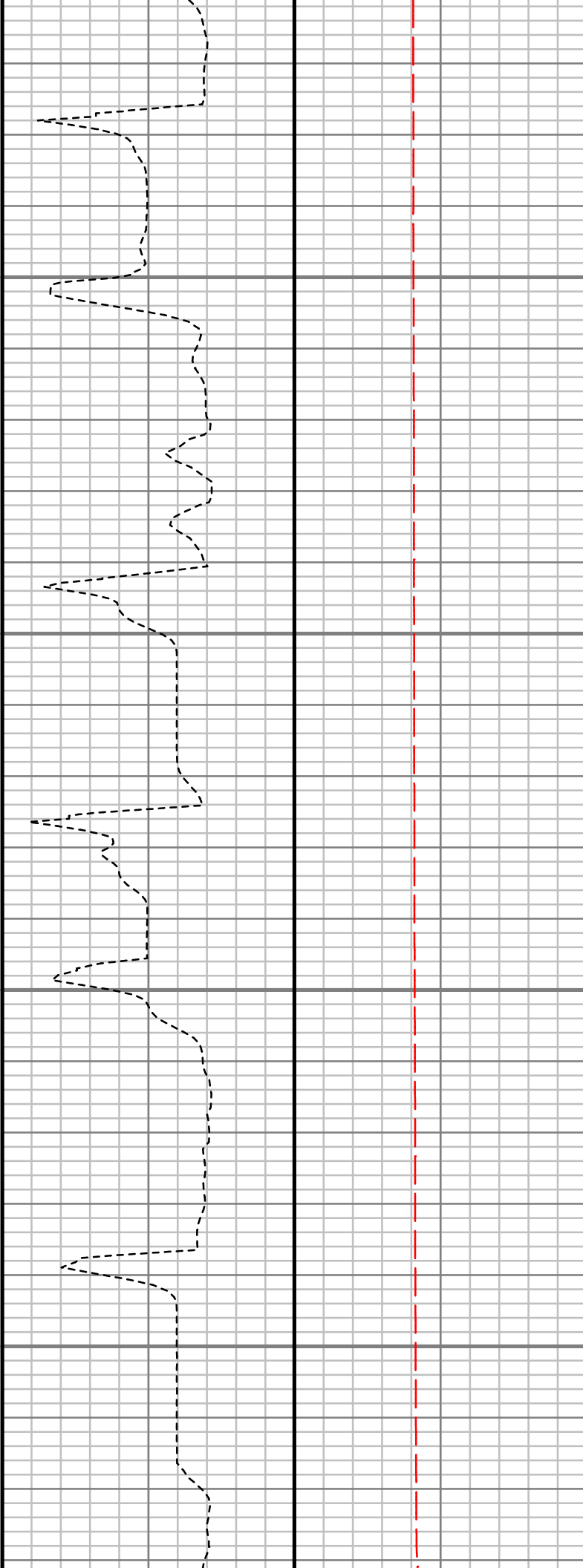
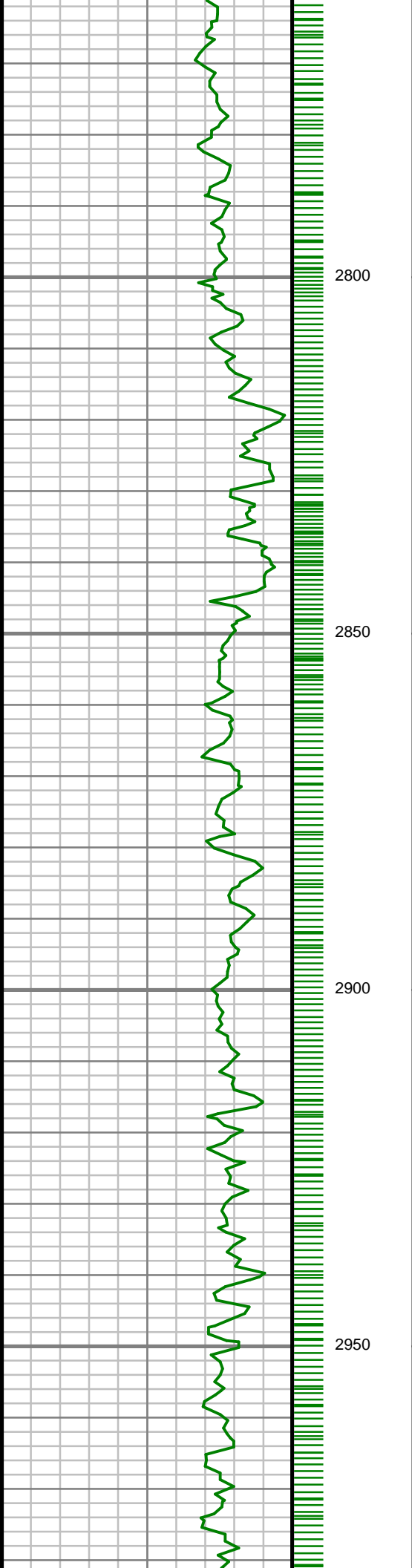
S: 24 MD: 2417.00 ft
Inc: 16.58 deg Az:
341.57 deg TVD:
2346.24 ft

S: 25 MD: 2511.00 ft
Inc: 15.37 deg Az:
337.19 deg TVD:
2436.61 ft



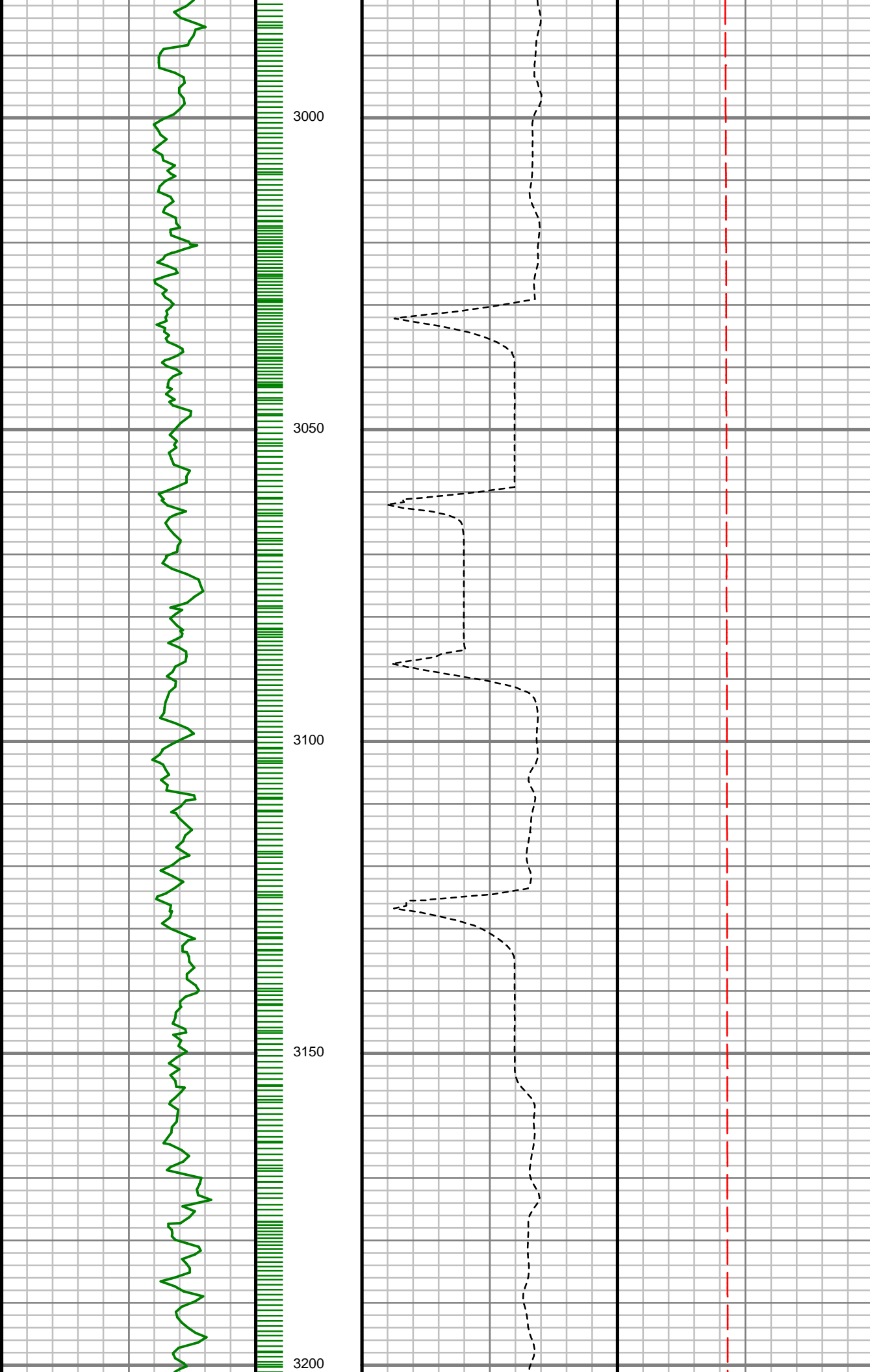
S: 26 MD: 2606.00 ft
Inc: 15.57 deg Az:
338.14 deg TVD:
2528.17 ft

S: 27 MD: 2699.00 ft
Inc: 15.61 deg Az:
341.19 deg TVD:
2617.75 ft



S: 28 MD: 2793.00 ft
Inc: 16.34 deg Az:
343.77 deg TVD:
2708.12 ft

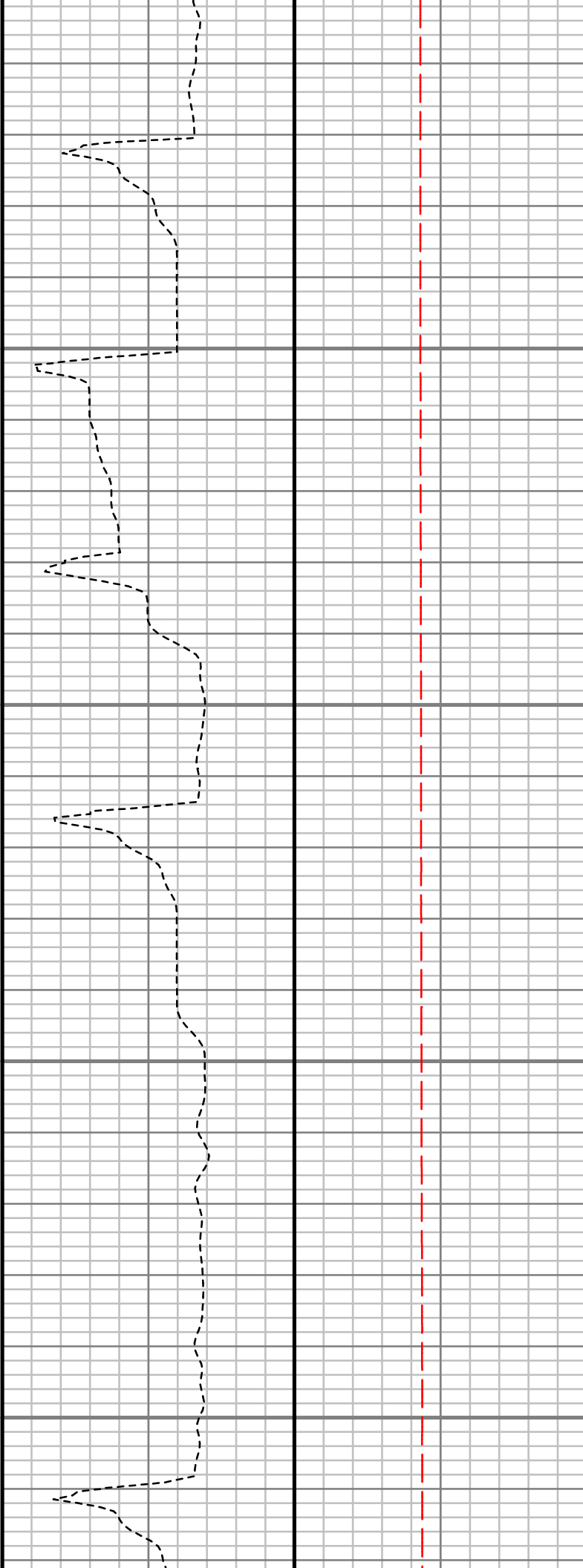
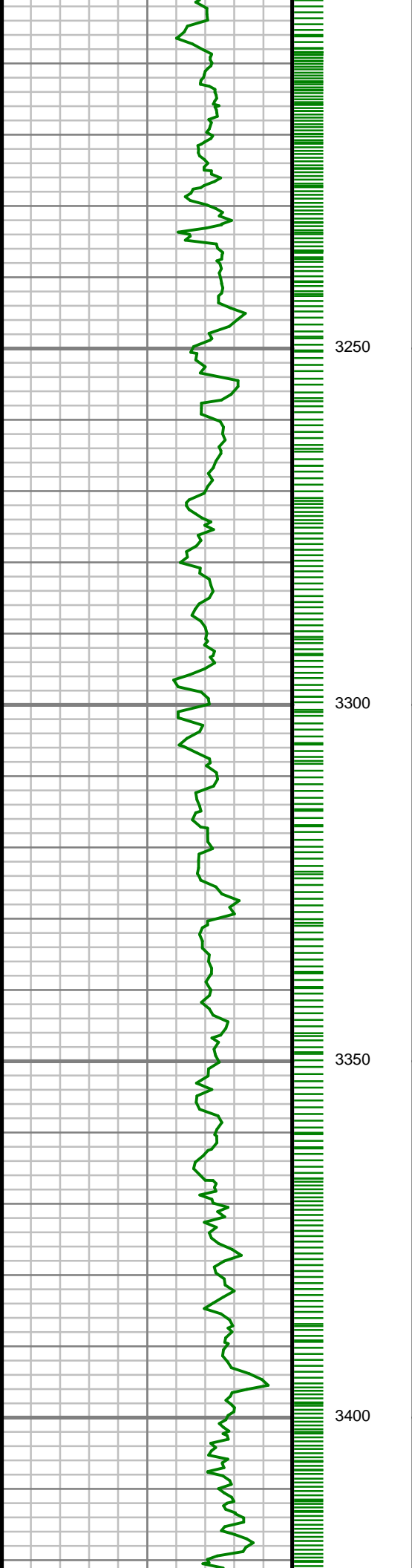
S: 29 MD: 2887.00 ft
Inc: 16.72 deg Az:
342.05 deg TVD:
2798.24 ft



S: 30 MD: 2981.00 ft
Inc: 15.66 deg Az:
339.73 deg TVD:
2888.51 ft

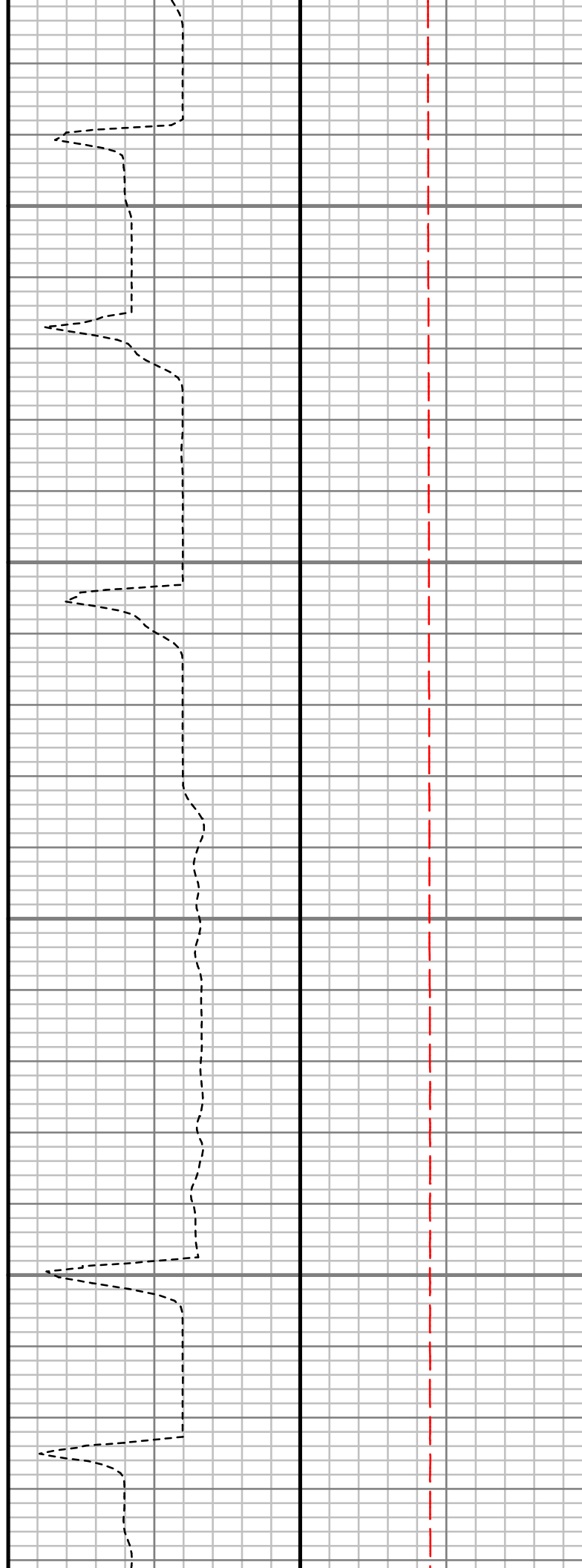
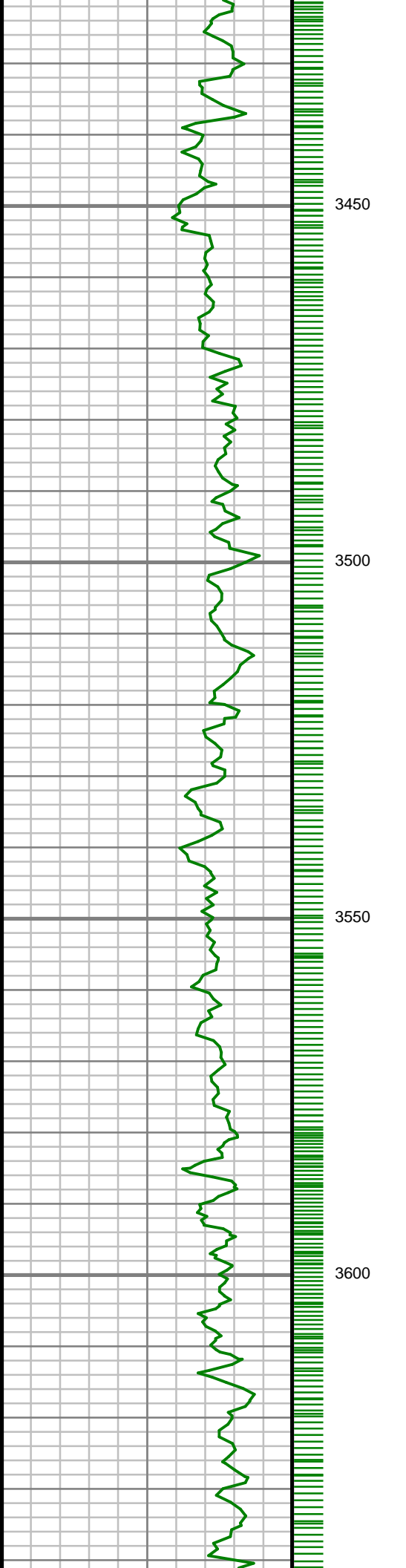
S: 31 MD: 3075.00 ft
Inc: 17.01 deg Az:
342.52 deg TVD:
2978.71 ft

S: 32 MD: 3170.00 ft
Inc: 16.58 deg Az:
342.51 deg TVD:
3069.66 ft



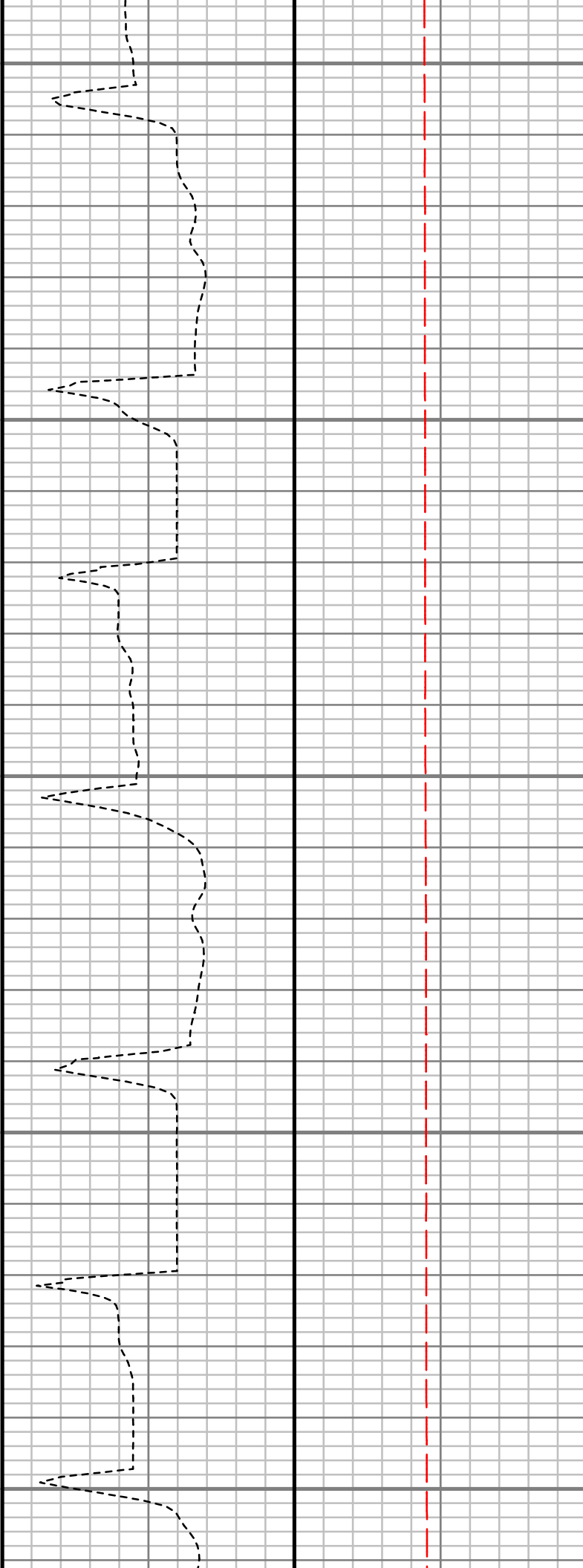
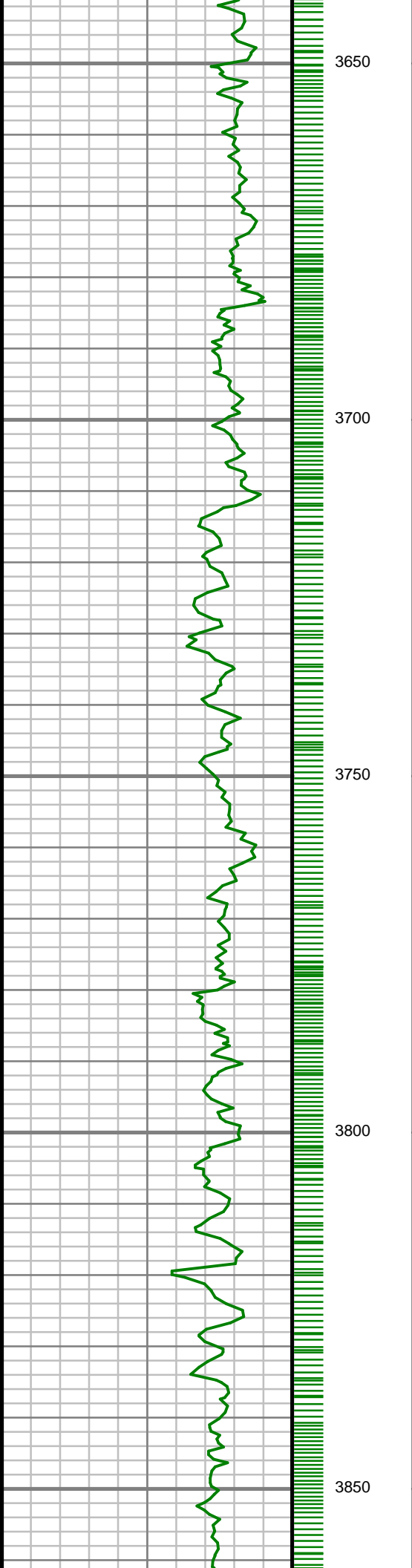
S: 33 MD: 3264.00 ft
Inc: 16.92 deg Az:
344.24 deg TVD:
3159.67 ft

S: 34 MD: 3359.00 ft
Inc: 16.50 deg Az:
343.16 deg TVD:
3250.66 ft



S: 35 MD: 3453.00 ft
Inc: 16.42 deg Az:
337.45 deg TVD:
3340.82 ft

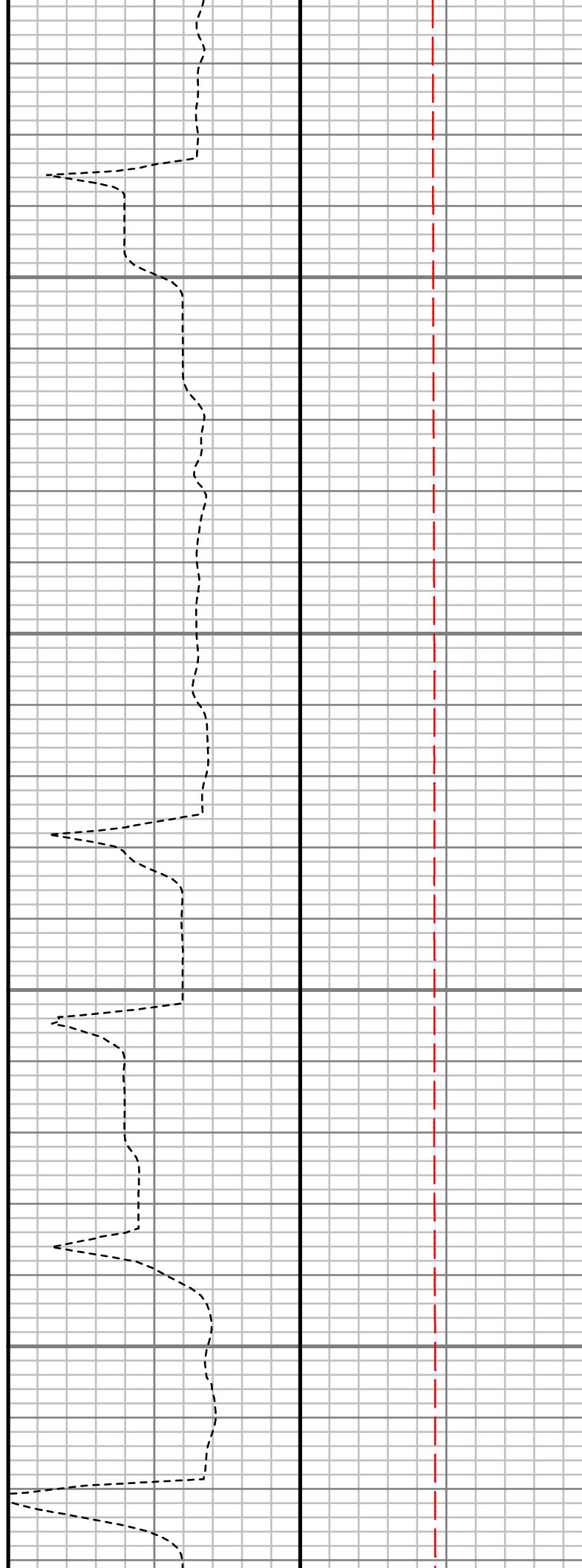
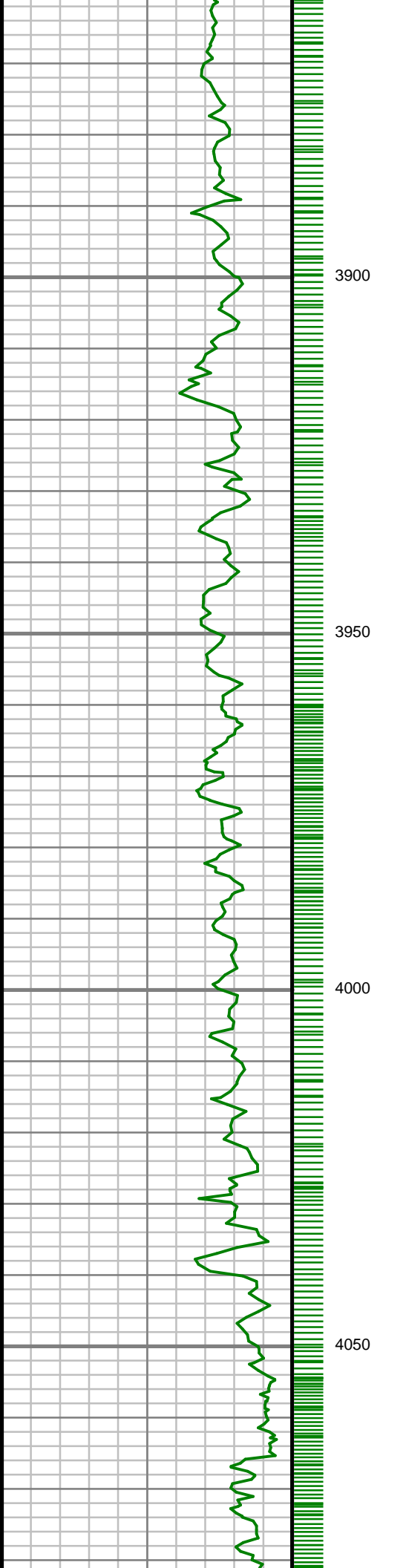
S: 36 MD: 3547.00 ft
Inc: 15.16 deg Az:
334.93 deg TVD:
3431.27 ft



S: 37 MD: 3642.00 ft
Inc: 14.64 deg Az:
339.02 deg TVD:
3523.08 ft

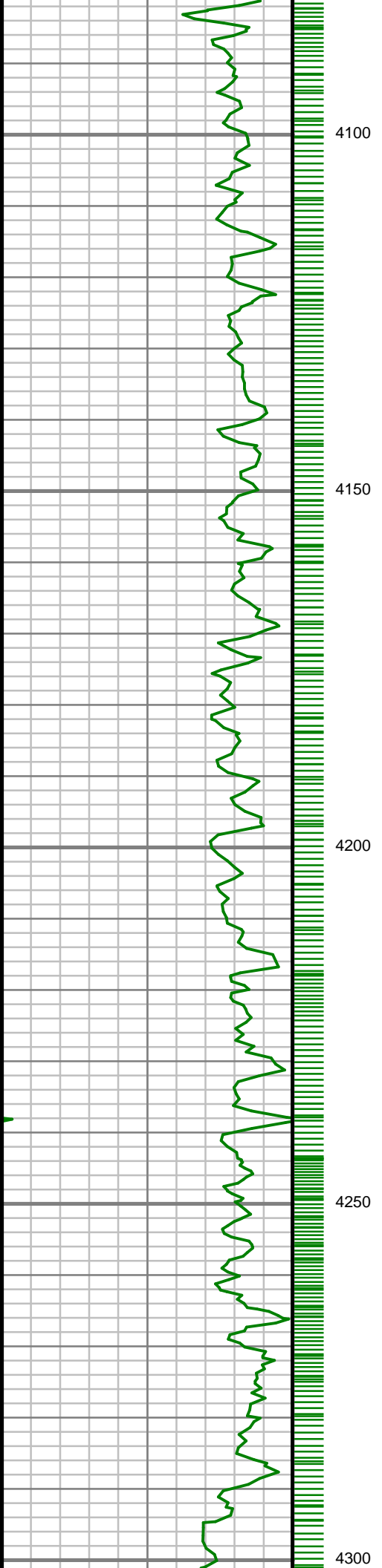
S: 38 MD: 3737.00 ft
Inc: 15.32 deg Az:
341.38 deg TVD:
3614.85 ft

S: 39 MD: 3832.00 ft
Inc: 16.56 deg Az:
339.57 deg TVD:
3706.19 ft



S: 40 MD: 3925.00 ft
Inc: 15.16 deg Az:
338.34 deg TVD:
3795.65 ft

S: 41 MD: 4019.00 ft
Inc: 14.88 deg Az:
334.19 deg TVD:
3886.44 ft



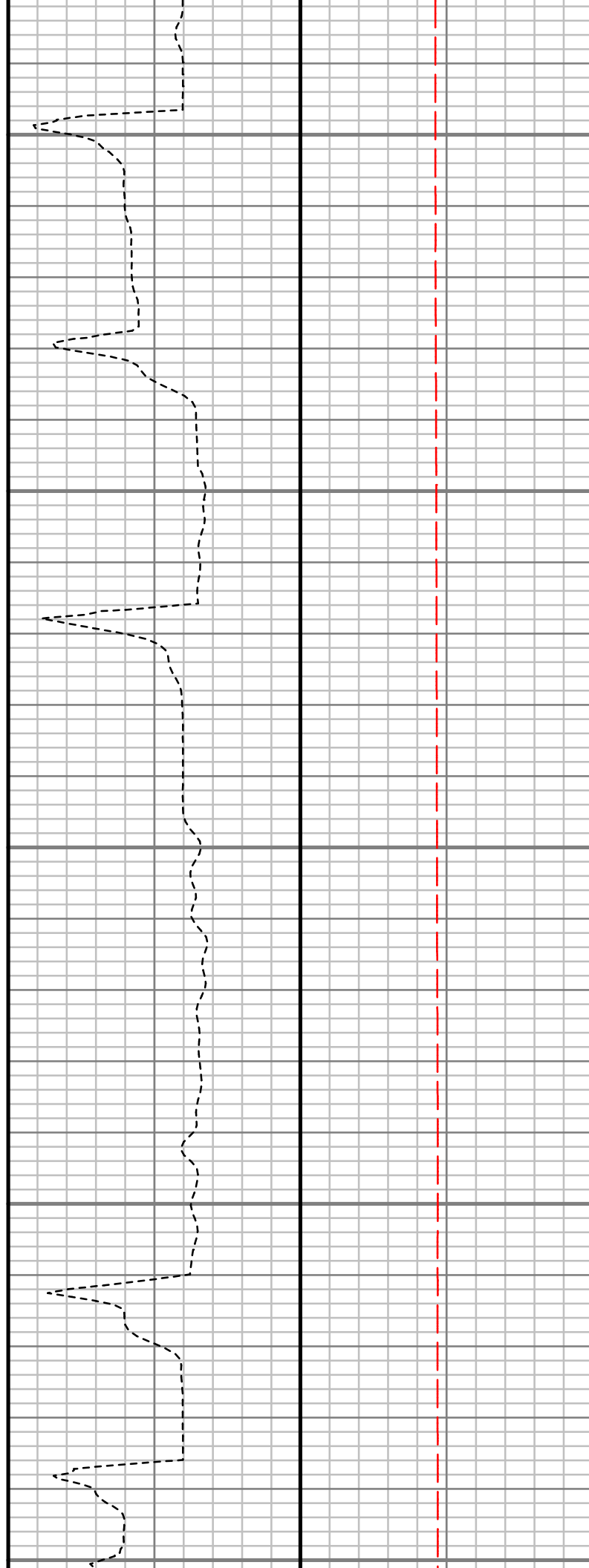
4100

4150

4200

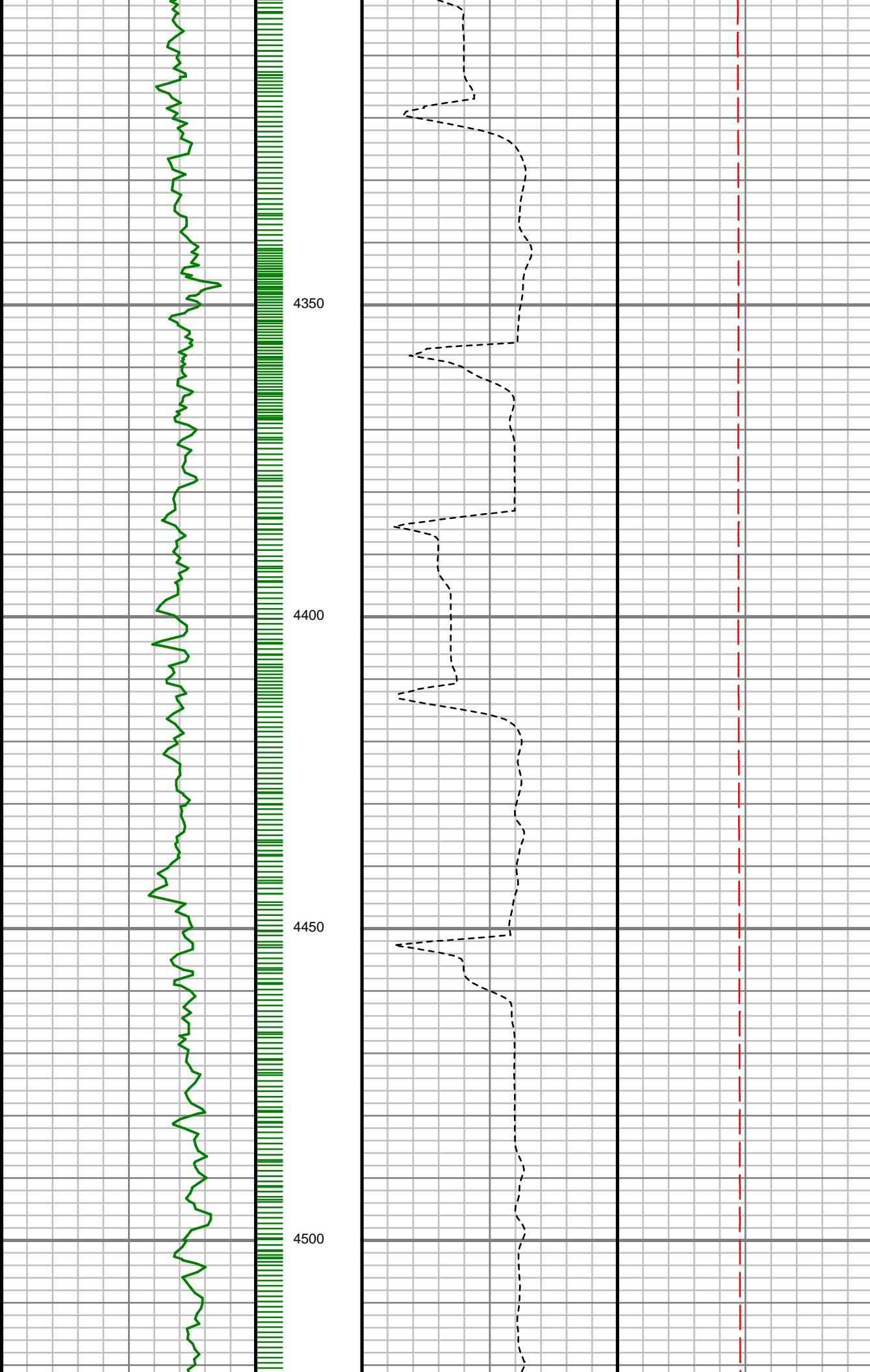
4250

4300



S: 42 MD: 4114.00 ft
Inc: 16.36 deg Az:
336.40 deg TVD:
3977.93 ft

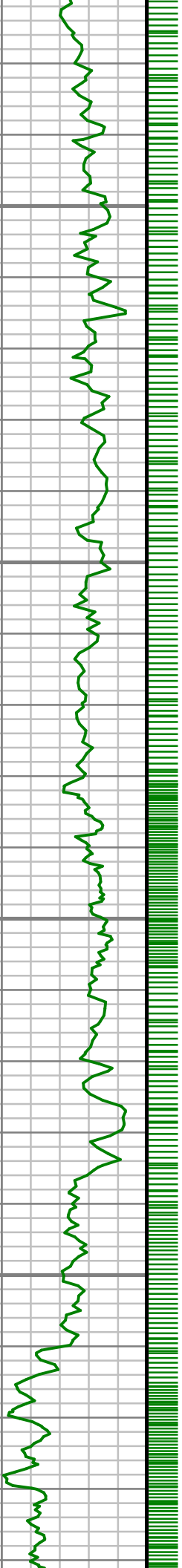
S: 43 MD: 4208.00 ft
Inc: 14.89 deg Az:
334.48 deg TVD:
4068.46 ft



S: 44 MD: 4303.00 ft
Inc: 15.38 deg Az:
334.79 deg TVD:
4160.16 ft

S: 45 MD: 4398.00 ft
Inc: 18.06 deg Az:
339.53 deg TVD:
4251.14 ft

S: 46 MD: 4492.00 ft
Inc: 17.77 deg Az:
339.32 deg TVD:
4340.59 ft

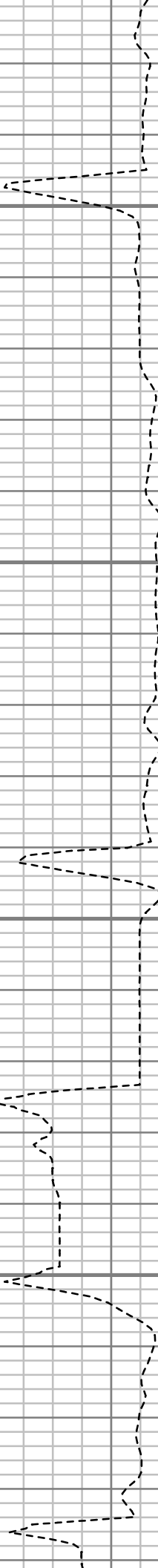


4550

4600

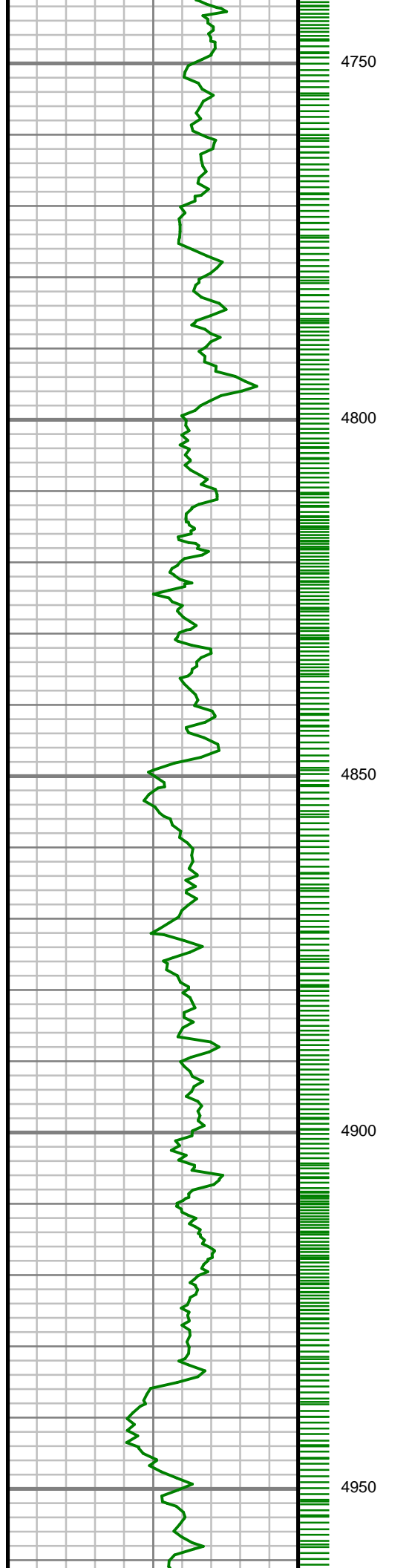
4650

4700



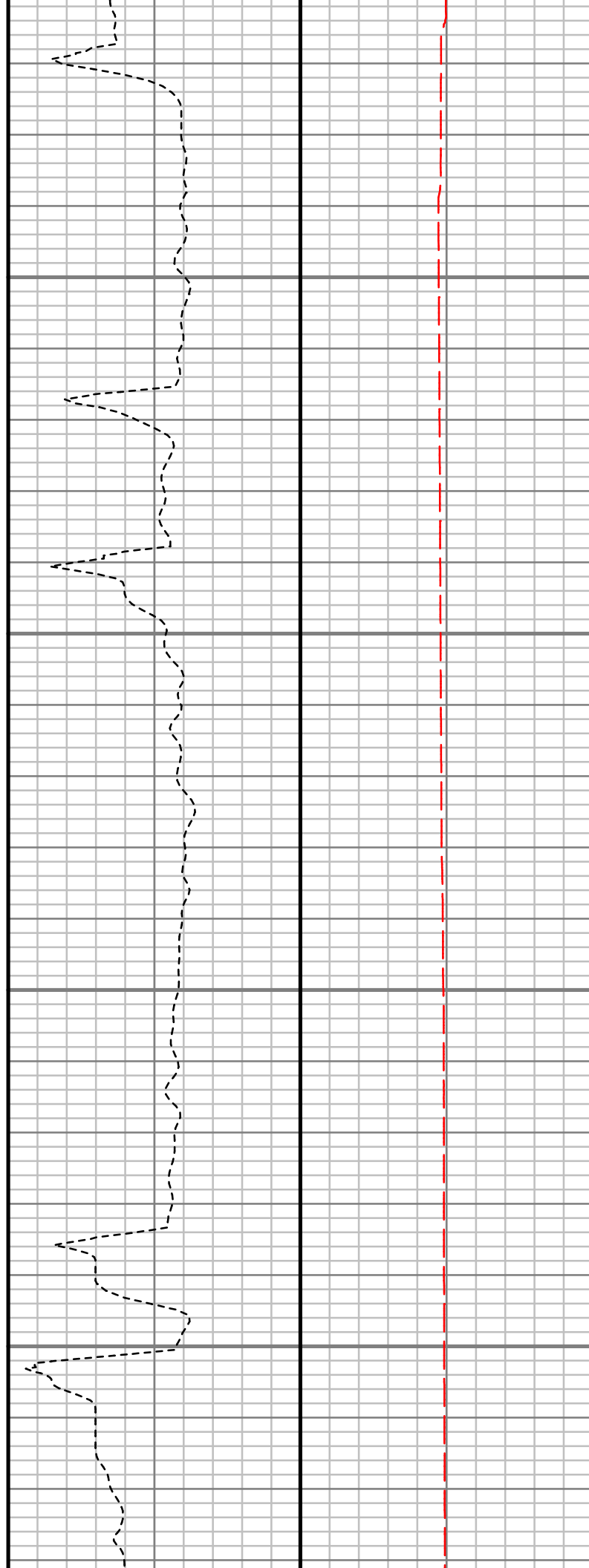
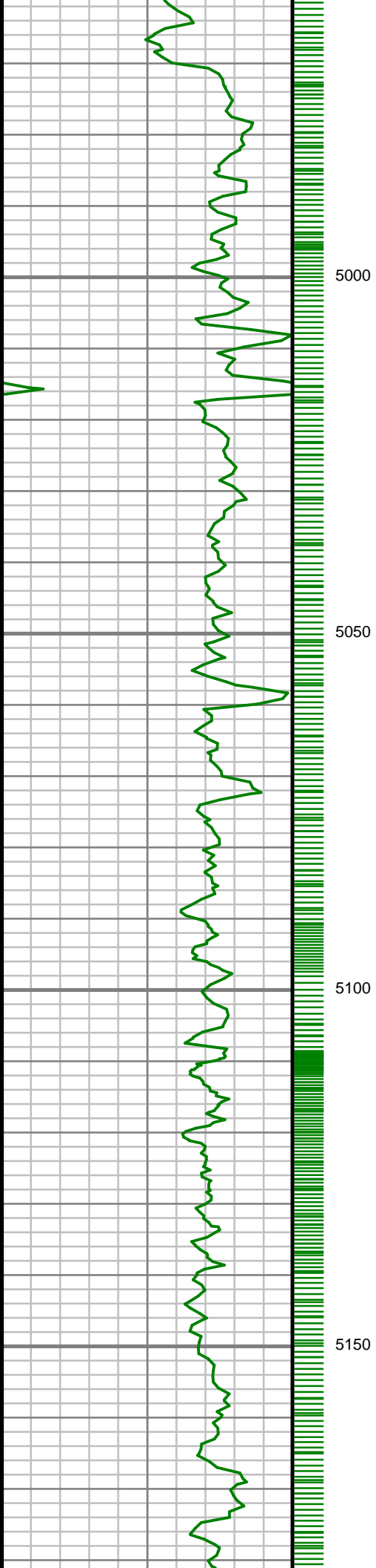
S: 47 MD: 4587.00 ft
Inc: 14.08 deg Az:
337.78 deg TVD:
4431.93 ft

S: 48 MD: 4681.00 ft
Inc: 11.76 deg Az:
331.58 deg TVD:
4523.54 ft



S: 49 MD: 4776.00 ft
Inc: 15.11 deg Az:
335.92 deg TVD:
4615.93 ft

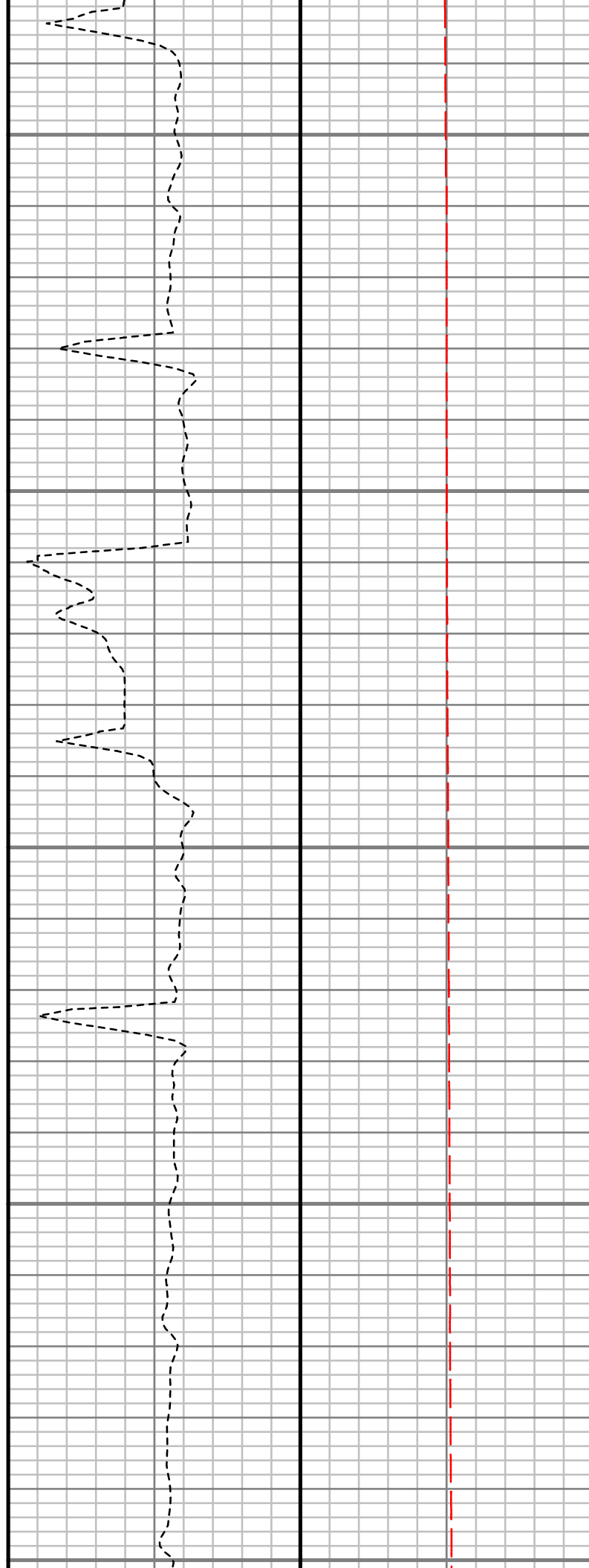
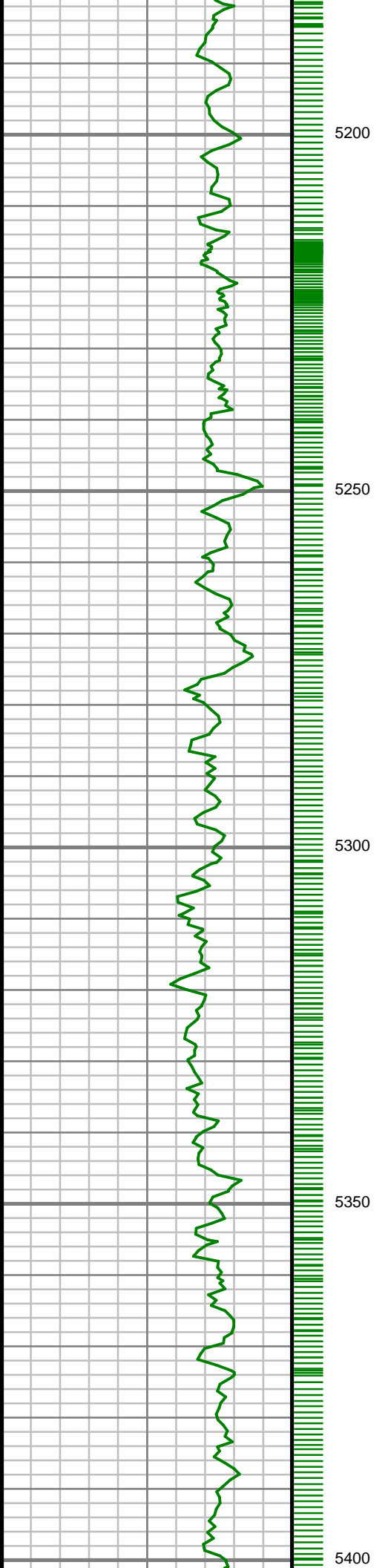
S: 50 MD: 4869.00 ft
Inc: 16.70 deg Az:
337.81 deg TVD:
4705.37 ft



S: 51 MD: 4988.00 ft
Inc: 16.89 deg Az:
336.08 deg TVD:
4819.29 ft

S: 52 MD: 5082.00 ft
Inc: 15.54 deg Az:
333.13 deg TVD:
4909.55 ft

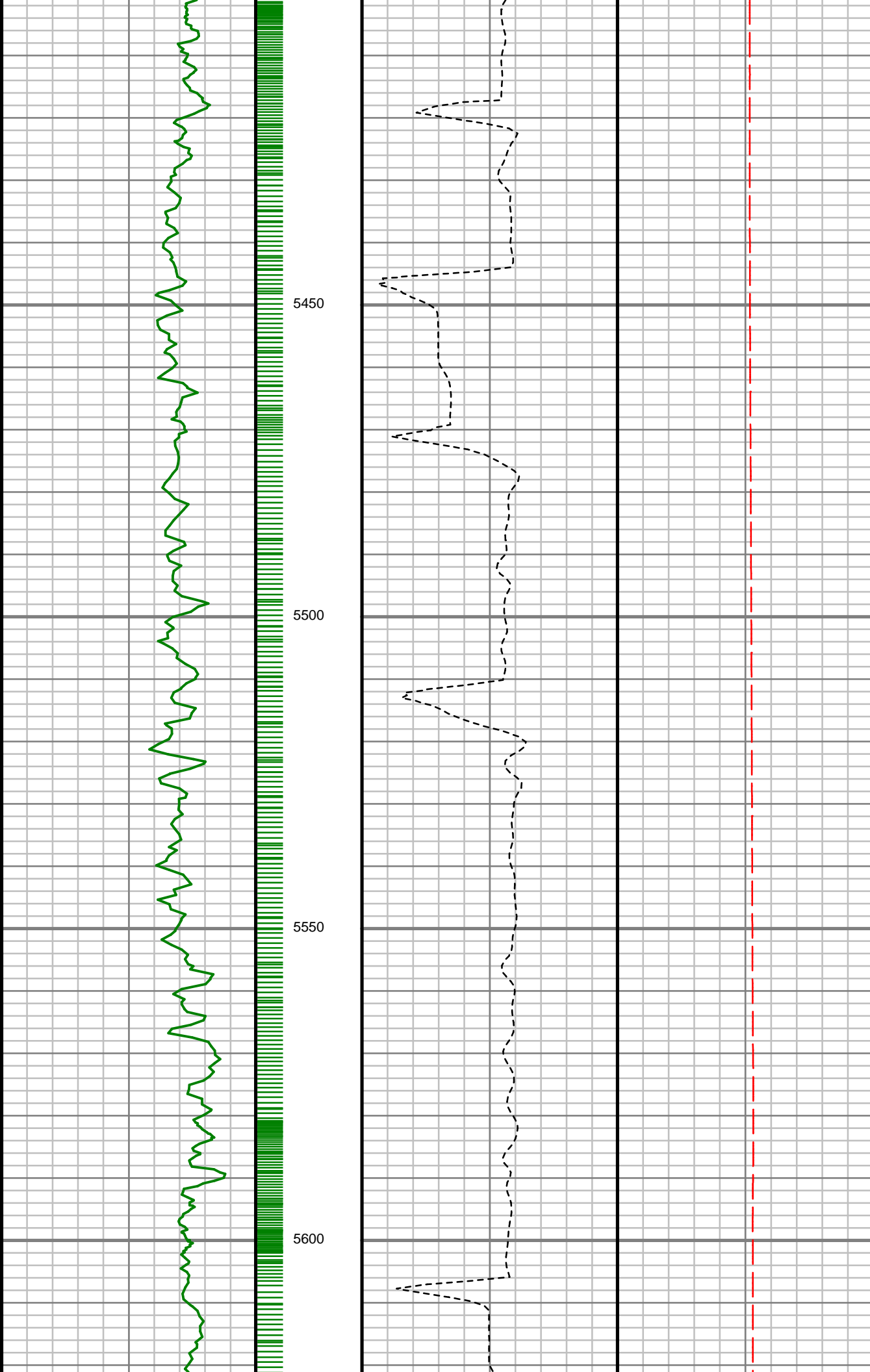
S: 53 MD: 5177.00 ft
Inc: 17.48 deg Az:



Inc: 17.00 deg Az: 331.25 deg TVD: 5000.63 ft

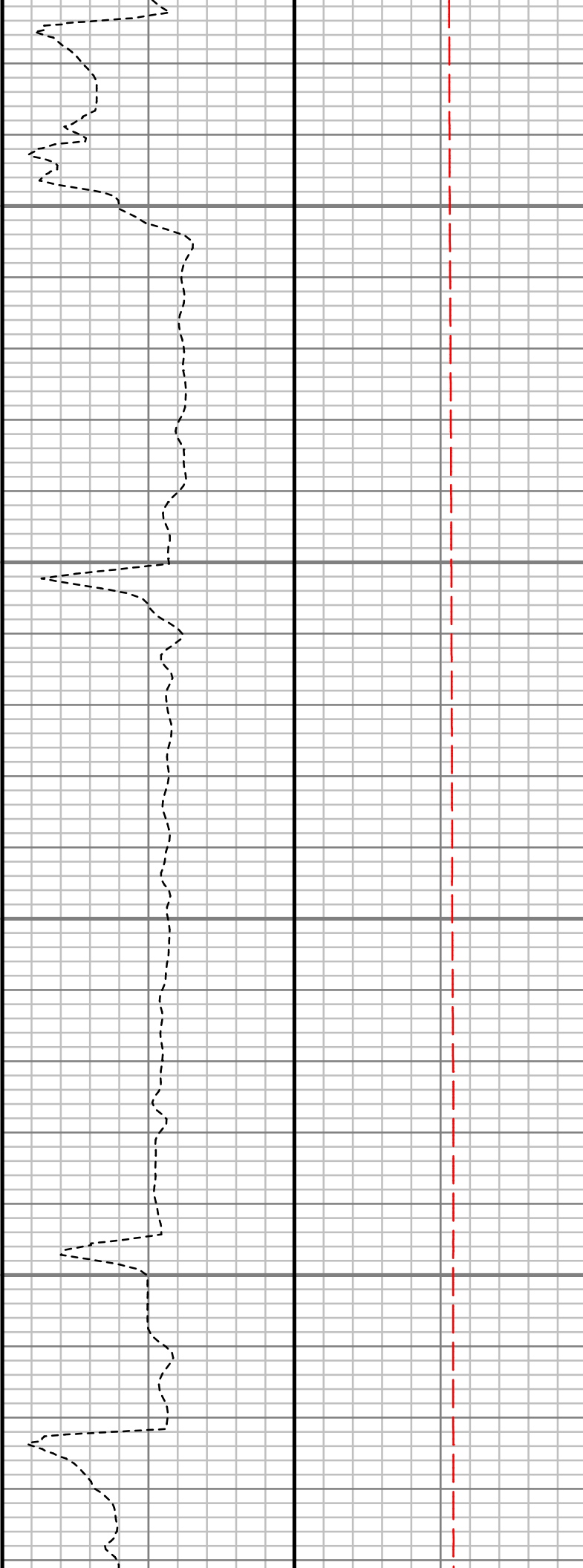
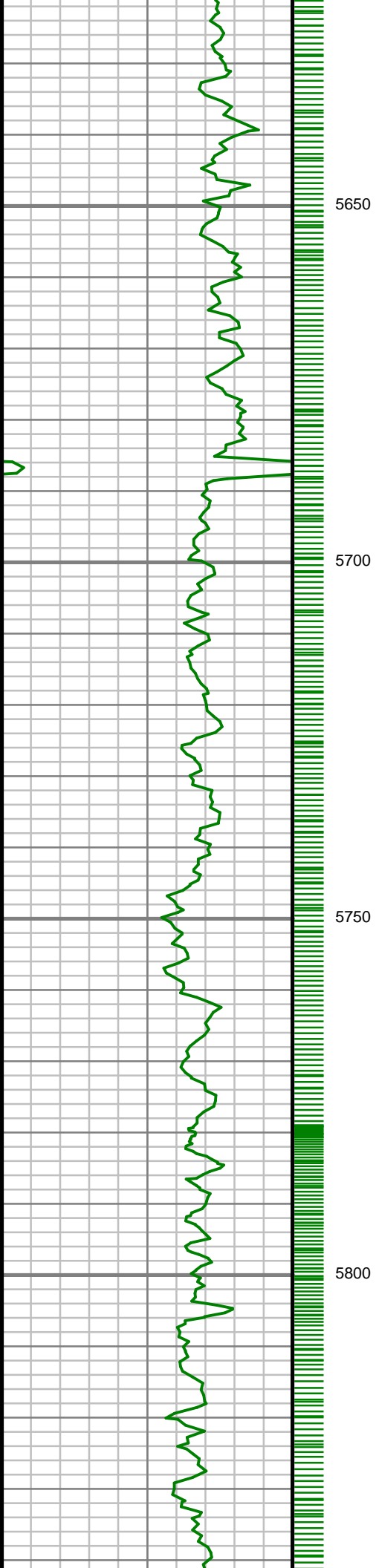
S: 54 MD: 5272.00 ft
Inc: 17.00 deg Az: 333.82 deg TVD: 5091.37 ft

S: 55 MD: 5366.00 ft
Inc: 15.61 deg Az: 337.52 deg TVD: 5181.59 ft



S: 56 MD: 5460.00 ft
Inc: 14.08 deg Az:
345.40 deg TVD:
5272.46 ft

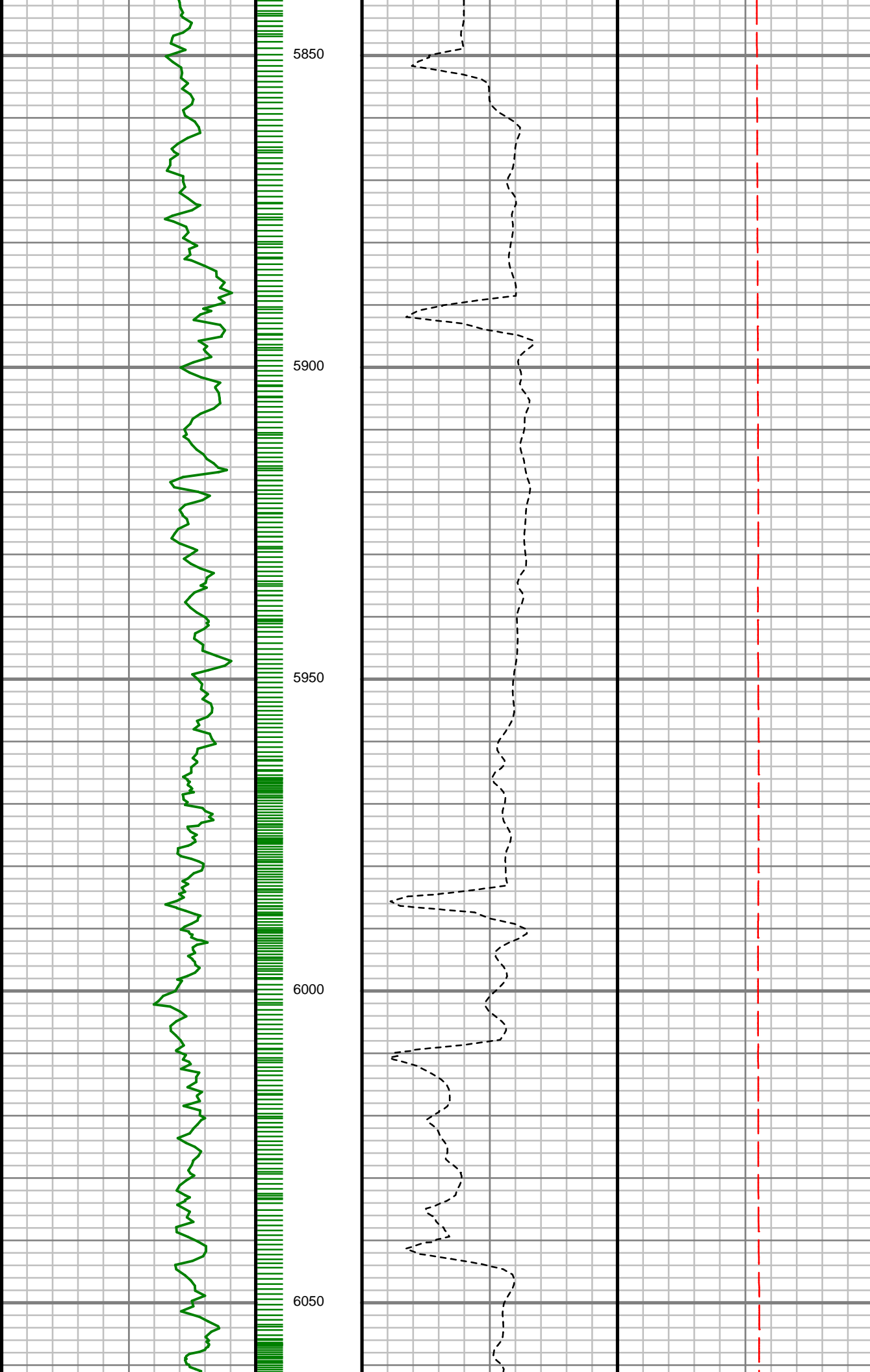
S: 57 MD: 5554.00 ft
Inc: 12.24 deg Az:
344.73 deg TVD:
5363.99 ft



S: 58 MD: 5649.00 ft
Inc: 11.48 deg Az:
340.24 deg TVD:
5456.96 ft

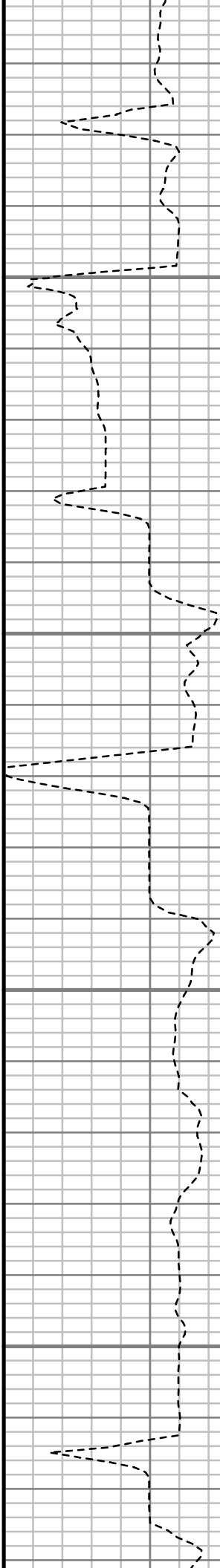
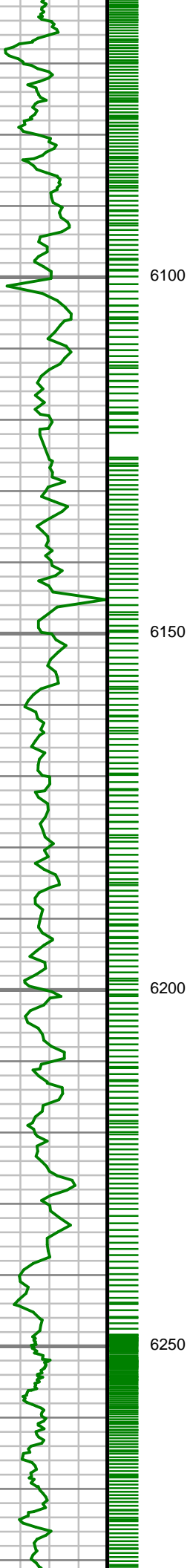
S: 59 MD: 5743.00 ft
Inc: 9.90 deg Az:
340.88 deg TVD:
5549.33 ft

S: 60 MD: 5837.00 ft
Inc: 10.89 deg Az:



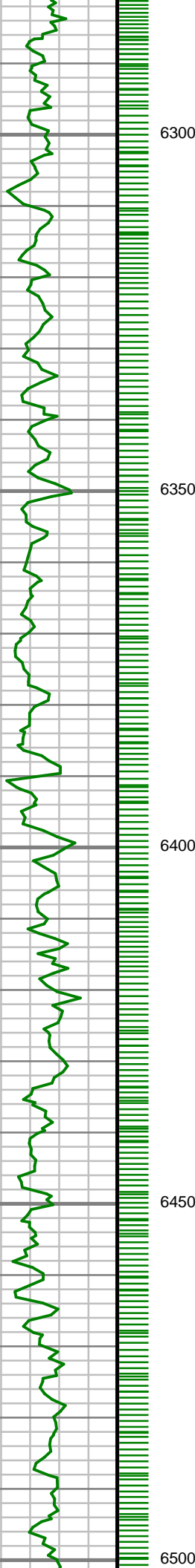
S: 61 MD: 5932.00 ft
Inc: 8.96 deg Az:
337.36 deg TVD:
5735.36 ft

S: 62 MD: 6024.00 ft
Inc: 8.75 deg Az:
333.08 deg TVD:
5826.26 ft



S: 63 MD: 6118.00 ft
Inc: 10.14 deg Az:
333.49 deg TVD:
5918.98 ft

S: 64 MD: 6211.00 ft
Inc: 7.89 deg Az:
334.39 deg TVD:
6010.83 ft



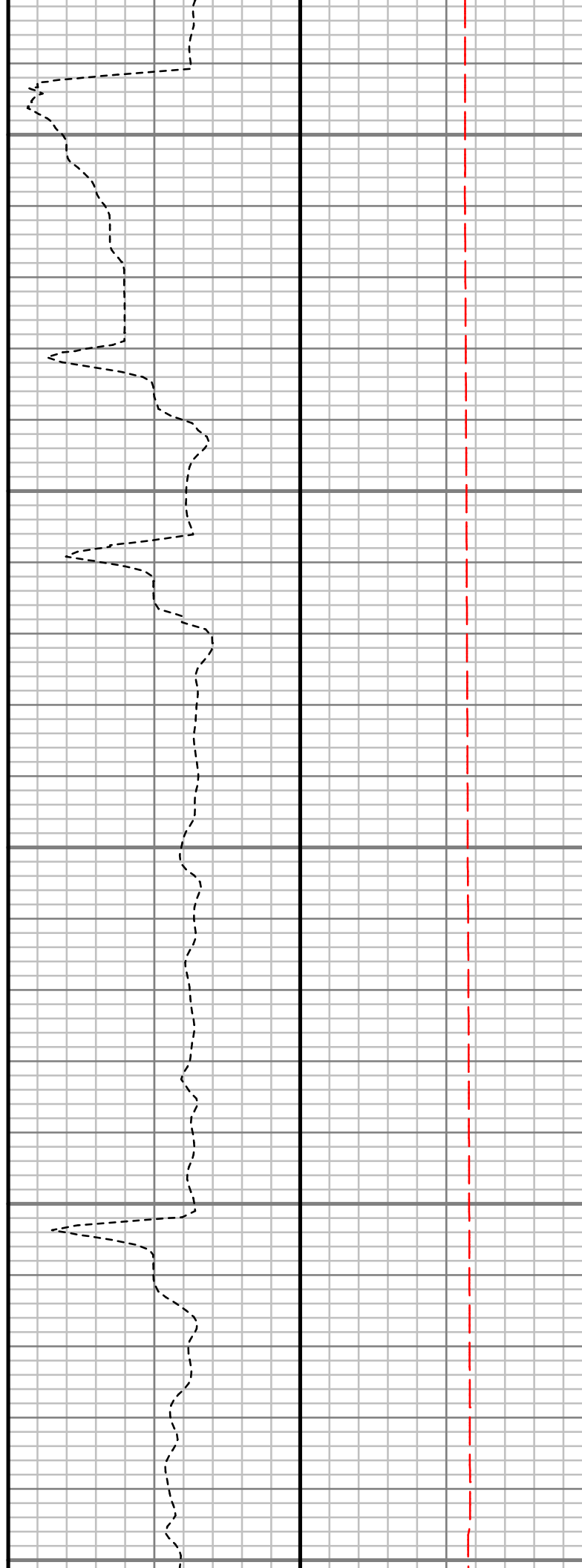
6300

6350

6400

6450

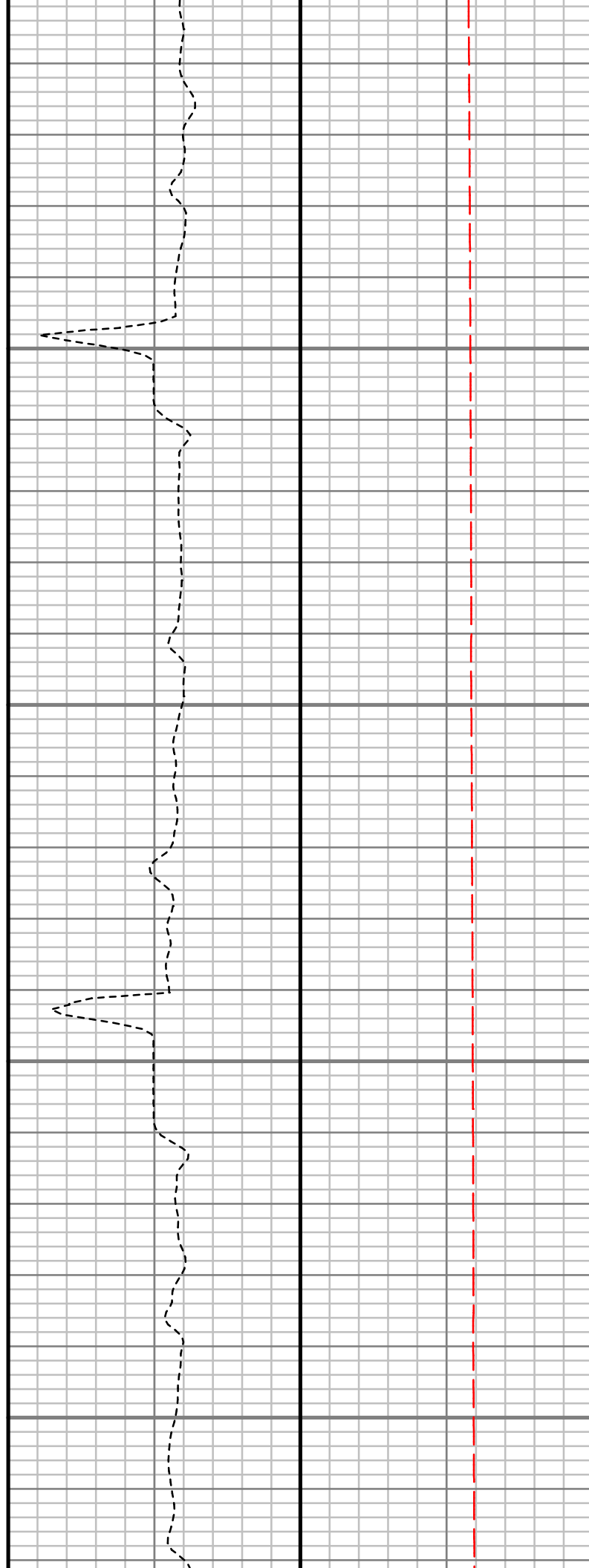
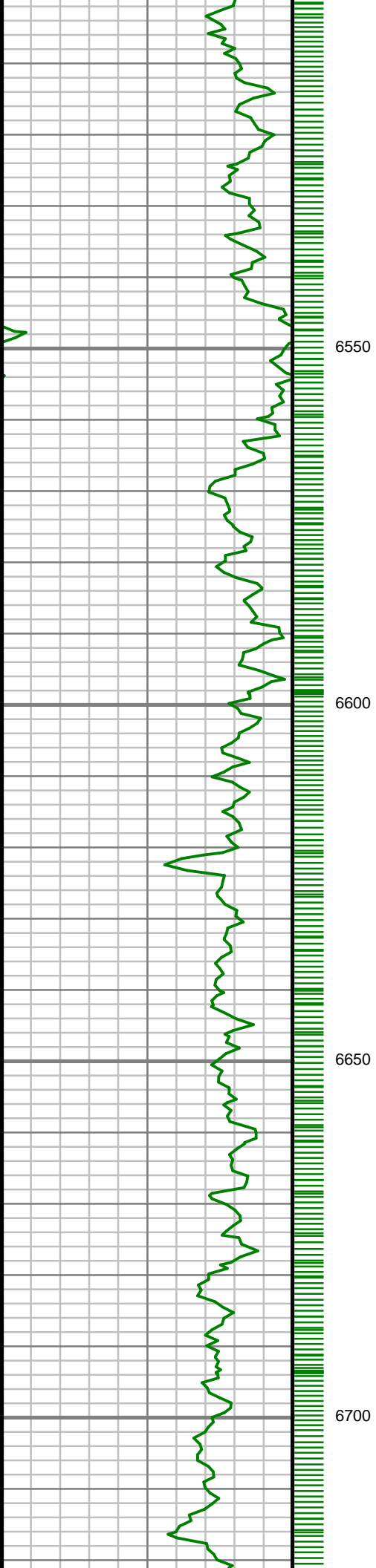
6500



S: 65 MD: 6304.00 ft
Inc: 7.25 deg Az:
348.62 deg TVD:
6103.03 ft

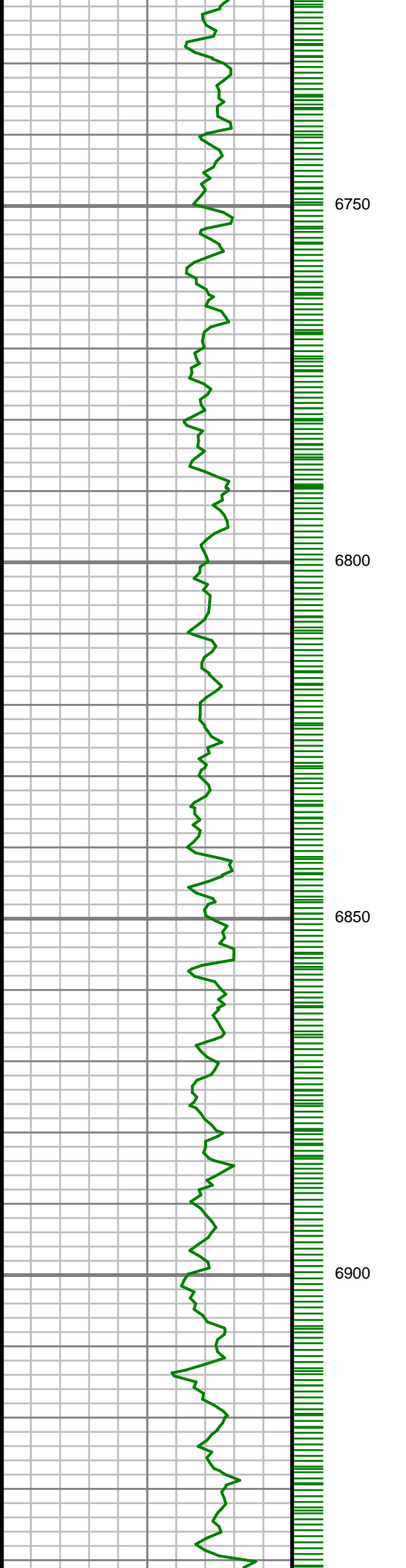
S: 66 MD: 6399.00 ft
Inc: 6.65 deg Az:
353.76 deg TVD:
6197.33 ft

S: 67 MD: 6493.00 ft
Inc: 5.16 deg Az:
345.68 deg TVD:



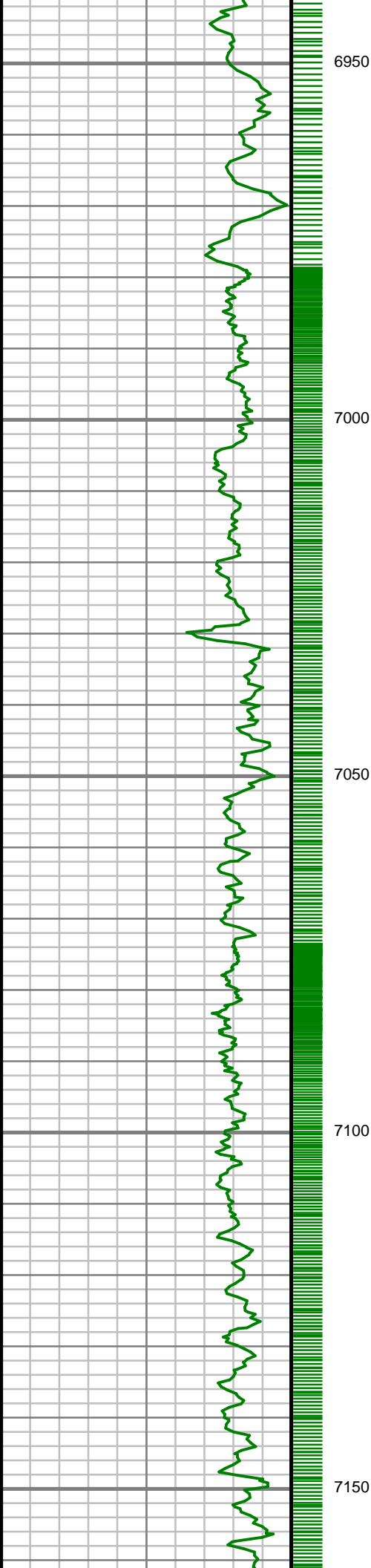
S: 68 MD: 6587.00 ft
Inc: 4.21 deg Az:
333.91 deg TVD:
6384.52 ft

S: 69 MD: 6683.00 ft
Inc: 3.27 deg Az:
325.21 deg TVD:
6480.31 ft



S: 70 MD: 6778.00 ft
Inc: 2.12 deg Az:
322.61 deg TVD:
6575.21 ft

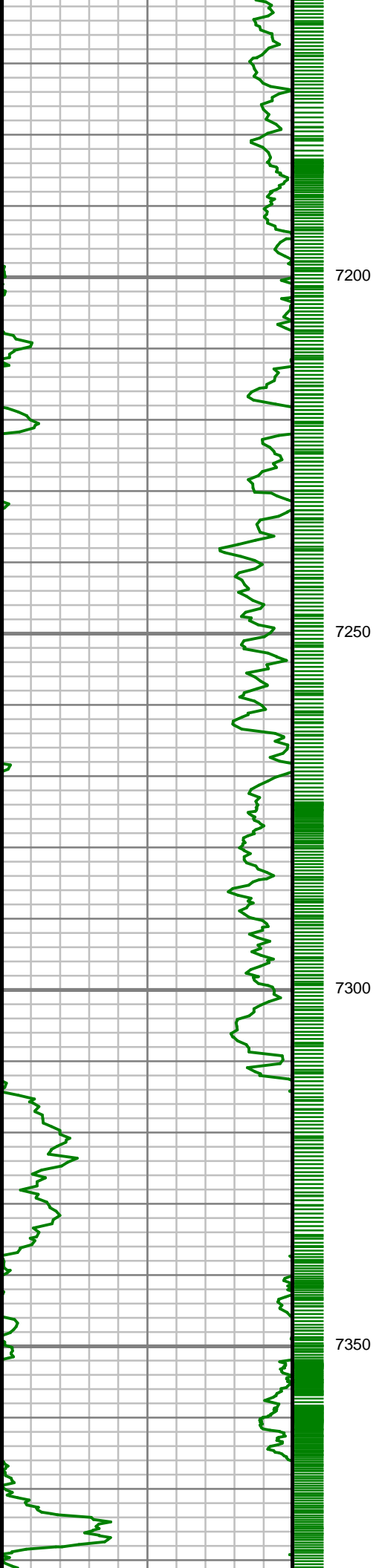
S: 71 MD: 6872.00 ft
Inc: 1.23 deg Az:
322.71 deg TVD:
6669.16 ft



S: 72 MD: 6967.00 ft
Inc: 1.29 deg Az:
312.55 deg TVD:
6764.14 ft

S: 73 MD: 7060.00 ft
Inc: 4.85 deg Az:
184.48 deg TVD:
6857.04 ft

S: 74 MD: 7155.00 ft
Inc: 14.86 deg Az:
181.00 deg TVD:

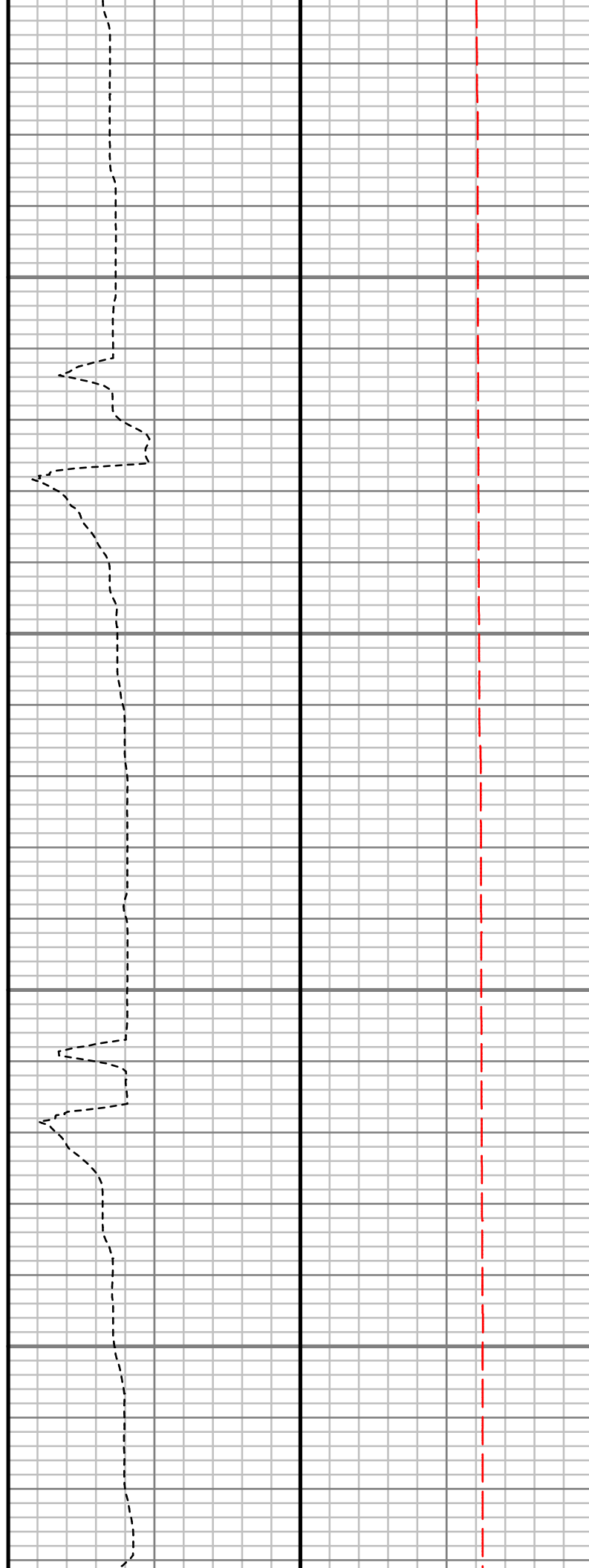


7200

7250

7300

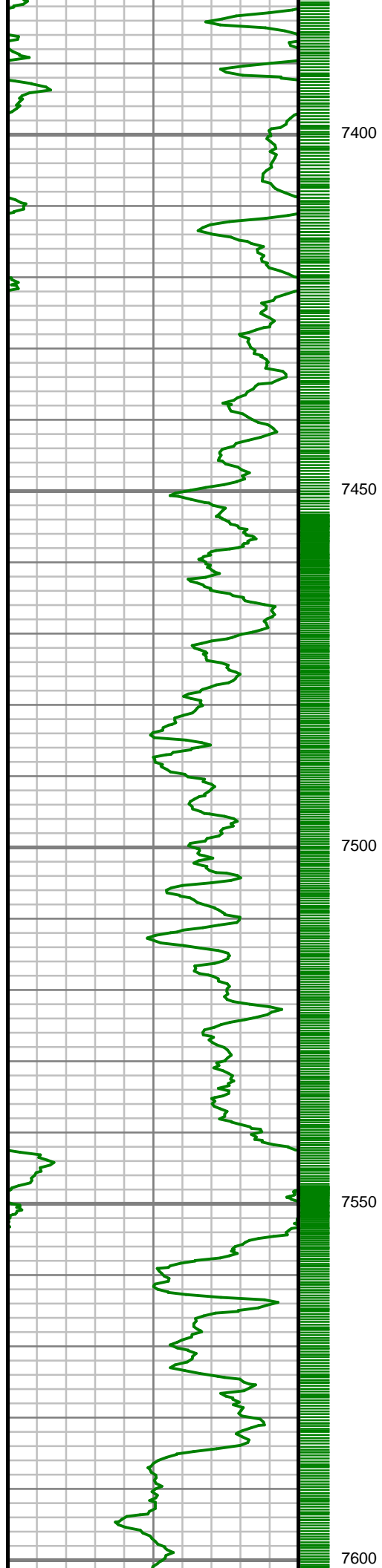
7350



181.99 deg TVD:
6950.52 ft

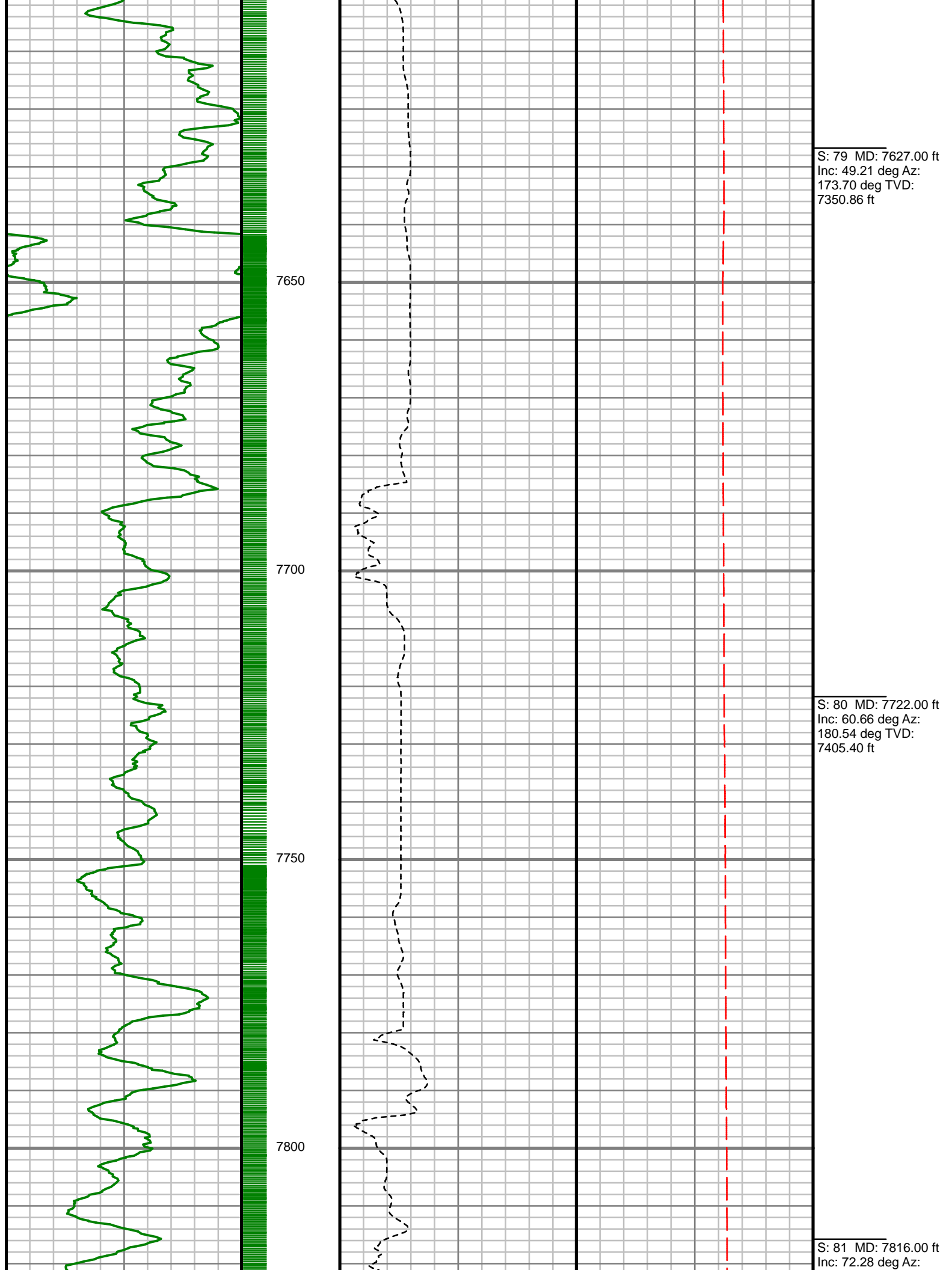
S: 75 MD: 7251.00 ft
Inc: 22.05 deg Az:
183.67 deg TVD:
7041.52 ft

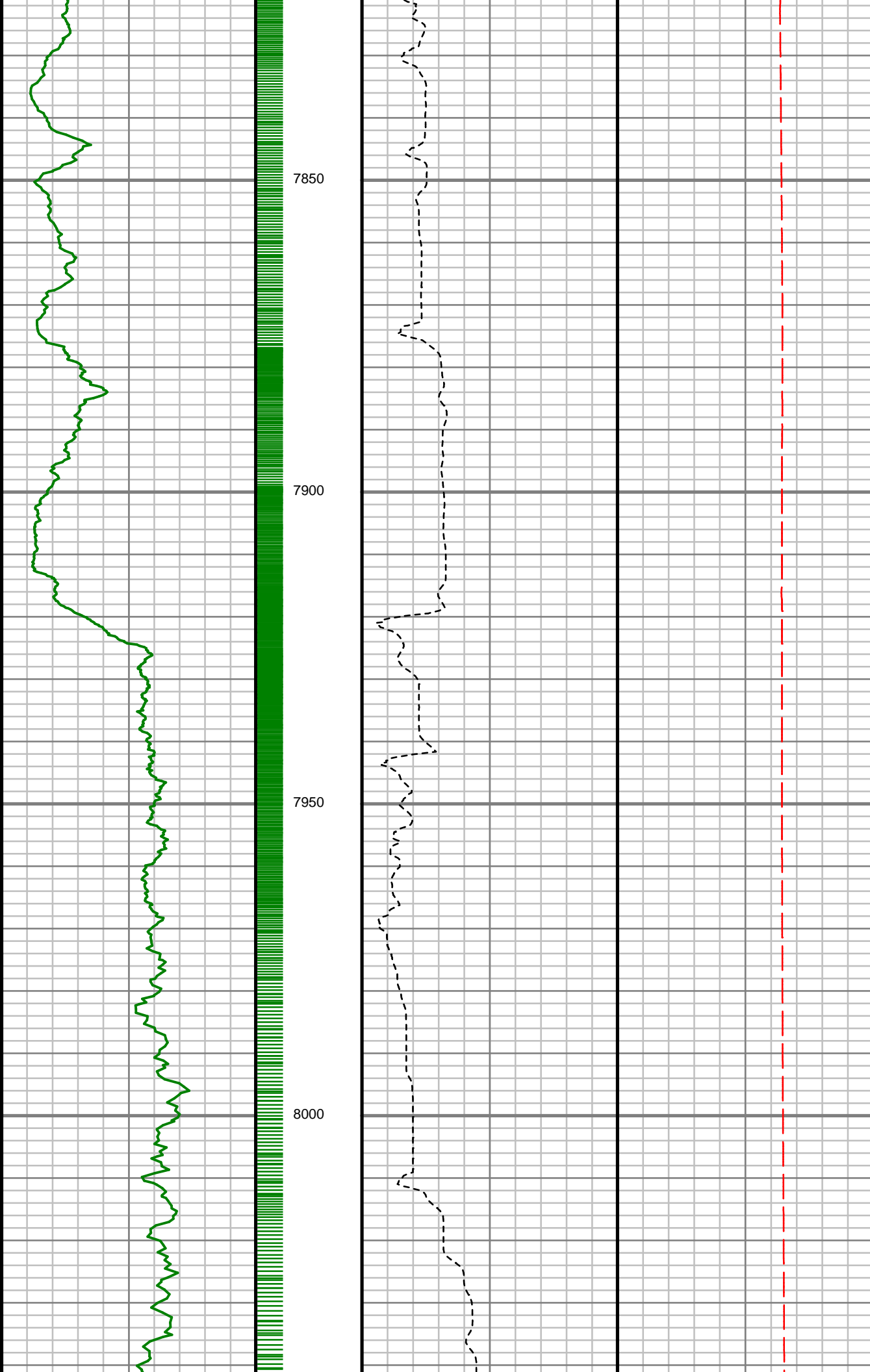
S: 76 MD: 7346.00 ft
Inc: 29.43 deg Az:
177.60 deg TVD:
7127.05 ft



S: 77 MD: 7439.00 ft
Inc: 31.16 deg Az:
168.85 deg TVD:
7207.39 ft

S: 78 MD: 7534.00 ft
Inc: 39.88 deg Az:
169.18 deg TVD:
7284.64 ft

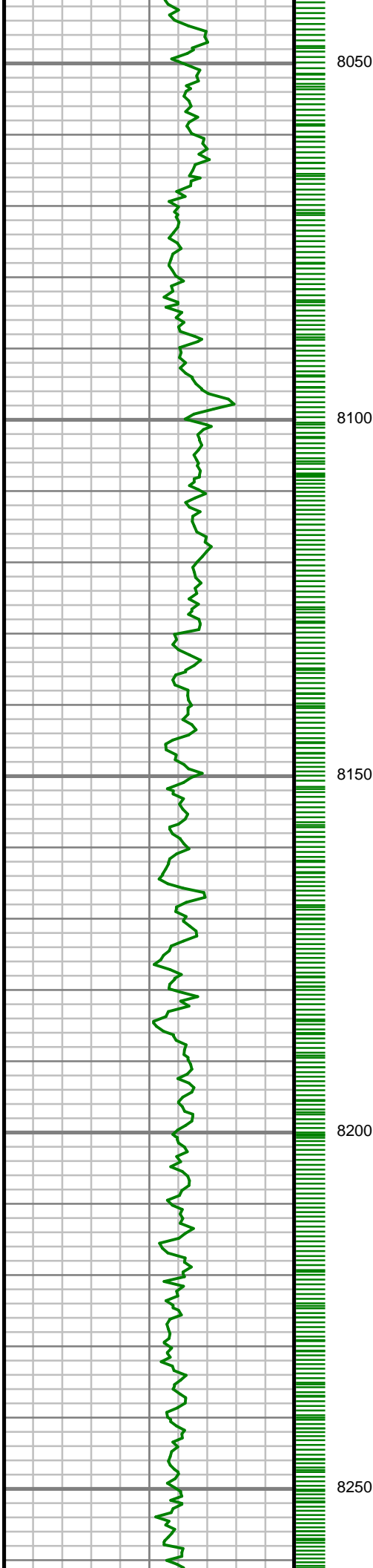




178.49 deg TVD:
7842.86 ft

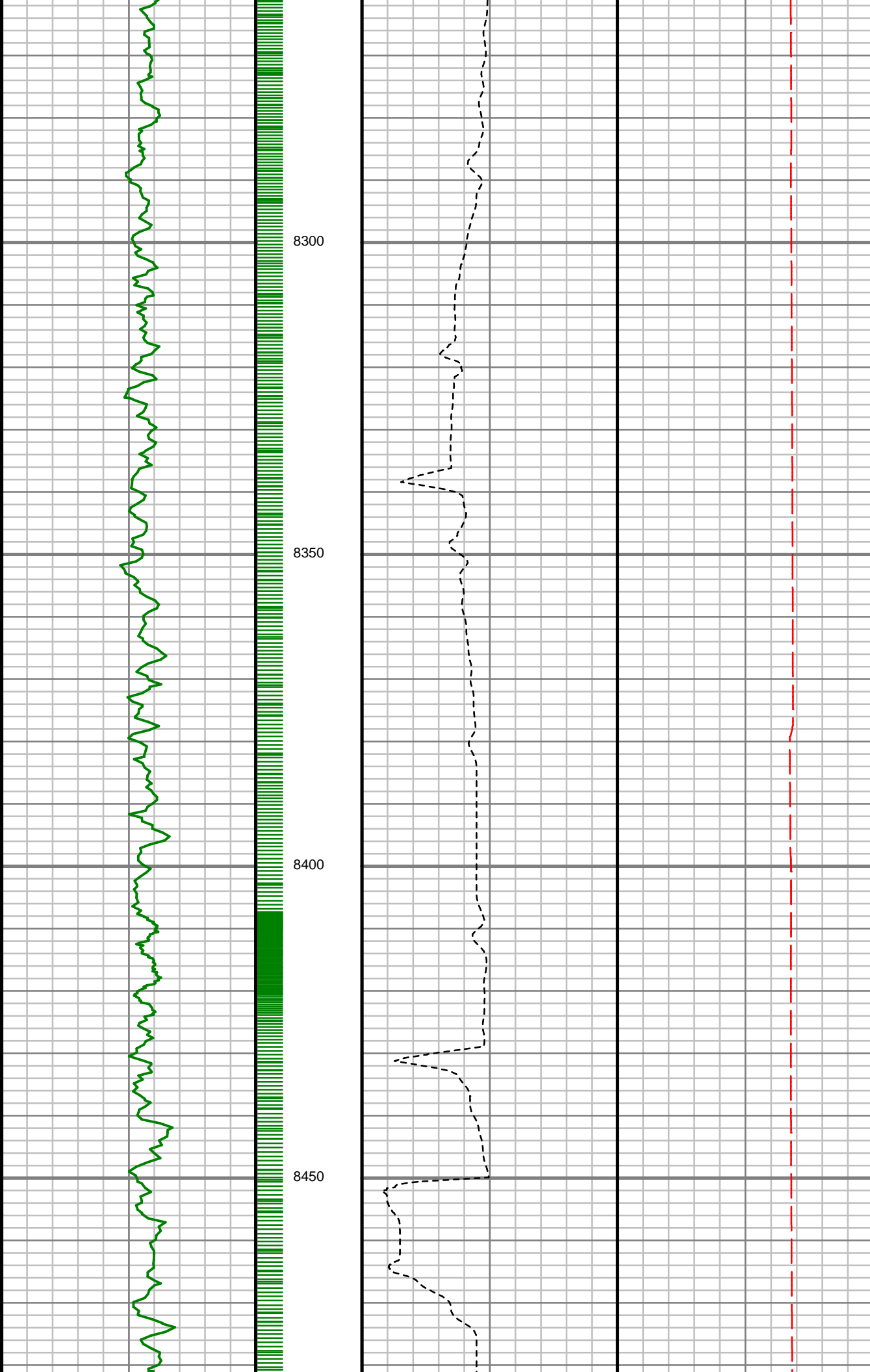
S: 82 MD: 7910.00 ft
Inc: 79.64 deg Az:
178.86 deg TVD:
7965.65 ft

S: 83 MD: 8004.00 ft
Inc: 88.29 deg Az:
181.24 deg TVD:
8075.52 ft



S: 84 MD: 8099.00 ft
Inc: 90.07 deg Az:
181.34 deg TVD:
7476.88 ft

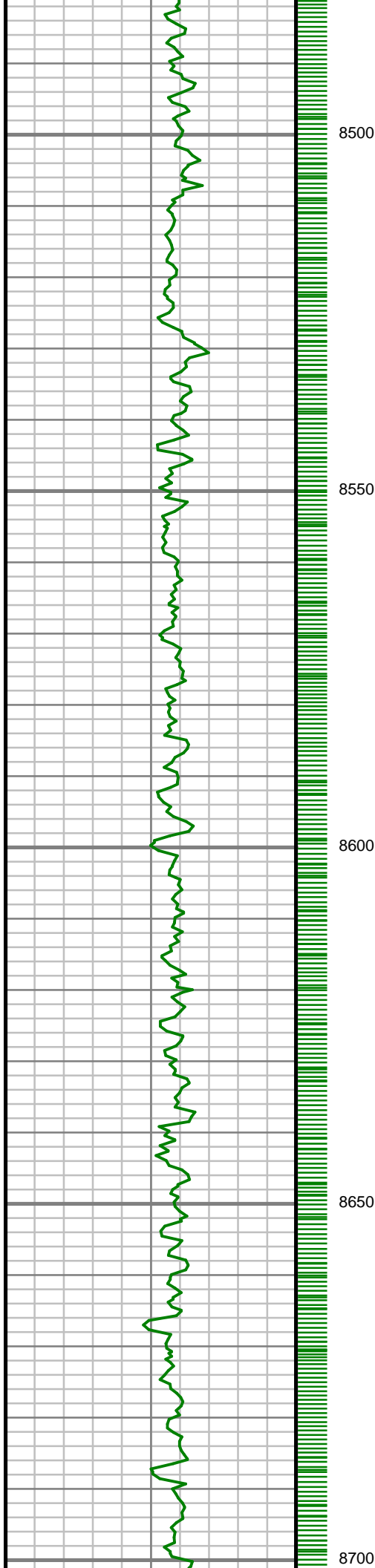
S: 85 MD: 8193.00 ft
Inc: 89.93 deg Az:
181.35 deg TVD:
7476.88 ft



S: 86 MD: 8286.00 ft
Inc: 89.76 deg Az:
181.16 deg TVD:
7477.13 ft

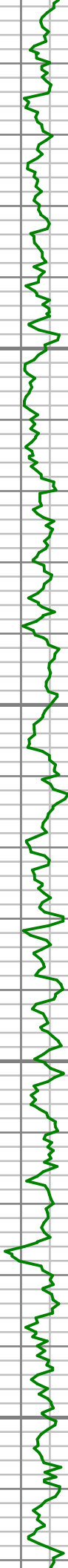
S: 87 MD: 8379.00 ft
Inc: 88.02 deg Az:
178.39 deg TVD:
7478.93 ft

S: 88 MD: 8471.00 ft
Inc: 89.53 deg Az:
179.71 deg TVD:
7480.89 ft



S: 89 MD: 8566.00 ft
Inc: 89.87 deg Az:
180.00 deg TVD:
7481.39 ft

S: 90 MD: 8660.00 ft
Inc: 89.53 deg Az:
179.65 deg TVD:
7481.89 ft

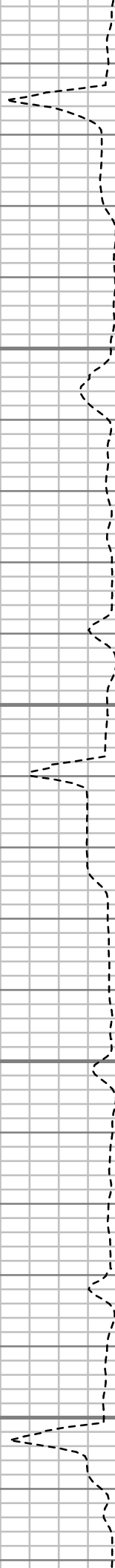


8750

8800

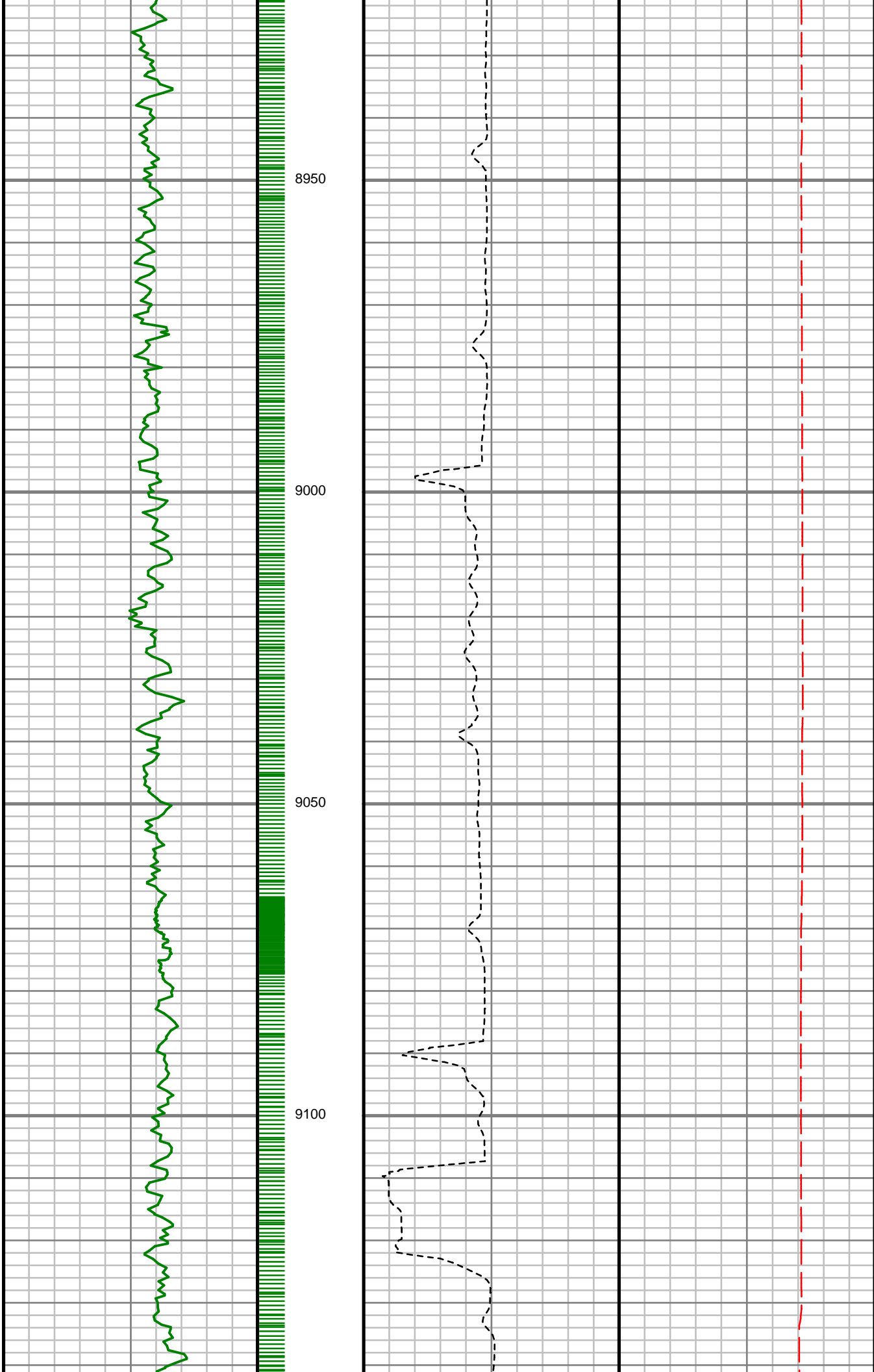
8850

8900



S: 91 MD: 8755.00 ft
Inc: 89.53 deg Az:
179.08 deg TVD:
7482.67 ft

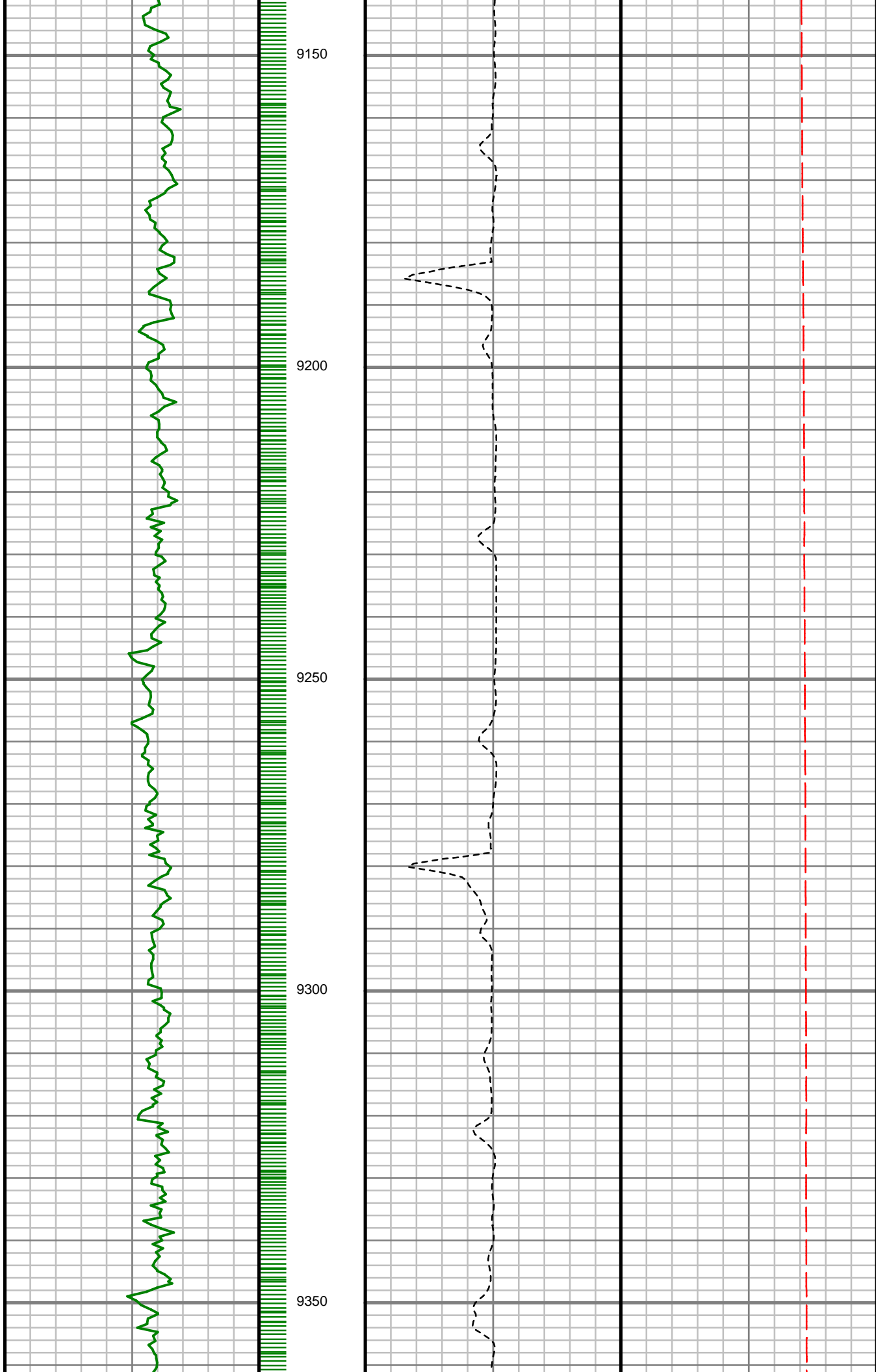
S: 92 MD: 8848.00 ft
Inc: 89.36 deg Az:
178.18 deg TVD:
7483.57 ft



S: 93 MD: 8942.00 ft
Inc: 89.16 deg Az:
178.03 deg TVD:
7484.78 ft

S: 94 MD: 9036.00 ft
Inc: 88.96 deg Az:
177.70 deg TVD:
7486.32 ft

S: 95 MD: 9129.00 ft
Inc: 89.90 deg Az:
179.50 deg TVD:
7487.25 ft



S: 96 MD: 9223.00 ft
Inc: 90.17 deg Az:
180.51 deg TVD:
7487.20 ft

S: 97 MD: 9318.00 ft
Inc: 90.40 deg Az:
180.32 deg TVD:
7486.72 ft

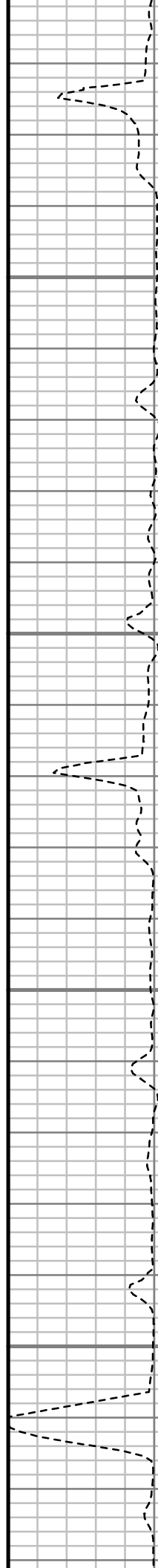


9400

9450

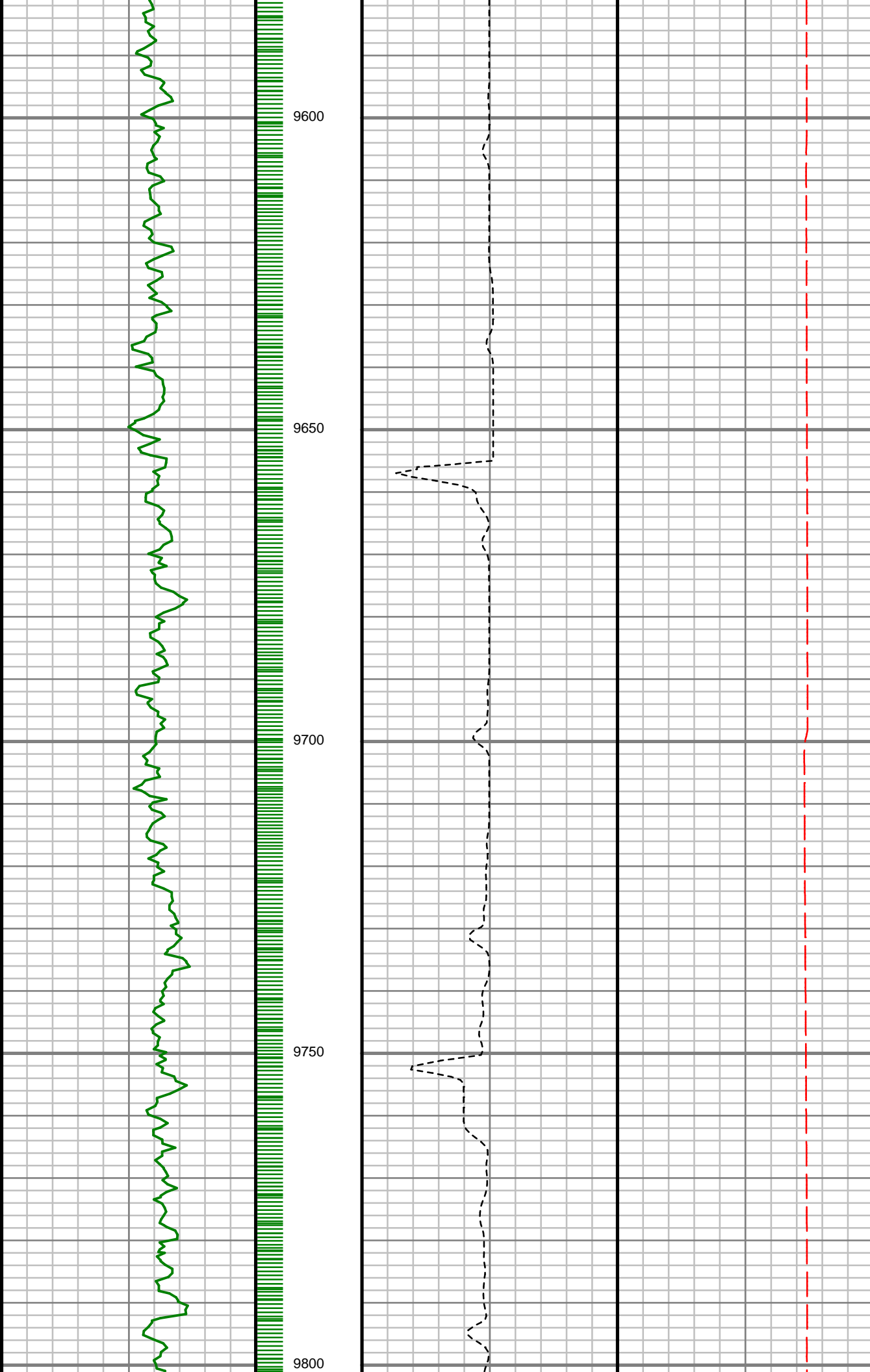
9500

9550



S: 98 MD: 9412.00 ft
Inc: 90.30 deg Az:
180.86 deg TVD:
7486.14 ft

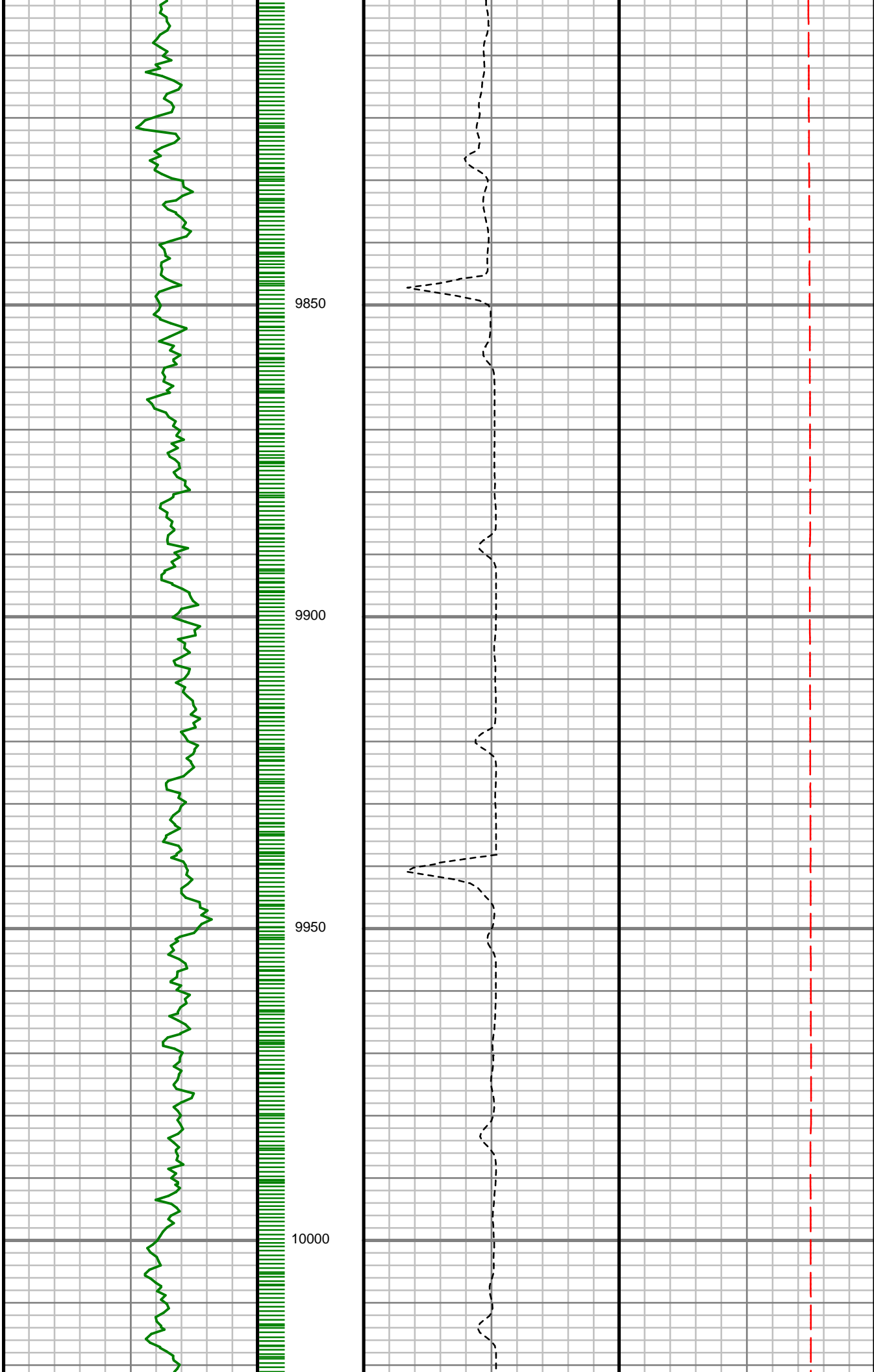
S: 99 MD: 9506.00 ft
Inc: 89.46 deg Az:
180.09 deg TVD:
7486.34 ft



S: 100 MD: 9600.00 ft
Inc: 88.99 deg Az:
179.82 deg TVD:
7487.60 ft

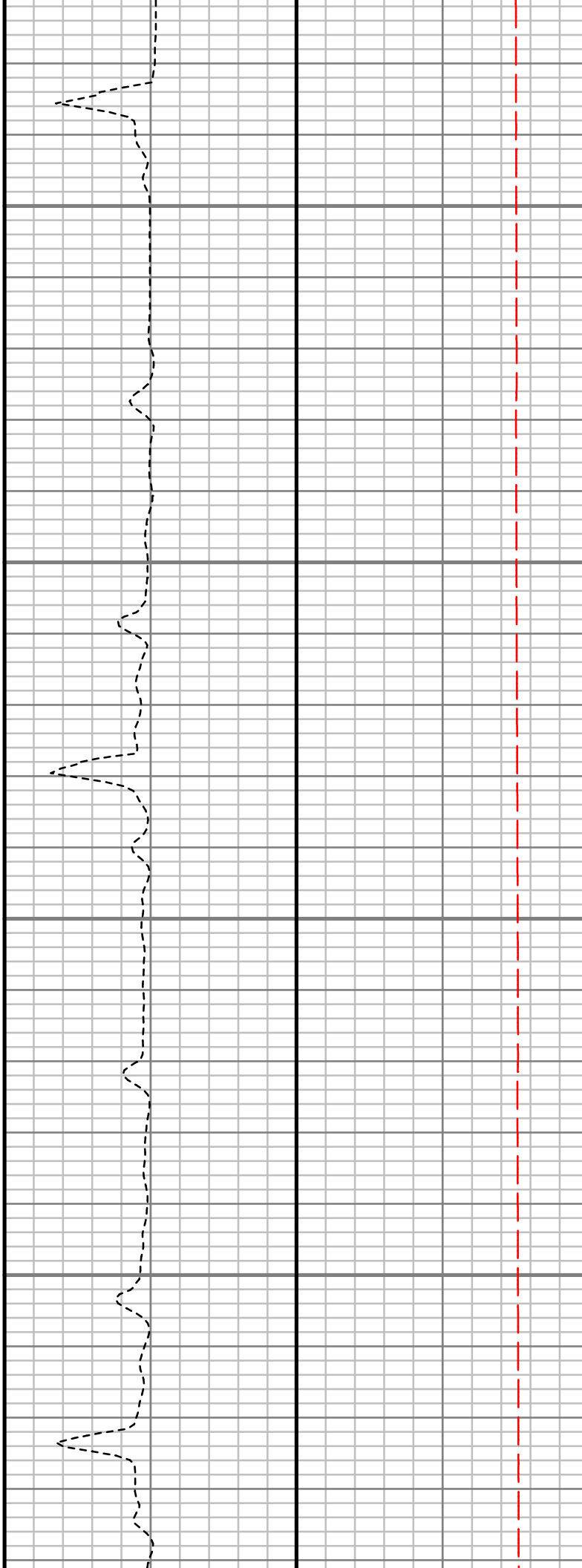
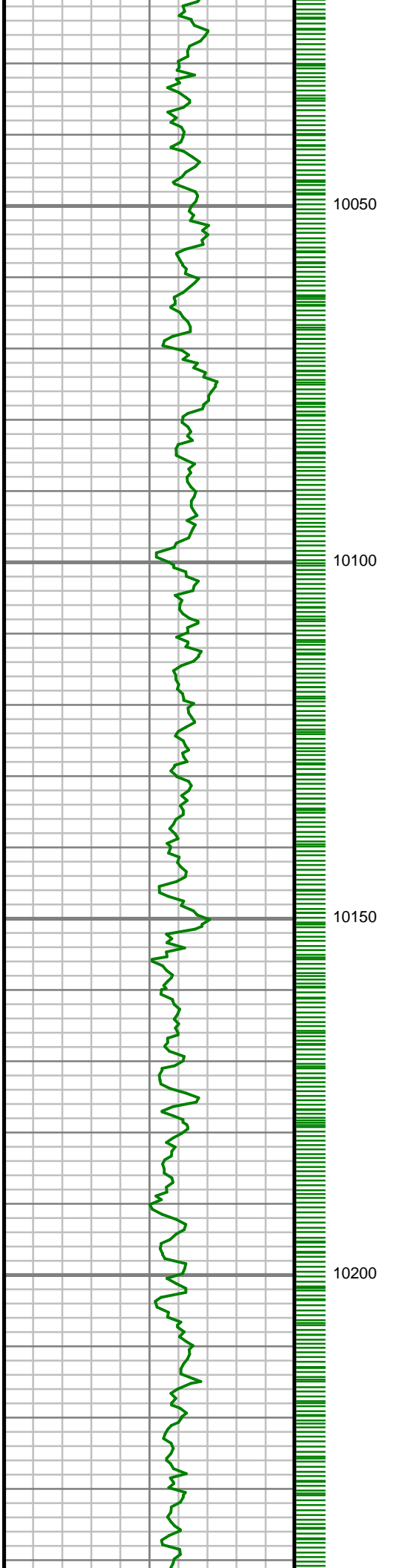
S: 101 MD: 9694.00 ft
Inc: 89.09 deg Az:
179.93 deg TVD:
7489.17 ft

S: 102 MD: 9789.00 ft
Inc: 89.16 deg Az:
179.58 deg TVD:
7490.62 ft



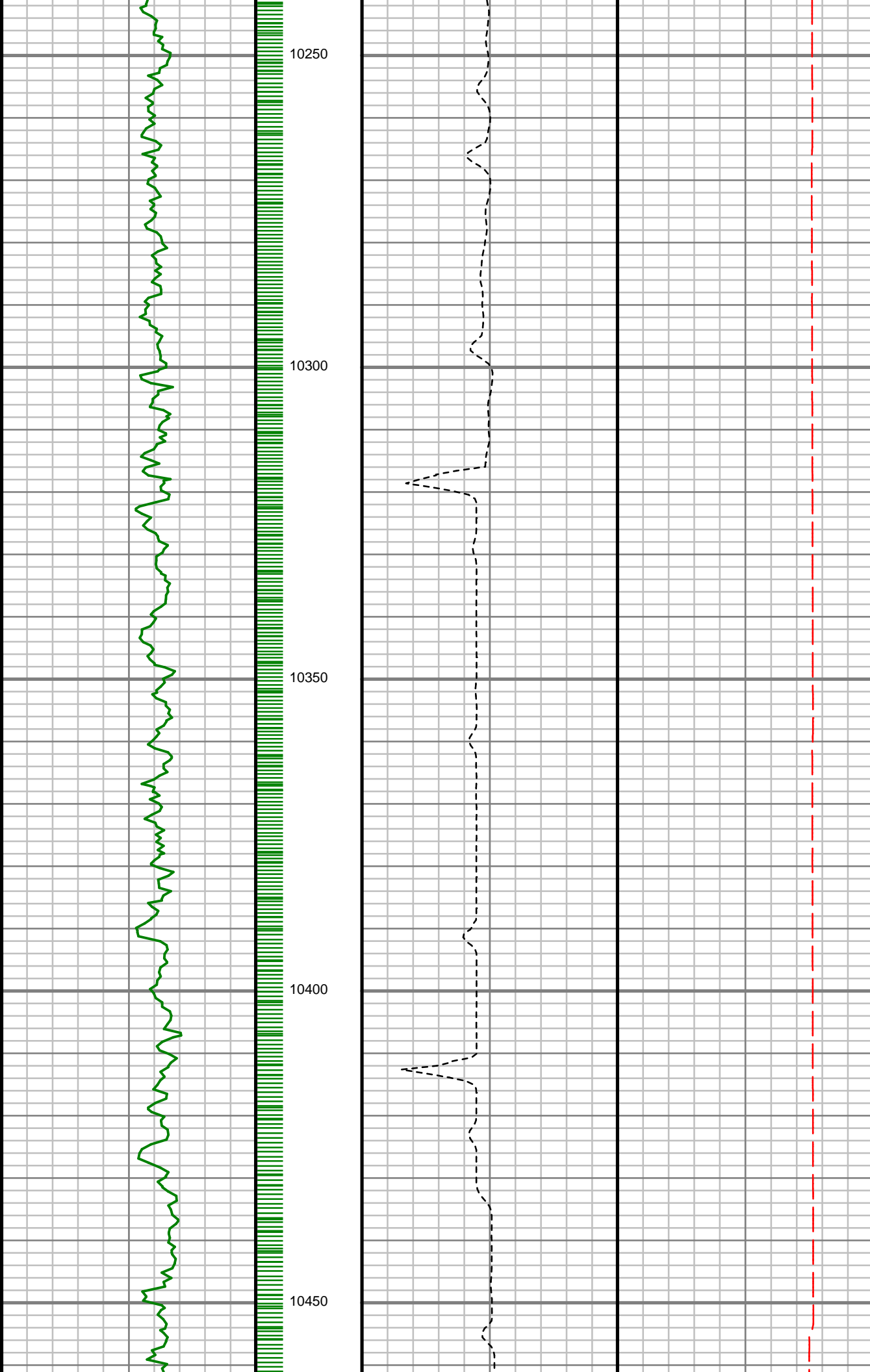
S: 103 MD: 9882.00 ft
Inc: 89.36 deg Az:
179.98 deg TVD:
7491.82 ft

S: 104 MD: 9977.00 ft
Inc: 89.56 deg Az:
179.78 deg TVD:
7492.71 ft



S: 105 MD: 10071.00 ft
Inc: 90.13 deg Az:
181.10 deg TVD:
7492.96 ft

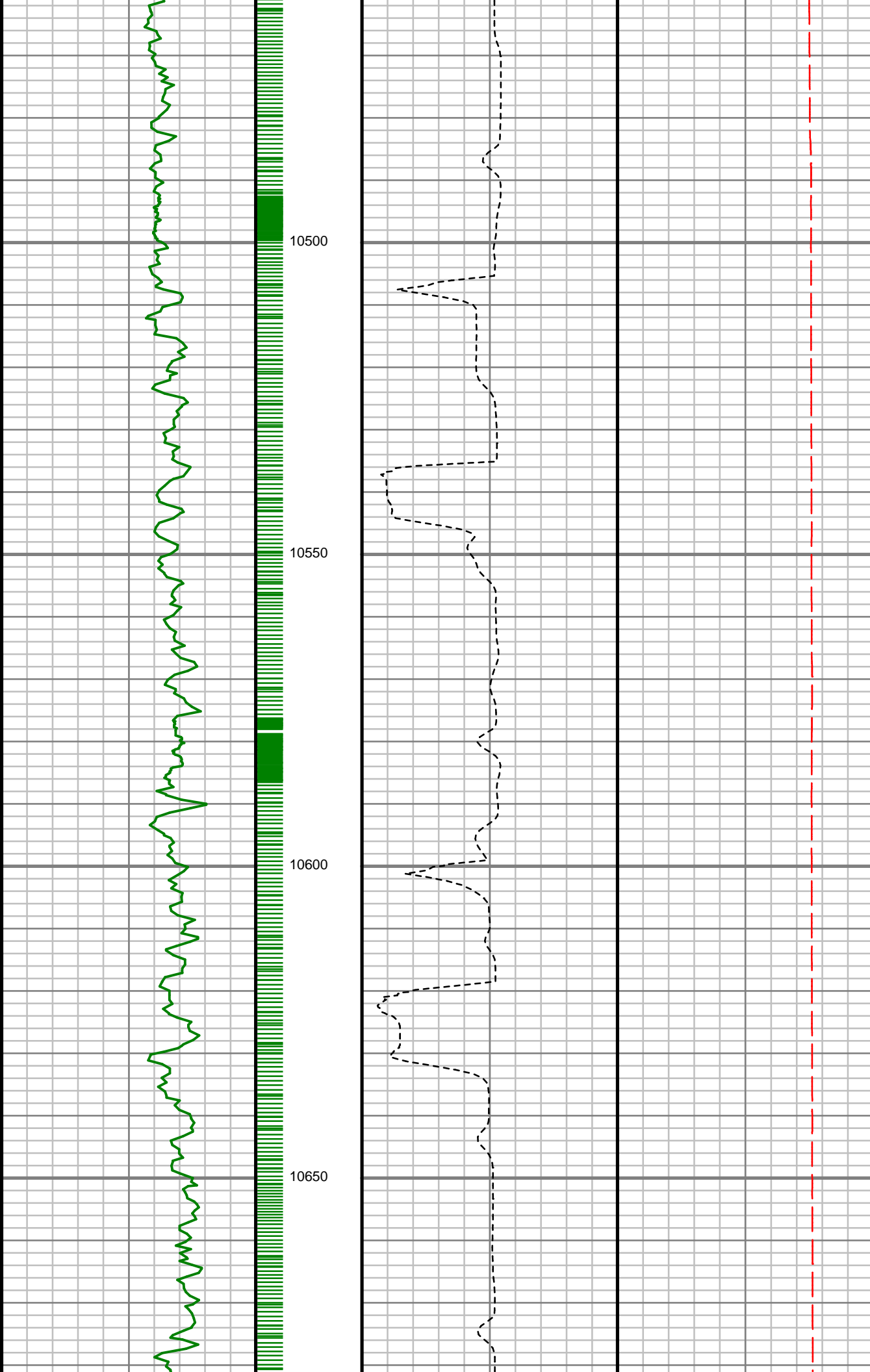
S: 106 MD: 10165.00 ft
Inc: 89.97 deg Az:
181.10 deg TVD:
7492.88 ft



S: 107 MD: 10259.00 ft
Inc: 90.07 deg Az:
181.14 deg TVD:
7492.85 ft

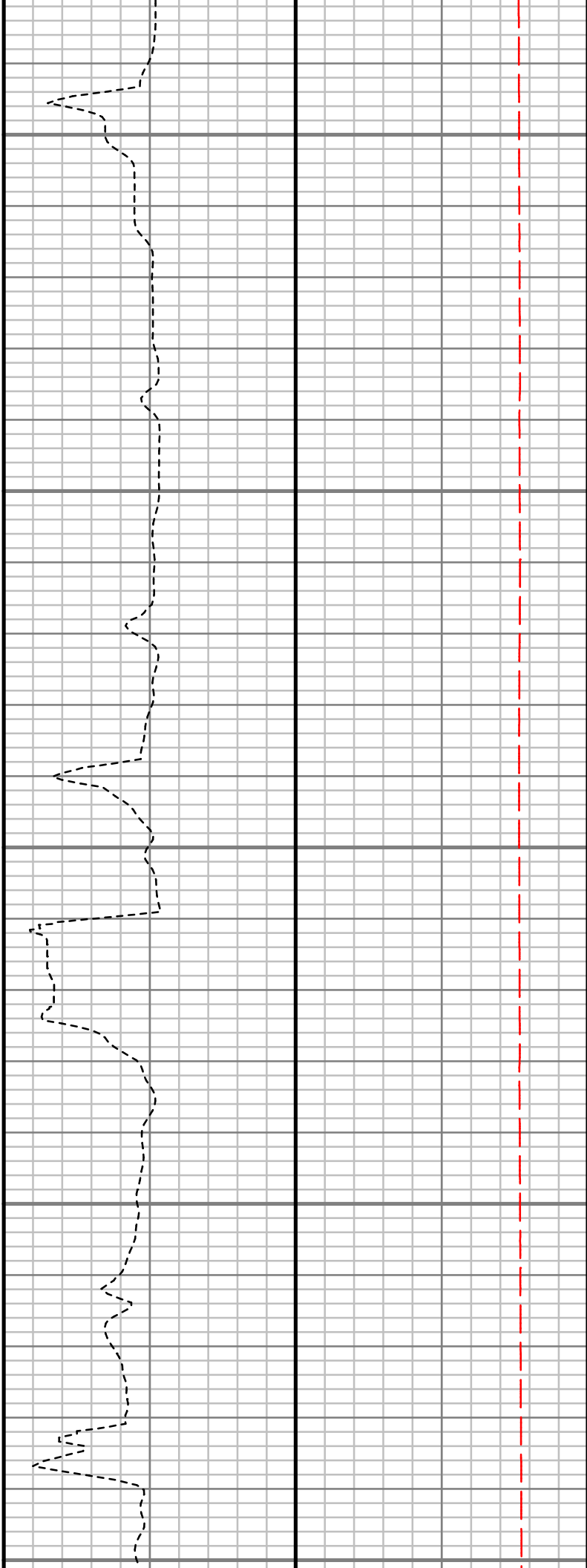
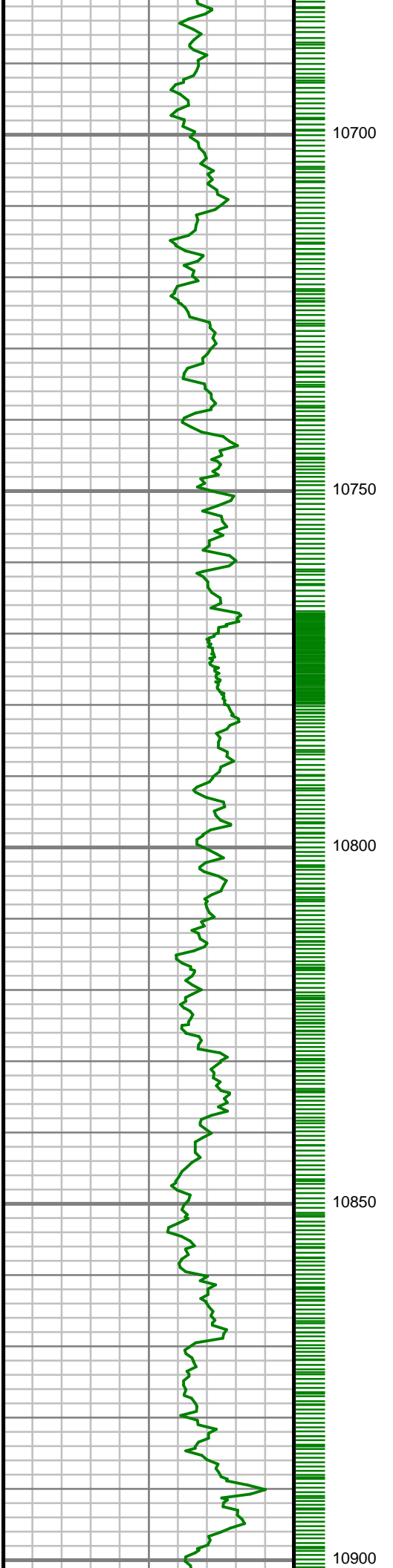
S: 108 MD: 10352.00 ft
Inc: 90.37 deg Az:
180.75 deg TVD:
7492.49 ft

S: 109 MD: 10447.00 ft
Inc: 90.71 deg Az:
181.00 deg TVD:
7491.60 ft



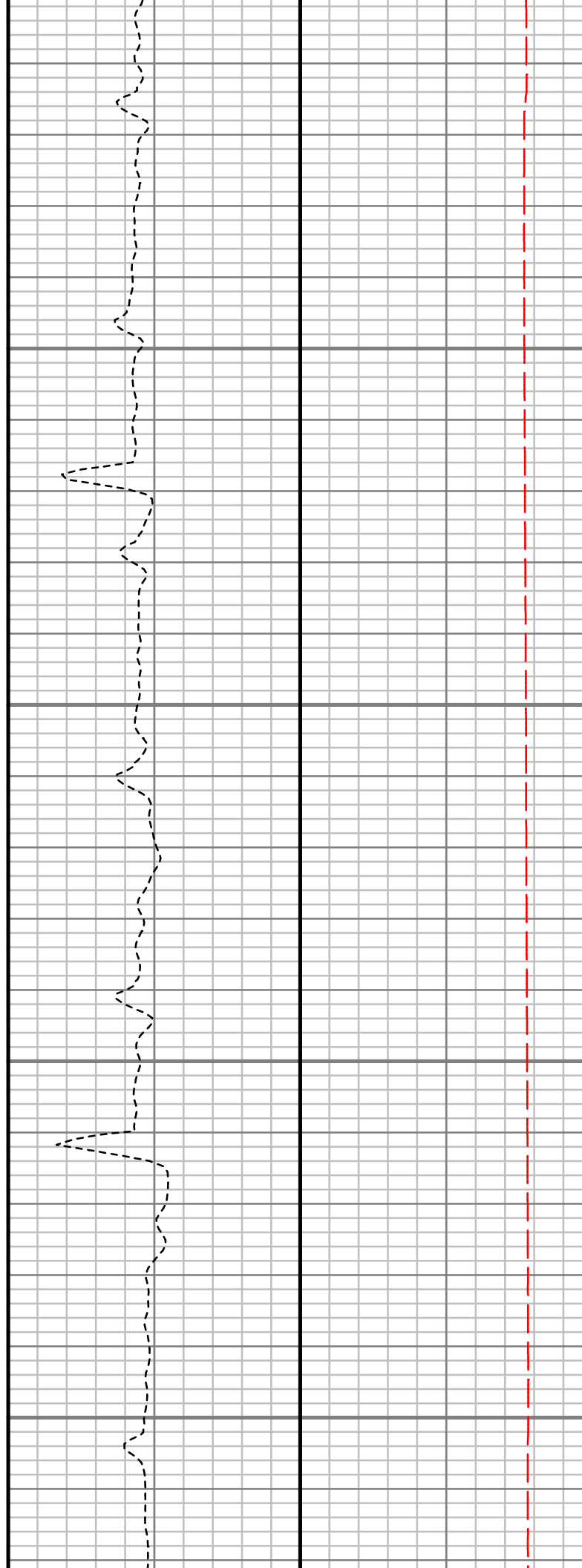
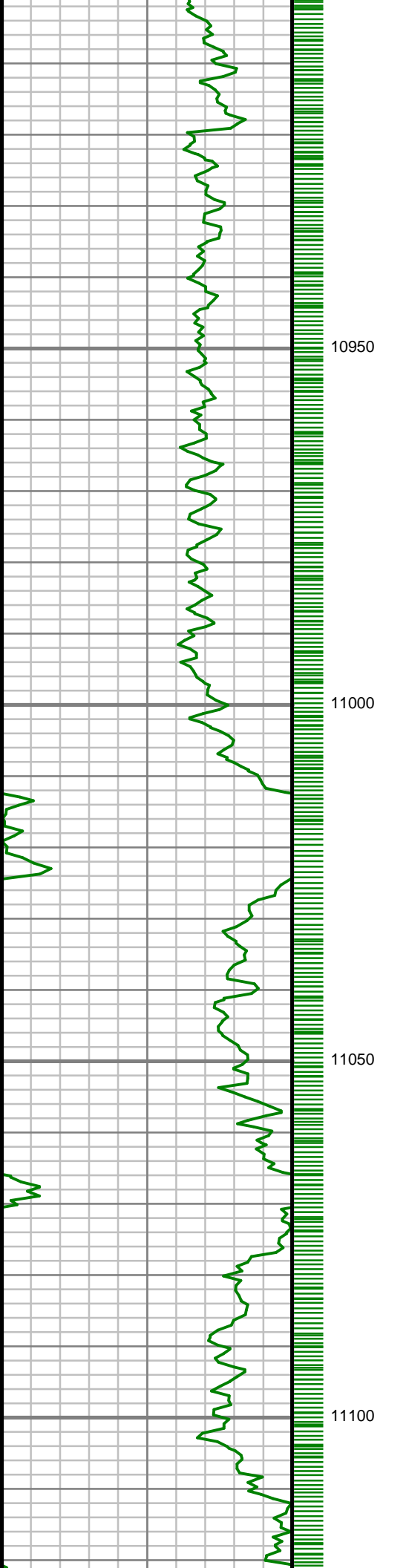
S: 110 MD: 10541.00 ft
Inc: 90.77 deg Az:
180.43 deg TVD:
7490.39 ft

S: 111 MD: 10635.00 ft
Inc: 90.10 deg Az:
179.55 deg TVD:
7489.68 ft



S: 112 MD: 10728.00 ft
Inc: 90.60 deg Az:
179.51 deg TVD:
7489.10 ft

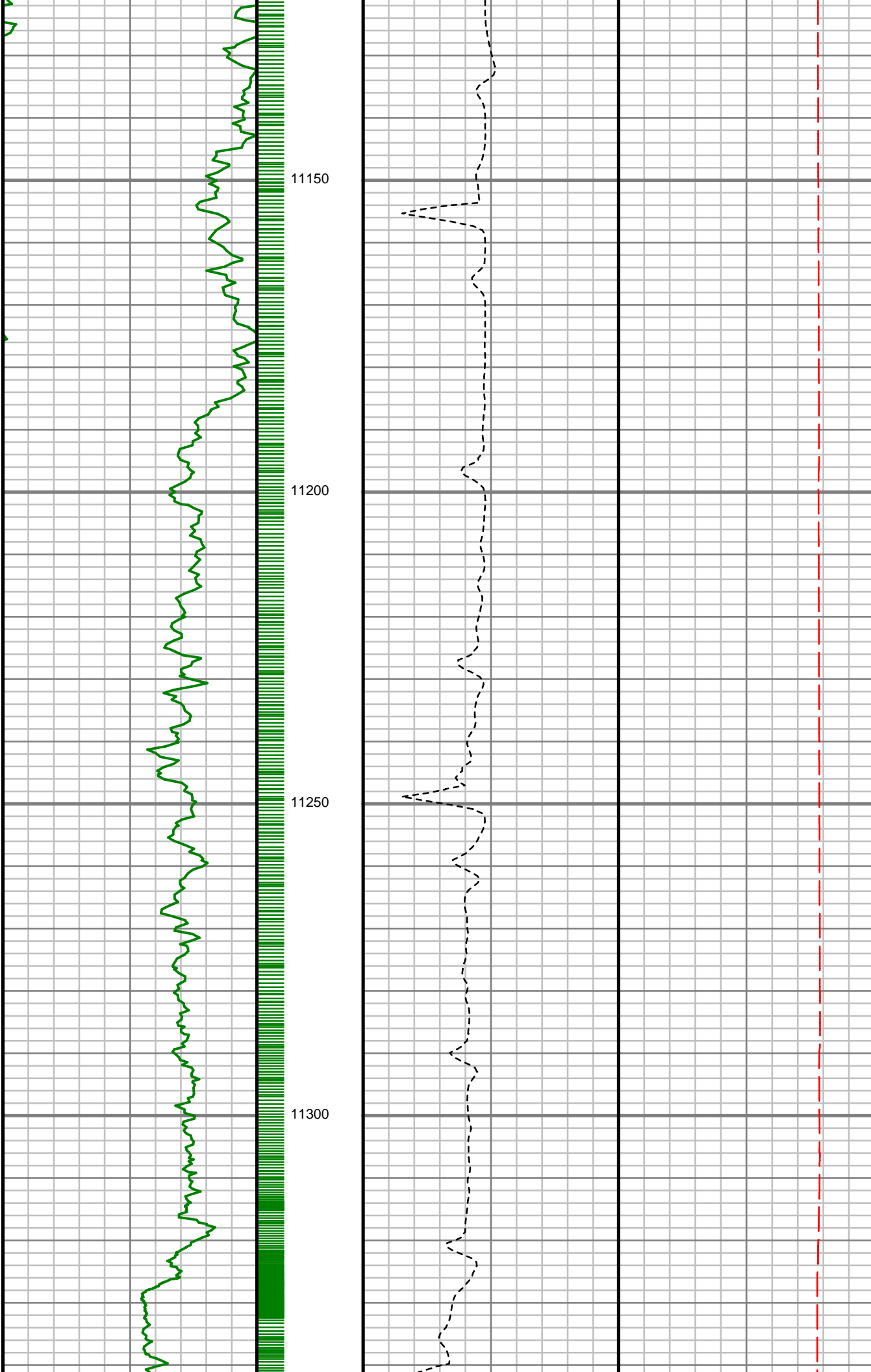
S: 113 MD: 10822.00 ft
Inc: 88.49 deg Az:
178.51 deg TVD:
7489.85 ft



S: 114 MD: 10915.00 ft
Inc: 88.96 deg Az:
178.09 deg TVD:
7491.92 ft

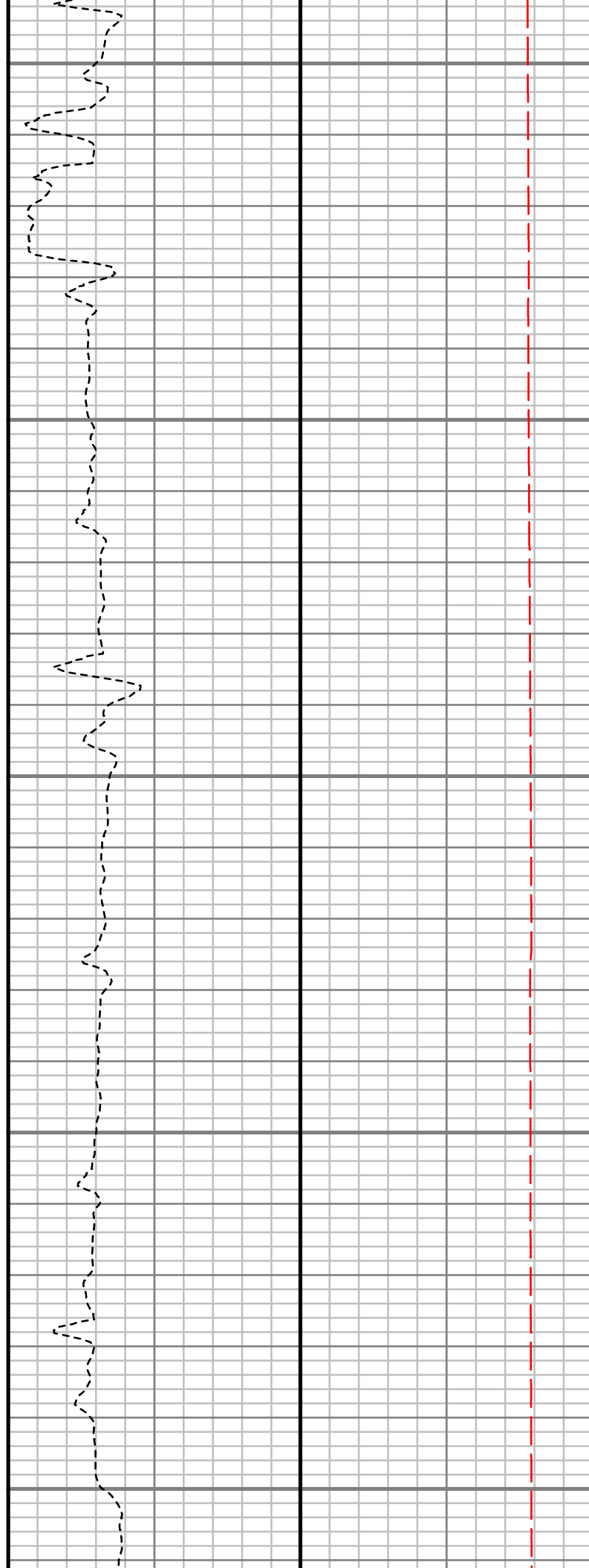
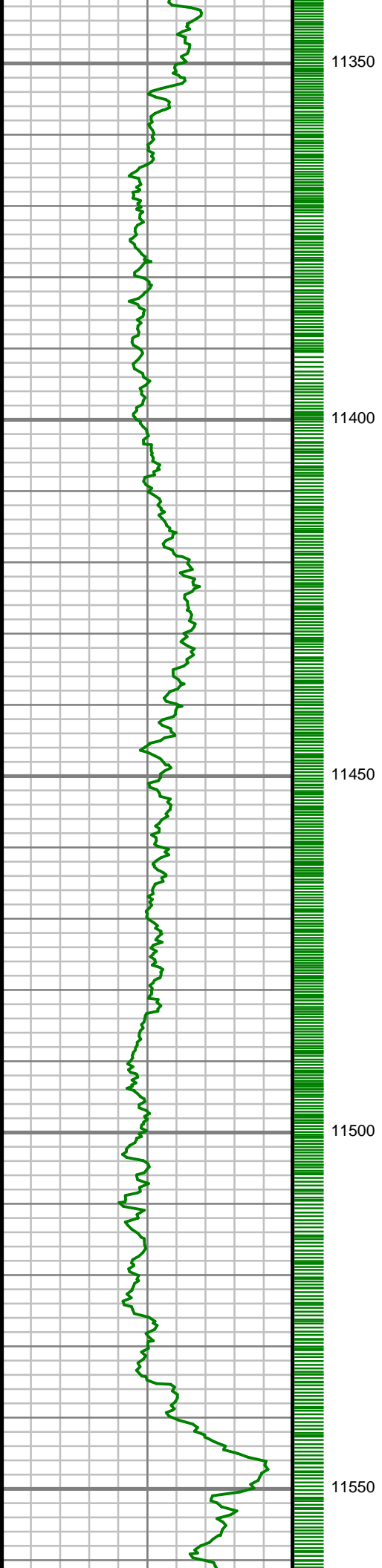
S: 115 MD: 11009.00 ft
Inc: 88.86 deg Az:
178.27 deg TVD:
7493.71 ft

S: 116 MD: 11103.00 ft
Inc: 88.86 deg Az:
178.25 deg TVD:
7495.58 ft



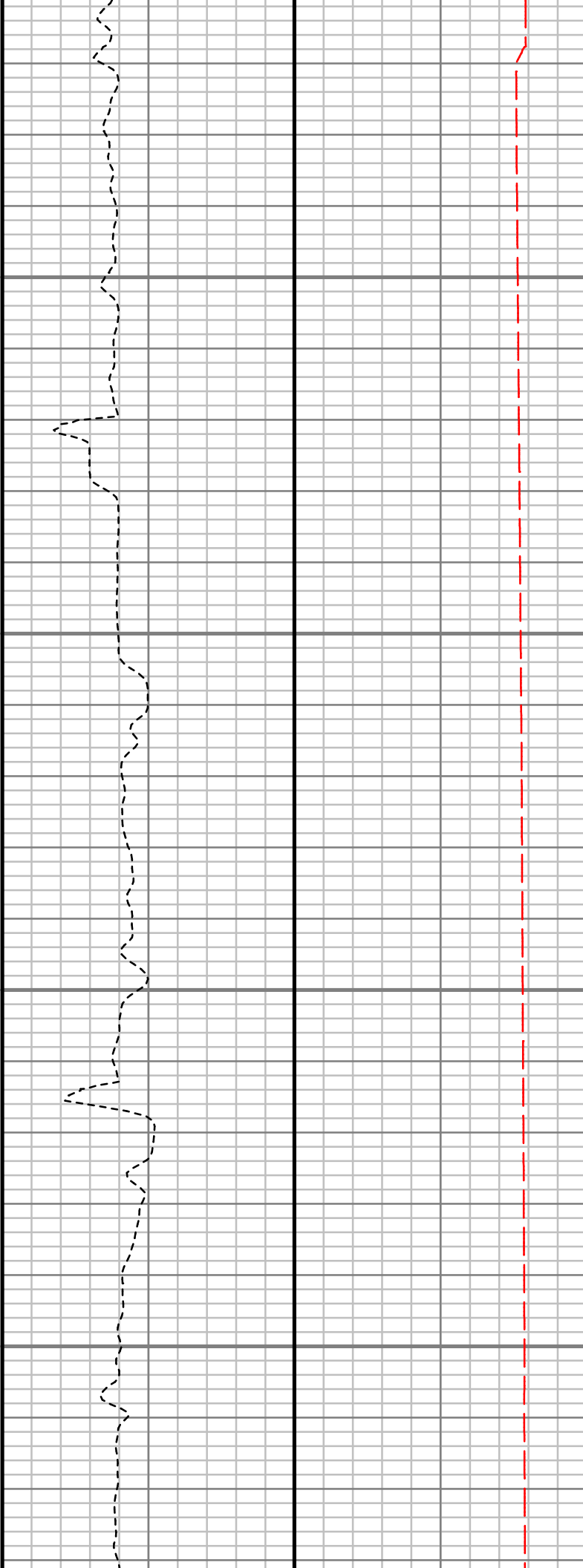
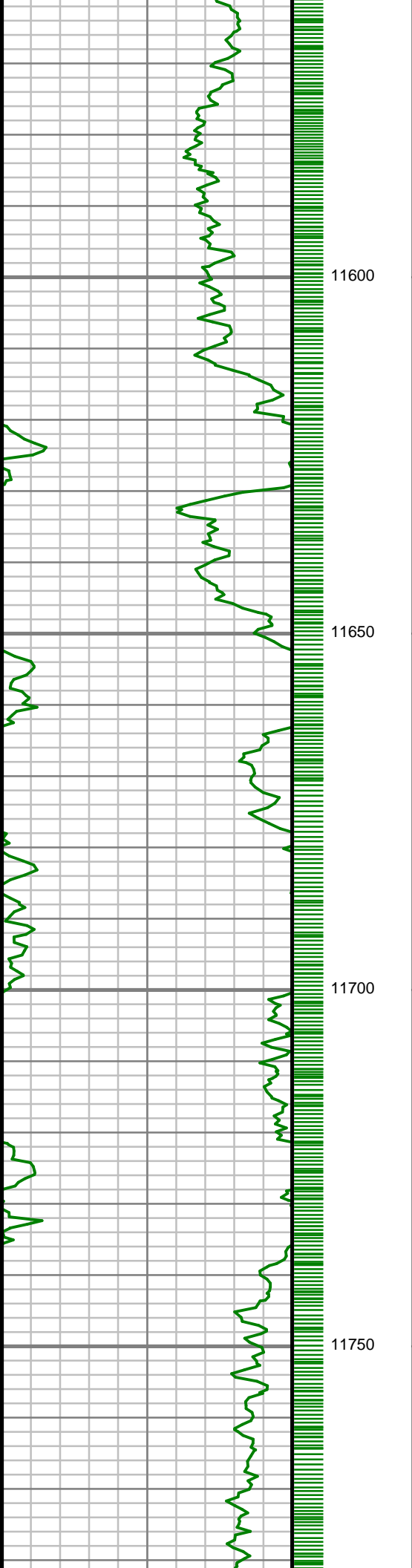
S: 117 MD: 11195.00 ft
Inc: 89.16 deg Az:
179.62 deg TVD:
7497.17 ft

S: 118 MD: 11289.00 ft
Inc: 88.35 deg Az:
179.63 deg TVD:
7499.21 ft



S: 119 MD: 11382.00 ft
Inc: 89.97 deg Az:
178.50 deg TVD:
7500.58 ft

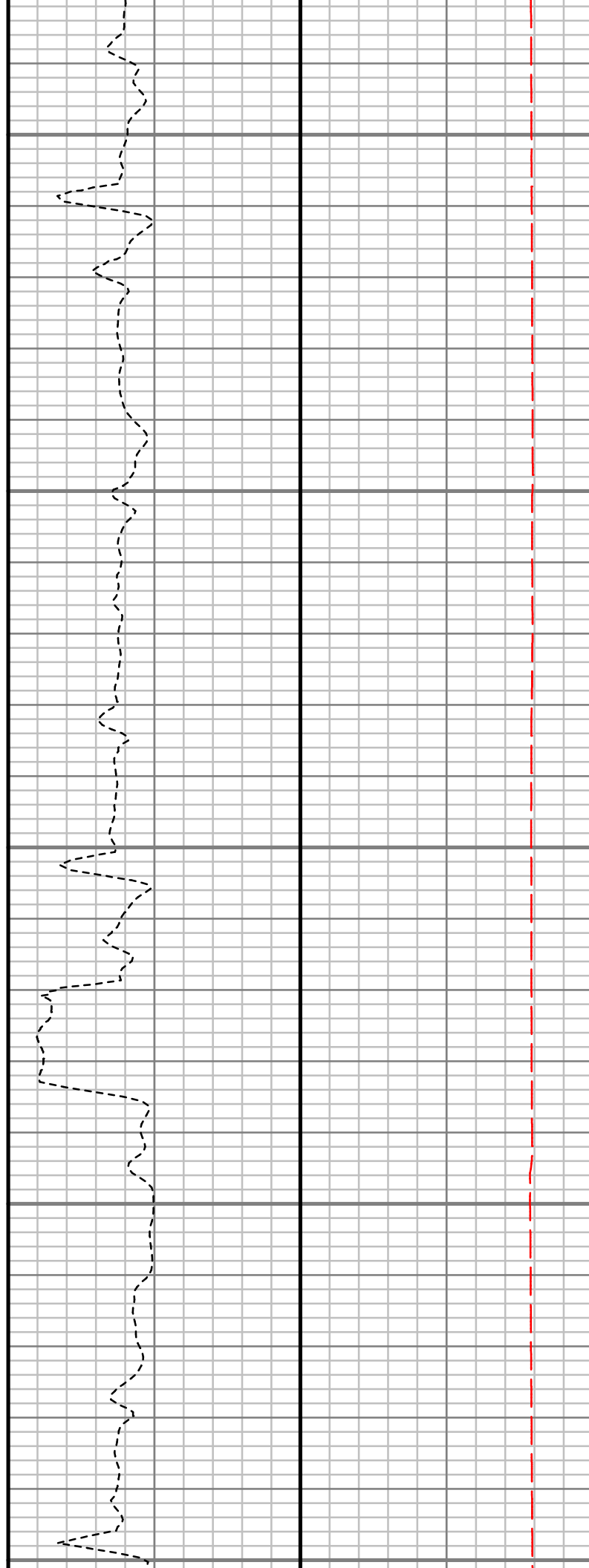
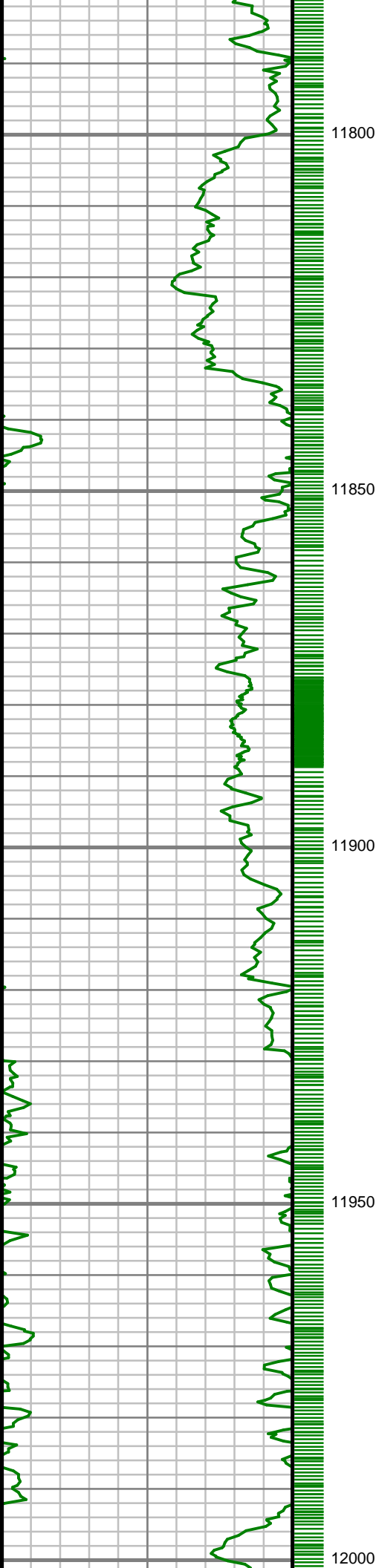
S: 120 MD: 11475.00 ft
Inc: 90.64 deg Az:
178.11 deg TVD:
7500.09 ft



S: 121 MD: 11568.00 ft
Inc: 90.34 deg Az:
177.35 deg TVD:
7499.30 ft

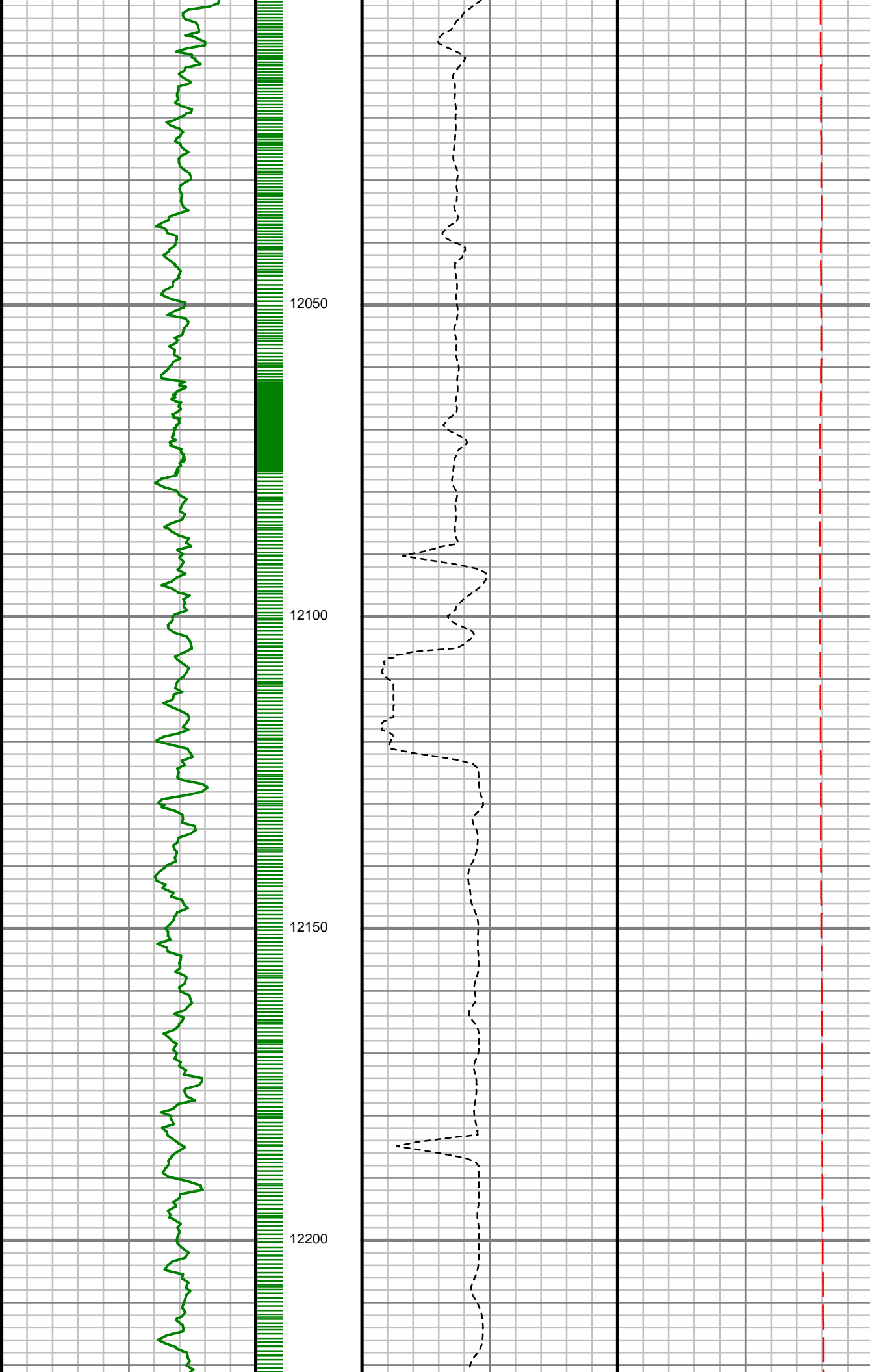
S: 122 MD: 11661.00 ft
Inc: 90.44 deg Az:
177.22 deg TVD:
7498.67 ft

S: 123 MD: 11754.00 ft
Inc: 90.87 deg Az:
177.57 deg TVD:
7497.61 ft



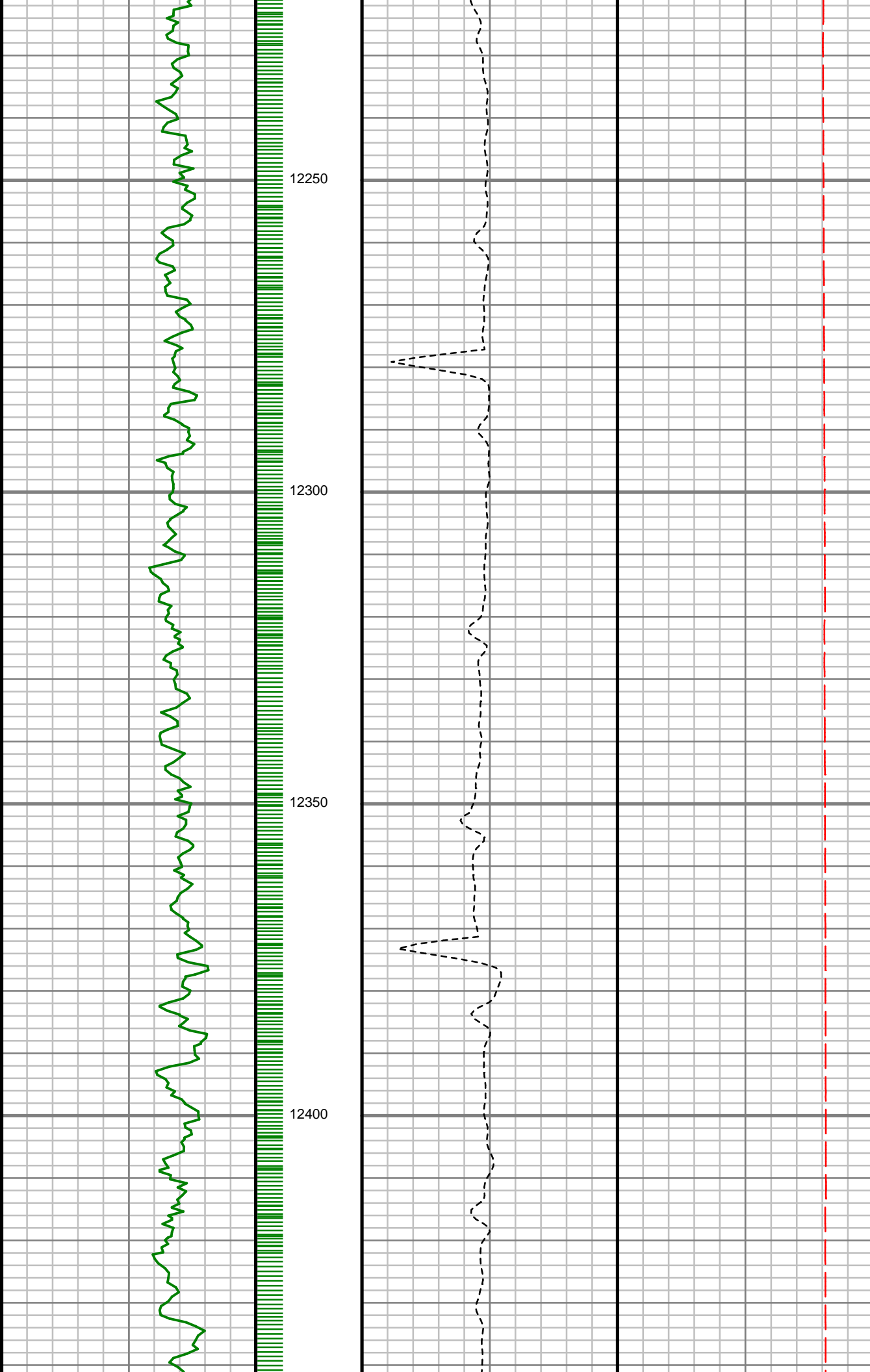
S: 124 MD: 11848.00 ft
Inc: 90.94 deg Az:
177.85 deg TVD:
7496.12 ft

S: 125 MD: 11942.00 ft
Inc: 90.64 deg Az:
180.06 deg TVD:
7494.82 ft



S: 126 MD: 12035.00 ft
Inc: 90.37 deg Az:
178.01 deg TVD:
7494.00 ft

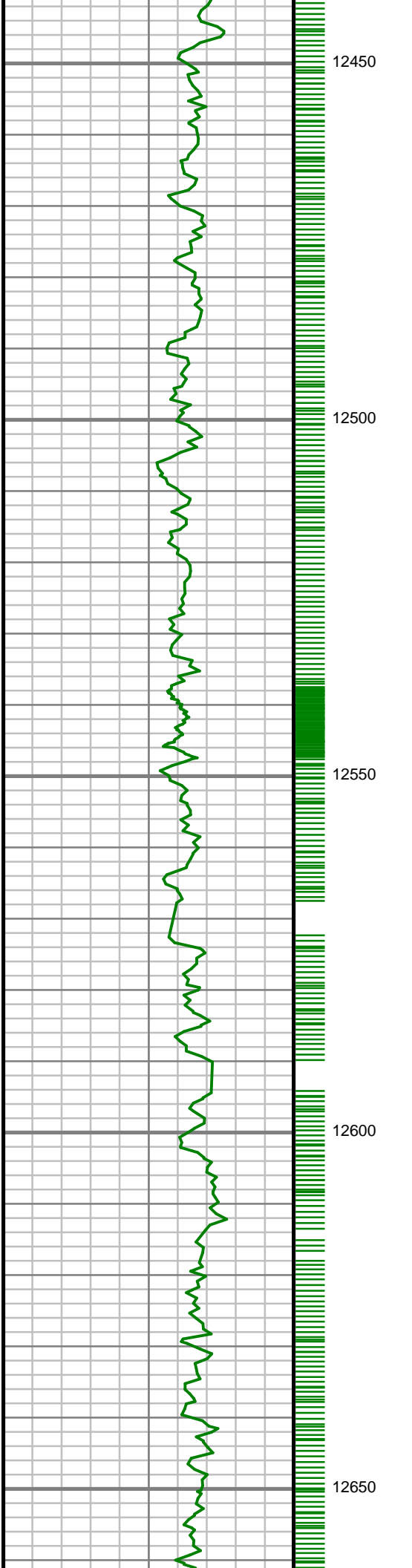
S: 127 MD: 12129.00 ft
Inc: 91.14 deg Az:
180.66 deg TVD:
7492.76 ft



S: 128 MD: 12224.00 ft
Inc: 91.11 deg Az:
180.75 deg TVD:
7490.90 ft

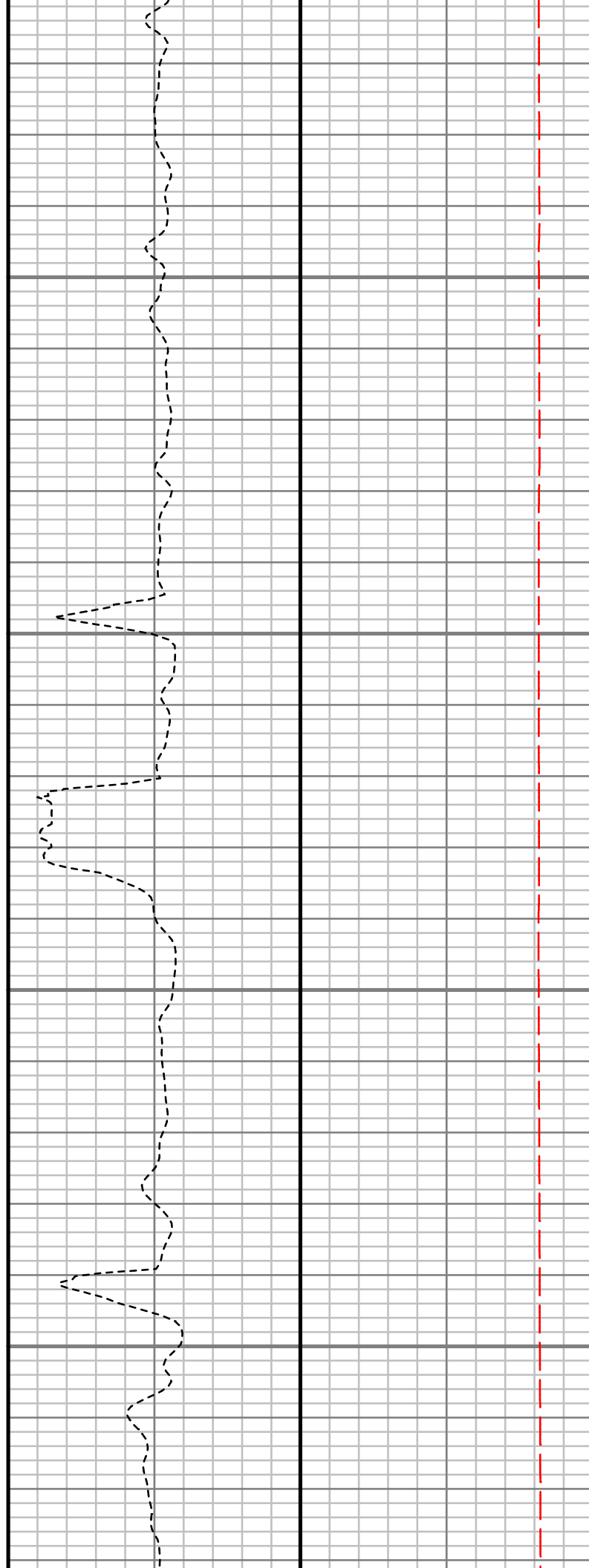
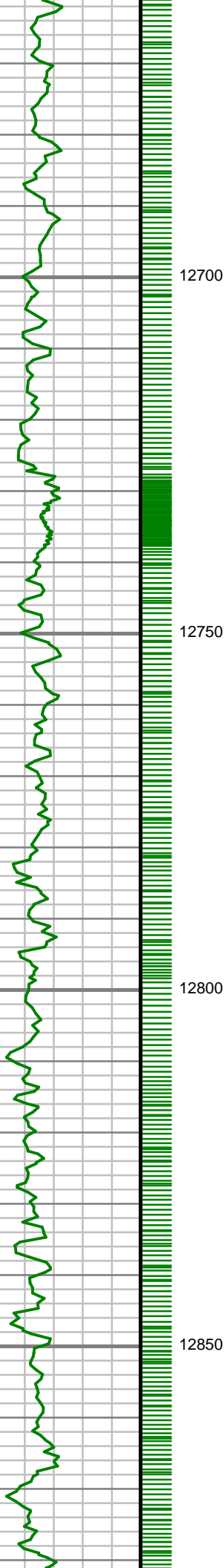
S: 129 MD: 12317.00 ft
Inc: 90.84 deg Az:
181.13 deg TVD:
7489.32 ft

S: 130 MD: 12411.00 ft
Inc: 91.07 deg Az:
181.75 deg TVD:
7487.75 ft



S: 131 MD: 12503.00 ft
Inc: 91.54 deg Az:
182.23 deg TVD:
7485.65 ft

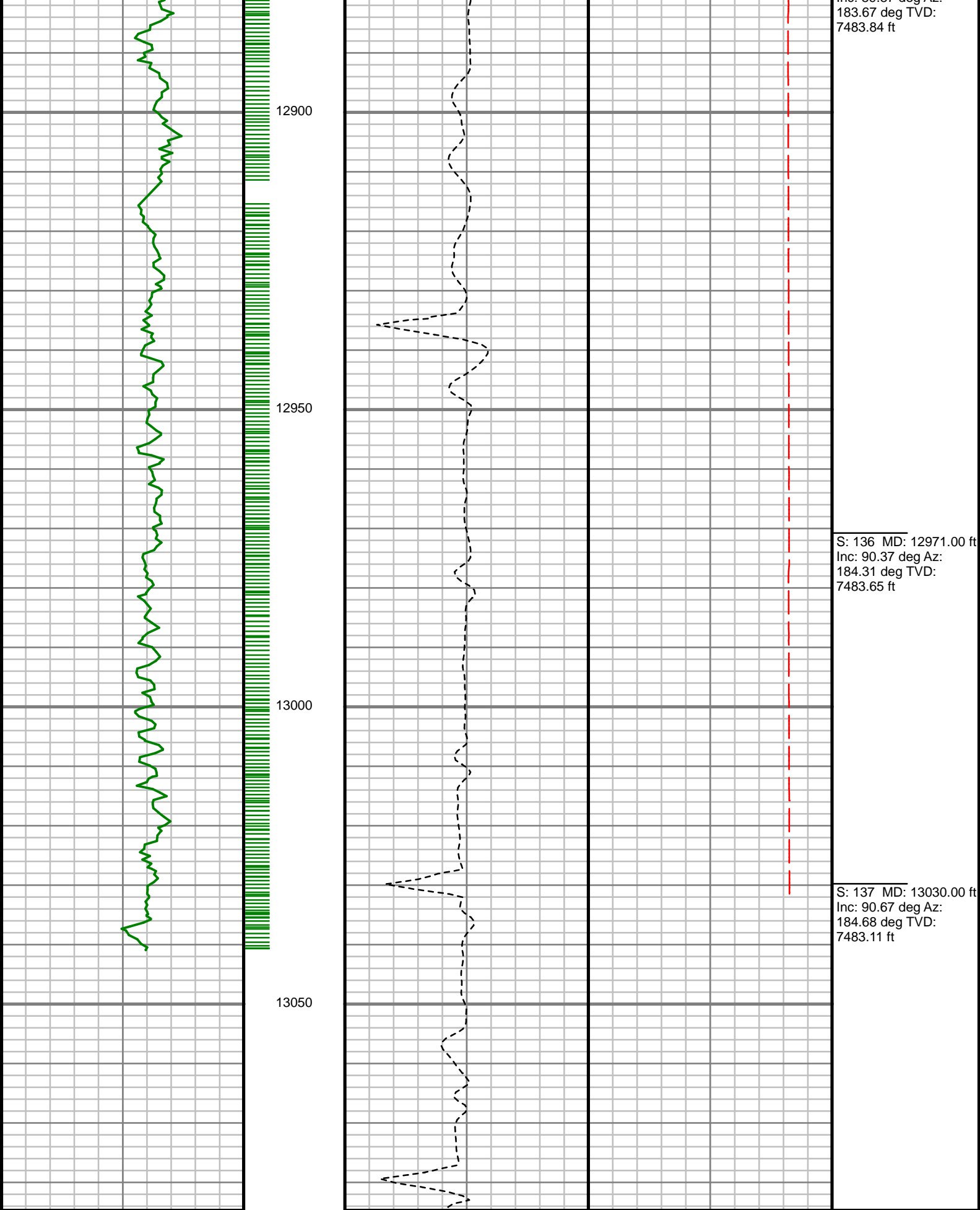
S: 132 MD: 12596.00 ft
Inc: 90.10 deg Az:
181.25 deg TVD:
7484.31 ft



S: 133 MD: 12689.00 ft
Inc: 90.67 deg Az:
182.00 deg TVD:
7483.69 ft

S: 134 MD: 12784.00 ft
Inc: 89.63 deg Az:
183.53 deg TVD:
7483.43 ft

S: 135 MD: 12877.00 ft
Inc: 89.87 deg Az:



183.67 deg Az:
7483.84 ft

S: 136 MD: 12971.00 ft
Inc: 90.37 deg Az:
184.31 deg TVD:
7483.65 ft

S: 137 MD: 13030.00 ft
Inc: 90.67 deg Az:
184.68 deg TVD:
7483.11 ft

Gamma Ray (GR)

0Unit = aapi150

MEASURED DEPTH
1:240 (ft)

Rate of Penetration (ROP)

0Unit = ft/hr1000

Tool Temperature (T-TEMP)

0Unit = °F300

Comments

SURVEY REPORT

LAND 15C-32HZ

LAND 15C-32HZ

CUSTOMER ANADARKO E&P ONSHORE LLC
PROJECT LAND
FIELD WATTENBERG

WELL INFORMATION

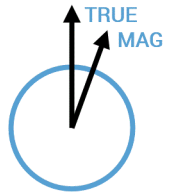
Lat/Long 40° 5' 57.39" N, 104° 47' 52.188" W
Northing 14,562,948.07 ft
Easting 1,696,952.51 ft
UWI 05123423040000

MAP INFORMATION

North Reference True North
Grid Correction
System Universal Transverse Mercator (US Survey Feet)
Datum North American Datum 1983 (GRS 1980)
Map Zone Zone 13N (108 W to 102 W)

VERTICAL SECTION REFERENCE

+N/-S 0 ft
+E/-W 0 ft
Proposal Direction 179.66°
Calculation Method Minimum Curvature



GEOMAGNETIC REFERENCE INFORMATION

Local Gravity: 999.045 mG [computed]

MD	MODEL	DATE	DECLINATION	MAG TO TRUE
0-4018 ft	ANADARKO MAG VAR	29 Jul 2016	8.32°	add 8.32°
4018-6114 ft	ANADARKO MAG VAR	29 Jul 2016	8.33°	add 8.33°
6114-9505 ft	ANADARKO MAG VAR	29 Jul 2016	8.34°	add 8.34°

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS
ft	deg	deg	ft	ft	ft	ft	°/100ft
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid
210.00	0.93	103.89	209.99	0.42	-0.41	1.65	0.44
303.00	1.28	42.34	302.98	-0.16	0.18	3.09	1.26
397.00	2.42	17.57	396.93	-2.82	2.85	4.39	1.45
490.00	2.98	6.33	489.82	-7.09	7.12	5.25	0.83
583.00	4.28	354.77	582.64	-12.95	12.98	5.20	1.60
677.00	6.30	350.40	676.23	-21.53	21.56	4.02	2.19
770.00	8.29	348.01	768.47	-33.14	33.15	1.78	2.16
864.00	9.87	343.49	861.30	-47.51	47.50	-1.92	1.84
957.00	11.14	335.74	952.74	-63.38	63.34	-7.88	2.04
1050.00	11.59	335.06	1043.92	-80.09	80.00	-15.51	0.50
1144.00	13.54	335.05	1135.66	-98.68	98.54	-24.13	2.07
1239.00	13.55	337.05	1228.02	-119.07	118.87	-33.16	0.49
1334.00	13.07	334.25	1320.47	-139.04	138.79	-42.17	0.85
1429.00	15.95	334.39	1412.43	-160.55	160.24	-52.48	3.03
1505.00	16.44	334.21	1485.41	-179.71	179.34	-61.67	0.65
1663.00	20.99	335.65	1635.02	-225.77	225.28	-83.08	2.90
1758.00	20.79	333.02	1723.77	-256.39	255.81	-97.74	1.01
1852.00	20.19	331.09	1811.83	-285.55	284.88	-113.15	0.96
1946.00	20.60	333.47	1899.94	-314.63	313.87	-128.38	0.99

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
2041.00	19.39	330.97	1989.21	-343.46	342.61	-143.50	1.56
2136.00	19.14	337.44	2078.90	-371.71	370.78	-157.13	2.26
2231.00	18.00	335.79	2168.96	-399.55	398.56	-169.12	1.32
2325.00	17.91	340.52	2258.38	-426.50	425.44	-179.90	1.55
2417.00	16.58	341.57	2346.24	-452.34	451.23	-188.77	1.49
2511.00	15.37	337.19	2436.61	-476.61	475.44	-197.84	1.81
2606.00	15.57	338.14	2528.17	-500.10	498.88	-207.47	0.33
2699.00	15.61	341.19	2617.75	-523.58	522.31	-216.15	0.88
2793.00	16.34	343.77	2708.12	-548.30	546.98	-223.92	1.08
2887.00	16.72	342.05	2798.24	-573.91	572.54	-231.79	0.65
2981.00	15.66	339.73	2888.51	-598.72	597.31	-240.35	1.31
3075.00	17.01	342.52	2978.71	-623.79	622.33	-248.88	1.66
3170.00	16.58	342.51	3069.66	-650.02	648.51	-257.13	0.45
3264.00	16.92	344.24	3159.67	-676.02	674.46	-264.87	0.64
3359.00	16.50	343.16	3250.66	-702.28	700.67	-272.53	0.55
3453.00	16.42	337.45	3340.82	-727.38	725.72	-281.49	1.72
3547.00	15.16	334.93	3431.27	-750.84	749.12	-291.79	1.53
3642.00	14.64	339.02	3523.08	-773.36	771.58	-301.35	1.23
3737.00	15.32	341.38	3614.85	-796.51	794.69	-309.66	0.96
3832.00	16.56	339.57	3706.19	-821.14	819.27	-318.40	1.41

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
3925.00	15.16	338.34	3795.65	-844.92	842.99	-327.51	1.55
4019.00	14.88	334.19	3886.44	-867.27	865.28	-337.30	1.18
4114.00	16.36	336.40	3977.93	-890.58	888.53	-347.97	1.68
4208.00	14.89	334.48	4068.46	-913.67	911.56	-358.48	1.66
4303.00	15.38	334.79	4160.16	-936.14	933.97	-369.10	0.52
4398.00	18.06	339.53	4251.14	-961.40	959.17	-379.61	3.16
4492.00	17.77	339.32	4340.59	-988.53	986.23	-389.77	0.32
4587.00	14.08	337.78	4431.93	-1012.85	1010.50	-399.27	3.90
4681.00	11.76	331.58	4523.54	-1031.92	1029.52	-408.15	2.88
4776.00	15.11	335.92	4615.93	-1051.80	1049.34	-417.82	3.69
4869.00	16.70	337.81	4705.37	-1075.30	1072.78	-427.81	1.80
4988.00	16.89	336.08	4819.29	-1107.02	1104.42	-441.28	0.45
5082.00	15.54	333.13	4909.55	-1130.80	1128.14	-452.51	1.68
5177.00	17.48	331.25	5000.63	-1154.74	1152.00	-465.12	2.11
5272.00	17.00	333.82	5091.37	-1179.78	1176.96	-478.11	0.94
5366.00	15.61	337.52	5181.59	-1203.86	1200.98	-489.01	1.84
5460.00	14.08	345.40	5272.46	-1226.66	1223.73	-496.72	2.69
5554.00	12.24	344.73	5363.99	-1247.37	1244.41	-502.23	1.96
5649.00	11.48	340.24	5456.96	-1266.01	1263.02	-508.08	1.26
5743.00	9.90	340.88	5549.33	-1282.48	1279.46	-513.89	1.68

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
5837.00	10.89	340.36	5641.78	-1298.52	1295.46	-519.52	1.06
5932.00	8.96	337.36	5735.36	-1313.84	1310.74	-525.39	2.11
6024.00	8.75	333.08	5826.26	-1326.73	1323.60	-531.31	0.75
6118.00	10.14	333.49	5918.98	-1340.55	1337.38	-538.25	1.48
6211.00	7.89	334.39	6010.83	-1353.67	1350.46	-544.66	2.42
6304.00	7.25	348.62	6103.03	-1365.20	1361.97	-548.58	2.12
6399.00	6.65	353.76	6197.33	-1376.55	1373.31	-550.36	0.91
6493.00	5.16	345.68	6290.83	-1386.06	1382.81	-551.99	1.81
6587.00	4.21	333.91	6384.52	-1393.27	1390.00	-554.56	1.43
6683.00	3.27	325.21	6480.31	-1398.70	1395.42	-557.67	1.14
6778.00	2.12	322.61	6575.21	-1402.34	1399.04	-560.28	1.22
6872.00	1.23	322.71	6669.16	-1404.53	1401.22	-561.95	0.94
6967.00	1.29	312.55	6764.14	-1406.08	1402.76	-563.36	0.24
7060.00	4.85	184.48	6857.04	-1402.87	1399.54	-564.43	6.16
7155.00	14.86	181.99	6950.52	-1386.65	1383.32	-565.17	10.55
7251.00	22.05	183.67	7041.52	-1356.34	1353.00	-566.75	7.51
7346.00	29.43	177.60	7127.05	-1315.16	1311.82	-566.92	8.25
7439.00	31.16	168.85	7207.39	-1268.67	1265.36	-561.30	5.09
7534.00	39.88	169.18	7284.64	-1214.47	1211.23	-550.81	9.19
7627.00	49.21	173.70	7350.86	-1149.98	1146.79	-541.32	10.59

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
7722.00	60.66	180.54	7405.40	-1072.50	1069.32	-537.75	13.41
7816.00	72.28	178.49	7442.86	-986.47	983.30	-536.96	12.53
7910.00	79.64	178.86	7465.65	-895.35	892.19	-534.86	7.84
8004.00	88.29	181.24	7475.52	-801.97	798.81	-534.95	9.54
8099.00	90.07	181.34	7476.88	-707.02	703.85	-537.09	1.87
8193.00	89.93	181.35	7476.88	-613.06	609.87	-539.29	0.14
8286.00	89.76	181.16	7477.13	-520.10	516.89	-541.33	0.27
8379.00	88.02	178.39	7478.93	-427.13	423.92	-540.96	3.52
8471.00	89.53	179.71	7480.89	-335.16	331.96	-539.43	2.18
8566.00	89.87	180.00	7481.39	-240.16	236.96	-539.19	0.47
8660.00	89.53	179.65	7481.89	-146.16	142.97	-538.90	0.52
8755.00	89.53	179.08	7482.67	-51.17	47.98	-537.85	0.59
8848.00	89.36	178.18	7483.57	41.81	-44.99	-535.62	0.99
8942.00	89.16	178.03	7484.78	135.77	-138.93	-532.51	0.27
9036.00	88.96	177.70	7486.32	229.71	-232.85	-529.00	0.41
9129.00	89.90	179.50	7487.25	322.69	-325.82	-526.74	2.19
9223.00	90.17	180.51	7487.20	416.68	-419.82	-526.75	1.11
9318.00	90.40	180.32	7486.72	511.67	-514.81	-527.45	0.32
9412.00	90.30	180.86	7486.14	605.66	-608.80	-528.41	0.58
9506.00	89.46	180.09	7486.34	699.65	-702.80	-529.19	1.21

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
9600.00	88.99	179.82	7487.60	793.64	-796.79	-529.11	0.57
9694.00	89.09	179.93	7489.17	887.62	-890.78	-528.91	0.16
9789.00	89.16	179.58	7490.62	982.61	-985.77	-528.51	0.37
9882.00	89.36	179.98	7491.82	1075.60	-1078.76	-528.15	0.48
9977.00	89.56	179.78	7492.71	1170.60	-1173.75	-527.95	0.30
10071.00	90.13	181.10	7492.96	1264.59	-1267.75	-528.68	1.53
10165.00	89.97	181.10	7492.88	1358.56	-1361.73	-530.48	0.18
10259.00	90.07	181.14	7492.85	1452.53	-1455.71	-532.31	0.11
10352.00	90.37	180.75	7492.49	1545.50	-1548.70	-533.84	0.53
10447.00	90.71	181.00	7491.60	1640.48	-1643.68	-535.29	0.45
10541.00	90.77	180.43	7490.39	1734.45	-1737.67	-536.47	0.61
10635.00	90.10	179.55	7489.68	1828.45	-1831.66	-536.46	1.18
10728.00	90.60	179.51	7489.10	1921.44	-1924.66	-535.70	0.54
10822.00	88.49	178.51	7489.85	2015.43	-2018.63	-534.08	2.49
10915.00	88.96	178.09	7491.92	2108.38	-2111.57	-531.32	0.68
11009.00	88.86	178.27	7493.71	2202.33	-2205.51	-528.33	0.23
11103.00	88.86	178.25	7495.58	2296.28	-2299.44	-525.48	0.03
11195.00	89.16	179.62	7497.17	2388.26	-2391.41	-523.77	1.53
11289.00	88.35	179.63	7499.21	2482.24	-2485.39	-523.16	0.86
11382.00	89.97	178.50	7500.58	2575.22	-2578.36	-521.64	2.12

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
11475.00	90.64	178.11	7500.09	2668.19	-2671.32	-518.89	0.83
11568.00	90.34	177.35	7499.30	2761.13	-2764.24	-515.21	0.89
11661.00	90.44	177.22	7498.67	2854.05	-2857.13	-510.80	0.17
11754.00	90.87	177.57	7497.61	2946.97	-2950.03	-506.57	0.60
11848.00	90.94	177.85	7496.12	3040.91	-3043.94	-502.81	0.30
11942.00	90.64	180.06	7494.82	3134.88	-3137.91	-501.10	2.37
12035.00	90.37	178.01	7494.00	3227.87	-3230.89	-499.53	2.22
12129.00	91.14	180.66	7492.76	3321.85	-3324.87	-498.44	2.93
12224.00	91.11	180.75	7490.90	3416.82	-3419.84	-499.61	0.10
12317.00	90.84	181.13	7489.32	3509.78	-3512.82	-501.13	0.50
12411.00	91.07	181.75	7487.75	3603.72	-3606.77	-503.50	0.70
12503.00	91.54	182.23	7485.65	3695.62	-3698.69	-506.69	0.73
12596.00	90.10	181.25	7484.31	3788.55	-3791.64	-509.52	1.88
12689.00	90.67	182.00	7483.69	3881.49	-3884.60	-512.16	1.01
12784.00	89.63	183.53	7483.43	3976.34	-3979.48	-516.74	1.94
12877.00	89.87	183.67	7483.84	4069.12	-4072.30	-522.58	0.30
12971.00	90.37	184.31	7483.65	4162.85	-4166.07	-529.12	0.87
13030.00	90.67	184.68	7483.11	4221.64	-4224.88	-533.75	0.81

5" = 100' FEET MD